SAR TEST REPORT

Report No: STS1609183H01

Issued for

Digicom Trading (PVT) Limited

Room No.302, 3rd floor, the forum, Clifton, Karachi, Pakistan

Product Name:	Mobile Phone
Brand Name:	QMobile
Model Name:	E500i Music
Series Model:	N/A
Test Standard:	EN 50360: 2001/ A1:2012; EN 62479: 2010;
	EN 62209-1: 2006; EN 62209-2: 2010;
	EN 50566:2013/AC:2014;
Max. SAR (10g):	Head:0.0.173 W/kg
	Body:0.172 W/kg

Shenzhen STS Test Services Co., Ltd.
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Test Report Certification

Applicant's Name	:	Digicom Trading (PVT) Limited
Address	:	Room No.302, 3rd floor, the forum, Clifton, Karachi, Pakistan
Manufacture's Name	:	HK YBHS ELECTROIC DIGITAL TECHNOLOGY CO.,LIMITED
Address	:	2th Floor, Block C, Academy Of Aerospace Technology Building, Keji South 10th Rd, Hi-tech Park, Nanshan District, Shenzhen, China

Product Description

Product name	:	Mobile Phone
Trademark	:	QMobile
Model and/or type reference	:	E500i Music
Series Model	:	N/A
Standards	:	EN 50360: 2001/A1:2012; EN 62479: 2010; EN 62209-1: 2006;EN 62209-2: 2010; EN 50566:2013/AC:2014

This device described above has been tested by STS, and the test results show that the equipment under test (EUT) is in compliance with the 1999/5/EC R&TTE Directive Art.3.2 requirements. And it is applicable only to the tested sample identified in the report.

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Date of Test	:	
Date (s) of performance of tests	:	29 Sep. 2016
Date of Issue	:	30 Sep. 2016
Test Result	:	**Pass**

Testing Engineer **:** Allen Chen

(Allen Chen)

Technical Manager **:**

(John Zou)

Authorized Signatory **:** Bovey Yang

(Bovey Yang)

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Revision History

Rev.	Issue Date	Report No.	Effect Page	Contents
00	30 Sep. 2016	STS1609183H01	ALL	Initial Issue
Note: **Format version** of the report -V01				

1. General Information

1.1 EUT Description

Equipment	Mobile Phone		
Brand Name	QMobile		
Model Name	E500i Music		
Series Model	N/A		
Model Difference	N/A		
Hardware Version	K38-MB-V1.1		
Software Version	QMobile_E500i Music_20160920_V1.08		
Frequency Range	GSM 900: 880.2 MHz to 914.8 MHz GSM1800: 1710.2 MHz to 1784.8 MHz Bluetooth: 2402 MHz to 2480 MHz		
Max. Reported SAR(10g):	Mode	Head (W/Kg)	Body (W/Kg)
	GSM 900	0.173	0.172
	GSM 1800	0.154	0.164
	Limit	2.0 W/Kg	
Adapter	Input: AC100-240V, 150mA, 50/60 Hz Output: DC 5V,500mA		
Battery	Rated Voltage: 5V Charge Limit: 4.2V Capacity :1000mAh		
Description test modes	SIM 1 and SIM 2 is a chipset unit and tested as single chipset , SIM 1 is used to tested		
Wireless Type:	GSM: GSM Voice, GPRS Class 12; Bluetooth: V2.1+ EDR (GFSK, π/4DQPSK, 8DPSK)		
Power control level	GSM900: 5, DCS1800: 0		
Power class	GSM900: 4 GSM1800: 1		
Antenna Specification:	GSM: PIFA Antenna Bluetooth: Dipole Antenna		
Operating Mode:	Maximum continuous output		

1.2 Test Environment

Ambient conditions in the SAR laboratory:

Items	Required	Actual
Temperature (℃)	18-25	22~23
Humidity (%RH)	30-70	55~65

1.3 Test Factory

Shenzhen STS Test Services Co., Ltd.
Add. : 1/F., Building B, Zhuoke Science Park, No.190, Chongqing Road, Fuyong Street, Bao'an District, Shenzhen, Guangdong, China
CNAS Registration No.: L7649
FCC Registration No.: 842334;
IC Registration No.: 12108A-1

2. Test Standards And Limits

No.	Identity	Document Title
1	EN 50360: 2001/ A1:2012	Product standard to demonstrate compliance of mobile phones with the basic restrictions related to human exposure to electromagnetic fields(300 MHz-3GHz)
2	EN 50566:2013/ AC:2014	Product standard to demonstrate compliance of radio frequency fields from handheld and body-mounted wireless communication devices used by the general public (30 MHz - 6 GHz)
3	EN 62209-1: 2006	Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices – Human models, instrumentation, and procedures – Part 1: Procedure to determine the specific absorption rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)
4	EN 62209-2: 2010	Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices – Human models, instrumentation, and procedures –Part 2: Procedure to determine the Specific Absorption Rate (SAR) in the head and body for 30MHz to 6GHz Handheld and Body-Mounted Devices used inclose proximity to the body
5	EN 62479: 2010	Assessment of the compliance of low-power electronic and electrical equipment with the restrictions related to human exposure to electromagnetic fields(10 MHz to 300 GHz)

This device belongs to portable device category because its radiating structure is allowed to be used within 20 centimeters of the body of the user. According to EN 50360 and 1999/519/EC the limit for General Population/Uncontrolled exposure should be applied for this device, it is 2.0 W/kg as averaged over any 10 gram of tissue.

(A). Limits for Occupational/Controlled Exposure (W/kg)

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.4	8.0	20.0

(B). Limits for General Population/Uncontrolled Exposure (W/kg)

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.08	2.0	4.0

NOTE: **Whole-Body SAR** is averaged over the entire body, **partial-body SAR** is averaged over any 10 gram of tissue defined as a tissue volume in the shape of a cube. SAR for hands, wrists, feet and ankles is averaged over any 10 grams of tissue defined as a tissue volume in the shape of a cube.

Population/Uncontrolled Environments:
are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure.

Occupational/Controlled Environments:
are defined as locations where there is exposure that may be incurred by people who are aware of the potential for exposure, (i.e. as a result of employment or occupation).

3. SAR Measurement System

3.1 Definition Of Specific Absorption Rate (SAR)

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

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

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

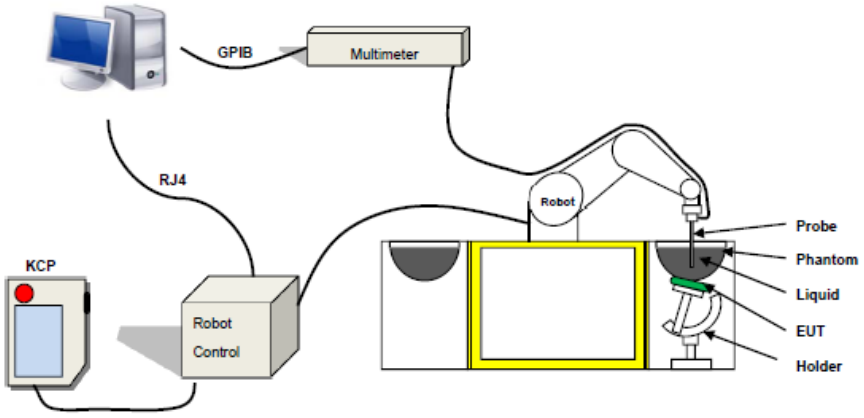
SAR is expressed in units of Watts per kilogram (W/kg) SAR measurement can be related to the electrical field in the tissue by

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

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

3.2 SAR System

SATIMO SAR System Diagram:



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.

3.2.1 Probe

For the measurements the Specific Dosimetric E-Field Probe SN 45/15 EPGO281 with following specifications is used
- Dynamic range: 0.01-100 W/kg
- Tip Diameter: 2.5 mm
- Length of Individual Dipoles: 2 mm
- Maximum external diameter: 8 mm
- Distance between dipole/probe extremity: 8 mm (repeatability better than +/- 1mm)
- Probe linearity: 0±2.60%(0.11dB)
- Axial Isotropy: < 0.25 dB
- Spherical Isotropy: < 0.25 dB
- Calibration range: 450 MHz to 6 GHz for head & body simulating liquid.
- Angle between probe axis (evaluation axis) and surface normal line: less than 30°

Figure-MVG COMOSAR Dosimetric E field Dipole

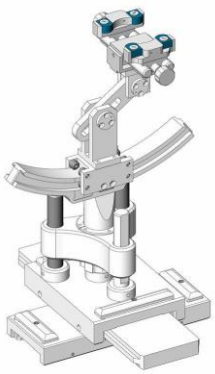
3.2.2 Phantom

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.

Figure-SN 32/14 SAM115

Figure-SN 32/14 SAM116

3.2.3 Device Holder



The SAR in the phantom is approximately inversely proportional to the square of the distance between the source and the liquid surface. For a source at 5 mm distance, a positioning uncertainty of ± 0.5 mm would produce a SAR uncertainty of ± 20 %. Accurate device positioning is therefore crucial for accurate and repeatable measurements. The positions in which the devices must be measured are defined by the standards.

