



SAR Test Report

For

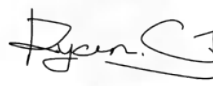
Applicant Name: INFINIX MOBILITY LIMITED
Address: FLAT N 16/F BLOCK B UNIVERSAL INDUSTRIAL CENTRE 19-25 SHAN MEI STREET FOTAN NT HONGKONG
EUT Name: mobile phone
Model Number: X6731B

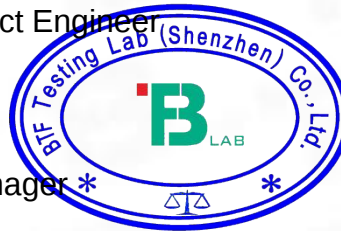
Issued By

Company Name: BTF Testing Lab (Shenzhen) Co., Ltd.
Address: F101, 201 and 301, Building 1, Block 2, Tantou Industrial Park, Tantou Community, Songgang Street, Bao'an District, Shenzhen, China

Report Number: BTF230804R00301
Test Standards: FCC 47 CFR§2.1093 IEEE1528-2013 IEEE C95.1-2019
KDB447498 D01 v06 KDB865664 D01 v01r04
KDB865664 D02 v01r02 KDB941225 D01 v03r01
KDB941225 D05 v02r05 KDB248227 D01 v02r02
KDB941225 D06 v02r01 KDB648474 D04 v01r03
KDB690783 D01 v01r03
FCC ID: 2ADYY-X6731B
Test Conclusion: Pass
Test Date: 2023-08-11 to 2023-08-15
Date of Issue: 2023-08-16

Prepared By: 
Date: Monica Zhou / Project Engineer
2023-08-16

Approved By: 
Date: Ryan.CJ / EMC Manager
2023-08-16



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Revision History		
Version	Issue Date	Revisions Content
R_V0	2023-08-16	Original
Note:	Once the revision has been made, then previous versions reports are invalid.	

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1. Introduction

1.1 Identification of Testing Laboratory

Company Name:	BTF Testing Lab (Shenzhen) Co., Ltd.
Address:	F101, 201 and 301, Building 1, Block 2, Tantou Industrial Park, Tantou Community, Songgang Street, Bao'an District, Shenzhen, China
Phone Number:	+86-0755-23146130
Fax Number:	+86-0755-23146130

1.2 Identification of the Responsible Testing Location

Test Location:	BTF Testing Lab (Shenzhen) Co., Ltd.
Address:	F101, 201 and 301, Building 1, Block 2, Tantou Industrial Park, Tantou Community, Songgang Street, Bao'an District, Shenzhen, China
Description:	All measurement facilities used to collect the measurement data are located at F101, 201 and 301, Building 1, Block 2, Tantou Industrial Park, Tantou Community, Songgang Street, Bao'an District, Shenzhen, China
FCC Registration Number	518915
Designation Number	CN1330

1.3 Laboratory Condition

Ambient Temperature:	21°C to 25°C
Ambient Relative Humidity:	48% to 59%
Ambient Pressure:	100 kPa to 102 kPa

1.4 Announcement

- (1) The test report reference to the report template version v0.
- (2) The test report is invalid if not marked with the signatures of the persons responsible for preparing, reviewing and approving the test report.
- (3) The test report is invalid if there is any evidence and/or falsification.
- (4) This document may not be altered or revised in any way unless done so by BTF and all revisions are duly noted in the revisions section.
- (5) Content of the test report, in part or in full, cannot be used for publicity and/or promotional purposes without prior written approval from the laboratory.
- (6) The laboratory is only responsible for the data released by the laboratory, except for the part provided by the applicant.

2. Product Information

2.1 Application Information

Company Name:	INFINIX MOBILITY LIMITED
Address:	FLAT N 16/F BLOCK B UNIVERSAL INDUSTRIAL CENTRE 19-25 SHAN MEI STREET FOTAN NT HONGKONG

2.2 Manufacturer Information

Company Name:	INFINIX MOBILITY LIMITED
Address:	FLAT N 16/F BLOCK B UNIVERSAL INDUSTRIAL CENTRE 19-25 SHAN MEI STREET FOTAN NT HONGKONG

2.3 Factory Information

Company Name:	INFINIX MOBILITY LIMITED
Address:	FLAT N 16/F BLOCK B UNIVERSAL INDUSTRIAL CENTRE 19-25 SHAN MEI STREET FOTAN NT HONGKONG

2.4 General Description of Equipment under Test (EUT)

EUT Name	mobile phone
Under Test Model Name	X6731B
Sample No.	BTFSN230803E008-1/1

2.5 Equipment under Test Ancillary Equipment

Ancillary Equipment 1	Rechargeable Battery	
	Capacity	4900mAh
	Rated Voltage	3.87V

2.6 Technical Information

Network and Wireless connectivity	2G Network GSM/GPRS/EGPRS 850/1900 3G Network WCDMA/HSDPA/HSUPA Band 2/4/5 4G Network FDD LTE Band 2/4/5/7 TDD LTE Band 38/41 2.4G WIFI 802.11b, 802.11g, 802.11n(HT20/HT40) 5G WIFI 802.11a, 802.11n(HT20/HT40), 802.11ac(VHT20/VHT40/VHT80) BT (EDR+BLE)
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The requirement for the following technical information of the EUT was tested in this report:

Operating Mode	GSM, WCDMA, LTE, WLAN, Bluetooth		
Frequency Range	GSM 850	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	GSM 1900	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	WCDMA Band 2	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	WCDMA Band 4	TX: 1710 ~ 1755 MHz	RX: 2110 ~ 2155 MHz
	WCDMA Band 5	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	LTE Band 2	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	LTE Band 4	TX: 1710 ~ 1755 MHz	RX: 2110 ~ 2155 MHz
	LTE Band 5	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	LTE Band 7	TX: 2500 ~ 2570 MHz	RX: 2620 ~ 2690 MHz
	LTE Band 38	2570 ~ 2620 MHz	
	LTE Band 41	2500 ~ 2690 MHz	
	802.11b/g/n(HT20)	2412 ~ 2462 MHz	
	802.11n(HT40)	2422 ~ 2452 MHz	
	802.11a/802.11n(HT20/HT40) 802.11ac(VHT20/VHT40/VTH80)	5150 ~ 5250 MHz	
		5250 ~ 5350 MHz	
		5470 ~ 5725 MHz	
		5725 ~ 5850 MHz	
	Bluetooth	2402 ~ 2480 MHz	
Antenna Type	WWAN: FPC Antenna WLAN: FPC Antenna BT: FPC Antenna		
Hotspot Function	Support		
Power Reduction	Not Support		
Exposure Category	General Population/Uncontrolled exposure		
EUT Stage	Portable Device		
Product	Type		
	☐ Production unit	☒ Identical prototype	

3. Summary of Test Results

3.1 Test Standards

No.	Identity	Document Title
1	47 CFR Part 2.1093	Radiofrequency radiation exposure evaluation: portable devices
2	IEEE1528-2013	Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate in the Human Head from Wireless Communications Devices: Measurement Techniques
3	IEEE C95.1-2019	IEEE Standard for Safety Levels with Respect to Human Exposure to Electric, Magnetic, and Electromagnetic Fields, 0 Hz to 300 GHz
4	KDB447498 D01	General RF Exposure Guidance v06
5	KDB865664 D01	SAR measurement 100MHz to 6GHz v01r04
6	KDB865664 D02	RF Exposure Reporting v01r02
7	KDB941225 D01	3G SAR Procedures v03r01
8	KDB941225 D05	SAR for LTE Devices v02r05
9	KDB248227 D01	802.11 Wi-Fi SAR v02r02
10	KDB941225 D06	Hotspot Mode v02r01
11	KDB648474 D04	Handset SAR v01r03
12	KDB690783 D01	SAR Listings on Grant v01r03

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.

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

NOTE:
General Population/Uncontrolled Exposure: Locations where there is the exposure of individuals who have no knowledge or control of their exposure. General population/uncontrolled exposure limits are applicable to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public would come under this category when exposure is not employment- related; for example, in the case of a wireless transmitter that exposes persons in its vicinity.
Occupational/Controlled Exposure: Locations where there is exposure that may be incurred by persons who are aware of the potential for exposure. In general, occupational/controlled exposure limits are applicable to situations in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure and can exercise control over their exposure. This exposure category is also applicable when the exposure is of a transient nature due to incidental passage through a location where the exposure levels may be higher than the general population/uncontrolled limits, but the exposed person is fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

3.3 Test Result Summary

The maximum results of Specific Absorption Rate (SAR) found during test as bellows:

<Highest Reported standalone SAR Summary>

Exposure Position	Frequency Band	Reported SAR (W/kg)	Equipment Class	Highest Reported SAR (W/kg)
Head 1-g SAR (0 mm Gap)	GSM 850	0.381	PCE	0.788
	GSM 1900	0.788		
	WCDMA Band II	0.551		
	WCDMA Band IV	0.419		
	WCDMA Band V	0.659		
	LTE Band 2	0.364		
	LTE Band 4	0.580		
	LTE Band 5	0.601		
	LTE Band 7	0.322		
	LTE Band 38	0.495		
	LTE Band 41	0.421		
	WLAN 2.4 GHz	0.330	DTS	
	WLAN 5.2 GHz	0.307	NII	
	WLAN 5.4 GHz	0.282		
	WLAN 5.6 GHz	0.263		
WLAN 5.8 GHz	0.233			
Exposure Position	Frequency Band	Reported SAR (W/kg)	Equipment Class	Highest Reported SAR (W/kg)
Hotspot(Body) 1-g SAR (10 mm Gap)	GSM 850	0.595	PCB	0.750
	GSM 1900	0.750		
	WCDMA Band II	0.556		
	WCDMA Band IV	0.525		
	WCDMA Band V	0.472		
	LTE Band 2	0.469		
	LTE Band 4	0.750		
	LTE Band 5	0.457		
	LTE Band 7	0.351		
	LTE Band 38	0.439		
	LTE Band 41	0.525		
	WLAN 2.4 GHz	0.374	DTS	
	WLAN 5.2 GHz	0.273	NII	
	WLAN 5.4 GHz	0.292		
	WLAN 5.6 GHz	0.264		
WLAN 5.8 GHz	0.224			

This device is in compliance with Specific Absorption Rate(SAR) for general population/uncontrolled exposure limits (1.6 W/kg) specified in FCC47 CFR part 2(2.1093) and ANSI/IEEE C95.1-2019, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2013.

<Highest Reported Simultaneous SAR>

Exposure Position	Simultaneous Configuration	Highest Reported Simultaneous Transmission SAR (W/kg)	Limit (W/kg)	Verdict
Head 1-g SAR (0 mm Gap)	GSM 1900 + BT	1.201	1.6	Pass
Hotspot(Body) 1-g SAR (10 mm Gap)	LTE Band 4 + 2.4G WIFI	1.124	1.6	Pass

3.4 Test Uncertainty

3.4.1 Measurement uncertainty evaluation for SAR test

Measurement uncertainty evaluation for SAR test (300MHz to 6GHz)

Uncertainty Component	Tol (+-%)	Prob. Dist.	Div.	Ci (1g)	Ci (10g)	1g Ui (+-%)	10 g Ui (+-%)	Vi veff
Measurement System								
Probe calibration	5.8	N	1	1	1	5.80	5.80	∞
Axial Isotropy	3.5	R	√3	√0.5	√0.5	1.43	1.43	∞
Hemispherical Isotropy	5.9	R	√3	√0.5	√0.5	2.41	2.41	∞
Boundary effect	1.0	R	√3	1	1	0.58	0.58	∞
Linearity	4.7	R	√3	1	1	2.71	2.71	∞
System detection limits	1.0	R	√3	1	1	0.58	0.58	∞
Modulation response	3.0	R	√3	1	1	1.73	1.73	∞
Readout Electronics	0.5	N	1	1	1	0.50	0.50	∞
Response Time	0	R	√3	1	1	0.00	0.00	∞
Integration Time	1.4	R	√3	1	1	0.81	0.81	∞
RF ambient Conditions - Noise	3.0	R	√3	1	1	1.73	1.73	∞
RF ambient Conditions - Reflections	3.0	R	√3	1	1	1.73	1.73	∞
Probe positioner Mechanical Tolerance	1.4	R	√3	1	1	0.81	0.81	∞
Probe positioning with respect to Phantom Shell	1.4	R	√3	1	1	0.81	0.81	∞
Extrapolation, interpolation and integration Algorithms for Max. SAR Evaluation	2.3	R	√3	1	1	1.33	1.33	∞
Test sample Related								
Test sample positioning	2.6	N	1	1	1	2.60	2.60	11
Device Holder Uncertainty	3.0	N	1	1	1	3.00	3.00	7
Output power Variation - SAR drift measurement	5.0	R	√3	1	1	2.89	2.89	∞
SAR scaling	2.0	R	√3	1	1	1.15	1.15	∞
Phantom and Tissue Parameters								
Phantom Shell Uncertainty - Shape, Thickness and Permittivity	4	R	√3	1	1	2.31	2.31	∞
Uncertainty in SAR correction for deviation in permittivity and conductivity	2.0	N	1	1	0.84	2.00	1.68	∞
Liquid conductivity measurement	4.0	N	1	0.78	0.71	3.12	2.84	5
Liquid permittivity measurement	5.0	N	1	0.23	0.26	1.15	1.30	5
Liquid Conductivity - Temperature Uncertainty	2.5	R	√3	0.78	0.71	1.13	1.02	∞
Liquid permittivity - Temperature Uncertainty	2.5	R	√3	0.23	0.26	0.33	0.38	∞
Combined Standard Uncertainty		RSS				10.47	10.34	
Expanded Uncertainty (95% Confidence interval)		k				20.95	20.69	

* This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

3.4.2 Measurement uncertainty evaluation for system check

Uncertainty Component	Tol (+-%)	Prob. Dist.	Div.	Ci (1g)	Ci (10 g)	1g Ui (+-%)	10 g Ui (+-%)	Vi veff
Measurement System								
Probe calibration	5.8	N	1	1	1	5.80	5.80	∞
Axial Isotropy	3.5	R	√3	1	1	2.02	2.02	∞
Hemispherical Isotropy	5.9	R	√3	0	0	0.00	0.00	∞
Boundary effect	1	R	√3	1	1	0.58	0.58	∞
Linearity	4.7	R	√3	1	1	2.71	2.71	∞
System detection limits	1	R	√3	1	1	0.58	0.58	∞
Modulation response	0	N	√3	0	0	0.00	0.00	∞
Readout Electronics	0.5	N	1	1	1	0.50	0.50	∞
Response Time	0	R	√3	0	0	0.00	0.00	∞
Integration Time	1.4	R	√3	0	0	0.00	0.00	∞
RF ambient Conditions - Noise	3	R	√3	1	1	1.73	1.73	∞
RF ambient Conditions - Reflections	3	R	√3	1	1	1.73	1.73	∞
Probe positioner Mechanical Tolerance	1.4	R	√3	1	1	0.81	0.81	∞
Probe positioning with respect to Phantom Shell	1.4	R	√3	1	1	0.81	0.81	∞
Extrapolation, interpolation and integration Algorithms for Max. SAR Evaluation	2.3	R	√3	1	1	1.33	1.33	∞
Dipole								
Deviation of experimental source from numerical source	5	N	1	1	1	5.00	5.00	∞
Input Power and SAR drift measurement	0.5	R	√3	1	1	0.29	0.29	∞
Dipole Axis to Liquid Dist.	2.0	R	√3	1	1	1.15	1.15	∞
Phantom and Tissue Parameters								
Phantom Shell Uncertainty - Shape, Thickness and Permittivity	4	R	√3	1	1	2.31	2.31	∞
Uncertainty in SAR correction for deviation in permittivity and conductivity	2.0	N	1	1	0.84	2.00	1.68	∞
Liquid conductivity measurement	4	N	1	0.78	0.71	3.12	2.84	5
Liquid permittivity measurement	5.0	N	1	0.23	0.26	1.15	1.30	5
Liquid Conductivity - Temperature Uncertainty	2.5	R	√3	0.78	0.71	1.13	1.02	∞
Liquid permittivity - Temperature Uncertainty	2.5	R	√3	0.23	0.26	0.33	0.38	∞
Combined Standard Uncertainty		RSS				10.16	10.03	
Expanded Uncertainty (95% Confidence interval)		k				20.32	20.06	

4.2.2 Robot



- A standard high precision 6-axis robot (Denso) with teaches pendant with Scanning System
- It must be able to scan all the volume of the phantom to evaluate the tridimensional distribution of SAR.
 - Must be able to set the probe orthogonal of the surface of the phantom ($\pm 30^\circ$).
 - Detects stresses on the probe and stop itself if necessary to keep the integrity of the probe.

4.2.3 E-Field Probe

For the measurements, the Specific Dosimetric SSE2 E-Field Probe with following specifications is used:

- Dynamic range: 0.01-100 W/kg
- Tip diameter: 2mm for SSE2
- Distance between probe tip and sensor centre: 1mm for SSE2
- Distance between sensor centre and the inner phantom surface: 2mm for $f \geq 4\text{GHz}$.
- Probe linearity: $<0.25\text{dB}$.
- Axial Isotropy: $<0.25\text{dB}$.
- Spherical Isotropy: $<0.50\text{dB}$.
- Calibration range: 150 to 6000 MHz for head & body simulating liquid
- Angle between probe axis (evaluation axis) and surface normal line: less than 20° .



4.2.4 Phantoms

SAM Phantom

For the measurements the Specific Anthropomorphic Mannequin (SAM) defined by the IEEE SCC-34/SC2 group is used. The probe scanning of the E-Field is done in the 2 halves of the normalized head. The normalized shape of the phantom corresponds to the dimensions of 90% of an adult head size. It enables the dosimetric evaluation of left and right-hand phone usage and includes an additional flat phantom part for the simplified body performance check. The phantom set-up includes a cover, which prevents the evaporation of the liquid.



SAM Phantom

The thickness of the phantom amounts to $2\text{ mm} \pm 0.2\text{ mm}$. The materials for the phantom do not affect the radiation of the device under test (DUT) : $\epsilon_r' < 5$
The head is filled with tissue simulating liquid. The hand do not have to be modeled.

TWIN SAM phantom

	Mechanical	Electrical	
Overall thickness	$2 \pm 0.2\text{ mm}$ (except ear area)	Relative permittivity	3.4
Dimensions	1000 mm(L) x 500 mm(W) x 200 mm(H)	Loss tangent	0.02
Maximum volume	27 L		
Material	Fiberglass based		

ELLIPTICAL Phantom

The phantom is for Body performance check filled with tissue-equivalent liquid to a depth of at least 150 mm, whose shell material is resistant to damage or reaction with tissue-equivalent liquid chemicals.



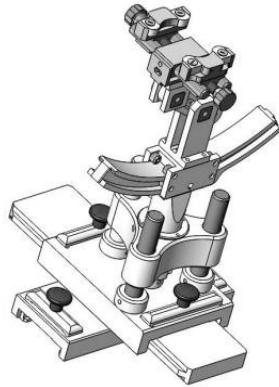
ELLI Phantom

The shape of the phantom is an ellipse with length $600\text{ mm} \pm 5\text{ mm}$ and width $400\text{ mm} \pm 5\text{ mm}$. The phantom shell is made of low-loss and low-permittivity material, having loss tangent $\tan \delta \leq 0.05$ and relative permittivity:
 $\epsilon_r' \leq 5$ for $f \leq 3\text{ GHz}$
 $3 \leq \epsilon_r' \leq 5$ for $f > 3\text{ GHz}$
The thickness of the bottom-wall of the flat phantom is 2.0 mm with a tolerance of $\pm 0.2\text{ mm}$.

Technical & mechanical characteristics

Shell thickness	$2\text{ mm} \pm 0.2\text{ mm}$
Filling volume	25 L
Dimensions	600 mm x 400 mm x 200 mm
Permittivity	4.4
Loss tangent	0.017

4.2.5 Device Holder



System Material	Permittivity	Loss tangent
Delrin	3.7	0.005

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

System Material	Permittivity	Loss tangent
PMMA	2.9	0.028

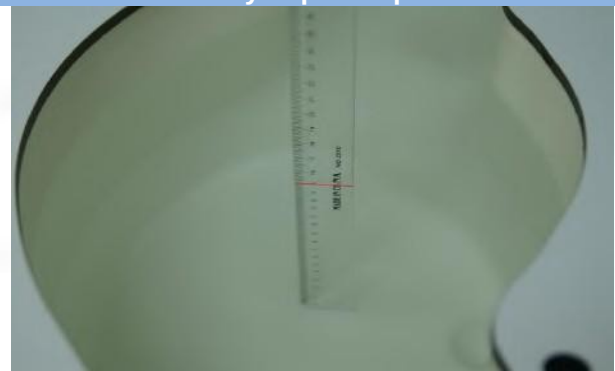
4.2.6 Simulating Liquid

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 and the theoretical Conductivity/Permittivity.

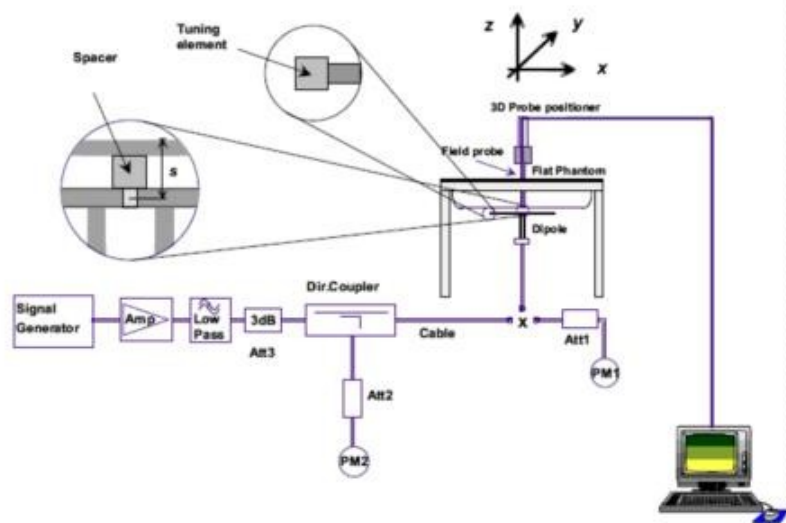
Head (Reference IEEE1528)								
Frequency (MHz)	Water (%)	Sugar (%)	Cellulose (%)	Salt (%)	Preventol (%)	DGBE (%)	Conductivity σ (S/m)	Permittivity ϵ
750	41.1	57.0	0.2	1.4	0.2	0	0.89	41.9
835	40.3	57.9	0.2	1.4	0.2	0	0.90	41.5
900	40.3	57.9	0.2	1.4	0.2	0	0.97	41.5
1800, 1900, 2000	55.2	0	0	0.3	0	44.5	1.4	40.0
2450	55.0	0	0	0.1	0	44.9	1.80	39.2
2600	54.9	0	0	0.1	0	45.0	1.96	39.0
Frequency (MHz)	Water (%)	Hexyl Carbitol (%)			Triton X-100 (%)		Conductivity σ (S/m)	Permittivity ϵ
5200	62.52	17.24			17.24		4.66	36.0
5800	62.52	17.24			17.24		5.27	35.3
Body (From instrument manufacturer)								
Frequency (MHz)	Water (%)	Sugar (%)	Cellulose (%)	Salt (%)	Preventol (%)	DGBE (%)	Conductivity σ (S/m)	Permittivity ϵ
750	51.7	47.2	0	0.9	0.1	0	0.96	55.5
835	50.8	48.2	0	0.9	0.1	0	0.97	55.2
900	50.8	48.2	0	0.9	0.1	0	1.05	55.0
1800, 1900, 2000	70.2	0	0	0.4	0	29.4	1.52	53.3
2450	68.6	0	0	0.1	0	31.3	1.95	52.7
2600	68.2	0	0	0.1	0	31.7	2.16	52.5
Frequency(MHz)	Water	DGBE (%)			Salt (%)		Conductivity σ (S/m)	Permittivity ϵ
5200	78.60	21.40			/		5.30	49.00
5800	78.50	21.40			0.1		6.00	48.20

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. The 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



6. TEST POSITION CONFIGURATIONS

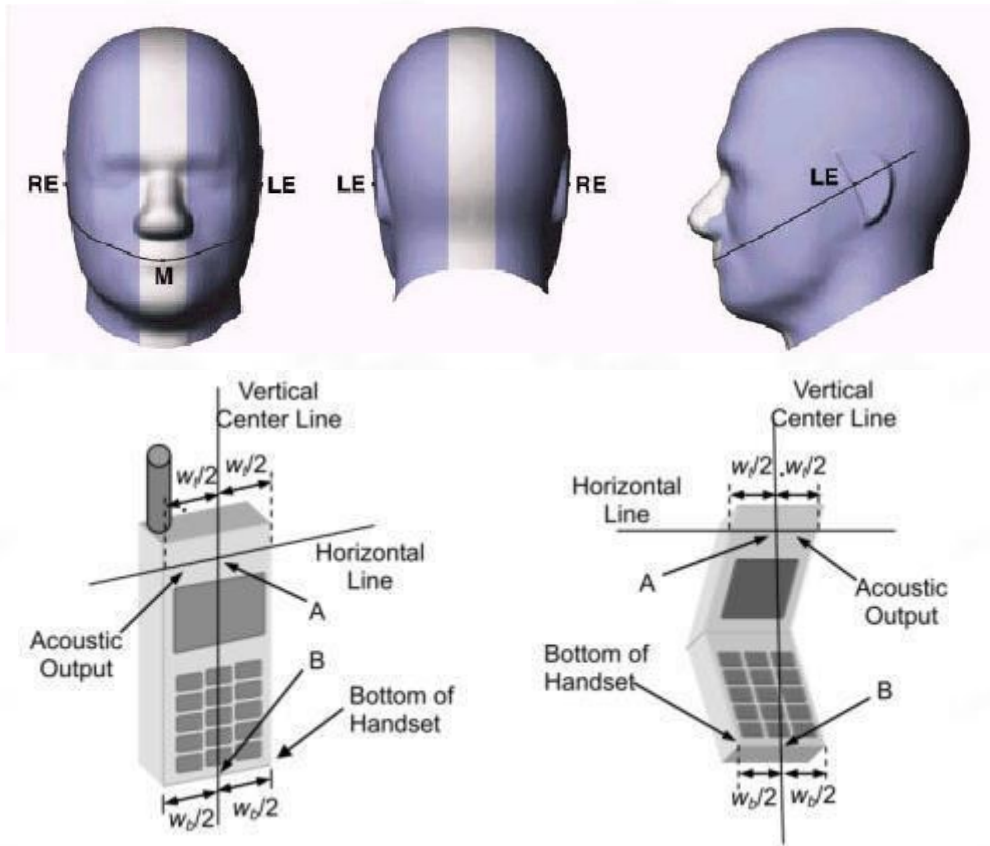
According to KDB 648474 D04 Handset, handsets are tested for SAR compliance in head, body-worn accessory and other use configurations described in the following subsections.

6.1 Head Exposure Conditions

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

6.1.1 Two Imaginary Lines on the Handset

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



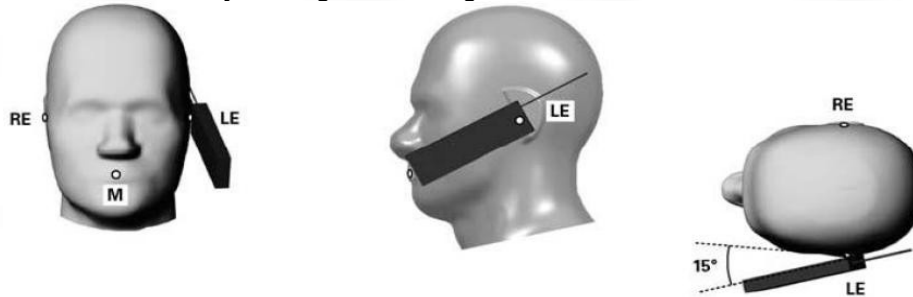
6.1.2 Two Imaginary Lines on the Handset

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



6.1.3 Titled Position

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

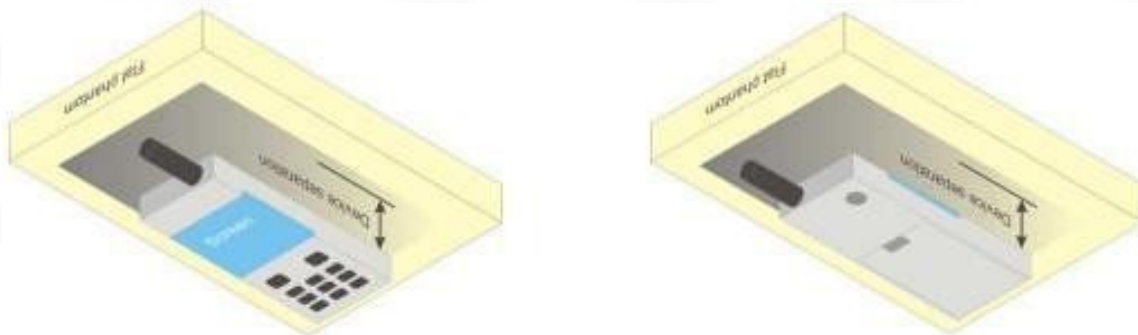


6.2 Body-worn Position Conditions

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

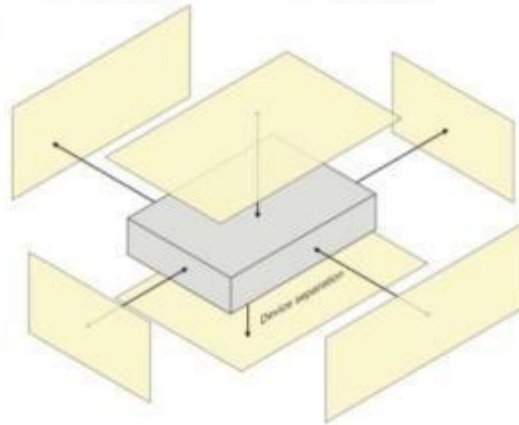
Body-worn accessories that do not contain metallic or conductive components may be tested according to worst-case exposure configurations, typically according to the smallest test separation distance required for the group of body-worn accessories with similar operating and exposure characteristics.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

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



6.3 Hotspot Mode Exposure Position Conditions

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



6.4 Product Specific 10g Exposure Consideration

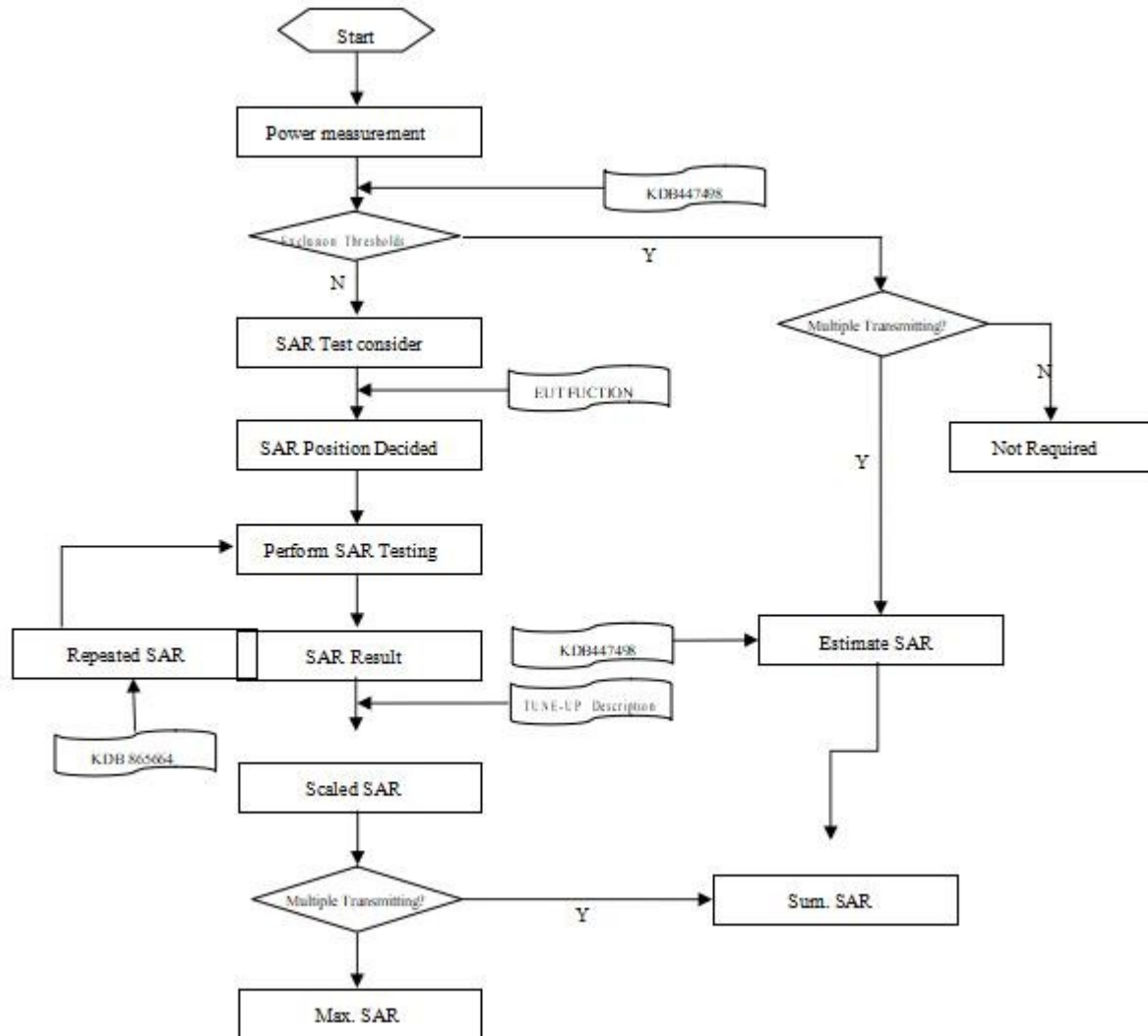
According with FCC KDB 648474 D04, for smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm that provide similar mobile web access and multimedia support found in mini-tablets or UMPC mini-tablets that support voice calls next to the ear, unless it is confirmed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

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

7. Measurement Procedure

7.1 Measurement Process Diagram

Body SAR



7.2 SAR Scan General Requirement

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

			≤3GHz	>3GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface			5±1 mm	$\frac{1}{2} \delta \cdot \ln(2) \pm 0.5 \text{ mm}$
Maximum probe angle from probe axis to phantom surface normal at the measurement location			30°±1°	20°±1°
Maximum area scan spatial resolution: Δx Area , Δy Area			≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm	3–4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 10 mm
			When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	
Maximum zoom scan spatial resolution: Δx Zoom , Δy Zoom			≤ 2 GHz: ≤ 8 mm 2–3 GHz: ≤ 5 mm*	3–4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: Δz Zoom (n)		≤ 5 mm	3–4 GHz: ≤ 4 mm
				4–5 GHz: ≤ 3 mm
				5–6 GHz: ≤ 2 mm
	graded grid	Δz Zoom (1): between 1st two points closest to phantom surface	≤ 4 mm	3–4 GHz: ≤ 3 mm
				4–5 GHz: ≤ 2.5 mm
				5–6 GHz: ≤ 2 mm
	Δz Zoom (n>1): between subsequent points	≤ 1.5·Δz Zoom (n-1)		
Minimum zoom scan volume	x, y, z		≥30 mm	3–4 GHz: ≥ 28 mm
				4–5 GHz: ≥ 25 mm
				5–6 GHz: ≥ 22 mm
Note:				
1. δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528- 2011 for details.				
2. * When zoom scan is required and the reported SAR from the area scan based 1 g SAR estimation procedures of KDB				
447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.				

7.3 Measurement Procedure

The following steps are used for each test position

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

7.4 Area & Zoom Scan Procedure

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

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

8. Conducted RF Output Power

8.1 GSM

Mode: GSM850		Maximum Tune-up(dBm)	Burst Average Power (dBm)			Division Factors	Frame-Average Power (dBm)		
			CH128	CH190	CH251		CH128	CH190	CH251
			824.2MHz	836.6MHz	848.8MHz		824.2MHz	836.6MHz	848.8MHz
GSM		33.00	32.20	32.67	32.73	-9.03	23.17	23.64	23.70
GPRS (GMSK)	1Tx slot	33.00	32.20	32.67	32.73	-9.03	23.17	23.64	23.70
	2Tx slots	30.00	29.45	29.59	29.64	-6.02	23.43	23.57	23.62
	3Tx slots	30.00	29.84	29.19	29.14	-4.26	25.58	24.93	24.88
	4Tx slots	30.00	29.38	29.67	29.76	-3.01	26.37	26.66	26.75
EGPRS (8PSK)	1Tx slot	30.00	29.13	29.75	29.82	-9.03	20.10	20.72	20.79
	2Tx slots	26.00	25.92	25.38	25.82	-6.02	19.90	19.36	19.80
	3Tx slots	26.00	25.26	25.97	25.45	-4.26	21.00	21.71	21.19
	4Tx slots	26.00	25.75	25.82	25.31	-3.01	22.74	22.81	22.30
Mode: GSM1900		Maximum Tune-up(dBm)	Burst Average Power (dBm)			Division Factors	Frame-Average Power (dBm)		
			CH512	CH661	CH810		CH512	CH661	CH810
			1850.2MHz	1880.0MHz	1909.8MHz		1850.2MHz	1880.0MHz	1909.8MHz
GSM		30.00	29.63	29.40	29.48	-9.03	20.60	20.37	20.45
GPRS (GMSK)	1Tx slot	30.00	29.63	29.40	29.48	-9.03	20.60	20.37	20.45
	2Tx slots	27.00	26.45	26.50	26.88	-6.02	20.43	20.48	20.86
	3Tx slots	27.00	26.79	26.03	26.74	-4.26	22.53	21.77	22.48
	4Tx slots	27.00	26.59	26.33	26.05	-3.01	23.58	23.32	23.04
EGPRS (8PSK)	1Tx slot	27.00	26.92	26.41	26.87	-9.03	17.89	17.38	17.84
	2Tx slots	25.00	24.96	24.26	24.52	-6.02	18.94	18.24	18.50
	3Tx slots	25.00	24.18	24.21	24.80	-4.26	19.92	19.95	20.54
	4Tx slots	25.00	24.30	24.48	24.87	-3.01	21.29	21.47	21.86
Note: 1) Division Factors To average the power, the division factor is as follows: 1Tx-slot = 1 transmit time slot out of 8 time slots=> conducted power divided by (8/1) => -9.03dB 2Tx-slots = 2 transmit time slots out of 8 time slots=> conducted power divided by (8/2) => -6.02dB 3Tx-slots = 3 transmit time slots out of 8 time slots=> conducted power divided by (8/3) => -4.26dB 4Tx-slots = 4 transmit time slots out of 8 time slots=> conducted power divided by (8/4) => -3.01dB									

8.2 WCDMA

Mode		Maximum Tune-up(dBm)	WCDMA Band II		
			Conducted Power (dBm)		
			CH9262	CH9400	CH9538
			1852.4	1880.0	1907.6
RMC 12.2K		23.50	22.98	23.04	23.06
HSDPA	Subtest-1	23.50	23.07	22.71	22.60
	Subtest-2	23.50	23.08	22.82	23.10
	Subtest-3	23.50	22.75	23.14	23.09
	Subtest-4	23.50	23.43	23.18	23.34
HSUPA	Subtest-1	24.00	22.66	23.54	22.80
	Subtest-2	24.00	23.58	23.16	23.46
	Subtest-3	23.50	22.93	22.97	23.12
	Subtest-4	23.50	23.12	23.06	22.90
	Subtest-5	23.50	22.62	23.12	23.38
Mode		Maximum Tune-up(dBm)	WCDMA Band IV		
			Conducted Power (dBm)		
			CH1312	CH1413	CH1513
			1712.4	1732.6	1752.6
RMC 12.2K		23.50	23.09	23.27	23.10
HSDPA	Subtest-1	23.50	21.60	21.69	23.27
	Subtest-2	24.00	23.21	23.15	23.52
	Subtest-3	23.50	22.30	23.11	22.93
	Subtest-4	24.00	23.34	22.01	23.50
HSUPA	Subtest-1	23.00	22.41	22.77	22.83
	Subtest-2	23.50	23.13	21.62	22.41
	Subtest-3	23.50	21.74	23.13	22.13
	Subtest-4	22.50	22.21	22.00	22.31
	Subtest-5	23.50	21.88	23.31	22.69
Mode		Maximum Tune-up(dBm)	WCDMA Band V		
			Conducted Power (dBm)		
			CH4132	CH4183	CH4233
			826.4	836.6	846.6
RMC 12.2K		23.00	22.63	22.41	22.77
HSDPA	Subtest-1	23.50	23.42	22.70	23.36
	Subtest-2	24.00	23.51	21.71	22.01
	Subtest-3	23.50	21.97	23.13	23.46
	Subtest-4	24.00	23.60	22.36	22.13
HSUPA	Subtest-1	23.50	23.46	23.09	23.23
	Subtest-2	23.00	21.89	21.89	22.55
	Subtest-3	23.50	23.41	22.88	22.12
	Subtest-4	23.50	22.36	23.30	23.18
	Subtest-5	24.00	22.20	23.32	23.54
Per KDB 941225 D01, when the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤1/2dB higher than the primary mode (RMC12.2kbps) or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode.					

8.3 LTE

Band 2

LTE-FDD Band 2				Maximum Tune-up(dBm)	Conducted Power(dBm)		
Bandwidth	Modulation	RB allocation	RB offset		18607	18900	19193
					1850.7MHz	1880.0MHz	1909.3MHz
1.4MHz	QPSK	1	0	22.50	21.49	21.63	22.19
			2	22.50	21.37	22.23	21.61
			5	22.00	21.33	21.54	21.87
		3	0	22.50	22.04	21.81	21.45
			2	22.00	21.37	21.79	21.98
			3	22.50	22.16	21.75	21.93
		6	0	22.50	21.72	22.07	21.75
	16QAM	1	0	22.00	21.70	21.53	21.84
			2	22.00	21.67	21.46	21.32
			5	22.50	22.02	21.91	21.58
		3	0	22.00	21.95	21.78	21.33
			2	22.50	21.69	21.37	22.06
			3	22.00	21.64	21.51	21.32
		6	0	22.50	22.01	22.01	21.83
Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	18615	18900	19185
					1851.5MHz	1880.0MHz	1908.5MHz
3MHz	QPSK	1	0	22.00	21.83	21.99	21.95
			7	22.50	22.05	22.13	21.80
			14	22.50	21.99	22.02	21.86
		8	0	22.50	22.19	21.30	22.20
			4	22.00	21.60	21.66	21.44
			7	22.50	22.21	22.05	22.18
		15	0	22.50	21.37	21.57	22.23
	16QAM	1	0	22.50	21.65	22.00	21.42
			7	22.50	22.04	21.35	21.93
			14	22.00	21.43	21.82	21.56
		8	0	22.00	21.78	21.84	21.75
			4	22.50	21.78	22.01	21.55
			7	22.50	21.71	21.55	22.10
		15	0	22.50	21.62	21.92	22.07
Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	18625	18900	19175
					1852.5MHz	1880.0MHz	1907.5MHz
5MHz	QPSK	1	0	22.50	21.52	22.04	21.66
			13	22.50	21.33	22.15	21.70
			24	22.00	21.99	21.32	21.74
		12	0	22.50	21.44	22.07	21.89
			6	22.50	22.19	22.14	21.84
			13	22.50	22.14	21.58	21.50
		25	0	22.00	21.93	21.86	21.48
	16QAM	1	0	22.00	21.60	21.84	21.84
			13	22.00	21.93	21.89	21.60
			24	22.00	21.35	21.68	21.78
		12	0	22.50	21.79	21.38	22.14
			6	22.00	21.44	21.33	21.97
			13	22.50	22.07	21.53	21.40
		25	0	22.50	22.01	21.84	22.16

LTE-FDD Band 2				Maximum Tune-up(dBm)	Conducted Power(dBm)					
Bandwidth	Modulation	RB allocation	RB offset		18650	18900	19150			
					1855.0MHz	1880.0MHz	1905.0MHz			
10MHz	QPSK	1	0	22.50	22.07	22.18	22.25			
			25	22.00	21.98	21.51	21.80			
			49	22.50	21.69	22.07	22.19			
		25	0	22.00	21.43	21.71	21.47			
			13	22.50	21.96	21.94	22.13			
			25	22.50	21.92	22.04	22.05			
		50	0	22.00	21.82	21.54	21.94			
			16QAM	1	0	22.50	22.13	22.08	22.18	
					25	22.50	21.87	21.73	22.27	
	49	22.50			22.19	21.49	22.10			
	25	0		22.00	21.79	21.49	21.65			
		13		22.50	22.13	21.80	21.43			
		25		22.50	21.33	22.16	22.18			
	50	0		22.50	21.55	22.02	21.89			
		Bandwidth		Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	18675	18900	19125
								1857.5MHz	1880.0MHz	1902.5MHz
	15MHz	QPSK	1	0	22.50	22.23	22.03	22.20		
				38	22.50	21.41	21.36	22.02		
74				22.50	21.57	22.19	21.66			
36			0	22.50	21.54	21.83	22.10			
			18	22.50	21.87	21.90	22.08			
			39	22.50	21.37	22.22	21.32			
75			0	22.00	21.56	21.75	21.47			
			16QAM	1	0	22.00	21.58	21.78	21.80	
					38	22.50	22.27	22.26	21.54	
74		22.50			22.05	21.92	21.89			
36		0		22.50	21.76	21.74	22.00			
		18		22.00	21.63	21.83	21.79			
		39		22.50	22.15	22.09	21.95			
75		0		22.50	22.28	21.95	21.89			
		Bandwidth		Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	18700	18900	19100
								1860.0MHz	1880.0MHz	1900.0MHz
20MHz		QPSK	1	0	22.50	21.81	22.14	22.10		
				50	22.50	22.10	21.68	22.01		
	99			22.00	21.63	21.44	21.67			
	50		0	22.00	21.51	21.82	21.80			
			25	22.50	21.82	21.98	22.14			
			50	22.00	21.90	21.99	21.99			
	100		0	22.50	21.80	22.02	21.71			
			16QAM	1	0	22.50	21.36	22.13	21.65	
					50	22.00	21.48	21.82	21.41	
	99	22.50			21.36	21.32	22.21			
	50	0		22.00	21.91	21.32	21.95			
		25		22.00	21.87	21.69	21.86			
		50		22.50	21.97	22.03	21.60			
	100	0		22.00	21.87	21.62	21.62			

Band 4

LTE-FDD Band 4				Maximum Tune-up(dBm)	Conducted Power(dBm)		
Bandwidth	Modulation	RB allocation	RB offset		19957 1710.7MHz	20175 1732.5MHz	20393 1754.3MHz
1.4MHz	QPSK	1	0	22.00	21.57	21.45	21.77
			2	22.50	21.77	22.20	21.75
			5	22.50	22.06	21.45	21.83
		3	0	22.00	21.73	21.63	21.72
			2	22.50	21.62	21.91	22.28
			3	22.50	22.03	21.80	22.00
		6	0	22.00	21.41	21.97	21.70
	16QAM	1	0	22.50	21.85	21.74	22.17
			2	22.50	21.69	21.80	22.24
			5	22.00	21.92	21.69	21.74
		3	0	22.00	21.90	21.30	21.61
			2	22.50	22.28	21.74	21.33
			3	22.00	21.82	21.51	21.64
		6	0	22.50	22.01	21.54	22.09
Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	19965 1711.5MHz	20175 1732.5MHz	20385 1753.5MHz
3MHz	QPSK	1	0	22.00	21.82	21.41	21.63
			7	22.50	21.51	21.78	22.06
			14	22.50	22.06	21.33	21.64
		8	0	22.50	22.29	22.02	21.64
			4	22.50	21.61	21.67	22.23
			7	22.50	21.37	21.33	22.20
		15	0	22.00	21.93	21.42	21.94
	16QAM	1	0	22.50	22.00	21.98	21.60
			7	22.50	22.02	21.45	21.53
			14	22.50	22.23	21.98	21.88
		8	0	22.50	21.65	21.64	22.29
			4	22.50	22.14	21.90	21.88
			7	22.50	21.60	21.37	22.08
		15	0	22.00	21.79	21.61	21.95
Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	19976 1712.5MHz	20175 1732.5MHz	20375 1752.5MHz
5MHz	QPSK	1	0	22.50	22.12	21.99	21.50
			13	22.50	22.21	21.78	21.73
			24	22.50	21.31	22.02	21.78
		12	0	22.50	21.48	21.59	22.06
			6	22.50	22.15	22.10	21.90
			13	21.50	21.40	21.44	21.46
		25	0	22.50	21.35	22.03	21.80
	16QAM	1	0	22.50	21.48	22.19	21.73
			13	22.00	21.72	21.98	21.41
			24	22.50	22.17	21.55	22.26
		12	0	22.50	21.53	21.66	22.23
			6	22.50	21.95	21.72	22.25
			13	22.00	21.89	21.97	21.41
		25	0	22.50	21.75	21.30	22.28

LTE-FDD Band 4				Maximum Tune-up(dBm)	Conducted Power(dBm)		
Bandwidth	Modulation	RB allocation	RB offset		20000	20175	20350
					1715.0MHz	1732.5MHz	1750.0MHz
10MHz	QPSK	1	0	22.50	21.37	21.62	22.15
			25	22.00	21.69	21.64	21.78
			49	22.00	21.88	21.49	21.39
		25	0	22.50	22.04	21.78	21.98
			13	22.50	22.02	22.11	22.29
			25	22.50	21.98	22.09	22.15
		50	0	22.00	21.86	21.41	21.37
	16QAM	1	0	22.50	22.25	21.91	21.79
			25	22.00	21.85	21.44	21.61
			49	22.50	22.17	21.65	21.85
		25	0	22.50	21.34	22.07	21.72
			13	22.00	21.47	21.75	21.44
			25	22.50	22.20	21.60	22.23
		50	0	22.00	21.37	21.65	21.32
Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	20025	20175	20325
					1717.5MHz	1732.5MHz	1747.5MHz
15MHz	QPSK	1	0	22.50	22.21	21.81	21.83
			38	22.50	22.21	22.26	21.34
			74	22.50	21.56	22.22	21.94
		36	0	22.00	21.85	21.39	21.79
			18	22.50	21.78	21.83	22.30
			39	22.50	22.16	22.01	21.87
		75	0	22.00	21.34	21.55	21.42
	16QAM	1	0	22.00	21.42	21.56	21.39
			38	22.50	21.79	22.11	21.53
			74	22.50	21.87	22.04	22.27
		36	0	22.00	21.64	21.93	21.31
			18	22.00	21.44	21.79	21.98
			39	22.50	22.07	21.92	21.35
		75	0	22.50	22.22	22.14	21.36
Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	20050	20175	20300
					1720.0MHz	1732.5MHz	1745.0MHz
20MHz	QPSK	1	0	22.50	22.15	21.80	21.88
			50	22.50	21.88	22.03	21.33
			99	22.00	21.31	21.39	21.60
		50	0	22.00	21.51	21.62	21.57
			25	22.50	21.47	21.62	22.07
			50	22.00	21.95	21.34	21.94
		100	0	22.00	21.98	21.94	21.61
	16QAM	1	0	22.50	22.15	22.11	21.37
			50	22.50	21.31	21.97	22.01
			99	22.50	22.05	21.33	22.20
		50	0	22.50	21.59	22.01	21.54
			25	22.50	22.23	22.16	21.50
			50	22.50	21.72	21.48	22.01
		100	0	22.50	22.21	21.48	21.92

