





# SAR Test Report

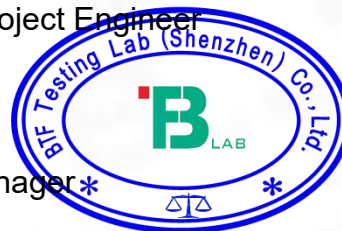
## For

**Applicant Name:** Imin Technology Pte Ltd.  
**Address:** 11 BISHAN STREET 21 #03-05 SINGAPORE (573943)  
**EUT Name:** POS Device  
**Brand Name:**   
**Model Number:** I23M02

## 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:** BTF231225R00201  
**Test Standards:** 47 CFR Part 2.1093 IEEE1528-2013 IEEE C95.1-2019  
 KDB447498 D01 KDB865664 D01 KDB865664 D02  
 KDB941225 D05 KDB248227 D01 KDB941225 D06  
 KDB648474 D04 KDB690783 D01  
**FCC ID:** 2AYD5-I23M02  
**Test Conclusion:** Pass  
**Test Date:** 2024-01-10 to 2024-01-15  
**Date of Issue:** 2024-01-24

**Prepared By:**   
 Amenda Zhong / Project Engineer  
**Date:** 2024-01-24  
**Approved By:**   
 Ryan.CJ / EMC Manager\*  
**Date:** 2024-01-24



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Revision History		
Version	Issue Date	Revisions Content
R_V0	2024-01-16	Original
R_V1	2024-01-24	Based on the original report add NFC data
<i>Note:</i>	<i>Once the revision has been made, then previous versions reports are invalid.</i>	

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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:	Imin Technology Pte Ltd.
Address:	11 BISHAN STREET 21 #03-05 SINGAPORE (573943)

### 2.2 Manufacturer Information

Company Name:	Imin Technology Pte Ltd.
Address:	11 BISHAN STREET 21 #03-05 SINGAPORE (573943)

### 2.3 Factory Information

Company Name:	Imin Technology Pte Ltd.
Address:	11 BISHAN STREET 21 #03-05 SINGAPORE (573943)

### 2.4 General Description of Equipment under Test (EUT)

EUT Name	POS Device
Under Test Model Name	I23M02
Sample No.	BTFSN231225003/1

### 2.5 Equipment under Test Ancillary Equipment

Ancillary Equipment 1	Rechargeable Battery	
	Capacity	3350mAh
	Nominal Voltage	7.7V

### 2.6 Technical Information

Network and Wireless connectivity	2G Network GSM/GPRS/EGPRS 850/1900 3G Network WCDMA/HSDPA/HSUPA Band 2/5 4G Network FDD LTE Band 2/4/5/7/12/14/17/25/26/66 TDD LTE Band 41 2.4G WIFI 802.11b, 802.11g, 802.11n(HT20/40) 5G WIFI 802.11a, 802.11n(HT20/40), 802.11ac(VHT20/40/80) BT (EDR+BLE) NFC
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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, NFC		
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 5	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	LTE Band 2	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	LTE Band 4	TX: 1710 ~ 1755 MHz	RX: 2110 ~ 2155 MHz
	LTE Band 5	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	LTE Band 7	TX: 2500 ~ 2570 MHz	RX: 2620 ~ 2690 MHz
	LTE Band 12	TX: 698 ~ 716 MHz	RX: 728 ~ 746 MHz
	LTE Band 14	TX: 788 ~ 798 MHz	RX: 758 ~ 768 MHz
	LTE Band 17	TX: 704 ~ 716 MHz	RX: 734 ~ 746 MHz
	LTE Band 25	TX: 1850 ~ 1915 MHz	RX: 1930 ~ 1995 MHz
	LTE Band 26	TX: 814 ~ 849 MHz	RX: 859 ~ 894 MHz
	LTE Band 66	TX: 1710 ~ 1780 MHz	RX: 2110 ~ 2200 MHz
	LTE Band 41	2496 ~ 2690 MHz	
	802.11b/g/n(HT20)	2412 ~ 2462 MHz	
	802.11n(HT40)	2422 ~ 2452 MHz	
	802.11a /802.11n(HT20/40) /802.11ac(VHT20/40/80)	5150 ~ 5250 MHz 5250 ~ 5350 MHz 5470 ~ 5725 MHz 5725 ~ 5850 MHz	
	Bluetooth	2402 ~ 2480 MHz	
NFC	13.56 MHz		
Antenna Type	WWAN: PIFA Antenna WLAN: PIFA Antenna BT: PIFA Antenna NFC: PIFA Antenna		
Hotspot Function	Support		
Power Reduction	Not Support		
Exposure Category	General Population/Uncontrolled exposure		
EUT Stage	Portable Device		
Product	Type		
	<input type="checkbox"/> Production unit	<input checked="" type="checkbox"/> Identical prototype	
Note: this device doesn't support voice call function, so we don't need to test head.			

### 3. Summary of Test Results

#### 3.1 Test Standards

No.	Identity	Document Title
1	47 CFR Part 2.1093	Radio frequency 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	KDB 447498 D01	General RF Exposure Guidance v06
5	KDB 865664 D01	SAR measurement 100MHz to 6GHz v01r04
6	KDB 865664 D02	RF Exposure Reporting v01r02
7	KDB 941225 D05	SAR for LTE Devices v02r05
8	KDB 248227 D01	802.11 Wi-Fi SAR v02r02
9	KDB 941225 D06	Hotspot Mode v02r01
10	KDB 648474 D04	Handset SAR v01r03
11	KDB 690783 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>

Exposure Position	Frequency Band	Reported SAR (W/kg)	Equipment Class	Highest Reported SAR (W/kg)
Hotspot(Body) 1-g SAR (0 mm Gap)	GSM 850	0.515	PCB	1.302
	GSM 1900	0.398		
	WCDMA Band II	0.798		
	WCDMA Band V	0.794		
	LTE Band 2	0.978		
	LTE Band 4	1.117		
	LTE Band 5	1.209		
	LTE Band 7	0.795		
	LTE Band 12	<b>1.302</b>		
	LTE Band 14	1.070		
	LTE Band 17	1.282		
	LTE Band 25	1.177		
	LTE Band 26	1.045		
	LTE Band 41	1.252		
	LTE Band 66	1.150		
	WLAN 2.4 GHz	0.209	DTS	
	Bluetooth	0.051	DSS	
	WLAN 5.2 GHz	0.209	NII	
WLAN 5.4 GHz	0.243			
WLAN 5.6 GHz	0.163			
WLAN 5.8 GHz	0.245			

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
Hotspot(Body) 1-g SAR (0 mm Gap)	LTE Band 12 + 5G WIFI	1.547	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
<b>Measurement System</b>								
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	∞
<b>Test sample Related</b>								
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	∞
<b>Phantom and Tissue Parameters</b>								
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
<b>Measurement System</b>								
Probe calibration	5.8	N	1	1	1	5.80	5.80	∞
Axial Isotropy	3.5	R	√3	1	1	2.02	2.02	∞
Hemispherical Isotropy	5.9	R	√3	0	0	0.00	0.00	∞
Boundary effect	1	R	√3	1	1	0.58	0.58	∞
Linearity	4.7	R	√3	1	1	2.71	2.71	∞
System detection limits	1	R	√3	1	1	0.58	0.58	∞
Modulation response	0	N	√3	0	0	0.00	0.00	∞
Readout Electronics	0.5	N	1	1	1	0.50	0.50	∞
Response Time	0	R	√3	0	0	0.00	0.00	∞
Integration Time	1.4	R	√3	0	0	0.00	0.00	∞
RF ambient Conditions - Noise	3	R	√3	1	1	1.73	1.73	∞
RF ambient Conditions - Reflections	3	R	√3	1	1	1.73	1.73	∞
Probe positioner Mechanical Tolerance	1.4	R	√3	1	1	0.81	0.81	∞
Probe positioning with respect to Phantom Shell	1.4	R	√3	1	1	0.81	0.81	∞
Extrapolation, interpolation and integration Algorithms for Max. SAR Evaluation	2.3	R	√3	1	1	1.33	1.33	∞
<b>Dipole</b>								
Deviation of experimental source from numerical source	5	N	1	1	1	5.00	5.00	∞
Input Power and SAR drift measurement	0.5	R	√3	1	1	0.29	0.29	∞
Dipole Axis to Liquid Dist.	2.0	R	√3	1	1	1.15	1.15	∞
<b>Phantom and Tissue Parameters</b>								
Phantom Shell Uncertainty - Shape, Thickness and Permittivity	4	R	√3	1	1	2.31	2.31	∞
Uncertainty in SAR correction for deviation in permittivity and conductivity	2.0	N	1	1	0.84	2.00	1.68	∞
Liquid conductivity measurement	4	N	1	0.78	0.71	3.12	2.84	5
Liquid permittivity measurement	5.0	N	1	0.23	0.26	1.15	1.30	5
Liquid Conductivity - Temperature Uncertainty	2.5	R	√3	0.78	0.71	1.13	1.02	∞
Liquid permittivity - Temperature Uncertainty	2.5	R	√3	0.23	0.26	0.33	0.38	∞
Combined Standard Uncertainty		RSS				10.16	10.03	
Expanded Uncertainty (95% Confidence interval)		k				20.32	20.06	

## 4. Measurement System

### 4.1 Specific Absorption Rate (SAR) Definition

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

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

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

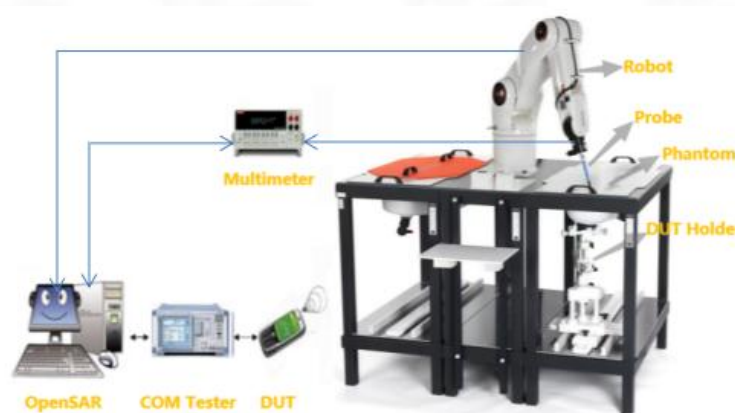
SAR is expressed in units of Watts per kilogram (W/kg) SAR measurement can be related to the electrical field in the tissue by

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

Where:  $\sigma$  is the conductivity of the tissue,  
 $\rho$  is the mass density of the tissue and  $E$  is the RMS electrical field strength.

### 4.2 MVG SAR System

#### 4.2.1 SAR system diagram



#### 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  $20^\circ$ .



#### 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.



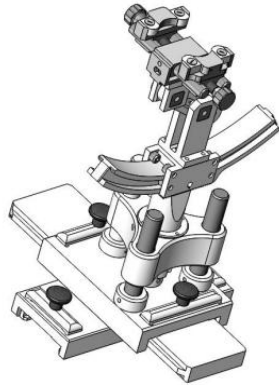
**ELLI Phantom**

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 200mm
Permittivity	4.4
Loss tangent	0.017

#### 4.2.5 Device Holder



System Material	Permittivity	Loss tangent
Delrin	3.7	0.005

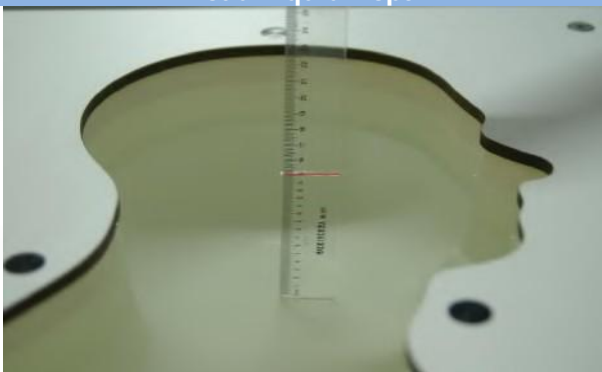
System Material	Permittivity	Loss tangent
PMMA	2.9	0.028

*(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°.)*

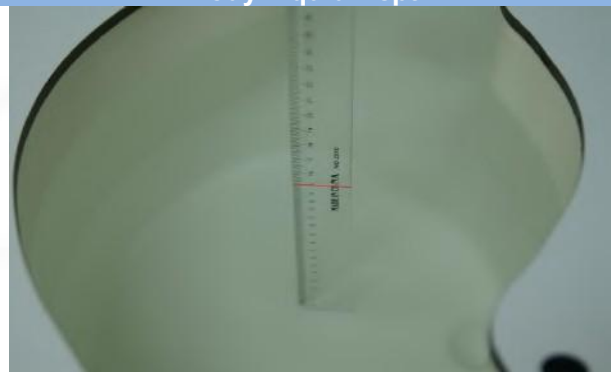
#### 4.2.6 Simulating Liquid

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.

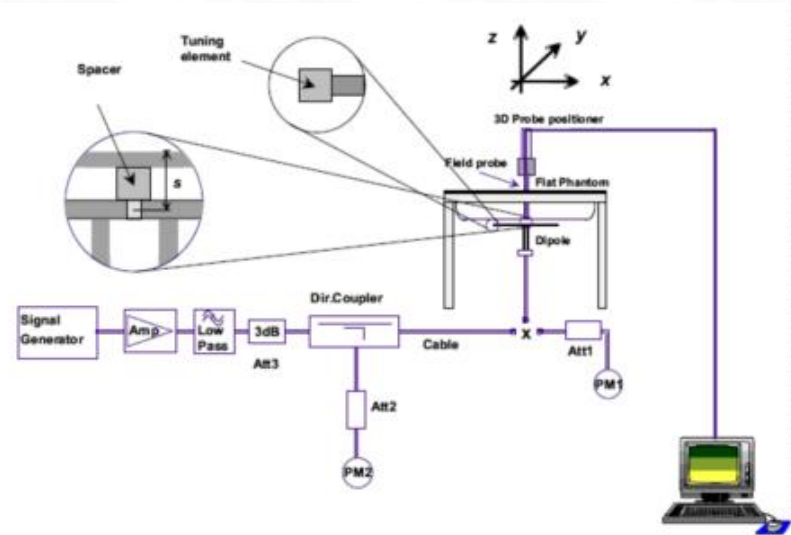
Head (Reference IEEE1528)								
Frequency (MHz)	Water (%)	Sugar (%)	Cellulose (%)	Salt (%)	Preventol (%)	DGBE (%)	Conductivity $\sigma$ (S/m)	Permittivity $\epsilon$
750	41.1	57.0	0.2	1.4	0.2	0	0.89	41.9
835	40.3	57.9	0.2	1.4	0.2	0	0.90	41.5
900	40.3	57.9	0.2	1.4	0.2	0	0.97	41.5
1800, 1900, 2000	55.2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

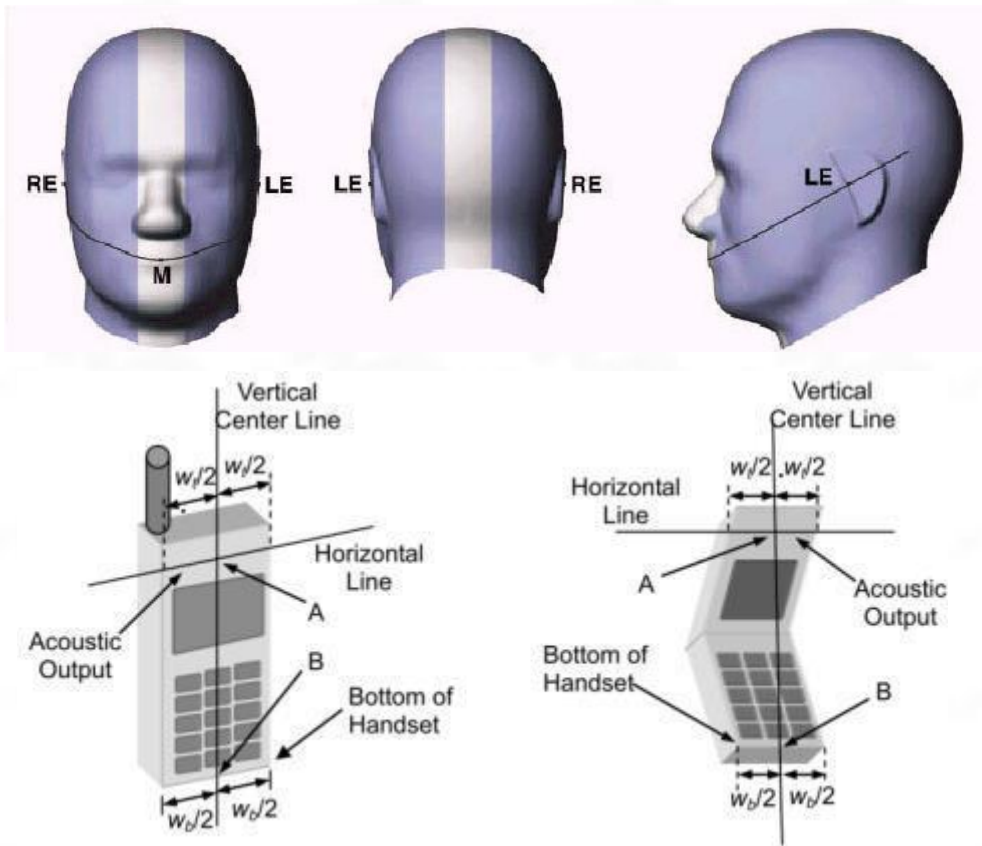
### 6.1 Head Exposure Conditions

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.





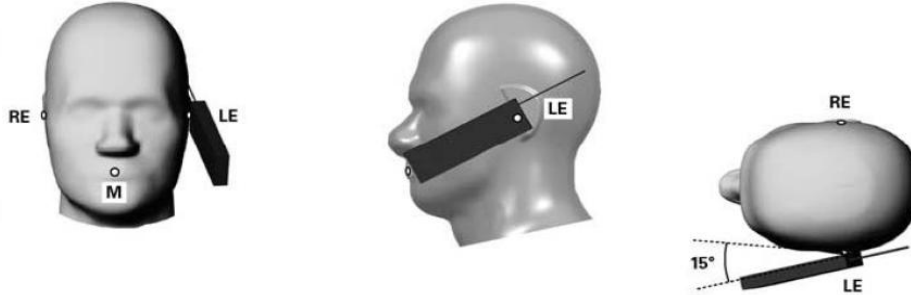
### 6.1.2 Two Imaginary Lines on the Handset

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



### 6.1.3 Titled Position

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

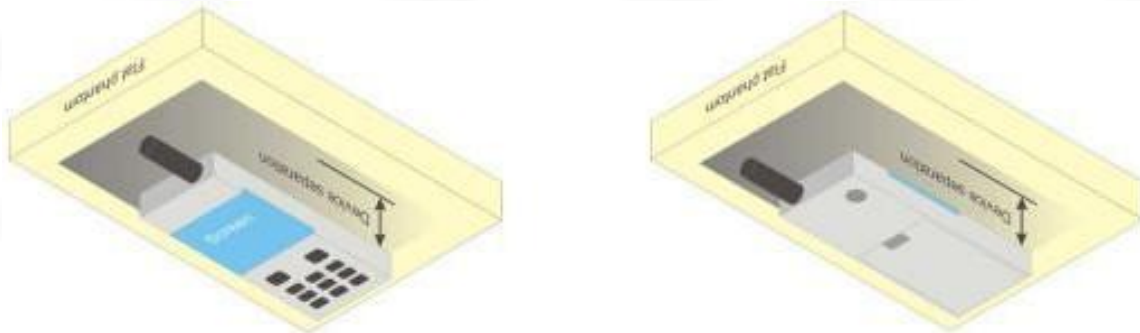


## 6.2 Body-worn Position Conditions

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

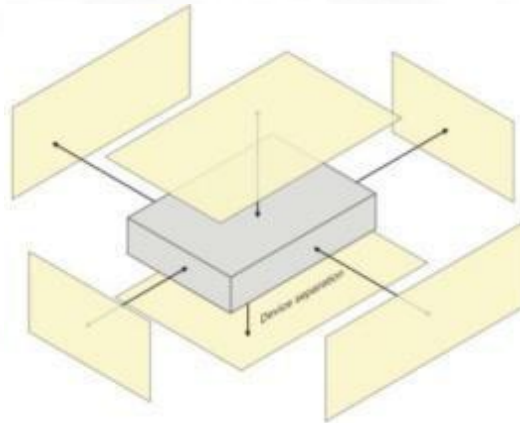
Body-worn accessories that do not contain metallic or conductive components may be tested according to worst-case exposure configurations, typically according to the smallest test separation distance required for the group of body-worn accessories with similar operating and exposure characteristics.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

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

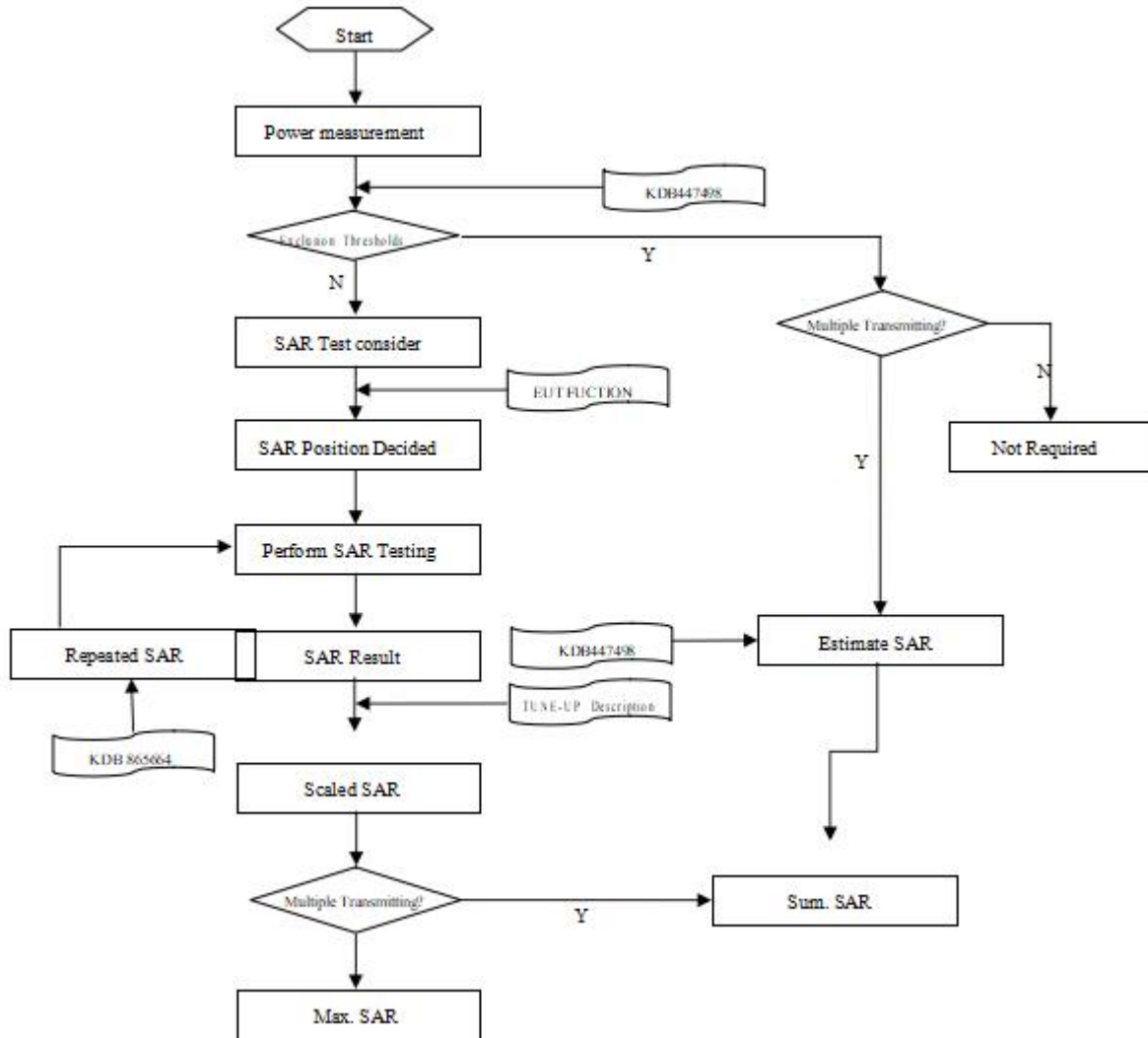
According with FCC KDB 648474 D04, for smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm that provide similar mobile web access and multimedia support found in mini-tablets or UMPC mini-tablets that support voice calls next to the ear, unless it is confirmed 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  $\leq 25$  mm from that surface or edge, in direct contact with a flat phantom, for 10-g extremity SAR according to the body-equivalent tissue dielectric parameters in KDB 865664 to address interactive hand use exposure conditions. The UMPC mini-tablet 1-g SAR at 5 mm is not required. When hotspot mode applies, 10-g extremity SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg.

## 7. Measurement Procedure

### 7.1 Measurement Process Diagram

Body SAR



## 7.2 SAR Scan General Requirement

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

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

### 7.3 Measurement Procedure

The following steps are used for each test position

- a. Establish a call with the maximum output power with a base station simulator. The connection between the mobile and the base station simulator is established via air interface
- b. Measurement of the local E-field value at a fixed location. This value serves as a reference value for calculating a possible power drift.
- c. Measurement of the SAR distribution with a grid of 8 to 16mm \* 8 to 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		<b>33.00</b>	<b>32.69</b>	32.67	32.66	-9.03	<b>23.66</b>	23.64	23.63
GPRS (GMSK)	1Tx slot	33.00	32.59	32.60	32.60	-9.03	23.56	23.57	23.57
	2Tx slots	32.50	32.03	31.99	32.00	-6.02	26.01	25.97	25.98
	3Tx slots	30.50	30.00	29.99	30.00	-4.26	25.74	25.73	25.74
	4Tx slots	<b>30.50</b>	30.00	<b>30.02</b>	29.98	-3.01	26.99	<b>27.01</b>	26.97
EGPRS (8PSK)	1Tx slot	30.50	30.02	29.99	30.00	-9.03	20.99	20.96	20.97
	2Tx slots	30.50	29.98	29.99	30.02	-6.02	23.96	23.97	24
	3Tx slots	30.00	29.99	29.97	29.98	-4.26	25.73	25.71	25.72
	4Tx slots	30.50	29.98	29.99	30.00	-3.01	26.97	26.98	26.99
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		<b>31.00</b>	<b>30.51</b>	30.44	30.38	-9.03	<b>21.48</b>	21.41	21.35
GPRS (GMSK)	1Tx slot	30.00	29.59	29.59	29.60	-9.03	20.56	20.56	20.57
	2Tx slots	30.00	29.52	29.51	29.49	-6.02	23.50	23.49	23.47
	3Tx slots	29.50	28.98	29.01	29.01	-4.26	24.72	24.75	24.75
	4Tx slots	<b>29.50</b>	29.00	<b>29.01</b>	29.01	-3.01	25.99	<b>26.00</b>	26.00
EGPRS (8PSK)	1Tx slot	29.50	29.00	29.02	29.03	-9.03	19.97	19.99	20.00
	2Tx slots	29.50	29.01	28.99	28.99	-6.02	22.99	22.97	22.97
	3Tx slots	29.50	28.98	29.01	28.98	-4.26	24.72	24.75	24.72
	4Tx slots	29.50	29.01	29.02	28.98	-3.01	26.00	26.01	25.97

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
RMC 12.2K		<b>24.00</b>	23.56	<b>23.57</b>	23.56
HSDPA	Subtest-1	24.00	23.47	23.59	23.55
	Subtest-2	23.00	22.57	22.57	22.56
	Subtest-3	23.00	22.56	22.57	22.59
	Subtest-4	23.00	22.57	22.63	22.69
HSUPA	Subtest-1	23.00	22.61	22.67	22.64
	Subtest-2	23.00	22.52	22.58	22.51
	Subtest-3	23.00	22.65	22.67	22.66
	Subtest-4	23.00	22.68	22.66	22.52
	Subtest-5	23.00	22.62	22.63	22.65
Mode		Maximum Tune-up(dBm)	WCDMA Band V		
			Conducted Power (dBm)		
			CH4132	CH4183	CH4233
RMC 12.2K		<b>24.00</b>	<b>23.55</b>	23.49	23.52
HSDPA	Subtest-1	24.00	23.60	23.53	23.47
	Subtest-2	23.00	22.54	22.56	22.56
	Subtest-3	23.00	22.58	22.55	22.63
	Subtest-4	23.00	22.62	22.66	22.56
HSUPA	Subtest-1	23.00	22.51	22.51	22.69
	Subtest-2	23.00	22.62	22.54	22.66
	Subtest-3	23.00	22.69	22.62	22.67
	Subtest-4	23.00	22.61	22.68	22.64
	Subtest-5	23.00	22.51	22.61	22.70

Per KDB 941225 D01, 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  $\leq 1.2$  W/kg, SAR measurement is not required for the secondary mode.



### 8.3 LTE

#### Band 2

LTE-FDD Band 2				Maximum Tune-up(dBm)	Conducted Power(dBm)		
Bandwidth	Modulation	RB allocation	RB offset		18607	18900	19193
					1850.7MHz	1880.0MHz	1909.3MHz
1.4MHz	QPSK	1	0	24.00	23.42	23.56	23.62
			2	24.00	23.47	23.63	23.69
			5	24.00	23.34	23.50	23.63
		3	0	24.00	23.44	23.57	23.70
			2	24.00	23.45	23.56	23.68
			3	24.00	23.50	23.52	23.77
	16QAM	6	0	23.00	22.47	22.56	22.71
			0	23.00	22.43	22.48	22.69
			2	23.00	22.58	22.62	22.87
		1	5	23.00	22.41	22.48	22.7
			0	23.00	22.33	22.36	22.57
			2	23.00	22.34	22.38	22.54
3	3	23.00	22.31	22.35	22.61		
	6	22.00	21.35	21.57	21.62		
					18615	18900	19185
Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	1851.5MHz	1880.0MHz	1908.5MHz
3MHz	QPSK	1	0	24.00	23.38	23.62	23.69
			7	24.00	23.37	23.61	23.70
			14	24.00	23.35	23.55	23.72
		8	0	23.00	22.43	22.6	22.77
			4	23.00	22.42	22.61	22.75
			7	23.00	22.42	22.58	22.73
	15	0	23.00	22.34	22.55	22.69	
	16QAM	1	0	23.00	22.55	22.66	22.58
			7	23.00	22.45	22.57	22.59
			14	23.00	22.40	22.56	22.60
		8	0	22.00	21.50	21.61	21.77
			4	22.00	21.51	21.63	21.78
			7	22.00	21.44	21.59	21.79
		15	0	22.00	21.38	21.51	21.61
						18625	18900
Bandwidth		Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	1852.5MHz	1880.0MHz
5MHz	QPSK	1	0	24.00	23.31	23.49	23.54
			13	24.00	23.38	23.54	23.71
			24	24.00	23.25	23.38	23.60
		12	0	23.00	22.37	22.49	22.53
			6	23.00	22.35	22.50	22.55
			13	23.00	22.19	22.42	22.56
	25	0	23.00	22.24	22.46	22.58	
	16QAM	1	0	23.00	22.24	22.57	22.47
			13	23.00	22.32	22.66	22.67
			24	23.00	22.13	22.48	22.56
		12	0	22.00	21.36	21.55	21.63
			6	22.00	21.31	21.51	21.61
			13	22.00	21.22	21.45	21.62
		25	0	22.00	21.34	21.49	21.69

LTE-FDD Band 2				Maximum Tune-up(dBm)	Conducted Power(dBm)			
Bandwidth	Modulation	RB allocation	RB offset		18650	18900	19150	
					1855.0MHz	1880.0MHz	1905.0MHz	
10MHz	QPSK	1	0	23.50	23.18	23.43	23.28	
			25	24.00	23.42	23.70	23.65	
			49	24.00	23.16	23.27	23.58	
		25	0	23.00	22.37	22.54	22.53	
			13	23.00	22.38	22.59	22.53	
			25	23.00	22.19	22.41	22.59	
	50	0	23.00	22.31	22.5	22.51		
		16QAM	1	0	22.50	22.35	22.45	22.14
				25	23.00	22.46	22.54	22.54
	49			22.50	22.20	22.41	22.36	
	25	16QAM	25	0	22.00	21.39	21.65	21.59
				13	22.00	21.39	21.67	21.61
				25	22.00	21.21	21.47	21.62
	50	0	22.00	21.31	21.54	21.56		
	Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	18675	18900	19125
1857.5MHz						1880.0MHz	1902.5MHz	
15MHz	QPSK	1	0	23.50	23.03	23.28	23.04	
			38	23.50	23.21	23.44	22.94	
			74	23.50	22.99	23.06	22.94	
		36	0	22.50	22.35	22.36	21.99	
			18	22.50	22.37	22.26	22.00	
			39	22.50	22.36	22.19	22.01	
	75	0	22.50	22.38	22.19	21.98		
		16QAM	1	0	22.50	22.19	22.47	21.52
				38	22.50	22.30	22.40	21.92
	74			22.50	22.07	22.06	21.88	
	36	16QAM	36	0	22.50	22.37	22.48	22.01
				18	22.50	22.37	22.28	22.02
				39	22.50	22.38	22.40	21.98
	75	0	21.50	21.31	21.22	20.90		
	Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	18700	18900	19100
1860.0MHz						1880.0MHz	1900.0MHz	
20MHz	QPSK	1	0	23.50	23.04	23.17	22.81	
			50	<b>24.00</b>	23.47	<b>23.61</b>	23.41	
			99	23.50	23.19	22.97	23.18	
		50	0	23.00	22.35	<b>22.53</b>	22.21	
			25	22.50	22.32	22.49	22.26	
			50	22.50	22.20	22.20	22.34	
	100	0	22.50	22.27	22.38	22.28		
		16QAM	1	0	22.50	22.02	22.22	21.90
				50	23.00	22.39	22.65	22.36
	99			22.50	22.13	22.05	22.23	
	50	16QAM	50	0	22.00	21.36	21.56	21.32
				25	22.00	21.39	21.57	21.34
				50	21.50	21.25	21.27	21.43
	100	0	21.50	21.28	21.37	21.33		

Band 4

LTE-FDD Band 4				Maximum Tune-up(dBm)	Conducted Power(dBm)		
Bandwidth	Modulation	RB allocation	RB offset		19957	20175	20393
					1710.7MHz	1732.5MHz	1754.3MHz
1.4MHz	QPSK	1	0	24.00	22.00	23.56	21.86
			2	24.00	22.40	23.65	21.92
			5	24.00	22.14	23.51	21.63
		3	0	23.50	22.51	23.49	22.07
			2	24.00	22.28	23.50	21.72
			3	24.00	22.24	23.57	21.57
	6	0	23.00	22.06	22.79	21.40	
	16QAM	1	0	23.00	21.57	22.53	21.63
			2	23.00	22.03	22.68	21.43
			5	23.00	21.96	22.53	21.87
		3	0	22.50	22.08	22.37	21.53
			2	22.50	22.01	22.41	21.41
			3	22.50	21.96	22.37	21.24
	6	0	22.00	21.62	21.43	21.14	
Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	19965	20175	20385
					1711.5MHz	1732.5MHz	1753.5MHz
3MHz	QPSK	1	0	24.00	21.66	23.70	22.05
			7	24.00	22.26	23.62	21.93
			14	24.00	21.78	23.64	21.78
		8	0	23.00	21.96	22.75	21.39
			4	23.00	21.78	22.73	21.85
			7	23.00	21.85	22.68	21.85
	15	0	23.00	22.22	22.63	21.70	
	16QAM	1	0	23.00	21.76	22.71	21.63
			7	23.00	21.95	22.64	21.50
			14	23.00	21.77	22.61	21.45
		8	0	22.00	21.87	21.60	21.58
			4	22.00	21.89	21.59	21.31
			7	22.00	21.87	21.58	21.38
	15	0	21.50	21.18	21.43	21.11	
Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	19976	20175	20375
					1712.5MHz	1732.5MHz	1752.5MHz
5MHz	QPSK	1	0	23.50	21.35	23.48	22.05
			13	24.00	22.28	23.59	22.06
			24	23.50	22.11	23.46	22.12
		12	0	23.00	22.39	22.50	22.41
			6	23.00	22.20	22.52	22.10
			13	23.00	22.34	22.51	21.66
	25	0	23.00	22.19	22.50	21.74	
	16QAM	1	0	23.00	21.75	22.59	21.78
			13	23.00	21.95	22.66	21.60
			24	23.00	21.66	22.50	21.53
		12	0	21.50	21.11	21.45	21.01
			6	21.50	21.12	21.45	20.97
			13	21.50	21.11	21.38	21.02
	25	0	21.50	21.08	21.40	20.96	

LTE-FDD Band 4				Maximum Tune-up(dBm)	Conducted Power(dBm)				
Bandwidth	Modulation	RB allocation	RB offset		20000	20175	20350		
					1715.0MHz	1732.5MHz	1750.0MHz		
10MHz	QPSK	1	0	21.00	20.97	20.92	20.79		
			25	21.00	20.94	20.87	20.78		
			49	21.00	20.83	20.90	20.64		
		25	0	21.00	20.86	20.80	20.75		
			13	21.00	20.91	20.76	20.74		
			25	21.00	20.95	20.89	20.71		
	16QAM	1	0	21.00	20.65	20.88	20.73		
			25	21.00	20.70	20.99	20.97		
			49	21.00	20.63	20.88	20.94		
		25	0	21.00	20.93	20.81	20.83		
			13	21.00	20.83	20.78	20.86		
			25	21.00	20.83	20.79	20.91		
		50	0	21.00	20.86	20.76	20.95		
							20025	20175	20325
							1717.5MHz	1732.5MHz	1747.5MHz
15MHz	QPSK	1	0	21.00	20.93	20.88	20.74		
			38	21.00	20.92	20.79	20.65		
			74	21.00	20.87	20.78	20.70		
		36	0	21.00	20.90	20.64	20.63		
			18	21.00	20.80	20.75	20.93		
			39	21.00	20.76	20.74	20.83		
	16QAM	75	0	21.00	20.89	20.71	20.83		
			1	0	21.00	20.86	20.97	20.81	
				38	21.00	20.88	20.87	20.82	
		74		21.00	20.99	20.99	20.87		
		36	0	21.00	20.94	20.85	20.80		
			18	21.00	20.86	20.80	20.86		
			39	21.00	20.88	20.73	20.70		
		75	0	21.00	20.94	20.75	20.72		
							20050	20175	20300
				1720.0MHz	1732.5MHz	1745.0MHz			
20MHz	QPSK	1	0	21.00	20.64	20.93	20.93		
			50	21.00	20.78	20.83	20.86		
			99	21.00	20.72	21.00	20.76		
		50	0	21.00	20.73	20.83	20.73		
			25	21.00	20.60	21.00	20.89		
			50	21.00	20.62	20.93	20.76		
	16QAM	100	0	21.50	20.94	21.00	20.84		
			1	0	21.00	20.76	20.71	20.83	
				50	21.00	20.70	20.61	20.85	
		99		21.00	20.64	20.76	20.94		
		50	0	21.00	20.61	20.83	20.84		
			25	21.00	20.79	20.94	20.83		
			50	21.00	20.61	20.81	20.95		
		100	0	21.00	20.66	20.91	20.84		

