

TEST REPORT

Reference No..... : WTX20X09069371W
FCC ID : 2AX4E-Q10107L
Applicant : Vitek Electronics International Co., Ltd
Address : Room 1104, 11/F., Witty Commercial Building, 1A-1L, Tung Choit St, Mong
Kok, Kowloon, Hong Kong
Product Name : 10.1inch TabletPC
Test Model. : Q10107L-ME
FCC Part 2.1093
Standards : ANSI / IEEE C95.1 :2005+A1:2010
ANSI / IEEE C95.3 : 2002(R2008)
IEEE 1528 :2013
Date of Receipt sample : Sep.24, 2020
Date of Test..... : Sep.30, 2020 to Nov.04, 2020
Date of Issue : Nov.06, 2020
Test Result..... : Pass

Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

Prepared By:

Waltek Testing Group (Shenzhen) Co., Ltd.

Address: 1/F., Room 101, Building 1, Hongwei Industrial Park, Liuxian 2nd Road,
Block 70 Bao'an District, Shenzhen, Guangdong, China

Tel.: +86-755-33663308

Fax.: +86-755-33663309

Tested by:

Reviewed By:

Approved & Authorized By:

Jack Sun

Lion Cai

Silin Chen

Jack Sun/ Project Engineer

Lion Cai / RF Manager

Silin Chen / Manager

TABLE OF CONTENTS

1. General Information	3
1.1 Product Description for Equipment Under Test (EUT)	3
1.2 Test Standards	6
1.3 Test Methodology	6
1.4 Test Facility	6
2. Summary of Test Results	7
3. Specific Absorption Rate (SAR)	8
3.1 Introduction	8
3.2 SAR Definition	8
4. SAR Measurement System	9
4.1 The Measurement System	9
4.2 Probe	9
4.3 Probe Calibration Process	11
4.4 Phantom	12
4.5 Device Holder	12
4.6 Test Equipment List	13
5. Tissue Simulating Liquids	14
5.1 Composition of Tissue Simulating Liquid	14
5.2 Tissue Dielectric Parameters for Head and Body Phantoms	15
5.3 Tissue Calibration Result	16
6. SAR Measurement Evaluation	17
6.1 Purpose of System Performance Check	17
6.2 System Setup	17
6.3 Validation Results	19
7. EUT Testing Position	20
7.1 Define Two Imaginary Lines on The Handset	20
7.2 Cheek Position	21
7.3 Tilted Position	21
7.4 Body Position	22
7.5 EUT Antenna Position	23
7.6 EUT Testing Position	24
8. SAR Measurement Procedures	26
8.1 Measurement Procedures	26
8.2 Spatial Peak SAR Evaluation	26
8.3 Area & Zoom Scan Procedures	27
8.4 Volume Scan Procedures	27
8.5 SAR Averaged Methods	27
8.6 Power Drift Monitoring	27
9. SAR Test Result	28
9.1 Conducted RF Output Power	28
9.2 Test Results for Standalone SAR Test	51
9.3 Simultaneous Multi-band Transmission SAR Analysis	57
10. Measurement Uncertainty	60
10.1 Uncertainty for EUT SAR Test	60
10.2 Uncertainty for System Performance Check	61
Annex A. Plots of System Performance Check	63
Annex B. Plots of SAR Measurement	83
Annex C. EUT Photos	120
Annex D. Test Setup Photos	122
Annex E. Calibration Certificate	127

1. General Information

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Applicant: Vitek Electronics International Co., Ltd
Address of applicant: Room 1104, 11/F., Witty Commercial Building, 1A-1L, Tung
Choit St, Mong Kok, Kowloon, Hong Kong

Manufacturer: Vitek Electronics International Co., Ltd
Address of manufacturer: Room 1104, 11/F., Witty Commercial Building, 1A-1L, Tung
Choit St, Mong Kok, Kowloon, Hong Kong

General Description of EUT:	
Product Name:	10.1inch TabletPC
Trade Name:	AOC,VTEX
Model No.:	Q10107L-ME
Adding Model(s):	VK1001G,VK1002G,VK1003G,VK1004G,VK1005G,VK1006 G, VK1007G,VK1008G
Rated Voltage:	DC3.7V by Battery
Battery:	5000mAh
Device Category:	Portable Device
<i>Note: The test data is gathered from a production sample, provided by the manufacturer. The appearance of others models listed in the report is different from main-test model Q10107L-ME, but the circuit and the electronic construction do not change, declared by the manufacturer.</i>	

Technical Characteristics of EUT:	
2G	
Support Networks:	GSM, GPRS, EDGE
Support Band:	GSM850/PCS1900
Uplink Frequency:	GSM/GPRS/EDGE 850: 824~849MHz GSM/GPRS/EDGE 1900: 1850~1910MHz
Downlink Frequency:	GSM/GPRS/EDGE 850: 869~894MHz GSM/GPRS/EDGE 1900: 1930~1990MHz
RF Output Power:	GSM850: 32.03Bm, GSM1900: 28.18dBm EDGE850: 26.38dBm, EDGE1900: 25.37dBm
Type of Modulation:	GMSK, 8PSK
Type of Antenna:	PIFA Antenna
Antenna Gain:	GSM850: 2.1dBi; GSM1900: 2.1dBi
GPRS/EDGE Class:	Class 12
3G	
Support Networks:	WCDMA, HSDPA, HSUPA
Support Band:	WCDMA Band 2, WCDMA Band 5
Uplink Frequency:	WCDMA Band 2: 1850~1910MHz WCDMA Band 5: 824~849MHz
Downlink Frequency:	WCDMA Band 2: 1930~1990MHz WCDMA Band 5: 869~894MHz
RF Output Power:	WCDMA Band 2: 22.04dBm, WCDMA Band 5: 21.97dBm
Type of Modulation:	BPSK
Antenna Type:	PIFA Antenna
Antenna Gain:	WCDMA Band 2: 2.1dBi, WCDMA Band 5: 2.1dBi
4G	
Support Networks:	FDD-LTE
Support Band:	FDD-LTE Band 2, 4, 7
Uplink Frequency:	FDD-LTE Band 2: Tx: 1850-1910MHz, FDD-LTE Band 4: Tx: 1710-1755MHz, FDD-LTE Band 7: Tx: 2500-2570MHz,
Downlink Frequency:	FDD-LTE Band 2: Rx: 1930-1990MHz, FDD-LTE Band 4: Rx: 2110-2155MHz, FDD-LTE Band 7: Rx: 2620-2690MHz,
RF Output Power:	FDD-LTE Band 2: 24.43dBm, FDD-LTE Band 4: 24.45dBm, FDD-LTE Band 7: 24.40dBm,
Type of Modulation:	QPSK, 16QAM
Antenna Type:	PIFA Antenna

Antenna Gain:	FDD-LTE Band 2: 2.0dBi, FDD-LTE Band 4: 2.0dBi, FDD-LTE Band 7: 2.0dBi
WIFI(2.4G)	
Support Standards:	802.11b, 802.11g, 802.11n-HT20/ HT40
Frequency Range:	2412-2472MHz for 802.11b/g/n(HT20), 802.11n(HT40)
RF Output Power:	15.11dBm
Type of Modulation:	CCK, OFDM, QPSK, BPSK, 16QAM, 64QAM
Data Rate:	1-11Mbps, 6-54Mbps, up to 150Mbps
Quantity of Channels:	11 for 802.11b/g/n(HT20)
Channel Separation:	5MHz
Antenna Type:	PIFA Antenna
Antenna Gain:	2.1dBi
Bluetooth	
Bluetooth Version:	V4.0
Frequency Range:	2402-2480MHz
RF Output Power:	6.896dBm
Data Rate:	1Mbps, 2Mbps, 3Mbps
Modulation:	GFSK, Pi/4 QDPSK, 8DPSK
Quantity of Channels:	79
Channel Separation:	1MHz
Antenna Type:	PIFA Antenna
Antenna Gain:	2.1dBi
Wi-Fi(5GHz)	
Support Standards:	802.11a, 802.11n-HT20/40, 802.11ac-HT20/40/80
Frequency Range:	Band 1: 5180-5240MHz
RF Output Power:	8.76dBm
Type of Modulation:	BPSK,QPSK, 16QAM, 64QAM, 256-QAM
Type of Antenna:	PIFA Antenna
Antenna Gain:	2.1dBi;

1.2 Test Standards

The following report is prepared on behalf of the Vitek Electronics International Co., Ltd in accordance with FCC 47 CFR Part 2.1093, ANSI/IEEE C95.1-2005, ANSI / IEEE C95.3 :2002, IEEE 1528-2013, KDB 447498 D01 v06, KDB 648474 D04 v01r03, KDB 248227 D01 v02r02, KDB 941225 D01 v03r01, KDB 941225 D05 v02r05 , and KDB 865664 D01 v01r04 and KDB 865664 D02 v01r02.

The objective is to determine compliance with FCC Part 2.1093 of the Federal Communication Commissions rules.

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product, which result in lowering the emission, should be checked to ensure compliance has been maintained.

1.3 Test Methodology

All measurements contained in this report were conducted with KDB 865664 D01 v01r04 and KDB 865664 D02 v01r02. The public notice KDB 447498 D01 v06 for Mobile and Portable Devices RF Exposure Procedure also.

1.4 Test Facility

Address of the test laboratory

Laboratory: Waltek Testing Group (Shenzhen) Co., Ltd.

Address: 1/F., Room 101, Building 1, Hongwei Industrial Park, Liuxian 2nd Road, Block 70 Bao'an District, Shenzhen, Guangdong, China

FCC – Registration No.: 125990

Waltek Testing Group (Shenzhen) Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files. The Designation Number is CN5010. Test Firm Registration Number is 125990.

Industry Canada (IC) Registration No.: 11464A

The 3m Semi-anechoic chamber of Waltek Testing Group (Shenzhen) Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 11464A.

2. Summary of Test Results

The maximum results of Specific Absorption Rate (SAR) have found during testing are as follows:

Frequency Band	Head	Body (0mm Gap)	SAR _{1g} Limit (W/kg)
	Maximum SAR _{1g} (W/kg)	Maximum SAR _{1g} (W/kg)	
GSM	0.008	0.306	1.6
WCDMA	0.006	0.232	1.6
LTE	0.015	0.453	1.6
WLAN 2.4G	0.010	0.218	1.6
WLAN 5.2G	0.089	0.171	1.6
Simultaneous Transmission	0.225	0.671	1.6

The device is in compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (1.6 W/kg) specified in FCC 47 CFR Part 2.1093 and ANSI/IEEE C95.1-2005, and had been tested in accordance with the measurement methods and procedure specified in IEEE 1528-2013 and KDB 865664 D01 v01r04 and KDB 865664 D02 v01r02

3. Specific Absorption Rate (SAR)

3.1 Introduction

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.

3.2 SAR Definition

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

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

SAR is expressed in units of Watts per kilogram (W/kg)

SAR measurement can be either related to the temperature elevation in tissue by

$$\text{SAR} = C \left(\frac{\delta T}{\delta t} \right)$$

Where: C is the specific heat capacity, δT is the temperature rise and δt is the exposure duration, or related to the electrical field in the tissue by

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

Where: σ is the conductivity of the tissue, ρ is the mass density of the tissue and E is the RMS electrical field strength.

However for evaluating SAR of low power transmitter, electrical field measurement is typically applied.

4. SAR Measurement System

4.1 The Measurement System

Comosar is a system that is able to determine the SAR distribution inside a phantom of human being according to different standards. The Comosar system consists of the following items:

- Main computer to control all the system
- 6 axis robot
- Data acquisition system
- Miniature E-field probe
- Phone holder
- Head simulating tissue

The following figure shows the system.



The EUT under test operating at the maximum power level is placed in the phone holder, under the phantom, which is filled with head simulating liquid. The E-Field probe measures the electric field inside the phantom. The OpenSAR software computes the results to give a SAR value in a 1g or 10g mass.

4.2 Probe

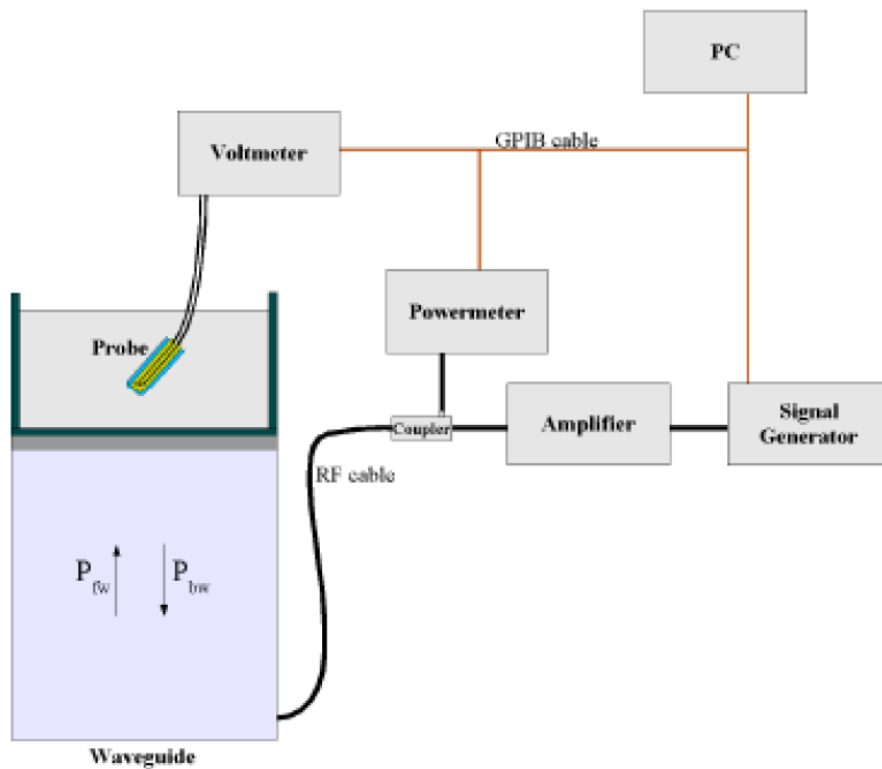
For the measurements the Specific Dosimetric E-Field Probe SSE2 SN 45/15 EPGO280 with following specifications is used

- Dynamic range: 0.01-100 W/kg
- Probe Length: 330 mm
- Length of Individual Dipoles: 4.5 mm
- Maximum external diameter: 8 mm
- Probe Tip External Diameter : 5 mm

Waltek Testing Group (Shenzhen) Co., Ltd.
<http://www.semtest.com.cn>

- Distance between dipoles / probe extremity: 2.7mm
 - Probe linearity: <0.25 dB
 - Axial Isotropy: <0.25 dB
 - Spherical Isotropy: <0.50 dB
 - Calibration range: 700 to 3000MHz for head & body simulating liquid.
- Angle between probe axis (evaluation axis) and surface normal line: less than 30°

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



$$SAR = \frac{4(P_{fw} - P_{bw})}{ab\delta} \cos^2\left(\pi \frac{y}{a}\right) e^{-(2z/\delta)}$$

Where :

P_{fw} = Forward Power

P_{bw} = Backward Power

a and b = Waveguide dimensions

δ = Skin depth

Keithley configuration:

Rate = Medium; Filter = ON; RDGS = 10; Filter type = Moving Average; Range auto after each calibration, a SAR measurement is performed on a validation dipole and compared with a NPL calibrated probe, to verify it.

Waltek Testing Group (Shenzhen) Co., Ltd.

<http://www.semtest.com.cn>

The calibration factors, CF(N), for the 3 sensors corresponding to dipole 1, dipole 2 and dipole 3 are:

$$CF(N)=SAR(N)/V_{lin}(N) \quad (N=1,2,3)$$

The linearised output voltage $V_{lin}(N)$ is obtained from the displayed output voltage $V(N)$ using

$$V_{lin}(N)=V(N)*(1+V(N)/DCP(N)) \quad (N=1,2,3)$$

where DCP is the diode compression point in mV.

4.3 Probe Calibration Process

Dosimetric Assessment Procedure

Each E-Probe/Probe Amplifier combination has unique calibration parameters. SATIMO Probe calibration procedure is conducted to determine the proper amplifier settings to enter in the probe parameters. The amplifier settings are determined for a given frequency by subjecting the probe to a known E-field density (1 mW/cm²) using an with CALISAR, Antenna proprietary calibration system.

Free Space Assessment Procedure

The free space E-field from amplified probe outputs is determined in a test chamber. This calibration can be performed in a TEM cell if the frequency is below 1 GHz and in a waveguide or other methodologies above 1 GHz for free space. For the free space calibration, the probe is placed in the volumetric center of the cavity and at the proper orientation with the field. The probe is rotated 360 degrees until the three channels show the maximum reading. The power density readings equates to 1mW/cm².

Temperature Assessment Procedure

E-field temperature correlation calibration is performed in a flat phantom filled with the appropriate simulated head tissue. The E-field in the medium correlates with the temperature rise in the dielectric medium. For temperature correlation calibration a RF transparent thermistor-based temperature probe is used in conjunction with the E-field probe.

Where:

$$SAR = C \frac{\Delta T}{\Delta t}$$

Δt = exposure time (30 seconds),

C = heat capacity of tissue (brain or muscle),

ΔT = temperature increase due to RF exposure.

SAR is proportional to $\Delta T / \Delta t$, the initial rate of tissue heating, before thermal diffusion takes place. The electric field in the simulated tissue can be used to estimate SAR by equating the thermally derived SAR to that with the E- field component.

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

Where:

σ = simulated tissue conductivity,

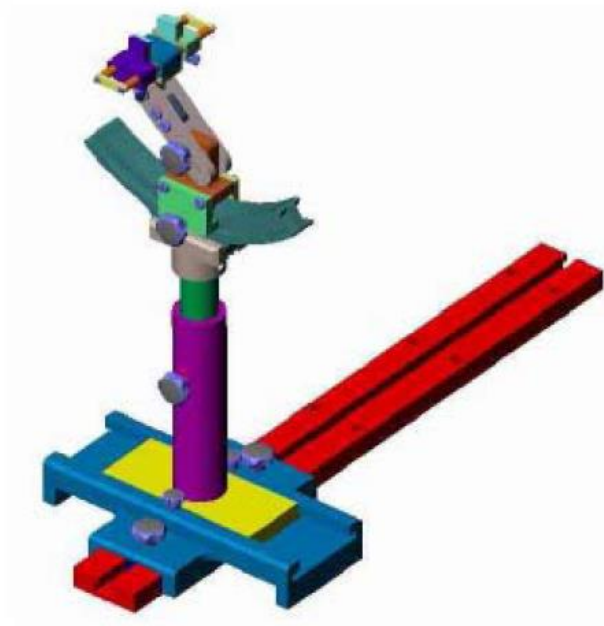
ρ = Tissue density (1.25 g/cm³ for brain tissue)

4.4 Phantom

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

4.5 Device Holder

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



System Material	Permittivity	Loss Tangent
Delrin	3.7	0.005

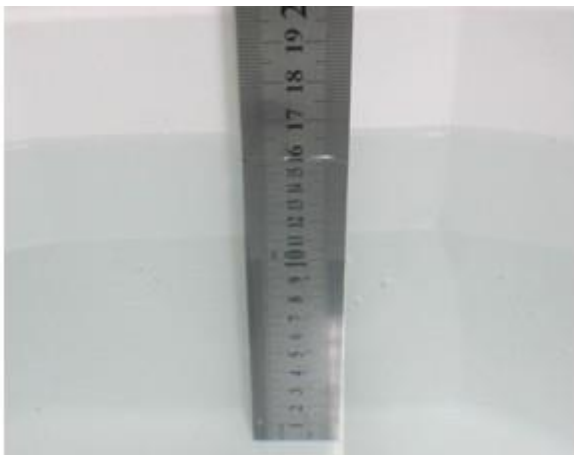
4.6 Test Equipment List

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
E-Field Probe	MVG	SSE2	SN 45/15 EPGO280	2020-07-03	2021-07-02
835MHz Dipole	MVG	SID835	SN 47/12 DIP 0G835-204	2020-03-11	2021-03-10
1800MHz Dipole	MVG	SID1800	SN 47/12 DIP 1G800-206	2020-03-11	2021-03-10
2450MHz Dipole	MVG	SID2450	SN 13/15 DIP 2G450-364	2020-03-11	2021-03-10
2600MHz Dipole	MVG	SID2600	SN 13/15 DIP 2G600-365	2020-03-11	2021-03-10
5 GHz Waveguide	MVG	SWG5500	SN 49/16 WGA45	2020-07-03	2021-07-02
Dielectric Probe Kit	SATIMO	SCLMP	SN 47/12 OCPG49	2020-03-11	2021-03-10
SAM Phantom	SATIMO	SAM	SN/ 47/12 SAM95	N/A	N/A
MULTIMETER	KEITHLEY	Keithley 2000	4006367	2020-04-28	2021-04-27
Signal Generator	Agilent	N5182A	MY47070282	2020-04-28	2021-04-27
Universal Tester	Rohde & Schwarz	CMU200	112315	2020-04-28	2021-04-27
Communications Tester	Rohde & Schwarz	CMW500	148650	2020-04-28	2021-04-27
Network Analyzer	HP	8753C	SEMT-1064	2020-04-28	2021-04-27
Directional Couplers	Agilent	778D	SEMT-1198	2020-04-28	2021-04-27

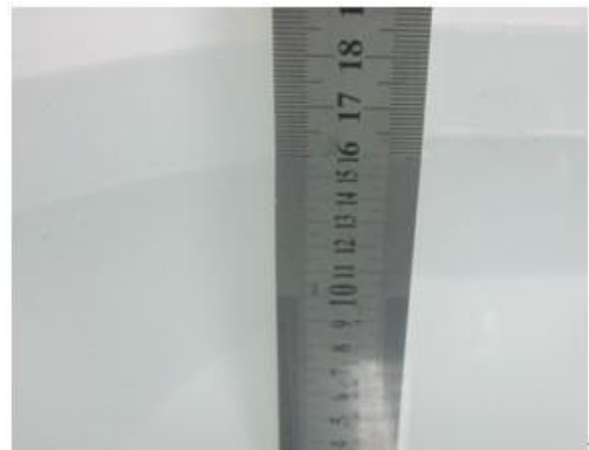
5. Tissue Simulating Liquids

5.1 Composition of Tissue Simulating Liquid

For the measurement of the field distribution inside the SAM phantom with SMTIMO, the phantom must be filled with around 25 liters of homogeneous body tissue simulating liquid. 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. Please see the following photos for the liquid height.



Liquid Height for Head SAR



Liquid Height for Body SAR

The Composition of Tissue Simulating Liquid

Frequency (MHz)	Water (%)	Salt (%)	Sugar (%)	HEC (%)	Preventol (%)	DGBE (%)
Head						
835	40.3	1.4	57.9	0.2	0.2	0
1700-1900	55.2	0.3	0	0	0	44.5
2450	55.0	0.1	0	0	0	44.9
2600	54.9	0.1	0	0	0	45.0
Body						
835	50.8	0.9	48.1	0.1	0.1	0
1700-1900	70.2	0.4	0	0	0	29.4
2450	68.6	0.1	0	0	0	31.3
2600	68.2	0.1	0	0	0	31.7

5.2 Tissue Dielectric Parameters for Head and Body Phantoms

The head tissue dielectric parameters recommended by the IEEE SCC-34/SC-2 in P1528 have been incorporated in the following table. These head parameters are derived from planar layer models simulating the highest expected SAR for the dielectric properties and tissue thickness variations in a human head. Other head and body tissue parameters that have not been specified in P1528 are derived from the tissue dielectric parameters computed from the 4-Cole-Cole equations described in Reference [12] and extrapolated according to the head parameters specified in P1528.

Target Frequency (MHz)	Head		Body	
	Conductivity (σ)	Permittivity (ϵ_r)	Conductivity (σ)	Permittivity (ϵ_r)
150	0.76	52.3	0.80	61.9
300	0.87	45.3	0.92	58.2
450	0.87	43.5	0.94	56.7
750	0.89	41.9	0.96	55.5
835	0.90	41.5	0.97	55.2
900	0.97	41.5	1.05	55.0
915	0.98	41.5	1.06	55.0
1450	1.20	40.5	1.30	54.0
1610	1.29	40.3	1.40	53.8
1750	1.37	40.1	1.49	53.4
1800-2000	1.40	40.0	1.52	53.3
2450	1.80	39.2	1.95	52.7
3000	2.40	38.5	2.73	52.0
5200	4.66	36.0	5.30	49.0
5800	5.27	35.3	6.00	48.2

5.3 Tissue Calibration Result

The dielectric parameters of the liquids were verified prior to the SAR evaluation using COMOSAR Dielectric Probe Kit and an Agilent Network Analyzer.

Calibration Result for Dielectric Parameters of Tissue Simulating Liquid

Head Tissue Simulating Liquid									
Freq. MHz.	Temp. (°C)	Conductivity			Permittivity			Limit (%)	Date
		Reading (σ)	Target (σ)	Delta (%)	Reading (ϵ_r)	Target (ϵ_r)	Delta (%)		
835	21.3	0.87	0.90	-3.33	41.11	41.50	-0.94	± 5	2020-11-02
1800	21.3	1.37	1.37	0.00	39.02	40.1	-2.69	± 5	2020-11-04
2450	21.3	1.74	1.80	-3.33	38.15	39.20	-2.68	± 5	2020-10-30
2600	21.3	1.93	1.96	-1.53	38.63	39.0	-0.95	± 5	2020-10-30
5200	22.3	4.87	4.66	4.51	35.61	36.0	-1.08	± 5	2020-10-13

Body Tissue Simulating Liquid									
Freq. MHz.	Temp. (°C)	Conductivity			Permittivity			Limit (%)	Date
		Reading (σ)	Target (σ)	Delta (%)	Reading (ϵ_r)	Target (ϵ_r)	Delta (%)		
835	21.3	0.95	0.97	-2.06	54.85	55.20	-0.63	± 5	2020-11-02
1800	21.3	1.46	1.49	-2.01	51.22	53.40	-4.08	± 5	2020-11-04
2450	21.3	1.91	1.95	-2.05	52.01	52.70	-1.31	± 5	2020-10-30
2600	21.3	2.12	2.16	-1.85	52.24	52.50	-0.50	± 5	2020-10-30
5200	22.3	5.16	5.30	-2.64	48.5	49	-1.02	± 5	2020-10-13

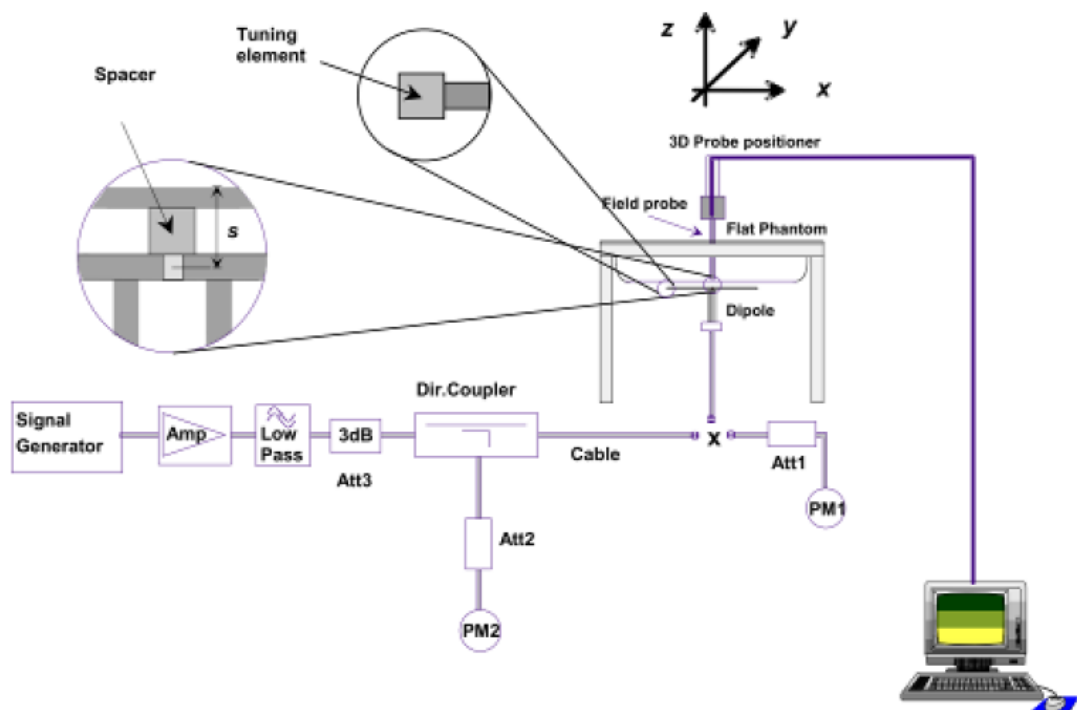
6. SAR Measurement Evaluation

6.1 Purpose of System Performance Check

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

6.2 System Setup

In the simplified setup for system evaluation, the EUT is replaced by a calibrated dipole and the power source is replaced by a continuous wave which comes from a signal generator at frequency 835MHz, 1800MHz, 1900MHz, 2450MHz, 2600MHz, and 5GHz. The calibrated dipole must be placed beneath the flat phantom section of the SAM twin phantom with the correct distance holder. The distance holder should touch the phantom surface with a light pressure at the reference marking and be oriented parallel to the long side of the phantom.



System Verification Setup Block Diagram



Setup Photo of Dipole Antenna

The output power on dipole port must be calibrated to 24 dBm(250 mW) before dipole is connected.

6.3 Validation Results

Comparing to the original SAR value provided by SATIMO, the validation data should be within its specification of 10 %. Table 6.1 shows the target SAR and measured SAR after normalized to 1W input power. The table below indicates the system performance check can meet the variation criterion.

Frequency	Targeted SAR _{1g}	Measured SAR _{1g}	Normalized SAR _{1g}	Tolerance	Date
MHz	(W/kg)	(W/kg)	(W/kg)	(%)	
Head					
835	9.65	2.41	9.64	-0.10	2020-11-02
1800	38.49	9.61	38.44	-0.13	2020-11-04
2450	53.76	13.45	53.8	0.07	2020-10-30
2600	55.07	13.67	54.68	-0.71	2020-10-30
5200	161.23	16.946	169.46	5.10	2020-10-13
Body					
835	9.36	2.35	9.4	0.43	2020-11-02
1800	38.29	9.58	38.32	0.08	2020-11-04
2450	50.33	12.59	50.36	0.06	2020-10-30
2600	53.92	13.43	53.72	-0.37	2020-10-30
5200	154.45	16.681	166.81	8.00	2020-10-13

Remark: Referring to IEEE 1528-2013, Section 8.2, The system check shall be performed at a test frequency that is within $\pm 10\%$ or ± 100 MHz of the compliance test mid-band frequency, so the 1750 MHz system verification is made of 1800MHz Dipole.

Targeted and Measurement SAR

Please refer to Annex A for the plots of system performance check.

7. EUT Testing Position

7.1 Define Two Imaginary Lines on The Handset

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

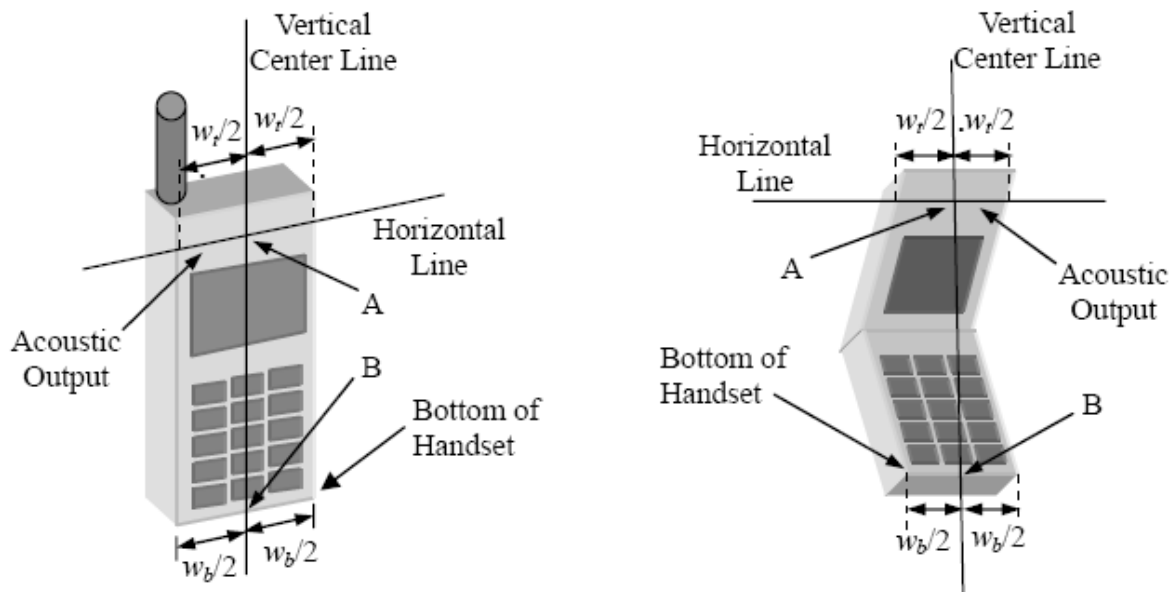


Illustration for Handset Vertical and Horizontal Reference Lines

7.2 Cheek Position

- (a) To position the device with the vertical center line of the body of the device and the horizontal line crossing the center piece in a plane parallel to the sagittal plane of the phantom. While maintaining the device in this plane, align the vertical center line with the reference plane containing the three ear and mouth reference point (M: Mouth, RE: Right Ear, and LE: Left Ear) and align the center of the ear piece with the line RE-LE.
- (b) To move the device towards the phantom with the ear piece aligned with the line LE-RE until the phone touched the ear. While maintaining the device in the reference plane and maintaining the phone contact with the ear, move the bottom of the phone until any point on the front side is in contact with the cheek of the phantom or until contact with the ear is lost (see Fig. 7.2).

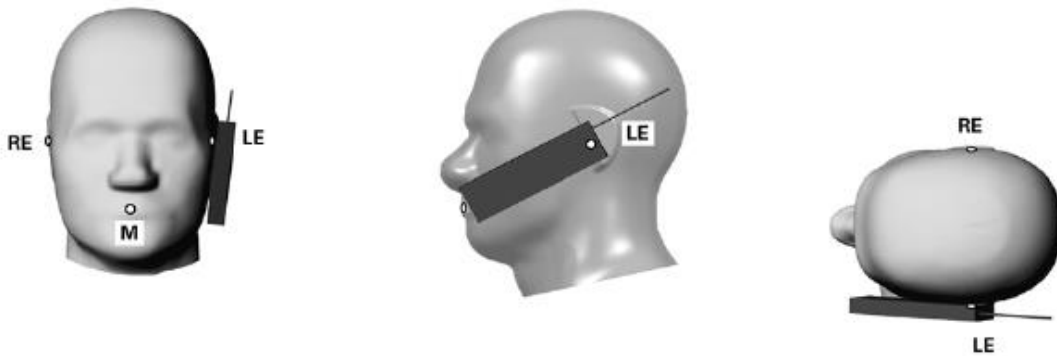


Illustration for Cheek Position

7.3 Tilted Position

- (a) To position the device in the “cheek” position described above.
- (b) While maintaining the device the reference plane described above and pivoting against the ear, moves it outward away from the mouth by an angle of 15 degrees or until contact with the ear is lost (see Fig. 7.3).

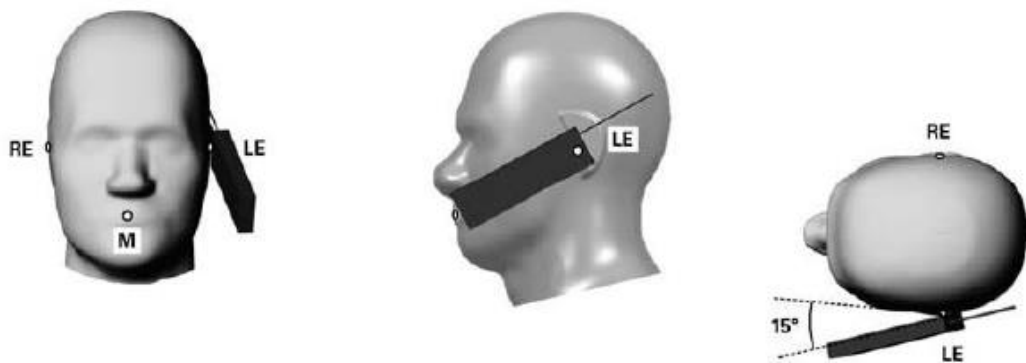


Illustration for Tilted Position

7.4 Body Position

- (a) To position the device parallel to the phantom surface with each side.
- (b) To adjust the device parallel to the flat phantom.
- (c) To adjust the distance between the device surface and the flat phantom to 0mm.

