FCC SAR TEST REPORT

Report No.:	SET2016-08132
Product Name:	\
Trade Name:	LANIX
Brand Name:	LANIX
Model No.:	Ilium Pad T7X
FCC ID:	ZC4T7X
Applicant:	Corporativo Lanix S.A. de C.V.
Address:	Carretera Internacional Hermosillo - Nogales Km 8.5 Hermosillo, Sonora, México
Issued by:	CCIC-SET
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Test Report

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Applicant……..:	Corporativo Lanix S.A. de C.V.
Applicant Address…….:	Carretera Internacional Hermosillo - Nogales Km 8.5 Hermosillo, Sonora, México
Manufacturer……:	Amer Mobile Ltd.,com
Manufacturer Address:	17/F, Tower B, Huihai Sqr, Chuangye Rd, Longhua Dist, Shenzhen, China
Test Standards…….:	**47CFR § 2.1093-**Radiofrequency Radiation Exposure Evaluation: Portable Devices; **ANSI C95.1–1992:**Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz – 300 GHz.(IEEE Std C95.1-1991) **IEEE 1528–2013:**IEEE Recommended Practice for Determining the PeakSpatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques
Test Result……:	Pass
Tested by ……..:	Mei Chun 2016-05-19 Chun Mei, Test Engineer
Reviewed by……:	Shuangwen Zhang 2016-05-19 Shuangwen Zhang,Senior Egineer
Approved by……:	Wu Lian 2016-05-19 Wu Li'an , Manager

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1. GENERAL CONDITIONS

1.1 This report only refers to the item that has undergone the test.

1.2 This report standalone does not constitute or imply by its own an approval of the product by the certification Bodies or competent Authorities.

1.3 This document is only valid if complete; no partial reproduction can be made without written approval of CCIC-SET

1.4 This report cannot be used partially or in full for publicity and/or promotional purposes without previous written approval of CCIC-SET and the Accreditation Bodies, if it applies.

2. Administrative Date

2.1. Identification of the Responsible Testing Laboratory

Company Name:	CCIC-SET
Department:	EMC& RF Department
Address:	Electronic Testing Building, Shahe Road, Nanshan District, ShenZhen, P. R. China
Telephone:	+86-755-26629676
Fax:	+86-755-26627238
Responsible Test Lab Managers:	Mr. Wu Li'an

2.2. Identification of the Responsible Testing Location(s)

Company Name:	CCIC-SET
Address:	Electronic Testing Building, Shahe Road, Nanshan District, Shenzhen, P. R. China

2.3. Organization Item

CCIC-SET Report No.:	SET2016-08132
CCIC-SET Project Leader:	Mr. Li Sixiong
CCIC-SET Responsible for accreditation scope:	Mr. Wu Li'an
Start of Testing:	2016-05-10
End of Testing:	2016-05-16

2.4. Identification of Applicant

Company Name:	Corporativo Lanix S.A.de C.V.
Address:	Carretera Internacional Hermosillo - Nogales Km 8.5 Hermosillo, Sonora, México

2.5. Identification of Manufacture

Company Name:	Amer Mobile Ltd.,com
Address:	17/F, Tower B, Huihai Sqr, Chuangye Rd, Longhua Dist, Shenzhen, China

Notes: This data is based on the information by the applicant.

3. Equipment Under Test (EUT)

3.1. Identification of the Equipment under Test

Sample Name: \

Model Name: Ilium Pad T7X

Brand Name: LANIX

General description:	Support Band	GSM850MHz/1900MHz/900MHz/1800MHz, WCDMA 850MHz/1900MHz,WIFI, BT
	Test Band	GSM 850MHz/ GSM 1900MHz, GPRS 850MHz/ GPRS 1900MHz, WCDMA 850MHz/1900MHz, WIFI 802.11b
	Multislot Class	GPRS: Class 12; EGPRS: Class 12
	GPRS Class	Class B
	Development Stage	Identical Prototype
	Accessories	Power Supply
	Battery type	3.70V 2800mAh
	Antenna type	Inner Antenna
	Operation mode	GSM/WCDMA/ WIFI
	Modulation mode	GSM(GMSK),UMTS(QPSK),WIFI(OFDM/DSSS)
	Max. RF Power	32.77dBm
	Max. SAR Value	Head: 0.587 W/kg; Body: 0.334 W/kg (0mm distance)

NOTE:

a. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

4 SAR SUMMARY

Highest Standalone SAR Summary

Exposure Position	Frequency Band	Scaled 1g-SAR(W/kg)	Highest Scaled 1g-SAR(W/kg)
Head	GSM850	0.011	0.587
	GSM1900	0.045	
	WCDMA Band Ⅴ	0.016	
	WCDMA Band II	0.071	
	WIFI	0.587	
Tablet SAR (0mm Gap)	GSM850	0.073	0.334
	GSM1900	0.319	
	WCDMA Band Ⅴ	0.029	
	WCDMA Band II	0.334	
	WIFI	0.203	

Highest Simultaneous SAR Summary

Exposure Position	Frequency Band	Highest Scaled 1g-SAR(W/kg)
Head	WWAN(WCDMA II)&WIFI	0.658
Tablet SAR (0mm Gap)	WWAN(WCDMA II)&WIFI	0.511

5Specific Absorption Rate (SAR)

5.1 Introduction

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

5.2 SAR Definition

The SAR definition is the time derivative (rate) of the incremental energy (dW) absorbed by(dissipated in) an incremental mass (dm) contained in a volume element (dv) of a given density (). 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 either related to the temperature elevation in tissue by

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

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

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

Where σ is the conductivity of the tissue, ρis the mass density of the tissue and E is the rms electrical field strength.

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

5.3 Phantoms

The phantom used for all tests i.e. for both system checks and device testing, was the twin-headed "SAM Phantom", manufactured by SATIMO. The SAM twin phantom is a fiberglass shell phantom with 2mm shell thickness (except the ear region, where shell thickness increases to 6mm).

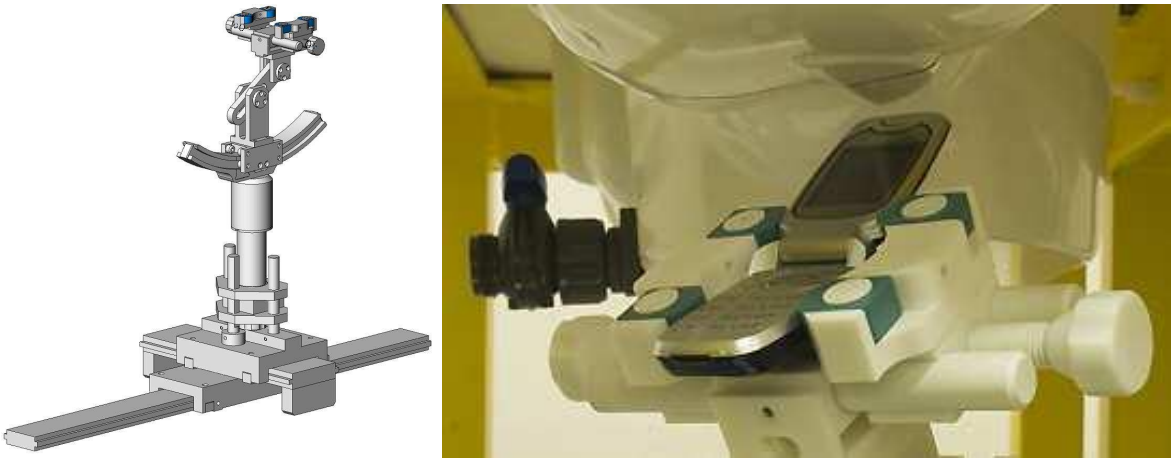
System checking was performed using the flat section, whilst Head SAR tests used the left and right head profile sections. Body SAR testing also used the flat section between the head profiles.

SAM Twin Phantom

5.4 Device Holder

The device was placed in the device holder (illustrated below) that is supplied by SATIMO as an integral part of the COMOSAR test system.

The device holder is designed to cope with the different positions given in the standard. It has two scales for device rotation (with respect to the body axis) and device inclination (with respect to the line between the ear reference points). The rotation centers for both scales is the ear reference point (ERP). Thus the device needs no repositioning when changing the angles.



Device holder

5.5 Probe Specification

Construction Symmetrical design with triangular core
Interleaved sensors
Built-in shielding against static charges
PEEK enclosure material (resistant to organic solvents, e.g., DGBE)

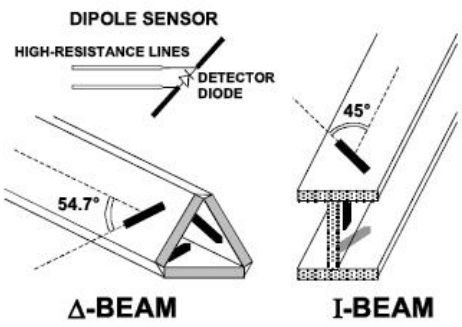
Calibration ISO/IEC 17025 calibration service available.

Frequency	700 MHz to 3 GHz; Linearity: ± 0.5 dB (700 MHz to 3 GHz)
Directivity	± 0.25 dB in HSL (rotation around probe axis) ± 0.5 dB in tissue material (rotation normal to probe axis)
Dynamic Range	1.5 μW/g to 100 mW/g; Linearity: ± 0.5 dB
Dimensions	Overall length: 330 mm (Tip: 20 mm) Tip diameter: 5 mm Distance from probe tip to dipole centers: <2.7 mm
Application	General dosimetry up to 3 GHz Dosimetry in strong gradient fields Compliance tests of Tablet PCs
Compatibility	COMOSAR

Isotropic E-Field Probe

The isotropic E-Field probe has been fully calibrated and assessed for isotropicity, and boundary effect within a controlled environment. Depending on the frequency for which the probe is calibrated the method utilized for calibration will change.

The E-Field probe utilizes a triangular sensor arrangement as detailed in the diagram below:



6 OPERATIONAL CONDITIONS DURING TEST

6.1 Schematic Test Configuration

During SAR test, EUT was operating in Traffic Mode (Channel Allocated) at Normal Voltage Condition. A communication link is set up with a System Simulator (SS) by air link, and a call is established. The EUT was commanded to operate at maximum transmitting power.

The EUT should use its internal transmitter. The antenna(s), battery and accessories shall be those specified by the manufacturer. The EUT battery must be fully charged and checked periodically during the test to ascertain uniform power output. If a wireless link was used, the antenna connected to the output of the base station simulator shall be placed at least 50 cm away from the handset.

The signal transmitted by the simulator to the antenna feeding point should be lower than the output power level of the handset by at least 35 dB

6.2 SAR Measurement System

The SAR measurement system being used is the SATIMO system, the system is controlled remotely from a PC, which contains the software to control the robot and data acquisition equipment. The software also displays the data obtained from test scans.

In operation, the system first does an area (2D) scan at a fixed depth within the liquid from the inside wall of the phantom. When the maximum SAR point has been found, the system will then carry out a 3D scan centred at that point to determine volume averaged SAR level.

6.2.1Tissue Dielectric Parameters for Head and Body Phantoms

The head tissue dielectric parameters recommended by the IEEE SCC-34/SC-2 in P1528 have been incorporated in the following table. These head parameters are derived from planar layer models simulating the highest expected SAR for the dielectric properties and tissue thickness Power drifts 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.

Table 1: Recommended Dielectric Performance of Tissue

Ingredients (% by weight)	Frequency (MHz)											
	450		835		915		1900		2450		2600	
Tissue Type	Head	Body	Head	Body	Head	Body	Head	Body	Head	Body	Head	Body
Water	38.56	51.16	41.46	52.4	41.05	56.0	54.9	40.4	62.7	73.2	55.24	64.49
Salt (Nacl)	3.95	1.49	1.45	1.4	1.35	0.76	0.18	0.5	0.5	0.04	0.5	0.024
Sugar	56.32	46.78	56.0	45.0	56.5	41.76	0.0	58.0	0.0	0.0	0.0	0.0
HEC	0.98	0.52	1.0	1.0	1.0	1.21	0.0	1.0	0.0	0.0	0.0	0.0

Bactericide	0.19	0.05	0.1	0.1	0.1	0.27	0.0	0.1	0.0	0.0	0.0	0.0
Triton x-100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.8	0.0	44.45	32.25
DGBE	0.0	0.0	0.0	0.0	0.0	0.0	44.92	0.0	0.0	26.7	0.0	26.7
Dielectric Constant	43.42	58.0	42.54	56.1	42.0	56.8	39.9	54.0	39.8	52.5	39.0	52.5
Conductivity (s/m)	0.85	0.83	0.91	0.95	1.0	1.07	1.42	1.45	1.88	1.78	1.96	2.16

Table 2a Recommended Tissue Dielectric Parameters

Frequency (MHz)	Head Tissue		Body Tissue	
	ε_r	σ(S/m)	ε_r	σ(S/m)
150	52.3	0.76	61.9	0.80
300	45.3	0.87	58.2	0.92
450	43.5	0.87	56.7	0.94
835	41.5	0.90	55.2	0.97
900	41.5	0.97	55.0	1.05
915	41.5	0.98	55.0	1.06
1450	40.5	1.20	54.0	1.30
1610	40.3	1.29	53.8	1.40
1800-2000	40.0	1.40	53.3	1.52
2450	39.2	1.80	52.7	1.95
3000	38.5	2.40	52.0	2.73
5800	35.3	5.27	48.2	6.00

Table 2b The composition of the tissue simulating liquid

Ingredient	835MHz		1900MHz		2450MHz	
(% Weight)	Head	Body	Head	Body	Head	Body
Water	35,338	52,873	55,265	69,990	55,671	70,801
DGBE	0,0	0,0	13,816	8,934	18,680	8,684
Triton X100	0,0	0,0	30,398	20,661	23,335	20,212
propanediol	63,679	46,058	0.00	0.00	0.00	0.00
Salt	0,983	1,068	0,521	0,415	0,313	0,303

6.2.2Simulateliquid

For measurements against the phantom head, the “cheek” and “tilt” position on both the left hand and the right hand sides of the phantom. For body measurements, the EUT was tested against flat phantom representing the user body. The EUT was put on in the belt holder. Stimulate liquid that are used for testing at frequencies of GSM 850MHz/1900MHz, WCDMA850MHz/1900MHz, and Wi-Fi 2.4GHz, which are made mainly of sugar, salt and water solutions may be left in the phantoms.

