TEST REPORT

Applicant:	TECNO MOBILE LIMITED
Address:	FLAT N 16/F BLOCK B UNIVERSAL INDUSTRIAL CENTRE 19-25 SHAN MEI STREET FOTAN NT HONGKONG
Equipment Type:	Mobile phone
Model Name:	CLA5
Brand Name:	TECNO
FCC ID:	2ADYY-CLA5
Test Standard:	FCC 47 CFR Part 2.1093 (refer to section 3.1)
Maximum SAR:	Head (1 g@0mm): 0.94 W/kg Body-worn (1 g@10mm): 0.50 W/kg Hotspot (1 g@10mm): 0.52 W/kg Specific (10 g@10mm): 0.19 W/kg
Sample Arrival Date:	Jun. 25, 2024
Test Date:	Jun. 28, 2024 - Aug. 08, 2024
Date of Issue:	Aug. 14, 2024

ISSUED BY:

Shenzhen BALUN Technology Co., Ltd.

Tested by: Xu Rui **Checked by:** Zong Liyao **Approved by:** Tolan Tu

(Testing Director)

Revision History

Version	Issue Date	Revisions Content
Rev. 01	Aug. 14, 2024	Initial Issue

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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℃ to 25℃
Ambient Relative Humidity	30% to 70%

2 PRODUCT INFORMATION

2.1 Applicant Information

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

2.2 Manufacturer Information

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

2.3 General Description for Equipment under Test (EUT)

EUT Name	Mobile phone
Model Name Under Test	CLA5
Series Model Name	N/A
Description of Model name differentiation	N/A
Hardware Version	N/A
Software Version	N/A
Dimensions (Approx.)	N/A
Weight (Approx.)	N/A

2.4 Ancillary Equipment

Ancillary Equipment 1	Battery	
	Brand Name	N/A
	Model No.	BL-49OX
	Serial No.	N/A
	Capacity	Rated: 4900mAh/18.96Wh Typical: 5000mAhl/19.35Wh
	Rated Voltage	3.87 V
	Limit Charge Voltage	4.45 V
Ancillary Equipment 2	Headset	
	Length (Approx.)	1.2m

2.5 Technical Information

Network and Wireless connectivity	2G Network GSM/GPRS/EDGE 850/1900 3G Network WCDMA/HSDPA/HSUPA Band 2/4/5 4G Network LTE FDD Band 2/4/5/7/12/17/66 LTE TDD Band 38/41 Bluetooth (BR+EDR+BLE) WIFI 802.11a, 802.11b, 802.11g, 802.11n(HT20/40) and 802.11ac(VHT20/40/80) GPS, GLONASS, BDS, Galileo, SBAS, FM Receiver, NFC
Note: The EUT is a mobile phone, which supports dual SIM card under the same transceiver. Each SIM supports GSM, WCDMA and LTE, and both SIM share the same transmitting electro circuit, NV parameters, so only SIM1 was tested in this report.	

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

Operating Mode	GSM, WCDMA, LTE, 2.4G WIFI, 5G WIFI, Bluetooth		
Frequency Range	GSM 850	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	GSM 1900	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	WCDMA Band 2	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	WCDMA Band 4	TX: 1710 ~ 1755 MHz	RX: 2110 ~ 2155 MHz
	WCDMA Band 5	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	LTE Band 2	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	LTE Band 4	TX: 1710 ~ 1755 MHz	RX: 2110 ~ 2155 MHz
	LTE Band 5	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	LTE Band 7	TX: 2500 ~ 2570 MHz	RX: 2620 ~ 2690 MHz
	LTE Band 12	TX: 699 ~ 716 MHz	RX: 729 ~ 746 MHz
	LTE Band 17	TX: 704 ~ 716 MHz	RX: 734 ~ 746 MHz
	LTE Band 66	TX: 1710 ~ 1780 MHz	RX: 2110 ~ 2180 MHz
	LTE Band 38	TX: 2570 ~ 2620 MHz	RX: 2570 ~ 2620 MHz
	LTE Band 41	TX: 2535 ~2655 MHz	RX: 2535 ~2655 MHz
	802.11b/g /n(HT20)	2412 ~ 2462 MHz	
	802.11a/ /n(HT20/HT40) /ac(VHT20/VHT40/ VHT80)	5150 ~ 5250 MHz	
		5250 ~ 5350 MHz	
		5470 ~ 5725 MHz	
		5725 ~ 5850 MHz	
	Bluetooth	2402 ~ 2480 MHz	
	NFC	13.56 MHz	
Antenna Type	WWAN: PIFA Antenna WIFI: PIFA Antenna Bluetooth: PIFA Antenna NFC: Coil Antenna		
DTM	N/A		
Hotspot Function	Support		

Power Reduction	Support	
Exposure Category	General Population/Uncontrolled exposure	
Product Type	Portable Device	
EUT Type	☒ Production unit	☐ Identical prototype

3 SUMMARY OF TEST RESULT

3.1 Test Standards

No.	Identity	Document Title
1	47 CFR Part 2.1093	Radiofrequency radiation exposure evaluation: portable devices
2	ANSI C95.1-1992	IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz
3	IEEE Std. 1528-2013	IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate(SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques
4	KDB 447498 D04 v01	447498 D04 Interim General RF Exposure Guidance v01
5	KDB 941225 D01 v03r01	3G SAR MEAUREMENT PROCEDURES
6	KDB 941225 D05 v02r05	SAR Evaluation Considerations for LTE Devices
7	KDB 941225 D06 v02r01	SAR EVALUATION PROCEDURES FOR PORTABLE DEVICES WITH WIRELESS ROUTER CAPABILITIES
8	KDB 865664 D01 v01r04	SAR Measurement 100 MHz to 6 GHz
9	KDB 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/ ControlledExposure
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	0.72	0.24	0.24	/	0.94	0.50	0.52	0.19
	GSM 1900	0.84	0.27	0.33	/				
	WCDMA Band 2	0.49	0.14	0.20	/				
	WCDMA Band 4	0.44	0.14	0.18	/				
	WCDMA Band 5	0.94	0.50	0.52	/				
	LTE Band 2	0.39	0.12	0.16	/				
	LTE Band 5	0.60	0.26	0.31	/				
	LTE Band 7	0.52	0.12	0.14	/				
	LTE Band 12	0.32	0.17	0.26	/				
	LTE Band 66	0.48	0.12	0.17	/				
	LTE Band 38	0.55	0.13	0.14	/				
	LTE Band 41	0.56	0.14	0.15	/				
DTS	2.4G WIFI	0.28	0.06	0.06	/				
NII	5.2G WLAN	/	/	0.06	/				
	5.3G WLAN	0.15	0.11	/	0.19				
	5.6G WLAN	0.12	0.13	/	0.18				
	5.8G WLAN	0.18	0.12	0.13	/				
DSS	Bluetooth	0.55	0.18	0.22	/				
Limit (W/kg)		1.6			4.0	1.6			4.0
Verdict		PASS							

Note: This device supports both LTE Band 12/66 and Band 4/17. Since the supported frequency span for LTE Band 12/66 falls completely within the supports frequency span for LTE Band 4/17, both LTE bands have the same target power, and both LTE bands share the same transmission path; therefore, SAR was only assessed for LTE Band 12/66.

3.3.2 Highest Simultaneous Transmission SAR Values

Equipment Class	Maximum Scaled SAR (W/kg)		
	Head 1g (0mm)	Body-worn 1g (10mm)	Hotspot 1g (10mm)
PCE	1.54	0.81	0.81
DTS	1.54	0.81	0.81
NII	1.54	0.81	0.81
DSS	1.54	0.81	0.81
Limit (W/Kg)	1.60		
Verdict	Pass		
Note: The highest simultaneous SAR please refer section 12.2			

3.4 Test Uncertainty

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

The maximum 1 g SAR for the EUT in this report is 0.94 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 0.19 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:

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

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

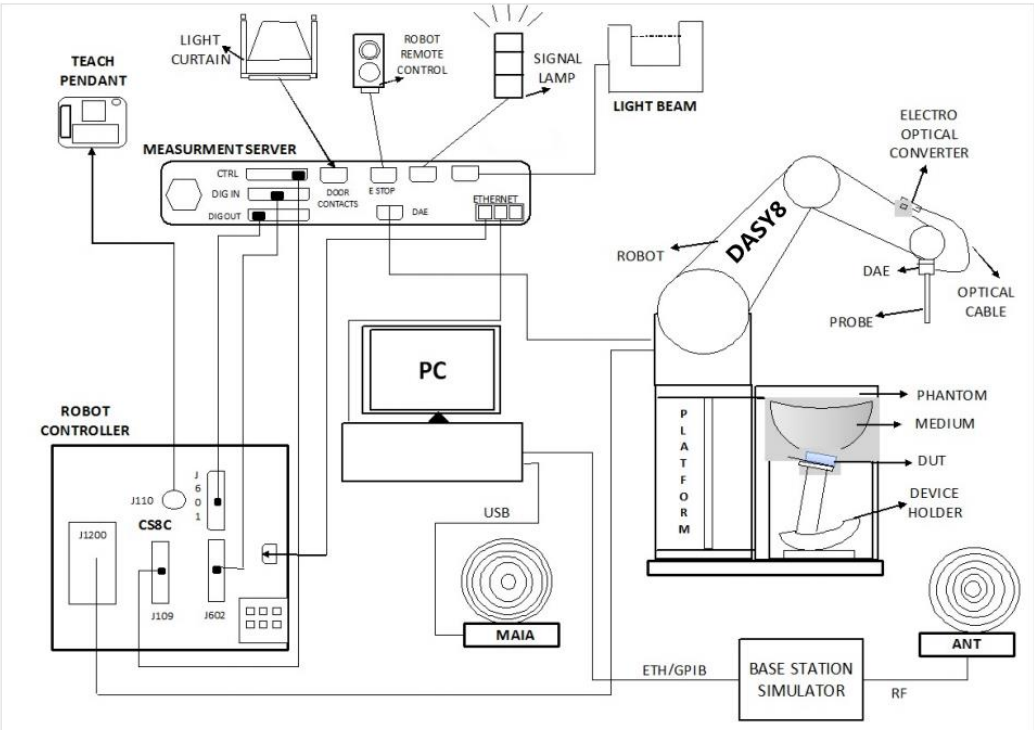
$$\mathbf{SAR} = \frac{\boldsymbol{\sigma}\mathbf{E}^{2}}{\boldsymbol{\rho}}$$

Where: σ is the conductivity of the tissue,

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

4.2 DASY SAR System

4.2.1 DASY SAR System Diagram

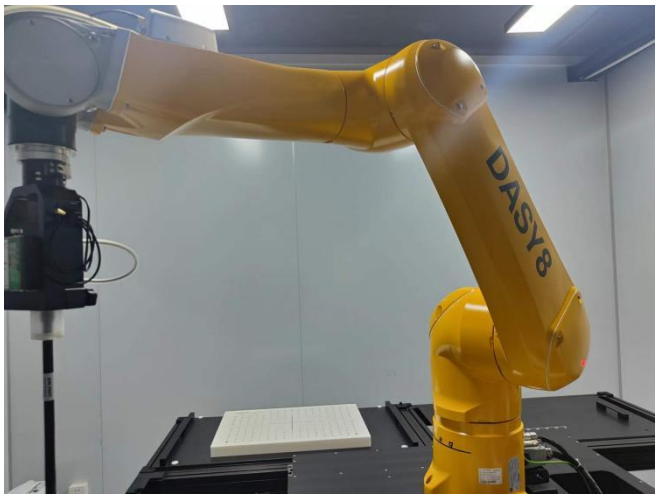


The DASY system for performing compliance tests consists of the following items:

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

4.2.2 Robot

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



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

4.2.3 E-Field Probe

The probe is specially designed and calibrated for use in liquids with high permittivities for the measurements the Specific Dosimetric E-Field Probe EX3DV4-SN:7510&7607 with following specifications is used.

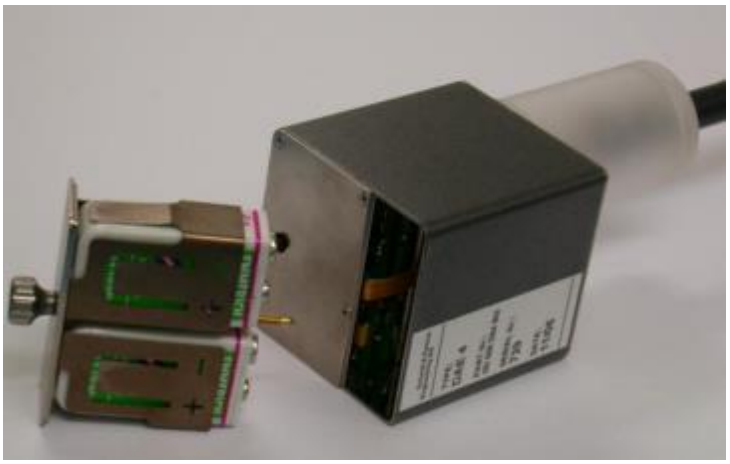
Construction	Symmetrical design with triangular core Built-in optical fiber for surface detection system Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., glycolether)
Calibration	ISO/IEC 17025 calibration service available
Frequency	4 MHz to 10 GHz; Linearity: ± 0.2 dB
Directivity	± 0.2 dB in HSL (rotation around probe axis) ; ± 0.4 dB in HSL (rotation normal to probe axis)
Dynamic range	5 μW/g to > 100 mW/g; Linearity: ± 0.2 dB
Dimensions	Overall length: 337 mm (Tip: 9 mm) Tip diameter: 2.5 mm (Body: 10 mm) Distance from probe tip to dipole centers: 1.0 mm
Application	General dosimetry up to 3 GHz Compliance tests of mobile phones Fast automatic scanning in arbitrary phantoms (EX3DV4)

E-Field Probe Calibration Process

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

4.2.4 Data Acquisition Electronics

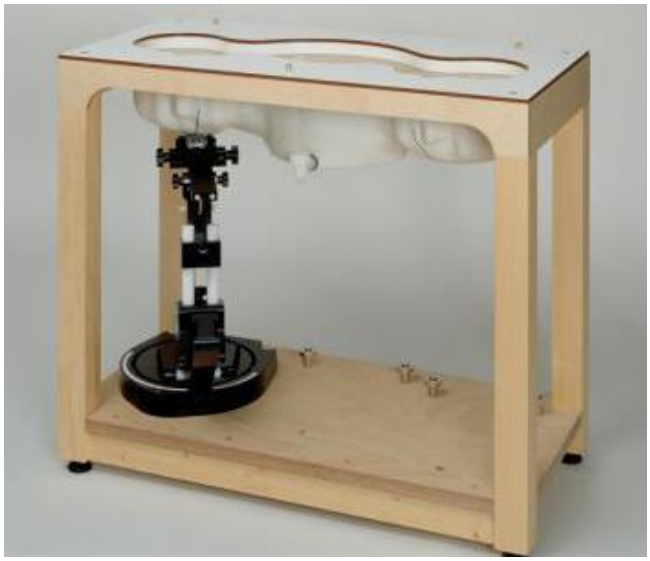
The data acquisition electronics (DAE) consist of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converte and a command decoder with a control logic unit. Transmission to the measurement server is accomplished through an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



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

4.2.5 Phantoms

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



- Left head
- Right head
- Flat phantom

Photo of Phantom SN1859

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

4.2.6 Device Holder

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

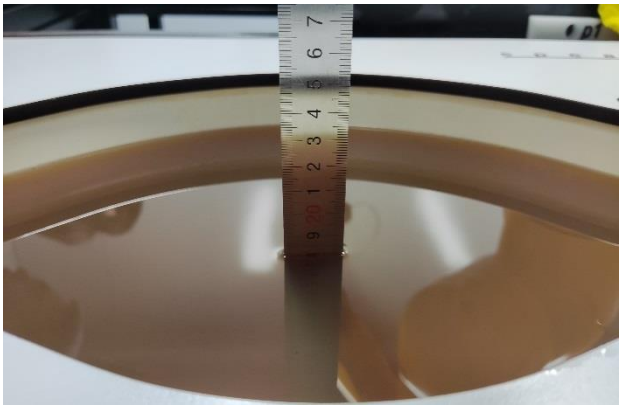
The positioning system allows obtaining cheek and tilting position with a very good accuracy. Incompliance with CENELEC, the tilt angle uncertainty is lower than 1°.

4.2.7 Simulating Liquid

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

Head Liquid Depth

Body Liquid Depth



The following table gives the recipes for tissue simulating liquid.

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

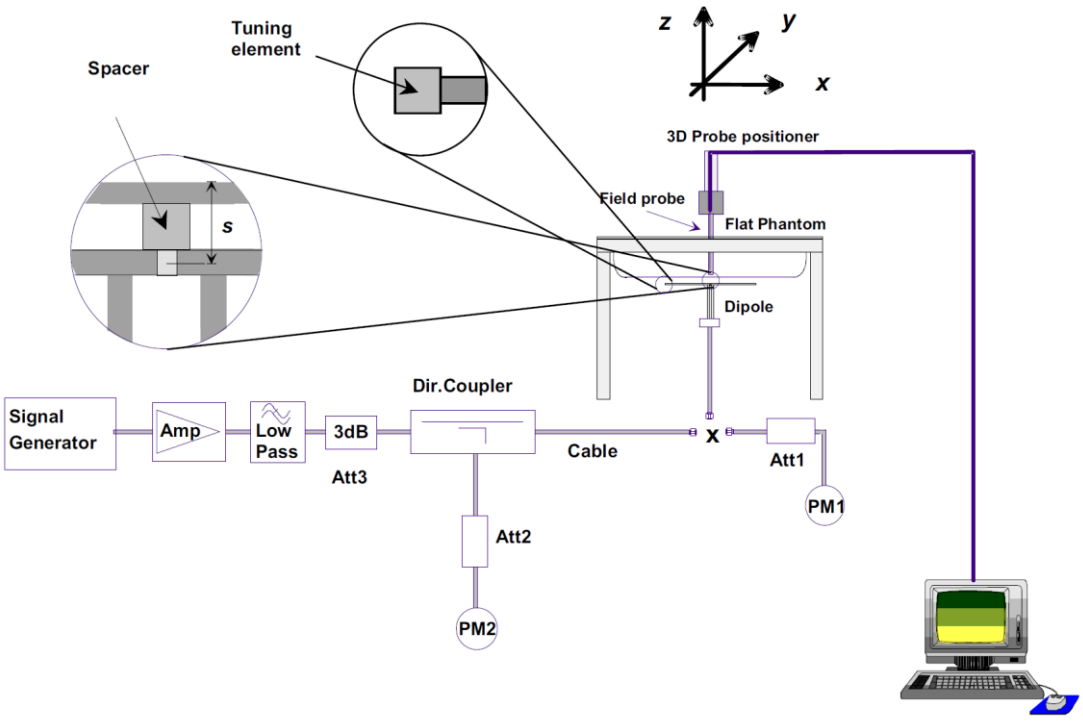
5 SYSTEM VERIFICATION

5.1 Purpose of System Check

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

5.2 System Check Setup

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



6 TEST POSITION CONFIGURATIONS

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

6.1 Head Exposure Conditions

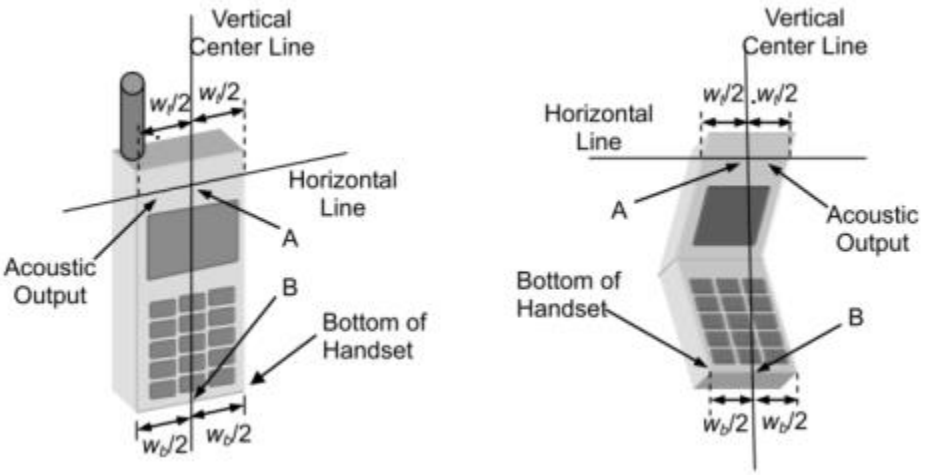
Head exposure is limited to next to the ear voice mode operations. Head SAR compliance is tested according to the test positions defined in IEEE Std 1528-2013 using the SAM phantom illustrated as below.

6.1.1 Two Imaginary Lines on the Handset

(a) 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.

(b) 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.

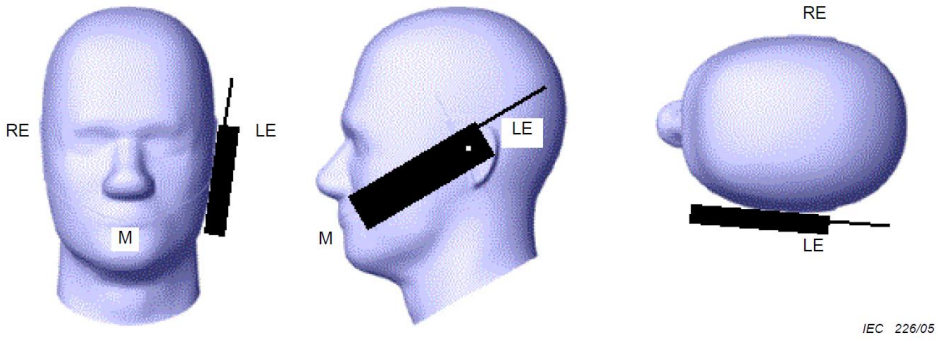
(c) The two lines intersect at point A. Note that for many handsets, point A coincides with the center of the acoustic output; however, the acoustic output may be located elsewhere on the horizontal line. Also note that the vertical center line is not necessarily parallel to the front face of the handset, especially for clamshell handsets, handsets with flip covers, and other irregularly shaped handsets.



6.1.2 Cheek Position

(a) To position the device with the vertical center line of the body of the device and the horizontal line crossing the center piece in a plane parallel to the sagittal plane of the phantom. While maintaining the device in this plane, align the vertical center line with the reference plane containing the three ear and mouth reference point (M: Mouth, RE: Right Ear, and LE: Left Ear) and align the center of the ear piece with the line RE-LE.

(b) To move the device towards the phantom with the ear piece aligned with the line LE-RE until the phone touched the ear. While maintaining the device in the reference plane and maintaining the phone contact with the ear, move the bottom of the phone until any point on the front side is in contact with the cheek of the phantom or until contact with the ear is lost.



6.1.3 Tilted Position

(a) To position the device in the “cheek” position described above.

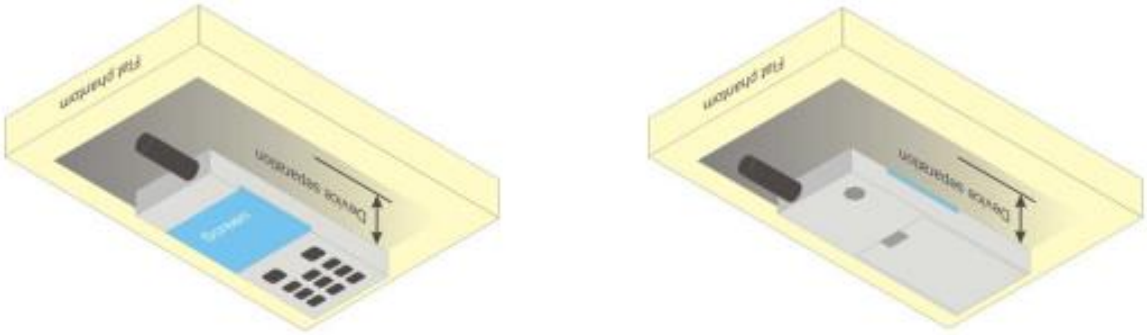
(b) While maintaining the device the reference plane described above and pivoting against the ear, moves it outward away from the mouth by an angle of 15 degrees or until contact with the ear is lost.

6.2 Body-worn Position Conditions

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

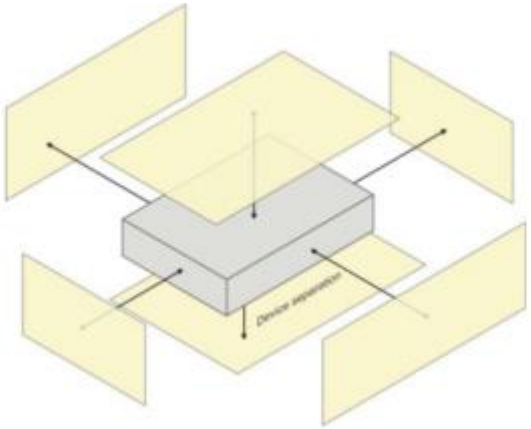
Body-worn accessories that do not contain metallic or conductive components may be tested according to worst-case exposure configurations, typically according to the smallest test separation distance required for the group of body-worn accessories with similar operating and exposure characteristics.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

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



6.3 Hotspot Mode Exposure Position Conditions

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



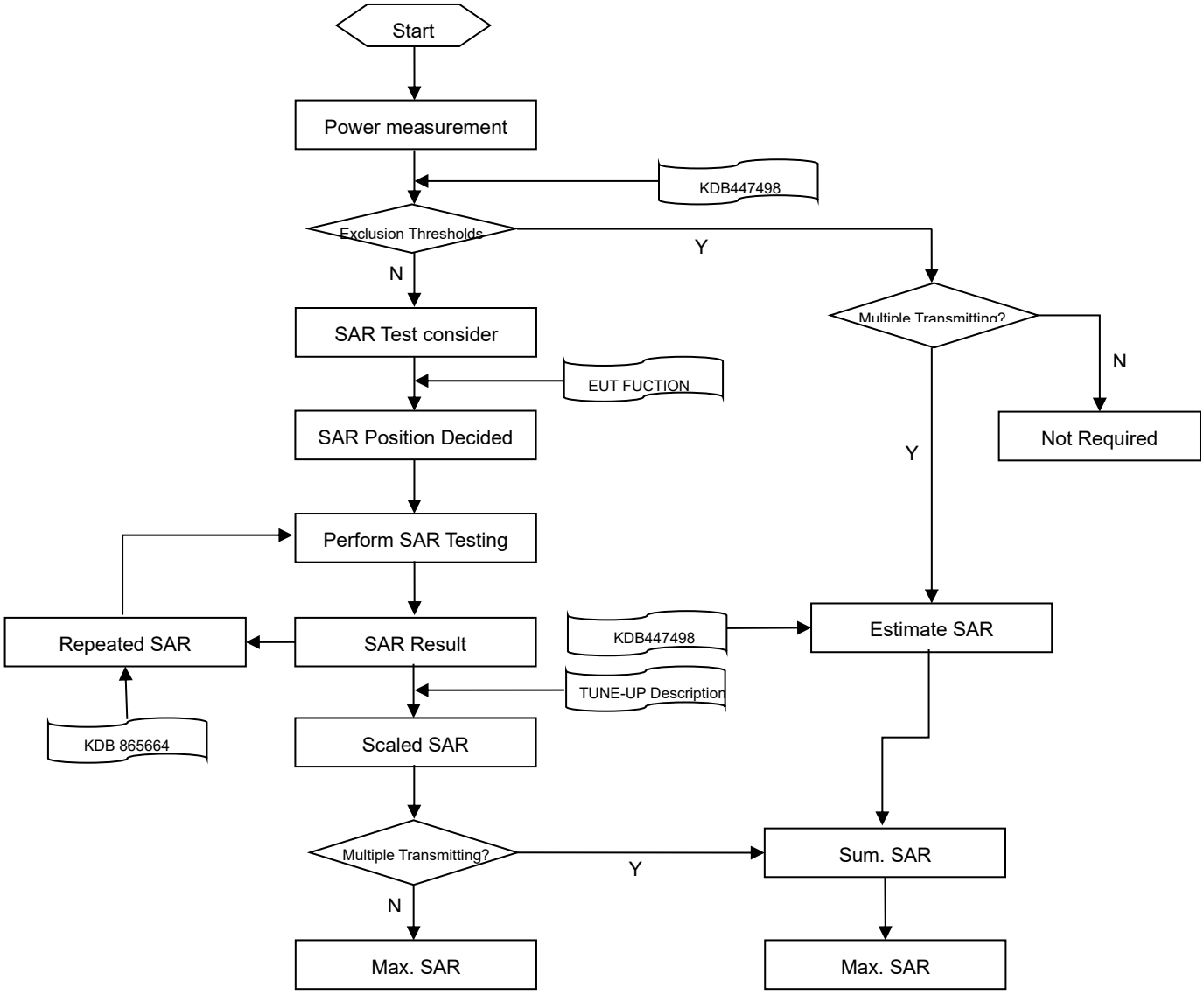
6.4 Product Specific 10g Exposure Consideration

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

The UMPC mini-tablet procedures must also be applied to test the SAR of all surfaces and edges with an antenna located at $\leqslant$ 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. Boththe 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.

<table>
<tr><th colspan="3"></th><th>≤3GHz</th><th>>3GHz</th></tr>
<tr><td colspan="3">Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface</td><td>5±1 mm</td><td>½·δ·ln(2)±0.5 mm</td></tr>
<tr><td colspan="3">Maximum probe angle from probe axis to phantom surface normal at the measurement location</td><td>30°±1°</td><td>20°±1°</td></tr>
<tr><td colspan="3" rowspan="2">Maximum area scan spatial resolution: Δx Area , Δy Area</td><td>≤ 2 GHz: ≤ 15 mm
2 – 3 GHz: ≤ 12 mm</td><td>3–4 GHz: ≤ 12 mm
4 – 6 GHz: ≤ 10 mm</td></tr>
<tr><td colspan="2">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.</td></tr>
<tr><td colspan="3">Maximum zoom scan spatial resolution: Δx Zoom , Δy Zoom</td><td>≤ 2 GHz: ≤ 8 mm
2 –3 GHz: ≤ 5 mm*</td><td>3–4 GHz: ≤ 5 mm*
4 – 6 GHz: ≤ 4 mm*</td></tr>
<tr><td rowspan="7">Maximum zoom scan spatial resolution, normal to phantom surface</td><td colspan="2" rowspan="3">uniform grid: Δz Zoom (n)</td><td rowspan="3">≤ 5 mm</td><td>3–4 GHz: ≤ 4 mm</td></tr>
<tr><td>4–5 GHz: ≤ 3 mm</td></tr>
<tr><td>5–6 GHz: ≤ 2 mm</td></tr>
<tr><td rowspan="4">graded grid</td><td rowspan="3">Δz Zoom (1): between 1st two points closest to phantom surface</td><td rowspan="3">≤ 4 mm</td><td>3–4 GHz: ≤ 3 mm</td></tr>
<tr><td>4–5 GHz: ≤ 2.5 mm</td></tr>
<tr><td>5–6 GHz: ≤ 2 mm</td></tr>
<tr><td>Δz Zoom (n>1): between subsequent points</td><td colspan="2">≤ 1.5·Δz Zoom (n-1)</td></tr>
<tr><td rowspan="3">Minimum zoom scan volume</td><td colspan="2" rowspan="3">x, y, z</td><td rowspan="3">≥30 mm</td><td>3–4 GHz: ≥ 28 mm</td></tr>
<tr><td>4–5 GHz: ≥ 25 mm</td></tr>
<tr><td>5–6 GHz: ≥ 22 mm</td></tr>
<tr><td colspan="5">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.</td></tr>
</table>

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 to16 mm and a constant distance to the inner surface of the phantom. Since the sensors cannot directly measure at the inner phantom surface, the values between the sensors and the inner phantom surface are extrapolated. With these values the area of the maximum SAR is calculated by an interpolation scheme.
d. Around this point, a cube of 30 * 30 * 30 mm or 32 * 32 *32 mm is assessed by measuring 5 or 8 * 5 or 8*4 or 5 mm. With these data, the peak spatial-average SAR value can be calculated.

