FCC SAR TEST REPORT

Report No.:	SET2015-09927
Product:	4G LTE Smart Phone
Model No.:	N501
FCC ID:	2AB8PM5023
Applicant:	Maysun Info Technology Co., Ltd
Address:	10th floor,B10 Building,Lilang Industrial Zone,Buji Town,Longgang District,Shenzhen
Issued by:	CCIC-SET
Lab Location:	Electronic Testing Building, Shahe Road，Xili, Nanshan District, Shenzhen, 518055, P. R. China
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Test Report

Product. ……:	4G LTE Smart Phone
Model No. ……:	N501
Brand Name……:	NOBLEX
FCC ID……:	2AB8PM5023
Applicant……:	Maysun Info Technology Co., Ltd
Applicant Address……:	10th floor,B10 Building,Lilang Industrial Zone,Buji Town,Longgang District,Shenzhen
Manufacturer……:	Maysun Info Technology Co., Ltd
Manufacturer Address:	10th floor,B10 Building,Lilang Industrial Zone,Buji Town,Longgang District,Shenzhen
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 Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques
Test Result……:	Pass

Tested by ……: Mei Chun 2015-07-21

Chun Mei, Test Engineer

Reviewed by……: Shuangwen Zhang 2015-07-21

Shuangwen Zhang,Senior Egineer

Approved by……: Wu Lian 2015-07-21

Wu Li'an , Manager

Contents

This Test Report consists of the following Annexes:

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.:	SET2015-09927
CCIC-SET Project Leader:	Mr. Li Sixiong
CCIC-SET Responsible for accreditation scope:	Mr. Wu Li'an
Start of Testing:	2015-07-13
End of Testing:	2015-07-19

2.4. Identification of Applicant

Company Name:	Maysun Info Technology Co., Ltd
Address:	10th floor,B10 Building,Lilang Industrial Zone,Buji Town,Longgang District,Shenzhen

2.5. Identification of Manufacture

Company Name:	Maysun Info Technology Co., Ltd
Address:	10th floor,B10 Building,Lilang Industrial Zone,Buji Town,Longgang District,Shenzhen

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:	4G LTE Smart Phone	
Type Name:	N501	
Brand Name:	NOBLEX	
General description:	Support Band	GSM850MHz/1900MHz WCDMA 850MHz/1900MHz LTE Band 4/17 WIFI 802.11b/g/n-20/n-40,BT
	Test Band	GSM 850MHz/ GSM 1900MHz, WCDMA 850MHz/ WCDMA 1900MHz LTE Band 4/17; WIFI 802.11b
	Multislot Class	GPRS: Class 12; EGPRS: Class 12
	(E)GPRS Class	Class B
	Development Stage	Identical Prototype
	Accessories	Power Supply
	Battery type	3.8V 2200mAh
	Antenna type	PIFI Antenna
	Operation mode	GSM / GPRS/EDGE/WCDMA
	Modulation mode	GMSK, QPSK
	Max. RF Power	32.87dBm
	Max. SAR Value	Head: 0.095 W/kg; Body: 0.356 W/kg; Hotspot: 0.512W/Kg

NOTE:

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

b. This device supports GPRS and EDGE operation up to class12(max.uplin:4, max.downlink:4, total timeslots:5)

4 SAR SUMMARY

Highest Standalone SAR Summary

Exposure Position	Frequency Band	Scaled 1g-SAR(W/kg)	Highest Scaled 1g-SAR(W/kg)
Head	GSM850	0.014	0.095
	GSM1900	0.058	
	WCDMA Band II	0.095	
	WCDMA Band Ⅴ	0.020	
	LTE Band 4	0.087	
	LTE Band 17	0.029	
	WIFI	0.056	
Body-worn Accessory (10mm Gap)	GSM850	0.016	0.356
	GSM1900	0.119	
	WCDMA Band II	0.328	
	WCDMA Band Ⅴ	0.034	
	LTE Band 4	0.356	
	LTE Band 17	0.052	
	WIFI	0.057	
Hotspot Accessory (10mm Gap)	GSM850	0.025	0.512
	GSM1900	0.157	
	WCDMA Band II	0.512	
	WCDMA Band Ⅴ	0.034	
	LTE Band 4	0.511	
	LTE Band 17	0.052	
	WIFI	0.057	

Highest Simultaneous SAR Summary

Exposure Position	Frequency Band	Scaled 1g-SAR(W/kg)	Highest Scaled 1g-SAR(W/kg)
Head	GSM850&WIFI	0.013+0.056	0.151
	GSM1900&WIFI	0.058+0.050	
	WCDMA Band II &WIFI	0.095+0.056	
	WCDMA Band Ⅴ&WIFI	0.019+0.056	
	LTE Band 4&WIFI	0.087+0.056	
	LTE Band 17&WIFI	0.025+0.056	
Body-worn Accessory (10mm Gap)	GSM850&WIFI	0.016+0.057	0.413
	GSM1900&WIFI	0.119+0.057	
	WCDMA Band II &WIFI	0.328+0.057	
	WCDMA Band Ⅴ&WIFI	0.034+0.057	
	LTE Band 4&WIFI	0.356+0.057	
	LTE Band 17&WIFI	0.052+0.057	

Exposure Position	Frequency Band	Scaled 1g-SAR(W/kg)	Highest Scaled 1g-SAR(W/kg)
Hotspot (10mm Gap)	GSM850&WIFI	0.025+0.057	0.512
	GSM1900&WIFI	0.137+0.057	
	WCDMA Band II &WIFI	0.512+0	
	WCDMA Band Ⅴ&WIFI	0.034+0.057	
	LTE Band 4	0.511+0	
	LTE Band 17	0.052+0.057	

5 Specific 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 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.

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, ρ is the mass density of the tissue and E is the rms electrical field strength.

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

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).

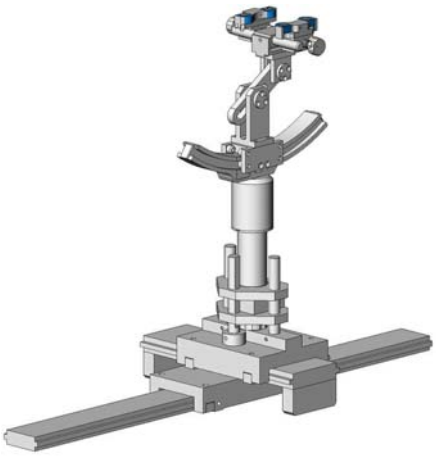
System checking was performed using the flat section, whilst Head SAR tests used the left and right head profile sections. Body SAR testing also used the flat section between the head profiles.

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

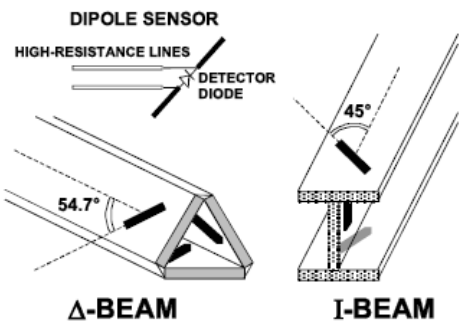
5.5 Probe Specification

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 mobile phones
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 Absolute Radio Frequency Channel Number (ARFCN) was allocated to 128, 189 and 251 respectively in the case of GSM 850MHz, or to 512, 661 and 810 respectively in the case of PCS 1900MHz, or to 4132, 4182 and 4233 respectively in the case of WCDMA 850MHz, or to 9262, 9400 and 9538 respectively in the case of WCDMA 1900MHz, LTE Band 4, LTE Band 17 and WIFI 802.11b. 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.

6.2.1 Tissue 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	
Tissue Type	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
Salt (Nacl)	3.95	1.49	1.45	1.4	1.35	0.76	0.18	0.5	0.5	0.04
Sugar	56.32	46.78	56.0	45.0	56.5	41.76	0.0	58.0	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
Bactericide	0.19	0.05	0.1	0.1	0.1	0.27	0.0	0.1	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
DGBE	0.0	0.0	0.0	0.0	0.0	0.0	44.92	0.0	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
Conductivity (s/m)	0.85	0.83	0.91	0.95	1.0	1.07	1.42	1.45	1.88	1.78

MSL/HSL750 (Body and Head liquids for 700 – 800 MHz)

Item	Head Tissue Simulation Liquids HSL750 Muscle(body)Tissue Simulation Liquids MSL750
H2O	Water, 35 – 58%
Sucrese	Sugar, white, refined, 40-60%
NaCl	Sodium Chloride, 0-6%
Hydroxyethel-cellulsoe	Medium Viscosity (CAS# 9004-62-0), <0.3%
Preventol-D7	Preservative: aqueous preparation, (CAS# 55965-84-9), containing 5-chloro-2-methyl-3(2H)-isothiazolone and 2-methyyl-3(2H)-isothiazolone, 0.1-0.7%

Table 2 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

Frequency (MHz)	Head Tissue		Body Tissue	
	ε_r	σ(S/m)	ε_r	σ(S/m)
750	41.9	0.89	55.2	0.97

6.2.2 Simulant liquids

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-worn measurements, the EUT was tested against flat phantom representing the user body. The EUT was put on in the belt holder. Simulant liquids that are used for testing at frequencies of GSM 850MHz/1900MHz, WCDMA850MHz/1900MHz , LTE Band 4/7 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	750MHz	41.9±5%	0.89±5%
Validation value (July 19th, 2015)	750MHz	41.62	088
Target value	835MHz	41.5±5%	0.90±5%
Validation value (July 13th, 2015)	835MHz	41.24	0.88

Target value	1750 MHz	40.0±5%	1.40±5%
Validation value (July 17th, 2015)	1750 MHz	39.72	1.39
Target value	1900MHz	40.0±5%	1.40±5%
Validation value (July 15th, 2015)	1900MHz	39.81	1.39
Target value	2450MHz	39.2±5%	1.80±5%
Validation value (July 18th, 2015)	2450MHz	38.73	1.77

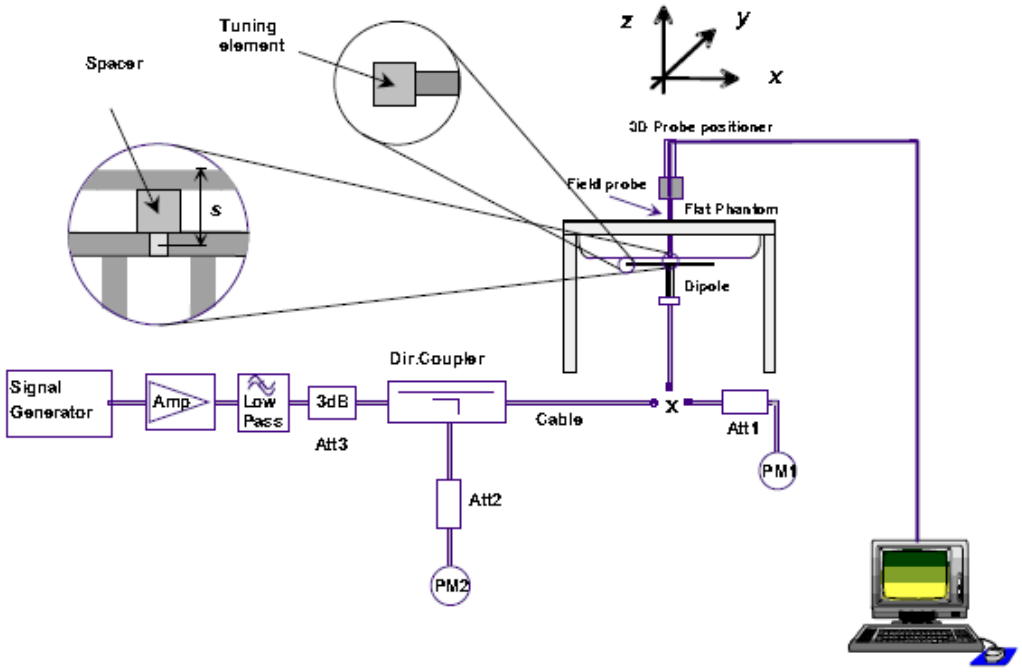
Table 4: Dielectric Performance of Body Tissue Simulating Liquid

Temperature: 23.2°C; Humidity: 64%;			
/	Frequency	Permittivity ε	Conductivity σ (S/m)
Target value	750MHz	55.2±5%	0.97±5%
Validation value (July 19th, 2015)	750MHz	54.82	0.96
Target value	835MHz	55.2±5%	0.97±5%
Validation value (July 14th, 2015)	835MHz	54.75	0.95
Target value	1750 MHz	53.3±5%	1.52±5%
Validation value (July 17th, 2015)	1750 MHz	53.44	1.53
Target value	1900MHz	53.3±5%	1.52±5%
Validation value (July 16th, 2015)	1900MHz	52.68	1.50
Target value	2450MHz	52.7±5%	1.95±5%
Validation value (July 18th, 2015)	2450MHz	52.31	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 were 64% 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
750MHz(July 19th, 2015)	1:1	8.19±10%	1.98	7.92
835MHz(July 13th, 2015)	1:1	9.77±10%	2.42	9.68
1750MHz(July 17th, 2015)	1:1	38.67±10%	9.48	37.92
1900MHz(July 15th, 2015)	1:1	40.37±10%	9.81	39.24
2450MHz(July 18th, 2015)	1:1	53.60±10%	12.82	51.28

Table 6: Body SAR system validation (1g)

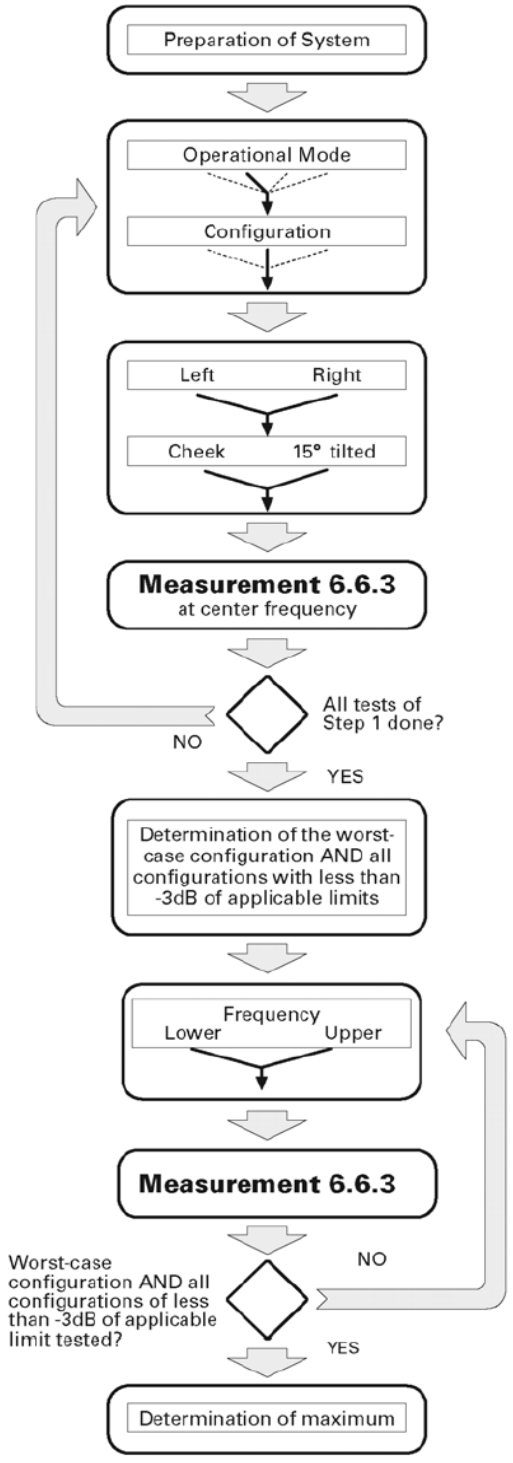
Frequency	Duty cycle	Target value （W/kg）	Test value (W/kg)	
			250 mW	1W
750MHz(July 19th, 2015)	1:1	8.21±10%	1.99	7.96
835MHz(July 14th, 2015)	1:1	10.31±10%	2.51	10.04
1750MHz(July 17th, 2015)	1:1	40.07±10%	9.85	39.40
1900MHz(July 16th, 2015)	1:1	40.81±10%	10.04	40.16
2450MHz(July 18th, 2015)	1:1	52.66±10%	12.93	51.72

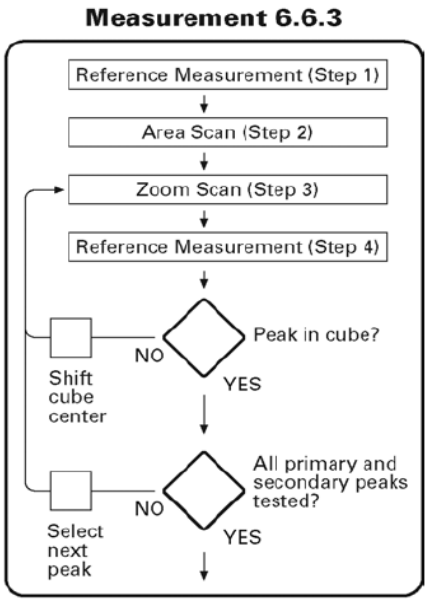
* Note: Target value was referring to the measured value in the calibration certificate of reference dipole.

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

6.4 SAR 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 behaviour are tested.

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

6.5 Transmitting antenna information

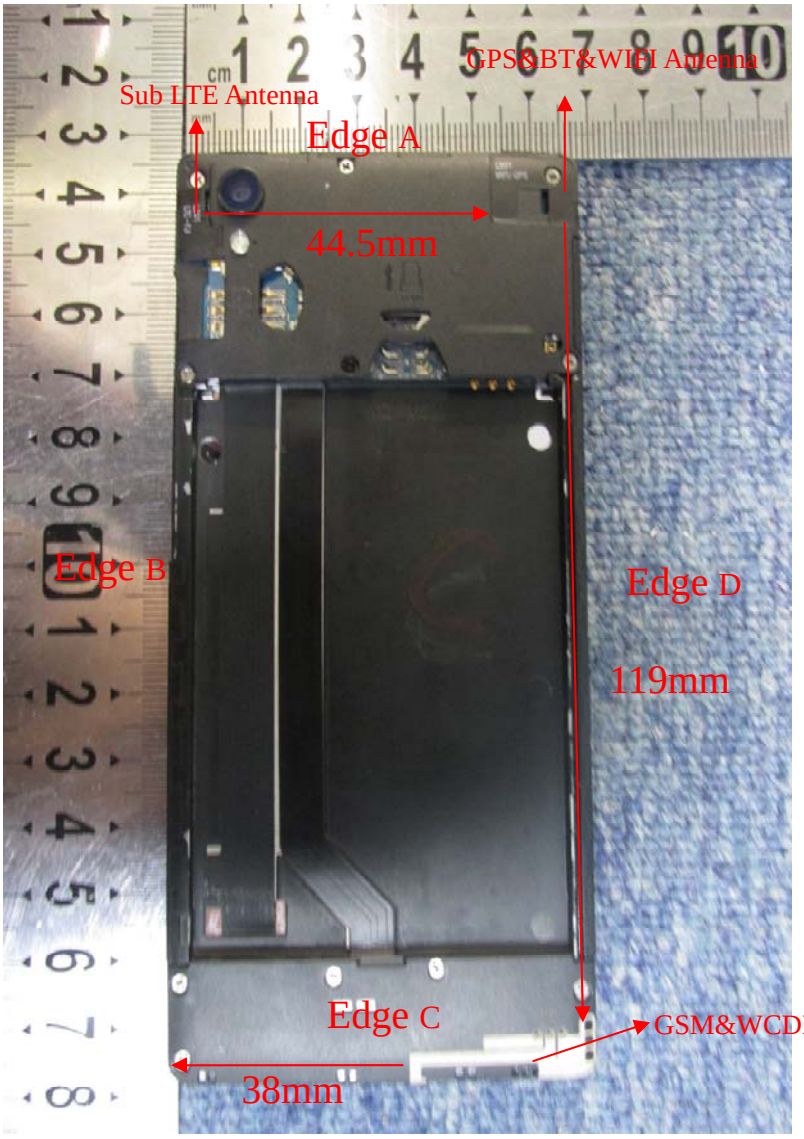


Fig. 3 Position of the antennas

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

Antenna	Front	Back	Edge A	Edge B	Edge C	Edge D
2G 3G 4G Antenna Body-worn	Yes	Yes	No	No	No	No
2G 3G 4G Antenna hotspot	Yes	Yes	No	No	Yes	Yes
WIFI Antenna Body-worn	Yes	Yes	No	No	No	No
WIFI Antenna hotspot	Yes	Yes	Yes	No	No	Yes

Note: According to KDB941225 antenna-to-edge>2.5cm, SAR is not required.

7 CHARACTERISTICS 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 Body Due to Wireless Communications Devices: Experimental 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 v02r01
FCC KDB 447498 D01 v05r02 General RF Exposure Guidance
FCC KDB 648474 D04 v01r02 Handset SAR
FCC KDB 865664 D01 v01r03 SAR Measurement 100MHz to 6GHz
FCC KDB 865664 D02 v01r01 SAR Exposure Reporting
FCC KDB 941225 D01 v03 3G SAR Procedures
FCC KDB 941225 D05 v02r03 SAR for LTE Devices
FCC KDB 941225 D06 v02 Hotspot Mode

8 LABORATORY ENVIRONMENT

Table 9: 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

Table 10: 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	836.4	848.8	824.2	836.4	848.8
	GSM	32.71	32.69	**32.87**	23.52	23.50	23.68
	GPRS (Slot 1)	32.69	32.67	32.81	23.50	23.48	23.62
	GPRS (Slot 2)	29.74	29.78	29.76	**23.61**	**23.65**	**23.63**
	GPRS (Slot 3)	27.66	27.71	27.67	23.24	23.29	23.25
	GPRS (Slot 4)	25.34	25.39	25.35	22.16	22.21	22.17
	EDGE (Slot 1)	32.46	32.51	32.44	23.27	23.32	23.25
	EDGE (Slot 2)	29.54	29.43	29.42	23.41	23.30	23.29
	EDGE (Slot 3)	26.47	26.39	26.45	22.05	21.97	22.03
	EDGE (Slot 4)	24.95	24.82	24.97	21.77	21.64	21.79
GSM1900	TX Channel	512	661	810	512	661	810
	Frequency(MHz)	1850.2	1880	1909.8	1850.2	1880	1909.8
	GSM	**28.93**	28.89	28.84	19.74	19.70	19.65
	GPRS (Slot 1)	28.87	28.79	28.75	19.68	19.60	19.56
	GPRS (Slot 2)	27.51	27.43	27.36	**21.38**	**21.30**	**21.23**
	GPRS (Slot 3)	25.56	25.5	25.38	21.14	21.08	20.96
	GPRS (Slot 4)	23.83	23.71	23.79	20.65	20.53	20.61
	EDGE (Slot 1)	28.67	28.7	28.65	19.48	19.51	19.46
	EDGE (Slot 2)	27.24	27.24	27.16	21.11	21.11	21.03
	EDGE (Slot 3)	25.49	25.33	25.37	21.07	20.91	20.95
	EDGE (Slot 4)	23.24	23.23	23.17	20.06	20.05	19.99

Note: Per KDB 447498 D01 v05r02, 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 GPRS850（2Tx slots）and GPRS1900 (2Tx slots) due to its highest frame-average power.