Table 3: Dielectric Performance of Head Tissue Simulating Liquid

Temperature: 23.2°C;Humidity: 64%;			
/	Frequency	Permittivity ε	Conductivity σ (S/m)
Target value	850MHz	41.5±5%	0.90±5%
Validation value (May 10th, 2016)	850MHz	41.39	0.89
Target value	1900MHz	40.0±5%	1.40±5%
Validation value (May 11th, 2016)	1900MHz	39.87	1.39
Target value	2450MHz	39.2±5%	1.80±5%
Validation value (May 16th, 2016)	2450MHz	38.98	1.79

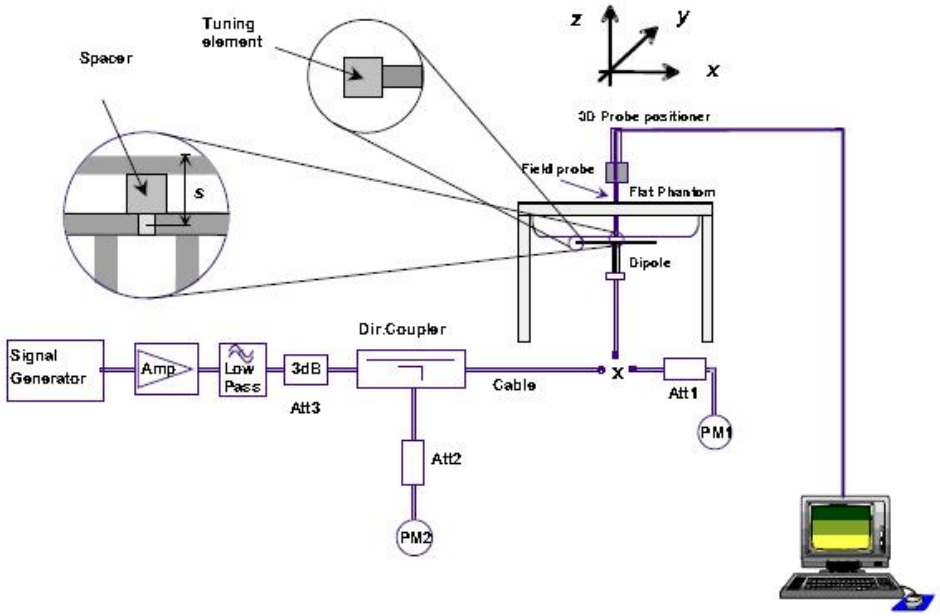
Table 4: Dielectric Performance of Body Tissue Simulating Liquid

Temperature: 23.2°C;Humidity: 64%;			
/	Frequency	Permittivity ε	Conductivity σ (S/m)
Target value	850MHz	55.2±5%	0.97±5%
Validation value (May 12th, 2016)	850MHz	55.27	0.97
Target value	1900MHz	53.3±5%	1.52±5%
Validation value (May 13th, 2016)	1900MHz	53.23	1.52
Target value	2450MHz	52.7±5%	1.95±5%
Validation value (May 16th, 2016)	2450MHz	52.55	1.94

6.3 Results of validation testing

Prior to the assessment, the system validation kit was used to test whether the system was operating within its specifications of ±10%. The validation results are tabulated below. And also the corresponding SAR plot is attached as well in the SAR plots files.

The following procedure, recommended for performing validation tests using box phantoms is based on the procedures described in the IEEE standard P1528. Setup according to the setup diagram below :



With the SG and Amp and with directional coupler in place, set up the source signal at the relevant frequency and use a power meter to measure the power at the end of the SMA cable that you intend to connect to the balanced dipole. Adjust the SG to make this, say, 0.25W (24 dBm). If this level is too high to read directly with the power meter sensor, insert a calibrated attenuator (e.g. 10 or 20 dB) and make a suitable correction to the power meter reading.

Note 1: In this method, the directional coupler is used for monitoring rather than setting the exact feed power level. If, however, the directional coupler is used for power measurement, you should check the frequency range and power rating of the coupler and measure the coupling factor (referred to output) at the test frequency using a VNA.

Note 2: Remember that the use of a 3dB attenuator (as shown in Figure 8.1 of P1528) means that you need an RF amplifier of 2 times greater power for the same feed power. The other issue is the cable length. You might get up to 1dB of loss per meter of cable, so the cable length after the coupler needs to be quite short.

Note 3: For the validation testing done using CW signals, most power meters are suitable. However, if you are measuring the output of a modulated signal from either a signal generator or a handset, you must ensure that the power meter correctly reads the modulated signals.

The measured 1-gram averaged SAR values of the device against the phantom are provided in Tables 5 and Table 6. The humidity and ambient temperature of test facility were64% and 23.2°C respectively. The body phantom were full of the body tissue simulating liquid. The EUT was supplied with full-charged battery for each measurement.

The distance between the back of the EUT and the bottom of the flat phantom is 10 mm (taking into account of the IEEE 1528 and the place of the antenna).

Table 5: Head SAR system validation (1g)

Frequency	Duty cycle	Target value （W/kg）	Test value (W/kg)	
			250 mW	1W
835MHz(May 10th, 2016)	1:1	9.77±10%	2.41	9.64
1900MHz(May 11th, 2016)	1:1	40.37±10%	9.85	39.40
2450MHz(May 16th, 2016)	1:1	53.60±10%	13.16	52.64

Table 6: Body SAR system validation (1g)

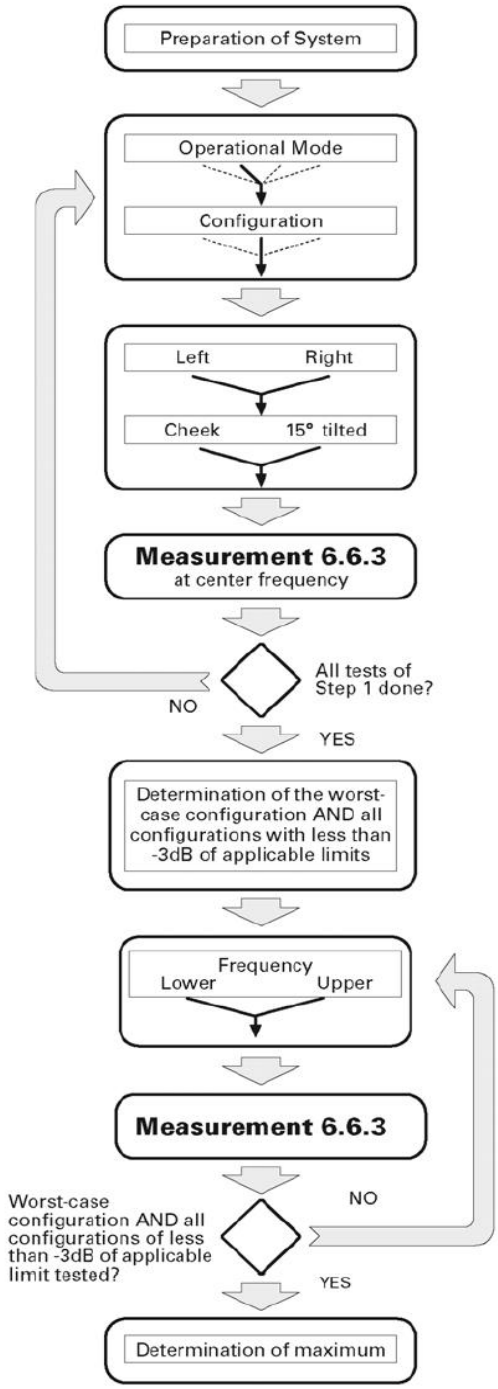
Frequency	Duty cycle	Target value （W/kg）	Test value (W/kg)	
			250 mW	1W
835MHz(May 12th, 2016)	1:1	10.31±10%	2.53	10.12
1900MHz(May 13th, 2016)	1:1	40.81±10%	10.13	40.52
2450MHz(May 16th, 2016)	1:1	52.66±10%	13.08	52.48

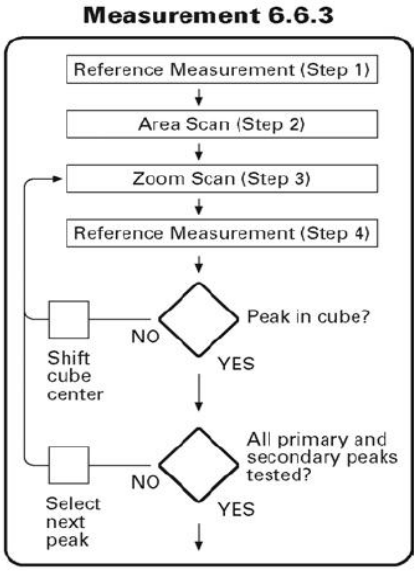
*Note: Target value was referring to the measured value in the calibration certificate of reference dipole.

Note: All SAR values are normalized to 1W forward power.

6.4SAR measurement procedure

The SAR test against the head phantom was carried out as follow:





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

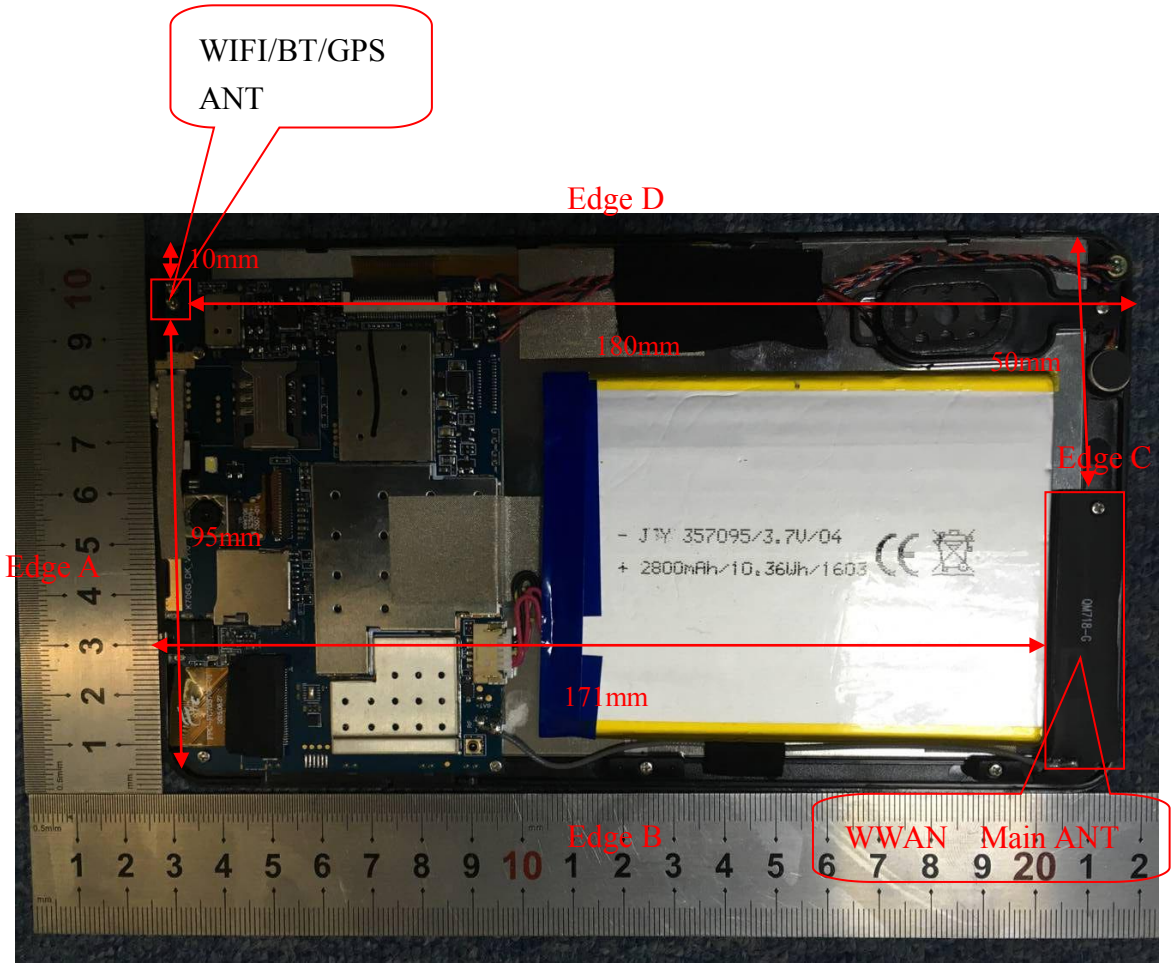
After an area scan has been done at a fixed distance of 2mm from the surface of the phantom on the source side, a 3D scan is set up around the location of the maximum spot SAR. First, a point within the scan area is visited by the probe and a SAR reading taken at the start of testing. At the end of testing, the probe is returned to the same point and a second reading is taken. Comparison between these start and end readings enables the power drift during measurement to be assessed.