Band 5

LTE-FDD Band 5				Maximum Tune-up(dBm)	Conducted Power(dBm)		
Bandwidth	Modulation	RB allocation	RB offset		20407	20525	20643
					824.7MHz	836.5MHz	848.3MHz
1.4MHz	QPSK	1	0	22.50	22.07	21.53	21.40
			2	22.50	21.33	21.93	22.06
			5	22.00	21.61	21.62	21.83
		3	0	22.50	22.29	21.42	22.10
			2	22.50	22.29	21.50	21.85
			3	22.50	21.62	22.27	21.92
		6	0	22.50	21.70	22.16	21.47
	16QAM	1	0	22.50	21.90	21.43	22.27
			2	22.50	22.16	21.49	21.58
			5	22.50	21.44	21.85	22.17
		3	0	22.50	21.79	22.15	21.59
			2	22.00	21.66	21.33	21.87
			3	22.00	21.98	21.79	21.90
		6	0	22.50	21.81	21.62	22.22
Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	20415	20525	20635
					825.5MHz	836.5MHz	847.5MHz
3MHz	QPSK	1	0	22.00	21.86	21.41	21.33
			7	22.00	21.36	21.82	21.39
			14	22.50	21.34	21.61	22.13
		8	0	22.00	21.67	21.37	21.59
			4	22.00	21.81	21.83	21.87
			7	22.00	21.81	21.80	21.32
		15	0	22.00	21.37	21.85	21.41
	16QAM	1	0	22.50	21.46	22.21	22.07
			7	22.50	22.24	21.71	21.64
			14	22.50	22.06	21.88	21.82
		8	0	22.50	21.85	22.21	22.29
			4	22.00	21.49	21.65	21.55
			7	22.50	21.51	21.70	22.26
		15	0	22.50	22.06	21.72	22.20

LTE-FDD Band 5				Maximum Tune-up(dBm)	Conducted Power(dBm)			
Bandwidth	Modulation	RB allocation	RB offset		20425	20525	20625	
					826.5MHz	836.5MHz	846.5MHz	
5MHz	QPSK	1	0	22.50	22.26	21.78	21.68	
			13	22.50	22.19	21.98	22.17	
			24	22.00	21.96	21.43	21.70	
		12	0	22.50	22.09	22.24	22.17	
			6	22.50	22.05	21.95	21.35	
			13	22.50	22.13	21.66	22.14	
		25	0	22.50	22.14	22.06	21.32	
		16QAM	1	0	22.50	21.34	21.30	22.06
				13	22.50	22.15	22.26	21.31
	24			22.50	21.61	22.02	21.54	
	12		0	22.50	22.22	22.16	22.01	
			6	22.50	21.30	22.19	21.53	
	13	22.00	21.57	21.73	21.69			
	25	0	22.50	22.21	21.51	22.09		
Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	20450	20525	20600	
					829.0MHz	836.5MHz	844.0MHz	
10MHz	QPSK	1	0	22.00	21.53	21.46	21.55	
			25	22.50	22.12	21.94	21.52	
			49	22.50	21.41	21.55	22.26	
		25	0	22.00	21.86	21.98	21.96	
			13	22.00	21.81	21.51	21.56	
			25	22.50	22.29	22.29	21.84	
		50	0	22.50	21.78	22.22	21.66	
	16QAM	1	0	22.50	22.00	21.68	21.40	
			25	22.50	21.85	21.95	22.12	
			49	22.50	21.42	22.03	21.90	
		25	0	22.50	21.62	21.74	22.29	
			13	22.50	21.86	22.20	22.00	
			25	22.50	21.40	22.28	21.96	
		50	0	22.00	21.53	21.84	21.45	

Band 7

LTE-FDD Band 7				Maximum Tune-up(dBm)	Conducted Power(dBm)			
Bandwidth	Modulation	RB allocation	RB offset		20775	21100	21425	
					2502.5MHz	2535.0MHz	2567.5MHz	
5MHz	QPSK	1	0	22.50	21.43	22.12	22.10	
			13	22.00	21.59	21.81	21.46	
			24	22.50	22.04	21.96	22.02	
		12	0	22.50	21.59	22.00	22.20	
			6	22.00	21.44	21.82	21.87	
			13	22.00	21.67	21.52	21.53	
		25	0	22.50	21.41	21.50	22.26	
		16QAM	1	0	22.00	21.69	21.43	21.52
				13	22.50	22.17	21.73	22.02
	24			22.50	21.76	22.18	21.44	
	12		0	22.50	22.07	22.09	21.58	
			6	22.50	21.86	21.61	22.07	
			13	22.50	21.49	22.13	22.04	
	25	0	22.50	22.12	21.76	22.08		
Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	20800	21100	21400	
					2505.0MHz	2535.0MHz	2565.0MHz	
10MHz	QPSK	1	0	22.50	22.14	21.53	21.98	
			25	22.50	21.64	21.35	22.05	
			49	22.00	21.98	21.49	21.46	
		25	0	22.00	21.71	21.93	21.31	
			13	22.50	21.53	21.78	22.21	
			25	22.50	22.15	21.43	21.54	
		50	0	22.00	21.69	21.90	21.52	
	16QAM	1	0	22.50	21.39	21.31	22.09	
			25	22.50	22.16	21.76	21.99	
			49	22.00	21.39	21.97	21.83	
		25	0	22.50	22.30	21.63	21.81	
			13	22.50	21.42	22.02	21.49	
			25	22.50	21.58	22.07	21.74	
		50	0	22.50	22.06	21.96	21.39	

LTE-FDD Band 7				Maximum Tune-up(dBm)	Conducted Power(dBm)		
Bandwidth	Modulation	RB allocation	RB offset		20825	21100	21375
					2057.5MHz	2535.0MHz	2562.5MHz
15MHz	QPSK	1	0	22.00	21.92	21.61	21.56
			38	22.50	21.53	21.97	22.09
			74	22.50	22.30	21.52	21.82
		36	0	22.00	21.95	21.32	21.44
			18	22.50	22.10	21.58	22.11
			39	22.50	21.95	22.17	21.38
		75	0	22.50	21.74	22.25	22.15
	16QAM	1	0	22.00	21.87	21.88	21.38
			38	22.00	21.88	21.77	21.64
			74	22.00	21.72	21.88	21.84
		36	0	22.50	22.19	21.39	22.20
			18	22.00	21.73	21.50	21.67
			39	22.50	21.71	22.14	21.90
		75	0	22.50	22.28	22.24	21.95
Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	21350	21100	21350
					2560.0MHz	2535.0MHz	2560.0MHz
20MHz	QPSK	1	0	22.50	21.92	21.86	22.07
			50	22.50	22.12	21.95	21.88
			99	22.50	22.08	22.17	21.36
		50	0	22.50	21.97	21.76	22.03
			25	22.00	21.87	21.33	21.75
			50	22.00	21.73	21.80	21.88
		100	0	22.50	21.49	22.10	22.13
	16QAM	1	0	22.50	22.24	21.50	21.77
			50	22.00	21.42	21.90	21.72
			99	22.00	21.82	21.76	21.38
		50	0	22.00	21.54	21.56	21.72
			25	22.50	22.28	21.54	21.70
			50	22.00	21.98	21.75	21.44
		100	0	22.50	21.37	21.74	22.24

Band 38

LTE-TDD Band 38				Maximum Tune-up(dBm)	Conducted Power(dBm)		
Bandwidth	Modulation	RB allocation	RB offset		37775 2572.5MHz	38000 2595.0MHz	38225 2617.5MHz
5MHz	QPSK	1	0	22.50	21.69	22.06	21.68
			13	22.50	21.60	22.01	21.60
			24	22.00	21.43	21.94	21.64
		12	0	22.50	22.17	21.33	22.21
			6	22.00	21.78	21.37	21.52
			13	22.50	21.93	22.16	22.07
		25	0	22.50	21.62	22.14	22.23
	16QAM	1	0	21.50	21.35	21.39	21.39
			13	22.50	21.41	21.40	22.15
			24	22.50	22.25	21.51	21.67
		12	0	22.50	21.87	22.18	21.54
			6	22.00	21.44	21.67	21.55
			13	22.50	21.95	22.14	21.86
		25	0	22.50	22.25	22.24	22.12
Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	37800 2575.0MHz	38000 2595.0MHz	38200 2615.0MHz
10MHz	QPSK	1	0	22.50	22.03	21.92	21.48
			25	22.50	22.13	21.52	21.38
			49	22.50	22.28	21.43	22.26
		25	0	22.50	22.19	22.25	21.61
			13	22.00	21.53	21.31	21.93
			25	22.50	22.23	22.12	21.35
		50	0	22.50	22.04	21.51	21.90
	16QAM	1	0	22.00	21.48	21.48	21.91
			25	22.50	22.18	21.82	22.12
			49	22.50	21.78	21.53	22.26
		25	0	22.50	21.96	22.16	21.31
			13	22.00	21.42	21.85	21.50
			25	22.50	22.23	21.85	21.81
		50	0	22.50	21.68	21.68	22.23

LTE-TDD Band 38				Maximum Tune-up(dBm)	Conducted Power(dBm)		
Bandwidth	Modulation	RB allocation	RB offset		37825	38000	38175
					2577.5MHz	2595.0MHz	2612.5MHz
15MHz	QPSK	1	0	22.00	21.99	21.62	21.91
			38	22.50	22.29	21.65	22.05
			74	22.50	22.24	21.76	21.92
		36	0	22.50	22.25	21.33	21.48
			18	22.00	21.79	21.32	21.50
			39	22.00	21.39	21.94	21.45
		75	0	22.50	21.62	21.53	22.17
	16QAM	1	0	22.50	22.12	21.82	22.15
			38	22.50	22.23	22.25	22.03
			74	22.50	22.27	21.93	22.27
		36	0	22.50	21.74	22.30	21.94
			18	22.50	22.14	21.82	22.28
			39	22.00	21.67	21.50	21.66
		75	0	22.50	21.54	22.28	21.51
Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	37850	38000	38150
					2580.0MHz	2595.0MHz	2610.0MHz
20MHz	QPSK	1	0	22.50	22.01	21.37	21.86
			50	22.50	21.89	22.08	21.64
			99	22.00	21.78	21.69	21.65
		50	0	22.50	22.17	21.39	21.59
			25	22.00	21.70	21.71	21.83
			50	22.50	22.11	21.28	21.90
		100	0	22.50	22.14	21.93	21.33
	16QAM	1	0	22.50	22.16	21.58	21.86
			50	22.50	22.09	21.48	21.69
			99	22.00	21.75	21.44	21.40
		50	0	22.00	21.34	21.77	21.45
			25	22.50	21.52	21.54	22.17
			50	22.50	21.95	22.11	21.70
		100	0	22.50	21.82	22.18	21.36

Band 41

LTE-TDD Band 41				Maximum Tune-up(dBm)	Conducted Power(dBm)		
Bandwidth	Modulation	RB allocation	RB offset		39675	40620	41565
					2498.5MHz	2593.0MHz	2687.5MHz
5MHz	QPSK	1	0	22.50	21.39	21.90	22.03
			13	22.50	21.60	21.38	21.80
			24	22.50	21.32	21.75	21.55
		12	0	22.50	22.11	22.15	22.06
			6	22.50	21.83	21.34	22.21
			13	22.50	21.71	21.71	21.92
		25	0	22.50	22.22	21.91	21.59
	16QAM	1	0	22.50	21.91	21.86	22.06
			13	22.50	21.78	21.56	21.82
			24	22.50	21.40	21.82	21.49
		12	0	22.50	22.02	21.34	22.11
			6	22.50	21.96	21.76	21.66
			13	22.50	22.16	21.93	22.25
		25	0	22.50	21.32	21.87	22.11
Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	39700	40620	41540
					2501.0MHz	2593.0MHz	2685.0MHz
10MHz	QPSK	1	0	22.50	21.72	21.44	21.78
			25	22.50	21.91	21.90	21.73
			49	22.50	22.20	21.31	21.56
		25	0	22.50	21.48	22.21	21.96
			13	22.50	21.51	21.70	21.69
			25	22.50	21.94	21.83	21.34
		50	0	22.50	22.00	21.59	21.31
	16QAM	1	0	22.50	22.02	22.15	21.48
			25	22.50	21.82	21.73	21.89
			49	22.50	21.88	22.06	22.09
		25	0	22.50	21.47	21.77	22.11
			13	22.50	21.45	22.03	21.66
			25	22.50	21.54	21.76	21.81
		50	0	22.50	21.76	21.60	21.92

LTE-TDD Band 41				Maximum Tune-up(dBm)	Conducted Power(dBm)		
Bandwidth	Modulation	RB allocation	RB offset		39725	40620	41515
					2503.5MHz	2593.0MHz	2682.5MHz
15MHz	QPSK	1	0	22.50	21.71	21.50	21.43
			38	22.50	22.00	21.42	21.46
			74	22.50	21.79	22.21	21.51
		36	0	22.50	21.60	21.46	21.76
			18	22.50	21.42	22.25	21.46
			39	22.50	21.70	22.28	22.10
		75	0	22.50	21.44	21.43	21.98
	16QAM	1	0	22.50	22.00	21.52	21.67
			38	22.50	21.89	21.62	22.17
			74	22.50	21.65	21.43	21.68
		36	0	22.50	21.78	21.89	21.55
			18	22.50	21.78	21.56	22.06
			39	22.50	21.88	21.33	21.86
		75	0	22.50	21.51	21.52	21.67
Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	39750	40620	41490
					2506.0MHz	2593.0MHz	2680.0MHz
20MHz	QPSK	1	0	22.50	21.52	22.02	22.25
			50	22.50	21.38	21.57	21.64
			99	22.00	21.43	21.54	21.33
		50	0	22.50	21.97	21.33	22.09
			25	22.50	22.22	21.40	21.62
			50	22.50	22.11	21.85	21.32
		100	0	22.50	21.59	22.17	22.04
	16QAM	1	0	22.50	22.28	21.96	22.20
			50	22.50	22.02	21.98	22.08
			99	22.50	21.77	22.05	21.80
		50	0	22.50	21.57	21.36	21.31
			25	22.50	21.48	21.54	22.15
			50	22.50	21.68	21.41	22.09
		100	0	22.50	22.26	21.30	21.74

8.4 Wi-Fi

2.4G

Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power (dBm)	Maximum Tune-up(dBm)	SAR Test Require.
2.4g Wifi (2.4~2.4835)	802.11b	1	2412	17.29	17.50	No
		6	2437	17.97	18.00	Yes
		11	2462	16.97	17.00	No
	802.11g	1	2412	18.48	18.50	No
		6	2437	18.56	19.00	No
		11	2462	17.77	18.00	No
	802.11n(HT20)	1	2412	17.60	18.00	No
		6	2437	18.04	18.50	No
		11	2462	17.28	17.50	No
	802.11n(HT40)	3	2422	18.71	19.00	No
		6	2437	18.61	19.00	No
		9	2452	18.24	18.50	No

Note: SAR is not required for the following 2.4 GHz OFDM conditions as the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is $\leq 1.2\text{W/kg}$.

5G

Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power (dBm)	Maximum Tune-up(dBm)	SAR Test Require.
U-NII-1 (5.150~5.250)	802.11a	36	5180	11.10	11.50	No
		48	5240	11.15	11.50	No
	802.11n(HT20)	36	5180	11.87	12.00	Yes
		48	5240	11.42	11.50	No
	802.11n(HT40)	38	5190	10.41	10.50	No
		46	5230	10.09	10.50	No
	802.11ac(VHT40)	38	5190	10.43	10.50	No
		46	5230	10.12	10.50	No
Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power (dBm)	Maximum Tune-up(dBm)	SAR Test Require.
U-NII-2a (5.250~5.350)	802.11a	52	5260	11.20	11.50	No
		64	5320	13.06	13.50	No
	802.11n(HT20)	52	5260	11.52	12.00	No
		64	5320	13.29	13.50	Yes
	802.11n(HT40)	54	5270	10.41	10.50	No
		62	5310	11.62	12.00	No
	802.11ac(VHT40)	54	5270	10.34	10.50	No
		62	5310	11.56	12.00	No
Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power (dBm)	Maximum Tune-up(dBm)	SAR Test Require.
U-NII-2c (5.470~5.725)	802.11a	100	5500	12.35	12.50	No
	802.11ac(VHT20)	140	5700	14.68	15.00	Yes
	802.11n(HT40)	102	5510	10.74	11.00	No
		134	5670	13.21	13.50	No
	802.11ac(VHT80)	122	5610	11.95	12.00	No
Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power (dBm)	Maximum Tune-up(dBm)	SAR Test Require.
U-NII-3 (5.725~5.850)	802.11a	149	5745	11.95	12.00	Yes
	802.11n(HT40)	159	5795	10.96	11.00	No

8.5 Bluetooth

EDR	Mode	Maximum Tune-up(dBm)	Average Conducted Output Power (dBm)		
			0	39	78
			2402MHz	2441MHz	2480MHz
	GFSK	10.00	9.60	7.31	6.76
	$\pi/4$ QPSK	9.00	8.61	6.19	5.72
	8DPSK	8.50	8.38	5.96	5.32
BLE	Mode	Maximum Tune-up(dBm)	Average Conducted Output Power (dBm)		
			0	20	39
			2402MHz	2440MHz	2480MHz
	1Mbps	-5.00	-6.49	-5.37	-5.73
	2Mbps	-2.50	-3.52	-2.66	-2.86

Channel	Frequency (GHz)	Max. Tune-up Power (dBm)	Max. Power (mW)	Test distance (mm)	Exclusion thresholds for 1-g SAR(mW)	RF exposure evaluation required
0	2.402	10.00	10	0	10	No
0	2.402	10.00	10	10	19	No

Note

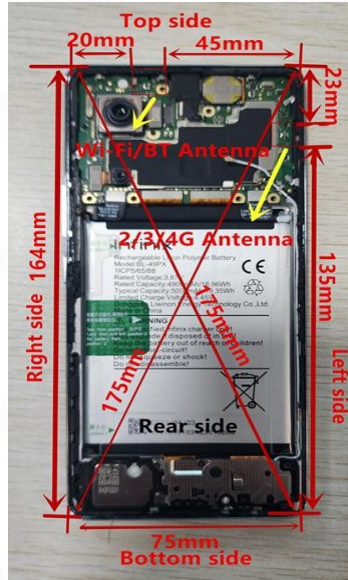
- Per KDB 447498 D01 General RF Exposure Guidance v06, the 1-g SAR Test Exclusion Thresholds for 100 MHz – 6 GHz and ≤ 50 mm are determined by:

MHz	5	10	15	20	25	mm
150	39	77	116	155	194	SAR Test Exclusion Threshold (mW)
300	27	55	82	110	137	
450	22	45	67	89	112	
835	16	33	49	66	82	
900	16	32	47	63	79	
1500	12	24	37	49	61	
1900	11	22	33	44	54	
2450	10	19	29	38	48	
3600	8	16	24	32	40	
5200	7	13	20	26	33	
5400	6	13	19	26	32	
5800	6	12	19	25	31	

- *When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine estimated SAR.
- Per KDB 248227 D01 v02r02, choose the highest output power channel to test SAR and determine further SAR exclusion.
- The output power of all data rate were prescan, just the worst case (the lowest data rate) of all mode were shown in report.

9. Test Exclusion Consideration

Antenna information:



WWAN Main Antenna	GSM/WCDMA/LTE TX/RX
WLAN/BT Antenna	WLAN/BT TX/RX
Note: 1. KDB 447498 D01v06, particular DUT edges were not required to be evaluated for SAR if the antenna-to-edge distance is greater than 2.5cm. 2. Per KDB648474 D04.10-g extremity SAR is not required when Body-Worn mode 1-g reported SAR<1.2W/Kg.	

Distance of The Antenna to the EUT surface and edge (mm)						
Antenna	Front Side (mm)	Back Side (mm)	Left Edge (mm)	Right Edge (mm)	Top Edge (mm)	Bottom Edge (mm)
WWAN	<25	<25	<25	65	<25	135
BT/Wifi	<25	<25	45	<25	<25	149
Positions for SAR tests: Hotspot mode						
Antenna	Front Side (mm)	Back Side (mm)	Left Edge (mm)	Right Edge (mm)	Top Edge (mm)	Bottom Edge (mm)
WWAN	Yes	Yes	Yes	No	Yes	No
BT/Wifi	Yes	Yes	No	Yes	Yes	No

9.1 SAR Test Exclusion Consideration Table

Per KDB 447498 requires when the standalone SAR test exclusion of section 4.3.1 is applied to an antenna that transmits simultaneously with other antennas, the standalone SAR must be estimated according to the following format to determine simultaneous transmission SAR test exclusion:

$$(\text{max.power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm}) \cdot [\sqrt{f(\text{GHz})} / x]$$

W/kg for test separation distances ≤ 50 mm;

where $x = 7.5$ for 1-g SAR, and $x = 18.75$ for 10-g SAR.

0.4 W/Kg for 1-g SAR and 1.0 W/kg for 10-g SAR, when the test separation distances is > 50 mm

Mode	Channel	Frequency (GHz)	Max tune-up power (dBm)	Max. Power (mW)	Exposure Position	Head	Body-worn
					Test Dist.(mm)		
BT	0	2.402	10	10	Estimated SAR(W/kg)	0.413	0.207

10. Test Result

GSM

Head(0mm gap)												
Mode	Position	Ch.	Freq. (MHz)	Power Drift (%)	1g Meas. SAR (W/kg)	Duty cycle (%)	Duty cycle Factor	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
GSM 850 (voice)	Left Cheek	251	848.8	0.550	0.358	100.00	1.000	32.73	33.00	1.064	0.381	1#
	Left Tilt	251	848.8	0.212	0.147	100.00	1.000	32.73	33.00	1.064	0.156	/
	Right Cheek	251	848.8	0.225	0.226	100.00	1.000	32.73	33.00	1.064	0.240	/
	Right Tilt	251	848.8	0.012	0.127	100.00	1.000	32.73	33.00	1.064	0.135	/
Body(hotspot open, 10mm Gap)												
Mode	Position	Ch.	Freq. (MHz)	Power Drift (%)	1g Meas. SAR (W/kg)	Duty cycle (%)	Duty cycle Factor	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
GPRS 850+4slots	Front	251	848.8	-0.254	0.445	100.00	1.000	29.76	30.00	1.057	0.470	/
	Back	251	848.8	0.365	0.563	100.00	1.000	29.76	30.00	1.057	0.595	2#
	Left	251	848.8	0.445	0.425	100.00	1.000	29.76	30.00	1.057	0.449	/
	Top	251	848.8	0.245	0.520	100.00	1.000	29.76	30.00	1.057	0.550	/

Head(0mm gap)												
Mode	Position	Ch.	Freq. (MHz)	Power Drift (%)	1g Meas. SAR (W/kg)	Duty cycle (%)	Duty cycle Factor	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
GSM 1900 (voice)	Left Cheek	512	1850.2	0.234	0.456	100.00	1.000	29.63	30.00	1.089	0.497	/
	Left Tilt	512	1850.2	0.114	0.249	100.00	1.000	29.63	30.00	1.089	0.271	/
	Right Cheek	512	1850.2	0.656	0.724	100.00	1.000	29.63	30.00	1.089	0.788	3#
	Right Tilt	512	1850.2	2.000	0.345	100.00	1.000	29.63	30.00	1.089	0.376	/
Body(hotspot open, 10mm Gap)												
Mode	Position	Ch.	Freq. (MHz)	Power Drift (%)	1g Meas. SAR (W/kg)	Duty cycle (%)	Duty cycle Factor	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
GPRS 1900+4slots	Front	512	1850.2	-0.365	0.536	100.00	1.000	26.59	27.00	1.099	0.589	/
	Back	512	1850.2	0.444	0.602	100.00	1.000	26.59	27.00	1.099	0.662	/
	Left	512	1850.2	0.100	0.501	100.00	1.000	26.59	27.00	1.099	0.551	/
	Top	512	1850.2	0.001	0.743	100.00	1.000	26.59	27.00	1.099	0.750	4#
	Top	661	1880.0	-1.250	0.711	100.00	1.000	26.33	26.50	1.040	0.739	/
	Top	810	1909.8	1.500	0.698	100.00	1.000	26.05	26.50	1.109	0.774	/

WCDMA

Head(0mm gap)												
Mode	Position	Ch.	Freq. (MHz)	Power Drift (%)	1g Meas. SAR (W/kg)	Duty cycle (%)	Duty cycle Factor	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
WCDMA Band 2 (RMC*)	Left Cheek	9538	1907.6	0.224	0.444	100.00	1.000	23.06	23.50	1.107	0.492	/
	Left Tilt	9538	1907.6	0.325	0.210	100.00	1.000	23.06	23.50	1.107	0.232	/
	Right Cheek	9538	1907.6	0.110	0.498	100.00	1.000	23.06	23.50	1.107	0.551	5#
	Right Tilt	9538	1907.6	0.002	0.239	100.00	1.000	23.06	23.50	1.107	0.265	/
Body(hotspot open, 10mm Gap)												
Mode	Position	Ch.	Freq. (MHz)	Power Drift (%)	1g Meas. SAR (W/kg)	Duty cycle (%)	Duty cycle Factor	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
WCDMA Band 2 (RMC*)	Front	9538	1907.6	0.154	0.502	100.00	1.000	23.06	23.50	1.107	0.556	6#
	Back	9538	1907.6	0.365	0.498	100.00	1.000	23.06	23.50	1.107	0.551	/
	Left	9538	1907.6	0.458	0.365	100.00	1.000	23.06	23.50	1.107	0.404	/
	Top	9538	1907.6	0.991	0.245	100.00	1.000	23.06	23.50	1.107	0.271	/
Head(0mm gap)												
Mode	Position	Ch.	Freq. (MHz)	Power Drift (%)	1g Meas. SAR (W/kg)	Duty cycle (%)	Duty cycle Factor	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
WCDMA Band 4 (RMC*)	Left Cheek	1413	1732.6	0.220	0.222	100.00	1.000	23.27	23.50	1.054	0.234	/
	Left Tilt	1413	1732.6	0.120	0.136	100.00	1.000	23.27	23.50	1.054	0.143	/
	Right Cheek	1413	1732.6	0.119	0.398	100.00	1.000	23.27	23.50	1.054	0.419	7#
	Right Tilt	1413	1732.6	0.325	0.145	100.00	1.000	23.27	23.50	1.054	0.153	/

Body(hotspot open, 10mm Gap)												
Mode	Position	Ch.	Freq. (MHz)	Power Drift (%)	1g Meas. SAR (W/kg)	Duty cycle (%)	Duty cycle Factor	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
WCDMA Band 4 (RMC*)	Front	1413	1732.6	0.662	0.425	100.00	1.000	23.27	23.50	1.054	0.448	/
	Back	1413	1732.6	0.325	0.498	100.00	1.000	23.27	23.50	1.054	0.525	8#
	Left	1413	1732.6	0.454	0.401	100.00	1.000	23.27	23.50	1.054	0.423	/
	Top	1413	1732.6	0.001	0.345	100.00	1.000	23.27	23.50	1.054	0.364	/

Head(0mm gap)												
Mode	Position	Ch.	Freq. (MHz)	Power Drift (%)	1g Meas SAR (W/kg)	Duty cycle (%)	Duty cycle Factor	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
WCDMA Band 5 (RMC*)	Left Cheek	4233	846.6	0.114	0.565	100.00	1.000	22.77	23.00	1.054	0.596	/
	Left Tilt	4233	846.6	0.235	0.265	100.00	1.000	22.77	23.00	1.054	0.279	/
	Right Cheek	4233	846.6	0.145	0.625	100.00	1.000	22.77	23.00	1.054	0.659	9#
	Right Tilt	4233	846.6	0.662	0.354	100.00	1.000	22.77	23.00	1.054	0.373	/
Body(hotspot open, 10mm Gap)												
Mode	Position	Ch.	Freq. (MHz)	Power Drift (%)	1g Meas SAR (W/kg)	Duty cycle (%)	Duty cycle Factor	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
WCDMA Band 5 (RMC*)	Front	4233	846.6	0.002	0.448	100.00	1.000	22.77	23.00	1.054	0.472	10#
	Back	4233	846.6	0.325	0.345	100.00	1.000	22.77	23.00	1.054	0.364	/
	Left	4233	846.6	0.454	0.398	100.00	1.000	22.77	23.00	1.054	0.419	/
	Top	4233	846.6	0.658	0.256	100.00	1.000	22.77	23.00	1.054	0.270	/

LTE

Head(0mm gap)													
Mode	Channel Type	Position	Ch.	Freq. (MHz)	Power Drift (%)	1g Meas SAR (W/kg)	Duty cycle (%)	Duty cycle Factor	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Band 2 (BW: 20MHz)	1RB	Left Cheek	18900	1880.0	0.442	0.335	100.00	1.000	22.14	22.50	1.086	0.364	11#
		Left Tilt	18900	1880.0	0.125	0.163	100.00	1.000	22.14	22.50	1.086	0.177	/
		Right Cheek	18900	1880.0	0.110	0.298	100.00	1.000	22.14	22.50	1.086	0.324	/
		Right Tilt	18900	1880.0	0.587	0.145	100.00	1.000	22.14	22.50	1.086	0.157	/
	50%RB	Left Cheek	18900	1880.0	-0.332	0.330	100.00	1.000	21.99	22.00	1.002	0.331	/
		Left Tilt	18900	1880.0	0.221	0.123	100.00	1.000	21.99	22.00	1.002	0.123	/
		Right Cheek	18900	1880.0	0.225	0.298	100.00	1.000	21.99	22.00	1.002	0.299	/
		Right Tilt	18900	1880.0	0.101	0.225	100.00	1.000	21.99	22.00	1.002	0.225	/
Body(hotspot open, 10mm Gap)													
Mode	Channel Type	Position	Ch.	Freq. (MHz)	Power Drift (%)	1g Meas SAR (W/kg)	Duty cycle (%)	Duty cycle Factor	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Band 2 (BW: 20MHz)	1RB	Front	18900	1880.0	0.225	0.432	100.00	1.000	22.14	22.50	1.086	0.469	12#
		Back	18900	1880.0	0.101	0.338	100.00	1.000	22.14	22.50	1.086	0.367	/
		Left	18900	1880.0	2.001	0.298	100.00	1.000	22.14	22.50	1.086	0.324	/
		Top	18900	1880.0	0.545	0.265	100.00	1.000	22.14	22.50	1.086	0.288	/
	50%RB	Front	18900	1880.0	0.998	0.402	100.00	1.000	21.99	22.00	1.002	0.403	/
		Back	18900	1880.0	2.001	0.262	100.00	1.000	21.99	22.00	1.002	0.263	/
		Left	18900	1880.0	1.005	0.198	100.00	1.000	21.99	22.00	1.002	0.198	/
		Top	18900	1880.0	0.454	0.224	100.00	1.000	21.99	22.00	1.002	0.224	/

Head(0mm gap)													
Mode	Channel Type	Position	Ch.	Freq. (MHz)	Power Drift (%)	1g Meas SAR (W/kg)	Duty cycle (%)	Duty cycle Factor	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Band 4 (BW: 20MHz)	1RB	Left Cheek	20050	1720.0	0.669	0.535	100.00	1.000	22.15	22.50	1.084	0.580	13#
		Left Tilt	20050	1720.0	2.015	0.245	100.00	1.000	22.15	22.50	1.084	0.266	/
		Right Cheek	20050	1720.0	0.441	0.498	100.00	1.000	22.15	22.50	1.084	0.540	/
		Right Tilt	20050	1720.0	0.454	0.210	100.00	1.000	22.15	22.50	1.084	0.228	/
	50%RB	Left Cheek	20050	1720.0	0.110	0.444	100.00	1.000	21.95	22.00	1.012	0.449	/
		Left Tilt	20050	1720.0	0.356	0.230	100.00	1.000	21.95	22.00	1.012	0.233	/
		Right Cheek	20050	1720.0	-0.336	0.398	100.00	1.000	21.95	22.00	1.012	0.403	/
		Right Tilt	20050	1720.0	0.554	0.202	100.00	1.000	21.95	22.00	1.012	0.204	/

Body(hotspot open, 10mm Gap)													
Mode	Channel Type	Position	Ch.	Freq. (MHz)	Power Drift (%)	1g Meas SAR (W/kg)	Duty cycle (%)	Duty cycle Factor	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Band 4 (BW: 20MHz)	1RB	Front	20050	1720.0	0.698	0.635	100.00	1.000	22.15	22.50	1.084	0.688	14#
		Back	20050	1720.0	0.224	0.420	100.00	1.000	22.15	22.50	1.084	0.455	/
		Left	20050	1720.0	0.154	0.501	100.00	1.000	22.15	22.50	1.084	0.543	/
		Top	20050	1720.0	0.225	0.425	100.00	1.000	22.15	22.50	1.084	0.461	/
	50%RB	Front	20050	1720.0	0.365	0.444	100.00	1.000	21.95	22.00	1.012	0.449	/
		Back	20050	1720.0	0.114	0.465	100.00	1.000	21.95	22.00	1.012	0.471	/
		Left	20050	1720.0	2.001	0.204	100.00	1.000	21.95	22.00	1.012	0.206	/
		Top	20050	1720.0	0.658	0.235	100.00	1.000	21.95	22.00	1.012	0.238	/

Head(0mm gap)													
Mode	Channel Type	Position	Ch.	Freq. (MHz)	Power Drift (%)	1g Meas SAR (W/kg)	Duty cycle (%)	Duty cycle Factor	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Band 5 (BW: 10MHz)	1RB	Left Cheek	20600	844.0	0.554	0.569	100.00	1.000	22.26	22.50	1.057	0.601	15#
		Left Tilt	20600	844.0	0.365	0.265	100.00	1.000	22.26	22.50	1.057	0.280	/
		Right Cheek	20600	844.0	0.447	0.498	100.00	1.000	22.26	22.50	1.057	0.526	/
		Right Tilt	20600	844.0	0.658	0.216	100.00	1.000	22.26	22.50	1.057	0.228	/
	50%RB	Left Cheek	20600	844.0	0.479	0.444	100.00	1.000	21.96	22.00	1.009	0.448	/
		Left Tilt	20600	844.0	0.665	0.270	100.00	1.000	21.96	22.00	1.009	0.272	/
		Right Cheek	20600	844.0	0.401	0.348	100.00	1.000	21.96	22.00	1.009	0.351	/
		Right Tilt	20600	844.0	0.665	0.204	100.00	1.000	21.96	22.00	1.009	0.206	/

Body(hotspot open, 10mm Gap)													
Mode	Channel Type	Position	Ch.	Freq. (MHz)	Power Drift (%)	1g Meas SAR (W/kg)	Duty cycle (%)	Duty cycle Factor	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Band 5 (BW: 10MHz)	1RB	Front	20600	844.0	0.245	0.432	100.00	1.000	22.26	22.50	1.057	0.457	16#
		Back	20600	844.0	0.114	0.298	100.00	1.000	22.26	22.50	1.057	0.315	/
		Left	20600	844.0	0.587	0.399	100.00	1.000	22.26	22.50	1.057	0.422	/
		Top	20600	844.0	0.698	0.264	100.00	1.000	22.26	22.50	1.057	0.279	/
	50%RB	Front	20600	844.0	1.005	0.333	100.00	1.000	21.96	22.00	1.009	0.336	/
		Back	20600	844.0	0.454	0.198	100.00	1.000	21.96	22.00	1.009	0.200	/
		Left	20600	844.0	0.221	0.156	100.00	1.000	21.96	22.00	1.009	0.157	/
		Top	20600	844.0	1.002	0.224	100.00	1.000	21.96	22.00	1.009	0.226	/

Head(0mm gap)													
Mode	Channel Type	Position	Ch.	Freq. (MHz)	Power Drift (%)	1g Meas SAR (W/kg)	Duty cycle (%)	Duty cycle Factor	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Band 7 (BW: 20MHz)	1RB	Left Cheek	21100	2535.0	3.220	0.298	100.00	1.000	22.17	22.50	1.079	0.322	17#
		Left Tilt	21100	2535.0	0.145	0.123	100.00	1.000	22.17	22.50	1.079	0.133	/
		Right Cheek	21100	2535.0	0.220	0.246	100.00	1.000	22.17	22.50	1.079	0.265	/
		Right Tilt	21100	2535.0	0.656	0.098	100.00	1.000	22.17	22.50	1.079	0.106	/
	50%RB	Left Cheek	21100	2535.0	-0.110	0.222	100.00	1.000	21.80	22.00	1.047	0.232	/
		Left Tilt	21100	2535.0	0.365	0.094	100.00	1.000	21.80	22.00	1.047	0.098	/
		Right Cheek	21100	2535.0	0.441	0.193	100.00	1.000	21.80	22.00	1.047	0.202	/
		Right Tilt	21100	2535.0	0.225	0.075	100.00	1.000	21.80	22.00	1.047	0.079	/

Body(hotspot open, 10mm Gap)													
Mode	Channel Type	Position	Ch.	Freq. (MHz)	Power Drift (%)	1g Meas SAR (W/kg)	Duty cycle (%)	Duty cycle Factor	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Band 7 (BW: 20MHz)	1RB	Front	21100	2535.0	0.220	0.325	100.00	1.000	22.17	22.50	1.079	0.351	18#
		Back	21100	2535.0	0.145	0.248	100.00	1.000	22.17	22.50	1.079	0.268	/
		Left	21100	2535.0	0.336	0.315	100.00	1.000	22.17	22.50	1.079	0.340	/
		Top	21100	2535.0	-0.114	0.259	100.00	1.000	22.17	22.50	1.079	0.279	/
	50%RB	Front	21100	2535.0	0.658	0.325	100.00	1.000	21.80	22.00	1.047	0.340	/
		Back	21100	2535.0	0.441	0.245	100.00	1.000	21.80	22.00	1.047	0.257	/
		Left	21100	2535.0	0.665	0.216	100.00	1.000	21.80	22.00	1.047	0.226	/
		Top	21100	2535.0	0.415	0.132	100.00	1.000	21.80	22.00	1.047	0.138	/

Head(0mm gap)													
Mode	Channel Type	Position	Ch.	Freq. (MHz)	Power Drift (%)	1g Meas SAR (W/kg)	Duty cycle (%)	Duty cycle Factor	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Band 38 (BW: 20MHz)	1RB	Left Cheek	38000	2595.0	0.665	0.449	100.00	1.000	22.08	22.50	1.102	0.495	19#
		Left Tilt	38000	2595.0	0.417	0.265	100.00	1.000	22.08	22.50	1.102	0.292	/
		Right Cheek	38000	2595.0	0.787	0.378	100.00	1.000	22.08	22.50	1.102	0.417	/
		Right Tilt	38000	2595.0	0.554	0.230	100.00	1.000	22.08	22.50	1.102	0.253	/
	50%RB	Left Cheek	38000	2595.0	0.698	0.378	100.00	1.000	22.28	22.50	1.052	0.398	/
		Left Tilt	38000	2595.0	0.441	0.226	100.00	1.000	22.28	22.50	1.052	0.238	/
		Right Cheek	38000	2595.0	0.215	0.298	100.00	1.000	22.28	22.50	1.052	0.313	/
		Right Tilt	38000	2595.0	0.336	0.168	100.00	1.000	22.28	22.50	1.052	0.177	/
Body(hotspot open, 10mm Gap)													
Mode	Channel Type	Position	Ch.	Freq. (MHz)	Power Drift (%)	1g Meas SAR (W/kg)	Duty cycle (%)	Duty cycle Factor	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Band 38 (BW: 20MHz)	1RB	Front	38000	2595.0	0.478	0.398	100.00	1.000	22.08	22.50	1.102	0.439	20#
		Back	38000	2595.0	0.665	0.249	100.00	1.000	22.08	22.50	1.102	0.274	/
		Left	38000	2595.0	0.470	0.329	100.00	1.000	22.08	22.50	1.102	0.363	/
		Top	38000	2595.0	0.220	0.217	100.00	1.000	22.08	22.50	1.102	0.239	/
	50%RB	Front	38000	2595.0	0.135	0.248	100.00	1.000	22.28	22.50	1.052	0.261	/
		Back	38000	2595.0	0.656	0.236	100.00	1.000	22.28	22.50	1.052	0.248	/
		Left	38000	2595.0	0.448	0.249	100.00	1.000	22.28	22.50	1.052	0.262	/
		Top	38000	2595.0	0.225	0.118	100.00	1.000	22.28	22.50	1.052	0.124	/

Head(0mm gap)													
Mode	Channel Type	Position	Ch.	Freq. (MHz)	Power Drift (%)	1g Meas SAR (W/kg)	Duty cycle (%)	Duty cycle Factor	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Band 41 (BW: 20MHz)	1RB	Left Cheek	41490	2680.0	0.221	0.398	100.00	1.000	22.25	22.50	1.059	0.421	21#
		Left Tilt	41490	2680.0	0.545	0.165	100.00	1.000	22.25	22.50	1.059	0.175	/
		Right Cheek	41490	2680.0	0.656	0.354	100.00	1.000	22.25	22.50	1.059	0.375	/
		Right Tilt	41490	2680.0	0.114	0.139	100.00	1.000	22.25	22.50	1.059	0.147	/
	50%RB	Left Cheek	41490	2680.0	0.587	0.342	100.00	1.000	22.09	22.50	1.099	0.376	/
		Left Tilt	41490	2680.0	0.336	0.123	100.00	1.000	22.09	22.50	1.099	0.135	/
		Right Cheek	41490	2680.0	0.665	0.278	100.00	1.000	22.09	22.50	1.099	0.306	/
		Right Tilt	41490	2680.0	0.414	0.097	100.00	1.000	22.09	22.50	1.099	0.107	/
Body(hotspot open, 10mm Gap)													
Mode	Channel Type	Position	Ch.	Freq. (MHz)	Power Drift (%)	1g Meas SAR (W/kg)	Duty cycle (%)	Duty cycle Factor	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Band 41 (BW: 20MHz)	1RB	Front	41490	2680.0	3.002	0.444	100.00	1.000	22.25	22.50	1.059	0.470	/
		Back	41490	2680.0	0.114	0.496	100.00	1.000	22.25	22.50	1.059	0.525	22#
		Left	41490	2680.0	0.225	0.349	100.00	1.000	22.25	22.50	1.059	0.370	/
		Top	41490	2680.0	0.102	0.325	100.00	1.000	22.25	22.50	1.059	0.344	/
	50%RB	Front	41490	2680.0	0.558	0.278	100.00	1.000	22.09	22.50	1.099	0.306	/
		Back	41490	2680.0	0.102	0.269	100.00	1.000	22.09	22.50	1.099	0.296	/
		Left	41490	2680.0	0.665	0.187	100.00	1.000	22.09	22.50	1.099	0.206	/
		Top	41490	2680.0	0.554	0.136	100.00	1.000	22.09	22.50	1.099	0.149	/

Wifi

Head(0mm gap)												
Mode	Position	Ch.	Freq. (MHz)	Power Drift (%)	1g Meas SAR (W/kg)	Duty cycle (%)	Duty cycle Factor	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
2.4g (2.4~2.4835) 802.11b	Left Cheek	6	2437	0.335	0.328	100.00	1.000	17.97	18.00	1.007	0.330	23#
	Left Tilt	6	2437	0.656	0.242	100.00	1.000	17.97	18.00	1.007	0.244	/
	Right Cheek	6	2437	0.441	0.304	100.00	1.000	17.97	18.00	1.007	0.306	/
	Right Tilt	6	2437	0.110	0.216	100.00	1.000	17.97	18.00	1.007	0.218	/
Body(hotspot open, 10mm Gap)												
Mode	Position	Ch.	Freq. (MHz)	Power Drift (%)	1g Meas SAR (W/kg)	Duty cycle (%)	Duty cycle Factor	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
2.4g (2.4~2.4835) 802.11b	Front	6	2437	0.221	0.371	100.00	1.000	17.97	18.00	1.007	0.374	24#
	Back	6	2437	1.002	0.201	100.00	1.000	17.97	18.00	1.007	0.202	/
	Right	6	2437	0.335	0.322	100.00	1.000	17.97	18.00	1.007	0.324	/
	Top	6	2437	0.114	0.212	100.00	1.000	17.97	18.00	1.007	0.213	/

Head(0mm gap)												
Mode	Position	Ch.	Freq. (MHz)	Power Drift (%)	1g Meas SAR (W/kg)	Duty cycle (%)	Duty cycle Factor	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
U-NII-1 (5.150~5.250) 802.11n(HT20)	Left Cheek	36	5180	0.332	0.298	100.00	1.000	11.87	12.00	1.030	0.307	25#
	Left Tilt	36	5180	0.215	0.145	100.00	1.000	11.87	12.00	1.030	0.149	/
	Right Cheek	36	5180	0.665	0.226	100.00	1.000	11.87	12.00	1.030	0.233	/
	Right Tilt	36	5180	0.145	0.120	100.00	1.000	11.87	12.00	1.030	0.124	/
Body(hotspot open, 10mm Gap)												
Mode	Position	Ch.	Freq. (MHz)	Power Drift (%)	1g Meas SAR (W/kg)	Duty cycle (%)	Duty cycle Factor	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
U-NII-1 (5.150~5.250) 802.11n(HT20)	Front	36	5180	0.635	0.265	100.00	1.000	11.87	12.00	1.030	0.273	26#
	Back	36	5180	0.298	0.214	100.00	1.000	11.87	12.00	1.030	0.220	/
	Right	36	5180	0.114	0.198	100.00	1.000	11.87	12.00	1.030	0.204	/
	Top	36	5180	0.254	0.146	100.00	1.000	11.87	12.00	1.030	0.150	/

Head(0mm gap)												
Mode	Position	Ch.	Freq. (MHz)	Power Drift (%)	1g Meas SAR (W/kg)	Duty cycle (%)	Duty cycle Factor	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
U-NII-2a (5.250~5.350) 802.11n(HT20)	Left Cheek	64	5320	0.665	0.249	100.00	1.000	13.29	13.50	1.050	0.261	/
	Left Tilt	64	5320	0.145	0.165	100.00	1.000	13.29	13.50	1.050	0.173	/
	Right Cheek	64	5320	0.339	0.269	100.00	1.000	13.29	13.50	1.050	0.282	27#
	Right Tilt	64	5320	0.201	0.142	100.00	1.000	13.29	13.50	1.050	0.149	/
Body(hotspot open, 10mm Gap)												
Mode	Position	Ch.	Freq. (MHz)	Power Drift (%)	1g Meas SAR (W/kg)	Duty cycle (%)	Duty cycle Factor	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
U-NII-2a (5.250~5.350) 802.11n(HT20)	Front	64	5320	0.554	0.278	100.00	1.000	13.29	13.50	1.050	0.292	28#
	Back	64	5320	0.689	0.216	100.00	1.000	13.29	13.50	1.050	0.227	/
	Right	64	5320	0.441	0.236	100.00	1.000	13.29	13.50	1.050	0.248	/
	Top	64	5320	0.254	0.198	100.00	1.000	13.29	13.50	1.050	0.208	/

Head(0mm gap)												
Mode	Position	Ch.	Freq. (MHz)	Power Drift (%)	1g Meas SAR (W/kg)	Duty cycle (%)	Duty cycle Factor	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
U-NII-2c (5.470~5.725) 802.11ac(VHT20)	Left Cheek	140	5700	0.225	0.244	100.00	1.000	14.68	15.00	1.076	0.263	29#
	Left Tilt	140	5700	0.336	0.169	100.00	1.000	14.68	15.00	1.076	0.182	/
	Right Cheek	140	5700	0.454	0.215	100.00	1.000	14.68	15.00	1.076	0.231	/
	Right Tilt	140	5700	0.102	0.136	100.00	1.000	14.68	15.00	1.076	0.146	/
Body(hotspot open, 10mm Gap)												
Mode	Position	Ch.	Freq. (MHz)	Power Drift (%)	1g Meas SAR (W/kg)	Duty cycle (%)	Duty cycle Factor	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
U-NII-2c (5.470~5.725) 802.11ac(VHT20)	Front	140	5700	0.336	0.245	100.00	1.000	14.68	15.00	1.076	0.264	30#
	Back	140	5700	0.140	0.166	100.00	1.000	14.68	15.00	1.076	0.179	/
	Right	140	5700	0.228	0.210	100.00	1.000	14.68	15.00	1.076	0.226	/
	Top	140	5700	0.441	0.165	100.00	1.000	14.68	15.00	1.076	0.178	/

Head(0mm gap)												
Mode	Position	Ch.	Freq. (MHz)	Power Drift (%)	1g Meas SAR (W/kg)	Duty cycle (%)	Duty cycle Factor	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
U-NII-3 (5.725-5.850) 802.11a	Left Cheek	149	5745	0.659	0.230	100.00	1.000	11.95	12.00	1.012	0.233	31#
	Left Tilt	149	5745	0.554	0.152	100.00	1.000	11.95	12.00	1.012	0.154	/
	Right Cheek	149	5745	0.125	0.208	100.00	1.000	11.95	12.00	1.012	0.210	
	Right Tilt	149	5745	0.998	0.120	100.00	1.000	11.95	12.00	1.012	0.121	/
Body(hotspot open, 10mm Gap)												
Mode	Position	Ch.	Freq. (MHz)	Power Drift (%)	1g Meas SAR (W/kg)	Duty cycle (%)	Duty cycle Factor	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
U-NII-3 (5.725-5.850) 802.11a	Front	149	5745	0.656	0.198	100.00	1.000	11.95	12.00	1.012	0.200	/
	Back	149	5745	0.365	0.221	100.00	1.000	11.95	12.00	1.012	0.224	32#
	Right	149	5745	0.989	0.210	100.00	1.000	11.95	12.00	1.012	0.213	/
	Top	149	5745	0.114	0.165	100.00	1.000	11.95	12.00	1.012	0.167	/

Note:

- The maximum SAR Value of each test band is marked bold.
- SAR plot is provided only for the highest measured SAR in each exposure configuration, wireless mode and frequency band combination.
- Per KDB 447498 D01 v06, for each exposure position, if the highest output power channel Reported SAR $\leq 0.8\text{W/kg}$, other channels SAR testing is not necessary.
- Per KDB 447498 D01 v06, head/body-worn use is evaluated with the device positioned at 0mm/10 mm from a head/flat phantom respectively filled with head tissue-equivalent medium.
- Per KDB Publication 941225 D06 where SAR test considerations for handsets ($L \times W \geq 9 \text{ cm} \times 5 \text{ cm}$) are based on a composite test separation distance of 10 mm from the front, back and edges of the device with antennas 2.5 cm or closer to the edge of the device, determined from general mixed use conditions for this type of devices. Since the hotspot SAR results may overlap with the body-worn accessory SAR requirements, the more conservative configurations can be considered, thus excluding some body-worn accessory SAR tests.
- Per KDB 447498 D01 v06, the report SAR is measured SAR value adjusted for maximum tune-up tolerance. Scaling Factor= $10^{[(\text{tune-up limit power(dBm)} - \text{Ave.power power (dBm)})/10]}$, where tune-up limit is the maximum rated power among all production units.
Reported SAR(W/kg)=Measured SAR (W/kg)*Scaling Factor.

