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SAR MEASUREMENT REPORT

Project name :

KS080716A01

I. INFORMATIONS ON THE TESTING

I. INFORMATIONS ON THE TESTING

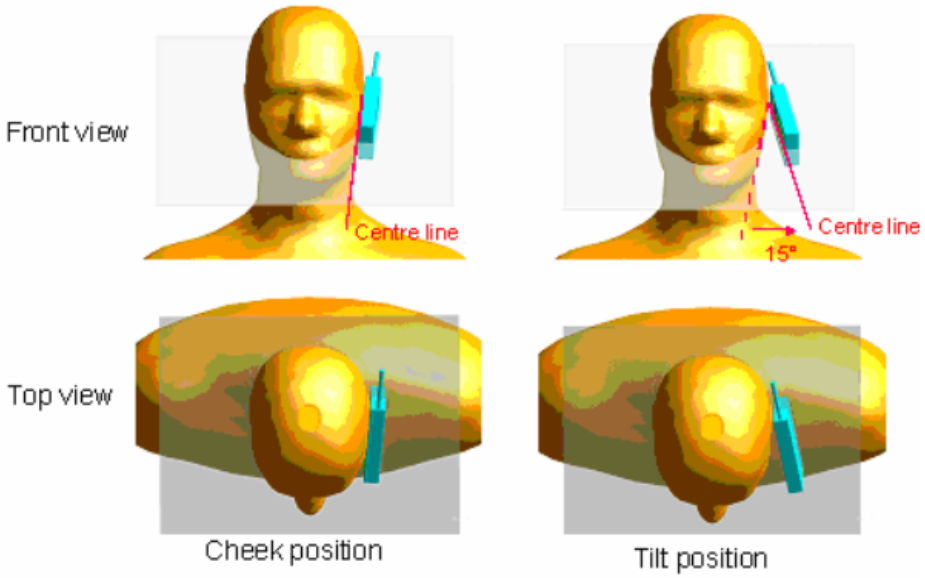
I.1. Normative reference

IEEE 1528: Recommended Practice for determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques. Institute of Electrical and Electronics Engineers, INC., 2003.

I.3. Positions and test conditions of the mobile phone under test

The mobile phone antenna and battery are those specified by the manufacturer. The battery is fully charged before each measurement. The output power and frequency are controlled using a base station simulator. The mobile phone is set to transmit at its highest output peak power level.

The mobile phone is test in the "cheek" and "tilted" positions on the left and right sides of the phantom. The mobile phone is placed with the vertical centre line of the body of the mobile phone and the horizontal line crossing the centre of the earpiece in a plane parallel to the sagittal plane of the phantom.



Description of the « cheek » position:

The mobile phone is well placed in the reference plane and the earpiece is in contact with the ear. Then the mobile phone is moved until any point on the front side get in contact with the cheek of the phantom or until contact with the ear is lost.

Description of the « tilted » position:

The mobile phone is well place in the "cheek" position as described above. Then the mobile phone is moved outward away from the mouth by an angle of 15 degrees or until contact with the ear lost.

II. THE MEASUREMENT SYSTEM

Comosar is a system that is able to determine the SAR distribution inside a phantom of human being according to different standards. The Comosar system consists of the following items:

- Main computer to control all the system
- 6 axis robot
- Data acquisition system
- Miniature E-field probe
- Phone holder
- Head simulating tissue

The following figure shows the system.

COMOSAR bench

The mobile phone under test operating at the maximum power level is placed in the phone holder, under the phantom, which is filled with head simulating liquid. The E-Field probe measures the electric field inside the phantom. The OpenSAR software computes the results to give a SAR value in a 1g or 10 g mass.

II.1. Phantom

For the measurements the Specific Anthropomorphic Mannequin (SAM) defined by the IEEE SCC-34/SC2 group is used. The phantom is a polyurethane shell integrated in a wooden table. The thickness of the phantom amounts to 2 mm +/- 0,2 mm. It enables the dosimetric evaluation of left and right hand phone usage and includes an additional flat phantom part for the simplified performance check. The phantom set-up includes a cover, which prevents the evaporation of the liquid.

II.2. Probe

For the measurements the Specific Dosimetric E-Field Probe SSE5 with following specifications is used.

- Dynamic range: 0.01-100 W/kg
- Tip Diameter : 5 mm

- Distance between probe tip and sensor center : 2.5 mm
- Distance between sensor center and the inner phantom surface: 4 mm (repeatability better than +/- 1mm).
- Probe linearity : <0.25 dB
- Axial Isotropy : <0.25 dB
- Spherical Isotropy : <0.50 dB
- Calibration range : 835 to 2500 MHz for head & body simulating liquid
- Angle between probe axis (evaluation axis) and suface normal line : less than 30°

II.3. Measurement procedure

The following steps are used for each test position

- Establish a call with the maximum output power with a base station simulator. The connection between the mobile and the base station simulator is established via air interface
- Measurement of the local E-field value at a fixed location. This value serves as a reference value for calculating a possible power drift.
- Measurement of the SAR distribution with a grid of 8 to 16 mm * 8 to 16 mm and a constant distance to the inner surface of the phantom. Since the sensors can not directly measure at the inner phantom surface, the values between the sensors and the inner phantom surface are extrapolated. With these values the area of the maximum SAR is calculated by an interpolation scheme.
- Around this point, a cube of 30 * 30 * 30 mm or 32 * 32 * 32 mm is assessed by measuring 5 or 8 * 5 or 8 * 4 or 5 mm. With these data, the peak spatial-average SAR value can be calculated.

II.4 Description of interpolation/extrapolation scheme

The local SAR inside the phantom is measured using small dipole sensing elements inside a probe body. The probe tip must not be in contact with the phantom surface in order to minimise measurements errors, but the highest local SAR will occur at the surface of the phantom.

An extrapolation is using to determinate this highest local SAR values.
The extrapolation is based on a fourth-order least-square polynomial fit of measured data. The local SAR value is then extrapolated from the liquid surface with a 1 mm step.

The measurements have to be performed over a limited time (due to the duration of the battery) so the step of measurement is high. It could vary between 5 and 8 mm. To obtain an accurate assessment of the maximum SAR averaged over 10 grams and 1 gram requires a very fine resolution in the three dimensional scanned data array.

III. RESULTS

TYPE	BAND	PARAMETERS
Noise	--	--
Validation	--	--
Phone	**GSM1900**	Measurement 1: Validation Plane with Body device position on Low Channel in TDMA mode Measurement 2: Validation Plane with Body device position on Middle Channel in TDMA mode Measurement 3: Validation Plane with Body device position on High Channel in TDMA mode
	GPRS1900	Measurement 1: Validation Plane with Body device position on Low Channel in GPRS mode Measurement 2: Validation Plane with Body device position on Middle Channel in GPRS mode Measurement 3: Validation Plane with Body device position on High Channel in GPRS mode
	EDGE1900	Measurement 1: Validation Plane with Body device position on Low Channel in EDGE mode Measurement 2: Validation Plane with Body device position on Middle Channel in EDGE mode Measurement 3: Validation Plane with Body device position on High Channel in EDGE mode

GSM configuration 1

Type: Phone measurement (Complete)

Date of measurement: 30/10/2008

Measurement duration: 6 minutes 47 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

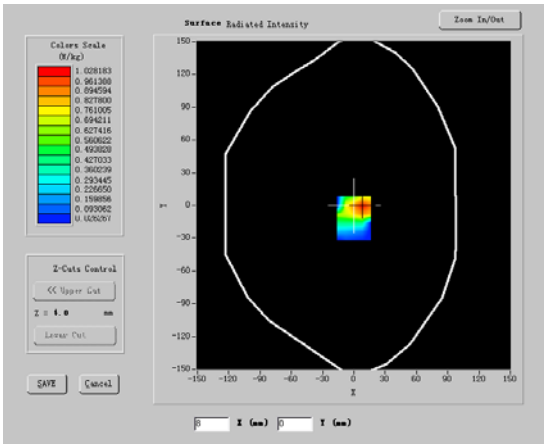
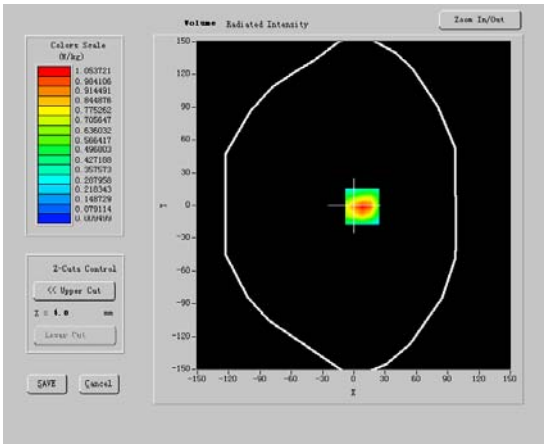
Phantom File	surf_sam_plan.txt, Adaptative 2 max
Phantom	Validation plane
Device Position	Body
Band	GSM1900
Channels	Low
Signal	TDMA

B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)
Network Emulator	AGILENT 8960
Voltmeter	Keithley (2000, SN:1015843)
Synthetizer	Agilent (E8257C, SN:MY43321570)
Amplifier	Mini-Circuits (ZHL-42, SN:110405)
Power Meter	Agilent (E4416A, SN:QB41292714)
Probe	Antennessa (SN:SN_0807_EP_74)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

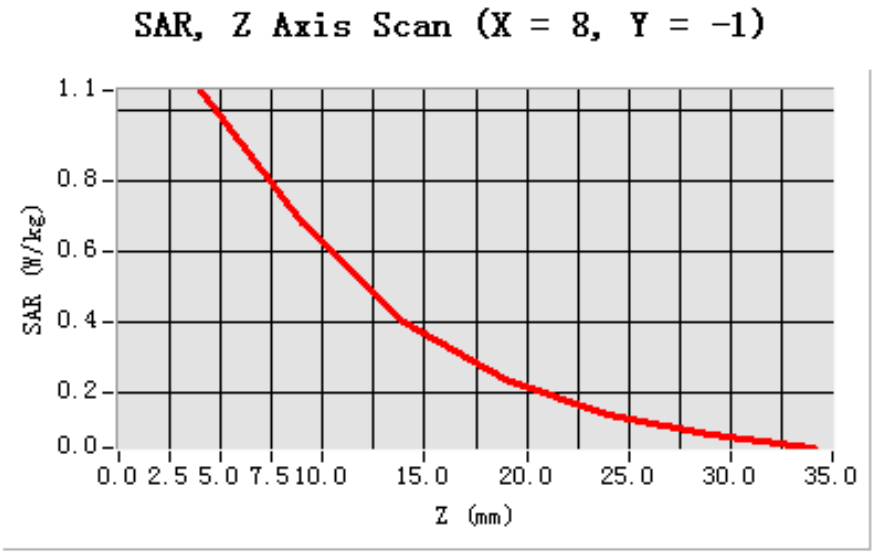
Frequency (MHz)	1850.200024
Relative permitivity (real part)	53.313000
Relative permitivity (imaginary part)	13.584900
Conductivity (S/m)	1.526528
Variation (%)	-1.060000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=8.00, Y=-1.00

SAR 10g (W/Kg)	0.541686
SAR 1g (W/Kg)	0.982335

Z Axis Scan


SAR, Z Axis Scan (X = 8, Y = -1)
SAR (W/kg)
1.1
0.8
0.6
0.4
0.2
0.0
0.0 2.5 5.0 7.5 10.0 15.0 20.0 25.0 30.0 35.0
Z (mm)

GSM configuration 1

Type: Phone measurement (Complete)

Date of measurement: 30/10/2008

Measurement duration: 6 minutes 47 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

Phantom File	surf_sam_plan.txt, Adaptative 2 max
Phantom	Validation plane
Device Position	Body
Band	GSM1900
Channels	Middle
Signal	TDMA

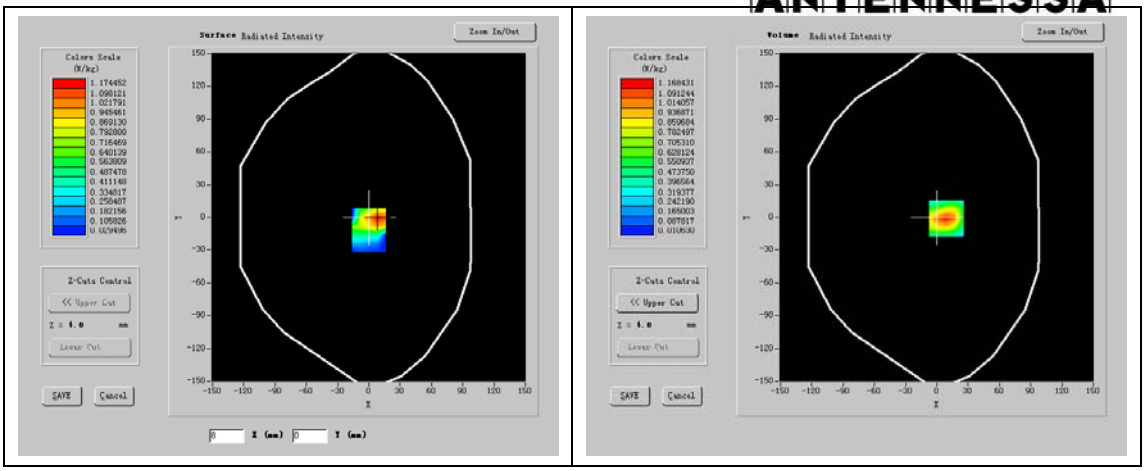
B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)
Network Emulator	AGILENT 8960
Voltmeter	Keithley (2000, SN:1015843)
Synthetizer	Agilent (E8257C, SN:MY43321570)
Amplifier	Mini-Circuits (ZHL-42, SN:110405)
Power Meter	Agilent (E4416A, SN:QB41292714)
Probe	Antennessa (SN:SN_0807_EP_74)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

Frequency (MHz)	1880.000000
Relative permitivity (real part)	53.219001
Relative permitivity (imaginary part)	13.921000
Conductivity (S/m)	1.502467
Variation (%)	-2.350000

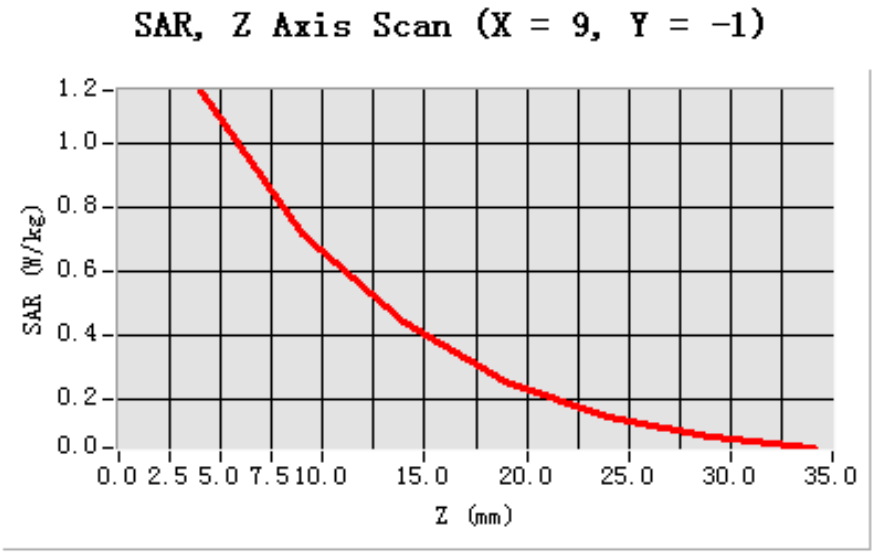
SURFACE SAR	**VOLUME SAR**



Maximum location: X=9.00, Y=-1.00

SAR 10g (W/Kg)	0.598832
SAR 1g (W/Kg)	1.087773

Z Axis Scan


SAR, Z Axis Scan (X = 9, Y = -1)
SAR (W/kg)
1.2
1.0
0.8
0.6
0.4
0.2
0.0
0.0 2.5 5.0 7.5 10.0 15.0 20.0 25.0 30.0 35.0
Z (mm)

GSM configuration 1

Type: Phone measurement (Complete)

Date of measurement: 30/10/2008

Measurement duration: 6 minutes 49 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

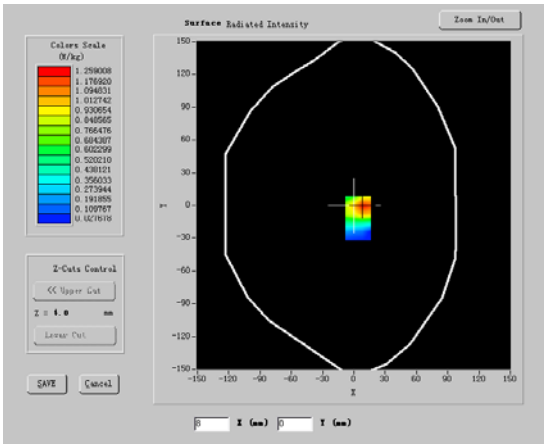
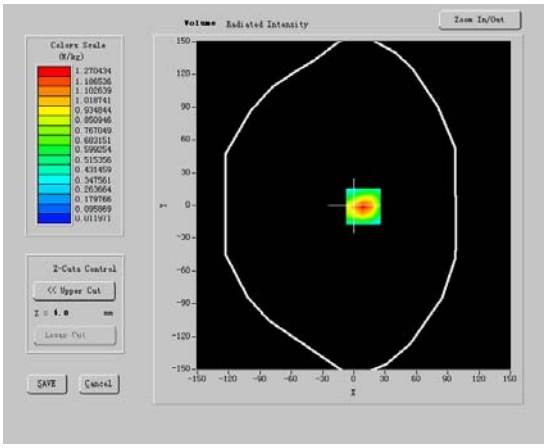
Phantom File	surf_sam_plan.txt, Adaptative 2 max
Phantom	Validation plane
Device Position	Body
Band	GSM1900
Channels	High
Signal	TDMA

B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)
Network Emulator	AGILENT 8960
Voltmeter	Keithley (2000, SN:1015843)
Synthetizer	Agilent (E8257C, SN:MY43321570)
Amplifier	Mini-Circuits (ZHL-42, SN:110405)
Power Meter	Agilent (E4416A, SN:QB41292714)
Probe	Antennessa (SN:SN_0807_EP_74)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