Above is the scanning procedure flow chart and table from the IEEEp1528 standard. This is the procedure for which all compliant testing should be carried out to ensure that all variations of the device position and transmission behavior are tested.

For body-worn measurement, the EUT was tested under two position: face upward and back upward.

6.5Transmitting antenna information

TheGSM&WCDMA&WIFI&BTantennas inside the EUT.



Antenna-to-User (Edge Side) distance (mm):

Antenna	Front	Back	Edge A	Edge B	Edge C	Edge D
WWAN Main Antenna	3	3	171	4	2	50
WIFI Antenna	3	3	5	95	180	10

The Body SAR measurement positions of each band are as below:

Antenna	Front	Back	Edge A	Edge B	Edge C	Edge D
WWAN Antenna Body-worn	Yes	Yes	No	No	No	No
WWAN Antenna hotspot	Yes	Yes	No	Yes	Yes	No
WIFI Antenna Body-worn	Yes	Yes	No	No	No	No
WIFI Antenna hotspot	Yes	Yes	Yes	No	No	Yes

Note: According to KDB 941225 D06 v02r01, when antenna-to-edge>2.5cm, SAR is not required.

The 0mm gap Full-size Tablets 1g SAR Test Exclusion Calculations are shown below:

Antennas < 50mm to adjacent edges

Antenna	Mode	Frequency (MHz)	Output Power		Separation Distances (mm)						Calculated Threshold Value					
			dBm	mW	Back	EdgeA	EdgeB	EdgeC	EdgeD	Front	Back	EdgeA	EdgeB	EdgeC	EdgeD	Front
Per KDB 616217 D04 SAR for laptop and tablets, Front Surface of DUT is not applied.																
WWAN	GPRS 850(4Tx)	824.2	32	1584	3	171	4	2	50	N/A	Test	>50mm	Test	Test	Test	N/A
WWAN	GPRS1900(4 Tx)	1880.0	29.5	891	3	171	4	2	50	N/A	Test	>50mm	Test	Test	Test	N/A
WWAN	WCDMA1900 (RMC)	1880.0	23.5	223	3	171	4	2	50	N/A	Test	>50mm	Test	Test	Test	N/A
WWAN	WCDMA 850 (RMC)	846.6	23	199	3	171	4	2	50	N/A	Test	>50mm	Test	Test	Test	N/A
WLAN	WIFI 802.11b	2462	11	12	3	5	95	180	10	N/A	Test	Test	>50mm	>50mm	Test	N/A

Antennas > 50mm to adjacent edges

Antenna	Mode	Frequency (MHz)	Output Power		Separation Distances (mm)						Calculated Threshold Value					
			dBm	mW	Back	EdgeA	EdgeB	EdgeC	EdgeD	Front	Back	EdgeA	EdgeB	EdgeC	EdgeD	Front
Per KDB 616217 D04 SAR for laptop and tablets, Front Surface of DUT is not applied.																
WWAN	GPRS 850(4Tx)	824.2	32	1584	3	171	4	2	50	N/A	<50mm	Exempt	<50mm	<50mm	Test	N/A
WWAN	GPRS1900(4 Tx)	1880.0	29.5	891	3	171	4	2	50	N/A	<50mm	Exempt	<50mm	<50mm	Test	N/A
WWAN	WCDMA 1900 (RMC)	1880.0	23.5	223	3	171	4	2	50	N/A	<50mm	Exempt	<50mm	<50mm	Test	N/A
WWAN	WCDMA 850 (RMC)	846.6	23	199	3	171	4	2	50	N/A	<50mm	Exempt	<50mm	<50mm	Test	N/A
WLAN	WIFI 802.11b	2462	11	12	3	5	95	180	10	N/A	<50mm	<50mm	Exempt	Exempt	<50mm	N/A

Note: According to KDB 616217 D04 v01r02 SAR for laptop and tablets, the back surface and edges of the tablet should be tested for SAR compliance with the tablet touching the phantom, and the SAR Test Exclusion Threshold in KDB 447498 D01 can be applied to determine SAR test exclusion for adjacent edge configurations.

7CHARACTERISTICS OF THE TEST

7.1 Applicable Limit Regulations

47CFR § 2.1093-Radiofrequency Radiation Exposure Evaluation: Portable Devices;

ANSI C95.1–1992: Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz – 300 GHz.(IEEE Std C95.1-1991)

IEEE 1528–2013:IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques

It specifies the maximum exposure limit of **1.6 W/kg** as averaged over any 1 gram of tissue for portable devices being used within 20 cm of the user in the uncontrolled environment.

7.2 Applicable Measurement Standards

The Specific Absorption Rate (SAR) testing specification, method, and procedure for this is in accordance with the following standards:

FCC 47 CFR Part2 (2.1093)
ANSI/IEEE C95.1-1992
IEEE 1528-2013
FCC KDB 248227 D01 802.11 Wi-Fi SAR v02r02
FCC KDB 447498 D01 v06 General RF Exposure Guidance
FCC KDB 648474 D04 v01r03Handset SAR
FCC KDB 616217 D04 v01r02SAR for laptop and tablets
FCC KDB 865664 D01 v01r04 SAR Measurement 100MHz to 6GHz
FCC KDB 865664 D02 v01r02 SAR Exposure Reporting
FCC KDB 941225 D01 v03r01 3G SAR Procedures
FCC KDB 941225 D06 v02r01 Hotspot Mode

8 LABORATORY ENVIRONMENT

The Ambient Conditions during SAR Test

Temperature	Min. = 22°C, Max. = 25°C
Atmospheric pressure	Min.=86 kPa, Max.=106 kPa
Relative humidity	Min. = 45%, Max. = 75%
Ground system resistance	< 0.5 Ω
Ambient noise is checked and found very low and in compliance with requirement of standards.Reflection of surrounding objects is minimized and in compliance with requirement of standards.	

9.Conducted RF Output Power

9.1 GSM Conducted Power

GSM Conducted Power

Band		Burst Average Power (dBm)			Frame-Average Power (dBm)		
GSM850	TX Channel	128	190	251	128	190	251
	Frequency(MHz)	824.2	836.6	848.8	824.2	836.6	848.8
GMSK	GSM	32.77	32.64	32.50	23.74	23.61	23.47
	GPRS(Slot 1)	32.70	32.56	32.45	23.67	23.53	23.42
	GPRS(Slot 2)	31.65	31.50	31.38	25.63	25.48	25.36
	GPRS(Slot 3)	29.43	29.28	29.18	25.17	25.02	24.92
	GPRS(Slot 4)	28.35	28.20	28.08	25.34	25.19	25.07
GMSK	EGPRS(Slot 1)	32.77	32.65	32.56	23.74	23.62	23.53
	EGPRS(Slot 2)	31.71	31.56	31.43	**25.69**	25.54	25.41
	EGPRS(Slot 3)	29.44	29.32	29.21	25.18	25.06	24.95
	EGPRS(Slot 4)	28.39	28.24	28.11	25.38	25.23	25.1

Band		Burst Average Power (dBm)			Frame-Average Power (dBm)		
GSM1900	TX Channel	512	661	810	512	661	810
	Frequency(MHz)	1850.2	1880	1909.8	1850.2	1880	1909.8
GMSK	GSM	29.82	30.01	30.02	20.79	20.98	20.99
	GPRS(Slot 1)	29.87	30.07	30.09	20.84	21.04	21.06
	GPRS(Slot 2)	29.03	29.06	28.94	23.01	**23.04**	22.92
	GPRS(Slot 3)	26.69	26.72	26.58	22.43	22.46	22.32
	GPRS(Slot 4)	25.50	25.53	25.40	22.49	22.52	22.39
GMSK	EGPRS(Slot 1)	29.83	30.02	30.04	20.8	20.99	21.01
	EGPRS(Slot 2)	28.94	29.05	28.98	22.92	23.03	22.96
	EGPRS(Slot 3)	26.69	26.70	25.56	22.43	22.44	21.3
	EGPRS(Slot 4)	25.52	25.54	25.43	22.51	22.53	22.42

Note: Per KDB 447498 D01 v06, the maximum output power channel is used for SAR testing and for further SAR test reduction.

For Head SAR testing, GSM should be evaluated, therefore the EUT was set in GSM Voice for GSM850 and GSM1900 due to its highest frame-average power.

For Body worn SAR testing, GSM should be evaluated, therefore the EUT was set in GSM Voice for GSM850 and GSM 1900 due to its highest frame-average power.

For hotspot mode SAR testing, GPRS and EDGE should be evaluated, therefore the EUT was set in EGPRS850（**2**Tx slots）and GPRS1900 (**2**Tx slots) due to its highest frame-average power.

Timeslot consignations

No. Of Slots	Slot 1	Slot 2	Slot 3	Slot 4
Slot Consignation	1Up4Down	2UpDown	3UpDown	4Up1Down
Duty Cycle	1:8	1:4	1:2.67	1:2
Crest Factor	-9.03dB	-6.02dB	-4.26dB	-3.01dB

9.2 WCDMA Conducted output Power

WCDMA conducted output power

Item	band	WCDMA 850			WCDMA 1900		
	ARFCN	4132	4183	4233	9262	9400	9538
	subtest	Burst Average Power (dBm)			Burst Average Power (dBm)		
RMC 12.2kbps	non	22.64	22.67	**22.81**	23.06	**23.14**	23.06
HSDPA	1	21.65	21.58	21.71	22.06	22.15	22.10
	2	21.61	21.60	21.75	22.04	22.17	22.05
	3	21.08	21.14	21.28	21.59	21.60	21.57
	4	21.06	21.11	21.26	21.58	21.58	21.54
HSUPA	1	21.65	21.58	21.71	22.06	22.07	22.15
	2	21.61	21.60	21.75	22.04	22.17	22.05
	3	21.08	21.14	21.28	21.59	21.60	21.57
	4	21.06	21.11	21.26	21.58	21.58	21.54
	5	21.03	21.08	21.23	21.56	21.56	21.53

Note:

1. WCDMA SAR was tested under PMC 12.2kbps with HSPA Inactive per KDB Publication 941225 D01.HSPA SAR was not requires since the average output power of the HSPA subtests was not more than 0.25dB higher than the RMC level and SAR was less than 1.2W/kg.
2. It is expected by the manufacturer that MPR for some HSPA subtests may be up to 2dB more than specified by 3GPP,but also as low as 0dB according to the chipset implementation in this model.

WLAN 2.4GHz Band Conducted Power

802.11b/g mode

Mode	Data Rate(Mbps)	Teat Result(dBm) (AVG)		
		Ch1	Ch6	Ch11
802.11b	1	9.15	9.31	9.52
	2	9.21	9.38	9.58
	5.5	10.27	10.35	10.57
	11	10.01	10.19	10.37
802.11g	6	5.8	5.9	6.35
	9	5.95	5.98	6.65
	12	6.11	6.21	6.75
	18	6.07	6.18	6.73
	24	6.13	6.17	6.42
	36	5.75	5.77	6.35
	48	5.93	6.02	6.51
	54	5.86	5.91	6.47

802.11n mode

Mode	Data Rate(Mbps)	Teat Result(dBm) (AVG)		
		Ch1	Ch6	Ch11
802.11n (20MHz)	MCS0	5.61	5.52	6.15
	MCS1	5.32	5.33	5.99
	MCS2	5.65	5.69	6.24
	MCS3	5.57	5.54	6.14
	MCS4	5.72	5.76	6.37
	MCS5	5.96	5.93	6.67
	MCS6	6.13	6.19	6.87
	MCS7	6.10	6.13	6.82
802.11n (40MHz)	MCS0	4.11	4.25	4.89
	MCS1	4.13	4.27	4.94
	MCS2	4.15	4.32	4.98
	MCS3	4.16	4.31	5.01
	MCS4	4.20	4.33	4.99
	MCS5	4.41	4.59	5.27
	MCS6	4.32	4.48	5.23
	MCS7	4.34	4.51	5.26

Bluetooth Output Power

Channel	Frequency (MHz)	BT3.0Output Power PK(dBm)		
		GFSK	π/4-DQPSK	8-DPSK
CH 0	2402	-1.55	-2.16	-2.00
CH 39	2441	-2.25	-2.61	-2.61
CH 78	2480	-3.16	-3.50	-3.50

Channel	Frequency (MHz)	BT4.0 Output Power PK(dBm)
		GFSK
CH 0	2402	-9.85
CH 19	2442	-10.69
CH 39	2480	-11.08

SAR test Exclusion and estimate SAR calculation:

Note:

1. Per KDB 447498 D01v06, the 1-g and 10-g SAR test exclusion thresholds for 100MHz to 6GHz at test separation distances ≤ 50mm are determined by:[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] • [$\sqrt{f}$ (GHz)] ≤3.0 for 1-g SAR and ≤7.5 for 10-g extremity SAR
   (1) f(GHz) is the RF channel transmit frequency in GHz
   (2) Power and distance are round to the nearest mW and mm before calculation
   (3) The result is rounded to one decimal place for comparison
   (4) If the test separation distance(antenna-user) is < 5mm, 5mm is used for excluded SAR calculation
   (5)

BT3.0 Max Power (dBm)	mW	Test Distance (mm)	Frequency(GHz)	Exclusion Thresholds
-1.5	0.708	5	2.45	0.222

Per KDB 447498 D01v06 exclusion thresholds is0.222<3, RF exposure evaluation is not required.

