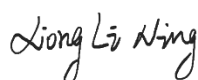


TEST REPORT

Applicant: Shanghai Xiangcheng Communication Technology Co., Ltd
Address: 6th Floor, Building 10, No.3000, Longdong Avenue, Pudong New District, Shanghai
Equipment Type: Intelligent Mobile Data Capture Terminal
Model Name: T16 (refer to section 2.3)
Brand Name: N/A
FCC ID: 2A2UU-MF-T1621
Test Standard: FCC 47 CFR Part 2.1093 (refer section 3.1)
Maximum SAR: Head (1 g@0mm): 0.53 W/kg
Body-worn (1 g@10mm): 0.79 W/kg
Hotspot (1 g@10mm): 0.90 W/kg
Specific (10 g@0mm): 0.22 W/kg
Sample Arrival Date: Sep. 18, 2023
Test Date: Sep. 18, 2023 - Dec. 11, 2023
Date of Issue: Dec. 13, 2023

ISSUED BY:

Shenzhen BALUN Technology Co., Ltd.

Tested by: Xiong Lining**Checked by:** Xu Rui**Approved by:** Tolan Tu
(Testing Director)

Revision History

Version	Issue Date	Revisions Content
<u>Rev. 01</u>	<u>Dec. 13, 2023</u>	<u>Initial Issue</u>

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1 GENERAL INFORMATION

1.1 Test Laboratory

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

1.2 Test Location

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

1.3 Test Environment Condition

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

2 PRODUCT INFORMATION

2.1 Applicant Information

Applicant	Shanghai Xiangcheng Communication Technology Co., Ltd
Address	6th Floor, Building 10, No.3000, Longdong Avenue, Pudong New District, Shanghai

2.2 Manufacturer Information

Manufacturer	Shanghai Xiangcheng Communication Technology Co., Ltd
Address	6th Floor, Building 10, No.3000, Longdong Avenue, Pudong New District, Shanghai

2.3 General Description for Equipment under Test (EUT)

EUT Name	Intelligent Mobile Data Capture Terminal
Model Name Under Test	T16
Series Model Name	T1621, Ranger2K
Description of Model name differentiation	All models are same with electrical parameters and internal circuit structure, but only differ in model name. (this information provided by the customer)
Hardware Version	V1.0
Software Version	V1.0
Dimensions (Approx.)	N/A
Weight (Approx.)	N/A

2.4 Ancillary Equipment

Ancillary Equipment 1	Battery 1	
	Brand Name	N/A
	Model No.	F50042MA
	Serial No.	N/A
	Capacity	5100 mAh/19.635Wh
	Rated Voltage	3.85 V
	Limit Charge Voltage	4.40 V
	Manufacturer	Guangdong Fenghua New energy Co., LTD.
Ancillary Equipment 2	Battery 2	
	Brand Name	N/A
	Model No.	500918V
	Serial No.	N/A
	Capacity	60mAh/0.228 Wh
	Rated Voltage	3.80 V
	Limit Charge Voltage	4.35 V
	Manufacturer	DongGuan Hongde Battery Co., Ltd.
Note: The EUT has two Batterys, they are stored in the EUT at the same time, with different electrical parameters, manufacturers and battery capacities tested in this report.		

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 2/4/5/7/12/17/25/26/66 TDD LTE Band 38/41 Bluetooth (BR+EDR+BLE) 2.4G WIFI 802.11b, 802.11g, 802.11n(HT20/40) 5G WIFI 802.11a, 802.11n(HT20/40) and 802.11ac(VHT20/40/80) U-NII-1/2A/2C/3, GPS, Galileo, BeiDou, GLONASS, NFC
Note: The EUT is a mobile phone, which supports dual SIM card under the same transceiver. Each SIM supports GSM, WCDMA and LTE, and both SIM share the same transmitting electro circuit, NV parameters, so only SIM1 was tested in this report.	

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

Operating Mode	GSM, WCDMA, LTE, 2.4G WLAN, 5G WLAN, Bluetooth		
Frequency Range	GSM 850	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	GSM 1900	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	WCDMA Band 2	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	WCDMA Band 4	TX: 1710 ~ 1755 MHz	RX: 2110 ~ 2155 MHz
	WCDMA Band 5	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	LTE Band 2	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	LTE Band 4	TX: 1710 ~ 1755 MHz	RX: 2110 ~ 2155 MHz
	LTE Band 5	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	LTE Band 7	TX: 2500 ~ 2570 MHz	RX: 2620 ~ 2690 MHz
	LTE Band 12	TX: 699 ~ 716 MHz	RX: 729 ~ 746 MHz
	LTE Band 17	TX: 704 ~ 716 MHz	RX: 734 ~ 746 MHz
	LTE Band 25	TX: 1850 ~ 1915 MHz	RX: 1930 ~ 1995 MHz
	LTE Band 26	TX: 814 ~ 849 MHz & 824 ~ 849 MHz	RX: 859 ~ 894 MHz & 869 ~ 894 MHz
	LTE Band 38	TX: 2570 ~ 2620 MHz	RX: 2570 ~ 2620 MHz
	LTE Band 41	TX: 2496 ~ 2690 MHz	RX: 2496 ~ 2690 MHz
	LTE Band 66	TX: 1710 ~ 1780 MHz	RX: 2110 ~ 2200 MHz
	802.11b/g /n(HT20/HT40)	2412 ~ 2462 MHz	
	802.11a/ /n(HT20/HT40) /ac(VHT20/VHT40 /VHT80)	5150 ~ 5250 MHz	
		5250 ~ 5350 MHz	
		5470 ~ 5725 MHz	
5725 ~ 5850 MHz			
Bluetooth	2402 ~ 2480 MHz		
Antenna Type	WWAN: PIFA Antenna WLAN: PIFA Antenna Bluetooth: PIFA Antenna		

DTM	N/A	
Hotspot Function	Support	
Power Reduction	Support	
Exposure Category	General Population/Uncontrolled exposure	
Product Type	Portable Device	
EUT Type	☒ Production unit	☐ Identical prototype
Note: 1. The device utilizes independent power reduction mechanisms for SAR compliance for the 2/3/4G transmitter for held-to-ear exposure conditions. 2. The device utilizes independent power reduction mechanisms for SAR compliance for the 2/3/4G transmitter for near to body exposure conditions.		

3 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)	Specific (0mm)	Head (0mm)	Body-worn (10mm)	Hotspot (10mm)	Specific (0mm)
		1g SAR			10g SAR	1g SAR			10g SAR
PCE	GSM 850	0.20	0.30	0.30	/	0.53	0.79	0.90	0.22
	GSM 1900	0.18	0.61	0.70	/				
	WCDMA Band 2	0.09	0.43	0.55	/				
	WCDMA Band 4	0.15	0.54	0.59	/				
	WCDMA Band 5	0.11	0.15	0.15	/				
	LTE Band 2	0.12	0.55	0.60	/				
	LTE Band 4	0.13	0.75	0.77	/				
	LTE Band 5	0.15	0.20	0.20	/				
	LTE Band 7	0.01	0.15	0.23	/				
	LTE Band 12	0.06	0.10	0.10	/				
	LTE Band 17	0.06	0.11	0.11	/				
	LTE Band 25	0.11	0.42	0.57	/				
	LTE Band 26	0.14	0.16	0.16	/				
	LTE Band 66	0.15	0.79	0.90	/				
	LTE Band 38	0.11	0.05	0.08	/				
	LTE Band 41	0.24	0.04	0.06	/				
DTS	2.4 G	0.10	0.02	0.02	/				
NII	5.2G	/	/	0.22	/				
	5.3G	0.53	0.18	/	0.22				
	5.6 G	0.32	0.18	/	0.20				
	5.8 G	0.13	0.18	0.18	/				
DSS	Bluetooth	0.03	0.02	0.02	/				
Limit (W/kg)		1.6			4.0	1.6			4.0
Verdict		PASS							

3.4 Test Uncertainty

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

The maximum 1 g SAR for the EUT in this report is 0.90 W/kg, which is lower than 1.5 W/kg, so the extensive SAR measurement uncertainty analysis is not required in this report.

The maximum 10 g SAR for the EUT in this report is 0.22 W/kg, which is lower than 3.75 W/kg, so the extensive SAR measurement uncertainty analysis is not required in this report.

4 MEASUREMENT SYSTEM

4.1 Specific Absorption Rate (SAR) Definition

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

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

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

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

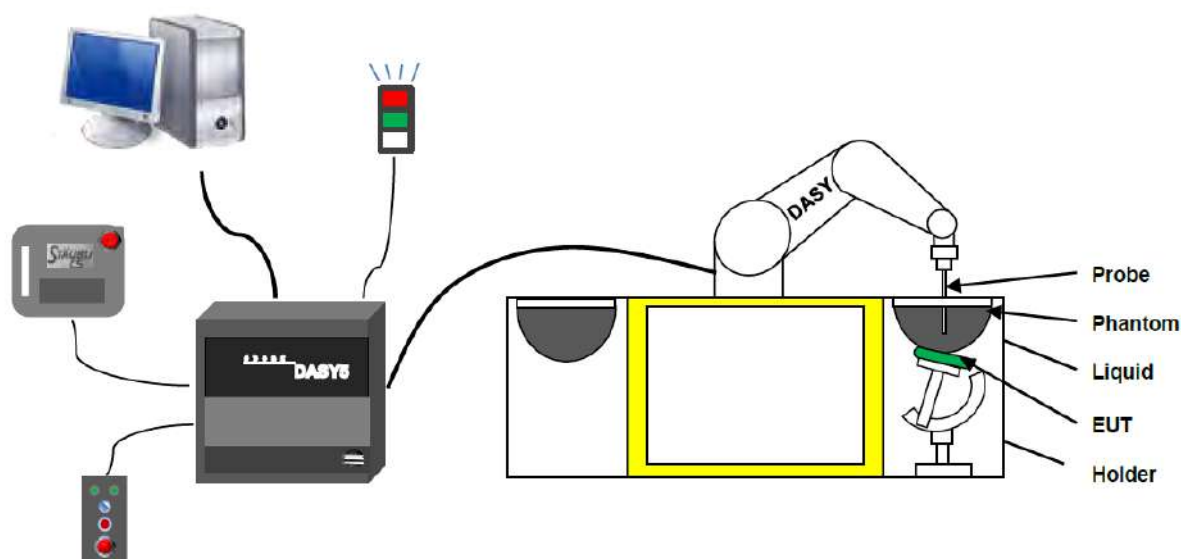
$$\text{SAR} = \frac{\sigma E^2}{\rho}$$

Where: σ is the conductivity of the tissue,

ρ is the mass density of the tissue and E is the RMS electrical field strength.

4.2 DASY SAR System

4.2.1 DASY SAR System Diagram



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

1. A standard high precision 6-axis robot (Stäubli RX family) with controller and software. An arm extension for accommodating the data acquisition electronics (DAE).
2. A dosimetric probe, i.e. an isotropic E-field probe optimized and calibrated for usage in tissue simulating liquid. The probe is equipped with an optical surface detector system.
3. A data acquisition electronic (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
4. A unit to operate the optical surface detector which is connected to the EOC.
5. The Electro-Optical Coupler (EOC) performs the conversion from the optical into a digital electric signal of the DAE. The EOC is connected to the DASY5 measurement server.
6. The DASY5 measurement server, which performs all real-time data evaluation for field measurements and surface detection, controls robot movements and handles safety operation.
7. DASY5 software and SEMCAD data evaluation software.
8. Remote control with teach panel and additional circuitry for robot safety such as warning lamps, etc.
9. The generic twin phantom enabling the testing of left-hand and right-hand usage.
10. The device holder for handheld mobile phones.
11. Tissue simulating liquid mixed according to the given recipes.
12. System validation dipoles allowing to validate the proper functioning of the system.

4.2.2 Robot

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



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

4.2.3 E-Field Probe

The probe is specially designed and calibrated for use in liquids with high permittivities for the measurements the Specific Dosimetric E-Field Probe EX3DV4-SN:7607 with following specifications is used.

Construction	Symmetrical design with triangular core Built-in optical fiber for surface detection system Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., glycolether)
Calibration	ISO/IEC 17025 calibration service available
Frequency	10 MHz to 6 GHz; Linearity: ± 0.2 dB (30 MHz to 6 GHz)
Directivity	± 0.2 dB in HSL (rotation around probe axis) ; ± 0.4 dB in HSL (rotation normal to probe axis)
Dynamic range	5 μ W/g to > 100 mW/g; Linearity: ± 0.2 dB
Dimensions	Overall length: 337 mm (Tip: 9 mm) Tip diameter: 2.5 mm (Body: 10 mm) Distance from probe tip to dipole centers: 1.0 mm
Application	General dosimetry up to 3 GHz Compliance tests of mobile phones Fast automatic scanning in arbitrary phantoms (EX3DV4)



E-Field Probe Calibration Process

Probe calibration is realized, in compliance with CENELEC EN 62209-1/-2 and IEEE 1528 std, with CALISAR, Antennessa proprietary calibration system. The calibration is performed with the EN 62209-1/2 annexe technique using reference guide at the five frequencies.

4.2.4 Data Acquisition Electronics

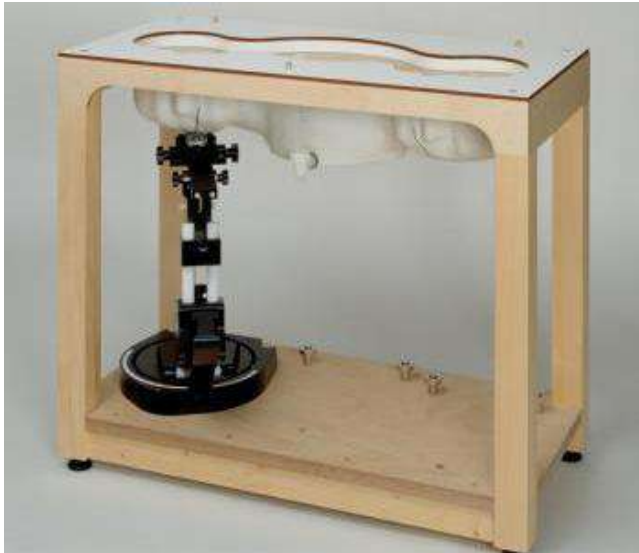
The data acquisition electronics (DAE) consist of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converter and a command decoder with a control logic unit. Transmission to the measurement server is accomplished through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



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

4.2.5 Phantoms

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



- Left head
- Right head
- Flat phantom

Photo of Phantom SN1859



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

4.2.6 Device Holder

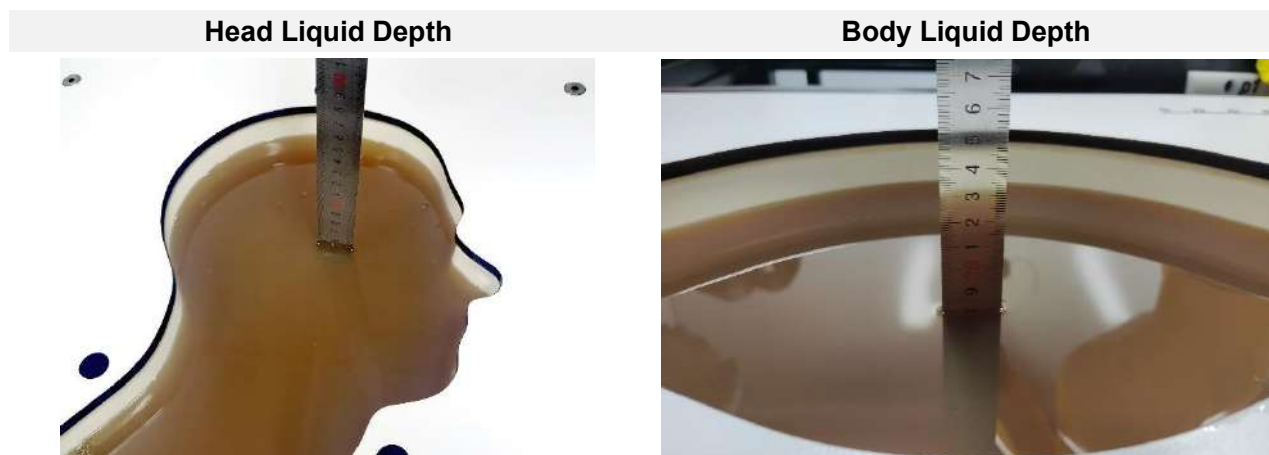
The DASY5 device holder has two scales for device rotation (with respect to the body axis) and the device inclination (with respect to the line between the ear openings). The plane between the ear openings and the mouth tip has a rotation angle of 65° . The bottom plate contains three pair of bolts for locking the device holder. The device holder positions are adjusted to the standard measurement positions in the three sections. This device holder is used for standard mobile phones or PDA's only. If necessary an additional support of polystyrene material is used. Larger DUT's (e.g. notebooks) cannot be tested using this device holder. Instead a support of bigger polystyrene cubes and thin polystyrene plates is used to position the DUT in all relevant positions to find and measure spots with maximum SAR values. Therefore those devices are normally only tested at the flat part of the SAM.



The positioning system allows obtaining cheek and tilting position with a very good accuracy. Incompliance with CENELEC, the tilt angle uncertainty is lower than 1° .

4.2.7 Simulating Liquid

For SAR measurement of the field distribution inside the phantom, the phantom must be filled with homogeneous tissue simulating liquid to a depth of at least 15 cm. For head SAR testing, the liquid height from the ear reference point (ERP) of the phantom to the liquid top surface is larger than 15 cm. For body SAR testing, the liquid height from the center of the flat phantom to the liquid top surface is larger than 15 cm. The nominal dielectric values of the tissue simulating liquids in the phantom and the tolerance of 5%.



The following table gives the recipes for tissue simulating liquid.

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

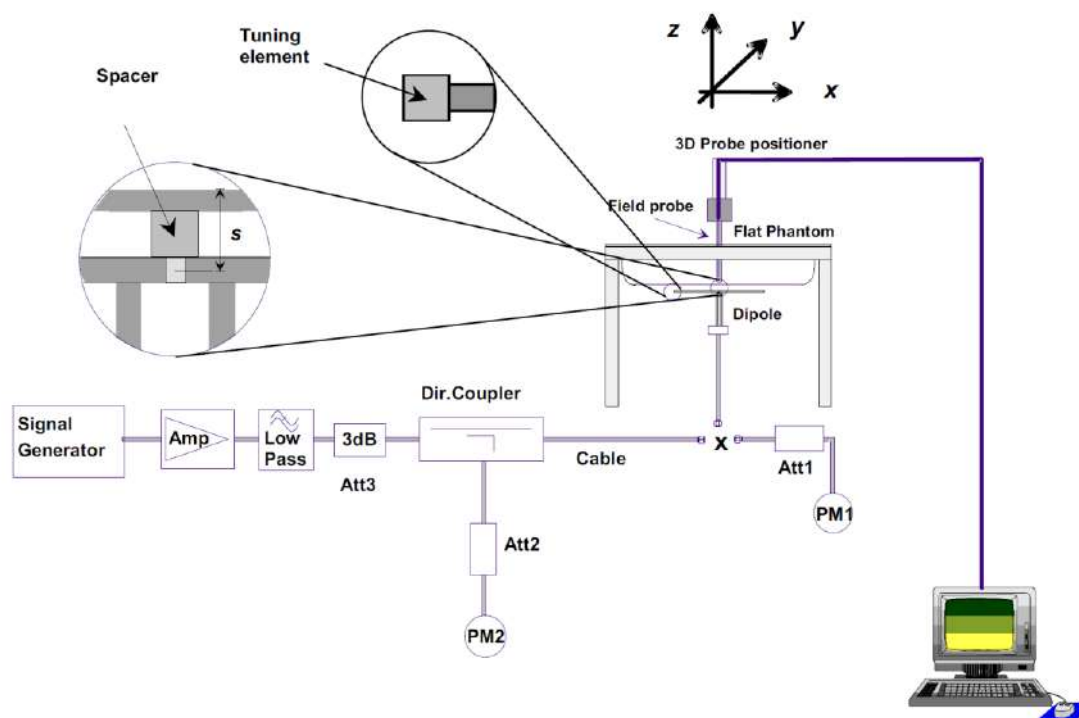
5 SYSTEM VERIFICATION

5.1 Purpose of System Check

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

5.2 System Check Setup

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



6 TEST POSITION CONFIGURATIONS

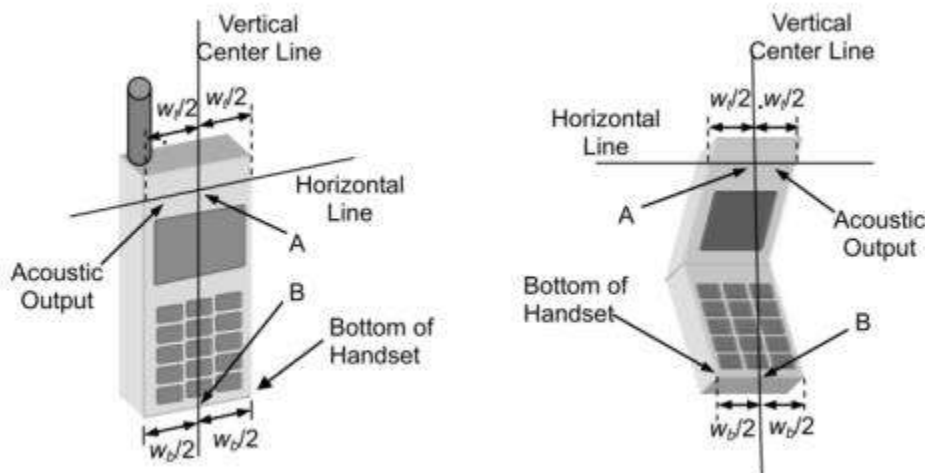
According to KDB 648474 D04 Handset, handsets are tested for SAR compliance in head, body-worn accessory and other use configurations described in the following subsections.

6.1 Head Exposure Conditions

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

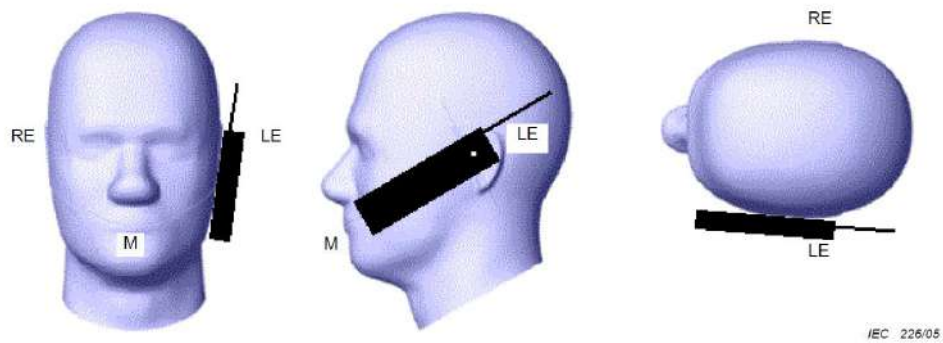
6.1.1 Two Imaginary Lines on the Handset

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



6.1.2 Cheek Position

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



6.1.3 Tilted Position

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

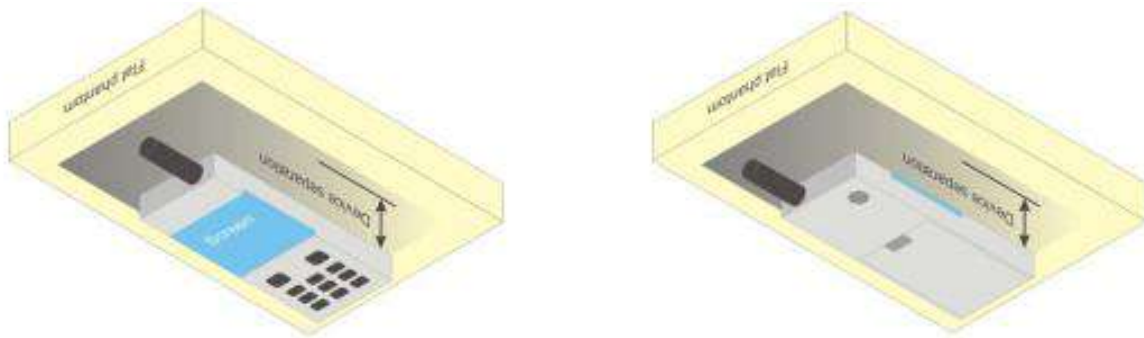


6.2 Body-worn Position Conditions

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

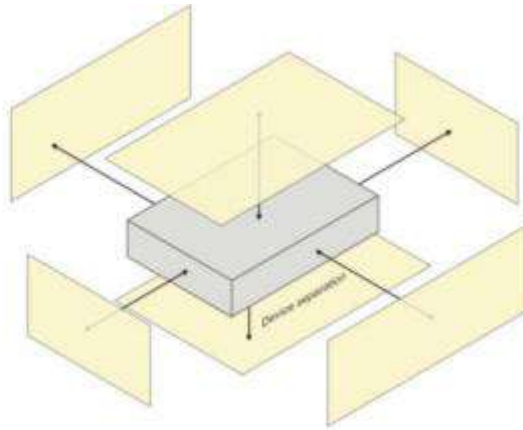
Body-worn accessories that do not contain metallic or conductive components may be tested according to worst-case exposure configurations, typically according to the smallest test separation distance required for the group of body-worn accessories with similar operating and exposure characteristics.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

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



6.3 Hotspot Mode Exposure Position Conditions

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



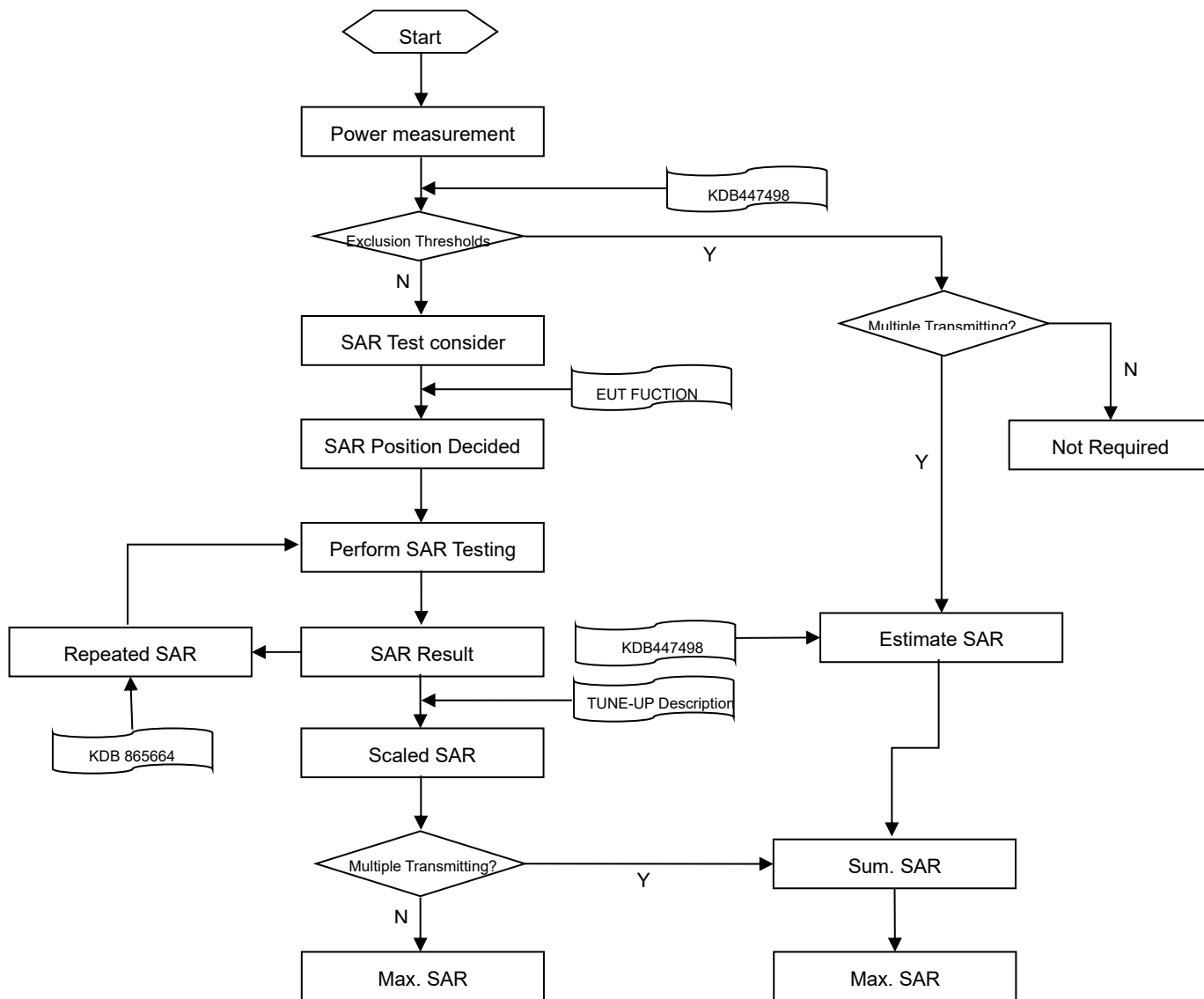
6.4 Product Specific 10g Exposure Consideration

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

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

7 MEASUREMENT PROCEDURE

7.1 Measurement Process Diagram



7.2 SAR Scan General Requirement

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

			≤3GHz	>3GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface			5±1 mm	½·δ·ln(2)±0.5 mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location			30°±1°	20°±1°
Maximum area scan spatial resolution: Δx Area , Δy Area			≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm	3–4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 10 mm
			When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	
Maximum zoom scan spatial resolution: Δx Zoom , Δy Zoom			≤ 2 GHz: ≤ 8 mm 2 –3 GHz: ≤ 5 mm*	3–4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: Δz Zoom (n)		≤ 5 mm	3–4 GHz: ≤ 4 mm
				4–5 GHz: ≤ 3 mm
				5–6 GHz: ≤ 2 mm
	graded grid	Δz Zoom (1): between 1st two points closest to phantom surface	≤ 4 mm	3–4 GHz: ≤ 3 mm
				4–5 GHz: ≤ 2.5 mm
		Δz Zoom (n>1): between subsequent points	≤ 1.5·Δz Zoom (n-1)	
Minimum zoom scan volume	x, y, z		≥30 mm	3–4 GHz: ≥ 28 mm
				4–5 GHz: ≥ 25 mm
				5–6 GHz: ≥ 22 mm

Note:

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

7.3 Measurement Procedure

The following steps are used for each test position

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

7.4 Area & Zoom Scan Procedure

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

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

8 CONDUCTED RF OUPUT POWER

8.1 GSM

Please refer the document “Conducted RF Output Power List.pdf”.

8.2 WCDMA

Please refer the document “Conducted RF Output Power List.pdf”.

8.3 LTE

Please refer the document “Conducted RF Output Power List.pdf”.

8.4 WIFI

8.4.1 2.4G WIFI

Band (GHz)	Mode	Channel	Freq. (MHz)	AV Power (dBm)	Tune-up Limit (dBm)	SAR Test Require.
2.4 (2.4~2.4835)	802.11b	1	2412	13.24	14.50	NO
		6	2437	12.91	14.50	NO
		11	2462	13.29	14.50	NO
	802.11g	1	2412	14.46	15.00	NO
		6	2437	16.17	17.00	Yes
		11	2462	16.03	17.00	NO
	802.11n(HT20)	1	2412	13.52	14.00	NO
		6	2437	15.87	16.00	NO
		11	2462	15.48	16.00	NO
	802.11n(HT40)	3	2422	10.85	11.00	NO
		6	2437	15.26	16.00	NO
		9	2452	14.51	16.00	NO

Note: When multiple channel bandwidth configurations in a frequency band have the same maximum tune-up output power, the test configuration is determined by applying the following steps sequentially.