4. Tissue Simulating Liquids

4.1 Simulating Liquids Parameter Check

The simulating liquids should be checked at the beginning of a series of SAR measurements to determine of the dielectric parameters are within the tolerances of the specified target values

The uncertainty due to the liquid conductivity and permittivity arises from two different sources. The first source of error is the deviation of the liquid conductivity from its target value (max _ 5 %) and the second source of error arises from the measurement procedures used to assess conductivity. The uncertainty shall be assessed using a rectangular probability For 10 g averaging, the maximum weighting coefficient for SAR is 0,5.

EN 62209 RECOMMENDED TISSUE DIELECTRIC PARAMETERS
The head and body tissue dielectric parameters recommended by the EN 62209 have been incorporated in the following table.

Frequency	ε_r		σ 10g S/m	
	Head	Body	Head	Body
300	45.3	45.3	0.87	0.87
450	43.5	43.5	0.87	0.87
900	41.5	41.5	0.97	0.97
1450	40.5	40.5	1.20	1.20
1800	40.0	40.0	1.40	1.40
2450	39.2	39.2	1.80	1.80
3000	38.5	38.5	2.40	2.40
5200	36.0	36.0	4.70	4.70

LIQUID MEASUREMENT RESULTS

Date: 29 Sep. 2016 **Ambient condition:** Temperature 22.3°C Relative humidity**:** 49%

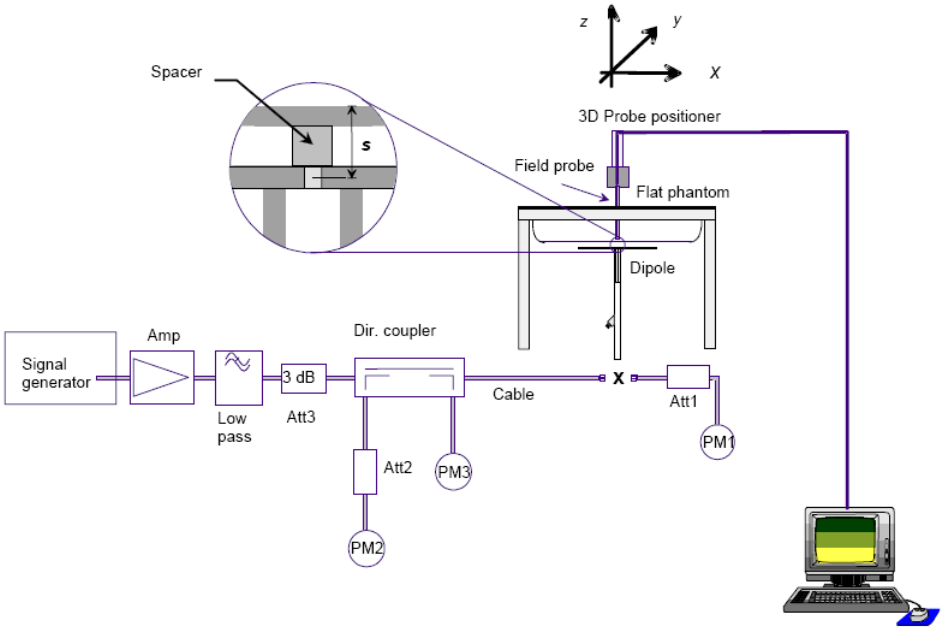
Head Simulating Liquid		Parameters	Target	Measured	Deviation[%]	Limited[%]
Frequency	Temp. [°C]					
900 MHz	22.30	Permitivity:	41.5	41.90	0.96	±5
		Conductivity:	0.97	0.95	-1.72	± 5
1800 MHz	22.30	Permitivity:	40	40.06	0.16	± 5
		Conductivity:	1.4	1.46	4.61	± 5

5. SAR System Validation

5.1 Validation System

Each SATIMO system is equipped with one or more system validation kits. These units, together with the predefined measurement procedures within the SATIMO software, enable the user to conduct the system performance check and system validation. System kit includes a dipole, and dipole device holder.

The system check verifies that the system operates within its specifications. It's performed daily or before every SAR measurement. The system check uses normal SAR measurement in the flat section of the phantom with a matched dipole at a specified distance. The system validation setup is shown as below.



5.2 Validation Result

Comparing to the original SAR value provided by SATIMO, the validation data should be within its specification of ±10 %.

Date	Freq.	Power	Tested Value	Normalized SAR	Target SAR	Tolerance
	(MHz)	(mW)	(W/Kg)	(W/kg)	(W/kg)	(%)
2016-09-29	900	100	0.694	6.94	6.99	-0.72
2016-09-29	1800	100	1.970	19.70	20.10	-1.99

6. SAR Evaluation Procedures

The procedure for assessing the average SAR value consists of the following steps:

- Establish a call with the maximum output power with a base station simulator. The connection between the mobile and the base station simulator is established via air interface.

- Measurement of the local E-field value at a fixed location. This value serves as a reference value for calculating a possible power drift.

- Measurement of the SAR distribution with a grid of 8 to 16mm * 8 to16 mm and a constant distance to the inner surface of the phantom. Since the sensors cannot directly measure at the inner phantom surface, the values between the sensors and the inner phantom surface are extrapolated. With these values the area of the maximum SAR is calculated by an interpolation scheme.

- Around this point, a cube of 30 * 30 * 30 mm or 32 * 32 * 32 mm is assessed by measuring 5 or 8 * 5 or 8*4 or 5 mm. With these data, the peak spatial-average SAR value can be calculated.

Area Scan& Zoom Scan:

First Area Scan is used to locate the approximate location(s) of the local peak SAR value(s). The measurement grid within an Area Scan is defined by the grid extent, grid step size and grid offset. Next, in order to determine the EM field distribution in a three-dimensional spatial extension, Zoom Scan is required. The Zoom Scan is performed around the highest E-field value to determine the averaged SAR -distribution over 10 g. Area scan and zoom scan resolution setting follows KDB 865664 D01v01r01 quoted below.

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

7. EUT Test Position

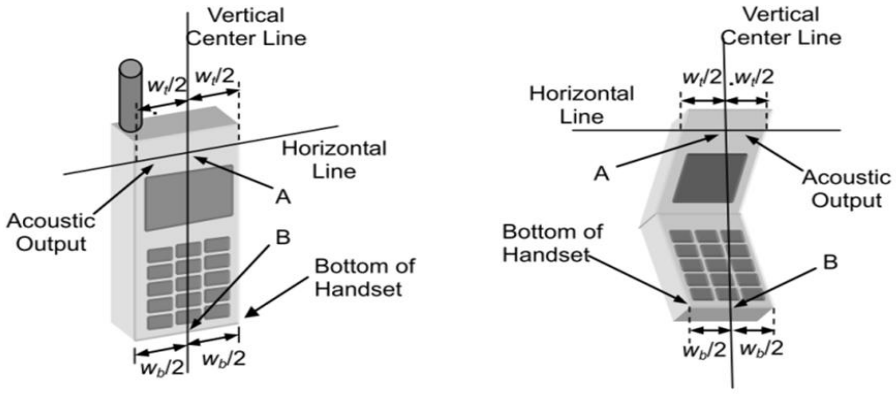
This EUT was tested in Right Cheek, Right Titled, Left Cheek, Left Titled, Front Face and Rear Face.

Define Two Imaginary Lines On The Handset:

1)The vertical centerline passes through two points on the front side of the handset the midpoint of the width wt of the handset at the level of the acoustic output, and the midpoint of the width wb of the handset.

2)The horizontal line is perpendicular to the vertical centerline and passes through the center of the acoustic output. The horizontal line is also tangential to the face of the handset at point A.

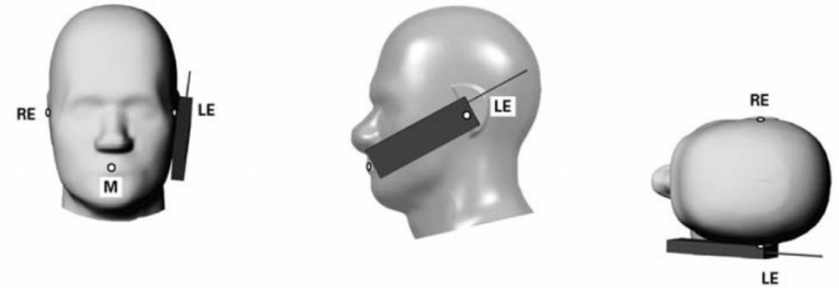
3)The two lines intersect at point A. Note that for many handsets, point A coincides with the center of the acoustic output; however, the acoustic output may be located elsewhere on the horizontal line. Also note that the vertical centerline is not necessarily to the front face of the handset, especially for clamshell handsets, handsets with flip covers, and other irregularly shaped handsets.



7.1 Cheek Position

1)To position the device with the vertical center line of the body of the device and the horizontal line crossing the center picec in a plane parallel to the sagittal plane of the phantom. While maintaining the device in this plane, align the vertical center line with the reference plane containing the ear and mouth reference point (M: Mouth, RE: Right Ear, and LE: Left Ear) and align the center of the ear piece with the line RE-LE.