Band 5

LTE-FDD Band 5				Maximum Tune-up(dBm)	Conducted Power(dBm)		
Bandwidth	Modulation	RB allocation	RB offset		20407	20525	20643
					824.7MHz	836.5MHz	848.3MHz
1.4MHz	QPSK	1	0	25.50	24.71	25.08	24.90
			2	25.50	24.55	25.19	24.56
			5	25.00	24.47	24.76	24.47
		3	0	25.00	24.61	24.72	24.72
			2	25.00	24.63	24.83	24.76
			3	25.50	24.63	25.06	24.70
	6	0	24.00	23.54	23.66	23.57	
	16QAM	1	0	24.50	23.69	24.01	23.76
			2	24.50	23.80	24.03	23.84
			5	24.00	23.69	23.83	23.63
		3	0	24.00	23.50	23.74	23.61
			2	24.00	23.51	23.90	23.64
3			24.00	23.46	23.65	23.59	
6	0	23.00	22.82	22.99	22.74		
Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	20415	20525	20635
					825.5MHz	836.5MHz	847.5MHz
3MHz	QPSK	1	0	25.50	25.04	25.23	25.24
			7	25.50	25.12	25.29	25.13
			14	25.50	25.12	25.23	25.14
		8	0	24.50	24.08	24.26	24.28
			4	24.50	24.11	24.23	24.29
			7	24.50	24.19	24.19	24.20
	15	0	24.50	24.11	24.27	24.25	
	16QAM	1	0	24.50	24.28	24.48	24.40
			7	24.50	24.28	24.45	24.39
			14	24.50	24.28	24.48	24.26
		8	0	23.50	23.29	23.35	23.42
			4	23.50	23.27	23.36	23.40
			7	23.50	23.27	23.35	23.30
		15	0	23.50	23.25	23.30	23.40

LTE-FDD Band 5				Maximum Tune-up(dBm)	Conducted Power(dBm)			
Bandwidth	Modulation	RB allocation	RB offset		20425	20525	20625	
					826.5MHz	836.5MHz	846.5MHz	
5MHz	QPSK	1	0	25.50	25.01	25.17	25.11	
			13	25.50	25.18	25.29	25.24	
			24	25.50	25.07	25.06	24.99	
		12	0	24.50	24.02	24.22	24.15	
			6	24.50	24.02	24.23	24.19	
			13	24.50	24.12	24.16	24.05	
		25	0	24.50	24.07	24.23	24.09	
		16QAM	1	0	24.50	24.09	24.36	24.05
				13	25.00	24.22	24.59	24.25
	24			24.50	24.04	24.40	24.05	
	12		0	23.50	23.11	23.33	23.14	
			6	23.50	23.08	23.32	23.14	
			13	23.50	23.19	23.28	23.11	
	25	0	23.50	23.19	23.28	23.19		

Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	20450	20525	20600
					829.0MHz	836.5MHz	844.0MHz
10MHz	QPSK	1	0	25.50	24.92	25.08	24.96
			25	<b>25.50</b>	25.23	25.25	<b>25.37</b>
			49	25.50	25.12	25.00	24.94
		25	0	24.50	24.08	24.29	<b>24.13</b>
			13	24.50	24.10	24.30	24.13
			25	24.50	24.18	24.22	24.04
	16QAM	1	0	24.50	24.16	24.22	24.32
			25	25.00	24.28	24.57	24.37
			49	24.50	24.24	24.19	24.19
		25	0	23.50	23.12	23.39	23.19
			13	23.50	23.15	23.41	23.21
			25	23.50	23.19	23.40	23.09
		50	0	23.50	23.14	23.35	23.16

Band 7

LTE-FDD Band 7				Maximum Tune-up(dBm)	Conducted Power(dBm)			
Bandwidth	Modulation	RB allocation	RB offset		20775	21100	21425	
				2502.5MHz	2535.0MHz	2567.5MHz		
5MHz	QPSK	1	0	24.00	23.86	23.71	23.70	
			12	24.00	23.95	23.80	23.88	
			24	24.00	23.73	23.68	23.79	
		12	0	23.00	22.82	22.74	22.71	
			6	23.00	22.80	22.72	22.72	
			13	23.00	22.72	22.60	22.69	
	25	0	23.00	22.74	22.68	22.65		
	16QAM	1	0	23.00	22.68	22.78	22.65	
			12	23.00	22.76	22.86	22.82	
			24	23.00	22.64	22.75	22.66	
		12	0	22.00	21.67	21.68	21.68	
			6	22.00	21.70	21.66	21.68	
			13	22.00	21.69	21.64	21.61	
		25	0	22.00	21.73	21.60	21.65	
		10MHz	QPSK	1	0	24.00	23.78	23.75
24					24.50	23.89	24.00	23.91
49	24.00				23.68	23.69	23.69	
25	0			23.00	22.88	22.78	22.77	
	12			23.00	22.88	22.78	22.76	
	25			23.00	22.76	22.70	22.74	
50	0		23.00	22.79	22.65	22.74		
16QAM	1		0	23.00	22.86	22.72	22.54	
			24	23.00	22.95	22.87	22.74	
			49	23.00	22.80	22.65	22.63	
	25		0	22.00	21.83	21.76	21.75	
			12	22.00	21.79	21.75	21.74	
			25	22.00	21.70	21.68	21.73	
	50		0	22.00	21.71	21.62	21.70	

LTE-FDD Band 7				Maximum Tune-up(dBm)	Conducted Power(dBm)				
Bandwidth	Modulation	RB allocation	RB offset		20825	21100	21375		
					2507.5MHz	2535.0MHz	2562.5MHz		
15MHz	QPSK	1	0	24.00	23.67	23.62	23.55		
			38	24.00	23.80	23.91	23.78		
			74	24.00	23.59	23.53	23.64		
		38	0	23.00	22.96	22.91	22.83		
			18	23.00	22.86	22.92	22.83		
			37	23.00	22.87	22.83	22.82		
		75	0	23.00	22.87	22.85	22.82		
		16QAM	1	0	23.00	22.71	22.79	22.37	
				38	23.00	22.89	22.93	22.65	
	74			23.00	22.70	22.69	22.48		
	38		0	23.00	22.87	22.92	22.83		
			18	23.00	22.87	22.90	22.82		
			37	23.00	22.87	22.85	22.82		
	75		0	22.00	21.80	21.73	21.70		
	Bandwidth		Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	20850	21100	21350
	20MHz		QPSK	1	0	24.00	23.64	23.50	23.24
		49			<b>24.50</b>	23.98	<b>24.02</b>	23.82	
		99			24.00	23.58	23.48	23.38	
50		0		23.00	22.79	22.67	22.74		
		25		23.00	22.81	<b>22.69</b>	22.69		
		50		23.00	22.71	22.52	22.65		
100		0		23.00	22.76	22.64	22.72		
16QAM		1		0	23.00	22.51	22.58	22.28	
				49	23.00	22.88	22.95	22.85	
				99	23.00	22.56	22.47	22.43	
		50		0	22.00	21.72	21.62	21.73	
				25	22.00	21.73	21.67	21.70	
			50	22.00	21.72	21.53	21.66		
		100	0	22.00	21.69	21.56	21.64		
		Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	2510.0MHz	2535.0MHz	2560.0MHz

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	25.00	24.60	24.54	24.54		
			2	25.00	24.71	24.78	24.58		
			5	25.00	24.52	24.54	24.51		
		3	0	25.00	24.56	24.58	24.57		
			2	25.00	24.47	24.56	24.55		
			3	25.00	24.50	24.66	24.54		
		6	0	24.00	23.42	23.55	23.49		
		16QAM	1	0	24.00	23.59	23.66	23.41	
				2	24.00	23.75	23.85	23.61	
	5			24.00	23.56	23.62	23.38		
	3		0	23.50	23.34	23.49	23.31		
			2	23.50	23.32	23.49	23.35		
			3	24.00	23.29	23.52	23.37		
	6		0	23.00	22.43	22.44	22.52		
	Bandwidth		Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	23017	23095	23173

Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	23025	23095	23165	
					700.5MHz	707.5MHz	714.5MHz	
3MHz	QPSK	1	0	26.00	25.42	25.56	25.58	
			7	26.00	25.44	25.56	25.54	
			14	26.00	25.47	25.56	25.46	
		8	0	25.00	24.48	24.51	24.57	
			4	25.00	24.50	24.48	24.59	
			7	25.00	24.46	24.55	24.56	
	15	0	25.00	24.44	24.53	24.48		
	16QAM	1	0	25.00	24.50	24.72	24.41	
			7	25.00	24.51	24.62	24.51	
			14	25.00	24.54	24.57	24.36	
		8	0	24.00	23.46	23.51	23.58	
			4	24.00	23.46	23.53	23.55	
			7	24.00	23.40	23.54	23.56	
		15	0	23.50	23.38	23.40	23.44	
		Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	23035	23095
701.5MHz							707.5MHz	713.5MHz
5MHz	QPSK	1	0	25.50	25.29	25.33	25.43	
			13	26.00	25.46	25.52	25.52	
			24	25.50	25.30	25.44	25.34	
		12	0	25.00	24.42	24.34	24.54	
			6	25.00	24.43	24.30	24.55	
			13	24.50	24.27	24.43	24.47	
	25	0	25.00	24.31	24.47	24.54		
	16QAM	1	0	25.00	24.20	24.54	24.36	
			13	25.00	24.41	24.65	24.53	
			24	25.00	24.36	24.52	24.35	
		12	0	24.00	23.35	23.36	23.53	
			6	24.00	23.34	23.36	23.52	
			13	23.50	23.23	23.46	23.47	
		25	0	24.00	23.37	23.40	23.50	
		Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	23060	23095
704.0MHz							707.5MHz	711.0MHz
10MHz	QPSK	1	0	25.50	25.25	25.29	25.45	
			25	<b>26.00</b>	25.60	25.54	<b>25.65</b>	
			49	25.50	25.40	25.44	25.39	
		25	0	25.00	24.57	24.33	24.38	
			13	25.00	24.55	24.34	<b>24.39</b>	
			25	25.00	24.75	24.40	24.39	
	50	0	25.00	24.61	24.33	24.39		
	16QAM	1	0	24.50	24.35	24.43	24.29	
			25	25.00	24.81	24.74	24.53	
			49	25.00	24.53	24.51	24.32	
		25	0	24.00	23.56	23.35	23.39	
			13	24.00	23.54	23.35	23.36	
			25	24.00	23.73	23.38	23.41	
		50	0	24.00	23.64	23.37	23.32	



Band 14

LTE-FDD Band 13				Maximum Tune-up(dBm)	Conducted Power(dBm)		
Bandwidth	Modulation	RB allocation	RB offset		23305	23330	23355
					790.5MHz	793.0MHz	795.5MHz
5MHz	QPSK	1	0	25.50	25.30	25.29	25.38
			13	25.50	25.40	25.42	25.42
			24	25.50	25.30	25.28	25.32
		12	0	24.50	24.27	24.28	24.36
			6	24.50	24.30	24.29	24.36
			13	24.50	24.26	24.22	24.22
	25	0	24.50	24.32	24.24	24.30	
	16QAM	1	0	24.50	24.34	24.45	24.26
			13	25.00	24.36	24.52	24.35
			24	24.50	24.23	24.39	24.39
		12	0	23.50	23.38	23.34	23.40
			6	23.50	23.37	23.32	23.41
13			23.50	23.30	23.27	23.22	
25	0	23.50	23.35	23.29	23.36		
Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	23330		
					793.0MHz		
10MHz	QPSK	1	0	25.50	25.28		
			25	<b>25.50</b>	<b>25.47</b>		
			49	25.50	25.27		
		25	0	24.50	24.28		
			13	24.50	<b>24.30</b>		
			25	24.50	24.14		
	50	0	24.50	24.26			
	16QAM	1	0	24.50	24.48		
			25	25.00	24.55		
			49	24.50	24.41		
		25	0	23.50	23.31		
			13	23.50	23.33		
25			23.50	23.14			
50	0	23.50	23.28				

Band 17

LTE-FDD Band 17				Maximum Tune-up(dBm)	Conducted Power(dBm)		
Bandwidth	Modulation	RB allocation	RB offset		23755	23790	23825
					706.5MHz	710MHz	713.5MHz
5MHz	QPSK	1	0	26.00	25.41	25.39	25.51
			13	26.00	25.56	25.58	25.57
			24	25.50	25.48	25.44	25.36
		12	0	25.00	24.32	24.35	24.58
			6	25.00	24.32	24.35	24.55
			13	25.00	24.62	24.31	24.44
	25	0	25.00	24.48	24.30	24.53	
	16QAM	1	0	25.00	24.41	24.53	24.44
			13	25.00	24.54	24.65	24.52
			24	25.00	24.39	24.54	24.36
		12	0	24.00	23.27	23.30	23.53
			6	24.00	23.30	23.31	23.53
13			24.00	23.54	23.20	23.41	
25	0	24.00	23.50	23.22	23.48		

Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	23780	23790	23800
					709MHz	710MHz	711MHz
10MHz	QPSK	1	0	25.50	25.28	25.30	25.37
			25	<b>26.00</b>	25.56	25.63	<b>25.68</b>
			49	25.50	25.39	25.37	25.40
		25	0	24.50	24.27	24.29	24.38
			13	24.50	24.29	24.28	<b>24.39</b>
			25	24.50	24.16	24.21	24.35
	50	0	24.50	24.25	24.22	24.38	
						24.38	
	16QAM	1	0	25.00	24.51	24.44	24.25
			25	25.00	24.78	24.61	24.49
			49	25.00	24.55	24.54	24.33
		25	0	23.50	23.24	23.22	23.34
			13	23.50	23.25	23.27	23.38
			25	23.50	23.11	23.20	23.37
50		0	23.50	23.14	23.23	23.31	

Band 25

LTE-FDD Band 25				Maximum Tune-up(dBm)	Conducted Power(dBm)		
Bandwidth	Modulation	RB allocation	RB offset		26047	26365	26683
					1850.7MHz	1882.5MHz	1914.3MHz
1.4MHz	QPSK	1	0	24.00	23.31	23.36	23.64
			2	24.00	23.38	23.50	23.83
			5	24.00	23.30	23.37	23.66
		3	0	24.00	23.36	23.44	23.69
			2	24.00	23.34	23.46	23.70
			3	24.00	23.33	23.46	23.66
	6	0	23.00	22.37	22.48	22.74	
						22.74	
	16QAM	1	0	23.00	22.26	22.41	22.53
			2	23.00	22.43	22.62	22.75
			5	23.00	22.26	22.43	22.50
		3	0	22.50	22.19	22.27	22.40
			2	22.50	22.17	22.30	22.31
			3	22.50	22.13	22.29	22.20
6		0	22.00	21.42	21.34	21.52	
						21.52	
Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	26055	26365	26675
					1851.5MHz	1882.5MHz	1913.5MHz
3MHz	QPSK	1	0	24.00	23.32	23.53	23.78
			7	24.00	23.33	23.49	23.81
			14	24.00	23.24	23.45	23.64
		8	0	23.00	22.43	22.56	22.55
			4	23.00	22.43	22.54	22.83
			7	23.00	22.35	22.50	22.84
	15	0	23.00	22.28	22.45	22.75	
	16QAM	1	0	23.00	22.48	22.60	22.64
			7	22.50	22.41	22.49	22.41
			14	22.50	22.33	22.48	22.19
		8	0	22.00	21.44	21.54	21.56
			4	22.00	21.48	21.53	21.74
			7	22.00	21.39	21.48	21.56
		15	0	21.50	21.34	21.41	21.44

Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	26065	26365	26665
					1852.5MHz	1882.5MHz	1912.5MHz
5MHz	QPSK	1	0	24.00	23.28	23.42	23.65
			13	24.00	23.31	23.48	23.77
			24	24.00	23.14	23.32	23.67
		12	0	23.00	22.26	22.36	22.57
			6	23.00	22.26	22.39	22.67
			13	23.00	22.13	22.27	22.58
	25	0	23.00	22.20	22.35	22.65	
	16QAM	1	0	23.00	22.16	22.50	22.59
			13	23.00	22.19	22.58	22.72
			24	22.50	22.01	22.44	22.43
		12	0	22.00	21.24	21.43	21.56
			6	22.00	21.28	21.46	21.71
			13	22.00	21.11	21.37	21.57
		25	0	22.00	21.20	21.41	21.55

LTE-FDD Band 25				Maximum Tune-up(dBm)	Conducted Power(dBm)			
Bandwidth	Modulation	RB allocation	RB offset		26090	26365	26640	
					1855.0MHz	1882.5MHz	1910.0MHz	
10MHz	QPSK	1	0	23.50	23.17	23.43	23.47	
			25	24.00	23.34	23.58	23.48	
			49	23.50	23.11	23.08	23.11	
		25	0	22.50	22.30	22.37	22.23	
			13	23.00	22.27	22.50	22.22	
			25	22.50	22.13	22.15	22.30	
	50	0	22.50	22.20	22.37	22.24		
	16QAM	1	0	22.50	22.28	22.47	21.87	
			25	22.50	22.31	22.49	22.29	
			49	22.50	22.03	21.99	21.99	
		25	0	21.50	21.32	21.45	21.31	
			13	21.50	21.34	21.43	21.29	
			25	21.50	21.10	21.14	21.21	
		50	0	21.50	21.19	21.39	21.19	
		15MHz	QPSK	1	0	23.50	23.11	23.38
38					24.00	23.24	23.50	23.60
74	24.00				23.03	23.13	23.52	
36	0			23.00	22.37	22.55	22.26	
	18			23.00	22.41	22.54	22.64	
	39			23.00	22.40	22.54	22.49	
75	0		23.00	22.39	22.51	22.35		
16QAM	1		0	23.00	22.15	22.53	22.13	
			38	23.00	22.29	22.62	22.51	
			74	22.50	22.20	22.31	21.89	
	36		0	23.00	22.40	22.55	22.52	
			18	23.00	22.38	22.51	22.67	
			39	23.00	22.35	22.52	22.45	
	75		0	22.00	21.29	21.51	21.61	

Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	26140	26365	26590
					1860.0MHz	1882.5MHz	1905.0MHz
20MHz	QPSK	1	0	23.50	23.01	23.30	22.87
			50	<b>24.00</b>	23.45	<b>23.63</b>	23.13
			99	23.50	23.05	22.77	22.77
		50	0	22.50	22.23	22.08	21.94
			25	22.50	22.32	<b>22.34</b>	21.94
			50	22.50	22.16	21.96	21.98
	100	0	22.50	22.20	22.23	21.90	
	16QAM	1	0	22.50	21.97	22.24	21.50
			50	22.50	22.30	22.32	22.15
			99	22.00	21.86	21.69	21.89
		50	0	21.50	21.35	21.28	21.01
			25	21.50	21.33	21.34	20.97
			50	21.50	21.21	21.05	21.04
		100	0	21.50	21.26	21.19	21.05

Band 26

LTE-FDD Band 26a				Maximum Tune-up(dBm)	Conducted Power(dBm)		
Bandwidth	Modulation	RB allocation	RB offset		26697	26740	26783
					814.7MHz	819.0MHz	823.3MHz
1.4MHz	QPSK	1	0	25.50	25.25	25.21	25.08
			2	25.50	25.30	25.29	25.02
			5	25.50	25.19	25.15	24.98
		3	0	25.50	25.40	25.35	24.97
			2	25.50	25.34	25.33	24.89
			3	25.50	25.30	25.38	24.82
	6	0	24.50	24.32	24.21	23.79	
	16QAM	1	0	24.50	24.35	24.44	24.07
			2	25.00	24.54	24.64	23.99
			5	24.50	24.36	24.44	23.78
		3	0	24.50	24.25	24.25	23.71
			2	24.50	24.20	24.05	23.63
			3	24.50	24.15	23.98	23.66
		6	0	23.50	23.45	23.28	23.20
Bandwidth		Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	26705	26740
					815.5MHz	819.0MHz	822.5MHz
3MHz	QPSK	1	0	25.50	25.35	25.31	25.26
			7	25.50	25.30	25.27	24.84
			14	25.50	25.30	25.04	24.74
		8	0	24.50	24.25	23.93	23.77
			4	24.50	24.34	24.02	23.86
			7	24.50	24.34	24.31	23.92
	15	0	24.50	24.35	24.23	23.89	
	16QAM	1	0	25.00	24.39	24.60	23.90
			7	24.50	24.31	24.20	23.76
			14	24.50	24.31	24.07	23.72
		8	0	24.00	23.51	23.15	22.91
			4	24.00	23.51	23.27	23.04
			7	23.50	23.48	23.36	22.88
		15	0	23.50	23.41	23.00	23.03

LTE-FDD Band 26a				Maximum Tune-up(dBm)	Conducted Power(dBm)			
Bandwidth	Modulation	RB allocation	RB offset		26715	26740	26765	
					816.5MHz	819.0MHz	821.5MHz	
5MHz	QPSK	1	0	25.50	25.24	25.20	25.23	
			13	25.50	25.34	25.30	25.23	
			24	25.50	25.22	25.11	25.11	
		12	0	24.50	24.30	24.34	24.26	
			6	24.50	24.25	24.29	24.22	
			13	24.50	24.22	24.23	24.19	
	25	0	24.50	24.33	24.33	24.26		
	16QAM	1	0	24.50	24.24	24.47	24.31	
			13	25.00	24.42	24.63	24.35	
			24	25.00	24.35	24.50	24.08	
		12	0	23.50	23.28	23.42	23.39	
			6	23.50	23.32	23.47	23.42	
			13	23.50	23.31	23.37	23.38	
		25	0	23.50	23.39	23.38	23.42	
		Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	26740	
						819.0MHz		
10MHz	QPSK	1	0	25.50	25.23			
			25	25.50	25.30			
			49	25.00	24.68			
		25	0	24.50	24.10			
			13	24.50	24.44			
			25	24.50	24.34			
	50	0	24.50	24.07				
	16QAM	1	0	24.50	24.36			
			25	24.50	24.35			
			49	24.00	23.96			
		25	0	23.50	23.38			
			13	23.50	23.41			
			25	23.50	23.26			
		50	0	23.50	23.24			

LTE-FDD Band 26b				Maximum Tune-up(dBm)	Conducted Power(dBm)		
Bandwidth	Modulation	RB allocation	RB offset		26797	26915	27033
					824.7MHz	836.5MHz	848.3MHz
1.4MHz	QPSK	1	0	25.50	25.03	25.13	25.03
			2	25.50	25.24	25.21	25.15
			5	25.50	25.04	25.10	25.08
		3	0	25.50	25.27	25.24	25.00
			2	25.50	25.25	25.22	25.12
			3	25.50	25.22	25.31	25.03
	6	0	24.50	24.16	24.16	23.61	
	16QAM	1	0	24.50	24.26	24.32	24.31
			2	25.00	24.38	24.56	24.44
			5	24.50	24.21	24.38	23.84
		3	0	24.50	24.18	24.19	23.77
			2	24.50	24.13	24.18	23.78
			3	24.50	24.12	24.20	23.59
		6	0	23.50	23.29	23.16	23.23

Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	26805	26915	27025
					825.5MHz	836.5MHz	847.5MHz
3MHz	QPSK	1	0	25.50	25.12	25.26	25.18
			7	25.50	25.13	25.21	25.16
			14	25.50	24.97	25.12	24.70
		8	0	24.50	24.10	24.05	23.81
			4	24.50	24.18	24.23	24.30
			7	24.50	24.24	24.22	24.17
	15	0	24.50	24.21	24.17	24.10	
	16QAM	1	0	24.50	24.31	24.48	24.41
			7	24.50	24.19	24.46	24.14
			14	24.50	24.27	24.20	23.82
		8	0	23.50	23.25	23.35	23.22
			4	23.50	23.26	23.32	23.32
			7	23.50	23.37	23.35	22.96
		15	0	23.50	23.23	23.34	23.16

LTE-FDD Band 26b				Maximum Tune-up(dBm)	Conducted Power(dBm)			
Bandwidth	Modulation	RB allocation	RB offset		26815	26915	27015	
					826.5MHz	836.5MHz	846.5MHz	
5MHz	QPSK	1	0	25.50	25.03	25.14	25.11	
			13	25.50	25.09	25.23	25.23	
			24	25.50	24.99	25.04	25.00	
		12	0	24.50	24.06	24.01	23.83	
			6	24.50	24.08	24.21	24.19	
			13	24.50	24.15	24.15	24.04	
	25	0	24.50	24.11	24.20	24.09		
	16QAM	1	0	24.50	24.07	24.31	24.03	
			13	25.00	24.02	24.55	24.25	
			24	24.50	24.06	24.25	23.72	
		12	0	23.50	23.18	23.30	23.16	
			6	23.50	23.13	23.31	23.14	
			13	23.50	23.18	23.27	23.08	
		25	0	23.50	23.21	23.19	23.19	
		Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	26840	26915
						829.0MHz	836.5MHz	844.0MHz
10MHz	QPSK	1	0	25.50	25.03	25.10	24.99	
			25	25.50	25.23	25.35	25.41	
			49	25.50	25.11	25.01	24.96	
		25	0	24.50	24.14	24.31	24.16	
			13	24.50	24.15	24.35	24.20	
			25	24.50	24.19	24.19	24.07	
	50	0	24.50	24.12	24.28	24.09		
	16QAM	1	0	24.50	24.26	24.22	24.28	
			25	25.00	24.30	24.51	24.34	
			49	24.50	24.28	24.27	24.17	
		25	0	23.50	23.21	23.44	23.25	
			13	23.50	23.18	23.44	23.28	
			25	23.50	23.23	23.40	23.10	
		50	0	23.50	23.18	23.38	23.17	

LTE-TDD Band 26c				Maximum Tune-up(dBm)	Conducted Power(dBm)		
Bandwidth	Modulation	RB allocation	RB offset		26765	26865	26965
					821.5MHz	831.5MHz	841.5MHz
15MHz	QPSK	1	0	25.00	24.86	24.90	24.96
			38	<b>25.50</b>	<b>25.16</b>	25.08	25.04
			74	25.00	24.91	24.91	24.38
		36	0	24.50	23.81	24.03	23.69
			18	24.50	<b>24.01</b>	24.11	23.92
			39	24.50	23.99	24.06	23.89
	75	0	24.50	23.99	24.14	23.97	
	16QAM	1	0	24.50	24.09	24.16	24.12
			38	24.50	24.24	24.48	23.92
			74	24.50	24.13	23.86	23.71
		36	0	24.50	23.97	24.16	23.71
			18	24.50	23.98	24.16	23.95
			39	24.50	23.98	24.05	23.72
		75	0	23.50	22.99	23.21	23.00

Band 41

LTE-TDD Band 41				Maximum Tune-up(dBm)	Conducted Power(dBm)			
Bandwidth	Modulation	RB allocation	RB offset		39675	40620	41565	
					2498.5MHz	2593.0MHz	2687.5MHz	
5MHz	QPSK	1	0	24.50	24.05	24.03	23.86	
			13	24.50	24.20	24.20	24.09	
			24	24.50	24.09	24.02	23.97	
		12	0	23.50	23.03	23.15	22.93	
			6	23.50	23.01	23.13	22.94	
			13	23.50	23.02	23.06	22.92	
	25	0	23.50	23.01	23.09	22.95		
	16QAM	1	0	23.50	23.20	23.25	23.08	
			13	23.50	23.36	23.39	23.22	
			24	23.50	23.22	23.22	23.10	
		12	0	22.50	21.93	22.09	21.86	
			6	22.50	21.87	22.13	21.86	
			13	22.50	21.92	22.08	21.80	
		25	0	22.50	22.00	22.13	21.91	
		Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	39700	40620
						2501.0MHz	2593.0MHz	2685.0MHz
10MHz	QPSK	1	0	24.50	24.03	24.19	23.82	
			25	25.00	24.44	24.56	24.22	
			49	24.50	24.05	24.13	23.93	
		25	0	23.50	23.07	23.17	22.99	
			13	23.50	23.04	23.18	23.00	
			25	23.50	23.09	23.11	22.95	
	50	0	23.50	23.06	23.15	22.98		
	16QAM	1	0	23.50	23.21	22.90	23.08	
			25	24.00	23.51	23.27	23.39	
			49	23.50	23.29	22.86	23.11	
		25	0	22.50	22.12	22.19	22.01	
			13	22.50	22.09	22.18	22.02	
			25	22.50	22.11	22.11	22.04	
		50	0	22.50	22.04	22.11	21.92	

LTE-TDD Band 41				Maximum Tune-up(dBm)	Conducted Power(dBm)			
Bandwidth	Modulation	RB allocation	RB offset		39725	40620	41515	
					2503.5MHz	2593.0MHz	2682.5MHz	
15MHz	QPSK	1	0	24.50	23.84	24.10	23.59	
			38	24.50	24.13	24.34	23.93	
			74	24.50	23.91	24.03	23.71	
		36	0	23.50	23.14	23.24	22.94	
			18	23.50	23.14	23.25	22.93	
			39	23.50	23.13	23.23	22.92	
	75	0	23.50	23.15	23.25	22.95		
	16QAM	1	0	23.50	23.02	23.01	22.88	
			38	23.50	23.29	23.17	23.19	
			74	23.50	23.16	22.83	22.95	
		36	0	23.50	23.15	23.24	22.88	
			18	23.50	23.12	23.24	22.92	
			39	23.50	23.14	23.25	22.93	
		75	0	22.50	22.07	22.11	22.00	
		Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	39750	40620
2506.0MHz							2593.0MHz	2680.0MHz
20MHz	QPSK	1	0	24.00	23.72	23.84	23.50	
			50	<b>24.50</b>	24.28	<b>24.35</b>	24.09	
			99	24.00	23.82	23.85	23.64	
		50	0	23.50	22.96	<b>23.10</b>	22.79	
			25	23.50	22.97	23.07	22.78	
			50	23.50	23.01	22.97	22.83	
	100	0	23.50	22.93	23.02	22.80		
	16QAM	1	0	23.00	22.75	22.40	22.62	
			50	23.50	23.25	22.80	23.14	
			99	23.00	22.89	22.33	22.71	
		50	0	22.50	21.91	22.15	21.77	
			25	22.50	21.95	22.14	21.74	
			50	22.50	21.98	22.03	21.85	
		100	0	22.50	21.90	22.02	21.76	

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	23.50	22.56	22.54	23.12
			2	24.50	23.12	24.12	23.64
			5	24.00	22.45	22.78	23.54
		3	0	24.00	23.13	23.71	23.64
			2	24.00	22.89	23.70	23.63
			3	24.00	22.85	23.69	23.70
	6	0	23.50	22.67	23.32	23.31	
	16QAM	1	0	23.50	23.44	22.76	22.12
			2	23.50	22.78	23.02	23.01
			5	23.50	23.14	22.84	22.81
		3	0	23.00	22.73	22.47	22.39
			2	23.00	22.66	22.44	22.40
			3	23.00	22.62	22.42	22.45
		6	0	22.50	22.48	21.97	21.93



Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	131987	132322	132657	
					1711.5MHz	1745.0MHz	1778.5MHz	
3MHz	QPSK	1	0	22.00	21.78	20.96	21.75	
			7	24.00	20.70	22.93	23.88	
			14	22.00	20.85	21.63	21.65	
		8	0	23.50	20.63	21.84	23.18	
			4	23.50	20.74	21.57	23.11	
			7	23.50	20.56	21.96	23.19	
	15	0	23.00	20.78	22.76	22.92		
	16QAM	1	0	23.00	21.75	22.63	22.16	
			7	23.00	22.94	21.50	22.63	
			14	22.50	22.02	22.11	22.21	
		8	0	23.00	22.78	22.05	22.10	
			4	23.00	22.76	22.11	22.06	
			7	23.50	23.09	22.05	22.12	
		15	0	23.00	22.85	22.13	21.90	
		Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	131997	132322
1712.5MHz							1745.0MHz	1777.5MHz
5MHz	QPSK	1	0	23.00	22.94	21.61	21.03	
			13	23.00	22.97	22.55	22.68	
			24	23.50	23.01	22.84	22.11	
		12	0	23.00	21.87	21.80	22.80	
			6	23.00	21.88	21.82	22.62	
			13	23.00	21.90	21.65	22.73	
	25	0	23.00	21.69	21.24	22.59		
	16QAM	1	0	24.00	23.74	22.41	22.63	
			13	23.50	23.42	22.75	22.38	
			24	23.50	22.63	23.49	22.44	
		12	0	23.00	22.88	22.23	21.77	
			6	23.00	22.85	22.21	21.78	
			13	23.00	22.86	22.40	21.72	
		25	0	23.00	22.81	22.25	21.76	
		Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	132022	132322
1715.0MHz							1745.0MHz	1775.0MHz
10MHz	QPSK	1	0	23.00	22.57	21.49	21.55	
			25	23.00	22.79	22.19	22.85	
			49	23.00	22.75	22.18	22.41	
		25	0	23.00	21.63	20.95	22.88	
			13	23.00	21.56	20.96	22.72	
			25	23.50	21.56	21.14	23.04	
	50	0	23.00	21.58	21.06	22.85		
	16QAM	1	0	24.00	23.66	22.74	22.14	
			25	24.00	23.54	21.97	22.59	
			49	23.50	22.69	23.40	21.85	
		25	0	23.00	22.90	21.44	21.80	
			13	23.00	22.87	21.40	21.79	
			25	23.00	22.83	22.46	21.74	
		50	0	23.00	22.72	22.10	21.69	

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	23.00	22.61	21.05	21.05	
			38	23.50	23.03	21.46	22.96	
			74	23.00	21.63	22.34	22.93	
		36	0	23.00	21.68	20.87	22.62	
			18	23.00	21.65	20.85	22.62	
			39	23.00	21.54	21.18	22.62	
		75	0	23.00	21.52	20.92	22.60	
		16QAM	1	0	23.00	22.78	21.63	21.44
				38	23.50	23.25	21.33	22.47
	74			23.50	21.12	23.20	21.97	
	36		0	23.50	23.03	21.43	22.61	
			18	23.00	22.74	21.38	22.60	
			39	23.00	22.49	21.37	22.60	
	75	0	23.00	22.50	21.36	21.29		
	Bandwidth	Modulation	RB allocation	RB offset	Maximum Tune-up(dBm)	132072	132322	132572
1720.0MHz						1745.0MHz	1770.0MHz	
20MHz	QPSK	1	0	23.00	21.89	21.05	22.67	
			50	23.50	22.31	20.79	23.38	
			99	<b>23.50</b>	22.12	22.16	<b>23.42</b>	
		50	0	23.00	22.99	21.39	22.85	
			25	23.00	22.49	21.38	<b>22.85</b>	
			50	23.00	22.52	21.36	22.75	
		100	0	23.00	21.21	20.80	22.79	
		16QAM	1	0	23.50	23.27	22.45	21.57
				50	24.00	23.96	21.10	23.10
	99			23.00	22.75	22.04	22.32	
	50		0	23.00	22.72	22.11	21.52	
			25	23.00	22.72	21.63	21.53	
			50	23.00	22.61	22.03	21.59	
	100	0	23.00	22.69	21.25	21.53		

### 8.4 Wi-Fi

2.4G						
Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power (dBm)	Maximum Tune-up(dBm)	SAR Test Require.
2.4 (2.4~2.4835)	802.11b	1	2412	14.85	15.00	No
		6	2437	14.69	15.00	No
		11	2462	<b>16.69</b>	<b>17.00</b>	Yes
	802.11g	1	2412	16.25	16.50	No
		6	2437	16.98	17.00	No
		11	2462	17.88	18.00	No
	802.11n(HT20)	1	2412	14.65	15.00	No
		6	2437	15.35	15.50	No
		11	2462	15.47	15.50	No
	802.11n(HT40)	3	2422	14.58	15.00	No
		7	2442	14.36	14.50	No
		11	2462	14.57	15.00	No

Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power (dBm)	Maximum Tune-up(dBm)	SAR Test Require.
U-NII-1 (5.150~5.250)	802.11a	36	5180	9.26	9.50	No
		40	5200	8.60	9.00	No
		48	5240	8.50	9.00	No
	802.11n(HT20)	36	5180	9.56	10.00	No
		40	5200	10.08	10.50	No
		48	5240	9.40	9.50	No
	802.11ac(VHT20)	36	5180	9.87	10.00	No
		40	5200	10.01	10.50	No
		48	5240	9.38	9.50	No
	802.11n(HT40)	38	5190	9.98	10.00	No
		46	5230	9.82	10.00	No
	802.11ac(VHT40)	38	5190	9.75	10.00	No
46		5230	<b>10.26</b>	<b>10.50</b>	Yes	
802.11ac(VHT80)	42	5210	10.07	10.50	No	
Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power (dBm)	Maximum Tune-up(dBm)	SAR Test Require.
U-NII-2a (5.250~5.350)	802.11a	52	5260	9.44	9.50	No
		56	5280	9.27	9.50	No
		64	5320	8.75	9.00	No
	802.11n(HT20)	52	5260	<b>9.67</b>	<b>10.00</b>	Yes
		56	5280	8.47	8.50	No
		64	5320	8.49	8.50	No
	802.11ac(VHT20)	52	5260	9.49	8.50	No
		60	5300	8.29	8.50	No
		64	5320	8.37	8.50	No
	802.11n(HT40)	54	5270	9.13	9.50	No
		62	5310	7.98	8.00	No
	802.11ac(VHT40)	54	5270	9.18	9.50	No
62		5310	7.93	8.00	No	
802.11ac(VHT80)	58	5290	8.91	9.00	No	
Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power (dBm)	Maximum Tune-up(dBm)	SAR Test Require.
U-NII-2c (5.470~5.725)	802.11a	100	5500	8.93	9.00	No
		116	5580	8.08	8.50	No
		140	5700	<b>9.29</b>	<b>9.50</b>	Yes
	802.11n(HT20)	100	5500	8.81	9.00	No
		116	5580	7.74	8.00	No
		140	5700	9.05	9.50	No
	802.11ac(VHT20)	100	5500	8.76	9.00	No
		116	5580	7.59	8.00	No
		140	5700	9.25	9.50	No
	802.11n(HT40)	102	5510	8.89	9.00	No
		118	5590	7.47	7.50	No
		134	5670	9.04	9.50	No
802.11ac(VHT40)	102	5510	8.36	8.50	No	
	118	5590	7.96	8.00	No	
	134	5670	9.16	9.50	No	
802.11ac(VHT80)	106	5530	8.78	9.00	No	
	122	5610	7.85	8.00	No	
Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power (dBm)	Maximum Tune-up(dBm)	SAR Test Require.
U-NII-3 (5.725~5.850)	802.11a	149	5745	8.47	8.50	No
		157	5785	8.86	9.00	No
		165	5825	9.29	9.50	No
	802.11n(HT20)	149	5745	7.80	8.00	No
		157	5785	8.76	9.00	No

	802.11ac(VHT20)	165	5825	9.50	10.00	No
		149	5745	8.16	8.50	No
		157	5785	9.07	9.50	No
		165	5825	<b>9.55</b>	<b>10.00</b>	Yes
	802.11n(HT40)	151	5755	8.09	8.50	No
		159	5795	8.79	9.00	No
	802.11ac(VHT40)	151	5755	8.12	8.50	No
		159	5795	8.61	9.00	No
802.11ac(VHT80)	155	5775	8.39	8.50	No	

### 8.5 Bluetooth

EDR	Mode	Maximum Tune-up(dBm)	Average Conducted Output Power (dBm)		
			0	39	78
			2402MHz	2441MHz	2480MHz
			GFSK	10.00	8.65
$\pi/4$ QPSK	9.00	8.69	8.95	8.74	
8DPSK	10.00	8.99	9.55	8.68	

BLE	Mode	Maximum Tune-up(dBm)	Average Conducted Output Power (dBm)		
			0	19	39
			2402MHz	2440MHz	2480MHz
			1Mbps	6.00	4.25

### 8.6 NFC

Maximum Tune-up(dBm)	Average Conducted Output Power (dBm)	
	13.56MHz	
-4.50	-4.72	

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
39	2.441	10.00	10	0	10	Yes
/	0.01356	-4.50	0.35	0	71	No

This device has NFC operations, the NFC antenna is integrated into the device for this model, therefore, all SAR test were performed with the device which already incorporates the NFC antenna. A diagram showing the location of the antenna can be found in the operational description. According to FCC KDB publication 447498 D01v06transmitters are consider to be operating simultaneously when there is overlapping transmission, with the exception of transmission during network hand-offs with maximum hand-off duration less than 30 seconds.

