FCC SAR TEST REPORT

Report No: STS1502043H01

Issued for

Breldyng s.a.

avenida séptima y Emilio romero, bodega trasinversa #8

Product Name:	ULTRATAB 7
Brand Name:	ULTRATECH PC
Model No.:	Ultratab X7
Series Model:	N/A
FCC ID:	2ADFMULTRATABX7
Test Standard:	ANSI/IEEE Std. C95.1
	FCC 47 CFR Part 2 (2.1093)
	IEEE 1528: 2013
Max. SAR (1g):	Body:1.343 W/kg

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Test Report Certification

Applicant's name	:	Breldyng s.a.
Address	:	avenida séptima y Emilio romero, bodega trasinversa #8
Manufacture's Name	:	Bluebank Communication Technology Co.Ltd
Address	:	No. 13-2, Jiang Ying Road, Nan An District, Chongqing, P.R. China

Product description

Product name	:	ULTRATAB 7
Trademark	:	ULTRATECH PC
Model and/or type reference	:	Ultratab X7
Serial Model：		N/A
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	:	14 Apr. 2015
Date of Issue	:	15 Apr. 2015
Test Result	:	**Pass**

Testing Engineer **:** Allen Chen

(Allen Chen)

Technical Manager **:**

(John Zou)

Authorized Signatory **:** Bovey Yang

(Bovey Yang)

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1. General Information

1.1 EUT Description

Equipment	ULTRATAB 7	
Brand Name	ULTRATECH PC	
Model No.	Ultratab X7	
Serial Model	N/A	
FCC ID	2ADFMULTRATABX7	
Model Difference	N/A	
Adapter	Input: AC100-240V,200m A, 50/60 Hz Output: DC 5V, 1000mA	
Battery	Rated Voltage: 3.7V Charge Limit: 4.2V Capacity: 3100mAh	
Hardware Version	N/A	
Software Version	N/A	
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: 32.10dBm GSM 1900: 27.52dBm WCDMA II: 20.23dBm WCDMA V: 21.63dBm	802.11b: 16.26dBm 802.11g:13.08dBm 802.11 n(HT20): 13.24dBm 802.11 n(HT40): 12.64dBm Bluetooth:-4.511dBm
Max. Reported SAR(1g):	Body: GSM 850: 1.343 W/kg GSM 1900: 0.616 W/kg WCDMA II: 1.272 W/kg WCDMA V: 0.809 W/kg WIFI: 0.246 W/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	
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:

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

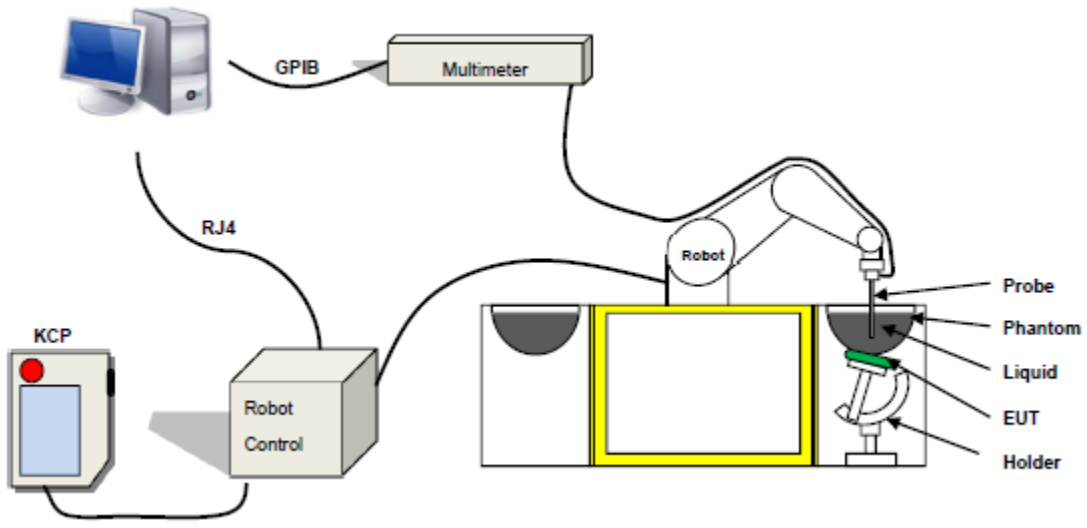
SAR is expressed in units of Watts per kilogram (W/kg) SAR measurement can be related to the electrical field in the tissue by

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

Where: 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*

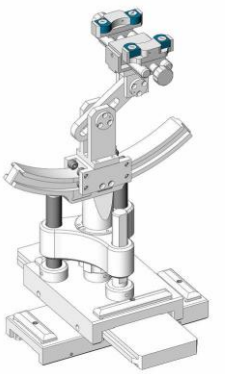
3.2.2 Phantom

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

LIQUID MEASUREMENT RESULTS

Date: April 14, 2015 **Ambient condition:** Temperature 22.7°C **Relative humidity:** 49%

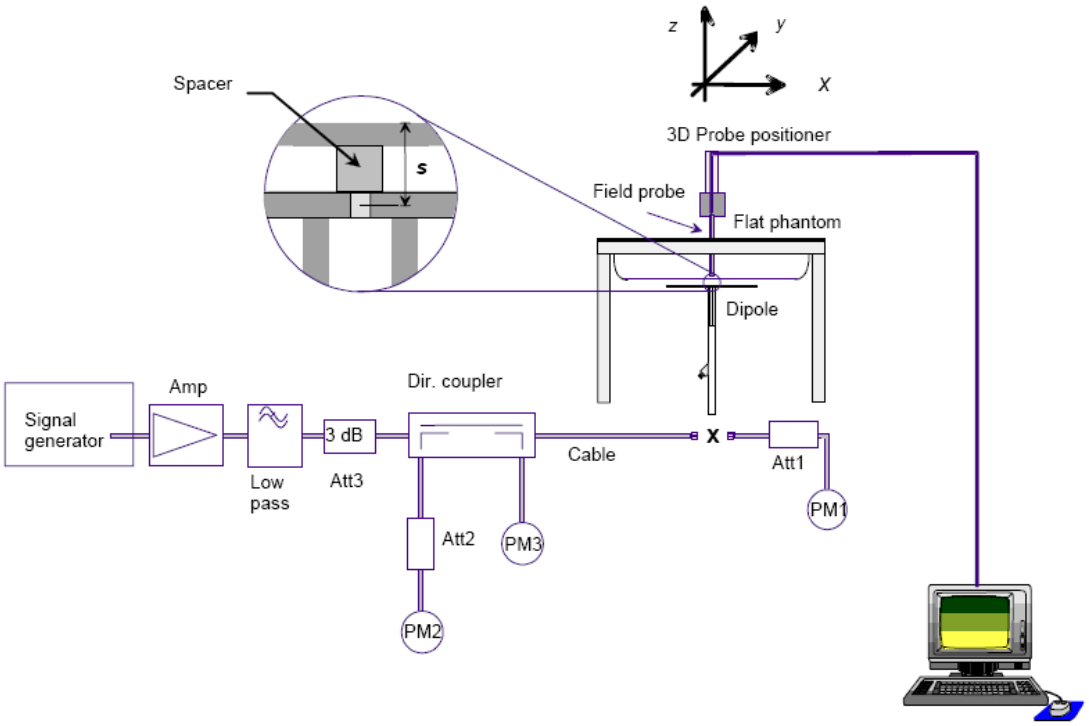
Body Simulating Liquid		Parameters	Target	Measured	Deviation[%]	Limited[%]
Frequency	Temp. [°C]					
835 MHz	22.30	Permitivity:	55.20	55.50	0.54	± 5
		Conductivity:	0.97	0.96	-1.03	± 5
1900 MHz	22.30	Permitivity:	53.30	51.68	-3.04	± 5
		Conductivity:	1.52	1.51	0.66	± 5
2450 MHz	22.30	Permitivity:	52.7	51.2	-2.85	± 5
		Conductivity:	1.95	1.95	0.00	± 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 Body	100	0.979	9.79	9.56	2.35	2015-04-14
1900 Body	100	4.012	40.12	39.70	1.05	2015-04-14
2450 Body	100	5.123	51.23	52.40	-2.28	2015-04-14

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

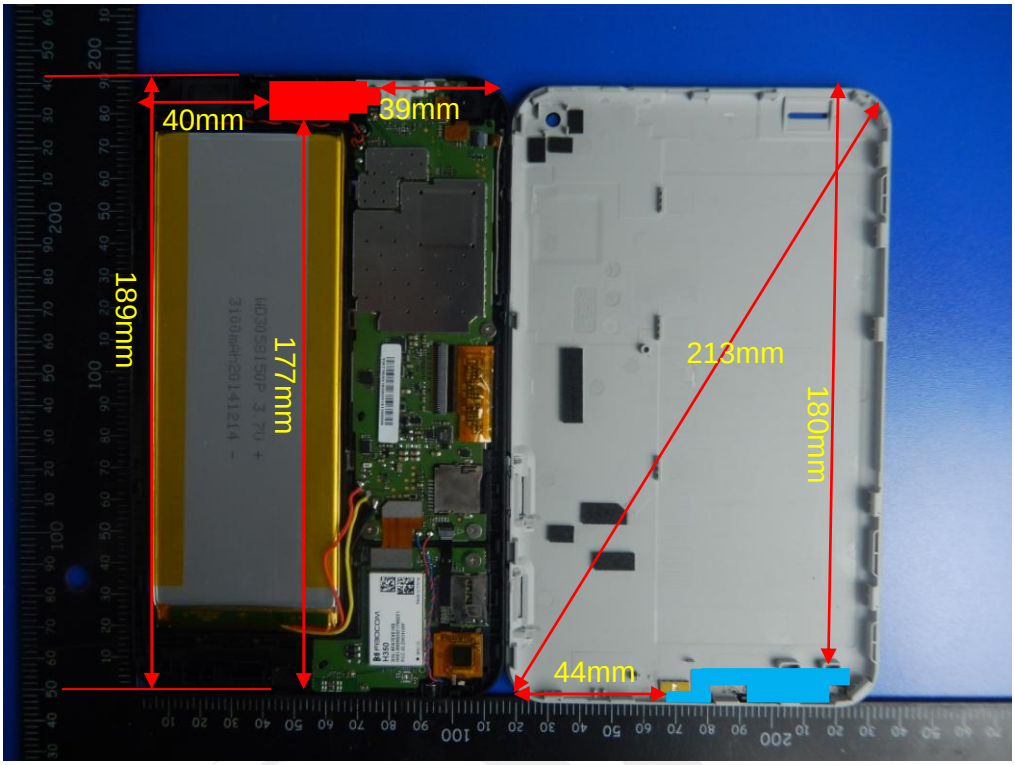
- Establish a call with the maximum output power with a base station simulator. The connection between the mobile and the base station simulator is established via air interface
- Measurement of the local E-field value at a fixed location. This value serves as a reference value for calculating a possible 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 ULTRATAB 7, support GSM mode and WCDMA mode.



WWAN Antenna

WIFI/BT Antenna

Note:

Because of the diagonal length of more than 200mm, so EUT cannot test Face side.

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				
	Back	Right edge	Left edge	Top edge	Bottom edge
GSM850	＜5mm	44mm	＜5mm	180mm	＜5mm
	Yes	No	Yes	No	Yes
GSM1900	＜5mm	44mm	＜5mm	180mm	＜5mm
	Yes	No	Yes	No	Yes
WCDMA Band2	＜5mm	44mm	＜5mm	180mm	＜5mm
	Yes	No	Yes	No	Yes
WCDMA Band5	＜5mm	44mm	＜5mm	180mm	＜5mm
	Yes	No	Yes	No	Yes
WLAN	＜5mm	39mm	40mm	＜5mm	177mm
	Yes	No	No	Yes	No
Bluetooth	＜5mm	39mm	40mm	＜5mm	177mm
	Yes	No	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

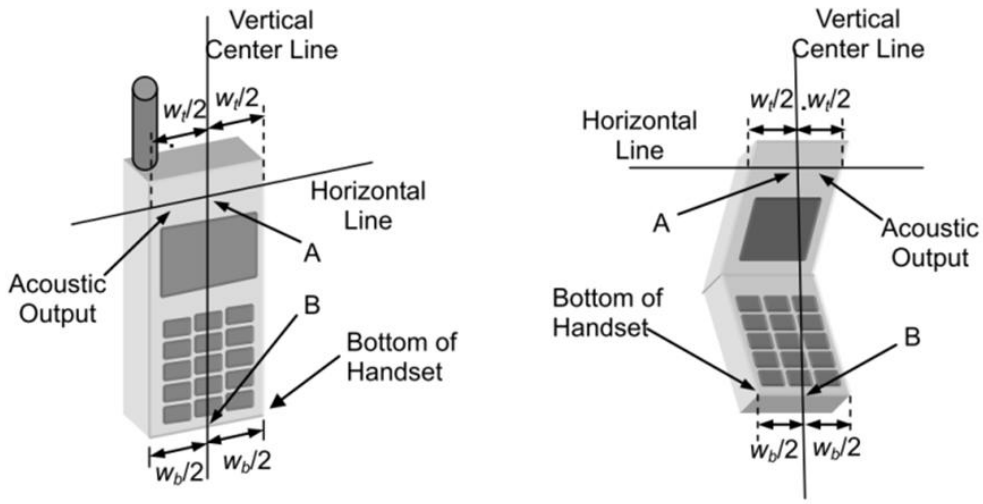
6. Per KDB 447498 D02v02r02,RMC 12.2kbps setting is used to evaluate SAR. If HSDPA/HSUPA/ DC-HSDPA output power is<0.25db higher than RMC 12.2Kbps,or reported SAR with RMC 12.2kbps setting is ≤1.2W/Kg, HSDPA/HSUPA/DC-HSDPA SAR evaluation can be excluded.
7. Per KDB 248227 D01v01r02,choose the highest 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

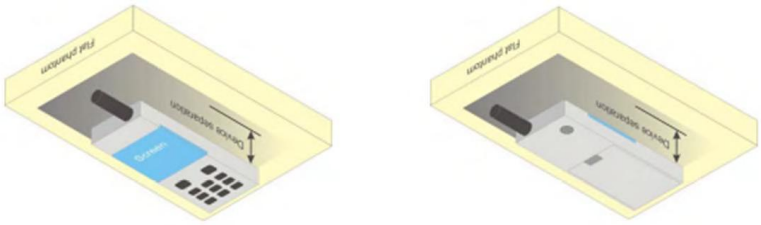
This EUT was tested in body front side, body back side, body left side, body top side and body bottom side.

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.

