

TEST REPORT

Applicant: ITTEL MOBILE LIMITED
Address: FLAT N 16/F BLOCK B UNIVERSAL INDUSTRIAL
CENTRE 19-25 SHAN MEI STREET FOTAN NT
HONGKONG
Equipment Type: Mobile Phone
Model Name: A671L
Brand Name: itel
FCC ID: 2AJMN-A671L
Test Standard: FCC 47 CFR Part 2.1093
(refer to section 3.1)
Maximum SAR: Head (1 g@0mm): 1.02 W/kg
Body-worn (1 g@10mm): 0.45 W/kg
Hotspot (1 g@10mm): 0.56 W/kg
Sample Arrival Date: Aug. 06, 2024
Test Date: Aug. 26, 2024 - Sep. 04, 2024
Date of Issue: Sep. 18, 2024

ISSUED BY:

Shenzhen BALUN Technology Co., Ltd.

Tested by: Xu Rui**Checked by:** Zong Liyao**Approved by:** Tolan Tu
(Testing Director)

Revision History

Version	Issue Date	Revisions Content
<u>Rev. 01</u>	<u>Sep. 18, 2024</u>	<u>Initial Issue</u>

TABLE OF CONTENTS

1	GENERAL INFORMATION.....	5
1.1	Test Laboratory	5
1.2	Test Location	5
1.3	Test Environment Condition.....	5
2	PRODUCT INFORMATION	6
2.1	Applicant Information	6
2.2	Manufacturer Information.....	6
2.3	General Description for Equipment under Test (EUT).....	6
2.4	Ancillary Equipment.....	6
2.5	Technical Information	7
3	SUMMARY OF TEST RESULT	8
3.1	Test Standards	8
3.2	Device Category and SAR Limit	9
3.3	Test Result Summary	10
3.4	Test Uncertainty	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.....	32
8.5	Bluetooth	33
9	TEST EXCLUSION CONSIDERATION	34
10	TEST RESULT	35
10.1	GSM 850	35
10.2	GSM 1900	36
10.3	WCDMA Band 2	37
10.4	WCDMA Band 4	38
10.5	WCDMA Band 5	39
10.6	LTE Band 2 (20MHz Bandwidth)	40
10.7	LTE Band 5 (10MHz Bandwidth)	41
10.8	LTE Band 7 (20MHz Bandwidth)	42
10.9	LTE Band 12 (10MHz Bandwidth).....	43
10.10	LTE Band 17 (10MHz Bandwidth).....	44
10.11	LTE Band 26 (15MHz Bandwidth).....	45
10.12	LTE Band 66 (20MHz Bandwidth).....	46
10.13	LTE Band 38 (20MHz Bandwidth).....	47
10.14	LTE Band 41 (20MHz Bandwidth).....	48

10.15	WIFI 2.4GHz.....	49
10.17	Bluetooth	50
11	SAR Measurement Variability	51
12	SIMULTANEOUS TRANSMISSION.....	52
12.1	Simultaneous Transmission Mode Consider	52
12.2	Sum SAR of Simultaneous Transmission	53
13	TEST EQUIPMENTS LIST	62
ANNEX A	SIMULATING LIQUID VERIFICATION RESULT	63
ANNEX B	SYSTEM CHECK RESULT	64
ANNEX C	TEST DATA.....	83
ANNEX D	EUT EXTERNAL PHOTOS.....	147
ANNEX E	SAR TEST SETUP PHOTOS	147
ANNEX F	CALIBRATION REPORT	147

1 GENERAL INFORMATION

1.1 Test Laboratory

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

1.2 Test Location

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

1.3 Test Environment Condition

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

2 PRODUCT INFORMATION

2.1 Applicant Information

Applicant	ITEL MOBILE LIMITED
Address	FLAT N 16/F BLOCK B UNIVERSAL INDUSTRIAL CENTRE 19-25 SHAN MEI STREET FOTAN NT HONGKONG

2.2 Manufacturer Information

Manufacturer	ITEL MOBILE LIMITED
Address	FLAT N 16/F BLOCK B UNIVERSAL INDUSTRIAL CENTRE 19-25 SHAN MEI STREET FOTAN NT HONGKONG

2.3 General Description for Equipment under Test (EUT)

EUT Name	Mobile phone
Model Name Under Test	A671L
Series Model Name	N/A
Description of Model name differentiation	N/A
Hardware Version	N/A
Software Version	N/A
Dimensions (Approx.)	N/A
Weight (Approx.)	N/A

2.4 Ancillary Equipment

Ancillary Equipment 1	Battery	
	Brand Name	itel
	Model No.	BL-49NI
	Serial No.	N/A
	Capacity	4900mAh
	Rated Voltage	3.85V
	Limit Charge Voltage	4.4V

2.5 Technical Information

Network and Wireless connectivity	2G Network GSM/GPRS/EDGE 850/1900 MHz 3G Network WCDMA/HSDPA/HSUPA Band 2/4/5 4G Network FDD LTE Band 2/4/5/7/12/17/26/66 TDD LTE Band 38/41 Bluetooth (BR+EDR+BLE) WIFI 802.11b, 802.11g, 802.11n(HT20) GPS, GLONASS, BDS, Galileo, FM receiver
Note: The EUT is a mobile phone, which supports dual SIM card under the same transceiver. Each SIM supports GSM, WCDMA and LTE, and both SIM share the same transmitting electro circuit, NV parameters, so only SIM1 was tested in this report.	

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

Operating Mode	GSM, WCDMA, LTE, 2.4G WIFI, Bluetooth		
Frequency Range	GSM 850	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	GSM 1900	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	WCDMA Band 2	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	WCDMA Band 4	TX: 1710 ~ 1755 MHz	RX: 2110 ~ 2155 MHz
	WCDMA Band 5	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	LTE Band 2	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	LTE Band 4	TX: 1710 ~ 1755 MHz	RX: 2110 ~ 2155 MHz
	LTE Band 5	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	LTE Band 7	TX: 2500 ~ 2570 MHz	RX: 2620 ~ 2690 MHz
	LTE Band 12	TX: 699 ~ 716 MHz	RX: 729 ~ 746 MHz
	LTE Band 17	TX: 704 ~ 716 MHz	RX: 734 ~ 746 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: 2496 ~ 2690 MHz	RX: 2496 ~ 2690 MHz
	802.11b/g /n(HT20)	2412 ~ 2462 MHz	
	Bluetooth	2402 ~ 2480 MHz	
Antenna Type	WWAN: PIFA Antenna WIFI: PIFA Antenna Bluetooth: PIFA Antenna		
DTM	N/A		
Hotspot Function	Support		
Power Reduction	N/A		
Exposure Category	General Population/Uncontrolled exposure		
Product Type	Portable Device		
EUT Type	☒ Production unit	☐ Identical prototype	

3 SUMMARY OF TEST RESULT

3.1 Test Standards

No.	Identity	Document Title
1	47 CFR Part 2.1093	Radiofrequency radiation exposure evaluation: portable devices
2	ANSI C95.1-1992	IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz
3	IEEE Std. 1528-2013	IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate(SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques
4	KDB 447498 D04 v01	447498 D04 Interim General RF Exposure Guidance v01
5	KDB 941225 D01 v03r01	3G SAR MEAUREMENT PROCEDURES
6	KDB 941225 D05 v02r05	SAR Evaluation Considerations for LTE Devices
7	KDB 941225 D06 v02r01	SAR EVALUATION PROCEDURES FOR PORTABLE DEVICES WITH WIRELESS ROUTER CAPABILITIES
8	KDB 865664 D01 v01r04	SAR Measurement 100 MHz to 6 GHz
9	KDB 865664 D02 v01r02	RF Exposure Reporting
10	KDB 648474 D04 v01r03	SAR EVALUATION CONSIDERATIONS FOR WIRELESS HANDSETS
11	KDB 248227 D01 v02r02	SAR GUIDANCE FOR IEEE 802.11 (Wi-Fi) TRANSMITTERS

3.2 Device Category and SAR Limit

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

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

Table of Exposure Limits:

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

NOTE:

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

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

3.3 Test Result Summary

3.3.1 Highest SAR Values

Equipment Class	Band	Maximum Scaled SAR (W/kg)			Maximum Report SAR (W/kg)		
		Head (0mm)	Body-worn (10mm)	Hotspot (10mm)	Head (0mm)	Body-worn (10mm)	Hotspot (10mm)
		1g SAR			1g SAR		
PCE	GSM 850	0.92	0.42	0.42	1.02	0.45	0.56
	GSM 1900	0.99	0.34	0.49			
	WCDMA Band 2	0.92	0.34	0.43			
	WCDMA Band 4	1.02	0.30	0.46			
	WCDMA Band 5	0.72	0.31	0.31			
	LTE Band 2	0.55	0.19	0.28			
	LTE Band 5	0.59	0.28	0.28			
	LTE Band 7	0.40	0.27	0.37			
	LTE Band 12	0.39	0.24	0.24			
	LTE Band 17	0.42	0.22	0.22			
	LTE Band 26	0.74	0.36	0.36			
	LTE Band 66	0.38	0.12	0.17			
	LTE Band 38	0.54	0.45	0.51			
	LTE Band 41	0.52	0.44	0.56			
DTS	2.4G WIFI	0.52	0.25	0.25			
DSS	Bluetooth	0.07	0.03	0.03			
Limit (W/kg)		1.6			1.6		
Verdict		PASS					

Note: This device supports both LTE Band 66 and Band 4. Since the supported frequency span for LTE Band 4 falls completely within the supports frequency span for LTE Band 66, both LTE bands have the same target power, and both LTE bands share the same transmission path; therefore, SAR was only assessed for LTE Band 66.

3.3.2 Highest Simultaneous Transmission SAR Values

Equipment Class	Maximum Scaled SAR (W/kg)		
	Head 1g (0mm)	Body-worn 1g (10mm)	Hotspot 1g (10mm)
PCE	1.31	0.69	0.69
DTS	1.31	0.69	0.69
DSS	1.05	0.47	0.56
Limit (W/Kg)	1.60		
Verdict	Pass		
Note: The highest simultaneous SAR please refer section 12.2			

3.4 Test Uncertainty

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

The maximum 1 g SAR for the EUT in this report is 1.02 W/kg, which is lower than 1.5 W/kg, so the extensive SAR measurement uncertainty analysis is not required in this report.

4 MEASUREMENT SYSTEM

4.1 Specific Absorption Rate (SAR) Definition

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

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

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

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

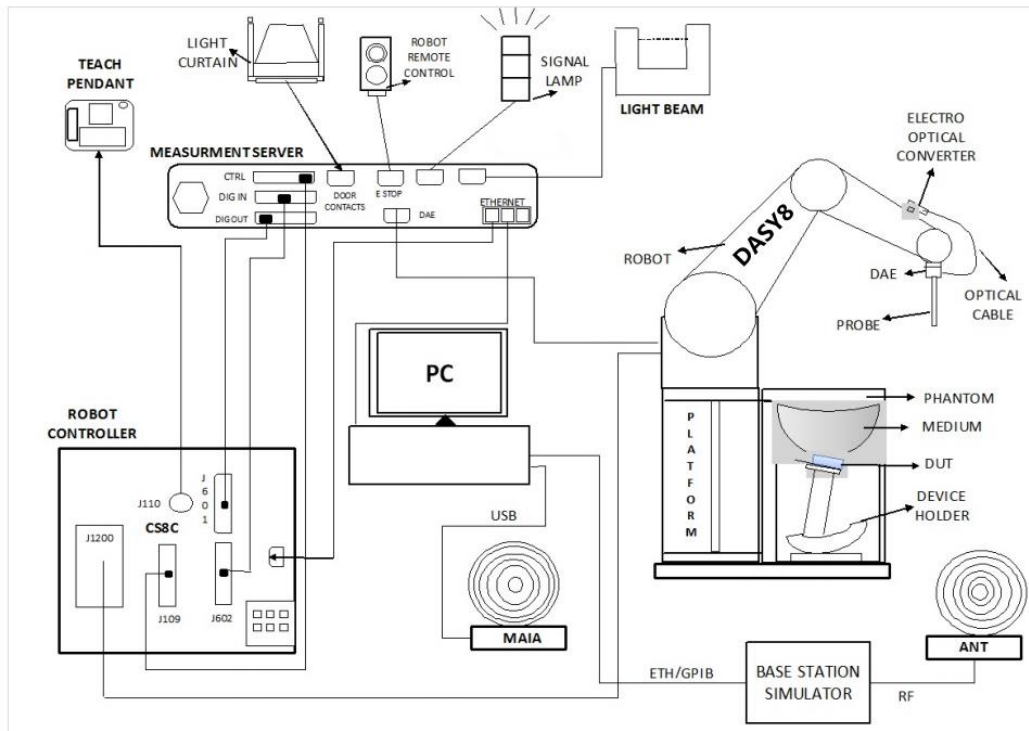
$$\text{SAR} = \frac{\sigma E^2}{\rho}$$

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 DASY 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 DASY measurement server, which performs all real-time data evaluation for field measurements and surface detection, controls robot movements and handles safety operation.
7. DASY5 software and SEMCAD data evaluation software.
8. Remote control with teach panel and additional circuitry for robot safety such as warning lamps, etc.
9. The generic twin phantom enabling the testing of left-hand and right-hand usage.
10. The device holder for handheld mobile phones.
11. Tissue simulating liquid mixed according to the given recipes.
12. System validation dipoles allowing to validate the proper functioning of the system.

4.2.2 Robot

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



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

4.2.3 E-Field Probe

The probe is specially designed and calibrated for use in liquids with high permittivities for the measurements the Specific Dosimetric E-Field Probe EX3DV4-SN: 7510 with following specifications is used.

Construction	Symmetrical design with triangular core Built-in optical fiber for surface detection 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

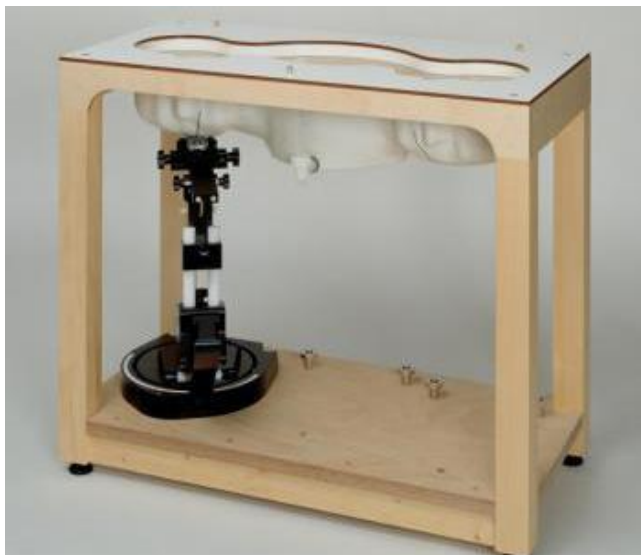
The data acquisition electronics (DAE) consist of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converte and a command decoder with a control logic unit. Transmission to the measurement server is accomplished through an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



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

4.2.5 Phantoms

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



- Left head
- Right head
- Flat phantom

Photo of Phantom SN1859



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

4.2.6 Device Holder

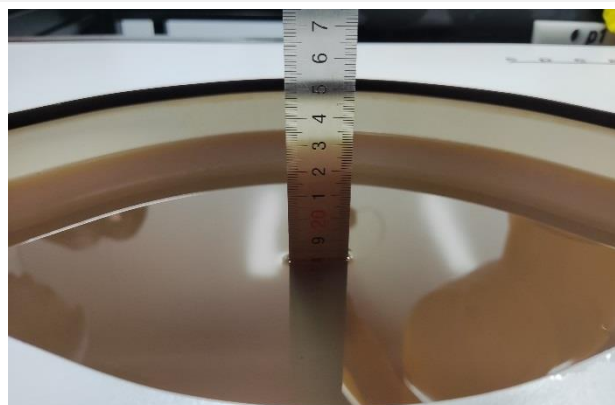
The DASY device holder has two scales for device rotation (with respect to the body axis) and the device inclination (with respect to the line between the ear openings). The plane between the ear openings and the mouth tip has a rotation angle of 65° . The bottom plate contains three pair of bolts for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

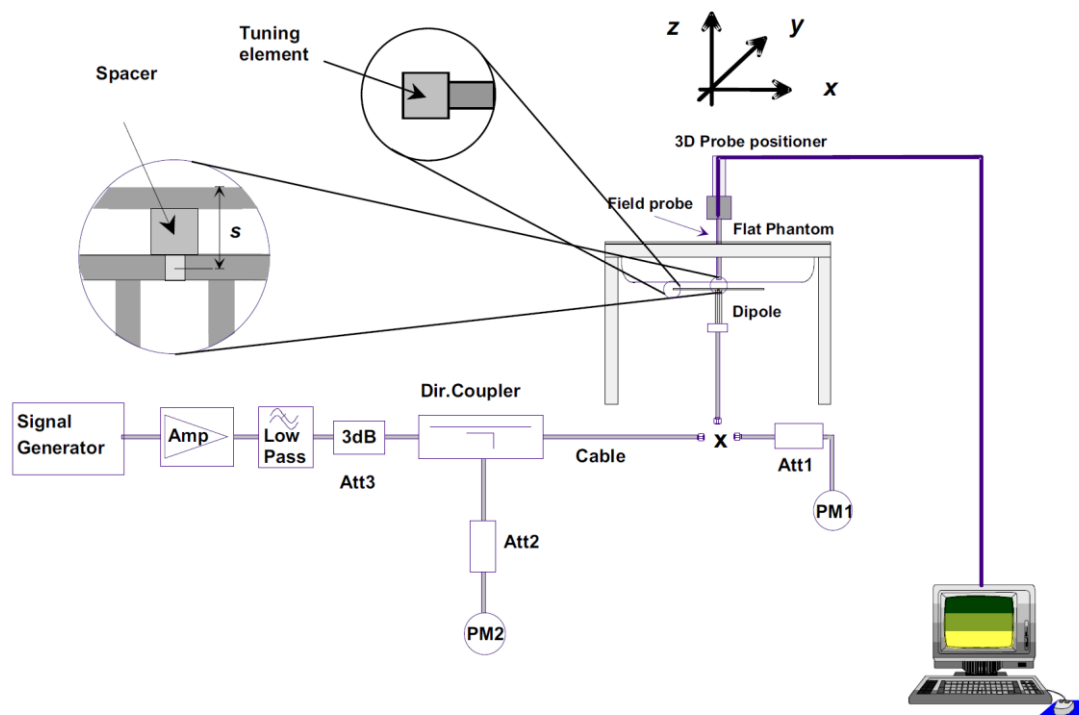
5 SYSTEM VERIFICATION

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

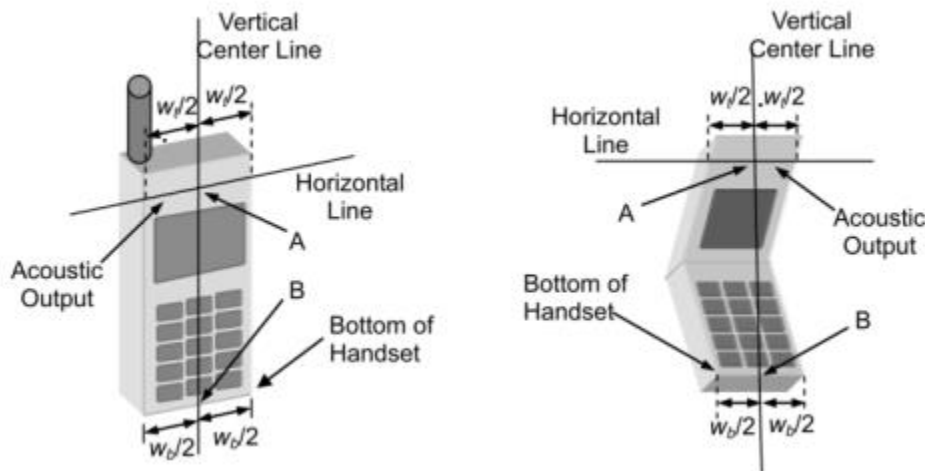
According to KDB 648474 D04 Handset, handsets are tested for SAR compliance in head, body-worn accessory and other use configurations described in the following subsections.

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.

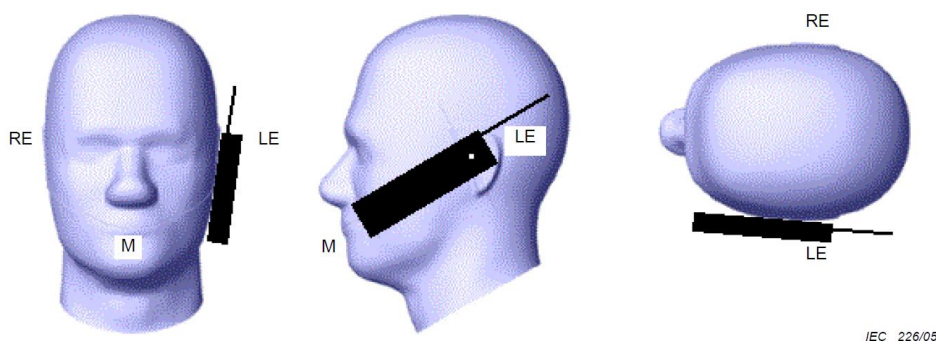
6.1.1 Two Imaginary Lines on the Handset

- 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.

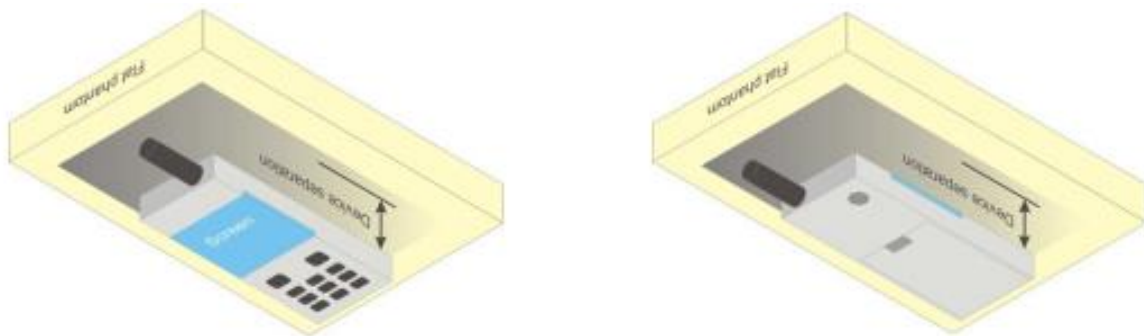


6.2 Body-worn Position Conditions

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.