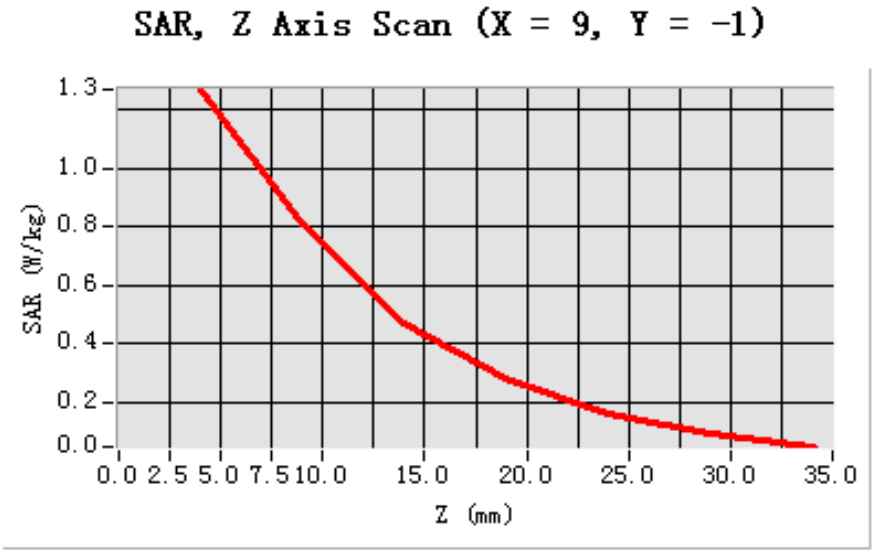
Frequency (MHz)	1909.799976
Relative permitivity (real part)	53.285999
Relative permitivity (imaginary part)	13.669900
Conductivity (S/m)	1.520225
Variation (%)	-1.050000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=9.00, Y=-1.00

SAR 10g (W/Kg)	0.641474
SAR 1g (W/Kg)	1.174551

Z Axis Scan


SAR, Z Axis Scan (X = 9, Y = -1)
SAR (W/kg)
1.3
1.0
0.8
0.6
0.4
0.2
0.0
0.0 2.5 5.0 7.5 10.0 15.0 20.0 25.0 30.0 35.0
Z (mm)

GSM configuration 2

Type: Phone measurement (Complete)

Date of measurement: 30/10/2008

Measurement duration: 6 minutes 45 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

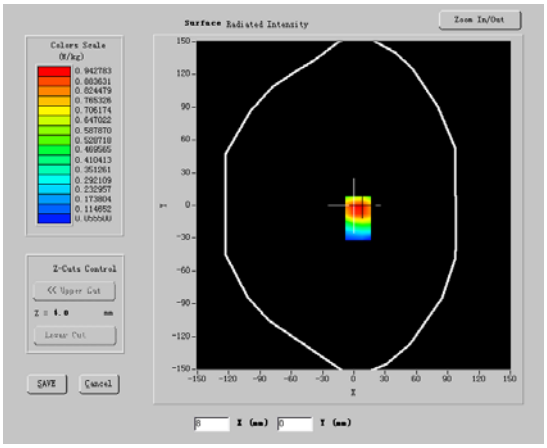
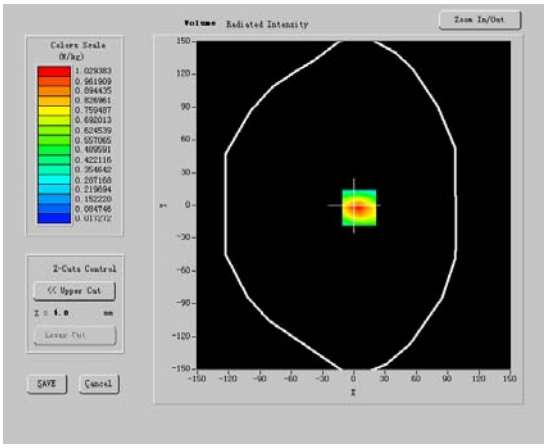
Phantom File	surf_sam_plan.txt, Adaptative 2 max
Phantom	Validation plane
Device Position	Body
Band	GSM1900
Channels	Low
Signal	TDMA

B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)
Network Emulator	AGILENT 8960
Voltmeter	Keithley (2000, SN:1015843)
Synthetizer	Agilent (E8257C, SN:MY43321570)
Amplifier	Mini-Circuits (ZHL-42, SN:110405)
Power Meter	Agilent (E4416A, SN:QB41292714)
Probe	Antennessa (SN:SN_0807_EP_74)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

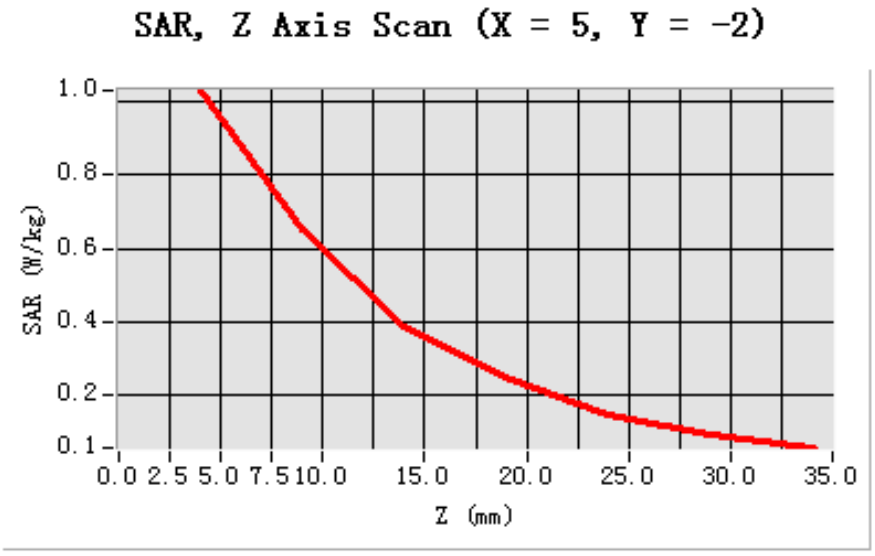
Frequency (MHz)	1850.200024
Relative permitivity (real part)	53.313000
Relative permitivity (imaginary part)	13.584900
Conductivity (S/m)	1.526528
Variation (%)	-0.550000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=5.00, Y=-2.00

SAR 10g (W/Kg)	0.545652
SAR 1g (W/Kg)	0.956054

Z Axis Scan


SAR, Z Axis Scan (X = 5, Y = -2)
SAR (W/kg)
1.0
0.8
0.6
0.4
0.2
0.1
0.0 2.5 5.0 7.5 10.0 15.0 20.0 25.0 30.0 35.0
Z (mm)

GSM configuration 2

Type: Phone measurement (Complete)

Date of measurement: 30/10/2008

Measurement duration: 6 minutes 41 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

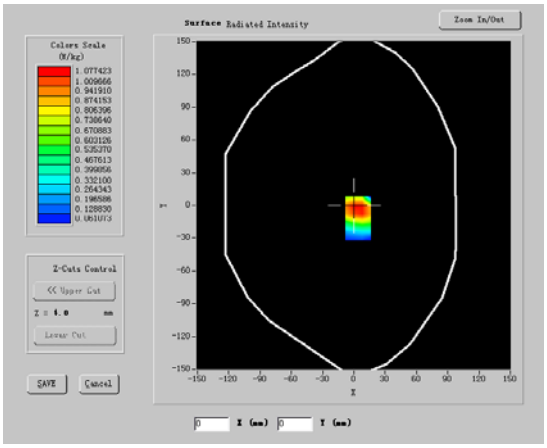
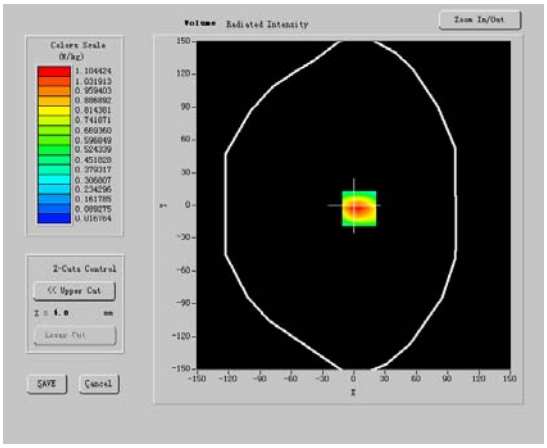
Phantom File	surf_sam_plan.txt, Adaptative 2 max
Phantom	Validation plane
Device Position	Body
Band	GSM1900
Channels	Middle
Signal	TDMA

B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)
Network Emulator	AGILENT 8960
Voltmeter	Keithley (2000, SN:1015843)
Synthetizer	Agilent (E8257C, SN:MY43321570)
Amplifier	Mini-Circuits (ZHL-42, SN:110405)
Power Meter	Agilent (E4416A, SN:QB41292714)
Probe	Antennessa (SN:SN_0807_EP_74)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

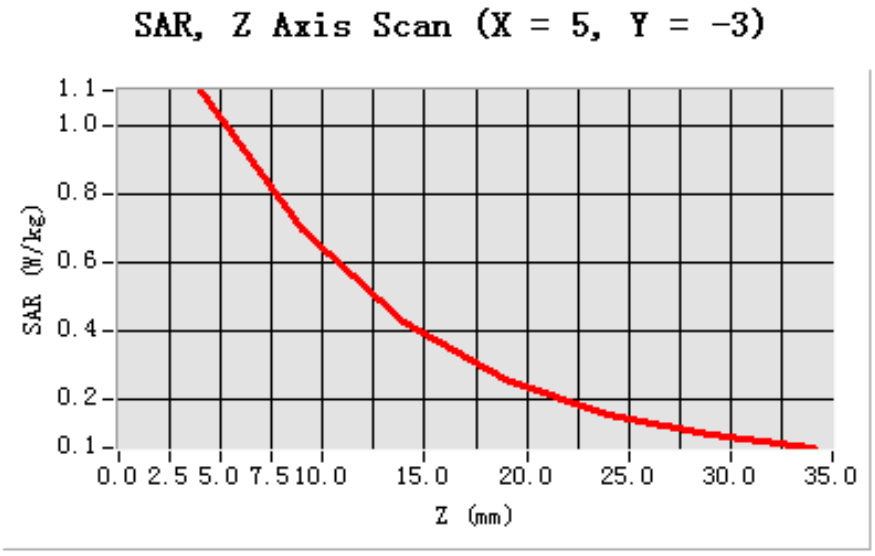
Frequency (MHz)	1880.000000
Relative permitivity (real part)	53.219001
Relative permitivity (imaginary part)	13.921000
Conductivity (S/m)	1.502467
Variation (%)	0.080000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=5.00, Y=-3.00

SAR 10g (W/Kg)	0.604337
SAR 1g (W/Kg)	1.038032

Z Axis Scan


SAR, Z Axis Scan (X = 5, Y = -3)
SAR (W/kg)
1.1
1.0
0.8
0.6
0.4
0.2
0.1
0.0 2.5 5.0 7.5 10.0 15.0 20.0 25.0 30.0 35.0
Z (mm)

GSM configuration 2

Type: Phone measurement (Complete)

Date of measurement: 30/10/2008

Measurement duration: 6 minutes 50 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

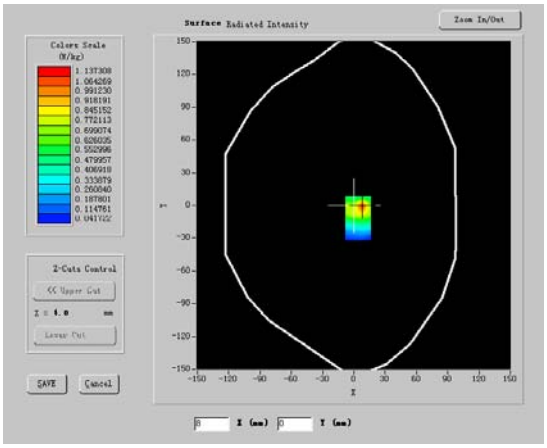
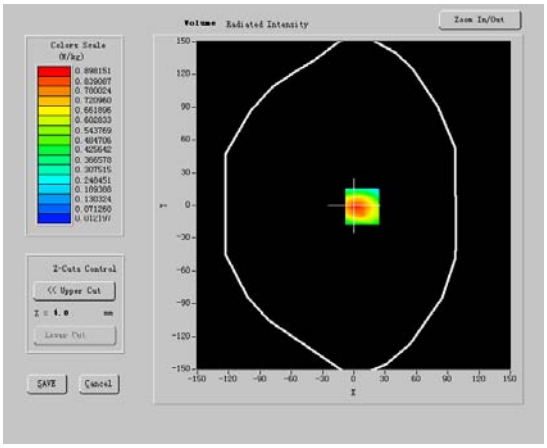
Phantom File	surf_sam_plan.txt, Adaptative 2 max
Phantom	Validation plane
Device Position	Body
Band	GSM1900
Channels	High
Signal	TDMA

B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)
Network Emulator	AGILENT 8960
Voltmeter	Keithley (2000, SN:1015843)
Synthetizer	Agilent (E8257C, SN:MY43321570)
Amplifier	Mini-Circuits (ZHL-42, SN:110405)
Power Meter	Agilent (E4416A, SN:QB41292714)
Probe	Antennessa (SN:SN_0807_EP_74)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

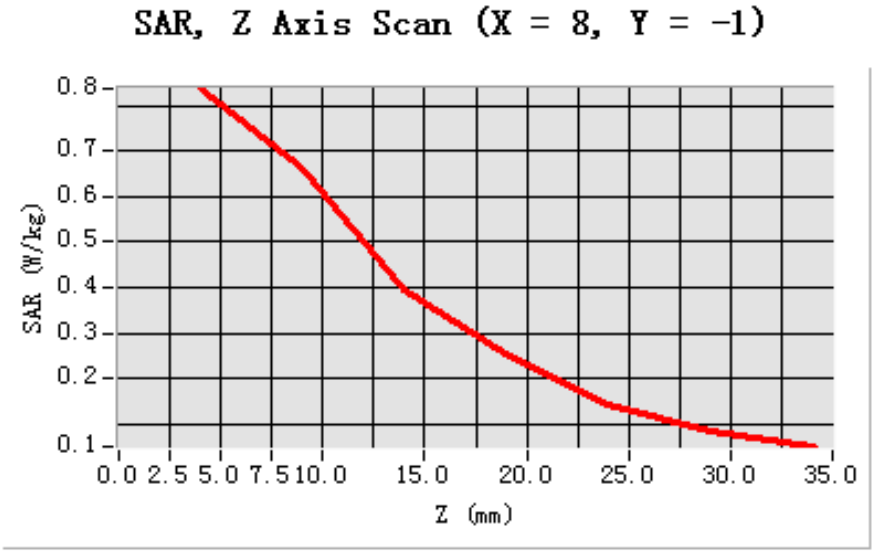
Frequency (MHz)	1909.799976
Relative permitivity (real part)	53.285999
Relative permitivity (imaginary part)	13.669900
Conductivity (S/m)	1.520225
Variation (%)	-4.180000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=8.00, Y=-1.00

SAR 10g (W/Kg)	0.520177
SAR 1g (W/Kg)	0.829266

Z Axis Scan


SAR, Z Axis Scan (X = 8, Y = -1)
SAR (W/kg)
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0 2.5 5.0 7.5 10.0 15.0 20.0 25.0 30.0 35.0
Z (mm)

GSM configuration 3

Type: Phone measurement (Complete)

Date of measurement: 30/10/2008

Measurement duration: 6 minutes 54 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

Phantom File	surf_sam_plan.txt, Adaptative 2 max
Phantom	Validation plane
Device Position	Body
Band	GSM1900
Channels	Low
Signal	TDMA

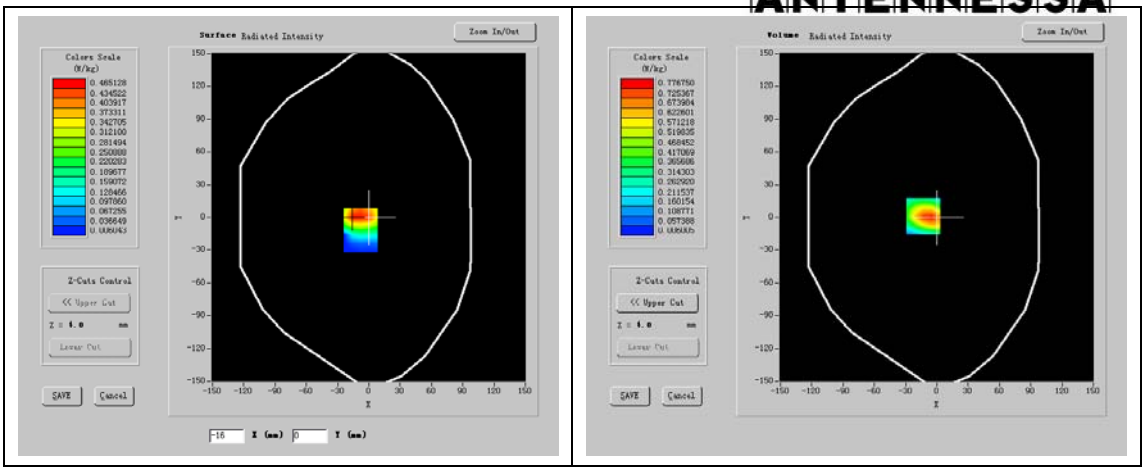
B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)
Network Emulator	AGILENT 8960
Voltmeter	Keithley (2000, SN:1015843)
Synthetizer	Agilent (E8257C, SN:MY43321570)
Amplifier	Mini-Circuits (ZHL-42, SN:110405)
Power Meter	Agilent (E4416A, SN:QB41292714)
Probe	Antennessa (SN:SN_0807_EP_74)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

Frequency (MHz)	1850.200024
Relative permitivity (real part)	53.313000
Relative permitivity (imaginary part)	13.584900
Conductivity (S/m)	1.526528
Variation (%)	1.860000

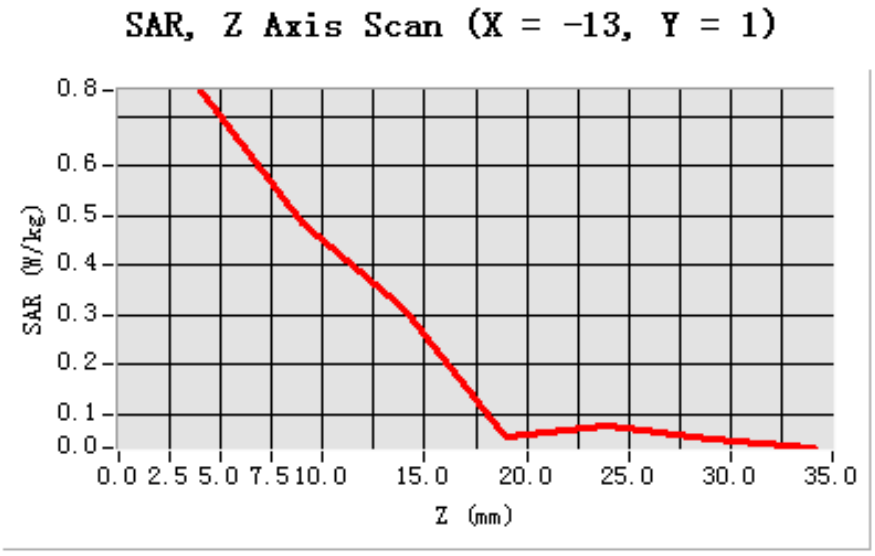
SURFACE SAR	**VOLUME SAR**



Maximum location: X=-13.00, Y=1.00

SAR 10g (W/Kg)	0.392629
SAR 1g (W/Kg)	0.698988

Z Axis Scan


SAR, Z Axis Scan (X = -13, Y = 1)
SAR (W/kg)
0.8
0.6
0.5
0.4
0.3
0.2
0.1
0.0
0.0 2.5 5.0 7.5 10.0 15.0 20.0 25.0 30.0 35.0
Z (mm)

