S T S LAB

FCC SAR TEST REPORT

Report No: STS1412027H01

Issued for

Shenzhen Hongjiayuan Communication Technology Co.,Ltd.

6 Floor,Block 12,Dongfangjianfuyusheng Industrial,Gushu,Baoan District,Shenzhen City,China

Product Name:	smart phone
Brand Name:	THL
Model No.:	THL 4000
Series Model:	thl 4000S/thl 4000C/thl 4000 pro/thl T7/ thl T7S/thl T7C/thl T7 pro
FCC ID:	2ADTWTHL4000
Test Standard:	ANSI/IEEE Std. C95.1
	FCC 47 CFR Part 2 (2.1093)
	IEEE 1528: 2013
Max. SAR (1g):	Head:0.309 W/kg
	Body:0.775 W/kg

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Test Report Certification

Applicant's name ..... : Shenzhen Hongjiayuan Communication Technology Co.,Ltd.

Address ..... : 6 Floor,Block 12,Dongfangjianfuyusheng Industrial,Gushu,Baoan District,Shenzhen City,China

Manufacture's Name..... : Shenzhen Hongjiayuan Communication Technology Co.,Ltd.

Address ..... : 6 Floor,Block 12,Dongfangjianfuyusheng Industrial,Gushu,Baoan District,Shenzhen City,China

Product description

Product name ..... : smart phone

Trademark ..... : THL

Model and/or type reference : THL 4000

Serial Model： thl 4000S/thl 4000C/thl 4000 pro/thl T7/ thl T7S/thl T7C/thl T7 pro

Standards ..... : ANSI/IEEE Std. C95.1-1992
FCC 47 CFR Part 2 (2.1093)
IEEE 1528: 2013

The device was tested by Shenzhen STS Test Services Co., Ltd. in accordance with the measurement methods and procedures specified in KDB 865664 The test results in this report apply only to the tested sample of the stated device/equipment. Other similar device/equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

Date of Test .....:

Date (s) of performance of tests .....: 15 Dec.. 2014

Date of Issue.....: 18 Dec.. 2014

Test Result.....: **Pass**

Testing Engineer :

(Tony Liu)

Technical Manager :

(Vita Li)

Authorized Signatory :

(Bovey Yang)

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1. General Information

1.1 EUT Description

Equipment	smart phone		
Brand Name	THL		
Model No.	THL 4000		
Serial Model	thl 4000S/thl 4000C/thl 4000 pro/thl T7/ thl T7S/thl T7C/thl T7 pro		
FCC ID	2ADTWTHL4000		
Model Difference	Only difference in model name		
Adapter	Input: AC100-240V, 0.3 A, 50/60 Hz Output: DC 5V, 1000mA		
Battery	Rated Voltage: 3.7V Charge Limit: 4.2V Capacity: 4000mAh		
Hardware Version	V02		
Software Version	thl.4000.168B.1479M.8P64.QHD.EN.COM.20141128.MT6582KK.GC5004		
Frequency Range	GSM 850: 824.2 ~ 848.8 MHz PCS1900: 1850.2 ~ 1909.8 MHz WCDMA II: 1852.4~1907.6 MHz WCDMA V: 826.4~846.6 MHz WLAN 802.11 b/g/n(HT20):2412-2462 MHz WLAN 802.11 n(HT40):2422-2452 MHz Bluetooth：2402~2480MHz		
Transmit Power(MAX):	GSM 850: 32.11dBm GSM 1900: 27.77dBm WCDMA II: 20.30dBm WCDMA V: 22.20dBm	802.11b: 11.57dBm 802.11g: 7.85dBm 802.11 n(HT20): 7.35dBm 802.11 n(HT40): 4.86dBm Bluetooth: -7.477 dBm	
Max. Reported SAR(1g):	Head: GSM 850: 0.204 W/kg GSM 1900: 0.140 W/kg WCDMA II: 0.298 W/kg WCDMA V: 0.154 W/kg WIFI: 0.309W/kg	Body: GSM 850: 0.465W/kg GSM 1900: 0.357 W/kg WCDMA II: 0.663 W/kg WCDMA V: 0.334 W/kg WIFI: 0.270W/kg	Hotspot: GSM 850: 0.775W/kg GSM 1900: 0.353 W/kg WCDMA II: 0.663 W/kg WCDMA V: 0.334 W/kg WIFI: 0.270W/kg
Operating Mode:	GSM: GSM Voice/GPRS/EGPRS Class 12; WCDMA: RMC/HSDPA/HSUPA Release 6; WLAN: 802.11 b/g/n; Bluetooth: V4.0 (GFSK)		
Antenna Specification:	GSM/WCDMA: PIFA Antenna BT/WIFI: PIFA Antenna		
SIM Card	Support dual-SIM, dual standby, the multiple SIM card with two lines cannot transmitting at the same time		
Hotspot Mode:	Support		
DTM Mode:	Not Support		

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 Facility

Shenzhen STS Test Services Co., Ltd.
Add. : 1/F, Building 2, Zhuoke Science Park, Chongqing Road, Fuyong, Baoan District, Shenzhen, China
FCC Registration No.: 842334;IC Registration No.: 12108A-1

2. Test Standards And Limits

No.	Identity	Document Title
1	47 CFR Part 2	Frequency Allocations and Radio Treaty Matters; General Rules and Regulations
2	ANSI/IEEE Std. C95.1-1992	IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz
3	IEEE Std. 1528-2013	Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques
4	FCC KDB 447498 D01 v05r02	Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies
5	FCC KDB 865664 D01 v01r03	SAR Measurement 100 MHz to 6 GHz
6	FCC KDB 865664 D01 v01r03	SAR Measurement 100 MHz to 6 GHz
7	FCC KDB 941225 D01	SAR Measurement Procedures for 3G Devices
8	FCC KDB 248227 D01	SAR Measurement Procedures for 802.11 a/b/g Transmitters

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	1.6	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).

NOTE

GENERAL POPULATION/UNCONTROLLED EXPOSURE

PARTIAL BODY LIMIT

1.6 W/kg

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:

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

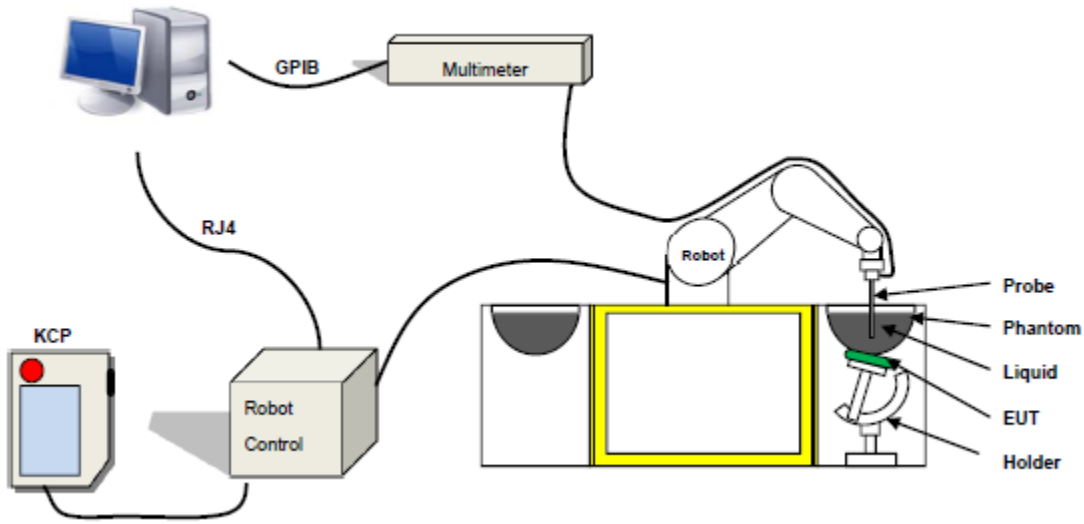
SAR is expressed in units of Watts per kilogram (W/kg) SAR measurement can be related to the electrical field in the tissue by

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

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 17/14 EP221 with following specifications is used

- Dynamic range: 0.01-100 W/kg
- Tip Diameter :5 mm
- Distance between probe tip and sensor center: 2.7mm
- Distance between sensor center and the inner phantom surface: 4 mm (repeatability better than +/- 1mm)
- Probe linearity: ＜0.25 dB
- Axial Isotropy: ＜0.25 dB
- Spherical Isotropy: ＜0.25 dB
- Calibration range: 450MHz to 2600MHz for head & body simulating liquid.

Angle between probe axis (evaluation axis) and suface normal line:less than 30°

Figure 1 – *Satimo COMOSAR Dosimetric E field Dipole*

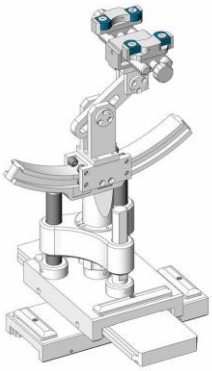
3.2.2 Phantom

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.

SN 32/14 SAM115

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. Tissue Simulating Liquids

4.1 Simulating Liquids Parameter Check

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

LIQUID MEASUREMENT RESULTS

Date: Dec.15, 2014 **Ambient condition:** Temperature 22.7°C **Relative humidity:** 49%

Head Simulating Liquid		Parameters	Target	Measured	Deviation[%]	Limited[%]
Frequency	Temp. [°C]					
835 MHz	22.30	Permitivity:	41.50	41.27	-0.55	±5
		Conductivity:	0.90	0.91	1.11	± 5
1900 MHz	22.30	Permitivity:	40.00	39.57	-1.07	± 5
		Conductivity:	1.40	1.403	0.21	± 5
2450 MHz	22.30	Permitivity:	39.2	37.8	-3.5	± 5
		Conductivity:	1.80	1.86	3.3	± 5

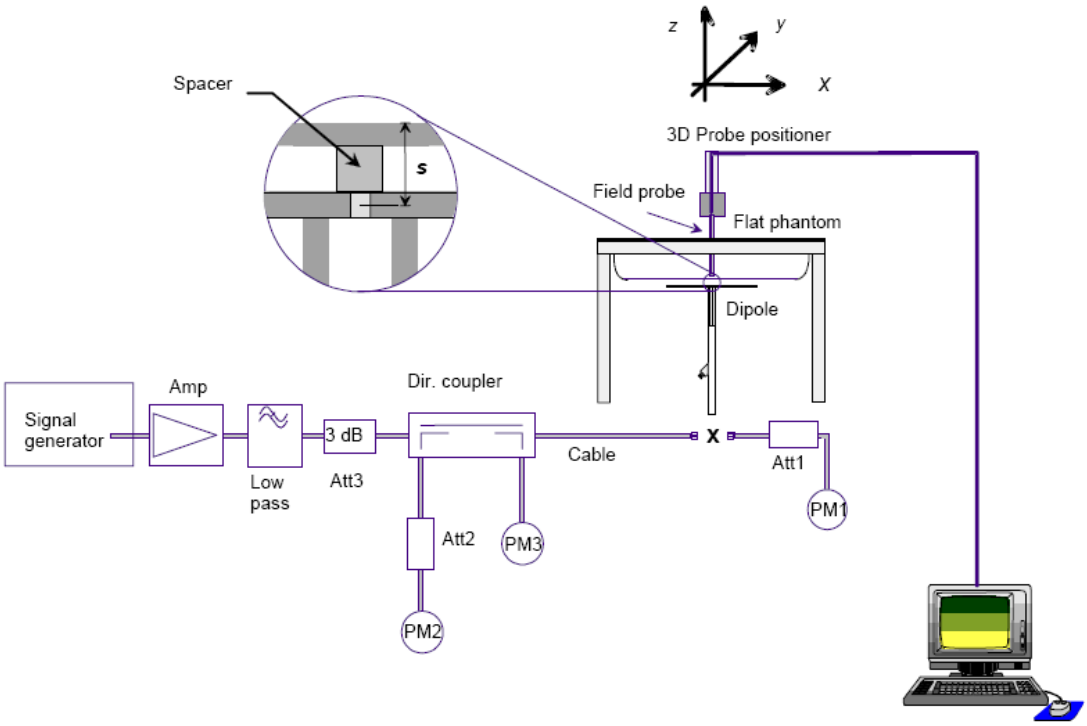
Body Simulating Liquid		Parameters	Target	Measured	Deviation[%]	Limited[%]
Frequency	Temp. [°C]					
835 MHz	22.30	Permitivity:	55.20	55.50	0.54	± 5
		Conductivity:	0.97	0.96	-1.03	± 5
1900 MHz	22.30	Permitivity:	53.30	51.68	-3.04	± 5
		Conductivity:	1.52	1.51	0.66	± 5
2450 MHz	22.30	Permitivity:	52.7	51.2	-2.9	± 5
		Conductivity:	1.95	1.95	0.0	± 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 %.

Ambient condition: Temperature 22.7°C **Relative humidity:** 49%

Freq.(MHz)	Power(mW)	Tested Value (W/Kg)	Normalized SAR (W/kg)	Target(W/Kg)	Tolerance(%)	Date
835 Head	100	0.937	9.37	9.71	-3.50	2014-12-15
835 Body	100	0.968	9.68	10.19	-5.00	2014-12-15
1900 Head	100	3.840	38.4	40.01	-4.02	2014-12-15
1900 Body	100	4.142	41.42	40.32	2.73	2014-12-15
2450 Head	100	3.922	39.22	39.20	2.91	2014-12-15
2450 Body	100	5.123	51.23	52.37	-2.18	2014-12-15

Note: The tolerance limit of System validation ±10%.

6. SAR Evaluation Procedures

The procedure for assessing the average SAR value consists of the following steps:
The following steps are used for each test position

- 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 Antenna Location Sketch

It is a smart phone, support GSM mode and WCDMA mode.

WWAN Antenna

WIFI/BT Antenna

7.1 SAR TEST EXCLUSION CONSIDER TABLE

According with FCC KDB 447498 D01v05r02，appendix A，<SAR test exclusion thresholds for 100MHz~6GHz and≤50mm＞table，this device SAR test configurations consider as following：

Band	Test position configurations					
	Front	Back	Left edge	Right edge	Top edge	Bottom edge
GSM850	＜5mm	＜5mm	＜5mm	20mm	126mm	＜5mm
	Yes	Yes	Yes	Yes	No	No
GSM1900	＜5mm	＜5mm	＜5mm	20mm	126mm	＜5mm
	Yes	Yes	Yes	Yes	No	Yes
WCDMA Band2	＜5mm	＜5mm	＜5mm	20mm	126mm	＜5mm
	Yes	Yes	Yes	Yes	No	Yes
WCDMA Band5	＜5mm	＜5mm	＜5mm	20mm	126mm	＜5mm
	Yes	Yes	Yes	Yes	No	Yes
WLAN	＜5mm	＜5mm	＜5mm	46mm	＜5mm	104mm
	Yes	Yes	Yes	No	Yes	No
Bluetooth	＜5mm	＜5mm	＜5mm	46mm	＜5mm	104mm
	Yes	Yes	yes	No	Yes	No

Note：

1. maximum power is the source-based time-average power and represents the maximum RF output power among production units.
2. per KDB 447498 D01v05r02, for larger devices, the test separation distance of adjacent edge configuration is determined by the closest separation between the antenna and the user.
3. per KDB 447498 D01v05r02, standalone SAR test exclusion threshold is applied; if the distance of the antenna to the user is <5mm, 5mm is user to determine SAR exclusion threshold
4. per KDB 447498 D01v05r02, the 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distance ≤50mm are determined by:
   [(max.power of channel, including tune-up tolerance, Mw)/(min. test separation distance, mm)]*[√f(GHZ）)≤3.0 for 1-g SAR and≤7.5 for10-g extremity SAR
   f(GHz) is the RF channel transmit frequency in GHz
   Power and distance are rounded to the nearest mW and mm before calculation
   The result is rounded to one decimal place for comparison
   For <50mm distance, we just calculate mW of the exclusion threshold value(3.0)to do compare
5. per KDB 447498 D01v05r02, at 100 MHz to 6GHz and for test separation distances >50mm, the SAR test exclusion threshold is determined according to the following
   a)[threshold at 50mm in step 1]+(test separation distance -50mm)*(f (MHz)/150)]Mw, at

100 MHz to 1500 MHz

b) [threshold at 50mm in step1]+(test separation distance -50mm) *10]mW at＞ 1500MHz and≤6GHz

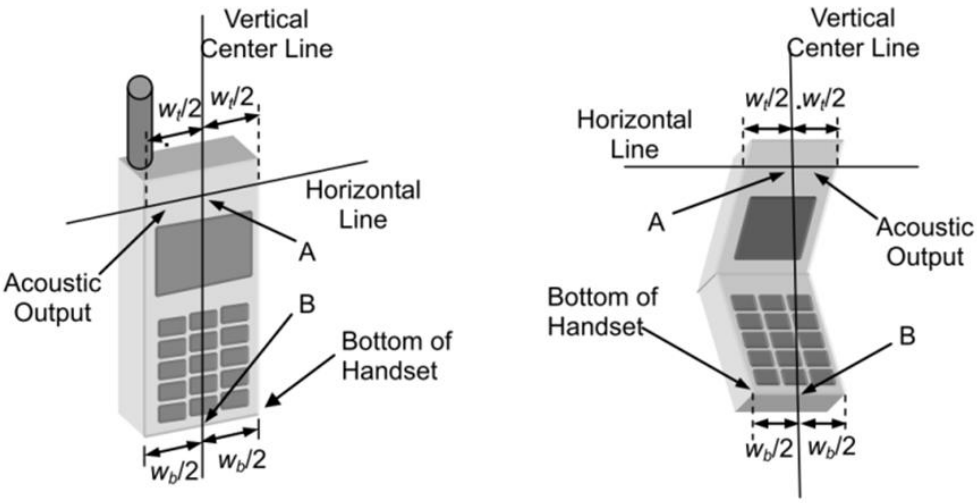
6. Per KDB 447498 D02v02r02,RMC 12.2kbps setting is used to evaluate SAR. If HSDPA/HSUPA/DC-HSDPA output power is<0.25db higher than RMC 12.2Kbps,or reported SAR with RMC 12.2kbps setting is ≤1.2W/Kg, HSDPA/HSUPA/DC-HSDPA SAR evaluation can be excluded.
7. Per KDB 248227 D01v01r02,choose the highest output power channel to test SAR and determine futher SAR exclusion 8.for each frequency band ,testing at higher data rates and higher order modulations is not required when the maximum average output power for each of each of these configurations is less than 1/4db higher than those measured at the lower data rate than 11b mode ,thus the SAR can be excluded.

8. EUT Test Position

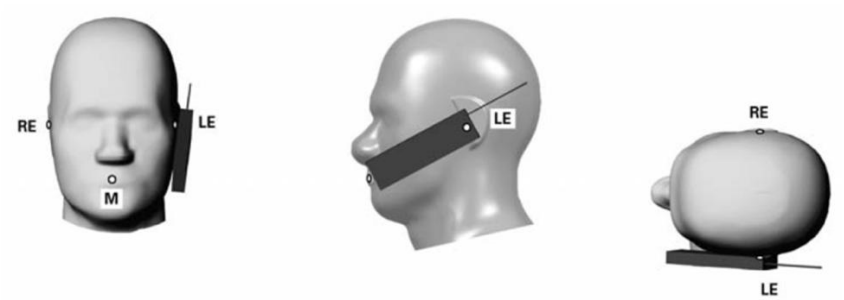
This EUT was tested in Right Cheek, Right Titled, Left Cheek, Left Titled, Front Face and Rear Face.

8.1 Define Two Imaginary Lines On The Handset

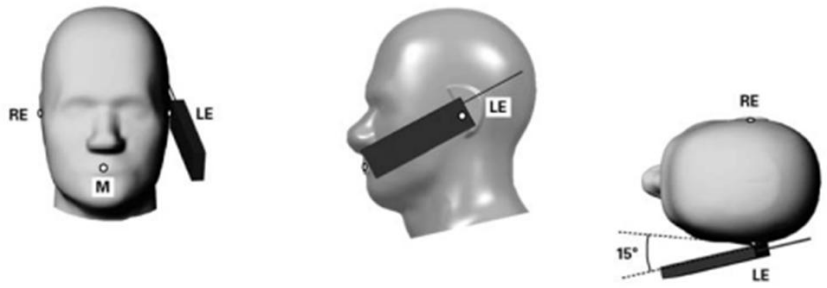
(1)The vertical centerline passes through two points on the front side of the handset the midpoint of the width wt of the handset at the level of the acoustic output, and the midpoint of the width wb of the handset.
(2)The horizontal line is perpendicular to the vertical centerline and passes through 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.



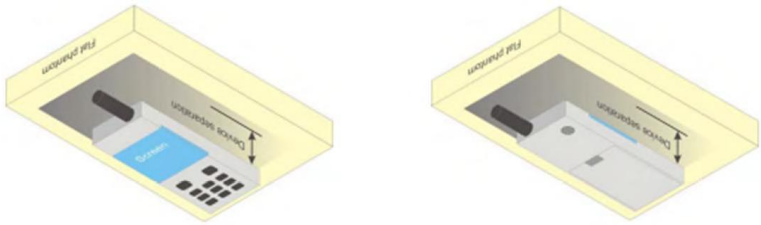
Cheek Position
1)To position the device with the vertical center line of the body of the device and the horizontal line crossing the center piece in a plane parallel to the sagittal plane of the phantom. While maintaining the device in this plane, align the vertical center line with the reference plane containing the 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



Title 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.

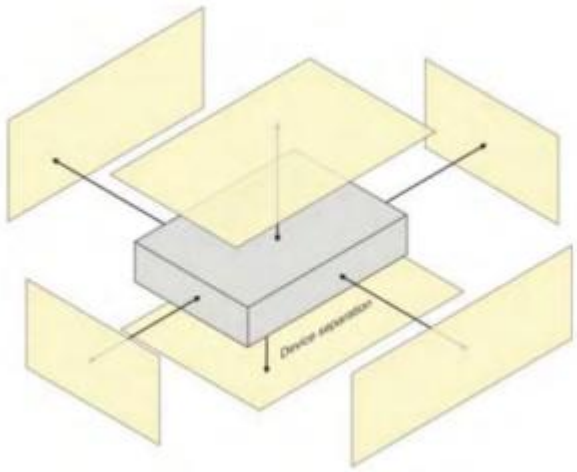


Body-worn Position Conditions
(1) To position the EUT parallel to the phantom surface.
(2) To adjust the EUT parallel to the flat phantom.
(3) To adjust the distance between the EUT surface and the flat phantom to 5mm.



8.2 Hotspot mode exposure position condition

For handsets that support hotspot mode operations, with wireless router capabilities and various web browsing function, the relevant hand and body exposure condition are tested according to the hotspot SAR procedures in KDB 941225. A test separation distance of 10 mm is required between the phantom and all surface and edges with a transmitting antenna located within 25 mm form that surface or edge. When form factor of a handset is smaller than 9cm x 5cm, a test separation distance of 5mm(instead of 10mm)is required for testing hotspot mode. When the separate distance required for body-worn accessory testing is larger than or equal to that tested for hotspot mode, in the same wireless mode and for the same surface of the phone, the hotspot mode SAR data may be used to support body-worn accessory SAR compliance for that particular configuration(surface).



9. Measurement Uncertainty

The following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in IEEE 1528: 2003.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	$\sqrt{C_p}$	$\sqrt{C_p}$	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%	

10. Conducted Power Measurement

Test Result:

Burst Average Power (dBm)						
Band	GSM 850			PCS 1900		
Channel	128	190	251	512	661	810
Frequency (MHz)	824.2	836.6	848.8	1850.2	1880.0	1909.8
GSM(GMSK, 1-Slot)	32.11	31.95	31.96	27.66	27.59	27.77
GPRS (GMSK, 1-Slot)	32.10	31.94	31.92	27.55	27.76	27.63
GPRS (GMSK, 2-Slot)	30.86	30.75	30.52	26.94	26.86	26.74
GPRS (GMSK, 3-Slot)	29.63	29.37	29.26	25.65	25.46	25.38
GPRS (GMSK, 4-Slot)	27.88	27.75	27.55	24.65	24.56	24.43
EGPRS(8PSK, 1-Slot)	32.07	31.93	31.90	27.53	27.72	27.61
EGPRS(8PSK, 2-Slot)	30.82	30.72	30.44	26.45	26.27	26.19
EGPRS(8PSK, 3-Slot)	29.59	29.34	29.22	25.13	25.14	25.08
EGPRS(8PSK, 4-Slot)	27.81	27.73	27.49	24.56	24.16	24.54

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- Average Power(dBm)						
Band	GSM 850			PCS 1900		
Channel	128	190	251	512	661	810
Frequency (MHz)	824.2	836.6	848.8	1850.2	1880.0	1909.8
GSM(GMSK, 1-Slot)	23.11	22.95	22.96	18.66	18.59	18.77
GPRS (GMSK, 1-Slot)	23.10	22.94	22.92	18.55	18.76	18.63
GPRS (GMSK, 2-Slot)	24.86	24.75	24.52	20.94	20.86	20.74
GPRS (GMSK, 3-Slot)	25.37	25.11	25.00	21.39	21.20	21.12
GPRS (GMSK, 4-Slot)	24.88	24.75	24.55	21.65	21.56	21.43
EGPRS(8PSK, 1-Slot)	23.07	22.93	22.90	18.53	18.72	18.61
EGPRS(8PSK, 2-Slot)	24.82	24.72	24.44	20.45	20.27	20.19
EGPRS(8PSK, 3-Slot)	25.33	25.08	24.96	20.87	20.88	20.82
EGPRS(8PSK, 4-Slot)	24.81	24.73	24.49	21.56	21.16	21.54

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 dB
Frame-averaged power = Burst averaged power (2 Tx Slots) - 6 dB
Frame-averaged power = Burst averaged power (3 Tx Slots) - 4.26 dB
Frame-averaged power = Burst averaged power (4 Tx Slots) - 3 dB

Band	WCDMA Band V			WCDMA Band II		
Channel	4132	4182	4233	9263	9400	9537
Frequency (MHz)	826.4	836.6	846.6	1852.4	1880.0	1907.6
RMC 12.2Kbps	22.20	21.91	21.99	20.10	20.27	20.30
HSDPA Subtest-1	22.15	21.88	21.97	20.16	20.13	20.14
HSDPA Subtest-2	20.53	20.62	20.71	19.56	19.55	19.84
HSDPA Subtest-3	19.23	19.15	19.13	19.19	19.17	19.06
HSDPA Subtest-4	18.73	18.55	18.47	18.08	18.26	18.09
HSUPA Subtest-1	22.09	21.81	21.94	20.27	20.29	20.07
HSUPA Subtest-2	20.55	20.47	20.58	19.88	19.66	19.54
HSUPA Subtest-3	19.04	19.09	19.01	19.33	19.17	19.22
HSUPA Subtest-4	18.12	18.11	18.08	18.47	18.65	18.73
HSUPA Subtest-5	17.07	17.11	17.01	17.89	17.45	17.74

According to 3GPP 25.101 sub-clause 6.2.2 , the maximum output power is allowed to be reduced by following the table.

Table 6.1A: UE maximum output power with HS-DPCCH and E-DCH

UE Transmit Channel Configuration	CM(db)	MPR(db)
For all combinations of ,DPDCH,DPCCH HS-DPDCH,E-DPDCH and E-DPCCH	0≤ CM≤3.5	MAX(CM-1,0)
Note: CM=1 for $\beta c/\beta d$=12/15, $\beta hs/\beta c$=24/15.For all other combinations of DPDCH, DPCCH, HS-DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.		

The device supports MPR to solve linearity issues (ACLR or SEM) due to the higher peak-to average ratios (PAR) of the HSUPA signal. This prevents saturating the full range of the TX DAC inside of device and provides a reduced power output to the RF transceiver chip according to the Cubic Metric (a function of the combinations of DPDCH, DPCCH, HS-DPCCH, E-DPDCH and E-DPCCH).

When E-DPDCH channels are present the beta gains on those channels are reduced firsts to try to get the power under the allowed limit. If the beta gains are lowered as far as possible, then a hard limiting is applied at the maximum allowed level.

The SW currently recalculates the cubic metric every time the beta gains on the E-DPDCH are reduced. The cubic metric will likely get lower each time this is done .However, there is no reported reduction of maximum output power in the HSUPA mode since the device also provides a compensation for the power back-off by increasing the gain of TX_AGC in the transceiver (PA) device.

The end effect is that the DUT output power is identical to the case where there is no MPR in the device.