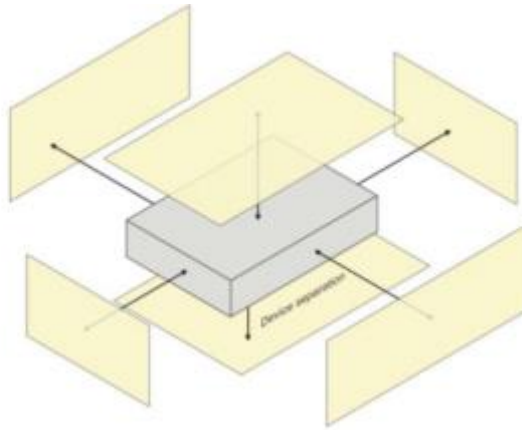
Body-worn accessories that do not contain metallic or conductive components may be tested according to worst-case exposure configurations, typically according to the smallest test separation distance required for the group of body-worn accessories with similar operating and exposure characteristics.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



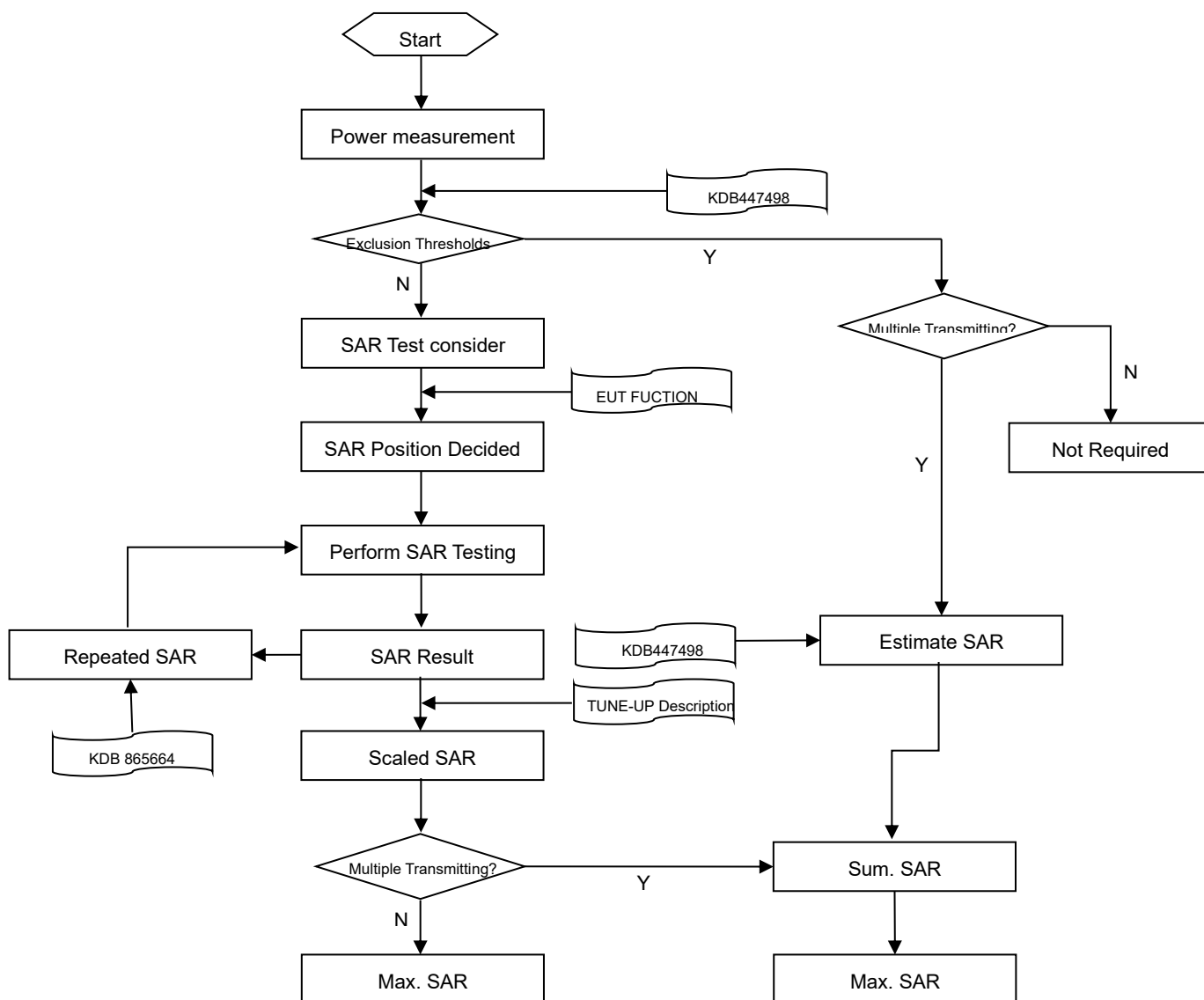
6.4 Product Specific 10g Exposure Consideration

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
4–5 GHz: ≥ 25 mm				
5–6 GHz: ≥ 22 mm				

Note:

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

7.3 Measurement Procedure

The following steps are used for each test position

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

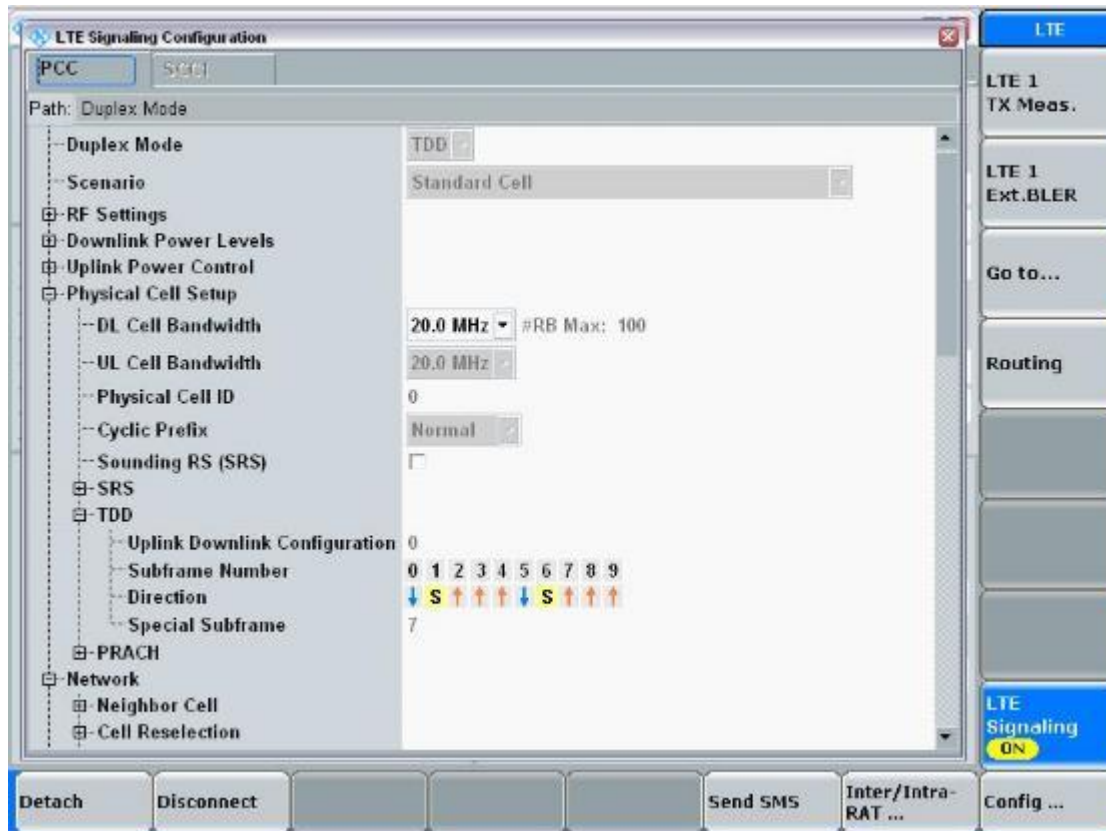
7.4 Area & Zoom Scan Procedure

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

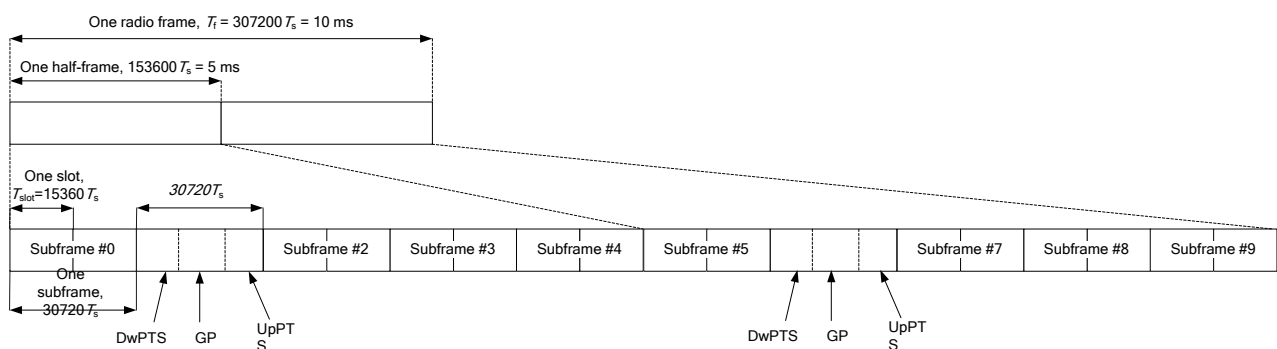
When the 1 g SAR of the highest peak is within 2 dB of the SAR limit, additional zoom scans are required for other peaks within 2 dB of the highest peak that have not been included in any zoom scan to ensure there is no increase in SAR.

7.5 LTE (TDD) Considerations

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



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



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

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

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

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

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

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

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

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

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

8 CONDUCTED RF OUPUT POWER

8.1 GSM

Please refer the document “BL-SH2480506-AP Power List.pdf”.

8.2 WCDMA

Please refer the document “BL-SH2480506-AP Power List.pdf”.

8.3 LTE

Please refer the document “BL-SH2480506-AP Power List.pdf”.

8.4 WIFI

8.4.1 2.4G WIFI

Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power (dBm)	Tune-up Limit (dBm)	SAR Test Require.
2.4 (2.4~2.4835)	802.11b	1	2412	16.04	17.50	No
		6	2437	16.83	17.50	No
		11	2462	17.03	17.50	Yes
	802.11g	1	2412	13.91	15.00	No
		6	2437	14.70	15.00	No
		11	2462	14.88	15.00	No
	802.11n(HT20)	1	2412	14.30	15.50	No
		6	2437	15.07	15.50	No
		11	2462	15.22	15.50	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 = $0.519 * (31.62\text{mW}/56.23\text{mW}) = 0.292$ W/Kg, so 2.4G OFDM SAR test is not required.

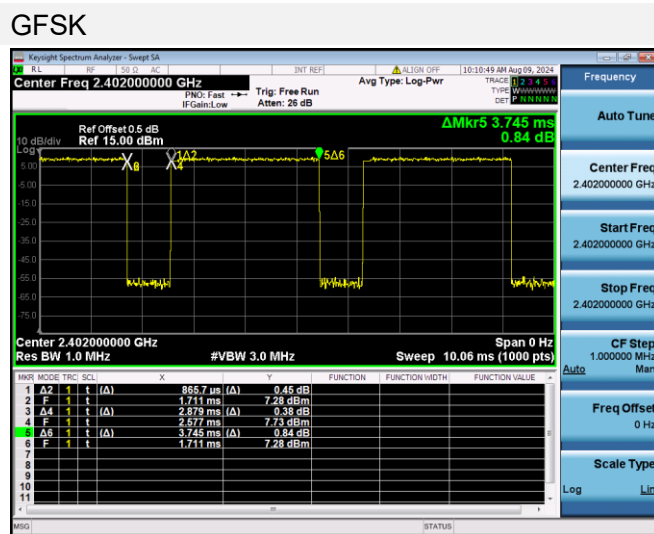
8.5 Bluetooth

Mode	GFSK			$\pi/4$ -DQPSK		
Channel	0	39	78	0	39	78
Frequency (MHz)	2402	2441	2480	2402	2441	2480
Average Power (dBm)	10.08	10.02	9.85	10.03	9.93	9.71
Tune-Up Limit (dBm)	10.50	10.50	10.50	10.50	10.50	10.50
SAR Test Require	YES	NO	NO	NO	NO	NO
Mode	8-DPSK			BLE-1Mbps		
Channel	0	39	78	0	19	39
Frequency (MHz)	2402	2441	2480	2402	2440	2480
Average Power (dBm)	10.42	10.33	10.14	-1.62	-1.65	-2.38
Tune-Up Limit (dBm)	10.50	10.50	10.50	-1.50	-1.50	-1.50
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.

The Bluetooth BT DH5 duty cycle is 76.88% as following figure, according to 2016 Oct. TCB workshop for Bluetooth SAR scaling need further consideration and the maximum duty cycle is 100%, therefore the actual duty cycle will be scaled up to 100% for Bluetooth reported SAR calculation.

Duty Cycle



9 TEST EXCLUSION CONSIDERATION

For antenna location and support bands please refer the document “BL-SH2480506-AI EUT internal photo.pdf”.

Antenna	Front Side(mm)	Back Side(mm)	Left Edge(mm)	Right Edge(mm)	Top Edge(mm)	Bottom Edge(mm)
Ant.1	<25	<25	>25	<25	<25	>25
Ant.2	<25	<25	<25	<25	>25	<25
Ant.3	<25	<25	<25	>25	<25	>25

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

10 TEST RESULT

10.1GSM 850

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	1 g Scaled SAR (W/kg)	Meas. No.
Head												
Ant.1	DATA 2slots	Left Cheek	0	190	836.6	-0.06	0.592	31.24	32.00	1.191	0.705	/
		Left Tilt	0	190	836.6	-0.09	0.476	31.24	32.00	1.191	0.567	/
		Right Cheek	0	190	836.6	0.02	0.685	31.24	32.00	1.191	0.816	/
		Right Tilt	0	190	836.6	0.17	0.595	31.24	32.00	1.191	0.709	/
		Right Cheek	0	128	824.2	0.07	0.671	31.22	32.00	1.197	0.803	/
		Right Cheek	0	251	848.8	-0.01	0.757	31.16	32.00	1.213	0.918	1#
Ant.2	DATA 2slots	Left Cheek	0	190	836.6	0.06	0.032	31.24	32.00	1.191	0.038	/
		Left Tilt	0	190	836.6	-0.12	0.021	31.24	32.00	1.191	0.025	/
		Right Cheek	0	190	836.6	-0.09	0.021	31.24	32.00	1.191	0.025	/
		Right Tilt	0	190	836.6	0.16	0.018	31.24	32.00	1.191	0.021	/
Body-worn&Hotspot												
Ant.1	DATA 2slots	Front Side	10	190	836.6	0.19	0.167	31.24	32.00	1.191	0.199	/
		Back Side	10	190	836.6	-0.04	0.351	31.24	32.00	1.191	0.418	2#
		Right Edge	10	190	836.6	-0.01	0.099	31.24	32.00	1.191	0.118	/
		Top Edge	10	190	836.6	-0.01	0.162	31.24	32.00	1.191	0.193	/
Ant.2	DATA 2slots	Front Side	10	190	836.6	-0.02	0.118	31.24	32.00	1.191	0.141	/
		Right Edge	10	190	836.6	0.03	0.065	31.24	32.00	1.191	0.077	/
		Bottom Edge	10	190	836.6	0.05	0.000	31.24	32.00	1.191	0.000	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.												

10.2GSM 1900

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	1 g Scaled SAR (W/kg)	Meas. No.
Head												
Ant.1	DATA 2slots	Left Cheek	0	512	1850.2	0.15	0.351	28.26	29.00	1.186	0.416	/
		Left Tilt	0	512	1850.2	-0.10	0.438	28.26	29.00	1.186	0.519	/
		Right Cheek	0	512	1850.2	0.10	0.597	28.26	29.00	1.186	0.708	/
		Right Tilt	0	512	1850.2	-0.13	0.709	28.26	29.00	1.186	0.841	/
		Right Tilt	0	661	1880	0.08	0.718	28.01	29.00	1.256	0.902	/
		Right Tilt	0	810	1909.8	0.01	0.734	27.70	29.00	1.349	0.990	3#
Ant.2	DATA 2slots	Left Cheek	0	512	1850.2	0.07	0.025	28.19	29.00	1.205	0.030	/
		Left Tilt	0	512	1850.2	0.14	0.019	28.19	29.00	1.205	0.023	/
		Right Cheek	0	512	1850.2	0.10	0.034	28.19	29.00	1.205	0.041	/
		Right Tilt	0	512	1850.2	-0.16	0.022	28.19	29.00	1.205	0.027	/
Body-worn&Hotspot												
Ant.1	DATA 2slots	Front Side	10	512	1850.2	0.05	0.186	28.26	29.00	1.186	0.221	/
		Back Side	10	512	1850.2	0.04	0.286	28.26	29.00	1.186	0.339	/
		Right Edge	10	512	1850.2	-0.06	0.065	28.26	29.00	1.186	0.077	/
		Top Edge	10	512	1850.2	-0.12	0.411	28.26	29.00	1.186	0.487	4#
Ant.2	DATA 2slots	Front Side	10	512	1850.2	-0.06	0.085	28.19	29.00	1.205	0.102	/
		Back Side	10	512	1850.2	0.10	0.237	28.19	29.00	1.205	0.286	/
		Left Edge	10	512	1850.2	0.13	0.011	28.19	29.00	1.205	0.013	/
		Right Edge	10	512	1850.2	0.08	0.006	28.19	29.00	1.205	0.007	/
		Bottom Edge	10	512	1850.2	0.11	0.209	28.19	29.00	1.205	0.252	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.												

10.3WCDMA Band 2

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	1 g Scaled SAR (W/kg)	Meas. No.
Head												
Ant.1	RMC	Left Cheek	0	9538	1907.6	0.03	0.362	23.14	24.00	1.219	0.441	/
		Left Tilt	0	9538	1907.6	0.05	0.446	23.14	24.00	1.219	0.544	/
		Right Cheek	0	9538	1907.6	-0.19	0.684	23.14	24.00	1.219	0.834	/
		Right Tilt	0	9538	1907.6	0.01	0.757	23.14	24.00	1.219	0.923	5#
		Right Tilt	0	9262	1852.4	0.14	0.638	23.13	24.00	1.222	0.780	/
		Right Tilt	0	9400	1880	-0.16	0.691	23.01	24.00	1.256	0.868	/
Ant.2	RMC	Left Cheek	0	9538	1907.6	-0.15	0.063	23.14	23.50	1.086	0.068	/
		Left Tilt	0	9538	1907.6	0.12	0.035	23.14	23.50	1.086	0.038	/
		Right Cheek	0	9538	1907.6	-0.09	0.041	23.14	23.50	1.086	0.045	/
		Right Tilt	0	9538	1907.6	-0.14	0.029	23.14	23.50	1.086	0.031	/
Body-worn&Hotspot												
Ant.1	RMC	Front Side	10	9538	1907.6	0.13	0.156	23.14	24.00	1.219	0.190	/
		Back Side	10	9538	1907.6	-0.17	0.281	23.14	24.00	1.219	0.343	/
		Right Edge	10	9538	1907.6	0.13	0.056	23.14	24.00	1.219	0.068	/
		Top Edge	10	9538	1907.6	-0.03	0.353	23.14	24.00	1.219	0.430	6#
Ant.2	RMC	Front Side	10	9538	1907.6	-0.14	0.063	23.14	23.50	1.086	0.068	/
		Back Side	10	9538	1907.6	0.03	0.174	23.14	23.50	1.086	0.189	/
		Left Edge	10	9538	1907.6	0.06	0.015	23.14	23.50	1.086	0.016	/
		Right Edge	10	9538	1907.6	-0.11	0.028	23.14	23.50	1.086	0.030	/
		Bottom Edge	10	9538	1907.6	-0.06	0.162	23.14	23.50	1.086	0.176	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.												

10.4WCDMA Band 4

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	1 g Scaled SAR (W/kg)	Meas. No.
Head												
Ant.1	RMC	Left Cheek	0	1513	1752.6	0.11	0.368	23.24	24.00	1.191	0.438	/
		Left Tilt	0	1513	1752.6	-0.01	0.455	23.24	24.00	1.191	0.542	/
		Right Cheek	0	1513	1752.6	-0.03	0.656	23.24	24.00	1.191	0.781	/
		Right Tilt	0	1513	1752.6	-0.09	0.802	23.24	24.00	1.191	0.955	/
		Right Tilt	0	1312	1712.4	0.03	0.844	23.18	24.00	1.208	1.020	7#
		Right Tilt	0	1412	1732.4	0.07	0.748	23.10	24.00	1.230	0.920	/
Ant.2	RMC	Left Cheek	0	1312	1712.4	-0.16	0.047	23.22	23.50	1.067	0.050	/
		Left Tilt	0	1312	1712.4	0.01	0.021	23.22	23.50	1.067	0.022	/
		Right Cheek	0	1312	1712.4	0.08	0.055	23.22	23.50	1.067	0.059	/
		Right Tilt	0	1312	1712.4	-0.02	0.028	23.22	23.50	1.067	0.030	/
Body-worn&Hotspot												
Ant.1	RMC	Front Side	10	1513	1752.6	0.08	0.161	23.24	24.00	1.191	0.192	/
		Back Side	10	1513	1752.6	0.06	0.250	23.24	24.00	1.191	0.298	/
		Right Edge	10	1513	1752.6	0.19	0.055	23.24	24.00	1.191	0.066	/
		Top Edge	10	1513	1752.6	-0.09	0.387	23.24	24.00	1.191	0.461	8#
Ant.2	RMC	Front Side	10	1312	1712.4	0.07	0.051	23.22	23.50	1.067	0.054	/
		Back Side	10	1312	1712.4	-0.10	0.173	23.22	23.50	1.067	0.185	/
		Left Edge	10	1312	1712.4	-0.01	0.015	23.22	23.50	1.067	0.016	/
		Right Edge	10	1312	1712.4	-0.02	0.013	23.22	23.50	1.067	0.014	/
		Bottom Edge	10	1312	1712.4	-0.14	0.185	23.22	23.50	1.067	0.197	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.												

10.5WCDMA Band 5

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	1 g Scaled SAR (W/kg)	Meas. No.
Head												
Ant.1	RMC	Left Cheek	0	4182	836.4	-0.15	0.475	23.31	24.00	1.172	0.557	/
		Left Tilt	0	4182	836.4	0.06	0.423	23.31	24.00	1.172	0.496	/
		Right Cheek	0	4182	836.4	-0.02	0.612	23.31	24.00	1.172	0.717	9#
		Right Tilt	0	4182	836.4	0.09	0.483	23.31	24.00	1.172	0.566	/
Ant.2	RMC	Left Cheek	0	4182	836.4	-0.13	0.023	23.41	23.50	1.021	0.023	/
		Left Tilt	0	4182	836.4	0.04	0.016	23.41	23.50	1.021	0.016	/
		Right Cheek	0	4182	836.4	-0.14	0.032	23.41	23.50	1.021	0.033	/
		Right Tilt	0	4182	836.4	0.17	0.019	23.41	23.50	1.021	0.019	/
Body-worn&Hotspot												
Ant.1	RMC	Front Side	10	4182	836.4	0.18	0.166	23.31	24.00	1.172	0.195	/
		Back Side	10	4182	836.4	-0.03	0.264	23.31	24.00	1.172	0.309	10#
		Right Edge	10	4182	836.4	-0.17	0.140	23.31	24.00	1.172	0.164	/
		Top Edge	10	4182	836.4	-0.11	0.226	23.31	24.00	1.172	0.265	/
Ant.2	RMC	Front Side	10	4182	836.4	0.13	0.088	23.41	23.50	1.021	0.090	/
		Back Side	10	4182	836.4	0.04	0.145	23.41	23.50	1.021	0.148	/
		Left Edge	10	4182	836.4	0.16	0.079	23.41	23.50	1.021	0.081	/
		Right Edge	10	4182	836.4	-0.15	0.047	23.41	23.50	1.021	0.048	/
		Bottom Edge	10	4182	836.4	0.12	0.087	23.41	23.50	1.021	0.089	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.												

10.6LTE Band 2 (20MHz Bandwidth)

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	1 g Scaled SAR (W/kg)	Meas. No.
Head														
Ant.1	QPSK	Left Cheek	0	19100	1900	1	High	0.11	0.223	23.73	24.50	1.194	0.266	/
		Left Tilt	0	19100	1900	1	High	0.15	0.247	23.73	24.50	1.194	0.295	/
		Right Cheek	0	19100	1900	1	High	0.09	0.353	23.73	24.50	1.194	0.421	/
		Right Tilt	0	19100	1900	1	High	0.02	0.457	23.73	24.50	1.194	0.546	11#
		Left Cheek	0	19100	1900	50	High	-0.16	0.200	23.01	23.50	1.119	0.224	/
		Left Tilt	0	19100	1900	50	High	0.14	0.247	23.01	23.50	1.119	0.276	/
		Right Cheek	0	19100	1900	50	High	0.05	0.354	23.01	23.50	1.119	0.396	/
		Right Tilt	0	19100	1900	50	High	0.02	0.420	23.01	23.50	1.119	0.470	/
Ant.2	QPSK	Left Cheek	0	19100	1900	1	High	0.00	0.082	23.75	24.50	1.189	0.097	/
		Left Tilt	0	19100	1900	1	High	-0.07	0.063	23.75	24.50	1.189	0.075	/
		Right Cheek	0	19100	1900	1	High	0.14	0.074	23.75	24.50	1.189	0.088	/
		Right Tilt	0	19100	1900	1	High	0.19	0.051	23.75	24.50	1.189	0.061	/
		Left Cheek	0	19100	1900	50	Mid	0.01	0.073	22.97	23.50	1.130	0.082	/
		Left Tilt	0	19100	1900	50	Mid	0.05	0.058	22.97	23.50	1.130	0.066	/
		Right Cheek	0	19100	1900	50	Mid	0.09	0.071	22.97	23.50	1.130	0.080	/
		Right Tilt	0	19100	1900	50	Mid	-0.18	0.048	22.97	23.50	1.130	0.054	/
Body-worn&Hotspot														
Ant.1	QPSK	Front Side	10	19100	1900	1	High	-0.16	0.086	23.73	24.50	1.194	0.103	/
		Back Side	10	19100	1900	1	High	0.19	0.159	23.73	24.50	1.194	0.190	/
		Right Edge	10	19100	1900	1	High	0.05	0.006	23.73	24.50	1.194	0.007	/
		Top Edge	10	19100	1900	1	High	-0.03	0.230	23.73	24.50	1.194	0.275	12#
		Front Side	10	19100	1900	50	High	0.01	0.087	23.01	23.50	1.119	0.097	/
		Back Side	10	19100	1900	50	High	0.07	0.157	23.01	23.50	1.119	0.176	/
		Right Edge	10	19100	1900	50	High	0.06	0.005	23.01	23.50	1.119	0.006	/
		Top Edge	10	19100	1900	50	High	-0.14	0.209	23.01	23.50	1.119	0.234	/
Ant.2	QPSK	Front Side	10	19100	1900	1	High	0.01	0.041	23.75	24.50	1.189	0.049	/
		Back Side	10	19100	1900	1	High	-0.11	0.120	23.75	24.50	1.189	0.143	/
		Left Edge	10	19100	1900	1	High	-0.19	0.012	23.75	24.50	1.189	0.014	/
		Right Edge	10	19100	1900	1	High	-0.08	0.008	23.75	24.50	1.189	0.010	/
		Bottom Edge	10	19100	1900	1	High	-0.16	0.122	23.75	24.50	1.189	0.145	/
		Front Side	10	19100	1900	50	Mid	0.17	0.033	22.97	23.50	1.130	0.037	/
		Back Side	10	19100	1900	50	Mid	0.01	0.085	22.97	23.50	1.130	0.096	/
		Left Edge	10	19100	1900	50	Mid	0.06	0.011	22.97	23.50	1.130	0.012	/
		Right Edge	10	19100	1900	50	Mid	-0.16	0.006	22.97	23.50	1.130	0.007	/
		Bottom Edge	10	19100	1900	50	Mid	-0.06	0.084	22.97	23.50	1.130	0.095	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

10.7LTE Band 5 (10MHz Bandwidth)

