TEST REPORT

Reference No......	:	WTX21X04032740W
FCC ID.....	:	2AWWW-MB01
Applicant	:	Creature Information(Guangzhou)Technology Co., Limited
Address.....	:	Room B4A05, Block B, 203 Changfu Road, Tianhe district, Guangzhou, China
Product Name	:	Tablet PC(Notebook)
Test Model.	:	MB01
Standards	:	FCC Part 2.1093, ANSI / IEEE C95.1 :2005+A1:2010 ANSI / IEEE C95.3 :2002(R2008)
Date of Receipt sample	:	Apr.14, 2021
Date of Test.....	:	Apr.14, 2021 to Jun.03, 2021
Date of Issue	:	Jun.04, 2021
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.

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Report version

Version No.	Date of issue	Description
Rev.00	Apr.25, 2020	Original
Rev.0	Jun.04, 2020	Updated the LTE Band 40 Test

1. General Information

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Applicant:	Creature Information(Guangzhou)Technology Co., Limited
Address of applicant:	Room B4A05, Block B, 203 Changfu Road, Tianhe district, Guangzhou, China
Manufacturer:	Creature Information(Guangzhou)Technology Co., Limited
Address of manufacturer:	Room B4A05, Block B, 203 Changfu Road, Tianhe district, Guangzhou, China

General Description of EUT:	
Product Name:	Tablet PC(Notebook)
Brand Name:	/
Model No.:	MB01
Adding Model(s):	I8, I8 Plus, I8 Pro, I8 Power, I8 A, I8 A Plus, I8 A Pro, I8 A Power, I8 S, I8 S Plus, I8 S Pro, I8 S Power, I9, I9 Plus, I9 Pro, I9 Power, I9 A, I9 A Plus, I9 A Pro, I9 A Power, I9 S, I9 S Plus, I9 S Pro, I9 S Power, I10, I10 Plus, I10 Pro, I10 Power, I10 A, I10 A Plus, I10 A Pro, I10 A Power, I10 S, I10 S Plus, I10 S Pro, I10 S Power, I11, I11 Plus, I11 Pro, I11 Power, I11 A, I11 A Plus, I11 A Pro, I11 A Power, I11 S, I11 S Plus, I11 S Pro, I11 S Power, I12, I12 Plus, I12 Pro, I12 Power, I12 A, I12 A Plus, I12 A Pro, I12 A Power, I12 S, I12 S Plus, I12 S Pro, I12 S Power, I6, I7, I13, M11, M12, M13, M14, M15, M17, S1, S2, S3, S4, S5, S6, S7, S8, S9, Y11, Y13, Y14, Y15, X13, X14, X15, X17, S13, S14, S15, S17, B1, B2, B3, B4, B5, B6, B7, B8, B9, B10
Rated Voltage:	DC3.8V by Battery
Battery:	6000mAh
Device Category:	Portable Device
Software Version:	V1.00_20210331
Hardware Version:	V2.0
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 MB01, but the circuit and the electronic construction do not change, declared by the manufacturer.	

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: 32.90dBm, GSM1900: 30.06dBm EDGE850: 25.78dBm, EDGE1900: 25.88dBm
Type of Modulation:	GMSK, 8PSK
Type of Antenna:	Integral Antenna
Antenna Gain:	GSM850: 0.27dBi; GSM1900: 0.59dBi
GPRS/EDGE Class:	Class 12
3G	
Support Networks:	WCDMA, HSDPA, HSUPA
Support Band:	WCDMA Band 5
Uplink Frequency:	WCDMA Band 5: 824~849MHz
Downlink Frequency:	WCDMA Band 5: 869~894MHz
RF Output Power:	WCDMA Band 5: 22.38dBm
Type of Modulation:	BPSK
Antenna Type:	Integral Antenna
Antenna Gain:	WCDMA Band 5: 0.57dBi
4G	
Support Networks:	FDD-LTE, TDD-LTE
Support Band:	FDD-LTE Band 5, TDD-LTE Band 38, 40, 41
Uplink Frequency:	FDD-LTE Band 5: Tx: 824-849MHz, TDD-LTE Band 38: Tx: 2570-2620MHz TDD-LTE Band 40a: Tx: 2305-2315MHz TDD-LTE Band 40b: Tx: 2350-2360MHz TDD-LTE Band 41: Tx:2555-2655MHz
Downlink Frequency:	FDD-LTE Band 5: Rx: 869-894MHz, TDD-LTE Band 38: Rx: 2570-2620MHz TDD-LTE Band 40a: Rx: 2305-2315MHz TDD-LTE Band 40b: Rx: 2350-2360MHz TDD-LTE Band 41: Rx: 2555-2655MHz
RF Output Power:	FDD-LTE Band 5: 22.19dBm TDD-LTE Band 38: 20.36dBm TDD-LTE Band 40a:21.83dBm TDD-LTE Band 40b:21.78 TDD-LTE Band 41: 20.34dBm

Type of Modulation:	QPSK, 16QAM
Antenna Type:	Integral Antenna
Antenna Gain:	FDD-LTE Band 5: 0.27dBi, TDD-LTE Band 38: 0.63dBi, TDD-LTE Band 40: 0.49dBi, TDD-LTE Band 41: 0.62dBi
WIFI(2.4G)	
Support Standards:	802.11b, 802.11g, 802.11n-HT20/40
Frequency Range:	2412-2462MHz for 802.11b/g/n-HT20 2422-2452MHz for 802.11n-HT40
RF Output Power:	7.541dBm (Conducted)
Type of Modulation:	DBPSK,BPSK,DQPSK,QPSK,16QAM,64QAM
Data Rate:	1-11Mbps, 6-54Mbps, up to 150Mbps
Quantity of Channels:	11 for 802.11b/g/n-HT20 7 for 802.11n-HT40
Channel Separation:	5MHz
Antenna Type:	Integral Antenna
Antenna Gain:	0.78dBi
Bluetooth	
Bluetooth Version:	V5.0
Frequency Range:	2402-2480MHz
RF Output Power:	6.436dBm (Conducted)
Data Rate:	1Mbps, 2Mbps, 3Mbps
Modulation:	GFSK, Pi/4 QDPSK, 8DPSK
Quantity of Channels:	79/40
Channel Separation:	1MHz/2MHz
Antenna Type:	Integral Antenna
Antenna Gain:	0.53dBi
WIFI(5G)	
Support Standards:	802.11a, 802.11n-HT20/40, 802.11ac-HT80
Frequency Range:	Band 1: 5180-5240MHz, Band 4: 5745-5825MHz
RF Output Power:	7.859dBm (Conducted)
Type of Modulation:	BPSK,QPSK, 16QAM, 64QAM, 256-QAM
Type of Antenna:	Integral Antenna
Antenna Gain:	0.63dBi

1.2 Test Standards

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	**Body (0mm Gap)**	**SAR_{1g} Limit (W/kg)**
	Maximum SAR_{1g} (W/kg)	
GSM	0.258	1.6
WCDMA	0.325	1.6
LTE	0.341	1.6
WLAN 5G	**0.719**	1.6
Simultaneous Transmission	**1.060**	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+A1:2010, and had been tested in accordance with the measurement methods and procedure specified in KDB 865664 D01 v01r04, KDB 865664 D02 v01r02 and IEC 62209-2:2010.

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 techiques 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:

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

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

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

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

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

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

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.

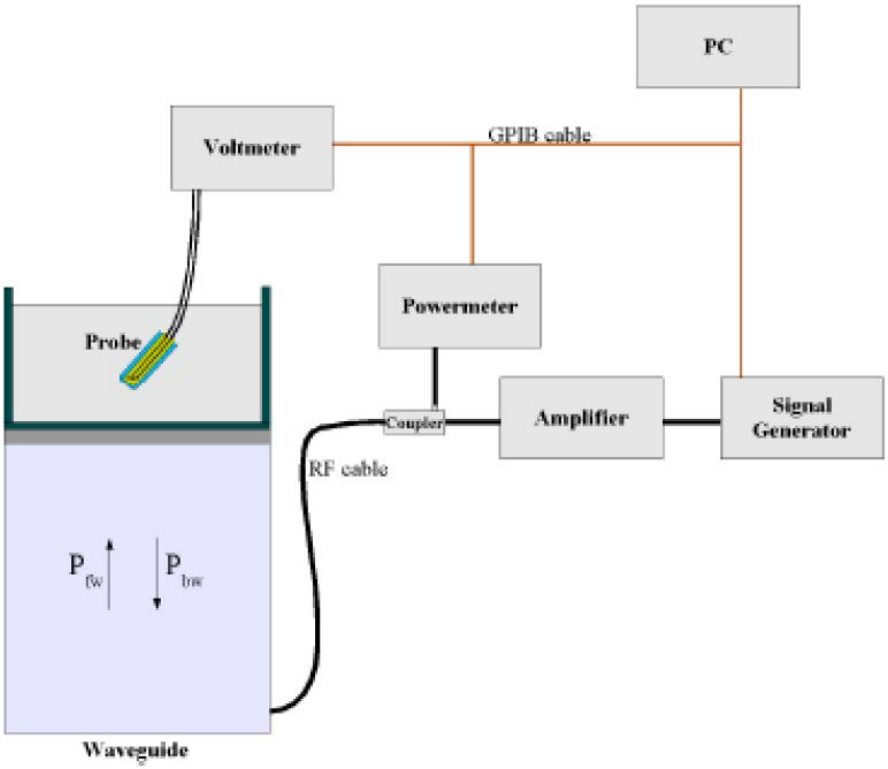
4.2 Probe

For the measurements the Specific Dosimetric E-Field Probe SSE5 SN 09/13 EP168 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

- 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 suface normal line:1ess 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.



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

Where :

Pfw = Forward Power

Pbw = Backward Power

a and b =Waveguide dimensions

I = 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.

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

$$CF(N)=SAR(N)/Vlin(N)\ (N=1,2,3)$$

The linearised output voltage Vlin(N) is obtained from the displayed output voltage V(N) using

$$Vlin(N)=V(N)*(1+V(N)/DCP(N))\ (N=1,2,3)$$

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.

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

Where:

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,

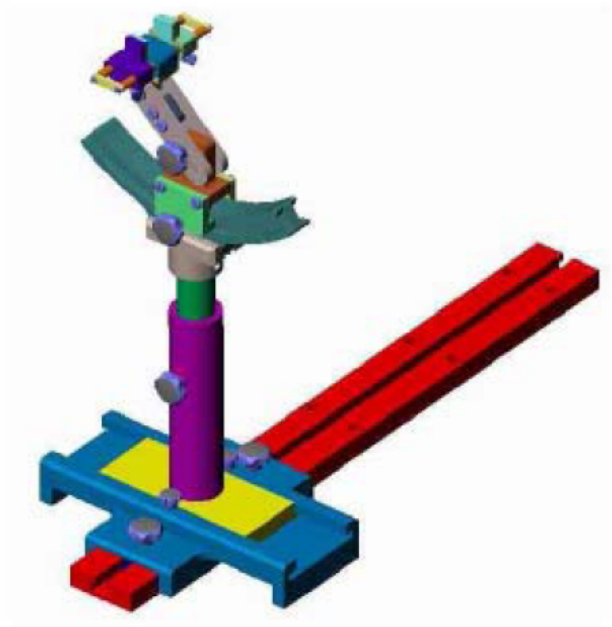
ρ = Tissue density (1.25 g/cm3 for brain tissue)

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	SSE5	SN 09/13 EP168	2020-05-22	2022-05-21
E-Field Probe	MVG	SSE2	SN 45/15 EPGO280	2020-07-03	2022-07-02
835MHz Dipole	MVG	SID835	SN 47/12 DIP 0G835-204	2020-03-11	2022-03-10
1900MHz Dipole	MVG	SID1900	SN 47/12 DIP 1G900-207	2020-03-11	2022-03-10
2450MHz Dipole	MVG	SID2450	SN 13/15 DIP 2G450-364	2020-03-11	2022-03-10
2600MHz Dipole	MVG	SID2600	SN 13/15 DIP 2G600-365	2020-03-11	2022-03-10
5 GHz Waveguide	MVG	SWG5500	SN 49/16 WGA45	2020-07-03	2022-07-02
Dielectric Probe	SATIMO	SCLMP	SN 47/12 OCPG49	2020-03-11	2022-03-10
SAM Phantom	SATIMO	SAM	SN/ 47/12 SAM95	N/A	N/A
Multi Meter	Keithley	Keithley 2000	4006367	2020-04-28	2021-04-27
Power meter	Keithley	3500	JC-2017-09-001	2020-04-28	2021-04-27
Power meter	Keithley	3500	JC-2017-09-001	2020-04-28	2021-04-27
Power Sensor	Agilent	11636B	JC-2017-10-002	2020-04-28	2021-04-27
Signal Generator	Rohde & Schwarz	SMR20	100047	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	20160	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 Body SAR

The Composition of Tissue Simulating Liquid

Frequency (MHz)	Water (%)	Salt (%)	Sugar (%)	HEC (%)	Preventol (%)	DGBE (%)
Head						
750	41.1	1.4	57.0	0.2	0.3	0
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

Frequency (MHz)	Water (%)	Hexyl Carbitol (%)	Triton X-100 (%)
Head			
5000-6000	65.52	17.24	17.24

5.2 Tissue Dielectric Parameters for Head and Body Phantoms

The IEEE Std. 1528, FCC KDBs and CEI/IEC 62209 standards state that the system validation measurements must be performed using a reference dipole meeting the fore mentioned return loss and mechanical dimension requirements. The validation measurement must be performed against a liquid filled flat phantom, with the phantom constructed as outlined in the fore mentioned standards. Per the standards, the dipole shall be positioned below the bottom of the phantom, with the dipole length centered and parallel to the longest dimension of the flat phantom, with the top surface of the dipole at the described distance from the bottom surface of the phantom.

Target Frequency (MHz)	**Head**	
	Conductivity (σ)	**Permittivity** (ε_r)
150	0.76	52.3
300	0.87	45.3
450	0.87	43.5
750	0.89	41.9
835	0.90	41.5
900	0.97	41.5
915	0.98	41.5
1450	1.20	40.5
1610	1.29	40.3
1750	1.37	40.1
1800-2000	1.40	40.0
2450	1.80	39.2
3000	2.40	38.5
5200	4.66	36.0
5800	5.27	35.3

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

Body Tissue Simulating Liquid									
Freq. MHz.	Temp. (℃)	Conductivity			Permittivity			Limit (%)	Date
		Reading (σ)	Target (σ)	Delta (%)	Reading (ε r)	Target (ε r)	Delta (%)		
835	22.2	0.92	0.90	2.22	42.70	41.5	2.89	±5	2021-04-19
1900	21.9	1.40	1.40	0.00	39.57	40.0	-1.08	±5	2021-04-21
2450	22.3	1.82	1.80	1.11	39.85	39.2	1.66	±5	2021-06-03
2600	22.3	1.99	1.96	1.53	39.22	39.0	0.56	±5	2021-04-16
5800	22.0	6.15	6.00	2.50	47.08	48.2	-2.32	±5	2021-04-22

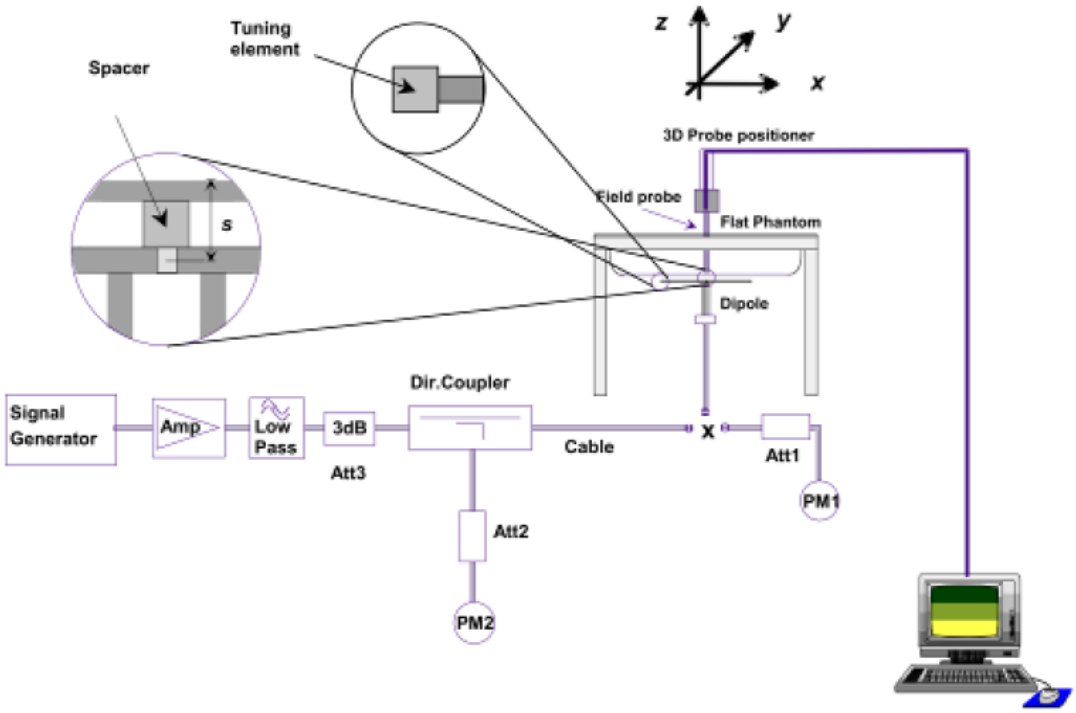
6. SAR Measurement Evaluation

6.1 Purpose of System Performance Check

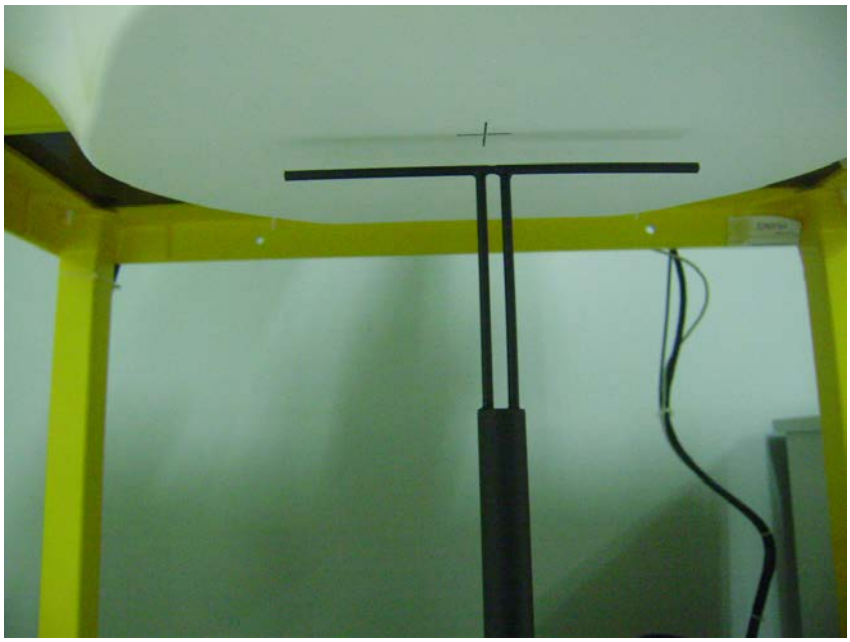
The system performance check verifies that the system operates within its specifications. System and operator errors can be detected and corrected. It is recommended that the system performance check be performed prior to any usage of the system in order to guarantee reproducible results. The system 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 2450MHz and 5000MHz. 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.
The output power on 5 GHz Waveguide must be calibrated to 20 dBm (100mW) before 5 GHz Waveguide 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.