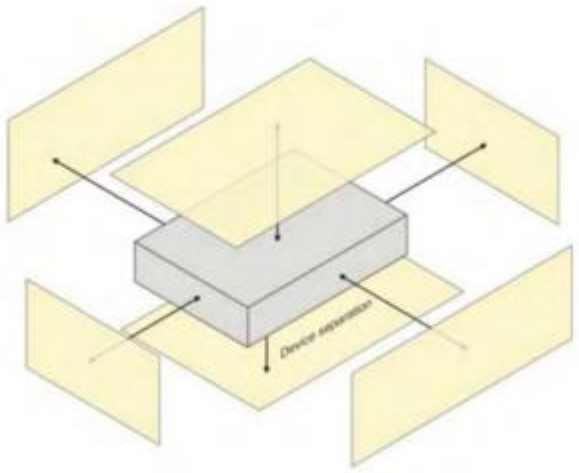


Body Position Conditions
(1) To position the EUT parallel to the phantom surface.
(2) To adjust the EUT parallel to the flat phantom.
(3) To adjust the distance between the EUT surface and the flat phantom to 5mm.



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 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 accessory SAR compliance for that particular configuration(surface).



9. Measurement Uncertainty

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

NO	Source	Tol(%)	Prob. Dist.	Div. k	ci (1g)	ci (10g)	1gUi	10gUi	Veff
Measurement System									
1	Probe calibration	5.8	N	1	1	1	5.8	5.8	∞
2	Axial isotropy	3.5	R	√3	$(1\text{-cp})^{1/2}$	$(1\text{-cp})^{1/2}$	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:

RF Output 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)	32.10	31.91	31.86	27.24	27.33	27.52
GPRS (GMSK, 1-Slot)	32.02	32.03	31.89	27.18	27.33	27.43
GPRS (GMSK, 2-Slot)	31.13	30.97	30.87	26.17	26.27	26.47
GPRS (GMSK, 3-Slot)	28.91	28.93	28.79	23.93	24.18	24.31
GPRS (GMSK, 4-Slot)	27.67	27.65	27.47	23.00	23.23	23.22
EGPRS(8PSK, 1-Slot)	32.08	32.02	31.85	27.02	27.25	27.27
EGPRS(8PSK, 2-Slot)	30.96	30.72	30.81	25.90	26.08	26.33
EGPRS(8PSK, 3-Slot)	28.90	28.53	28.63	23.76	23.97	24.22
EGPRS(8PSK, 4-Slot)	28.03	27.58	27.68	22.70	22.92	23.06
Remark: GPRS, CS4 coding scheme. EGPRS, MCS9 coding scheme. Multi-Slot Class 8 , Support Max 4 downlink, 1 uplink , 5 working link Multi-Slot Class 10 , Support Max 4 downlink, 2 uplink , 5 working link Multi-Slot Class 12 , Support Max 4 downlink, 4 uplink , 5 working link						

Fram- RF Output power (dBm)						
Band	GSM 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)	23.10	22.91	22.86	18.24	18.33	18.52
GPRS (GMSK, 1-Slot)	23.02	23.03	22.89	18.18	18.33	18.43
GPRS (GMSK, 2-Slot)	25.13	24.97	24.87	20.17	20.27	20.47
GPRS (GMSK, 3-Slot)	24.65	24.67	24.53	19.67	19.92	20.05
GPRS (GMSK, 4-Slot)	24.67	24.65	24.47	20.00	20.23	20.22
EGPRS(8PSK, 1-Slot)	23.08	23.02	22.85	18.02	18.25	18.27
EGPRS(8PSK, 2-Slot)	24.96	24.72	24.81	19.90	20.08	20.33
EGPRS(8PSK, 3-Slot)	24.64	24.27	24.37	19.50	19.71	19.96
EGPRS(8PSK, 4-Slot)	25.03	24.58	24.68	19.70	19.92	20.06
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	21.63	21.56	21.49	20.04	20.14	20.23
HSDPA Subtest-1	21.47	21.49	21.42	20.02	20.20	20.14
HSDPA Subtest-2	20.42	20.33	20.49	18.96	19.16	19.11
HSDPA Subtest-3	19.72	19.94	19.80	18.55	18.51	18.58
HSDPA Subtest-4	19.02	19.19	19.13	17.91	18.13	17.96
HSUPA Subtest-1	21.50	21.48	21.40	20.07	20.12	20.10
HSUPA Subtest-2	20.45	20.45	20.14	18.90	19.16	19.03
HSUPA Subtest-3	19.81	19.87	19.55	18.27	18.48	18.45
HSUPA Subtest-4	19.16	19.27	19.02	17.63	17.86	18.04
HSUPA Subtest-5	18.51	18.66	18.44	16.99	17.29	17.18

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 βc/βd=12/15, βhs/ βc=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	15.96
	6	2437	15.40
	11	2462	16.26
802.11g	1	2412	11.13
	6	2437	13.08
	11	2462	12.04
802.11n(HT-20)	1	2412	11.10
	6	2437	13.24
	11	2462	12.54
802.11n(HT-40)	3	2422	8.65
	6	2437	12.64
	9	2452	9.41

Bluetooth 4.0

Mode	Channel Number	Frequency (MHz)	PEAK Power (dBm)
GFSK(1M)	0	2402	-4.566
	39	2441	-4.511
	78	2480	-4.573

Turn Power

Mode	GSM850		GSM1900	
	Peak	AVG	Peak	AVG
GSM/PCS	31.5±1dBm	31.5±1dBm	27.0±1dBm	26.6±1dBm
GPRS (1 Slot)	31.5±1dBm	31.5±1dBm	27.0±1dBm	26.5±1dBm
GPRS (2 Slot)	30.5±1dBm	30.5±1dBm	26.0±1dBm	25.5±1dBm
GPRS (3 Slot)	28.5±1dBm	28.0±1dBm	24.0±1dBm	23.5±1dBm
GPRS (4 Slot)	27.5±1dBm	27.0±1dBm	23.0±1dBm	22.5±1dBm
EDGE (1 Slot)	32.0±1dBm	31.5±1dBm	27.0±1dBm	26.5±1dBm
EDGE (2 Slot)	30.5±1dBm	30.0±1dBm	26.0±1dBm	25.5±1dBm
EDGE (3 Slot)	28.5±1dBm	28.0±1dBm	23.5±1dBm	23.5±1dBm
EDGE (4 Slot)	27.5±1dBm	27.5±1dBm	22.5±1dBm	22.5±1dBm

Mode	WCDMA Band V		WCDMA Band II	
	Peak	AVG	Peak	AVG
AMR	21.0±1dBm	20.7±1dBm	19.6±1dBm	19.3±1dBm
HSDPA Subtest-1	21.0±1dBm	20.5±1dBm	19.6±1dBm	19.3±1dBm
HSDPA Subtest-2	20.0±1dBm	19.5±1dBm	18.6±1dBm	18.5±1dBm
HSDPA Subtest-3	19.5±1dBm	19.0±1dBm	18.0±1dBm	18.0±1dBm
HSDPA Subtest-4	19.0±1dBm	18.5±1dBm	17.5±1dBm	17.5±1dBm
HSUPA Subtest-1	21.0±1dBm	21.0±1dBm	19.5±1dBm	19.5±1dBm
HSUPA Subtest-2	20.0±1dBm	19.5±1dBm	18.5±1dBm	18.5±1dBm
HSUPA Subtest-3	19.5±1dBm	19.0±1dBm	18.0±1dBm	17.5±1dBm
HSUPA Subtest-4	19.0±1dBm	18.5±1dBm	17.5±1dBm	17.5±1dBm
HSUPA Subtest-5	18.5±1dBm	18.0±1dBm	17.0±1dBm	16.5±1dBm

Mode	Channel	WIFI
IEEE 802.11b	Low	15.5±1dBm
	Middle	15.5±1dBm
	High	15.5±1dBm
IEEE 802.11g	Low	10.5±1dBm
	Middle	12.5±1dBm
	High	11.5±1dBm
IEEE 802.11n HT20	Low	10.5±1dBm
	Middle	12.5±1dBm
	High	12.0±1dBm
IEEE 802.11n HT40	Low	8.0±1dBm
	Middle	12.0±1dBm
	High	8.5±1dBm