BT estimated SAR value=Exclusion Thresholds/7.5=0.222/7.5=**0.030W/Kg**

BT4.0 Max Power (dBm)	mW	Test Distance (mm)	Frequency(GHz)	Exclusion Thresholds
-9.5	0.112	5	2.45	0.035

Per KDB 447498 D01v06 exclusion thresholds is 0.035<3, RF exposure evaluation is not required.

BT estimated SAR value=Exclusion Thresholds/7.5=0.035/7.5=0.005W/Kg

The estimated SAR value is used for simultaneous transmission analysis.

General Note:

1. Per KDB 447498 D01v06,the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
2. PerKDB447498D01v06,testingofotherrequiredchannelswithintheoperatingmodeofa frequencybandisnotrequiredwhenthereported1-gor10-gSARforthemid-bandorhighestoutputpow erchannelis:≤0.8W/kgor2.0W/kg,for1-gor10-grespectively,whenthetransmissionbandis≤100M Hz.Whenthemaximumoutputpowervariationacrosstherequiredtestchannelsis>½dB, instead of the middle channel, the highest output power channel must be used.
3. Per KDB 865664 D01v01r04,for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥0.8W/Kg; if the deviation among the repeated measurement is ≤20%,and the measured SAR <1.45W/Kg, only one repeated measurement is required.
4. Per KDB865664 D02 v01r02, SAR plot is only required for the highest measured SAR in each exposure configuration, wireless mode and frequency band combination; Plots are also required when the measured SAR is > 1.5 W/kg, or > 7.0 W/kg for occupational exposure. The published RF exposure KDB procedures may require additional plots; for example, to support SAR to peak location separation ratio test exclusion and/or volume scan post-processing(Refer to appendix D for details).
5. Per KDB941225 D01 v03r01, when multiple slots can be used, the GPRS/EDGE slot configuration with the highest frame–averaged output power was selected for SAR testing.
6. Per KDB941225 D01 v03r01, when the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤ ¼ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode.
7. Per KDB248227 D01 v02r02, 802.11g /11n-HT20/11n-HT40 is not required. When the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤1.2W/Kg. Thus the SAR can be excluded.

9.3. Scaling Factor calculation

Operation Mode	Channel	Output Power(dBm)	Tune up Power in tolerance(dBm)	Scaling Factor
GSM 850 （Burst Average Power）	128	32.77	32 ± 1	1.054
	190	32.64	32 ± 1	1.086
	251	32.50	32 ± 1	1.122
EGPRS 850(2Tx) (Burst Average Power)	128	31.71	31 ± 1	1.069
	190	31.56	31 ± 1	1.107
	251	31.43	31 ± 1	1.140
GSM1900 (Burst Average Power)	512	29.82	29.5 ± 1	1.169
	661	30.01	29.5 ± 1	1.119
	810	30.02	29.5 ± 1	1.117
GPRS1900(2Tx) (Burst Average Power)	512	29.03	28.5 ± 1	1.114
	661	29.06	28.5 ± 1	1.107
	810	28.94	28.5 ± 1	1.138
WCDMA1900 （RMC 12.2kbps） (Burst Average Power)	9262	23.06	22.5 ± 1	1.107
	9400	23.14	22.5 ± 1	1.086
	9538	23.06	22.5 ± 1	1.107
WCDMA850 （RMC 12.2kbps） (Burst Average Power)	4132	22.64	22.0± 1	1.219
	4183	22.67	22.0± 1	1.211
	4233	22.81	22.0± 1	1.172
WIFI 802.11b (Burst Average Power)	1	10.27	10.0± 1	1.183
	6	10.35	10.0± 1	1.161
	11	10.57	10.0± 1	1.104
BT (Peak Power)	0	-1.55	-2.5± 1	1.012

Simultaneous SAR

No.	Transmitter Combinations	Scenario Supported or not	Supported for Mobile Hotspot or not
1	GSM(Voice)+GSM(Data)	No	No
2	WCDMA(Voice)+WCDMA(Data)	No	No
3	GSM(Voice)+ WCDMA(Data)	No	No
4	WCDMA(Voice)+GSM(Data)	No	No
5	GSM(Voice)+ WCDMA(Voice)	No	No
6	GSM(Voice)+Wifi	Yes	No
7	WCDMA(Voice) +Wifi	Yes	No
8	GSM(Voice)+ BT	Yes	No
9	WCDMA(Voice) + BT	Yes	No
10	GSM(Data)+wifi	Yes	Yes
11	WCDMA(Data) +wifi	Yes	Yes

10 TEST RESULTS

10.1 Summary of SAR Measurement Results

Table 7:SAR Values of GSM 850MHz Band

Temperature: 23.0~23.5°C, humidity: 62~64%.							
Test Positions			Channel /Frequency (MHz)	SAR(W/Kg), 1.6 (1g average)			Plot No.
				SAR (W/Kg),1g	Scaled Factor	Scaled SAR(W/Kg) ,1g	
Right Side of Head	Cheek		128/824.2	**0.010**	1.054	0.011	**1**
	Tilt 15 degrees		128/824.2	0.008	1.054	0.008	--
Left Side of Head	Cheek		128/824.2	0.008	1.054	0.008	**--**
	Tilt 15 degrees		128/824.2	0.005	1.054	0.005	--
Tablet SAR (0mm Separation)	EGPRS (2Tx)	Face Upward	128/824.2	0.044	1.069	0.047	**--**
		Back Upward	128/824.2	0.060	1.069	0.064	**--**
		Edge B	128/824.2	**0.068**	1.069	0.073	**2**
		Edge C	128/824.2	0.033	1.069	0.035	--
		Edge D	128/824.2	0.016	1.069	0.017	--

Table 8:SAR Values of GSM1900MHz Band

Temperature: 23.0~23.5°C, humidity: 62~64%.							
Test Positions			Channel /Frequency (MHz)	SAR(W/Kg), 1.6 (1g average)			Plot No.
				SAR (W/Kg),1g	Scaled Factor	Scaled SAR(W/Kg) ,1g	
Right Side of Head	Cheek		810/1909.8	0.038	1.117	0.042	--
	Tilt 15 degrees		810/1909.8	0.027	1.117	0.030	--
Left Side of Head	Cheek		810/1909.8	**0.040**	1.117	0.045	**3**
	Tilt 15 degrees		810/1909.8	0.025	1.117	0.028	--
Tablet SAR (0mm Separation)	GPRS (2Tx)	Face Upward	661/1880	**0.288**	1.107	0.319	**4**
		Back Upward	661/1880	0.122	1.107	0.135	**--**
		Edge B	661/1880	0.101	1.107	0.112	--
		Edge C	661/1880	0.059	1.107	0.065	--
		Edge D	661/1880	0.027	1.107	0.030	--

Table 9:SAR Values of WCDMA850

Temperature: 23.0~23.5°C, humidity: 62~64%.						
Test Positions		Channel /Frequency (MHz)	SAR(W/Kg), 1.6 (1g average)			Plot No.
			SAR (W/Kg), 1g	Scaled Factor	Scaled SAR(W/Kg),1g	
Right Side of Head	Cheek	4233/846.6	**0.014**	1.172	0.016	**5**
	Tilt 15 degrees	4233/846.6	0.008	1.172	0.009	--
Left Side of Head	Cheek	4233/846.6	0.006	1.172	0.007	--
	Tilt 15 degrees	4233/846.6	0.004	1.172	0.005	--
Tablet SAR (0mm Separation)	Face Upward	4233/846.6	0.025	1.172	0.029	**--**
	Back Upward	4233/846.6	**0.036**	1.172	0.042	**6**
	Edge B	4233/846.6	0.009	1.172	0.011	--
	Edge C	4233/846.6	0.024	1.172	0.028	--
	Edge D	4233/846.6	0.007	1.172	0.008	--

Table 10:SAR Values of WCDMA1900

Temperature: 23.0~23.5°C, humidity: 62~64%.						
Test Positions		Channel /Frequency (MHz)	SAR(W/Kg), 1.6 (1g average)			Plot No.
			SAR (W/Kg),1g	Scaled Factor	Scaled SAR(W/Kg),1g	
Right Side of Head	Cheek	9400/1880.0	**0.065**	1.086	0.071	**7**
	Tilt 15 degrees	9400/1880.0	0.019	1.086	0.021	--
Left Side of Head	Cheek	9400/1880.0	0.050	1.086	0.054	--
	Tilt 15 degrees	9400/1880.0	0.018	1.086	0.020	--
Tablet SAR (0mm Separation)	Face Upward	9400/1880.0	0.166	1.086	0.180	--
	Back Upward	9400/1880.0	**0.308**	1.086	0.334	**8**
	Edge B	9400/1880.0	0.083	1.086	0.090	--
	Edge C	9400/1880.0	0.043	1.086	0.047	--
	Edge D	9400/1880.0	0.024	1.086	0.026	--

Table 11:SAR Values of Wi-Fi 802.11b

Test Positions		Channel /Frequency (MHz)	SAR(W/Kg), 1.6 (1g average)			Plot No.
			SAR(W/Kg) 1g	Scaled Factor	Scaled SAR(W/Kg) ,1g	
Right Side of Head	Cheek	11/2462	**0.532**	1.104	0.587	**9**
	Tilt 15 degrees	11/2462	0.509	1.104	0.562	--
Left Side of Head	Cheek	11/2462	0.193	1.104	0.213	--
	Tilt 15 degrees	11/2462	0.267	1.104	0.295	--
Tablet SAR (0mm Separation)	Face Upward	11/2462	**0.187**	1.104	0.206	**10**
	Back Upward	11/2462	0.177	1.104	0.195	--
	Edge A	11/2462	0.164	1.104	0.181	--
	Edge D	11/2462	0.184	1.104	0.203	--

Note: When the 1-g SAR for the mid-band channel or the channel with the Highest output power satisfy the following conditions, testing of the other channels in the band is not required.(Per KDB 447498 D01 General RF Exposure Guidance v06)
• ≤ 0.8 W/kg, when the transmission band is ≤ 100 MHz
• ≤ 0.6 W/kg, when the transmission band is between 100 MHz and 200 MHz
• ≤ 0.4 W/kg, when the transmission band is ≥ 200 MHz

10.2Simultaneous Transmissions Analysis

Localized Specific Absorption Rate (SAR) of this portable wireless device has been measured in all cases requested by the relevant standards cited in Clause 6 of this report. Maximum localized SAR is **below** exposure limits specified in the relevant standards.

Simultaneous Tx Combination of GSM/WCDMA and BT/WIFI (Head).