**Note**

1. Per KDB 447498 D01 General RF Exposure Guidance v06, the 1-g SAR test exclusion thresholds for 300 MHz to 6 GHz at *test separation distances* ≤ 40 cm are determined by:

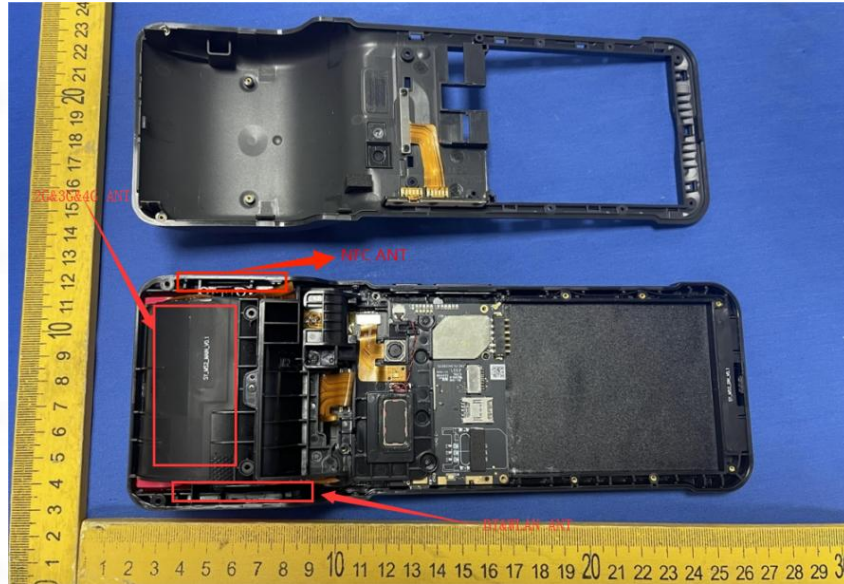
MHz	5	10	15	20	25	mm
150	39	77	116	155	194	SAR Test Exclusion Threshold (mW)
300	27	55	82	110	137	
450	22	45	67	89	112	
835	16	33	49	66	82	
900	16	32	47	63	79	
1500	12	24	37	49	61	
1900	11	22	33	44	54	
2450	10	19	29	38	48	
3600	8	16	24	32	40	
5200	7	13	20	26	33	
5400	6	13	19	26	32	
5800	6	12	19	25	31	

\*When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine estimated SAR.

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

Distance of The Antenna to the EUT surface and edge (mm)						
Antenna	Front Side (mm)	Back Side (mm)	Left Edge (mm)	Right Edge (mm)	Top Edge (mm)	Bottom Edge (mm)
WWAN	<25	<25	<25	<25	<25	217
WIFI/BT	<25	<25	75	<25	<25	217
Positions for SAR tests						
Antenna	Front Side (mm)	Back Side (mm)	Left Edge (mm)	Right Edge (mm)	Top Edge (mm)	Bottom Edge (mm)
WWAN	No	Yes	Yes	Yes	Yes	No
WIFI/BT	No	Yes	No	Yes	Yes	No

### 9.1 SAR Test Exclusion Consideration Table

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

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

W/kg for test separation distances ≤ 50 mm;

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

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

Mode	Channel	Frequency (GHz)	Max tune-up power (dBm)	Max. Power (mW)	Exposure Position	Head	Body-worn
					Test Dist.(mm)	0	10
NFC	/	0.01356	-4.50	0.35	Estimated SAR(W/kg)	/	0.014

# 10. Test Result

## GSM

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 Reported SAR (W/kg)	Meas. No.
GPRS 850+4slots	Front	190	836.6	3.660	0.230	100.00	1.000	30.02	30.50	1.117	0.257	/
	Back	190	836.6	1.110	0.461	100.00	1.000	30.02	30.50	1.117	<b>0.515</b>	1#
	Left	190	836.6	-0.870	0.125	100.00	1.000	30.02	30.50	1.117	0.140	/
	Right	190	836.6	1.680	0.123	100.00	1.000	30.02	30.50	1.117	0.137	/
	Top	190	836.6	2.210	0.089	100.00	1.000	30.02	30.50	1.117	0.099	/
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 Reported SAR (W/kg)	Meas. No.
GPRS 1900+4slots	Front	661	1880.0	0.660	0.182	100.00	1.000	29.01	29.50	1.119	0.204	/
	Back	661	1880.0	1.910	0.356	100.00	1.000	29.01	29.50	1.119	<b>0.398</b>	2#
	Left	661	1880.0	-1.880	0.108	100.00	1.000	29.01	29.50	1.119	0.121	/
	Right	661	1880.0	-4.470	0.104	100.00	1.000	29.01	29.50	1.119	0.116	/
	Top	661	1880.0	2.410	0.081	100.00	1.000	29.01	29.50	1.119	0.091	/

## WCDMA

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 Reported SAR (W/kg)	Meas. No.
WCDMA Band 2 (RMC*)	Front	9400	1880.0	-1.160	0.265	100.00	1.000	23.57	24.00	1.104	0.293	/
	Back	9400	1880.0	-1.170	0.723	100.00	1.000	23.57	24.00	1.104	<b>0.798</b>	3#
	Left	9400	1880.0	2.110	0.165	100.00	1.000	23.57	24.00	1.104	0.182	/
	Right	9400	1880.0	3.510	0.162	100.00	1.000	23.57	24.00	1.104	0.179	/
	Top	9400	1880.0	-2.530	0.103	100.00	1.000	23.57	24.00	1.104	0.114	/
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 Reported SAR (W/kg)	Meas. No.
WCDMA Band 5 (RMC*)	Front	4132	826.4	-4.050	0.314	100.00	1.000	23.55	24.00	1.109	0.348	/
	Back	4132	826.4	1.890	0.716	100.00	1.000	23.55	24.00	1.109	<b>0.794</b>	4#
	Left	4132	826.4	0.870	0.186	100.00	1.000	23.55	24.00	1.109	0.206	/
	Right	4132	826.4	1.290	0.183	100.00	1.000	23.55	24.00	1.109	0.203	/
	Top	4132	826.4	-2.390	0.128	100.00	1.000	23.55	24.00	1.109	0.142	/

## LTE

Body(hotspot open, 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	Front	18900	1880.0	-0.770	0.339	100.00	1.000	23.61	24.00	1.094	0.371	/	
		Back	18700	1860.0	1.440	0.864	100.00	1.000	23.47	23.50	1.007	0.870	/	
		Back	18900	1880.0	-2.290	0.894	100.00	1.000	23.61	24.00	1.094	<b>0.978</b>	5#	
		Back-repeat	18900	1880.0	3.120	0.871	100.00	1.000	23.61	24.00	1.094	0.953	/	
		Back	19100	1900.0	4.120	0.869	100.00	1.000	23.41	23.50	1.021	0.887	/	
		Left	18900	1880.0	1.250	0.210	100.00	1.000	23.61	24.00	1.094	0.230	/	
		Right	18900	1880.0	2.210	0.204	100.00	1.000	23.61	24.00	1.094	0.223	/	
	Top	18900	1880.0	0.870	0.148	100.00	1.000	23.61	24.00	1.094	0.162	/		
	50%RB	Front	18900	1880.0	-2.320	0.310	100.00	1.000	22.53	23.00	1.114	0.345	/	
		Back	18900	1880.0	-1.110	0.824	100.00	1.000	22.53	23.00	1.114	0.918	/	
		Left	18900	1880.0	0.350	0.164	100.00	1.000	22.53	23.00	1.114	0.183	/	
		Right	18900	1880.0	1.240	0.160	100.00	1.000	22.53	23.00	1.114	0.178	/	
		Top	18900	1880.0	-2.680	0.102	100.00	1.000	22.53	23.00	1.114	0.114	/	
		Body(hotspot open, 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	Front	20175	1732.5	3.530	0.405	100.00	1.000	21.00	21.00	1.000	0.405	/
		Back	20050	1720.0	1.562	0.988	100.00	1.000	20.72	21.00	1.067	1.054	/
		Back	20175	1732.5	-2.090	1.117	100.00	1.000	21.00	21.00	1.000	<b>1.117</b>	6#
		Back-repeat	20175	1732.5	4.660	1.086	100.00	1.000	21.00	21.00	1.000	1.086	/
		Back	20300	1745.0	1.970	0.993	100.00	1.000	20.76	21.00	1.057	1.050	/
		Left	20175	1732.5	-0.840	0.325	100.00	1.000	21.00	21.00	1.000	0.325	/
		Right	20175	1732.5	0.150	0.321	100.00	1.000	21.00	21.00	1.000	0.321	/
	Top	20175	1732.5	-0.760	0.126	100.00	1.000	21.00	21.00	1.000	0.126	/	
	50%RB	Front	20175	1732.5	0.950	0.352	100.00	1.000	21.00	21.00	1.000	0.352	/
		Back	20175	1732.5	-1.990	0.992	100.00	1.000	21.00	21.00	1.000	0.992	/
		Left	20175	1732.5	4.670	0.288	100.00	1.000	21.00	21.00	1.000	0.288	/
		Right	20175	1732.5	2.560	0.284	100.00	1.000	21.00	21.00	1.000	0.284	/
		Top	20175	1732.5	1.620	0.106	100.00	1.000	21.00	21.00	1.000	0.106	/

Body(hotspot open, 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	Front	20600	844.0	2.530	0.422	100.00	1.000	25.37	25.50	1.030	0.435	/
		Back	20450	829.0	1.820	0.986	100.00	1.000	25.23	25.50	1.064	1.049	/
		Back	20525	836.5	-0.640	0.990	100.00	1.000	25.25	25.50	1.059	1.048	/
		Back	20600	844.0	2.470	1.174	100.00	1.000	25.37	25.50	1.030	<b>1.209</b>	7#
		Back-repeat	20600	844.0	-1.360	1.102	100.00	1.000	25.37	25.50	1.030	1.135	/
		Left	20600	844.0	-2.840	0.343	100.00	1.000	25.37	25.50	1.030	0.353	/
		Right	20600	844.0	-3.570	0.339	100.00	1.000	25.37	25.50	1.030	0.349	/
	Top	20600	844.0	3.250	0.153	100.00	1.000	25.37	25.50	1.030	0.158	/	
	50%RB	Front	20600	844.0	3.990	0.387	100.00	1.000	24.13	24.50	1.089	0.421	/
		Back	20600	844.0	1.750	1.006	100.00	1.000	24.13	24.50	1.089	1.096	/
		Left	20600	844.0	-0.670	0.311	100.00	1.000	24.13	24.50	1.089	0.339	/
		Right	20600	844.0	0.260	0.304	100.00	1.000	24.13	24.50	1.089	0.331	/
		Top	20600	844.0	3.620	0.129	100.00	1.000	24.13	24.50	1.089	0.140	/

Body(hotspot open, 0mm Gap)													
Mode	Channel Type	Position	Ch.	Freq. (MHz)	Power Drift (%)	1g Meas SAR (W/kg)	Duty cycle (%)	Duty cycle Factor	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Band 7 (BW: 20MHz)	1RB	Front	21100	2535	2.530	0.267	100.00	1.000	24.02	24.50	1.117	0.298	/
		Back	21100	2535	-0.770	0.712	100.00	1.000	24.02	24.50	1.117	<b>0.795</b>	8#
		Left	21100	2535	-2.840	0.185	100.00	1.000	24.02	24.50	1.117	0.207	/
		Right	21100	2535	-3.570	0.181	100.00	1.000	24.02	24.50	1.117	0.202	/
		Top	21100	2535	0.670	0.103	100.00	1.000	24.02	24.50	1.117	0.115	/
	50%RB	Front	21100	2535	3.990	0.235	100.00	1.000	22.69	23.00	1.074	0.252	/
		Back	21100	2535	1.960	0.686	100.00	1.000	22.69	23.00	1.074	0.737	/
		Left	21100	2535	-0.670	0.135	100.00	1.000	22.69	23.00	1.074	0.145	/
		Right	21100	2535	0.260	0.131	100.00	1.000	22.69	23.00	1.074	0.141	/
		Top	21100	2535	3.620	0.085	100.00	1.000	22.69	23.00	1.074	0.091	/

Body(hotspot open, 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	Front	23130	711.0	0.150	0.423	100.00	1.000	25.65	26.00	1.084	0.459	/
		Back	23060	704.0	3.110	1.051	100.00	1.000	25.60	26.00	1.096	1.152	/
		Back	23095	707.5	-1.910	1.032	100.00	1.000	25.54	26.00	1.112	1.148	/
		Back	23130	711.0	-2.110	1.201	100.00	1.000	25.65	26.00	1.084	<b>1.302</b>	9#
		Back-repeat	23130	711.0	-0.830	1.135	100.00	1.000	25.65	26.00	1.084	1.230	/
		Left	23130	711.0	2.910	0.295	100.00	1.000	25.65	26.00	1.084	0.320	/
		Right	23130	711.0	-0.140	0.290	100.00	1.000	25.65	26.00	1.084	0.314	/
	Top	23130	711.0	-3.060	0.166	100.00	1.000	25.65	26.00	1.084	0.180	/	
	50%RB	Front	23130	711.0	0.730	0.382	100.00	1.000	24.39	24.50	1.026	0.392	/
		Back	23130	711.0	1.650	1.092	100.00	1.000	24.39	24.50	1.026	1.120	/
		Left	23130	711.0	-2.620	0.242	100.00	1.000	24.39	24.50	1.026	0.248	/

	Right	23130	711.0	-0.410	0.236	100.00	1.000	24.39	24.50	1.026	0.242	/
	Top	23130	711.0	3.470	0.147	100.00	1.000	24.39	24.50	1.026	0.151	/

Body(hotspot open, 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 14 (BW: 10MHz)	1RB	Front	23330	793.0	3.150	0.396	100.00	1.000	25.47	25.50	1.007	0.399	/
		Back	23330	793.0	2.680	1.063	100.00	1.000	25.47	25.50	1.007	<b>1.070</b>	10#
		Back-repeat	23330	793.0	1.770	0.995	100.00	1.000	25.47	25.50	1.007	1.002	/
		Left	23330	793.0	-2.460	0.277	100.00	1.000	25.47	25.50	1.007	0.279	/
		Right	23330	793.0	0.320	0.274	100.00	1.000	25.47	25.50	1.007	0.276	/
		Top	23330	793.0	-3.440	0.153	100.00	1.000	25.47	25.50	1.007	0.154	/
	50%RB	Front	23330	793.0	-2.520	0.362	100.00	1.000	24.30	24.50	1.047	0.379	/
		Back	23330	793.0	1.330	0.991	100.00	1.000	24.30	24.50	1.047	1.038	/
		Left	23330	793.0	0.590	0.232	100.00	1.000	24.30	24.50	1.047	0.243	/
		Right	23330	793.0	-0.310	0.228	100.00	1.000	24.30	24.50	1.047	0.239	/
		Top	23330	793.0	4.110	0.132	100.00	1.000	24.30	24.50	1.047	0.138	/

Body(hotspot open, 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	Front	23800	711.0	3.010	0.415	100.00	1.000	25.68	26.00	1.076	0.447	/
		Back	23780	709.0	1.960	1.005	100.00	1.000	25.56	26.00	1.107	1.113	/
		Back	23790	710.0	2.560	1.066	100.00	1.000	25.63	26.00	1.089	1.161	/
		Back	23800	711.0	-1.840	1.191	100.00	1.000	25.68	26.00	1.076	<b>1.282</b>	11#
		Back-repeat	23800	711.0	0.770	1.105	100.00	1.000	25.68	26.00	1.076	1.189	/
		Left	23800	711.0	-3.650	0.285	100.00	1.000	25.68	26.00	1.076	0.307	/
		Right	23800	711.0	0.170	0.281	100.00	1.000	25.68	26.00	1.076	0.302	/
		Top	23800	711.0	-3.210	0.186	100.00	1.000	25.68	26.00	1.076	0.200	/
	50%RB	Front	23800	711.0	2.520	0.365	100.00	1.000	24.39	24.50	1.026	0.374	/
		Back	23800	711.0	4.130	1.084	100.00	1.000	24.39	24.50	1.026	1.112	/
		Left	23800	711.0	-1.500	0.242	100.00	1.000	24.39	24.50	1.026	0.248	/
		Right	23800	711.0	-0.310	0.239	100.00	1.000	24.39	24.50	1.026	0.245	/
		Top	23800	711.0	0.110	0.171	100.00	1.000	24.39	24.50	1.026	0.175	/

Body(hotspot open, 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 25 (BW: 20MHz)	1RB	Front	26365	1882.5	3.010	0.386	100.00	1.000	23.63	24.00	1.089	0.420	/
		Back	26140	1860.0	2.850	0.961	100.00	1.000	23.45	23.50	1.012	0.973	/
		Back	26365	1882.5	-4.990	1.081	100.00	1.000	23.63	24.00	1.089	<b>1.177</b>	12#
		Back-repeat	26365	1882.5	-1.060	1.006	100.00	1.000	23.63	24.00	1.089	1.096	/
		Back	26590	1905.0	0.130	0.933	100.00	1.000	23.13	23.50	1.089	1.016	/
		Left	26365	1882.5	2.850	0.262	100.00	1.000	23.63	24.00	1.089	0.285	/
		Right	26365	1882.5	-1.040	0.258	100.00	1.000	23.63	24.00	1.089	0.281	/
		Top	26365	1882.5	1.320	0.162	100.00	1.000	23.63	24.00	1.089	0.176	/
	50%RB	Front	26365	1882.5	0.980	0.327	100.00	1.000	22.34	22.50	1.038	0.339	/
		Back	26365	1882.5	3.460	0.998	100.00	1.000	22.34	22.50	1.038	1.036	/
		Left	26365	1882.5	2.270	0.231	100.00	1.000	22.34	22.50	1.038	0.240	/
		Right	26365	1882.5	-1.520	0.228	100.00	1.000	22.34	22.50	1.038	0.237	/
		Top	26365	1882.5	2.810	0.145	100.00	1.000	22.34	22.50	1.038	0.151	/

Body(hotspot open, 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 26 (BW: 15MHz)	1RB	Front	26765	821.5	1.290	0.366	100.00	1.000	25.16	25.50	1.081	0.396	/
		Back	26765	821.5	0.850	0.967	100.00	1.000	25.16	25.50	1.081	<b>1.045</b>	13#
		Back-repeat	26765	821.5	-1.880	0.944	100.00	1.000	25.16	25.50	1.081	1.020	/
		Back	26865	831.5	3.960	0.936	100.00	1.000	25.08	25.50	1.102	1.031	/
		Back	26965	841.5	-2.630	0.930	100.00	1.000	25.04	25.50	1.112	1.034	/
		Left	26765	821.5	-4.550	0.241	100.00	1.000	25.16	25.50	1.081	0.261	/



50%RB	Right	26765	821.5	2.350	0.237	100.00	1.000	25.16	25.50	1.081	0.256	/
	Top	26765	821.5	-1.640	0.152	100.00	1.000	25.16	25.50	1.081	0.164	/
	Front	26765	821.5	0.290	0.320	100.00	1.000	24.01	24.50	1.119	0.358	/
	Back	26765	821.5	3.610	0.913	100.00	1.000	24.01	24.50	1.119	1.022	/
	Left	26765	821.5	2.670	0.204	100.00	1.000	24.01	24.50	1.119	0.228	/
	Right	26765	821.5	-1.320	0.200	100.00	1.000	24.01	24.50	1.119	0.224	/
	Top	26765	821.5	3.020	0.130	100.00	1.000	24.01	24.50	1.119	0.145	/

Body(hotspot open, 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	Front	40620	2593.0	2.500	0.475	100.00	1.000	24.35	24.50	1.035	0.492	/
		Back	39750	2506.0	4.850	1.126	100.00	1.000	24.28	24.50	1.052	1.185	/
		Back	40620	2593.0	-2.250	1.210	100.00	1.000	24.35	24.50	1.035	<b>1.252</b>	14#
		Back-repeat	40620	2593.0	-1.490	1.189	100.00	1.000	24.35	24.50	1.035	1.231	/
		Back	41490	2680.0	-0.830	1.065	100.00	1.000	24.09	24.50	1.099	1.170	/
		Left	40620	2593.0	1.760	0.345	100.00	1.000	24.35	24.50	1.035	0.357	/
		Right	40620	2593.0	1.500	0.341	100.00	1.000	24.35	24.50	1.035	0.353	/
	50%RB	Top	40620	2593.0	0.680	0.213	100.00	1.000	24.35	24.50	1.035	0.220	/
		Front	40620	2593.0	1.200	0.432	100.00	1.000	23.10	23.50	1.096	0.473	/
		Back	40620	2593.0	0.460	1.086	100.00	1.000	23.10	23.50	1.096	1.190	/
		Left	40620	2593.0	3.760	0.312	100.00	1.000	23.10	23.50	1.096	0.342	/
		Right	40620	2593.0	-3.500	0.309	100.00	1.000	23.10	23.50	1.096	0.339	/
		Top	40620	2593.0	2.660	0.196	100.00	1.000	23.10	23.50	1.096	0.215	/

Body(hotspot open, 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	Front	132572	1770.0	1.200	0.452	100.00	1.000	23.42	23.50	1.019	0.461	/
		Back	132072	1720.0	4.160	0.860	100.00	1.000	22.12	22.50	1.091	0.938	/
		Back	132322	1745.0	3.620	0.865	100.00	1.000	22.16	22.50	1.081	0.935	/
		Back	132572	1770.0	-2.520	1.129	100.00	1.000	23.42	23.50	1.019	<b>1.150</b>	15#
		Back-repeat	132572	1770.0	1.330	1.102	100.00	1.000	23.42	23.50	1.019	1.123	/
		Left	132572	1770.0	2.770	0.328	100.00	1.000	23.42	23.50	1.019	0.334	/
		Right	132572	1770.0	3.020	0.324	100.00	1.000	23.42	23.50	1.019	0.330	/
	50%RB	Top	132572	1770.0	0.200	0.213	100.00	1.000	23.42	23.50	1.019	0.217	/
		Front	132572	1770.0	2.070	0.412	100.00	1.000	22.85	23.00	1.035	0.426	/
		Back	132572	1770.0	1.450	1.052	100.00	1.000	22.85	23.00	1.035	1.089	/
		Left	132572	1770.0	0.278	0.267	100.00	1.000	22.85	23.00	1.035	0.276	/
		Right	132572	1770.0	-3.010	0.264	100.00	1.000	22.85	23.00	1.035	0.273	/
		Top	132572	1770.0	-2.140	0.186	100.00	1.000	22.85	23.00	1.035	0.193	/

Wifi

Body(hotspot open, 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	Front	11	2462	1.700	0.132	100.00	1.000	16.69	17.00	1.074	0.142	/	
	Back	11	2462	-3.540	0.195	100.00	1.000	16.69	17.00	1.074	<b>0.209</b>	16#	
	Right	11	2462	-1.970	0.114	100.00	1.000	16.69	17.00	1.074	0.122	/	
	Top	11	2462	3.080	0.092	100.00	1.000	16.69	17.00	1.074	0.099	/	
2.4g (2.4~2.4835) 802.11g	Front	11	2462	2.150	0.126	100.00	1.000	17.88	18.00	1.028	0.130	/	
	Back	11	2462	-0.960	0.184	100.00	1.000	17.88	18.00	1.028	0.189	/	
	Right	11	2462	1.330	0.107	100.00	1.000	17.88	18.00	1.028	0.110	/	
	Top	11	2462	4.110	0.087	100.00	1.000	17.88	18.00	1.028	0.089	/	

Body(hotspot open, 0mm Gap)													
Mode	Position	Ch.	Freq. (MHz)	Power Drift (%)	1g Meas SAR (W/kg)	Duty cycle (%)	Duty cycle Factor	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.	
U-NII-1 (5.150~5.250) 802.11ac(VHT40)	Front	46	5230	-2.240	0.143	100.00	1.000	10.26	10.50	1.057	0.151	/	
	Back	46	5230	2.900	0.203	100.00	1.000	10.26	10.50	1.057	<b>0.215</b>	17#	

	Right	46	5230	1.340	0.119	100.00	1.000	10.26	10.50	1.057	0.126	/
	Top	46	5230	2.100	0.096	100.00	1.000	10.26	10.50	1.057	0.101	/

Body(hotspot open, 0mm Gap)												
Mode	Position	Ch.	Freq. (MHz)	Power Drift (%)	1g Meas SAR (W/kg)	Duty cycle (%)	Duty cycle Factor	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
U-NII-2a (5.250~5.350) 802.11n(HT20)	Front	52	5260	1.680	0.149	100.00	1.000	9.67	10.00	1.079	0.161	/
	Back	52	5260	2.420	0.225	100.00	1.000	9.67	10.00	1.079	<b>0.243</b>	18#
	Right	52	5260	-0.835	0.125	100.00	1.000	9.67	10.00	1.079	0.135	/
	Top	52	5260	0.045	0.101	100.00	1.000	9.67	10.00	1.079	0.109	/

Body(hotspot open, 0mm Gap)												
Mode	Position	Ch.	Freq. (MHz)	Power Drift (%)	1g Meas SAR (W/kg)	Duty cycle (%)	Duty cycle Factor	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
U-NII-2c (5.475~5.725) 802.11a	Front	140	5700	-0.350	0.096	100.00	1.000	9.29	9.50	1.050	0.101	/
	Back	140	5700	-3.730	0.155	100.00	1.000	9.29	9.50	1.050	<b>0.163</b>	19#
	Right	140	5700	-0.835	0.086	100.00	1.000	9.29	9.50	1.050	0.090	/
	Top	140	5700	0.045	0.071	100.00	1.000	9.29	9.50	1.050	0.075	/

Body(hotspot open, 0mm Gap)												
Mode	Position	Ch.	Freq. (MHz)	Power Drift (%)	1g Meas SAR (W/kg)	Duty cycle (%)	Duty cycle Factor	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
U-NII-3 (5.725~5.850) 802.11ac(VHT20)	Front	165	5825	-1.000	0.145	100.00	1.000	9.55	10.00	1.109	0.161	/
	Back	165	5825	-2.110	0.221	100.00	1.000	9.55	10.00	1.109	<b>0.245</b>	20#
	Right	165	5825	3.052	0.122	100.00	1.000	9.55	10.00	1.109	0.135	/
	Top	165	5825	4.110	0.098	100.00	1.000	9.55	10.00	1.109	0.109	/

Body(hotspot open, 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	Front	39	2441	-1.660	0.032	100.00	1.000	9.74	10.00	1.062	0.034	/
	Back	39	2441	-3.480	0.048	100.00	1.000	9.74	10.00	1.062	<b>0.051</b>	21#
	Right	39	2441	2.720	0.026	100.00	1.000	9.74	10.00	1.062	0.028	/
	Top	39	2441	-1.620	0.020	100.00	1.000	9.74	10.00	1.062	0.021	/

**Note:**

- The maximum SAR Value of each test band is marked bold.
- SAR plot is provided only for the highest measured SAR in each exposure configuration, wireless mode and frequency band combination.
- Per KDB 447498 D01 v06, for each exposure position, if the highest output power channel Reported SAR ≤ 0.8W/kg, other channels SAR testing is not necessary.
- Per KDB 616217 D04, tablet use is evaluated with the device positioned at 0mm from a flat phantom respectively filled with head tissue-equivalent medium.
- Per KDB 447498 D01 v06, the report SAR is measured SAR value adjusted for maximum tune-up tolerance. Scaling Factor=10<sup>4</sup>[(tune-up limit power(dBm) - 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  $\leq 1.45$  W/kg and the ratio of these highest SAR values, i.e., largest divided by smallest value, is  $\leq 1.10$ , 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  $\geq 0.80$  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  $\geq 1.45$  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  $\geq 1.5$  W/kg, perform a third repeated measurement.

Note: For 1g SAR, the highest measured 1g SAR is  $1.210 > 0.80$  W/kg, repeated measurement is as below.

Mode	Position	Ch.	Freq. (MHz)	1g Meas SAR (W/kg)	the ratio of largest to smallest SAR for the original and first repeated measurements
Band 2 (BW: 20MHz)	Back	18900	1880.0	0.894	1.041
	Back-repeated	18900	1880.0	0.871	
Band 4 (BW: 20MHz)	Back	20175	1732.5	1.117	1.029
	Back-repeated	20175	1732.5	1.086	
Band 5 (BW: 10MHz)	Back	20600	844.0	1.174	1.065
	Back-repeated	20600	844.0	1.102	
Band 12 (BW: 10MHz)	Back	23130	711.0	1.201	1.058
	Back-repeated	23130	711.0	1.135	
Band 14 (BW: 10MHz)	Back	23330	793.0	1.063	1.068
	Back-repeated	23330	793.0	0.995	
Band 17 (BW: 10MHz)	Back	23800	711.0	1.191	1.078
	Back-repeated	23800	711.0	1.105	
Band 25 (BW: 20MHz)	Back	26365	1882.5	1.081	1.075
	Back-repeated	26365	1882.5	1.006	
Band 26 (BW: 15MHz)	Back	26765	821.5	0.967	1.024
	Back-repeated	26765	821.5	0.944	
Band 41 (BW: 20MHz)	Back	40620	2593.0	1.210	1.018
	Back-repeated	40620	2593.0	1.189	
Band 66 (BW: 20MHz)	Back	132572	1770.0	1.129	1.025
	Back-repeated	132572	1770.0	1.102	

According to the above ratio result, we don't need to perform a second repeated measurement for these bands.

## 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	Body-worn
1	WWAN+WIFI(2.4g)	Yes
2	WWAN+WIFI(5g)	Yes
3	WWAN+BT	Yes
4	WWAN+NFC	Yes

### 12.2 Sum SAR of Simultaneous Transmission

Hotspot(body-worn)

Band	Test Position	RB allocation	Scaled					Σ SAR (W/kg) WWAN + WIFI 2.4G	Σ SAR (W/kg) WWAN + WIFI 5G	Σ SAR (W/kg) WWAN + BT	Σ SAR (W/kg) WWAN + NFC	SPLSR	Remark
			WWAN	WIFI 2.4G	WIFI 5G	Bluetooth	NFC						
LTE Band 12 QPSK (10MHz)	Front	1RB	0.459	0.142	0.161	0.034	<b>0.014</b>	0.601	0.620	0.493	0.473	N/A	N/A
	Back		<b>1.302</b>	<b>0.209</b>	<b>0.245</b>	<b>0.051</b>	0.014	1.511	<b>1.547</b>	1.353	1.316	N/A	N/A
	Left		0.320	/	/	/	0.014	0.320	0.320	0.320	0.334	N/A	N/A
	Right		0.314	0.122	0.135	0.028	/	0.436	0.449	0.342	0.314	N/A	N/A
	Top		0.180	0.099	0.109	0.021	0.014	0.279	0.289	0.201	0.194	N/A	N/A
	Front	50%RB	0.392	0.142	0.161	0.034	0.014	0.534	0.553	0.426	0.406	N/A	N/A
	Back		1.120	0.209	0.245	0.051	0.014	1.329	1.365	1.171	1.134	N/A	N/A
	Left		0.248	/	/	/	0.014	0.248	0.248	0.248	0.262	N/A	N/A
	Right		0.242	0.122	0.135	0.028	/	0.364	0.377	0.270	0.242	N/A	N/A
	Top		0.151	0.099	0.109	0.021	0.014	0.250	0.260	0.172	0.165	N/A	N/A

### 13. Test Equipment List

Description	Manufacturer	Model	Serial No./Version	Cal. Date	Cal. Due
E-Field Probe	MVG	SSE2	04/22 EPG0365	2023/02/06	2024/02/05
6 1/2 Digital Multimeter	Keithley	DMM6500	4527164	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	2023/03/24	2024/03/23
EPM Series Power Meter	KEYSIGHT	E4418B	MY41293435	2023/03/24	2024/03/23
10dB Attenuator	MIDWEST MICROWAVE	263-10dB	/	2023/03/24	2024/03/23
Coupler	MERRIMAC	CWM-10R-10.8G	LOT-83391	2023/03/24	2024/03/23
750MHz Validation Dipole	MVG	SID750	07/22 DIP 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
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
5200MHz-5800MHz Validation Dipole	MVG	SID5000	07/22 DIP5G000-670	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	2023/03/24	2024/03/23
Antenna network emulator	MVG	ANTA 74	07/22 ANTA 74	/	/
SAM Phantom	MVG	SAM	07/22 SAM149	/	/
Mobile Phone Positioning System	MVG	MSH 118	07/22 MSH 118	/	/
Mechanical Calibration Kit	PNA	/	/	/	/
Open SAR test software	MVG	/	V5.3.5	/	/

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

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

## ANNEX A Simulating Liquid Verification Result

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

Dielectric performance of tissue simulating liquid									
Frequency (MHz)	$\epsilon_r$		$\sigma$ (s/m)		Delta ( $\epsilon_r$ )	Delta ( $\sigma$ )	Limit	Temp (°C)	Date
	Target	Measured	Target	Measured					
750	41.90	41.80	0.89	0.86	0.24%	3.37%	±5%	20.0	10/1/2024
835	41.50	41.41	0.90	0.87	0.22%	3.33%	±5%	20.0	10/1/2024
1800	40.00	39.91	1.40	1.37	0.23%	2.14%	±5%	20.0	11/1/2024
1900	40.00	39.88	1.40	1.41	0.30%	-0.71%	±5%	20.0	11/1/2024
2450	39.20	39.08	1.80	1.81	0.31%	-0.56%	±5%	20.0	12/1/2024
2600	39.00	38.88	1.96	1.97	0.31%	-0.51%	±5%	20.0	12/1/2024
5200	36.00	35.88	4.66	4.70	0.33%	-0.86%	±5%	20.0	15/1/2024
5400	35.80	35.68	4.86	4.90	0.34%	-0.82%	±5%	20.0	15/1/2024
5600	35.50	35.38	5.07	5.11	0.34%	-0.79%	±5%	20.0	15/1/2024
5800	35.30	35.18	5.27	5.31	0.34%	-0.76%	±5%	20.0	15/1/2024

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)	10g SAR Deviation	1g 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	0.63	20.32	39.75	20.50	39.70	0.88%	-0.13%
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%
5200	13	0.288	1.019	22.15	78.38	21.29	73.88	4.05%	6.09%
5400	13	0.299	1.051	23.00	80.84	23.23	81.47	-0.99%	-0.77%
5600	13	0.304	1.084	23.38	83.38	22.64	78.71	3.28%	5.93%
5800	13	0.277	0.981	21.31	75.46	21.50	74.21	-0.90%	1.68%

## System Performance Check Data (750 MHz)

### System check at 750 MHz

Date of measurement: 10/1/2024

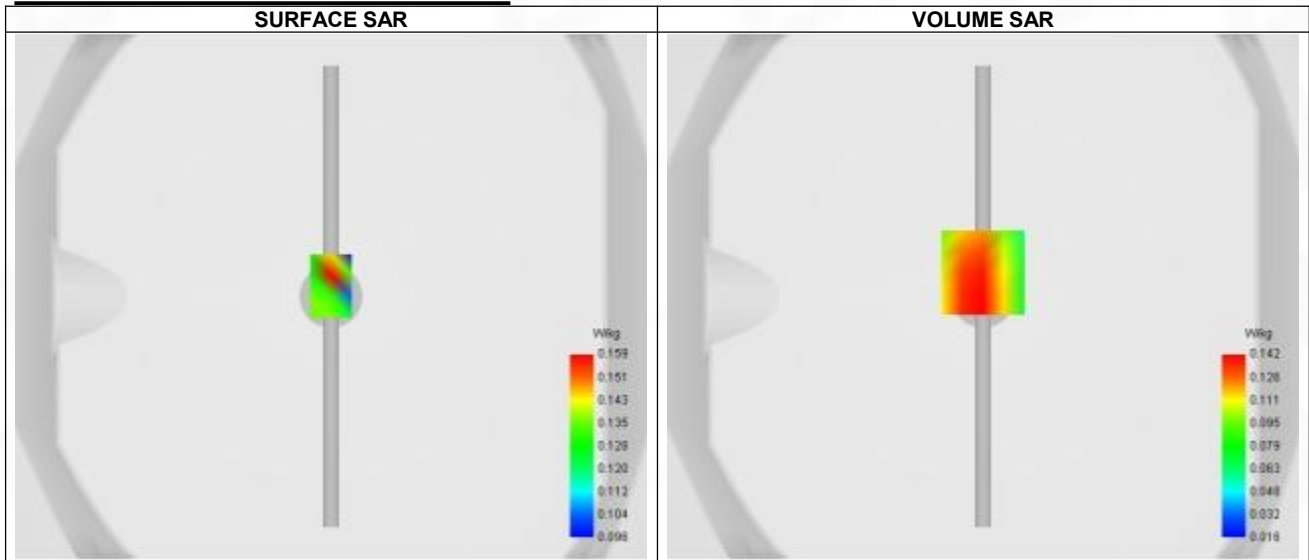
#### A. Experimental conditions.