Mode	Channel	BT
GFSK	Low	-4±1dBm
	Middle	-4±1dBm
	High	-4±1dBm

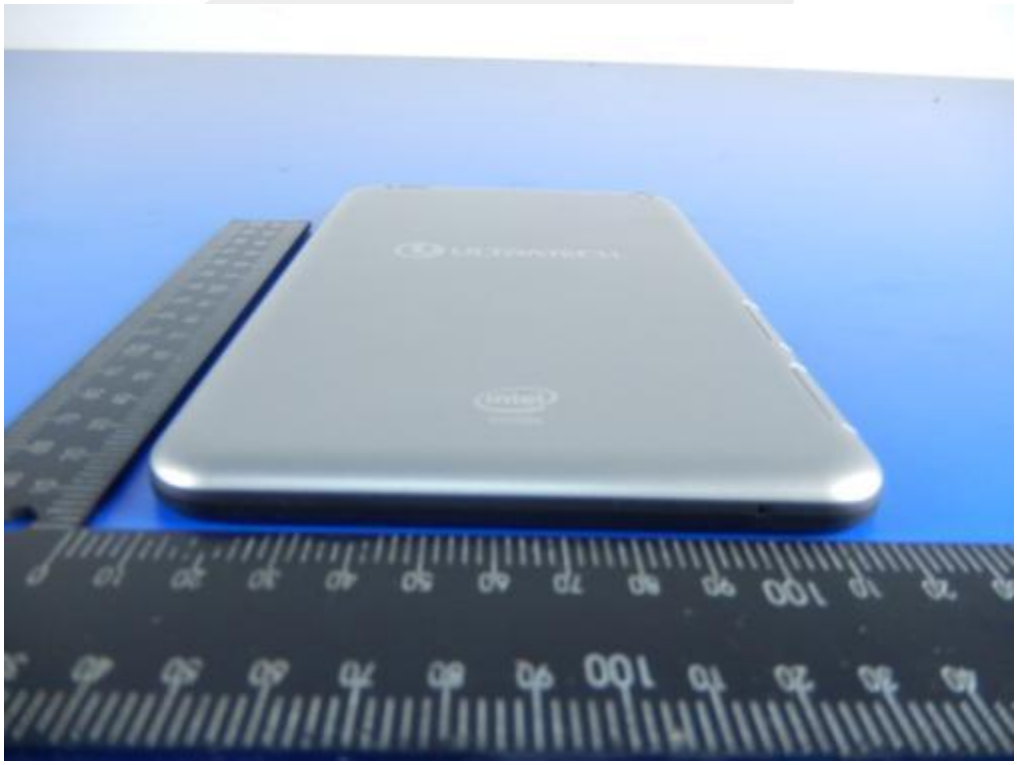
11. EUT And Test Setup Photo

11.1 EUT Photo

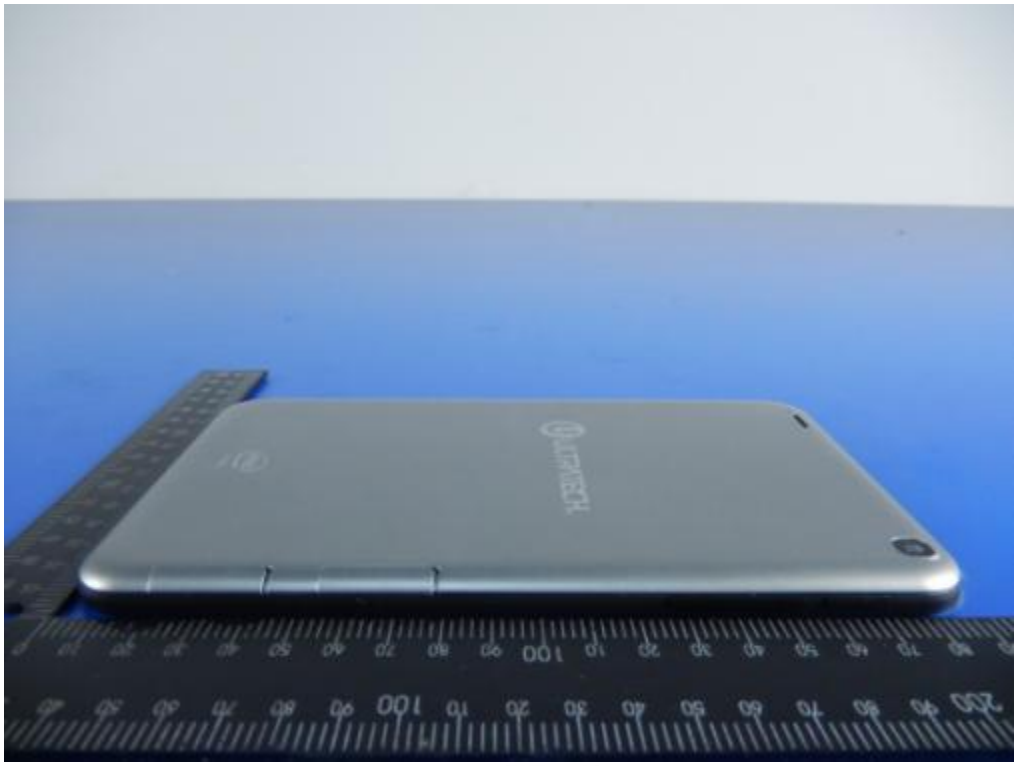
Front side

Back side

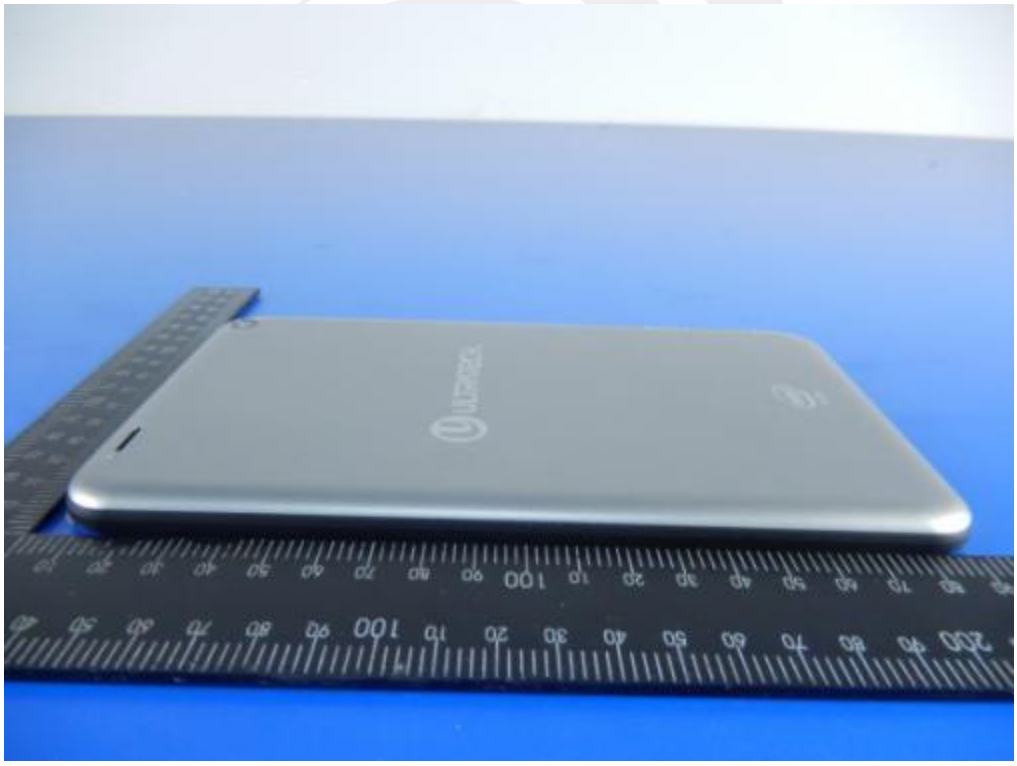
Top side



Bottom side



Left side



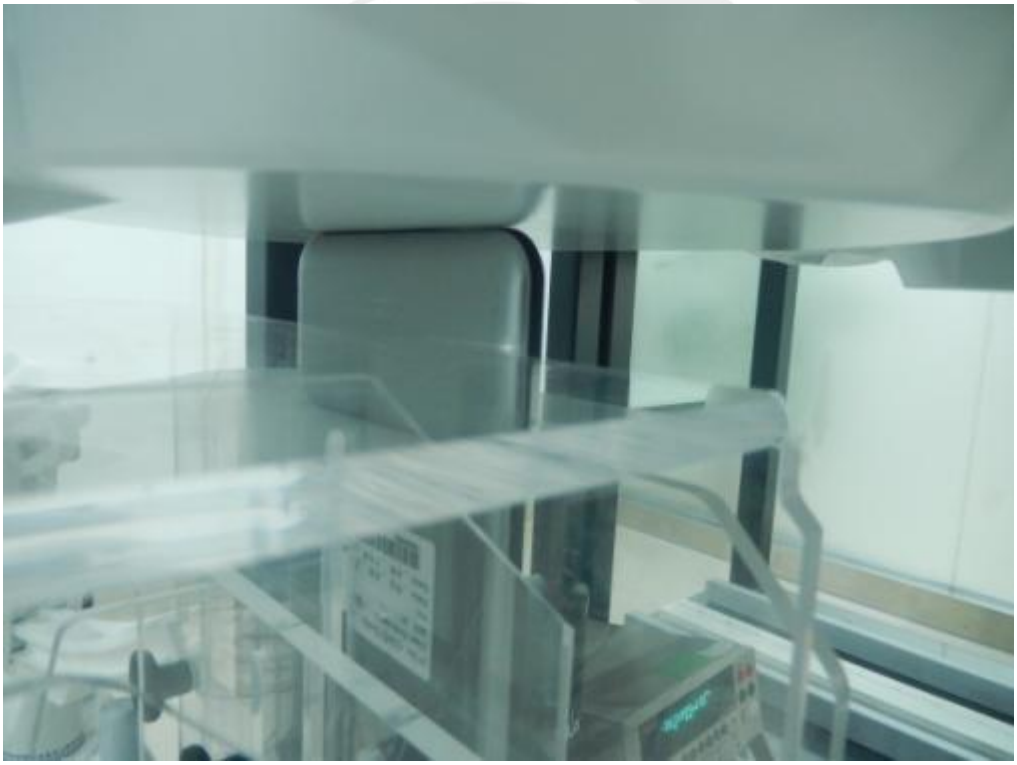
Right side

11.2 Setup Photo

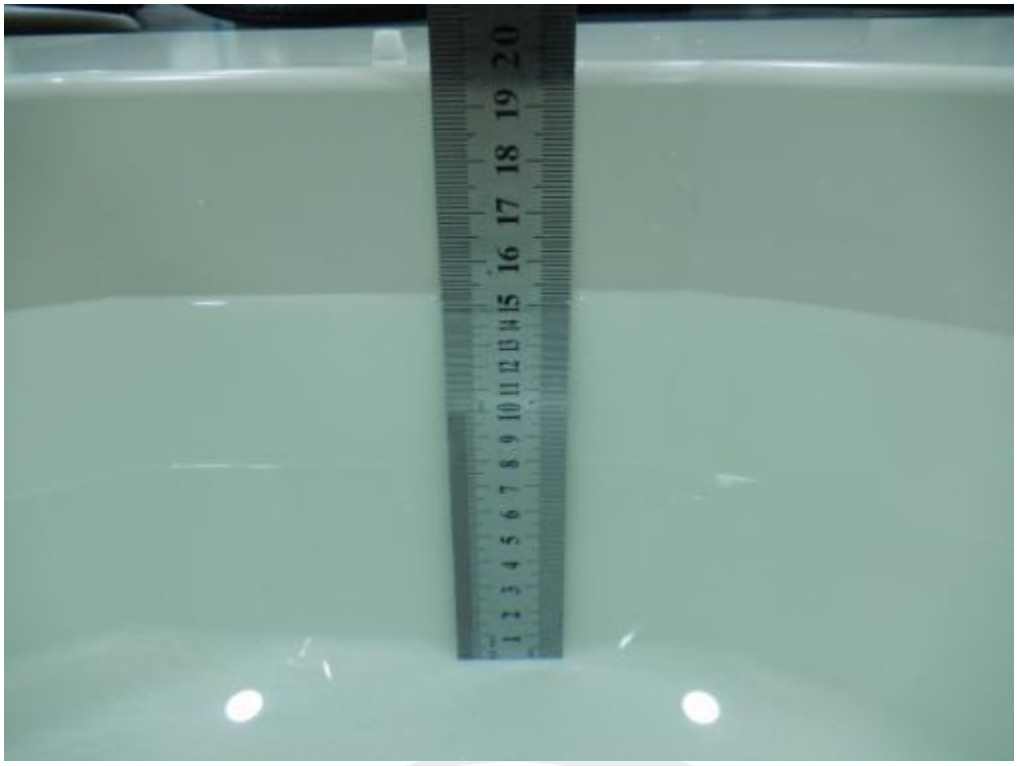
Body Back side

Body left side

Body top side



Body bottom side



Liquid depth (15 cm)

12. SAR Result Summary

12.1 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	GPRS Data-2 Slot（hotspot）	Back side	CH 128	1.153	-1.79	31.5	31.13	1.256	1
		Back side	CH 190	0.964	-0.14	31.5	30.97	1.089	3
		Back side	CH 251	0.888	2.36	31.5	30.87	1.027	4
		Right side	CH 190	0.156	3.12	31.5	31.13	0.170	5
		Bottom side	CH 128	1.233	-1.29	31.5	31.13	1.343	6
		Bottom side	CH 190	0.973	0.08	31.5	30.97	1.099	8
		Bottom side	CH 251	1.051	0.64	31.5	30.87	1.215	9
GSM1900	GPRS Data-2 Slot（hotspot）	Back side	CH 661	0.612	-0.28	26.5	26.47	0.616	10
		Right side	CH 661	0.312	0.15	26.5	26.47	0.314	11
		Top side	CH 661	0.529	2.05	26.5	26.47	0.533	12
WCDMA II	RMC（body and hotspot）	Back side	CH9263	1.202	-0.16	20.3	20.23	1.222	13
		Back side	CH9400	0.958	0.25	20.3	20.04	1.017	15
		Back side	CH9537	0.968	0.33	20.3	20.14	1.004	16
		Right side	CH9537	0.281	-1.15	20.3	20.23	0.286	17
		Top side	CH9537	0.543	0.10	20.3	20.23	0.552	18
WCDMA V	RMC（body and hotspot）	Back side	CH4132	0.796	0.73	21.7	21.63	0.809	19
		Right side	CH4132	0.188	0.91	21.7	21.63	0.191	20
		Top side	CH4132	0.463	2.21	21.7	21.63	0.471	21
WIFI	DATA（body and hotspot）	Back side	CH11	0.329	1.69	16.5	16.26	0.246	22
		Top side	CH11	0.188	1.37	16.5	16.26	0.199	23

Note:
The test separation of all above table is 0mm.

Repeated SAR measurement

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.
GSM850	GPRS Data-2 Slot（hotspot）	Back side	CH 128	1.098	1.42	31.5	31.13	1.196	2
		Bottom side	CH 128	1.216	-1.25	31.5	31.13	1.324	7
WCDMA II	RMC（body and hotspot）	Back side	CH 9263	1.252	0.10	20.3	20.23	1.272	14

12.3 The ratio of the repeated SAR and Original Measured SAR

Band	Mode	Test Position	Channel	Original Measured SAR 1g(mW/g)	1 st Repeated SAR 1g	Ratio	Original Measured SAR 1g(mW/g)	2nd Repeated SAR 1g	Ratio
GSM850	GPRS Data-2 Slot（hotspot）	Back side	CH 128	1.153	1.098	1.05			
		Bottom side	CH 128	1.233	1.216	1.01			
WCDMA II	RMC（body and hotspot）	Back side	CH 9263	1.202	1.252	1.04			

Note:

1. Per KDB 865664 D01V01,for each frequency band ,repeated SAR measurement is required only when the measured SAR is≥0.8W/Kg.
2. Per KDB 865664 D01V01,if the ratio of largest to smallest SAR for the original and first repeated measurement is≤1.2and the measured SAR＜1.45W/Kg, only one repeated measurement is required.
3. Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is＞1.20 or when the original or repeated measurement is ≥ 1.45W/Kg
4. Perform a third repeated measurement only if the original, first or second repeated measurement is ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original，first and second repeated measurement is ＞1.20W/kg
5. The ratio is the difference in percentage between original and repeated measured SAR.

Simultaneous Multi-band Transmission Evaluation:

Application Simultaneous Transmission information:

Position	Simultaneous state
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	Body	-4	0.40	10	2.441	0.008

Simultaneous Mode	Position	Mode	Max. 1-g SAR (W/kg)	1-g Sum SAR (W/kg)
GSM + WIFI	Body	GSM DATA	1.343	1.589
		WIFI	0.246	
GSM + Bluetooth	Body	GSM DATA	1.343	1.351
		Bluetooth	0.008	
WCDMA RMC+ WIFI	Body Hotspot	WCDMA RMC	1.272	1.518
		WIFI	0.246	
WCDMA RMC+ Bluetooth	Body Hotspot	WCDMA RMC	1.272	1.280
		Bluetooth	0.008	

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	2014.09.01	2015.09.01
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	ULTRATAB 7 POSITIONNING SYSTEM	SN 32/14 MSH97	2014.09.01	2015.08.31
10	SAR TEST BENCH	SATIMO	LAPTOP POSITIONNIN G 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	Keiunnecto ™ey	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 Body)

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

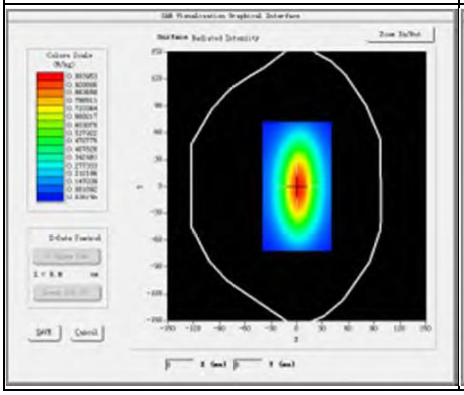
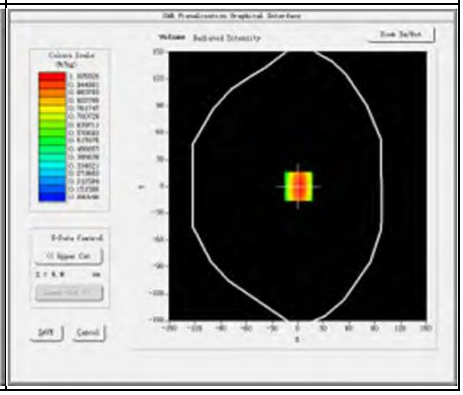
Input Power=20dBm

Date of measurement: 2015.04.14

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)	1.26
Power drift (%)	0.090000
Ambient Temperature:	22.4°C
Liquid Temperature:	22.1°C
ConvF:	5.02
Crest factor:	1:1

SURFACE SAR	VOLUME SAR
	

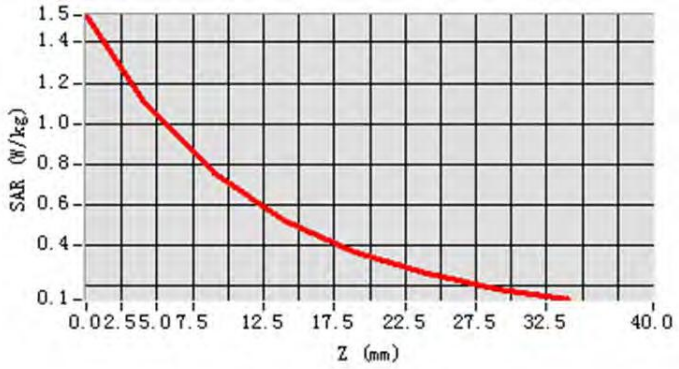
Maximum location: X=1.00, Y=0.00

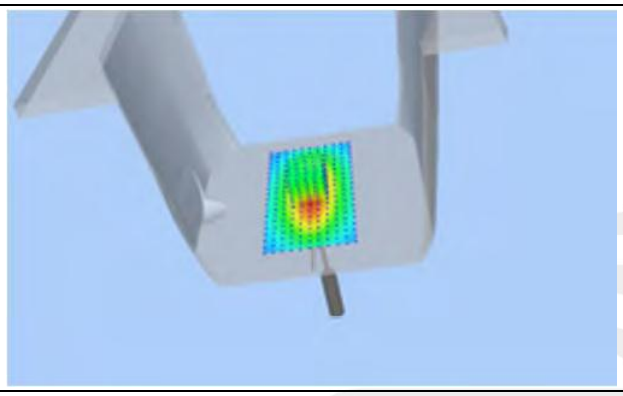
SAR Peak: 1.51 W/kg

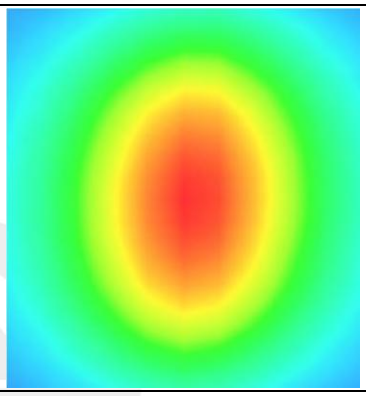
SAR 10g (W/Kg)	0.689264
SAR 1g (W/Kg)	0.979215