11. SAR Measurement Variability

According to KDB 865664 D01, SAR measurement variability was assessed for each frequency band, which is determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. When both head and body tissue-equivalent media are required for SAR measurements in a frequency band, the variability measurement procedures should be applied to the tissue medium with the highest measured SAR, using the highest measured SAR configuration for that tissue-equivalent medium. Alternatively, if the highest measured SAR for both head and body tissue-equivalent media are ≤ 1.45 W/kg and the ratio of these highest SAR values, i.e., largest divided by smallest value, is ≤ 1.10 , the highest SAR configuration for either head or body tissue-equivalent medium may be used to perform the repeated measurement. These additional measurements are repeated after the completion of all measurements requiring the same head or body tissue-equivalent medium in a frequency band. The test device should be returned to ambient conditions (normal room temperature) with the battery fully charged before it is re-mounted on the device holder for the repeated measurement(s) to minimize any unexpected variations in the repeated results.

SAR repeated measurement procedure:

1. When the highest measured SAR is < 0.80 W/kg, repeated measurement is not required.
2. When the highest measured SAR is ≥ 0.80 W/kg, repeat that measurement once.
3. If the ratio of largest to smallest SAR for the original and first repeated measurements is > 1.20 , or when the original or repeated measurement is ≥ 1.45 W/kg, perform a second repeated measurement.
4. If the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20 , and the original, first or second repeated measurement is ≥ 1.5 W/kg, perform a third repeated measurement.

Note: For 1g SAR, the highest measured 1g SAR is $0.736 < 0.80$ W/kg, repeated measurement is not required.

12. Simultaneous Transmission

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

12.1 Simultaneous Transmission Mode Considerations

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. The device has 2 Tx antennas, WWAN main antenna, Wifi/BT antenna supports 2.4G/5G Wi-Fi and BT. The 2 antennas can always transmit simultaneously. The work mode combination is showed as below table.

Application Simultaneous Transmission information:

NO.	Configuration	Head	Body-worn
1	WWAN+WIFI(2.4g)	Yes	Yes
2	WWAN+WIFI(5g)	Yes	Yes
3	WWAN+BT	Yes	Yes

12.2 Sum SAR of Simultaneous Transmission

Head

Band	Test Position	Scaled SAR				Σ SAR (W/kg) WWAN + WIFI 2.4G	Σ SAR (W/kg) WWAN + WIFI 5G	Σ SAR (W/kg) WWAN + BT	SPLSR	Remark
		WWAN	WIFI 2.4G	WIFI 5G	BT					
GSM850 (voice)	Left Cheek	0.381	0.330	0.307	0.413	0.711	0.688	0.794	N/A	N/A
	Left Tilt	0.156	0.244	0.182	0.413	0.400	0.338	0.569	N/A	N/A
	Right Cheek	0.240	0.306	0.282	0.413	0.546	0.522	0.653	N/A	N/A
	Right Tilt	0.135	0.218	0.149	0.413	0.353	0.284	0.548	N/A	N/A
GSM1900 (voice)	Left Cheek	0.497	0.330	0.307	0.413	0.827	0.804	0.910	N/A	N/A
	Left Tilt	0.271	0.244	0.182	0.413	0.515	0.453	0.684	N/A	N/A
	Right Cheek	0.788	0.306	0.282	0.413	1.094	1.070	1.201	N/A	N/A
	Right Tilt	0.376	0.218	0.149	0.413	0.594	0.525	0.789	N/A	N/A
WCDMA Band II	Left Cheek	0.492	0.330	0.307	0.413	0.822	0.799	0.905	N/A	N/A
	Left Tilt	0.232	0.244	0.182	0.413	0.476	0.414	0.645	N/A	N/A
	Right Cheek	0.551	0.306	0.282	0.413	0.857	0.833	0.964	N/A	N/A
	Right Tilt	0.265	0.218	0.149	0.413	0.483	0.414	0.678	N/A	N/A
WCDMA Band IV	Left Cheek	0.234	0.330	0.307	0.413	0.564	0.541	0.647	N/A	N/A
	Left Tilt	0.143	0.244	0.182	0.413	0.387	0.325	0.556	N/A	N/A
	Right Cheek	0.419	0.306	0.282	0.413	0.725	0.701	0.832	N/A	N/A
	Right Tilt	0.153	0.218	0.149	0.413	0.371	0.302	0.566	N/A	N/A
WCDMA Band V	Left Cheek	0.596	0.330	0.307	0.413	0.926	0.903	1.009	N/A	N/A
	Left Tilt	0.279	0.244	0.182	0.413	0.523	0.461	0.692	N/A	N/A
	Right Cheek	0.659	0.306	0.282	0.413	0.965	0.941	1.072	N/A	N/A
	Right Tilt	0.373	0.218	0.149	0.413	0.591	0.522	0.786	N/A	N/A

Band	Test Position	RB allocation	Scaled				Σ SAR (W/kg) WWAN + WIFI 2.4G	Σ SAR (W/kg) WWAN + WIFI 5G	Σ SAR (W/kg) WWAN + BT	SPLSR	Remark
			WWAN	WIFI 2.4G	WIFI 5G	Bluetooth					
LTE Band 2 QPSK (20MHz)	Left Cheek	1RB	0.364	0.330	0.307	0.413	0.694	0.671	0.777	N/A	N/A
	Left Tilt		0.177	0.244	0.182	0.413	0.421	0.359	0.590	N/A	N/A
	Right Cheek		0.324	0.306	0.282	0.413	0.630	0.606	0.737	N/A	N/A
	Right Tilt		0.157	0.218	0.149	0.413	0.375	0.306	0.570	N/A	N/A
	Left Cheek	50%RB	0.331	0.330	0.307	0.413	0.661	0.638	0.744	N/A	N/A
	Left Tilt		0.123	0.244	0.182	0.413	0.367	0.305	0.536	N/A	N/A
	Right Cheek		0.299	0.306	0.282	0.413	0.605	0.581	0.712	N/A	N/A
	Right Tilt		0.225	0.218	0.149	0.413	0.443	0.374	0.638	N/A	N/A
LTE Band 4 QPSK (20MHz)	Left Cheek	1RB	0.580	0.330	0.307	0.413	0.910	0.887	0.993	N/A	N/A
	Left Tilt		0.266	0.244	0.182	0.413	0.510	0.448	0.679	N/A	N/A
	Right Cheek		0.540	0.306	0.282	0.413	0.846	0.822	0.953	N/A	N/A
	Right Tilt		0.228	0.218	0.149	0.413	0.446	0.377	0.641	N/A	N/A
	Left Cheek	50%RB	0.449	0.330	0.307	0.413	0.779	0.756	0.862	N/A	N/A
	Left Tilt		0.233	0.244	0.182	0.413	0.477	0.415	0.646	N/A	N/A
	Right Cheek		0.403	0.306	0.282	0.413	0.709	0.685	0.816	N/A	N/A
	Right Tilt		0.204	0.218	0.149	0.413	0.422	0.353	0.617	N/A	N/A
LTE Band 5 QPSK (10MHz)	Left Cheek	1RB	0.601	0.330	0.307	0.413	0.931	0.908	1.014	N/A	N/A
	Left Tilt		0.280	0.244	0.182	0.413	0.524	0.462	0.693	N/A	N/A
	Right Cheek		0.526	0.306	0.282	0.413	0.832	0.808	0.939	N/A	N/A
	Right Tilt		0.228	0.218	0.149	0.413	0.446	0.377	0.641	N/A	N/A
	Left Cheek	50%RB	0.448	0.330	0.307	0.413	0.778	0.755	0.861	N/A	N/A
	Left Tilt		0.272	0.244	0.182	0.413	0.516	0.454	0.685	N/A	N/A
	Right Cheek		0.351	0.306	0.282	0.413	0.657	0.633	0.764	N/A	N/A
	Right Tilt		0.206	0.218	0.149	0.413	0.424	0.355	0.619	N/A	N/A
LTE Band 7 QPSK (20MHz)	Left Cheek	1RB	0.322	0.330	0.307	0.413	0.652	0.629	0.735	N/A	N/A
	Left Tilt		0.133	0.244	0.182	0.413	0.377	0.315	0.546	N/A	N/A
	Right Cheek		0.265	0.306	0.282	0.413	0.571	0.547	0.678	N/A	N/A
	Right Tilt		0.106	0.218	0.149	0.413	0.324	0.255	0.519	N/A	N/A
	Left Cheek	50%RB	0.232	0.330	0.307	0.413	0.562	0.539	0.645	N/A	N/A
	Left Tilt		0.098	0.244	0.182	0.413	0.342	0.280	0.511	N/A	N/A
	Right Cheek		0.202	0.306	0.282	0.413	0.508	0.484	0.615	N/A	N/A
	Right Tilt		0.079	0.218	0.149	0.413	0.297	0.228	0.492	N/A	N/A
LTE Band 38 QPSK (20MHz)	Left Cheek	1RB	0.495	0.330	0.307	0.413	0.825	0.802	0.908	N/A	N/A
	Left Tilt		0.292	0.244	0.182	0.413	0.536	0.474	0.705	N/A	N/A
	Right Cheek		0.417	0.306	0.282	0.413	0.723	0.699	0.830	N/A	N/A
	Right Tilt		0.253	0.218	0.149	0.413	0.471	0.402	0.666	N/A	N/A
	Left Cheek	50%RB	0.398	0.330	0.307	0.413	0.728	0.705	0.811	N/A	N/A
	Left Tilt		0.238	0.244	0.182	0.413	0.482	0.420	0.651	N/A	N/A
	Right Cheek		0.313	0.306	0.282	0.413	0.619	0.595	0.726	N/A	N/A
	Right Tilt		0.177	0.218	0.149	0.413	0.395	0.326	0.590	N/A	N/A

LTE Band 41 QPSK (20MHz)	Left Cheek	1RB	0.421	0.330	0.307	0.413	0.751	0.728	0.834	N/A	N/A
	Left Tilt		0.175	0.244	0.182	0.413	0.419	0.357	0.588	N/A	N/A
	Right Cheek		0.375	0.306	0.282	0.413	0.681	0.657	0.788	N/A	N/A
	Right Tilt		0.147	0.218	0.149	0.413	0.365	0.296	0.560	N/A	N/A
	Left Cheek	50%RB	0.376	0.330	0.307	0.413	0.706	0.683	0.789	N/A	N/A
	Left Tilt		0.135	0.244	0.182	0.413	0.379	0.317	0.548	N/A	N/A
	Right Cheek		0.306	0.306	0.282	0.413	0.612	0.588	0.719	N/A	N/A
	Right Tilt		0.107	0.218	0.149	0.413	0.325	0.256	0.520	N/A	N/A

Hotspot(body-worn)

Band	Test Position	Scaled SAR				Σ SAR (W/kg) WWAN + WIFI 2.4G	Σ SAR (W/kg) WWAN + WIFI 5G	Σ SAR (W/kg) WWAN + BT	SPLSR	Remark
		WWAN	WIFI 2.4G	WIFI 5G	BT					
GSM850 (GPRS 4slots)	Front	0.470	0.374	0.292	0.207	0.844	0.762	0.677	N/A	N/A
	Back	0.595	0.202	0.227	0.207	0.797	0.822	0.802	N/A	N/A
	Left	0.449	0.324	0.248	0.207	0.773	0.697	0.656	N/A	N/A
	Right	/	0.213	0.208	0.207	0.213	0.208	0.207	N/A	N/A
	Top	0.550	/	/	/	0.550	0.550	0.550	N/A	N/A
	Bottom	/	/	/	/	/	/	/	N/A	N/A
GSM1900 (GPRS 4slots)	Front	0.589	0.374	0.292	0.207	0.963	0.881	0.796	N/A	N/A
	Back	0.662	0.202	0.227	0.207	0.864	0.889	0.869	N/A	N/A
	Left	0.551	0.324	0.248	0.207	0.875	0.799	0.758	N/A	N/A
	Right	/	0.213	0.208	0.207	0.213	0.208	0.207	N/A	N/A
	Top	0.809	/	/	/	0.809	0.809	0.809	N/A	N/A
	Bottom	/	/	/	/	/	/	/	N/A	N/A
WCDMA Band II	Front	0.556	0.374	0.292	0.207	0.940	0.848	0.763	N/A	N/A
	Back	0.551	0.202	0.227	0.207	0.753	0.778	0.758	N/A	N/A
	Left	0.404	0.324	0.248	0.207	0.728	0.652	0.611	N/A	N/A
	Right	/	0.213	0.208	0.207	0.213	0.208	0.207	N/A	N/A
	Top	0.271	/	/	/	0.271	0.271	0.271	N/A	N/A
	Bottom	/	/	/	/	/	/	/	N/A	N/A
WCDMA Band IV	Front	0.448	0.374	0.292	0.207	0.822	0.740	0.655	N/A	N/A
	Back	0.525	0.202	0.227	0.207	0.727	0.752	0.732	N/A	N/A
	Left	0.423	0.324	0.248	0.207	0.747	0.671	0.630	N/A	N/A
	Right	/	0.213	0.208	0.207	0.213	0.208	0.207	N/A	N/A
	Top	0.364	/	/	/	0.364	0.364	0.364	N/A	N/A
	Bottom	/	/	/	/	/	/	/	N/A	N/A
WCDMA Band V	Front	0.472	0.374	0.292	0.207	0.846	0.764	0.679	N/A	N/A
	Back	0.364	0.202	0.227	0.207	0.566	0.591	0.571	N/A	N/A
	Left	0.419	0.324	0.248	0.207	0.743	0.667	0.626	N/A	N/A
	Right	/	0.213	0.208	0.207	0.213	0.208	0.207	N/A	N/A
	Top	0.270	/	/	/	0.270	0.270	0.270	N/A	N/A
	Bottom	/	/	/	/	/	/	/	N/A	N/A

Band	Test Position	RB allocation	Scaled				Σ SAR (W/kg) WWAN + WIFI 2.4G	Σ SAR (W/kg) WWAN + WIFI 5G	Σ SAR (W/kg) WWAN + BT	SPLSR	Remark
			WWAN	WIFI 2.4G	WIFI 5G	Bluetooth					
LTE Band 2 QPSK (20MHz)	Front	1RB	0.469	0.374	0.292	0.207	0.843	0.761	0.676	N/A	N/A
	Back		0.367	0.202	0.227	0.207	0.569	0.594	0.574	N/A	N/A
	Left		0.324	0.324	0.248	0.207	0.648	0.572	0.531	N/A	N/A
	Right		/	0.213	0.208	0.207	0.213	0.208	0.207	N/A	N/A
	Top		0.288	/	/	/	0.288	0.288	0.288	N/A	N/A
	Bottom		/	/	/	/	/	/	/	N/A	N/A
	Front	50%RB	0.403	0.374	0.292	0.207	0.777	0.695	0.610	N/A	N/A
	Back		0.263	0.202	0.227	0.207	0.465	0.490	0.470	N/A	N/A
	Left		0.198	0.324	0.248	0.207	0.522	0.446	0.405	N/A	N/A
	Right		/	0.213	0.208	0.207	0.213	0.208	0.207	N/A	N/A
	Top		0.224	/	/	/	0.224	0.224	0.224	N/A	N/A
LTE Band 4 QPSK (20MHz)	Bottom		/	/	/	/	/	/	/	N/A	N/A
	Front	1RB	0.688	0.374	0.292	0.207	1.062	0.980	0.895	N/A	N/A
	Back		0.455	0.202	0.227	0.207	0.657	0.682	0.662	N/A	N/A
	Left		0.543	0.324	0.248	0.207	0.867	0.791	0.750	N/A	N/A
	Right		/	0.213	0.208	0.207	0.213	0.208	0.207	N/A	N/A
	Top		0.461	/	/	/	0.461	0.461	0.461	N/A	N/A
	Bottom		/	/	/	/	/	/	/	N/A	N/A
	Front	50%RB	0.449	0.374	0.292	0.207	0.823	0.741	0.656	N/A	N/A
	Back		0.471	0.202	0.227	0.207	0.673	0.698	0.678	N/A	N/A
	Left		0.206	0.324	0.248	0.207	0.530	0.454	0.413	N/A	N/A
	Right		/	0.213	0.208	0.207	0.213	0.208	0.207	N/A	N/A
	Top		0.238	/	/	/	0.238	0.238	0.238	N/A	N/A
	Bottom		/	/	/	/	/	/	/	N/A	N/A

LTE Band 5 QPSK (10MHz)	Front	1RB	0.457	0.352	0.292	0.207	0.809	0.749	0.664	N/A	N/A
	Back		0.315	0.202	0.227	0.207	0.517	0.542	0.522	N/A	N/A
	Left		0.422	0.324	0.248	0.207	0.746	0.670	0.629	N/A	N/A
	Right		/	0.213	0.208	0.207	0.213	0.208	0.207	N/A	N/A
	Top		0.279	/	/	/	0.279	0.279	0.279	N/A	N/A
	Bottom		/	/	/	/	/	/	/	N/A	N/A
	Front	50%RB	0.336	0.352	0.292	0.207	0.688	0.628	0.543	N/A	N/A
	Back		0.200	0.202	0.227	0.207	0.402	0.427	0.407	N/A	N/A
	Left		0.157	0.324	0.248	0.207	0.481	0.405	0.364	N/A	N/A
	Right		/	0.213	0.208	0.207	0.213	0.208	0.207	N/A	N/A
	Top		0.226	/	/	/	0.226	0.226	0.226	N/A	N/A
	Bottom		/	/	/	/	/	/	/	N/A	N/A
LTE Band 7 QPSK (20MHz)	Front	1RB	0.351	0.352	0.292	0.207	0.703	0.643	0.558	N/A	N/A
	Back		0.268	0.202	0.227	0.207	0.470	0.495	0.475	N/A	N/A
	Left		0.340	0.324	0.248	0.207	0.664	0.588	0.547	N/A	N/A
	Right		/	0.213	0.208	0.207	0.213	0.208	0.207	N/A	N/A
	Top		0.279	/	/	/	0.279	0.279	0.279	N/A	N/A
	Bottom		/	/	/	/	/	/	/	N/A	N/A
	Front	50%RB	0.340	0.352	0.292	0.207	0.692	0.632	0.547	N/A	N/A
	Back		0.257	0.202	0.227	0.207	0.459	0.484	0.464	N/A	N/A
	Left		0.226	0.324	0.248	0.207	0.550	0.474	0.433	N/A	N/A
	Right		/	0.213	0.208	0.207	0.213	0.208	0.207	N/A	N/A
	Top		0.138	/	/	/	0.138	0.138	0.138	N/A	N/A
	Bottom		/	/	/	/	/	/	/	N/A	N/A
LTE Band 38 QPSK (20MHz)	Front	1RB	0.439	0.352	0.292	0.207	0.791	0.731	0.646	N/A	N/A
	Back		0.274	0.202	0.227	0.207	0.476	0.501	0.481	N/A	N/A
	Left		0.363	0.324	0.248	0.207	0.687	0.611	0.570	N/A	N/A
	Right		/	0.213	0.208	0.207	0.213	0.208	0.207	N/A	N/A
	Top		0.239	/	/	/	0.239	0.239	0.239	N/A	N/A
	Bottom		/	/	/	/	/	/	/	N/A	N/A
	Front	50%RB	0.261	0.352	0.292	0.207	0.613	0.553	0.468	N/A	N/A
	Back		0.248	0.202	0.227	0.207	0.450	0.475	0.455	N/A	N/A
	Left		0.262	0.324	0.248	0.207	0.586	0.510	0.469	N/A	N/A
	Right		/	0.213	0.208	0.207	0.213	0.208	0.207	N/A	N/A
	Top		0.124	/	/	/	0.124	0.124	0.124	N/A	N/A
	Bottom		/	/	/	/	/	/	/	N/A	N/A
LTE Band 41 QPSK (20MHz)	Front	1RB	0.470	0.352	0.292	0.207	0.822	0.762	0.677	N/A	N/A
	Back		0.525	0.202	0.227	0.207	0.727	0.752	0.732	N/A	N/A
	Left		0.370	0.324	0.248	0.207	0.694	0.618	0.577	N/A	N/A
	Right		/	0.213	0.208	0.207	0.213	0.208	0.207	N/A	N/A
	Top		0.344	/	/	/	0.344	0.344	0.344	N/A	N/A
	Bottom		/	/	/	/	/	/	/	N/A	N/A
	Front	50%RB	0.306	0.352	0.292	0.207	0.658	0.598	0.513	N/A	N/A
	Back		0.296	0.202	0.227	0.207	0.498	0.523	0.503	N/A	N/A
	Left		0.206	0.324	0.248	0.207	0.530	0.454	0.413	N/A	N/A
	Right		/	0.213	0.208	0.207	0.213	0.208	0.207	N/A	N/A
	Top		0.149	/	/	/	0.149	0.149	0.149	N/A	N/A
	Bottom		/	/	/	/	/	/	/	N/A	N/A

13. Test Equipment List

Description	Manufacturer	Model	Serial No./Version	Cal. Date	Cal. Due
E-Field Probe	MVG	SSE2	04/22 EPG0365	2023/02/06	2024/02/05
6 1/2 Digital Multimeter	Keithley	DMM6500	4527164	2022/11/24	2023/11/23
Wideband Radio Communication Tester	ROHDE & SCHWARZ	CMW500	161997	2022/11/24	2023/11/23
MXG Vector Signal Generator	Agilent	N5182A	MY46240163	2022/11/24	2023/11/23
E-Series Avg. Power Sensor	KEYSIGHT	E9300A	MY55050017	2023/03/24	2024/03/23
EPM Series Power Meter	KEYSIGHT	E4418B	MY41293435	2023/03/24	2024/03/23
10dB Attenuator	MIDWEST MICROWAVE	263-10dB	/	2023/03/24	2024/03/23
Coupler	MERRIMAC	CWM-10R-10.8G	LOT-83391	2023/03/24	2024/03/23
750MHz Validation Dipole	MVG	SID750	07/22 DIP 0G835-655	2023/02/06	2024/02/05
835MHz Validation Dipole	MVG	SID835	07/22 DIP 0G835-656	2023/02/06	2024/02/05
1800MHz Validation Dipole	MVG	SID1800	07/22 DIP 1G800-657	2023/02/06	2024/02/05
1900MHz Validation Dipole	MVG	SID1900	07/22 DIP 1G900-658	2023/02/06	2024/02/05
2450MHz Validation Dipole	MVG	SID2450	07/22 DIP 2G450-662	2023/02/06	2024/02/05
2600MHz Validation Dipole	MVG	SID2600	07/22 DIP 2G600-663	2023/02/06	2024/02/05
5200MHz-5800MHz Validation Dipole	MVG	SID5000	07/22 DIP5G000-670	2023/02/06	2024/02/05
LIMESAR Dielectric Probe	MVG	SCLMP	06/22 OCPG88	/	/
ENA Series Network Analyzer	Agilent	E5071B	MY42301221	2022/11/24	2023/11/23
Thermometer	Riters	DT-232	21A11	2023/03/24	2024/03/23
Antenna network emulator	MVG	ANTA 74	07/22 ANTA 74	/	/
SAM Phantom	MVG	SAM	07/22 SAM149	/	/
Mobile Phone Positioning System	MVG	MSH 118	07/22 MSH 118	/	/
Mechanical Calibration Kit	PNA	/	/	/	/
Open SAR test software	MVG	/	V5.3.5	/	/
Note: For dipole antennas, BTF has adopted 3 years as calibration intervals, and on annual basis, every measurement dipole has been evaluated and is in compliance with the following criteria: 1. There is no physical damage on the dipole; 2. System validation with specific dipole is within 10% of calibrated value; 3. Return-loss in within 20% of calibrated measurement. 4. Impedance (real or imaginary parts) in within 5 Ohms of calibrated measurement.					

ANNEX A Simulating Liquid Verification Result

The dielectric parameters of the liquids were verified prior to the SAR evaluation using an SCLMP Dielectric Probe Kit.

Dielectric performance of tissue simulating liquid									
Frequency (MHz)	ϵ'		σ (s/m)		Delta (ϵ')	Delta (σ)	Limit	Temp (°C)	Date
	Target	Measured	Target	Measured					
750	41.90	41.80	0.89	0.86	0.24%	3.37%	±5%	20.0	11/8/2023
835	41.50	41.41	0.90	0.87	0.22%	3.33%	±5%	20.0	11/8/2023
1800	40.00	39.91	1.40	1.37	0.23%	2.14%	±5%	20.0	14/8/2023
1900	40.00	39.88	1.40	1.41	0.30%	-0.71%	±5%	20.0	14/8/2023
2450	39.20	39.08	1.80	1.81	0.31%	-0.56%	±5%	20.0	15/8/2023
2600	39.00	38.88	1.96	1.97	0.31%	-0.51%	±5%	20.0	15/8/2023
5200	36.00	35.88	4.66	4.70	0.33%	-0.86%	±5%	20.0	15/8/2023
5400	35.80	35.68	4.86	4.90	0.34%	-0.82%	±5%	20.0	15/8/2023
5600	35.50	35.38	5.07	5.11	0.34%	-0.79%	±5%	20.0	15/8/2023
5800	35.30	35.18	5.27	5.31	0.34%	-0.76%	±5%	20.0	15/8/2023

NOTE: The dielectric parameters of the tissue-equivalent liquid should be measured under similar ambient conditions and within 2 °C of the conditions expected during the SAR evaluation to satisfy protocol requirements.

ANNEX B System Check Result

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

Frequency (MHz)	Input Power (mW)	1g SAR (W/Kg)	10g SAR (W/Kg)	1g SAR 1W input power normalized (W/Kg)	10g SAR 1W input power normalized (W/Kg)	1g SAR Standard target (1W) (W/Kg)	10g SAR Standard target (1W) (W/Kg)	1g SAR Deviation	10g SAR Deviation
750	16	0.138	0.092	8.63	5.75	8.25	5.38	4.55%	6.88%
835	16	0.163	0.106	10.19	6.63	9.79	6.17	4.06%	7.37%
1800	16	0.588	0.312	36.75	19.50	39.33	20.61	-6.56%	-5.39%
1900	16	0.630	0.322	39.38	20.13	40.97	20.7	-3.89%	-2.78%
2450	16	0.793	0.352	49.56	22.00	54.4	23.86	-8.89%	-7.80%
2600	16	0.866	0.421	54.13	26.31	57.14	24.48	-5.28%	7.49%
5200	13	0.998	0.294	76.77	22.62	73.88	21.29	3.91%	6.23%
5400	13	1.120	0.327	86.15	25.15	81.47	23.23	5.75%	8.28%
5600	13	1.084	0.314	83.38	24.15	78.71	22.64	5.94%	6.69%
5800	13	1.023	0.280	78.69	21.54	74.21	21.50	6.04%	0.18%

System Performance Check Data (750 MHz)

System check at 750 MHz

Date of measurement: 11/8/2023

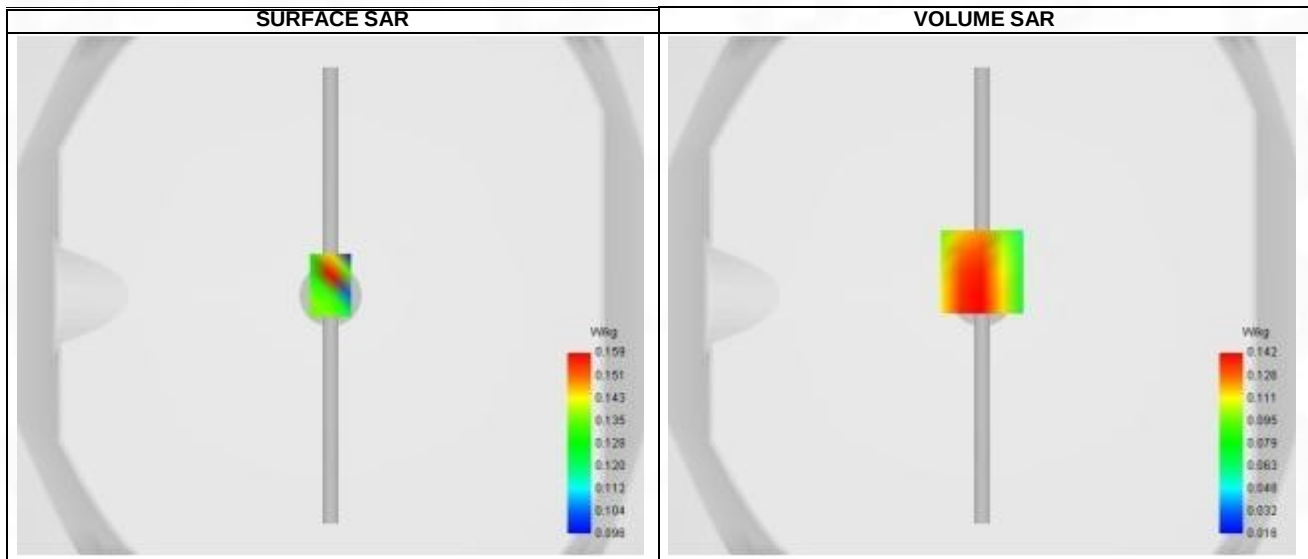
A. Experimental conditions.

Probe	SN 04/22 EPG0365
ConvF	1.65
Area Scan	dx=8mm dy=8mm, Adaptive 1 max
Zoom Scan	5x5x7, dx=8mm dy=8mm dz=5mm, Complete
Phantom	Validation plane
Device Position	Dipole
Band	CW750
Channels	Middle
Signal	CW

B. Permittivity

Frequency (MHz)	750.000
Relative permittivity (real part)	41.800
Relative permittivity (imaginary part)	21.460
Conductivity (S/m)	0.860

C. SAR Surface and Volume



Maximum location: X=0.00, Y=9.00 ; SAR Peak: 0.20 W/kg

D. SAR 1g & 10g

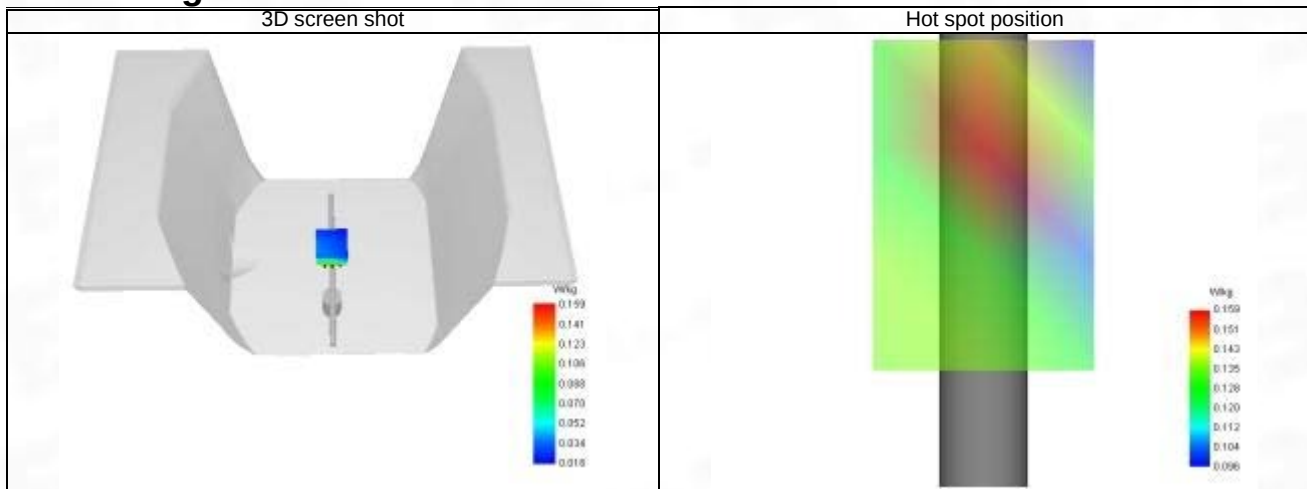
SAR 10g (W/Kg)	0.092
SAR 1g (W/Kg)	0.138
Variation (%)	-2.190
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.287	0.142	0.092	0.073	0.042



F. 3D Image



System Performance Check Data (835 MHz)

System check at 835 MHz

Date of measurement: 11/8/2023

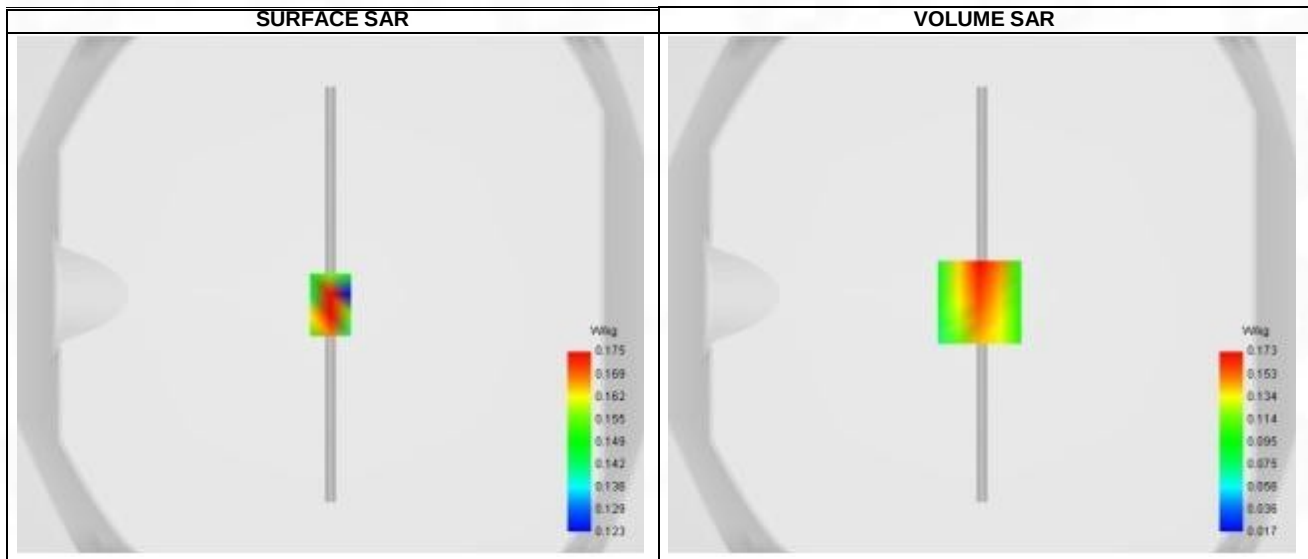
A. Experimental conditions.

Probe	SN 04/22 EPG0365
ConvF	1.68
Area Scan	dx=8mm dy=8mm, Adaptive 1 max
Zoom Scan	5x5x7, dx=8mm dy=8mm dz=5mm, Complete
Phantom	Validation plane
Device Position	Dipole
Band	CW835
Channels	Middle
Signal	CW

B. Permittivity

Frequency (MHz)	835.000
Relative permittivity (real part)	41.410
Relative permittivity (imaginary part)	19.490
Conductivity (S/m)	0.870

C. SAR Surface and Volume



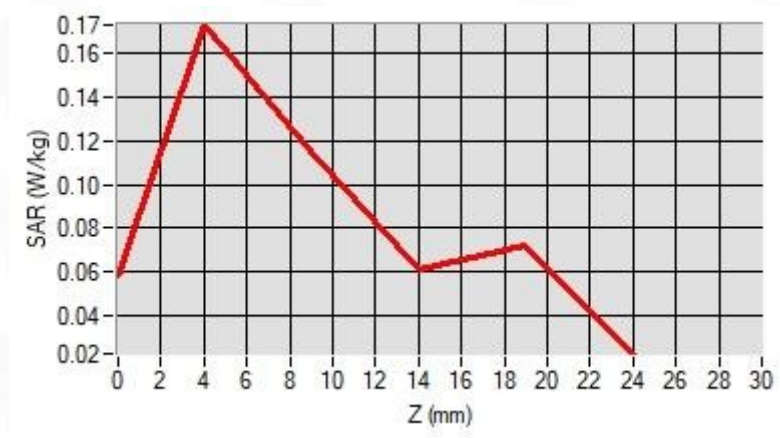
Maximum location: X=-1.00, Y=-3.00 ; SAR Peak: 0.26 W/kg

D. SAR 1g & 10g

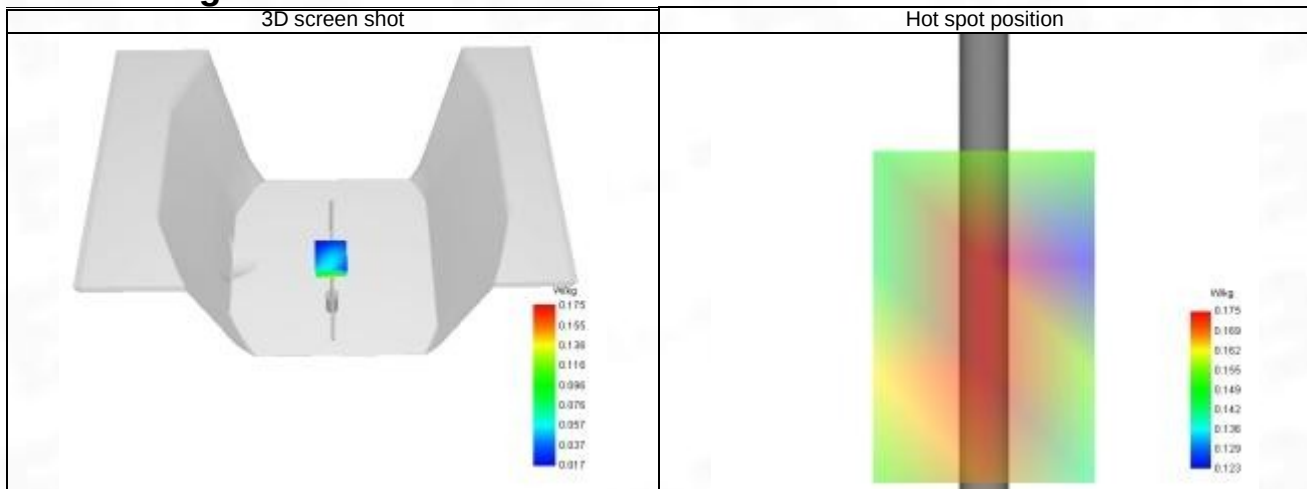
SAR 10g (W/Kg)	0.106
SAR 1g (W/Kg)	0.163
Variation (%)	-3.390
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.059	0.173	0.115	0.061	0.072



F. 3D Image



System Performance Check Data (1800 MHz)

System check at 1800 MHz

Date of measurement: 14/8/2023

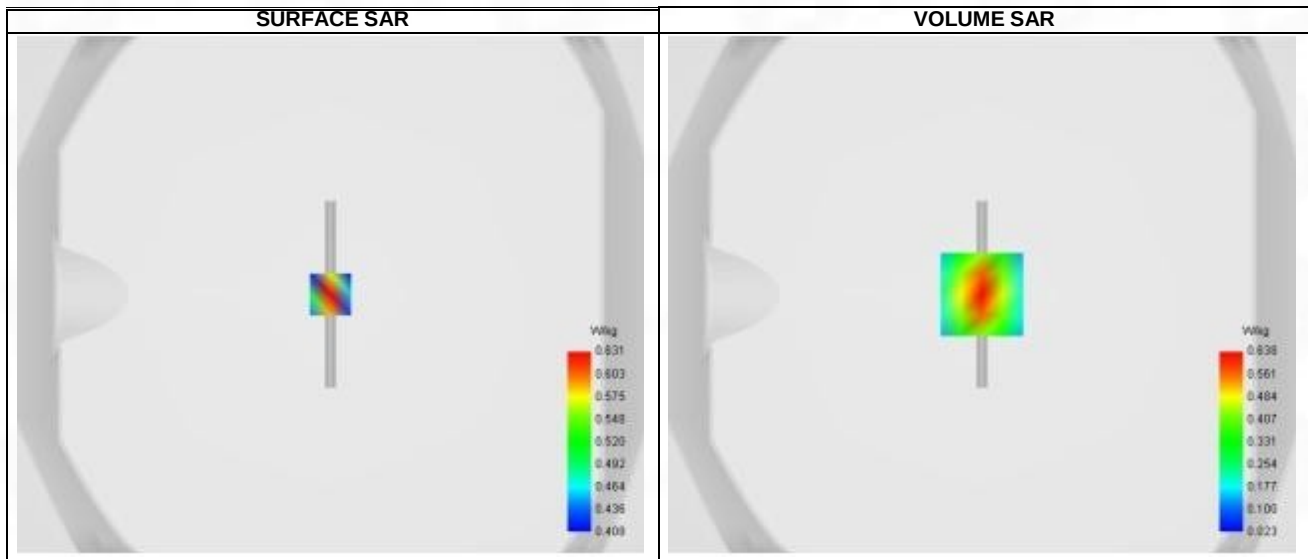
A. Experimental conditions.

Probe	SN 04/22 EPG0365
ConvF	1.96
Area Scan	dx=8mm dy=8mm, Adaptive 1 max
Zoom Scan	5x5x7, dx=8mm dy=8mm dz=5mm, Complete
Phantom	Validation plane
Device Position	Dipole
Band	CW1800
Channels	Middle
Signal	CW

B. Permittivity

Frequency (MHz)	1800.000
Relative permittivity (real part)	39.910
Relative permittivity (imaginary part)	14.090
Conductivity (S/m)	1.370

C. SAR Surface and Volume



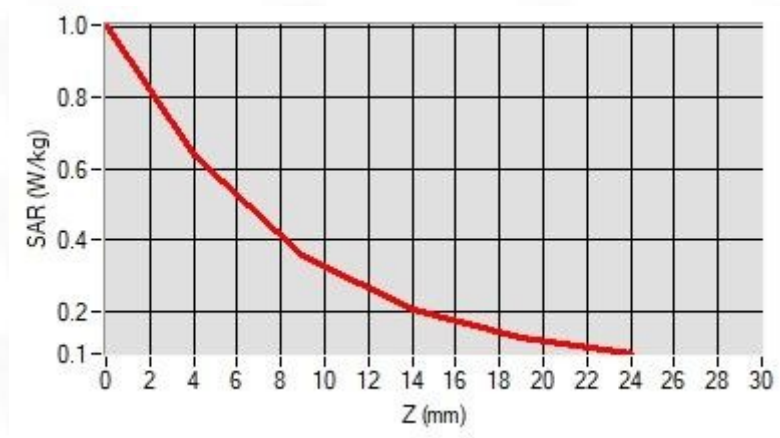
Maximum location: X=0.00, Y=0.00 ; SAR Peak: 1.00 W/kg

D. SAR 1g & 10g

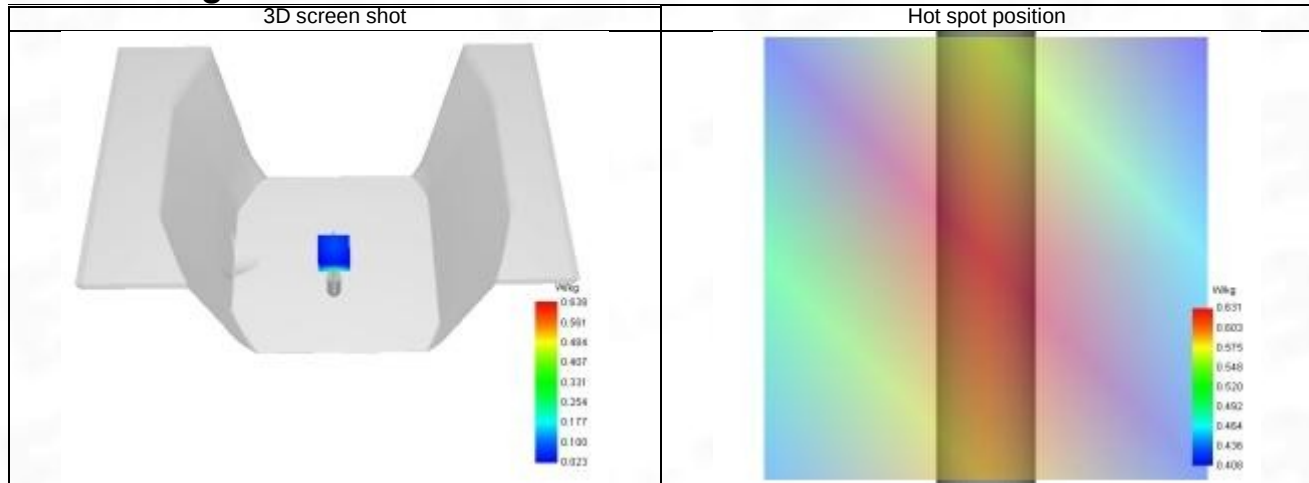
SAR 10g (W/Kg)	0.312
SAR 1g (W/Kg)	0.588
Variation (%)	-0.250
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	1.003	0.638	0.356	0.204	0.127



F. 3D Image



System Performance Check Data (1900 MHz)

System check at 1900 MHz

Date of measurement: 14/8/2023

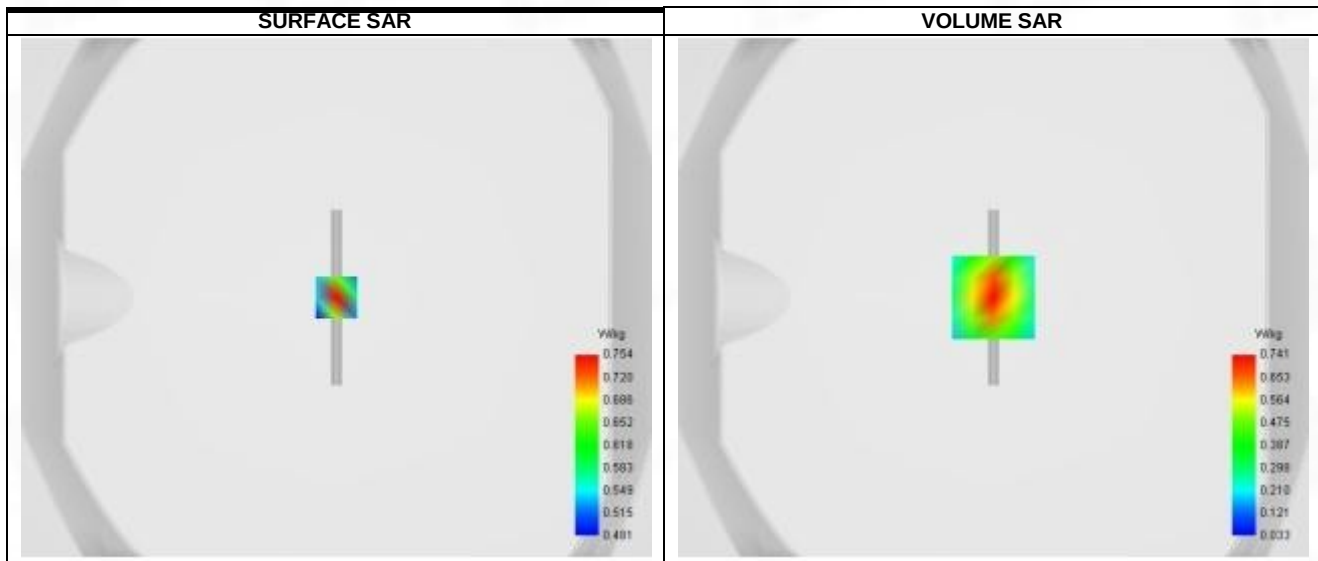
A. Experimental conditions.