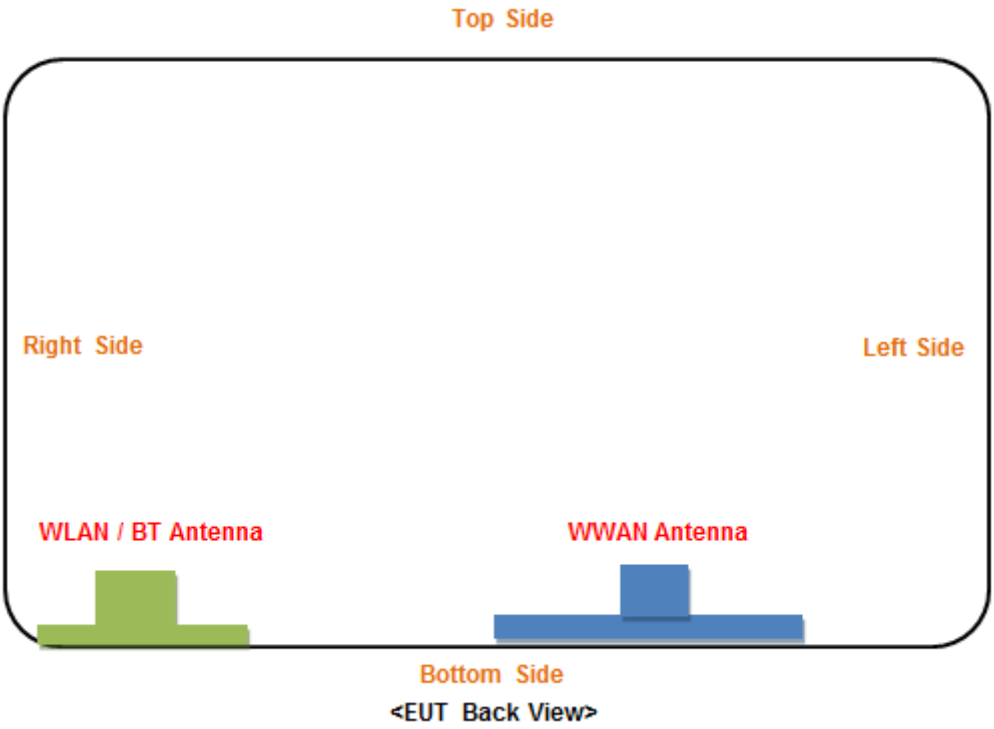
Frequency	Liquid	Power (mw)	Targeted SAR1g	Measured SAR1g	Normalized SAR1g	Tolerance	Date
835	Head	250	6.26	1.51	6.04	-3.51	2021-04-19
1900	Head	250	39.59	9.50	38.00	-4.02	2021-04-21
2450	Head	250	53.76	13.83	55.32	2.90	2021-06-03
2600	Head	250	55.7	14.11	56.44	1.33	2021-04-16
5800	Head	250	181.2	18.702	187.02	3.21	2021-04-22

Targeted and Measurement SAR

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

7. EUT Testing Position

7.1 EUT Antenna Position



EUT Size: Long*Width*Height=244mm*163mm*9mm

Fig 7.1 Block Diagram for EUT Antenna Position

Distance of EUT antenna-to-edge/surface(mm), Test distance:0mm						
Antennas	**Front**	**Back**	**Right Side**	**Left Side**	**Top Side**	**Bottom Side**
WWAN	<5	<5	124	43	142	<5
WLAN	<5	<5	9	186	140	<5

7.2 EUT Testing Position

SAR Test Exclusion Thresholds <50mm															
Frequency Bands	Tune up Power (dBm)	Tune up (mW)	Min test Separation Distance(mm)						Result						Limit
			Front	Back	Right	Left	Top	Bottom	Front	Back	Right	Left	Top	Bottom	
GSM850	27.0	501.2	/	5	/	43	/	5	/	91.0	/	10.6	/	91.0	3
GSM1900	24.0	251.2	/	5	/	43	/	5	/	68.9	/	8.00	/	68.9	3
WCDMA850	22.5	177.8	/	5	/	43	/	5	/	32.3	/	3.76	/	32.3	3
LTE B5	22.5	177.8	/	5	/	43	/	5	/	32.5	/	3.78	/	32.5	3
LTE B38	20.5	112.2	/	5	/	43	/	5	/	36.0	/	4.19	/	36.0	3
LTE B40	21.0	125.9	/	5	/	43	/	5	/	38.9	/	4.53	/	38.9	3
LTE B41	21.5	141.3	/	5	/	43	/	5	/	44.7	/	5.19	/	44.7	3
Bluetooth	6.5	4.47	/	5	9	/	/	5	/	0.87	0.78	/	/	0.87	3
WLAN(2.4G)	8.0	6.31	/	5	9	/	/	5	/	1.96	1.01	/	/	1.96	3
WLAN(5.2G)	8.0	6.31	/	5	9	/	/	5	/	2.88	1.60	/	/	2.88	3
WLAN(5.8G)	8.0	6.31	/	5	9	/	/	5	/	3.04	1.69	/	/	3.04	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:

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] · [√f(GHz)] ≤ 3.0

SAR Test Exclusion Thresholds <50mm														
Frequency Bands	Tune up Power (dBm)	Tune up (mW)	Min test Separation Distance(mm)						SAR test exclusion power thresholds					
			Front	Back	Right	Left	Top	Bottom	Front	Back	Right	Left	Top	Bottom
GSM850	27.0	501.2	/	/	124	/	142	/	/	/	575	/	675	/
GSM1900	24.0	251.2	/	/	124	/	142	/	/	/	849	/	1029	/
WCDMA850	22.5	177.8	/	/	124	/	142	/	/	/	575	/	675	/
LTE B5	22.5	177.8	/	/	124	/	142	/	/	/	575	/	675	/
LTE B38	20.5	112.2	/	/	124	/	142	/	/	/	836	/	1016	/
LTE B40	21.0	125.9	/	/	124	/	142	/	/	/	836	/	1016	/
LTE B41	21.5	141.3	/	/	124	/	142	/	/	/	836	/	1016	/
Bluetooth	6.5	4.47	/	/	/	186	140	/	/	/	/	1456	996	
WLAN(2.4G)	8.0	6.31	/	/	/	186	140	/	/	/	/	1456	996	/
WLAN(5.2G)	8.0	6.31	/	/	/	186	140	/	/	/	/	1426	966	/
WLAN(5.8G)	8.0	6.31	/	/	/	186	140	/	/	/	/	1422	962	/

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

2.

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:

Body SAR tests, Test distance: 0mm						
Antennas	**Front**	**Back**	**Right Side**	**Left Side**	**Top Side**	**Bottom**
GSM850	/	Yes	No	Yes	No	Yes
GSM1900	/	Yes	No	Yes	No	Yes
WCDMA850	/	Yes	No	Yes	No	Yes
LTE B5	/	Yes	No	Yes	No	Yes
LTE B38	/	Yes	No	Yes	No	Yes
LTE B40	/	Yes	No	Yes	No	Yes
LTE B41	/	Yes	No	Yes	No	Yes
Bluetooth	/	No	No	No	No	No
WLAN(2.4G)		No	No	No	No	No
WLAN(5.2G)	/	No	No	No	No	No
WLAN(5.8G)	/	Yes	No	No	No	Yes

Remark:

1. 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.
   Referring to KDB 616217 D04 v01r02, Exposures from antennas through the front (top) surface of the display section of a full-size tablet, away from the edges, are generally limited to the user's hands. Exposures to hands for typical consumer transmitters used in tablets are not expected to exceed the extremity SAR limit; therefore, SAR evaluation for the front surface of tablet display screens are generally not necessary.

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 form 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	32.25	32.54	32.83	33.0	29.47	29.97	29.96	30.0
GPRS (1 slot)	32.36	32.64	32.90	33.0	29.49	30.06	30.01	30.5
GPRS (2 slots)	31.25	31.28	31.56	32.0	28.63	28.84	28.71	29.0
GPRS (3 slots)	30.31	30.37	30.62	31.0	27.21	27.39	27.28	27.5
GPRS (4 slots)	29.96	29.06	29.23	30.0	26.85	26.99	26.74	27.0
EDGE (1 slot)	25.55	25.78	25.56	26.0	25.85	25.88	25.51	26.0
EDGE (2 slots)	24.36	24.27	24.83	25.0	25.14	25.09	24.98	25.5
EDGE (3 slots)	23.90	23.53	23.74	24.0	24.35	24.14	24.02	24.5
EDGE (4 slots)	22.35	22.46	22.81	23.0	23.89	23.56	23.45	24.0

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	23.25	23.54	23.83	24.0	20.47	20.97	20.96	21.0
GPRS (1 slot)	23.36	23.64	23.90	24.0	20.49	21.06	21.01	21.5
GPRS (2 slots)	25.25	25.28	25.56	26.0	22.63	22.84	22.71	23.0
GPRS (3 slots)	26.06	26.12	26.37	26.5	22.96	23.14	23.03	23.5
GPRS (4 slots)	26.96	26.06	26.23	27.0	23.85	23.99	23.74	24.0
EDGE (1 slot)	16.55	16.78	16.56	17.0	16.85	16.88	16.51	17.0
EDGE (2 slots)	18.36	18.27	18.83	19.0	19.14	19.09	18.98	19.5
EDGE (3 slots)	19.65	19.28	19.49	20.0	20.10	19.89	19.77	20.5
EDGE (4 slots)	19.35	19.46	19.81	20.0	20.89	20.56	20.45	21.0
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 V**			
Channel	**4132**	**4183**	**4233**	**Tune-up power (dBm)**
Frequency (MHz)	**826.4**	**836.4**	**846.6**	
RMC 12.2k	22.38	22.33	22.30	22.5
HSDPA Subtest-1	21.03	22.33	21.76	22.5
HSDPA Subtest-2	20.76	22.20	21.52	22.5
HSDPA Subtest-3	20.48	21.84	21.13	22.0
HSDPA Subtest-4	20.42	21.75	21.20	22.0
HSUPA Subtest-1	20.92	22.01	21.40	22.5
HSUPA Subtest-2	20.97	22.28	21.70	22.5
HSUPA Subtest-3	20.60	21.88	21.38	22.0
HSUPA Subtest-4	20.93	22.31	21.73	22.5
HSUPA Subtest-5	20.87	21.98	21.48	22.0

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 ≤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

Band	Bandwidth (MHz)	UL Channel	RB Size	RB Position	Modulation	Power (dBm)	high Limit (dBm)	Verdict
Band5	1.4	20407	1	#0	QPSK	22.19	37	PASS
Band5	1.4	20407	1	#Mid	QPSK	22.19	37	PASS
Band5	1.4	20407	1	#Max	QPSK	22.17	37	PASS
Band5	1.4	20407	3	#0	QPSK	22.16	37	PASS
Band5	1.4	20407	3	#Max	QPSK	22.14	37	PASS
Band5	1.4	20407	6	#0	QPSK	21.56	37	PASS
Band5	1.4	20407	1	#0	QAM16	22.08	37	PASS
Band5	1.4	20407	1	#Mid	QAM16	22.09	37	PASS
Band5	1.4	20407	1	#Max	QAM16	22.13	37	PASS
Band5	1.4	20407	3	#0	QAM16	21.59	37	PASS
Band5	1.4	20407	3	#Max	QAM16	21.62	37	PASS
Band5	1.4	20407	6	#0	QAM16	20.84	37	PASS
Band5	1.4	20525	1	#0	QPSK	21.95	37	PASS
Band5	1.4	20525	1	#Mid	QPSK	22.05	37	PASS
Band5	1.4	20525	1	#Max	QPSK	21.95	37	PASS
Band5	1.4	20525	3	#0	QPSK	22.07	37	PASS
Band5	1.4	20525	3	#Max	QPSK	21.94	37	PASS
Band5	1.4	20525	6	#0	QPSK	20.97	37	PASS
Band5	1.4	20525	1	#0	QAM16	21.58	37	PASS
Band5	1.4	20525	1	#Mid	QAM16	21.61	37	PASS
Band5	1.4	20525	1	#Max	QAM16	21.52	37	PASS
Band5	1.4	20525	3	#0	QAM16	20.86	37	PASS
Band5	1.4	20525	3	#Max	QAM16	20.91	37	PASS
Band5	1.4	20525	6	#0	QAM16	20.47	37	PASS
Band5	1.4	20643	1	#0	QPSK	21.98	37	PASS
Band5	1.4	20643	1	#Mid	QPSK	22.04	37	PASS
Band5	1.4	20643	1	#Max	QPSK	22.03	37	PASS
Band5	1.4	20643	3	#0	QPSK	22.00	37	PASS
Band5	1.4	20643	3	#Max	QPSK	22.14	37	PASS
Band5	1.4	20643	6	#0	QPSK	21.01	37	PASS
Band5	1.4	20643	1	#0	QAM16	21.55	37	PASS
Band5	1.4	20643	1	#Mid	QAM16	21.10	37	PASS
Band5	1.4	20643	1	#Max	QAM16	21.29	37	PASS
Band5	1.4	20643	3	#0	QAM16	21.63	37	PASS
Band5	1.4	20643	3	#Max	QAM16	21.16	37	PASS
Band5	1.4	20643	6	#0	QAM16	20.30	37	PASS
Band5	3	20415	1	#0	QPSK	22.02	37	PASS
Band5	3	20415	1	#Mid	QPSK	22.05	37	PASS
Band5	3	20415	1	#Max	QPSK	22.12	37	PASS
Band5	3	20415	8	#0	QPSK	21.60	37	PASS

Band5	3	20415	8	#Max	QPSK	21.21	37	PASS
Band5	3	20415	15	#0	QPSK	21.61	37	PASS
Band5	3	20415	1	#0	QAM16	21.38	37	PASS
Band5	3	20415	1	#Mid	QAM16	21.37	37	PASS
Band5	3	20415	1	#Max	QAM16	20.92	37	PASS
Band5	3	20415	8	#0	QAM16	20.61	37	PASS
Band5	3	20415	8	#Max	QAM16	20.16	37	PASS
Band5	3	20415	15	#0	QAM16	20.59	37	PASS
Band5	3	20525	1	#0	QPSK	21.94	37	PASS
Band5	3	20525	1	#Mid	QPSK	21.98	37	PASS
Band5	3	20525	1	#Max	QPSK	21.97	37	PASS
Band5	3	20525	8	#0	QPSK	20.94	37	PASS
Band5	3	20525	8	#Max	QPSK	21.00	37	PASS
Band5	3	20525	15	#0	QPSK	20.97	37	PASS
Band5	3	20525	1	#0	QAM16	21.57	37	PASS
Band5	3	20525	1	#Mid	QAM16	21.56	37	PASS
Band5	3	20525	1	#Max	QAM16	21.60	37	PASS
Band5	3	20525	8	#0	QAM16	19.95	37	PASS
Band5	3	20525	8	#Max	QAM16	20.65	37	PASS
Band5	3	20525	15	#0	QAM16	20.59	37	PASS
Band5	3	20635	1	#0	QPSK	22.02	37	PASS
Band5	3	20635	1	#Mid	QPSK	22.02	37	PASS
Band5	3	20635	1	#Max	QPSK	22.06	37	PASS
Band5	3	20635	8	#0	QPSK	21.54	37	PASS
Band5	3	20635	8	#Max	QPSK	21.12	37	PASS
Band5	3	20635	15	#0	QPSK	21.41	37	PASS
Band5	3	20635	1	#0	QAM16	21.06	37	PASS
Band5	3	20635	1	#Mid	QAM16	21.06	37	PASS
Band5	3	20635	1	#Max	QAM16	20.53	37	PASS
Band5	3	20635	8	#0	QAM16	20.55	37	PASS
Band5	3	20635	8	#Max	QAM16	20.11	37	PASS
Band5	3	20635	15	#0	QAM16	20.47	37	PASS
Band5	5	20425	1	#0	QPSK	21.97	37	PASS
Band5	5	20425	1	#Mid	QPSK	22.08	37	PASS
Band5	5	20425	1	#Max	QPSK	22.01	37	PASS
Band5	5	20425	12	#0	QPSK	21.60	37	PASS
Band5	5	20425	12	#Max	QPSK	21.13	37	PASS
Band5	5	20425	25	#0	QPSK	21.22	37	PASS
Band5	5	20425	1	#0	QAM16	21.21	37	PASS
Band5	5	20425	1	#Mid	QAM16	20.72	37	PASS
Band5	5	20425	1	#Max	QAM16	21.23	37	PASS
Band5	5	20425	12	#0	QAM16	20.59	37	PASS
Band5	5	20425	12	#Max	QAM16	20.02	37	PASS

Band5	5	20425	25	#0	QAM16	20.17	37	PASS
Band5	5	20525	1	#0	QPSK	22.02	37	PASS
Band5	5	20525	1	#Mid	QPSK	21.93	37	PASS
Band5	5	20525	1	#Max	QPSK	22.01	37	PASS
Band5	5	20525	12	#0	QPSK	20.87	37	PASS
Band5	5	20525	12	#Max	QPSK	20.89	37	PASS
Band5	5	20525	25	#0	QPSK	20.92	37	PASS
Band5	5	20525	1	#0	QAM16	21.04	37	PASS
Band5	5	20525	1	#Mid	QAM16	21.04	37	PASS
Band5	5	20525	1	#Max	QAM16	21.07	37	PASS
Band5	5	20525	12	#0	QAM16	19.93	37	PASS
Band5	5	20525	12	#Max	QAM16	20.40	37	PASS
Band5	5	20525	25	#0	QAM16	20.47	37	PASS
Band5	5	20625	1	#0	QPSK	21.83	37	PASS
Band5	5	20625	1	#Mid	QPSK	21.94	37	PASS
Band5	5	20625	1	#Max	QPSK	21.87	37	PASS
Band5	5	20625	12	#0	QPSK	20.99	37	PASS
Band5	5	20625	12	#Max	QPSK	21.45	37	PASS
Band5	5	20625	25	#0	QPSK	21.53	37	PASS
Band5	5	20625	1	#0	QAM16	20.81	37	PASS
Band5	5	20625	1	#Mid	QAM16	21.43	37	PASS
Band5	5	20625	1	#Max	QAM16	21.04	37	PASS
Band5	5	20625	12	#0	QAM16	19.87	37	PASS
Band5	5	20625	12	#Max	QAM16	20.51	37	PASS
Band5	5	20625	25	#0	QAM16	20.44	37	PASS
Band5	10	20450	1	#0	QPSK	22.05	37	PASS
Band5	10	20450	1	#Mid	QPSK	22.03	37	PASS
Band5	10	20450	1	#Max	QPSK	22.03	37	PASS
Band5	10	20450	25	#0	QPSK	21.10	37	PASS
Band5	10	20450	25	#Max	QPSK	20.86	37	PASS
Band5	10	20450	50	#0	QPSK	21.61	37	PASS
Band5	10	20450	1	#0	QAM16	21.54	37	PASS
Band5	10	20450	1	#Mid	QAM16	21.42	37	PASS
Band5	10	20450	1	#Max	QAM16	20.96	37	PASS
Band5	10	20450	25	#0	QAM16	20.16	37	PASS
Band5	10	20450	25	#Max	QAM16	19.89	37	PASS
Band5	10	20450	50	#0	QAM16	20.64	37	PASS
Band5	10	20525	1	#0	QPSK	22.03	37	PASS
Band5	10	20525	1	#Mid	QPSK	22.08	37	PASS
Band5	10	20525	1	#Max	QPSK	22.09	37	PASS
Band5	10	20525	25	#0	QPSK	20.94	37	PASS
Band5	10	20525	25	#Max	QPSK	21.07	37	PASS
Band5	10	20525	50	#0	QPSK	20.97	37	PASS

Band5	10	20525	1	#0	QAM16	21.01	37	PASS
Band5	10	20525	1	#Mid	QAM16	20.99	37	PASS
Band5	10	20525	1	#Max	QAM16	21.04	37	PASS
Band5	10	20525	25	#0	QAM16	20.02	37	PASS
Band5	10	20525	25	#Max	QAM16	20.06	37	PASS
Band5	10	20525	50	#0	QAM16	20.65	37	PASS
Band5	10	20600	1	#0	QPSK	22.03	37	PASS
Band5	10	20600	1	#Mid	QPSK	21.92	37	PASS
Band5	10	20600	1	#Max	QPSK	21.99	37	PASS
Band5	10	20600	25	#0	QPSK	21.02	37	PASS
Band5	10	20600	25	#Max	QPSK	21.54	37	PASS
Band5	10	20600	50	#0	QPSK	20.85	37	PASS
Band5	10	20600	1	#0	QAM16	20.41	37	PASS
Band5	10	20600	1	#Mid	QAM16	20.36	37	PASS
Band5	10	20600	1	#Max	QAM16	20.50	37	PASS
Band5	10	20600	25	#0	QAM16	20.60	37	PASS
Band5	10	20600	25	#Max	QAM16	20.60	37	PASS
Band5	10	20600	50	#0	QAM16	19.82	37	PASS
Band38	5	37775	1	#0	QPSK	20.04	37	PASS
Band38	5	37775	1	#Mid	QPSK	19.92	37	PASS
Band38	5	37775	1	#Max	QPSK	19.95	37	PASS
Band38	5	37775	12	#0	QPSK	19.13	37	PASS
Band38	5	37775	12	#Max	QPSK	19.22	37	PASS
Band38	5	37775	25	#0	QPSK	19.16	37	PASS
Band38	5	37775	1	#0	QAM16	19.83	37	PASS
Band38	5	37775	1	#Mid	QAM16	19.84	37	PASS
Band38	5	37775	1	#Max	QAM16	19.85	37	PASS
Band38	5	37775	12	#0	QAM16	18.14	37	PASS
Band38	5	37775	12	#Max	QAM16	18.22	37	PASS
Band38	5	37775	25	#0	QAM16	18.18	37	PASS
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Band38	5	38000	1	#Mid	QPSK	19.98	37	PASS
Band38	5	38000	1	#Max	QPSK	19.93	37	PASS
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Band38	5	38000	25	#0	QPSK	19.17	37	PASS
Band38	5	38000	1	#0	QAM16	19.13	37	PASS
Band38	5	38000	1	#Mid	QAM16	19.07	37	PASS
Band38	5	38000	1	#Max	QAM16	19.08	37	PASS
Band38	5	38000	12	#0	QAM16	18.30	37	PASS
Band38	5	38000	12	#Max	QAM16	18.29	37	PASS
Band38	5	38000	25	#0	QAM16	18.11	37	PASS
Band38	5	38225	1	#0	QPSK	19.90	37	PASS

Band38	5	38225	1	#Mid	QPSK	19.89	37	PASS
Band38	5	38225	1	#Max	QPSK	19.97	37	PASS
Band38	5	38225	12	#0	QPSK	19.03	37	PASS
Band38	5	38225	12	#Max	QPSK	18.93	37	PASS
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Band38	10	37800	1	#Max	QPSK	20.35	37	PASS
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Band38	10	37800	25	#Max	QAM16	18.26	37	PASS
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Band38	10	38000	1	#Max	QPSK	20.29	37	PASS
Band38	10	38000	25	#0	QPSK	19.20	37	PASS
Band38	10	38000	25	#Max	QPSK	19.06	37	PASS
Band38	10	38000	50	#0	QPSK	18.86	37	PASS
Band38	10	38000	1	#0	QAM16	19.50	37	PASS
Band38	10	38000	1	#Mid	QAM16	19.44	37	PASS
Band38	10	38000	1	#Max	QAM16	19.60	37	PASS
Band38	10	38000	25	#0	QAM16	18.45	37	PASS
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Band38	10	38000	50	#0	QAM16	18.00	37	PASS
Band38	10	38200	1	#0	QPSK	19.99	37	PASS
Band38	10	38200	1	#Mid	QPSK	19.87	37	PASS
Band38	10	38200	1	#Max	QPSK	19.87	37	PASS
Band38	10	38200	25	#0	QPSK	18.93	37	PASS
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Band38	10	38200	50	#0	QPSK	18.56	37	PASS
Band38	10	38200	1	#0	QAM16	19.19	37	PASS
Band38	10	38200	1	#Mid	QAM16	19.26	37	PASS