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





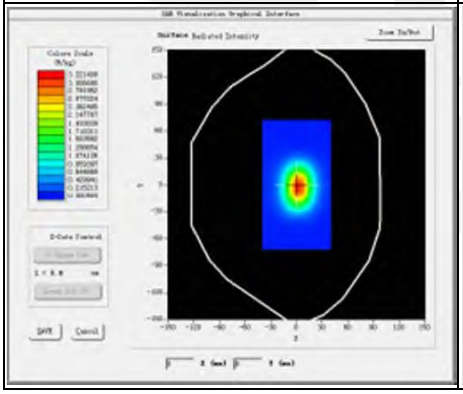
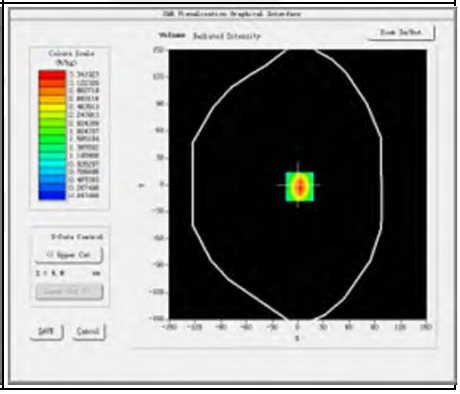


System Performance Check Data (1900MHz Body)

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Input Power=20dBm
Date of measurement: 2015.04.14
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 (%)	1.36
Ambient Temperature:	22.4°C
Liquid Temperature:	22.1°C
Probe	SN 17/14 EP221
ConvF:	4.85
Crest factor:	1:1

SURFACE SAR	VOLUME SAR
	

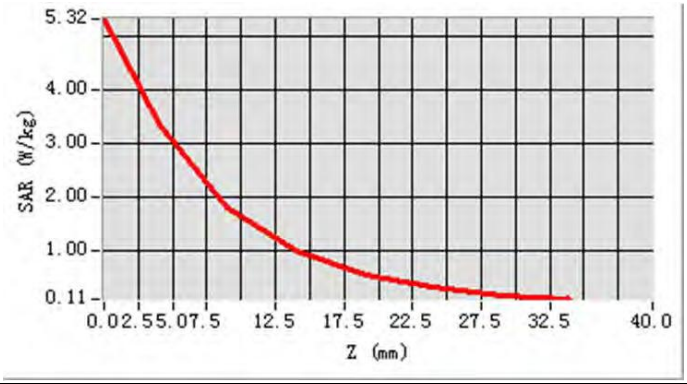
Maximum location: X=2.00, Y=2.00

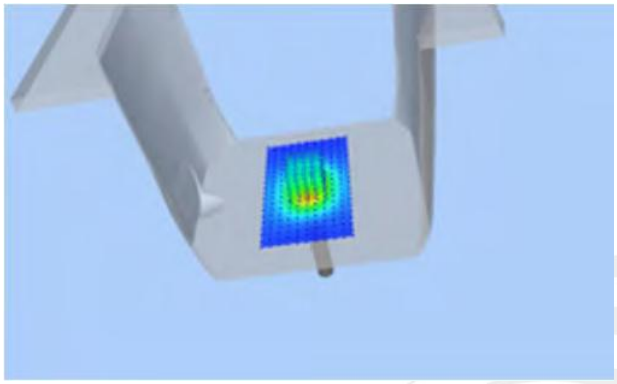
SAR Peak: 5.32 W/kg

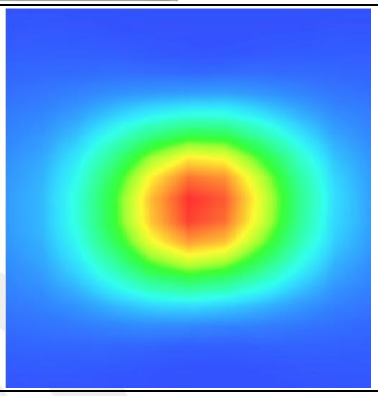
SAR 10g (W/Kg)	2.021675
SAR 1g (W/Kg)	4.012645

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





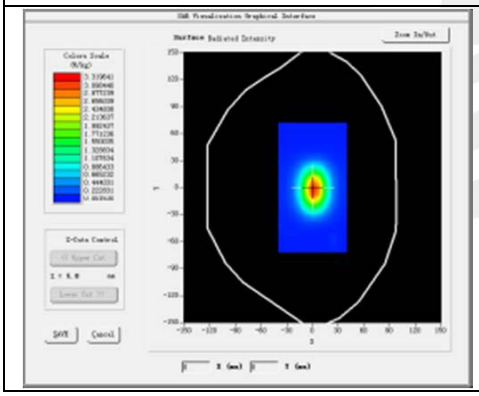
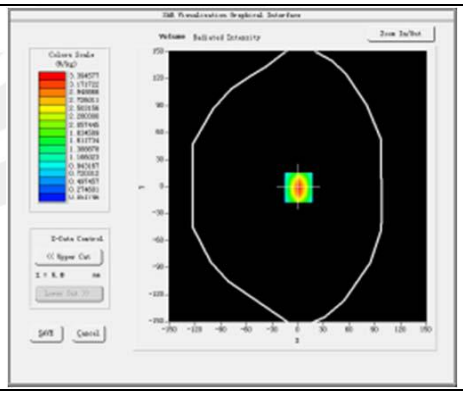


System Performance Check Data (2450MHz Body)

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Input Power=20dBm
Date of measurement: 2015.04.14
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)	1.26
Power drift (%)	-1.200000
Ambient Temperature	22.4℃
Liquid Temperature	22.1℃
Probe	SN 17/14 EP221
ConvF	4.25
Crest factor:	1:1

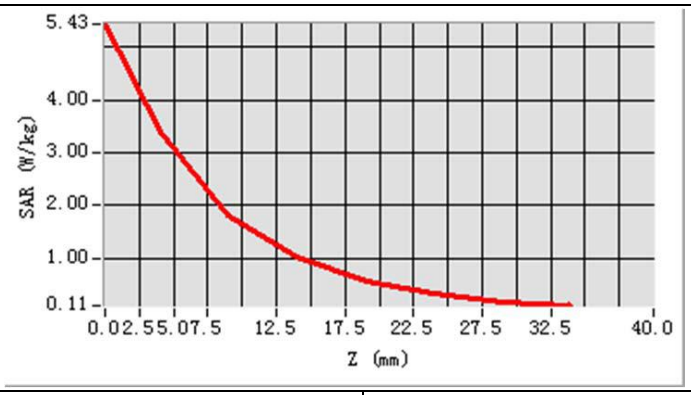
SURFACE SAR	VOLUME SAR
	

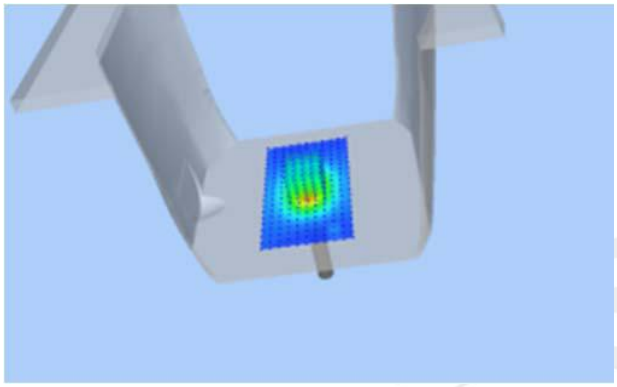
Maximum location: X=3.00, Y=1.00

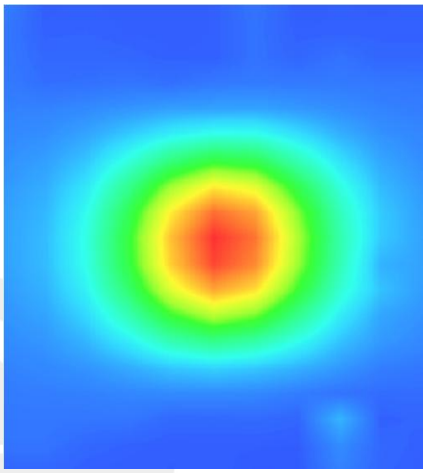
SAR Peak: 5.43 W/kg

SAR 10g (W/Kg)	3.581551
SAR 1g (W/Kg)	5.123211

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

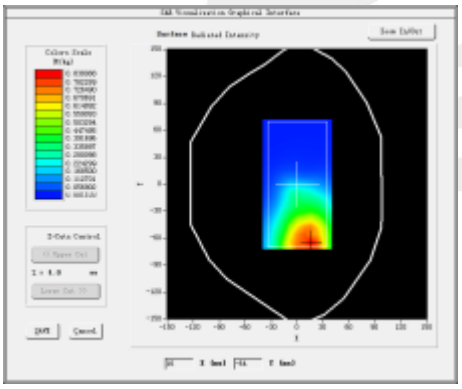
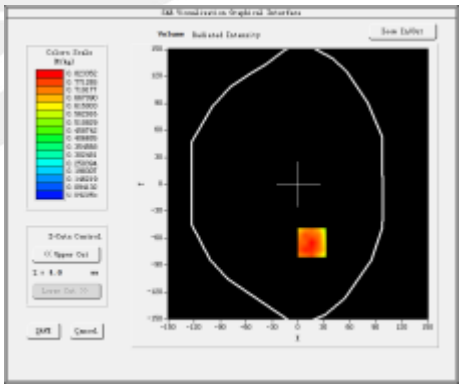
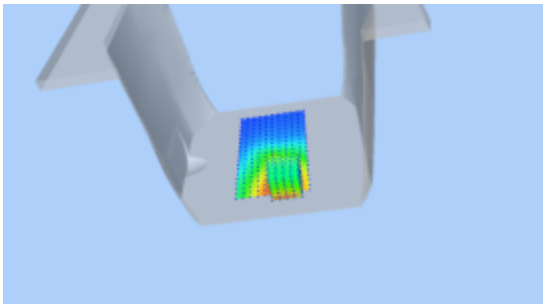
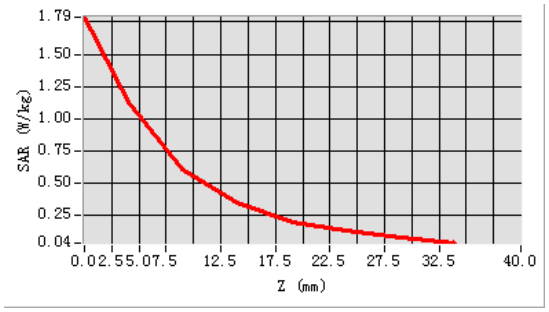
Plot 1: DUT: ULTRATAB 7; EUT Model: Ultratab X7

Test Data	2015-04-14
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	Duty Cycle: 4.00 (Crest factor: 4.0)
Frequency (MHz)	824.2
Relative permittivity (real part)	41.55
Conductivity (S/m)	0.90
Variation (%)	-1.79

Maximum location: X=48.00, Y=-32.00

SAR Peak: 1.80 W/kg

SAR 10g (W/Kg)	0.536925
SAR 1g (W/Kg)	1.152650

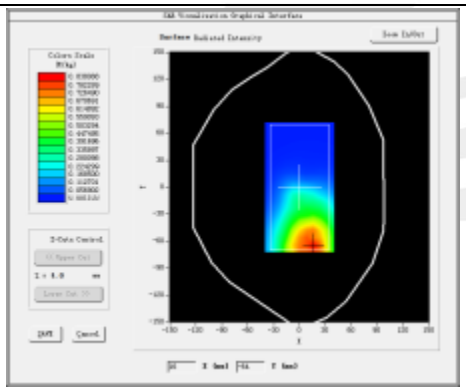
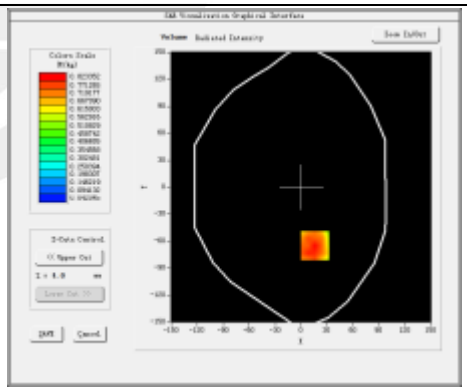
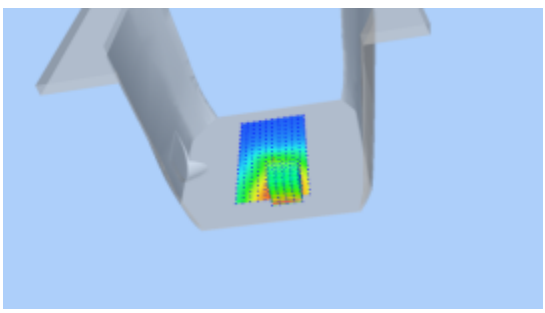
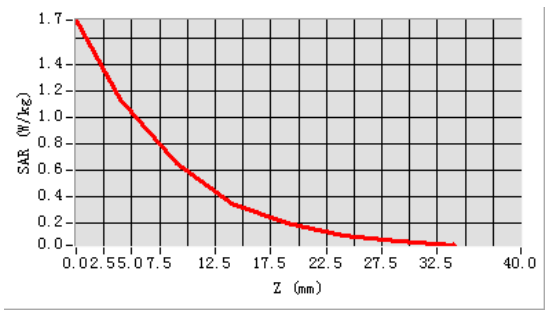
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 2: DUT: ULTRATAB 7; EUT Model: Ultratab X7

Test Data	2015-04-14
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-repeated
Band	GPRS 850
Channels	Low
Signal	Duty Cycle: 4.00 (Crest factor: 4.0)
Frequency (MHz)	824.2
Relative permittivity (real part)	41.55
Conductivity (S/m)	0.90
Variation (%)	1.42