- 1) The largest channel bandwidth configuration is selected between the multiple configurations in a frequency band with the same maximum tune-up output power.
- 2) When multiple transmission modes (802.11b/g/n) have the same maximum tune-up output power, largest channel bandwidth, lowest order modulation and lowest data rate, the lowest order 802.11 mode is selected; i.e., 802.11b is chosen over 802.11g, and 802.11g chosen over 802.11n.
- 3) According KDB 247228, when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg, OFDM SAR test is not required.
Adjusted SAR = $0.105 * (50.12\text{mW}/28.18\text{mW}) = 0.187$ W/Kg, so 2.4G OFDM SAR test is not required.

8.4.2 5G WIFI

Band (GHz)	Mode	Channel	Freq. (MHz)	AV Power (dBm)	Tune-up Limit (dBm)	SAR Test Require.
5.2 (5.15~5.25)	802.11a	36	5180	15.66	16.00	NO
		44	5220	15.59	16.00	NO
		48	5240	15.66	16.00	NO
	802.11n(HT20)	36	5180	14.96	16.00	NO
		44	5220	15.39	16.00	NO
		48	5240	15.55	16.00	NO
	802.11n(HT40)	38	5190	15.58	16.00	NO
		46	5230	15.47	16.00	NO
	802.11ac(VHT20)	36	5180	15.43	16.00	NO
		44	5220	15.38	16.00	NO
		48	5240	15.49	16.00	NO
	802.11ac(VHT40)	38	5190	15.70	16.00	NO
		46	5230	15.46	16.00	NO
	802.11ac(VHT80)	42	5210	15.52	16.00	NO
5.3 (5.25~5.35)	802.11a	52	5260	15.72	16.00	NO
		60	5300	11.72	13.50	NO
		64	5320	12.70	13.50	NO
	802.11n(HT20)	52	5260	14.54	16.00	NO
		60	5300	12.14	13.50	NO
		64	5320	13.23	13.50	NO
	802.11n(HT40)	54	5270	15.66	16.00	Yes
		62	5310	13.72	14.00	Yes
	802.11ac(VHT20)	52	5260	15.54	16.00	NO
		60	5300	11.15	13.00	NO
		64	5320	12.10	13.00	NO
	802.11ac(VHT40)	54	5270	15.74	16.00	NO
		62	5310	13.71	14.00	NO
	802.11ac(VHT80)	58	5290	13.71	14.00	NO
5.6 (5.47~5.725)	802.11a	100	5500	13.53	14.00	NO
		116	5580	11.66	13.00	NO
		140	5700	13.60	14.00	NO
	802.11n(HT20)	100	5500	13.38	14.00	NO
		116	5580	12.14	13.00	NO
		140	5700	13.48	14.00	NO
	802.11n(HT40)	102	5510	14.87	15.00	NO
		118	5590	14.14	15.00	NO

		134	5670	14.59	15.00	NO
	802.11ac(VHT20)	100	5500	13.41	14.00	NO
		116	5580	12.21	13.00	NO
		140	5700	12.97	14.00	NO
	802.11ac(VHT40)	102	5510	15.40	16.00	NO
		118	5590	13.14	15.00	NO
		134	5670	15.11	16.00	NO
	802.11ac(VHT80)	106	5530	15.37	16.00	Yes
		122	5690	15.24	16.00	Yes
5.8 (5.725~5.850)	802.11a	149	5745	13.70	14.00	NO
		157	5785	11.63	13.00	NO
		165	5825	13.03	14.00	NO
	802.11n(HT20)	149	5745	13.10	14.00	NO
		157	5785	12.00	13.00	NO
		165	5825	12.89	14.00	NO
	802.11n(HT40)	151	5755	15.29	16.00	NO
		159	5795	14.67	16.00	NO
	802.11ac(VHT20)	149	5745	13.59	14.00	NO
		157	5785	11.96	13.00	NO
		165	5825	11.87	13.00	NO
	802.11ac(VHT40)	151	5755	15.31	16.00	NO
		159	5795	14.07	16.00	NO
	802.11ac(VHT80)	155	5775	15.56	16.00	Yes

Note: When the same maximum output power is specified for both bands, begin SAR measurement in U-NII-2A band by applying the OFDM SAR requirements. If the highest reported SAR for a test configuration is ≤ 1.2 W/kg, SAR is not required for U-NII-1 band for that configuration (802.11 mode and exposure condition); otherwise, each band is tested independently for SAR.

8.5 Bluetooth

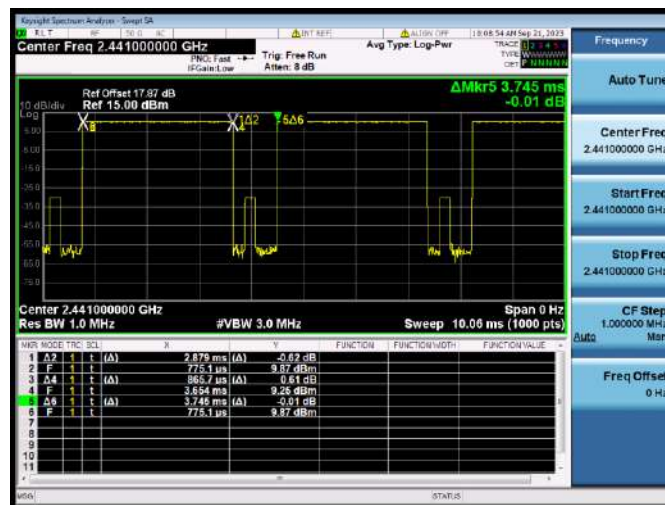
Mode	GFSK			$\pi/4$ -DQPSK		
Channel	0	39	78	0	39	78
Frequency (MHz)	2402	2441	2480	2402	2441	2480
AV Power (dBm)	10.76	9.66	9.92	7.28	6.15	6.53
Tune-Up Limit (dBm)	11.00	11.00	11.00	7.50	7.50	7.50
SAR Test Require	YES	YES	YES	NO	NO	NO
Mode	8-DPSK			/		
Channel	0	39	78	/	/	/
Frequency (MHz)	2402	2441	2480	/	/	/
AV Power (dBm)	7.08	6.00	6.48	/	/	/
Tune-Up Limit (dBm)	7.50	7.50	7.50	/	/	/
SAR Test Require	NO	NO	NO	/	/	/
Mode	BLE-1Mbps			BLE-2Mbps		
Channel	0	19	39	0	19	39
Frequency (MHz)	2402	2440	2480	2402	2440	2480
AV Power (dBm)	-2.34	-2.20	-2.46	-2.32	-2.17	-2.45
Tune-Up Limit (dBm)	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
SAR Test Require	NO	NO	NO	NO	NO	NO

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

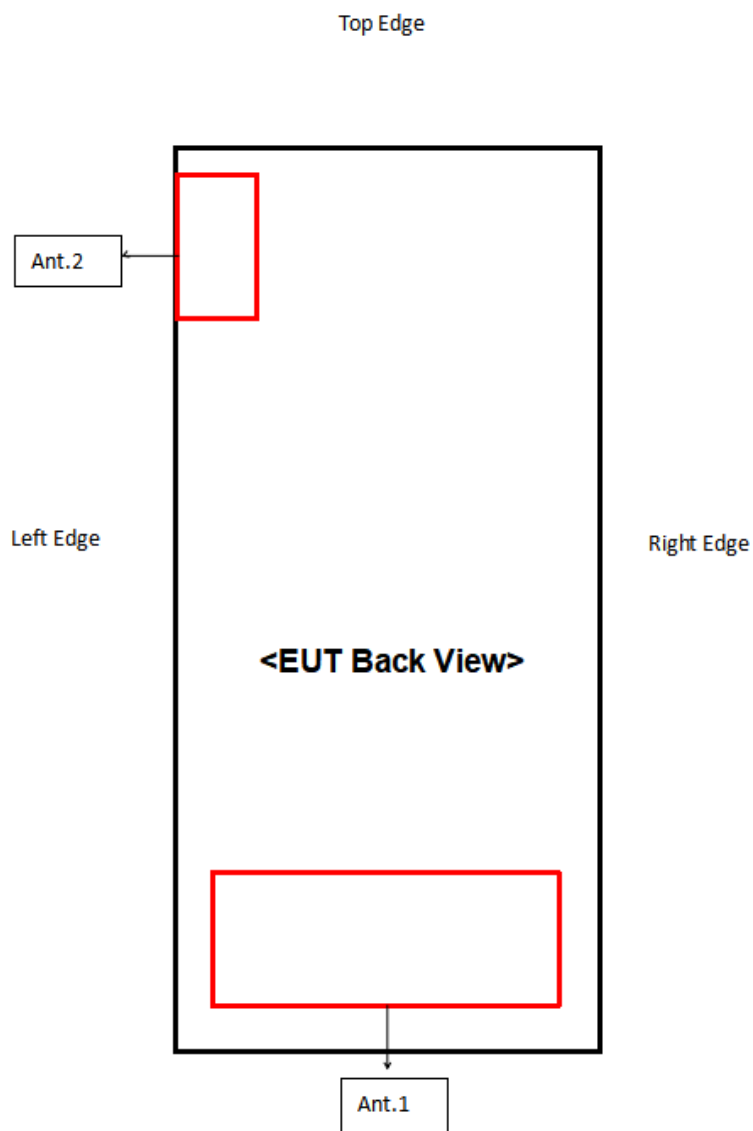
Note: The Bluetooth duty cycle is 76.88 % as following figure, according to 2016 Oct. TCB workshop for Bluetooth SAR scaling need further consideration and the maximum duty cycle is 100%, therefore the actual duty cycle will be scaled up to 100% for Bluetooth reported SAR calculation.

Duty Cycle

GFSK



9 TEST EXCLUSION CONSIDERATION



Antenna	Support Bands
Antenna 1	GSM850/1900, WCDMA 2/4/5, LTE B2/4/5/7/12/17/25/26/66/38/41,
Antenna 2	WLAN2.4G&WLAN5G&Bluetooth

9.1 SAR Test Exclusion Consideration Table

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

Antenna	Front Side(mm)	Back Side(mm)	Left Edge(mm)	Right Edge(mm)	Top Edge(mm)	Bottom Edge(mm)
ANT1	<25	<25	<25	<25	> 25	<25
ANT2	<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

10.1 GSM 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 4slots	Left Cheek	0	251	848.8	0.13	0.121	28.30	29.00	1.175	0.142	/
		Left Tilt	0	251	848.8	0.12	0.085	28.30	29.00	1.175	0.100	/
		Right Cheek	0	251	848.8	0.00	0.167	28.30	29.00	1.175	0.196	1#
		Right Tilt	0	251	848.8	0.15	0.095	28.30	29.00	1.175	0.112	/
Body-Worn&Hotspot												
Ant.1	DATA 4slots	Front Side	10	251	848.8	0.00	0.251	28.30	29.00	1.175	0.295	2#
		Back Side	10	251	848.8	-0.04	0.123	28.30	29.00	1.175	0.145	/
		Left Edge	10	251	848.8	0.07	0.125	28.30	29.00	1.175	0.147	/
		Right Edge	10	251	848.8	-0.07	0.087	28.30	29.00	1.175	0.102	/
		Bottom Edge	10	251	848.8	0.16	0.088	28.30	29.00	1.175	0.103	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.												

10.2 GSM 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 4slots	Left Cheek	0	661	1880	0.01	0.163	25.62	26.00	1.091	0.178	3#
		Left Tilt	0	661	1880	0.04	0.069	25.62	26.00	1.091	0.075	/
		Right Cheek	0	661	1880	0.08	0.090	25.62	26.00	1.091	0.098	/
		Right Tilt	0	661	1880	0.00	0.066	25.62	26.00	1.091	0.072	/
Body-worn&Hotspot												
Ant.1	DATA 4slots	Front Side	10	661	1880	0.08	0.556	25.62	26.00	1.091	0.607	/
		Back Side	10	661	1880	0.10	0.185	25.62	26.00	1.091	0.202	/
		Left Edge	10	661	1880	0.05	0.063	25.62	26.00	1.091	0.069	/
		Right Edge	10	661	1880	0.06	0.144	25.62	26.00	1.091	0.157	/
		Bottom Edge	10	661	1880	-0.02	0.637	25.62	26.00	1.091	0.695	4#
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	0.086	22.17	22.50	1.079	0.093	5#
		Left Tilt	0	9538	1907.6	-0.03	0.043	22.17	22.50	1.079	0.046	/
		Right Cheek	0	9538	1907.6	0.18	0.054	22.17	22.50	1.079	0.058	/
		Right Tilt	0	9538	1907.6	-0.03	0.031	22.17	22.50	1.079	0.033	/
Body-worn&Hotspot												
Ant.1	RMC	Front Side	10	9538	1907.6	-0.18	0.401	22.17	22.50	1.079	0.433	/
		Back Side	10	9538	1907.6	-0.05	0.137	22.17	22.50	1.079	0.148	/
		Left Edge	10	9538	1907.6	-0.18	0.042	22.17	22.50	1.079	0.045	/
		Right Edge	10	9538	1907.6	0.16	0.080	22.17	22.50	1.079	0.086	/
		Bottom Edge	10	9538	1907.6	0.01	0.511	22.17	22.50	1.079	0.551	6#
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	1312	1712.4	0.13	0.121	22.04	23.00	1.247	0.151	7#
		Left Tilt	0	1312	1712.4	0.17	0.058	22.04	23.00	1.247	0.072	/
		Right Cheek	0	1312	1712.4	0.19	0.086	22.04	23.00	1.247	0.107	/
		Right Tilt	0	1312	1712.4	-0.03	0.049	22.04	23.00	1.247	0.061	/
Body-worn&Hotspot												
Ant.1	RMC	Front Side	10	1312	1712.4	0.12	0.432	22.04	23.00	1.247	0.539	/
		Back Side	10	1312	1712.4	-0.02	0.223	22.04	23.00	1.247	0.278	/
		Left Edge	10	1312	1712.4	0.05	0.071	22.04	23.00	1.247	0.089	/
		Right Edge	10	1312	1712.4	-0.02	0.112	22.04	23.00	1.247	0.140	/
		Bottom Edge	10	1312	1712.4	-0.12	0.471	22.04	23.00	1.247	0.587	8#
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	0.04	0.071	22.27	23.00	1.183	0.084	/
		Left Tilt	0	4182	836.4	0.00	0.042	22.27	23.00	1.183	0.050	/
		Right Cheek	0	4182	836.4	0.00	0.090	22.27	23.00	1.183	0.106	9#
		Right Tilt	0	4182	836.4	0.00	0.039	22.27	23.00	1.183	0.046	/
Body-worn&Hotspot												
Ant.1	RMC	Front Side	10	4182	836.4	0.01	0.125	22.27	23.00	1.183	0.148	10#
		Back Side	10	4182	836.4	0.18	0.074	22.27	23.00	1.183	0.088	/
		Left Edge	10	4182	836.4	-0.14	0.085	22.27	23.00	1.183	0.101	/
		Right Edge	10	4182	836.4	0.18	0.049	22.27	23.00	1.183	0.058	/
		Bottom Edge	10	4182	836.4	-0.10	0.064	22.27	23.00	1.183	0.076	/
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	18900	1880	1	Mid	0.03	0.099	22.85	23.50	1.161	0.115	11#
		Left Cheek	0	19100	1900	50	Low	0.11	0.078	21.71	22.50	1.199	0.094	/
		Left Tilt	0	18900	1880	1	Mid	0.14	0.041	22.85	23.50	1.161	0.048	/
		Left Tilt	0	19100	1900	50	Low	0.14	0.035	21.71	22.50	1.199	0.042	/
		Right Cheek	0	18900	1880	1	Mid	0.14	0.052	22.85	23.50	1.161	0.060	/
		Right Cheek	0	19100	1900	50	Low	0.12	0.047	21.71	22.50	1.199	0.056	/
		Right Tilt	0	18900	1880	1	Mid	0.12	0.038	22.85	23.50	1.161	0.044	/
		Right Tilt	0	19100	1900	50	Low	0.09	0.035	21.71	22.50	1.199	0.042	/
Body-worn&Hotspot														
Ant.1	QPSK	Front Side	10	18900	1880	1	Mid	-0.08	0.471	22.85	23.50	1.161	0.547	/
		Front Side	10	19100	1900	50	Low	0.02	0.392	21.71	22.50	1.199	0.470	/
		Back Side	10	18900	1880	1	Mid	0.09	0.144	22.85	23.50	1.161	0.167	/
		Back Side	10	19100	1900	50	Low	0.10	0.123	21.71	22.50	1.199	0.147	/
		Left Edge	10	18900	1880	1	Mid	-0.14	0.050	22.85	23.50	1.161	0.058	/
		Left Edge	10	19100	1900	50	Low	0.00	0.045	21.71	22.50	1.199	0.054	/
		Right Edge	10	18900	1880	1	Mid	0.05	0.095	22.85	23.50	1.161	0.110	/
		Right Edge	10	19100	1900	50	Low	0.06	0.088	21.71	22.50	1.199	0.106	/
		Bottom Edge	10	18900	1880	1	Mid	0.01	0.516	22.85	23.50	1.161	0.599	12#
		Bottom Edge	10	19100	1900	50	Low	0.02	0.475	21.71	22.50	1.199	0.570	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

10.7LTE Band 4 (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	20300	1745	1	Mid	0.03	0.104	22.61	23.50	1.227	0.128	13#
		Left Cheek	0	20300	1745	50	Mid	0.06	0.095	21.46	22.50	1.271	0.121	/
		Left Tilt	0	20175	1732.5	1	Mid	-0.19	0.048	22.61	23.50	1.227	0.059	/
		Left Tilt	0	20300	1745	50	Mid	0.03	0.041	21.46	22.50	1.271	0.052	/
		Right Cheek	0	20175	1732.5	1	Mid	-0.08	0.071	22.61	23.50	1.227	0.087	/
		Right Cheek	0	20300	1745	50	Mid	0.04	0.058	21.46	22.50	1.271	0.074	/
		Right Tilt	0	20175	1732.5	1	Mid	-0.12	0.044	22.61	23.50	1.227	0.054	/
		Right Tilt	0	20300	1745	50	Mid	0.13	0.039	21.46	22.50	1.271	0.050	/
Body-worn&Hotspot														
Ant.1	QPSK	Front Side	10	20300	1745	1	Mid	0.05	0.611	22.61	23.50	1.227	0.750	/
		Front Side	10	20300	1745	50	Mid	-0.12	0.565	21.46	22.50	1.271	0.718	/
		Back Side	10	20300	1745	1	Mid	-0.13	0.287	22.61	23.50	1.227	0.352	/
		Back Side	10	20300	1745	50	Mid	-0.14	0.266	21.46	22.50	1.271	0.338	/
		Left Edge	10	20300	1745	1	Mid	-0.15	0.081	22.61	23.50	1.227	0.099	/
		Left Edge	10	20300	1745	50	Mid	0.07	0.093	21.46	22.50	1.271	0.118	/
		Right Edge	10	20300	1745	1	Mid	0.19	0.177	22.61	23.50	1.227	0.217	/
		Right Edge	10	20300	1745	50	Mid	0.10	0.135	21.46	22.50	1.271	0.172	/
		Bottom Edge	10	20300	1745	1	Mid	0.01	0.629	22.61	23.50	1.227	0.772	14#
		Bottom Edge	10	20300	1745	50	Mid	-0.10	0.588	21.46	22.50	1.271	0.747	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

10.8LTE 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	20600	844	1	Mid	0.18	0.109	22.89	23.50	1.151	0.125	/
		Left Cheek	0	20600	844	25	Low	-0.16	0.095	21.78	22.50	1.180	0.112	/
		Left Tilt	0	20600	844	1	Mid	0.19	0.065	22.89	23.50	1.151	0.075	/
		Left Tilt	0	20600	844	25	Low	0.17	0.051	21.78	22.50	1.180	0.060	/
		Right Cheek	0	20600	844	1	Mid	0.01	0.130	22.89	23.50	1.151	0.150	15#
		Right Cheek	0	20600	844	25	Low	-0.10	0.101	21.78	22.50	1.180	0.119	/
		Right Tilt	0	20600	844	1	Mid	0.17	0.061	22.89	23.50	1.151	0.070	/
		Right Tilt	0	20600	844	25	Low	-0.15	0.047	21.78	22.50	1.180	0.055	/
Body-worn&Hotspot														
Ant.1	QPSK	Front Side	10	20450	829	1	Mid	-0.01	0.176	22.89	23.50	1.151	0.203	16#
		Front Side	10	20525	836.5	25	Low	0.06	0.155	21.78	22.50	1.180	0.183	/
		Back Side	10	20450	829	1	Mid	0.19	0.112	22.89	23.50	1.151	0.129	/
		Back Side	10	20525	836.5	25	Low	0.06	0.072	21.78	22.50	1.180	0.085	/
		Left Edge	10	20450	829	1	Mid	-0.16	0.112	22.89	23.50	1.151	0.129	/
		Left Edge	10	20525	836.5	25	Low	0.13	0.095	21.78	22.50	1.180	0.112	/
		Right Edge	10	20450	829	1	Mid	-0.08	0.071	22.89	23.50	1.151	0.082	/
		Right Edge	10	20525	836.5	25	Low	0.09	0.055	21.78	22.50	1.180	0.065	/
		Bottom Edge	10	20450	829	1	Mid	-0.01	0.084	22.89	23.50	1.151	0.097	/
		Bottom Edge	10	20525	836.5	25	Low	0.13	0.076	21.78	22.50	1.180	0.090	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

10.9LTE 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	0.02	0.008	23.04	23.50	1.112	0.009	/
		Left Cheek	0	21350	2560	50	Mid	0.01	0.006	21.94	22.50	1.138	0.007	/
		Left Tilt	0	21100	2535	1	Mid	0.09	0.003	23.04	23.50	1.112	0.003	/
		Left Tilt	0	21350	2560	50	Mid	0.06	0.002	21.94	22.50	1.138	0.002	/
		Right Cheek	0	21100	2535	1	Mid	0.12	0.012	23.04	23.50	1.112	0.013	17#
		Right Cheek	0	21350	2560	50	Mid	-0.11	0.009	21.94	22.50	1.138	0.010	/
		Right Tilt	0	21100	2535	1	Mid	0.09	0.006	23.04	23.50	1.112	0.007	/
Right Tilt	0	21350	2560	50	Mid	0.00	0.004	21.94	22.50	1.138	0.005	/		
Body-worn&Hotspot														
Ant.1	QPSK	Front Side	10	21100	2535	1	Mid	-0.16	0.134	23.04	23.50	1.112	0.149	/
		Front Side	10	21350	2560	50	Mid	-0.08	0.115	21.94	22.50	1.138	0.131	/
		Back Side	10	21100	2535	1	Mid	-0.08	0.011	23.04	23.50	1.112	0.012	/
		Back Side	10	21350	2560	50	Mid	0.00	0.009	21.94	22.50	1.138	0.010	/
		Left Edge	10	21100	2535	1	Mid	0.10	0.003	23.04	23.50	1.112	0.003	/
		Left Edge	10	21350	2560	50	Mid	0.16	0.001	21.94	22.50	1.138	0.001	/
		Right Edge	10	21100	2535	1	Mid	0.11	0.012	23.04	23.50	1.112	0.013	/
		Right Edge	10	21350	2560	50	Mid	0.05	0.009	21.94	22.50	1.138	0.010	/
		Bottom Edge	10	21100	2535	1	Mid	0.03	0.207	23.04	23.50	1.112	0.230	18#
		Bottom Edge	10	21350	2560	50	Mid	0.16	0.181	21.94	22.50	1.138	0.206	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

10.10 LTE 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	Mid	-0.19	0.041	22.39	23.00	1.151	0.047	/
		Left Cheek	0	23060	704	25	High	0.09	0.032	21.40	22.00	1.148	0.037	/
		Left Tilt	0	23130	711	1	Mid	0.13	0.022	22.39	23.00	1.151	0.025	/
		Left Tilt	0	23060	704	25	High	-0.15	0.015	21.40	22.00	1.148	0.017	/
		Right Cheek	0	23130	711	1	Mid	0.00	0.049	22.39	23.00	1.151	0.056	19#
		Right Cheek	0	23060	704	25	High	0.04	0.035	21.40	22.00	1.148	0.040	/
		Right Tilt	0	23130	711	1	Mid	-0.08	0.025	22.39	23.00	1.151	0.029	/
		Right Tilt	0	23060	704	25	High	-0.06	0.019	21.40	22.00	1.148	0.022	/
Body-worn&Hotspot														
Ant.1	QPSK	Front Side	10	23130	711	1	Mid	0.19	0.082	22.39	23.00	1.151	0.094	/
		Front Side	10	23060	704	25	High	-0.01	0.088	21.40	22.00	1.148	0.101	20#
		Back Side	10	23130	711	1	Mid	0.13	0.042	22.39	23.00	1.151	0.048	/
		Back Side	10	23060	704	25	High	0.13	0.046	21.40	22.00	1.148	0.053	/
		Left Edge	10	23130	711	1	Mid	-0.18	0.061	22.39	23.00	1.151	0.070	/
		Left Edge	10	23060	704	25	High	-0.10	0.062	21.40	22.00	1.148	0.071	/
		Right Edge	10	23130	711	1	Mid	0.09	0.051	22.39	23.00	1.151	0.059	/
		Right Edge	10	23060	704	25	High	-0.12	0.048	21.40	22.00	1.148	0.055	/
		Bottom Edge	10	23130	711	1	Mid	-0.01	0.006	22.39	23.00	1.151	0.007	/
		Bottom Edge	10	23060	704	25	High	-0.10	0.004	21.40	22.00	1.148	0.005	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

10.11 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	Mid	0.14	0.041	22.38	23.00	1.153	0.047	/
		Left Cheek	0	23800	711	25	Low	0.06	0.032	21.35	22.00	1.161	0.037	/
		Left Tilt	0	23780	709	1	Mid	0.18	0.011	22.38	23.00	1.153	0.013	/
		Left Tilt	0	23800	711	25	Low	0.18	0.006	21.35	22.00	1.161	0.007	/
		Right Cheek	0	23780	709	1	Mid	0.00	0.048	22.38	23.00	1.153	0.055	21#
		Right Cheek	0	23800	711	25	Low	-0.03	0.032	21.35	22.00	1.161	0.037	/
		Right Tilt	0	23780	709	1	Mid	0.12	0.021	22.38	23.00	1.153	0.024	/
		Right Tilt	0	23800	711	25	Low	-0.19	0.015	21.35	22.00	1.161	0.017	/
Body-worn&Hotspot														
Ant.1	QPSK	Front Side	10	23780	709	1	Mid	0.00	0.094	22.38	23.00	1.153	0.108	22#
		Front Side	10	23800	711	25	Low	-0.14	0.071	21.35	22.00	1.161	0.082	/
		Back Side	10	23780	709	1	Mid	0.09	0.051	22.38	23.00	1.153	0.059	/
		Back Side	10	23800	711	25	Low	0.02	0.041	21.35	22.00	1.161	0.048	/
		Left Edge	10	23780	709	1	Mid	-0.04	0.062	22.38	23.00	1.153	0.071	/
		Left Edge	10	23800	711	25	Low	-0.16	0.051	21.35	22.00	1.161	0.059	/
		Right Edge	10	23780	709	1	Mid	-0.19	0.055	22.38	23.00	1.153	0.063	/
		Right Edge	10	23800	711	25	Low	-0.05	0.043	21.35	22.00	1.161	0.050	/
		Bottom Edge	10	23780	709	1	Mid	-0.09	0.008	22.38	23.00	1.153	0.009	/
		Bottom Edge	10	23800	711	25	Low	-0.18	0.005	21.35	22.00	1.161	0.006	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

10.12 LTE Band 25 (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	26365	1882.5	1	Mid	0.12	0.097	22.78	23.50	1.180	0.114	23#
		Left Cheek	0	26365	1882.5	36	Low	0.02	0.085	21.62	22.50	1.225	0.104	/
		Left Tilt	0	26365	1882.5	1	Mid	-0.03	0.046	22.78	23.50	1.180	0.054	/
		Left Tilt	0	26365	1882.5	36	Low	-0.01	0.039	21.62	22.50	1.225	0.048	/
		Right Cheek	0	26365	1882.5	1	Mid	-0.15	0.051	22.78	23.50	1.180	0.060	/
		Right Cheek	0	26365	1882.5	36	Low	-0.18	0.048	21.62	22.50	1.225	0.059	/
		Right Tilt	0	26365	1882.5	1	Mid	-0.02	0.032	22.78	23.50	1.180	0.038	/
		Right Tilt	0	26365	1882.5	36	Low	0.19	0.030	21.62	22.50	1.225	0.037	/
Body-worn&Hotspot														
Ant.1	QPSK	Front Side	10	26365	1882.5	1	Mid	0.05	0.355	22.78	23.50	1.180	0.419	/
		Front Side	10	26365	1882.5	36	Low	0.04	0.321	21.62	22.50	1.225	0.393	/
		Back Side	10	26365	1882.5	1	Mid	-0.19	0.121	22.78	23.50	1.180	0.143	/
		Back Side	10	26365	1882.5	36	Low	0.02	0.104	21.62	22.50	1.225	0.127	/
		Left Edge	10	26365	1882.5	1	Mid	-0.16	0.011	22.78	23.50	1.180	0.013	/
		Left Edge	10	26365	1882.5	36	Low	0.12	0.016	21.62	22.50	1.225	0.020	/
		Right Edge	10	26365	1882.5	1	Mid	0.11	0.075	22.78	23.50	1.180	0.089	/
		Right Edge	10	26365	1882.5	36	Low	-0.12	0.068	21.62	22.50	1.225	0.083	/
		Bottom Edge	10	26365	1882.5	1	Mid	-0.01	0.486	22.78	23.50	1.180	0.573	24#
		Bottom Edge	10	26365	1882.5	36	Low	0.14	0.412	21.62	22.50	1.225	0.505	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

10.13 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	26965	841.5	1	Mid	-0.19	0.103	22.52	23.50	1.253	0.129	/
		Left Cheek	0	26965	841.5	36	Mid	0.15	0.092	21.58	22.50	1.236	0.114	/
		Left Tilt	0	26965	841.5	1	Mid	-0.10	0.059	22.52	23.50	1.253	0.074	/
		Left Tilt	0	26965	841.5	36	Mid	0.08	0.051	21.58	22.50	1.236	0.063	/
		Right Cheek	0	26965	841.5	1	Mid	0.00	0.115	22.52	23.50	1.253	0.144	25#
		Right Cheek	0	26965	841.5	36	Mid	0.16	0.094	21.58	22.50	1.236	0.116	/
		Right Tilt	0	26965	841.5	1	Mid	-0.08	0.052	22.52	23.50	1.253	0.065	/
Right Tilt	0	26965	841.5	36	Mid	0.15	0.047	21.58	22.50	1.236	0.058	/		
Body-worn&Hotspot														
Ant.1	QPSK	Front Side	10	26965	841.5	1	Mid	0.02	0.130	22.52	23.50	1.253	0.163	26#
		Front Side	10	26965	841.5	36	Mid	-0.19	0.124	21.58	22.50	1.236	0.153	/
		Back Side	10	26965	841.5	1	Mid	-0.03	0.081	22.52	23.50	1.253	0.101	/
		Back Side	10	26965	841.5	36	Mid	0.18	0.070	21.58	22.50	1.236	0.087	/
		Left Edge	10	26965	841.5	1	Mid	0.11	0.086	22.52	23.50	1.253	0.108	/
		Left Edge	10	26965	841.5	36	Mid	0.19	0.077	21.58	22.50	1.236	0.095	/
		Right Edge	10	26965	841.5	1	Mid	0.03	0.058	22.52	23.50	1.253	0.073	/
		Right Edge	10	26965	841.5	36	Mid	-0.05	0.046	21.58	22.50	1.236	0.057	/
		Bottom Edge	10	26965	841.5	1	Mid	-0.19	0.074	22.52	23.50	1.253	0.093	/
		Bottom Edge	10	26965	841.5	36	Mid	-0.17	0.058	21.58	22.50	1.236	0.072	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