Table 11: Timeslot consignations

No. Of Slots	Slot 1	Slot 2	Slot 3	Slot 4
Slot Consignation	1Up4Down	2Up3Down	3Up2Down	4Up1Down
Duty Cycle	1:8	1:4	1:267	1:2
Crest Factor	-9.03dB	-6.02dB	-4.26dB	-3.01dB

9.2 WCDMA Conducted peak output Power

Table 12: WCDMA conducted peak output power

Item	band	WCDMA 850			WCDMA 1900		
	ARFCN	4132	4183	4233	9262	9400	9538
	subtest	dBm			dBm		
RMC 12.2kbps	non	**22.83**	22.75	22.69	**22.85**	22.80	22.74
AMR	non	22.32	22.28	22.34	22.35	22.20	22.27
HSDPA	1	22.33	22.22	22.31	22.27	22.31	22.25
	2	22.18	22.12	22.26	22.14	22.09	22.21
	3	21.91	21.85	21.86	21.87	21.89	21.95
	4	21.88	21.76	21.78	21.89	21.87	21.90
HSUPA	1	22.31	22.25	22.32	22.24	22.31	22.35
	2	22.21	22.30	22.23	22.19	22.14	22.21
	3	22.16	22.05	22.10	22.02	22.09	22.11
	4	22.05	22.04	22.13	22.12	22.10	22.05
	5	22.83	22.75	22.69	22.85	22.80	22.74
Note:	The Conducted RF Output Power test of WCDMA /HSDPA /HSUPA were tested by power meter.						

HSUPA Setup Configuration:

a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration.
b. The RF path losses were compensated into the measurements.
c. A call was established between EUT and Base Station with following setting * :
   i. Call Configs = 5.2B, 5.9B, 5.10B, and 5.13.2B with QPSK
   ii. Set the Gain Factors (β_c and β_d) and parameters (AG Index) were set according to each specific sub-test in the following table, C11.1.3, quoted from the TS 34.121
   iii. Set Cell Power = -86 dBm
   iv. Set Channel Type = 12.2k + HSPA
   v. Set UE Target Power
   vi. Power Ctrl Mode= Alternating bits
   vii. Set and observe the E-TFCI
   viii. Confirm that E-TFCI is equal to the target E-TFCI of 75 for sub-test 1, and other subtest's E-TFCI
d. The transmitted maximum output power was recorded.

Table C.11.1.3: β values for transmitter characteristics tests with HS-DPCCH and E-DCH

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (Note1)	β_{ec}	β_{ed} (Note 5) (Note 6)	β_{ed} (SF)	β_{ed} (Codes)	CM (dB) (Note 2)	MPR (dB) (Note 2)	AG Index (Note 6)	E-TFCI
1	11/15 (Note 3)	15/15 (Note 3)	64	11/15 (Note 3)	22/15	209/225	1309/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	$\beta_{ed}1$: 47/15 $\beta_{ed}2$: 47/15	4 4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15 (Note 4)	15/15 (Note 4)	64	15/15 (Note 4)	30/15	24/15	134/15	4	1	1.0	0.0	21	81

Note 1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with $\beta_{hs} = 30/15 * \beta_c$.

Note 2: CM = 1 for β_c/β_d =12/15, β_{hs}/β_c=24/15. For all other combinations of DPDCH, DPCCH, HS- DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.

Note 3: For subtest 1 the β_c/β_d ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to β_c = 10/15 and β_d = 15/15.

Note 4: For subtest 5 the β_c/β_d ratio of 15/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to β_c = 14/15 and β_d = 15/15.

Note 5: In case of testing by UE using E-DPDCH Physical Layer category 1, Sub-test 3 is omitted according to TS25.306 Table 5.1g.

Note 6: β_{ed} can not be set directly, it is set by Absolute Grant Value.

Setup Configuration

HSDPA Setup Configuration:

a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration.
b. The RF path losses were compensated into the measurements.
c. A call was established between EUT and Base Station with following setting:
   i. Set Gain Factors (β_c and β_d) and parameters were set according to each
   ii. Specific sub-test in the following table, C10.1.4, quoted from the TS 34.121
   iii. Set RMC 12.2Kbps + HSDPA mode.
   iv. Set Cell Power = -86 dBm
   v. Set HS-DSCH Configuration Type to FRC (H-set 1, QPSK)
   vi. Select HSDPA Uplink Parameters
   vii. Set Delta ACK, Delta NACK and Delta CQI = 8
   viii. Set Ack-Nack Repetition Factor to 3
   ix. Set CQI Feedback Cycle (k) to 4 ms
   x. Set CQI Repetition Factor to 2
   xi. Power Ctrl Mode = All Up bits
d. The transmitted maximum output power was recorded.

Table C.10.1.4: β values for transmitter characteristics tests with HS-DPCCH

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (Note1, Note 2)	CM (dB) (Note 3)	MPR (dB) (Note 3)
1	2/15	15/15	64	2/15	4/15	0.0	0.0
2	12/15 (Note 4)	15/15 (Note 4)	64	12/15 (Note 4)	24/15	1.0	0.0
3	15/15	8/15	64	15/8	30/15	1.5	0.5
4	15/15	4/15	64	15/4	30/15	1.5	0.5

Note 1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with $\beta_{hs} = 30/15 * \beta_c$.

Note 2: For the HS-DPCCH power mask requirement test in clause 5.2C, 5.7A, and the Error Vector Magnitude (EVM) with HS-DPCCH test in clause 5.13.1A, and HSDPA EVM with phase discontinuity in clause 5.13.1AA, Δ_{ACK} and Δ_{NACK} = 30/15 with $\beta_{hs} = 30/15 * \beta_c$, and Δ_{CQI} = 24/15 with $\beta_{hs} = 24/15 * \beta_c$.

Note 3: CM = 1 for β_c/β_d =12/15, β_{hs}/β_c=24/15. For all other combinations of DPDCH, DPCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases.

Note 4: For subtest 2 the β_c/β_d ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to β_c = 11/15 and β_d = 15/15.

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.

9.3 LTE Conducted peak output Power

LTE Test Configurations

The CMW500 WideBand Radio Communication Tester was used for LTE output power measurements and SAR testing. Closed loop power control was used so the UE transmits with maximum output power during SAR testing. SAR test were performed with the same number of RB and RB offsets transmitting on all frames.

1)Spectrum Plots for RB configurations

A properly configured base station simulator was used for LTE output power measurements and SAR testing. Therefore, spectrum plots for RB configurations were not required to be included in this report.

2)MPR

When MPR is implemented permanently within the UE, regardless of network requirements, only those RB configurations allowed by 3GPP for the channel banwidth and modulation conbinations may be tested with MPR active. Configurations with RB allocations less than the RB thresholds required by 3GPP must be tested without MPR.

The allowed Maximum Power Reduction(MPR) for the maximum output power due to higher order modulation and transmit bandwidth configuration (resource blocks) is specified in Table 6.2.3-1 of the 3GPP TS36.101:

Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 3

Modulation	Channel bandwidth / Transmission bandwidth configuration [RB]						MPR (dB)
	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1
16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2

3)A-MPR LTE procedures for SAR testing

A-MPR(Additional MPR) has been disabled for all SAR tests by using Network Signalling Value of "NS_01" on the base station simulator.

4)LTE procedures for SAR testing

A) Largest channel bandwidth standalone SAR test

requirements i) QPSK with 1 RB allocation

Start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel. When the reported SAR is ≤ 0.8W/kg, testing of the remaining RB offset configurations and required test channels is not required for 1RB allocation; otherwise, SAR is required for the remaining required test channels and only for the RB offset configuration with the highest output power for that channel. When the reported SAR of a required test channel is > 1.45 W/kg, SAR is required for all three RB offset configurations for that required test channel.

ii) QPSK with 50% RB allocation

The procedures required for 1 RB allocation in i) are applied to measure the SAR for QPSK with 50% RB allocation.

iii) QPSK with 100% RB allocation

For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation in i) and ii) are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.

iv) Higher order modulations

For each modulation besides QPSK; e.g., 16-QAM, 64-QAM, apply the QPSK procedures in above sections to determine the QAM configurations that may need SAR measurement. For each configuration identified as required for testing, SAR is required only when the highest maximum output power for the configuration in the higher order modulation is > ½ dB higher than the same configuration in QPSK or when the reported SAR for the QPSK configuration is > 1.45 W/kg.

B) Other channel bandwidth standalone SAR test requirements

For the other channel bandwidths used by the device in a frequency band, apply all the procedures required for the largest channel bandwidth in section A) to determine the channels and RB configurations that need SAR testing and only measure SAR when the highest maximum output power of a configuration requiring testing in the smaller channel bandwidth is > ½ dB higher than the equivalent channel configurations in the largest channel bandwidth configuration or the reported SAR of a configuration for the largest channel bandwidth is > 1.45 W/kg.

LTE Band 4 Conducted Power Test Verdict:

BW(MHz)	Modulation	RB Size	RB Offset	Power(dBm) Low Ch./Freq.	Power(dBm) Middle Ch./Freq.	Power(dBm) High Ch./Freq.
Channel				20050	20175	20300
Frequency(MHz)				1720	1732.5	1745
20	QPSK	1	0	**23.71**	23.68	23.65
20	QPSK	1	49	23.64	23.59	23.57
20	QPSK	1	99	23.51	23.57	23.59
20	QPSK	50	0	**22.86**	22.77	22.83
20	QPSK	50	24	22.74	22.71	22.79
20	QPSK	50	49	22.78	22.75	22.80
20	QPSK	100	0	22.61	22.55	22.64
20	16QAM	1	0	22.28	22.33	22.31
20	16QAM	1	49	22.37	22.30	22.35
20	16QAM	1	99	22.29	22.34	22.27
20	16QAM	50	0	21.87	21.79	21.75
20	16QAM	50	24	21.69	21.61	21.72
20	16QAM	50	49	21.71	21.77	21.69
20	16QAM	100	0	21.57	21.64	21.61
Channel				20025	20175	20325
Frequency(MHz)				1717.5	1732.5	1747.5
15	QPSK	1	0	23.66	23.64	23.59
15	QPSK	1	37	23.48	23.51	23.54
15	QPSK	1	74	23.41	23.45	23.51
15	QPSK	36	0	22.82	22.91	22.92
15	QPSK	36	18	22.82	22.84	22.75
15	QPSK	36	37	22.82	22.88	22.83
15	QPSK	75	0	22.71	22.75	22.67
15	16QAM	1	0	22.46	22.39	22.38
15	16QAM	1	37	22.18	22.21	22.27
15	16QAM	1	74	22.14	22.21	22.18
15	16QAM	36	0	21.70	21.73	21.64
15	16QAM	36	18	21.69	21.73	21.67
15	16QAM	36	37	21.72	21.78	21.83
15	16QAM	75	0	21.68	21.71	21.77

BW(MHz)	Modulation	RB Size	RB Offset	Power(dBm) Low Ch./Freq.	Power(dBm) Middle Ch./Freq.	Power(dBm) High Ch./Freq.
Channel				20000	20175	20350
Frequency(MHz)				1715	1732.5	1750
10	QPSK	1	0	23.67	23.58	23.62
10	QPSK	1	24	23.49	23.52	23.48
10	QPSK	1	49	23.35	23.39	23.40
10	QPSK	25	0	22.74	22.71	22.80
10	QPSK	25	12	22.82	22.69	22.75
10	QPSK	25	24	22.71	22.83	22.77
10	QPSK	50	0	22.76	22.82	22.71
10	16QAM	1	0	22.47	22.45	22.41
10	16QAM	1	24	22.41	22.38	22.35
10	16QAM	1	49	22.38	22.41	22.29
10	16QAM	25	0	21.89	21.93	21.92
10	16QAM	25	12	21.81	21.85	21.76
10	16QAM	25	24	21.72	21.81	21.74
10	16QAM	50	0	21.78	21.74	21.75
Channel				19975	20175	20375
Frequency(MHz)				1712.5	1732.5	1752.5
5	QPSK	1	0	23.57	23.55	23.52
5	QPSK	1	12	23.45	23.48	23.42
5	QPSK	1	24	23.45	23.43	23.48
5	QPSK	12	0	22.79	22.77	22.82
5	QPSK	12	6	22.71	22.80	22.78
5	QPSK	12	11	22.77	22.73	22.77
5	QPSK	25	0	22.65	22.72	22.68
5	16QAM	1	0	22.47	22.39	22.40
5	16QAM	1	12	22.31	22.27	22.29
5	16QAM	1	24	22.29	22.31	22.25
5	16QAM	12	0	21.81	21.78	21.86
5	16QAM	12	6	21.76	21.72	21.69
5	16QAM	12	11	21.64	21.75	21.72
5	16QAM	25	0	21.63	21.59	21.60

BW(MHz)	Modulation	RB Size	RB Offset	Power(dBm) Low Ch./Freq.	Power(dBm) Middle Ch./Freq.	Power(dBm) High Ch./Freq.
Channel				19965	20175	20385
Frequency(MHz)				1711.5	1732.5	1753.5
3	QPSK	1	0	23.56	23.52	23.55
3	QPSK	1	7	23.53	23.60	23.54
3	QPSK	1	14	23.52	23.56	23.58
3	QPSK	8	0	22.70	22.65	22.72
3	QPSK	8	4	22.65	22.72	22.68
3	QPSK	8	7	22.69	22.74	22.75
3	QPSK	15	0	22.67	22.70	22.68
3	16QAM	1	0	22.38	22.45	22.44
3	16QAM	1	7	22.41	22.48	22.43
3	16QAM	1	14	22.38	22.30	22.36
3	16QAM	8	0	21.68	21.70	21.75
3	16QAM	8	4	21.64	21.61	21.65
3	16QAM	8	7	21.69	21.72	21.65
3	16QAM	15	0	21.52	21.56	21.51
Channel				19957	20175	20393
Frequency(MHz)				1710.7	1732.5	1754.3
1.4	QPSK	1	0	23.55	23.54	23.49
1.4	QPSK	1	2	23.59	23.52	23.51
1.4	QPSK	1	5	23.42	23.47	23.45
1.4	QPSK	3	0	22.78	22.67	22.72
1.4	QPSK	3	1	22.67	22.77	22.72
1.4	QPSK	3	2	22.56	22.67	22.71
1.4	QPSK	6	0	22.57	22.46	22.53
1.4	16QAM	1	0	22.72	22.77	22.61
1.4	16QAM	1	2	22.63	22.74	22.71
1.4	16QAM	1	5	22.85	22.91	22.94
1.4	16QAM	3	0	22.79	22.74	22.85
1.4	16QAM	3	1	22.32	22.35	22.41
1.4	16QAM	3	2	22.50	22.55	22.47
1.4	16QAM	6	0	22.49	22.55	22.56

LTE Band 17 Conducted Power Test Verdict:

BW(MHz)	Modulation	RB Size	RB Offset	Power(dBm) Low Ch./Freq.	Power(dBm) Middle Ch./Freq.	Power(dBm) High Ch./Freq.
Channel				23780	23790	23800
Frequency(MHz)				709	710	711
10	QPSK	1	0	23.50	23.48	23.51
10	QPSK	1	24	23.49	23.40	23.45
10	QPSK	1	49	23.53	**23.57**	23.54
10	QPSK	25	0	22.71	**22.76**	22.72
10	QPSK	25	12	22.67	22.61	22.64
10	QPSK	25	24	22.61	22.65	22.62
10	QPSK	50	0	22.70	22.69	22.67
10	16QAM	1	0	22.35	22.30	22.27
10	16QAM	1	24	22.22	22.11	22.13
10	16QAM	1	49	22.08	22.11	22.05
10	16QAM	25	0	21.41	21.46	21.48
10	16QAM	25	12	21.64	21.75	21.61
10	16QAM	25	24	21.51	21.54	21.56
10	16QAM	50	0	21.53	21.46	21.51
Channel				23755	23790	23825
Frequency(MHz)				706.5	710	713.5
5	QPSK	1	0	23.42	23.54	23.47
5	QPSK	1	12	23.29	23.33	23.36
5	QPSK	1	24	23.28	23.20	23.31
5	QPSK	12	0	22.60	22.63	22.67
5	QPSK	12	6	22.56	22.52	22.50
5	QPSK	12	11	22.56	22.51	22.59
5	QPSK	25	0	22.56	22.53	22.52
5	16QAM	1	0	22.54	22.49	22.44
5	16QAM	1	12	22.25	22.18	22.26
5	16QAM	1	24	22.33	22.42	22.37
5	16QAM	12	0	21.40	21.45	21.48
5	16QAM	12	6	21.62	21.55	21.49
5	16QAM	12	11	21.51	21.54	21.48
5	16QAM	25	0	21.41	21.40	21.44

WLAN 2.4GHz Band Conducted Power

For the 802.11b/g SAR tests, a communication link is set up with the test mode software for WiFi mode test. The Absolute Radio Frequency Channel Number(ARFCN) is allocated to 1 ,6 and 11 respectively in the case of 2450 MHz.During the test,at the each test frequency channel, the EUT is operated at the RF continuous emission mode. Each channel should be tested at the lowest data rate.

802.11b/g operating modes are tested independently according to the service requirements in each frquency band. 802.11b/g modes are tested on channel 1, 6, 11; however,if output power reduction is necessary for channels 1 and/or 11 to meet restricted band requirements the highest output channel closest to each of these channels must be tested instead.

SAR is not required for 802.11g/n channels when the maximum average output power is less than 0.25dB higher than that measured on the corresponding 802.11b channels.

Wi-Fi 2450MHz	Channel/Freq.(MHz)	Average Power (dBm) for Data Rates (Mbps)							
		1	2	5.5	11	/	/	/	/
802.11b	1(2412)	15.54	15.45	15.51	15.49	/	/	/	/
	6(2437)	15.49	15.39	15.40	15.45	/	/	/	/
	11(2462)	15.38	15.29	15.35	15.33	/	/	/	/
802.11g	Channel	6	9	12	18	24	36	48	54
	1(2412)	14.38	14.35	14.29	14.33	14.30	14.25	14.27	14.34
	6(2437)	14.46	14.42	14.45	14.38	14.40	14.35	14.42	14.44
	11(2462)	14.51	14.49	14.43	14.45	14.50	14.49	14.47	14.46
802.11n (HT20)	Channel	0	1	2	3	4	5	6	7
	1(2412)	13.74	13.72	13.69	13.64	13.62	13.67	13.73	13.64
	6(2437)	13.89	13.88	13.84	13.79	13.83	13.82	13.81	13.86
	11(2462)	13.72	13.69	13.70	13.66	13.64	13.67	13.71	13.68
802.11n (HT40)	Channel	0	1	2	3	4	5	6	7
	3	12.61	12.56	12.59	12.60	12.54	12.55	12.58	12.59
	6	12.74	12.72	12.71	12.69	12.67	12.68	12.68	12.61
	9	12.69	12.62	12.59	12.63	12.61	12.66	12.62	12.64

Note:

1. Per KDB 248227 D01 v02r01, choose the highest output power channel to test SAR and determine further SAR exclusion
2. 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 these configurations is less than 1/4dB higher than those measured at lowest data rate
3. Per KDB 248227 D01 v02r01, 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.

Bluetooth Conducted Power

Channel	Frequency (MHz)	BT3.0 Output Power(dBm)		
		GFSK	π /4-DQPSK	8-DPSK
CH 0	2402	-3.09	-4.34	-4.43
CH 39	2441	-3.49	-4.39	-4.39
CH 78	2480	-1.79	-2.12	-2.21

Channel	Frequency(MHz)	BT 4.0
CH 0	2402	-9.89
CH 20	2442	-9.81
CH 39	2480	-7.63

Note:

1. Per KDB 447498 D01v05r02, the 1-g and 10-g SAR test exclusion thrssholds 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 diatance(antenna-user) is < 5mm, 5mm is used for excluded SAR calculation

Bluetooth Max Power (dBm)	mW	Test Distance (mm)	Frequency(Ghz)	Exclusion Thresholds
-1	0.794	5	2.4	0.246

Per KDB 447498 D01v05r02 exclusion thresholds is 0.246<3, RF exposure evaluation is not required.
BT estimated SAR value=Exclusion Thresholds/7.5=0.246/7.5=0.033W/Kg

Bluetooth Max Power (dBm)	mW	Test Distance (mm)	Frequency(Ghz)	Exclusion Thresholds
-1	0.794	10	2.4	0.123

Per KDB 447498 D01v05r02 exclusion thresholds is 0.123<3, RF exposure evaluation is not required.
BT estimated SAR value=Exclusion Thresholds/7.5=0.123/7.5=0.016W/Kg

The estimated SAR value is used for simultaneous transmission analysis.