GSM configuration 3

Type: Phone measurement (Complete)

Date of measurement: 30/10/2008

Measurement duration: 6 minutes 48 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

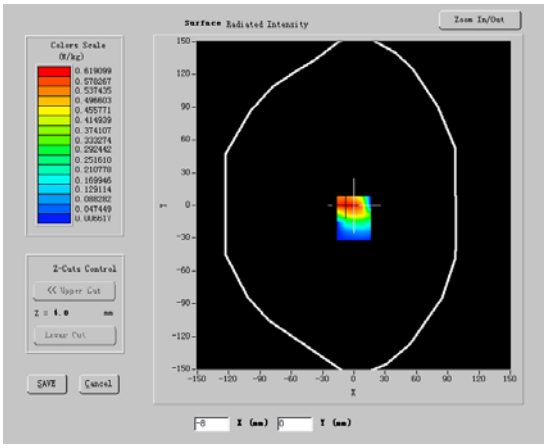
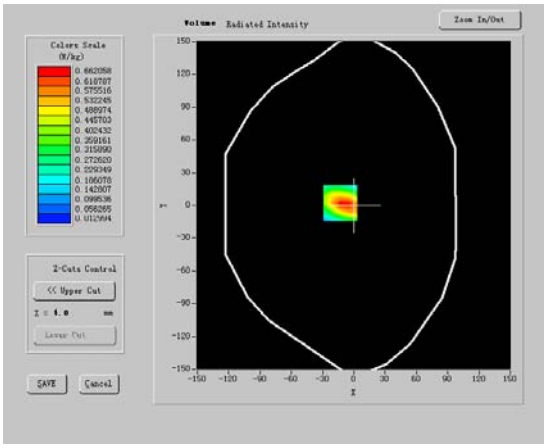
Phantom File	surf_sam_plan.txt, Adaptative 2 max
Phantom	Validation plane
Device Position	Body
Band	GSM1900
Channels	Middle
Signal	TDMA

B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)
Network Emulator	AGILENT 8960
Voltmeter	Keithley (2000, SN:1015843)
Synthetizer	Agilent (E8257C, SN:MY43321570)
Amplifier	Mini-Circuits (ZHL-42, SN:110405)
Power Meter	Agilent (E4416A, SN:QB41292714)
Probe	Antennessa (SN:SN_0807_EP_74)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

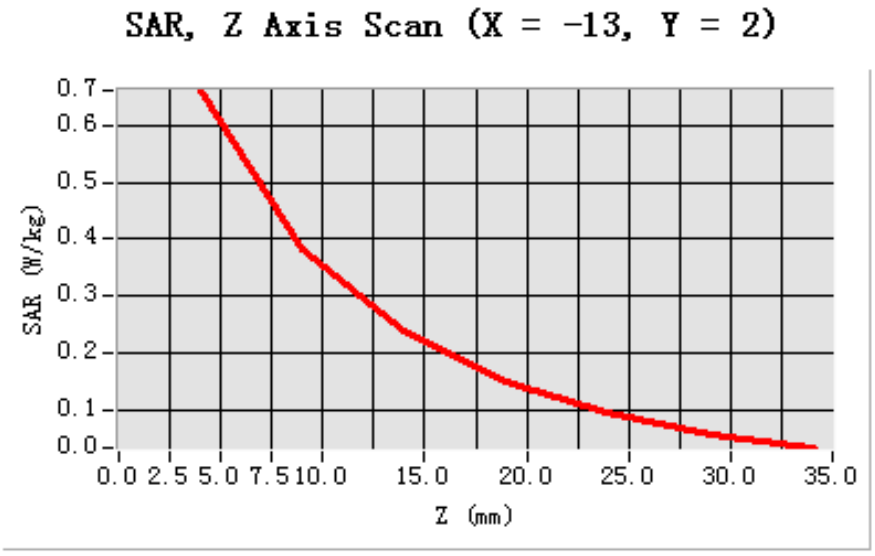
Frequency (MHz)	1880.000000
Relative permitivity (real part)	53.219001
Relative permitivity (imaginary part)	13.921000
Conductivity (S/m)	1.502467
Variation (%)	4.360000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=-13.00, Y=2.00

SAR 10g (W/Kg)	0.349932
SAR 1g (W/Kg)	0.633549

Z Axis Scan


SAR, Z Axis Scan (X = -13, Y = 2)
SAR (W/kg)
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
0.0 2.5 5.0 7.5 10.0 15.0 20.0 25.0 30.0 35.0
Z (mm)

GSM configuration 3

Type: Phone measurement (Complete)

Date of measurement: 30/10/2008

Measurement duration: 6 minutes 54 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

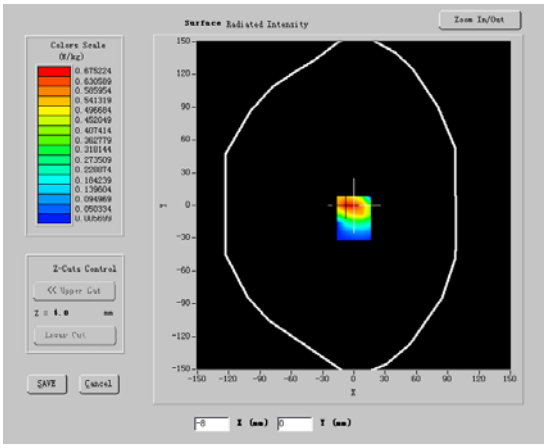
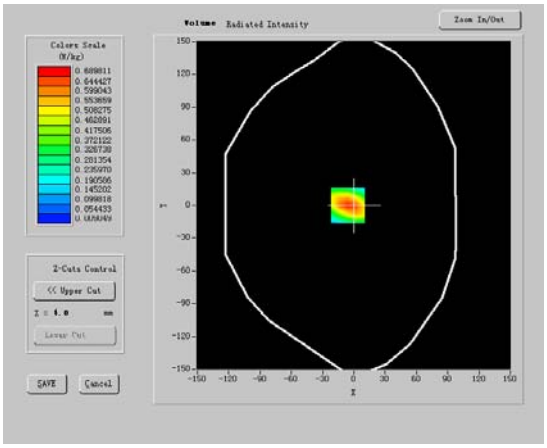
Phantom File	surf_sam_plan.txt, Adaptative 2 max
Phantom	Validation plane
Device Position	Body
Band	GSM1900
Channels	High
Signal	TDMA

B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)
Network Emulator	AGILENT 8960
Voltmeter	Keithley (2000, SN:1015843)
Synthetizer	Agilent (E8257C, SN:MY43321570)
Amplifier	Mini-Circuits (ZHL-42, SN:110405)
Power Meter	Agilent (E4416A, SN:QB41292714)
Probe	Antennessa (SN:SN_0807_EP_74)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

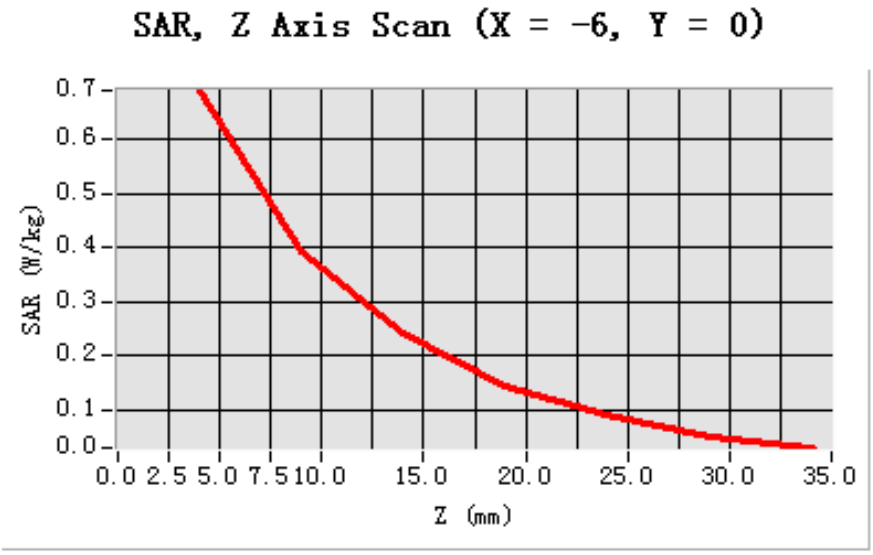
Frequency (MHz)	1909.799976
Relative permitivity (real part)	53.285999
Relative permitivity (imaginary part)	13.669900
Conductivity (S/m)	1.520225
Variation (%)	-0.230000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=-6.00, Y=0.00

SAR 10g (W/Kg)	0.356775
SAR 1g (W/Kg)	0.650420

Z Axis Scan


SAR, Z Axis Scan (X = -6, Y = 0)
SAR (W/kg)
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
0.0 2.5 5.0 7.5 10.0 15.0 20.0 25.0 30.0 35.0
Z (mm)

GSM configuration 4

Type: Phone measurement (Complete)

Date of measurement: 30/10/2008

Measurement duration: 6 minutes 28 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

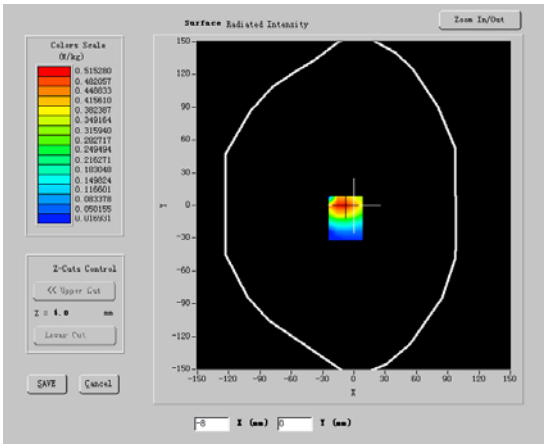
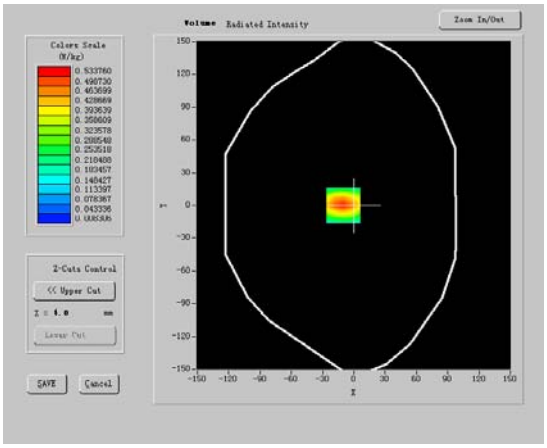
Phantom File	surf_sam_plan.txt, Adaptative 2 max
Phantom	Validation plane
Device Position	Body
Band	GSM1900
Channels	Low
Signal	TDMA

B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)
Network Emulator	AGILENT 8960
Voltmeter	Keithley (2000, SN:1015843)
Synthetizer	Agilent (E8257C, SN:MY43321570)
Amplifier	Mini-Circuits (ZHL-42, SN:110405)
Power Meter	Agilent (E4416A, SN:QB41292714)
Probe	Antennessa (SN:SN_0807_EP_74)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

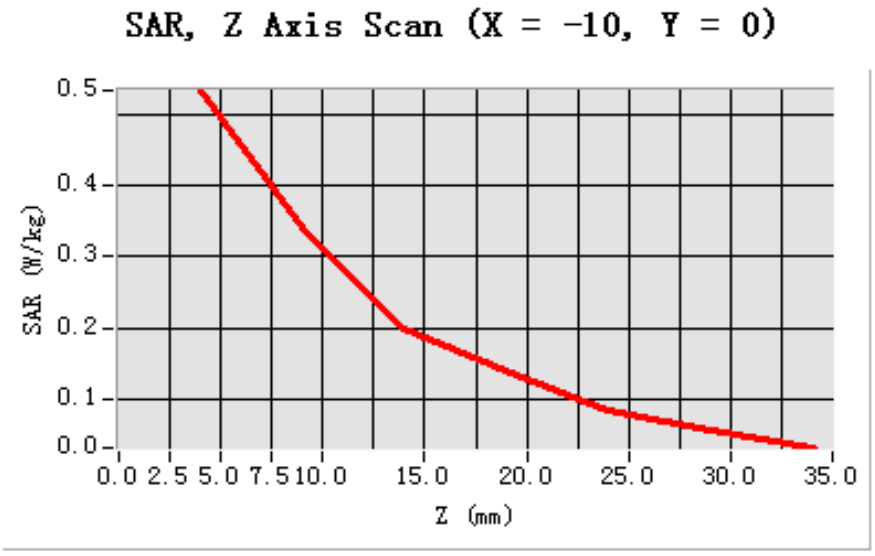
Frequency (MHz)	1850.200024
Relative permitivity (real part)	53.313000
Relative permitivity (imaginary part)	13.584900
Conductivity (S/m)	1.526528
Variation (%)	-0.420000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=-10.00, Y=0.00

SAR 10g (W/Kg)	0.287273
SAR 1g (W/Kg)	0.498196

Z Axis Scan


SAR, Z Axis Scan (X = -10, Y = 0)
SAR (W/kg)
0.5
0.4
0.3
0.2
0.1
0.0
0.0 2.5 5.0 7.5 10.0 15.0 20.0 25.0 30.0 35.0
Z (mm)

GSM configuration 4

Type: Phone measurement (Complete)

Date of measurement: 30/10/2008

Measurement duration: 6 minutes 28 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

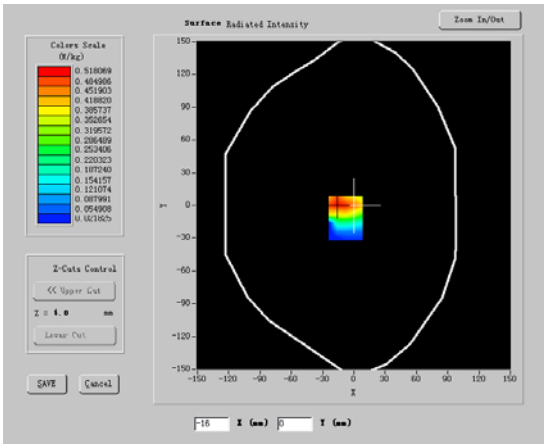
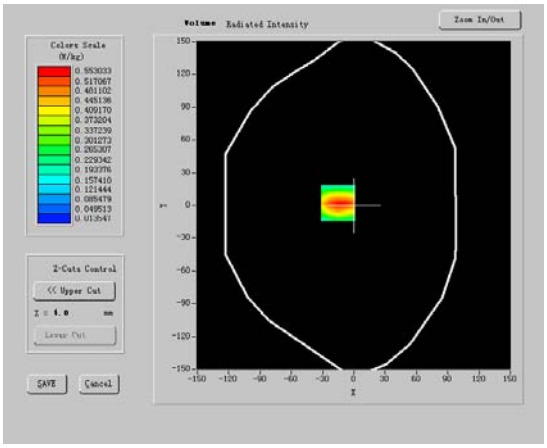
Phantom File	surf_sam_plan.txt, Adaptative 2 max
Phantom	Validation plane
Device Position	Body
Band	GSM1900
Channels	Middle
Signal	TDMA

B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)
Network Emulator	AGILENT 8960
Voltmeter	Keithley (2000, SN:1015843)
Synthetizer	Agilent (E8257C, SN:MY43321570)
Amplifier	Mini-Circuits (ZHL-42, SN:110405)
Power Meter	Agilent (E4416A, SN:QB41292714)
Probe	Antennessa (SN:SN_0807_EP_74)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

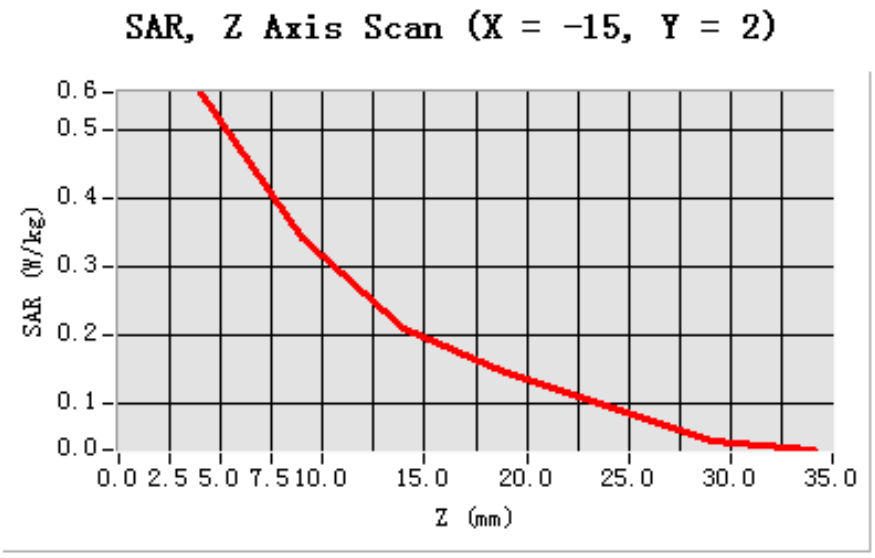
Frequency (MHz)	1880.000000
Relative permitivity (real part)	53.219001
Relative permitivity (imaginary part)	13.921000
Conductivity (S/m)	1.502467
Variation (%)	3.520000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=-15.00, Y=2.00

SAR 10g (W/Kg)	0.305554
SAR 1g (W/Kg)	0.530352

Z Axis Scan


SAR, Z Axis Scan (X = -15, Y = 2)
SAR (W/kg)
0.6
0.5
0.4
0.3
0.2
0.1
0.0
0.0 2.5 5.0 7.5 10.0 15.0 20.0 25.0 30.0 35.0
Z (mm)

GSM configuration 4

Type: Phone measurement (Complete)

Date of measurement: 30/10/2008

Measurement duration: 6 minutes 22 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