Band38	10	38200	1	#Max	QAM16	19.29	37	PASS
Band38	10	38200	25	#0	QAM16	18.10	37	PASS
Band38	10	38200	25	#Max	QAM16	18.13	37	PASS
Band38	10	38200	50	#0	QAM16	17.62	37	PASS
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Band38	15	37825	1	#Max	QPSK	20.32	37	PASS
Band38	15	37825	36	#0	QPSK	19.20	37	PASS
Band38	15	37825	36	#Max	QPSK	19.30	37	PASS
Band38	15	37825	75	#0	QPSK	18.78	37	PASS
Band38	15	37825	1	#0	QAM16	19.63	37	PASS
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Band38	15	37825	1	#Max	QAM16	19.61	37	PASS
Band38	15	37825	36	#0	QAM16	18.24	37	PASS
Band38	15	37825	36	#Max	QAM16	18.35	37	PASS
Band38	15	37825	75	#0	QAM16	17.98	37	PASS
Band38	15	38000	1	#0	QPSK	20.32	37	PASS
Band38	15	38000	1	#Mid	QPSK	20.24	37	PASS
Band38	15	38000	1	#Max	QPSK	20.12	37	PASS
Band38	15	38000	36	#0	QPSK	19.11	37	PASS
Band38	15	38000	36	#Max	QPSK	19.06	37	PASS
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Band38	15	38175	1	#Max	QPSK	19.91	37	PASS
Band38	15	38175	36	#0	QPSK	19.05	37	PASS
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Band38	20	37850	1	#0	QPSK	20.08	37	PASS
Band38	20	37850	1	#Mid	QPSK	20.14	37	PASS
Band38	20	37850	1	#Max	QPSK	20.21	37	PASS

Band38	20	37850	50	#0	QPSK	19.03	37	PASS
Band38	20	37850	50	#Max	QPSK	19.27	37	PASS
Band38	20	37850	100	#0	QPSK	18.79	37	PASS
Band38	20	37850	1	#0	QAM16	19.57	37	PASS
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Band38	20	38150	100	#0	QAM16	17.72	37	PASS
Band40a	5	38725	1	#0	QPSK	21.29	37	PASS
Band40a	5	38725	1	#Mid	QPSK	21.43	37	PASS
Band40a	5	38725	1	#Max	QPSK	21.43	37	PASS
Band40a	5	38725	12	#0	QPSK	20.64	37	PASS
Band40a	5	38725	12	#Max	QPSK	20.72	37	PASS
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Band40a	5	38725	1	#0	QAM16	21.11	37	PASS
Band40a	5	38725	1	#Mid	QAM16	21.19	37	PASS
Band40a	5	38725	1	#Max	QAM16	21.31	37	PASS
Band40a	5	38725	12	#0	QAM16	19.62	37	PASS

Band40a	5	38725	12	#Max	QAM16	19.70	37	PASS
Band40a	5	38725	25	#0	QAM16	19.60	37	PASS
Band40a	5	38750	1	#0	QPSK	21.35	37	PASS
Band40a	5	38750	1	#Mid	QPSK	21.53	37	PASS
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Band40a	5	38775	1	#0	QPSK	21.60	37	PASS
Band40a	5	38775	1	#Mid	QPSK	21.73	37	PASS
Band40a	5	38775	1	#Max	QPSK	21.82	37	PASS
Band40a	5	38775	12	#0	QPSK	20.92	37	PASS
Band40a	5	38775	12	#Max	QPSK	21.01	37	PASS
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Band40a	5	38775	1	#0	QAM16	20.47	37	PASS
Band40a	5	38775	1	#Mid	QAM16	20.94	37	PASS
Band40a	5	38775	1	#Max	QAM16	20.92	37	PASS
Band40a	5	38775	12	#0	QAM16	19.87	37	PASS
Band40a	5	38775	12	#Max	QAM16	19.94	37	PASS
Band40a	5	38775	25	#0	QAM16	20.16	37	PASS
Band40a	10	38750	1	#0	QPSK	21.50	37	PASS
Band40a	10	38750	1	#Mid	QPSK	21.56	37	PASS
Band40a	10	38750	1	#Max	QPSK	21.83	37	PASS
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Band40a	10	38750	25	#Max	QPSK	21.01	37	PASS
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Band40a	10	38750	1	#0	QAM16	20.84	37	PASS
Band40a	10	38750	1	#Mid	QAM16	21.10	37	PASS
Band40a	10	38750	1	#Max	QAM16	21.30	37	PASS
Band40a	10	38750	25	#0	QAM16	19.79	37	PASS
Band40a	10	38750	25	#Max	QAM16	20.05	37	PASS
Band40a	10	38750	50	#0	QAM16	20.05	37	PASS
Band40b	5	39175	1	#0	QPSK	21.41	37	PASS
Band40b	5	39175	1	#Mid	QPSK	21.53	37	PASS
Band40b	5	39175	1	#Max	QPSK	21.55	37	PASS
Band40b	5	39175	12	#0	QPSK	20.73	37	PASS
Band40b	5	39175	12	#Max	QPSK	20.75	37	PASS

Band40b	5	39175	25	#0	QPSK	20.77	37	PASS
Band40b	5	39175	1	#0	QAM16	20.88	37	PASS
Band40b	5	39175	1	#Mid	QAM16	20.95	37	PASS
Band40b	5	39175	1	#Max	QAM16	21.18	37	PASS
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Band40b	5	39200	12	#Max	QAM16	19.63	37	PASS
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Band40b	5	39225	1	#0	QPSK	21.49	37	PASS
Band40b	5	39225	1	#Mid	QPSK	21.59	37	PASS
Band40b	5	39225	1	#Max	QPSK	21.57	37	PASS
Band40b	5	39225	12	#0	QPSK	20.76	37	PASS
Band40b	5	39225	12	#Max	QPSK	20.89	37	PASS
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Band40b	10	39200	1	#Max	QPSK	21.78	37	PASS
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Band40b	10	39200	25	#Max	QPSK	20.81	37	PASS
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Band40b	10	39200	1	#Max	QAM16	20.65	37	PASS
Band40b	10	39200	25	#0	QAM16	19.73	37	PASS
Band40b	10	39200	25	#Max	QAM16	19.73	37	PASS
Band40b	10	39200	50	#0	QAM16	19.94	37	PASS

Band41a	5	40265	1	#0	QPSK	20.11	37	PASS
Band41a	5	40265	1	#Mid	QPSK	20.12	37	PASS
Band41a	5	40265	1	#Max	QPSK	20.07	37	PASS
Band41a	5	40265	12	#0	QPSK	19.34	37	PASS
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Band41a	5	40265	1	#0	QAM16	19.58	37	PASS
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Band41a	5	40740	1	#0	QPSK	19.83	37	PASS
Band41a	5	40740	1	#Mid	QPSK	19.95	37	PASS
Band41a	5	40740	1	#Max	QPSK	19.91	37	PASS
Band41a	5	40740	12	#0	QPSK	19.07	37	PASS
Band41a	5	40740	12	#Max	QPSK	18.96	37	PASS
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Band41a	5	41215	1	#0	QPSK	19.85	37	PASS
Band41a	5	41215	1	#Mid	QPSK	19.73	37	PASS
Band41a	5	41215	1	#Max	QPSK	19.78	37	PASS
Band41a	5	41215	12	#0	QPSK	18.83	37	PASS
Band41a	5	41215	12	#Max	QPSK	18.83	37	PASS
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Band41a	5	41215	1	#0	QAM16	19.27	37	PASS
Band41a	5	41215	1	#Mid	QAM16	18.98	37	PASS
Band41a	5	41215	1	#Max	QAM16	18.82	37	PASS
Band41a	5	41215	12	#0	QAM16	19.90	37	PASS
Band41a	5	41215	12	#Max	QAM16	19.89	37	PASS
Band41a	5	41215	25	#0	QAM16	18.03	37	PASS
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Band41a	10	40290	1	#Max	QPSK	20.23	37	PASS
Band41a	10	40290	25	#0	QPSK	19.15	37	PASS
Band41a	10	40290	25	#Max	QPSK	19.12	37	PASS
Band41a	10	40290	50	#0	QPSK	19.94	37	PASS
Band41a	10	40290	1	#0	QAM16	19.57	37	PASS

Band41a	10	40290	1	#Mid	QAM16	19.50	37	PASS
Band41a	10	40290	1	#Max	QAM16	19.47	37	PASS
Band41a	10	40290	25	#0	QAM16	18.34	37	PASS
Band41a	10	40290	25	#Max	QAM16	18.33	37	PASS
Band41a	10	40290	50	#0	QAM16	19.98	37	PASS
Band41a	10	40740	1	#0	QPSK	20.14	37	PASS
Band41a	10	40740	1	#Mid	QPSK	19.97	37	PASS
Band41a	10	40740	1	#Max	QPSK	20.12	37	PASS
Band41a	10	40740	25	#0	QPSK	19.05	37	PASS
Band41a	10	40740	25	#Max	QPSK	19.05	37	PASS
Band41a	10	40740	50	#0	QPSK	18.64	37	PASS
Band41a	10	40740	1	#0	QAM16	19.44	37	PASS
Band41a	10	40740	1	#Mid	QAM16	19.72	37	PASS
Band41a	10	40740	1	#Max	QAM16	19.33	37	PASS
Band41a	10	40740	25	#0	QAM16	18.16	37	PASS
Band41a	10	40740	25	#Max	QAM16	18.12	37	PASS
Band41a	10	40740	50	#0	QAM16	19.77	37	PASS
Band41a	10	41190	1	#0	QPSK	19.86	37	PASS
Band41a	10	41190	1	#Mid	QPSK	19.72	37	PASS
Band41a	10	41190	1	#Max	QPSK	19.70	37	PASS
Band41a	10	41190	25	#0	QPSK	18.93	37	PASS
Band41a	10	41190	25	#Max	QPSK	18.84	37	PASS
Band41a	10	41190	50	#0	QPSK	18.53	37	PASS
Band41a	10	41190	1	#0	QAM16	19.18	37	PASS
Band41a	10	41190	1	#Mid	QAM16	19.31	37	PASS
Band41a	10	41190	1	#Max	QAM16	19.11	37	PASS
Band41a	10	41190	25	#0	QAM16	18.06	37	PASS
Band41a	10	41190	25	#Max	QAM16	18.04	37	PASS
Band41a	10	41190	50	#0	QAM16	19.53	37	PASS
Band41a	15	40315	1	#0	QPSK	20.34	37	PASS
Band41a	15	40315	1	#Mid	QPSK	20.26	37	PASS
Band41a	15	40315	1	#Max	QPSK	20.31	37	PASS
Band41a	15	40315	36	#0	QPSK	19.26	37	PASS
Band41a	15	40315	36	#Max	QPSK	19.28	37	PASS
Band41a	15	40315	75	#0	QPSK	18.82	37	PASS
Band41a	15	40315	1	#0	QAM16	19.49	37	PASS
Band41a	15	40315	1	#Mid	QAM16	19.44	37	PASS
Band41a	15	40315	1	#Max	QAM16	19.44	37	PASS
Band41a	15	40315	36	#0	QAM16	18.33	37	PASS
Band41a	15	40315	36	#Max	QAM16	18.31	37	PASS
Band41a	15	40315	75	#0	QAM16	18.03	37	PASS
Band41a	15	40740	1	#0	QPSK	20.18	37	PASS
Band41a	15	40740	1	#Mid	QPSK	20.14	37	PASS

Band41a	15	40740	1	#Max	QPSK	19.98	37	PASS
Band41a	15	40740	36	#0	QPSK	19.14	37	PASS
Band41a	15	40740	36	#Max	QPSK	19.13	37	PASS
Band41a	15	40740	75	#0	QPSK	18.63	37	PASS
Band41a	15	40740	1	#0	QAM16	19.55	37	PASS
Band41a	15	40740	1	#Mid	QAM16	19.57	37	PASS
Band41a	15	40740	1	#Max	QAM16	19.49	37	PASS
Band41a	15	40740	36	#0	QAM16	18.31	37	PASS
Band41a	15	40740	36	#Max	QAM16	18.18	37	PASS
Band41a	15	40740	75	#0	QAM16	18.78	37	PASS
Band41a	15	41165	1	#0	QPSK	19.85	37	PASS
Band41a	15	41165	1	#Mid	QPSK	19.75	37	PASS
Band41a	15	41165	1	#Max	QPSK	19.66	37	PASS
Band41a	15	41165	36	#0	QPSK	18.94	37	PASS
Band41a	15	41165	36	#Max	QPSK	18.80	37	PASS
Band41a	15	41165	75	#0	QPSK	18.53	37	PASS
Band41a	15	41165	1	#0	QAM16	18.52	37	PASS
Band41a	15	41165	1	#Mid	QAM16	18.13	37	PASS
Band41a	15	41165	1	#Max	QAM16	18.84	37	PASS
Band41a	15	41165	36	#0	QAM16	18.19	37	PASS
Band41a	15	41165	36	#Max	QAM16	18.07	37	PASS
Band41a	15	41165	75	#0	QAM16	18.67	37	PASS
Band41a	20	40340	1	#0	QPSK	20.31	37	PASS
Band41a	20	40340	1	#Mid	QPSK	20.25	37	PASS
Band41a	20	40340	1	#Max	QPSK	20.20	37	PASS
Band41a	20	40340	50	#0	QPSK	19.19	37	PASS
Band41a	20	40340	50	#Max	QPSK	19.26	37	PASS
Band41a	20	40340	100	#0	QPSK	18.75	37	PASS
Band41a	20	40340	1	#0	QAM16	19.28	37	PASS
Band41a	20	40340	1	#Mid	QAM16	19.25	37	PASS
Band41a	20	40340	1	#Max	QAM16	19.20	37	PASS
Band41a	20	40340	50	#0	QAM16	18.41	37	PASS
Band41a	20	40340	50	#Max	QAM16	18.45	37	PASS
Band41a	20	40340	100	#0	QAM16	18.01	37	PASS
Band41a	20	40740	1	#0	QPSK	20.09	37	PASS
Band41a	20	40740	1	#Mid	QPSK	19.81	37	PASS
Band41a	20	40740	1	#Max	QPSK	19.77	37	PASS
Band41a	20	40740	50	#0	QPSK	19.25	37	PASS
Band41a	20	40740	50	#Max	QPSK	19.02	37	PASS
Band41a	20	40740	100	#0	QPSK	18.63	37	PASS
Band41a	20	40740	1	#0	QAM16	19.89	37	PASS
Band41a	20	40740	1	#Mid	QAM16	19.73	37	PASS
Band41a	20	40740	1	#Max	QAM16	19.64	37	PASS

Band41a	20	40740	50	#0	QAM16	18.34	37	PASS
Band41a	20	40740	50	#Max	QAM16	18.19	37	PASS
Band41a	20	40740	100	#0	QAM16	18.80	37	PASS
Band41a	20	41140	1	#0	QPSK	20.09	37	PASS
Band41a	20	41140	1	#Mid	QPSK	20.00	37	PASS
Band41a	20	41140	1	#Max	QPSK	19.90	37	PASS
Band41a	20	41140	50	#0	QPSK	18.99	37	PASS
Band41a	20	41140	50	#Max	QPSK	18.88	37	PASS
Band41a	20	41140	100	#0	QPSK	18.62	37	PASS
Band41a	20	41140	1	#0	QAM16	18.85	37	PASS
Band41a	20	41140	1	#Mid	QAM16	18.86	37	PASS
Band41a	20	41140	1	#Max	QAM16	18.68	37	PASS
Band41a	20	41140	50	#0	QAM16	18.10	37	PASS
Band41a	20	41140	50	#Max	QAM16	18.96	37	PASS
Band41a	20	41140	100	#0	QAM16	18.56	37	PASS

WLAN(2.4G) - Maximum Average Power					
Test Mode	**Data Rate**	**Channel**	**Frequency (MHz)**	**Average Power (dBm)**	**Tune-up power (dBm)**
802.11b	1Mbps	CH 01	2412	**7.541**	**8.0**
		CH 06	2437	7.169	7.5
		CH 11	2462	7.170	7.5
802.11g	6Mbps	CH 01	2412	6.210	6.5
		CH 06	2437	6.221	6.5
		CH 11	2462	6.633	7.0
802.11n (20MHz)	MCS0	CH 01	2412	5.306	5.5
		CH 06	2437	5.421	5.5
		CH 11	2462	5.803	6.0
802.11n (40MHz)	MCS0	CH 03	2422	3.335	3.5
		CH 07	2437	3.612	4.0
		CH 11	2452	3.872	4.0

WLAN(5.2G) - Conducted Power				
Test Mode	**Channel**	**Frequency (MHz)**	**Average Power (dBm)**	**Tune-up power (dBm)**
802.11a	36	5180	7.119	7.5
	40	5200	**7.859**	**8.0**
	48	5240	7.159	7.5
802.11n (HT20)	36	5180	6.016	6.5
	40	5200	6.014	6.5
	48	5240	6.450	6.5
802.11n (HT40)	38	5190	5.951	6.0
	46	5230	5.782	6.0
802.11ac (VHT80)	42	5210	3.408	3.5

WLAN(5.8G) - Conducted Power				
Test Mode	**Channel**	**Frequency (MHz)**	**Average Power (dBm)**	**Tune-up power (dBm)**
802.11a	CH 149	5745	7.336	7.5
	CH 157	5785	**7.584**	**8.0**
	CH 165	5825	7.061	7.5
802.11n (HT20)	CH 149	5745	6.951	7.0

	CH 157	5785	6.657	7.0
	CH 165	5825	6.508	7.0
802.11n (HT40)	CH 151	5755	5.040	5.5
	CH 159	5795	5.613	6.0
802.11ac (VHT80)	CH 155	5775	3.694	4.0

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 <= 1.2W/kg.

Bluetooth - Maximum Average Power			
Test Mode	**Data Rate**	**Average Power(dBm)**	**Tune-up power (dBm)**
GFSK	1Mbps	6.364	6.5
Pi/4 QDPSK	2Mbps	6.215	6.5
8DPSK	3Mbps	**6.436**	**6.5**

Bluetooth - Maximum Average Power					
Test Mode	**Data Rate**	**Channel**	**Frequency (MHz)**	**Average Power (dBm)**	**Tune-up power (dBm)**
BLE	1Mbps	CH 00	2402	4.391	4.5
		CH 19	2440	5.218	5.5
		CH 39	2480	4.308	4.5

9.2 Test Results for Standalone SAR Test

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					
1	GSM	Back Side	251	848.8	32.83	33.0	1.040	0.248	0.258
	GPRS_4TX	Back Side	128	824.2	29.96	30.0	1.009	0.222	0.224
	GPRS_4TX	Left side	128	824.2	29.96	30.0	1.009	0.052	0.052
	GPRS_4TX	Bottom side	128	824.2	29.96	30.0	1.009	0.230	0.232

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					
	GSM	Back Side	661	1880	29.97	30.0	1.007	0.112	0.113
	GPRS_4TX	Back Side	661	1880	26.99	27.0	1.002	0.152	0.152
	GPRS_4TX	Left side	661	1880	26.99	27.0	1.002	0.031	0.031
2	GPRS_4TX	Bottom side	661	1880	26.99	27.0	1.002	0.179	0.179

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					
3	RMC 12.2k	Back Side	4132	826.4	22.38	22.5	1.028	0.316	0.325
	RMC 12.2k	Left side	4132	826.4	22.38	22.5	1.028	0.068	0.070
	RMC 12.2k	Bottom side	4132	826.4	22.38	22.5	1.028	0.290	0.298

LTE 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)
	Modulation, Bandwidth, RB		MHz					
4	QPSK 10MHz 1RB	Back Side	836.5	22.09	22.5	1.099	0.310	0.341
	QPSK 10MHz 1RB	Left side	836.5	22.09	22.5	1.099	0.068	0.075
	QPSK 10MHz 1RB	Bottom side	836.5	22.09	22.5	1.099	0.275	0.302
	QPSK 10MHz 50%RB	Back Side	836.5	21.07	21.5	1.104	0.277	0.306
	QPSK 10MHz 50%RB	Left side	836.5	21.07	21.5	1.104	0.051	0.056
	QPSK 10MHz 50%RB	Bottom side	836.5	21.07	21.5	1.104	0.221	0.244

LTE Band 38–Body SAR Test (Gap: 0mm)								
Plot No.	Mode	Test Position	Frequency	Output Power	Rated Limit	Scaling Factor	SAR1g (W/kg)	Scaled SAR1g (W/kg)
	Modulation, Bandwidth, RB	Body	MHz	(dBm)	(dBm)			
	QPSK 20MHz 1RB	Back Side	2595	20.29	20.5	1.050	0.147	0.154
	QPSK 20MHz 1RB	Left side	2595	20.29	20.5	1.050	0.015	0.016
5	QPSK 20MHz 1RB	Bottom side	2595	20.29	20.5	1.050	0.148	0.155
	QPSK 20MHz 50%RB	Back Side	2595	19.32	19.5	1.042	0.109	0.114
	QPSK 20MHz 50%RB	Left side	2595	19.32	19.5	1.042	0.009	0.009
	QPSK 20MHz 50%RB	Bottom side	2595	19.32	19.5	1.042	0.122	0.127