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	1 g Scaled SAR (W/kg)	Meas. No.
Head														
Ant.1	QPSK	Left Cheek	0	20525	836.5	1	Mid	-0.14	0.423	23.45	24.50	1.274	0.539	/
		Left Tilt	0	20525	836.5	1	Mid	0.02	0.355	23.45	24.50	1.274	0.452	/
		Right Cheek	0	20525	836.5	1	Mid	0.00	0.466	23.45	24.50	1.274	0.594	13#
		Right Tilt	0	20525	836.5	1	Mid	0.01	0.312	23.45	24.50	1.274	0.397	/
		Left Cheek	0	20525	836.5	25	High	0.17	0.366	22.88	23.50	1.153	0.422	/
		Left Tilt	0	20525	836.5	25	High	0.05	0.311	22.88	23.50	1.153	0.359	/
		Right Cheek	0	20525	836.5	25	High	0.15	0.441	22.88	23.50	1.153	0.508	/
		Right Tilt	0	20525	836.5	25	High	0.12	0.267	22.88	23.50	1.153	0.308	/
Ant.2	QPSK	Left Cheek	0	20525	836.5	1	Mid	0.02	0.032	23.51	24.50	1.256	0.040	/
		Left Tilt	0	20525	836.5	1	Mid	0.05	0.016	23.51	24.50	1.256	0.020	/
		Right Cheek	0	20525	836.5	1	Mid	-0.03	0.045	23.51	24.50	1.256	0.057	/
		Right Tilt	0	20525	836.5	1	Mid	-0.03	0.022	23.51	24.50	1.256	0.028	/
		Left Cheek	0	20525	836.5	25	Mid	0.01	0.025	23.07	23.50	1.104	0.028	/
		Left Tilt	0	20525	836.5	25	Mid	-0.02	0.012	23.07	23.50	1.104	0.013	/
		Right Cheek	0	20525	836.5	25	Mid	0.06	0.035	23.07	23.50	1.104	0.039	/
		Right Tilt	0	20525	836.5	25	Mid	-0.15	0.021	23.07	23.50	1.104	0.023	/
Body-worn&Hotspot														
Ant.1	QPSK	Front Side	10	20525	836.5	1	Mid	0.15	0.193	23.45	24.50	1.274	0.246	/
		Back Side	10	20525	836.5	1	Mid	0.00	0.217	23.45	24.50	1.274	0.276	14#
		Right Edge	10	20525	836.5	1	Mid	-0.09	0.106	23.45	24.50	1.274	0.135	/
		Top Edge	10	20525	836.5	1	Mid	-0.03	0.188	23.45	24.50	1.274	0.240	/
		Front Side	10	20525	836.5	25	High	-0.15	0.177	22.88	23.50	1.153	0.204	/
		Back Side	10	20525	836.5	25	High	-0.04	0.206	22.88	23.50	1.153	0.238	/
		Right Edge	10	20525	836.5	25	High	-0.13	0.096	22.88	23.50	1.153	0.111	/
		Top Edge	10	20525	836.5	25	High	-0.13	0.166	22.88	23.50	1.153	0.191	/
Ant.2	QPSK	Front Side	10	20525	836.5	1	Mid	-0.07	0.099	23.51	24.50	1.256	0.124	/
		Back Side	10	20525	836.5	1	Mid	-0.19	0.174	23.51	24.50	1.256	0.219	/
		Left Edge	10	20525	836.5	1	Mid	0.06	0.099	23.51	24.50	1.256	0.124	/
		Right Edge	10	20525	836.5	1	Mid	-0.17	0.011	23.51	24.50	1.256	0.014	/
		Bottom Edge	10	20525	836.5	1	Mid	-0.02	0.115	23.51	24.50	1.256	0.144	/
		Front Side	10	20525	836.5	25	Mid	0.10	0.096	23.07	23.50	1.104	0.106	/
		Back Side	10	20525	836.5	25	Mid	0.16	0.152	23.07	23.50	1.104	0.168	/
		Left Edge	10	20525	836.5	25	Mid	-0.19	0.082	23.07	23.50	1.104	0.091	/
		Right Edge	10	20525	836.5	25	Mid	-0.11	0.006	23.07	23.50	1.104	0.007	/
		Bottom Edge	10	20525	836.5	25	Mid	-0.14	0.111	23.07	23.50	1.104	0.123	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

10.8LTE Band 7 (20MHz Bandwidth)

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	1 g Scaled SAR (W/kg)	Meas. No.
Head														
Ant.1	QPSK	Left Cheek	0	21100	2535	1	Mid	0.00	0.141	22.09	23.00	1.233	0.174	/
		Left Tilt	0	21100	2535	1	Mid	-0.04	0.132	22.09	23.00	1.233	0.163	/
		Right Cheek	0	21100	2535	1	Mid	-0.09	0.325	22.09	23.00	1.233	0.401	15#
		Right Tilt	0	21100	2535	1	Mid	-0.19	0.266	22.09	23.00	1.233	0.328	/
		Left Cheek	0	21100	2535	50	Mid	0.03	0.132	21.57	22.00	1.104	0.146	/
		Left Tilt	0	21100	2535	50	Mid	0.08	0.125	21.57	22.00	1.104	0.138	/
		Right Cheek	0	21100	2535	50	Mid	-0.16	0.288	21.57	22.00	1.104	0.318	/
		Right Tilt	0	21100	2535	50	Mid	-0.03	0.254	21.57	22.00	1.104	0.280	/
Ant.2	QPSK	Left Cheek	0	21350	2560	1	Low	-0.18	0.099	21.83	23.00	1.309	0.130	/
		Left Tilt	0	21350	2560	1	Low	0.17	0.056	21.83	23.00	1.309	0.073	/
		Right Cheek	0	21350	2560	1	Low	0.01	0.113	21.83	23.00	1.309	0.148	/
		Right Tilt	0	21350	2560	1	Low	-0.04	0.062	21.83	23.00	1.309	0.081	/
		Left Cheek	0	21100	2535	50	Mid	0.18	0.074	21.19	22.00	1.205	0.089	/
		Left Tilt	0	21100	2535	50	Mid	0.06	0.041	21.19	22.00	1.205	0.049	/
		Right Cheek	0	21100	2535	50	Mid	-0.03	0.085	21.19	22.00	1.205	0.102	/
		Right Tilt	0	21100	2535	50	Mid	-0.17	0.054	21.19	22.00	1.205	0.065	/
Body-worn&Hotspot														
Ant.1	QPSK	Front Side	10	21100	2535	1	Mid	-0.11	0.069	22.09	23.00	1.233	0.085	/
		Back Side	10	21100	2535	1	Mid	0.00	0.151	22.09	23.00	1.233	0.186	/
		Right Edge	10	21100	2535	1	Mid	0.07	0.103	22.09	23.00	1.233	0.127	/
		Top Edge	10	21100	2535	1	Mid	0.16	0.117	22.09	23.00	1.233	0.144	/
		Front Side	10	21100	2535	50	Mid	0.11	0.066	21.57	22.00	1.104	0.073	/
		Back Side	10	21100	2535	50	Mid	-0.05	0.144	21.57	22.00	1.104	0.159	/
		Right Edge	10	21100	2535	50	Mid	-0.06	0.092	21.57	22.00	1.104	0.102	/
		Top Edge	10	21100	2535	50	Mid	-0.16	0.109	21.57	22.00	1.104	0.120	/
Ant.2	QPSK	Front Side	10	21350	2560	1	Low	0.05	0.084	21.83	23.00	1.309	0.110	/
		Back Side	10	21350	2560	1	Low	0.12	0.209	21.83	23.00	1.309	0.274	/
		Left Edge	10	21350	2560	1	Low	0.11	0.011	21.83	23.00	1.309	0.014	/
		Right Edge	10	21350	2560	1	Low	0.14	0.048	21.83	23.00	1.309	0.063	/
		Bottom Edge	10	21350	2560	1	Low	-0.11	0.284	21.83	23.00	1.309	0.372	16#
		Front Side	10	21100	2535	50	Mid	0.08	0.086	21.19	22.00	1.205	0.104	/
		Back Side	10	21100	2535	50	Mid	-0.04	0.226	21.19	22.00	1.205	0.272	/
		Left Edge	10	21100	2535	50	Mid	-0.11	0.010	21.19	22.00	1.205	0.012	/
		Right Edge	10	21100	2535	50	Mid	0.00	0.041	21.19	22.00	1.205	0.049	/
		Bottom Edge	10	21100	2535	50	Mid	-0.19	0.243	21.19	22.00	1.205	0.293	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

10.9LTE Band 12 (10MHz Bandwidth)

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	1 g Scaled SAR (W/kg)	Meas. No.
Head														
Ant.1	QPSK	Left Cheek	0	23130	711	1	Low	-0.13	0.216	22.90	24.00	1.288	0.278	/
		Left Tilt	0	23130	711	1	Low	0.11	0.201	22.90	24.00	1.288	0.259	/
		Right Cheek	0	23130	711	1	Low	-0.02	0.299	22.90	24.00	1.288	0.385	17#
		Right Tilt	0	23130	711	1	Low	-0.10	0.174	22.90	24.00	1.288	0.224	/
		Left Cheek	0	23095	707.5	25	High	-0.01	0.171	22.48	23.00	1.127	0.193	/
		Left Tilt	0	23095	707.5	25	High	0.06	0.166	22.48	23.00	1.127	0.187	/
		Right Cheek	0	23095	707.5	25	High	0.00	0.232	22.48	23.00	1.127	0.261	/
		Right Tilt	0	23095	707.5	25	High	0.12	0.154	22.48	23.00	1.127	0.174	/
Ant.2	QPSK	Left Cheek	0	23130	711	1	Low	-0.15	0.021	23.05	24.00	1.245	0.026	/
		Left Tilt	0	23130	711	1	Low	-0.15	0.016	23.05	24.00	1.245	0.020	/
		Right Cheek	0	23130	711	1	Low	-0.17	0.032	23.05	24.00	1.245	0.040	/
		Right Tilt	0	23130	711	1	Low	0.14	0.018	23.05	24.00	1.245	0.022	/
		Left Cheek	0	23130	711	25	High	0.02	0.019	22.56	23.00	1.107	0.021	/
		Left Tilt	0	23130	711	25	High	0.13	0.013	22.56	23.00	1.107	0.014	/
		Right Cheek	0	23130	711	25	High	0.05	0.028	22.56	23.00	1.107	0.031	/
		Right Tilt	0	23130	711	25	High	-0.08	0.016	22.56	23.00	1.107	0.018	/
Body-worn&Hotspot														
Ant.1	QPSK	Front Side	10	23130	711	1	Low	0.08	0.122	22.90	24.00	1.288	0.157	/
		Back Side	10	23130	711	1	Low	-0.08	0.187	22.90	24.00	1.288	0.241	18#
		Right Edge	10	23130	711	1	Low	0.18	0.160	22.90	24.00	1.288	0.206	/
		Top Edge	10	23130	711	1	Low	0.09	0.114	22.90	24.00	1.288	0.147	/
		Front Side	10	23095	707.5	25	High	-0.04	0.110	22.48	23.00	1.127	0.124	/
		Back Side	10	23095	707.5	25	High	0.16	0.163	22.48	23.00	1.127	0.184	/
		Right Edge	10	23095	707.5	25	High	-0.19	0.132	22.48	23.00	1.127	0.149	/
		Top Edge	10	23095	707.5	25	High	-0.10	0.124	22.48	23.00	1.127	0.140	/
Ant.2	QPSK	Front Side	10	23130	711	1	Low	-0.09	0.023	23.05	24.00	1.245	0.029	/
		Back Side	10	23130	711	1	Low	-0.16	0.075	23.05	24.00	1.245	0.093	/
		Left Edge	10	23130	711	1	Low	-0.12	0.016	23.05	24.00	1.245	0.020	/
		Right Edge	10	23130	711	1	Low	-0.08	0.012	23.05	24.00	1.245	0.015	/
		Bottom Edge	10	23130	711	1	Low	-0.10	0.032	23.05	24.00	1.245	0.040	/
		Front Side	10	23130	711	25	High	0.00	0.016	22.56	23.00	1.107	0.018	/
		Back Side	10	23130	711	25	High	0.14	0.052	22.56	23.00	1.107	0.058	/
		Left Edge	10	23130	711	25	High	-0.12	0.011	22.56	23.00	1.107	0.012	/
		Right Edge	10	23130	711	25	High	0.11	0.009	22.56	23.00	1.107	0.010	/
		Bottom Edge	10	23130	711	25	High	0.07	0.044	22.56	23.00	1.107	0.049	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

10.10 LTE Band 17 (10MHz Bandwidth)

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	1 g Scaled SAR (W/kg)	Meas. No.
Head														
Ant.1	QPSK	Left Cheek	0	23780	709	1	Low	0.02	0.223	23.08	24.00	1.236	0.276	/
		Left Tilt	0	23780	709	1	Low	0.03	0.206	23.08	24.00	1.236	0.255	/
		Right Cheek	0	23780	709	1	Low	0.00	0.339	23.08	24.00	1.236	0.419	19#
		Right Tilt	0	23780	709	1	Low	0.03	0.177	23.08	24.00	1.236	0.219	/
		Left Cheek	0	23800	711	25	High	-0.05	0.183	22.43	23.00	1.140	0.209	/
		Left Tilt	0	23800	711	25	High	-0.18	0.176	22.43	23.00	1.140	0.201	/
		Right Cheek	0	23800	711	25	High	-0.13	0.232	22.43	23.00	1.140	0.264	/
		Right Tilt	0	23800	711	25	High	-0.06	0.163	22.43	23.00	1.140	0.186	/
Ant.2	QPSK	Left Cheek	0	23780	709	1	Low	0.01	0.032	23.15	24.00	1.216	0.039	/
		Left Tilt	0	23780	709	1	Low	0.01	0.015	23.15	24.00	1.216	0.018	/
		Right Cheek	0	23780	709	1	Low	-0.19	0.039	23.15	24.00	1.216	0.047	/
		Right Tilt	0	23780	709	1	Low	-0.07	0.019	23.15	24.00	1.216	0.023	/
		Left Cheek	0	23800	711	25	High	-0.13	0.025	22.48	23.00	1.127	0.028	/
		Left Tilt	0	23800	711	25	High	-0.10	0.011	22.48	23.00	1.127	0.012	/
		Right Cheek	0	23800	711	25	High	-0.07	0.031	22.48	23.00	1.127	0.035	/
		Right Tilt	0	23800	711	25	High	-0.08	0.015	22.48	23.00	1.127	0.017	/
Body-worn&Hotspot														
Ant.1	QPSK	Front Side	10	23780	709	1	Low	0.17	0.098	23.08	24.00	1.236	0.121	/
		Back Side	10	23780	709	1	Low	0.04	0.175	23.08	24.00	1.236	0.216	20#
		Right Edge	10	23780	709	1	Low	0.07	0.124	23.08	24.00	1.236	0.153	/
		Top Edge	10	23780	709	1	Low	0.07	0.102	23.08	24.00	1.236	0.126	/
		Front Side	10	23800	711	25	High	0.14	0.085	22.43	23.00	1.140	0.097	/
		Back Side	10	23800	711	25	High	0.09	0.131	22.43	23.00	1.140	0.149	/
		Right Edge	10	23800	711	25	High	-0.17	0.104	22.43	23.00	1.140	0.119	/
		Top Edge	10	23800	711	25	High	-0.12	0.103	22.43	23.00	1.140	0.117	/
Ant.2	QPSK	Front Side	10	23780	709	1	Low	0.04	0.031	23.15	24.00	1.216	0.038	/
		Back Side	10	23780	709	1	Low	-0.11	0.080	23.15	24.00	1.216	0.097	/
		Left Edge	10	23780	709	1	Low	0.00	0.045	23.15	24.00	1.216	0.055	/
		Right Edge	10	23780	709	1	Low	-0.08	0.024	23.15	24.00	1.216	0.029	/
		Bottom Edge	10	23780	709	1	Low	0.02	0.023	23.15	24.00	1.216	0.028	/
		Front Side	10	23800	711	25	High	-0.08	0.022	22.48	23.00	1.127	0.025	/
		Back Side	10	23800	711	25	High	-0.15	0.070	22.48	23.00	1.127	0.079	/
		Left Edge	10	23800	711	25	High	-0.15	0.032	22.48	23.00	1.127	0.036	/
		Right Edge	10	23800	711	25	High	-0.18	0.016	22.48	23.00	1.127	0.018	/
		Bottom Edge	10	23800	711	25	High	-0.03	0.013	22.48	23.00	1.127	0.015	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

10.11 LTE Band 26 (15MHz Bandwidth)

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	1 g Scaled SAR (W/kg)	Meas. No.
Head														
Ant.1	QPSK	Left Cheek	0	26865	831.5	1	High	-0.19	0.485	23.33	24.50	1.309	0.635	/
		Left Tilt	0	26865	831.5	1	High	-0.11	0.434	23.33	24.50	1.309	0.568	/
		Right Cheek	0	26865	831.5	1	High	-0.02	0.566	23.33	24.50	1.309	0.741	21#
		Right Tilt	0	26865	831.5	1	High	-0.11	0.384	23.33	24.50	1.309	0.503	/
		Left Cheek	0	26865	831.5	36	Mid	0.12	0.453	22.85	23.50	1.161	0.526	/
		Left Tilt	0	26865	831.5	36	Mid	0.11	0.410	22.85	23.50	1.161	0.476	/
		Right Cheek	0	26865	831.5	36	Mid	-0.17	0.511	22.85	23.50	1.161	0.593	/
		Right Tilt	0	26865	831.5	36	Mid	0.09	0.336	22.85	23.50	1.161	0.390	/
Ant.2	QPSK	Left Cheek	0	26865	831.5	1	Mid	-0.12	0.045	23.45	24.50	1.274	0.057	/
		Left Tilt	0	26865	831.5	1	Mid	-0.01	0.026	23.45	24.50	1.274	0.033	/
		Right Cheek	0	26865	831.5	1	Mid	0.13	0.052	23.45	24.50	1.274	0.066	/
		Right Tilt	0	26865	831.5	1	Mid	0.13	0.031	23.45	24.50	1.274	0.039	/
		Left Cheek	0	26865	831.5	36	Mid	-0.05	0.038	22.84	23.50	1.164	0.044	/
		Left Tilt	0	26865	831.5	36	Mid	-0.06	0.021	22.84	23.50	1.164	0.024	/
		Right Cheek	0	26865	831.5	36	Mid	0.06	0.043	22.84	23.50	1.164	0.050	/
		Right Tilt	0	26865	831.5	36	Mid	-0.19	0.028	22.84	23.50	1.164	0.033	/
Body-worn&Hotspot														
Ant.1	QPSK	Front Side	10	26865	831.5	1	High	0.15	0.186	23.33	24.50	1.309	0.243	/
		Back Side	10	26865	831.5	1	High	0.07	0.263	23.33	24.50	1.309	0.344	/
		Right Edge	10	26865	831.5	1	High	-0.02	0.100	23.33	24.50	1.309	0.131	/
		Top Edge	10	26865	831.5	1	High	-0.03	0.244	23.33	24.50	1.309	0.319	/
		Front Side	10	26865	831.5	36	Mid	-0.18	0.162	22.85	23.50	1.161	0.188	/
		Back Side	10	26865	831.5	36	Mid	0.01	0.310	22.85	23.50	1.161	0.360	22#
		Right Edge	10	26865	831.5	36	Mid	-0.04	0.083	22.85	23.50	1.161	0.096	/
		Top Edge	10	26865	831.5	36	Mid	0.05	0.226	22.85	23.50	1.161	0.262	/
Ant.2	QPSK	Front Side	10	26865	831.5	1	Mid	0.04	0.088	23.45	24.50	1.274	0.112	/
		Back Side	10	26865	831.5	1	Mid	-0.09	0.147	23.45	24.50	1.274	0.187	/
		Left Edge	10	26865	831.5	1	Mid	0.12	0.086	23.45	24.50	1.274	0.110	/
		Right Edge	10	26865	831.5	1	Mid	0.01	0.015	23.45	24.50	1.274	0.019	/
		Bottom Edge	10	26865	831.5	1	Mid	-0.17	0.110	23.45	24.50	1.274	0.140	/
		Front Side	10	26865	831.5	36	Mid	0.17	0.077	22.84	23.50	1.164	0.090	/
		Back Side	10	26865	831.5	36	Mid	-0.19	0.131	22.84	23.50	1.164	0.152	/
		Left Edge	10	26865	831.5	36	Mid	0.07	0.079	22.84	23.50	1.164	0.092	/
		Right Edge	10	26865	831.5	36	Mid	-0.14	0.011	22.84	23.50	1.164	0.013	/
		Bottom Edge	10	26865	831.5	36	Mid	0.06	0.086	22.84	23.50	1.164	0.100	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

10.12 LTE Band 66 (20MHz Bandwidth)

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	1 g Scaled SAR (W/kg)	Meas. No.
Head														
Ant.1	QPSK	Left Cheek	0	132572	1770	1	High	0.08	0.139	23.49	24.50	1.262	0.175	/
		Left Tilt	0	132572	1770	1	High	-0.01	0.157	23.49	24.50	1.262	0.198	/
		Right Cheek	0	132572	1770	1	High	0.18	0.229	23.49	24.50	1.262	0.289	/
		Right Tilt	0	132572	1770	1	High	-0.01	0.301	23.49	24.50	1.262	0.380	23#
		Left Cheek	0	132322	1745	50	Mid	0.17	0.170	22.92	23.50	1.143	0.194	/
		Left Tilt	0	132322	1745	50	Mid	-0.11	0.205	22.92	23.50	1.143	0.234	/
		Right Cheek	0	132322	1745	50	Mid	-0.11	0.225	22.92	23.50	1.143	0.257	/
		Right Tilt	0	132322	1745	50	Mid	-0.05	0.286	22.92	23.50	1.143	0.327	/
Ant.2	QPSK	Left Cheek	0	132572	1770	1	Mid	-0.14	0.064	23.38	24.50	1.294	0.083	/
		Left Tilt	0	132572	1770	1	Mid	0.04	0.032	23.38	24.50	1.294	0.041	/
		Right Cheek	0	132572	1770	1	Mid	-0.06	0.074	23.38	24.50	1.294	0.096	/
		Right Tilt	0	132572	1770	1	Mid	0.01	0.036	23.38	24.50	1.294	0.047	/
		Left Cheek	0	132322	1745	50	Low	-0.15	0.052	22.85	23.50	1.161	0.060	/
		Left Tilt	0	132322	1745	50	Low	0.13	0.019	22.85	23.50	1.161	0.022	/
		Right Cheek	0	132322	1745	50	Low	0.11	0.066	22.85	23.50	1.161	0.077	/
		Right Tilt	0	132322	1745	50	Low	0.02	0.031	22.85	23.50	1.161	0.036	/
Body-worn&Hotspot														
Ant.1	QPSK	Front Side	10	132572	1770	1	High	0.00	0.059	23.49	24.50	1.262	0.074	/
		Back Side	10	132572	1770	1	High	0.06	0.088	23.49	24.50	1.262	0.111	/
		Right Edge	10	132572	1770	1	High	-0.02	0.023	23.49	24.50	1.262	0.029	/
		Top Edge	10	132572	1770	1	High	0.02	0.133	23.49	24.50	1.262	0.168	24#
		Front Side	10	132322	1745	50	Mid	-0.05	0.052	22.92	23.50	1.143	0.059	/
		Back Side	10	132322	1745	50	Mid	-0.05	0.086	22.92	23.50	1.143	0.098	/
		Right Edge	10	132322	1745	50	Mid	0.00	0.016	22.92	23.50	1.143	0.018	/
		Top Edge	10	132322	1745	50	Mid	0.18	0.116	22.92	23.50	1.143	0.133	/
Ant.2	QPSK	Front Side	10	132572	1770	1	Mid	0.02	0.045	23.38	24.50	1.294	0.058	/
		Back Side	10	132572	1770	1	Mid	0.00	0.092	23.38	24.50	1.294	0.119	/
		Left Edge	10	132572	1770	1	Mid	-0.03	0.012	23.38	24.50	1.294	0.016	/
		Right Edge	10	132572	1770	1	Mid	-0.15	0.006	23.38	24.50	1.294	0.008	/
		Bottom Edge	10	132572	1770	1	Mid	-0.13	0.063	23.38	24.50	1.294	0.082	/
		Front Side	10	132322	1745	50	Low	-0.03	0.005	22.85	23.50	1.161	0.006	/
		Back Side	10	132322	1745	50	Low	0.17	0.092	22.85	23.50	1.161	0.107	/
		Left Edge	10	132322	1745	50	Low	-0.19	0.008	22.85	23.50	1.161	0.009	/
		Right Edge	10	132322	1745	50	Low	-0.04	0.003	22.85	23.50	1.161	0.003	/
		Bottom Edge	10	132322	1745	50	Low	0.01	0.093	22.85	23.50	1.161	0.108	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

10.13 LTE Band 38 (20MHz Bandwidth)

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	1 g Scaled SAR (W/kg)	Meas. No.
Head														
Ant.1	QPSK	Left Cheek	0	38150	2610	1	Mid	0.02	0.166	22.59	23.50	1.233	0.205	/
		Left Tilt	0	38150	2610	1	Mid	0.10	0.134	22.59	23.50	1.233	0.165	/
		Right Cheek	0	38150	2610	1	Mid	0.02	0.437	22.59	23.50	1.233	0.539	25#
		Right Tilt	0	38150	2610	1	Mid	0.09	0.288	22.59	23.50	1.233	0.355	/
		Left Cheek	0	38150	2610	50	Mid	0.12	0.123	21.96	22.50	1.132	0.139	/
		Left Tilt	0	38150	2610	50	Mid	0.15	0.106	21.96	22.50	1.132	0.120	/
		Right Cheek	0	38150	2610	50	Mid	-0.01	0.301	21.96	22.50	1.132	0.341	/
		Right Tilt	0	38150	2610	50	Mid	-0.14	0.255	21.96	22.50	1.132	0.289	/
Ant.2	QPSK	Left Cheek	0	38150	2610	1	Mid	-0.01	0.060	22.50	23.00	1.122	0.067	/
		Left Tilt	0	38150	2610	1	Mid	0.14	0.032	22.50	23.00	1.122	0.036	/
		Right Cheek	0	38150	2610	1	Mid	-0.03	0.071	22.50	23.00	1.122	0.080	/
		Right Tilt	0	38150	2610	1	Mid	0.01	0.036	22.50	23.00	1.122	0.040	/
		Left Cheek	0	38150	2610	50	Mid	-0.16	0.055	21.87	22.00	1.030	0.057	/
		Left Tilt	0	38150	2610	50	Mid	-0.01	0.029	21.87	22.00	1.030	0.030	/
		Right Cheek	0	38150	2610	50	Mid	0.06	0.065	21.87	22.00	1.030	0.067	/
		Right Tilt	0	38150	2610	50	Mid	0.08	0.029	21.87	22.00	1.030	0.030	/
Body-worn&Hotspot														
Ant.1	QPSK	Front Side	10	38000	2595	1	Mid	0.07	0.228	22.59	23.50	1.233	0.281	/
		Back Side	10	38000	2595	1	Mid	-0.07	0.332	22.59	23.50	1.233	0.409	/
		Right Edge	10	38000	2595	1	Mid	0.03	0.291	22.59	23.50	1.233	0.359	/
		Top Edge	10	38000	2595	1	Mid	0.15	0.281	22.59	23.50	1.233	0.346	/
		Front Side	10	38000	2595	50	Mid	0.10	0.198	21.96	22.50	1.132	0.224	/
		Back Side	10	38000	2595	50	Mid	-0.07	0.394	21.96	22.50	1.132	0.446	/
		Right Edge	10	38000	2595	50	Mid	-0.12	0.261	21.96	22.50	1.132	0.295	/
		Top Edge	10	38000	2595	50	Mid	0.14	0.234	21.96	22.50	1.132	0.265	/
Ant.2	QPSK	Front Side	10	38150	2610	1	Mid	-0.10	0.154	22.50	23.00	1.122	0.173	/
		Back Side	10	38150	2610	1	Mid	-0.19	0.376	22.50	23.00	1.122	0.422	/
		Left Edge	10	38150	2610	1	Mid	0.11	0.059	22.50	23.00	1.122	0.066	/
		Right Edge	10	38150	2610	1	Mid	-0.11	0.089	22.50	23.00	1.122	0.100	/
		Bottom Edge	10	38150	2610	1	Mid	-0.13	0.458	22.50	23.00	1.122	0.514	26#
		Front Side	10	38150	2610	50	Mid	0.12	0.141	21.87	22.00	1.030	0.145	/
		Back Side	10	38150	2610	50	Mid	-0.01	0.354	21.87	22.00	1.030	0.365	/
		Left Edge	10	38150	2610	50	Mid	-0.11	0.044	21.87	22.00	1.030	0.045	/
		Right Edge	10	38150	2610	50	Mid	-0.02	0.080	21.87	22.00	1.030	0.082	/
		Bottom Edge	10	38150	2610	50	Mid	0.07	0.379	21.87	22.00	1.030	0.390	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