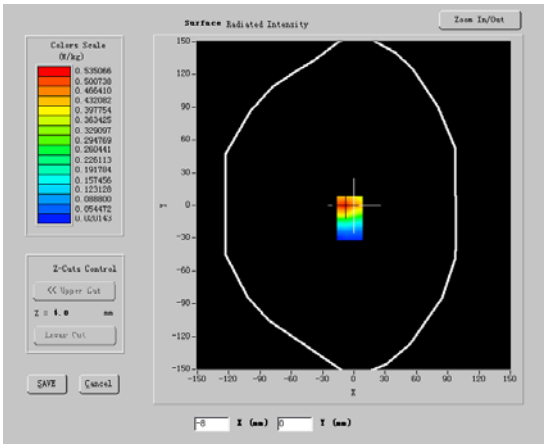
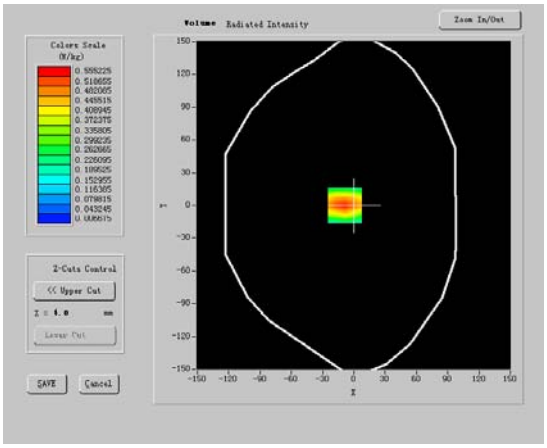
Phantom File	surf_sam_plan.txt, Adaptative 2 max
Phantom	Validation plane
Device Position	Body
Band	GSM1900
Channels	High
Signal	TDMA

B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)
Network Emulator	AGILENT 8960
Voltmeter	Keithley (2000, SN:1015843)
Synthetizer	Agilent (E8257C, SN:MY43321570)
Amplifier	Mini-Circuits (ZHL-42, SN:110405)
Power Meter	Agilent (E4416A, SN:QB41292714)
Probe	Antennessa (SN:SN_0807_EP_74)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

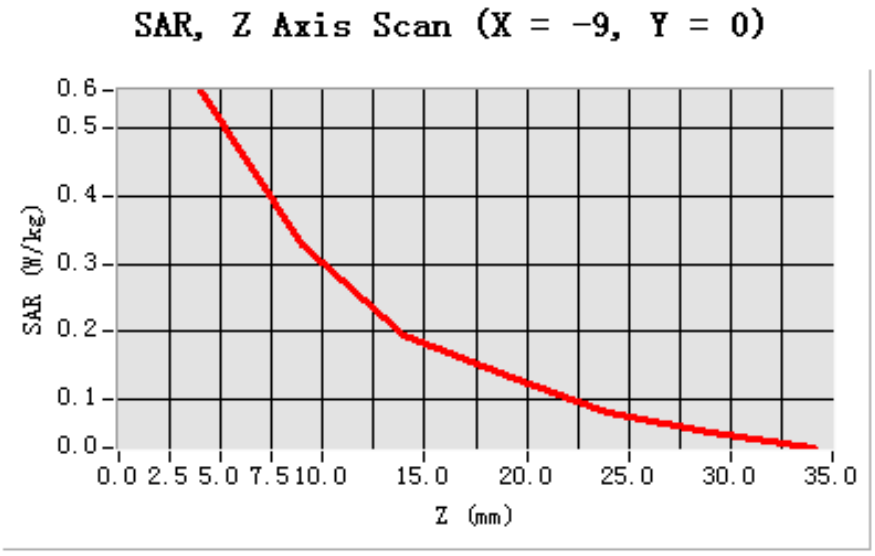
Frequency (MHz)	1909.799976
Relative permitivity (real part)	53.285999
Relative permitivity (imaginary part)	13.669900
Conductivity (S/m)	1.520225
Variation (%)	-0.600000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=-9.00, Y=0.00

SAR 10g (W/Kg)	0.297131
SAR 1g (W/Kg)	0.524923

Z Axis Scan


SAR, Z Axis Scan (X = -9, Y = 0)
SAR (W/kg)
0.6
0.5
0.4
0.3
0.2
0.1
0.0
0.0 2.5 5.0 7.5 10.0 15.0 20.0 25.0 30.0 35.0
Z (mm)

GPRS configuration 1

Type: Phone measurement (Complete)

Date of measurement: 30/10/2008

Measurement duration: 6 minutes 45 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

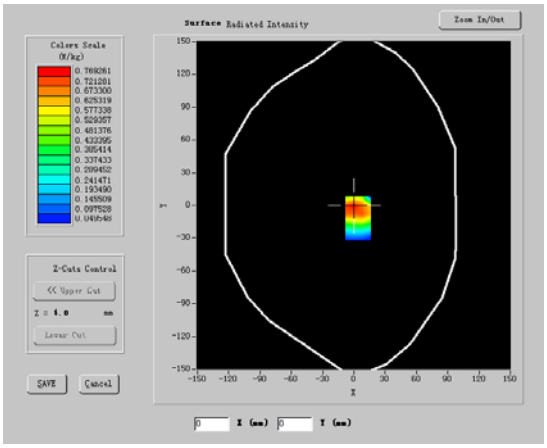
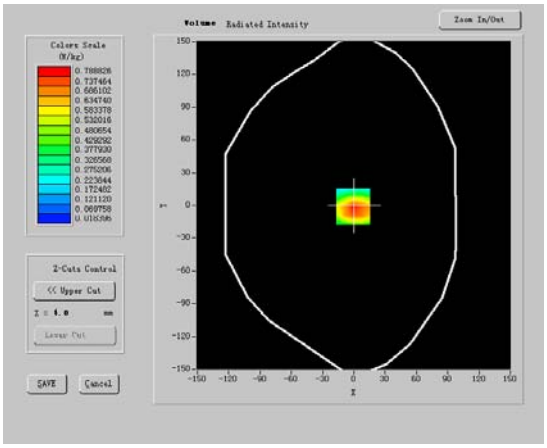
Phantom File	surf_sam_plan.txt, Adaptative 2 max
Phantom	Validation plane
Device Position	Body
Band	GPRS1900
Channels	Low
Signal	Custom (crest factor: 2)

B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)
Network Emulator	AGILENT 8960
Voltmeter	Keithley (2000, SN:1015843)
Synthetizer	Agilent (E8257C, SN:MY43321570)
Amplifier	Mini-Circuits (ZHL-42, SN:110405)
Power Meter	Agilent (E4416A, SN:QB41292714)
Probe	Antennessa (SN:SN_0807_EP_74)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

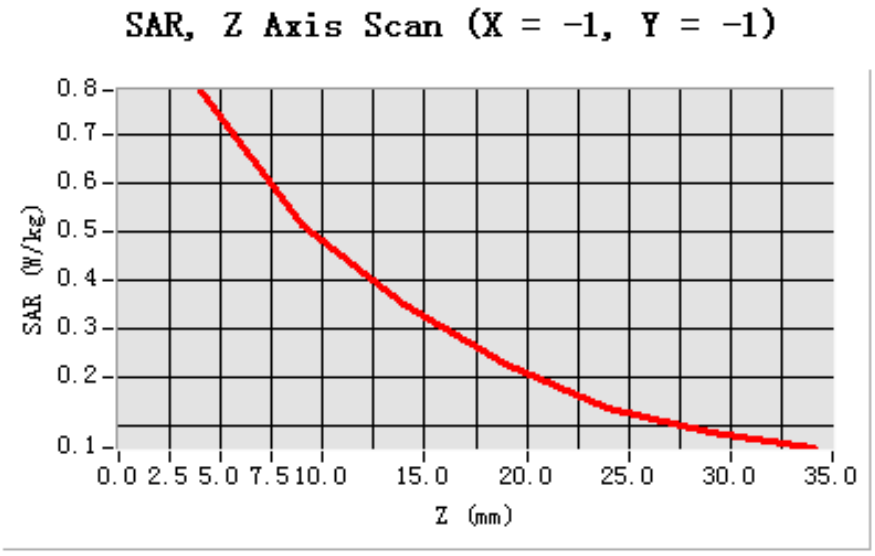
Frequency (MHz)	1850.200024
Relative permitivity (real part)	53.313000
Relative permitivity (imaginary part)	13.584900
Conductivity (S/m)	1.526528
Variation (%)	-1.030000

SURFACE SAR	**VOLUME SAR**
	

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

SAR 10g (W/Kg)	0.446299
SAR 1g (W/Kg)	0.751488

Z Axis Scan


SAR, Z Axis Scan (X = -1, Y = -1)
SAR (W/kg)
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0 2.5 5.0 7.5 10.0 15.0 20.0 25.0 30.0 35.0
Z (mm)

GPRS configuration 1

Type: Phone measurement (Complete)

Date of measurement: 30/10/2008

Measurement duration: 6 minutes 41 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

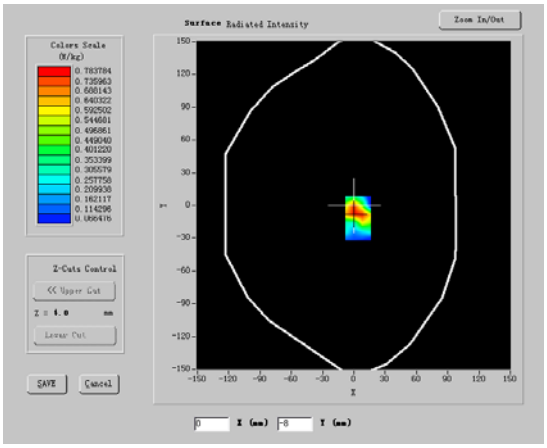
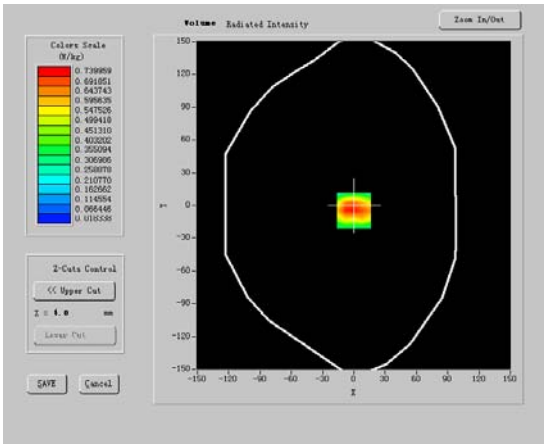
Phantom File	surf_sam_plan.txt, Adaptative 2 max
Phantom	Validation plane
Device Position	Body
Band	GPRS1900
Channels	Middle
Signal	Custom (crest factor: 2)

B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)
Network Emulator	AGILENT 8960
Voltmeter	Keithley (2000, SN:1015843)
Synthetizer	Agilent (E8257C, SN:MY43321570)
Amplifier	Mini-Circuits (ZHL-42, SN:110405)
Power Meter	Agilent (E4416A, SN:QB41292714)
Probe	Antennessa (SN:SN_0807_EP_74)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

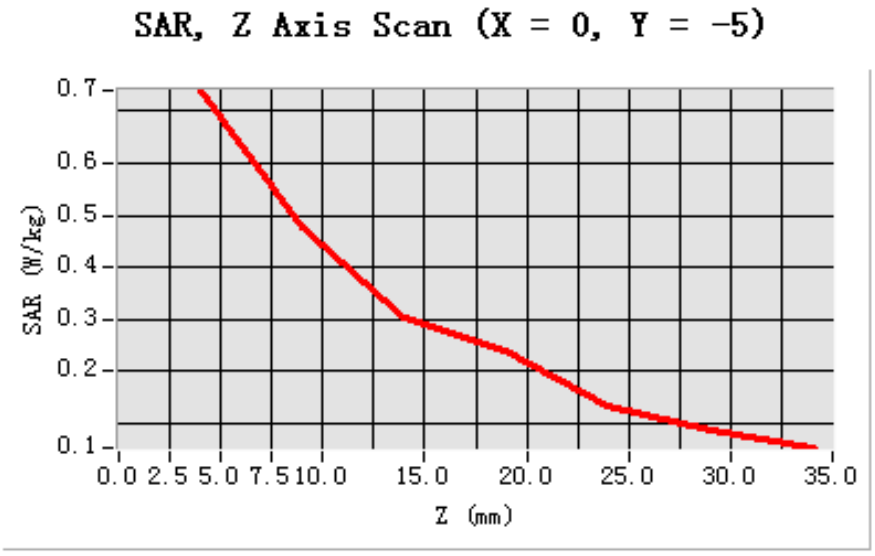
Frequency (MHz)	1880.000000
Relative permitivity (real part)	53.219001
Relative permitivity (imaginary part)	13.921000
Conductivity (S/m)	1.502467
Variation (%)	0.200000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=0.00, Y=-5.00

SAR 10g (W/Kg)	0.433994
SAR 1g (W/Kg)	0.730840

Z Axis Scan


SAR, Z Axis Scan (X = 0, Y = -5)
SAR (W/kg)
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0 2.5 5.0 7.5 10.0 15.0 20.0 25.0 30.0 35.0
Z (mm)

GPRS configuration 1

Type: Phone measurement (Complete)

Date of measurement: 30/10/2008

Measurement duration: 6 minutes 58 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

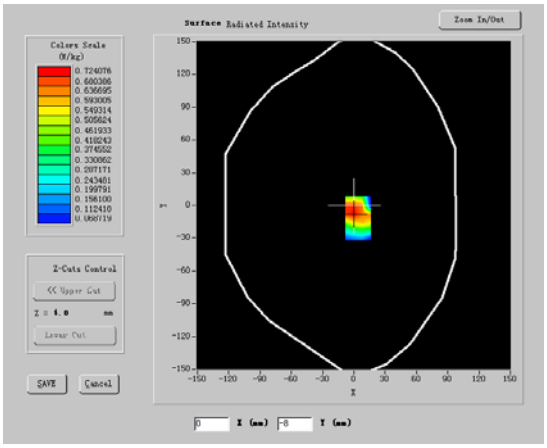
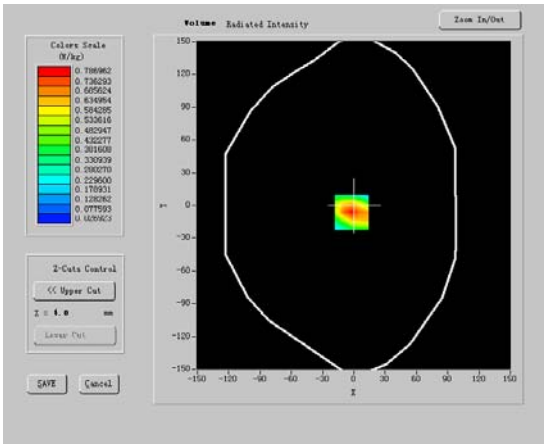
Phantom File	surf_sam_plan.txt, Adaptative 2 max
Phantom	Validation plane
Device Position	Body
Band	GPRS1900
Channels	High
Signal	Custom (Crest factor: 2)

B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)
Network Emulator	AGILENT 8960
Voltmeter	Keithley (2000, SN:1015843)
Synthetizer	Agilent (E8257C, SN:MY43321570)
Amplifier	Mini-Circuits (ZHL-42, SN:110405)
Power Meter	Agilent (E4416A, SN:QB41292714)
Probe	Antennessa (SN:SN_0807_EP_74)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

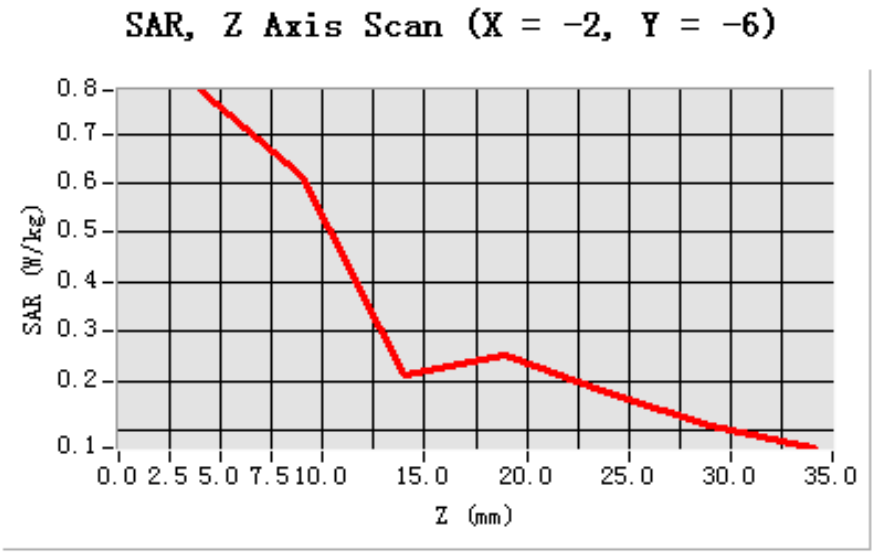
Frequency (MHz)	1909.799976
Relative permitivity (real part)	53.285999
Relative permitivity (imaginary part)	13.669900
Conductivity (S/m)	1.520225
Variation (%)	12.690000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=-2.00, Y=-6.00

SAR 10g (W/Kg)	0.442945
SAR 1g (W/Kg)	0.766788

Z Axis Scan


SAR, Z Axis Scan (X = -2, Y = -6)
SAR (W/kg)
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0 2.5 5.0 7.5 10.0 15.0 20.0 25.0 30.0 35.0
Z (mm)

GPRS configuration 2

Type: Phone measurement (Complete)

Date of measurement: 30/10/2008

Measurement duration: 6 minutes 53 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

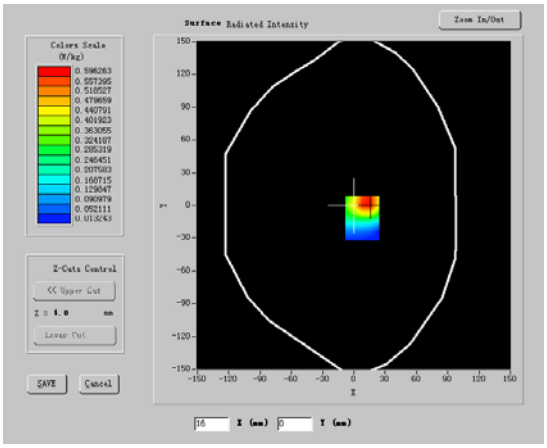
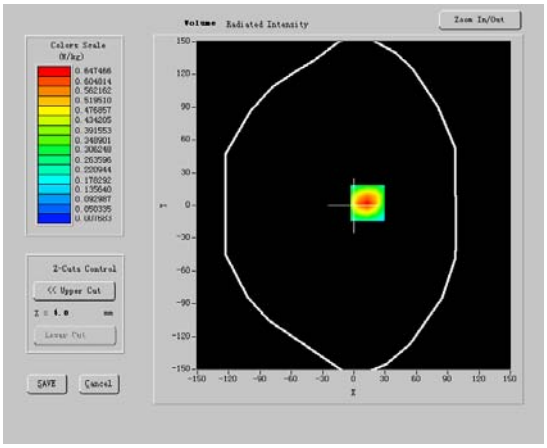
Phantom File	surf_sam_plan.txt, Adaptative 2 max
Phantom	Validation plane
Device Position	Body
Band	GPRS1900
Channels	Low
Signal	Custom (Crest factor: 2)