Test Position		Right Cheek	Right Title	Left Cheek	Left Tilt
Head MAX 1-g SAR(W/Kg)	GSM850	0.011	0.008	0.008	0.005
	GSM1900	0.042	0.030	0.045	0.028
	WCDMA850	0.016	0.009	0.007	0.005
	WCDMA1900	0.071	0.021	0.054	0.020
	WIFI 802.11b	0.587	0.562	0.213	0.295
	BT	*0.030	*0.030	*0.030	*0.030
BT Simultaneous ∑1-g SAR(W/Kg)		0.101	0.060	0.084	0.058
WiFi Simultaneous ∑1-g SAR(W/Kg)		0.658	0.592	0.267	0.333

0mm Tablet SAR Simultaneous Transmissions:

Test Position		Face	Back	Edge A	Edge B	Edge C	Edge D
Tablet SAR 0mm separation MAX 1-g SAR(W/Kg)	GPRS850	0.047	0.064	--	0.073	0.035	0.017
	GPRS1900	0.319	0.135	--	0.112	0.065	0.030
	WCDMA 850	0.029	0.042	--	0.011	0.028	0.008
	WCDMA 1900	0.180	0.334	--	0.090	0.047	0.026
	WIFI 802.11b	0.187	0.177	0.181	--	--	0.203
	BT	*0.030	*0.030	*0.030	--	--	*0.030
BT Simultaneous ∑1-g SAR(W/Kg)		0.349	0.364	0.030	0.112	0.065	0.060
WiFi Simultaneous ∑1-g SAR(W/Kg)		0.506	0.511	0.181	0.112	0.065	0.233

The estimated SAR value with * Signal

SAR to PeakLocation SeparationRatio (SPLSR)

As the Sum ofthe SAR is not greater than1.6 W/kg SPLSR assessment is not required

11Measurement Uncertainty

No.	Uncertainty Component	Type	Uncertainty Value (%)	Probability Distribution	k	ci	Standard Uncertainty(%) ui(%)	Degree of freedom Veffor vi
	Measurement System							
1	– Probe Calibration	B	5.8	N	1	1	5.8	∞
2	– Axialisotropy	B	3.5	R	$\sqrt{3}$	0.5	1.43	∞
3	–Hemispherical Isotropy	B	5.9	R	$\sqrt{3}$	0.5	2.41	∞
4	– Boundary Effect	B	1	R	$\sqrt{3}$	1	0.58	∞
5	– Linearity	B	4.7	R	$\sqrt{3}$	1	2.71	∞
6	– System Detection Limits	B	1.0	R	$\sqrt{3}$	1	0.58	∞
7	Modulation response	B	3	N	1	1	3.00	
8	– Readout Electronics	B	0.5	N	1	1	0.50	∞
9	– Response Time	B	1.4	R	$\sqrt{3}$	1	0.81	∞
10	– Integration Time	B	3.0	R	$\sqrt{3}$	1	1.73	∞
11	– RF Ambient Conditions	B	3.0	R	$\sqrt{3}$	1	1.73	∞
12	– Probe Position Mechanical tolerance	B	1.4	R	$\sqrt{3}$	1	0.81	∞
13	– Probe Position with respect to Phantom Shell	B	1.4	R	$\sqrt{3}$	1	0.81	∞
14	– Extrapolation, Interpolation and Integration Algorithms for Max. SAR evaluation	B	2.3	R	$\sqrt{3}$	1	1.33	∞
	Uncertainties of the DUT							
15	– Position of the DUT	A	2.6	N	$\sqrt{3}$	1	2.6	5
16	– Holder of the DUT	A	3	N	$\sqrt{3}$	1	3.0	5

17	– Output Power Variation –SAR drift measurement	B	5.0	R	$\sqrt{3}$	1	2.89	∞
Phantom and Tissue Parameters								
18	– Phantom Uncertainty(shape and thickness tolerances)	B	4	R	$\sqrt{3}$	1	2.31	∞
19	Uncertainty in SAR correction for deviation(in permittivity and conductivity)	B	2	N	1	1	2.00	
20	– Liquid Conductivity Target –tolerance	B	2.5	R	$\sqrt{3}$	0.6	1.95	∞
21	– Liquid Conductivity –measurement Uncertainty)	B	4	N	$\sqrt{3}$	1	0.92	9
22	– Liquid Permittivity Target tolerance	B	2.5	R	$\sqrt{3}$	0.6	1.95	∞
23	– Liquid Permittivity –measurement uncertainty	B	5	N	$\sqrt{3}$	1	1.15	∞
Combined Standard Uncertainty				RSS			10.63	
Expanded uncertainty (Confidence interval of 95 %)				K=2			21.26	

System Check Uncertainty

No.	Uncertainty Component	Type	Uncertainty Value (%)	Probability Distribution	k	ci	Standard Uncertainty(%) ui(%)	Degree of freedom Veffor vi
	Measurement System							
1	– Probe Calibration	B	5.8	N	1	1	5.8	∞
2	– Axialisotropy	B	3.5	R	$\sqrt{3}$	0.5	1.43	∞
3	–Hemispherical Isotropy	B	5.9	R	$\sqrt{3}$	0.5	2.41	∞
4	– Boundary Effect	B	1	R	$\sqrt{3}$	1	0.58	∞
5	– Linearity	B	4.7	R	$\sqrt{3}$	1	2.71	∞
6	– System Detection Limits	B	1	R	$\sqrt{3}$	1	0.58	∞
7	Modulation response	B	0	N	1	1	0.00	

8	– Readout Electronics	B	0.5	N	1	1	0.50	∞
9	– Response Time	B	0.00	R	$\sqrt{3}$	1	0.00	∞
10	– Integration Time	B	1.4	R	$\sqrt{3}$	1	0.81	∞
11	– RF Ambient Conditions	B	3.0	R	$\sqrt{3}$	1	1.73	∞
12	– Probe Position Mechanical tolerance	B	1.4	R	$\sqrt{3}$	1	0.81	∞
13	– Probe Position with respect to Phantom Shell	B	1.4	R	$\sqrt{3}$	1	0.81	∞
14	– Extrapolation, Interpolation and Integration Algorithms for Max. SAR evaluation	B	2.3	R	$\sqrt{3}$	1	1.33	∞
	Uncertainties of the DUT							
15	Deviation of experimental source from numberical source	A	4	N	1	1	4.00	5
16	Input Power and SAR drift measurement	A	5	R	$\sqrt{3}$	1	2.89	5
17	Dipole Axis to Liquid Distance	B	2	R	$\sqrt{3}$	1	1.2	∞
Phantom and Tissue Parameters								
18	– Phantom Uncertainty(shape and thickness tolerances)	B	4	R	$\sqrt{3}$	1	2.31	∞
19	Uncertainty in SAR correction for deviation(in permittivity and conductivity)	B	2	N	1	1	2.00	
20	– Liquid Conductivity Target –tolerance	B	2.5	R	$\sqrt{3}$	0.6	1.95	∞
21	– Liquid Conductivity –measurement Uncertainty)	B	4	N	$\sqrt{3}$	1	0.92	9
22	– Liquid Permittivity Target tolerance	B	2.5	R	$\sqrt{3}$	0.6	1.95	∞
23	– Liquid Permittivity –measurement uncertainty	B	5	N	$\sqrt{3}$	1	1.15	∞
Combined Standard Uncertainty				RSS			10.15	
Expanded uncertainty (Confidence interval of 95 %)				K=2			20.29	

12 MAIN TEST INSTRUMENTS

EQUIPMENT	TYPE	Series No.	Calibration Date	calibration period
System Simulator	E5515C	GB 47200710	2015/06/10	1 Year
SAR Probe	SATIMO	SN_0413_EP166	2015/08/10	1 Year
Dipole	SID835	SN09/13 DIP0G835-217	2014/08/28	2 Year
Dipole	SID1900	SN09/13 DIP1G900-218	2014/08/28	2 Year
Dipole	SID2450	SN09/13 DIP2G450-220	2014/08/28	2 Year
Vector Network Analyzer	ZVB8	A0802530	2015/06/08	1 Year
Signal Generator	SMR27	A0304219	2015/06/08	1 Year
Power Meter	NRP2	A140401673	2016/03/09	1 Year
Power Sensor	NPR-Z11	1138.3004.02-114072-nq	2016/03/09	1 Year
Amplifier	Nucletudes	143060	2016/03/09	1 Year
Directional Coupler	DC6180A	305827	2016/03/09	1 Year
Power Meter	NRVS	A0802531	2016/03/09	1 Year
Power Sensor	NRV-Z4	100069	2016/03/09	1 Year
Multimeter	Keithley-2000	4014020	2016/03/09	1 Year

ANNEX A

of

CCIC-SET

CONFORMANCE TEST REPORT FOR

HUMAN EXPOSURE TO ELECTROMAGNETIC FIELDS

SET2016-08132

Tablet PC

Type Name: Ilium Pad T7X

Hardware Version： **K706G_DK_V1.0**

Software Version： **Ilium Pad T7X_TELCEL_SW_01**

TEST SETUP

This Annex consists of 9pages

Date of Report: 2016-05-19

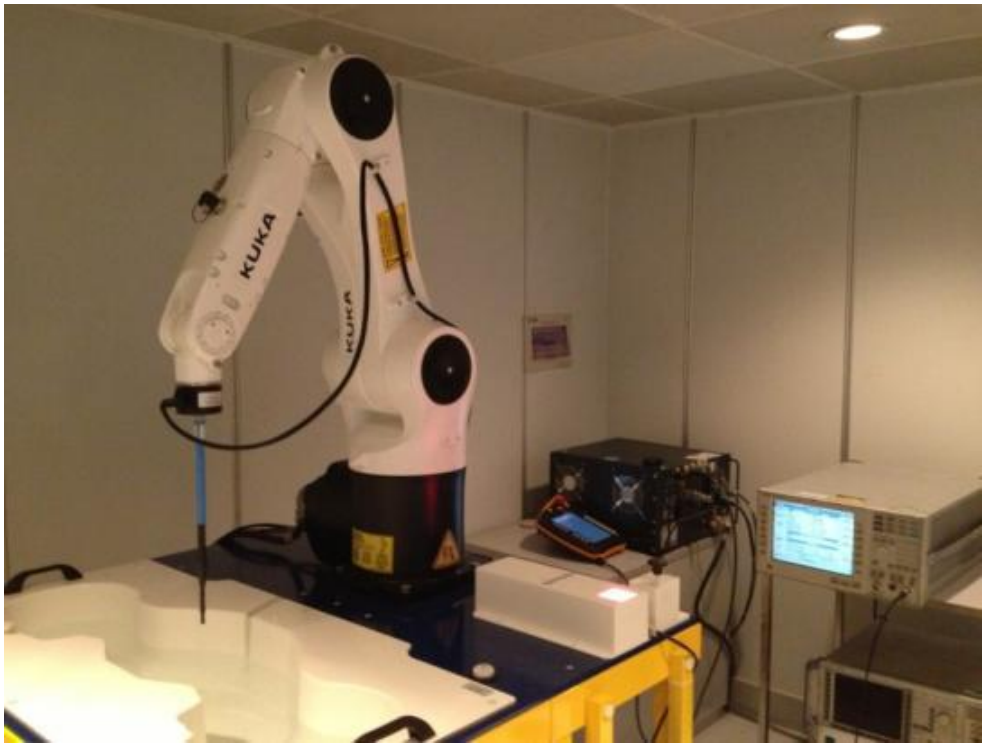


Fig.1 COMO SAR Test System

Fig.2Head Liquid of 835MHz(15cm)

Fig.3Body Liquid of 835MHz(15cm)

Fig.4Head Liquid of 1900MHz(15cm)

Fig.5Body Liquid of 1900MHz(15cm)

Fig.6Head Liquid of 2450MHz(15cm)

Fig.7Body Liquid of 2450MHz(15cm)

ANNEX B

of

CCIC-SET

CONFORMANCE TEST REPORT FOR

HUMAN EXPOSURE TO ELECTROMAGNETIC FIELDS

SET2016-08132

Tablet PC

Type Name: Ilium Pad T7X

Hardware Version: K706G_DK_V1.0

Software Version: Ilium Pad T7X_TELCEL_SW_01

Sample Photographs

This Annex consists of 2 pages

Date of Report:2016-05-19

1. Appearance

Appearance and size (obverse)

Appearance and size (reverse)

ANNEX C

of

CCIC-SET

CONFORMANCE TEST REPORT FOR

HUMAN EXPOSURE TO ELECTROMAGNETIC FIELDS

SET2016-08132

Tablet PC

Type Name: Ilium Pad T7X

Hardware Version: K706G_DK_V1.0

Software Version: Ilium Pad T7X_TELCEL_SW_01

System Performance Check Dataand Highest SAR Plots

This Annex consists of 27pages

Date of Report: 2016-05-19

System Performance Check (Head, 835MHz)

Type: Validation measurement

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

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

Date of measurement:10/05/2016

Measurement duration: 21 minutes 26 seconds

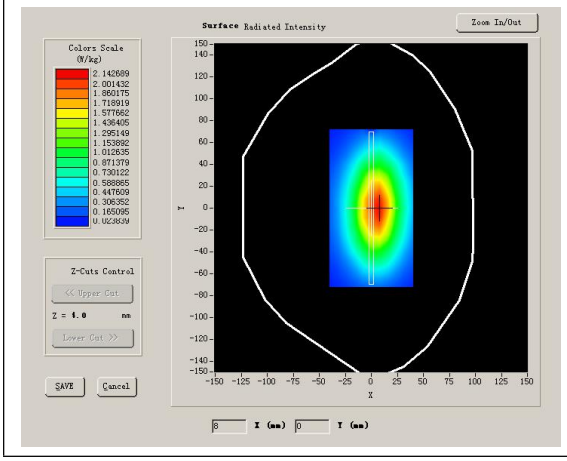
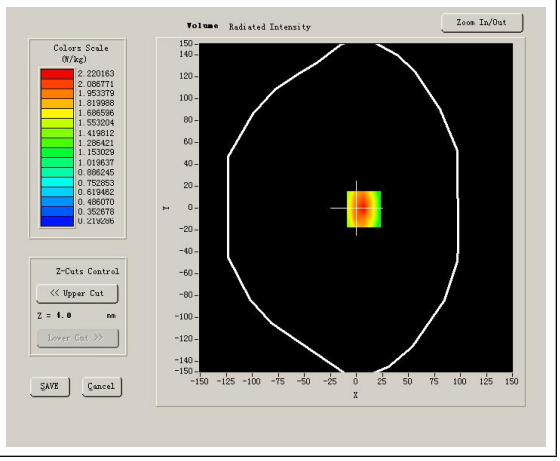
A. Experimental conditions.