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



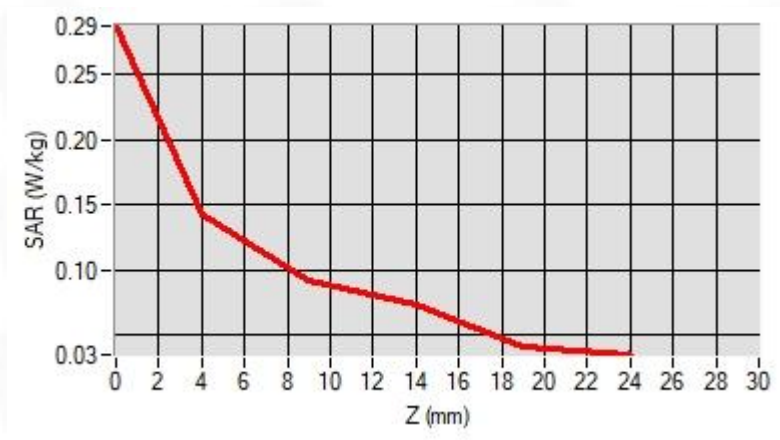
Maximum location: X=0.00, Y=9.00 ; SAR Peak: 0.20 W/kg

#### D. SAR 1g & 10g

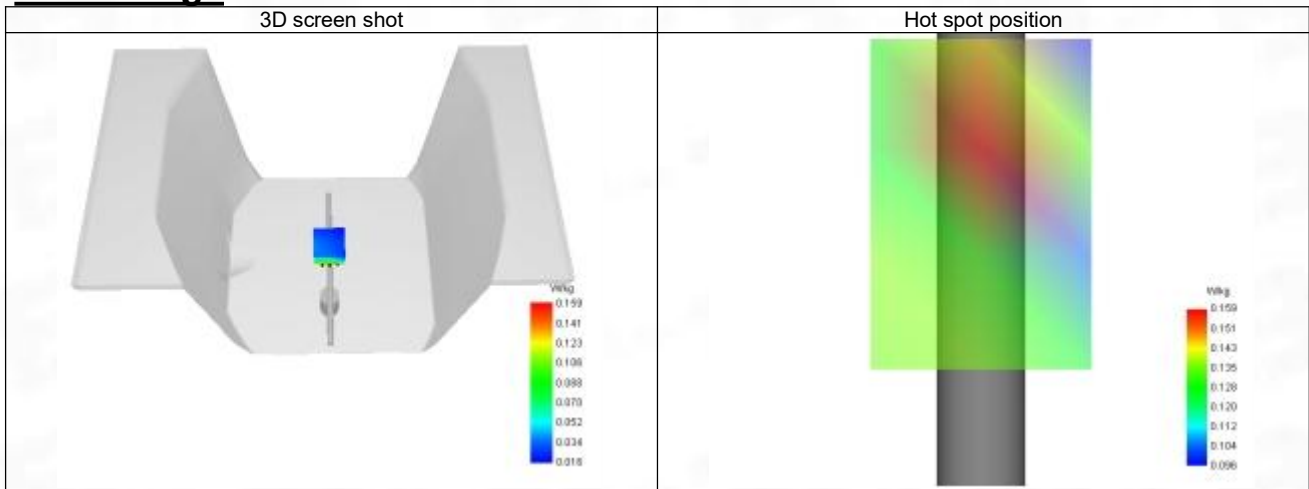
SAR 10g (W/Kg)	0.092
SAR 1g (W/Kg)	0.138
Variation (%)	-2.190
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

#### E. Z Axis Scan

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



### F. 3D Image





## System Performance Check Data (835 MHz)

### System check at 835 MHz

Date of measurement: 10/1/2024

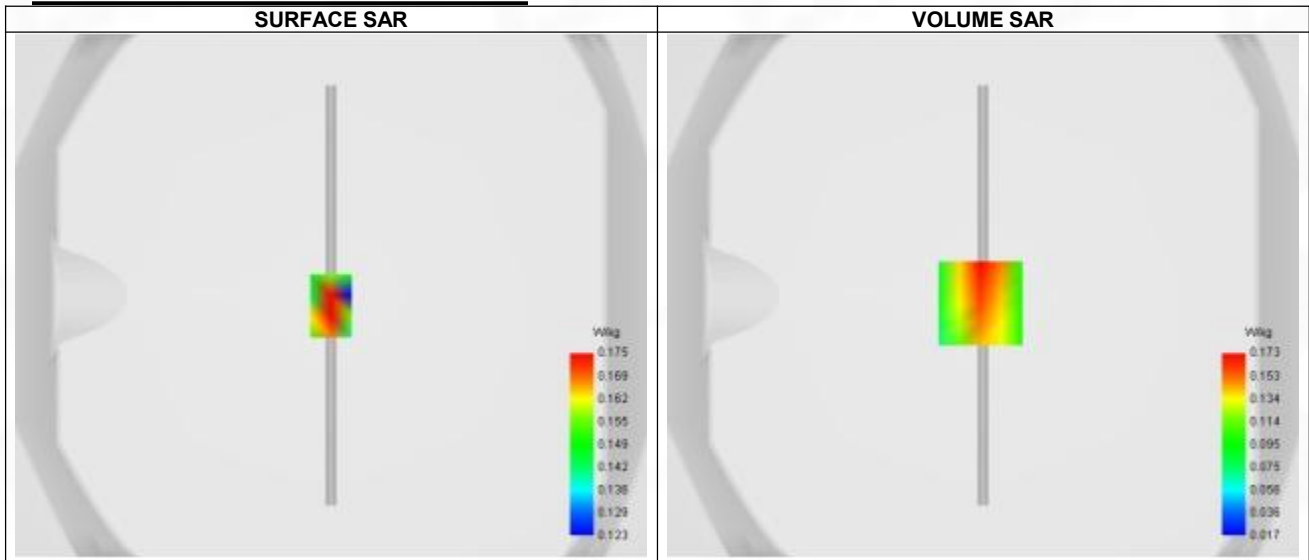
#### A. Experimental conditions.

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



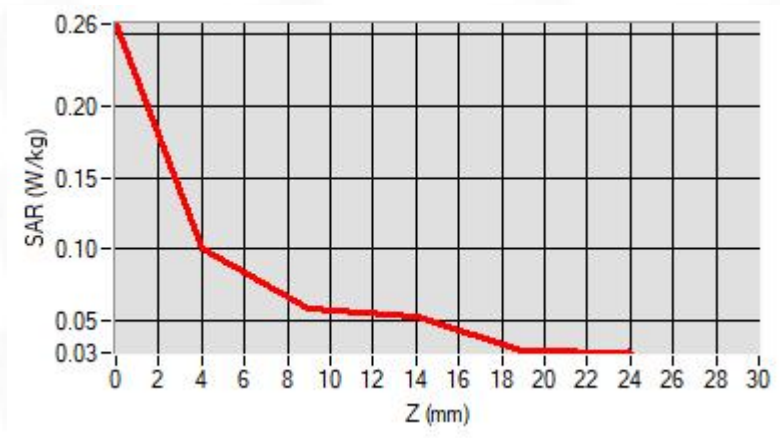
Maximum location: X=-1.00, Y=-3.00 ; SAR Peak: 0.26 W/kg

#### D. SAR 1g & 10g

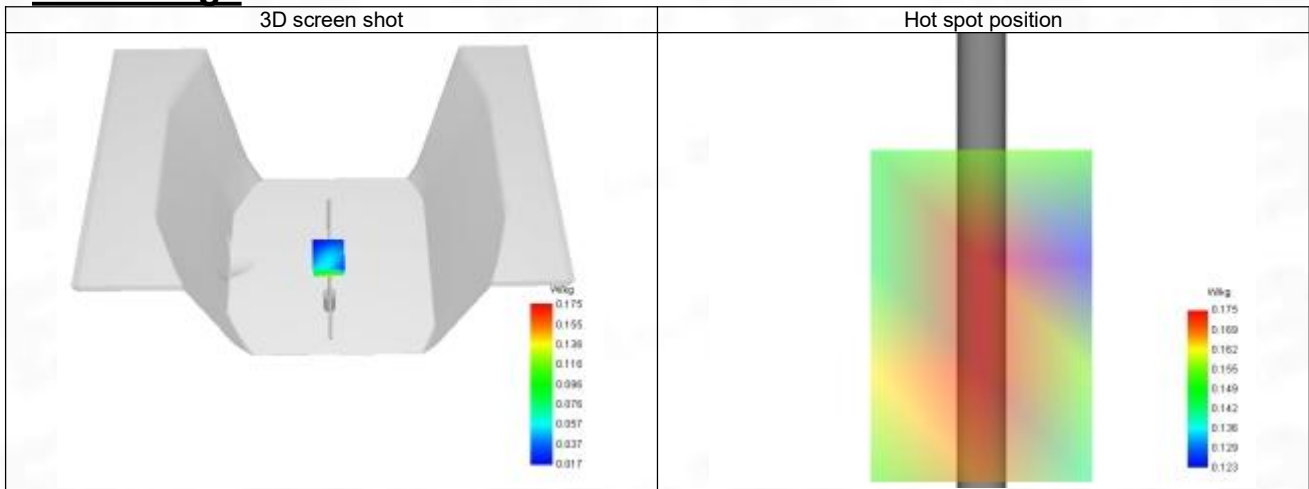
SAR 10g (W/Kg)	0.106
SAR 1g (W/Kg)	0.163
Variation (%)	-3.390
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

#### E. Z Axis Scan

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



### F. 3D Image



## System Performance Check Data (1800 MHz)

### System check at 1800 MHz

Date of measurement: 11/1/2024

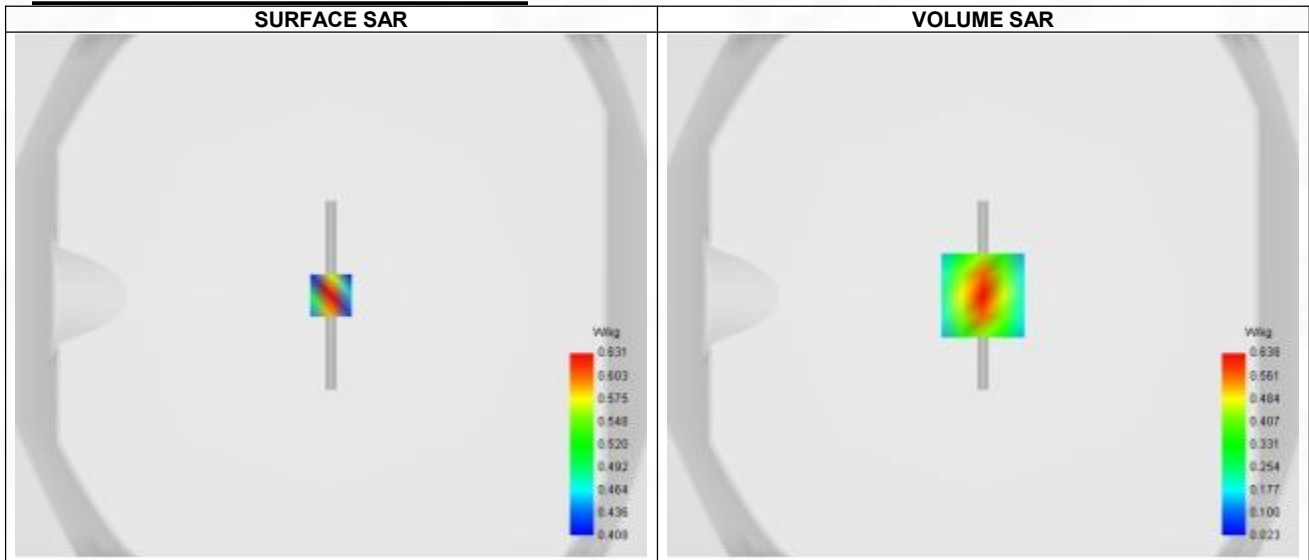
#### A. Experimental conditions.

Probe	SN 04/22 EPGO365
ConvF	1.96
Area Scan	dx=8mm dy=8mm, Adaptive 1 max
Zoom Scan	5x5x7, dx=8mm dy=8mm dz=5mm, Complete
Phantom	Validation plane
Device Position	Dipole
Band	CW1800
Channels	Middle
Signal	CW

#### B. Permittivity

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

#### C. SAR Surface and Volume



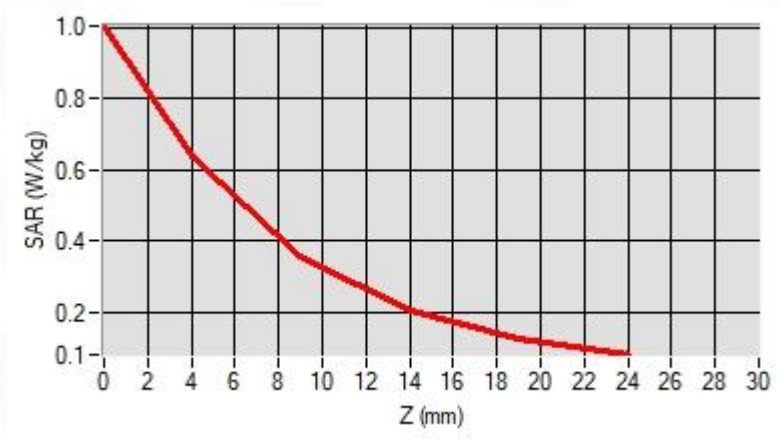
Maximum location: X=0.00, Y=0.00 ; SAR Peak: 1.00 W/kg

#### D. SAR 1g & 10g

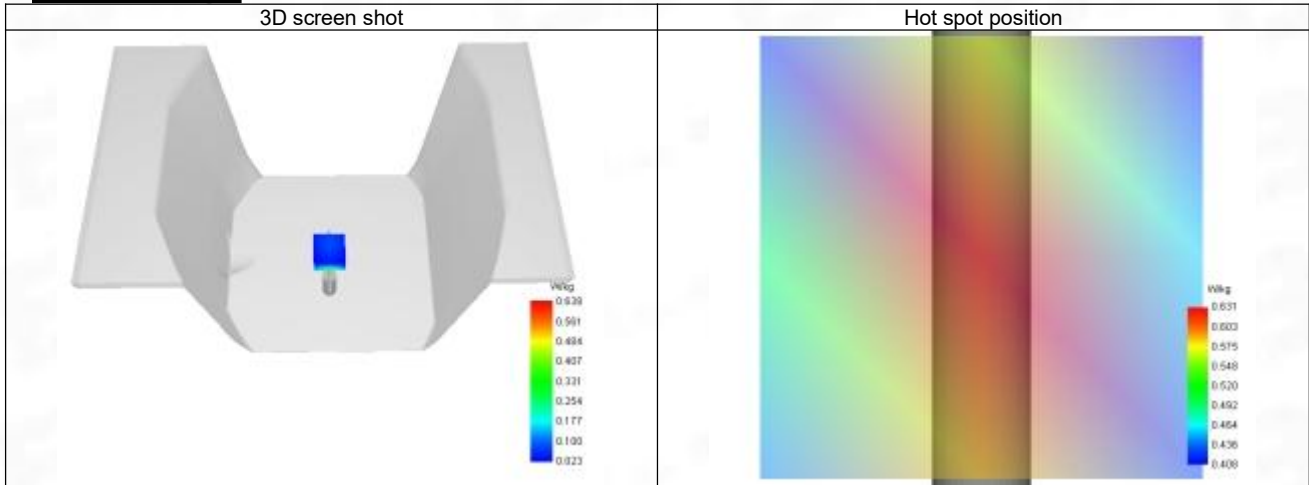
SAR 10g (W/Kg)	0.312
SAR 1g (W/Kg)	0.588
Variation (%)	-0.250
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

#### E. Z Axis Scan

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



### F. 3D Image



## System Performance Check Data (1900 MHz)

### System check at 1900 MHz

Date of measurement: 11/1/2024

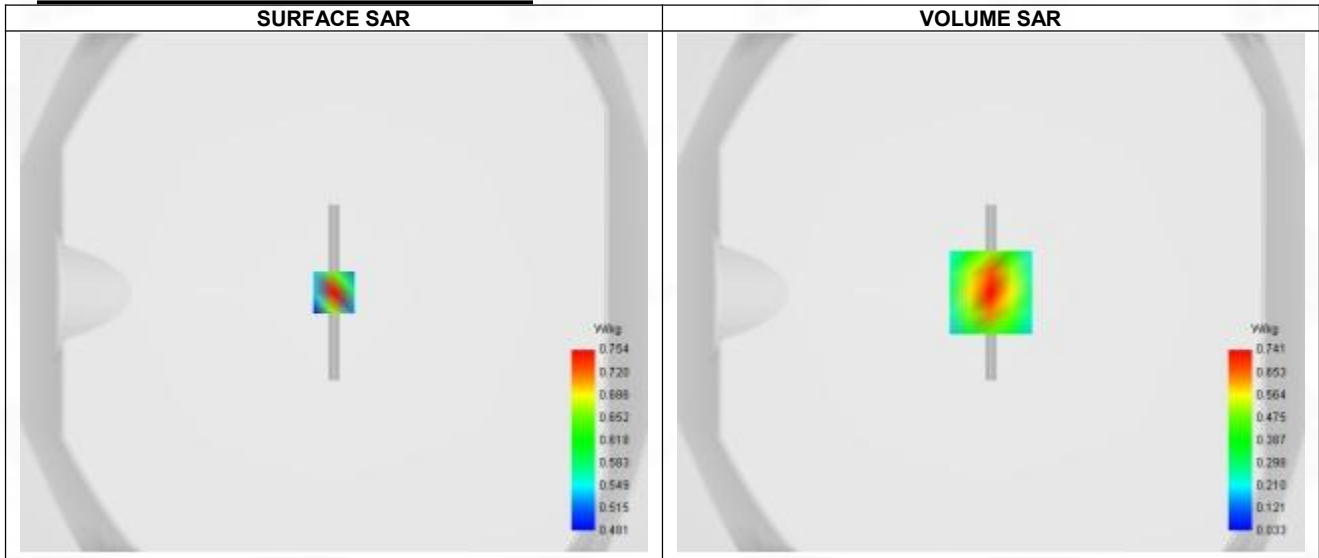
#### A. Experimental conditions.

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



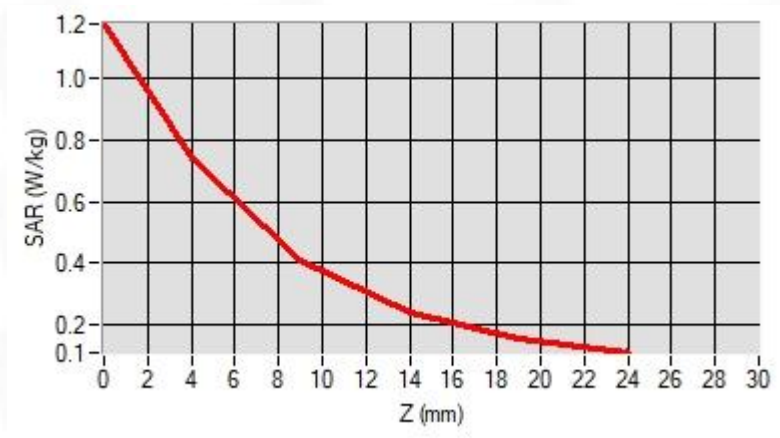
Maximum location: X=0.00, Y=0.00 ; SAR Peak: 1.18 W/kg

#### D. SAR 1g & 10g

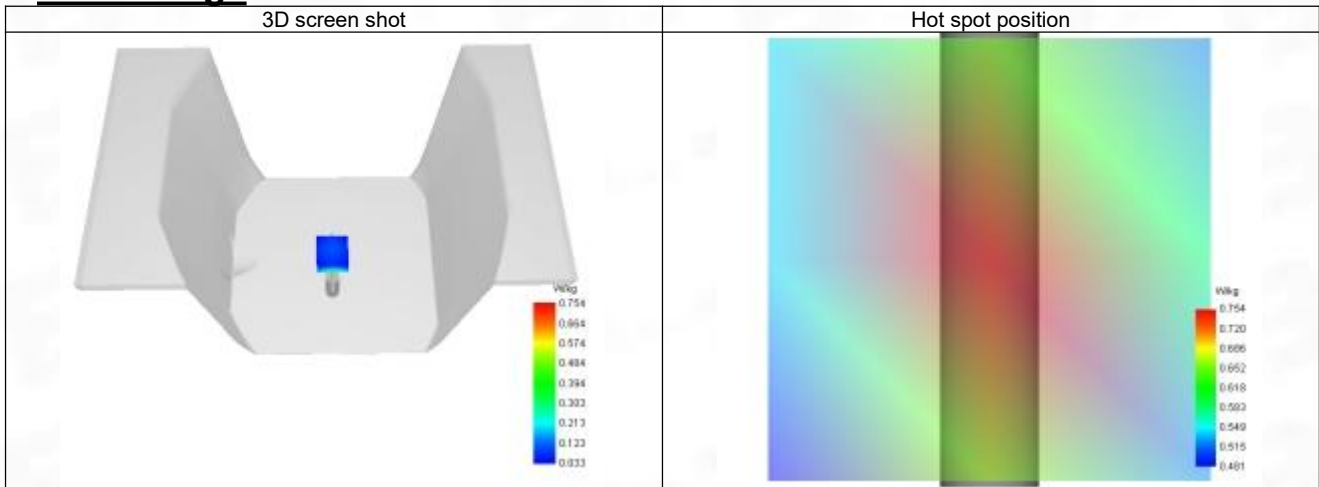
SAR 10g (W/Kg)	0.322
SAR 1g (W/Kg)	0.630
Variation (%)	-2.080
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

#### E. Z Axis Scan

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



### F. 3D Image



## System Performance Check Data (2450 MHz)

### System check at 2450 MHz

Date of measurement: 12/1/2024

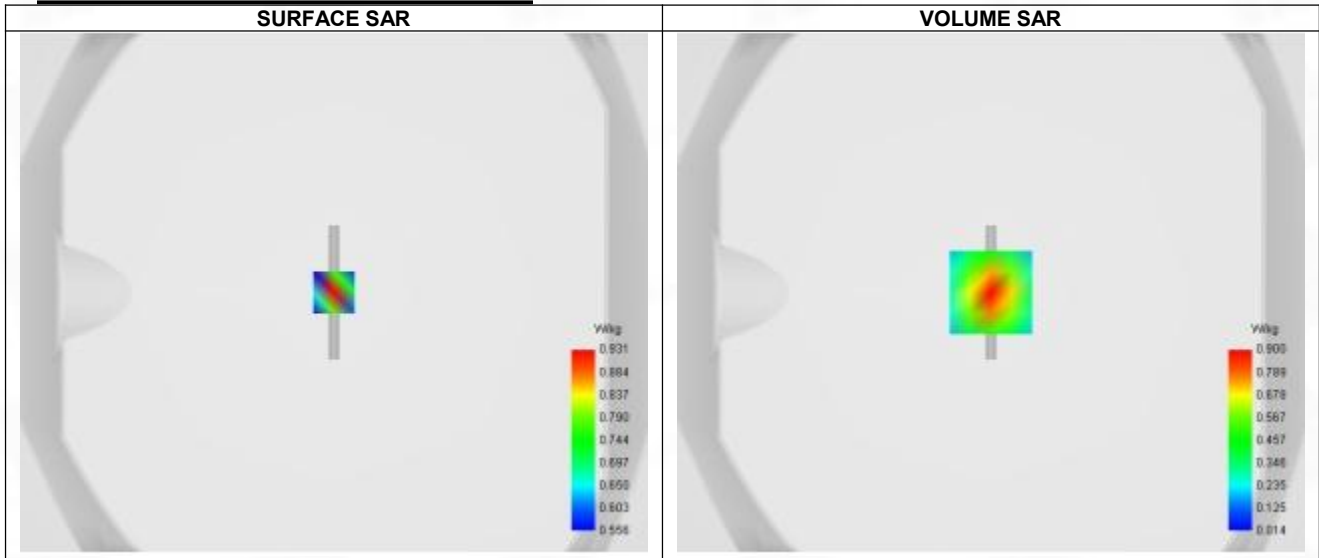
#### A. Experimental conditions.

Probe	SN 04/22 EPGO365
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



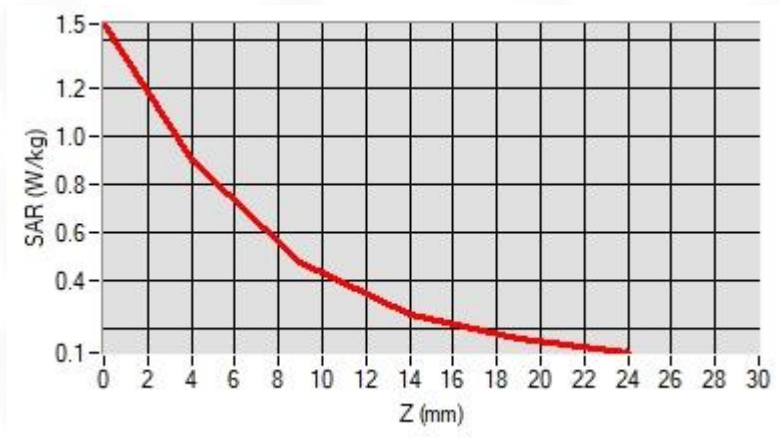
Maximum location: X=0.00, Y=0.00 ; SAR Peak: 1.47 W/kg

#### D. SAR 1g & 10g

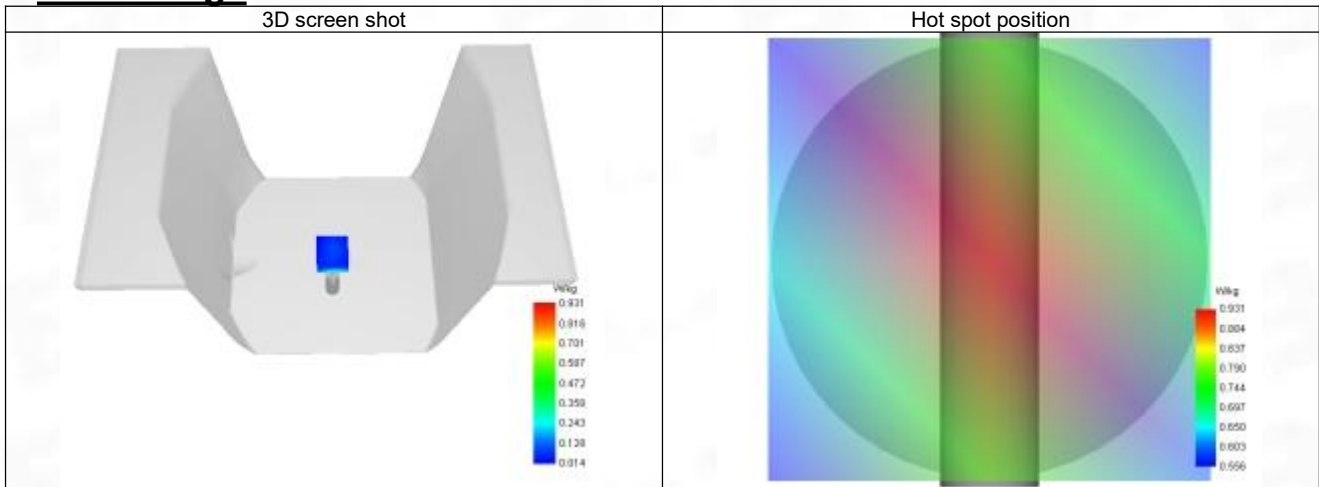
SAR 10g (W/Kg)	0.352
SAR 1g (W/Kg)	0.793
Variation (%)	-2.570
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

#### E. Z Axis Scan

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



### F. 3D Image





## System Performance Check Data (2600 MHz)

### System check at 2600 MHz

Date of measurement: 12/1/2024

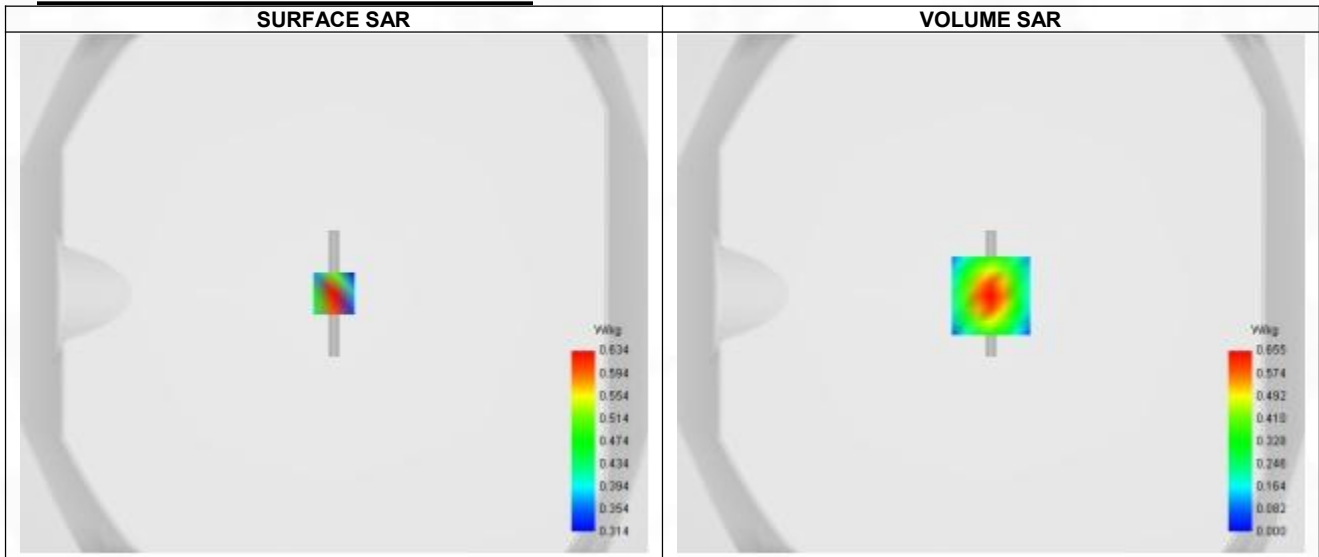
#### A. Experimental conditions.

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



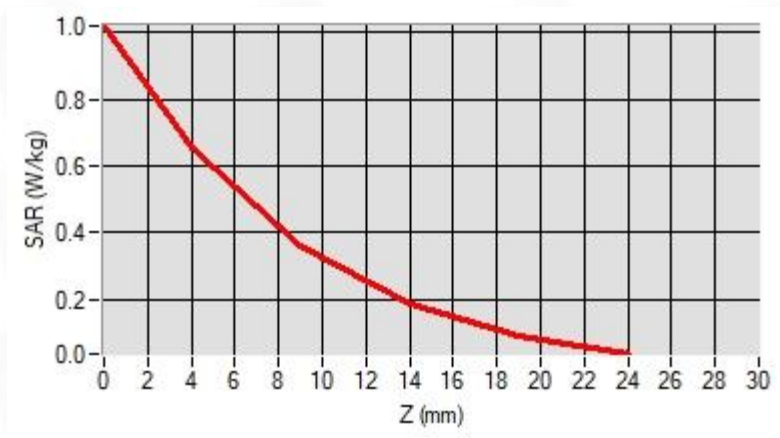
Maximum location: X=0.00, Y=-1.00 ; SAR Peak: 1.02 W/kg

#### D. SAR 1g & 10g

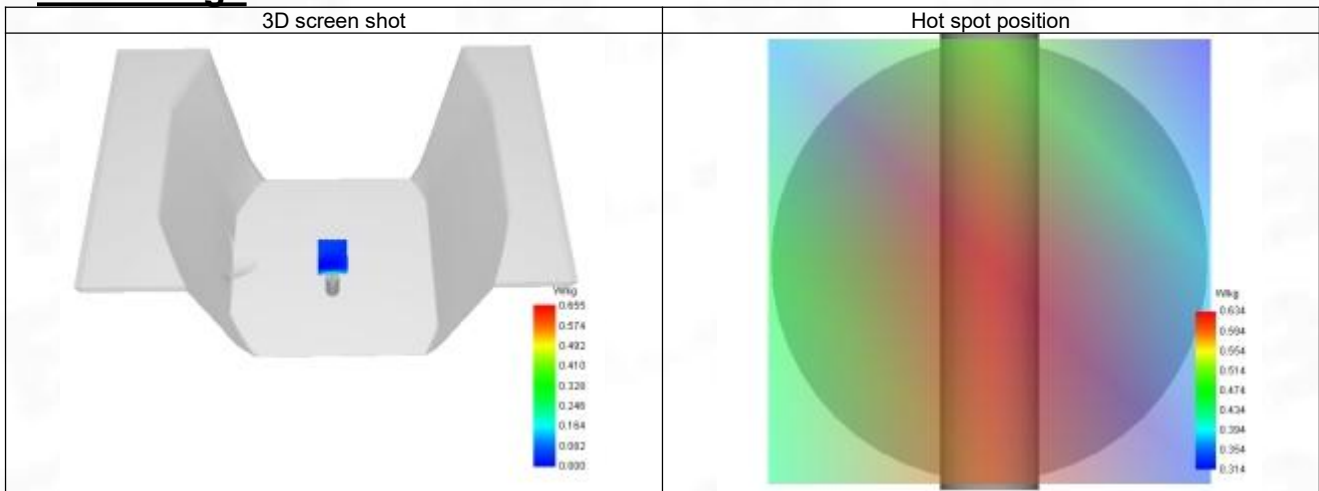
SAR 10g (W/Kg)	0.421
SAR 1g (W/Kg)	0.866
Variation (%)	2.980
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

#### E. Z Axis Scan

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



### F. 3D Image



## System Performance Check Data (5200 MHz)

### System check at 5200 MHz

Date of measurement: 15/1/2024

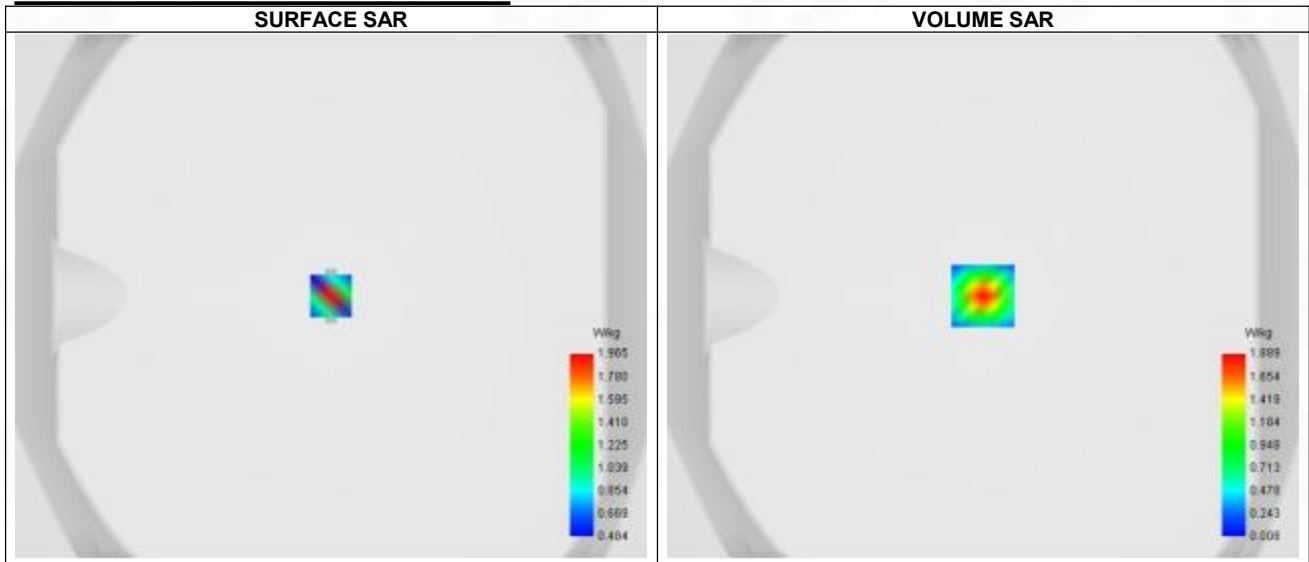
#### A. Experimental conditions.

