



SAR Test Report

For

Applicant Name: SHENZHEN AMS COMMUNICATIONS COMPANY LIMITED
Address: 5F, Unit B, Building 1#, Hongfa Industrial Park, Lezhujiao, Jiuwei Community, Hangcheng Street, Baoan District
EUT Name: Mobile Phone
Brand Name: MAZE SPEED, SOHO STYLE, TRUE SLIM
Model Number: M55
Series Model Number: Refer to section 2

Issued By

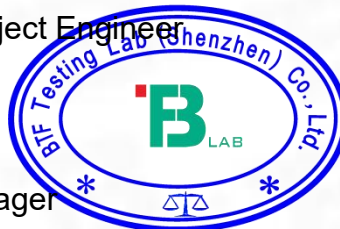
Company Name: BTF Testing Lab (Shenzhen) Co., Ltd.
Address: F101, 201 and 301, Building 1, Block 2, Tantou Industrial Park, Tantou Community, Songgang Street, Bao'an District, Shenzhen, China

Report Number: BTF240401R00401
Test Standards: FCC 47 CFR§2.1093 IEEE1528-2013 IEEE C95.1-2019 KDB447498 D04 KDB865664 D01 KDB865664 D02 KDB941225 D01 KDB941225 D05 KDB248227 D01 KDB941225 D06 KDB648474 D04 KDB690783 D01
FCC ID: 2A55S-M55

Test Conclusion: Pass
Test Date: 2024-04-05 to 2024-04-15
Date of Issue: 2024-04-17

Prepared By: Amenda Zhong
Date: 2024-04-17
Approved By: Ryan.CJ
Date: 2024-04-17

Ryan.CJ



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Revision History		
Version	Issue Date	Revisions Content
R_V0	2024-04-17	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:	FOXX Development Inc.
Address:	3480 Preston Ridge Road, Suite500, Alpharetta, GA 30005, USA

2.2 Manufacturer Information

Company Name:	FOXX Development Inc.
Address:	3480 Preston Ridge Road, Suite500, Alpharetta, GA 30005, USA

2.3 Factory Information

Company Name:	FOXX Development Inc.
Address:	3480 Preston Ridge Road, Suite500, Alpharetta, GA 30005, USA

2.4 General Description of Equipment under Test (EUT)

EUT Name	Mobile Phone
Under Test Model Name	M55
Series Model Name	S55, T55
Description of Model name differentiation	Only the color and the model name are different, others are the same.
Sample No.	BTFSN240401002/3

2.5 Equipment under Test Ancillary Equipment

Ancillary Equipment 1	Rechargeable Battery	
	Capacity	2100mAh
	Rated Voltage	3.7V

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 2/4/5/12/17/30/66/71 TDD LTE Band 41 2.4G WIFI 802.11b, 802.11g, 802.11n(HT20/40) 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 12	TX: 698 ~ 716 MHz	RX: 728 ~ 746 MHz
	LTE Band 17	TX: 704 ~ 716 MHz	RX: 734 ~ 746 MHz
	LTE Band 30	TX: 2305 ~ 2315 MHz	RX: 2352.5~2357.5MHz
	LTE Band 66	TX: 1710 ~ 1780 MHz	RX: 2110 ~ 2200 MHz
	LTE Band 71	TX: 663 ~ 698 MHz	RX: 617 ~ 652 MHz
	LTE Band 41	2496 ~ 2690 MHz	
	802.11b/g/n(HT20)	2412 ~ 2462 MHz	
	802.11n(HT40)	2422 ~ 2452 MHz	
	Bluetooth	2402 ~ 2480 MHz	
Antenna Type	WWAN: PIFA Antenna WLAN: PIFA Antenna BT: PIFA 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 D04	Interim General RF Exposure Guidance v01
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 follows:

<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	0.266	PCE	0.562
	GSM 1900	0.119		
	WCDMA Band II	0.280		
	WCDMA Band IV	0.470		
	WCDMA Band V	0.385		
	LTE Band 2	0.331		
	LTE Band 4	0.428		
	LTE Band 5	0.380		
	LTE Band 12	0.274		
	LTE Band 17	0.280		
	LTE Band 30	0.478		
	LTE Band 41	0.189		
	LTE Band 66	0.562		
	LTE Band 71	0.288		
	WLAN 2.4 GHz	0.449	DTS	
	Bluetooth	0.032	DSS	
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	0.697	PCE	0.793
	GSM 1900	0.642		
	WCDMA Band II	0.491		
	WCDMA Band IV	0.793		
	WCDMA Band V	0.558		
	LTE Band 2	0.487		
	LTE Band 4	0.761		
	LTE Band 5	0.473		
	LTE Band 12	0.433		
	LTE Band 17	0.423		
	LTE Band 30	0.390		
	LTE Band 41	0.097		
	LTE Band 66	0.787		
	LTE Band 71	0.463		
	WLAN 2.4 GHz	0.144	DTS	

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)	LTE Band 66 + 2.4G WIFI	1.011	1.6	Pass
Hotspot(Body) 1-g SAR (10 mm Gap)	WCDMA Band IV + BT	0.939	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	$\sqrt{3}$	1	1	2.02	2.02	∞
Hemispherical Isotropy	5.9	R	$\sqrt{3}$	0	0	0.00	0.00	∞
Boundary effect	1	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Linearity	4.7	R	$\sqrt{3}$	1	1	2.71	2.71	∞
System detection limits	1	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Modulation response	0	N	$\sqrt{3}$	0	0	0.00	0.00	∞
Readout Electronics	0.5	N	1	1	1	0.50	0.50	∞
Response Time	0	R	$\sqrt{3}$	0	0	0.00	0.00	∞
Integration Time	1.4	R	$\sqrt{3}$	0	0	0.00	0.00	∞
RF ambient Conditions - Noise	3	R	$\sqrt{3}$	1	1	1.73	1.73	∞
RF ambient Conditions - Reflections	3	R	$\sqrt{3}$	1	1	1.73	1.73	∞
Probe positioner Mechanical Tolerance	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	∞
Probe positioning with respect to Phantom Shell	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	∞
Extrapolation, interpolation and integration Algorithms for Max. SAR Evaluation	2.3	R	$\sqrt{3}$	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	$\sqrt{3}$	1	1	0.29	0.29	∞
Dipole Axis to Liquid Dist.	2.0	R	$\sqrt{3}$	1	1	1.15	1.15	∞
Phantom and Tissue Parameters								
Phantom Shell Uncertainty - Shape, Thickness and Permittivity	4	R	$\sqrt{3}$	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	$\sqrt{3}$	0.78	0.71	1.13	1.02	∞
Liquid permittivity - Temperature Uncertainty	2.5	R	$\sqrt{3}$	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.



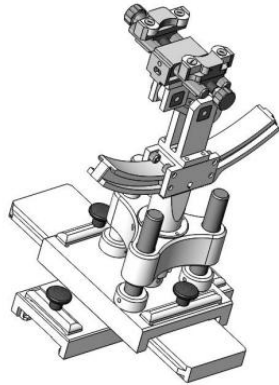
ELLI Phantom

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

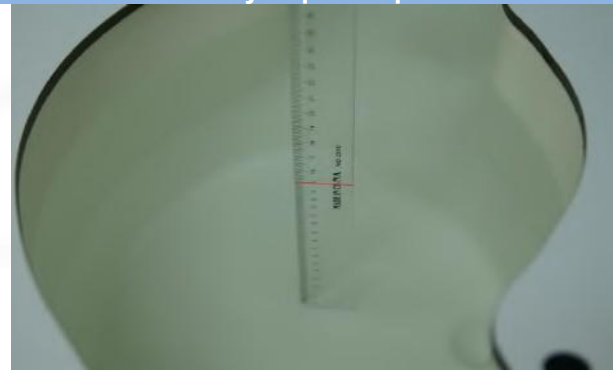
4.2.6 Simulating Liquid

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.

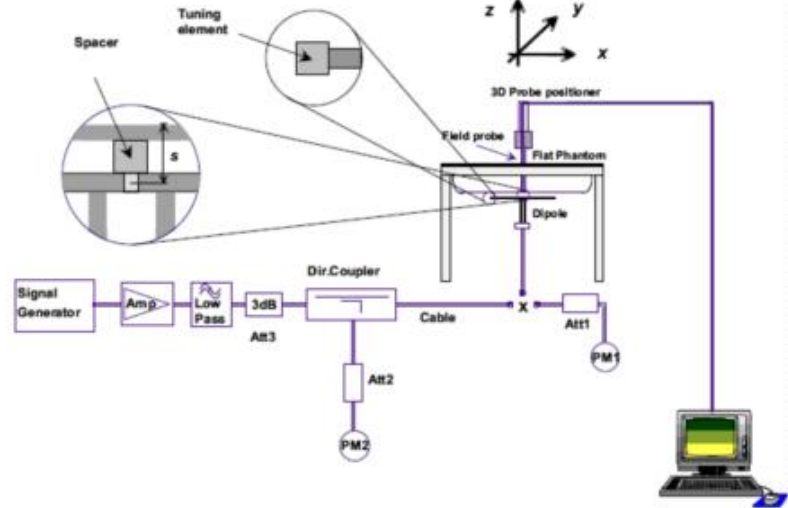
Head (Reference IEEE1528)								
Frequency (MHz)	Water (%)	Sugar (%)	Cellulose (%)	Salt (%)	Preventol (%)	DGBE (%)	Conductivity σ (S/m)	Permittivity ϵ
750	41.1	57.0	0.2	1.4	0.2	0	0.89	41.9
835	40.3	57.9	0.2	1.4	0.2	0	0.90	41.5
900	40.3	57.9	0.2	1.4	0.2	0	0.97	41.5
1800, 1900, 2000	55.2	0	0	0.3	0	44.5	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

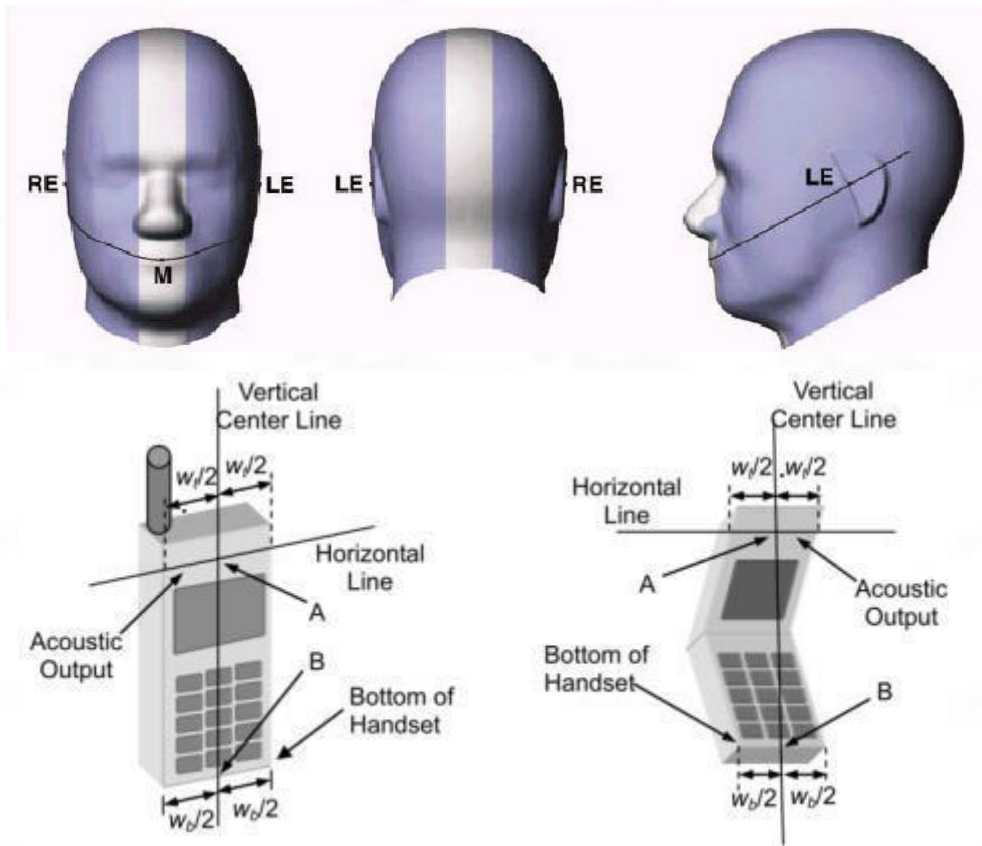
According to KDB 648474 D04 Handset, handsets are tested for SAR compliance in head, body-worn accessory and other use configurations described in the following subsections.

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.



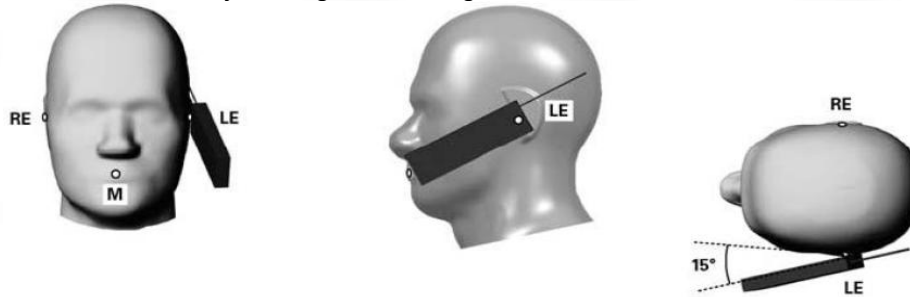
6.1.2 Two Imaginary Lines on the Handset

- 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.

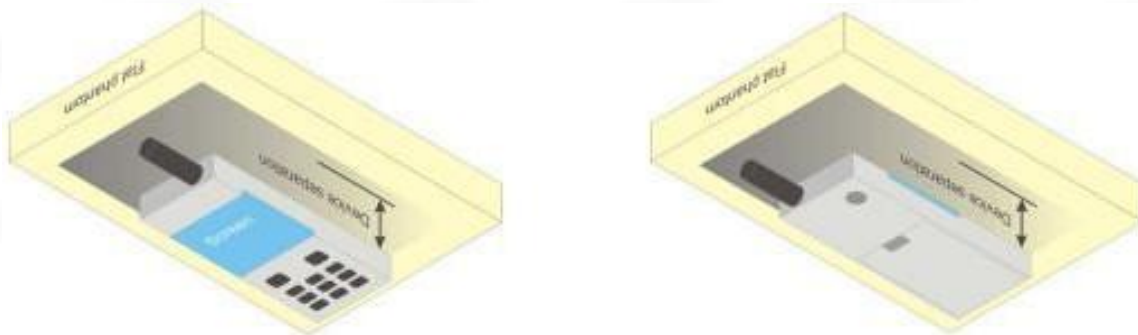


6.2 Body-worn Position Conditions

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.

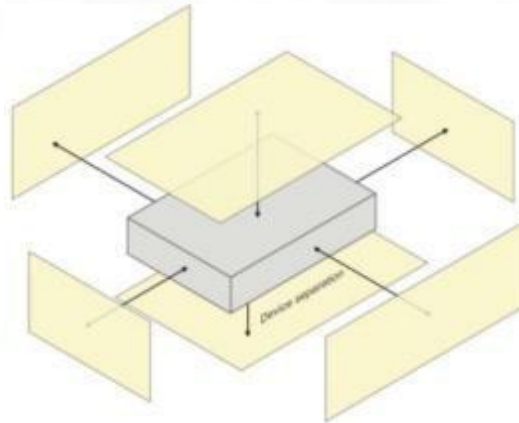
Body-worn accessories that do not contain metallic or conductive components may be tested according to worst-case exposure configurations, typically according to the smallest test separation distance required for the group of body-worn accessories with similar operating and exposure characteristics.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

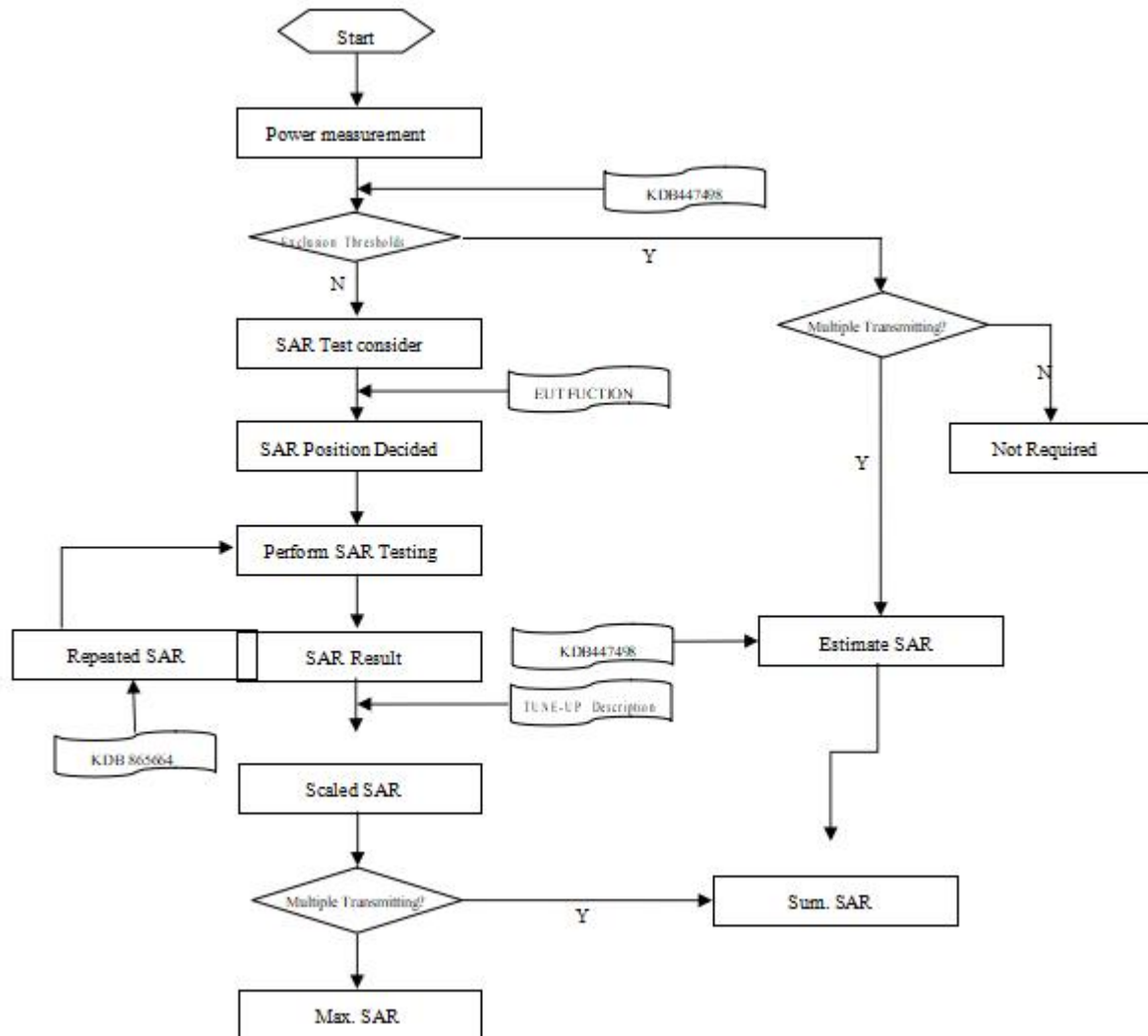
According with FCC KDB 648474 D04, for smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm that provide similar mobile web access and multimedia support found in mini-tablets or UMPC mini-tablets that support voice calls next to the ear, unless it is confirmed 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	½·δ·ln(2)±0.5 mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location			30°±1°	20°±1°
Maximum area scan spatial resolution: Δx Area , Δy Area			≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm	3–4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 10 mm
			When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	
Maximum zoom scan spatial resolution: Δx Zoom , Δy Zoom			≤ 2 GHz: ≤ 8 mm 2–3 GHz: ≤ 5 mm*	3–4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: Δz Zoom (n)		≤ 5 mm	3–4 GHz: ≤ 4 mm
				4–5 GHz: ≤ 3 mm
				5–6 GHz: ≤ 2 mm
	graded grid	Δz Zoom (1): between 1st two points closest to phantom surface	≤ 4 mm	3–4 GHz: ≤ 3 mm
				4–5 GHz: ≤ 2.5 mm
				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		31.00	30.42	30.75	30.83	-9.03	21.39	21.72	21.80
GPRS (GMSK)	1Tx slot	31.00	30.46	30.68	30.74	-9.03	21.43	21.65	21.71
	2Tx slots	30.50	29.79	30.04	30.11	-6.02	23.77	24.02	24.09
	3Tx slots	28.50	28.05	28.31	28.34	-4.26	23.79	24.05	24.08
	4Tx slots	27.50	26.80	27.08	27.11	-3.01	23.79	24.07	24.10
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		26.50	26.34	26.09	25.36	-9.03	17.31	17.06	16.33
GPRS (GMSK)	1Tx slot	26.50	26.42	26.11	25.26	-9.03	17.39	17.08	16.23
	2Tx slots	26.50	26.25	25.97	25.20	-6.02	20.23	19.95	19.18
	3Tx slots	26.00	25.63	25.35	24.74	-4.26	21.37	21.09	20.48
	4Tx slots	25.00	24.65	24.38	24.57	-3.01	21.64	21.37	21.56

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		20.00	14.43	19.65	18.39
HSDPA	Subtest-1	17.50	17.35	16.84	16.04
	Subtest-2	17.50	17.31	16.87	16.06
	Subtest-3	17.50	17.36	16.85	16.06
	Subtest-4	17.50	17.32	16.88	16.04
HSUPA	Subtest-1	15.00	14.74	14.33	13.56
	Subtest-2	15.50	15.03	14.59	14.08
	Subtest-3	15.00	14.75	14.35	13.85
	Subtest-4	15.50	15.26	14.87	14.07
	Subtest-5	15.50	15.07	14.66	13.59
Mode		Maximum Tune-up(dBm)	WCDMA Band IV		
			Conducted Power (dBm)		
			CH1312	CH1450	CH1513
			1712.4	1740.0	1752.6
RMC 12.2K		19.50	15.97	17.56	19.05
HSDPA	Subtest-1	17.00	13.58	15.37	16.77
	Subtest-2	17.00	13.63	15.38	16.79
	Subtest-3	17.00	13.61	15.37	16.81
	Subtest-4	17.00	13.61	15.36	16.79
HSUPA	Subtest-1	14.50	11.11	12.86	14.25
	Subtest-2	15.00	11.40	13.32	14.57
	Subtest-3	15.00	11.61	13.15	14.74
	Subtest-4	14.50	11.04	13.17	14.27
	Subtest-5	15.00	11.58	12.84	14.53
Mode		Maximum Tune-up(dBm)	WCDMA Band V		
			Conducted Power (dBm)		
			CH4132	CH4182	CH4233
			826.4	836.4	846.6
RMC 12.2K		22.50	21.80	21.89	22.04
HSDPA	Subtest-1	20.00	19.65	19.60	19.56
	Subtest-2	20.00	19.61	19.61	19.57
	Subtest-3	20.00	19.63	19.59	19.54
	Subtest-4	20.00	19.61	19.64	19.56
HSUPA	Subtest-1	17.50	17.48	17.15	17.29
	Subtest-2	18.00	17.68	17.73	17.29
	Subtest-3	17.50	17.43	17.16	17.31
	Subtest-4	18.00	17.71	17.71	17.78
	Subtest-5	18.00	17.49	17.54	17.32

When the maximum output power and tune-up tolerance specified for production units in a secondary mode is $\leq 1/2$ dB 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

8.3.1 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	21.50	21.28	20.80	20.08
			2	21.50	21.33	20.87	20.18
			5	21.50	21.30	20.76	20.03
		3	0	21.50	21.29	20.77	19.65
			2	21.50	21.28	20.72	18.93
			3	21.50	21.25	20.73	18.98
		6	0	20.50	20.26	19.69	18.68
	16QAM	1	0	20.50	20.33	19.68	18.67
			2	20.50	20.36	19.74	18.40
			5	20.50	20.29	19.66	18.85
		3	0	20.50	20.13	19.73	18.45
			2	20.50	20.11	19.68	18.38
			3	20.50	20.10	19.67	18.33
		6	0	19.50	19.19	18.59	17.73
Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	18615	18900	19185
					1851.5MHz	1880.0MHz	1908.5MHz
3MHz	QPSK	1	0	21.50	21.24	20.73	20.15
			7	21.50	21.22	20.71	19.16
			14	21.50	21.27	20.67	17.74
		8	0	20.50	20.25	19.71	18.74
			4	20.50	20.22	19.72	18.33
			7	20.50	20.21	19.70	18.07
		15	0	20.50	20.13	19.66	18.39
	16QAM	1	0	20.50	20.43	19.78	18.72
			7	20.50	20.36	19.73	18.05
			14	20.50	20.31	19.70	17.52
		8	0	19.50	19.27	18.67	17.90
			4	19.50	19.26	18.66	17.58
			7	19.50	19.21	18.63	17.43
		15	0	19.50	19.12	18.61	17.73
Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	18625	18900	19175
					1852.5MHz	1880.0MHz	1907.5MHz
5MHz	QPSK	1	0	21.50	21.13	20.83	20.12
			13	21.00	20.61	20.77	19.07
			24	21.00	20.59	20.69	18.08
		12	0	20.50	20.18	19.75	18.93
			6	20.50	20.09	19.69	18.52
			13	20.50	20.10	19.65	18.03
		25	0	20.50	20.10	19.65	18.54
	16QAM	1	0	20.50	20.01	19.95	18.99
			13	20.00	19.69	19.85	18.22
			24	20.00	19.80	19.75	17.49
		12	0	19.50	19.13	18.79	17.89
			6	19.50	19.08	18.73	17.77
			13	19.50	19.02	18.68	17.29
		25	0	19.50	19.07	18.63	17.76

LTE-FDD Band 2				Maximum Tune-up(dBm)			
Bandwidth	Modulation	RB allocation	RB offset		18650	18900	19150
					1855.0MHz	1880.0MHz	1905.0MHz
10MHz	QPSK	1	0	21.00	20.78	20.90	20.43
			25	21.00	20.49	20.73	20.09
			49	21.00	20.06	20.73	18.11
		25	0	20.50	20.11	19.75	19.07
			13	20.50	20.03	19.68	18.99
			25	20.00	19.90	19.62	18.78
	16QAM	50	0	20.50	20.06	19.66	18.97
			0	20.50	20.25	19.91	19.12
			25	20.50	20.02	19.76	18.93
		1	49	20.00	19.53	19.67	17.37
			0	19.50	19.07	18.75	18.13
			13	19.00	19.00	18.68	18.06
		25	25	19.00	18.93	18.61	17.90
			0	19.00	18.96	18.66	17.97
15MHz	QPSK	1	0	21.50	20.84	21.08	19.78
			38	21.00	20.21	20.80	20.14
			74	21.00	19.96	20.63	18.25
		36	0	20.50	20.02	19.97	19.41
			18	20.00	19.80	19.84	19.24
			39	20.00	19.60	19.77	19.05
	16QAM	75	0	20.00	19.81	19.87	19.22
			0	20.50	20.30	19.98	19.17
			38	20.00	19.82	19.82	19.15
		1	74	20.00	19.54	19.60	17.71
			0	19.50	19.19	18.87	18.21
			18	19.50	19.03	18.78	18.15
		36	39	19.00	18.87	18.67	18.00
			0	19.50	19.02	18.80	18.11
20MHz	QPSK	1	0	21.00	20.99	20.88	20.74
			50	21.00	20.03	20.73	20.32
			99	20.50	20.36	20.37	18.83
		50	0	20.50	20.10	19.81	19.20
			25	20.00	19.87	19.69	19.07
			50	20.00	19.80	19.57	19.00
	16QAM	100	0	20.00	19.96	19.68	19.13
			0	20.50	20.29	19.97	19.70
			50	20.00	19.55	19.73	19.37
		1	99	20.00	19.90	19.52	18.34
			0	19.00	18.98	18.78	18.01
			25	19.00	18.82	18.68	17.95
		50	50	19.00	18.73	18.52	17.97
			0	19.00	18.87	18.65	18.05

Band 4

LTE-FDD Band 4				Maximum Tune-up(dBm)	Conducted Power(dBm)		
Bandwidth	Modulation	RB allocation	RB offset		19957	20176	20393
					1710.7MHz	1732.5MHz	1754.3MHz
1.4MHz	QPSK	1	0	21.50	21.34	21.23	21.34
			2	21.50	21.40	21.30	21.44
			5	21.50	21.33	21.25	21.36
		3	0	21.50	21.46	21.29	21.38
			2	21.50	21.43	21.27	21.38
			3	21.50	21.44	21.28	21.40
	16QAM	6	0	20.50	20.42	20.29	20.34
			0	20.50	20.37	20.36	20.34
			2	20.50	20.43	20.40	20.41
		3	5	20.50	20.36	20.36	20.35
			0	21.00	20.60	20.21	20.41
			2	21.00	20.65	20.21	20.42
3MHz	QPSK	1	3	21.00	20.64	20.21	20.42
			0	20.00	19.43	19.25	19.28
			0	20.50	20.48	20.34	20.44
		8	4	20.50	20.46	20.36	20.41
			7	20.50	20.46	20.33	20.42
			15	0	20.50	20.43	20.27
	16QAM	1	0	21.00	20.55	20.28	20.78
			7	21.00	20.57	20.26	20.83
			14	21.00	20.52	20.20	20.75
		8	0	20.00	19.46	19.36	19.57
			4	20.00	19.49	19.37	19.55
			7	20.00	19.44	19.36	19.54
5MHz	QPSK	1	0	21.50	21.44	21.32	21.40
			13	21.50	21.45	21.30	21.41
			24	21.50	21.35	21.27	21.37
		12	0	21.00	20.50	20.33	20.43
			6	20.50	20.48	20.29	20.40
			13	20.50	20.46	20.31	20.43
	16QAM	25	0	20.50	20.42	20.27	20.37
			0	21.00	20.33	20.52	20.46
			13	20.50	20.35	20.44	20.48
		12	24	20.50	20.24	20.41	20.45
			0	20.00	19.51	19.36	19.44
			6	20.00	19.51	19.35	19.42
7MHz	QPSK	1	13	19.50	19.49	19.33	19.42
			0	19.50	19.46	19.26	19.39
			0	19.50	19.46	19.26	19.39
		25	0	19.50	19.46	19.26	19.39
			0	19.50	19.46	19.26	19.39
			0	19.50	19.46	19.26	19.39
	16QAM	1	0	19.50	19.46	19.26	19.39
			0	19.50	19.46	19.26	19.39
			0	19.50	19.46	19.26	19.39
		25	0	19.50	19.46	19.26	19.39
			0	19.50	19.46	19.26	19.39
			0	19.50	19.46	19.26	19.39

LTE-FDD Band 4				Maximum Tune-up(dBm)	20000	20176	20350
Bandwidth	Modulation	RB allocation	RB offset		1715.0MHz	1732.5MHz	1750.0MHz
10MHz	QPSK	1	0	22.00	21.50	21.37	21.39
			25	21.50	21.43	21.36	21.34
			49	21.50	21.35	21.22	21.35
		25	0	20.50	20.46	20.33	20.36
			13	20.50	20.41	20.29	20.36
			25	20.50	20.39	20.28	20.36
		50	0	20.50	20.44	20.34	20.38
			0	21.00	20.53	20.84	20.51
			25	21.00	20.46	20.71	20.49
	16QAM	1	49	21.00	20.37	20.67	20.51
			0	20.00	19.56	19.39	19.39
			13	20.00	19.53	19.34	19.38
		25	25	20.00	19.50	19.32	19.40
			0	20.00	19.50	19.35	19.39
			0	21.00	20.90	20.41	20.66
		36	38	21.00	20.79	20.42	20.69
			0	20.00	19.54	19.41	19.40
			18	19.50	19.48	19.40	19.41
		75	39	19.50	19.42	19.36	19.44
15MHz	QPSK	1	0	22.00	21.51	21.37	21.45
			38	21.50	21.36	21.32	21.41
			74	21.50	21.27	21.14	21.39
		36	0	21.00	20.52	20.46	20.48
			18	20.50	20.45	20.45	20.46
			39	20.50	20.40	20.46	20.48
		75	0	20.50	20.46	20.45	20.48
			0	21.00	21.00	20.53	20.56
			38	21.00	20.90	20.41	20.66
	16QAM	1	74	21.00	20.79	20.42	20.69
			0	20.00	19.54	19.41	19.40
			18	19.50	19.48	19.40	19.41
		36	39	19.50	19.42	19.36	19.44
			0	19.50	19.48	19.40	19.43
			0	21.00	20.81	20.57	20.77
		50	50	21.00	20.63	20.41	20.84
			99	21.00	20.48	20.21	20.92
			0	20.00	19.50	19.41	19.33
		100	25	19.50	19.41	19.30	19.36
20MHz	QPSK	1	50	19.50	19.38	19.28	19.43
			0	19.50	19.46	19.32	19.40
			0	22.00	21.54	21.38	21.43
		50	50	21.50	21.35	21.36	21.42
			99	21.50	21.18	20.91	21.43
			0	20.50	20.47	20.39	20.35
		100	25	20.50	20.40	20.30	20.35
			50	20.50	20.37	20.29	20.41
			0	20.50	20.43	20.32	20.40
	16QAM	1	0	21.00	20.81	20.57	20.77
			50	21.00	20.63	20.41	20.84
			99	21.00	20.48	20.21	20.92
		50	0	20.00	19.50	19.41	19.33
			25	19.50	19.41	19.30	19.36
			50	19.50	19.38	19.28	19.43
		100	0	19.50	19.46	19.32	19.40
			0	21.00	20.90	20.41	20.66
			38	21.00	20.79	20.42	20.69

Band 5

LTE-FDD Band 5				Maximum Tune-up(dBm)	Conducted Power(dBm)		
Bandwidth	Modulation	RB allocation	RB offset		20407	20252	20643
					824.7MHz	836.5MHz	848.3MHz
1.4MHz	QPSK	1	0	22.50	22.23	22.24	22.28
			2	22.50	22.29	22.28	22.29
			5	22.50	22.23	22.24	22.25
		3	0	22.50	22.32	22.27	22.16
			2	22.50	22.31	22.22	22.18
			3	22.50	22.30	22.24	22.16
		6	0	21.50	21.25	21.18	21.29
	16QAM	1	0	21.50	21.45	21.23	21.08
			2	21.50	21.49	21.26	21.11
			5	21.50	21.43	21.23	21.07
		3	0	21.50	21.33	21.30	21.23
			2	21.50	21.30	21.26	21.27
			3	21.50	21.31	21.28	21.29
		6	0	20.50	20.20	20.14	20.06
	Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	20415	20252
825.5MHz						836.5MHz	847.5MHz
3MHz	QPSK	1	0	22.50	22.20	22.18	22.36
			7	22.50	22.13	22.12	22.32
			14	22.50	22.13	22.13	22.27
		8	0	21.50	21.32	21.27	21.33
			4	21.50	21.30	21.25	21.32
			7	21.50	21.29	21.24	21.31
		15	0	21.50	21.29	21.22	21.21
	16QAM	1	0	22.00	21.77	21.33	21.18
			7	22.00	21.71	21.30	21.14
			14	22.00	21.65	21.29	21.15
		8	0	20.50	20.43	20.24	20.17
			4	20.50	20.38	20.24	20.19
			7	20.50	20.37	20.22	20.18
		15	0	20.50	20.30	20.20	20.11
	Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	20425	20252
826.5MHz						836.5MHz	846.5MHz
5MHz	QPSK	1	0	22.50	22.27	22.28	22.33
			13	22.50	22.23	22.24	22.04
			24	22.50	22.19	22.19	22.30
		12	0	21.50	21.31	21.27	21.29
			6	21.50	21.29	21.26	21.28
			13	21.50	21.28	21.26	21.26
		25	0	21.50	21.24	21.22	21.22
	16QAM	1	0	21.50	21.17	21.45	21.31
			13	21.50	21.12	21.48	21.27
			24	21.50	21.06	21.43	21.26
		12	0	20.50	20.26	20.33	20.23
			6	20.50	20.22	20.32	20.14
			13	20.50	20.20	20.32	20.13
		25	0	20.50	20.21	20.21	20.11

Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	20450	20252	20600
					829.0MHz	836.5MHz	844.0MHz
10MHz	QPSK	1	0	22.50	22.29	22.25	22.28
			25	22.50	22.19	22.17	22.04
			49	22.50	22.25	22.21	22.04
		25	0	21.50	21.28	21.23	21.24
			13	21.50	21.23	21.23	21.22
			25	21.50	21.22	21.24	21.23
		50	0	21.50	21.25	21.26	21.24
			0	22.00	21.81	21.38	21.27
			25	22.00	21.66	21.33	21.12
	16QAM	1	49	22.00	21.64	21.38	21.13
		25	0	20.50	20.27	20.18	20.33
			13	20.50	20.22	20.26	20.29
			25	20.50	20.19	20.28	20.17
		50	0	20.50	20.20	20.27	20.25
			0	20.50	20.20	20.27	20.25

Band 12

LTE-FDD Band 12				Maximum Tune-up(dBm)	Conducted Power(dBm)		
Bandwidth	Modulation	RB allocation	RB offset		23017	23095	23173
					699.7MHz	707.5MHz	715.3MHz
1.4MHz	QPSK	1	0	23.00	22.12	22.58	22.30
			2	23.00	21.90	22.64	22.30
			5	23.00	21.91	22.58	22.46
		3	0	23.00	21.97	22.62	22.26
			2	23.00	21.89	22.63	22.33
			3	23.00	21.87	22.63	22.39
		6	0	22.00	21.02	21.53	21.59
	16QAM	1	0	22.00	21.04	21.63	21.36
			2	22.00	20.93	21.69	21.40
			5	22.00	20.99	21.63	21.53
		3	0	21.50	21.19	21.47	21.40
			2	21.50	21.18	21.49	21.44
			3	21.50	21.19	21.48	21.42
		6	0	21.00	20.12	20.51	20.44
		Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	23025
700.5MHz	707.5MHz						714.5MHz
3MHz	QPSK	1	0	23.00	22.31	22.55	22.52
			7	23.00	21.83	22.59	22.20
			14	23.00	21.94	22.51	22.40
		8	0	22.00	21.11	21.59	21.50
			4	22.00	21.02	21.59	21.49
			7	22.00	21.07	21.59	21.63
		15	0	22.00	21.09	21.53	21.54
	16QAM	1	0	22.00	21.72	21.58	21.48
			7	22.00	21.33	21.65	21.30
			14	22.00	21.47	21.61	21.47
		8	0	21.00	20.35	20.54	20.58
			4	21.00	20.26	20.55	20.60
			7	21.00	20.32	20.55	20.58
		15	0	21.00	20.24	20.51	20.55

Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	23035	23095	23155
					701.5MHz	707.5MHz	713.5MHz
5MHz	QPSK	1	0	23.00	22.34	22.63	22.66
			13	23.00	21.70	22.61	21.93
			24	23.00	22.40	22.54	22.25
		12	0	22.00	20.93	21.55	21.47
			6	22.00	20.83	21.55	21.14
			13	22.00	21.12	21.52	21.26
	16QAM	25	0	22.00	21.00	21.50	21.32
			0	22.00	21.19	21.68	21.61
			13	22.00	20.61	21.73	21.06
		1	24	22.00	21.30	21.71	21.53
			0	21.00	20.01	20.59	20.55
			6	21.00	19.91	20.59	20.22
		12	13	21.00	20.22	20.60	20.28
			0	21.00	20.11	20.51	20.38
Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	23060	23095	23130
					704.0MHz	707.5MHz	711.0MHz
10MHz	QPSK	1	0	23.00	22.15	22.38	22.70
			25	23.00	22.51	22.62	22.63
			49	23.00	22.63	22.06	21.98
		25	0	22.00	21.27	21.49	21.54
			13	22.00	21.52	21.52	21.57
			25	22.00	21.51	21.56	21.24
		50	0	22.00	21.54	21.56	21.57
			0	22.00	21.60	21.62	21.51
			25	22.00	21.95	21.66	21.59
	16QAM	1	49	22.00	21.97	21.37	21.12
			0	21.00	20.38	20.52	20.63
			13	21.00	20.57	20.56	20.66
		25	25	21.00	20.58	20.59	20.41
			0	21.00	20.54	20.57	20.61

Band 17

LTE-FDD Band 17				Maximum Tune-up(dBm)	Conducted Power(dBm)		
Bandwidth	Modulation	RB allocation	RB offset		23755	23790	23825
					706.5MHz	710.0MHz	713.5MHz
5MHz	QPSK	1	0	23.00	22.50	22.49	22.35
			13	22.50	22.48	22.30	21.20
			24	22.50	22.44	21.69	21.66
		12	0	21.50	21.38	21.46	20.68
			6	21.50	21.42	21.44	20.37
			13	21.50	21.44	20.96	20.50
		25	0	21.50	21.37	21.39	20.53
	16QAM	1	0	21.50	21.20	21.60	21.39
			13	22.00	21.21	21.62	20.33
			24	21.50	21.23	21.00	20.88
		12	0	21.00	20.39	20.52	19.77
			6	21.00	20.42	20.51	19.45
			13	20.50	20.46	20.10	19.54
		25	0	20.50	20.41	20.41	19.67

Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	23780	23790	23800
					709.0MHz	710.0MHz	711.0MHz
10MHz	QPSK	1	0	23.00	22.52	22.46	22.54
			25	23.00	22.51	22.28	21.92
			49	21.50	21.04	21.02	21.29
		25	0	21.50	21.40	21.39	21.42
			13	21.50	21.41	21.44	21.14
			25	21.50	21.01	20.63	20.49
		50	0	21.50	21.44	21.44	21.34
			0	22.00	21.76	21.49	21.39
			25	22.00	21.90	21.55	20.99
	16QAM	1	49	21.00	20.61	20.27	20.39
		25	0	21.00	20.45	20.42	20.52
			13	20.50	20.49	20.45	20.27
			25	20.50	20.12	19.74	19.66
		50	0	20.50	20.47	20.45	20.46

Band 30

LTE-FDD Band 30				Maximum Tune-up(dBm)	Conducted Power(dBm)		
Bandwidth	Modulation	RB allocation	RB offset		27685	27710	27735
					2307.5MHz	2310.0MHz	2312.5MHz
5MHz	QPSK	1	0	20.50	20.39	19.92	19.92
			12	21.00	20.51	20.06	19.98
			24	20.50	20.38	19.88	19.84
		12	0	20.00	19.50	19.06	19.04
			6	20.00	19.59	19.06	19.04
			13	19.50	19.49	18.99	18.93
		25	0	20.00	19.58	19.02	18.99
	16QAM	1	0	19.50	19.27	18.80	19.03
			12	19.50	19.30	18.93	19.15
			24	19.50	19.21	18.79	19.00
		12	0	18.50	18.09	18.00	18.01
			6	18.50	18.14	18.07	18.04
			13	18.50	18.09	18.00	17.98
		25	0	18.50	18.00	18.06	18.01
Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	27710		
					2310.0MHz		
10MHz	QPSK	1	0	21.00	20.53		
			24	21.00	20.69		
			49	20.50	20.42		
		25	0	20.00	19.51		
			13	20.00	19.59		
			25	20.00	19.52		
		50	0	20.00	19.53		
	16QAM	1	0	20.00	19.56		
			24	20.00	19.68		
			49	19.50	19.48		
		25	0	18.50	18.15		
			13	18.50	18.15		
			25	20.50	20.10		
		50	0	20.00	19.58		

Band 41

LTE-TDD Band 41				Maximum Tune-up(dBm)	Conducted Power(dBm)		
Bandwidth	Modulation	RB allocation	RB offset		40215	40690	41165
					2552.5MHz	2600.0MHz	2647.5MHz
5MHz	QPSK	1	0	22.00	21.34	21.16	21.57
			13	22.00	21.43	21.35	21.71
			24	22.00	21.33	21.18	21.55
		12	0	21.00	20.32	20.19	20.63
			6	21.00	20.44	20.29	20.71
			13	21.00	20.22	20.18	20.64
		25	0	21.00	20.34	20.20	20.70
	16QAM	1	0	21.00	20.21	20.09	20.68
			13	21.00	20.29	20.26	20.68
			24	21.00	19.81	20.12	20.60
		12	0	20.00	18.82	19.22	19.72
			6	20.00	19.07	19.29	19.80
			13	20.00	19.27	19.19	19.72
		25	0	20.00	18.82	19.19	19.69
Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	40240	40690	41140
					2555.0MHz	2600.0MHz	2645.0MHz
10MHz	QPSK	1	0	22.00	20.86	21.20	21.57
			25	22.00	21.04	21.44	21.91
			49	22.00	20.83	21.26	21.76
		25	0	21.00	19.93	20.19	20.67
			13	21.00	19.95	20.27	20.65
			25	21.00	19.82	20.26	20.67
		50	0	21.00	19.92	20.26	20.65
	16QAM	1	0	20.50	19.54	19.90	20.33
			25	21.00	19.86	20.09	20.89
			49	21.00	19.81	20.03	20.71
		25	0	20.00	18.92	19.24	19.65
			13	20.00	18.90	19.28	19.72
			25	20.00	18.84	19.32	19.76
		50	0	20.00	18.86	19.28	19.70

LTE-TDD Band 41				Maximum Tune-up(dBm)	Conducted Power(dBm)		
Bandwidth	Modulation	RB allocation	RB offset		40265	40690	41115
					2557.5MHz	2600.0MHz	2642.5MHz
15MHz	QPSK	1	0	22.00	20.86	21.15	21.55
			38	22.00	20.81	21.34	21.74
			74	22.00	20.72	21.21	21.66
		36	0	21.00	20.01	20.26	20.62
			18	21.00	19.91	20.26	20.69
			39	21.00	19.97	20.31	20.74
		75	0	21.00	20.04	20.27	20.71
	16QAM	1	0	21.00	20.17	19.96	20.51
			38	21.00	19.85	20.07	20.60
			74	21.00	19.71	20.06	20.64
		36	0	20.00	18.93	19.29	19.72
			18	20.00	18.89	19.33	19.70
			39	20.00	18.89	19.30	19.78
		75	0	20.00	18.93	19.32	19.71

Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	40290	40690	41090
					2560.0MHz	2600.0MHz	2640.0MHz
20MHz	QPSK	1	0	21.50	20.55	20.98	21.37
			50	22.00	20.83	21.31	21.72
			99	22.00	20.61	21.09	21.50
		50	0	21.00	19.88	20.19	20.50
			25	21.00	19.92	20.25	20.61
			50	21.00	19.81	20.22	20.63
		100	0	21.00	19.85	20.16	20.54
	16QAM	1	0	20.50	19.63	20.02	20.27
			50	21.00	20.01	20.13	20.60
			99	20.50	19.69	19.75	20.42
		50	0	20.00	18.85	19.16	19.56
			25	20.00	18.91	19.27	19.62
			50	20.00	18.76	19.30	19.65
		100	0	20.00	18.85	19.28	19.57

Band 66

LTE-FDD Band 66				Maximum Tune-up(dBm)	Conducted Power(dBm)		
Bandwidth	Modulation	RB allocation	RB offset		131979	132322	132665
					1710.7MHz	1745.0MHz	1779.3MHz
1.4MHz	QPSK	1	0	20.50	20.34	20.43	20.43
			2	21.00	20.55	20.67	20.66
			5	20.50	20.34	20.40	20.45
		3	0	21.00	20.40	20.51	20.58
			2	21.00	20.35	20.47	20.58
			3	21.00	20.39	20.55	20.63
		6	0	20.00	19.36	19.46	19.56
	16QAM	1	0	20.00	19.62	19.31	19.45
			2	20.00	19.83	19.50	19.61
			5	20.00	19.59	19.35	19.45
		3	0	20.00	19.39	19.34	19.65
			2	20.00	19.29	19.31	19.58
			3	20.00	19.42	19.37	19.64
		6	0	19.00	18.37	18.51	18.69
Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	131987	132322	132657
					1711.5MHz	1745.0MHz	1778.5MHz
3MHz	QPSK	1	0	20.50	20.33	20.46	20.45
			7	20.50	20.22	20.37	20.39
			14	20.50	20.36	20.45	20.47
		8	0	19.50	19.27	19.36	19.49
			4	20.00	19.29	19.36	19.50
			7	19.50	19.22	19.35	19.48
		15	0	19.50	19.19	19.39	19.43
	16QAM	1	0	20.00	19.61	19.32	19.46
			7	19.50	19.47	19.20	19.36
			14	20.00	19.66	19.34	19.48
		8	0	19.00	18.35	18.40	18.53
			4	19.00	18.43	18.42	18.55
			7	18.50	18.30	18.36	18.48
		15	0	18.50	18.31	18.41	18.44

Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	131997	132322	132647
					1712.5MHz	1745.0MHz	1777.5MHz
5MHz	QPSK	1	0	20.50	20.16	20.28	20.35
			13	21.00	20.32	20.41	20.50
			24	20.50	20.20	20.30	20.38
		12	0	19.50	19.17	19.32	19.43
			6	19.50	19.27	19.38	19.49
			13	19.50	19.25	19.37	19.47
		25	0	19.50	19.23	19.38	19.47
	16QAM	1	0	20.00	19.07	19.66	19.45
			13	20.00	19.21	19.78	19.61
			24	20.00	19.07	19.66	19.46
		12	0	19.00	18.33	18.39	18.52
			6	19.00	18.40	18.47	18.55
			13	19.00	18.37	18.43	18.51
		25	0	18.50	18.37	18.43	18.47
		25	0	18.50	18.37	18.43	18.47
			0	18.50	18.37	18.43	18.47
Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	132022	132322	132622
					1715.0MHz	1745.0MHz	1775.0MHz
10MHz	QPSK	1	0	20.50	20.37	20.45	20.47
			25	21.00	20.44	20.56	20.55
			49	21.00	20.36	20.49	20.52
		25	0	20.00	19.32	19.45	19.54
			13	20.00	19.31	19.43	19.53
			25	20.00	19.36	19.50	19.59
		50	0	20.00	19.32	19.48	19.54
	16QAM	1	0	20.00	19.67	19.31	19.42
			25	20.00	19.72	19.41	19.54
			49	20.00	19.64	19.35	19.55
		25	0	19.00	18.36	18.55	18.62
			13	19.00	18.39	18.51	18.61
			25	19.00	18.40	18.59	18.65
		50	0	19.00	18.41	18.49	18.53
		50	0	19.00	18.41	18.49	18.53
			0	19.00	18.41	18.49	18.53

LTE-FDD Band 66				Maximum Tune-up(dBm)	Conducted Power(dBm)		
Bandwidth	Modulation	RB allocation	RB offset		132047	132322	132597
					1717.5MHz	1745.0MHz	1772.5MHz
15MHz	QPSK	1	0	20.50	20.27	20.41	20.32
			38	21.00	20.35	20.52	20.48
			74	20.50	20.22	20.38	20.43
		36	0	20.00	19.30	19.40	19.54
			18	20.00	19.30	19.43	19.53
			39	20.00	19.33	19.47	19.53
		75	0	20.00	19.36	19.52	19.58
	16QAM	1	0	19.50	19.14	19.27	19.26
			38	19.50	19.19	19.34	19.46
			74	19.50	19.11	19.24	19.45
		36	0	19.00	18.32	18.49	18.52
			18	19.00	18.36	18.47	18.56
			39	19.00	18.38	18.50	18.56
		75	0	19.00	18.36	18.51	18.57

Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	132072	132322	132572
					1720.0MHz	1745.0MHz	1770.0MHz
20MHz	QPSK	1	0	20.50	20.07	20.14	20.09
			50	21.00	20.35	20.51	20.54
			99	20.50	20.09	20.21	20.29
		50	0	19.50	19.27	19.41	19.44
			25	19.50	19.25	19.45	19.45
			50	19.50	19.28	19.45	19.46
		100	0	19.50	19.18	19.38	19.42
			0	19.50	19.04	18.95	19.42
			50	20.00	19.30	19.29	19.84
	16QAM	1	99	20.00	19.06	19.01	19.68
			0	18.50	18.26	18.42	18.46
			25	18.50	18.30	18.48	18.45
		50	50	18.50	18.29	18.47	18.49
			0	19.00	18.28	18.50	18.49
			0	19.00	18.28	18.50	18.49
			0	19.00	18.28	18.50	18.49

Band 71

LTE-FDD Band 71				Maximum Tune-up(dBm)	Conducted Power(dBm)		
Bandwidth	Modulation	RB allocation	RB offset		133147	133297	133447
5MHz	QPSK	1	0	21.00	20.63	20.23	20.04
			13	21.00	20.61	20.28	20.17
			24	21.00	20.52	20.16	20.21
		12	0	19.50	19.46	19.28	19.11
			6	20.00	19.58	19.22	19.16
			13	20.00	19.59	19.29	19.22
		25	0	20.00	19.58	19.29	19.21
			0	20.00	19.67	19.14	19.42
			13	20.00	19.67	19.18	19.58
	16QAM	1	24	20.00	19.58	19.05	19.56
			0	19.00	18.53	18.19	18.10
			6	19.00	18.65	18.26	18.14
		12	13	19.00	18.67	18.30	18.18
			0	19.00	18.59	18.31	18.14
			0	19.00	18.59	18.31	18.14
			0	19.00	18.59	18.31	18.14
10MHz	QPSK	1	0	21.00	20.75	20.39	20.07
			25	21.00	20.68	20.38	20.18
			49	21.00	20.57	20.29	20.30
		25	0	19.50	19.40	19.27	19.15
			13	20.00	19.52	19.26	19.16
			25	20.00	19.54	19.32	19.34
		50	0	19.50	19.40	19.27	19.19
			0	20.00	19.97	19.26	19.06
			25	20.00	19.94	19.25	19.16
	16QAM	1	49	20.00	19.88	19.12	19.29
			0	18.50	18.43	18.28	18.12
			13	18.50	18.47	18.26	18.15
		25	25	18.50	18.47	18.31	18.28
			0	18.50	18.35	18.24	18.11
			0	18.50	18.35	18.24	18.11
			0	18.50	18.35	18.24	18.11

Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	133197	133297	133397
					670.5MHz	680.5MHz	690.5MHz
15MHz	QPSK	1	0	21.00	20.64	20.41	20.08
			38	21.00	20.58	20.35	20.14
			74	20.50	20.37	20.17	20.21
		36	0	19.50	19.41	19.29	19.21
			18	20.00	19.56	19.30	19.18
			39	19.50	19.49	19.23	19.25
		75	0	19.50	19.48	19.30	19.27
	16QAM	1	0	20.00	19.54	19.27	19.06
			38	19.50	19.48	19.19	19.14
			74	19.50	19.32	19.04	19.24
		36	0	18.50	18.38	18.28	18.18
			18	19.00	18.54	18.26	18.12
			39	18.50	18.44	18.19	18.23
		75	0	18.50	18.40	18.24	18.22
Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	133222	133322	133372
					673.0MHz	683.0MHz	688.0MHz
20MHz	QPSK	1	0	20.50	20.42	20.19	20.05
			50	21.00	20.61	20.27	20.19
			99	20.50	20.10	19.96	20.15
		50	0	19.50	19.40	19.12	19.09
			25	19.50	19.44	19.15	19.19
			50	20.00	19.50	19.07	19.20
		100	0	19.50	19.47	19.02	19.10
	16QAM	1	0	20.00	19.71	19.18	18.85
			50	20.00	19.96	19.30	19.00
			99	19.50	19.43	19.01	18.89
		50	0	18.50	18.34	18.06	18.00
			25	18.50	18.39	18.10	18.13
			50	18.50	18.45	18.01	18.11
		100	0	18.50	18.36	18.00	18.05

8.4 Wi-Fi

Band (GHz)	Mode	Channel	Freq. (MHz)	Average Conducted Output Power (dBm)	Maximum Tune-up(dBm)	SAR Test Require.
2.4 (2.4~2.4835)	802.11b	1	2412	19.16	19.50	Yes
		6	2437	18.98	19.00	No
		11	2462	18.89	19.00	No
	802.11g	1	2412	22.06	22.50	No
		6	2437	23.78	24.00	No
		11	2462	23.47	23.50	No
	802.11n(HT20)	1	2412	22.37	22.50	No
		6	2437	23.91	24.00	Yes
		11	2462	23.76	24.00	No
	802.11n(HT40)	3	2422	23.72	24.00	No
		6	2437	22.75	23.00	No
		9	2452	23.66	24.00	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 $\leq 1.2\text{W/kg}$.

8.5 Bluetooth

EDR	Mode	Maximum Tune-up(dBm)	Average Conducted Output Power (dBm)		
			0	39	78
			2402MHz	2441MHz	2480MHz
	GFSK	8.50	8.04	6.90	4.49
	$\pi/4$ QPSK	7.50	7.23	6.20	3.82
	8DPSK	7.50	7.41	6.39	4.04
BLE	Mode	Maximum Tune-up(dBm)	Average Conducted Output Power (dBm)		
			0	20	39
			2402MHz	2440MHz	2480MHz
	GFSK	8.00	7.93	6.69	4.53

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	8.50	7.08	0	2.79	Yes
0	2.402	8.50	7.08	10	10.39	No

Note

- Per KDB 447498 D04 Interim General RF Exposure Guidance v01, the 1-g SAR test exclusion thresholds for 300 MHz to 6 GHz at *test separation distances* ≤ 40 cm are determined by:

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases} \quad (\text{B. 2})$$

where

$$P_{th} \text{ (mW)} = ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases} \quad (\text{B. 1})$$

$$x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right)$$

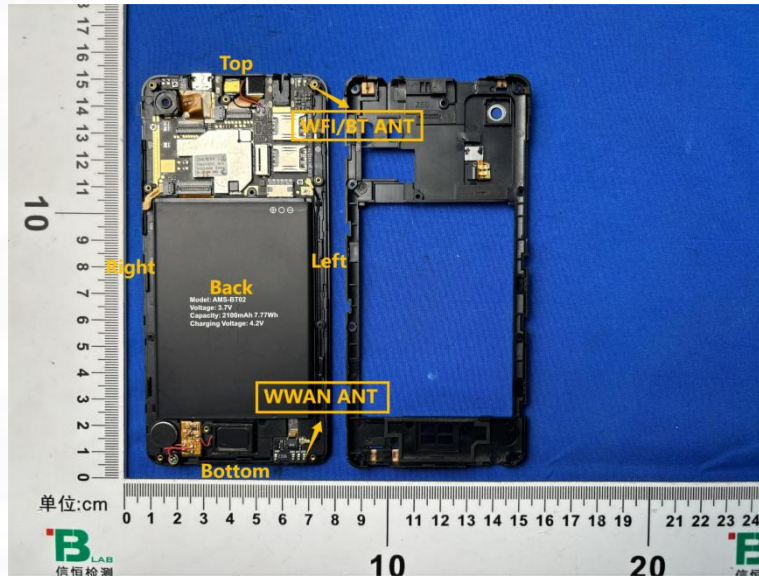
and f is in GHz, d is the separation distance (cm), and $ERP_{20 \text{ cm}}$ is per Formula (B.1).

*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 D04v01, 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	59	135	<25
BT/Wifi	<25	<25	<25	62	<25	142
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	No	Yes
BT/Wifi	Yes	Yes	Yes	No	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)	0	10
BT	0	2.402	8.50	7.08	Estimated SAR(W/kg)	/	0.146

10. Test Result

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	1.930	0.252	100.00	1.000	30.83	31.00	1.040	0.262	/
	Left Tilt	251	848.8	4.070	0.141	100.00	1.000	30.83	31.00	1.040	0.147	/
	Right Cheek	251	848.8	-2.090	0.256	100.00	1.000	30.83	31.00	1.040	0.266	1#
	Right Tilt	251	848.8	0.560	0.145	100.00	1.000	30.83	31.00	1.040	0.151	/
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.
GSM 850 (voice)	Front	251	848.8	0.150	0.265	100.00	1.000	30.83	31.00	1.040	0.276	/
	Back	251	848.8	-2.940	0.302	100.00	1.000	30.83	31.00	1.040	0.314	/
	Left	251	848.8	-3.210	0.222	100.00	1.000	30.83	31.00	1.040	0.231	/
	Bottom	251	848.8	1.200	0.241	100.00	1.000	30.83	31.00	1.040	0.251	/
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+2slots	Front	251	848.8	1.990	0.605	100.00	1.000	27.11	27.50	1.094	0.662	/
	Back	251	848.8	0.070	0.637	100.00	1.000	27.11	27.50	1.094	0.697	2#
	Left	251	848.8	-2.590	0.531	100.00	1.000	27.11	27.50	1.094	0.581	/
	Bottom	251	848.8	1.240	0.565	100.00	1.000	27.11	27.50	1.094	0.618	/

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	-1.190	0.111	100.00	1.000	26.34	26.50	1.038	0.115	/
	Left Tilt	512	1850.2	1.140	0.061	100.00	1.000	26.34	26.50	1.038	0.063	/
	Right Cheek	512	1850.2	1.730	0.115	100.00	1.000	26.34	26.50	1.038	0.119	3#
	Right Tilt	512	1850.2	1.820	0.065	100.00	1.000	26.34	26.50	1.038	0.067	/
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.
GSM 1900 (voice)	Front	512	1850.2	-4.280	0.162	100.00	1.000	26.34	26.50	1.038	0.168	/
	Back	512	1850.2	1.330	0.143	100.00	1.000	26.34	26.50	1.038	0.148	/
	Left	512	1850.2	3.160	0.127	100.00	1.000	26.34	26.50	1.038	0.132	/
	Bottom	512	1850.2	-1.860	0.108	100.00	1.000	26.34	26.50	1.038	0.112	/
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+2slots	Front	512	1850.2	-4.490	0.592	100.00	1.000	24.65	25.00	1.084	0.642	4#
	Back	512	1850.2	-1.840	0.564	100.00	1.000	24.65	25.00	1.084	0.611	/
	Left	512	1850.2	3.020	0.532	100.00	1.000	24.65	25.00	1.084	0.577	/
	Bottom	512	1850.2	-4.980	0.503	100.00	1.000	24.65	25.00	1.084	0.545	/

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	9400	1880.0	0.310	0.253	100.00	1.000	19.65	20.00	1.084	0.274	/
	Left Tilt	9400	1880.0	0.200	0.140	100.00	1.000	19.65	20.00	1.084	0.152	/
	Right Cheek	9400	1880.0	-3.610	0.258	100.00	1.000	19.65	20.00	1.084	0.280	5#
	Right Tilt	9400	1880.0	-4.260	0.144	100.00	1.000	19.65	20.00	1.084	0.156	/
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	9400	1880.0	-2.920	0.453	100.00	1.000	19.65	20.00	1.084	0.491	6#
	Back	9400	1880.0	-3.190	0.357	100.00	1.000	19.65	20.00	1.084	0.387	/
	Left	9400	1880.0	-4.460	0.240	100.00	1.000	19.65	20.00	1.084	0.260	/
	Bottom	9400	1880.0	-0.670	0.232	100.00	1.000	19.65	20.00	1.084	0.251	/

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	1513	1752.6	2.570	0.418	100.00	1.000	19.05	19.50	1.109	0.464	/
	Left Tilt	1513	1752.6	0.100	0.231	100.00	1.000	19.05	19.50	1.109	0.256	/
	Right Cheek	1513	1752.6	-1.990	0.424	100.00	1.000	19.05	19.50	1.109	0.470	7#
	Right Tilt	1513	1752.6	-2.690	0.235	100.00	1.000	19.05	19.50	1.109	0.261	/
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	1513	1752.6	-1.960	0.715	100.00	1.000	19.05	19.50	1.109	0.793	8#
	Back	1513	1752.6	0.610	0.665	100.00	1.000	19.05	19.50	1.109	0.737	/
	Left	1513	1752.6	-0.840	0.621	100.00	1.000	19.05	19.50	1.109	0.689	/
	Bottom	1513	1752.6	0.030	0.584	100.00	1.000	19.05	19.50	1.109	0.648	/

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	1.450	0.340	100.00	1.000	22.04	22.50	1.112	0.378	/
	Left Tilt	4233	846.6	1.560	0.176	100.00	1.000	22.04	22.50	1.112	0.196	/
	Right Cheek	4233	846.6	-2.550	0.346	100.00	1.000	22.04	22.50	1.112	0.385	9#
	Right Tilt	4233	846.6	1.610	0.184	100.00	1.000	22.04	22.50	1.112	0.205	/
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	0.940	0.242	100.00	1.000	22.04	22.50	1.112	0.269	/
	Back	4233	846.6	1.630	0.502	100.00	1.000	22.04	22.50	1.112	0.558	10#
	Left	4233	846.6	-1.770	0.131	100.00	1.000	22.04	22.50	1.112	0.146	/
	Bottom	4233	846.6	2.760	0.144	100.00	1.000	22.04	22.50	1.112	0.160	/

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	18700	1860.0	-1.950	0.322	100.00	1.000	20.99	21.00	1.002	0.323	/
		Left Tilt	18700	1860.0	2.910	0.176	100.00	1.000	20.99	21.00	1.002	0.176	/
		Right Cheek	18700	1860.0	-3.590	0.330	100.00	1.000	20.99	21.00	1.002	0.331	11#
		Right Tilt	18700	1860.0	-0.460	0.181	100.00	1.000	20.99	21.00	1.002	0.181	/
	50%RB	Left Cheek	18700	1860.0	1.600	0.294	100.00	1.000	20.10	20.50	1.096	0.322	/
		Left Tilt	18700	1860.0	-2.720	0.158	100.00	1.000	20.10	20.50	1.096	0.173	/
		Right Cheek	18700	1860.0	1.570	0.301	100.00	1.000	20.10	20.50	1.096	0.330	/
		Right Tilt	18700	1860.0	0.860	0.162	100.00	1.000	20.10	20.50	1.096	0.178	/
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	18700	1860.0	-3.150	0.486	100.00	1.000	20.99	21.00	1.002	0.487	12#
		Back	18700	1860.0	2.610	0.452	100.00	1.000	20.99	21.00	1.002	0.453	/
		Left	18700	1860.0	1.090	0.424	100.00	1.000	20.99	21.00	1.002	0.425	/
		Bottom	18700	1860.0	-4.240	0.393	100.00	1.000	20.99	21.00	1.002	0.394	/
	50%RB	Front	18700	1860.0	-0.600	0.439	100.00	1.000	20.10	20.50	1.096	0.481	/
		Back	18700	1860.0	-2.620	0.420	100.00	1.000	20.10	20.50	1.096	0.460	/
		Left	18700	1860.0	-1.570	0.392	100.00	1.000	20.10	20.50	1.096	0.430	/
		Bottom	18700	1860.0	1.190	0.354	100.00	1.000	20.10	20.50	1.096	0.388	/

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	-1.950	0.380	100.00	1.000	21.54	22.00	1.112	0.423	/
		Left Tilt	20050	1720.0	3.230	0.192	100.00	1.000	21.54	22.00	1.112	0.214	/
		Right Cheek	20050	1720.0	1.730	0.385	100.00	1.000	21.54	22.00	1.112	0.428	13#
		Right Tilt	20050	1720.0	-0.930	0.196	100.00	1.000	21.54	22.00	1.112	0.218	/

	50%RB	Left Cheek	20050	1720.0	3.050	0.357	100.00	1.000	20.47	20.50	1.007	0.359	/
		Left Tilt	20050	1720.0	-0.820	0.170	100.00	1.000	20.47	20.50	1.007	0.171	/
		Right Cheek	20050	1720.0	-2.080	0.361	100.00	1.000	20.47	20.50	1.007	0.364	/
		Right Tilt	20050	1720.0	1.040	0.174	100.00	1.000	20.47	20.50	1.007	0.175	/
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	-3.530	0.718	100.00	1.000	21.54	22.00	1.112	0.761	14#
		Back	20050	1720.0	1.150	0.684	100.00	1.000	21.54	22.00	1.112	0.706	/
		Left	20050	1720.0	3.110	0.635	100.00	1.000	21.54	22.00	1.112	0.661	/
		Bottom	20050	1720.0	-0.560	0.594	100.00	1.000	21.54	22.00	1.112	0.698	/
	50%RB	Front	20050	1720.0	-1.500	0.693	100.00	1.000	20.47	20.50	1.007	0.660	/
		Back	20050	1720.0	-2.620	0.655	100.00	1.000	20.47	20.50	1.007	0.608	/
		Left	20050	1720.0	-1.570	0.604	100.00	1.000	20.47	20.50	1.007	0.571	/
		Bottom	20050	1720.0	-3.660	0.567	100.00	1.000	20.47	20.50	1.007	0.761	/

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	20450	829.0	-1.950	0.355	100.00	1.000	22.29	22.50	1.050	0.373	/
		Left Tilt	20450	829.0	2.910	0.192	100.00	1.000	22.29	22.50	1.050	0.202	/
		Right Cheek	20450	829.0	-1.320	0.362	100.00	1.000	22.29	22.50	1.050	0.380	15#
		Right Tilt	20450	829.0	-1.750	0.197	100.00	1.000	22.29	22.50	1.050	0.207	/
	50%RB	Left Cheek	20450	829.0	1.600	0.331	100.00	1.000	21.28	21.50	1.052	0.348	/
		Left Tilt	20450	829.0	-2.740	0.170	100.00	1.000	21.28	21.50	1.052	0.179	/
		Right Cheek	20450	829.0	-0.010	0.336	100.00	1.000	21.28	21.50	1.052	0.353	/
		Right Tilt	20450	829.0	0.890	0.176	100.00	1.000	21.28	21.50	1.052	0.185	/
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	20450	829.0	-0.830	0.425	100.00	1.000	22.29	22.50	1.050	0.446	/
		Back	20450	829.0	-1.980	0.450	100.00	1.000	22.29	22.50	1.050	0.473	16#
		Left	20450	829.0	0.440	0.388	100.00	1.000	22.29	22.50	1.050	0.407	/
		Bottom	20450	829.0	-2.330	0.401	100.00	1.000	22.29	22.50	1.050	0.421	/
	50%RB	Front	20450	829.0	0.760	0.406	100.00	1.000	21.28	21.50	1.052	0.427	/
		Back	20450	829.0	-3.850	0.432	100.00	1.000	21.28	21.50	1.052	0.454	/
		Left	20450	829.0	-0.420	0.367	100.00	1.000	21.28	21.50	1.052	0.386	/
	Bottom	20450	829.0	0.410	0.389	100.00	1.000	21.28	21.50	1.052	0.409	/	

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 12 (BW: 10MHz)	1RB	Left Cheek	23130	711.0	1.210	0.251	100.00	1.000	22.70	23.00	1.072	0.269	/
		Left Tilt	23130	711.0	4.360	0.160	100.00	1.000	22.70	23.00	1.072	0.172	/
		Right Cheek	23130	711.0	-2.100	0.256	100.00	1.000	22.70	23.00	1.072	0.274	17#
		Right Tilt	23130	711.0	-2.850	0.165	100.00	1.000	22.70	23.00	1.072	0.177	/
	50%RB	Left Cheek	23130	711.0	-1.630	0.232	100.00	1.000	21.57	22.00	1.104	0.256	/
		Left Tilt	23130	711.0	-3.770	0.142	100.00	1.000	21.57	22.00	1.104	0.157	/
		Right Cheek	23130	711.0	-2.080	0.242	100.00	1.000	21.57	22.00	1.104	0.267	/
		Right Tilt	23130	711.0	1.040	0.148	100.00	1.000	21.57	22.00	1.104	0.163	/
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 12 (BW: 10MHz)	1RB	Front	23130	711.0	2.330	0.385	100.00	1.000	22.70	23.00	1.072	0.413	/
		Back	23130	711.0	-1.870	0.404	100.00	1.000	22.70	23.00	1.072	0.433	18#
		Left	23130	711.0	-4.710	0.319	100.00	1.000	22.70	23.00	1.072	0.342	/
		Bottom	23130	711.0	-3.430	0.356	100.00	1.000	22.70	23.00	1.072	0.382	/
	50%RB	Front	23130	711.0	-2.470	0.366	100.00	1.000	21.57	22.00	1.104	0.404	/
		Back	23130	711.0	-4.880	0.389	100.00	1.000	21.57	22.00	1.104	0.429	/

		Left	23130	711.0	-2.460	0.286	100.00	1.000	21.57	22.00	1.104	0.316	/
		Bottom	23130	711.0	0.560	0.337	100.00	1.000	21.57	22.00	1.104	0.372	/

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 17 (BW: 10MHz)	1RB	Left Cheek	23800	711.0	-1.610	0.247	100.00	1.000	22.54	23.00	1.112	0.275	/
		Left Tilt	23800	711.0	3.840	0.170	100.00	1.000	22.54	23.00	1.112	0.189	/
		Right Cheek	23800	711.0	0.940	0.252	100.00	1.000	22.54	23.00	1.112	0.280	19#
		Right Tilt	23800	711.0	-3.170	0.175	100.00	1.000	22.54	23.00	1.112	0.195	/
	50%RB	Left Cheek	23800	711.0	-4.990	0.227	100.00	1.000	21.44	21.50	1.014	0.230	/
		Left Tilt	23800	711.0	-4.210	0.157	100.00	1.000	21.44	21.50	1.014	0.159	/
		Right Cheek	23800	711.0	-3.600	0.233	100.00	1.000	21.44	21.50	1.014	0.236	/
		Right Tilt	23800	711.0	-0.880	0.162	100.00	1.000	21.44	21.50	1.014	0.164	/

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 17 (BW: 10MHz)	1RB	Front	23800	711.0	-0.490	0.352	100.00	1.000	22.54	23.00	1.112	0.391	/
		Back	23800	711.0	-1.350	0.380	100.00	1.000	22.54	23.00	1.112	0.423	20#
		Left	23800	711.0	-2.150	0.273	100.00	1.000	22.54	23.00	1.112	0.304	/
		Bottom	23800	711.0	3.190	0.318	100.00	1.000	22.54	23.00	1.112	0.354	/
	50%RB	Front	23800	711.0	2.830	0.331	100.00	1.000	21.44	21.50	1.014	0.336	/
		Back	23800	711.0	0.320	0.364	100.00	1.000	21.44	21.50	1.014	0.369	/
		Left	23800	711.0	-3.980	0.256	100.00	1.000	21.44	21.50	1.014	0.260	/
		Bottom	23800	711.0	-1.360	0.296	100.00	1.000	21.44	21.50	1.014	0.300	/

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 30 (BW: 10MHz)	1RB	Left Cheek	27710	2310.0	-1.610	0.440	100.00	1.000	20.69	21.00	1.074	0.473	/
		Left Tilt	27710	2310.0	3.840	0.222	100.00	1.000	20.69	21.00	1.074	0.238	/
		Right Cheek	27710	2310.0	-1.060	0.445	100.00	1.000	20.69	21.00	1.074	0.478	21#
		Right Tilt	27710	2310.0	-3.170	0.226	100.00	1.000	20.69	21.00	1.074	0.243	/
	50%RB	Left Cheek	27710	2310.0	-4.140	0.424	100.00	1.000	19.59	20.00	1.099	0.466	/
		Left Tilt	27710	2310.0	4.210	0.209	100.00	1.000	19.59	20.00	1.099	0.230	/
		Right Cheek	27710	2310.0	-3.600	0.429	100.00	1.000	19.59	20.00	1.099	0.471	/
		Right Tilt	27710	2310.0	-0.880	0.213	100.00	1.000	19.59	20.00	1.099	0.234	/

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 30 (BW: 10MHz)	1RB	Front	27710	2310.0	-4.300	0.363	100.00	1.000	20.69	21.00	1.074	0.390	22#
		Back	27710	2310.0	-2.570	0.342	100.00	1.000	20.69	21.00	1.074	0.367	/
		Left	27710	2310.0	2.150	0.318	100.00	1.000	20.69	21.00	1.074	0.342	/
		Bottom	27710	2310.0	0.190	0.294	100.00	1.000	20.69	21.00	1.074	0.316	/
	50%RB	Front	27710	2310.0	-2.830	0.349	100.00	1.000	19.59	20.00	1.099	0.384	/
		Back	27710	2310.0	1.320	0.325	100.00	1.000	19.59	20.00	1.099	0.357	/
		Left	27710	2310.0	-3.980	0.301	100.00	1.000	19.59	20.00	1.099	0.331	/
		Bottom	27710	2310.0	-0.360	0.275	100.00	1.000	19.59	20.00	1.099	0.302	/

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	41090	2640.0	0.110	0.171	100.00	1.000	21.72	22.00	1.067	0.182	/
		Left Tilt	41090	2640.0	3.700	0.082	100.00	1.000	21.72	22.00	1.067	0.087	/
		Right Cheek	41090	2640.0	-2.480	0.177	100.00	1.000	21.72	22.00	1.067	0.189	23#
		Right Tilt	41090	2640.0	-0.710	0.086	100.00	1.000	21.72	22.00	1.067	0.092	/
	50%RB	Left Cheek	41090	2640.0	-2.710	0.158	100.00	1.000	20.63	21.00	1.089	0.172	/
		Left Tilt	41090	2640.0	-4.150	0.069	100.00	1.000	20.63	21.00	1.089	0.075	/
		Right Cheek	41090	2640.0	0.880	0.162	100.00	1.000	20.63	21.00	1.089	0.176	/
		Right Tilt	41090	2640.0	-3.760	0.073	100.00	1.000	20.63	21.00	1.089	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 41 (BW: 20MHz)	1RB	Front	41090	2640.0	-1.210	0.091	100.00	1.000	21.72	22.00	1.067	0.097	24#
		Back	41090	2640.0	4.570	0.085	100.00	1.000	21.72	22.00	1.067	0.091	/
		Left	41090	2640.0	-4.310	0.079	100.00	1.000	21.72	22.00	1.067	0.084	/
		Bottom	41090	2640.0	0.630	0.071	100.00	1.000	21.72	22.00	1.067	0.076	/
	50%RB	Front	41090	2640.0	-3.550	0.086	100.00	1.000	20.63	21.00	1.089	0.094	/
		Back	41090	2640.0	-1.260	0.080	100.00	1.000	20.63	21.00	1.089	0.087	/
		Left	41090	2640.0	0.500	0.072	100.00	1.000	20.63	21.00	1.089	0.078	/
		Bottom	41090	2640.0	-4.240	0.066	100.00	1.000	20.63	21.00	1.089	0.072	/

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 66 (BW: 20MHz)	1RB	Left Cheek	132572	1770.0	2.350	0.500	100.00	1.000	20.54	21.00	1.112	0.556	/
		Left Tilt	132572	1770.0	0.360	0.251	100.00	1.000	20.54	21.00	1.112	0.279	/
		Right Cheek	132572	1770.0	4.580	0.505	100.00	1.000	20.54	21.00	1.112	0.562	25#
		Right Tilt	132572	1770.0	-1.870	0.256	100.00	1.000	20.54	21.00	1.112	0.285	/
	50%RB	Left Cheek	132572	1770.0	-4.390	0.479	100.00	1.000	19.46	19.50	1.009	0.483	/
		Left Tilt	132572	1770.0	-2.370	0.228	100.00	1.000	19.46	19.50	1.009	0.230	/
		Right Cheek	132572	1770.0	0.120	0.484	100.00	1.000	19.46	19.50	1.009	0.488	/
		Right Tilt	132572	1770.0	-4.730	0.234	100.00	1.000	19.46	19.50	1.009	0.236	/

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 66 (BW: 20MHz)	1RB	Front	132572	1770.0	-3.840	0.708	100.00	1.000	20.54	21.00	1.112	0.787	26#
		Back	132572	1770.0	1.230	0.681	100.00	1.000	20.54	21.00	1.112	0.757	/
		Left	132572	1770.0	2.450	0.642	100.00	1.000	20.54	21.00	1.112	0.714	/
		Bottom	132572	1770.0	-4.860	0.611	100.00	1.000	20.54	21.00	1.112	0.679	/
	50%RB	Front	132572	1770.0	-2.230	0.683	100.00	1.000	19.46	19.50	1.009	0.689	/
		Back	132572	1770.0	1.340	0.652	100.00	1.000	19.46	19.50	1.009	0.658	/
		Left	132572	1770.0	-0.260	0.614	100.00	1.000	19.46	19.50	1.009	0.620	/
		Bottom	132572	1770.0	-3.200	0.585	100.00	1.000	19.46	19.50	1.009	0.590	/

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 71 (BW: 20MHz)	1RB	Left Cheek	133222	673.0	1.830	0.256	100.00	1.000	20.61	21.00	1.094	0.280	/
		Left Tilt	133222	673.0	3.140	0.137	100.00	1.000	20.61	21.00	1.094	0.150	/
		Right Cheek	133222	673.0	-1.660	0.263	100.00	1.000	20.61	21.00	1.094	0.288	27#
		Right Tilt	133222	673.0	-1.940	0.142	100.00	1.000	20.61	21.00	1.094	0.155	/
	50%RB	Left Cheek	133222	673.0	-2.870	0.237	100.00	1.000	19.50	20.00	1.122	0.266	/
		Left Tilt	133222	673.0	-4.290	0.124	100.00	1.000	19.50	20.00	1.122	0.139	/
		Right Cheek	133222	673.0	-1.500	0.242	100.00	1.000	19.50	20.00	1.122	0.272	/
		Right Tilt	133222	673.0	-2.010	0.128	100.00	1.000	19.50	20.00	1.122	0.144	/

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 71 (BW: 20MHz)	1RB	Front	133222	673.0	2.950	0.403	100.00	1.000	20.61	21.00	1.094	0.441	/
		Back	133222	673.0	-2.700	0.423	100.00	1.000	20.61	21.00	1.094	0.463	28#
		Left	133222	673.0	-1.870	0.351	100.00	1.000	20.61	21.00	1.094	0.384	/
		Bottom	133222	673.0	-0.520	0.374	100.00	1.000	20.61	21.00	1.094	0.409	/
	50%RB	Front	133222	673.0	-3.710	0.384	100.00	1.000	19.50	20.00	1.122	0.431	/
		Back	133222	673.0	-2.400	0.401	100.00	1.000	19.50	20.00	1.122	0.450	/
		Left	133222	673.0	-0.880	0.332	100.00	1.000	19.50	20.00	1.122	0.373	/
		Bottom	133222	673.0	-2.490	0.350	100.00	1.000	19.50	20.00	1.122	0.393	/