10.14 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	132322	1745	1	Mid	-0.02	0.132	23.01	23.50	1.119	0.148	27#
		Left Cheek	0	132322	1745	50	Low	0.07	0.116	21.87	22.50	1.156	0.134	/
		Left Tilt	0	132322	1745	1	Mid	-0.11	0.060	23.01	23.50	1.119	0.067	/
		Left Tilt	0	132322	1745	50	Low	-0.15	0.052	21.87	22.50	1.156	0.060	/
		Right Cheek	0	132322	1745	1	Mid	-0.09	0.087	23.01	23.50	1.119	0.097	/
		Right Cheek	0	132322	1745	50	Low	-0.03	0.073	21.87	22.50	1.156	0.084	/
		Right Tilt	0	132322	1745	1	Mid	-0.04	0.059	23.01	23.50	1.119	0.066	/
		Right Tilt	0	132322	1745	50	Low	-0.15	0.055	21.87	22.50	1.156	0.064	/
Body-worn&Hotspot														
Ant.1	QPSK	Front Side	10	132322	1745	1	Mid	-0.15	0.709	23.01	23.50	1.119	0.793	/
		Front Side	10	132322	1745	50	Low	0.05	0.673	21.87	22.50	1.156	0.778	/
		Back Side	10	132322	1745	1	Mid	0.18	0.375	23.01	23.50	1.119	0.420	/
		Back Side	10	132322	1745	50	Low	0.12	0.342	21.87	22.50	1.156	0.395	/
		Left Edge	10	132322	1745	1	Mid	0.18	0.115	23.01	23.50	1.119	0.129	/
		Left Edge	10	132322	1745	50	Low	0.15	0.091	21.87	22.50	1.156	0.105	/
		Right Edge	10	132322	1745	1	Mid	0.07	0.185	23.01	23.50	1.119	0.207	/
		Right Edge	10	132322	1745	50	Low	0.12	0.172	21.87	22.50	1.156	0.199	/
		Bottom Edge	10	132322	1745	1	Mid	0.00	0.806	23.01	23.50	1.119	0.902	28#
		Bottom Edge	10	132322	1745	50	Low	0.15	0.734	21.87	22.50	1.156	0.849	/
		Bottom Edge	10	132072	1720	1	Mid	0.05	0.759	22.78	23.50	1.180	0.896	/
		Bottom Edge	10	132572	1770	1	Mid	0.03	0.781	22.92	23.50	1.143	0.893	/
		Bottom Edge	10	132072	1720	50	HIGH	0.12	0.725	21.68	22.50	1.208	0.876	/
		Bottom Edge	10	132572	1770	50	HIGH	-0.08	0.719	21.86	22.50	1.159	0.833	/
		Bottom Edge	10	132572	1770	100	Low	-0.12	0.733	21.85	22.50	1.161	0.851	/
Hotspot Repeated SAR														
Ant.1	QPSK	Bottom Edge	10	132322	1745	1	Mid	0.05	0.799	23.01	23.50	1.119	0.894	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

10.15 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	-0.08	0.085	23.63	24.00	1.089	0.093	/
		Left Cheek	0	38000	2595	50	Mid	0.01	0.074	22.45	23.00	1.135	0.084	/
		Left Tilt	0	38150	2610	1	Mid	0.05	0.031	23.63	24.00	1.089	0.034	/
		Left Tilt	0	38000	2595	50	Mid	0.11	0.025	22.45	23.00	1.135	0.028	/
		Right Cheek	0	38150	2610	1	Mid	0.01	0.099	23.63	24.00	1.089	0.108	29#
		Right Cheek	0	38000	2595	50	Mid	0.08	0.081	22.45	23.00	1.135	0.092	/
		Right Tilt	0	38150	2610	1	Mid	0.07	0.049	23.63	24.00	1.089	0.053	/
		Right Tilt	0	38000	2595	50	Mid	-0.15	0.034	22.45	23.00	1.135	0.039	/
Body-worn&Hotspot														
Ant.1	QPSK	Front Side	10	38150	2610	1	Mid	0.19	0.041	23.63	24.00	1.089	0.045	/
		Front Side	10	38000	2595	50	Mid	-0.09	0.035	22.45	23.00	1.135	0.040	/
		Back Side	10	38150	2610	1	Mid	0.07	0.022	23.63	24.00	1.089	0.024	/
		Back Side	10	38000	2595	50	Mid	-0.10	0.018	22.45	23.00	1.135	0.020	/
		Left Edge	10	38150	2610	1	Mid	-0.07	0.006	23.63	24.00	1.089	0.007	/
		Left Edge	10	38000	2595	50	Mid	0.15	0.004	22.45	23.00	1.135	0.005	/
		Right Edge	10	38150	2610	1	Mid	-0.10	0.011	23.63	24.00	1.089	0.012	/
		Right Edge	10	38000	2595	50	Mid	-0.11	0.009	22.45	23.00	1.135	0.010	/
		Bottom Edge	10	38150	2610	1	Mid	0.05	0.069	23.63	24.00	1.089	0.075	30#
		Bottom Edge	10	38000	2595	50	Mid	0.17	0.055	22.45	23.00	1.135	0.062	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

10.16 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	40765	2607.5	1	Mid	0.19	0.132	23.39	24.00	1.151	0.152	/
		Left Cheek	0	40140	2545	50	High	-0.09	0.116	22.18	23.00	1.208	0.140	/
		Left Tilt	0	40765	2607.5	1	Mid	-0.02	0.065	23.39	24.00	1.151	0.075	/
		Left Tilt	0	40140	2545	50	High	-0.06	0.059	22.18	23.00	1.208	0.071	/
		Right Cheek	0	40765	2607.5	1	Mid	0.03	0.205	23.39	24.00	1.151	0.236	31#
		Right Cheek	0	40140	2545	50	High	0.18	0.188	22.18	23.00	1.208	0.227	/
		Right Tilt	0	40765	2607.5	1	Mid	-0.07	0.095	23.39	24.00	1.151	0.109	/
		Right Tilt	0	40140	2545	50	High	-0.03	0.091	22.18	23.00	1.208	0.110	/
Body-worn&Hotspot														
Ant.1	QPSK	Front Side	10	40765	2607.5	1	Mid	0.05	0.032	23.39	24.00	1.151	0.037	/
		Front Side	10	40140	2545	50	High	0.12	0.027	22.18	23.00	1.208	0.033	/
		Back Side	10	40765	2607.5	1	Mid	0.01	0.024	23.39	24.00	1.151	0.028	/
		Back Side	10	40140	2545	50	High	-0.02	0.019	22.18	23.00	1.208	0.023	/
		Left Edge	10	40765	2607.5	1	Mid	-0.16	0.005	23.39	24.00	1.151	0.006	/
		Left Edge	10	40140	2545	50	High	0.09	0.003	22.18	23.00	1.208	0.004	/
		Right Edge	10	40765	2607.5	1	Mid	-0.03	0.007	23.39	24.00	1.151	0.008	/
		Right Edge	10	40140	2545	50	High	0.07	0.004	22.18	23.00	1.208	0.005	/
		Bottom Edge	10	40765	2607.5	1	Mid	0.03	0.051	23.39	24.00	1.151	0.059	32#
		Bottom Edge	10	40140	2545	50	High	-0.05	0.042	22.18	23.00	1.208	0.051	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

10.17 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	1g Scaled SAR (W/kg)	Meas. No.
Head														
Ant.2	802.11 g	Left Cheek	0	11	2462	0.02	0.077	16.17	17.00	1.211	97.20	1.029	0.096	33#
		Left Tilt	0	11	2462	-0.12	0.058	16.17	17.00	1.211	97.20	1.029	0.072	/
		Right Cheek	0	11	2462	0.04	0.040	16.17	17.00	1.211	97.20	1.029	0.050	/
		Right Tilt	0	11	2462	-0.01	0.042	16.17	17.00	1.211	97.20	1.029	0.052	/
Body-worn&Hotspot														
Ant.2	802.11 g	Front Side	10	11	2462	-0.08	0.013	16.17	17.00	1.211	97.20	1.029	0.016	34#
		Back Side	10	11	2462	0.08	0.008	16.17	17.00	1.211	97.20	1.029	0.010	/
		Left Edge	10	11	2462	-0.08	0.006	16.17	17.00	1.211	97.20	1.029	0.007	/
		Top Edge	10	11	2462	-0.04	0.003	16.17	17.00	1.211	97.20	1.029	0.004	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

10.18 WIFI 5GHz

Antenna	Band	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	Duty Cycle (%)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Head															
Ant.2	5.3G	802.11n(HT40)	Left Cheek	0	54	5270	-0.07	0.454	15.66	16.00	1.081	93.50	1.070	0.525	35#
			Left Tilt	0	54	5270	-0.08	0.323	15.66	16.00	1.081	93.50	1.070	0.374	/
			Right Cheek	0	54	5270	-0.05	0.311	15.66	16.00	1.081	93.50	1.070	0.360	/
			Right Tilt	0	54	5270	0.16	0.324	15.66	16.00	1.081	93.50	1.070	0.375	/
Ant.2	5.6G	802.11ac(VHT80)	Left Cheek	0	106	5530	-0.03	0.241	15.37	16.00	1.156	87.90	1.138	0.317	36#
			Left Tilt	0	106	5530	0.12	0.233	15.37	16.00	1.156	87.90	1.138	0.307	/
			Right Cheek	0	106	5530	-0.19	0.216	15.37	16.00	1.156	87.90	1.138	0.284	/
			Right Tilt	0	106	5530	-0.10	0.201	15.37	16.00	1.156	87.90	1.138	0.264	/
Ant.2	5.8G	802.11ac(VHT80)	Left Cheek	0	155	5775	-0.02	0.092	15.56	16.00	1.107	87.90	1.138	0.116	/
			Left Tilt	0	155	5775	-0.02	0.083	15.56	16.00	1.107	87.90	1.138	0.105	/
			Right Cheek	0	155	5775	-0.09	0.102	15.56	16.00	1.107	87.90	1.138	0.128	37#
			Right Tilt	0	155	5775	0.03	0.094	15.56	16.00	1.107	87.90	1.138	0.118	/
Body-Worn															
Ant.2	5.3G	802.11n(HT40)	Front Side	10	54	5270	0.03	0.126	15.66	16.00	1.081	93.50	1.070	0.146	/
			Back Side	10	54	5270	0.01	0.151	15.66	16.00	1.081	93.50	1.070	0.175	38#
	5.6G	802.11ac(VHT80)	Front Side	10	106	5530	0.06	0.103	15.37	16.00	1.156	87.90	1.138	0.135	/
			Back Side	10	106	5530	-0.10	0.138	15.37	16.00	1.156	87.90	1.138	0.182	39#
Hotspot															
Ant.2	5.2G	802.11ac(VHT80)	Front Side	10	42	5210	0.17	0.131	15.52	16.00	1.117	87.90	1.138	0.167	/
			Back Side	10	42	5210	0.01	0.171	15.52	16.00	1.117	87.90	1.138	0.217	40#
			Left Edge	10	42	5210	-0.04	0.164	15.52	16.00	1.117	87.90	1.138	0.208	/
			Top Edge	10	42	5210	0.06	0.163	15.52	16.00	1.117	87.90	1.138	0.207	/
Ant.2	5.8G	802.11ac(VHT80)	Front Side	10	155	5775	0.02	0.048	15.56	16.00	1.107	87.90	1.138	0.060	/
			Back Side	10	155	5775	-0.01	0.144	15.56	16.00	1.107	87.90	1.138	0.181	41#
			Left Edge	10	155	5775	-0.18	0.134	15.56	16.00	1.107	87.90	1.138	0.169	/
			Top Edge	10	155	5775	-0.11	0.082	15.56	16.00	1.107	87.90	1.138	0.103	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.															

Antenna	Band	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	10g Meas SAR(W/kg)	Meas. Power(dBm)	Max. tune- power(dBm)	Scaling Factor	Duty Cycle(%)	Scaling Factor	10g Scaled SAR (W/kg)	Meas. No.
Specific															
Ant.2	5.3G	802.11n(HT40)	Front Side	0	54	5270	-0.17	0.184	15.66	16.00	1.081	93.50	1.070	0.213	/
			Back Side	0	54	5270	0.00	0.110	15.66	16.00	1.081	93.50	1.070	0.127	/
			Left Edge	0	54	5270	0.16	0.194	15.66	16.00	1.081	93.50	1.070	0.224	42#
			Top Edge	0	54	5270	0.16	0.144	15.66	16.00	1.081	93.50	1.070	0.167	/

Ant.2	5.6G	802.11ac(VHT80)	Front Side	0	106	5530	-0.15	0.111	15.37	16.00	1.156	87.90	1.138	0.146	/
			Back Side	0	106	5530	-0.12	0.086	15.37	16.00	1.156	87.90	1.138	0.113	/
			Left Edge	0	106	5530	-0.03	0.149	15.37	16.00	1.156	87.90	1.138	0.196	43#
			Top Edge	0	106	5530	-0.08	0.084	15.37	16.00	1.156	87.90	1.138	0.111	/

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

10.19 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.2	DH5	Left Cheek	0	0	2402	0.12	0.021	10.76	11.00	1.057	76.88	1.301	0.029	44#
		Left Tilt	0	0	2402	0.11	0.011	10.76	11.00	1.057	76.88	1.301	0.015	/
		Right Cheek	0	0	2402	0.04	0.013	10.76	11.00	1.057	76.88	1.301	0.018	/
		Right Tilt	0	0	2402	-0.09	0.008	10.76	11.00	1.057	76.88	1.301	0.011	/
Body-worn&Hotspot														
Ant.2	DH5	Front Side	10	0	2402	0.01	0.012	10.76	11.00	1.057	76.88	1.301	0.017	45#
		Back Side	10	0	2402	-0.19	0.006	10.76	11.00	1.057	76.88	1.301	0.008	/
		Left Edge	10	0	2402	0.05	0.003	10.76	11.00	1.057	76.88	1.301	0.004	/
		Top Edge	10	0	2402	0.07	0.008	10.76	11.00	1.057	76.88	1.301	0.011	/

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
1745	LTE band 66	Hotspot	Bottom Edge	0.902	Yes	0.894	1.01
Note: The ratio of largest to smallest SAR for the original and first repeated measurements is < 1.20 , the second repeated measurement. is not required.							

Note: For product specific 10g SAR, the highest measured 10g SAR is $0.22 < 2.0$ W/kg, repeated measurement is not required.

12 SIMULTANEOUS TRANSMISSION

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

12.1 Simultaneous Transmission Mode Consider

No.	Simultaneous Tx Combination	Head	Body
1	WWAN+WIFI+ BT	Yes	Yes

Note:

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

12.2 NFC SAR test instructions

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

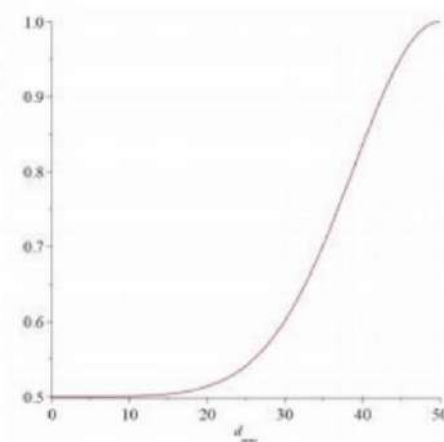
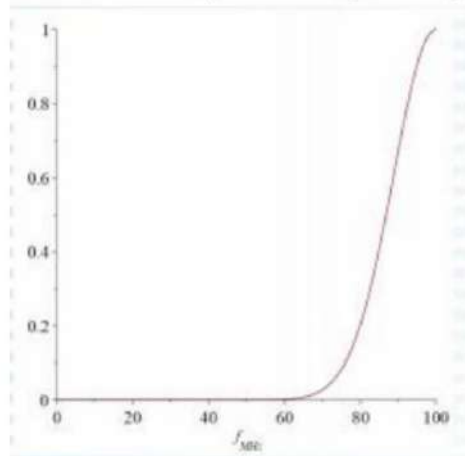
$$P_{7X}(d_{mm}, f_{MHz}) := \begin{cases} P_{6S}(d_{mm}, f_{MHz}) & f_{MHz} \leq 100 \\ P_{6to7}(d_{mm}, f_{MHz}) & 100 < f_{MHz} \leq 300 \\ P_7(d_{mm}, f_{MHz}) & 300 < f_{MHz} \end{cases}$$

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

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

1.3 The smoothing functions S_f and S_d in P6s calculate the limits based on KDB 447498 V06 and are calculated as follows.

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



d≤50mm					
f Max(MHz)	100		d Max(mm)	50	
f MHz	13.56		d(mm)	5	
△f(MHz)	100		△d	50	
Sf(fMHz)	0.000568861		Sd (dmm)	0.50015177	
P6s(mW)	443.1257378				
Note: SAR testing is required when the distance is 5mm and the power is greater than 443.13mW.					

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

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

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

$$E = \text{EIRP} - 20\log D + 104.8$$

where:

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

ERP = equivalent isotropic radiated power in dBm

D = specified measurement distance in meters.

Mode	f(MHz)	Max. E-Field strength (dB μ V/m)	D(m)	Ground reflection factor (dB)	EIRP (dBm)
NFC (13.56MHz)	13.56	54.08	3	6	-35.18
Note: 1. Add the appropriate maximum ground reflection factor to the EIRP level (6 dB for frequencies ≤ 30 MHz). 2. EIRP= 54.08+20*Log(3) - 104.8 + 6 =-35.18 (dBm)					

According to the FCC KDB 447498 D04

Estimated SAR: SAR_{est} = 1.6 · P_{ant} / P_{th} [W/kg]

Estimated SAR	1.6 P _{ant} / P _{th} [W/kg]		
P _{meas} .(dBm)	-35.18	P _{meas} .(mW)	0.0003
P _{th} .(mW)	443.13		
NFC Estimated 1g SAR [W/kg]	<0.001		

Results:

1. The NFC power is -35.18dBm, the power threshold is $P_{6s}=443.13\text{mW}$, Therefore, the NFC SAR test is excluded.
2. NFC multi-transmit requires the use of the TER formula:

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

The maximum SAR value for WLAN and BT is 0.902 [W/kg], Therefore, the worst TER
 $= (0.977 + 0.001) / 1.6 = 0.611 < 1$, the NFC SAR transmit simultaneously Pass.

12.3 Sum SAR of Simultaneous Transmission

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

Band	Position	Stand alone SAR				SUM SAR
		1	2		3	
		WWAN	2.4GWIFI	Max.5GWIFI	BT	WWAN+Max.WIFI+BT (1+2+3)
GSM850	Left Cheek	0.142	0.096	0.525	0.029	0.696
	Left Tilt	0.100	0.072	0.374	0.015	0.489
	Right Cheek	0.196	0.050	0.360	0.018	0.574
	Right Tilt	0.112	0.052	0.375	0.011	0.498
GSM1900	Left Cheek	0.178	0.096	0.525	0.029	0.732
	Left Tilt	0.075	0.072	0.374	0.015	0.464
	Right Cheek	0.098	0.050	0.360	0.018	0.476
	Right Tilt	0.072	0.052	0.375	0.011	0.458
WCDMA B2	Left Cheek	0.093	0.096	0.525	0.029	0.647
	Left Tilt	0.046	0.072	0.374	0.015	0.435
	Right Cheek	0.058	0.050	0.360	0.018	0.436
	Right Tilt	0.033	0.052	0.375	0.011	0.419
WCDMA B4	Left Cheek	0.151	0.096	0.525	0.029	0.705
	Left Tilt	0.072	0.072	0.374	0.015	0.461
	Right Cheek	0.107	0.050	0.360	0.018	0.485
	Right Tilt	0.061	0.052	0.375	0.011	0.447
WCDMA B5	Left Cheek	0.084	0.096	0.525	0.029	0.638
	Left Tilt	0.050	0.072	0.374	0.015	0.439
	Right Cheek	0.106	0.050	0.360	0.018	0.484
	Right Tilt	0.046	0.052	0.375	0.011	0.432
LTE B2	Left Cheek	0.115	0.096	0.525	0.029	0.669
	Left Tilt	0.048	0.072	0.374	0.015	0.437
	Right Cheek	0.060	0.050	0.360	0.018	0.438
	Right Tilt	0.044	0.052	0.375	0.011	0.430
LTE B4	Left Cheek	0.128	0.096	0.525	0.029	0.682
	Left Tilt	0.059	0.072	0.374	0.015	0.448
	Right Cheek	0.087	0.050	0.360	0.018	0.465
	Right Tilt	0.054	0.052	0.375	0.011	0.440
LTE B5	Left Cheek	0.125	0.096	0.525	0.029	0.679
	Left Tilt	0.075	0.072	0.374	0.015	0.464
	Right Cheek	0.150	0.050	0.360	0.018	0.528
	Right Tilt	0.070	0.052	0.375	0.011	0.456
LTE B7	Left Cheek	0.009	0.096	0.525	0.029	0.563
	Left Tilt	0.003	0.072	0.374	0.015	0.392
	Right Cheek	0.013	0.050	0.360	0.018	0.391

	Right Tilt	0.007	0.052	0.375	0.011	0.393
LTE B12	Left Cheek	0.047	0.096	0.525	0.029	0.601
	Left Tilt	0.025	0.072	0.374	0.015	0.414
	Right Cheek	0.056	0.050	0.360	0.018	0.434
	Right Tilt	0.029	0.052	0.375	0.011	0.415
LTE B17	Left Cheek	0.047	0.096	0.525	0.029	0.601
	Left Tilt	0.013	0.072	0.374	0.015	0.402
	Right Cheek	0.055	0.050	0.360	0.018	0.433
	Right Tilt	0.024	0.052	0.375	0.011	0.410
LTE B25	Left Cheek	0.114	0.096	0.525	0.029	0.668
	Left Tilt	0.054	0.072	0.374	0.015	0.443
	Right Cheek	0.060	0.050	0.360	0.018	0.438
	Right Tilt	0.038	0.052	0.375	0.011	0.424
LTE B26	Left Cheek	0.129	0.096	0.525	0.029	0.683
	Left Tilt	0.074	0.072	0.374	0.015	0.463
	Right Cheek	0.144	0.050	0.360	0.018	0.522
	Right Tilt	0.065	0.052	0.375	0.011	0.451
LTE B66	Left Cheek	0.148	0.096	0.525	0.029	0.702
	Left Tilt	0.067	0.072	0.374	0.015	0.456
	Right Cheek	0.097	0.050	0.360	0.018	0.475
	Right Tilt	0.066	0.052	0.375	0.011	0.452
LTE B38	Left Cheek	0.093	0.096	0.525	0.029	0.647
	Left Tilt	0.034	0.072	0.374	0.015	0.423
	Right Cheek	0.108	0.050	0.360	0.018	0.486
	Right Tilt	0.053	0.052	0.375	0.011	0.439
LTE B41	Left Cheek	0.152	0.096	0.525	0.029	0.706
	Left Tilt	0.075	0.072	0.374	0.015	0.464
	Right Cheek	0.236	0.050	0.360	0.018	0.614
	Right Tilt	0.110	0.052	0.375	0.011	0.496

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 0.732 W/Kg < 1.6 W/kg, so Simultaneous Transmission SAR test is not required.

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

Band	Position	Stand alone SAR				SUM SAR
		1	2		3	
		WWAN	2.4GWIFI	Max.5GWIFI	BT	WWAN+Max. WIFI+BT (1+3+4)
GSM850	Front Side 10mm	0.295	0.016	0.167	0.017	0.479
	Back Side 10mm	0.145	0.010	0.217	0.008	0.370
	Left Edge 10mm	0.147	0.007	0.208	0.004	0.359
	Right Edge 10mm	0.102	0.000	0.000	0.000	0.102
	Top Edge 10mm	0.000	0.004	0.207	0.011	0.218
	Bottom Edge 10mm	0.103	0.000	0.000	0.000	0.103
GSM1900	Front Side 10mm	0.607	0.016	0.167	0.017	0.791
	Back Side 10mm	0.202	0.010	0.217	0.008	0.427
	Left Edge 10mm	0.069	0.007	0.208	0.004	0.281
	Right Edge 10mm	0.157	0.000	0.000	0.000	0.157
	Top Edge 10mm	0.000	0.004	0.207	0.011	0.218
	Bottom Edge 10mm	0.695	0.000	0.000	0.000	0.695
WCDMA B1	Front Side 10mm	0.500	0.016	0.167	0.017	0.684
	Back Side 10mm	0.160	0.010	0.217	0.008	0.385
	Left Edge 10mm	0.064	0.007	0.208	0.004	0.276
	Right Edge 10mm	0.116	0.000	0.000	0.000	0.116
	Top Edge 10mm	0.000	0.004	0.207	0.011	0.218
	Bottom Edge 10mm	0.807	0.000	0.000	0.000	0.807
WCDMA B2	Front Side 10mm	0.433	0.016	0.167	0.017	0.617
	Back Side 10mm	0.148	0.010	0.217	0.008	0.373
	Left Edge 10mm	0.045	0.007	0.208	0.004	0.257
	Right Edge 10mm	0.086	0.000	0.000	0.000	0.086
	Top Edge 10mm	0.000	0.004	0.207	0.011	0.218
	Bottom Edge 10mm	0.551	0.000	0.000	0.000	0.551
WCDMA B4	Front Side 10mm	0.539	0.016	0.167	0.017	0.723
	Back Side 10mm	0.278	0.010	0.217	0.008	0.503
	Left Edge 10mm	0.089	0.007	0.208	0.004	0.301
	Right Edge 10mm	0.140	0.000	0.000	0.000	0.140
	Top Edge 10mm	0.000	0.004	0.207	0.011	0.218
	Bottom Edge 10mm	0.587	0.000	0.000	0.000	0.587
WCDMA B5	Front Side 10mm	0.148	0.016	0.167	0.017	0.332
	Back Side 10mm	0.088	0.010	0.217	0.008	0.313
	Left Edge 10mm	0.101	0.007	0.208	0.004	0.313
	Right Edge 10mm	0.058	0.000	0.000	0.000	0.058
	Top Edge 10mm	0.000	0.004	0.207	0.011	0.218

	Bottom Edge 10mm	0.076	0.000	0.000	0.000	0.076
LTE B1	Front Side 10mm	0.486	0.016	0.167	0.017	0.670
	Back Side 10mm	0.161	0.010	0.217	0.008	0.386
	Left Edge 10mm	0.073	0.007	0.208	0.004	0.285
	Right Edge 10mm	0.116	0.000	0.000	0.000	0.116
	Top Edge 10mm	0.000	0.004	0.207	0.011	0.218
	Bottom Edge 10mm	0.716	0.000	0.000	0.000	0.716
LTE B2	Front Side 10mm	0.547	0.016	0.167	0.017	0.731
	Back Side 10mm	0.167	0.010	0.217	0.008	0.392
	Left Edge 10mm	0.058	0.007	0.208	0.004	0.270
	Right Edge 10mm	0.110	0.000	0.000	0.000	0.110
	Top Edge 10mm	0.000	0.004	0.207	0.011	0.218
	Bottom Edge 10mm	0.599	0.000	0.000	0.000	0.599
LTE B3	Front Side 10mm	0.775	0.016	0.167	0.017	0.959
	Back Side 10mm	0.385	0.010	0.217	0.008	0.610
	Left Edge 10mm	0.116	0.007	0.208	0.004	0.328
	Right Edge 10mm	0.208	0.000	0.000	0.000	0.208
	Top Edge 10mm	0.000	0.004	0.207	0.011	0.218
	Bottom Edge 10mm	0.843	0.000	0.000	0.000	0.843
LTE B4	Front Side 10mm	0.750	0.016	0.167	0.017	0.934
	Back Side 10mm	0.352	0.010	0.217	0.008	0.577
	Left Edge 10mm	0.118	0.007	0.208	0.004	0.330
	Right Edge 10mm	0.217	0.000	0.000	0.000	0.217
	Top Edge 10mm	0.000	0.004	0.207	0.011	0.218
	Bottom Edge 10mm	0.772	0.000	0.000	0.000	0.772
LTE B5	Front Side 10mm	0.203	0.016	0.167	0.017	0.387
	Back Side 10mm	0.129	0.010	0.217	0.008	0.354
	Left Edge 10mm	0.129	0.007	0.208	0.004	0.341
	Right Edge 10mm	0.082	0.000	0.000	0.000	0.082
	Top Edge 10mm	0.000	0.004	0.207	0.011	0.218
	Bottom Edge 10mm	0.097	0.000	0.000	0.000	0.097
LTE B7	Front Side 10mm	0.149	0.016	0.167	0.017	0.333
	Back Side 10mm	0.012	0.010	0.217	0.008	0.237
	Left Edge 10mm	0.003	0.007	0.208	0.004	0.215
	Right Edge 10mm	0.013	0.000	0.000	0.000	0.013
	Top Edge 10mm	0.000	0.004	0.207	0.011	0.218
	Bottom Edge 10mm	0.230	0.000	0.000	0.000	0.230
LTE B12	Front Side 10mm	0.101	0.016	0.167	0.017	0.285
	Back Side 10mm	0.053	0.010	0.217	0.008	0.278
	Left Edge 10mm	0.071	0.007	0.208	0.004	0.283
	Right Edge 10mm	0.059	0.000	0.000	0.000	0.059
	Top Edge 10mm	0.000	0.004	0.207	0.011	0.218
	Bottom Edge 10mm	0.007	0.000	0.000	0.000	0.007

LTE B17	Front Side 10mm	0.108	0.016	0.167	0.017	0.292
	Back Side 10mm	0.059	0.010	0.217	0.008	0.284
	Left Edge 10mm	0.071	0.007	0.208	0.004	0.283
	Right Edge 10mm	0.063	0.000	0.000	0.000	0.063
	Top Edge 10mm	0.000	0.004	0.207	0.011	0.218
	Bottom Edge 10mm	0.009	0.000	0.000	0.000	0.009
LTE B25	Front Side 10mm	0.419	0.016	0.167	0.017	0.603
	Back Side 10mm	0.143	0.010	0.217	0.008	0.368
	Left Edge 10mm	0.020	0.007	0.208	0.004	0.232
	Right Edge 10mm	0.089	0.000	0.000	0.000	0.089
	Top Edge 10mm	0.000	0.004	0.207	0.011	0.218
	Bottom Edge 10mm	0.573	0.000	0.000	0.000	0.573
LTE B26	Front Side 10mm	0.163	0.016	0.167	0.017	0.347
	Back Side 10mm	0.101	0.010	0.217	0.008	0.326
	Left Edge 10mm	0.108	0.007	0.208	0.004	0.320
	Right Edge 10mm	0.073	0.000	0.000	0.000	0.073
	Top Edge 10mm	0.000	0.004	0.207	0.011	0.218
	Bottom Edge 10mm	0.093	0.000	0.000	0.000	0.093
LTE B66	Front Side 10mm	0.793	0.016	0.167	0.017	0.977
	Back Side 10mm	0.420	0.010	0.217	0.008	0.645
	Left Edge 10mm	0.129	0.007	0.208	0.004	0.341
	Right Edge 10mm	0.207	0.000	0.000	0.000	0.207
	Top Edge 10mm	0.000	0.004	0.207	0.011	0.218
	Bottom Edge 10mm	0.902	0.000	0.000	0.000	0.902
LTE B38	Front Side 10mm	0.045	0.016	0.167	0.017	0.229
	Back Side 10mm	0.024	0.010	0.217	0.008	0.249
	Left Edge 10mm	0.007	0.007	0.208	0.004	0.219
	Right Edge 10mm	0.012	0.000	0.000	0.000	0.012
	Top Edge 10mm	0.000	0.004	0.207	0.011	0.218
	Bottom Edge 10mm	0.075	0.000	0.000	0.000	0.075
LTE B41	Front Side 10mm	0.037	0.016	0.167	0.053	0.221
	Back Side 10mm	0.028	0.010	0.217	0.038	0.253
	Left Edge 10mm	0.006	0.007	0.208	0.013	0.218
	Right Edge 10mm	0.008	0.000	0.000	0.008	0.008
	Top Edge 10mm	0.000	0.004	0.207	0.004	0.218
	Bottom Edge 10mm	0.059	0.000	0.000	0.059	0.059

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 0.977 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	DASY6	16.0.0.116	N/A	N/A
750MHz Validation Dipole	Speag	D750V3	SN: 1201	2020/11/11	2023/11/10
835MHz Validation Dipole	Speag	D835V2	SN: 4d187	2021/05/17	2024/05/16
1750MHz Validation Dipole	Speag	D1750V2	SN: 1130	2021/05/17	2024/05/16
1900MHz Validation Dipole	Speag	D1900V2	SN: 5d193	2021/05/20	2024/05/19
2450MHz Validation Dipole	Speag	D2450V2	SN: 952	2021/05/19	2024/05/18
2600MHz Validation Dipole	Speag	D2600V2	SN: 1095	2021/05/19	2024/05/18
5GHz Validation Dipole	Speag	D5GHzV2	SN: 1200	2021/05/18	2024/05/17
E-Field Probe	Speag	EX3DV4	SN: 7607	2023/07/04	2024/07/03
Data Acquisition Electronicsr	Speag	DAE4	SN: 878	2023/03/23	2024/03/22
Signal Generator	R&S	SMB100A	177746	2023/05/10	2024/05/09
Power Meter	R&S	NRVD-B2	835843/014	2023/09/05	2024/09/04
Power Sensor	R&S	NRV-Z4	100381	2023/09/05	2024/09/04
Power Sensor	R&S	NRV-Z2	100211	2023/09/05	2024/09/04
Wireless Communication Test Set	Anritsu	MT8820C	6201502974	2022/12/28	2023/12/27
Network Analyzer	Agilent	E5071C	MY46103472	2022/12/06	2023/12/05
Network Analyzer	Agilent	E5071C	MY46103472	2023/11/14	2024/11/14
Thermometer	Elitech	RC-4HC	EF7216002985	2022/11/18	2023/11/17
Thermometer	Elitech	RC-4HC	EF720B004813	2022/11/18	2023/11/17
Thermometer	Elitech	RC-4	EF5238001628	2023/10/09	2024/10/09
Thermometer	Elitech	RC-4HC	EF7239002652	2023/11/17	2024/11/17
Power Amplifier	SATIMO	6552B	22374	N/A	N/A
Dielectric Probe Kit	Speag	DAK3.5	SN: 1312	N/A	N/A
Phantom	Speag	SAM	SN: 1859	N/A	N/A
Attenuator	COM-MW	ZA-S1-31	1305003187	N/A	N/A
Directional coupler	AA-MCS	AAMCS-UDC	000272	N/A	N/A
Note: For dipole antennas, BALUN has adopted 3 years as calibration intervals, and on annual basis, every measurement dipole has been evaluated and is in compliance with the following criteria: 1. There is no physical damage on the dipole; 2. System validation with specific dipole is within 10% of calibrated value; 3. Return-loss in within 20% of calibrated measurement. 4. Impedance (real or imaginary parts) in within 5 Ohms of calibrated measurement.					