WIFI

Mode	Channel Number	Frequency (MHz)	PEAK Power (dBm)
802.11b	1	2412	11.08
	6	2437	10.99
	11	2462	11.57
802.11g	1	2412	6.88
	6	2437	7.85
	11	2462	6.99
802.11n(HT-20)	1	2412	6.89
	6	2437	7.35
	11	2462	7.11
802.11n(HT-40)	3	2422	4.43
	6	2437	4.86
	9	2452	4.71

BT 4.0

Mode	Channel Number	Frequency (MHz)	PEAK Power (dBm)
GFSK	1	2402	-7.494
	20	2441	-7.477
	40	2480	-7.605

Mode	GSM850	GSM1900
GSM/PCS	32±1dBm	27±1dBm
GPRS (1 Slot)	32±1dBm	27±1dBm
GPRS (2 Slot)	30±1dBm	26±1dBm
GPRS (3 Slot)	29±1dBm	25±1dBm
GPRS (4 Slot)	27±1dBm	24±1dBm
EDGE (1 Slot)	32±1dBm	27±1dBm
EDGE (2 Slot)	30±1dBm	26±1dBm
EDGE (3 Slot)	29±1dBm	25±1dBm
EDGE (4 Slot)	27±1dBm	24±1dBm

Mode	WCDMA Band V	WCDMA Band II
RMC	22±1dBm	20±1dBm
HSDPA Subtest-1	22±1dBm	20±1dBm
HSDPA Subtest-2	20±1dBm	19±1dBm
HSDPA Subtest-3	19±1dBm	19±1dBm
HSDPA Subtest-4	18±1dBm	18±1dBm
HSUPA Subtest-1	22±1dBm	20±1dBm
HSUPA Subtest-2	20±1dBm	19±1dBm
HSUPA Subtest-3	19±1dBm	19±1dBm
HSUPA Subtest-4	18±1dBm	18±1dBm
HSUPA Subtest-5	17±1dBm	17±1dBm

Mode	WIFI
IEEE 802.11b	11±1dBm
IEEE 802.11g	7±1dBm
IEEE 802.11n HT20	7±1dBm
IEEE 802.11n HT40	4±1dBm

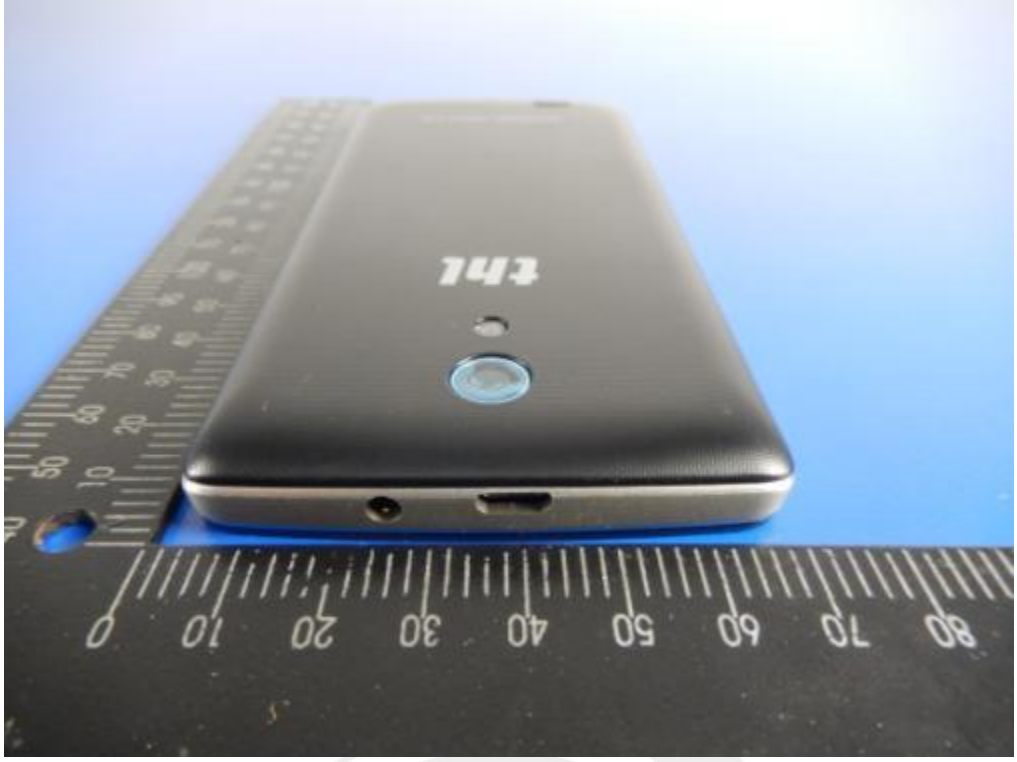
Mode	BT 4.0
GFSK	-7±1dBm

11. EUT And Test Setup Photo

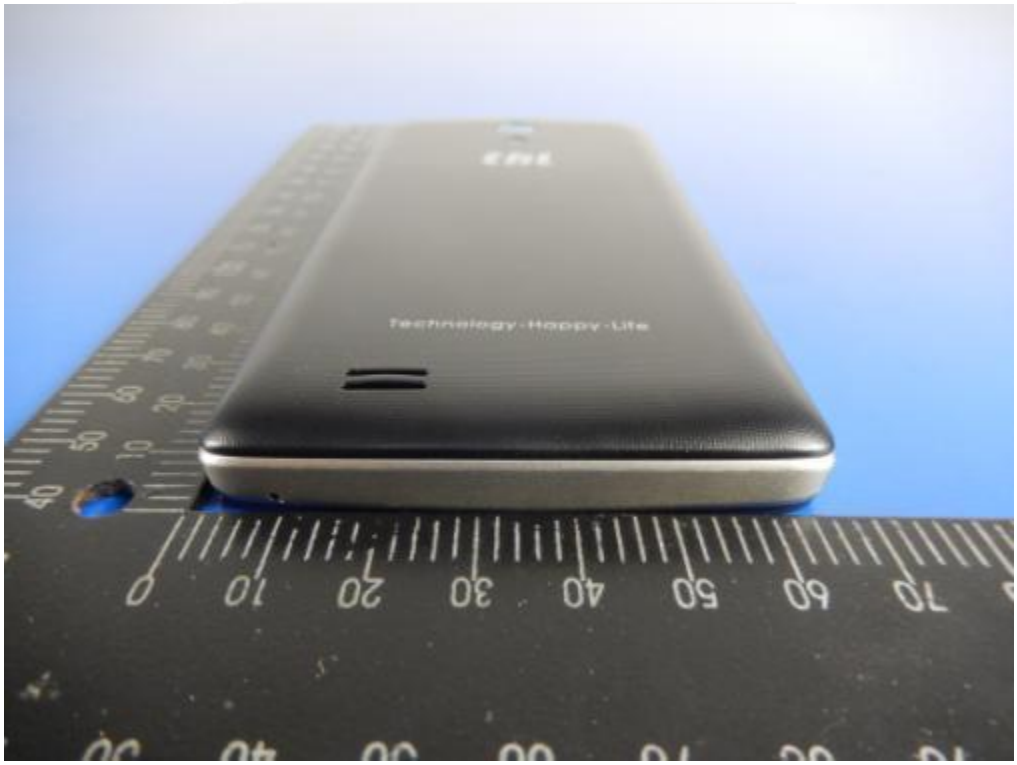
11.1 EUT Photo

Front side

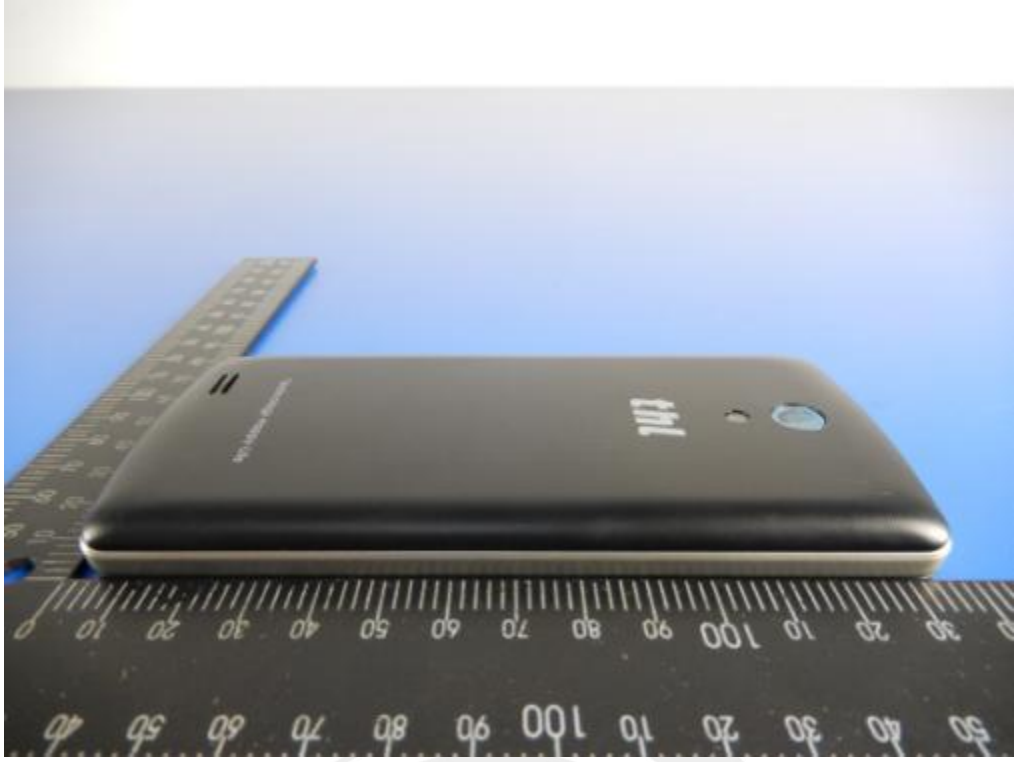
Back side



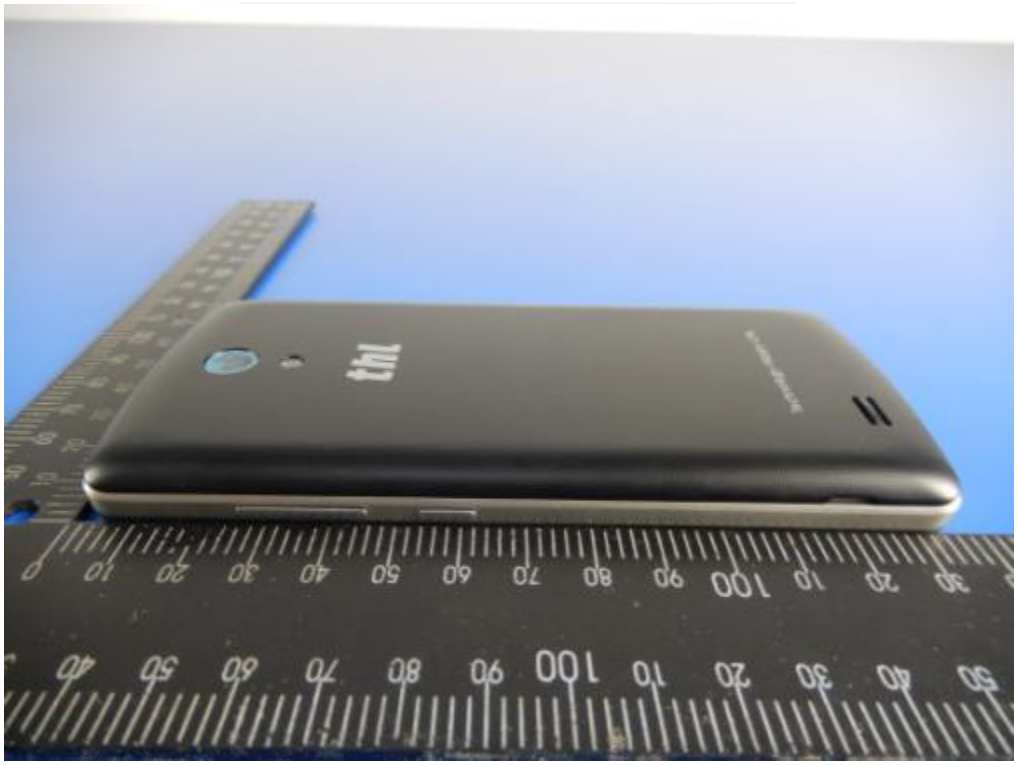
Top side



Bottom side

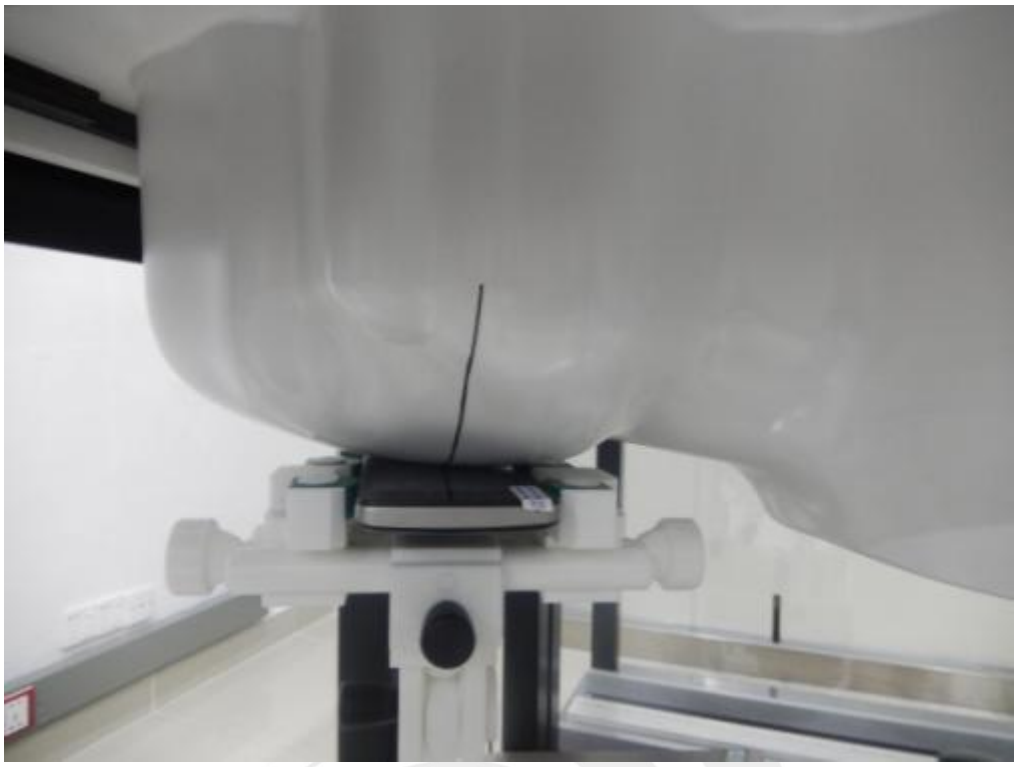


Left side

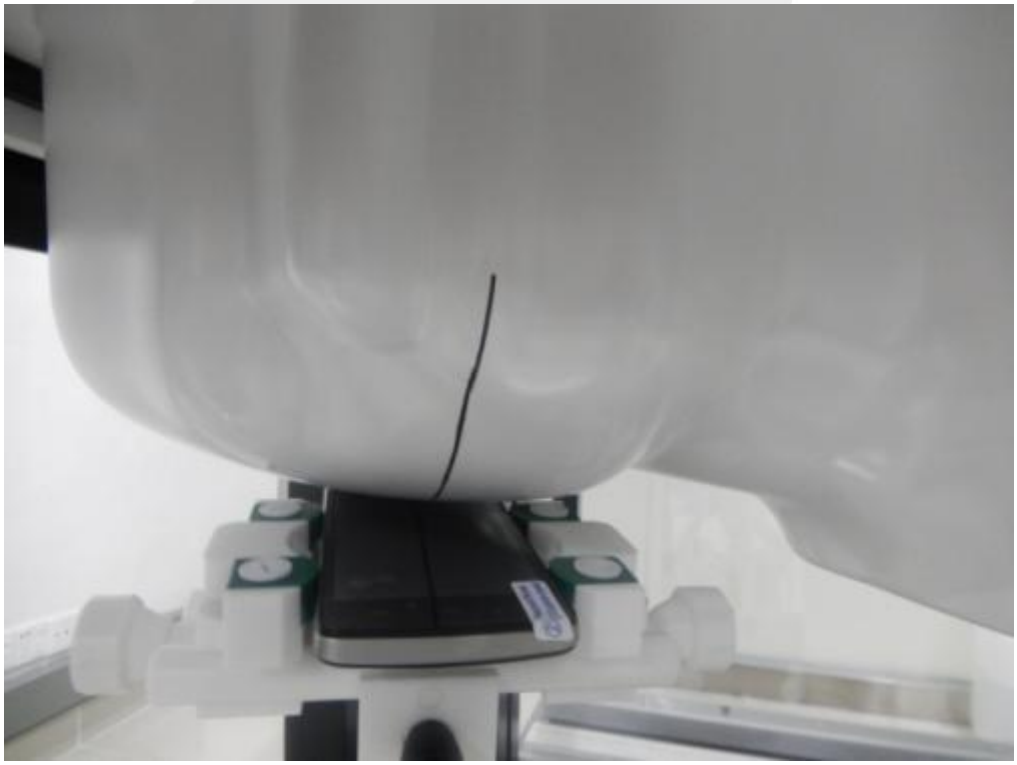


Right side

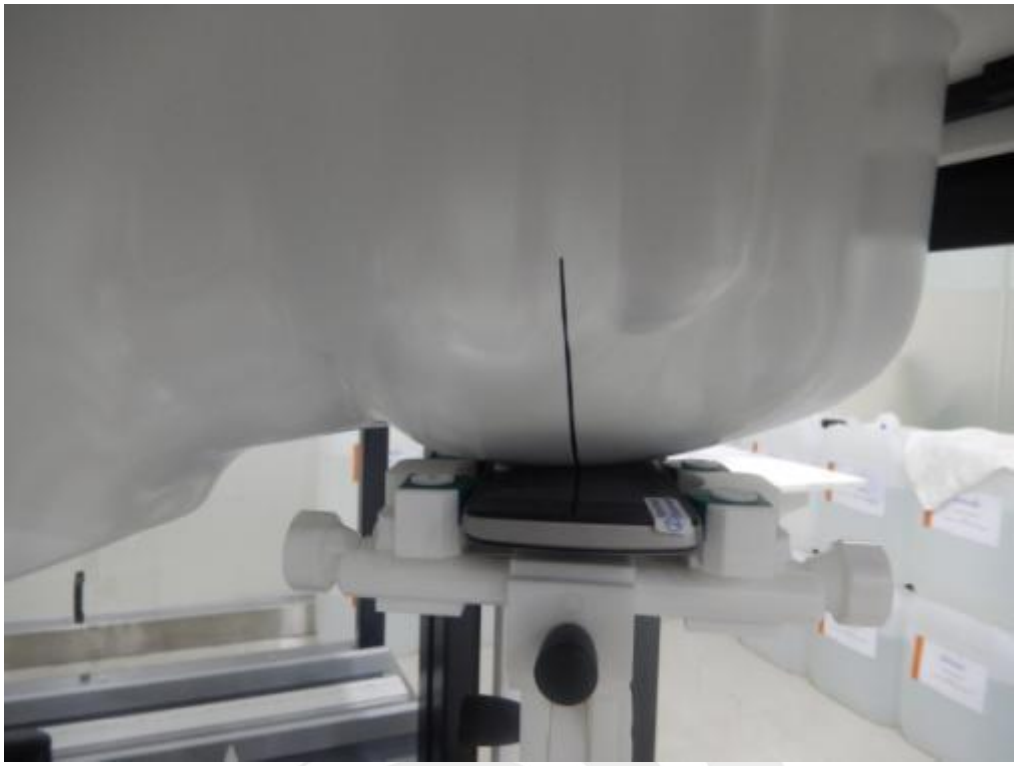
11.2 Setup Photo



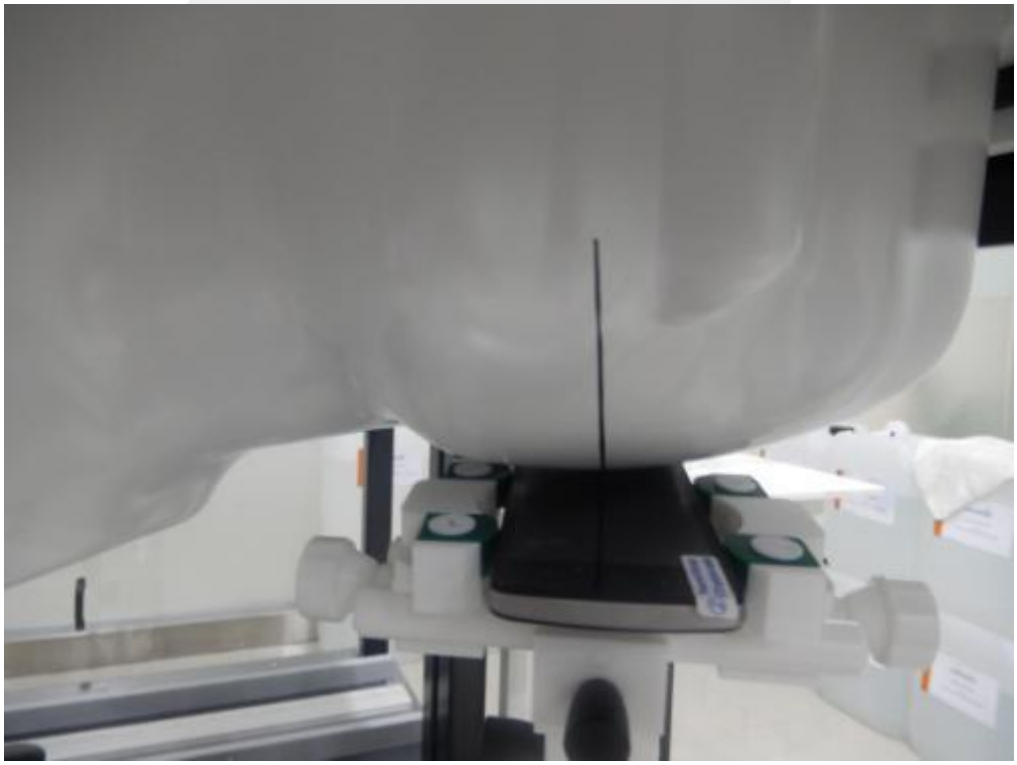
Right Touch



Right Tilt

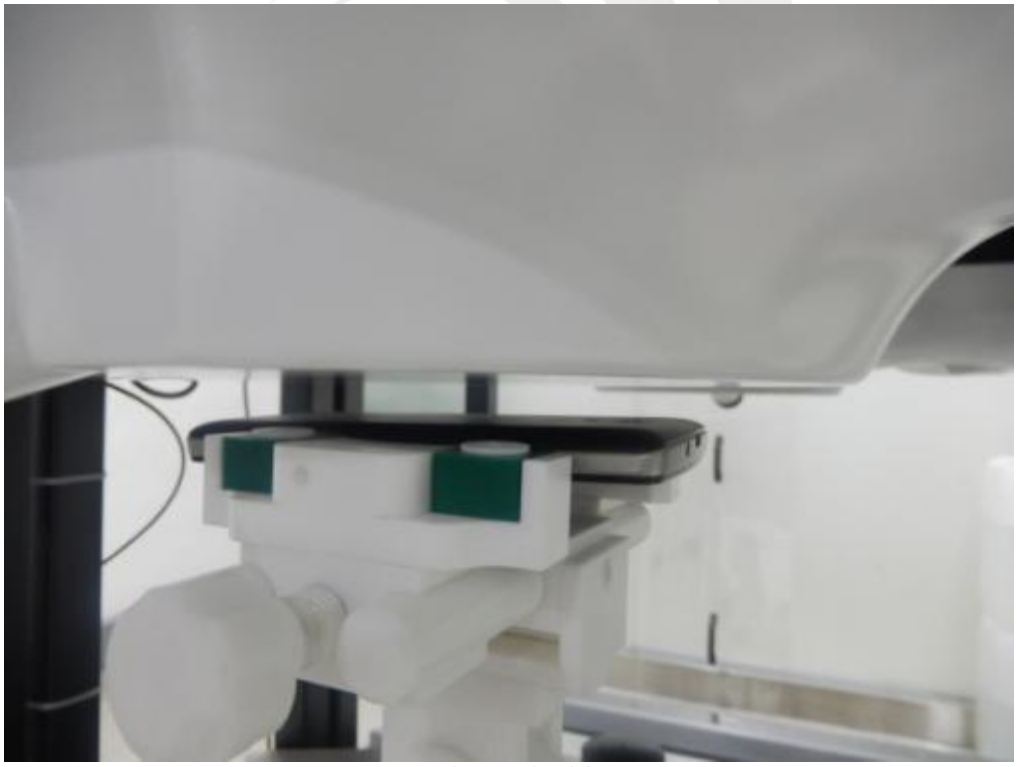


Left Touch

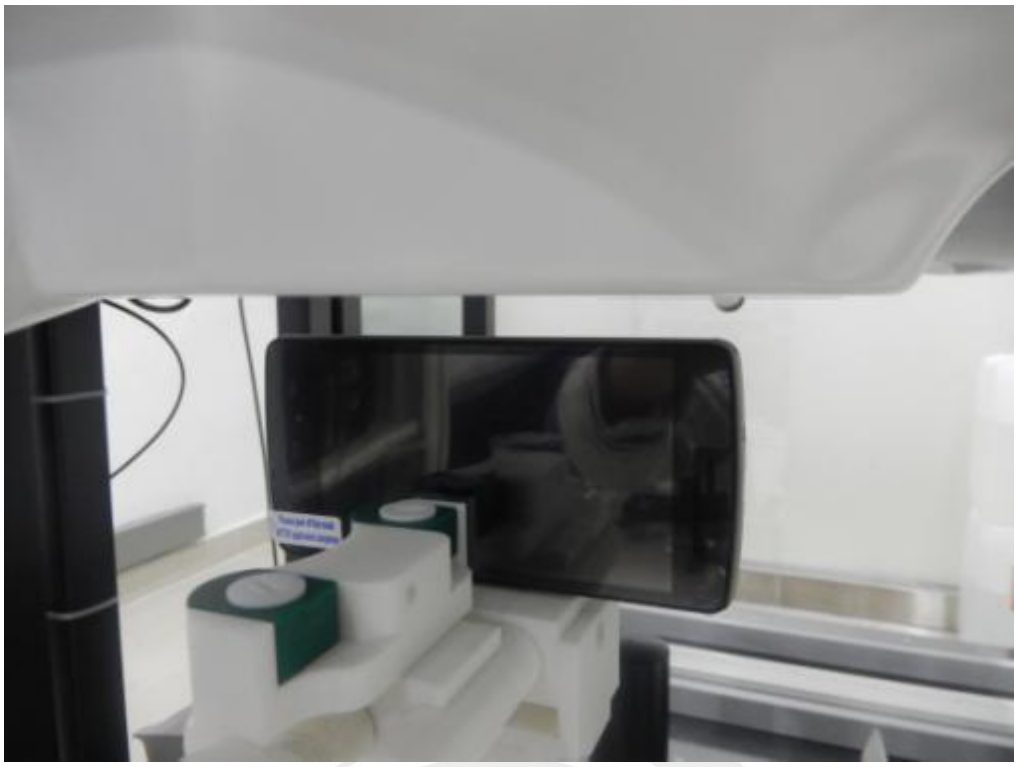


Left Tilt

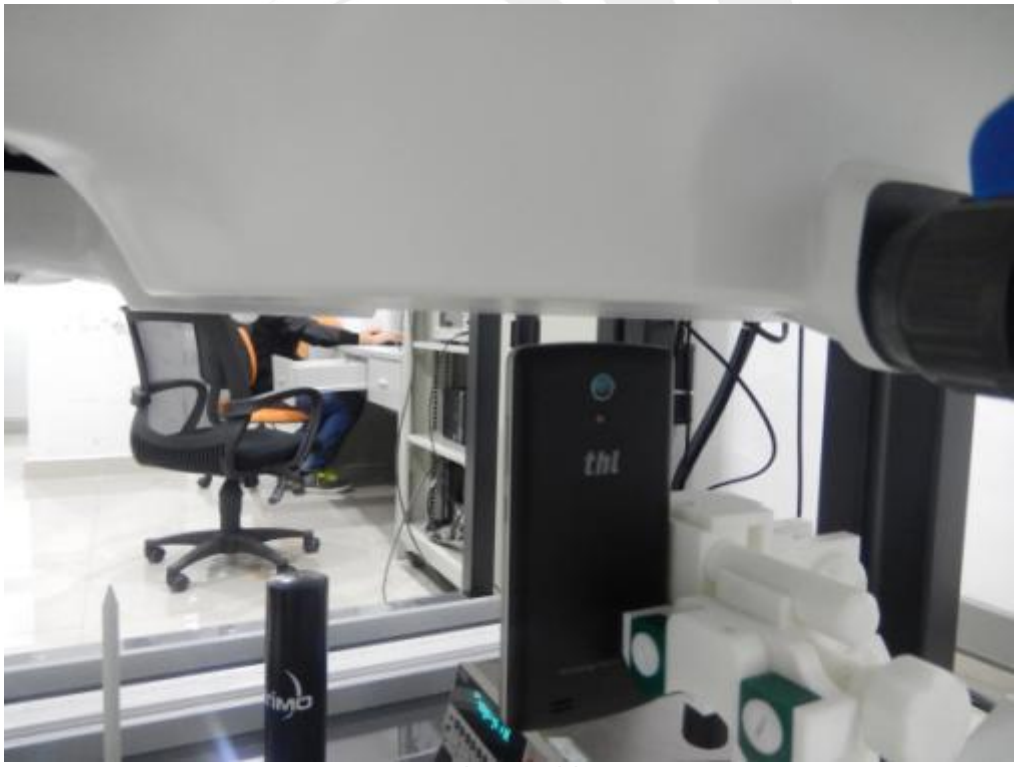
Body Front side



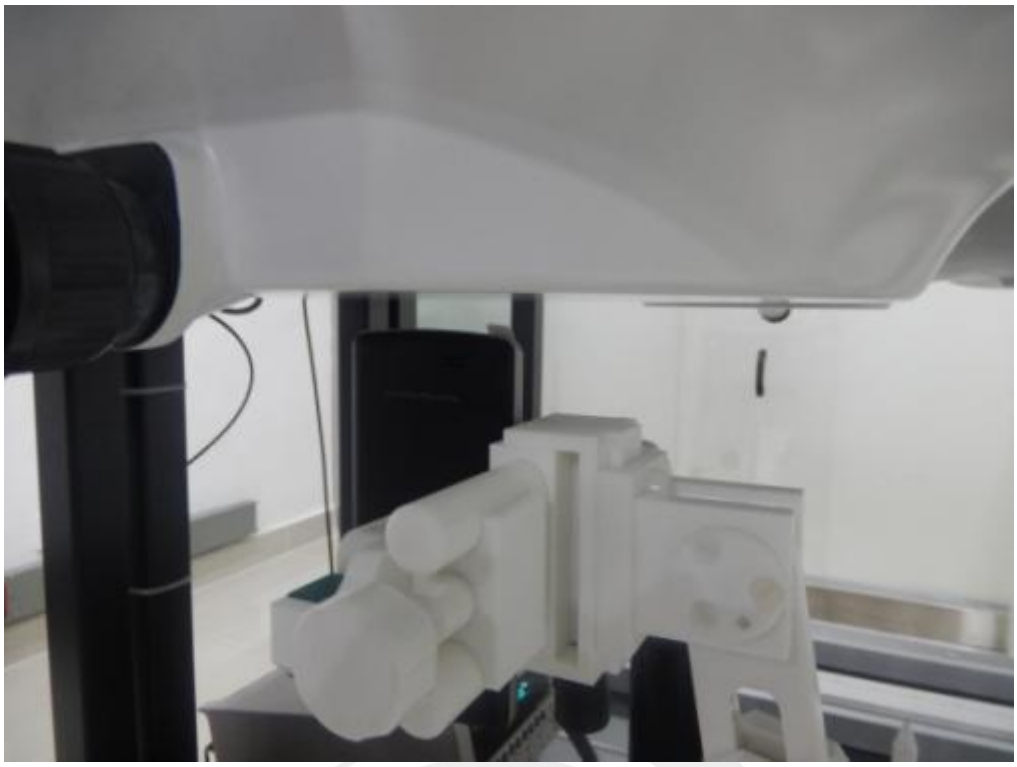
Body Back side



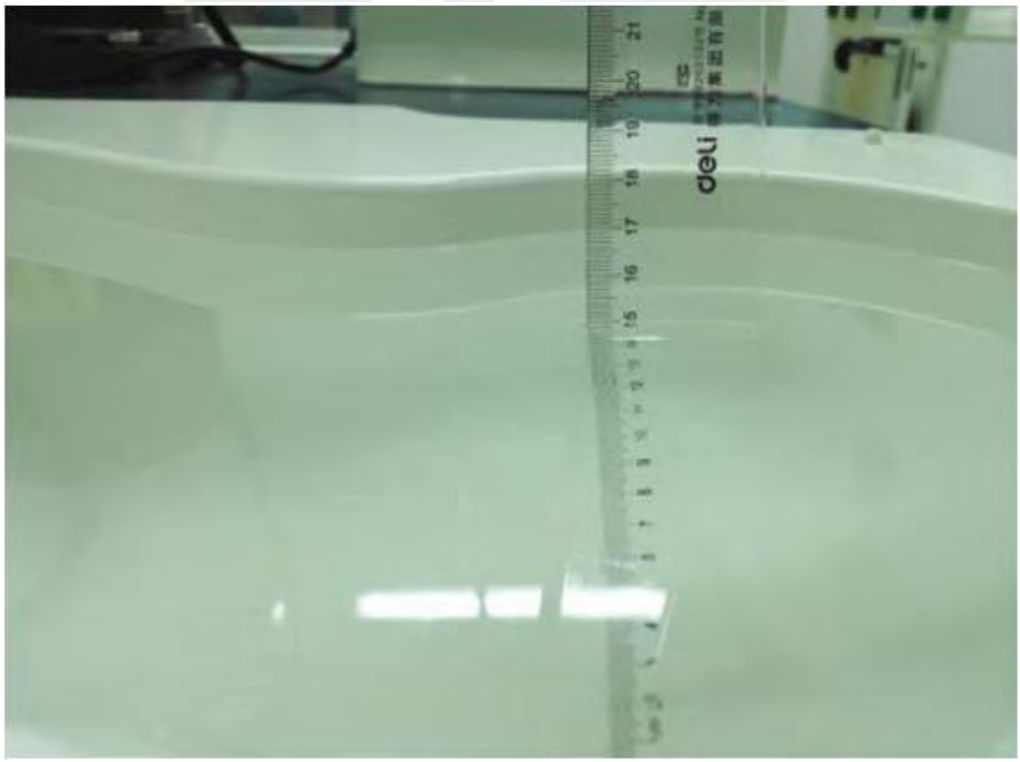
Body left side



Body top side



Body bottom side



Liquid depth (15 cm)