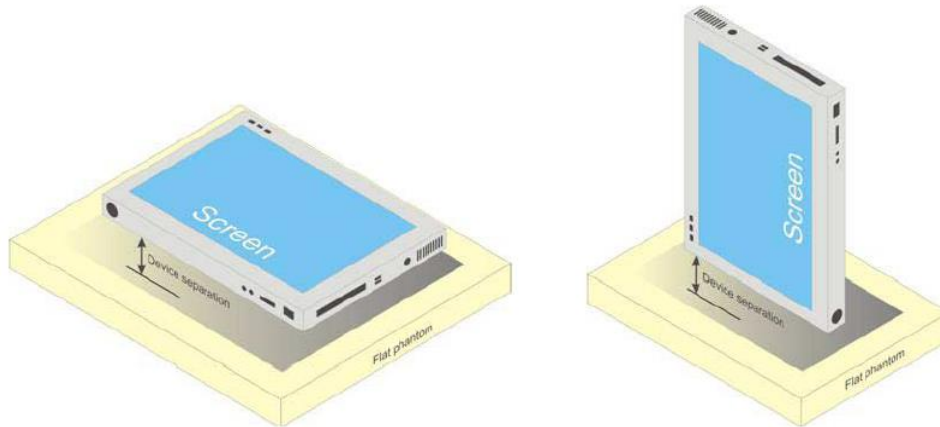
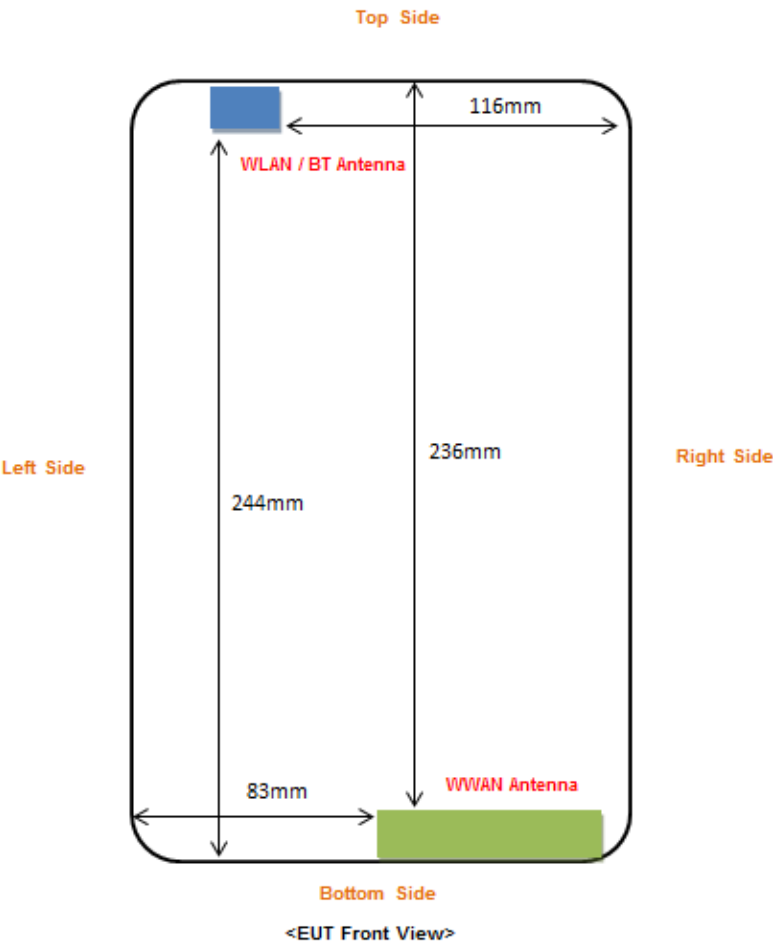


Illustration for Body Position

7.5 EUT Antenna Position



Block Diagram for EUT Antenna Position

7.6 EUT Testing Position

Head/Body mode SAR assessments are required for this device. This EUT was tested in different positions for different SAR test modes, more information as below:

SAR Test Exclusion Thresholds <50mm

Frequency Bands	Tune up Power (dBm)	Tune up (mW)	Min test Separation Distance(mm)						Result						Limit
			Front	Back	Left	Right	Top	Bott om	Front	Back	Left	Right	Top	Bott om	
GSM 850	23.5	223.9	5	5	/	11	/	5	41.3	41.3	/	18.8	/	41.3	3
GSM 1900	19.5	89.1	5	5	/	11	/	5	24.6	24.6	/	11.2	/	24.6	3
GPRS 850	24.0	251.2	5	5	/	11	/	5	46.3	46.3	/	21.0	/	46.3	3
GPRS 1900	23.0	199.5	5	5	/	11	/	5	55.2	55.2	/	25.1	/	55.2	3
WCDMA1900	22.5	177.8	5	5	/	11	/	5	49.2	49.2	/	22.3	/	49.2	3
WCDMA 850	22.0	158.5	5	5	/	11	/	5	29.2	29.2	/	13.3	/	29.2	3
LTE Band 2	24.5	281.8	5	5	/	11	/	5	77.9	77.9	/	35.4	/	77.9	3
LTE Band 4	24.5	281.8	5	5	/	11	/	5	74.7	74.7	/	33.9	/	74.7	3
LTE Band 7	24.5	281.8	5	5	/	11	/	5	90.4	90.4	/	41.1	/	90.4	3
WLAN(2.4G)	15.5	35.5	5	5	24	/	5	/	11.0	11.0	2.30	/	11.0	/	3
WLAN(5.2G)	9.0	7.94	5	5	24	/	5	/	3.62	3.62	0.75	/	3.62	/	3
Bluetooth	7.0	5.01	5	5	24	/	5	/	1.58	1.58	0.33	/	1.58	/	3

Note: 1.Refer to Chapter 9.1 Conducted RF Output Power

2. Per KDB 447498 D01 V06, the 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

$$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot [\sqrt{f}(\text{GHz})] \leq 3.0$$

SAR Test Exclusion Thresholds <50mm

Frequency Bands	Tune up Power (dBm)	Tune up (mW)	Min test Separation Distance(mm)						Evaluation					
			Front	Back	Left	Right	Top	Bott om	Front	Back	Left	Right	Top	Bott om
GSM 850	23.5	223.9	/	/	83	/	236	/	/	/	347	/	1196	/
GSM 1900	19.5	89.1	/	/	83	/	236	/	/	/	439	/	1969	/
GPRS 850	24.0	251.2	/	/	83	/	236	/	/	/	347	/	1196	/
GPRS 1900	23.0	199.5	/	/	83	/	236	/	/	/	439	/	1969	/
WCDMA1900	22.5	177.8	/	/	83	/	236	/	/	/	439	/	1969	/
WCDMA 850	22.0	158.5	/	/	83	/	236	/	/	/	347	/	1196	/
LTE Band 2	24.5	281.8	/	/	83	/	236	/	/	/	439	/	1969	/
LTE Band 4	24.5	281.8	/	/	83	/	236	/	/	/	439	/	1969	/
LTE Band 7	24.5	281.8	/	/	83	/	236	/	/	/	426	/	1596	/

WLAN(2.4G)	15.5	35.5	/	/	/	116	/	244	/	/	/	756	/	2036
WLAN(5.2G)	9.0	7.94	/	/	/	116		244	/	/	/	726	/	2006
Bluetooth	7.0	5.01	/	/	/	116	/	244	/	/	/	756	/	2036
Note: 1.Refer to Chapter 9.1 Conducted RF Output Power														

Body SAR tests, Test distance: 0mm						
Antennas	Front	Back	Left Side	Right Side	Top Side	Bottom
GSM 850	Yes	Yes	No	Yes	No	Yes
GSM 1900	Yes	Yes	No	Yes	No	Yes
GPRS 850	Yes	Yes	No	Yes	No	Yes
GPRS 1900	Yes	Yes	No	Yes	No	Yes
WCDMA1900	Yes	Yes	No	Yes	No	Yes
WCDMA 850	Yes	Yes	No	Yes	No	Yes
LTE Band 2	Yes	Yes	No	Yes	No	Yes
LTE Band 4	Yes	Yes	No	Yes	No	Yes
LTE Band 7	Yes	Yes	No	Yes	No	Yes
WLAN(2.4G)	Yes	Yes	No	No	Yes	No
WLAN(5.2G)	Yes	Yes	No	No	Yes	No
Bluetooth	No	No	No	No	No	No

Remark:

- Referring to KDB 616217 D04 v01r02, KDB 248227 D01 v02r02 and KDB 447498 D01 v06, this device is overall diagonal dimension(>20cm) tablet, tested in direct contact (no gap) with flat phantom.

Please refer to Annex D for the EUT test setup photos.

8. SAR Measurement Procedures

8.1 Measurement Procedures

The measurement procedures are as follows:

- (a) Use base station simulator (if applicable) or engineering software to transmit RF power continuously (continuous Tx) in the highest power channel.
- (b) Keep EUT to radiate maximum output power or 100% factor (if applicable)
- (c) Measure output power through RF cable and power meter.
- (d) Place the EUT in the positions as Annex D demonstrates.
- (e) Set scan area, grid size and other setting on the SATIMO software.
- (f) Measure SAR results for the highest power channel on each testing position.
- (g) Find out the largest SAR result on these testing positions of each band
- (h) Measure SAR results for other channels in worst SAR testing position if the SAR of highest power channel is larger than 0.8 W/kg

According to the test standard, the recommended procedure for assessing the peak spatial-average SAR value consists of the following steps:

- (a) Power reference measurement
- (b) Area scan
- (c) Zoom scan
- (d) Power drift measurement

8.2 Spatial Peak SAR Evaluation

The procedure for spatial peak SAR evaluation has been implemented according to the test standard. It can be conducted for 1g and 10g, as well as for user-specific masses. The SATIMO software includes all numerical procedures necessary to evaluate the spatial peak SAR value.

The base for the evaluation is a "cube" measurement. The measured volume must include the 1g and 10g cubes with the highest averaged SAR values. For that purpose, the center of the measured volume is aligned to the interpolated peak SAR value of a previously performed area scan.

The entire evaluation of the spatial peak values is performed within the post-processing engine. The system always gives the maximum values for the 1g and 10g cubes. The algorithm to find the cube with highest averaged SAR is divided into the following stages:

- (a) Extraction of the measured data (grid and values) from the Zoom Scan
- (b) Calculation of the SAR value at every measurement point based on all stored data
- (c) Generation of a high-resolution mesh within the measured volume
- (d) Interpolation of all measured values from the measurement grid to the high-resolution grid
- (e) Extrapolation of the entire 3D field distribution to the phantom surface over the distance from sensor to surface
- (f) Calculation of the averaged SAR within masses of 1g and 10g

8.3 Area & Zoom Scan Procedures

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 measures 5x5x7 points with step size 8, 8 and 5 mm for 300 MHz to 3 GHz, and 8x8x8 points with step size 4, 4 and 2.5 mm for 3 GHz to 6 GHz. The Zoom Scan is performed around the highest E-field value to determine the averaged SAR-distribution over 10 g.

8.4 Volume Scan Procedures

The volume scan is used for assess overlapping SAR distributions for antennas transmitting in different frequency bands. It is equivalent to an oversized zoom scan used in standalone measurements. The measurement volume will be used to enclose all the simultaneous transmitting antennas. For antennas transmitting simultaneously in different frequency bands, the volume scan is measured separately in each frequency band. In order to sum correctly to compute the 1g aggregate SAR, the EUT remain in the same test position for all measurements and all volume scan use the same spatial resolution and grid spacing (step-size is 4, 4 and 2.5 mm). When all volume scan were completed, the software can combine and subsequently superpose these measurement data to calculating the multiband SAR.

8.5 SAR Averaged Methods

The local SAR inside the phantom is measured using small dipole sensing elements inside a probe body. The probe tip must not be in contact with the phantom surface in order to minimize measurements errors, but the highest local SAR will occur at the surface of the phantom.

An extrapolation is using to determinate this highest local SAR values. The extrapolation is based on a fourth-order least-square polynomial fit of measured data. The local SAR value is then extrapolated from the liquid surface with a 1mm step.

The measurements have to be performed over a limited time (due to the duration of the battery) so the step of measurement is high. It could vary between 5 and 8 mm. To obtain an accurate assessment of the maximum SAR averaged over 10g and 1 g requires a very fine resolution in the three dimensional scanned data array.

8.6 Power Drift Monitoring

All SAR testing is under the EUT install full charged battery and transmit maximum output power. In SATIMO measurement software, the power reference measurement and power drift measurement procedures are used for monitoring the power drift of EUT during SAR test. Both these procedures measure the field at a specified reference position before and after the SAR testing. The software will calculate the field difference in dB. If the power drift more than 5%, the SAR will be retested.

9. SAR Test Result

9.1 Conducted RF Output Power

GSM - Burst Average Power (dBm)								
Band	GSM850			Tune-up power (dBm)	PCS1900			Tune-up power (dBm)
Channel	128	190	251		512	661	810	
Frequency (MHz)	824.2	836.6	848.8		1850.2	1880	1909.8	
GSM	32.03	31.93	31.80	32.5	27.88	27.95	28.18	28.5
GPRS (1 slot)	28.13	28.16	28.14	28.5	27.87	27.95	28.17	28.5
GPRS (2 slots)	27.69	27.85	27.65	28.0	27.32	27.61	27.56	28.0
GPRS (3 slots)	27.13	27.43	27.03	27.5	26.45	26.49	26.53	27.0
GPRS (4 slots)	26.67	26.47	26.58	27.0	25.54	25.75	25.73	26.0
EDGE (1 slot)	25.96	26.38	26.22	26.5	25.20	25.28	25.37	25.5
EDGE (2 slots)	25.23	25.63	25.74	26.0	24.75	24.64	24.64	25.0
EDGE (3 slots)	24.54	24.76	24.82	25.0	23.52	23.58	23.54	24.0
EDGE (4 slots)	23.63	23.84	23.41	24.0	22.85	22.78	22.38	23.0

GSM - Source-Based Time-Average Power (dBm)								
Band	GSM850			Tune-up power (dBm)	PCS1900			Tune-up power (dBm)
Channel	128	190	251		512	661	810	
Frequency (MHz)	824.2	836.6	848.8		1850.2	1880	1909.8	
GSM	23.03	22.93	22.80	23.5	18.88	18.95	19.18	19.5
GPRS (1 slot)	19.13	19.16	19.14	20.5	18.87	18.95	19.17	19.5
GPRS (2 slots)	21.69	21.85	21.65	22.0	21.32	21.61	21.56	22.0
GPRS (3 slots)	22.88	23.18	22.78	23.5	22.20	22.24	22.28	22.5
GPRS (4 slots)	23.67	23.47	23.58	24.0	22.54	22.75	22.73	23.0
EDGE (1 slot)	16.96	17.38	17.22	17.5	16.20	16.28	16.37	16.5
EDGE (2 slots)	19.23	19.63	19.74	20.0	18.75	18.64	18.64	19.0
EDGE (3 slots)	20.29	20.51	20.57	21.0	19.27	19.33	19.29	19.5
EDGE (4 slots)	20.63	20.84	20.41	21.0	19.85	19.78	19.38	20.0
Note: The source-based time-averaged power is linearly scaled the maximum burst averaged power based on time slots. The calculated method are shown as below: Source based time-average power = Burst averaged power - Duty cycle factor in dB Duty cycle factor = 9 dB for 1 Tx slot, 6 dB for 2 Tx slots, 4.25 dB for 3 Tx slots, 3 dB for 4 Tx slots								

Remark:

1. For Head SAR testing, GSM should be evaluated, therefore the EUT was set in GSM for GSM850 and GSM1900 due to its highest source-based time-average power.
2. For Body SAR testing, GPRS should be evaluated, therefore the EUT was set in GPRS (4TX slots) for GSM850 and GPRS (4TX slots) for GSM1900 due to its highest source-based time-average power.

3. Per KDB 447498 D01 v06, the maximum output power channel is used for SAR testing and for further SAR test reduction.
4. The DUT do not support DTM function.
5. The DUT do not support Hotspot function.

WCDMA - Average Power (dBm)								
Band	WCDMA Band II				WCDMA Band V			
Channel	9262	9400	9538	Tune-up power (dBm)	4132	4183	4233	Tune-up power (dBm)
Frequency (MHz)	1852.4	1880.0	1907.6		826.4	836.4	846.6	
RMC 12.2k	21.52	21.77	22.04	22.5	21.41	21.42	21.37	21.5
HSDPA Subtest-1	21.31	21.73	21.63	22.0	21.82	21.43	21.97	22.0
HSDPA Subtest-2	21.04	21.13	21.34	21.5	21.04	21.04	21.63	22.0
HSDPA Subtest-3	20.53	20.46	20.64	21.0	20.53	20.34	20.67	21.0
HSDPA Subtest-4	20.13	20.07	20.17	20.5	20.19	20.26	20.23	20.5
HSUPA Subtest-1	21.19	21.71	21.62	22.0	21.70	21.37	21.13	21.5
HSUPA Subtest-2	20.98	20.87	20.85	21.0	20.93	20.75	20.66	21.0
HSUPA Subtest-3	20.73	20.45	20.65	21.0	20.45	20.35	20.39	20.5
HSUPA Subtest-4	20.12	20.09	20.24	20.5	20.09	20.15	20.12	20.5
HSUPA Subtest-5	19.54	19.78	19.67	20.0	19.58	19.73	19.56	20.0

Remark:

1. per KDB 941225 D01 v03, The 12.2kbps RMC mode was selected for SAR testing(the primary mode).
2. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is $\leq 1/4$ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode

FDD-LTE Band 2:

Channel Bandwidth: 1.4 MHz					
Modulation	Channel	RB Configuration		Average Power [dBm]	MPR (dB)
		Size	Offset		
QPSK	LCH	1	0	23.82	0
		1	3	23.84	0
		1	5	23.88	0
		3	0	23.82	0
		3	2	23.86	0
		3	3	23.87	0
		6	0	22.91	1
	MCH	1	0	24.04	0
		1	3	24.03	0
		1	5	24.07	0
		3	0	24.10	0
		3	2	24.16	0
		3	3	24.12	0
		6	0	23.09	1
	HCH	1	0	24.33	0
		1	3	24.28	0
		1	5	24.28	0
		3	0	24.43	0
		3	2	24.41	0
		3	3	24.41	0
		6	0	23.40	1
16QAM	LCH	1	0	23.11	1
		1	3	23.10	1
		1	5	23.11	1
		3	0	23.19	1
		3	2	23.16	1
		3	3	23.20	1
		6	0	22.08	2
	MCH	1	0	22.73	1
		1	3	22.73	1
		1	5	22.73	1
		3	0	22.96	1
		3	2	22.89	1
		3	3	22.84	1
		6	0	22.15	2
	HCH	1	0	23.68	1
		1	3	23.63	1

		1	5	23.72	1
		3	0	23.77	1
		3	2	23.76	1
		3	3	23.76	1
		6	0	22.51	2

Channel Bandwidth: 3 MHz					
Modulation	Channel	RB Configuration		Average Power [dBm]	MPR (dB)
		Size	Offset		
QPSK	LCH	1	0	23.78	0
		1	7	23.85	0
		1	14	23.80	0
		8	0	22.79	1
		8	4	22.82	1
		8	7	22.97	1
		15	0	22.92	1
	MCH	1	0	24.04	0
		1	7	24.00	0
		1	14	24.01	0
		8	0	23.10	1
		8	4	23.20	1
		8	7	23.19	1
		15	0	23.14	1
	HCH	1	0	24.26	0
		1	7	24.38	0
		1	14	24.38	0
		8	0	23.32	1
		8	4	23.35	1
		8	7	23.30	1
		15	0	23.33	1
16QAM	LCH	1	0	23.17	1
		1	7	23.15	1
		1	14	23.20	1
		8	0	22.01	2
		8	4	22.07	2
		8	7	22.17	2
		15	0	21.99	2
	MCH	1	0	22.74	1
		1	7	22.72	1
		1	14	22.72	1
		8	0	22.25	2
		8	4	22.22	2

		8	7	22.22	2
		15	0	22.13	2
	HCH	1	0	23.61	1
		1	7	23.59	1
		1	14	23.71	1
		8	0	22.37	2
		8	4	22.37	2
		8	7	22.29	2
		15	0	22.28	2

Channel Bandwidth: 5 MHz					
Modulation	Channel	RB Configuration		Average Power [dBm]	MPR (dB)
		Size	Offset		
QPSK	LCH	1	0	23.82	0
		1	12	23.81	0
		1	24	23.78	0
		12	0	22.80	1
		12	6	22.89	1
		12	13	23.01	1
		25	0	22.87	1
	MCH	1	0	24.12	0
		1	12	24.27	0
		1	24	24.23	0
		12	0	23.05	1
		12	6	23.15	1
		12	13	23.07	1
		25	0	22.99	1
	HCH	1	0	24.33	0
		1	12	24.30	0
		1	24	24.34	0
		12	0	23.27	1
		12	6	23.31	1
		12	13	23.32	1
		25	0	23.32	1
16QAM	LCH	1	0	22.65	1
		1	12	22.71	1
		1	24	22.64	1
		12	0	22.00	2
		12	6	21.96	2
		12	13	21.97	2
		25	0	21.98	2
	MCH	1	0	22.83	1

		1	12	22.81	1
		1	24	22.92	1
		12	0	22.10	2
		12	6	22.10	2
		12	13	22.14	2
		25	0	22.07	2
	HCH	1	0	23.29	1
		1	12	23.26	1
		1	24	23.35	1
		12	0	22.39	2
		12	6	22.28	2
		12	13	22.30	2
		25	0	22.39	2

Channel Bandwidth: 10 MHz					
Modulation	Channel	RB Configuration		Average Power [dBm]	MPR (dB)
		Size	Offset		
QPSK	LCH	1	0	23.80	0
		1	24	23.89	0
		1	49	23.87	0
		25	0	22.92	1
		25	12	22.97	1
		25	25	22.89	1
		50	0	22.82	1
	MCH	1	0	24.04	0
		1	24	24.04	0
		1	49	24.16	0
		25	0	22.98	1
		25	12	23.10	1
		25	25	23.16	1
		50	0	23.14	1
	HCH	1	0	24.26	0
		1	24	24.35	0
		1	49	24.36	0
		25	0	23.23	1
		25	12	23.25	1
		25	25	23.33	1
		50	0	23.23	1
16QAM	LCH	1	0	23.16	1
		1	24	23.18	1
		1	49	23.24	1
		25	0	22.04	2

		25	12	22.09	2
		25	25	22.03	2
		50	0	21.89	2
	MCH	1	0	23.35	1
		1	24	23.37	1
		1	49	23.36	1
		25	0	22.10	2
		25	12	22.22	2
		25	25	22.23	2
		50	0	22.17	2
	HCH	1	0	23.80	1
		1	24	23.74	1
		1	49	23.90	1
		25	0	22.51	2
		25	12	22.59	2
		25	25	22.53	2
		50	0	22.34	2

Channel Bandwidth: 15 MHz					
Modulation	Channel	RB Configuration		Average Power [dBm]	MPR (dB)
		Size	Offset		
QPSK	LCH	1	0	23.87	0
		1	37	23.85	0
		1	74	23.89	0
		37	0	22.87	1
		37	18	22.92	1
		37	38	22.88	1
		75	0	22.87	1
	MCH	1	0	23.88	0
		1	37	23.97	0
		1	74	24.01	0
		37	0	22.99	1
		37	18	23.10	1
		37	38	23.16	1
		75	0	23.06	1
	HCH	1	0	24.09	0
		1	37	24.15	0
		1	74	24.24	0
		37	0	23.24	1
		37	18	23.37	1
		37	38	23.24	1
		75	0	23.18	1

16QAM	LCH	1	0	23.14	1
		1	37	23.16	1
		1	74	23.17	1
		37	0	21.93	2
		37	18	22.00	2
		37	38	21.98	2
		75	0	21.99	2
	MCH	1	0	23.44	1
		1	37	23.47	1
		1	74	23.50	1
		37	0	22.12	2
		37	18	22.05	2
		37	38	22.25	2
		75	0	22.07	2
	HCH	1	0	23.44	1
		1	37	23.51	1
		1	74	23.58	1
		37	0	22.38	2
		37	18	22.44	2
		37	38	22.45	2
		75	0	22.36	2

Channel Bandwidth: 20 MHz					
Modulation	Channel	RB Configuration		Average Power [dBm]	MPR (dB)
		Size	Offset		
QPSK	LCH	1	0	23.93	0
		1	49	23.97	0
		1	99	24.01	0
		50	0	22.85	1
		50	25	22.89	1
		50	50	22.90	1
		100	0	22.89	1
	MCH	1	0	24.17	0
		1	49	24.25	0
		1	99	24.42	0
		50	0	23.06	1
		50	25	23.03	1
		50	50	23.08	1
		100	0	23.15	1
	HCH	1	0	24.29	0
		1	49	24.26	0
		1	99	24.39	0

		50	0	23.17	1
		50	25	23.24	1
		50	50	23.21	1
		100	0	23.25	1
16QAM	LCH	1	0	22.83	1
		1	49	22.91	1
		1	99	22.93	1
		50	0	22.05	2
		50	25	22.03	2
		50	50	22.07	2
		100	0	21.98	2
	MCH	1	0	23.15	1
		1	49	23.26	1
		1	99	23.36	1
		50	0	22.14	2
		50	25	22.28	2
		50	50	22.19	2
		100	0	22.20	2
	HCH	1	0	23.35	1
		1	49	23.36	1
		1	99	23.50	1
		50	0	22.33	2
		50	25	22.30	2
		50	50	22.33	2
		100	0	22.40	2

FDD-LTE Band 4:

Channel Bandwidth: 1.4 MHz					
Modulation	Channel	RB Configuration		Average Power [dBm]	MPR (dB)
		Size	Offset		
QPSK	LCH	1	0	24.15	0
		1	3	24.20	0
		1	5	24.22	0
		3	0	24.12	0
		3	2	24.17	0
		3	3	24.21	0
		6	0	23.29	1
	MCH	1	0	24.18	0
		1	3	24.22	0
		1	5	24.15	0
		3	0	24.24	0
		3	2	24.28	0
		3	3	24.24	0
		6	0	23.17	1
	HCH	1	0	24.18	0
		1	3	24.14	0
		1	5	24.12	0
		3	0	24.19	0
		3	2	24.22	0
		3	3	24.09	0
		6	0	23.15	1
16QAM	LCH	1	0	24.02	1
		1	3	24.04	1
		1	5	24.07	1
		3	0	23.39	1
		3	2	23.42	1
		3	3	23.34	1
		6	0	22.51	2
	MCH	1	0	23.92	1
		1	3	23.86	1
		1	5	23.90	1
		3	0	23.29	1
		3	2	23.33	1
		3	3	23.32	1
		6	0	22.36	2
	HCH	1	0	23.82	1
		1	3	23.77	1

		1	5	23.82	1
		3	0	23.27	1
		3	2	23.24	1
		3	3	23.23	1
		6	0	22.41	2

Channel Bandwidth: 3 MHz					
Modulation	Channel	RB Configuration		Average Power [dBm]	MPR (dB)
		Size	Offset		
QPSK	LCH	1	0	24.14	0
		1	7	24.17	0
		1	14	24.10	0
		8	0	23.17	1
		8	4	23.18	1
		8	7	23.13	1
		15	0	23.13	1
	MCH	1	0	24.28	0
		1	7	24.41	0
		1	14	24.32	0
		8	0	23.20	1
		8	4	23.27	1
		8	7	23.24	1
		15	0	23.21	1
	HCH	1	0	24.18	0
		1	7	24.24	0
		1	14	24.12	0
		8	0	23.19	1
		8	4	23.15	1
		8	7	23.16	1
		15	0	23.24	1
16QAM	LCH	1	0	23.44	1
		1	7	23.44	1
		1	14	23.46	1
		8	0	22.39	2
		8	4	22.33	2
		8	7	22.37	2
		15	0	22.24	2
	MCH	1	0	24.10	1
		1	7	24.07	1
		1	14	24.08	1
		8	0	22.44	2
		8	4	22.40	2

		8	7	22.38	2
		15	0	22.40	2
	HCH	1	0	23.79	1
		1	7	23.76	1
		1	14	23.80	1
		8	0	22.57	2
		8	4	22.62	2
		8	7	22.57	2
		15	0	22.29	2

Channel Bandwidth: 5 MHz					
Modulation	Channel	RB Configuration		Average Power [dBm]	MPR (dB)
		Size	Offset		
QPSK	LCH	1	0	24.01	0
		1	12	24.03	0
		1	24	24.09	0
		12	0	23.22	1
		12	6	23.21	1
		12	13	23.22	1
		25	0	23.23	1
	MCH	1	0	24.31	0
		1	12	24.44	0
		1	24	24.33	0
		12	0	23.27	1
		12	6	23.20	1
		12	13	23.32	1
		25	0	23.30	1
	HCH	1	0	23.95	0
		1	12	23.97	0
		1	24	23.96	0
		12	0	23.13	1
		12	6	23.18	1
		12	13	23.20	1
		25	0	23.30	1
16QAM	LCH	1	0	23.04	1
		1	12	22.97	1
		1	24	22.97	1
		12	0	22.25	2
		12	6	22.29	2
		12	13	22.25	2
		25	0	22.25	2
	MCH	1	0	22.94	1

		1	12	22.97	1
		1	24	22.99	1
		12	0	22.29	2
		12	6	22.32	2
		12	13	22.31	2
		25	0	22.29	2
	HCH	1	0	22.64	1
		1	12	22.63	1
		1	24	22.60	1
		12	0	22.05	2
		12	6	22.08	2
		12	13	22.04	2
		25	0	22.30	2

Channel Bandwidth: 10 MHz					
Modulation	Channel	RB Configuration		Average Power [dBm]	MPR (dB)
		Size	Offset		
QPSK	LCH	1	0	24.09	0
		1	24	24.09	0
		1	49	24.18	0
		25	0	23.22	1
		25	12	23.23	1
		25	25	23.10	1
		50	0	23.11	1
	MCH	1	0	24.21	0
		1	24	24.12	0
		1	49	24.25	0
		25	0	23.22	1
		25	12	23.31	1
		25	25	23.16	1
		50	0	23.28	1
	HCH	1	0	24.21	0
		1	24	24.29	0
		1	49	24.28	0
		25	0	23.28	1
		25	12	23.26	1
		25	25	23.11	1
		50	0	23.14	1
16QAM	LCH	1	0	22.92	1
		1	24	23.00	1
		1	49	22.95	1
		25	0	22.28	2

		25	12	22.27	2
		25	25	22.36	2
		50	0	22.26	2
	MCH	1	0	23.56	1
		1	24	23.57	1
		1	49	23.59	1
		25	0	22.32	2
		25	12	22.41	2
		25	25	22.34	2
		50	0	22.30	2
	HCH	1	0	23.79	1
		1	24	23.79	1
		1	49	23.78	1
		25	0	22.39	2
		25	12	22.45	2
		25	25	22.45	2
		50	0	22.33	2

Channel Bandwidth: 15 MHz					
Modulation	Channel	RB Configuration		Average Power [dBm]	MPR (dB)
		Size	Offset		
QPSK	LCH	1	0	24.14	0
		1	37	24.11	0
		1	74	24.06	0
		37	0	23.16	1
		37	18	23.26	1
		37	38	23.24	1
		75	0	23.26	1
	MCH	1	0	24.19	0
		1	37	24.24	0
		1	74	24.14	0
		37	0	23.28	1
		37	18	23.21	1
		37	38	23.27	1
		75	0	23.18	1
	HCH	1	0	24.17	0
		1	37	24.17	0
		1	74	24.22	0
		37	0	23.12	1
		37	18	23.20	1
		37	38	23.20	1
		75	0	23.25	1

16QAM	LCH	1	0	23.46	1
		1	37	23.49	1
		1	74	23.53	1
		37	0	22.24	2
		37	18	22.27	2
		37	38	22.27	2
		75	0	22.32	2
	MCH	1	0	23.52	1
		1	37	23.61	1
		1	74	23.61	1
		37	0	22.28	2
		37	18	22.29	2
		37	38	22.34	2
		75	0	22.36	2
	HCH	1	0	23.76	1
		1	37	23.70	1
		1	74	23.67	1
		37	0	22.28	2
		37	18	22.23	2
		37	38	22.22	2
		75	0	22.20	2

Channel Bandwidth: 20 MHz					
Modulation	Channel	RB Configuration		Average Power [dBm]	MPR (dB)
		Size	Offset		
QPSK	LCH	1	0	24.27	0
		1	49	24.28	0
		1	99	24.45	0
		50	0	23.19	1
		50	25	23.19	1
		50	50	23.30	1
		100	0	23.26	1
	MCH	1	0	24.20	0
		1	49	24.28	0
		1	99	24.26	0
		50	0	23.11	1
		50	25	23.17	1
		50	50	23.23	1
		100	0	23.19	1
	HCH	1	0	24.32	0
		1	49	24.33	0
		1	99	23.24	0

		50	0	23.18	1
		50	25	23.14	1
		50	50	23.15	1
		100	0	24.04	1
16QAM	LCH	1	0	22.88	1
		1	49	22.88	1
		1	99	22.94	1
		50	0	22.31	2
		50	25	22.30	2
		50	50	22.28	2
		100	0	22.32	2
	MCH	1	0	23.35	1
		1	49	23.40	1
		1	99	23.42	1
		50	0	22.35	2
		50	25	22.36	2
		50	50	22.39	2
		100	0	24.25	2
	HCH	1	0	24.04	1
		1	49	24.04	1
		1	99	22.15	1
		50	0	22.15	2
		50	25	22.24	2
		50	50	22.31	2
		100	0	24.32	2

FDD-LTE Band 7:

Channel Bandwidth: 5 MHz					
Modulation	Channel	RB Configuration		Average Power [dBm]	MPR (dB)
		Size	Offset		
QPSK	LCH	1	0	24.19	0
		1	12	24.13	0
		1	24	24.15	0
		12	0	23.22	1
		12	6	23.24	1
		12	13	23.12	1
		25	0	23.24	1
	MCH	1	0	24.18	0
		1	12	24.22	0
		1	24	24.20	0
		12	0	23.24	1
		12	6	23.11	1
		12	13	23.06	1
		25	0	23.18	1
	HCH	1	0	23.75	0
		1	12	23.67	0
		1	24	23.74	0
		12	0	23.02	1
		12	6	23.04	1
		12	13	22.93	1
		25	0	23.05	1
16QAM	LCH	1	0	22.91	1
		1	12	22.82	1
		1	24	23.21	1
		12	0	22.29	2
		12	6	22.20	2
		12	13	22.24	2
		25	0	22.31	2
	MCH	1	0	22.89	1
		1	12	22.81	1
		1	24	22.85	1
		12	0	22.21	2
		12	6	22.22	2
		12	13	22.21	2
		25	0	22.20	2
	HCH	1	0	22.37	1
		1	12	22.36	1
		1	24	22.37	1

		12	0	21.85	2
		12	6	21.85	2
		12	13	21.90	2
		25	0	22.11	2

Channel Bandwidth: 10 MHz					
Modulation	Channel	RB Configuration		Average Power [dBm]	MPR (dB)
		Size	Offset		
QPSK	LCH	1	0	24.03	0
		1	24	24.05	0
		1	49	24.10	0
		25	0	23.24	1
		25	12	23.26	1
		25	25	23.18	1
		50	0	23.27	1
	MCH	1	0	24.14	0
		1	24	24.11	0
		1	49	24.20	0
		25	0	23.05	1
		25	12	23.19	1
		25	25	23.14	1
		50	0	23.11	1
	HCH	1	0	24.04	0
		1	24	24.00	0
		1	49	24.13	0
		25	0	22.92	1
		25	12	23.07	1
		25	25	22.99	1
		50	0	22.93	1
16QAM	LCH	1	0	23.47	1
		1	24	23.56	1
		1	49	23.48	1
		25	0	22.31	2
		25	12	22.36	2
		25	25	22.31	2
		50	0	22.31	2
	MCH	1	0	23.96	1
		1	24	23.93	1
		1	49	23.94	1
		25	0	22.18	2
		25	12	22.16	2
		25	25	22.12	2

		50	0	22.36	2
	HCH	1	0	23.54	1
		1	24	23.54	1
		1	49	23.61	1
		25	0	22.35	2
		25	12	22.34	2
		25	25	22.33	2
		50	0	22.13	2

Channel Bandwidth: 15 MHz					
Modulation	Channel	RB Configuration		Average Power [dBm]	MPR (dB)
		Size	Offset		
QPSK	LCH	1	0	24.06	0
		1	37	24.13	0
		1	74	24.06	0
		37	0	23.13	1
		37	18	23.14	1
		37	38	23.18	1
		75	0	23.19	1
	MCH	1	0	24.12	0
		1	37	24.00	0
		1	74	24.15	0
		37	0	23.25	1
		37	18	23.11	1
		37	38	23.08	1
		75	0	23.20	1
	HCH	1	0	24.13	0
		1	37	24.05	0
		1	74	24.10	0
		37	0	22.98	1
		37	18	23.07	1
		37	38	23.09	1
		75	0	23.04	1
16QAM	LCH	1	0	22.95	1
		1	37	22.77	1
		1	74	22.90	1
		37	0	22.35	2
		37	18	22.35	2
		37	38	22.38	2
		75	0	22.30	2
	MCH	1	0	23.59	1
		1	37	23.60	1

		1	74	23.52	1
		37	0	22.19	2
		37	18	22.28	2
		37	38	22.23	2
		75	0	22.24	2
	HCH	1	0	24.20	1
		1	37	24.09	1
		1	74	24.14	1
		37	0	22.05	2
		37	18	22.16	2
		37	38	22.11	2
		75	0	22.14	2

Channel Bandwidth: 20 MHz					
Modulation	Channel	RB Configuration		Average Power [dBm]	MPR (dB)
		Size	Offset		
QPSK	LCH	1	0	24.35	0
		1	49	24.23	0
		1	99	24.19	0
		50	0	23.22	1
		50	25	23.24	1
		50	50	23.18	1
		100	0	23.17	1
	MCH	1	0	24.28	0
		1	49	24.25	0
		1	99	24.40	0
		50	0	23.15	1
		50	25	23.07	1
		50	50	23.13	1
		100	0	23.21	1
	HCH	1	0	24.22	0
		1	49	24.22	0
		1	99	24.19	0
		50	0	23.14	1
		50	25	23.02	1
		50	50	22.96	1
		100	0	23.06	1
16QAM	LCH	1	0	22.95	1
		1	49	22.96	1
		1	99	22.98	1
		50	0	22.24	2
		50	25	22.23	2

		50	50	22.19	2
		100	0	22.29	2
	MCH	1	0	23.05	1
		1	49	23.11	1
		1	99	23.13	1
		50	0	22.29	2
		50	25	22.25	2
		50	50	22.26	2
		100	0	22.24	2
	HCH	1	0	23.94	1
		1	49	23.93	1
		1	99	23.91	1
		50	0	22.17	2
		50	25	22.06	2
		50	50	22.09	2
		100	0	22.19	2

Remark:

1. Per KDB941225 D05 v02r05, Start with the largest channel bandwidth then measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power among RB offsets at the upper edge, middle, and lower edge of each required test channel. When the reported SAR is ≤ 0.8 W/kg, testing of the remaining RB offset configurations and required test channels is not required for 1 RB allocation; otherwise, SAR is required for the remaining required test channels and only for the RB offset configuration with the highest output power for that channel. 6 When the reported SAR of a required test channel is > 1.45 W/kg, SAR is required for all three RB offset configurations for that required test channel.
2. Per KDB941225 D05 v02r05, The procedures required for 1 RB allocation in 5.2.1 are applied to measure the SAR for QPSK with 50% RB allocation.
3. Per KDB941225 D05 v02r05, For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations, and the highest reported SAR for 1 RB and 50% RB allocation in 5.2.1 and 5.2.2 are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
4. Per KDB941225 D05 v02r05, For each modulation besides QPSK; e.g., 16-QAM, 64-QAM, apply the QPSK procedures in 5.2.1, 5.2.2, and 5.2.3 to determine the QAM configurations that may need SAR measurement. For each configuration identified as required for testing, SAR is required only when the highest maximum output power for the configuration in the higher order modulation is $> \frac{1}{2}$ dB higher than the same configuration in QPSK or when the reported SAR for the QPSK configuration is > 1.45 W/kg.

WLAN - Maximum Average Power					
Test Mode	Data Rate	Channel	Frequency (MHz)	Average Power (dBm)	Tune-up power (dBm)
802.11b	1Mbps	CH 01	2412	15.11	15.5
		CH 06	2437	10.83	11.0
		CH 11	2462	13.69	14.0
802.11g	6Mbps	CH 01	2412	8.12	8.5
		CH 06	2437	8.57	9.0
		CH 11	2462	8.03	8.5
802.11n (20MHz)	MCS0	CH 01	2412	8.29	8.5
		CH 06	2437	8.49	8.5
		CH 11	2462	8.94	9.0
802.11n (40MHz)	MCS0	CH 03	2422	9.37	9.5
		CH 07	2442	9.08	9.5
		CH 11	2462	9.30	9.5

WLAN(5.2G) – Conducted Power				
Test Mode	Channel	Frequency (MHz)	Average Power (dBm)	Tune-up power (dBm)
802.11a	CH 36	5180	8.61	9.0
	CH 40	5200	7.71	8.0
	CH 48	5240	8.37	8.5
802.11n (HT20)	CH 36	5180	8.58	9.0
	CH 40	5200	7.77	8.0
	CH 48	5240	8.11	8.5
802.11n (HT40)	CH 38	5190	7.28	7.5
	CH 46	5230	6.39	6.5
802.11ac(VHT20)	CH 36	5180	8.76	9.0
	CH 40	5200	8.15	8.5
	CH 48	5240	8.45	8.5
802.11ac (VHT40)	CH 38	5190	7.13	7.5
	CH 46	5230	6.78	7.0
802.11ac (VHT80)	CH 42	5210	5.86	6.0

Remark:

1. Per KDB 248227 D01 v02r02, For 802.11b DSSS SAR measurements, DSSS SAR procedure applies to fixed exposure test position and initial test position procedure applies to multiple exposure test positions.
2. Per KDB 248227 D01 v02r02, For 802.11b DSSS SAR measurements ,when the reported SAR of the highest measured maximum output power channel (see 3.1) for the exposure configuration is ≤ 0.8 W/kg, no further SAR testing

is required for 802.11b DSSS in that exposure configuration. When the reported SAR is > 0.8 W/kg, SAR is required for that exposure configuration using the next highest measured output power channel. When any reported SAR is > 1.2 W/kg, SAR is required for the third channel; i.e., all channels require testing.