10.14 LTE Band 41 (20MHz Bandwidth)

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	1 g Scaled SAR (W/kg)	Meas. No.
Head														
Ant.1	QPSK	Left Cheek	0	41140	2645	1	High	0.02	0.193	22.80	24.00	1.318	0.254	/
		Left Tilt	0	41140	2645	1	High	-0.07	0.165	22.80	24.00	1.318	0.217	/
		Right Cheek	0	41140	2645	1	High	-0.01	0.393	22.80	24.00	1.318	0.518	27#
		Right Tilt	0	41140	2645	1	High	0.03	0.355	22.80	24.00	1.318	0.468	/
		Left Cheek	0	41140	2645	50	High	0.06	0.177	22.20	23.00	1.202	0.213	/
		Left Tilt	0	41140	2645	50	High	0.11	0.156	22.20	23.00	1.202	0.188	/
		Right Cheek	0	41140	2645	50	High	0.15	0.382	22.20	23.00	1.202	0.459	/
		Right Tilt	0	41140	2645	50	High	-0.02	0.317	22.20	23.00	1.202	0.381	/
Ant.2	QPSK	Left Cheek	0	41140	2645	1	High	0.11	0.059	22.76	23.50	1.186	0.070	/
		Left Tilt	0	41140	2645	1	High	0.04	0.028	22.76	23.50	1.186	0.033	/
		Right Cheek	0	41140	2645	1	High	0.18	0.064	22.76	23.50	1.186	0.076	/
		Right Tilt	0	41140	2645	1	High	-0.09	0.031	22.76	23.50	1.186	0.037	/
		Left Cheek	0	41140	2645	1	Mid	-0.19	0.052	22.05	22.50	1.109	0.058	/
		Left Tilt	0	41140	2645	1	Mid	0.02	0.023	22.05	22.50	1.109	0.026	/
		Right Cheek	0	41140	2645	1	Mid	-0.10	0.058	22.05	22.50	1.109	0.064	/
		Right Tilt	0	41140	2645	1	Mid	-0.19	0.029	22.05	22.50	1.109	0.032	/
Body-worn&Hotspot														
Ant.1	QPSK	Front Side	10	41140	2645	1	High	0.16	0.135	22.80	24.00	1.318	0.178	/
		Back Side	10	41140	2645	1	High	0.09	0.255	22.80	24.00	1.318	0.336	/
		Right Edge	10	41140	2645	1	High	-0.06	0.185	22.80	24.00	1.318	0.244	/
		Top Edge	10	41140	2645	1	High	-0.02	0.195	22.80	24.00	1.318	0.257	/
		Front Side	10	41140	2645	50	High	0.14	0.116	22.20	23.00	1.202	0.139	/
		Back Side	10	41140	2645	50	High	0.10	0.241	22.20	23.00	1.202	0.290	/
		Right Edge	10	41140	2645	50	High	0.09	0.166	22.20	23.00	1.202	0.200	/
		Top Edge	10	41140	2645	50	High	0.03	0.154	22.20	23.00	1.202	0.185	/
Ant.2	QPSK	Front Side	10	41140	2645	1	High	0.17	0.163	22.76	23.50	1.186	0.193	/
		Back Side	10	41140	2645	1	High	0.11	0.371	22.76	23.50	1.186	0.440	/
		Left Edge	10	41140	2645	1	High	-0.06	0.051	22.76	23.50	1.186	0.060	/
		Right Edge	10	41140	2645	1	High	-0.15	0.080	22.76	23.50	1.186	0.095	/
		Bottom Edge	10	41140	2645	1	High	-0.04	0.468	22.76	23.50	1.186	0.555	28#
		Front Side	10	41140	2645	50	Mid	-0.12	0.139	22.05	22.50	1.109	0.154	/
		Back Side	10	41140	2645	50	Mid	0.09	0.361	22.05	22.50	1.109	0.400	/
		Left Edge	10	41140	2645	50	Mid	0.07	0.045	22.05	22.50	1.109	0.050	/
		Right Edge	10	41140	2645	50	Mid	-0.05	0.075	22.05	22.50	1.109	0.083	/
		Bottom Edge	10	41140	2645	50	Mid	0.13	0.367	22.05	22.50	1.109	0.407	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

10.15 WIFI 2.4GHz

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	Duty Cycle (%)	Scaling Factor	1 g Scaled SAR (W/kg)	Meas. No.
Head														
Ant.3	802.11 b	Left Cheek	0	11	2462	0.12	0.461	17.01	17.50	1.119	99.45	1.006	0.519	29#
	802.11 b	Left Tilt	0	11	2462	0.05	0.262	17.01	17.50	1.119	99.45	1.006	0.295	/
	802.11 b	Right Cheek	0	11	2462	-0.16	0.261	17.01	17.50	1.119	99.45	1.006	0.294	/
	802.11 b	Right Tilt	0	11	2462	0.02	0.253	17.01	17.50	1.119	99.45	1.006	0.285	/
Body-worn&Hotspot														
Ant.3	802.11 b	Front Side	10	11	2462	-0.11	0.071	17.01	17.50	1.119	99.45	1.006	0.080	/
	802.11 b	Back Side	10	11	2462	0.03	0.222	17.01	17.50	1.119	99.45	1.006	0.250	30#
	802.11 b	Left Edge	10	11	2462	-0.12	0.047	17.01	17.50	1.119	99.45	1.006	0.053	/
	802.11 b	Top Edge	10	11	2462	0.01	0.102	17.01	17.50	1.119	99.45	1.006	0.115	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

10.17 Bluetooth

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	Duty Cycle (%)	Scaling Factor	1 g Scaled SAR (W/kg)	Meas. No.
Head														
Ant.3	DH5	Left Cheek	0	0	2402	0.03	0.048	10.08	10.50	1.102	76.88	1.301	0.069	31#
		Left Tilt	0	0	2402	0.09	0.023	10.08	10.50	1.102	76.88	1.301	0.033	/
		Right Cheek	0	0	2402	0.10	0.031	10.08	10.50	1.102	76.88	1.301	0.044	/
		Right Tilt	0	0	2402	0.18	0.019	10.08	10.50	1.102	76.88	1.301	0.027	/
Hotspot														
Ant.3	DH5	Front Side	10	0	2402	0.19	0.014	10.08	10.50	1.102	76.88	1.301	0.015	/
		Back Side	10	0	2402	0.01	0.027	10.08	10.50	1.102	76.88	1.301	0.030	32#
		Left Edge	10	0	2402	-0.09	0.009	10.08	10.50	1.102	76.88	1.301	0.010	/
		Top Edge	10	0	2402	-0.19	0.020	10.08	10.50	1.102	76.88	1.301	0.022	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

11 SAR Measurement Variability

According to KDB 865664 D01, SAR measurement variability was assessed for each frequency band, which is determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. When both head and body tissue-equivalent media are required for SAR measurements in a frequency band, the variability measurement procedures should be applied to the tissue medium with the highest measured SAR, using the highest measured SAR configuration for that tissue-equivalent medium. Alternatively, if the highest measured SAR for both head and body tissue-equivalent media are ≤ 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
1700	WCDMA band 4	Head	Right Tilt	0.844	Yes	0.814	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 + WIFI 2.4GHz	Yes	Yes	Yes
2	WWAN +Bluetooth	Yes	Yes	Yes

Note:

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

12.2 Sum SAR of Simultaneous Transmission

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

Band	Antenna	Position	Stand alone SAR			SUM SAR	
			1	2	3	Sum SAR (1+2)	Sum SAR (1+3)
			WWAN	2.4GWIFI	BT		
GSM850	ANT1	Left Cheek	0.705	0.519	0.069	1.224	0.774
		Left Tilt	0.567	0.295	0.033	0.862	0.600
		Right Cheek	0.918	0.294	0.044	1.212	0.962
		Right Tilt	0.709	0.285	0.027	0.994	0.736
GSM850	ANT2	Left Cheek	0.038	0.519	0.069	0.557	0.107
		Left Tilt	0.025	0.295	0.033	0.320	0.058
		Right Cheek	0.025	0.294	0.044	0.319	0.069
		Right Tilt	0.021	0.285	0.027	0.306	0.048
GSM1900	ANT1	Left Cheek	0.416	0.519	0.069	0.935	0.485
		Left Tilt	0.519	0.295	0.033	0.814	0.552
		Right Cheek	0.708	0.294	0.044	1.002	0.752
		Right Tilt	0.990	0.285	0.027	1.275	1.017
GSM1900	ANT2	Left Cheek	0.030	0.519	0.069	0.549	0.099
		Left Tilt	0.023	0.295	0.033	0.318	0.056
		Right Cheek	0.041	0.294	0.044	0.335	0.085
		Right Tilt	0.027	0.285	0.027	0.312	0.054
WCDMA B2	ANT1	Left Cheek	0.441	0.519	0.069	0.960	0.510
		Left Tilt	0.544	0.295	0.033	0.839	0.577
		Right Cheek	0.834	0.294	0.044	1.128	0.878
		Right Tilt	0.923	0.285	0.027	1.208	0.950
WCDMA B2	ANT2	Left Cheek	0.068	0.519	0.069	0.587	0.137
		Left Tilt	0.038	0.295	0.033	0.333	0.071
		Right Cheek	0.045	0.294	0.044	0.339	0.089
		Right Tilt	0.031	0.285	0.027	0.316	0.058
WCDMA B4	ANT1	Left Cheek	0.438	0.519	0.069	0.957	0.507
		Left Tilt	0.542	0.295	0.033	0.837	0.575
		Right Cheek	0.781	0.294	0.044	1.075	0.825
		Right Tilt	1.020	0.285	0.027	1.305	1.047
WCDMA B4	ANT2	Left Cheek	0.050	0.519	0.069	0.569	0.119
		Left Tilt	0.022	0.295	0.033	0.317	0.055
		Right Cheek	0.059	0.294	0.044	0.353	0.103
		Right Tilt	0.030	0.285	0.027	0.315	0.057
WCDMA B5	ANT1	Left Cheek	0.557	0.519	0.069	1.076	0.626
		Left Tilt	0.496	0.295	0.033	0.791	0.529
		Right Cheek	0.717	0.294	0.044	1.011	0.761

		Right Tilt	0.566	0.285	0.027	0.851	0.593
WCDMA B5	ANT2	Left Cheek	0.023	0.519	0.069	0.542	0.092
		Left Tilt	0.016	0.295	0.033	0.311	0.049
		Right Cheek	0.033	0.294	0.044	0.327	0.077
		Right Tilt	0.019	0.285	0.027	0.304	0.046
LTE B2	ANT1	Left Cheek	0.266	0.519	0.069	0.785	0.335
		Left Tilt	0.295	0.295	0.033	0.590	0.328
		Right Cheek	0.421	0.294	0.044	0.715	0.465
		Right Tilt	0.546	0.285	0.027	0.831	0.573
LTE B2	ANT2	Left Cheek	0.097	0.519	0.069	0.616	0.166
		Left Tilt	0.075	0.295	0.033	0.370	0.108
		Right Cheek	0.088	0.294	0.044	0.382	0.132
		Right Tilt	0.061	0.285	0.027	0.346	0.088
LTE B5	ANT1	Left Cheek	0.539	0.519	0.069	1.058	0.608
		Left Tilt	0.452	0.295	0.033	0.747	0.485
		Right Cheek	0.594	0.294	0.044	0.888	0.638
		Right Tilt	0.397	0.285	0.027	0.682	0.424
LTE B5	ANT2	Left Cheek	0.040	0.519	0.069	0.559	0.109
		Left Tilt	0.020	0.295	0.033	0.315	0.053
		Right Cheek	0.057	0.294	0.044	0.351	0.101
		Right Tilt	0.028	0.285	0.027	0.313	0.055
LTE B7	ANT1	Left Cheek	0.174	0.519	0.069	0.693	0.243
		Left Tilt	0.163	0.295	0.033	0.458	0.196
		Right Cheek	0.401	0.294	0.044	0.695	0.445
		Right Tilt	0.328	0.285	0.027	0.613	0.355
LTE B7	ANT2	Left Cheek	0.130	0.519	0.069	0.649	0.199
		Left Tilt	0.073	0.295	0.033	0.368	0.106
		Right Cheek	0.148	0.294	0.044	0.442	0.192
		Right Tilt	0.081	0.285	0.027	0.366	0.108
LTE B12	ANT1	Left Cheek	0.278	0.519	0.069	0.797	0.347
		Left Tilt	0.259	0.295	0.033	0.554	0.292
		Right Cheek	0.385	0.294	0.044	0.679	0.429
		Right Tilt	0.224	0.285	0.027	0.509	0.251
LTE B12	ANT2	Left Cheek	0.026	0.519	0.069	0.545	0.095
		Left Tilt	0.020	0.295	0.033	0.315	0.053
		Right Cheek	0.040	0.294	0.044	0.334	0.084
		Right Tilt	0.022	0.285	0.027	0.307	0.049
LTE B17	ANT1	Left Cheek	0.276	0.519	0.069	0.795	0.345
		Left Tilt	0.255	0.295	0.033	0.550	0.288
		Right Cheek	0.419	0.294	0.044	0.713	0.463
		Right Tilt	0.219	0.285	0.027	0.504	0.246
LTE B17	ANT2	Left Cheek	0.039	0.519	0.069	0.558	0.108
		Left Tilt	0.018	0.295	0.033	0.313	0.051

		Right Cheek	0.047	0.294	0.044	0.341	0.091
		Right Tilt	0.023	0.285	0.027	0.308	0.050
LTE B26	ANT1	Left Cheek	0.635	0.519	0.069	1.154	0.704
		Left Tilt	0.568	0.295	0.033	0.863	0.601
		Right Cheek	0.741	0.294	0.044	1.035	0.785
		Right Tilt	0.503	0.285	0.027	0.788	0.530
LTE B26	ANT2	Left Cheek	0.057	0.519	0.069	0.576	0.126
		Left Tilt	0.033	0.295	0.033	0.328	0.066
		Right Cheek	0.066	0.294	0.044	0.360	0.110
		Right Tilt	0.039	0.285	0.027	0.324	0.066
LTE B66	ANT1	Left Cheek	0.175	0.519	0.069	0.694	0.244
		Left Tilt	0.198	0.295	0.033	0.493	0.231
		Right Cheek	0.289	0.294	0.044	0.583	0.333
		Right Tilt	0.380	0.285	0.027	0.665	0.407
LTE B66	ANT2	Left Cheek	0.083	0.519	0.069	0.602	0.152
		Left Tilt	0.041	0.295	0.033	0.336	0.074
		Right Cheek	0.096	0.294	0.044	0.390	0.140
		Right Tilt	0.047	0.285	0.027	0.332	0.074
LTE B38	ANT1	Left Cheek	0.205	0.519	0.069	0.724	0.274
		Left Tilt	0.165	0.295	0.033	0.460	0.198
		Right Cheek	0.539	0.294	0.044	0.833	0.583
		Right Tilt	0.355	0.285	0.027	0.640	0.382
LTE B38	ANT2	Left Cheek	0.067	0.519	0.069	0.586	0.136
		Left Tilt	0.036	0.295	0.033	0.331	0.069
		Right Cheek	0.080	0.294	0.044	0.374	0.124
		Right Tilt	0.040	0.285	0.027	0.325	0.067
LTE B41	ANT1	Left Cheek	0.254	0.519	0.069	0.773	0.323
		Left Tilt	0.217	0.295	0.033	0.512	0.250
		Right Cheek	0.518	0.294	0.044	0.812	0.562
		Right Tilt	0.468	0.285	0.027	0.753	0.495
LTE B41	ANT2	Left Cheek	0.070	0.519	0.069	0.589	0.139
		Left Tilt	0.033	0.295	0.033	0.328	0.066
		Right Cheek	0.076	0.294	0.044	0.370	0.120
		Right Tilt	0.037	0.285	0.027	0.322	0.064

Note:

1: The simultaneous transmission combinations of the three 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 1.305 W/Kg < 1.6 W/kg, so Simultaneous Transmission SAR test is not required.

12.2.2 Body Worm Simultaneous Transmission SAR Evaluation for WWAN Antenna with WLAN and Bluetooth

Band	Antenna	Position	Stand alone SAR			SUM SAR	
			1	2	3	Sum SAR (1+2)	Sum SAR (1+3)
			WWAN	2.4GWIFI	BT		
GSM850	ANT1	Front Side 10mm	0.199	0.080	0.015	0.279	0.214
		Back Side 10mm	0.418	0.250	0.030	0.668	0.448
GSM850	ANT2	Front Side 10mm	0.141	0.080	0.015	0.221	0.156
		Back Side 10mm	0.239	0.250	0.030	0.489	0.269
GSM1900	ANT1	Front Side 10mm	0.221	0.080	0.015	0.301	0.236
		Back Side 10mm	0.339	0.250	0.030	0.589	0.369
GSM1900	ANT2	Front Side 10mm	0.102	0.080	0.015	0.182	0.117
		Back Side 10mm	0.286	0.250	0.030	0.536	0.316
WCDMA B2	ANT1	Front Side 10mm	0.190	0.080	0.015	0.270	0.205
		Back Side 10mm	0.343	0.250	0.030	0.593	0.373
WCDMA B2	ANT2	Front Side 10mm	0.068	0.080	0.015	0.148	0.083
		Back Side 10mm	0.189	0.250	0.030	0.439	0.219
WCDMA B4	ANT1	Front Side 10mm	0.192	0.080	0.015	0.272	0.207
		Back Side 10mm	0.298	0.250	0.030	0.548	0.328
WCDMA B4	ANT2	Front Side 10mm	0.054	0.080	0.015	0.134	0.069
		Back Side 10mm	0.185	0.250	0.030	0.435	0.215
WCDMA B5	ANT1	Front Side 10mm	0.195	0.080	0.015	0.275	0.210
		Back Side 10mm	0.309	0.250	0.030	0.559	0.339
WCDMA B5	ANT2	Front Side 10mm	0.090	0.080	0.015	0.170	0.105
		Back Side 10mm	0.148	0.250	0.030	0.398	0.178
LTE B2	ANT1	Front Side 10mm	0.103	0.080	0.015	0.183	0.118
		Back Side 10mm	0.190	0.250	0.030	0.440	0.220
LTE B2	ANT2	Front Side 10mm	0.049	0.080	0.015	0.129	0.064
		Back Side 10mm	0.143	0.250	0.030	0.393	0.173
LTE B5	ANT1	Front Side 10mm	0.246	0.080	0.015	0.326	0.261
		Back Side 10mm	0.276	0.250	0.030	0.526	0.306
LTE B5	ANT2	Front Side 10mm	0.124	0.080	0.015	0.204	0.139
		Back Side 10mm	0.219	0.250	0.030	0.469	0.249
LTE B7	ANT1	Front Side 10mm	0.085	0.080	0.015	0.165	0.100
		Back Side 10mm	0.186	0.250	0.030	0.436	0.216
LTE B7	ANT2	Front Side 10mm	0.110	0.080	0.015	0.190	0.125
		Back Side 10mm	0.274	0.250	0.030	0.524	0.304
LTE B12	ANT1	Front Side 10mm	0.157	0.080	0.015	0.237	0.172
		Back Side 10mm	0.241	0.250	0.030	0.491	0.271
LTE B12	ANT2	Front Side 10mm	0.029	0.080	0.015	0.109	0.044
		Back Side 10mm	0.093	0.250	0.030	0.343	0.123

LTE B17	ANT1	Front Side 10mm	0.121	0.080	0.015	0.201	0.136
		Back Side 10mm	0.216	0.250	0.030	0.466	0.246
LTE B17	ANT2	Front Side 10mm	0.038	0.080	0.015	0.118	0.053
		Back Side 10mm	0.097	0.250	0.030	0.347	0.127
LTE B26	ANT1	Front Side 10mm	0.243	0.080	0.015	0.323	0.258
		Back Side 10mm	0.360	0.250	0.030	0.610	0.390
LTE B26	ANT2	Front Side 10mm	0.112	0.080	0.015	0.192	0.127
		Back Side 10mm	0.187	0.250	0.030	0.437	0.217
LTE B66	ANT1	Front Side 10mm	0.074	0.080	0.015	0.154	0.089
		Back Side 10mm	0.111	0.250	0.030	0.361	0.141
LTE B66	ANT2	Front Side 10mm	0.058	0.080	0.015	0.138	0.073
		Back Side 10mm	0.119	0.250	0.030	0.369	0.149
LTE B38	ANT1	Front Side 10mm	0.281	0.080	0.015	0.361	0.296
		Back Side 10mm	0.409	0.250	0.030	0.659	0.439
LTE B38	ANT2	Front Side 10mm	0.173	0.080	0.015	0.253	0.188
		Back Side 10mm	0.422	0.250	0.030	0.672	0.452
LTE B41	ANT1	Front Side 10mm	0.178	0.080	0.015	0.258	0.193
		Back Side 10mm	0.336	0.250	0.030	0.586	0.366
LTE B41	ANT2	Front Side 10mm	0.193	0.080	0.015	0.273	0.208
		Back Side 10mm	0.440	0.250	0.030	0.690	0.470

Note:

1: The simultaneous transmission combinations of the three 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 0.690 W/Kg < 1.6 W/kg, so Simultaneous Transmission SAR test is not required.