12. SAR Result Summary

12.1 Head SAR

Band	Mode	Test Position	Channel	Result 1g (W/Kg)	Power Drift(%)	Max.Turn-up Power(dBm)	Meas.Output Power(dBm)	Scaled SAR (W/Kg)	Meas. No.
GSM 850	Voice	Right Cheek	CH 128	0.166	0.45	33	32.11	0.204	1
		Right Tilt	CH 128	0.139	3.03	33	32.11	0.171	2
		Left Cheek	CH 128	0.164	1.62	33	32.11	0.201	3
		Left Tilt	CH 128	0.144	2.93	33	32.11	0.177	4
GSM1900	Voice	Right Cheek	CH 810	0.129	3.07	28	27.77	0.136	15
		Right Tilt	CH 810	0.052	1.28	28	27.77	0.055	16
		Left Cheek	CH 810	0.133	3.93	28	27.77	0.140	17
		Left Tilt	CH 810	0.078	-0.93	28	27.77	0.082	18
WCDMA II	RMC	Right Cheek	CH9537	0.229	0.08	21	20.30	0.269	29
		Right Tilt	CH9537	0.094	0.08	21	20.30	0.110	30
		Left Cheek	CH9537	0.254	0.23	21	20.30	0.298	31
		Left Tilt	CH9537	0.145	0.18	21	20.30	0.170	32
WCDMA V	RMC	Right Cheek	CH4132	0.126	0.47	23	22.20	0.151	38
		Right Tilt	CH4132	0.113	0.66	23	22.20	0.136	39
		Left Cheek	CH4132	0.128	0.68	23	22.20	0.154	40
		Left Tilt	CH4132	0.115	-0.11	23	22.20	0.138	41
WIFI	DATA	Right Cheek	CH11	0.280	0.17	12	11.57	0.309	47
		Right Tilt	CH11	0.207	-0.21	12	11.57	0.229	48
		Left Cheek	CH11	0.152	-0.02	12	11.57	0.168	49
		Left Tilt	CH11	0.134	-0.12	12	11.57	0.148	50

12.2 Body SAR And Hotspot

Band	Mode	Test Position	Channel	Result 1g (W/Kg)	Power Drift(%)	Max.Turn-up Power(dBm)	Meas.Output Power(dBm)	Scaled SAR (W/Kg)	Meas. No.
GSM 850	Voice（body-worn）	Front side	CH 128	0.188	-2.91	33	32.11	0.231	5
		Back side	CH 128	0.379	-0.88	33	32.11	0.465	6
		Left side	CH 128	0.159	-2.86	33	32.11	0.195	7
		Right side	CH 128	0.115	1.35	33	32.11	0.141	8
		Bottom side	CH 128	0.069	2.58	33	32.11	0.085	9
	GPRS Data-3 Slot（hotspot）	Front side	CH 128	0.335	3.01	30	29.63	0.365	10
		Back side	CH 128	0.712	-1.67	30	29.63	0.775	11
		Left side	CH 128	0.145	4.33	30	29.63	0.158	12
		Right side	CH 128	0.080	0.52	30	29.63	0.087	13
		Bottom side	CH 128	0.117	-0.23	30	29.63	0.127	14
GSM1900	Voice	Front side	CH 810	0.191	-0.48	28	27.77	0.201	19
		Back side	CH 810	0.339	-1.01	28	27.77	0.357	20
		Left side	CH 810	0.099	1.13	28	27.77	0.104	21
		Right side	CH 810	0.108	0.52	28	27.77	0.114	22
		Bottom side	CH 810	0.276	3.69	28	27.77	0.291	23
	GPRS Data-4 Slot（hotspot）	Front side	CH 512	0.179	-2.86	25	24.65	0.194	24
		Back side	CH 512	0.326	1.86	25	24.65	0.353	25
		Left side	CH 512	0.092	-1.98	25	24.65	0.100	26
		Right side	CH 512	0.071	4.12	25	24.65	0.077	27
		Bottom side	CH 512	0.249	-0.02	25	24.65	0.270	28
WCDMA II	RMC（body-worn and hotspot）	Front side	CH9537	0.361	0.20	21	20.30	0.424	33
		Back side	CH9537	0.564	0.18	21	20.30	0.663	34
		Left side	CH9537	0.205	-0.19	21	20.30	0.241	35
		Right side	CH9537	0.184	-1.26	21	20.30	0.216	36
		Bottom side	CH9537	0.533	-0.17	21	20.30	0.626	37
WCDMA V	RMC（body-worn and hotspot）	Front side	CH4132	0.144	0.10	23	22.20	0.173	42
		Back side	CH4132	0.278	-0.59	23	22.20	0.334	43
		Left side	CH4132	0.120	0.17	23	22.20	0.144	44
		Right side	CH4132	0.068	2.15	23	22.20	0.082	45
		Bottom side	CH4132	0.064	-0.01	23	22.20	0.077	46

WIFI	DATA（body-worn and hotspot）	Front side	CH11	0.116	-0.35	12	11.57	0.128	51
		Back side	CH11	0.244	0.13	12	11.57	0.270	52
		Left side	CH11	0.207	2.46	12	11.57	0.229	53
		Top side	CH11	0.081	0.33	12	11.57	0.089	54

Note:
Two card slot can't work at the same time.
The test separation of all above table is 10mm.

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

Position	Simultaneous state
Head	1. GSM + WIFI
	2. GSM + Bluetooth
	3. WCDMA + WIFI
	4. WCDMA + Bluetooth
Body	1. GSM + WIFI
	2. GSM + Bluetooth
	3. WCDMA + WIFI
	4. WCDMA + Bluetooth

NOTE:
1. Bluetooth and WIFI can't simultaneous transmission at the same time.
2. For simultaneous transmission at head and body exposure position, 2 transmitters simultaneous transmission was the worst state.
3. Based upon KDB 447498 D01 v05, BT SAR is excluded as below table.
4. If the test separation distance is <5mm, 5mm is used for excluded SAR calculation.
5. For minimum test separation distance≦50mm,Bluetooth standalone SAR is excluded according to [(max. power of channel, including tune-up tolerance, mW)/ (min. test separation distance, mm) ·[√f (GHz) /x] ≦3.0 for 1-g SAR and ≦7.5 for 10-g extremity SAR
6. The reported SAR summation is calculated based on the same configuration and test position.
7. KDB 447498 / 4.3.2 (2) 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:
a) (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.
b) 0.4W/Kg for 1-g SAR and 1.0W/Kg for 10-g SAR, when the separation distance is >50mm.

Estimated SAR		Maximum Average Power		Antenna to user(mm)	Frequency(GHz)	Stand alone SAR(1g) [W/kg]
		dBm	mW			
BT	Head	-6	0.251	5	2.480	0.011
	Body			10	2.480	0.006

Simultaneous Mode	Position	Mode	Max. 1-g SAR (W/kg)	1-g Sum SAR (W/kg)
GSM + WIFI	Head	GSM Voice	0.204	0.513
		WIFI	0.309	
	Body-worn	GSM Voice	0.465	0.735
		WIFI	0.270	
	Hotspot	GSM DATA	0.775	1.045
		WIFI	0.270	
GSM + Bluetooth	Head	GSM Voice	0.204	0.215
		Bluetooth	0.011	
	Body-worn	GSM Voice	0.465	0.471
		Bluetooth	0.006	
	Hotspot	GSM DATA	0.775	0.781
		Bluetooth	0.006	
WCDMA RMC+ WIFI	Head	WCDMA RMC	0.298	0.617
		WIFI	0.309	
	Body-worn Hotspot	WCDMA RMC	0.663	0.933
		WIFI	0.270	
WCDMA RMC+ Bluetooth	Head	WCDMA RMC	0.298	0.309
		Bluetooth	0.011	
	Body-worn Hotspot	WCDMA RMC	0.663	0.669
		Bluetooth	0.006	

Simultaneous transmission SAR test exclusion is determined for each operating configuration and exposure condition according to the reported standalone SAR of each applicable simultaneous transmitting antenna.

When the sum of SAR 1g of all simultaneously transmitting antennas in an operating mode and exposure condition combination is within the SAR limit (SAR-1g 1.6 W/kg), the simultaneous transmission SAR is not required. When the sum of SAR 1g is greater than the SAR limit (SAR-1g 1.6 W/kg), SAR test exclusion is determined by the SPLSR.

13. Equipment List

NO.	Instrument	Manufacturer	Model	S/N	Cal. Date	Cal. Due Date
1	835MHz Dipole	SATIMO	SID835	SN 30/14 DIP0G835-332	2014.09.01	2015.08.31
2	1900MHz Dipole	SATIMO	SID1900	SN 30/14 DIP1G900-333	2014.09.01	2015.08.31
3	2450MHzDipole	SATIMO	SID2450	SN 30/14 DIP2G450-335	Sep.1, 2014	Sep.1, 2015
4	E-Field Probe	SATIMO	SSE5	SN 17/14 EP221	2014.09.01	2015.08.31
5	Antenna	SATIMO	ANTA3	SN 07/13 ZNTA52	2014.09.01	2015.08.31
6	Waveguide	SATIMO	SWG5500	SN 13/14 WGA32	2014.09.01	2015.08.31
7	Phantom1	SATIMO	SAM	SN 32/14 SAM115	2014.09.01	2015.08.31
8	Phantom2	SATIMO	SAM	SN 32/14 SAM116	2014.09.01	2015.08.31
9	SAR TEST BENCH	SATIMO	smart phone POSITIONNING SYSTEM	SN 32/14 MSH97	2014.09.01	2015.08.31
10	SAR TEST BENCH	SATIMO	LAPTOP POSITIONNING SYSTEM	SN 32/14 LSH29	2014.09.01	2015.08.31
11	Dielectric Probe Kit	SATIMO	SCLMP	SN 32/14 OCPG52	2014.09.01	2015.08.31
12	Multi Meter	Keithley	Multi Meter 2000	4050073	2014.11.20	2015.11.19
13	Signal Generator	R&S	SMF100A	104260	2014.10.27	2015.10.26
14	Power Meter	R&S	NRP	100510	2014.10.25	2015.10.24
15	Power Sensor	R&S	NRP-Z11	101919	2014.10.25	2015.10.24
16	Network Analyzer	R&S	5071C	EMY46103472	2014.12.12	2015.12.11

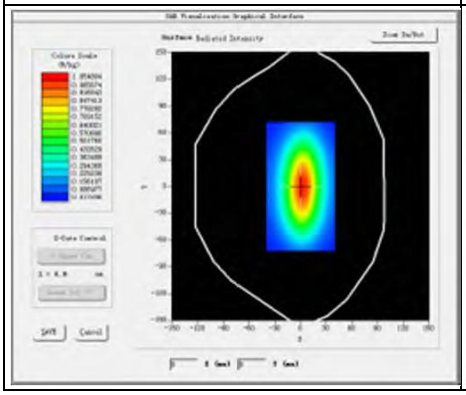
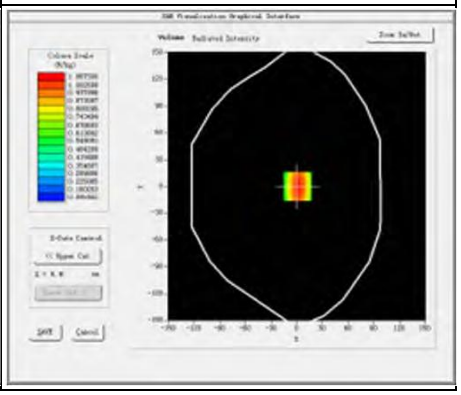
Appendix A. System Validation Plots

System Performance Check Data (835MHz Head)

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 2014.12.15
Measurement duration: 13 minutes 27 seconds

Experimental conditions

Phantom	Validation plane
Device Position	-
Band	835MHz
Channels	-
Signal	CW
Frequency (MHz)	835MHz
Relative permittivity (real part)	41.27
Relative permittivity	18.72
Conductivity (S/m)	0.91
Power drift (%)	0.45
Ambient Temperature:	22.7°C
Liquid Temperature:	22.3°C
ConvF:	4.83
Crest factor:	1:1

SURFACE SAR	VOLUME SAR
	

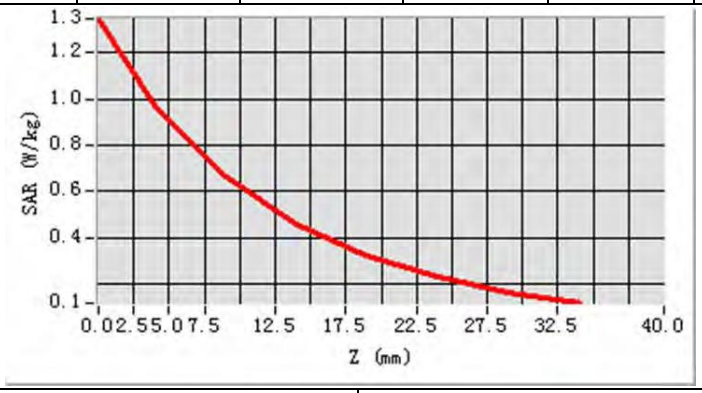
Maximum location: X=1.00, Y=0.00

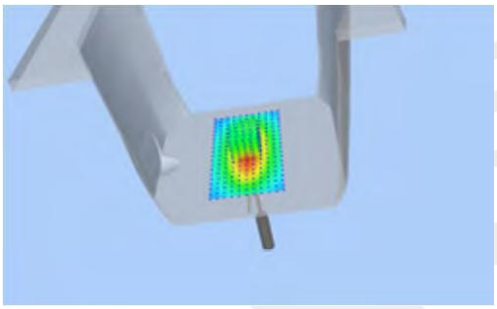
SAR Peak: 1.46 W/kg

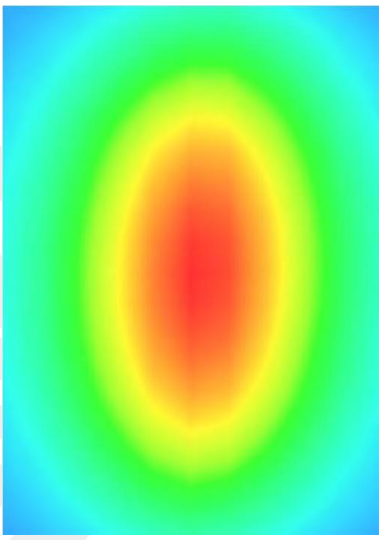
SAR 10g (W/Kg)	0.608155
SAR 1g (W/Kg)	0.93716

Z Axis Scan

Z (mm)	0	4	9	14	19	24	29
SAR(W/Kg)	1.3472	0.97891	0.66265	0.5042	0.3512	0.2505	0.11794





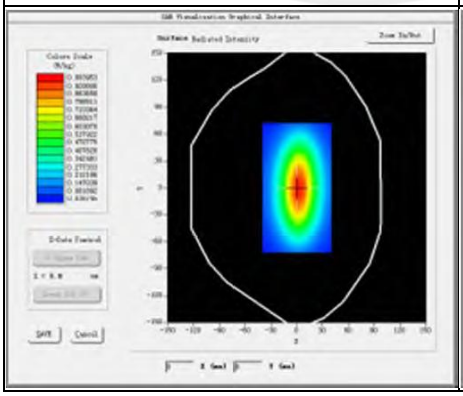
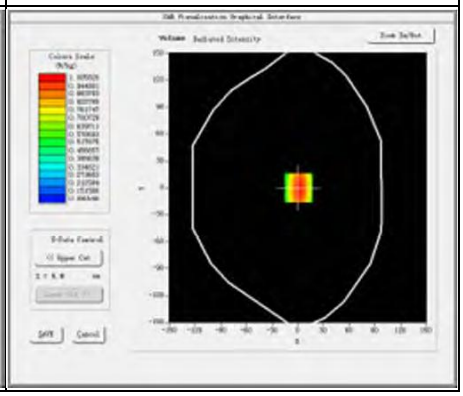


System Performance Check Data (835MHz Body)

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 2014.12.15
Measurement duration: 14 minutes 13 seconds

Experimental conditions.

Probe	
Phantom	Validation plane
Device Position	-
Band	835MHz
Channels	-
Signal	CW
Frequency (MHz)	835MHz
Relative permittivity (real part)	55.50
Relative permittivity	21.408187
Conductivity (S/m)	0.96
Power drift (%)	0.090000
Ambient Temperature:	22.7°C
Liquid Temperature:	22.3°C
ConvF:	5.02
Crest factor:	1:1

SURFACE SAR	VOLUME SAR
	

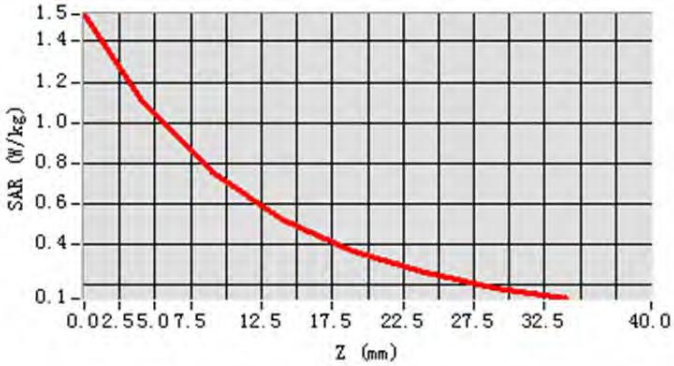
Maximum location: X=1.00, Y=0.00

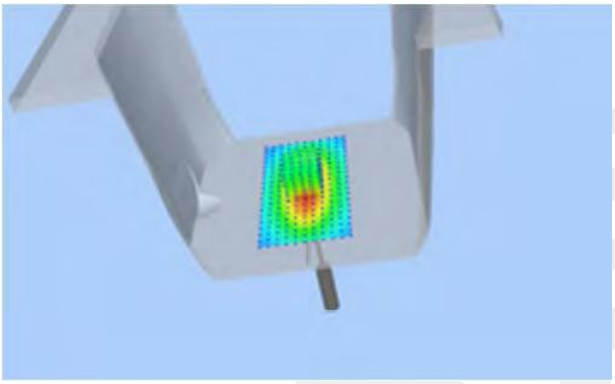
SAR Peak: 1.48 W/kg

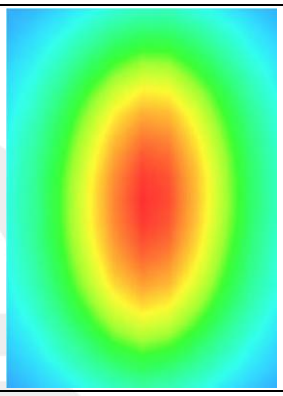
SAR 10g (W/Kg)	0.693221
SAR 1g (W/Kg)	0.967939

Z Axis Scan

Z (mm)	0	4	9	14	19	24	29
SAR(W/Kg)	1.3725	1.0058	0.6838	0.4755	0.3314	0.2365	0.1688





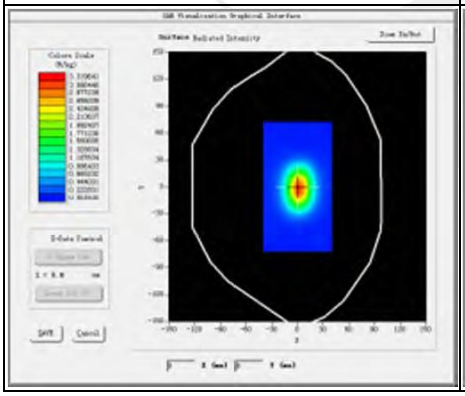
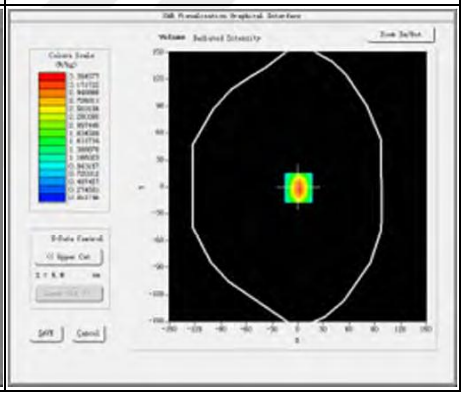


System Performance Check Data (1900MHz Head)

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 2014.12.15
Measurement duration: 14 minutes 12 seconds

Experimental conditions.

Phantom	Validation plane
Device Position	-
Band	1900MHz
Channels	-
Signal	CW
Frequency (MHz)	1900MHz
Relative permittivity (real part)	39.57
Relative permittivity	13.26
Conductivity (S/m)	1.40
Power drift (%)	0.47
Ambient Temperature:	22.7°C
Liquid Temperature:	22.3°C
Probe	SN 17/14 EP221
ConvF:	4.71
Crest factor:	1:1

SURFACE SAR	VOLUME SAR
	

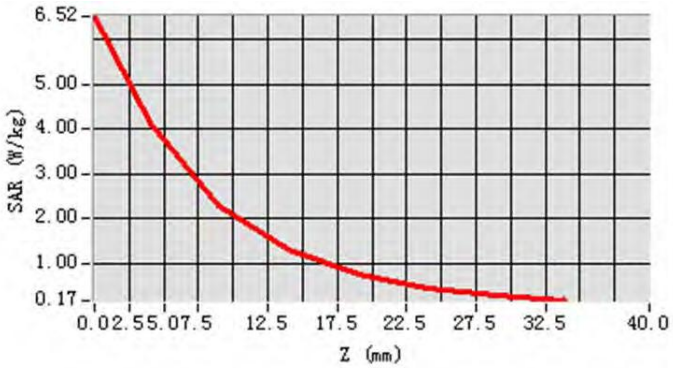
Maximum location: X=1.00, Y=0.00

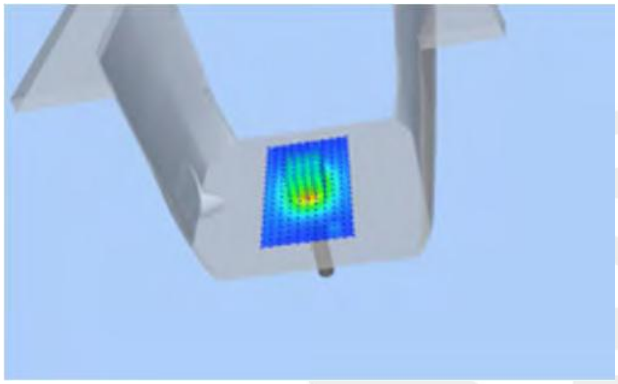
SAR Peak: 5.39 W/kg

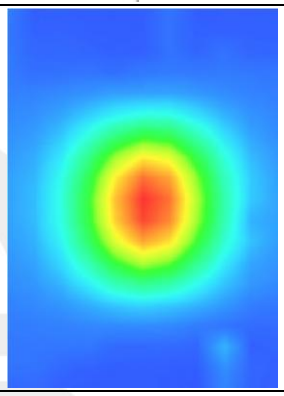
SAR 10g (W/Kg)	1.967525
SAR 1g (W/Kg)	3.840170

Z Axis Scan

Z (mm)	0	4	9	14	19	24	29
SAR(W/Kg)	6.5296	4.1946	2.3311	1.3187	0.5733	0.3288	0.1617





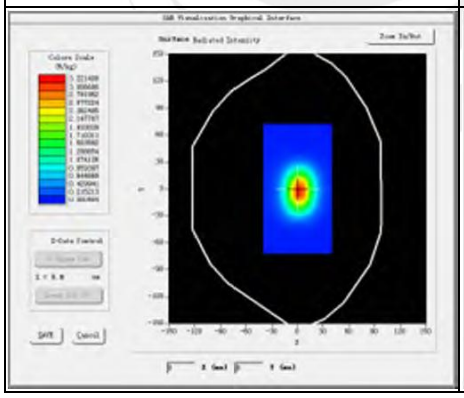
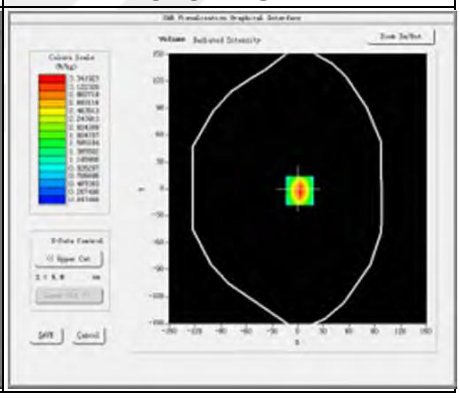


System Performance Check Data (1900MHz Body)

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 2014.12.15
Measurement duration: 14 minutes 46 seconds

Experimental conditions.

Device Position	-
Band	1900MHz
Channels	-
Signal	CW
Frequency (MHz)	1900
Relative permittivity (real part)	51.68
Relative permittivity	12.87531
Conductivity (S/m)	1.51
Power drift (%)	0.37
Ambient Temperature:	22.7°C
Liquid Temperature:	22.3°C
Probe	SN 17/14 EP221
ConvF:	4.85
Crest factor:	1:1

SURFACE SAR	VOLUME SAR
	

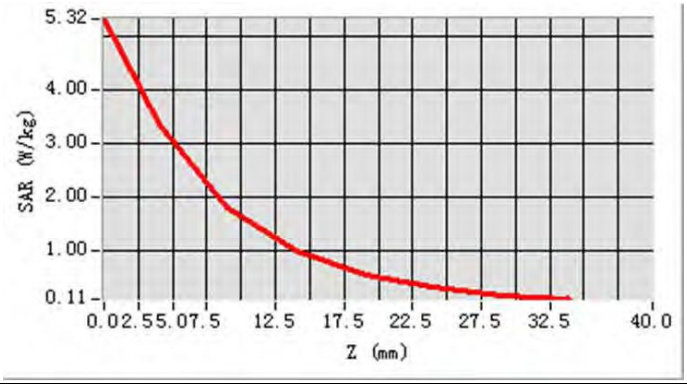
Maximum location: X=2.00, Y=2.00

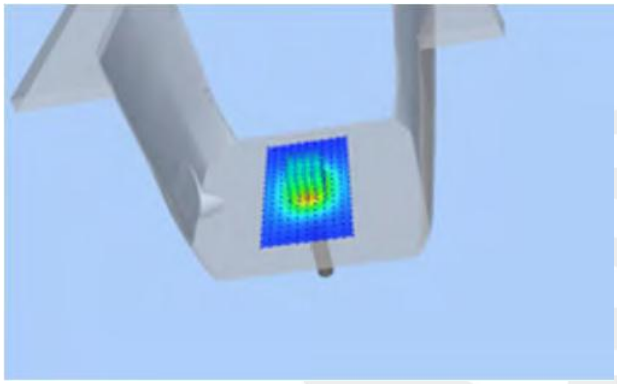
SAR Peak: 5.27 W/kg

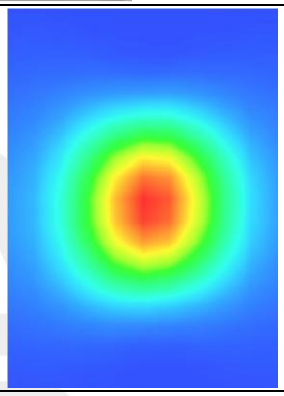
SAR 10g (W/Kg)	2.124122
SAR 1g (W/Kg)	4.141824

Z Axis Scan

Z (mm)	0	4	9	14	19	24	29
SAR(W/Kg)	5.3196	3.3419	1.8167	1.0186	0.5752	0.3285	0.1898





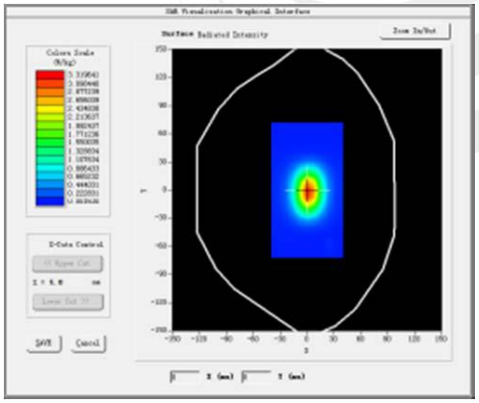
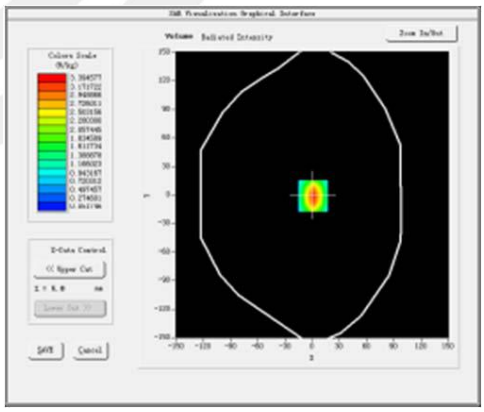


System Performance Check Data (2450MHz Head)

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 2014.12.15
Measurement duration: 13 minutes 51seconds

Experimental conditions.