Maximum location: X=15.00, Y=-48.00
SAR Peak: 1.7 W/kg

SAR 10g (W/Kg)	0.632594
SAR 1g (W/Kg)	1.098256

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

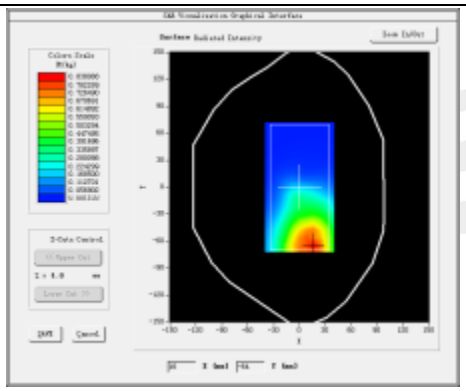
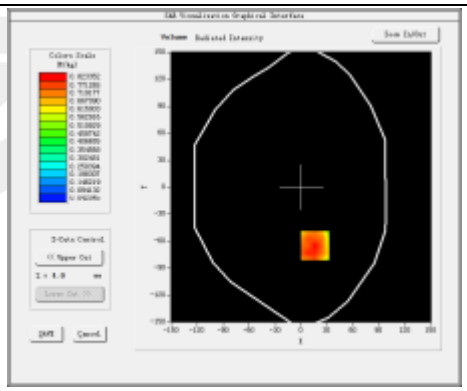
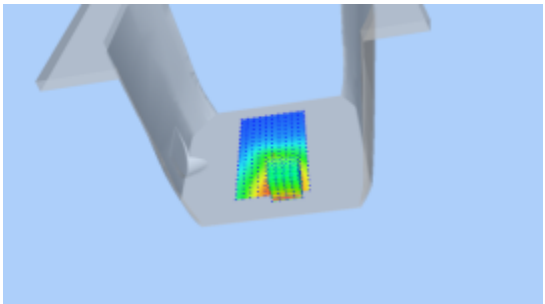
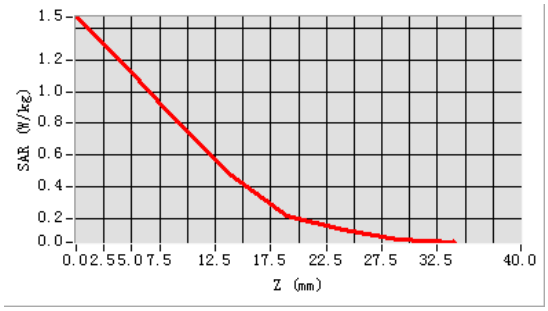
Plot 3: DUT: ULTRATAB 7; EUT Model: Ultratab X7

Test Data	2015-04-14
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	Middle
Signal	Duty Cycle: 4.00 (Crest factor: 4.0)
Frequency (MHz)	836.6
Relative permittivity (real part)	55.20
Conductivity (S/m)	0.97
Variation (%)	-0.14

Maximum location: X=-2.00, Y=-47.00

SAR Peak: 1.6 W/kg

SAR 10g (W/Kg)	0.486551
SAR 1g (W/Kg)	0.963525

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

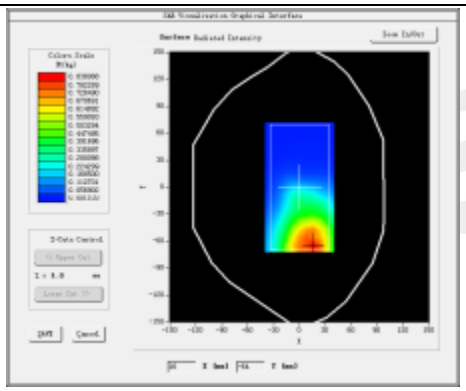
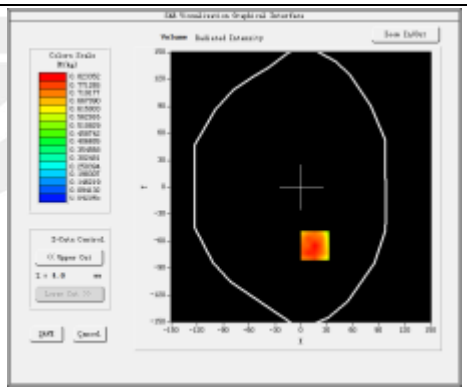
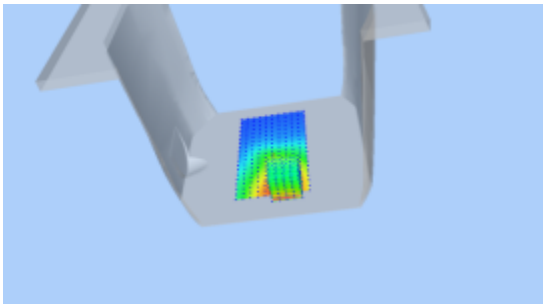
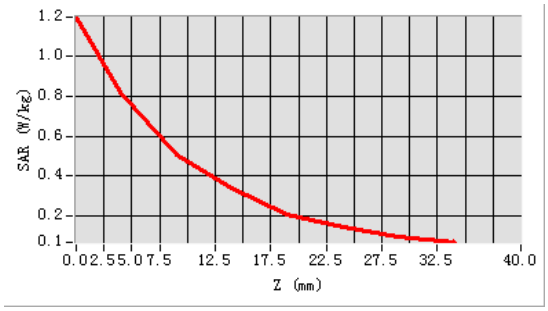
Plot 4: DUT: ULTRATAB 7; EUT Model: Ultratab X7

Test Data	2015-04-14
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	High
Signal	Duty Cycle: 4.00 (Crest factor: 4.0)
Frequency (MHz)	848.8
Relative permittivity (real part)	55.20
Conductivity (S/m)	0.97
Variation (%)	2.36

Maximum location: X=12.00, Y=10.00

SAR Peak: 1.46 W/kg

SAR 10g (W/Kg)	0.468220
SAR 1g (W/Kg)	0.887966

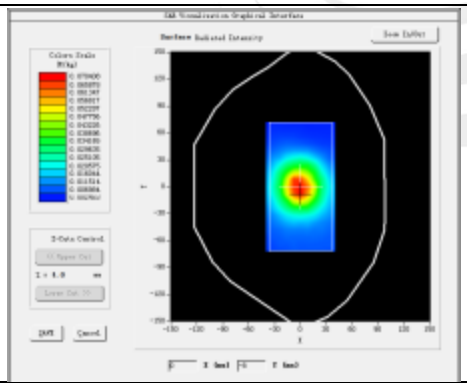
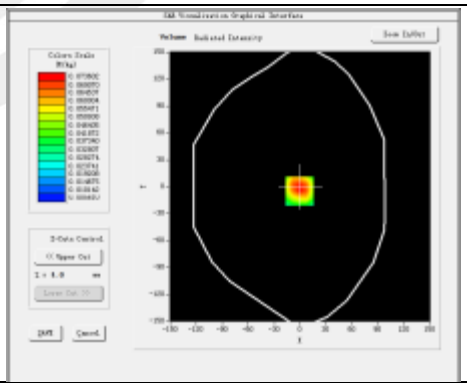
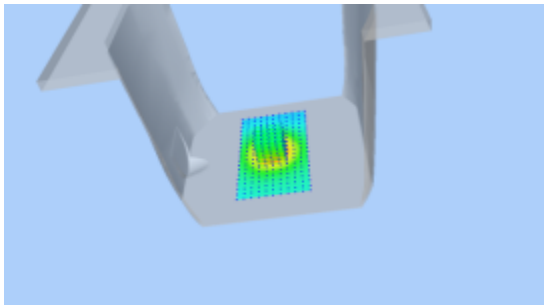
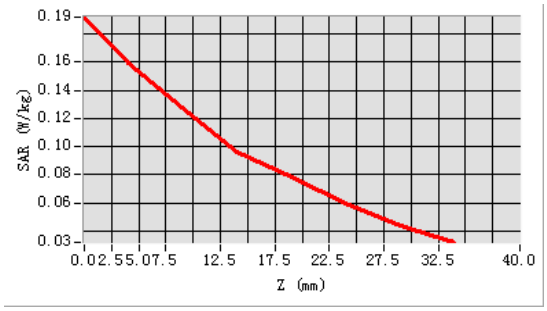
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 5: DUT: ULTRATAB 7; EUT Model: Ultratab X7

Test Data	2015-04-14
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	Middle
Signal	Duty Cycle: 4.00 (Crest factor: 4.0)
Frequency (MHz)	836.6
Relative permittivity (real part)	55.20
Conductivity (S/m)	0.97
Variation (%)	3.12

Maximum location: X=-47.00, Y=-31.00
SAR Peak: 0.18 W/kg

SAR 10g (W/Kg)	0.112420
SAR 1g (W/Kg)	0.155620

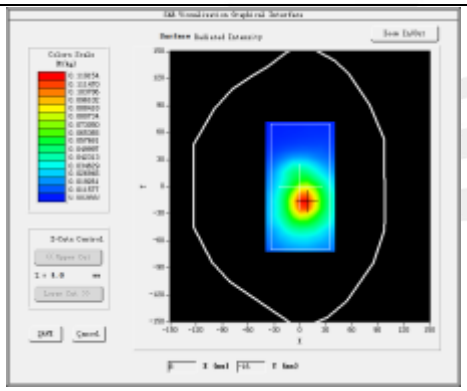
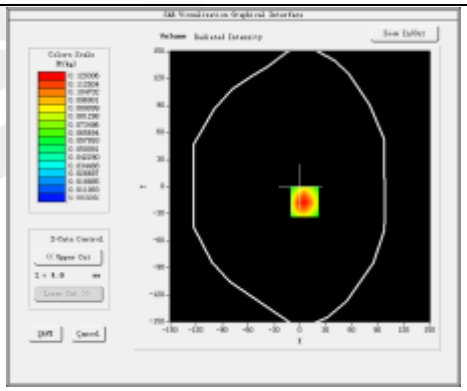
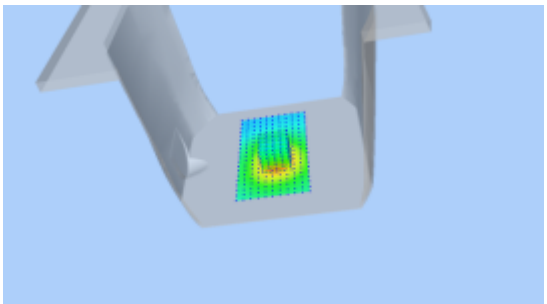
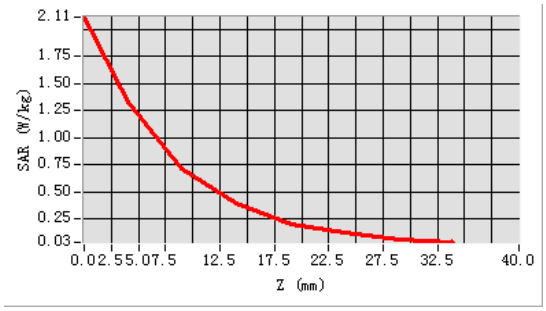
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 6: DUT: ULTRATAB 7; EUT Model: Ultratab X7

Test Data	2015-04-14
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	Duty Cycle: 4.00 (Crest factor: 4.0)
Frequency (MHz)	824.2
Relative permittivity (real part)	55.20
Conductivity (S/m)	0.97
Variation (%)	-1.29

Maximum location: X=14.00, Y=13.00
SAR Peak: 2.11 W/kg

SAR 10g (W/Kg)	0.762542
SAR 1g (W/Kg)	1.232652

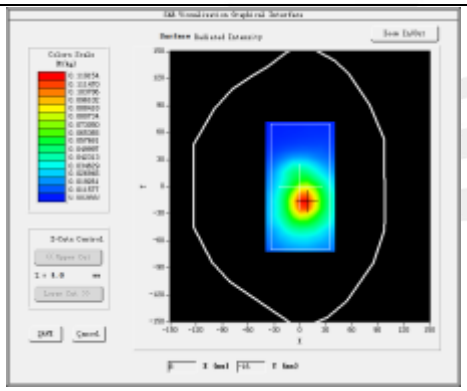
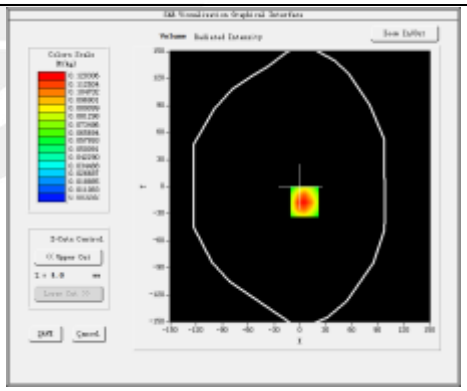
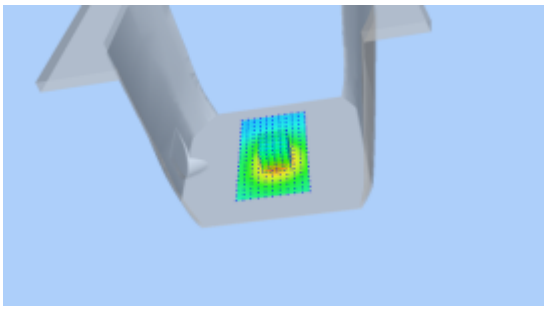
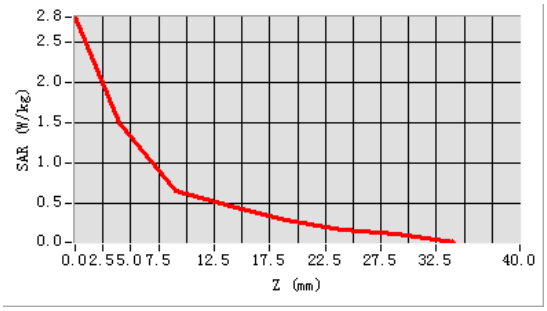
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 7: DUT: ULTRATAB 7; EUT Model: Ultratab X7

Test Data	2015-04-14
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-repeated
Band	GPRS 850
Channels	Low
Signal	Duty Cycle: 4.00 (Crest factor: 4.0)
Frequency (MHz)	824.2
Relative permittivity (real part)	55.20
Conductivity (S/m)	0.97
Variation (%)	-1.25