Phantom File	dx=8mm dy=8mm
Phantom	5x5x7,dx=8mm dy=8mm dz=5mm
Device Position	
Band	850MHz
Channels	
Signal	CW

B. SAR Measurement Results

Band SAR

E-Field Probe	SATIMO SN_04/13_EP166
Frequency (MHz)	850
Relative permittivity (real part)	41.39
Relative permittivity	19.19
Conductivity (S/m)	0.89
Power drift (%)	0.95
Ambient Temperature:	23.2°C
Liquid Temperature:	23.5°C
ConvF:	5.69
Duty factor:	1:1

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=7.00, Y=-1.00

SAR 10g (W/Kg)	1.812368
SAR 1g (W/Kg)	2.413640

System Performance Check (Head, 1900MHz)

Type: Validation measurement

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

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

Date of measurement: 11/05/2016

Measurement duration: 22 minutes 31 seconds

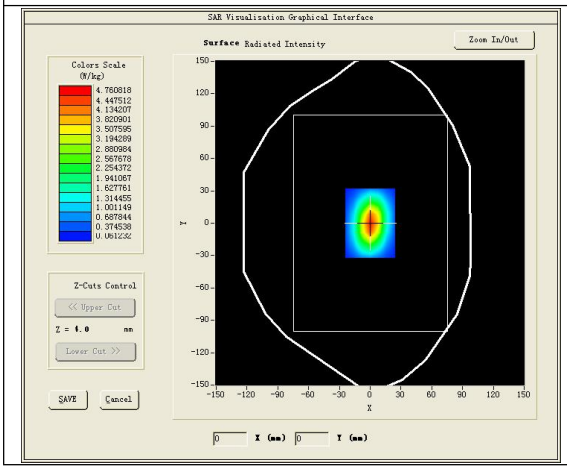
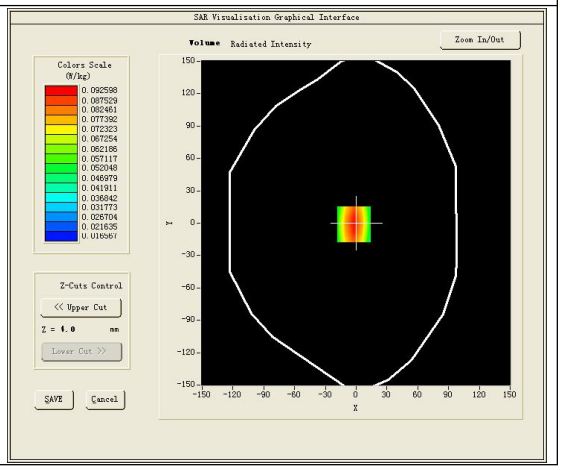
A. Experimental conditions.

Phantom File	dx=8mm dy=8mm
Phantom	5x5x7,dx=8mm dy=8mm dz=5mm
Device Position	
Band	1900MHz
Channels	
Signal	CW

B. SAR Measurement Results

Band SAR

E-Field Probe	SATIMO SN_04/13_EP166
Frequency (MHz)	1900.000000
Relative permittivity (real part)	39.87
Relative permittivity	13.90
Conductivity (S/m)	1.39
Power drift (%)	1.34
Ambient Temperature:	22.2°C
Liquid Temperature:	22.5°C
ConvF:	5.25
Duty factor:	1:1

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=6.00, Y=0.00

SAR 10g (W/Kg)	5.158547
SAR 1g (W/Kg)	9.851324

System Performance Check (Head, 2450MHz)

Type: Phone measurement

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

Zoom scan resolution: dx=5mm dy=5mm dz=4mm

Date of measurement:16/05/2016

Measurement duration: 21 minutes 29 seconds

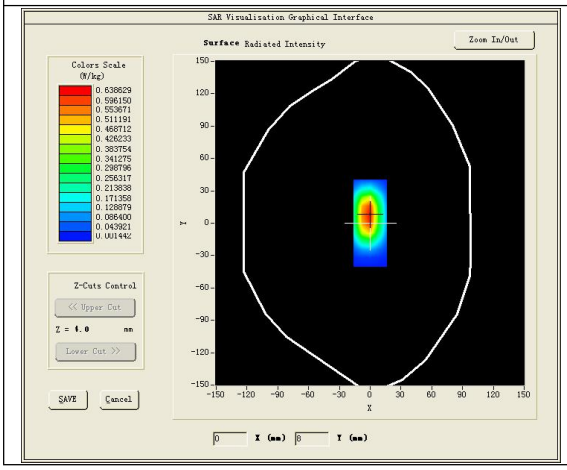
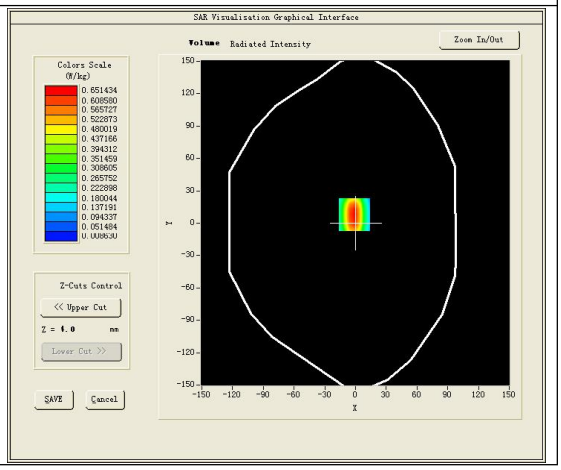
A. Experimental conditions.

Phantom File	dx=8mm dy=8mm
Phantom	7x7x8,dx=5mm dy=5mm dz=4mm
Device Position	Dipole
Band	2450MHz
Channels	
Signal	CW

B. SAR Measurement Results

Band SAR

E-Field Probe	SATIMO SN_04/13_EP166
Frequency (MHz)	2450
Relative permittivity (real part)	38.98
Relative permittivity	12.17
Conductivity (S/m)	1.79
Power Drift (%)	0.36
Ambient Temperature:	22.2°C
Liquid Temperature:	22.5°C
ConvF:	4.93
Duty factor:	1:1

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=0.00, Y=8.00

SAR 10g (W/Kg)	5.914368
SAR 1g (W/Kg)	13.161225

System Performance Check (Body, 835MHz)

Type: Validation measurement

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

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

Date of measurement: 12/05/2016

Measurement duration: 21 minutes 33seconds

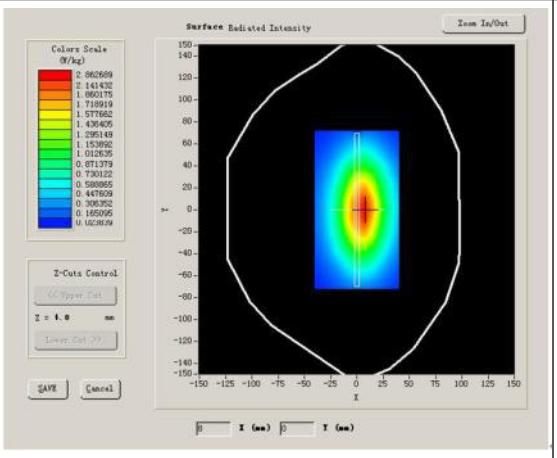
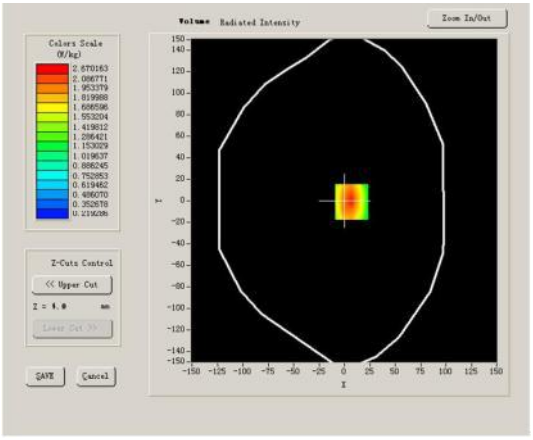
A. Experimental conditions.

Phantom File	dx=8mm dy=8mm
Phantom	5x5x7,dx=8mm dy=8mm dz=5mm
Device Position	Dipole
Band	835MHz
Channels	
Signal	CW

B. SAR Measurement Results

Band SAR

E-Field Probe	SATIMO SN_04/13_EP166
Frequency (MHz)	850
Relative permittivity (real part)	55.27
Relative permittivity	20.54
Conductivity (S/m)	0.97
Power drift (%)	-0.22
Ambient Temperature:	22.2°C
Liquid Temperature:	22.5°C
ConvF:	5.82
Duty factor:	1:1

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=7.00, Y=-1.00

SAR 10g (W/Kg)	1.633642
SAR 1g (W/Kg)	2.534217

System Performance Check (Body, 1900MHz)

Type:Validation measurement

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

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

Date of measurement: 13/05/2016

Measurement duration: 21 minutes 37 seconds

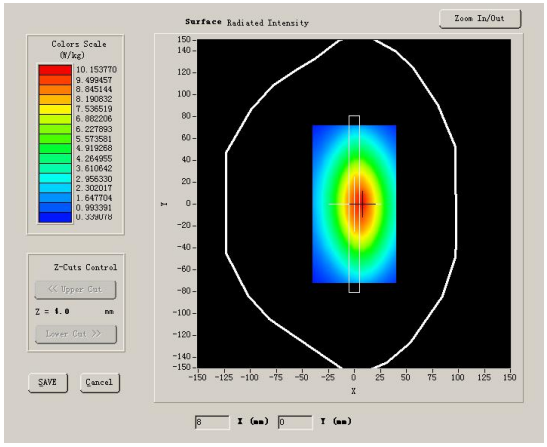
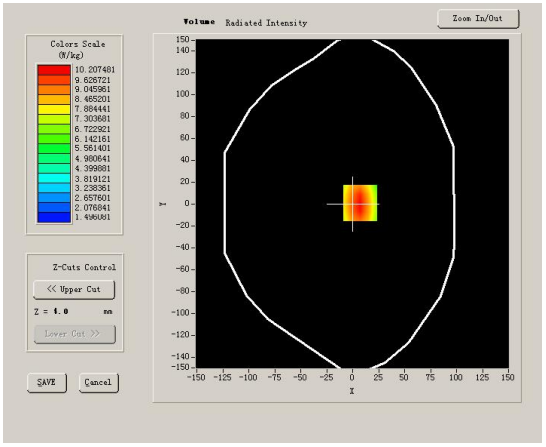
A. Experimental conditions.

Phantom File	dx=8mm dy=8mm
Phantom	5x5x7,dx=8mm dy=8mm dz=5mm
Device Position	Dipole
Band	1900MHz
Channels	
Signal	CW

B. SAR Measurement Results

Band SAR

E-Field Probe	SATIMO SN_04/13_EP166
Frequency (MHz)	1900
Relative permittivity (real part)	53.23
Relative permittivity	14.40
Conductivity (S/m)	1.52
Power Drift (%)	-0.97
Ambient Temperature:	22.1°C
Liquid Temperature:	22.6°C
ConvF:	5.43
Duty factor:	1:1

SURFACE SAR	VOLUME SAR
	

Maximum location: X=1.00, Y=6.00

SAR 10g (W/Kg)	5.262651
SAR 1g (W/Kg)	10.132574

System Performance Check (Body, 2450MHz)

Type: Phone measurement

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

Zoom scan resolution: dx=5mm, dy=5mm, dz=4mm

Date of measurement: 16/05/2016

Measurement duration: 22 minutes 11 seconds

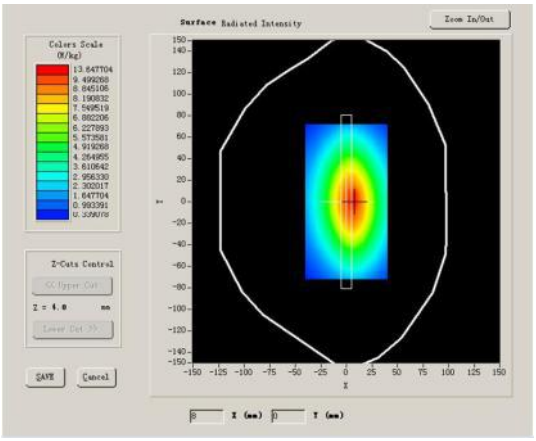
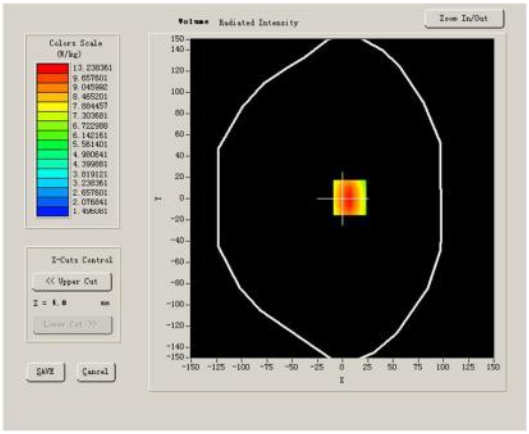
A. Experimental conditions.