3 .For OFDM modes (802.11g/n), SAR is not required when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and it is $\leq 1.2\text{W/kg}$.

Bluetooth - Maximum Average Power					
Test Mode	Data Rate	Average Power(dBm)			Tune-up power (dBm)
		Low Channel	Middle Channel	High Channel	
GFSK	1Mbps	1.795	3.698	3.9	4.0
$\pi/4$ DQPSK	2Mbps	3.558	5.525	5.772	6.0
8DPSK	3Mbps	5.255	6.637	6.896	7.0

Bluetooth - EIRP					
Test Mode	Data Rate	Channel	Frequency (MHz)	Average Power (dBm)	Tune-up power (dBm)
BLE	1Mbps	CH 00	2402	-1.75	-1.5
		CH 19	2440	1.035	1.5
		CH 39	2480	2.119	2.5
	2Mbps	CH 00	2402	-1.817	-1.5
		CH 19	2440	0.845	1.0
		CH 39	2480	1.919	2.0

Remark:

Bluetooth maximum output power is 6.896dBm *respectively*, and Maximum Tune-Up output power is 7.0dBm

9.2 Test Results for Standalone SAR Test

Head SAR

GSM850 – Head SAR Test									
Plot No.	Mode	Test Position Head	Frequency		Output Power (dBm)	Rated Limit (dBm)	Scaling Factor	SAR1g (W/kg)	Scaled SAR1g (W/kg)
			CH.	MHz					
1.	GSM	Right Cheek	128	824.2	32.02	32.5	1.117	0.006	0.007
2.	GSM	Right Tilted	128	824.2	32.02	32.5	1.117	0.002	0.002
3.	GSM	Left Cheek	128	824.2	32.02	32.5	1.117	0.007	0.008
4.	GSM	Left Tilted	128	824.2	32.02	32.5	1.117	0.002	0.002

GSM1900 – Head SAR Test									
Plot No.	Mode	Test Position Head	Frequency		Output Power (dBm)	Rated Limit (dBm)	Scaling Factor	SAR1g (W/kg)	Scaled SAR1g (W/kg)
			CH.	M Hz					
5.	GSM	Right Cheek	810	1909.8	28.18	28.5	1.076	0.003	0.003
6.	GSM	Right Tilted	810	1909.8	28.18	28.5	1.076	0.001	0.001
7.	GSM	Left Cheek	810	1909.8	28.18	28.5	1.076	0.002	0.002
8.	GSM	Left Tilted	810	1909.8	28.18	28.5	1.076	0.001	0.001

WCDMA Band 2 – Head SAR Test									
Plot No.	Mode	Test Position Head	Frequency		Output Power (dBm)	Rated Limit (dBm)	Scaling Factor	SAR1g (W/kg)	Scaled SAR1g (W/kg)
			CH.	MHz					
9.	RMC	Right Cheek	9538	1907.6	22.04	22.5	1.112	0.003	0.003
10.	RMC	Right Tilted	9538	1907.6	22.04	22.5	1.112	0.001	0.001
11.	RMC	Left Cheek	9538	1907.6	22.04	22.5	1.112	0.004	0.004
12.	RMC	Left Tilted	9538	1907.6	22.04	22.5	1.112	0.001	0.001

WCDMA Band 5 – Head SAR Test									
Plot No.	Mode	Test Position Head	Frequency		Output Power (dBm)	Rated Limit (dBm)	Scaling Factor	SAR1g (W/kg)	Scaled SAR1g (W/kg)
			CH.	MHz					
13.	RMC	Right Cheek	4183	836.4	21.42	21.5	1.019	0.004	0.004
14.	RMC	Right Tilted	4183	836.4	21.42	21.5	1.019	0.001	0.001
15.	RMC	Left Cheek	4183	836.4	21.42	21.5	1.019	0.006	0.006
16.	RMC	Left Tilted	4183	836.4	21.42	21.5	1.019	0.002	0.002

LTE Band 2– Head SAR Test								
Plot No.	Mode	Test Position Head	Frequency	Output Power (dBm)	Rated Limit (dBm)	Scaling Factor	SAR1g (W/kg)	Scaled SAR1g (W/kg)
	Modulation, Bandwidth, RB		MHz					
17.	QPSK 20MHz 1RB	Right Cheek	1880.0	24.42	24.5	1.019	0.003	0.003
18.	QPSK 20MHz 1RB	Right Tilted	1880.0	24.42	24.5	1.019	0.001	0.001
19.	QPSK 20MHz 1RB	Left Cheek	1880.0	24.42	24.5	1.019	0.008	0.008
20.	QPSK 20MHz 1RB	Left Tilted	1880.0	24.42	24.5	1.019	0.002	0.002
21.	QPSK 20MHz 50%RB	Right Cheek	1900.0	23.24	23.5	1.062	0.002	0.002
22.	QPSK 20MHz 50%RB	Right Tilted	1900.0	23.24	23.5	1.062	0.001	0.001
23.	QPSK 20MHz 50%RB	Left Cheek	1900.0	23.24	23.5	1.062	0.005	0.005
24.	QPSK 20MHz 50%RB	Left Tilted	1900.0	23.24	23.5	1.062	0.001	0.001

LTE Band 4– Head SAR Test								
Plot No.	Mode	Test Position Head	Frequency	Output Power (dBm)	Rated Limit (dBm)	Scaling Factor	SAR1g (W/kg)	Scaled SAR1g (W/kg)
	Modulation, Bandwidth, RB		MHz					
25.	QPSK 20MHz 1RB	Right Cheek	1720.0	24.45	24.5	1.012	0.004	0.004
26.	QPSK 20MHz 1RB	Right Tilted	1720.0	24.45	24.5	1.012	0.001	0.001
27.	QPSK 20MHz 1RB	Left Cheek	1720.0	24.45	24.5	1.012	0.003	0.003
28.	QPSK 20MHz 1RB	Left Tilted	1720.0	24.45	24.5	1.012	0.001	0.001
29.	QPSK 20MHz 50%RB	Right Cheek	1720.0	23.30	23.5	1.047	0.003	0.003
30.	QPSK 20MHz 50%RB	Right Tilted	1720.0	23.30	23.5	1.047	0.001	0.001
31.	QPSK 20MHz 50%RB	Left Cheek	1720.0	23.30	23.5	1.047	0.002	0.002
32.	QPSK 20MHz 50%RB	Left Tilted	1720.0	23.30	23.5	1.047	0.001	0.001

LTE Band 7– Head SAR Test								
Plot No.	Mode	Test Position Head	Frequency	Output Power (dBm)	Rated Limit (dBm)	Scaling Factor	SAR1g (W/kg)	Scaled SAR1g (W/kg)
	Modulation, Bandwidth		MHz					
33.	QPSK 20MHz 1RB	Right Cheek	2535.0	24.40	24.5	1.023	0.015	0.015
34.	QPSK 20MHz 1RB	Right Tilted	2535.0	24.40	24.5	1.023	0.007	0.007
35.	QPSK 20MHz 1RB	Left Cheek	2535.0	24.40	24.5	1.023	0.006	0.006
36.	QPSK 20MHz 1RB	Left Tilted	2535.0	24.40	24.5	1.023	0.002	0.002
37.	QPSK 20MHz 50%RB	Right Cheek	2510.0	23.24	23.5	1.062	0.011	0.012
38.	QPSK 20MHz 50%RB	Right Tilted	2510.0	23.24	23.5	1.062	0.005	0.005
39.	QPSK 20MHz 50%RB	Left Cheek	2510.0	23.24	23.5	1.062	0.004	0.004
40.	QPSK 20MHz 50%RB	Left Tilted	2510.0	23.24	23.5	1.062	0.001	0.001

WLAN 2.4GHz – Head SAR Test									
Plot No.	Mode	Test Position Head	Frequency		Output Power (dBm)	Rated Limit (dBm)	Scaling Factor	SAR1g (W/kg)	Scaled SAR1g (W/kg)
			CH.	MHz					
41.	802.11b	Right Cheek	01	2412	15.11	15.5	1.094	0.009	0.010
42.	802.11b	Right Tilted	01	2412	15.11	15.5	1.094	0.006	0.007
43.	802.11b	Left Cheek	01	2412	15.11	15.5	1.094	0.008	0.009
44.	802.11b	Left Tilted	01	2412	15.11	15.5	1.094	0.005	0.005

WLAN 5.2GHz – Head SAR Test									
Plot No.	Mode	Test Position Head	Frequency		Output Power (dBm)	Rated Limit (dBm)	Scaling Factor	SAR1g (W/kg)	Scaled SAR1g (W/kg)
			CH.	MHz					
45.	802.11 ac(VHT20)	Right Cheek	36	5180	8.79	9.0	1.050	0.077	0.081
46.	802.11 ac(VHT20)	Right Tilted	36	5180	8.79	9.0	1.050	0.054	0.057
47.	802.11 ac(VHT20)	Left Cheek	36	5180	8.79	9.0	1.050	0.085	0.089
48.	802.11 ac(VHT20)	Left Tilted	36	5180	8.79	9.0	1.050	0.066	0.069

Remark: Per KDB 447498 D01 v06, if the highest output channel SAR for each exposure position ≤ 0.8 W/kg other channels SAR tests are not necessary.

Body SAR

GSM850 – Body SAR Test (Gap: 0mm)									
Plot No.	Mode	Test Position Body	Frequency		Output Power (dBm)	Rated Limit (dBm)	Scaling Factor	SAR1g (W/kg)	Scaled SAR1g (W/kg)
			CH.	MHz					
49.	GSM	Back	128	824.2	32.02	32.5	1.117	0.252	0.281
50.	GSM	Front	128	824.2	32.02	32.5	1.117	0.079	0.088
51.	GPRS_4TX	Back Side	128	824.2	26.67	27.0	1.079	0.229	0.247
52.	GPRS_4TX	Front Side	128	824.2	26.67	27.0	1.079	0.118	0.127
53.	GPRS_4TX	Right side	128	824.2	26.67	27.0	1.079	0.174	0.188
54.	GPRS_4TX	Bottom side	128	824.2	26.67	27.0	1.079	0.284	0.306

GSM1900– Body SAR Test (Gap: 0mm)									
Plot No.	Mode	Test Position Body	Frequency		Output Power (dBm)	Rated Limit (dBm)	Scaling Factor	SAR1g (W/kg)	Scaled SAR1g (W/kg)
			CH.	MHz					
55.	GSM	Back	810	1909.8	28.18	28.5	1.076	0.102	0.110
56.	GSM	Front	810	1909.8	28.18	28.5	1.076	0.029	0.031
57.	GPRS_4TX	Back Side	661	1880.0	25.75	26.0	1.059	0.085	0.090
58.	GPRS_4TX	Front Side	661	1880.0	25.75	26.0	1.059	0.032	0.034
59.	GPRS_4TX	Right side	661	1880.0	25.75	26.0	1.059	0.006	0.006
60.	GPRS_4TX	Bottom side	661	1880.0	25.75	26.0	1.059	0.025	0.026

WCDMA Band 2– Body SAR Test (Gap: 0mm)									
Plot No.	Mode	Test Position Body	Frequency		Output Power (dBm)	Rated Limit (dBm)	Scaling Factor	SAR1g (W/kg)	Scaled SAR1g (W/kg)
			CH.	MHz					
61.	RMC 12.2k	Back Side	9538	1907.6	22.04	22.5	1.112	0.173	0.192
62.	RMC 12.2k	Front Side	9538	1907.6	22.04	22.5	1.112	0.073	0.081
63.	RMC 12.2k	Right side	9538	1907.6	22.04	22.5	1.112	0.010	0.011
64.	RMC 12.2k	Bottom side	9538	1907.6	22.04	22.5	1.112	0.038	0.042

WCDMA Band 5 Body SAR Test (Gap: 0mm)									
Plot No.	Mode	Test Position Body	Frequency		Output Power (dBm)	Rated Limit (dBm)	Scaling Factor	SAR1g (W/kg)	Scaled SAR1g (W/kg)
			CH.	MHz					
65.	RMC 12.2k	Back Side	4183	836.4	21.42	21.5	1.019	0.214	0.218
66.	RMC 12.2k	Front Side	4183	836.4	21.42	21.5	1.019	0.104	0.106
67.	RMC 12.2k	Right side	4183	836.4	21.42	21.5	1.019	0.181	0.184
68.	RMC 12.2k	Bottom side	4183	836.4	21.42	21.5	1.019	0.228	0.232

LTE Band 2–Body SAR Test (Gap: 0mm)								
Plot No.	Mode	Test Position Body	Frequency	Output Power (dBm)	Rated Limit (dBm)	Scaling Factor	SAR1g (W/kg)	Scaled SAR1g (W/kg)
	Modulation, Bandwidth, RB		MHz					
69.	QPSK 20MHz 1RB	Back Side	1880.0	24.42	24.5	1.019	0.089	0.091
70.	QPSK 20MHz 1RB	Front Side	1880.0	24.42	24.5	1.019	0.025	0.025
71.	QPSK 20MHz 1RB	Right side	1880.0	24.42	24.5	1.019	0.006	0.006
72.	QPSK 20MHz 1RB	Bottom side	1880.0	24.42	24.5	1.019	0.023	0.023
73.	QPSK 20MHz 50%RB	Back Side	1900.0	23.24	23.5	1.062	0.075	0.080
74.	QPSK 20MHz 50%RB	Front Side	1900.0	23.24	23.5	1.062	0.022	0.023
75.	QPSK 20MHz 50%RB	Right side	1900.0	23.24	23.5	1.062	0.004	0.004
76.	QPSK 20MHz 50%RB	Bottom side	1900.0	23.24	23.5	1.062	0.018	0.019

LTE Band 4–Body SAR Test (Gap: 0mm)								
Plot No.	Mode	Test Position Body	Frequency	Output Power (dBm)	Rated Limit (dBm)	Scaling Factor	SAR1g (W/kg)	Scaled SAR1g (W/kg)
	Modulation, Bandwidth, RB		MHz					
77.	QPSK 20MHz 1RB	Back Side	1720.0	24.45	24.5	1.012	0.385	0.389
78.	QPSK 20MHz 1RB	Front Side	1720.0	24.45	24.5	1.012	0.161	0.163
79.	QPSK 20MHz 1RB	Right side	1720.0	24.45	24.5	1.012	0.007	0.007
80.	QPSK 20MHz 1RB	Bottom side	1720.0	24.45	24.5	1.012	0.287	0.290
81.	QPSK 20MHz 50%RB	Back Side	1720.0	23.30	23.5	1.047	0.324	0.339
82.	QPSK 20MHz 50%RB	Front Side	1720.0	23.30	23.5	1.047	0.137	0.143
83.	QPSK 20MHz 50%RB	Right side	1720.0	23.30	23.5	1.047	0.005	0.005
84.	QPSK 20MHz 50%RB	Bottom side	1720.0	23.30	23.5	1.047	0.246	0.258

LTE Band 7–Body SAR Test (Gap: 0mm)								
Plot No.	Mode	Test Position Body	Frequency	Output Power (dBm)	Rated Limit (dBm)	Scaling Factor	SAR1g (W/kg)	Scaled SAR1g (W/kg)
	Modulation, Bandwidth, RB		MHz					
85.	QPSK 20MHz 1RB	Back Side	2535.0	24.40	24.5	1.023	0.443	0.453
86.	QPSK 20MHz 1RB	Front Side	2535.0	24.40	24.5	1.023	0.391	0.400
87.	QPSK 20MHz 1RB	Right side	2535.0	24.40	24.5	1.023	0.100	0.102
88.	QPSK 20MHz 1RB	Bottom side	2535.0	24.40	24.5	1.023	0.290	0.297
89.	QPSK 20MHz 50%RB	Back Side	2510.0	23.24	23.5	1.062	0.406	0.431
90.	QPSK 20MHz 50%RB	Front Side	2510.0	23.24	23.5	1.062	0.365	0.388
91.	QPSK 20MHz 50%RB	Right side	2510.0	23.24	23.5	1.062	0.088	0.093
92.	QPSK 20MHz 50%RB	Bottom side	2510.0	23.24	23.5	1.062	0.254	0.270

WLAN 2.4GHz –Body SAR Test									
Plot No.	Mode	Test Position Body	Frequency		Output Power (dBm)	Rated Limit (dBm)	Scaling Factor	SAR1g (W/kg)	Scaled SAR1g (W/kg)
			CH.	MHz					
93.	802.11b	Back Side	01	2412	15.11	15.5	1.094	0.199	0.218
94.	802.11b	Front Side	01	2412	15.11	15.5	1.094	0.046	0.050
95.	802.11b	Top side	01	2412	15.11	15.5	1.094	0.032	0.035

WLAN 5.2GHz –Body SAR Test									
Plot No.	Mode	Test Position Body	Frequency		Output Power (dBm)	Rated Limit (dBm)	Scaling Factor	SAR1g (W/kg)	Scaled SAR1g (W/kg)
			CH.	MHz					
96.	802.11 ac(VHT20)	Back Side	36	5180	8.79	9.0	1.050	0.163	0.171
97.	802.11 ac(VHT20)	Front Side	36	5180	8.79	9.0	1.050	0.065	0.068
98.	802.11 ac(VHT20)	Top side	36	5180	8.79	9.0	1.050	0.043	0.045

Remark: Per KDB 447498 D01 v06, if the highest output channel SAR for each exposure position ≤ 0.8 W/kg other channels SAR tests are not necessary.

9.3 Simultaneous Multi-band Transmission SAR Analysis

List of Mode for Simultaneous Multi-band Transmission

No.	Configurations	Head SAR	Body SAR
1	GSM(Voice/Data) + WLAN(2.4G)(Data)	Yes	Yes
2	WCDMA (Voice/Data)+ (2.4G)(Data)	Yes	Yes
3	LTE(Data) + (2.4G)(Data)	Yes	Yes
4	GSM(Voice/Data) + Bluetooth(Data)	Yes	Yes
5	WCDMA (Voice/Data) + Bluetooth(Data)	Yes	Yes
6	LTE(Data) + Bluetooth(Data)	Yes	Yes
7	GSM(Voice/Data) + WLAN(5.2G)(Data)	Yes	Yes
8	WCDMA (Voice/Data)+ (5.2G)(Data)	Yes	Yes
9	LTE(Data) + (5.2G)(Data)	Yes	Yes

Remark:

1. GSM ,WCDMA and LTE share the same antenna, and cannot transmit simultaneously.
2. WLAN and Bluetooth share the same antenna, and cannot transmit simultaneously.
3. According to the KDB 447498 D01 v06, when standalone SAR test exclusion applies to an antenna that transmits simultaneously with other antennas, the standalone SAR must be estimated according to following 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.

For simultaneous transmission analysis, Bluetooth SAR is estimated per KDB 447498 D01 v06 as below:

Bluetooth:

Tune-Up Power (dBm)	Max. Power (mW)	Distance (mm)	Frequency (GHz)	X	SAR(1g) 5mm
7	5.01	5	2.480	7.5	0.210

Head SAR**WWAN and WLAN**

	WWAN		WLAN(2.4G)	Summed SAR (W/kg)
Position	Band	Scaled SAR (W/kg)	Scaled SAR (W/kg)	
Right Cheek	LTE Band 7	0.015	0.010	0.025
Right Tilted	LTE Band 7	0.007	0.007	0.014
Left Cheek	LTE Band 7	0.006	0.009	0.015
Left Tilted	LTE Band 7	0.002	0.005	0.007

WWAN and Bluetooth

	WWAN		Bluetooth	Summed SAR (W/kg)
Position	Band	Scaled SAR (W/kg)	Scaled SAR (W/kg)	
Right Cheek	LTE Band 7	0.015	0.210	0.225
Right Tilted	LTE Band 7	0.007	0.210	0.217
Left Cheek	LTE Band 7	0.006	0.210	0.216
Left Tilted	LTE Band 7	0.002	0.210	0.212

WWAN and WLAN

	WWAN		WLAN(5.2G)	Summed SAR (W/kg)
Position	Band	Scaled SAR (W/kg)	Scaled SAR (W/kg)	
Right Cheek	LTE Band 7	0.015	0.081	0.096
Right Tilted	LTE Band 7	0.007	0.057	0.064
Left Cheek	LTE Band 7	0.006	0.089	0.095
Left Tilted	LTE Band 7	0.002	0.069	0.071

Body SAR**WWAN and WLAN**

	WWAN		WLAN(2.4G)	Summed SAR (W/kg)
Position	Band	Scaled SAR (W/kg)	Scaled SAR (W/kg)	
Back	LTE Band 7	0.453	0.218	0.671
Front	LTE Band 7	0.400	0.050	0.450
Right side	LTE Band 7	0.102	/	0.102
Left side	LTE Band 7	/	/	/
Bottom side	LTE Band 7	0.297	/	0.297
Top side	LTE Band 7	/	0.035	0.035

WWAN and Bluetooth

	WWAN		Bluetooth	Summed SAR (W/kg)
Position	Band	Scaled SAR (W/kg)	Scaled SAR (W/kg)	
Back	LTE Band 7	0.453	0.210	0.663
Front	LTE Band 7	0.400	0.210	0.610
Right side	LTE Band 7	0.102	/	0.102
Left side	LTE Band 7	/	/	/
Bottom side	LTE Band 7	0.297	/	0.297
Top side	LTE Band 7	/	0.210	0.21

WWAN and WLAN

	WWAN		WLAN(5.2G)	Summed SAR (W/kg)
Position	Band	Scaled SAR (W/kg)	Scaled SAR (W/kg)	
Back	LTE Band 7	0.453	0.171	0.624
Front	LTE Band 7	0.400	0.068	0.468
Right side	LTE Band 7	0.102	/	0.102
Left side	LTE Band 7	/	/	/
Bottom side	LTE Band 7	0.297	/	0.297
Top side	LTE Band 7	/	0.045	0.045

10. Measurement Uncertainty

10.1 Uncertainty for EUT SAR Test

a	b	c	d	e= f(d,k)	f	g	h= c*f/e	i= c*g/e	k
Uncertainty Component	Sec.	Tol (+- %)	Prob. Dist.	Div.	Ci (1g)	Ci (10g)	1g Ui (+- %)	10g Ui (+- %)	Vi
Measurement System									
Probe calibration	E.2.1	7.0	N	1	1	1	7.00	7.00	∞
Axial Isotropy	E.2.2	2.5	R	$\sqrt{3}$	$(1_Cp)^{1/2}$	$(1_Cp)^{1/2}$	1.02	1.02	∞
Hemispherical Isotropy	E.2.2	4.0	R	$\sqrt{3}$	$(Cp)^{1/2}$	$(Cp)^{1/2}$	1.63	1.63	∞
Boundary effect	E.2.3	1.0	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Linearity	E.2.4	5.0	R	$\sqrt{3}$	1	1	2.89	2.89	∞
System detection limits	E.2.5	1.0	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Readout Electronics	E.2.6	0.02	N	1	1	1	0.02	0.02	∞
Reponse Time	E.2.7	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	∞
Integration Time	E.2.8	2.0	R	$\sqrt{3}$	1	1	1.15	1.15	∞
RF ambient Conditions – Noise	E.6.1	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	∞
RF ambient Conditions - Reflections	E.6.1	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	∞
Probe positioner Mechanical Tolerance	E.6.2	2.0	R	$\sqrt{3}$	1	1	1.15	1.15	∞
Probe positioning with respect to Phantom Shell	E.6.3	0.05	R	$\sqrt{3}$	1	1	0.03	0.03	∞
Extrapolation, interpolation and integration Algorithms for Max. SAR Evaluation	E.5	5.0	R	$\sqrt{3}$	1	1	2.89	2.89	∞
Test Sample Related									
Test sample positioning	E.4.2	0.03	N	1	1	1	0.03	0.03	N-1
Device Holder Uncertainty	E.4.1	5.00	N	1	1	1	5.00	5.00	
Output power Variation - SAR drift measurement	E.2.9	12.02	R	$\sqrt{3}$	1	1	6.94	6.94	∞
SAR scaling	E6.5	0.0	R	$\sqrt{3}$	1	1	0.0	0.0	∞
Phantom and Tissue Parameters									
Phantom Uncertainty (Shape and thickness tolerances)	E.3.1	0.05	R	$\sqrt{3}$	1	1	0.03	0.03	∞

Uncertainty in SAR correction for deviations in permittivity and conductivity	E3.2	1.9	R	$\sqrt{3}$	1	0.84	1.10	0.90	∞
Liquid conductivity - deviation from target value	E.3.2	5.00	R	$\sqrt{3}$	0.64	0.43	1.85	1.24	∞
Liquid conductivity - measurement uncertainty	E.3.3	5.00	N	1	0.64	0.43	3.20	2.15	∞
Liquid permittivity - deviation from target value	E.3.2	0.37	R	$\sqrt{3}$	0.6	0.49	0.13	0.10	∞
Liquid permittivity - measurement uncertainty	E.3.3	10.00	N	1	0.6	0.49	6.00	4.90	∞
Combined Standard Uncertainty			RSS				12.98	12.53	
Expanded Uncertainty (95% Confidence interval)			K=2				25.32	24.43	

10.2 Uncertainty for System Performance Check

a	b	c	d	e= f(d,k)	f	g	h= c*f/e	i= c*g/e	k
Uncertainty Component	Sec.	Tol (+ - %)	Prob. Dist.	Div.	Ci (1g)	Ci (10g)	1g Ui (+-%)	10g Ui (+-%)	Vi
Measurement System									
Probe calibration	E.2.1	7.0	N	1	1	1	7.00	7.00	∞
Axial Isotropy	E.2.2	2.5	R	$\sqrt{3}$	$(1_{Cp})^{1/2}$	$(1_{Cp})^{1/2}$	1.02	1.02	∞
Hemispherical Isotropy	E.2.2	4.0	R	$\sqrt{3}$	$(Cp)^{1/2}$	$(Cp)^{1/2}$	1.63	1.63	∞
Boundary effect	E.2.3	1.0	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Linearity	E.2.4	5.0	R	$\sqrt{3}$	1	1	2.89	2.89	∞
System detection limits	E.2.5	1.0	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Modulation response	E.2.5	0	R	$\sqrt{3}$	0	0	0.0	0.0	∞
Readout Electronics	E.2.6	0.02	N	1	1	1	0.02	0.02	∞
Reponse Time	E.2.7	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	∞
Integration Time	E.2.8	2.0	R	$\sqrt{3}$	1	1	1.15	1.15	∞
RF ambient Conditions – Noise	E.6.1	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	∞
RF ambient Conditions - Reflections	E.6.1	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	∞
Probe positioner Mechanical Tolerance	E.6.2	2.0	R	$\sqrt{3}$	1	1	1.15	1.15	∞
Probe positioning with respect to Phantom Shell	E.6.3	0.05	R	$\sqrt{3}$	1	1	0.03	0.03	∞
Extrapolation, interpolation and integration Algorithms for Max.	E.5.2	5.0	R	$\sqrt{3}$	1	1	2.89	2.89	∞

SAR Evaluation									
Dipole									
Dipole axis to liquid Distance	8,E.4.2	1.00	N	$\sqrt{3}$	1	1	0.58	0.58	N-1
Input power and SAR drift measurement	8,6.6.2	12.02	R	$\sqrt{3}$	1	1	6.94	6.94	∞
Deviation of experimental dipole from numerical dipole	E.6.4	5.5	R	$\sqrt{3}$	1	1	3.20	3.20	∞
Phantom and Tissue Parameters									
Phantom Uncertainty (Shape and thickness tolerances)	E.3.1	0.05	R	$\sqrt{3}$	1	1	0.03	0.03	∞
Uncertainty in SAR correction for deviations in permittivity and conductivity	E.3.2	2.0	R	$\sqrt{3}$	1	0.84	1.10	1.10	∞
Liquid conductivity - deviation from target value	E.3.2	5.00	R	$\sqrt{3}$	0.64	0.43	1.85	1.24	
Liquid conductivity - measurement uncertainty	E.3.3	5.00	N	1	0.64	0.43	3.20	2.15	
Liquid permittivity - deviation from target value	E.3.2	0.37	R	$\sqrt{3}$	0.6	0.49	0.13	0.10	
Liquid permittivity - measurement uncertainty	E.3.3	10.00	N	1	0.6	0.49	6.00	4.90	M
Combined Standard Uncertainty			RSS				12.00	11.50	
Expanded Uncertainty (95% Confidence interval)			K=2				23.39	22.43	

Annex A. Plots of System Performance Check

MEASUREMENT 1

For Head Liquid

Type: Validation measurement (Fast, 75.00 %)

Measurement duration: 7 minutes 21 seconds

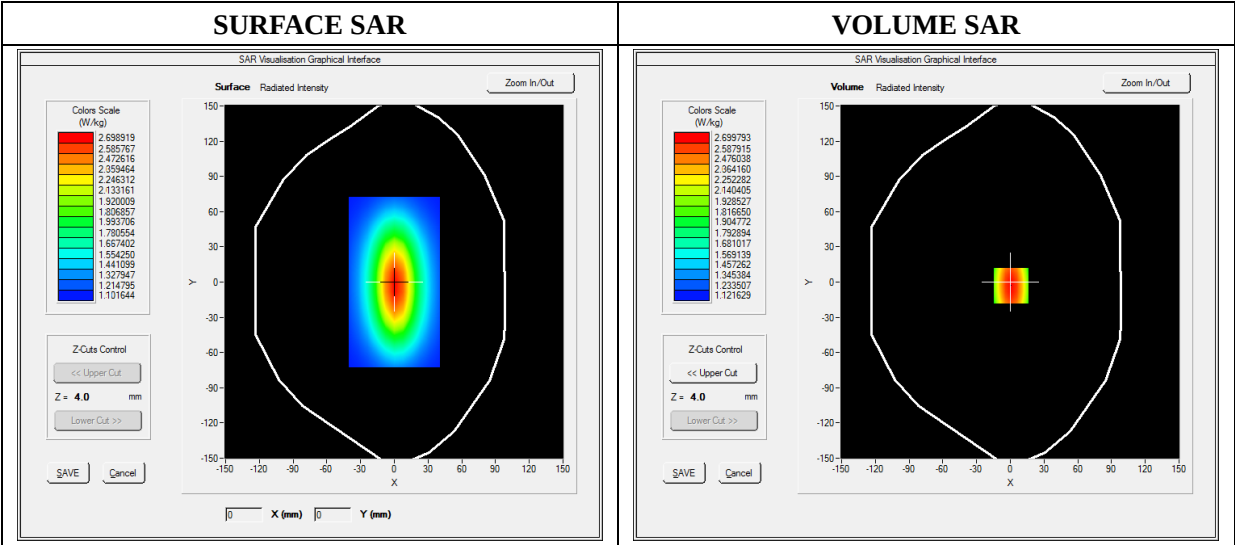
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF: Refer to the Calibration Certificate; Calibrated: 2020-07.03

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Phantom	Validation plane
Device Position	Dipole
Band	CW835
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	835.000000
Relative Permittivity (real part)	41.110245
Conductivity (S/m)	0.871245
Power Variation (%)	0.038437
Ambient Temperature	21.1
Liquid Temperature	21.3

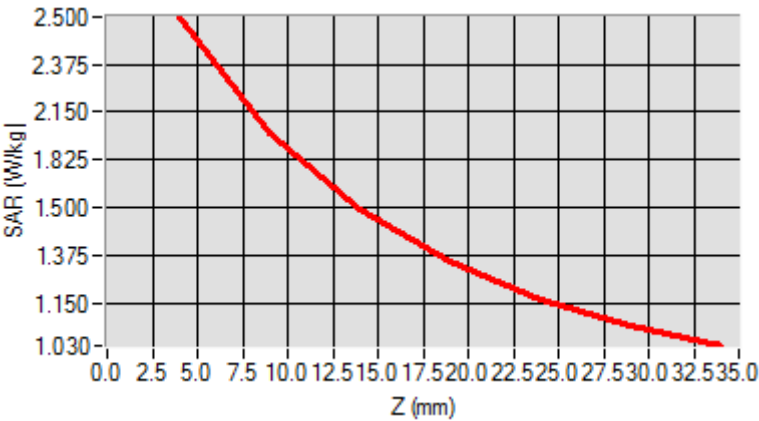


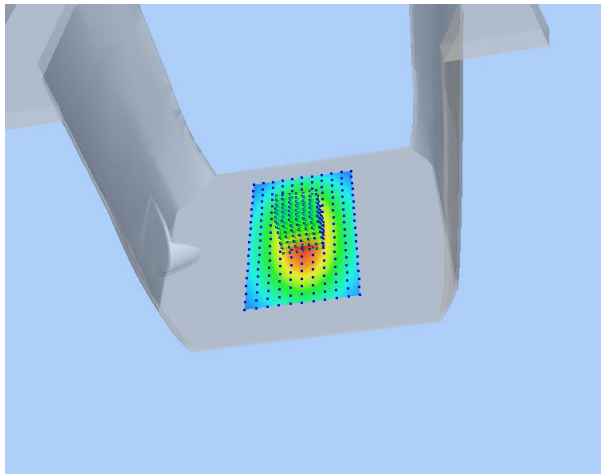
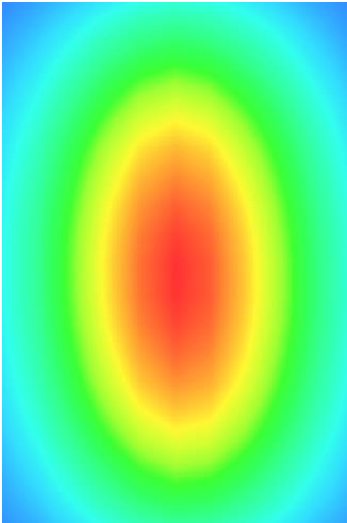
Maximum location: X=0.00, Y=0.00

SAR 10g (W/Kg)	1.519489
SAR 1g (W/Kg)	2.411253

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	2.4900	1.8942	1.4811	1.3541	1.1123	1.0539



3D screen shot	Hot spot position
	

MEASUREMENT 2

For Head Liquid

Type: Validation measurement (Fast, 75.00 %)

Measurement duration: 12 minutes 21 seconds

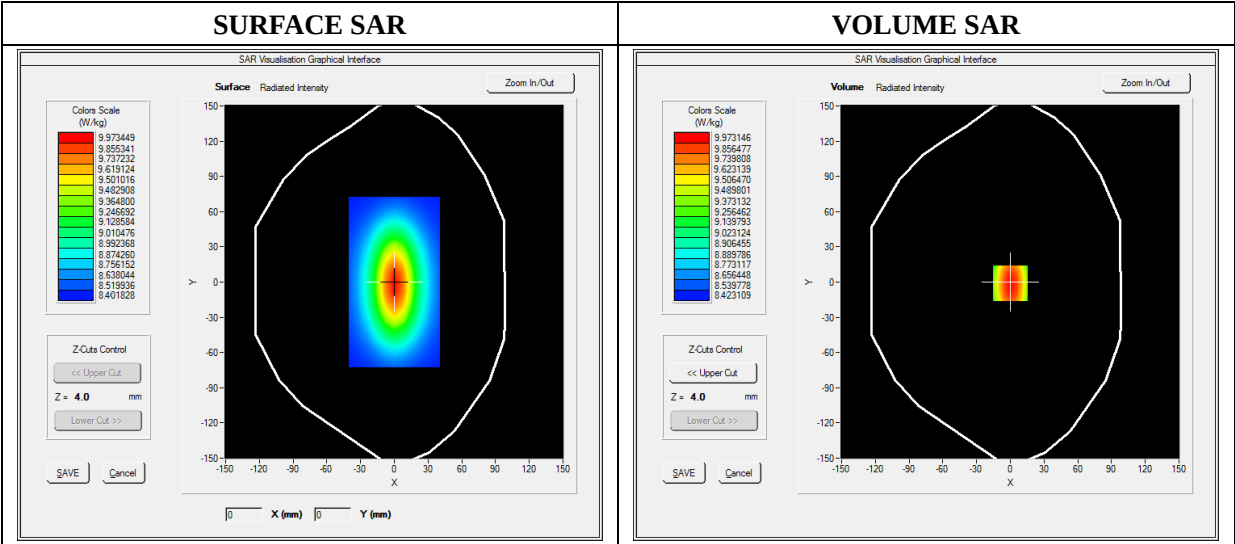
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF: Refer to the Calibration Certificate; Calibrated: 2020-07.03

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Phantom	Validation plane
Device Position	Dipole
Band	CW1800
Signal	CW (Crest factor: 1.0)

B. SAR Measurement Results

Frequency (MHz)	1800.000000
Relative Permittivity (real part)	39.024890
Conductivity (S/m)	1.371250
Power Variation (%)	1.401232
Ambient Temperature	21.1
Liquid Temperature	21.2

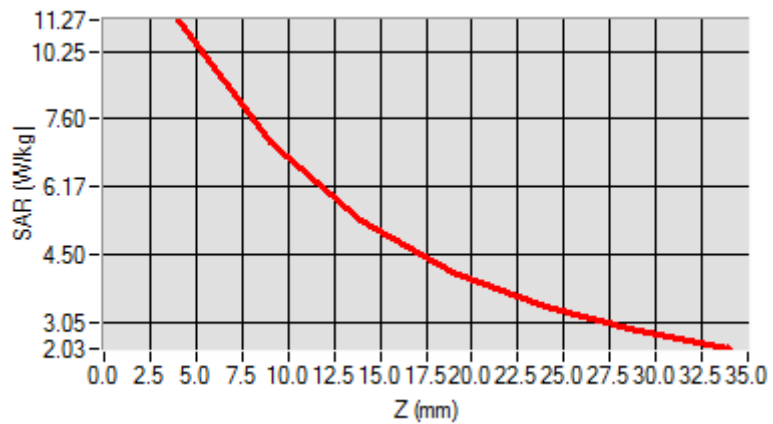


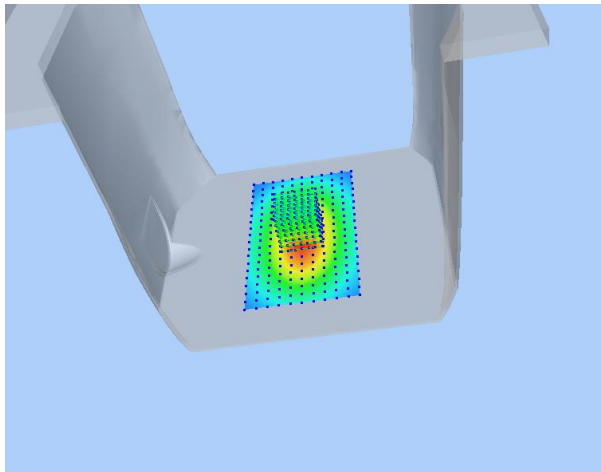
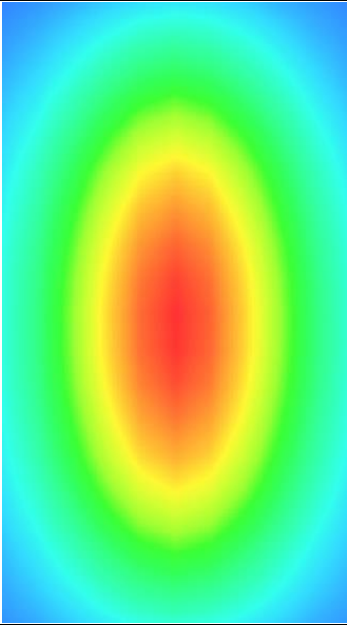
Maximum location: X=0.00, Y=0.00