Probe	SN 04/22 EPG0365
ConvF	2.24
Area Scan	dx=8mm dy=8mm, Adaptive 1 max
Zoom Scan	5x5x7, dx=8mm dy=8mm dz=5mm, Complete
Phantom	Validation plane
Device Position	Dipole
Band	CW1900
Channels	Middle
Signal	CW

B. Permittivity

Frequency (MHz)	1900.000
Relative permittivity (real part)	39.880
Relative permittivity (imaginary part)	13.380
Conductivity (S/m)	1.410

C. SAR Surface and Volume



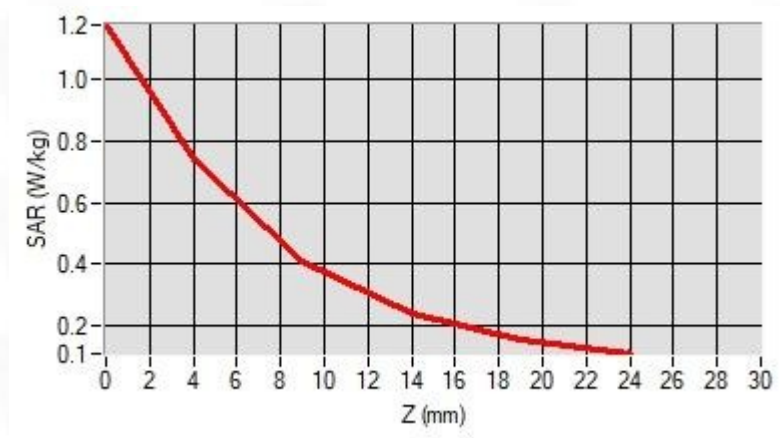
Maximum location: X=0.00, Y=0.00 ; SAR Peak: 1.18 W/kg

D. SAR 1g & 10g

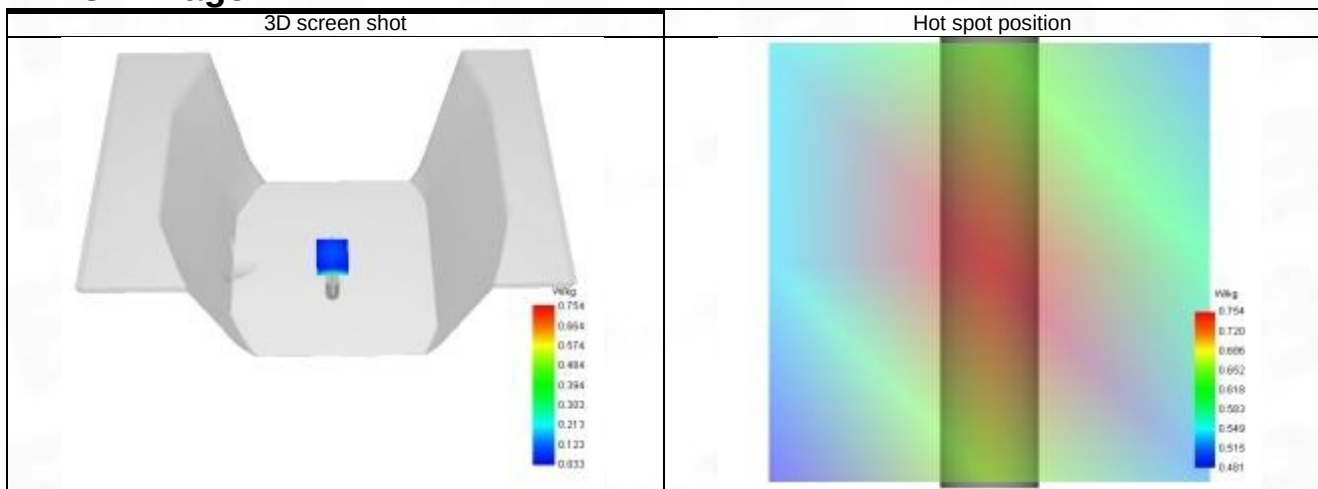
SAR 10g (W/Kg)	0.322
SAR 1g (W/Kg)	0.630
Variation (%)	-2.080
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	1.201	0.759	0.402	0.239	0.156



F. 3D Image



System Performance Check Data (2450 MHz)

System check at 2450 MHz

Date of measurement: 15/8/2023

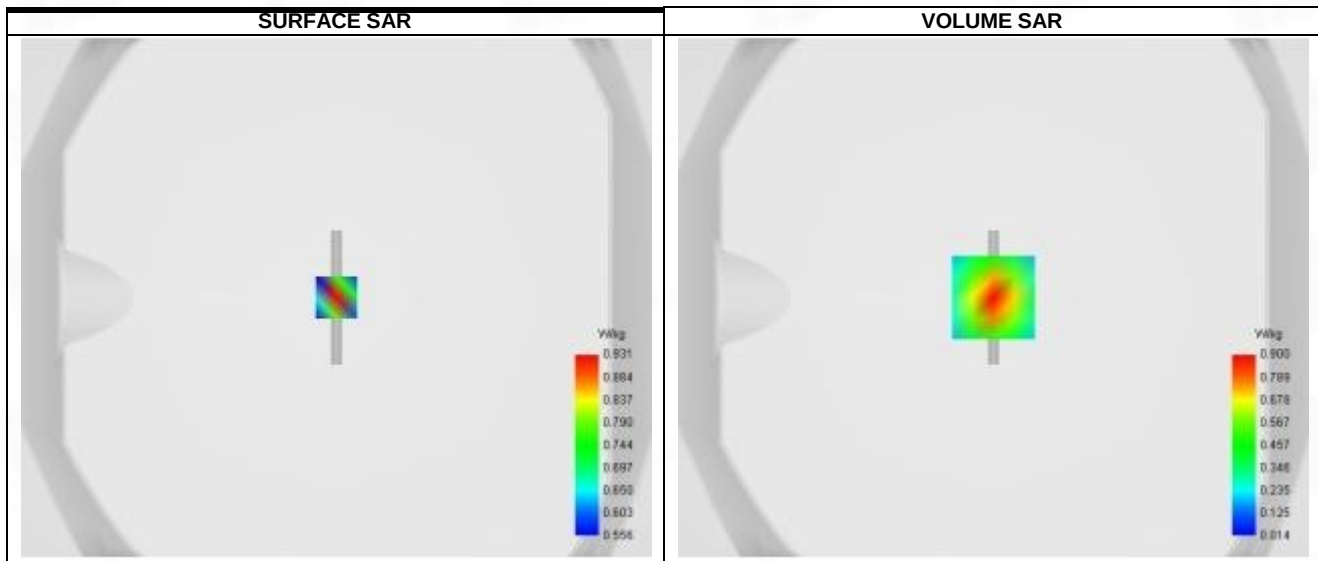
A. Experimental conditions.

Probe	SN 04/22 EPG0365
ConvF	2.36
Area Scan	dx=8mm dy=8mm, Adaptive 1 max
Zoom Scan	5x5x7, dx=8mm dy=8mm dz=5mm, Complete
Phantom	Validation plane
Device Position	Dipole
Band	CW2450
Channels	Middle
Signal	CW

B. Permittivity

Frequency (MHz)	2450.000
Relative permittivity (real part)	39.080
Relative permittivity (imaginary part)	13.340
Conductivity (S/m)	1.810

C. SAR Surface and Volume



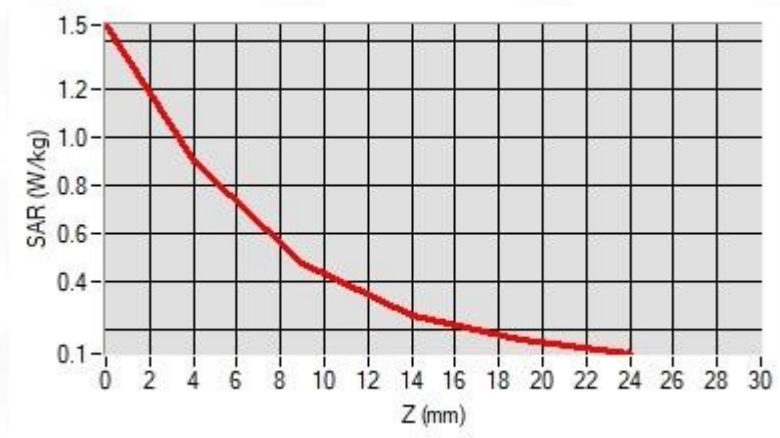
Maximum location: X=0.00, Y=0.00 ; SAR Peak: 1.47 W/kg

D. SAR 1g & 10g

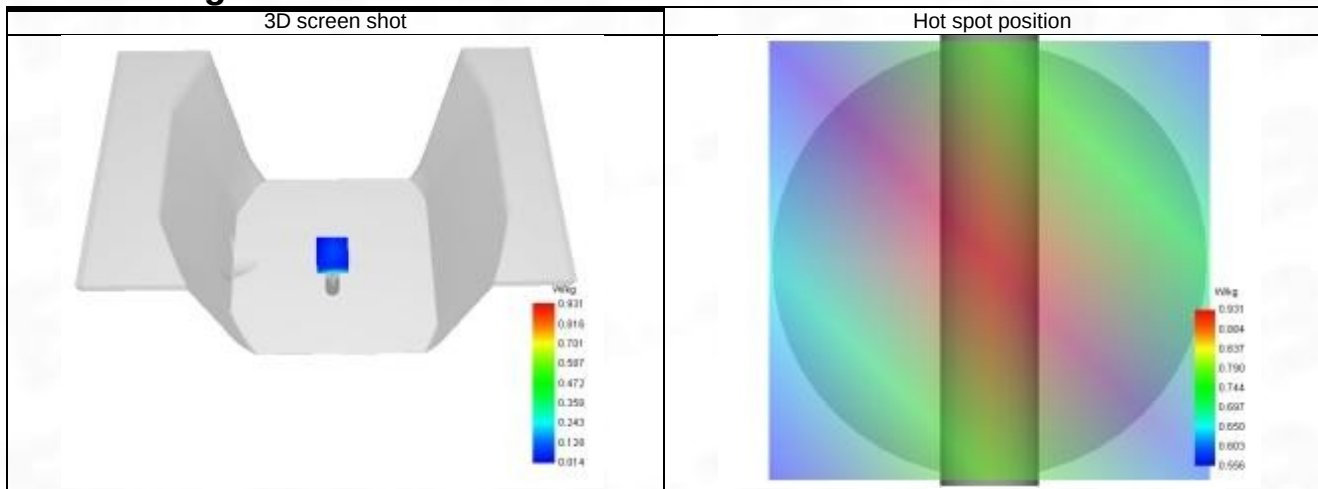
SAR 10g (W/Kg)	0.352
SAR 1g (W/Kg)	0.793
Variation (%)	-2.570
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	1.466	0.900	0.477	0.261	0.158



F. 3D Image



System Performance Check Data (2600 MHz)

System check at 2600 MHz

Date of measurement: 15/8/2023

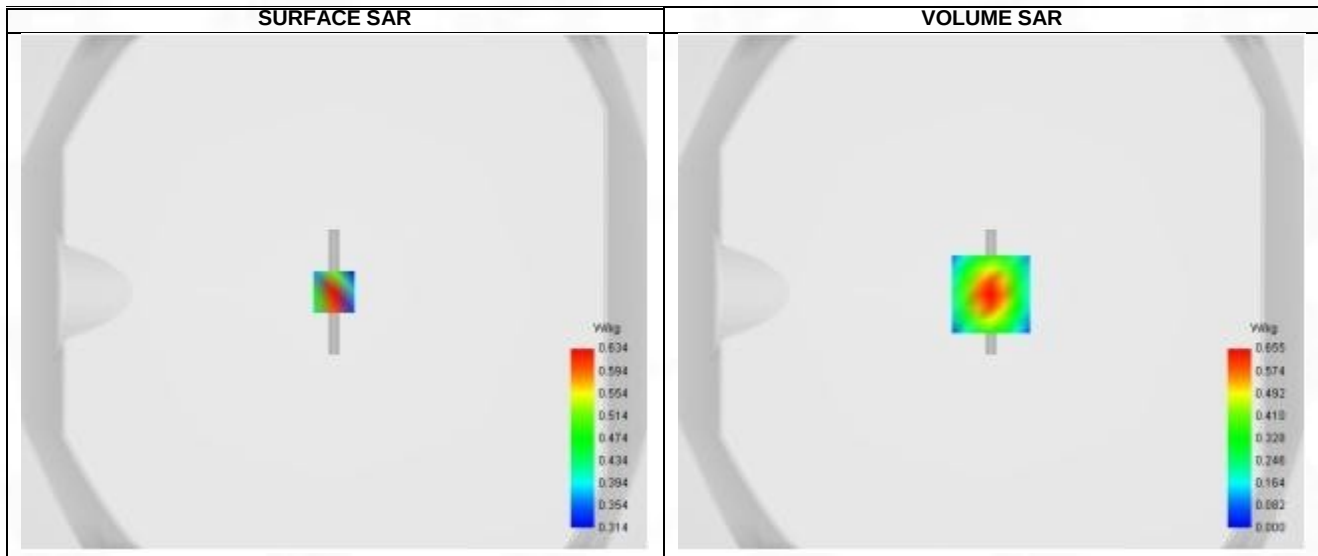
A. Experimental conditions.

Probe	SN 04/22 EPG0365
ConvF	2.40
Area Scan	dx=8mm dy=8mm, Adaptive 1 max
Zoom Scan	5x5x7, dx=8mm dy=8mm dz=5mm, Complete
Phantom	Validation plane
Device Position	Dipole
Band	CW2600
Channels	Middle
Signal	CW

B. Permittivity

Frequency (MHz)	2600.000
Relative permittivity (real part)	38.880
Relative permittivity (imaginary part)	12.690
Conductivity (S/m)	1.970

C. SAR Surface and Volume



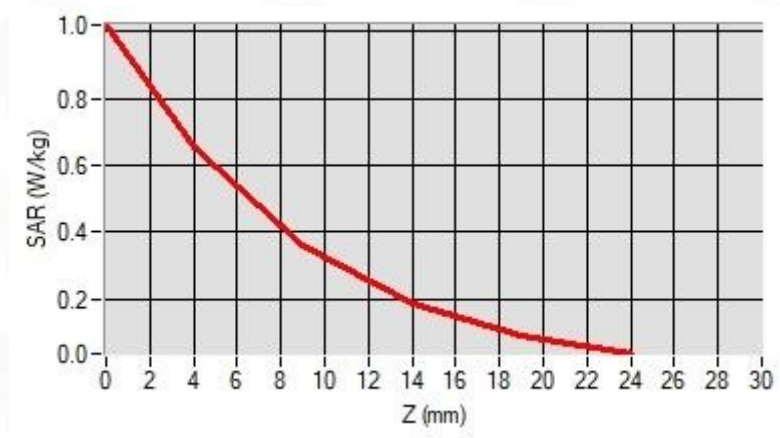
Maximum location: X=0.00, Y=-1.00 ; SAR Peak: 1.02 W/kg

D. SAR 1g & 10g

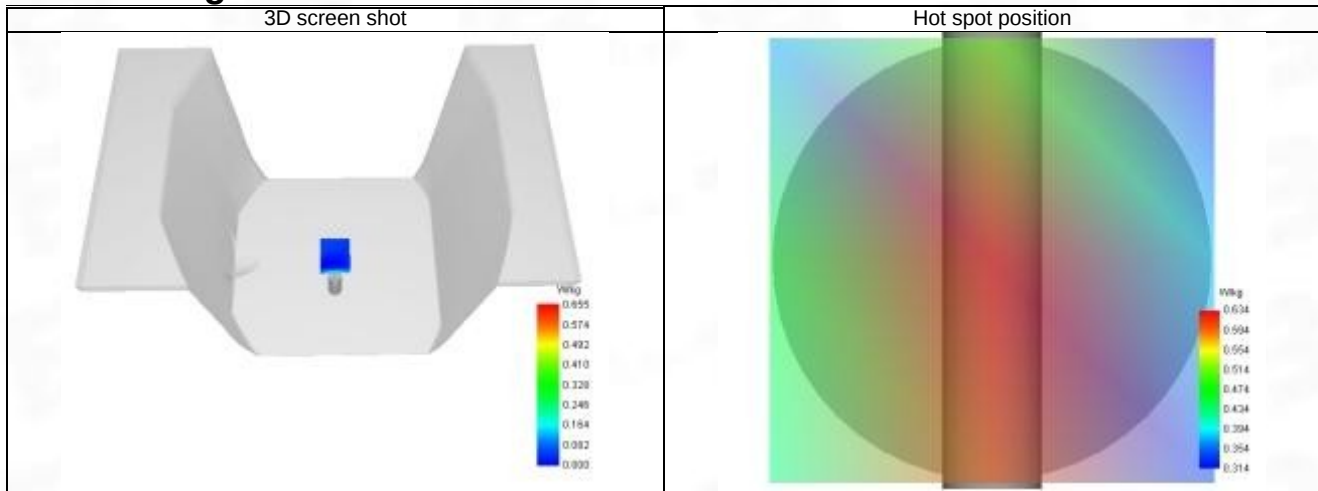
SAR 10g (W/Kg)	0.421
SAR 1g (W/Kg)	0.866
Variation (%)	2.980
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	1.020	0.655	0.359	0.187	0.091



F. 3D Image



System Performance Check Data (5200 MHz)

System check at 5200 MHz

Date of measurement: 15/8/2023

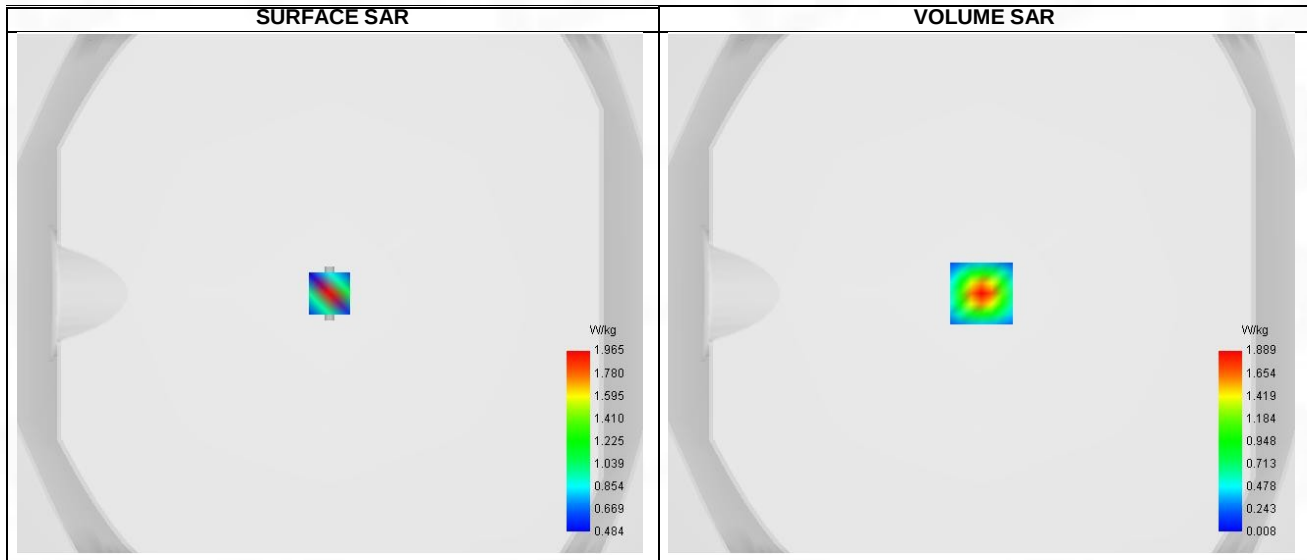
A. Experimental conditions.

Probe	SN 04/22 EPG0365
ConvF	2.24
Area Scan	dx=8mm dy=8mm, Adaptive 1 max
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2mm,Complete
Phantom	Validation plane
Device Position	Dipole
Band	CW5200
Channels	Middle
Signal	CW

B. Permittivity

Frequency (MHz)	5200.000
Relative permittivity (real part)	35.880
Relative permittivity (imaginary part)	16.250
Conductivity (S/m)	4.700

C. SAR Surface and Volume



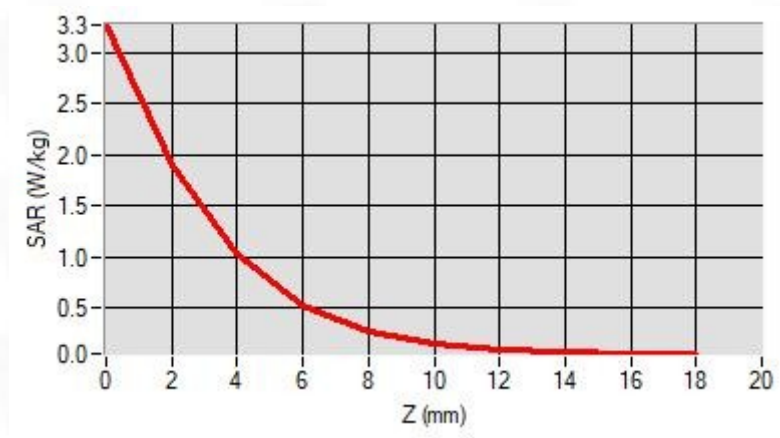
Maximum location: X=0.00, Y=0.00 ; SAR Peak: 3.38 W/kg

D. SAR 1g & 10g

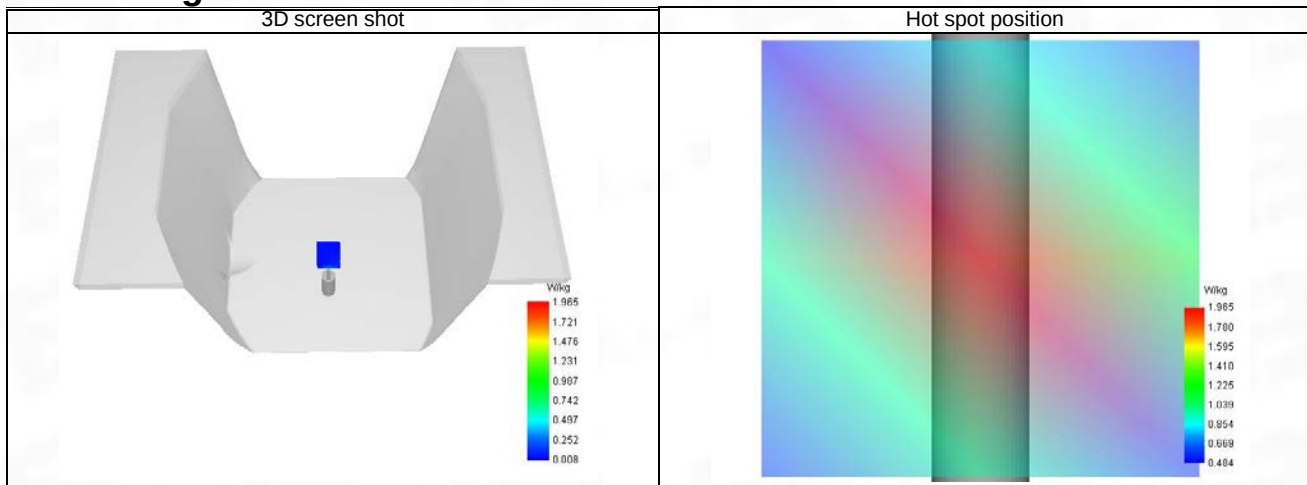
SAR 10g (W/Kg)	0.294
SAR 1g (W/Kg)	0.998
Variation (%)	-3.400
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	2.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00
SAR (W/Kg)	3.268	1.889	1.021	0.523	0.266	0.142	0.085	0.060	0.052



F. 3D Image



System Performance Check Data (5400 MHz)

System check at 5400 MHz

Date of measurement: 15/8/2023

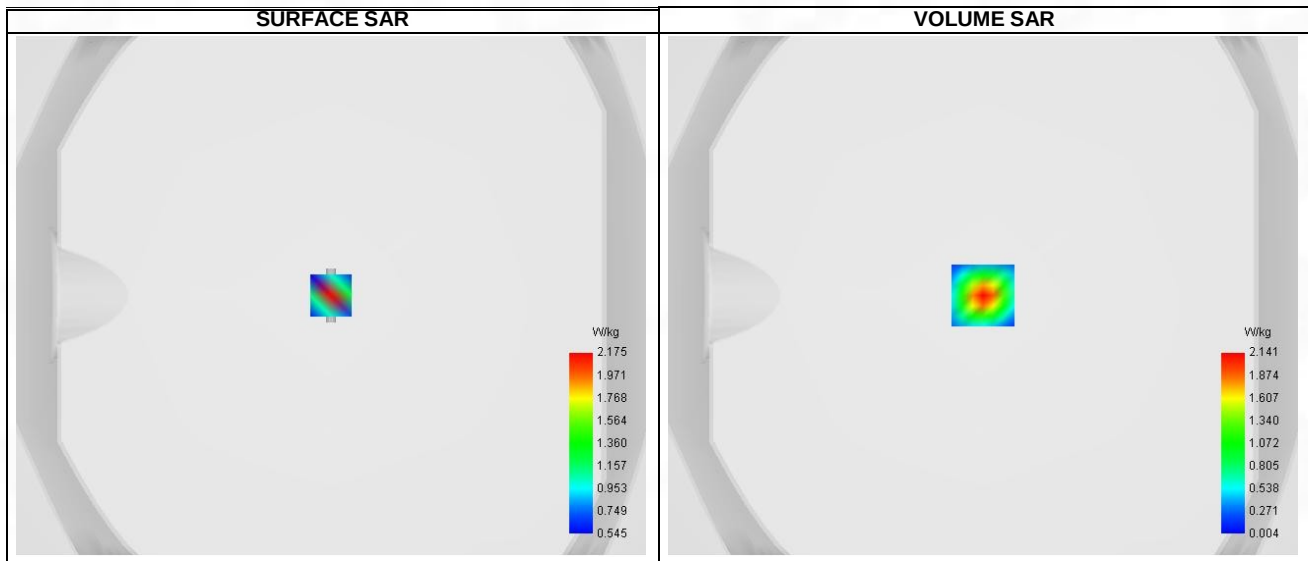
A. Experimental conditions.

Probe	SN 04/22 EPG0365
ConvF	2.12
Area Scan	dx=8mm dy=8mm, Adaptive 1 max
Zoom Scan	7x7x12, dx=4mm dy=4mm dz=2mm, Complete
Phantom	Validation plane
Device Position	Dipole
Band	CW5400
Channels	Middle
Signal	CW

B. Permittivity

Frequency (MHz)	5400.000
Relative permittivity (real part)	35.800
Relative permittivity (imaginary part)	16.200
Conductivity (S/m)	4.860

C. SAR Surface and Volume



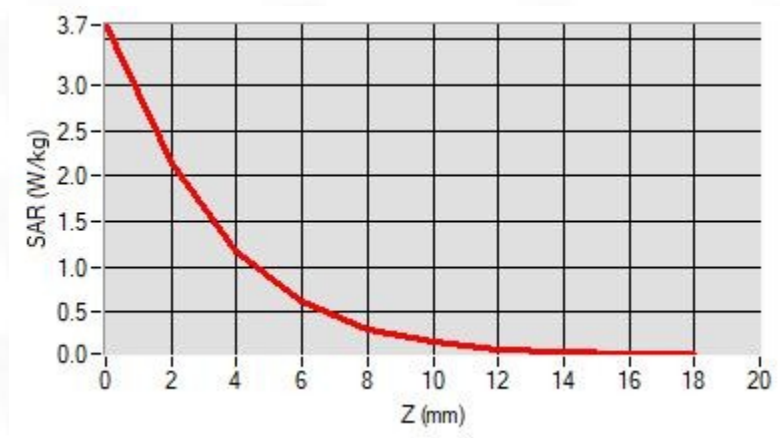
Maximum location: X=0.00, Y=0.00 ; SAR Peak: 3.78 W/kg

D. SAR 1g & 10g

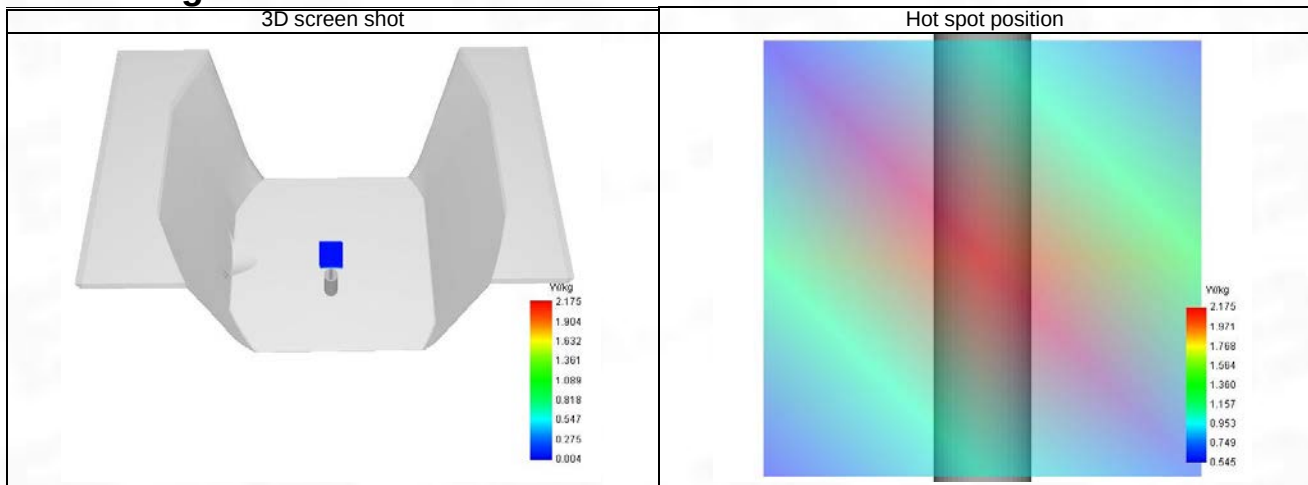
SAR 10g (W/Kg)	0.327
SAR 1g (W/Kg)	1.120
Variation (%)	-4.610
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	2.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00
SAR (W/Kg)	3.660	2.141	1.177	0.614	0.317	0.169	0.098	0.065	0.050



F. 3D Image



System Performance Check Data (5600 MHz)

System check at 5600 MHz

Date of measurement: 15/8/2023

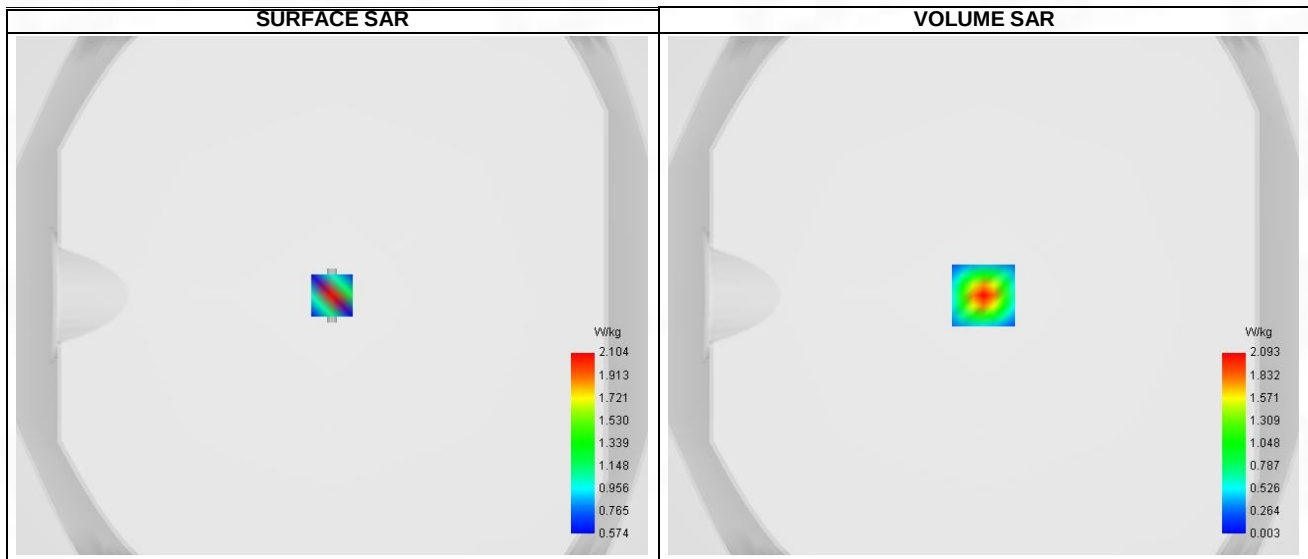
A. Experimental conditions.

Probe	SN 04/22 EPG0365
ConvF	2.18
Area Scan	dx=8mm dy=8mm, Adaptive 1 max
Zoom Scan	7x7x12, dx=4mm dy=4mm dz=2mm, Complete
Phantom	Validation plane
Device Position	Dipole
Band	CW5600
Channels	Middle
Signal	CW

B. Permittivity

Frequency (MHz)	5600.000
Relative permittivity (real part)	35.500
Relative permittivity (imaginary part)	16.300
Conductivity (S/m)	5.071

C. SAR Surface and Volume



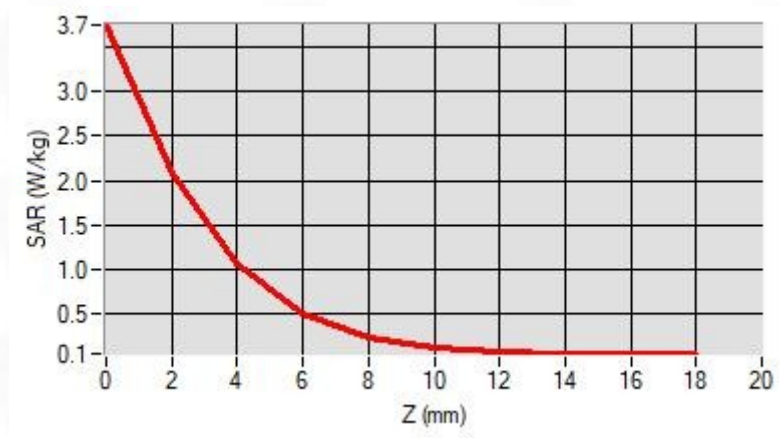
Maximum location: X=0.00, Y=0.00 ; SAR Peak: 3.90 W/kg

D. SAR 1g & 10g

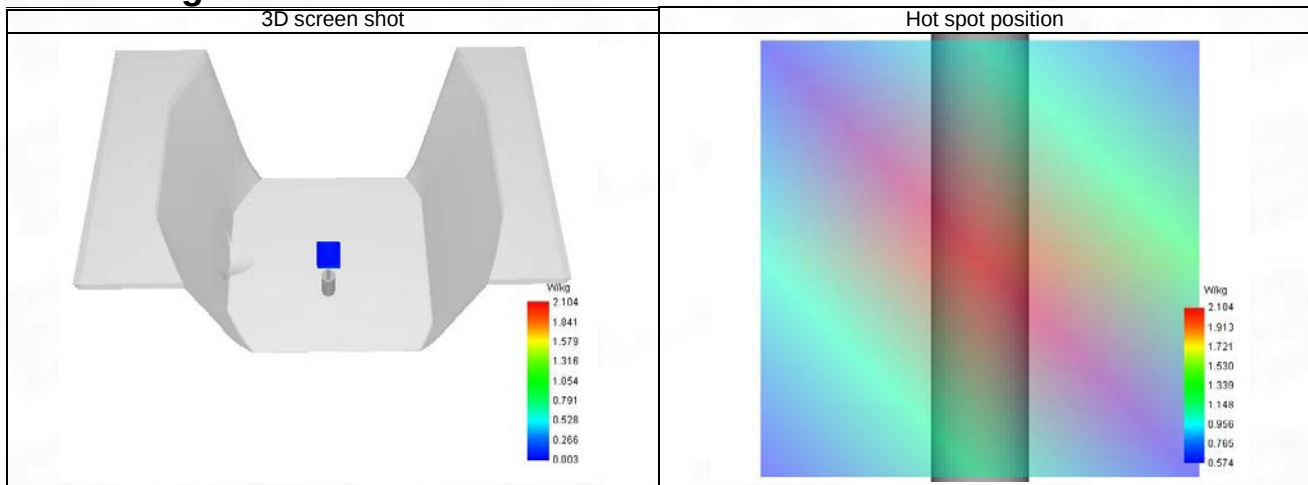
SAR 10g (W/Kg)	0.314
SAR 1g (W/Kg)	1.084
Variation (%)	-0.190
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	2.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00
SAR (W/Kg)	3.748	2.093	1.074	0.514	0.243	0.122	0.072	0.056	0.056



F. 3D Image



System Performance Check Data (5800 MHz)

System check at 5800 MHz

Date of measurement: 15/8/2023

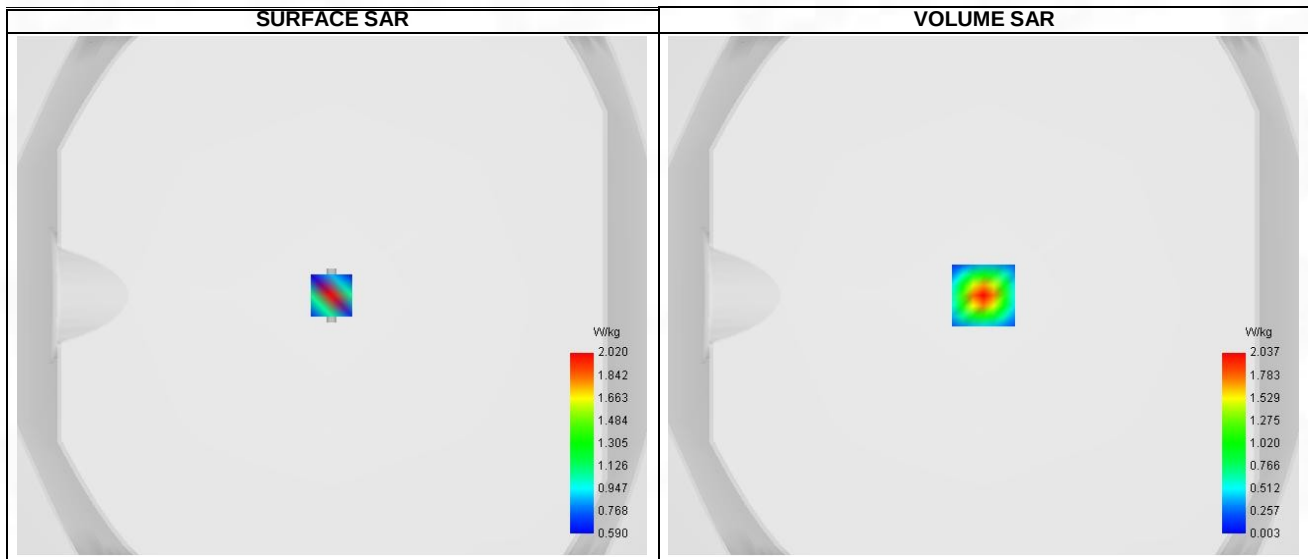
A. Experimental conditions.

Probe	SN 04/22 EPG0365
ConvF	2.04
Area Scan	dx=8mm dy=8mm, Adaptive 1 max
Zoom Scan	7x7x12, dx=4mm dy=4mm dz=2mm, Complete
Phantom	Validation plane
Device Position	Dipole
Band	CW5800
Channels	Middle
Signal	CW

B. Permittivity

Frequency (MHz)	5800.000
Relative permittivity (real part)	35.180
Relative permittivity (imaginary part)	16.480
Conductivity (S/m)	5.310

C. SAR Surface and Volume



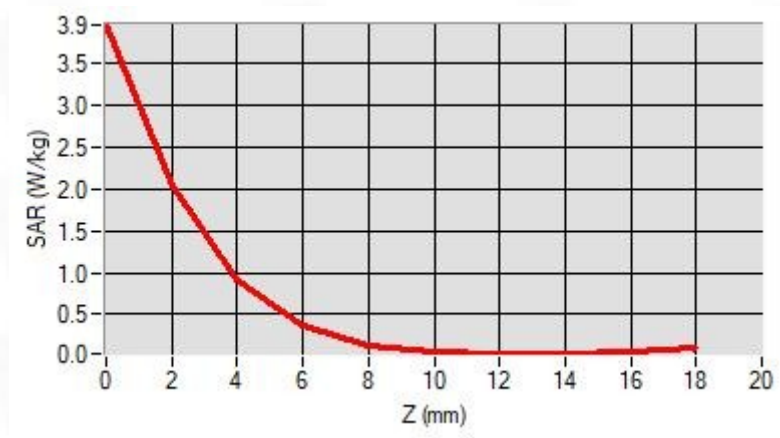
Maximum location: X=0.00, Y=0.00 ; SAR Peak: 4.17 W/kg

D. SAR 1g & 10g

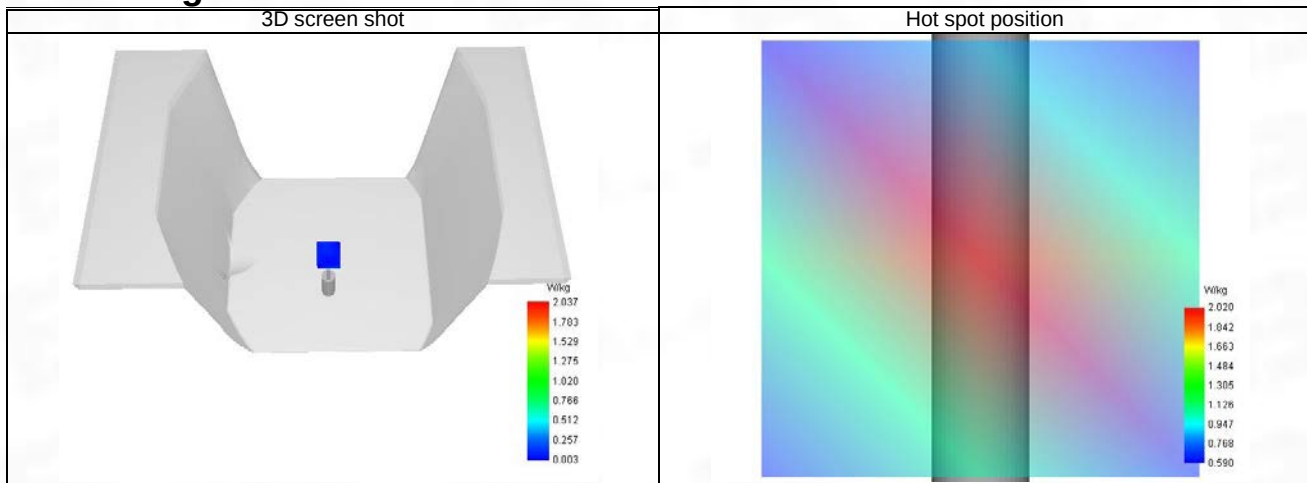
SAR 10g (W/Kg)	0.280
SAR 1g (W/Kg)	1.023
Variation (%)	0.490
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	2.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00
SAR (W/Kg)	3.948	2.037	0.915	0.361	0.135	0.055	0.033	0.037	0.059



F. 3D Image



ANNEX C Test Data

1-Head with front position in dist. 0mm on Channel 251 in GSM850 voice

SAR Measurement at GSM850 (Cheek, Left)

Date of measurement: 11/8/2023

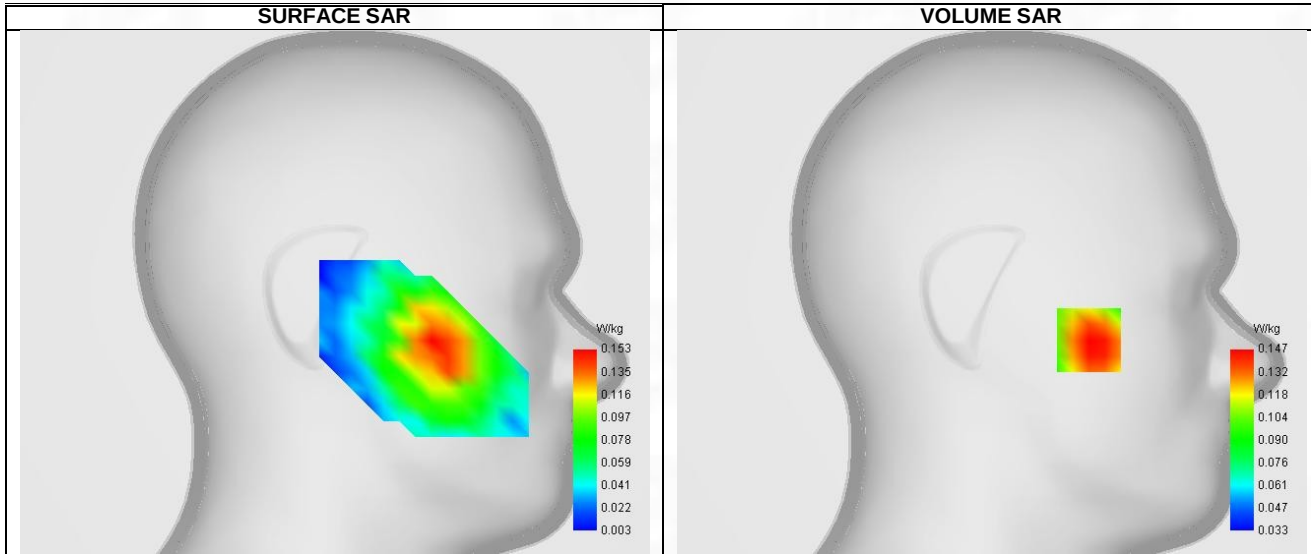
A. Experimental conditions.

Probe	SN 04/22 EPG0365
ConvF	1.68
Area Scan	sam_direct_droit2_surf8mm.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Left head
Device Position	Cheek
Band	GSM850
Channels	Higher (251)
Signal	TDMA (GSM)
Modulation	GMSK

B. Permittivity

Frequency (MHz)	848.800
Relative permittivity (real part)	41.389
Relative permittivity (imaginary part)	19.511
Conductivity (S/m)	0.877

C. SAR Surface and Volume



D. SAR 1g & 10g

SAR 10g (W/Kg)	0.190
SAR 1g (W/Kg)	0.358
Variation (%)	0.550
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

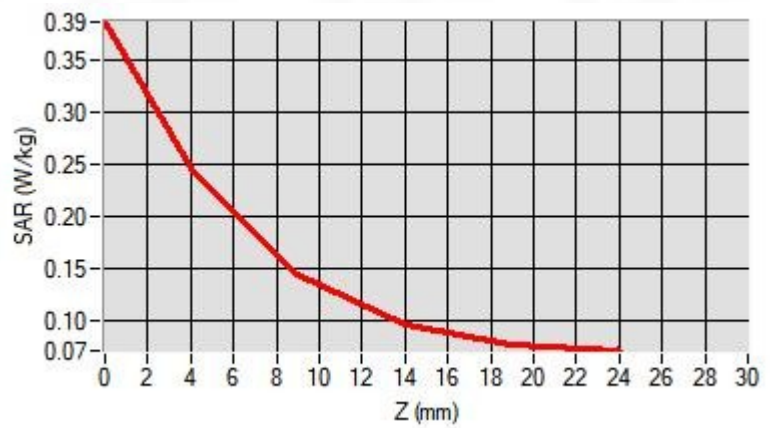
E. Z Axis Scan

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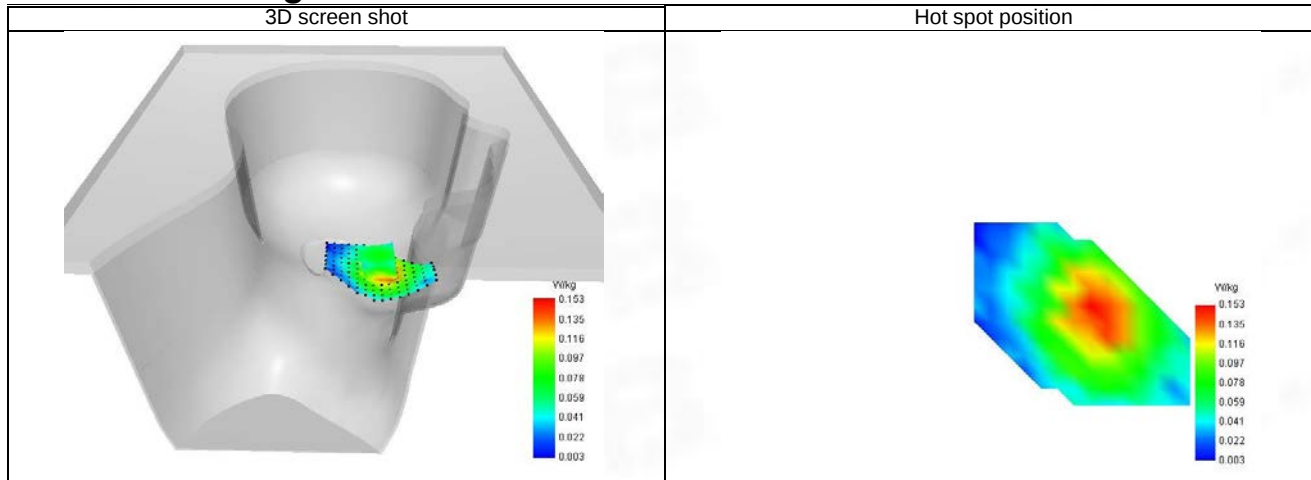
BTF Testing Lab (Shenzhen) Co., Ltd.

F101, 201 and 301, Building 1, Block 2, Tantou Industrial Park, Tantou Community, Songgang Street, Bao'an District, Shenzhen, China

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.387	0.247	0.143	0.094	0.076



F. 3D Image



2-Body with back position in dist. 10mm on Channel 251 in GPRS850+4slots

SAR Measurement at GPRS850 (Body, Validation Plane)

Date of measurement: 11/8/2023

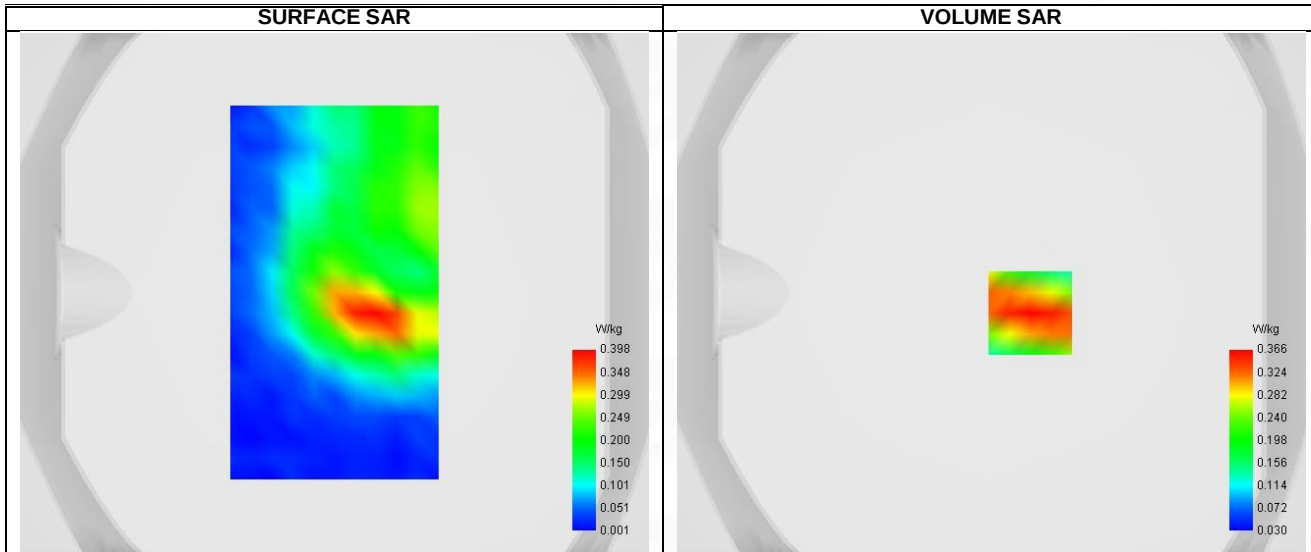
A. Experimental conditions.