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	1	2412	0.140	0.410	100.00	1.000	19.16	19.50	1.081	0.443	/
	Left Tilt	1	2412	1.790	0.202	100.00	1.000	19.16	19.50	1.081	0.218	/
	Right Cheek	1	2412	2.510	0.415	100.00	1.000	19.16	19.50	1.081	0.449	29#
	Right Tilt	1	2412	-1.570	0.207	100.00	1.000	19.16	19.50	1.081	0.224	/
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	1	2412	-2.270	0.124	100.00	1.000	19.16	19.50	1.081	0.134	/
	Back	1	2412	3.490	0.133	100.00	1.000	19.16	19.50	1.081	0.144	30#
	Left	1	2412	-4.140	0.102	100.00	1.000	19.16	19.50	1.081	0.110	/
	Top	1	2412	-0.120	0.111	100.00	1.000	19.16	19.50	1.081	0.120	/
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) 802.11n(HT20)	Left Cheek	6	2437	-2.550	0.356	100.00	1.000	23.91	24.00	1.021	0.363	/
	Left Tilt	6	2437	1.490	0.180	100.00	1.000	23.91	24.00	1.021	0.184	/
	Right Cheek	6	2437	-4.520	0.362	100.00	1.000	23.91	24.00	1.021	0.370	/
	Right Tilt	6	2437	-0.530	0.184	100.00	1.000	23.91	24.00	1.021	0.188	/
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) 802.11n(HT20)	Front	6	2437	-2.960	0.086	100.00	1.000	23.91	24.00	1.021	0.088	/
	Back	6	2437	-1.210	0.094	100.00	1.000	23.91	24.00	1.021	0.096	/
	Left	6	2437	-1.530	0.074	100.00	1.000	23.91	24.00	1.021	0.076	/
	Top	6	2437	-0.980	0.081	100.00	1.000	23.91	24.00	1.021	0.083	/
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.
Bluetooth	Left Cheek	0	2402.0	3.275	0.026	100.00	1.000	8.04	8.50	1.112	0.029	/
	Left Tilt	0	2402.0	-0.040	0.014	100.00	1.000	8.04	8.50	1.112	0.016	/
	Right Cheek	0	2402.0	4.040	0.029	100.00	1.000	8.04	8.50	1.112	0.032	31#
	Right Tilt	0	2402.0	-2.660	0.016	100.00	1.000	8.04	8.50	1.112	0.018	/

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 D04 v01, 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 D04 v01, 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 x 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 D04 v01, 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 $0.718 < 0.80$ 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	RB allocation	Scaled			Σ SAR (W/kg) WWAN + WIFI 2.4G	Σ SAR (W/kg) WWAN + BT	SPLSR	Remark
			WWAN	WIFI 2.4G	Bluetooth				
LTE Band 66 QPSK (10MHz)	Left Cheek	1RB	0.556	0.443	0.029	0.999	0.585	N/A	N/A
	Left Tilt		0.279	0.218	0.016	0.497	0.295	N/A	N/A
	Right Cheek		0.562	0.449	0.032	1.011	0.594	N/A	N/A
	Right Tilt		0.285	0.224	0.018	0.509	0.303	N/A	N/A
	Left Cheek	50%RB	0.483	0.443	0.029	0.926	0.512	N/A	N/A
	Left Tilt		0.230	0.218	0.016	0.448	0.246	N/A	N/A
	Right Cheek		0.488	0.449	0.032	0.937	0.520	N/A	N/A
	Right Tilt		0.236	0.224	0.018	0.460	0.254	N/A	N/A

Hotspot(body-worn)

Band	Test Position	Scaled			Σ SAR (W/kg) WWAN + WIFI 2.4G	Σ SAR (W/kg) WWAN + BT	SPLSR	Remark
		WWAN	WIFI 2.4G	Bluetooth				
WCDMA Band IV	Front	0.793	0.134	0.146	0.927	0.939	N/A	N/A
	Back	0.737	0.144	0.146	0.881	0.883	N/A	N/A
	Left	0.689	0.110	0.146	0.799	0.835	N/A	N/A
	Top	/	0.120	0.146	0.120	0.146	N/A	N/A
	Bottom	0.648	/	/	0.648	0.648	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	2024/02/06	2025/02/05
6 1/2 Digital Multimeter	Keithley	DMM6500	4527164	2023/11/16	2024/11/15
Wideband Radio Communication Tester	ROHDE & SCHWARZ	CMW500	161997	2023/11/16	2024/11/15
MXG Vector Signal Generator	Agilent	N5182A	MY46240163	2023/11/16	2024/11/15
E-Series Avg. Power Sensor	KEYSIGHT	E9300A	MY55050017	2024/03/20	2025/04/19
EPM Series Power Meter	KEYSIGHT	E4418B	MY41293435	2024/03/20	2025/04/19
10dB Attenuator	MIDWEST MICROWAVE	263-10dB	/	2024/03/20	2025/04/19
Coupler	MERRIMAC	CWM-10R-10.8G	LOT-83391	2024/03/20	2025/04/19
750MHz Validation Dipole	MVG	SID750	07/22 DIP 0G750-655	2023/02/06	2025/02/05
835MHz Validation Dipole	MVG	SID835	07/22 DIP 0G835-656	2023/02/06	2025/02/05
1800MHz Validation Dipole	MVG	SID1800	07/22 DIP 1G800-657	2023/02/06	2025/02/05
1900MHz Validation Dipole	MVG	SID1900	07/22 DIP 1G900-658	2023/02/06	2025/02/05
2300MHz Validation Dipole	MVG	SID2300	07/22 DIP 2G300-661	2023/02/06	2025/02/05
2450MHz Validation Dipole	MVG	SID2450	07/22 DIP 2G450-662	2023/02/06	2025/02/05
2600MHz Validation Dipole	MVG	SID2600	07/22 DIP 2G600-663	2023/02/06	2025/02/05
LIMESAR Dielectric Probe	MVG	SCLMP	06/22 OCPG88	/	/
ENA Series Network Analyzer	Agilent	E5071B	MY42301221	2023/11/16	2024/11/15
Thermometer	Riters	DT-232	21A11	2024/03/20	2025/04/19
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_r		σ (s/m)		Delta (ϵ_r)	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	5/4/2024
835	41.50	41.41	0.90	0.87	0.22%	3.33%	±5%	20.0	8/4/2024
1800	40.00	39.91	1.40	1.37	0.23%	2.14%	±5%	20.0	9/4/2024
1900	40.00	39.88	1.40	1.41	0.30%	-0.71%	±5%	20.0	10/4/2024
2300	39.50	39.30	1.67	1.70	-0.51%	1.80%	±5%	20.0	11/4/2024
2450	39.20	39.08	1.80	1.81	0.31%	-0.56%	±5%	20.0	12/4/2024
2600	39.00	38.88	1.96	1.97	0.31%	-0.51%	±5%	20.0	15/4/2024

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)	10g SAR (W/Kg)	1g SAR (W/Kg)	10g SAR 1W input power normalized (W/Kg)	1g SAR 1W input power normalized (W/Kg)	10g SAR Standard target (1W) (W/Kg)	1g SAR Standard target (1W) (W/Kg)	1g SAR Deviation	10g SAR Deviation
750	16	0.092	0.138	5.80	8.70	5.55	8.49	-4.50%	-2.47%
835	16	0.106	0.163	6.68	10.28	6.22	9.56	-7.40%	-7.53%
1800	16	0.312	0.588	19.68	37.10	20.10	38.40	2.09%	3.39%
1900	16	0.322	0.630	20.32	39.75	20.50	39.70	0.88%	-0.13%
2300	16	0.749	0.340	46.81	21.25	50.35	22.84	-7.03%	-6.96%
2450	16	0.352	0.793	22.21	50.03	24.00	52.40	7.46%	4.52%
2600	16	0.421	0.866	26.56	54.64	24.60	55.30	-7.97%	1.19%

System Performance Check Data (750 MHz)

System check at 750 MHz

Date of measurement: 5/4/2024

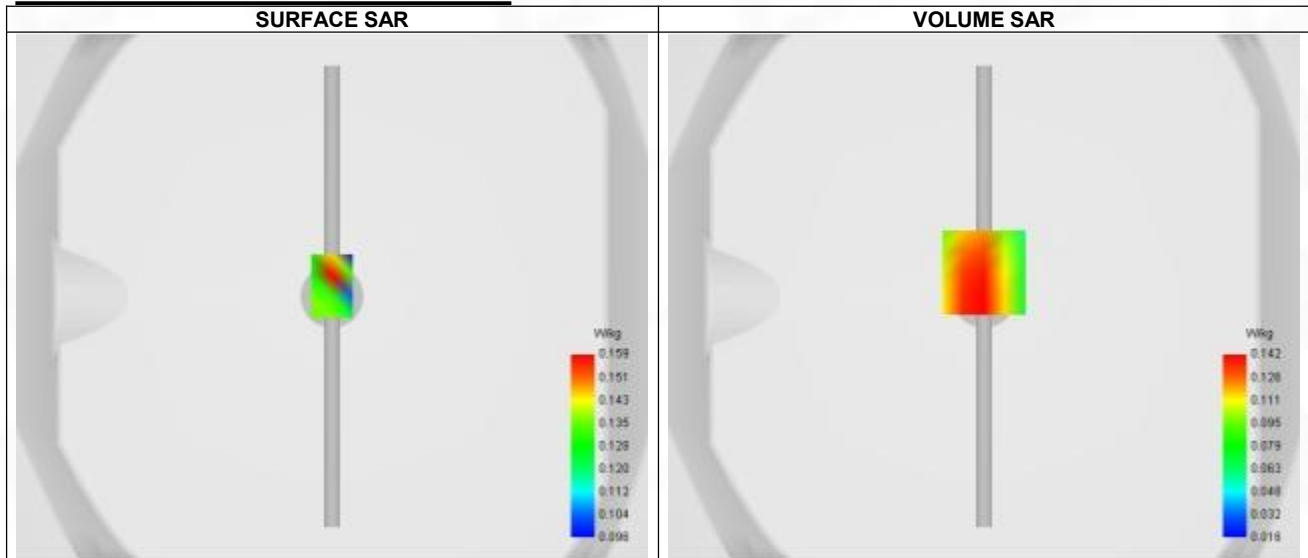
A. Experimental conditions.

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

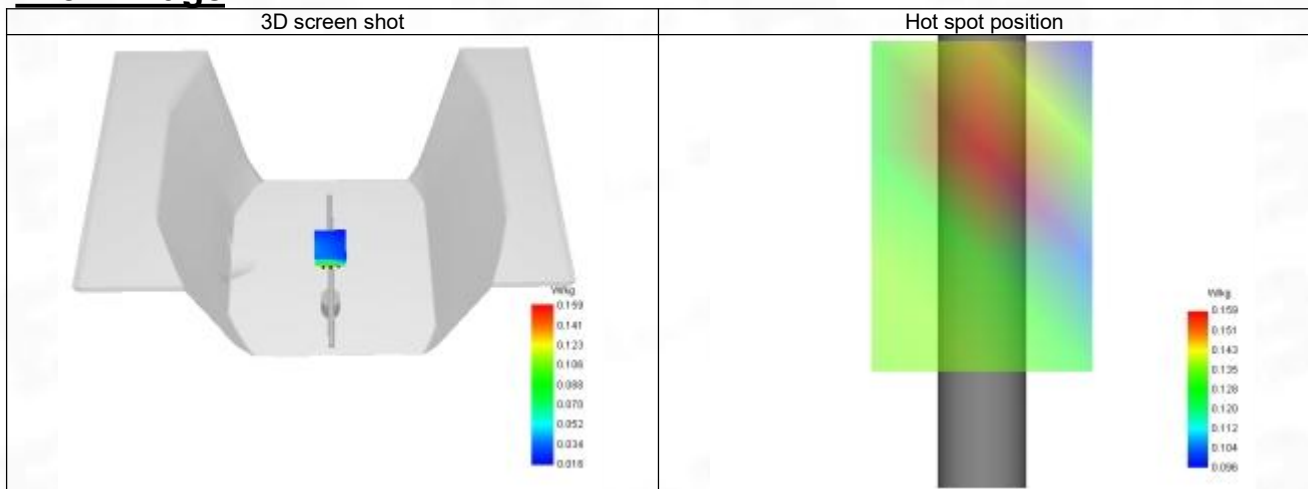
SAR 10g (W/Kg)	0.092
SAR 1g (W/Kg)	0.138
Variation (%)	-2.190

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: 8/4/2024

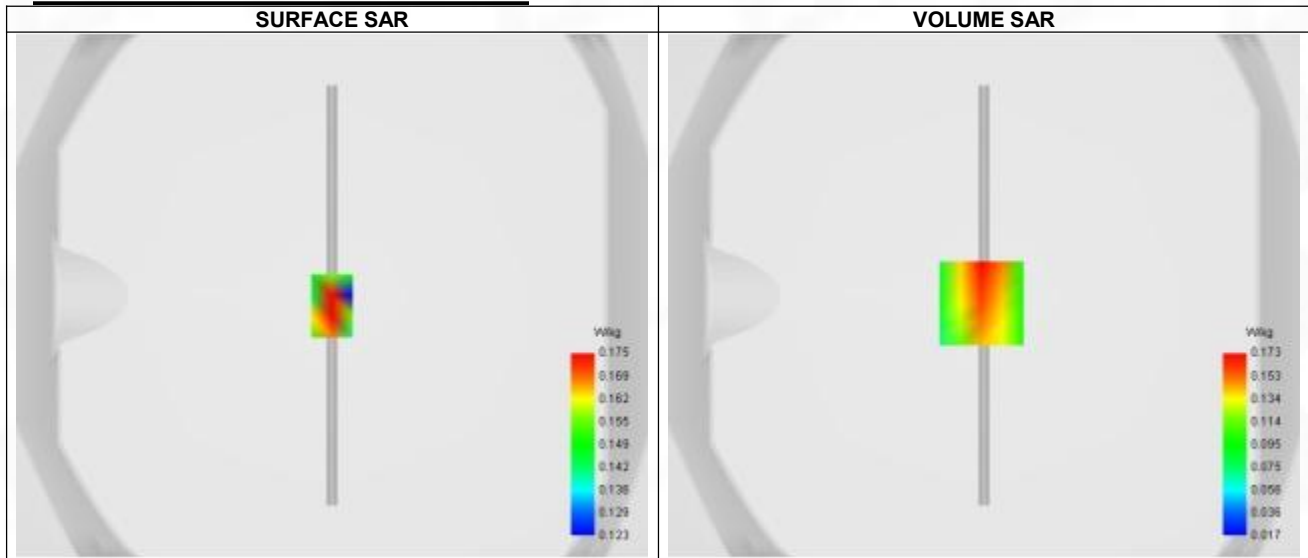
A. Experimental conditions.

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



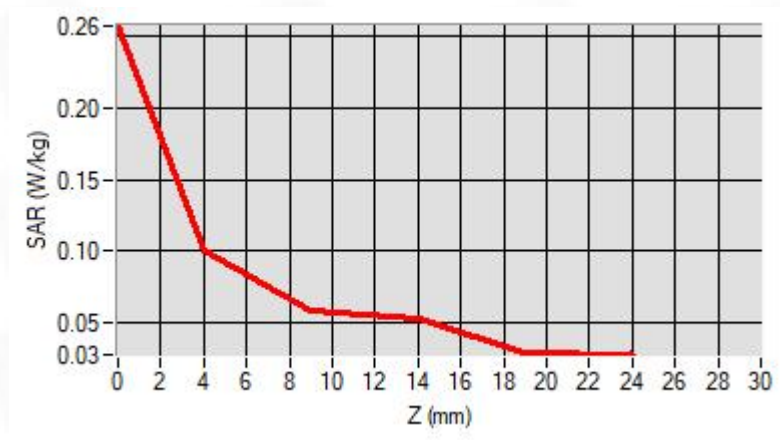
Maximum location: X=-1.00, Y=-3.00 ; SAR Peak: 0.26 W/kg

D. SAR 1g & 10g

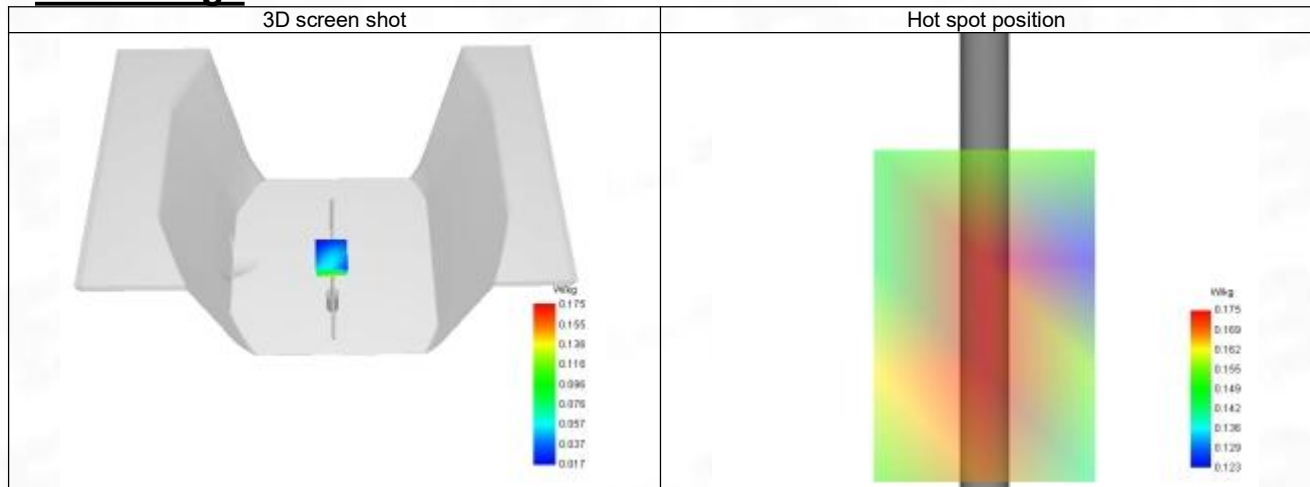
SAR 10g (W/Kg)	0.106
SAR 1g (W/Kg)	0.163
Variation (%)	-3.390

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: 9/4/2024

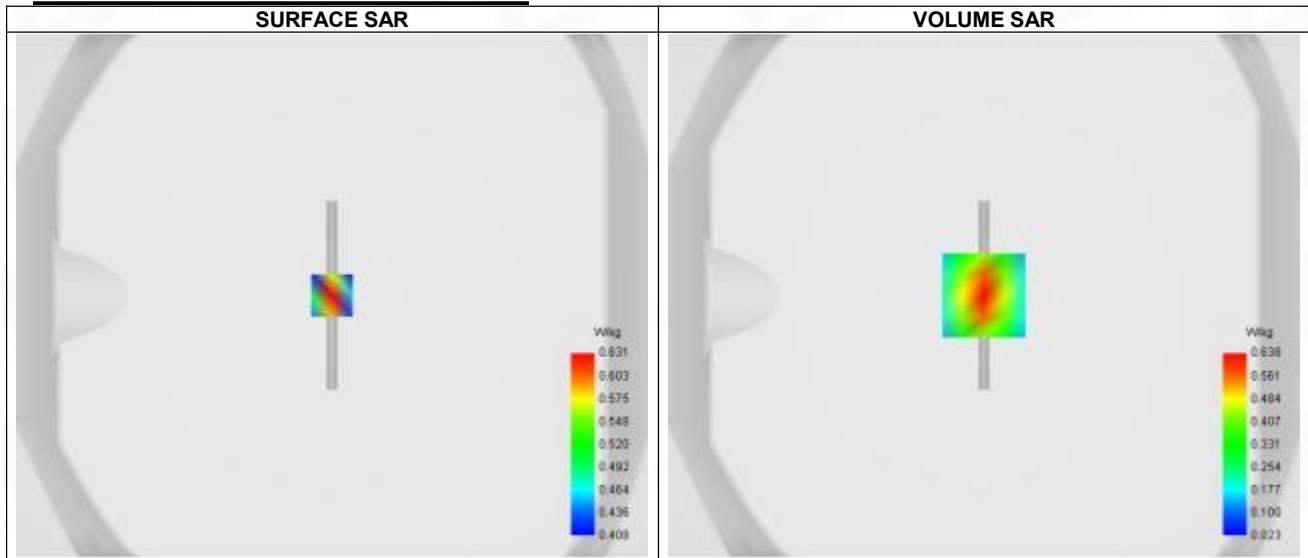
A. Experimental conditions.

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



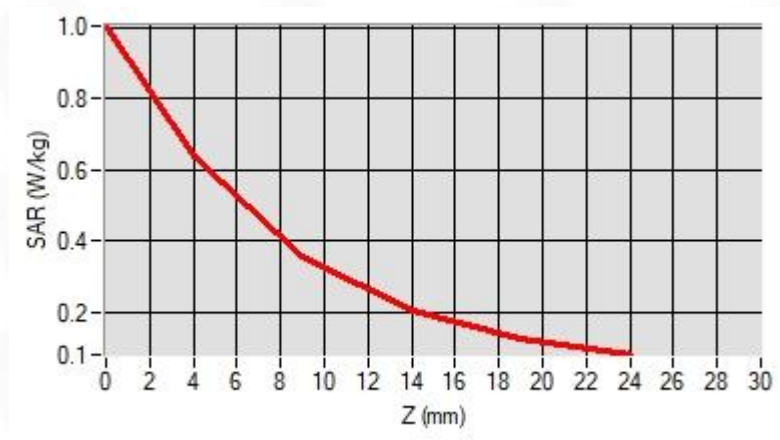
Maximum location: X=0.00, Y=0.00 ; SAR Peak: 1.00 W/kg

D. SAR 1g & 10g

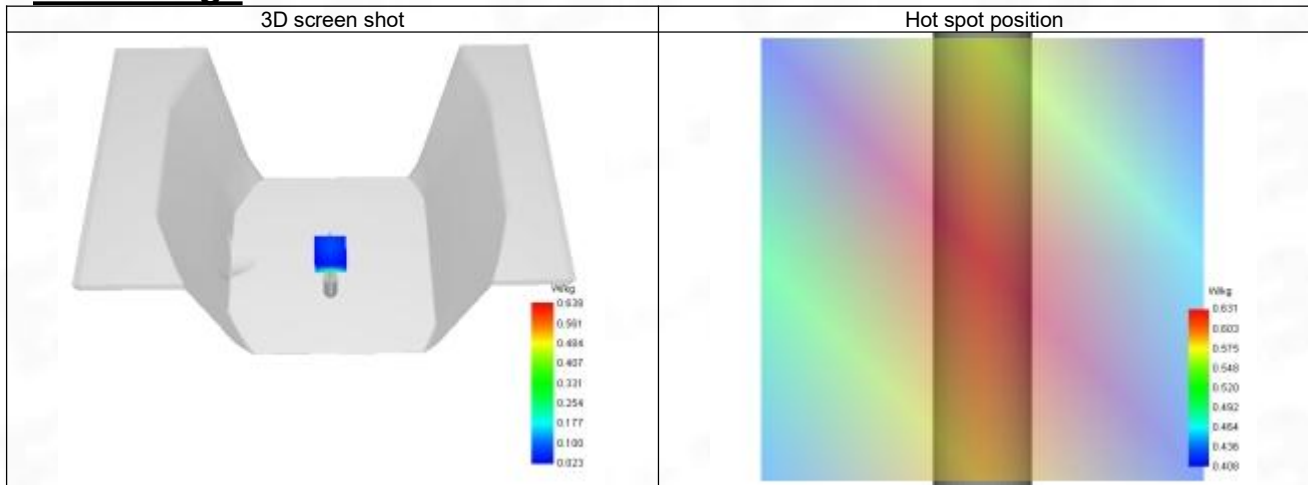
SAR 10g (W/Kg)	0.312
SAR 1g (W/Kg)	0.588
Variation (%)	-0.250

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: 10/4/2024

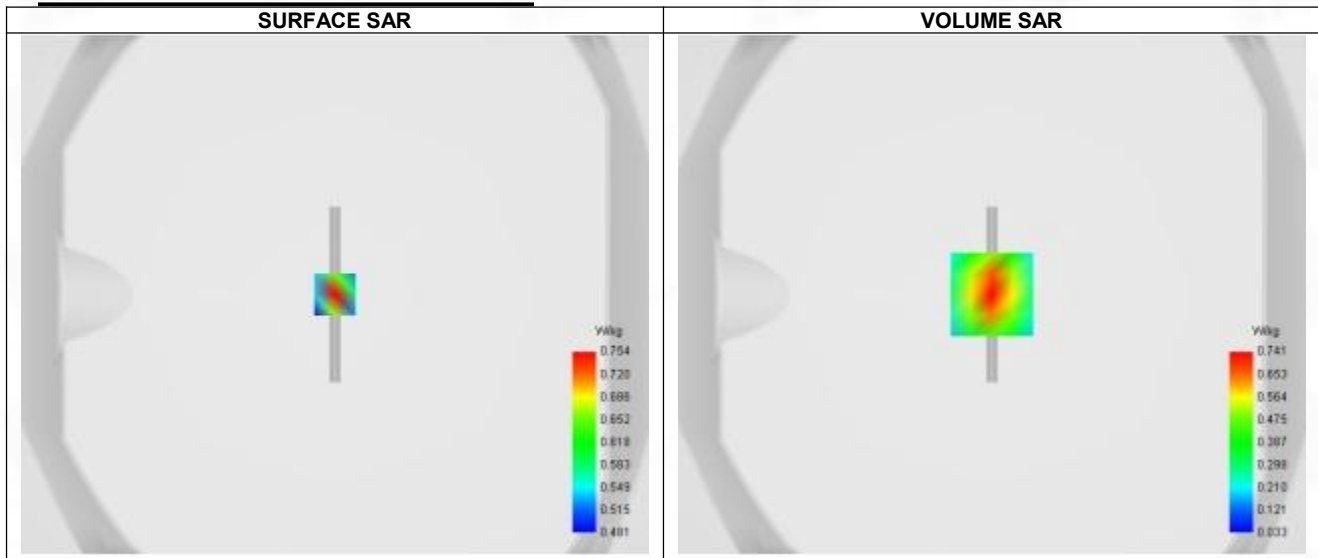
A. Experimental conditions.

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



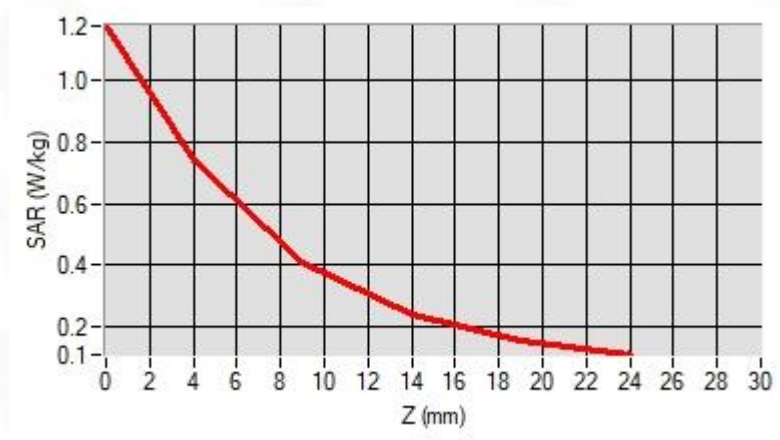
Maximum location: X=0.00, Y=0.00 ; SAR Peak: 1.18 W/kg

D. SAR 1g & 10g

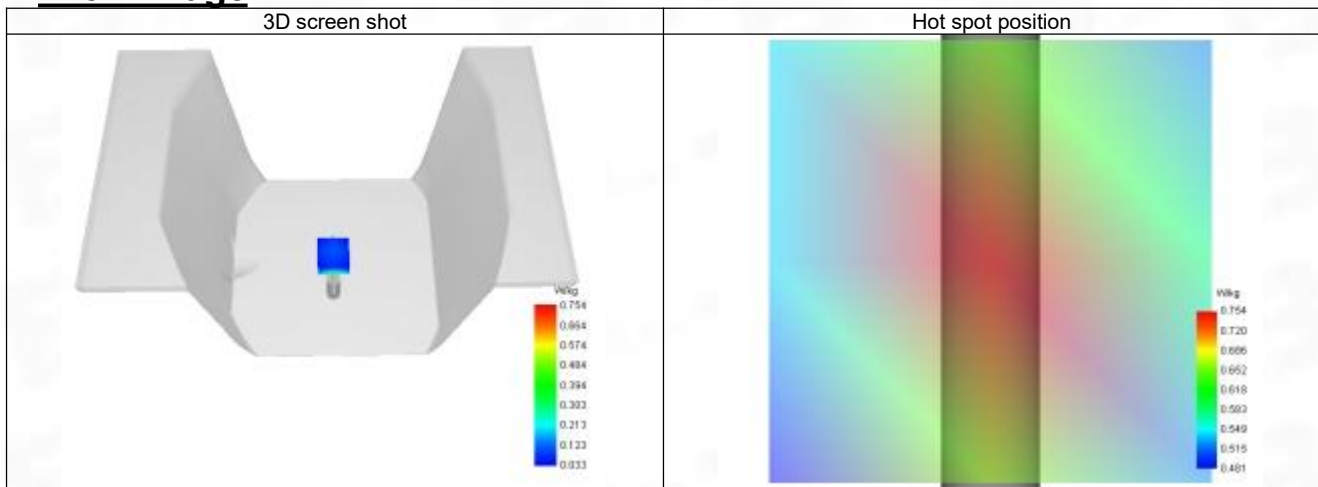
SAR 10g (W/Kg)	0.322
SAR 1g (W/Kg)	0.630
Variation (%)	-2.080

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 (2300 MHz)

System check at 2300 MHz

Date of measurement: 11/4/2024

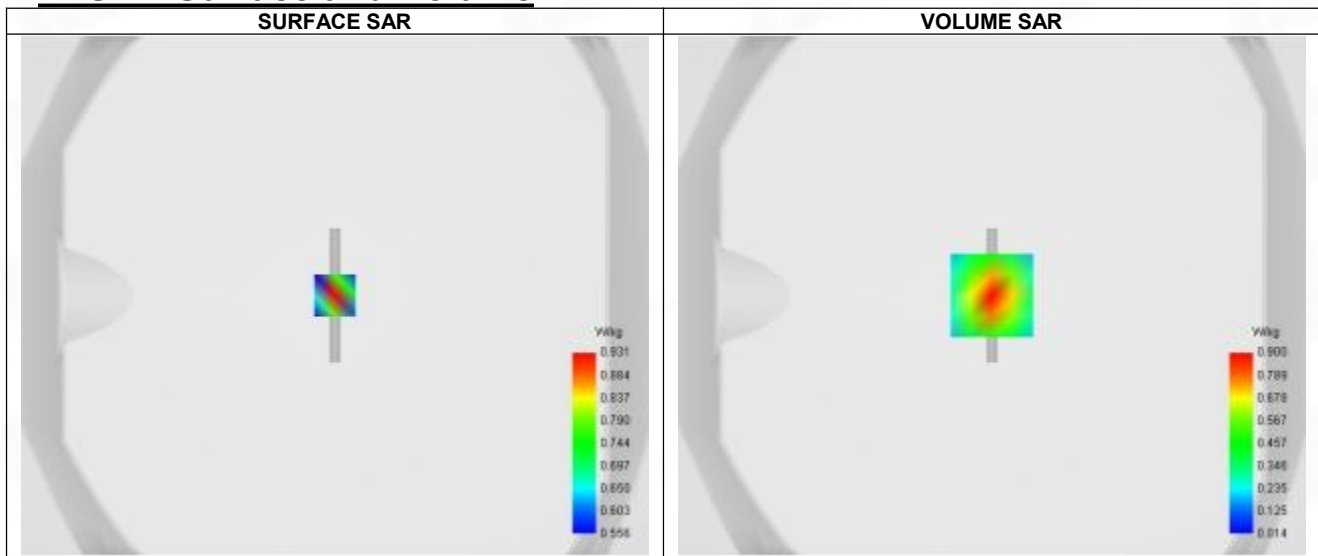
A. Experimental conditions.

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	CW2300
Channels	Middle
Signal	CW

B. Permittivity

Frequency (MHz)	2300.000
Relative permittivity (real part)	39.298
Relative permittivity (imaginary part)	13.351
Conductivity (S/m)	1.701

C. SAR Surface and Volume



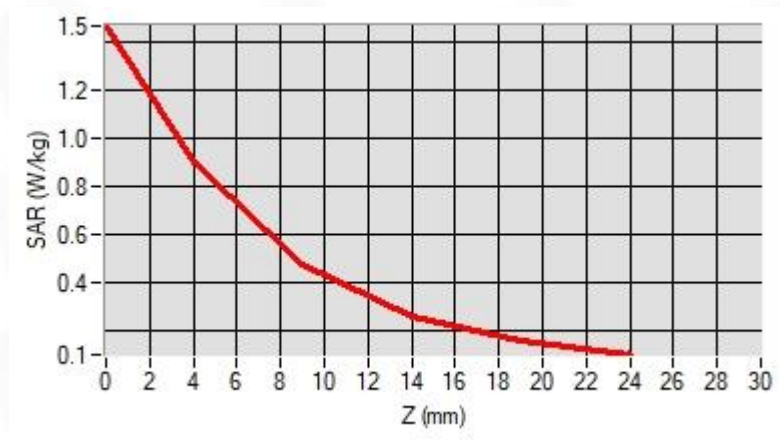
Maximum location: X=0.00, Y=0.00 ; SAR Peak: 1.40 W/kg

D. SAR 1g & 10g

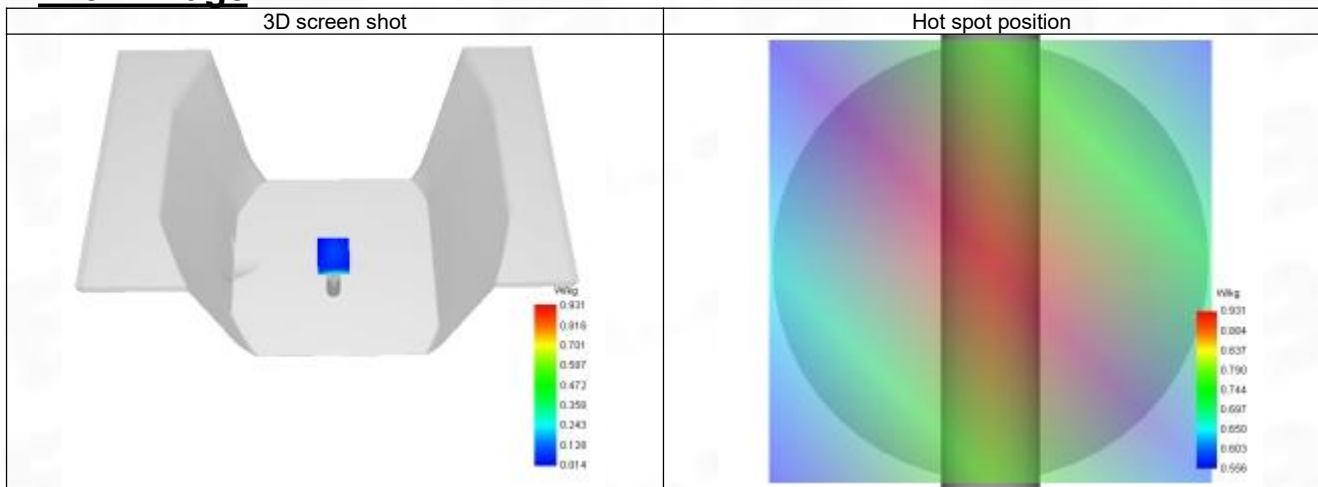
SAR 10g (W/Kg)	0.340
SAR 1g (W/Kg)	0.749
Variation (%)	-2.880

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	1.400	0.900	0.477	0.261	0.150



F. 3D Image



System Performance Check Data (2450 MHz)

System check at 2450 MHz

Date of measurement: 12/4/2024

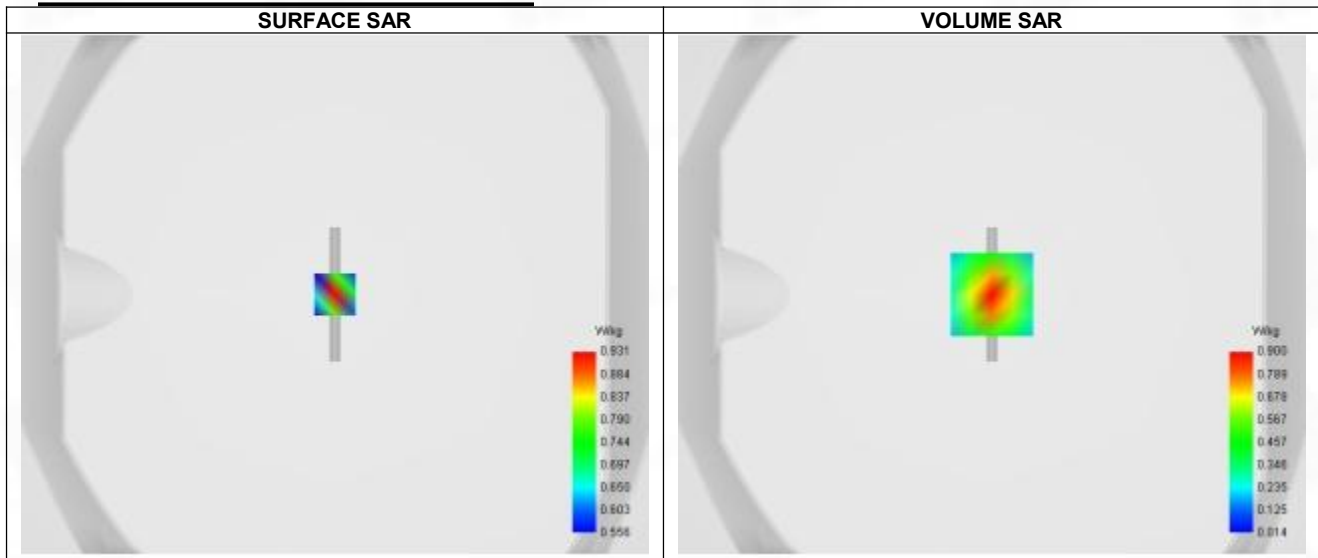
A. Experimental conditions.

Probe	SN 04/22 EPG0365
ConvF	2.36
Area Scan	dx=8mm dy=8mm, Adaptive 1 max
Zoom Scan	5x5x7, dx=5mm dy=5mm 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



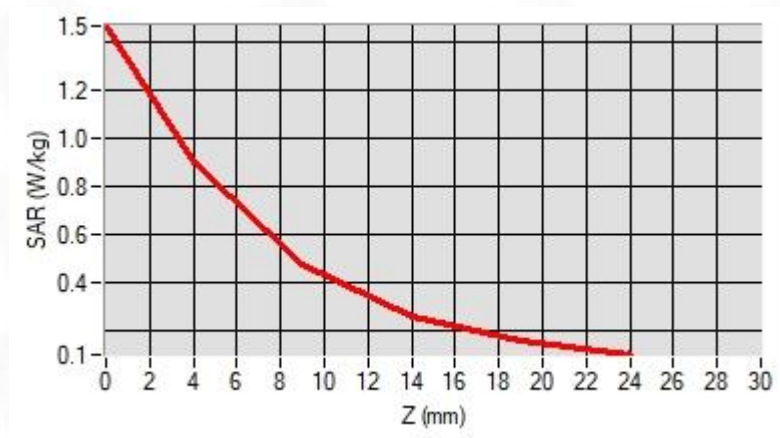
Maximum location: X=0.00, Y=0.00 ; SAR Peak: 1.47 W/kg

D. SAR 1g & 10g

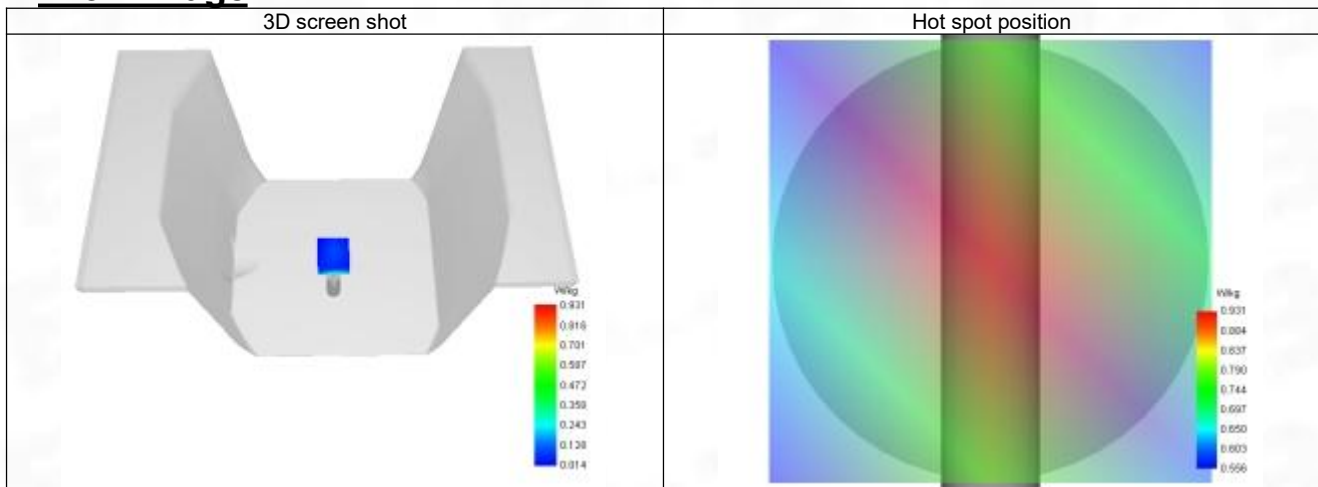
SAR 10g (W/Kg)	0.352
SAR 1g (W/Kg)	0.793
Variation (%)	-2.570

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: 15/4/2024

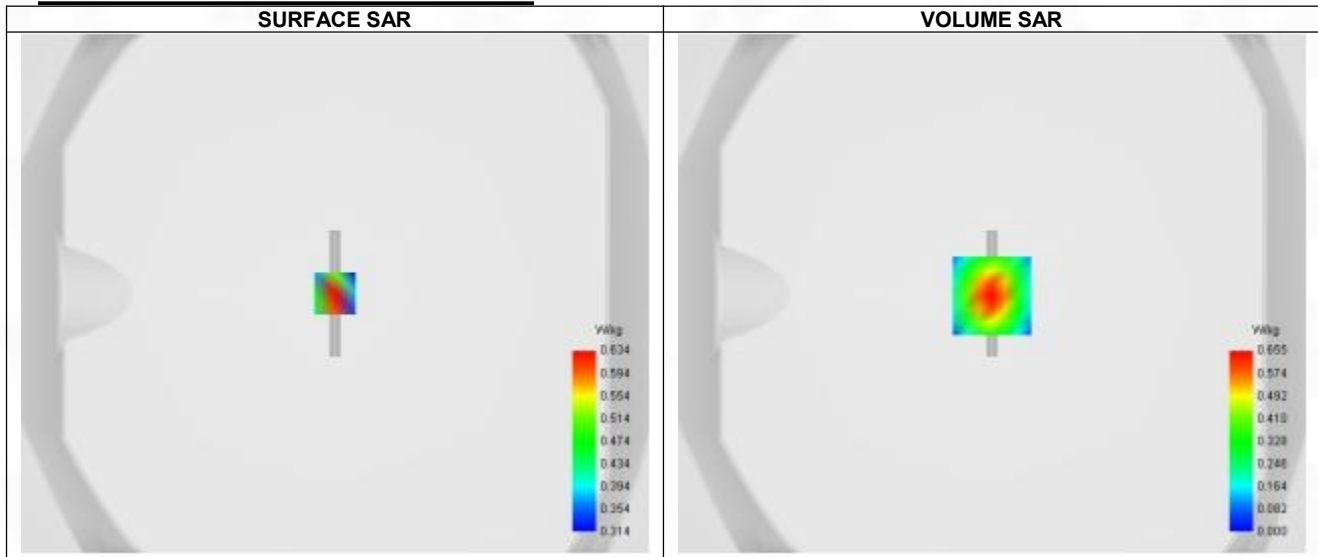
A. Experimental conditions.