LTE Band 40a–Body SAR Test (Gap: 0mm)								
Plot No.	Mode	Test Position	Frequency	Output Power	Rated Limit	Scaling Factor	SAR1g (W/kg)	Scaled SAR1g (W/kg)
	Modulation, Bandwidth, RB	Body	MHz	(dBm)	(dBm)			
6	QPSK 20MHz 1RB	Back Side	2310	21.83	22.0	1.040	0.129	0.134
	QPSK 20MHz 1RB	Left side	2310	21.83	22.0	1.040	0.186	**0.193**
	QPSK 20MHz 1RB	Bottom side	2310	21.83	22.0	1.040	0.139	0.145
	QPSK 20MHz 50%RB	Back Side	2310	21.56	20.0	1.107	0.085	0.094
	QPSK 20MHz 50%RB	Left side	2310	21.56	20.0	1.107	0.094	0.104
	QPSK 20MHz 50%RB	Bottom side	2310	21.56	20.0	1.107	0.116	0.128

LTE Band 40b–Body SAR Test (Gap: 0mm)								
Plot No.	Mode	Test Position	Frequency	Output Power	Rated Limit	Scaling Factor	SAR1g (W/kg)	Scaled SAR1g (W/kg)
	Modulation, Bandwidth, RB	Body	MHz	(dBm)	(dBm)			
7	QPSK 20MHz 1RB	Back Side	2355	21.78	22.0	1.052	0.107	0.113
	QPSK 20MHz 1RB	Left side	2355	21.78	22.0	1.052	0.156	**0.164**
	QPSK 20MHz 1RB	Bottom side	2355	21.78	22.0	1.052	0.121	0.127
	QPSK 20MHz 50%RB	Back Side	2355	21.54	22.0	1.112	0.078	0.087
	QPSK 20MHz 50%RB	Left side	2355	21.54	22.0	1.112	0.096	0.107
	QPSK 20MHz 50%RB	Bottom side	2355	21.54	22.0	1.112	0.105	0.117

LTE Band 41–Body SAR Test (Gap: 0mm)								
Plot No.	Mode	Test Position	Frequency	Output Power	Rated Limit	Scaling Factor	SAR1g (W/kg)	Scaled SAR1g (W/kg)
	Modulation, Bandwidth, RB	Body	MHz	(dBm)	(dBm)			
	QPSK 20MHz 1RB	Back Side	2565	20.31	20.5	1.045	0.107	0.112
	QPSK 20MHz 1RB	Left side	2565	20.31	20.5	1.045	0.018	0.019
8	QPSK 20MHz 1RB	Bottom side	2565	20.31	20.5	1.045	0.117	0.122
	QPSK 20MHz 50%RB	Back Side	2565	19.26	19.5	1.057	0.084	0.089
	QPSK 20MHz 50%RB	Left side	2565	19.26	19.5	1.057	0.014	0.015

	QPSK 20MHz 50%RB	Bottom side	2565	19.26	19.5	1.057	0.094	0.099

WLAN 5.8GHz –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**					
9	802.11a	Back Side	157	5785	7.58	8.0	1.102	0.653	0.719
	802.11a	Bottom Side	157	5785	7.58	8.0	1.102	0.492	0.542

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	Body SAR
1	GSM(Voice/Data) + WLAN(2.4G)(Data)	Yes
2	WCDMA (Voice/Data)+ (2.4G)(Data)	Yes
3	LTE(Data) + (2.4G)(Data)	Yes
4	GSM(Voice/Data) + WLAN(5G)(Data)	Yes
5	WCDMA (Voice/Data)+ (5G)(Data)	Yes
6	LTE(Data) + (5G)(Data)	Yes
7	GSM(Voice/Data) + Bluetooth(Data)	Yes
8	WCDMA (Voice/Data) + Bluetooth(Data)	Yes
9	LTE(Data) + Bluetooth(Data)	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:

(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)]·[√f(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
8.0	6.31	5	2.48	7.5	0.265

WLAN(2.4G):

Tune-Up Power (dBm)	Max. Power (mW)	Distance (mm)	Frequency (GHz)	X	SAR(1g) 5mm
8.0	6.31	5	2.412	7.5	0.261

WLAN(5.2G):

Tune-Up Power (dBm)	Max. Power (mW)	Distance (mm)	Frequency (GHz)	X	SAR(1g) 5mm
8.0	6.31	5	5.2	7.5	0.384

4. The maximum SAR summation is calculated based on the same configuration and test position.

Body SAR

WWAN and WLAN

	WWAN		Bluetooth	Summed SAR (W/kg)
Position	**Band**	**Scaled SAR (W/kg)**	**Scaled SAR (W/kg)**	
Back	GSM	0.258	0.265	0.523
Front	GSM	/	/	/
Right side	GSM	/	/	/
Left side	GSM	0.052	0.265	0.317
Top side	GSM	/	/	/
Bottom side	GSM	0.232	0.265	0.497
Back	WCDMA	0.325	0.265	0.590
Front	WCDMA	/	/	/
Right side	WCDMA	/	/	/
Left side	WCDMA	0.070	0.265	0.335
Top side	WCDMA	/	/	/
Bottom side	WCDMA	0.298	0.265	0.563
Back	LTE	0.341	0.265	0.606
Front	LTE	/	/	/
Right side	LTE	/	/	/
Left side	LTE	0.193	0.265	0.458
Top side	LTE	/	/	/
Bottom side	LTE	0.302	0.265	0.567

	WWAN		WLAN(2.4G)	Summed SAR (W/kg)
Position	**Band**	**Scaled SAR (W/kg)**	**Scaled SAR (W/kg)**	
Back	GSM	0.258	0.261	0.519
Front	GSM	/	/	/
Right side	GSM	/	/	/
Left side	GSM	0.052	0.261	0.313
Top side	GSM	/	/	/
Bottom side	GSM	0.232	0.261	0.493
Back	WCDMA	0.325	0.261	0.586
Front	WCDMA	/	/	/
Right side	WCDMA	/	/	/
Left side	WCDMA	0.070	0.261	0.331
Top side	WCDMA	/	/	/
Bottom side	WCDMA	0.298	0.261	0.559
Back	LTE	0.341	0.261	0.602

Front	LTE	/	/	/
Right side	LTE	/	/	/
Left side	LTE	0.193	0.261	0.454
Top side	LTE	/	/	/
Bottom side	LTE	0.302	0.261	0.563

	WWAN		**WLAN(5G)**	**Summed SAR (W/kg)**
Position	**Band**	**Scaled SAR (W/kg)**	**Scaled SAR (W/kg)**	
Back	GSM	0.258	0.719	0.977
Front	GSM	/	/	/
Right side	GSM	/	/	/
Left side	GSM	0.052	/	0.052
Top side	GSM	/	/	/
Bottom side	GSM	0.232	0.542	0.774
Back	WCDMA	0.325	0.719	1.044
Front	WCDMA	/	/	/
Right side	WCDMA	/	/	/
Left side	WCDMA	0.070	/	0.070
Top side	WCDMA	/	/	/
Bottom side	WCDMA	0.298	0.542	0.840
Back	LTE	0.341	0.719	1.060
Front	LTE	/	/	/
Right side	LTE	/	/	/
Left side	LTE	0.193	/	0.193
Top side	LTE	/	/	/
Bottom side	LTE	0.302	0.542	0.844

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	√3	(1_Cp)^1/2	(1_Cp)^1/2	1.02	1.02	∝
Hemispherical Isotropy	E.2.2	4.0	R	√3	(Cp)^1/2	(Cp)^1/2	1.63	1.63	∝
Boundary effect	E.2.3	1.0	R	√3	1	1	0.58	0.58	∝
Linearity	E.2.4	5.0	R	√3	1	1	2.89	2.89	∝
System detection limits	E.2.5	1.0	R	√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	√3	1	1	1.73	1.73	∝
Integration Time	E.2.8	2.0	R	√3	1	1	1.15	1.15	∝
RF ambient Conditions – Noise	E.6.1	3.0	R	√3	1	1	1.73	1.73	∝
RF ambient Conditions - Reflections	E.6.1	3.0	R	√3	1	1	1.73	1.73	∝
Probe positioner Mechanical Tolerance	E.6.2	2.0	R	√3	1	1	1.15	1.15	∝
Probe positioning with respect to Phantom Shell	E.6.3	0.05	R	√3	1	1	0.03	0.03	∝
Extrapolation, interpolation and integration Algoritms for Max. SAR Evaluation	E.5	5.0	R	√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	√3	1	1	6.94	6.94	∝
SAR scaling	E6.5	0.0	R	√3	1	1	0.0	0.0	∝
Phantom and Tissue Parameters									
Phantom Uncertainty (Shape and thickness tolerances)	E.3.1	0.05	R	√3	1	1	0.03	0.03	∝
Uncertainty in SAR correction for deviations in permittivity and conductivity	E3.2	1.9	R	√3	1	0.84	1.10	0.90	∝
Liquid conductivity - deviation from target value	E.3.2	5.00	R	√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	√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	√3	(1_Cp)^1/2	(1_Cp)^1/2	1.02	1.02	∝
Hemispherical Isotropy	E.2.2	4.0	R	√3	(Cp)^1/2	(Cp)^1/2	1.63	1.63	∝
Boundary effect	E.2.3	1.0	R	√3	1	1	0.58	0.58	∝
Linearity	E.2.4	5.0	R	√3	1	1	2.89	2.89	∝
System detection limits	E.2.5	1.0	R	√3	1	1	0.58	0.58	∝
Modulation response	E.2.5	0	R	√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	√3	1	1	1.73	1.73	∝
Integration Time	E.2.8	2.0	R	√3	1	1	1.15	1.15	∝
RF ambient Conditions – Noise	E.6.1	3.0	R	√3	1	1	1.73	1.73	∝
RF ambient Conditions - Reflections	E.6.1	3.0	R	√3	1	1	1.73	1.73	∝
Probe positioner Mechanical Tolerance	E.6.2	2.0	R	√3	1	1	1.15	1.15	∝
Probe positioning with respect to Phantom Shell	E.6.3	0.05	R	√3	1	1	0.03	0.03	∝
Extrapolation, interpolation and integration Algoritms for Max. SAR Evaluation	E.5.2	5.0	R	√3	1	1	2.89	2.89	∝

Dipole									
Dipole axis to liquid Distance	8,E.4.2	1.00	N	√3	1	1	0.58	0.58	N−1
Input power and SAR drift measurement	8,6.6.2	12.02	R	√3	1	1	6.94	6.94	∝
Deviation of experimental dipole from numerical dipole	E.6.4	5.5	R	√3	1	1	3.20	3.20	∝
Phantom and Tissue Parameters									
Phantom Uncertainty (Shape and thickness tolerances)	E.3.1	0.05	R	√3	1	1	0.03	0.03	∝
Uncertainty in SAR correction for deviations in permittivity and conductivity	E3.2	2.0	R	√3	1	0.84	1.10	1.10	∝
Liquid conductivity - deviation from target value	E.3.2	5.00	R	√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	√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

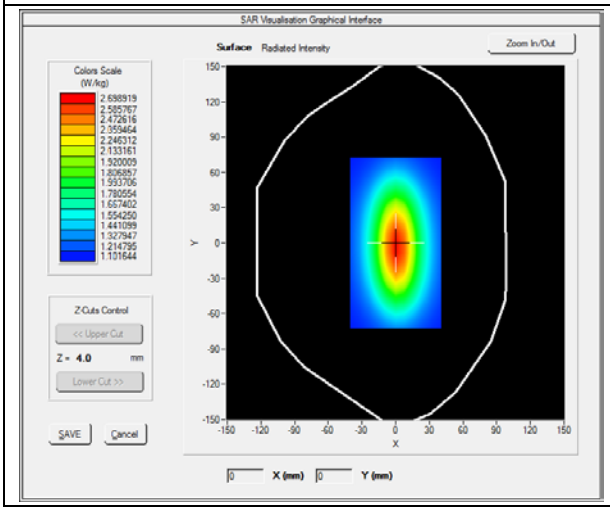
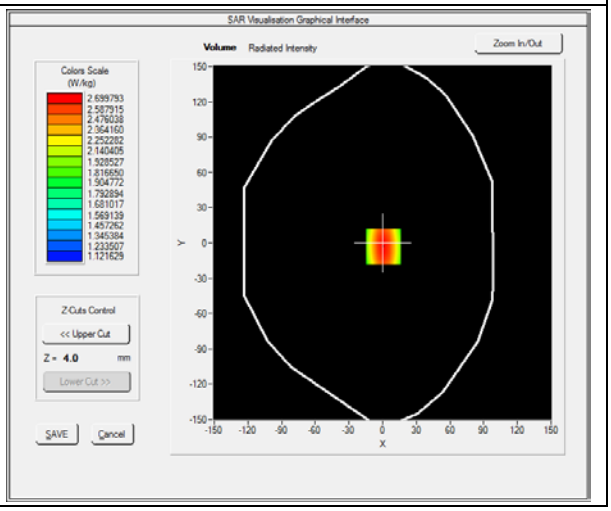
Type: Validation measurement (Fast, 75.00 %)
Measurement duration: 7 minutes 21 seconds
E-field Probe: SN 45/15 EPGO280; ConvF: 1.91; Calibrated: 2020-07-03

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=8mm dy=8mm dz=5mm
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)	42.702834
Conductivity (S/m)	0.918657
Power Variation (%)	-1.620000
Ambient Temperature	22.2
Liquid Temperature	22.2

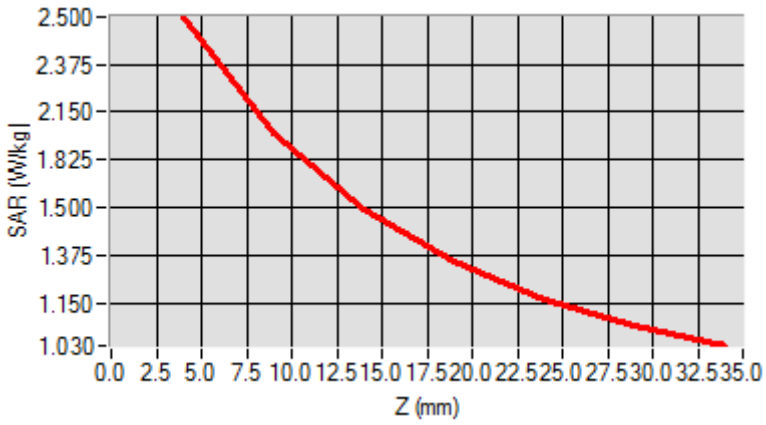
SURFACE SAR	VOLUME SAR
	

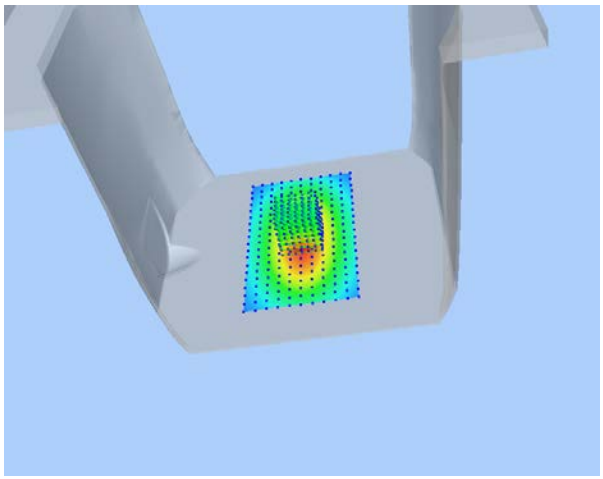
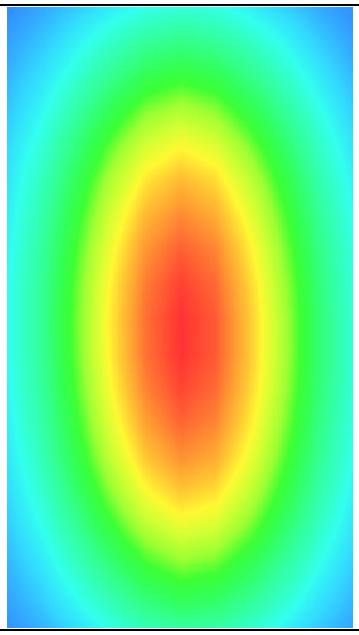
Maximum location: X=0.00, Y=0.00

SAR 10g (W/Kg)	**1.512763**
SAR 1g (W/Kg)	**2.380250**

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

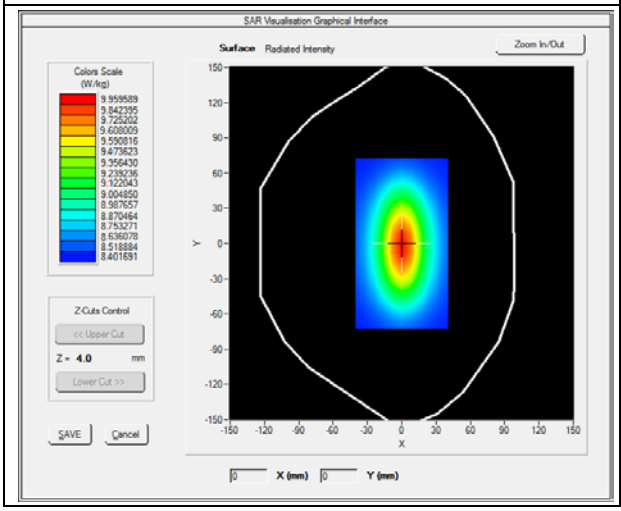
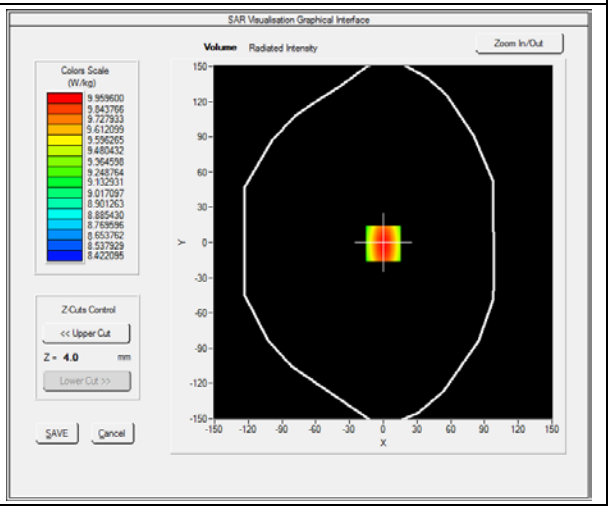
Type: Validation measurement (Fast, 75.00 %)
Measurement duration: 12 minutes 21 seconds
E-field Probe: SN 45/15 EPGO280; ConvF: 2.15; Calibrated: 2020-07-03

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Dipole
Band	CW1900
Signal	CW (Crest factor: 1.0)

B. SAR Measurement Results

Frequency (MHz)	1900.00000
Relative Permittivity (real part)	39.570296
Conductivity (S/m)	1.403845
Power Variation (%)	-1.710000
Ambient Temperature	21.9
Liquid Temperature	21.9

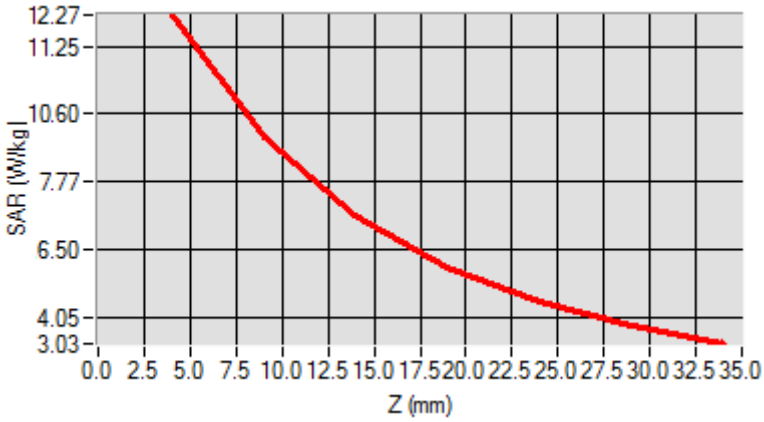
SURFACE SAR	VOLUME SAR
	

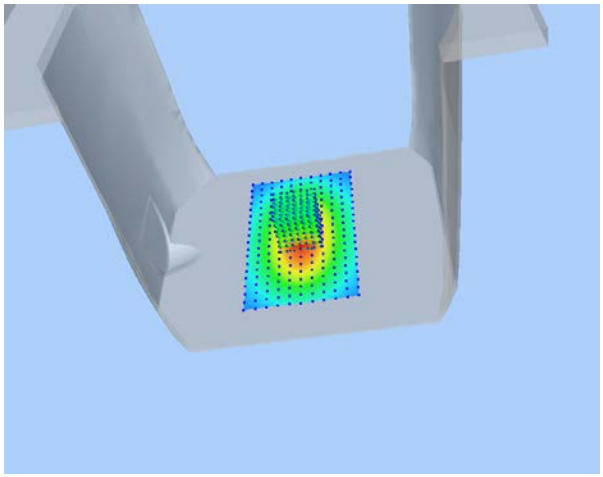
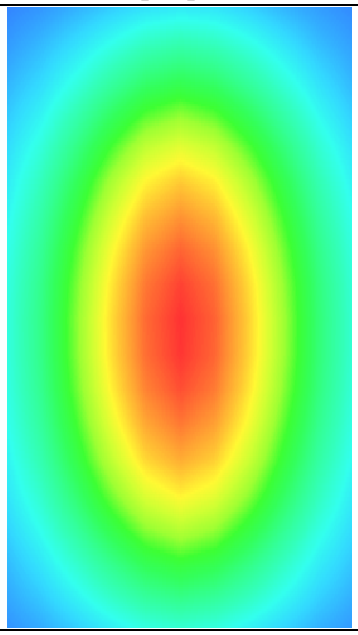
Maximum location: X=0.00, Y=0.00