B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)
Network Emulator	AGILENT 8960
Voltmeter	Keithley (2000, SN:1015843)
Synthetizer	Agilent (E8257C, SN:MY43321570)
Amplifier	Mini-Circuits (ZHL-42, SN:110405)
Power Meter	Agilent (E4416A, SN:QB41292714)
Probe	Antennessa (SN:SN_0807_EP_74)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

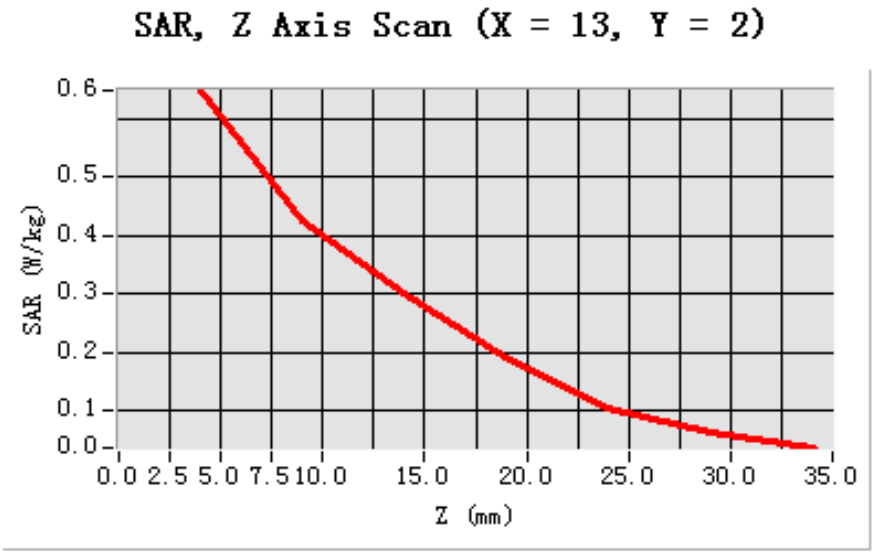
Frequency (MHz)	1850.200024
Relative permitivity (real part)	53.313000
Relative permitivity (imaginary part)	13.584900
Conductivity (S/m)	1.526528
Variation (%)	-1.890000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=13.00, Y=2.00

SAR 10g (W/Kg)	0.359611
SAR 1g (W/Kg)	0.609687

Z Axis Scan


SAR, Z Axis Scan (X = 13, Y = 2)
SAR (W/kg)
0.6
0.5
0.4
0.3
0.2
0.1
0.0
0.0 2.5 5.0 7.5 10.0 15.0 20.0 25.0 30.0 35.0
Z (mm)

GPRS configuration 2

Type: Phone measurement (Complete)

Date of measurement: 30/10/2008

Measurement duration: 6 minutes 53 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

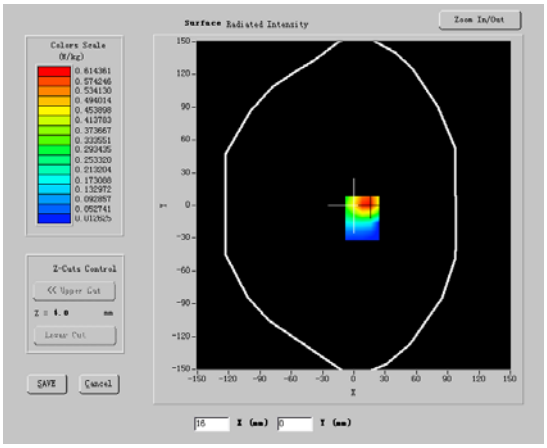
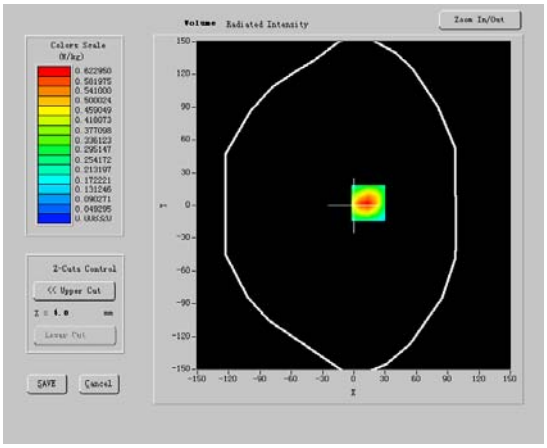
Phantom File	surf_sam_plan.txt, Adaptative 2 max
Phantom	Validation plane
Device Position	Body
Band	GPRS1900
Channels	Middle
Signal	Custom (Crest factor: 2)

B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)
Network Emulator	AGILENT 8960
Voltmeter	Keithley (2000, SN:1015843)
Synthetizer	Agilent (E8257C, SN:MY43321570)
Amplifier	Mini-Circuits (ZHL-42, SN:110405)
Power Meter	Agilent (E4416A, SN:QB41292714)
Probe	Antennessa (SN:SN_0807_EP_74)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

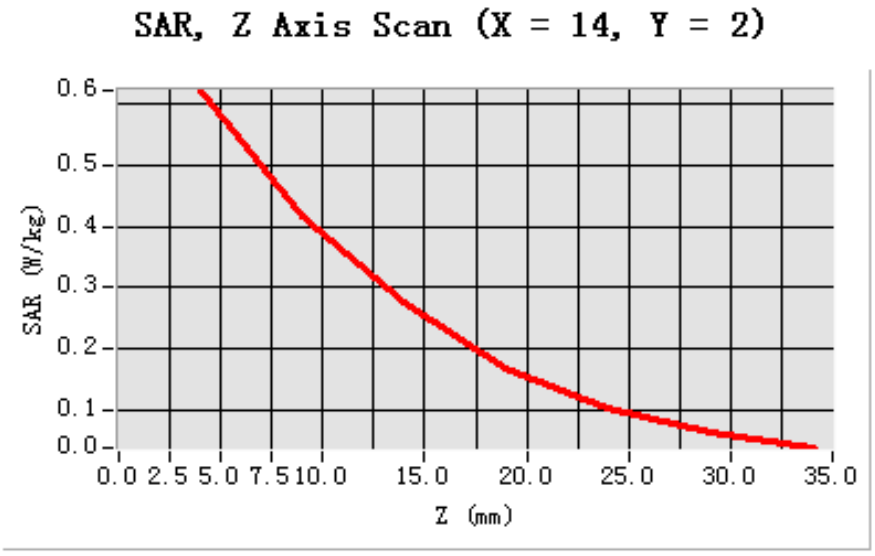
Frequency (MHz)	1880.000000
Relative permitivity (real part)	53.219001
Relative permitivity (imaginary part)	13.921000
Conductivity (S/m)	1.502467
Variation (%)	-1.570000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=14.00, Y=2.00

SAR 10g (W/Kg)	0.342812
SAR 1g (W/Kg)	0.581192

Z Axis Scan


SAR, Z Axis Scan (X = 14, Y = 2)
SAR (W/kg)
0.6
0.5
0.4
0.3
0.2
0.1
0.0
0.0 2.5 5.0 7.5 10.0 15.0 20.0 25.0 30.0 35.0
Z (mm)

GPRS configuration 2

Type: Phone measurement (Complete)

Date of measurement: 30/10/2008

Measurement duration: 6 minutes 54 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

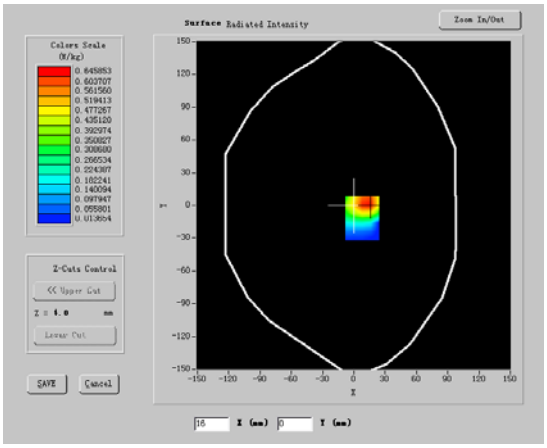
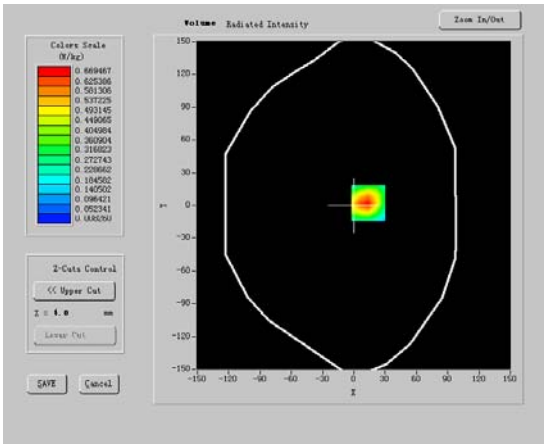
Phantom File	surf_sam_plan.txt, Adaptative 2 max
Phantom	Validation plane
Device Position	Body
Band	GPRS1900
Channels	High
Signal	Custom (Crest factor: 2)

B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)
Network Emulator	AGILENT 8960
Voltmeter	Keithley (2000, SN:1015843)
Synthetizer	Agilent (E8257C, SN:MY43321570)
Amplifier	Mini-Circuits (ZHL-42, SN:110405)
Power Meter	Agilent (E4416A, SN:QB41292714)
Probe	Antennessa (SN:SN_0807_EP_74)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

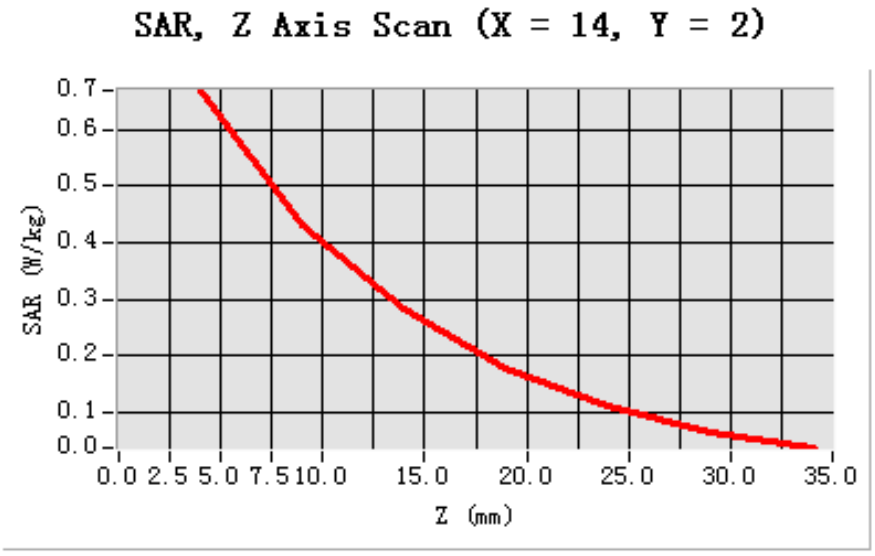
Frequency (MHz)	1909.799976
Relative permitivity (real part)	53.285999
Relative permitivity (imaginary part)	13.669900
Conductivity (S/m)	1.520225
Variation (%)	-1.470000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=14.00, Y=2.00

SAR 10g (W/Kg)	0.365163
SAR 1g (W/Kg)	0.626522

Z Axis Scan


SAR, Z Axis Scan (X = 14, Y = 2)
SAR (W/kg)
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
0.0 2.5 5.0 7.5 10.0 15.0 20.0 25.0 30.0 35.0
Z (mm)

GPRS configuration 3

Type: Phone measurement (Complete)

Date of measurement: 30/10/2008

Measurement duration: 6 minutes 35 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

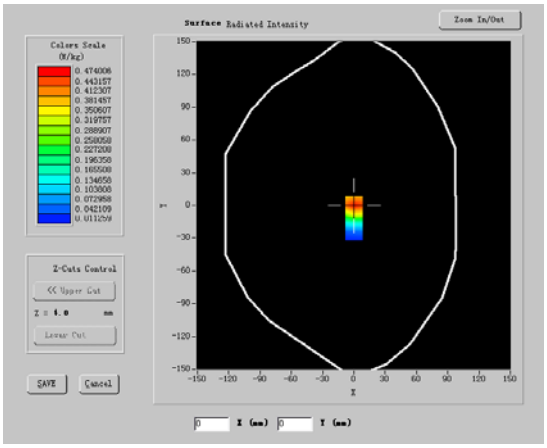
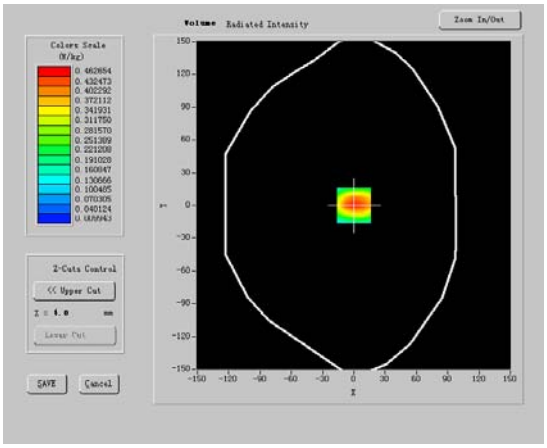
Phantom File	surf_sam_plan.txt, Adaptative 2 max
Phantom	Validation plane
Device Position	Body
Band	GPRS1900
Channels	Low
Signal	Custom (Crest factor: 2)

B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)
Network Emulator	AGILENT 8960
Voltmeter	Keithley (2000, SN:1015843)
Synthetizer	Agilent (E8257C, SN:MY43321570)
Amplifier	Mini-Circuits (ZHL-42, SN:110405)
Power Meter	Agilent (E4416A, SN:QB41292714)
Probe	Antennessa (SN:SN_0807_EP_74)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

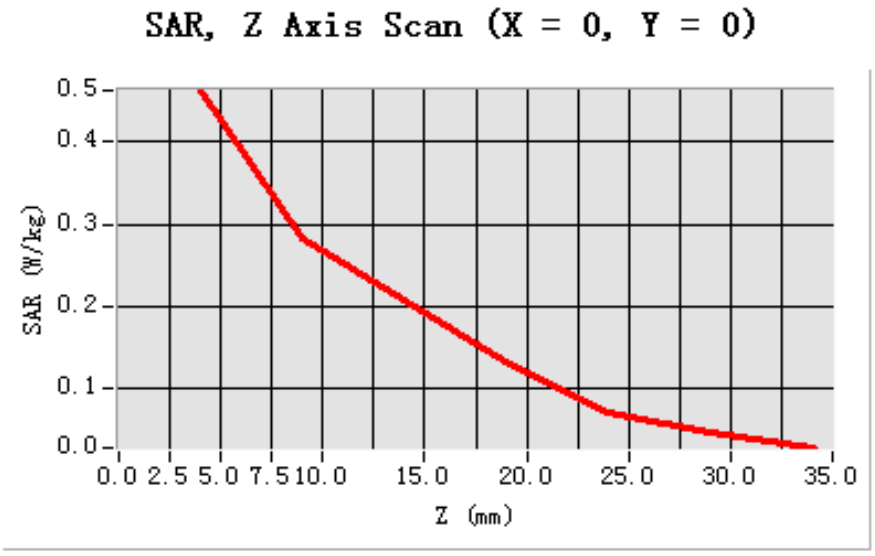
Frequency (MHz)	1850.200024
Relative permitivity (real part)	53.313000
Relative permitivity (imaginary part)	13.584900
Conductivity (S/m)	1.526528
Variation (%)	-2.040000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=0.00, Y=0.00

SAR 10g (W/Kg)	0.263100
SAR 1g (W/Kg)	0.443462

Z Axis Scan


SAR, Z Axis Scan (X = 0, Y = 0)
SAR (W/kg)
0.5
0.4
0.3
0.2
0.1
0.0
0.0 2.5 5.0 7.5 10.0 15.0 20.0 25.0 30.0 35.0
Z (mm)

GPRS configuration 3

Type: Phone measurement (Complete)

Date of measurement: 30/10/2008

Measurement duration: 6 minutes 45 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

Phantom File	surf_sam_plan.txt, Adaptative 2 max
Phantom	Validation plane
Device Position	Body
Band	GPRS1900
Channels	Middle
Signal	Custom (Crest factor: 2)

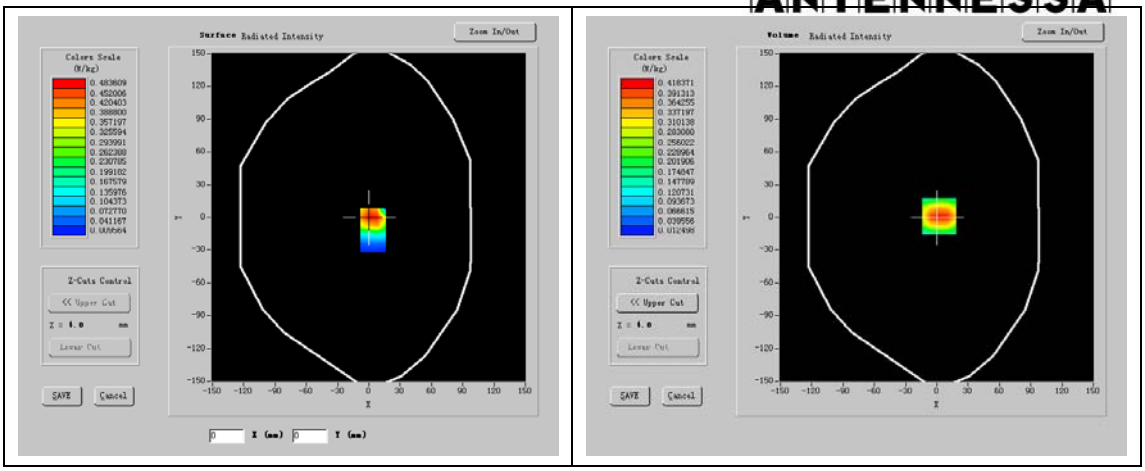
B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)
Network Emulator	AGILENT 8960
Voltmeter	Keithley (2000, SN:1015843)
Synthetizer	Agilent (E8257C, SN:MY43321570)
Amplifier	Mini-Circuits (ZHL-42, SN:110405)
Power Meter	Agilent (E4416A, SN:QB41292714)
Probe	Antennessa (SN:SN_0807_EP_74)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

Frequency (MHz)	1880.000000
Relative permitivity (real part)	53.219001
Relative permitivity (imaginary part)	13.921000
Conductivity (S/m)	1.502467
Variation (%)	-2.080000