Probe	SN 04/22 EPG0365
ConvF	2.40
Area Scan	dx=8mm dy=8mm, Adaptive 1 max
Zoom Scan	5x5x7, dx=5mm dy=5mm 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



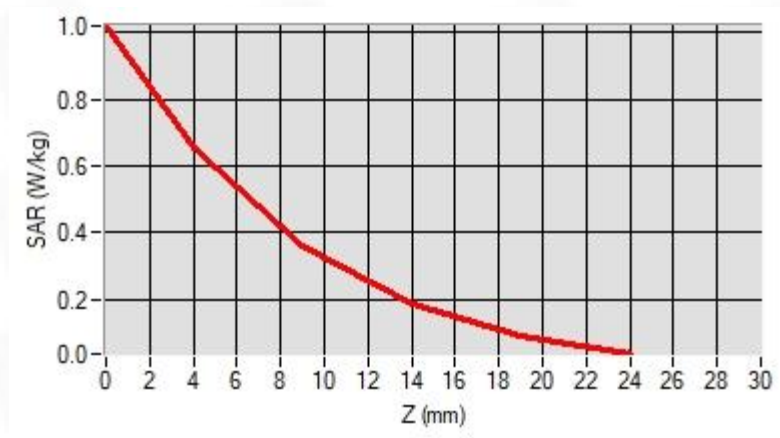
Maximum location: X=0.00, Y=-1.00 ; SAR Peak: 1.02 W/kg

D. SAR 1g & 10g

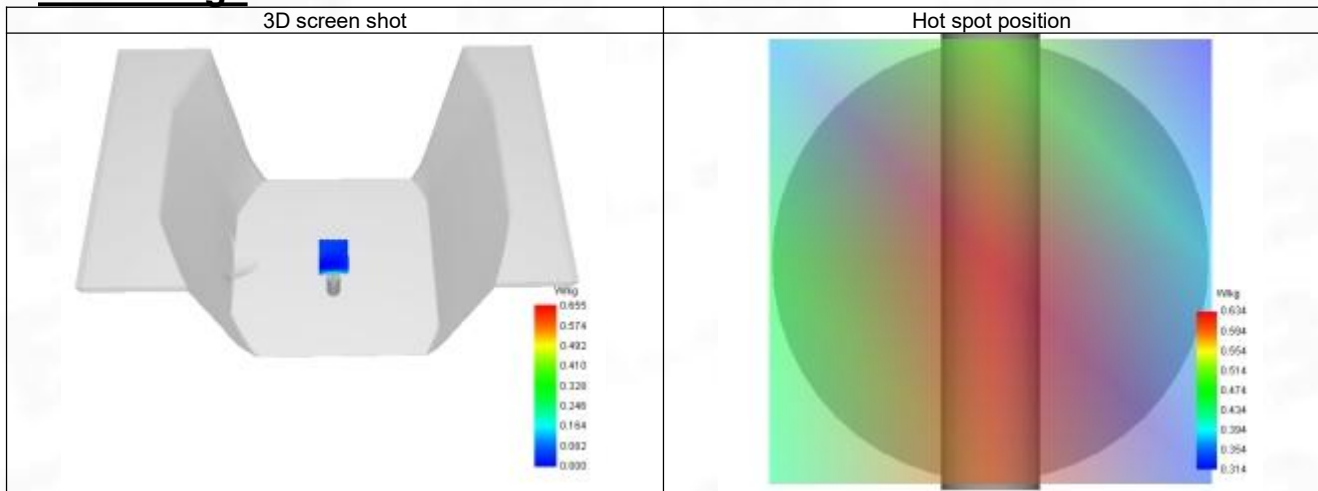
SAR 10g (W/Kg)	0.421
SAR 1g (W/Kg)	0.866
Variation (%)	2.980

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



ANNEX C Test Data

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

SAR Measurement at GSM850 (Cheek, Right)

Date of measurement: 5/4/2024

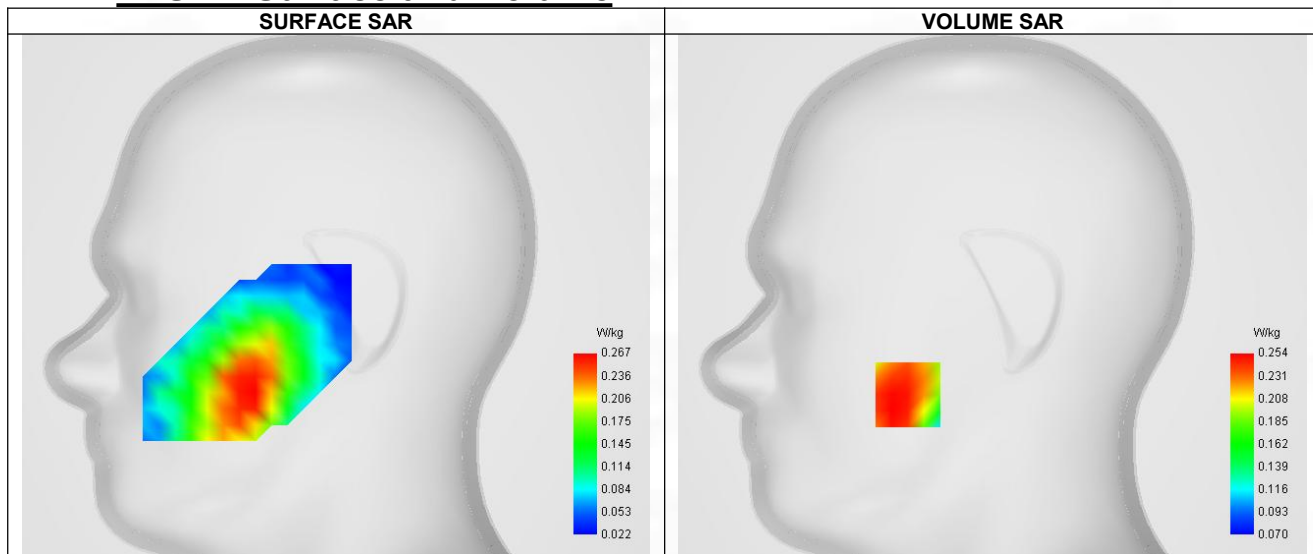
A. Experimental conditions.

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	Right 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)	19.413
Conductivity (S/m)	0.877

C. SAR Surface and Volume



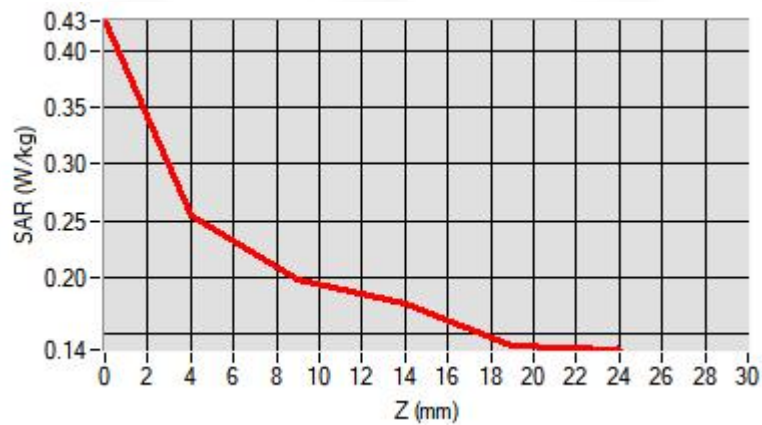
Maximum location: X=-42.00, Y=-49.00 ; SAR Peak: 0.33 W/kg

D. SAR 1g & 10g

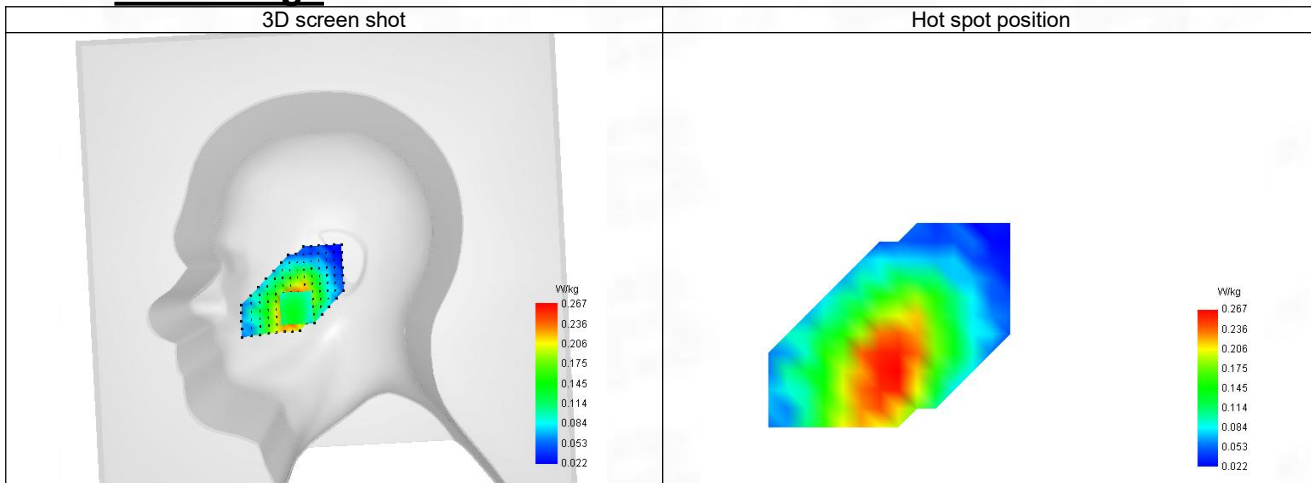
SAR 10g (W/Kg)	0.206
SAR 1g (W/Kg)	0.256
Variation (%)	-2.090

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.427	0.254	0.198	0.177	0.139



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: 8/4/2024

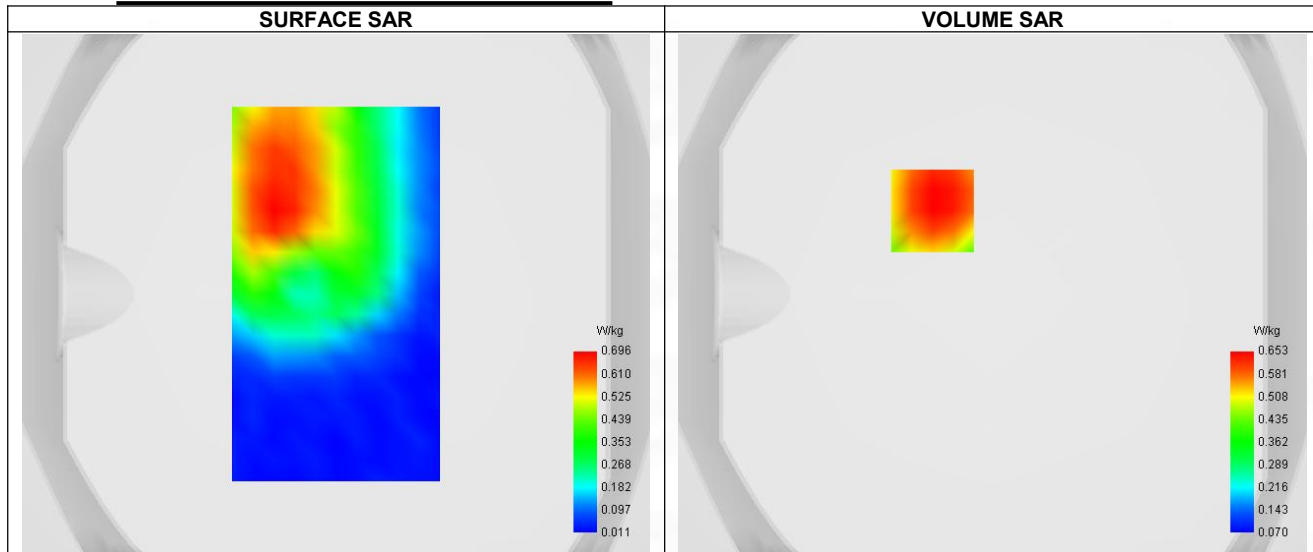
A. Experimental conditions.

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	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)	19.413
Conductivity (S/m)	0.877

C. SAR Surface and Volume



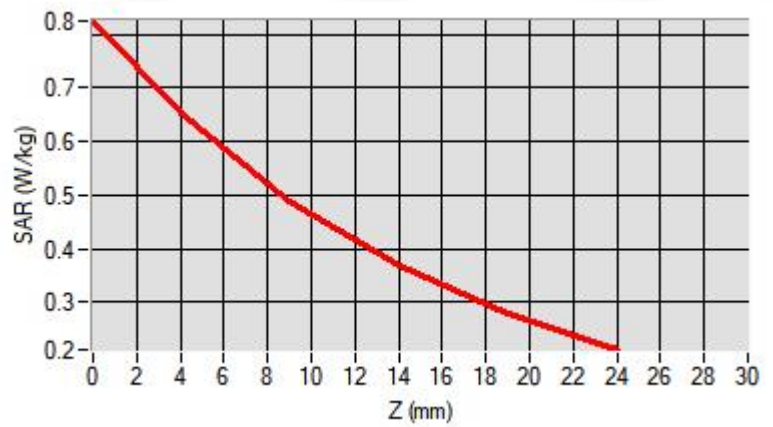
Maximum location: X=-23.00, Y=32.00 ; SAR Peak: 0.83 W/kg

D. SAR 1g & 10g

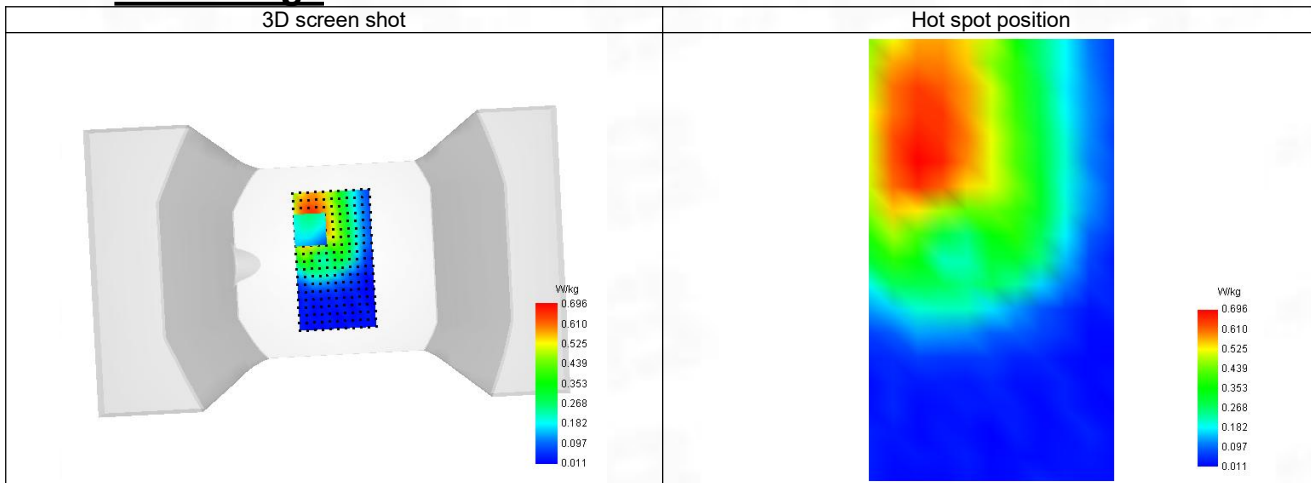
SAR 10g (W/Kg)	0.466
SAR 1g (W/Kg)	0.637
Variation (%)	0.070

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.825	0.653	0.489	0.369	0.281



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: 10/4/2024

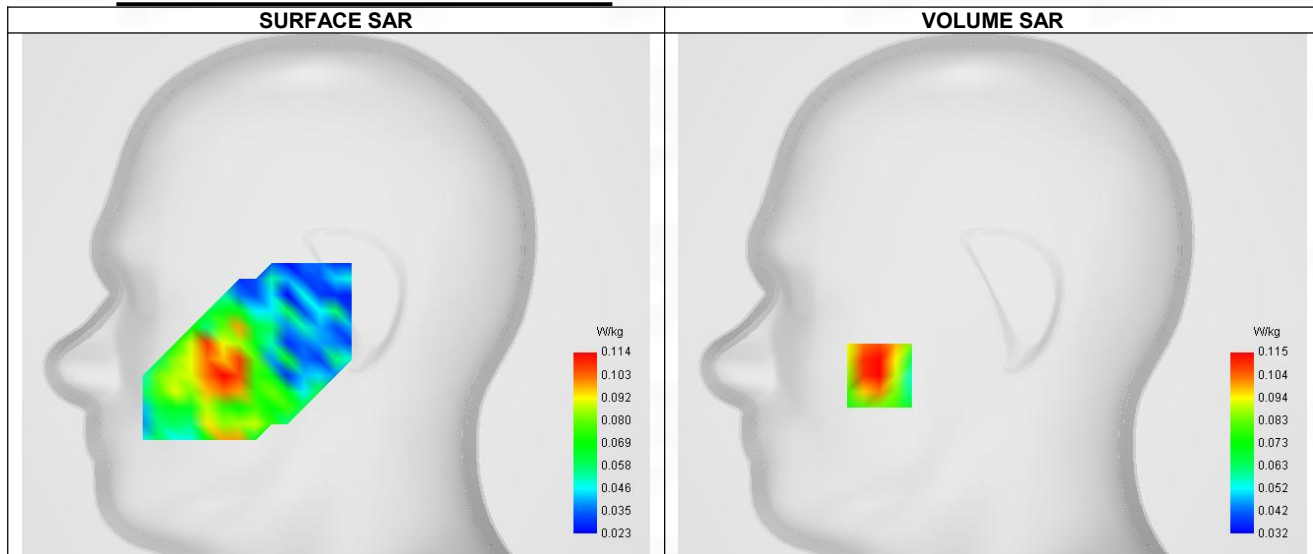
A. Experimental conditions.

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	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)	39.895
Relative permittivity (imaginary part)	13.734
Conductivity (S/m)	1.390

C. SAR Surface and Volume



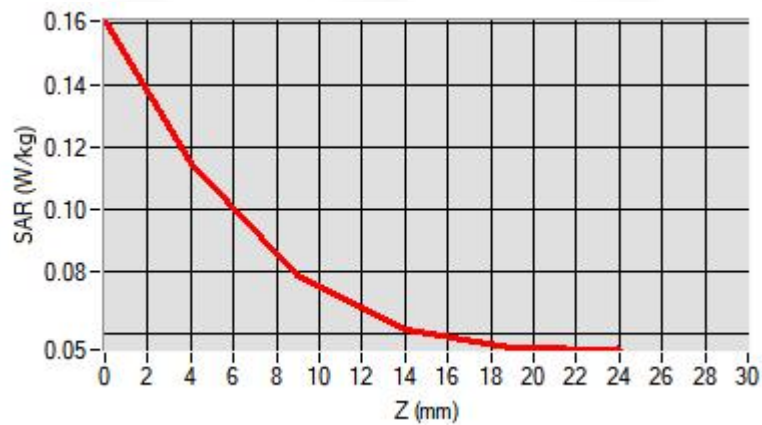
Maximum location: X=-56.00, Y=-40.00 ; SAR Peak: 0.17 W/kg

D. SAR 1g & 10g

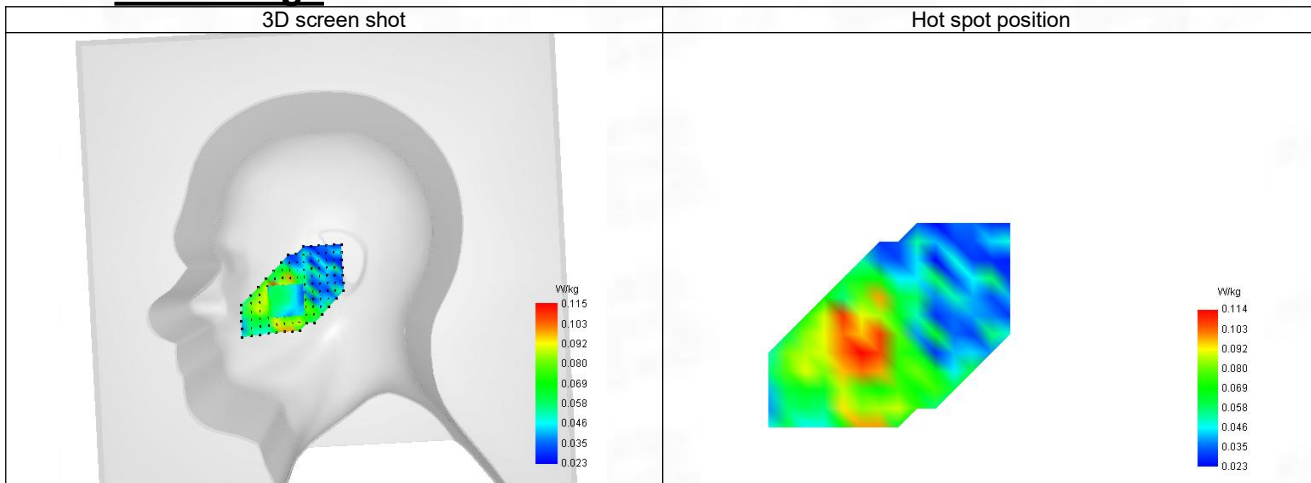
SAR 10g (W/Kg)	0.083
SAR 1g (W/Kg)	0.115
Variation (%)	1.730

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.161	0.115	0.079	0.061	0.055



F. 3D Image



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

SAR Measurement at GPRS1900 (Body, Validation Plane)

Date of measurement: 10/4/2024

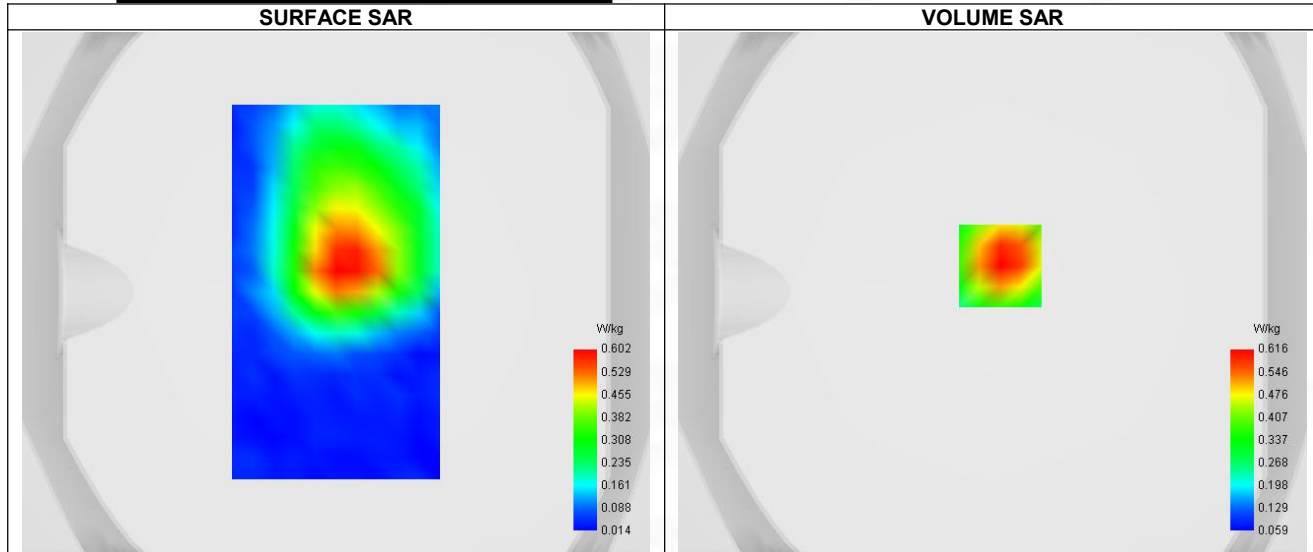
A. Experimental conditions.

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	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)	39.895
Relative permittivity (imaginary part)	13.734
Conductivity (S/m)	1.390

C. SAR Surface and Volume



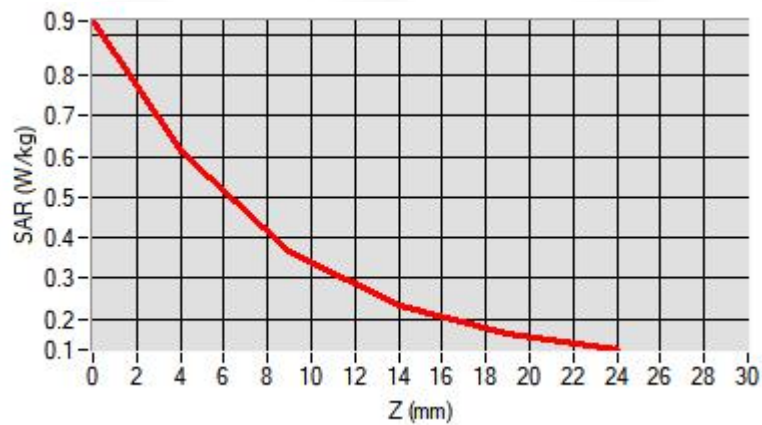
Maximum location: X=3.00, Y=10.00 ; SAR Peak: 0.94 W/kg

D. SAR 1g & 10g

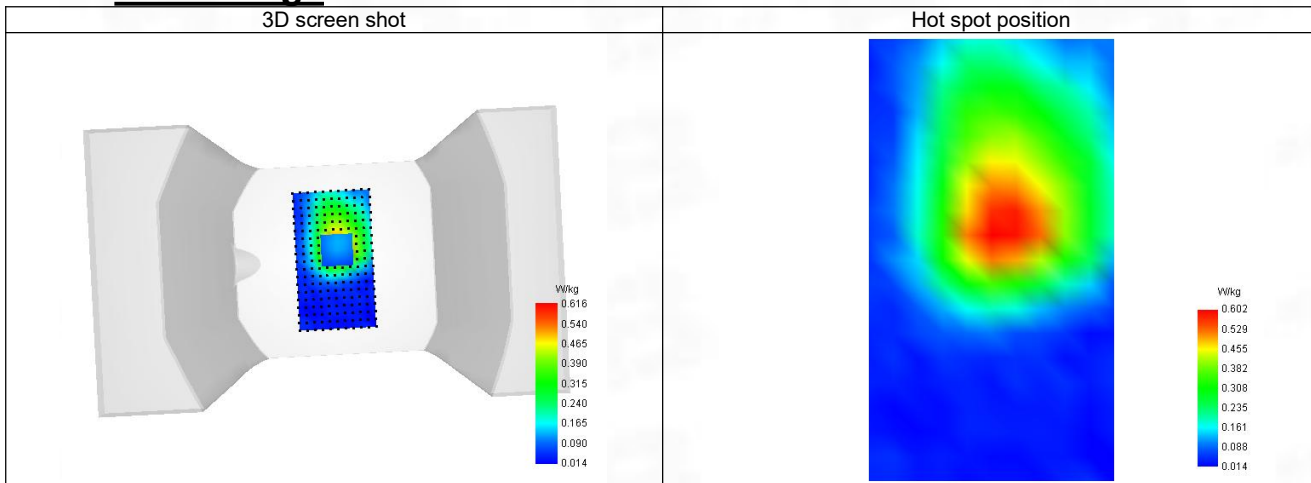
SAR 10g (W/Kg)	0.365
SAR 1g (W/Kg)	0.592
Variation (%)	-4.490

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.934	0.616	0.367	0.232	0.164



F. 3D Image



5-Head with front position in dist. 0mm on Channel 9400 in WCDMA Band 2

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

Date of measurement: 10/4/2024

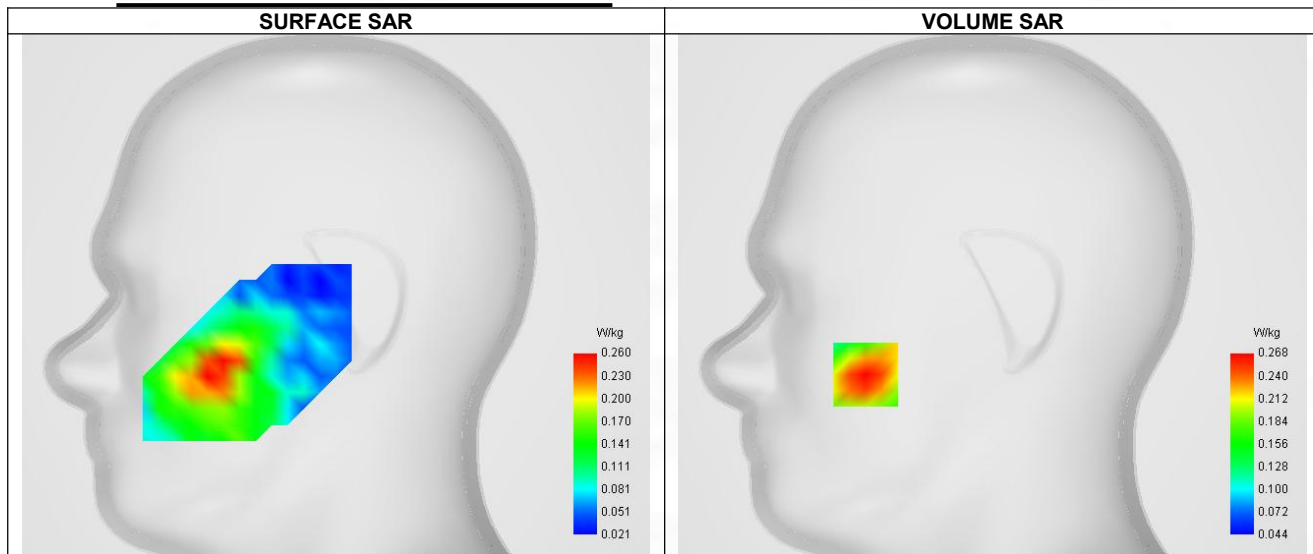
A. Experimental conditions.

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	Right head
Device Position	Cheek
Band	Band 2 (1900)
Channels	Middle (9400)
Signal	WCDMA
Mode	Release 99
Connection Type	RMC, 12.2 kbps

B. Permittivity

Frequency (MHz)	1880.000
Relative permittivity (real part)	39.886
Relative permittivity (imaginary part)	13.522
Conductivity (S/m)	1.402

C. SAR Surface and Volume



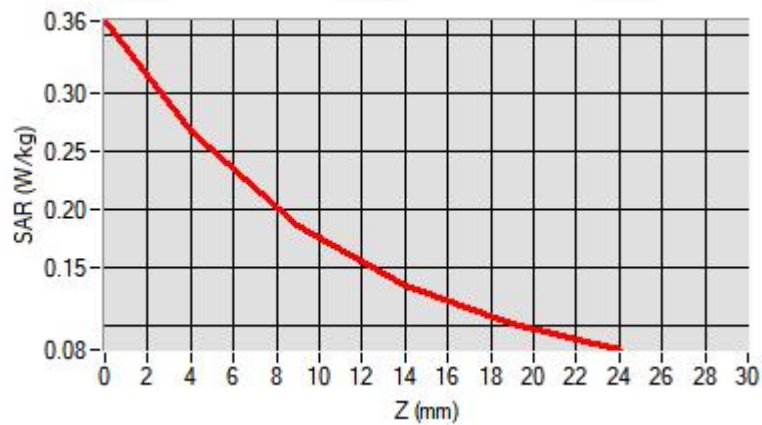
Maximum location: X=-63.00, Y=-39.00 ; SAR Peak: 0.36 W/kg

D. SAR 1g & 10g

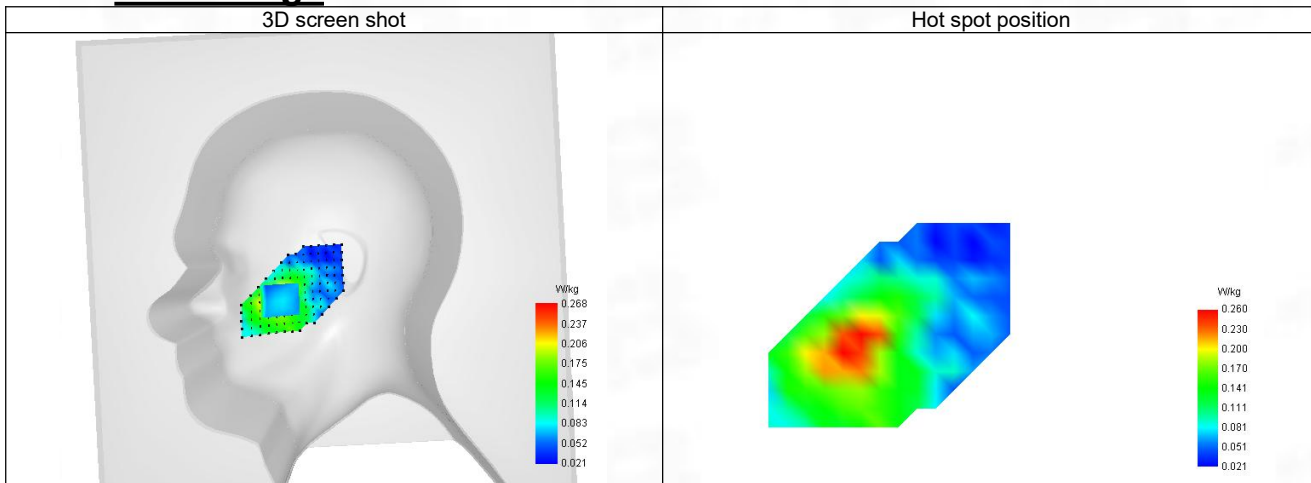
SAR 10g (W/Kg)	0.172
SAR 1g (W/Kg)	0.258
Variation (%)	-3.610

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.362	0.268	0.186	0.134	0.102



F. 3D Image



6-Body with front position in dist. 10mm on Channel 9400 in WCDMA Band 2

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

Date of measurement: 10/4/2024

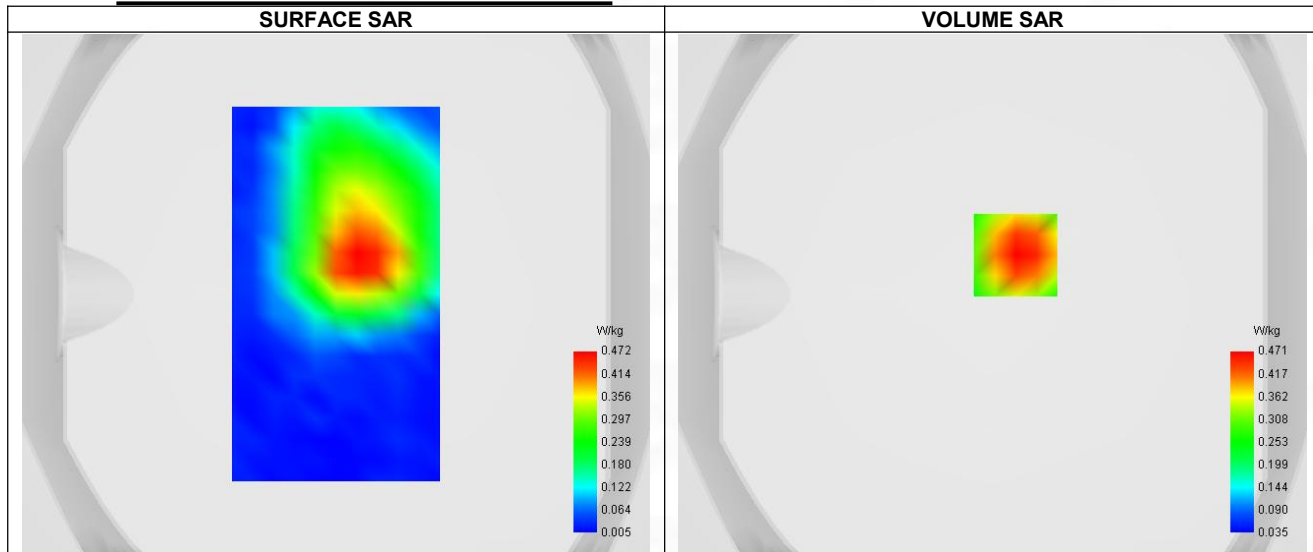
A. Experimental conditions.

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	Body
Band	Band 2 (1900)
Channels	Middle (9400)
Signal	WCDMA
Mode	Release 99
Connection Type	RMC, 12.2 kbps

B. Permittivity

Frequency (MHz)	1880.000
Relative permittivity (real part)	39.886
Relative permittivity (imaginary part)	13.522
Conductivity (S/m)	1.402

C. SAR Surface and Volume



Maximum location: X=9.00, Y=15.00 ; SAR Peak: 0.67 W/kg

D. SAR 1g & 10g

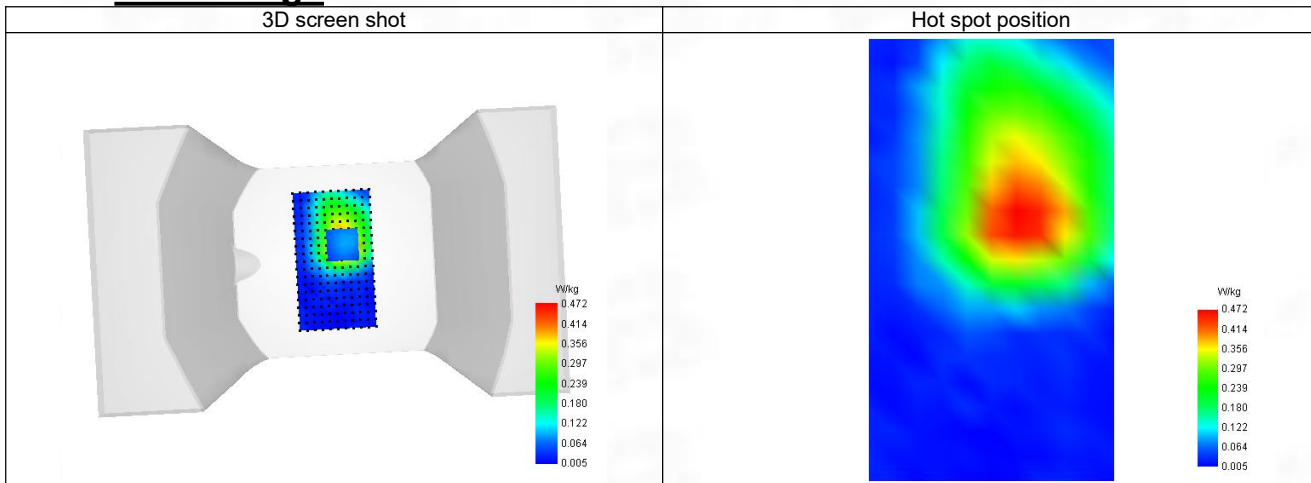
SAR 10g (W/Kg)	0.282
SAR 1g (W/Kg)	0.453
Variation (%)	-2.920

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.660	0.471	0.308	0.203	0.137



F. 3D Image



7-Head with front position in dist. 0mm on Channel 1513 in WCDMA Band 4

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

Date of measurement: 9/4/2024

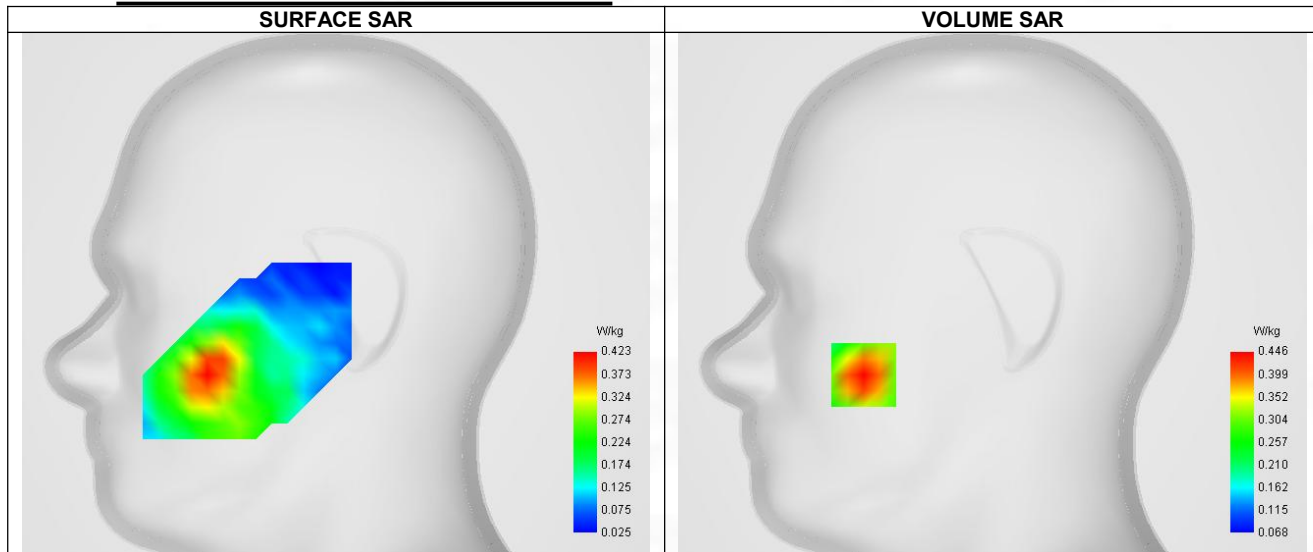
A. Experimental conditions.