General Note:

1. Per KDB 447498 D01v05r02, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
2. Per KDB447498 D01v05r02, testing of other required channels within the operating mode of a frequency band is not required when the reported 1-g or 10-g SAR for the mid-band or highest output power channel is: ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is≤ 100 MHz. When the maximum output power variation across the required test channels is > ½ dB, instead of the middle channel, the highest output power channel must be used.
3. Per KDB941225 D06v02, the DUT Dimension is bigger than 9 cm x 5 cm, so 10mm is chosen as the test separation distance for Hotspot mode. When the antenna-to-edge distance is greater than 2.5cm, such position does not need to be tested. As the manufacture required, the separation distance use 5mm for Hotspot mode.
4. Per KDB 865664 D01v01r03,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.
5. Per KDB865664 D02v01r01, 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).
6. Per KDB941225 D01v03, when multiple slots can be used, the GPRS/EDGE slot configuration with the highest frame–averaged output power was selected for SAR testing.
7. Per KDB941225 D01v03, 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.
8. Per KDB 248227 D01 v02r01, 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	128	32.71	32.00 ± 1	1.069
	190	32.69	32.00 ± 1	1.074
	251	32.87	32.00 ± 1	1.030
GPRS 850(2Tx)	128	29.74	29.00± 1	1.062
	190	29.78	29.00± 1	1.052
	251	29.76	29.00± 1	1.057
GSM1900	512	28.93	28.00± 1	1.016
	661	28.89	28.00± 1	1.026
	810	28.84	28.00± 1	1.038
GPRS1900(2Tx)	512	27.51	27.50± 0.5	1.119
	661	27.43	27.50± 0.5	1.140
	810	27.36	27.50± 0.5	1.159
WCDMA850	4132	22.83	22.50 ± 0.5	1.040
	4183	22.75	22.50 ± 0.5	1.059
	4233	22.69	22.50 ± 0.5	1.074
WCDMA1900	9262	22.85	22.50 ± 0.5	1.035
	9400	22.80	22.50 ± 0.5	1.047
	9538	22.74	22.50 ± 0.5	1.062
LTE B4 1RB#0	20050	23.71	23.00 ± 1	1.069
	20175	23.68	23.00 ± 1	1.076
	20300	23.65	23.00 ± 1	1.084
LTE B4 50RB#0	20050	22.86	22.00 ± 1	1.033
	20175	22.77	22.00 ± 1	1.054
	20300	22.83	22.00 ± 1	1.040
LTE B17 1RB#49	23780	23.53	23.00 ± 1	1.114
	23790	23.57	23.00 ± 1	1.104
	23800	23.54	23.00 ± 1	1.112
LTE B17 25RB#0	23780	22.71	22.00 ± 1	1.069
	23790	22.76	22.00 ± 1	1.057
	23800	22.72	22.00 ± 1	1.067
WIFI 802.11b	1	15.54	15.50± 0.5	1.112
	6	15.49	15.50± 0.5	1.125
	11	15.38	15.50± 0.5	1.153
BT	78	-1.79	-2.5± 1.5	1.199

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)	Yes	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(/BT)	Yes	Yes
7	WCDMA(Voice) +Wifi(/BT)	Yes	Yes
8	WCDMA(Voice)+WCDMA(Data)+ Wifi(/BT)	Yes	Yes
9	GSM(Data)+wifi	Yes	Yes
10	WCDMA(Data) +wifi	Yes	Yes
12	LTE(Data)+GSM(Voice/Data)	No	No
13	LTE(Data)+WCDMA(Voice/Data)	No	No
14	LTE(Data)+WIFI(/BT)	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)	
				SAR(W/Kg),1g	Scaled SAR(W/Kg),1g
Right Side of Head	Cheek		251/848.8	0.013	0.013
	Tilt 15 degrees		251/848.8	0.011	0.011
Left Side of Head	Cheek		251/848.8	**0.014**	0.014
	Tilt 15 degrees		251/848.8	0.009	0.009
Body (10mm Separation)	GSM Body-worn	Face Upward	251/848.8	0.013	0.013
		Back Upward	251/848.8	**0.016**	0.016
	GPRS (2Tx) hotspot	Face Upward	190/836.4	0.016	0.017
		Back Upward	190/836.4	**0.024**	0.025
		Edge C	190/836.4	0.009	0.009
		Edge D	190/836.4	0.009	0.009

Table 8: SAR Values of GSM1900 MHz Band

Temperature: 23.0~23.5°C, humidity: 62~64%.					
Test Positions			Channel /Frequency (MHz)	SAR(W/Kg), 1.6 (1g average)	
				SAR(W/Kg),1g	Scaled SAR(W/Kg),1g
Right Side of Head	Cheek		512/1850.2	0.045	0.046
	Tilt 15 degrees		512/1850.2	0.025	0.025
Left Side of Head	Cheek		512/1850.2	**0.057**	0.058
	Tilt 15 degrees		512/1850.2	0.027	0.027
Body (10mm Separation)	GSM Body-worn	Face Upward	512/1850.2	0.111	0.113
		Back Upward	512/1850.2	**0.117**	0.119
	GPRS (2Tx) hotspot	Face Upward	512/1850.2	0.116	0.130
		Back Upward	512/1850.2	0.122	0.137
		Edge C	512/1850.2	**0.140**	0.157
		Edge D	512/1850.2	0.037	0.041

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)	
			SAR(W/Kg),1g	Scaled SAR(W/Kg),1g
Right Side of Head	Cheek	4132/826.4	0.018	0.019
	Tilt 15 degrees	4132/826.4	0.014	0.015
Left Side of Head	Cheek	4132/826.4	**0.019**	0.020
	Tilt 15 degrees	4132/826.4	0.015	0.016
Body (10mm Separation) Body-worn	Face Upward	4132/826.4	0.023	0.024
	Back Upward	4132/826.4	**0.033**	0.034
Body (10mm Separation) Hotspot	Face Upward	4132/826.4	0.023	0.024
	Back Upward	4132/826.4	**0.033**	0.034
	Edge C	4132/826.4	0.016	0.017
	Edge D	4132/826.4	0.016	0.017

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)	
			SAR(W/Kg1g Peak)	Scaled SAR(W/Kg),1g
Right Side of Head	Cheek	9262/1852.4	**0.092**	0.095
	Tilt 15 degrees	9262/1852.4	0.038	0.039
Left Side of Head	Cheek	9262/1852.4	0.085	0.088
	Tilt 15 degrees	9262/1852.4	0.037	0.038
Body (10mm Separation) Body-worn	Face Upward	9262/1852.4	0.193	0.200
	Back Upward	9262/1852.4	0.317	0.328
Body (10mm Separation) Hotspot	Face Upward	9262/1852.4	0.193	0.200
	Back Upward	9262/1852.4	0.317	0.328
	Edge C	9262/1852.4	**0.495**	0.512
	Edge D	9262/1852.4	0.010	0.010

Table 11: SAR Values of LTE Band 4 , 20MHz

Temperature: 23.0~23.5°C, humidity: 62~64%.				
Test Positions		Channel /Frequency (MHz)	SAR(W/Kg), 1.6 (1g average)	
			SAR(W/Kg),1g	Scaled SAR(W/Kg),1g
1RB				
Right Side of Head	Cheek	20050/1720	**0.081**	0.087
	Tilt 15 degrees	20050/1720	0.026	0.028
Left Side of Head	Cheek	20050/1720	0.071	0.076
	Tilt 15 degrees	20050/1720	0.022	0.024
Body (10mm Separation) Body-worn	Face Upward	20050/1720	0.281	0.300
	Back Upward	20050/1720	0.333	0.356
Body (10mm Separation) Hotspot	Face Upward	20050/1720	0.281	0.300
	Back Upward	20050/1720	0.333	0.356
	Edge C	20050/1720	**0.478**	0.511
	Edge D	20050/1720	0.077	0.082
50%RB				
Right Side of Head	Cheek	20050/1720	0.080	0.083
	Tilt 15 degrees	20050/1720	0.020	0.021
Left Side of Head	Cheek	20050/1720	0.070	0.072
	Tilt 15 degrees	20050/1720	0.022	0.023
Body (10mm Separation) Body-worn	Face Upward	20050/1720	0.278	0.287
	Back Upward	20050/1720	0.332	0.343
Body (10mm Separation) Hotspot	Face Upward	20050/1720	0.278	0.287
	Back Upward	20050/1720	0.332	0.343
	Edge C	20050/1720	0.470	0.486
	Edge D	20050/1720	0.076	0.079

Table 12: SAR Values of LTE Band 17,10MHz

Temperature: 23.0~23.5°C, humidity: 62~64%.				
Test Positions		Channel /Frequency (MHz)	SAR(W/Kg), 1.6 (1g average)	
			SAR(W/Kg),1g	Scaled SAR(W/Kg),1g
1RB				
Right Side of Head	Cheek	23790/710	0.023	0.025
	Tilt 15 degrees	23790/710	0.018	0.020
Left Side of Head	Cheek	23790/710	**0.026**	0.029
	Tilt 15 degrees	23790/710	0.021	0.023
Body (10mm Separation) Body-worn	Face Upward	23790/710	0.033	0.036
	Back Upward	23790/710	**0.047**	0.052
Body (10mm Separation) Hotspot	Face Upward	23790/710	0.033	0.036
	Back Upward	23790/710	**0.047**	0.052
	Edge C	23790/710	0.021	0.023
	Edge D	23790/710	0.027	0.030

50%RB				
Right Side of Head	Cheek	23790/710	0.023	0.024
	Tilt 15 degrees	23790/710	0.017	0.018
Left Side of Head	Cheek	23790/710	0.026	0.027
	Tilt 15 degrees	23790/710	0.021	0.022
Body (10mm Separation) Body-worn	Face Upward	23790/710	0.032	0.034
	Back Upward	23790/710	0.035	0.037
Body (10mm Separation) Hotspot	Face Upward	23790/710	0.032	0.034
	Back Upward	23790/710	0.035	0.037
	Edge C	23790/710	0.021	0.022
	Edge D	23790/710	0.027	0.029

Table 13: SAR Values of Wi-Fi 802.11b

Temperature: 23.0~23.5°C, humidity: 62~64%.				
Test Positions		Channel /Frequency (MHz)	SAR(W/Kg), 1.6 (1g average)	
			SAR(W/Kg1g Peak)	Scaled SAR(W/Kg),1g
Right Side of Head	Cheek	1/2412	**0.050**	0.056
	Tilt 15 degrees	1/2412	0.027	0.030
Left Side of Head	Cheek	1/2412	0.045	0.050
	Tilt 15 degrees	1/2412	0.022	0.024
Body (10mm Separation) Body-worn	Face Upward	1/2412	0.006	0.007
	Back Upward	1/2412	**0.051**	0.057
Body (10mm Separation) Hotspot	Face Upward	1/2412	0.006	0.007
	Back Upward	1/2412	**0.051**	0.057
	Edge A	1/2412	0.026	0.029
	Edge D	1/2412	0.012	0.013

Note:

a) According to KDB 941225 D01, since the maximum average output of each RF channel with HSDPA/HSUPA active is less than that measured without HSDPA/HSUPA using 12.2 kbps RMC and the maximum SAR for 12.2 kbps RMC is less 1.2 W/kg, the measurement against HSDPA and HSUPA were ignored in this report.

b) 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 v05r02)

• ≤ 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

10.2 Conclusion

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 TRANSMISSION ANALYSIS

Test Position		Right Cheek	Right Title	Left Cheek	Left Tilt
Head MAX 1-g SAR(W/Kg)	GSM850	0.013	0.011	0.014	0.009
	GSM1900	0.046	0.025	0.058	0.027
	WCDMA850	0.019	0.015	0.020	0.016
	WCDMA1900	0.095	0.039	0.088	0.038
	LTE Band 4	0.087	0.028	0.076	0.024
	LTE Band 17	0.025	0.020	0.029	0.023
	WIFI 802.11b	0.056	0.030	0.050	0.024
	BT	*0.033	*0.033	*0.033	*0.033
BT Simultaneous ∑1-g SAR(W/Kg)		0.128	0.072	0.121	0.071
WiFi Simultaneous ∑1-g SAR(W/Kg)		**0.151**	0.069	0.138	0.062

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

Test Position		Face	Back	Edge A	Edge B	Edge C	Edge D
Body-worn 10mm separation MAX 1-g SAR(W/Kg)	GSMS850	0.013	0.016	--	--	--	--
	GSM1900	0.113	0.119	--	--	--	--
	WCDMA850	0.024	0.034	--	--	--	--
	WCDMA1900	0.200	0.328	--	--	--	--
	LTE Band 4	0.300	0.356	--	--	--	--
	LTE Band 17	0.036	0.052	--	--	--	--
	WIFI 802.11b	0.007	0.057	--	--	--	--
	BT	*0.016	*0.016	--	--	--	--
BT Simultaneous ∑1-g SAR(W/Kg)		0.316	0.372	--	--	--	--
WiFi Simultaneous ∑1-g SAR(W/Kg)		0.307	**0.413**	--	--	--	--

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

Test Position		Face	Back	Edge A	Edge B	Edge C	Edge D
Hotspot 10mm separation MAX 1-g SAR(W/Kg)	GPRS850	0.017	0.025	--	--	0.009	0.009
	GPRS1900	0.130	0.137	--	--	0.157	0.041
	WCDMA 850	0.024	0.034	--	--	0.017	0.017
	WCDMA 1900	0.200	0.328	--	--	0.512	0.010
	LTE Band 4	0.300	0.356	--	--	0.511	0.082
	LTE Band 17	0.036	0.052	--	--	0.023	0.030
	WiFi	0.007	**0.057**	0.029	--	--	0.013
WiFi Simultaneous ∑1-g SAR(W/Kg)		0.307	**0.413**	0.029	--	0.512	0.095

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

The estimated SAR value with * Signal

SAR to Peak Location Separation Ratio (SPLSR)

As the Sum of the SAR is not greater than 1.6 W/kg SPLSR assessment is not required

11 Measurement Uncertainty

No.	Uncertainty Component	Type	Uncertainty Value (%)	Probability Distribution	k	ci	Standard Uncertainty (%) ui(%)	Degree of freedom Veff or vi
	Measurement System							
1	－Probe Calibration	B	5.8	N	1	1	5.8	∞
2	－Axial isotropy	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 Veff or vi
	Measurement System							
1	－Probe Calibration	B	5.8	N	1	1	5.8	∞
2	－Axial isotropy	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

No.	EQUIPMENT	TYPE	Series No.	Due Date
1	System Simulator	E5515C	GB 47200710	2015/09/15
2	System Simulator	CMW500	130805	2016/06/02
3	SAR Probe	SATIMO	SN_0413_EP166	2015/08/14
4	SAR Probe	SATIMO	SN09/13 EP169	2016/05/04
5	Dipole	SATIMO	SN 25/13DIP0G750-253	2015/08/16
6	Dipole	SID835	SN09/13 DIP0G835-217	2015/08/27
7	Dipole	SID1800	SN09/13 DIP1G800-216	2015/08/27
8	Dipole	SID1900	SN09/13 DIP1G900-218	2015/08/27
9	Dipole	SID2450	SN09/13 DIP2G450-220	2015/08/27
10	Vector Network Analyzer	ZVB8	A0802530	2016/06/08
11	Signal Generator	SMR27	A0304219	2016/06/08
12	Power Meter	NRP2	A140401673	2016/03/27
15	Power Sensor	NPR-Z11	1138.3004.02-114072-nq	2016/03/27
16	Amplifier	Nucletudes	143060	2016/03/27
17	Directional Coupler	DC6180A	305827	2016/03/27
18	Power Meter	NRVS	A0802531	2016/03/27
19	Power Sensor	NRV-Z4	100069	2016/03/27
20	Multimeter	Keithley-2000	4014020	2016/03/27

ANNEX A

of

CCIC-SET

CONFORMANCE TEST REPORT FOR

HUMAN EXPOSURE TO ELECTROMAGNETIC FIELDS

SET2015-09927

Maysun Info Technology Co., Ltd

4G LTE Smart Phone

Type Name: N501

Hardware Version: B501 MB P2

Software Version: ALPS.L1.MP3.V2¬_GIONEE6735.65C.L1_P15

TEST LAYOUT

This Annex consists of 8 pages

Date of Report: 2015-07-21

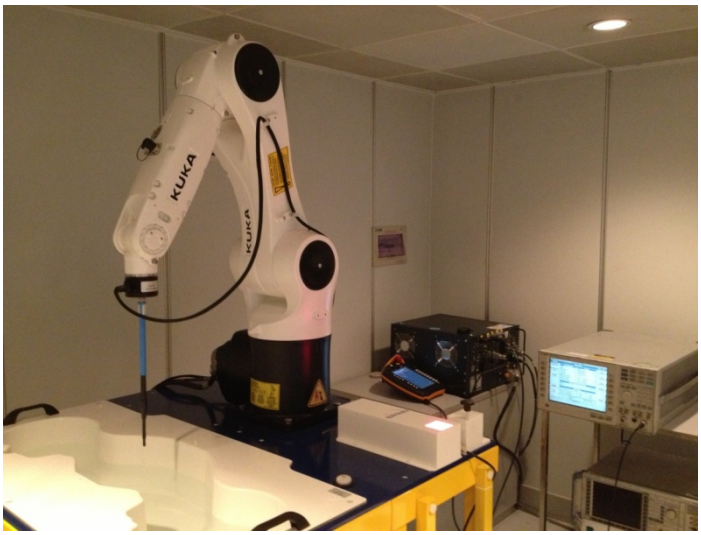


Fig.1 COMO SAR Test System

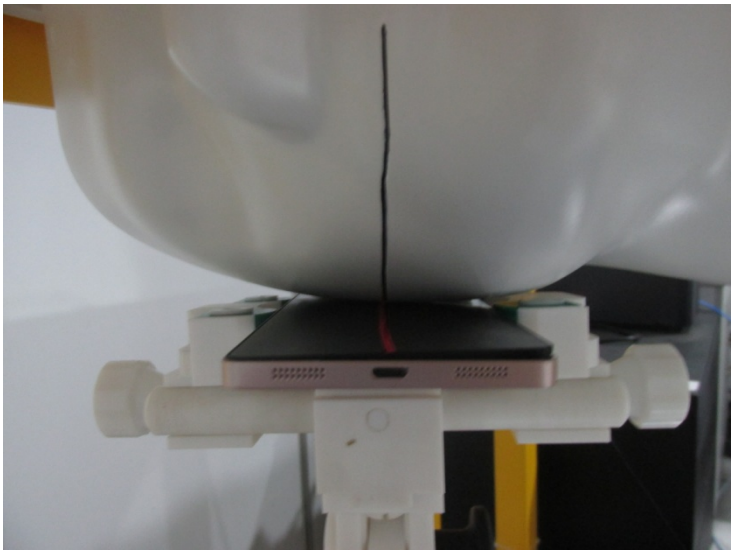


Fig.2 Right_Cheek

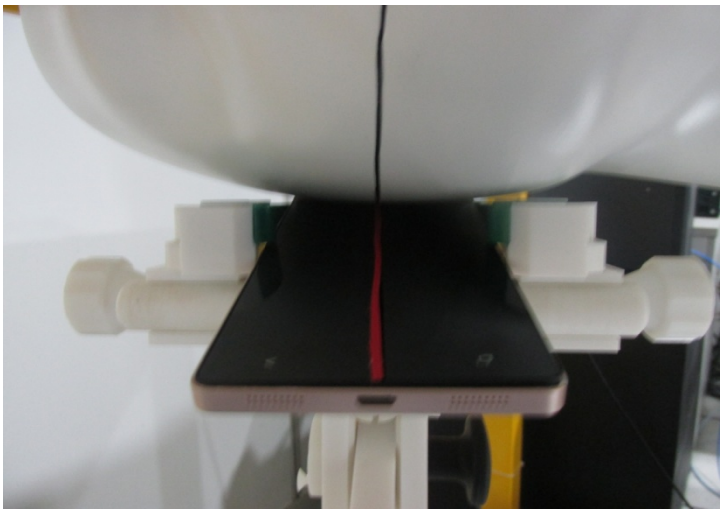


Fig.3 Right_Tilt

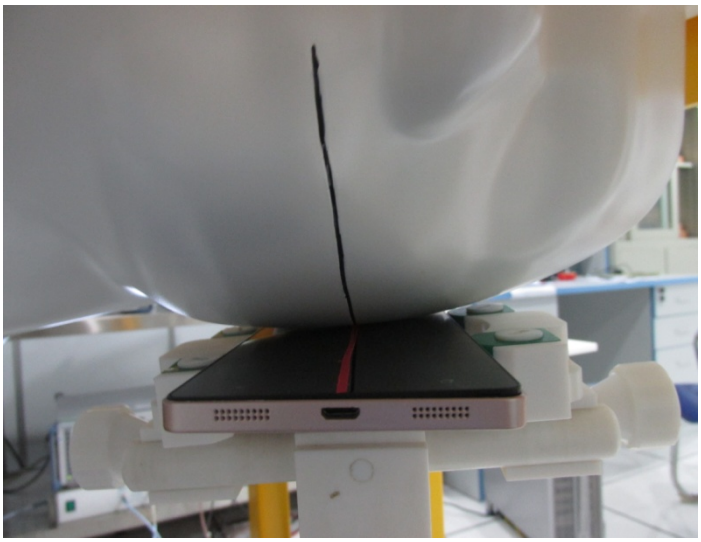


Fig.4 Left Cheek

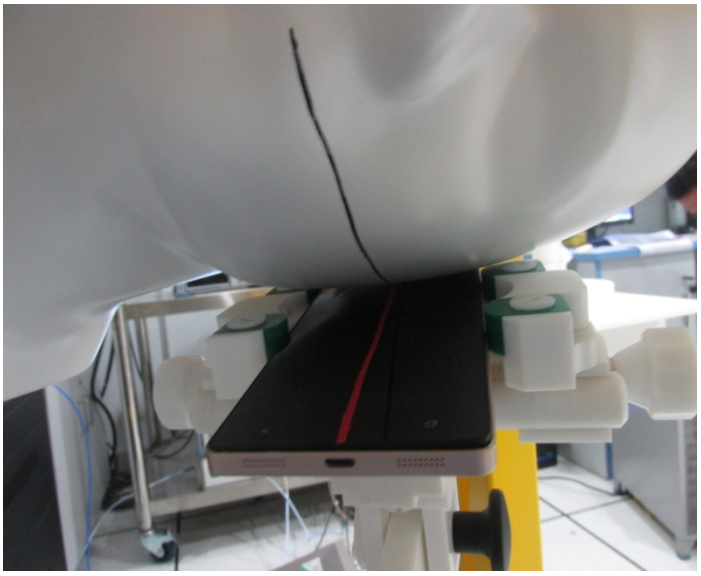


Fig.5 Left_Tilt

Fig.6 Body (Back upside,10mm separation)

Fig.7 Body (Face upside,10mm separation)

Fig.8 Body Edge A(UP,10mm separation)

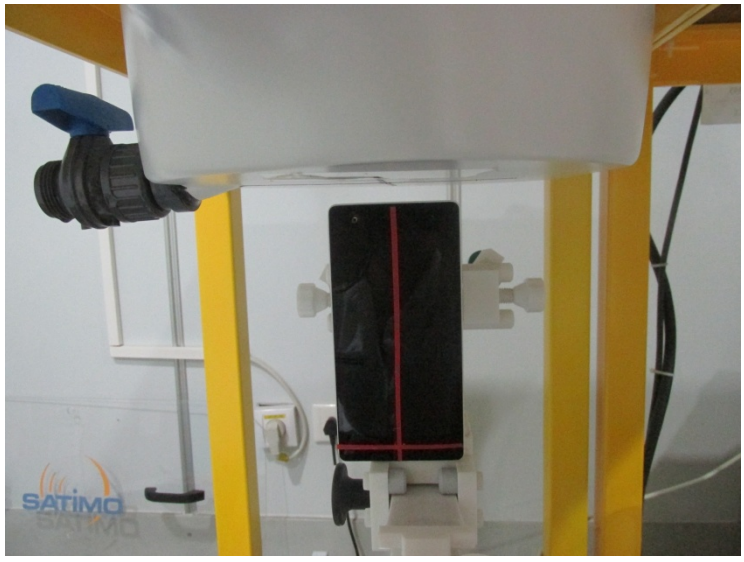


Fig.9 Body Edge C(Down,10mm separation)

Fig.10 Body Edge D(Left upside,10mm separation)

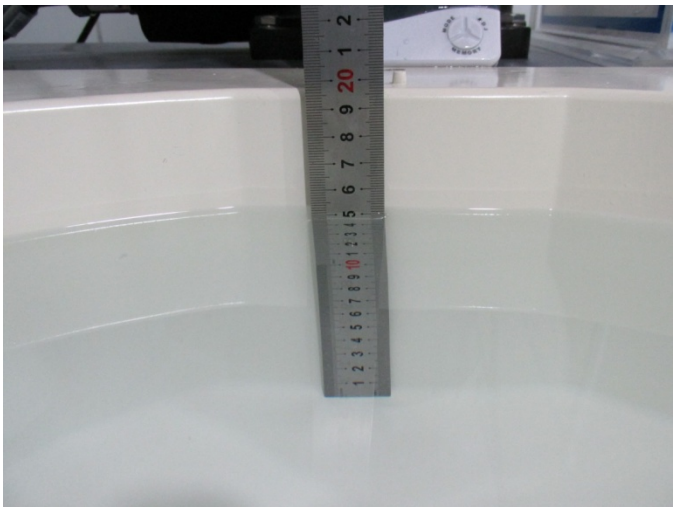


Fig.11 Head Liquid of 750MHz(15cm)