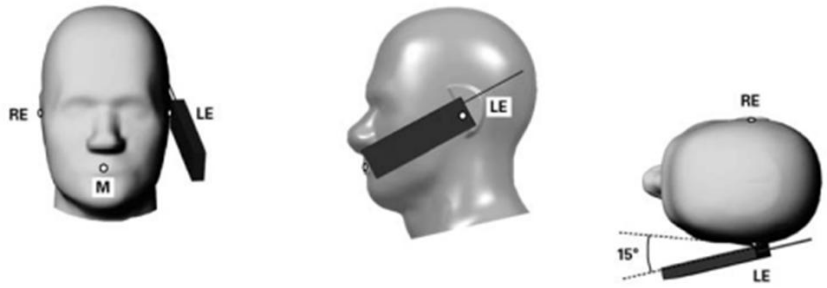
2)To move the device towards the phantom with the ear piece aligned with the the line LE-RE until the phone touched the ear. While maintaining the device in the reference plane and maintaining the phone contact with ear, move the bottom of the phone until any point on the front side is in contact with the cheek of the phantom or until contact with the ear is lost



7.2 Tilt Position

(1)To position the device in the “cheek” position described above.

(2) While maintaining the device in the reference plane described above and pivoting against the ear, moves it outward away from the mouth by an angle of 15 degrees or until with the ear is lost.

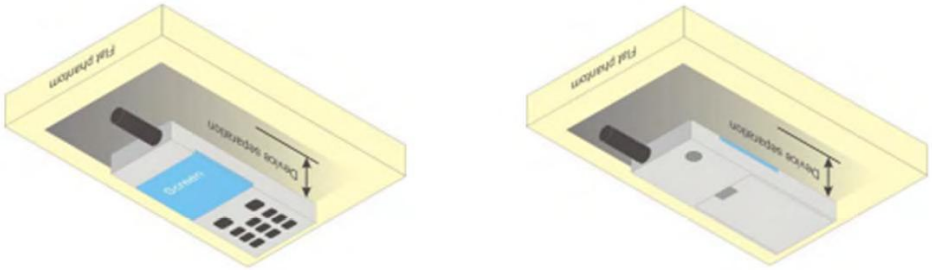


7.3 Body-worn Position Conditions

1) To position the EUT parallel to the phantom surface.

2) To adjust the EUT parallel to the flat phantom.

3) To adjust the distance between the EUT surface and the flat phantom to 5mm.



8. Measurement Uncertainty

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

NO	Source	Tol(%)	Prob. Dist.	Div. k	ci (1g)	ci (10g)	1gUi	10gUi	Veff
Measurement System□									
1	Probe calibration	5.8	N	1	1	1	5.8	5.8	∞
2	Axial isotropy	3.5	R	√3	(1-cp)1/2	(1-cp)1/2	1.43	1.43	∞
3	Hemispherical isotropy	5.9	R	√3	√Cp	√Cp	2.41	2.41	∞
4	Boundary effect	1.0	R	√3	1	1	0.58	0.58	∞
5	Linearity	4.7	R	√3	1	1	2.71	2.71	∞
6	System Detection limits	1.0	R	√3	1	1	0.58	0.58	∞
7	Readout electronics	0.5	N	1	1	1	0.50	0.50	∞
8	Response time	0	R	√3	1	1	0	0	∞
9	Integration time	1.4	R	√3	1	1	0.81	0.81	∞
10	Ambient noise	3.0	R	√3	1	1	1.73	1.73	∞
11	Ambient reflections	3.0	R	√3	1	1	1.73	1.73	∞
12	Probe positioner mech. restrictions	1.4	R	√3	1	1	0.81	0.81	∞
13	Probe positioning with respect to phantom shell	1.4	R	√3	1	1	0.81	0.81	∞
14	Max.SAR evaluation	1.0	R	√3	1	1	0.6	0.6	∞
Test sample related									
15	Device positioning	2.6	N	1	1	1	2.6	2.6	11
16	Device holder	3	N	1	1	1	3.0	3.0	7
17	Drift of output power	5.0	R	√3	1	1	2.89	2.89	∞
Phantom and set-up									
18	Phantom uncertainty	4.0	R	√3	1	1	2.31	2.31	∞
19	Liquid conductivity (target)	2.5	N	1	0.78	0.71	1.95	1.78	5
20	Liquid conductivity (meas)	4	N	1	0.23	0.26	0.92	1.04	5
21	Liquid Permittivity (target)	2.5	N	1	0.78	0.71	1.95	1.78	∞
22	Liquid Permittivity (meas)	5.0	N	1	0.23	0.26	1.15	1.30	∞
Combined standard			RSS	$U_C = \sqrt{\sum_{i=1}^{n} C_i^2 U_i^2}$			10.63%	10.54%	
Expanded uncertainty (P=95%)		$U = k\,U_C$,k=2					21.26%	21.08%	

9. Conducted Power Measurement

Test Result:

RF Output Power (dBm)						
Band	GSM 900			DCS 1800		
Channel	975	60	124	512	698	885
Frequency (MHz)	880.2	902.0	914.8	1710.2	1747.4	1784.8
GSM(GMSK, 1-Slot)	32.34	32.58	32.97	29.71	30.03	30.43
GPRS (GMSK, 1-Slot)	32.25	32.57	32.88	29.83	30.01	30.48
GPRS (GMSK, 2-Slot)	31.29	31.60	31.89	28.90	29.07	29.48
GPRS (GMSK, 3-Slot)	29.90	30.20	30.55	27.59	27.69	28.12
GPRS (GMSK, 4-Slot)	29.40	29.70	30.13	27.13	27.27	27.62
EGPRS(8PSK, 1-Slot)	-	-	-	-	-	-
EGPRS(8PSK, 2-Slot)	-	-	-	-	-	-
EGPRS(8PSK, 3-Slot)	-	-	-	-	-	-
EGPRS(8PSK, 4-Slot)	-	-	-	-	-	-

Remark: GPRS, CS4 coding scheme. EGPRS, MCS9 coding scheme.
Multi-Slot Class 8 , Support Max 4 downlink, 1 uplink , 5 working link
Multi-Slot Class 10 , Support Max 4 downlink, 2 uplink , 5 working link
Multi-Slot Class 12 , Support Max 4 downlink, 4 uplink , 5 working link

Fram- RF Output Power (dBm)						
Band	GSM 900			DCS 1800		
Channel	975	60	124	512	698	885
Frequency (MHz)	880.2	902.0	914.8	1710.2	1747.4	1784.8
GSM(GMSK, 1-Slot)	23.31	23.55	23.94	20.68	21.00	21.40
GPRS (GMSK, 1-Slot)	23.22	23.54	23.85	20.80	20.98	21.45
GPRS (GMSK, 2-Slot)	25.27	25.58	25.87	22.88	23.05	23.46
GPRS (GMSK, 3-Slot)	25.64	25.94	26.29	23.33	23.43	23.86
GPRS (GMSK, 4-Slot)	26.39	26.69	27.12	24.12	24.26	24.61
EGPRS(8PSK, 1-Slot)	-	-	-	-	-	-
EGPRS(8PSK, 2-Slot)	-	-	-	-	-	-
EGPRS(8PSK, 3-Slot)	-	-	-	-	-	-
EGPRS(8PSK, 4-Slot)	-	-	-	-	-	-

Remark :
1. SAR testing was performed on the maximum frame-averaged power mode.
2. The frame-averaged power is linearly proportion to the slot number configured and it is linearly scaled the maximum
burst-averaged power based on time slots. The calculated method is shown as below:
Frame-averaged power = Burst averaged power (1 Tx Slot) – 9.03 dB
Frame-averaged power = Burst averaged power (2 Tx Slots) – 6.02 dB
Frame-averaged power = Burst averaged power (3 Tx Slots) - 4.26 dB
Frame-averaged power = Burst averaged power (4 Tx Slots) – 3.01 dB

Bluetooth

Mode	Average EIRP Power (dBm)
GFSK(1Mbps)	3.46
π/4-DQPSK(2Mbps)	2.93
8DPSK(3Mbps)	2.75

Note: Per EN 62479,The available antenna power of this EUT is 3.18 dBm (2.22 mW), the power Is less than the low-power exclusion level defined in 4.2 (Pmax:20mW), So bluetooth stand-alone SAR is not required.