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

Band	Antenna	Position	Stand alone SAR			SUM SAR	
			1	2	3	Sum SAR (1+2)	Sum SAR (1+3)
			WWAN	2.4GWIFI	BT		
GSM850	ANT1	Front Side 10mm	0.199	0.080	0.015	0.279	0.214
		Back Side 10mm	0.418	0.250	0.030	0.668	0.448
		Right Edge 10mm	0.118	0.000	0.000	0.118	0.118
		Top Edge 10mm	0.193	0.115	0.022	0.308	0.215
GSM850	ANT2	Front Side 10mm	0.141	0.080	0.015	0.221	0.156
		Back Side 10mm	0.239	0.250	0.030	0.489	0.269
		Left Edge 10mm	0.118	0.053	0.010	0.171	0.128
		Right Edge 10mm	0.077	0.000	0.000	0.077	0.077
		Bottom Edge 10mm	0.000	0.000	0.000	0.000	0.000
GSM1900	ANT1	Front Side 10mm	0.221	0.080	0.015	0.301	0.236
		Back Side 10mm	0.339	0.250	0.030	0.589	0.369
		Right Edge 10mm	0.077	0.000	0.000	0.077	0.077
		Top Edge 10mm	0.487	0.115	0.022	0.602	0.509
GSM1900	ANT2	Front Side 10mm	0.102	0.080	0.015	0.182	0.117
		Back Side 10mm	0.286	0.250	0.030	0.536	0.316
		Left Edge 10mm	0.013	0.053	0.010	0.066	0.023
		Right Edge 10mm	0.007	0.000	0.000	0.007	0.007
		Bottom Edge 10mm	0.252	0.000	0.000	0.252	0.252
WCDMA B2	ANT1	Front Side 10mm	0.190	0.080	0.015	0.270	0.205
		Back Side 10mm	0.343	0.250	0.030	0.593	0.373
		Right Edge 10mm	0.068	0.000	0.000	0.068	0.068
		Top Edge 10mm	0.430	0.115	0.022	0.545	0.452
WCDMA B2	ANT2	Front Side 10mm	0.068	0.080	0.015	0.148	0.083
		Back Side 10mm	0.189	0.250	0.030	0.439	0.219
		Left Edge 10mm	0.016	0.053	0.010	0.069	0.026
		Right Edge 10mm	0.030	0.000	0.000	0.030	0.030
		Bottom Edge 10mm	0.176	0.000	0.000	0.176	0.176
WCDMA B4	ANT1	Front Side 10mm	0.192	0.080	0.015	0.272	0.207
		Back Side 10mm	0.298	0.250	0.030	0.548	0.328
		Right Edge 10mm	0.066	0.000	0.000	0.066	0.066
		Top Edge 10mm	0.461	0.115	0.022	0.576	0.483
WCDMA B4	ANT2	Front Side 10mm	0.054	0.080	0.015	0.134	0.069
		Back Side 10mm	0.185	0.250	0.030	0.435	0.215
		Left Edge 10mm	0.016	0.053	0.010	0.069	0.026
		Right Edge 10mm	0.014	0.000	0.000	0.014	0.014
		Bottom Edge 10mm	0.197	0.000	0.000	0.197	0.197

WCDMA B5	ANT1	Front Side 10mm	0.195	0.080	0.015	0.275	0.210
		Back Side 10mm	0.309	0.250	0.030	0.559	0.339
		Right Edge 10mm	0.164	0.000	0.000	0.164	0.164
		Top Edge 10mm	0.265	0.115	0.022	0.380	0.287
WCDMA B5	ANT2	Front Side 10mm	0.090	0.080	0.015	0.170	0.105
		Back Side 10mm	0.148	0.250	0.030	0.398	0.178
		Left Edge 10mm	0.081	0.053	0.010	0.134	0.091
		Right Edge 10mm	0.048	0.000	0.000	0.048	0.048
		Bottom Edge 10mm	0.089	0.000	0.000	0.089	0.089
LTE B2	ANT1	Front Side 10mm	0.103	0.080	0.015	0.183	0.118
		Back Side 10mm	0.190	0.250	0.030	0.440	0.220
		Right Edge 10mm	0.007	0.000	0.000	0.007	0.007
		Top Edge 10mm	0.275	0.115	0.022	0.390	0.297
LTE B2	ANT2	Front Side 10mm	0.049	0.080	0.015	0.129	0.064
		Back Side 10mm	0.143	0.250	0.030	0.393	0.173
		Left Edge 10mm	0.014	0.053	0.010	0.067	0.024
		Right Edge 10mm	0.010	0.000	0.000	0.010	0.010
		Bottom Edge 10mm	0.145	0.000	0.000	0.145	0.145
LTE B5	ANT1	Front Side 10mm	0.246	0.080	0.015	0.326	0.261
		Back Side 10mm	0.276	0.250	0.030	0.526	0.306
		Right Edge 10mm	0.135	0.000	0.000	0.135	0.135
		Top Edge 10mm	0.240	0.115	0.022	0.355	0.262
LTE B5	ANT2	Front Side 10mm	0.124	0.080	0.015	0.204	0.139
		Back Side 10mm	0.219	0.250	0.030	0.469	0.249
		Left Edge 10mm	0.124	0.053	0.010	0.177	0.134
		Right Edge 10mm	0.014	0.000	0.000	0.014	0.014
		Bottom Edge 10mm	0.144	0.000	0.000	0.144	0.144
LTE B7	ANT1	Front Side 10mm	0.085	0.080	0.015	0.165	0.100
		Back Side 10mm	0.186	0.250	0.030	0.436	0.216
		Right Edge 10mm	0.127	0.000	0.000	0.127	0.127
		Top Edge 10mm	0.144	0.115	0.022	0.259	0.166
LTE B7	ANT2	Front Side 10mm	0.110	0.080	0.015	0.190	0.125
		Back Side 10mm	0.274	0.250	0.030	0.524	0.304
		Left Edge 10mm	0.014	0.053	0.010	0.067	0.024
		Right Edge 10mm	0.063	0.000	0.000	0.063	0.063
		Bottom Edge 10mm	0.372	0.000	0.000	0.372	0.372
LTE B12	ANT1	Front Side 10mm	0.157	0.080	0.015	0.237	0.172
		Back Side 10mm	0.241	0.250	0.030	0.491	0.271
		Right Edge 10mm	0.206	0.000	0.000	0.206	0.206
		Top Edge 10mm	0.147	0.115	0.022	0.262	0.169
LTE B12	ANT2	Front Side 10mm	0.029	0.080	0.015	0.109	0.044
		Back Side 10mm	0.093	0.250	0.030	0.343	0.123
		Left Edge 10mm	0.020	0.053	0.010	0.073	0.030

		Right Edge 10mm	0.015	0.000	0.000	0.015	0.015
		Bottom Edge 10mm	0.040	0.000	0.000	0.040	0.040
LTE B17	ANT1	Front Side 10mm	0.121	0.080	0.015	0.201	0.136
		Back Side 10mm	0.216	0.250	0.030	0.466	0.246
		Right Edge 10mm	0.153	0.000	0.000	0.153	0.153
		Top Edge 10mm	0.126	0.115	0.022	0.241	0.148
LTE B17	ANT2	Front Side 10mm	0.038	0.080	0.015	0.118	0.053
		Back Side 10mm	0.097	0.250	0.030	0.347	0.127
		Left Edge 10mm	0.055	0.053	0.010	0.108	0.065
		Right Edge 10mm	0.029	0.000	0.000	0.029	0.029
		Bottom Edge 10mm	0.028	0.000	0.000	0.028	0.028
LTE B26	ANT1	Front Side 10mm	0.243	0.080	0.015	0.323	0.258
		Back Side 10mm	0.360	0.250	0.030	0.610	0.390
		Right Edge 10mm	0.131	0.000	0.000	0.131	0.131
		Top Edge 10mm	0.319	0.115	0.022	0.434	0.341
LTE B26	ANT2	Front Side 10mm	0.112	0.080	0.015	0.192	0.127
		Back Side 10mm	0.187	0.250	0.030	0.437	0.217
		Left Edge 10mm	0.110	0.053	0.010	0.163	0.120
		Right Edge 10mm	0.019	0.000	0.000	0.019	0.019
		Bottom Edge 10mm	0.140	0.000	0.000	0.140	0.140
LTE B66	ANT1	Front Side 10mm	0.074	0.080	0.015	0.154	0.089
		Back Side 10mm	0.111	0.250	0.030	0.361	0.141
		Right Edge 10mm	0.029	0.000	0.000	0.029	0.029
		Top Edge 10mm	0.168	0.115	0.022	0.283	0.190
LTE B66	ANT2	Front Side 10mm	0.058	0.080	0.015	0.138	0.073
		Back Side 10mm	0.119	0.250	0.030	0.369	0.149
		Left Edge 10mm	0.016	0.053	0.010	0.069	0.026
		Right Edge 10mm	0.008	0.000	0.000	0.008	0.008
		Bottom Edge 10mm	0.082	0.000	0.000	0.082	0.082
LTE B38	ANT1	Front Side 10mm	0.281	0.080	0.015	0.361	0.296
		Back Side 10mm	0.409	0.250	0.030	0.659	0.439
		Right Edge 10mm	0.359	0.000	0.000	0.359	0.359
		Top Edge 10mm	0.346	0.115	0.022	0.461	0.368
LTE B38	ANT2	Front Side 10mm	0.173	0.080	0.015	0.253	0.188
		Back Side 10mm	0.422	0.250	0.030	0.672	0.452
		Left Edge 10mm	0.066	0.053	0.010	0.119	0.076
		Right Edge 10mm	0.100	0.000	0.000	0.100	0.100
		Bottom Edge 10mm	0.514	0.000	0.000	0.514	0.514
LTE B41	ANT1	Front Side 10mm	0.178	0.080	0.015	0.258	0.193
		Back Side 10mm	0.336	0.250	0.030	0.586	0.366
		Right Edge 10mm	0.244	0.000	0.000	0.244	0.244
		Top Edge 10mm	0.257	0.115	0.022	0.372	0.279
LTE B41	ANT2	Front Side 10mm	0.193	0.080	0.015	0.273	0.208

		Back Side 10mm	0.440	0.250	0.030	0.690	0.470
		Left Edge 10mm	0.060	0.053	0.010	0.113	0.070
		Right Edge 10mm	0.095	0.000	0.000	0.095	0.095
		Bottom Edge 10mm	0.555	0.000	0.000	0.555	0.555

Note:

- 1: The simultaneous transmission combinations of the three 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 0.690 W/Kg < 1.6 W/kg, so Simultaneous Transmission SAR test is not required.

13 TEST EQUIPMENTS LIST

Description	Manufacturer	Model	Serial No./Version	Cal. Date	Cal. Due
PC	Dell	N/A	N/A	N/A	N/A
Test Software	Speag	DASY8	16.2.2.1588	N/A	N/A
750MHz Validation Dipole	Speag	D750V3	SN: 1208	2024/08/19	2027/08/18
835MHz Validation Dipole	Speag	D835V2	SN: 4d187	2024/05/08	2027/05/07
1750MHz Validation Dipole	Speag	D1750V2	SN: 1130	2024/05/08	2027/05/07
1950MHz Validation Dipole	Speag	D1950V3	SN: 1240	2024/08/22	2027/08/21
2450MHz Validation Dipole	Speag	D2450V2	SN: 952	2024/05/07	2027/05/06
2600MHz Validation Dipole	Speag	D2600V2	SN: 1095	2024/05/08	2027/05/07
Data Acquisition Electronicsr	Speag	DAE4	SN: 1711	2024/03/18	2025/03/17
E-Field Probe	Speag	EX3DV4	SN: 7510	2024/06/25	2025/06/24
Signal Generator	R&S	SMB100A	177746	2024/04/24	2025/04/23
Power Meter	R&S	NRVD-B2	835843/014	2024/08/08	2025/08/07
Power Sensor	R&S	NRV-Z4	100381	2024/08/08	2025/08/07
Power Sensor	R&S	NRV-Z2	100211	2024/08/08	2025/08/07
Wireless Communication Test Set	Anritsu	MT8820C	6201502991	2023/11/14	2024/11/13
Network Analyzer	Agilent	E5071C	MY46103472	2023/11/14	2024/11/14
Thermometer	Elitech	RC-4	EF5238001628	2023/10/09	2024/10/08
Thermometer	Elitech	RC-4HC	EF7239002652	2023/11/17	2024/11/16
Power Amplifier	SATIMO	6552B	22374	N/A	N/A
Dielectric Probe Kit	Speag	DAK3.5	SN: 1312	N/A	N/A
Phantom	Speag	SAM	SN: 1859	N/A	N/A
Attenuator	COM-MW	ZA-S1-31	1305003187	N/A	N/A
Directional coupler	AA-MCS	AAMCS-UDC	000272	N/A	N/A

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

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

ANNEX A SIMULATING LIQUID VERIFICATION RESULT

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

Head Liquid

Date	Liquid Type	Fre. (MHz)	Temp. (°C)	Meas. Conductivity (σ) (S/m)	Meas. Permittivity (ϵ)	Target Conductivity (σ) (S/m)	Target Permittivity (ϵ)	Conductivity Tolerance (%)	Permittivity Tolerance (%)
2024.08.26	Head	750	21.3	0.90	41.90	0.89	41.94	1.12	-0.10
2024.08.27	Head	835	21.2	0.90	41.82	0.90	41.50	0.00	0.77
2024.08.28	Head	1750	21.1	1.38	40.06	1.37	40.08	0.73	-0.05
2024.09.04	Head	1950	21.3	1.42	39.02	1.40	40.00	1.43	-2.45
2024.09.03	Head	2450	21.3	1.80	39.46	1.80	39.20	0.00	0.66
2024.08.31	Head	2600	21.2	1.98	38.57	1.96	39.01	1.02	-1.13
2024.09.01	Head	2600	21.1	1.97	38.66	1.96	39.01	0.51	-0.90
2024.09.02	Head	835	21.2	0.90	41.89	0.90	41.50	0.00	0.94
2024.09.03	Head	1950	21.3	1.42	39.13	1.40	40.00	1.43	-2.18

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

ANNEX B SYSTEM CHECK RESULT

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

Head liquid 1g

Date	Liquid Type	Freq. (MHz)	Power (mW)	Measured SAR (W/kg)	Normalized SAR (W/kg)	Dipole SAR (W/kg)	Tolerance (%)
2024.08.26	Head	750	100	0.86	8.55	8.46	1.06
2024.08.27	Head	835	100	0.98	9.79	9.74	0.51
2024.08.28	Head	1750	100	3.68	36.80	37.00	-0.54
2024.09.04	Head	1950	100	4.18	41.80	41.70	0.24
2024.09.03	Head	2450	100	5.32	53.20	52.60	1.14
2024.08.31	Head	2600	100	5.67	56.70	55.90	1.43
2024.09.01	Head	2600	100	5.54	55.40	55.90	-0.89
2024.09.02	Head	835	100	0.98	9.82	9.74	0.82
2024.09.03	Head	1950	100	4.22	42.20	41.70	1.20
Note: The tolerance limit of System validation $\pm 10\%$.							

System Performance Check Data (750MHz)

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
D750V3, SPEAG	10.0 x 10.0 x 3.0	Dipole

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivit y [S/m]	TSL Permittivity	Ambient Temperatur e [°C]	Liquid Temperatur e [°C]
Flat, HSL		D750	CW, 0--	750.0, 100	10.29	0.898	41.9	22.4	21.3

Hardware Setup

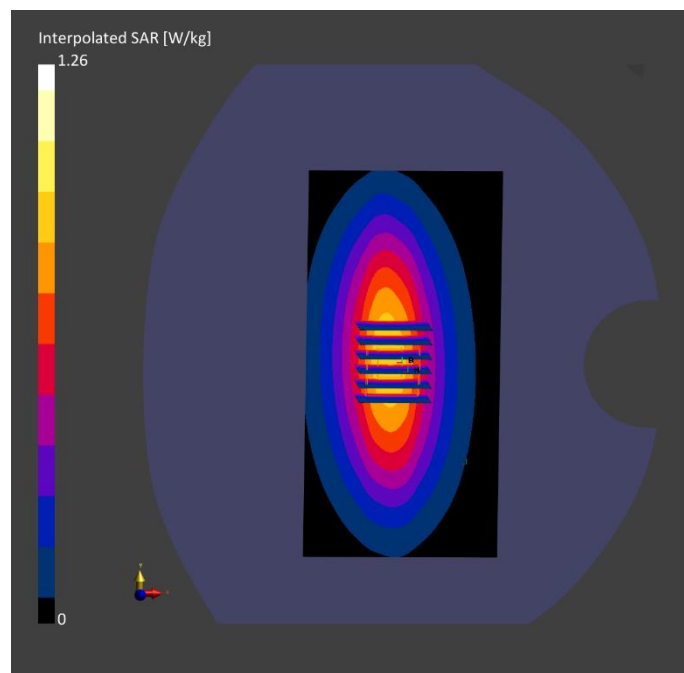
Phantom	TSL, Measured Date		Probe, Calibration Date		DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000	2024-08-26	EX3DV4 - SN7510, 2024-06-25		DAE4 Sn1711, 2024-03-18

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	80.0 x 160.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	10.0 x 10.0	6.0 x 6.0 x 1.5
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-08-26	2024-08-26
psSAR1g [W/kg]	0.836	0.855
psSAR10g [W/kg]	0.535	0.569
Power Drift [dB]	-0.03	-0.01
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		86.5
Dist 3dB Peak [mm]		20.1



System Performance Check Data (835MHz)

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
D835V2, SPEAG	10.0 x 10.0 x 3.0	Dipole

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivit y [S/m]	TSL Permittivity	Ambient Temperatur e [°C]	Liquid Temperatur e [°C]
Flat, HSL		D835	CW, 0--	835.0, 50	9.99	0.896	41.8	22.3	21.2

Hardware Setup

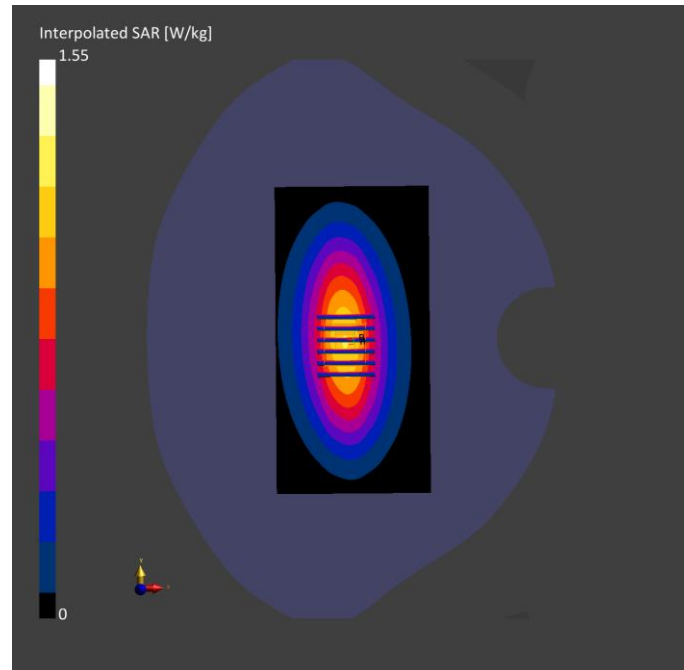
Phantom	TSL, Measured Date		Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000	2024-08-27	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	80.0 x 160.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	10.0 x 10.0	6.0 x 6.0 x 1.5
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-08-27	2024-08-27
psSAR1g [W/kg]	0.941	0.979
psSAR10g [W/kg]	0.626	0.638
Power Drift [dB]	-0.03	-0.04
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		83.8
Dist 3dB Peak [mm]		12.1



System Performance Check Data (1750MHz)

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
D1750V2, SPEAG	10.0 x 10.0 x 3.0	Dipole

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivit y [S/m]	TSL Permittivity	Ambient Temperatur e [°C]	Liquid Temperatur e [°C]
Flat, HSL		D1750	CW, 0--	1750.0, 50	8.67	1.38	40.1	22.2	21.1

Hardware Setup

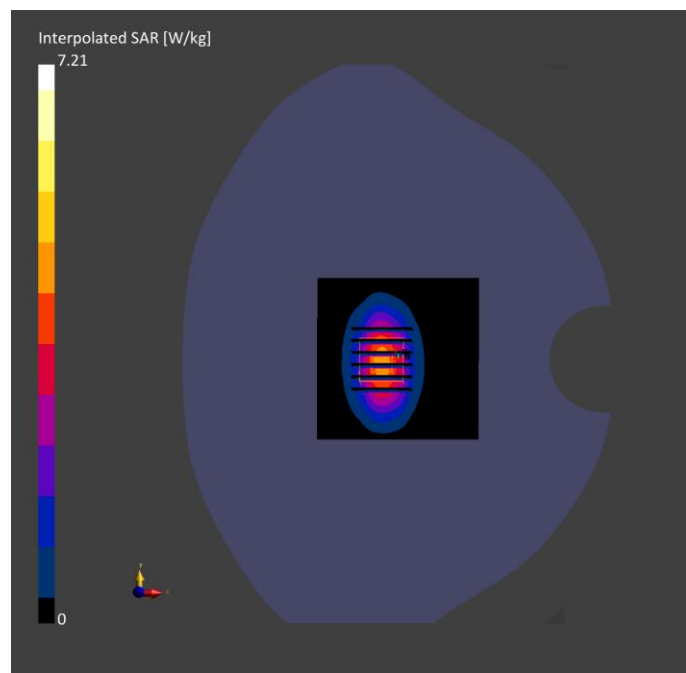
Phantom	TSL, Measured Date		Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000	2024-08-28	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	80.0 x 80.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	10.0 x 10.0	6.0 x 6.0 x 1.5
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-08-28	2024-08-28
psSAR1g [W/kg]	3.39	3.68
psSAR10g [W/kg]	1.84	1.99
Power Drift [dB]	-0.02	-0.06
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		81.4
Dist 3dB Peak [mm]		10.5



System Performance Check Data (1950MHz)

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
D1950V3, SPEAG	10.0 x 10.0 x 3.0	Dipole

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivit y [S/m]	TSL Permittivity	Ambient Temperatur e [°C]	Liquid Temperatur e [°C]
Flat, HSL		D1950	CW, 0--	1950.0, 50	8.33	1.42	39.0	22.3	21.3

Hardware Setup

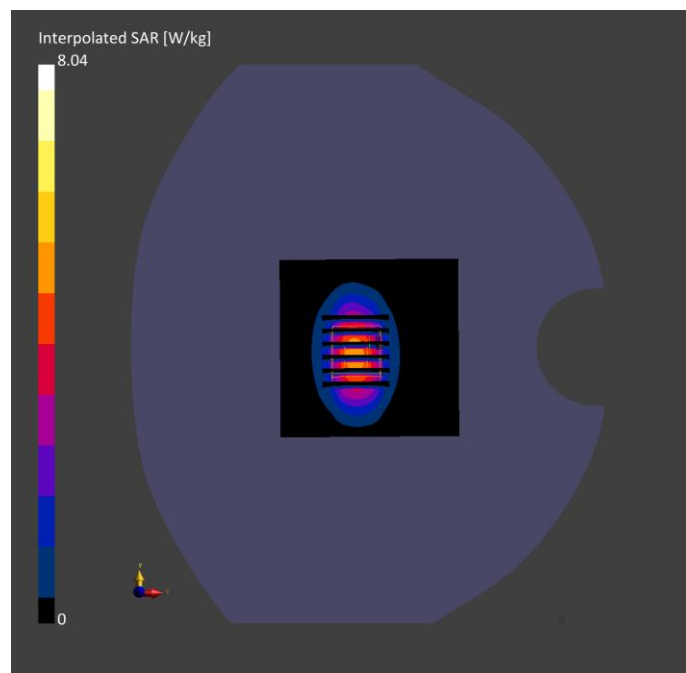
Phantom	TSL, Measured Date		Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000	2024-09-04	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	80.0 x 80.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	10.0 x 10.0	6.0 x 6.0 x 1.5
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-09-04	2024-09-04
psSAR1g [W/kg]	3.95	4.18
psSAR10g [W/kg]	1.94	2.14
Power Drift [dB]	-0.02	-0.07
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		81.4
Dist 3dB Peak [mm]		9.3



System Performance Check Data (2450MHz)

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
D2450V2, SPEAG	40.0 x 8.0 x 8.0	Dipole

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivit y [S/m]	TSL Permittivity	Ambient Temperatur e [°C]	Liquid Temperatur e [°C]
Flat, HSL		D2450	CW, 0--	2450.0, 50	7.75	1.80	39.5	22.2	21.3

Hardware Setup

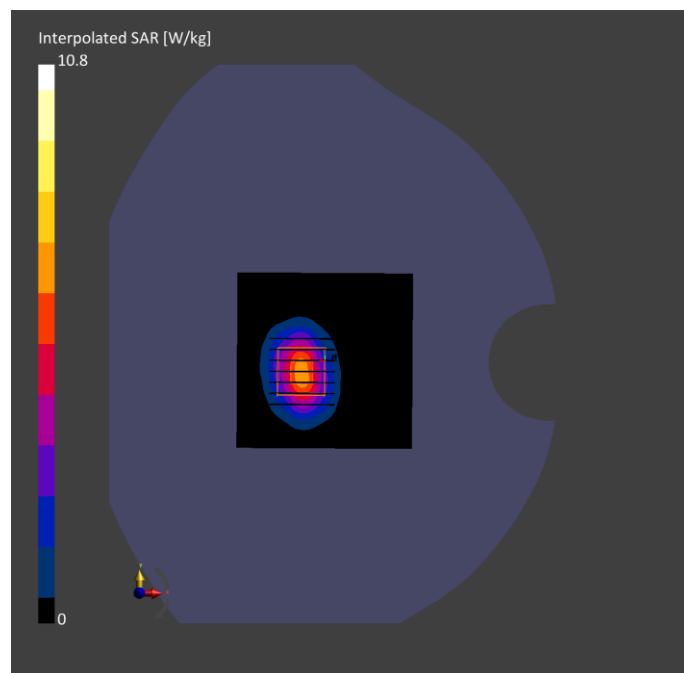
Phantom	TSL, Measured Date		Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000	2024-09-03	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	80.0 x 80.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	10.0 x 10.0	5.0 x 5.0 x 1.5
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-09-03	2024-09-03
psSAR1g [W/kg]	5.21	5.32
psSAR10g [W/kg]	2.23	2.44
Power Drift [dB]	-0.05	-0.02
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		81.1
Dist 3dB Peak [mm]		9.2



System Performance Check Data (2600MHz)

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
D2600V2, SPEAG	10.0 x 10.0 x 3.0	Dipole

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [°C]	Liquid Temperature [°C]
Flat, HSL		D2600	CW, 0--	2600.0, 50	7.59	1.98	38.6	22.2	21.2

Hardware Setup

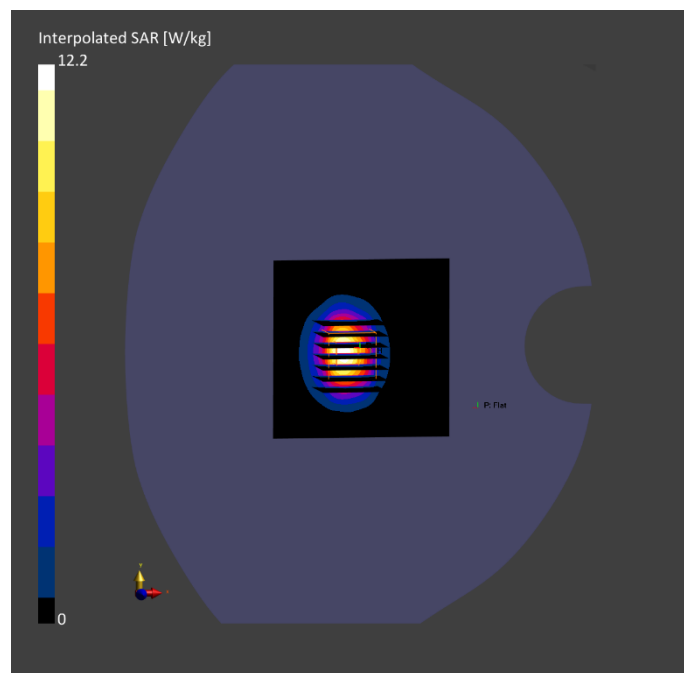
Phantom	TSL, Measured Date		Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000	2024-08-31	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	80.0 x 80.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	10.0 x 10.0	5.0 x 5.0 x 1.5
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-08-31	2024-08-31
psSAR1g [W/kg]	5.68	5.67
psSAR10g [W/kg]	2.42	2.52
Power Drift [dB]	0.04	-0.01
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		79.2
Dist 3dB Peak [mm]		9.1



System Performance Check Data (2600MHz)

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
D2600V2, SPEAG	10.0 x 10.0 x 3.0	Dipole

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [°C]	Liquid Temperature [°C]
Flat, HSL		CD2600	CW, 0--	2600.0, 50	7.59	1.97	38.7	22.3	21.1