Probe	SN 04/22 EPG0365
ConvF	1.68
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Body
Band	GPRS850
Channels	Higher (251)
Signal	TDMA (GPRS)
Modulation	GMSK (CS-1)
TX-slots	4

B. Permittivity

Frequency (MHz)	848.800
Relative permittivity (real part)	41.389
Relative permittivity (imaginary part)	19.511
Conductivity (S/m)	0.877

C. SAR Surface and Volume

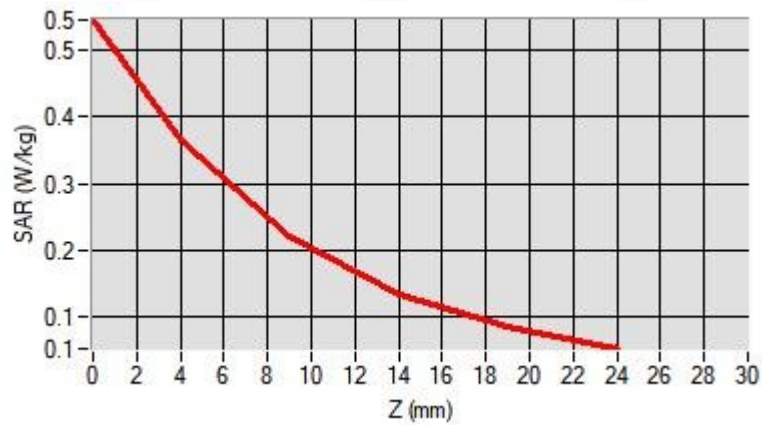


D. SAR 1g & 10g

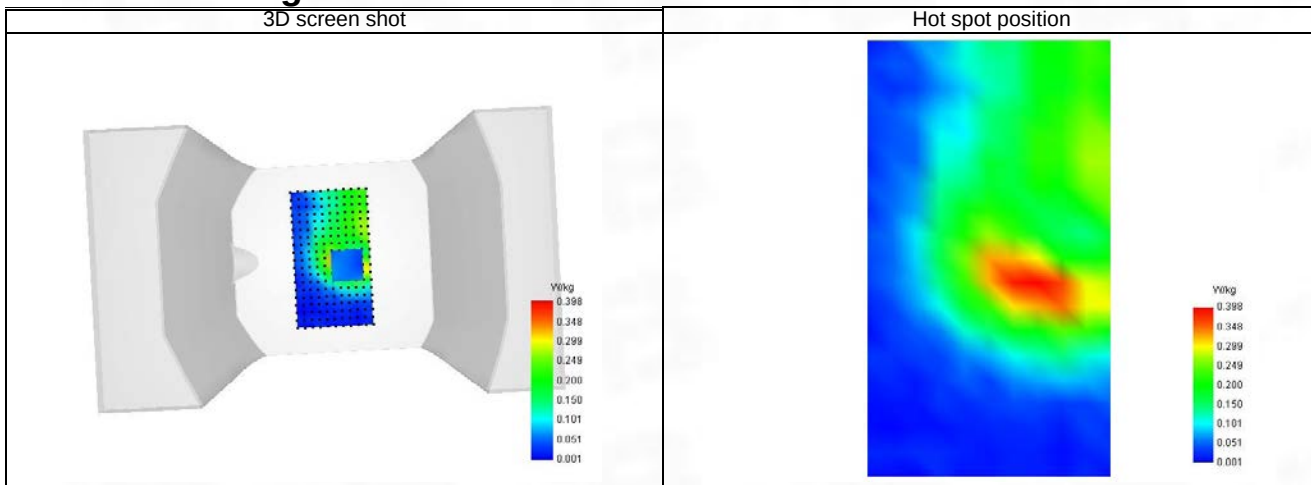
SAR 10g (W/Kg)	0.316
SAR 1g (W/Kg)	0.563
Variation (%)	0.365
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.545	0.366	0.220	0.134	0.084



F. 3D Image



3-Head with front position in dist. 0mm on Channel 512 in GSM1900 voice

SAR Measurement at GSM1900 (Cheek, Right)

Date of measurement: 14/8/2023

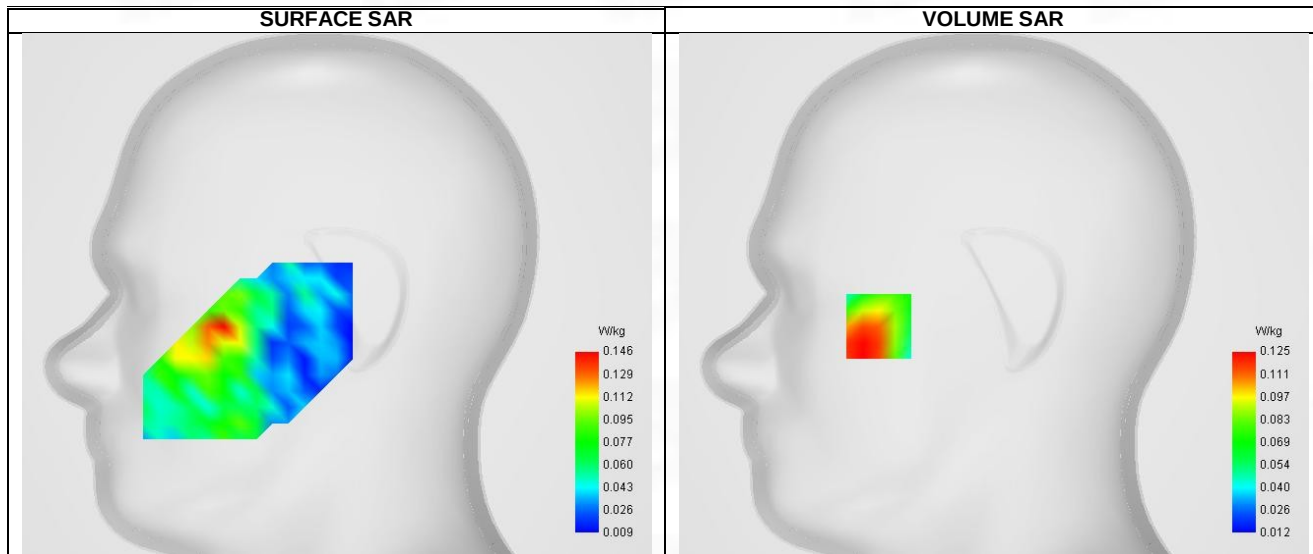
A. Experimental conditions.

Probe	SN 04/22 EPG0365
ConvF	2.24
Area Scan	sam_direct_droit2_surf8mm.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Right head
Device Position	Cheek
Band	GSM1900
Channels	Lower (512)
Signal	TDMA (GSM)
Modulation	GMSK

B. Permittivity

Frequency (MHz)	1850.200
Relative permittivity (real part)	39.952
Relative permittivity (imaginary part)	13.308
Conductivity (S/m)	1.374

C. SAR Surface and Volume



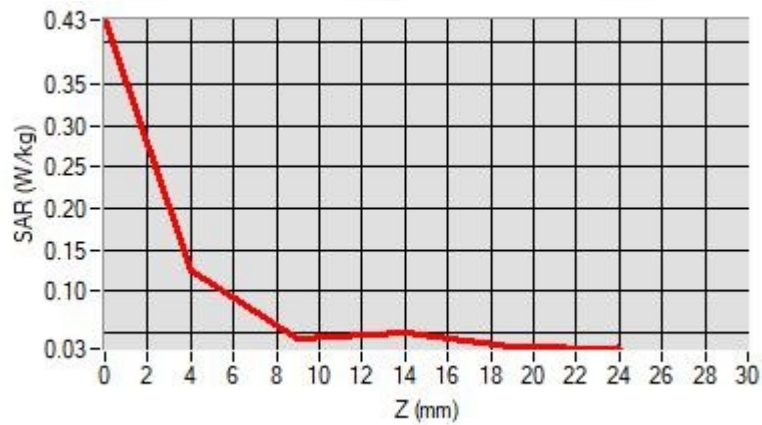
Maximum location: X=-57.00, Y=-16.00 ; SAR Peak: 0.19 W/kg

D. SAR 1g & 10g

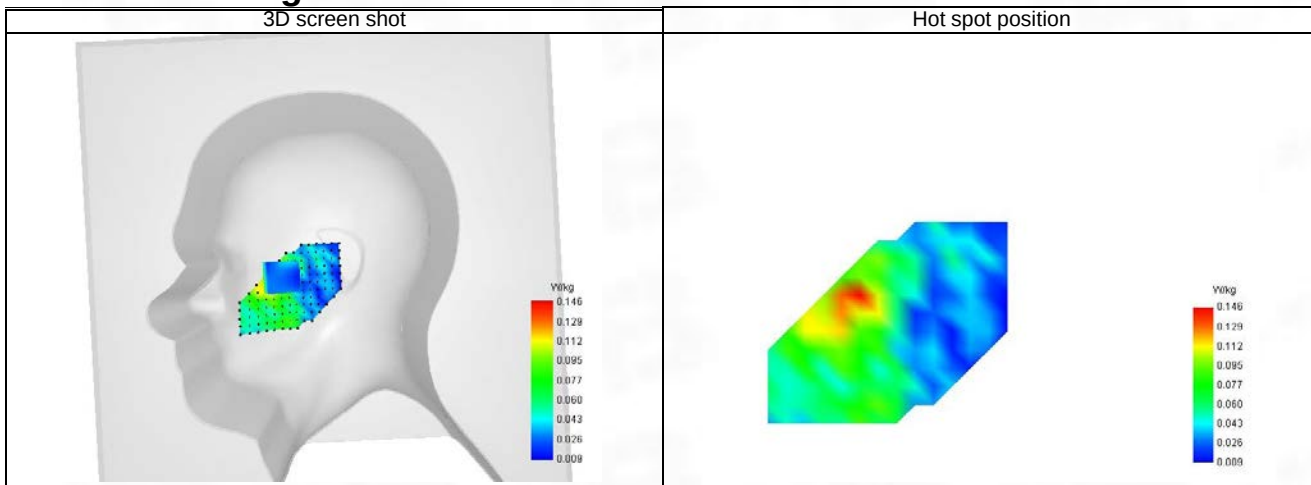
SAR 10g (W/Kg)	0.377
SAR 1g (W/Kg)	0.724
Variation (%)	0.656
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.427	0.125	0.043	0.050	0.032



F. 3D Image



4-Body with top position in dist. 10mm on Channel 512 in GPRS1900+4slots

SAR Measurement at GPRS1900 (Body, Validation Plane)

Date of measurement: 14/8/2023

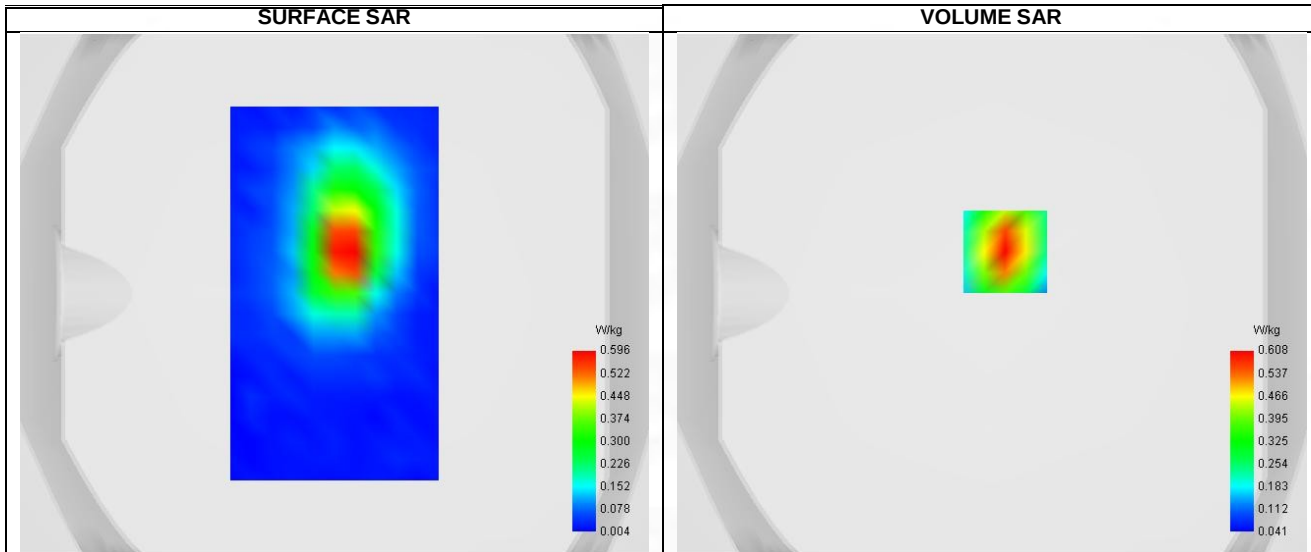
A. Experimental conditions.

Probe	SN 04/22 EPG0365
ConvF	2.24
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Body
Band	GPRS1900
Channels	Lower (512)
Signal	TDMA (GPRS)
Modulation	GMSK (CS-1)
TX-slots	4

B. Permittivity

Frequency (MHz)	1850.200
Relative permittivity (real part)	39.952
Relative permittivity (imaginary part)	13.308
Conductivity (S/m)	1.374

C. SAR Surface and Volume

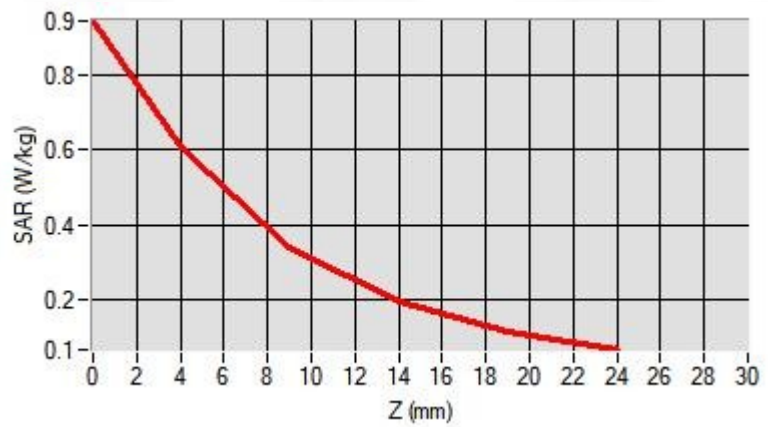


D. SAR 1g & 10g

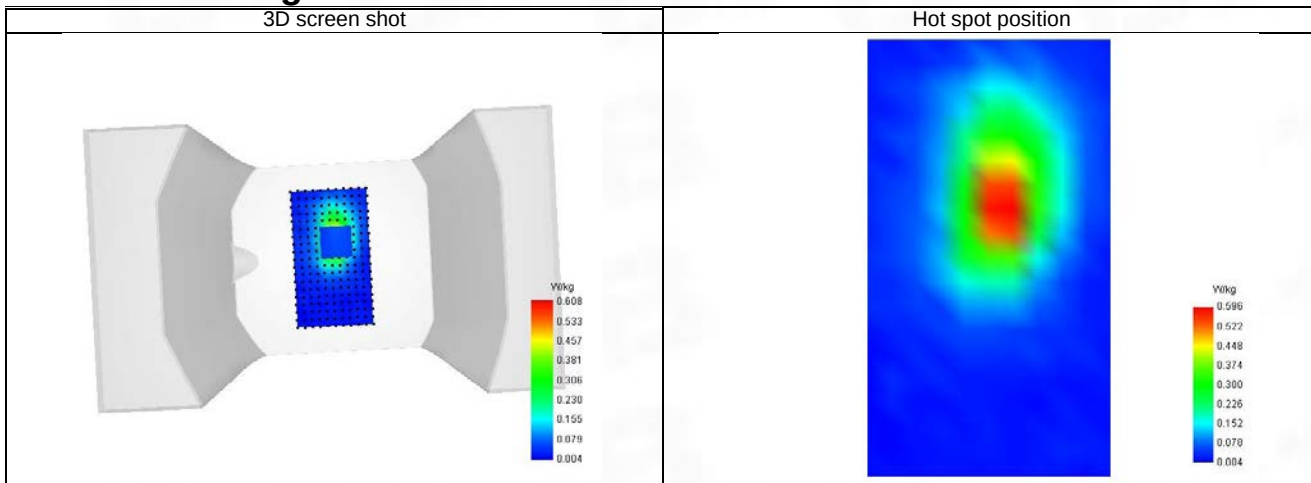
SAR 10g (W/Kg)	0.304
SAR 1g (W/Kg)	0.736
Variation (%)	0.001
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.946	0.608	0.341	0.193	0.113



F. 3D Image



5-Head with front position in dist. 0mm on Channel 9538 in WCDMA Band 2

SAR Measurement at Band 2 (1900) (Cheek, Right)

Date of measurement: 14/8/2023

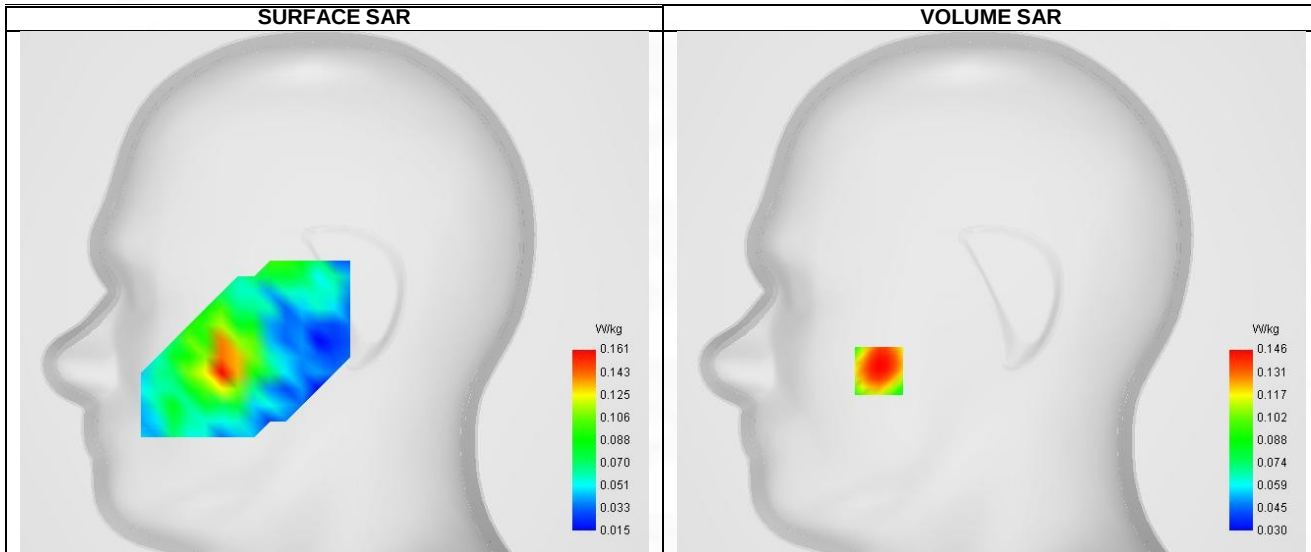
A. Experimental conditions.

Probe	SN 04/22 EPG0365
ConvF	2.24
Area Scan	sam_direct_droit2_surf8mm.txt
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2mm,Complete
Phantom	Right head
Device Position	Cheek
Band	Band 2 (1900)
Channels	Higher (9538)
Signal	WCDMA
Mode	Release 99
Connection Type	RMC, 12.2 kbps

B. Permittivity

Frequency (MHz)	1907.600
Relative permittivity (real part)	39.869
Relative permittivity (imaginary part)	13.391
Conductivity (S/m)	1.416

C. SAR Surface and Volume



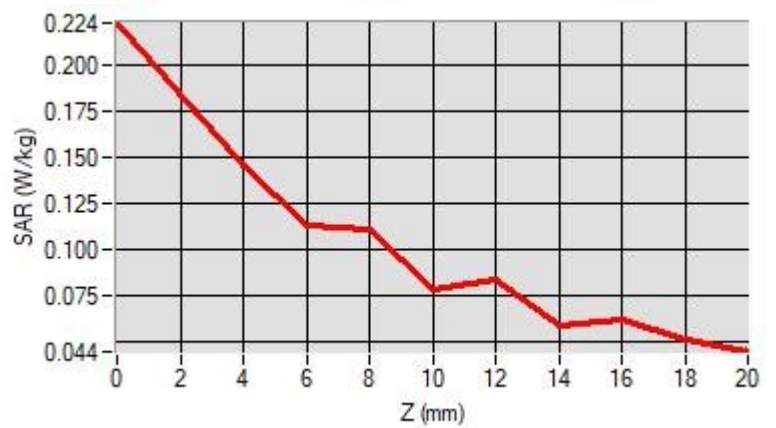
Maximum location: X=-56.00, Y=-39.00 ; SAR Peak: 0.23 W/kg

D. SAR 1g & 10g

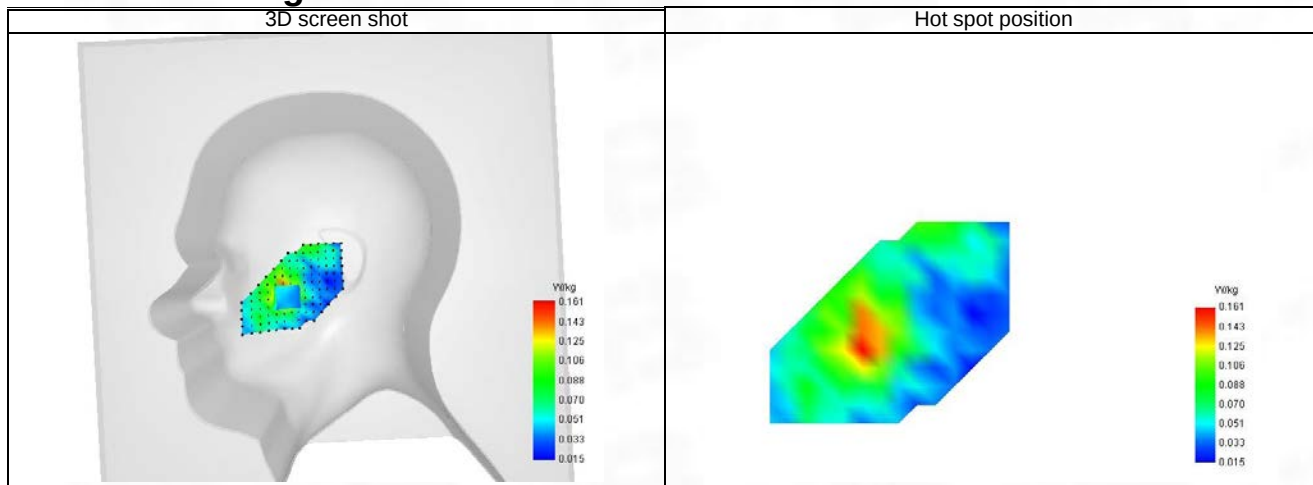
SAR 10g (W/Kg)	0.196
SAR 1g (W/Kg)	0.498
Variation (%)	0.110
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00
SAR (W/Kg)	0.224	0.146	0.113	0.111	0.078	0.083	0.059	0.062	0.051



F. 3D Image



6-Body with front position in dist. 10mm on Channel 9538 in WCDMA Band 2

SAR Measurement at Band 2 (1900) (Body, Validation Plane)

Date of measurement: 11/8/2023

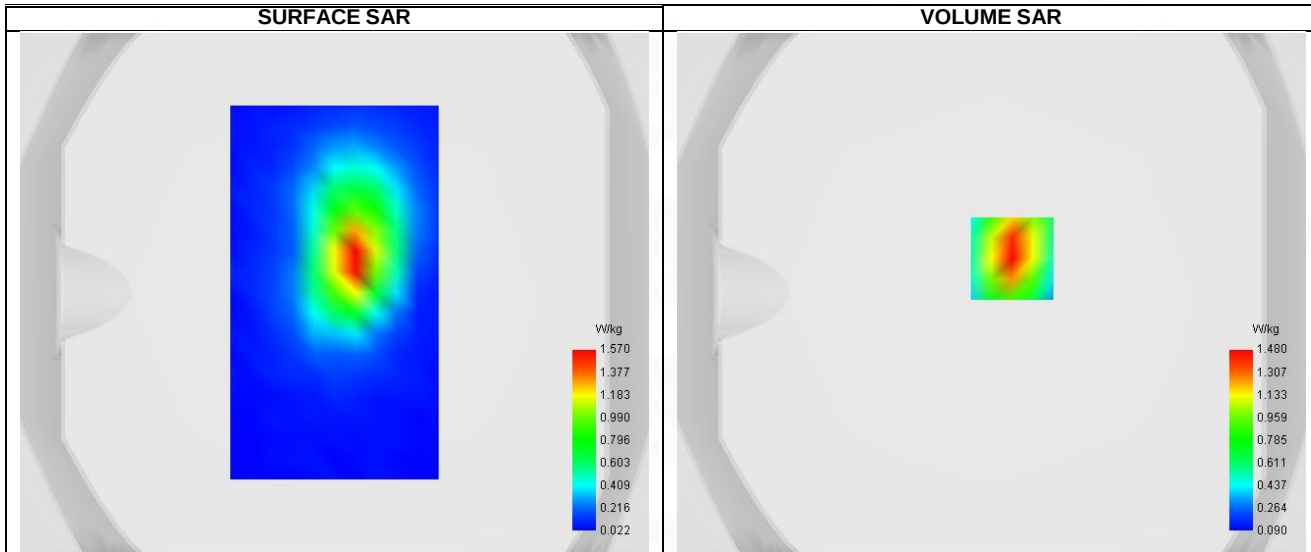
A. Experimental conditions.

Probe	SN 04/22 EPG0365
ConvF	2.24
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Body
Band	Band 2 (1900)
Channels	Higher (9538)
Signal	WCDMA
Mode	Release 99
Connection Type	RMC, 12.2 kbps

B. Permittivity

Frequency (MHz)	1907.600
Relative permittivity (real part)	39.869
Relative permittivity (imaginary part)	13.391
Conductivity (S/m)	1.416

C. SAR Surface and Volume



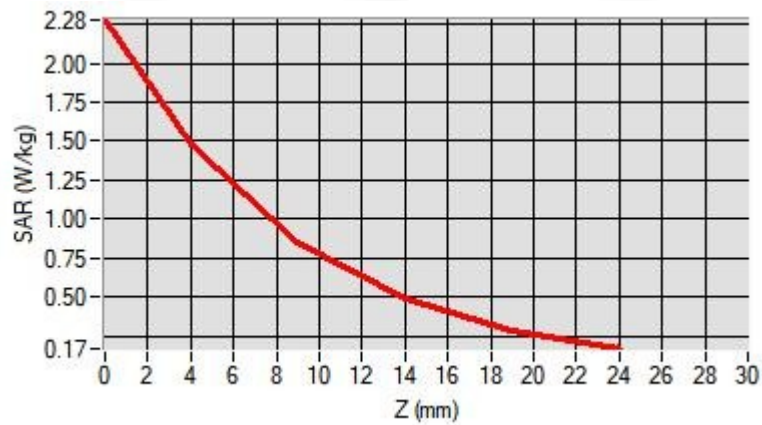
Maximum location: X=8.00, Y=13.00 ; SAR Peak: 2.28 W/kg

D. SAR 1g & 10g

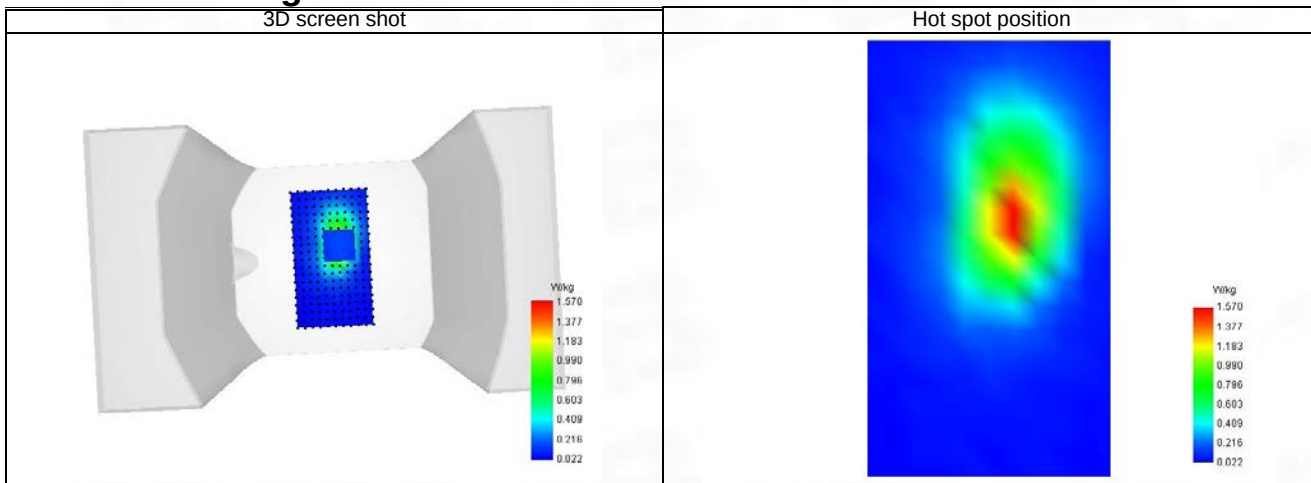
SAR 10g (W/Kg)	0.256
SAR 1g (W/Kg)	0.502
Variation (%)	0.154
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	2.276	1.480	0.846	0.486	0.290



F. 3D Image



7-Head with front position in dist. 0mm on Channel 1413 in WCDMA Band 4

SAR Measurement at Band 4 (1700) (Cheek, Right)

Date of measurement: 14/8/2023

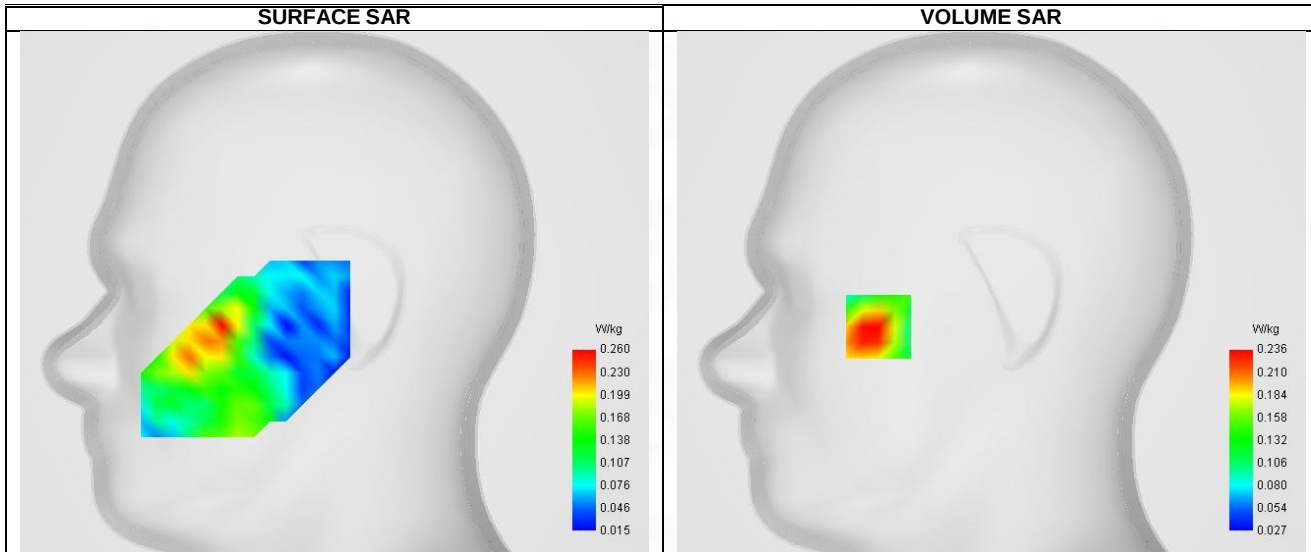
A. Experimental conditions.

Probe	SN 04/22 EPG0365
ConvF	1.96
Area Scan	sam_direct_droit2_surf8mm.txt
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2mm,Complete
Phantom	Right head
Device Position	Cheek
Band	Band 4 (1700)
Channels	Middle (1413)
Signal	WCDMA
Mode	Release 99
Connection Type	RMC, 12.2 kbps

B. Permittivity

Frequency (MHz)	1732.600
Relative permittivity (real part)	40.015
Relative permittivity (imaginary part)	13.985
Conductivity (S/m)	1.335

C. SAR Surface and Volume



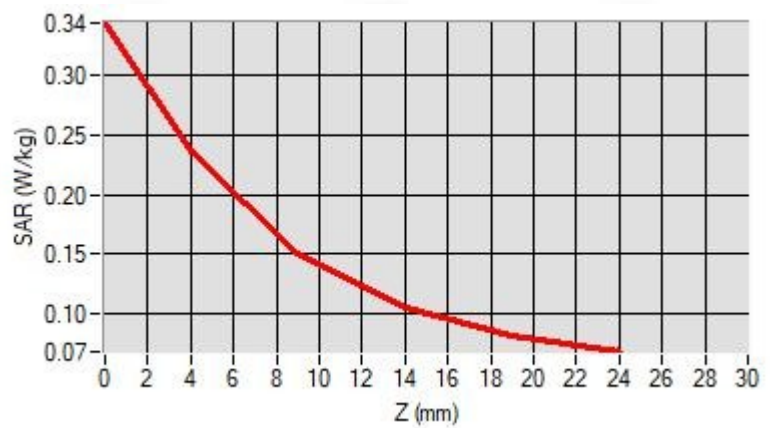
Maximum location: X=-56.00, Y=-17.00 ; SAR Peak: 0.37 W/kg

D. SAR 1g & 10g

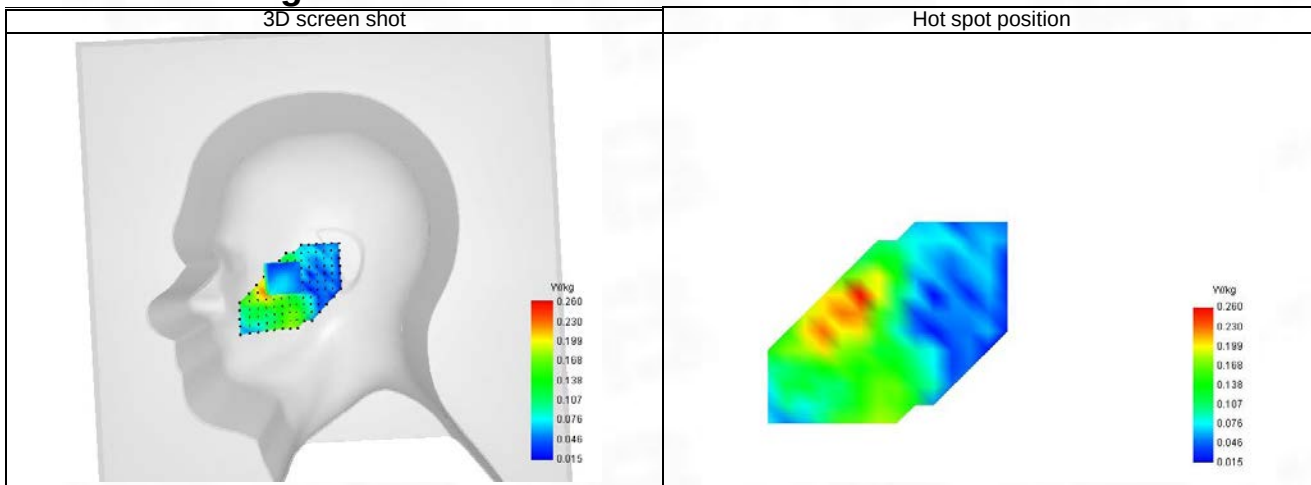
SAR 10g (W/Kg)	0.167
SAR 1g (W/Kg)	0.398
Variation (%)	0.119
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.344	0.236	0.151	0.104	0.081



F. 3D Image



8-Body with back position in dist. 10mm on Channel 1413 in WCDMA Band 4

SAR Measurement at Band 4 (1700) (Body, Validation Plane)

Date of measurement: 14/8/2023

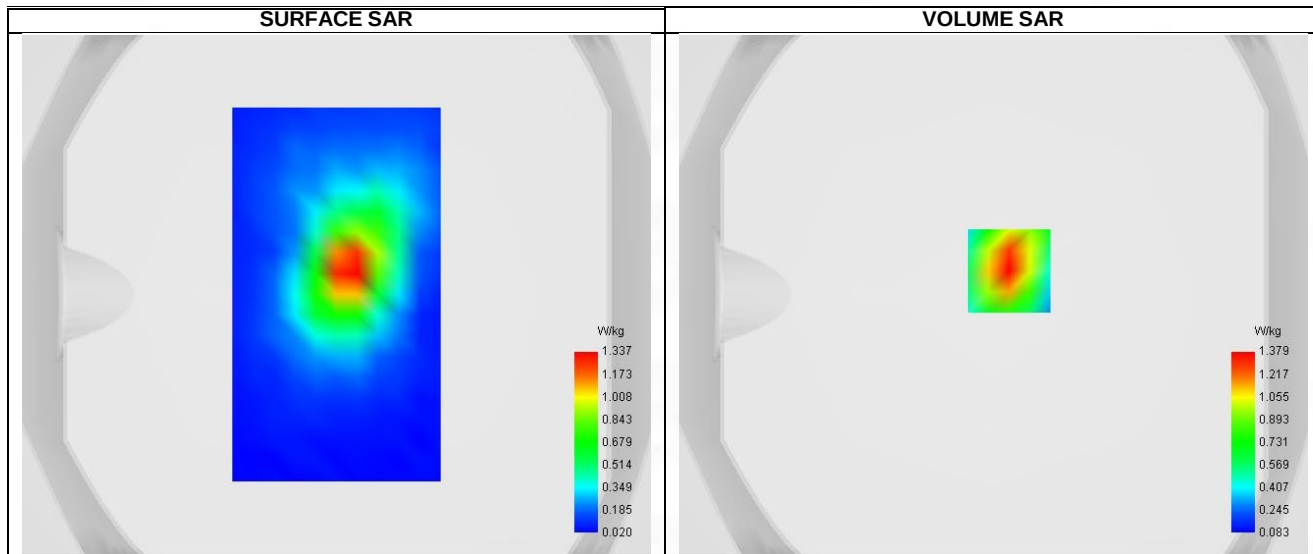
A. Experimental conditions.

Probe	SN 04/22 EPG0365
ConvF	1.96
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Body
Band	Band 4 (1700)
Channels	Middle (1413)
Signal	WCDMA
Mode	Release 99
Connection Type	RMC, 12.2 kbps

B. Permittivity

Frequency (MHz)	1732.600
Relative permittivity (real part)	40.015
Relative permittivity (imaginary part)	13.985
Conductivity (S/m)	1.335

C. SAR Surface and Volume



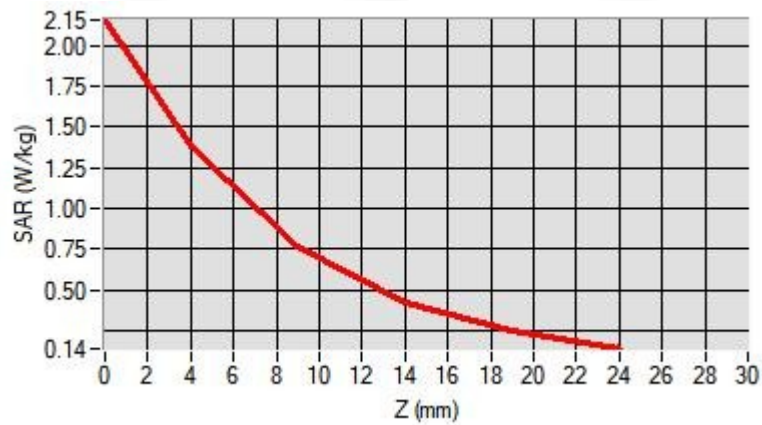
Maximum location: X=6.00, Y=9.00 ; SAR Peak: 2.17 W/kg

D. SAR 1g & 10g

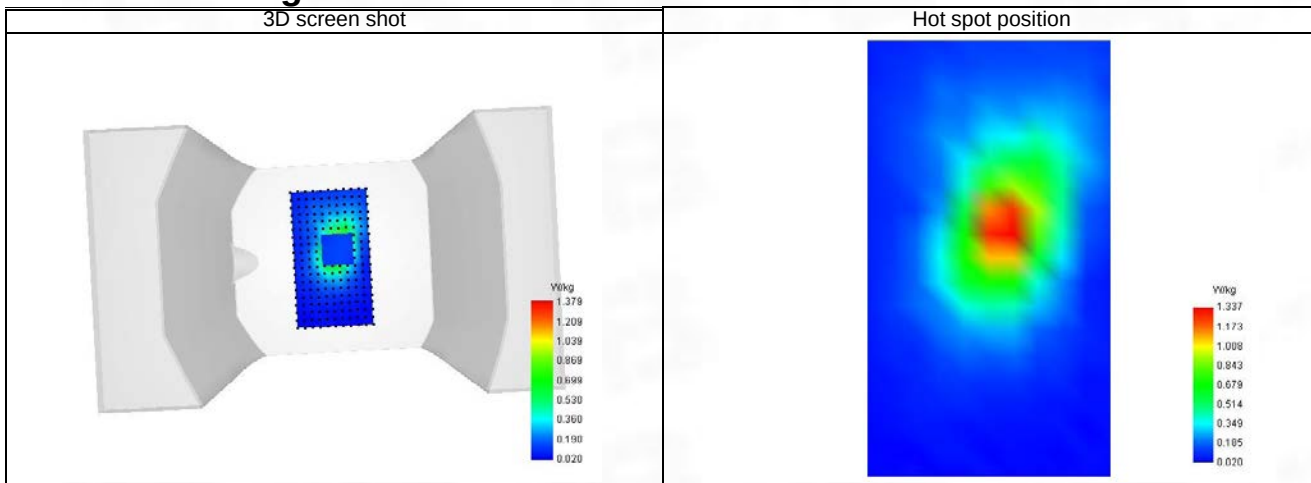
SAR 10g (W/Kg)	0.290
SAR 1g (W/Kg)	0.498
Variation (%)	0.325
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	2.155	1.379	0.768	0.429	0.249



F. 3D Image



9-Head with front position in dist. 0mm on Channel 4233 in WCDMA Band 5

SAR Measurement at Band 5 (850) (Cheek, Right)

Date of measurement: 11/8/2023

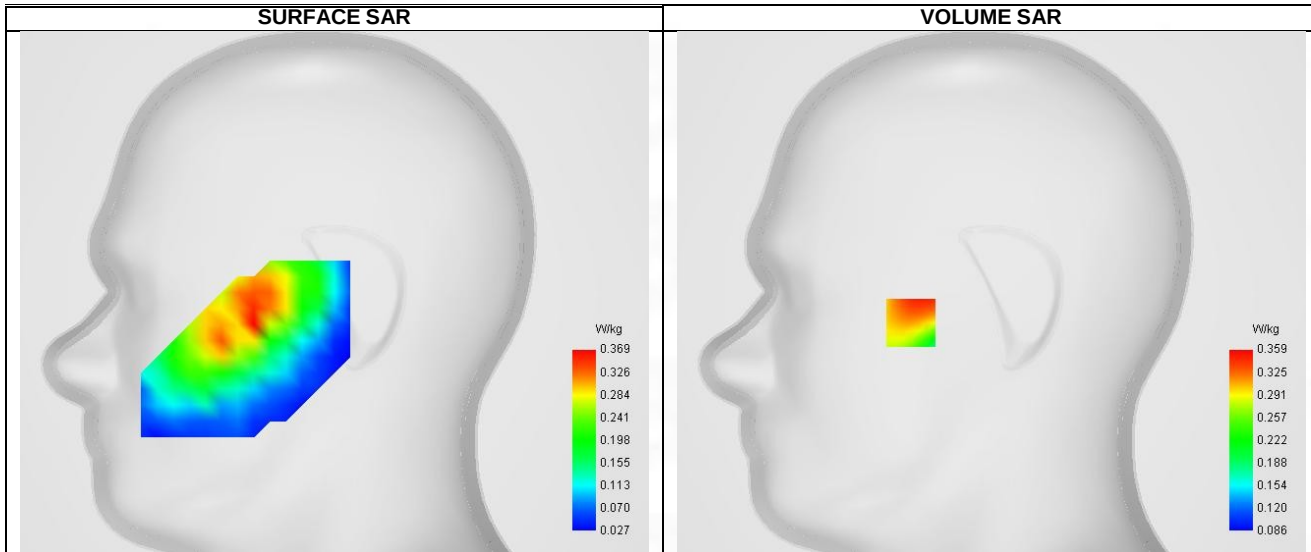
A. Experimental conditions.

Probe	SN 04/22 EPG0365
ConvF	1.68
Area Scan	sam_direct_droit2_surf8mm.txt
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2mm,Complete
Phantom	Right head
Device Position	Cheek
Band	Band 5 (850)
Channels	Higher (4233)
Signal	WCDMA
Mode	Release 99
Connection Type	RMC, 12.2 kbps

B. Permittivity

Frequency (MHz)	846.600
Relative permittivity (real part)	41.392
Relative permittivity (imaginary part)	19.508
Conductivity (S/m)	0.876

C. SAR Surface and Volume



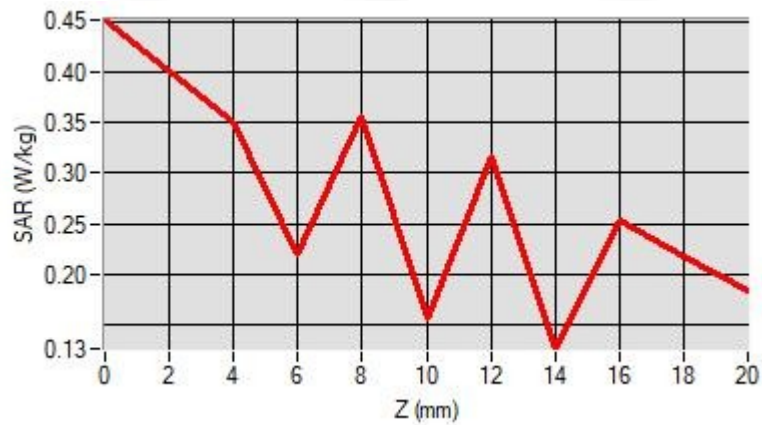
Maximum location: X=-40.00, Y=-15.00 ; SAR Peak: 0.69 W/kg

D. SAR 1g & 10g

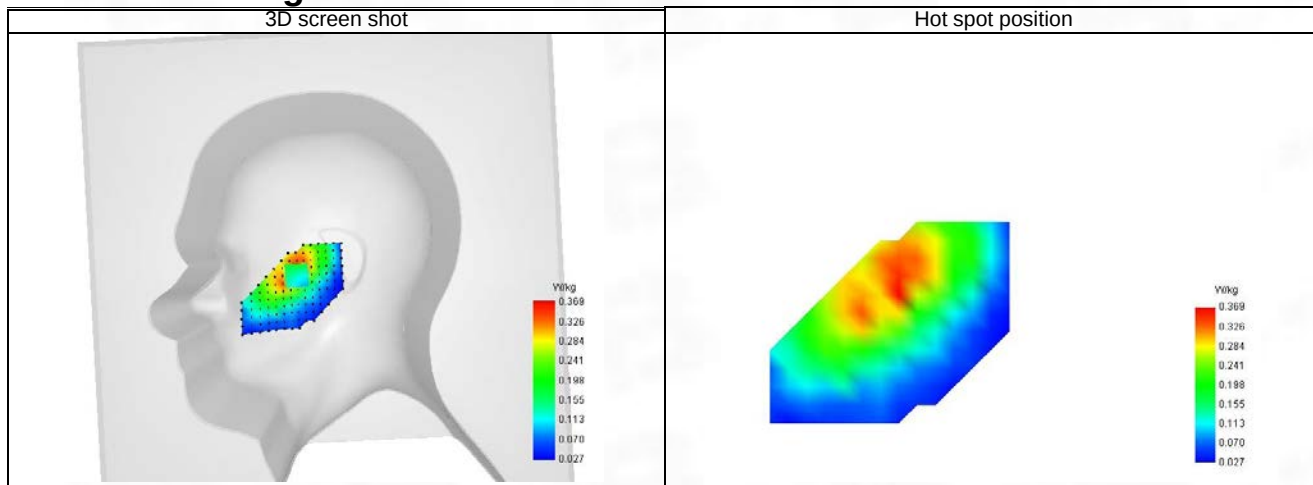
SAR 10g (W/Kg)	0.354
SAR 1g (W/Kg)	0.625
Variation (%)	0.145
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00
SAR (W/Kg)	0.451	0.350	0.220	0.356	0.156	0.317	0.127	0.253	0.218



F. 3D Image



10-Body with front position in dist. 10mm on Channel 4233 in WCDMA Band 5

SAR Measurement at Band 5 (850) (Body. Validation Plane)

Date of measurement: 11/8/2023

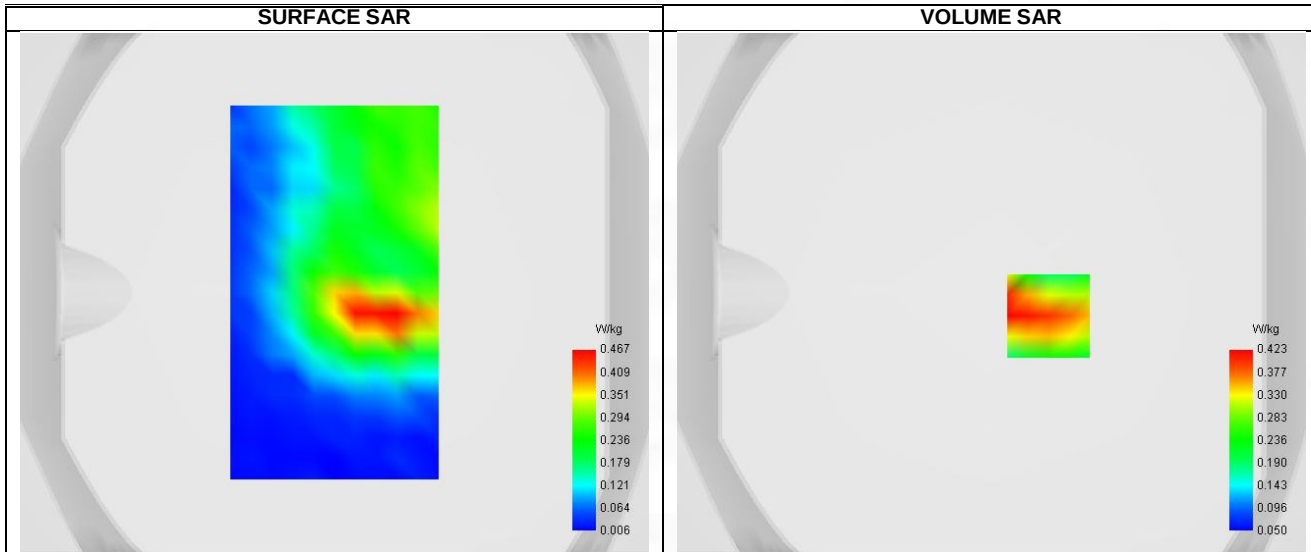
A. Experimental conditions.