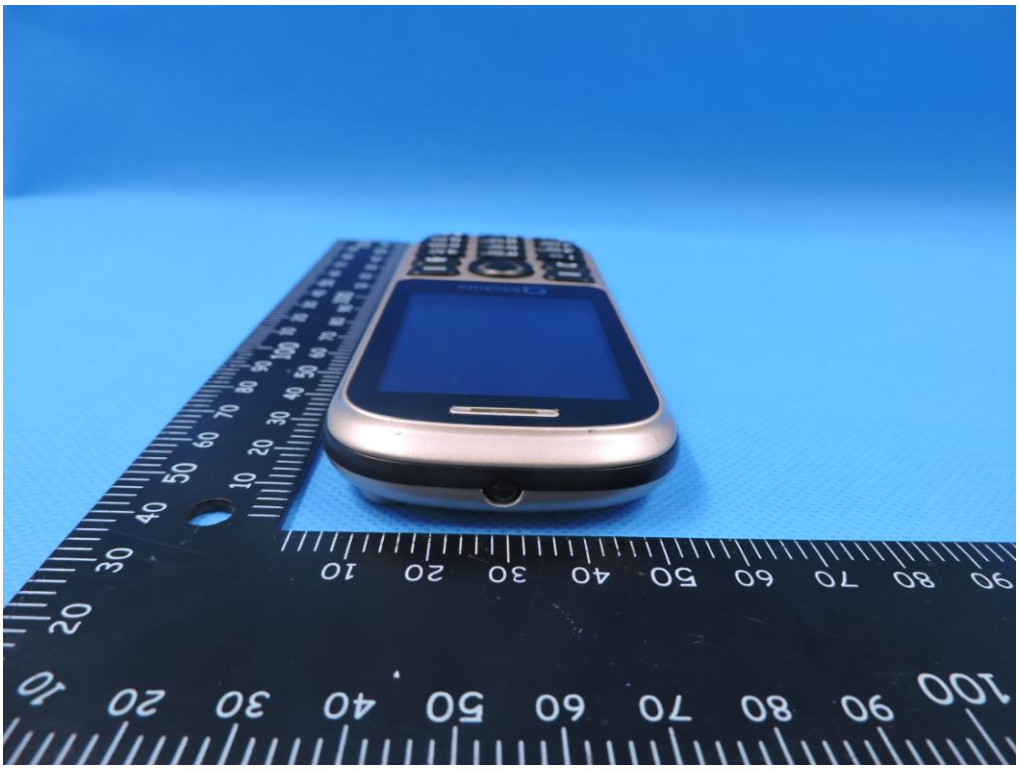
10. Test Photos And Results

10.1 EUT Photos

Front side

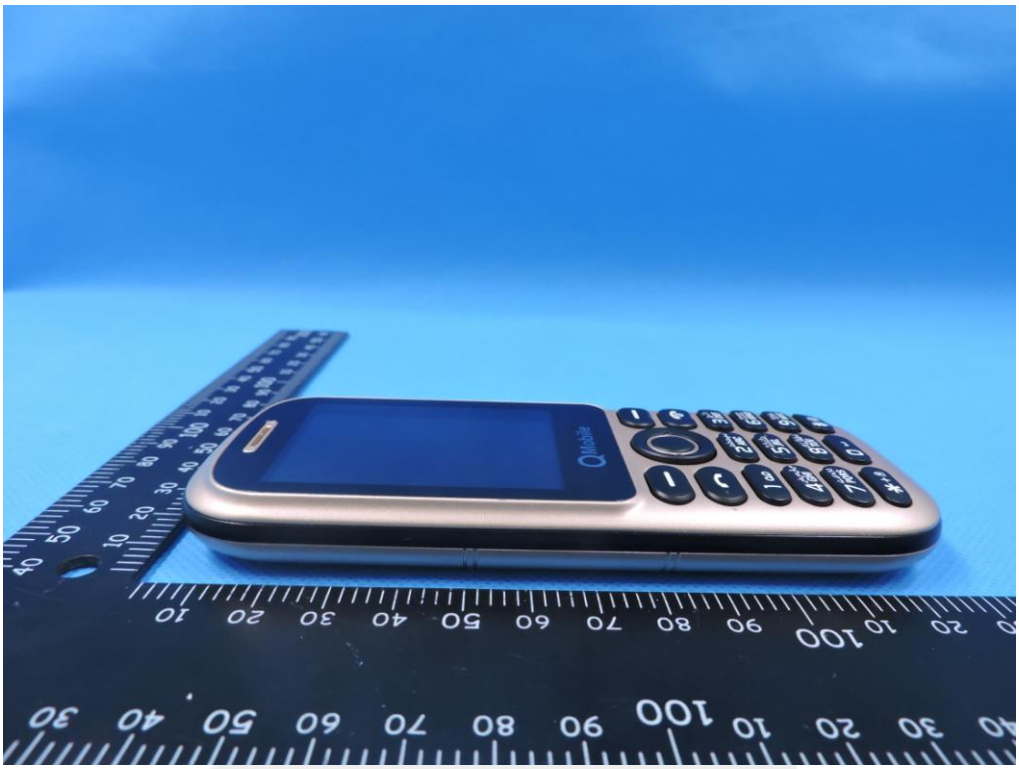
Back side

Top side

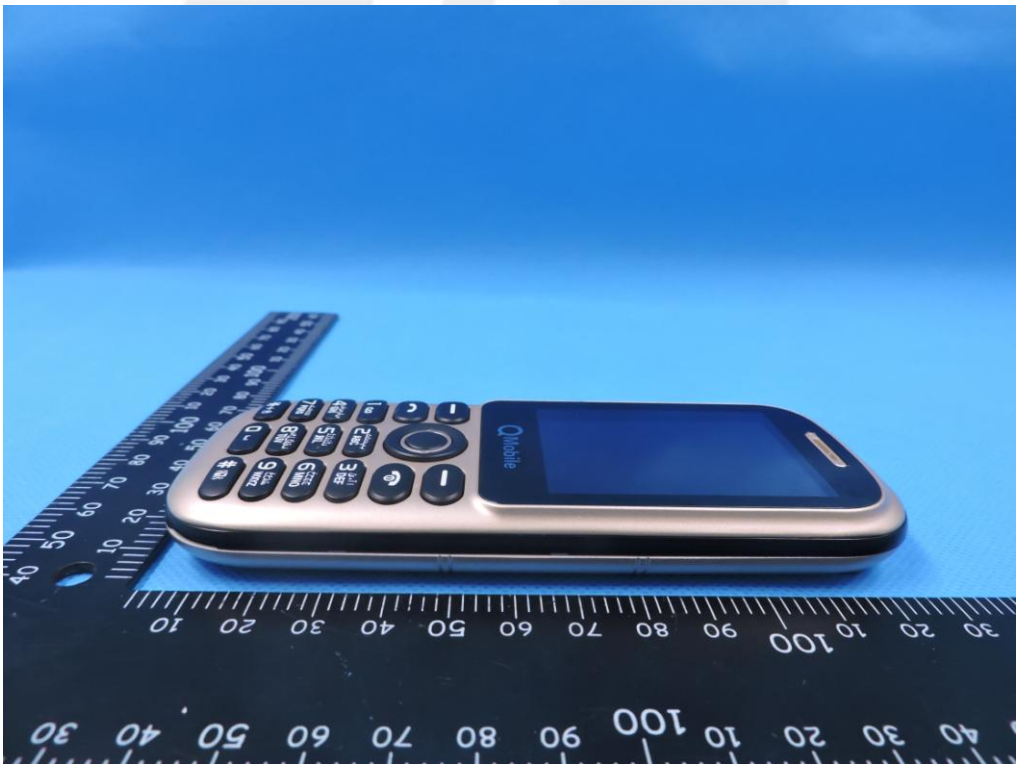


Bottom side

Left side

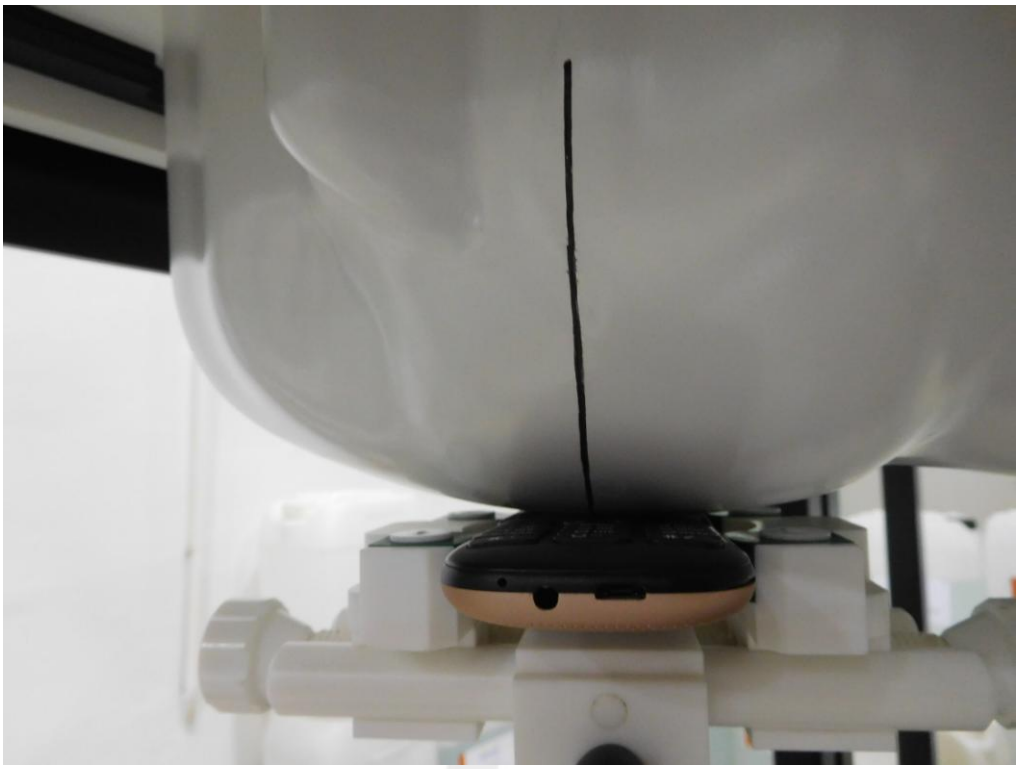


Right side