ANNEX A SIMULATING LIQUID VERIFICATION RESULT

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

Head Liquid

Date	Liquid Type	Fre. (MHz)	Temp. (°C)	Meas. Conductivity (σ) (S/m)	Meas. Permittivity (ϵ)	Target Conductivity (σ) (S/m)	Target Permittivity (ϵ)	Conductivity Tolerance (%)	Permittivity Tolerance (%)
2023.09.18	Head	750	21.3	0.90	41.66	0.89	41.94	1.46	-0.67
2023.09.19	Head	835	21.3	0.90	41.80	0.90	41.50	-0.11	0.72
2023.09.20	Head	835	21.2	0.90	41.71	0.90	41.50	-0.33	0.51
2023.09.21	Head	1750	21.5	1.38	40.18	1.37	40.08	0.36	0.25
2023.09.22	Head	1750	21.1	1.38	40.11	1.37	40.08	0.80	0.07
2023.09.23	Head	1900	21.4	1.39	39.77	1.40	40.00	-0.43	-0.58
2023.09.24	Head	1900	21.5	1.42	40.89	1.40	40.00	1.50	2.22
2023.09.25	Head	1900	21.5	1.37	41.23	1.40	40.00	-2.50	3.08
2023.09.28	Head	2450	21.5	1.80	39.52	1.80	39.20	-0.11	0.80
2023.09.26	Head	2600	21.4	2.03	37.90	1.96	39.01	3.72	-2.86
2023.09.27	Head	2600	21.1	1.98	38.46	1.96	39.01	0.92	-1.40
2023.10.04	Head	5250	21.3	4.70	35.82	4.71	35.93	-0.17	-0.31
2023.10.23	Head	5600	21.3	5.06	35.34	5.07	35.53	-0.30	-0.53
2023.10.06	Head	5750	21.2	5.17	35.39	5.22	35.36	-0.92	0.10
2023.12.11	Head	2600	21.4	1.97	38.58	1.96	39.01	0.41	-1.10
2023.12.11	Head	5250	21.4	4.70	35.73	4.71	35.93	-0.28	-0.56
2023.12.11	Head	5600	21.4	5.05	35.27	5.07	35.53	-0.39	-0.74
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 (%)
2023.09.18	Head	750	100	0.83	8.32	8.29	0.36
2023.09.19	Head	835	100	0.95	9.51	9.76	-2.56
2023.09.20	Head	835	100	0.97	9.65	9.76	-1.13
2023.09.21	Head	1750	100	3.52	35.20	36.7	-4.09
2023.09.22	Head	1750	100	3.54	35.40	36.7	-3.54
2023.09.23	Head	1900	100	4.07	40.70	40.3	0.99
2023.09.24	Head	1900	100	4.14	41.40	40.3	2.73
2023.09.25	Head	1900	100	3.91	39.10	40.3	-2.98
2023.09.28	Head	2450	100	5.52	55.20	53	4.15
2023.09.26	Head	2600	100	5.57	55.70	56.8	-1.94
2023.09.27	Head	2600	100	5.73	57.30	56.8	0.88
2023.10.04	Head	5250	100	8.05	80.50	77.8	3.47
2023.10.23	Head	5600	100	8.14	81.40	81.2	0.25
2023.10.06	Head	5750	100	7.63	76.30	77.2	-1.17
2023.12.11	Head	2600	100	5.75	57.50	56.8	1.23
2023.12.11	Head	5250	100	7.86	78.60	77.8	1.03
2023.12.11	Head	5600	100	8.21	82.10	81.2	1.11
Note: The tolerance limit of System validation $\pm 10\%$.							

Head liquid 10g

Date	Freq. (MHz)	Power (mW)	Measured SAR (W/kg)	Normalized SAR (W/kg)	Dipole SAR (W/kg)	Tolerance (%)
2023.10.04	5250	100	2.09	20.90	22.10	-5.43
2023.10.23	5600	100	2.26	22.60	23.10	-2.16

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

System Performance Check Data (750MHz)

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
CD750V2, SPEAG	10.0 x 10.0 x 3.0	Dipole

Exposure Conditions

Phantom	Position, Test Section, TSL	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [°C]	Liquid Temperature [°C]
Flat, HSL		CD700	CW, 0--	750.0, 100	10.31	0.903	41.7	22.3	21.3

Hardware Setup

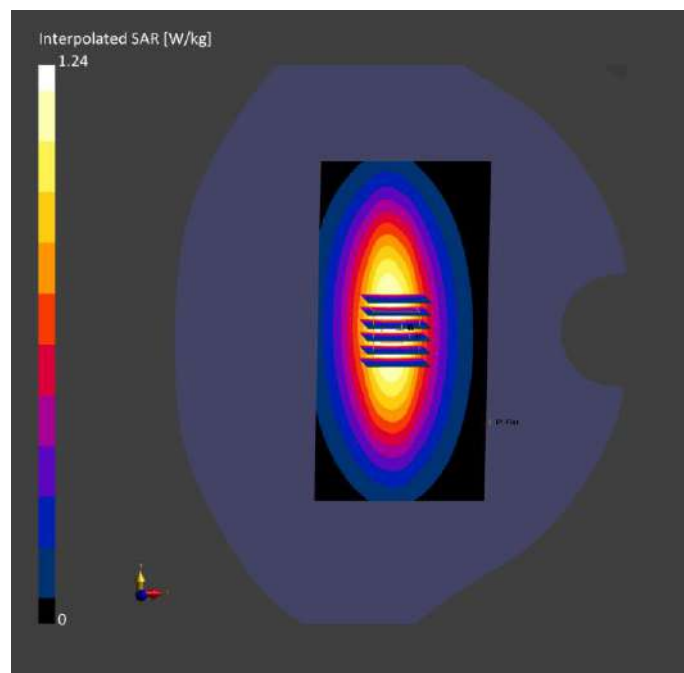
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2023-09-18	EX3DV4 - SN7607, 2023-07-04	DAE4 Sn878, 2023-03-23

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 Surface	N/A	N/A
Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-18	2023-09-18
psSAR1g [W/kg]	0.801	0.832
psSAR10g [W/kg]	0.535	0.544
Power Drift [dB]	-0.12	-0.03
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		87.3
Dist 3dB Peak [mm]		20.4



System Performance Check Data (835MHz)

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
CD835V2, SPEAG	10.0 x 10.0 x 3.0	Dipole

Exposure Conditions

Phantom	Position, Test Section, TSL	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [°C]	Liquid Temperature [°C]
Flat, HSL		CD835	CW, 0--	835.0, 50	9.96	0.899	41.8	22.4	21.3

Hardware Setup

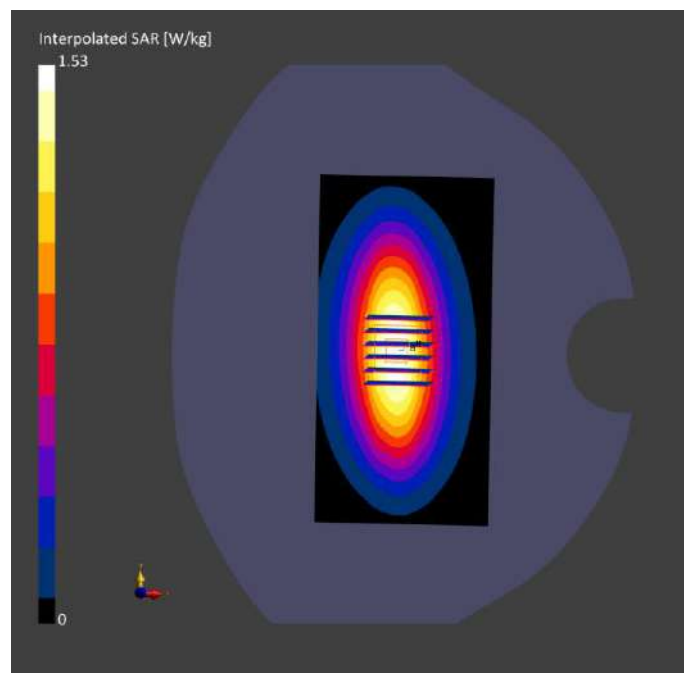
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2023-09-19	EX3DV4 - SN7607, 2023-07-04	DAE4 Sn878, 2023-03-23

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 Surface	N/A	N/A
Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-19	2023-09-19
psSAR1g [W/kg]	1.02	0.951
psSAR10g [W/kg]	0.641	0.615
Power Drift [dB]	-0.04	0.03
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		84.8
Dist 3dB Peak [mm]		13.2



System Performance Check Data (835MHz)

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
CD835V2, SPEAG	10.0 x 10.0 x 3.0	Dipole

Exposure Conditions

Phantom	Position, Test Section, TSL	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [°C]	Liquid Temperature [°C]
Flat, HSL		CD835	CW, 0--	835.0, 50	9.96	0.897	41.7	22.2	21.2

Hardware Setup

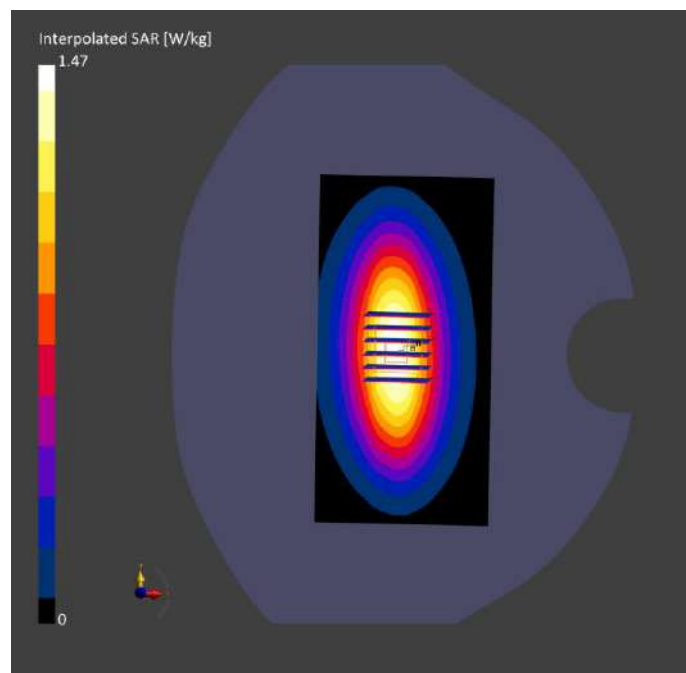
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2023-09-20	EX3DV4 - SN7607, 2023-07-04	DAE4 Sn878, 2023-03-23

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 Surface	N/A	N/A
Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-20	2023-09-20
psSAR1g [W/kg]	0.991	0.965
psSAR10g [W/kg]	0.633	0.643
Power Drift [dB]	-0.03	0.01
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		84.8
Dist 3dB Peak [mm]		13.2



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	Position, Test Section, TSL	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [°C]	Liquid Temperature [°C]
Flat, HSL		D1750	CW, 0--	1750.0, 50	8.52	1.38	40.2	22.4	21.5

Hardware Setup

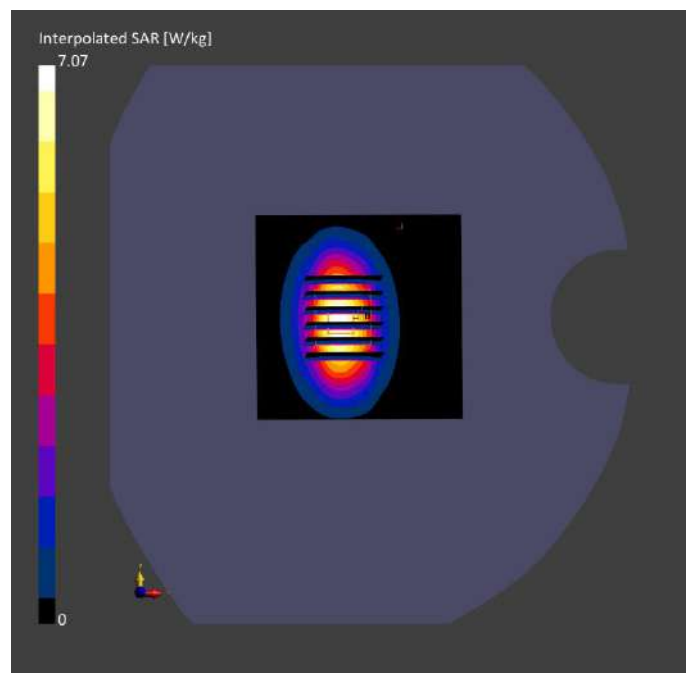
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2023-09-21	EX3DV4 - SN7607, 2023-07-04	DAE4 Sn878, 2023-03-23

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 Surface	N/A	N/A
Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-21	2023-09-21
psSAR1g [W/kg]	3.75	3.52
psSAR10g [W/kg]	2.06	1.83
Power Drift [dB]	-0.08	-0.02
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		81.9
Dist 3dB Peak [mm]		10.7



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	Position, Test Section, TSL	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [°C]	Liquid Temperature [°C]
Flat, HSL		D1750	CW, 0--	1750.0, 50	8.52	1.38	40.1	22.1	21.1

Hardware Setup

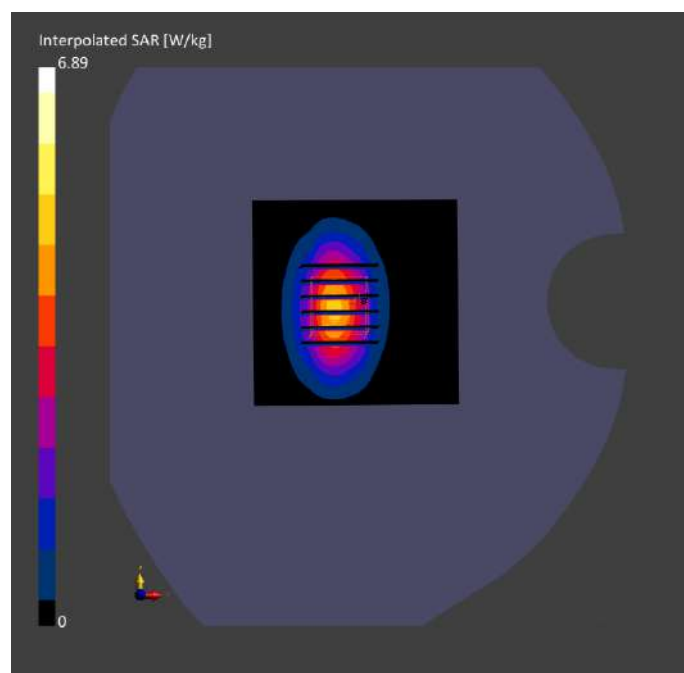
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2023-09-22	EX3DV4 - SN7607, 2023-07-04	DAE4 Sn878, 2023-03-23

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 Surface	N/A	N/A
Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-22	2023-09-22
psSAR1g [W/kg]	3.92	3.54
psSAR10g [W/kg]	2.15	1.88
Power Drift [dB]	-0.06	-0.02
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		81.9
Dist 3dB Peak [mm]		10.3



System Performance Check Data (1900MHz)

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
D1900V2, SPEAG	10.0 x 10.0 x 3.0	Dipole

Exposure Conditions

Phantom	Position, Test Section, TSL	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [°C]	Liquid Temperature [°C]
Flat, HSL		D1900	CW, 0--	1900.0, 50	7.98	1.39	39.8	22.6	21.4

Hardware Setup

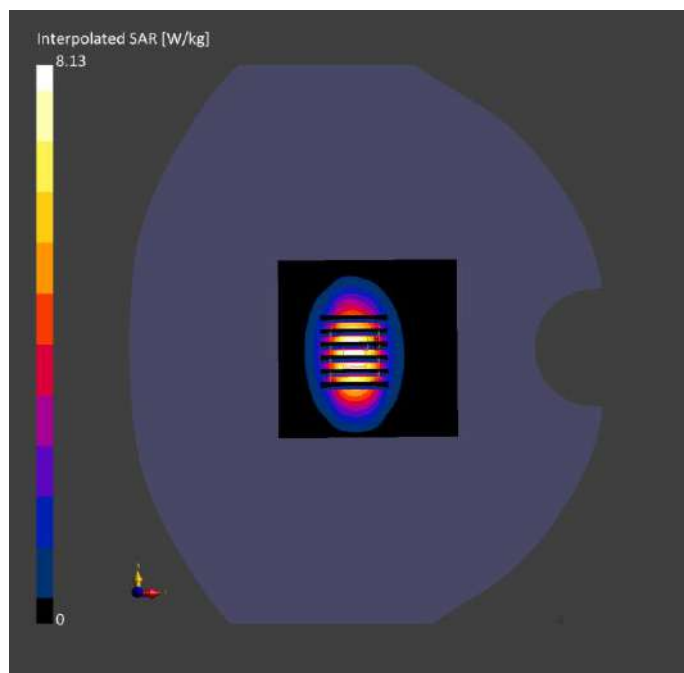
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2023-09-23	EX3DV4 - SN7607, 2023-07-04	DAE4 Sn878, 2023-03-23

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 Surface	N/A	N/A
Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-23	2023-09-23
psSAR1g [W/kg]	4.21	4.07
psSAR10g [W/kg]	2.24	2.11
Power Drift [dB]	-0.16	-0.03
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		81.6
Dist 3dB Peak [mm]		9.6



System Performance Check Data (1900MHz)

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
D1900V2, SPEAG	10.0 x 10.0 x 3.0	Dipole

Exposure Conditions

Phantom	Position, Test Section, TSL	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [°C]	Liquid Temperature [°C]
Flat, HSL		D1900	CW, 0--	1900.0, 50	7.98	1.42	40.9	22.3	21.5

Hardware Setup

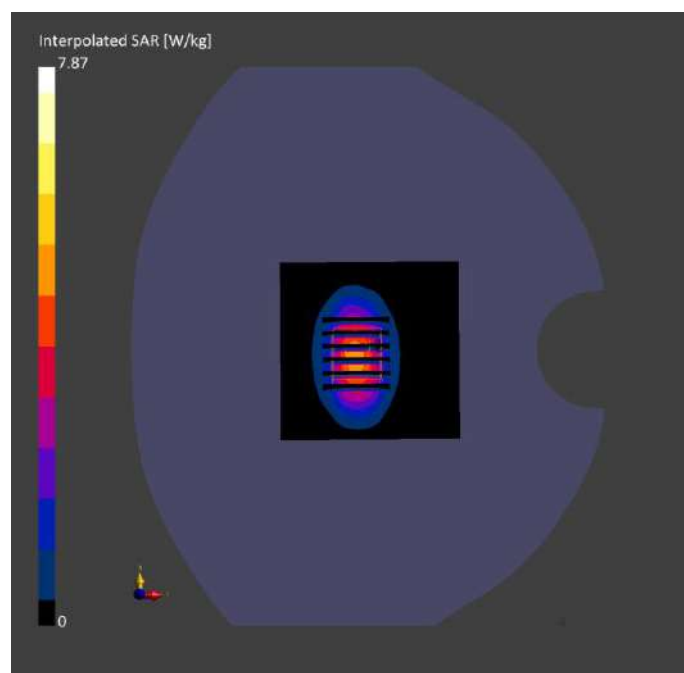
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2023-09-24	EX3DV4 - SN7607, 2023-07-04	DAE4 Sn878, 2023-03-23

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 Surface	N/A	N/A
Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-24	2023-09-24
psSAR1g [W/kg]	4.06	4.14
psSAR10g [W/kg]	2.15	1.96
Power Drift [dB]	-0.08	0.06
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		82.0
Dist 3dB Peak [mm]		9.6



System Performance Check Data (1900MHz)

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
D1900V2, SPEAG	10.0 x 10.0 x 3.0	Dipole

Exposure Conditions

Phantom	Position, Test Section, TSL	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [°C]	Liquid Temperature [°C]
Flat, HSL		D1900	CW, 0--	1900.0, 50	7.98	1.37	41.2	22.5	21.5

Hardware Setup

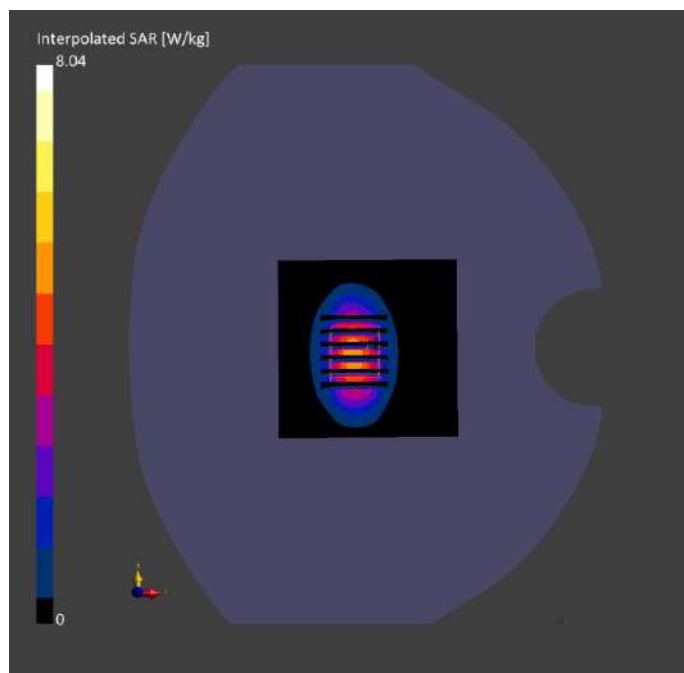
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2023-09-25	EX3DV4 - SN7607, 2023-07-04	DAE4 Sn878, 2023-03-23

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 Surface	N/A	N/A
Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-25	2023-09-25
psSAR1g [W/kg]	4.22	3.91
psSAR10g [W/kg]	2.21	1.93
Power Drift [dB]	-0.12	-0.01
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		81.6
Dist 3dB Peak [mm]		9.6



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	Position, Test Section, TSL	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [°C]	Liquid Temperature [°C]
Flat, HSL		D2450	CW, 0--	2450.0, 2450	7.47	1.80	39.5	22.4	21.5

Hardware Setup

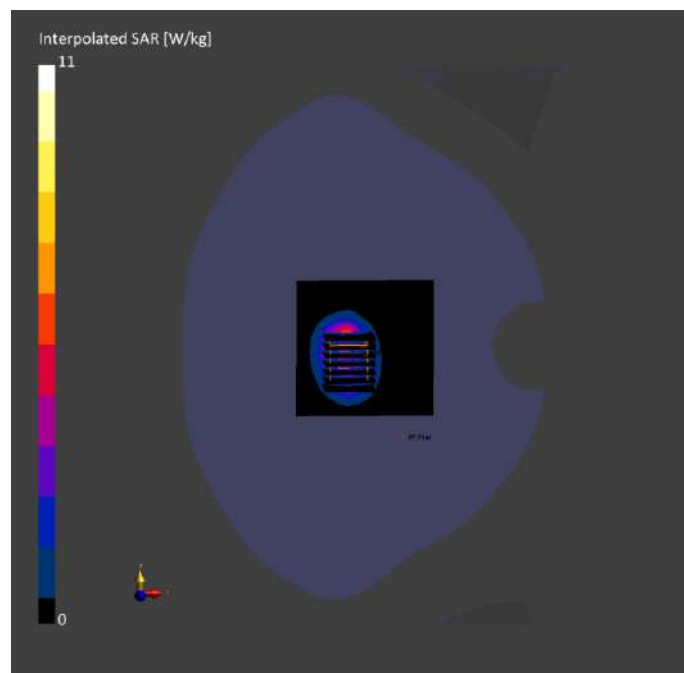
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2023-09-28	EX3DV4 - SN7607, 2023-07-04	DAE4 Sn878, 2023-03-23

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 Surface	N/A	N/A
Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-28	2023-09-28
psSAR1g [W/kg]	5.33	5.52
psSAR10g [W/kg]	2.43	2.42
Power Drift [dB]	-0.02	0.06
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		80.8
Dist 3dB Peak [mm]		8.9



System Performance Check Data (2600MHz)

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
CD2600V3, SPEAG	10.0 x 10.0 x 3.0	Dipole

Exposure Conditions

Phantom	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		CD2600V3	CW, 0--	2600.0, 50	7.41	2.03	37.9	22.2	21.4

Hardware Setup

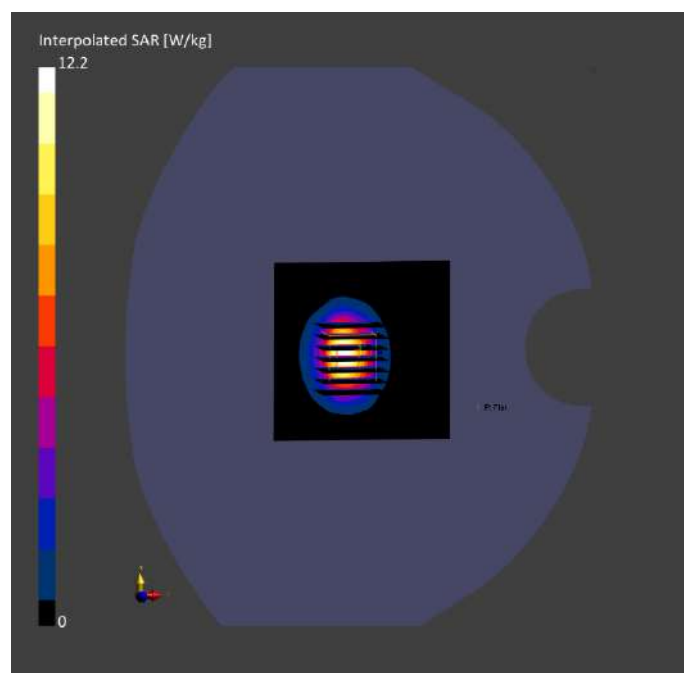
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2023-09-26	EX3DV4 - SN7607, 2023-07-04	DAE4 Sn878, 2023-03-23

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 Surface	N/A	N/A
Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-26	2023-09-26
psSAR1g [W/kg]	5.73	5.57
psSAR10g [W/kg]	2.61	2.42
Power Drift [dB]	0.02	-0.03
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		79.6
Dist 3dB Peak [mm]		9.0



System Performance Check Data (2600MHz)

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
CD2600V3, SPEAG	10.0 x 10.0 x 3.0	Dipole

Exposure Conditions

Phantom	Position, Test Section, TSL	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [°C]	Liquid Temperature [°C]
Flat, HSL		CD2600V3	CW, 0--	2600.0, 50	7.41	1.98	38.5	22.3	21.1

Hardware Setup

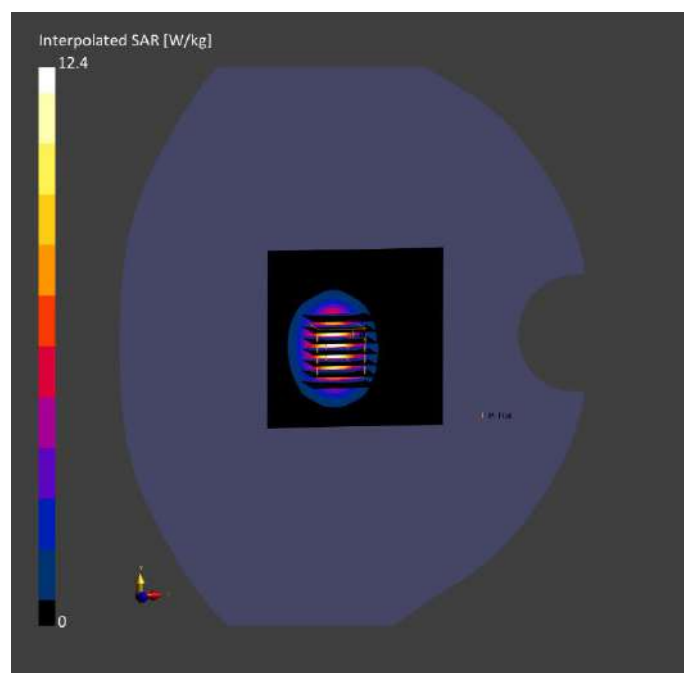
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2023-09-27	EX3DV4 - SN7607, 2023-07-04	DAE4 Sn878, 2023-03-23