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

#### B. Permittivity

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

#### C. SAR Surface and Volume



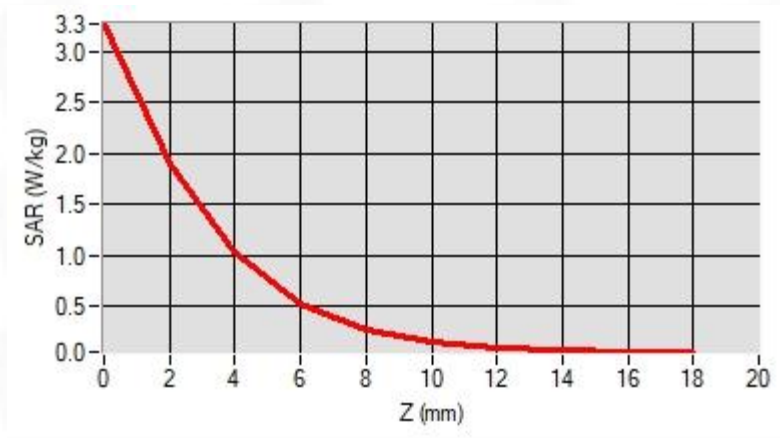
Maximum location: X=0.00, Y=0.00 ; SAR Peak: 3.38 W/kg

#### D. SAR 1g & 10g

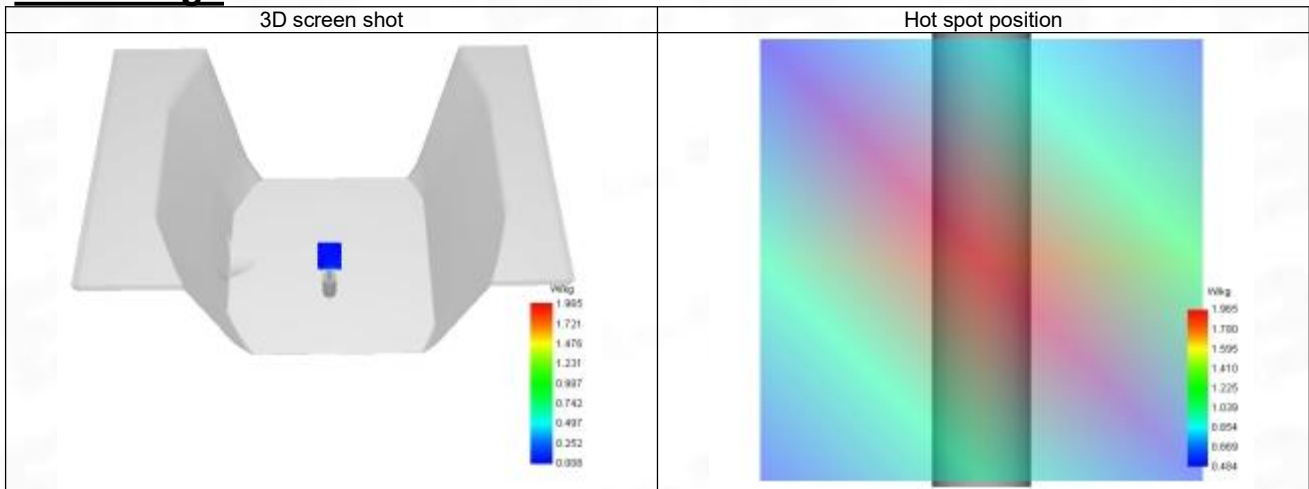
SAR 10g (W/Kg)	0.288
SAR 1g (W/Kg)	1.019
Variation (%)	-3.400
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

#### E. Z Axis Scan

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



### F. 3D Image



## System Performance Check Data (5400 MHz)

### System check at 5400 MHz

Date of measurement: 15/1/2024

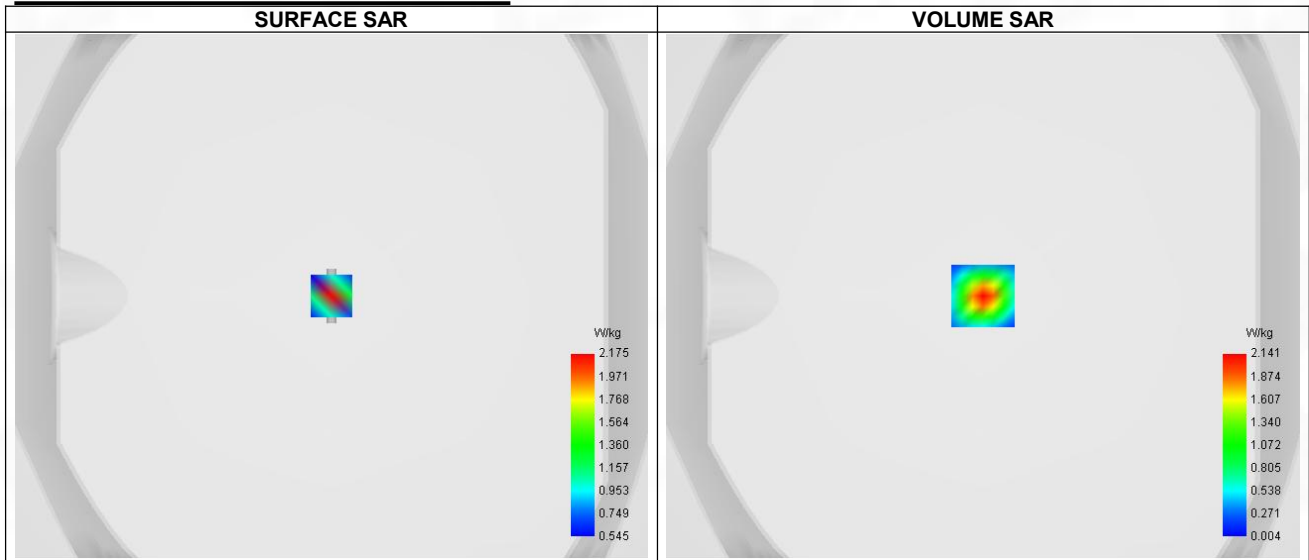
#### **A. Experimental conditions.**

Probe	SN 04/22 EPG0365
ConvF	2.12
Area Scan	dx=8mm dy=8mm, Adaptive 1 max
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Dipole
Band	CW5400
Channels	Middle
Signal	CW

#### **B. Permittivity**

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

#### **C. SAR Surface and Volume**



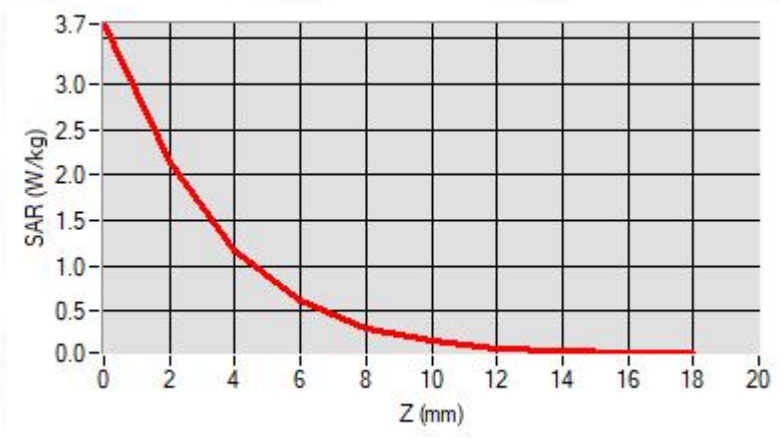
Maximum location: X=0.00, Y=0.00 ; SAR Peak: 3.78 W/kg

#### **D. SAR 1g & 10g**

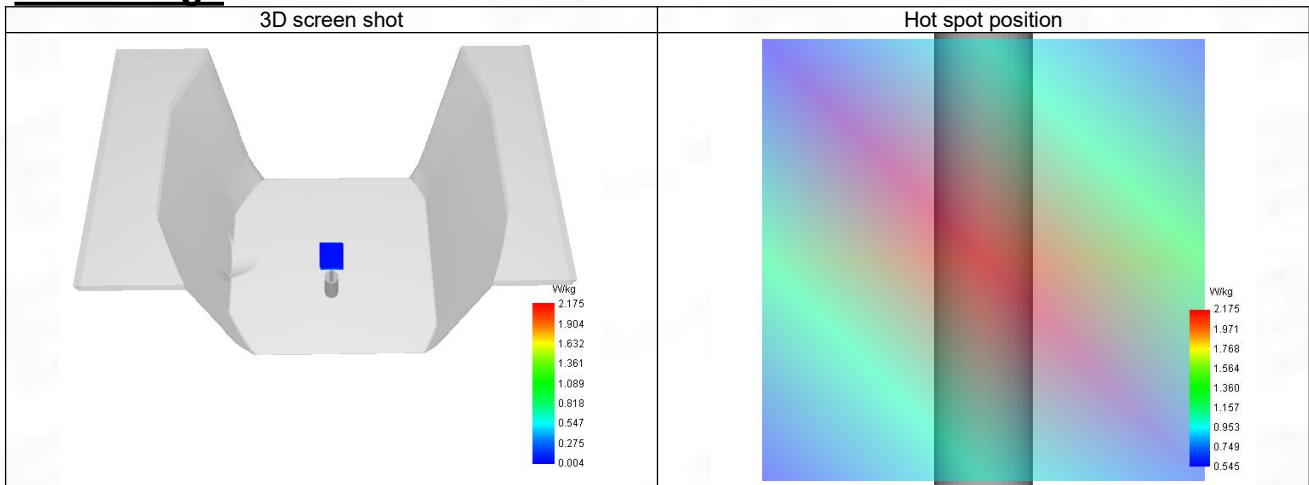
SAR 10g (W/Kg)	0.299
SAR 1g (W/Kg)	1.051
Variation (%)	-4.610
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

#### **E. Z Axis Scan**

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



### F. 3D Image



## System Performance Check Data (5600 MHz)

### System check at 5600 MHz

Date of measurement: 15/1/2024

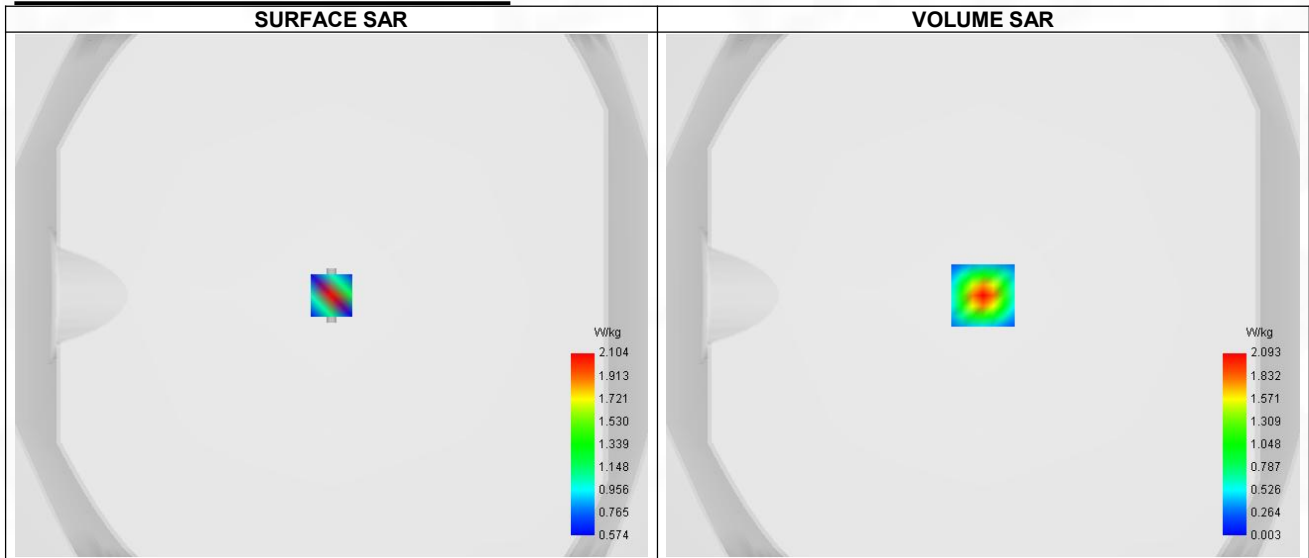
#### **A. Experimental conditions.**

Probe	SN 04/22 EPGO365
ConvF	2.18
Area Scan	dx=8mm dy=8mm, Adaptive 1 max
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Dipole
Band	CW5600
Channels	Middle
Signal	CW

#### **B. Permittivity**

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

#### **C. SAR Surface and Volume**



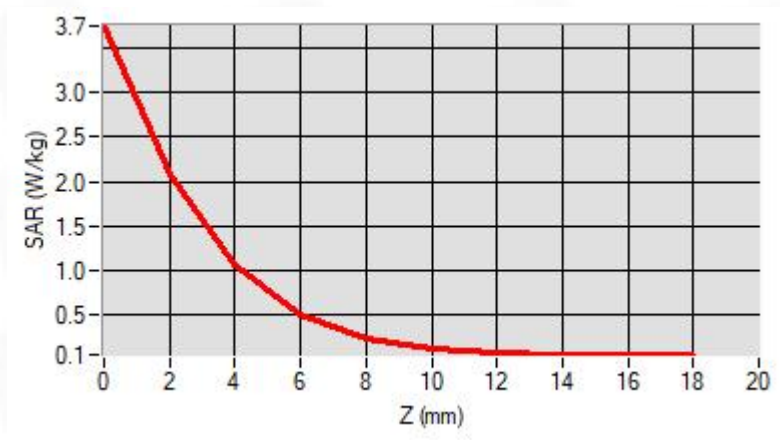
Maximum location: X=0.00, Y=0.00 ; SAR Peak: 3.90 W/kg

#### **D. SAR 1g & 10g**

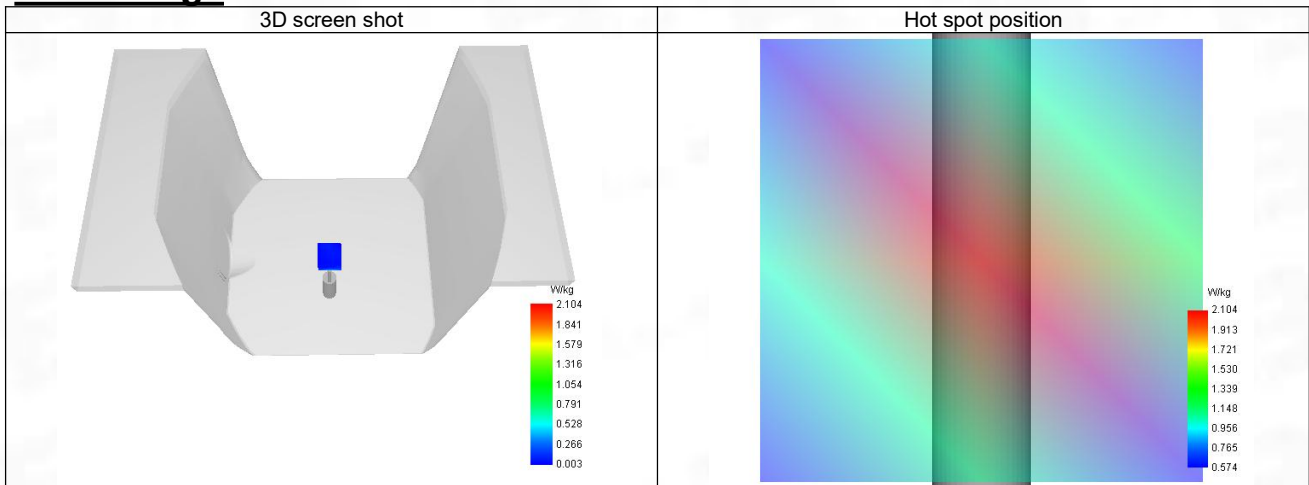
SAR 10g (W/Kg)	0.304
SAR 1g (W/Kg)	1.084
Variation (%)	-0.190
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

#### **E. Z Axis Scan**

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



### F. 3D Image





## System Performance Check Data (5800 MHz)

### System check at 5800 MHz

Date of measurement: 15/1/2024

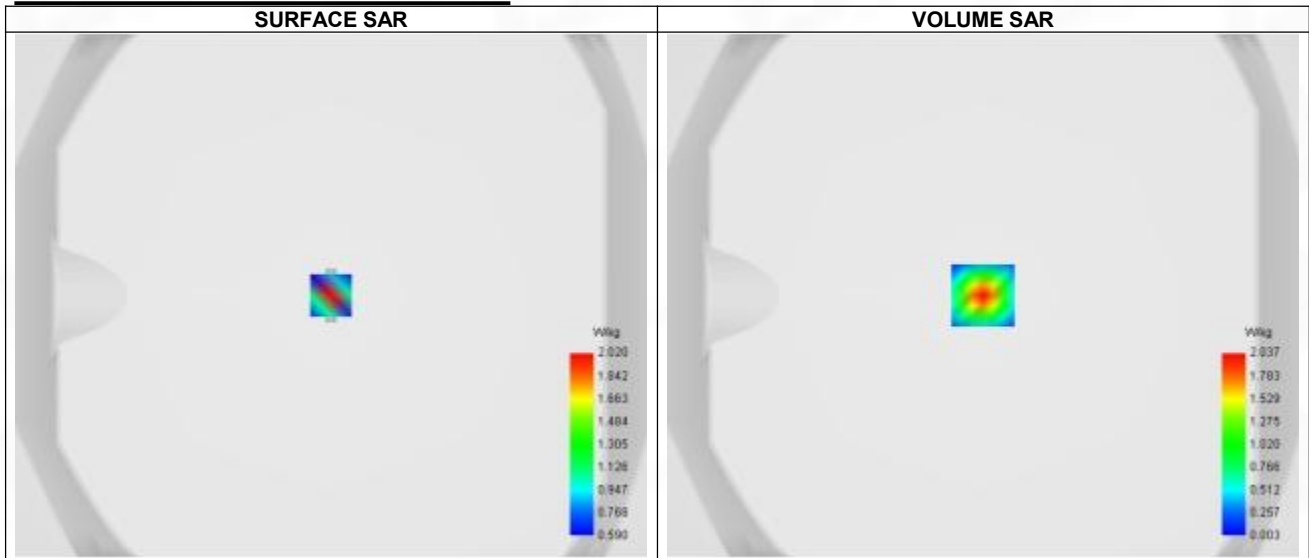
#### **A. Experimental conditions.**

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

#### **B. Permittivity**

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

#### **C. SAR Surface and Volume**



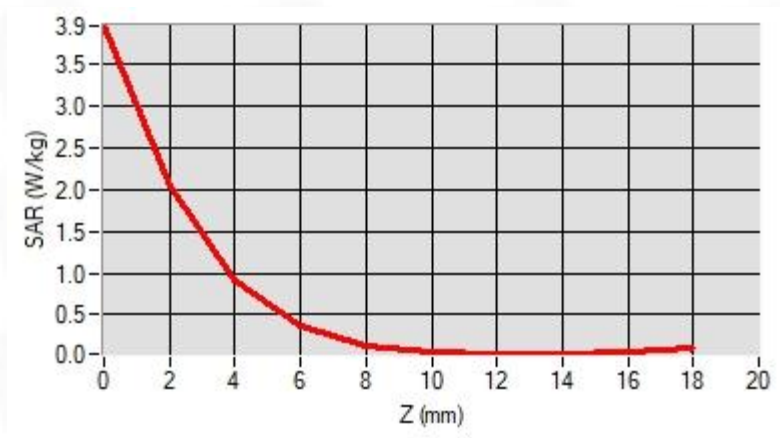
Maximum location: X=0.00, Y=0.00 ; SAR Peak: 4.17 W/kg

#### **D. SAR 1g & 10g**

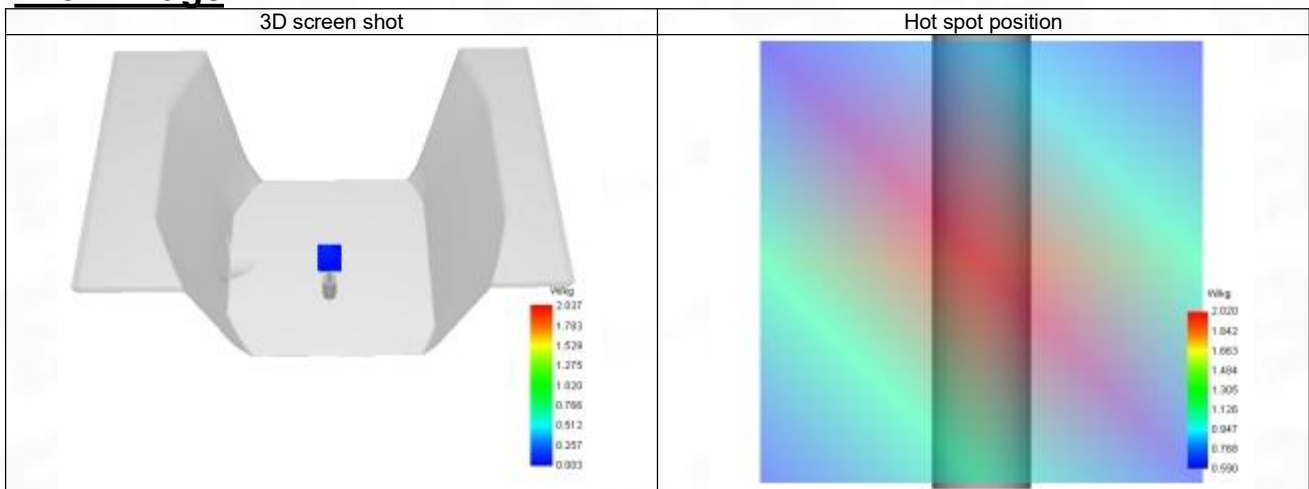
SAR 10g (W/Kg)	0.277
SAR 1g (W/Kg)	0.981
Variation (%)	0.490
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

#### **E. Z Axis Scan**

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



### F. 3D Image



## ANNEX C Test Data

1-Body with back position in dist. 0mm on Channel 190 in GPRS 850+4slots

### SAR Measurement at GPRS850 (Body, Validation Plane)

Date of measurement: 10/1/2024

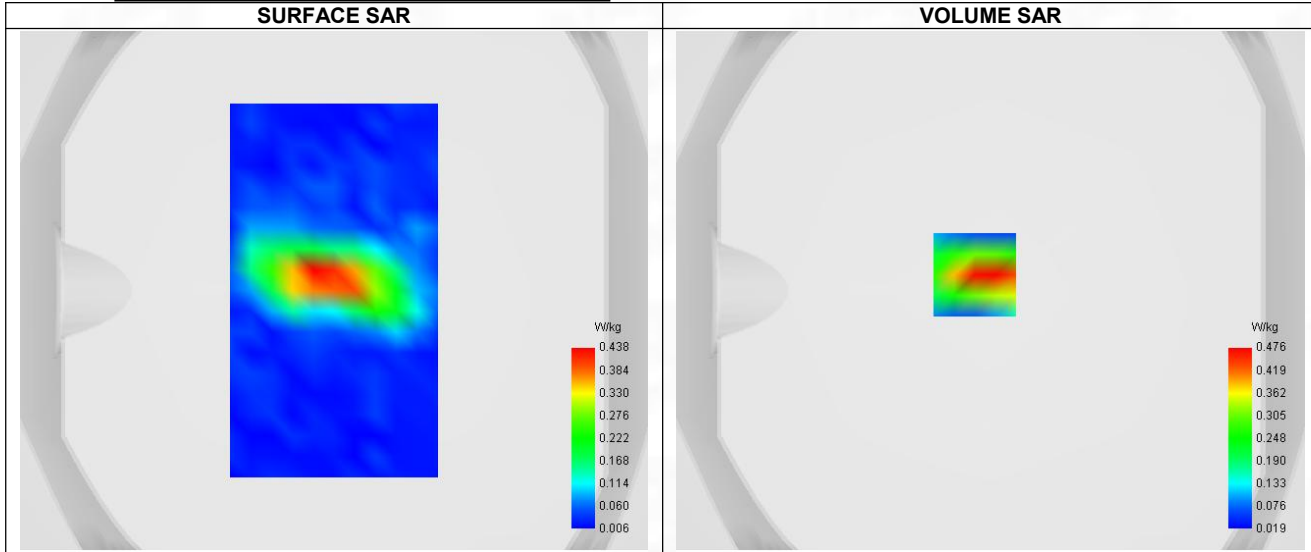
#### A. Experimental conditions.

Probe	SN 04/22 EPGO365
ConvF	1.68
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Body
Band	GPRS850
Channels	Middle (190)
Signal	TDMA (GPRS)
Modulation	GMSK (CS-1)
TX-slots	4

#### B. Permittivity

Frequency (MHz)	836.600
Relative permittivity (real part)	41.408
Relative permittivity (imaginary part)	19.481
Conductivity (S/m)	0.871

#### C. SAR Surface and Volume



Maximum location: X=-6.00, Y=6.00 ; SAR Peak: 0.85 W/kg

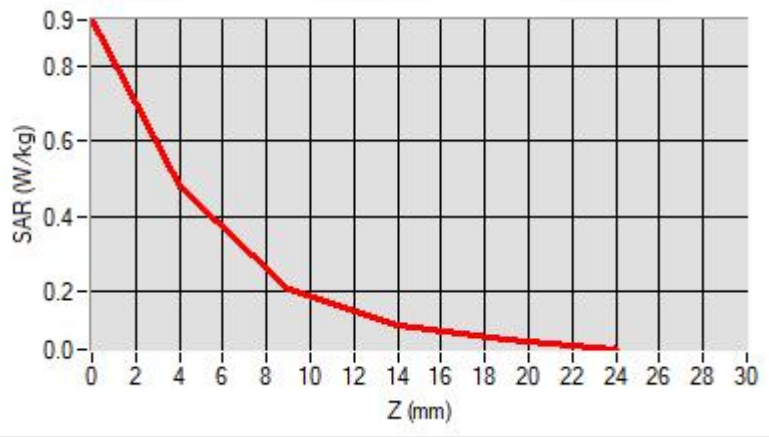
#### D. SAR 1g & 10g

SAR 10g (W/Kg)	0.220
SAR 1g (W/Kg)	0.461
Variation (%)	1.110
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

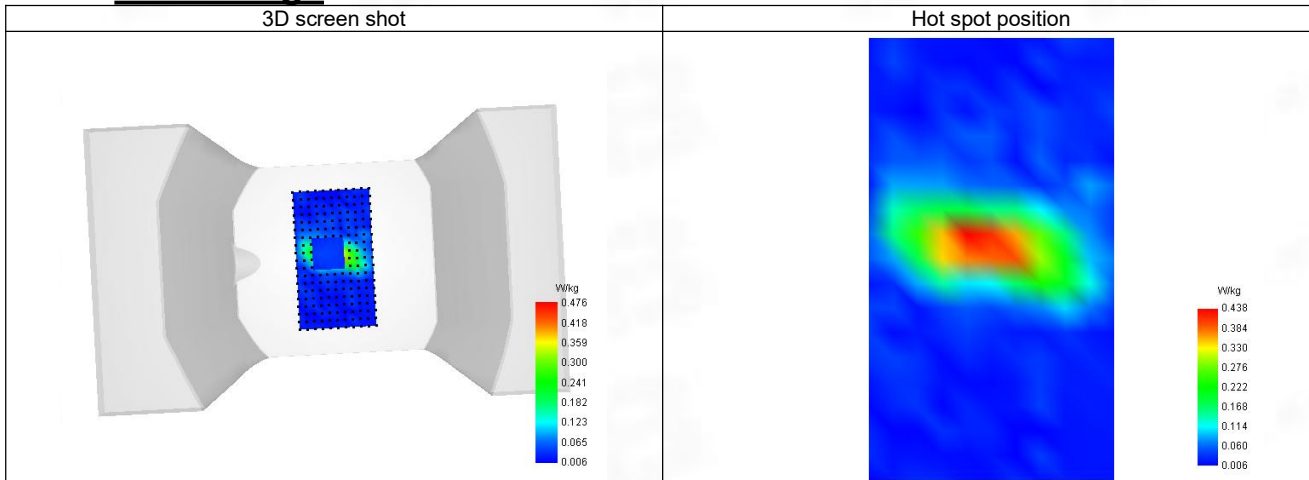
#### E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
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SAR (W/Kg)	0.926	0.476	0.205	0.106	0.070
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### F. 3D Image



2-Body with back position in dist. 0mm on Channel 661 in GPRS 1900+4slots

**SAR Measurement at GPRS1900 (Body, Validation Plane)**

Date of measurement: 11/1/2024

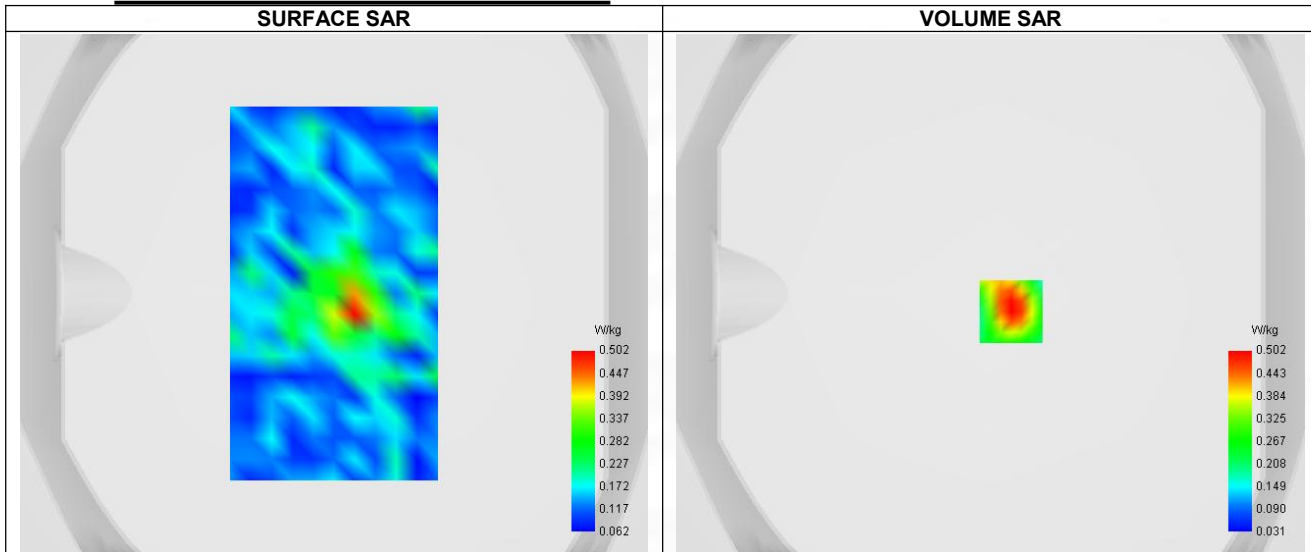
**A. Experimental conditions.**

Probe	SN 04/22 EPGO365
ConvF	2.24
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Body
Band	GPRS1900
Channels	Middle (661)
Signal	TDMA (GPRS)
Modulation	GMSK (CS-1)
TX-slots	4

**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**

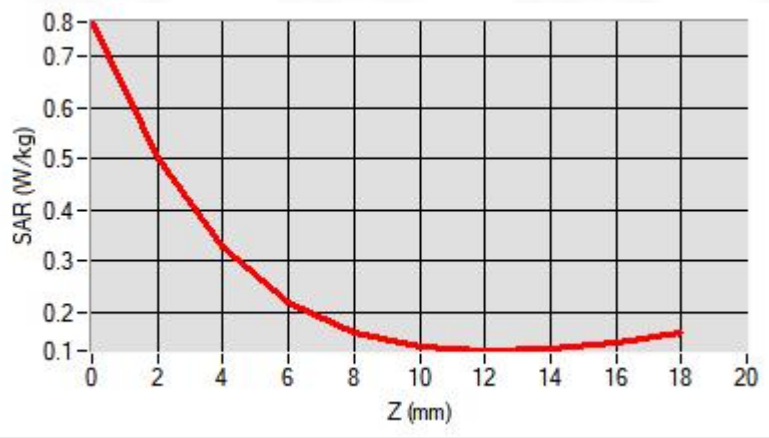


**D. SAR 1g & 10g**

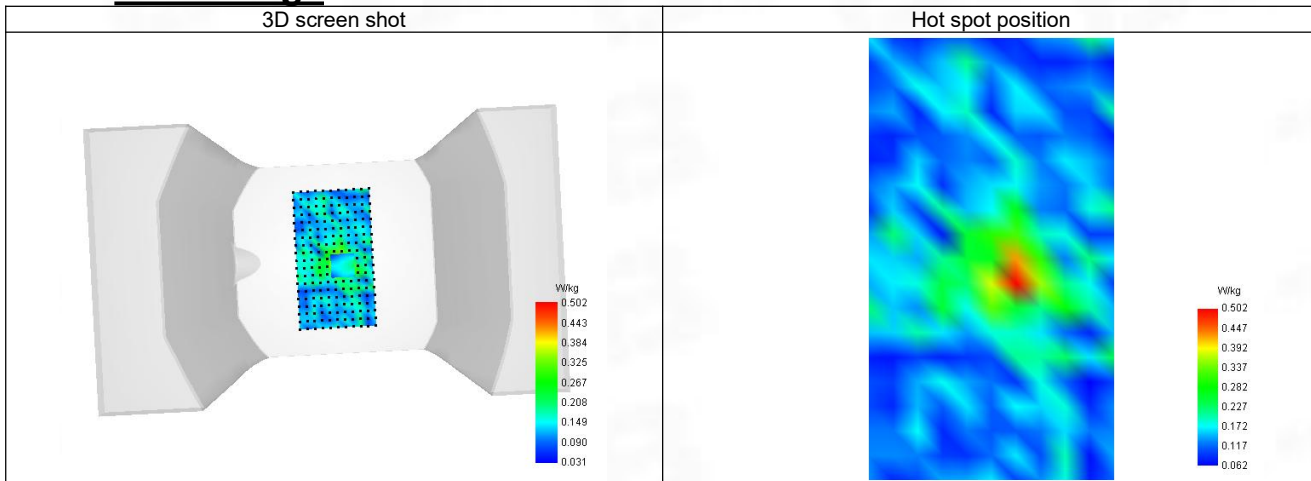
SAR 10g (W/Kg)	0.205
SAR 1g (W/Kg)	0.356
Variation (%)	1.910
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

**E. Z Axis Scan**

Z (mm)	0.00	2.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00
SAR (W/Kg)	0.769	0.502	0.327	0.220	0.162	0.134	0.125	0.129	0.141



### F. 3D Image



**3-Body with back position in dist. 0mm on Channel 9400 in WCDMA Band 2**

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

Date of measurement: 11/1/2024

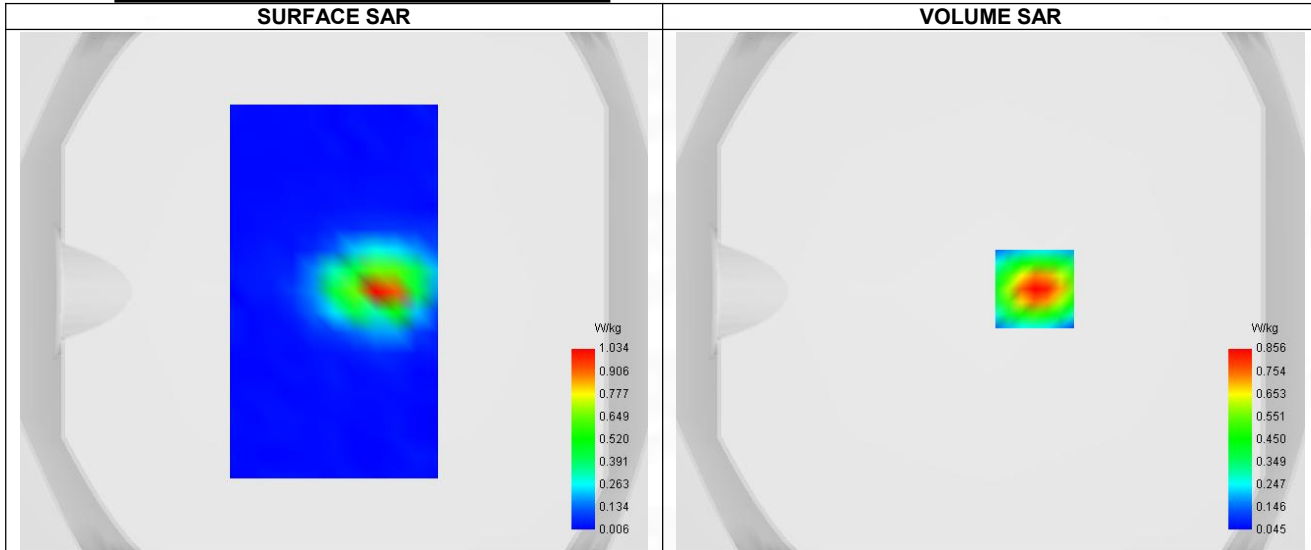
**A. Experimental conditions.**

Probe	SN 04/22 EPGO365
ConvF	2.24
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Body
Band	Band 2 (1900)
Channels	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**



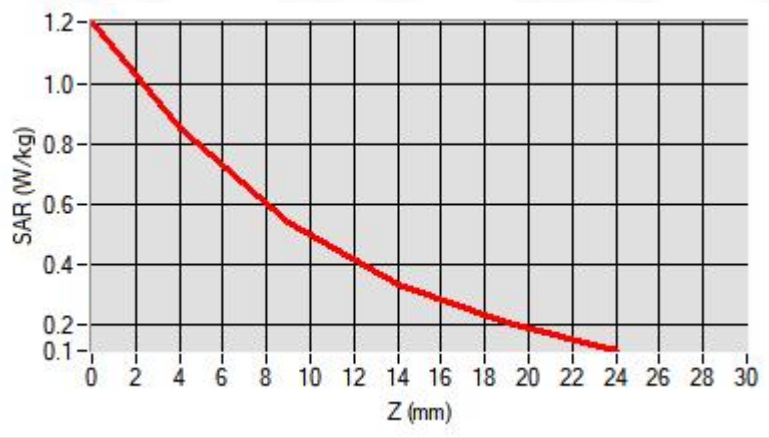
Maximum location: X=17.00, Y=1.00 ; SAR Peak: 1.22 W/kg

**D. SAR 1g & 10g**

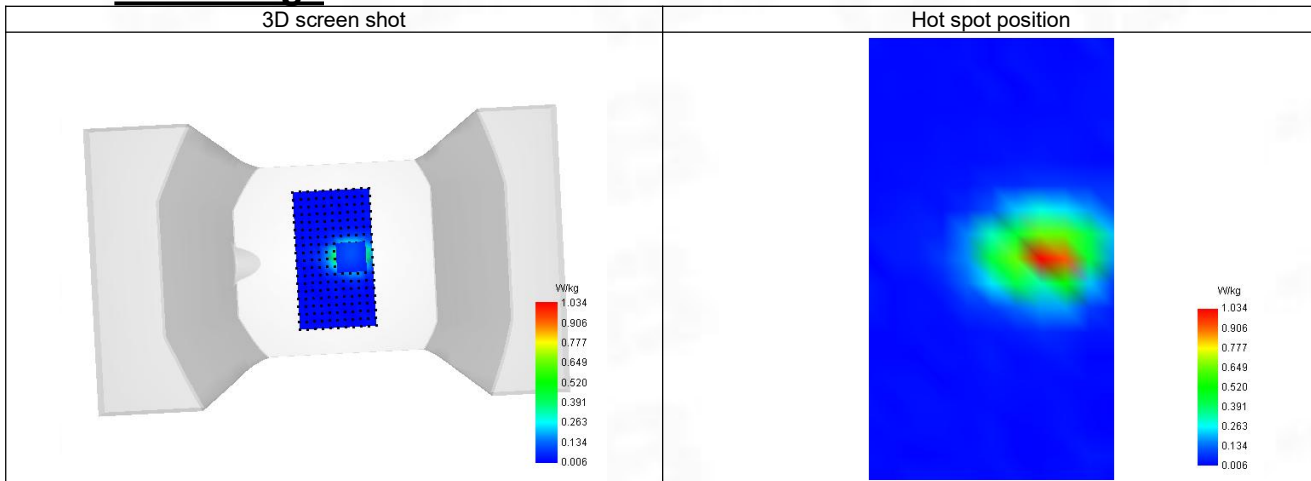
SAR 10g (W/Kg)	0.361
SAR 1g (W/Kg)	0.723
Variation (%)	-1.170
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

**E. Z Axis Scan**

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	1.209	0.856	0.542	0.336	0.202



### F. 3D Image





**4-Body with back position in dist. 0mm on Channel 4132 in WCDMA Band 5**

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

Date of measurement: 10/1/2024

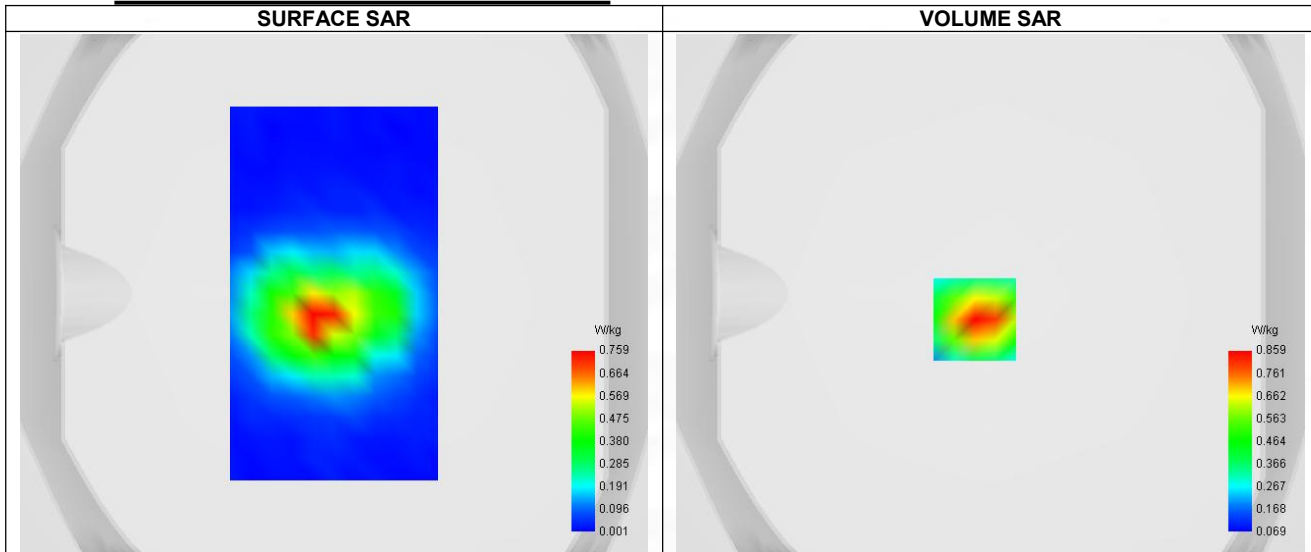
**A. Experimental conditions.**

Probe	SN 04/22 EPGO365
ConvF	1.68
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Body
Band	Band 5 (850)
Channels	Lower (4132)
Signal	WCDMA
Mode	Release 99
Connection Type	RMC, 12.2 kbps

**B. Permittivity**

Frequency (MHz)	826.400
Relative permittivity (real part)	41.449
Relative permittivity (imaginary part)	19.689
Conductivity (S/m)	0.869