Phantom File	dx=8mm dy=8mm
Phantom	7x7x8,dx=5mm dy=5mm dz=4mm
Device Position	Dipole
Band	2450MHz
Channels	
Signal	CW

B. SAR Measurement Results

Band SAR

E-Field Probe	SATIMO SN_04/13_EP166
Frequency (MHz)	2450
Relative permittivity (real part)	52.55
Relative permittivity	14.25
Conductivity (S/m)	1.94
Power Drift (%)	1.39
Ambient Temperature:	22.1°C
Liquid Temperature:	22.6°C
Duty factor:	1:1
ConvF:	5.09

SURFACE SAR	VOLUME SAR
	

Maximum location: X=0.00, Y=8.00

SAR 10g (W/Kg)	6.056387
SAR 1g (W/Kg)	13.082258

Plot 1: GSM850, Left Cheek, Low

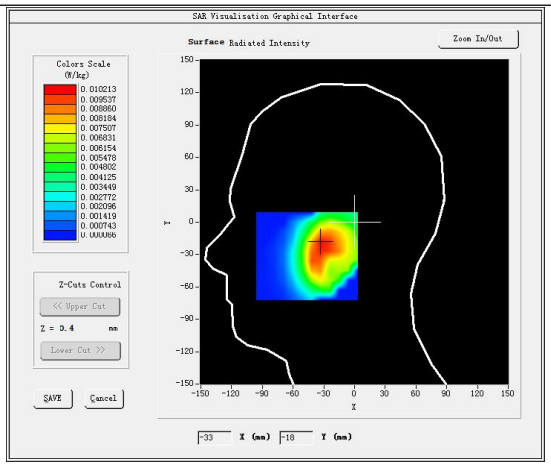
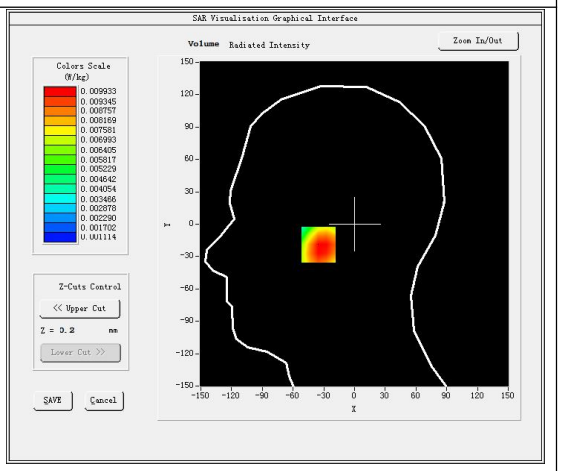
Type: Phone measurement
Date of measurement: 10/05/2016
Measurement duration: 21 minutes 12seconds
Tablet PC IMEI number: --

A. Experimental conditions.

Area Scan	dx=8mm dy=8mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Left head
Device Position	Cheek
Band	GSM850
Channels	128
Signal	GSM (Duty cycle: 1:8)

B. SAR Measurement Results

E-Field Probe	SATIMO SN_04/13_EP166
Frequency (MHz)	824.2
Relative permittivity (real part)	41.39
Relative permittivity (imaginary part)	19.19
Conductivity (S/m)	0.89
Variation (%)	-0.59
ConvF:	5.69

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=-32.00, Y=-19.00
SAR Peak: 0.01 W/kg

SAR 10g (W/Kg)	0.006750
SAR 1g (W/Kg)	0.009725

Plot 2: EGPRS850, Edge B, Low, 0mm distance

Type: Phone measurement

Date of measurement: 12/05/2016

Measurement duration: 22 minutes 11 seconds

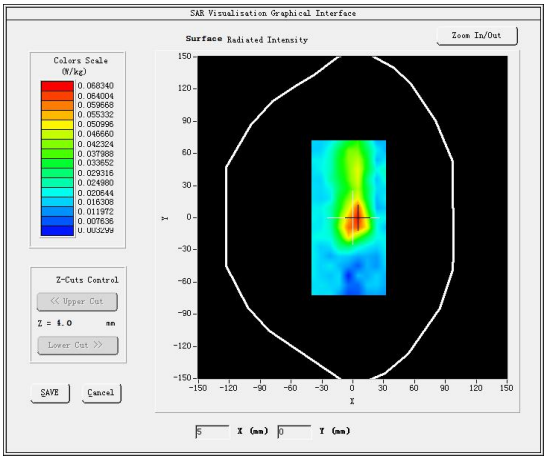
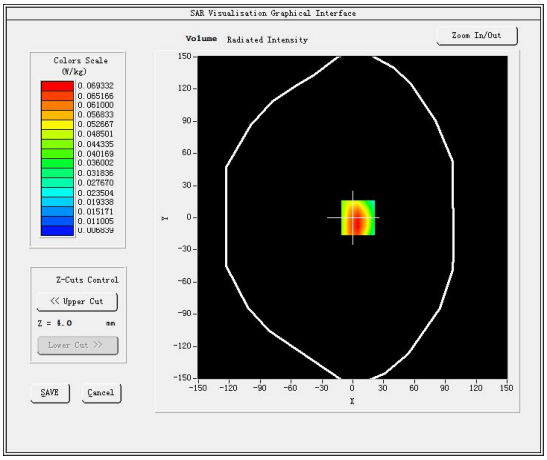
Tablet PC IMEI number: --

A. Experimental conditions.

Area Scan	dx=8mm dy=8mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Body
Band	EGSPRS850_2Tx
Channels	128
Signal	EGPRS(Duty cycle: 1:4)

B. SAR Measurement Results

E-Field Probe	SATIMO SN_04/13_EP166
Frequency (MHz)	824.2
Relative permittivity (real part)	55.27
Relative permittivity (imaginary part)	20.54
Conductivity (S/m)	0.97
Variation (%)	2.80
ConvF:	5.82

SURFACE SAR	VOLUME SAR
	

Maximum location: X=5.00, Y=0.00

SAR Peak: 0.11 W/kg

SAR 10g (W/Kg)	0.042247
SAR 1g (W/Kg)	0.068221

Plot 3: GSM1900, Left Cheek, High

Type: Phone measurement

Date of measurement:11/05/2016

Measurement duration: 21 minutes 42 seconds

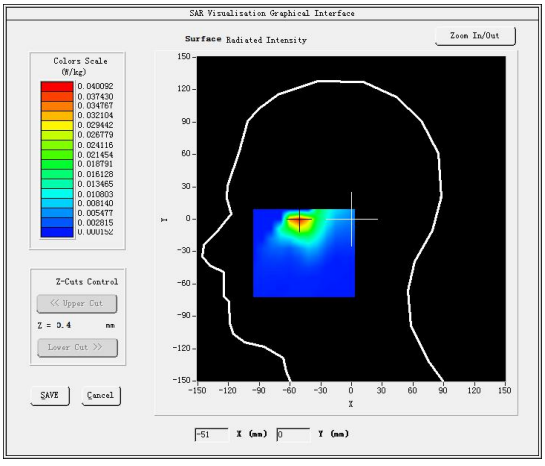
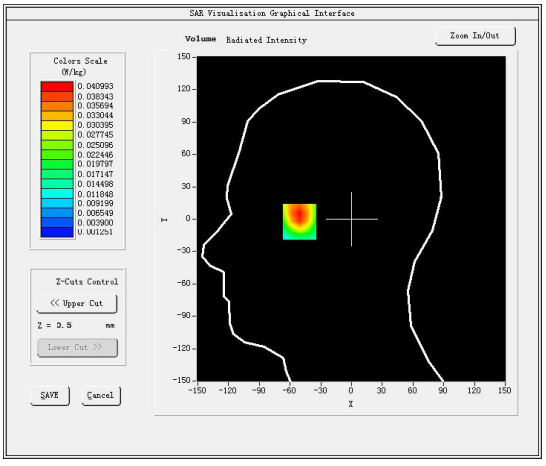
Tablet PC IMEI number: --

A. Experimental conditions.

Area Scan	dx=8mm dy=8mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Left head
Device Position	Cheek
Band	GSM1900
Channels	810
Signal	GSM (Duty cycle: 1:8)

B. SAR Measurement Results

E-Field Probe	SATIMO SN_04/13_EP166
Frequency (MHz)	1909.8
Relative permittivity (real part)	39.87
Relative permittivity (imaginary part)	13.90
Conductivity (S/m)	1.39
Variation (%)	1.57
ConvF:	5.25

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=-51.00, Y=0.00

SARPeak: 0.06 W/kg

SAR 10g (W/Kg)	0.023086
SAR 1g (W/Kg)	0.040188

Plot 4: GPRS1900, Back, Middle, 0mm distance

Type: Phone measurement

Date of measurement:13/05/2016

Measurement duration: 22 minutes 13 seconds

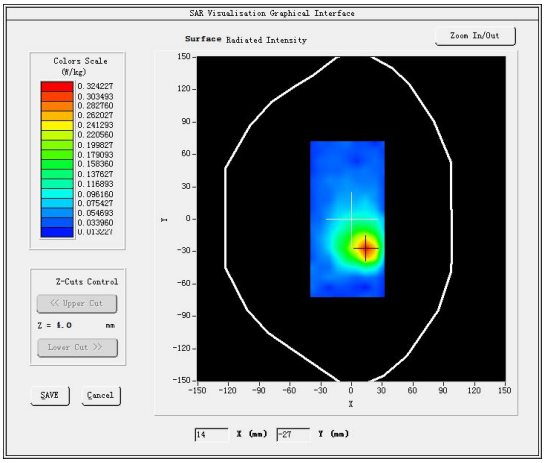
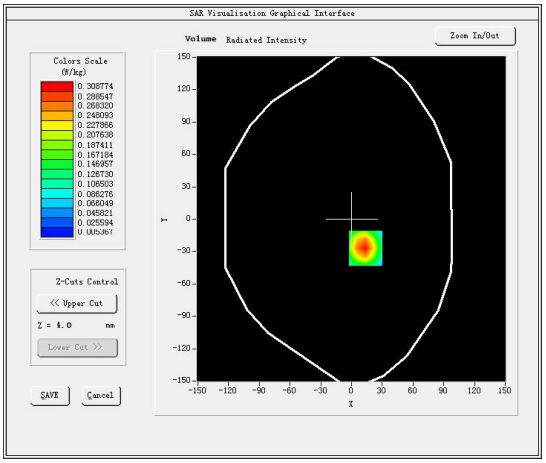
Tablet PC IMEI number: --

A. Experimental conditions.

Area Scan	dx=8mm dy=8mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Body
Band	GPRS1900_2Tx
Channels	810
Signal	GPRS (Duty cycle: 1:4)

B. SAR Measurement Results

E-Field Probe	SATIMO SN_04/13_EP166
Frequency (MHz)	1880.0
Relative permittivity (real part)	53.23
Relative permittivity (imaginary part)	14.40
Conductivity (S/m)	1.52
Variation (%)	-4.83
ConvF:	5.43

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=14.00, Y=-27.00

SAR 10g (W/Kg)	0.149818
SAR 1g (W/Kg)	0.288068

Plot 5: WCDMA850, Right, Cheek, High

Type: Phone measurement

Date of measurement: 10/05/2016

Measurement duration: 21 minutes 22seconds

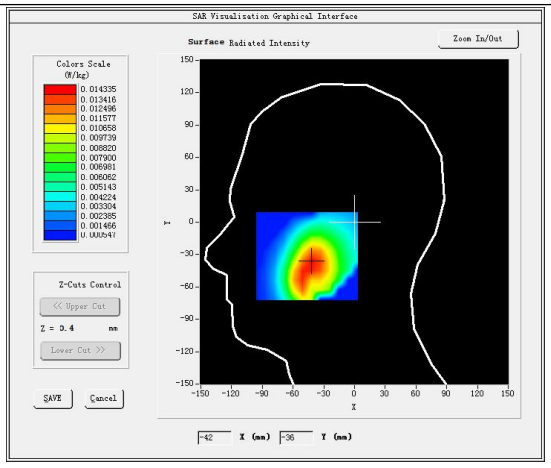
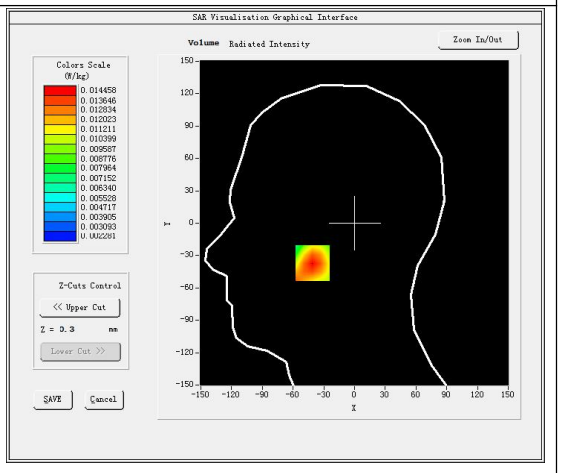
Tablet PC IMEI number: --

A. Experimental conditions.

Area Scan	dx=8mm dy=8mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Right head
Device Position	Cheek
Band	Band5_WCDMA850
Channels	4233
Signal	WCDMA (Duty cycle: 1:1)

B. SAR Measurement Results

E-Field Probe	SATIMO SN_04/13_EP166
Frequency (MHz)	846.6
Relative permittivity (real part)	41.39
Relative permittivity (imaginary part)	19.19
Conductivity (S/m)	0.89
Variation (%)	1.11
ConvF:	5.69