Hardware Setup

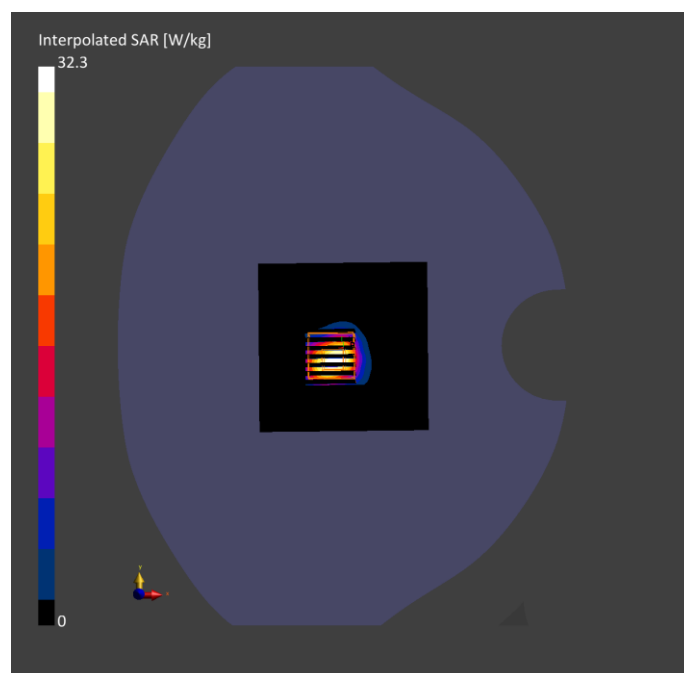
Phantom	TSL, Measured Date		Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000	2024-09-01	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	80.0 x 80.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	10.0 x 10.0	5.0 x 5.0 x 1.5
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-09-01	2024-09-01
psSAR1g [W/kg]	5.69	5.54
psSAR10g [W/kg]	2.40	2.54
Power Drift [dB]	0.03	-0.02
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		78.3
Dist 3dB Peak [mm]		9.0



System Performance Check Data (835MHz)

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
D835V2, SPEAG	10.0 x 10.0 x 3.0	Dipole

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivit y [S/m]	TSL Permittivity	Ambient Temperatur e [°C]	Liquid Temperatur e [°C]
Flat, HSL		CD835	CW, 0--	835.0, 50	9.99	0.902	41.9	22.2	21.2

Hardware Setup

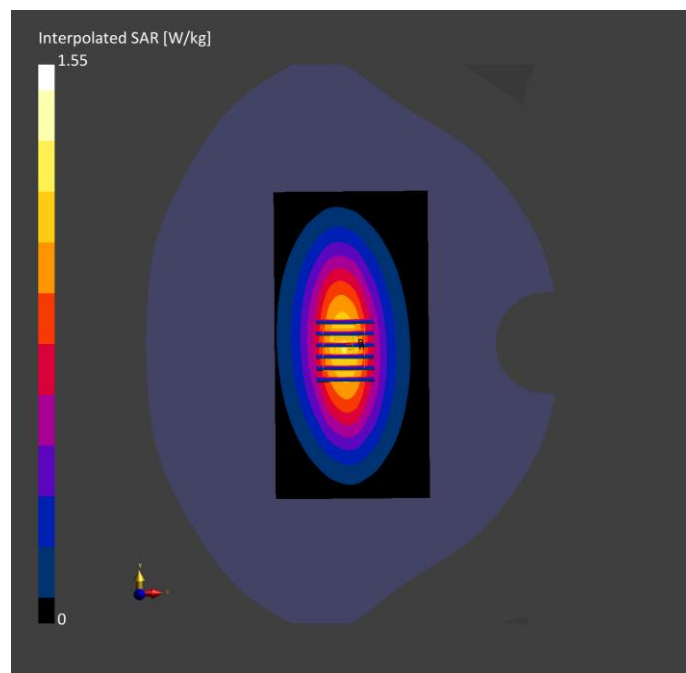
Phantom	TSL, Measured Date		Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000	2024-09-02	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	80.0 x 160.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	10.0 x 10.0	6.0 x 6.0 x 1.5
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-09-02	2024-09-02
psSAR1g [W/kg]	0.940	0.982
psSAR10g [W/kg]	0.628	0.637
Power Drift [dB]	-0.02	-0.06
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		83.4
Dist 3dB Peak [mm]		11.9



System Performance Check Data (1950MHz)

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
D1950V2, SPEAG	10.0 x 10.0 x 3.0	Dipole

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivit y [S/m]	TSL Permittivity	Ambient Temperatur e [°C]	Liquid Temperatur e [°C]
Flat, HSL		D1950	CW, 0--	1950.0, 50	8.33	1.42	39.1	22.2	21.3

Hardware Setup

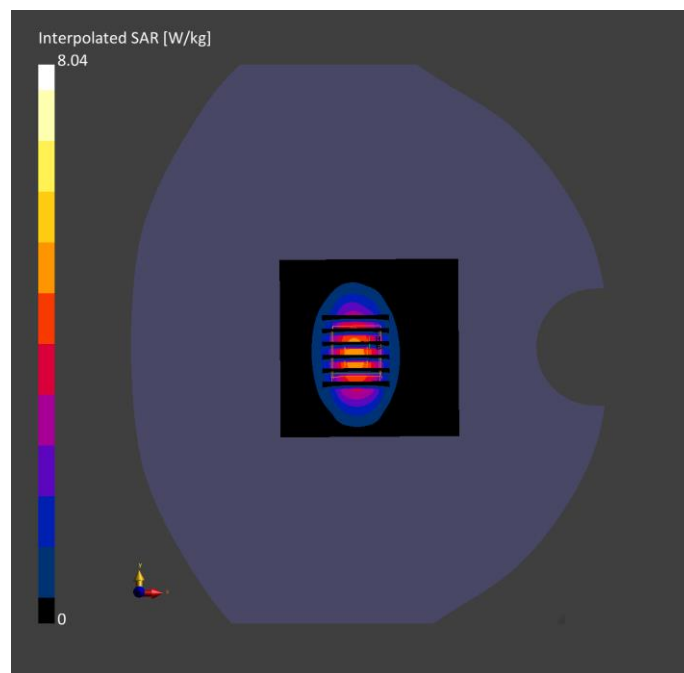
Phantom	TSL, Measured Date		Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000	2024-09-03	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	80.0 x 80.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	10.0 x 10.0	6.0 x 6.0 x 1.5
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-09-03	2024-09-03
psSAR1g [W/kg]	3.94	4.22
psSAR10g [W/kg]	1.92	2.18
Power Drift [dB]	-0.01	-0.02
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		81.3
Dist 3dB Peak [mm]		9.2



ANNEX C TEST DATA

Meas.1 Right Head with Cheek on High Channel in GPRS850 2Slots mode with Antenna 1

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
Device,	166.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivit y [S/m]	TSL Permittivity	Ambient Temperatur e [°C]	Liquid Temperatur e [°C]
RightHead, HSL	CHEEK, 0.00	GSM 850	GSM, 10024-DAC	848.8, 251	9.99	0.91	41.5	22.3	21.2

Hardware Setup

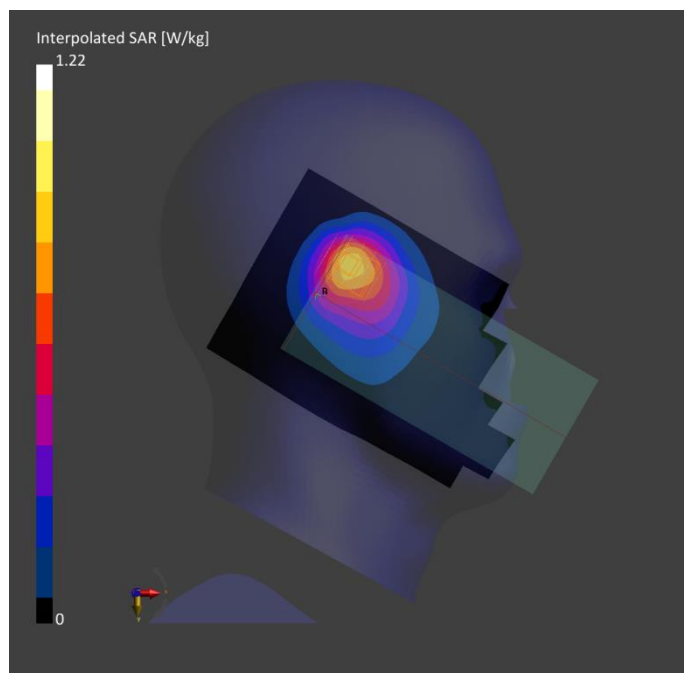
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 , 2024-08-27	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 180.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	15.0 x 15.0	8.0 x 8.0 x 5.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	N/A	N/A
Surface Detection	All points	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-08-27	2024-08-27
psSAR1g [W/kg]	0.760	0.757
psSAR10g [W/kg]	0.500	0.499
Power Drift [dB]	-0.02	-0.01
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		58.7
Dist 3dB Peak [mm]		15.7



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

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
Device,	166.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivit y [S/m]	TSL Permittivity	Ambient Temperatur e [°C]	Liquid Temperatur e [°C]
Flat, HSL	BACK, 10.00	GSM 850	GSM, 10024-DAC	836.6, 190	9.99	0.898	41.8	22.3	21.2

Hardware Setup

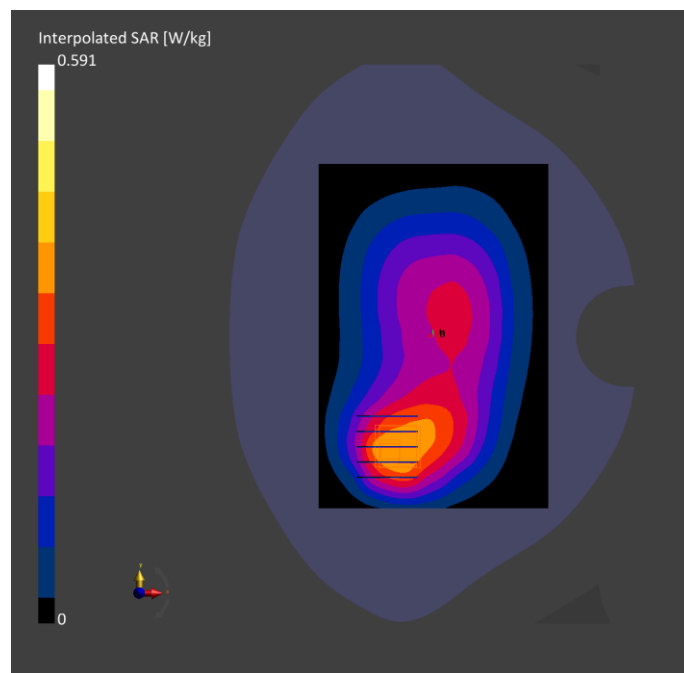
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 , 2024-08-27	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 180.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	15.0 x 15.0	8.0 x 8.0 x 5.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-08-27	2024-08-27
psSAR1g [W/kg]	0.339	0.351
psSAR10g [W/kg]	0.234	0.222
Power Drift [dB]	-0.03	-0.04
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		56.7
Dist 3dB Peak [mm]		14.3



Meas.3 Right Head with Tilt on High Channel in GPRS1900 2Slots mode with Antenna 1

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
Device,	158.2 x 77.9 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [°C]	Liquid Temperature [°C]
RightHead, HSL	TILT, 0.00	PCS 1900	GSM, 10024-DAC	1909.8, 810	8.33	1.40	39.6	22.3	21.3

Hardware Setup

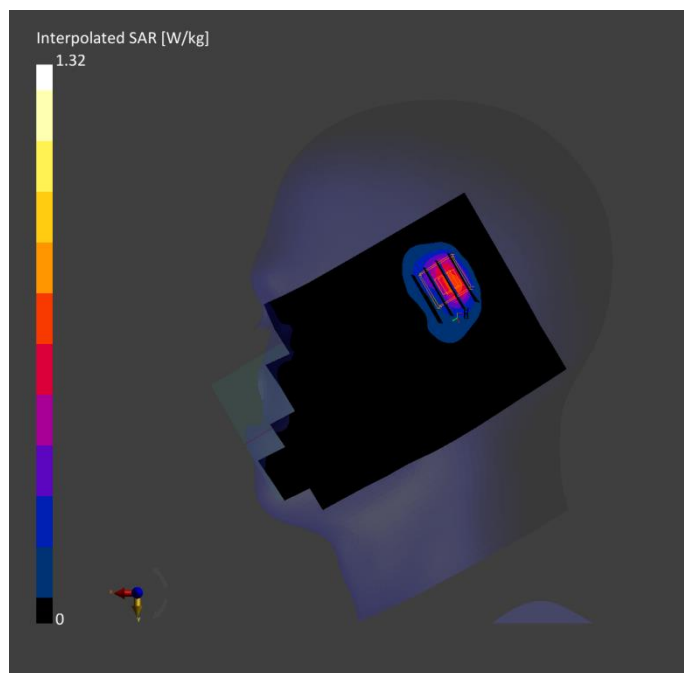
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 , 2024-09-04	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 180.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	15.0 x 15.0	8.0 x 8.0 x 5.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	N/A	N/A
Surface Detection	All points	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-09-04	2024-09-04
psSAR1g [W/kg]	0.572	0.734
psSAR10g [W/kg]	0.282	0.345
Power Drift [dB]	0.03	0.01
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		59.1
Dist 3dB Peak [mm]		8.6



Meas.4 Body plan with Top Edge 10mm on Low Channel in GPRS1900 2Slots mode with Antenna 1

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
Device,	158.2 x 77.9 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivit y [S/m]	TSL Permittivity	Ambient Temperatur e [°C]	Liquid Temperatur e [°C]
Flat, HSL	EDGE TOP, 10.00	PCS 1900	GSM, 10024-DAC	1850.2, 512	8.33	1.37	40.4	22.3	21.3

Hardware Setup

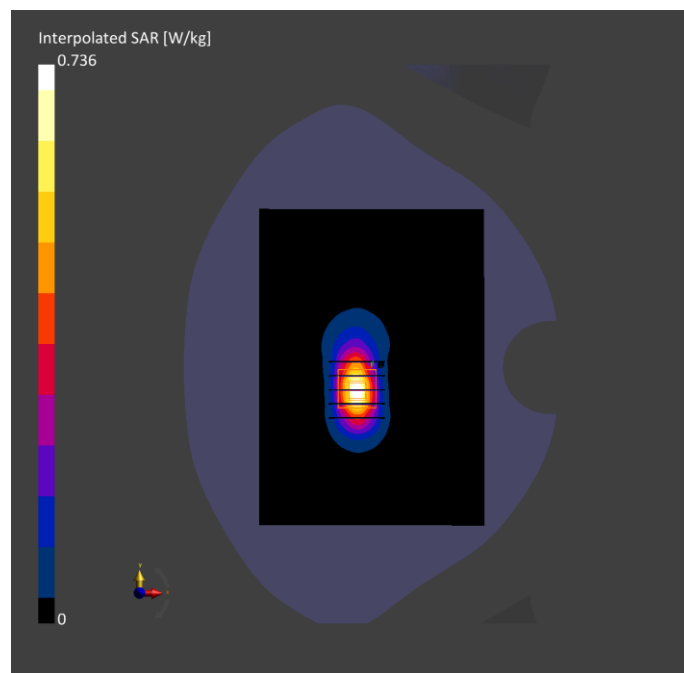
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 , 2024-09-04	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	128.0 x 180.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	8.0 x 15.0	8.0 x 8.0 x 5.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-09-04	2024-09-04
psSAR1g [W/kg]	0.381	0.411
psSAR10g [W/kg]	0.185	0.207
Power Drift [dB]	0.02	-0.12
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		56.4
Dist 3dB Peak [mm]		8.6



Meas.5 Right Head with Tilt on High Channel in WCDMA Band2 mode with Antenna 1

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
Device,	166.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [°C]	Liquid Temperature [°C]
RightHead, HSL	TILT, 0.00	Band 2	WCDMA, 10011-CAC	1907.6, 9538	8.33	1.40	39.7	22.2	21.3

Hardware Setup

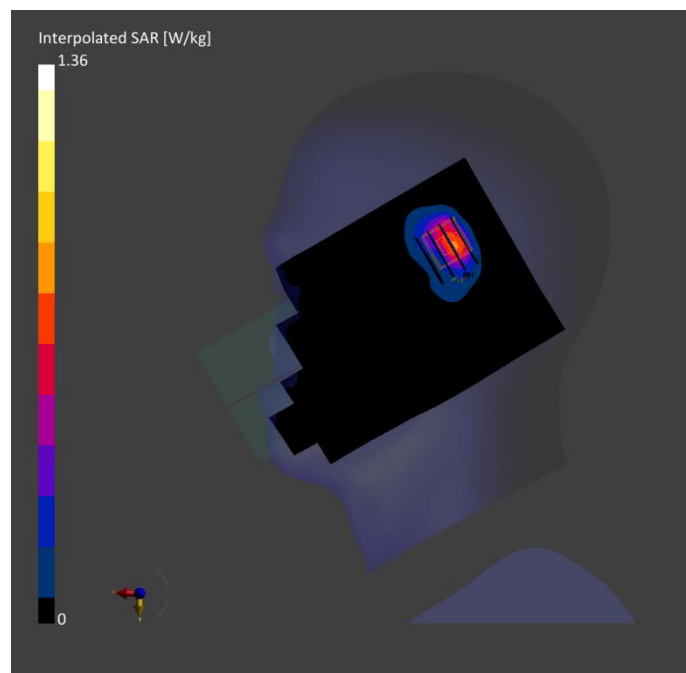
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 , 2024-09-03	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 180.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	15.0 x 15.0	8.0 x 8.0 x 5.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	N/A	N/A
Surface Detection	All points	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-09-03	2024-09-03
psSAR1g [W/kg]	0.607	0.757
psSAR10g [W/kg]	0.297	0.357
Power Drift [dB]	-0.02	0.01
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		59.3
Dist 3dB Peak [mm]		8.0



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

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
Device,	158.2 x 77.9 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivit y [S/m]	TSL Permittivity	Ambient Temperatur e [°C]	Liquid Temperatur e [°C]
Flat, HSL	EDGE TOP, 10.00	Band 2	WCDMA, 10011-CAC	1907.6, 9538	8.33	1.40	39.7	22.2	21.3

Hardware Setup

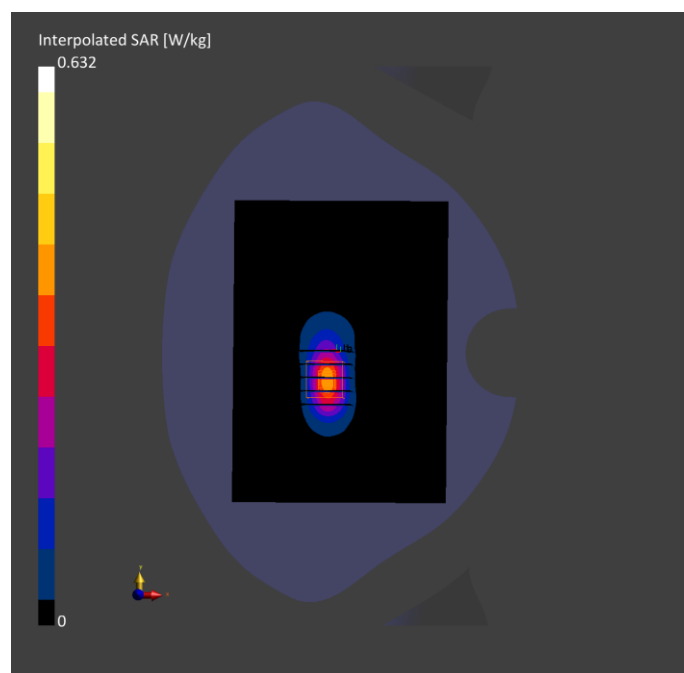
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 ,2024-09-03	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	128.0 x 180.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	8.0 x 15.0	8.0 x 8.0 x 5.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-09-03	2024-09-03
psSAR1g [W/kg]	0.323	0.353
psSAR10g [W/kg]	0.159	0.178
Power Drift [dB]	0.02	-0.03
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		56.2
Dist 3dB Peak [mm]		9.3



Meas.7 Right Head with Tilt on Low Channel in WCDMA Band4 mode with Antenna 1

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
Device,	166.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [°C]	Liquid Temperature [°C]
RightHead, HSL	TILT, 0.00	Band 4	WCDMA, 10011-CAC	1712.4, 1312	8.67	1.35	40.6	22.2	21.1

Hardware Setup

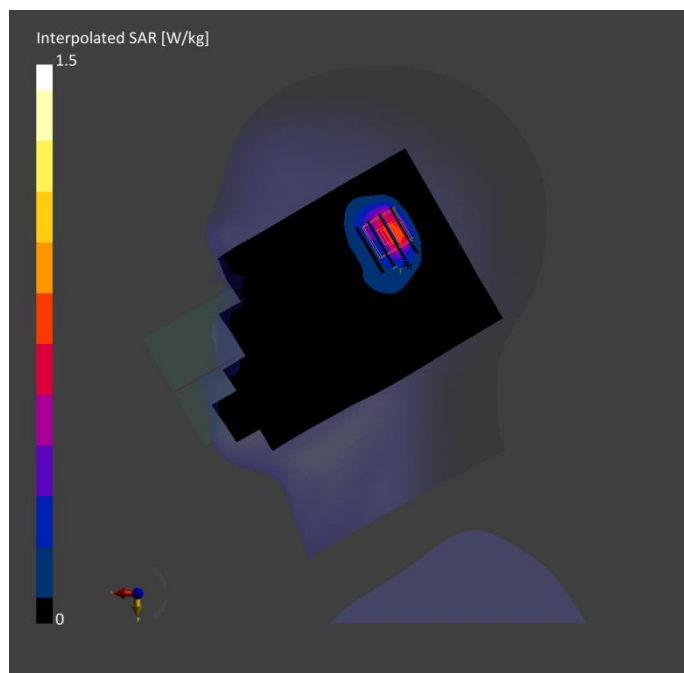
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 , 2024-08-28	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 180.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	15.0 x 15.0	8.0 x 8.0 x 5.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	N/A	N/A
Surface Detection	All points	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-08-28	2024-08-28
psSAR1g [W/kg]	0.661	0.844
psSAR10g [W/kg]	0.336	0.406
Power Drift [dB]	0.02	0.03
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		60.5
Dist 3dB Peak [mm]		9.3



Meas.8 Body plan with Top Edge 10mm on High Channel in WCDMA Band4 mode with Antenna 1

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
Device,	158.2 x 77.9 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [°C]	Liquid Temperature [°C]
Flat, HSL	EDGE TOP, 10.00	Band 4	WCDMA, 10011-CAC	1752.6, 1513	8.67	1.39	40.0	22.2	21.1

Hardware Setup

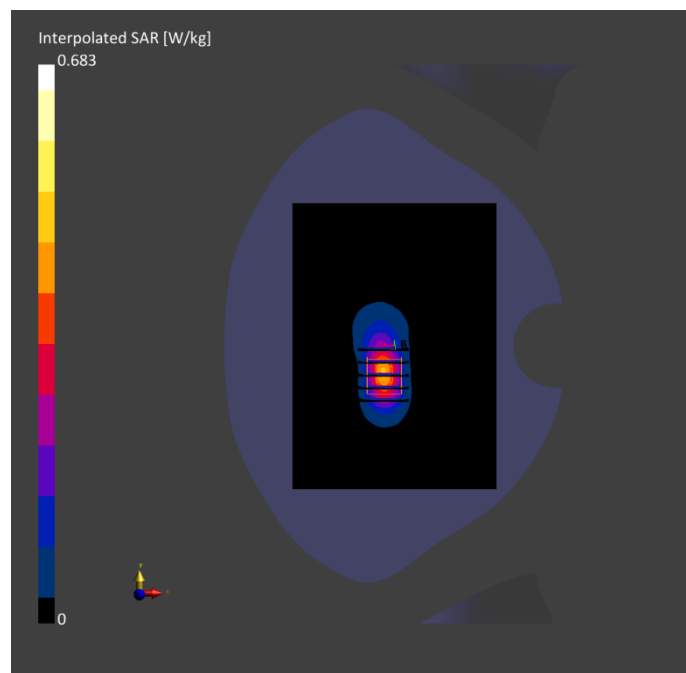
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 ,2024-08-28	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	128.0 x 180.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	8.0 x 15.0	8.0 x 8.0 x 5.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-08-28	2024-08-28
psSAR1g [W/kg]	0.360	0.387
psSAR10g [W/kg]	0.181	0.198
Power Drift [dB]	0.04	-0.09
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		56.7
Dist 3dB Peak [mm]		8.0



Meas.9 Right Head with Cheek on Middle Channel in WCDMA Band5 mode with Antenna 1

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
Device,	158.2 x 77.9 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [°C]	Liquid Temperature [°C]
RightHead, HSL	CHEEK, 0.00	Band 5	WCDMA, 10011-CAC	836.4, 4182	9.99	0.904	41.8	22.2	21.2

Hardware Setup

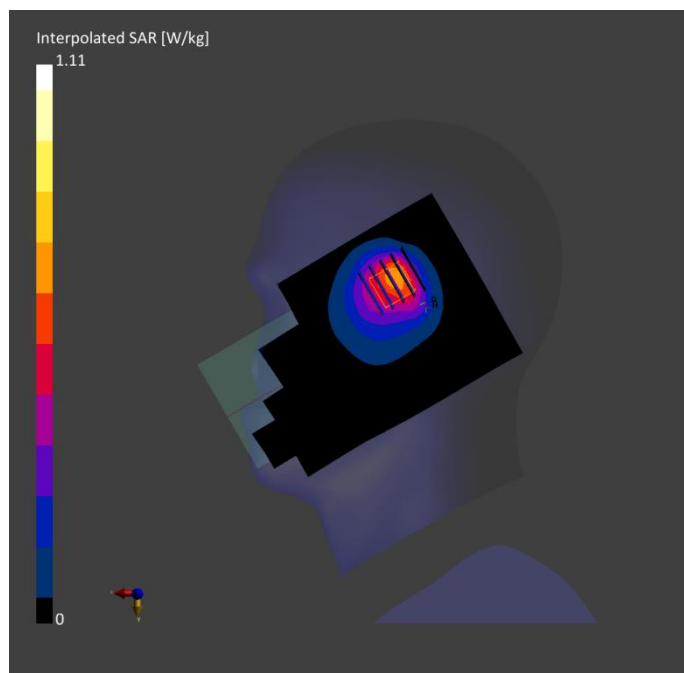
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000,2024-09-02	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 180.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	15.0 x 15.0	8.0 x 8.0 x 5.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	N/A	N/A
Surface Detection	All points	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-09-02	2024-09-02
psSAR1g [W/kg]	0.603	0.612
psSAR10g [W/kg]	0.384	0.380
Power Drift [dB]	-0.07	-0.02
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		50.2
Dist 3dB Peak [mm]		9.7