**C. SAR Surface and Volume**



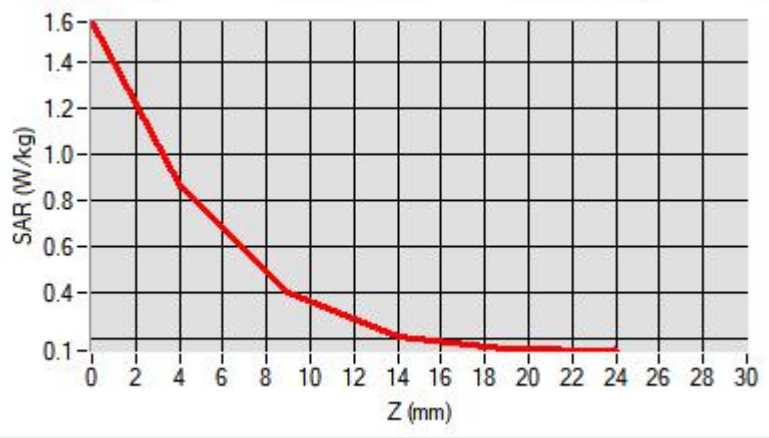
Maximum location: X=-6.00, Y=-10.00 ; SAR Peak: 1.58 W/kg

**D. SAR 1g & 10g**

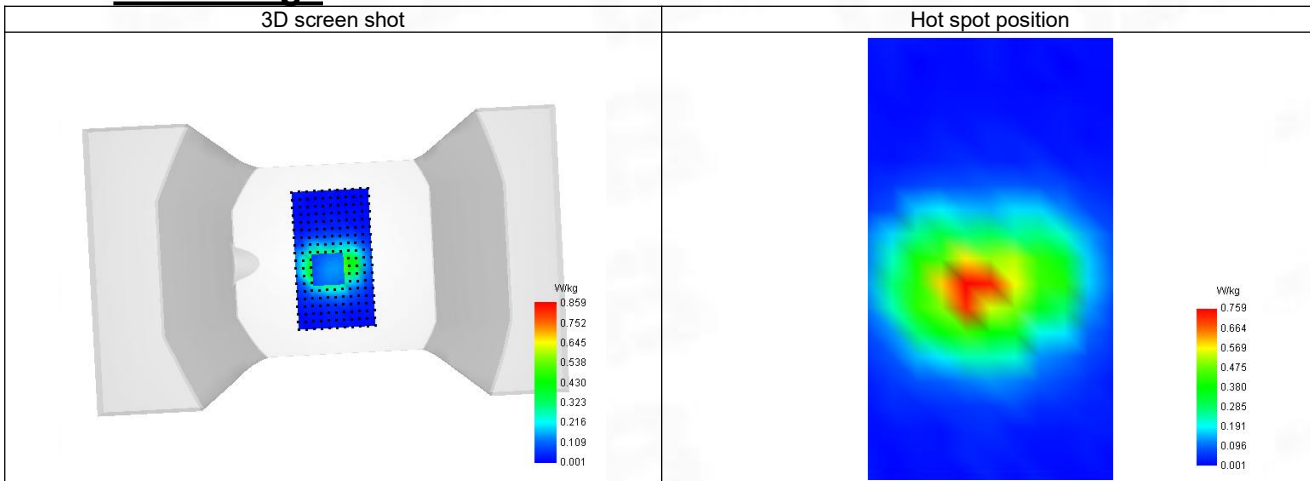
SAR 10g (W/Kg)	0.430
SAR 1g (W/Kg)	0.716
Variation (%)	1.890
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

**E. Z Axis Scan**

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	1.569	0.859	0.393	0.207	0.152



### F. 3D Image



**5-Body with back position in dist. 0mm on Channel 18900 in LTE band 2**

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

Date of measurement: 11/1/2024

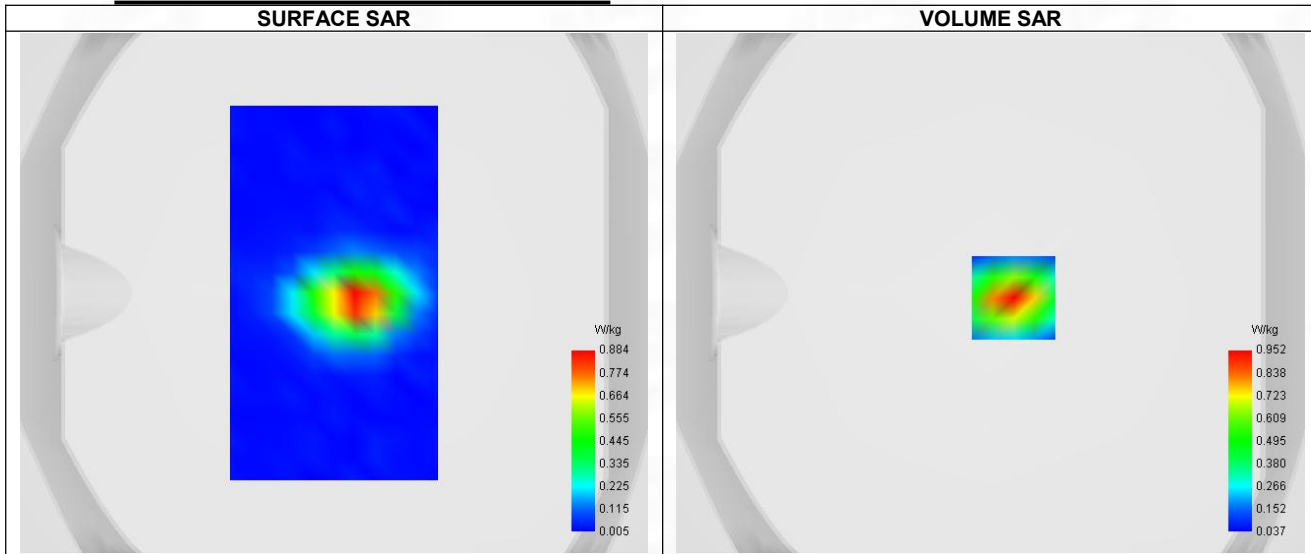
**A. Experimental conditions.**

Probe	SN 04/22 EPG0365
ConvF	2.24
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Body
Band	LTE band 2
Channels	Middle (18900)
Signal	LTE FDD
Cell Bandwidth	20 Mhz
Modulation	SC-OFDM - QPSK
RB offset	50
RB size	1

**B. Permittivity**

Frequency (MHz)	1880.090
Relative permittivity (real part)	39.886
Relative permittivity (imaginary part)	13.522
Conductivity (S/m)	1.402

**C. SAR Surface and Volume**



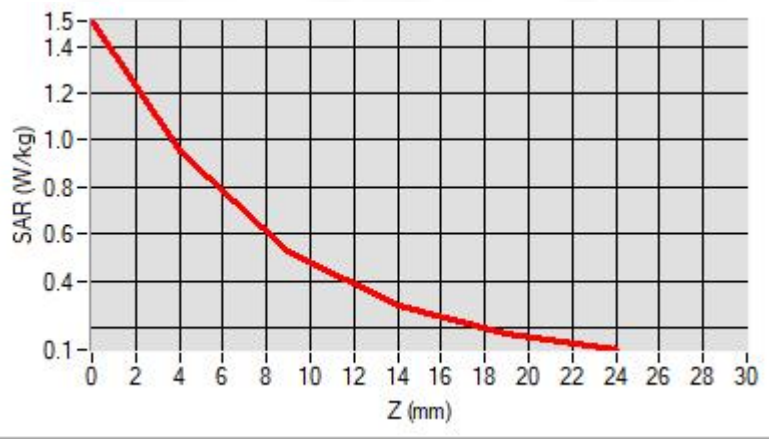
Maximum location: X=9.00, Y=-2.00 ; SAR Peak: 1.51 W/kg

**D. SAR 1g & 10g**

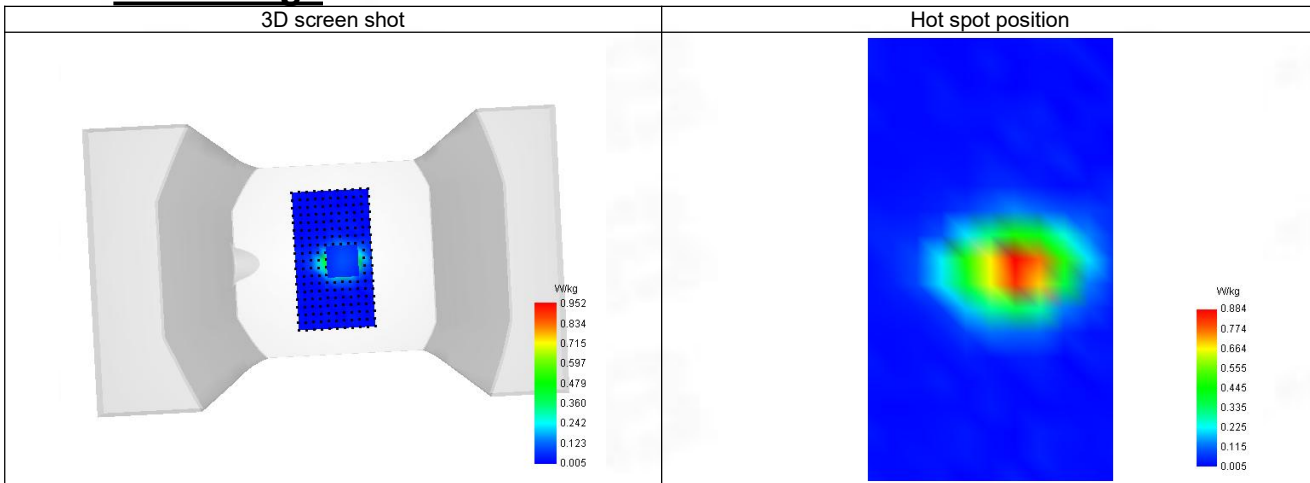
SAR 10g (W/Kg)	0.438
SAR 1g (W/Kg)	0.894
Variation (%)	-2.290
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

**E. Z Axis Scan**

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	1.509	0.952	0.522	0.291	0.174



### F. 3D Image



**6-Body with back position in dist. 0mm on Channel 20175 in LTE band 4**

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

Date of measurement: 11/1/2024

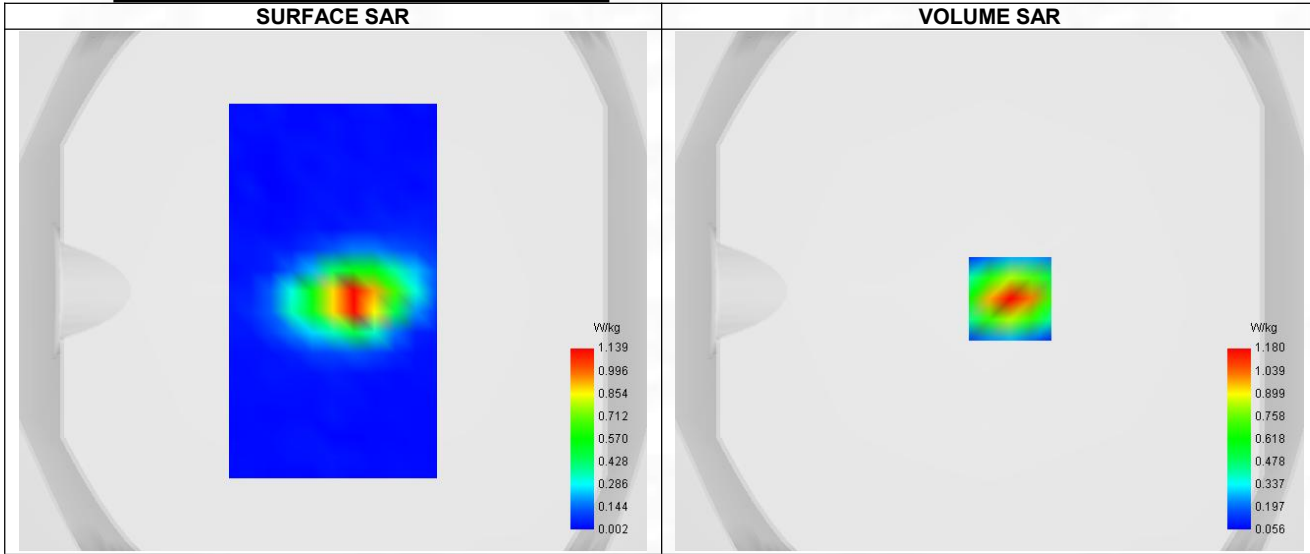
**A. Experimental conditions.**

Probe	SN 04/22 EPG0365
ConvF	1.96
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Body
Band	LTE band 4
Channels	Middle (20175)
Signal	LTE FDD
Cell Bandwidth	20 Mhz
Modulation	SC-OFDM - QPSK
RB offset	99
RB size	1

**B. Permittivity**

Frequency (MHz)	1741.410
Relative permittivity (real part)	40.001
Relative permittivity (imaginary part)	14.418
Conductivity (S/m)	1.340

**C. SAR Surface and Volume**



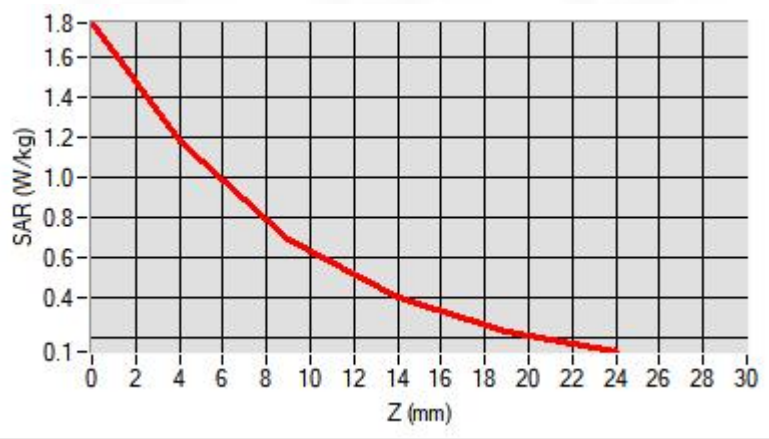
Maximum location: X=8.00, Y=-3.00 ; SAR Peak: 1.77 W/kg

**D. SAR 1g & 10g**

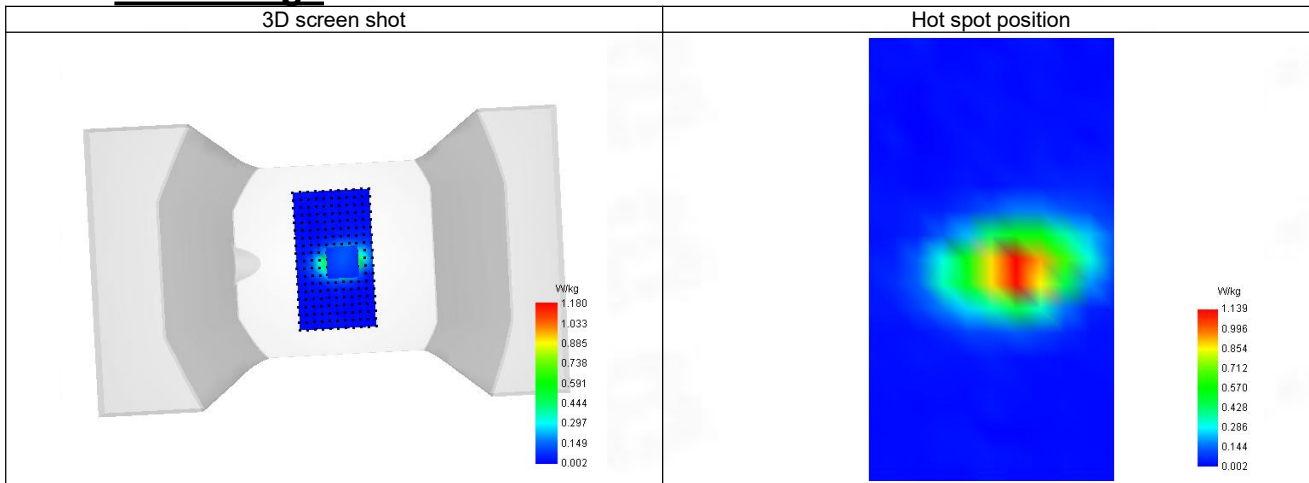
SAR 10g (W/Kg)	0.565
SAR 1g (W/Kg)	1.117
Variation (%)	-2.090
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

**E. Z Axis Scan**

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	1.774	1.180	0.692	0.403	0.238



### F. 3D Image



**7-Body with back position in dist. 0mm on Channel 20600 in LTE band 5**

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

Date of measurement: 10/1/2024

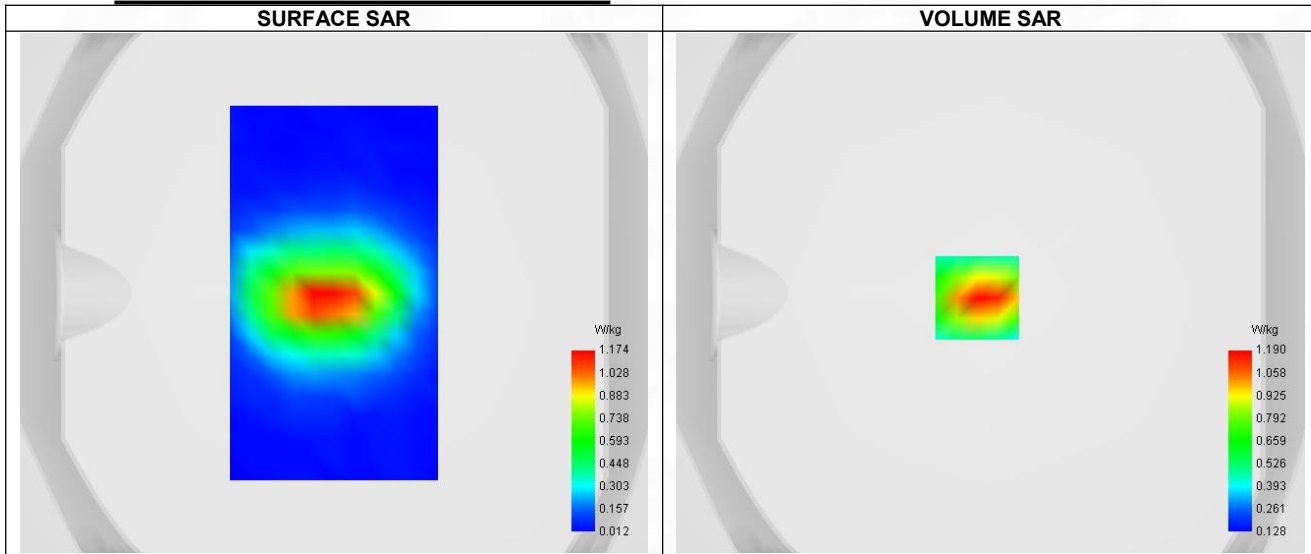
**A. Experimental conditions.**

Probe	SN 04/22 EPG0365
ConvF	1.68
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Body
Band	LTE band 5
Channels	Higher (20600)
Signal	LTE FDD
Cell Bandwidth	10 Mhz
Modulation	SC-OFDM - QPSK
RB offset	25
RB size	1

**B. Permittivity**

Frequency (MHz)	844.090
Relative permittivity (real part)	41.396
Relative permittivity (imaginary part)	19.439
Conductivity (S/m)	0.875

**C. SAR Surface and Volume**



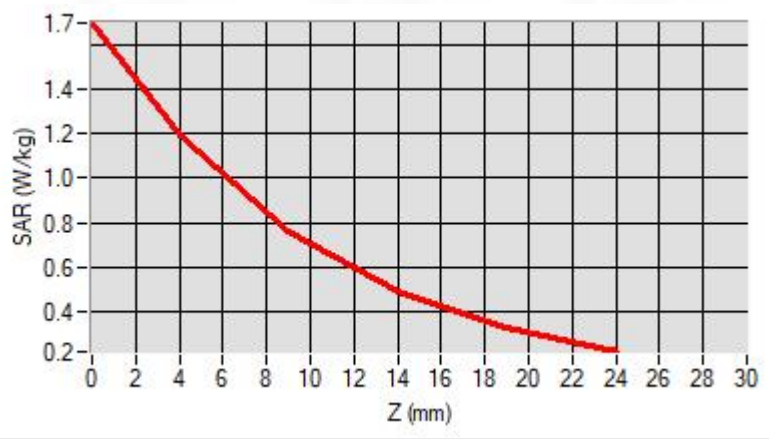
Maximum location: X=-5.00, Y=-2.00 ; SAR Peak: 1.73 W/kg

**D. SAR 1g & 10g**

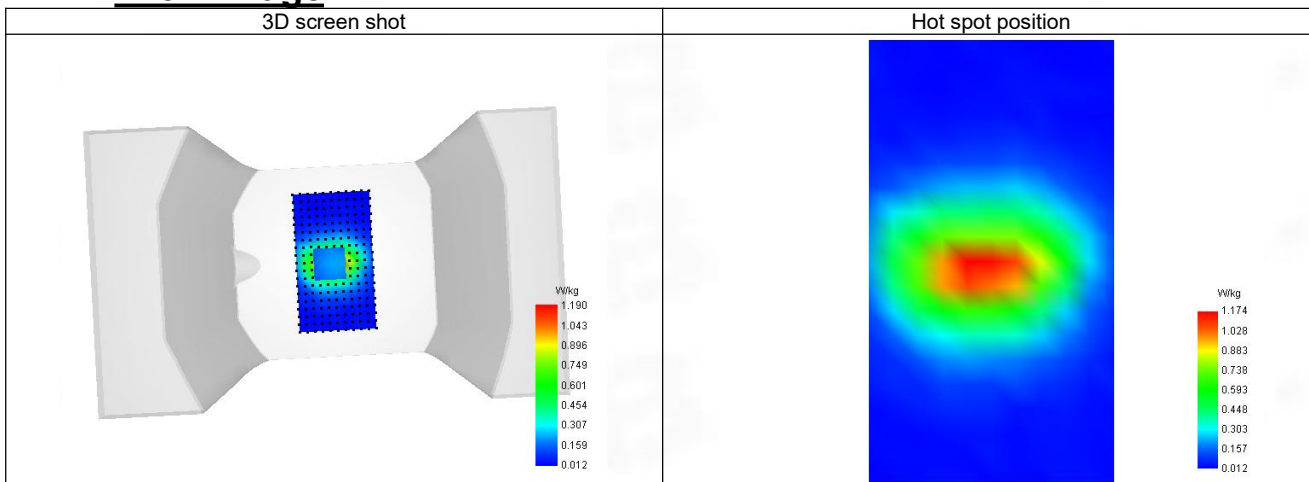
SAR 10g (W/Kg)	0.694
SAR 1g (W/Kg)	1.174
Variation (%)	2.470
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

**E. Z Axis Scan**

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	1.696	1.190	0.760	0.493	0.331



### F. 3D Image





**8-Body with back position in dist. 0mm on Channel 21100 in LTE band 7**

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

Date of measurement: 12/1/2024

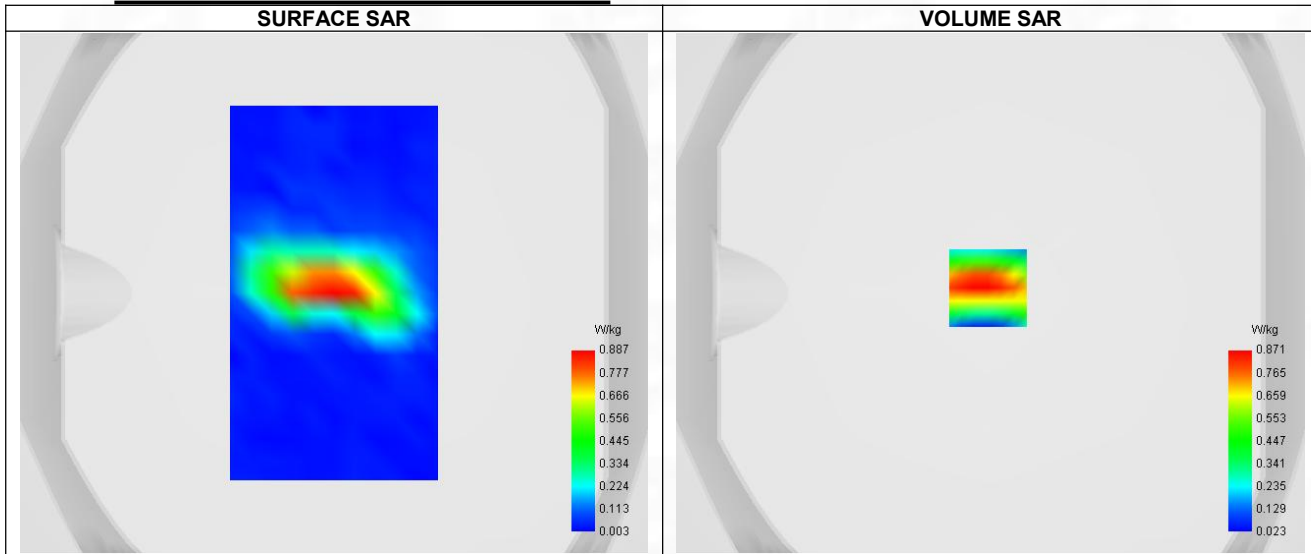
**A. Experimental conditions.**

Probe	SN 04/22 EPG0365
ConvF	2.40
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=5mm dy=5mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Body
Band	LTE band 7
Channels	Middle (21100)
Signal	LTE FDD
Cell Bandwidth	20 Mhz
Modulation	SC-OFDM - QPSK
RB offset	49
RB size	1

**B. Permittivity**

Frequency (MHz)	2534.910
Relative permittivity (real part)	38.967
Relative permittivity (imaginary part)	12.972
Conductivity (S/m)	1.901

**C. SAR Surface and Volume**



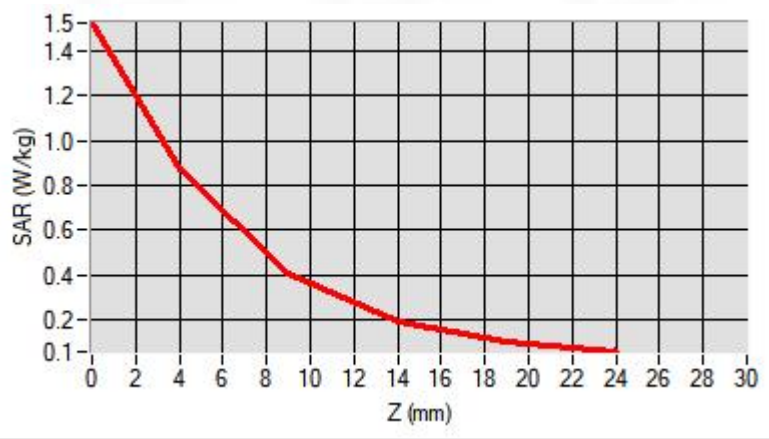
Maximum location: X=-1.00, Y=2.00 ; SAR Peak: 1.54 W/kg

**D. SAR 1g & 10g**

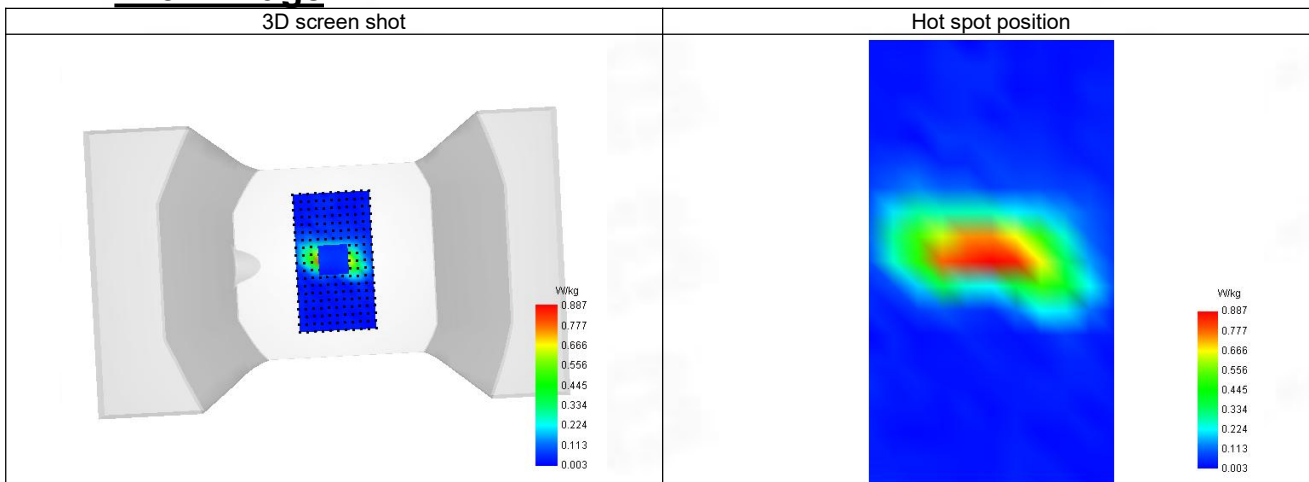
SAR 10g (W/Kg)	0.389
SAR 1g (W/Kg)	0.712
Variation (%)	-0.770
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

**E. Z Axis Scan**

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	1.525	0.871	0.409	0.193	0.102



### F. 3D Image



**9-Body with back position in dist. 0mm on Channel 23130 in LTE band 12**

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

Date of measurement: 10/1/2024

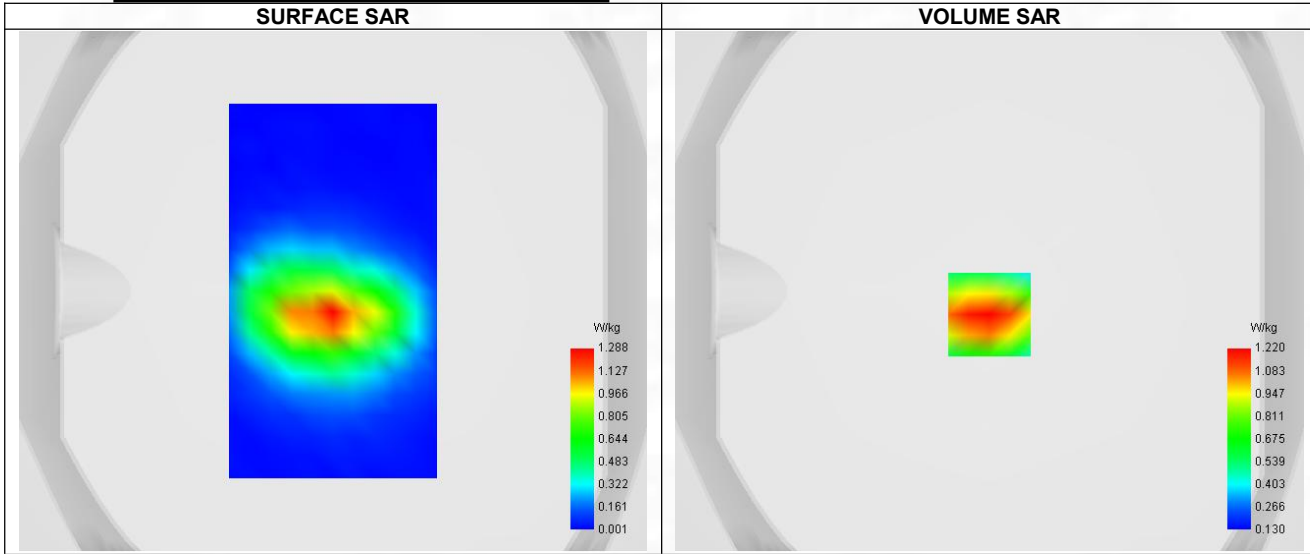
**A. Experimental conditions.**

Probe	SN 04/22 EPG0365
ConvF	1.65
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Body
Band	LTE band 12
Channels	Higher (23130)
Signal	LTE FDD
Cell Bandwidth	10 Mhz
Modulation	SC-OFDM - QPSK
RB offset	25
RB size	1

**B. Permittivity**

Frequency (MHz)	711.090
Relative permittivity (real part)	41.979
Relative permittivity (imaginary part)	22.362
Conductivity (S/m)	0.855

**C. SAR Surface and Volume**



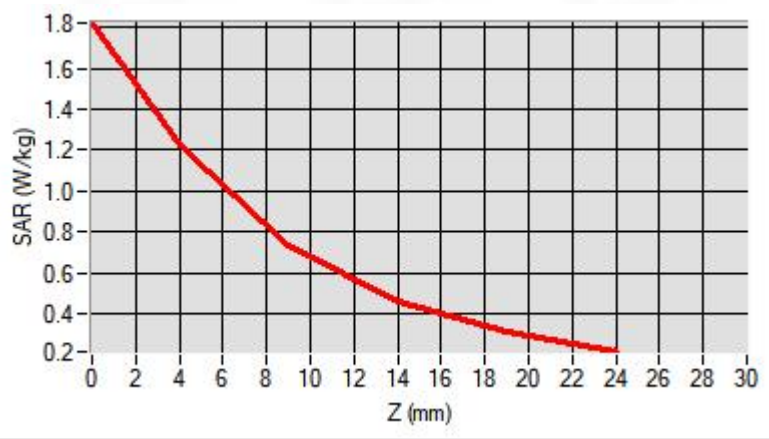
Maximum location: X=0.00, Y=-9.00 ; SAR Peak: 1.83 W/kg

**D. SAR 1g & 10g**

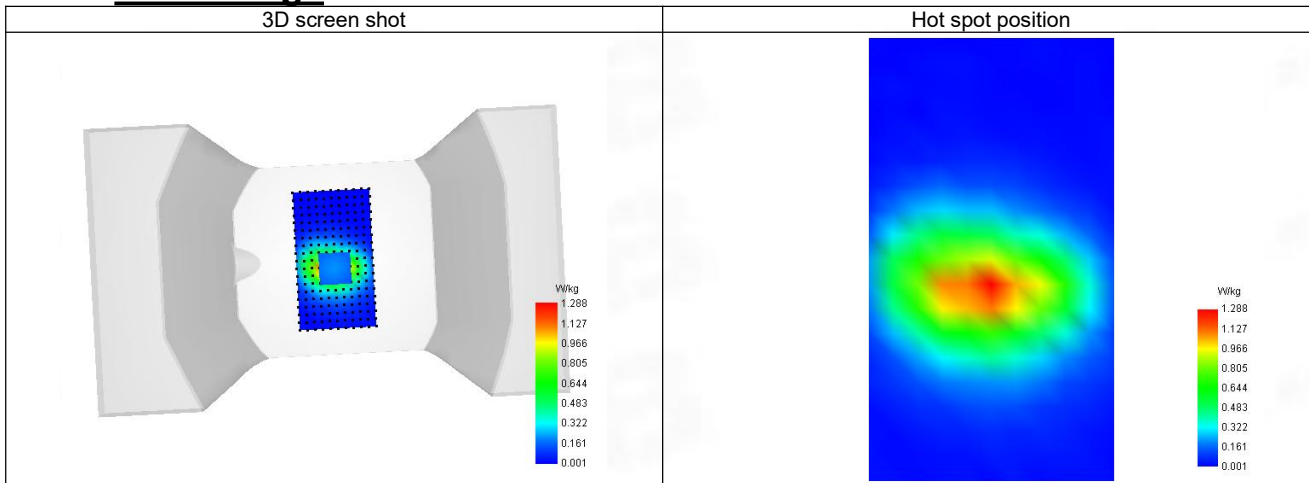
SAR 10g (W/Kg)	0.712
SAR 1g (W/Kg)	1.201
Variation (%)	-2.110
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

**E. Z Axis Scan**

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	1.822	1.220	0.735	0.460	0.309



### F. 3D Image



**10-Body with back position in dist. 0mm on Channel 23330 in LTE band 14**

**SAR Measurement at LTE band 14 (Body, Validation Plane)**

Date of measurement: 10/1/2024

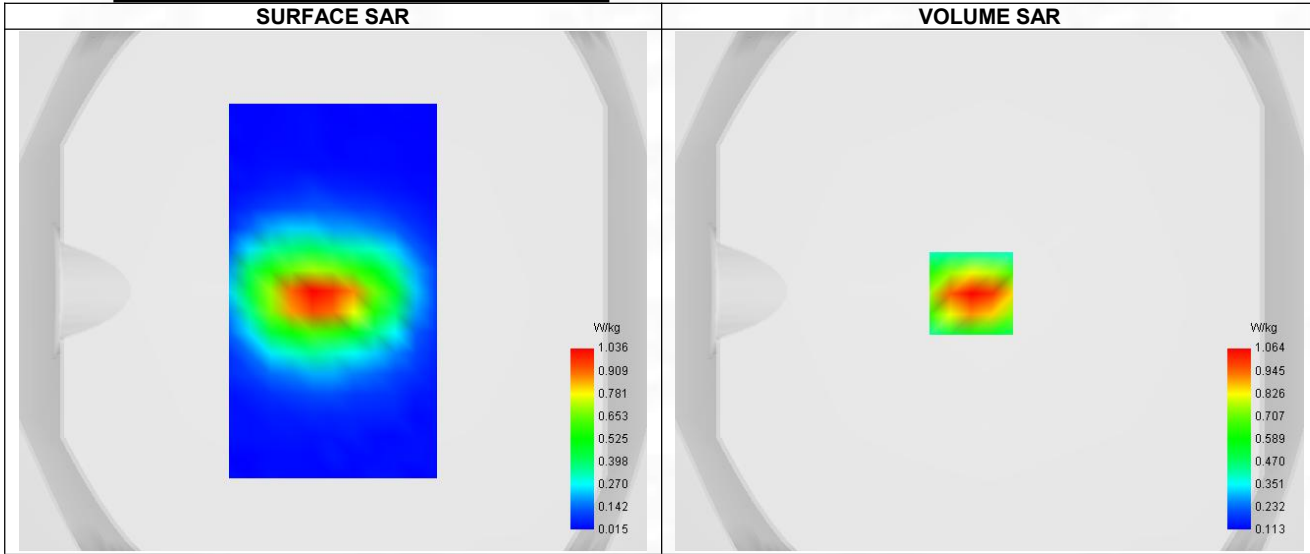
**A. Experimental conditions.**

Probe	SN 04/22 EPG0365
ConvF	1.65
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Body
Band	LTE band 14
Channels	Middle (23330)
Signal	LTE FDD
Cell Bandwidth	10 Mhz
Modulation	SC-OFDM - QPSK
RB offset	25
RB size	1

**B. Permittivity**

Frequency (MHz)	793.090
Relative permittivity (real part)	41.602
Relative permittivity (imaginary part)	20.461
Conductivity (S/m)	0.865

**C. SAR Surface and Volume**



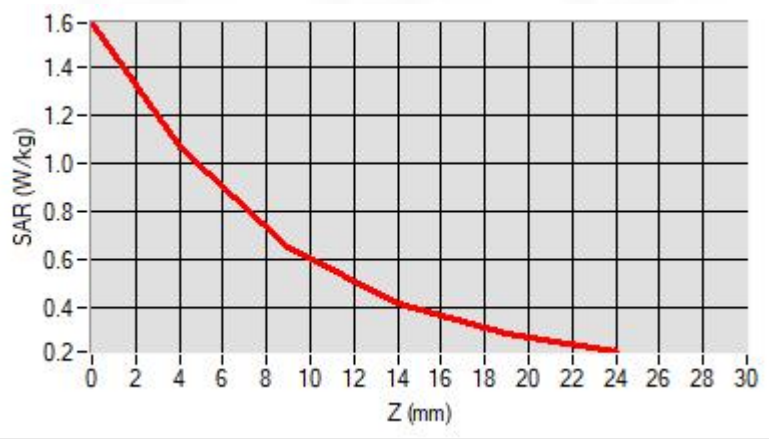
Maximum location: X=-7.00, Y=-1.00 ; SAR Peak: 1.59 W/kg