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=-41.00, Y=-37.00

SAR Peak: 0.02 W/kg

SAR 10g (W/Kg)	0.009651
SAR 1g (W/Kg)	0.013787

Plot 6: WCDMA850, Back, High, 0mm distance

Type: Phone measurement

Date of measurement:12/05/2016

Measurement duration: 22 minutes 18 seconds

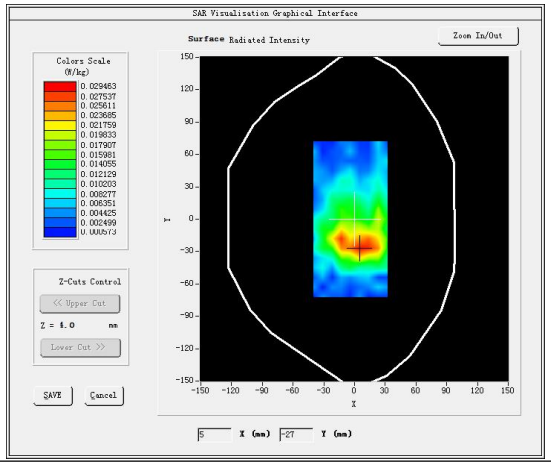
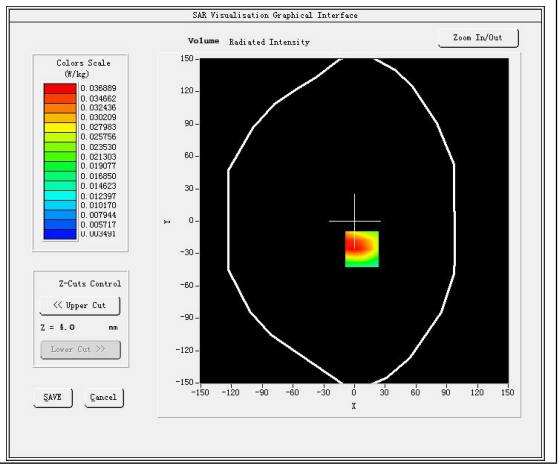
Tablet PC IMEI number: --

A. Experimental conditions.

Area Scan	dx=8mm dy=8mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Body
Band	Band5_WCDMA850
Channels	4233
Signal	WCDMA (Duty cycle: 1:1)

B. SAR Measurement Results

E-Field Probe	SATIMO SN_04/13_EP166
Frequency (MHz)	846.6
Relative permittivity (real part)	55.27
Relative permittivity (imaginary part)	20.54
Conductivity (S/m)	0.97
Variation (%)	4.93
ConvF:	5.82

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=7.00, Y=-26.00

SAR Peak: 0.05 W/kg

SAR 10g (W/Kg)	0.023111
SAR 1g (W/Kg)	0.035854

Plot 7: WCDMA1900, Right Cheek, Middle

Type: Phone measurement

Date of measurement: 11/05/2016

Measurement duration: 22 minutes 17 seconds

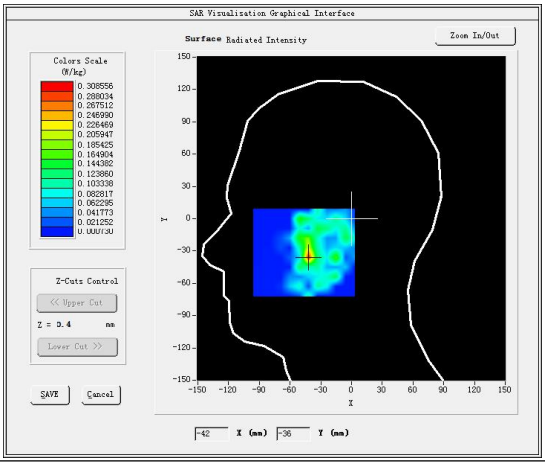
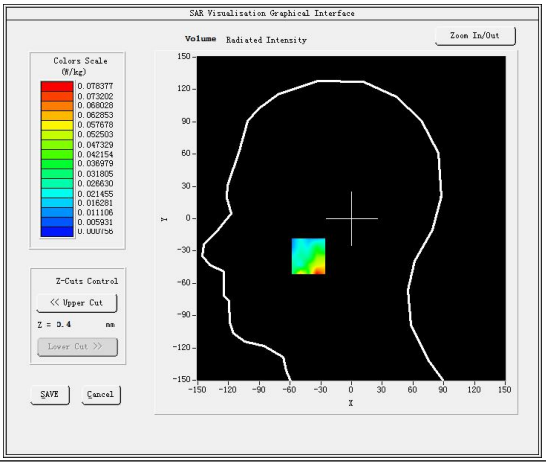
Tablet PC IMEI number: --

A. Experimental conditions.

Area Scan	dx=8mm dy=8mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Right head
Band	Cheek
Channels	9400
Signal	WCDMA (Duty cycle: 1:1)

B. SAR Measurement Results

E-Field Probe	SATIMO SN_04/13_EP166
Frequency (MHz)	1880.0
Relative permittivity (real part)	39.87
Relative permittivity (imaginary	13.90
Conductivity (S/m)	1.39
Variation (%)	4.37
ConvF:	5.25

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=-42.00, Y=-35.00

SAR Peak: 0.17 W/kg

SAR 10g (W/Kg)	0.026402
SAR 1g (W/Kg)	0.064843

Plot 8: WCDMA1900, Back, Middle, 0mm distance

Type: Phone measurement

Date of measurement: 13/05/2016

Measurement duration: 22 minutes 16 seconds

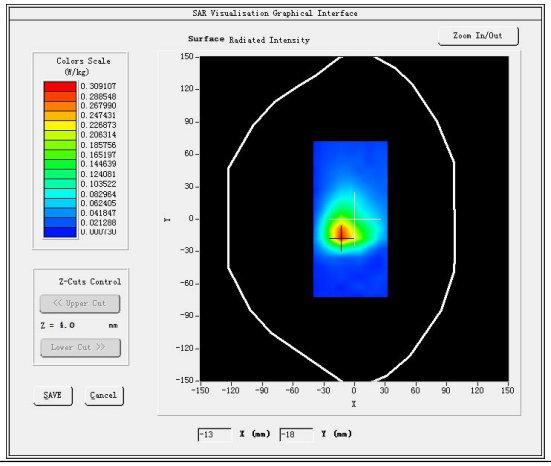
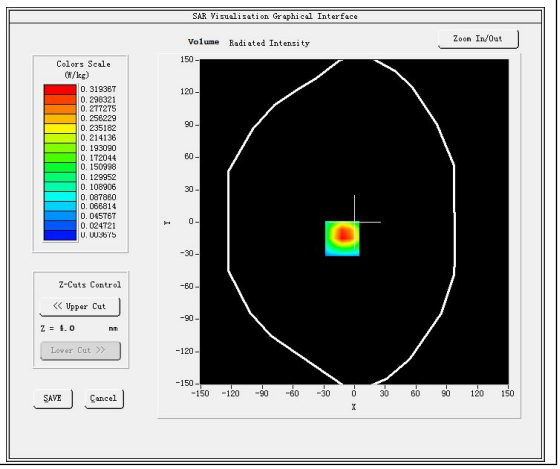
Tablet PC IMEI number: --

A. Experimental conditions.

Area Scan	dx=8mm dy=8mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Body
Band	Band2_WCDMA1900
Channels	9400
Signal	WCDMA (Duty cycle: 1:1)

B. SAR Measurement Results

E-Field Probe	SATIMO SN_04/13_EP166
Frequency (MHz)	1880.0
Relative permittivity (real part)	53.23
Relative permittivity (imaginary	14.40
Conductivity (S/m)	1.52
Variation (%)	1.73
ConvF:	5.43

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=-12.00, Y=-15.00

SAR Peak: 0.56 W/kg

SAR 10g (W/Kg)	0.151954
SAR 1g (W/Kg)	0.308075

Plot 9: Wi-Fi 802.11b ,Left Tilt, High

Type: Phone measurement (11 points in the volume)

Date of measurement:16/05/2016

Measurement duration:22 minutes 08 seconds

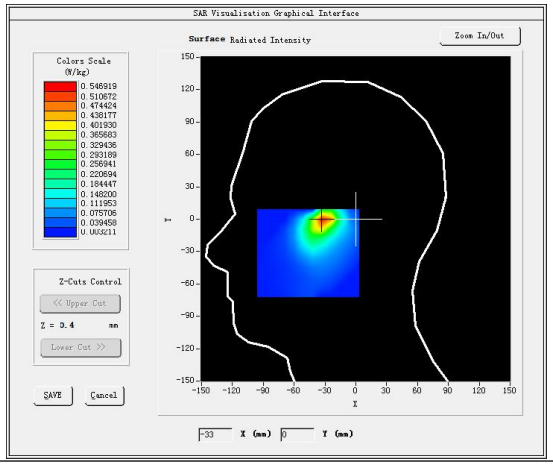
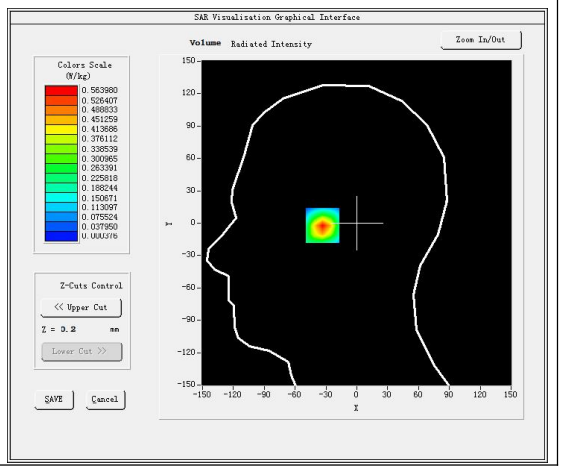
Tablet PC IMEI number: --

A. Experimental conditions.

Area Scan	dx=8mm dy=8mm
ZoomScan	7x7x8,dx=5mm dy=5mm dz=4mm
Phantom	Left head
Device Position	Tilt
Band	IEEE 802.11b ISM
Channels	11
Signal	DSSS (Crest factor: 1:1)

B. SAR Measurement Results

E-Field Probe	SATIMO SN_04/13_EP166
Frequency (MHz)	2462
Relative permittivity (real part)	38.97
Relative permittivity (imaginary part)	12.17
Conductivity (S/m)	1.79
Variation (%)	-0.94
ConvF:	4.93

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=-32.00, Y=-1.00

SAR Peak: 1.23 W/kg

SAR 10g (W/Kg)	0.210297
SAR 1g (W/Kg)	0.531873

Plot 10:Wi-Fi 802.11b , Face, Low,0mm distance

Type: Phone measurement

Date of measurement: 16/05/2016

Measurement duration: 22 minutes 14 seconds

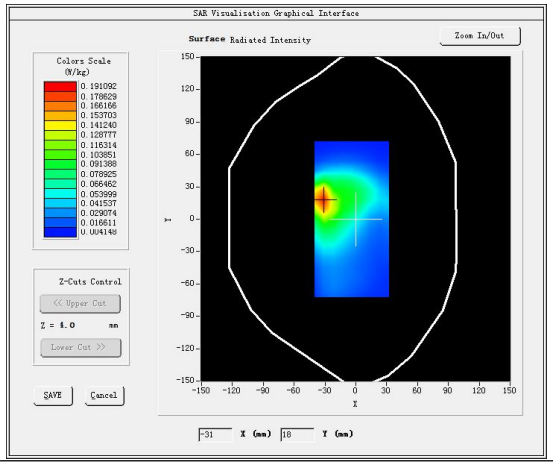
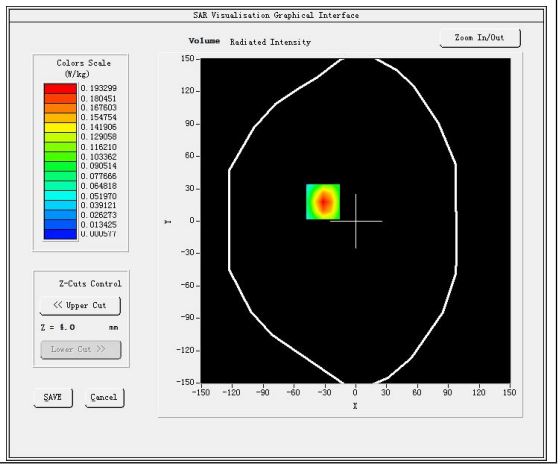
Tablet PC IMEI number: --

A. Experimental conditions.

Area Scan	dx=8mm dy=8mm
ZoomScan	7x7x8,dx=5mm dy=5mm dz=4mm
Phantom	Validation plane
Device Position	Body
Band	IEEE 802.11b
Channels	11
Signal	DSSS (Crest factor: 1:1)

B. SAR Measurement Results

E-Field Probe	SATIMO SN_04/13_EP166
Frequency (MHz)	2462
Relative permittivity (real part)	52.52
Relative permittivity (imaginary part)	14.25
Conductivity (S/m)	1.94
Variation (%)	-1.10
ConvF:	5.09

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=-32.00, Y=18.00

SAR Peak: 0.42 W/kg

SAR 10g (W/Kg)	0.080716
SAR 1g (W/Kg)	0.186515

———End of the Report———