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	Right head
Device Position	Cheek
Band	Band 4 (1700)
Channels	Higher (1513)
Signal	WCDMA
Mode	Release 99
Connection Type	RMC, 12.2 kbps

B. Permittivity

Frequency (MHz)	1752.600
Relative permittivity (real part)	39.984
Relative permittivity (imaginary part)	14.355
Conductivity (S/m)	1.345

C. SAR Surface and Volume



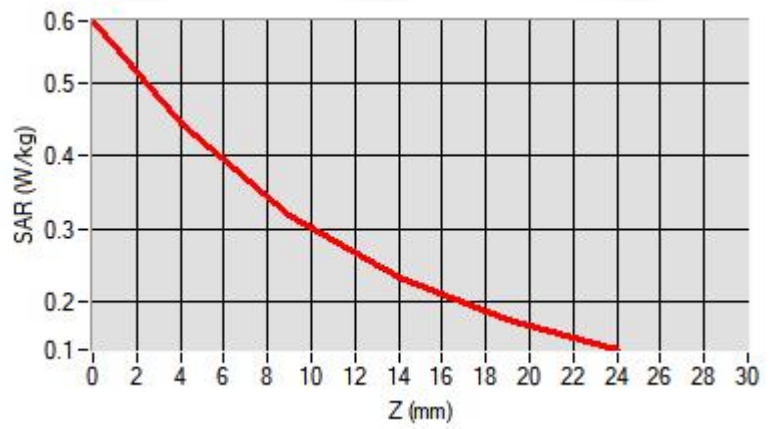
Maximum location: X=-64.00, Y=-40.00 ; SAR Peak: 0.59 W/kg

D. SAR 1g & 10g

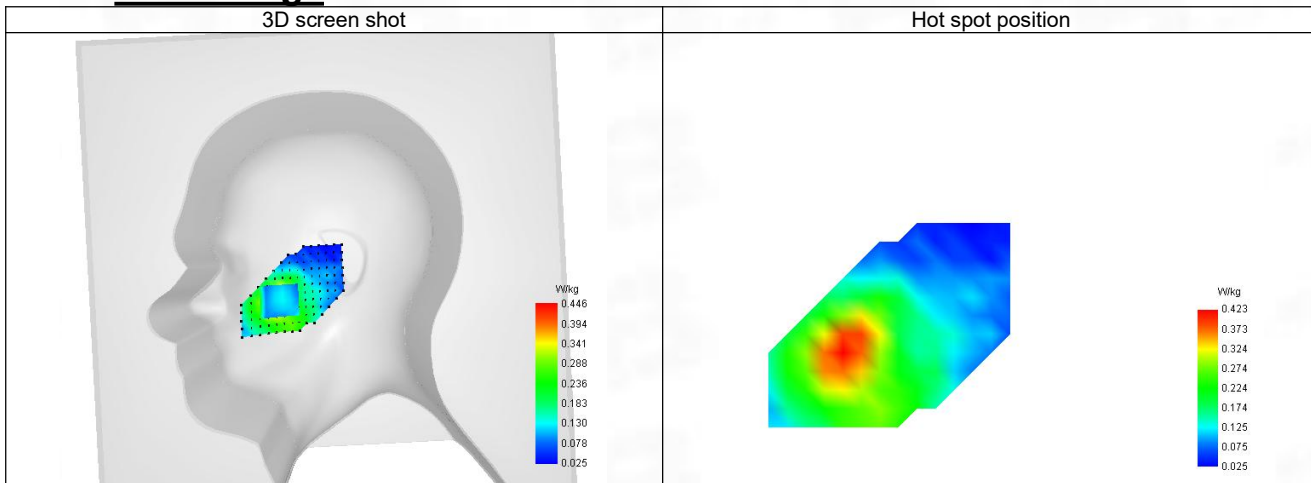
SAR 10g (W/Kg)	0.282
SAR 1g (W/Kg)	0.424
Variation (%)	-1.990

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.586	0.446	0.319	0.233	0.176



F. 3D Image



8-Body with front position in dist. 10mm on Channel 1513 in WCDMA Band 4

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

Date of measurement: 9/4/2024

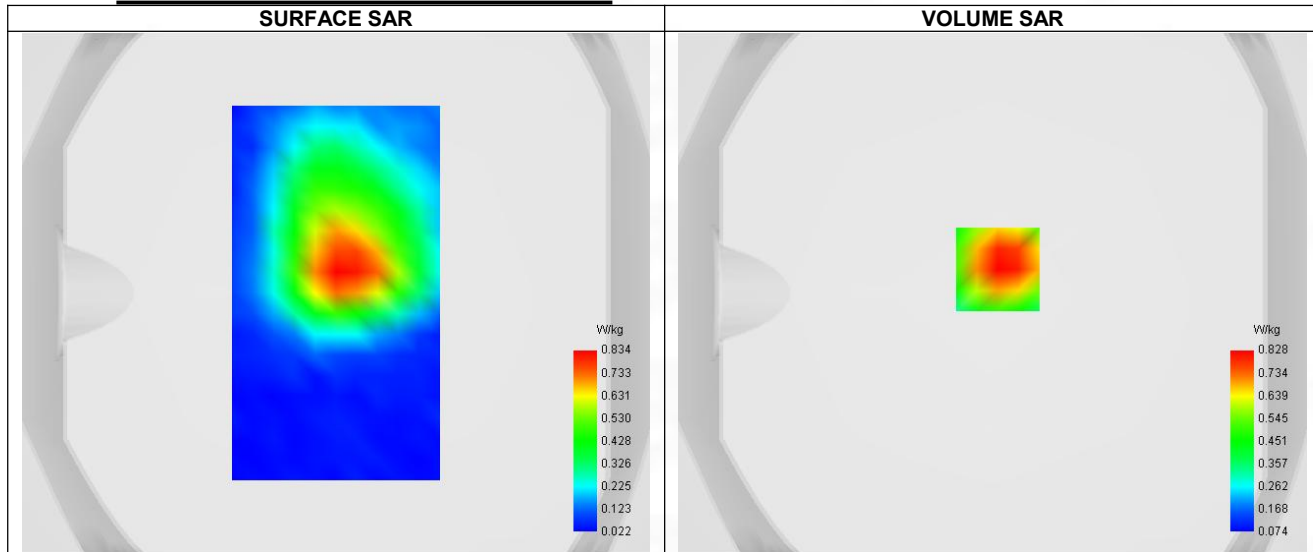
A. Experimental conditions.

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	Body
Band	Band 4 (1700)
Channels	Higher (1513)
Signal	WCDMA
Mode	Release 99
Connection Type	RMC, 12.2 kbps

B. Permittivity

Frequency (MHz)	1752.600
Relative permittivity (real part)	39.984
Relative permittivity (imaginary part)	14.355
Conductivity (S/m)	1.345

C. SAR Surface and Volume



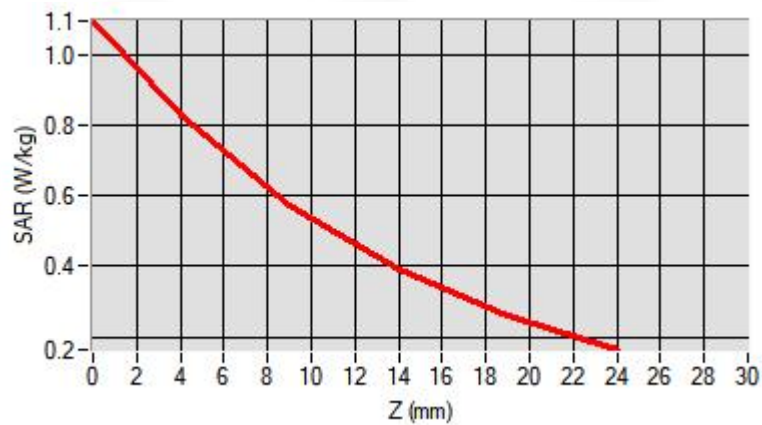
Maximum location: X=2.00, Y=9.00 ; SAR Peak: 1.12 W/kg

D. SAR 1g & 10g

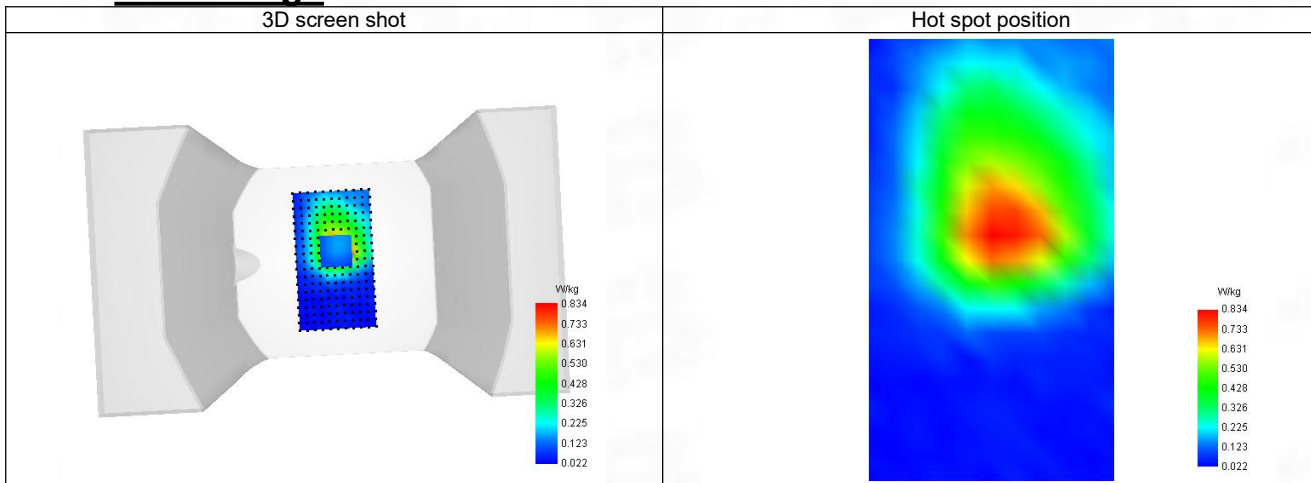
SAR 10g (W/Kg)	0.304
SAR 1g (W/Kg)	0.715
Variation (%)	-1.960

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	1.097	0.828	0.573	0.390	0.260



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: 8/4/2024

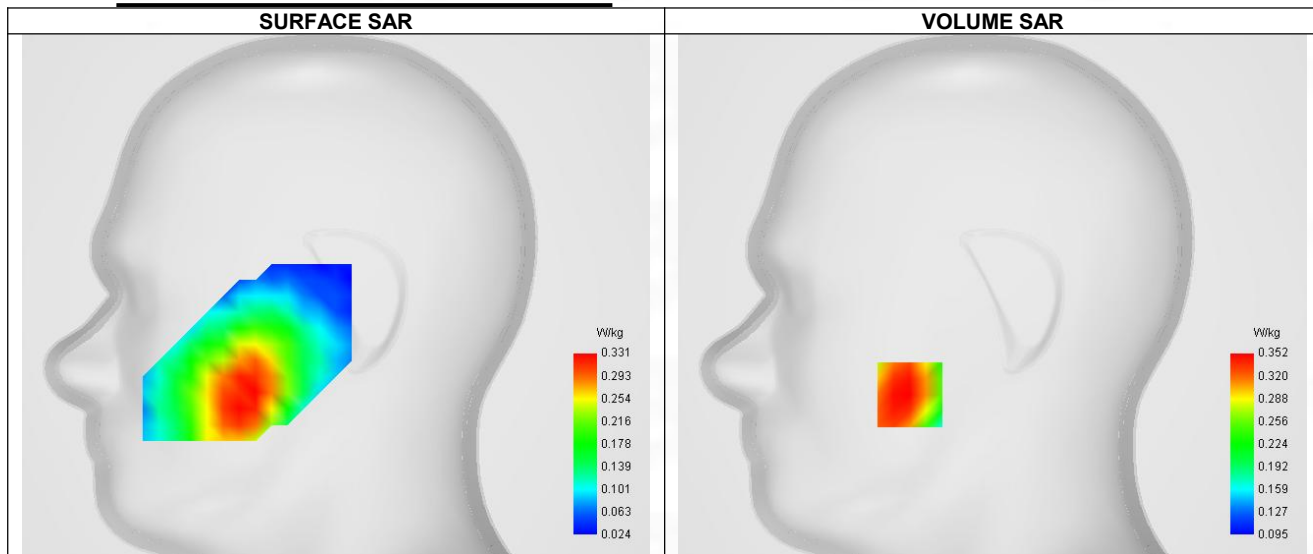
A. Experimental conditions.

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	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)	19.425
Conductivity (S/m)	0.876

C. SAR Surface and Volume



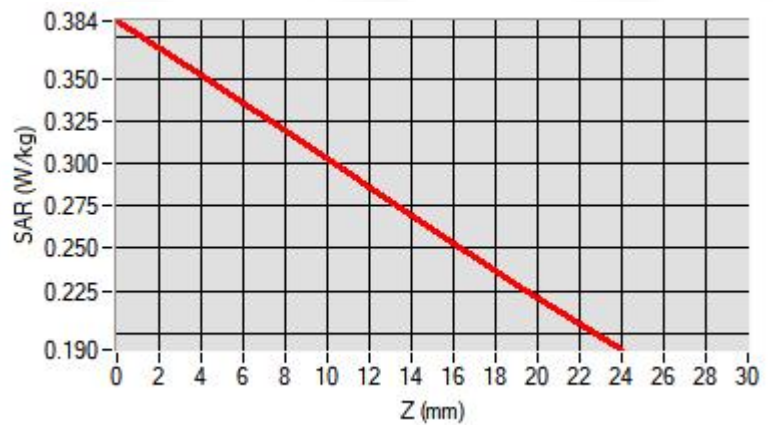
Maximum location: X=-41.00, Y=-49.00 ; SAR Peak: 0.41 W/kg

D. SAR 1g & 10g

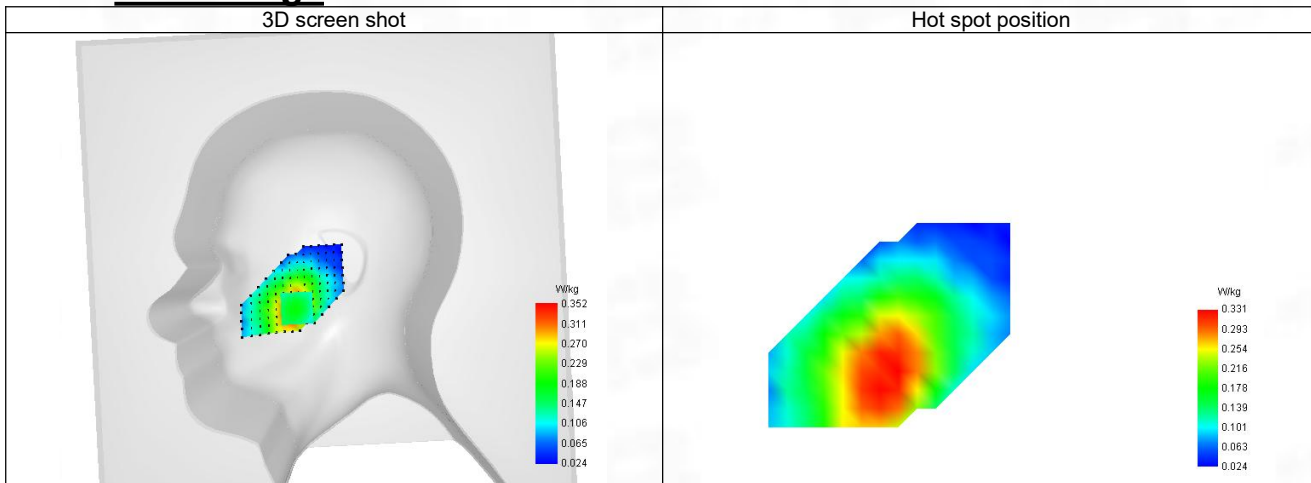
SAR 10g (W/Kg)	0.278
SAR 1g (W/Kg)	0.346
Variation (%)	-2.550

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.384	0.352	0.311	0.269	0.229



F. 3D Image



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

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

Date of measurement: 8/4/2024

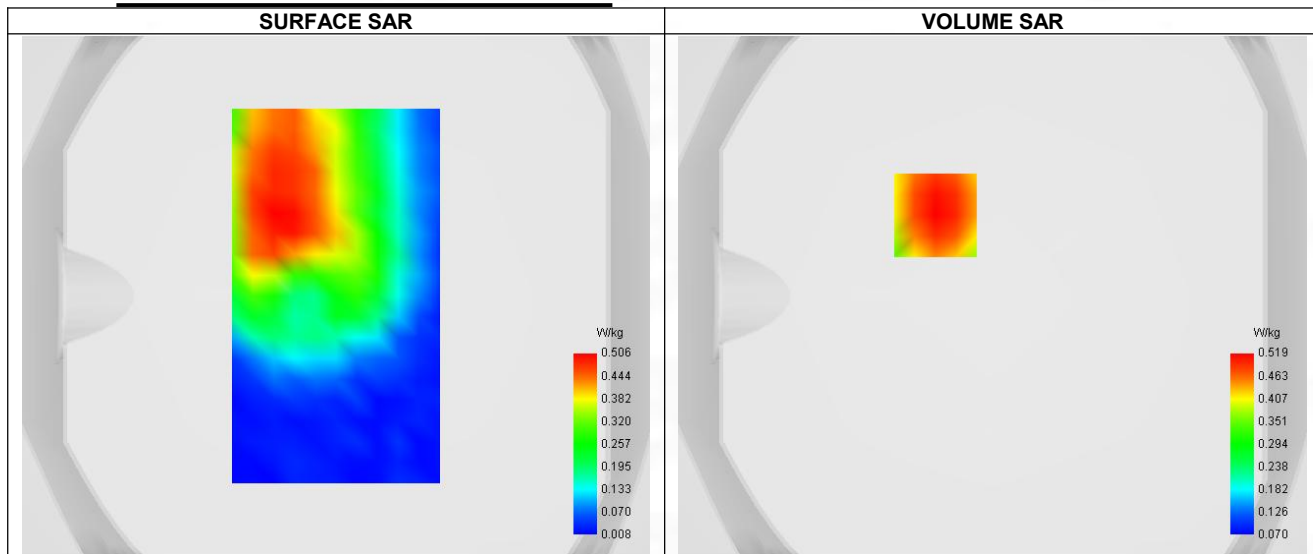
A. Experimental conditions.

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	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)	19.425
Conductivity (S/m)	0.876

C. SAR Surface and Volume



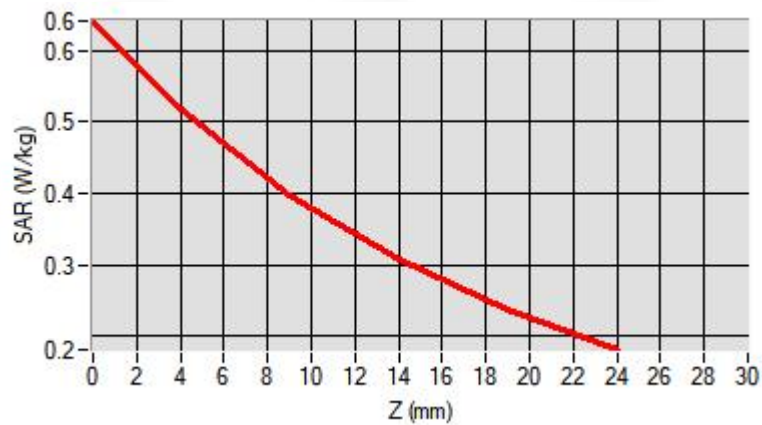
Maximum location: X=-22.00, Y=31.00 ; SAR Peak: 0.64 W/kg

D. SAR 1g & 10g

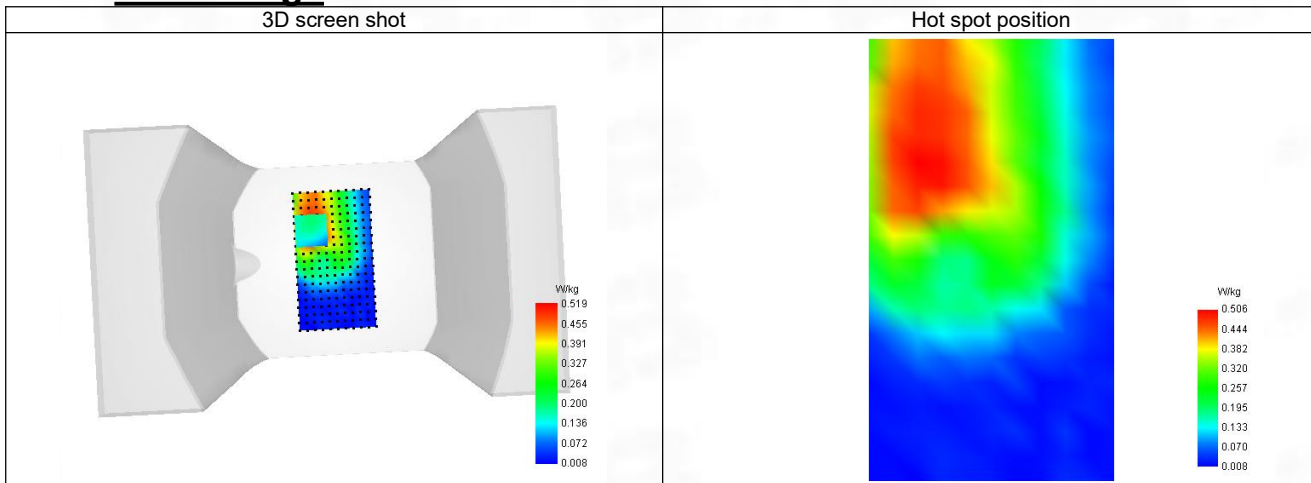
SAR 10g (W/Kg)	0.368
SAR 1g (W/Kg)	0.502
Variation (%)	1.630

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.641	0.519	0.398	0.307	0.238



F. 3D Image



11-Head with front position in dist. 0mm on Channel 18700 in LTE band 2

SAR Measurement at LTE band 2 (Cheek, Right)

Date of measurement: 9/4/2024

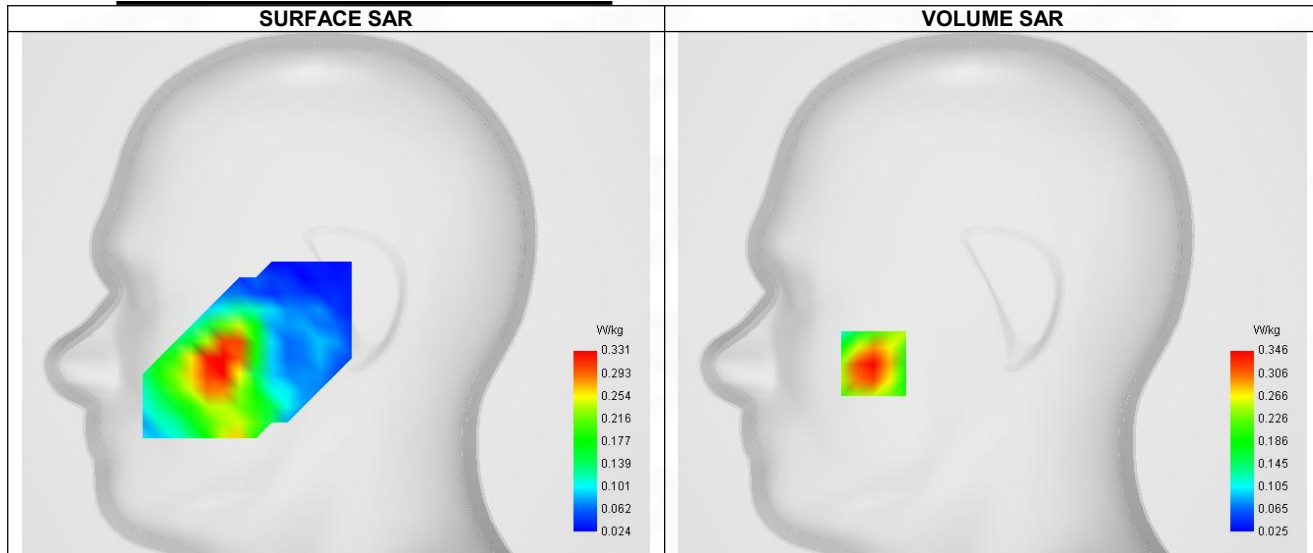
A. Experimental conditions.

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	Right head
Device Position	Cheek
Band	LTE band 2
Channels	Lower (18700)
Signal	LTE FDD
Cell Bandwidth	20 Mhz
Modulation	SC-OFDM - QPSK
RB offset	0
RB size	1

B. Permittivity

Frequency (MHz)	1851.090
Relative permittivity (real part)	39.895
Relative permittivity (imaginary part)	13.727
Conductivity (S/m)	1.390

C. SAR Surface and Volume



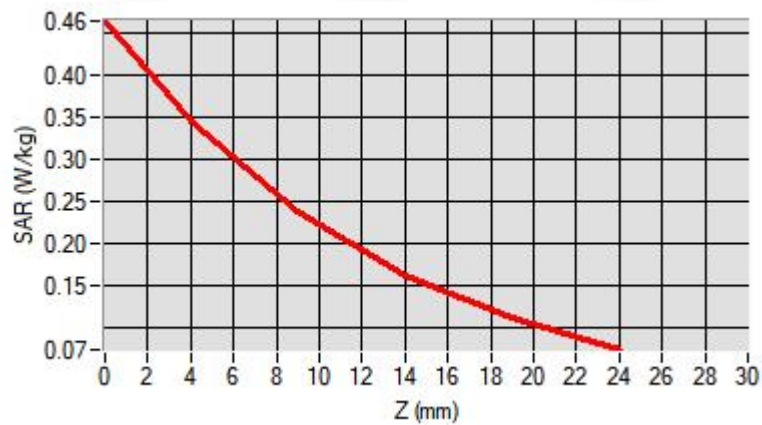
Maximum location: X=-59.00, Y=-35.00 ; SAR Peak: 0.47 W/kg

D. SAR 1g & 10g

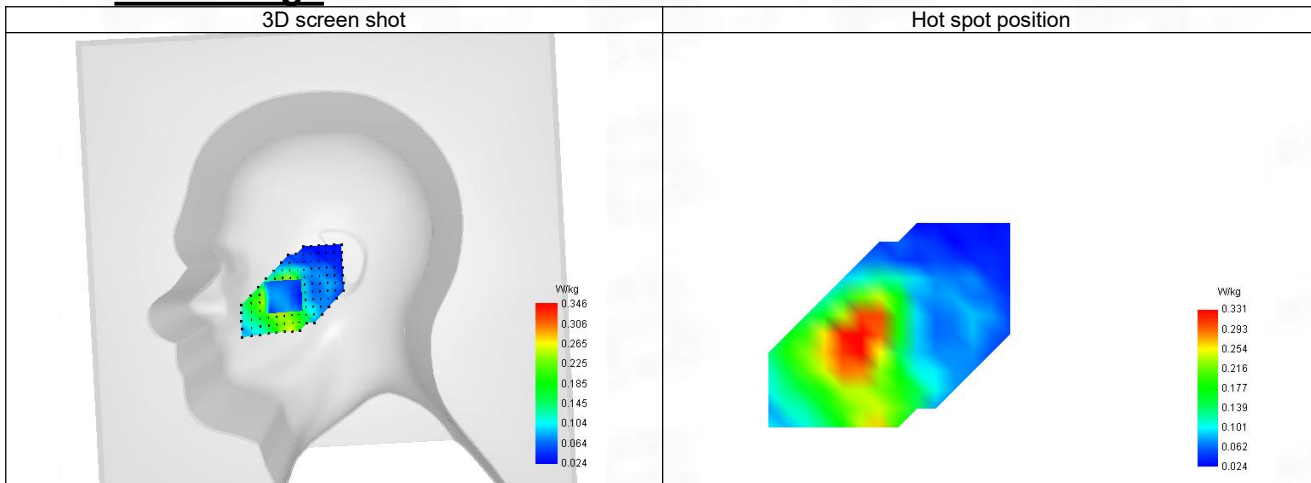
SAR 10g (W/Kg)	0.210
SAR 1g (W/Kg)	0.330
Variation (%)	-3.590

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.463	0.346	0.238	0.163	0.112



F. 3D Image



12-Body with front position in dist. 10mm on Channel 18700 in LTE band 2

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

Date of measurement: 9/4/2024

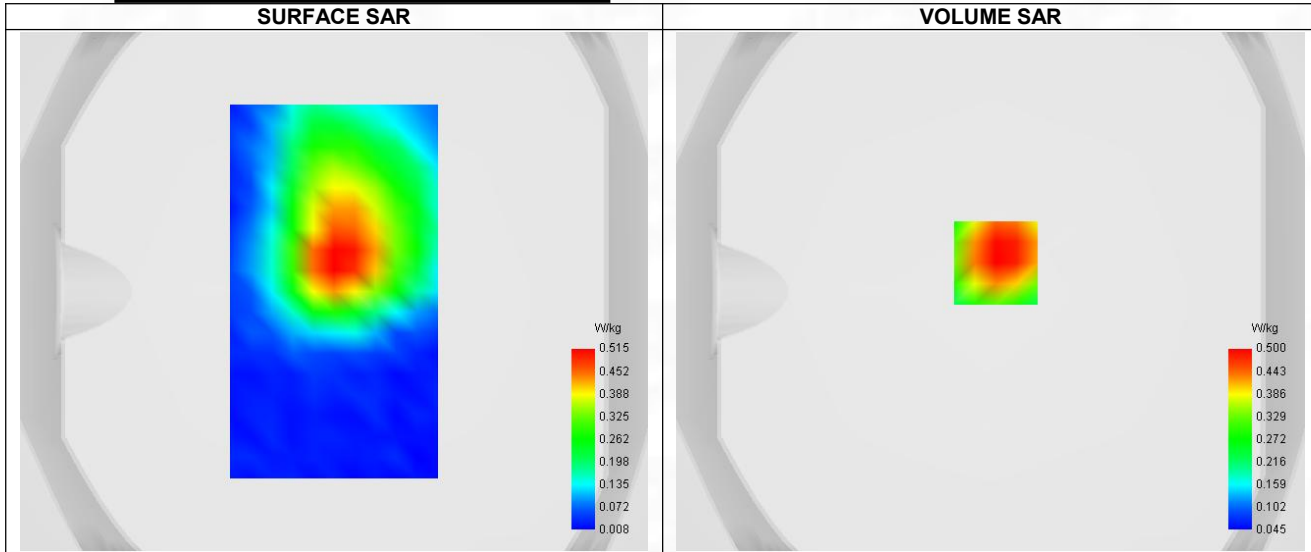
A. Experimental conditions.

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	Body
Band	LTE band 2
Channels	Lower (18700)
Signal	LTE FDD
Cell Bandwidth	20 Mhz
Modulation	SC-OFDM - QPSK
RB offset	0
RB size	1

B. Permittivity

Frequency (MHz)	1851.090
Relative permittivity (real part)	39.895
Relative permittivity (imaginary part)	13.727
Conductivity (S/m)	1.390

C. SAR Surface and Volume



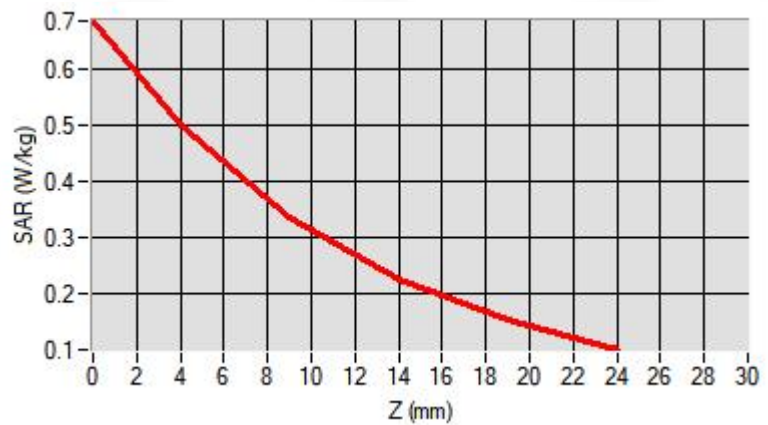
Maximum location: X=2.00, Y=11.00 ; SAR Peak: 0.70 W/kg

D. SAR 1g & 10g

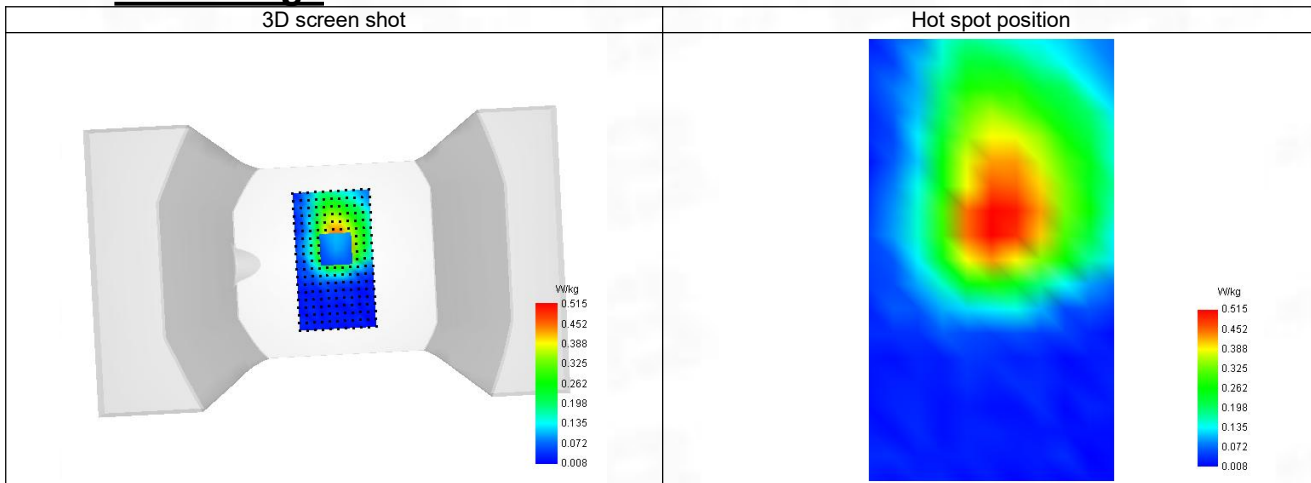
SAR 10g (W/Kg)	0.311
SAR 1g (W/Kg)	0.486
Variation (%)	-3.150

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.684	0.500	0.334	0.224	0.151



F. 3D Image



13-Head with front position in dist. 0mm on Channel 20050 in LTE band 4

SAR Measurement at LTE band 4 (Cheek, Right)

Date of measurement: 9/4/2024

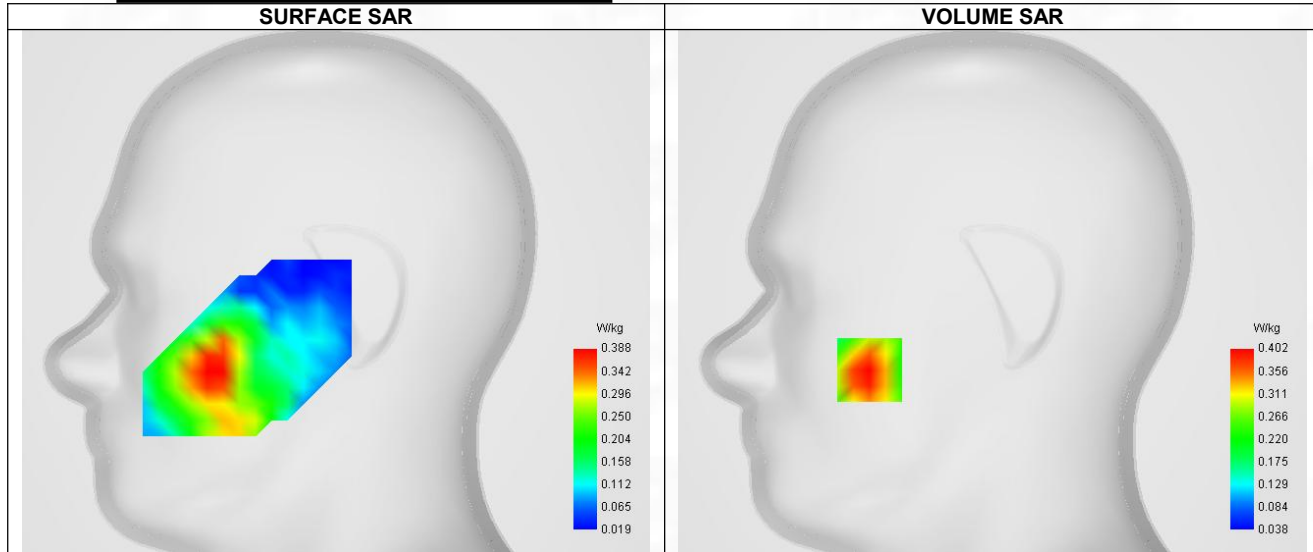
A. Experimental conditions.