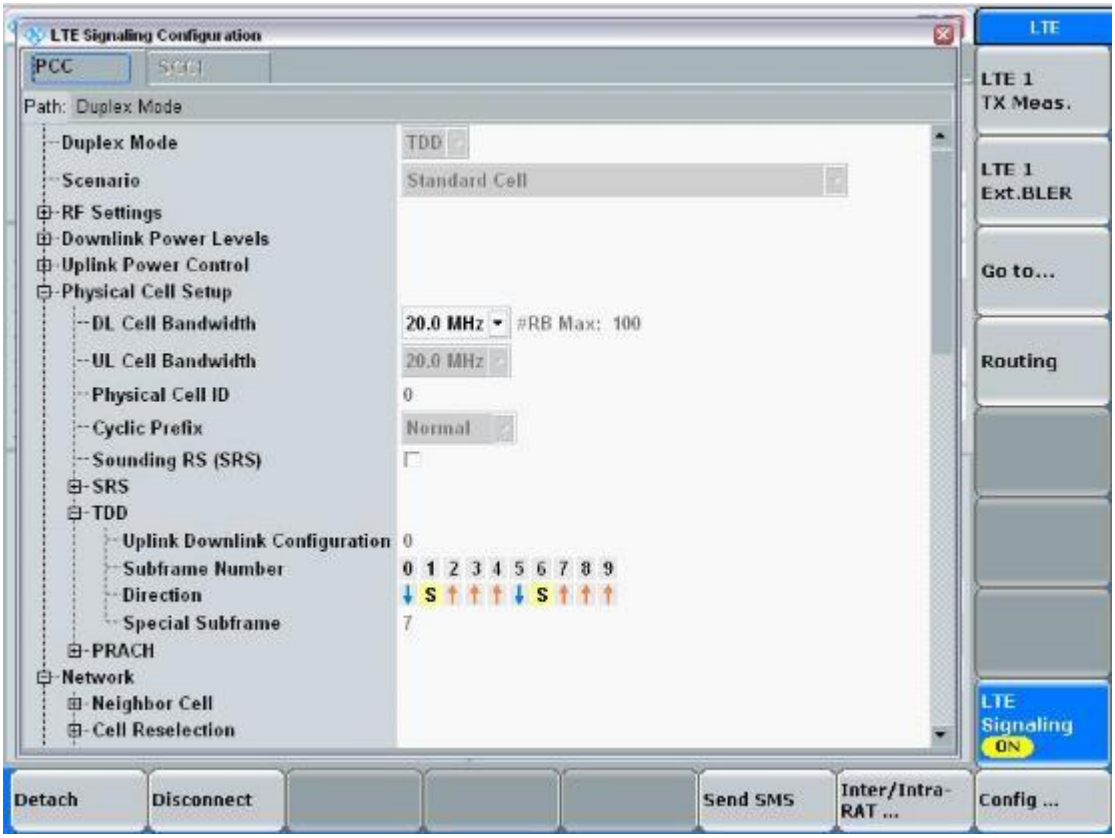
7.4 Area & Zoom Scan Procedure

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

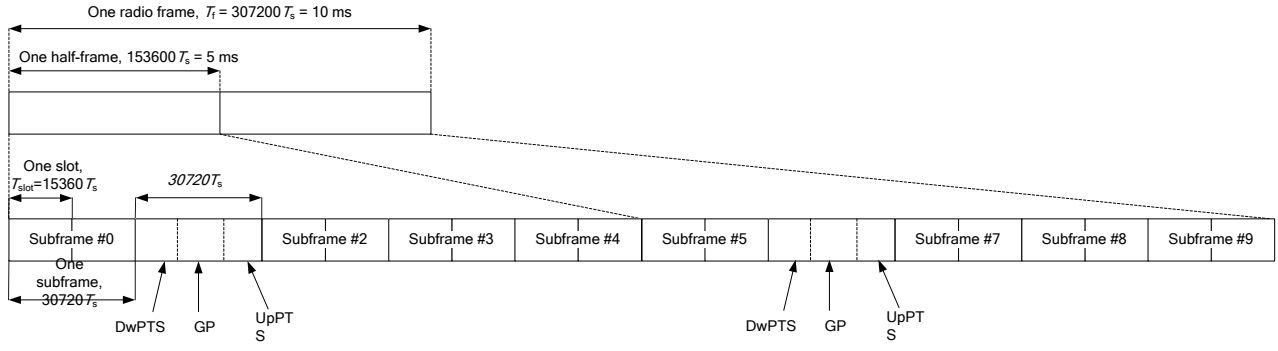
When the 1 g SAR of the highest peak is within 2 dB of the SAR limit, additional zoom scans are required for other peaks within 2 dB of the highest peak that have not been included in any zoom scan to ensure there is no increase in SAR.

7.5 LTE (TDD) Considerations

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



According to 3GPP Per 3GPP TS 36.211. Each radio frame of length (Tf=307200*TS =10ms) of two half-frames of length (153600*TS =5ms). Each half-frame consists of five sub-frames of length (30720*TS =1ms)



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

The length of DwPTS and UpPTS is given by below table subject to the total length of DwPTS, GP and UpPTS being equal to 30720*T_S =1ms.

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

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

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

Maximum uplink time of one special sub-frame=(largest cyclic prefix)/(one sub-frame of length)* time of one sub-frame=5120.Ts/30720.Ts*1ms=0.167ms

One radio frame with 6 uplink sub-frames and two special sub-frame,
there for the maximum Uplink time in one radio frame is: **6*1 ms+2*0.167 ms=6.334ms**
So, the duty cycle for TDD-LTE is: **6.334ms/10ms =1: 1.58**

8 CONDUCTED RF OUPUT POWER

8.1 GSM

Please refer the document “BL-SZ2460952-AP Power List.pdf”.

8.2 WCDMA

Please refer the document “BL-SZ2460952-AP Power List.pdf”.

8.3 LTE

Please refer the document “BL-SZ2460952-AP Power List.pdf”.

8.4 WIFI

8.4.1 2.4G WIFI-ANT12

Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power (dBm)	Tune-up Limit (dBm)	SAR Test Require.
2.4 (2.4~2.4835)	802.11b	1	2412	9.14	10.50	No
		6	2437	**9.54**	10.50	Yes
		11	2462	9.36	10.50	No
	802.11g	1	2412	9.33	10.50	No
		6	2437	9.38	10.50	No
		11	2462	9.18	10.50	No
	802.11n(HT20)	1	2412	9.10	10.50	No
		6	2437	9.32	10.50	No
		11	2462	9.12	10.50	No

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

1) The largest channel bandwidth configuration is selected between the multiple configurations in a frequency band with the same maximum tune-up output power.

2) When multiple transmission modes (802.11b/g/n) have the same maximum tune-up output power, largest channel bandwidth, lowest order modulation and lowest data rate, the lowest order 802.11 mode is selected; i.e., 802.11b is chosen over 802.11g, and 802.11g chosen over 802.11n.

3) According KDB 247228, when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg, OFDM SAR test is not required.

Adjusted SAR = 0.280 * (11.22mW/11.22mW) = 0.280W/Kg, so 2.4G OFDM SAR test is not required.

8.4.2 2.4G WIFI-ANT14

Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power (dBm)	Tune-up Limit (dBm)	SAR Test Require.
2.4 (2.4~2.4835)	802.11b	1	2412	9.14	10.50	No
		6	2437	**9.54**	10.50	Yes
		11	2462	9.36	10.50	No
	802.11g	1	2412	9.33	10.50	No
		6	2437	9.38	10.50	No
		11	2462	9.18	10.50	No
	802.11n(HT20)	1	2412	9.10	10.50	No
		6	2437	9.32	10.50	No
		11	2462	9.12	10.50	No

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

1) The largest channel bandwidth configuration is selected between the multiple configurations in a frequency band with the same maximum tune-up output power.

2) When multiple transmission modes (802.11b/g/n) have the same maximum tune-up output power, largest channel bandwidth, lowest order modulation and lowest data rate, the lowest order 802.11 mode is selected; i.e., 802.11b is chosen over 802.11g, and 802.11g chosen over 802.11n.

3) According KDB 247228, when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg, OFDM SAR test is not required.

Adjusted SAR = 0.182 * (11.22mW/11.22mW) = 0.182W/Kg, so 2.4G OFDM SAR test is not required.

8.4.3 5G WIFI-ANT12

Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power (dBm)	Tune-up Limit (dBm)	SAR Test Require.
5.2 (5.15~5.25)	802.11a	36	5180	10.02	11.00	No
		44	5220	9.63	11.00	No
		48	5240	10.14	11.00	No
	802.11n(HT20)	36	5180	9.89	11.00	No
		44	5220	9.97	11.00	No
		48	5240	9.98	11.00	No
	802.11n(HT40)	38	5190	10.25	11.00	No
		46	5230	10.30	11.00	No
	802.11ac(VHT20)	36	5180	9.94	11.00	No
		44	5220	10.00	11.00	No
		48	5240	10.05	11.00	No
	802.11ac(VHT40)	38	5190	10.29	11.00	No
		46	5230	10.31	11.00	No
	802.11ac(VHT80)	42	5210	**10.47**	11.00	Yes
5.3 (5.25~5.35)	802.11a	52	5260	9.64	11.00	No
		60	5300	9.04	11.00	No
		64	5320	9.44	11.00	No
	802.11n(HT20)	52	5260	9.50	11.00	No
		60	5300	9.39	11.00	No
		64	5320	9.30	11.00	No
	802.11n(HT40)	54	5270	10.77	11.00	No
		62	5310	**10.53**	11.00	No
	802.11ac(VHT20)	52	5260	10.56	11.00	No
		60	5300	10.31	11.00	No
		64	5320	9.38	11.00	No
	802.11ac(VHT40)	54	5270	10.48	11.00	No
		62	5310	10.27	11.00	No
	802.11ac(VHT80)	58	5290	**10.55**	11.00	Yes
5.6 (5.47~5.725)	802.11a	100	5500	10.57	11.00	No
		116	5580	10.51	11.00	No
		140	5700	10.12	11.00	No
	802.11n(HT20)	100	5500	10.40	11.00	No
		116	5580	10.35	11.00	No
		140	5700	9.96	11.00	No
	802.11n(HT40)	102	5510	10.66	11.00	No
		118	5590	10.63	11.00	No

		134	5670	10.47	11.00	No
	802.11ac(VHT20)	100	5500	10.46	11.00	No
		116	5580	9.83	11.00	No
		140	5700	9.45	11.00	No
	802.11ac(VHT40)	102	5510	10.67	11.00	No
		118	5590	10.63	11.00	No
		134	5670	10.49	11.00	No
	802.11ac(VHT80)	106	5530	**10.79**	11.00	Yes
		122	5690	10.29	11.00	No
5.8 (5.725~5.850)	802.11a	149	5745	10.34	11.00	No
		157	5785	10.70	11.00	No
		165	5825	9.92	11.00	No
	802.11n(HT20)	149	5745	10.29	11.00	No
		157	5785	10.15	11.00	No
		165	5825	9.55	11.00	No
	802.11n(HT40)	151	5755	10.63	11.00	No
		159	5795	10.48	11.00	No
	802.11ac(VHT20)	149	5745	9.84	11.00	No
		157	5785	10.22	11.00	No
		165	5825	9.62	11.00	No
	802.11ac(VHT40)	151	5755	10.11	11.00	No
		159	5795	9.97	11.00	No
	802.11ac(VHT80)	155	5775	**10.65**	11.00	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.						

8.4.4 5G WIFI-ANT14

Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power (dBm)	Tune-up Limit (dBm)	SAR Test Require.
5.2 (5.15~5.25)	802.11a	36	5180	9.47	11.00	No
		44	5220	9.96	11.00	No
		48	5240	9.37	11.00	No
	802.11n(HT20)	36	5180	9.12	11.00	No
		44	5220	9.91	11.00	No
		48	5240	9.73	11.00	No
	802.11n(HT40)	38	5190	9.74	11.00	No
		46	5230	**9.81**	11.00	No
	802.11ac(VHT20)	36	5180	9.59	11.00	No
		44	5220	9.67	11.00	No
		48	5240	9.76	11.00	No
	802.11ac(VHT40)	38	5190	9.73	11.00	No
		46	5230	9.82	11.00	No
	802.11ac(VHT80)	42	5210	**9.69**	11.00	Yes
5.3 (5.25~5.35)	802.11a	52	5260	9.96	11.00	No
		60	5300	9.91	11.00	No
		64	5320	9.80	11.00	No
	802.11n(HT20)	52	5260	9.85	11.00	No
		60	5300	9.53	11.00	No
		64	5320	10.04	11.00	No
	802.11n(HT40)	54	5270	9.92	11.00	No
		62	5310	9.84	11.00	No
	802.11ac(VHT20)	52	5260	9.83	11.00	No
		60	5300	9.78	11.00	No
		64	5320	9.70	11.00	No
	802.11ac(VHT40)	54	5270	9.99	11.00	No
		62	5310	9.99	11.00	No
	802.11ac(VHT80)	58	5290	**10.10**	11.00	Yes
5.6 (5.47~5.725)	802.11a	100	5500	9.98	11.00	No
		116	5580	10.47	11.00	No
		140	5700	10.84	11.00	No
	802.11n(HT20)	100	5500	9.64	11.00	No
		116	5580	9.45	11.00	No
		140	5700	10.77	11.00	No
	802.11n(HT40)	102	5510	9.83	11.00	No
		118	5590	9.81	11.00	No

		134	5670	9.88	11.00	No
	802.11ac(VHT20)	100	5500	10.51	11.00	No
		116	5580	10.04	11.00	No
		140	5700	10.15	11.00	No
	802.11ac(VHT40)	102	5510	10.62	11.00	No
		118	5590	10.65	11.00	No
		134	5670	10.40	11.00	No
	802.11ac(VHT80)	106	5530	10.50	11.00	No
		122	5690	10.07	11.00	No
5.8 (5.725~5.850)	802.11a	149	5745	10.27	11.00	No
		157	5785	10.26	11.00	No
		165	5825	10.00	11.00	No
	802.11n(HT20)	149	5745	10.18	11.00	No
		157	5785	10.14	11.00	No
		165	5825	9.89	11.00	No
	802.11n(HT40)	151	5755	10.31	11.00	No
		159	5795	10.25	11.00	No
	802.11ac(VHT20)	149	5745	9.69	11.00	No
		157	5785	9.64	11.00	No
		165	5825	9.37	11.00	No
	802.11ac(VHT40)	151	5755	9.82	11.00	No
		159	5795	10.21	11.00	No
	802.11ac(VHT80)	155	5775	**9.68**	11.00	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-ANT12

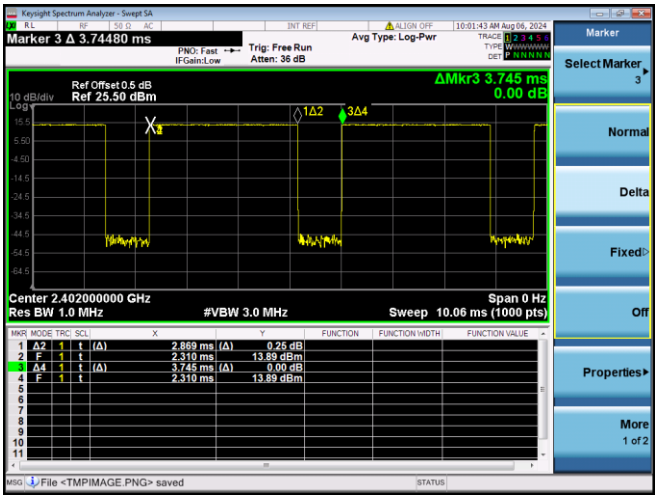
Mode	GFSK			π/4-DQPSK		
Channel	0	39	78	0	39	78
Frequency (MHz)	2402	2441	2480	2402	2441	2480
Average Power (dBm)	11.90	**14.79**	14.41	8.30	14.41	11.30
Tune-Up Limit (dBm)	12.50	15.50	15.50	10.00	15.50	12.50
SAR Test Require	NO	YES	NO	NO	NO	NO
Mode	8-DPSK			/		
Channel	0	39	78	/	/	/
Frequency (MHz)	2402	2441	2480	/	/	/
Average Power (dBm)	8.30	11.02	11.19	/	/	/
Tune-Up Limit (dBm)	10.00	12.00	12.00	/	/	/
SAR Test Require	NO	NO	NO	/	/	/
Mode	BLE-1Mbps			BLE-2Mbps		
Channel	0	19	39	1	19	38
Frequency (MHz)	2402	2440	2480	2404	2440	2478
Average Power (dBm)	-2.66	-2.34	-3.20	-4.21	-3.78	-4.24
Tune-Up Limit (dBm)	-2.00	-2.00	-2.00	-4.00	-3.00	-4.00
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 ≤ ¼ dB higher than the primary mode.

The Bluetooth BT DH5 duty cycle is 76.67% as following figure, according to 2016 Oct. TCB workshop for Bluetooth SAR scaling need further consideration and the maximum duty cycle is 100%, therefore the actual duty cycle will be scaled up to 100% for Bluetooth reported SAR calculation.

Duty Cycle

GFSK



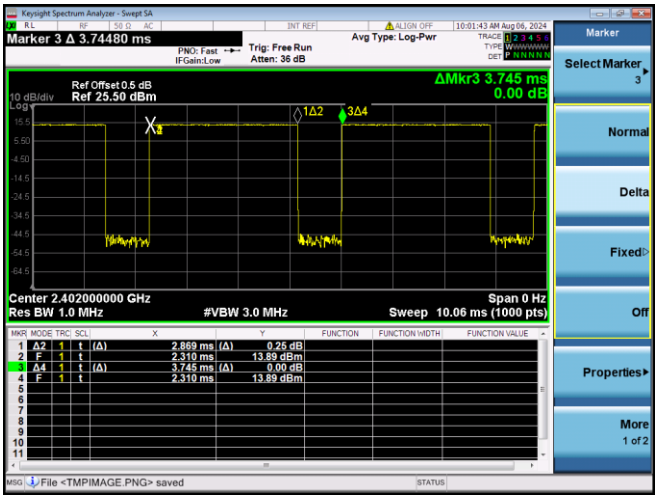
8.6 Bluetooth-ANT14

Mode	GFSK			π/4-DQPSK		
Channel	0	39	78	0	39	78
Frequency (MHz)	2402	2441	2480	2402	2441	2480
Average Power (dBm)	10.20	11.52	**14.28**	9.34	10.66	13.56
Tune-Up Limit (dBm)	11.00	12.00	15.50	11.00	12.00	15.00
SAR Test Require	NO	NO	YES	NO	NO	NO
Mode	8-DPSK			/		
Channel	0	39	78	/	/	/
Frequency (MHz)	2402	2441	2480	/	/	/
Average Power (dBm)	9.40	10.70	13.57	/	/	/
Tune-Up Limit (dBm)	11.00	13.00	12.00	/	/	/
SAR Test Require	NO	NO	NO	/	/	/
Mode	BLE-1Mbps			BLE-2Mbps		
Channel	0	19	39	1	19	38
Frequency (MHz)	2402	2440	2480	2404	2440	2478
Average Power (dBm)	-2.27	-1.86	-2.28	-4.46	-3.79	-4.45
Tune-Up Limit (dBm)	-1.50	-1.50	-1.50	-4.00	-3.00	-4.00
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 ≤ ¼ dB higher than the primary mode.						

The Bluetooth BT DH5 duty cycle is 76.67% as following figure, according to 2016 Oct. TCB workshop for Bluetooth SAR scaling need further consideration and the maximum duty cycle is 100%, therefore the actual duty cycle will be scaled up to 100% for Bluetooth reported SAR calculation.

Duty Cycle

GFSK



9 TEST EXCLUSION CONSIDERATION

For antenna location and support bands please refer the document “BL-SZ2460952-AI EUT internal photo.pdf”.

Antenna	Front Side(mm)	Back Side(mm)	Left Edge(mm)	Right Edge(mm)	Top Edge (mm)	Bottom Edge(mm)
Ant.0	<25	<25	<25	>25	>25	<25
Ant.1	<25	<25	>25	<25	>25	<25
Ant.2	<25	<25	>25	<25	>25	<25
Ant.4	<25	<25	>25	<25	<25	>25
Ant.12	<25	<25	<25	>25	<25	>25
Ant.14	<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)	Tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Head												
ANT2	DATA 4 Slots	Left Cheek	0	128	824.2	-0.12	0.386	28.53	29.70	1.309	0.505	/
		Left Tilt	0	128	824.2	-0.08	0.148	28.53	29.70	1.309	0.194	/
		Right Cheek	0	128	824.2	-0.01	0.548	28.53	29.70	1.309	**0.717**	1#
		Right Tilt	0	128	824.2	-0.10	0.158	28.53	29.70	1.309	0.207	/
ANT0	DATA 4 Slots	Left Cheek	0	251	848.8	-0.12	0.041	28.51	29.70	1.315	0.054	/
		Left Tilt	0	251	848.8	0.15	0.022	28.51	29.70	1.315	0.029	/
		Right Cheek	0	251	848.8	0.03	0.045	28.51	29.70	1.315	0.059	/
		Right Tilt	0	251	848.8	0.01	0.028	28.51	29.70	1.315	0.037	/
Body-worn&Hotspot												
ANT2	DATA 4 Slots	Front Side	10	128	824.2	-0.15	0.087	28.53	29.70	1.309	0.114	/
		Back Side	10	128	824.2	0.04	0.183	28.53	29.70	1.309	**0.240**	2#
		Right Edge	10	128	824.2	-0.10	0.124	28.53	29.70	1.309	0.162	/
		Top Edge	10	128	824.2	0.09	0.008	28.53	29.70	1.309	0.010	/
ANT0	DATA 4Slots	Front Side	10	251	848.8	0.13	0.138	28.51	29.70	1.315	0.182	/
		Back Side	10	251	848.8	-0.01	0.157	28.51	29.70	1.315	0.206	/
		Left Edge	10	251	848.8	-0.18	0.122	28.51	29.70	1.315	0.160	/
		Bottom Edge	10	251	848.8	0.12	0.133	28.51	29.70	1.315	0.175	/
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)	Tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Head												
ANT4	DATA 4 Slots	Left Cheek	0	661	1880.0	-0.19	0.433	20.69	22.00	1.352	0.585	/
		Left Tilt	0	661	1880.0	0.01	0.465	20.69	22.00	1.352	0.629	/
		Right Cheek	0	661	1880.0	0.03	0.624	20.69	22.00	1.352	**0.844**	3#
		Right Tilt	0	661	1880.0	0.14	0.541	20.69	22.00	1.352	0.731	/
		Right Cheek	0	512	1850.2	0.02	0.585	20.68	22.00	1.355	0.793	/
		Right Cheek	0	810	1909.8	0.04	0.574	20.54	22.00	1.400	0.803	/
ANT1	DATA 4 Slots	Left Cheek	0	661	1880.0	0.09	0.033	20.26	22.00	1.493	0.049	/
		Left Tilt	0	661	1880.0	-0.08	0.021	20.26	22.00	1.493	0.031	/
		Right Cheek	0	661	1880.0	-0.01	0.029	20.26	22.00	1.493	0.043	/
		Right Tilt	0	661	1880.0	-0.18	0.016	20.26	22.00	1.493	0.024	/
Body-worn&Hotspot												
ANT4	DATA 4 Slots	Front Side	10	661	1880.0	-0.12	0.133	20.69	22.00	1.352	0.180	/
		Back Side	10	661	1880.0	0.02	0.202	20.69	22.00	1.352	0.273	/
		Right Edge	10	661	1880.0	0.13	0.058	20.69	22.00	1.352	0.078	/
		Top Edge	10	661	1880.0	0.01	0.247	20.69	22.00	1.352	**0.334**	4#
ANT1	DATA 4 Slots	Front Side	10	661	1880.0	-0.06	0.112	20.26	22.00	1.493	0.167	/
		Back Side	10	661	1880.0	0.04	0.183	20.26	22.00	1.493	0.273	/
		Right Edge	10	661	1880.0	0.15	0.031	20.26	22.00	1.493	0.046	/
		Bottom Edge	10	661	1880.0	-0.01	0.209	20.26	22.00	1.493	0.312	/
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)	Tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Head												
ANT4	RMC	Left Cheek	0	9400	1880.0	-0.17	0.211	14.84	15.70	1.219	0.257	/
		Left Tilt	0	9400	1880.0	0.09	0.240	14.84	15.70	1.219	0.293	/
		Right Cheek	0	9400	1880.0	0.01	0.401	14.84	15.70	1.219	**0.489**	5#
		Right Tilt	0	9400	1880.0	0.12	0.311	14.84	15.70	1.219	0.379	/
ANT1	RMC	Left Cheek	0	9400	1880.0	0.10	0.032	15.20	16.20	1.259	0.040	/
		Left Tilt	0	9400	1880.0	0.00	0.028	15.20	16.20	1.259	0.035	/
		Right Cheek	0	9400	1880.0	0.12	0.041	15.20	16.20	1.259	0.052	/
		Right Tilt	0	9400	1880.0	0.09	0.021	15.20	16.20	1.259	0.026	/
Body-worn&Hotspot												
ANT4	RMC	Front Side	10	9400	1880.0	0.18	0.068	14.84	15.70	1.219	0.083	/
		Back Side	10	9400	1880.0	-0.12	0.114	14.84	15.70	1.219	0.139	/
		Right Edge	10	9400	1880.0	0.09	0.007	14.84	15.70	1.219	0.009	/
		Top Edge	10	9400	1880.0	0.03	0.162	14.84	15.70	1.219	**0.197**	6#
ANT1	RMC	Front Side	10	9400	1880.0	-0.16	0.052	15.20	16.20	1.259	0.065	/
		Back Side	10	9400	1880.0	-0.05	0.082	15.20	16.20	1.259	0.103	/
		Right Edge	10	9400	1880.0	-0.02	0.023	15.20	16.20	1.259	0.029	/
		Bottom Edge	10	9400	1880.0	-0.02	0.087	15.20	16.20	1.259	0.110	/
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)	Tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Head												
ANT4	RMC	Left Cheek	0	1513	1752.6	-0.01	0.204	14.47	15.70	1.327	0.271	/
		Left Tilt	0	1513	1752.6	0.17	0.241	14.47	15.70	1.327	0.320	/
		Right Cheek	0	1513	1752.6	0.05	0.288	14.47	15.70	1.327	0.382	/
		Right Tilt	0	1513	1752.6	0.01	0.328	14.47	15.70	1.327	**0.435**	7#
ANT1	RMC	Left Cheek	0	1513	1752.6	-0.09	0.028	14.70	15.20	1.122	0.031	/
		Left Tilt	0	1513	1752.6	-0.09	0.014	14.70	15.20	1.122	0.016	/
		Right Cheek	0	1513	1752.6	0.06	0.031	14.70	15.20	1.122	0.035	/
		Right Tilt	0	1513	1752.6	-0.03	0.011	14.70	15.20	1.122	0.012	/
Body-worn&Hotspot												
ANT4	RMC	Front Side	10	1513	1752.6	-0.09	0.006	14.47	15.70	1.327	0.008	/
		Back Side	10	1513	1752.6	0.06	0.108	14.47	15.70	1.327	0.143	/
		Right Edge	10	1513	1752.6	0.18	0.005	14.47	15.70	1.327	0.007	/
		Top Edge	10	1513	1752.6	-0.02	0.134	14.47	15.70	1.327	**0.178**	8#
ANT1	RMC	Front Side	10	1513	1752.6	-0.10	0.012	14.70	15.20	1.122	0.013	/
		Back Side	10	1513	1752.6	0.11	0.057	14.70	15.20	1.122	0.064	/
		Right Edge	10	1513	1752.6	-0.16	0.008	14.70	15.20	1.122	0.009	/
		Bottom Edge	10	1513	1752.6	0.04	0.068	14.70	15.20	1.122	0.076	/
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)	Tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Head												
ANT2	RMC	Left Cheek	0	4233	846.6	0.11	0.492	23.27	23.50	1.054	0.519	/
		Left Tilt	0	4233	846.6	0.15	0.192	23.27	23.50	1.054	0.202	/
		Right Cheek	0	4233	846.6	0.01	0.887	23.27	23.50	1.054	**0.935**	9#
		Right Tilt	0	4233	846.6	-0.03	0.237	23.27	23.50	1.054	0.250	/
		Right Cheek	0	4132	826.4	0.10	0.469	23.26	23.50	1.057	0.496	/
		Right Cheek	0	4182	836.4	-0.13	0.653	23.25	23.50	1.059	0.692	/
ANT0	RMC	Left Cheek	0	4233	846.6	0.16	0.090	23.34	24.00	1.164	0.105	/
		Left Tilt	0	4233	846.6	-0.16	0.043	23.34	24.00	1.164	0.050	/
		Right Cheek	0	4233	846.6	0.16	0.078	23.34	24.00	1.164	0.091	/
		Right Tilt	0	4233	846.6	-0.12	0.032	23.34	24.00	1.164	0.037	/
Body-worn&Hotspot												
ANT2	RMC	Front Side	10	4233	846.6	0.16	0.270	23.27	23.50	1.054	0.285	/
		Back Side	10	4233	846.6	0.03	0.471	23.27	23.50	1.054	0.497	/
		Right Edge	10	4233	846.6	0.00	0.494	23.27	23.50	1.054	**0.521**	10#
		Top Edge	10	4233	846.6	0.17	0.012	23.27	23.50	1.054	0.013	/
ANT0	RMC	Front Side	10	4233	846.6	0.09	0.154	23.34	24.00	1.164	0.179	/
		Back Side	10	4233	846.6	0.14	0.230	23.34	24.00	1.164	0.268	/
		Left Edge	10	4233	846.6	0.16	0.066	23.34	24.00	1.164	0.077	/
		Bottom Edge	10	4233	846.6	-0.07	0.147	23.34	24.00	1.164	0.171	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.												