SAR 10g (W/Kg)	**5.071250**
SAR 1g (W/Kg)	**9.501250**

Z Axis Scan

Z (mm)	**0.00**	**4.00**	**9.00**	**14.00**	**19.00**	**24.00**	**29.00**
SAR (W/Kg)	**0.0000**	**12.1250**	**10.3114**	**8.4212**	**6.4041**	**5.3425**	**3.3642**



3D screen shot	**Hot spot position**
	

MEASUREMENT 3

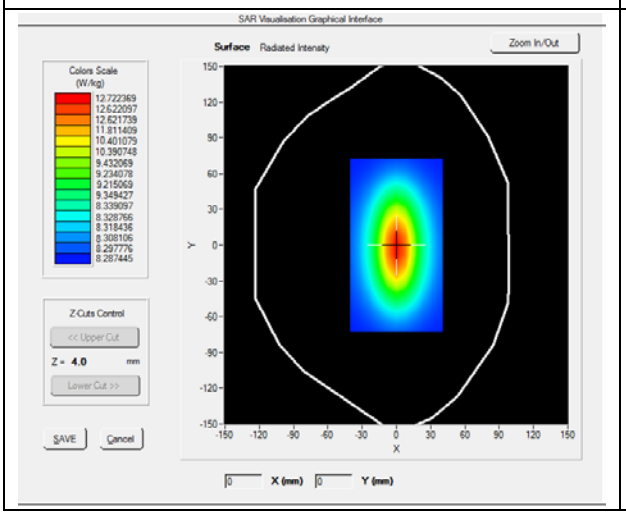
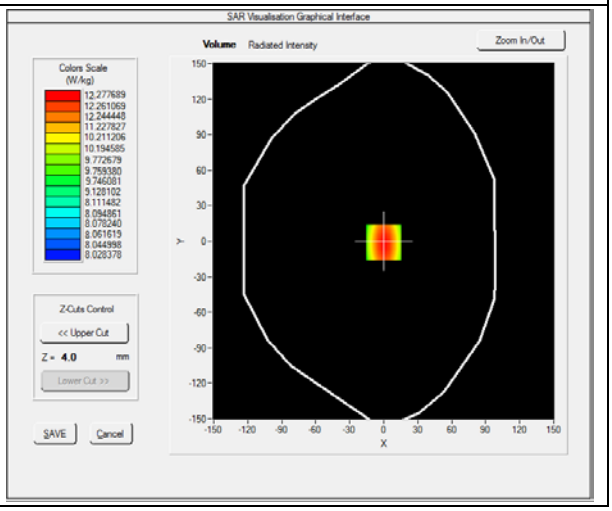
Type: Validation measurement (Fast, 75.00 %)
Measurement duration: 12 minutes 21 seconds
E-field Probe: SN 09/13 EP168; ConvF: 5.64; Calibrated: 2020-05-22

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Dipole
Band	CW2450
Signal	CW (Crest factor: 1.0)

B. SAR Measurement Results

Frequency (MHz)	2450.000000
Relative Permittivity (real part)	39.850317
Conductivity (S/m)	1.824035
Power Variation (%)	-1.050000
Ambient Temperature	22.3
Liquid Temperature	22.3

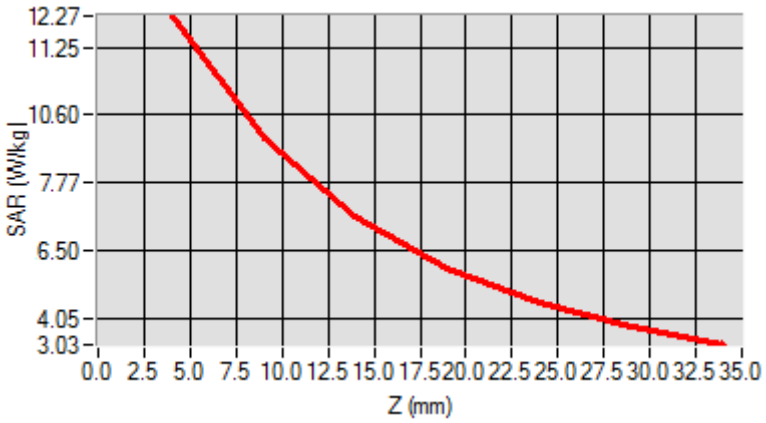
SURFACE SAR	VOLUME SAR
	

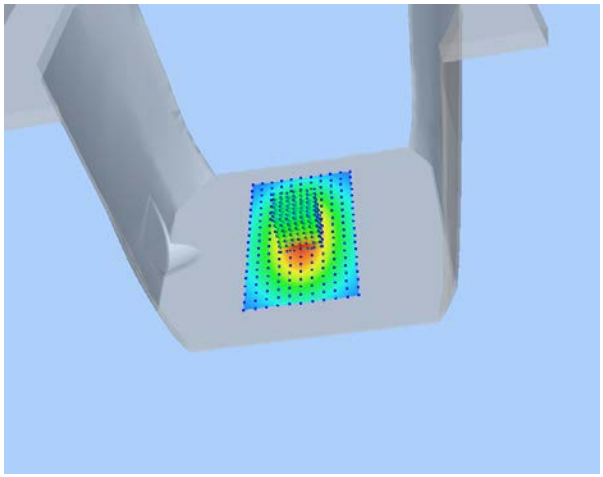
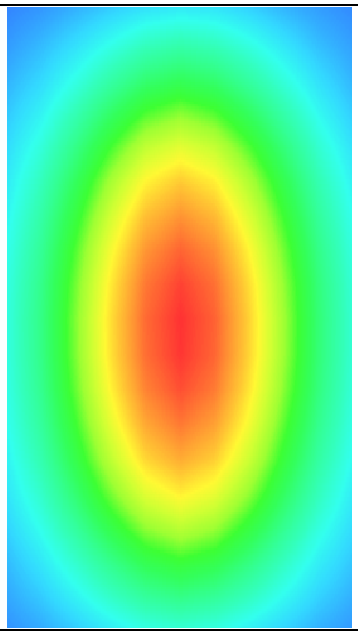
Maximum location: X=0.00, Y=0.00

SAR 10g (W/Kg)	**6.152122**
SAR 1g (W/Kg)	**13.831201**

Z Axis Scan

Z (mm)	**0.00**	**4.00**	**9.00**	**14.00**	**19.00**	**24.00**	**29.00**
SAR (W/Kg)	**0.0000**	**12.2365**	**10.3321**	**8.4512**	**6.4365**	**5.6123**	**3.5621**



3D screen shot	**Hot spot position**
	

MEASUREMENT 4

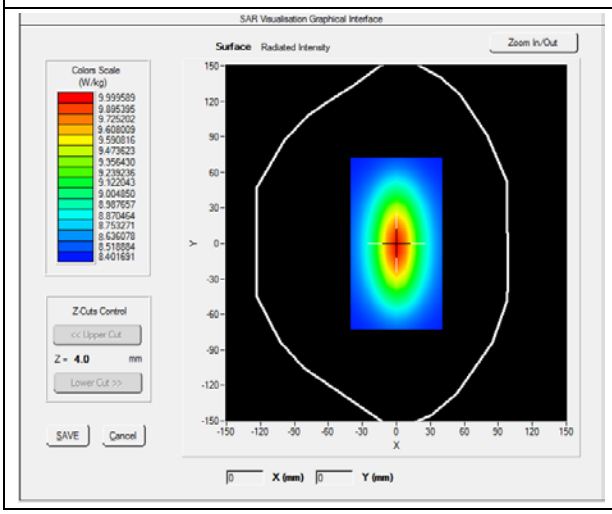
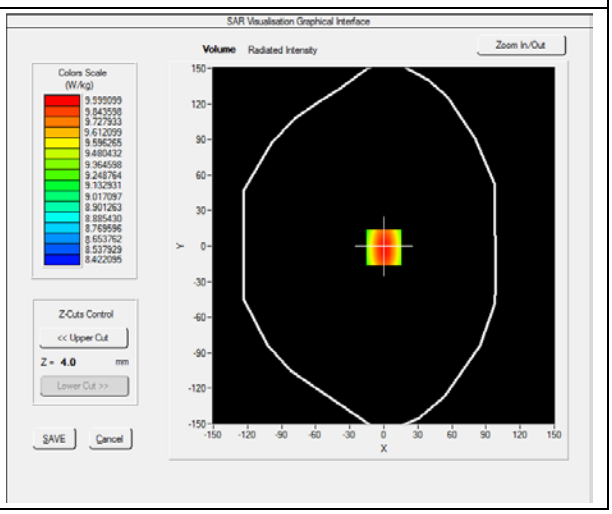
Type: Validation measurement (Fast, 75.00 %)
Measurement duration: 12 minutes 21 seconds
E-field Probe: SN 09/13 EP168; ConvF: 5.37; Calibrated: 2020-05-22

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Dipole
Band	CW2600
Signal	CW (Crest factor: 1.0)

B. SAR Measurement Results

Frequency (MHz)	2600.000000
Relative Permittivity (real part)	39.218356
Conductivity (S/m)	1.990324
Power Variation (%)	-1.360000
Ambient Temperature	22.3
Liquid Temperature	22.3

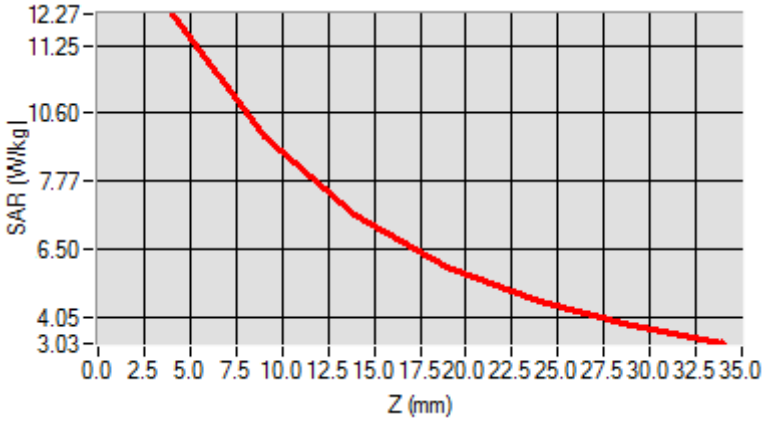
SURFACE SAR	VOLUME SAR
	

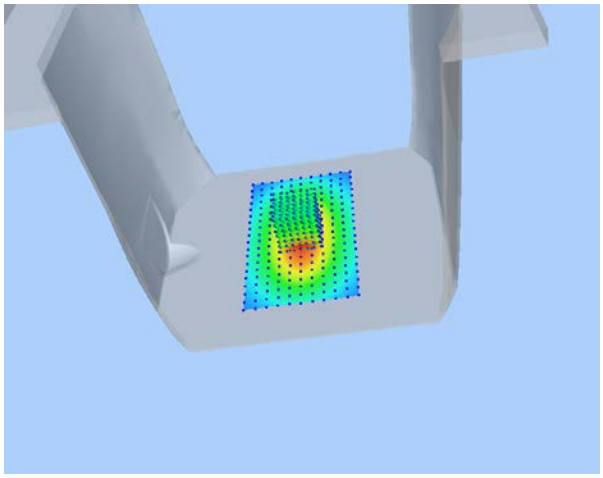
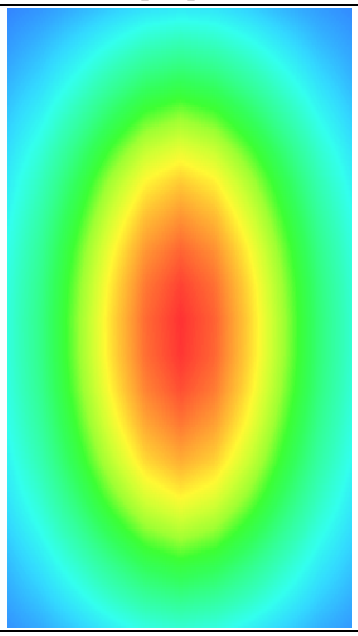
Maximum location: X=0.00, Y=0.00

SAR 10g (W/Kg)	**6.183156**
SAR 1g (W/Kg)	**14.113311**

Z Axis Scan

Z (mm)	**0.00**	**4.00**	**9.00**	**14.00**	**19.00**	**24.00**	**29.00**
SAR (W/Kg)	**0.0000**	**12.14321**	**10.3214**	**8.4598**	**6.4653**	**5.6765**	**3.5986**



3D screen shot	**Hot spot position**
	

MEASUREMENT 5

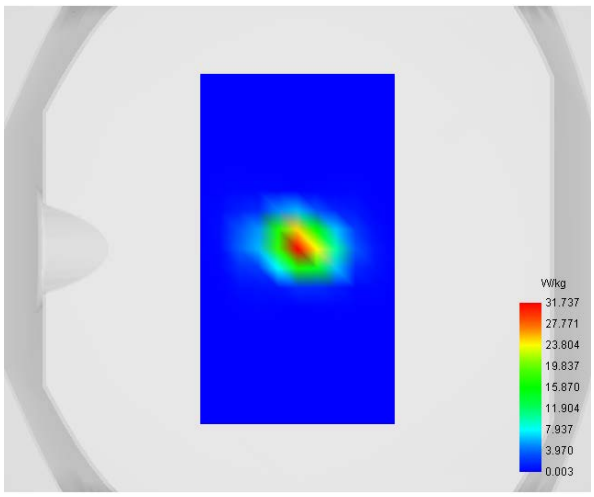
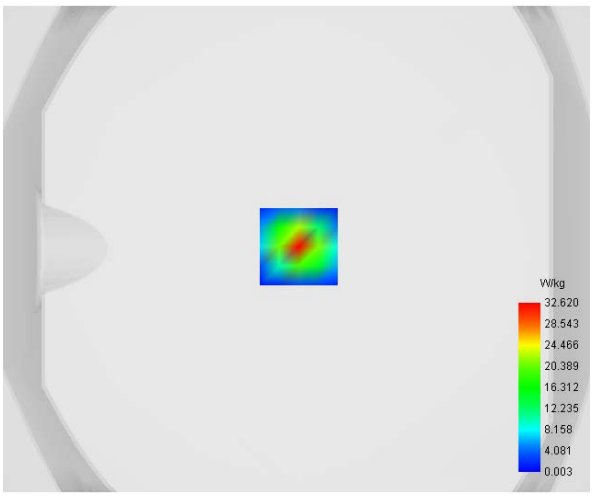
Type: Validation measurement (Fast, 75.00 %)
Measurement duration: 12 minutes 21 seconds
E-field Probe: SN 45/15 EPGO280; ConvF: 2.52; Calibrated: 2020-07-03

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Zoom Scan	dx=4mm dy=4mm dz=2mm
Phantom	Validation plane
Device Position	Dipole
Band	CW5800
Signal	CW (Crest factor: 1.0)

B. SAR Measurement Results

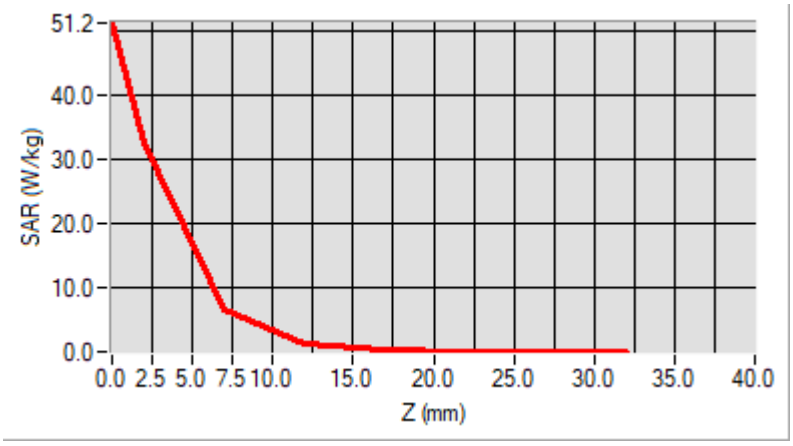
Frequency (MHz)	5800.000000
Relative Permittivity (real part)	47.084615
Conductivity (S/m)	6.153824
Power Variation (%)	-1.750000
Ambient Temperature	22.0
Liquid Temperature	22.0

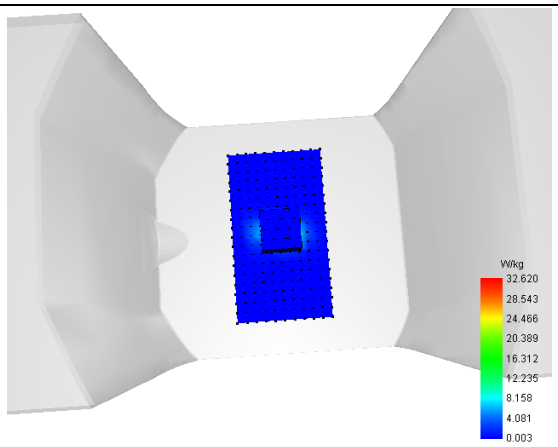
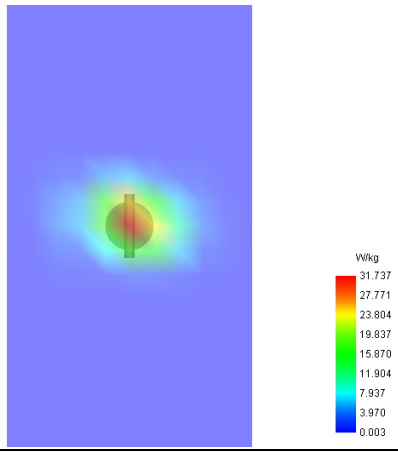
SURFACE SAR	VOLUME SAR
	

Maximum location: X=1.00, Y=1.00

SAR 10g (W/Kg)	**6.260337**
SAR 1g (W/Kg)	**18.701835**

Z (mm)	**0.00**	**2.00**	**7.00**	**12.00**	**17.00**	**22.00**	**27.00**
SAR (W/Kg)	**51.2061**	**32.6198**	**6.6166**	**1.3486**	**0.2638**	**0.0509**	**0.0050**



3D screen shot	**Hot spot position**
	

Annex B. Plots of SAR Measurement

MEASUREMENT 1

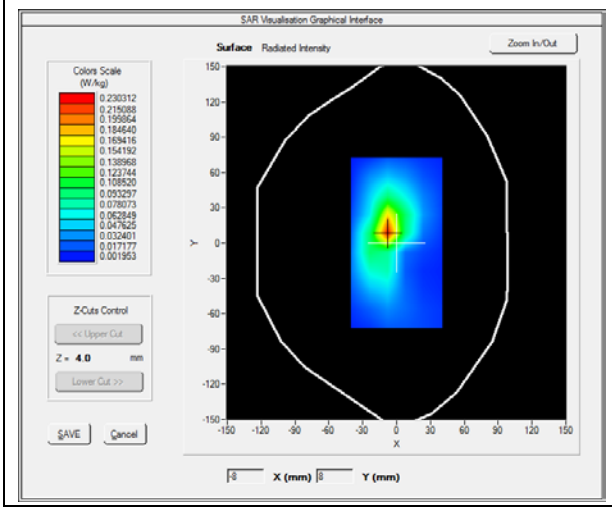
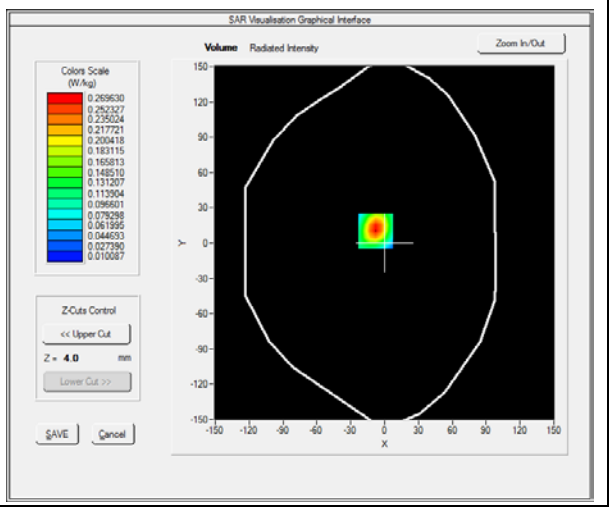
Type: Phone measurement (Complete)
Date of measurement: 2021-04-19
Measurement duration: 12 minutes 3 seconds
E-field Probe: SN 45/15 EPGO280; ConvF: 1.91; Calibrated: 2020-07-03

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Phantom	Flat Plane
Device Position	Back
Band	GSM850
Channels	High
Signal	TDMA (Crest factor: 8.0)

B. SAR Measurement Results

Frequency (MHz)	848.800000
Relative Permittivity (real part)	42.564773
Conductivity (S/m)	0.930528
Power Variation (%)	1.470000
Ambient Temperature	22.2
Liquid Temperature	22.2