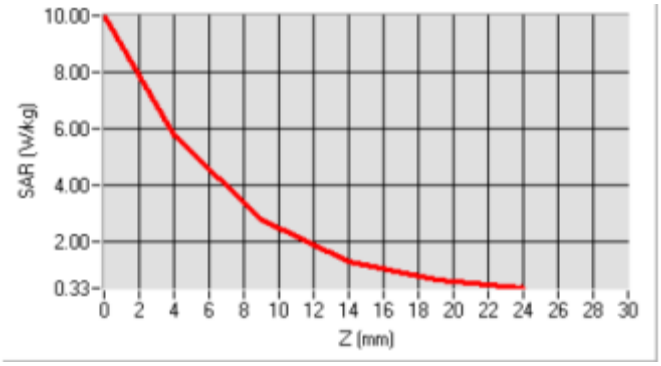
Device Position	Validation plane
Band	2450 MHz
Channels	-
Signal	CW
Frequency (MHz)	2450
Relative permittivity (real part)	39.226002
Relative permittivity	12.930000
Conductivity (S/m)	1.78
Power drift (%)	-1.200000
Ambient Temperature	22.7°C
Liquid Temperature	22.3°C
Probe	SN 17/14 EP221
ConvF	4.11
Crest factor:	1:1

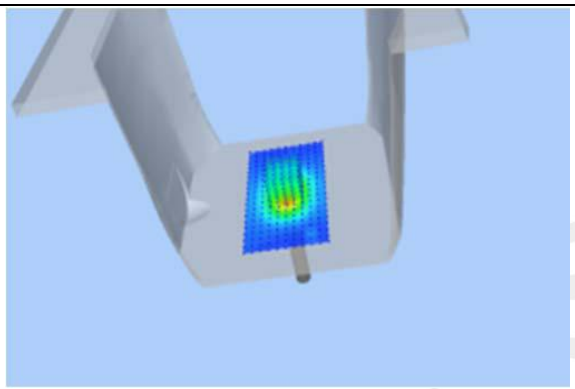
SURFACE SAR	VOLUME SAR
	

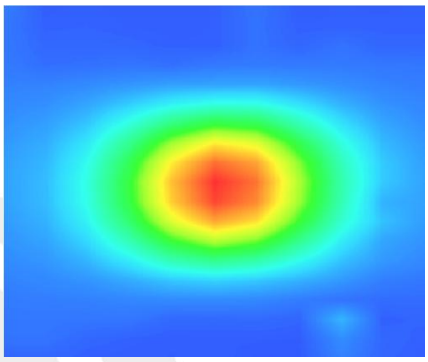
Maximum location: X=7.00, Y=6.00

SAR 10g (W/Kg)	2.2649514
SAR 1g (W/Kg)	4.6249345

Z Axis Scan


10.00
8.00
6.00
4.00
2.00
0.33
SAR (W/kg)
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30
Z (mm)



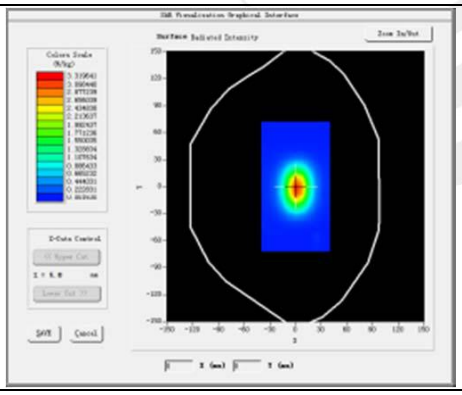
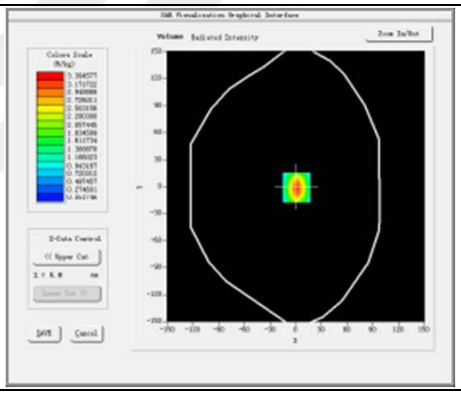


System Performance Check Data (2450MHz Body)

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 2014.12.15
Measurement duration: 14 minutes 23 seconds

Experimental conditions.

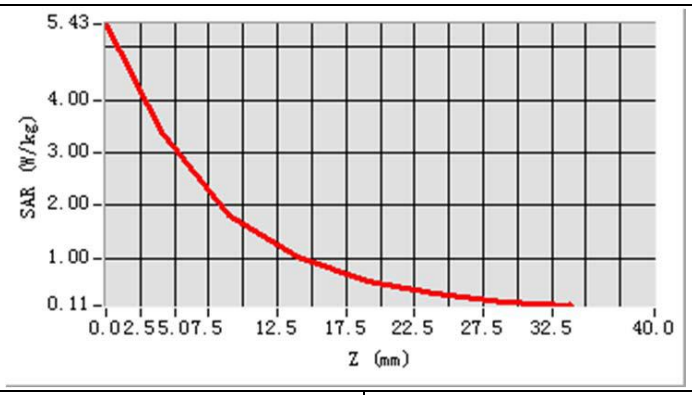
Device Position	Validation plane
Band	2450 MHz
Channels	-
Signal	CW
Frequency (MHz)	2450
Relative permittivity (real part)	39.226002
Relative permittivity	12.930000
Conductivity (S/m)	1.95
Power drift (%)	-1.200000
Ambient Temperature	22.7˚C
Liquid Temperature	22.3˚C
Probe	SN 17/14 EP221
ConvF	4.25
Crest factor:	1:1

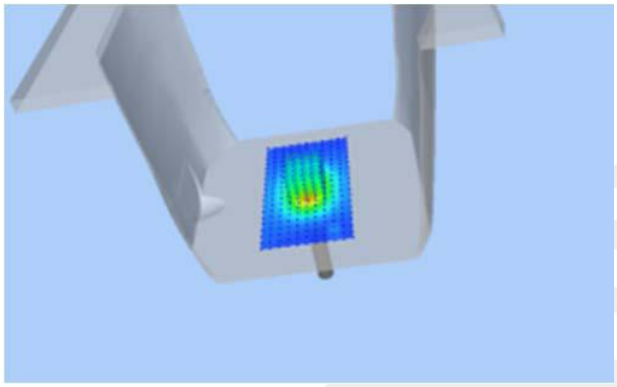
SURFACE SAR	VOLUME SAR
	

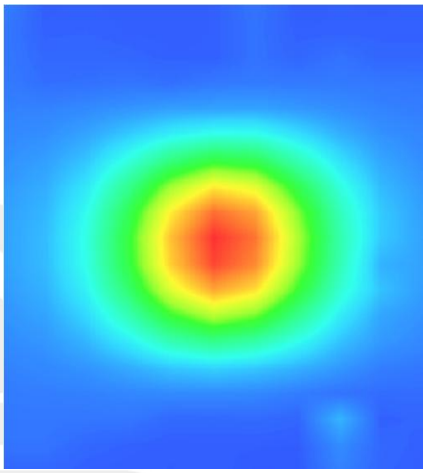
Maximum location: X=3.00, Y=1.00

SAR 10g (W/Kg)	2.1589463
SAR 1g (W/Kg)	4.7459246

Z Axis Scan


5.43
4.00
3.00
2.00
1.00
0.11
SAR (W/kg)
0.0 2.5 5.0 7.5 12.5 17.5 22.5 27.5 32.5 40.0
Z (mm)





Appendix B. SAR Test Plots

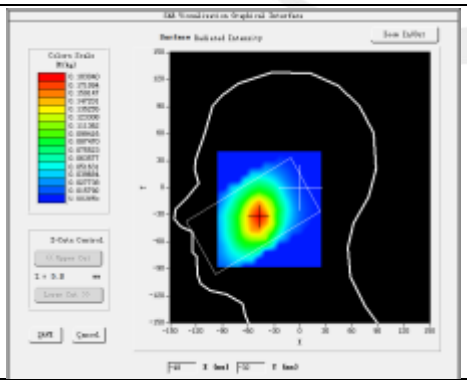
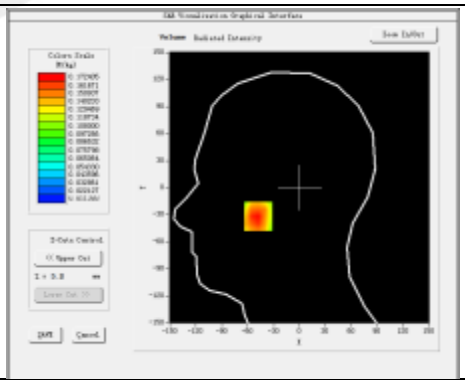
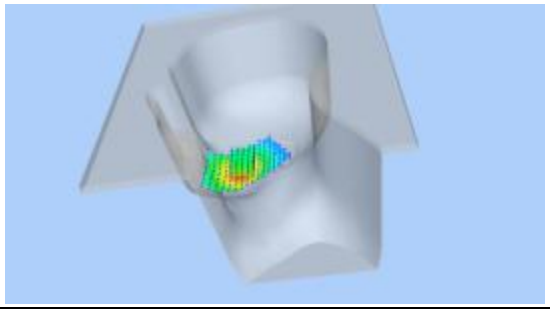
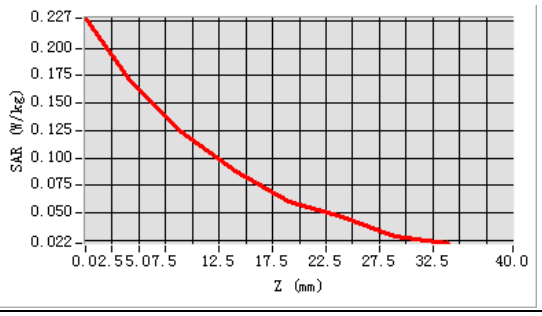
Plot 1: DUT: smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.83
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	GSM850
Channels	Low
Signal	TDMA (Crest factor: 8.32)
Frequency (MHz)	824.2
Relative permittivity (real part)	41.5
Conductivity (S/m)	0.90
Variation (%)	0.45

Maximum location: X=-48.00, Y=-32.00

SAR Peak: 0.24W/kg

SAR 10g (W/Kg)	0.110192
SAR 1g (W/Kg)	0.166426

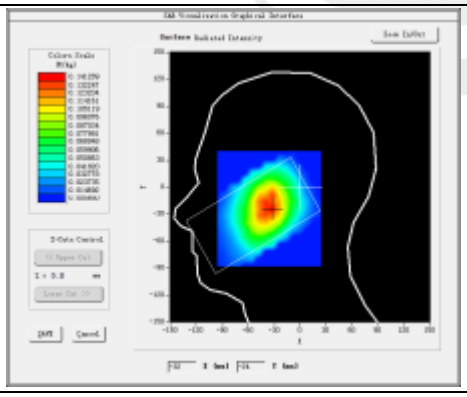
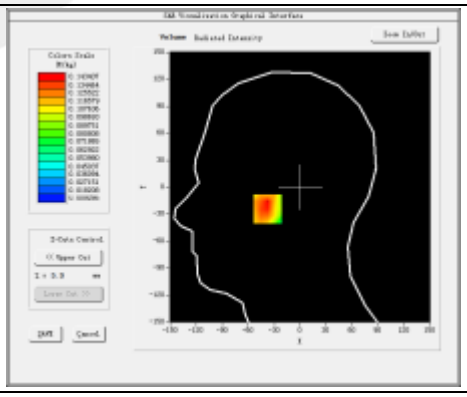
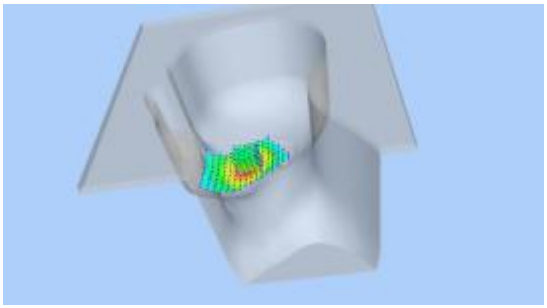
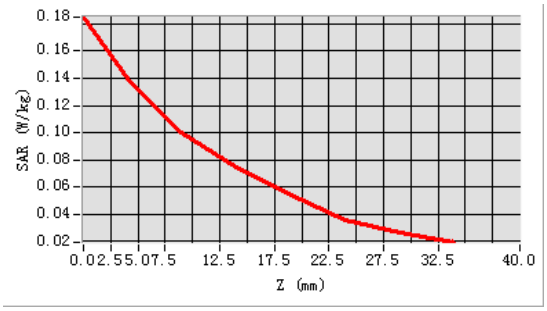
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 2: DUT: smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.83
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7,dx=8mmdy=8mmdz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Right head
Device Position	Tilt
Band	GSM850
Channels	Low
Signal	TDMA (Crest factor: 8.32)
Frequency (MHz)	824.2
Relative permittivity (real part)	41.5
Conductivity (S/m)	0.90
Variation (%)	3.03

Maximum location: X=-33.00, Y=-24.00
SAR Peak: 0.21 W/kg

SAR 10g (W/Kg)	0.090382
SAR 1g (W/Kg)	0.138746

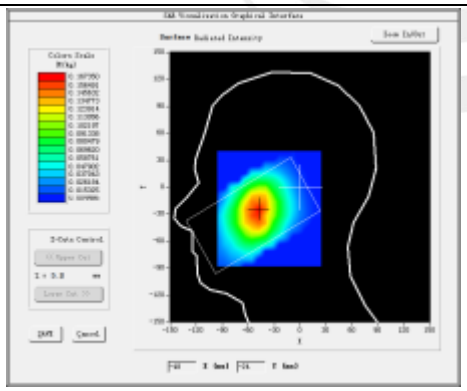
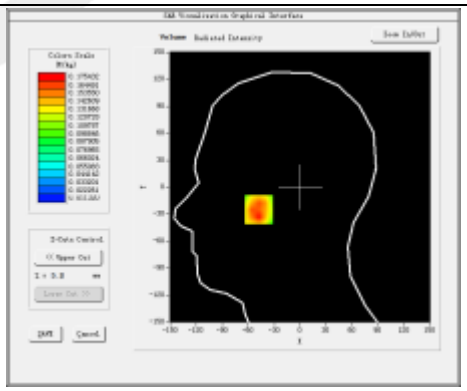
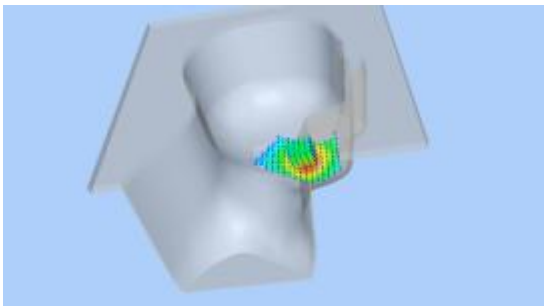
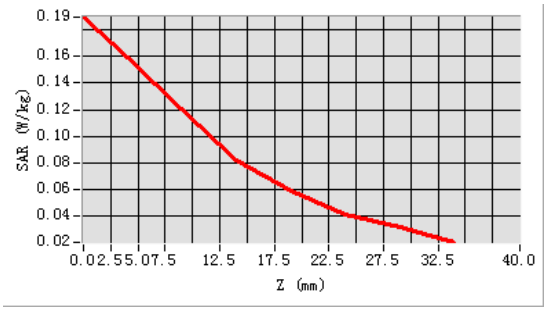
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 3: DUT: smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.83
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	Left head
Device Position	Cheek
Band	GSM850
Channels	Low
Signal	TDMA (Crest factor: 8.32)
Frequency (MHz)	824.2
Relative permittivity (real part)	41.5
Conductivity (S/m)	0.90
Variation (%)	1.62

Maximum location: X=-48.00, Y=-25.00
SAR Peak: 0.25 W/kg

SAR 10g (W/Kg)	0.106848
SAR 1g (W/Kg)	0.164219

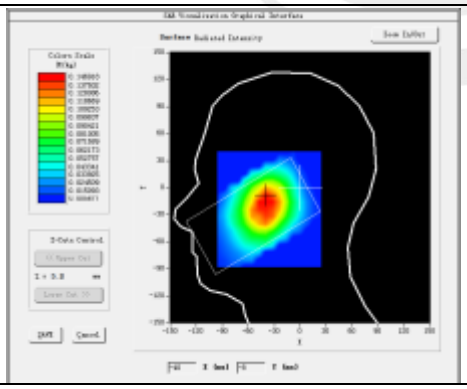
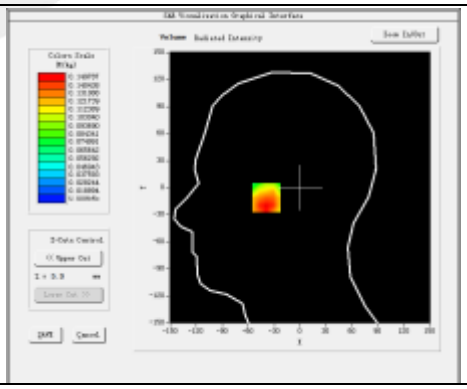
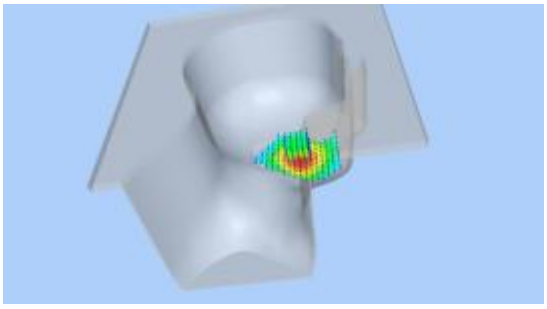
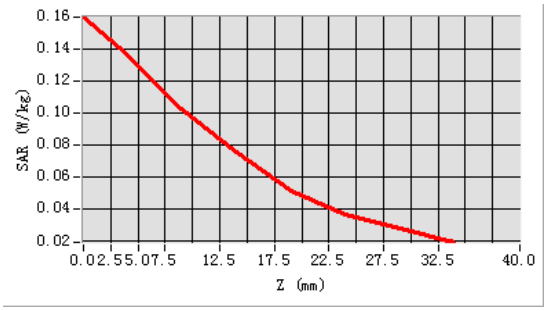
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 4: DUT: smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.83
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	Left head
Device Position	Tilt
Band	GSM850
Channels	Low
Signal	TDMA (Crest factor: 8.32)
Frequency (MHz)	824.2
Relative permittivity (real part)	41.5
Conductivity (S/m)	0.90
Variation (%)	2.93

Maximum location: X=-39.00, Y=-10.00
SAR Peak: 0.20 W/kg

SAR 10g (W/Kg)	0.098140
SAR 1g (W/Kg)	0.144346

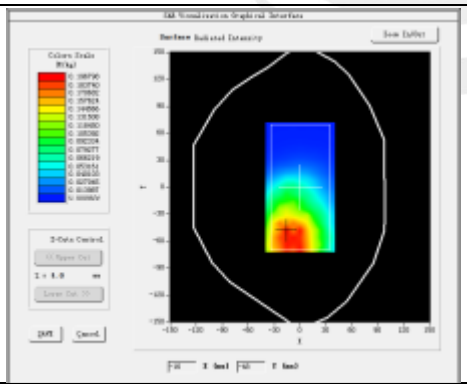
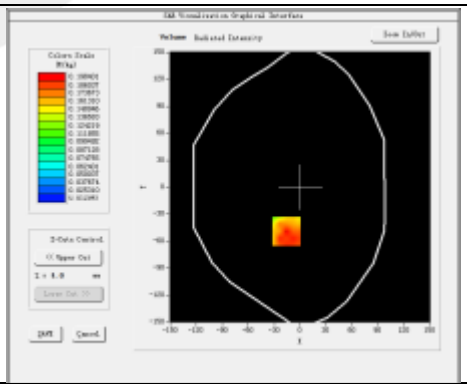
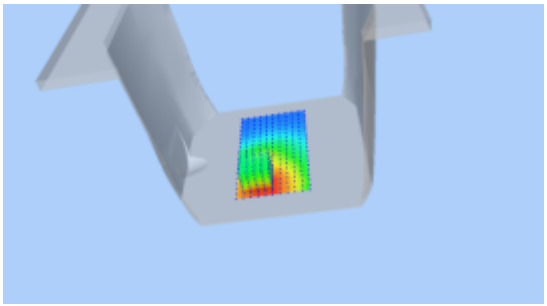
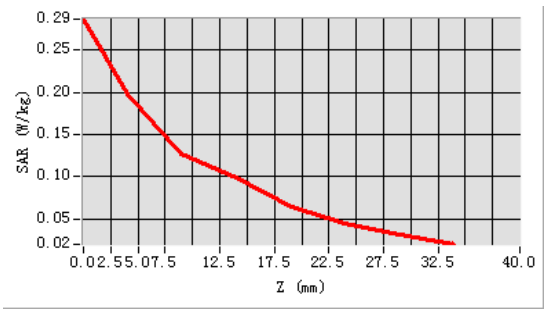
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 5: DUT: smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	5.02
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 Front
Band	GSM850
Channels	Low
Signal	TDMA (Crest factor: 8.32)
Frequency (MHz)	824.2
Relative permittivity (real part)	55.20
Conductivity (S/m)	0.97
Variation (%)	-2.91

Maximum location: X=-16.00, Y=-49.00
SAR Peak: 0.29 W/kg

SAR 10g (W/Kg)	0.125722
SAR 1g (W/Kg)	0.188793

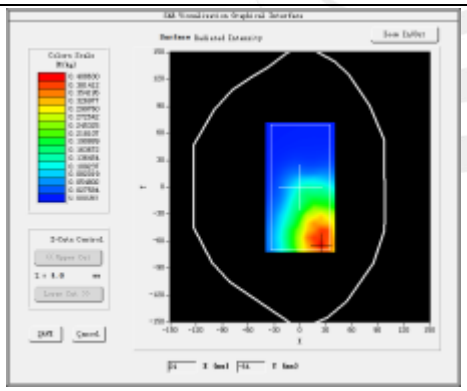
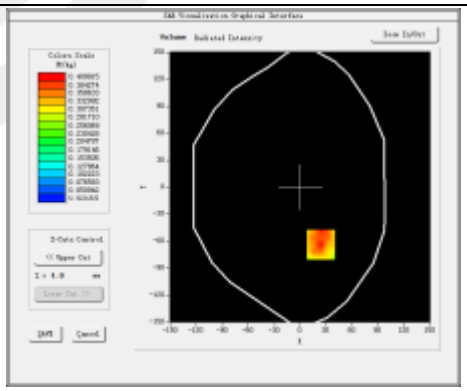
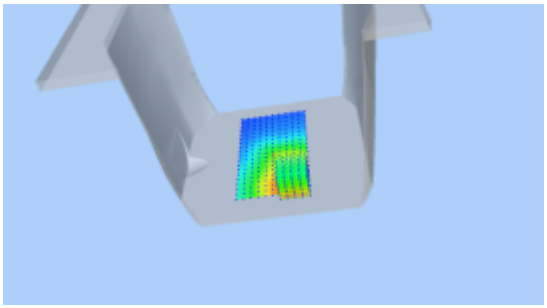
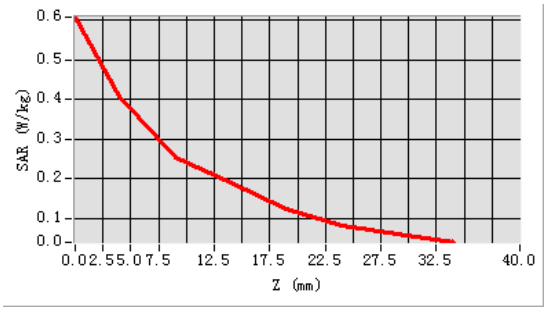
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 6: DUT: smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	5.02
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 Behind
Band	GSM850
Channels	Low
Signal	TDMA (Crest factor: 8.32)
Frequency (MHz)	824.2
Relative permittivity (real part)	55.20
Conductivity (S/m)	0.97
Variation (%)	-0.88

Maximum location: X=24.00, Y=-64.00
SAR Peak: 0.61W/kg

SAR 10g (W/Kg)	0.244958
SAR 1g (W/Kg)	0.379260

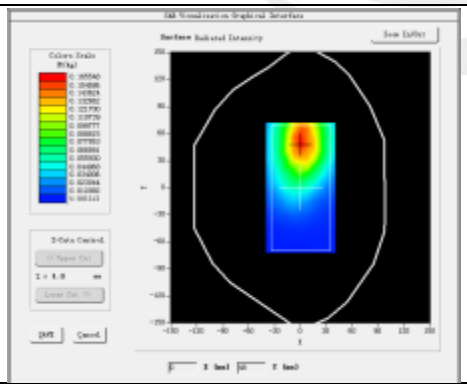
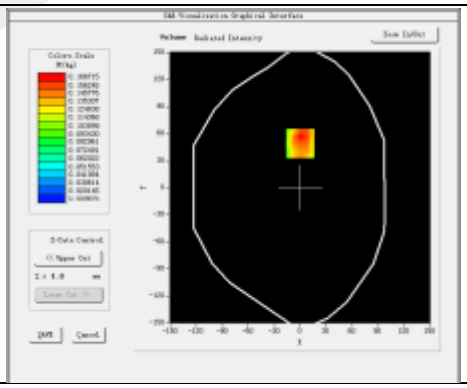
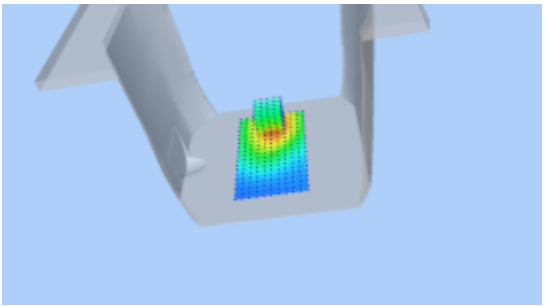
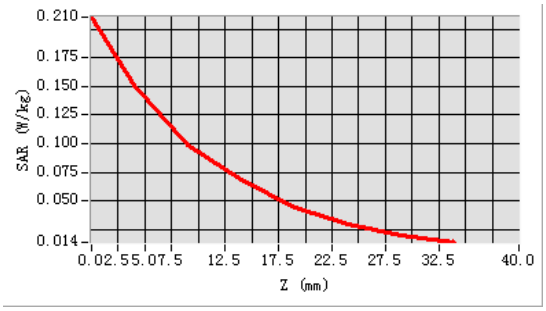
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 7: DUT: smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	5.02
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 lift side
Band	GSM850
Channels	Low
Signal	TDMA (Crest factor: 8.32)
Frequency (MHz)	824.2
Relative permittivity (real part)	55.20
Conductivity (S/m)	0.97
Variation (%)	-2.86

Maximum location: X=0.00, Y=49.00
SAR Peak: 0.25 W/kg

SAR 10g (W/Kg)	0.096892
SAR 1g (W/Kg)	0.159597

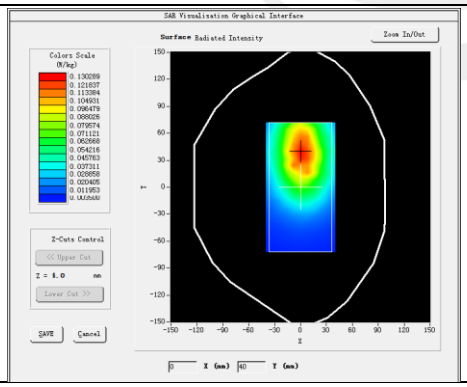
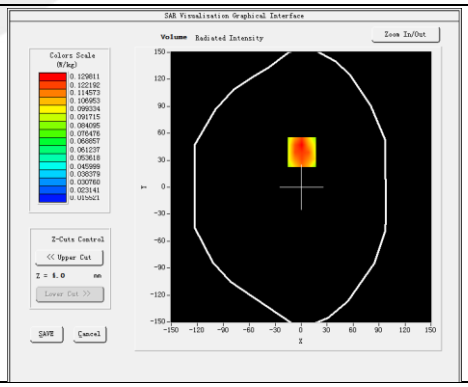
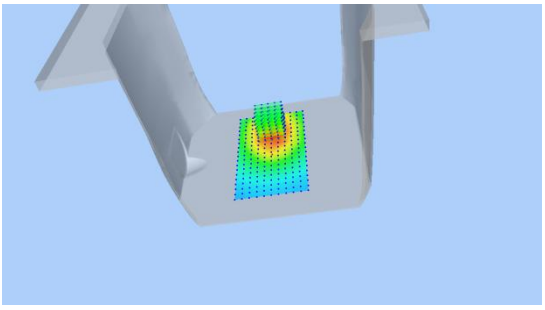
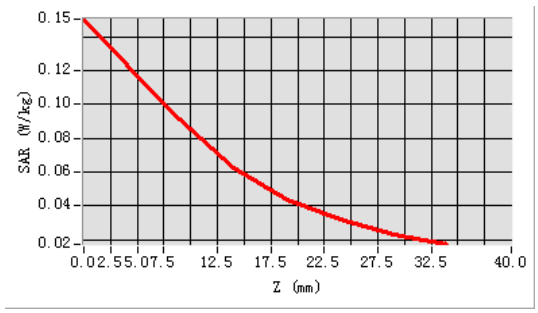
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 8: DUT: smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	5.02
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 right side
Band	GSM850
Channels	Low
Signal	TDMA (Crest factor: 8.32)
Frequency (MHz)	824.2
Relative permittivity (real part)	55.20
Conductivity (S/m)	0.97
Variation (%)	1.35

Maximum location: X=1.00, Y=39.00
SAR Peak: 0.15 W/kg

SAR 10g (W/Kg)	0.082698
SAR 1g (W/Kg)	0.115277

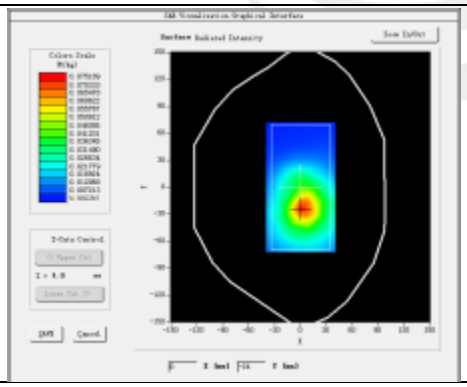
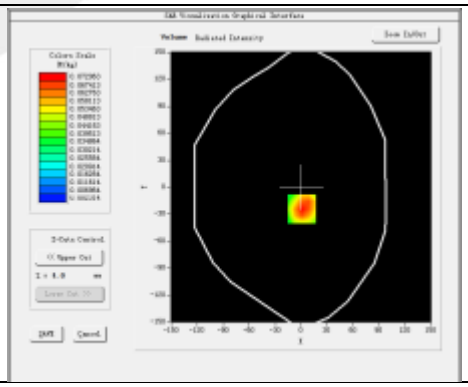
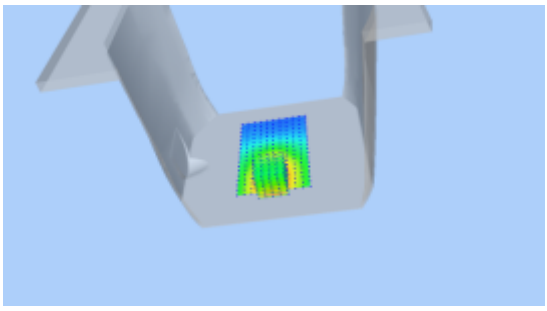
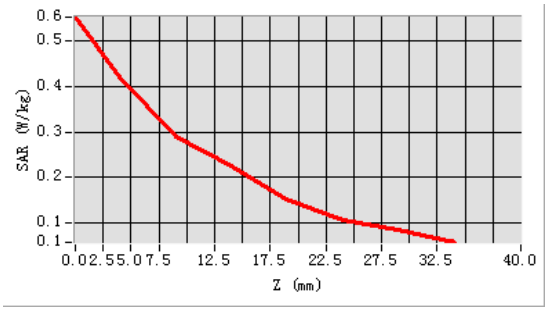
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 9: DUT: smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	5.02
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body bottom side
Band	GSM850
Channels	Low
Signal	TDMA (Crest factor: 8.32)
Frequency (MHz)	824.2
Relative permittivity (real part)	55.20
Conductivity (S/m)	0.97
Variation (%)	2.58