Fig.12 Body Liquid of 750MHz(15cm)

Fig.13 Head Liquid of 835MHz(15cm)

Fig.14 Body Liquid of 835MHz(15cm)

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

Fig.16 Body Liquid of 1800MHz(15cm)

Fig.17 Head Liquid of 1900MHz(15cm)

Fig.18 Body Liquid of 1900MHz(15cm)

Fig.19 Head Liquid of 2450MHz(15cm)

Fig.20 Body Liquid of 2450MHz(15cm)

ANNEX B

of

CCIC-SET

CONFORMANCE TEST REPORT FOR

HUMAN EXPOSURE TO ELECTROMAGNETIC FIELDS

SET2015-09927

4G LTE Smart Phone

Type Name: N501

Hardware Version: B501 MB P2

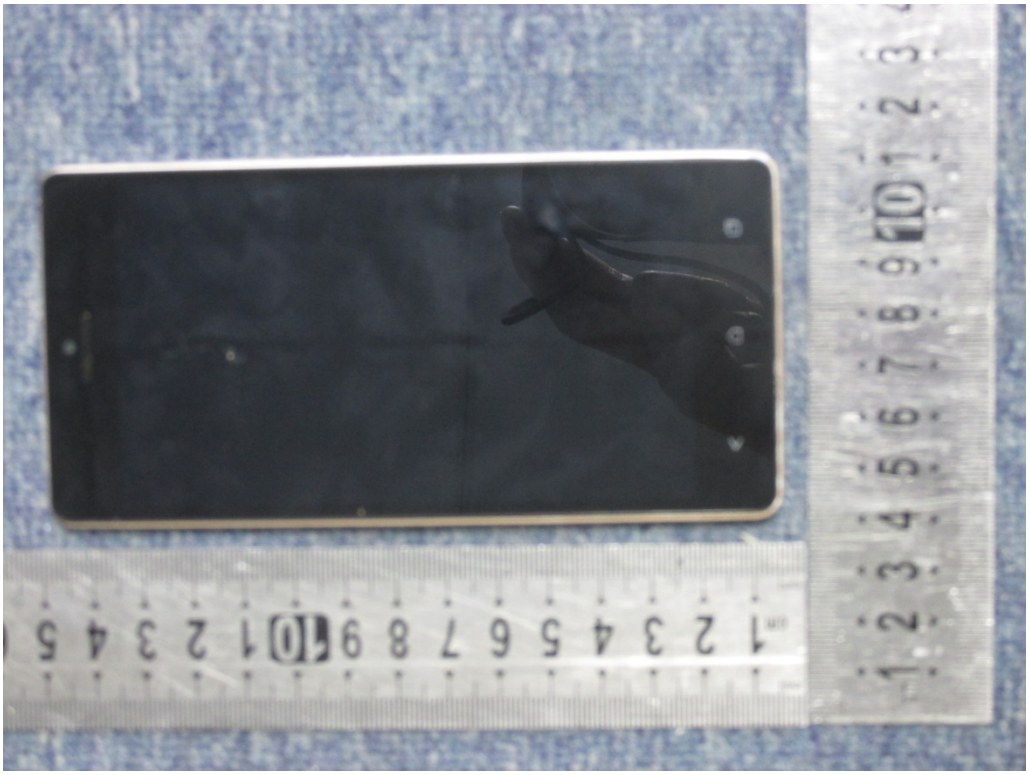
Software Version: ALPS.L1.MP3.V2¬_GIONEE6735.65C.L1_P15

Sample Photographs

This Annex consists of 2 pages

Date of Report: 2015-07-21

1. Appearance



Appearance and size (obverse)

Appearance and size (reverse)

ANNEX C

of

CCIC-SET

CONFORMANCE TEST REPORT FOR

HUMAN EXPOSURE TO ELECTROMAGNETIC FIELDS

SET2015-09927

4G LTE Smart Phone

Type Name: N501

Hardware Version： B501 MB P2

Software Version： ALPS.L1.MP3.V2¬_GIONEE6735.65C.L1_P15

System Performance Check Data and Highest SAR Plots

This Annex consists of 44 pages

Date of Report：2015-07-21

System Performance Check (Head, 750MHz)

Type: Validation measurement

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

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

Date of measurement:16/06/2015

Measurement duration: 21 minutes 24 seconds

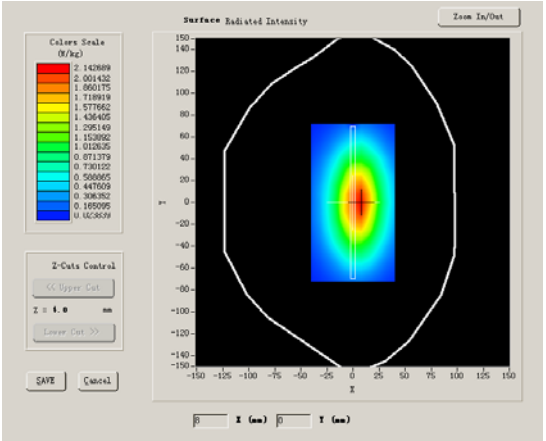
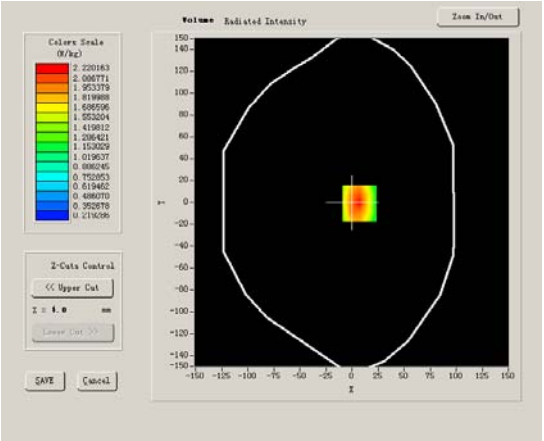
A. Experimental conditions.

Phantom File	dx=8mm dy=8mm
Phantom	5x5x7,dx=8mm dy=8mm dz=5mm
Device Position	
Band	750MHz
Channels	
Signal	CW

B. SAR Measurement Results

Band SAR

Frequency (MHz)	750.000000
Relative permittivity (real part)	41.62
Relative permittivity	21.12
Conductivity (S/m)	0.88
Power drift (%)	1.23
Ambient Temperature:	23.2°C
Liquid Temperature:	23.5°C
ConvF:	5.26
Duty factor:	1:1

SURFACE SAR	VOLUME SAR
	

Maximum location: X=7.00, Y=-1.00

SAR 10g (W/Kg)	1.032462
SAR 1g (W/Kg)	1.984371

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:13/07/2015

Measurement duration: 21 minutes 24 seconds

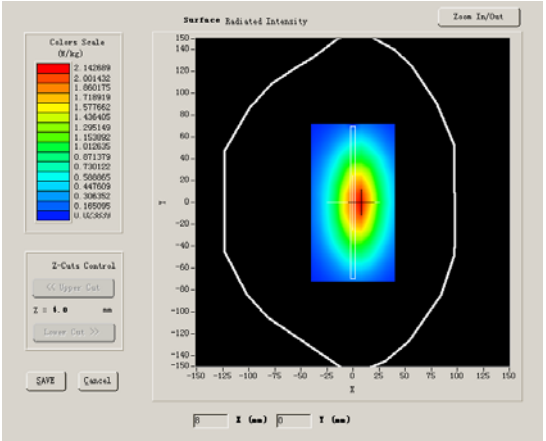
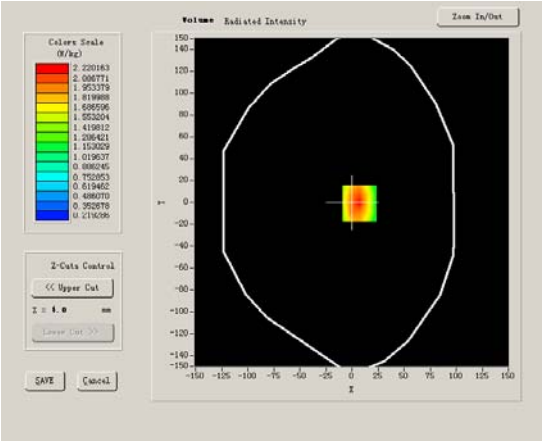
A. Experimental conditions.

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

B. SAR Measurement Results

Band SAR

Frequency (MHz)	835.000000
Relative permittivity (real part)	41.24
Relative permittivity	18.97
Conductivity (S/m)	0.88
Power drift (%)	0.85
Ambient Temperature:	23.2°C
Liquid Temperature:	23.5°C
ConvF:	5.68
Duty factor:	1:1

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=7.00, Y=-1.00

SAR 10g (W/Kg)	1.821240
SAR 1g (W/Kg)	2.424137

System Performance Check (Head, 1750MHz)

Type: Validation measurement

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

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

Date of measurement: 17/07/2015

Measurement duration: 20 minutes 52seconds

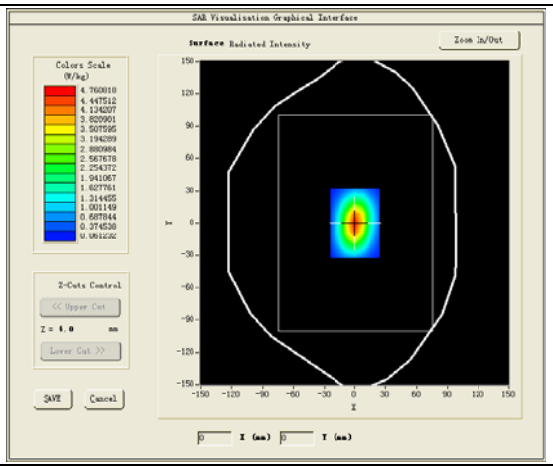
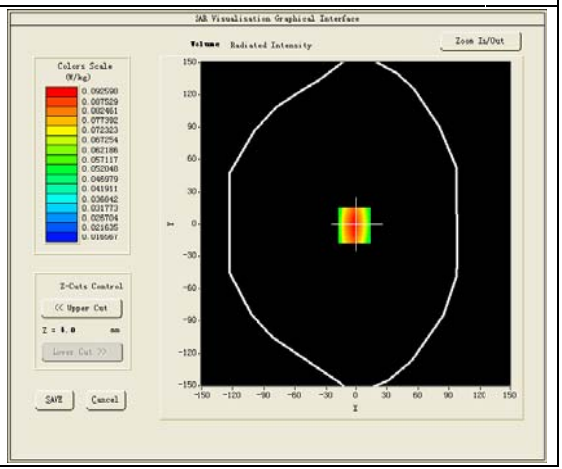
A. Experimental conditions.

Phantom File	dx=8mm dy=8mm
Phantom	5x5x7,dx=8mm dy=8mm dz=5mm
Device Position	
Band	1750MHz
Channels	
Signal	CW

B. SAR Measurement Results

Band SAR

Frequency (MHz)	1750.000000
Relative permittivity (real part)	39.72
Relative permittivity	13.90
Conductivity (S/m)	1.39
Power drift (%)	0.24
Ambient Temperature:	22.2°C
Liquid Temperature:	22.5°C
ConvF:	4.75
Duty factor:	1:1

SURFACE SAR	VOLUME SAR
	

Maximum location: X=6.00, Y=0.00

SAR 10g (W/Kg)	4.982071
SAR 1g (W/Kg)	9.477623

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: 15/07/2015

Measurement duration: 20 minutes 57 seconds

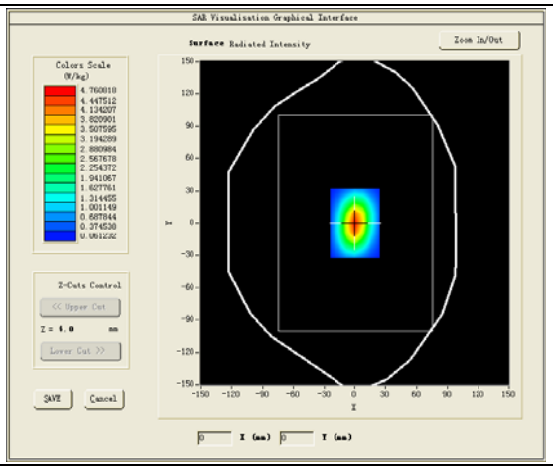
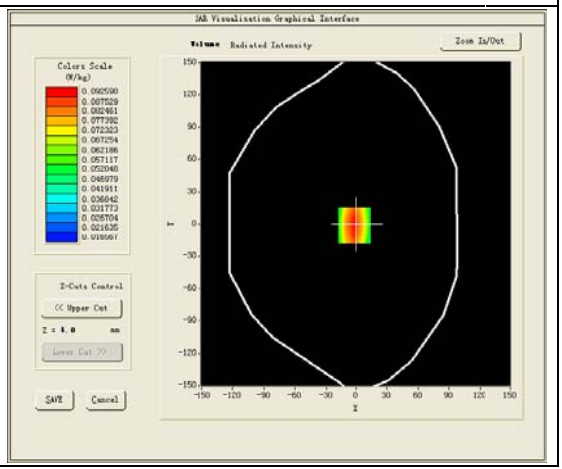
A. Experimental conditions.

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

Frequency (MHz)	1900.000000
Relative permittivity (real part)	39.81
Relative permittivity	13.17
Conductivity (S/m)	1.39
Power drift (%)	1.47
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)	5.113742
SAR 1g (W/Kg)	9.812706

System Performance Check (Head, 2450MHz)

Type: Validation measurement

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

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

Date of measurement:18/07/2015

Measurement duration: 21 minutes 08 seconds

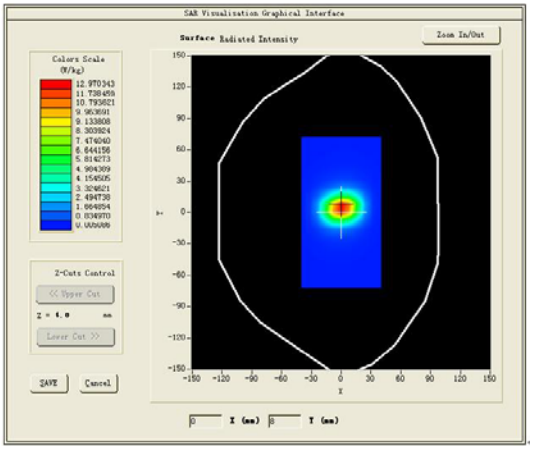
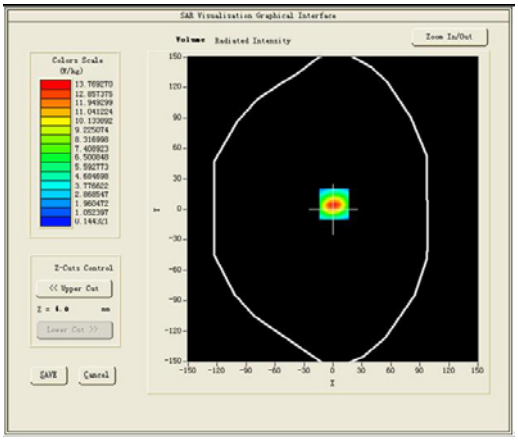
A. Experimental conditions.

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

Frequency (MHz)	2450
Relative permittivity (real part)	38.73
Relative permittivity	13.00
Conductivity (S/m)	1.77
Power Drift (%)	-1.02
ConvF:	4.93
Duty factor:	1:1

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=0.00, Y=7.00

SAR 10g (W/Kg)	5.637142
SAR 1g (W/Kg)	12.824105

System Performance Check (Body, 750MHz)

Type: Validation measurement

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

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

Date of measurement: 19/07/2015

Measurement duration: 20 minutes 12 seconds

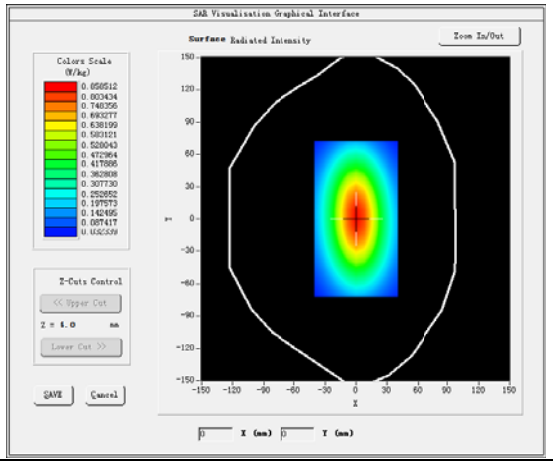
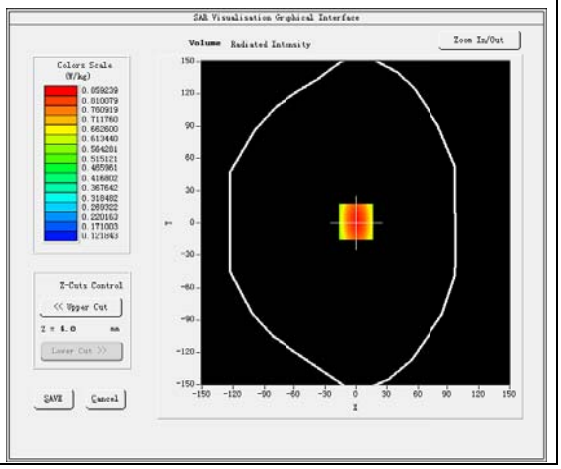
A. Experimental conditions.

Phantom File	dx=8mm dy=8mm
Phantom	5x5x7,dx=8mm dy=8mm dz=5mm
Device Position	Dipole
Band	750MHz
Channels	
Signal	CW

B. SAR Measurement Results

Band SAR

Frequency (MHz)	750
Relative permittivity (real part)	54.82
Relative permittivity	23.04
Conductivity (S/m)	0.96
Power drift (%)	-0.14
Ambient Temperature:	22.2°C
Liquid Temperature:	22.5°C
ConvF:	5.41
Duty factor:	1:1

SURFACE SAR	VOLUME SAR
	

Maximum location: X=0.00, Y=1.00

SAR 10g (W/Kg)	0.965604
SAR 1g (W/Kg)	1.988657

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: 14/07/2015

Measurement duration: 20 minutes 12 seconds

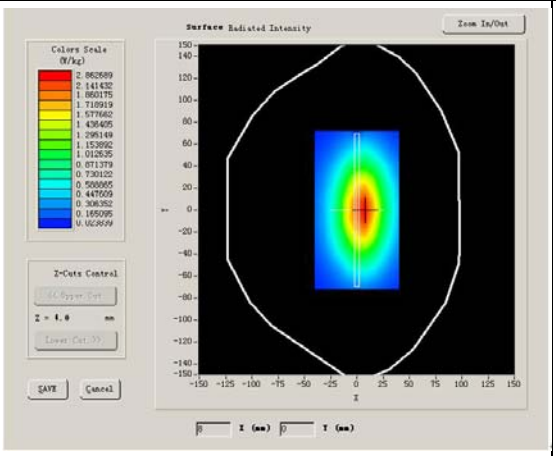
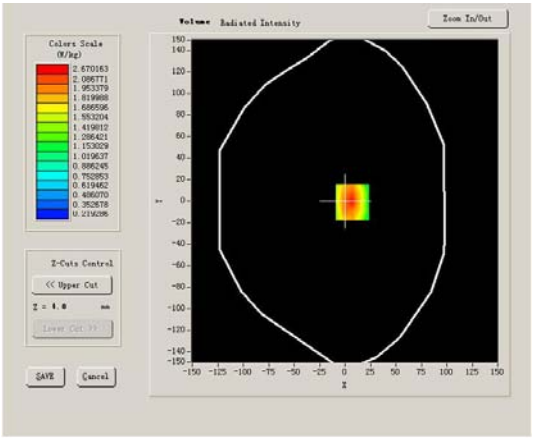
A. Experimental conditions.

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

Frequency (MHz)	835
Relative permittivity (real part)	54.75
Relative permittivity	20.12
Conductivity (S/m)	0.95
Power drift (%)	-2.01
Ambient Temperature:	22.2°C
Liquid Temperature:	22.5°C
ConvF:	5.84
Duty factor:	1:1

SURFACE SAR	VOLUME SAR
	

Maximum location: X=7.00, Y=-1.00

SAR 10g (W/Kg)	1.602024
SAR 1g (W/Kg)	2.510243

System Performance Check (Body, 1750MHz)

Type: Phone measurement (Complete)

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

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

Date of measurement: 17/07/2015

Measurement duration: 20 minutes 06 seconds

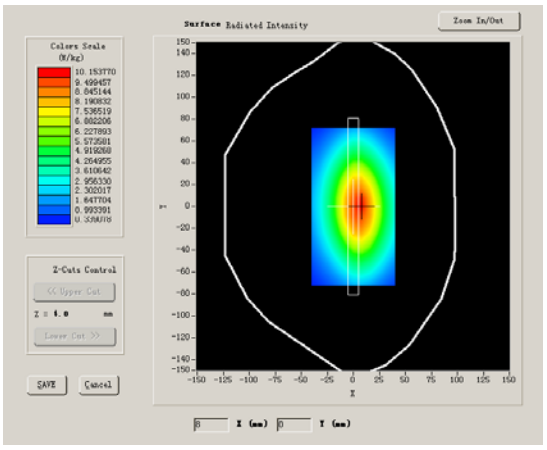
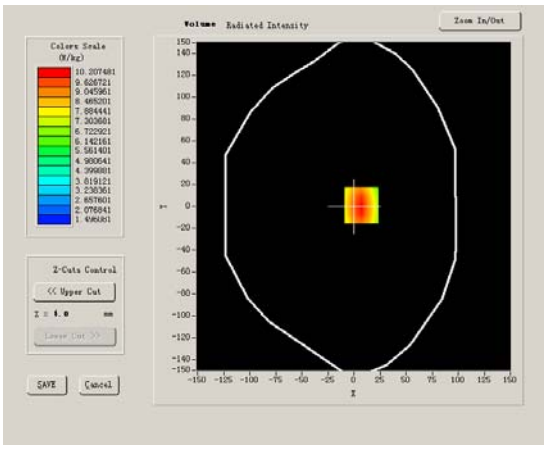
A. Experimental conditions.