10.6 LTE 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)	Tune-up powe r(dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Head														
ANT4	QPSK	Left Cheek	0	18900	1880	1	Mid	0.06	0.197	14.89	15.50	1.151	0.227	/
		Left Tilt	0	18900	1880	1	Mid	0.12	0.217	14.89	15.50	1.151	0.250	/
		Right Cheek	0	18900	1880	1	Mid	0.01	0.339	14.89	15.50	1.151	**0.390**	11#
		Right Tilt	0	18900	1880	1	Mid	0.11	0.302	14.89	15.50	1.151	0.348	/
		Left Cheek	0	18900	1880	50	Mid	0.14	0.174	13.84	14.50	1.164	0.203	/
		Left Tilt	0	18900	1880	50	Mid	-0.11	0.183	13.84	14.50	1.164	0.213	/
		Right Cheek	0	18900	1880	50	Mid	0.12	0.255	13.84	14.50	1.164	0.297	/
		Right Tilt	0	18900	1880	50	Mid	0.18	0.221	13.84	14.50	1.164	0.257	/
ANT1	QPSK	Left Cheek	0	18900	1880	1	Mid	0.08	0.031	15.25	15.50	1.059	0.033	/
		Left Tilt	0	18900	1880	1	Mid	0.02	0.022	15.25	15.50	1.059	0.023	/
		Right Cheek	0	18900	1880	1	Mid	0.02	0.039	15.25	15.50	1.059	0.041	/
		Right Tilt	0	18900	1880	1	Mid	-0.13	0.021	15.25	15.50	1.059	0.022	/
		Left Cheek	0	18900	1880	50	Mid	0.13	0.016	14.24	14.50	1.062	0.017	/
		Left Tilt	0	18900	1880	50	Mid	0.16	0.022	14.24	14.50	1.062	0.023	/
		Right Cheek	0	18900	1880	50	Mid	-0.08	0.028	14.24	14.50	1.062	0.030	/
		Right Tilt	0	18900	1880	50	Mid	0.07	0.021	14.24	14.50	1.062	0.022	/
Body-worn&Hotspot														
ANT4	QPSK	Front Side	10	18900	1880	1	Mid	-0.01	0.063	14.89	15.50	1.151	0.073	/
		Back Side	10	18900	1880	1	Mid	-0.08	0.106	14.89	15.50	1.151	0.122	/
		Right Edge	10	18900	1880	1	Mid	-0.10	0.032	14.89	15.50	1.151	0.037	/
		Top Edge	10	18900	1880	1	Mid	0.00	0.136	14.89	15.50	1.151	**0.157**	12#
		Front Side	10	18900	1880	50	Mid	-0.07	0.052	13.84	14.50	1.164	0.061	/
		Back Side	10	18900	1880	50	Mid	-0.02	0.084	13.84	14.50	1.164	0.098	/
		Right Edge	10	18900	1880	50	Mid	-0.12	0.021	13.84	14.50	1.164	0.024	/
		Top Edge	10	18900	1880	50	Mid	0.12	0.113	13.84	14.50	1.164	0.132	/
ANT1	QPSK	Front Side	10	18900	1880	1	Mid	0.00	0.050	15.25	15.50	1.059	0.053	/
		Back Side	10	18900	1880	1	Mid	-0.17	0.069	15.25	15.50	1.059	0.073	/
		Right Edge	10	18900	1880	1	Mid	-0.13	0.022	15.25	15.50	1.059	0.023	/
		Bottom Edge	10	18900	1880	1	Mid	0.01	0.083	15.25	15.50	1.059	0.088	/
		Front Side	10	18900	1880	50	Mid	-0.10	0.041	14.24	14.50	1.062	0.044	/
		Back Side	10	18900	1880	50	Mid	0.15	0.063	14.24	14.50	1.062	0.067	/
		Right Edge	10	18900	1880	50	Mid	0.06	0.015	14.24	14.50	1.062	0.016	/
		Bottom Edge	10	18900	1880	50	Mid	-0.02	0.071	14.24	14.50	1.062	0.075	/

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

10.7 LTE 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)	Tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Head														
ANT2	QPSK	Left Cheek	0	20600	844	1	Mid	-0.02	0.207	21.47	22.00	1.130	0.234	/
		Left Tilt	0	20600	844	1	Mid	-0.16	0.079	21.47	22.00	1.130	0.089	/
		Right Cheek	0	20600	844	1	Mid	0.00	0.528	21.47	22.00	1.130	**0.597**	13#
		Right Tilt	0	20600	844	1	Mid	0.11	0.133	21.47	22.00	1.130	0.150	/
		Left Cheek	0	20600	844	25	Mid	0.06	0.221	20.49	21.00	1.125	0.249	/
		Left Tilt	0	20600	844	25	Mid	0.08	0.081	20.49	21.00	1.125	0.091	/
		Right Cheek	0	20600	844	25	Mid	0.18	0.433	20.49	21.00	1.125	0.487	/
		Right Tilt	0	20600	844	25	Mid	-0.03	0.122	20.49	21.00	1.125	0.137	/
ANT0	QPSK	Left Cheek	0	20600	844	1	Mid	0.11	0.051	21.50	22.20	1.175	0.060	/
		Left Tilt	0	20600	844	1	Mid	0.19	0.032	21.50	22.20	1.175	0.038	/
		Right Cheek	0	20600	844	1	Mid	-0.05	0.053	21.50	22.20	1.175	0.062	/
		Right Tilt	0	20600	844	1	Mid	-0.13	0.021	21.50	22.20	1.175	0.025	/
		Left Cheek	0	20600	844	25	Mid	0.11	0.035	20.49	21.20	1.178	0.041	/
		Left Tilt	0	20600	844	25	Mid	0.16	0.022	20.49	21.20	1.178	0.026	/
		Right Cheek	0	20600	844	25	Mid	-0.13	0.023	20.49	21.20	1.178	0.027	/
		Right Tilt	0	20600	844	25	Mid	0.14	0.004	20.49	21.20	1.178	0.005	/
Body-worn&Hotspot														
ANT2	QPSK	Front Side	10	20600	844	1	Mid	0.13	0.124	21.47	22.00	1.130	0.140	/
		Back Side	10	20600	844	1	Mid	-0.05	0.229	21.47	22.00	1.130	0.259	/
		Right Edge	10	20600	844	1	Mid	-0.02	0.273	21.47	22.00	1.130	**0.308**	14#
		Top Edge	10	20600	844	1	Mid	0.16	0.003	21.47	22.00	1.130	0.003	/
		Front Side	10	20600	844	25	Mid	0.15	0.105	20.49	21.00	1.125	0.118	/
		Back Side	10	20600	844	25	Mid	-0.19	0.156	20.49	21.00	1.125	0.175	/
		Right Edge	10	20600	844	25	Mid	0.08	0.180	20.49	21.00	1.125	0.202	/
		Top Edge	10	20600	844	25	Mid	0.07	0.003	20.49	21.00	1.125	0.003	/
ANT0	QPSK	Front Side	10	20600	844	1	Mid	-0.10	0.095	21.50	22.20	1.175	0.112	/
		Back Side	10	20600	844	1	Mid	0.13	0.122	21.50	22.20	1.175	0.143	/
		Left Edge	10	20600	844	1	Mid	-0.17	0.031	21.50	22.20	1.175	0.036	/
		Bottom Edge	10	20600	844	1	Mid	-0.15	0.092	21.50	22.20	1.175	0.108	/
		Front Side	10	20600	844	25	Mid	-0.14	0.074	20.49	21.20	1.178	0.087	/
		Back Side	10	20600	844	25	Mid	0.12	0.102	20.49	21.20	1.178	0.120	/
		Left Edge	10	20600	844	25	Mid	-0.05	0.035	20.49	21.20	1.178	0.041	/
		Bottom Edge	10	20600	844	25	Mid	-0.12	0.088	20.49	21.20	1.178	0.104	/

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

10.8 LTE 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)	Tune-up power(dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Head														
ANT4	QPSK	Left Cheek	0	21350	2560	1	Mid	-0.19	0.181	13.90	15.00	1.288	0.233	/
		Left Tilt	0	21350	2560	1	Mid	0.02	0.199	13.90	15.00	1.288	0.256	/
		Right Cheek	0	21350	2560	1	Mid	-0.10	0.323	13.90	15.00	1.288	0.416	/
		Right Tilt	0	21350	2560	1	Mid	0.01	0.405	13.90	15.00	1.288	**0.522**	15#
		Left Cheek	0	21350	2560	50	High	-0.19	0.155	12.88	14.00	1.294	0.201	/
		Left Tilt	0	21350	2560	50	High	0.15	0.132	12.88	14.00	1.294	0.171	/
		Right Cheek	0	21350	2560	50	High	0.14	0.311	12.88	14.00	1.294	0.402	/
		Right Tilt	0	21350	2560	50	High	0.15	0.342	12.88	14.00	1.294	0.443	/
ANT1	QPSK	Left Cheek	0	21350	2560	1	Mid	-0.19	0.023	14.10	15.00	1.230	0.028	/
		Left Tilt	0	21350	2560	1	Mid	0.05	0.011	14.10	15.00	1.230	0.014	/
		Right Cheek	0	21350	2560	1	Mid	0.10	0.008	14.10	15.00	1.230	0.010	/
		Right Tilt	0	21350	2560	1	Mid	-0.05	0.005	14.10	15.00	1.230	0.006	/
		Left Cheek	0	21350	2560	50	Mid	0.15	0.015	13.08	14.00	1.236	0.019	/
		Left Tilt	0	21350	2560	50	Mid	0.04	0.006	13.08	14.00	1.236	0.007	/
		Right Cheek	0	21350	2560	50	Mid	-0.18	0.008	13.08	14.00	1.236	0.010	/
		Right Tilt	0	21350	2560	50	Mid	0.13	0.003	13.08	14.00	1.236	0.004	/
Body-worn&Hotspot														
ANT4	QPSK	Front Side	10	21350	2560	1	Mid	0.17	0.056	13.90	15.00	1.288	0.072	/
		Back Side	10	21350	2560	1	Mid	0.05	0.095	13.90	15.00	1.288	0.122	/
		Right Edge	10	21350	2560	1	Mid	0.12	0.023	13.90	15.00	1.288	0.030	/
		Top Edge	10	21350	2560	1	Mid	-0.04	0.106	13.90	15.00	1.288	**0.137**	16#
		Front Side	10	21350	2560	50	High	0.15	0.045	12.88	14.00	1.294	0.058	/
		Back Side	10	21350	2560	50	High	0.04	0.086	12.88	14.00	1.294	0.111	/
		Right Edge	10	21350	2560	50	High	0.01	0.021	12.88	14.00	1.294	0.027	/
		Top Edge	10	21350	2560	50	High	0.09	0.092	12.88	14.00	1.294	0.119	/
ANT1	QPSK	Front Side	10	21350	2560	1	Mid	0.05	0.043	14.10	15.00	1.230	0.053	/
		Back Side	10	21350	2560	1	Mid	-0.19	0.053	14.10	15.00	1.230	0.065	/
		Right Edge	10	21350	2560	1	Mid	0.17	0.011	14.10	15.00	1.230	0.014	/
		Bottom Edge	10	21350	2560	1	Mid	0.06	0.056	14.10	15.00	1.230	0.069	/
		Front Side	10	21350	2560	50	Mid	0.12	0.032	13.08	14.00	1.236	0.040	/
		Back Side	10	21350	2560	50	Mid	0.18	0.051	13.08	14.00	1.236	0.063	/
		Right Edge	10	21350	2560	50	Mid	-0.11	0.011	13.08	14.00	1.236	0.014	/
		Bottom Edge	10	21350	2560	50	Mid	-0.11	0.052	13.08	14.00	1.236	0.064	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

10.9 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)	Tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Head														
ANT2	QPSK	Left Cheek	0	23095	707.5	1	Mid	0.01	0.131	23.27	23.70	1.104	0.145	/
		Left Tilt	0	23095	707.5	1	Mid	-0.17	0.055	23.27	23.70	1.104	0.061	/
		Right Cheek	0	23095	707.5	1	Mid	0.01	0.290	23.27	23.70	1.104	**0.320**	17#
		Right Tilt	0	23095	707.5	1	Mid	-0.18	0.063	23.27	23.70	1.104	0.070	/
		Left Cheek	0	23095	707.5	25	Mid	-0.19	0.111	22.27	22.70	1.104	0.123	/
		Left Tilt	0	23095	707.5	25	Mid	0.07	0.046	22.27	22.70	1.104	0.051	/
		Right Cheek	0	23095	707.5	25	Mid	0.03	0.244	22.27	22.70	1.104	0.269	/
		Right Tilt	0	23095	707.5	25	Mid	-0.03	0.055	22.27	22.70	1.104	0.061	/
ANT0	QPSK	Left Cheek	0	23095	707.5	1	Mid	-0.17	0.056	23.50	24.20	1.175	0.066	/
		Left Tilt	0	23095	707.5	1	Mid	0.00	0.032	23.50	24.20	1.175	0.038	/
		Right Cheek	0	23095	707.5	1	Mid	0.16	0.039	23.50	24.20	1.175	0.046	/
		Right Tilt	0	23095	707.5	1	Mid	-0.01	0.017	23.50	24.20	1.175	0.020	/
		Left Cheek	0	23095	707.5	25	Mid	0.04	0.049	22.47	23.20	1.183	0.058	/
		Left Tilt	0	23095	707.5	25	Mid	0.11	0.025	22.47	23.20	1.183	0.030	/
		Right Cheek	0	23095	707.5	25	Mid	0.14	0.029	22.47	23.20	1.183	0.034	/
		Right Tilt	0	23095	707.5	25	Mid	-0.05	0.011	22.47	23.20	1.183	0.013	/
Body-worn&Hotspot														
ANT2	QPSK	Front Side	10	23095	707.5	1	Mid	-0.17	0.095	23.27	23.70	1.104	0.105	/
		Back Side	10	23095	707.5	1	Mid	0.06	0.152	23.27	23.70	1.104	0.168	/
		Right Edge	10	23095	707.5	1	Mid	-0.01	0.237	23.27	23.70	1.104	**0.262**	18#
		Top Edge	10	23095	707.5	1	Mid	0.14	0.021	23.27	23.70	1.104	0.023	/
		Front Side	10	23095	707.5	25	Mid	-0.07	0.077	22.27	22.70	1.104	0.085	/
		Back Side	10	23095	707.5	25	Mid	0.17	0.123	22.27	22.70	1.104	0.136	/
		Right Edge	10	23095	707.5	25	Mid	0.17	0.200	22.27	22.70	1.104	0.221	/
		Top Edge	10	23095	707.5	25	Mid	0.08	0.013	22.27	22.70	1.104	0.014	/
ANT0	QPSK	Front Side	10	23095	707.5	1	Mid	0.00	0.114	23.50	24.20	1.175	0.134	/
		Back Side	10	23095	707.5	1	Mid	0.03	0.134	23.50	24.20	1.175	0.157	/
		Left Edge	10	23095	707.5	1	Mid	0.12	0.096	23.50	24.20	1.175	0.113	/
		Bottom Edge	10	23095	707.5	1	Mid	0.08	0.089	23.50	24.20	1.175	0.105	/
		Front Side	10	23095	707.5	25	Mid	-0.06	0.096	22.47	23.20	1.183	0.114	/
		Back Side	10	23095	707.5	25	Mid	0.08	0.133	22.47	23.20	1.183	0.157	/
		Left Edge	10	23095	707.5	25	Mid	0.13	0.078	22.47	23.20	1.183	0.092	/
		Bottom Edge	10	23095	707.5	25	Mid	-0.01	0.077	22.47	23.20	1.183	0.091	/

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

10.10 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)	Tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Head														
ANT4	QPSK	Left Cheek	0	132322	1745	1	Mid	0.11	0.217	15.38	16.00	1.153	0.250	/
		Left Tilt	0	132322	1745	1	Mid	-0.12	0.250	15.38	16.00	1.153	0.288	/
		Right Cheek	0	132322	1745	1	Mid	0.00	0.412	15.38	16.00	1.153	**0.475**	19#
		Right Tilt	0	132322	1745	1	Mid	0.16	0.365	15.38	16.00	1.153	0.421	/
		Left Cheek	0	132322	1745	50	Mid	0.02	0.163	14.38	15.00	1.153	0.188	/
		Left Tilt	0	132322	1745	50	Mid	-0.11	0.188	14.38	15.00	1.153	0.217	/
		Right Cheek	0	132322	1745	50	Mid	0.17	0.311	14.38	15.00	1.153	0.359	/
		Right Tilt	0	132322	1745	50	Mid	0.07	0.265	14.38	15.00	1.153	0.306	/
ANT1	QPSK	Left Cheek	0	132322	1745	1	Mid	-0.12	0.022	15.67	16.50	1.211	0.027	/
		Left Tilt	0	132322	1745	1	Mid	0.14	0.011	15.67	16.50	1.211	0.013	/
		Right Cheek	0	132322	1745	1	Mid	-0.07	0.016	15.67	16.50	1.211	0.019	/
		Right Tilt	0	132322	1745	1	Mid	-0.07	0.009	15.67	16.50	1.211	0.011	/
		Left Cheek	0	132322	1745	50	Mid	0.14	0.011	14.64	15.50	1.219	0.013	/
		Left Tilt	0	132322	1745	50	Mid	-0.07	0.003	14.64	15.50	1.219	0.004	/
		Right Cheek	0	132322	1745	50	Mid	0.14	0.009	14.64	15.50	1.219	0.011	/
		Right Tilt	0	132322	1745	50	Mid	-0.13	0.006	14.64	15.50	1.219	0.007	/
Body-worn&Hotspot														
ANT4	QPSK	Front Side	10	132322	1745	1	Mid	0.03	0.060	15.38	16.00	1.153	0.069	/
		Back Side	10	132322	1745	1	Mid	0.09	0.107	15.38	16.00	1.153	0.123	/
		Right Edge	10	132322	1745	1	Mid	0.03	0.031	15.38	16.00	1.153	0.036	/
		Top Edge	10	132322	1745	1	Mid	0.00	0.150	15.38	16.00	1.153	**0.173**	20#
		Front Side	10	132322	1745	50	Mid	-0.19	0.050	14.38	15.00	1.153	0.058	/
		Back Side	10	132322	1745	50	Mid	-0.07	0.085	14.38	15.00	1.153	0.098	/
		Right Edge	10	132322	1745	50	Mid	0.17	0.025	14.38	15.00	1.153	0.029	/
		Top Edge	10	132322	1745	50	Mid	0.13	0.134	14.38	15.00	1.153	0.155	/
ANT1	QPSK	Front Side	10	132322	1745	1	Mid	0.17	0.046	15.67	16.50	1.211	0.056	/
		Back Side	10	132322	1745	1	Mid	0.08	0.061	15.67	16.50	1.211	0.074	/
		Right Edge	10	132322	1745	1	Mid	-0.03	0.011	15.67	16.50	1.211	0.013	/
		Bottom Edge	10	132322	1745	1	Mid	0.16	0.065	15.67	16.50	1.211	0.079	/
		Front Side	10	132322	1745	50	Mid	-0.07	0.032	14.64	15.50	1.219	0.039	/
		Back Side	10	132322	1745	50	Mid	0.06	0.050	14.64	15.50	1.219	0.061	/
		Right Edge	10	132322	1745	50	Mid	-0.17	0.008	14.64	15.50	1.219	0.010	/
		Bottom Edge	10	132322	1745	50	Mid	-0.01	0.073	14.64	15.50	1.219	0.089	/

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

10.11 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)	Tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Head														
ANT4	QPSK	Left Cheek	0	37850	2580	1	Mid	0.09	0.255	17.12	17.50	1.091	0.278	/
		Left Tilt	0	37850	2580	1	Mid	-0.16	0.251	17.12	17.50	1.091	0.274	/
		Right Cheek	0	37850	2580	1	Mid	0.13	0.455	17.12	17.50	1.091	0.497	/
		Right Tilt	0	37850	2580	1	Mid	0.01	0.503	17.12	17.50	1.091	**0.549**	21#
		Left Cheek	0	37850	2580	50	Mid	-0.16	0.221	16.00	16.50	1.122	0.248	/
		Left Tilt	0	37850	2580	50	Mid	-0.06	0.189	16.00	16.50	1.122	0.212	/
		Right Cheek	0	37850	2580	50	Mid	0.08	0.355	16.00	16.50	1.122	0.398	/
		Right Tilt	0	37850	2580	50	Mid	0.06	0.378	16.00	16.50	1.122	0.424	/
ANT1	QPSK	Left Cheek	0	37850	2580	1	Mid	0.05	0.025	17.43	18.00	1.140	0.029	/
		Left Tilt	0	37850	2580	1	Mid	-0.12	0.011	17.43	18.00	1.140	0.013	/
		Right Cheek	0	37850	2580	1	Mid	0.04	0.018	17.43	18.00	1.140	0.021	/
		Right Tilt	0	37850	2580	1	Mid	-0.10	0.016	17.43	18.00	1.140	0.018	/
		Left Cheek	0	37850	2580	50	Mid	-0.13	0.021	16.32	17.00	1.169	0.025	/
		Left Tilt	0	37850	2580	50	Mid	0.10	0.014	16.32	17.00	1.169	0.016	/
		Right Cheek	0	37850	2580	50	Mid	0.00	0.011	16.32	17.00	1.169	0.013	/
		Right Tilt	0	37850	2580	50	Mid	-0.05	0.013	16.32	17.00	1.169	0.015	/
Body-worn&Hotspot														
ANT4	QPSK	Front Side	10	37850	2580	1	Mid	0.08	0.069	17.12	17.50	1.091	0.075	/
		Back Side	10	37850	2580	1	Mid	-0.13	0.118	17.12	17.50	1.091	0.129	/
		Right Edge	10	37850	2580	1	Mid	0.03	0.012	17.12	17.50	1.091	0.013	/
		Top Edge	10	37850	2580	1	Mid	0.06	0.130	17.12	17.50	1.091	**0.142**	22#
		Front Side	10	37850	2580	50	Mid	-0.09	0.059	16.00	16.50	1.122	0.066	/
		Back Side	10	37850	2580	50	Mid	0.19	0.109	16.00	16.50	1.122	0.122	/
		Right Edge	10	37850	2580	50	Mid	-0.12	0.011	16.00	16.50	1.122	0.012	/
		Top Edge	10	37850	2580	50	Mid	-0.17	0.122	16.00	16.50	1.122	0.137	/
ANT1	QPSK	Front Side	10	37850	2580	1	Mid	-0.07	0.056	17.43	18.00	1.140	0.064	/
		Back Side	10	37850	2580	1	Mid	0.06	0.066	17.43	18.00	1.140	0.075	/
		Right Edge	10	37850	2580	1	Mid	0.17	0.012	17.43	18.00	1.140	0.014	/
		Bottom Edge	10	37850	2580	1	Mid	0.05	0.070	17.43	18.00	1.140	0.080	/
		Front Side	10	37850	2580	50	Mid	-0.10	0.045	16.32	17.00	1.169	0.053	/
		Back Side	10	37850	2580	50	Mid	-0.17	0.055	16.32	17.00	1.169	0.064	/
		Right Edge	10	37850	2580	50	Mid	-0.12	0.008	16.32	17.00	1.169	0.009	/
		Bottom Edge	10	37850	2580	50	Mid	0.06	0.067	16.32	17.00	1.169	0.078	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

10.12 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)	Tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Head														
ANT4	QPSK	Left Cheek	0	40140	2545	1	Mid	0.16	0.231	16.95	17.50	1.135	0.262	/
		Left Tilt	0	40140	2545	1	Mid	-0.06	0.258	16.95	17.50	1.135	0.293	/
		Right Cheek	0	40140	2545	1	Mid	-0.01	0.433	16.95	17.50	1.135	0.491	/
		Right Tilt	0	40140	2545	1	Mid	0.01	0.490	16.95	17.50	1.135	**0.556**	23#
		Left Cheek	0	40140	2545	50	Mid	-0.05	0.172	15.90	16.50	1.148	0.197	/
		Left Tilt	0	40140	2545	50	Mid	-0.11	0.213	15.90	16.50	1.148	0.245	/
		Right Cheek	0	40140	2545	50	Mid	0.15	0.332	15.90	16.50	1.148	0.381	/
		Right Tilt	0	40140	2545	50	Mid	0.09	0.367	15.90	16.50	1.148	0.421	/
ANT1	QPSK	Left Cheek	0	40140	2545	1	Mid	0.11	0.024	17.19	17.50	1.074	0.026	/
		Left Tilt	0	40140	2545	1	Mid	0.02	0.013	17.19	17.50	1.074	0.014	/
		Right Cheek	0	40140	2545	1	Mid	0.05	0.011	17.19	17.50	1.074	0.012	/
		Right Tilt	0	40140	2545	1	Mid	-0.16	0.008	17.19	17.50	1.074	0.009	/
		Left Cheek	0	40140	2545	50	Mid	0.18	0.013	16.15	16.50	1.084	0.014	/
		Left Tilt	0	40140	2545	50	Mid	-0.08	0.012	16.15	16.50	1.084	0.013	/
		Right Cheek	0	40140	2545	50	Mid	-0.18	0.011	16.15	16.50	1.084	0.012	/
		Right Tilt	0	40140	2545	50	Mid	-0.01	0.006	16.15	16.50	1.084	0.007	/
Body-worn&Hotspot														
ANT4	QPSK	Front Side	10	40140	2545	1	Mid	-0.15	0.077	16.95	17.50	1.135	0.087	/
		Back Side	10	40140	2545	1	Mid	-0.01	0.121	16.95	17.50	1.135	0.137	/
		Right Edge	10	40140	2545	1	Mid	-0.19	0.035	16.95	17.50	1.135	0.040	/
		Top Edge	10	40140	2545	1	Mid	0.04	0.131	16.95	17.50	1.135	**0.149**	24#
		Front Side	10	40140	2545	50	Mid	-0.14	0.057	15.90	16.50	1.148	0.065	/
		Back Side	10	40140	2545	50	Mid	-0.19	0.102	15.90	16.50	1.148	0.117	/
		Right Edge	10	40140	2545	50	Mid	-0.01	0.023	15.90	16.50	1.148	0.026	/
		Top Edge	10	40140	2545	50	Mid	-0.19	0.113	15.90	16.50	1.148	0.130	/
ANT1	QPSK	Front Side	10	40140	2545	1	Mid	0.14	0.033	17.19	17.50	1.074	0.035	/
		Back Side	10	40140	2545	1	Mid	0.03	0.064	17.19	17.50	1.074	0.069	/
		Right Edge	10	40140	2545	1	Mid	-0.19	0.015	17.19	17.50	1.074	0.016	/
		Bottom Edge	10	40140	2545	1	Mid	0.05	0.078	17.19	17.50	1.074	0.084	/
		Front Side	10	40140	2545	50	Mid	0.16	0.029	16.15	16.50	1.084	0.031	/
		Back Side	10	40140	2545	50	Mid	0.14	0.045	16.15	16.50	1.084	0.049	/
		Right Edge	10	40140	2545	50	Mid	-0.12	0.011	16.15	16.50	1.084	0.012	/
		Bottom Edge	10	40140	2545	50	Mid	0.10	0.064	16.15	16.50	1.084	0.069	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

10.13 WIFI 2.4GHz

Mode	Antenna	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	Duty cycle (%)	Duty Factor	1g Scaled SAR (W/kg)	Meas. No.
Head														
802.11b	ANT12	Left Cheek	0	6	2437	-0.04	0.224	9.54	10.50	1.247	99.7	1.003	**0.280**	25#
	ANT12	Left Tilt	0	6	2437	-0.03	0.185	9.54	10.50	1.247	99.7	1.003	0.231	/
	ANT12	Right Cheek	0	6	2437	-0.10	0.172	9.54	10.50	1.247	99.7	1.003	0.215	/
	ANT12	Right Tilt	0	6	2437	0.00	0.163	9.54	10.50	1.247	99.7	1.003	0.204	/
802.11b	ANT14	Left Cheek	0	6	2437	0.08	0.148	9.61	10.50	1.227	99.7	1.003	0.182	/
	ANT14	Left Tilt	0	6	2437	-0.04	0.082	9.61	10.50	1.227	99.7	1.003	0.101	/
	ANT14	Right Cheek	0	6	2437	0.16	0.047	9.61	10.50	1.227	99.7	1.003	0.058	/
	ANT14	Right Tilt	0	6	2437	-0.15	0.042	9.61	10.50	1.227	99.7	1.003	0.052	/
Body-worn&Hotspot														
802.11b	ANT12	Front Side	10	6	2437	-0.15	0.040	9.54	10.50	1.247	99.7	1.003	0.050	/
	ANT12	Back Side	10	6	2437	0.12	0.045	9.54	10.50	1.247	99.7	1.003	0.056	/
	ANT12	Left Edge	10	6	2437	0.04	0.006	9.54	10.50	1.247	99.7	1.003	0.008	/
	ANT12	Top Edge	10	6	2437	-0.02	0.048	9.54	10.50	1.247	99.7	1.003	**0.060**	36#
802.11b	ANT14	Front Side	10	6	2437	-0.08	0.011	9.61	10.50	1.227	99.7	1.003	0.014	/
	ANT14	Back Side	10	6	2437	-0.10	0.045	9.61	10.50	1.227	99.7	1.003	0.055	/
	ANT14	Left Edge	10	6	2437	-0.02	0.039	9.61	10.50	1.227	99.7	1.003	0.048	/
	ANT14	Top Edge	10	6	2437	0.08	0.008	9.61	10.50	1.227	99.7	1.003	0.010	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