Maximum location: X=10.00, Y=9.00
SAR Peak: 2.0 W/kg

SAR 10g (W/Kg)	0.652116
SAR 1g (W/Kg)	1.216395

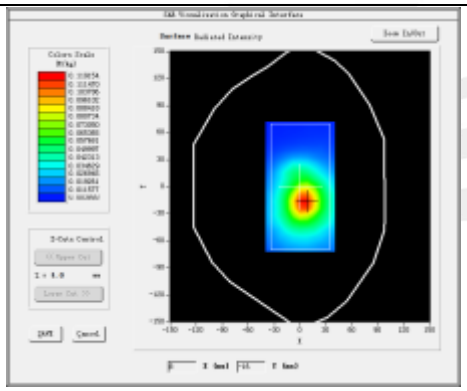
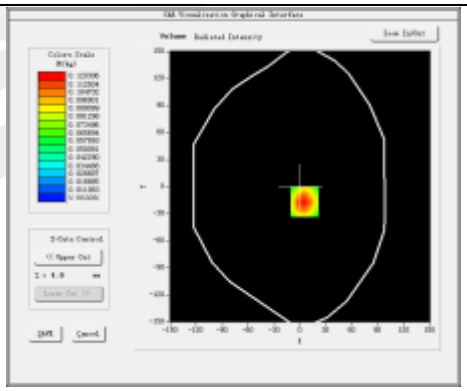
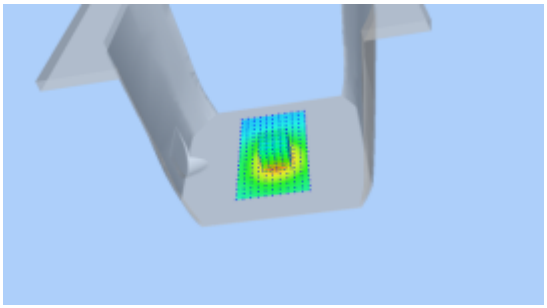
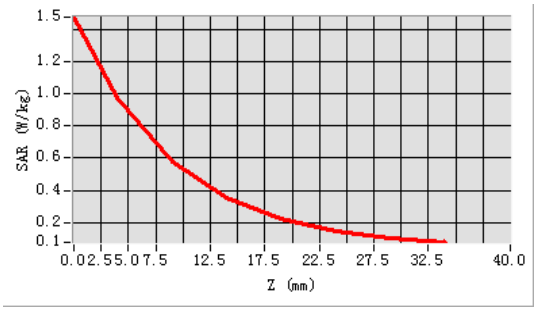
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 8: DUT: ULTRATAB 7; EUT Model: Ultratab X7

Test Data	2015-04-14
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	Middle
Signal	Duty Cycle: 4.00 (Crest factor: 4.0)
Frequency (MHz)	836.6
Relative permittivity (real part)	55.20
Conductivity (S/m)	0.97
Variation (%)	0.08

Maximum location: X=3.00, Y=24.00
SAR Peak: 1.50 W/kg

SAR 10g (W/Kg)	0.652415
SAR 1g (W/Kg)	0.972963

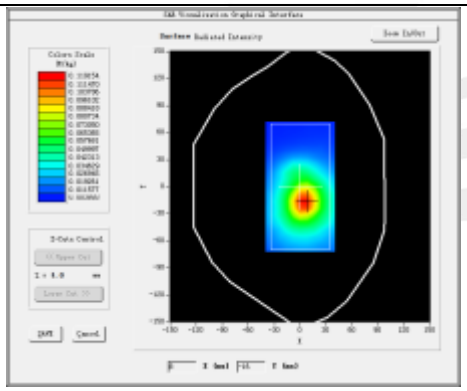
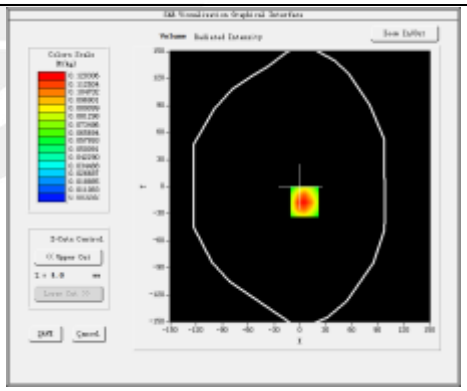
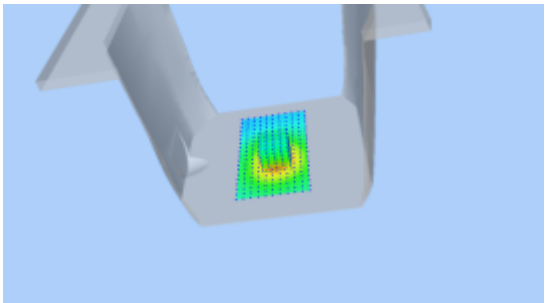
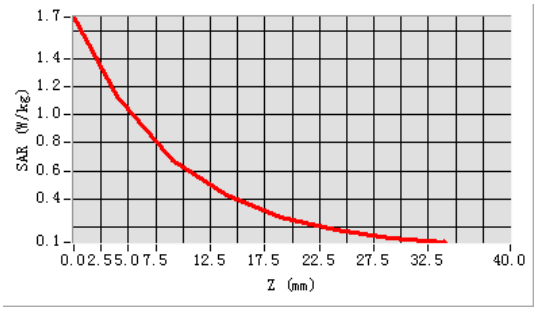
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 9: DUT: ULTRATAB 7; EUT Model: Ultratab X7

Test Data	2015-04-14
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	High
Signal	Duty Cycle: 4.00 (Crest factor: 4.0)
Frequency (MHz)	848.8
Relative permittivity (real part)	55.20
Conductivity (S/m)	0.97
Variation (%)	0.64

Maximum location: X=3.00, Y=-1.00
SAR Peak: 1.69 W/kg

SAR 10g (W/Kg)	0.615742
SAR 1g (W/Kg)	1.051349

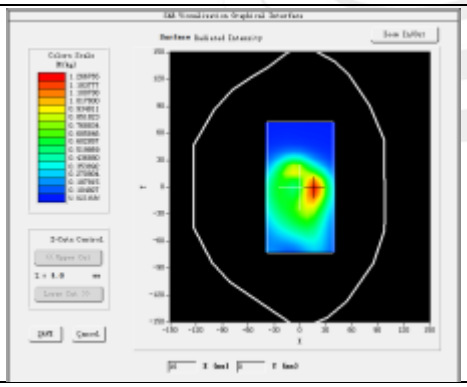
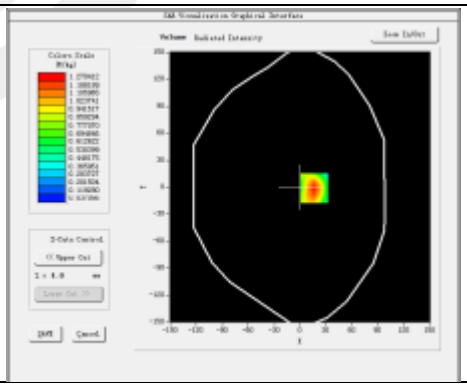
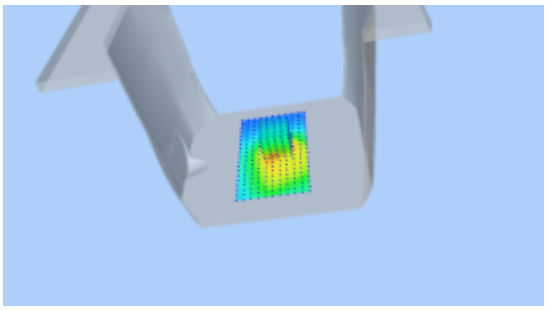
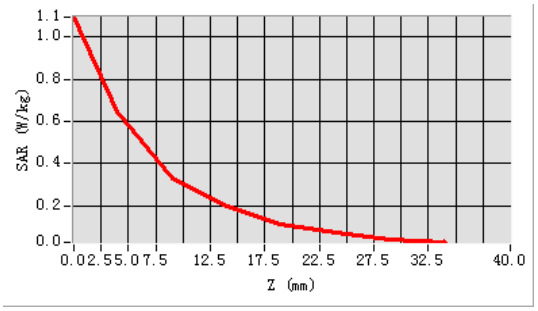
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 10: DUT: ULTRATAB 7; EUT Model: Ultratab X7

Test Data	2015-04-14
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	Middle
Signal	Duty Cycle: 4.00 (Crest factor: 4.0)
Frequency (MHz)	1880.0
Relative permittivity (real part)	53.30
Conductivity (S/m)	1.52
Variation (%)	-0.28

Maximum location: X=7.00, Y=0.00
SAR Peak: 1.08 W/kg

SAR 10g (W/Kg)	0.312780
SAR 1g (W/Kg)	0.611776

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

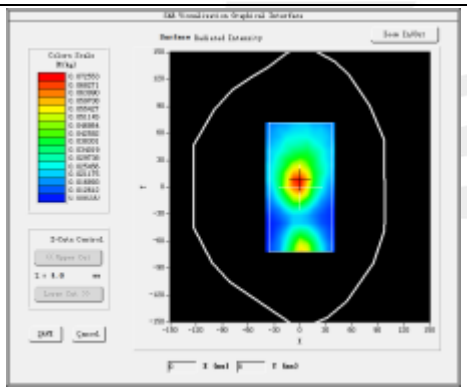
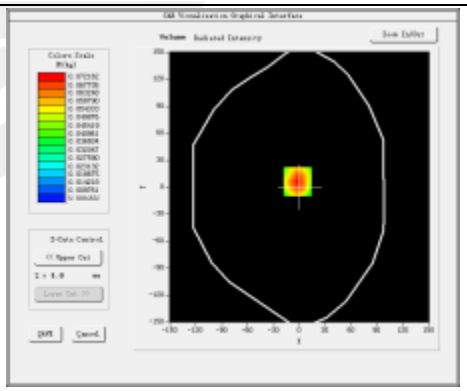
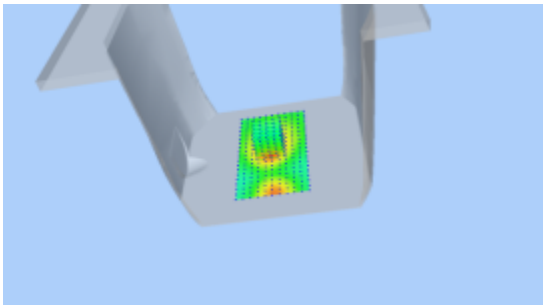
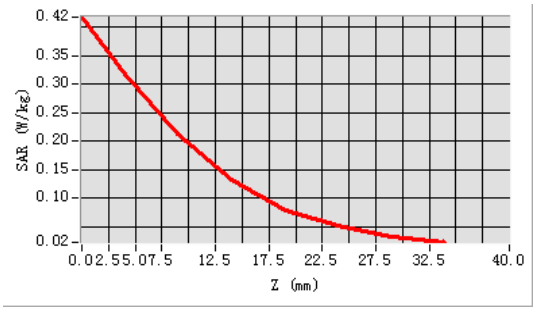
Plot 11: DUT: ULTRATAB 7; EUT Model: Ultratab X7

Test Data	2015-04-14
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	Middle
Signal	Duty Cycle: 4.00 (Crest factor: 4.0)
Frequency (MHz)	1880.0
Relative permittivity (real part)	53.30
Conductivity (S/m)	1.52
Variation (%)	-0.44
Variation (%)	0.15

Maximum location: X=16.00, Y=-1.00

SAR Peak: 0.51 W/kg

SAR 10g (W/Kg)	0.175394
SAR 1g (W/Kg)	0.311912

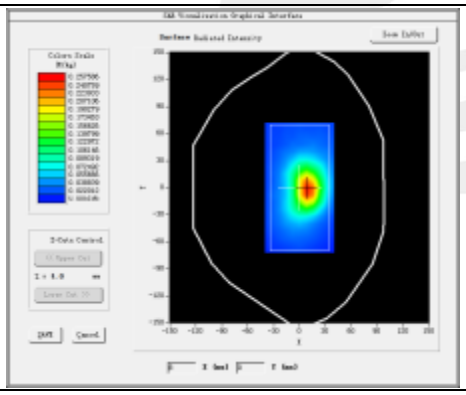
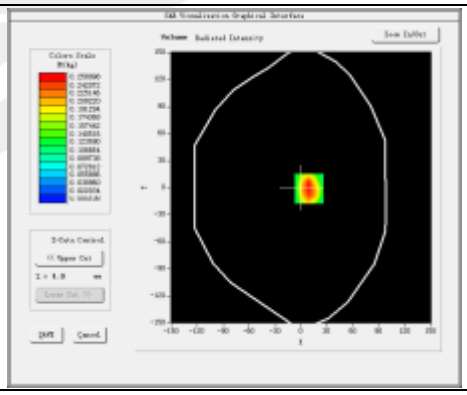
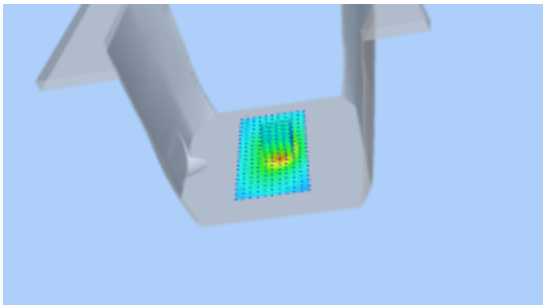
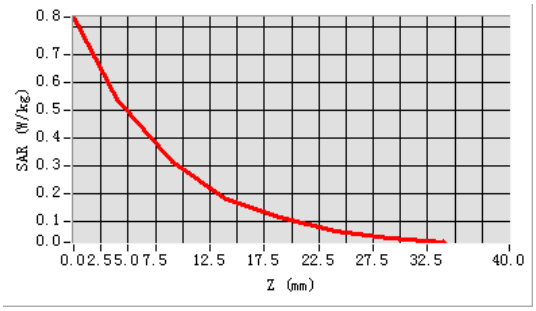
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 12: DUT: ULTRATAB 7; EUT Model: Ultratab X7

Test Data	2015-04-14
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	Middle
Signal	Duty Cycle: 4.00 (Crest factor: 4.0)
Frequency (MHz)	1880.0
Relative permittivity (real part)	53.30
Conductivity (S/m)	1.52
Variation (%)	2.05