Phantom File	dx=8mm dy=8mm
Phantom	5x5x7,dx=8mm dy=8mm dz=5mm
Device Position	Dipole
Band	1750MHz
Channels	
Signal	CW

B. SAR Measurement Results

Band SAR

Frequency (MHz)	1750
Relative permittivity (real part)	53.44
Relative permittivity	15.30
Conductivity (S/m)	1.53
Power drift (%)	0.68
Ambient Temperature:	22.2°C
Liquid Temperature:	22.6°C
ConvF:	4.93
Crest factor:	1:1

SURFACE SAR	VOLUME SAR
	

Maximum location: X=7.00, Y=1.00

SAR 10g (W/Kg)	5.024137
SAR 1g (W/Kg)	9.854762

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: 16/07/2015

Measurement duration: 21 minutes 34 seconds

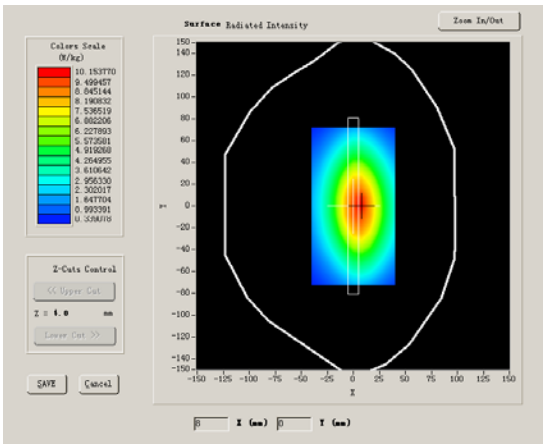
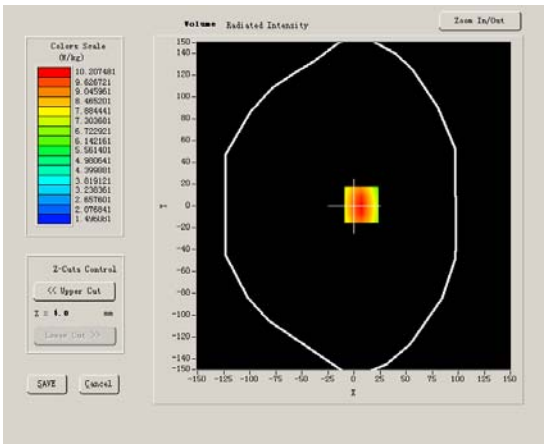
A. Experimental conditions.

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

Frequency (MHz)	1900
Relative permittivity (real part)	52.68
Relative permittivity	14.21
Conductivity (S/m)	1.50
Power Drift (%)	-1.73
Ambient Temperature:	22.1°C
Liquid Temperature:	22.6°C
ConvF:	5.42
Duty factor:	1:1

SURFACE SAR	VOLUME SAR
	

Maximum location: X=1.00, Y=6.00

SAR 10g (W/Kg)	5.134572
SAR 1g (W/Kg)	10.042513

System Performance Check (Body, 2450MHz)

Type: Validation measurement

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

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

Date of measurement: 18/07/2015

Measurement duration: 22 minutes 08 seconds

Mobile Phone IMEI number: --

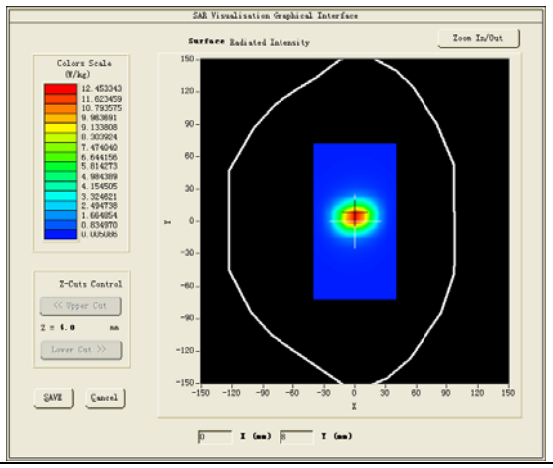
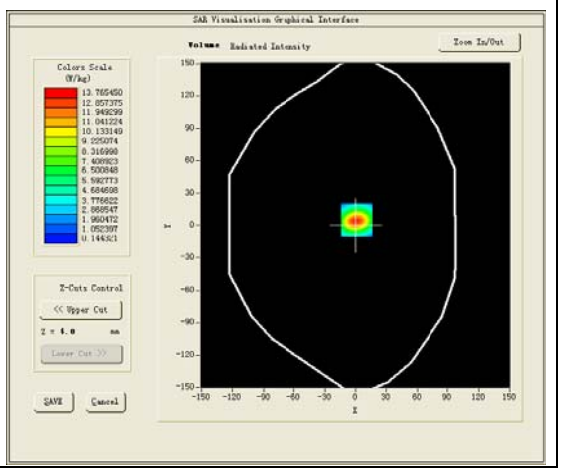
A. Experimental conditions.

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

Frequency (MHz)	2450
Relative permittivity (real part)	52.31
Relative permittivity	14.25
Conductivity (S/m)	1.94
Power Drift (%)	-0.38
Ambient Temperature:	22.1°C
Liquid Temperature:	22.6°C
Duty factor:	1:1
ConvF:	5.07

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=1.00, Y=5.00

SAR 10g (W/Kg)	6.157423
SAR 1g (W/Kg)	12.930241

GSM850, Left Cheek, High

Type: Phone measurement

Date of measurement: 13/07/2015

Measurement duration: 6 minutes 35 seconds

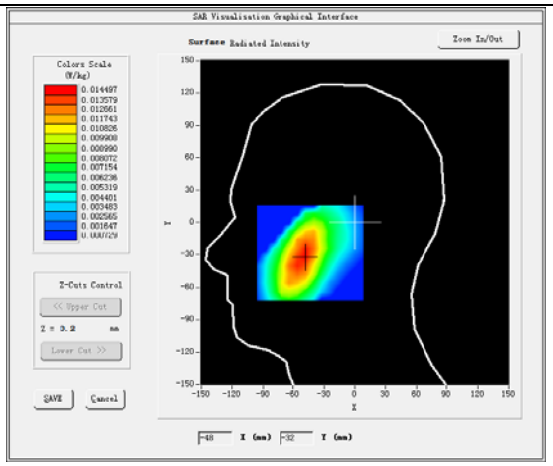
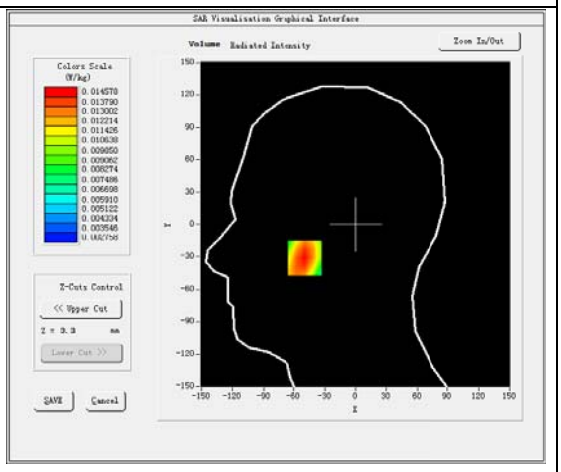
Mobile Phone IMEI number: --

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	251
Signal	GSM (Duty cycle: 1:8)

B. SAR Measurement Results

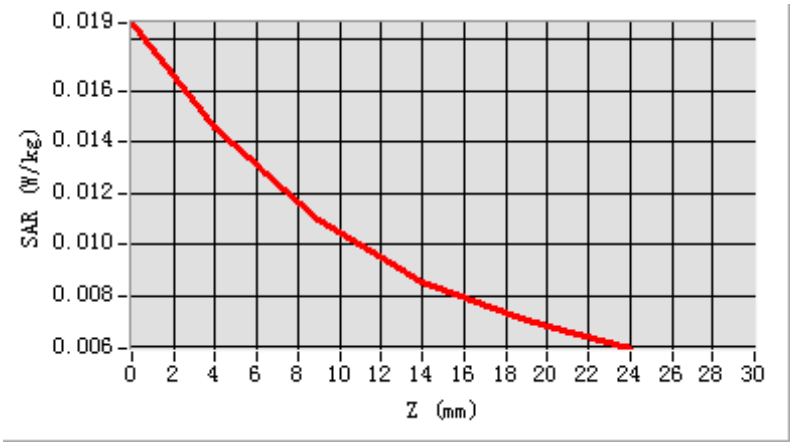
Frequency (MHz)	848.8
Relative permittivity (real part)	41.24
Relative permittivity (imaginary part)	18.97
Conductivity (S/m)	0.88
Variation (%)	-2.27
ConvF:	5.68

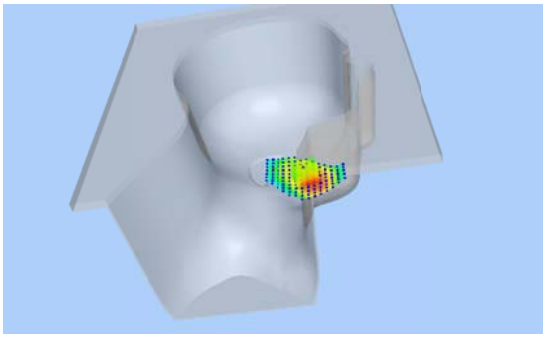
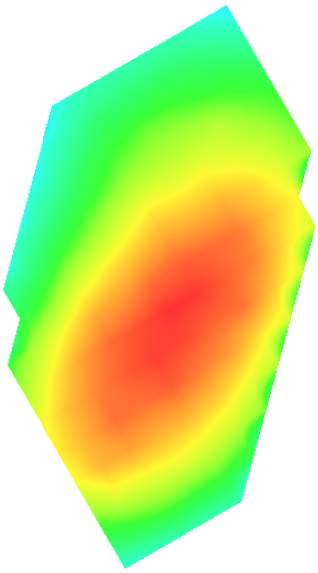
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-49.00, Y=-31.00

SAR 10g (W/Kg)	0.010181
SAR 1g (W/Kg)	0.013992

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0186	0.0146	0.0109	0.0086	0.0070



3D screen shot	Hot spot position
	

GSM850, Back, High

Type: Phone measurement

Date of measurement: 14/07/2015

Measurement duration: 7 minutes 32 seconds

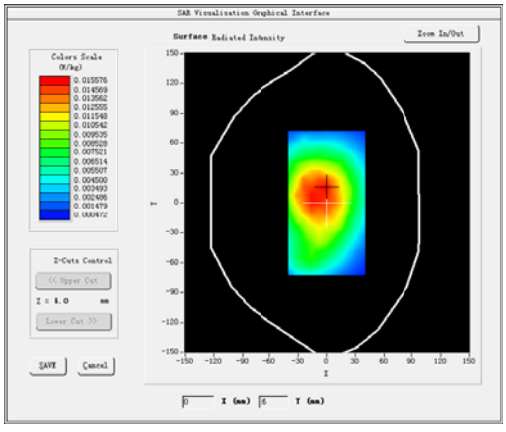
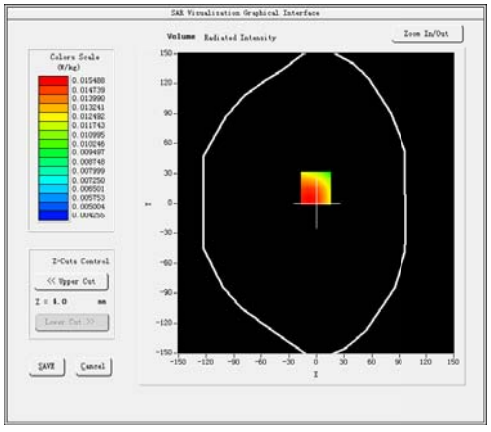
Mobile Phone IMEI number: --

A. Experimental conditions.

Area Scan	dx=8mm dy=8mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Back
Band	GSM850
Channels	251
Signal	GSM(Duty cycle: 1:8)

B. SAR Measurement Results

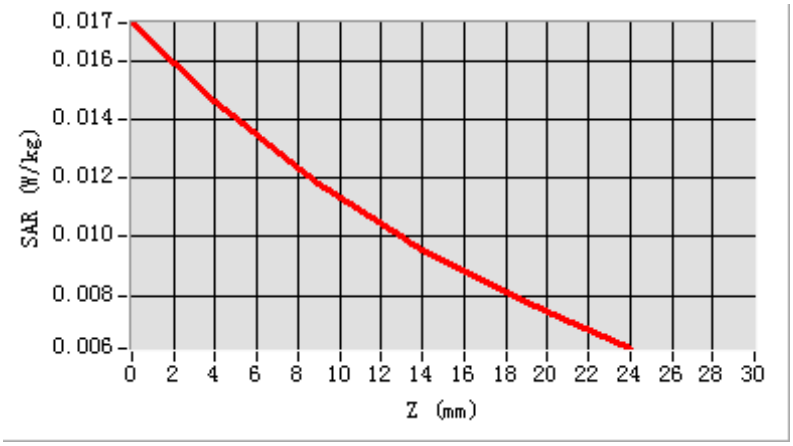
Frequency (MHz)	848.8
Relative permittivity (real part)	54.75
Relative permittivity (imaginary part)	20.12
Conductivity (S/m)	0.95
Variation (%)	1.90
ConvF:	5.84

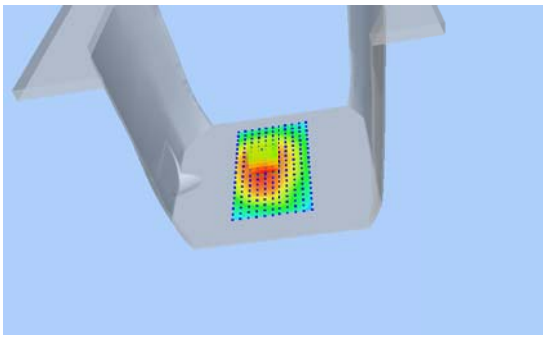
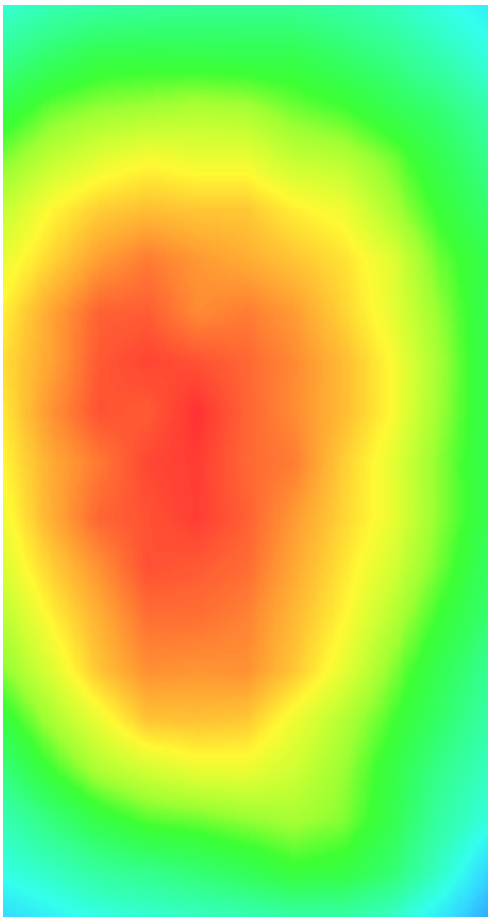
SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=-8.00, Y=7.00

SAR 10g (W/Kg)	0.012771
SAR 1g (W/Kg)	0.016443

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.017273	0.014598	0.011810	0.009562	0.007741



3D screen shot	Hot spot position
	

GPRS 850, Back, Middle

Type: Phone measurement

Date of measurement: 14/07/2014

Measurement duration: 8 minutes 8 seconds

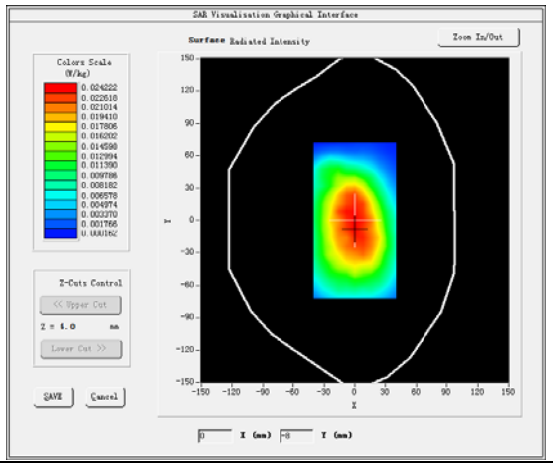
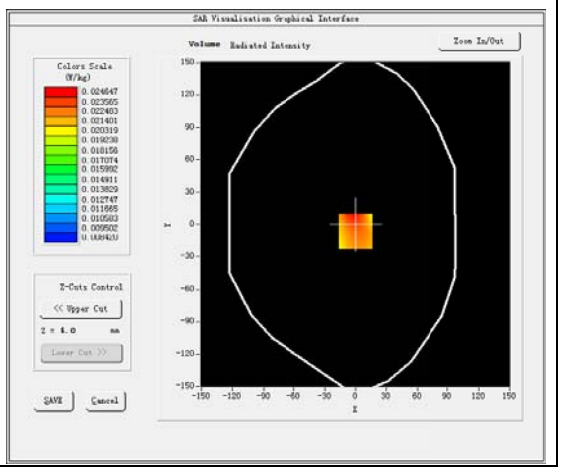
Mobile Phone IMEI number: --

A. Experimental conditions.

Area Scan	dx=8mm dy=8mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Back
Band	CUSTOM (GPRS850_2Tx)
Channels	190
Signal	GPRS(Duty cycle: 1:4)

B.SAR Measurement Results

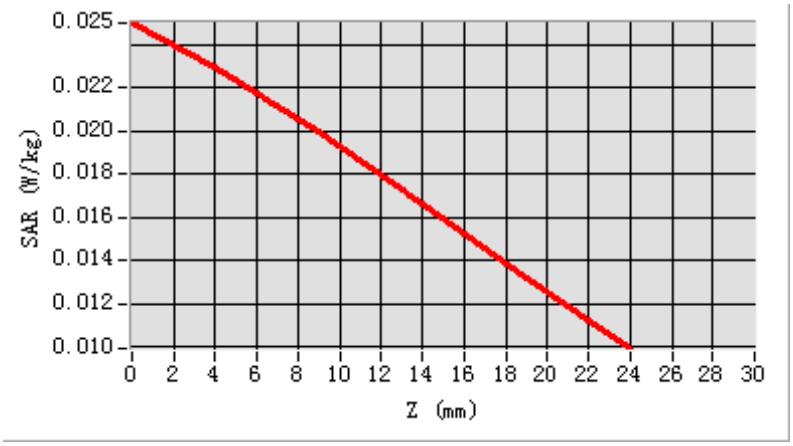
Frequency (MHz)	836.4
Relative permittivity (real part)	54.75
Relative permittivity (imaginary part)	20.12
Conductivity (S/m)	0.95
Variation (%)	-3.13
ConvF:	5.84

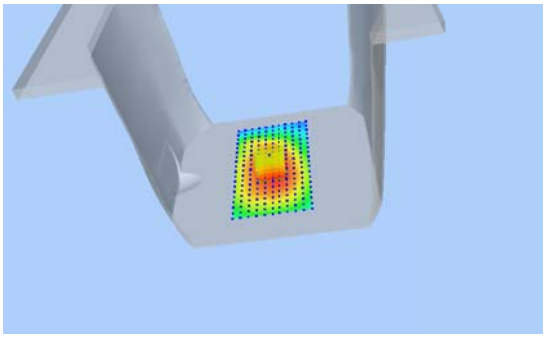
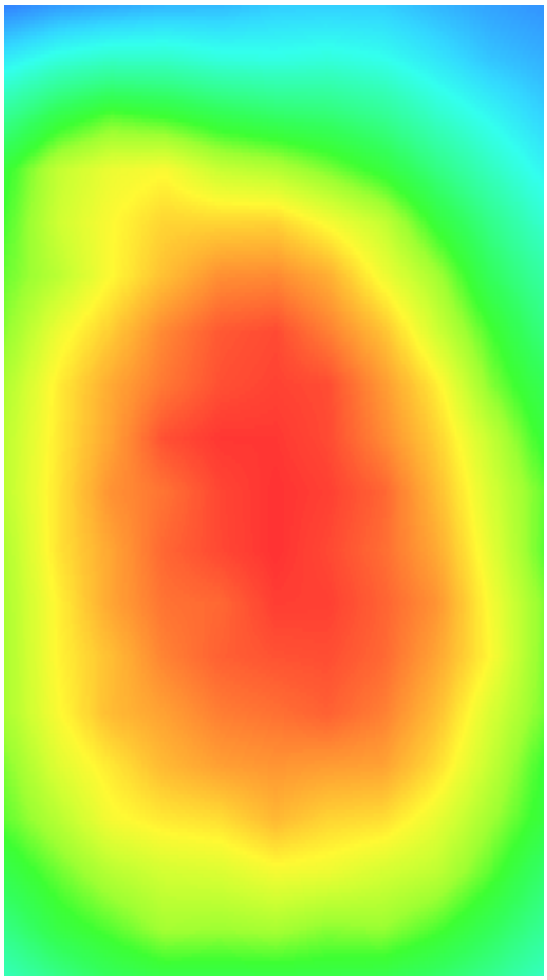
SURFACE SAR	VOLUME SAR
	

Maximum location: X=0.00, Y=-6.00

SAR 10g (W/Kg)	0.018420
SAR 1g (W/Kg)	0.023557

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0250	0.0230	0.0200	0.0166	0.0132



3D screen shot	Hot spot position
	

GSM1900, Left Cheek, Low

Type: Phone measurement

Date of measurement: 15/7/2015

Measurement duration: 7 minutes 03 seconds

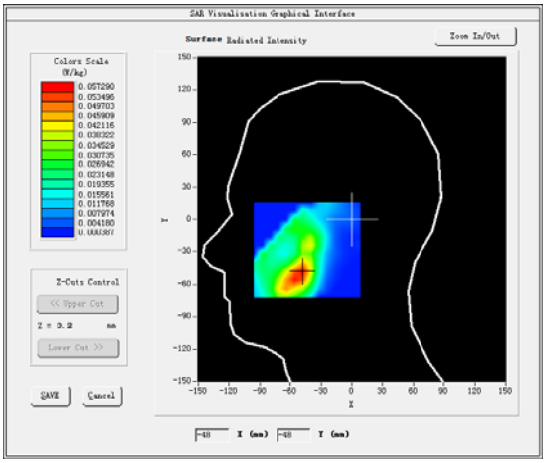
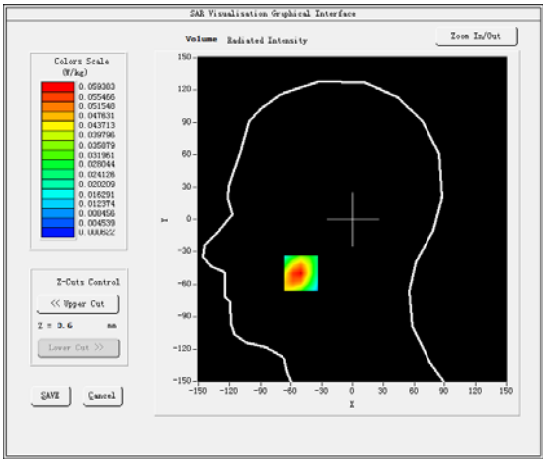
Mobile Phone IMEI number: --

A. Experimental conditions.

Area Scan	dx=8mm dy=8mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Back
Band	GSM1900
Channels	512
Signal	GSM (Duty cycle: 1:8)