**D. SAR 1g & 10g**

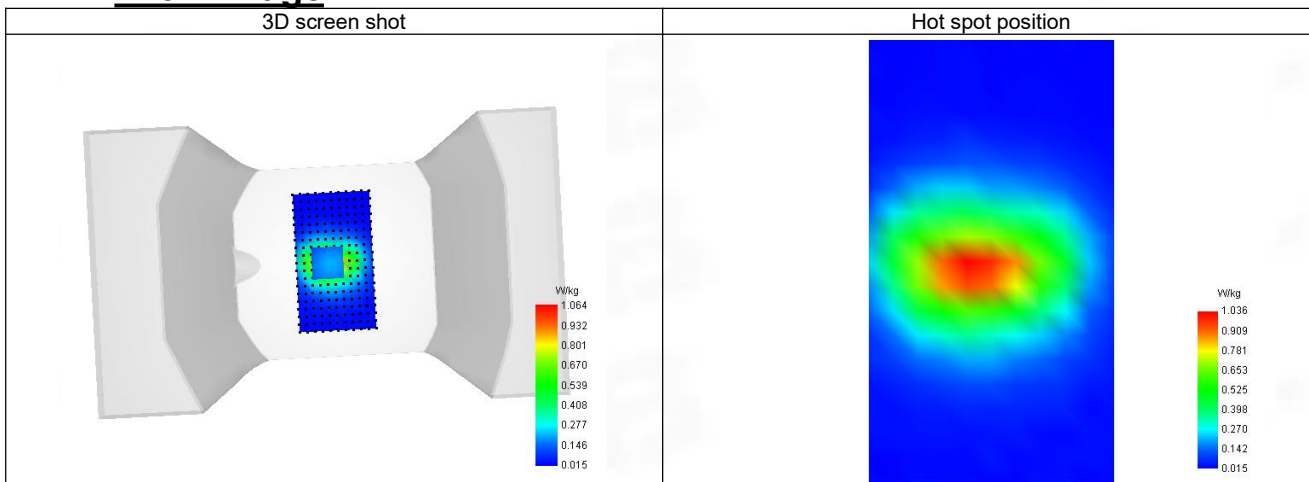
SAR 10g (W/Kg)	0.629
SAR 1g (W/Kg)	1.063
Variation (%)	2.680
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

**E. Z Axis Scan**

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	1.586	1.064	0.647	0.414	0.290



### F. 3D Image



**11-Body with back position in dist. 0mm on Channel 23800 in LTE band 17**

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

Date of measurement: 11/1/2024

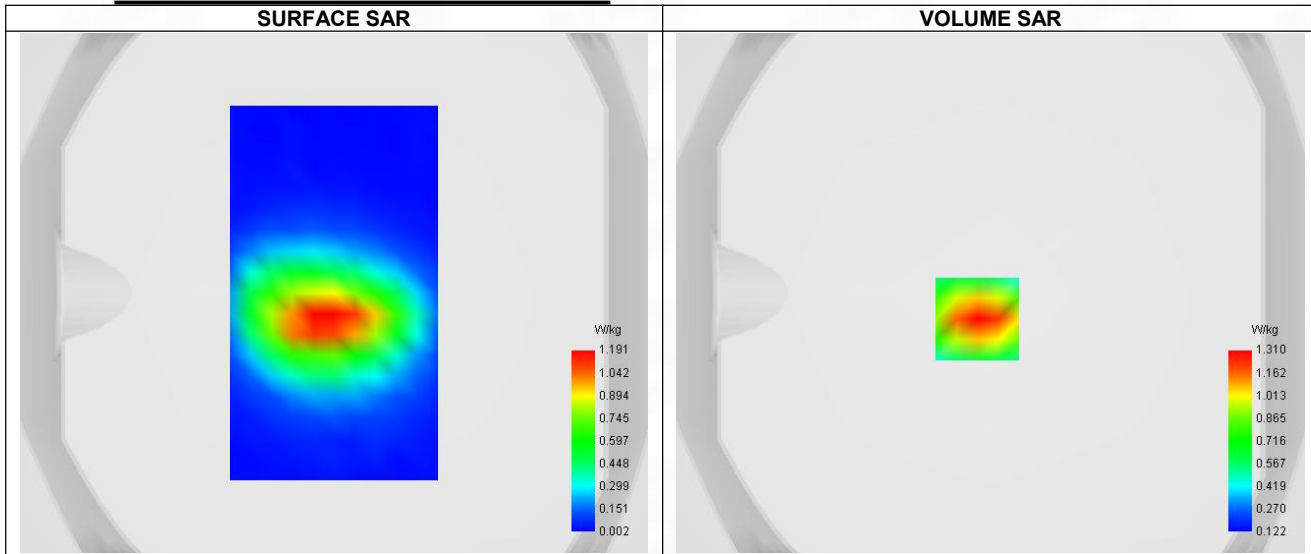
**A. Experimental conditions.**

Probe	SN 04/22 EPG0365
ConvF	1.65
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Body
Band	LTE band 17
Channels	Higher (23800)
Signal	LTE FDD
Cell Bandwidth	10 Mhz
Modulation	SC-OFDM - QPSK
RB offset	25
RB size	1

**B. Permittivity**

Frequency (MHz)	711.090
Relative permittivity (real part)	41.979
Relative permittivity (imaginary part)	22.362
Conductivity (S/m)	0.855

**C. SAR Surface and Volume**



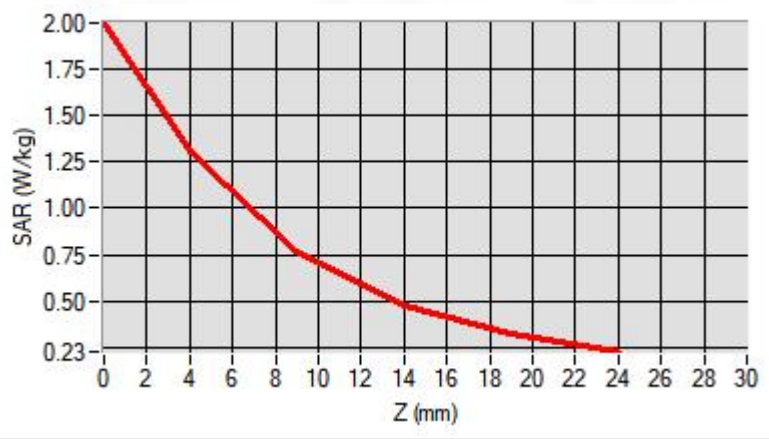
Maximum location: X=-5.00, Y=-10.00 ; SAR Peak: 2.00 W/kg

**D. SAR 1g & 10g**

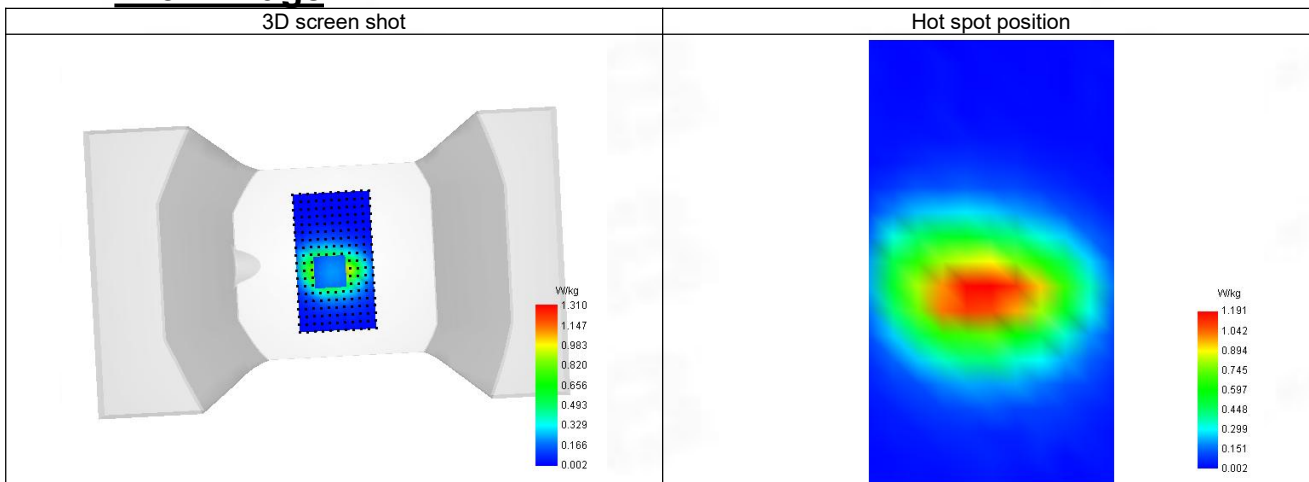
SAR 10g (W/Kg)	0.742
SAR 1g (W/Kg)	1.191
Variation (%)	-1.840
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

**E. Z Axis Scan**

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	1.998	1.310	0.770	0.474	0.320



### F. 3D Image





**12-Body with back position in dist. 0mm on Channel 26365 in LTE band 25**

**SAR Measurement at LTE band 25 (Body, Validation Plane)**

Date of measurement: 11/1/2024

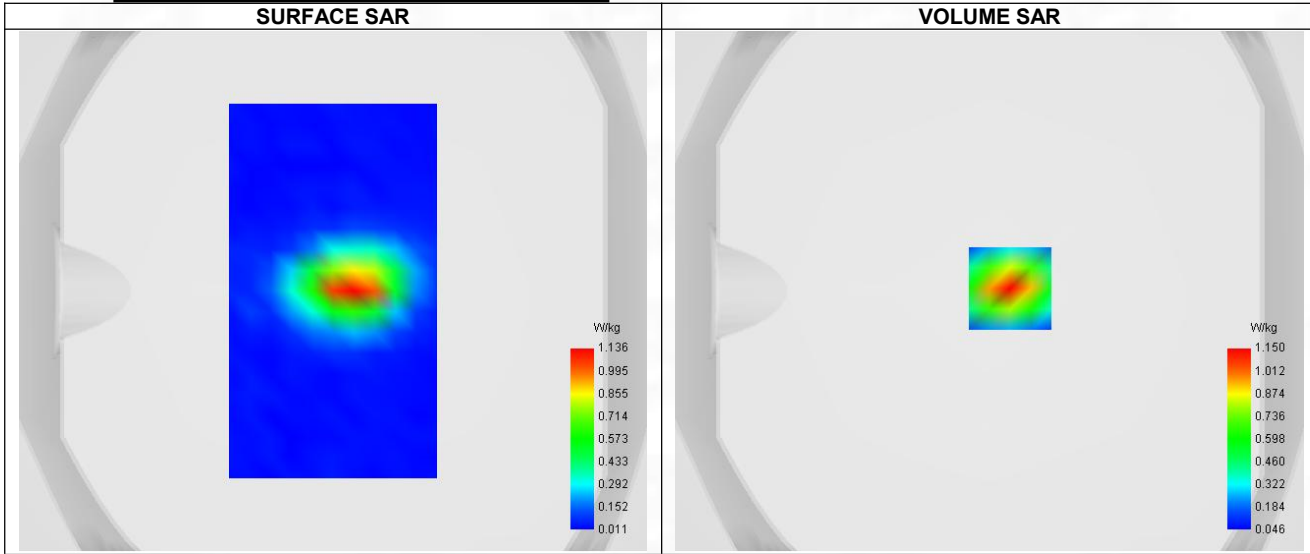
**A. Experimental conditions.**

Probe	SN 04/22 EPG0365
ConvF	2.24
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Body
Band	LTE band 25
Channels	Middle (26365)
Signal	LTE FDD
Cell Bandwidth	20 Mhz
Modulation	SC-OFDM - QPSK
RB offset	50
RB size	1

**B. Permittivity**

Frequency (MHz)	1882.590
Relative permittivity (real part)	39.885
Relative permittivity (imaginary part)	13.504
Conductivity (S/m)	1.403

**C. SAR Surface and Volume**



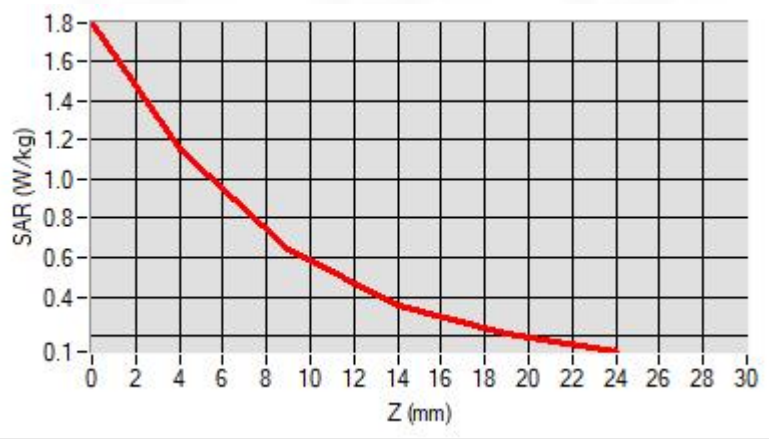
Maximum location: X=8.00, Y=1.00 ; SAR Peak: 1.80 W/kg

**D. SAR 1g & 10g**

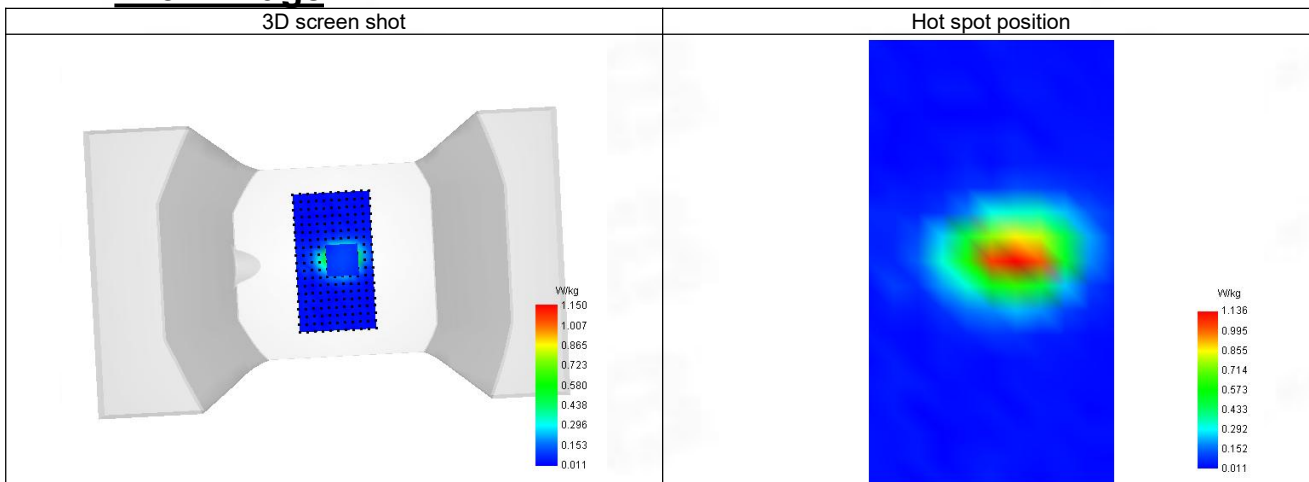
SAR 10g (W/Kg)	0.531
SAR 1g (W/Kg)	1.081
Variation (%)	-4.990
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

**E. Z Axis Scan**

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	1.799	1.150	0.640	0.357	0.208



### F. 3D Image



**13-Body with back position in dist. 0mm on Channel 26765 in LTE band 26**

**SAR Measurement at LTE band 26 (Body, Validation Plane)**

Date of measurement: 10/1/2024

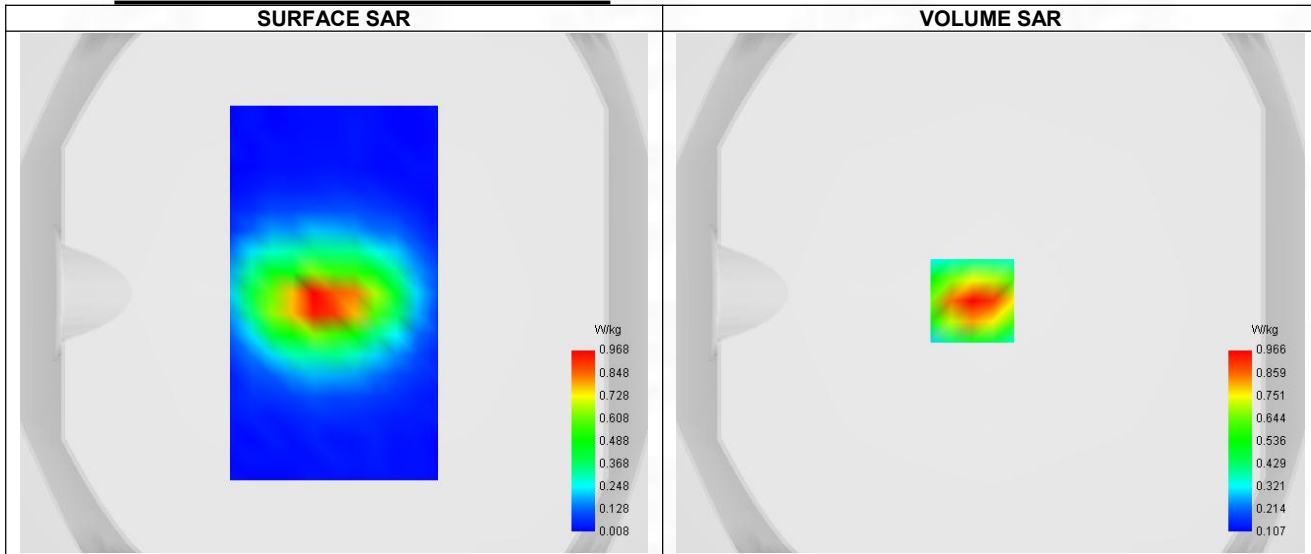
**A. Experimental conditions.**

Probe	SN 04/22 EPG0365
ConvF	1.68
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Body
Band	LTE band 26
Channels	Lower (26765)
Signal	LTE FDD
Cell Bandwidth	15 Mhz
Modulation	SC-OFDM - QPSK
RB offset	38
RB size	1

**B. Permittivity**

Frequency (MHz)	821.680
Relative permittivity (real part)	41.471
Relative permittivity (imaginary part)	19.799
Conductivity (S/m)	0.868

**C. SAR Surface and Volume**



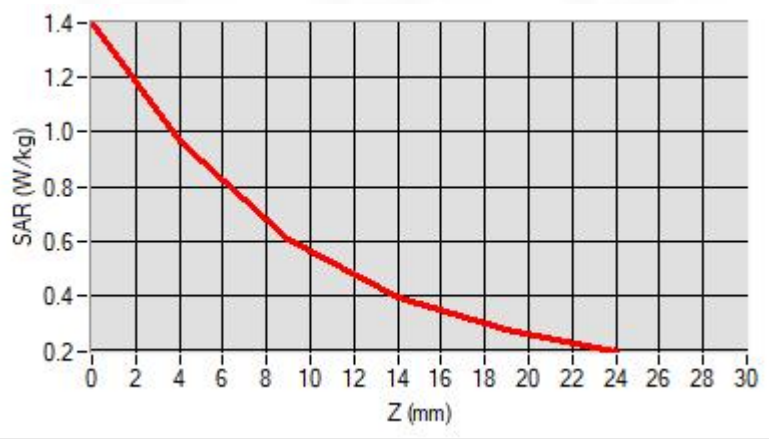
Maximum location: X=-7.00, Y=-3.00 ; SAR Peak: 1.40 W/kg

**D. SAR 1g & 10g**

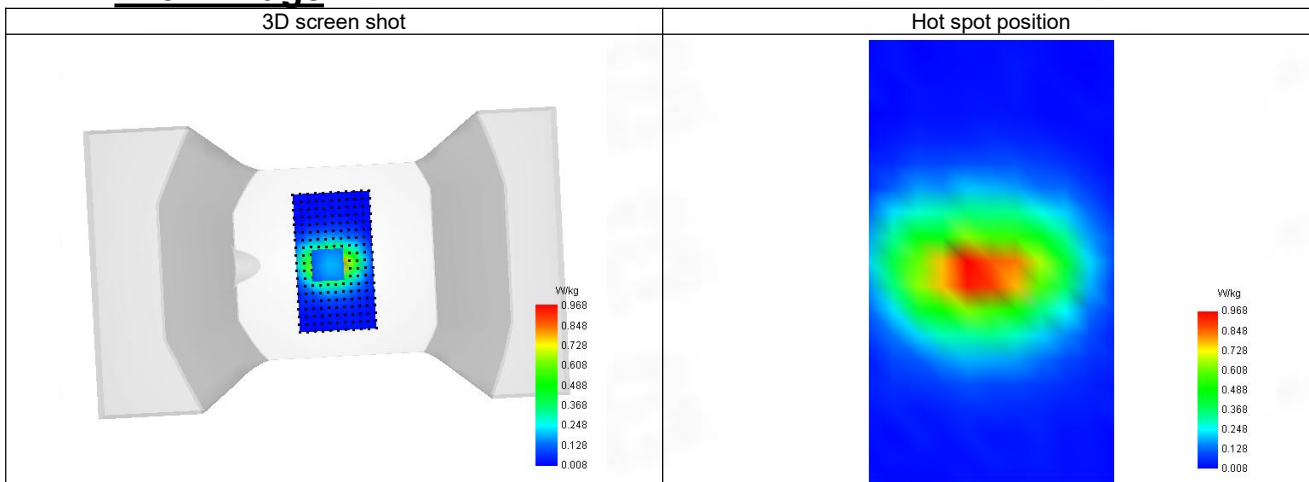
SAR 10g (W/Kg)	0.573
SAR 1g (W/Kg)	0.967
Variation (%)	0.850
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

**E. Z Axis Scan**

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	1.401	0.966	0.607	0.394	0.273



### F. 3D Image



**14-Body with back position in dist. 0mm on Channel 40620 in LTE band 41**

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

Date of measurement: 12/1/2024

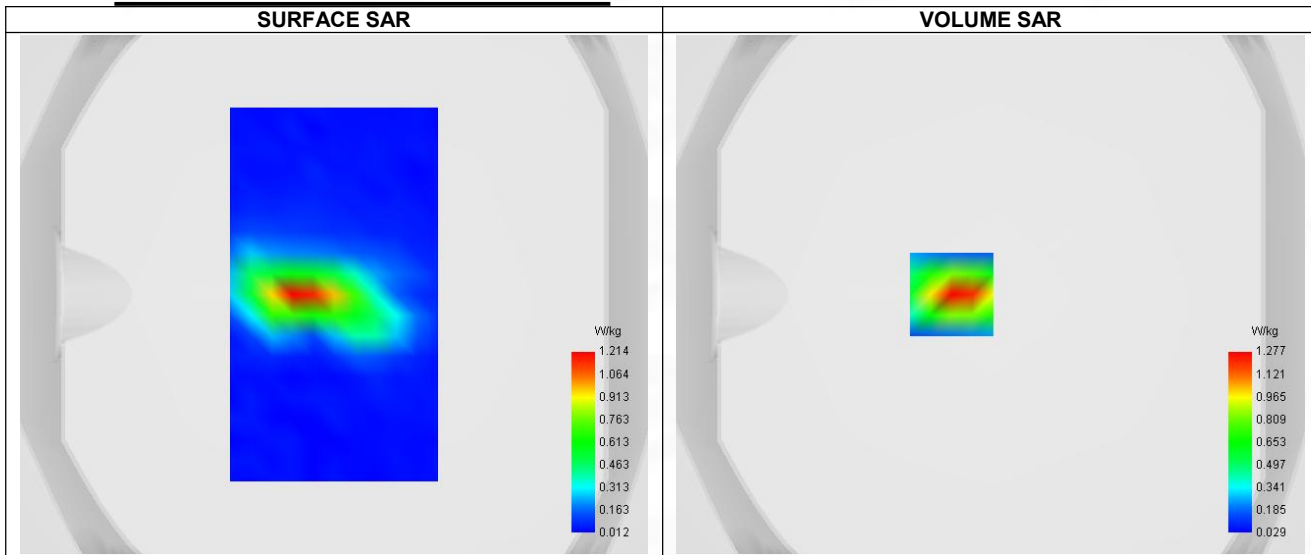
**A. Experimental conditions.**

Probe	SN 04/22 EPG0365
ConvF	2.40
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=5mm dy=5mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Body
Band	LTE band 41
Channels	Middle (40620)
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)	2593.090
Relative permittivity (real part)	38.889
Relative permittivity (imaginary part)	12.720
Conductivity (S/m)	1.963

**C. SAR Surface and Volume**



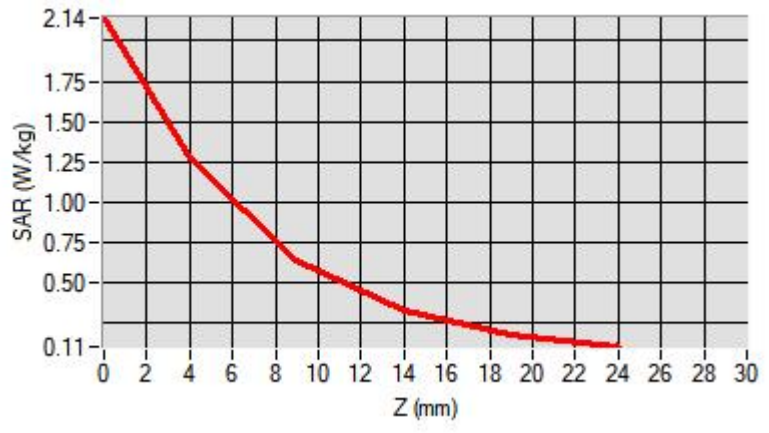
**D. SAR 1g & 10g**

SAR 10g (W/Kg)	0.561
SAR 1g (W/Kg)	1.210
Variation (%)	-2.250
Horizontal validation criteria: minimum distance (mm)	0.000000

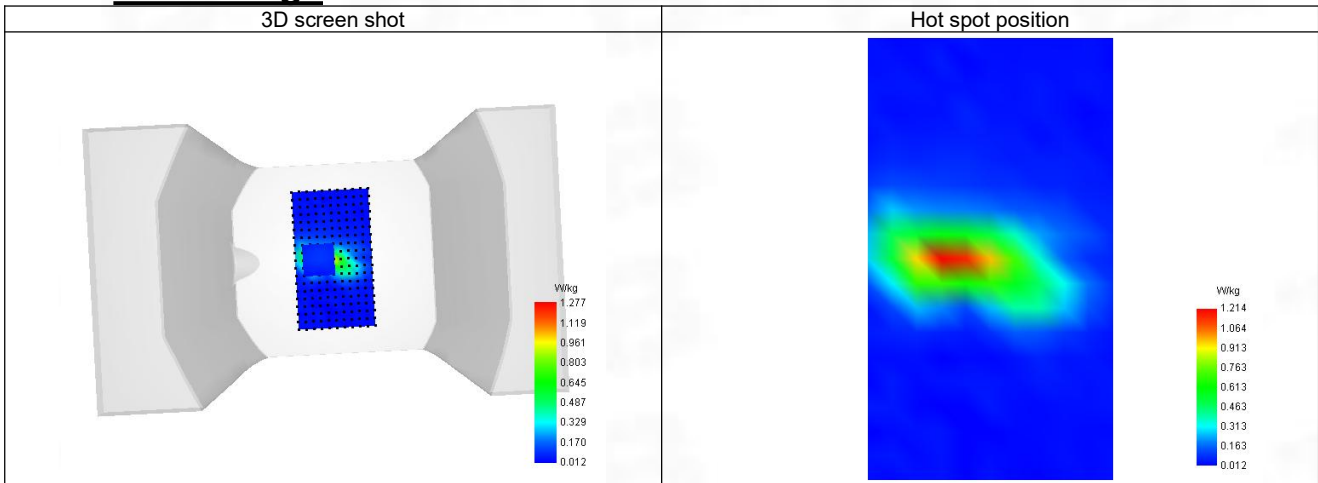
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000
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### E. Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	2.141	1.277	0.643	0.328	0.183



### F. 3D Image



**15-Body with back position in dist. 0mm on Channel 132572 in LTE band 66**

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

Date of measurement: 11/1/2024

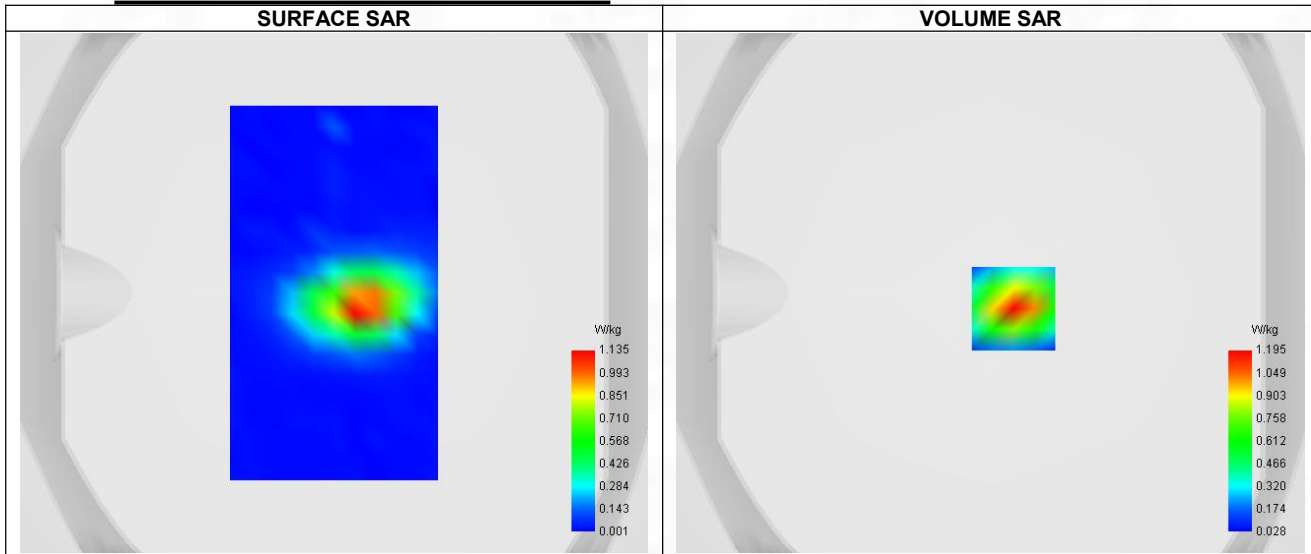
**A. Experimental conditions.**

Probe	SN 04/22 EPG0365
ConvF	1.96
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Body
Band	LTE band 66
Channels	Higher (132572)
Signal	LTE FDD
Cell Bandwidth	20 Mhz
Modulation	SC-OFDM - QPSK
RB offset	99
RB size	1

**B. Permittivity**

Frequency (MHz)	1778.910
Relative permittivity (real part)	39.943
Relative permittivity (imaginary part)	14.208
Conductivity (S/m)	1.359

**C. SAR Surface and Volume**



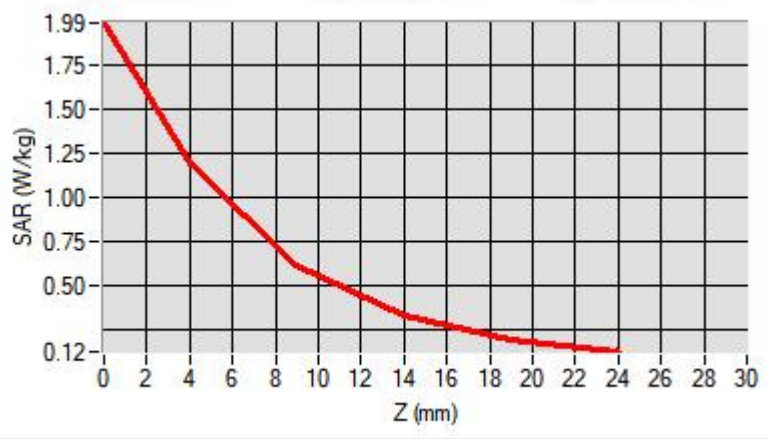
Maximum location: X=9.00, Y=-6.00 ; SAR Peak: 1.98 W/kg

**D. SAR 1g & 10g**

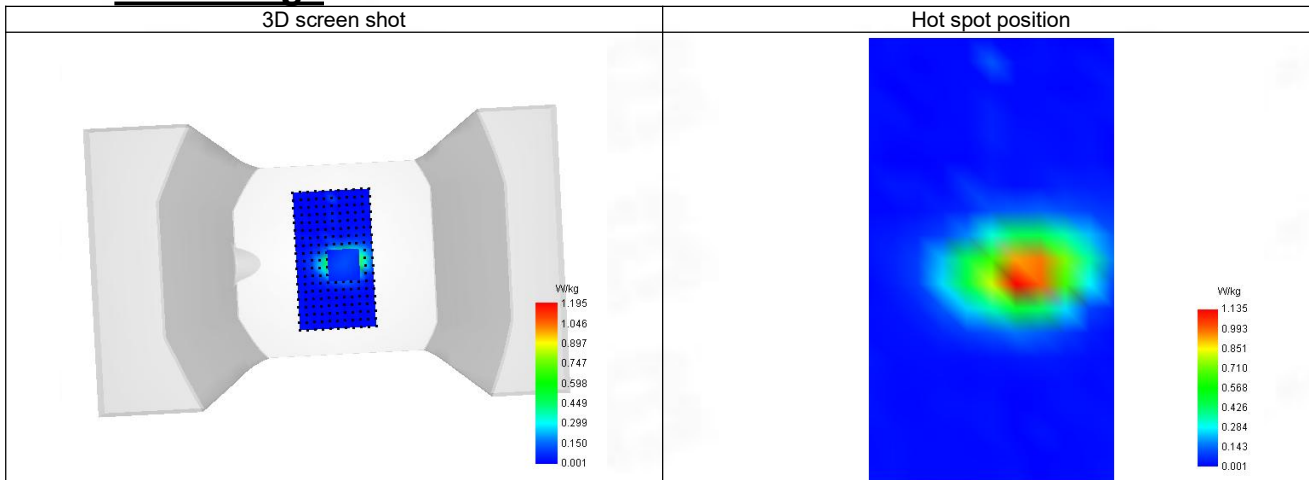
SAR 10g (W/Kg)	0.541
SAR 1g (W/Kg)	1.129
Variation (%)	-2.520
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

**E. Z Axis Scan**

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	1.987	1.195	0.614	0.325	0.192



### F. 3D Image





**16-Body with back position in dist. 0mm on Channel 11 in IEEE 802.11b ISM**

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

Date of measurement: 12/1/2024

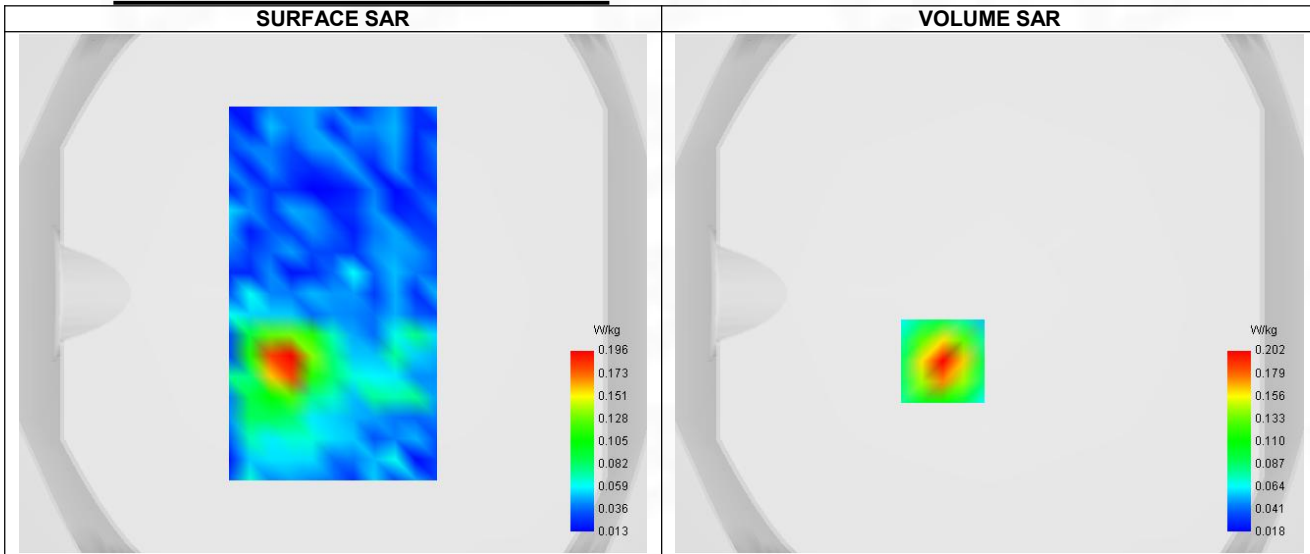
**A. Experimental conditions.**

Probe	SN 04/22 EPG0365
ConvF	2.36
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=5mm dy=5mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Body
Band	IEEE 802.11b ISM
Channels	Higher (11)
Signal	IEEE 802.11

**B. Permittivity**

Frequency (MHz)	2462.000
Relative permittivity (real part)	39.064
Relative permittivity (imaginary part)	13.288
Conductivity (S/m)	1.823

**C. SAR Surface and Volume**



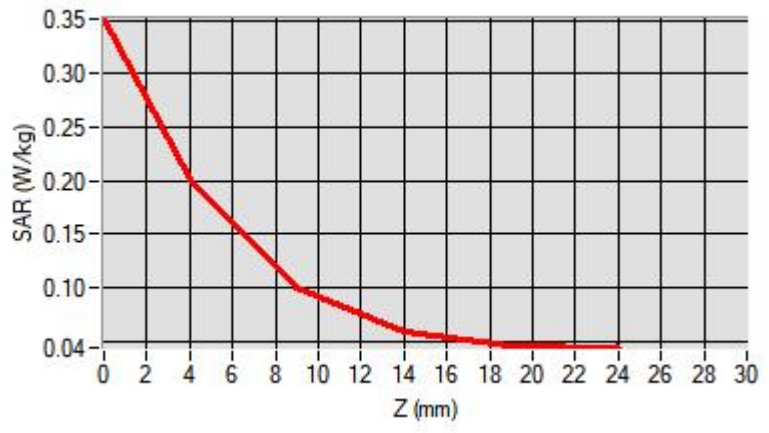
Maximum location: X=-18.00, Y=-26.00 ; SAR Peak: 0.35 W/kg