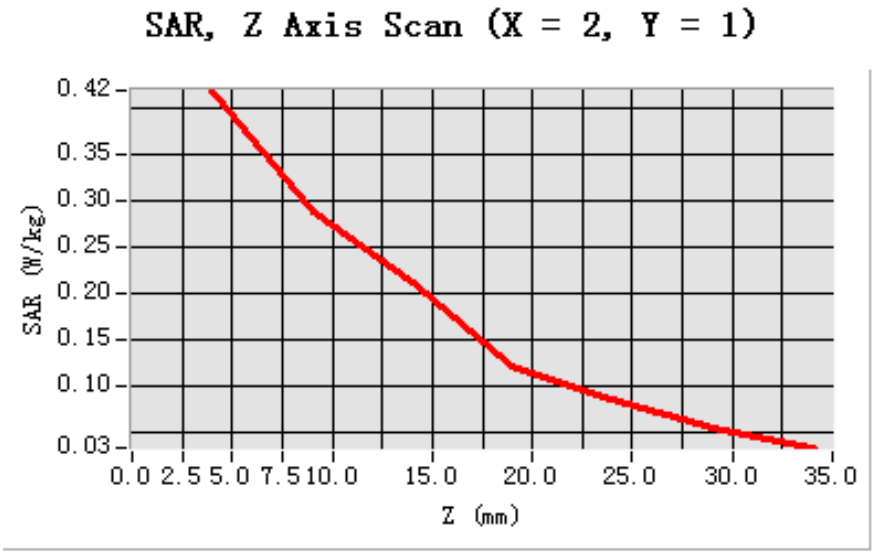
SURFACE SAR	**VOLUME SAR**



Maximum location: X=2.00, Y=1.00

SAR 10g (W/Kg)	0.243325
SAR 1g (W/Kg)	0.395090

Z Axis Scan


SAR, Z Axis Scan (X = 2, Y = 1)
SAR (W/kg)
0.42
0.35
0.30
0.25
0.20
0.15
0.10
0.03
0.0 2.5 5.0 7.5 10.0 15.0 20.0 25.0 30.0 35.0
Z (mm)

GPRS configuration 3

Type: Phone measurement (Complete)

Date of measurement: 30/10/2008

Measurement duration: 6 minutes 47 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

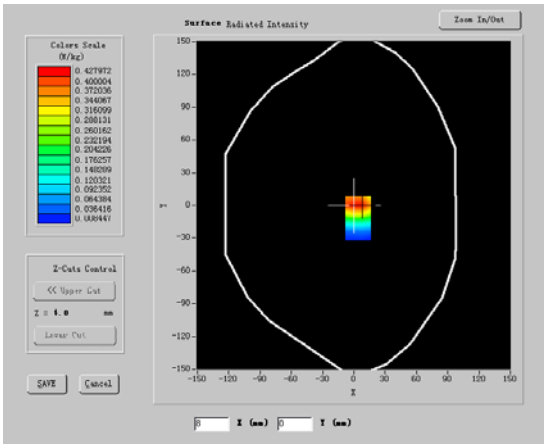
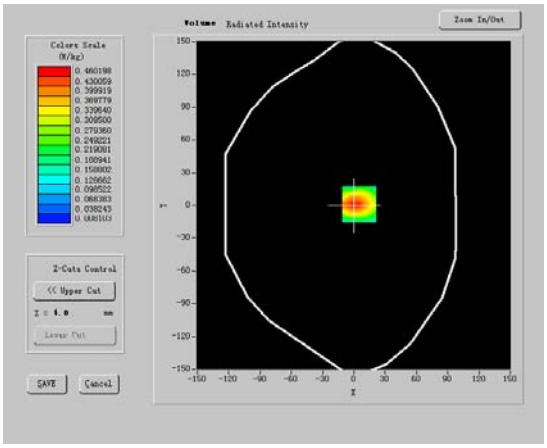
Phantom File	surf_sam_plan.txt, Adaptative 2 max
Phantom	Validation plane
Device Position	Body
Band	GPRS1900
Channels	High
Signal	Custom (Crest factor: 2)

B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)
Network Emulator	AGILENT 8960
Voltmeter	Keithley (2000, SN:1015843)
Synthetizer	Agilent (E8257C, SN:MY43321570)
Amplifier	Mini-Circuits (ZHL-42, SN:110405)
Power Meter	Agilent (E4416A, SN:QB41292714)
Probe	Antennessa (SN:SN_0807_EP_74)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

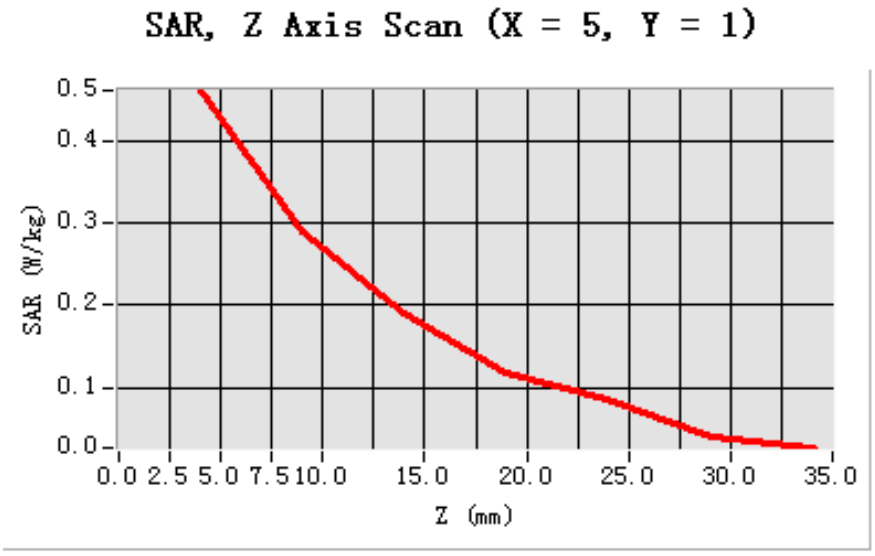
Frequency (MHz)	1909.799976
Relative permitivity (real part)	53.285999
Relative permitivity (imaginary part)	13.669900
Conductivity (S/m)	1.520225
Variation (%)	2.630000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=5.00, Y=1.00

SAR 10g (W/Kg)	0.258805
SAR 1g (W/Kg)	0.439416

Z Axis Scan


SAR, Z Axis Scan (X = 5, Y = 1)
SAR (W/kg)
0.5
0.4
0.3
0.2
0.1
0.0
0.0 2.5 5.0 7.5 10.0 15.0 20.0 25.0 30.0 35.0
Z (mm)

GPRS configuration 4

Type: Phone measurement (Complete)

Date of measurement: 30/10/2008

Measurement duration: 6 minutes 27 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

Phantom File	surf_sam_plan.txt, Adaptative 2 max
Phantom	Validation plane
Device Position	Body
Band	GPRS1900
Channels	Low
Signal	Custom (Crest factor: 2)

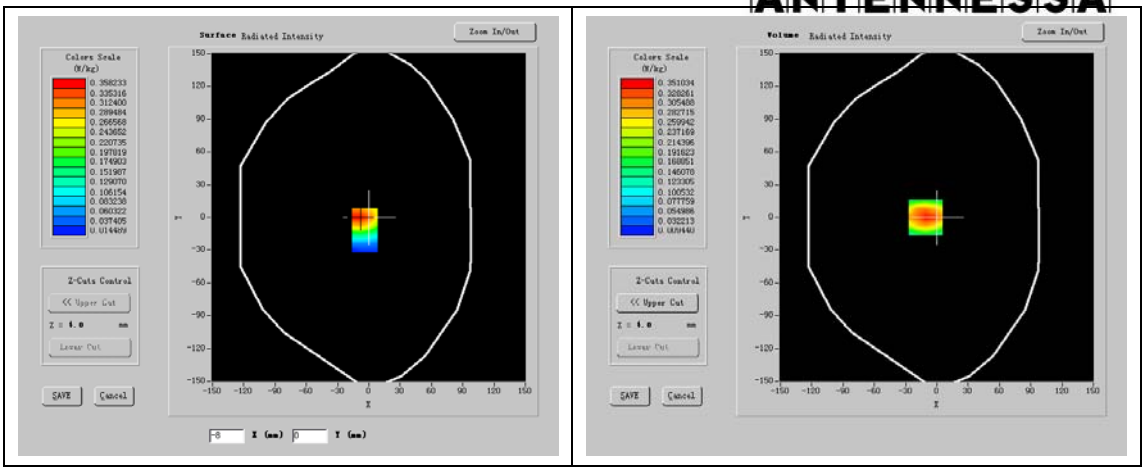
B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)
Network Emulator	AGILENT 8960
Voltmeter	Keithley (2000, SN:1015843)
Synthetizer	Agilent (E8257C, SN:MY43321570)
Amplifier	Mini-Circuits (ZHL-42, SN:110405)
Power Meter	Agilent (E4416A, SN:QB41292714)
Probe	Antennessa (SN:SN_0807_EP_74)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

Frequency (MHz)	1850.200024
Relative permitivity (real part)	53.313000
Relative permitivity (imaginary part)	13.584900
Conductivity (S/m)	1.526528
Variation (%)	0.700000

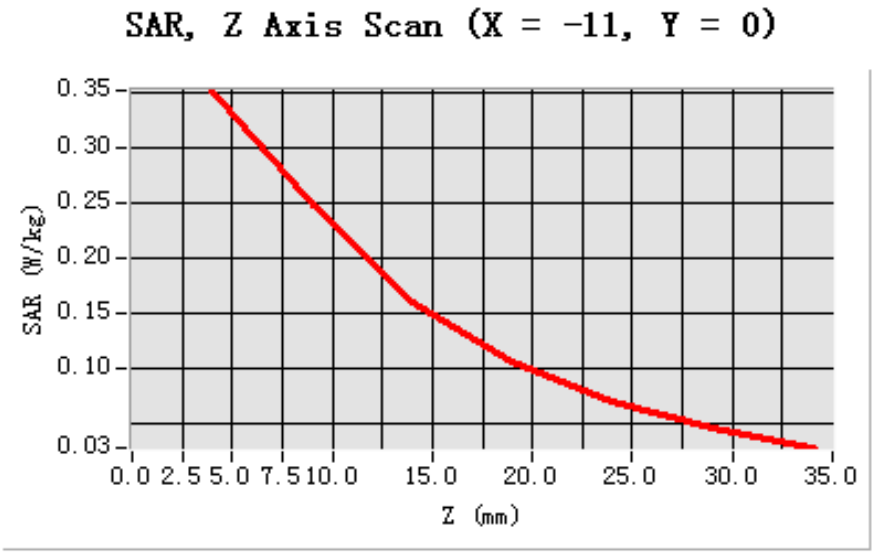
SURFACE SAR	**VOLUME SAR**



Maximum location: X=-11.00, Y=0.00

SAR 10g (W/Kg)	0.207748
SAR 1g (W/Kg)	0.331201

Z Axis Scan


SAR, Z Axis Scan (X = -11, Y = 0)
SAR (W/kg)
0.35
0.30
0.25
0.20
0.15
0.10
0.03
0.0 2.5 5.0 7.5 10.0 15.0 20.0 25.0 30.0 35.0
Z (mm)

GPRS configuration 4

Type: Phone measurement (Complete)

Date of measurement: 30/10/2008

Measurement duration: 6 minutes 52 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

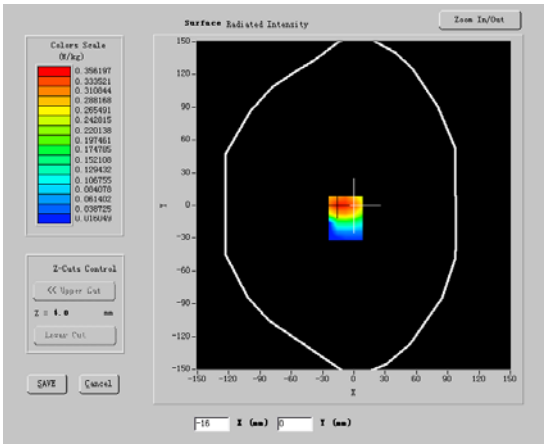
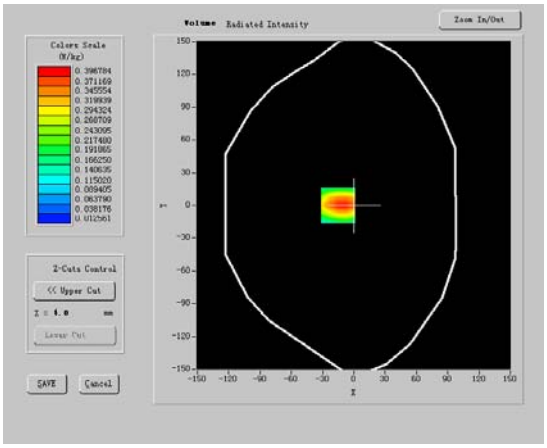
Phantom File	surf_sam_plan.txt, Adaptative 2 max
Phantom	Validation plane
Device Position	Body
Band	GPRS1900
Channels	Middle
Signal	Custom (Crest factor: 2)

B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)
Network Emulator	AGILENT 8960
Voltmeter	Keithley (2000, SN:1015843)
Synthetizer	Agilent (E8257C, SN:MY43321570)
Amplifier	Mini-Circuits (ZHL-42, SN:110405)
Power Meter	Agilent (E4416A, SN:QB41292714)
Probe	Antennessa (SN:SN_0807_EP_74)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

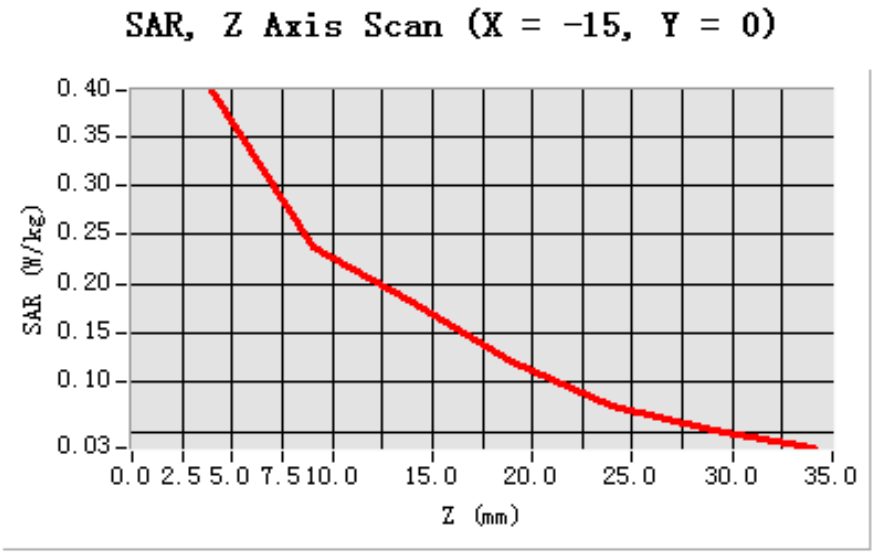
Frequency (MHz)	1880.000000
Relative permitivity (real part)	53.219001
Relative permitivity (imaginary part)	13.921000
Conductivity (S/m)	1.502467
Variation (%)	1.700000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=-15.00, Y=0.00

SAR 10g (W/Kg)	0.232240
SAR 1g (W/Kg)	0.383832

Z Axis Scan


SAR, Z Axis Scan (X = -15, Y = 0)
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.03
SAR (W/kg)
0.0 2.5 5.0 7.5 10.0 15.0 20.0 25.0 30.0 35.0
Z (mm)

GPRS configuration 4

Type: Phone measurement (Complete)

Date of measurement: 30/10/2008

Measurement duration: 6 minutes 45 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

Phantom File	surf_sam_plan.txt, Adaptative 2 max
Phantom	Validation plane
Device Position	Body
Band	GPRS1900
Channels	High
Signal	Custom (Crest factor: 2)

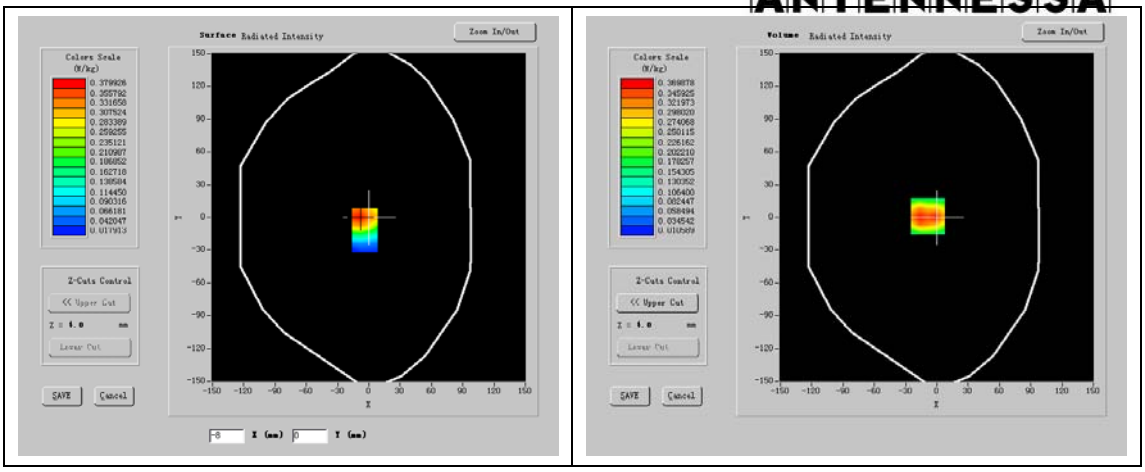
B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)
Network Emulator	AGILENT 8960
Voltmeter	Keithley (2000, SN:1015843)
Synthetizer	Agilent (E8257C, SN:MY43321570)
Amplifier	Mini-Circuits (ZHL-42, SN:110405)
Power Meter	Agilent (E4416A, SN:QB41292714)
Probe	Antennessa (SN:SN_0807_EP_74)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

Frequency (MHz)	1909.799976
Relative permitivity (real part)	53.285999
Relative permitivity (imaginary part)	13.669900
Conductivity (S/m)	1.520225
Variation (%)	1.680000