Probe	SN 04/22 EPG0365
ConvF	1.68
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Body
Band	Band 5 (850)
Channels	Higher (4233)
Signal	WCDMA
Mode	Release 99
Connection Type	RMC, 12.2 kbps

B. Permittivity

Frequency (MHz)	846.600
Relative permittivity (real part)	41.392
Relative permittivity (imaginary part)	19.508
Conductivity (S/m)	0.876

C. SAR Surface and Volume

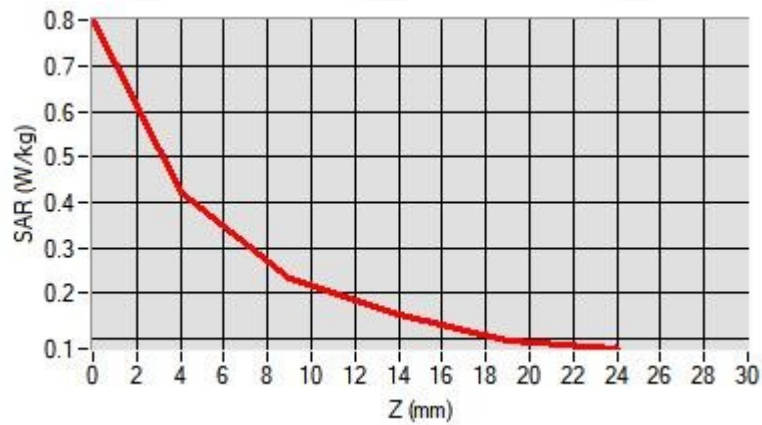


D. SAR 1g & 10g

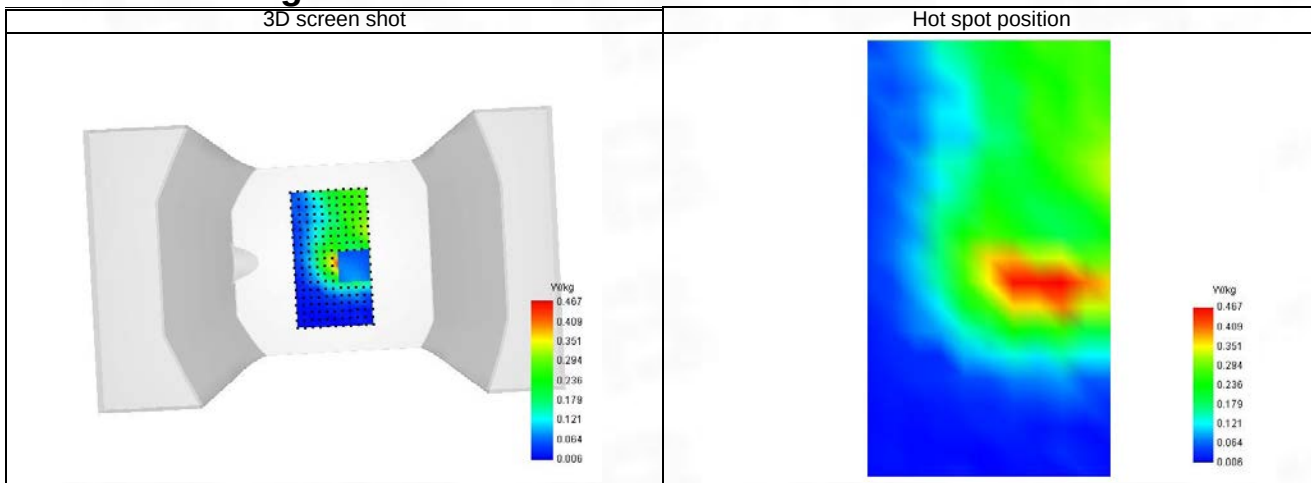
SAR 10g (W/Kg)	0.255
SAR 1g (W/Kg)	0.448
Variation (%)	0.002
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.802	0.423	0.232	0.154	0.094



F. 3D Image



11-Head with front position in dist. 0mm on Channel 18900 in LTE band 2

SAR Measurement at LTE band 2 (Cheek, Left)

Date of measurement: 14/8/2023

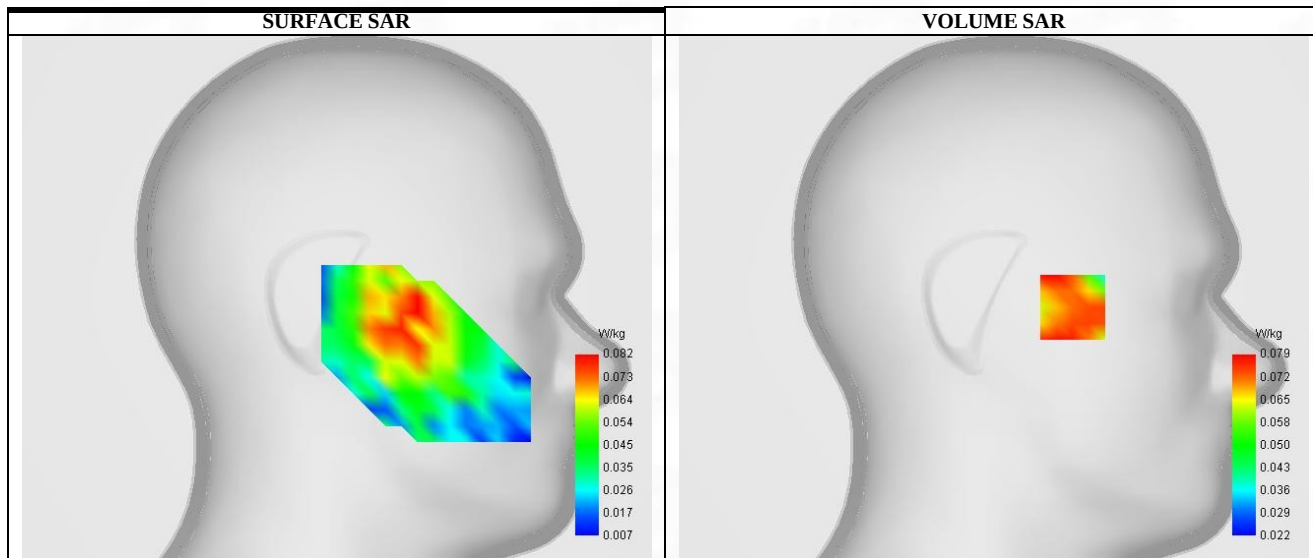
A. Experimental conditions.

Probe	SN 04/22 EPG0365
ConvF	2.24
Area Scan	sam_direct_droit2_surf8mm.txt
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2mm,Complete
Phantom	Left head
Device Position	Cheek
Band	LTE band 2
Channels	Middle (18900)
Signal	LTE FDD
Cell Bandwidth	20 Mhz
Modulation	SC-OFDM - QPSK
RB offset	0
RB size	1

B. Permittivity

Frequency (MHz)	1880.000
Relative permittivity (real part)	39.909
Relative permittivity (imaginary part)	13.351
Conductivity (S/m)	1.395

C. SAR Surface and Volume



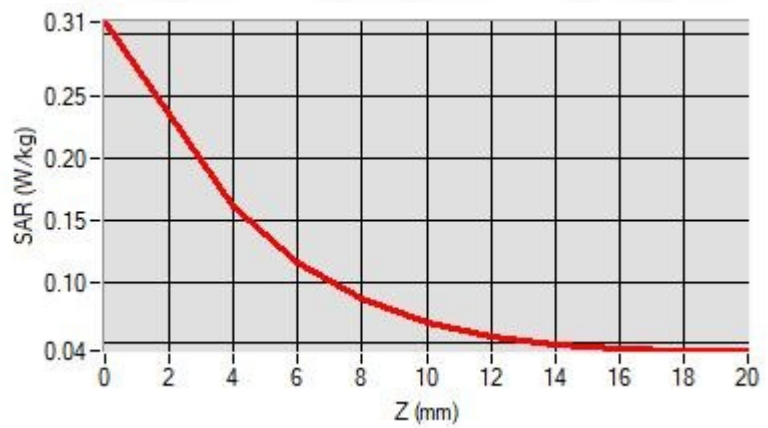
Maximum location: X=-55.00, Y=-40.00 ; SAR Peak: 0.31 W/kg

D. SAR 1g & 10g

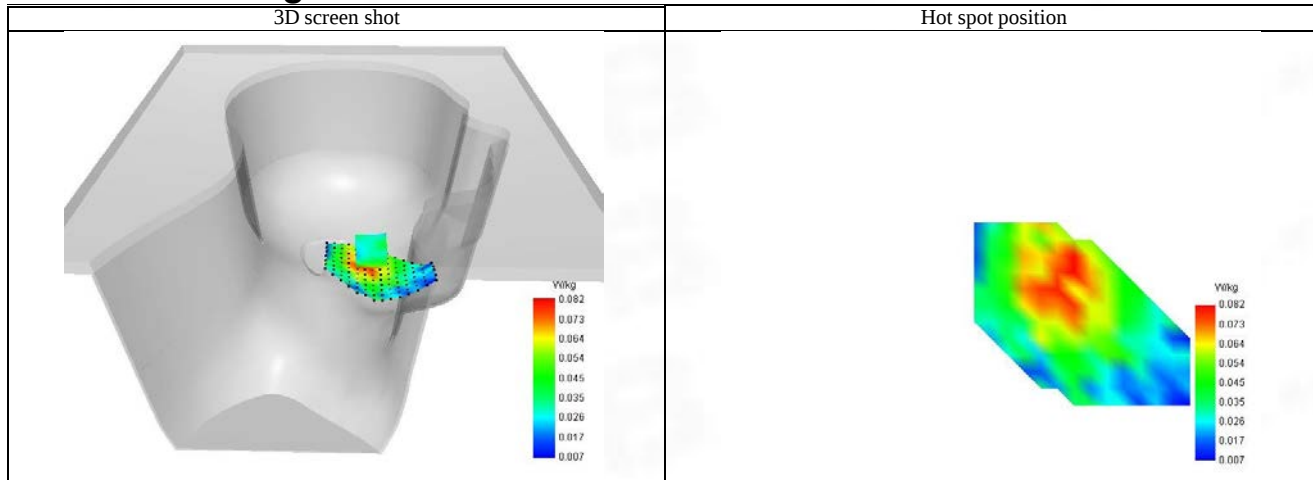
SAR 10g (W/Kg)	0.145
SAR 1g (W/Kg)	0.335
Variation (%)	0.442
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00
SAR (W/Kg)	0.310	0.160	0.116	0.086	0.068	0.056	0.050	0.046	0.045



F. 3D Image



12-Body with front position in dist. 10mm on Channel 18900 in LTE band 2

SAR Measurement at LTE band 2 (Body, Validation Plane)

Date of measurement: 14/8/2023

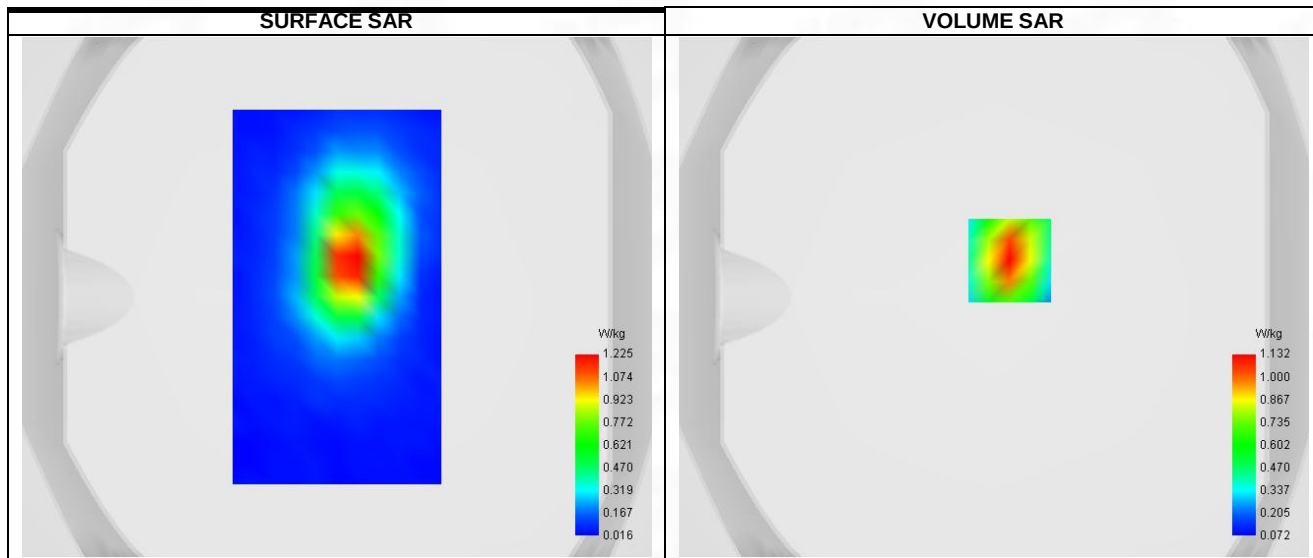
A. Experimental conditions.

Probe	SN 04/22 EPG0365
ConvF	2.24
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Body
Band	LTE band 2
Channels	Middle (18900)
Signal	LTE FDD
Cell Bandwidth	20 Mhz
Modulation	SC-OFDM - QPSK
RB offset	0
RB size	1

B. Permittivity

Frequency (MHz)	1880.000
Relative permittivity (real part)	39.909
Relative permittivity (imaginary part)	13.351
Conductivity (S/m)	1.395

C. SAR Surface and Volume

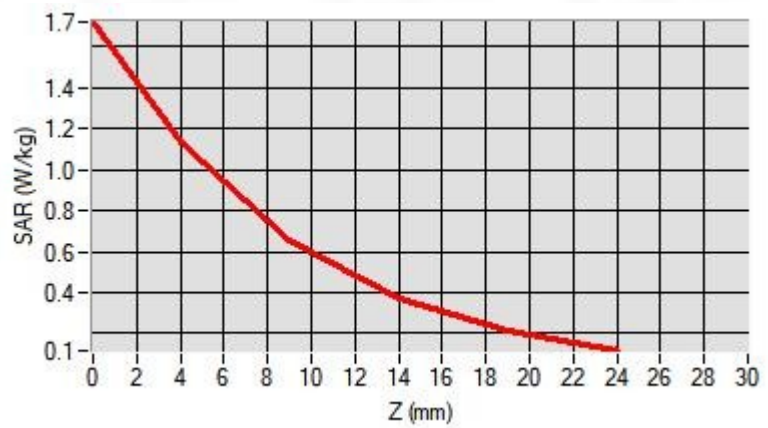


D. SAR 1g & 10g

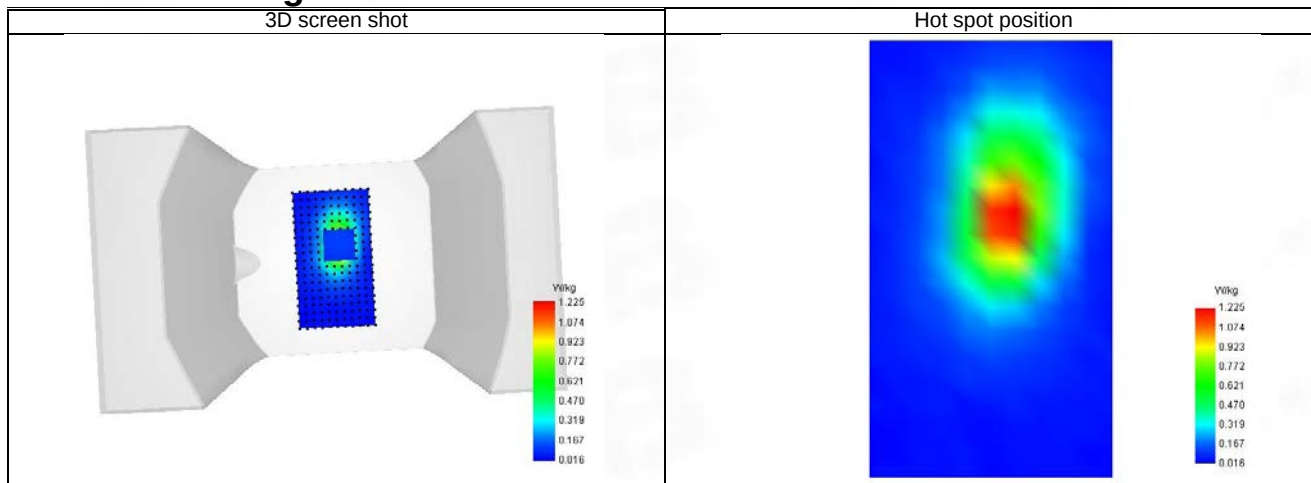
SAR 10g (W/Kg)	0.250
SAR 1g (W/Kg)	0.432
Variation (%)	0.225
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	1.720	1.132	0.653	0.373	0.214



F. 3D Image



13-Head with front position in dist. 0mm on Channel 20500 in LTE band 4

SAR Measurement at LTE band 4 (Cheek, Left)

Date of measurement: 14/8/2023

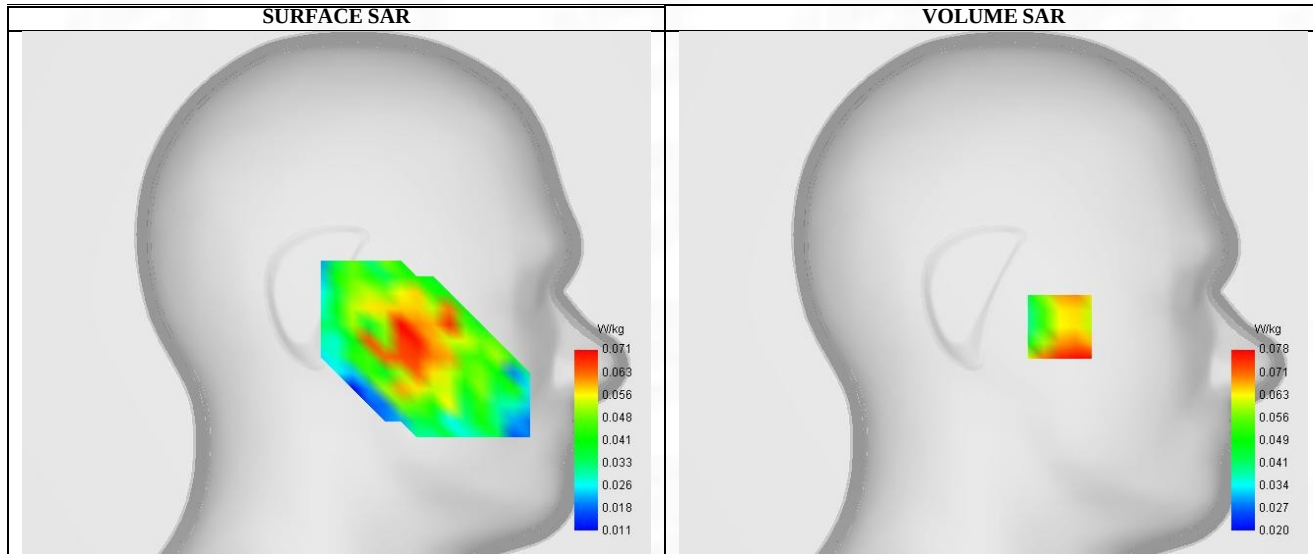
A. Experimental conditions.

Probe	SN 04/22 EPG0365
ConvF	1.96
Area Scan	sam_direct_droit2_surf8mm.txt
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2mm,Complete
Phantom	Left head
Device Position	Cheek
Band	LTE band 4
Channels	Lower (20500)
Signal	LTE FDD
Cell Bandwidth	20 Mhz
Modulation	SC-OFDM - QPSK
RB offset	0
RB size	1

B. Permittivity

Frequency (MHz)	1720.000
Relative permittivity (real part)	40.034
Relative permittivity (imaginary part)	13.966
Conductivity (S/m)	1.329

C. SAR Surface and Volume



Maximum location: X=-55.00, Y=-37.00 ; SAR Peak: 0.46 W/kg

D. SAR 1g & 10g

SAR 10g (W/Kg)	0.227
SAR 1g (W/Kg)	0.535
Variation (%)	0.669
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

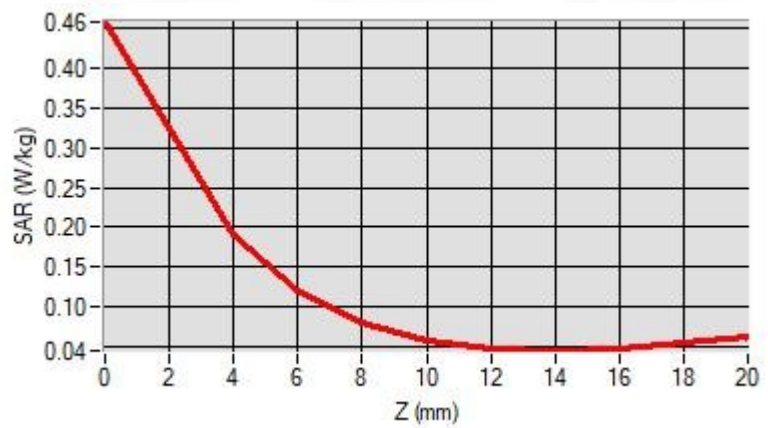
E. Z Axis Scan

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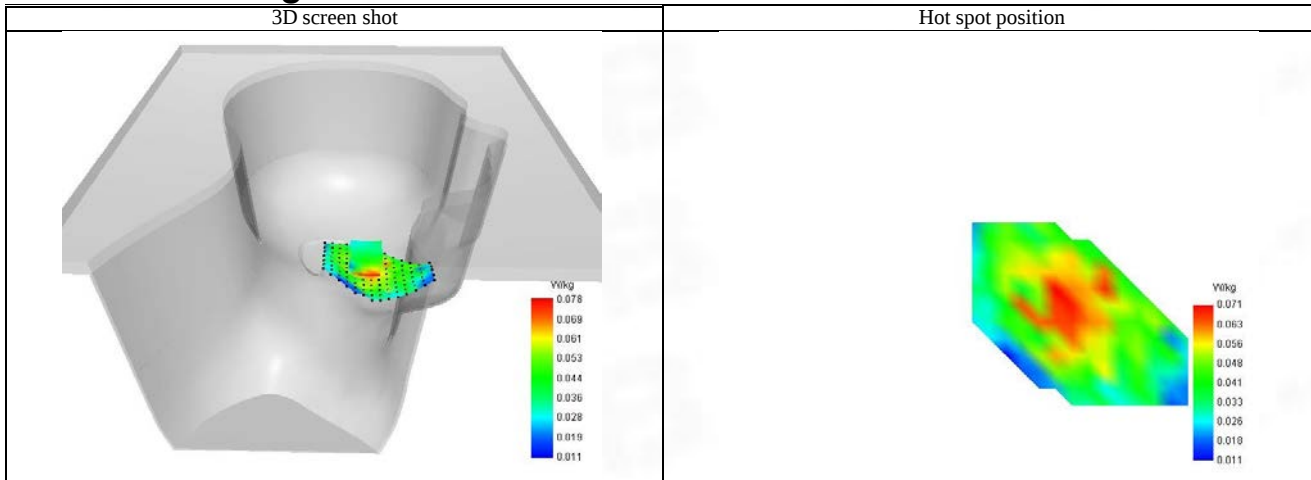
BTF Testing Lab (Shenzhen) Co., Ltd.

F101, 201 and 301, Building 1, Block 2, Tantou Industrial Park, Tantou Community, Songgang Street, Bao'an District, Shenzhen, China

Z (mm)	0.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00
SAR (W/Kg)	0.458	0.191	0.121	0.079	0.057	0.047	0.045	0.048	0.054



F. 3D Image



14-Body with front position in dist. 10mm on Channel 20500 in LTE band 4

SAR Measurement at LTE band 4 (Body, Validation Plane)

Date of measurement: 14/8/2023

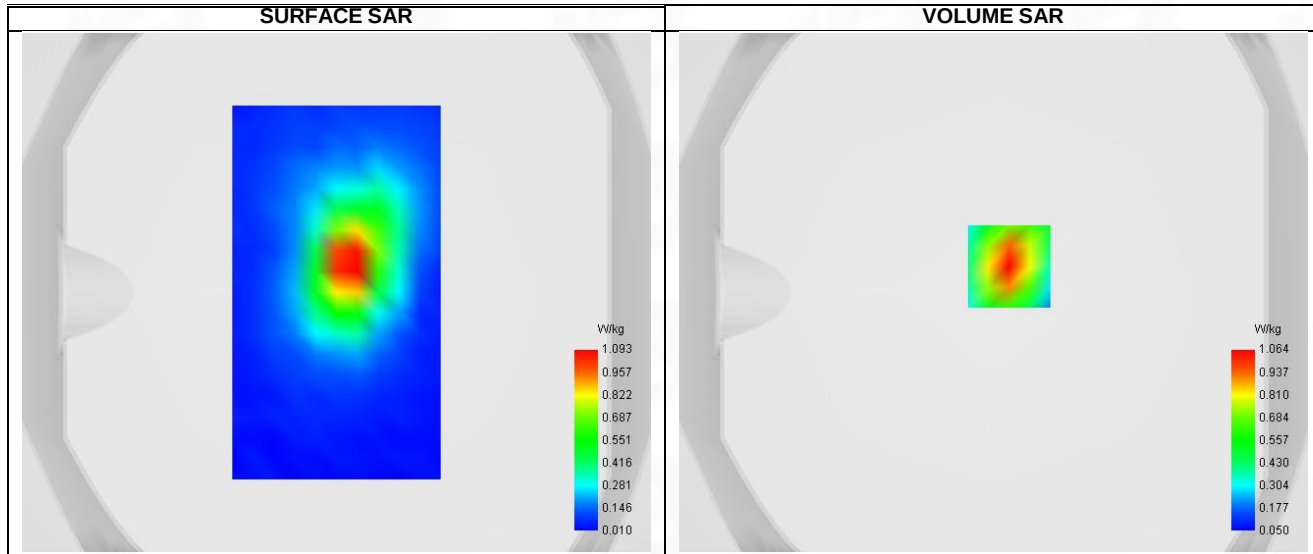
A. Experimental conditions.

Probe	SN 04/22 EPG0365
ConvF	1.96
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Body
Band	LTE band 4
Channels	Lower (20500)
Signal	LTE FDD
Cell Bandwidth	20 Mhz
Modulation	SC-OFDM - QPSK
RB offset	0
RB size	1

B. Permittivity

Frequency (MHz)	1720.000
Relative permittivity (real part)	40.034
Relative permittivity (imaginary part)	13.966
Conductivity (S/m)	1.329

C. SAR Surface and Volume



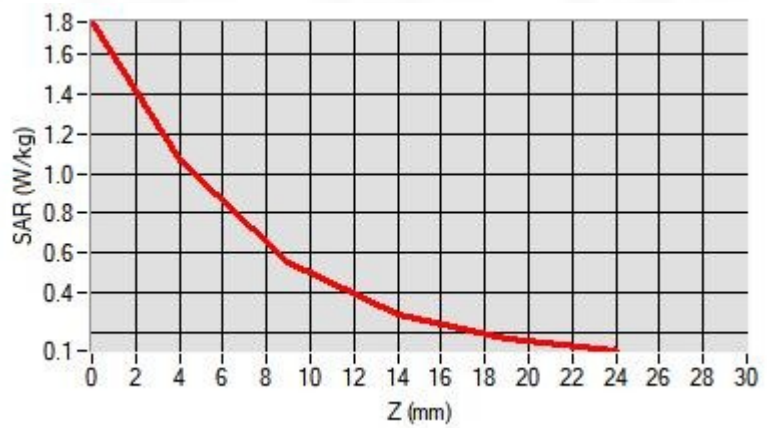
Maximum location: X=6.00, Y=10.00 ; SAR Peak: 1.76 W/kg

D. SAR 1g & 10g

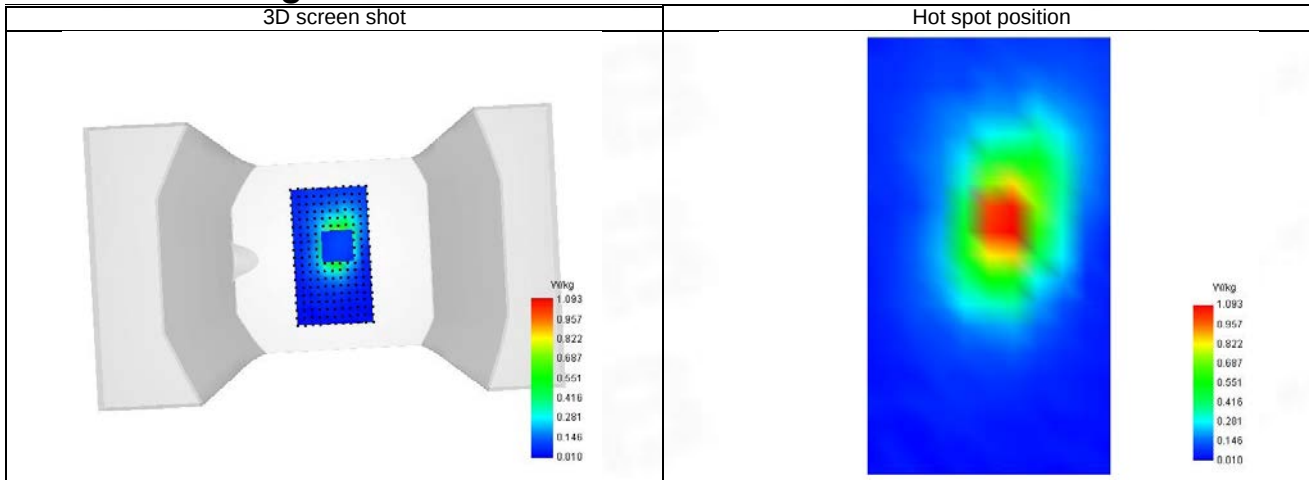
SAR 10g (W/Kg)	0.300
SAR 1g (W/Kg)	0.635
Variation (%)	0.698
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	1.758	1.064	0.552	0.295	0.176



F. 3D Image



15-Head with front position in dist. 0mm on Channel 20600 in LTE band 5

SAR Measurement at LTE band 5 (Cheek, Left)

Date of measurement: 11/8/2023

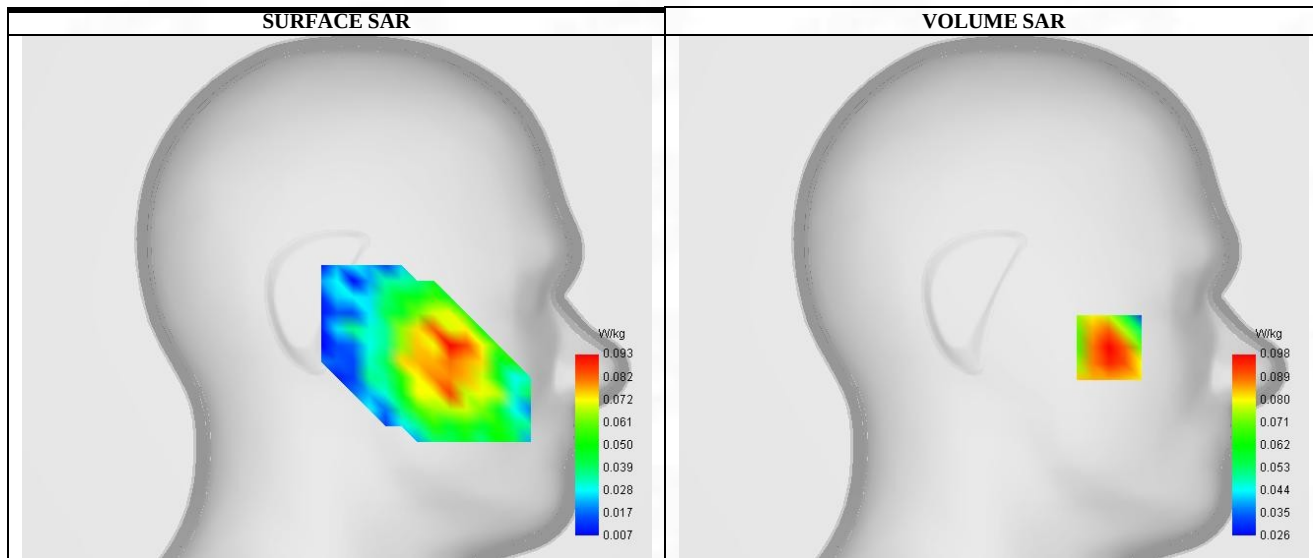
A. Experimental conditions.

Probe	SN 04/22 EPG0365
ConvF	1.68
Area Scan	sam_direct_droit2_surf8mm.txt
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2mm,Complete
Phantom	Left head
Device Position	Cheek
Band	LTE band 5
Channels	Higher (20600)
Signal	LTE FDD
Cell Bandwidth	10 Mhz
Modulation	SC-OFDM - QPSK
RB offset	49
RB size	1

B. Permittivity

Frequency (MHz)	844.000
Relative permittivity (real part)	41.396
Relative permittivity (imaginary part)	19.504
Conductivity (S/m)	0.875

C. SAR Surface and Volume



Maximum location: X=-57.00, Y=-16.00 ; SAR Peak: 0.21 W/kg

D. SAR 1g & 10g

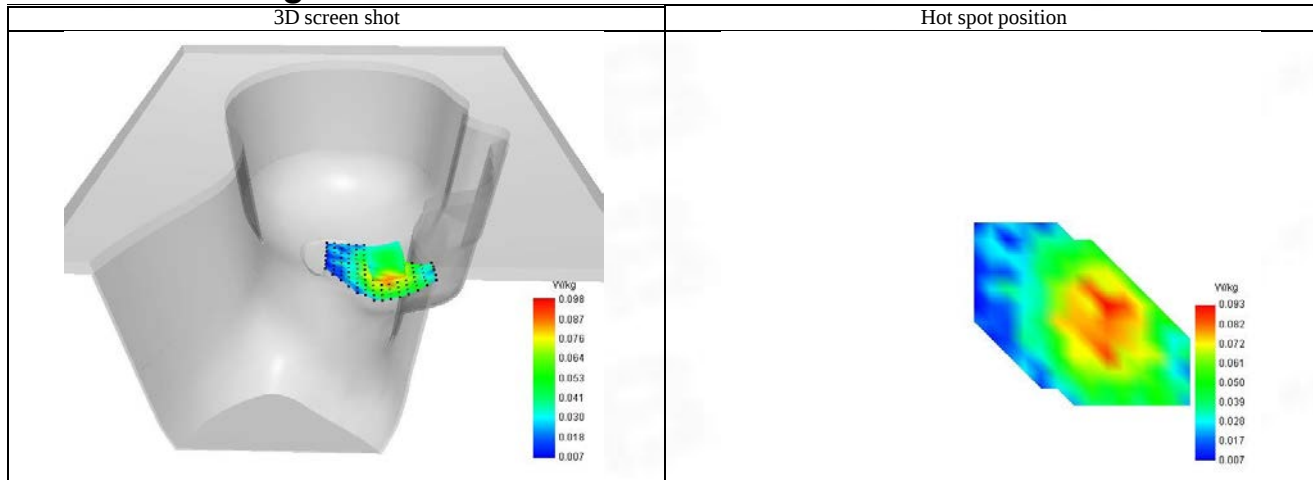
SAR 10g (W/Kg)	0.288
SAR 1g (W/Kg)	0.569
Variation (%)	0.554
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00
SAR (W/Kg)	0.249	0.122	0.092	0.133	0.088	0.118	0.075	0.088	0.050



F. 3D Image



16-Body with front position in dist. 10mm on Channel 20600 in LTE band 5

SAR Measurement at LTE band 5 (Body. Validation Plane)

Date of measurement: 11/8/2023

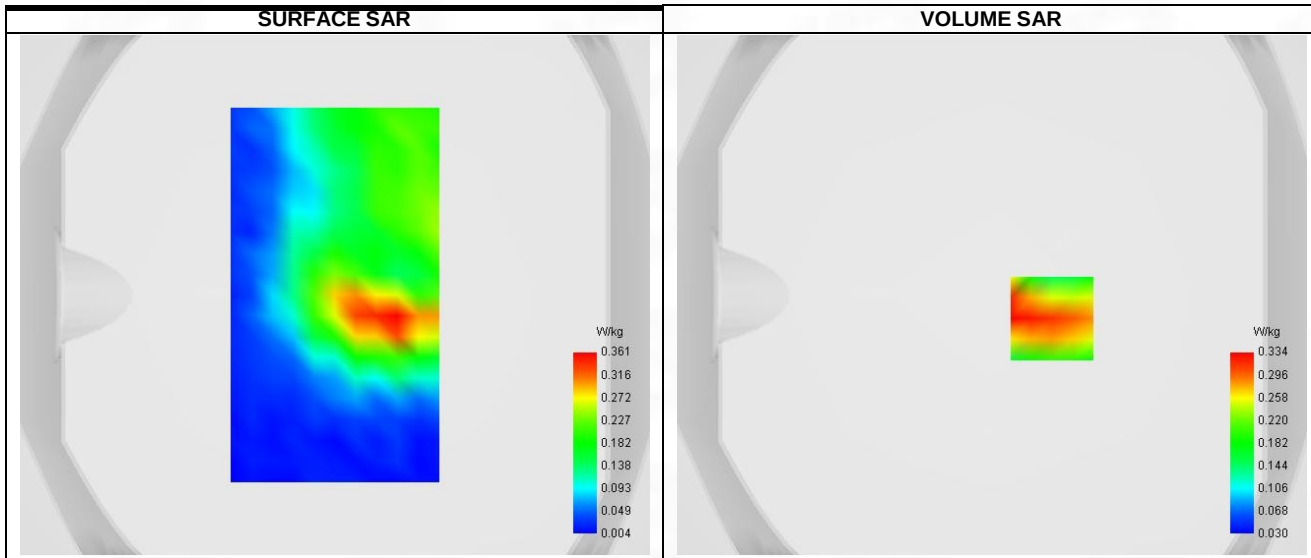
A. Experimental conditions.

Probe	SN 04/22 EPG0365
ConvF	1.68
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Body
Band	LTE band 5
Channels	Higher (20600)
Signal	LTE FDD
Cell Bandwidth	10 Mhz
Modulation	SC-OFDM - QPSK
RB offset	49
RB size	1

B. Permittivity

Frequency (MHz)	844.000
Relative permittivity (real part)	41.396
Relative permittivity (imaginary part)	19.504
Conductivity (S/m)	0.875

C. SAR Surface and Volume

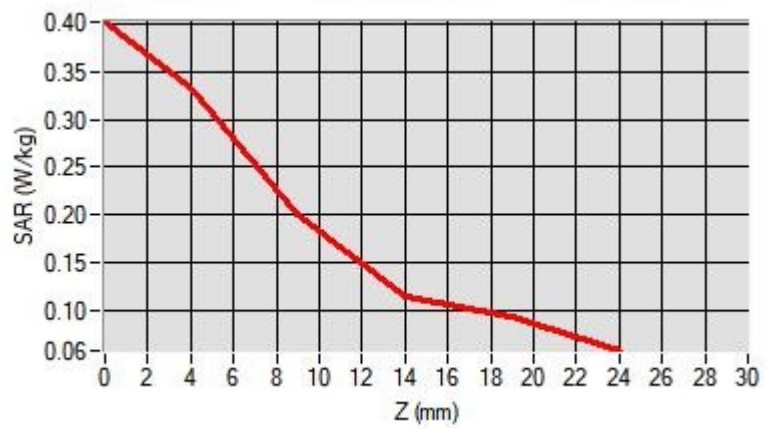


D. SAR 1g & 10g

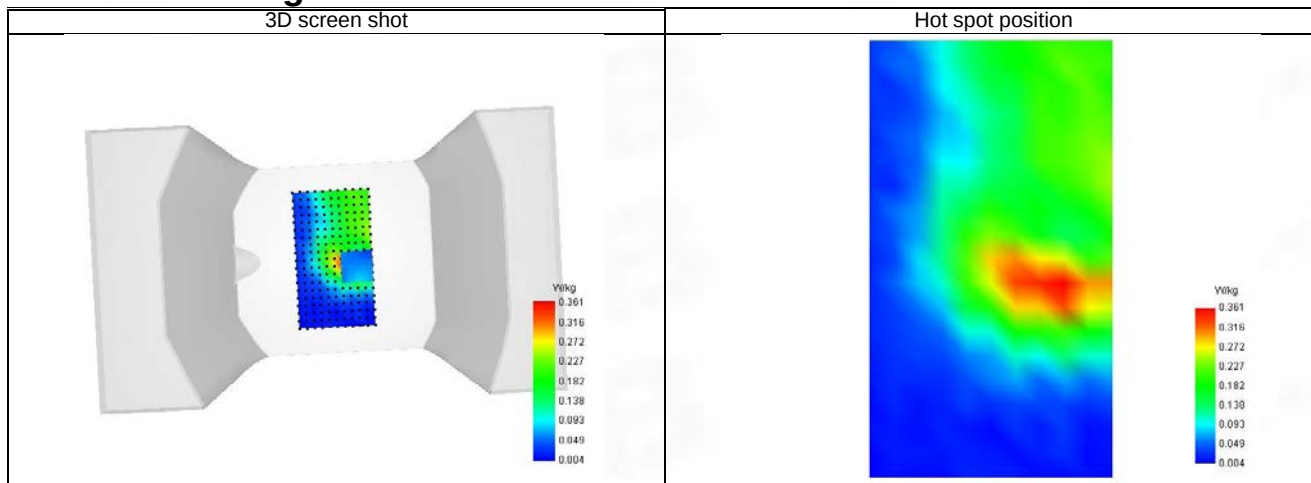
SAR 10g (W/Kg)	0.214
SAR 1g (W/Kg)	0.432
Variation (%)	0.245
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.403	0.334	0.200	0.115	0.094



F. 3D Image



17-Head with front position in dist. 0mm on Channel 21100 in LTE band 7

SAR Measurement at LTE band 7 (Cheek, Left)

Date of measurement: 15/8/2023

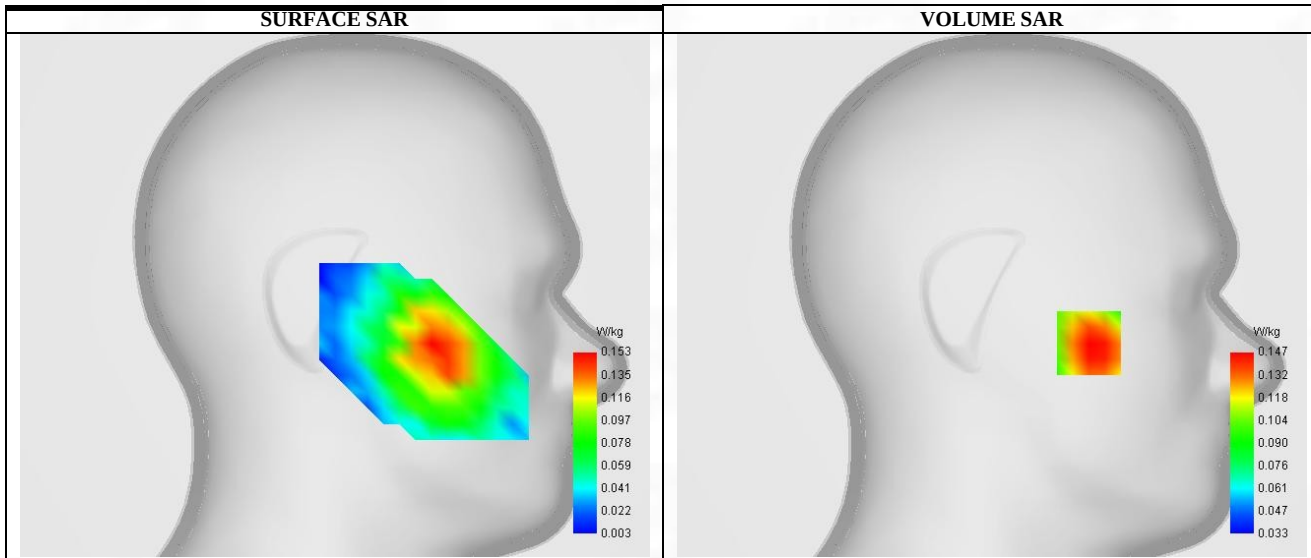
A. Experimental conditions.

Probe	SN 04/22 EPG0365
ConvF	1.65
Area Scan	sam_direct_droit2_surf8mm.txt
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2mm,Complete
Phantom	Left head
Device Position	Cheek
Band	LTE band 7
Channels	Middle (21100)
Signal	LTE FDD
Cell Bandwidth	20 Mhz
Modulation	SC-OFDM - QPSK
RB offset	99
RB size	1

B. Permittivity

Frequency (MHz)	2535.000
Relative permittivity (real part)	38.967
Relative permittivity (imaginary part)	12.603
Conductivity (S/m)	1.901

C. SAR Surface and Volume



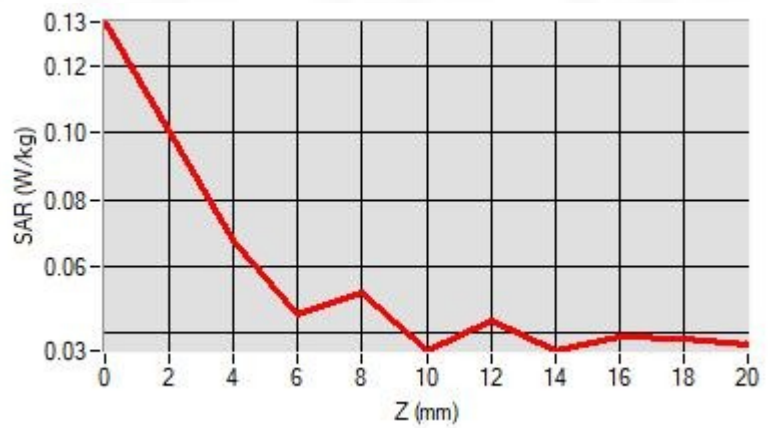
Maximum location: X=-48.00, Y=-8.00 ; SAR Peak: 0.14 W/kg

D. SAR 1g & 10g

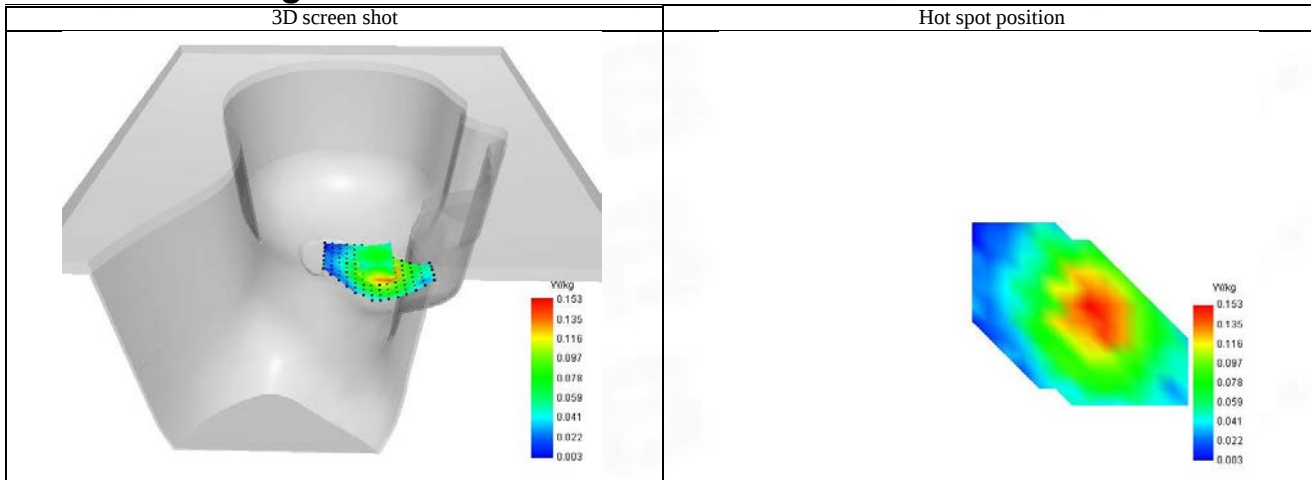
SAR 10g (W/Kg)	0.110
SAR 1g (W/Kg)	0.298
Variation (%)	3.220
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00
SAR (W/Kg)	0.133	0.068	0.045	0.052	0.035	0.044	0.035	0.039	0.039



F. 3D Image



18-Body with front position in dist. 10mm on Channel 21100 in LTE band 7

SAR Measurement at LTE band 7 (Body, Validation Plane)

Date of measurement: 15/8/2023

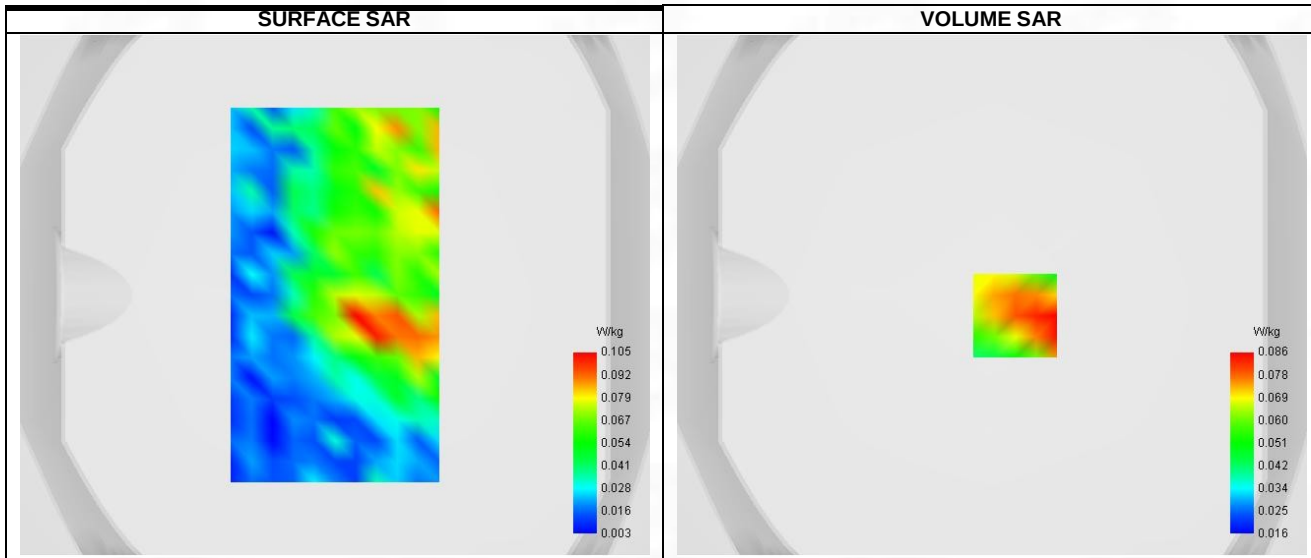
A. Experimental conditions.