**D. SAR 1g & 10g**

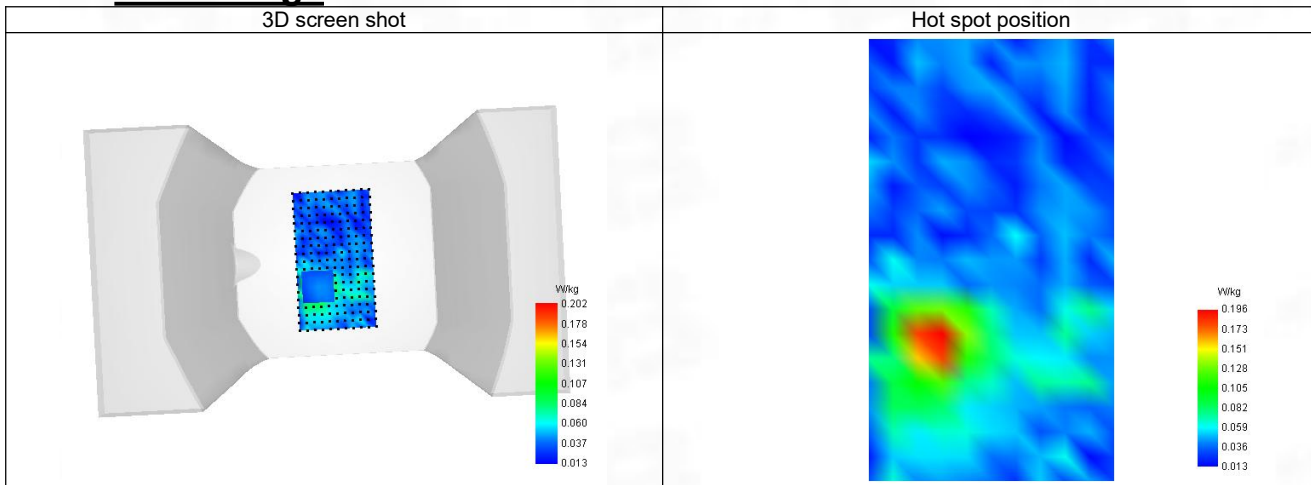
SAR 10g (W/Kg)	0.101
SAR 1g (W/Kg)	0.195
Variation (%)	-3.540
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

**E. Z Axis Scan**

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.351	0.202	0.100	0.058	0.045



### F. 3D Image



**17-Body with back position in dist. 0mm on Channel 46 in IEEE 802.11ac U-NII**

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

Date of measurement: 15/1/2024

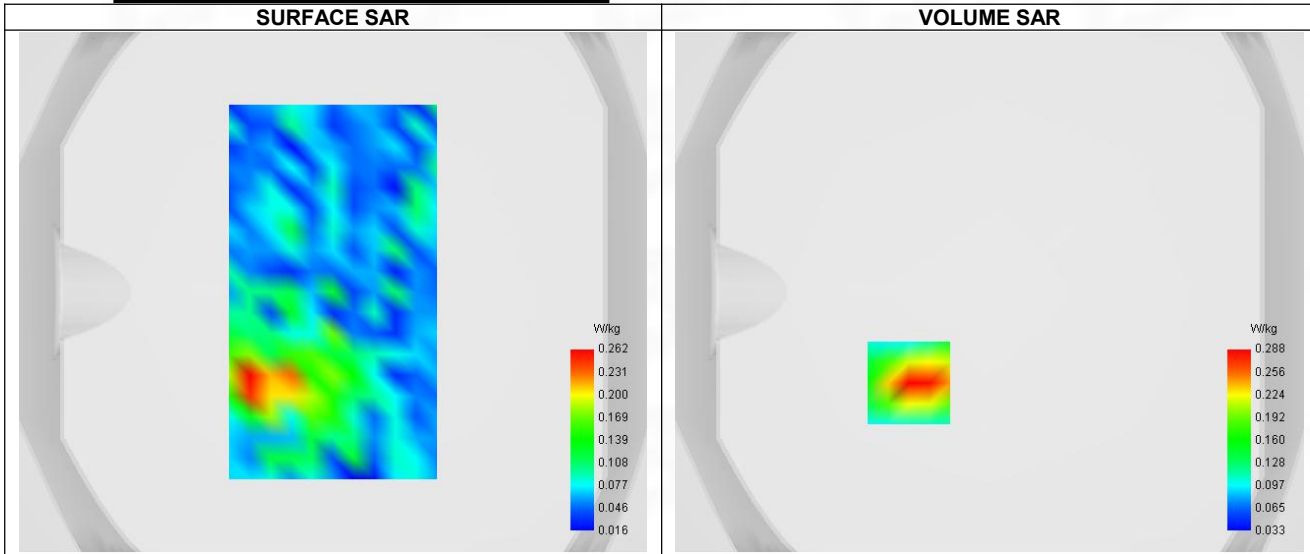
**A. Experimental conditions.**

Probe	SN 04/22 EPGO365
ConvF	2.24
Area Scan	surf_sam_plan.txt
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2mm,Complete
Phantom	Validation plane
Device Position	Body
Band	IEEE 802.11ac U-NII
Channels	Higher (46)
Signal	IEEE 802.11

**B. Permittivity**

Frequency (MHz)	5230.000
Relative permittivity (real part)	35.850
Relative permittivity (imaginary part)	16.261
Conductivity (S/m)	4.730

**C. SAR Surface and Volume**

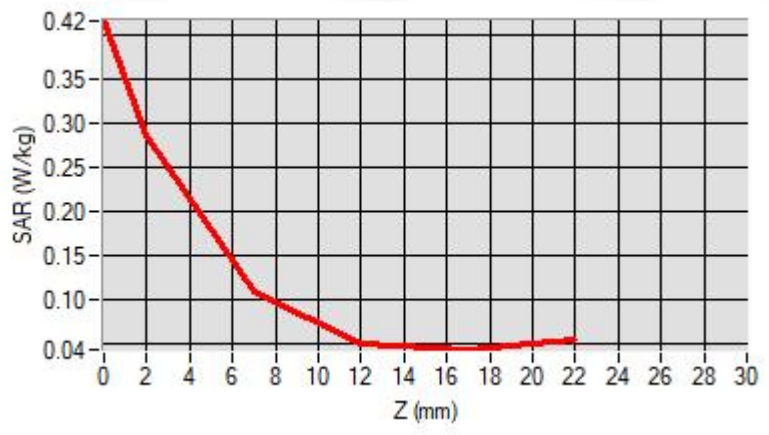


**D. SAR 1g & 10g**

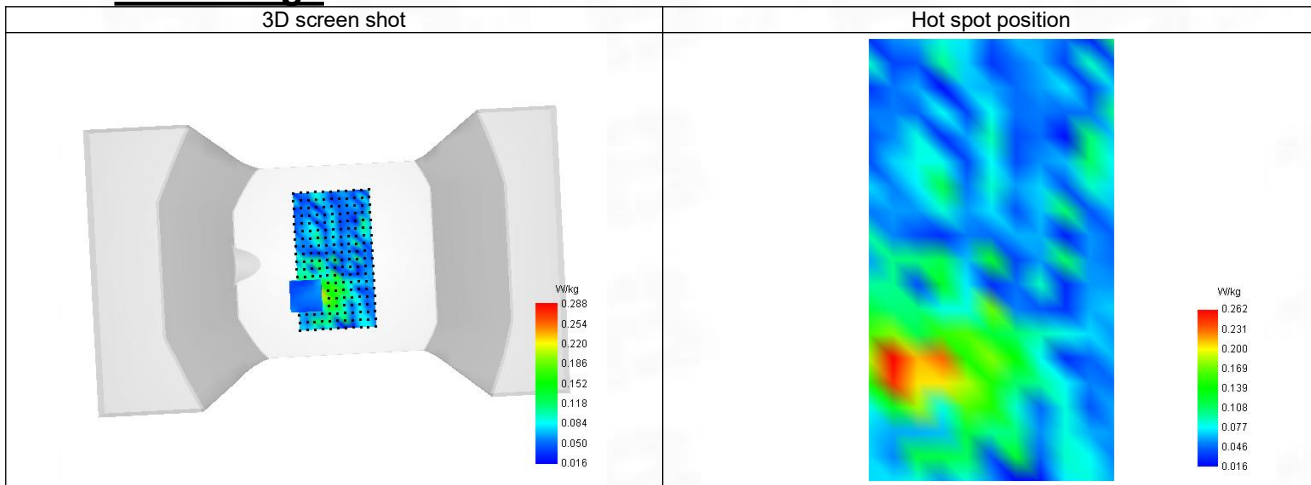
SAR 10g (W/Kg)	0.111
SAR 1g (W/Kg)	0.203
Variation (%)	2.900
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

**E. Z Axis Scan**

Z (mm)	0.00	2.00	7.00	12.00	17.00
SAR (W/Kg)	0.417	0.288	0.108	0.050	0.043



### F. 3D Image



18-Body with back position in dist. 0mm on Channel 52 in IEEE 802.11n U-NII

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

Date of measurement: 15/1/2024

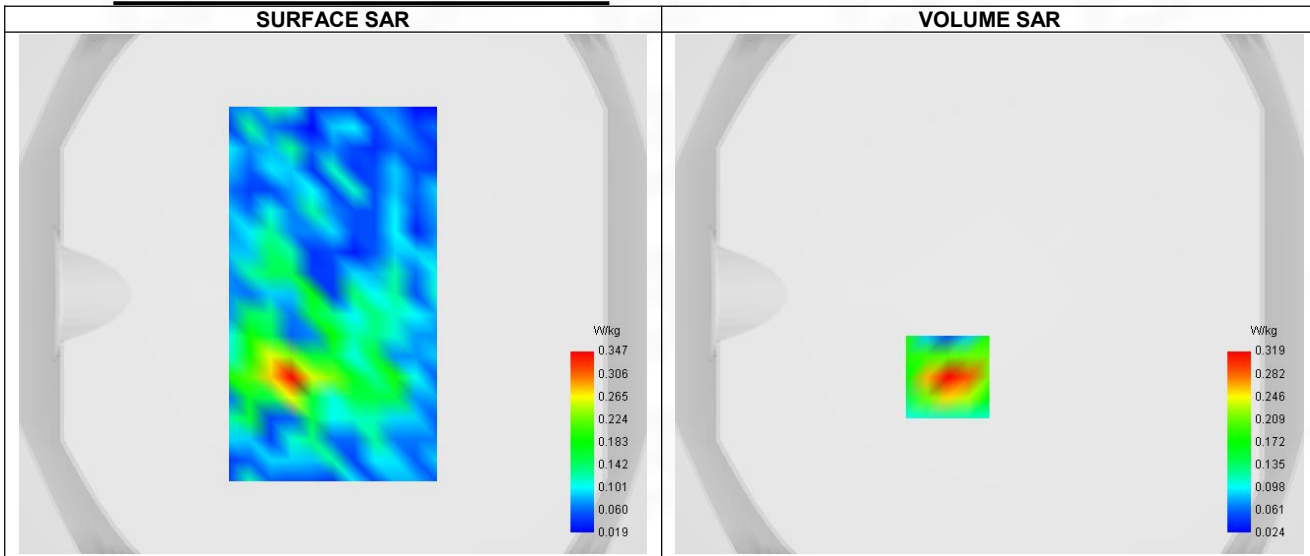
**A. Experimental conditions.**

Probe	SN 04/22 EPG0365
ConvF	2.24
Area Scan	surf_sam_plan.txt
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2mm,Complete
Phantom	Validation plane
Device Position	Body
Band	IEEE 802.11n U-NII
Channels	Lower (52)
Signal	IEEE 802.11

**B. Permittivity**

Frequency (MHz)	5260.000
Relative permittivity (real part)	35.820
Relative permittivity (imaginary part)	16.271
Conductivity (S/m)	4.760

**C. SAR Surface and Volume**



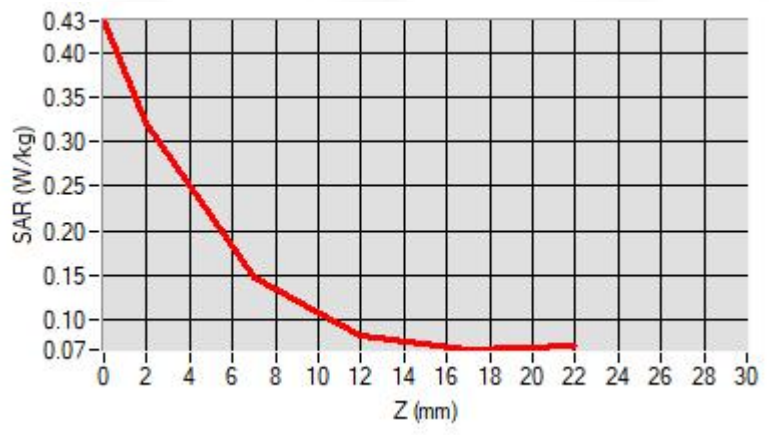
Maximum location: X=-16.00, Y=-32.00 ; SAR Peak: 0.44 W/kg

**D. SAR 1g & 10g**

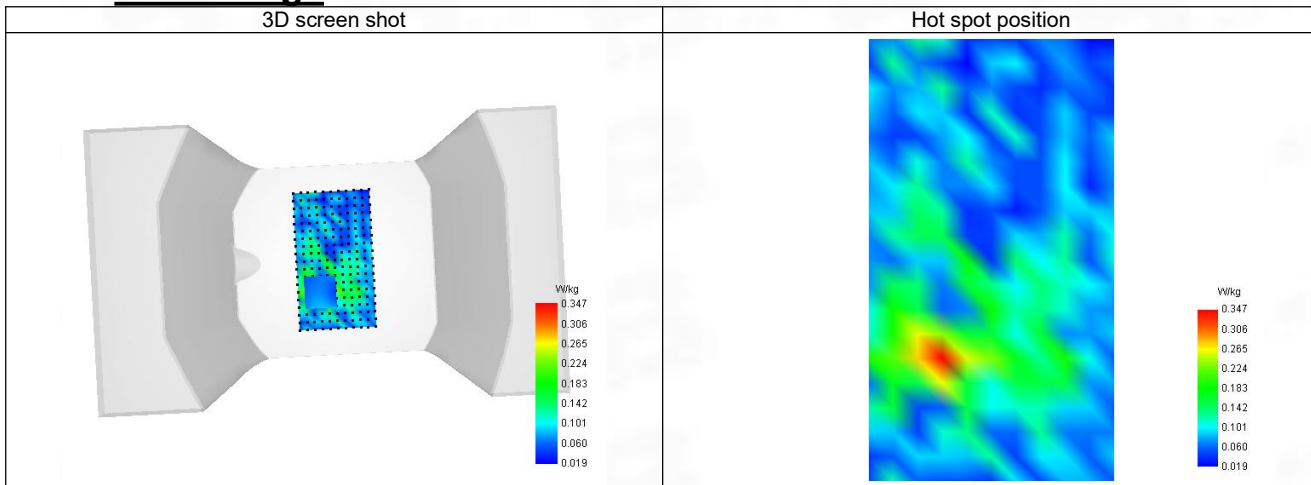
SAR 10g (W/Kg)	0.125
SAR 1g (W/Kg)	0.225
Variation (%)	2.420
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

**E. Z Axis Scan**

Z (mm)	0.00	2.00	7.00	12.00	17.00
SAR (W/Kg)	0.435	0.319	0.147	0.081	0.067



### F. 3D Image



**19-Body with back position in dist. 0mm on Channel 140 in IEEE 802.11a U-NII**

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

Date of measurement: 15/1/2024

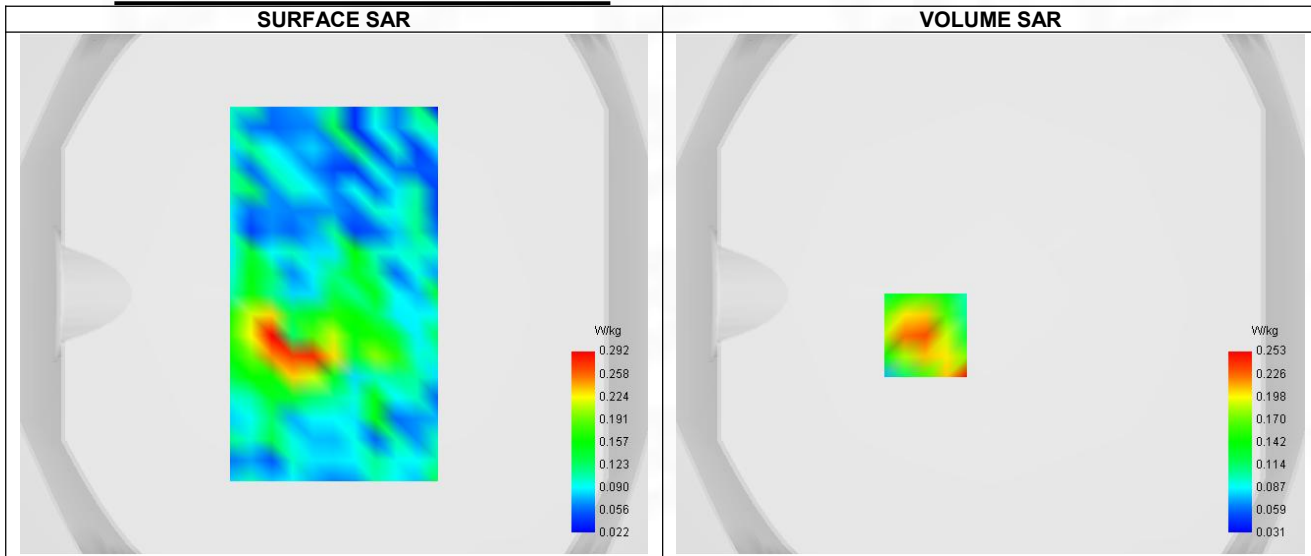
**A. Experimental conditions.**

Probe	SN 04/22 EPGO365
ConvF	2.18
Area Scan	surf_sam_plan.txt
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2mm,Complete
Phantom	Validation plane
Device Position	Body
Band	IEEE 802.11a U-NII
Channels	Higher (140)
Signal	IEEE 802.11

**B. Permittivity**

Frequency (MHz)	5700.000
Relative permittivity (real part)	35.280
Relative permittivity (imaginary part)	16.450
Conductivity (S/m)	5.210

**C. SAR Surface and Volume**



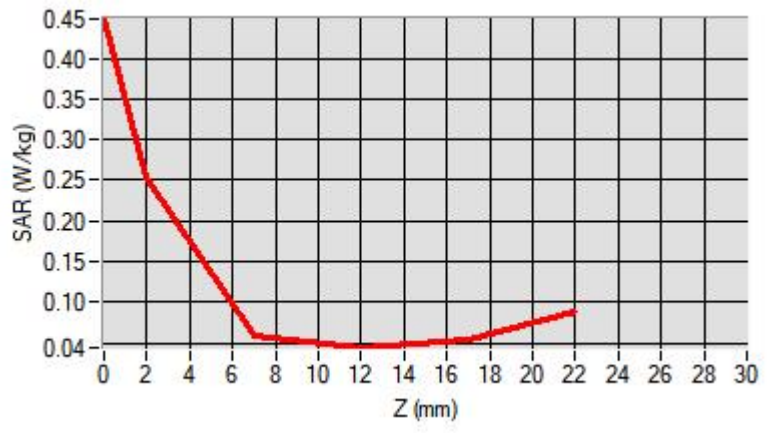
Maximum location: X=-25.00, Y=-16.00 ; SAR Peak: 0.39 W/kg

**D. SAR 1g & 10g**

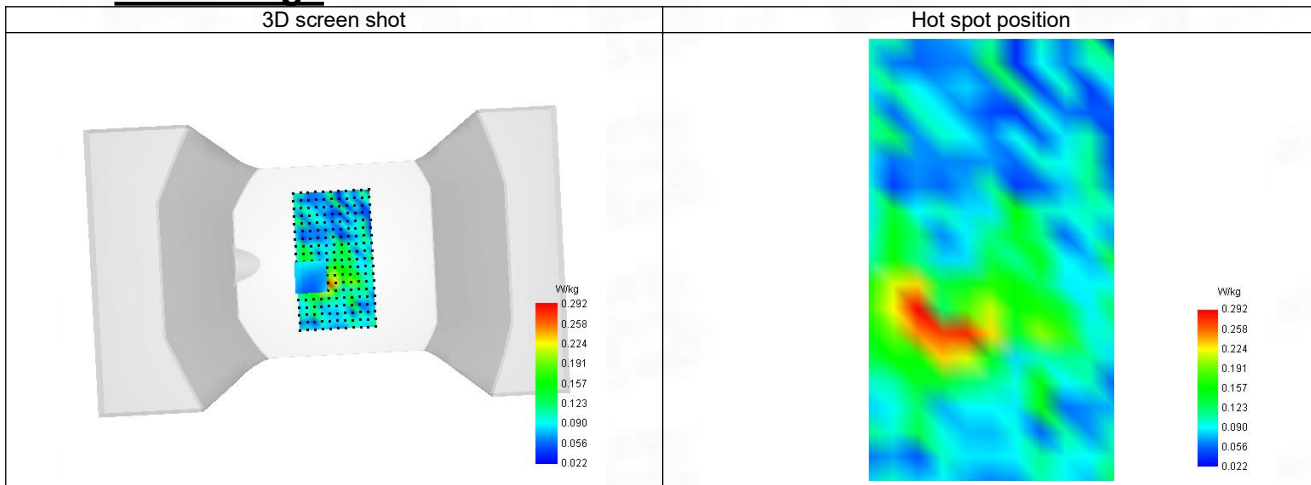
SAR 10g (W/Kg)	0.100
SAR 1g (W/Kg)	0.155
Variation (%)	-3.730
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

**E. Z Axis Scan**

Z (mm)	0.00	2.00	7.00	12.00	17.00
SAR (W/Kg)	0.448	0.253	0.058	0.044	0.053



### F. 3D Image





**20-Body with back position in dist. 0mm on Channel 165 in IEEE 802.11ac U-NII**

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

Date of measurement: 15/1/2024

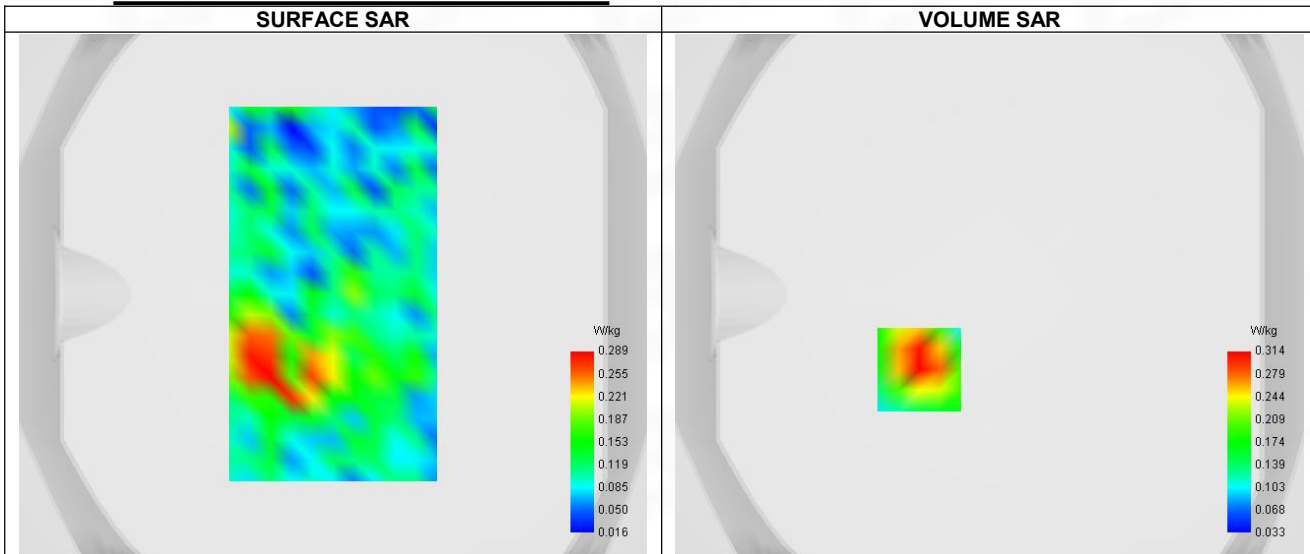
**A. Experimental conditions.**

Probe	SN 04/22 EPGO365
ConvF	2.04
Area Scan	surf_sam_plan.txt
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2mm,Complete
Phantom	Validation plane
Device Position	Body
Band	IEEE 802.11ac U-NII
Channels	Higher (165)
Signal	IEEE 802.11

**B. Permittivity**

Frequency (MHz)	5825.000
Relative permittivity (real part)	35.155
Relative permittivity (imaginary part)	16.488
Conductivity (S/m)	5.335

**C. SAR Surface and Volume**



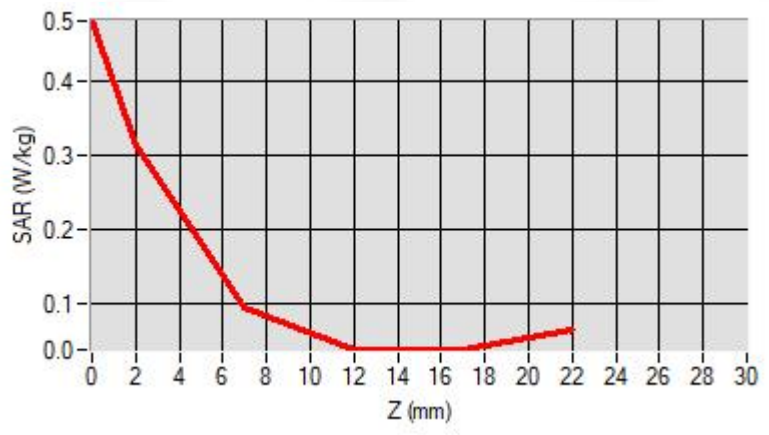
Maximum location: X=-27.00, Y=-29.00 ; SAR Peak: 0.52 W/kg

**D. SAR 1g & 10g**

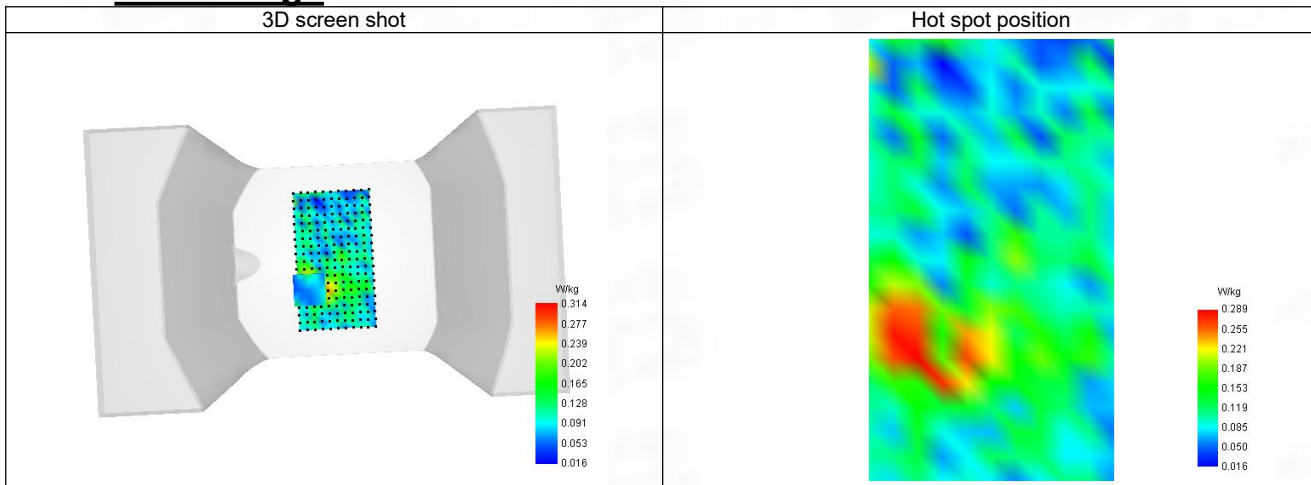
SAR 10g (W/Kg)	0.125
SAR 1g (W/Kg)	0.221
Variation (%)	-2.110
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

**E. Z Axis Scan**

Z (mm)	0.00	2.00	7.00	12.00	17.00
SAR (W/Kg)	0.483	0.314	0.095	0.037	0.037



### F. 3D Image



**21-Body with back position in dist. 0mm on Channel 39 in Bluetooth**

**SAR Measurement at Bluetooth (Body, Validation Plane)**

Date of measurement: 12/1/2024

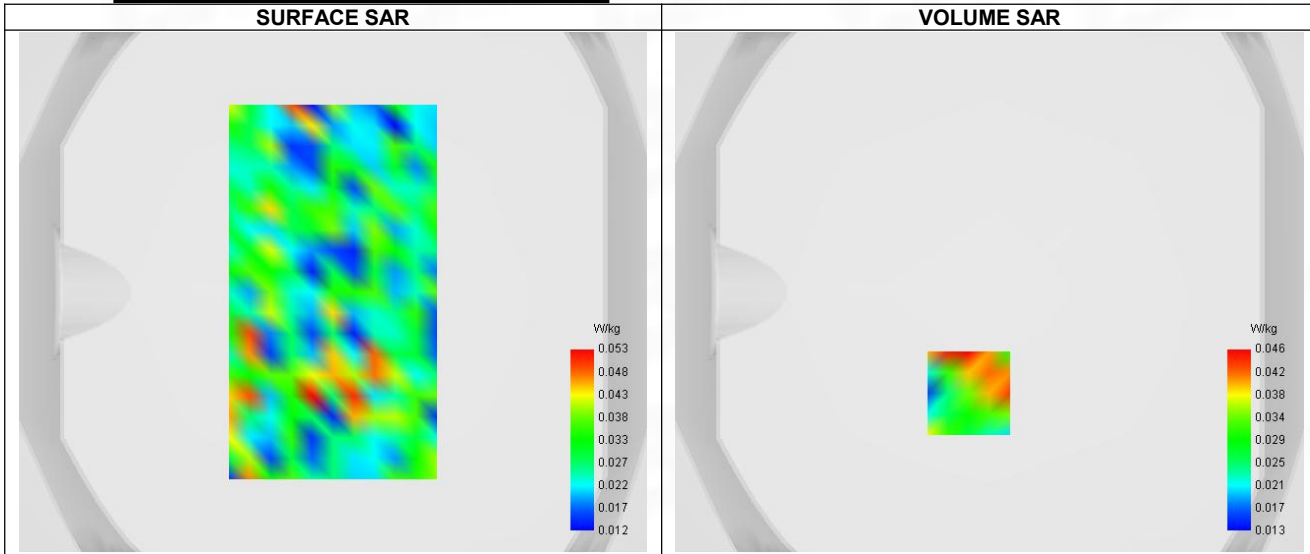
**A. Experimental conditions.**

Probe	SN 04/22 EPG0365
ConvF	2.36
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=5mm dy=5mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Body
Band	Bluetooth
Channels	Middle (39)
Signal	Bluetooth

**B. Permittivity**

Frequency (MHz)	2441.000
Relative permittivity (real part)	39.093
Relative permittivity (imaginary part)	13.341
Conductivity (S/m)	1.803

**C. SAR Surface and Volume**



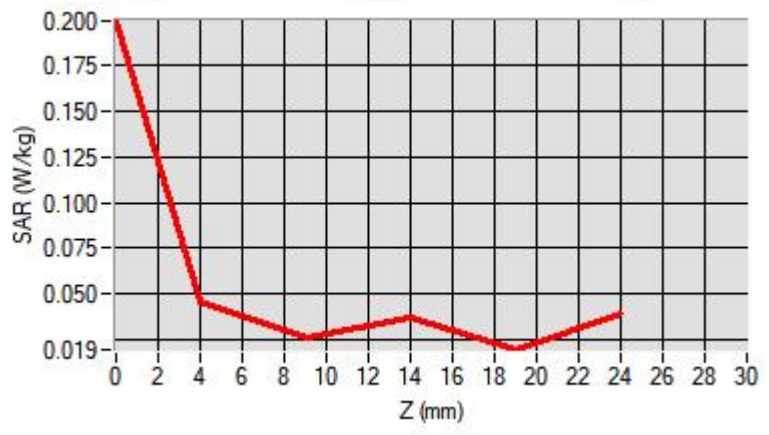
Maximum location: X=-8.00, Y=-39.00 ; SAR Peak: 0.09 W/kg

**D. SAR 1g & 10g**

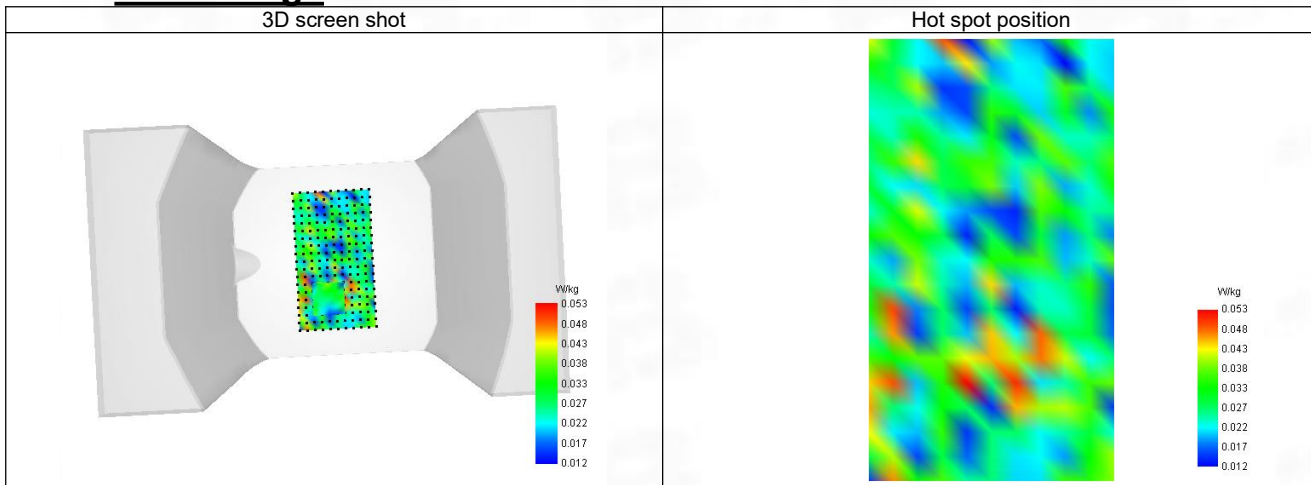
SAR 10g (W/Kg)	0.037
SAR 1g (W/Kg)	0.048
Variation (%)	-3.480
Horizontal validation criteria: minimum distance (mm)	0.000000
Vertical validation criteria: SAR ratio M2/M1 (%)	0.000000

**E. Z Axis Scan**

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.200	0.046	0.026	0.037	0.019

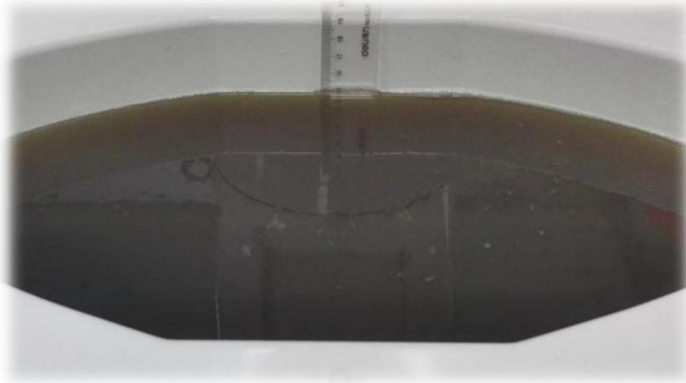


### F. 3D Image



## ANNEX D SAR Test Setup Photos

Reference Photo: simulation liquid depth 15cm



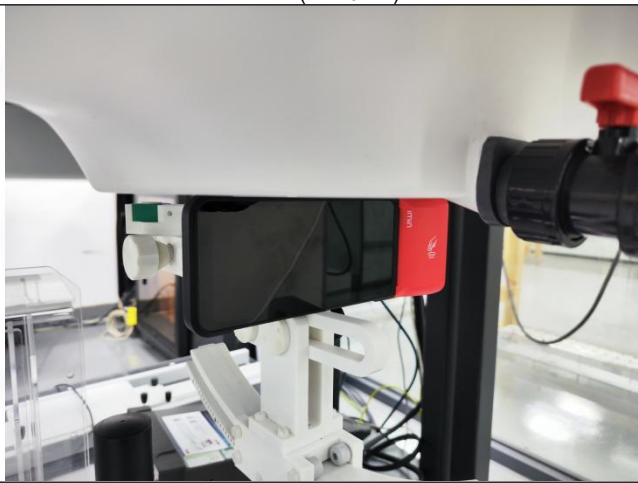
Test positions



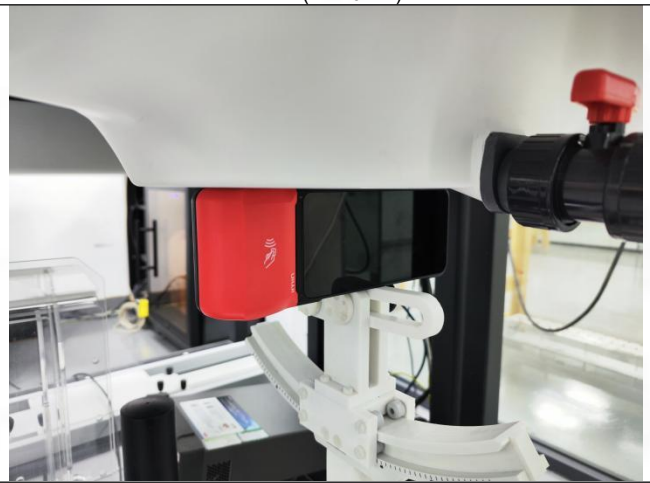
Front (dist. 0mm)



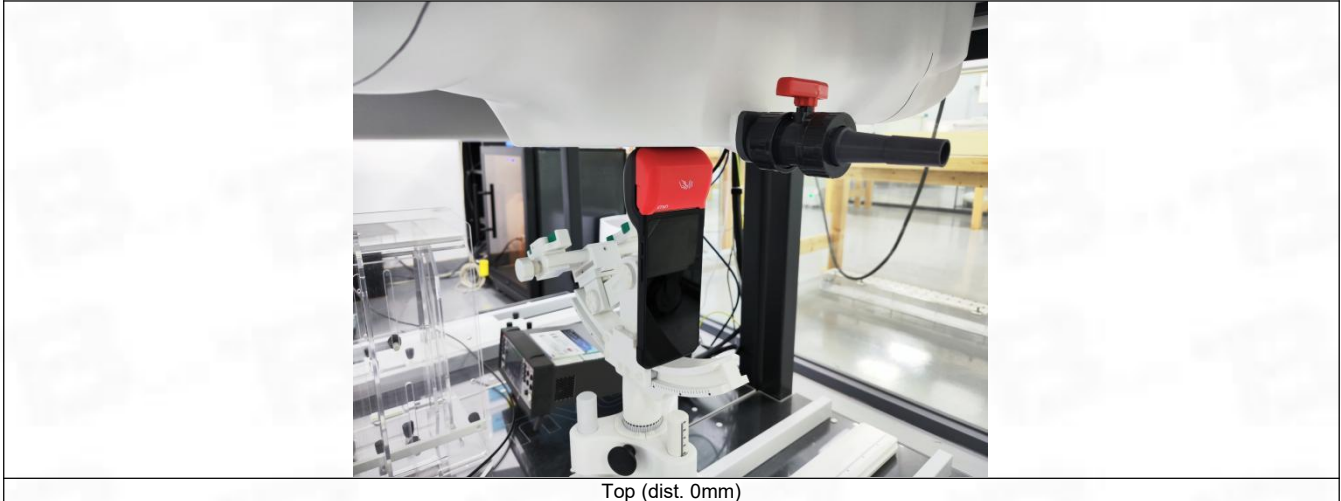
Back (dist. 0mm)



Left (dist. 0mm)



Right (dist. 0mm)



## 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--**