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	Right head
Device Position	Cheek
Band	LTE band 4
Channels	Lower (20050)
Signal	LTE FDD
Cell Bandwidth	20 Mhz
Modulation	SC-OFDM - QPSK
RB offset	0
RB size	1

B. Permittivity

Frequency (MHz)	1711.090
Relative permittivity (real part)	40.048
Relative permittivity (imaginary part)	14.588
Conductivity (S/m)	1.324

C. SAR Surface and Volume



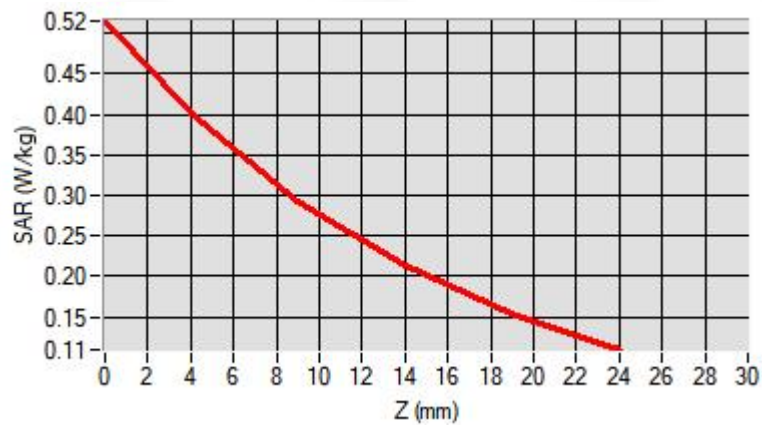
Maximum location: X=-61.00, Y=-39.00 ; SAR Peak: 0.52 W/kg

D. SAR 1g & 10g

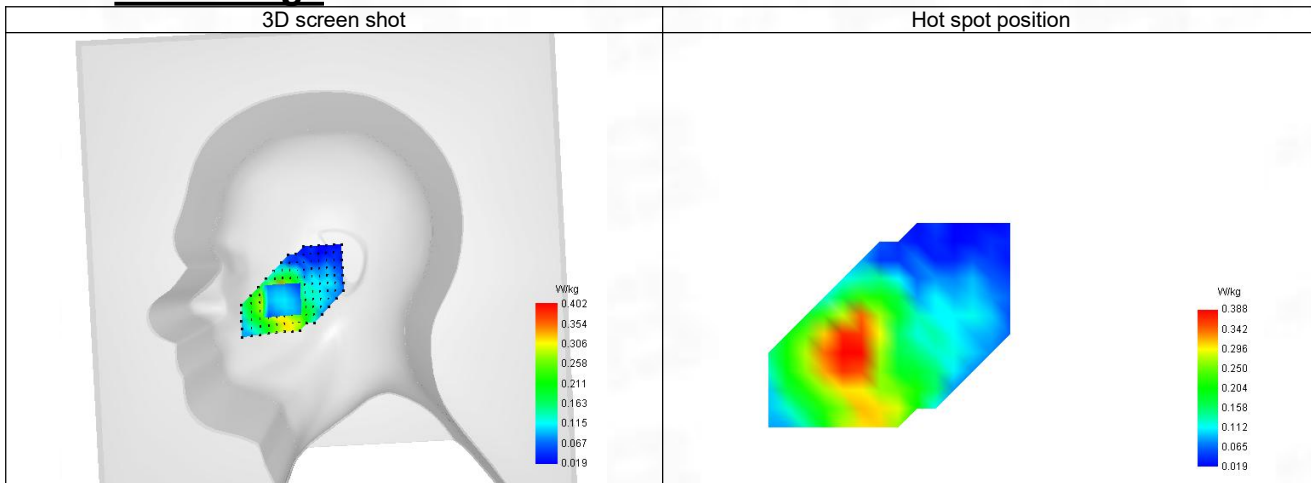
SAR 10g (W/Kg)	0.258
SAR 1g (W/Kg)	0.385
Variation (%)	1.730

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.515	0.402	0.293	0.213	0.155



F. 3D Image



14-Body with front position in dist. 10mm on Channel 20050 in LTE band 4

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

Date of measurement: 9/4/2024

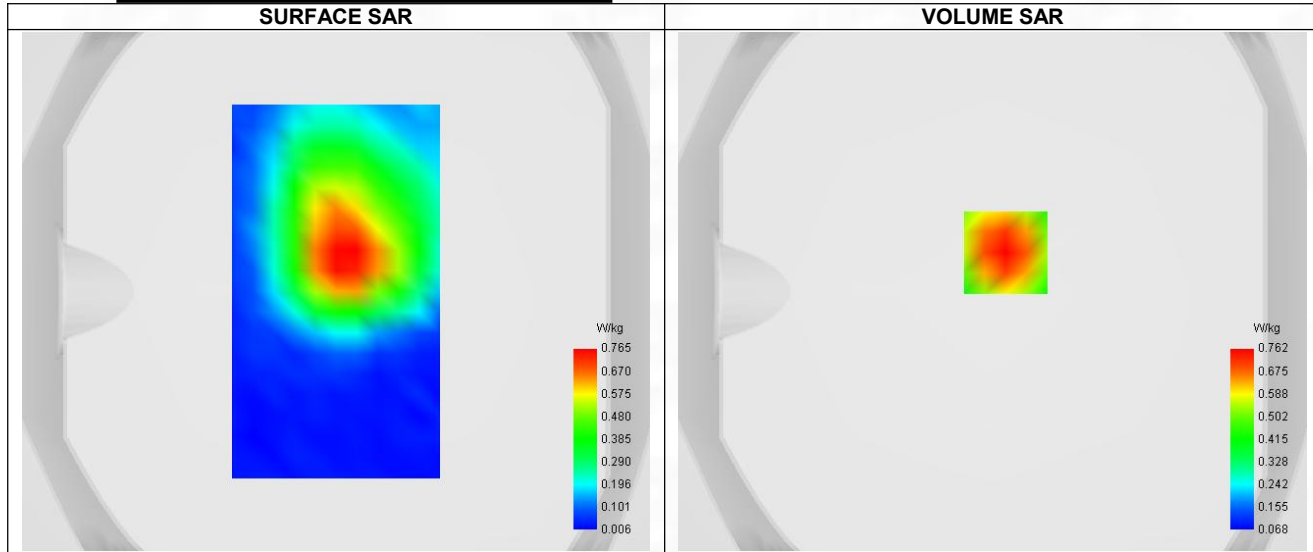
A. Experimental conditions.

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	Body
Band	LTE band 4
Channels	Lower (20050)
Signal	LTE FDD
Cell Bandwidth	20 Mhz
Modulation	SC-OFDM - QPSK
RB offset	0
RB size	1

B. Permittivity

Frequency (MHz)	1711.090
Relative permittivity (real part)	40.048
Relative permittivity (imaginary part)	14.588
Conductivity (S/m)	1.324

C. SAR Surface and Volume

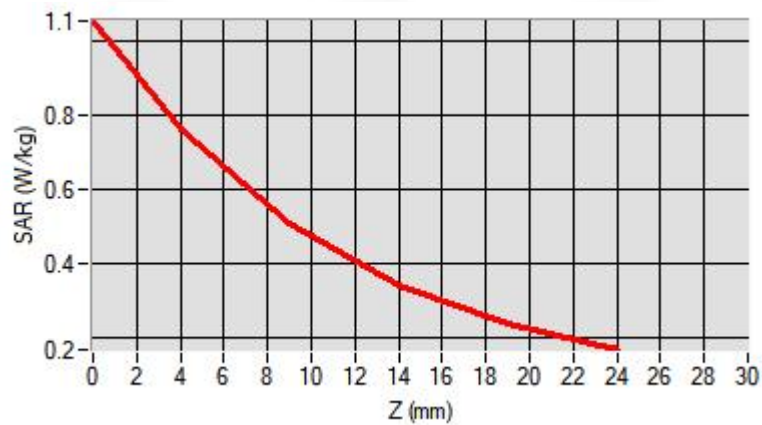


D. SAR 1g & 10g

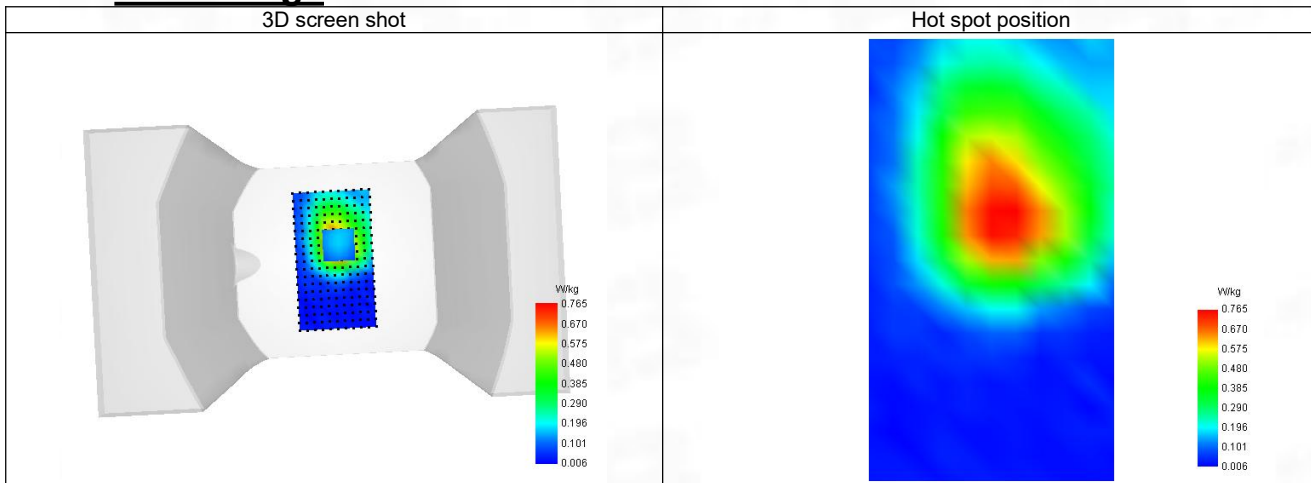
SAR 10g (W/Kg)	0.434
SAR 1g (W/Kg)	0.718
Variation (%)	-3.530

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	1.054	0.762	0.507	0.344	0.242



F. 3D Image



15-Head with front position in dist. 0mm on Channel 20450 in LTE band 5

SAR Measurement at LTE band 5 (Cheek, Right)

Date of measurement: 8/4/2024

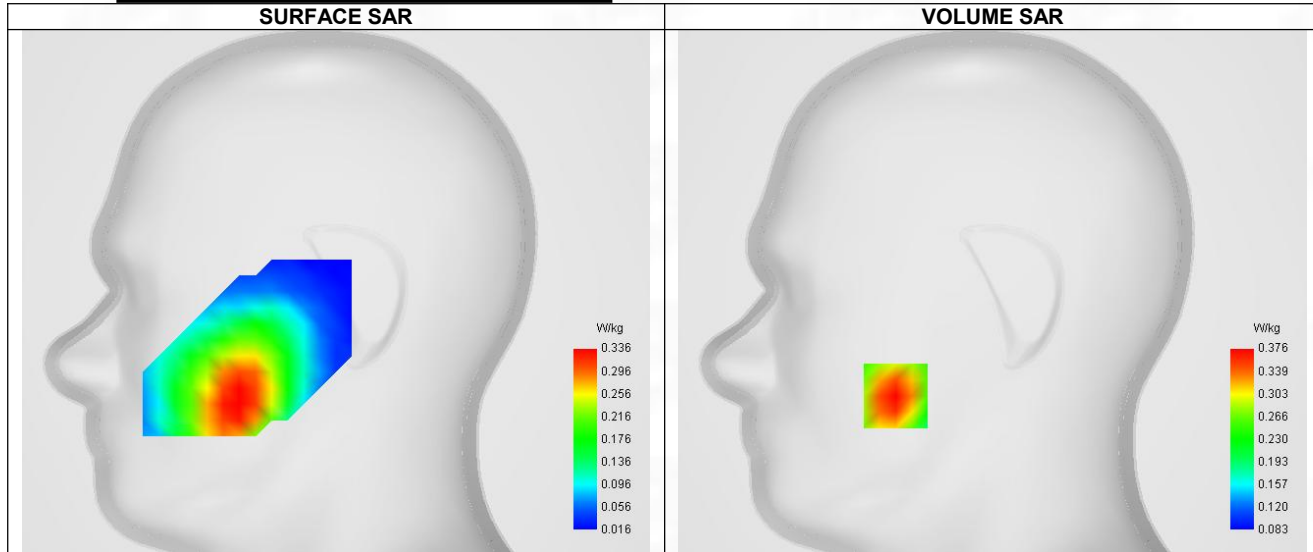
A. Experimental conditions.

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	Right head
Device Position	Cheek
Band	LTE band 5
Channels	Lower (20450)
Signal	LTE FDD
Cell Bandwidth	10 Mhz
Modulation	SC-OFDM - QPSK
RB offset	0
RB size	1

B. Permittivity

Frequency (MHz)	824.590
Relative permittivity (real part)	41.458
Relative permittivity (imaginary part)	19.731
Conductivity (S/m)	0.869

C. SAR Surface and Volume



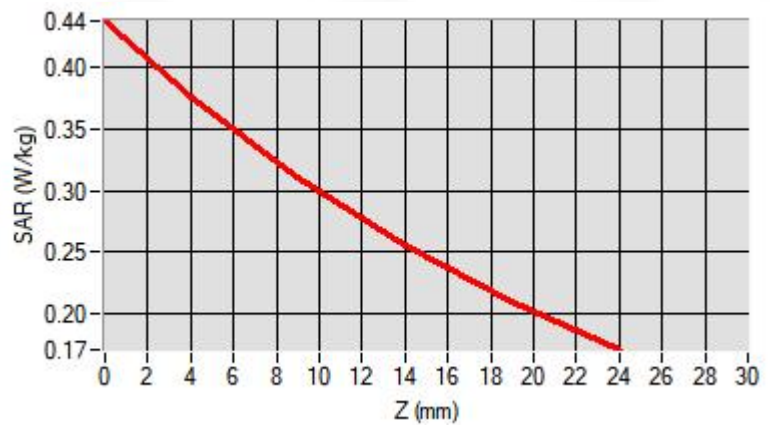
Maximum location: X=-48.00, Y=-52.00 ; SAR Peak: 0.44 W/kg

D. SAR 1g & 10g

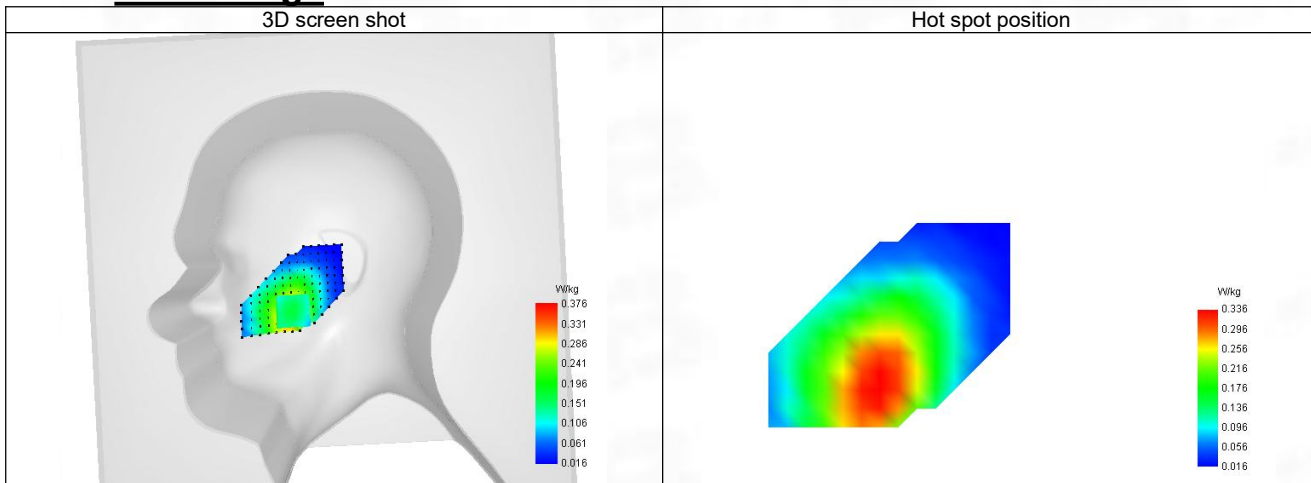
SAR 10g (W/Kg)	0.274
SAR 1g (W/Kg)	0.362
Variation (%)	-1.320

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.438	0.376	0.310	0.255	0.210



F. 3D Image



16-Body with back position in dist. 10mm on Channel 20450 in LTE band 5

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

Date of measurement: 8/4/2024

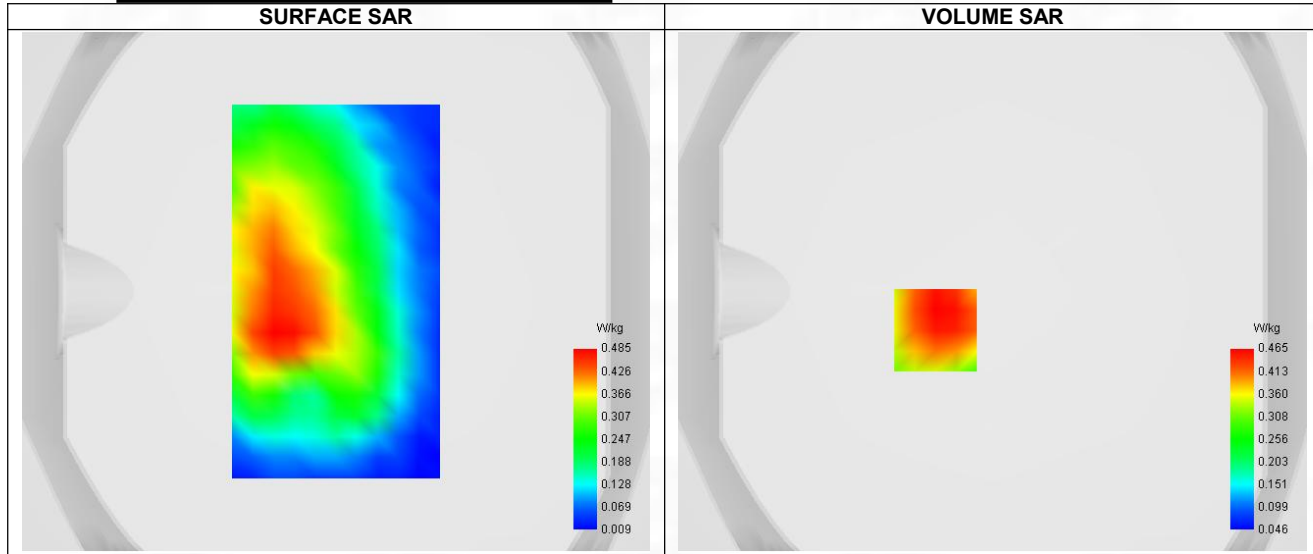
A. Experimental conditions.

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	Body
Band	LTE band 5
Channels	Lower (20450)
Signal	LTE FDD
Cell Bandwidth	10 Mhz
Modulation	SC-OFDM - QPSK
RB offset	0
RB size	1

B. Permittivity

Frequency (MHz)	824.590
Relative permittivity (real part)	41.458
Relative permittivity (imaginary part)	19.731
Conductivity (S/m)	0.869

C. SAR Surface and Volume

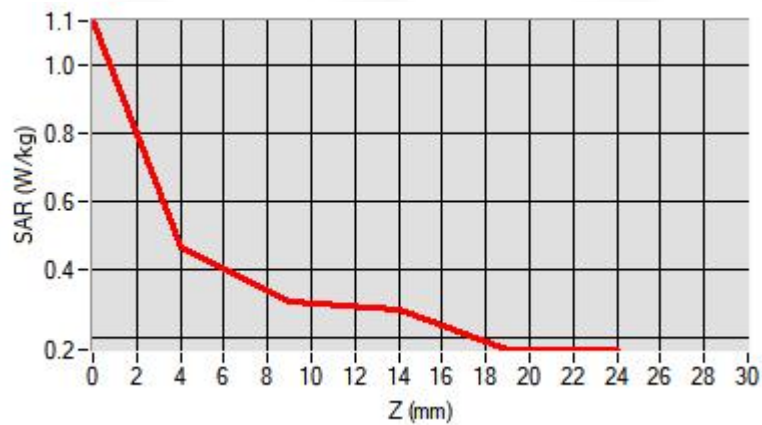


D. SAR 1g & 10g

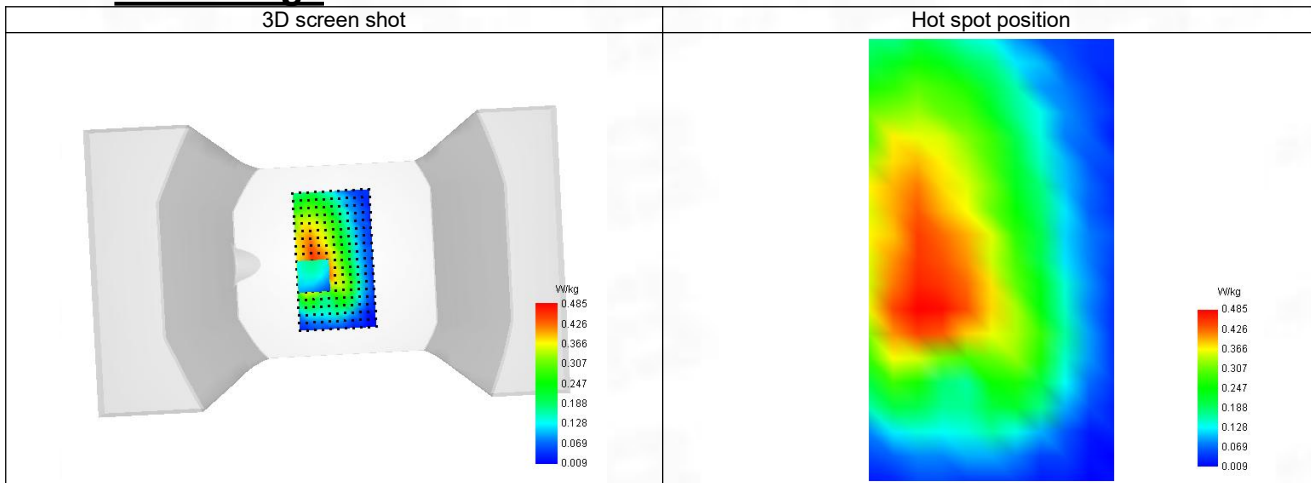
SAR 10g (W/Kg)	0.331
SAR 1g (W/Kg)	0.450
Variation (%)	-1.980

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	1.127	0.465	0.307	0.284	0.165



F. 3D Image



17-Head with front position in dist. 0mm on Channel 23130 in LTE band 12

SAR Measurement at LTE band 12 (Cheek, Right)

Date of measurement: 5/4/2024

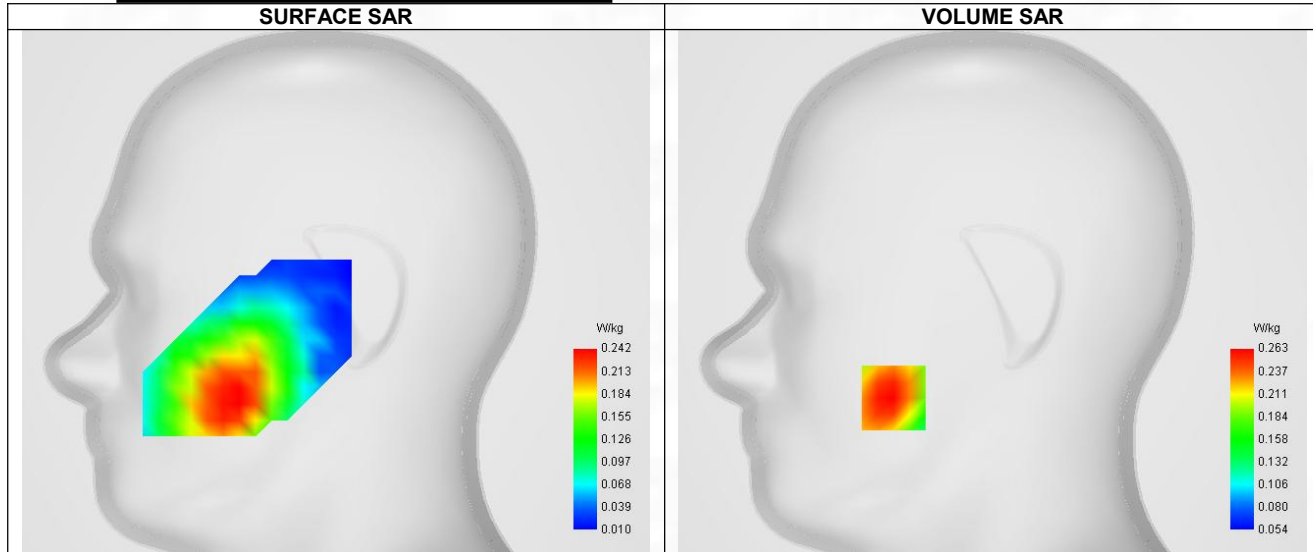
A. Experimental conditions.

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	Right head
Device Position	Cheek
Band	LTE band 12
Channels	Higher (23130)
Signal	LTE FDD
Cell Bandwidth	10 Mhz
Modulation	SC-OFDM - QPSK
RB offset	0
RB size	1

B. Permittivity

Frequency (MHz)	706.590
Relative permittivity (real part)	41.999
Relative permittivity (imaginary part)	22.466
Conductivity (S/m)	0.855

C. SAR Surface and Volume



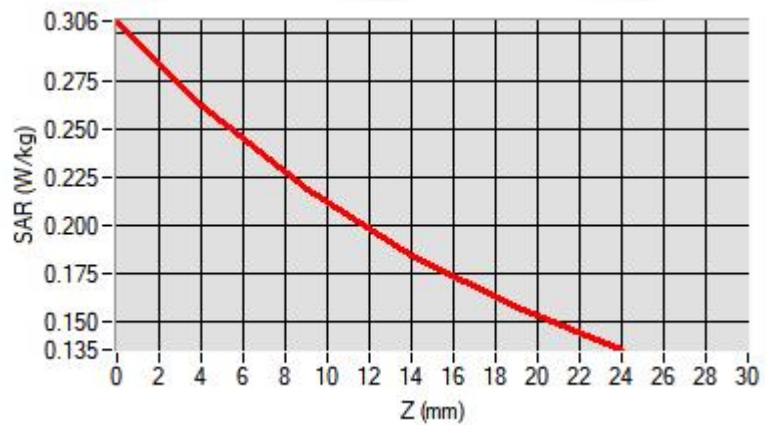
Maximum location: X=-49.00, Y=-53.00 ; SAR Peak: 0.31 W/kg

D. SAR 1g & 10g

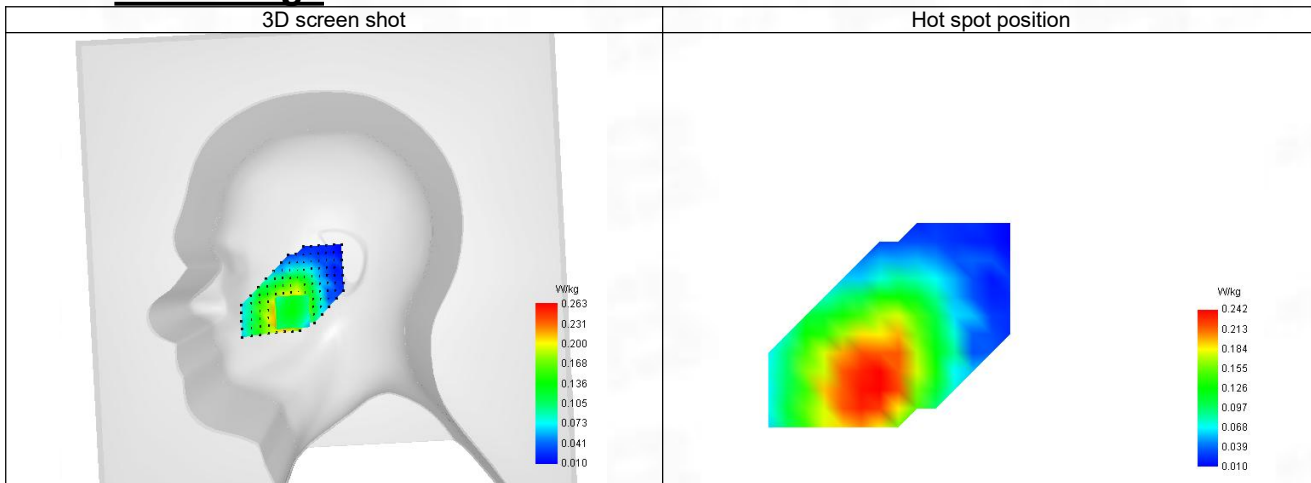
SAR 10g (W/Kg)	0.201
SAR 1g (W/Kg)	0.256
Variation (%)	-2.100

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.306	0.263	0.219	0.184	0.158



F. 3D Image



18-Body with back position in dist. 10mm on Channel 23130 in LTE band 12

SAR Measurement at LTE band 12 (Body, Validation Plane)

Date of measurement: 5/4/2024

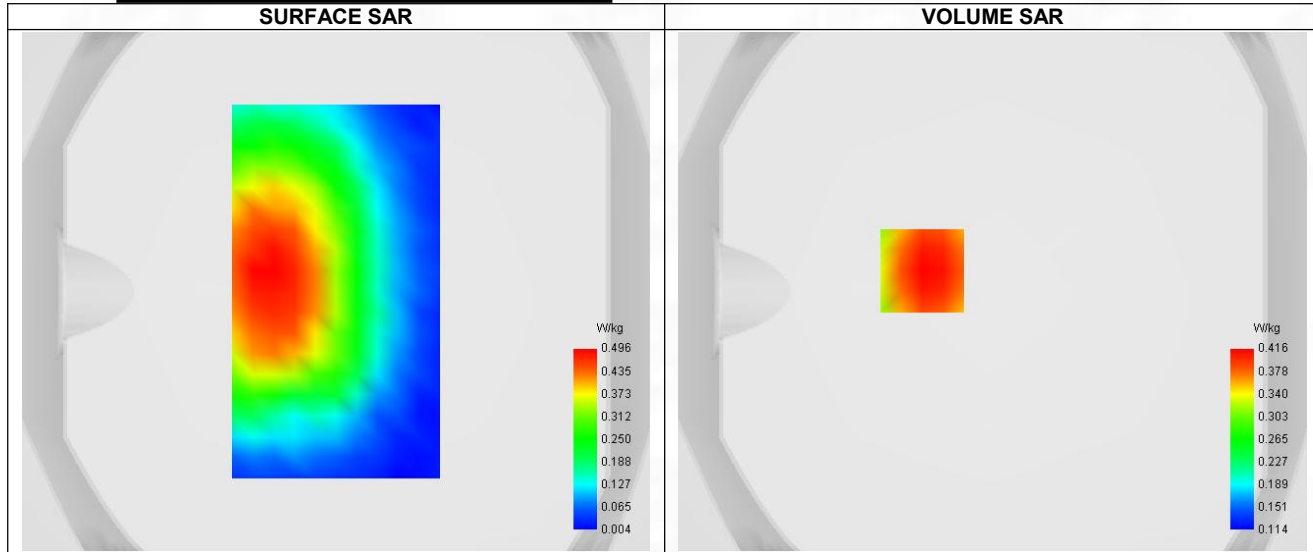
A. Experimental conditions.

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	Body
Band	LTE band 12
Channels	Higher (23130)
Signal	LTE FDD
Cell Bandwidth	10 Mhz
Modulation	SC-OFDM - QPSK
RB offset	0
RB size	1

B. Permittivity

Frequency (MHz)	706.590
Relative permittivity (real part)	41.999
Relative permittivity (imaginary part)	22.466
Conductivity (S/m)	0.855

C. SAR Surface and Volume

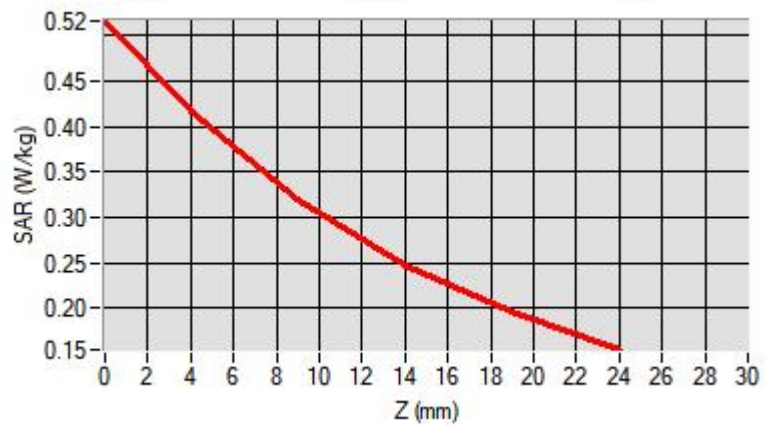


D. SAR 1g & 10g

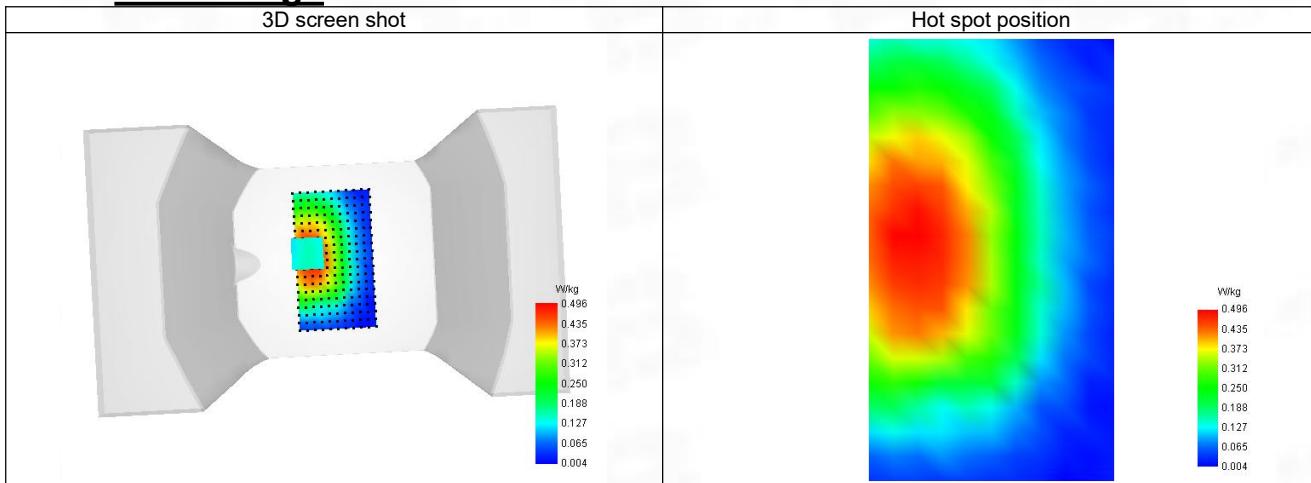
SAR 10g (W/Kg)	0.304
SAR 1g (W/Kg)	0.404
Variation (%)	-1.870

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.516	0.416	0.319	0.248	0.196



F. 3D Image



19-Head with front position in dist. 0mm on Channel 23800 in LTE band 17

SAR Measurement at LTE band 17 (Cheek, Right)

Date of measurement: 5/4/2024

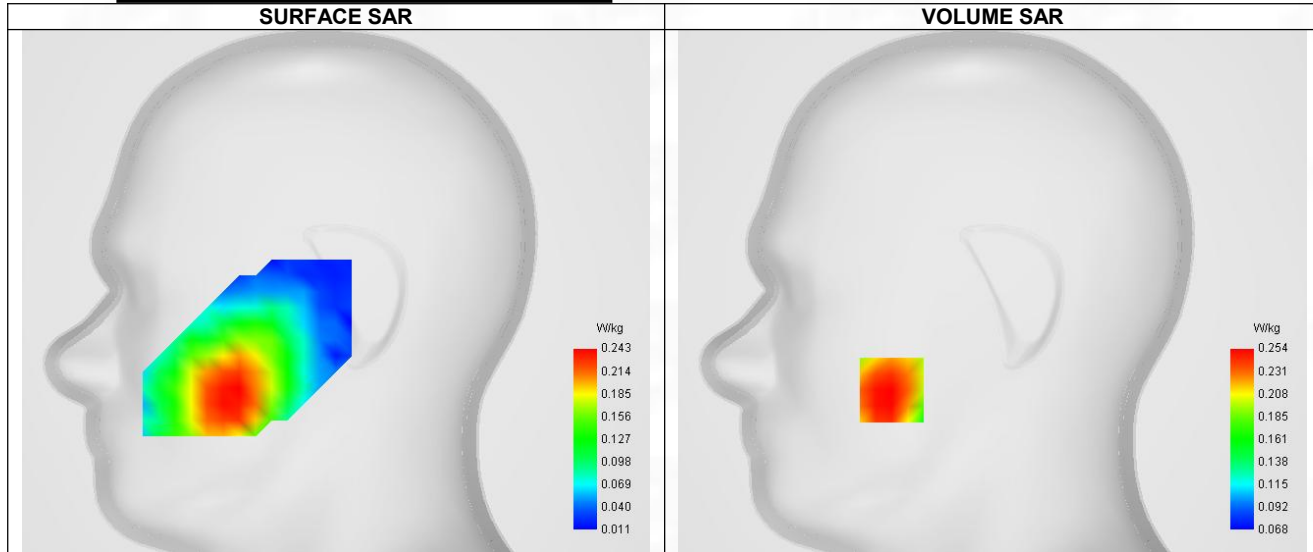
A. Experimental conditions.

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	Right head
Device Position	Cheek
Band	LTE band 17
Channels	Higher (23800)
Signal	LTE FDD
Cell Bandwidth	10 Mhz
Modulation	SC-OFDM - QPSK
RB offset	0
RB size	1

B. Permittivity

Frequency (MHz)	706.590
Relative permittivity (real part)	41.999
Relative permittivity (imaginary part)	22.466
Conductivity (S/m)	0.855

C. SAR Surface and Volume



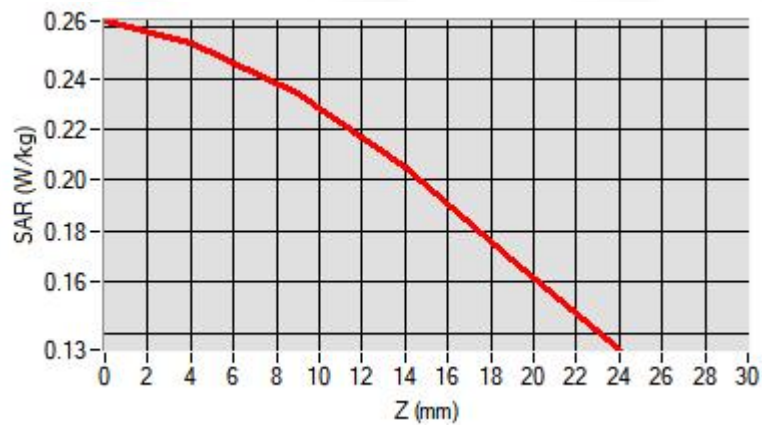
Maximum location: X=-50.00, Y=-49.00 ; SAR Peak: 0.28 W/kg

D. SAR 1g & 10g

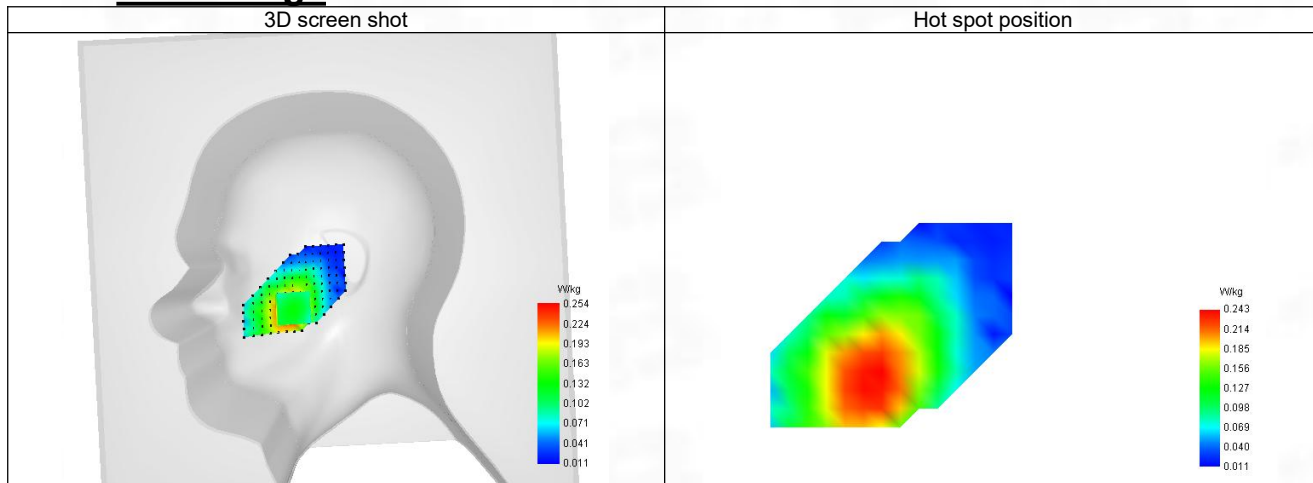
SAR 10g (W/Kg)	0.207
SAR 1g (W/Kg)	0.252
Variation (%)	0.940

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.263	0.254	0.234	0.205	0.169



F. 3D Image



20-Body with back position in dist. 10mm on Channel 23800 in LTE band 17

SAR Measurement at LTE band 17 (Body, Validation Plane)

Date of measurement: 5/4/2024

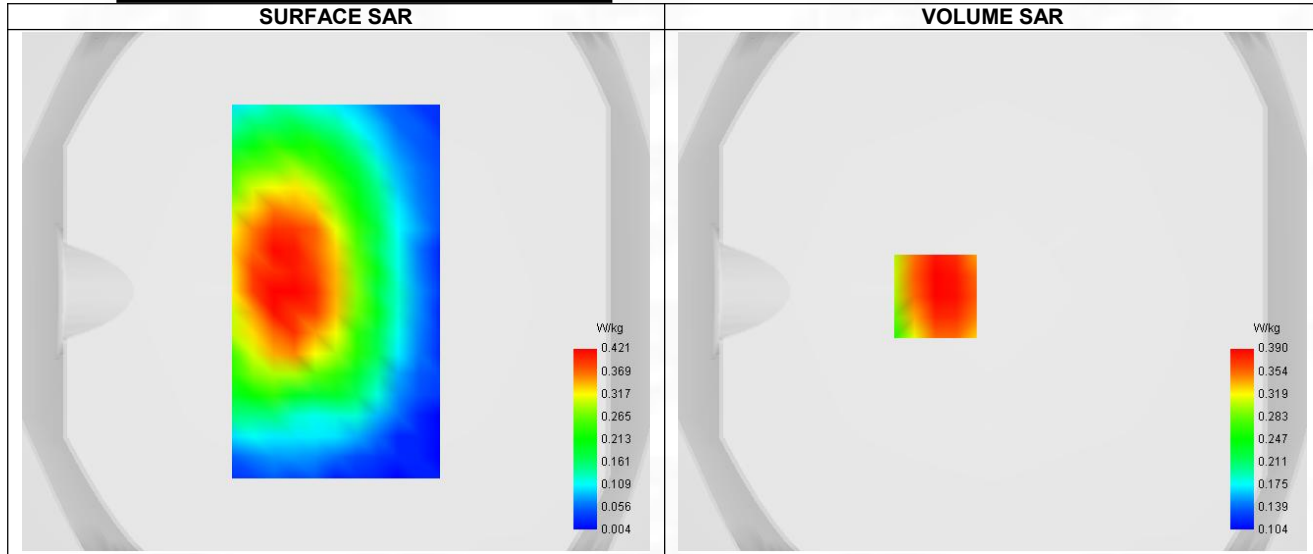
A. Experimental conditions.