Maximum location: X=1.00, Y=-8.00
SAR Peak: 0.88 W/kg

SAR 10g (W/Kg)	0.283998
SAR 1g (W/Kg)	0.529376

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

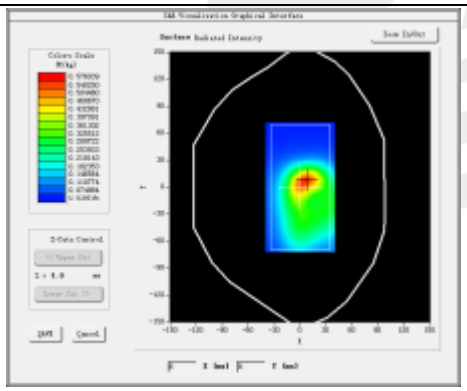
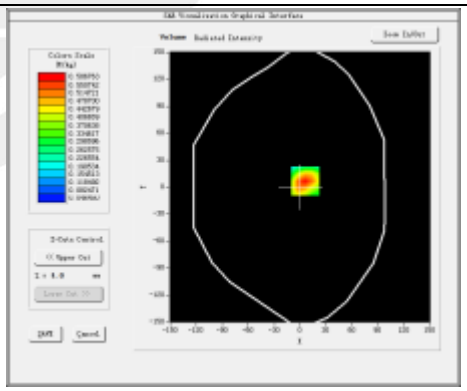
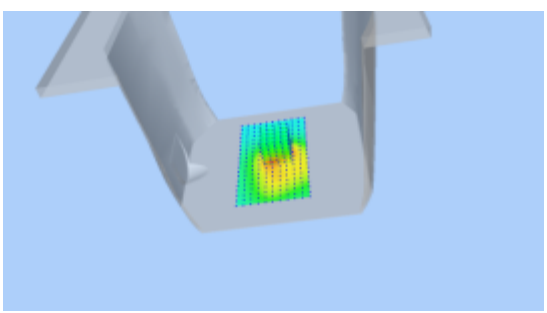
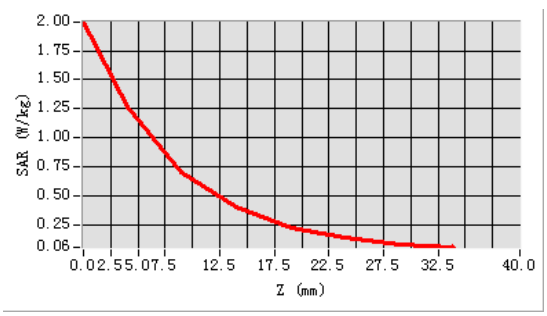
Plot 13: DUT: ULTRATAB 7; EUT Model: Ultratab X7

Test Data	2015-04-14
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	Low
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	1852.4
Relative permittivity (real part)	53.30
Conductivity (S/m)	1.52
Variation (%)	-0.16

Maximum location: X=-16.00, Y=-1.00

SAR Peak: 1.99 W/kg

SAR 10g (W/Kg)	0.651451
SAR 1g (W/Kg)	1.201675

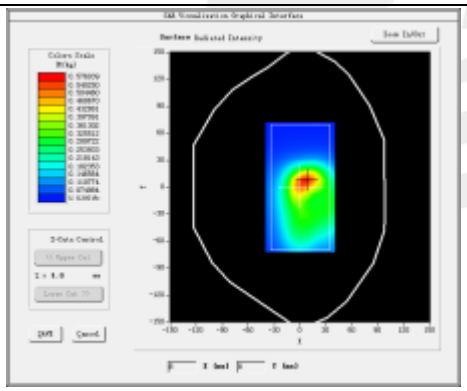
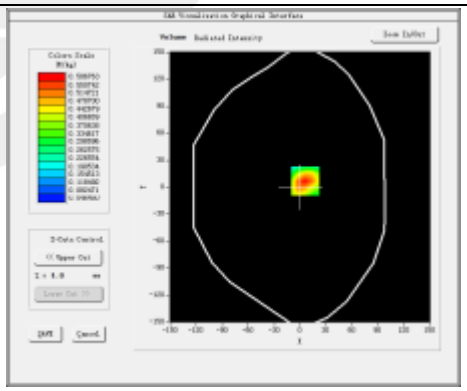
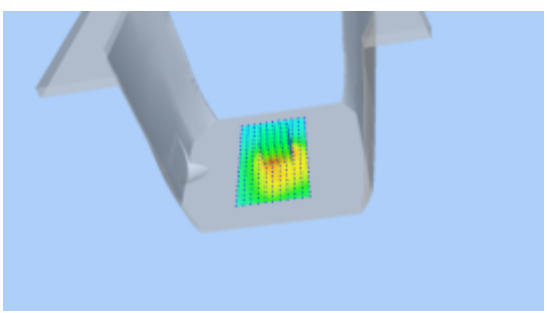
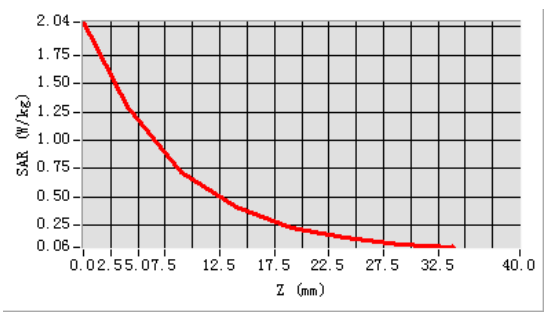
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 14: DUT: ULTRATAB 7; EUT Model: Ultratab X7

Test Data	2015-04-14
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-repeated
Band	WCDMA II
Channels	Low
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	1852.4
Relative permittivity (real part)	53.30
Conductivity (S/m)	1.52
Variation (%)	0.10

Maximum location: X=--16.00, Y=-1.00
SAR Peak: 2.03 W/kg

SAR 10g (W/Kg)	0.673852
SAR 1g (W/Kg)	1.252262

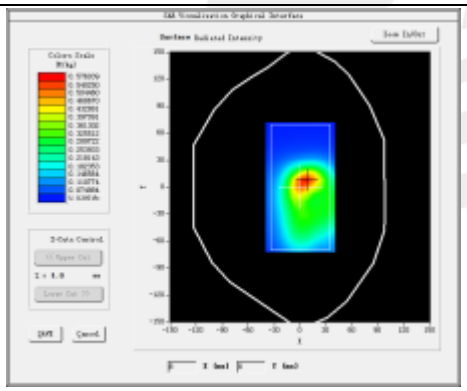
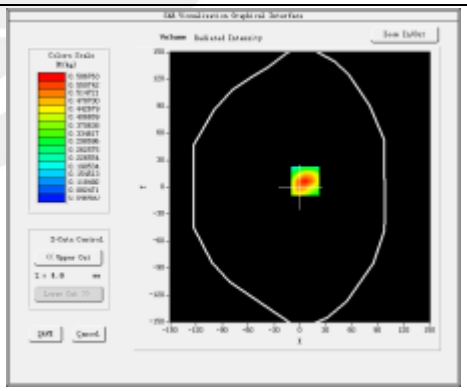
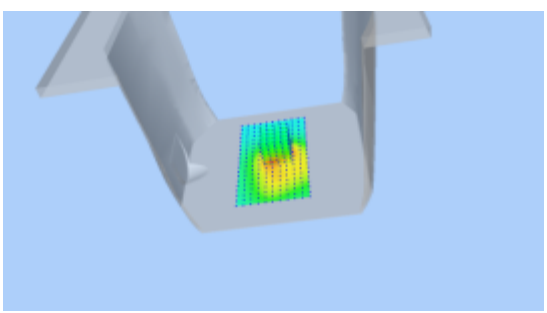
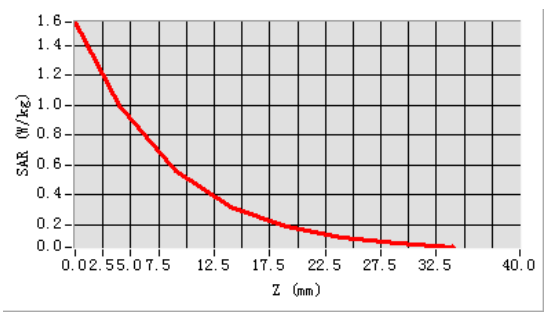
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 15: DUT: ULTRATAB 7; EUT Model: Ultratab X7

Test Data	2015-04-14
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	Middle
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	1880.0
Relative permittivity (real part)	53.30
Conductivity (S/m)	1.52
Variation (%)	0.25

Maximum location: X=24.00, Y=-1.00
SAR Peak: 1.55 W/kg

SAR 10g (W/Kg)	0.523913
SAR 1g (W/Kg)	0.957551

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

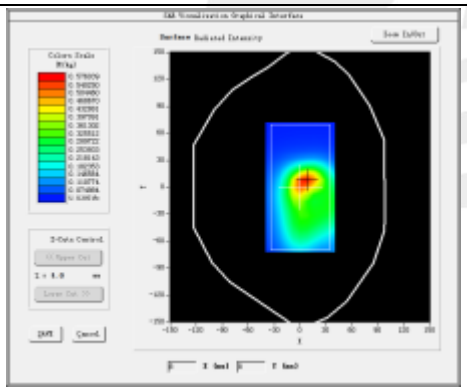
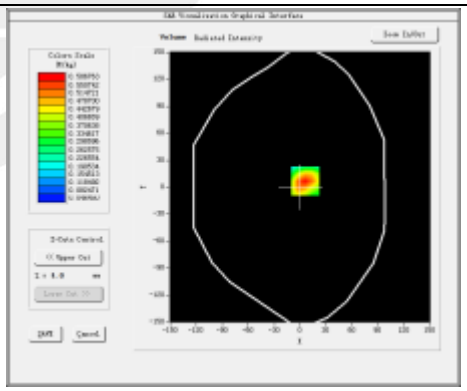
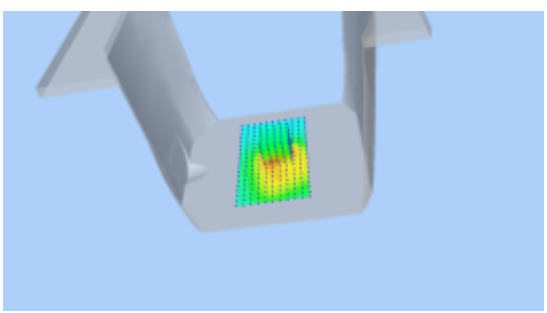
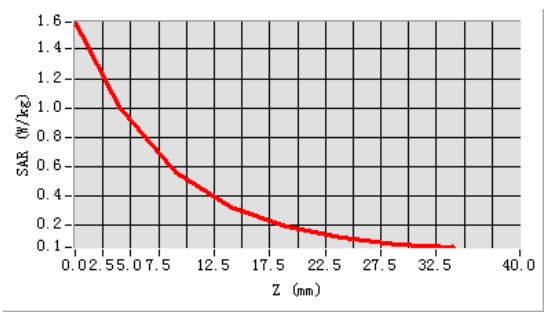
Plot 16: DUT: ULTRATAB 7; EUT Model: Ultratab X7

Test Data	2015-04-14
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 (%)	0.33

Maximum location: X=-16.00, Y=-1.00

SAR Peak: 1.57 W/kg

SAR 10g (W/Kg)	0.530000
SAR 1g (W/Kg)	0.967862

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

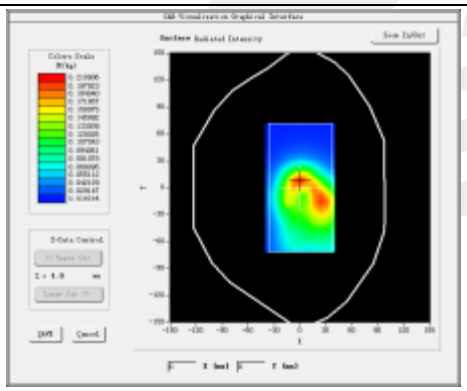
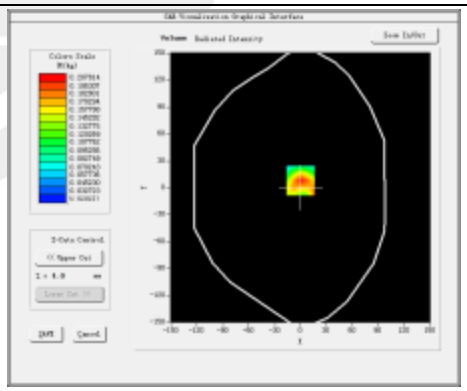
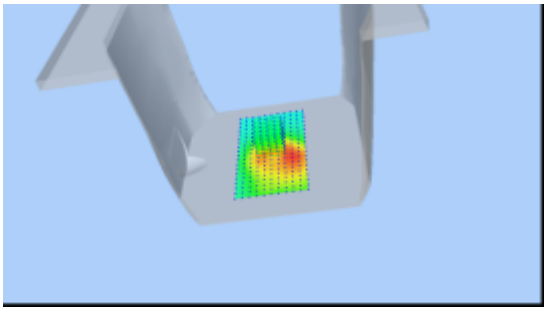
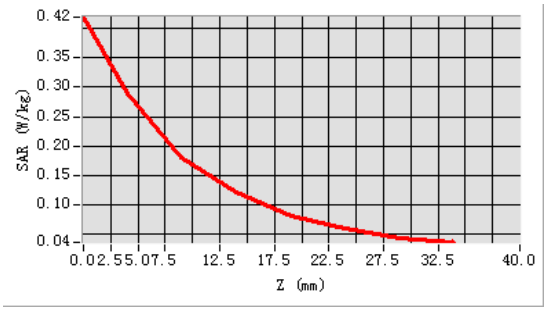
Plot 17: DUT: ULTRATAB 7; EUT Model: Ultratab X7

Test Data	2015-04-14
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 (%)	-1.15

Maximum location: X=0.00, Y=-15.00

SAR Peak:0.42 W/kg

SAR 10g (W/Kg)	0.172697
SAR 1g (W/Kg)	0.280916

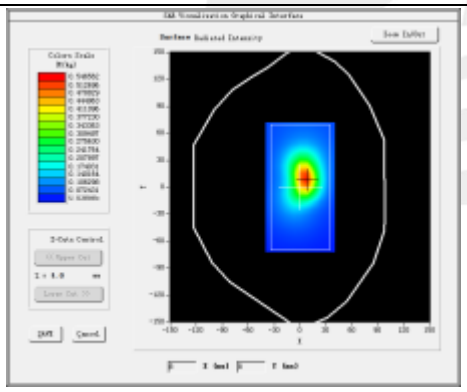
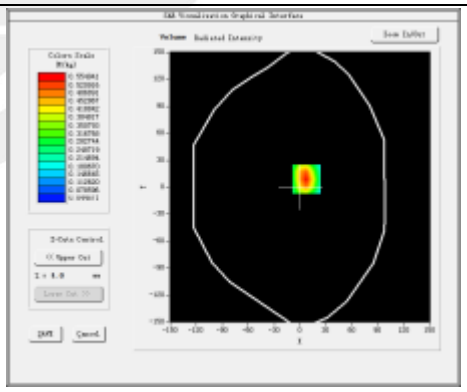
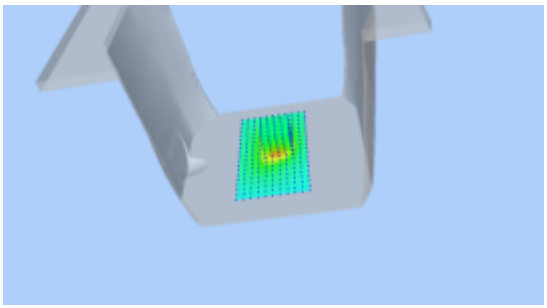
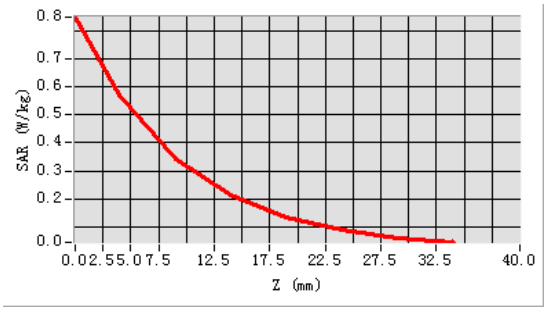
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 18: DUT: ULTRATAB 7; EUT Model: Ultratab X7