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 Surface	N/A	N/A
Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-27	2023-09-27
psSAR1g [W/kg]	5.85	5.73
psSAR10g [W/kg]	2.62	2.57
Power Drift [dB]	0.10	0.05
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		80.4
Dist 3dB Peak [mm]		8.9



System Performance Check Data (5250MHz)

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
D5GHZV2, SPEAG	10.0 x 10.0 x 3.0	Dipole

Exposure Conditions

Phantom	Position, Test Section, 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		Validation band	CW, 0--	5250.0, 5250	5.41	4.70	35.8	22.1	21.3

Hardware Setup

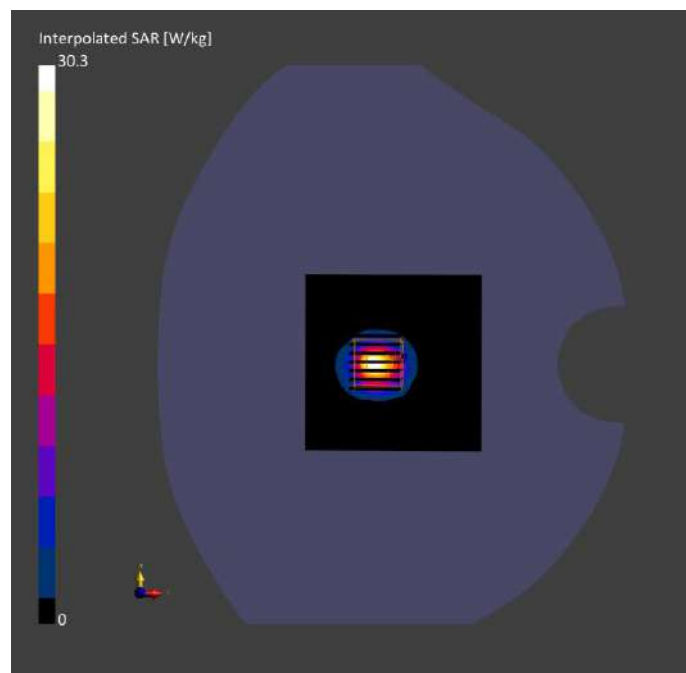
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2023-10-04	EX3DV4 - SN7607, 2023-07-04	DAE4 Sn878, 2023-03-23

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	80.0 x 80.0	22.0 x 22.0 x 22.0
Grid Steps [mm]	10.0 x 10.0	4.0 x 4.0 x 1.4
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.4
MAIA Surface	N/A	N/A
Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-10-04	2023-10-04
psSAR1g [W/kg]	7.43	8.05
psSAR10g [W/kg]	2.22	2.09
Power Drift [dB]	0.11	0.13
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		66.5
Dist 3dB Peak [mm]		6.9



System Performance Check Data (5600MHz)

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
D5GHZV2, SPEAG	10.0 x 10.0 x 3.0	Dipole

Exposure Conditions

Phantom	Position, Test Section, TSL	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [°C]	Liquid Temperature [°C]
Flat, HSL		Validation band	CW, 0--	5600.0, 5600	4.58	5.05	35.3	22.3	21.3

Hardware Setup

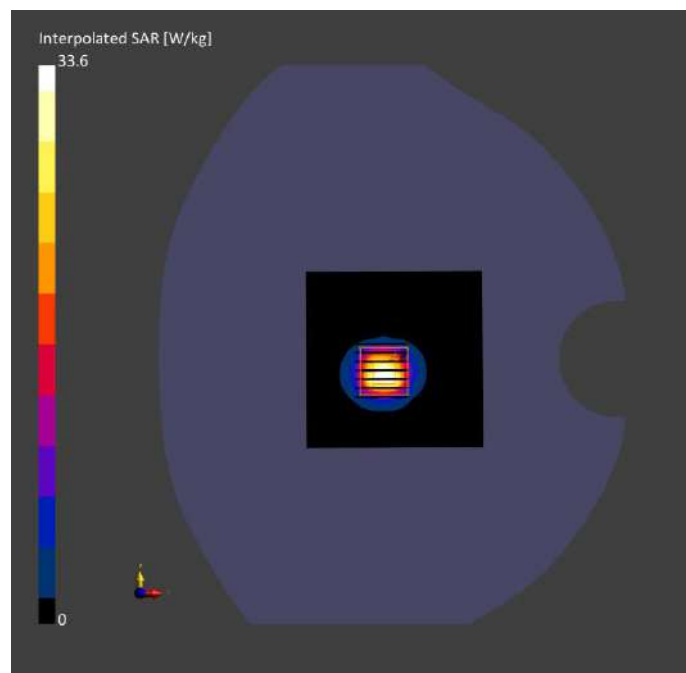
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2023-10-23	EX3DV4 - SN7607, 2023-07-04	DAE4 Sn878, 2023-03-23

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	80.0 x 80.0	22.0 x 22.0 x 22.0
Grid Steps [mm]	10.0 x 10.0	4.0 x 4.0 x 1.4
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.4
MAIA	N/A	N/A
Surface	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-10-23	2023-10-23
psSAR1g [W/kg]	7.93	8.14
psSAR10g [W/kg]	2.22	2.26
Power Drift [dB]	0.03	-0.01
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		62.3
Dist 3dB Peak [mm]		7.2



System Performance Check Data (5750MHz)

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
D5GHZV2, SPEAG	10.0 x 10.0 x 3.0	Dipole

Exposure Conditions

Phantom	Position, Test Section, 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		Validation band	CW, 0--	5750.0, 5750	4.78	5.17	35.4	22.6	21.2

Hardware Setup

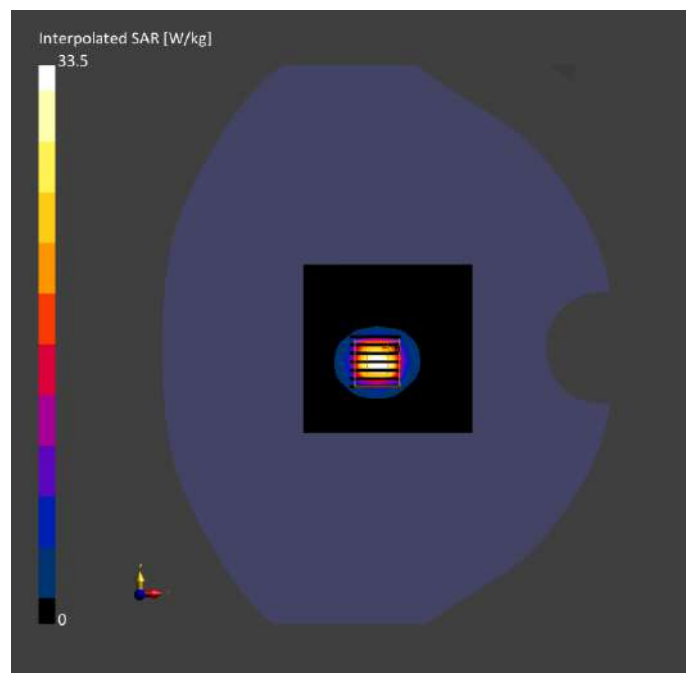
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2023-10-06	EX3DV4 - SN7607, 2023-07-04	DAE4 Sn878, 2023-03-23

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	80.0 x 80.0	22.0 x 22.0 x 22.0
Grid Steps [mm]	10.0 x 10.0	4.0 x 4.0 x 1.4
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.4
MAIA Surface	N/A	N/A
Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-10-06	2023-10-06
psSAR1g [W/kg]	6.52	7.63
psSAR10g [W/kg]	2.07	2.05
Power Drift [dB]	0.06	0.03
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		60.1
Dist 3dB Peak [mm]		7.4



System Performance Check Data (2600MHz)

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
CD2600V3, SPEAG	10.0 x 10.0 x 3.0	Dipole

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [°C]	Liquid Temperature [°C]
Flat, HSL		CD2600V3	CW, 0--	2600.0, 50	7.41	1.97	38.6	22.3	21.4

Hardware Setup

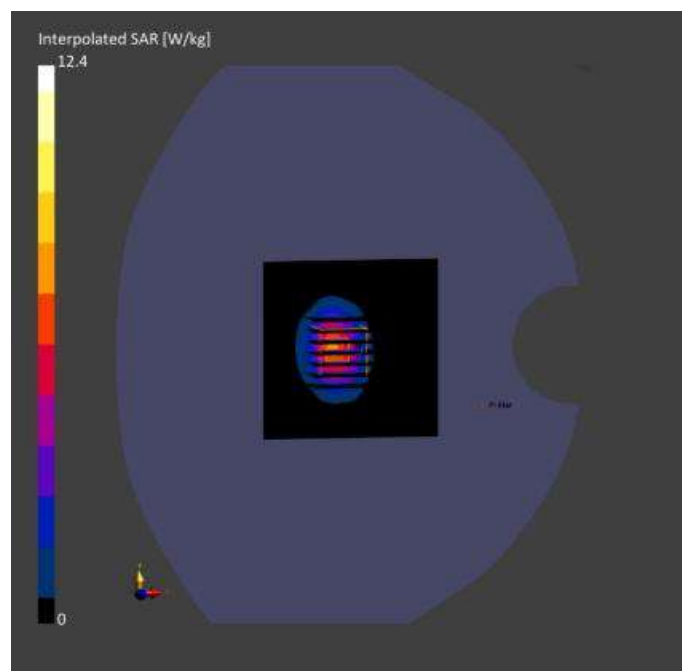
Phantom	TSL, Measured Date		Probe, Calibration Date		DAE, Calibration Date	
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000	2023-12-11	EX3DV4 - SN7607, 2023-07-04		DAE4 Sn878, 2023-03-23	

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	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-12-11	2023-12-11
psSAR1g [W/kg]	5.82	5.75
psSAR10g [W/kg]	2.59	2.51
Power Drift [dB]	0.03	0.01
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		80.2
Dist 3dB Peak [mm]		8.9



System Performance Check Data (5250MHz)

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
D5GHZV2, 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		Validation band	CW, 0--	5250.0, 5250	5.41	4.70	35.7	22.3	21.4

Hardware Setup

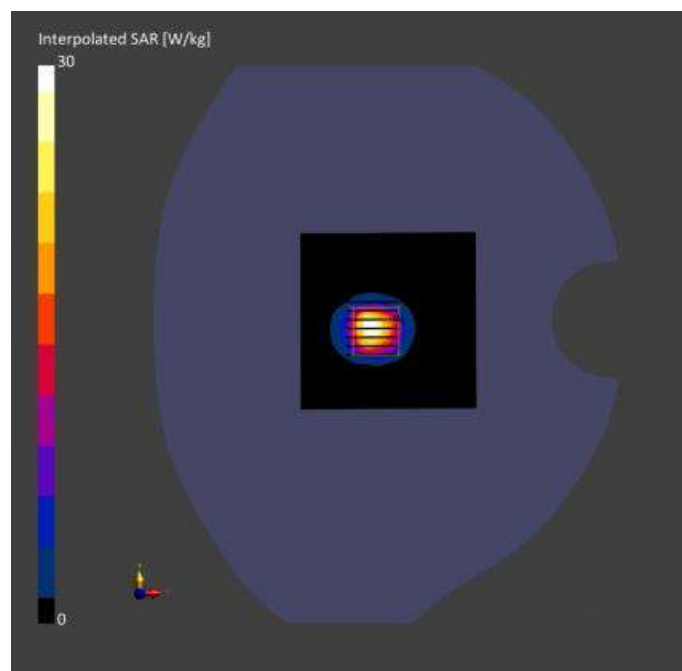
Phantom	TSL, Measured Date		Probe, Calibration Date		DAE, Calibration Date	
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000	2023-12-11	EX3DV4 - SN7607, 2023-07-04		DAE4 Sn878, 2023-03-23	

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	80.0 x 80.0	22.0 x 22.0 x 22.0
Grid Steps [mm]	10.0 x 10.0	4.0 x 4.0 x 1.4
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.4
MAIA	N/A	N/A
Surface	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-12-11	2023-12-11
psSAR1g [W/kg]	7.57	7.86
psSAR10g [W/kg]	2.08	2.19
Power Drift [dB]	-0.05	0.05
Power Scaling	Disabled	Disabled
Scaling Factor		
TSL Correction	No correction	No correction
M2/M1 [%]		64.6
Dist 3dB Peak [mm]		6.8



System Performance Check Data (5600MHz)

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
D5GHZV2, 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		Validation band	CW, 0--	5600.0, 5600	4.58	5.05	35.3	22.3	21.4

Hardware Setup

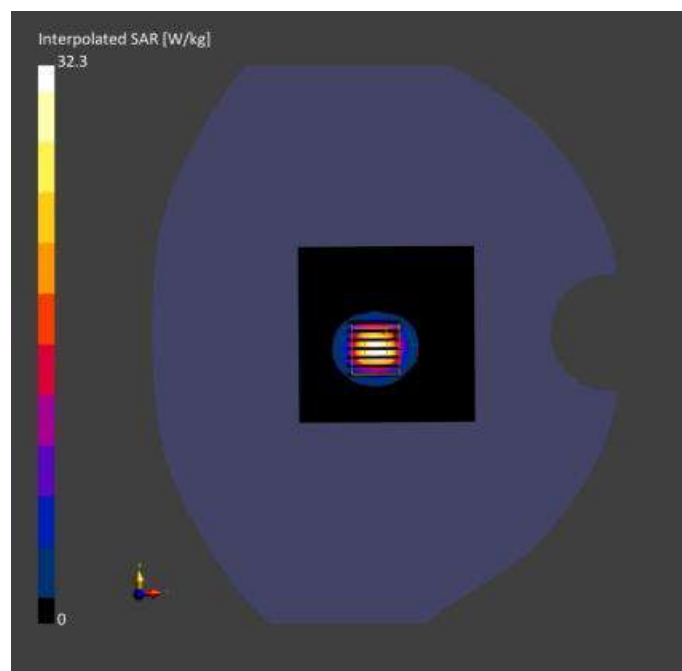
Phantom	TSL, Measured Date		Probe, Calibration Date		DAE, Calibration Date	
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000	2023-12-11	EX3DV4 - SN7607, 2023-07-04		DAE4 Sn878, 2023-03-23	

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	80.0 x 80.0	22.0 x 22.0 x 22.0
Grid Steps [mm]	10.0 x 10.0	4.0 x 4.0 x 1.4
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.4
MAIA	N/A	N/A
Surface	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-12-11	2023-12-11
psSAR1g [W/kg]	7.98	8.21
psSAR10g [W/kg]	2.24	2.35
Power Drift [dB]	0.02	0.04
Power Scaling	Disabled	Disabled
Scaling Factor		
TSL Correction	No correction	No correction
M2/M1 [%]		64.2
Dist 3dB Peak [mm]		7.4



ANNEX C TEST DATA

Meas.1 Right Head with Cheek on High Channel in GPRS850 4slots mode with Antenna 1

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
T1621	158.0 x 68.0 x 8.0	Phone

Exposure Conditions

Phantom	Position	Band	Group	Frequency [MHz]	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [°C]	Liquid Temperature [°C]
Section, TSL	, Test Distance [mm]	d	, UID	Channel Number					
RightHead	CHEEK,	GSM	GSM,	848.8,	9.96	0.917	41.4	22.4	21.3
,	0.00	850	10028-	251					
HSL			DAC						

Hardware Setup

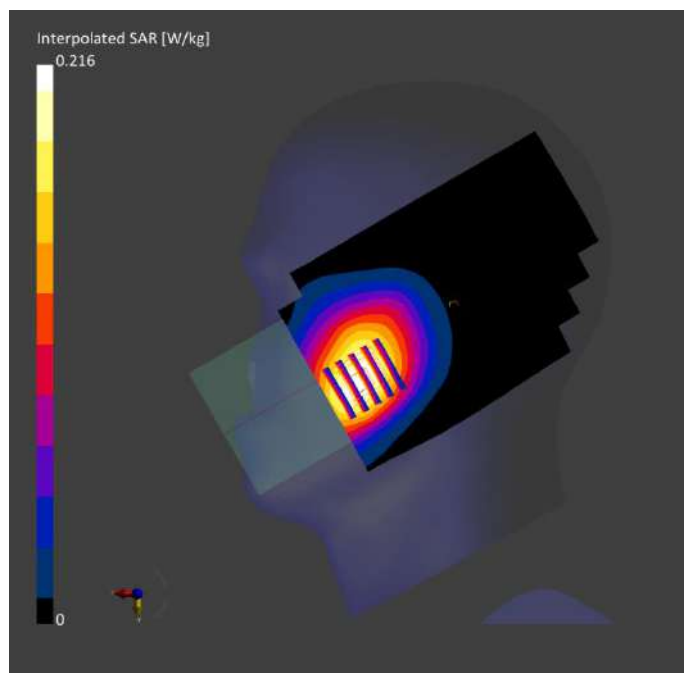
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2023-09-19	EX3DV4 - SN7607, 2023-07-04	DAE4 Sn878, 2023-03-23

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	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-19	2023-09-19
psSAR1g [W/kg]	0.158	0.167
psSAR10g [W/kg]	0.107	0.126
Power Drift [dB]	-0.01	-0.00
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		79.1
Dist 3dB Peak [mm]		> 16.0



Meas.2 Body Plan with Front Side 10mm on High Channel in GPRS850 4Slots mode with Antenna 1

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
T1621	158.0 x 68.0 x 8.0	Phone

Exposure Conditions

Phantom	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [°C]	Liquid Temperature
Flat, HSL	FRONT, 10.00	GSM 850	GSM, 10028-DAC	848.8, 251	9.96	0.917	41.4	22.4	21.3

Hardware Setup

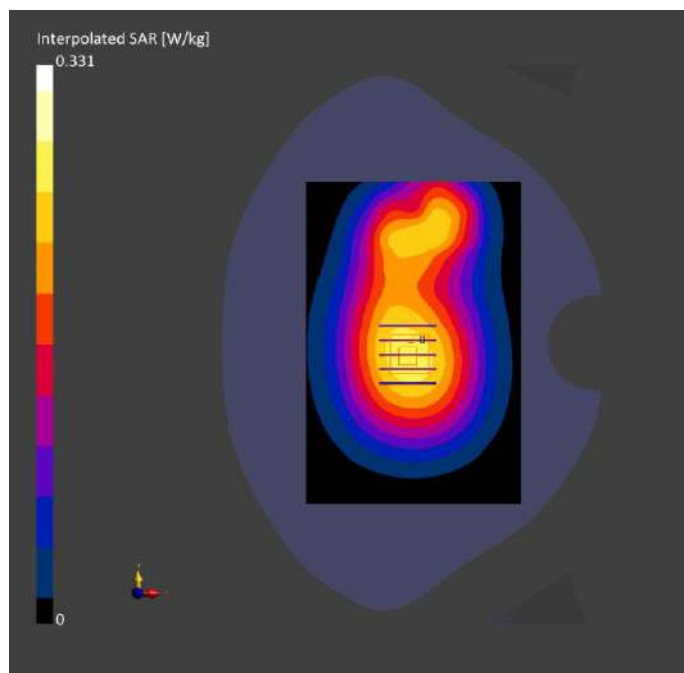
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2023-09-19	EX3DV4 - SN7607, 2023-07-04	DAE4 Sn878, 2023-03-23

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 Surface	N/A	N/A
Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-19	2023-09-19
psSAR1g [W/kg]	0.237	0.251
psSAR10g [W/kg]	0.167	0.189
Power Drift [dB]	-0.01	0.00
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		75.5
Dist 3dB Peak [mm]		> 16.0



Meas.3 Left Head with Cheek on Middle Channel in GPRS1900 4slots mode with Antenna 1**Device under Test Properties**

Model, Manufacturer	Dimensions [mm]	DUT Type
T1621	158.0 x 68.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position , Test Distanc e [mm]	Ban d	Group , UID	Frequenc y [MHz], Channel Number	Conversio n Factor	TSL Conductivit y [S/m]	TSL Permittivit y	Ambient Temperatur e [°C]	Liquid Temperatur e [°C]
LeftHead , HSL	CHEEK, 0.00	PCS 1900	GSM, 10028- DAC	1880.0, 661	7.98	1.38	40.0	22.6	21.4

Hardware Setup

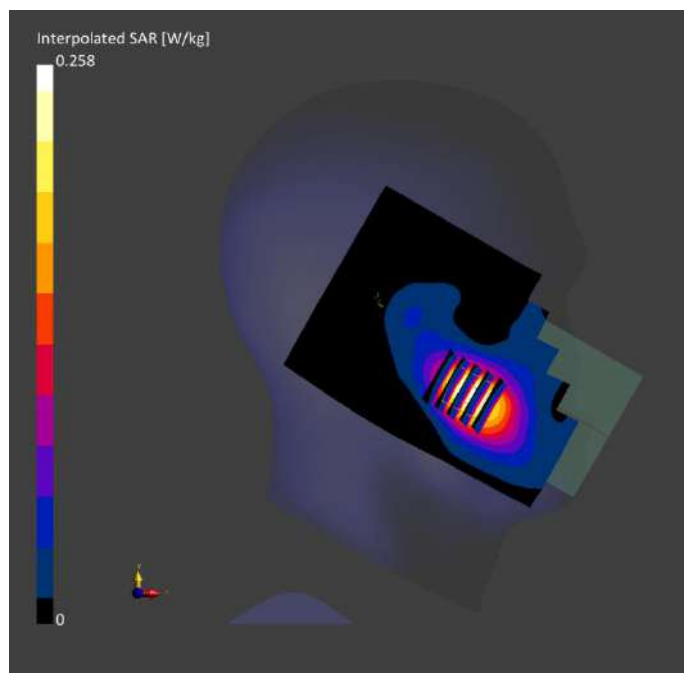
Phantom	TSL, Measured Date		Probe, Calibration Date		DAE, Calibration Date	
Twin-SAM probe tilt) - 1859	V5.0 (30deg	HBBL-600-10000	2023-09-23	EX3DV4 - SN7607, 2023-07-04	DAE4 Sn878, 2023-03-23	

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	Y	Y
Surface	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-23	2023-09-23
psSAR1g [W/kg]	0.150	0.163
psSAR10g [W/kg]	0.086	0.097
Power Drift [dB]	-0.00	0.01
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		62.6
Dist 3dB Peak [mm]		13.5



Meas.4 Body Plan with Bottom Edge 10mm on Middle Channel in GPRS1900 4Slots mode with Antenna 1

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
T1621	158.0 x 68.0 x 8.0	Phone

Exposure Conditions

Phantom	Position, Test Section, TSL	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	PCS 1900	GSM, 10028-DAC	1880.0, 661	7.98	1.38	40.0	22.6	21.4

Hardware Setup

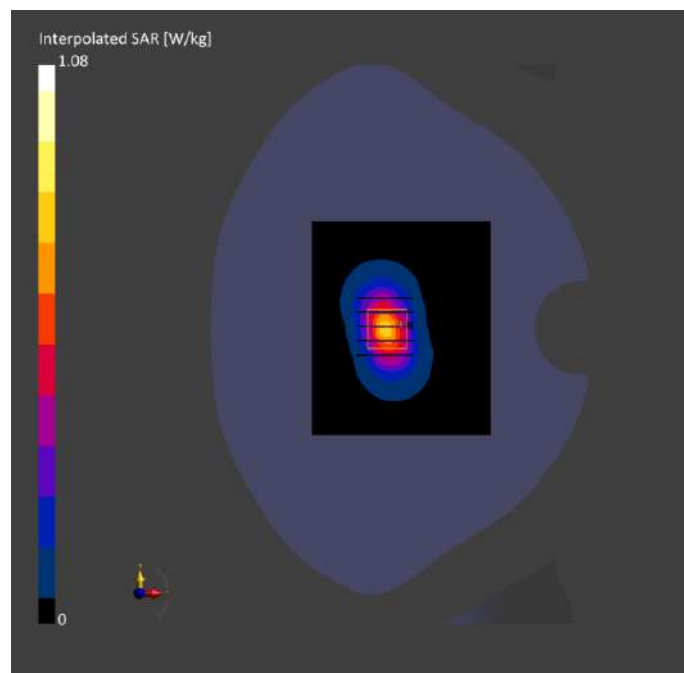
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2023-09-23	EX3DV4 - SN7607, 2023-07-04	DAE4 Sn878, 2023-03-23

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	100.0 x 120.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	10.0 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	2023-09-23	2023-09-23
psSAR1g [W/kg]	0.617	0.637
psSAR10g [W/kg]	0.318	0.339
Power Drift [dB]	-0.02	-0.02
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		59.0
Dist 3dB Peak [mm]		10.1



Meas.5 Left Head with Cheek on High Channel in WCDMA Band2 mode with Antenna 1**Device under Test Properties**

Model, Manufacturer	Dimensions [mm]	DUT Type
T1621	158.0 x 68.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position , Test Distanc e [mm]	Band	Group, UID	Frequenc y [MHz], Channel Number	Conversio n Factor	TSL Conductivit y [S/m]	TSL Permittivit y	Ambient Temperatur e [°C]	Liquid Temperatur e [°C]
LeftHead , HSL	CHEEK, 0.00	Band 2	WCDMA , 10011- CAC	1907.6, 9538	7.98	1.40	39.6	22.6	21.4

Hardware Setup

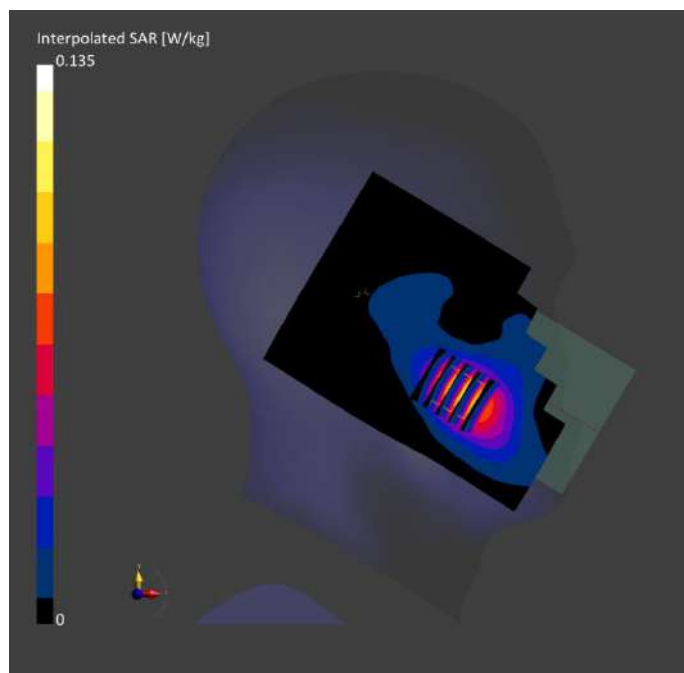
Phantom	TSL, Measured Date		Probe, Calibration Date		DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000	2023-09-23	EX3DV4 - SN7607, 2023-07-04		DAE4 Sn878, 2023-03-23

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	Y	Y
Surface	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-23	2023-09-23
psSAR1g [W/kg]	0.080	0.086
psSAR10g [W/kg]	0.047	0.052
Power Drift [dB]	-0.01	-0.03
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		62.6
Dist 3dB Peak [mm]		14.3



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

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
T1621	158.0 x 68.0 x 8.0	Phone

Exposure Conditions

Phantom	Position, Test Section, TSL	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 2	WCDMA, 10011-CAC	1907.6, 9538	7.98	1.40	39.6	22.6	21.4

Hardware Setup

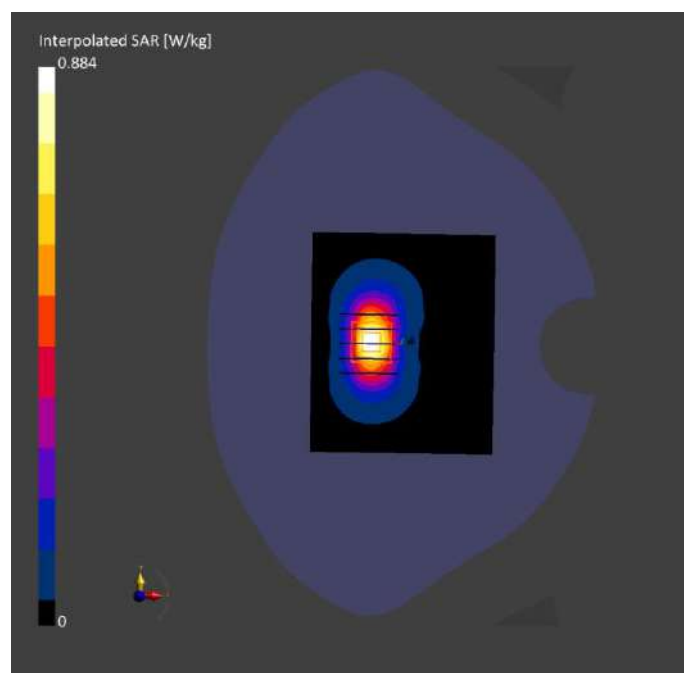
Phantom	TSL, Measured Date		Probe, Calibration Date		DAE, Calibration Date	
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000	2023-09-23	EX3DV4 - SN7607, 2023-07-04		DAE4 Sn878, 2023-03-23	

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	100.0 x 120.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	10.0 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	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-23	2023-09-23
psSAR1g [W/kg]	0.480	0.511
psSAR10g [W/kg]	0.247	0.265
Power Drift [dB]	0.00	0.01
Power Scaling	Disabled	Disabled
Scaling Factor		
[dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		58.1
Dist 3dB Peak [mm]		9.6



Meas.7 Left Head with Cheek on Low Channel in WCDMA Band4 mode with Antenna 1**Device under Test Properties**

Model, Manufacturer	Dimensions [mm]	DUT Type
T1621	158.0 x 68.0 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
LeftHead, HSL	CHEEK, 0.00	Band 4	WCDMA, 10011-CAC	1712.4, 1312	8.52	1.34	40.7	22.4	21.5

Hardware Setup

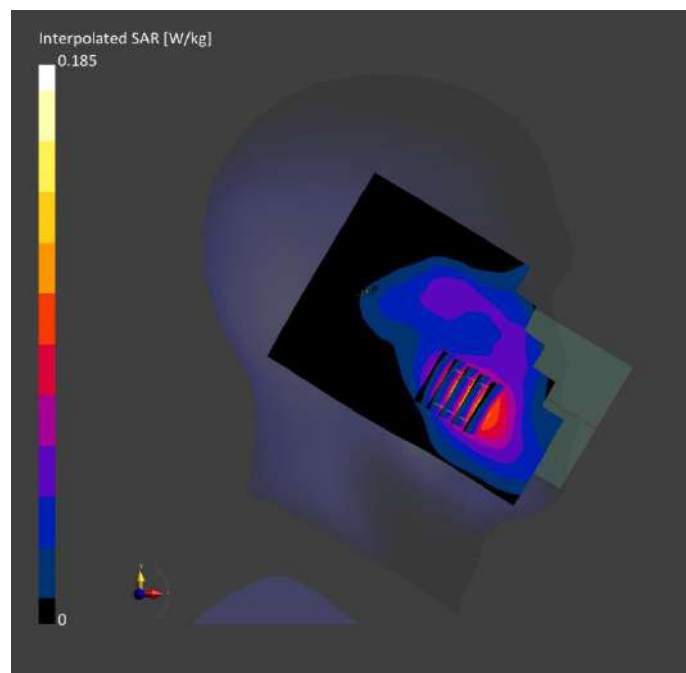
Phantom	TSL, Measured Date		Probe, Calibration Date		DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000	2023-09-21	EX3DV4 - SN7607, 2023-07-04		DAE4 Sn878, 2023-03-23

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	Y	Y
Surface	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-21	2023-09-21
psSAR1g [W/kg]	0.111	0.121
psSAR10g [W/kg]	0.067	0.077
Power Drift [dB]	-0.01	0.13
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		64.0
Dist 3dB Peak [mm]		13.5