Meas.10 Body plan with Back Side 10mm on Middle Channel in WCDMA Band5 mode with Antenna 1

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
Device,	158.2 x 77.9 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivit y [S/m]	TSL Permittivity	Ambient Temperatur e [°C]	Liquid Temperatur e [°C]
Flat, HSL	BACK, 10.00	Band 5	WCDMA, 10011-CAC	836.4, 4182	9.99	0.904	41.8	22.2	21.2

Hardware Setup

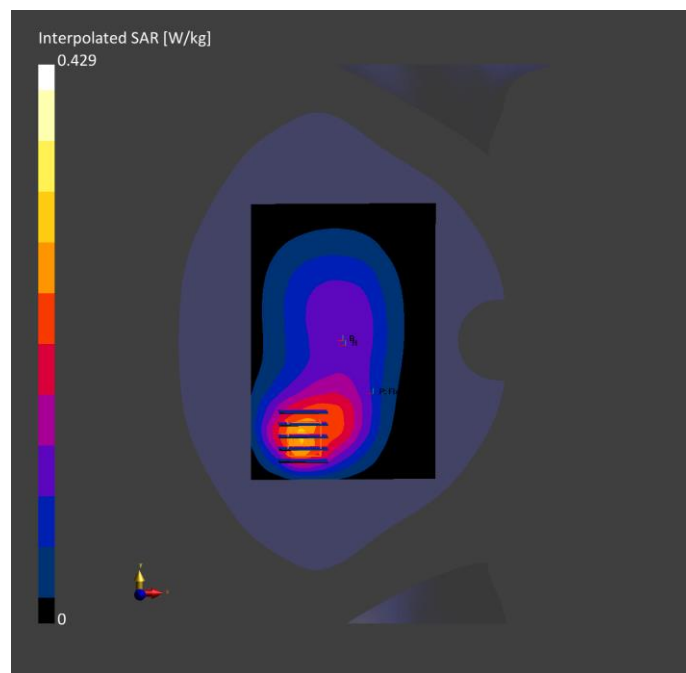
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000,2024-09-02	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 180.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	15.0 x 15.0	8.0 x 8.0 x 5.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-09-02	2024-09-02
psSAR1g [W/kg]	0.253	0.264
psSAR10g [W/kg]	0.169	0.167
Power Drift [dB]	-0.05	-0.03
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		58.3
Dist 3dB Peak [mm]		12.9



Meas.11 Right Head with Tilt on High Channel in LTE Band2 mode with Antenna 1

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
Device,	166.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [°C]	Liquid Temperature [°C]
RightHead, HSL	TILT, 0.00	Band 2	LTE-FDD, 10169-CAF	1900.0, 19100	8.33	1.40	39.7	22.3	21.3

Hardware Setup

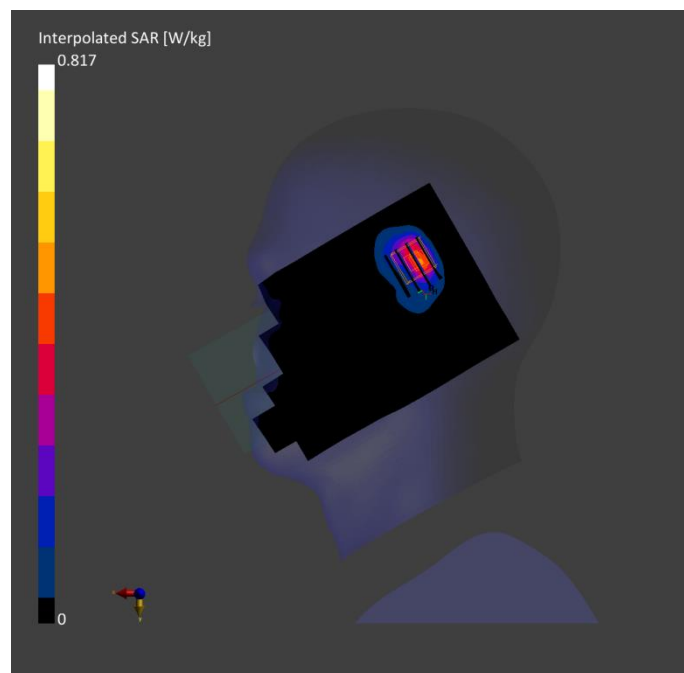
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 , 2024-09-04	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 180.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	15.0 x 15.0	8.0 x 8.0 x 5.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	N/A	N/A
Surface Detection	All points	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-09-04	2024-09-04
psSAR1g [W/kg]	0.363	0.457
psSAR10g [W/kg]	0.178	0.216
Power Drift [dB]	0.00	0.02
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		59.5
Dist 3dB Peak [mm]		8.2



Meas.12 Body plan with Top Edge 10mm on High Channel in LTE Band2 mode with Antenna 1

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
Device,	166.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [°C]	Liquid Temperature [°C]
Flat, HSL	EDGE TOP, 10.00	Band 2	LTE-FDD, 10169-CAF	1900.0, 19100	8.33	1.40	39.7	22.3	21.3

Hardware Setup

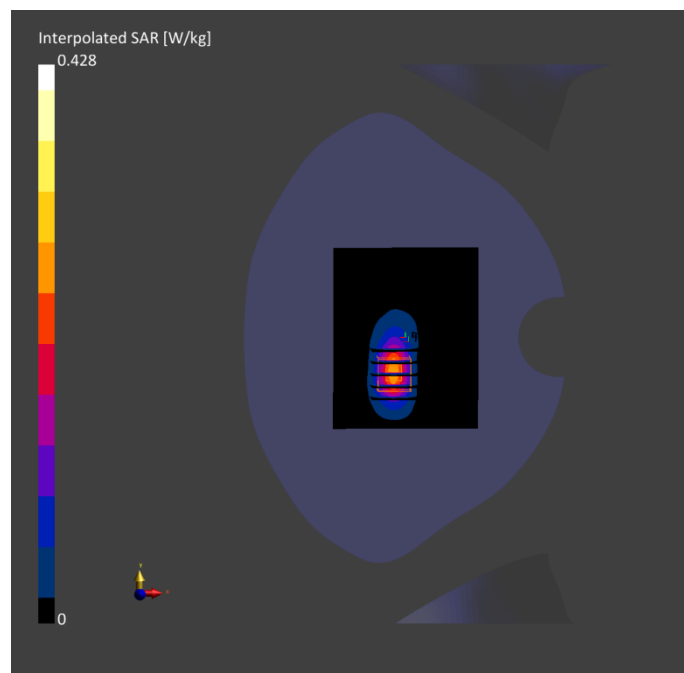
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 , 2024-09-04	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	96.0 x 120.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	8.0 x 15.0	8.0 x 8.0 x 5.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-09-04	2024-09-04
psSAR1g [W/kg]	0.217	0.230
psSAR10g [W/kg]	0.108	0.114
Power Drift [dB]	0.00	-0.03
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		54.1
Dist 3dB Peak [mm]		9.3



Meas.13 Right Head with Cheek on Middle Channel in LTE Band5 mode with Antenna 1

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
Device,	166.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [°C]	Liquid Temperature [°C]
RightHead, HSL	CHEEK, 0.00	Band 5	LTE-FDD, 10177-CAJ	836.5, 20525	9.99	0.904	41.8	22.2	21.2

Hardware Setup

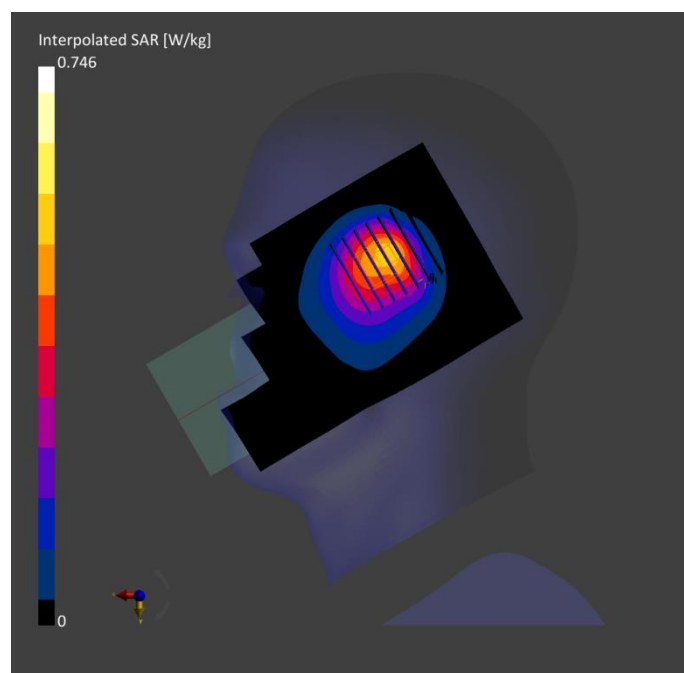
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 , 2024-09-02	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 180.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	15.0 x 15.0	8.0 x 8.0 x 5.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	N/A	N/A
Surface Detection	All points	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-09-02	2024-09-02
psSAR1g [W/kg]	0.467	0.466
psSAR10g [W/kg]	0.307	0.312
Power Drift [dB]	0.04	-0.00
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		56.6
Dist 3dB Peak [mm]		12.8



Meas.14 Body plan with Back Side 10mm on Middle Channel in LTE Band5 mode with Antenna 1

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
Device,	166.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [°C]	Liquid Temperature [°C]
Flat, HSL	BACK, 10.00	Band 5	LTE-FDD, 10175-CAH	836.5, 20525	9.99	0.904	41.8	22.2	21.2

Hardware Setup

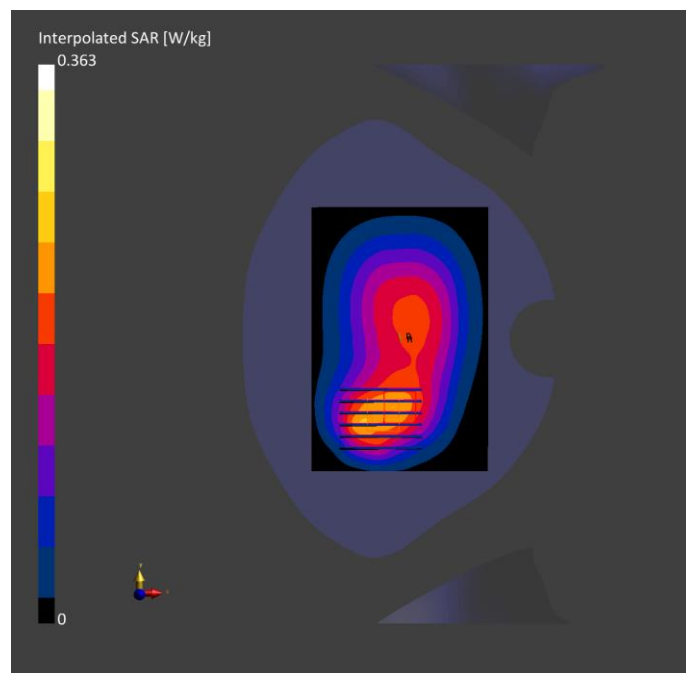
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 ,2024-09-02	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 180.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	15.0 x 15.0	8.0 x 8.0 x 5.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-09-02	2024-09-02
psSAR1g [W/kg]	0.212	0.217
psSAR10g [W/kg]	0.148	0.147
Power Drift [dB]	-0.03	0.00
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		58.9
Dist 3dB Peak [mm]		13.6



Meas.15 Right Head with Cheek on Middle Channel in LTE Band7 mode with Antenna 1

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
Device,	158.2 x 77.9 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [°C]	Liquid Temperature [°C]
RightHead, HSL	CHEEK, 0.00	Band 7	LTE-FDD, 10169-CAF	2535.0, 21100	7.75	1.90	39.1	22.2	21.2

Hardware Setup

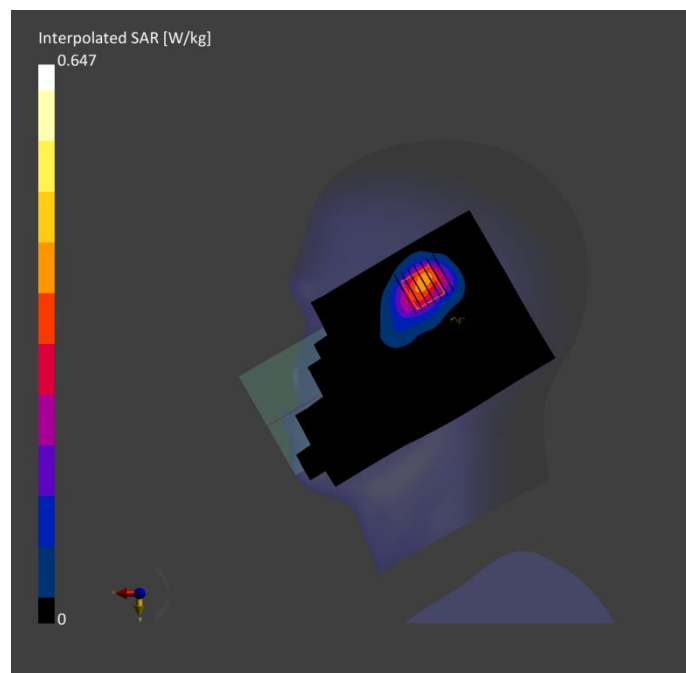
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000,2024-08-31	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 192.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	12.0 x 12.0	5.0 x 5.0 x 5.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	Y	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-08-31	2024-08-31
psSAR1g [W/kg]	0.323	0.325
psSAR10g [W/kg]	0.166	0.169
Power Drift [dB]	0.04	-0.09
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		44.1
Dist 3dB Peak [mm]		7.8



Meas.16 Body plan with Bottom Edge 10mm on High Channel in LTE Band7 mode with Antenna 1

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
Device,	158.2 x 77.9 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [°C]	Liquid Temperature [°C]
Flat, HSL	EDGE BOTTOM, 10.00	Band 7	LTE-FDD, 10169-CAF	2560.0, 21350	7.59	1.93	39.0	22.3	21.1

Hardware Setup

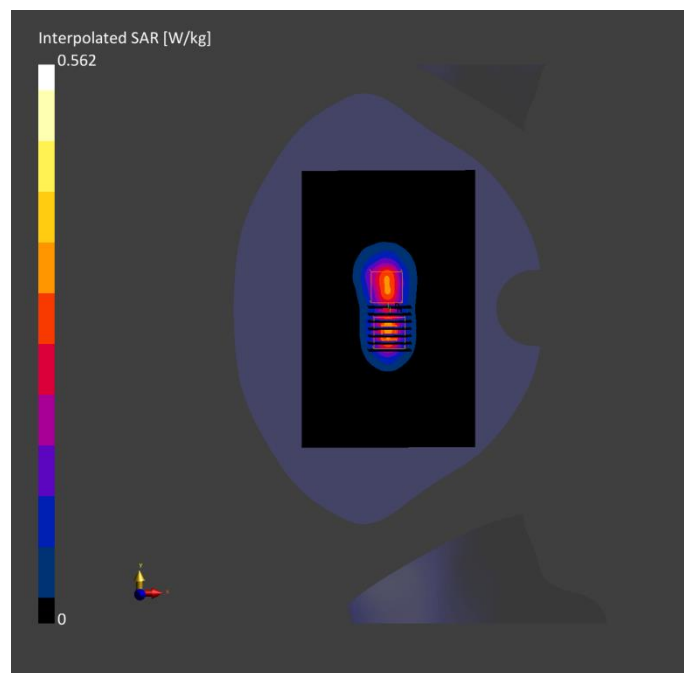
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 ,2024-09-01	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 192.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	12.0 x 12.0	5.0 x 5.0 x 5.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-09-01	2024-09-01
psSAR1g [W/kg]	0.273	0.284
psSAR10g [W/kg]	0.130	0.134
Power Drift [dB]	-0.19	-0.11
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		50.4
Dist 3dB Peak [mm]		9.5



Meas.17 Right Head with Cheek on High Channel in LTE Band12 mode with Antenna 1

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
Device,	166.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [°C]	Liquid Temperature [°C]
RightHead, HSL	CHEEK, 0.00	Band 12	LTE-FDD, 10175-CAH	711.0, 23130	10.29	0.886	42.4	22.4	21.3

Hardware Setup

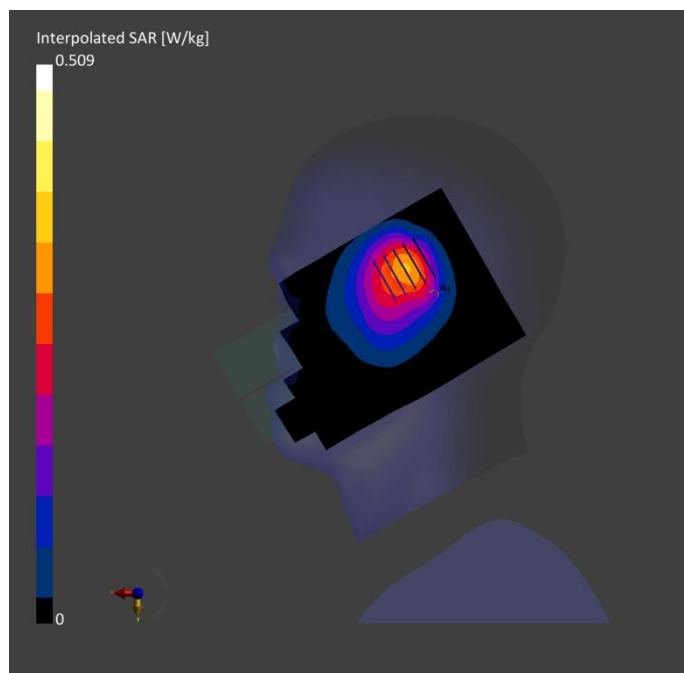
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 ,2024-08-26	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 180.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	15.0 x 15.0	8.0 x 8.0 x 5.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	N/A	N/A
Surface Detection	All points	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-08-26	2024-08-26
psSAR1g [W/kg]	0.295	0.299
psSAR10g [W/kg]	0.199	0.199
Power Drift [dB]	-0.01	-0.02
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		54.7
Dist 3dB Peak [mm]		16.0



Meas.18 Body plan with Back Side 10mm on High Channel in LTE Band12 mode with Antenna 1

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
Device,	158.2 x 77.9 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivit y [S/m]	TSL Permittivity	Ambient Temperatur e [°C]	Liquid Temperatur e [°C]
Flat, HSL	BACK, 10.00	Band 12	LTE-FDD, 10175-CAH	711.0, 23130	10.29	0.886	42.4	22.4	21.3

Hardware Setup

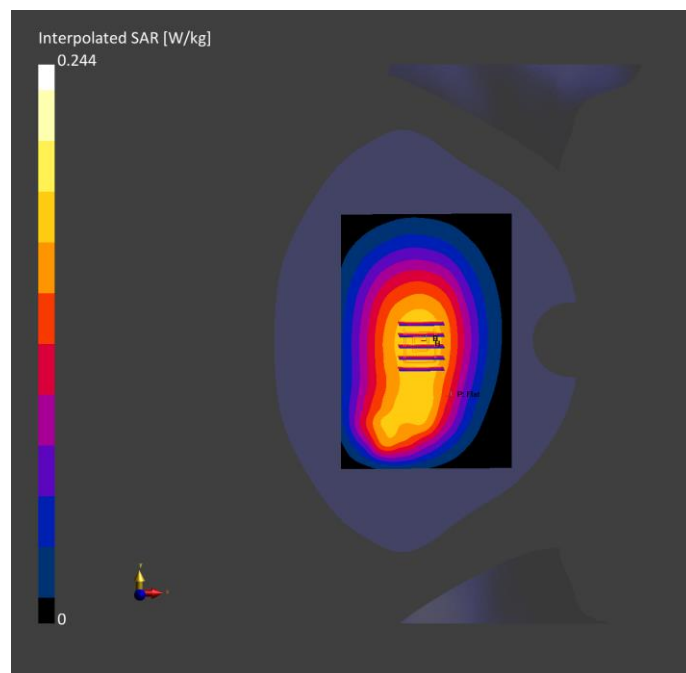
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 ,2024-08-26	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 180.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	15.0 x 15.0	8.0 x 8.0 x 5.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-08-26	2024-08-26
psSAR1g [W/kg]	0.161	0.187
psSAR10g [W/kg]	0.115	0.145
Power Drift [dB]	-0.20	-0.08
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		76.1
Dist 3dB Peak [mm]		> 16.0



Meas.19 Right Head with Cheek on Low Channel in LTE Band17 mode with Antenna 1

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
Device,	166.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [°C]	Liquid Temperature [°C]
RightHead, HSL	CHEEK, 0.00	Band 17	LTE-FDD, 10175-CAH	709.0, 23780	10.29	0.882	42.5	22.4	21.3

Hardware Setup

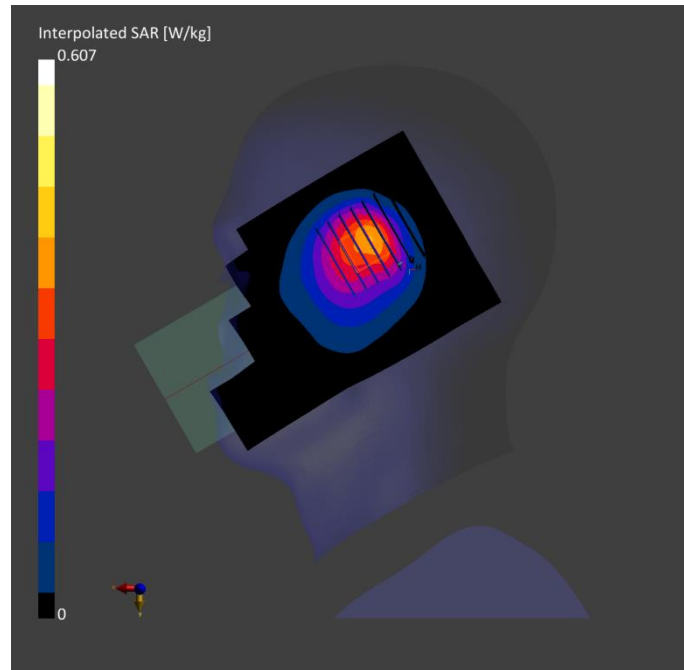
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 ,2024-08-26	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 180.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	15.0 x 15.0	8.0 x 8.0 x 5.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	N/A	N/A
Surface Detection	All points	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-08-26	2024-08-26
psSAR1g [W/kg]	0.347	0.339
psSAR10g [W/kg]	0.232	0.228
Power Drift [dB]	0.02	0.00
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		50.5
Dist 3dB Peak [mm]		11.2



Meas.20 Body plan with Back Side 10mm on Low Channel in LTE Band17 mode with Antenna 1

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
Device,	158.2 x 77.9 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [°C]	Liquid Temperature [°C]
Flat, HSL	BACK, 10.00	Band 17	LTE-FDD, 10175-CAH	709.0, 23780	10.29	0.882	42.5	22.4	21.3

Hardware Setup

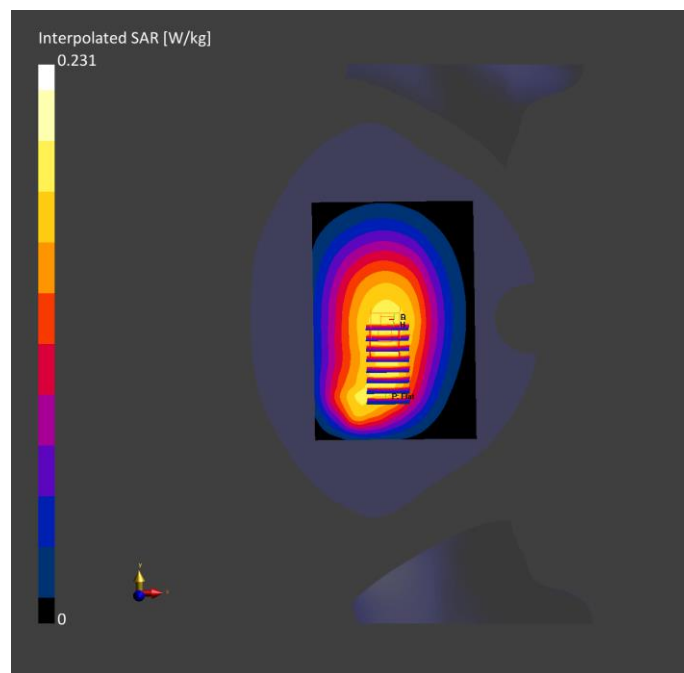
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 ,2024-08-26	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 180.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	15.0 x 15.0	8.0 x 8.0 x 5.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-08-26	2024-08-26
psSAR1g [W/kg]	0.164	0.175
psSAR10g [W/kg]	0.118	0.136
Power Drift [dB]	0.04	0.04
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		74.7
Dist 3dB Peak [mm]		> 16.0



Meas.21 Right Head with Cheek on Middle Channel in LTE Band26 mode with Antenna 1

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
Device,	166.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivit y [S/m]	TSL Permittivity	Ambient Temperatur e [°C]	Liquid Temperatur e [°C]
RightHead, HSL	CHEEK, 0.00	Band 26	LTE-FDD, 10181-CAF	831.5, 26865	9.99	0.894	41.9	22.3	21.2