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	Body
Band	LTE band 17
Channels	Higher (23800)
Signal	LTE FDD
Cell Bandwidth	10 Mhz
Modulation	SC-OFDM - QPSK
RB offset	0
RB size	1

B. Permittivity

Frequency (MHz)	706.590
Relative permittivity (real part)	41.999
Relative permittivity (imaginary part)	22.466
Conductivity (S/m)	0.855

C. SAR Surface and Volume

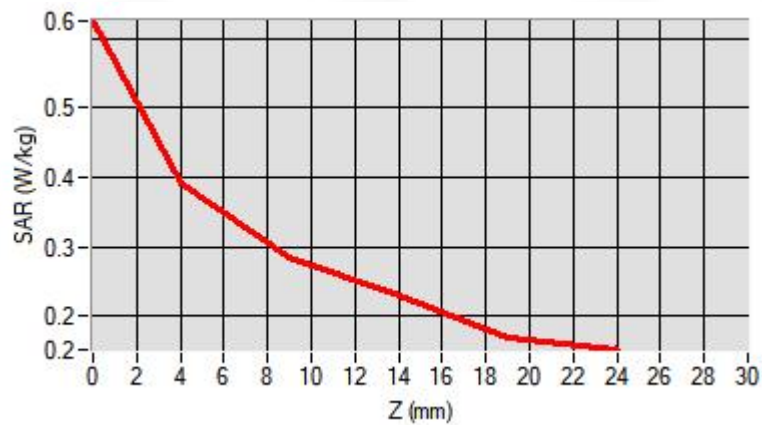


D. SAR 1g & 10g

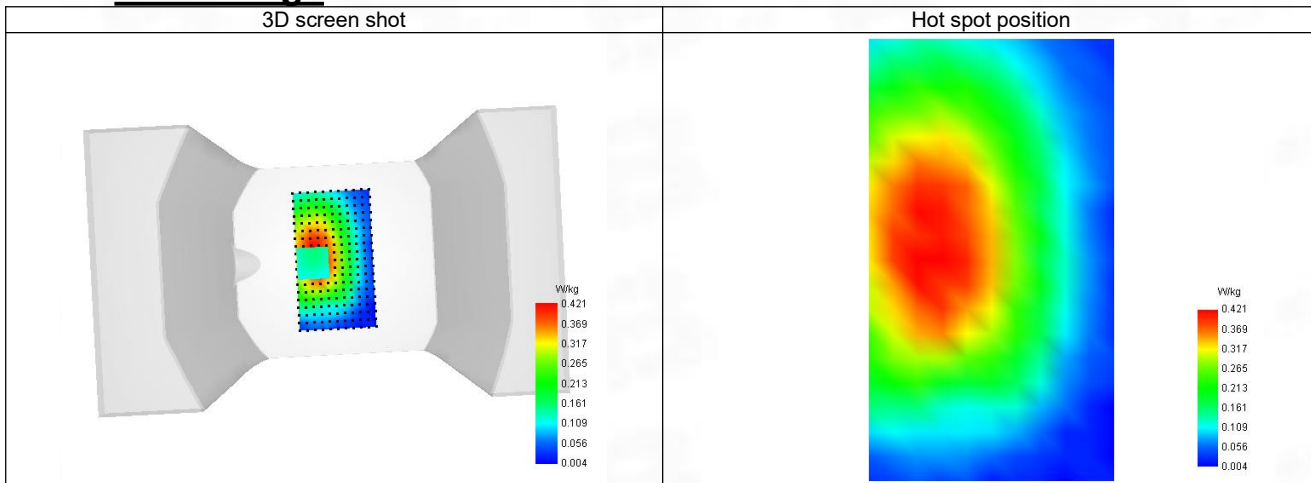
SAR 10g (W/Kg)	0.283
SAR 1g (W/Kg)	0.380
Variation (%)	-1.350

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.625	0.390	0.284	0.230	0.170



F. 3D Image



21-Head with front position in dist. 0mm on Channel 27710 in LTE band 30

SAR Measurement at LTE band 30 (Cheek, Right)

Date of measurement: 11/4/2024

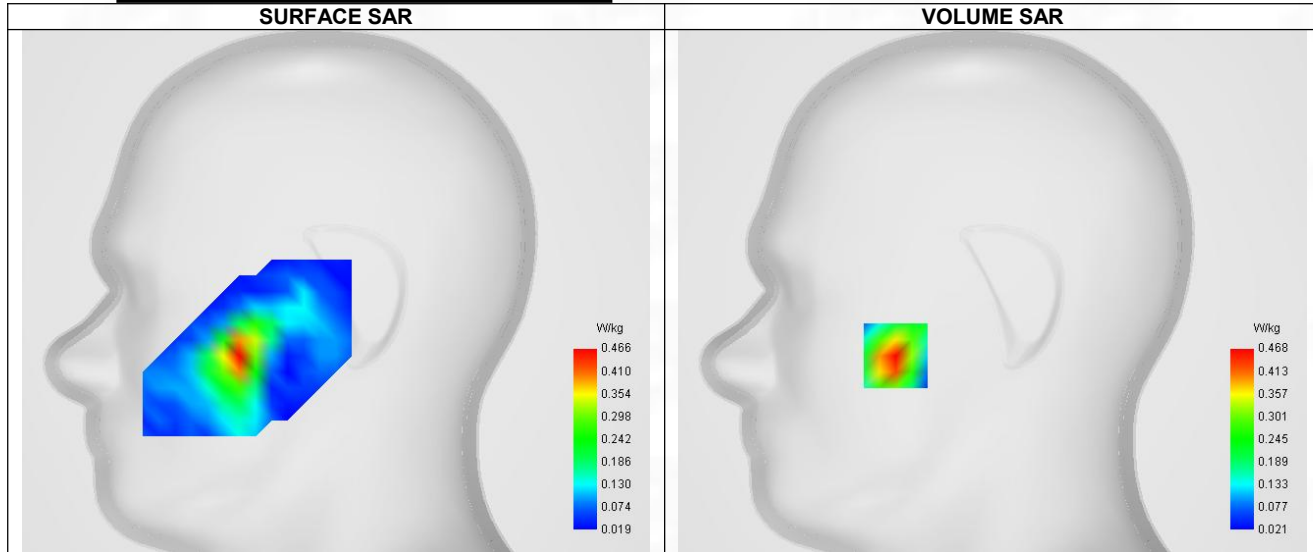
A. Experimental conditions.

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	Right head
Device Position	Cheek
Band	LTE band 30
Channels	Lower (27710)
Signal	LTE FDD
Cell Bandwidth	10 Mhz
Modulation	SC-OFDM - QPSK
RB offset	24
RB size	1

B. Permittivity

Frequency (MHz)	2309.910
Relative permittivity (real part)	39.284
Relative permittivity (imaginary part)	13.350
Conductivity (S/m)	1.708

C. SAR Surface and Volume

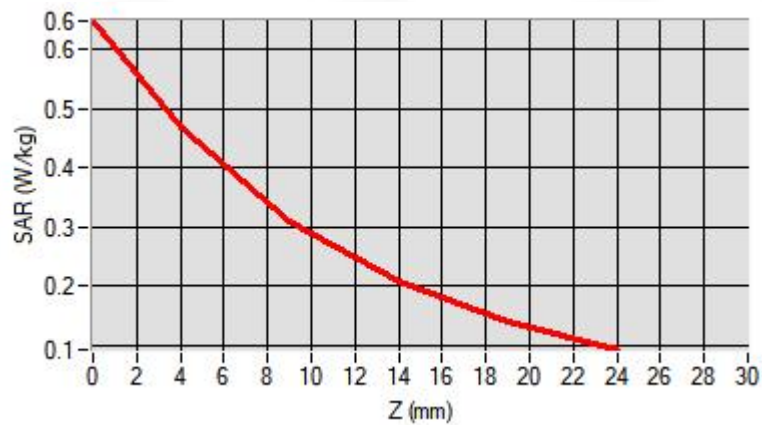


D. SAR 1g & 10g

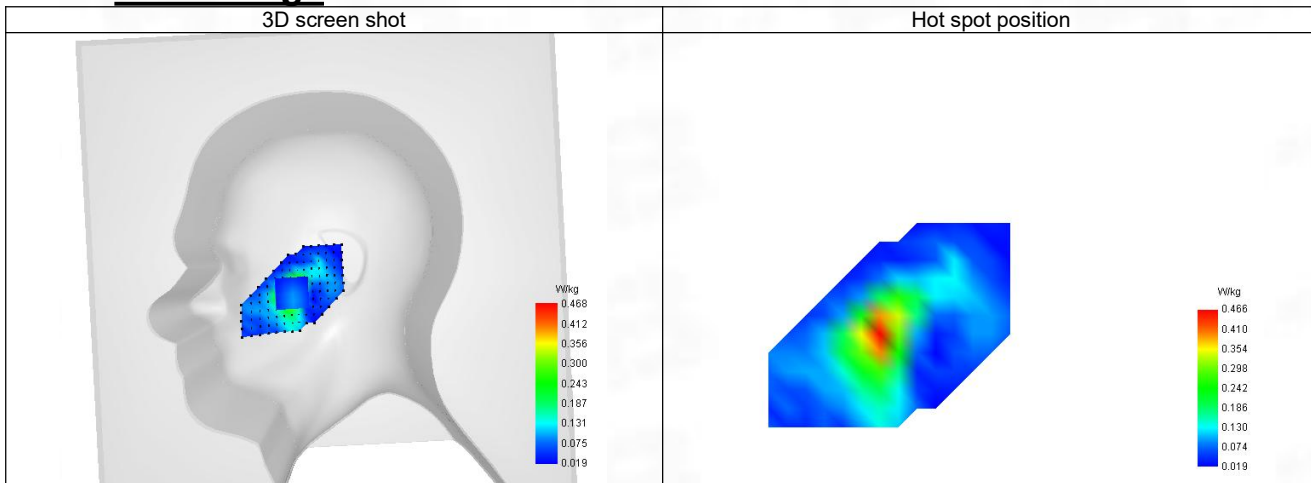
SAR 10g (W/Kg)	0.245
SAR 1g (W/Kg)	0.445
Variation (%)	-1.060

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.647	0.468	0.310	0.207	0.140



F. 3D Image



22-Body with front position in dist. 10mm on Channel 27710 in LTE band 30

SAR Measurement at LTE band 30 (Body, Validation Plane)

Date of measurement: 11/4/2024

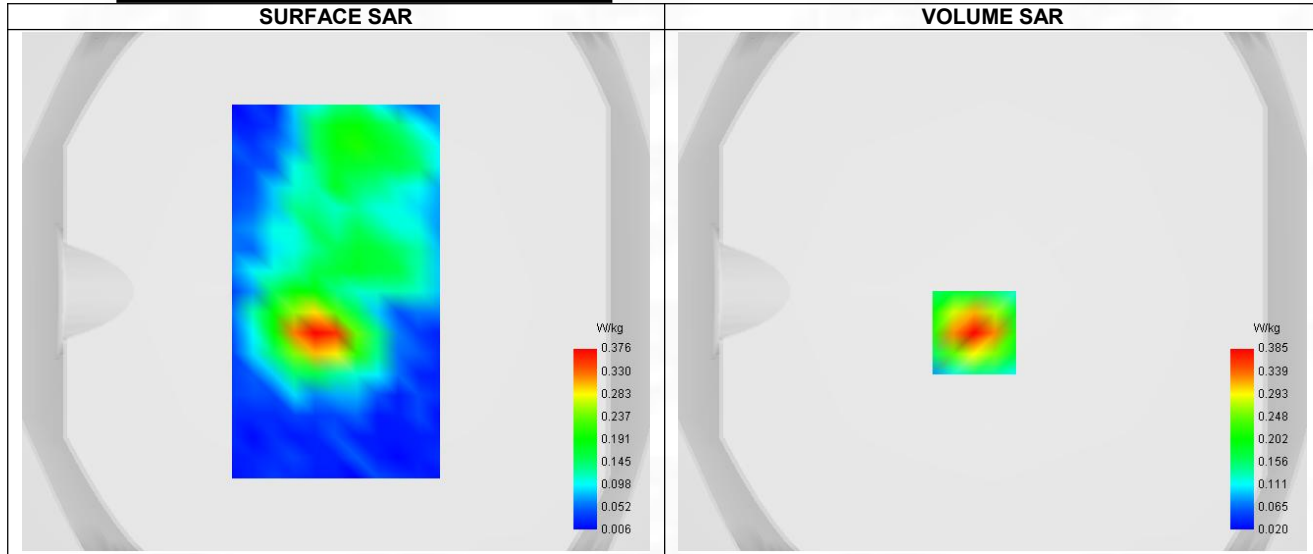
A. Experimental conditions.

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	Body
Band	LTE band 30
Channels	Middle (27710)
Signal	LTE FDD
Cell Bandwidth	10 Mhz
Modulation	SC-OFDM - QPSK
RB offset	24
RB size	1

B. Permittivity

Frequency (MHz)	2309.910
Relative permittivity (real part)	39.284
Relative permittivity (imaginary part)	13.350
Conductivity (S/m)	1.708

C. SAR Surface and Volume

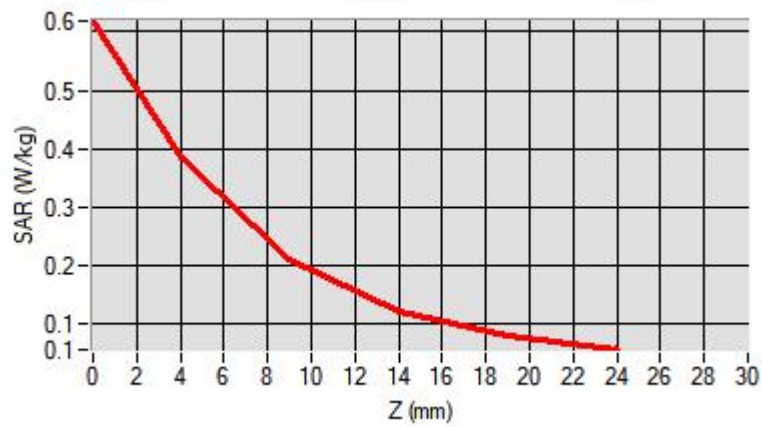


D. SAR 1g & 10g

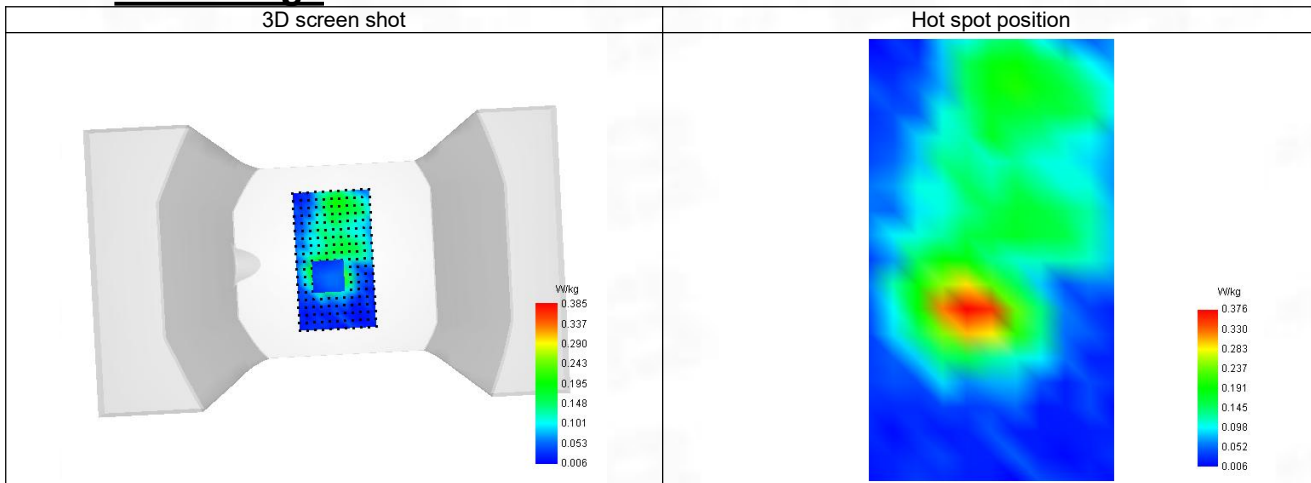
SAR 10g (W/Kg)	0.192
SAR 1g (W/Kg)	0.363
Variation (%)	-4.300

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.619	0.385	0.210	0.121	0.079



F. 3D Image



23-Head with front position in dist. 0mm on Channel 41090 in LTE band 41

SAR Measurement at LTE band 41 (Cheek, Right)

Date of measurement: 15/4/2024

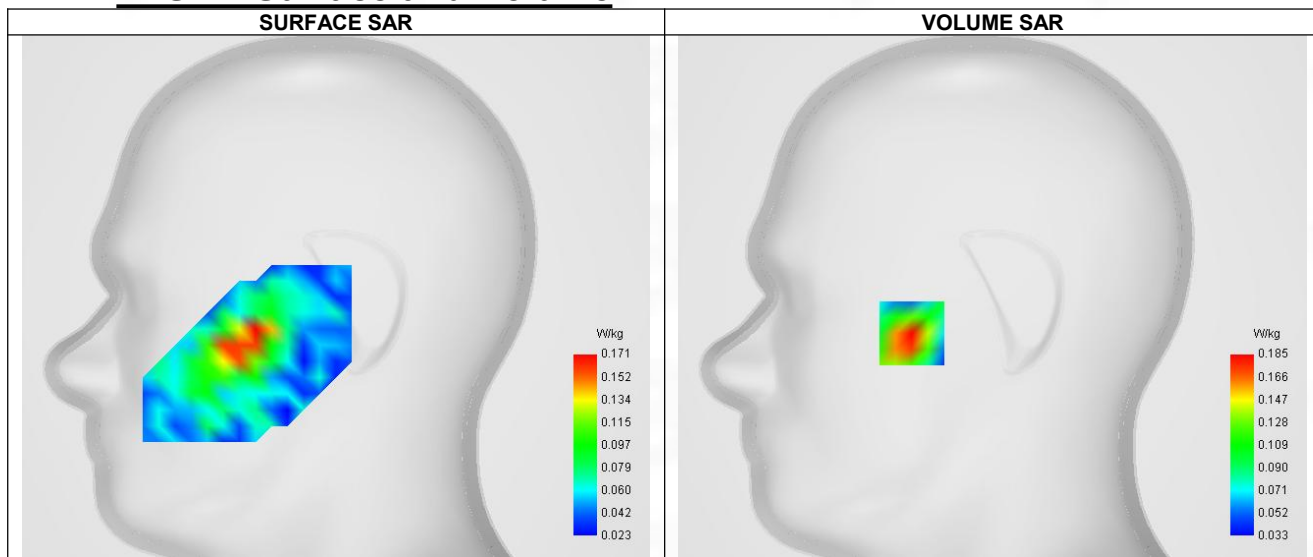
A. Experimental conditions.

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	Right head
Device Position	Cheek
Band	LTE band 41
Channels	Higher (41090)
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)	2640.090
Relative permittivity (real part)	38.834
Relative permittivity (imaginary part)	12.745
Conductivity (S/m)	2.012

C. SAR Surface and Volume



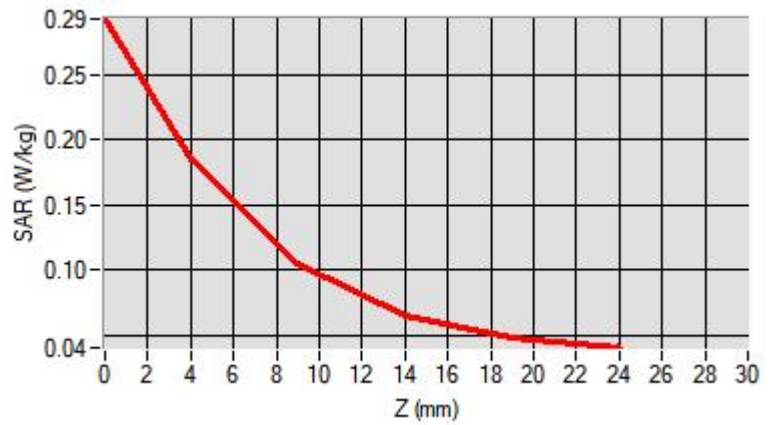
Maximum location: X=-40.00, Y=-18.00 ; SAR Peak: 0.31 W/kg

D. SAR 1g & 10g

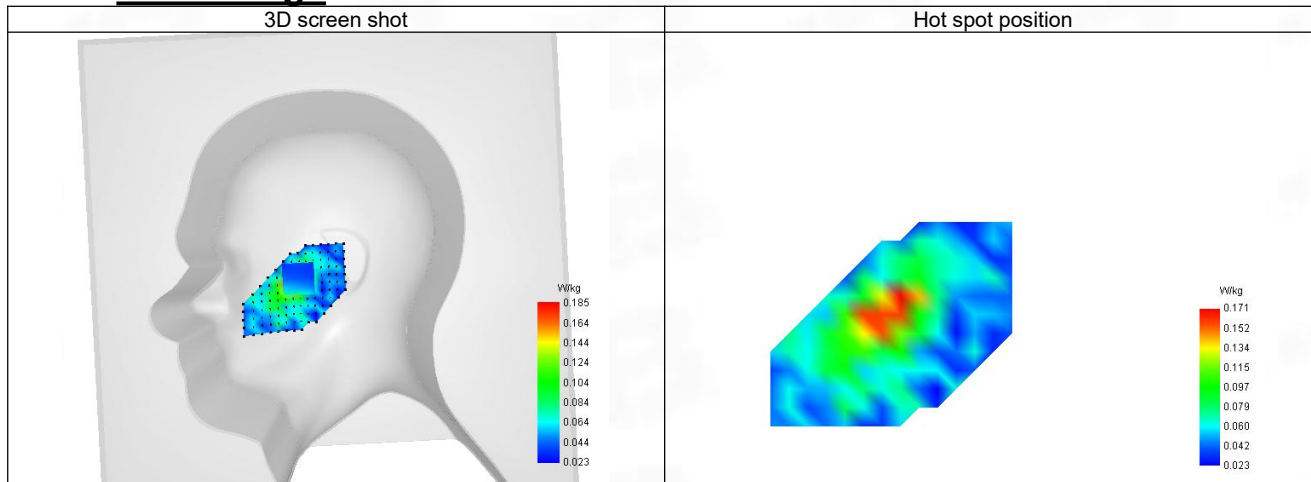
SAR 10g (W/Kg)	0.100
SAR 1g (W/Kg)	0.177
Variation (%)	-2.480

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.292	0.185	0.105	0.065	0.049



F. 3D Image



24-Body with front position in dist. 10mm on Channel 41090 in LTE band 41

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

Date of measurement: 15/4/2024

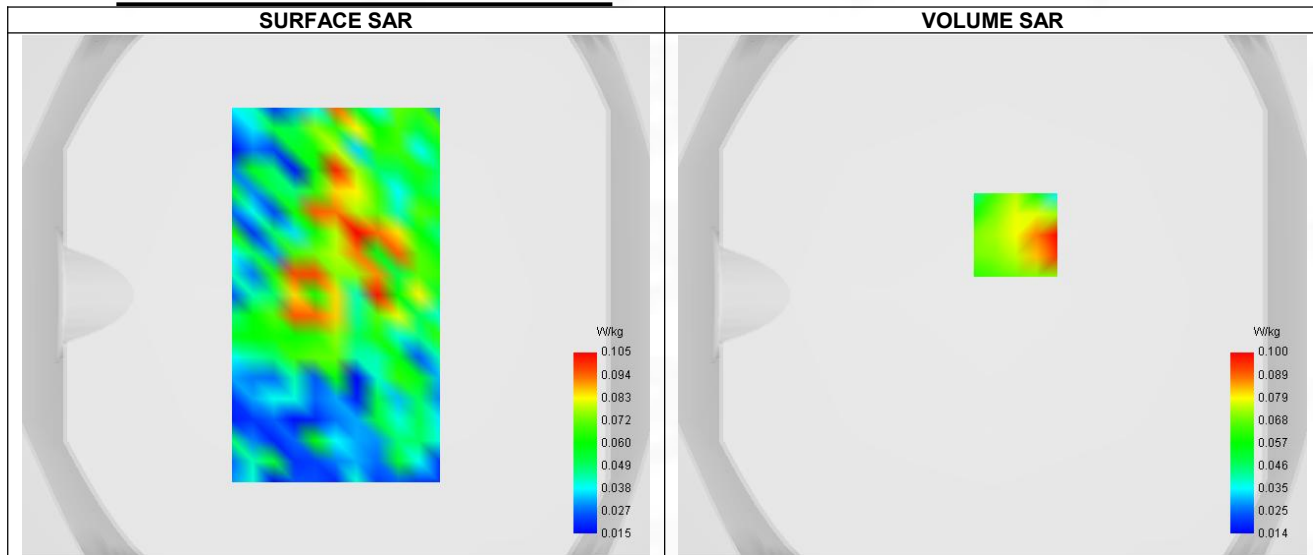
A. Experimental conditions.

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	Body
Band	LTE band 41
Channels	Higher (41090)
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)	2640.090
Relative permittivity (real part)	38.834
Relative permittivity (imaginary part)	12.745
Conductivity (S/m)	2.012

C. SAR Surface and Volume



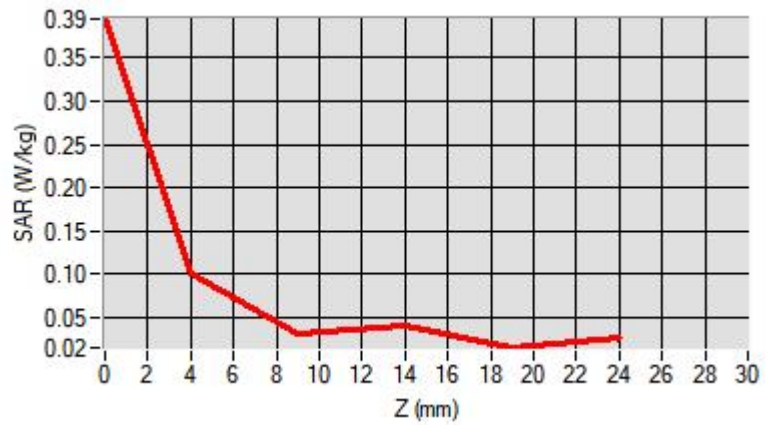
Maximum location: X=9.00, Y=23.00 ; SAR Peak: 0.16 W/kg

D. SAR 1g & 10g

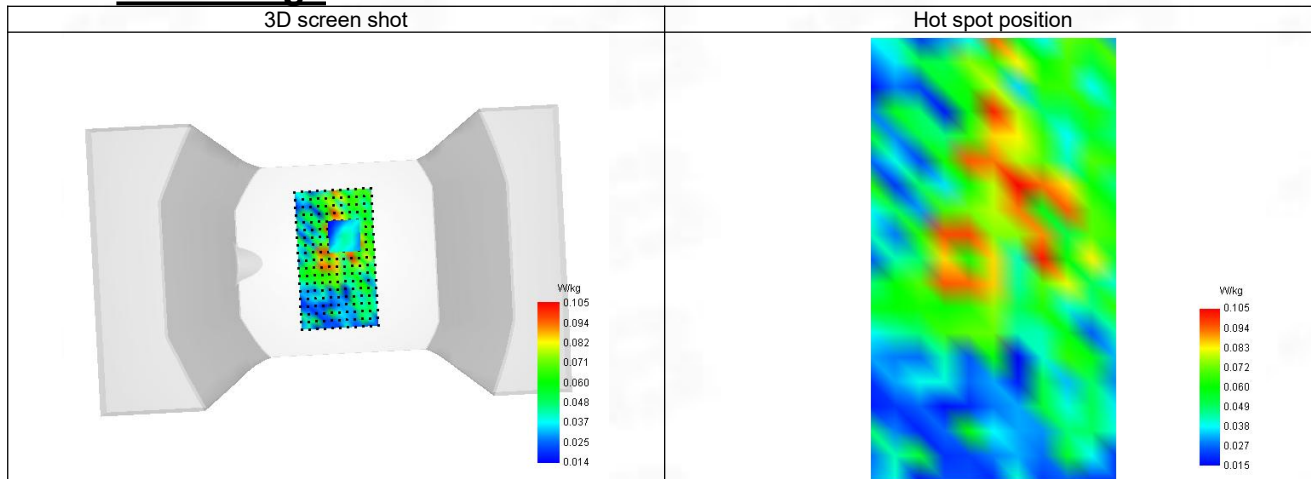
SAR 10g (W/Kg)	0.061
SAR 1g (W/Kg)	0.091
Variation (%)	-1.210

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.395	0.100	0.033	0.040	0.016



F. 3D Image



25-Head with front position in dist. 0mm on Channel 132572 in LTE band 66

SAR Measurement at LTE band 66 (Cheek, Right)

Date of measurement: 9/4/2024

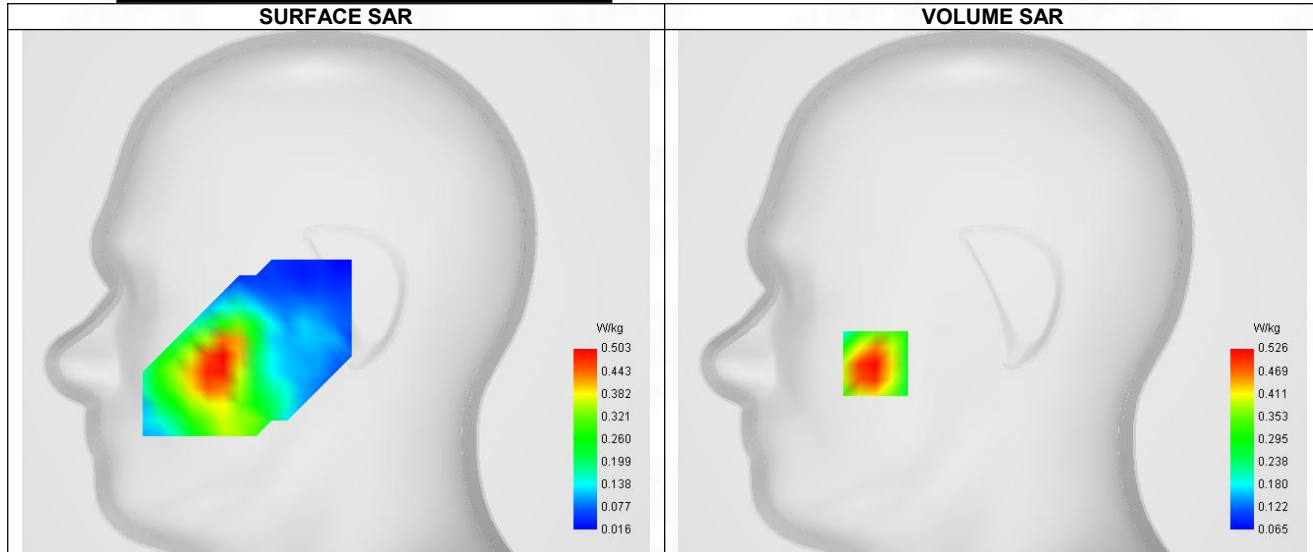
A. Experimental conditions.

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	Right head
Device Position	Cheek
Band	LTE band 66
Channels	Higher (132572)
Signal	LTE FDD
Cell Bandwidth	20 Mhz
Modulation	SC-OFDM - QPSK
RB offset	50
RB size	1

B. Permittivity

Frequency (MHz)	1770.090
Relative permittivity (real part)	39.956
Relative permittivity (imaginary part)	14.257
Conductivity (S/m)	1.355

C. SAR Surface and Volume



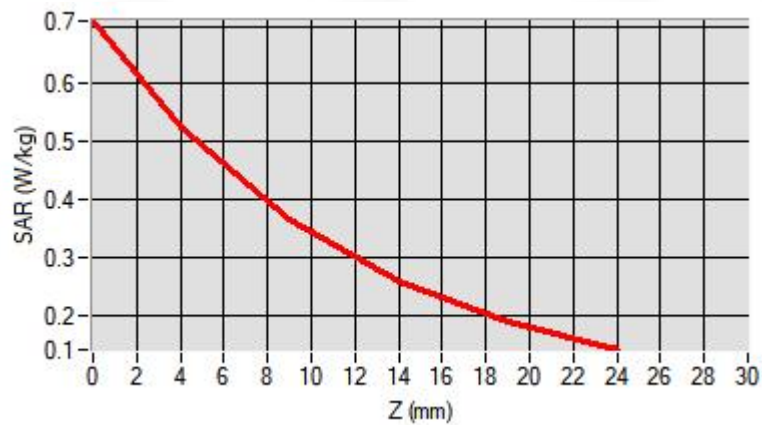
Maximum location: X=-58.00, Y=-36.00 ; SAR Peak: 0.72 W/kg

D. SAR 1g & 10g

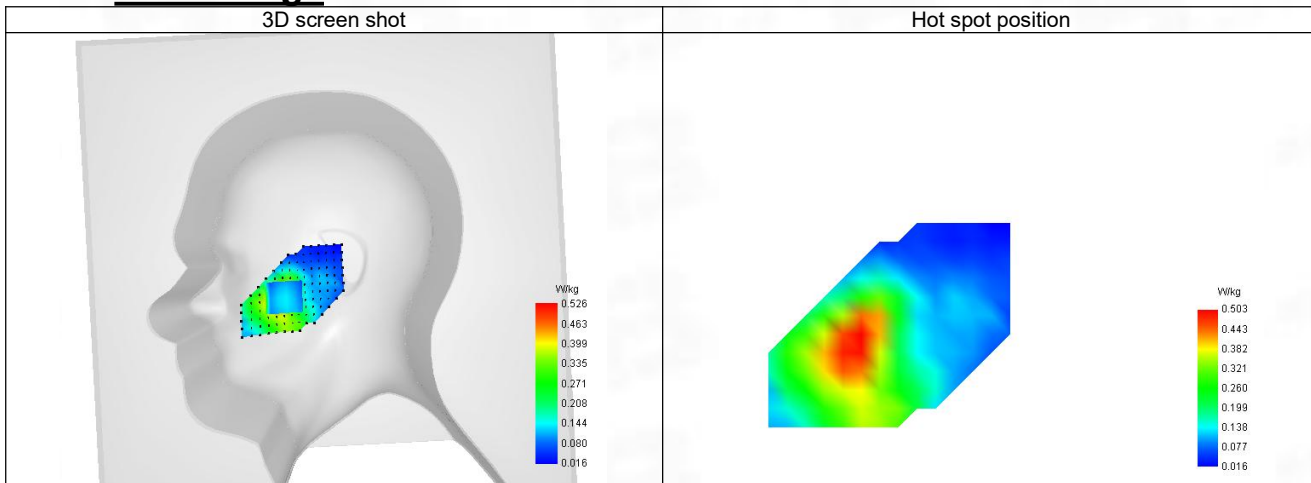
SAR 10g (W/Kg)	0.327
SAR 1g (W/Kg)	0.505
Variation (%)	4.580

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.709	0.526	0.364	0.258	0.189



F. 3D Image



26-Body with front position in dist. 10mm on Channel 132572 in LTE band 66

SAR Measurement at LTE band 66 (Body, Validation Plane)

Date of measurement: 9/4/2024

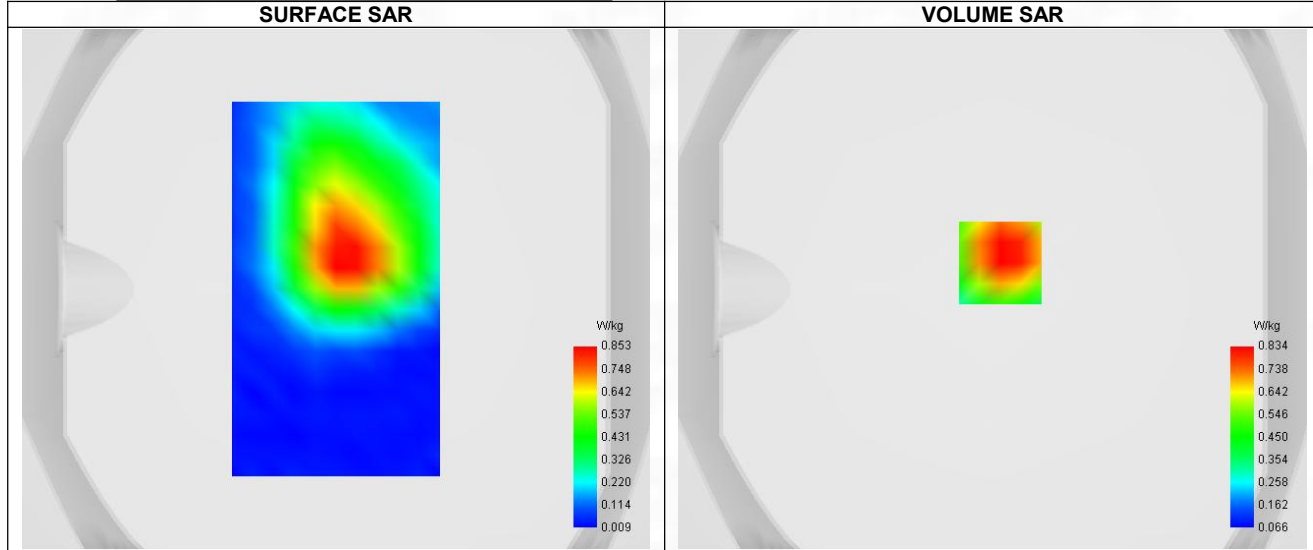
A. Experimental conditions.

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	Body
Band	LTE band 66
Channels	Higher (132572)
Signal	LTE FDD
Cell Bandwidth	20 Mhz
Modulation	SC-OFDM - QPSK
RB offset	50
RB size	1

B. Permittivity

Frequency (MHz)	1770.090
Relative permittivity (real part)	39.956
Relative permittivity (imaginary part)	14.257
Conductivity (S/m)	1.355

C. SAR Surface and Volume



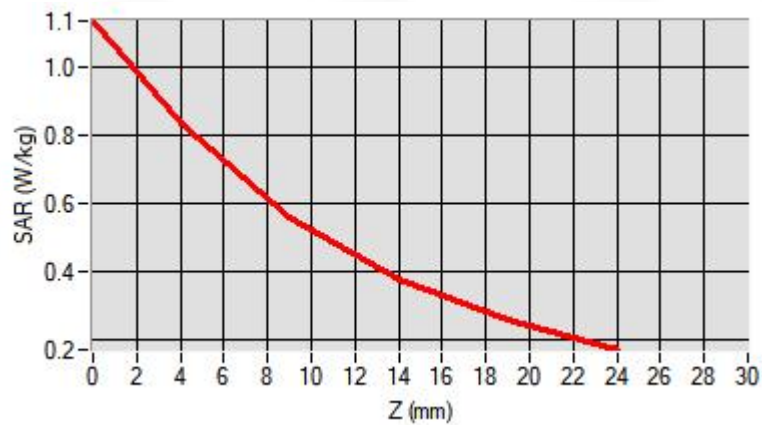
Maximum location: X=3.00, Y=10.00 ; SAR Peak: 1.16 W/kg

D. SAR 1g & 10g

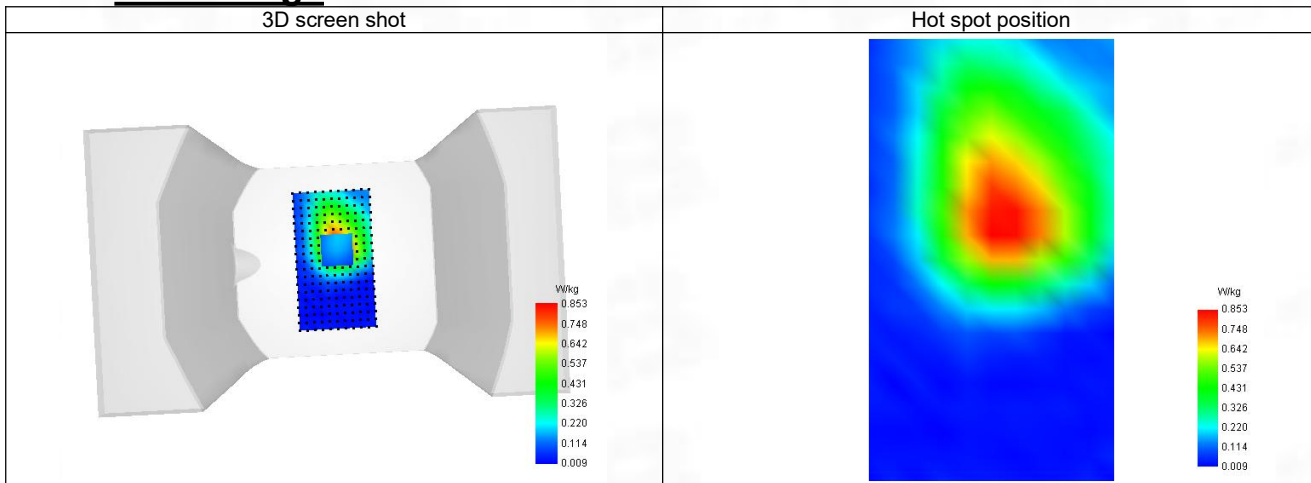
SAR 10g (W/Kg)	0.326
SAR 1g (W/Kg)	0.708
Variation (%)	-3.840

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	1.136	0.834	0.561	0.379	0.258



F. 3D Image



27-Head with front position in dist. 0mm on Channel 133222 in LTE band 71

SAR Measurement at LTE band 71 (Cheek, Right)

Date of measurement: 5/4/2024

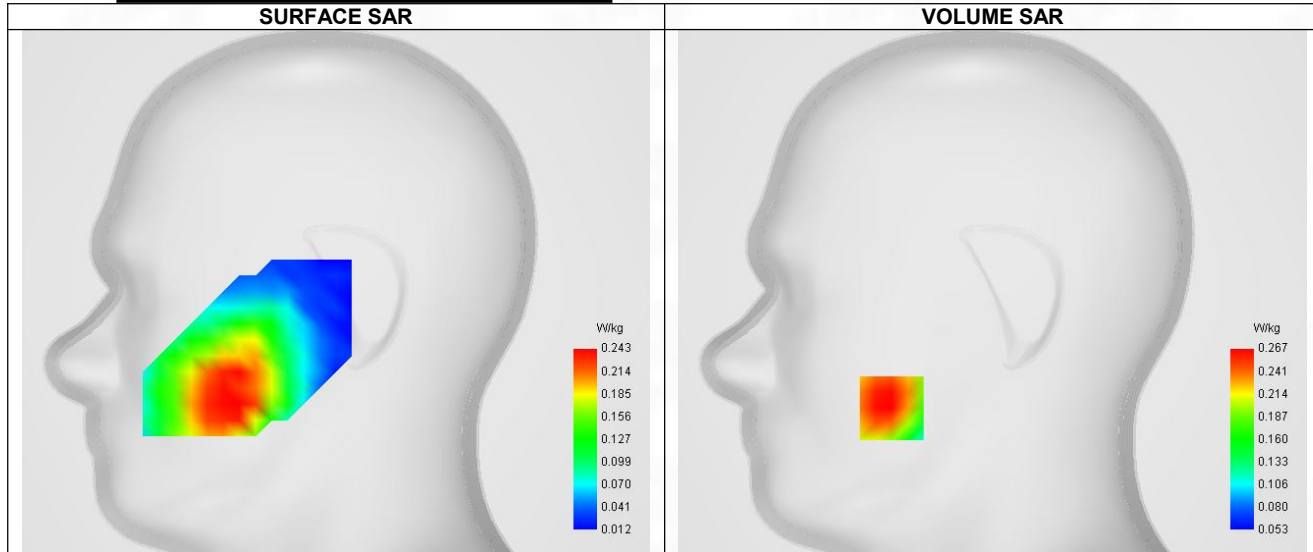
A. Experimental conditions.