Meas.8 Body Plan with Bottom Edge 10mm on Low Channel in WCDMA Band4 mode with Antenna 1

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
T1621	158.0 x 68.0 x 8.0	Phone

Exposure Conditions

Phantom	Position, Test Section, TSL	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 4	WCDMA , 10011- CAC	1712.4, 1312	8.52	1.34	40.7	22.4	21.5

Hardware Setup

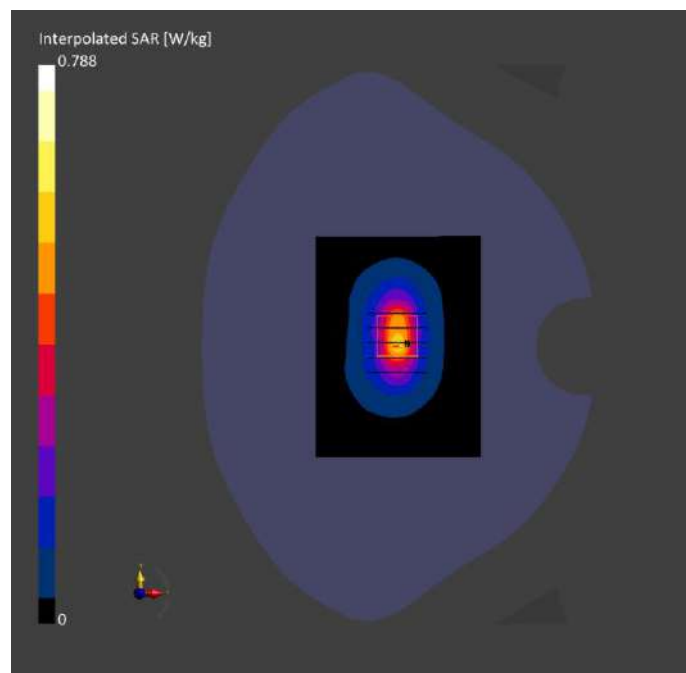
Phantom	TSL, Measured Date		Probe, Calibration Date		DAE, Calibration Date	
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000	2023-09-21	EX3DV4 - SN7607, 2023-07-04		DAE4 Sn878, 2023-03-23	

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	N/A	N/A
Surface	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-21	2023-09-21
psSAR1g [W/kg]	0.456	0.471
psSAR10g [W/kg]	0.242	0.255
Power Drift [dB]	-0.07	-0.12
Power Scaling	Disabled	Disabled
Scaling Factor		
[dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		59.0
Dist 3dB Peak [mm]		9.6



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
T1621	158.0 x 68.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position , Test Distanc e [mm]	Band d	Group, UID	Frequenc y [MHz], Channel Number	Conversio n Factor	TSL Conductivit y [S/m]	TSL Permittivit y	Ambient Temperatur e [°C]	Liquid Temperatur e [°C]
RightHead, HSL	CHEEK, 0.00	Band 5	WCDMA , 10011- CAC	836.4, 4182	9.96	0.899	41.7	22.2	21.2

Hardware Setup

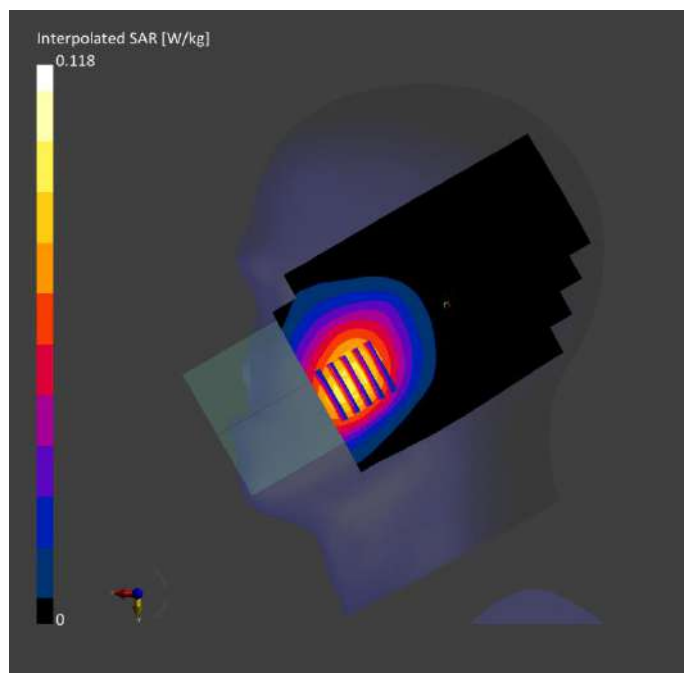
Phantom	TSL, Measured Date		Probe, Calibration Date		DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000	2023-09-20	EX3DV4 - SN7607, 2023-07-04		DAE4 Sn878, 2023-03-23

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	Y	Y
Surface	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-20	2023-09-20
psSAR1g [W/kg]	0.085	0.090
psSAR10g [W/kg]	0.058	0.068
Power Drift [dB]	-0.00	0.00
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		73.6
Dist 3dB Peak [mm]		> 16.0



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

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
T1621	158.0 x 68.0 x 8.0	Phone

Exposure Conditions

Phantom	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	FRONT, 10.00	Band 5	WCDMA, 10011-CAC	836.4, 4182	9.96	0.899	41.7	22.2	21.2

Hardware Setup

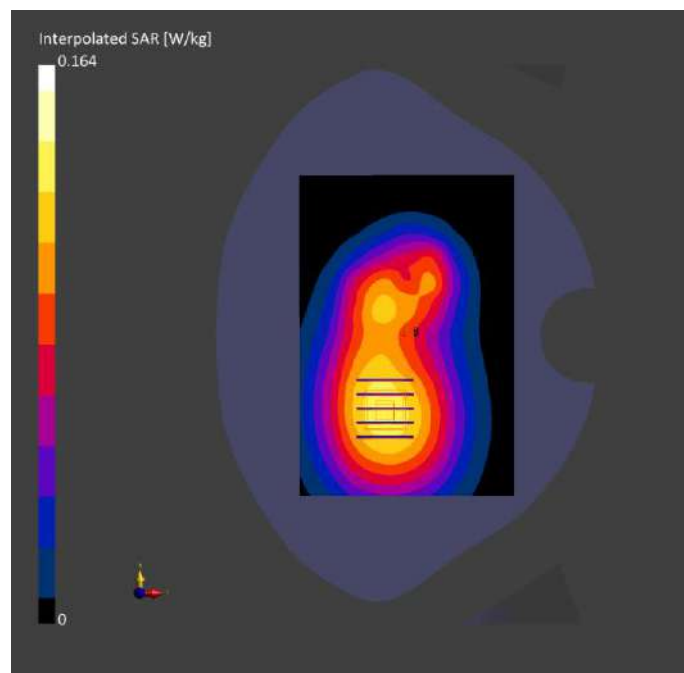
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2023-09-20	EX3DV4 - SN7607, 2023-07-04	DAE4 Sn878, 2023-03-23

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 8.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	N/A	N/A
Surface	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-20	2023-09-20
psSAR1g [W/kg]	0.118	0.125
psSAR10g [W/kg]	0.083	0.093
Power Drift [dB]	-0.02	0.01
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		63.7
Dist 3dB Peak [mm]		> 16.0



Meas.11 Left Head with Cheek on Middle Channel in LTE Band2 mode with Antenna 1**Device under Test Properties**

Model, Manufacturer	Dimensions [mm]	DUT Type
T1621	158.0 x 68.0 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	Band 2	LTE-FDD, 10169-CAF	1880.0, 18900	7.98	1.42	41.1	22.3	21.5

Hardware Setup

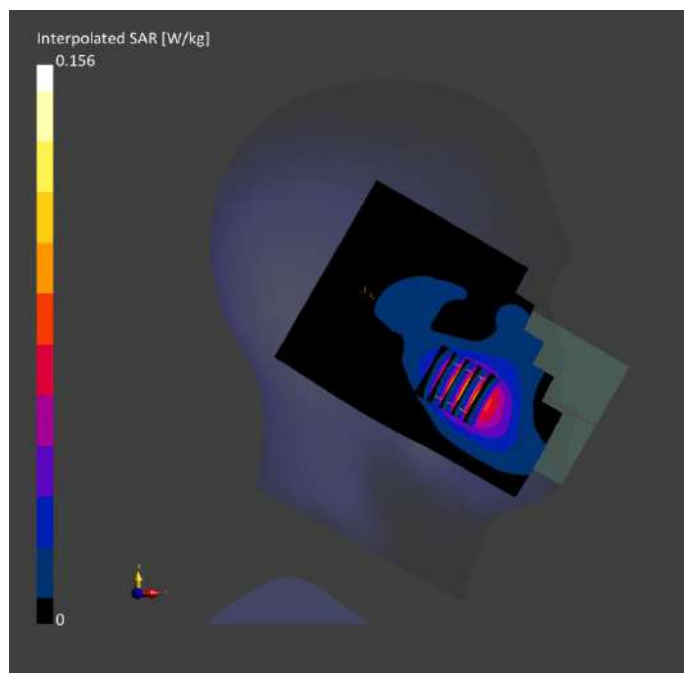
Phantom	TSL, Measured Date		Probe, Calibration Date		DAE, Calibration Date	
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000	2023-09-24	EX3DV4 - SN7607, 2023-07-04		DAE4 Sn878, 2023-03-23	

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	Y	Y
Surface	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-24	2023-09-24
psSAR1g [W/kg]	0.091	0.099
psSAR10g [W/kg]	0.052	0.059
Power Drift [dB]	0.01	0.03
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		62.1
Dist 3dB Peak [mm]		14.2



Meas.12 Body Plan with Bottom Edge 10mm on Middle Channel in LTE Band2 mode with Antenna 1

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
T1621	158.0 x 68.0 x 8.0	Phone

Exposure Conditions

Phantom	Position, Test Section, TSL	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 2	LTE-FDD, 10169-CAF	1880.0, 18900	7.98	1.42	41.1	22.3	21.5

Hardware Setup

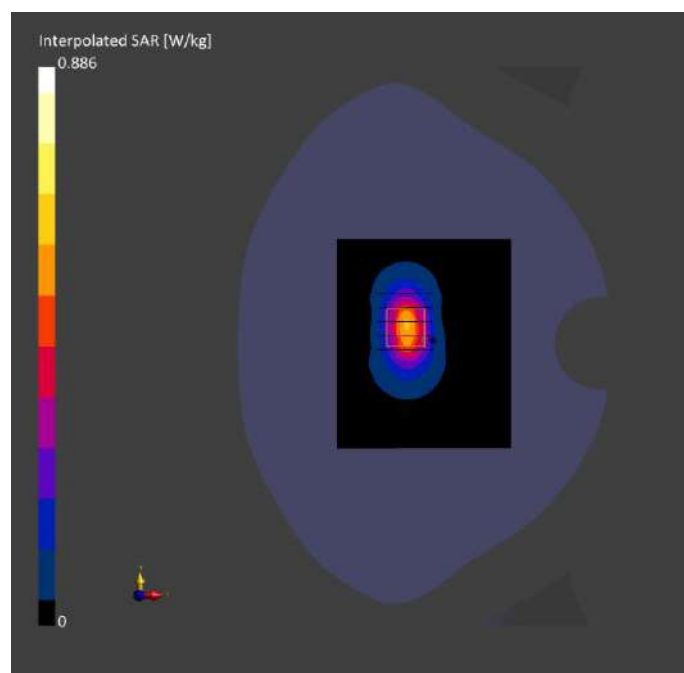
Phantom	TSL, Measured Date		Probe, Calibration Date		DAE, Calibration Date	
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000	2023-09-24	EX3DV4 - SN7607, 2023-07-04		DAE4 Sn878, 2023-03-23	

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	100.0 x 120.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	10.0 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	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-24	2023-09-24
psSAR1g [W/kg]	0.485	0.516
psSAR10g [W/kg]	0.250	0.270
Power Drift [dB]	-0.00	0.01
Power Scaling	Disabled	Disabled
Scaling Factor		
[dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		58.3
Dist 3dB Peak [mm]		10.1



Meas.13 Left Head with Cheek on High Channel in LTE Band4 mode with Antenna 1

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
T1621	158.0 x 68.0 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	Band 4	LTE-FDD, 10169-CAF	1745.0, 20300	8.52	1.37	40.2	22.4	21.5

Hardware Setup

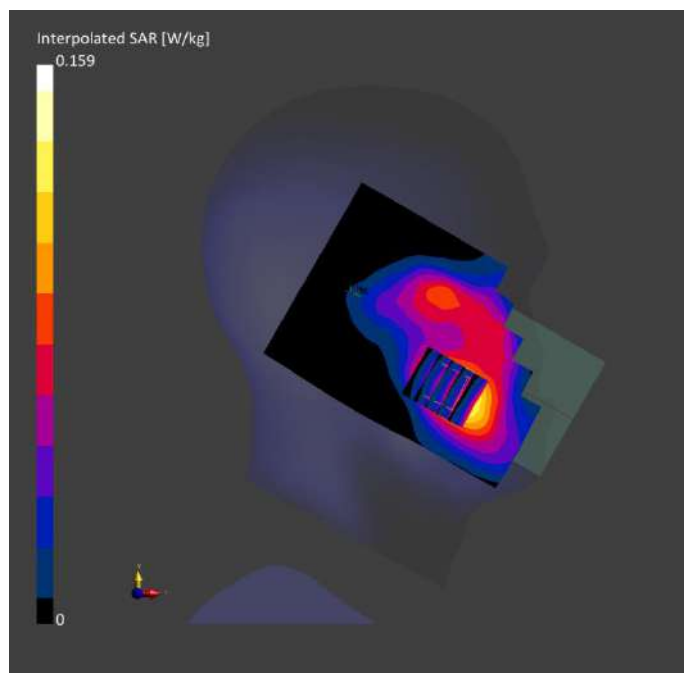
Phantom	TSL, Measured Date		Probe, Calibration Date		DAE, Calibration Date	
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000	2023-09-21	EX3DV4 - SN7607, 2023-07-04		DAE4 Sn878, 2023-03-23	

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	Y	Y
Surface	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-21	2023-09-21
psSAR1g [W/kg]	0.096	0.104
psSAR10g [W/kg]	0.059	0.067
Power Drift [dB]	-0.03	0.03
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		64.3
Dist 3dB Peak [mm]		14.7



Meas.14 Body Plan with Bottom Edge 10mm on High Channel in LTE Band4 mode with Antenna 1
Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
T1621	158.0 x 68.0 x 8.0	Phone

Exposure Conditions

Phantom	Position, Test Section, TSL	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 4	LTE-FDD, 10169-CAF	1745.0, 20300	8.52	1.37	40.2	22.4	21.5

Hardware Setup

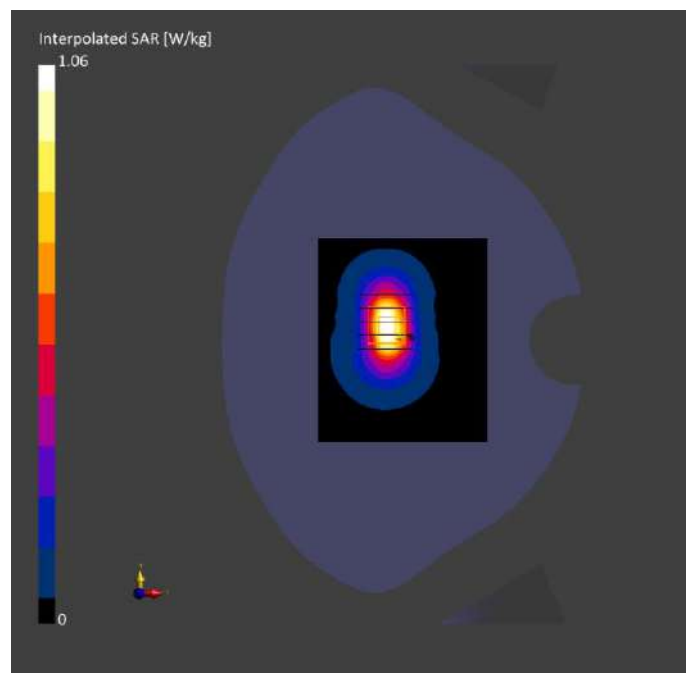
Phantom	TSL, Measured Date		Probe, Calibration Date		DAE, Calibration Date	
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000	2023-09-21	EX3DV4 - SN7607, 2023-07-04		DAE4 Sn878, 2023-03-23	

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	100.0 x 120.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	10.0 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	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-21	2023-09-21
psSAR1g [W/kg]	0.595	0.629
psSAR10g [W/kg]	0.315	0.337
Power Drift [dB]	-0.02	0.01
Power Scaling	Disabled	Disabled
Scaling Factor		
[dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		59.5
Dist 3dB Peak [mm]		10.1



Meas.15 Right Head with Cheek on High Channel in LTE Band5 mode with Antenna 1

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
T1621	158.0 x 68.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position , Test Distanc e [mm]	Band d	Group , UID	Frequenc y [MHz], Channel Number	Conversio n Factor	TSL Conductivit y [S/m]	TSL Permittivit y	Ambient Temperatur e [°C]	Liquid Temperatur e [°C]
RightHead , HSL	CHEEK, 0.00	Band 5	LTE- FDD, 10175- CAH	844.0, 20600	9.96	0.915	41.4	22.2	21.2

Hardware Setup

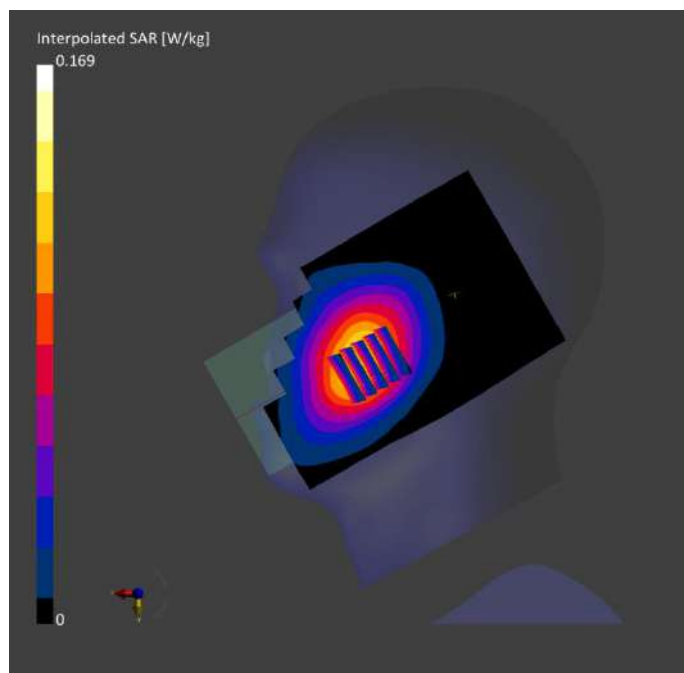
Phantom	TSL, Measured Date		Probe, Calibration Date		DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000	2023-09-20	EX3DV4 - SN7607, 2023-07-04		DAE4 Sn878, 2023-03-23

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	Y	N/A
Surface	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-20	2023-09-20
psSAR1g [W/kg]	0.123	0.130
psSAR10g [W/kg]	0.084	0.099
Power Drift [dB]	0.02	0.01
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		78.1
Dist 3dB Peak [mm]		> 16.0



Meas.16 Body Plan with Front Side 10mm on High Channel in LTE Band5 mode with Antenna 1**Device under Test Properties**

Model, Manufacturer	Dimensions [mm]	DUT Type
T1621	158.0 x 68.0 x 8.0	Phone

Exposure Conditions

Phantom	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [°C]	Liquid Temperature
Flat, HSL	FRONT, 10.00	Band 5	LTE-FDD, 10175-CAH	844.0, 20600	9.96	0.915	41.4	22.2	21.2

Hardware Setup

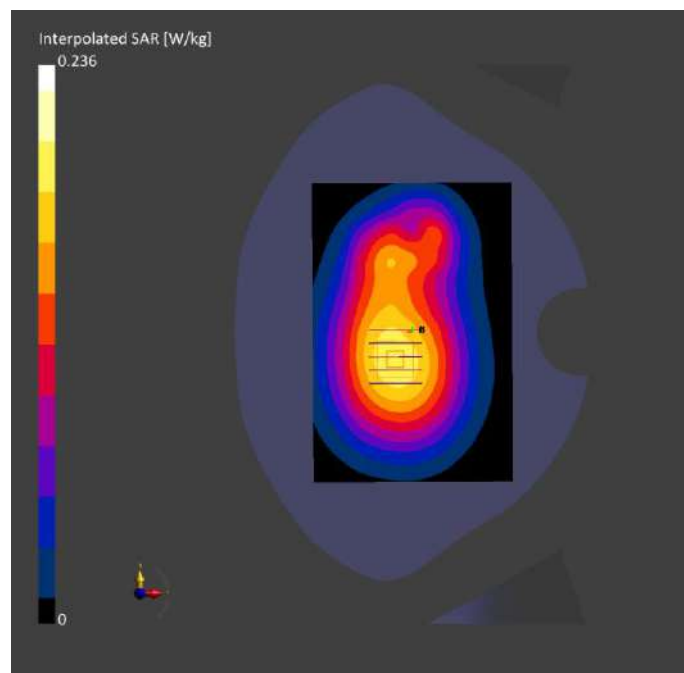
Phantom	TSL, Measured Date		Probe, Calibration Date		DAE, Calibration Date	
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000	2023-09-20	EX3DV4 - SN7607, 2023-07-04		DAE4 Sn878, 2023-03-23	

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	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-20	2023-09-20
psSAR1g [W/kg]	0.171	0.176
psSAR10g [W/kg]	0.121	0.131
Power Drift [dB]	-0.23	-0.01
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		74.2
Dist 3dB Peak [mm]		> 16.0



Meas.17 Right Head with Cheek on Middle Channel in LTE Band7 mode with Antenna 1

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
T1621	158.0 x 68.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position , Test Distanc e [mm]	Band d	Group , UID	Frequenc y [MHz], Channel Number	Conversio n Factor	TSL Conductivit y [S/m]	TSL Permittivit y	Ambient Temperatur e [°C]	Liquid Temperatur e [°C]
RightHead , HSL	CHEEK, 0.00	Band 7	LTE- FDD, 10169- CAF	2535.0, 21100	7.41	1.94	38.4	22.2	21.4

Hardware Setup

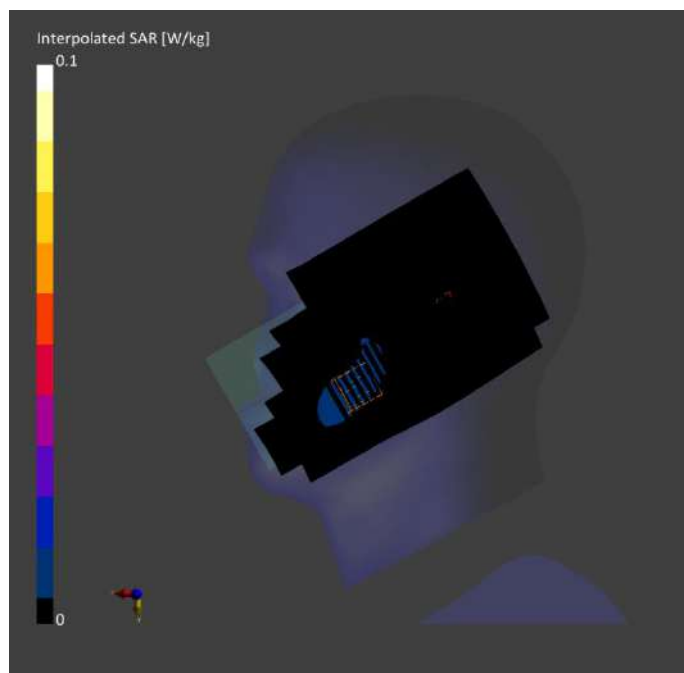
Phantom	TSL, Measured Date		Probe, Calibration Date		DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000	2023-09-26	EX3DV4 - SN7607, 2023-07-04		DAE4 Sn878, 2023-03-23

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	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-26	2023-09-26
psSAR1g [W/kg]	0.012	0.012
psSAR10g [W/kg]	0.006	0.005
Power Drift [dB]	0.14	0.12
Power Scaling	Disabled	Disabled
Scaling Factor		
[dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		56.2
Dist 3dB Peak [mm]		> 15.0



Meas.18 Body Plan with Bottom Edge 10mm on Middle Channel in LTE Band7 mode with Antenna 1

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
T1621	158.0 x 68.0 x 8.0	Phone

Exposure Conditions

Phantom	Position, Test Section, TSL	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	2535.0, 21100	7.41	1.94	38.4	22.2	21.4

Hardware Setup

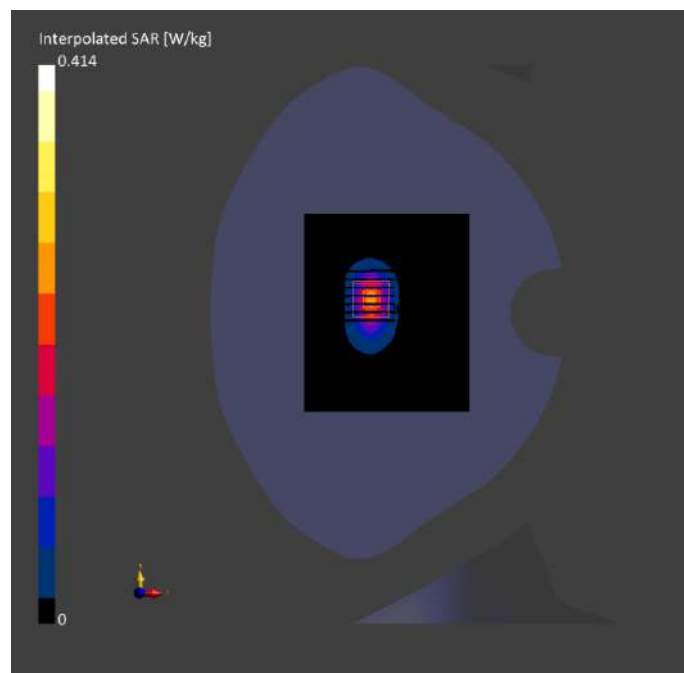
Phantom	TSL, Measured Date		Probe, Calibration Date		DAE, Calibration Date	
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000	2023-09-26	EX3DV4 - SN7607, 2023-07-04		DAE4 Sn878, 2023-03-23	

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	100.0 x 120.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	10.0 x 10.0	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	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-26	2023-09-26
psSAR1g [W/kg]	0.199	0.207
psSAR10g [W/kg]	0.088	0.090
Power Drift [dB]	0.02	0.03
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		49.5
Dist 3dB Peak [mm]		8.2



Meas.19 Right Head with Cheek on High Channel in LTE Band12 mode with Antenna 1

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
T1621	158.0 x 68.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position , Test Distanc e [mm]	Band d	Group , UID	Frequenc y [MHz], Channel Number	Conversio n Factor	TSL Conductivit y [S/m]	TSL Permittivit y	Ambient Temperatur e [°C]	Liquid Temperatur e [°C]
RightHead , HSL	CHEEK, 0.00	Band 12	LTE- FDD, 10175- CAH	711.0, 23130	10.31	0.882	42.3	22.3	21.3

Hardware Setup

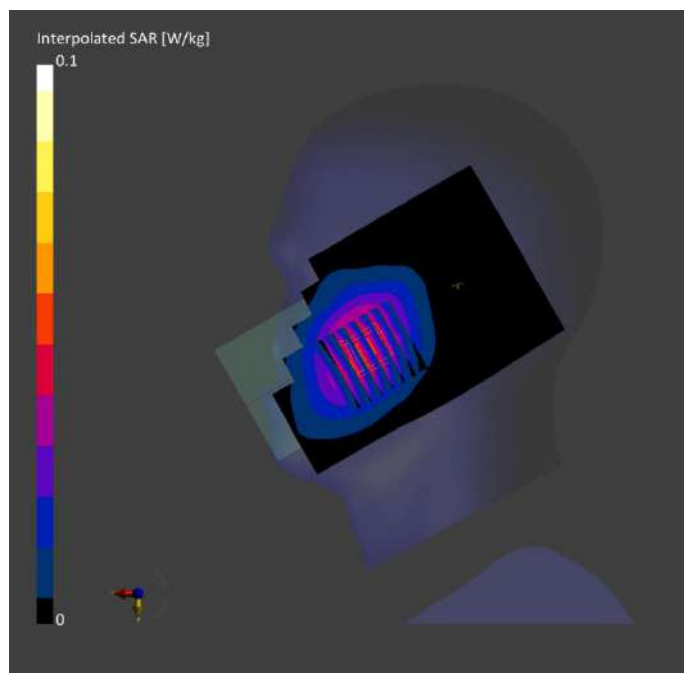
Phantom	TSL, Measured Date		Probe, Calibration Date		DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000	2023-09-18	EX3DV4 - SN7607, 2023-07-04		DAE4 Sn878, 2023-03-23

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	Y	Y
Surface	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-18	2023-09-18
psSAR1g [W/kg]	0.047	0.049
psSAR10g [W/kg]	0.033	0.038
Power Drift [dB]	0.03	0.00
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		81.0
Dist 3dB Peak [mm]		> 16.0



Meas.20 Body Plan with Front Side 10mm on Low Channel in LTE Band12 mode with Antenna 1
Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
T1621	158.0 x 68.0 x 8.0	Phone

Exposure Conditions

Phantom	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [°C]	Liquid Temperature
Flat, HSL	FRONT, 10.00	Band 12	LTE-FDD, 10175-CAH	711.0, 23130	10.31	0.876	42.5	22.3	21.3

Hardware Setup

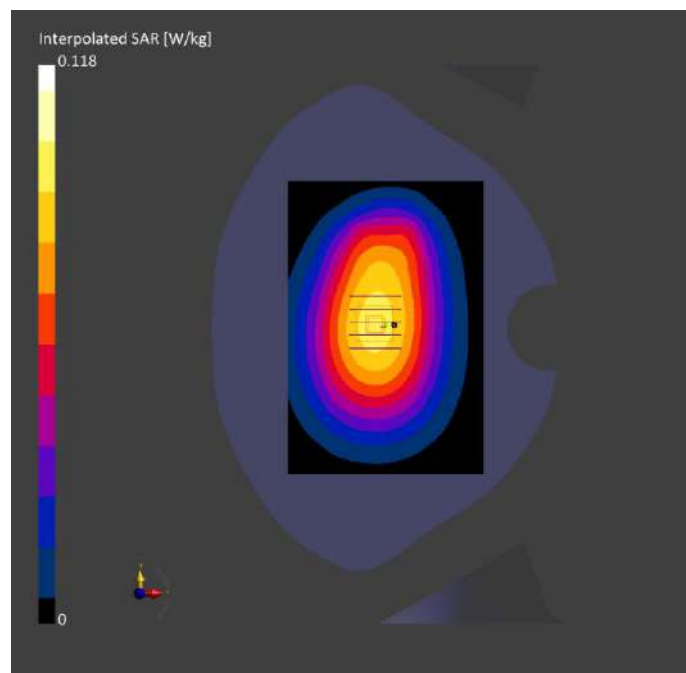
Phantom	TSL, Measured Date		Probe, Calibration Date		DAE, Calibration Date	
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000	2023-09-18	EX3DV4 - SN7607, 2023-07-04		DAE4 Sn878, 2023-03-23	

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	Y	N/A
Surface	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-18	2023-09-18
psSAR1g [W/kg]	0.083	0.088
psSAR10g [W/kg]	0.060	0.067
Power Drift [dB]	0.02	-0.01
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		73.9
Dist 3dB Peak [mm]		> 16.0