SAR 10g (W/Kg)	5.171252
SAR 1g (W/Kg)	9.611250

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	10.3455	7.1125	5.1026	3.425	3.0242	2.1125



3D screen shot	Hot spot position
	

MEASUREMENT 3

For Head Liquid

Type: Validation measurement (Fast, 75.00 %)

Measurement duration: 12 minutes 21 seconds

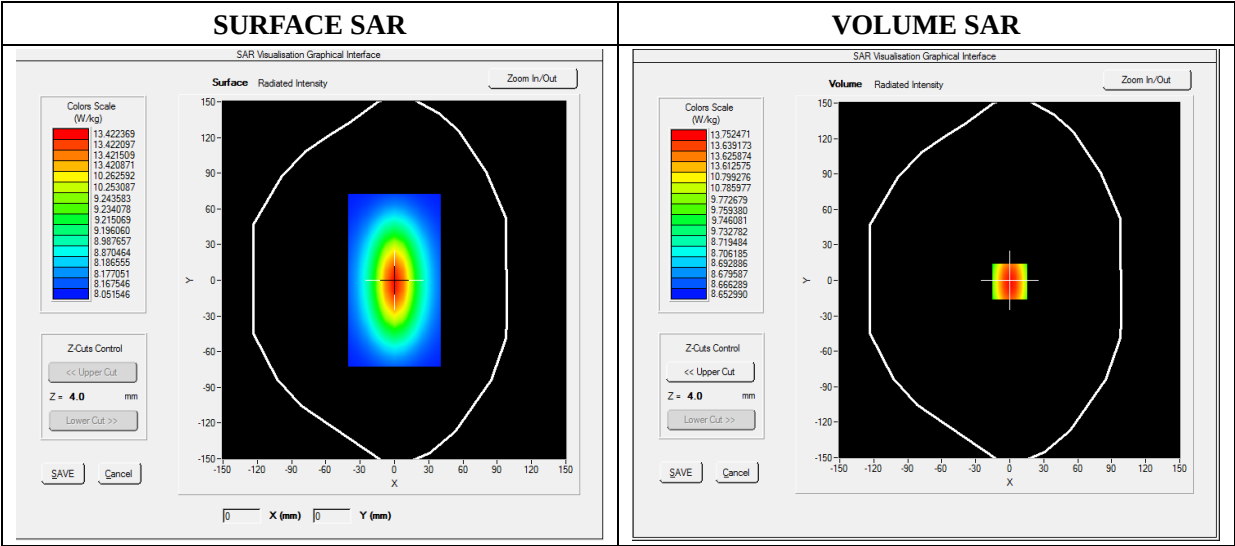
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF: Refer to the Calibration Certificate; Calibrated: 2020-07.03

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Phantom	Validation plane
Device Position	Dipole
Band	CW2450
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	2450.000000
Relative Permittivity (real part)	38.153660
Conductivity (S/m)	1.740236
Power Variation (%)	1.141452
Ambient Temperature	21.1
Liquid Temperature	21.2

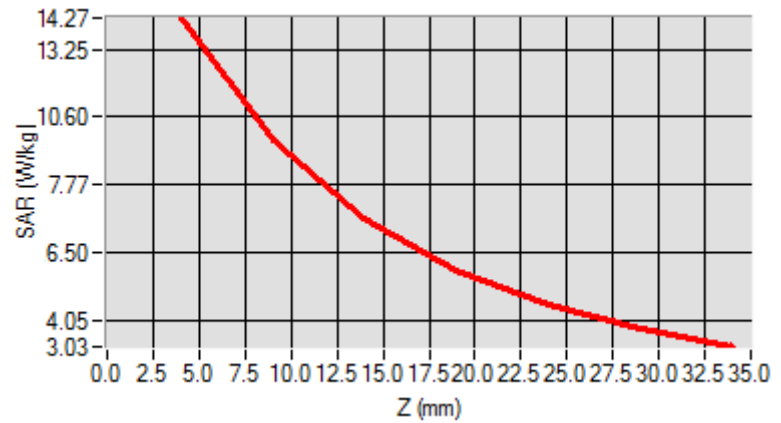


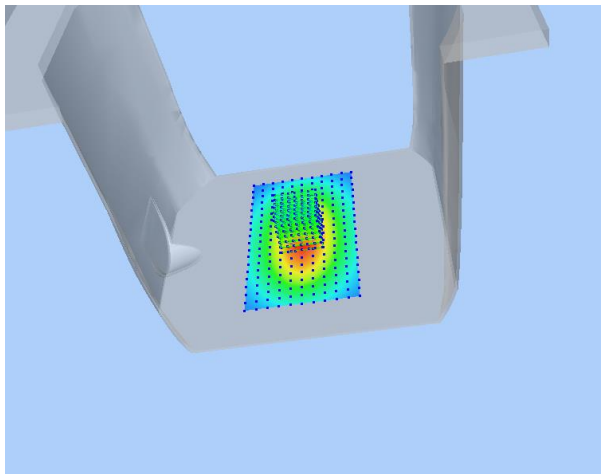
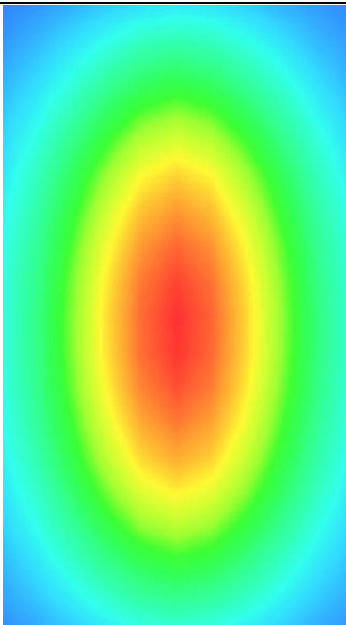
Maximum location: X=0.00, Y=0.00

SAR 10g (W/Kg)	8.020427
SAR 1g (W/Kg)	13.452457

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	14.1034	12.0012	10.2624	7.4715	5.9022	4.5114



3D screen shot	Hot spot position
	

MEASUREMENT 4

For Head Liquid

Type: Validation measurement (Fast, 75.00 %)

Measurement duration: 12 minutes 21 seconds

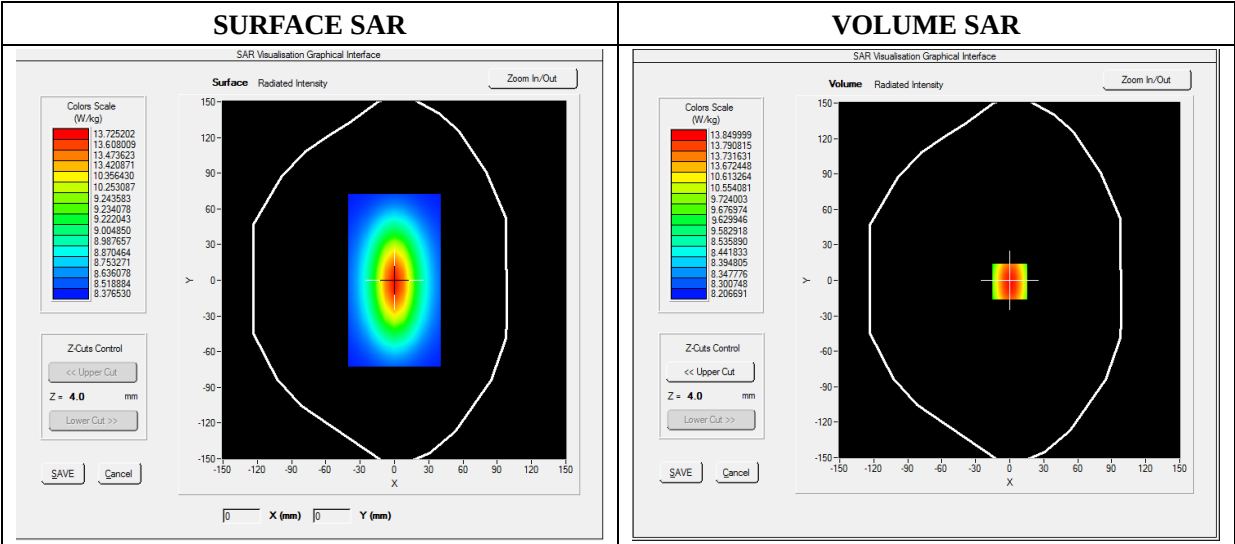
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF: Refer to the Calibration Certificate; Calibrated: 2020-07.03

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Phantom	Validation plane
Device Position	Dipole
Band	CW2600
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	2600.000000
Relative Permittivity (real part)	38.631092
Conductivity (S/m)	1.930182
Power Variation (%)	1.028221
Ambient Temperature	21.1
Liquid Temperature	21.2

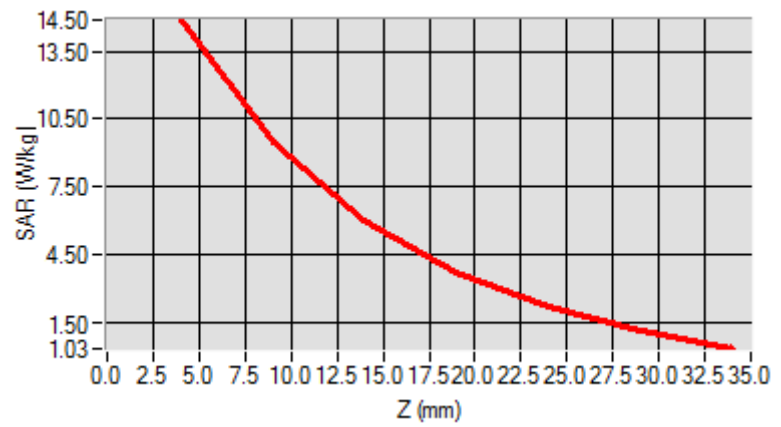


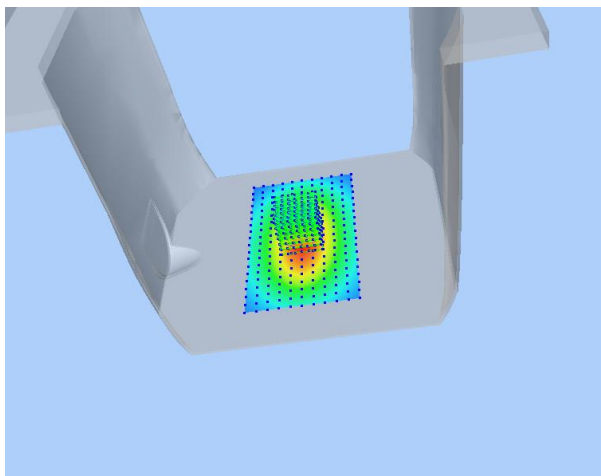
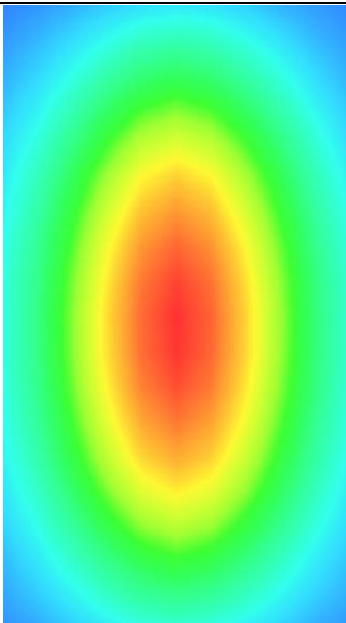
Maximum location: X=0.00, Y=0.00

SAR 10g (W/Kg)	6.270822
SAR 1g (W/Kg)	13.670282

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	14.0426	12.1354	10.2965	7.4854	5.9354	4.5186



3D screen shot	Hot spot position
	

MEASUREMENT 5

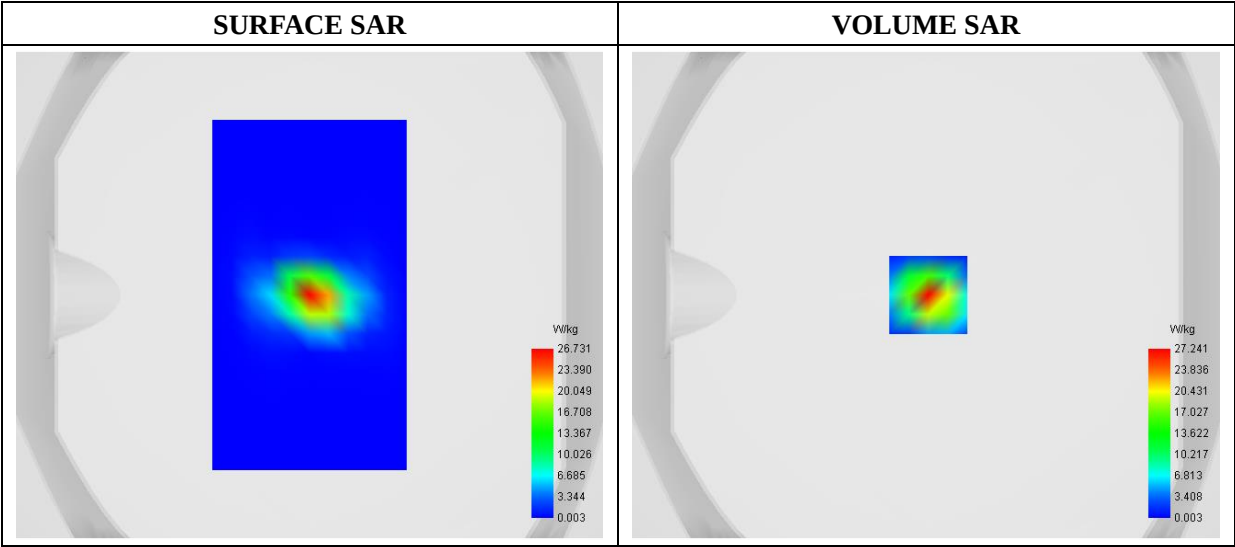
Type: Validation measurement (Fast, 75.00 %)
Measurement duration: 12 minutes 21 seconds
E-field Probe: SN 45/15 EPGO280; ConvF: 5.64; Calibrated: 2020-07-03

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=4mm dy=4mm dz=2mm
Phantom	Validation plane
Device Position	Dipole
Band	CW5200
Signal	CW (Crest factor: 1.0)

B. SAR Measurement Results

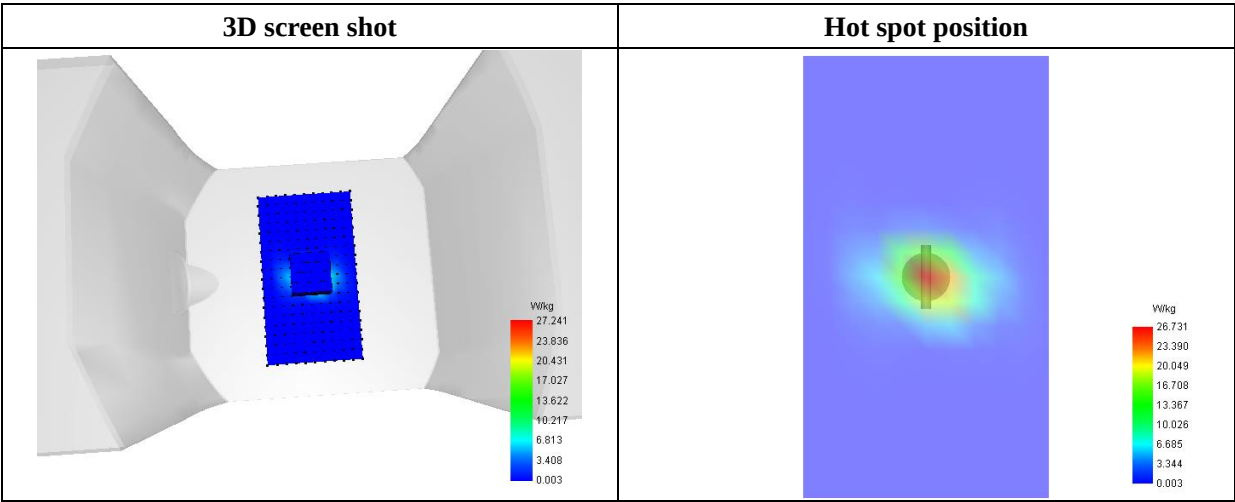
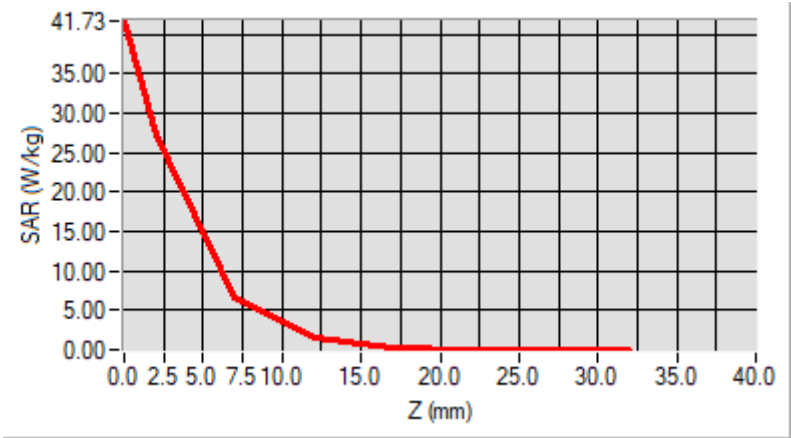
Frequency (MHz)	5200.000000
Relative Permittivity (real part)	35.612911
Conductivity (S/m)	4.871483
Power Variation (%)	0.943782
Ambient Temperature	22.0
Liquid Temperature	22.3



Maximum location: X=1.00, Y=0.00

SAR 10g (W/Kg)	5.310334
SAR 1g (W/Kg)	16.946226

Z (mm)	0.00	2.00	7.00	12.00	17.00	22.00	27.00
SAR (W/Kg)	41.7264	27.2408	6.5746	1.6234	0.3765	0.0793	0.0129



MEASUREMENT 6

For Body Liquid

Type: Validation measurement (Fast, 75.00 %)

Measurement duration: 12 minutes 21 seconds

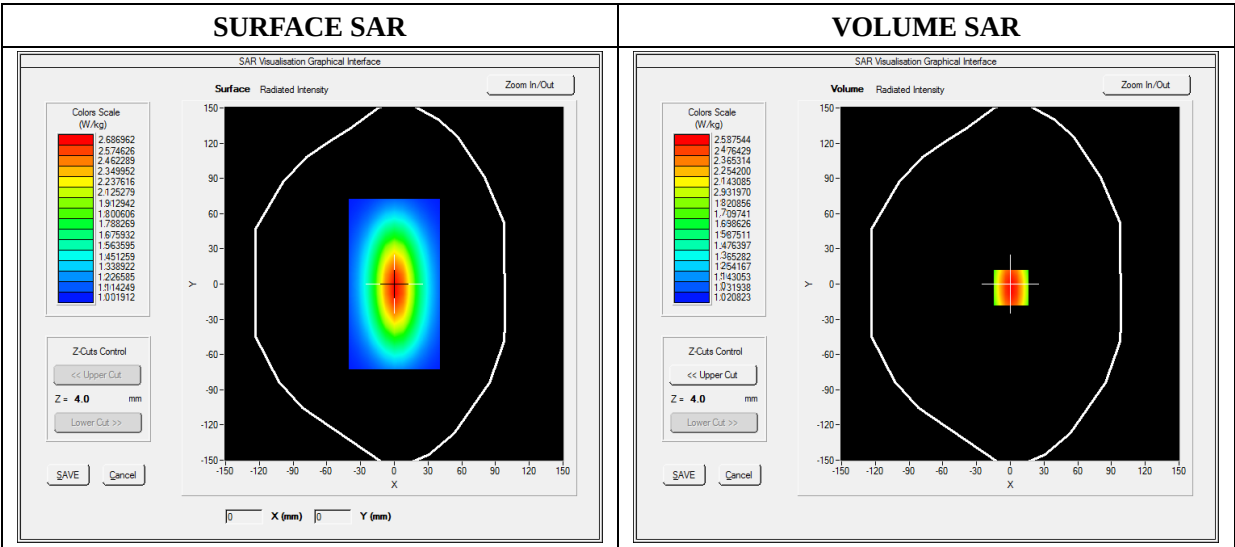
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF: Refer to the Calibration Certificate; Calibrated: 2020-07.03

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Phantom	Validation plane
Device Position	Dipole
Band	CW835
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	835.000000
Relative Permittivity (real part)	54.851214
Conductivity (S/m)	0.951454
Power Variation (%)	0.901472
Ambient Temperature	21.1
Liquid Temperature	21.3

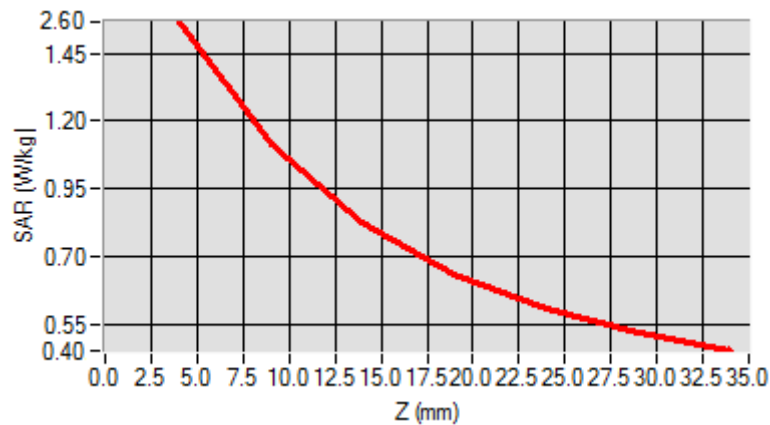


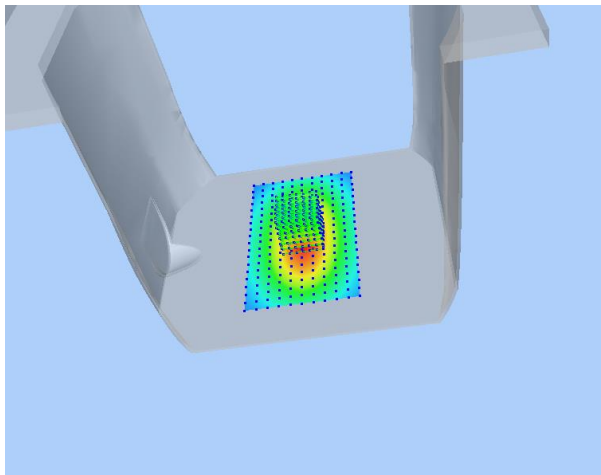
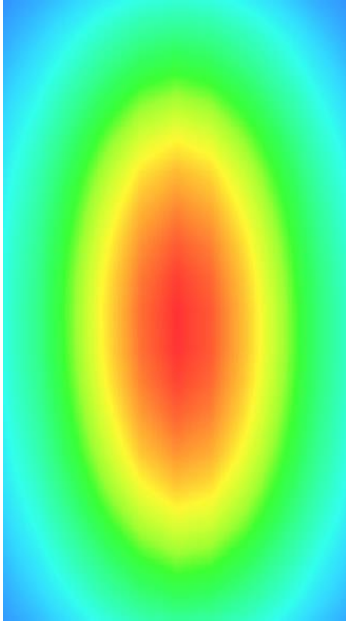
Maximum location: X=0.00, Y=0.00

SAR 10g (W/Kg)	1.028956
SAR 1g (W/Kg)	2.354211

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	2.5789	1.1300	0.8795	0.5940	0.5011	0.5100



3D screen shot	Hot spot position
	

MEASUREMENT 7

For Body Liquid

Type: Validation measurement (Fast, 75.00 %)

Measurement duration: 12 minutes 21 seconds

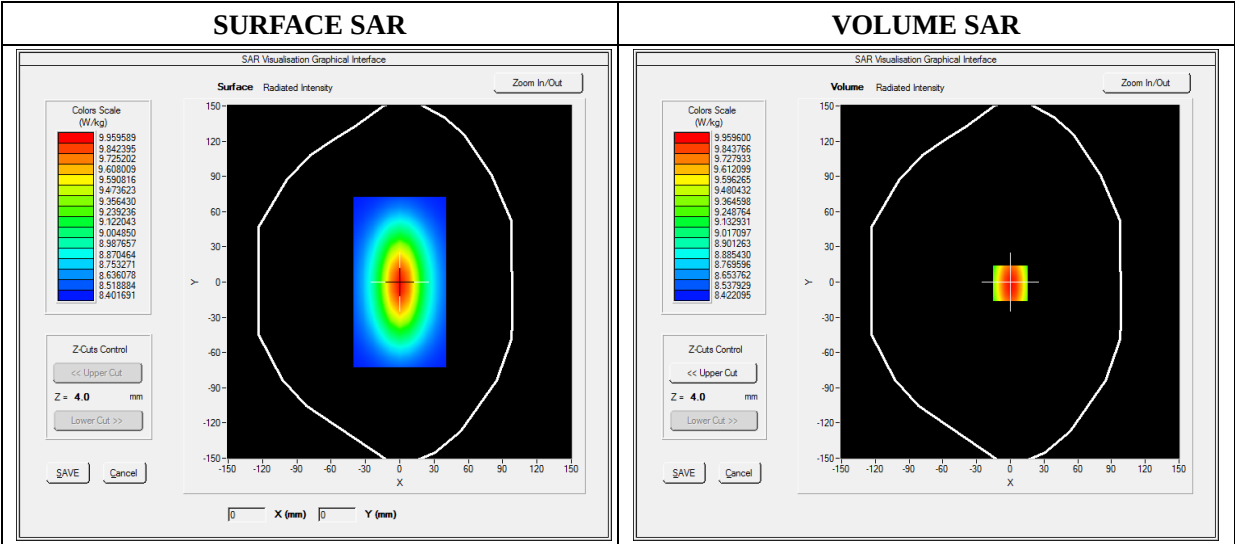
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF: Refer to the Calibration Certificate; Calibrated: 2020-07.03

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Phantom	Validation plane
Device Position	Dipole
Band	CW1800
Signal	CW (Crest factor: 1.0)

B. SAR Measurement Results

Frequency (MHz)	1800.000000
Relative Permittivity (real part)	51.224510
Conductivity (S/m)	1.461261
Power Variation (%)	0.845690
Ambient Temperature	21.1
Liquid Temperature	21.2

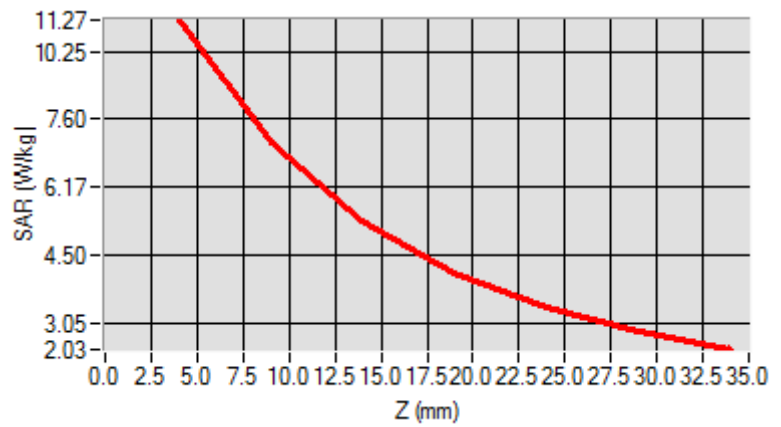


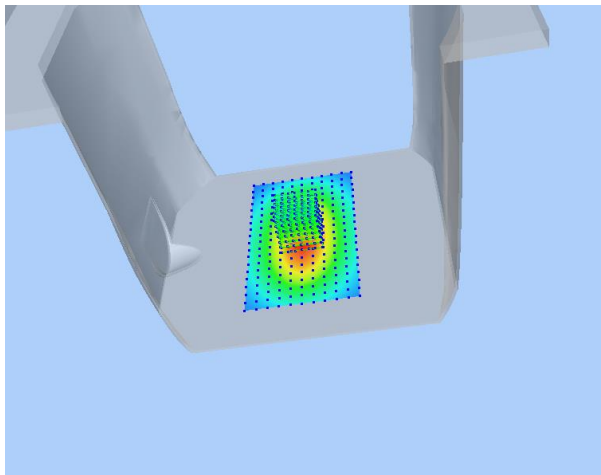
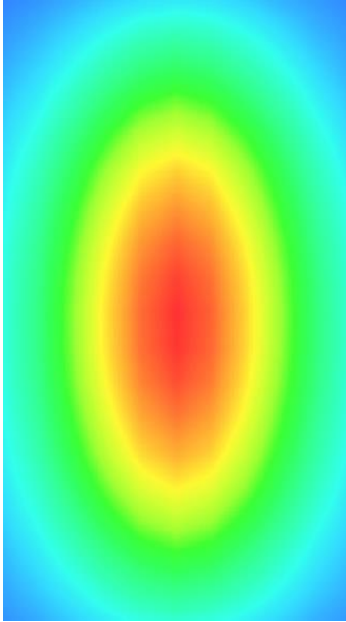
Maximum location: X=0.00, Y=0.00

SAR 10g (W/Kg)	5.221202
SAR 1g (W/Kg)	9.582560

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	11.2425	9.4123	8.0345	6.9125	6.3092	3.9460



3D screen shot	Hot spot position
	

MEASUREMENT 8

For Body Liquid

Type: Validation measurement (Fast, 75.00 %)

Measurement duration: 12 minutes 21 seconds

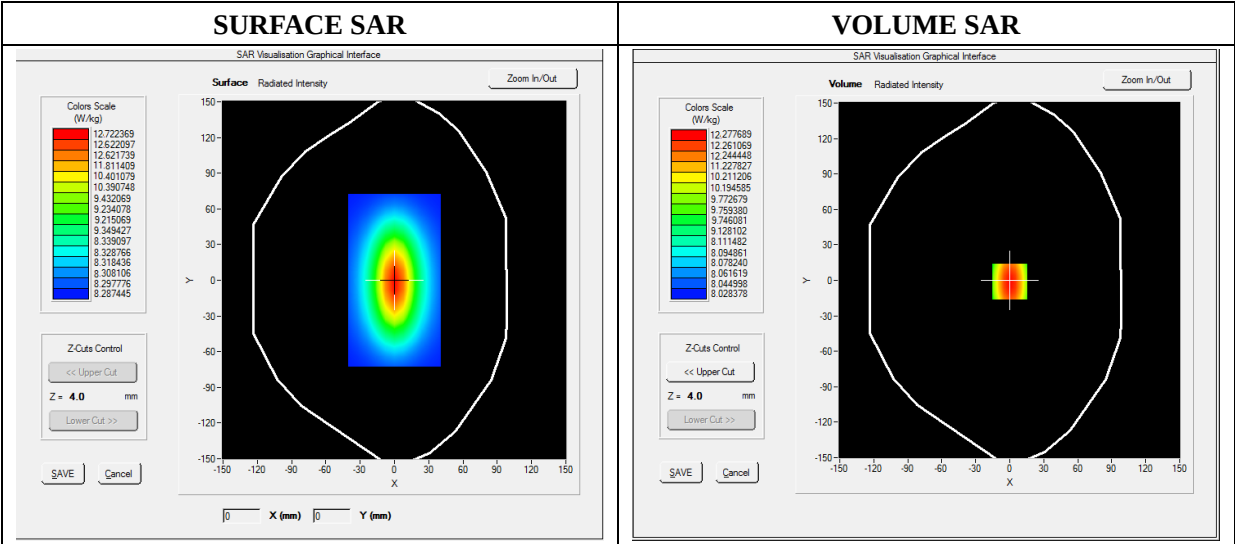
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF: Refer to the Calibration Certificate; Calibrated: 2020-07.03

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Phantom	Validation plane
Device Position	Dipole
Band	CW2450
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	2450.000000
Relative Permittivity (real part)	52.010212
Conductivity (S/m)	1.910255
Power Variation (%)	1.369745
Ambient Temperature	21.1
Liquid Temperature	21.2

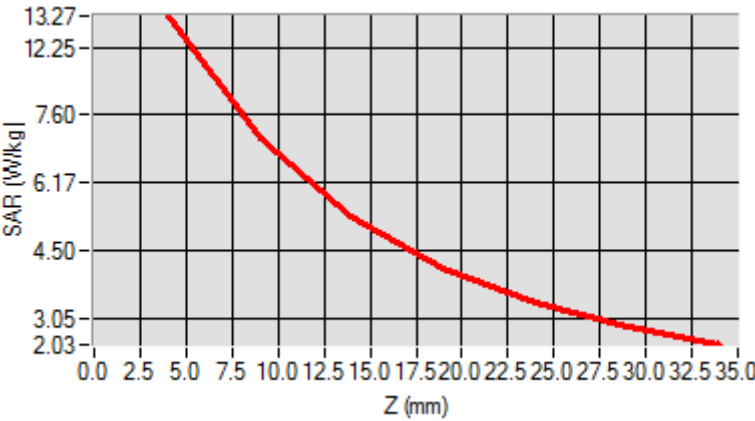


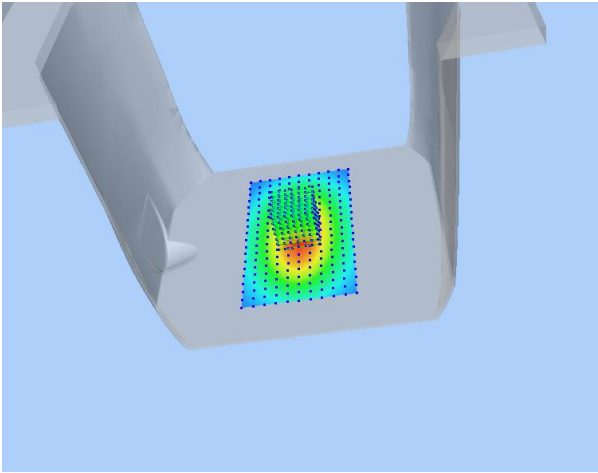
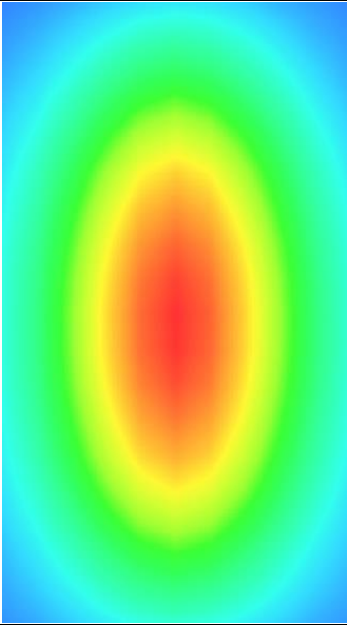
Maximum location: X=0.00, Y=0.00

SAR 10g (W/Kg)	7.119522
SAR 1g (W/Kg)	12.592360

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	13.1911	11.7951	9.2945	8.5400	6.3712	4.6225



3D screen shot	Hot spot position
	

MEASUREMENT 9

For Body Liquid

Type: Validation measurement (Fast, 75.00 %)

Measurement duration: 12 minutes 21 seconds

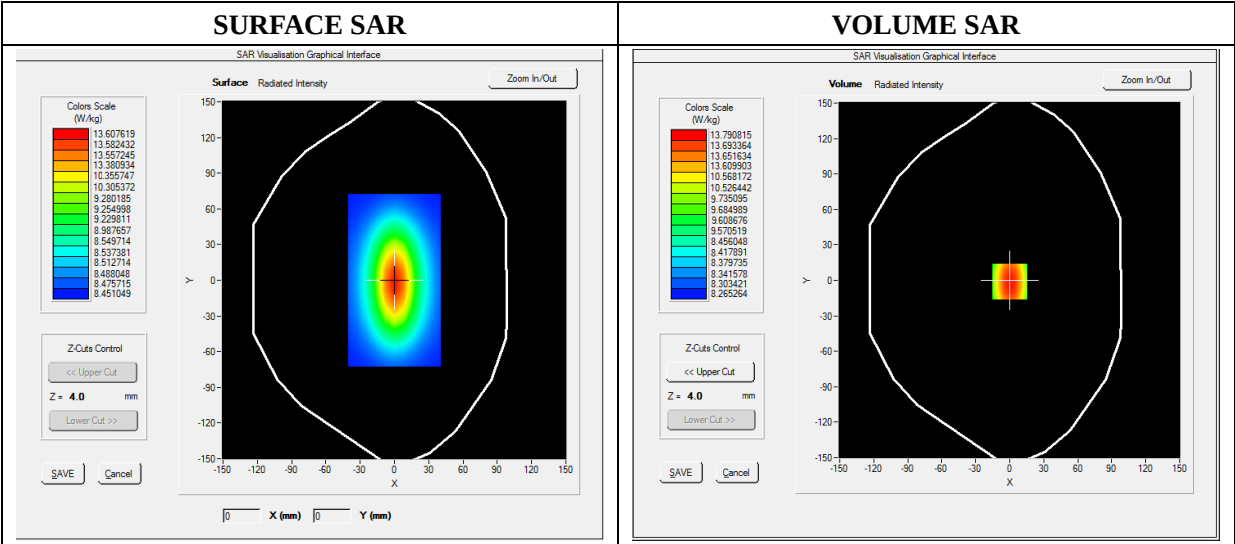
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF: Refer to the Calibration Certificate; Calibrated: 2020-07.03

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Phantom	Validation plane
Device Position	Dipole
Band	CW2600
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	2600.000000
Relative Permittivity (real part)	52.241202
Conductivity (S/m)	2.120943
Power Variation (%)	1.038832
Ambient Temperature	21.1
Liquid Temperature	21.2