Maximum location: X=1.00, Y=-24.00
SAR Peak: 0.11 W/kg

SAR 10g (W/Kg)	0.039353
SAR 1g (W/Kg)	0.068580

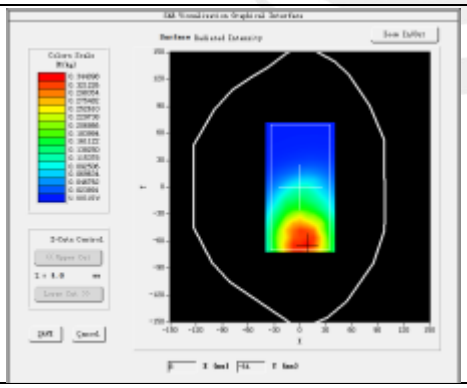
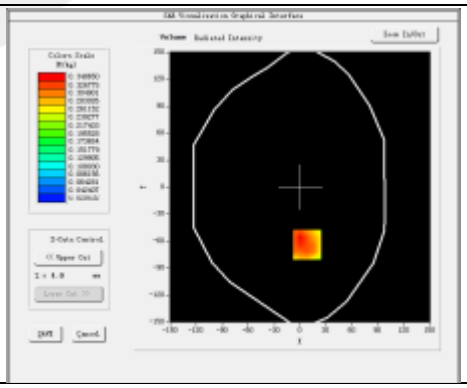
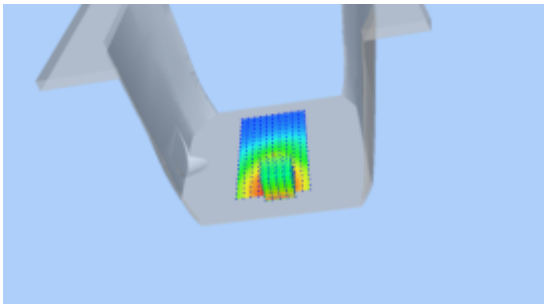
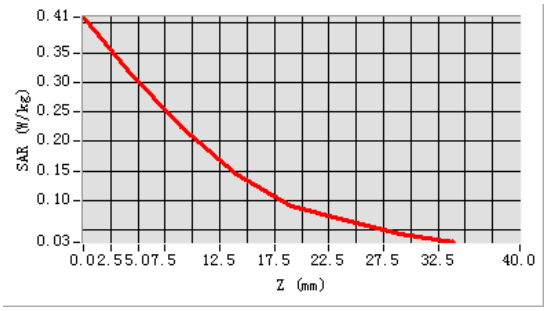
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 10: DUT: smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	5.02
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 Front
Band	GPRS 850
Channels	Low
Signal	TDMA (Crest factor: 2.66)
Frequency (MHz)	824.2
Relative permittivity (real part)	55.20
Conductivity (S/m)	0.97
Variation (%)	3.01

Maximum location: X=8.00, Y=-64.00
SAR Peak: 0.53 W/kg

SAR 10g (W/Kg)	0.210860
SAR 1g (W/Kg)	0.335153

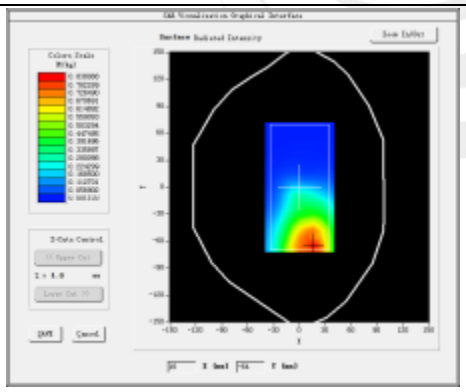
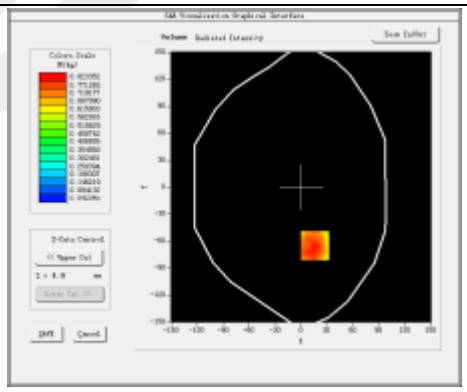
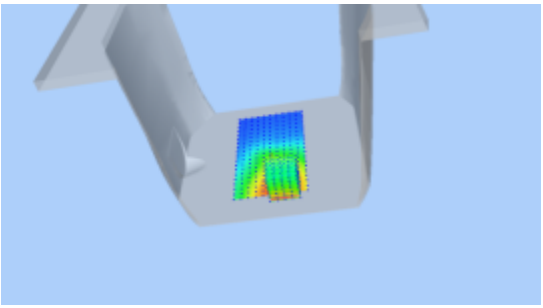
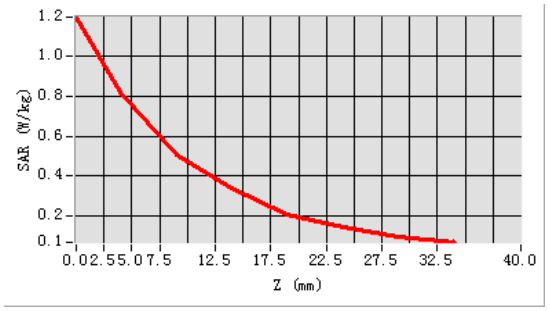
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 11: DUT: smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	5.02
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 850
Channels	Low
Signal	TDMA (Crest factor: 2.66)
Frequency (MHz)	824.2
Relative permittivity (real part)	55.20
Conductivity (S/m)	0.97
Variation (%)	-1.67

Maximum location: X=16.00, Y=-65.00
SAR Peak: 1.20 W/kg

SAR 10g (W/Kg)	0.494742
SAR 1g (W/Kg)	0.712334

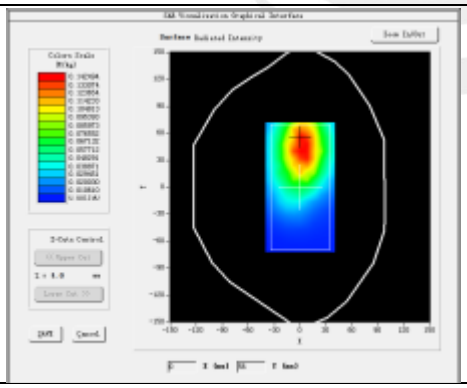
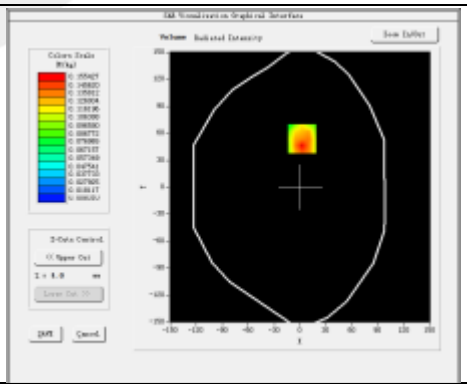
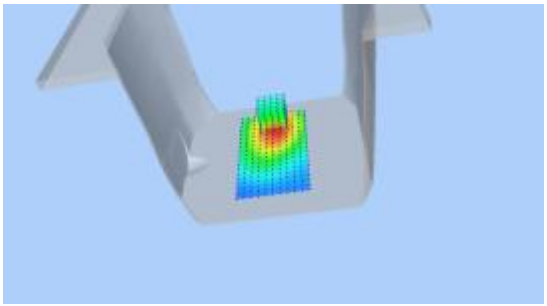
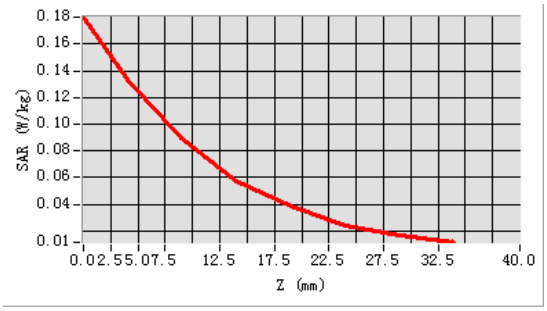
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 12: DUT: smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	5.02
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 lift side
Band	GPRS 850
Channels	Low
Signal	TDMA (Crest factor: 2.66)
Frequency (MHz)	824.2
Relative permittivity (real part)	55.20
Conductivity (S/m)	0.97
Variation (%)	4.33

Maximum location: X=2.00, Y=54.00
SAR Peak: 0.23 W/kg

SAR 10g (W/Kg)	0.087725
SAR 1g (W/Kg)	0.145251

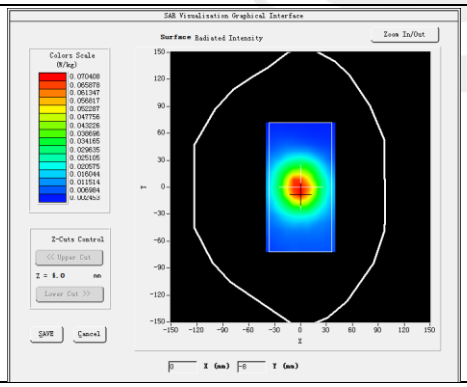
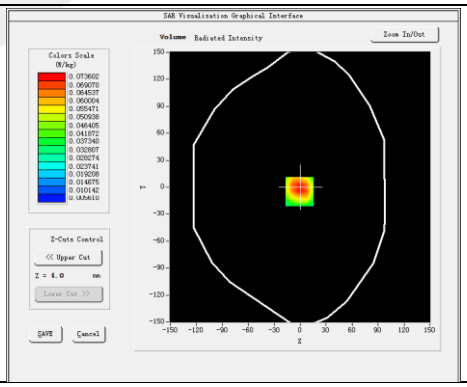
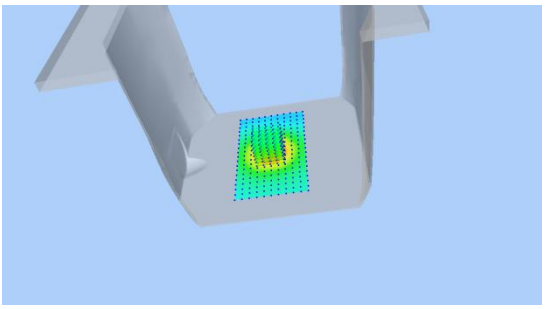
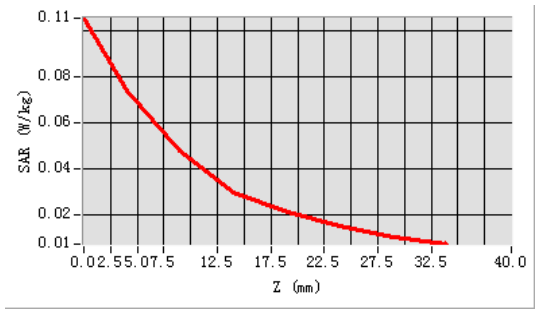
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 13: DUT: smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	5.02
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 right side
Band	GPRS 850
Channels	Low
Signal	TDMA (Crest factor: 2.66)
Frequency (MHz)	824.2
Relative permittivity (real part)	55.20
Conductivity (S/m)	0.97
Variation (%)	0.52

Maximum location: X=-1.00, Y=-5.00
SAR Peak: 0.12 W/kg

SAR 10g (W/Kg)	0.042917
SAR 1g (W/Kg)	0.080154

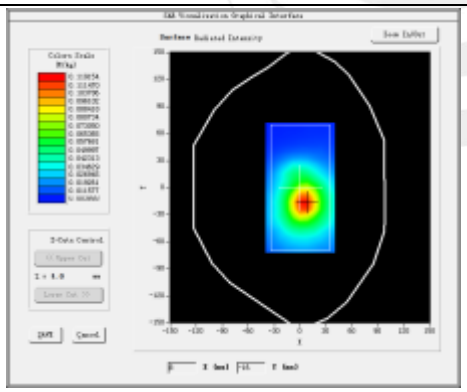
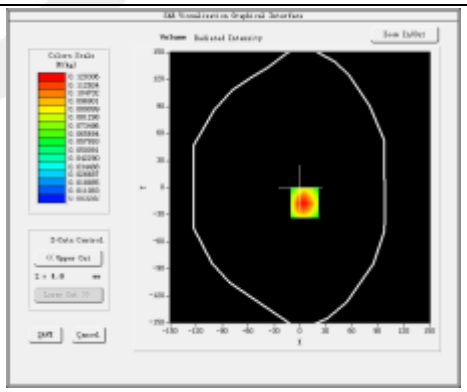
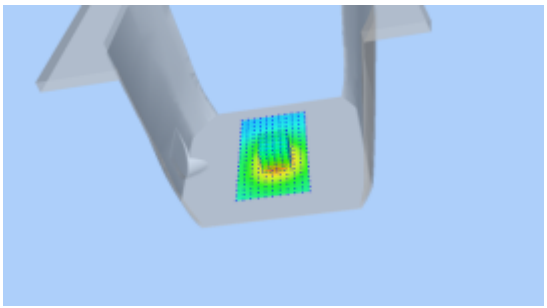
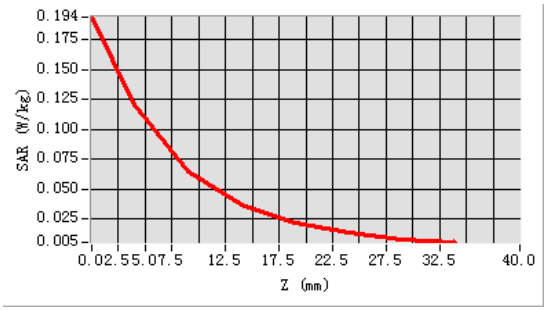
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 14: DUT: smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	5.02
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 bottom side
Band	GPRS 850
Channels	Low
Signal	TDMA (Crest factor: 2.66)
Frequency (MHz)	824.2
Relative permittivity (real part)	55.20
Conductivity (S/m)	0.97
Variation (%)	-0.23

Maximum location: X=5.00, Y=-17.00
SAR Peak: 0.20 W/kg

SAR 10g (W/Kg)	0.063940
SAR 1g (W/Kg)	0.117198

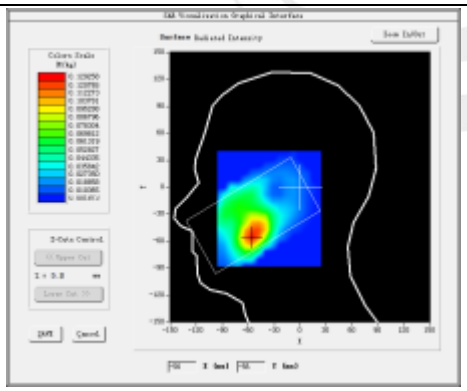
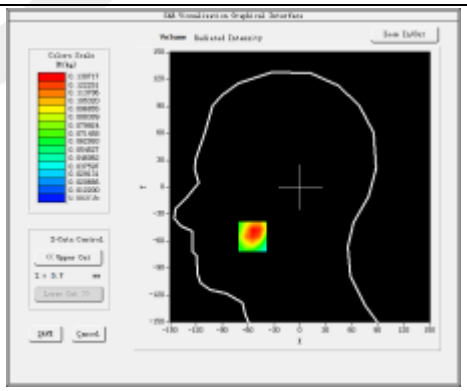
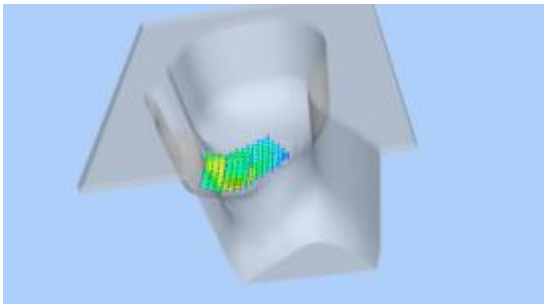
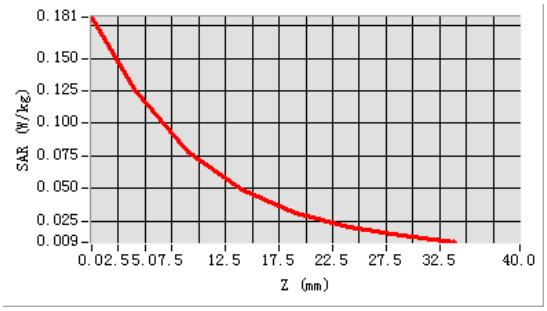
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 15: DUT: smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.71
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	GSM1900
Channels	High
Signal	TDMA (Crest factor: 8.32)
Frequency (MHz)	1909.8
Relative permittivity (real part)	40.00
Conductivity (S/m)	1.40
Variation (%)	3.07

Maximum location: X=-55.00, Y=-55.00
SAR Peak: 0.20 W/kg

SAR 10g (W/Kg)	0.073931
SAR 1g (W/Kg)	0.128826

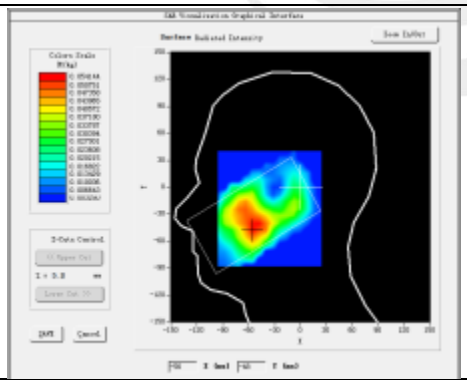
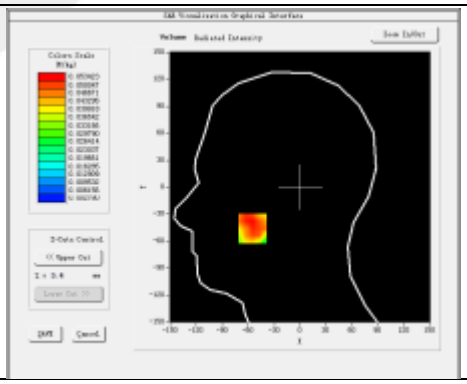
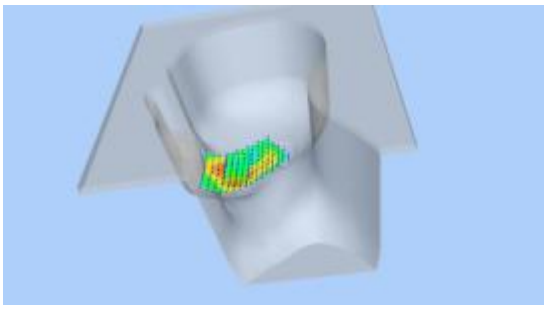
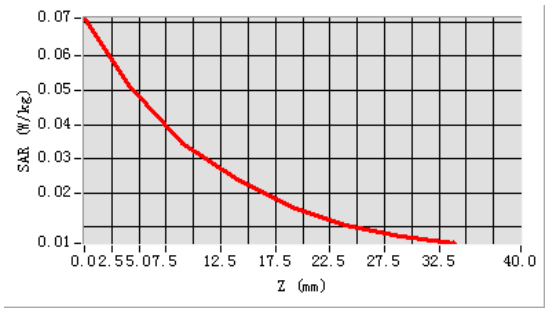
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 16: DUT: smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.71
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	Tilt
Band	GSM1900
Channels	High
Signal	TDMA (Crest factor: 8.32)
Frequency (MHz)	1909.8
Relative permittivity (real part)	40.00
Conductivity (S/m)	1.40
Variation (%)	1.28

Maximum location: X=-55.00, Y=-46.00
SAR Peak: 0.08W/kg

SAR 10g (W/Kg)	0.033294
SAR 1g (W/Kg)	0.052173

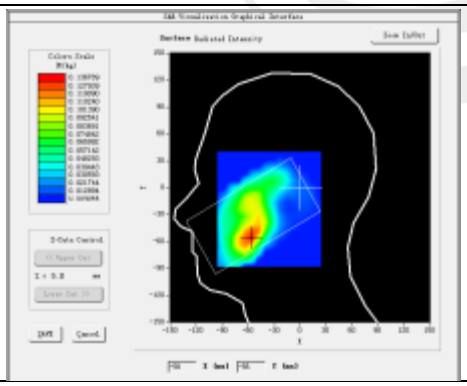
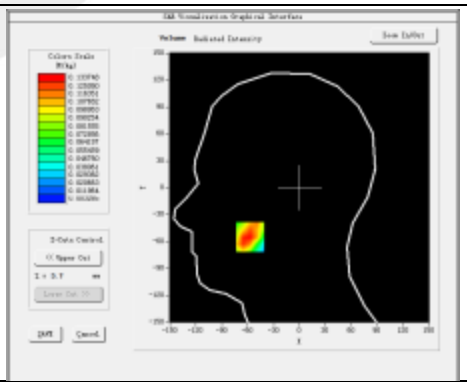
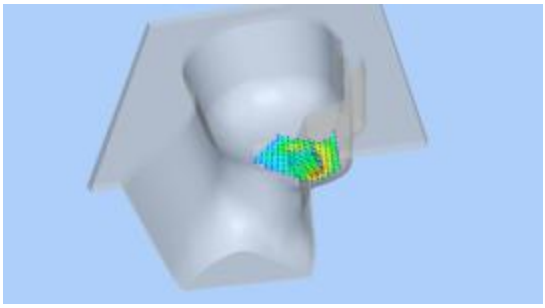
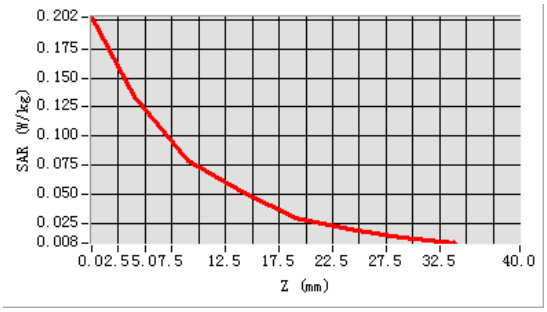
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 17: DUT: smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.71
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	Left head
Device Position	Cheek
Band	GSM1900
Channels	High
Signal	TDMA (Crest factor: 8.32)
Frequency (MHz)	1909.8
Relative permittivity (real part)	40.00
Conductivity (S/m)	1.40
Variation (%)	3.93

Maximum location: X=-57.00, Y=-55.00
SAR Peak: 0.22W/kg

SAR 10g (W/Kg)	0.074407
SAR 1g (W/Kg)	0.132987

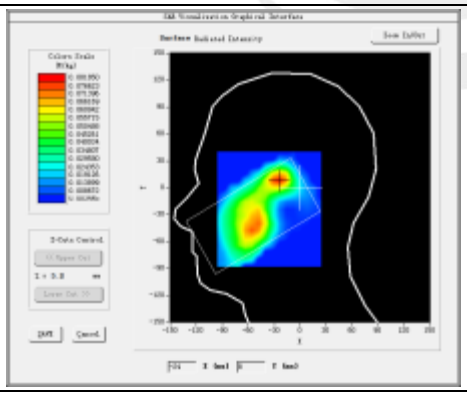
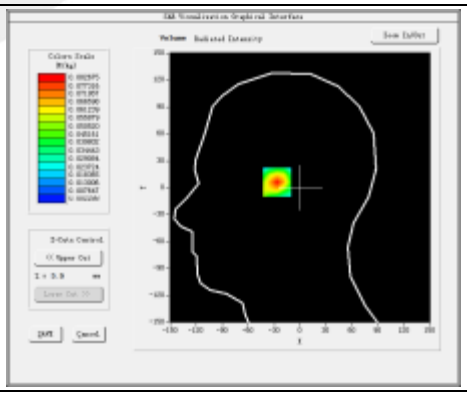
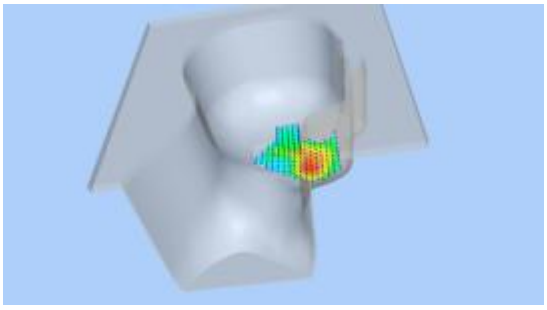
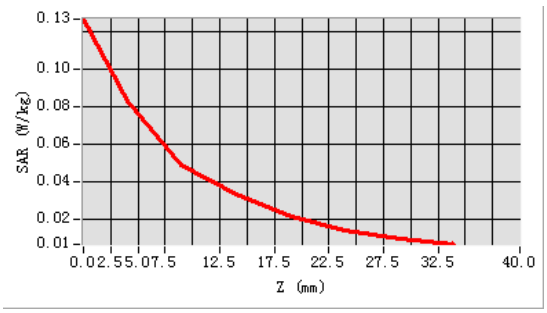
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 18: DUT: smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.71
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	Left head
Device Position	Tilt
Band	GSM1900
Channels	High
Signal	TDMA (Crest factor: 8.32)
Frequency (MHz)	1909.8
Relative permittivity (real part)	40.00
Conductivity (S/m)	1.40
Variation (%)	-0.93

Maximum location: X=-25.00, Y=8.00
SAR Peak: 0.13W/kg

SAR 10g (W/Kg)	0.042620
SAR 1g (W/Kg)	0.077844

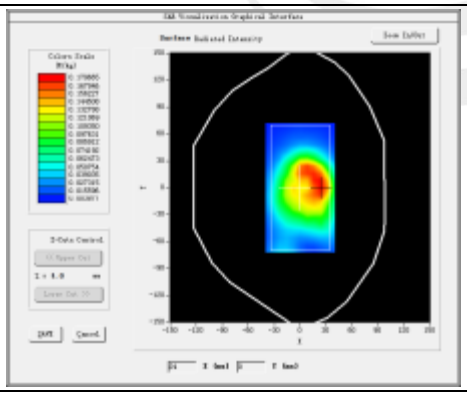
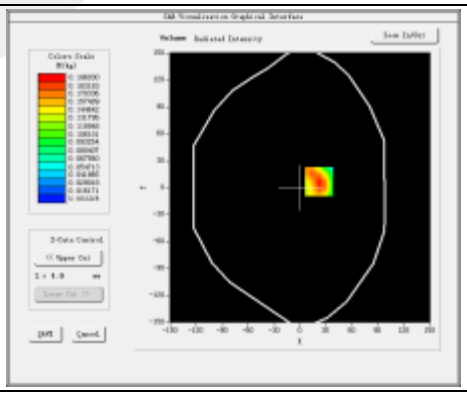
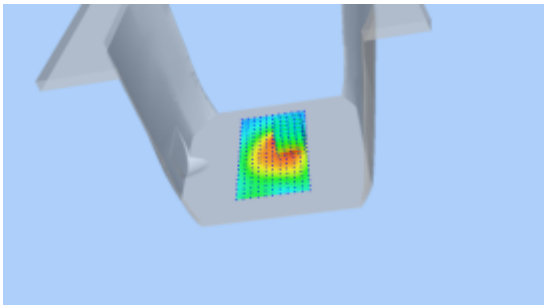
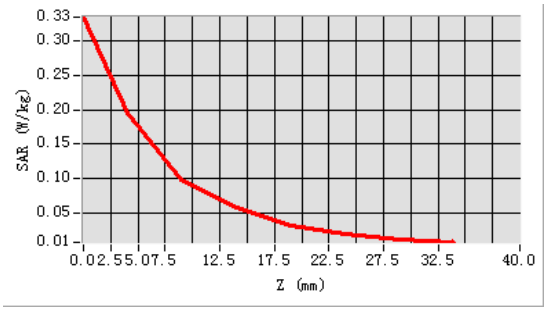
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 19: DUT: smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.85
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 Front
Band	GSM1900
Channels	High
Signal	TDMA (Crest factor: 8.32)
Frequency (MHz)	1909.8
Relative permittivity (real part)	53.30
Conductivity (S/m)	1.52
Variation (%)	-0.48

Maximum location: X=22.00, Y=7.00
SAR Peak: 0.34 W/kg

SAR 10g (W/Kg)	0.100892
SAR 1g (W/Kg)	0.191865

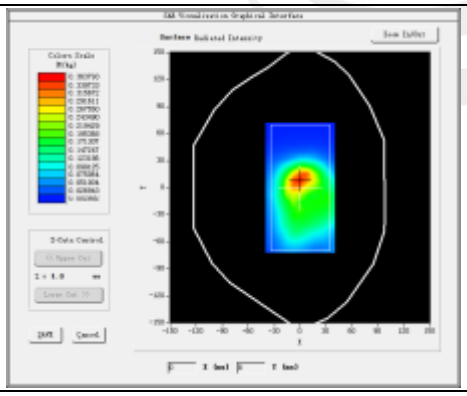
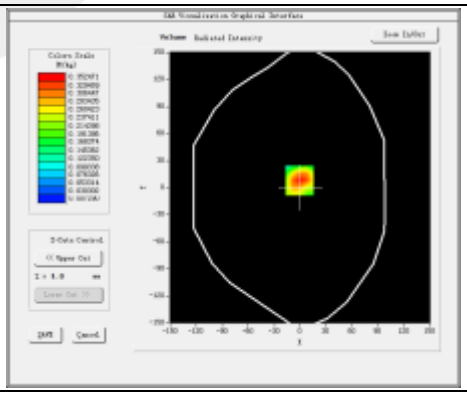
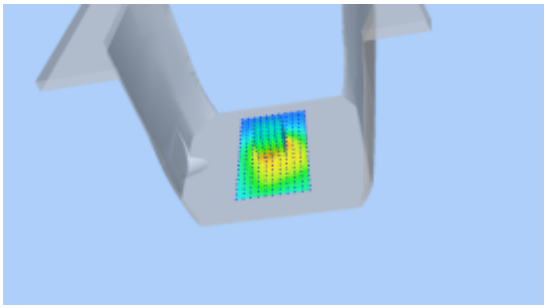
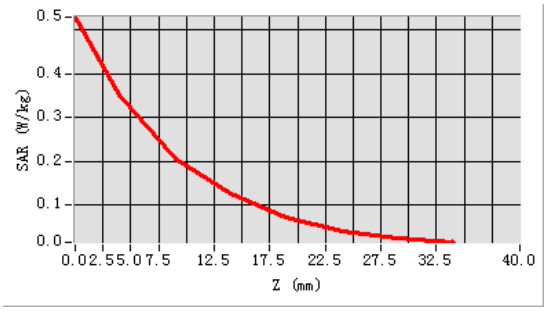
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 20: DUT: smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.85
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 Behind
Band	GSM 1900
Channels	High
Signal	TDMA (Crest factor: 8.32)
Frequency (MHz)	1909.8
Relative permittivity (real part)	53.30
Conductivity (S/m)	1.52
Variation (%)	-1.01