Hardware Setup

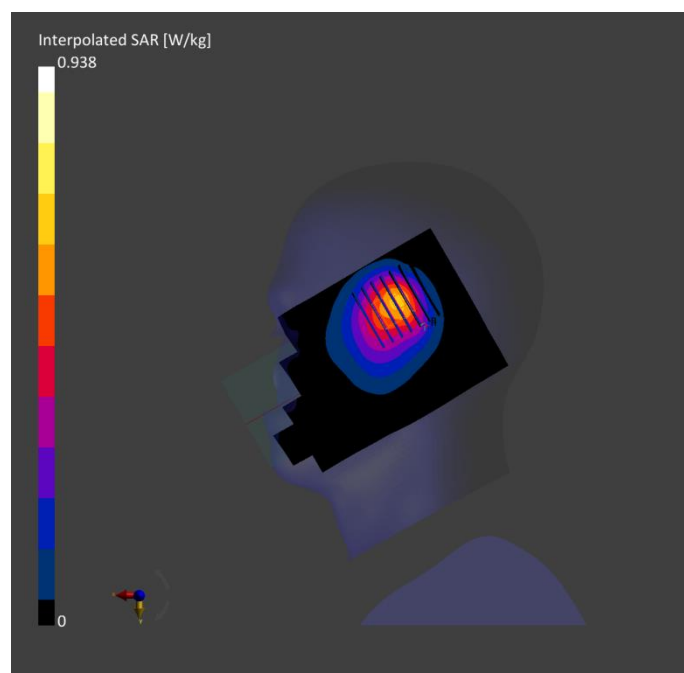
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 ,2024-08-27	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 180.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	15.0 x 15.0	8.0 x 8.0 x 5.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	N/A	N/A
Surface Detection	All points	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-08-27	2024-08-27
psSAR1g [W/kg]	0.569	0.566
psSAR10g [W/kg]	0.378	0.379
Power Drift [dB]	0.00	-0.02
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		55.3
Dist 3dB Peak [mm]		12.8



Meas.22 Body plan with Back Side 10mm on Middle Channel in LTE Band26 mode with Antenna 1

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
Device,	166.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [°C]	Liquid Temperature [°C]
Flat, HSL	BACK, 10.00	Band 26	LTE-FDD, 10181-CAF	831.5, 26865	9.99	0.894	41.9	22.3	21.2

Hardware Setup

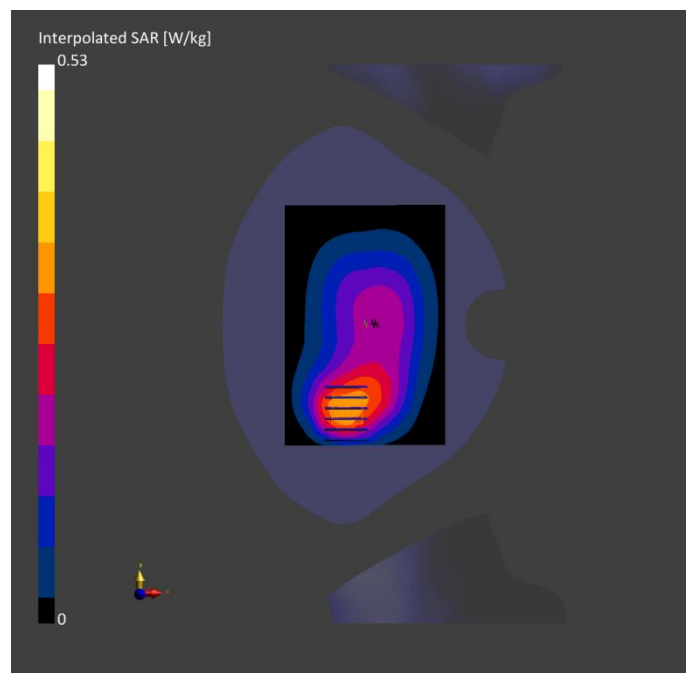
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 , 2024-08-27	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 180.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	15.0 x 15.0	8.0 x 8.0 x 5.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-08-27	2024-08-27
psSAR1g [W/kg]	0.303	0.310
psSAR10g [W/kg]	0.209	0.199
Power Drift [dB]	0.06	0.01
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		55.9
Dist 3dB Peak [mm]		14.8



Meas.23 Right Head with Tilt on High Channel in LTE Band66 mode with Antenna 1

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
Device,	166.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [°C]	Liquid Temperature [°C]
RightHead, HSL	TILT, 0.00	Band 66	LTE-FDD, 10169-CAF	1770.0, 132572	8.67	1.41	39.8	22.2	21.1

Hardware Setup

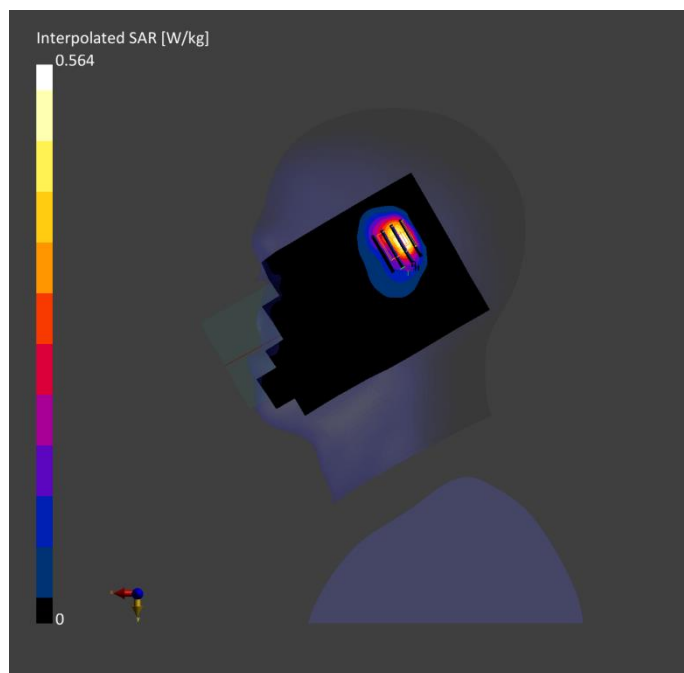
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 , 2024-08-28	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 180.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	15.0 x 15.0	8.0 x 8.0 x 5.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	N/A	N/A
Surface Detection	All points	All points
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-08-28	2024-08-28
psSAR1g [W/kg]	0.230	0.301
psSAR10g [W/kg]	0.116	0.141
Power Drift [dB]	0.02	-0.01
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		57.5
Dist 3dB Peak [mm]		8.6



Meas.24 Body plan with Top Edge 10mm on High Channel in LTE Band66 mode with Antenna 1

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
Device,	166.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivit y [S/m]	TSL Permittivity	Ambient Temperatur e [°C]	Liquid Temperatur e [°C]
Flat, HSL	EDGE TOP, 10.00	Band 66	LTE-FDD, 10169-CAF	1770.0, 132572	8.67	1.41	39.8	22.2	21.1

Hardware Setup

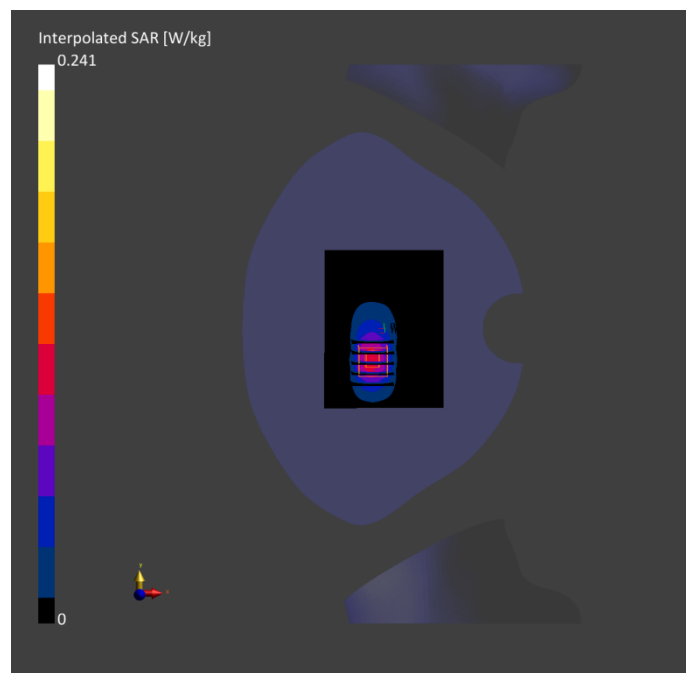
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 ,2024-08-28	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	90.0 x 120.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	15.0 x 15.0	8.0 x 8.0 x 5.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	Y	Y
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-08-28	2024-08-28
psSAR1g [W/kg]	0.096	0.133
psSAR10g [W/kg]	0.054	0.066
Power Drift [dB]	-0.03	0.02
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		55.3
Dist 3dB Peak [mm]		8.0



Meas.25 Right Head with Cheek on High Channel in LTE Band38 mode with Antenna 1

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
Device,	166.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [°C]	Liquid Temperature [°C]
RightHead, HSL	CHEEK, 0.00	Band 38	LTE-TDD, 10172-CAH	2610.0, 38150	7.59	1.98	38.6	22.3	21.1

Hardware Setup

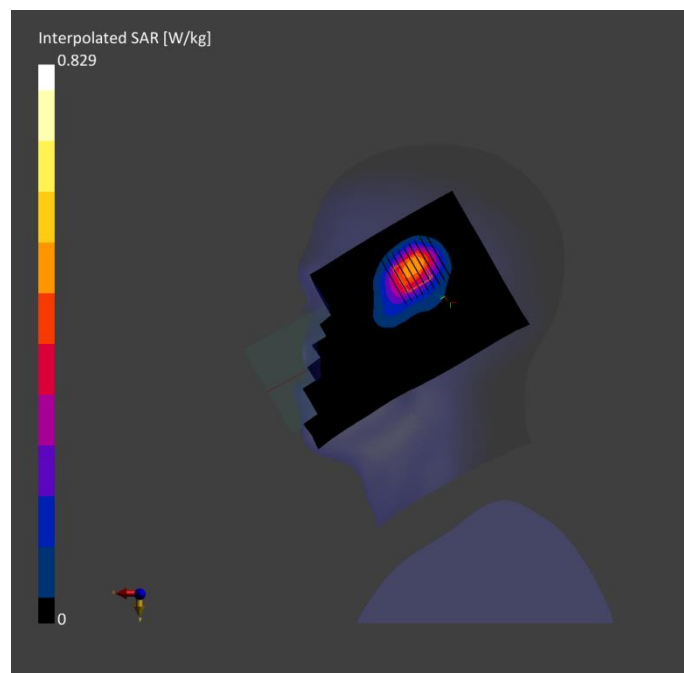
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 ,2024-09-01	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 192.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	12.0 x 12.0	5.0 x 5.0 x 5.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	N/A	N/A
Surface Detection	All points	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-09-01	2024-09-01
psSAR1g [W/kg]	0.432	0.437
psSAR10g [W/kg]	0.224	0.230
Power Drift [dB]	-0.01	0.02
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		46.3
Dist 3dB Peak [mm]		8.6



Meas.26 Body plan with Bottom Edge 10mm on High Channel in LTE Band38 mode with Antenna 1

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
Device,	158.2 x 77.9 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [°C]	Liquid Temperature [°C]
Flat, HSL	EDGE BOTTOM, 10.00	Band 38	LTE-TDD, 10172-CAH	2610.0, 38150	7.59	1.98	38.6	22.3	21.1

Hardware Setup

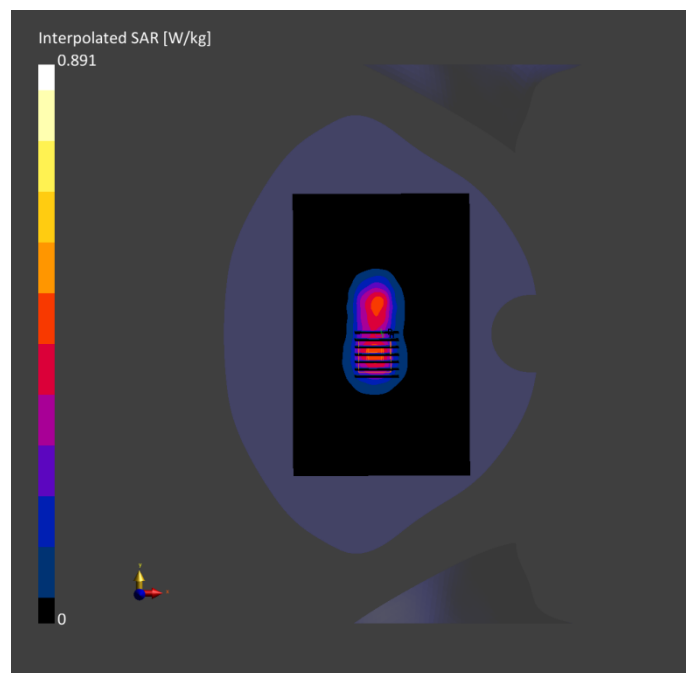
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 ,2024-09-01	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 192.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	12.0 x 12.0	5.0 x 5.0 x 5.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-09-01	2024-09-01
psSAR1g [W/kg]	0.405	0.458
psSAR10g [W/kg]	0.201	0.219
Power Drift [dB]	0.03	-0.13
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		50.6
Dist 3dB Peak [mm]		10.0



Meas.27 Right Head with Cheek on High Channel in LTE Band41 mode with Antenna 1

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
Device,	166.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [°C]	Liquid Temperature [°C]
RightHead, HSL	CHEEK, 0.00	Band 41	LTE-TDD, 10172-CAH	2645.0, 41140	7.59	2.03	38.5	22.2	21.2

Hardware Setup

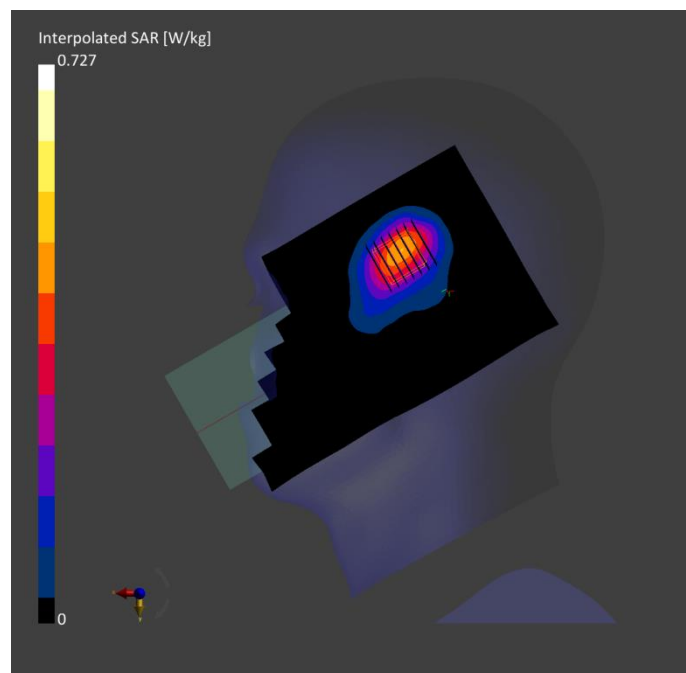
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 , 2024-08-31	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 192.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	12.0 x 12.0	5.0 x 5.0 x 5.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	N/A	N/A
Surface Detection	All points	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-08-31	2024-08-31
psSAR1g [W/kg]	0.382	0.393
psSAR10g [W/kg]	0.198	0.205
Power Drift [dB]	-0.01	-0.01
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		44.3
Dist 3dB Peak [mm]		9.2



Meas.28 Body plan with Bottom Edge 10mm on High Channel in LTE Band41 mode with Antenna 1

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
Device,	166.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [°C]	Liquid Temperature [°C]
Flat, HSL	EDGE BOTTOM, 10.00	Band 41	LTE-TDD, 10172-CAH	2645.0, 41140	7.59	2.03	38.5	22.2	21.2

Hardware Setup

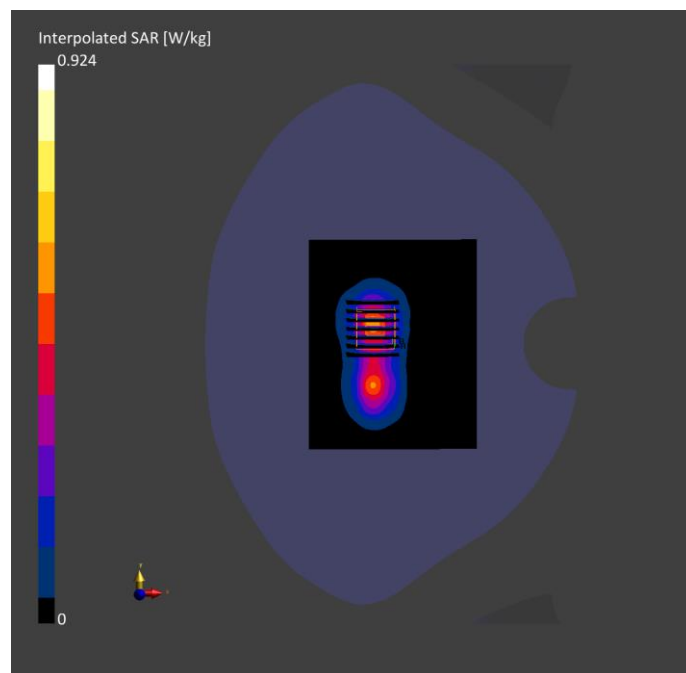
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 , 2024-08-31	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	96.0 x 120.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	12.0 x 12.0	5.0 x 5.0 x 5.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-08-31	2024-08-31
psSAR1g [W/kg]	0.454	0.468
psSAR10g [W/kg]	0.209	0.213
Power Drift [dB]	-0.03	-0.04
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		50.6
Dist 3dB Peak [mm]		9.0



Meas.29 Left Head with Cheek on 11 Channel in IEEE802.11b mode with Antenna 3

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
Device,	165.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [°C]	Liquid Temperature [°C]
LeftHead, HSL	CHEEK, 0.00	WLAN 2.4GHz	WLAN, 10012-CAB	2462.0, 11	7.75	1.81	39.4	22.2	21.3

Hardware Setup

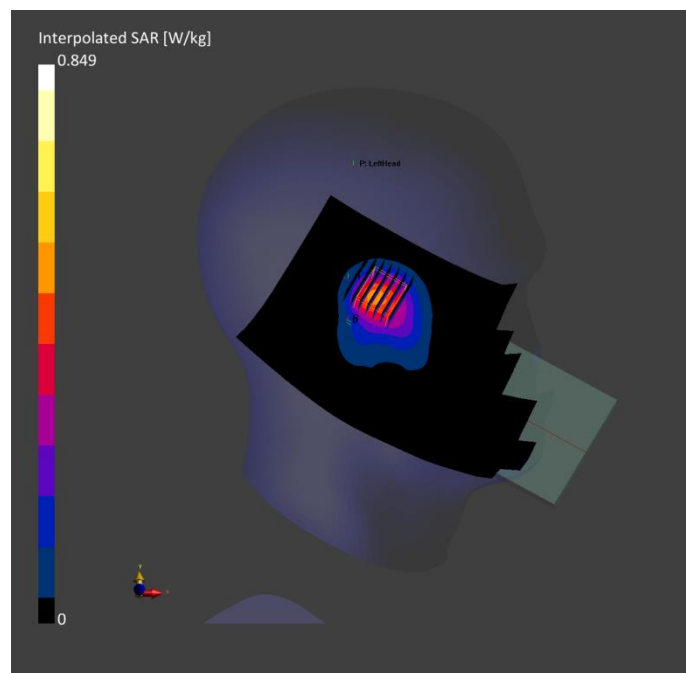
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 , 2024-09-03	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 192.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	12.0 x 12.0	5.0 x 5.0 x 5.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-09-03	2024-09-03
psSAR1g [W/kg]	0.425	0.461
psSAR10g [W/kg]	0.226	0.237
Power Drift [dB]	0.07	0.12
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		55.5
Dist 3dB Peak [mm]		8.9



Meas.30 Body plan with Back Side 10mm on 11 Channel in IEEE802.11b mode with Antenna 3

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
Device,	165.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [°C]	Liquid Temperature [°C]
Flat, HSL	BACK, 10.00	WLAN 2.4GHz	WLAN, 10012-CAB	2462.0, 11	7.75	1.81	39.4	22.2	21.3

Hardware Setup

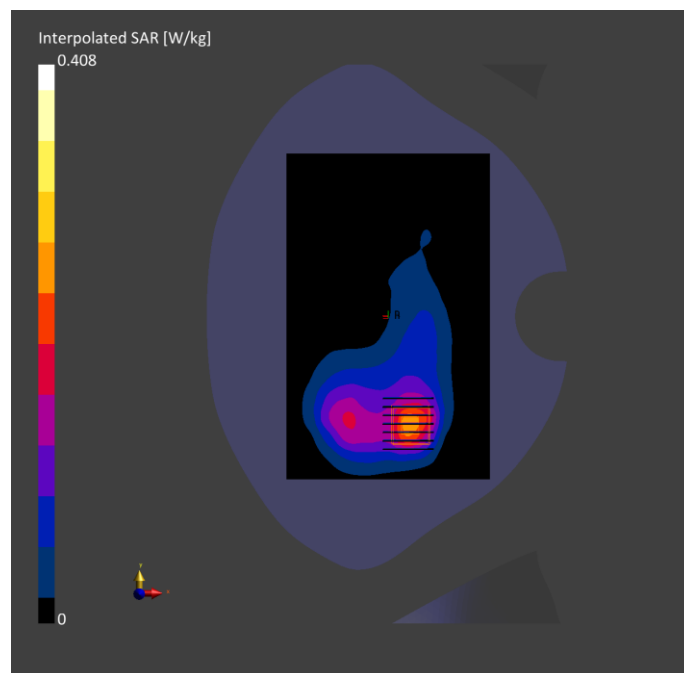
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 , 2024-09-03	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 192.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	12.0 x 12.0	5.0 x 5.0 x 5.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	Y	Y
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-09-03	2024-09-03
psSAR1g [W/kg]	0.209	0.222
psSAR10g [W/kg]	0.108	0.111
Power Drift [dB]	-0.06	0.03
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		51.9
Dist 3dB Peak [mm]		12.0



Meas.31 Left Head with Cheek on 0 Channel in Bluetooth mode with Antenna 3

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
Device,	165.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [°C]	Liquid Temperature [°C]
LeftHead, HSL	CHEEK, 0.00	ISM 2.4 GHz Band	Bluetooth, 10032-CAA	2402.0, 0	7.75	1.74	39.8	22.2	21.3

Hardware Setup

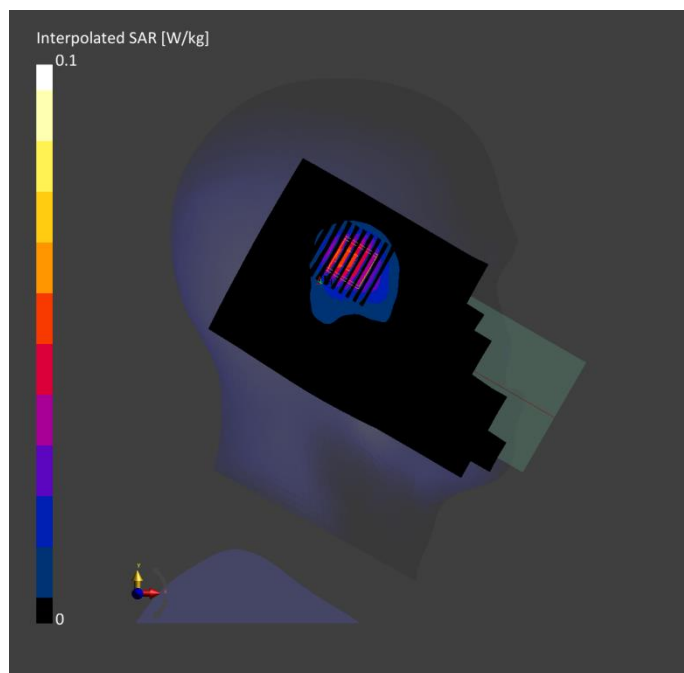
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 , 2024-09-03	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 192.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	12.0 x 12.0	5.0 x 5.0 x 5.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	Y	Y
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-09-03	2024-09-03
psSAR1g [W/kg]	0.045	0.048
psSAR10g [W/kg]	0.024	0.024
Power Drift [dB]	0.19	0.03
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		54.5
Dist 3dB Peak [mm]		> 15.0



Meas.32 Body plan with Back Side 10mm on 0 Channel in Bluetooth mode with Antenna 3

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
Device,	165.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [°C]	Liquid Temperature [°C]
Flat, HSL	BACK, 10.00	ISM 2.4 GHz	Bluetooth, 10032-CAA	2402.0, 0	7.75	1.74	39.8	22.2	21.3
		Band							

Hardware Setup

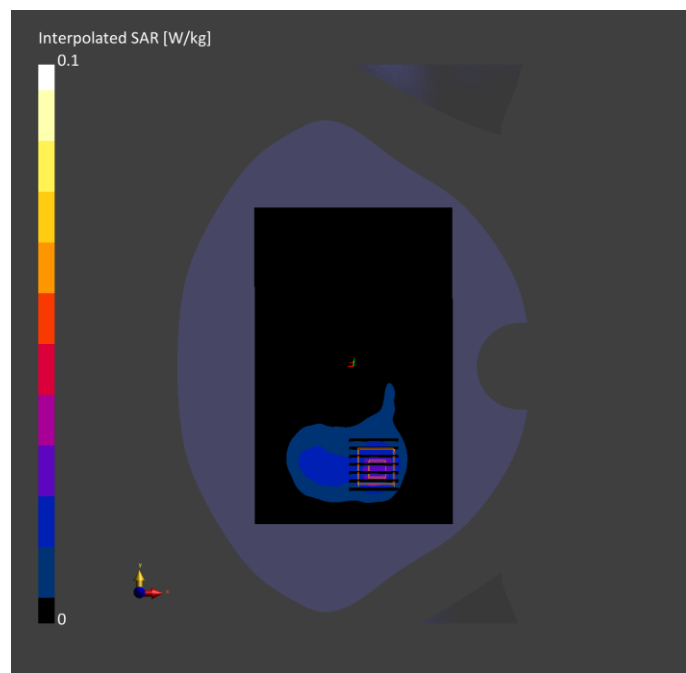
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 , 2024-09-03	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 192.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	12.0 x 12.0	5.0 x 5.0 x 5.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	Y	Y
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-09-03	2024-09-03
psSAR1g [W/kg]	0.027	0.027
psSAR10g [W/kg]	0.014	0.012
Power Drift [dB]	0.13	0.01
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		51.2
Dist 3dB Peak [mm]		> 15.0



ANNEX D EUT EXTERNAL PHOTOS

Please refer the document “BL-SH2480506-AW.pdf”.

ANNEX E SAR TEST SETUP PHOTOS

Please refer the document “BL-SH2480506-AS.pdf”.

ANNEX F CALIBRATION REPORT

Please refer the document “BL-SH2480506-AC.pdf”.

Statement

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

--END OF REPORT--