10.14 WIFI 5GHz

Fre. Band	Mode	Antenna	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	Duty cycle (%)	Duty Factor	1g Scaled SAR (W/kg)	Meas. No.
Head															
5.3G	802.11ac (VHT80)	ANT12	Left Cheek	0	58	5290	0.19	0.065	10.55	11.00	1.109	88.9	1.125	0.081	/
		ANT12	Left Tilt	0	58	5290	0.10	0.069	10.55	11.00	1.109	88.9	1.125	0.086	/
		ANT12	Right Cheek	0	58	5290	-0.03	0.082	10.55	11.00	1.109	88.9	1.125	0.102	/
		ANT12	Right Tilt	0	58	5290	-0.17	0.098	10.55	11.00	1.109	88.9	1.125	0.122	/
5.3G	802.11ac (VHT80)	ANT14	Left Cheek	0	58	5290	-0.04	0.085	10.10	11.00	1.230	88.9	1.125	0.118	/
		ANT14	Left Tilt	0	58	5290	0.03	0.111	10.10	11.00	1.230	88.9	1.125	**0.154**	27#
		ANT14	Right Cheek	0	58	5290	-0.15	0.075	10.10	11.00	1.230	88.9	1.125	0.104	/
		ANT14	Right Tilt	0	58	5290	0.14	0.080	10.10	11.00	1.230	88.9	1.125	0.111	/
5.6G	802.11ac (VHT80)	ANT12	Left Cheek	0	106	5530	0.05	0.092	10.79	11.00	1.050	88.9	1.125	0.109	/
		ANT12	Left Tilt	0	106	5530	-0.01	0.100	10.79	11.00	1.050	88.9	1.125	**0.118**	28#
		ANT12	Right Cheek	0	106	5530	0.13	0.089	10.79	11.00	1.050	88.9	1.125	0.105	/
		ANT12	Right Tilt	0	106	5530	0.10	0.098	10.79	11.00	1.050	88.9	1.125	0.116	/
5.6G	802.11ac (VHT80)	ANT14	Left Cheek	0	106	5530	-0.09	0.081	10.50	11.00	1.122	88.9	1.125	0.102	/
		ANT14	Left Tilt	0	106	5530	0.19	0.080	10.50	11.00	1.122	88.9	1.125	0.101	/
		ANT14	Right Cheek	0	106	5530	-0.10	0.092	10.50	11.00	1.122	88.9	1.125	0.116	/
		ANT14	Right Tilt	0	106	5530	0.18	0.092	10.50	11.00	1.122	88.9	1.125	0.116	/
5.8G	802.11ac (VHT80)	ANT12	Left Cheek	0	155	5775	-0.15	0.098	10.65	11.00	1.084	88.9	1.125	0.119	/
		ANT12	Left Tilt	0	155	5775	0.07	0.149	10.65	11.00	1.084	88.9	1.125	**0.182**	29#
		ANT12	Right Cheek	0	155	5775	-0.18	0.098	10.65	11.00	1.084	88.9	1.125	0.119	/
		ANT12	Right Tilt	0	155	5775	-0.18	0.122	10.65	11.00	1.084	88.9	1.125	0.149	/
5.8G	802.11ac (VHT80)	ANT14	Left Cheek	0	155	5775	0.10	0.103	9.68	11.00	1.355	88.9	1.125	0.157	/
		ANT14	Left Tilt	0	155	5775	0.04	0.075	9.68	11.00	1.355	88.9	1.125	0.114	/
		ANT14	Right Cheek	0	155	5775	0.16	0.087	9.68	11.00	1.355	88.9	1.125	0.133	/
		ANT14	Right Tilt	0	155	5775	-0.12	0.097	9.68	11.00	1.355	88.9	1.125	0.148	/
Body-worn															
5.3G	802.11ac (VHT80)	ANT12	Front Side	10	58	5290	0.08	0.023	10.55	11.00	1.109	88.9	1.125	0.029	/
		ANT12	Back Side	10	58	5290	-0.15	0.047	10.55	11.00	1.109	88.9	1.125	0.059	/
5.3G	802.11ac (VHT80)	ANT14	Front Side	10	58	5290	0.06	0.041	10.10	11.00	1.230	88.9	1.125	0.057	/
		ANT14	Back Side	10	58	5290	0.00	0.081	10.10	11.00	1.230	88.9	1.125	**0.112**	30#
5.6G	802.11ac (VHT80)	ANT12	Front Side	10	106	5530	-0.10	0.055	10.79	11.00	1.050	88.9	1.125	0.065	/
		ANT12	Back Side	10	106	5530	0.12	0.113	10.79	11.00	1.050	88.9	1.125	**0.133**	31#
5.6G	802.11ac (VHT80)	ANT14	Front Side	10	106	5530	0.06	0.046	10.50	11.00	1.122	88.9	1.125	0.058	/
		ANT14	Back Side	10	106	5530	-0.13	0.101	10.50	11.00	1.122	88.9	1.125	0.127	/
5.8G	802.11ac (VHT80)	ANT12	Front Side	10	155	5775	-0.08	0.042	10.65	11.00	1.084	88.9	1.125	0.051	/
		ANT12	Back Side	10	155	5775	0.00	0.096	10.65	11.00	1.084	88.9	1.125	**0.117**	32#

5.8G	802.11ac (VHT80)	ANT14	Front Side	10	155	5775	0.05	0.042	9.68	11.00	1.355	88.9	1.125	0.064	/
		ANT14	Back Side	10	155	5775	-0.18	0.055	9.68	11.00	1.355	88.9	1.125	0.084	/
Hotspot															
5.2G	802.11ac (VHT80)	ANT12	Front Side	10	42	5210	-0.05	0.012	10.47	11.00	1.130	88.9	1.125	0.015	/
		ANT12	Back Side	10	42	5210	0.11	0.038	10.47	11.00	1.130	88.9	1.125	0.048	/
		ANT12	Left Edge	10	42	5210	0.02	0.008	10.47	11.00	1.130	88.9	1.125	0.010	/
		ANT12	Top Edge	10	42	5210	0.00	0.044	10.47	11.00	1.130	88.9	1.125	**0.056**	33#
5.2G	802.11ac (VHT80)	ANT14	Front Side	10	42	5210	0.13	0.008	9.69	11.00	1.352	88.9	1.125	0.012	/
		ANT14	Back Side	10	42	5210	-0.17	0.028	9.69	11.00	1.352	88.9	1.125	0.043	/
		ANT14	Left Edge	10	42	5210	0.18	0.036	9.69	11.00	1.352	88.9	1.125	0.055	/
		ANT14	Top Edge	10	42	5210	0.05	0.033	9.69	11.00	1.352	88.9	1.125	0.050	/
5.8G	802.11ac (VHT80)	ANT12	Front Side	10	155	5775	-0.15	0.042	10.65	11.00	1.084	88.9	1.125	0.051	/
		ANT12	Back Side	10	155	5775	-0.01	0.096	10.65	11.00	1.084	88.9	1.125	0.117	/
		ANT12	Left Edge	10	155	5775	-0.09	0.031	10.65	11.00	1.084	88.9	1.125	0.038	/
		ANT12	Top Edge	10	155	5775	0.03	0.103	10.65	11.00	1.084	88.9	1.125	**0.126**	34#
5.8G	802.11ac (VHT80)	ANT14	Front Side	10	155	5775	0.19	0.042	9.68	11.00	1.355	88.9	1.125	0.064	/
		ANT14	Back Side	10	155	5775	0.13	0.055	9.68	11.00	1.355	88.9	1.125	0.084	/
		ANT14	Left Edge	10	155	5775	0.13	0.051	9.68	11.00	1.355	88.9	1.125	0.078	/
		ANT14	Top Edge	10	155	5775	-0.02	0.011	9.68	11.00	1.355	88.9	1.125	0.017	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.															

Fre. Band	Mode	Antenna	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	10 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	Duty cycle (%)	Duty Factor	10g Scaled SAR (W/kg)	Meas. No.
Specific															
5.3G	802.11ac (VHT80)	ANT12	Front Side	0	58	5290	-0.08	0.061	10.55	11.00	1.109	88.9	1.125	0.076	/
		ANT12	Back Side	0	58	5290	0.05	0.059	10.55	11.00	1.109	88.9	1.125	0.074	/
		ANT12	Left Edge	0	58	5290	-0.12	0.023	10.55	11.00	1.109	88.9	1.125	0.029	/
		ANT12	Top Edge	0	58	5290	0.00	0.154	10.55	11.00	1.109	88.9	1.125	**0.192**	35#
5.3G	802.11ac (VHT80)	ANT14	Front Side	0	58	5290	-0.03	0.064	10.10	11.00	1.230	88.9	1.125	0.089	/
		ANT14	Back Side	0	58	5290	0.11	0.058	10.10	11.00	1.230	88.9	1.125	0.080	/
		ANT14	Left Edge	0	58	5290	0.03	0.122	10.10	11.00	1.230	88.9	1.125	0.169	/
		ANT14	Top Edge	0	58	5290	0.00	0.095	10.10	11.00	1.230	88.9	1.125	0.131	/
5.6G	802.11ac (VHT80)	ANT12	Front Side	0	106	5530	0.19	0.082	10.79	11.00	1.050	88.9	1.125	0.097	/
		ANT12	Back Side	0	106	5530	-0.16	0.064	10.79	11.00	1.050	88.9	1.125	0.076	/
		ANT12	Left Edge	0	106	5530	0.00	0.017	10.79	11.00	1.050	88.9	1.125	0.020	/
		ANT12	Top Edge	0	106	5530	-0.05	0.153	10.79	11.00	1.050	88.9	1.125	**0.181**	36#
5.6G	802.11ac (VHT80)	ANT14	Front Side	0	106	5530	0.03	0.061	10.50	11.00	1.122	88.9	1.125	0.077	/
		ANT14	Back Side	0	106	5530	0.07	0.061	10.50	11.00	1.122	88.9	1.125	0.077	/
		ANT14	Left Edge	0	106	5530	0.11	0.141	10.50	11.00	1.122	88.9	1.125	0.178	/
		ANT14	Top Edge	0	106	5530	0.01	0.091	10.50	11.00	1.122	88.9	1.125	0.115	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.															

10.15 Bluetooth

Mode	Position	Antenna	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	Duty cycle (%)	Duty Factor	1g Scaled SAR (W/kg)	Meas. No.
Head														
DH5	Left Cheek	ANT12	0	39	2441	0.00	0.360	14.79	15.50	1.178	76.67	1.304	**0.553**	37#
	Left Tilt	ANT12	0	39	2441	-0.10	0.312	14.79	15.50	1.178	76.67	1.304	0.479	/
	Right Cheek	ANT12	0	39	2441	-0.08	0.177	14.79	15.50	1.178	76.67	1.304	0.272	/
	Right Tilt	ANT12	0	39	2441	0.09	0.164	14.79	15.50	1.178	76.67	1.304	0.252	/
DH5	Left Cheek	ANT14	0	78	2480	0.16	0.241	14.28	15.50	1.324	76.67	1.304	0.416	/
	Left Tilt	ANT14	0	78	2480	-0.08	0.146	14.28	15.50	1.324	76.67	1.304	0.252	/
	Right Cheek	ANT14	0	78	2480	-0.13	0.058	14.28	15.50	1.324	76.67	1.304	0.100	/
	Right Tilt	ANT14	0	78	2480	-0.05	0.056	14.28	15.50	1.324	76.67	1.304	0.097	/
Body-worn&Hotspot														
DH5	Front Side	ANT12	10	39	2441	0.13	0.049	14.79	15.50	1.178	76.67	1.304	0.075	/
	Back Side	ANT12	10	39	2441	-0.11	0.069	14.79	15.50	1.178	76.67	1.304	0.106	/
	Left Edge	ANT12	10	39	2441	-0.12	0.012	14.79	15.50	1.178	76.67	1.304	0.018	/
	Top Edge	ANT12	10	39	2441	-0.03	0.076	14.79	15.50	1.178	76.67	1.304	0.117	/
DH5	Front Side	ANT14	10	78	2480	0.06	0.050	14.28	15.50	1.324	76.67	1.304	0.086	/
	Back Side	ANT14	10	78	2480	-0.01	0.102	14.28	15.50	1.324	76.67	1.304	0.176	/
	Left Edge	ANT14	10	78	2480	0.01	0.125	14.28	15.50	1.324	76.67	1.304	**0.216**	38#
	Top Edge	ANT14	10	78	2480	-0.13	0.056	14.28	15.50	1.324	76.67	1.304	0.097	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

10.16 NFC SAR

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

a) Measure the conducted output power (in dBm) using the detector specified (see guidance regarding measurement procedures for determining quasi-peak, peak, and average conducted output power, respectively).

b) Add the maximum transmit antenna gain (in dBi) to the measured output power level to determine the EIRP level (see guidance on determining the applicable antenna gain)

c) Add the appropriate maximum ground reflection factor to the EIRP level (6 dB for frequencies ≤ 30 MHz, 4.7 dB for frequencies between 30 MHz and 1000 MHz, inclusive and 0 dB for frequencies > 1000 MHz).

d) For devices with multiple antenna-ports, measure the power of each individual chain and sum the EIRP of all chains in linear terms (e.g., Watts, mW).

e) Convert the resultant EIRP level to an equivalent electric field strength using the following relationship: E = EIRP - 20log D + 104.8
where:
E = electric field strength in dBμV/m,
EIRP = equivalent isotropic radiated power in dBm
D = specified measurement distance in meters.

Mode	f (MHz)	Max. E-Field strength (dBuV/m)	D (m)	Ground reflection factor (dB)	ERP (dBm)
NFC (13.56MHz)	13.56	54.73	10	6	-24.07
Note: 1. Add the appropriate maximum ground reflection factor to the ERP level (6 dB for frequencies ≤ 30 MHz). 2.ERP= 54.73+20*Log(10) - 104.8 + 6 =-24.07 (dBm)					

According to the FCC KDB 447498 D04
Estimated SAR: SAR test =1.6 · Pant / Pth [W/kg]

Estimated SAR	1.6 ·Pant / Pth [W/kg]		
Pmeas.(dBm)	-24.07	Pmeas.(mW)	0.00391
Pth.(mW)	443.13		
NFC Estimated 1g SAR [W/kg]	＜0.001		

10.16.1 Highest Total Exposure Ratio of Simultaneous Transmission

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

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

The maximum SAR value for Simultaneous Transmission is 1.541 [W/kg]. Therefore, the worst TER =(1.541+0.001)/1.6 = 0.964＜1,the NFC SAR transmit simultaneously Pass.

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:

When the highest measured SAR is < 0.80 W/kg, repeated measurement is not required.

When the highest measured SAR is >= 0.80 W/kg, repeat that measurement once.

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.

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^{1th} Measured SAR (W/kg)	Largest to Smallest SAR Radio
849	WCDMA band 5	Head	Right Cheek	0.887	Yes	0.865	1.03
Note: The ratio of largest to smallest SAR for the original and first repeated measurements is < 1.20, the second repeated measurement. is not required.							

12 SIMULTANEOUS TRANSMISSION

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

12.1 Simultaneous Transmission Mode Consider

No.	Simultaneous Tx Combination	Head	Body-Worn	Hotspot	Specific
1	WWAN + WIFI 2.4GHz(Ant.12)+ WIFI5G(Ant.12)+Bluetooth(Ant.12)	Yes	Yes	Yes	Yes
2	WWAN + WIFI 2.4GHz(Ant.14)+ WIFI5G(Ant.14)+Bluetooth(Ant.14)	Yes	Yes	Yes	Yes

Note:

1. WWAN antennas can switch automatically,the standards supported by WWAN are(GSM Voice/GPRS/EDGE/WCDMA/LTE).
2. The maximum SAR summation is calculated based on the same configuration and test position.
3. The Bluetooth support dual antennas, and can't transmit simultaneously,the WLAN 2.4G support dual antennas, but does not support MIMO.

12.2 Sum SAR of Simultaneous Transmission

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

Band	Antenna	Position	Stand alone SAR										SUM SAR	
			1.000	2	3				4	5	6	7		
			WWAN	2.4GWIFI ANT12	2.4GWIFI ANT14	5.3GWIFI ANT12	5.6GWIFI ANT12	5.8GWIFI ANT12	5GWIFI ANT12 MAX	5GWIFI ANT14 MAX	BT ANT12	BT ANT14	Sum SAR （1+2+4+6）	Sum SAR （1+3+5+7）
GSM850	ANT0	Left Cheek	0.054	0.280	0.182	0.081	0.109	0.119	0.119	0.157	0.553	0.416	1.006	0.809
		Left Tilt	0.029	0.231	0.101	0.086	0.118	0.182	0.182	0.154	0.479	0.252	0.921	0.536
		Right Cheek	0.059	0.215	0.058	0.102	0.105	0.119	0.119	0.133	0.272	0.100	0.665	0.350
		Right Tilt	0.037	0.204	0.052	0.122	0.116	0.149	0.149	0.148	0.252	0.097	0.642	0.334
GSM850	ANT2	Left Cheek	0.505	0.280	0.182	0.081	0.109	0.119	0.119	0.157	0.553	0.416	1.457	1.260
		Left Tilt	0.194	0.231	0.101	0.086	0.118	0.182	0.182	0.154	0.479	0.252	1.086	0.701
		Right Cheek	0.717	0.215	0.058	0.102	0.105	0.119	0.119	0.133	0.272	0.100	1.323	1.008
		Right Tilt	0.207	0.204	0.052	0.122	0.116	0.149	0.149	0.148	0.252	0.097	0.812	0.504
GSM1900	ANT1	Left Cheek	0.049	0.280	0.182	0.081	0.109	0.119	0.119	0.157	0.553	0.416	1.001	0.804
		Left Tilt	0.031	0.231	0.101	0.086	0.118	0.182	0.182	0.154	0.479	0.252	0.923	0.538
		Right Cheek	0.043	0.215	0.058	0.102	0.105	0.119	0.119	0.133	0.272	0.100	0.649	0.334
		Right Tilt	0.024	0.204	0.052	0.122	0.116	0.149	0.149	0.148	0.252	0.097	0.629	0.321
GSM1900	ANT4	Left Cheek	0.585	0.280	0.182	0.081	0.109	0.119	0.119	0.157	0.553	0.416	1.537	1.340
		Left Tilt	0.629	0.231	0.101	0.086	0.118	0.182	0.182	0.154	0.479	0.252	1.521	1.136
		Right Cheek	0.844	0.215	0.058	0.102	0.105	0.119	0.119	0.133	0.272	0.100	1.450	1.135
		Right Tilt	0.731	0.204	0.052	0.122	0.116	0.149	0.149	0.148	0.252	0.097	1.336	1.028
WCDMA B2	ANT1	Left Cheek	0.040	0.280	0.182	0.081	0.109	0.119	0.119	0.157	0.553	0.416	0.992	0.795
		Left Tilt	0.035	0.231	0.101	0.086	0.118	0.182	0.182	0.154	0.479	0.252	0.927	0.542
		Right Cheek	0.052	0.215	0.058	0.102	0.105	0.119	0.119	0.133	0.272	0.100	0.658	0.343
		Right Tilt	0.026	0.204	0.052	0.122	0.116	0.149	0.149	0.148	0.252	0.097	0.631	0.323
WCDMA B2	ANT4	Left Cheek	0.257	0.280	0.182	0.081	0.109	0.119	0.119	0.157	0.553	0.416	1.209	1.012
		Left Tilt	0.293	0.231	0.101	0.086	0.118	0.182	0.182	0.154	0.479	0.252	1.185	0.800
		Right Cheek	0.489	0.215	0.058	0.102	0.105	0.119	0.119	0.133	0.272	0.100	1.095	0.780
		Right Tilt	0.379	0.204	0.052	0.122	0.116	0.149	0.149	0.148	0.252	0.097	0.984	0.676
WCDMA B4	ANT1	Left Cheek	0.031	0.280	0.182	0.081	0.109	0.119	0.119	0.157	0.553	0.416	0.983	0.786
		Left Tilt	0.016	0.231	0.101	0.086	0.118	0.182	0.182	0.154	0.479	0.252	0.908	0.523
		Right Cheek	0.035	0.215	0.058	0.102	0.105	0.119	0.119	0.133	0.272	0.100	0.641	0.326
		Right Tilt	0.012	0.204	0.052	0.122	0.116	0.149	0.149	0.148	0.252	0.097	0.617	0.309
WCDMA B4	ANT4	Left Cheek	0.271	0.280	0.182	0.081	0.109	0.119	0.119	0.157	0.553	0.416	1.223	1.026
		Left Tilt	0.320	0.231	0.101	0.086	0.118	0.182	0.182	0.154	0.479	0.252	1.212	0.827
		Right Cheek	0.382	0.215	0.058	0.102	0.105	0.119	0.119	0.133	0.272	0.100	0.988	0.673
		Right Tilt	0.435	0.204	0.052	0.122	0.116	0.149	0.149	0.148	0.252	0.097	1.040	0.732
WCDMA B5	ANT0	Left Cheek	0.105	0.280	0.182	0.081	0.109	0.119	0.119	0.157	0.553	0.416	1.057	0.860
		Left Tilt	0.050	0.231	0.101	0.086	0.118	0.182	0.182	0.154	0.479	0.252	0.942	0.557

		Right Cheek	0.091	0.215	0.058	0.102	0.105	0.119	0.119	0.133	0.272	0.100	0.697	0.382
		Right Tilt	0.037	0.204	0.052	0.122	0.116	0.149	0.149	0.148	0.252	0.097	0.642	0.334
WCDMA B5	ANT2	Left Cheek	0.519	0.280	0.182	0.081	0.109	0.119	0.119	0.157	0.553	0.416	1.471	1.274
		Left Tilt	0.202	0.231	0.101	0.086	0.118	0.182	0.182	0.154	0.479	0.252	1.094	0.709
		Right Cheek	0.935	0.215	0.058	0.102	0.105	0.119	0.119	0.133	0.272	0.100	**1.541**	1.226
		Right Tilt	0.250	0.204	0.052	0.122	0.116	0.149	0.149	0.148	0.252	0.097	0.855	0.547
LTE B2	ANT1	Left Cheek	0.033	0.280	0.182	0.081	0.109	0.119	0.119	0.157	0.553	0.416	0.985	0.788
		Left Tilt	0.023	0.231	0.101	0.086	0.118	0.182	0.182	0.154	0.479	0.252	0.915	0.530
		Right Cheek	0.041	0.215	0.058	0.102	0.105	0.119	0.119	0.133	0.272	0.100	0.648	0.332
		Right Tilt	0.022	0.204	0.052	0.122	0.116	0.149	0.149	0.148	0.252	0.097	0.627	0.319
LTE B2	ANT4	Left Cheek	0.227	0.280	0.182	0.081	0.109	0.119	0.119	0.157	0.553	0.416	1.179	0.982
		Left Tilt	0.250	0.231	0.101	0.086	0.118	0.182	0.182	0.154	0.479	0.252	1.142	0.757
		Right Cheek	0.390	0.215	0.058	0.102	0.105	0.119	0.119	0.133	0.272	0.100	0.996	0.681
		Right Tilt	0.348	0.204	0.052	0.122	0.116	0.149	0.149	0.148	0.252	0.097	0.953	0.645
LTE B5	ANT0	Left Cheek	0.060	0.280	0.182	0.081	0.109	0.119	0.119	0.157	0.553	0.416	1.012	0.815
		Left Tilt	0.038	0.231	0.101	0.086	0.118	0.182	0.182	0.154	0.479	0.252	0.930	0.545
		Right Cheek	0.062	0.215	0.058	0.102	0.105	0.119	0.119	0.133	0.272	0.100	0.668	0.353
		Right Tilt	0.025	0.204	0.052	0.122	0.116	0.149	0.149	0.148	0.252	0.097	0.630	0.322
LTE B5	ANT2	Left Cheek	0.234	0.280	0.182	0.081	0.109	0.119	0.119	0.157	0.553	0.416	1.186	0.989
		Left Tilt	0.089	0.231	0.101	0.086	0.118	0.182	0.182	0.154	0.479	0.252	0.981	0.596
		Right Cheek	0.597	0.215	0.058	0.102	0.105	0.119	0.119	0.133	0.272	0.100	1.203	0.888
		Right Tilt	0.150	0.204	0.052	0.122	0.116	0.149	0.149	0.148	0.252	0.097	0.755	0.447
LTE B7	ANT1	Left Cheek	0.028	0.280	0.182	0.081	0.109	0.119	0.119	0.157	0.553	0.416	0.980	0.783
		Left Tilt	0.014	0.231	0.101	0.086	0.118	0.182	0.182	0.154	0.479	0.252	0.906	0.521
		Right Cheek	0.010	0.215	0.058	0.102	0.105	0.119	0.119	0.133	0.272	0.100	0.616	0.301
		Right Tilt	0.006	0.204	0.052	0.122	0.116	0.149	0.149	0.148	0.252	0.097	0.611	0.303
LTE B7	ANT4	Left Cheek	0.233	0.280	0.182	0.081	0.109	0.119	0.119	0.157	0.553	0.416	1.185	0.988
		Left Tilt	0.256	0.231	0.101	0.086	0.118	0.182	0.182	0.154	0.479	0.252	1.148	0.763
		Right Cheek	0.416	0.215	0.058	0.102	0.105	0.119	0.119	0.133	0.272	0.100	1.022	0.707
		Right Tilt	0.522	0.204	0.052	0.122	0.116	0.149	0.149	0.148	0.252	0.097	1.127	0.819
LTE B12	ANT0	Left Cheek	0.066	0.280	0.182	0.081	0.109	0.119	0.119	0.157	0.553	0.416	1.018	0.821
		Left Tilt	0.038	0.231	0.101	0.086	0.118	0.182	0.182	0.154	0.479	0.252	0.930	0.545
		Right Cheek	0.046	0.215	0.058	0.102	0.105	0.119	0.119	0.133	0.272	0.100	0.652	0.337
		Right Tilt	0.020	0.204	0.052	0.122	0.116	0.149	0.149	0.148	0.252	0.097	0.625	0.317
LTE B12	ANT2	Left Cheek	0.145	0.280	0.182	0.081	0.109	0.119	0.119	0.157	0.553	0.416	1.097	0.900
		Left Tilt	0.061	0.231	0.101	0.086	0.118	0.182	0.182	0.154	0.479	0.252	0.953	0.568
		Right Cheek	0.320	0.215	0.058	0.102	0.105	0.119	0.119	0.133	0.272	0.100	0.926	0.611
		Right Tilt	0.070	0.204	0.052	0.122	0.116	0.149	0.149	0.148	0.252	0.097	0.675	0.367
LTE B66	ANT1	Left Cheek	0.027	0.280	0.182	0.081	0.109	0.119	0.119	0.157	0.553	0.416	0.979	0.782
		Left Tilt	0.013	0.231	0.101	0.086	0.118	0.182	0.182	0.154	0.479	0.252	0.905	0.521
		Right Cheek	0.019	0.215	0.058	0.102	0.105	0.119	0.119	0.133	0.272	0.100	0.626	0.311
		Right Tilt	0.011	0.204	0.052	0.122	0.116	0.149	0.149	0.148	0.252	0.097	0.616	0.308
LTE B66	ANT4	Left Cheek	0.250	0.280	0.182	0.081	0.109	0.119	0.119	0.157	0.553	0.416	1.203	1.006

		Left Tilt	0.288	0.231	0.101	0.086	0.118	0.182	0.182	0.154	0.479	0.252	1.180	0.796
		Right Cheek	0.475	0.215	0.058	0.102	0.105	0.119	0.119	0.133	0.272	0.100	1.082	0.766
		Right Tilt	0.421	0.204	0.052	0.122	0.116	0.149	0.149	0.148	0.252	0.097	1.026	0.718
LTE B38	ANT1	Left Cheek	0.029	0.280	0.182	0.081	0.109	0.119	0.119	0.157	0.553	0.416	0.981	0.784
		Left Tilt	0.013	0.231	0.101	0.086	0.118	0.182	0.182	0.154	0.479	0.252	0.905	0.520
		Right Cheek	0.021	0.215	0.058	0.102	0.105	0.119	0.119	0.133	0.272	0.100	0.627	0.312
		Right Tilt	0.018	0.204	0.052	0.122	0.116	0.149	0.149	0.148	0.252	0.097	0.623	0.315
LTE B38	ANT4	Left Cheek	0.278	0.280	0.182	0.081	0.109	0.119	0.119	0.157	0.553	0.416	1.230	1.033
		Left Tilt	0.274	0.231	0.101	0.086	0.118	0.182	0.182	0.154	0.479	0.252	1.166	0.781
		Right Cheek	0.497	0.215	0.058	0.102	0.105	0.119	0.119	0.133	0.272	0.100	1.103	0.788
		Right Tilt	0.549	0.204	0.052	0.122	0.116	0.149	0.149	0.148	0.252	0.097	1.154	0.846
LTE B41	ANT1	Left Cheek	0.026	0.280	0.182	0.081	0.109	0.119	0.119	0.157	0.553	0.416	0.978	0.781
		Left Tilt	0.014	0.231	0.101	0.086	0.118	0.182	0.182	0.154	0.479	0.252	0.906	0.521
		Right Cheek	0.012	0.215	0.058	0.102	0.105	0.119	0.119	0.133	0.272	0.100	0.618	0.303
		Right Tilt	0.009	0.204	0.052	0.122	0.116	0.149	0.149	0.148	0.252	0.097	0.614	0.306
LTE B41	ANT4	Left Cheek	0.262	0.280	0.182	0.081	0.109	0.119	0.119	0.157	0.553	0.416	1.214	1.017
		Left Tilt	0.293	0.231	0.101	0.086	0.118	0.182	0.182	0.154	0.479	0.252	1.185	0.800
		Right Cheek	0.491	0.215	0.058	0.102	0.105	0.119	0.119	0.133	0.272	0.100	1.097	0.782
		Right Tilt	0.556	0.204	0.052	0.122	0.116	0.149	0.149	0.148	0.252	0.097	1.161	0.853

Note:

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

2: The highest Summed 1g SAR is 1.541 W/Kg < 1.6 W/kg, so Simultaneous Transmission SAR test is not required.