Probe	SN 04/22 EPG0365
ConvF	1.65
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Body
Band	LTE band 7
Channels	Middle (21100)
Signal	LTE FDD
Cell Bandwidth	20 Mhz
Modulation	SC-OFDM - QPSK
RB offset	99
RB size	1

B. Permittivity

Frequency (MHz)	2535.000
Relative permittivity (real part)	38.967
Relative permittivity (imaginary part)	12.603
Conductivity (S/m)	1.901

C. SAR Surface and Volume

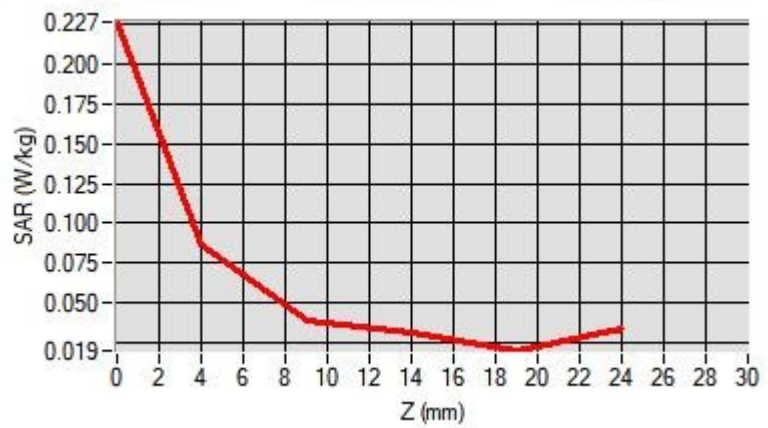


D. SAR 1g & 10g

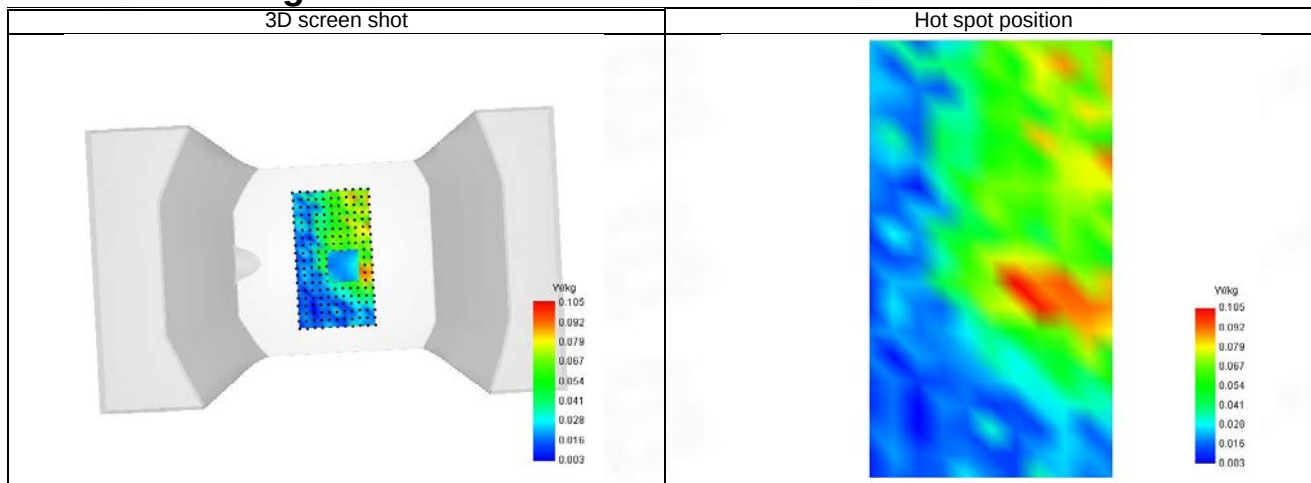
SAR 10g (W/Kg)	0.148
SAR 1g (W/Kg)	0.325
Variation (%)	0.220
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.227	0.086	0.039	0.031	0.019



F. 3D Image



19-Head with front position in dist. 0mm on Channel 38000 in LTE band 38

SAR Measurement at LTE band 38 (Cheek, Left)

Date of measurement: 15/8/2023

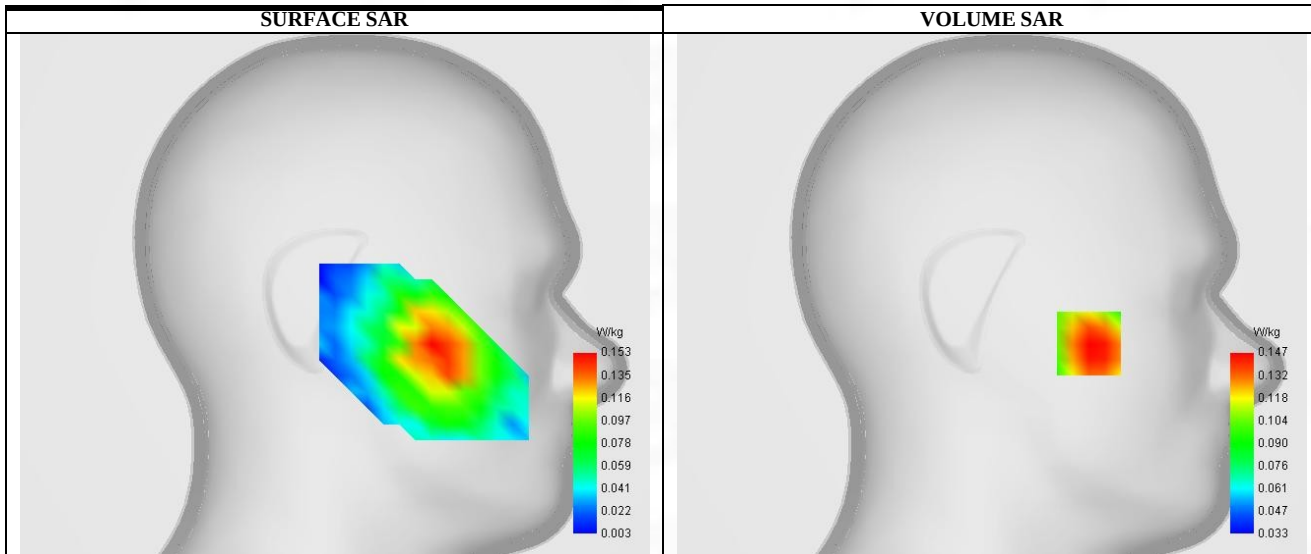
A. Experimental conditions.

Probe	SN 04/22 EPG0365
ConvF	2.40
Area Scan	sam_direct_droit2_surf8mm.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Left head
Device Position	Cheek
Band	LTE band 38
Channels	Middle (38000)
Signal	LTE TDD
Cell Bandwidth	20 Mhz
Modulation	SC-OFDM - QPSK
RB offset	50
RB size	1
Subframe configuration	0
Special subframe configuration	0
Cyclic prefix	Normal
Duty Cycle (%)	0.61

B. Permittivity

Frequency (MHz)	2595.000
Relative permittivity (real part)	38.887
Relative permittivity (imaginary part)	12.683
Conductivity (S/m)	1.965

C. SAR Surface and Volume



Maximum location: X=-55.00, Y=-31.00 ; SAR Peak: 0.12 W/kg

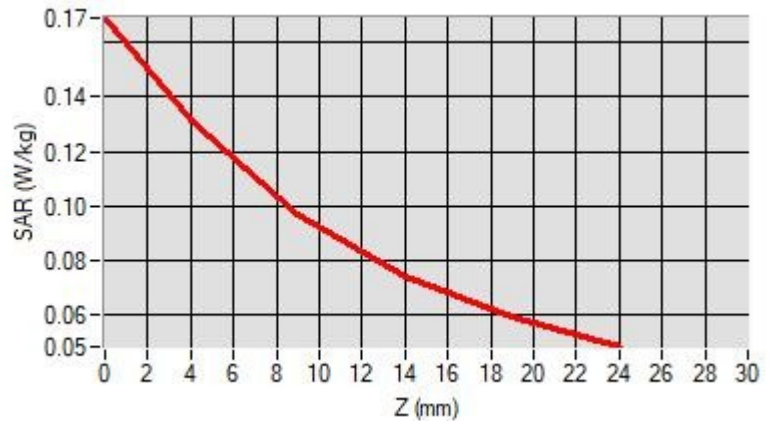
D. SAR 1g & 10g

SAR 10g (W/Kg)	0.208
SAR 1g (W/Kg)	0.449
Variation (%)	0.665
Horizontal validation criteria: minimum distance (mm)	0.000000

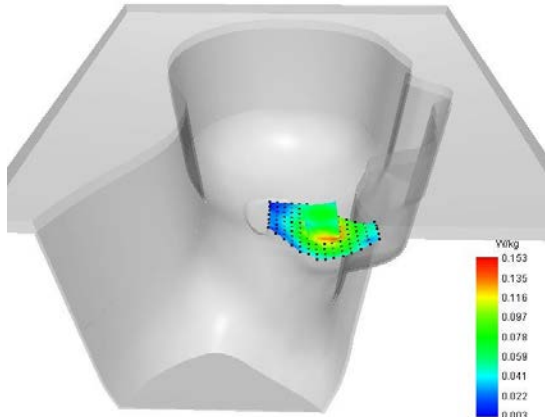
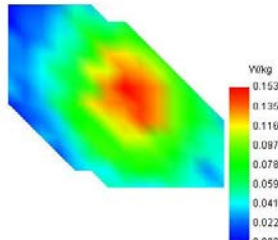
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000
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E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.169	0.131	0.097	0.074	0.059



F. 3D Image

3D screen shot	Hot spot position
	

20-Body with front position in dist. 10mm on Channel 38000 in LTE band 38

SAR Measurement at LTE band 38 (Body, Validation Plane)

Date of measurement: 15/8/2023

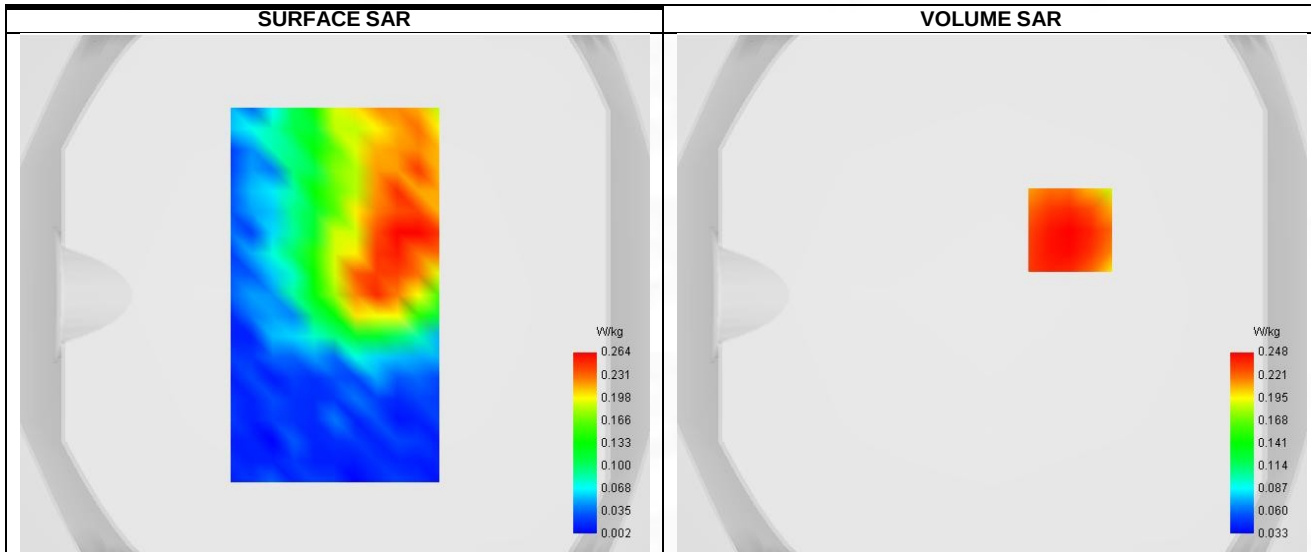
A. Experimental conditions.

Probe	SN 04/22 EPG0365
ConvF	2.40
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Body
Band	LTE band 38
Channels	Middle (38000)
Signal	LTE TDD
Cell Bandwidth	20 Mhz
Modulation	SC-OFDM - QPSK
RB offset	50
RB size	1
Subframe configuration	0
Special subframe configuration	0
Cyclic prefix	Normal
Duty Cycle (%)	0.61

B. Permittivity

Frequency (MHz)	2595.000
Relative permittivity (real part)	38.887
Relative permittivity (imaginary part)	12.683
Conductivity (S/m)	1.965

C. SAR Surface and Volume



Maximum location: X=30.00, Y=25.00 ; SAR Peak: 0.35 W/kg

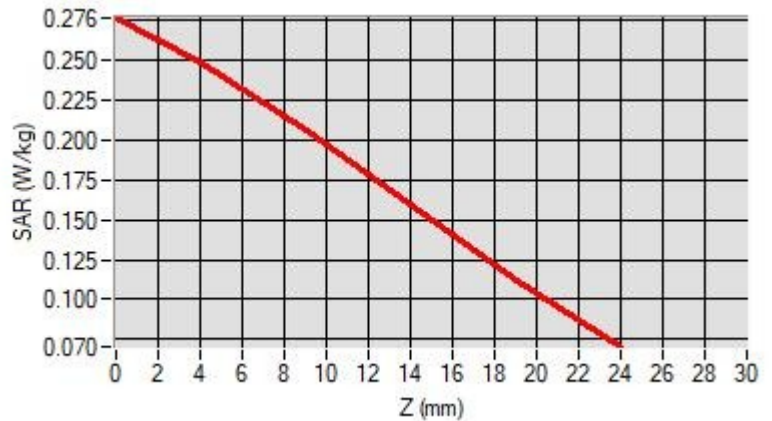
D. SAR 1g & 10g

SAR 10g (W/Kg)	0.192
SAR 1g (W/Kg)	0.398
Variation (%)	0.478
Horizontal validation criteria: minimum distance (mm)	0.000000

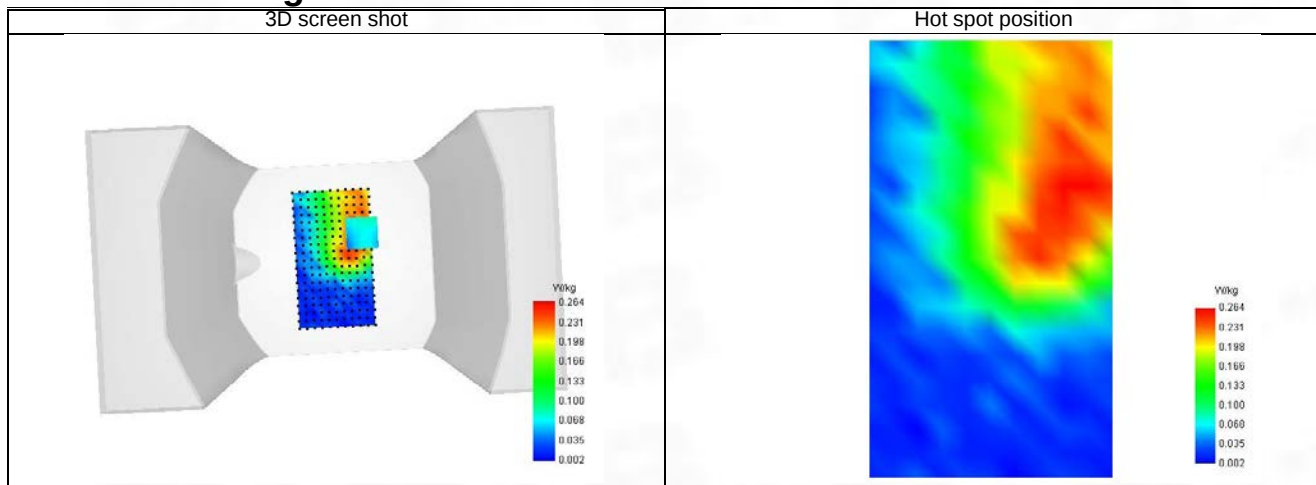
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000
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E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.276	0.248	0.206	0.159	0.112



F. 3D Image



21-Head with front position in dist. 0mm on Channel 41490 in LTE band 41

SAR Measurement at LTE band 41 (Cheek, Left)

Date of measurement: 15/8/2023

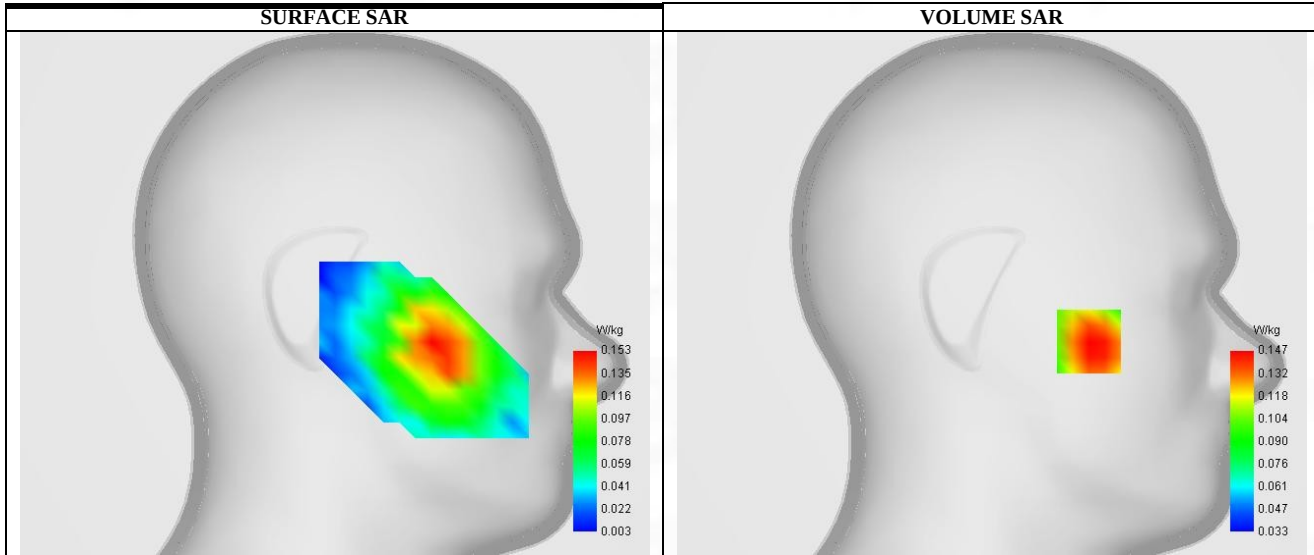
A. Experimental conditions.

Probe	SN 04/22 EPG0365
ConvF	2.40
Area Scan	sam_direct_droit2_surf8mm.txt
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2mm,Complete
Phantom	Left head
Device Position	Cheek
Band	LTE band 41
Channels	Higher (41490)
Signal	LTE TDD
Cell Bandwidth	20 Mhz
Modulation	SC-OFDM - QPSK
RB offset	0
RB size	1
Subframe configuration	0
Special subframe configuration	0
Cyclic prefix	Normal
Duty Cycle (%)	0.61

B. Permittivity

Frequency (MHz)	2680.090
Relative permittivity (real part)	38.773
Relative permittivity (imaginary part)	12.797
Conductivity (S/m)	2.055

C. SAR Surface and Volume



Maximum location: X=-48.00, Y=-32.00 ; SAR Peak: 0.58 W/kg

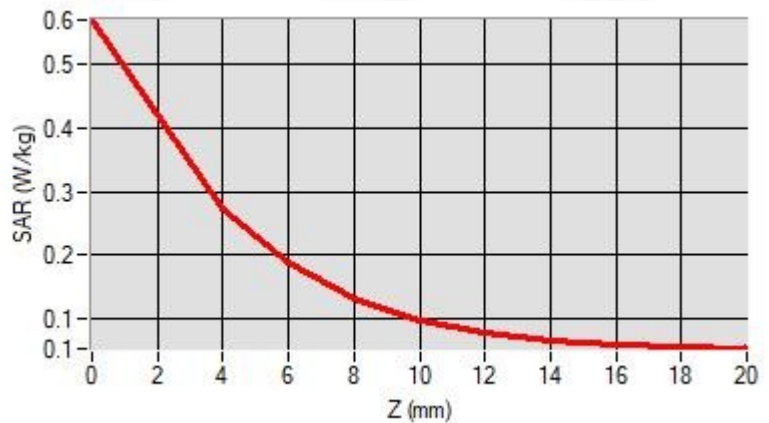
D. SAR 1g & 10g

SAR 10g (W/Kg)	0.158
SAR 1g (W/Kg)	0.398
Variation (%)	0.221
Horizontal validation criteria: minimum distance (mm)	0.000000

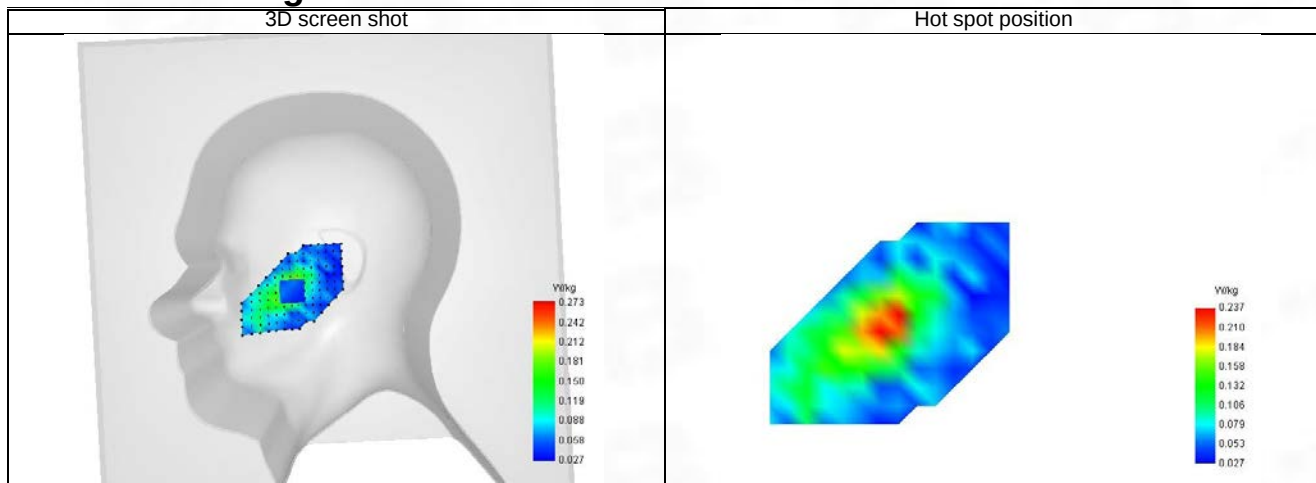
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000
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E. Z Axis Scan

Z (mm)	0.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00
SAR (W/Kg)	0.571	0.273	0.188	0.131	0.096	0.075	0.063	0.057	0.053



F. 3D Image



22-Body with back position in dist. 10mm on Channel 41490 in LTE band 41

SAR Measurement at LTE band 41 (Body. Validation Plane)

Date of measurement: 15/8/2023

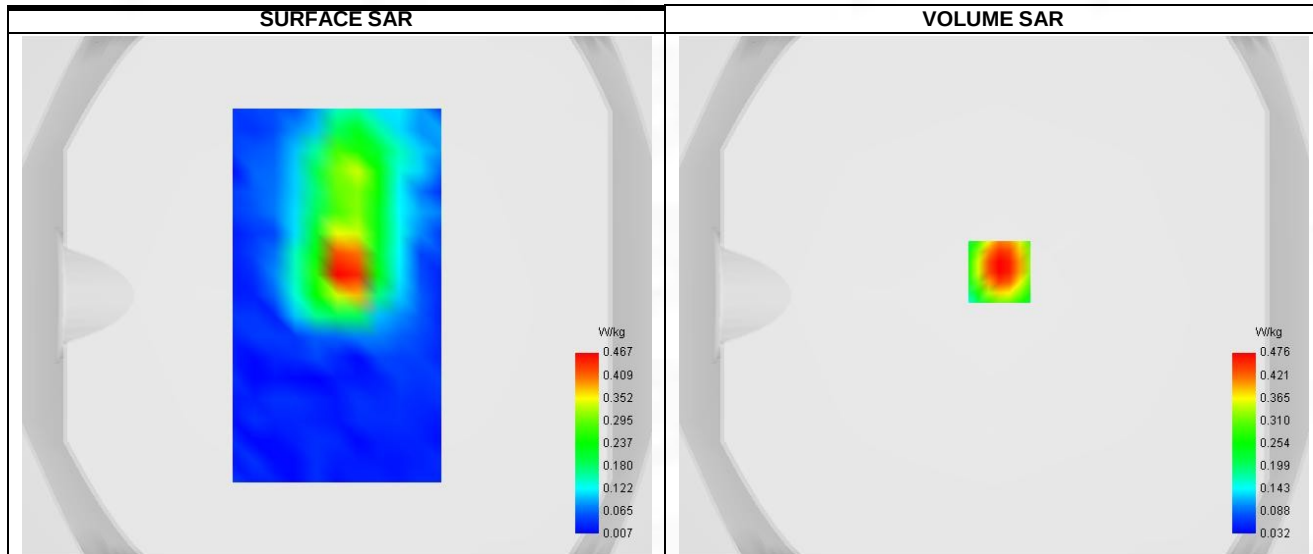
A. Experimental conditions.

Probe	SN 04/22 EPG0365
ConvF	2.40
Area Scan	surf_sam_plan.txt
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2mm,Complete
Phantom	Validation plane
Device Position	Body
Band	LTE band 41
Channels	Higher (41490)
Signal	LTE TDD
Cell Bandwidth	20 Mhz
Modulation	SC-OFDM - QPSK
RB offset	0
RB size	1
Subframe configuration	0
Special subframe configuration	0
Cyclic prefix	Normal
Duty Cycle (%)	0.61

B. Permittivity

Frequency (MHz)	2680.090
Relative permittivity (real part)	38.773
Relative permittivity (imaginary part)	12.797
Conductivity (S/m)	2.055

C. SAR Surface and Volume



Maximum location: X=2.00, Y=9.00 ; SAR Peak: 0.87 W/kg

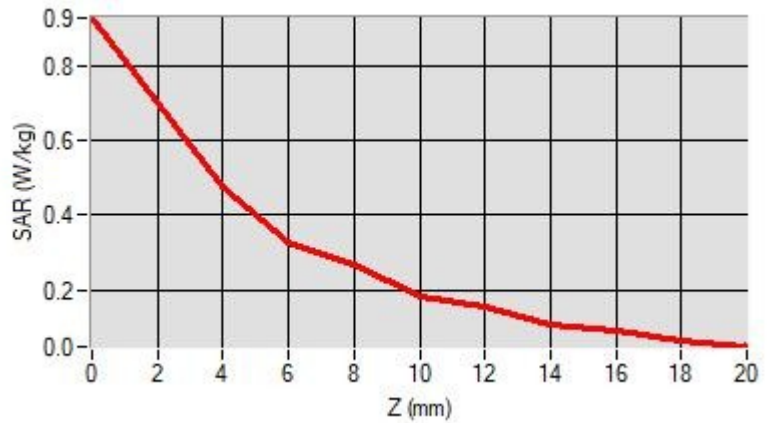
D. SAR 1g & 10g

SAR 10g (W/Kg)	0.226
SAR 1g (W/Kg)	0.496
Variation (%)	0.114
Horizontal validation criteria: minimum distance (mm)	0.000000

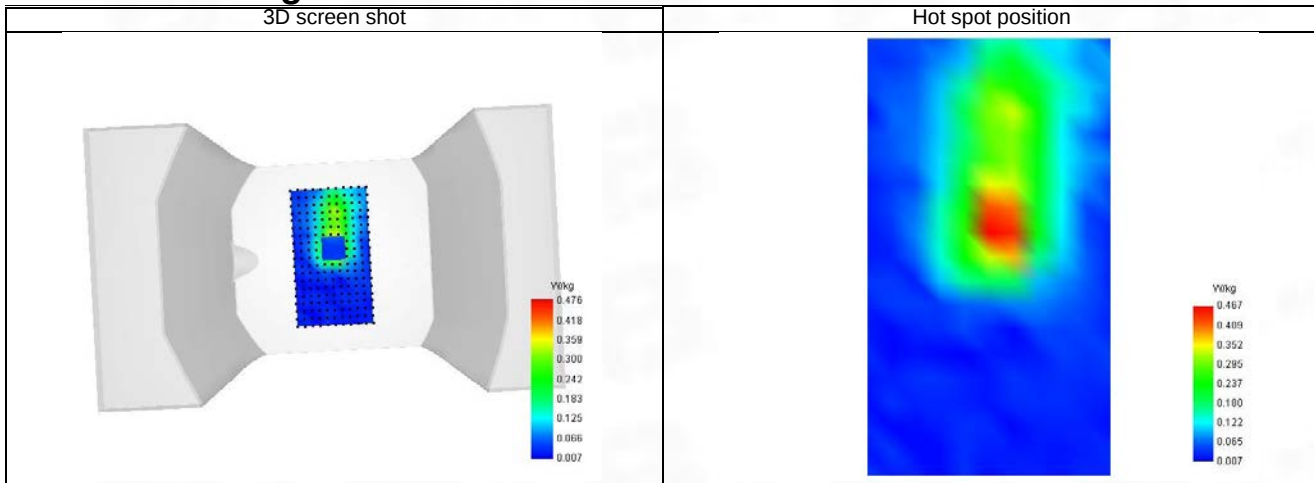
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000
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E. Z Axis Scan

Z (mm)	0.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00
SAR (W/Kg)	0.930	0.476	0.329	0.269	0.184	0.153	0.104	0.088	0.065



F. 3D Image



23-Head with front position in dist. 0mm on Channel 6 in IEEE 802.11b ISM

SAR Measurement at IEEE 802.11b ISM (Cheek, Left)

Date of measurement: 15/8/2023

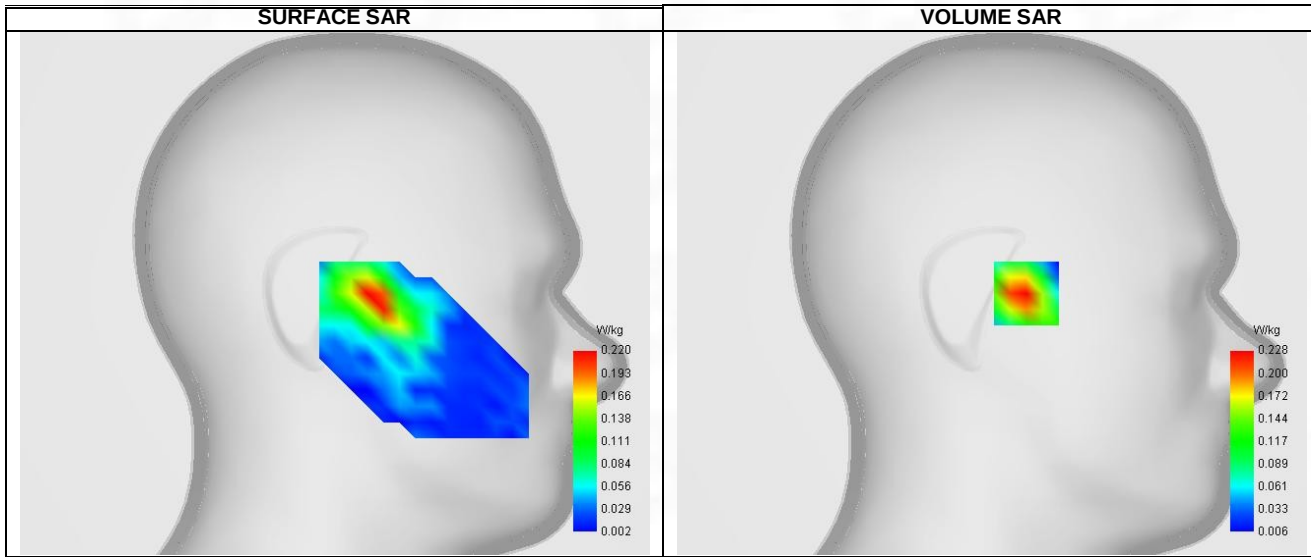
A. Experimental conditions.

Probe	SN 04/22 EPG0365
ConvF	2.36
Area Scan	sam_direct_droit2_surf8mm.txt
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2mm,Complete
Phantom	Left head
Device Position	Cheek
Band	IEEE 802.11b ISM
Channels	Middle (6)
Signal	IEEE 802.11

B. Permittivity

Frequency (MHz)	2437.000
Relative permittivity (real part)	39.097
Relative permittivity (imaginary part)	13.396
Conductivity (S/m)	1.796

C. SAR Surface and Volume



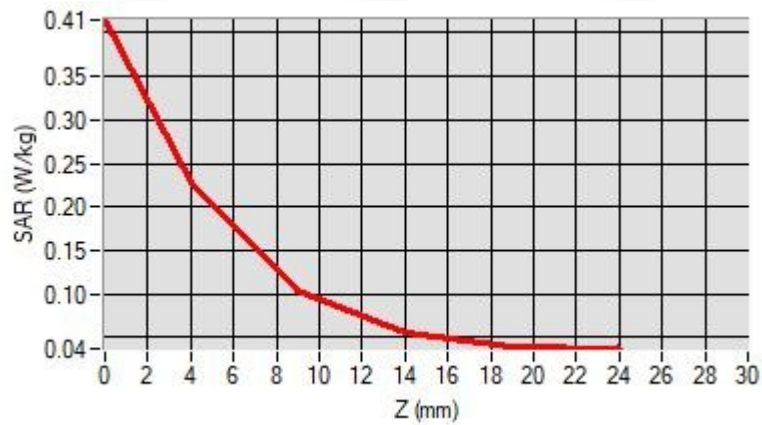
Maximum location: X=-17.00, Y=7.00 ; SAR Peak: 0.52 W/kg

D. SAR 1g & 10g

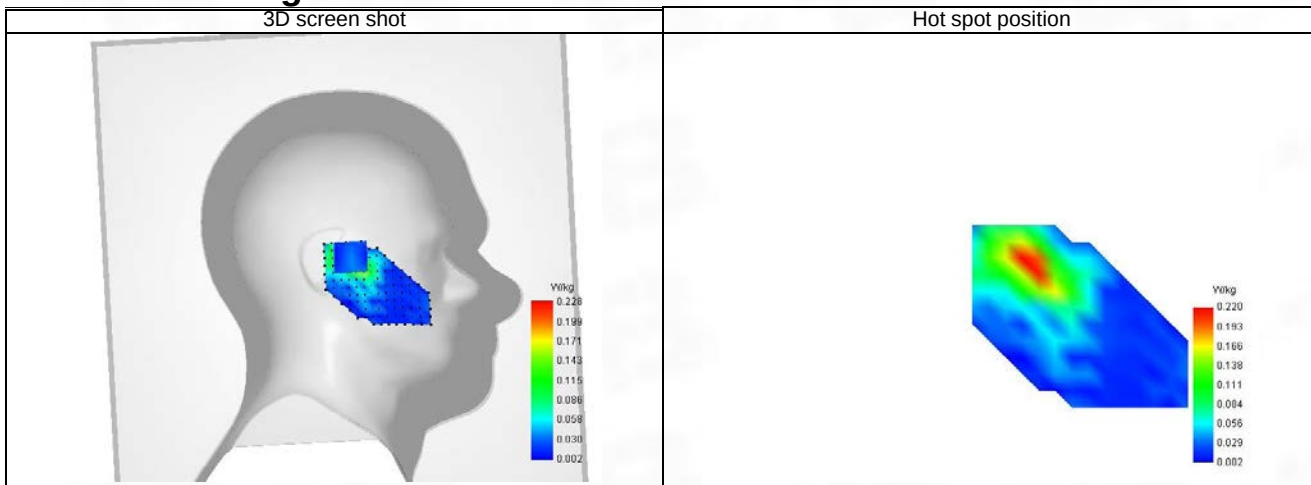
SAR 10g (W/Kg)	0.153
SAR 1g (W/Kg)	0.328
Variation (%)	0.335
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.415	0.228	0.104	0.054	0.039



F. 3D Image



24-Body with front position in dist. 10mm on Channel 6 in IEEE 802.11b ISM

SAR Measurement at IEEE 802.11b ISM (Body, Validation Plane)

Date of measurement: 15/8/2023

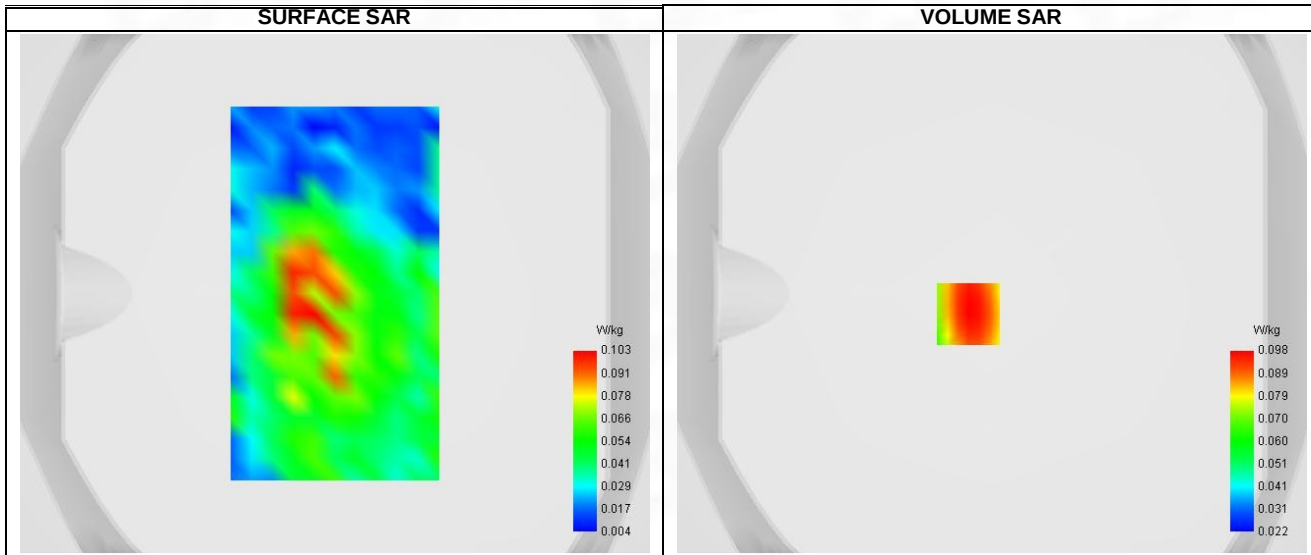
A. Experimental conditions.

Probe	SN 04/22 EPG0365
ConvF	2.36
Area Scan	surf_sam_plan.txt
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2mm,Complete
Phantom	Validation plane
Device Position	Body
Band	IEEE 802.11b ISM
Channels	Middle (6)
Signal	IEEE 802.11

B. Permittivity

Frequency (MHz)	2437.000
Relative permittivity (real part)	39.097
Relative permittivity (imaginary part)	13.396
Conductivity (S/m)	1.796

C. SAR Surface and Volume



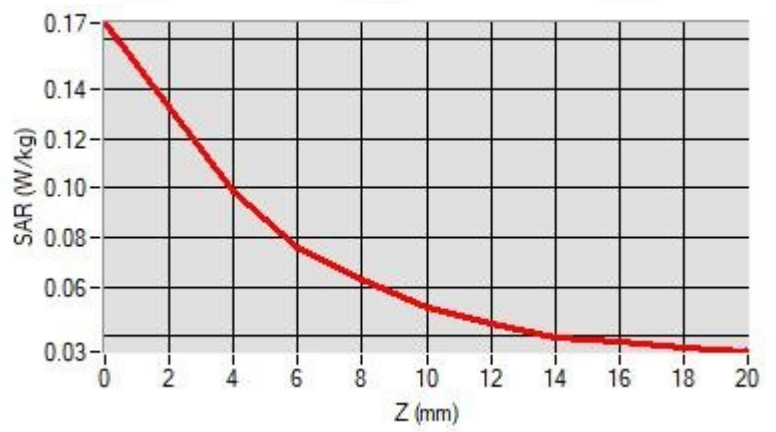
Maximum location: X=-9.00, Y=-8.00 ; SAR Peak: 0.17 W/kg

D. SAR 1g & 10g

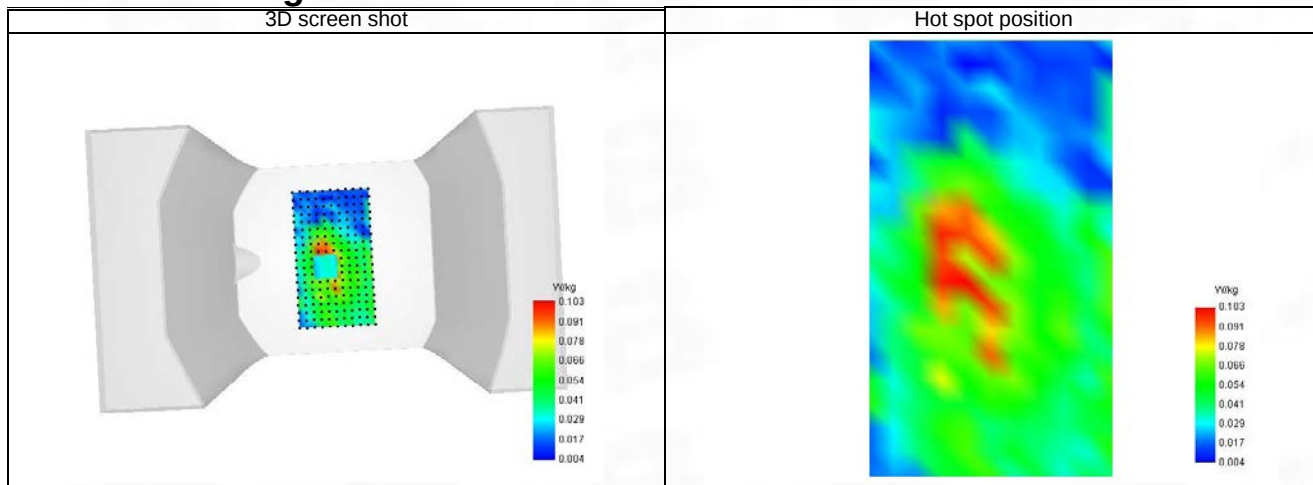
SAR 10g (W/Kg)	0.161
SAR 1g (W/Kg)	0.350
Variation (%)	0.221
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00
SAR (W/Kg)	0.167	0.098	0.076	0.063	0.051	0.046	0.040	0.038	0.036



F. 3D Image



25-Head with front position in dist. 0mm on Channel 36 in IEEE 802.11n U-NII

SAR Measurement at IEEE 802.11n U-NII (Cheek, Right)

Date of measurement: 15/8/2023

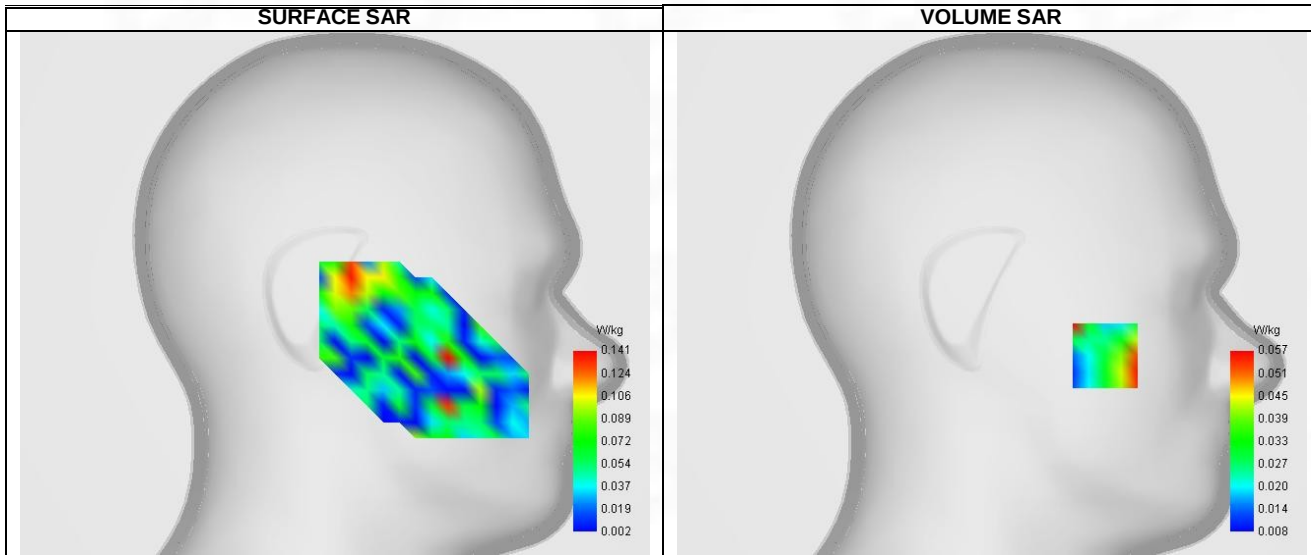
A. Experimental conditions.

Probe	SN 04/22 EPG0365
ConvF	2.24
Area Scan	sam_direct_droit2_surf8mm.txt
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2mm,Complete
Phantom	Right head
Device Position	Cheek
Band	IEEE 802.11n U-NII
Channels	Lower (36)
Signal	IEEE 802.11

B. Permittivity

Frequency (MHz)	5180.000
Relative permittivity (real part)	35.900
Relative permittivity (imaginary part)	16.230
Conductivity (S/m)	4.680

C. SAR Surface and Volume



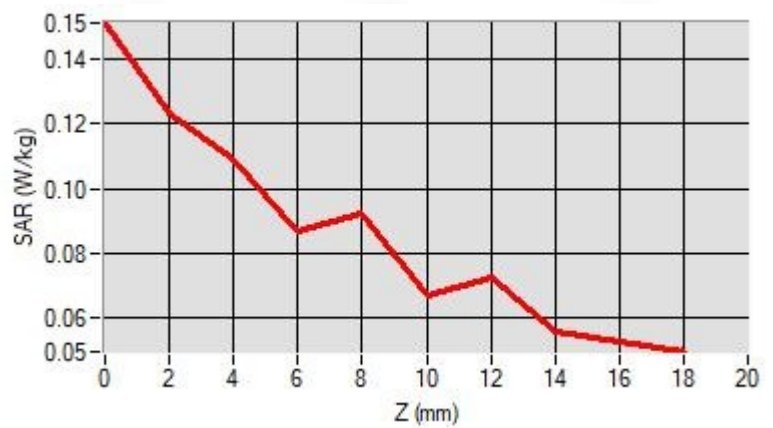
Maximum location: X=-1.00, Y=7.00 ; SAR Peak: 0.45 W/kg

D. SAR 1g & 10g

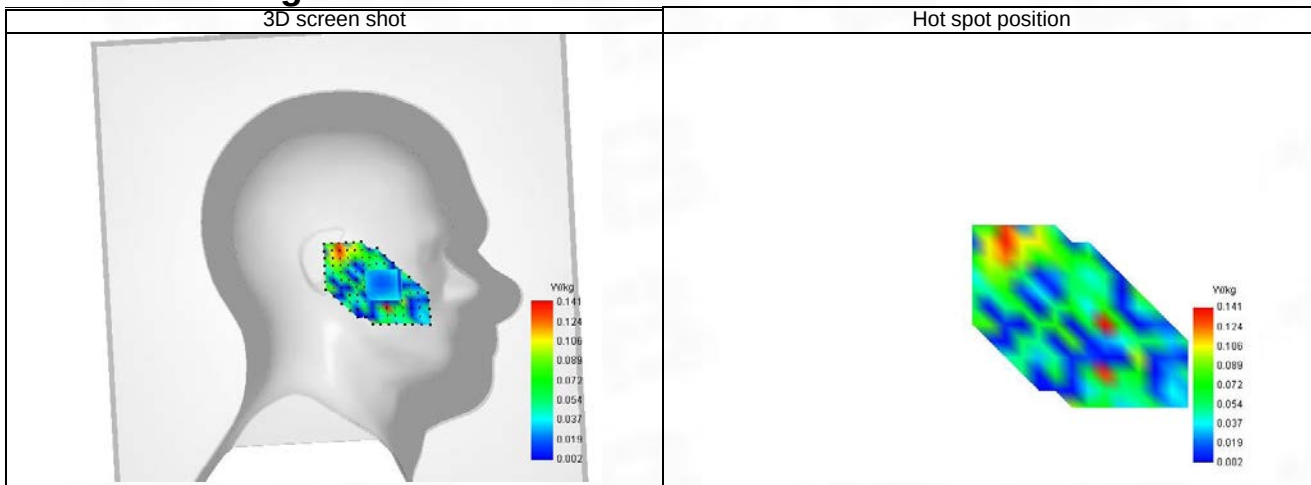
SAR 10g (W/Kg)	0.154
SAR 1g (W/Kg)	0.298
Variation (%)	0.332
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	2.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00
SAR (W/Kg)	0.151	0.123	0.109	0.087	0.093	0.067	0.072	0.056	0.053



F. 3D Image



26-Body with back position in dist. 10mm on Channel 36 in IEEE 802.11n U-NII

SAR Measurement at IEEE 802.11n U-NII (Body, Validation Plane)

Date of measurement: 15/8/2023

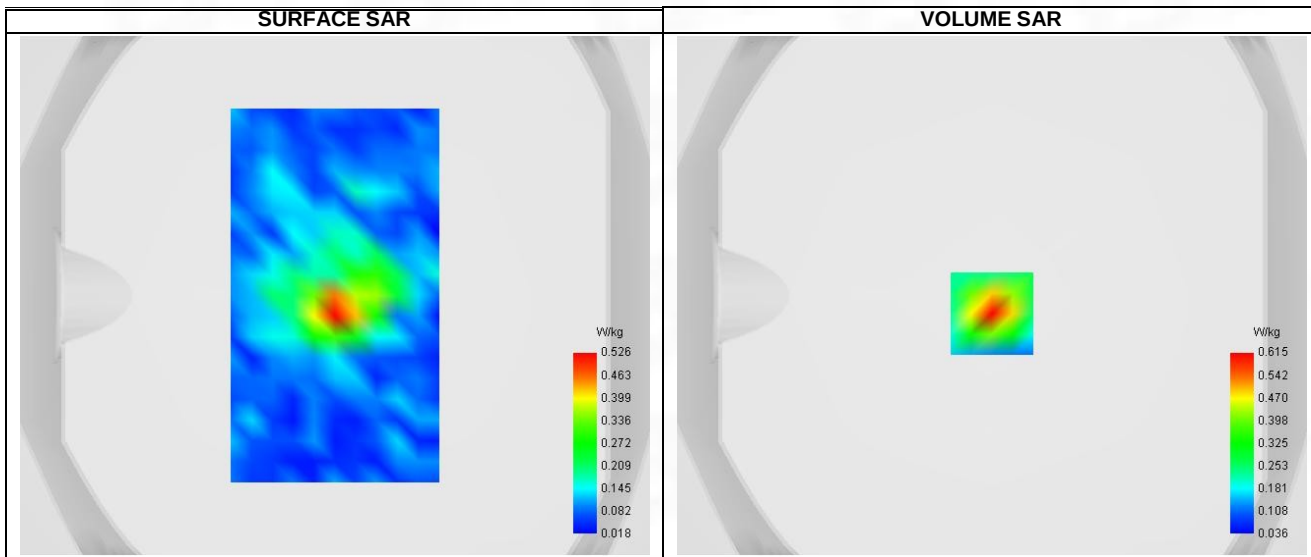
A. Experimental conditions.