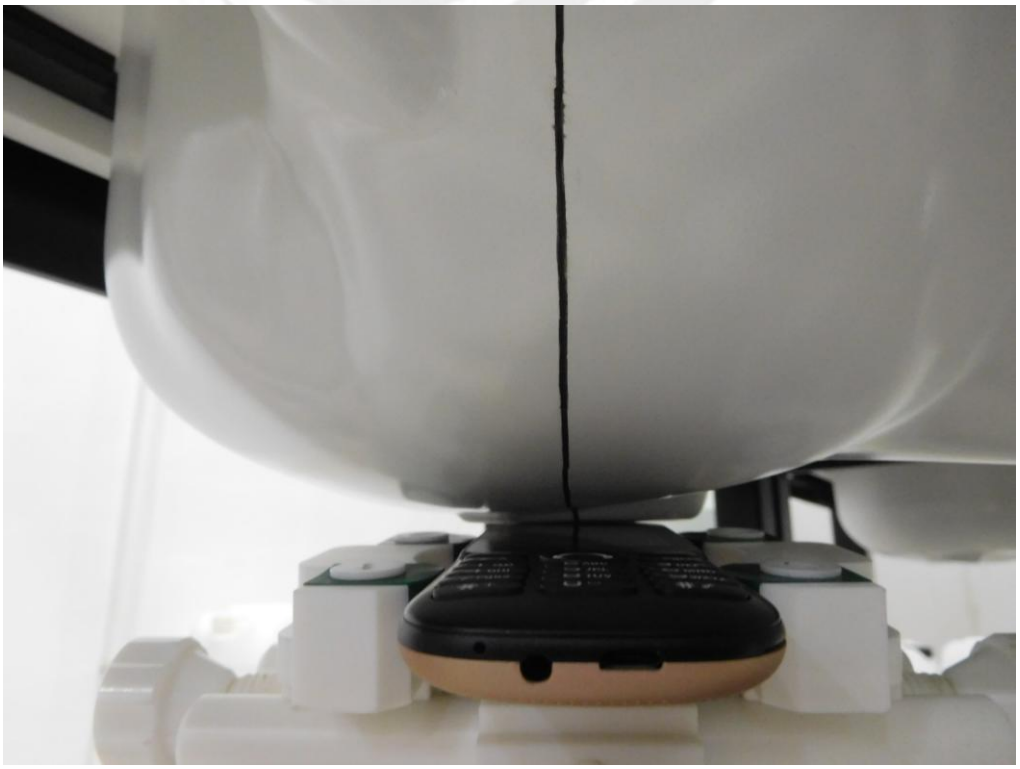


10.2 Setup Photos

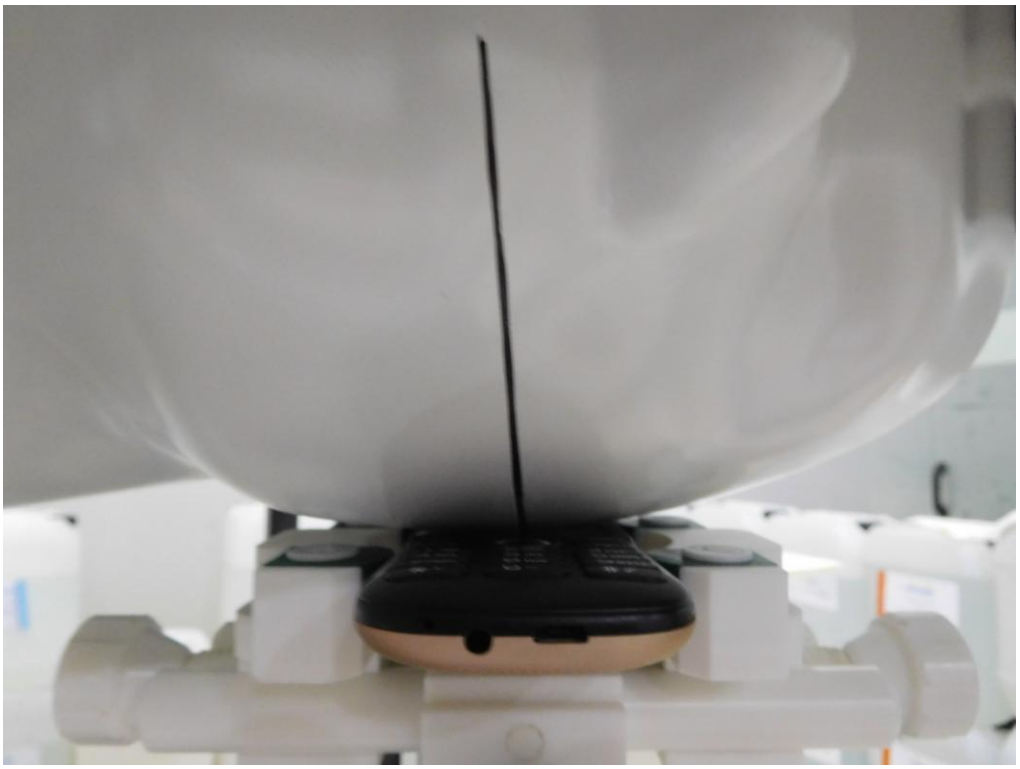
Right Touch



Right Tilt

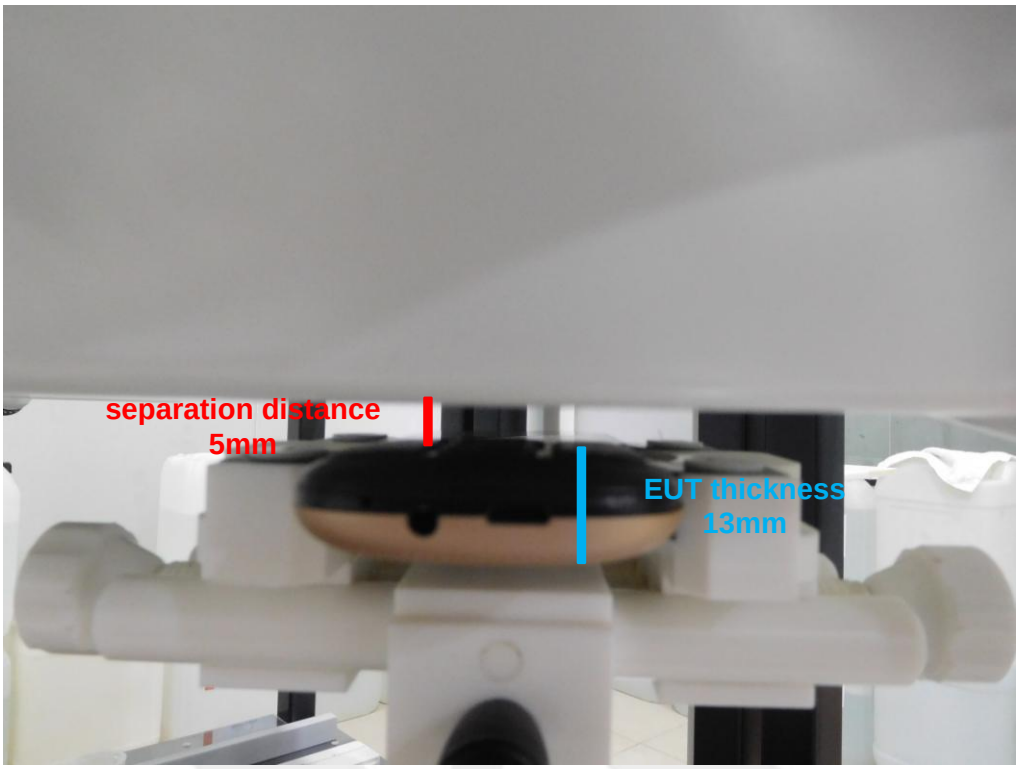


Left Touch

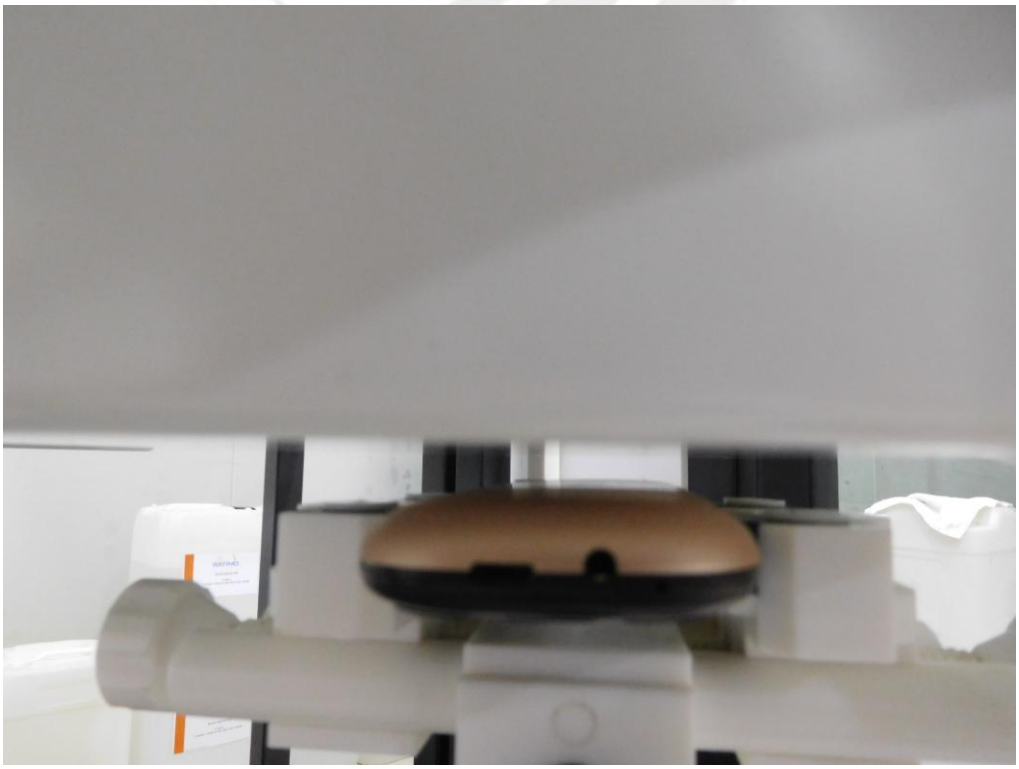


Left Tilt

Body Front side



Body Back side



Liquid depth (15 cm)