Maximum location: X=1.00, Y=8.00
SAR Peak: 0.55 W/kg

SAR 10g (W/Kg)	0.184538
SAR 1g (W/Kg)	0.339126

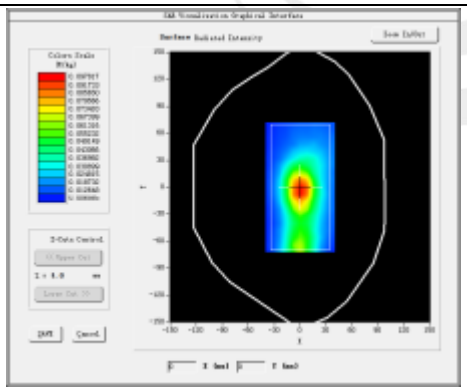
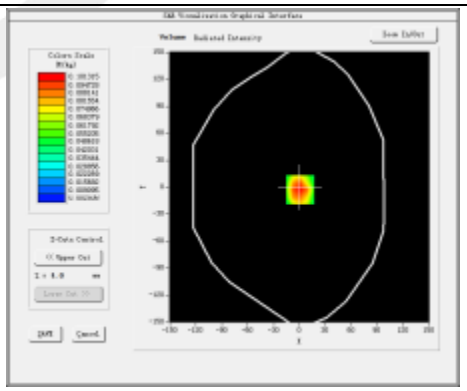
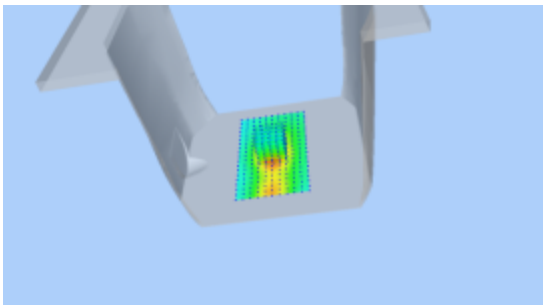
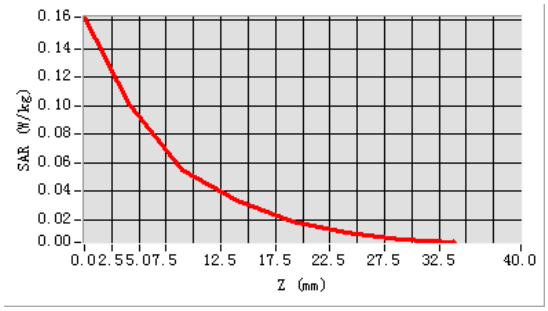
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 21: DUT: smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.85
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 left side
Band	GSM1900
Channels	High
Signal	TDMA (Crest factor: 8.32)
Frequency (MHz)	1909.8
Relative permittivity (real part)	53.30
Conductivity (S/m)	1.52
Variation (%)	1.13

Maximum location: X=1.00, Y=-3.00
SAR Peak: 0.16 W/kg

SAR 10g (W/Kg)	0.053444
SAR 1g (W/Kg)	0.099377

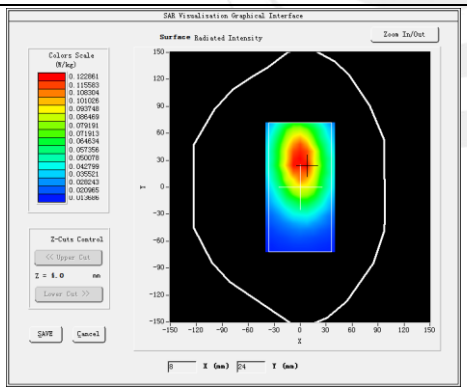
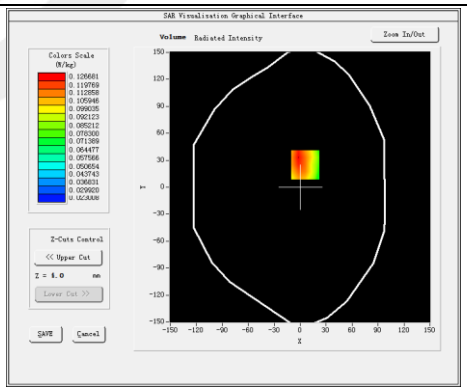
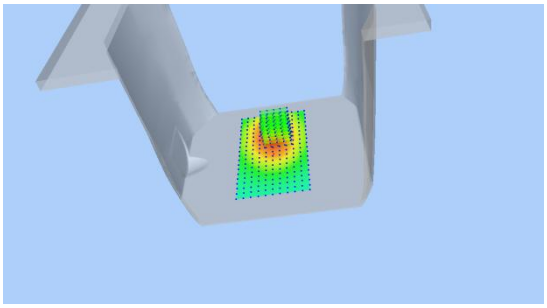
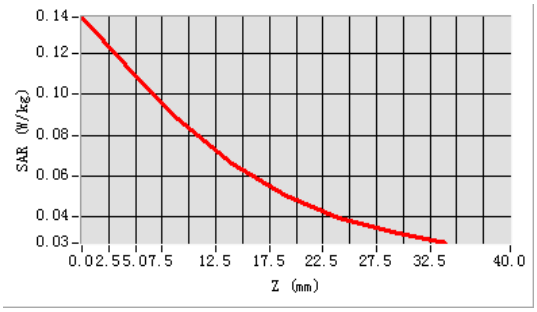
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 22: DUT: smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.85
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 right side
Band	GSM1900
Channels	High
Signal	TDMA (Crest factor: 8.32)
Frequency (MHz)	1909.8
Relative permittivity (real part)	53.30
Conductivity (S/m)	1.52
Variation (%)	0.52

Maximum location: X=1.00, Y=-3.00
SAR Peak: 0.14 W/kg

SAR 10g (W/Kg)	0.074105
SAR 1g (W/Kg)	0.108291

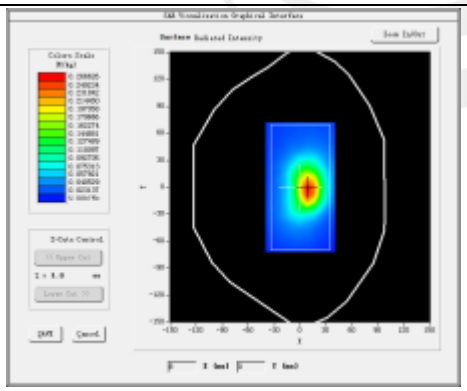
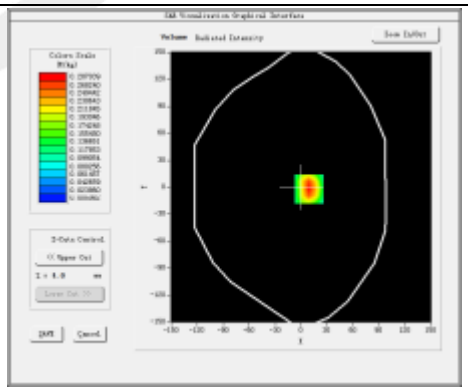
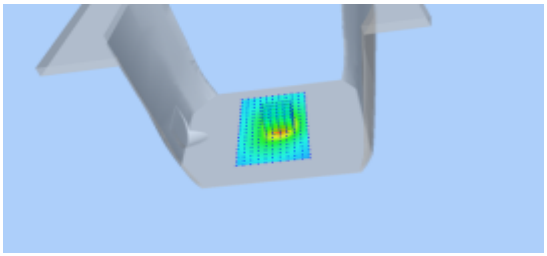
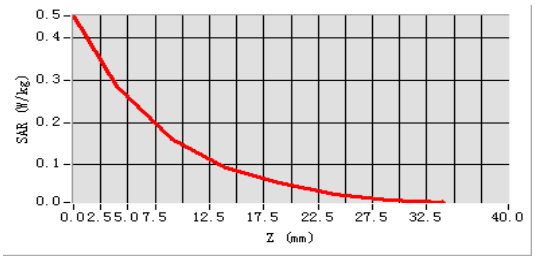
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 23: DUT: smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.85
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 bottom side
Band	GSM1900
Channels	High
Signal	TDMA (Crest factor: 8.32)
Frequency (MHz)	1909.8
Relative permittivity (real part)	53.30
Conductivity (S/m)	1.52
Variation (%)	3.69

Maximum location: X=9.00, Y=-2.00
SAR Peak:0.46 W/kg

SAR 10g (W/Kg)	0.144518
SAR 1g (W/Kg)	0.275763

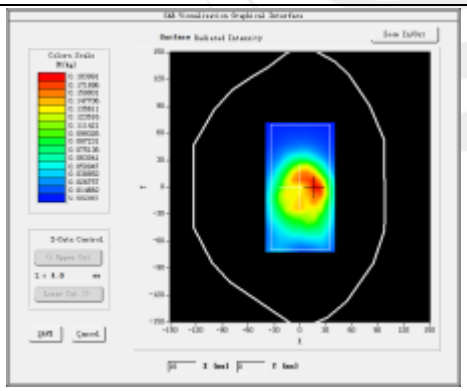
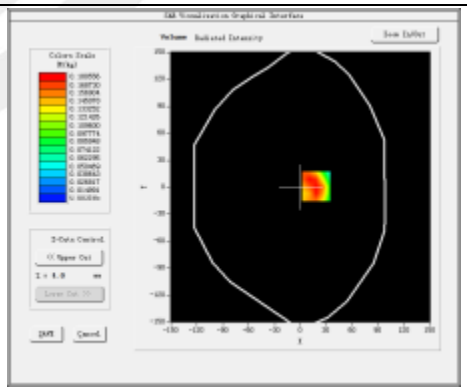
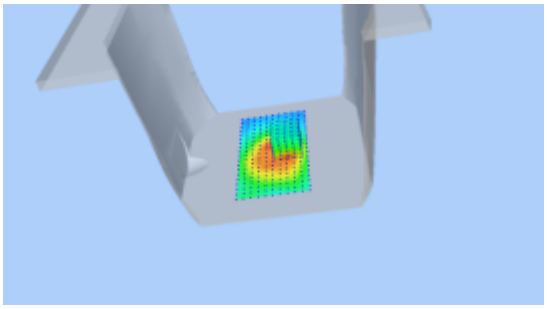
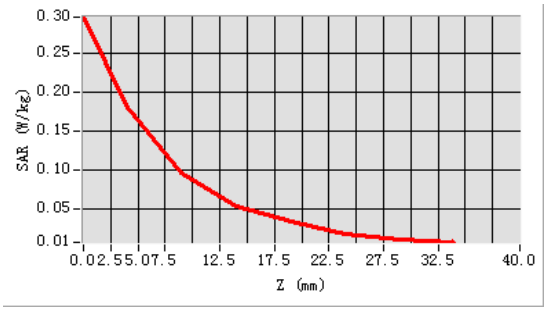
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 24: DUT: smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.85
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 front
Band	GPRS 1900
Channels	Low
Signal	TDMA (Crest factor: 2.0)
Frequency (MHz)	1850.2
Relative permittivity (real part)	53.30
Conductivity (S/m)	1.52
Variation (%)	-2.86

Maximum location: X=18.00, Y=1.00
SAR Peak:0.30 W/kg

SAR 10g (W/Kg)	0.098526
SAR 1g (W/Kg)	0.178775

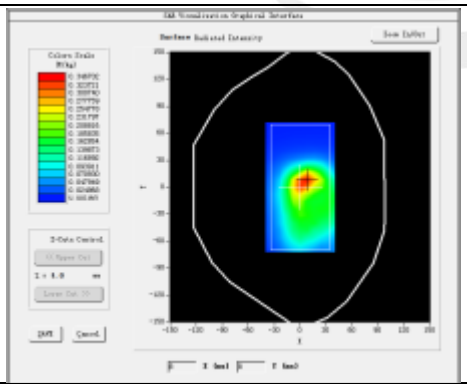
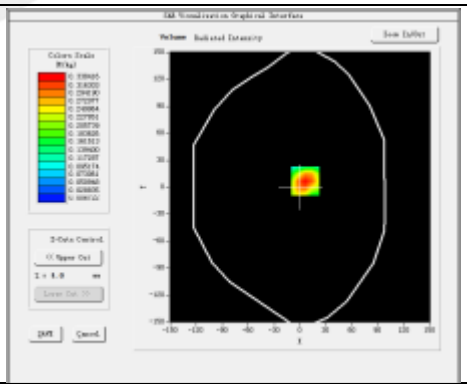
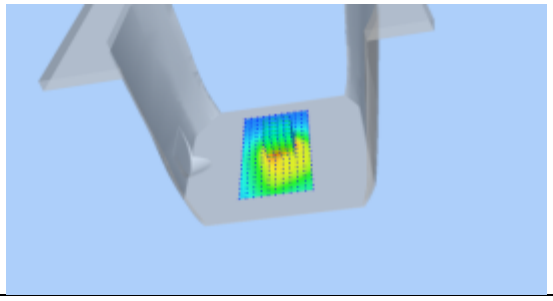
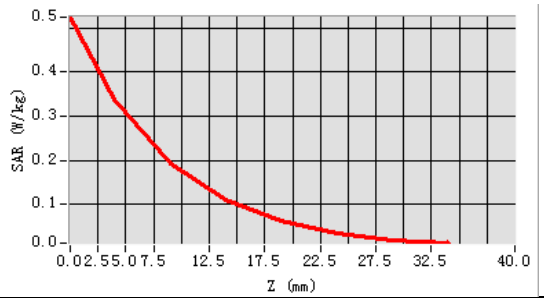
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 25: DUT: smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.85
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 Behind
Band	GPRS 1900
Channels	Low
Signal	TDMA (Crest factor: 2.0)
Frequency (MHz)	1850.2
Relative permittivity (real part)	53.30
Conductivity (S/m)	1.52
Variation (%)	1.86

Maximum location: X=6.00, Y=7.00
SAR Peak: 0.53 W/kg

SAR 10g (W/Kg)	0.175421
SAR 1g (W/Kg)	0.326427

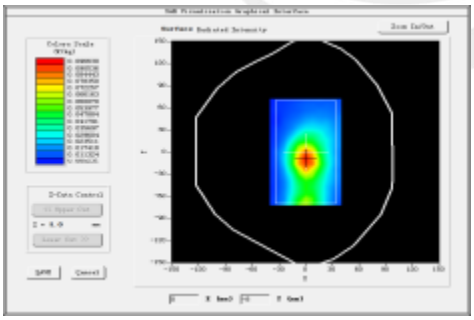
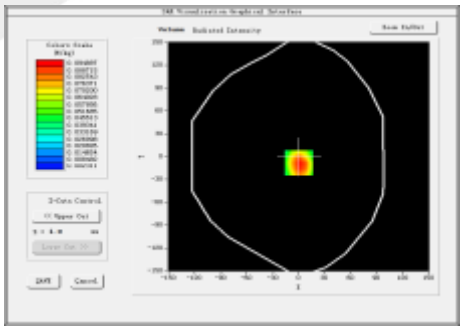
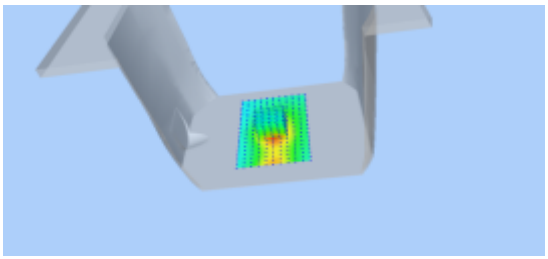
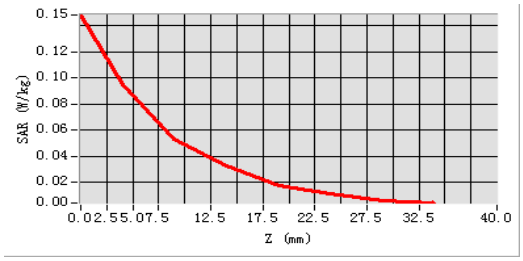
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 26: DUT: smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.85
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 left side
Band	GPRS 1900
Channels	Low
Signal	TDMA (Crest factor: 2.0)
Frequency (MHz)	1850.2
Relative permittivity (real part)	53.30
Conductivity (S/m)	1.52
Variation (%)	-0.44
Variation (%)	-1.98

Maximum location: X=0.00, Y=-8.00
SAR Peak: 0.15 W/kg

SAR 10g (W/Kg)	0.050877
SAR 1g (W/Kg)	0.092466

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

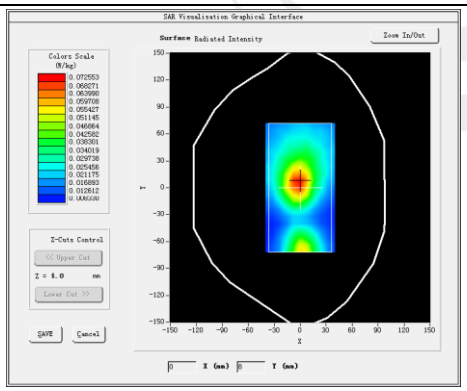
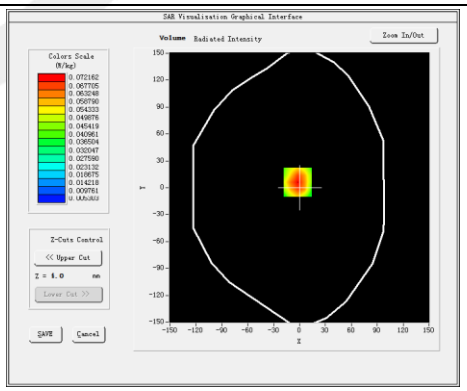
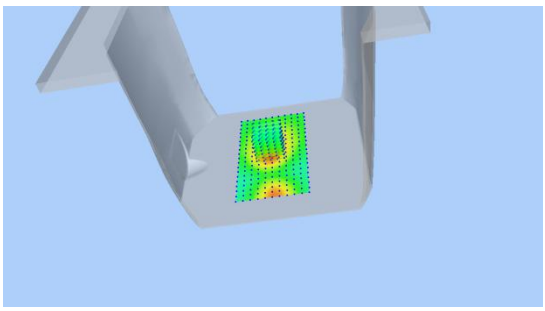
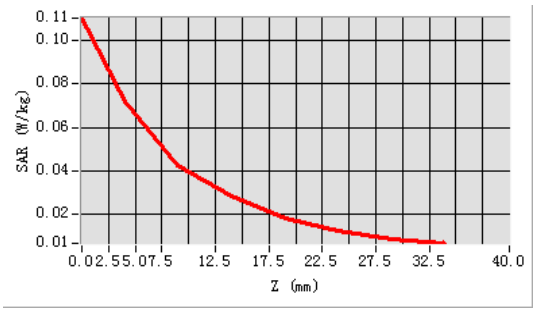
Plot 27: DUT: smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.85
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 right side
Band	GPRS 1900
Channels	Low
Signal	TDMA (Crest factor: 2.0)
Frequency (MHz)	1850.2
Relative permittivity (real part)	53.30
Conductivity (S/m)	1.52
Variation (%)	-0.44
Variation (%)	4.12

Maximum location: X=-2.00, Y=6.00

SAR Peak: 0.11 W/kg

SAR 10g (W/Kg)	0.043164
SAR 1g (W/Kg)	0.071235

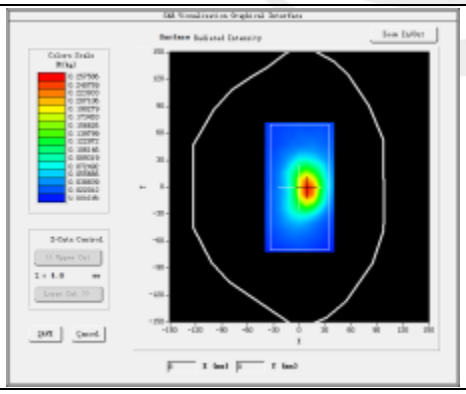
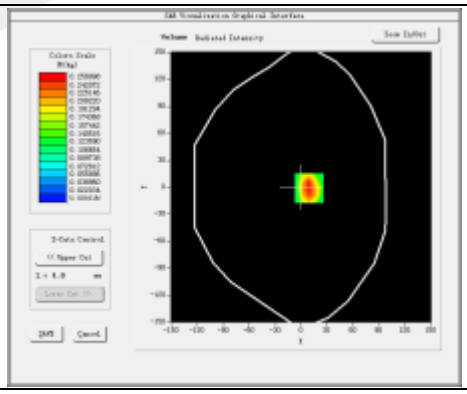
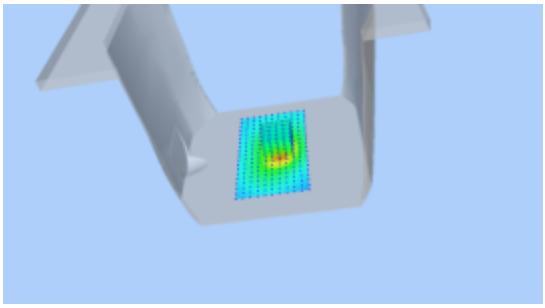
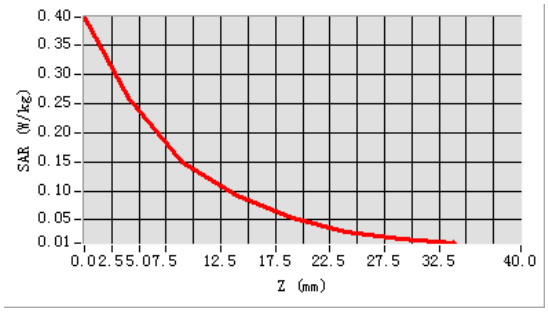
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 28: DUT: smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.85
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 bottom side
Band	GPRS 1900
Channels	Low
Signal	TDMA (Crest factor: 2.0)
Frequency (MHz)	1850.2
Relative permittivity (real part)	53.30
Conductivity (S/m)	1.52
Variation (%)	-0.02

Maximum location: X=9.00, Y=-1.00
SAR Peak: 0.42 W/kg

SAR 10g (W/Kg)	0.132673
SAR 1g (W/Kg)	0.249470

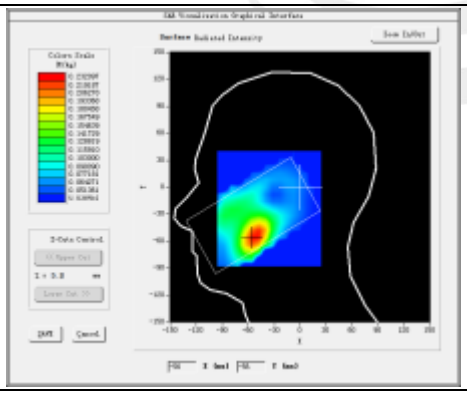
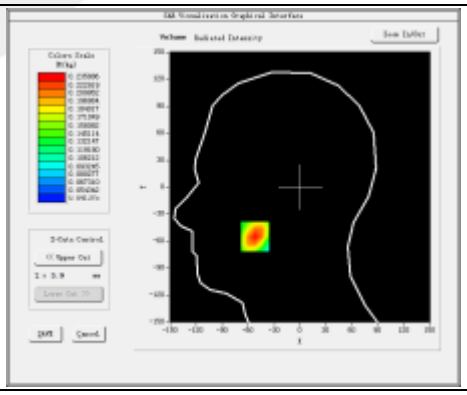
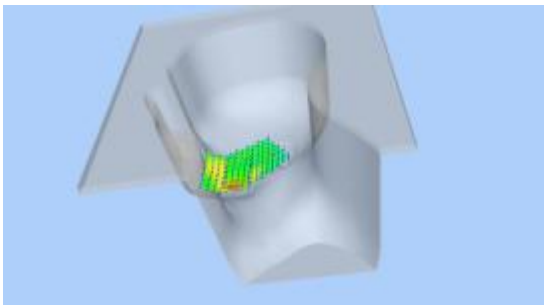
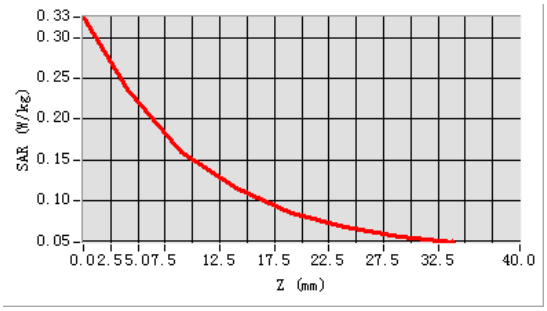
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 29: DUT: smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.71
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	WCDMA II
Channels	High
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	1907.6
Relative permittivity (real part)	40.00
Conductivity (S/m)	1.40
Variation (%)	0.08

Maximum location: X=-52.00, Y=-55.00
SAR Peak: 0.33 W/kg

SAR 10g (W/Kg)	0.147848
SAR 1g (W/Kg)	0.228972

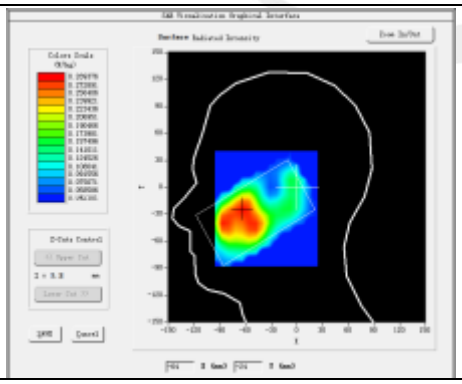
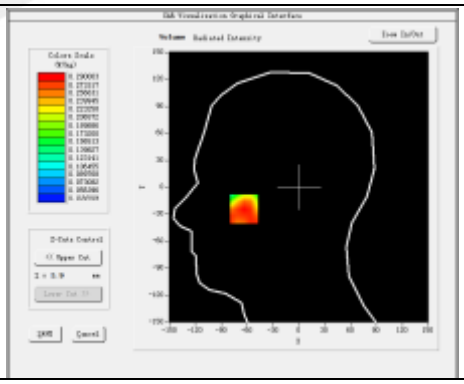
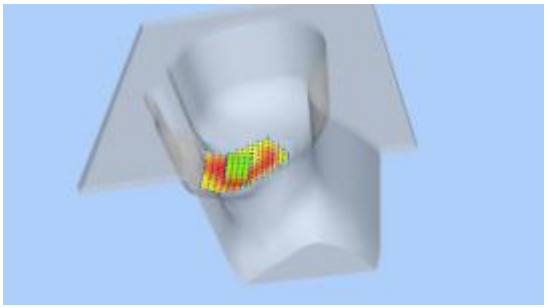
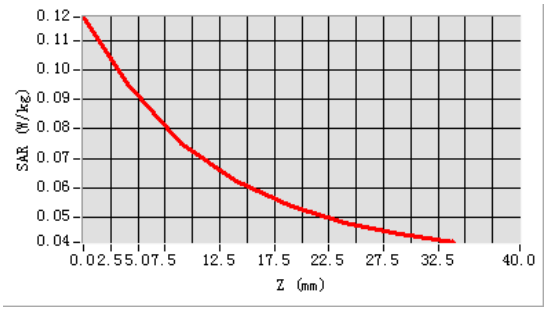
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 30: DUT: smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.71
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	Tilt
Band	WCDMA II
Channels	High
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	1907.6
Relative permittivity (real part)	40.00
Conductivity (S/m)	1.40
Variation (%)	0.08

Maximum location: X=-54.00, Y=-46.00
SAR Peak: 0.12 W/kg

SAR 10g (W/Kg)	0.073540
SAR 1g (W/Kg)	0.094250

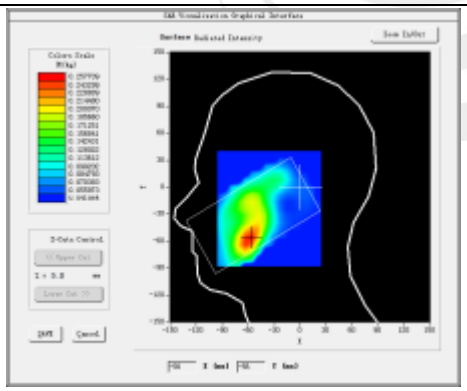
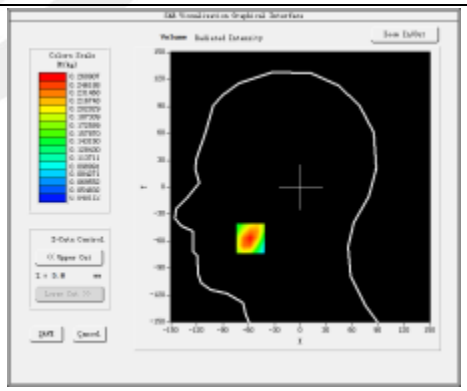
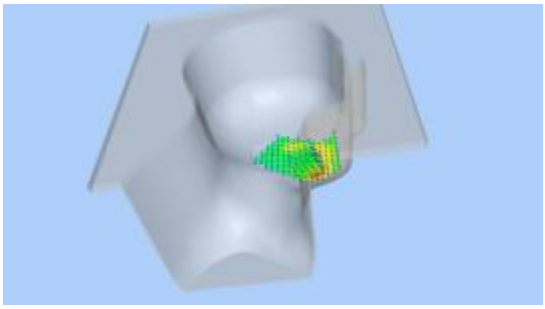
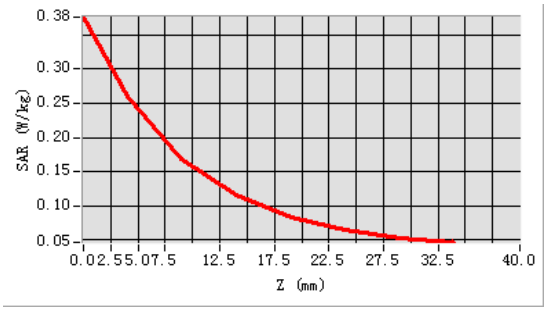
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 31: DUT: smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.71
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	Left head
Device Position	Cheek
Band	WCDMA II
Channels	High
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	1907.6
Relative permittivity (real part)	40.00
Conductivity (S/m)	1.40
Variation (%)	0.23

Maximum location: X=-58.00, Y=-57.00
SAR Peak: 0.38 W/kg

SAR 10g (W/Kg)	0.157610
SAR 1g (W/Kg)	0.253778

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

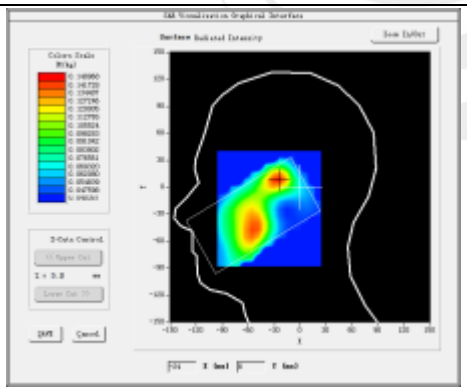
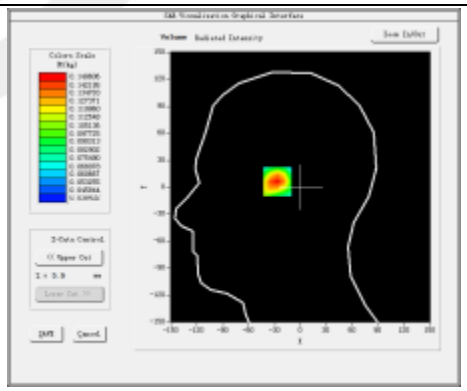
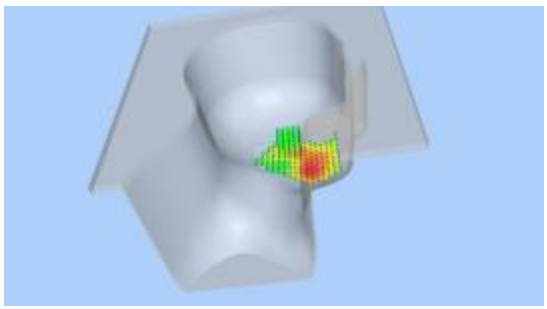
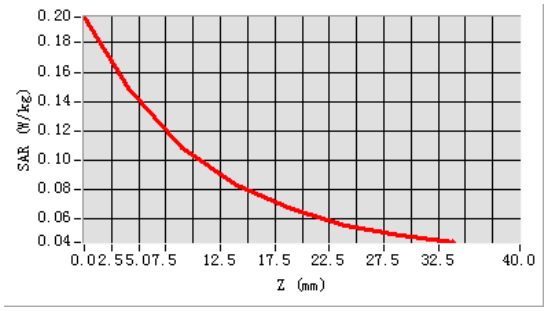
Plot 32: DUT: smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.71
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	Left head
Device Position	Tilt
Band	WCDMA II
Channels	High
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	1907.6
Relative permittivity (real part)	40.00
Conductivity (S/m)	1.40
Variation (%)	0.18