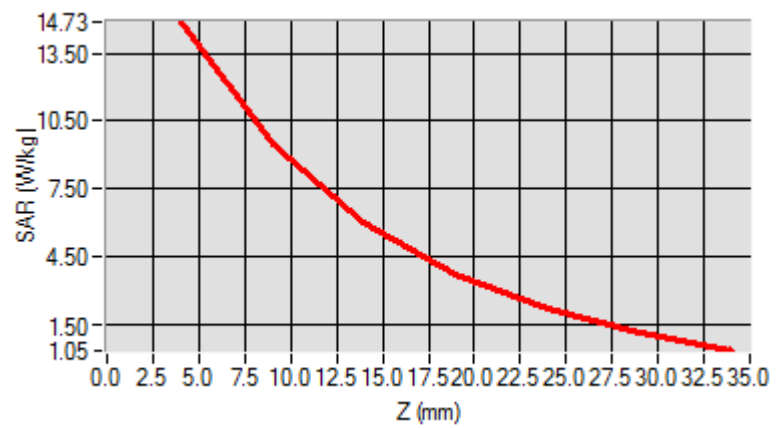


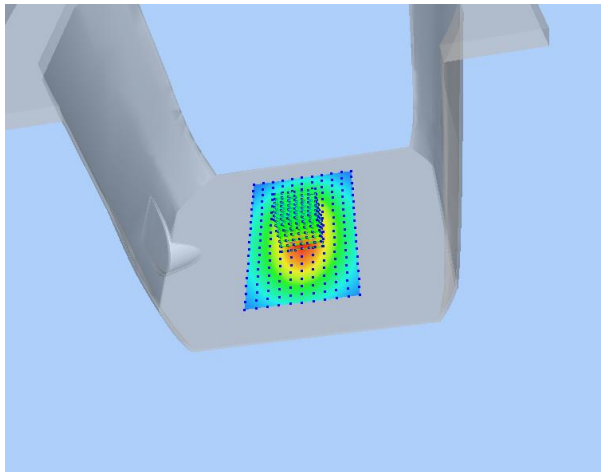
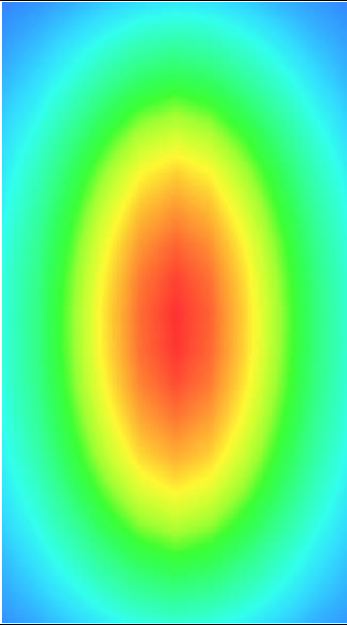
Maximum location: X=0.00, Y=0.00

SAR 10g (W/Kg)	6.083781
SAR 1g (W/Kg)	13.430481

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	13.6473	11.8441	9.3627	8.5782	6.4357	4.6342



3D screen shot	Hot spot position
	

MEASUREMENT 10

Type: Validation measurement (Fast, 75.00 %)

Measurement duration: 12 minutes 21 seconds

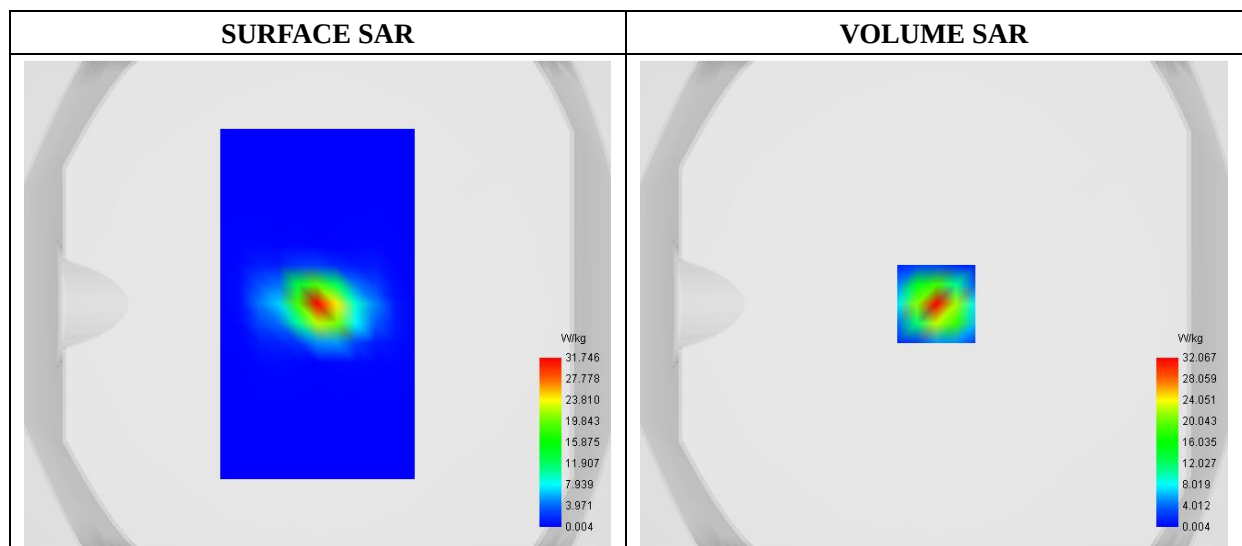
E-field Probe: SN 45/15 EPGO280; ConvF: Refer to the Calibration Certificate; Calibrated: 2020-07-03

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Phantom	Validation plane
Device Position	Dipole
Band	CW5200
Signal	Duty Cycle 1:1

B. SAR Measurement Results

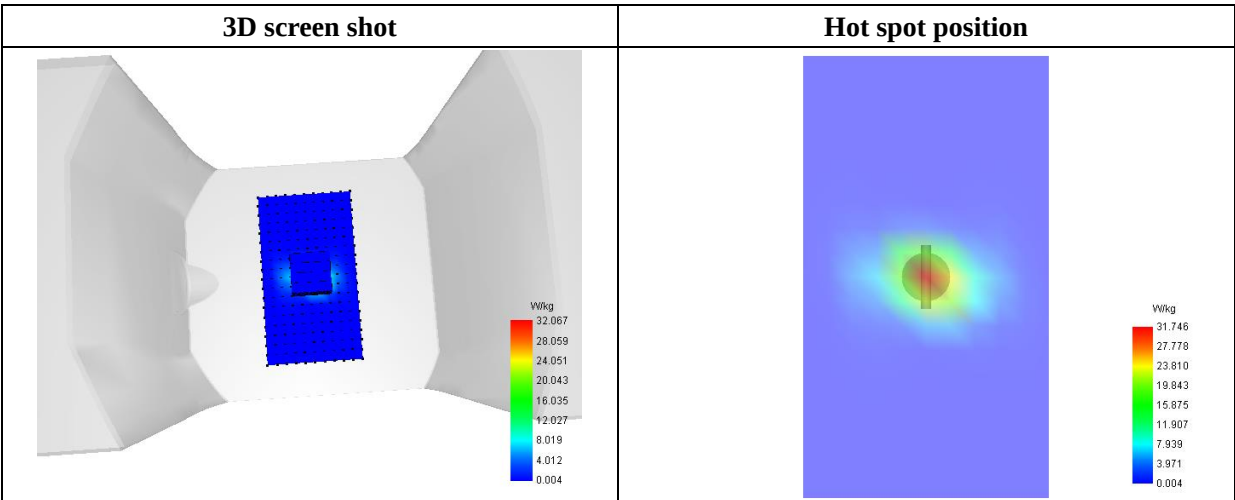
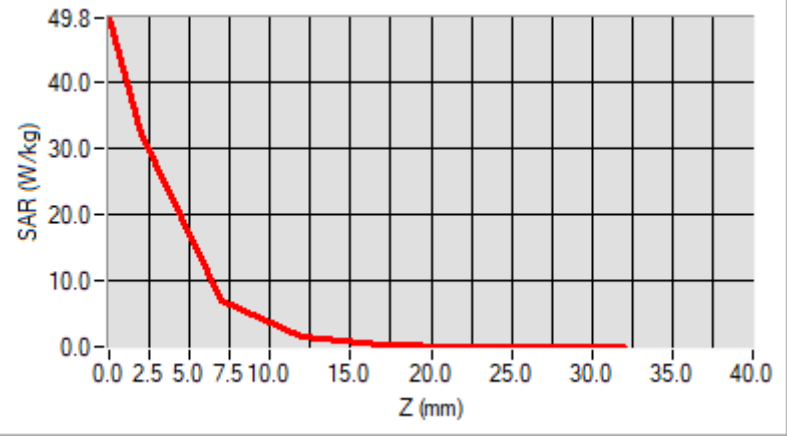
Frequency (MHz)	5200.000000
Relative Permittivity (real part)	48.501241
Conductivity (S/m)	5.160213
Power Variation (%)	0.749201
Ambient Temperature	21.1
Liquid Temperature	21.2



Maximum location: X=1.00, Y=0.00

SAR 10g (W/Kg)	6.047588
SAR 1g (W/Kg)	16.681175

Z (mm)	0.00	2.00	7.00	12.00	17.00	22.00	27.00
SAR (W/Kg)	49.8193	32.0669	7.0244	1.5969	0.3410	0.0635	0.0070



Annex B. Plots of SAR Measurement

<u>TYPE</u>	<u>BAND</u>	<u>PARAMETERS</u>
Tablet	GSM850	Measurement 3: Left with Cheek device position on Low Channel in GSM mode
Tablet	GSM1900	Measurement 5: Right Head with Cheek device position on High Channel in GSM mode
Tablet	WCDMA1900_RMC	Measurement 11: Left Head with Cheek device position on High Channel in WCDMA mode
Tablet	WCDMA850_RMC	Measurement 15: Left Head with Cheek device position on Middle Channel in WCDMA mode
Tablet	LTE Band 2_ QPSK	Measurement 19: Left Head with Cheek device position on Middle Channel in LTE mode
Tablet	LTE Band 4_ QPSK	Measurement 25: Right Head with Cheek device position on Low Channel in LTE mode
Tablet	LTE Band 7_ QPSK	Measurement 33: Right Head with Cheek device position on Middle Channel in LTE mode
Tablet	2.4GHzWIFI_802.11b	Measurement 41: Right Head with Cheek device position on Low Channel in 802.11b mode
Tablet	5.2GHzWIFI_802.11ac	Measurement 47: Left Head with Cheek device position on Low Channel in 802.11ac mode
Tablet	GSM850	Measurement 54: Flat Plane with Bottom device position on Low Channel in GPRS mode
Tablet	GSM1900	Measurement 55: Flat Plane with Back device position on High Channel in GSM mode
Tablet	WCDMA1900_RMC	Measurement 61: Flat Plane with Back device position on High Channel in WCDMA mode
Tablet	WCDMA850_RMC	Measurement 68: Flat Plane with Bottom device position on Middle Channel in WCDMA mode
Tablet	LTE Band 2_ QPSK	Measurement 69: Flat Plane with Back side device position on Middle Channel in LTE mode
Tablet	LTE Band 4_ QPSK	Measurement 77: Flat Plane with Back side device position on Low Channel in LTE mode
Tablet	LTE Band 7_ QPSK	Measurement 85: Flat Plane with Back device position on Middle Channel in LTE mode
Tablet	2.4GHzWIFI_802.11b	Measurement 93: Flat Plane with Back device position on Low Channel in 802.11b mode
Tablet	5.2GHzWIFI_802.11ac	Measurement 96: Flat Plane with Back device position on Low Channel in 802.11ac mode
Remark: SAR plot is showed the highest measured SAR in each exposure configuration, wireless mode and frequency band combination.		

MEASUREMENT 3

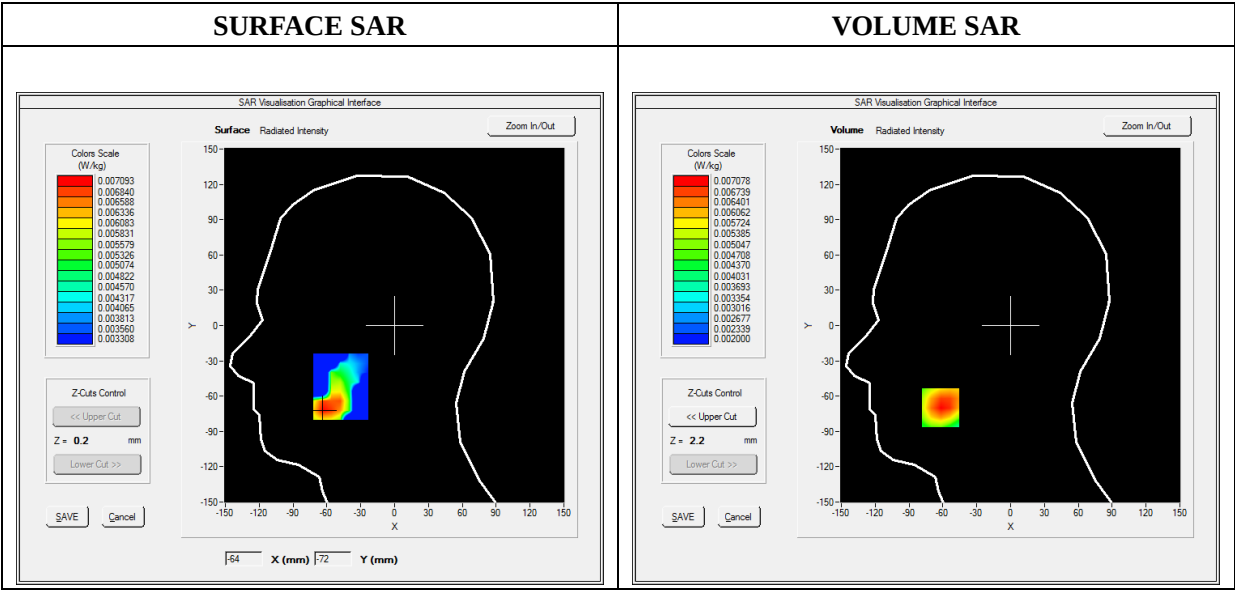
Type: Phone measurement (Complete)
Date of measurement: 2020-11-02
Measurement duration: 12 minutes 3 seconds
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF: Reference Calibration Certificate; Calibrated: 2020-07-03

A. Experimental conditions

Area Scan	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Cheek
Band	GSM850
Channels	Low
Signal	TDMA (Crest factor: 8.0)

B. SAR Measurement Results

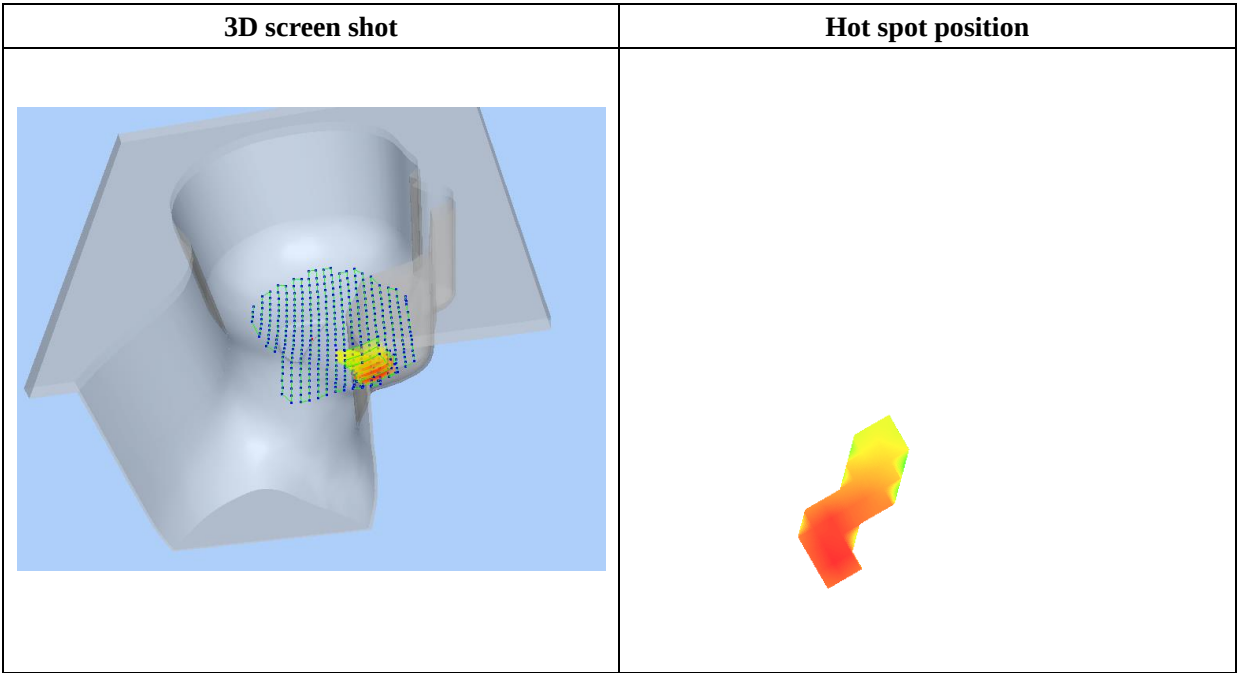
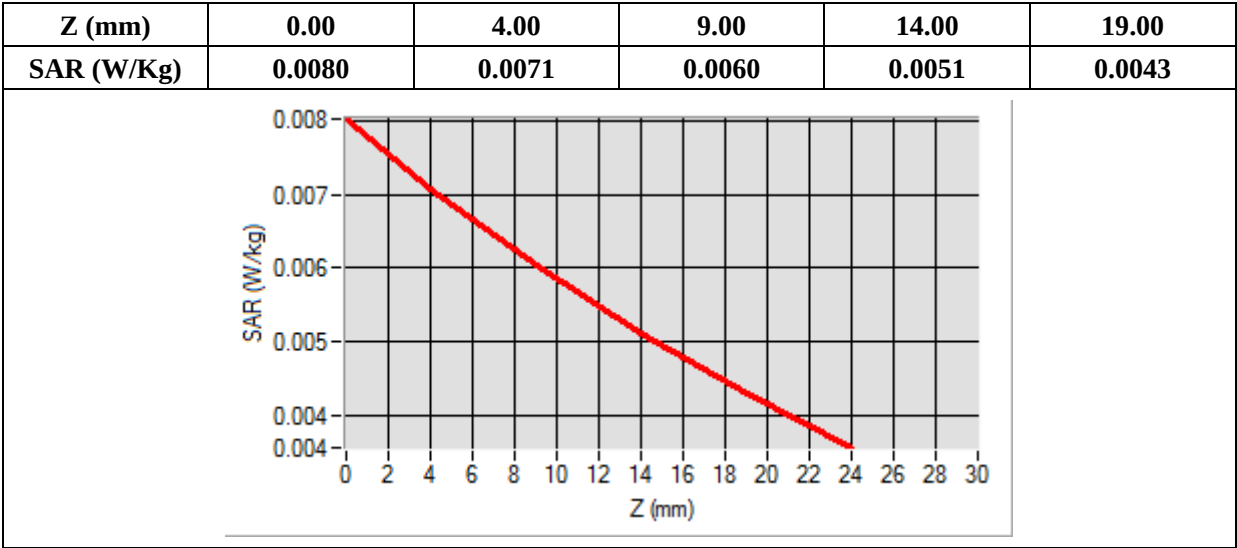
Frequency (MHz)	824.200012
Relative Permittivity (real part)	41.220245
Conductivity (S/m)	0.867245
Power Variation (%)	1.020000
Ambient Temperature	21.1
Liquid Temperature	21.3



Maximum location: X=-62.00, Y=-70.00

SAR Peak: 0.01 W/kg

SAR 10g (W/Kg)	0.005534
SAR 1g (W/Kg)	0.006933



MEASUREMENT 5

Type: Phone measurement (Complete)

Date of measurement: 2020-11.04

Measurement duration: 12 minutes 3 seconds

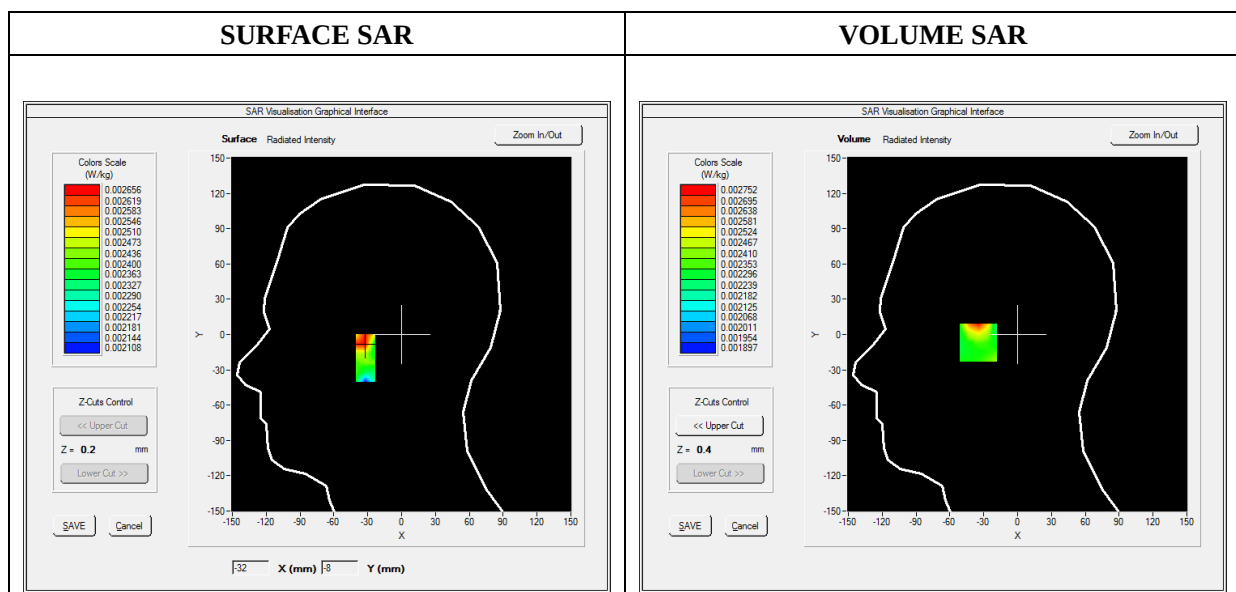
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF: Reference Calibration Certificate; Calibrated: 2020-07-03

A. Experimental conditions

Area Scan	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Cheek
Band	GSM1900
Channels	High
Signal	TDMA (Crest factor: 8.0)

B. SAR Measurement Results

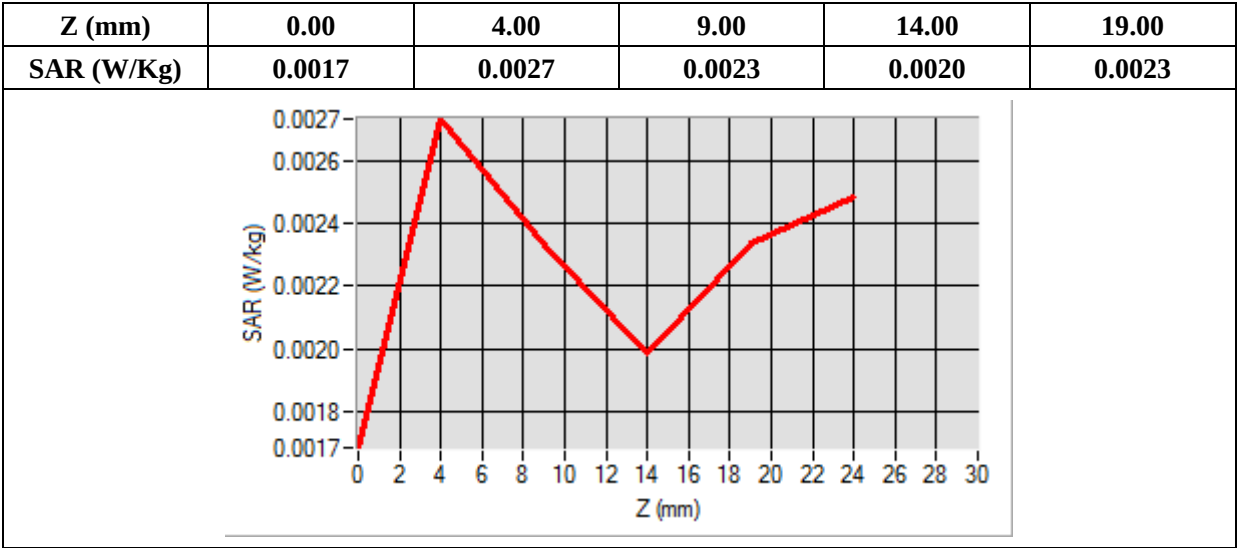
Frequency (MHz)	1909.800049
Relative Permittivity (real part)	38.560124
Conductivity (S/m)	1.390369
Power Variation (%)	-0.650000
Ambient Temperature	21.1
Liquid Temperature	21.3

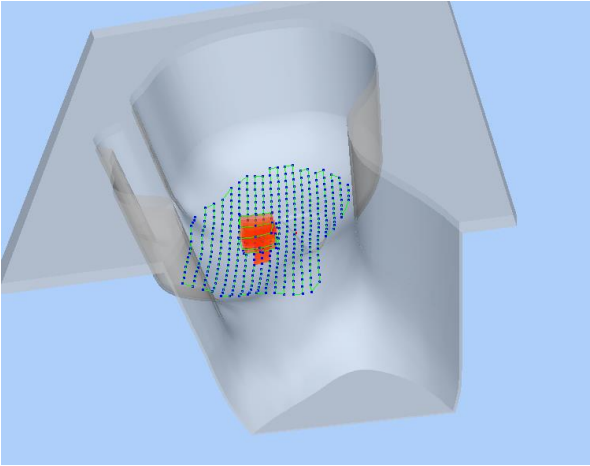


Maximum location: X=-34.00, Y=-6.00

SAR Peak: 0.00 W/kg

SAR 10g (W/Kg)	0.002489
SAR 1g (W/Kg)	0.002712



3D screen shot	Hot spot position
	

MEASUREMENT 11

Type: Phone measurement (Complete)

Date of measurement: 2020-11-04

Measurement duration: 12 minutes 3 seconds

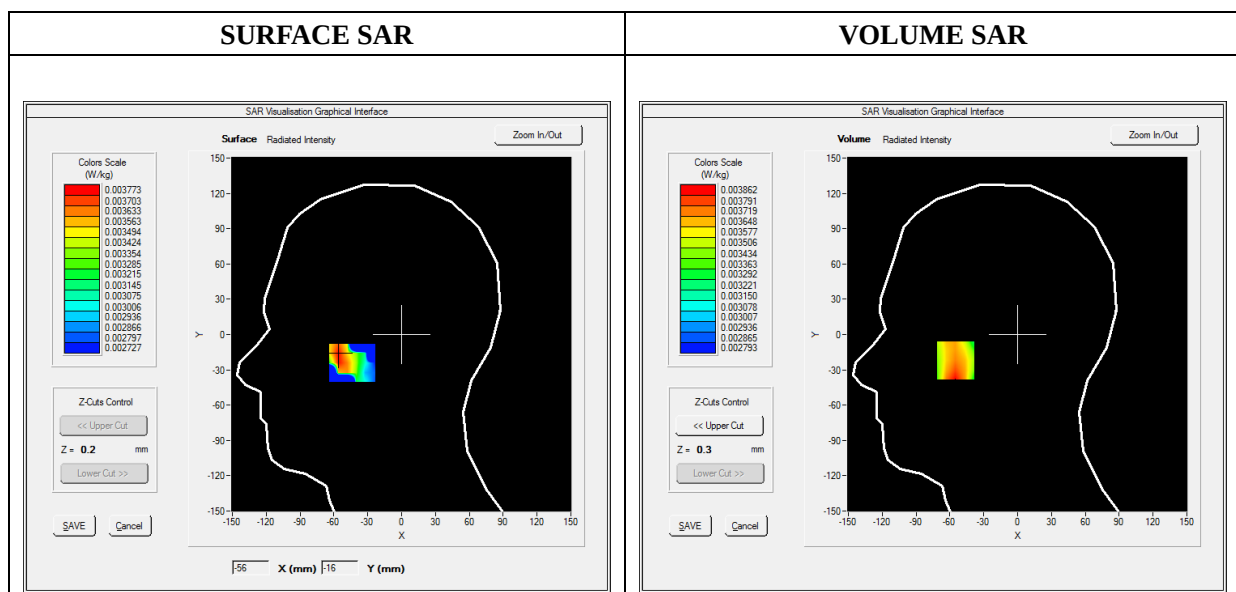
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF: Reference Calibration Certificate; Calibrated: 2020-07-03

A. Experimental conditions

Area Scan	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Cheek
Band	WCDMA1900_RMC
Channels	High
Signal	Duty Cycle 1:1

B. SAR Measurement Results

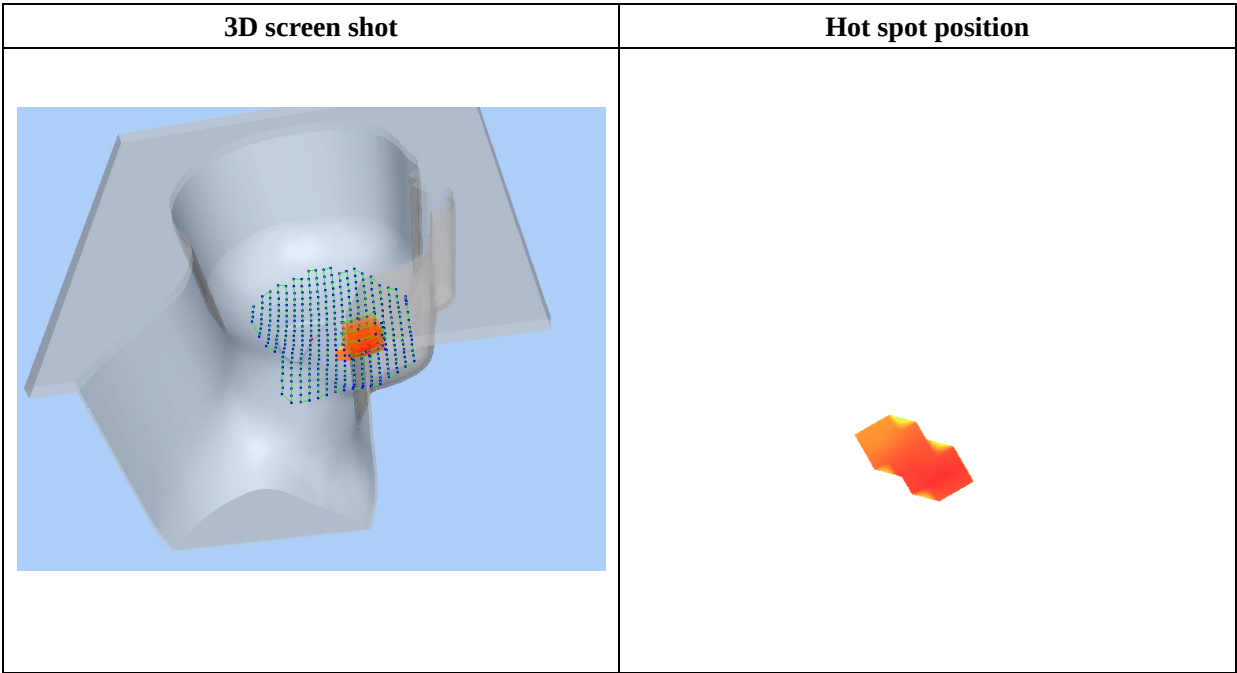
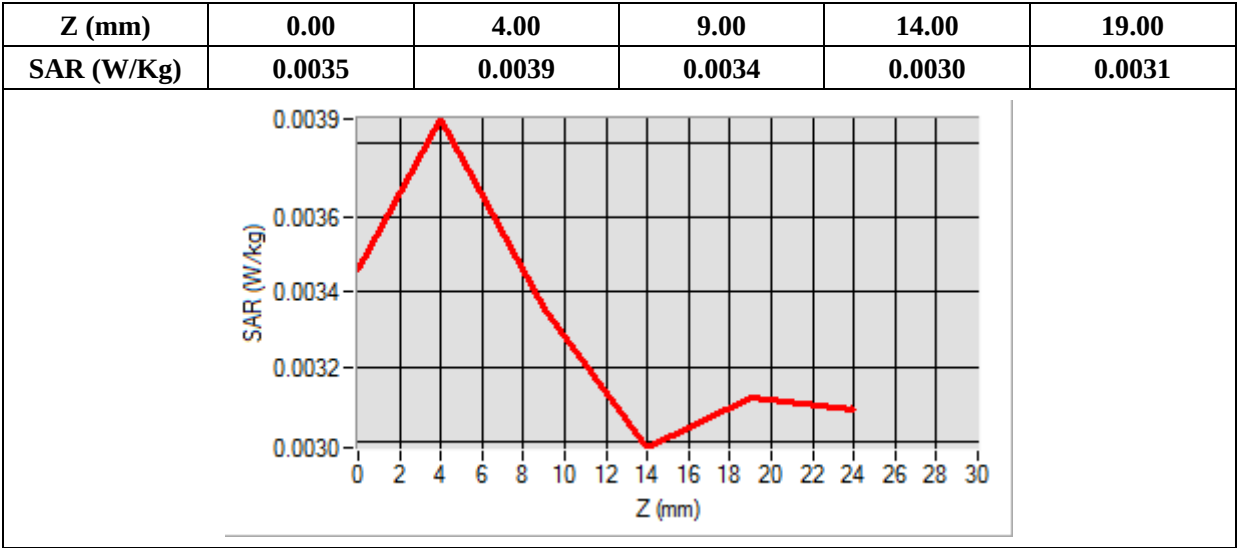
Frequency (MHz)	1907.600000
Relative Permittivity (real part)	38.560124
Conductivity (S/m)	1.390369
Power Variation (%)	0.924540
Ambient Temperature	21.1
Liquid Temperature	21.3



Maximum location: X=-55.00, Y=-22.00

SAR Peak: 0.00 W/kg

SAR 10g (W/Kg)	0.003431
SAR 1g (W/Kg)	0.003787



MEASUREMENT 15

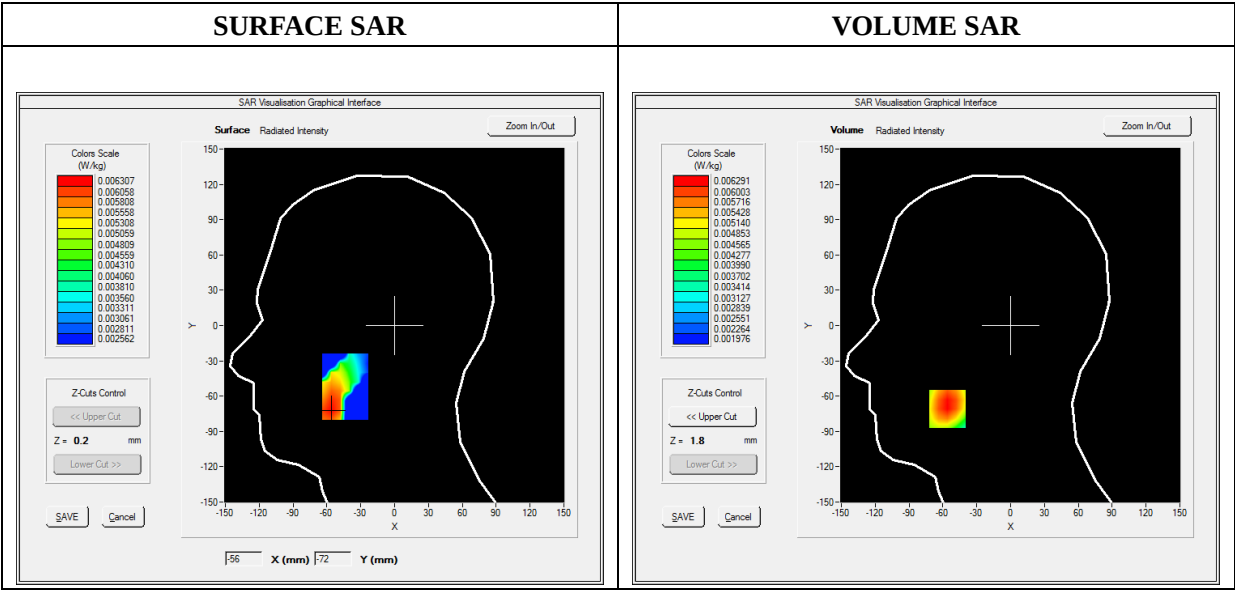
Type: Phone measurement (Complete)
Date of measurement: 2020-11-02
Measurement duration: 12 minutes 3 seconds
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF: Refer to the Calibration Certificate; Calibrated: 2020-07-03

A. Experimental conditions

Area Scan	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Cheek
Band	WCDMA850_RMC
Channels	Middle
Signal	Duty Cycle 1:1

B. SAR Measurement Results

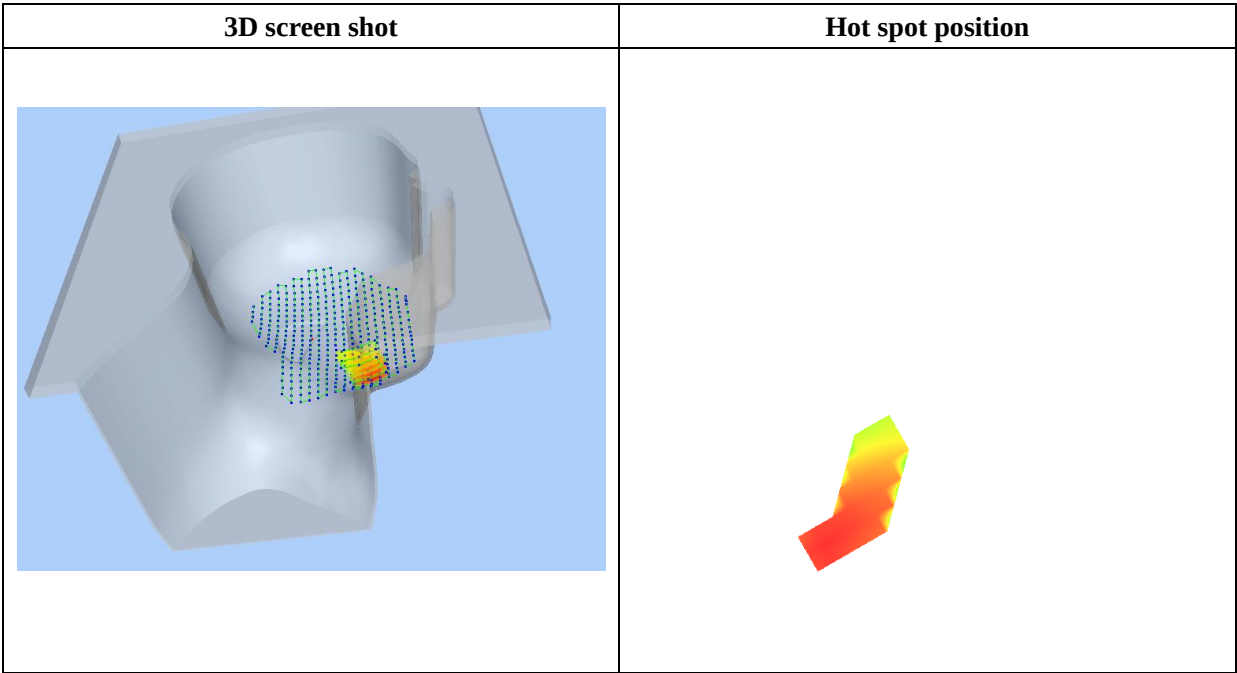
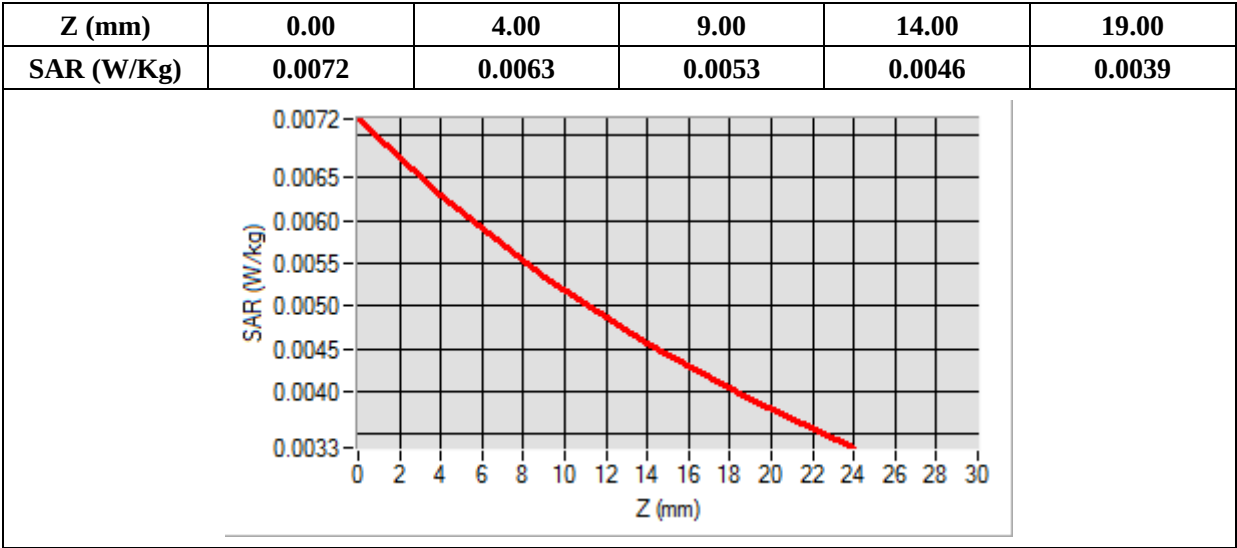
Frequency (MHz)	836.400000
Relative Permittivity (real part)	41.110245
Conductivity (S/m)	0.871245
Power Variation (%)	1.072427
Ambient Temperature	21.1
Liquid Temperature	21.3