Meas.21 Right Head with Cheek on Low Channel in LTE Band17 mode with Antenna 1

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
T1621	158.0 x 68.0 x 8.0	Phone

Exposure Conditions

Phantom	Position	Band	Group	Frequency [MHz]	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [°C]	Liquid Temperature [°C]
TSL Section, TSL	Distance [mm]		UID	Channel Number					
RightHead	CHEEK,	Band	LTE-	709.0,	10.31	0.880	42.3	22.3	21.3
, HSL	0.00	17	FDD,	23780					
			10175-						
			CAH						

Hardware Setup

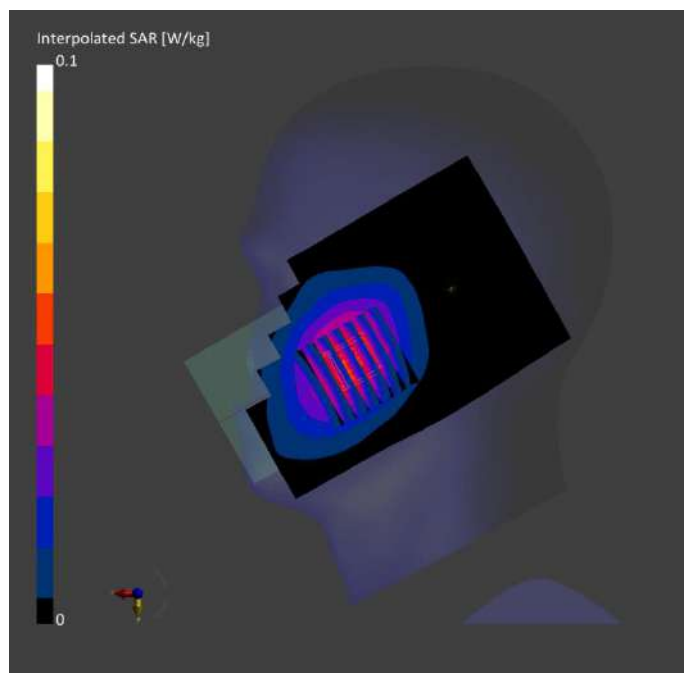
Phantom	TSL, Measured Date		Probe, Calibration Date		DAE, Calibration Date	
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000	2023-09-18	EX3DV4 - SN7607, 2023-07-04		DAE4 Sn878, 2023-03-23	

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	Y	Y
Surface	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-18	2023-09-18
psSAR1g [W/kg]	0.046	0.048
psSAR10g [W/kg]	0.032	0.037
Power Drift [dB]	0.05	0.00
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		80.9
Dist 3dB Peak [mm]		> 16.0



Meas.22 Body Plan with Front Side 10mm on Low Channel in LTE Band17 mode with Antenna 1
Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
T1621	158.0 x 68.0 x 8.0	Phone

Exposure Conditions

Phantom	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [°C]	Liquid Temperature
Flat, HSL	FRONT, 10.00	Band 17	LTE-FDD, 10175-CAH	709.0, 23780	10.31	0.880	42.3	22.3	21.3

Hardware Setup

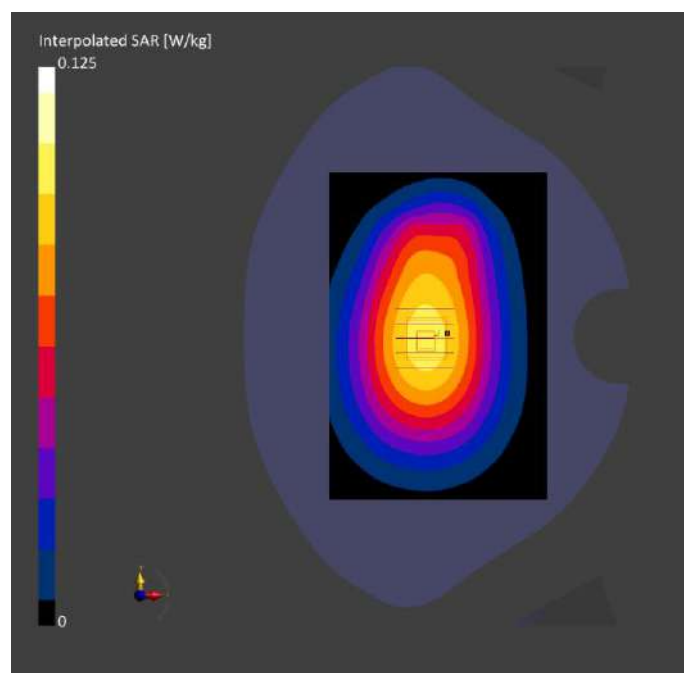
Phantom	TSL, Measured Date		Probe, Calibration Date		DAE, Calibration Date	
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000	2023-09-18	EX3DV4 - SN7607, 2023-07-04		DAE4 Sn878, 2023-03-23	

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	Y	N/A
Surface	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-18	2023-09-18
psSAR1g [W/kg]	0.089	0.094
psSAR10g [W/kg]	0.063	0.071
Power Drift [dB]	-0.02	-0.00
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		75.0
Dist 3dB Peak [mm]		> 16.0



Meas.23 Left Head with Cheek on Middle Channel in LTE Band25 mode with Antenna 1

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
T1621	158.0 x 68.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position , Test Distanc e [mm]	Band	Group , UID	Frequenc y [MHz], Channel Number	Conversio n Factor	TSL Conductivit y [S/m]	TSL Permittivit y	Ambient Temperatur e [°C]	Liquid Temperatur e [°C]
LeftHead , HSL	CHEEK, 0.00	Band 25	LTE- FDD, 10169- CAF	1882.5, 26365	7.98	1.36	41.3	22.5	21.5

Hardware Setup

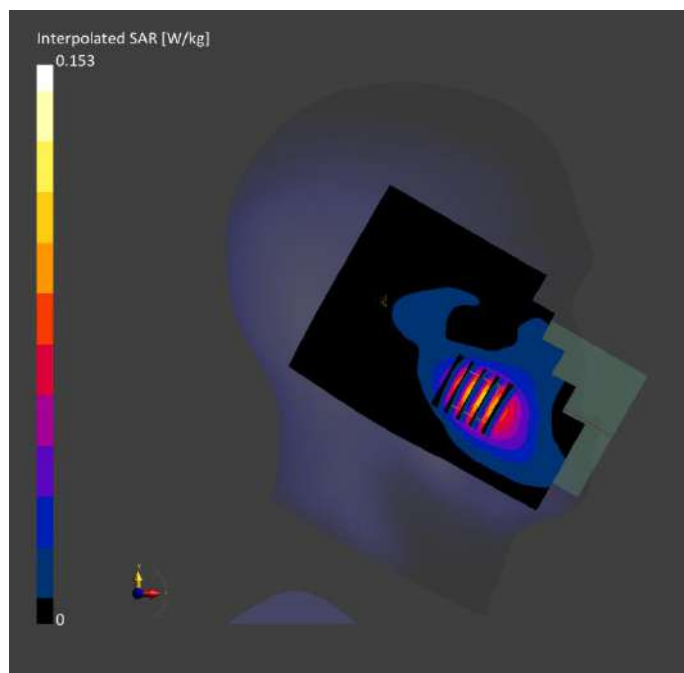
Phantom	TSL, Measured Date		Probe, Calibration Date		DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000	2023-09-25	EX3DV4 - SN7607, 2023-07-04		DAE4 Sn878, 2023-03-23

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	Y	Y
Surface	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-25	2023-09-25
psSAR1g [W/kg]	0.090	0.097
psSAR10g [W/kg]	0.051	0.058
Power Drift [dB]	0.11	0.12
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		62.1
Dist 3dB Peak [mm]		14.2



Meas.24 Body Plan with Bottom Edge 10mm on Channel in LTE Band25 mode with Antenna 1
Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
T1621	158.0 x 68.0 x 8.0	Phone

Exposure Conditions

Phantom	Position, Test Section, TSL	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 25	LTE- FDD, 10169- CAF	1882.5, 26365	7.98	1.36	41.3	22.5	21.5

Hardware Setup

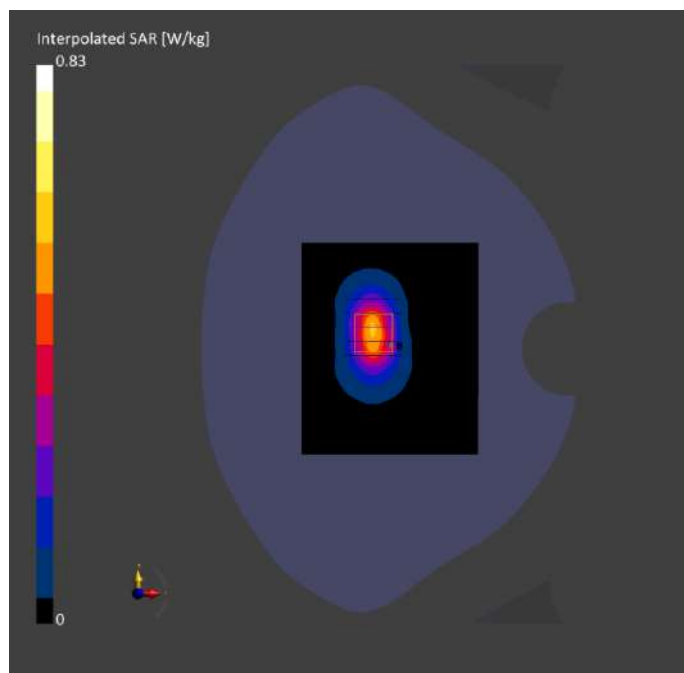
Phantom	TSL, Measured Date		Probe, Calibration Date		DAE, Calibration Date	
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000	2023-09-25	EX3DV4 - SN7607, 2023-07-04		DAE4 Sn878, 2023-03-23	

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	100.0 x 120.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	10.0 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	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-25	2023-09-25
psSAR1g [W/kg]	0.457	0.486
psSAR10g [W/kg]	0.235	0.255
Power Drift [dB]	-0.00	-0.01
Power Scaling	Disabled	Disabled
Scaling Factor		
[dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		58.5
Dist 3dB Peak [mm]		11.2



Meas.25 Right Head with Cheek on High Channel in LTE Band26 mode with Antenna 1
Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
T1621	158.0 x 68.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position , Test Distanc e [mm]	Band d	Group , UID	Frequenc y [MHz], Channel Number	Conversio n Factor	TSL Conductivit y [S/m]	TSL Permittivit y	Ambient Temperatur e [°C]	Liquid Temperatur e [°C]
RightHead , HSL	CHEEK, 0.00	Band 26	LTE- FDD, 10181- CAF	841.5, 26965	9.96	0.909	41.7	22.4	21.3

Hardware Setup

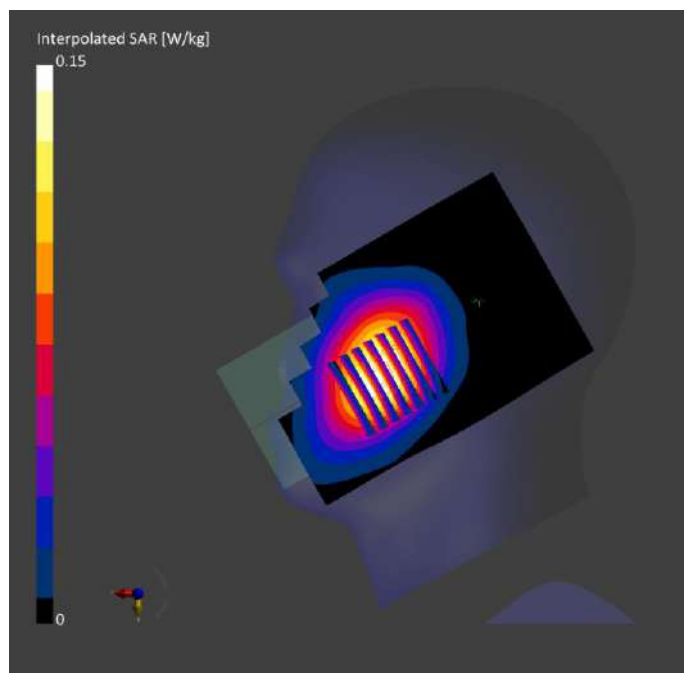
Phantom	TSL, Measured Date		Probe, Calibration Date		DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000	2023-09-19	EX3DV4 - SN7607, 2023-07-04		DAE4 Sn878, 2023-03-23

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	Y	Y
Surface	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-19	2023-09-19
psSAR1g [W/kg]	0.110	0.115
psSAR10g [W/kg]	0.075	0.087
Power Drift [dB]	0.02	-0.00
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		77.1
Dist 3dB Peak [mm]		16.9



Meas.26 Body Plan with Front Side 10mm on High Channel in LTE Band26 mode with Antenna 1
Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
T1621	158.0 x 68.0 x 8.0	Phone

Exposure Conditions

Phantom	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [°C]	Liquid Temperature
Flat, HSL	FRONT, 10.00	Band 26	LTE-FDD, 10181-CAF	841.5, 26965	9.96	0.909	41.7	22.4	21.3

Hardware Setup

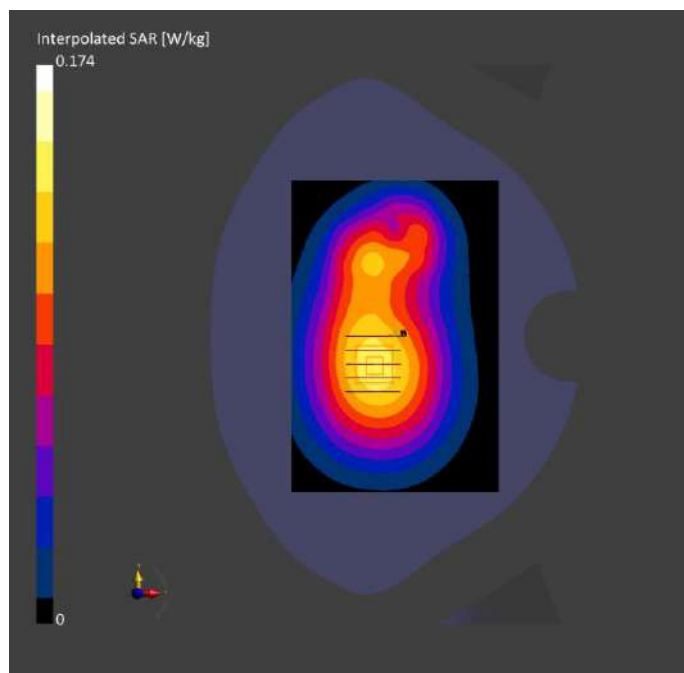
Phantom	TSL, Measured Date		Probe, Calibration Date		DAE, Calibration Date	
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000	2023-09-19	EX3DV4 - SN7607, 2023-07-04		DAE4 Sn878, 2023-03-23	

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	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-19	2023-09-19
psSAR1g [W/kg]	0.123	0.130
psSAR10g [W/kg]	0.087	0.097
Power Drift [dB]	-0.01	0.02
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		73.8
Dist 3dB Peak [mm]		> 16.0



Meas.27 Left Head with Cheek on Middle Channel in LTE Band66 mode with Antenna 1**Device under Test Properties**

Model, Manufacturer	Dimensions [mm]	DUT Type
T1621	158.0 x 68.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position , Test Distanc e [mm]	Band	Group , UID	Frequenc y [MHz], Channel Number	Conversio n Factor	TSL Conductivit y [S/m]	TSL Permittivit y	Ambient Temperatur e [°C]	Liquid Temperatur e [°C]
LeftHead , HSL	CHEEK, 0.00	Band 66	LTE- FDD, 10169- CAF	1745.0, 132322	8.52	1.37	40.3	22.4	21.5

Hardware Setup

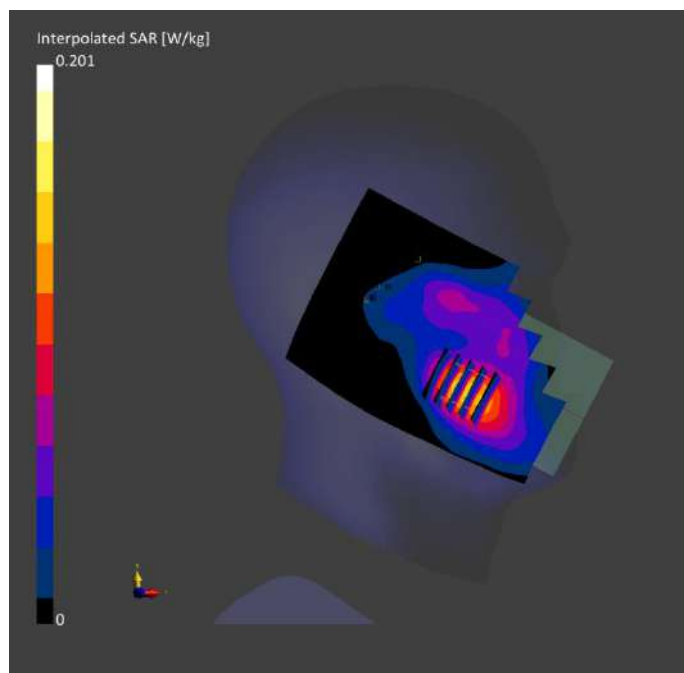
Phantom	TSL, Measured Date		Probe, Calibration Date		DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000	2023-09-21	EX3DV4 - SN7607, 2023-07-04		DAE4 Sn878, 2023-03-23

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	Y	Y
Surface	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-21	2023-09-21
psSAR1g [W/kg]	0.122	0.132
psSAR10g [W/kg]	0.074	0.084
Power Drift [dB]	0.00	-0.02
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		64.1
Dist 3dB Peak [mm]		14.4



Meas.28 Body Plan with Bottom Edge 10mm on Middle Channel in LTE Band66 mode with Antenna 1

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
T1621	158.0 x 68.0 x 8.0	Phone

Exposure Conditions

Phantom	Position, Test Section, TSL	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 66	LTE- FDD, 10169- CAF	1745.0, 132322	8.52	1.37	40.3	22.4	21.5

Hardware Setup

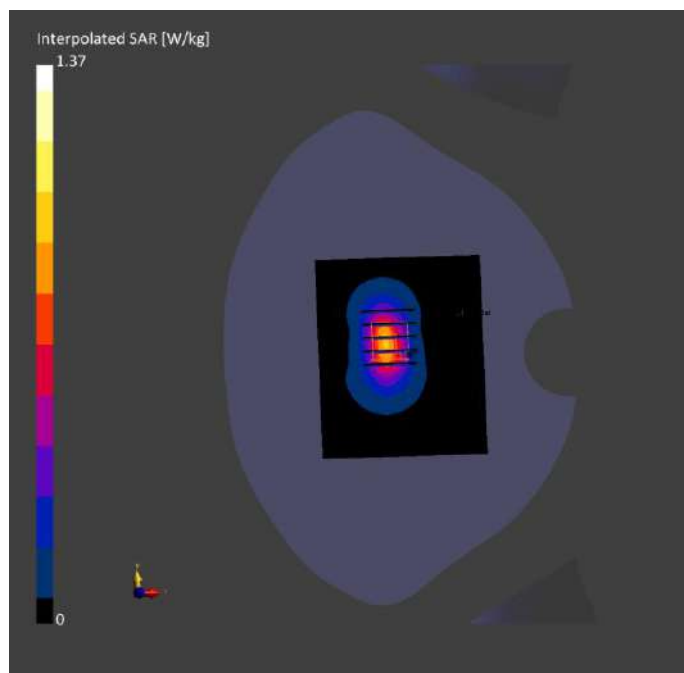
Phantom	TSL, Measured Date		Probe, Calibration Date		DAE, Calibration Date	
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000	2023-09-21	EX3DV4 - SN7607, 2023-07-04		DAE4 Sn878, 2023-03-23	

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	100.0 x 120.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	10.0 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	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-21	2023-09-21
psSAR1g [W/kg]	0.761	0.806
psSAR10g [W/kg]	0.403	0.432
Power Drift [dB]	-0.00	-0.01
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		59.3
Dist 3dB Peak [mm]		10.7



Meas.29 Right Head with Cheek on High Channel in LTE Band38 mode with Antenna 1
Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
T1621	158.0 x 68.0 x 8.0	Phone

Exposure Conditions

Phantom	Position	Band	Group	Frequency [MHz]	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [°C]	Liquid Temperature [°C]
TSL Section, TSL	Distance [mm]		UID	Channel Number					
RightHead	CHEEK,	Band	LTE-	2610.0,	7.41	2.00	38.4	22.3	21.1
, HSL	0.00	38	TDD,	38150					
			10172-						
			CAH						

Hardware Setup

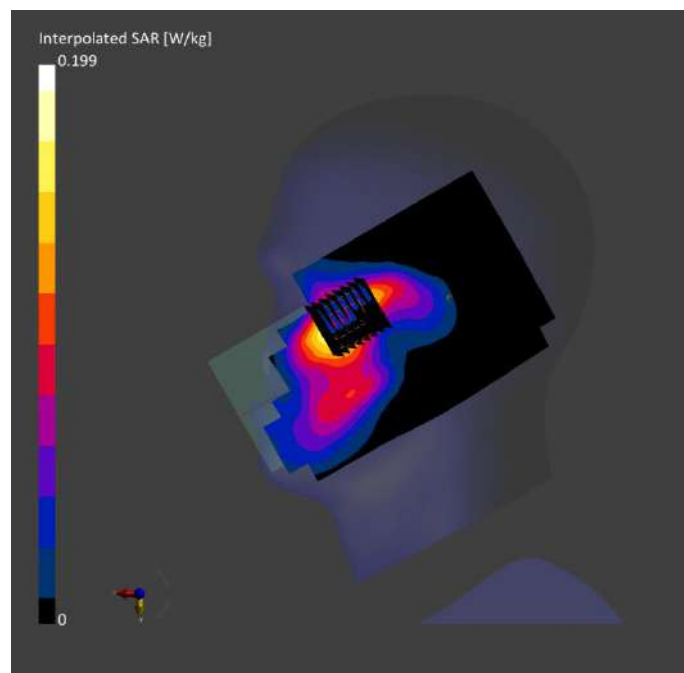
Phantom	TSL, Measured Date		Probe, Calibration Date		DAE, Calibration Date	
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000	2023-09-27	EX3DV4 - SN7607, 2023-07-04		DAE4 Sn878, 2023-03-23	

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	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-27	2023-09-27
psSAR1g [W/kg]	0.094	0.099
psSAR10g [W/kg]	0.051	0.046
Power Drift [dB]	0.02	0.01
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		68.7
Dist 3dB Peak [mm]		4.0



Meas.30 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
T1621	158.0 x 68.0 x 8.0	Phone

Exposure Conditions

Phantom	Position, Test Section, TSL	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	7.41	2.00	38.4	22.3	21.1

Hardware Setup

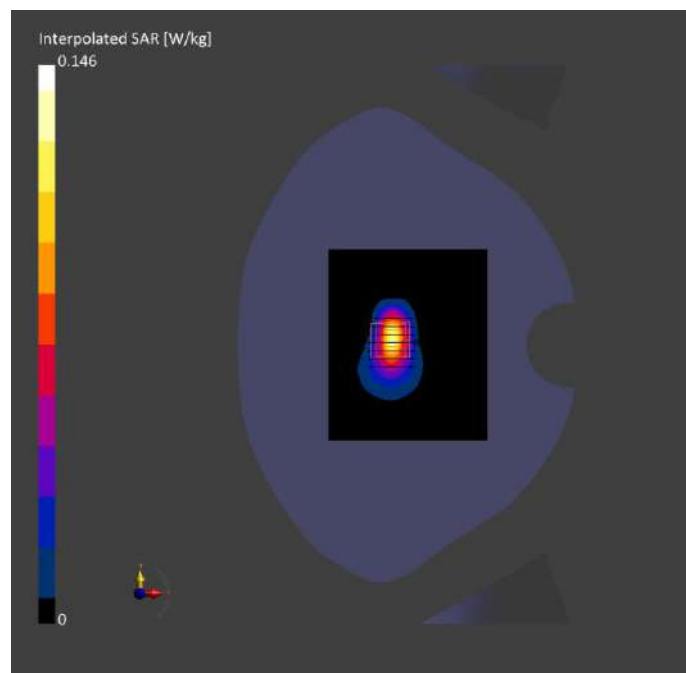
Phantom	TSL, Measured Date		Probe, Calibration Date		DAE, Calibration Date	
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000	2023-09-27	EX3DV4 - SN7607, 2023-07-04		DAE4 Sn878, 2023-03-23	

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	100.0 x 120.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	10.0 x 10.0	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	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-27	2023-09-27
psSAR1g [W/kg]	0.065	0.069
psSAR10g [W/kg]	0.028	0.026
Power Drift [dB]	-0.05	0.05
Power Scaling	Disabled	Disabled
Scaling Factor		
[dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		49.0
Dist 3dB Peak [mm]		4.0



Meas.31 Right Head with Cheek on Low Channel in LTE Band41 mode with Antenna 1**Device under Test Properties**

Model, Manufacturer	Dimensions [mm]	DUT Type
T1621	158.0 x 68.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position , Test Distanc e [mm]	Band d	Group , UID	Frequenc y [MHz], Channel Number	Conversio n Factor	TSL Conductivit y [S/m]	TSL Permittivit y	Ambient Temperatur e [°C]	Liquid Temperatur e [°C]
RightHead , HSL	CHEEK, 0.00	Band 41	LTE- TDD, 10172- CAH	2607.5, 40765	7.41	1.99	38.4	22.3	21.1

Hardware Setup

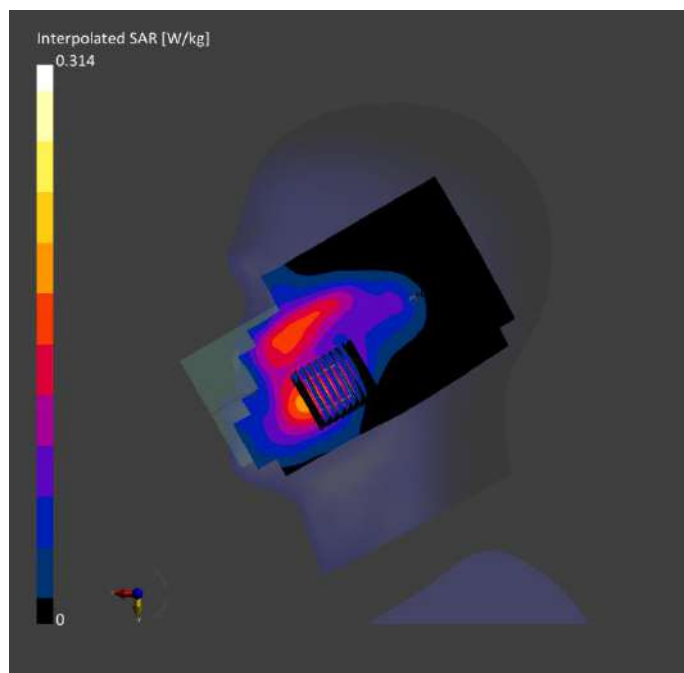
Phantom	TSL, Measured Date		Probe, Calibration Date		DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000	2023-09-27	EX3DV4 - SN7607, 2023-07-04		DAE4 Sn878, 2023-03-23

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	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-27	2023-09-27
psSAR1g [W/kg]	0.190	0.205
psSAR10g [W/kg]	0.102	0.132
Power Drift [dB]	-0.01	0.03
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		69.1
Dist 3dB Peak [mm]		4.2



Meas.32 Body Plan with Bottom Edge 10mm on Low Channel in LTE Band41 mode with Antenna 1
Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
T1621	158.0 x 68.0 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	2607.5, 40765	7.41	1.98	38.5	22.3	21.4

Hardware Setup

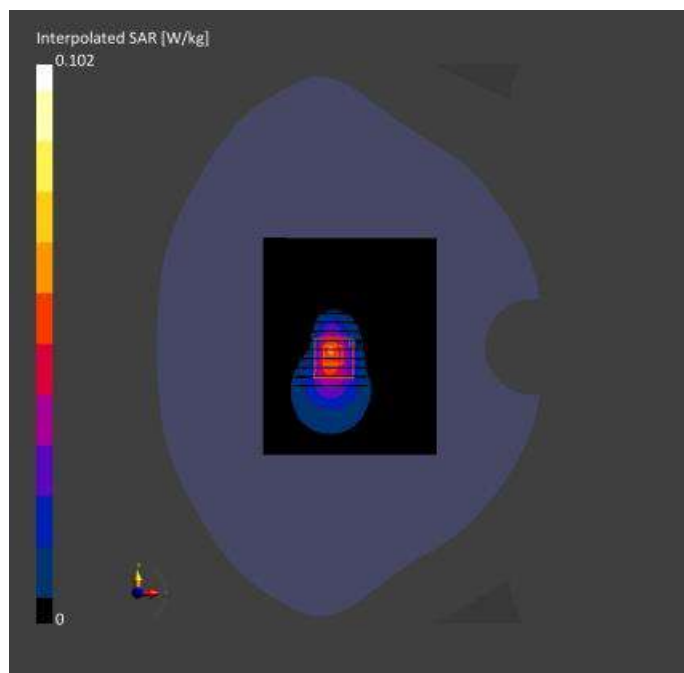
Phantom	TSL, Measured Date		Probe, Calibration Date		DAE, Calibration Date	
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000	2023-12-11	EX3DV4 - SN7607, 2023-07-04		DAE4 Sn878, 2023-03-23	

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	Y	Y
Surface	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-12-11	2023-12-11
psSAR1g [W/kg]	0.047	0.051
psSAR10g [W/kg]	0.022	0.023
Power Drift [dB]	-0.01	0.06
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		50.2
Dist 3dB Peak [mm]		> 15.0



Meas.33 Left Head with Cheek on 11 Channel in IEE802.11b mode with Antenna 2**Device under Test Properties**

Model, Manufacturer	Dimensions [mm]	DUT Type
T1621	158.0 x 68.0 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, 10013-CAB	2462.0, 11	7.47	1.80	39.5	22.4	21.5

Hardware Setup

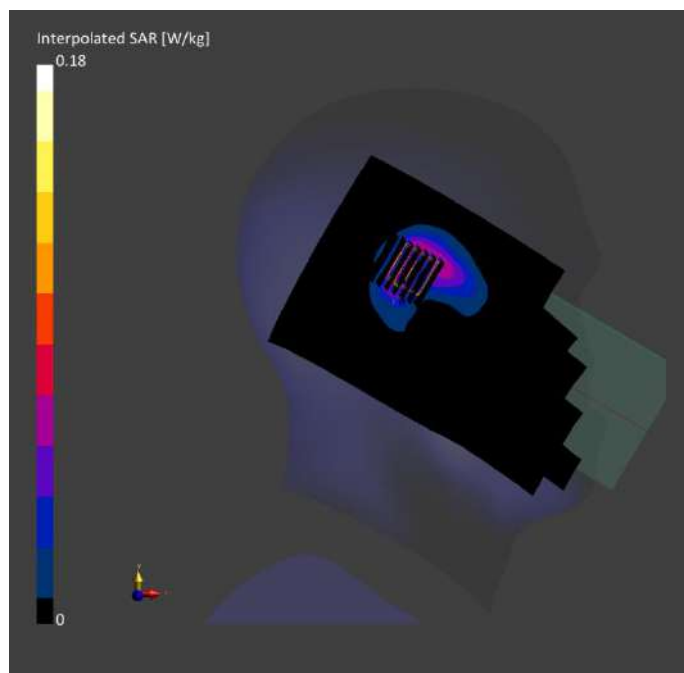
Phantom	TSL, Measured Date		Probe, Calibration Date		DAE, Calibration Date	
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000	2023-09-28	EX3DV4 - SN7607, 2023-07-04		DAE4 Sn878, 2023-03-23	