Maximum location: X=-25.00, Y=8.00

SAR Peak: 0.20 W/kg

SAR 10g (W/Kg)	0.098926
SAR 1g (W/Kg)	0.145474

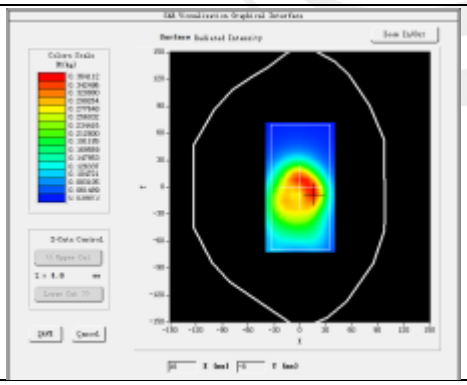
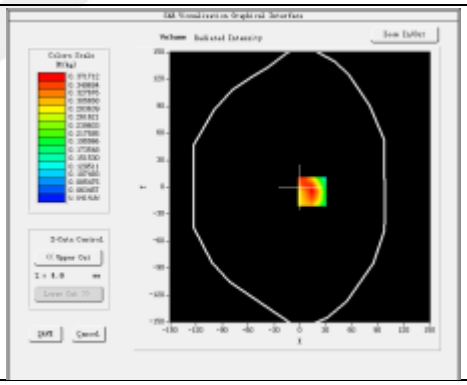
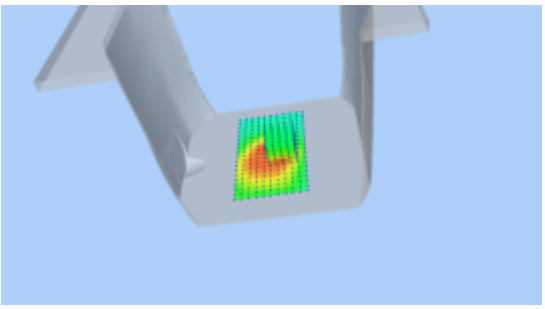
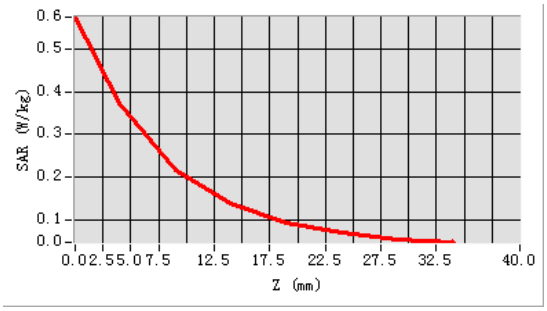
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 33: DUT: smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.85
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 Front
Band	WCDMA II
Channels	High
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	1907.6
Relative permittivity (real part)	53.30
Conductivity (S/m)	1.52
Variation (%)	0.20

Maximum location: X=14.00, Y=-5.00
SAR Peak: 0.57 W/kg

SAR 10g (W/Kg)	0.215734
SAR 1g (W/Kg)	0.361492

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

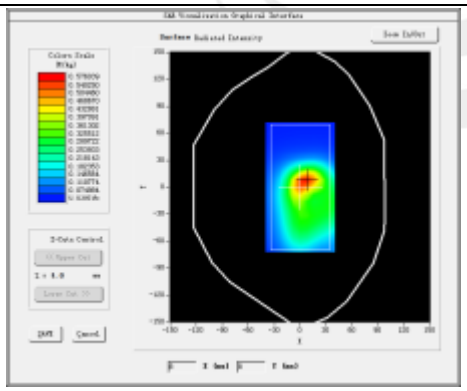
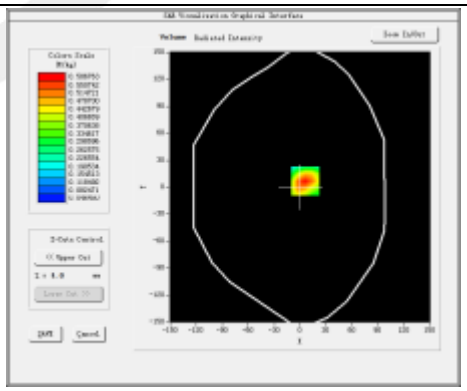
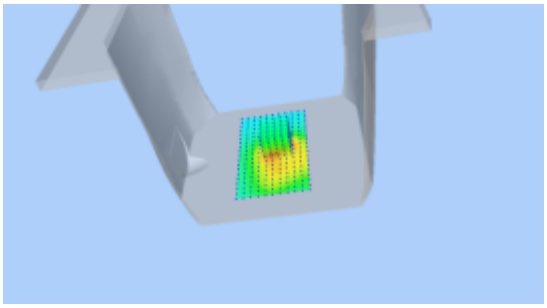
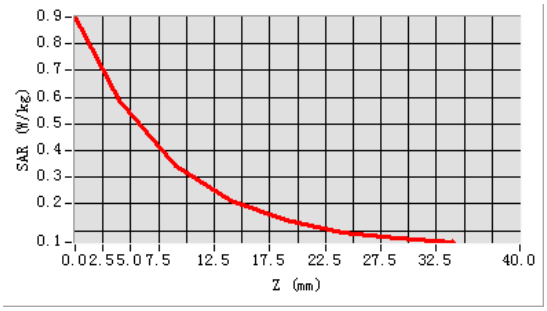
Plot 34: DUT: smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.85
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 side
Band	WCDMA II
Channels	High
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	1907.6
Relative permittivity (real part)	53.30
Conductivity (S/m)	1.52
Variation (%)	0.18

Maximum location: X=6.00, Y=7.00

SAR Peak: 0.90 W/kg

SAR 10g (W/Kg)	0.318236
SAR 1g (W/Kg)	0.563882

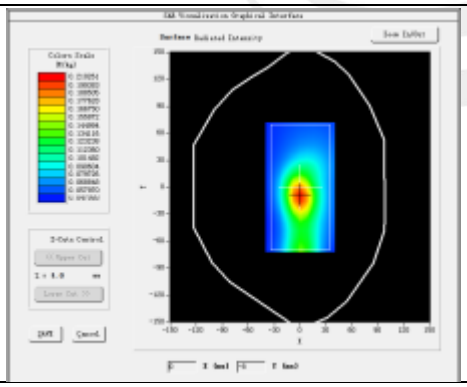
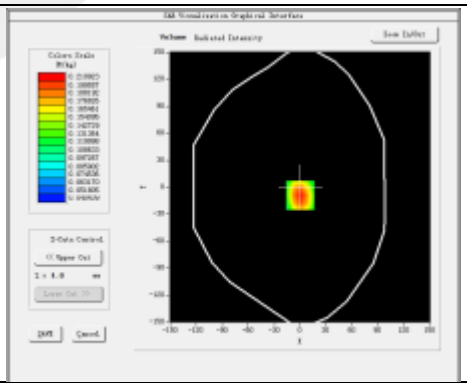
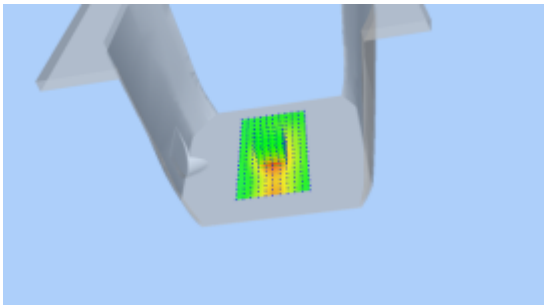
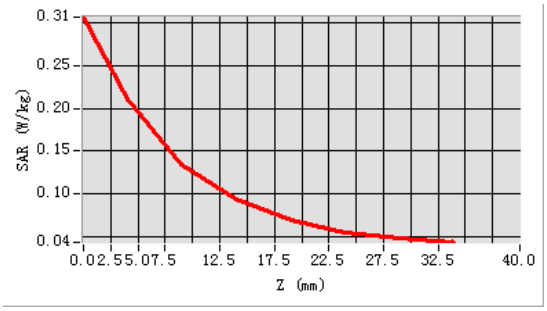
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 35: DUT: smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.85
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 left side
Band	WCDMA II
Channels	High
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	1907.6
Relative permittivity (real part)	53.30
Conductivity (S/m)	1.52
Variation (%)	-0.19

Maximum location: X=0.00, Y=-9.00
SAR Peak: 0.30 W/kg

SAR 10g (W/Kg)	0.129234
SAR 1g (W/Kg)	0.205222

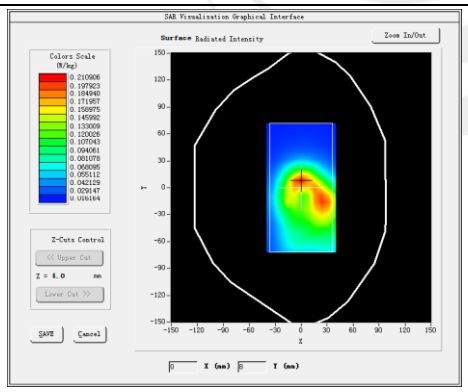
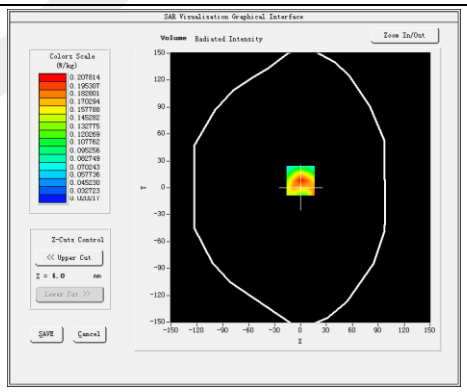
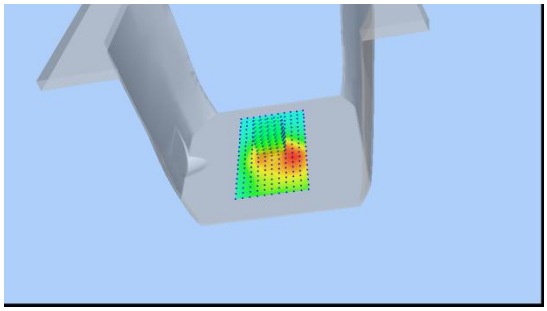
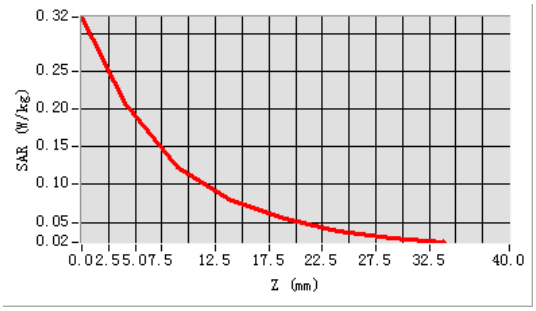
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 36 DUT: smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.85
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 right side
Band	WCDMA II
Channels	High
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	1907.6
Relative permittivity (real part)	53.30
Conductivity (S/m)	1.52
Variation (%)	-1.26

Maximum location: X=0.00, Y=8.00
SAR Peak:0.33 W/kg

SAR 10g (W/Kg)	0.105394
SAR 1g (W/Kg)	0.184008

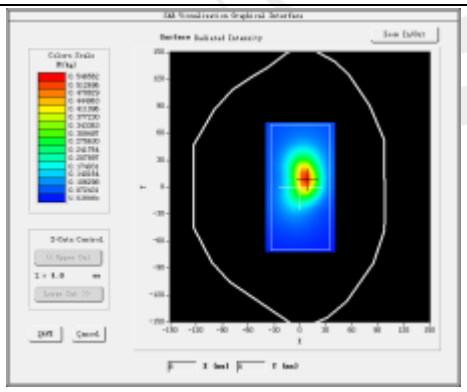
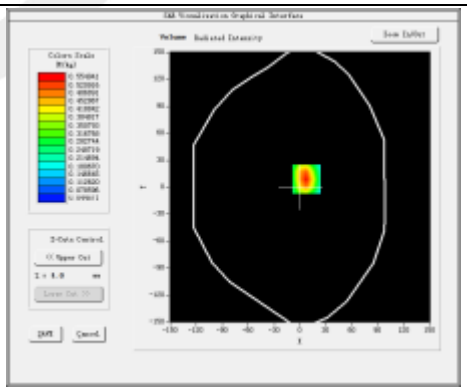
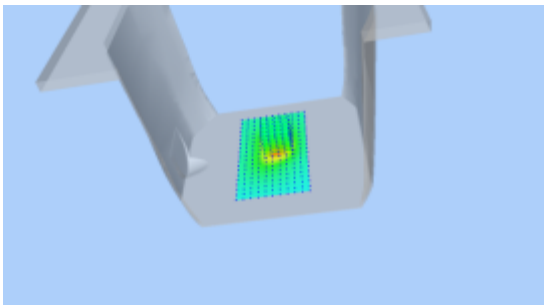
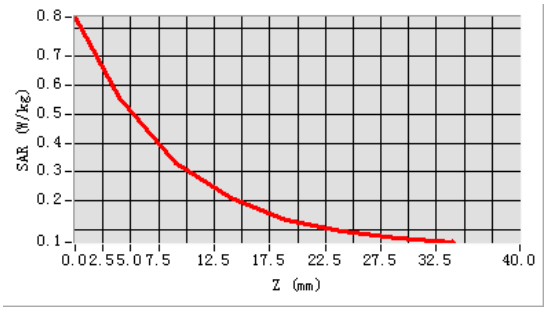
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 37: DUT: smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.85
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 bottom side
Band	WCDMA II
Channels	High
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	1907.6
Relative permittivity (real part)	53.30
Conductivity (S/m)	1.52
Variation (%)	-0.17

Maximum location: X=7.00, Y=9.00
SAR Peak: 0.84 W/kg

SAR 10g (W/Kg)	0.297397
SAR 1g (W/Kg)	0.532548

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

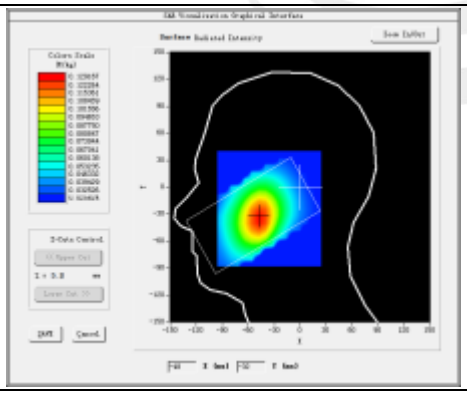
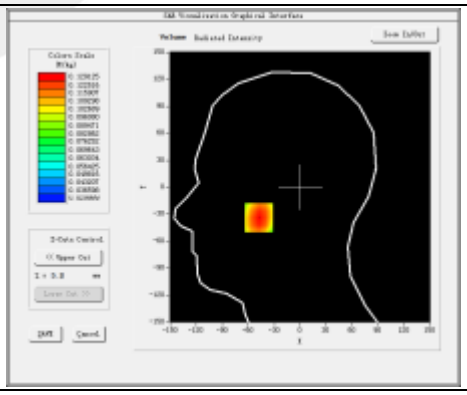
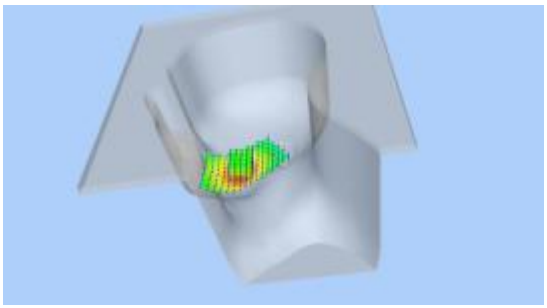
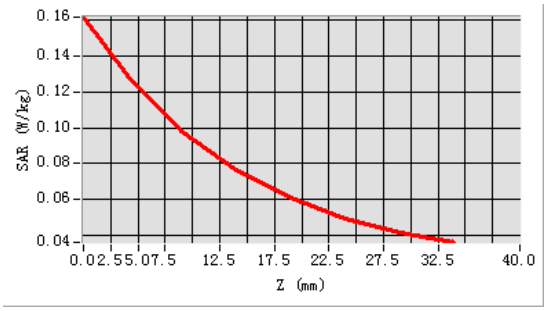
Plot 38: DUT: smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.83
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	WCDMA V
Channels	Low
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	826.4
Relative permittivity (real part)	43.39
Conductivity (S/m)	0.92
Variation (%)	0.47

Maximum location: X=-48.00, Y=-34.00

SAR Peak: 0.16W/kg

SAR 10g (W/Kg)	0.091963
SAR 1g (W/Kg)	0.125690

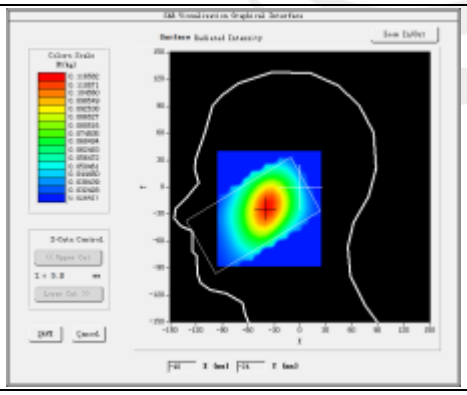
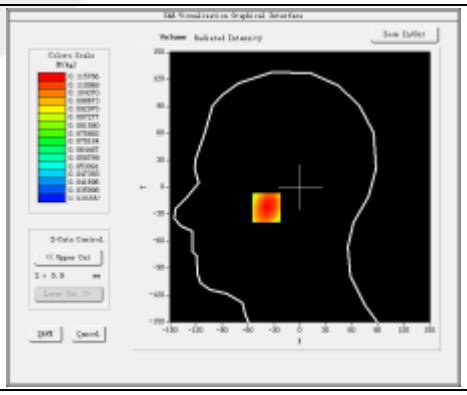
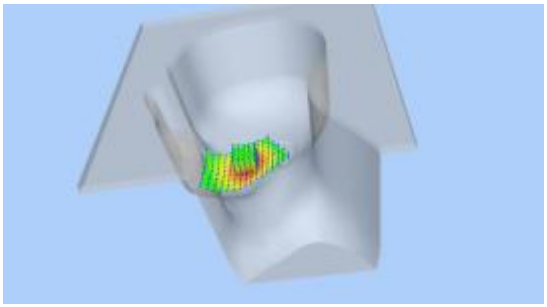
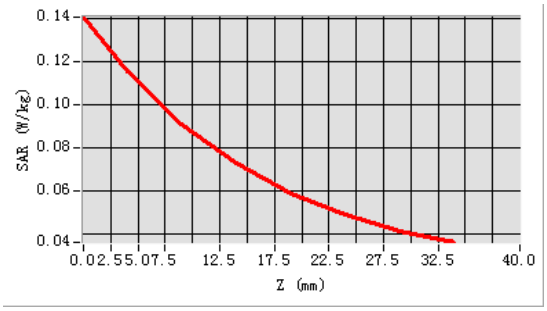
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 39: DUT: smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.83
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	WCDMA V
Channels	Low
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	826.4
Relative permittivity (real part)	43.39
Conductivity (S/m)	0.92
Variation (%)	0.66

Maximum location: X=-39.00, Y=-23.00
SAR Peak: 0.14 W/kg

SAR 10g (W/Kg)	0.085396
SAR 1g (W/Kg)	0.113186

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

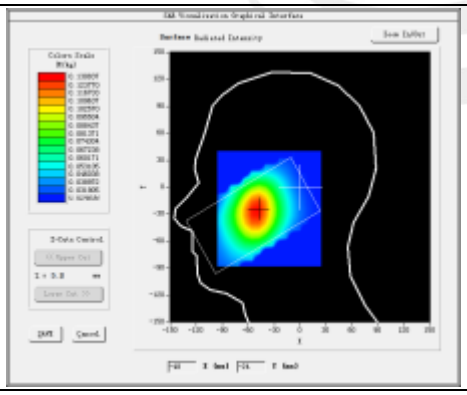
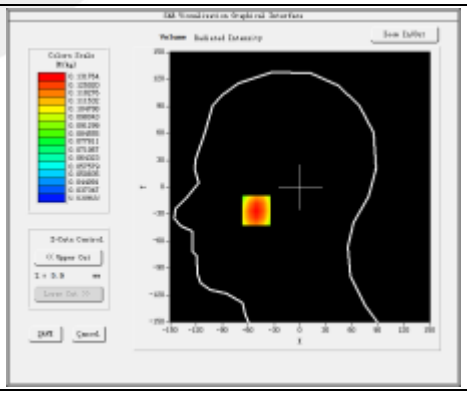
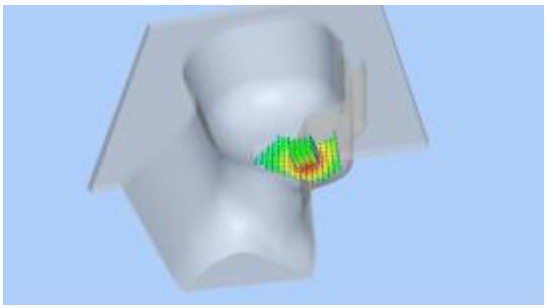
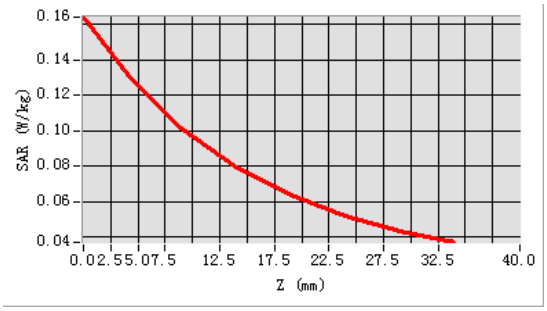
Plot 40: DUT: smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.83
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	WCDMA V
Channels	Low
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	826.4
Relative permittivity (real part)	43.39
Conductivity (S/m)	0.92
Variation (%)	0.68

Maximum location: X=-51.00, Y=-26.00

SAR Peak: 0.16 W/kg

SAR 10g (W/Kg)	0.094299
SAR 1g (W/Kg)	0.128154

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

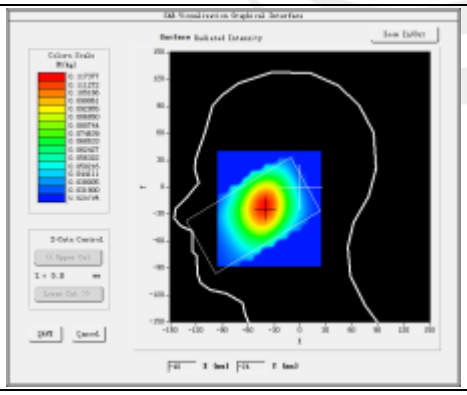
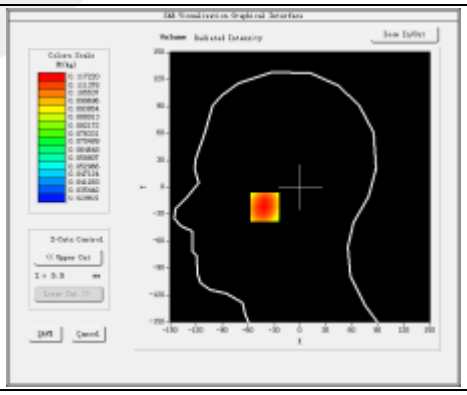
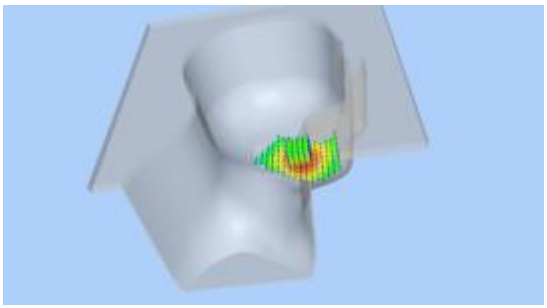
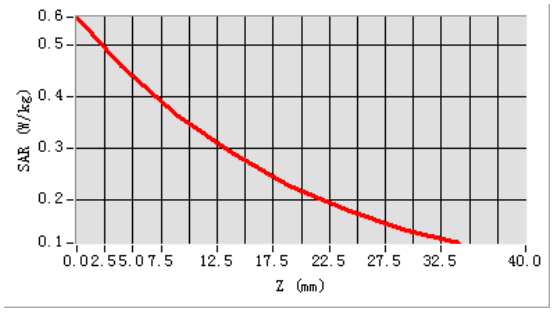
Plot 41: DUT: smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.83
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	Tilt
Band	WCDMA V
Channels	Low
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	826.4
Relative permittivity (real part)	43.39
Conductivity (S/m)	0.92
Variation (%)	-0.11

Maximum location: X=-41.00, Y=-22.00

SAR Peak: 0.14 W/kg

SAR 10g (W/Kg)	0.086420
SAR 1g (W/Kg)	0.114586

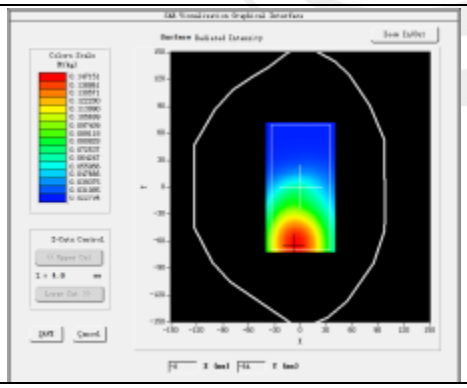
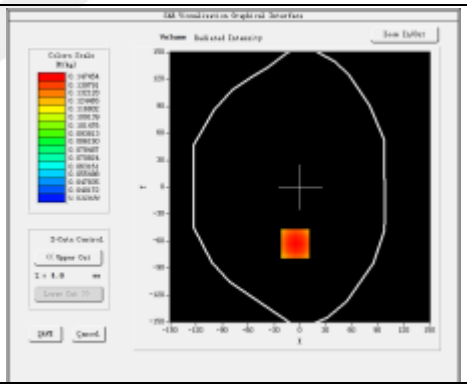
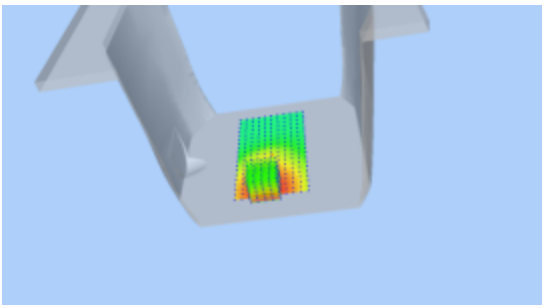
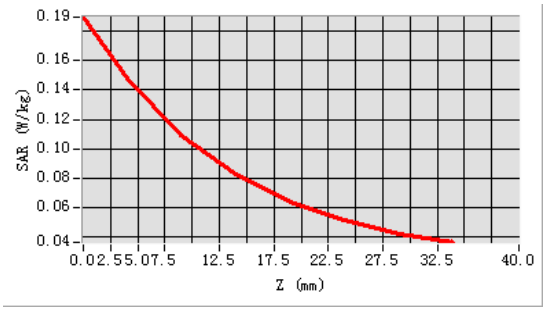
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 42: DUT: smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	5.02
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 front
Band	WCDMA V
Channels	Low
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	826.4
Relative permittivity (real part)	43.39
Conductivity (S/m)	0.92
Variation (%)	0.10

Maximum location: X=-6.00, Y=-63.00
SAR Peak: 0.19 W/kg

SAR 10g (W/Kg)	0.105097
SAR 1g (W/Kg)	0.144064

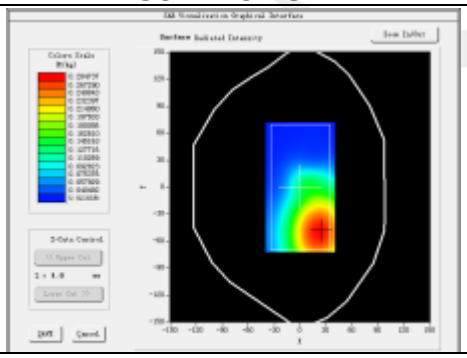
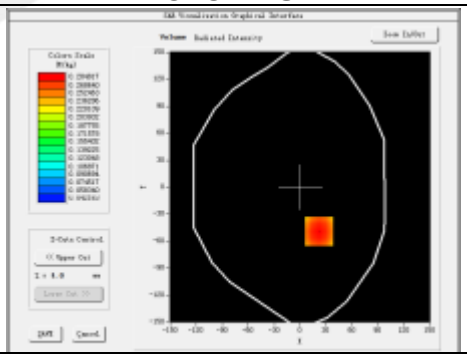
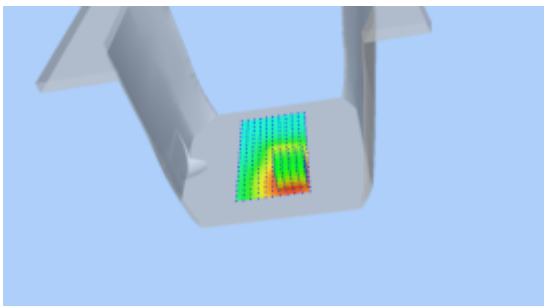
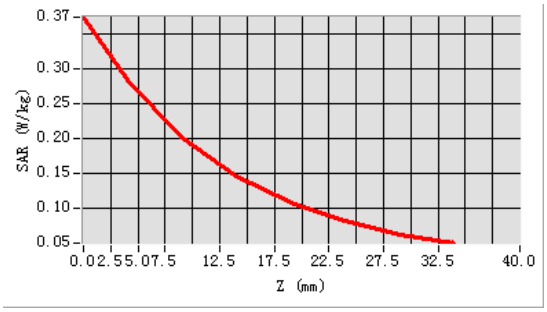
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 43: DUT: smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	5.02
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	WCDMA V
Channels	Low
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	826.4
Relative permittivity (real part)	43.39
Conductivity (S/m)	0.92
Variation (%)	-0.59