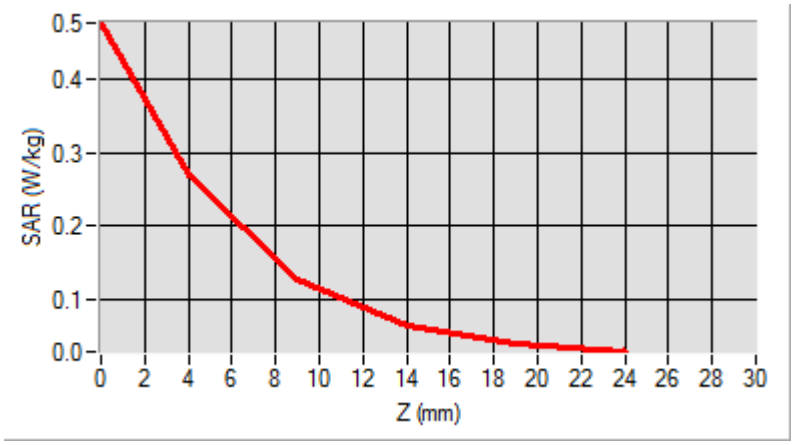
SURFACE SAR	VOLUME SAR
	

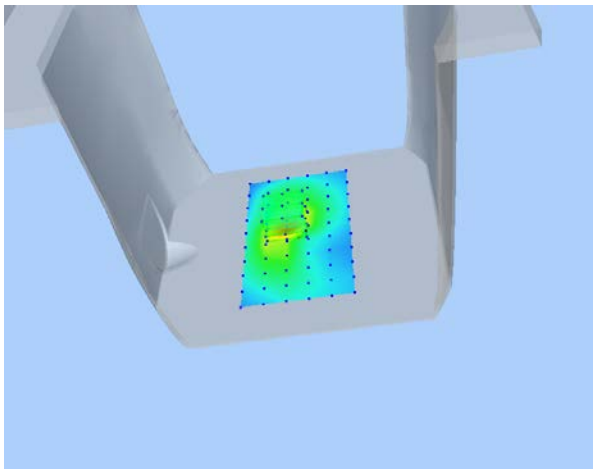
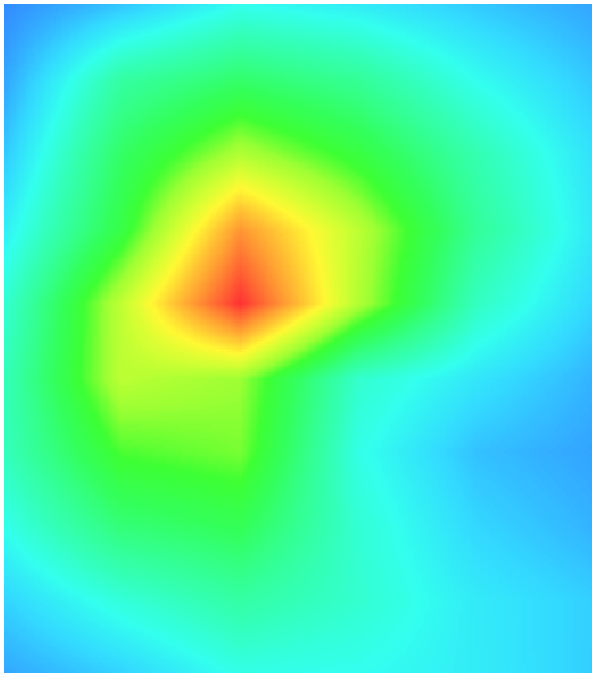
Maximum location: X=-8.00, Y=10.00

SAR Peak: 0.48 W/kg

SAR 10g (W/Kg)	**0.124334**
SAR 1g (W/Kg)	**0.247710**

Z (mm)	**0.00**	**4.00**	**9.00**	**14.00**	**19.00**
SAR (W/Kg)	**0.4765**	**0.2696**	**0.1272**	**0.0638**	**0.0394**



3D screen shot	**Hot spot position**
	

MEASUREMENT 2

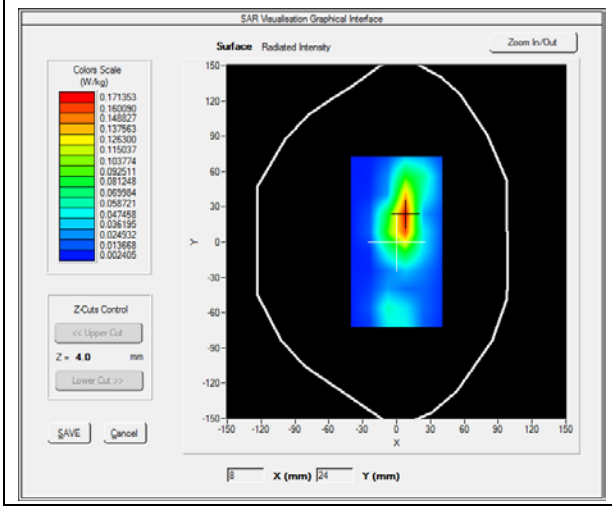
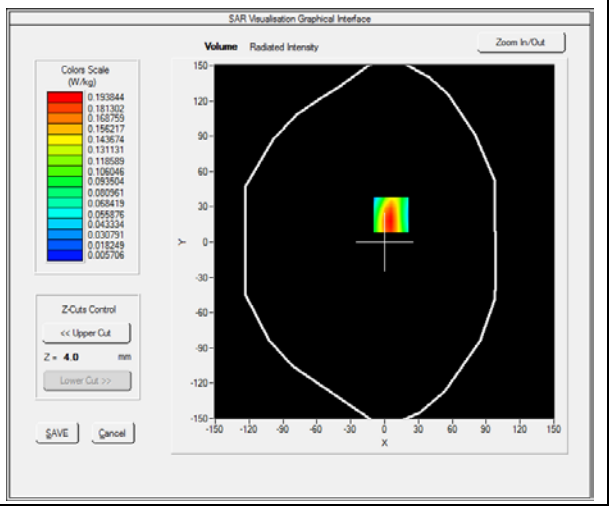
Type: Phone measurement (Complete)
Date of measurement: 2021-04-21
Measurement duration: 12 minutes 3 seconds
E-field Probe: SN 45/15 EPGO280; ConvF: 2.15; Calibrated: 2020-07-03

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Phantom	Flat Plane
Device Position	Bottom
Band	GPRS1900_4TX
Channels	Middle
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	1880.000000
Relative Permittivity (real part)	39.610526
Conductivity (S/m)	1.395134
Power Variation (%)	-0.410000
Ambient Temperature	21.9
Liquid Temperature	21.9

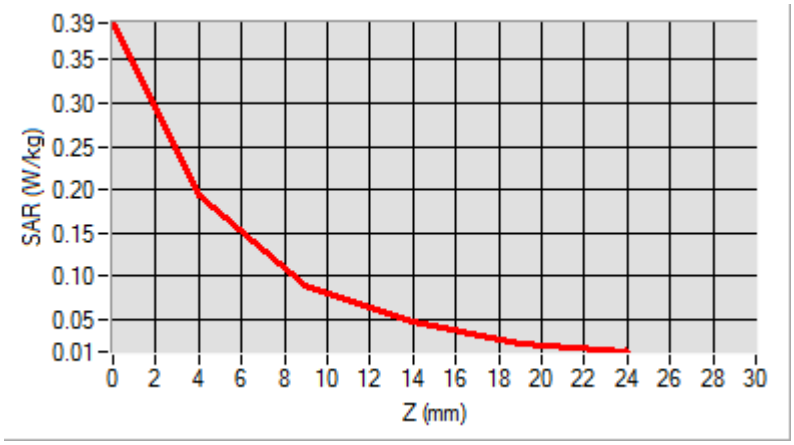
SURFACE SAR	VOLUME SAR
	

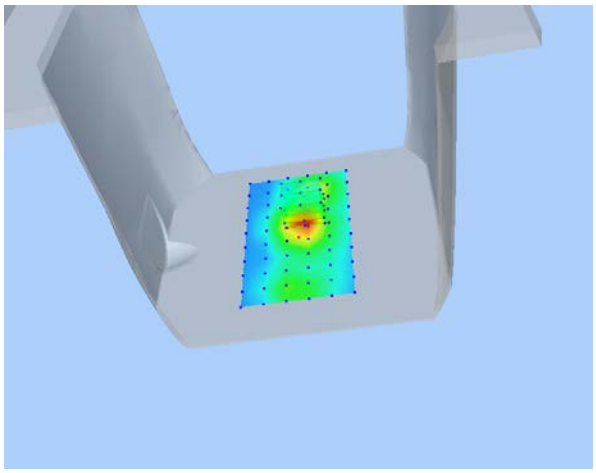
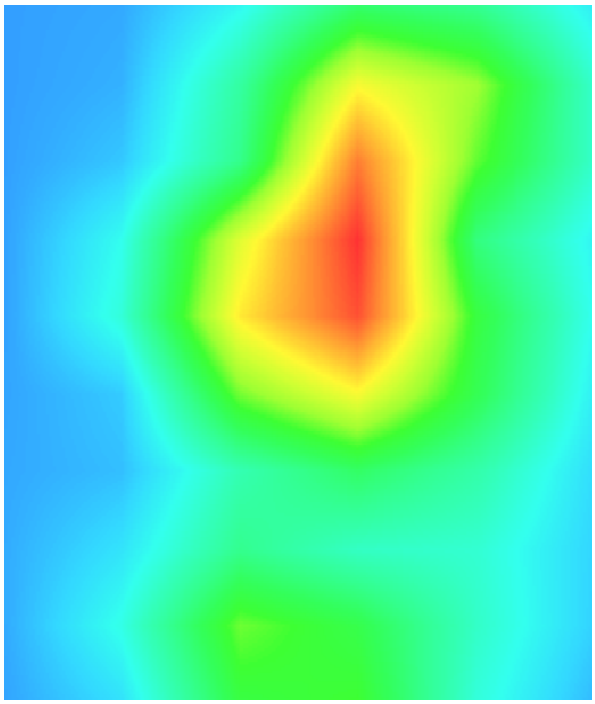
Maximum location: X=6.00, Y=23.00

SAR Peak: 0.33 W/kg

SAR 10g (W/Kg)	**0.091191**
SAR 1g (W/Kg)	**0.179225**

Z (mm)	**0.00**	**4.00**	**9.00**	**14.00**	**19.00**
SAR (W/Kg)	**0.3927**	**0.1938**	**0.0883**	**0.0477**	**0.0217**



3D screen shot	**Hot spot position**
	

MEASUREMENT 3

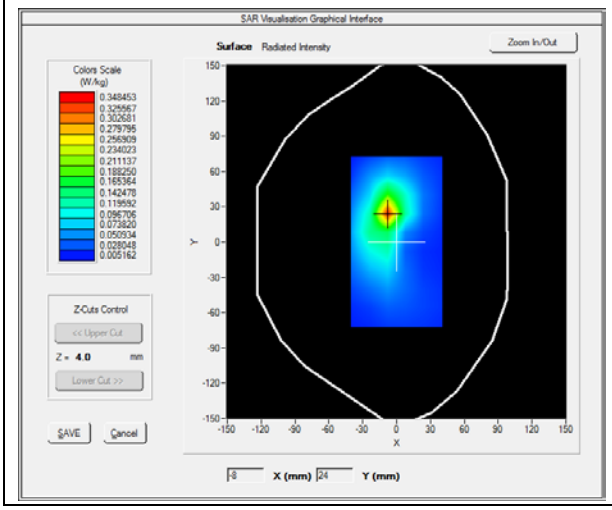
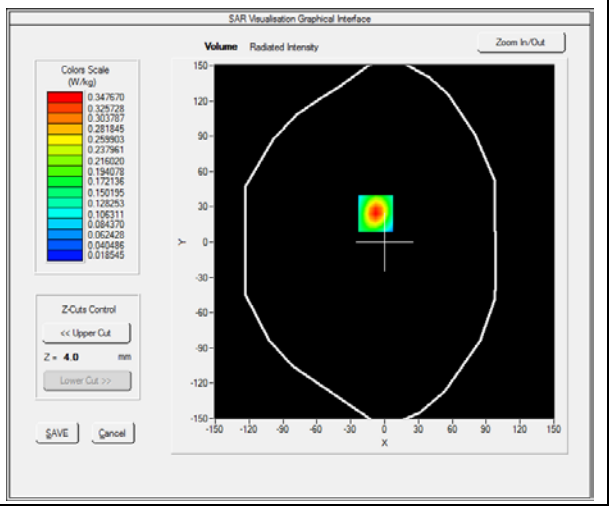
Type: Phone measurement (Complete)
Date of measurement: 2021-04-19
Measurement duration: 12 minutes 3 seconds
E-field Probe: SN 45/15 EPGO280; ConvF: 1.91; Calibrated: 2020-07-03

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Phantom	Flat Plane
Device Position	Back
Band	WCDMA850_RMC
Channels	Low
Signal	Duty Cycle 1:1

B. SAR Measurement Results

Frequency (MHz)	826.400000
Relative Permittivity (real part)	42.780325
Conductivity (S/m)	0.915472
Power Variation (%)	-1.860000
Ambient Temperature	22.2
Liquid Temperature	22.2

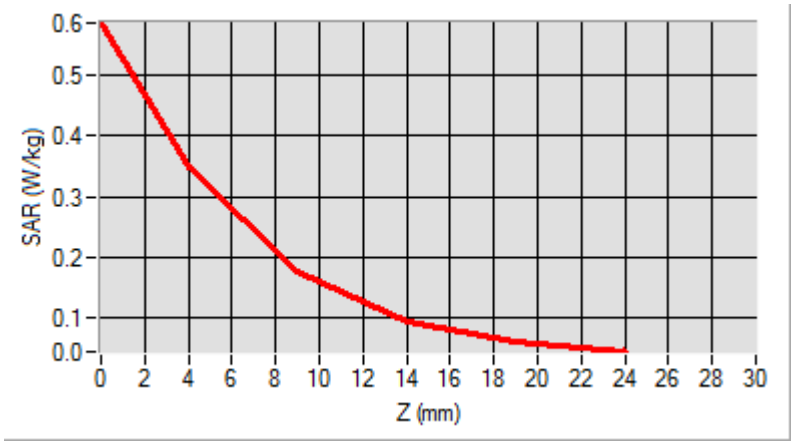
SURFACE SAR	VOLUME SAR
	

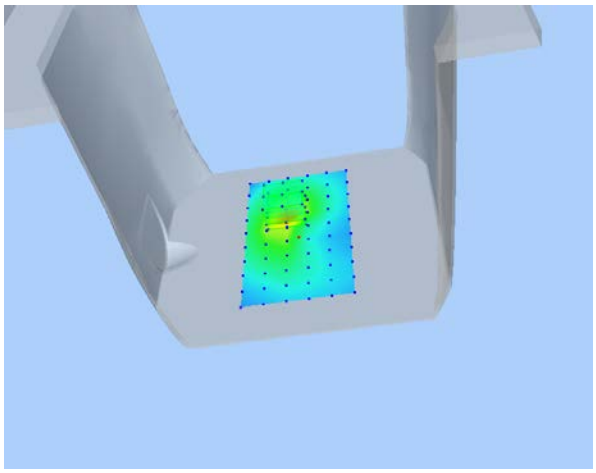
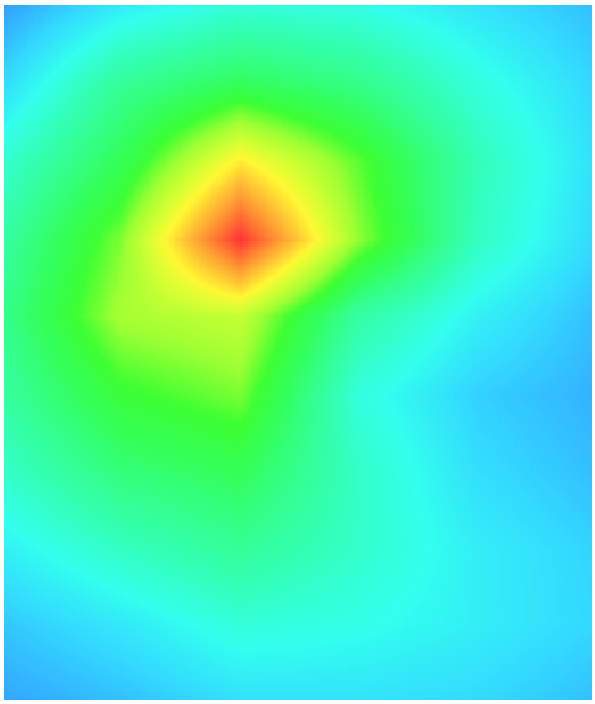
Maximum location: X=-8.00, Y=24.00

SAR Peak: 0.59 W/kg

SAR 10g (W/Kg)	**0.163130**
SAR 1g (W/Kg)	**0.315897**

Z (mm)	**0.00**	**4.00**	**9.00**	**14.00**	**19.00**
SAR (W/Kg)	**0.5867**	**0.3477**	**0.1765**	**0.0953**	**0.0610**



3D screen shot	**Hot spot position**
	

MEASUREMENT 4

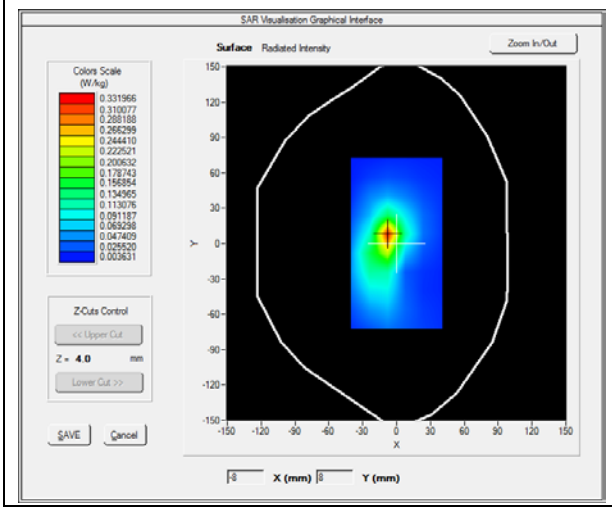
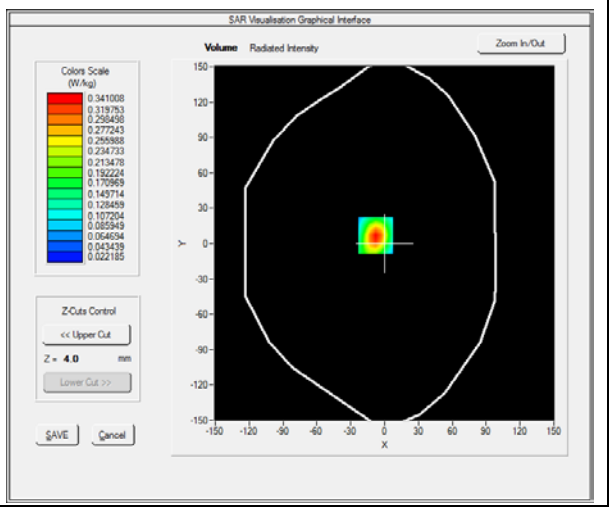
Type: Phone measurement (Complete)
Date of measurement: 2021-04-19
Measurement duration: 12 minutes 3 seconds
E-field Probe: SN 45/15 EPGO280; ConvF: 1.91; Calibrated: 2020-07-03

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Phantom	Flat plane
Device Position	Back
Band	LTE Band 5
Channels	QPSK, 10MHz, 1RB, Middle
Signal	Duty Cycle: 1:1

B. SAR Measurement Results

Frequency (MHz)	836.500000
Relative Permittivity (real part)	42.702834
Conductivity (S/m)	0.918657
Power Variation (%)	-0.840000
Ambient Temperature	22.2
Liquid Temperature	22.2

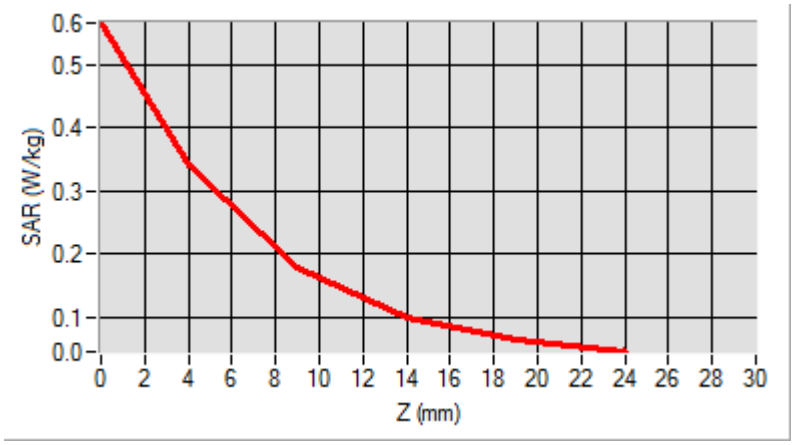
SURFACE SAR	VOLUME SAR
	

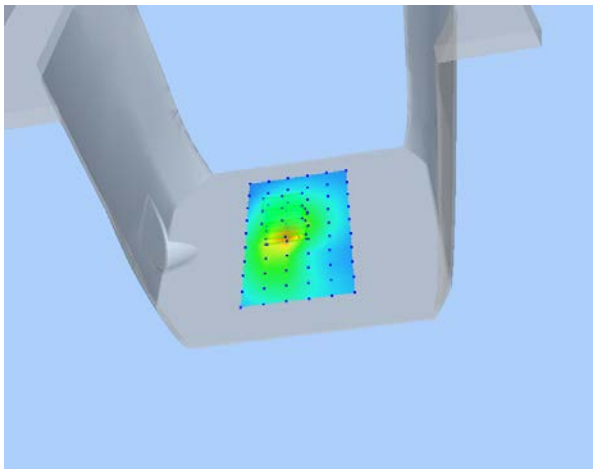
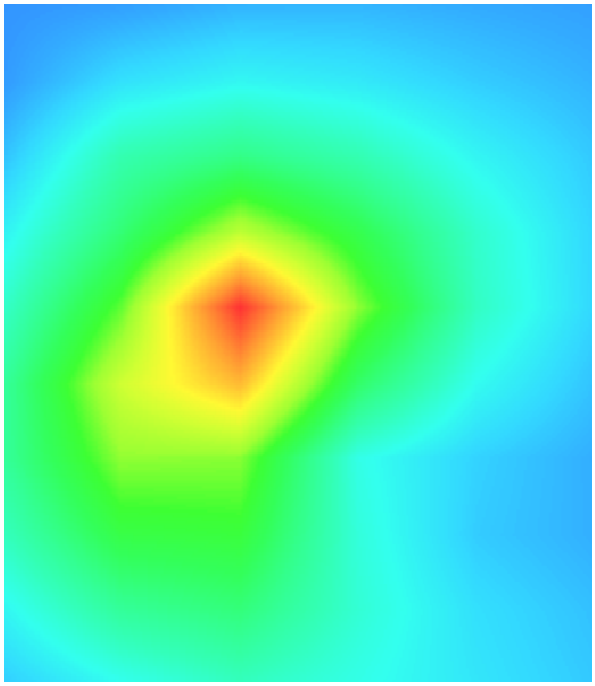
Maximum location: X=-8.00, Y=7.00