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

Band	Antenna	Position	Stand alone SAR							SUM SAR	
			1	2	3	4	5	6	7		
			WWAN	2.4GWIFI ANT12	2.4GWIFI ANT14	5GWIFI ANT12 MAX	5GWIFI ANT14 MAX	BT ANT12	BT ANT14	Sum SAR （1+2+4+6）	Sum SAR （1+3+5+7）
GSM850	ANT2	Front Side 10mm	0.114	0.050	0.014	0.051	0.064	0.075	0.086	0.290	0.278
		Back Side 10mm	0.240	0.056	0.055	0.117	0.084	0.106	0.176	0.519	0.555
		Right Edge 10mm	0.162	0.000	0.000	0.000	0.000	0.000	0.000	0.162	0.162
		Top Edge 10mm	0.010	0.060	0.010	0.126	0.050	0.117	0.097	0.313	0.167
GSM1900	ANT4	Front Side 10mm	0.180	0.050	0.014	0.051	0.064	0.075	0.086	0.356	0.344
		Back Side 10mm	0.273	0.056	0.055	0.117	0.084	0.106	0.176	0.552	0.588
		Right Edge 10mm	0.078	0.000	0.000	0.000	0.000	0.000	0.000	0.078	0.078
		Top Edge 10mm	0.334	0.060	0.010	0.126	0.050	0.117	0.097	0.637	0.491
WCDMA B2	ANT4	Front Side 10mm	0.083	0.050	0.014	0.051	0.064	0.075	0.086	0.259	0.247
		Back Side 10mm	0.139	0.056	0.055	0.117	0.084	0.106	0.176	0.418	0.454
		Right Edge 10mm	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.009	0.009
		Top Edge 10mm	0.197	0.060	0.010	0.126	0.050	0.117	0.097	0.500	0.354
WCDMA B4	ANT4	Front Side 10mm	0.008	0.050	0.014	0.051	0.064	0.075	0.086	0.184	0.172
		Back Side 10mm	0.143	0.056	0.055	0.117	0.084	0.106	0.176	0.422	0.458
		Right Edge 10mm	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.007
		Top Edge 10mm	0.178	0.060	0.010	0.126	0.050	0.117	0.097	0.481	0.335
WCDMA B5	ANT2	Front Side 10mm	0.285	0.050	0.014	0.051	0.064	0.075	0.086	0.461	0.449
		Back Side 10mm	0.497	0.056	0.055	0.117	0.084	0.106	0.176	0.776	**0.812**
		Right Edge 10mm	0.521	0.000	0.000	0.000	0.000	0.000	0.000	0.521	0.521
		Top Edge 10mm	0.013	0.060	0.010	0.126	0.050	0.117	0.097	0.316	0.170
LTE B2	ANT4	Front Side 10mm	0.073	0.050	0.014	0.051	0.064	0.075	0.086	0.249	0.237
		Back Side 10mm	0.122	0.056	0.055	0.117	0.084	0.106	0.176	0.401	0.437
		Right Edge 10mm	0.037	0.000	0.000	0.000	0.000	0.000	0.000	0.037	0.037
		Top Edge 10mm	0.157	0.060	0.010	0.126	0.050	0.117	0.097	0.460	0.314
LTE B5	ANT2	Front Side 10mm	0.140	0.050	0.014	0.051	0.064	0.075	0.086	0.316	0.304
		Back Side 10mm	0.259	0.056	0.055	0.117	0.084	0.106	0.176	0.538	0.574
		Right Edge 10mm	0.308	0.000	0.000	0.000	0.000	0.000	0.000	0.308	0.308
		Top Edge 10mm	0.003	0.060	0.010	0.126	0.050	0.117	0.097	0.306	0.160
LTE B7	ANT4	Front Side 10mm	0.072	0.050	0.014	0.051	0.064	0.075	0.086	0.248	0.236
		Back Side 10mm	0.122	0.056	0.055	0.117	0.084	0.106	0.176	0.401	0.437
		Right Edge 10mm	0.030	0.000	0.000	0.000	0.000	0.000	0.000	0.030	0.030
		Top Edge 10mm	0.137	0.060	0.010	0.126	0.050	0.117	0.097	0.440	0.294
LTE B12	ANT2	Front Side 10mm	0.105	0.050	0.014	0.051	0.064	0.075	0.086	0.281	0.269
		Back Side 10mm	0.168	0.056	0.055	0.117	0.084	0.106	0.176	0.447	0.483
		Right Edge 10mm	0.262	0.000	0.000	0.000	0.000	0.000	0.000	0.262	0.262

		Top Edge 10mm	0.023	0.060	0.010	0.126	0.050	0.117	0.097	0.326	0.180
LTE B66	ANT4	Front Side 10mm	0.069	0.050	0.014	0.051	0.064	0.075	0.086	0.246	0.234
		Back Side 10mm	0.123	0.056	0.055	0.117	0.084	0.106	0.176	0.402	0.439
		Right Edge 10mm	0.036	0.000	0.000	0.000	0.000	0.000	0.000	0.036	0.036
		Top Edge 10mm	0.173	0.060	0.010	0.126	0.050	0.117	0.097	0.476	0.330
LTE B38	ANT4	Front Side 10mm	0.075	0.050	0.014	0.051	0.064	0.075	0.086	0.251	0.239
		Back Side 10mm	0.129	0.056	0.055	0.117	0.084	0.106	0.176	0.408	0.444
		Right Edge 10mm	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.013	0.013
		Top Edge 10mm	0.142	0.060	0.010	0.126	0.050	0.117	0.097	0.445	0.299
LTE B41	ANT4	Front Side 10mm	0.087	0.050	0.014	0.051	0.064	0.075	0.086	0.263	0.251
		Back Side 10mm	0.137	0.056	0.055	0.117	0.084	0.106	0.176	0.416	0.452
		Right Edge 10mm	0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.040	0.040
		Top Edge 10mm	0.149	0.060	0.010	0.126	0.050	0.117	0.097	0.452	0.306

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

13 TEST EQUIPMENTS LIST

Description	Manufacturer	Model	Serial No./Version	Cal. Date	Cal. Due
PC	Dell	N/A	N/A	N/A	N/A
Test Software	Speag	DASY8	16.2.2.1588	N/A	N/A
750MHz Validation Dipole	Speag	D750V3	SN: 1208	2021/07/05	2024/07/04
835MHz Validation Dipole	Speag	D835V2	SN: 4d187	2024/05/08	2027/05/07
1750MHz Validation Dipole	Speag	D1750V2	SN: 1130	2024/05/08	2027/05/07
1950MHz Validation Dipole	Speag	D1950V3	SN: 1240	2021/09/13	2024/09/12
2450MHz Validation Dipole	Speag	D2450V2	SN: 952	2024/05/07	2027/05/06
2600MHz Validation Dipole	Speag	D2600V2	SN: 1095	2024/05/08	2027/05/07
5GHz Validation Dipole	Speag	D5GHzV2	SN: 1200	2024/05/09	2027/05/08
Data Acquisition Electronicsr	Speag	DAE4	SN: 1711	2024/03/18	2025/03/17
E-Field Probe	Speag	EX3DV4	SN: 7510	2024/06/25	2025/06/24
E-Field Probe	Speag	EX3DV4	SN: 7607	2023/07/04	2024/07/03
Signal Generator	R&S	SMB100A	177746	2024/04/24	2025/04/23
Power Meter	R&S	NRVD-B2	835843/014	2023/09/05	2024/09/04
Power Sensor	R&S	NRV-Z4	100381	2023/09/05	2024/09/04
Power Sensor	R&S	NRV-Z2	100211	2023/09/05	2024/09/04
Wireless Communication Test Set	Anritsu	MT8820C	6201502991	2023/11/14	2024/11/13
Network Analyzer	Agilent	E5071C	MY46103472	2023/11/14	2024/11/14
Thermometer	Elitech	RC-4	EF5238001628	2023/10/09	2024/10/08
Thermometer	Elitech	RC-4HC	EF7239002652	2023/11/17	2024/11/16
Power Amplifier	SATIMO	6552B	22374	N/A	N/A
Dielectric Probe Kit	Speag	DAK3.5	SN: 1312	N/A	N/A
Phantom	Speag	SAM	SN: 1859	N/A	N/A
Attenuator	COM-MW	ZA-S1-31	1305003187	N/A	N/A
Directional coupler	AA-MCS	AAMCS-UDC	000272	N/A	N/A

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

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

ANNEX A SIMULATING LIQUID VERIFICATION RESULT

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

Head Liquid

Date	Liquid Type	Fre. (MHz)	Temp. (℃)	Meas. Conductivity (σ) (S/m)	Meas. Permittivity (ε)	Target Conductivity (σ) (S/m)	Target Permittivity (ε)	Conductivity Tolerance (%)	Permittivity Tolerance (%)
2024.06.28	Head	750	21.7	0.90	41.81	0.89	41.94	1.12	-0.31
2024.07.17	Head	835	21.5	0.90	41.87	0.90	41.50	0.00	0.89
2024.08.03	Head	1750	21.6	1.38	40.03	1.37	40.08	0.73	-0.12
2024.08.05	Head	1750	21.3	1.41	39.65	1.37	40.08	2.92	-1.07
2024.07.16	Head	1950	21.6	1.42	39.01	1.40	40.00	1.43	-2.48
2024.08.08	Head	2450	21.2	1.84	38.08	1.80	39.20	2.22	-2.86
2024.08.06	Head	2450	21.3	1.80	39.67	1.80	39.20	0.00	1.20
2024.06.29	Head	2600	21.2	1.99	38.58	1.96	39.01	1.53	-1.10
2024.08.05	Head	2600	21.3	1.98	38.71	1.96	39.01	1.02	-0.77
2024.08.07	Head	5250	21.7	4.70	35.89	4.71	35.93	-0.21	-0.11
2024.08.08	Head	5600	21.2	5.06	35.10	5.07	35.53	-0.20	-1.21
2024.08.06	Head	5750	21.3	5.18	35.40	5.22	35.36	-0.77	0.11
Note: The tolerance limit of Conductivity and Permittivity is± 5%.									

ANNEX B SYSTEM CHECK RESULT

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

Head liquid 1g

Date	Liquid Type	Freq. (MHz)	Power (mW)	Measured SAR (W/kg)	Normalized SAR (W/kg)	Dipole SAR (W/kg)	Tolerance (%)
2024.06.28	Head	750	100	0.86	8.64	8.51	1.53
2024.07.17	Head	835	100	0.95	9.47	9.74	-2.77
2024.08.03	Head	1750	100	3.65	36.50	37.00	-1.35
2024.08.05	Head	1750	100	3.71	37.10	37.00	0.27
2024.07.16	Head	1950	100	4.12	41.20	41.40	-0.48
2024.08.08	Head	2450	100	5.58	55.80	52.60	6.08
2024.08.06	Head	2450	100	5.36	53.60	52.60	1.90
2024.06.29	Head	2600	100	5.82	58.20	55.90	4.11
2024.08.05	Head	2600	100	5.75	57.50	55.90	2.86
2024.08.07	Head	5250	100	7.81	78.10	77.70	0.51
2024.08.08	Head	5600	100	8.13	81.30	81.30	0.00
2024.08.06	Head	5750	100	7.76	77.60	77.60	0.00
Note: The tolerance limit of System validation ±10%.							

Head liquid 10g

Date	Liquid Type	Freq. (MHz)	Power (mW)	Measured SAR (W/kg)	Normalized SAR (W/kg)	Dipole SAR (W/kg)	Tolerance (%)
2024.08.07	Head	5250	100	2.25	22.50	22.00	2.27
2024.08.08	Head	5600	100	2.27	22.70	23.10	-1.73
2024.08.06	Head	5750	100	2.20	22.00	21.90	0.46
Note: The tolerance limit of System validation ±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 Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [℃]	Liquid Temperature [℃]
Flat, HSL		CD700	CW, 0--	750.0, 100	10.31	0.898	41.8	22.6	21.7

Hardware Setup

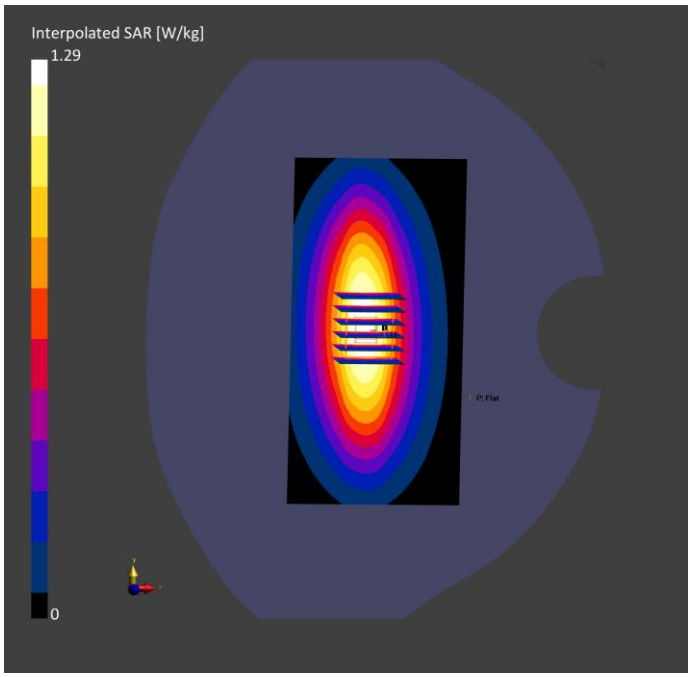
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2024-06-28	EX3DV4 - SN7607, 2023-07-04	DAE4 Sn1711, 2024-03-18

Scan Setup

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

Measurement Results

	Area Scan	Zoom Scan
Date	2024-06-28	2024-06-28
psSAR1g [W/kg]	0.852	0.864
psSAR10g [W/kg]	0.560	0.561
Power Drift [dB]	-0.03	-0.01
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		85.5
Dist 3dB Peak [mm]		20.1


Interpolated SAR [W/kg]
1.29
0

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 Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [℃]	Liquid Temperature [℃]
Flat, HSL		CD835	CW, 0--	835.0, 50	9.99	0.898	41.9	22.5	21.5

Hardware Setup

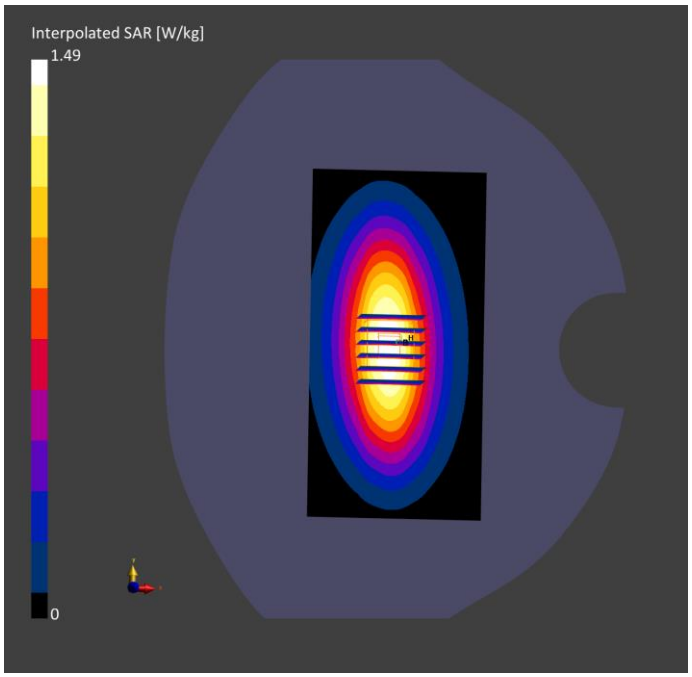
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2024-07-17	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

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

Measurement Results

	Area Scan	Zoom Scan
Date	2024-07-17	2024-07-17
psSAR1g [W/kg]	0.932	0.947
psSAR10g [W/kg]	0.615	0.611
Power Drift [dB]	-0.01	0.06
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		85.1
Dist 3dB Peak [mm]		13.0


Interpolated SAR [W/kg]
1.49
0

System Performance Check Data (1750MHz)

Device under Test Properties

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

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [℃]	Liquid Temperature [℃]
Flat, HSL		D1750	CW, 0--	1750.0, 50	8.67	1.38	40.0	22.6	21.6

Hardware Setup

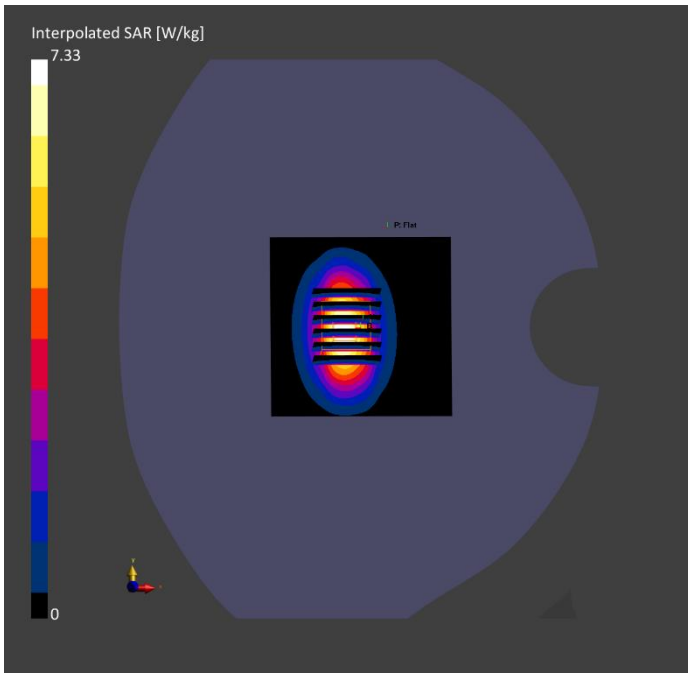
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2024-08-03	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

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

Measurement Results

	Area Scan	Zoom Scan
Date	2024-08-03	2024-08-03
psSAR1g [W/kg]	3.22	3.65
psSAR10g [W/kg]	1.93	1.91
Power Drift [dB]	-0.05	-0.01
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		82.1
Dist 3dB Peak [mm]		9.3


Interpolated SAR [W/kg]
7.33
0

System Performance Check Data (1750MHz)

Device under Test Properties

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

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [℃]	Liquid Temperature [℃]
Flat, HSL		D1750	CW, 0--	1750.0, 50	8.67	1.41	39.7	22.2	21.3

Hardware Setup

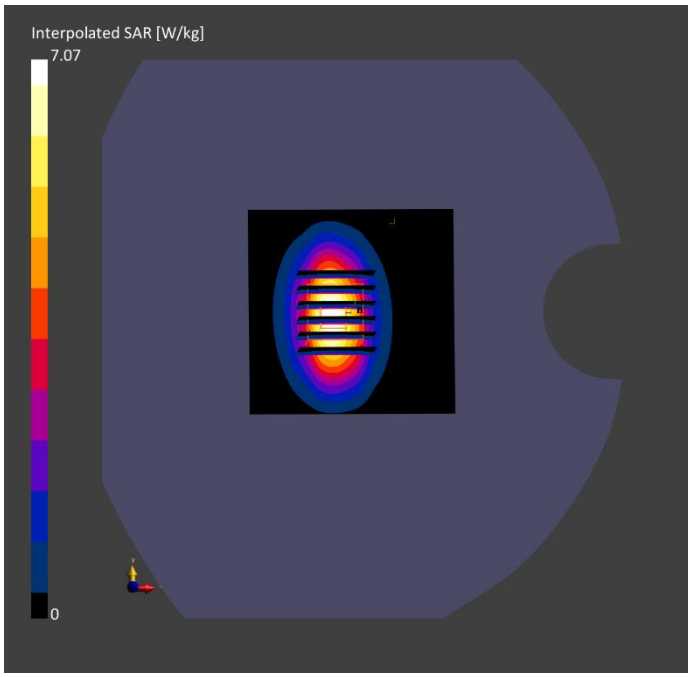
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2024-08-05	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

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

Measurement Results

	Area Scan	Zoom Scan
Date	2024-08-05	2024-08-05
psSAR1g [W/kg]	3.43	3.71
psSAR10g [W/kg]	1.87	1.94
Power Drift [dB]	-0.04	-0.03
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		81.1
Dist 3dB Peak [mm]		10.5


Interpolated SAR [W/kg]
7.07
0

System Performance Check Data (1950MHz)

Device under Test Properties

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

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [℃]	Liquid Temperature [℃]
Flat, HSL		D1950	CW, 0--	1950.0, 50	8.33	1.42	39.0	22.6	21.6

Hardware Setup

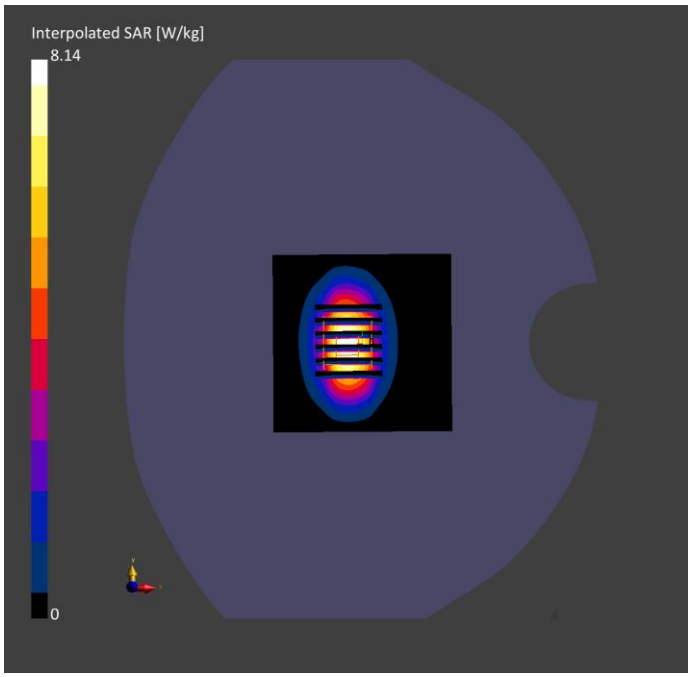
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2024-07-16	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

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

Measurement Results

	Area Scan	Zoom Scan
Date	2024-07-16	2024-07-16
psSAR1g [W/kg]	3.94	4.12
psSAR10g [W/kg]	1.98	2.11
Power Drift [dB]	-0.10	-0.02
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		81.2
Dist 3dB Peak [mm]		9.1


Interpolated SAR [W/kg]
8.14
0

System Performance Check Data (2450MHz)

Device under Test Properties

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

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [℃]	Liquid Temperature [℃]
Flat, HSL		D2450	CW, 0--	2450.0, 50	7.75	1.84	38.1	22.2	21.2

Hardware Setup

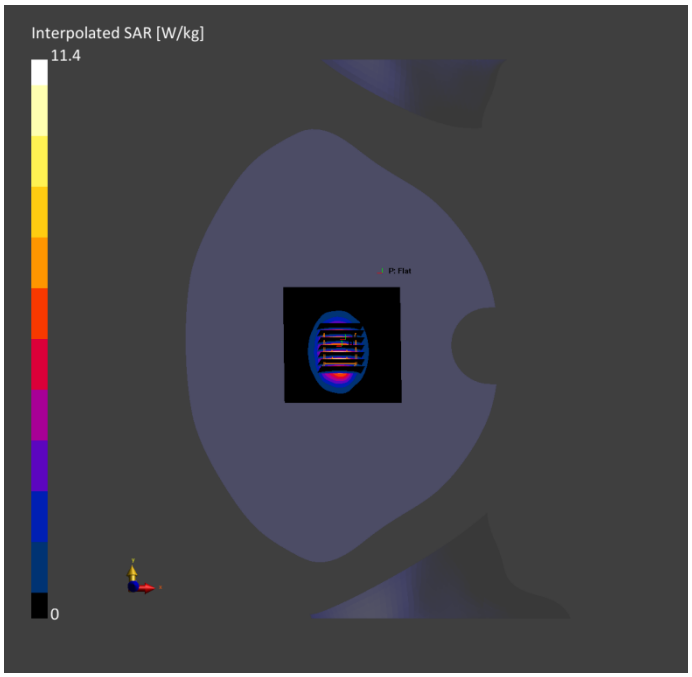
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2024-08-08	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

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

Measurement Results

	Area Scan	Zoom Scan
Date	2024-08-08	2024-08-08
psSAR1g [W/kg]	5.58	5.58
psSAR10g [W/kg]	2.64	2.61
Power Drift [dB]	-0.02	-0.03
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		81.6
Dist 3dB Peak [mm]		9.0


Interpolated SAR [W/kg]
11.4
0

System Performance Check Data (2450MHz)

Device under Test Properties

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

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [℃]	Liquid Temperature [℃]
Flat, HSL		D2450	CW, 0--	2450.0, 50	7.75	1.80	39.7	22.3	21.3

Hardware Setup

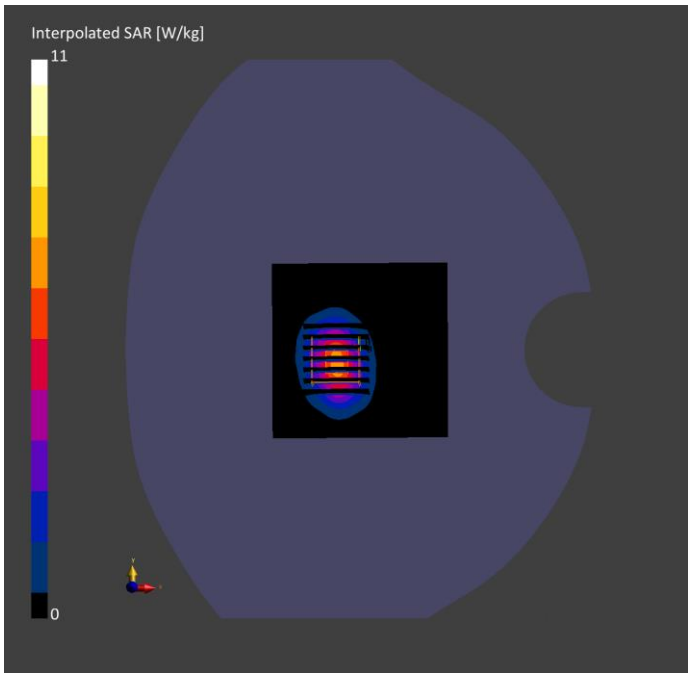
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2024-08-06	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

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

Measurement Results

	Area Scan	Zoom Scan
Date	2024-08-06	2024-08-06
psSAR1g [W/kg]	5.21	5.36
psSAR10g [W/kg]	2.25	2.47
Power Drift [dB]	-0.01	-0.05
Power Scaling Scaling Factor [dB]	Disabled	Disabled
TSL Correction	No correction	No correction
M2/M1 [%]		80.8
Dist 3dB Peak [mm]		8.9


Interpolated SAR [W/kg]
11
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 Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [℃]	Liquid Temperature [℃]
Flat, HSL		CD2600V3	CW, 0--	2600.0, 50	7.41	1.99	38.6	22.3	21.2

Hardware Setup

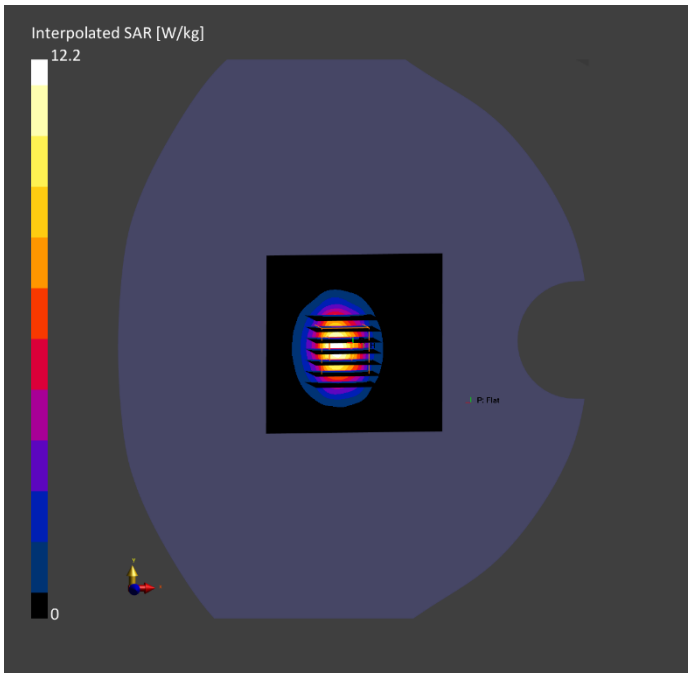
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2024-06-29	EX3DV4 - SN7607, 2023-07-04	DAE4 Sn1711, 2024-03-18

Scan Setup

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

Measurement Results

	Area Scan	Zoom Scan
Date	2024-06-29	2024-06-29
psSAR1g [W/kg]	5.53	5.82
psSAR10g [W/kg]	2.37	2.53
Power Drift [dB]	0.07	0.04
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		79.6
Dist 3dB Peak [mm]		9.0


Interpolated SAR [W/kg]
12.2
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 Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [℃]	Liquid Temperature [℃]
Flat, HSL		CD2600V3	CW, 0--	2600.0, 50	7.59	1.98	38.7	22.2	21.3

Hardware Setup

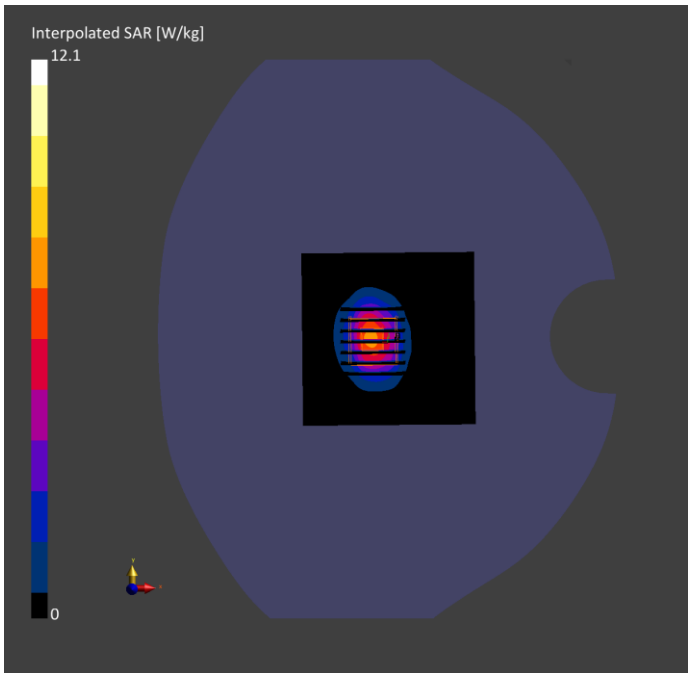
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2024-08-05	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

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

Measurement Results

	Area Scan	Zoom Scan
Date	2024-08-05	2024-08-05
psSAR1g [W/kg]	5.83	5.75
psSAR10g [W/kg]	2.73	2.47
Power Drift [dB]	0.01	0.03
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		80.4
Dist 3dB Peak [mm]		9.7


Interpolated SAR [W/kg]
12.1
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 Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [℃]	Liquid Temperature [℃]
Flat, HSL		CD2600V3	CW, 0--	2600.0, 50	7.59	1.97	39.5	22.6	21.6

Hardware Setup

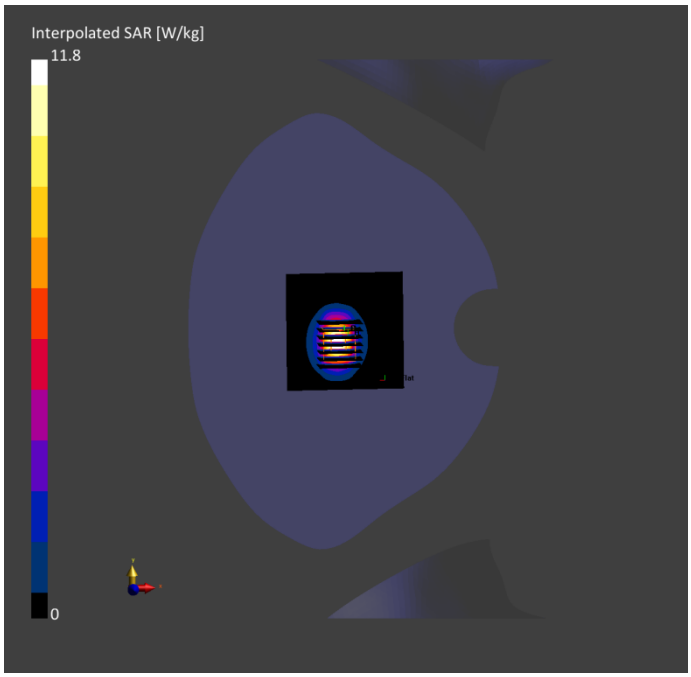
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2024-08-03	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

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

Measurement Results

	Area Scan	Zoom Scan
Date	2024-08-03	2024-08-03
psSAR1g [W/kg]	5.58	5.64
psSAR10g [W/kg]	2.60	2.56
Power Drift [dB]	0.01	-0.01
Power Scaling Scaling Factor [dB]	Disabled	Disabled
TSL Correction	No correction	No correction
M2/M1 [%]		80.5
Dist 3dB Peak [mm]		9.0


Interpolated SAR [W/kg]
11.8
0

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 [℃]	Liquid Temperature [℃]
Flat, HSL		D5GHz	CW, 0--	5250.0, 5250	5.74	4.70	35.9	22.9	21.7