B. SAR Measurement Results

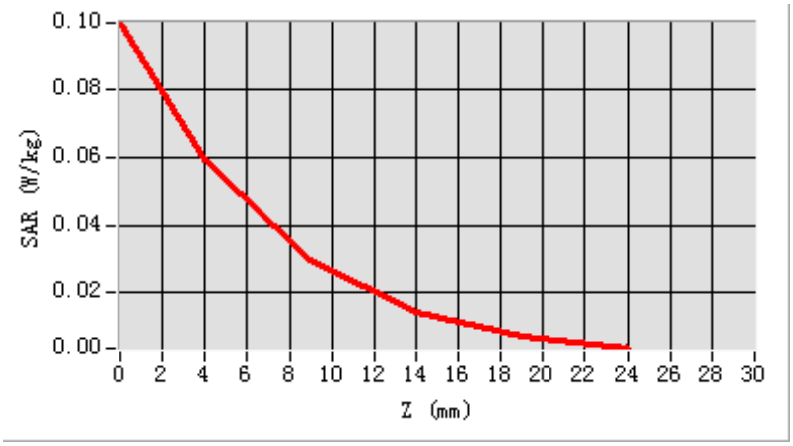
Frequency (MHz)	1850.2
Relative permittivity (real part)	39.81
Relative permittivity (imaginary part)	13.17
Conductivity (S/m)	1.39
Variation (%)	-1.58
ConvF:	5.25

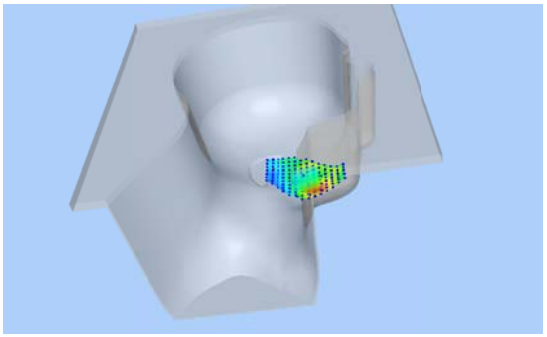
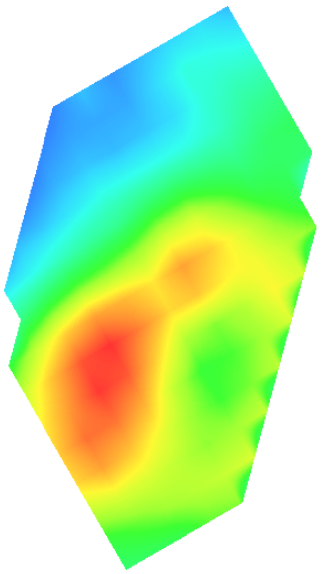
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-50.00, Y=-50.00

SAR 10g (W/Kg)	0.028544
SAR 1g (W/Kg)	0.056642

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0994	0.0594	0.0297	0.0146	0.0075



3D screen shot	Hot spot position
	

GSM1900, Back, Low

Type: Phone measurement

Date of measurement: 16/7/2015

Measurement duration: 6 minutes 52 seconds

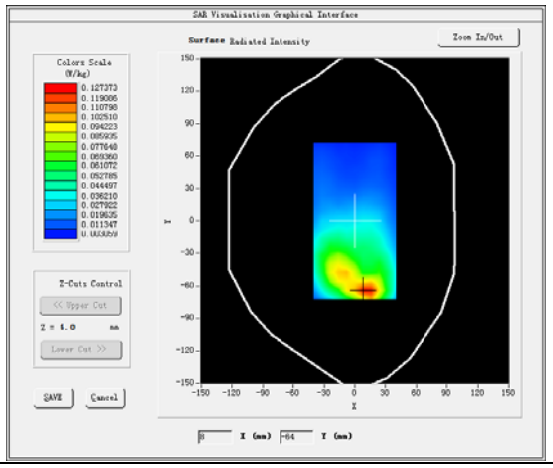
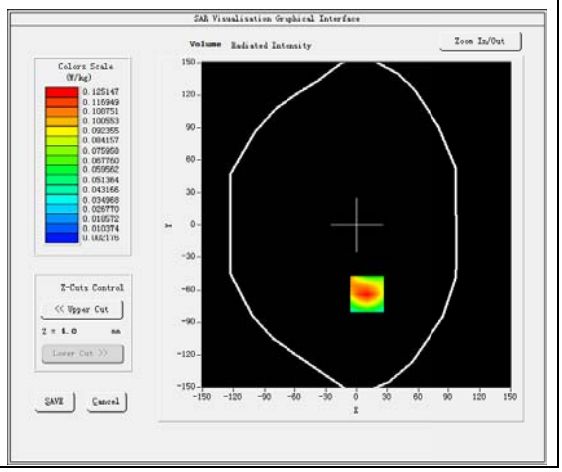
Mobile Phone IMEI number: --

A. Experimental conditions.

Area Scan	dx=8mm dy=8mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Back
Band	GSM1900
Channels	512
Signal	GSM (Duty cycle: 1:8)

B. SAR Measurement Results

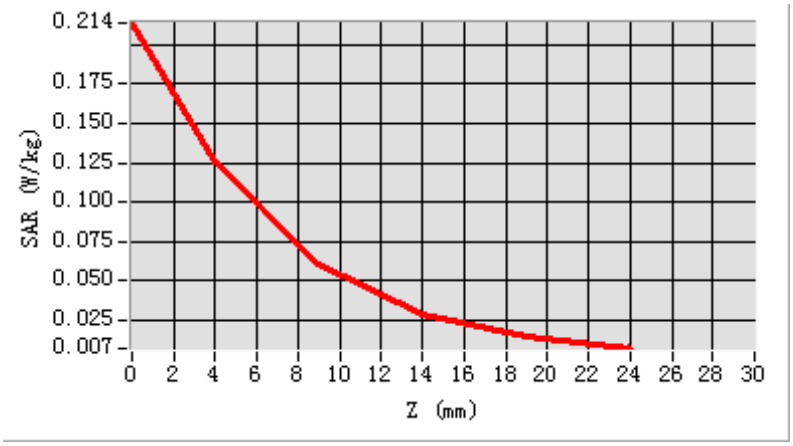
Frequency (MHz)	1850.2
Relative permittivity (real part)	52.68
Relative permittivity (imaginary part)	14.21
Conductivity (S/m)	1.50
Variation (%)	-1.62
ConvF:	5.42

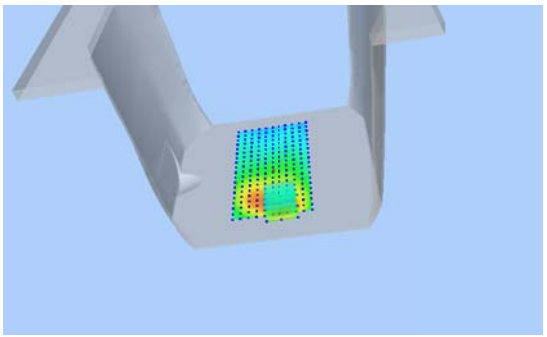
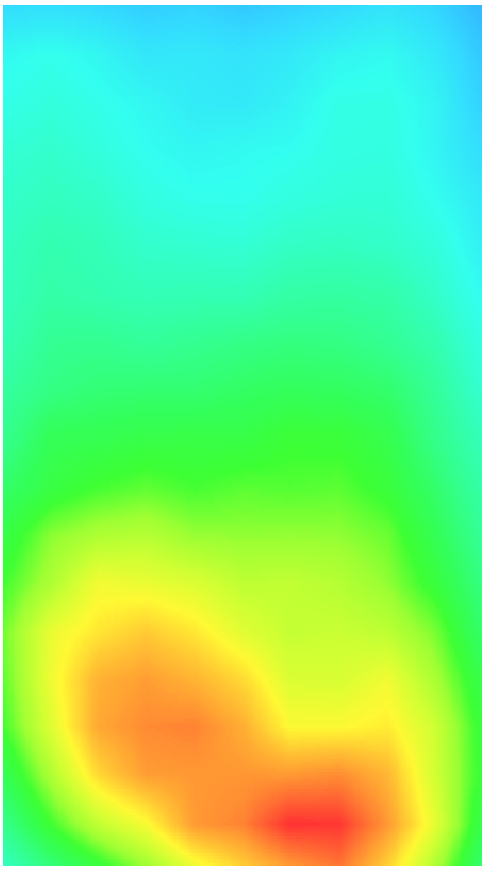
SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=10.00, Y=-64.00

SAR 10g (W/Kg)	0.056379
SAR 1g (W/Kg)	0.116901

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.2135	0.1251	0.0608	0.0291	0.0147



3D screen shot	Hot spot position
	

GPRS1900, BACK, Low

Type: Phone measurement

Date of measurement: 16/7/2015

Measurement duration: 7 minutes 31 seconds

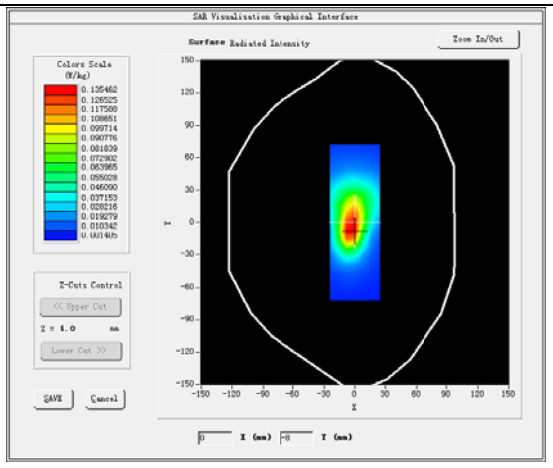
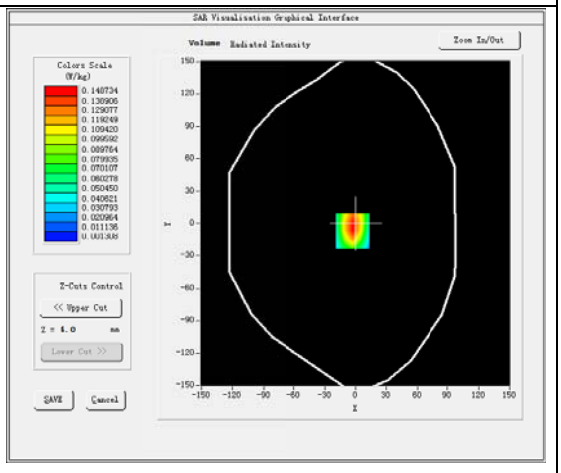
Mobile Phone IMEI number: --

A. Experimental conditions.

Area Scan	dx=8mm dy=8mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Body
Band	CUSTOM (GPRS1900_2Tx)
Channels	512
Signal	GPRS (Duty cycle: 1:4)

B. SAR Measurement Results

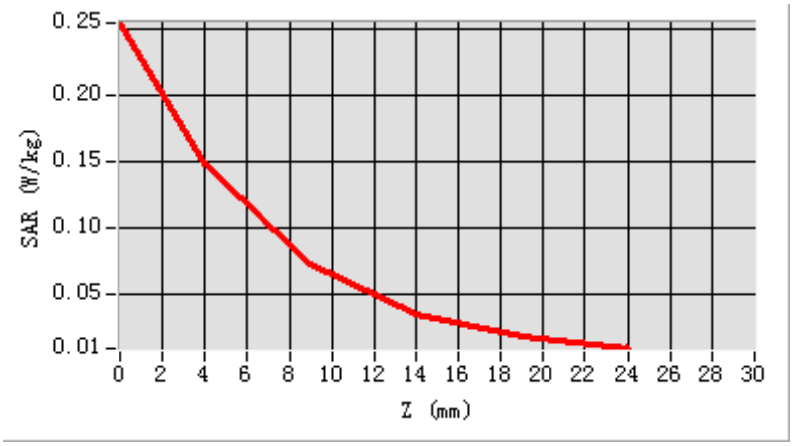
Frequency (MHz)	1850.2
Relative permittivity (real part)	52.68
Relative permittivity (imaginary part)	14.21
Conductivity (S/m)	1.50
Variation (%)	-1.74
ConvF:	5.42

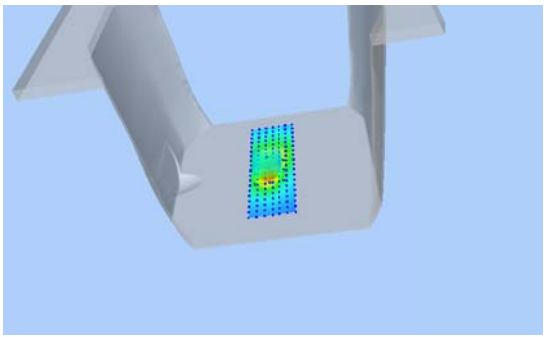
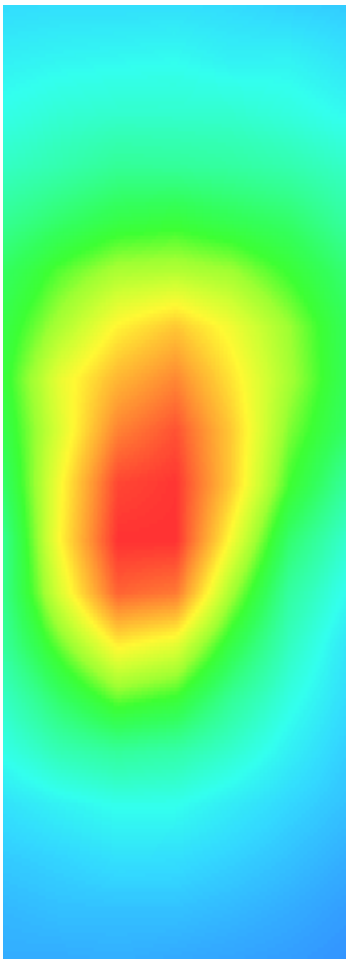
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-3.00, Y=-7.00

SAR 10g (W/Kg)	0.068808
SAR 1g (W/Kg)	0.140338

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.2543	0.1487	0.0723	0.0350	0.0183



3D screen shot	Hot spot position
	

WCDMA850, Left Cheek, Low

Type: Phone measurement

Date of measurement: 13/7/2015

Measurement duration: 6 minutes 53 seconds

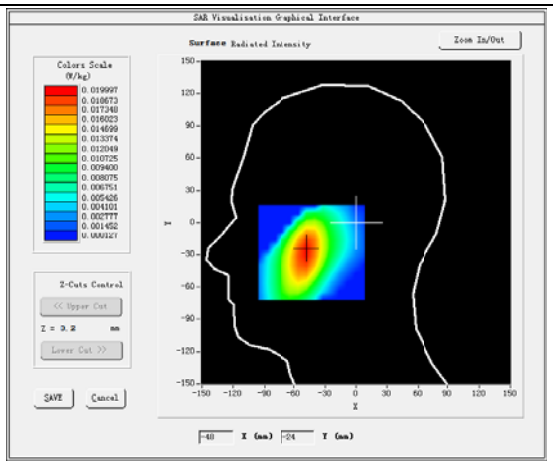
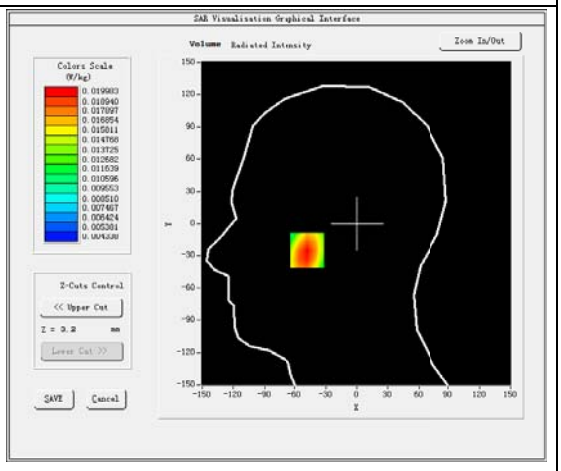
Mobile Phone IMEI number: --

A. Experimental conditions.

Area Scan	dx=8mm dy=8mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Left head
Device Position	Cheek
Band	Band5_WCDMA850
Channels	4132
Signal	WCDMA (Duty cycle: 1:1)

B. SAR Measurement Results

Frequency (MHz)	826.4
Relative permittivity (real part)	41.24
Relative permittivity (imaginary part)	18.97
Conductivity (S/m)	0.88
Variation (%)	-0.02
ConvF:	5.68

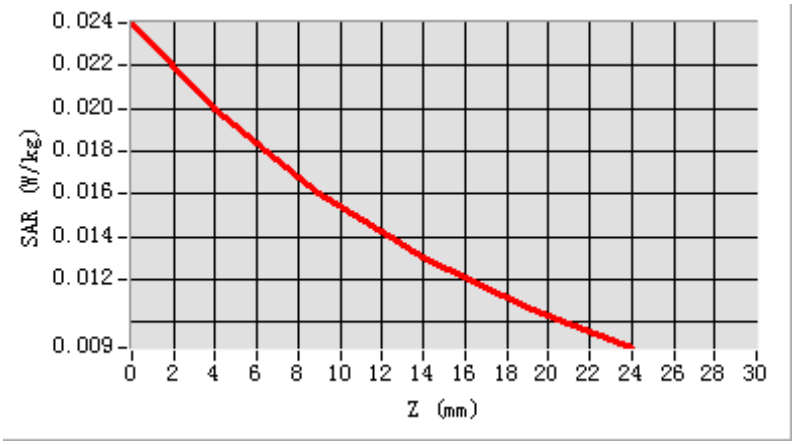
SURFACE SAR	VOLUME SAR
	

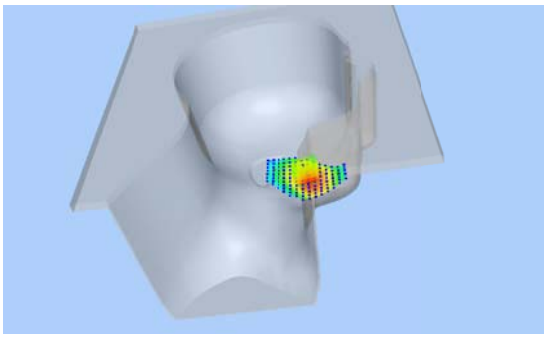
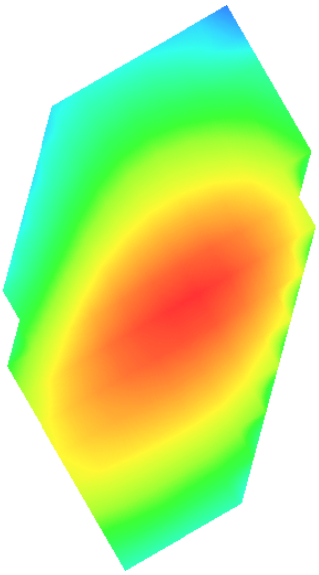
Maximum location: X=-48.00, Y=-25.00

SAR Peak: 0.29 W/kg

SAR 10g (W/Kg)	0.014478
SAR 1g (W/Kg)	0.019270

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0240	0.0200	0.0160	0.0130	0.0107



3D screen shot	Hot spot position
	

WCDMA850, Back, Low

Type: Phone measurement

Date of measurement:14/7/2015

Measurement duration: 7 minutes 29 seconds

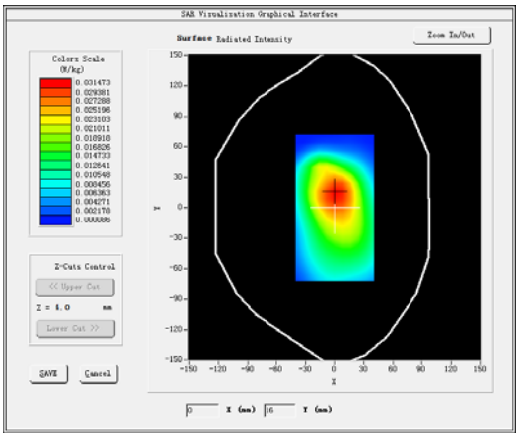
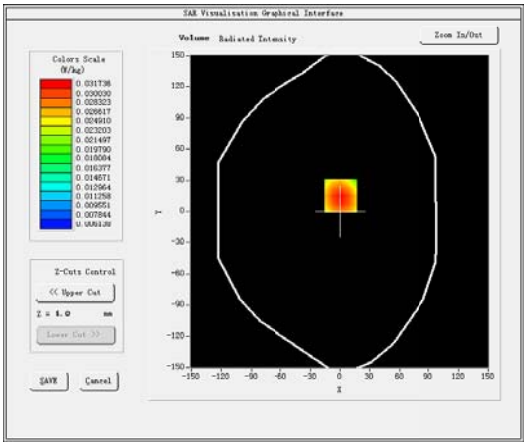
Mobile Phone IMEI number: --

A. Experimental conditions.

Area Scan	dx=8mm dy=8mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Back
Band	Band5_WCDMA850
Channels	4132
Signal	WCDMA (Duty cycle: 1:1)

B. SAR Measurement Results

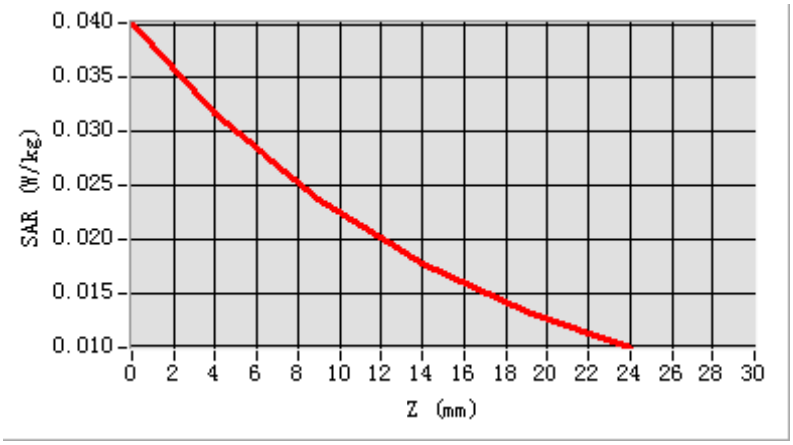
Frequency (MHz)	826.4
Relative permittivity (real part)	54.75
Relative permittivity (imaginary part)	20.12
Conductivity (S/m)	0.95
Variation (%)	-1.1
ConvF:	5.84

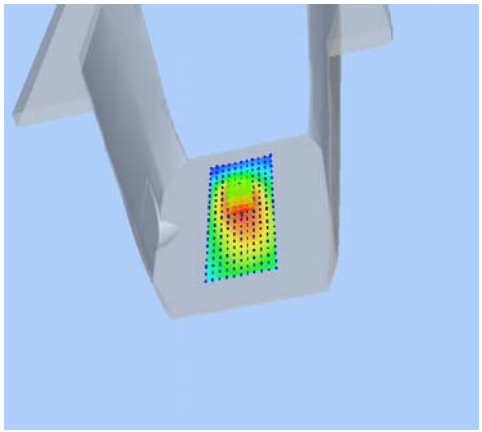
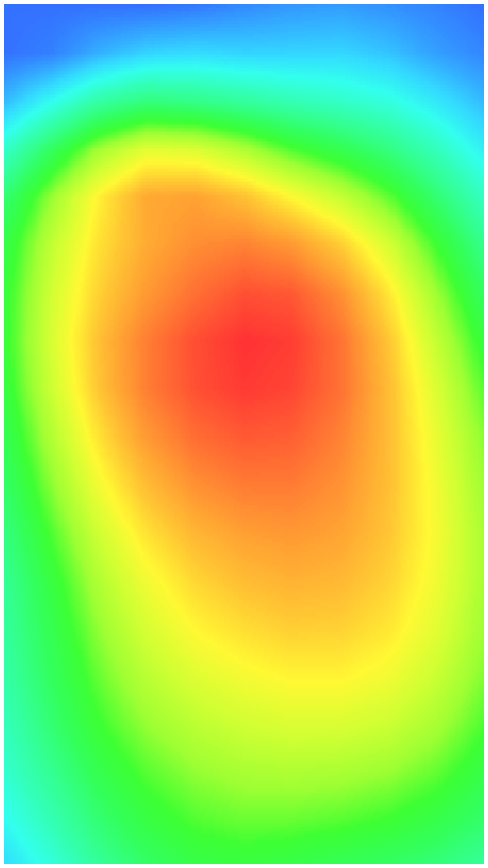
SURFACE SAR	VOLUME SAR
	