SAR Peak: 0.57 W/kg

SAR 10g (W/Kg)	**0.160568**
SAR 1g (W/Kg)	**0.309687**

Z (mm)	**0.00**	**4.00**	**9.00**	**14.00**	**19.00**
SAR (W/Kg)	**0.5653**	**0.3410**	**0.1779**	**0.0983**	**0.0634**



3D screen shot	**Hot spot position**
	

MEASUREMENT 5

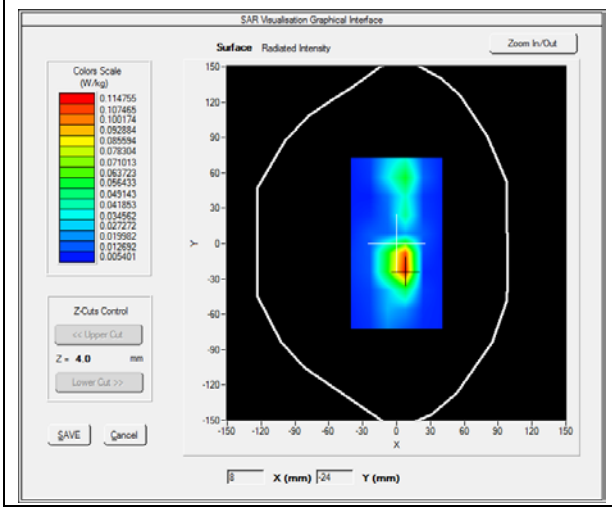
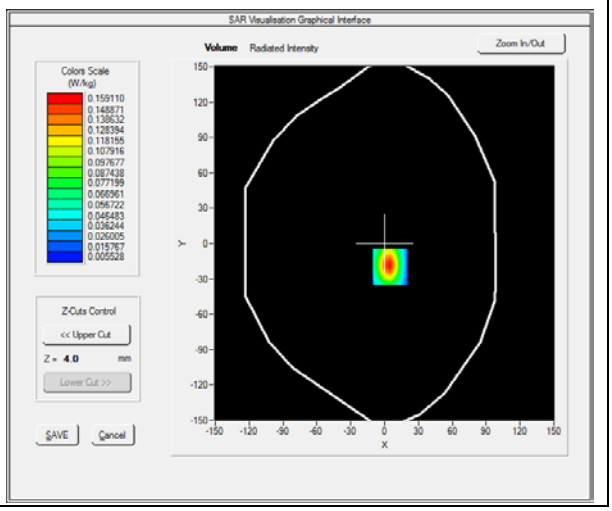
Type: Phone measurement (Complete)
Date of measurement: 2021-04-16
Measurement duration: 12 minutes 3 seconds
E-field Probe: SN 09/13 EP168; ConvF: 5.37; Calibrated: 2020-05-22

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Phantom	Flat plane
Device Position	Bottom
Band	LTE Band 38
Channels	QPSK, 20MHz, 1RB, Middle
Signal	Duty Cycle: 1:1

B. SAR Measurement Results

Frequency (MHz)	2595.000000
Relative Permittivity (real part)	39.218356
Conductivity (S/m)	1.990324
Power Variation (%)	0.580000
Ambient Temperature	22.3
Liquid Temperature	22.3

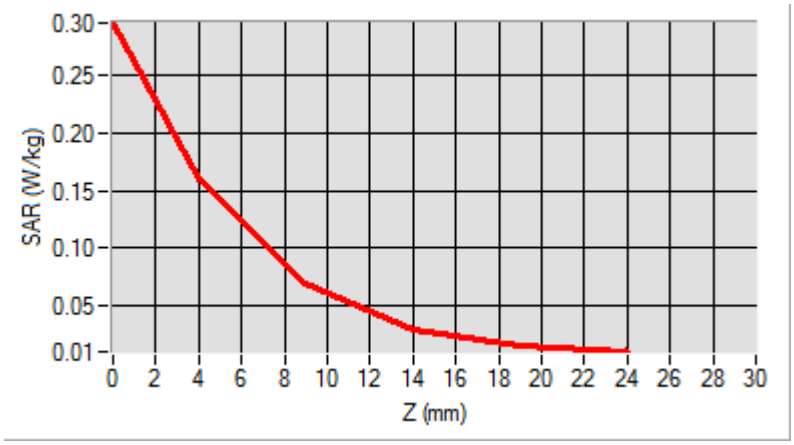
SURFACE SAR	VOLUME SAR
	

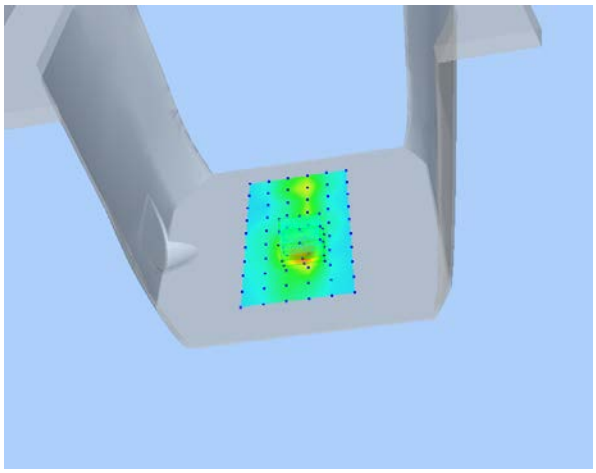
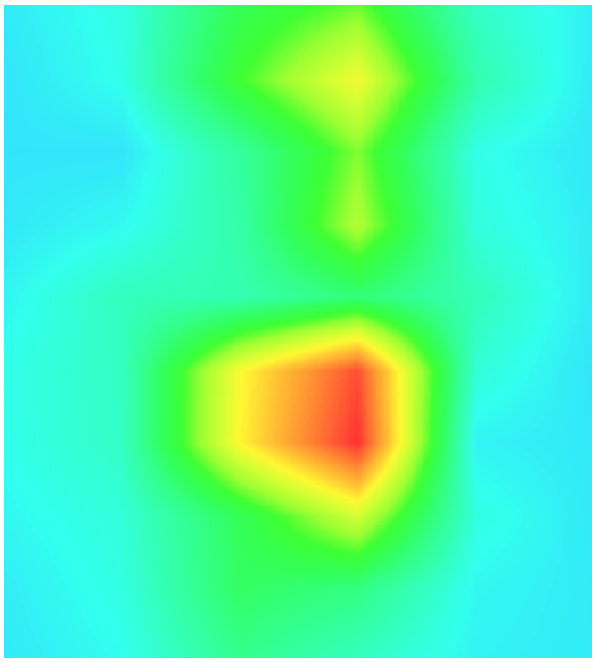
Maximum location: X=5.00, Y=-20.00

SAR Peak: 0.30 W/kg

SAR 10g (W/Kg)	**0.065842**
SAR 1g (W/Kg)	**0.148267**

Z (mm)	**0.00**	**4.00**	**9.00**	**14.00**	**19.00**
SAR (W/Kg)	**0.2951**	**0.1591**	**0.0685**	**0.0300**	**0.0161**



3D screen shot	**Hot spot position**
	

MEASUREMENT 6

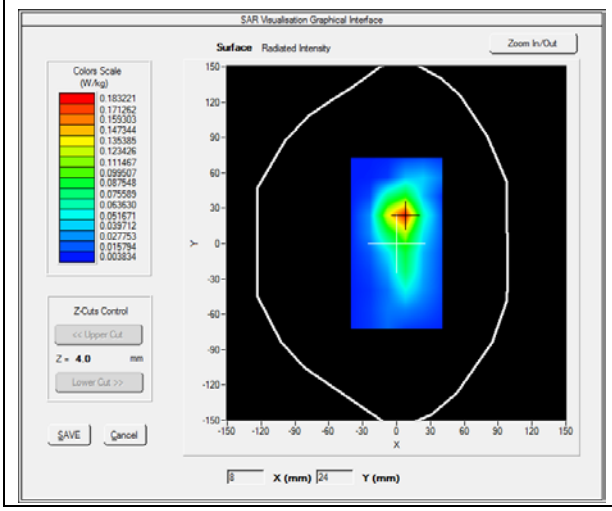
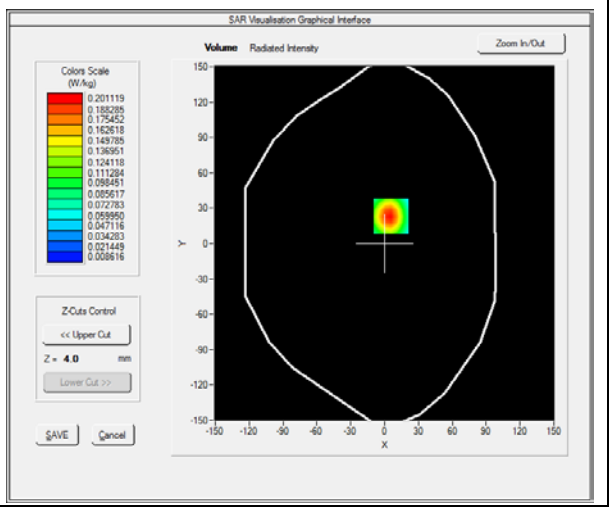
Type: Phone measurement (Complete)
Date of measurement: 2021-06-3
Measurement duration: 12 minutes 3 seconds
E-field Probe: SN 09/13 EP168; ConvF: 5.64; Calibrated: 2020-05-22

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Phantom	Flat plane
Device Position	Back
Band	LTE Band 40a
Channels	QPSK, 10MHz, 1RB, High
Signal	Duty Cycle: 1:1

B. SAR Measurement Results

Frequency (MHz)	2310.000000
Relative Permittivity (real part)	39.494999
Conductivity (S/m)	1.672191
Power Variation (%)	-0.030000
Ambient Temperature	22.3
Liquid Temperature	22.3

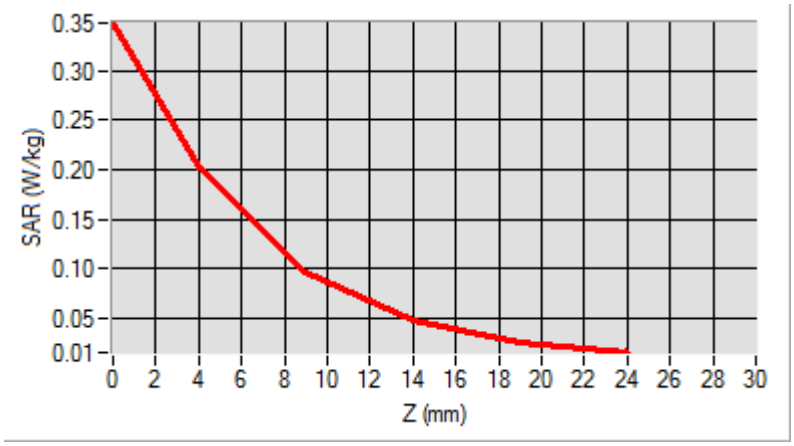
SURFACE SAR	VOLUME SAR
	

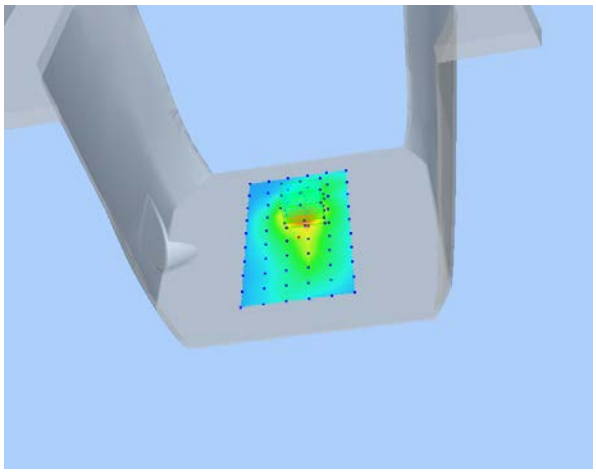
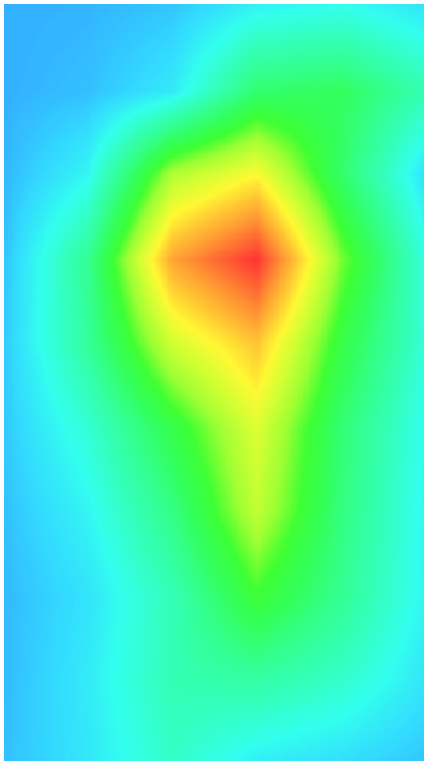
Maximum location: X=6.00, Y=23.00

SAR Peak: 0.35 W/kg

SAR 10g (W/Kg)	**0.092983**
SAR 1g (W/Kg)	**0.186477**

Z (mm)	**0.00**	**4.00**	**9.00**	**14.00**	**19.00**
SAR (W/Kg)	**0.3486**	**0.2011**	**0.0963**	**0.0466**	**0.0253**



3D screen shot	**Hot spot position**
	

MEASUREMENT 7

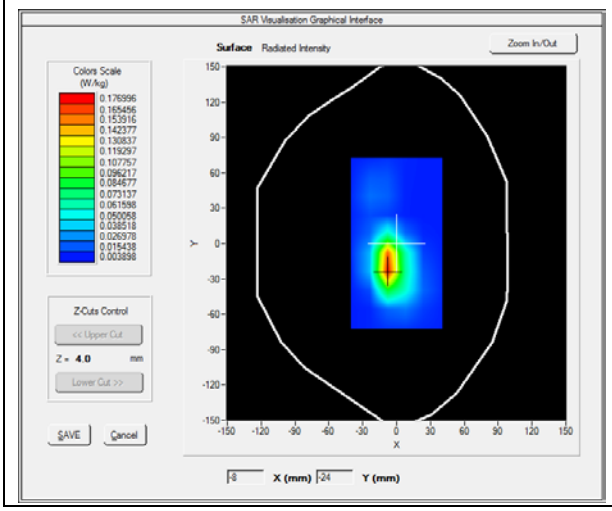
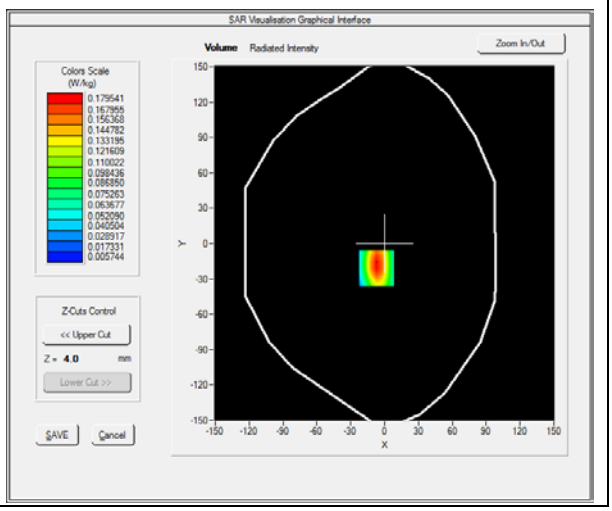
Type: Phone measurement (Complete)
Date of measurement: 2021-06-3
Measurement duration: 12 minutes 3 seconds
E-field Probe: SN 09/13 EP168; ConvF: 5.64; Calibrated: 2020-05-22

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Phantom	Flat plane
Device Position	Back
Band	LTE Band 40a
Channels	QPSK, 10MHz, 1RB, High
Signal	Duty Cycle: 1:1

B. SAR Measurement Results

Frequency (MHz)	2310.000000
Relative Permittivity (real part)	40.124835
Conductivity (S/m)	1.780264
Power Variation (%)	1.640000
Ambient Temperature	22.3
Liquid Temperature	22.3

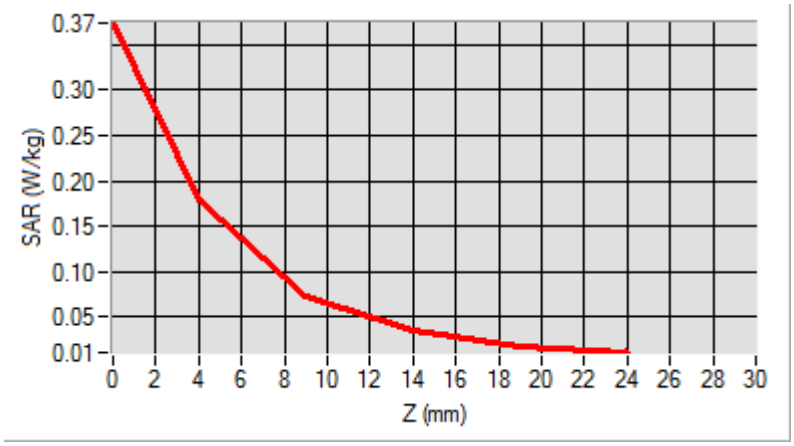
SURFACE SAR	VOLUME SAR
	

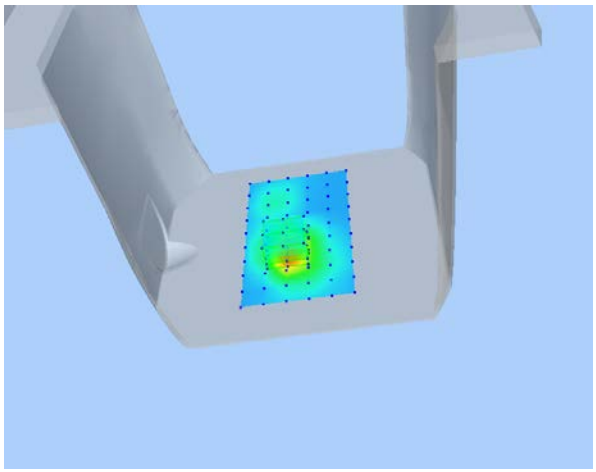
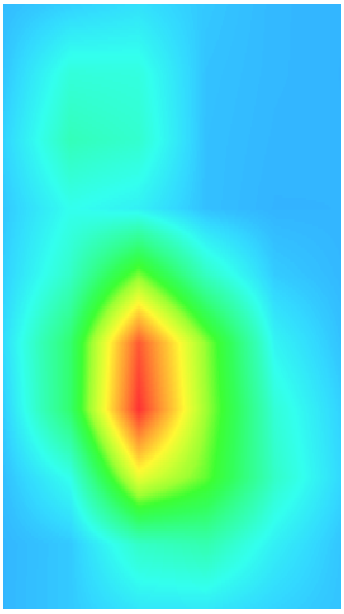
Maximum location: X=-7.00, Y=-21.00

SAR Peak: 0.33 W/kg

SAR 10g (W/Kg)	**0.079821**
SAR 1g (W/Kg)	**0.166772**

Z (mm)	**0.00**	**4.00**	**9.00**	**14.00**	**19.00**
SAR (W/Kg)	**0.3742**	**0.1795**	**0.0734**	**0.0356**	**0.0169**



3D screen shot	**Hot spot position**
	

MEASUREMENT 8

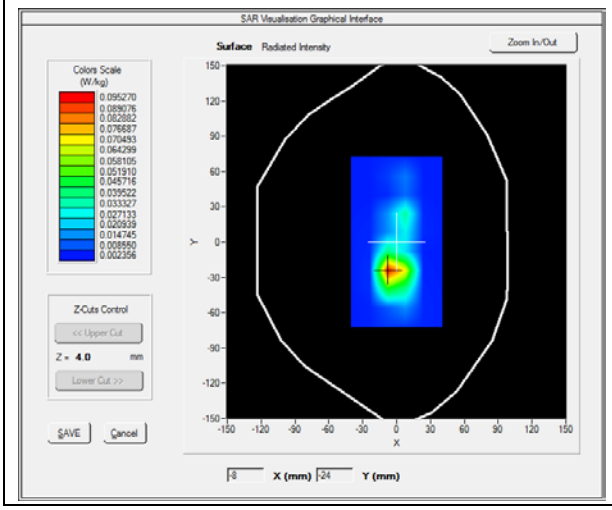
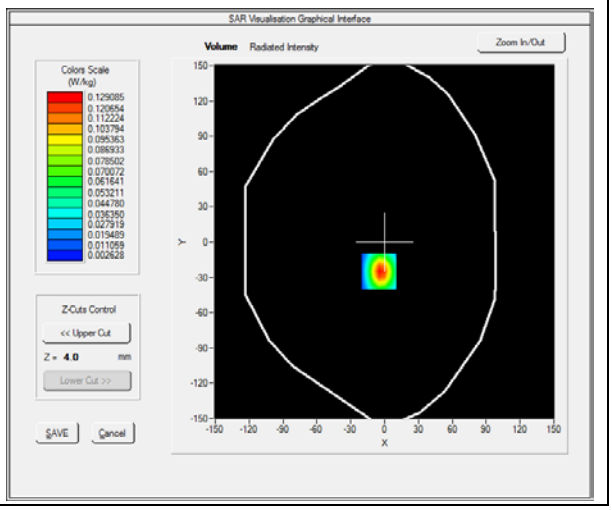
Type: Phone measurement (Complete)
Date of measurement: 2021-04-16
Measurement duration: 12 minutes 3 seconds
E-field Probe: SN 09/13 EP168; ConvF: 5.37; Calibrated: 2020-05-22