Hardware Setup

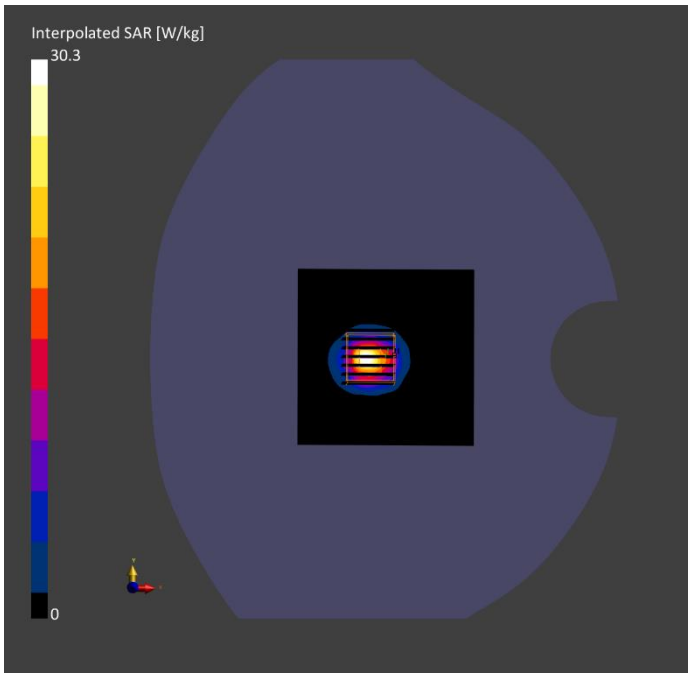
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2024-08-07	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

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

Measurement Results

	Area Scan	Zoom Scan
Date	2024-08-07	2024-08-07
psSAR1g [W/kg]	7.42	7.81
psSAR10g [W/kg]	2.21	2.25
Power Drift [dB]	0.00	-0.11
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		66.5
Dist 3dB Peak [mm]		6.9


Interpolated SAR [W/kg]
30.3
0

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 [℃]	Liquid Temperature [℃]
Flat, HSL		D5GHz	CW, 0--	5600.0, 5600	5.00	5.06	35.1	22.2	21.2

Hardware Setup

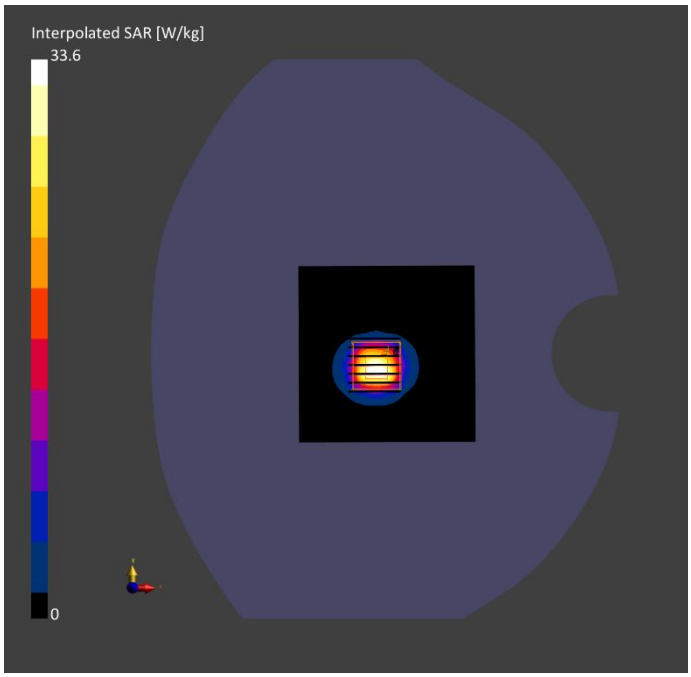
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2024-08-08	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

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

Measurement Results

	Area Scan	Zoom Scan
Date	2024-08-08	2024-08-08
psSAR1g [W/kg]	6.92	8.13
psSAR10g [W/kg]	2.24	2.27
Power Drift [dB]	0.01	-0.02
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		62.3
Dist 3dB Peak [mm]		7.2


Interpolated SAR [W/kg]
33.6
0

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 Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [℃]	Liquid Temperature [℃]
Flat, HSL		D5GHz	CW, 0--	5750.0, 5750	5.04	5.18	35.4	22.3	21.3

Hardware Setup

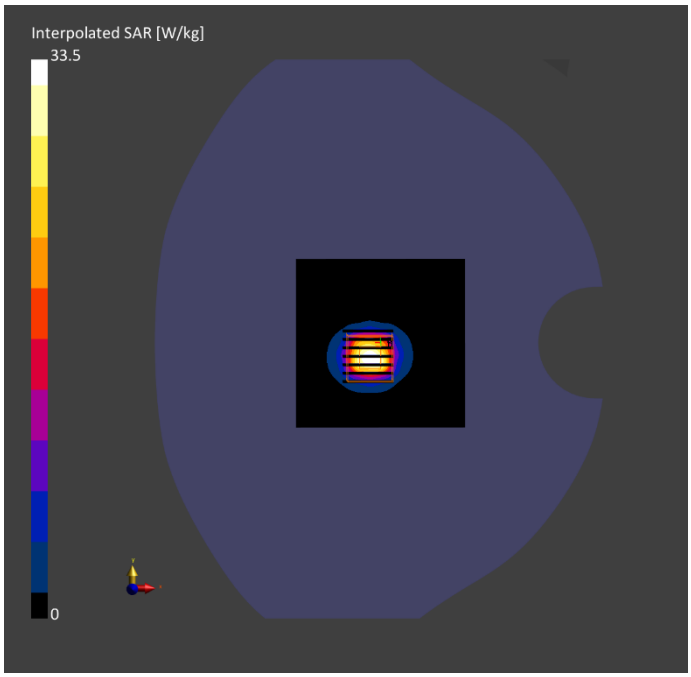
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2024-08-06	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

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

Measurement Results

	Area Scan	Zoom Scan
Date	2024-08-06	2024-08-06
psSAR1g [W/kg]	6.53	7.76
psSAR10g [W/kg]	2.09	2.20
Power Drift [dB]	0.01	0.01
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		60.1
Dist 3dB Peak [mm]		7.4


Interpolated SAR [W/kg]
33.5
0

ANNEX C TEST DATA

Meas.1 Right Head with Cheek on Low Channel in GPRS850 4Slots mode with Antenna 2

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
CLA5	165.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [℃]	Liquid Temperature [℃]
RightHead, HSL	CHEEK, 0.00	GSM 850	GSM, 10028-DAC	824.2, 128	9.99	0.890	42.1	22.5	21.5

Hardware Setup

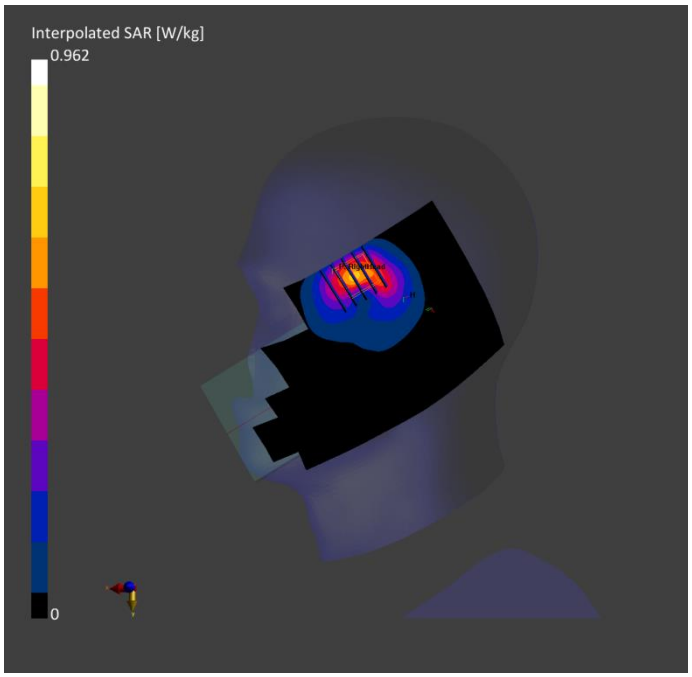
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2024-07-17	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

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

Measurement Results

	Area Scan	Zoom Scan
Date	2024-07-17	2024-07-17
psSAR1g [W/kg]	0.544	0.548
psSAR10g [W/kg]	0.329	0.303
Power Drift [dB]	0.02	-0.01
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		56.2
Dist 3dB Peak [mm]		9.7


Interpolated SAR [W/kg]
0.962
0

Meas.2 Body plan with Back Side 10mm on Low Channel in GPRS850 4Slots mode with Antenna 2

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
CLA5	165.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [℃]	Liquid Temperature [℃]
Flat, HSL	BACK, 10.00	GSM 850	GSM, 10024-DAC	824.2, 128	9.99	0.890	42.1	22.5	21.5

Hardware Setup

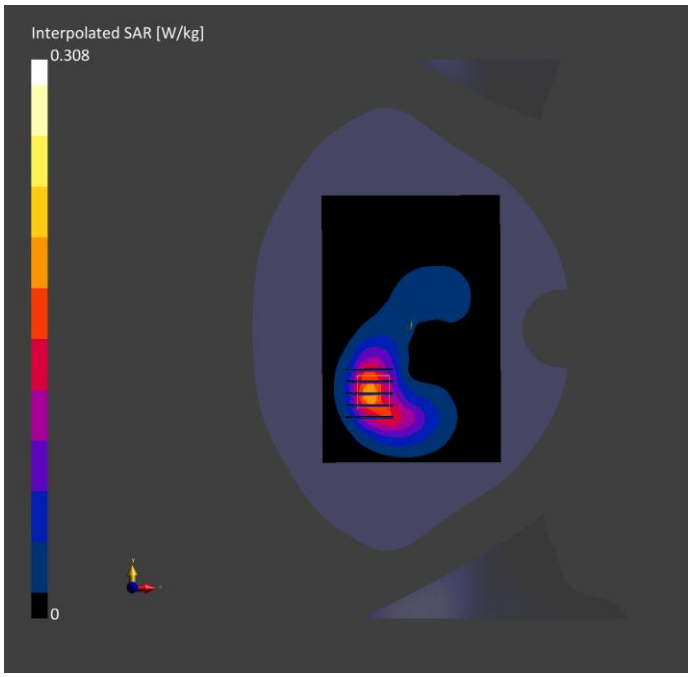
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2024-07-17	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

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

Measurement Results

	Area Scan	Zoom Scan
Date	2024-07-17	2024-07-17
psSAR1g [W/kg]	0.168	0.183
psSAR10g [W/kg]	0.104	0.105
Power Drift [dB]	0.01	0.04
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		60.0
Dist 3dB Peak [mm]		11.2


Interpolated SAR [W/kg]
0.308
0

Meas.3 Right Head with Cheek on Middle Channel in GPRS1900 4Slots mode with Antenna 4

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
CLA5	165.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [℃]	Liquid Temperature [℃]
RightHead, HSL	CHEEK, 0.00	PCS 1900	GSM, 10028-DAC	1880.0, 661	8.33	1.39	40.0	22.6	21.6

Hardware Setup

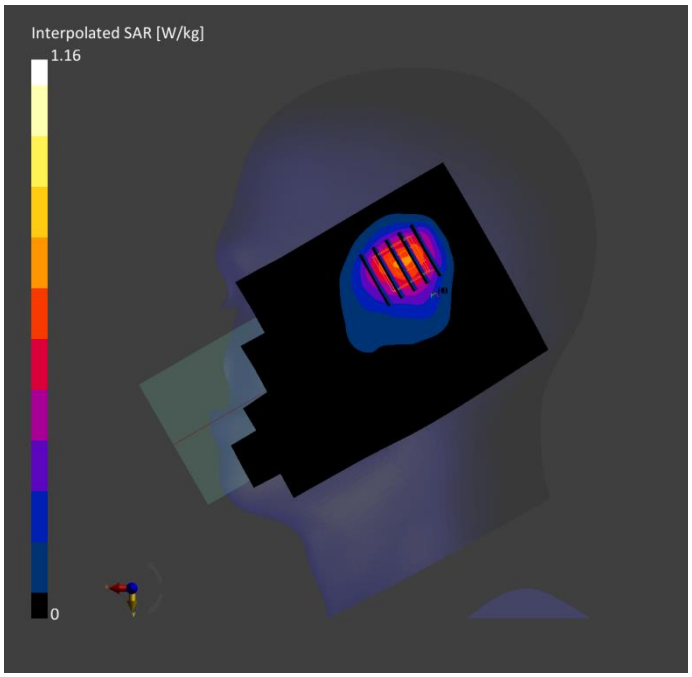
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2024-07-16	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

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

Measurement Results

	Area Scan	Zoom Scan
Date	2024-07-16	2024-07-16
psSAR1g [W/kg]	0.562	0.624
psSAR10g [W/kg]	0.332	0.351
Power Drift [dB]	0.02	0.03
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		53.3
Dist 3dB Peak [mm]		11.3


Interpolated SAR [W/kg]
1.16
0

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

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
CLA5	165.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [℃]	Liquid Temperature [℃]
Flat, HSL	EDGE TOP, 10.00	PCS 1900	GSM, 10028-DAC	1880.0, 661	8.33	1.39	40.0	22.6	21.6

Hardware Setup

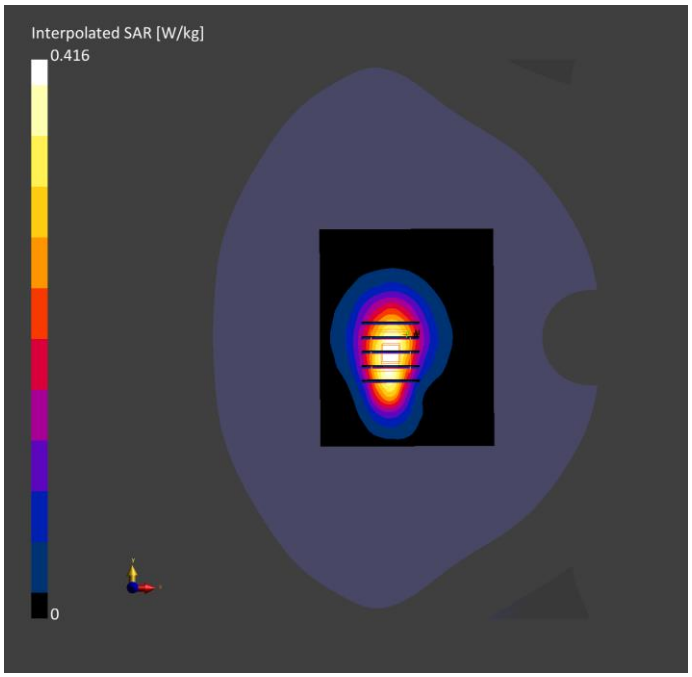
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2024-07-16	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

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

Measurement Results

	Area Scan	Zoom Scan
Date	2024-07-16	2024-07-16
psSAR1g [W/kg]	0.243	0.247
psSAR10g [W/kg]	0.137	0.142
Power Drift [dB]	-0.02	0.01
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		58.7
Dist 3dB Peak [mm]		11.6


Interpolated SAR [W/kg]
0.416
0

Meas.5 Right Head with Cheek on Middle Channel in WCDMA Band2 mode with Antenna 4

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
CLA5	165.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [℃]	Liquid Temperature [℃]
RightHead, HSL	CHEEK, 0.00	Band 2	WCDMA, 10011-CAC	1880.0, 9400	8.33	1.39	40.0	22.6	21.6

Hardware Setup

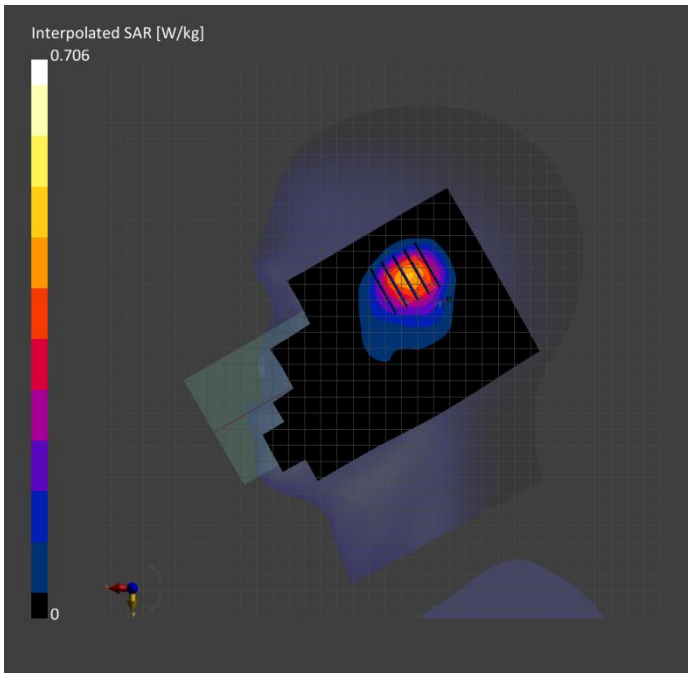
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2024-07-16	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

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

Measurement Results

	Area Scan	Zoom Scan
Date	2024-07-16	2024-07-16
psSAR1g [W/kg]	0.387	0.401
psSAR10g [W/kg]	0.222	0.226
Power Drift [dB]	0.02	0.01
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		53.8
Dist 3dB Peak [mm]		11.3


Interpolated SAR [W/kg]
0.706
0

Meas.6 Body plan with Top Edge 10mm on Middle Channel in WCDMA Band2 mode with Antenna 4

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
CLA5	165.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [℃]	Liquid Temperature [℃]
Flat, HSL	EDGE TOP, 10.00	Band 2	WCDMA, 10011-CAC	1880.0, 9400	8.33	1.39	40.0	22.6	21.6

Hardware Setup

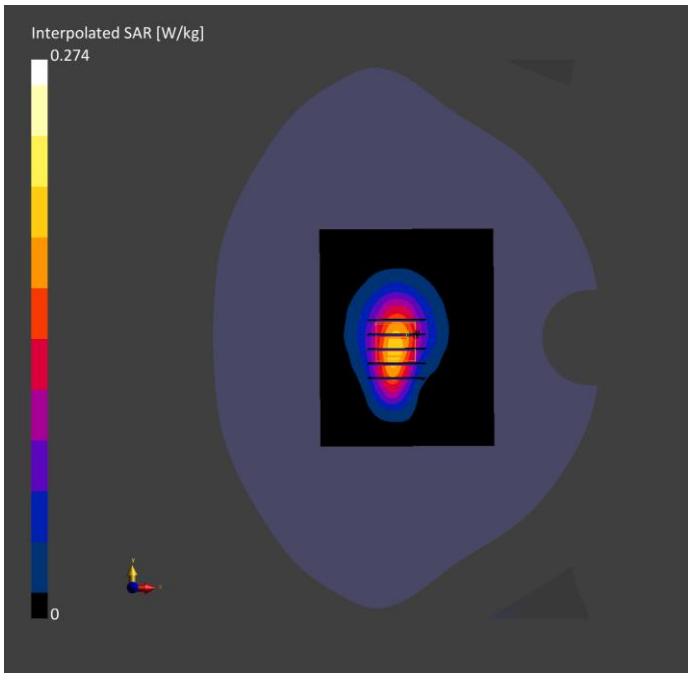
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2024-07-16	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

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

Measurement Results

	Area Scan	Zoom Scan
Date	2024-07-16	2024-07-16
psSAR1g [W/kg]	0.162	0.162
psSAR10g [W/kg]	0.090	0.093
Power Drift [dB]	0.01	0.03
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		58.7
Dist 3dB Peak [mm]		11.5


Interpolated SAR [W/kg]
0.274
0

Meas.7 Right Head with Tilt on High Channel in WCDMA Band4 mode with Antenna 4

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
CLA5	165.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [℃]	Liquid Temperature [℃]
RightHead, HSL	TILT, 0.00	Band 4	WCDMA, 10011-CAC	1752.6, 1513	8.67	1.38	40.0	22.6	21.6

Hardware Setup

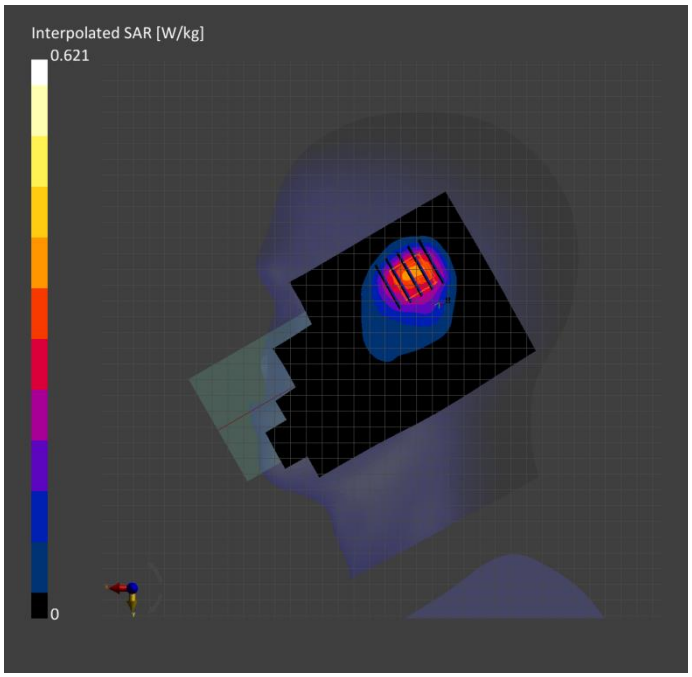
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2024-08-03	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

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

Measurement Results

	Area Scan	Zoom Scan
Date	2024-08-03	2024-08-03
psSAR1g [W/kg]	0.313	0.328
psSAR10g [W/kg]	0.185	0.185
Power Drift [dB]	0.01	0.01
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		48.2
Dist 3dB Peak [mm]		10.7


Interpolated SAR [W/kg]
0.621
0

Meas.8 Body plan with Top Edge 10mm on High Channel in WCDMA Band4 mode with Antenna 4

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
CLA5	165.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [℃]	Liquid Temperature [℃]
Flat, HSL	EDGE TOP, 10.00	Band 4	WCDMA, 10011-CAC	1752.6, 1513	8.67	1.38	40.0	22.6	21.6

Hardware Setup

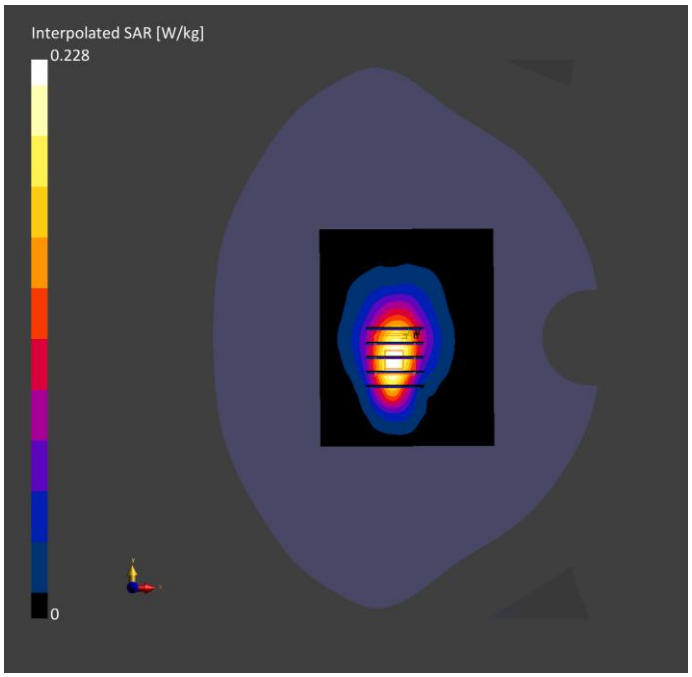
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2024-08-03	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

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

Measurement Results

	Area Scan	Zoom Scan
Date	2024-08-03	2024-08-03
psSAR1g [W/kg]	0.132	0.134
psSAR10g [W/kg]	0.073	0.075
Power Drift [dB]	-0.01	-0.02
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		59.3
Dist 3dB Peak [mm]		11.5


Interpolated SAR [W/kg]
0.228
0

Meas.9 Right Head with Cheek on High Channel in WCDMA Band5 mode with Antenna 2

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
CLA5	165.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [℃]	Liquid Temperature [℃]
RightHead, HSL	CHEEK, 0.00	Band 5	WCDMA, 10011-CAC	846.6, 4233	9.99	0.909	41.6	22.5	21.5

Hardware Setup

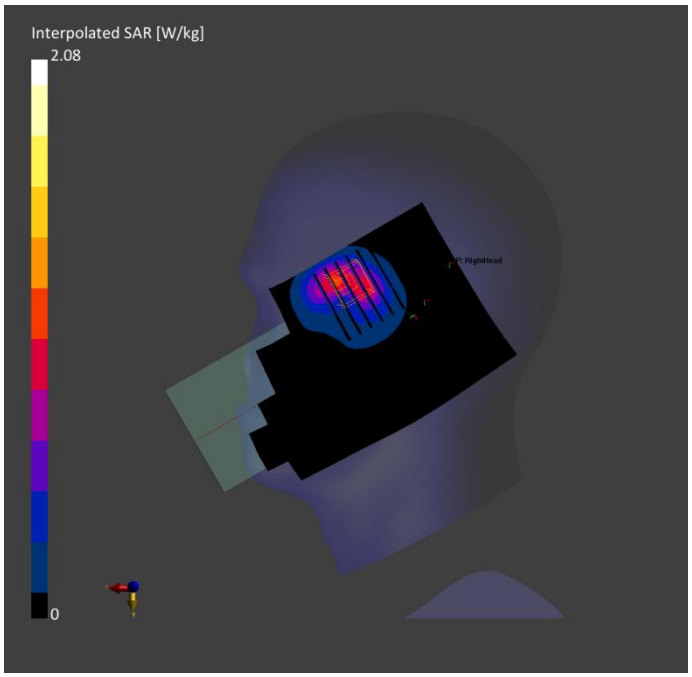
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2024-07-17	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

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

Measurement Results

	Area Scan	Zoom Scan
Date	2024-07-17	2024-07-17
psSAR1g [W/kg]	0.858	0.887
psSAR10g [W/kg]	0.519	0.470
Power Drift [dB]	0.02	0.01
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		48.8
Dist 3dB Peak [mm]		6.5


Interpolated SAR [W/kg]
2.08
0

Meas.10 Body plan with Right Edge 10mm on High Channel in WCDMA Band5 mode with Antenna 2

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
CLA5	165.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [℃]	Liquid Temperature [℃]
Flat, HSL	EDGE RIGHT, 5.00	Band 5	WCDMA, 10011-CAC	846.6, 4233	9.99	0.909	41.6	22.5	21.5

Hardware Setup

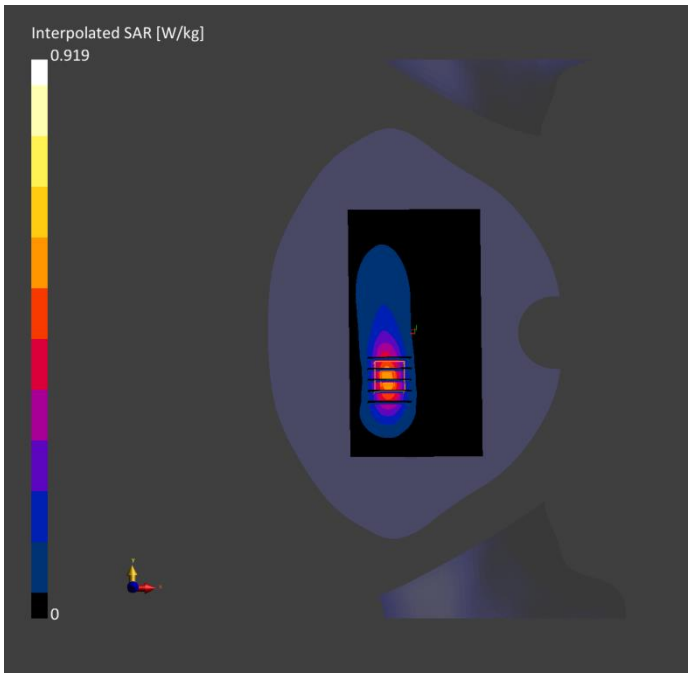
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2024-07-17	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	96.0 x 180.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	8.0 x 15.0	8.0 x 8.0 x 5.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-07-17	2024-07-17
psSAR1g [W/kg]	0.495	0.494
psSAR10g [W/kg]	0.288	0.268
Power Drift [dB]	-0.01	0.00
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		52.2
Dist 3dB Peak [mm]		9.6


Interpolated SAR [W/kg]
0.919
0

Meas.11 Right Head with Cheek on Middle Channel in LTE Band2 mode with Antenna 4

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
CLA5	165.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [℃]	Liquid Temperature [℃]
RightHead, HSL	CHEEK, 0.00	Band 2	LTE-FDD, 10169-CAF	1880.0, 18900	8.33	1.39	40.0	22.6	21.6

Hardware Setup

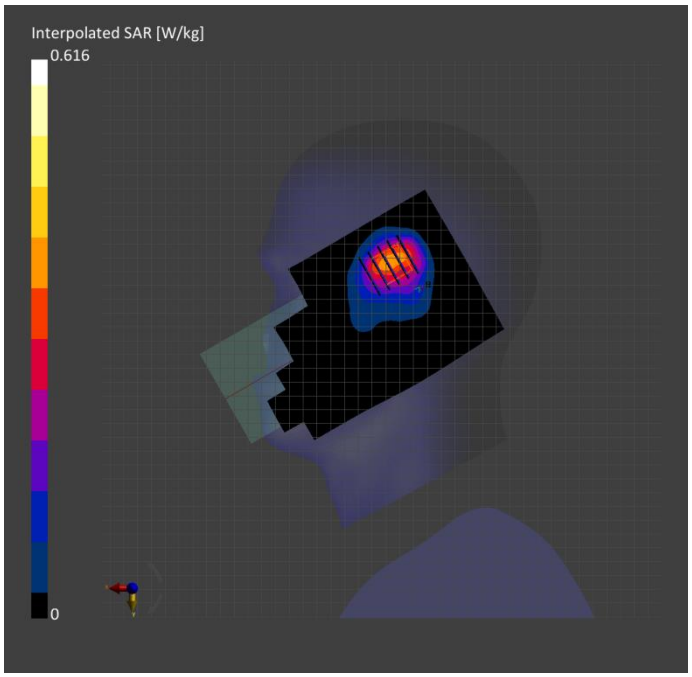
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2024-07-16	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

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

Measurement Results

	Area Scan	Zoom Scan
Date	2024-07-16	2024-07-16
psSAR1g [W/kg]	0.321	0.339
psSAR10g [W/kg]	0.187	0.192
Power Drift [dB]	-0.04	0.01
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		51.3
Dist 3dB Peak [mm]		9.2


Interpolated SAR [W/kg]
0.616
0

Meas.12 Body plan with Top Edge 10mm on Middle Channel in LTE Band2 mode with Antenna 4

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
CLA5	165.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [℃]	Liquid Temperature [℃]
Flat, HSL	EDGE TOP, 10.00	Band 2	LTE-FDD, 10169-CAF	1880.0, 18900	8.33	1.39	40.0	22.6	21.6