Probe	SN 04/22 EPG0365
ConvF	2.24
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Body
Band	IEEE 802.11n U-NII
Channels	Lower (36)
Signal	IEEE 802.11

B. Permittivity

Frequency (MHz)	5180.000
Relative permittivity (real part)	35.900
Relative permittivity (imaginary part)	16.230
Conductivity (S/m)	4.680

C. SAR Surface and Volume



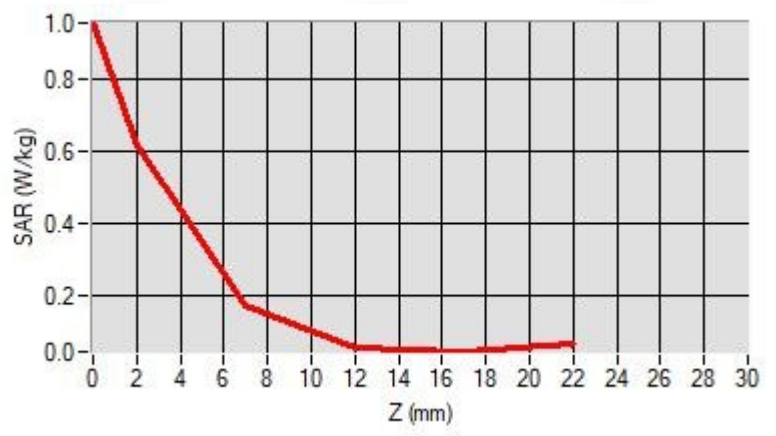
Maximum location: X=0.00, Y=-7.00 ; SAR Peak: 0.99 W/kg

D. SAR 1g & 10g

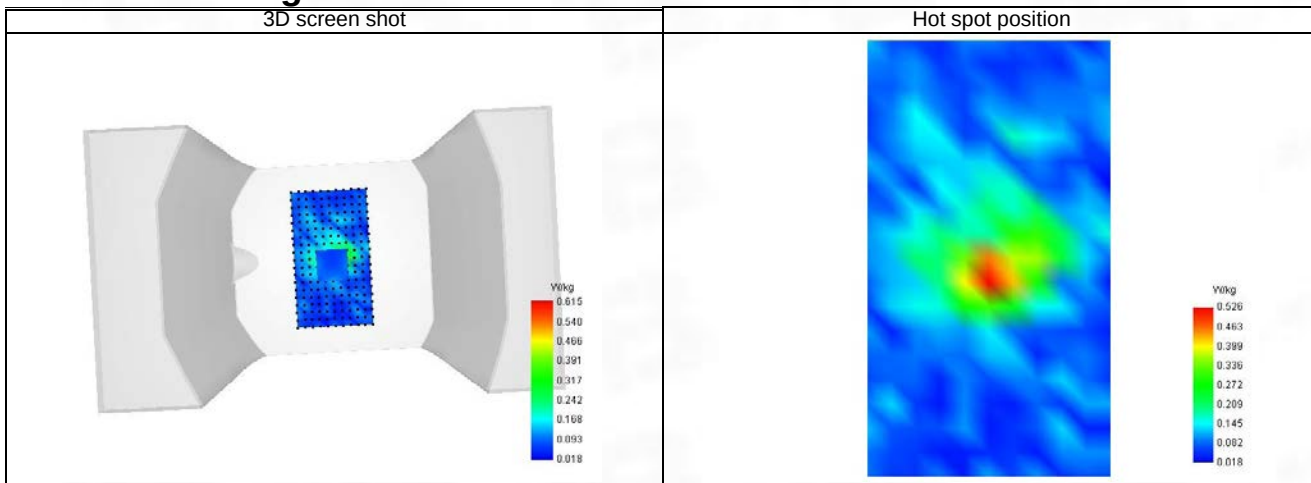
SAR 10g (W/Kg)	0.147
SAR 1g (W/Kg)	0.265
Variation (%)	0.635
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	2.00	7.00	12.00	17.00
SAR (W/Kg)	0.958	0.615	0.172	0.053	0.041



F. 3D Image



27-Head with front position in dist. 0mm on Channel 64 in IEEE 802.11n U-NII

SAR Measurement at IEEE 802.11n U-NII (Cheek, Right)

Date of measurement: 15/8/2023

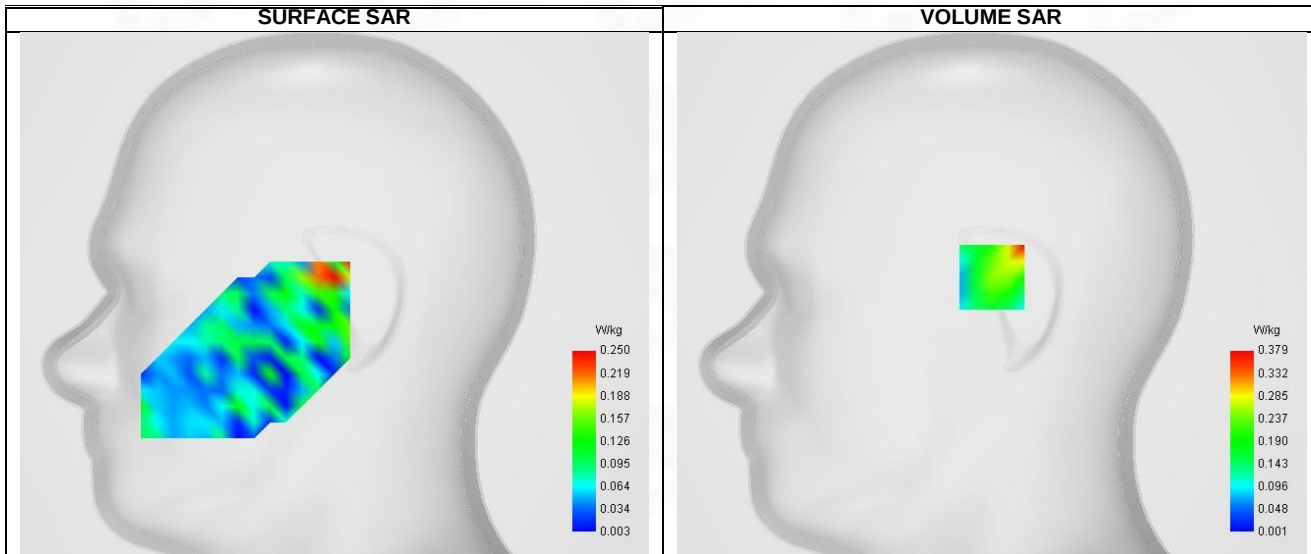
A. Experimental conditions.

Probe	SN 04/22 EPG0365
ConvF	2.12
Area Scan	sam_direct_droit2_surf8mm.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Right head
Device Position	Cheek
Band	IEEE 802.11n U-NII
Channels	Higher (64)
Signal	IEEE 802.11

B. Permittivity

Frequency (MHz)	5320.000
Relative permittivity (real part)	35.880
Relative permittivity (imaginary part)	16.172
Conductivity (S/m)	4.780

C. SAR Surface and Volume



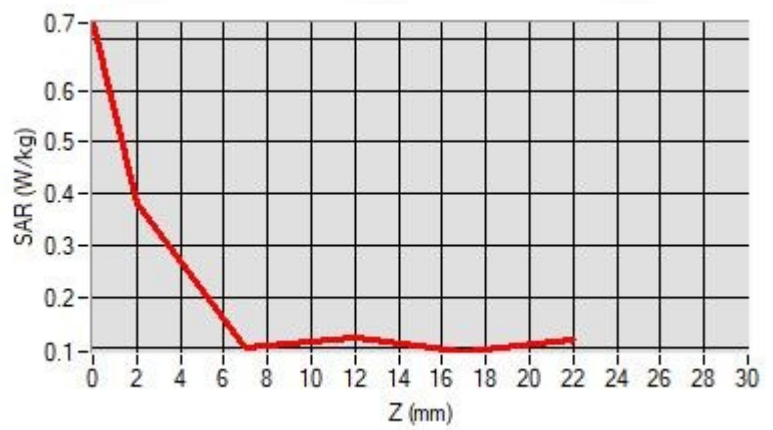
Maximum location: X=0.00, Y=8.00 ; SAR Peak: 0.71 W/kg

D. SAR 1g & 10g

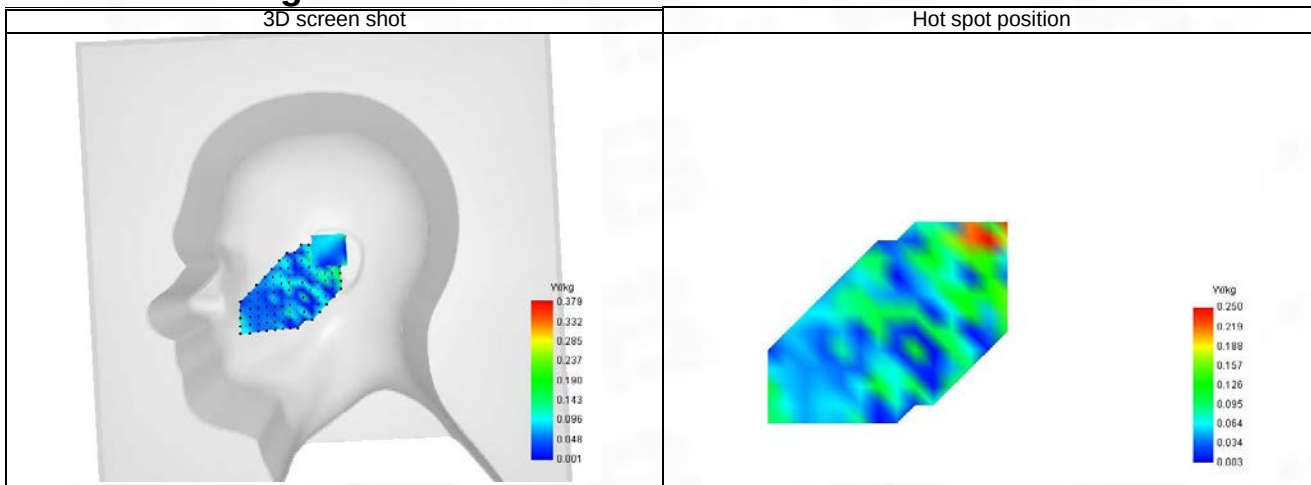
SAR 10g (W/Kg)	0.120
SAR 1g (W/Kg)	0.249
Variation (%)	0.665
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	2.00	7.00	12.00	17.00
SAR (W/Kg)	0.731	0.379	0.102	0.119	0.093



F. 3D Image



28-Body with front position in dist. 10mm on Channel 64 in IEEE 802.11n U-NII

SAR Measurement at IEEE 802.11n U-NII (Body, Validation Plane)

Date of measurement: 15/8/2023

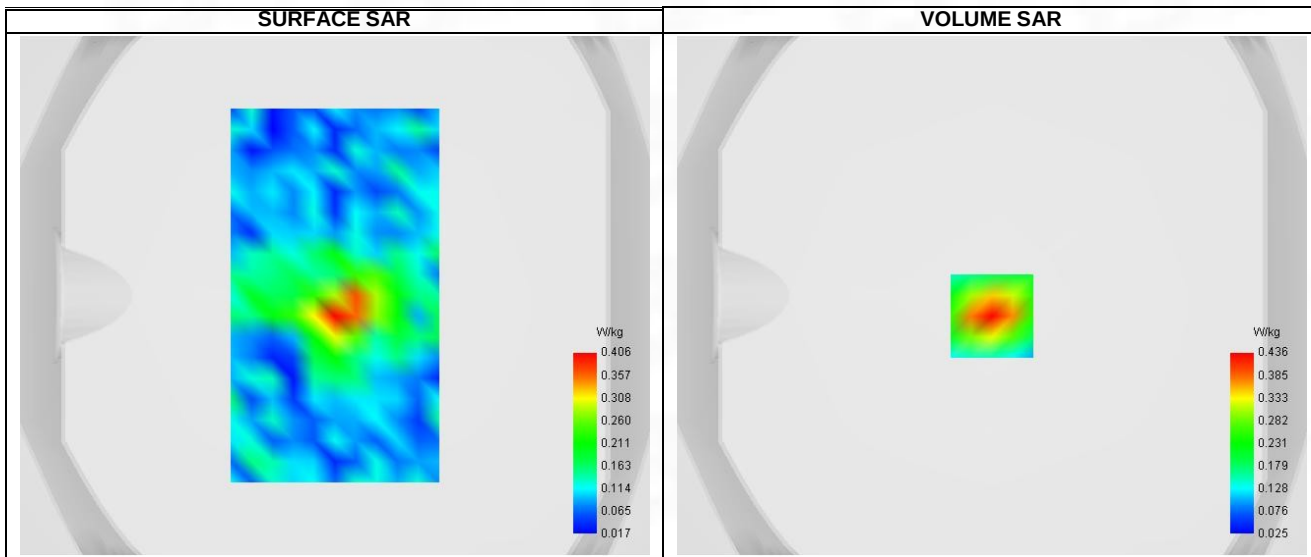
A. Experimental conditions.

Probe	SN 04/22 EPG0365
ConvF	2.12
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Body
Band	IEEE 802.11n U-NII
Channels	Higher (64)
Signal	IEEE 802.11

B. Permittivity

Frequency (MHz)	5320.000
Relative permittivity (real part)	35.880
Relative permittivity (imaginary part)	16.172
Conductivity (S/m)	4.780

C. SAR Surface and Volume



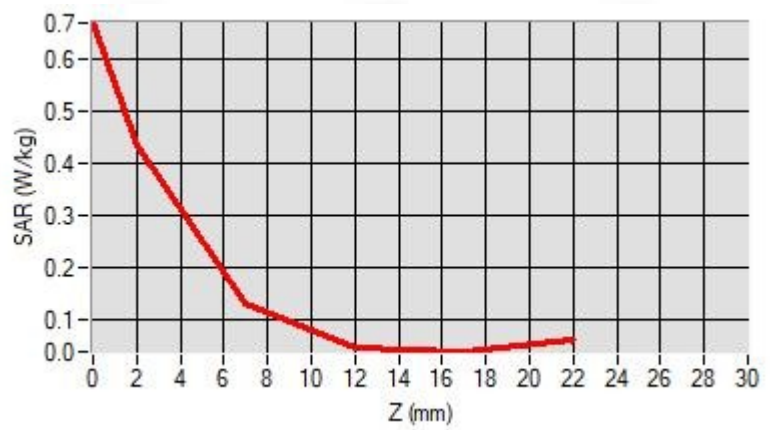
Maximum location: X=0.00, Y=-8.00 ; SAR Peak: 0.69 W/kg

D. SAR 1g & 10g

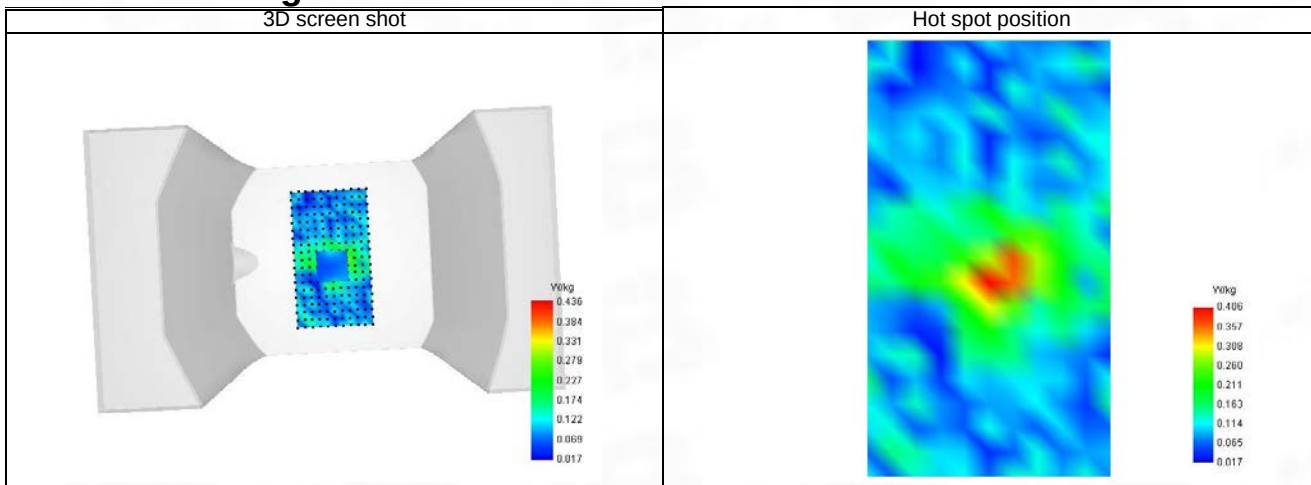
SAR 10g (W/Kg)	0.157
SAR 1g (W/Kg)	0.278
Variation (%)	0.554
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	2.00	7.00	12.00	17.00
SAR (W/Kg)	0.671	0.436	0.131	0.046	0.040



F. 3D Image



29-Head with front position in dist. 0mm on Channel 140 in IEEE 802.11ac U-NII

SAR Measurement at IEEE 802.11ac U-NII (Cheek, Left)

Date of measurement: 15/8/2023

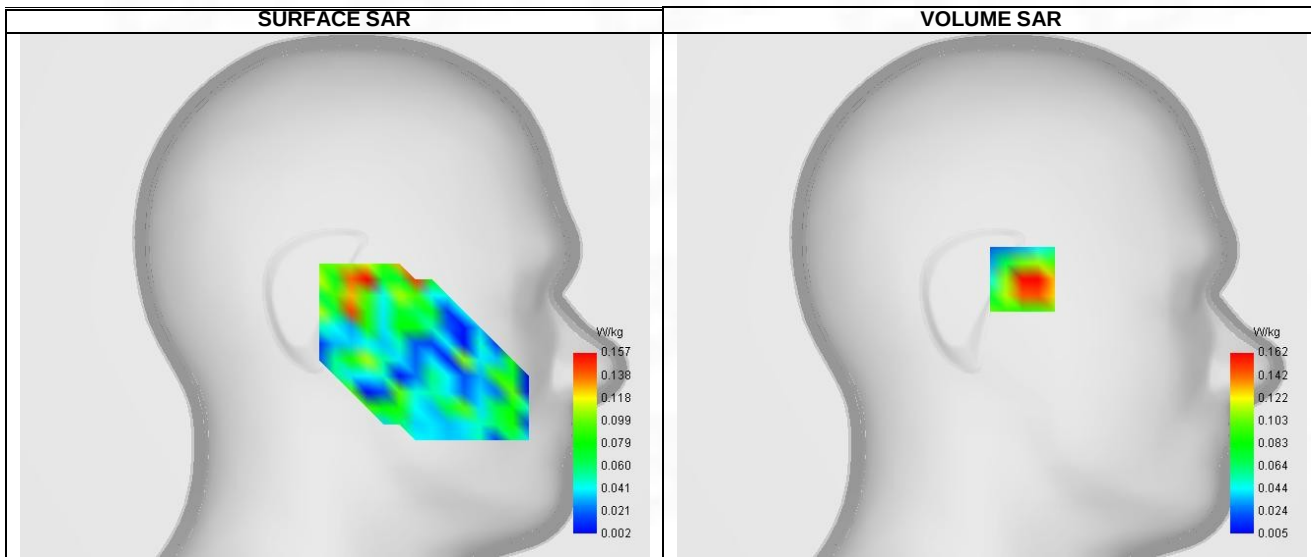
A. Experimental conditions.

Probe	SN 04/22 EPG0365
ConvF	2.04
Area Scan	sam_direct_droit2_surf8mm.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Left head
Device Position	Cheek
Band	IEEE 802.11ac U-NII
Channels	Higher (140)
Signal	IEEE 802.11

B. Permittivity

Frequency (MHz)	5700.000
Relative permittivity (real part)	35.280
Relative permittivity (imaginary part)	16.520
Conductivity (S/m)	5.210

C. SAR Surface and Volume



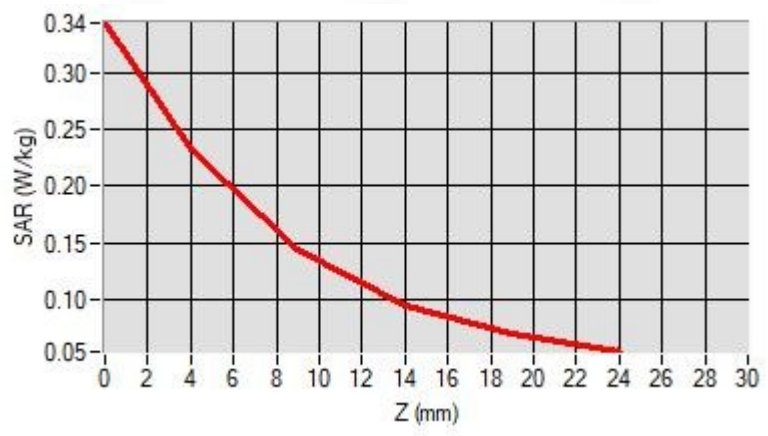
Maximum location: X=-8.00, Y=2.00 ; SAR Peak: 0.35 W/kg

D. SAR 1g & 10g

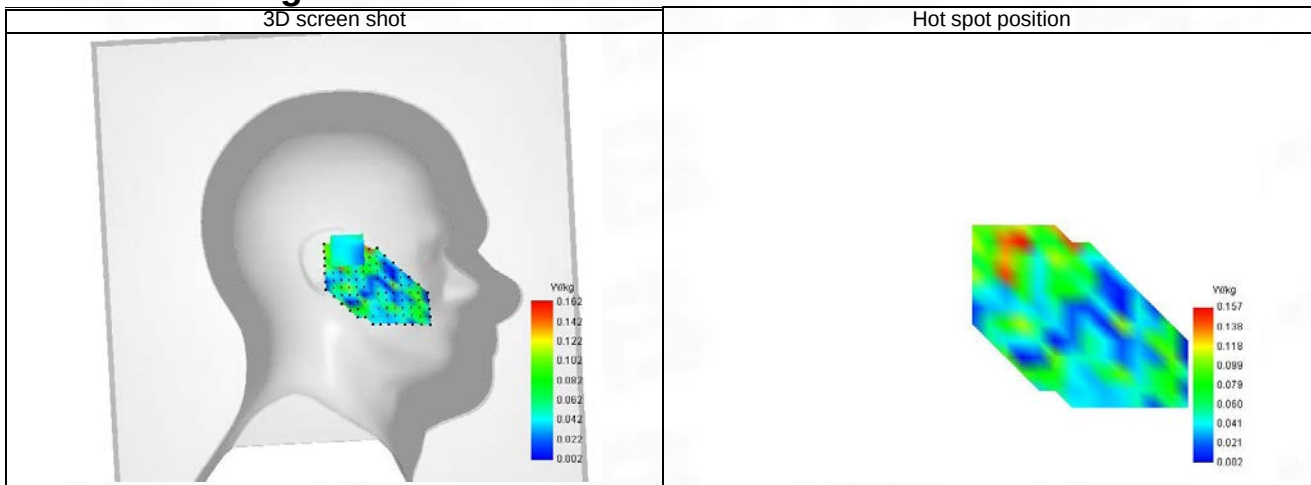
SAR 10g (W/Kg)	0.177
SAR 1g (W/Kg)	0.244
Variation (%)	0.225
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.343	0.233	0.144	0.095	0.069



F. 3D Image



30-Body with front position in dist. 10mm on Channel 140 in IEEE 802.11ac U-NII

SAR Measurement at IEEE 802.11ac U-NII (Body, Validation Plane)

Date of measurement: 15/8/2023

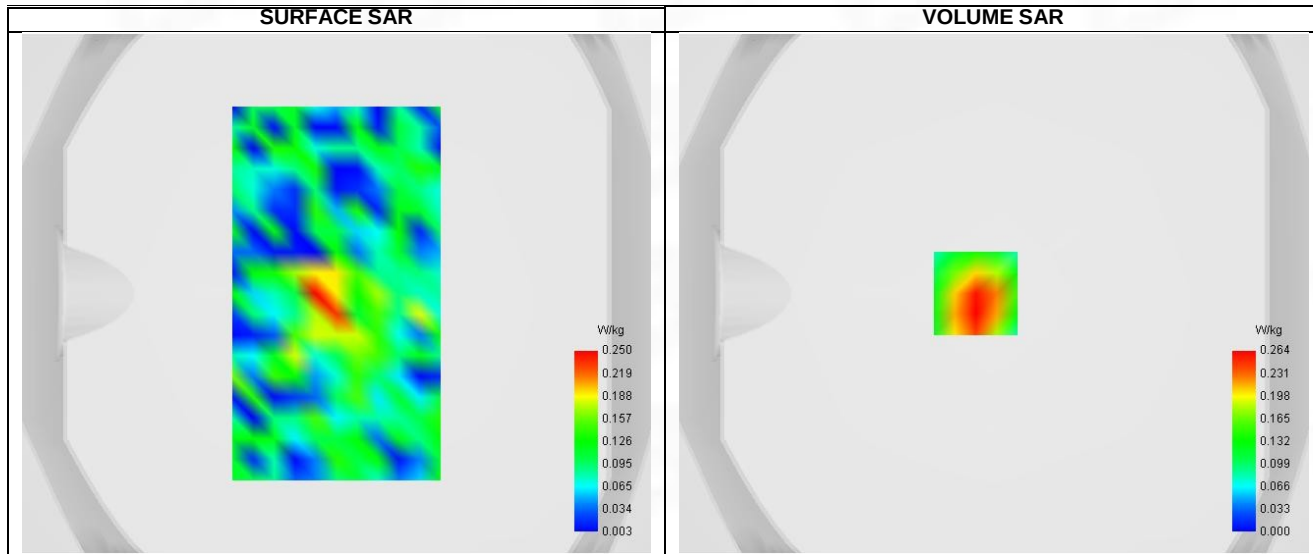
A. Experimental conditions.

Probe	SN 04/22 EPG0365
ConvF	2.04
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Body
Band	IEEE 802.11ac U-NII
Channels	Higher (140)
Signal	IEEE 802.11

B. Permittivity

Frequency (MHz)	5700.000
Relative permittivity (real part)	35.280
Relative permittivity (imaginary part)	16.520
Conductivity (S/m)	5.210

C. SAR Surface and Volume



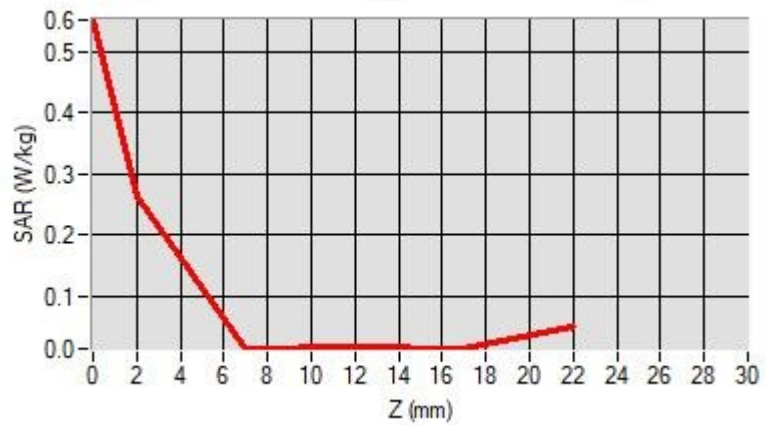
Maximum location: X=-7.00, Y=0.00 ; SAR Peak: 0.53 W/kg

D. SAR 1g & 10g

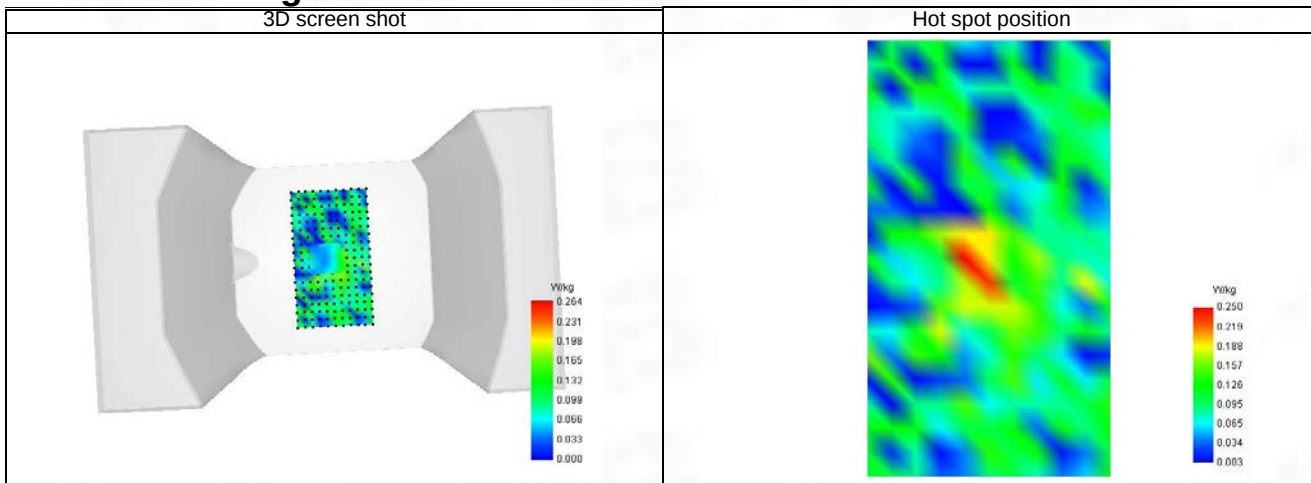
SAR 10g (W/Kg)	0.105
SAR 1g (W/Kg)	0.245
Variation (%)	0.336
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	2.00	7.00	12.00	17.00
SAR (W/Kg)	0.551	0.264	0.014	0.019	0.016



F. 3D Image



31-Head with front position in dist. 0mm on Channel 149 in IEEE 802.11a U-NII

SAR Measurement at IEEE 802.11a U-NII (Cheek, Right)

Date of measurement: 15/8/2023

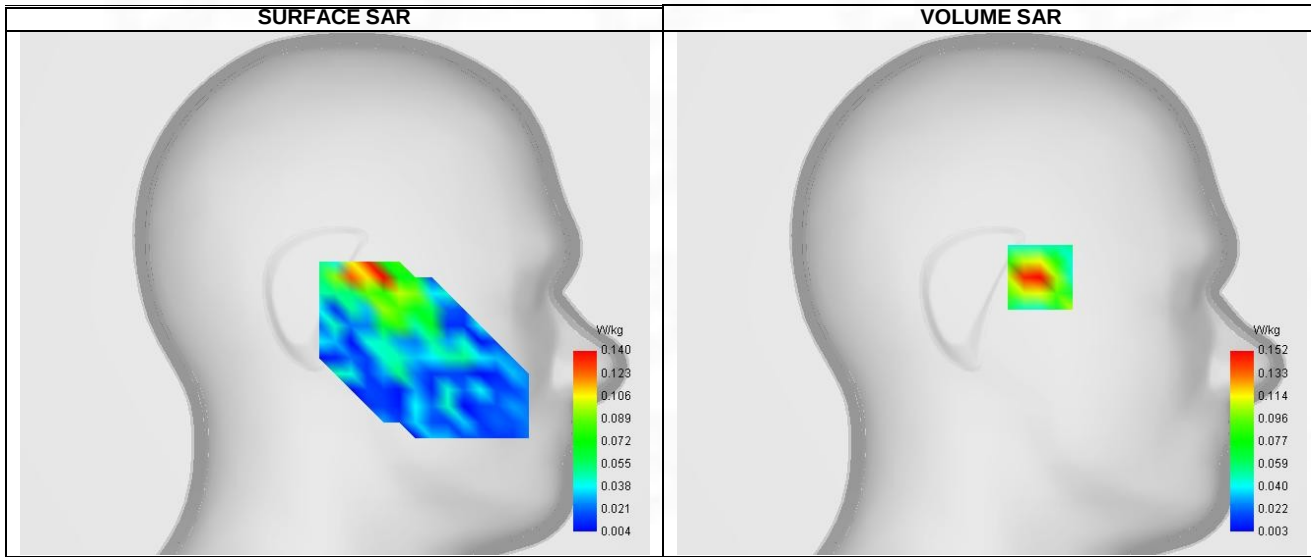
A. Experimental conditions.

Probe	SN 04/22 EPG0365
ConvF	2.04
Area Scan	sam_direct_droit2_surf8mm.txt
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2mm,Complete
Phantom	Right head
Device Position	Cheek
Band	IEEE 802.11a U-NII
Channels	Lower (149)
Signal	IEEE 802.11

B. Permittivity

Frequency (MHz)	5745.000
Relative permittivity (real part)	35.235
Relative permittivity (imaginary part)	16.565
Conductivity (S/m)	5.255

C. SAR Surface and Volume



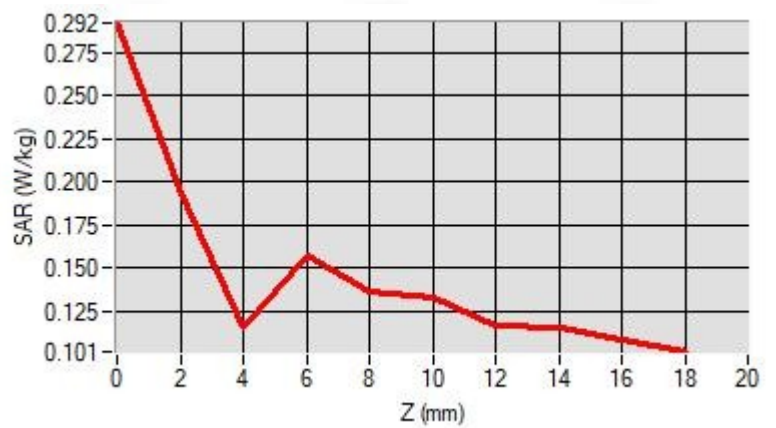
Maximum location: X=-9.00, Y=8.00 ; SAR Peak: 0.56 W/kg

D. SAR 1g & 10g

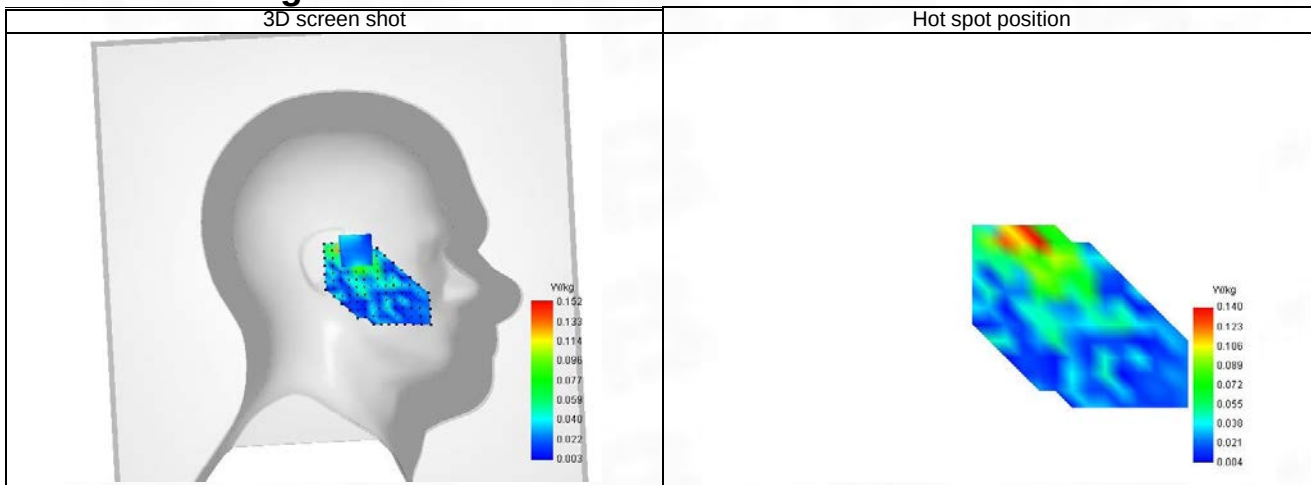
SAR 10g (W/Kg)	0.115
SAR 1g (W/Kg)	0.230
Variation (%)	0.659
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

Z (mm)	0.00	2.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00
SAR (W/Kg)	0.292	0.193	0.116	0.157	0.137	0.133	0.116	0.115	0.108



F. 3D Image



32-Body with back position in dist. 10mm on Channel 149 in IEEE 802.11a U-NII

SAR Measurement at IEEE 802.11a U-NII (Body, Validation Plane)

Date of measurement: 15/8/2023

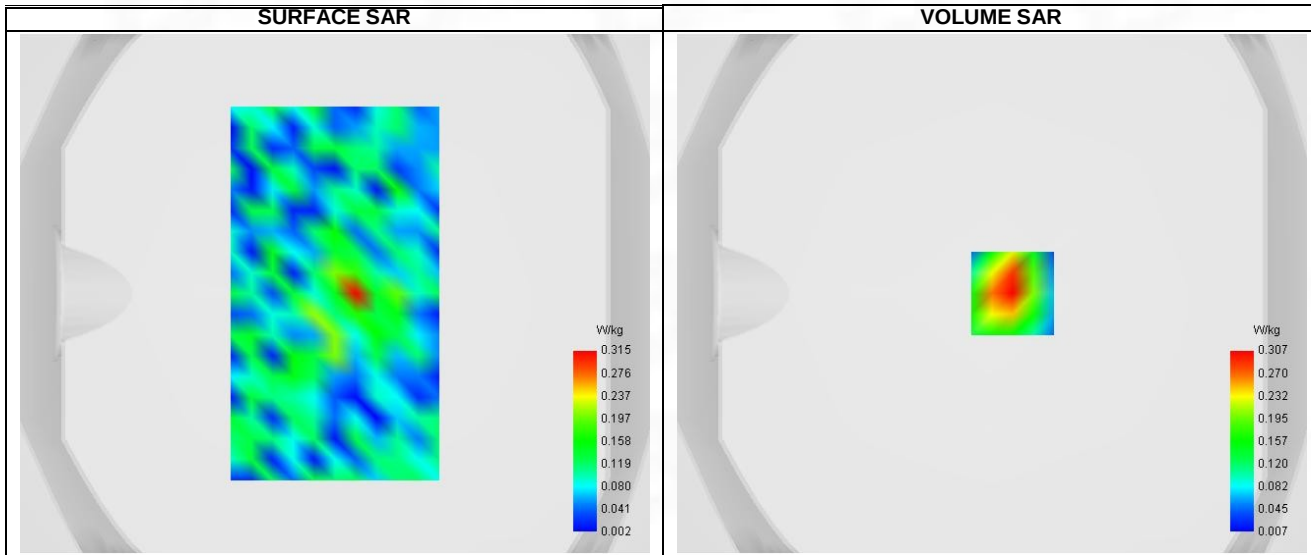
A. Experimental conditions.

Probe	SN 04/22 EPG0365
ConvF	2.04
Area Scan	surf_sam_plan.txt
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2mm,Complete
Phantom	Validation plane
Device Position	Body
Band	IEEE 802.11a U-NII
Channels	Lower (149)
Signal	IEEE 802.11

B. Permittivity

Frequency (MHz)	5745.000
Relative permittivity (real part)	35.235
Relative permittivity (imaginary part)	16.565
Conductivity (S/m)	5.255

C. SAR Surface and Volume

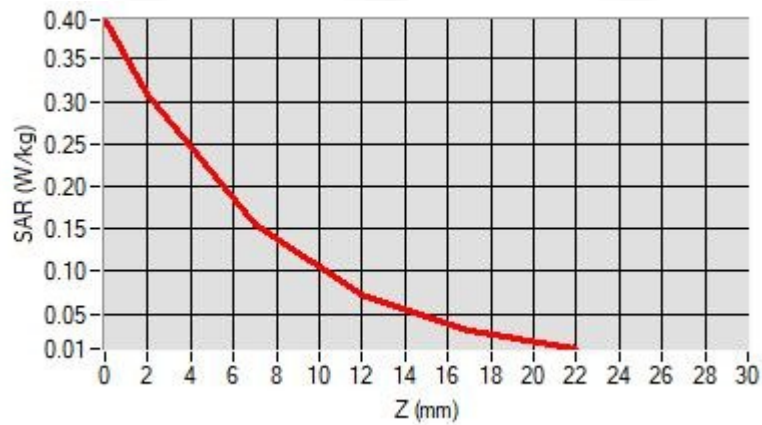


D. SAR 1g & 10g

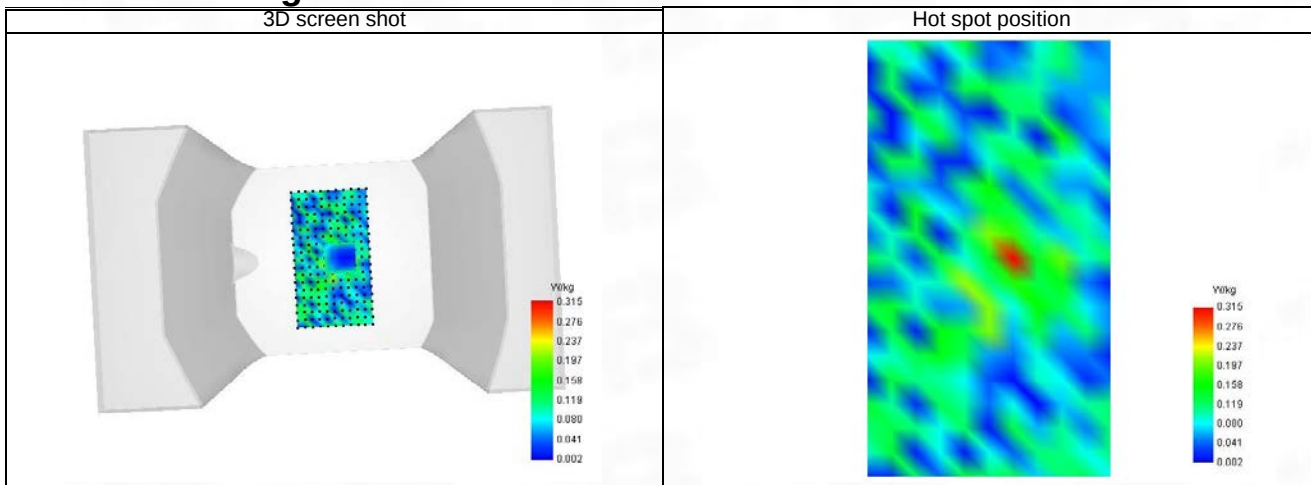
SAR 10g (W/Kg)	0.112
SAR 1g (W/Kg)	0.221
Variation (%)	0.365
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

E. Z Axis Scan

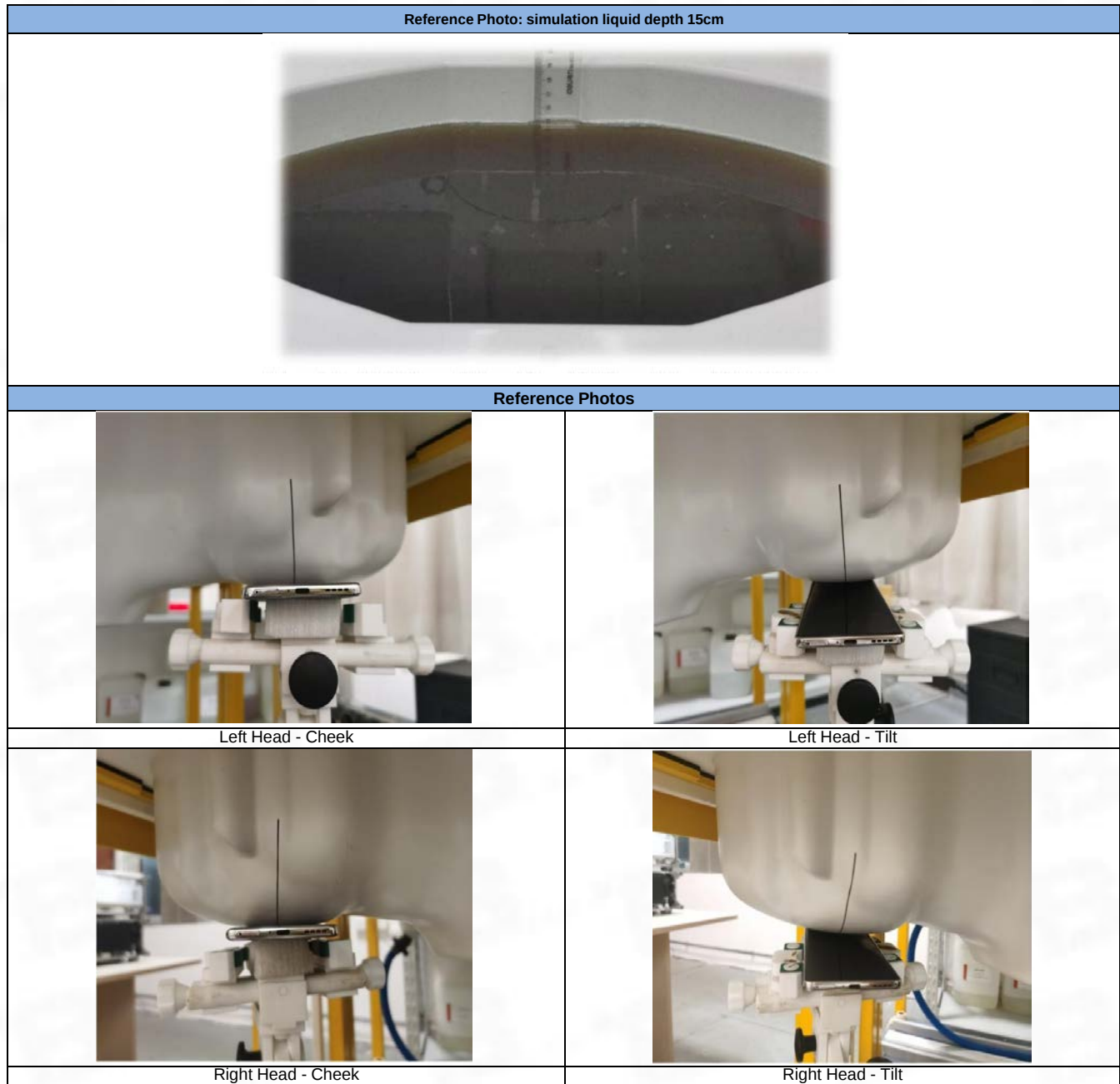
Z (mm)	0.00	2.00	7.00	12.00	17.00
SAR (W/Kg)	0.396	0.307	0.155	0.072	0.030

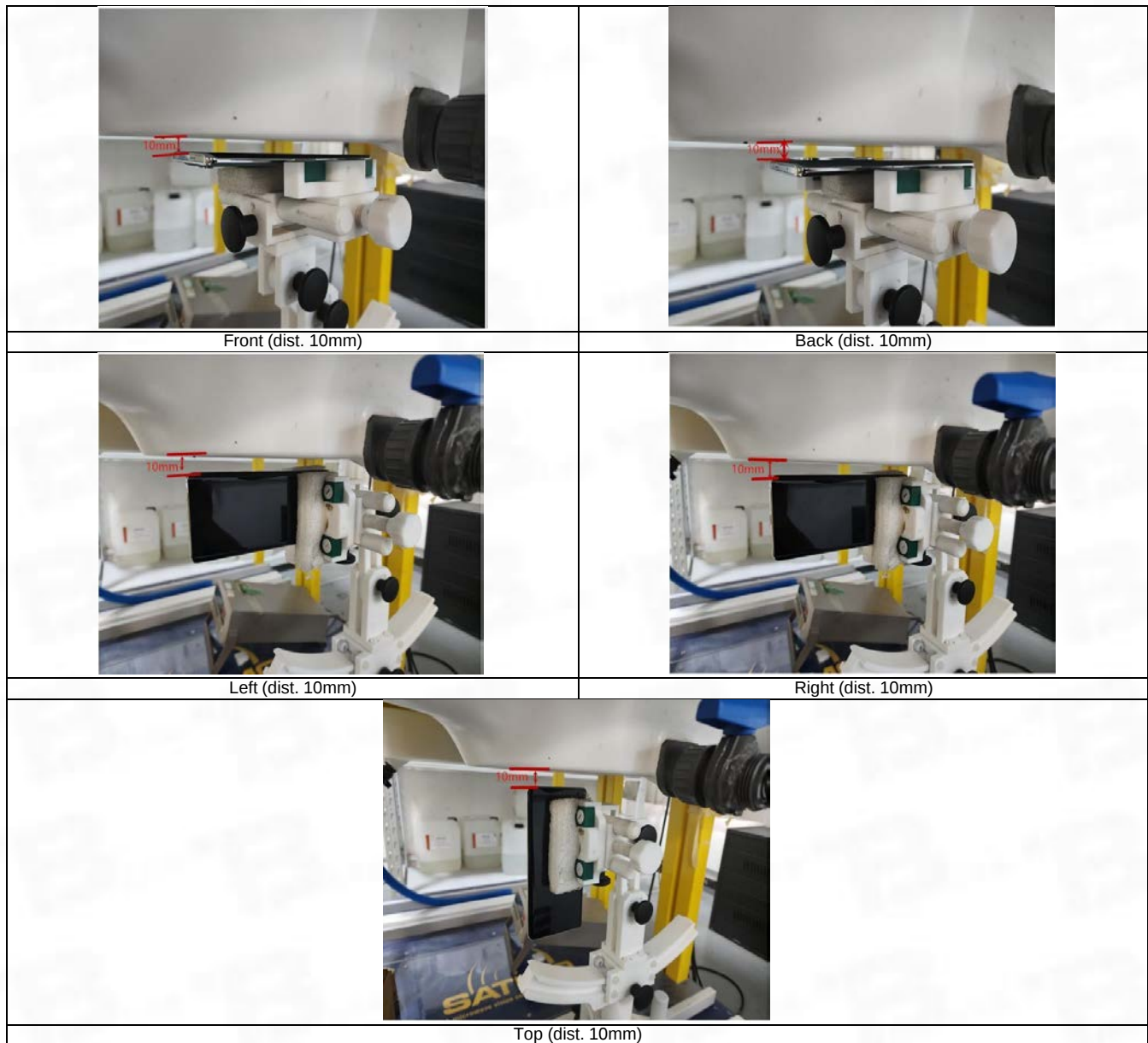


F. 3D Image



ANNEX D SAR Test Setup Photos





ANNEX E EUT External and Internal Photos

Please refer to RF Report.

ANNEX F Calibration Information

Please refer to the document "Calibration.pdf".



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--END OF REPORT--