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	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-28	2023-09-28
psSAR1g [W/kg]	0.080	0.077
psSAR10g [W/kg]	0.039	0.033
Power Drift [dB]	0.13	0.02
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		43.2
Dist 3dB Peak [mm]		7.6



Meas.34 Body Plan with Front Side 10mm on 11 Channel in IEEE802.11b mode with Antenna 1**Device under Test Properties**

Model, Manufacturer	Dimensions [mm]	DUT Type
T1621	158.0 x 68.0 x 8.0	Phone

Exposure Conditions

Phantom	Position, Test Section, Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [°C]	Liquid Temperature
Flat, HSL	FRONT, 10.00	WLAN, 2.4GHz	WLAN, 10013-CAB	2462.0, 11	7.47	1.80	39.5	22.4	21.5

Hardware Setup

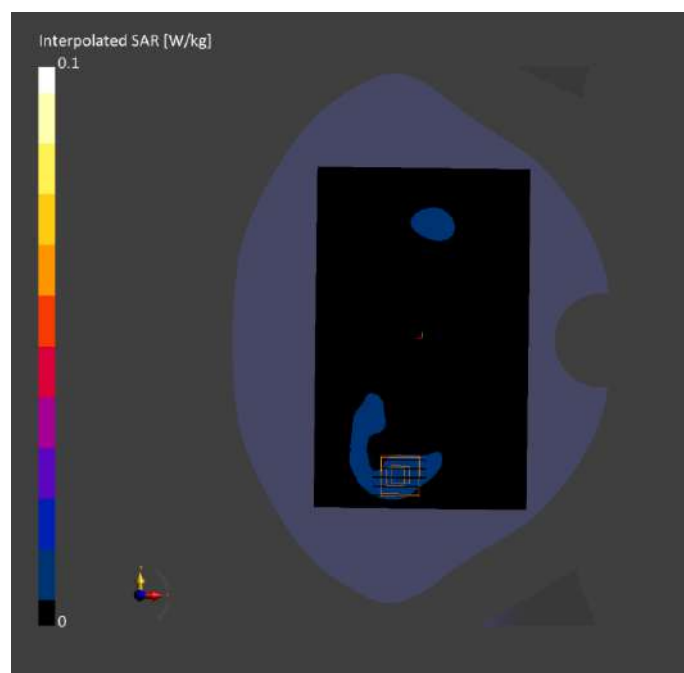
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2023-09-28	EX3DV4 - SN7607, 2023-07-04	DAE4 Sn878, 2023-03-23

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	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-28	2023-09-28
psSAR1g [W/kg]	0.012	0.013
psSAR10g [W/kg]	0.006	0.006
Power Drift [dB]	0.11	-0.08
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		53.1
Dist 3dB Peak [mm]		> 15.0



Meas.35 Left Head with Cheek on 54 Channel in IEE802.11n40 mode with Antenna 2**Device under Test Properties**

Model, Manufacturer	Dimensions [mm]	DUT Type
T1621	158.0 x 68.0 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, 5270.0, 54	WLAN, 10599-54	5.41	4.75	35.6	22.1	21.3	
		5GHz	AAC						

Hardware Setup

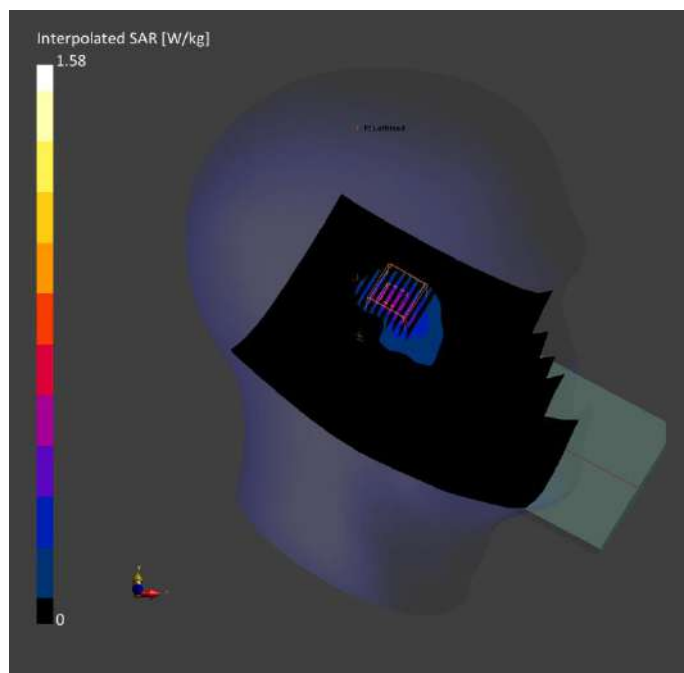
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2023-10-04	EX3DV4 - SN7607, 2023-07-04	DAE4 Sn878, 2023-03-23

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 180.0	24.0 x 24.0 x 22.0
Grid Steps [mm]	10.0 x 10.0	4.0 x 4.0 x 2.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.4
MAIA	Y	N/A
Surface	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-10-04	2023-10-04
psSAR1g [W/kg]	0.426	0.454
psSAR10g [W/kg]	0.165	0.165
Power Drift [dB]	0.03	-0.07
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		54.9
Dist 3dB Peak [mm]		7.6



Meas.36 Left Head with Cheek on 106 Channel in IEE802.11ac80 mode with Antenna 2**Device under Test Properties**

Model, Manufacturer	Dimensions [mm]	DUT Type
T1621	158.0 x 68.0 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, N	WLAN, 10544-	5530.0, 106	4.58	4.95	36.1	22.3	21.3
		5GHz	AAC						

Hardware Setup

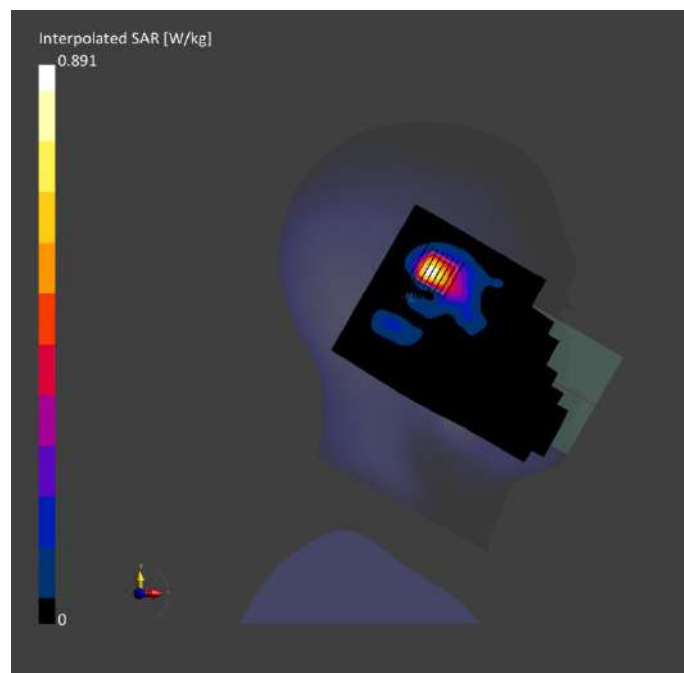
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000, 2023-10-05	EX3DV4 - SN7607, 2023-07-04	DAE4 Sn878, 2023-03-23

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 180.0	24.0 x 24.0 x 22.0
Grid Steps [mm]	10.0 x 10.0	4.0 x 4.0 x 2.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.4
MAIA	Y	Y
Surface	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-10-05	2023-10-05
psSAR1g [W/kg]	0.220	0.241
psSAR10g [W/kg]	0.075	0.077
Power Drift [dB]	-0.08	-0.03
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		52.5
Dist 3dB Peak [mm]		7.6



Meas.37 Right Head with Cheek on 155 Channel in IEE802.11ac80 mode with Antenna 2**Device under Test Properties**

Model, Manufacturer	Dimensions [mm]	DUT Type
T1621	158.0 x 68.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position , Test Distanc e [mm]	Band	Group , UID	Frequenc y [MHz], Channel Number	Conversio n Factor	TSL Conductivit y [S/m]	TSL Permittivit y	Ambient Temperatur e [°C]	Liquid Temperatur e [°C]
RightHead , HSL	CHEEK, 0.00	WLA N 5GHz	WLAN , 10544- AAC	5775.0, 155	4.78	5.22	35.1	22.6	21.2

Hardware Setup

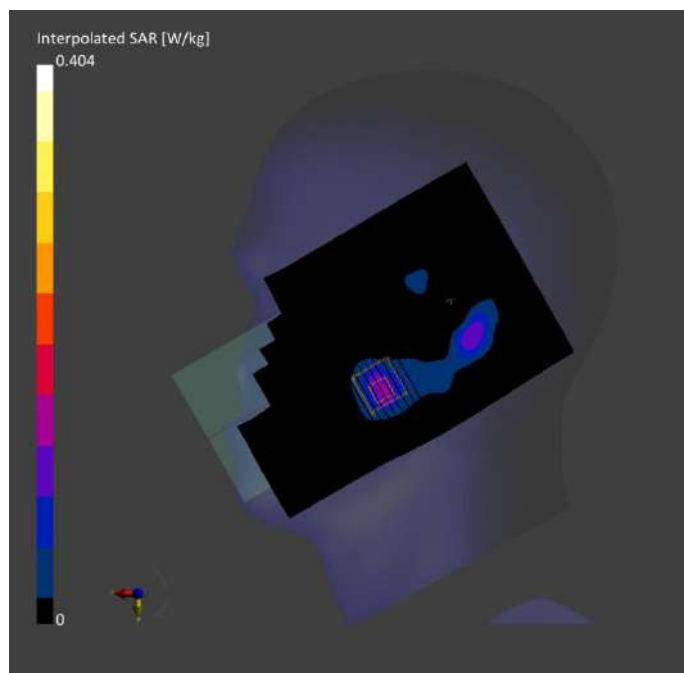
Phantom	TSL, Measured Date		Probe, Calibration Date		DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000	2023-10-06	EX3DV4 - SN7607, 2023-07-04		DAE4 Sn878, 2023-03-23

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 180.0	24.0 x 24.0 x 22.0
Grid Steps [mm]	10.0 x 10.0	4.0 x 4.0 x 2.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.4
MAIA	Y	Y
Surface	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-10-06	2023-10-06
psSAR1g [W/kg]	0.100	0.102
psSAR10g [W/kg]	0.035	0.030
Power Drift [dB]	-0.07	-0.09
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		51.9
Dist 3dB Peak [mm]		6.9



Meas.38 Body Plan with Back Side 0mm on 54 Channel in IEEE802.11n40 mode with Antenna 2
Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
T1621	158.0 x 68.0 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, 5GHz	WLAN, 10544-AAC	5270.0, 54	5.41	4.74	35.5	22.3	21.4

Hardware Setup

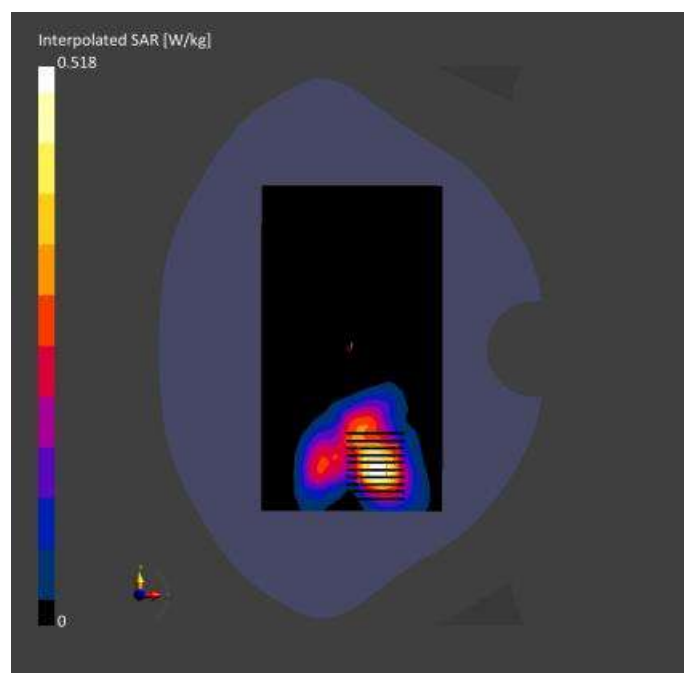
Phantom	TSL, Measured Date		Probe, Calibration Date		DAE, Calibration Date	
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000	2023-12-11	EX3DV4 - SN7607, 2023-07-04		DAE4 Sn878, 2023-03-23	

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	100.0 x 180.0	24.0 x 24.0 x 22.0
Grid Steps [mm]	10.0 x 10.0	4.0 x 4.0 x 2.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.4
MAIA	Y	Y
Surface	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-12-11	2023-12-11
psSAR1g [W/kg]	0.144	0.151
psSAR10g [W/kg]	0.056	0.056
Power Drift [dB]	0.18	0.01
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		54.7
Dist 3dB Peak [mm]		11.2



Meas.39 Body Plan with Back Side 0mm on 106 Channel in IEEE802.11ac80 mode with Antenna 2
Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
T1621	158.0 x 68.0 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, 5GHz	WLAN, 10544-AAC	5530.0, 106	4.58	4.94	35.1	22.3	21.4

Hardware Setup

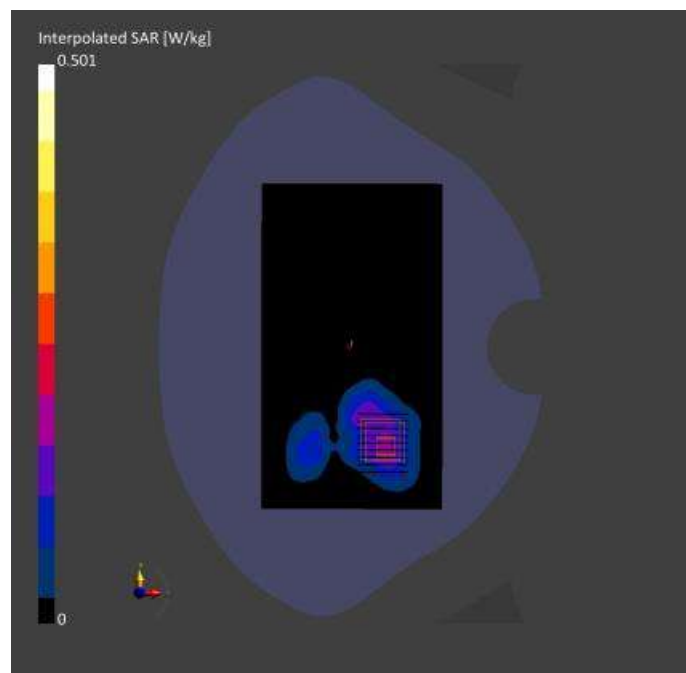
Phantom	TSL, Measured Date		Probe, Calibration Date		DAE, Calibration Date	
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000	2023-12-11	EX3DV4 - SN7607, 2023-07-04		DAE4 Sn878, 2023-03-23	

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	100.0 x 180.0	24.0 x 24.0 x 22.0
Grid Steps [mm]	10.0 x 10.0	4.0 x 4.0 x 2.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.4
MAIA	Y	Y
Surface	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-12-11	2023-12-11
psSAR1g [W/kg]	0.135	0.138
psSAR10g [W/kg]	0.056	0.055
Power Drift [dB]	-0.10	0.10
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		52.8
Dist 3dB Peak [mm]		12.0



Meas.40 Body Plan with Back Side 10mm on 42 Channel in IEEE802.11ac80 mode with Antenna 2**Device under Test Properties**

Model, Manufacturer	Dimensions [mm]	DUT Type
T1621	158.0 x 68.0 x 8.0	Phone

Exposure Conditions

Phantom	Position, Test Section, Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [°C]	Liquid Temperature
Flat, HSL	BACK, 10.00	WLAN, 5GHz	WLAN, 10544-AAC	5210.0, 42	5.41	4.63	36.3	22.1	21.3

Hardware Setup

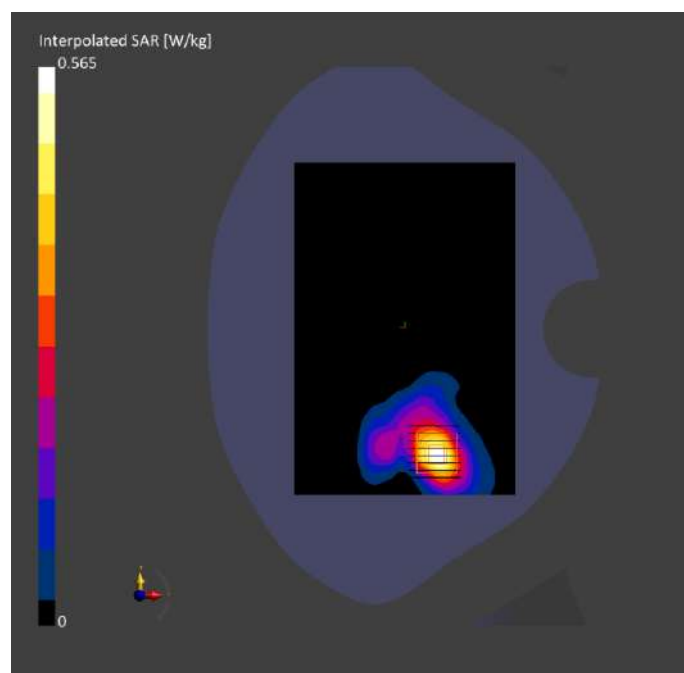
Phantom	TSL, Measured Date		Probe, Calibration Date		DAE, Calibration Date	
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000	2023-10-04	EX3DV4 - SN7607, 2023-07-04		DAE4 Sn878, 2023-03-23	

Scan Setup

		Area Scan	Zoom Scan
Grid Extents [mm]		120.0 x 180.0	24.0 x 24.0 x 22.0
Grid Steps [mm]		10.0 x 10.0	4.0 x 4.0 x 2.0
Sensor Surface [mm]		3.0	1.4
Graded Grid		Yes	Yes
Grading Ratio		1.5	1.4
MAIA		Y	Y
Surface		VMS + 6p	VMS + 6p
Detection			
Scan Method		Measured	Measured

Measurement Results

		Area Scan	Zoom Scan
Date		2023-10-04	2023-10-04
psSAR1g [W/kg]		0.169	0.171
psSAR10g [W/kg]		0.064	0.061
Power Drift [dB]		0.05	0.01
Power Scaling		Disabled	Disabled
Scaling Factor [dB]			
TSL Correction	No correction		No correction
M2/M1 [%]			54.7
Dist 3dB Peak [mm]			10.0



Meas.41 Body Plan with Back Side 10mm on 155 Channel in IEEE802.11ac80 mode with Antenna 2
Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
T1621	158.0 x 68.0 x 8.0	Phone

Exposure Conditions

Phantom	Position, Test Section, Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [°C]	Liquid Temperature
Flat, HSL	BACK, 10.00	WLAN, 5GHz	WLAN, 10544-AAC	5775.0, 155	4.78	5.22	35.1	22.6	21.2

Hardware Setup

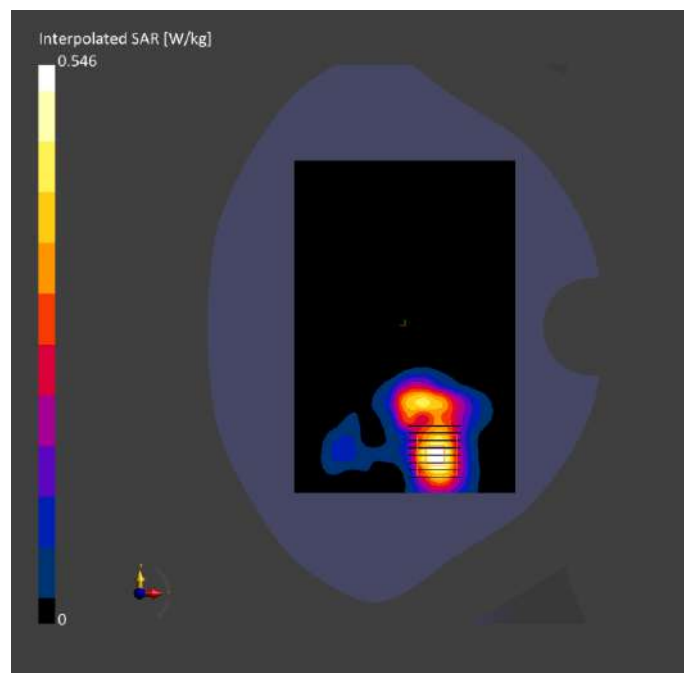
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2023-10-06	EX3DV4 - SN7607, 2023-07-04	DAE4 Sn878, 2023-03-23

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 180.0	24.0 x 24.0 x 22.0
Grid Steps [mm]	10.0 x 10.0	4.0 x 4.0 x 2.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.4
MAIA	Y	Y
Surface	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-10-06	2023-10-06
psSAR1g [W/kg]	0.142	0.144
psSAR10g [W/kg]	0.053	0.050
Power Drift [dB]	0.16	-0.01
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		48.1
Dist 3dB Peak [mm]		9.9



Meas.42 Body Plan with Left Edge 0mm on 54 Channel in IEEE802.11n40 mode with Antenna 2**Device under Test Properties**

Model, Manufacturer	Dimensions [mm]	DUT Type
T1621	158.0 x 68.0 x 8.0	Phone

Exposure Conditions

Phantom	Position	Band	Group	Frequency [MHz]	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature	Liquid Temperature
Section, TSL	Distance [mm]		UID	Channel Number				[°C]	[°C]
Flat, HSL	EDGE LEFT, 0.00	WLAN, 5GHz	WLAN, 10599-AAC	5270.0, 54	5.41	4.75	35.6	22.1	21.3

Hardware Setup

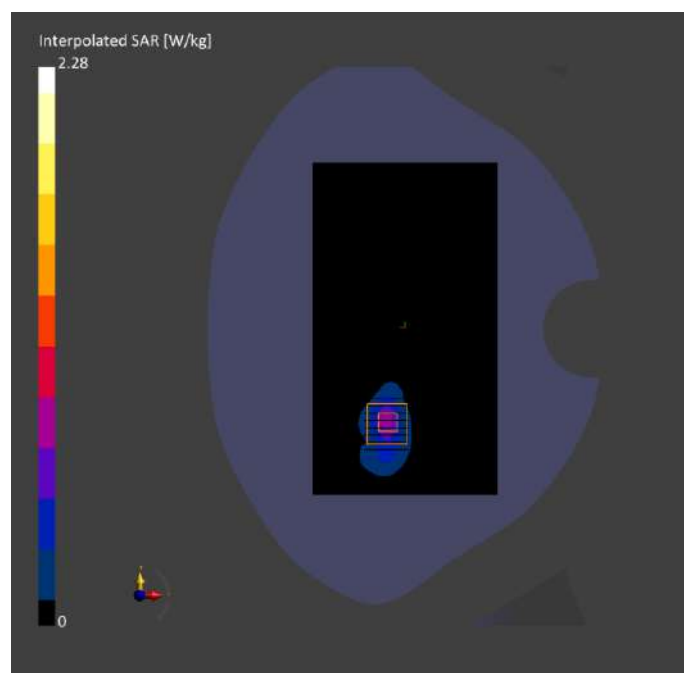
Phantom	TSL, Measured Date		Probe, Calibration Date		DAE, Calibration Date	
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000	2023-10-04	EX3DV4 - SN7607, 2023-07-04		DAE4 Sn878, 2023-03-23	

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	100.0 x 180.0	24.0 x 24.0 x 22.0
Grid Steps [mm]	10.0 x 10.0	4.0 x 4.0 x 2.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.4
MAIA	Y	N/A
Surface	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-10-04	2023-10-04
psSAR1g [W/kg]	0.578	0.606
psSAR10g [W/kg]	0.190	0.194
Power Drift [dB]	-0.04	0.16
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		51.4
Dist 3dB Peak [mm]		6.8



Meas.43 Body Plan with Left Edge 0mm on 106 Channel in IEEE802.11ac80 mode with Antenna 2**Device under Test Properties**

Model, Manufacturer	Dimensions [mm]	DUT Type
T1621	158.0 x 68.0 x 8.0	Phone

Exposure Conditions

Phantom	Position	Band	Group	Frequency [MHz]	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature	Liquid Temperature
Section, TSL	Distance [mm]		UID	Channel Number				[°C]	[°C]
Flat, HSL	EDGE LEFT, 0.00	WLAN, 5GHz	WLAN, 10544-AAC	5530.0, 106	4.58	4.95	36.1	22.3	21.3

Hardware Setup

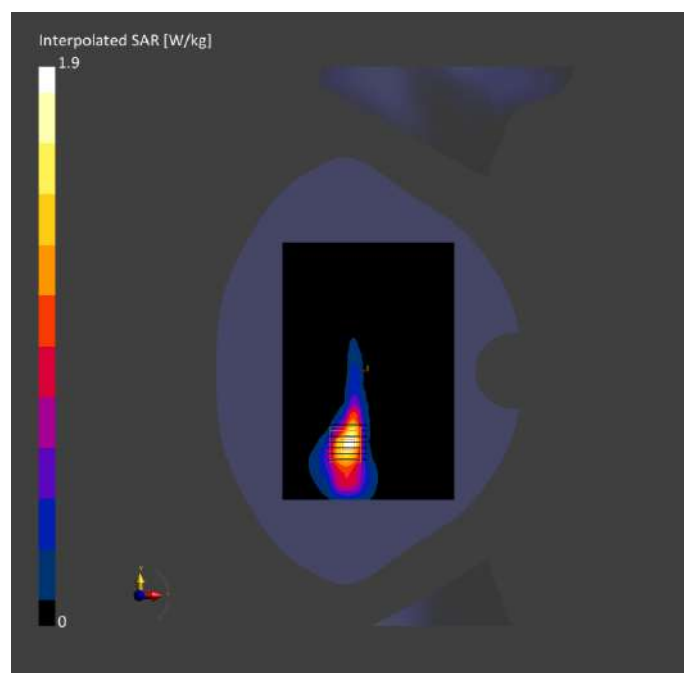
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000, 2023-10-23	EX3DV4 - SN7607, 2023-07-04	DAE4 Sn878, 2023-03-23

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 180.0	24.0 x 24.0 x 22.0
Grid Steps [mm]	10.0 x 10.0	4.0 x 4.0 x 2.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.4
MAIA	Y	N/A
Surface	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-10-23	2023-10-23
psSAR1g [W/kg]	0.387	0.472
psSAR10g [W/kg]	0.139	0.149
Power Drift [dB]	0.01	-0.03
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		51.6
Dist 3dB Peak [mm]		6.4



Meas.44 Left Head with Cheek on 0 Channel in Bluetooth mode with Antenna 2**Device under Test Properties**

Model, Manufacturer	Dimensions [mm]	DUT Type
T1621	158.0 x 68.0 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
LeftHead, HSL	CHEEK, 0.00	ISM 2.4 GHz Band	Bluetooth, 10035-CAA	2402.0, 0	7.47	1.74	39.9	22.4	21.5

Hardware Setup

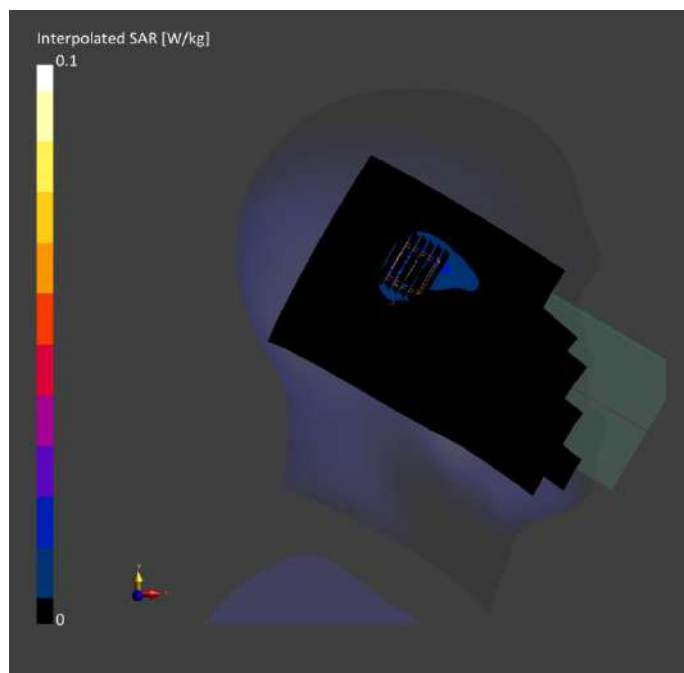
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2023-09-28	EX3DV4 - SN7607, 2023-07-04	DAE4 Sn878, 2023-03-23

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	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-28	2023-09-28
psSAR1g [W/kg]	0.022	0.021
psSAR10g [W/kg]	0.011	0.008
Power Drift [dB]	0.11	0.12
Power Scaling	Disabled	Disabled
Scaling Factor		
[dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		39.2
Dist 3dB Peak [mm]		> 15.0



Meas.45 Body Plan with Front Side 10mm on 0 Channel in Bluetooth mode with Antenna 2
Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
T1621	158.0 x 68.0 x 8.0	Phone

Exposure Conditions

Phantom	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	FRONT, 10.00	ISM 2.4 GHz Band	Bluetooth , 10032-CAA	2402.0, 0	7.47	1.74	39.9	22.4	21.5

Hardware Setup

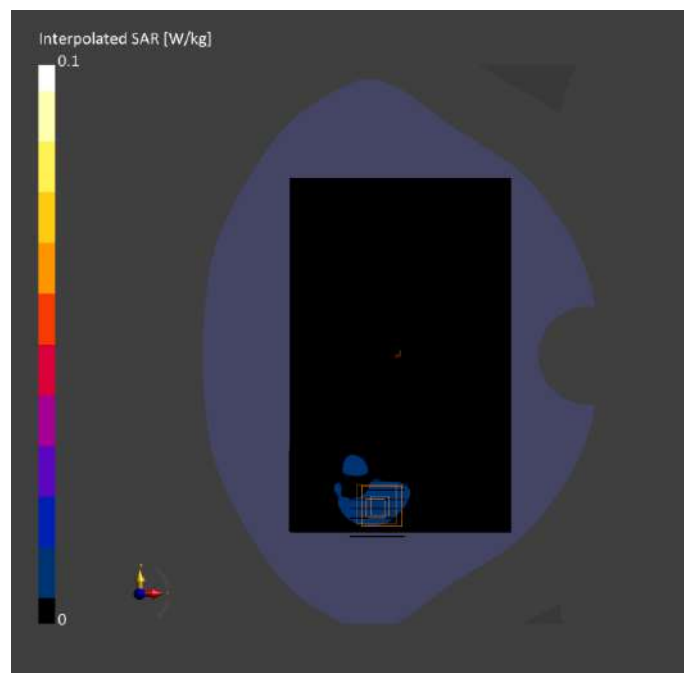
Phantom	TSL, Measured Date		Probe, Calibration Date		DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000	2023-09-28	EX3DV4 - SN7607, 2023-07-04		DAE4 Sn878, 2023-03-23

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	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2023-09-28	2023-09-28
psSAR1g [W/kg]	0.012	0.012
psSAR10g [W/kg]	0.006	0.004
Power Drift [dB]	0.23	0.01
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		41.3
Dist 3dB Peak [mm]		> 15.0



ANNEX D EUT EXTERNAL PHOTOS

Please refer the document “BL-SZ2390677-AW.pdf”.

ANNEX E SAR TEST SETUP PHOTOS

Please refer the document “BL-SZ2390677-AS.pdf”.

ANNEX F CALIBRATION REPORT

Please refer the document “BL-SZ2390677-AC.pdf”.

ANNEX G TUNE-UP PROCEDURE

Please refer the document “BL-SZ2390677-AT.pdf”.

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