Hardware Setup

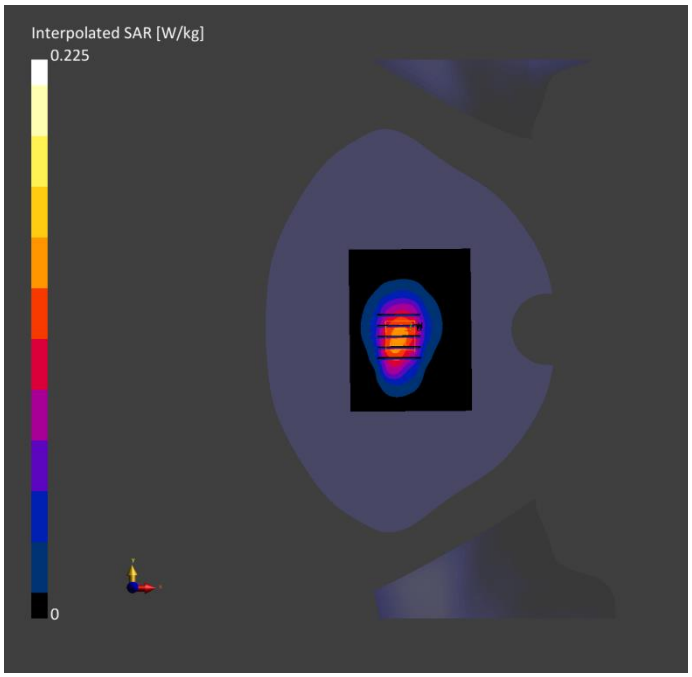
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2024-07-16	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

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

Measurement Results

	Area Scan	Zoom Scan
Date	2024-07-16	2024-07-16
psSAR1g [W/kg]	0.122	0.136
psSAR10g [W/kg]	0.072	0.078
Power Drift [dB]	0.05	0.00
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		58.7
Dist 3dB Peak [mm]		11.6


Interpolated SAR [W/kg]
0.225
0

Meas.13 Right Head with Cheek on High Channel in LTE Band5 mode with Antenna 2

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
CLA5	165.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [℃]	Liquid Temperature [℃]
RightHead, HSL	CHEEK, 0.00	Band 5	LTE-FDD, 10175-CAH	844.0, 20600	9.99	0.905	41.6	22.5	21.5

Hardware Setup

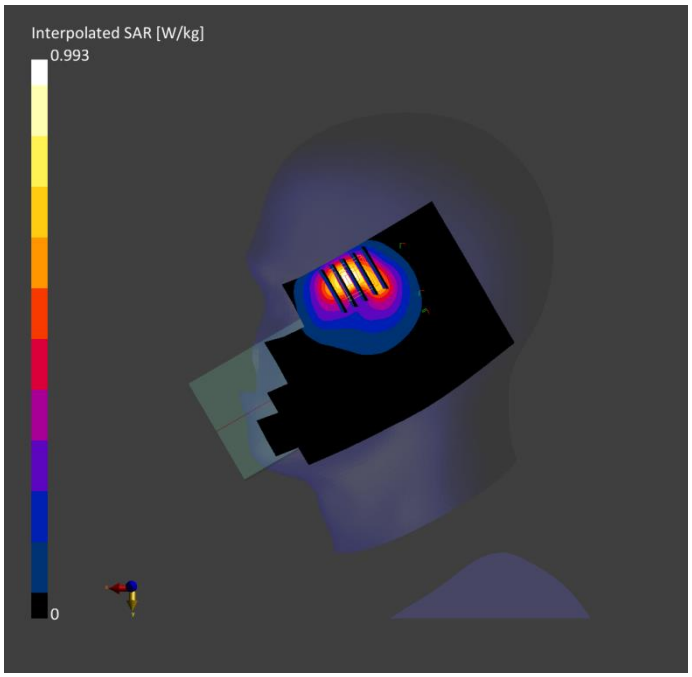
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2024-07-17	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

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

Measurement Results

	Area Scan	Zoom Scan
Date	2024-07-17	2024-07-17
psSAR1g [W/kg]	0.502	0.528
psSAR10g [W/kg]	0.296	0.281
Power Drift [dB]	0.01	0.00
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		52.5
Dist 3dB Peak [mm]		9.4


Interpolated SAR [W/kg]
0.993
0

Meas.14 Body plan with Right Edge 10mm on High Channel in LTE Band5 mode with Antenna 2

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
CLA5	165.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [℃]	Liquid Temperature [℃]
Flat, HSL	EDGE RIGHT, 10.00	Band 5	LTE-FDD, 10175-CAH	844.0, 20600	9.99	0.905	41.6	22.5	21.5

Hardware Setup

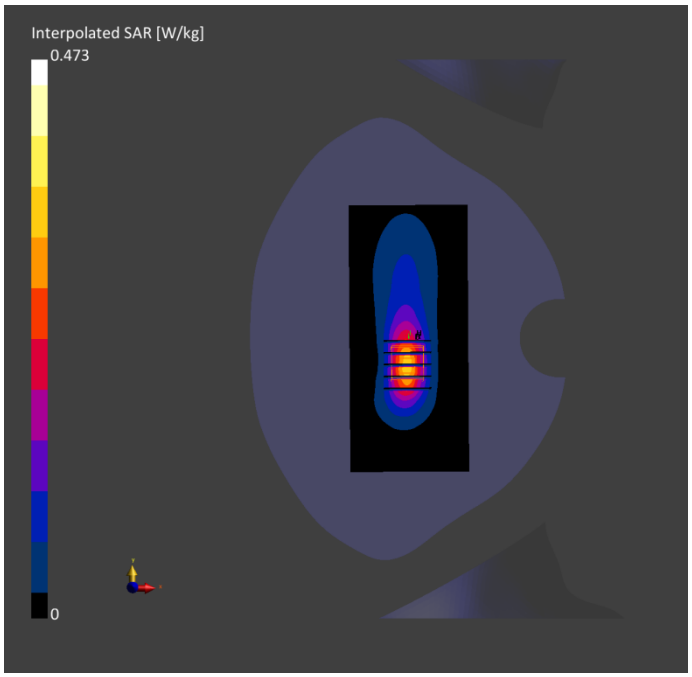
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2024-07-17	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	80.0 x 180.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	8.0 x 15.0	8.0 x 8.0 x 5.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-07-17	2024-07-17
psSAR1g [W/kg]	0.279	0.273
psSAR10g [W/kg]	0.164	0.152
Power Drift [dB]	-0.03	-0.02
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		56.8
Dist 3dB Peak [mm]		9.6


Interpolated SAR [W/kg]
0.473
0

Meas.15 Right Head with Tilt on High Channel in LTE Band7 mode with Antenna 4

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
CLA5	165.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [℃]	Liquid Temperature [℃]
RightHead, HSL	CHEEK, 0.00	Band 7	LTE-FDD, 10169-CAF	2560.0, 21350	7.41	1.93	39.1	22.3	21.2

Hardware Setup

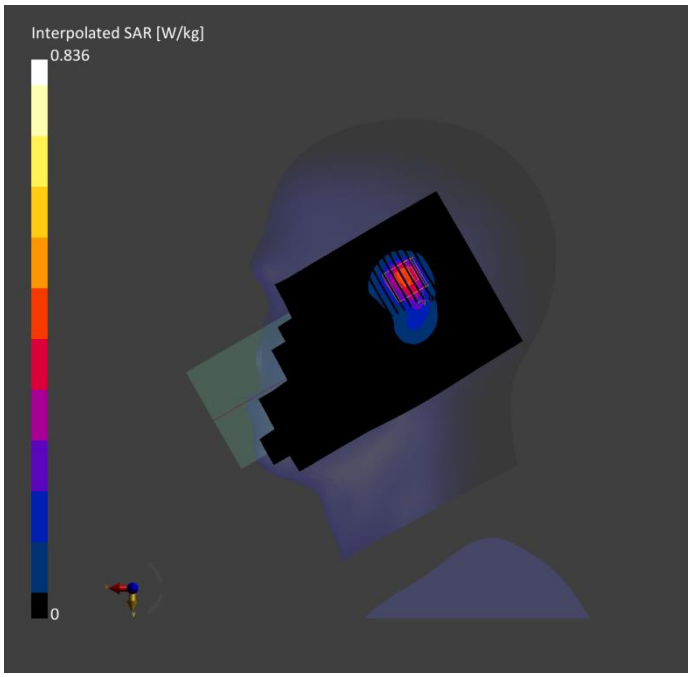
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2024-06-29	EX3DV4 - SN7607, 2023-07-04	DAE4 Sn1711, 2024-03-18

Scan Setup

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

Measurement Results

	Area Scan	Zoom Scan
Date	2024-06-29	2024-06-29
psSAR1g [W/kg]	0.366	0.405
psSAR10g [W/kg]	0.172	0.173
Power Drift [dB]	-0.02	0.01
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		50.0
Dist 3dB Peak [mm]		6.0


Interpolated SAR [W/kg]
0.836
0

Meas.16 Body plan with Top Edge 10mm on High Channel in LTE Band7 mode with Antenna 4

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
CLA5	165.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [℃]	Liquid Temperature [℃]
Flat, HSL	EDGE TOP, 10.00	Band 7	LTE-FDD, 10169-CAF	2560.0, 21350	7.41	1.93	39.1	22.3	21.2

Hardware Setup

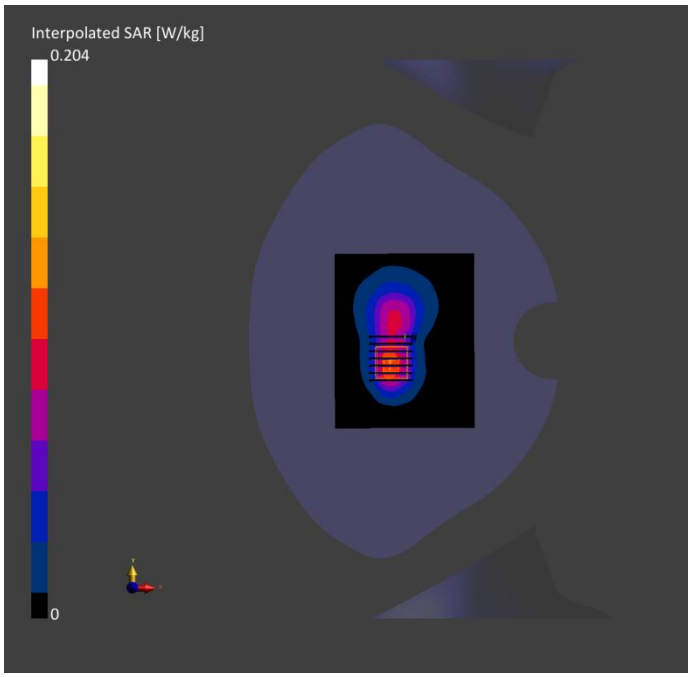
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2024-06-29	EX3DV4 - SN7607, 2023-07-04	DAE4 Sn1711, 2024-03-18

Scan Setup

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

Measurement Results

	Area Scan	Zoom Scan
Date	2024-06-29	2024-06-29
psSAR1g [W/kg]	0.096	0.106
psSAR10g [W/kg]	0.048	0.050
Power Drift [dB]	0.08	-0.04
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		52.2
Dist 3dB Peak [mm]		10.2


Interpolated SAR [W/kg]
0.204
0

Meas.17 Right Head with Cheek on Middle Channel in LTE Band12 mode with Antenna 2

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
CLA5	165.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [℃]	Liquid Temperature [℃]
RightHead, HSL	CHEEK, 0.00	Band 12	LTE-FDD, 10175-CAH	707.5, 23095	10.31	0.879	42.4	22.6	21.7

Hardware Setup

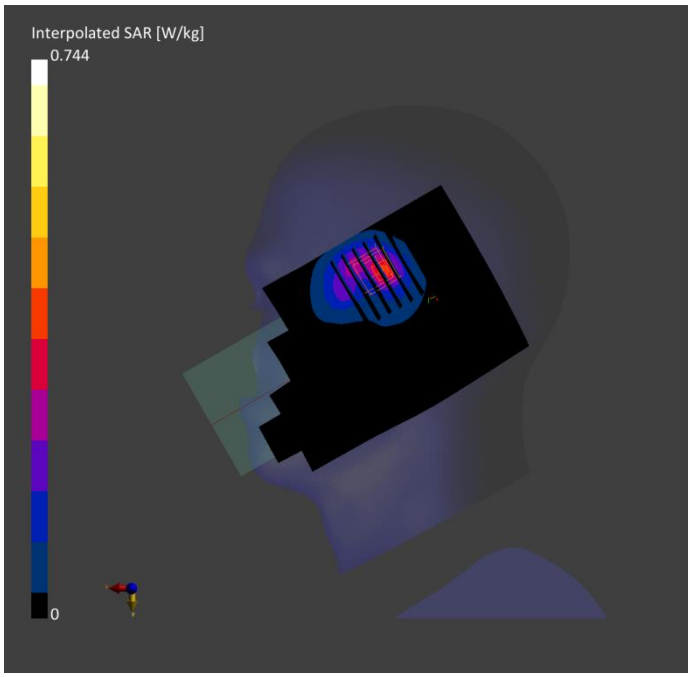
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2024-06-28	EX3DV4 - SN7607, 2023-07-04	DAE4 Sn1711, 2024-03-18

Scan Setup

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

Measurement Results

	Area Scan	Zoom Scan
Date	2024-06-28	2024-06-28
psSAR1g [W/kg]	0.270	0.290
psSAR10g [W/kg]	0.169	0.151
Power Drift [dB]	0.02	0.01
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		48.9
Dist 3dB Peak [mm]		8.0


Interpolated SAR [W/kg]
0.744
0

Meas.18 Body plan with Right Edge 10mm on Middle Channel in LTE Band12 mode with Antenna 2

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
CLA5	165.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [℃]	Liquid Temperature [℃]
Flat, HSL	EDGE RIGHT, 5.00	Band 12	LTE-FDD, 10175-CAH	707.5, 23095	10.31	0.879	42.4	22.6	21.7

Hardware Setup

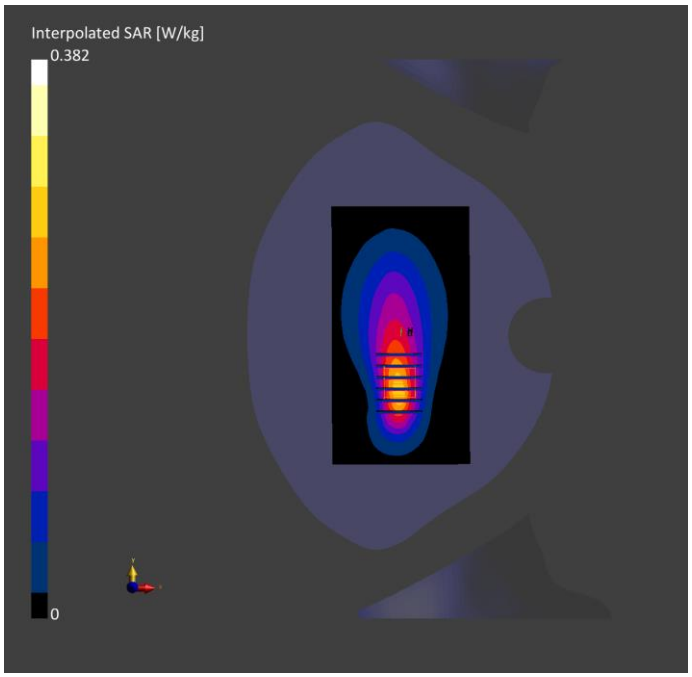
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2024-06-28	EX3DV4 - SN7607, 2023-07-04	DAE4 Sn1711, 2024-03-18

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	96.0 x 180.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	8.0 x 15.0	8.0 x 8.0 x 5.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-06-28	2024-06-28
psSAR1g [W/kg]	0.236	0.237
psSAR10g [W/kg]	0.147	0.144
Power Drift [dB]	0.01	-0.01
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		61.7
Dist 3dB Peak [mm]		11.3


Interpolated SAR [W/kg]
0.382
0

Meas.19 Right Head with Cheek on Middle Channel in LTE Band66 mode with Antenna 4

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
CLA5	165.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [℃]	Liquid Temperature [℃]
RightHead, HSL	CHEEK, 0.00	Band 66	LTE-FDD, 10169-CAF	1745.0, 132322	8.67	1.36	41.0	22.2	21.3

Hardware Setup

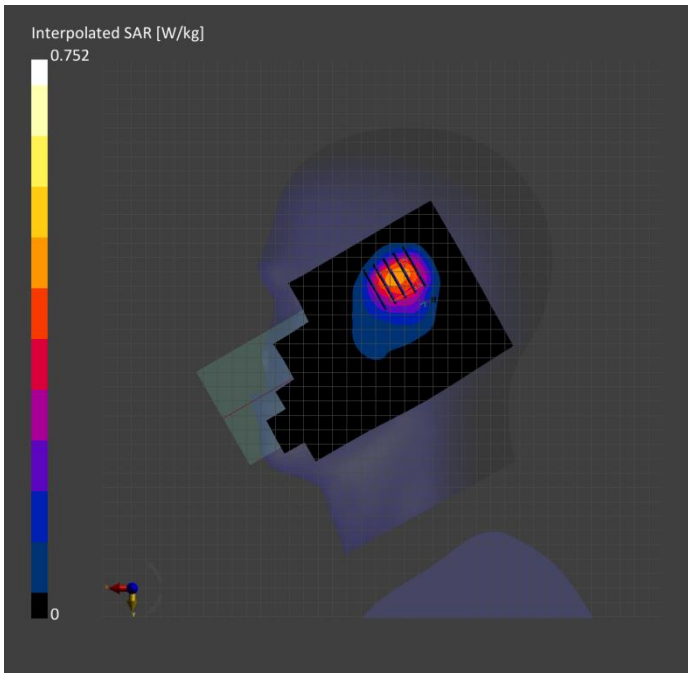
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2024-08-05	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

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

Measurement Results

	Area Scan	Zoom Scan
Date	2024-08-05	2024-08-05
psSAR1g [W/kg]	0.402	0.412
psSAR10g [W/kg]	0.234	0.234
Power Drift [dB]	-0.03	0.00
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		52.7
Dist 3dB Peak [mm]		11.3


Interpolated SAR [W/kg]
0.752
0

Meas.20 Body plan with Top Edge 10mm on Middle Channel in LTE Band66 mode with Antenna 4

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
CLA5	165.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [℃]	Liquid Temperature [℃]
Flat, HSL	EDGE TOP, 10.00	Band 66	LTE-FDD, 10169-CAF	1745.0, 132322	8.67	1.36	41.0	22.2	21.3

Hardware Setup

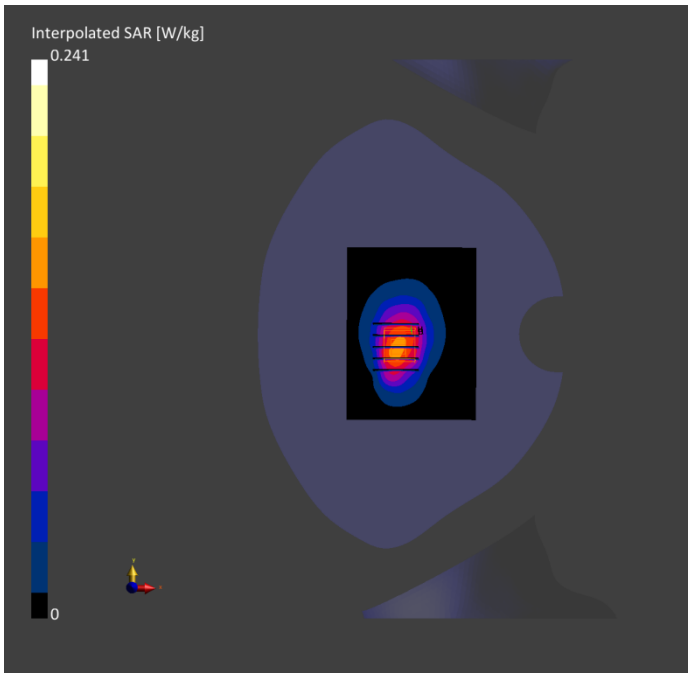
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2024-08-05	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

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

Measurement Results

	Area Scan	Zoom Scan
Date	2024-08-05	2024-08-05
psSAR1g [W/kg]	0.129	0.150
psSAR10g [W/kg]	0.075	0.082
Power Drift [dB]	0.03	0.00
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		59.4
Dist 3dB Peak [mm]		10.7


Interpolated SAR [W/kg]
0.241
0

Meas.21 Right Head with Tilt on Low Channel in LTE Band38 mode with Antenna 4

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
CLA5	165.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [℃]	Liquid Temperature [℃]
RightHead, HSL	CHEEK, 0.00	Band 38	LTE-TDD, 10172-CAH	2580.0, 37850	7.59	1.94	39.4	22.2	21.3

Hardware Setup

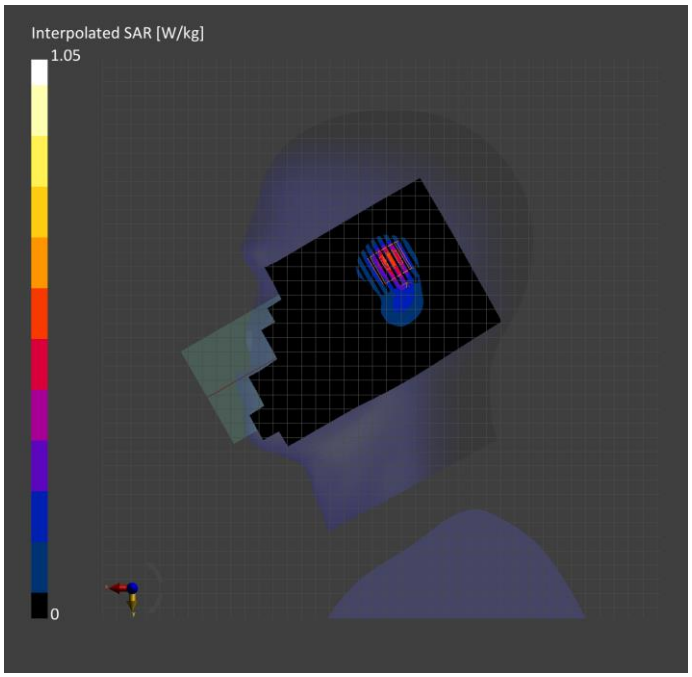
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2024-08-05	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

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

Measurement Results

	Area Scan	Zoom Scan
Date	2024-08-05	2024-08-05
psSAR1g [W/kg]	0.452	0.503
psSAR10g [W/kg]	0.207	0.210
Power Drift [dB]	0.02	0.01
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		49.1
Dist 3dB Peak [mm]		6.0


Interpolated SAR [W/kg]
1.05
0

Meas.22 Body plan with Top Edge 10mm on Low Channel in LTE Band38 mode with Antenna 4

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
CLA5	165.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [℃]	Liquid Temperature [℃]
Flat, HSL	EDGE TOP, 10.00	Band 38	LTE-TDD, 10172-CAH	2580.0, 37850	7.59	1.94	39.4	22.2	21.3

Hardware Setup

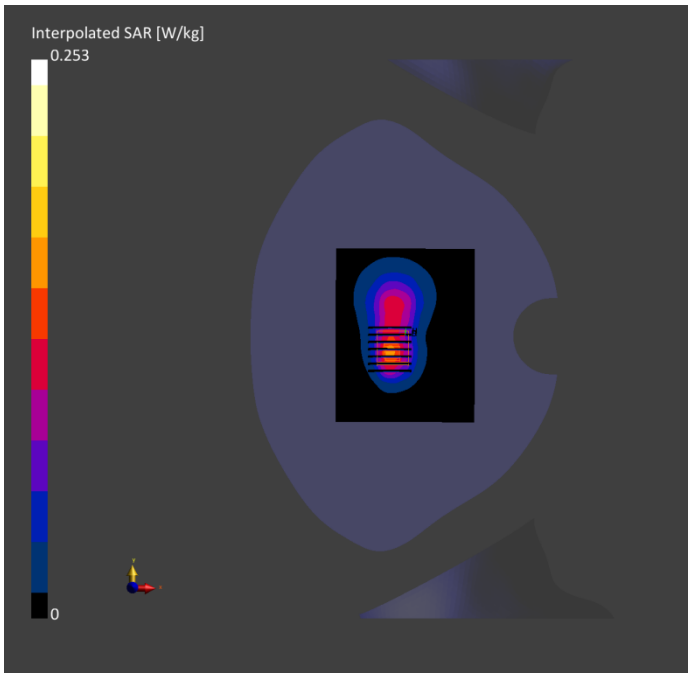
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2024-08-05	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

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

Measurement Results

	Area Scan	Zoom Scan
Date	2024-08-05	2024-08-05
psSAR1g [W/kg]	0.122	0.130
psSAR10g [W/kg]	0.059	0.061
Power Drift [dB]	-0.00	0.06
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		50.7
Dist 3dB Peak [mm]		10.0


Interpolated SAR [W/kg]
0.253
0

Meas.23 Right Head with Tilt on Low Channel in LTE Band41 mode with Antenna 4

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
CLA5	165.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [℃]	Liquid Temperature [℃]
RightHead, HSL	CHEEK, 0.00	Band 41	LTE-TDD, 10172-CAH	2545.0, 40140	7.75	1.87	39.6	22.6	21.6

Hardware Setup

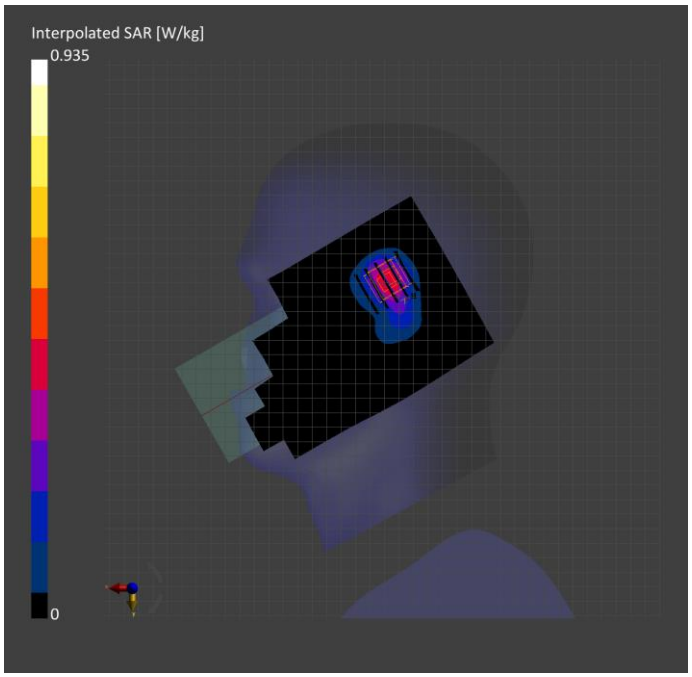
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2024-08-03	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

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

Measurement Results

	Area Scan	Zoom Scan
Date	2024-08-03	2024-08-03
psSAR1g [W/kg]	0.366	0.490
psSAR10g [W/kg]	0.183	0.221
Power Drift [dB]	-0.02	0.01
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		54.8
Dist 3dB Peak [mm]		8.6


Interpolated SAR [W/kg]
0.935
0

Meas.24 Body plan with Top Edge 10mm on Low Channel in LTE Band41 mode with Antenna 4

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
CLA5	165.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [℃]	Liquid Temperature [℃]
Flat, HSL	EDGE TOP, 10.00	Band 38	LTE-TDD, 10172-CAH	2580.0, 37850	7.75	1.87	39.6	22.6	21.6

Hardware Setup

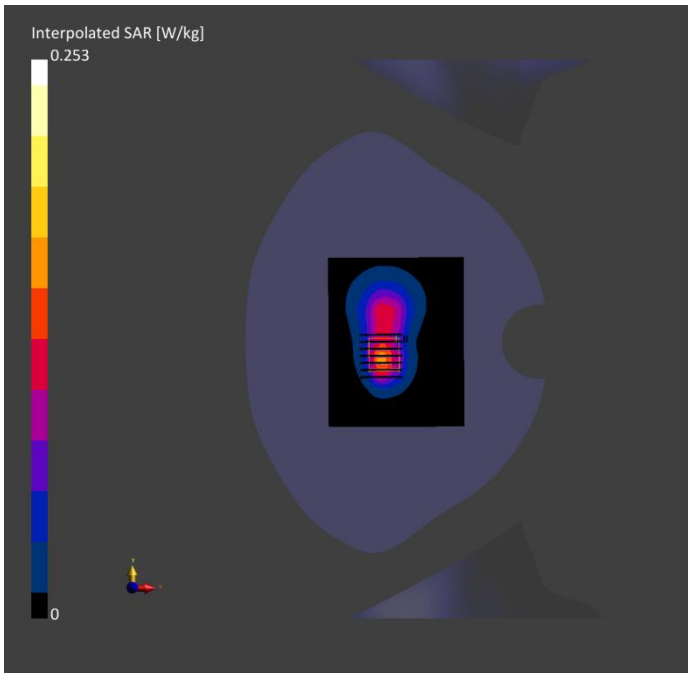
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2024-08-03	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

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

Measurement Results

	Area Scan	Zoom Scan
Date	2024-08-03	2024-08-03
psSAR1g [W/kg]	0.122	0.131
psSAR10g [W/kg]	0.059	0.061
Power Drift [dB]	-0.00	0.04
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		50.7
Dist 3dB Peak [mm]		10.0


Interpolated SAR [W/kg]
0.253
0

Meas.25 Left Head with Cheek on 6 Channel in IEEE802.11b mode with Antenna 12

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
CLA5	165.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [℃]	Liquid Temperature [℃]
LeftHead, HSL	CHEEK, 0.00	WLAN 2.4GHz	WLAN, 10012-CAB	2437.0, 6	7.75	1.78	40.8	22.2	21.2

Hardware Setup

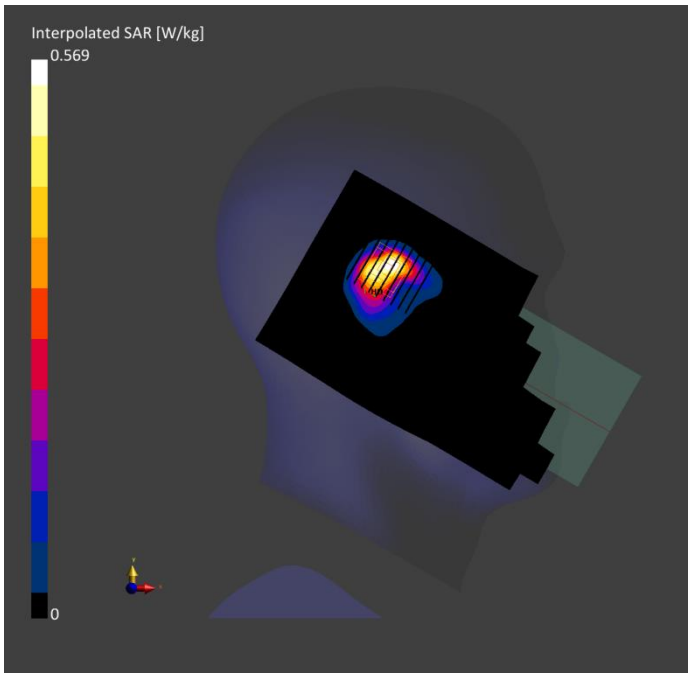
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2024-08-08	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