Test Data	2015-04-14
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 (%)	0.10

Maximum location: X=7.00, Y=-5.00
SAR Peak: 0.85 W/kg

SAR 10g (W/Kg)	0.300719
SAR 1g (W/Kg)	0.542708

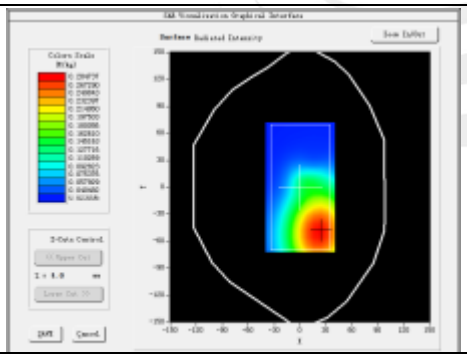
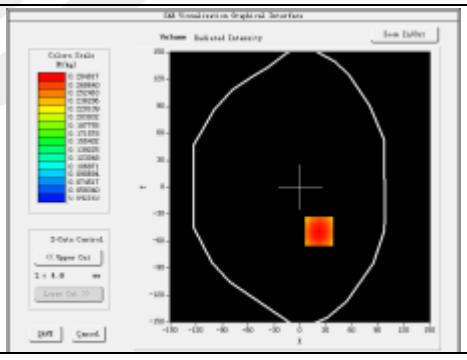
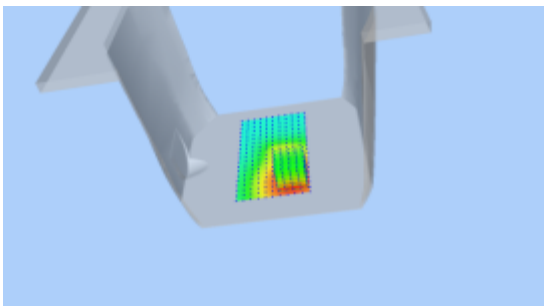
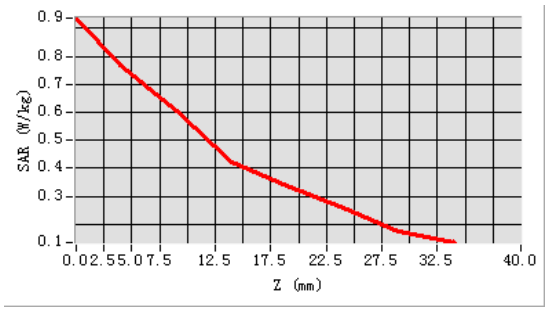
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 19: DUT: ULTRATAB 7; EUT Model: Ultratab X7

Test Data	2015-04-14
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 (%)	0.73

Maximum location: X=0.00, Y=-47.00
SAR Peak: 1.20 W/kg

SAR 10g (W/Kg)	0.659284
SAR 1g (W/Kg)	0.796281

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

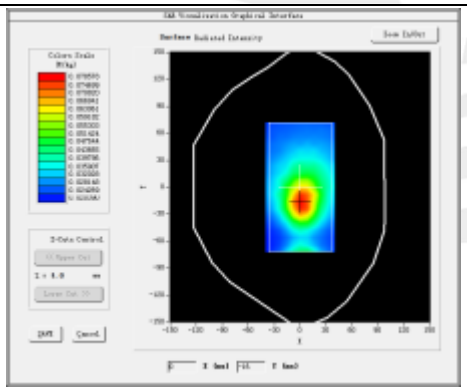
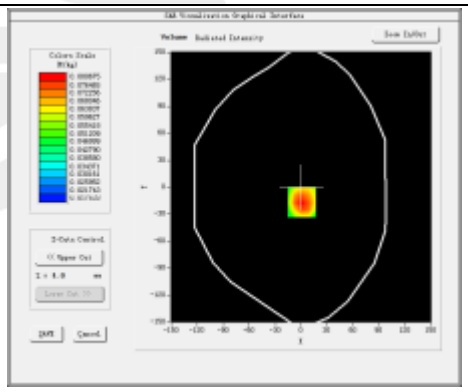
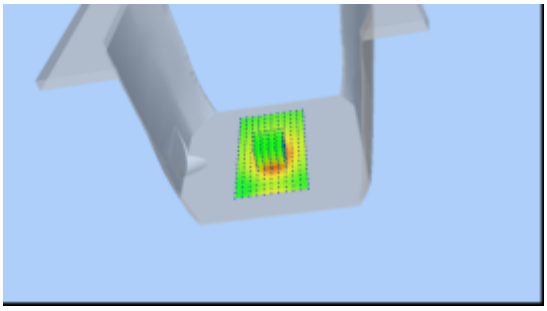
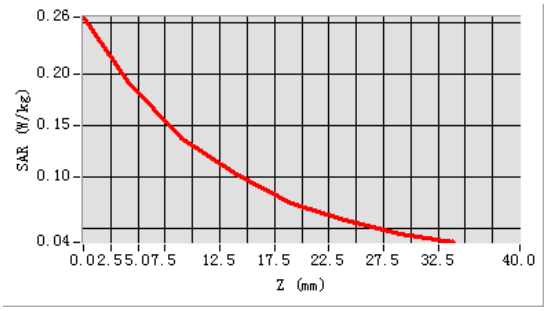
Plot 20: DUT: ULTRATAB 7; EUT Model: Ultratab X7

Test Data	2015-04-14
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 (%)	0.91

Maximum location: X=1.00, Y=-48.00

SAR Peak: 0.25 W/kg

SAR 10g (W/Kg)	0.131016
SAR 1g (W/Kg)	0.188057

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

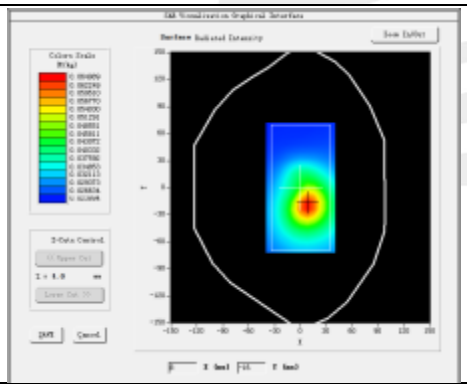
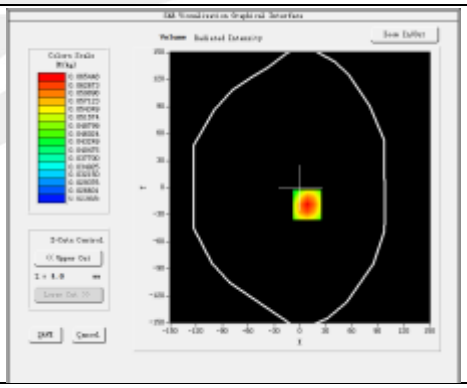
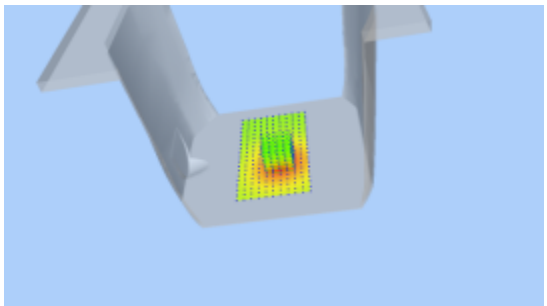
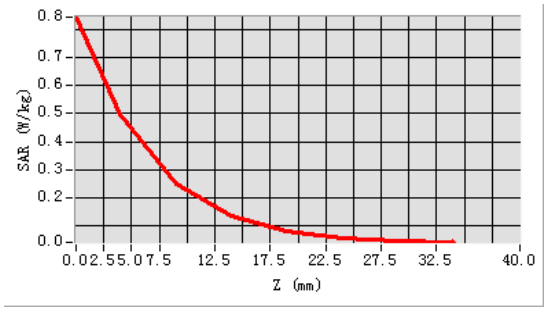
Plot 21: DUT: ULTRATAB 7; EUT Model: Ultratab X7

Test Data	2015-04-14
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 (%)	2.21

Maximum location: X=-27.00, Y=15.00

SAR Peak: 0.84 W/kg

SAR 10g (W/Kg)	0.226282
SAR 1g (W/Kg)	0.463222

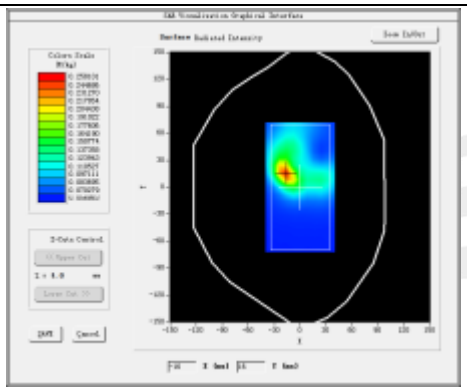
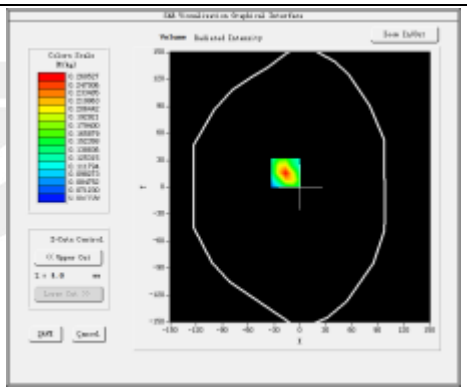
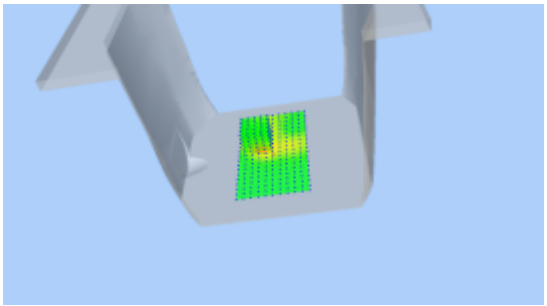
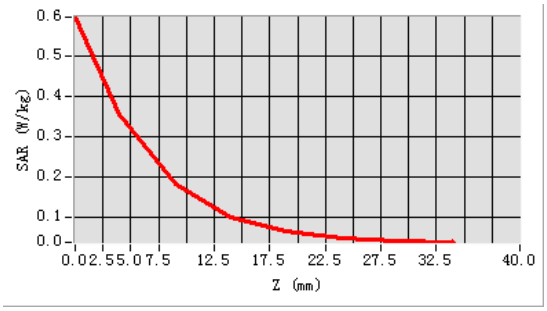
SURFACE SAR	VOLUME SAR
	
3D screen shot	**Z Axis Scan**
	

Plot 22: DUT: ULTRATAB 7; EUT Model: Ultratab X7

Test Data	2015-04-14
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 (%)	1.69

Maximum location: X=-25.00, Y=15.00
SAR Peak: 0.59 W/kg

SAR 10g (W/Kg)	0.165009
SAR 1g (W/Kg)	0.233100

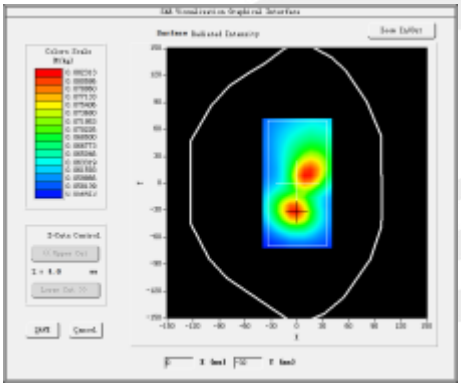
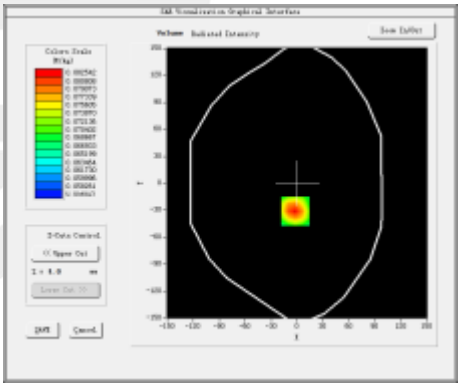
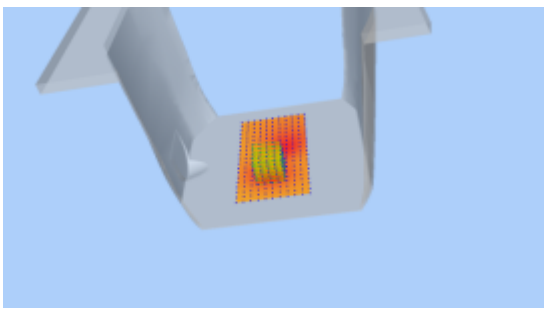
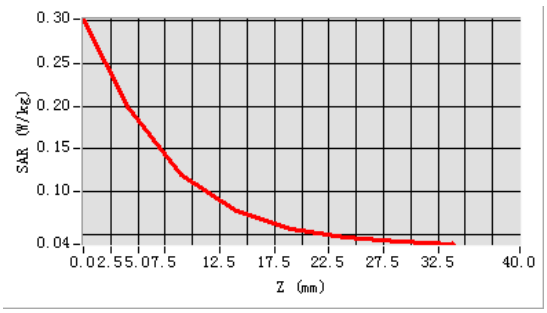
SURFACE SAR	VOLUME SAR
	
3D	**Z Axis Scan**
	

Plot 23: DUT: ULTRATAB 7; EUT Model: Ultratab X7

Test Data	2015-04-14
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 (%)	1.37

Maximum location: X=-6.00, Y=-29.00
SAR Peak: 0.31 W/kg

SAR 10g (W/Kg)	0.109619
SAR 1g (W/Kg)	0.187523

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

Appendix C. Probe Calibration And Dipole Calibration Report

Refer the appendix Calibration Report.