Maximum location: X=22.00, Y=-49.00
SAR Peak: 0.37 W/kg

SAR 10g (W/Kg)	0.194575
SAR 1g (W/Kg)	0.277808

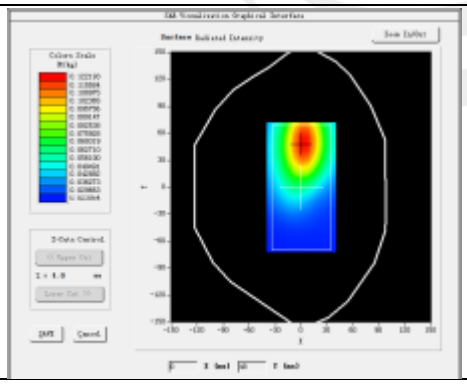
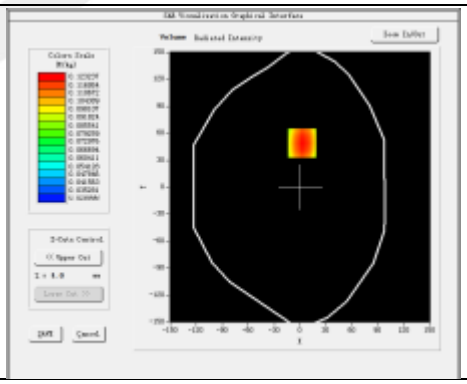
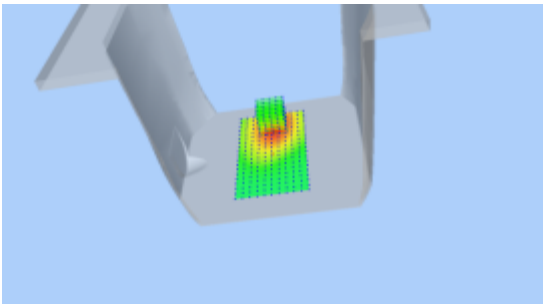
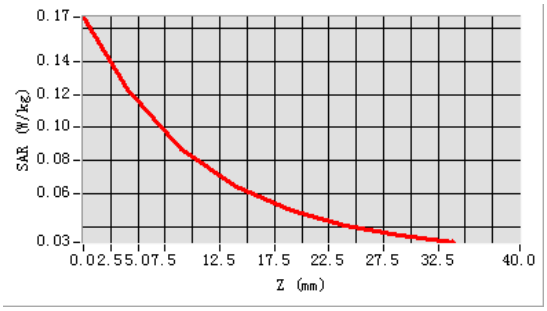
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 44: DUT: smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	5.02
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 light side
Band	WCDMA V
Channels	Low
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	826.4
Relative permittivity (real part)	43.39
Conductivity (S/m)	0.92
Variation (%)	0.17

Maximum location: X=2.00, Y=49.00
SAR Peak: 0.17 W/kg

SAR 10g (W/Kg)	0.084135
SAR 1g (W/Kg)	0.120291

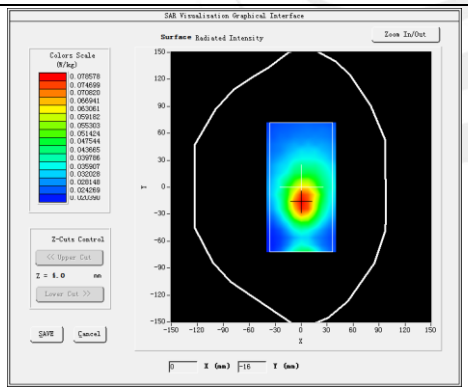
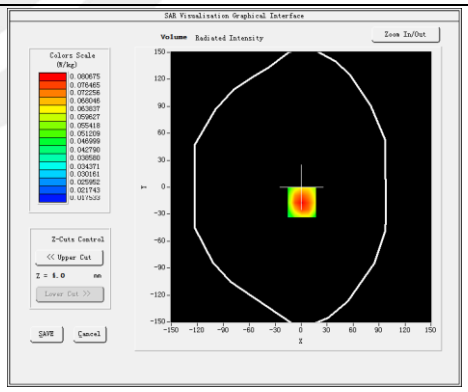
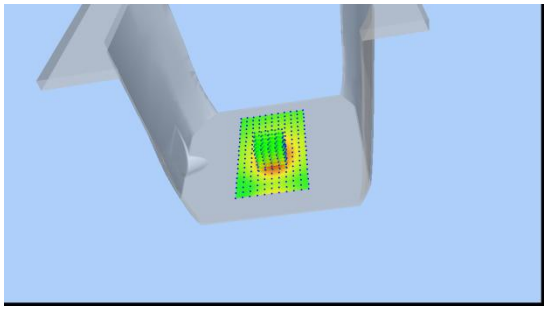
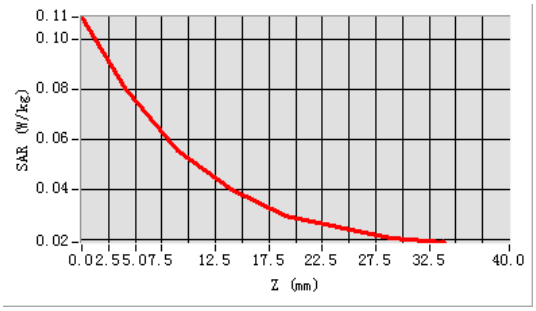
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 45: DUT: smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	5.02
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 right side
Band	WCDMA V
Channels	Low
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	826.4
Relative permittivity (real part)	43.39
Conductivity (S/m)	0.92
Variation (%)	2.15

Maximum location: X=1.00, Y=-17.00
SAR Peak: 0.11 W/kg

SAR 10g (W/Kg)	0.041500
SAR 1g (W/Kg)	0.067893

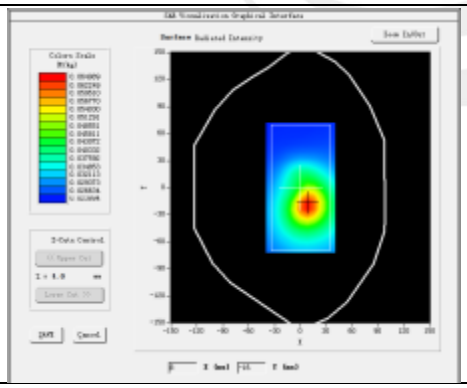
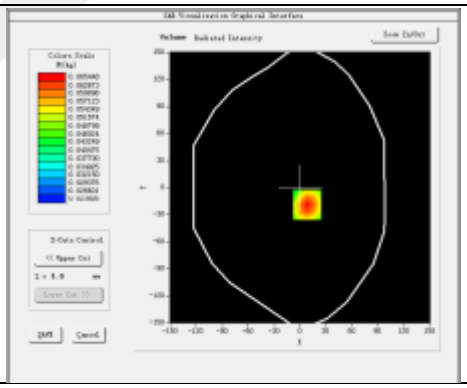
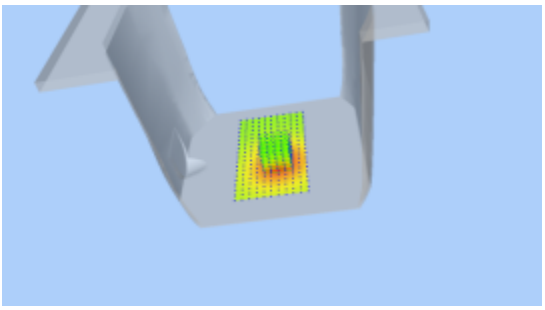
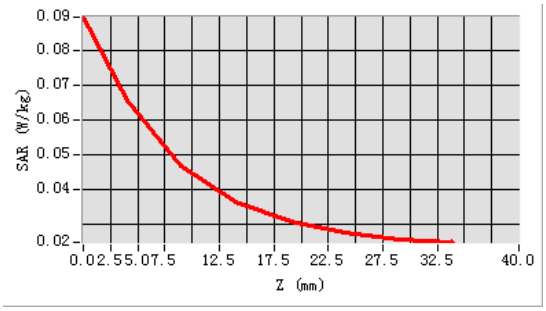
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 46: DUT: smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	5.02
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 bottom side
Band	WCDMA V
Channels	Low
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	826.4
Relative permittivity (real part)	43.39
Conductivity (S/m)	0.92
Variation (%)	-0.01

Maximum location: X=8.00, Y=-19.00
SAR Peak: 0.09 W/kg

SAR 10g (W/Kg)	0.046195
SAR 1g (W/Kg)	0.064102

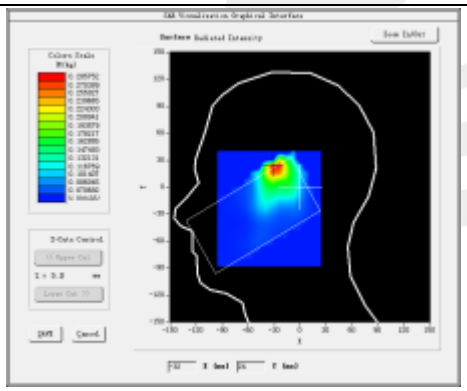
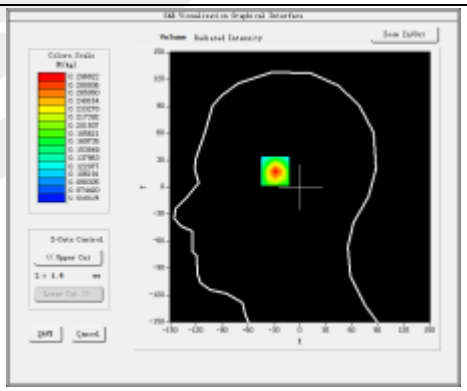
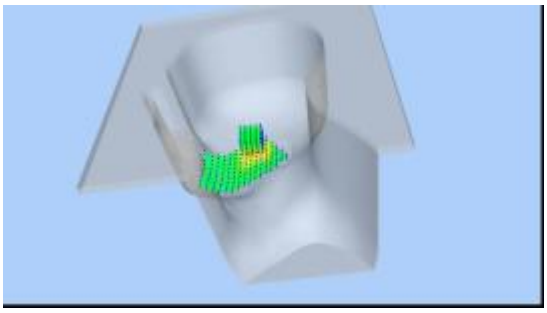
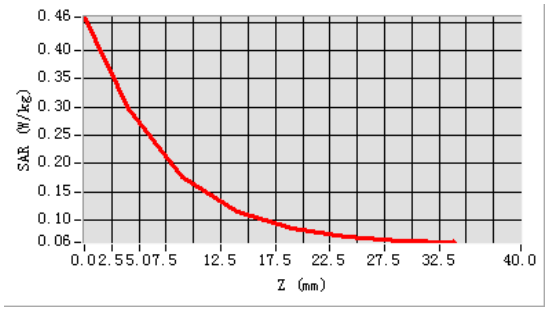
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 47: DUT:smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Probe	SN 17/14 EP221
ConvF	4.11
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	IEEE 802.11b ISM
Channels	High
Signal	IEEE802.b (Crest factor: 1.0)
Frequency (MHz)	2462
Relative permittivity (real part)	39.22
Conductivity (S/m)	1.78
Variation (%)	0.17

Maximum location: X=-29.00, Y=23.00
SAR Peak: 0.46W/kg

SAR 10g (W/Kg)	0.162773
SAR 1g (W/Kg)	0.280295

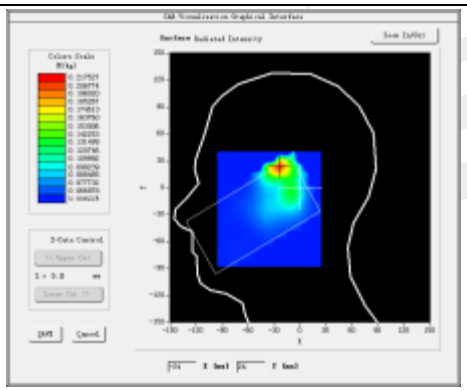
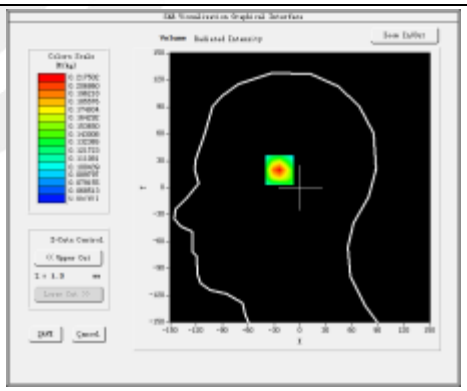
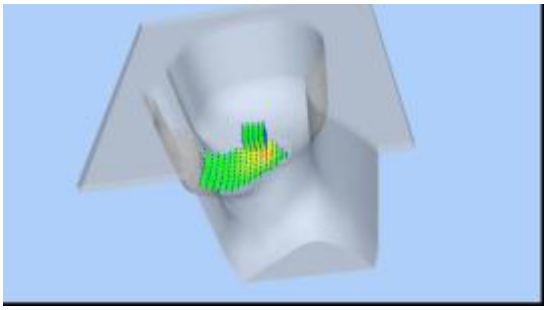
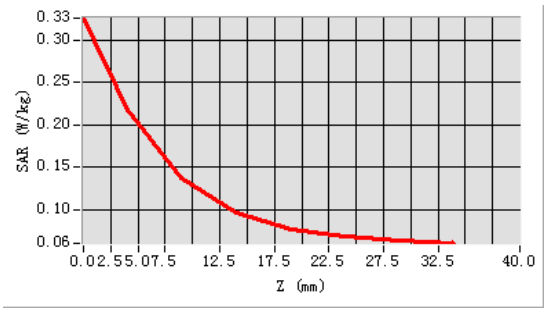
SURFACE SAR	VOLUME SAR
	
3D	**Z Axis Scan**
	

Plot 48: DUT:smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Probe	SN 17/14 EP221
ConvF	4.11
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	Tilt
Band	IEEE 802.11b ISM
Channels	High
Signal	IEEE802.b (Crest factor: 1.0)
Frequency (MHz)	2462
Relative permittivity (real part)	39.22
Conductivity (S/m)	1.78
Variation (%)	-0.21

Maximum location: X=-24.00, Y=24.00
SAR Peak: 0.33W/kg

SAR 10g (W/Kg)	0.128014
SAR 1g (W/Kg)	0.207412

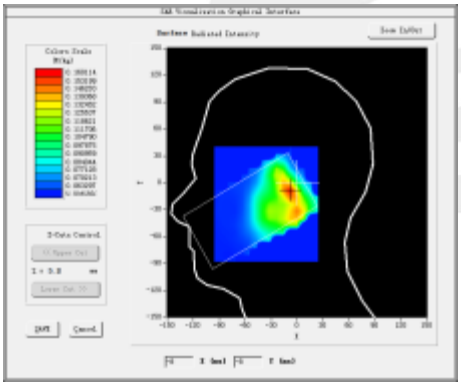
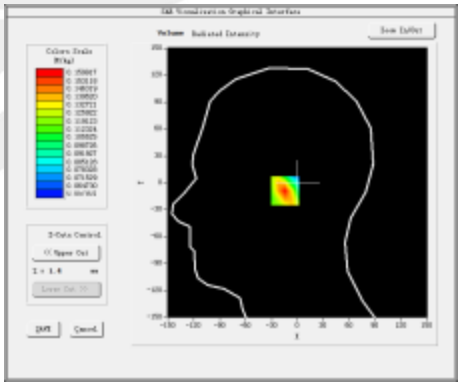
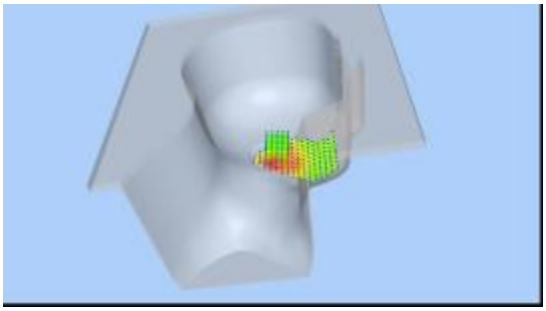
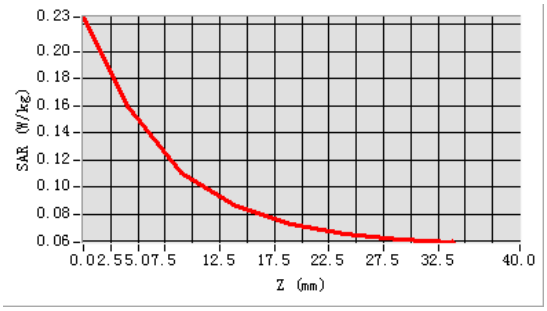
SURFACE SAR	VOLUME SAR
	
3D	**Z Axis Scan**
	

Plot 49: DUT:smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Probe	SN 17/14 EP221
ConvF	4.11
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	Left head
Device Position	Cheek
Band	IEEE 802.11b ISM
Channels	High
Signal	IEEE802.b (Crest factor: 1.0)
Frequency (MHz)	2462
Relative permittivity (real part)	39.22
Conductivity (S/m)	1.78
Variation (%)	-0.02

Maximum location: X=-8.00, Y=-9.00
SAR Peak: 0.22W/kg

SAR 10g (W/Kg)	0.105408
SAR 1g (W/Kg)	0.152063

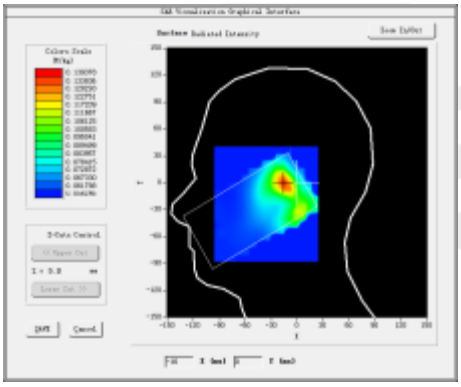
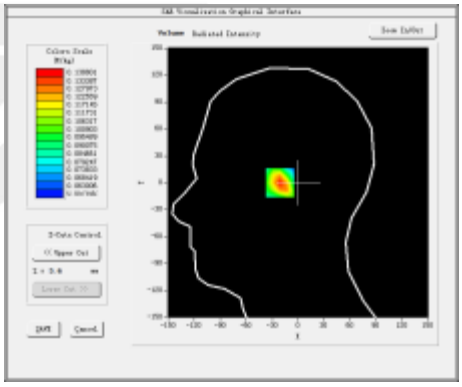
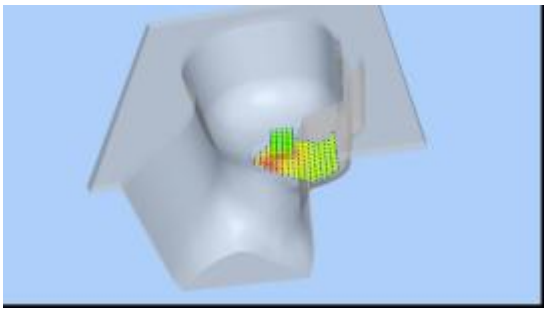
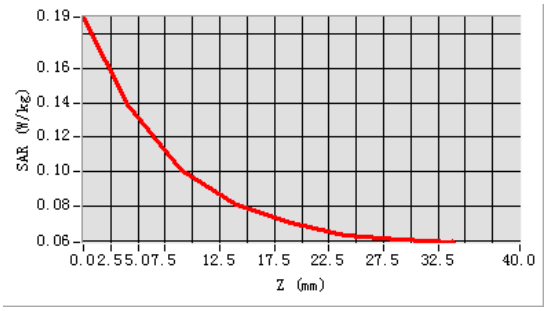
SURFACE SAR	VOLUME SAR
	
3D	**Z Axis Scan**
	

Plot 50: DUT:smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Probe	SN 17/14 EP221
ConvF	4.11
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	Left head
Device Position	Tilt
Band	IEEE 802.11b ISM
Channels	High
Signal	IEEE802.b (Crest factor: 1.0)
Frequency (MHz)	2462
Relative permittivity (real part)	39.22
Conductivity (S/m)	1.78
Variation (%)	-0.12

Maximum location: X=-16.00, Y=0.00
SAR Peak: 0.19 W/kg

SAR 10g (W/Kg)	0.095587
SAR 1g (W/Kg)	0.134062

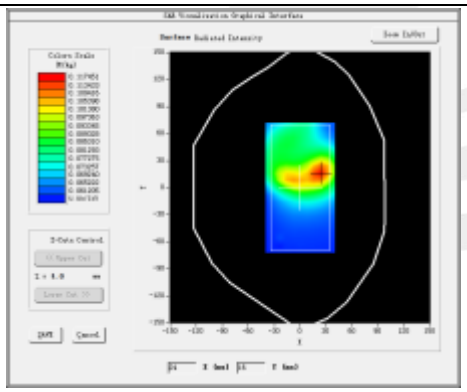
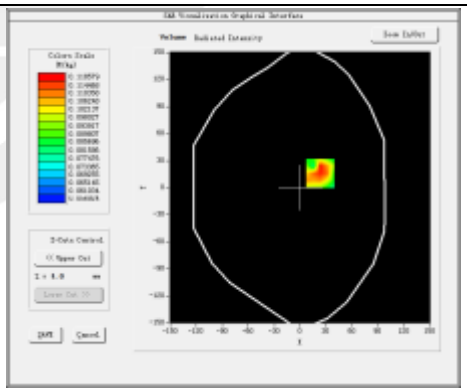
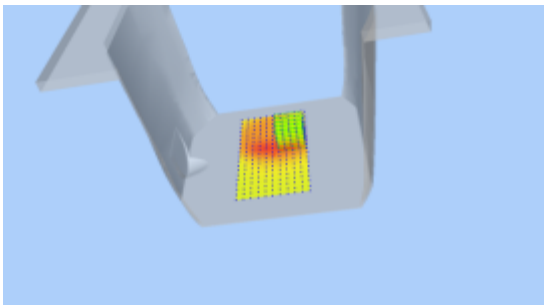
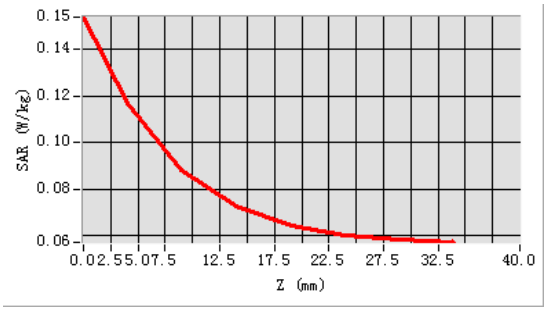
SURFACE SAR	VOLUME SAR
	
3D	**Z Axis Scan**
	

Plot 51: DUT: smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Probe	SN 17/14 EP221
ConvF	4.25
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 Front side
Band	IEEE 802.11b ISM
Channels	High
Signal	IEEE802.b (Crest factor: 1.0)
Frequency (MHz)	2462
Relative permittivity (real part)	39.22
Conductivity (S/m)	1.78
Variation (%)	-0.35

Maximum location: X=23.00, Y=16.00
SAR Peak: 0.17W/kg

SAR 10g (W/Kg)	0.084943
SAR 1g (W/Kg)	0.116202

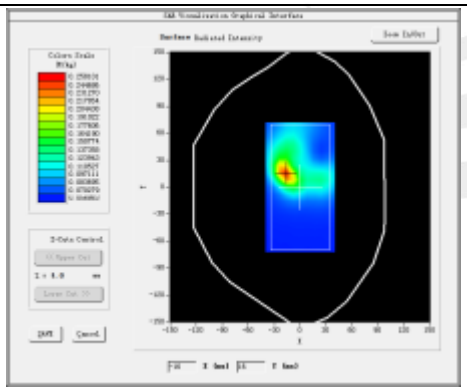
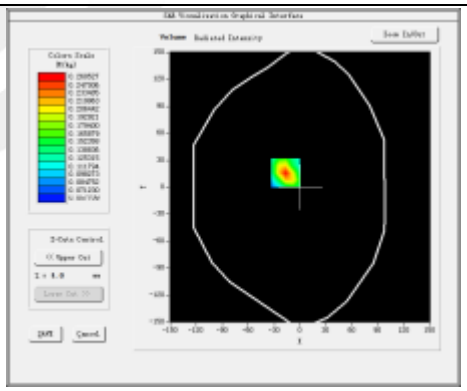
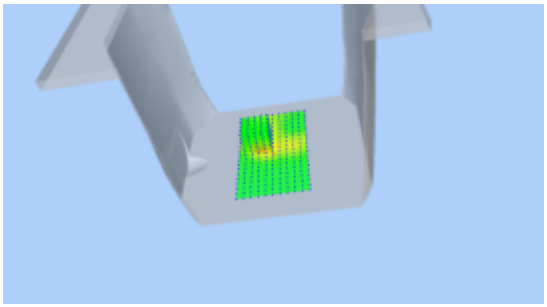
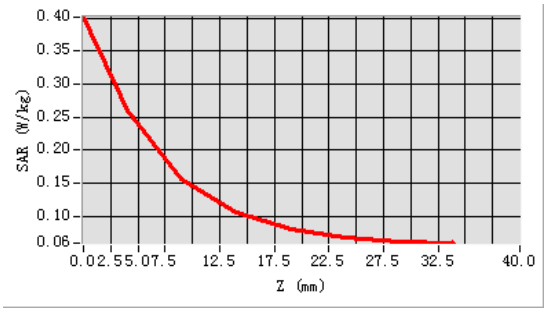
SURFACE SAR	VOLUME SAR
	
3D	**Z Axis Scan**
	

Plot 52: DUT: smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Probe	SN 17/14 EP221
ConvF	4.25
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 side
Band	IEEE 802.11b ISM
Channels	High
Signal	IEEE802.b (Crest factor: 1.0)
Frequency (MHz)	2462
Relative permittivity (real part)	39.22
Conductivity (S/m)	1.78
Variation (%)	0.13

Maximum location: X=-17.00, Y=16.00
SAR Peak: 0.40W/kg

SAR 10g (W/Kg)	0.142876
SAR 1g (W/Kg)	0.243792

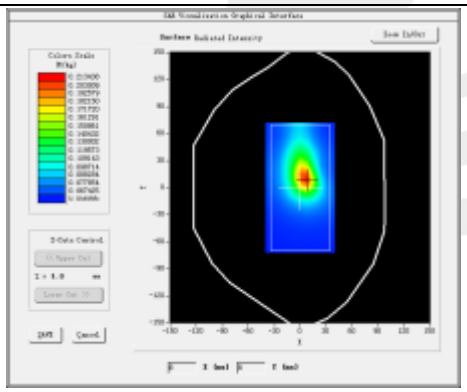
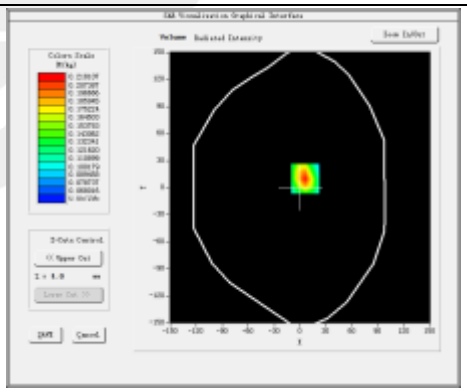
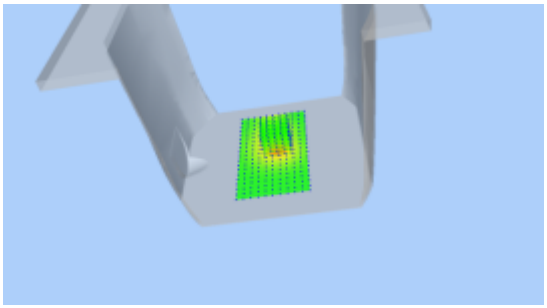
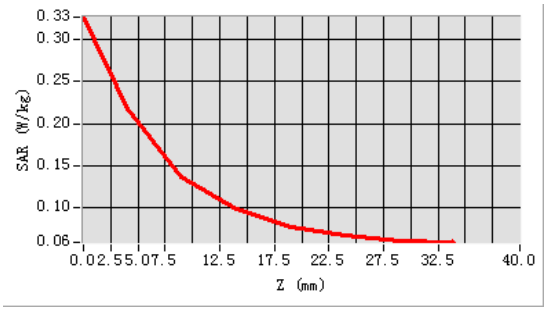
SURFACE SAR	VOLUME SAR
	
3D	**Z Axis Scan**
	

Plot 53: DUT: smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Probe	SN 17/14 EP221
ConvF	4.25
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 left side
Band	IEEE 802.11b ISM
Channels	High
Signal	IEEE802.b (Crest factor: 1.0)
Frequency (MHz)	2462
Relative permittivity (real part)	39.22
Conductivity (S/m)	1.78
Variation (%)	2.46

Maximum location: X=6.00, Y=10.00
SAR Peak: 0.32W/kg

SAR 10g (W/Kg)	0.128680
SAR 1g (W/Kg)	0.206948

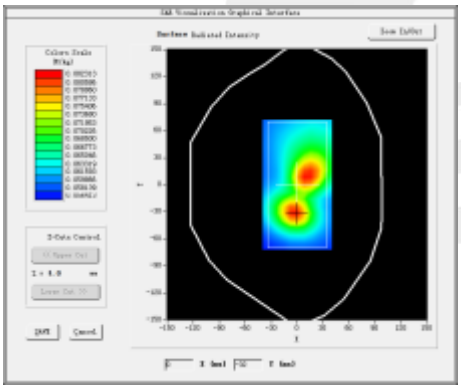
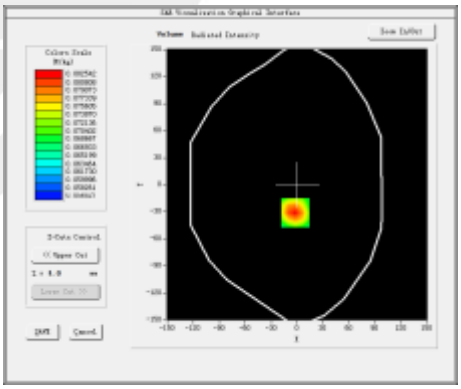
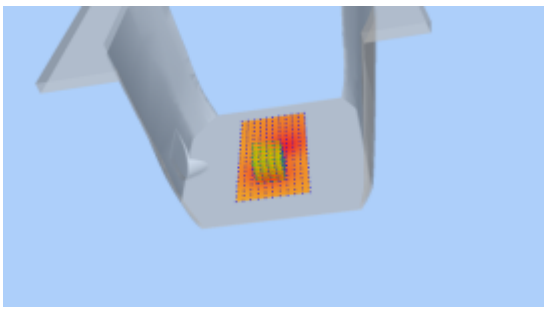
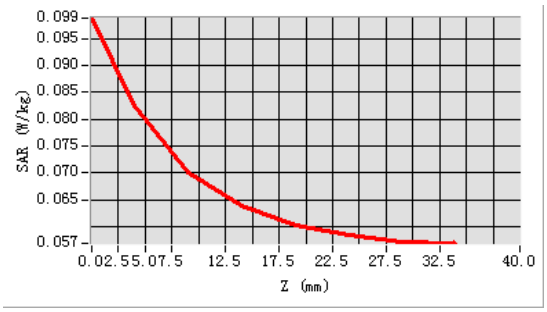
SURFACE SAR	VOLUME SAR
	
3D	**Z Axis Scan**
	

Plot 54: DUT: smart phone; EUT Model: THL 4000

Test Data	2014-12-15
Probe	SN 17/14 EP221
ConvF	4.25
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 top side
Band	IEEE 802.11b ISM
Channels	High
Signal	IEEE802.b (Crest factor: 1.0)
Frequency (MHz)	2462
Relative permittivity (real part)	39.22
Conductivity (S/m)	1.78
Variation (%)	0.33

Maximum location: X=-2.00, Y=-31.00
SAR Peak: 0.10 W/kg

SAR 10g (W/Kg)	0.069323
SAR 1g (W/Kg)	0.081292

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

Appendix C. Probe Calibration And Dipole Calibration Report

Refer the appendix Calibration Report.