Maximum location: X=1.00, Y=10.00

SAR 10g (W/Kg)	0.023749
SAR 1g (W/Kg)	0.033491

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.040096	0.031736	0.023645	0.017700	0.013327



3D screen shot	Hot spot position
	

WCDMA1900, Left Cheek, Low

Type: Phone measurement

Date of measurement: 15/7/2015

Measurement duration: 7 minutes 31 seconds

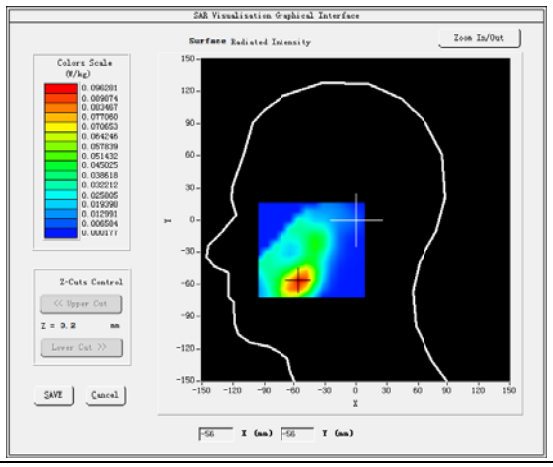
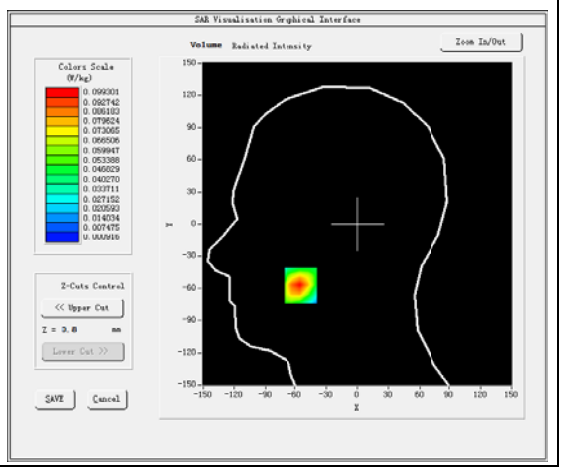
Mobile Phone IMEI number: --

A. Experimental conditions.

Area Scan	dx=8mm dy=8mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Left head
Device Position	Cheek
Band	Band2_WCDMA1900
Channels	9262
Signal	WCDMA (Duty cycle: 1:1)

B. SAR Measurement Results

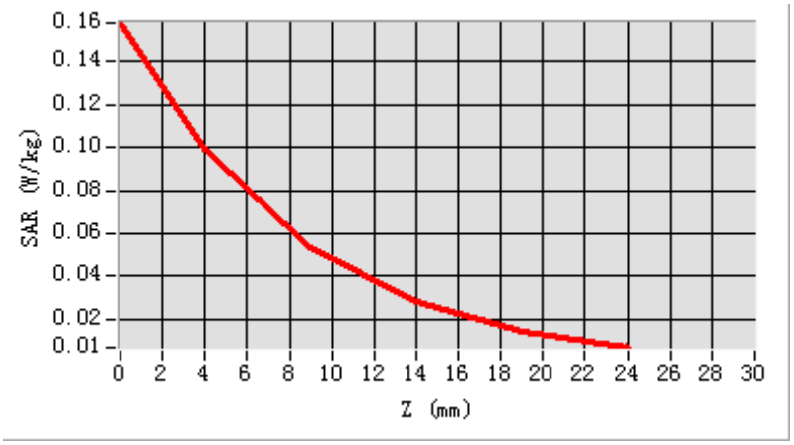
Frequency (MHz)	1852.4
Relative permittivity (real part)	39.81
Relative permittivity (imaginary	13.17
Conductivity (S/m)	1.39
Variation (%)	-1.48
ConvF:	5.25

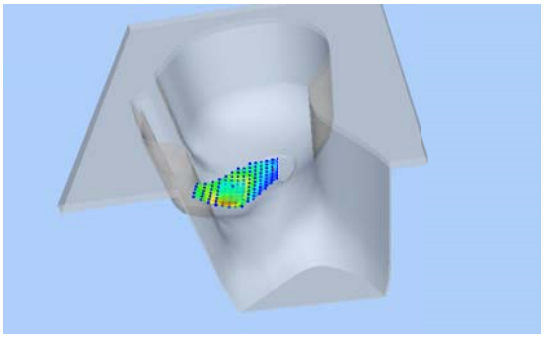
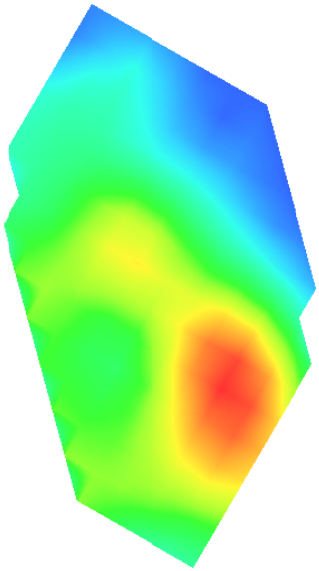
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-55.00, Y=-57.00

SAR 10g (W/Kg)	0.046902
SAR 1g (W/Kg)	0.092044

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.1580	0.0993	0.0533	0.0279	0.0145



3D screen shot	Hot spot position
	

WCDMA1900, Edge C, Low

Type: Phone measurement

Date of measurement: 16/7/2015

Measurement duration: 7 minutes 37 seconds

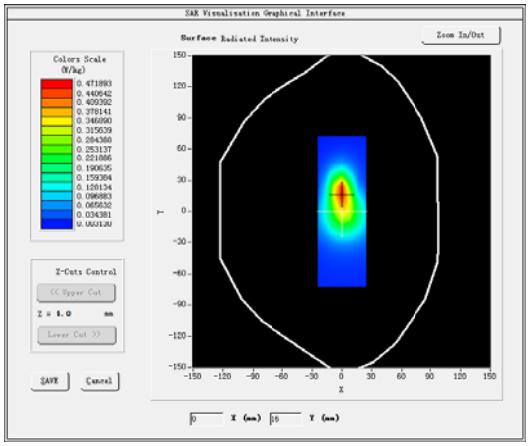
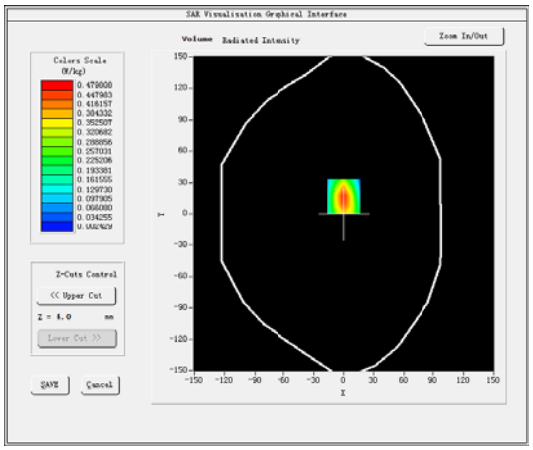
Mobile Phone IMEI number: --

A. Experimental conditions.

Area Scan	dx=8mm dy=8mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Back
Band	Band2_WCDMA1900
Channels	9262
Signal	WCDMA (Duty cycle: 1:1)

B. SAR Measurement Results

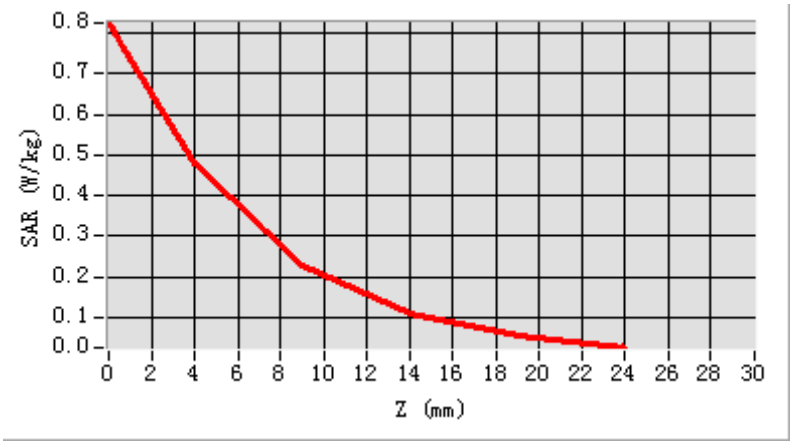
Frequency (MHz)	1852.4
Relative permittivity (real part)	52.68
Relative permittivity (imaginary	14.21
Conductivity (S/m)	1.50
Variation (%)	-2.05
ConvF:	5.42

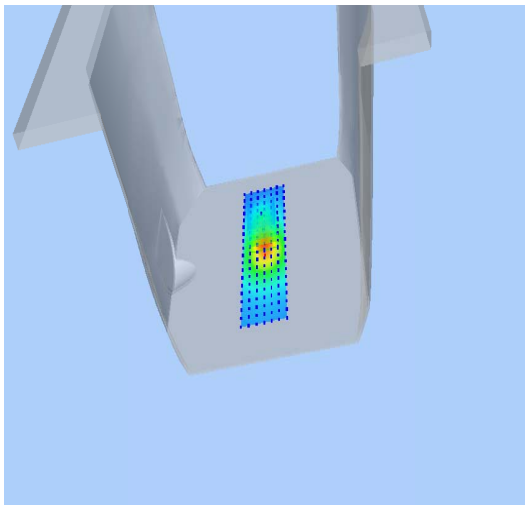
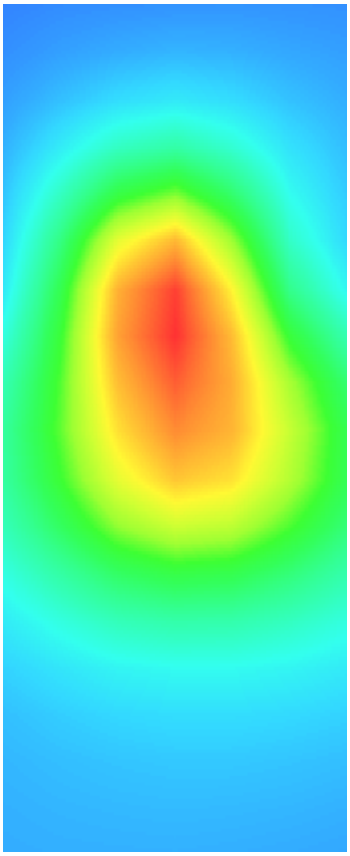
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-11.00, Y=1.00

SAR 10g (W/Kg)	0.234605
SAR 1g (W/Kg)	0.494634

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	1.0055	0.5607	0.2510	0.1091	0.0509



3D screen shot	Hot spot position
	

LTE Band4, 20MHz, Right Cheek, Low

Type: Phone measurement

Date of measurement: 17/7/2015

Measurement duration: 7 minutes 31 seconds

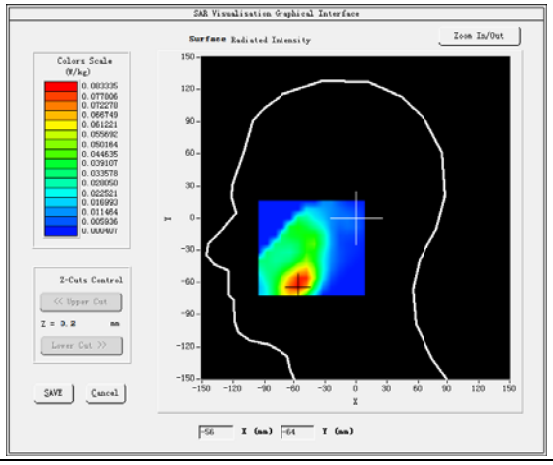
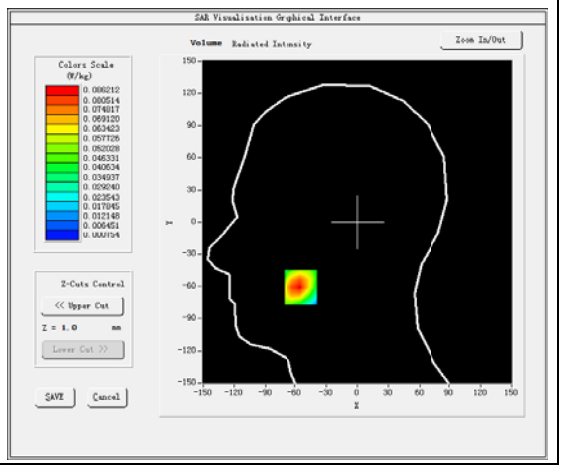
Mobile Phone IMEI number: --

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	20050
Signal	LTE (Duty cycle: 1:1)

B. SAR Measurement Results

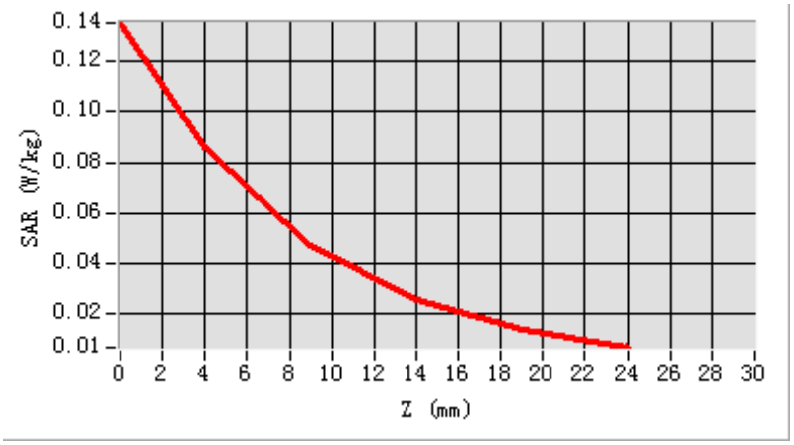
Frequency (MHz)	1720
Relative permittivity (real part)	39.72
Relative permittivity (imaginary	13.90
Conductivity (S/m)	1.39
Variation (%)	-1.38
ConvF:	4.75

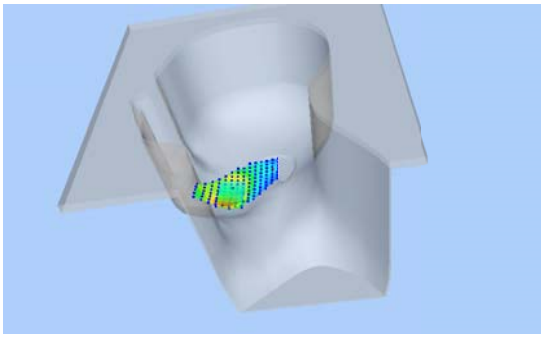
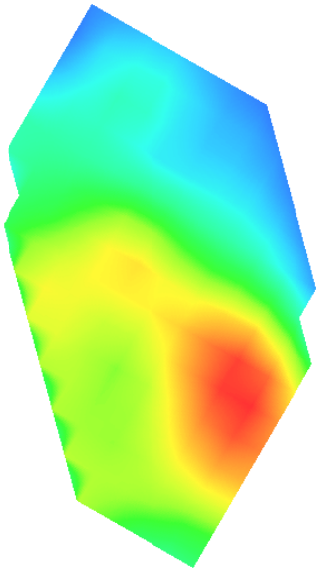
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-55.00, Y=-61.00

SAR 10g (W/Kg)	0.042789
SAR 1g (W/Kg)	0.081384

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.1353	0.0862	0.0473	0.0253	0.0135



3D screen shot	Hot spot position
	

LTE Band4, 20MHz, Edge C, Low

Type: Phone measurement

Date of measurement: 17/7/2015

Measurement duration: 7 minutes 37 seconds

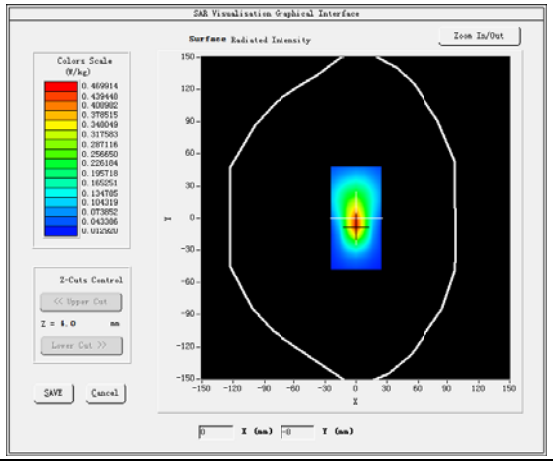
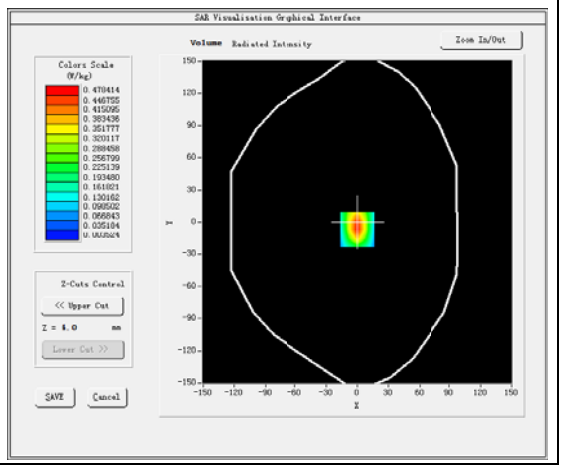
Mobile Phone IMEI number: --

A. Experimental conditions.

Area Scan	dx=8mm dy=8mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Edge C
Band	LTE Band 4
Channels	20050
Signal	LTE (Duty cycle: 1:1)

B. SAR Measurement Results

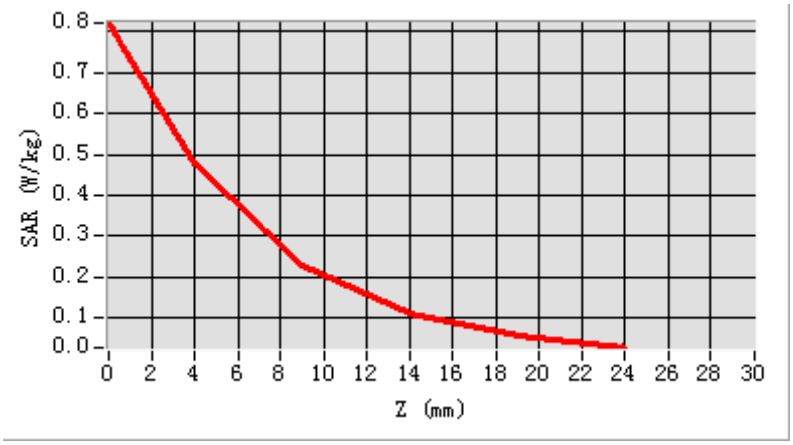
Frequency (MHz)	1720
Relative permittivity (real part)	53.44
Relative permittivity (imaginary	15.30
Conductivity (S/m)	1.53
Variation (%)	0.80
ConvF:	4.93

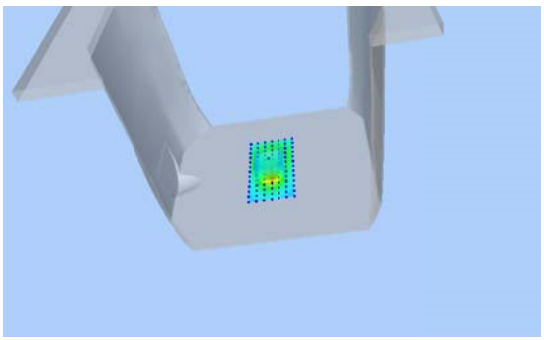
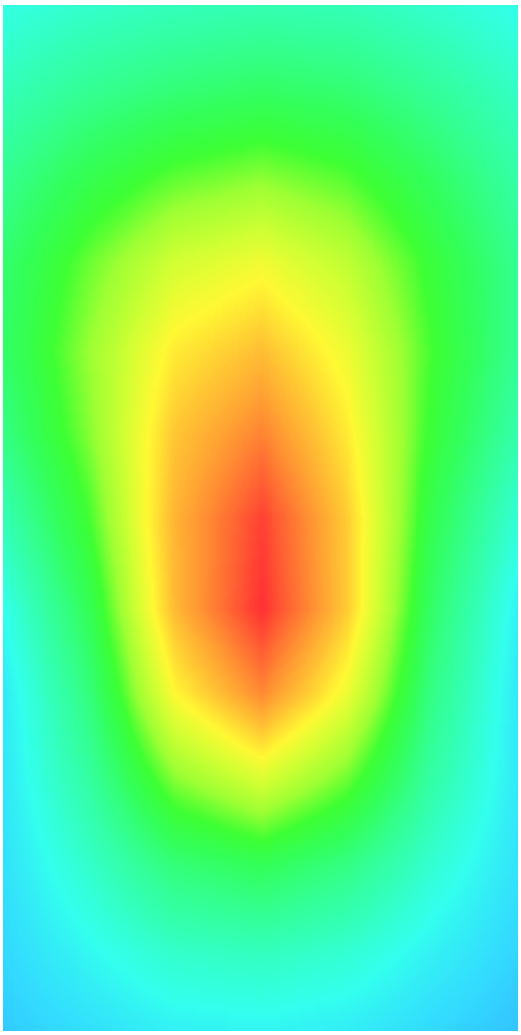
SURFACE SAR	VOLUME SAR
	

Maximum location: X=0.00, Y=-7.00

SAR 10g (W/Kg)	0.223342
SAR 1g (W/Kg)	0.478001

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.8220	0.4784	0.2298	0.1085	0.0541