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

Measurement Results

	Area Scan	Zoom Scan
Date	2024-08-08	2024-08-08
psSAR1g [W/kg]	0.181	0.224
psSAR10g [W/kg]	0.088	0.088
Power Drift [dB]	-0.00	-0.04
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		38.6
Dist 3dB Peak [mm]		5.6


Interpolated SAR [W/kg]
0.569
0

Meas.26 Body plan with Top Edge 10mm on 6 Channel in IEEE802.11b mode with Antenna 12

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
CLA5	165.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [℃]	Liquid Temperature [℃]
Flat, HSL	EDGE TOP, 10.00	WLAN 2.4GHz	WLAN, 10012-CAB	2437.0, 6	7.75	1.78	40.8	22.2	21.2

Hardware Setup

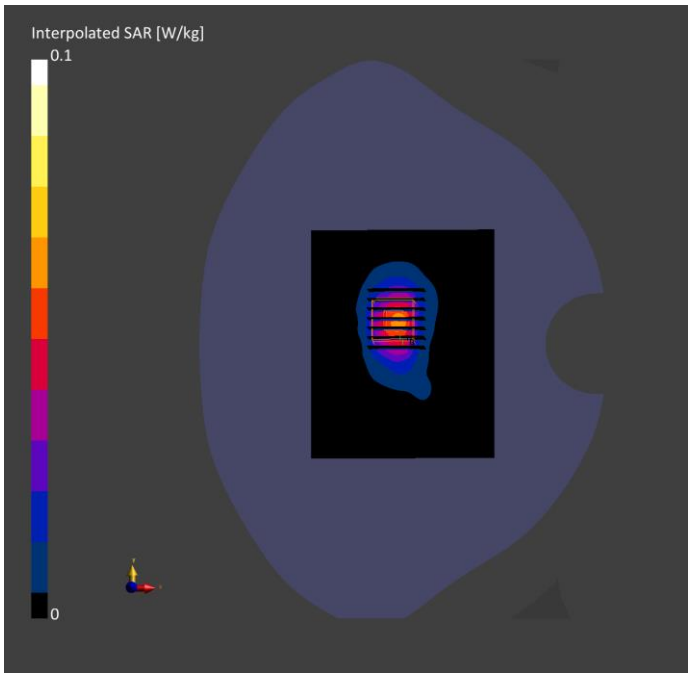
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2024-08-08	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

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

Measurement Results

	Area Scan	Zoom Scan
Date	2024-08-08	2024-08-08
psSAR1g [W/kg]	0.050	0.048
psSAR10g [W/kg]	0.024	0.023
Power Drift [dB]	0.08	-0.02
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		52.5
Dist 3dB Peak [mm]		> 15.0


Interpolated SAR [W/kg]
0.1
0

Meas.27 Left Head with Tilt on 58 Channel in IEEE802.11ac80 mode with Antenna 14

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
CLA5	165.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [℃]	Liquid Temperature [℃]
LeftHead, HSL	TILT, 0.00	WLAN 5GHz	WLAN, 10544-AAD	5290.0, 58	5.50	4.78	35.4	22.9	21.7

Hardware Setup

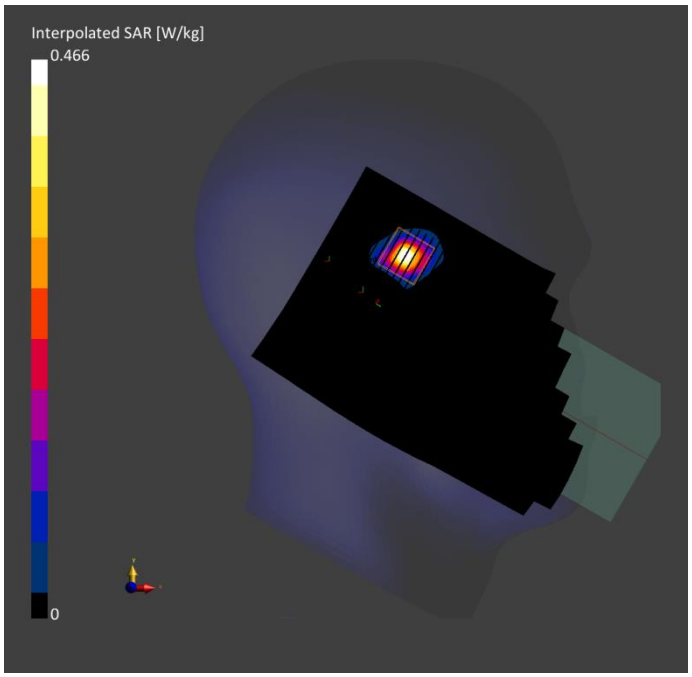
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2024-08-07	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

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

Measurement Results

	Area Scan	Zoom Scan
Date	2024-08-07	2024-08-07
psSAR1g [W/kg]	0.098	0.111
psSAR10g [W/kg]	0.028	0.027
Power Drift [dB]	0.01	0.03
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		48.0
Dist 3dB Peak [mm]		5.5


Interpolated SAR [W/kg]
0.466
0

Meas.28 Left Head with Tilt on 106 Channel in IEEE802.11ac80 mode with Antenna 12

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
CLA5	165.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [℃]	Liquid Temperature [℃]
LeftHead, HSL	TILT, 0.00	WLAN 5GHz	WLAN, 10544-AAD	5530.0, 106	5.11	4.95	35.9	22.2	21.2

Hardware Setup

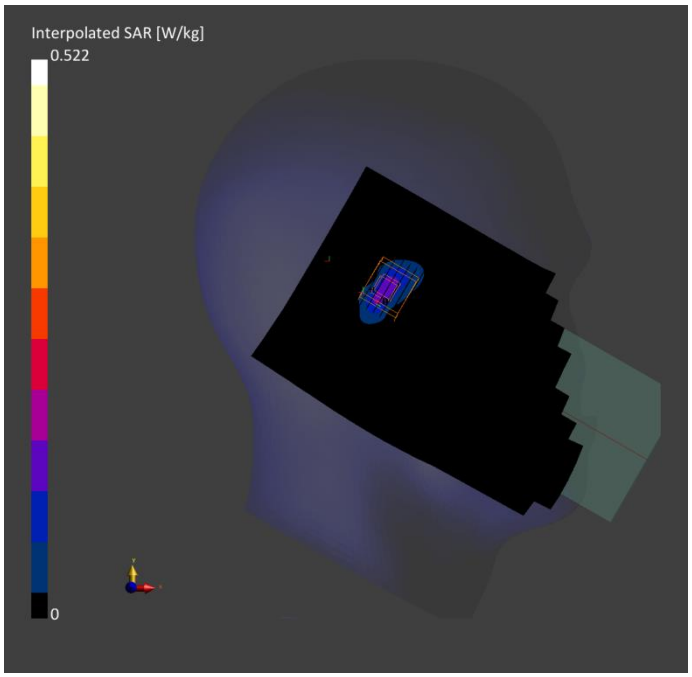
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2024-08-08	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

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

Measurement Results

	Area Scan	Zoom Scan
Date	2024-08-08	2024-08-08
psSAR1g [W/kg]	0.104	0.10
psSAR10g [W/kg]	0.034	0.026
Power Drift [dB]	0.01	-0.01
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		41.5
Dist 3dB Peak [mm]		5.1


Interpolated SAR [W/kg]
0.522
0

Meas.29 Left Head with Tilt on 155 Channel in IEEE802.11ac80 mode with Antenna 12

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
CLA5	165.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [℃]	Liquid Temperature [℃]
LeftHead, HSL	CHEEK, 0.00	WLAN 5GHz	WLAN, 10544-AAD	5775.0, 155	5.04	5.23	35.1	22.3	21.3

Hardware Setup

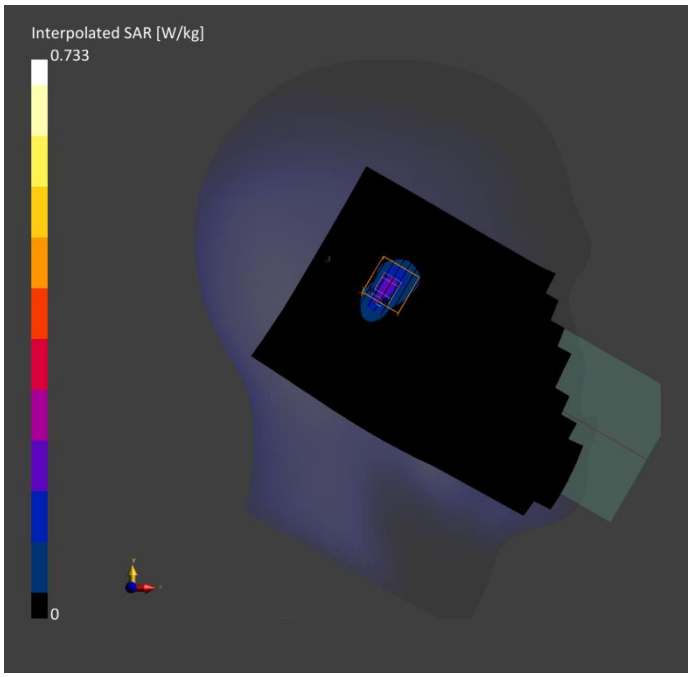
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2024-08-06	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

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

Measurement Results

	Area Scan	Zoom Scan
Date	2024-08-06	2024-08-06
psSAR1g [W/kg]	0.143	0.149
psSAR10g [W/kg]	0.047	0.041
Power Drift [dB]	0.37	0.07
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		46.9
Dist 3dB Peak [mm]		4.7


Interpolated SAR [W/kg]
0.733
0

Meas.30 Body plan with Back Side 10mm on 58 Channel in IEEE802.11ac80 mode with Antenna 14

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
CLA5	165.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [℃]	Liquid Temperature [℃]
Flat, HSL	BACK, 10.00	WLAN 5GHz	WLAN, 10544-AAC	5290.0, 58	5.50	4.78	35.4	22.9	21.7

Hardware Setup

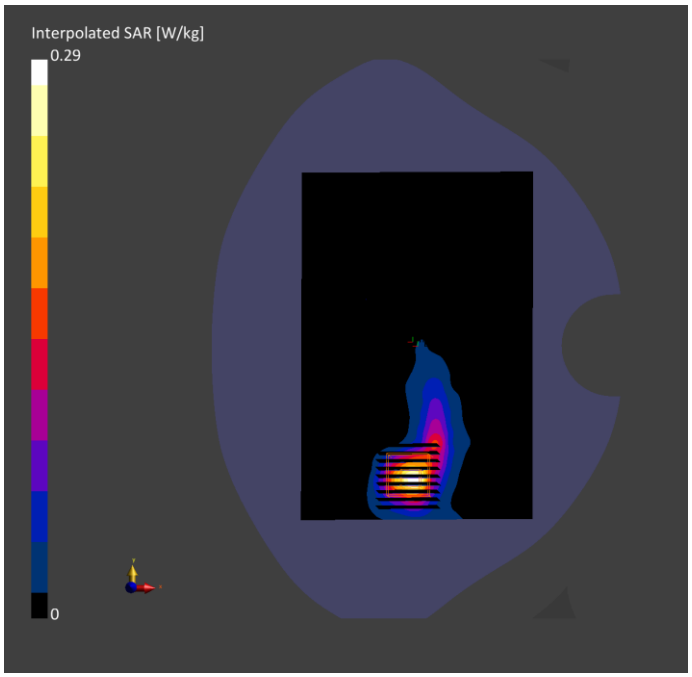
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2024-08-07	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 180.0	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	Y	Y
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-08-07	2024-08-07
psSAR1g [W/kg]	0.084	0.081
psSAR10g [W/kg]	0.030	0.027
Power Drift [dB]	-0.02	0.00
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		66.5
Dist 3dB Peak [mm]		8.5


Interpolated SAR [W/kg]
0.29
0

Meas.31 Body plan with Back Side 10mm on 106 Channel in IEEE802.11ac80 mode with Antenna 12

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
CLA5	165.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [℃]	Liquid Temperature [℃]
Flat, HSL	BACK, 10.00	WLAN 5GHz	WLAN, 10544-AAC	5530.0, 106	5.11	4.95	35.9	22.2	21.2

Hardware Setup

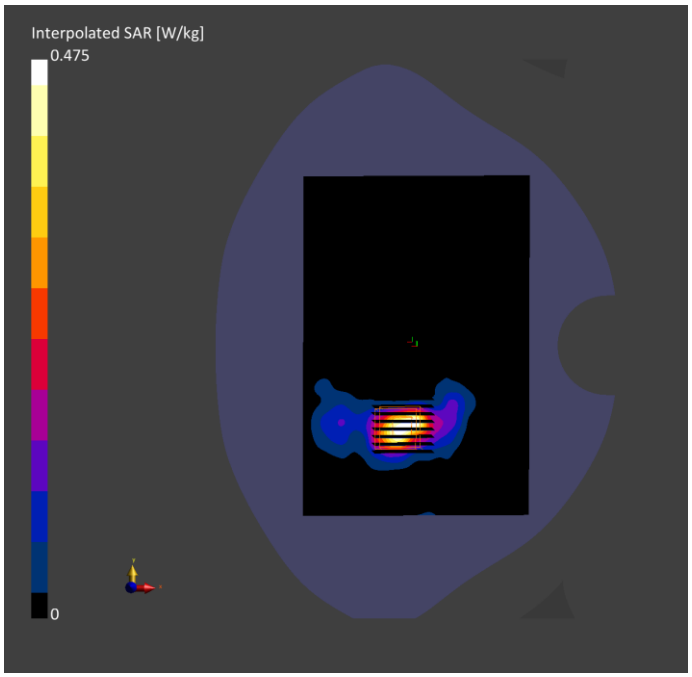
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2024-08-08	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

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

Measurement Results

	Area Scan	Zoom Scan
Date	2024-08-08	2024-08-08
psSAR1g [W/kg]	0.089	0.113
psSAR10g [W/kg]	0.032	0.035
Power Drift [dB]	-0.08	0.12
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		47.4
Dist 3dB Peak [mm]		6.8


Interpolated SAR [W/kg]
0.475
0

Meas.32 Body plan with Back Side 10mm on 155 Channel in IEEE802.11ac80 mode with Antenna 12

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
CLA5	165.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [℃]	Liquid Temperature [℃]
Flat, HSL	BACK, 10.00	WLAN 5GHz	WLAN, 10544-AAC	5775.0, 155	5.04	5.23	35.1	22.3	21.3

Hardware Setup

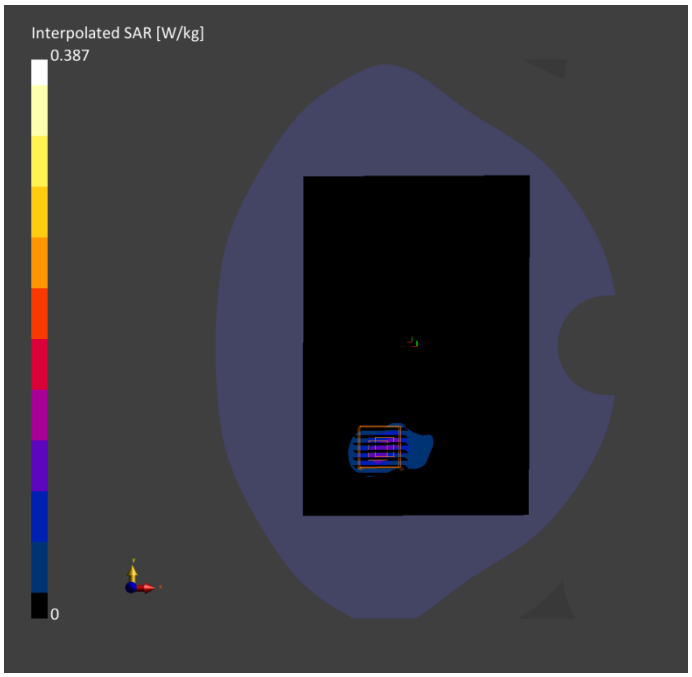
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2024-08-06	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

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

Measurement Results

	Area Scan	Zoom Scan
Date	2024-08-06	2024-08-06
psSAR1g [W/kg]	0.085	0.096
psSAR10g [W/kg]	0.031	0.031
Power Drift [dB]	-0.03	0.00
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		48.1
Dist 3dB Peak [mm]		7.2


Interpolated SAR [W/kg]
0.387
0

Meas.33 Body plan with Top Edge 10mm on 42 Channel in IEEE802.11ac80 mode with Antenna 12

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
CLA5	165.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [℃]	Liquid Temperature [℃]
Flat, HSL	EDGE TOP, 10.00	WLAN 5GHz	WLAN, 10544-AAC	5210.0, 42	5.74	4.62	36.4	22.9	21.7

Hardware Setup

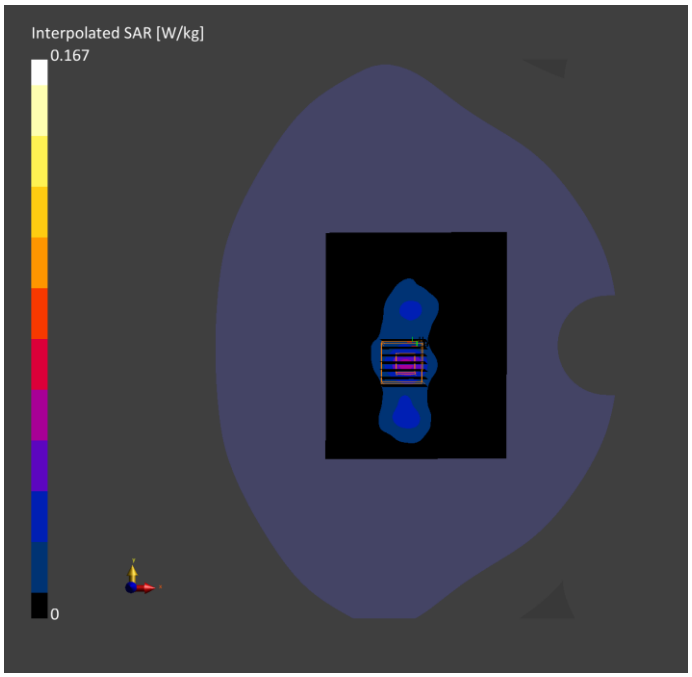
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2024-08-07	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	96.0 x 120.0	24.0 x 24.0 x 22.0
Grid Steps [mm]	8.0 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 Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-08-07	2024-08-07
psSAR1g [W/kg]	0.040	0.044
psSAR10g [W/kg]	0.014	0.015
Power Drift [dB]	-0.05	0.00
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		52.4
Dist 3dB Peak [mm]		9.1


Interpolated SAR [W/kg]
0.167
0

Meas.34 Body plan with Top Edge 10mm on 155 Channel in IEEE802.11ac80 mode with Antenna 12

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
CLA5	165.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [℃]	Liquid Temperature [℃]
Flat, HSL	EDGE TOP, 10.00	WLAN 5GHz	WLAN, 10544-AAC	5775.0, 155	5.04	5.23	35.1	22.3	21.3

Hardware Setup

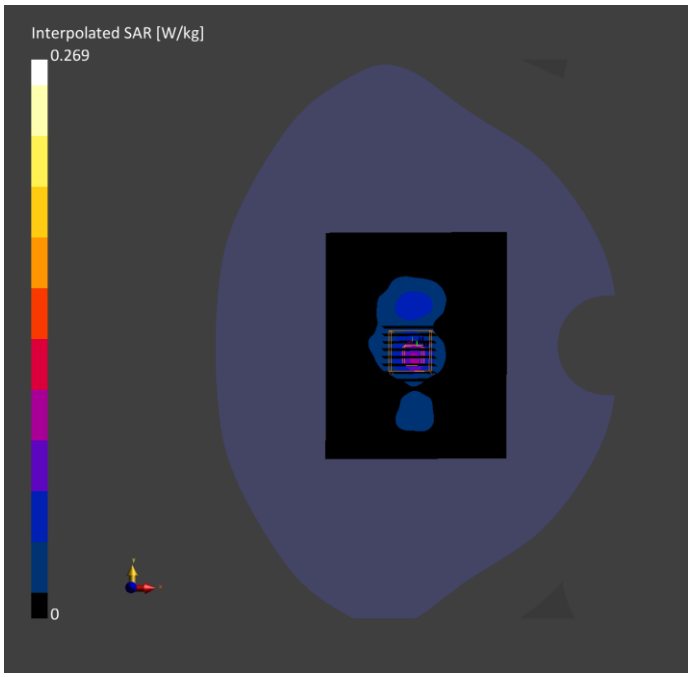
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2024-08-06	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	96.0 x 120.0	24.0 x 24.0 x 22.0
Grid Steps [mm]	8.0 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 Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-08-06	2024-08-06
psSAR1g [W/kg]	0.097	0.103
psSAR10g [W/kg]	0.043	0.044
Power Drift [dB]	-0.05	0.03
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		52.1
Dist 3dB Peak [mm]		9.6


Interpolated SAR [W/kg]
0.269
0

Meas.35 Body plan with Top Edge 0mm on 58 Channel in IEEE802.11ac80 mode with Antenna 12

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
CLA5	165.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [℃]	Liquid Temperature [℃]
Flat, HSL	TOP EDGE, 0.00	WLAN 5GHz	WLAN, 10544-AAC	5290.0, 58	5.50	4.78	35.4	22.9	21.7

Hardware Setup

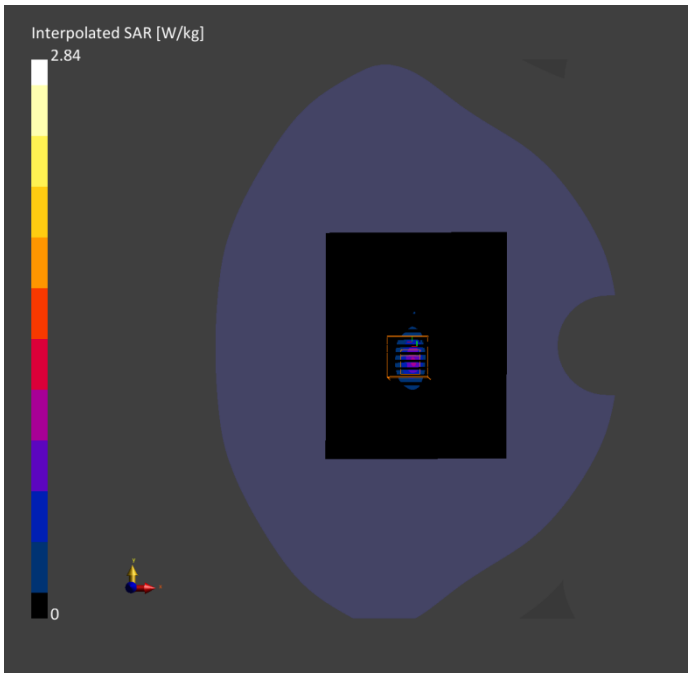
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2024-08-07	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	96.0 x 120.0	24.0 x 24.0 x 22.0
Grid Steps [mm]	8.0 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 Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-08-07	2024-08-07
psSAR1g [W/kg]	0.604	0.622
psSAR10g [W/kg]	0.163	0.154
Power Drift [dB]	-0.03	0.00
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		53.1
Dist 3dB Peak [mm]		4.1


Interpolated SAR [W/kg]
2.84
0

Meas.36 Body plan with Top Edge 0mm on 106 Channel in IEEE802.11ac80 mode with Antenna 12

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
CLA5	165.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [℃]	Liquid Temperature [℃]
Flat, HSL	TOP EDGE, 0.00	WLAN 5GHz	WLAN, 10544-AAC	5530.0, 106	5.11	4.95	35.9	22.2	21.2

Hardware Setup

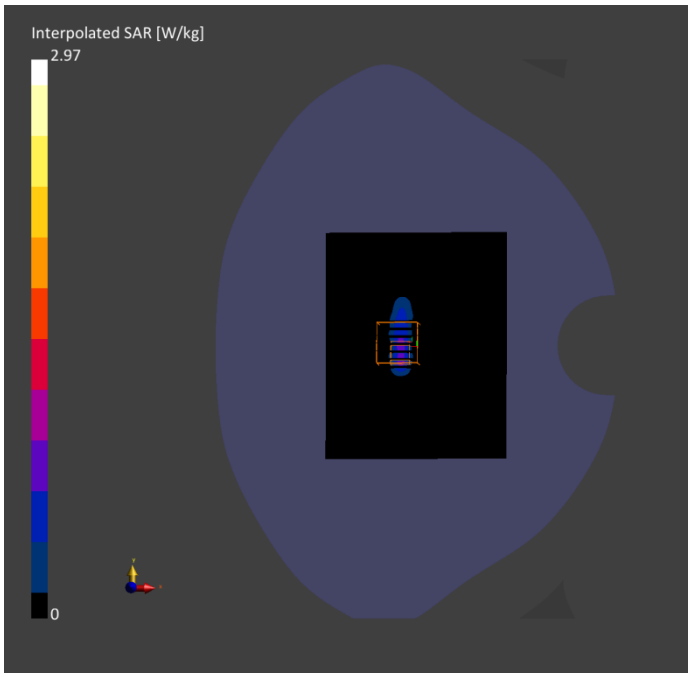
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2024-08-08	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	96.0 x 120.0	24.0 x 24.0 x 22.0
Grid Steps [mm]	8.0 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 Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-08-08	2024-08-08
psSAR1g [W/kg]	0.509	0.576
psSAR10g [W/kg]	0.140	0.153
Power Drift [dB]	-0.09	-0.05
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		48.0
Dist 3dB Peak [mm]		4.0


Interpolated SAR [W/kg]
2.97
0

Meas.37 Left Head with Cheek on 39 Channel in Bluetooth mode with Antenna 12

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
CLA5	165.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [℃]	Liquid Temperature [℃]
LeftHead, HSL	CHEEK, 0.00	ISM 2.4 GHz Band	Bluetooth, 10032-CAA	2441.0, 39	7.75	1.79	39.7	22.3	21.3

Hardware Setup

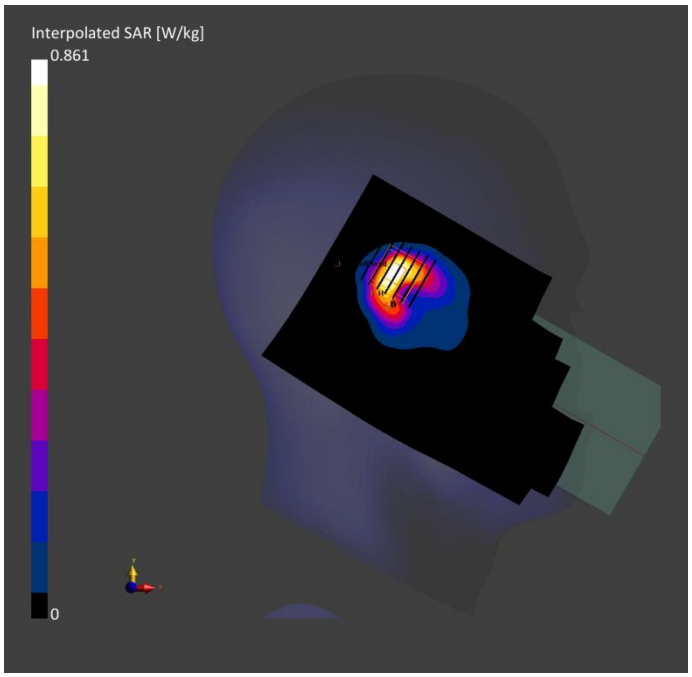
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2024-08-06	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

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

Measurement Results

	Area Scan	Zoom Scan
Date	2024-08-06	2024-08-06
psSAR1g [W/kg]	0.325	0.360
psSAR10g [W/kg]	0.152	0.145
Power Drift [dB]	-0.01	0.00
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		40.4
Dist 3dB Peak [mm]		5.8


Interpolated SAR [W/kg]
0.861
0

Meas.38 Body plan with Left Edge 10mm on 78 Channel in Bluetooth mode with Antenna 14

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	DUT Type
CLA5	165.0 x 75.0 x 8.0	Phone

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity	Ambient Temperature [℃]	Liquid Temperature [℃]
Flat, HSL	EDGE LEFT, 10.00	ISM 2.4 GHz Band	Bluetooth, 10032-CAA	2480.0, 78	7.75	1.84	39.5	22.3	21.3

Hardware Setup

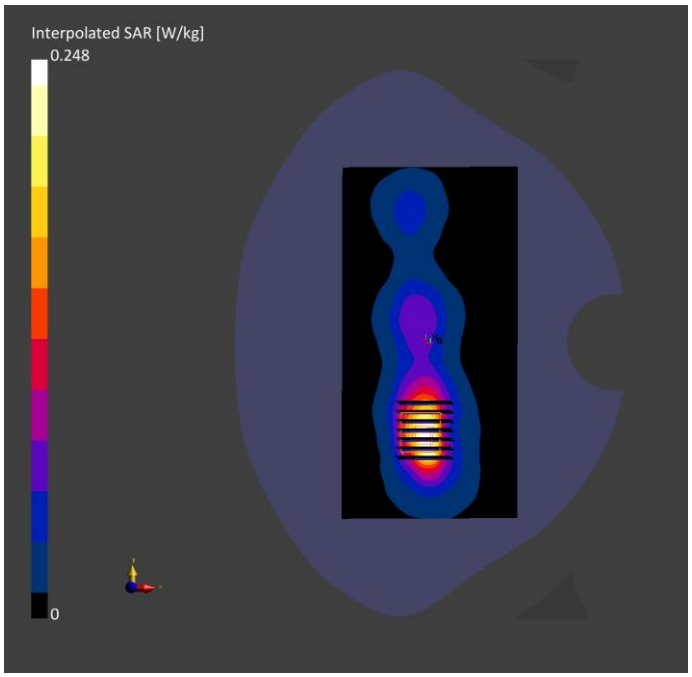
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V5.0 (30deg probe tilt) - 1859	HBBL-600-10000 2024-08-06	EX3DV4 - SN7510, 2024-06-25	DAE4 Sn1711, 2024-03-18

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	96.0 x 192.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	12.0 x 12.0	5.0 x 5.0 x 5.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	Yes	Yes
Grading Ratio	1.5	1.5
MAIA	Y	Y
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2024-08-06	2024-08-06
psSAR1g [W/kg]	0.114	0.125
psSAR10g [W/kg]	0.056	0.058
Power Drift [dB]	-0.04	0.01
Power Scaling	Disabled	Disabled
Scaling Factor [dB]		
TSL Correction	No correction	No correction
M2/M1 [%]		50.5
Dist 3dB Peak [mm]		8.5


Interpolated SAR [W/kg]
0.248
0

ANNEX D EUT EXTERNAL PHOTOS

Please refer the document “BL-SZ2460952-AW.pdf”.

ANNEX E SAR TEST SETUP PHOTOS

Please refer the document “BL-SZ2460952-AS.pdf”.

ANNEX F CALIBRATION REPORT

Please refer the document “BL-SZ2460952-AC.pdf”.

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