Maximum location: X=-56.00, Y=-71.00

SAR Peak: 0.01 W/kg

SAR 10g (W/Kg)	0.004998
SAR 1g (W/Kg)	0.006157



MEASUREMENT 19

Type: Phone measurement (Complete)

Date of measurement: 2020-11-04

Measurement duration: 12 minutes 3 seconds

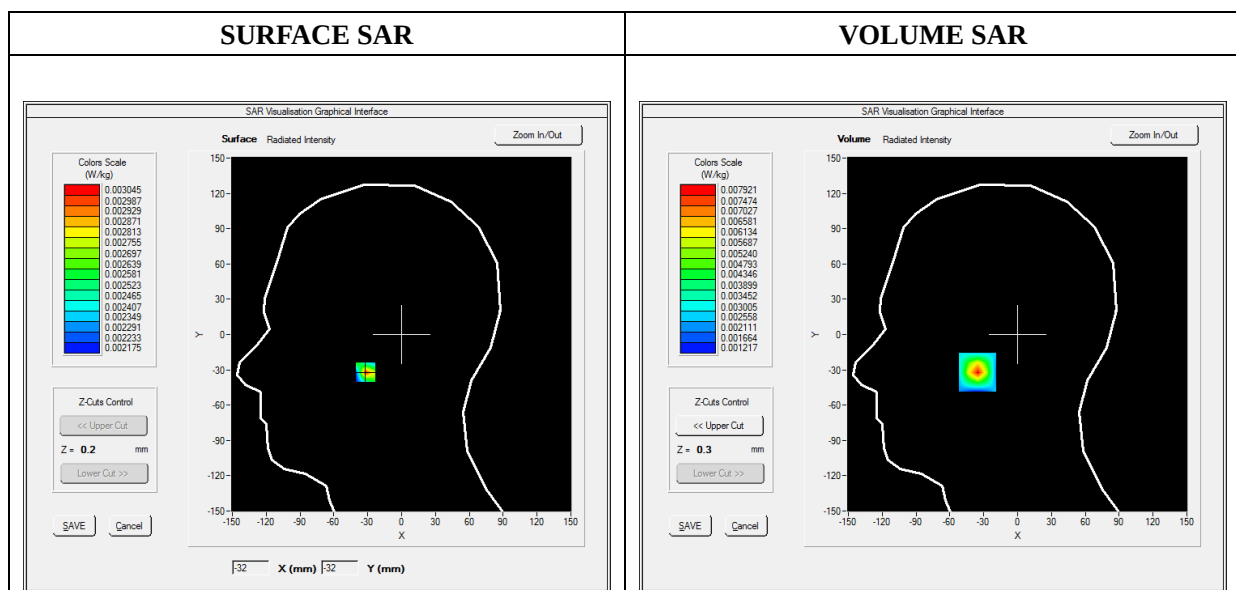
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF: Refer to the Calibration Certificate; Calibrated: 2020-07-03

A. Experimental conditions

Area Scan	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Cheek
Band	LTE Band 2
Channels	QPSK, 20MHz, 1RB,Middle
Signal	Duty Cycle: 1:4

B. SAR Measurement Results

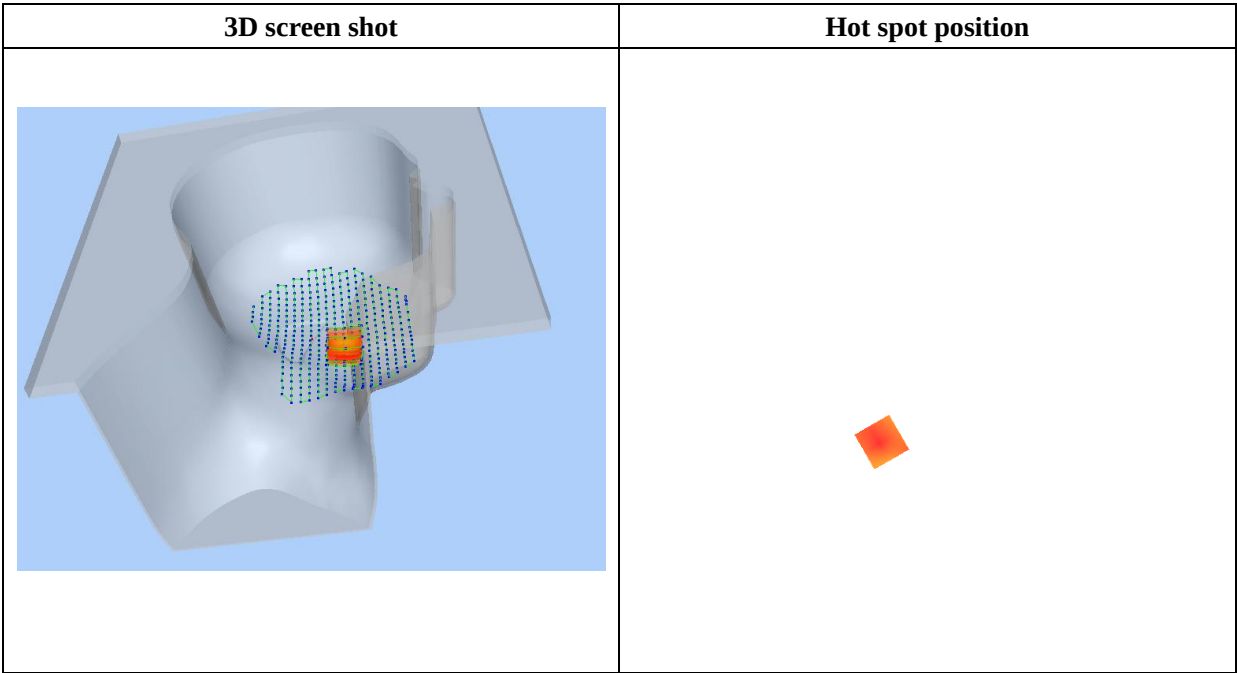
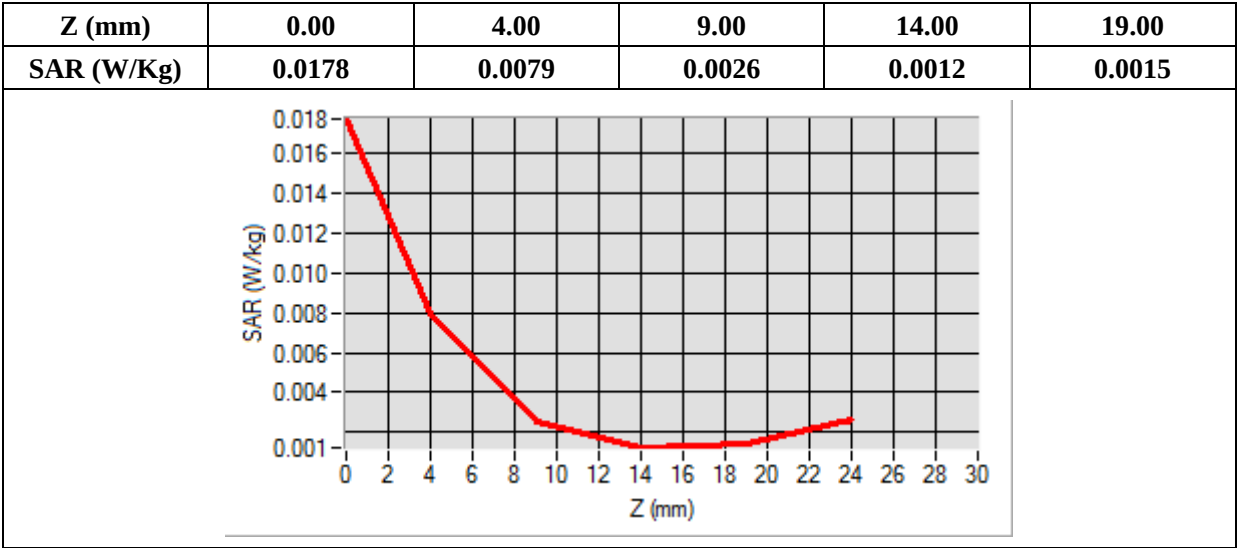
Frequency (MHz)	1880.000000
Relative Permittivity (real part)	38.720124
Conductivity (S/m)	1.380369
Power Variation (%)	1.036272
Ambient Temperature	21.1
Liquid Temperature	21.3



Maximum location: X=-31.00, Y=-32.00

SAR Peak: 0.02 W/kg

SAR 10g (W/Kg)	0.003786
SAR 1g (W/Kg)	0.007511



MEASUREMENT 25

Type: Phone measurement (Complete)

Date of measurement: 2020-11-04

Measurement duration: 12 minutes 3 seconds

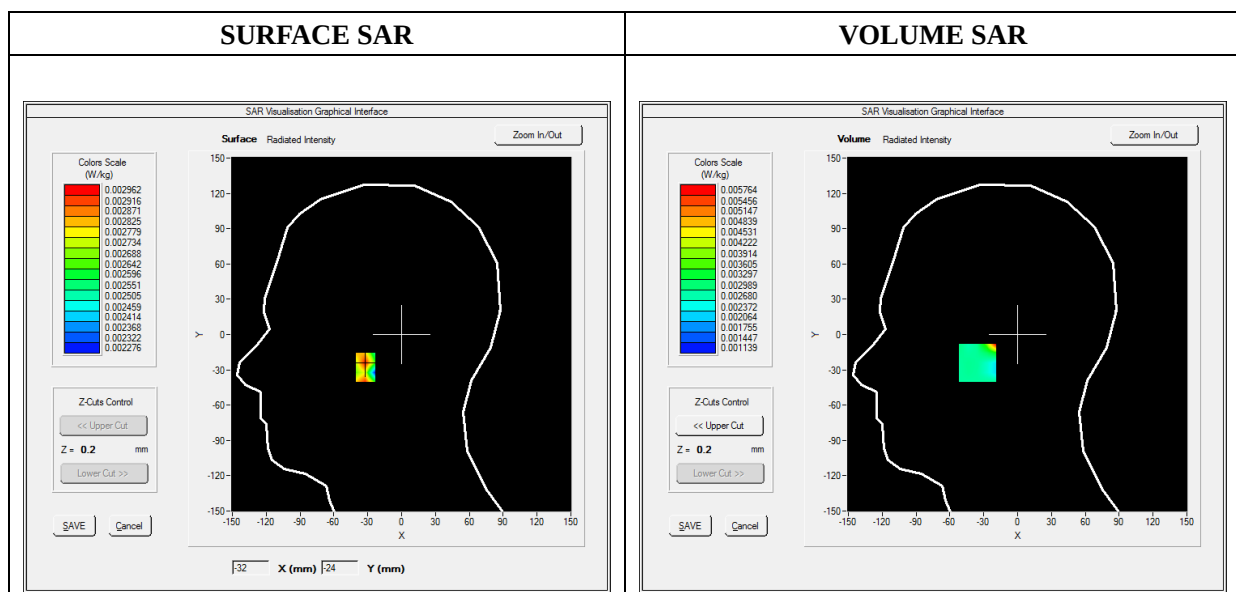
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF: Refer to the Calibration Certificate; Calibrated: 2020-07-03

A. Experimental conditions

Area Scan	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Cheek
Band	LTE Band 4
Channels	QPSK, 20MHz, 1RB,Low
Signal	Duty Cycle 1:1

B. SAR Measurement Results

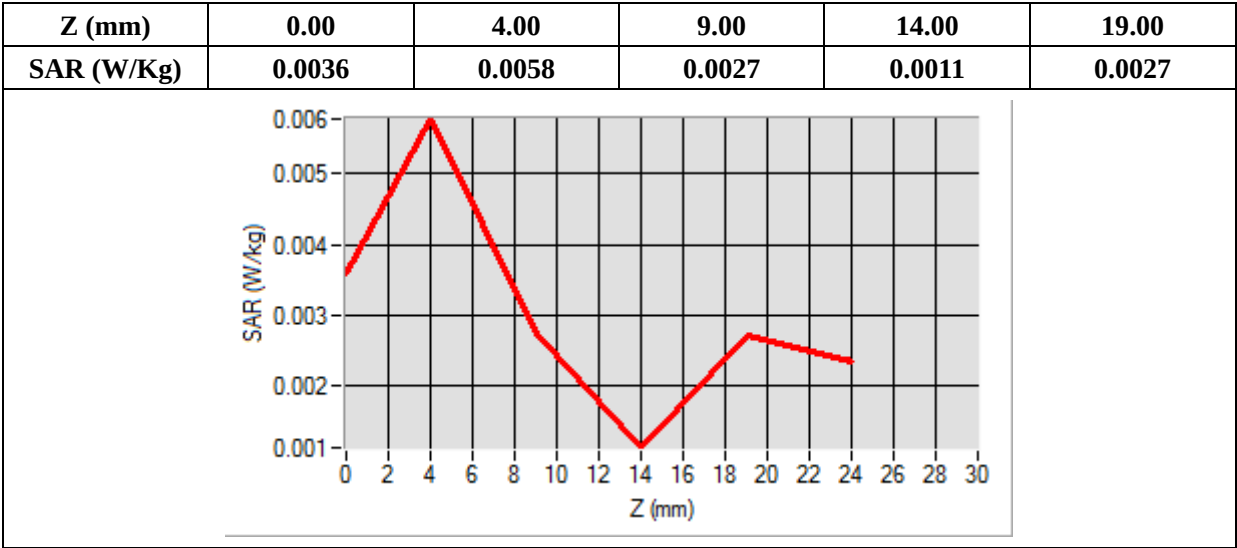
Frequency (MHz)	1720.000000
Relative Permittivity (real part)	39.824890
Conductivity (S/m)	1.351250
Power Variation (%)	0.924628
Ambient Temperature	21.1
Liquid Temperature	21.2

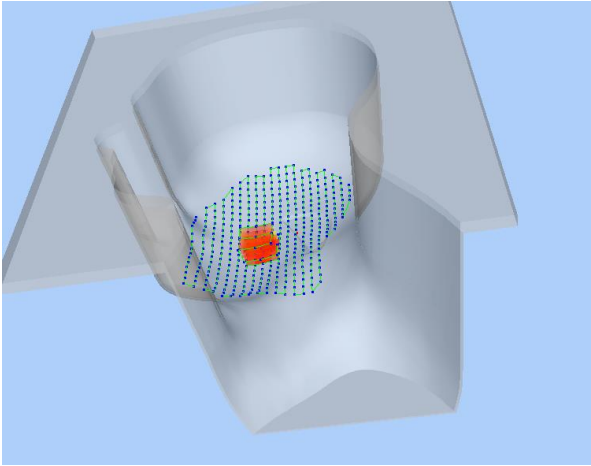


Maximum location: X=-32.00, Y=-24.00

SAR Peak: 0.01 W/kg

SAR 10g (W/Kg)	0.002920
SAR 1g (W/Kg)	0.004406



3D screen shot	Hot spot position
	

MEASUREMENT 33

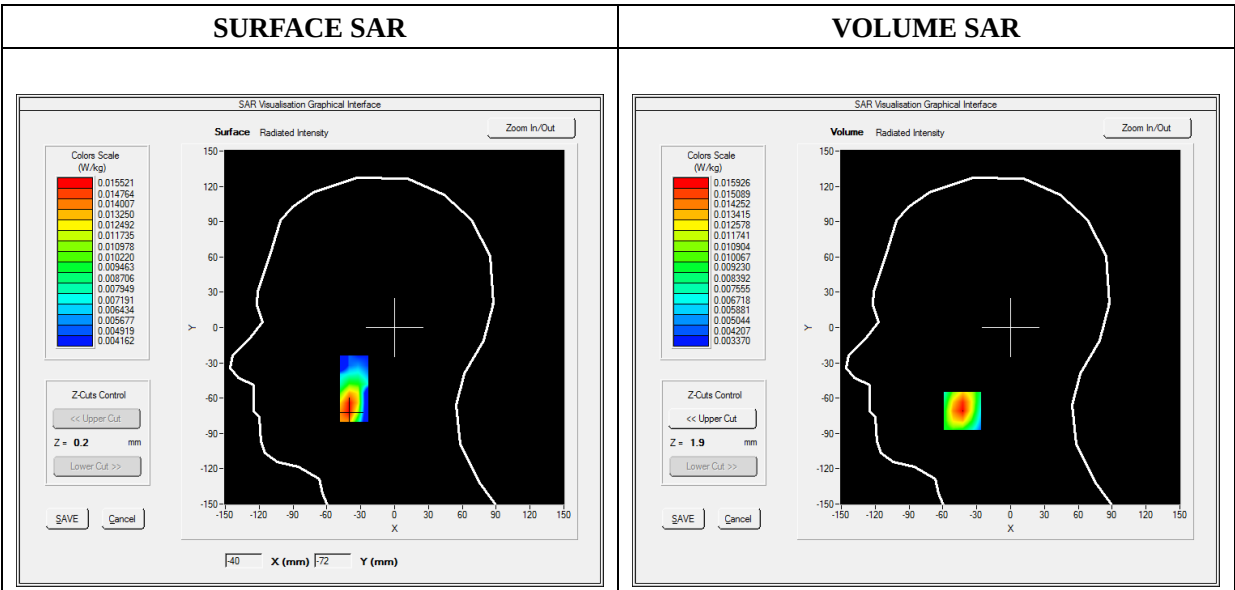
Type: Phone measurement (Complete)
Date of measurement: 2020-10-30
Measurement duration: 12 minutes 3 seconds
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF: Refer to the Calibration Certificate; Calibrated: 2020-07-03

A. Experimental conditions

Area Scan	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Cheek
Band	LTE Band 7
Channels	QPSK, 20MHz, 1RB, Middle
Signal	Duty Cycle 1:1

B. SAR Measurement Results

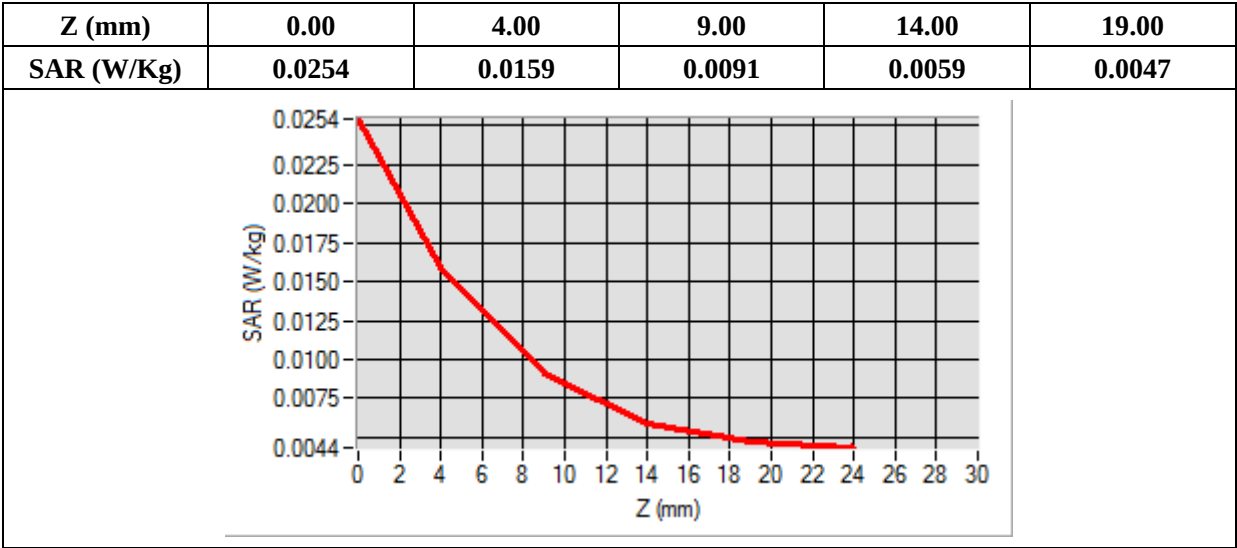
Frequency (MHz)	2535.000000
Relative Permittivity (real part)	38.931092
Conductivity (S/m)	1.910182
Power Variation (%)	-0.964535
Ambient Temperature	21.1
Liquid Temperature	21.2

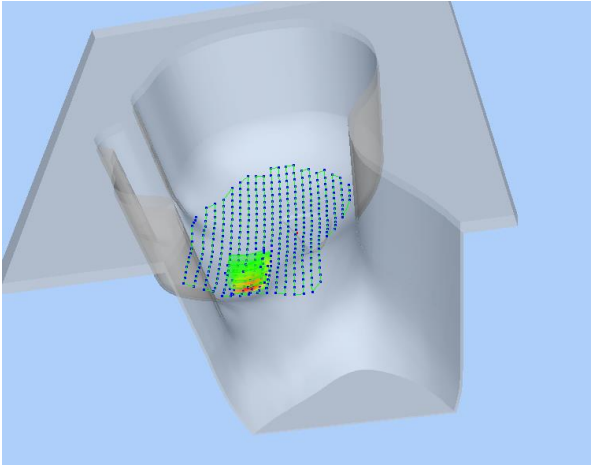
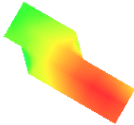


Maximum location: X=-41.00, Y=-71.00

SAR Peak: 0.03 W/kg

SAR 10g (W/Kg)	0.008984
SAR 1g (W/Kg)	0.015189



3D screen shot	Hot spot position
	

MEASUREMENT 41

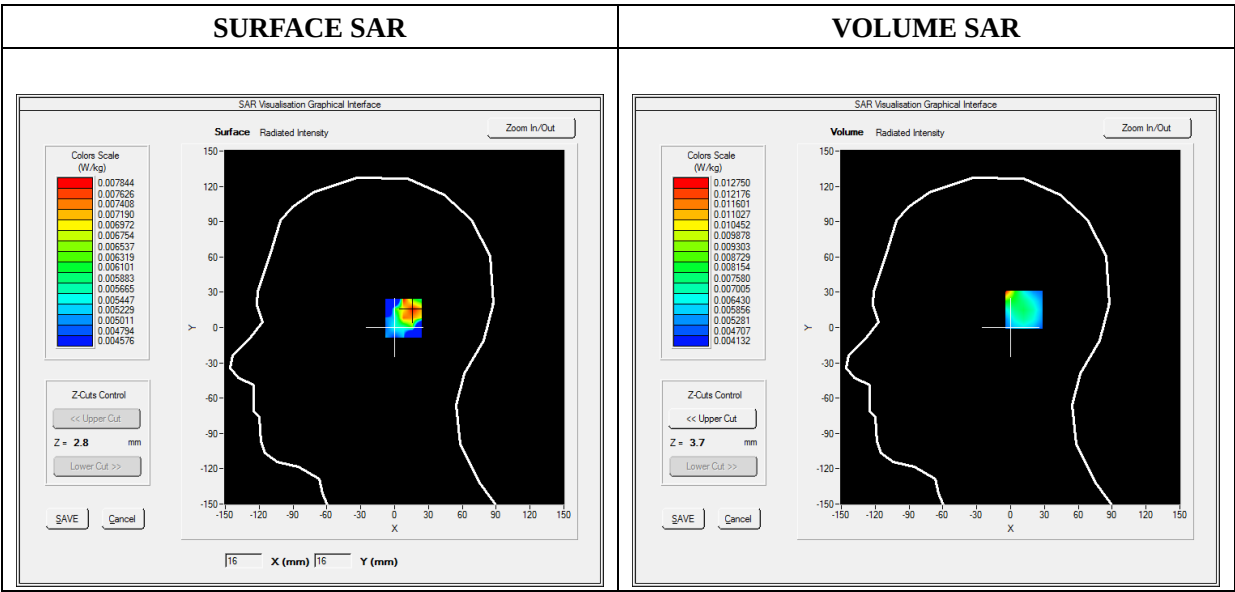
Type: Phone measurement (Complete)
Date of measurement: 2020-10-30
Measurement duration: 12 minutes 3 seconds
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF: Refer to the Calibration Certificate; Calibrated: 2020-07-03

A. Experimental conditions

Area Scan	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Cheek
Band	WiFi_802.11b
Channels	Low
Signal	Duty Cycle 1:1

B. SAR Measurement Results

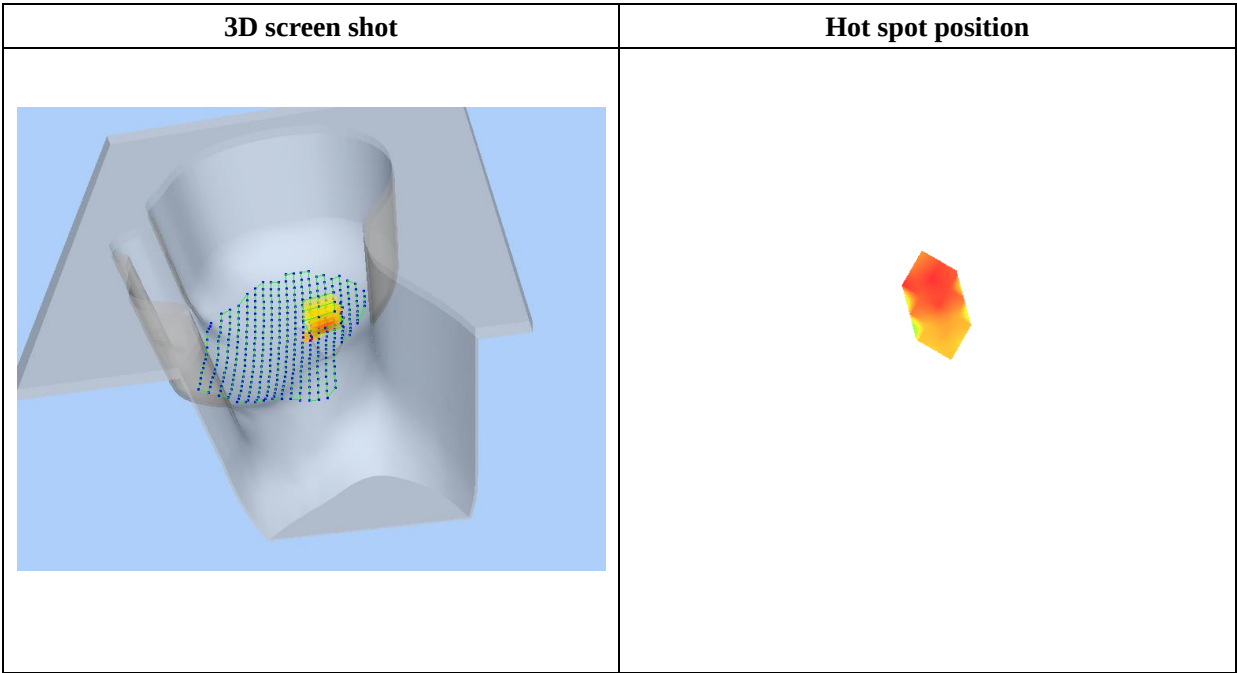
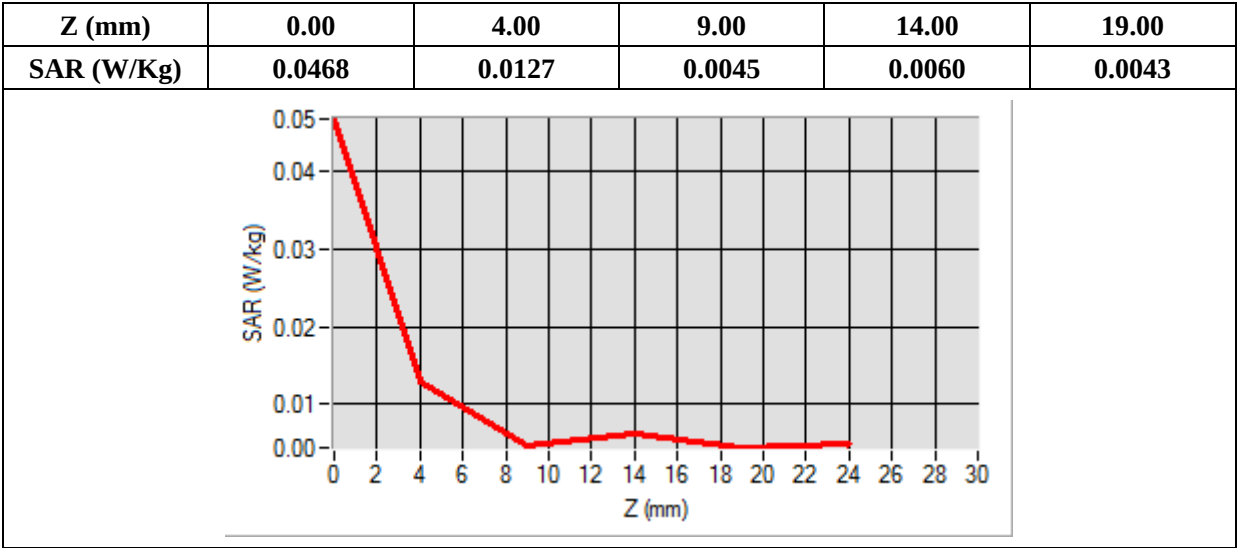
Frequency (MHz)	2412.000000
Relative Permittivity (real part)	38.153660
Conductivity (S/m)	1.740236
Power Variation (%)	1.054772
Ambient Temperature	21.1
Liquid Temperature	21.2



Maximum location: X=17.00, Y=15.00

SAR Peak: 0.02 W/kg

SAR 10g (W/Kg)	0.006164
SAR 1g (W/Kg)	0.009400



MEASUREMENT 47

Type: Phone measurement (Complete)

Date of measurement: 2020-10-13

Measurement duration: 12 minutes 3 seconds

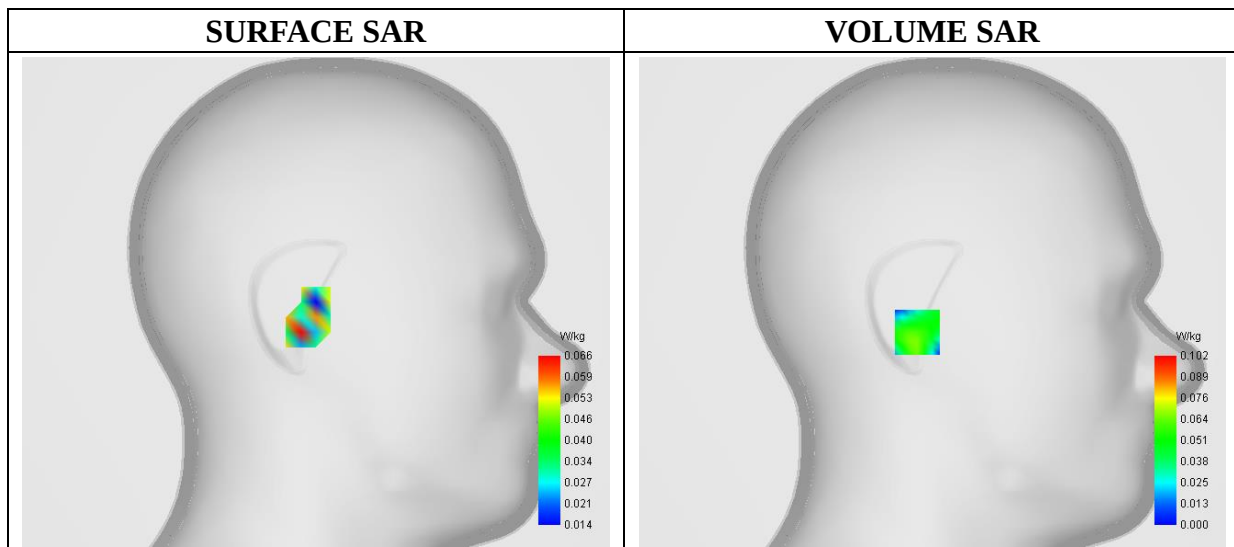
E-field Probe: SN 45/15 EPGO280; ConvF: 5.64; Calibrated: 2020-07-03

A. Experimental conditions

Area Scan	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Cheek
Band	WiFi(5.2GHz)_802.11 ac(VHT20)
Channels	Low
Signal	Duty Cycle: 1:1

B. SAR Measurement Results

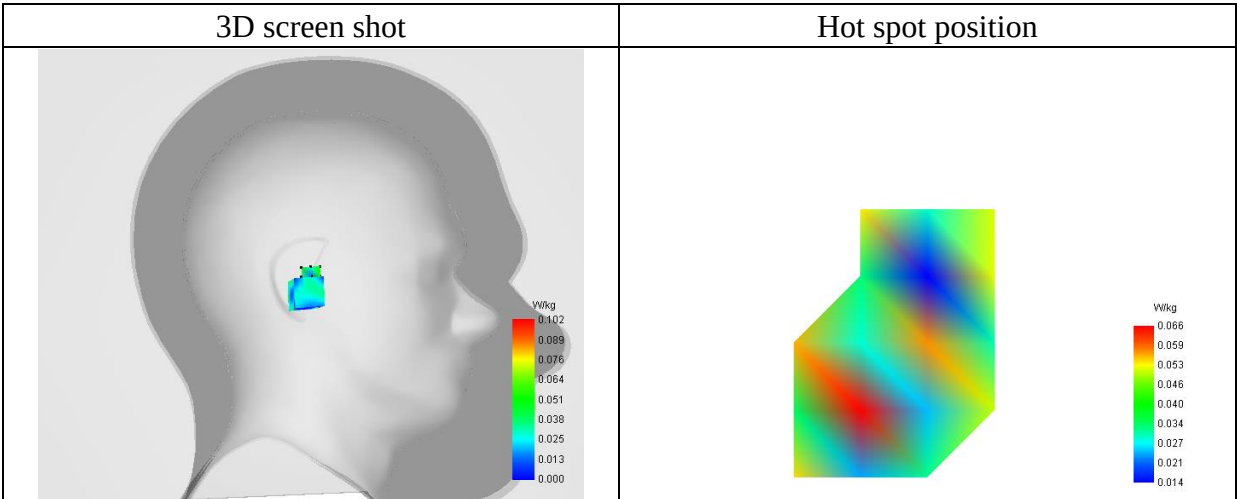
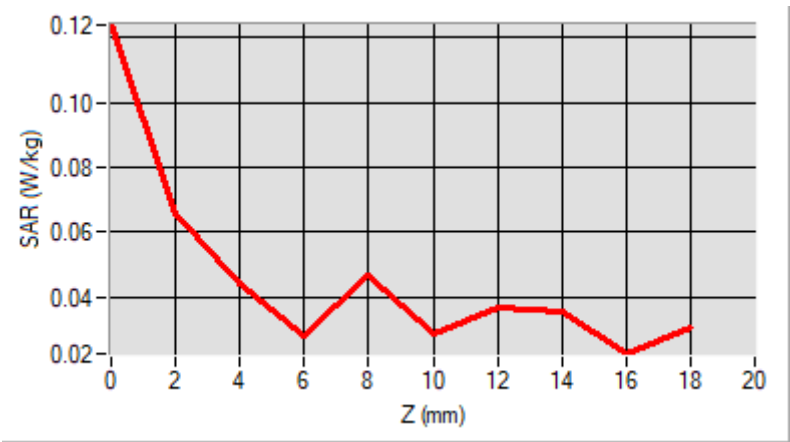
Frequency (MHz)	5180.000000
Relative Permittivity (real part)	35.612911
Conductivity (S/m)	4.871483
Power Variation (%)	0.812660
Ambient Temperature	22.0
Liquid Temperature	22.3



Maximum location: X=8.00, Y=-16.00

SAR 10g (W/Kg)	0.044603
SAR 1g (W/Kg)	0.085475

Z (mm)	0.00	2.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00
SAR (W/Kg)	0.1239	0.0657	0.0443	0.0279	0.0469	0.0289	0.0367	0.0353	0.0226



MEASUREMENT 54

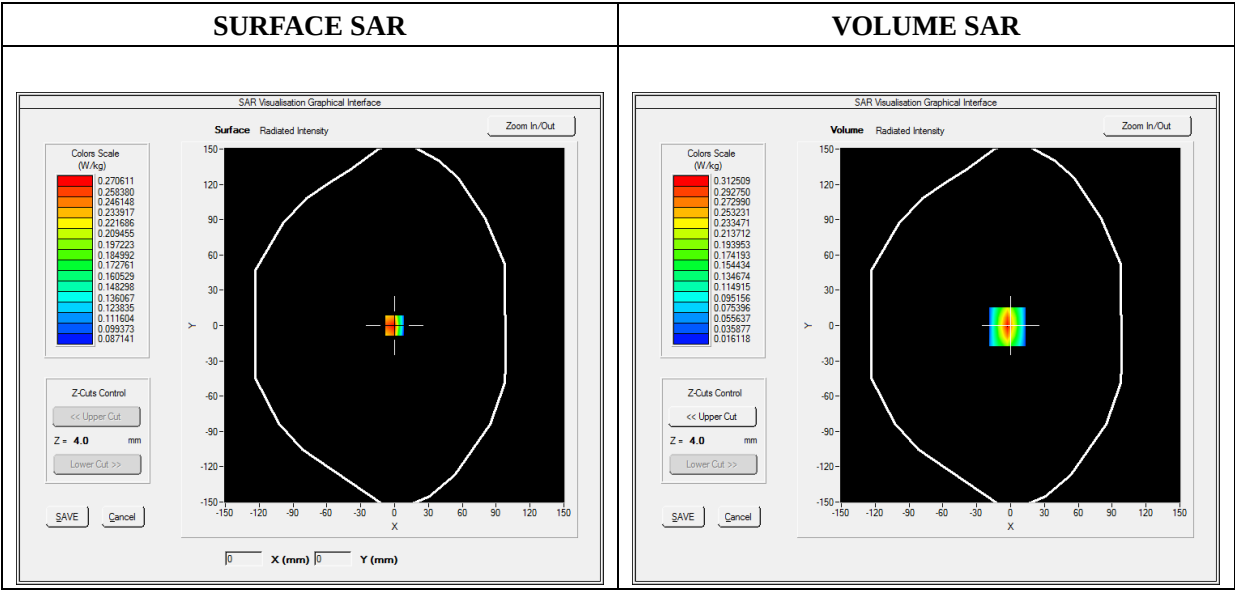
Type: Phone measurement (Complete)
Date of measurement: 2020-11-02
Measurement duration: 12 minutes 3 seconds
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF: Refer to the Calibration Certificate; Calibrated: 2020-07-03