11. SAR Result Summary

Head:

Test Case of Head				Freq. (MHz)	Power Drift(%)	SAR (10g) (W/kg)	Meas. No.
Band	Model	Test Position	Channel				
GSM 900	Voice	Right Touch Cheek	CH 60	902.0	-1.37	**0.173**	1
		Right Tilt	CH 60	902.0	3.38	0.102	-
		Left Touch Cheek	CH 60	902.0	0.57	0.164	-
		Left Tilt	CH 60	902.0	-0.20	0.095	-
GSM 1800	Voice	Right Touch Cheek	CH 698	1747.4	-2.85	**0.154**	3
		Right Tilt	CH 698	1747.4	1.40	0.087	-
		Left Touch Cheek	CH 698	1747.4	3.75	0.124	-
		Left Tilt	CH 698	1747.4	1.27	0.085	-

Body: (5mm between DUT and Phantom)

Test Case of Body				Freq. (MHz)	Power Drift(%)	SAR (10g) (W/kg)	Mea. No.
Band	Model	Test Position	Channel				
GSM 900	DATA	Body Front	CH 60	902.0	-0.19	0.103	-
		Body Back	CH 60	902.0	0.106	**0.172**	2
GSM 1800	DATA	Body Front	CH 698	1747.4	1.56	0.114	-
		Body Back	CH 698	1747.4	-2.34	**0.164**	4

Note:

·Two SIM card slot can't work at the same time.

·When the 10g SAR is ≤1.0W/kg，testing for low and high channel is optional.

Simultaneous Multi-band Transmission Evaluation:
Application Simultaneous Transmission information:

Position	Simultaneous state
Head	GSM + BT
Body	GSM + BT

NOTE:

1. For simultaneous transmission at head and body exposure position, 2 transmitters simultaneous transmission was the worst state.

2. The reported SAR summation is calculated based on the same configuration and test position.

3. Multi-band transmission analysis for Body SAR is performed following EN 62209-2 procedure. One way of determining the threshold power level available to the secondary transmitter($P_{available}$) is to calculate it from the measured peak spatial-average SAR of the primary transmitter (SAR_1) according to the equation：

$$P_{availabla} = P_{th,m} * (SAR_{lim} - SAR_1)/SAR_{lim}$$

where :

$P_{th.m}$ is the threshold exclusion power level taken from Annex B of IEC 62479[7] for the frequency of the secondary transmitter at the separation distance used in the testing .

If the output power of the secondary transmitter is less than $P_{available}$, SAR measurement for the secondary transmitter is not necessary.

Simultaneous Mode	Position	SAR_1 (W/Kg)	secondary transmitter Maximum Average Power		Separation distance (mm)	$P_{available}$ (mW)	Result
			dBm	mW			
GSM + BT	Head	0.173	3.18	2.22	5	18.270	No
	Body	0.172			5	18.280	No

Note：

The “No” is represent that SAR measurement for the secondary transmitter is not necessary.

12. Equipment List

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last Calibration	Calibrated Until
900MHz Dipole	SATIMO	SID900	SN 30/14 DIP0G900-328	2014.09.01	2017.08.31
1800MHz Dipole	SATIMO	SID1800	SN 30/14 DIP1G800-329	2014.09.01	2017.08.31
E-Field Probe	MVG	SSE2	SN 45/15 EPGO281	2015.12.10	2016.12.09
Antenna	SATIMO	ANTA3	SN 07/13 ZNTA52	2014.09.01	2017.08.31
Waveguide	SATIMO	SWG5500	SN 13/14 WGA32	2014.09.01	2017.08.31
Phantom1	SATIMO	SAM	SN 32/14 SAM115	N/A	N/A
Phantom2	SATIMO	SAM	SN 32/14 SAM116	N/A	N/A
SAR TEST BENCH	SATIMO	MOBILE PHONE POSITIONNING SYSTEM	SN 32/14 MSH97	N/A	N/A
SAR TEST BENCH	SATIMO	LAPTOP POSITIONNING SYSTEM	SN 32/14 LSH29	N/A	N/A
Dielectric Probe Kit	SATIMO	SCLMP	SN 32/14 OCPG52	2016.08.30	2017.08.29
Multi Meter	Keithley	Multi Meter 2000	4050073	2015.11.20	2016.11.19
Signal Generator	Agilent	F2182A	MY50140530	2015.11.18	2016.11.17
Power Meter	R&S	NRP	100510	2015.10.25	2016.10.24
Power Sensor	R&S	NRP-Z11	101919	2015.10.24	2016.10.23
Power Sensor	Anritsu	MA2411B	1027253	2015.10.10	2016.10.09
Power Sensor	R&S	NRP-Z21	103971	2015.12.12	2016.12.11
Network Analyzer	Agilent	5071C	EMY46103472	2015.12.12	2016.12.11
Attenuator 1	PE	PE7005-10	N/A	2015.10.25	2016.10.24
Attenuator 2	PE	PE7005-3	N/A	2015.10.24	2016.10.23
Attenuator 3	Woken	WK0602-XX	N/A	2015.12.12	2016.12.11
Dual Directional Coupler	Agilent	778D	50422	2015.11.18	2016.11.17

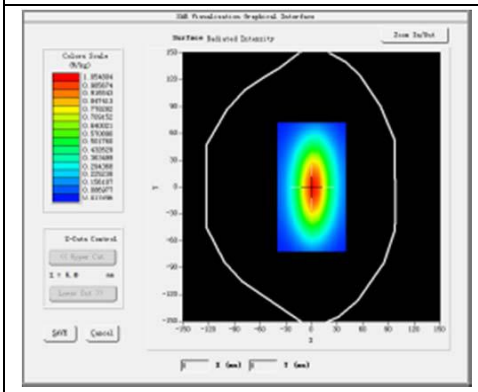
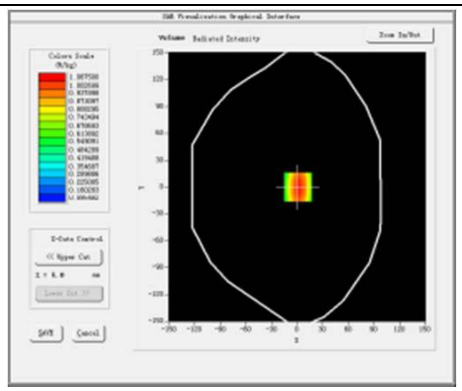
Appendix A. System Validation Plots

System Performance Check Data(900MHz)

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 2016-09-29

Experimental conditions.

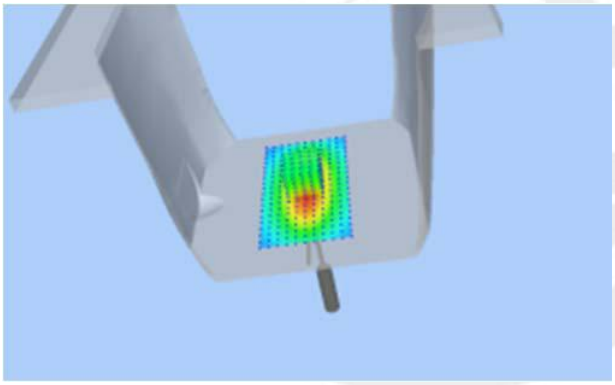
Phantom	Validation plane
Device Position	-
Band	900MHz
Channels	-
Signal	CW
Frequency (MHz)	900MHz
Relative permittivity (real part)	41.90
Relative permittivity	18.00
Conductivity (S/m)	0.96
Power drift (%)	2.300000
Ambient Temperature	22.7°C
Liquid Temperature	22.3°C
Probe	SN 45/15 EPGO281
ConvF	1.62
Crest factor:	1:1