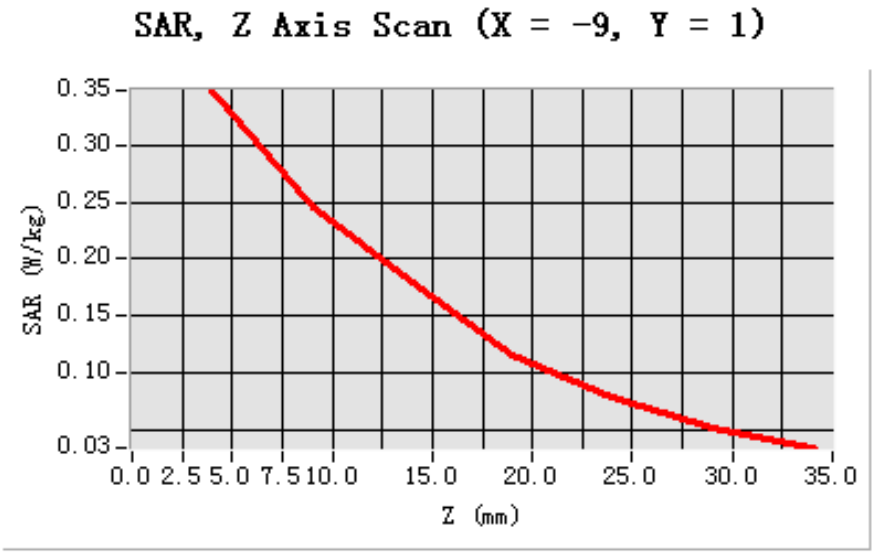
SURFACE SAR	**VOLUME SAR**



Maximum location: X=-9.00, Y=1.00

SAR 10g (W/Kg)	0.219760
SAR 1g (W/Kg)	0.350209

Z Axis Scan


SAR, Z Axis Scan (X = -9, Y = 1)
SAR (W/kg)
0.35
0.30
0.25
0.20
0.15
0.10
0.03
0.0 2.5 5.0 7.5 10.0 15.0 20.0 25.0 30.0 35.0
Z (mm)

EDGE configuration 1

Type: Phone measurement (Complete)

Date of measurement: 30/10/2008

Measurement duration: 6 minutes 24 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

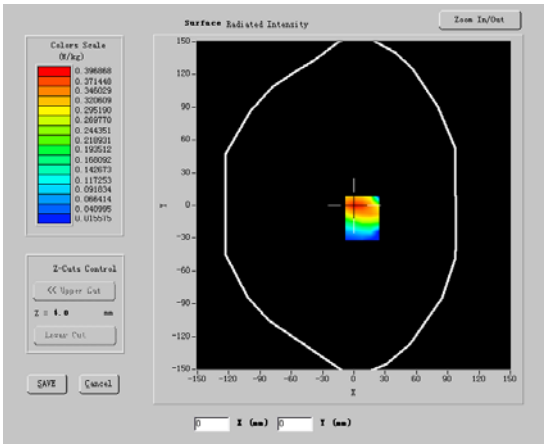
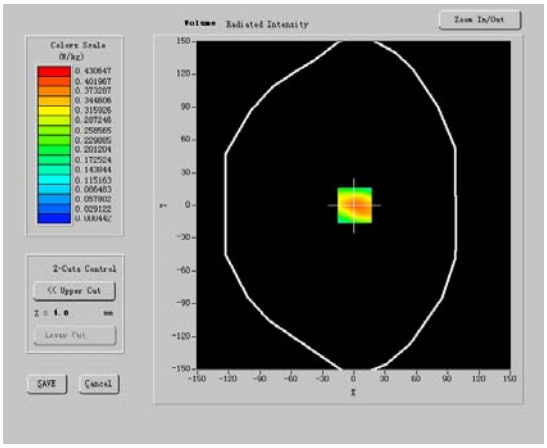
Phantom File	surf_sam_plan.txt, Adaptative 2 max
Phantom	Validation plane
Device Position	Body
Band	EDGE1900
Channels	Low
Signal	Custom (Crest factor: 2)

B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)
Network Emulator	AGILENT 8960
Voltmeter	Keithley (2000, SN:1015843)
Synthetizer	Agilent (E8257C, SN:MY43321570)
Amplifier	Mini-Circuits (ZHL-42, SN:110405)
Power Meter	Agilent (E4416A, SN:QB41292714)
Probe	Antennessa (SN:SN_0807_EP_74)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

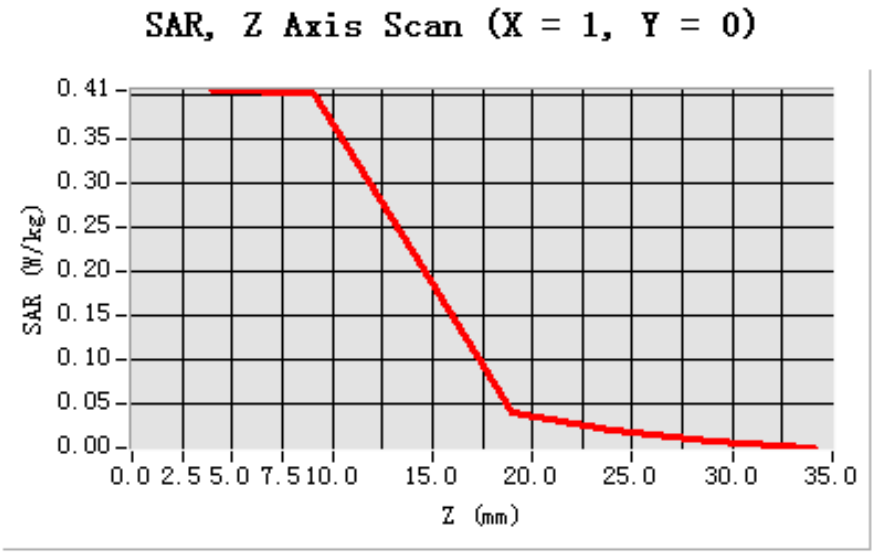
Frequency (MHz)	1850.200024
Relative permitivity (real part)	53.313000
Relative permitivity (imaginary part)	13.584900
Conductivity (S/m)	1.526528
Variation (%)	-1.850000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=1.00, Y=0.00

SAR 10g (W/Kg)	0.233612
SAR 1g (W/Kg)	0.321463

Z Axis Scan


SAR, Z Axis Scan (X = 1, Y = 0)
SAR (W/kg)
0.41
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
0.0 2.5 5.0 7.5 10.0 15.0 20.0 25.0 30.0 35.0
Z (mm)

EDGE configuration 1

Type: Phone measurement (Complete)

Date of measurement: 30/10/2008

Measurement duration: 6 minutes 22 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

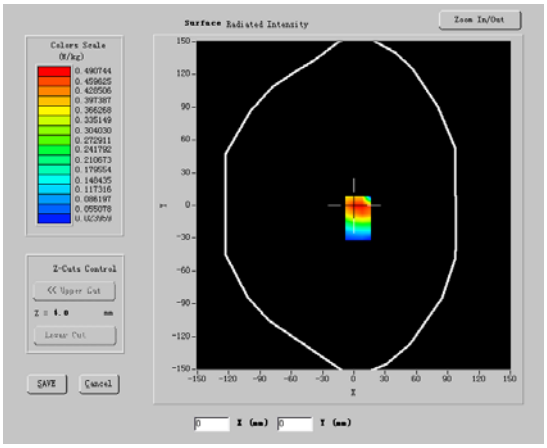
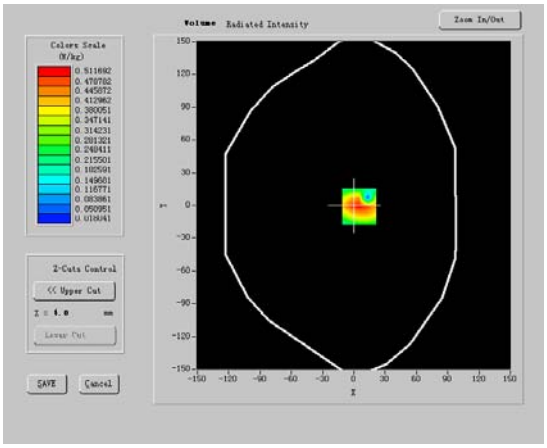
Phantom File	surf_sam_plan.txt, Adaptative 2 max
Phantom	Validation plane
Device Position	Body
Band	EDGE1900
Channels	Middle
Signal	Custom (Crest factor: 2)

B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)
Network Emulator	AGILENT 8960
Voltmeter	Keithley (2000, SN:1015843)
Synthetizer	Agilent (E8257C, SN:MY43321570)
Amplifier	Mini-Circuits (ZHL-42, SN:110405)
Power Meter	Agilent (E4416A, SN:QB41292714)
Probe	Antennessa (SN:SN_0807_EP_74)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

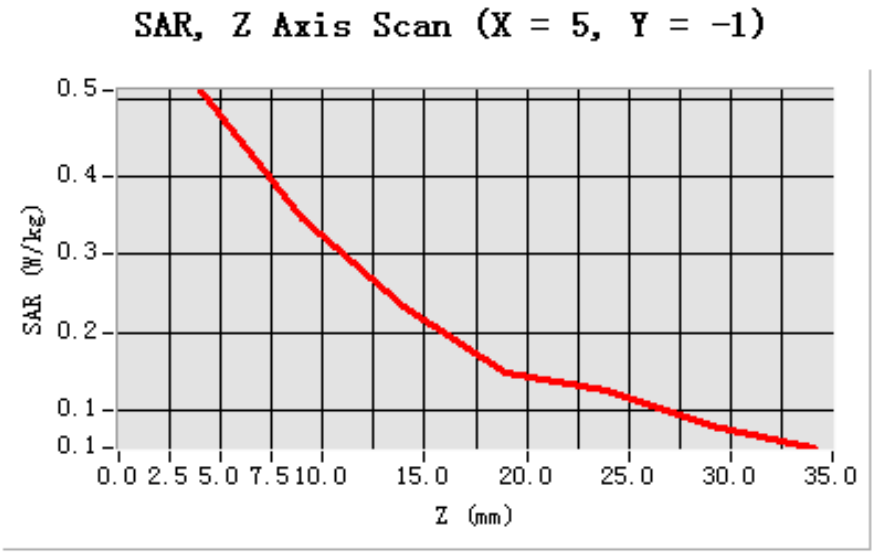
Frequency (MHz)	1880.000000
Relative permitivity (real part)	53.219001
Relative permitivity (imaginary part)	13.921000
Conductivity (S/m)	1.502467
Variation (%)	14.590000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=5.00, Y=-1.00

SAR 10g (W/Kg)	0.282642
SAR 1g (W/Kg)	0.472526

Z Axis Scan


SAR, Z Axis Scan (X = 5, Y = -1)
SAR (W/kg)
0.5
0.4
0.3
0.2
0.1
0.1
0.0 2.5 5.0 7.5 10.0 15.0 20.0 25.0 30.0 35.0
Z (mm)

EDGE configuration 1

Type: Phone measurement (Complete)

Date of measurement: 30/10/2008

Measurement duration: 6 minutes 17 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

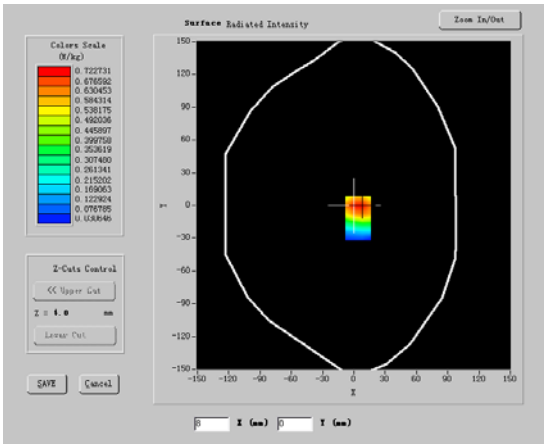
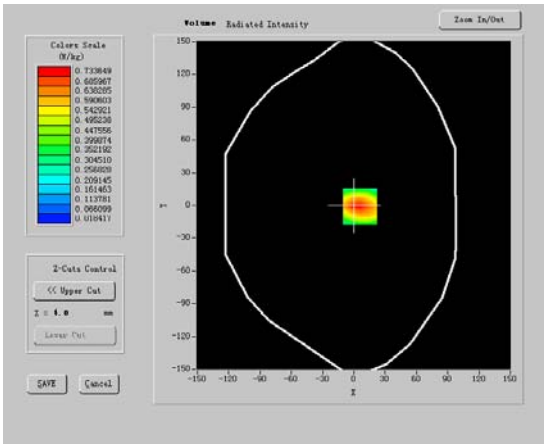
Phantom File	surf_sam_plan.txt, Adaptative 2 max
Phantom	Validation plane
Device Position	Body
Band	EDGE1900
Channels	High
Signal	Custom (Crest factor: 2)

B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)
Network Emulator	AGILENT 8960
Voltmeter	Keithley (2000, SN:1015843)
Synthetizer	Agilent (E8257C, SN:MY43321570)
Amplifier	Mini-Circuits (ZHL-42, SN:110405)
Power Meter	Agilent (E4416A, SN:QB41292714)
Probe	Antennessa (SN:SN_0807_EP_74)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

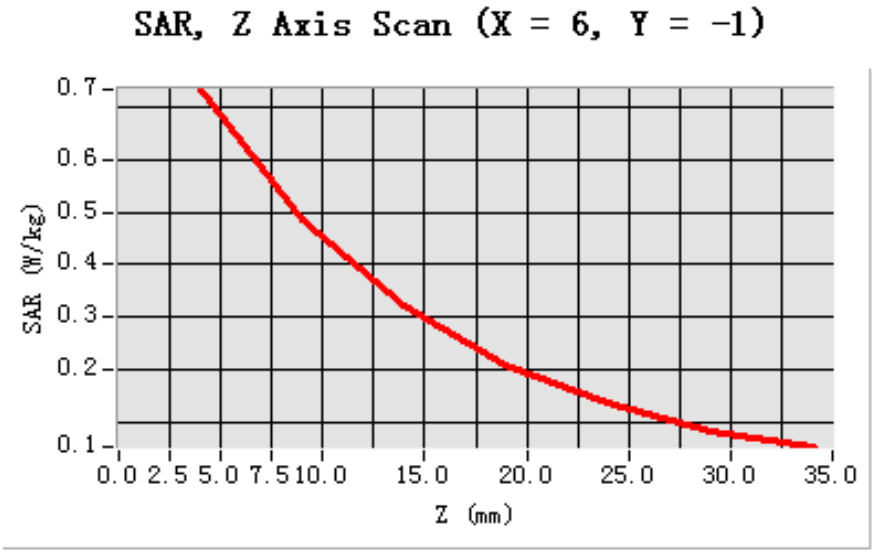
Frequency (MHz)	1909.799976
Relative permitivity (real part)	53.285999
Relative permitivity (imaginary part)	13.669900
Conductivity (S/m)	1.520225
Variation (%)	0.630000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=6.00, Y=-1.00

SAR 10g (W/Kg)	0.426972
SAR 1g (W/Kg)	0.695557

Z Axis Scan


SAR, Z Axis Scan (X = 6, Y = -1)
SAR (W/kg)
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0 2.5 5.0 7.5 10.0 15.0 20.0 25.0 30.0 35.0
Z (mm)

EDGE configuration 2

Type: Phone measurement (Complete)

Date of measurement: 30/10/2008

Measurement duration: 6 minutes 24 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

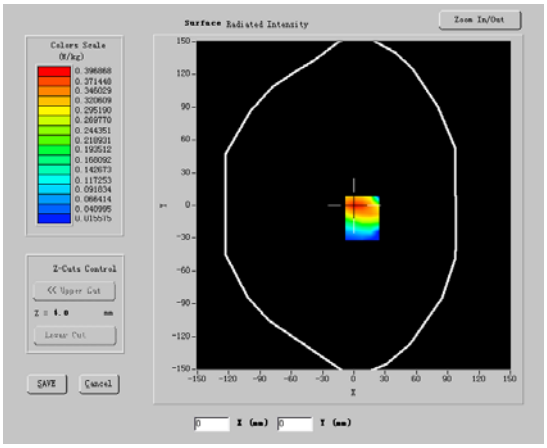
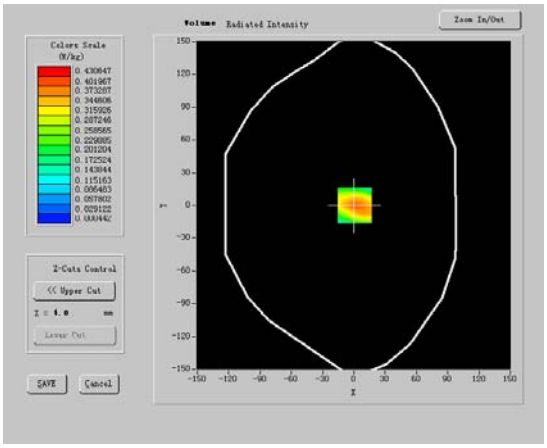
Phantom File	surf_sam_plan.txt, Adaptative 2 max
Phantom	Validation plane
Device Position	Body
Band	EDGE1900
Channels	Low
Signal	Custom (Crest factor: 2)

B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)
Network Emulator	AGILENT 8960
Voltmeter	Keithley (2000, SN:1015843)
Synthetizer	Agilent (E8257C, SN:MY43321570)
Amplifier	Mini-Circuits (ZHL-42, SN:110405)
Power Meter	Agilent (E4416A, SN:QB41292714)
Probe	Antennessa (SN:SN_0807_EP_74)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

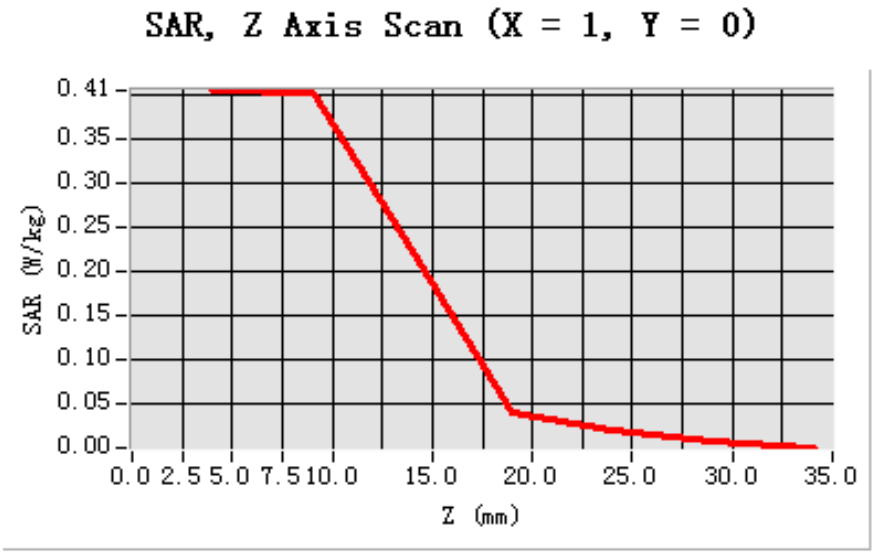
Frequency (MHz)	1850.200024
Relative permitivity (real part)	53.313000
Relative permitivity (imaginary part)	13.584900
Conductivity (S/m)	1.526528
Variation (%)	-1.850006

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=1.00, Y=0.00

SAR 10g (W/Kg)	0.230114
SAR 1g (W/Kg)	0.304134

Z Axis Scan


SAR, Z Axis Scan (X = 1, Y = 0)
SAR (W/kg)
0.41
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
0.0 2.5 5.0 7.5 10.0 15.0 20.0 25.0 30.0 35.0
Z (mm)