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Phantom	Flat plane
Device Position	Bottom
Band	LTE Band 41
Channels	QPSK, 20MHz, 1RB, Low
Signal	Duty Cycle: 1:1

B. SAR Measurement Results

Frequency (MHz)	2565.000000
Relative Permittivity (real part)	39.485891
Conductivity (S/m)	1.963572
Power Variation (%)	-1.560000
Ambient Temperature	22.3
Liquid Temperature	22.3

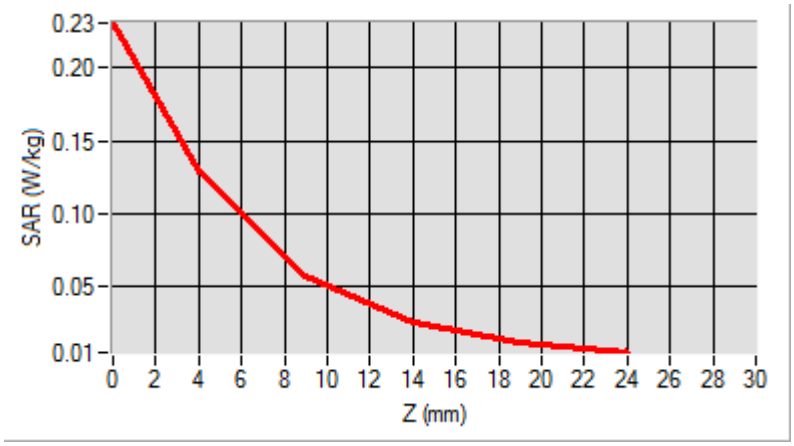
SURFACE SAR	VOLUME SAR
	

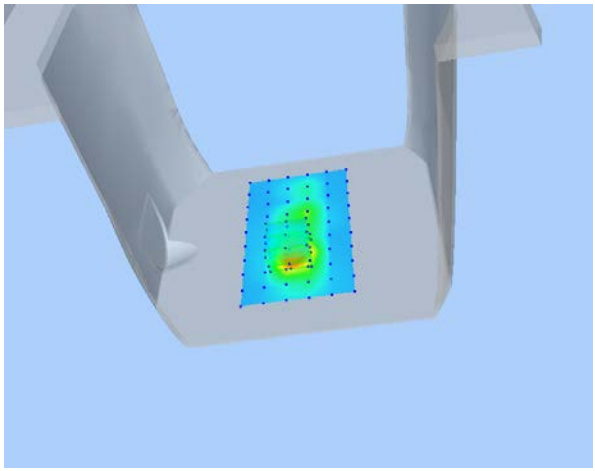
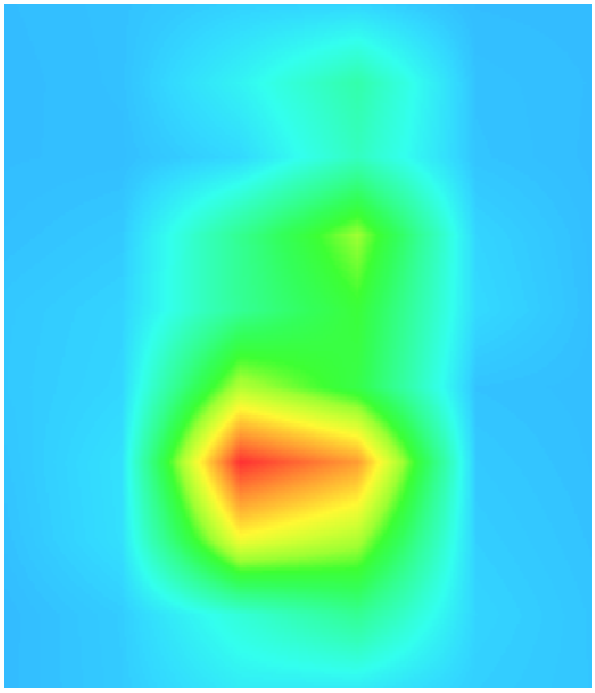
Maximum location: X=-5.00, Y=-25.00

SAR Peak: 0.23 W/kg

SAR 10g (W/Kg)	**0.050747**
SAR 1g (W/Kg)	**0.116903**

Z (mm)	**0.00**	**4.00**	**9.00**	**14.00**	**19.00**
SAR (W/Kg)	**0.2307**	**0.1291**	**0.0581**	**0.0253**	**0.0117**



3D screen shot	**Hot spot position**
	

MEASUREMENT 9

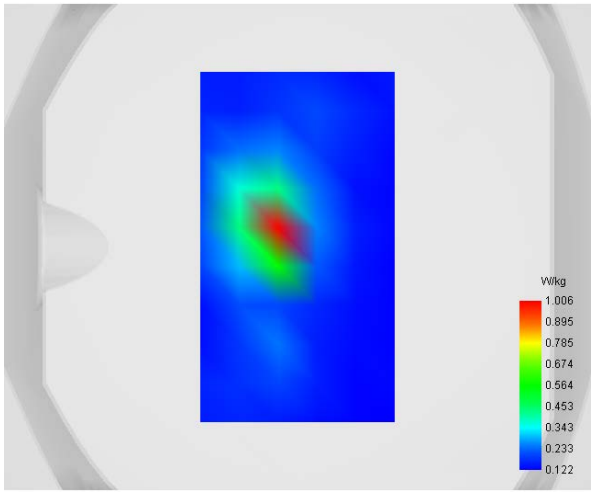
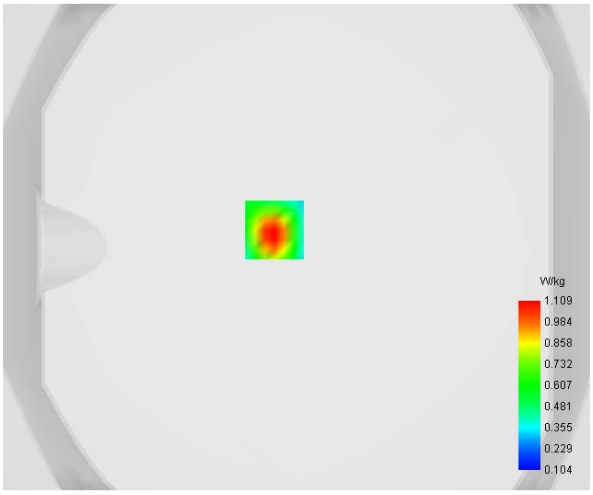
Type: Phone measurement (Complete)
Date of measurement: 2021-04-22
Measurement duration: 12 minutes 3 seconds
E-field Probe: SN 45/15 EPGO280; ConvF: 2.52; Calibrated: 2020-07-03

A. Experimental conditions

Area Scan	dx=8mm dy=8mm
Phantom	Flat Plane
Device Position	Back
Band	WiFi(5.8GHz)_802.11 a
Channels	High
Signal	Duty Cycle: 1:1

B. SAR Measurement Results

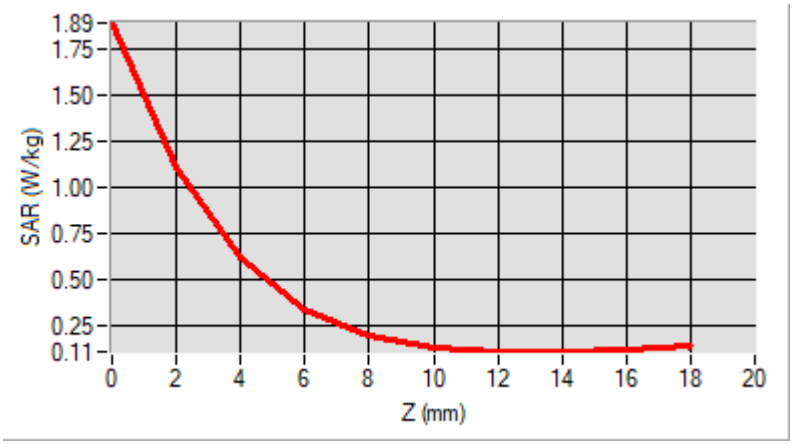
Frequency (MHz)	5785.000000
Relative Permittivity (real part)	47.204999
Conductivity (S/m)	6.128314
Power Variation (%)	1.250000
Ambient Temperature	22.0
Liquid Temperature	22.0

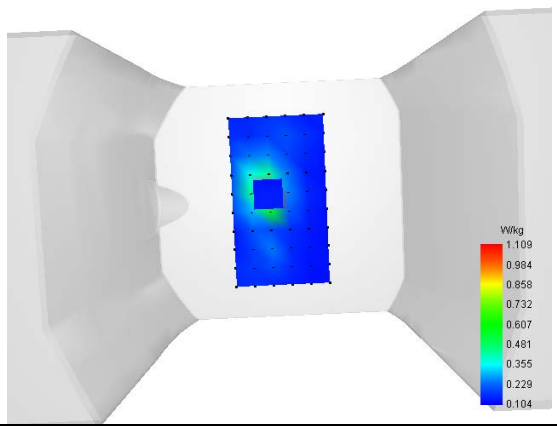
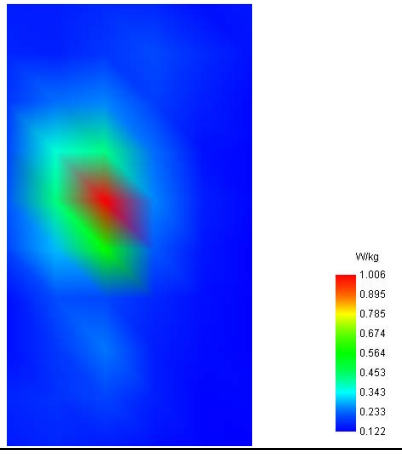
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-9.00, Y=7.00

SAR 10g (W/Kg)	0.290676
SAR 1g (W/Kg)	0.652579

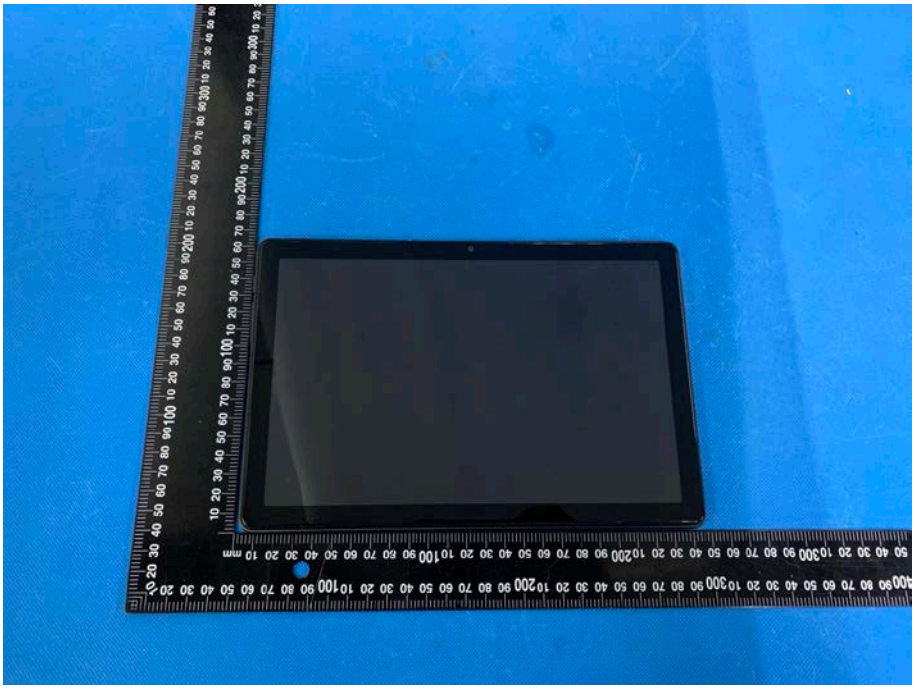
Z (mm)	0.00	2.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00
SAR (W/Kg)	1.8903	1.1095	0.6189	0.3403	0.1997	0.1342	0.1092	0.1075	0.1210



3D screen shot	Hot spot position
	

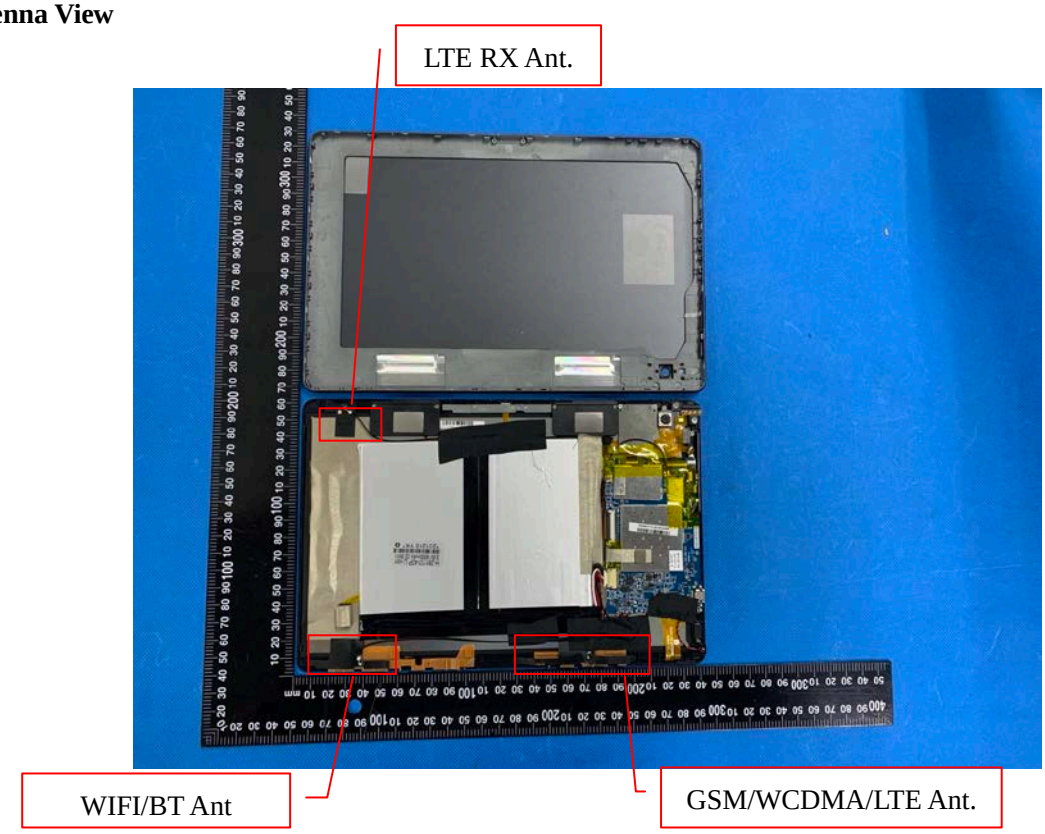
Annex C. EUT Photos

EUT View_1



EUT View_2

Antenna View

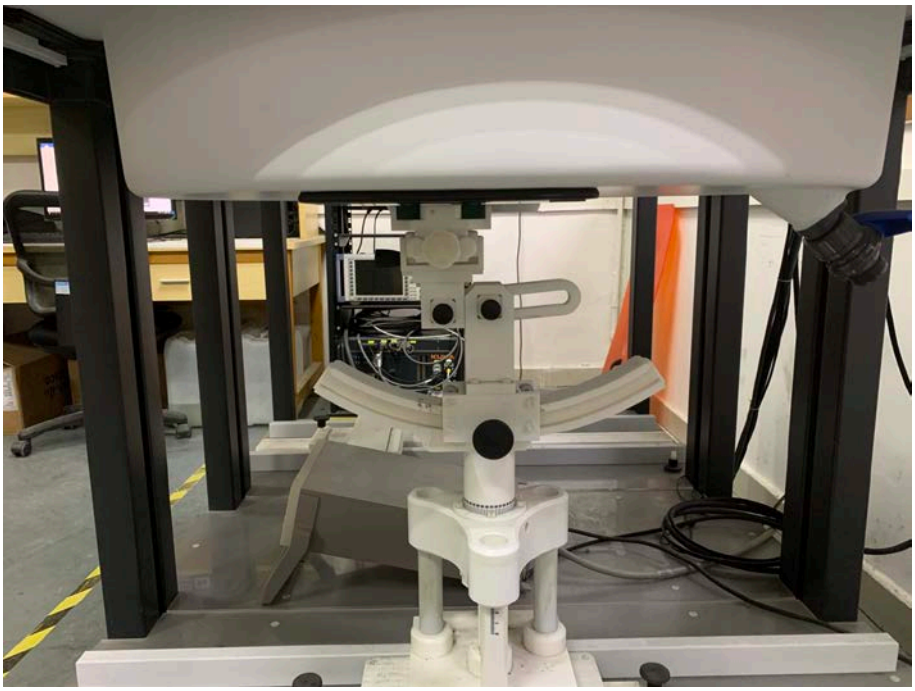


Annex D. Test Setup Photos

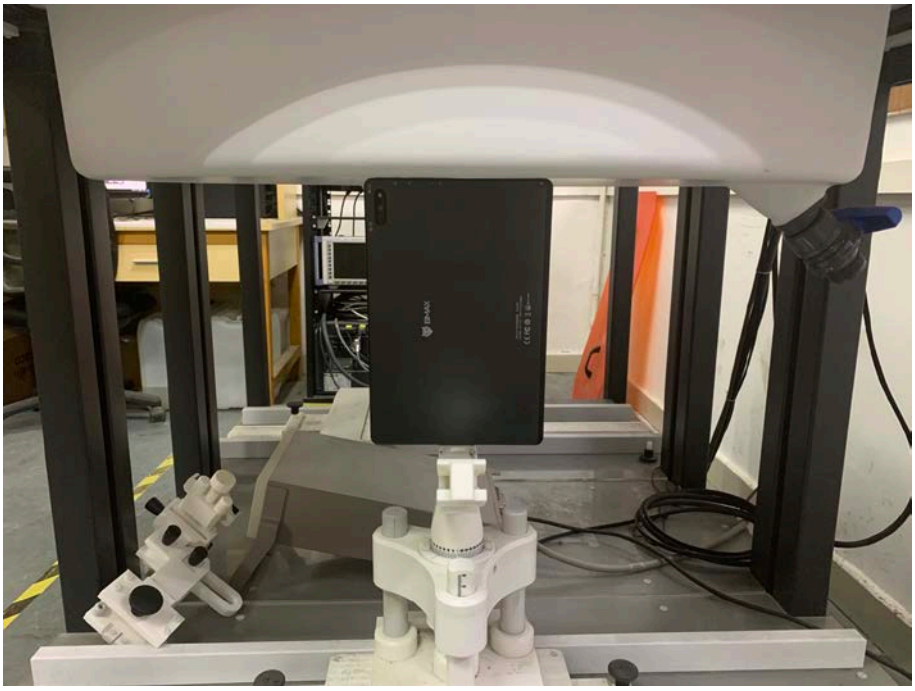
Body mode Exposure Conditions

Test View

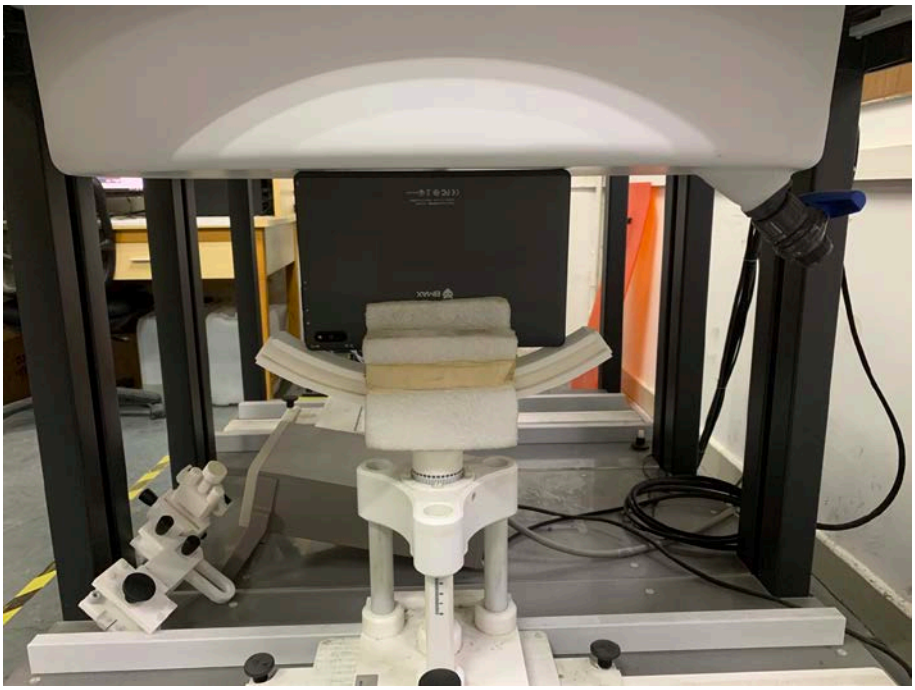
Body Back



Body Left



Body Bottom



Annex E. Calibration Certificate

Please refer to the exhibit for the calibration certificate

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