3D screen shot	Hot spot position
	

LTE Band 17, Left Cheek, Middle

Type: Phone measurement

Date of measurement: 19/7/2015

Measurement duration: 6 minutes 53 seconds

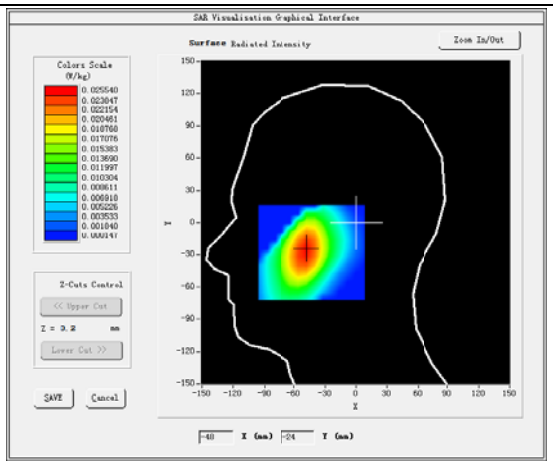
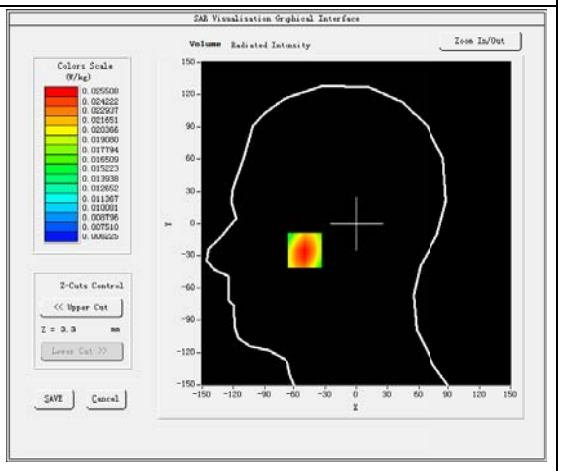
Mobile Phone IMEI number: --

A. Experimental conditions.

Area Scan	dx=8mm dy=8mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Left head
Device Position	Cheek
Band	LTE Band 17
Channels	23790
Signal	LTE(Duty cycle: 1:1)

B. SAR Measurement Results

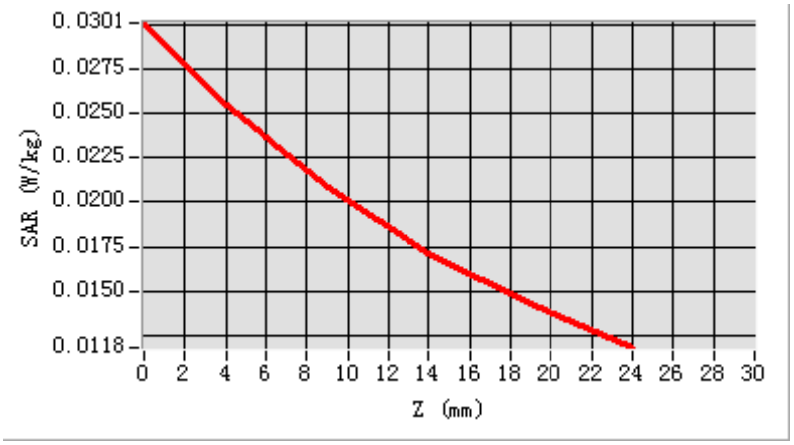
Frequency (MHz)	710
Relative permittivity (real part)	41.62
Relative permittivity (imaginary part)	21.12
Conductivity (S/m)	0.88
Variation (%)	0.32
ConvF:	5.26

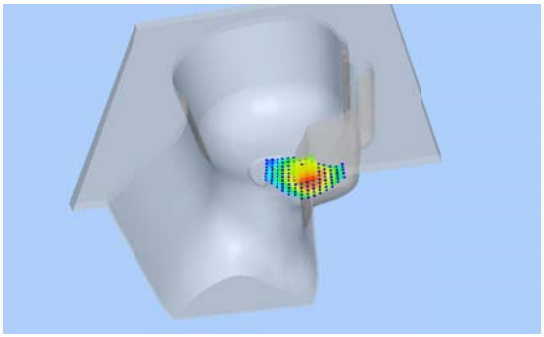
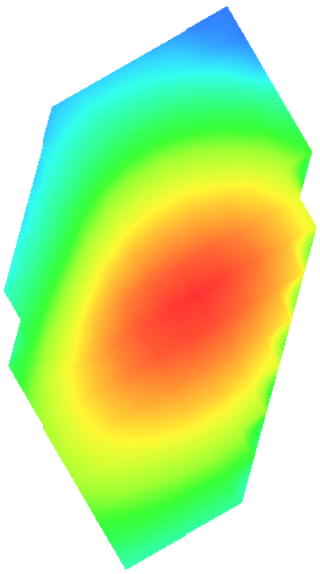
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-49.00, Y=-25.00

SAR 10g (W/Kg)	0.019836
SAR 1g (W/Kg)	0.026001

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0301	0.0255	0.0208	0.0172	0.0143



3D screen shot	Hot spot position
	

LTE Band 17, Back, Middle

Type: Phone measurement

Date of measurement:19/7/2015

Measurement duration: 7 minutes 29 seconds

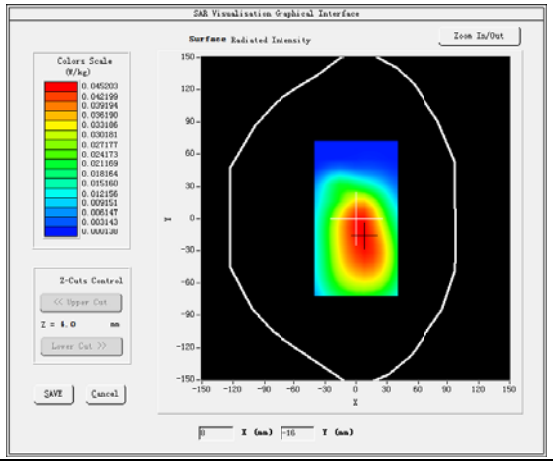
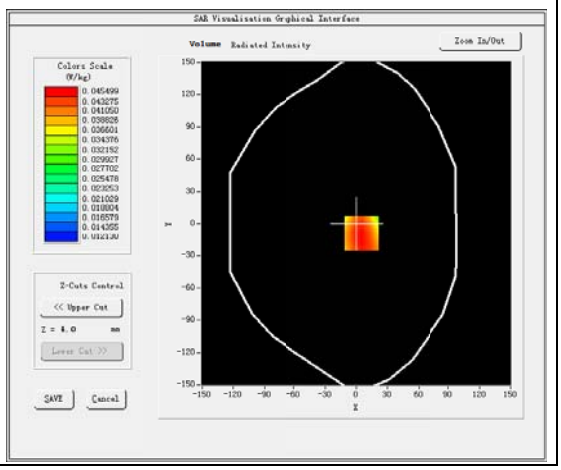
Mobile Phone IMEI number: --

A. Experimental conditions.

Area Scan	dx=8mm dy=8mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Back
Band	LTE Band 17
Channels	23790
Signal	LTE (Duty cycle: 1:1)

B. SAR Measurement Results

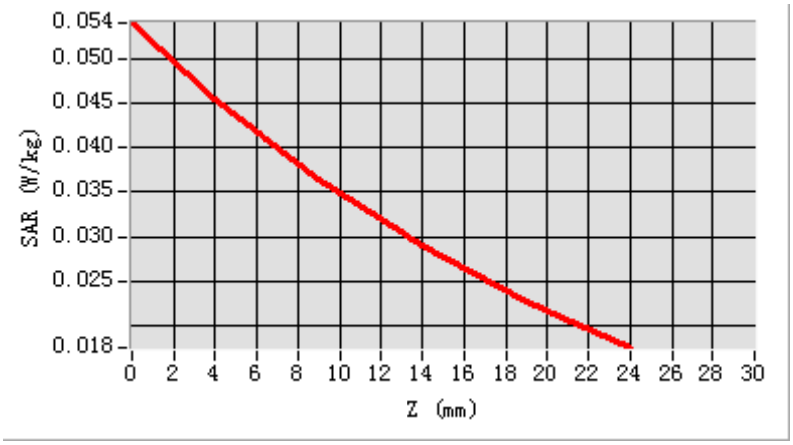
Frequency (MHz)	710
Relative permittivity (real part)	54.82
Relative permittivity (imaginary part)	23.04
Conductivity (S/m)	0.96
Variation (%)	-0.41
ConvF:	5.41

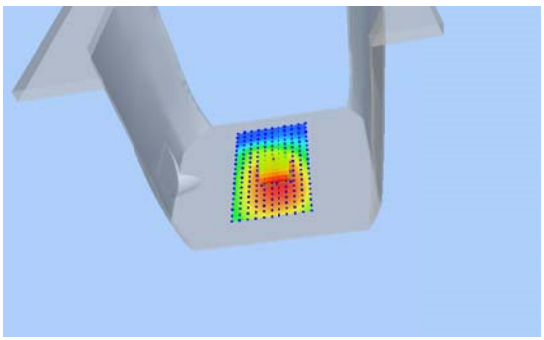
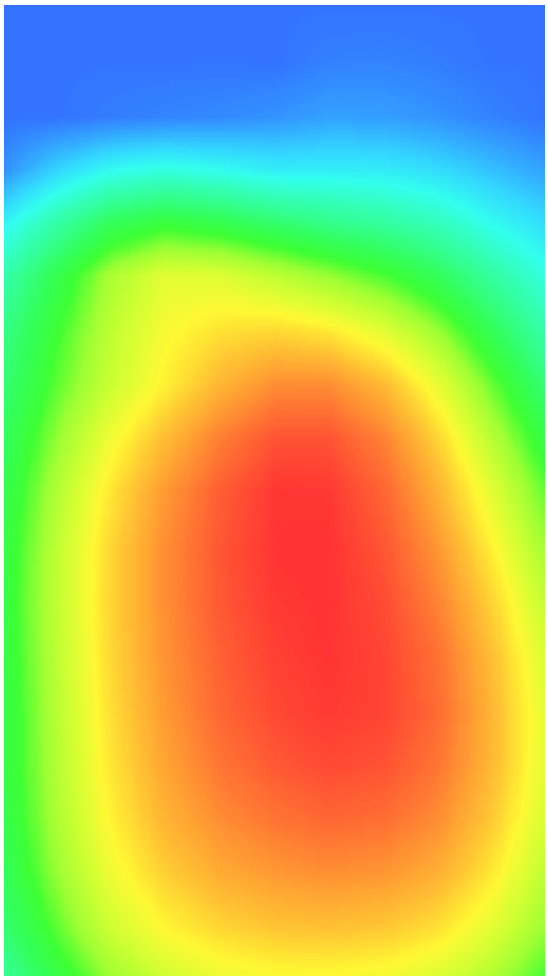
SURFACE SAR	VOLUME SAR
	

Maximum location: X=5.00, Y=-9.00

SAR 10g (W/Kg)	0.035226
SAR 1g (W/Kg)	0.046680

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0539	0.0455	0.0365	0.0290	0.0228



3D screen shot	Hot spot position
	

Wi-Fi 802.11b ,Right Cheek, Low

Type: Phone measurement (11 points in the volume)

Date of measurement: 18/07/2015

Measurement duration: 7 minutes 21 seconds

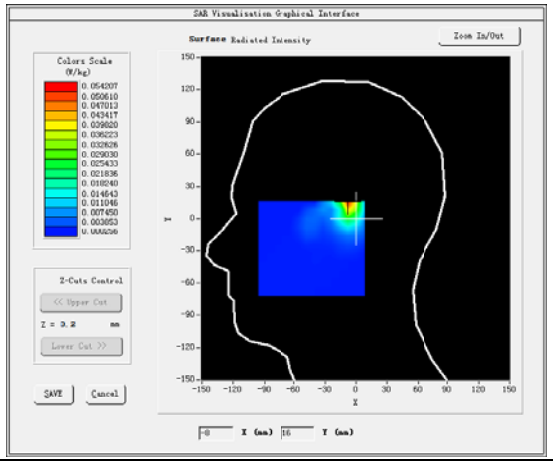
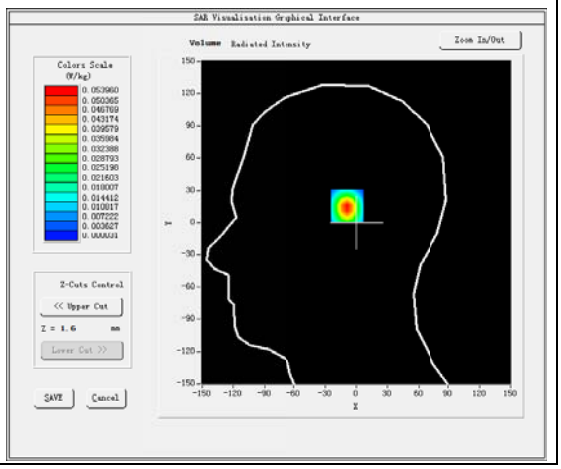
Mobile Phone IMEI number: --

A. Experimental conditions.

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

B. SAR Measurement Results

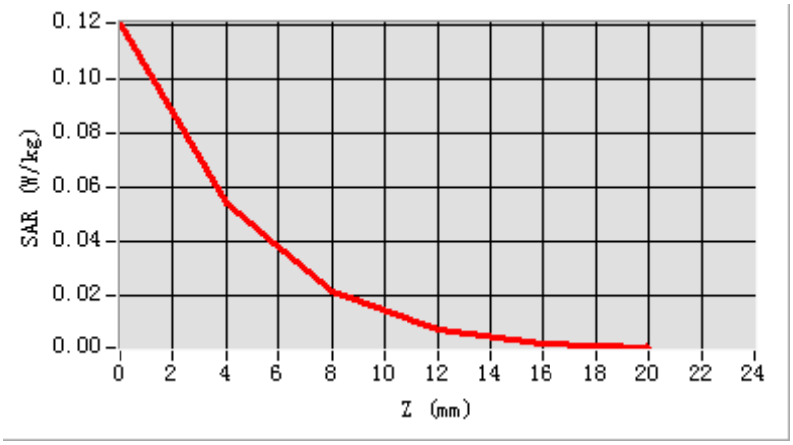
Frequency (MHz)	2412
Relative permittivity (real part)	38.73
Relative permittivity (imaginary part)	13.00
Conductivity (S/m)	1.77
Variation (%)	0.77
ConvF:	4.93

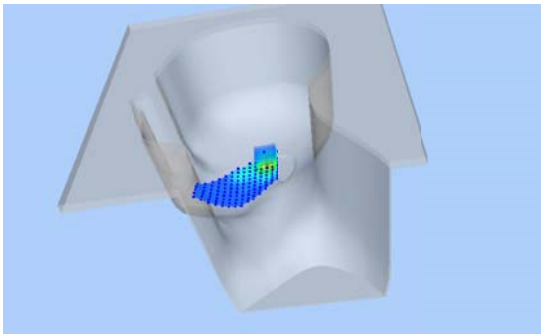
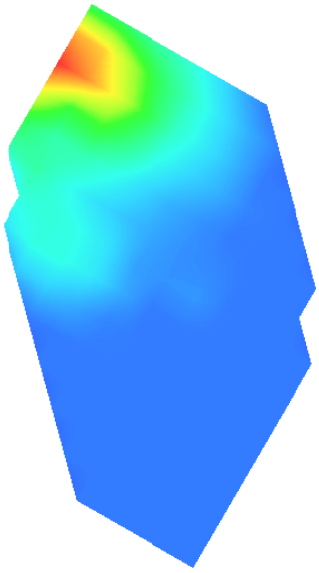
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-7.00, Y=16.00

SAR 10g (W/Kg)	0.018708
SAR 1g (W/Kg)	0.049571

Z (mm)	0.00	4.00	8.00	12.00	16.00
SAR (W/Kg)	0.1209	0.0540	0.0208	0.0069	0.0020



3D screen shot	Hot spot position
	

Wi-Fi 802.11b , Back, Low

Type: Phone measurement

Date of measurement: 18/07/2015

Measurement duration: 20 minutes 24 seconds

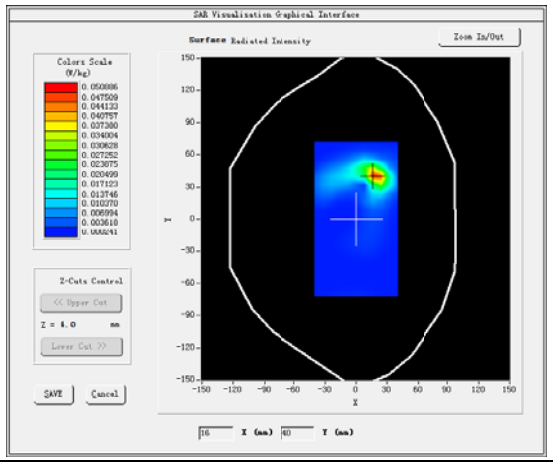
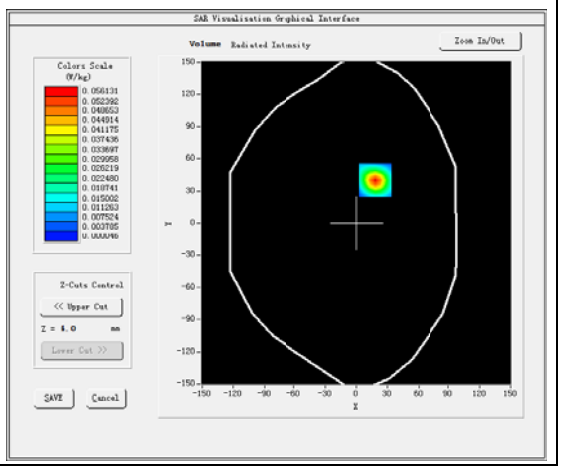
Mobile Phone IMEI number: --

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	1
Signal	DSSS (Crest factor: 1:1)

B. SAR Measurement Results

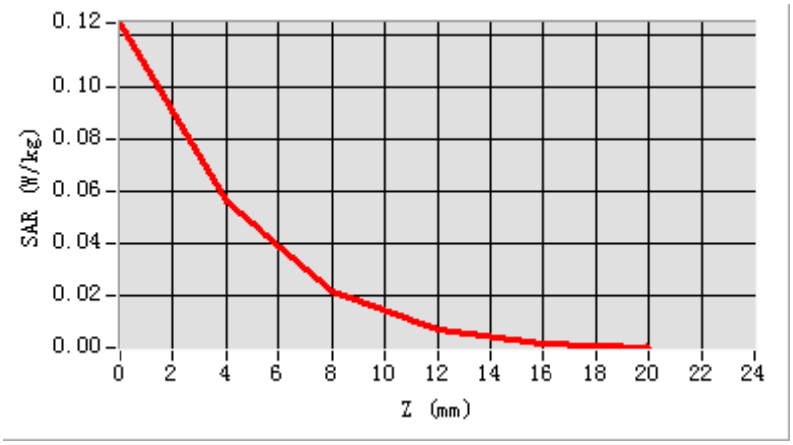
Frequency (MHz)	2412
Relative permittivity (real part)	52.31
Relative permittivity (imaginary part)	14.25
Conductivity (S/m)	1.94
Variation (%)	-2.1
ConvF:	5.07

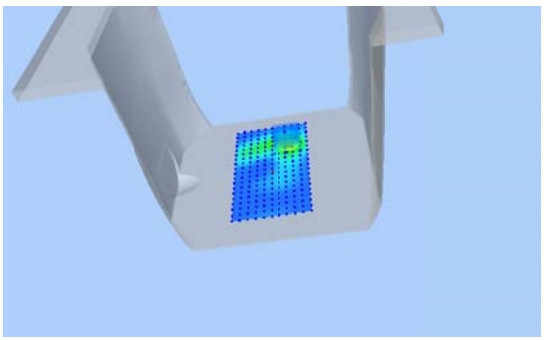
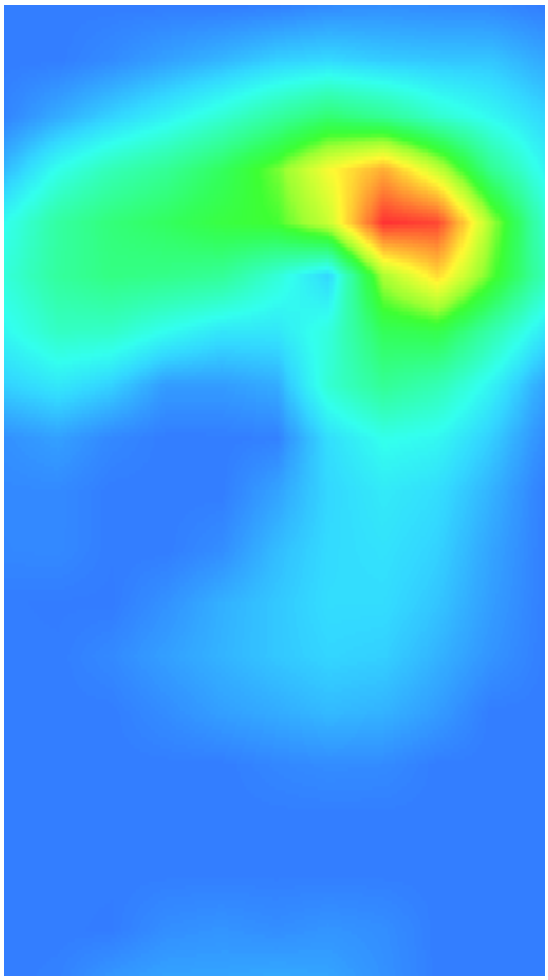
SURFACE SAR	VOLUME SAR
	

Maximum location: X=18.00, Y=40.00

SAR 10g (W/Kg)	0.018680
SAR 1g (W/Kg)	0.050989

Z (mm)	0.00	4.00	8.00	12.00	16.00
SAR (W/Kg)	0.1244	0.0561	0.0220	0.0075	0.0023



3D screen shot	Hot spot position
	

ANNEX E

of

CCIC-SET

CONFORMANCE TEST REPORT FOR

HUMAN EXPOSURE TO ELECTROMAGNETIC FIELDS

SET2015-09927

4G LTE Smart Phone

Type Name: N501

Hardware Version: B501 MB P2

Software Version: ALPS.L1.MP3.V2¬_GIONEE6735.65C.L1_P15

Calibration Certificate of Probe and Dipoles

This Annex consists of 62 pages

Date of Report: 2015-07-21

Probe Calibration Ceriticate

COMOSAR E-Field Probe Calibration Report

Ref : ACR.227.15.14.SATU.A

CCIC SOUTHERN ELECTRONIC PRODUCT TESTING (SHENZHEN) CO., LTD

ELECTRONIC TESTING BUILDING, SHAHE ROAD, XILI TOWN

SHENZHEN, P.R. CHINA (POST CODE:518055)

SATIMO COMOSAR DOSIMETRIC E-FIELD PROBE

SERIAL NO.: SN 04/13 EP166

Calibrated at SATIMO US

2105 Barrett Park Dr. - Kennesaw, GA 30144

ACCREDITED

Calibration CERT #2246-02

08/14/2014

Summary:

This document presents the method and results from an accredited COMOSAR Dosimetric E-Field Probe calibration performed in SATIMO USA using the CALISAR / CALIBAIR test bench, for use with a SATIMO COMOSAR system only. All calibration results are traceable to national metrology institutions.

	Name	Function	Date	Signature
Prepared by :	Jérôme LUC	Product Manager	8/15/2014	
Checked by :	Jérôme LUC	Product Manager	8/15/2014	
Approved by :	Kim RUTKOWSKI	Quality Manager	8/15/2014	

	Customer Name
Distribution :	CCIC SOUTHERN ELECTRONIC PRODUCT TESTING (SHENZHEN) Co., Ltd

Issue	Date	Modifications
A	8/15/2014	Initial release