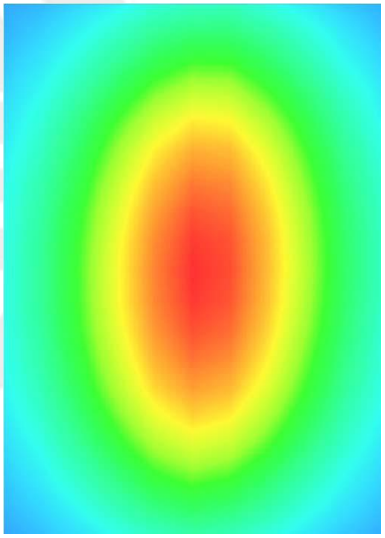
SURFACE SAR	VOLUME SAR
	

Maximum location: X=7.00, Y=-1.00

SAR 10g (W/Kg)	0.692377
SAR 1g (W/Kg)	0.989228

Z Axis Scan



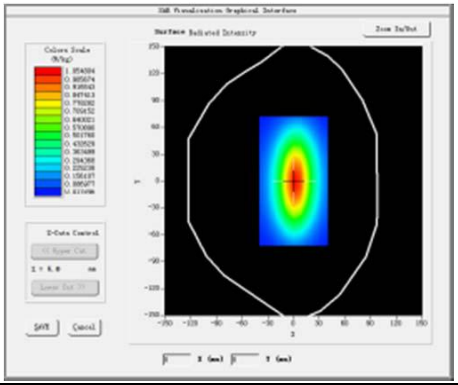
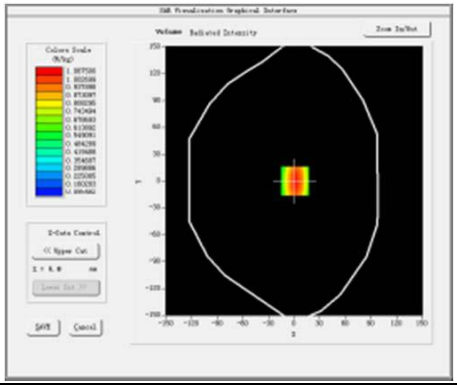


System Performance Check Data(1800MHz)

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 2016-09-29

Experimental conditions.

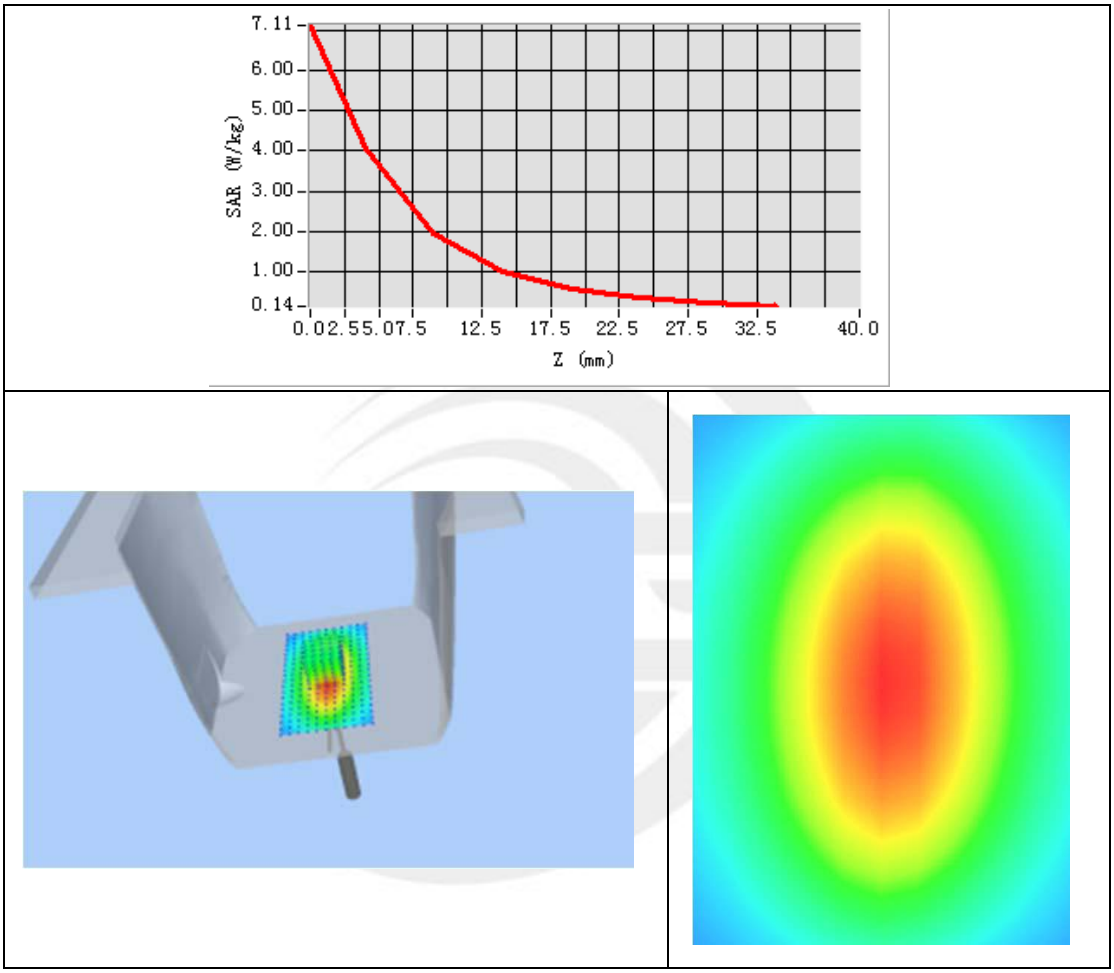
Phantom	Validation plane
Device Position	-
Band	1800MHz
Channels	-
Signal	CW
Frequency (MHz)	1800MHz
Relative permittivity (real part)	40.10
Relative permittivity	14.096855
Conductivity (S/m)	1.368491
Power drift (%)	-1.390000
Ambient Temperature	22.7°C
Liquid Temperature	22.3°C
Probe	SN 45/15 EPGO281
ConvF	1.83
Crest factor:	1:1

SURFACE SAR	VOLUME SAR
	

Maximum location: X=7.00, Y=-1.00

SAR 10g (W/Kg)	2.010247
SAR 1g (W/Kg)	3.840154

Z Axis Scan



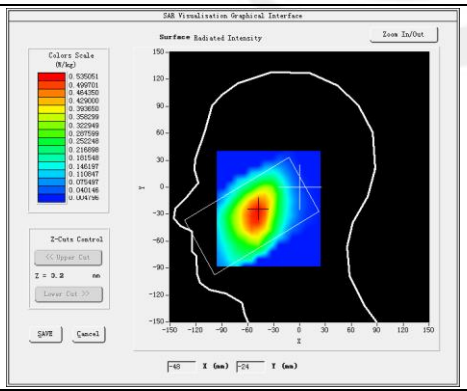
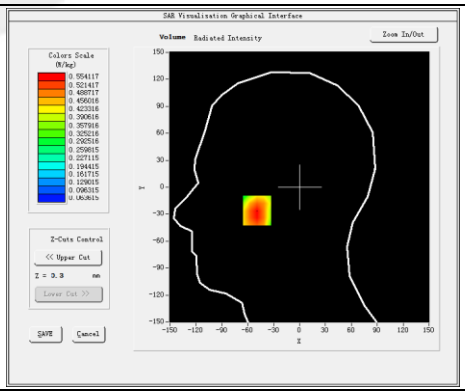
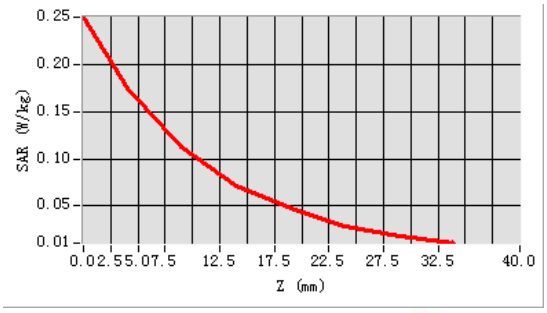
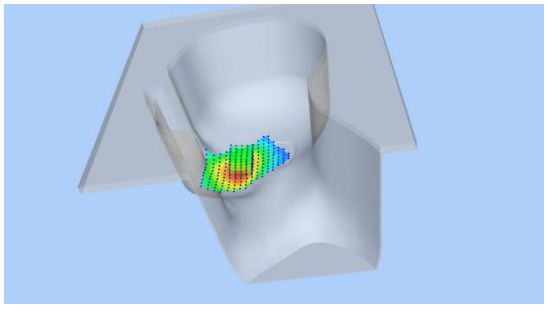
Appendix B. SAR Test Plots

Plot 1: DUT: Mobile Phone; EUT Model: E500i Music

Test Date	2016-09-29
Probe	SN 45/15 EPGO281
ConvF	1.62
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Right head
Device Position	Cheek
Band	GSM900
Channels	Middle
Signal	TDMA (Crest factor: 8.0)
Frequency (MHz)	902.0
Relative permittivity (real part)	42.07
Conductivity (S/m)	0.97
Variation (%)	-1.37