A. Experimental conditions

Area Scan	sam_direct_droit2_surf8mm.txt
Phantom	Flat plane
Device Position	Bottom
Band	GPRS850_4TX
Channels	Middle
Signal	Duty Cycle: 1:4

B. SAR Measurement Results

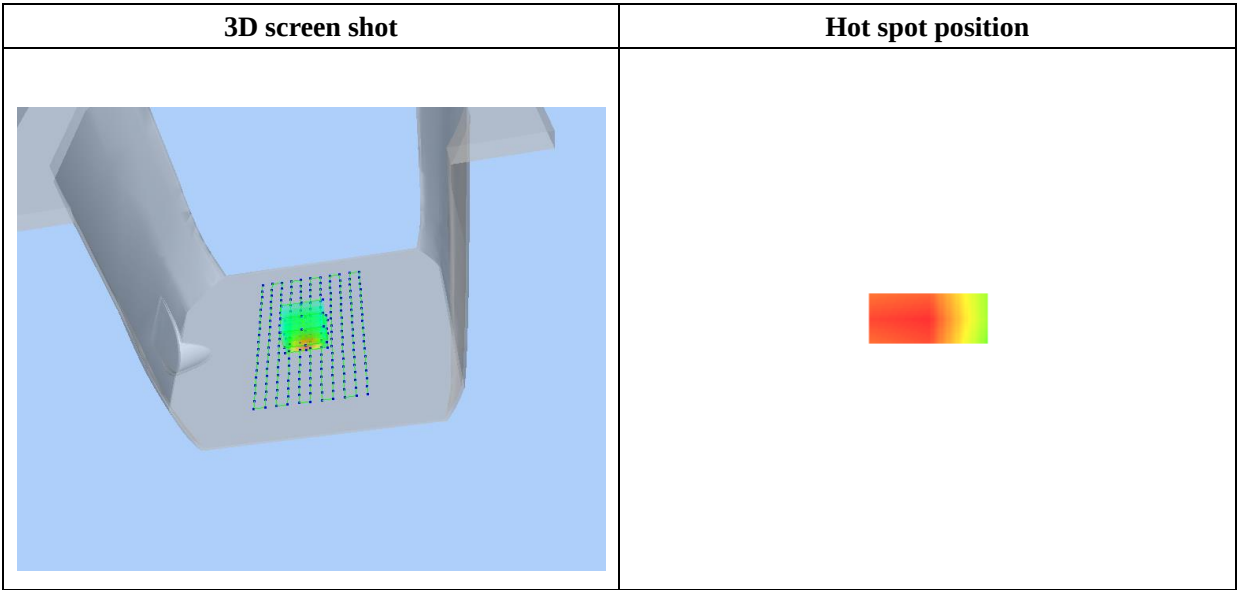
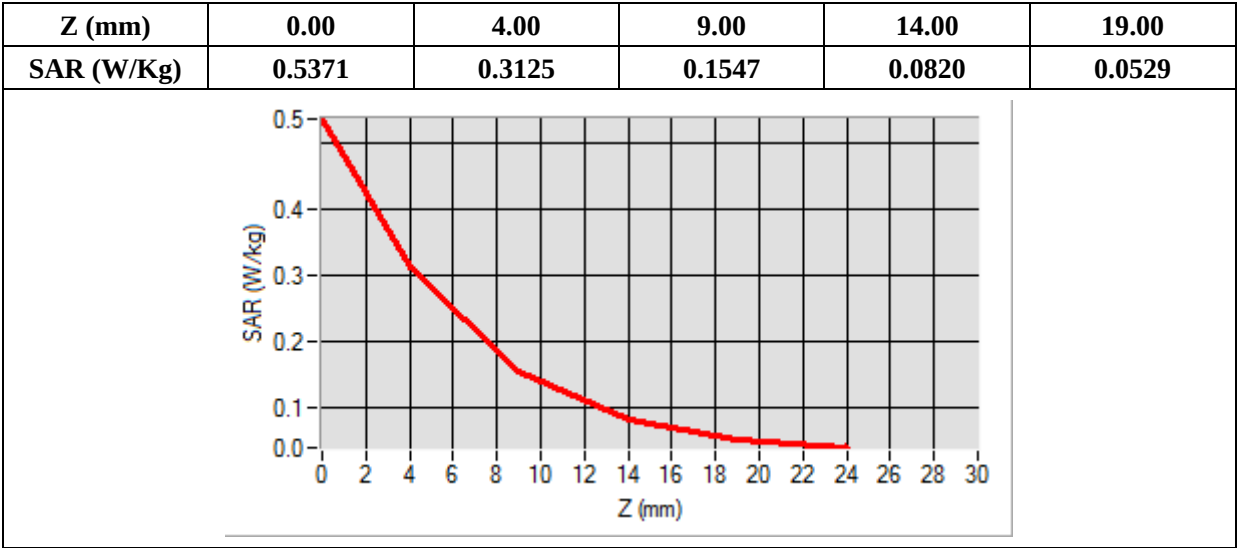
Frequency (MHz)	824.199976
Relative Permittivity (real part)	54.941214
Conductivity (S/m)	0.946454
Power Variation (%)	0.711472
Ambient Temperature	21.1
Liquid Temperature	21.3



Maximum location: X=-3.00, Y=-1.00

SAR Peak: 0.54 W/kg

SAR 10g (W/Kg)	0.139005
SAR 1g (W/Kg)	0.284173



MEASUREMENT 55

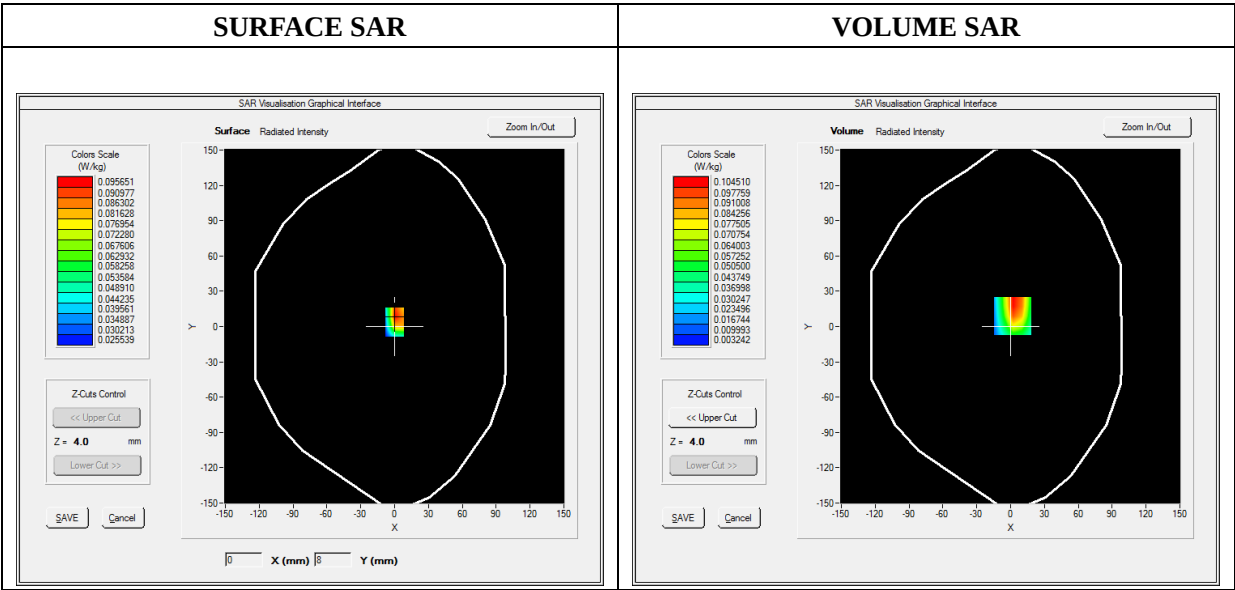
Type: Phone measurement (Complete)
Date of measurement: 2020-11-04
Measurement duration: 12 minutes 3 seconds
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF: Refer to the Calibration Certificate; Calibrated: 2020-07-03

A. Experimental conditions

Area Scan	sam_direct_droit2_surf8mm.txt
Phantom	Flat plane
Device Position	Back
Band	GSM1900
Channels	High
Signal	Duty Cycle: 1:4

B. SAR Measurement Results

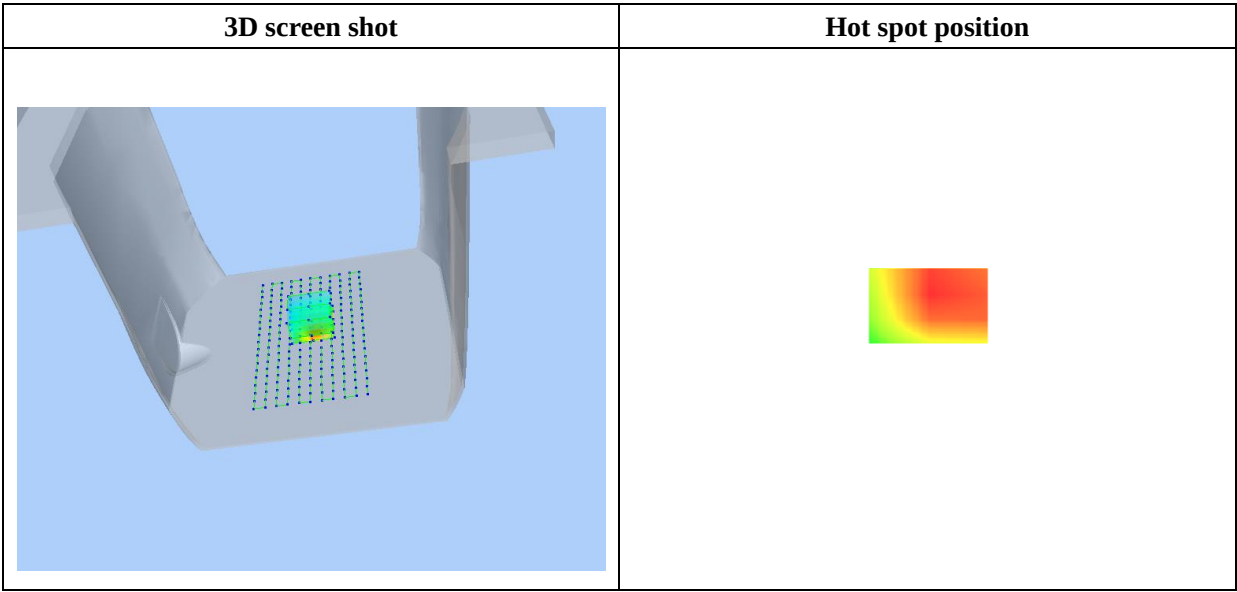
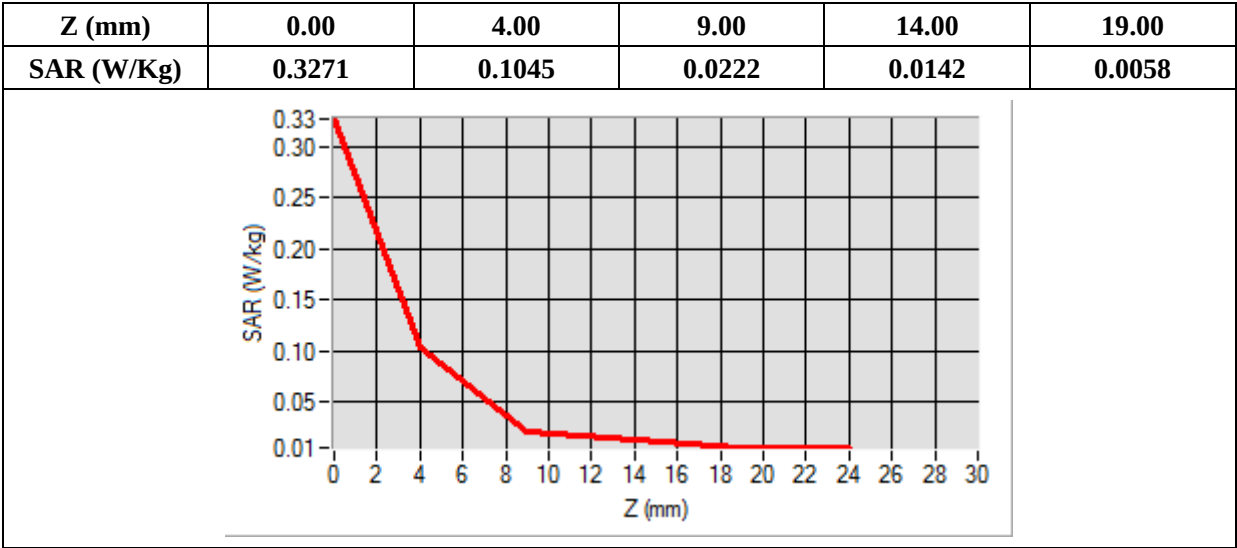
Frequency (MHz)	1909.800049
Relative Permittivity (real part)	52.420415
Conductivity (S/m)	1.501966
Power Variation (%)	0.620354
Ambient Temperature	21.1
Liquid Temperature	21.3



Maximum location: X=2.00, Y=9.00

SAR Peak: 0.21 W/kg

SAR 10g (W/Kg)	0.046910
SAR 1g (W/Kg)	0.101550



MEASUREMENT 61

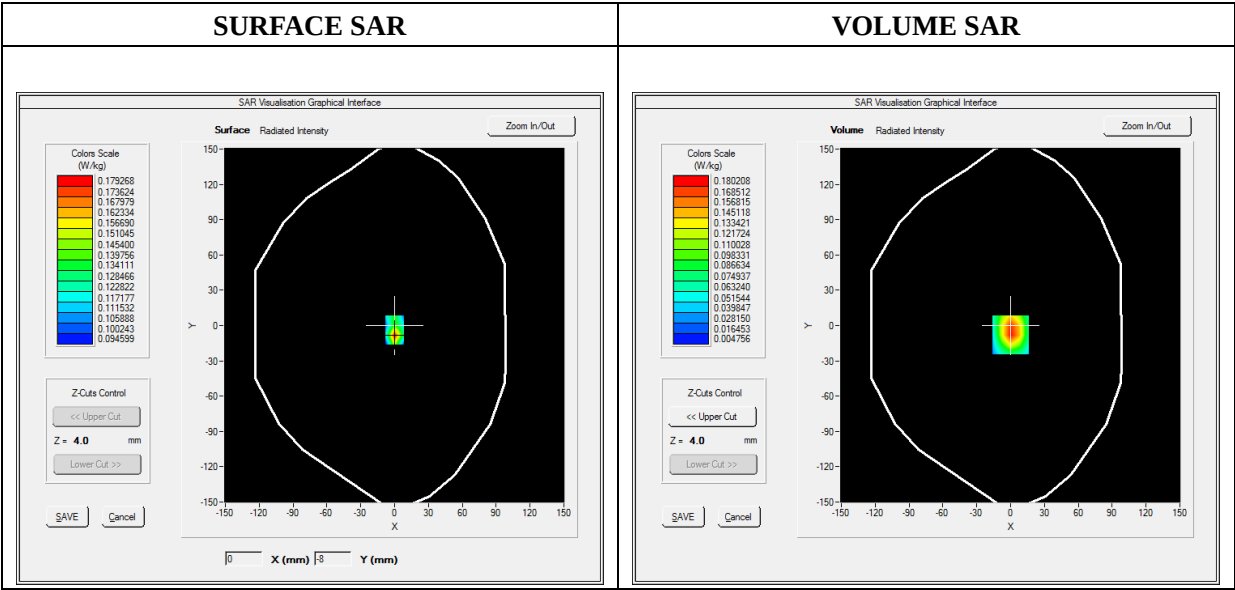
Type: Phone measurement (Complete)
Date of measurement: 2020-11-04
Measurement duration: 12 minutes 3 seconds
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF: Refer to the Calibration Certificate; Calibrated: 2020-07-03

A. Experimental conditions

Area Scan	sam_direct_droit2_surf8mm.txt
Phantom	Flat Plane
Device Position	Back
Band	WCDMA1900_RMC
Channels	High
Signal	Duty Cycle 1:1

B. SAR Measurement Results

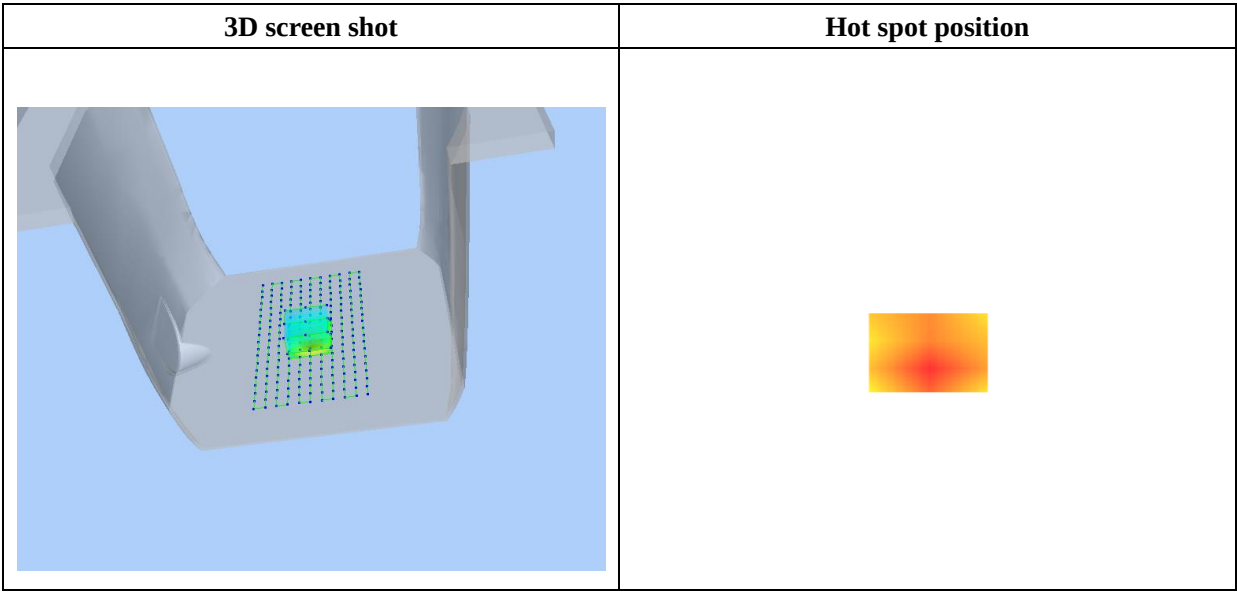
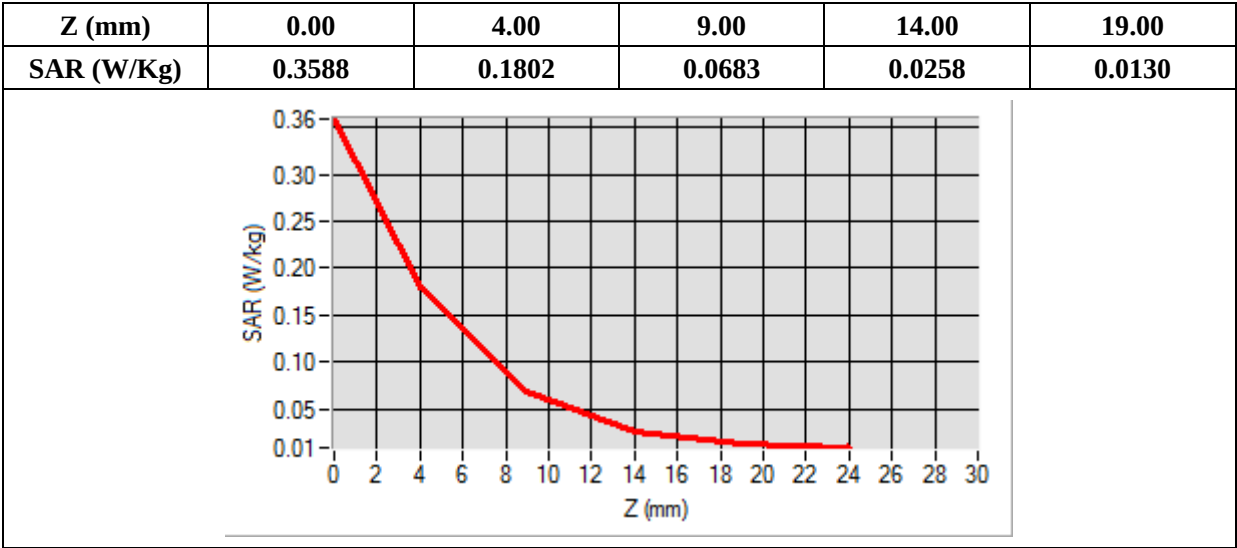
Frequency (MHz)	1907.600000
Relative Permittivity (real part)	52.420415
Conductivity (S/m)	1.501966
Power Variation (%)	0.763283
Ambient Temperature	21.1
Liquid Temperature	21.3



Maximum location: X=0.00, Y=-8.00

SAR Peak: 0.37 W/kg

SAR 10g (W/Kg)	0.078141
SAR 1g (W/Kg)	0.172966



MEASUREMENT 68

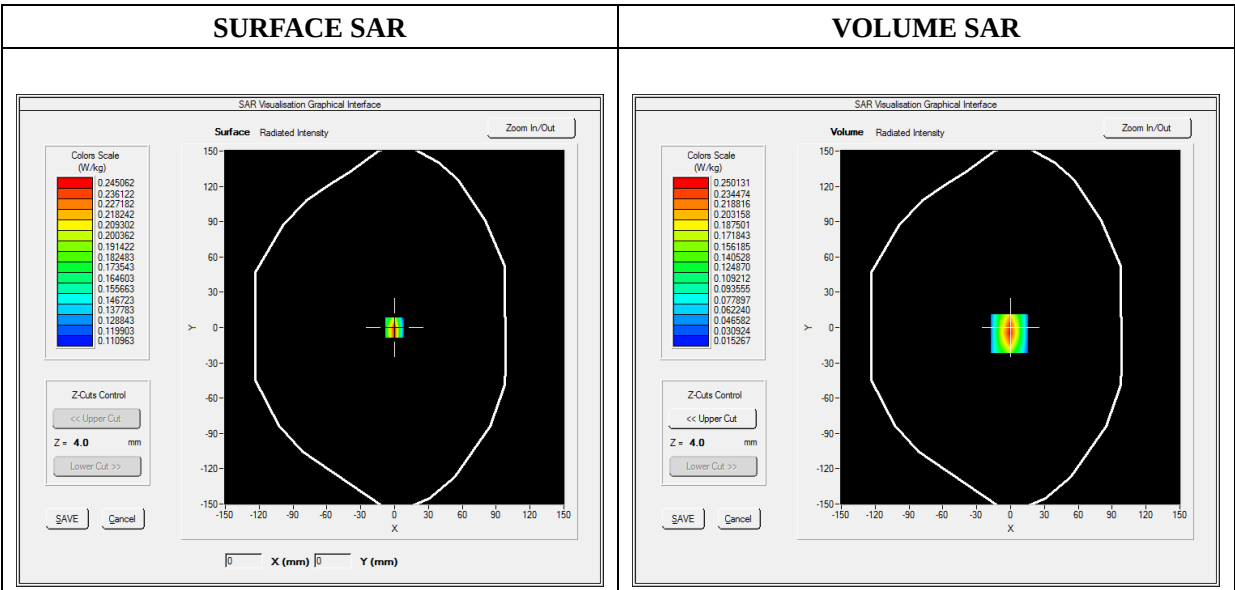
Type: Phone measurement (Complete)
Date of measurement: 2020-11-02
Measurement duration: 12 minutes 3 seconds
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF: Refer to the Calibration Certificate; Calibrated: 2020-07-03

A. Experimental conditions

Area Scan	sam_direct_droit2_surf8mm.txt
Phantom	Flat Plane
Device Position	Bottom
Band	WCDMA850_RMC
Channels	Middle
Signal	Duty Cycle 1:1

B. SAR Measurement Results

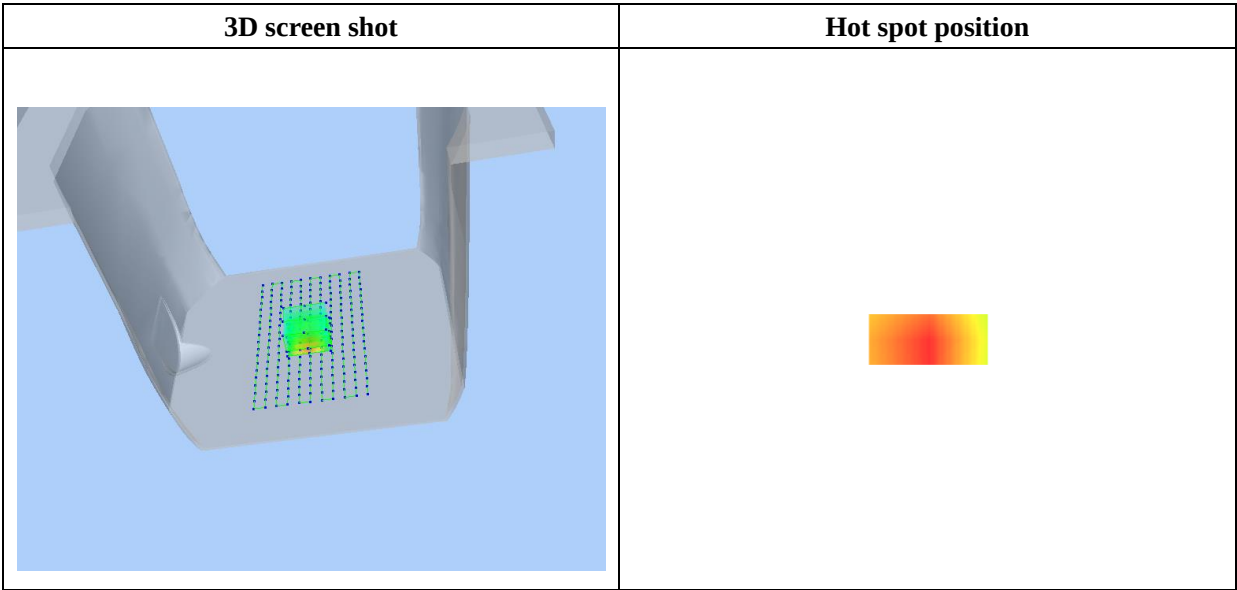
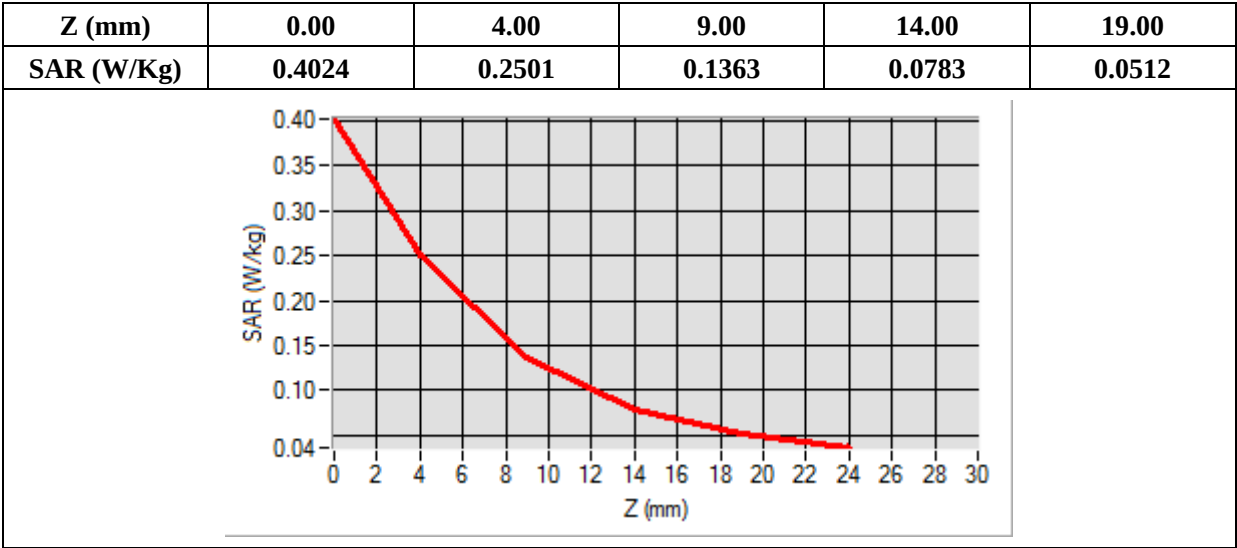
Frequency (MHz)	836.400000
Relative Permittivity (real part)	54.851214
Conductivity (S/m)	0.951454
Power Variation (%)	1.241234
Ambient Temperature	21.1
Liquid Temperature	21.3



Maximum location: X=-1.00, Y=-5.00

SAR Peak: 0.40 W/kg

SAR 10g (W/Kg)	0.118752
SAR 1g (W/Kg)	0.228357



MEASUREMENT 69

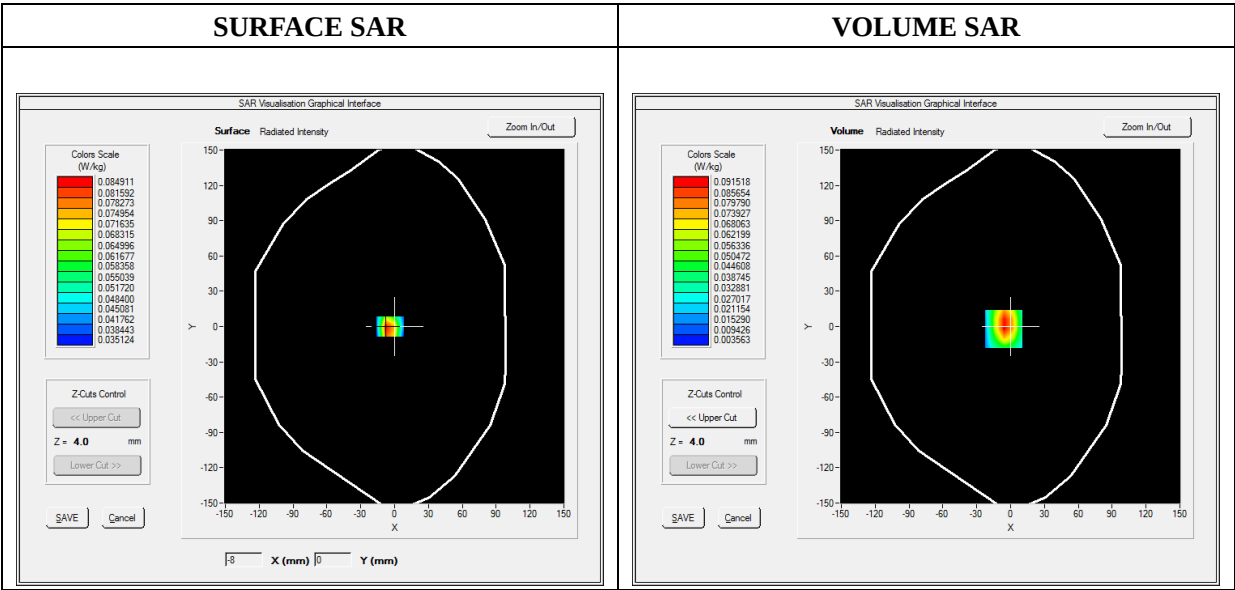
Type: Phone measurement (Complete)
Date of measurement: 2020-11-04
Measurement duration: 12 minutes 3 seconds
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF: Refer to the Calibration Certificate; Calibrated: 2020-07-03

A. Experimental conditions

Area Scan	sam_direct_droit2_surf8mm.txt
Phantom	Flat plane
Device Position	Back
Band	LTE Band 2
Channels	QPSK, 20MHz, 1RB, Middle
Signal	Duty Cycle: 1:4

B. SAR Measurement Results

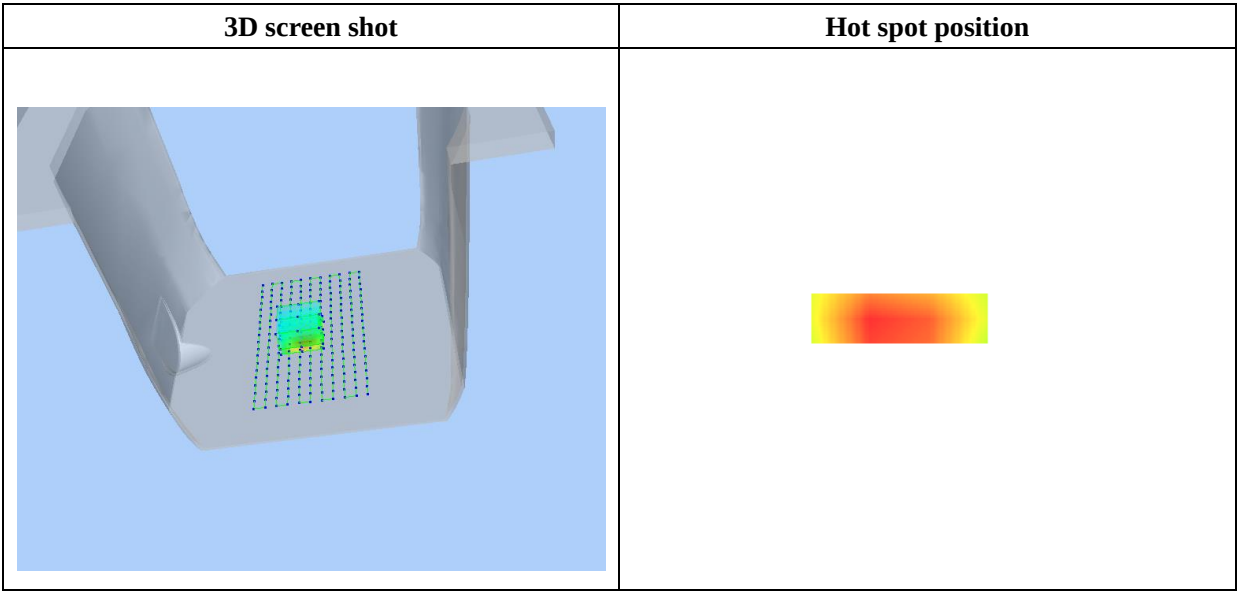
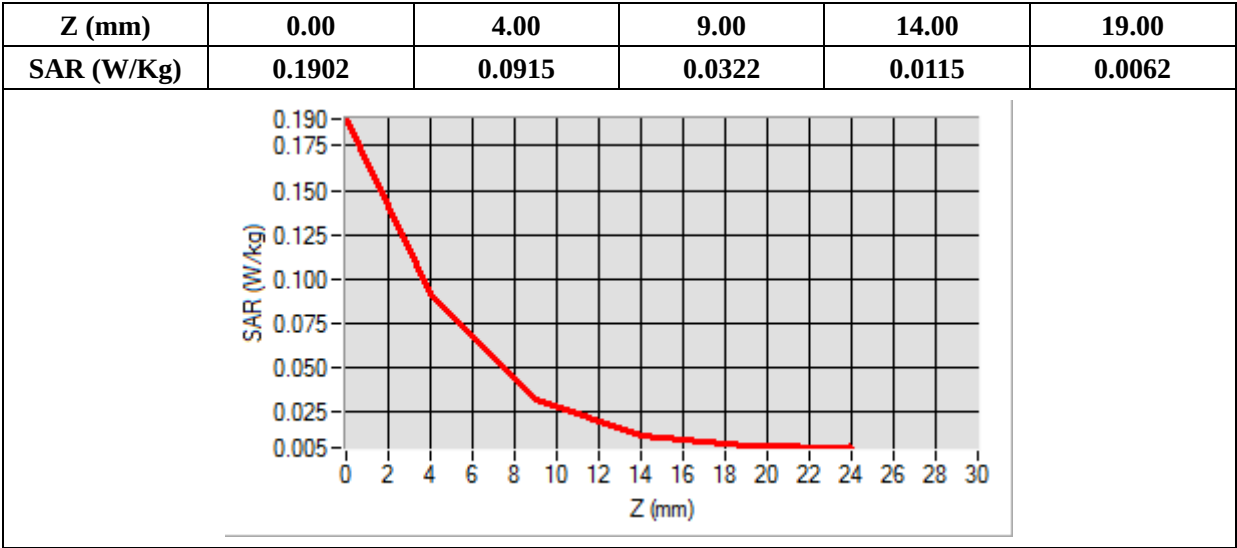
Frequency (MHz)	1880.000000
Relative Permittivity (real part)	52.480415
Conductivity (S/m)	1.495966
Power Variation (%)	0.783762
Ambient Temperature	21.1
Liquid Temperature	21.3



Maximum location: X=-6.00, Y=-2.00

SAR Peak: 0.20 W/kg

SAR 10g (W/Kg)	0.039952
SAR 1g (W/Kg)	0.088994



MEASUREMENT 77

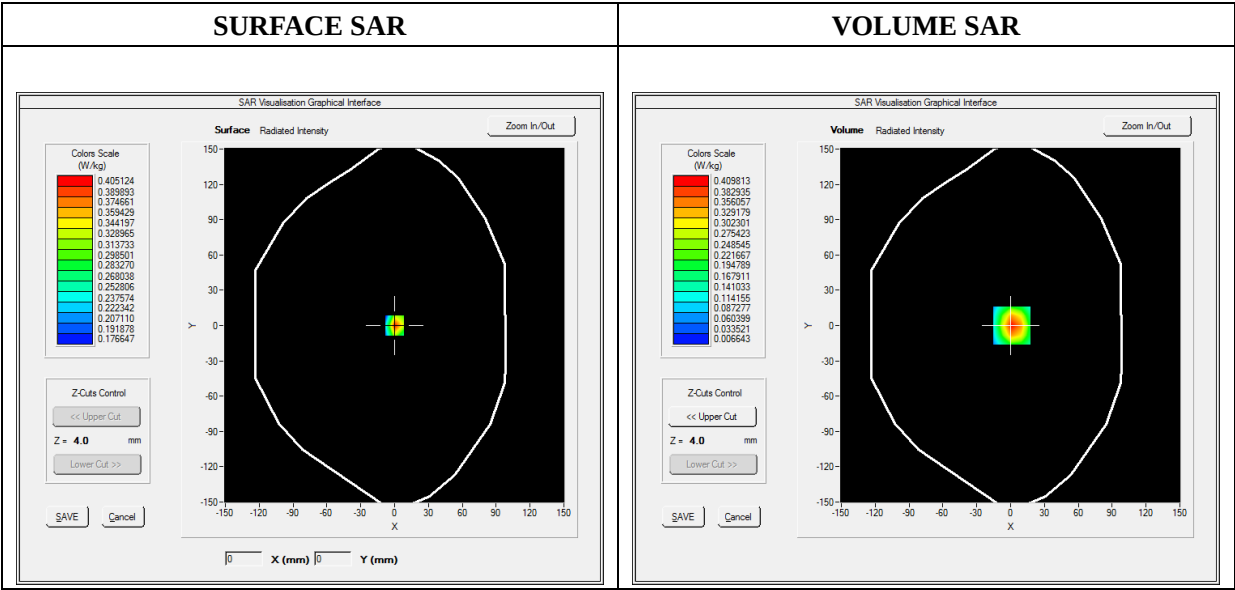
Type: Phone measurement (Complete)
Date of measurement: 2020-11-04
Measurement duration: 12 minutes 3 seconds
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF: Refer to the Calibration Certificate; Calibrated: 2020-07-03