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	Right head
Device Position	Cheek
Band	LTE band 71
Channels	Lower (133222)
Signal	LTE FDD
Cell Bandwidth	20 Mhz
Modulation	SC-OFDM - QPSK
RB offset	50
RB size	1

B. Permittivity

Frequency (MHz)	673.090
Relative permittivity (real part)	42.153
Relative permittivity (imaginary part)	23.243
Conductivity (S/m)	0.851

C. SAR Surface and Volume



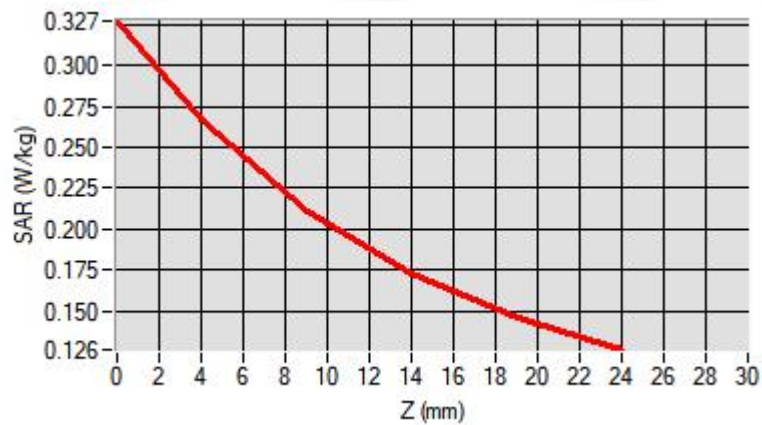
Maximum location: X=-50.00, Y=-58.00 ; SAR Peak: 0.33 W/kg

D. SAR 1g & 10g

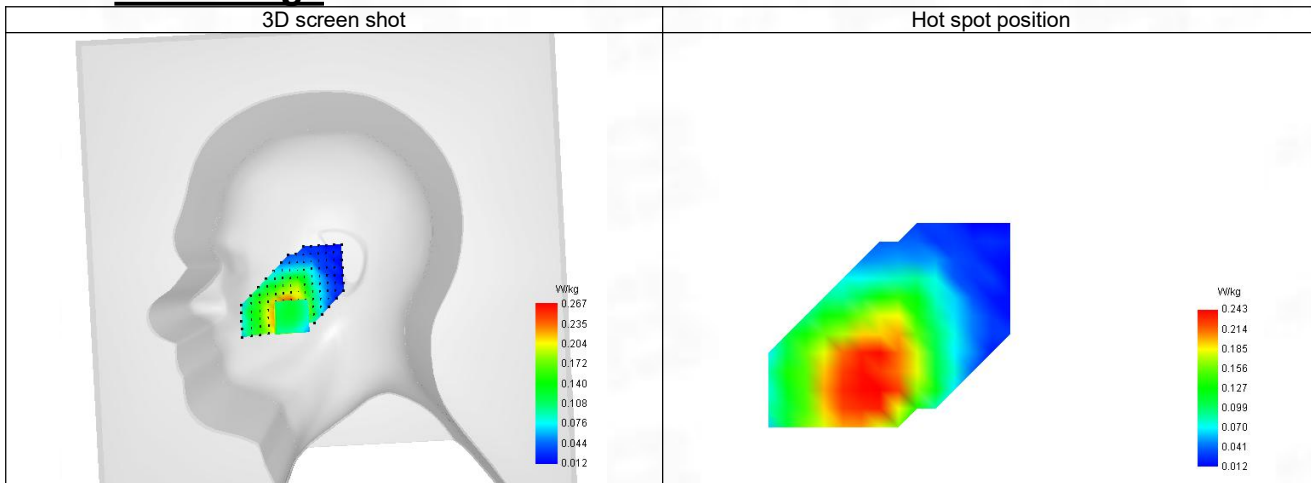
SAR 10g (W/Kg)	0.203
SAR 1g (W/Kg)	0.263
Variation (%)	-1.660

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.327	0.267	0.211	0.173	0.146



F. 3D Image



28-Body with back position in dist. 10mm on Channel 133222 in LTE band 71

SAR Measurement at LTE band 71 (Body, Validation Plane)

Date of measurement: 5/4/2024

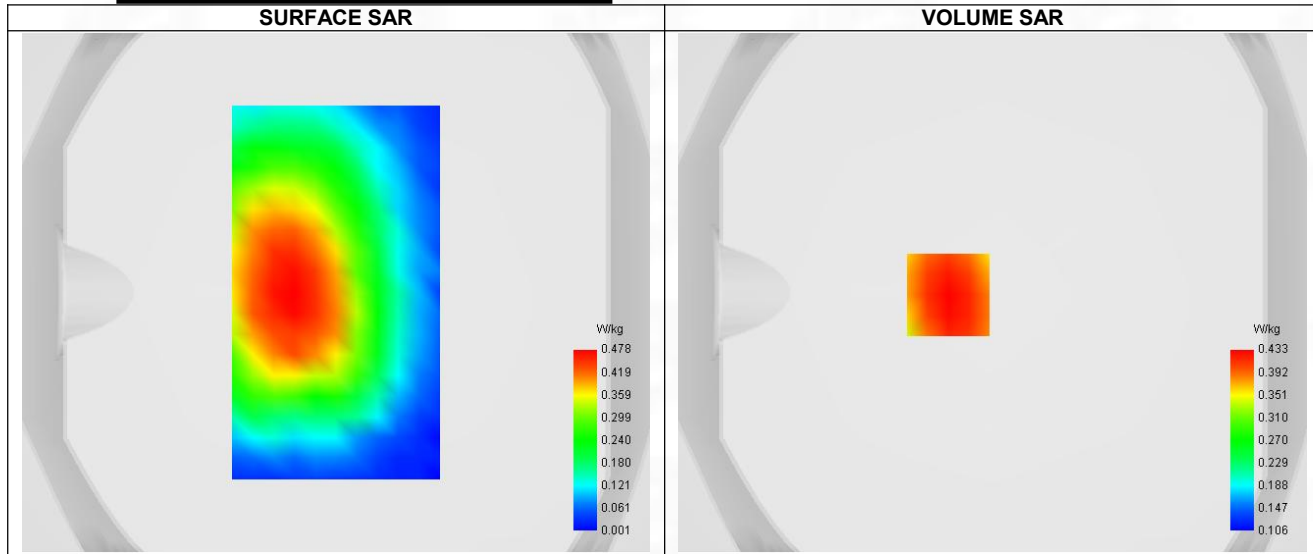
A. Experimental conditions.

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	Body
Band	LTE band 71
Channels	Lower (133222)
Signal	LTE FDD
Cell Bandwidth	20 Mhz
Modulation	SC-OFDM - QPSK
RB offset	50
RB size	1

B. Permittivity

Frequency (MHz)	673.090
Relative permittivity (real part)	42.153
Relative permittivity (imaginary part)	23.243
Conductivity (S/m)	0.851

C. SAR Surface and Volume



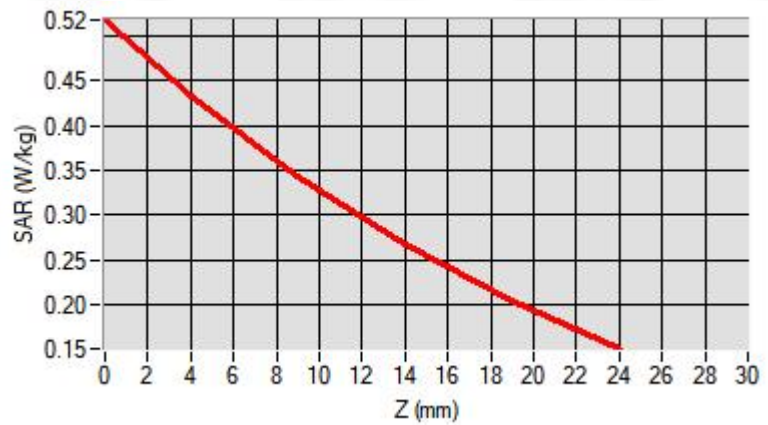
Maximum location: X=-17.00, Y=-1.00 ; SAR Peak: 0.56 W/kg

D. SAR 1g & 10g

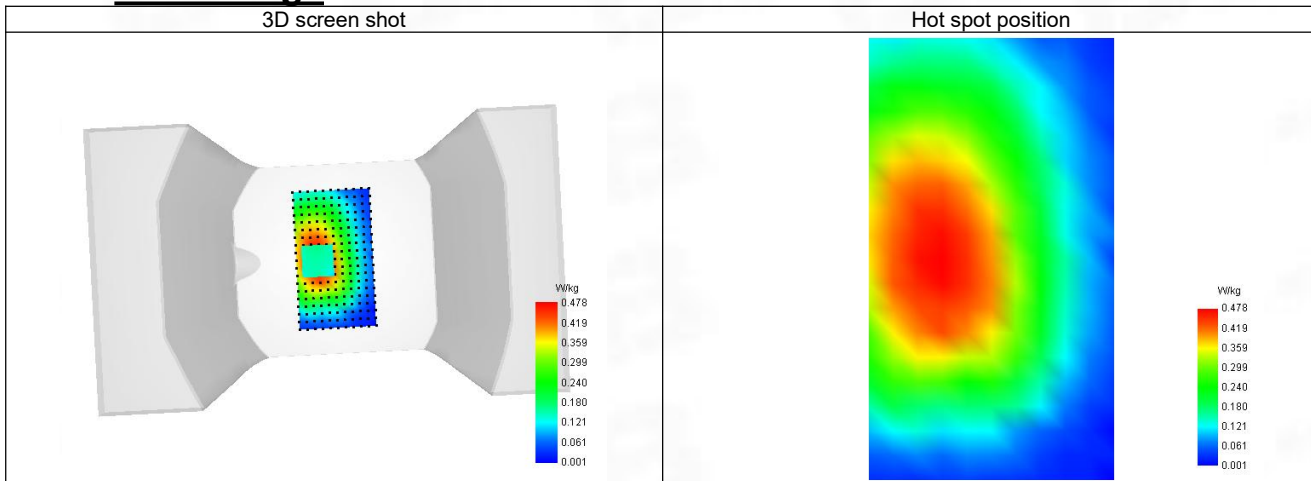
SAR 10g (W/Kg)	0.317
SAR 1g (W/Kg)	0.423
Variation (%)	-2.700

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.517	0.433	0.342	0.267	0.204



F. 3D Image



29-Head with front position in dist. 0mm on Channel 1 in IEEE 802.11b ISM

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

Date of measurement: 12/4/2024

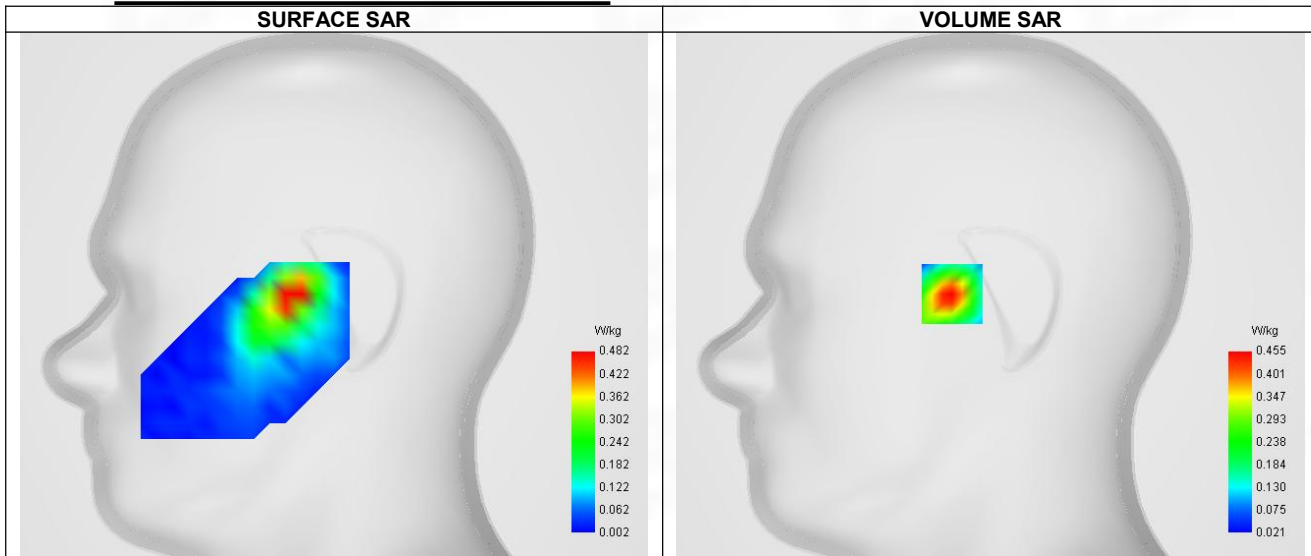
A. Experimental conditions.

Probe	SN 04/22 EPG0365
ConvF	2.36
Area Scan	dx=8mm dy=8mm, Adaptive 1 max
Zoom Scan	7x7x7, dx=5mm dy=5mm dz=5mm, Complete
Phantom	Right head
Device Position	Cheek
Band	IEEE 802.11b ISM
Channels	Lower (1)
Signal	IEEE 802.11

B. Permittivity

Frequency (MHz)	2412.000
Relative permittivity (real part)	39.135
Relative permittivity (imaginary part)	13.343
Conductivity (S/m)	1.782

C. SAR Surface and Volume



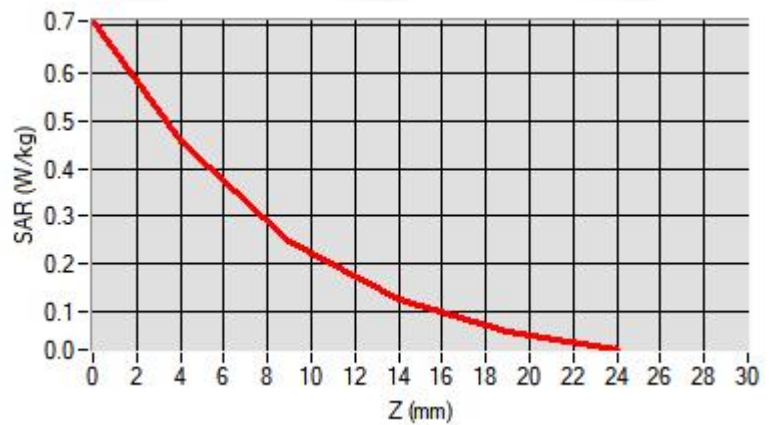
Maximum location: X=-19.00, Y=0.00 ; SAR Peak: 0.71 W/kg

D. SAR 1g & 10g

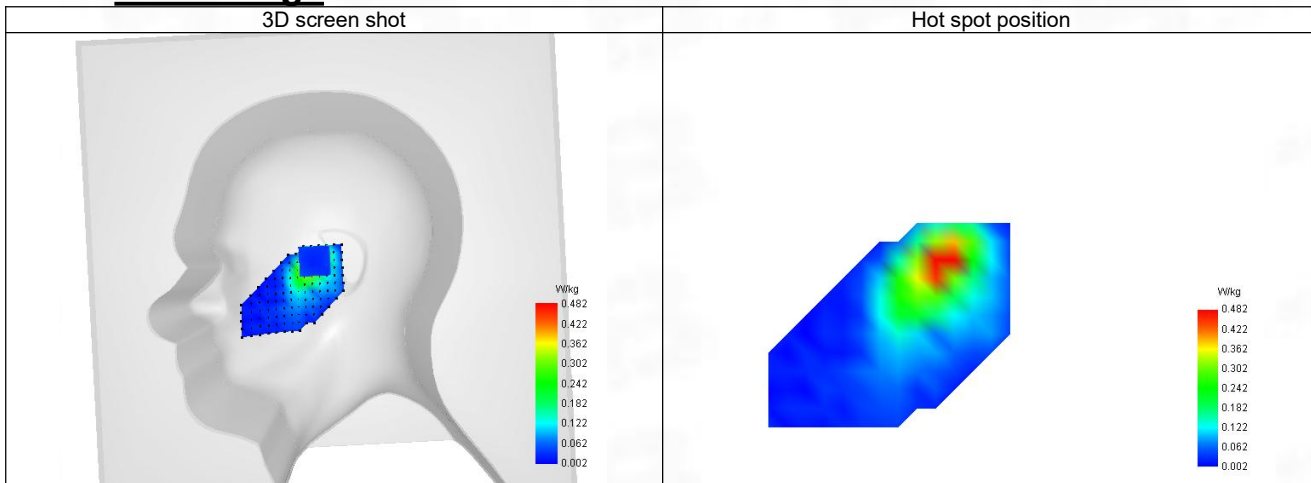
SAR 10g (W/Kg)	0.208
SAR 1g (W/Kg)	0.415
Variation (%)	2.510

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.708	0.455	0.249	0.127	0.059



F. 3D Image



30-Body with back position in dist. 10mm on Channel 1 in IEEE 802.11b ISM

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

Date of measurement: 12/4/2024

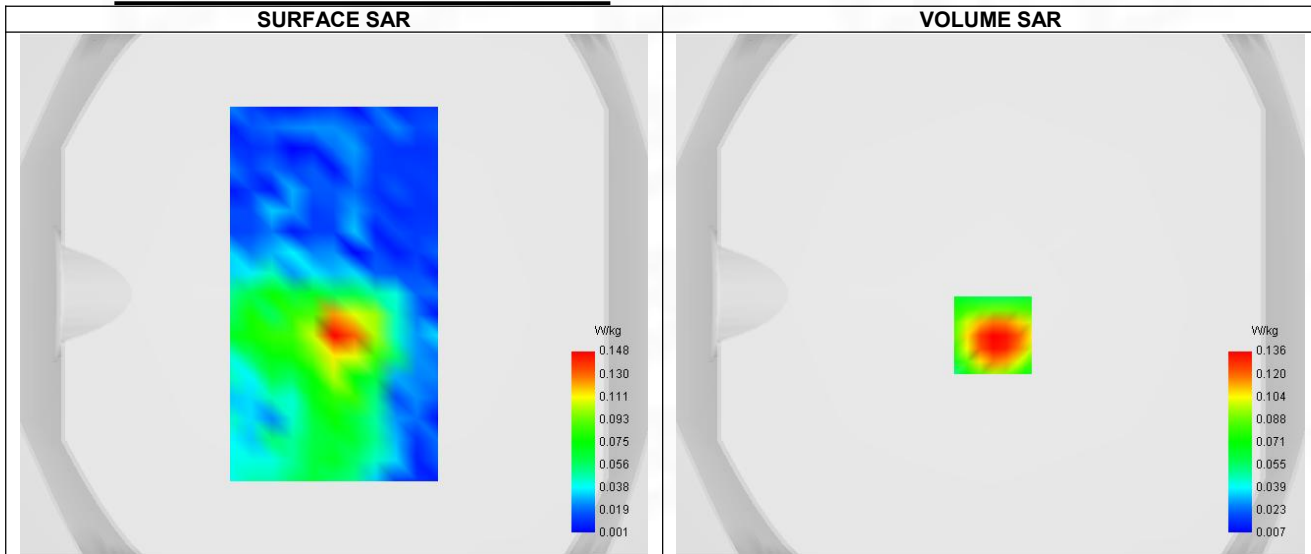
A. Experimental conditions.

Probe	SN 04/22 EPG0365
ConvF	2.36
Area Scan	dx=8mm dy=8mm, Adaptive 1 max
Zoom Scan	7x7x7, dx=5mm dy=5mm dz=5mm, Complete
Phantom	Validation plane
Device Position	Body
Band	IEEE 802.11b ISM
Channels	Lower (1)
Signal	IEEE 802.11

B. Permittivity

Frequency (MHz)	2412.000
Relative permittivity (real part)	39.135
Relative permittivity (imaginary part)	13.343
Conductivity (S/m)	1.782

C. SAR Surface and Volume

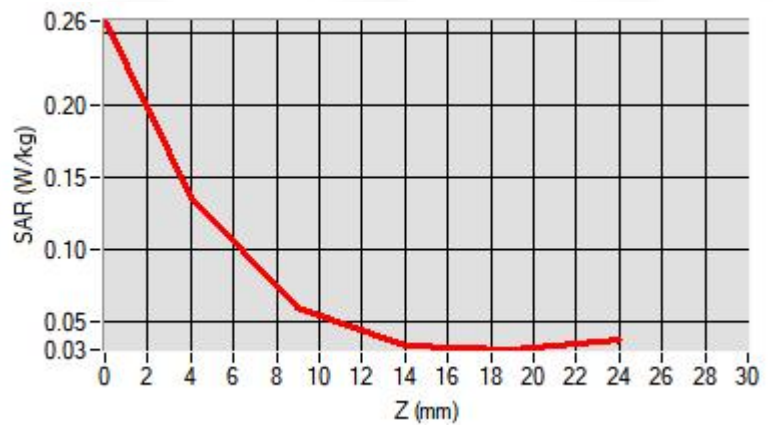


D. SAR 1g & 10g

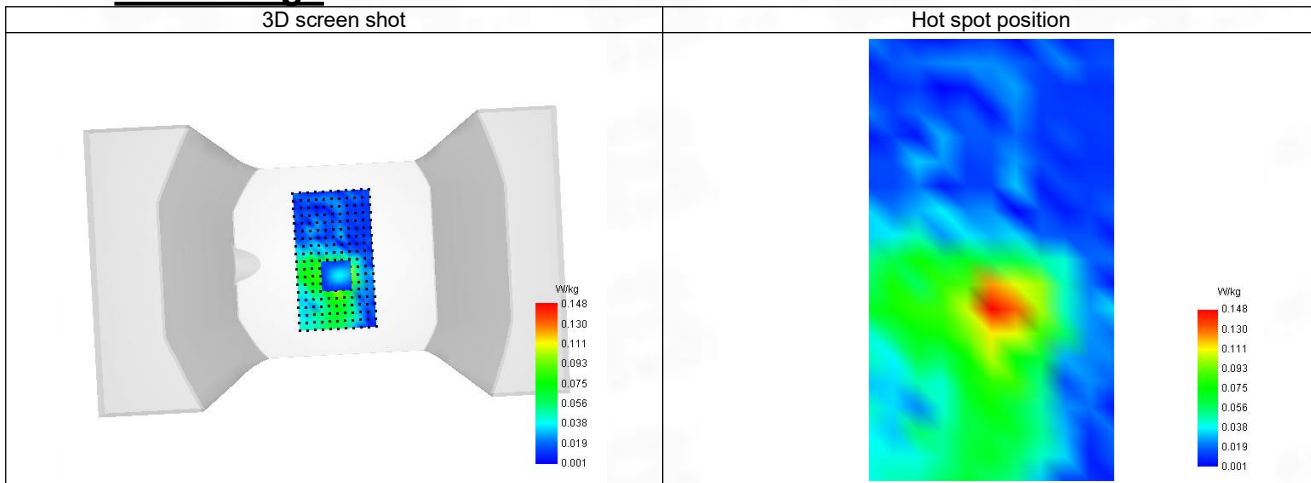
SAR 10g (W/Kg)	0.072
SAR 1g (W/Kg)	0.133
Variation (%)	3.490

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.259	0.136	0.060	0.033	0.030



F. 3D Image



31-Head with front position in dist. 0mm on Channel 0 in Bluetooth

SAR Measurement at Bluetooth (Cheek, Right)

Date of measurement: 12/4/2024

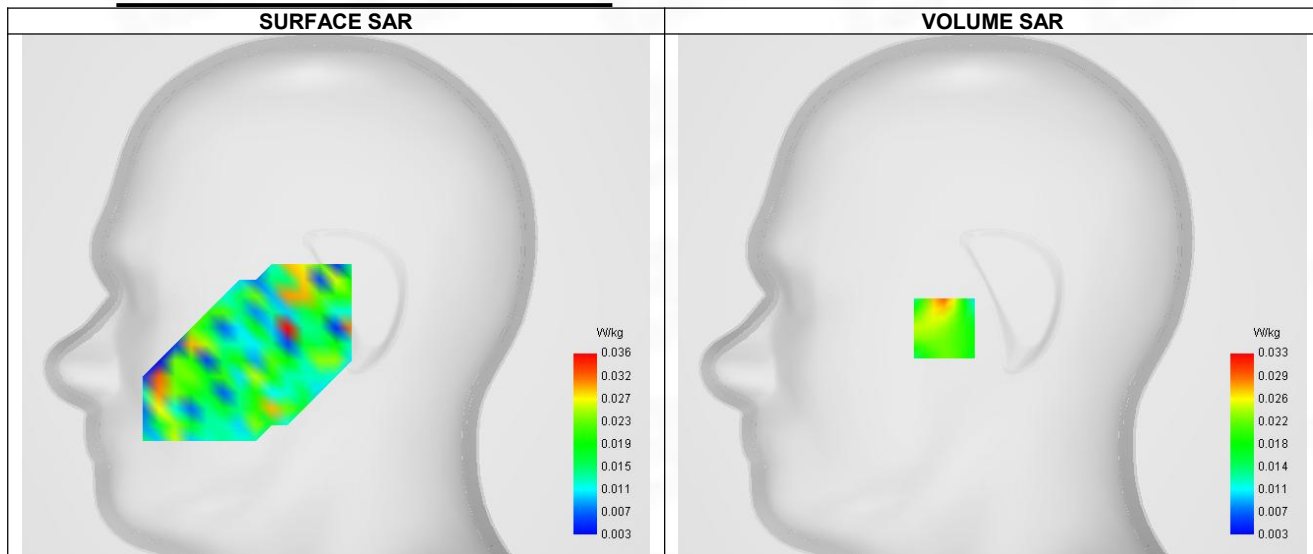
A. Experimental conditions.

Probe	SN 04/22 EPG0365
ConvF	2.36
Area Scan	dx=8mm dy=8mm, Adaptive 1 max
Zoom Scan	7x7x7, dx=5mm dy=5mm dz=5mm, Complete
Phantom	Right head
Device Position	Cheek
Band	Bluetooth
Channels	Lower (0)
Signal	Bluetooth

B. Permittivity

Frequency (MHz)	2402.000
Relative permittivity (real part)	39.150
Relative permittivity (imaginary part)	13.343
Conductivity (S/m)	1.775

C. SAR Surface and Volume



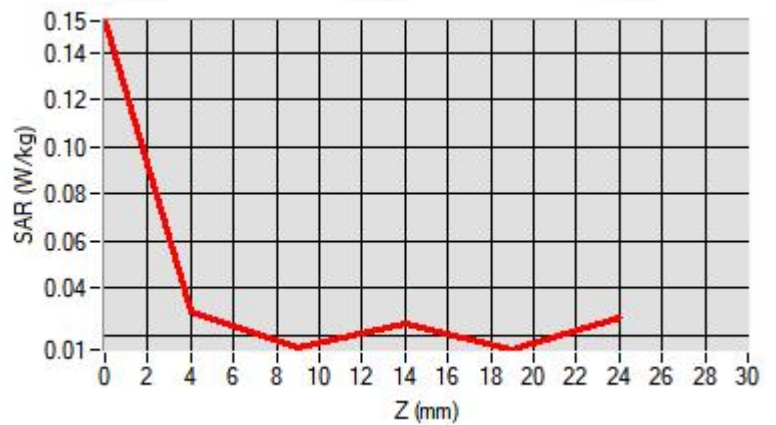
Maximum location: X=-24.00, Y=-16.00 ; SAR Peak: 0.04 W/kg

D. SAR 1g & 10g

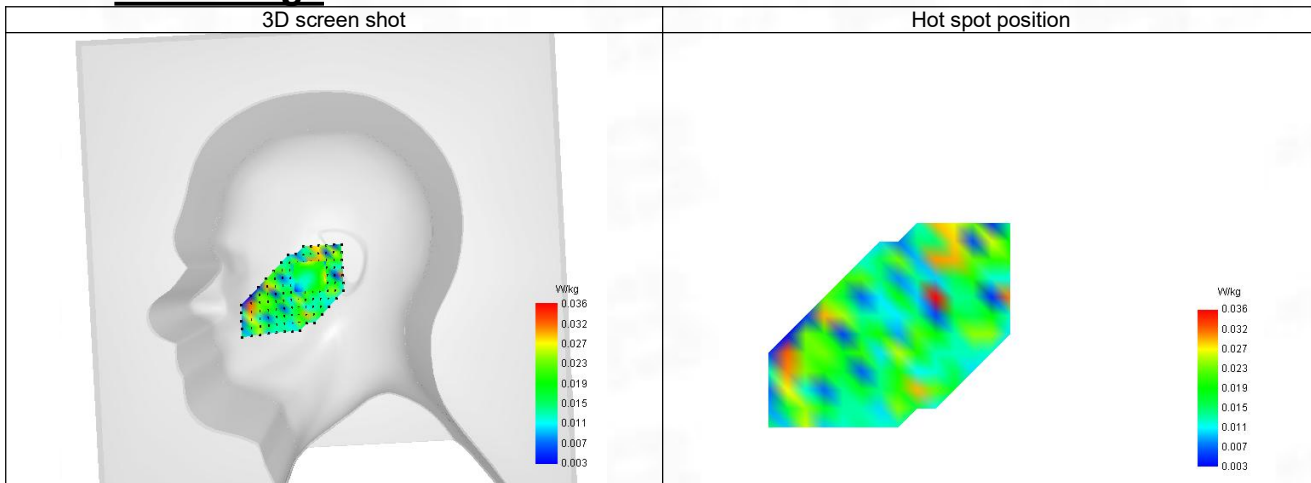
SAR 10g (W/Kg)	0.025
SAR 1g (W/Kg)	0.029
Variation (%)	4.040

E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.154	0.030	0.014	0.025	0.014

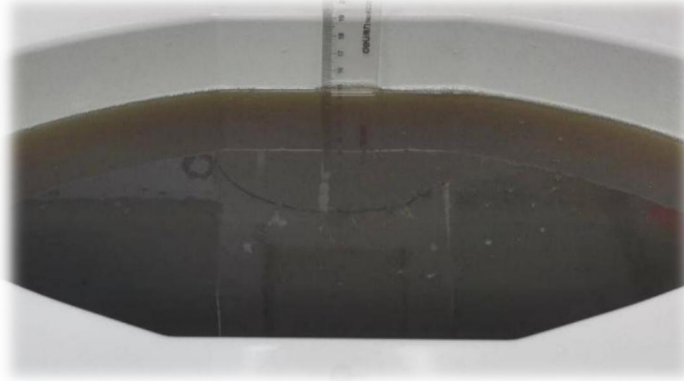


F. 3D Image

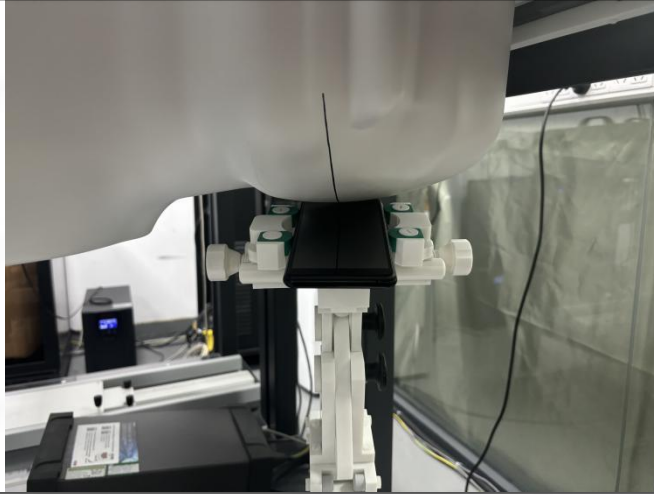


ANNEX D SAR Test Setup Photos

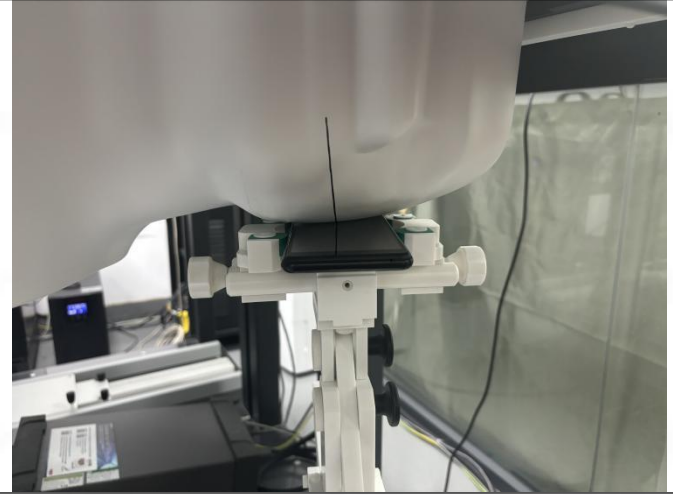
Reference Photo: simulation liquid depth 15cm



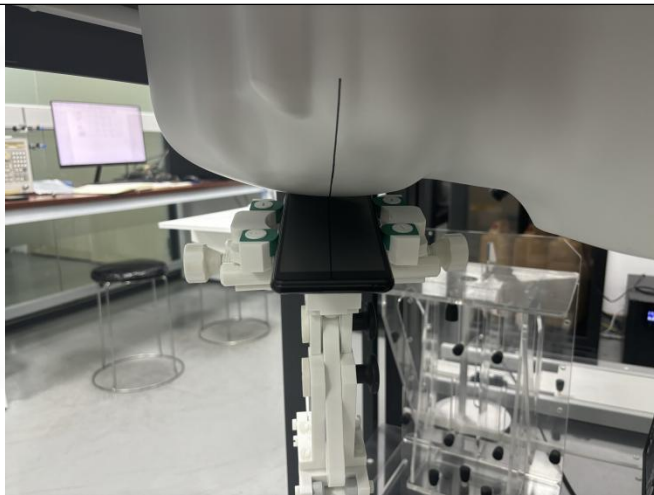
Reference Photos



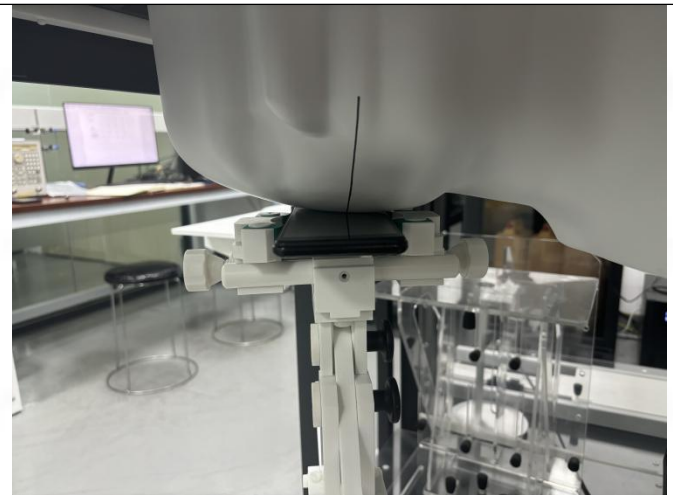
Left Head - Cheek



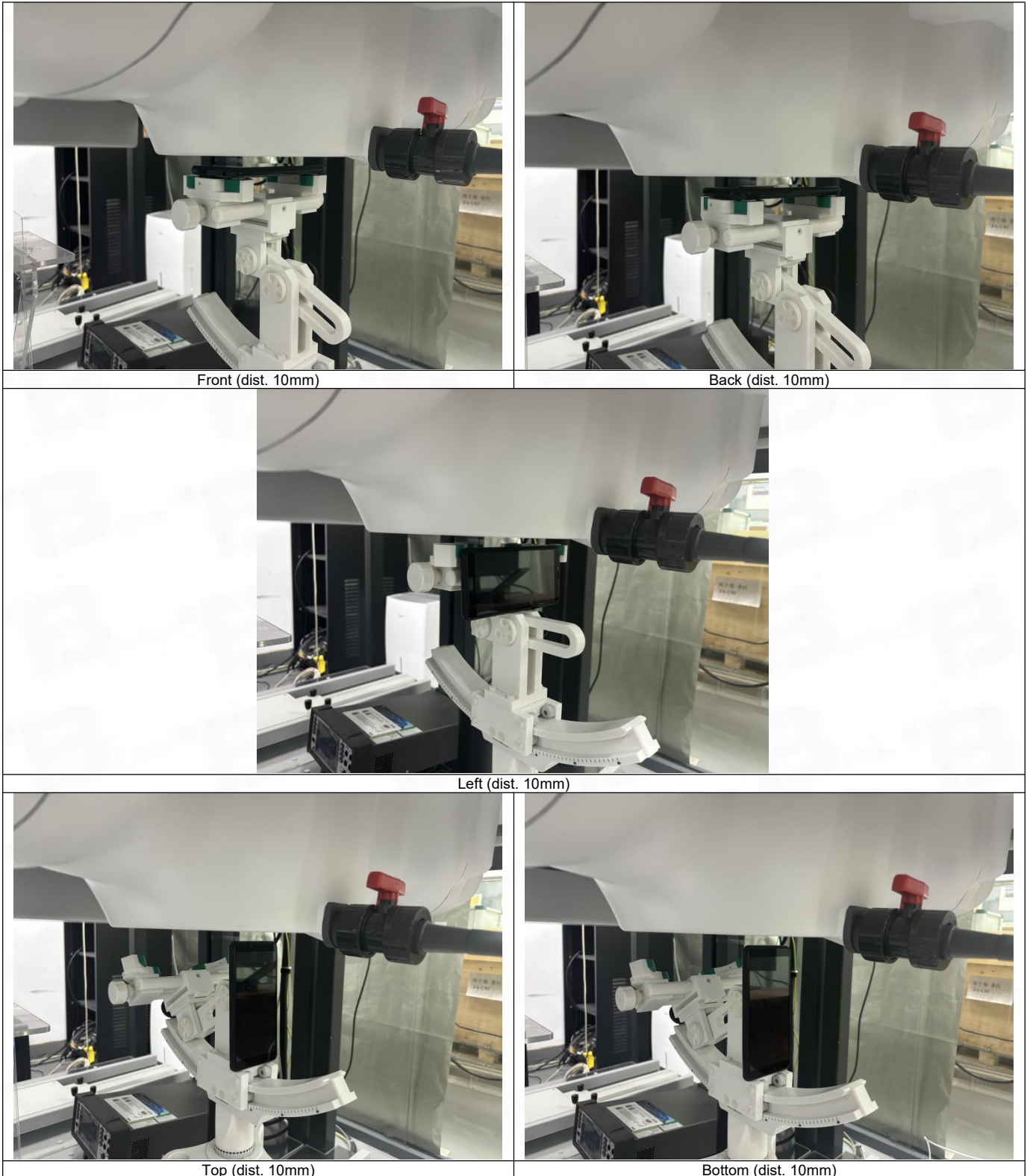
Left Head - Tilt



Right Head - Cheek



Right Head - Tilt



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--