Maximum location: X=-49.00, Y=-26.00
SAR Peak: 0.43 W/kg

SAR 10g (W/Kg)	0.173162
SAR 1g (W/Kg)	0.285388

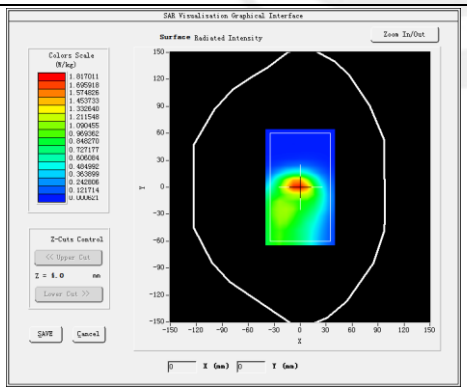
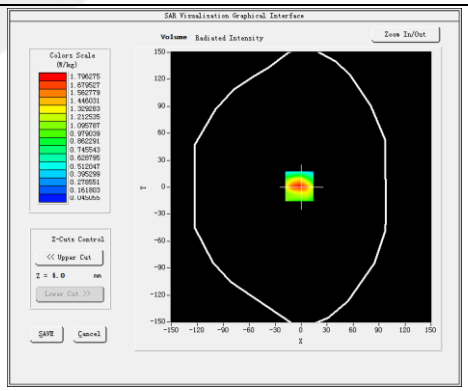
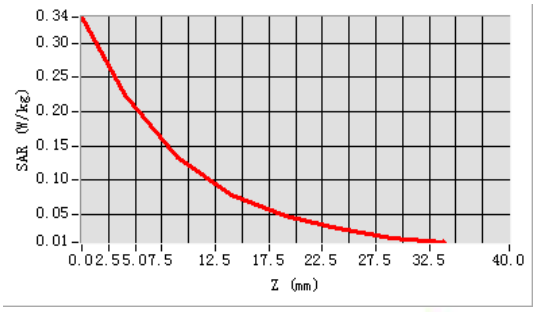
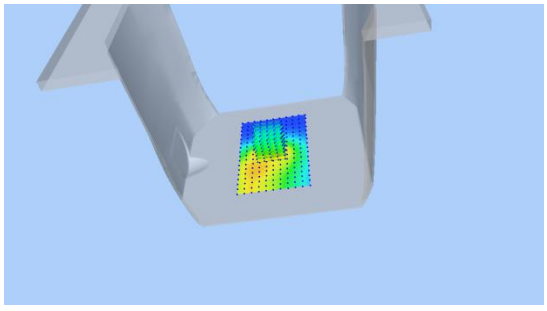
SURFACE SAR	VOLUME SAR
	
Z Axis Scan	**3D**
	

Plot 2: DUT: Mobile Phone; EUT Model: E500i Music

Test Date	2016-09-29
Probe	SN 45/15 EPGO281
ConvF	1.62
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body Back
Band	GPRS 900
Channels	Middle
Signal	Duty Cycle: 1:2.00 (Crest factor: 2.0)
Frequency (MHz)	902.0
Relative permittivity (real part)	42.07
Conductivity (S/m)	0.97
Variation (%)	1.06

Maximum location: X=8.00, Y=-40.00
SAR Peak: 0.55 W/kg

SAR 10g (W/Kg)	0.171790
SAR 1g (W/Kg)	0.320062

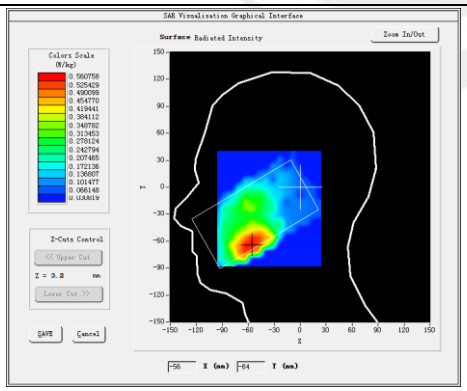
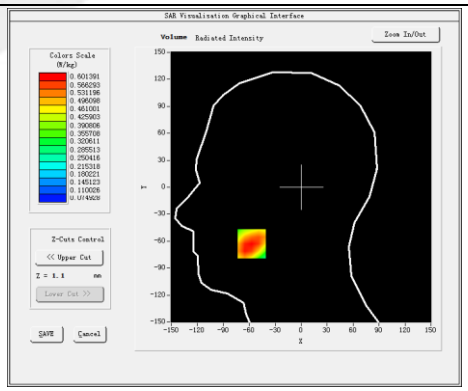
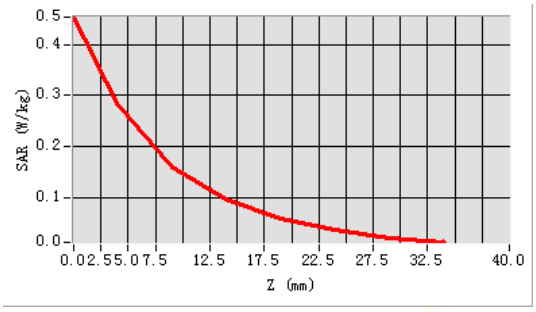
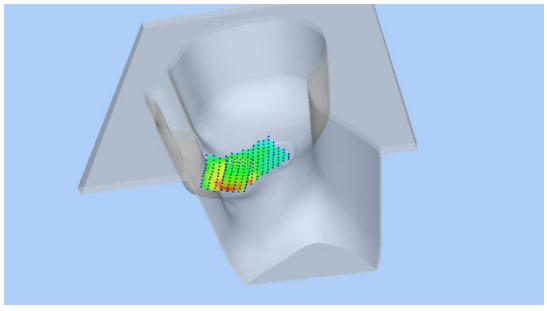
SURFACE SAR	VOLUME SAR
	
Z Axis Scan	**3D**
	

Plot 3: DUT: Mobile Phone; EUT Model: E500i Music

Test Date	2016-09-29
Probe	SN 45/15 EPGO281
ConvF	1.83
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Right head
Device Position	Cheek
Band	GSM1800
Channels	Middle
Signal	TDMA (Crest factor: 8.0)
Frequency (MHz)	1747.4
Relative permittivity (real part)	39.78
Conductivity (S/m)	1.38
Variation (%)	-2.85

Maximum location: X=-57.00, Y=-63.00
SAR Peak: 0.45 W/kg

SAR 10g (W/Kg)	0.153737
SAR 1g (W/Kg)	0.284470

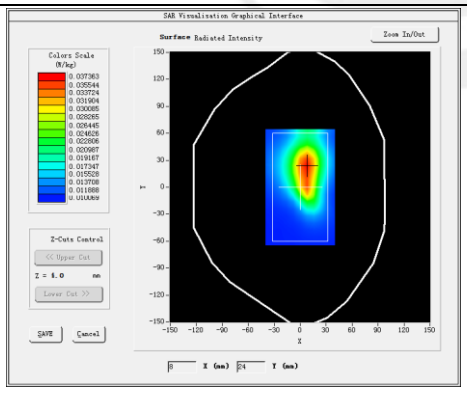
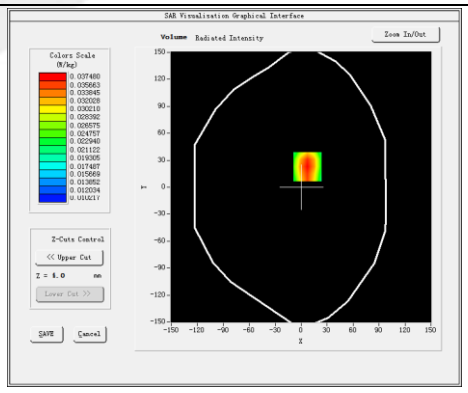
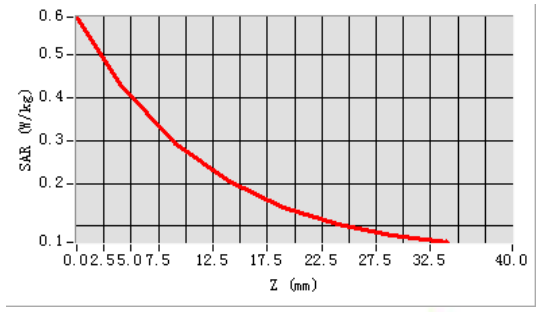
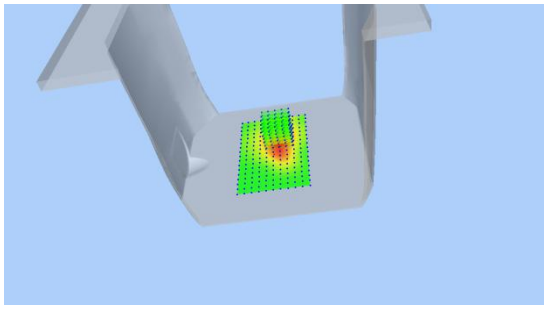
SURFACE SAR	VOLUME SAR
	
Z Axis Scan	**3D**
	

Plot 4: DUT: Mobile Phone; EUT Model: E500i Music

Test Date	2016-09-29
Probe	SN 45/15 EPGO281
ConvF	1.83
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body Back
Band	GPRS 1800
Channels	Middle
Signal	Duty Cycle: 1:2.00 (Crest factor: 2.0)
Frequency (MHz)	1747.4
Relative permittivity (real part)	39.78
Conductivity (S/m)	1.38
Variation (%)	-2.34

Maximum location: X=7.00, Y=24.00
SAR Peak: 0.62 W/kg

SAR 10g (W/Kg)	0.163733
SAR 1g (W/Kg)	0.335794

SURFACE SAR	VOLUME SAR
	
Z Axis Scan	**3D**
	

Appendix C. Probe Calibration And Dipole Calibration Report

Refer the appendix Calibration Report.

※※※※※END OF THE REPORT※※※※※