A. Experimental conditions

Area Scan	sam_direct_droit2_surf8mm.txt
Phantom	Flat Plane
Device Position	Back
Band	LTE Band 4
Channels	QPSK, 20MHz, 1RB, Low
Signal	Duty Cycle 1:1

B. SAR Measurement Results

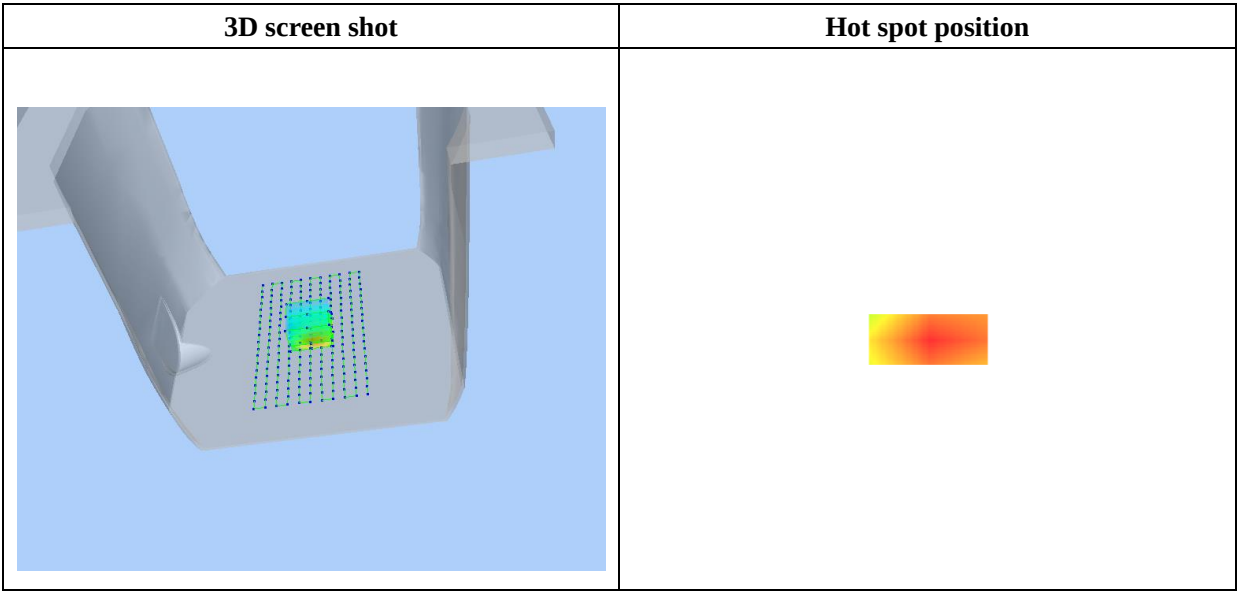
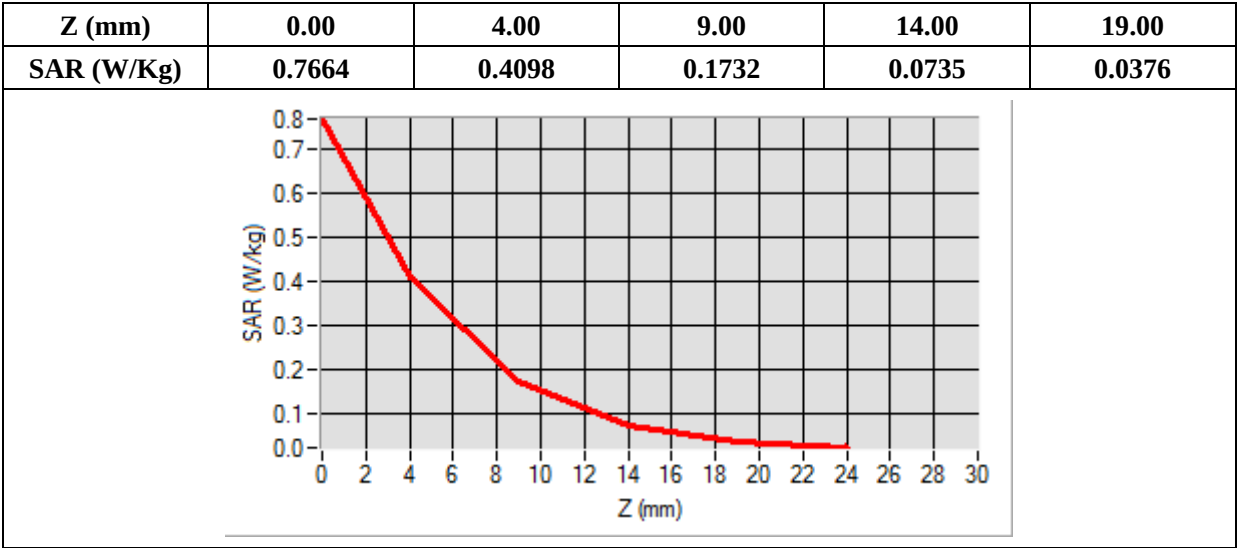
Frequency (MHz)	1720.000000
Relative Permittivity (real part)	51.624510
Conductivity (S/m)	1.451261
Power Variation (%)	1.058383
Ambient Temperature	21.1
Liquid Temperature	21.2



Maximum location: X=1.00, Y=0.00

SAR Peak: 0.77 W/kg

SAR 10g (W/Kg)	0.180048
SAR 1g (W/Kg)	0.384627



MEASUREMENT 85

Type: Phone measurement (Complete)

Date of measurement: 2020-10-30

Measurement duration: 12 minutes 3 seconds

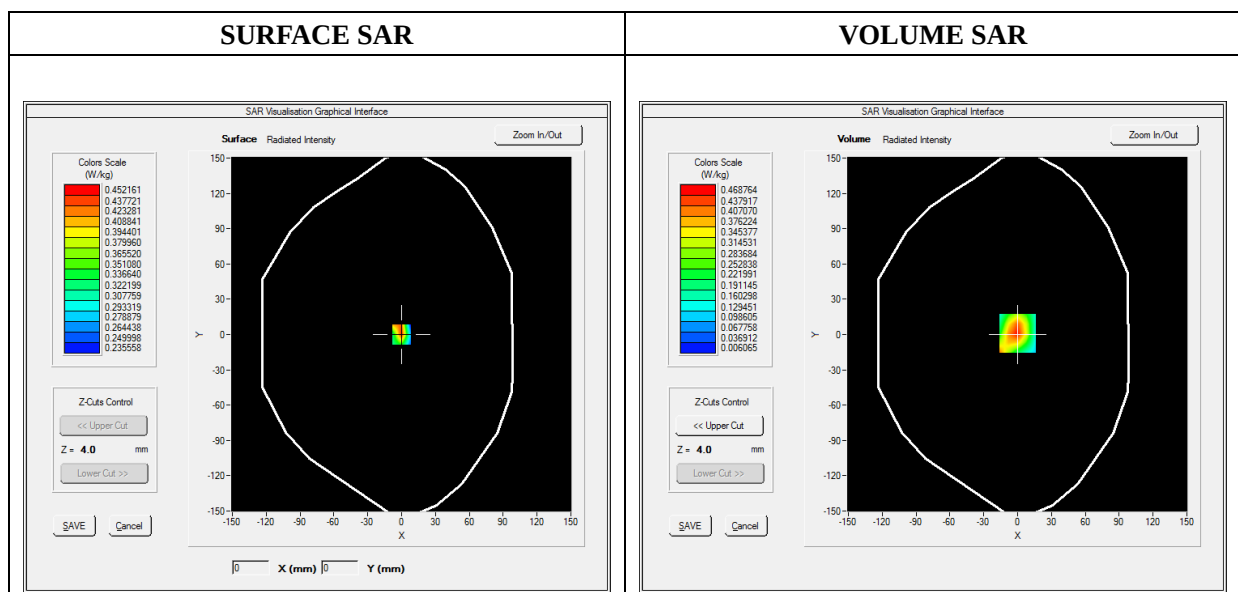
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF: Refer to the Calibration Certificate; Calibrated: 2020-07-03

A. Experimental conditions

Area Scan	sam_direct_droit2_surf8mm.txt
Phantom	Flat Plane
Device Position	Back
Band	LTE Band 7
Channels	QPSK, 20MHz, 1RB, Middle
Signal	Duty Cycle 1:1

B. SAR Measurement Results

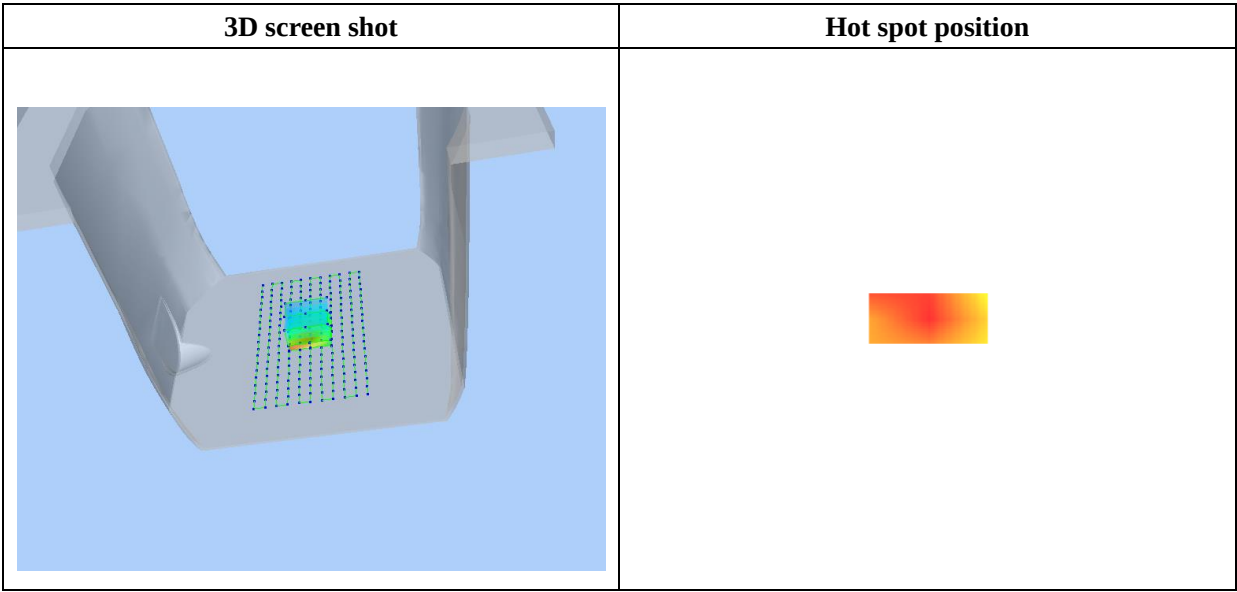
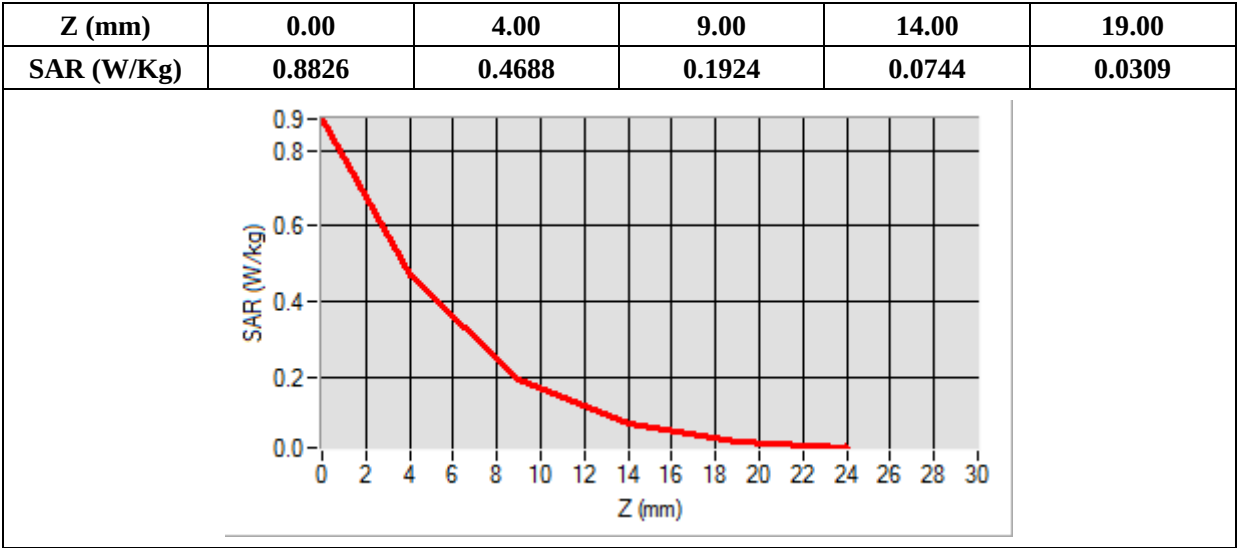
Frequency (MHz)	2535.000000
Relative Permittivity (real part)	52.241202
Conductivity (S/m)	2.120943
Power Variation (%)	1.072346
Ambient Temperature	21.1
Liquid Temperature	21.2



Maximum location: X=0.00, Y=1.00

SAR Peak: 0.90 W/kg

SAR 10g (W/Kg)	0.202054
SAR 1g (W/Kg)	0.442583



MEASUREMENT 93

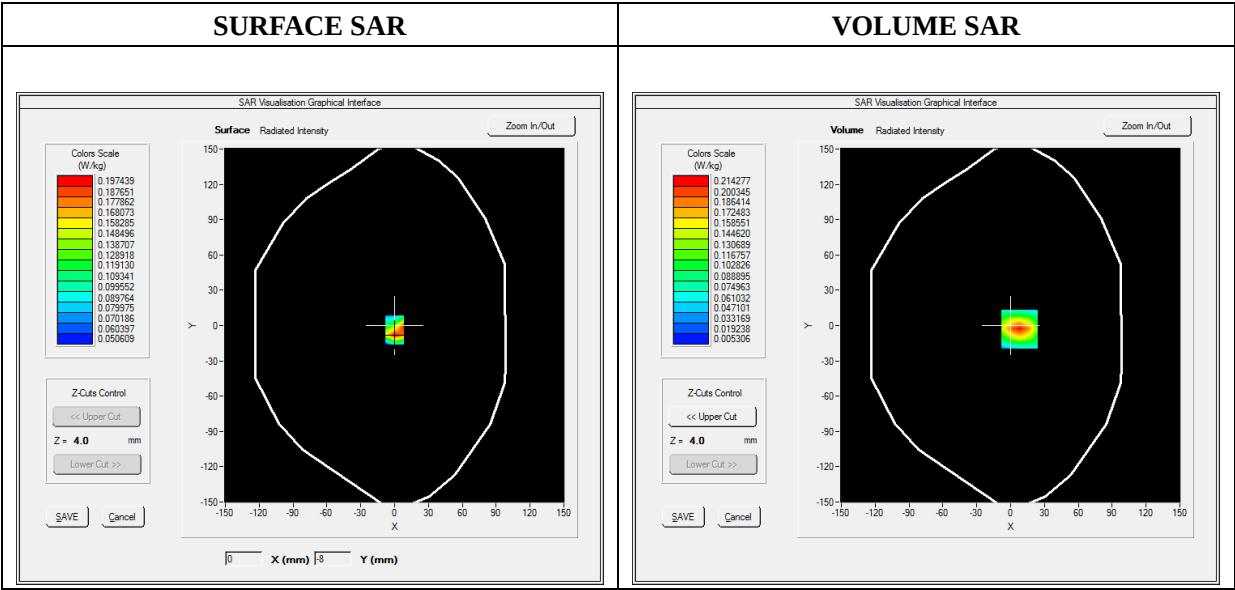
Type: Phone measurement (Complete)
Date of measurement: 2020-10-30
Measurement duration: 12 minutes 3 seconds
E-field Probe: SSE2 - SN 45/15 EPGO280; ConvF: Refer to the Calibration Certificate; Calibrated: 2020-07-03

A. Experimental conditions

Area Scan	sam_direct_droit2_surf8mm.txt
Phantom	Flat Plane
Device Position	Back
Band	WiFi_802.11b
Channels	Low
Signal	Duty Cycle 1:1

B. SAR Measurement Results

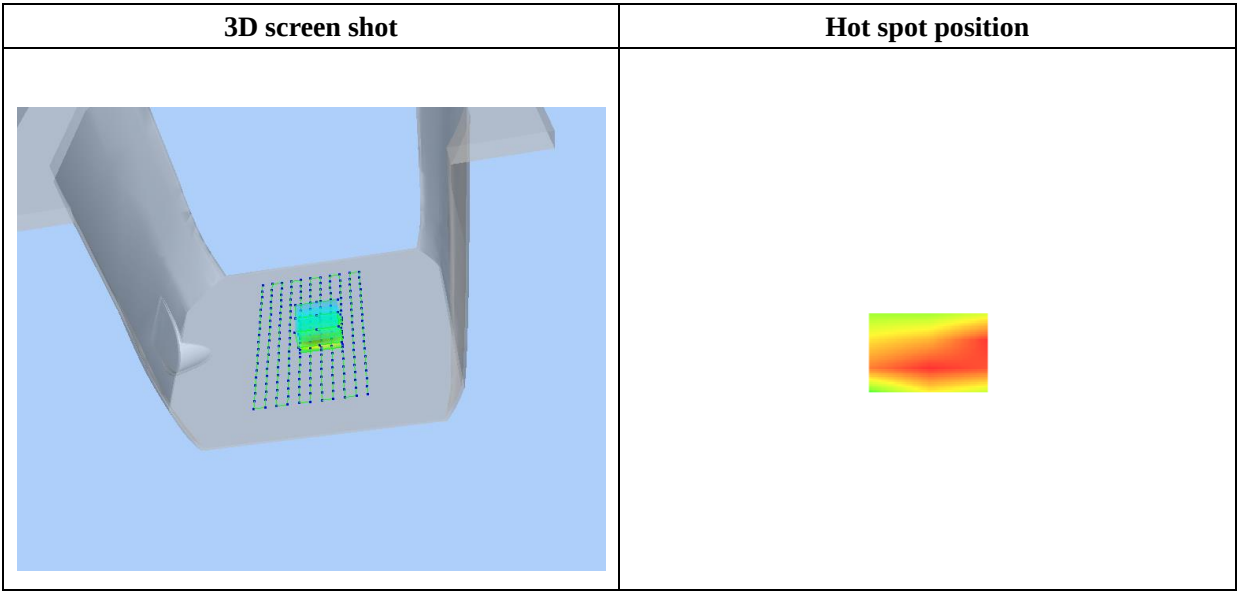
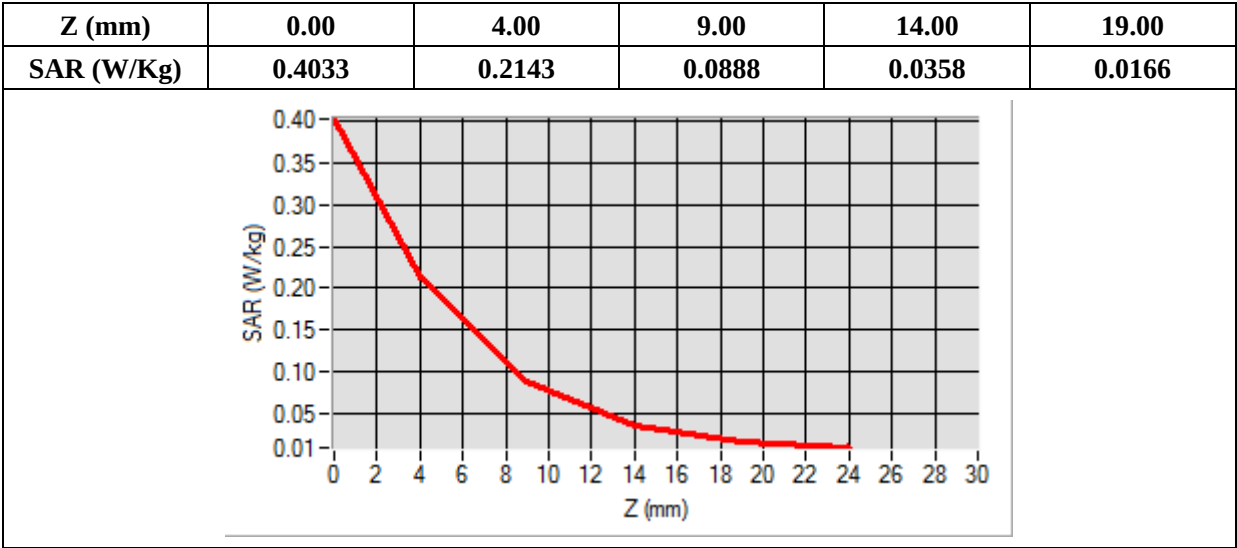
Frequency (MHz)	2412.000000
Relative Permittivity (real part)	52.010212
Conductivity (S/m)	1.910255
Power Variation (%)	1.492743
Ambient Temperature	21.1
Liquid Temperature	21.2



Maximum location: X=8.00, Y=-3.00

SAR Peak: 0.40 W/kg

SAR 10g (W/Kg)	0.090258
SAR 1g (W/Kg)	0.198862



MEASUREMENT 96

Type: Phone measurement (Complete)

Date of measurement: 2020-10-13

Measurement duration: 12 minutes 3 seconds

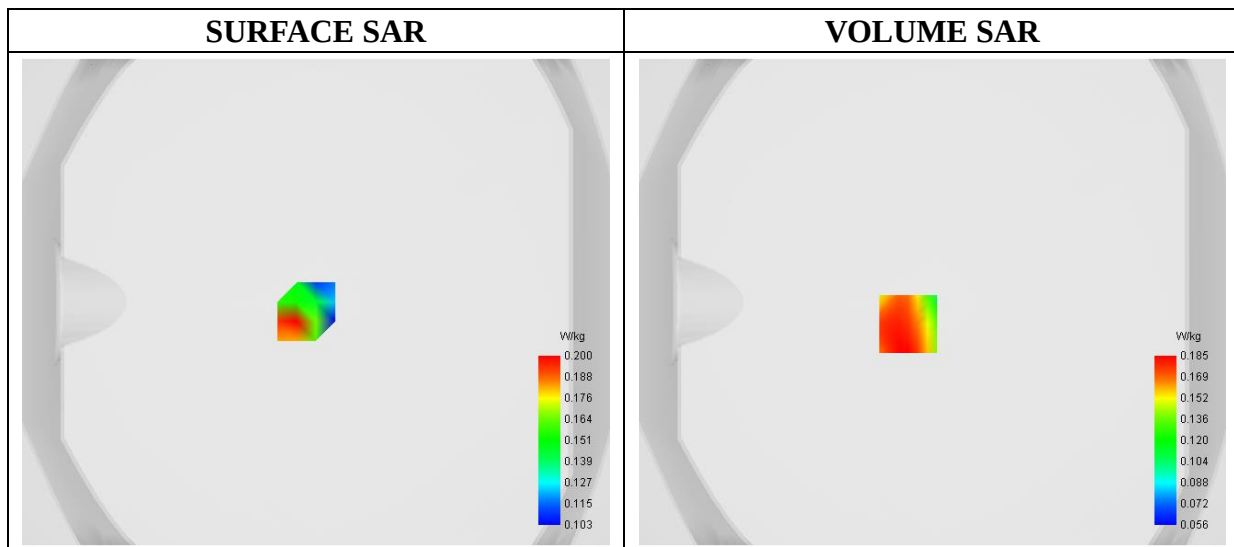
E-field Probe: SN 45/15 EPGO280; ConvF: 5.64; Calibrated: 2020-07-03

A. Experimental conditions

Area Scan	sam_direct_droit2_surf8mm.txt
Phantom	Flat Plane
Device Position	Back
Band	WiFi(5.2GHz)_802.11 ac(VHT20)
Channels	Low
Signal	Duty Cycle: 1:1

B. SAR Measurement Results

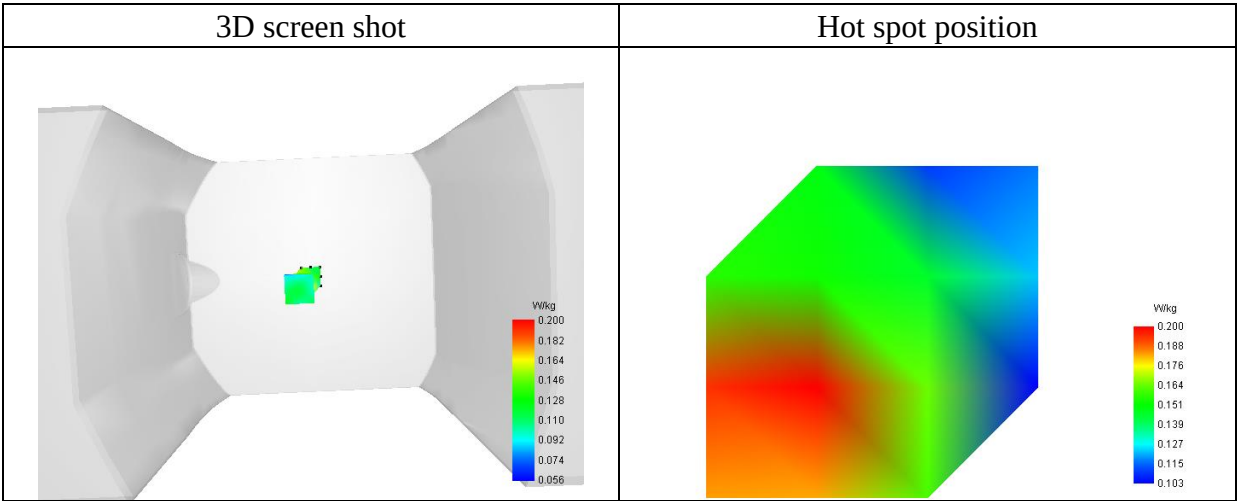
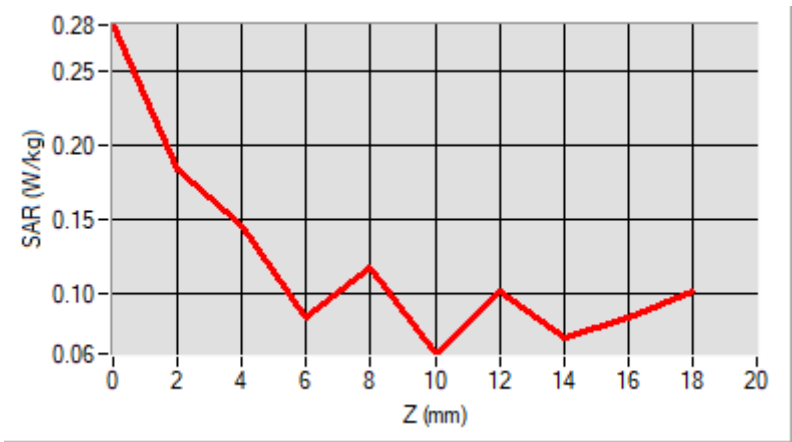
Frequency (MHz)	5180.000000
Relative Permittivity (real part)	48.501241
Conductivity (S/m)	5.160213
Power Variation (%)	1.210660
Ambient Temperature	22.0
Liquid Temperature	22.3



Maximum location: X=-10.00, Y=-9.00

SAR 10g (W/Kg)	0.127570
SAR 1g (W/Kg)	0.163426

Z (mm)	0.00	2.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00
SAR (W/Kg)	0.2819	0.1846	0.1461	0.0834	0.1171	0.0591	0.1018	0.0698	0.0839



Annex C. EUT Photos

EUT View Front



EUT View Back



Antenna View

Annex D. Test Setup Photos

Head Exposure Conditions

Right Cheek



Tilt



Left Cheek

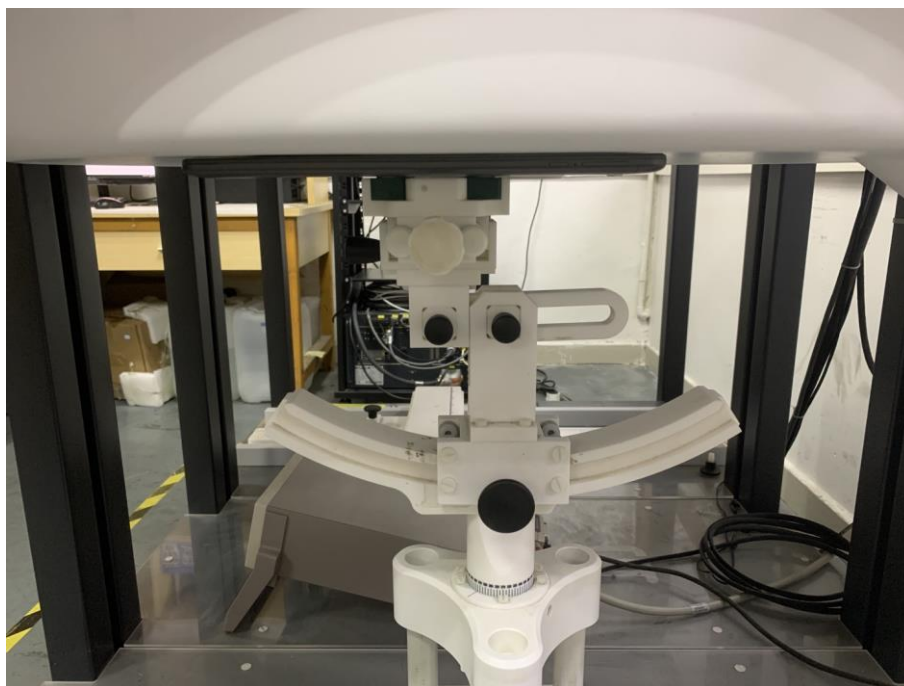


Tilt

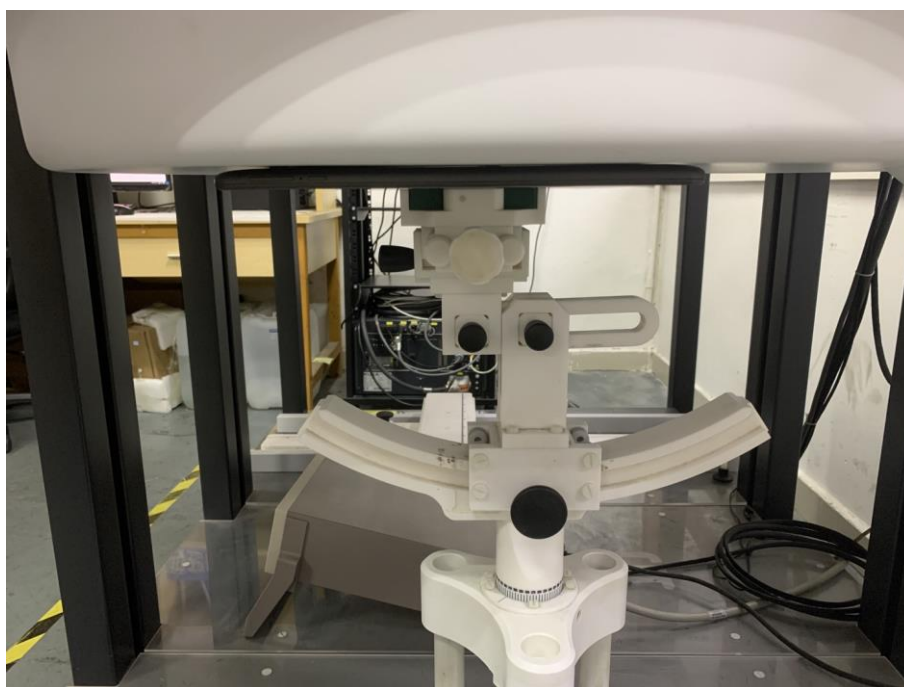


Body mode Exposure Conditions

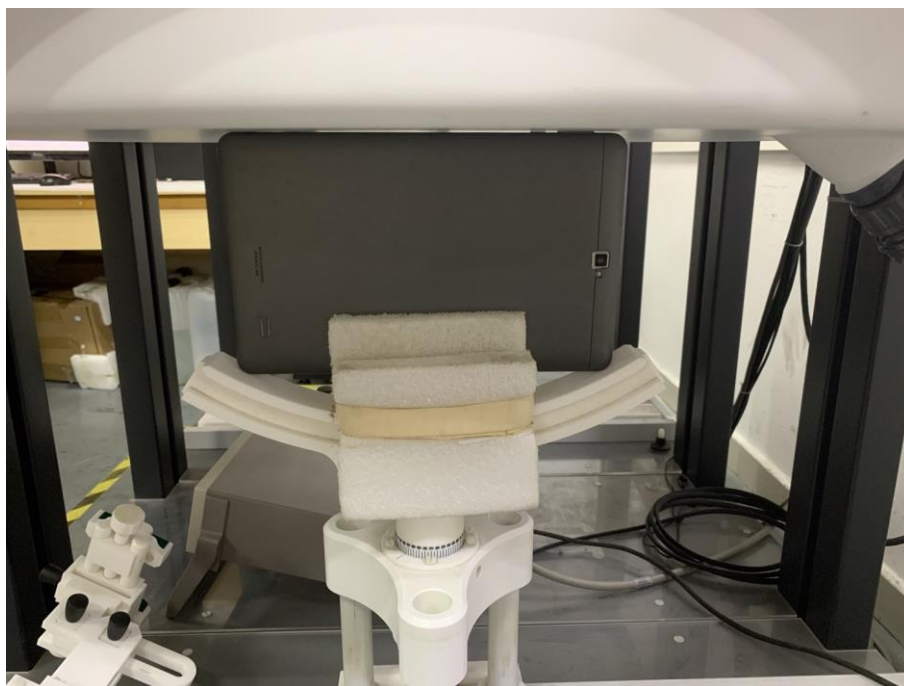
Body Front



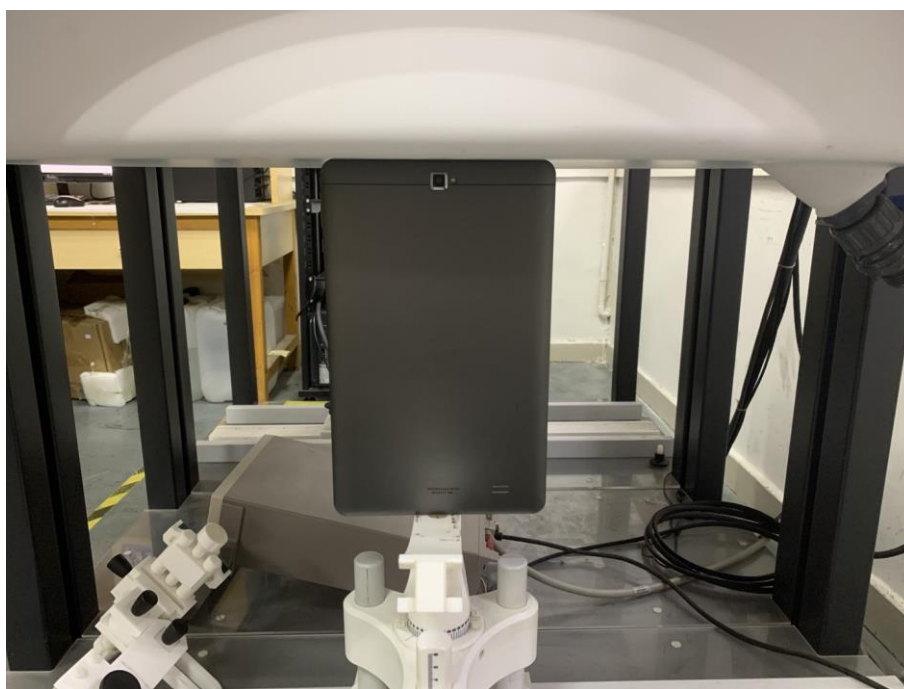
Body Back



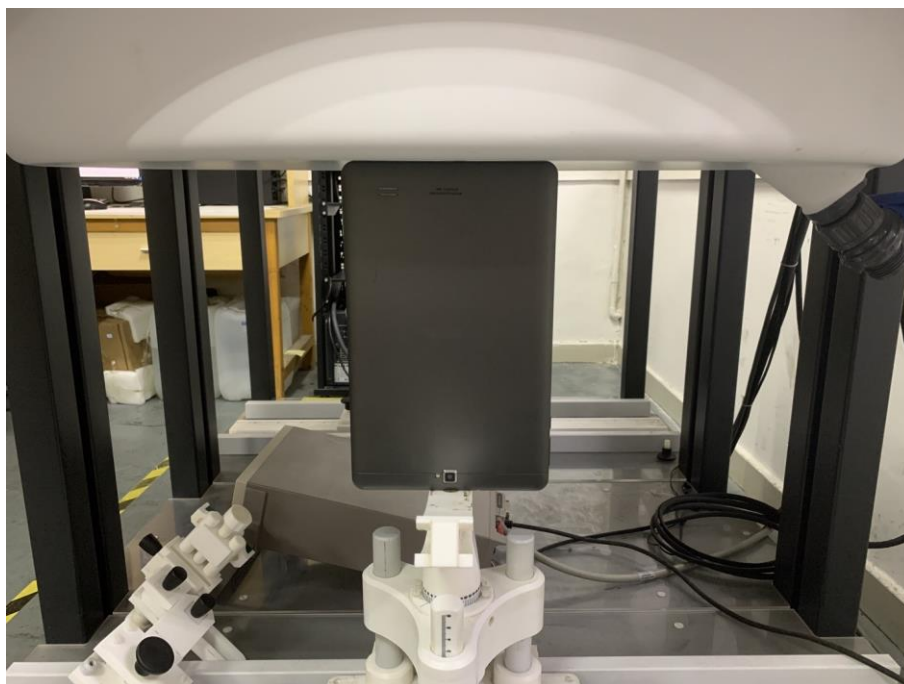
Body Right



Body Top



Body Bottom



Annex E. Calibration Certificate

Please refer to the exhibit for the calibration certificate

******* END OF REPORT *******