EDGE configuration 2

Type: Phone measurement (Complete)

Date of measurement: 30/10/2008

Measurement duration: 6 minutes 22 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

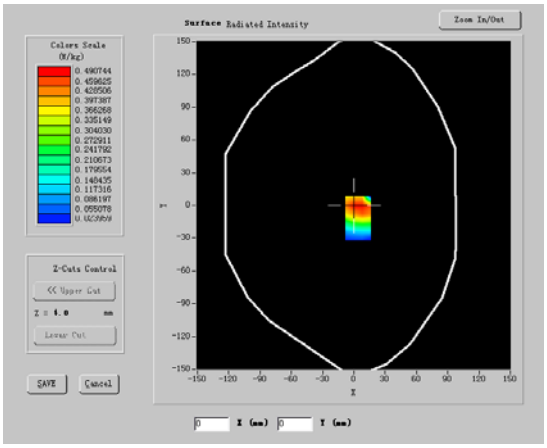
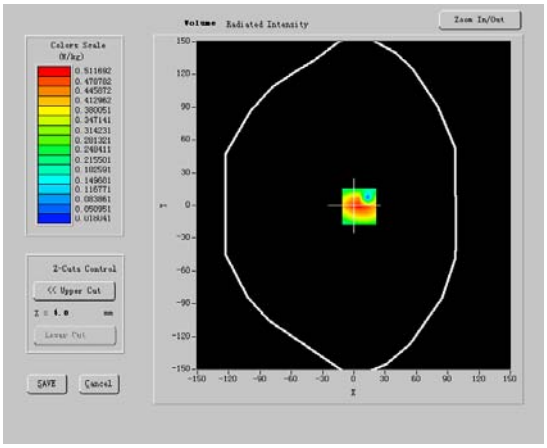
Phantom File	surf_sam_plan.txt, Adaptative 2 max
Phantom	Validation plane
Device Position	Body
Band	EDGE1900
Channels	Middle
Signal	Custom (Crest factor: 2)

B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)
Network Emulator	AGILENT 8960
Voltmeter	Keithley (2000, SN:1015843)
Synthetizer	Agilent (E8257C, SN:MY43321570)
Amplifier	Mini-Circuits (ZHL-42, SN:110405)
Power Meter	Agilent (E4416A, SN:QB41292714)
Probe	Antennessa (SN:SN_0807_EP_74)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

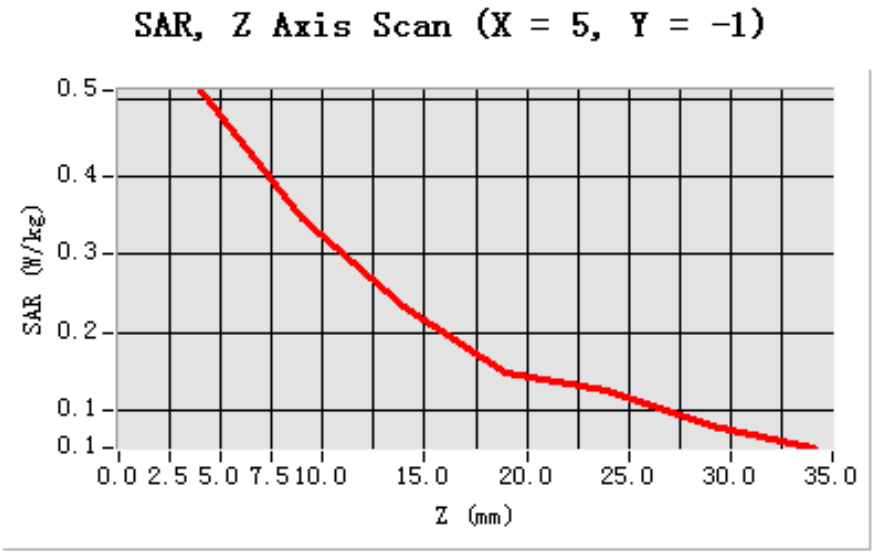
Frequency (MHz)	1880.000000
Relative permitivity (real part)	53.219001
Relative permitivity (imaginary part)	13.921000
Conductivity (S/m)	1.502467
Variation (%)	2.590000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=5.00, Y=-1.00

SAR 10g (W/Kg)	0.262142
SAR 1g (W/Kg)	0.454216

Z Axis Scan


SAR, Z Axis Scan (X = 5, Y = -1)
SAR (W/kg)
0.5
0.4
0.3
0.2
0.1
0.1
0.0 2.5 5.0 7.5 10.0 15.0 20.0 25.0 30.0 35.0
Z (mm)

EDGE configuration 2

Type: Phone measurement (Complete)

Date of measurement: 30/10/2008

Measurement duration: 6 minutes 17 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

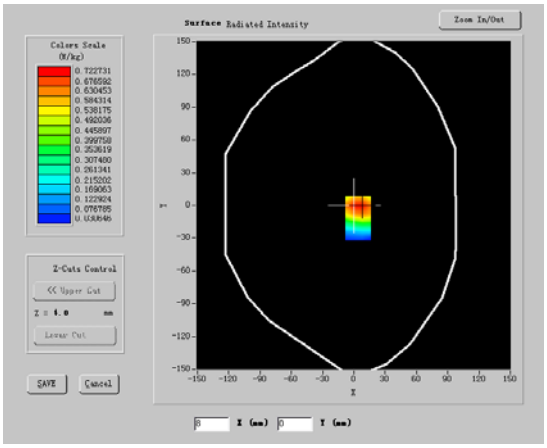
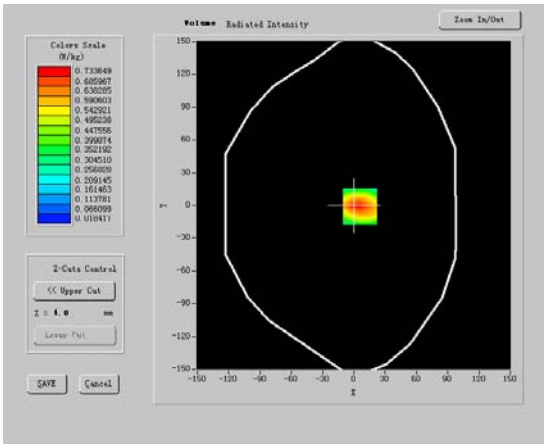
Phantom File	surf_sam_plan.txt, Adaptative 2 max
Phantom	Validation plane
Device Position	Body
Band	EDGE1900
Channels	High
Signal	Custom (Crest factor: 2)

B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)
Network Emulator	AGILENT 8960
Voltmeter	Keithley (2000, SN:1015843)
Synthetizer	Agilent (E8257C, SN:MY43321570)
Amplifier	Mini-Circuits (ZHL-42, SN:110405)
Power Meter	Agilent (E4416A, SN:QB41292714)
Probe	Antennessa (SN:SN_0807_EP_74)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

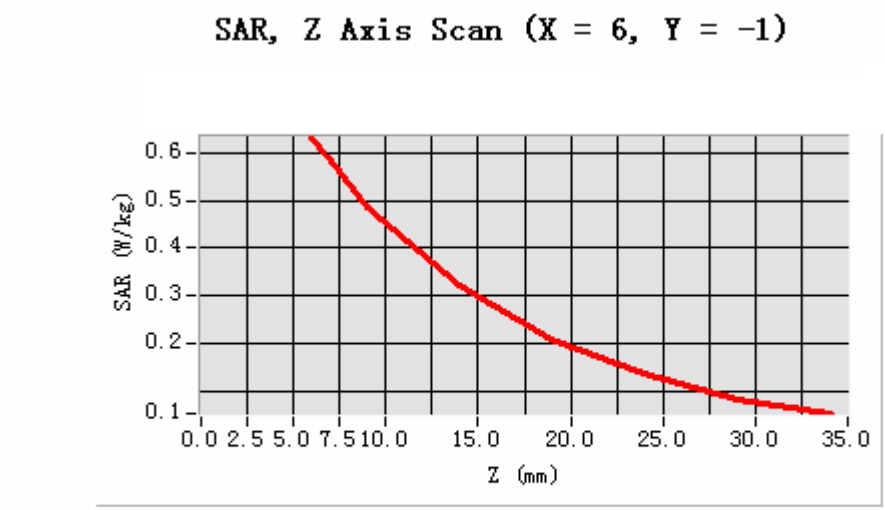
Frequency (MHz)	1909.799976
Relative permitivity (real part)	53.285999
Relative permitivity (imaginary part)	13.669900
Conductivity (S/m)	1.520225
Variation (%)	0.630000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=6.00, Y=-1.00

SAR 10g (W/Kg)	0.386172
SAR 1g (W/Kg)	0.615127

Z Axis Scan


SAR, Z Axis Scan (X = 6, Y = -1)
SAR (W/kg)
0.6
0.5
0.4
0.3
0.2
0.1
0.0 2.5 5.0 7.5 10.0 15.0 20.0 25.0 30.0 35.0
Z (mm)

EDGE configuration 3

Type: Phone measurement (Complete)

Date of measurement: 30/10/2008

Measurement duration: 6 minutes 41 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

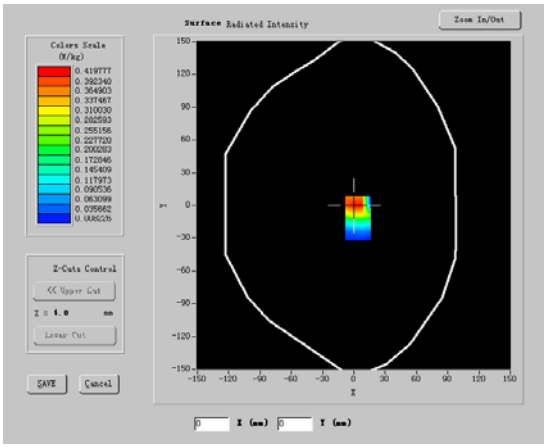
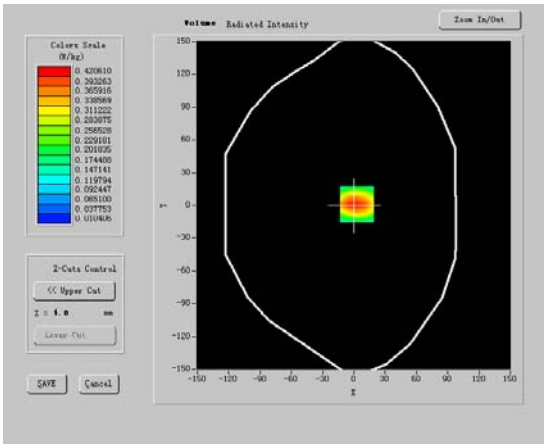
Phantom File	surf_sam_plan.txt, Adaptative 2 max
Phantom	Validation plane
Device Position	Body
Band	EDGE1900
Channels	Low
Signal	Custom (Crest factor: 2)

B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)
Network Emulator	AGILENT 8960
Voltmeter	Keithley (2000, SN:1015843)
Synthetizer	Agilent (E8257C, SN:MY43321570)
Amplifier	Mini-Circuits (ZHL-42, SN:110405)
Power Meter	Agilent (E4416A, SN:QB41292714)
Probe	Antennessa (SN:SN_0807_EP_74)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

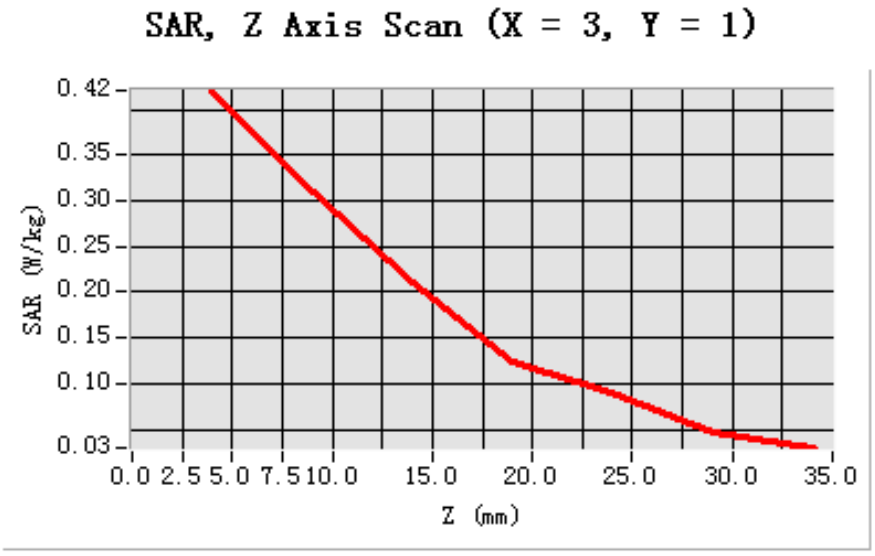
Frequency (MHz)	1850.200024
Relative permitivity (real part)	53.313000
Relative permitivity (imaginary part)	13.584900
Conductivity (S/m)	1.526528
Variation (%)	4.160000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=3.00, Y=1.00

SAR 10g (W/Kg)	0.245073
SAR 1g (W/Kg)	0.400639

Z Axis Scan


SAR, Z Axis Scan (X = 3, Y = 1)
SAR (W/kg)
0.42
0.35
0.30
0.25
0.20
0.15
0.10
0.03
0.0 2.5 5.0 7.5 10.0 15.0 20.0 25.0 30.0 35.0
Z (mm)

EDGE configuration 3

Type: Phone measurement (Complete)

Date of measurement: 30/10/2008

Measurement duration: 6 minutes 45 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

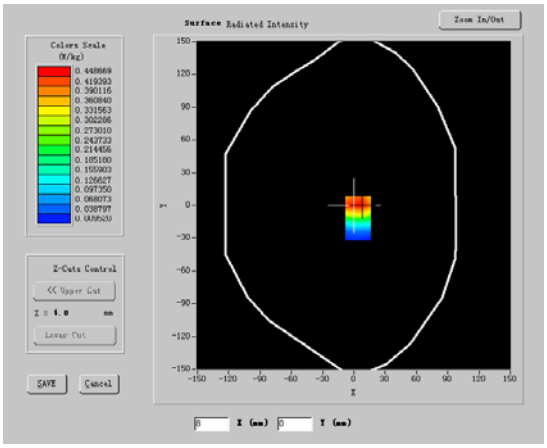
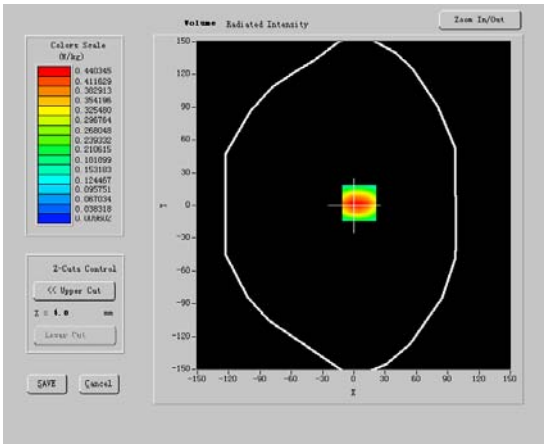
Phantom File	surf_sam_plan.txt, Adaptative 2 max
Phantom	Validation plane
Device Position	Body
Band	EDGE1900
Channels	Middle
Signal	Custom (Crest factor: 2)

B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)
Network Emulator	AGILENT 8960
Voltmeter	Keithley (2000, SN:1015843)
Synthetizer	Agilent (E8257C, SN:MY43321570)
Amplifier	Mini-Circuits (ZHL-42, SN:110405)
Power Meter	Agilent (E4416A, SN:QB41292714)
Probe	Antennessa (SN:SN_0807_EP_74)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

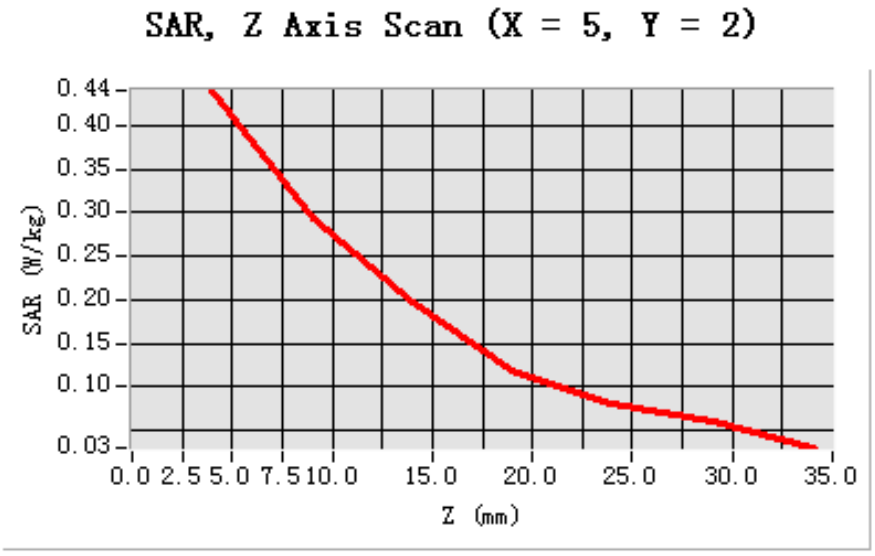
Frequency (MHz)	1880.000000
Relative permitivity (real part)	53.219001
Relative permitivity (imaginary part)	13.921000
Conductivity (S/m)	1.502467
Variation (%)	-0.250000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=5.00, Y=2.00

SAR 10g (W/Kg)	0.256070
SAR 1g (W/Kg)	0.419061

Z Axis Scan


SAR, Z Axis Scan (X = 5, Y = 2)
SAR (W/kg)
0.44
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.03
0.0 2.5 5.0 7.5 10.0 15.0 20.0 25.0 30.0 35.0
Z (mm)

EDGE configuration 3

Type: Phone measurement (Complete)

Date of measurement: 30/10/2008

Measurement duration: 6 minutes 42 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

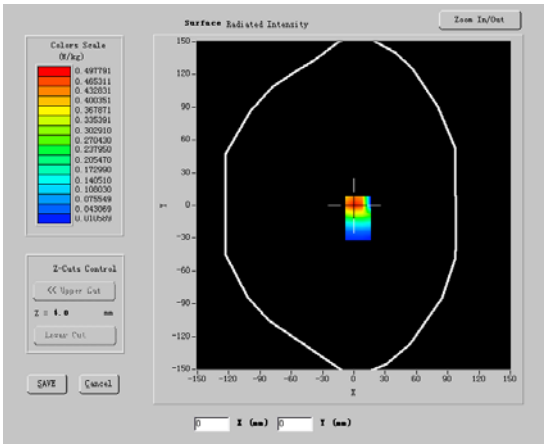
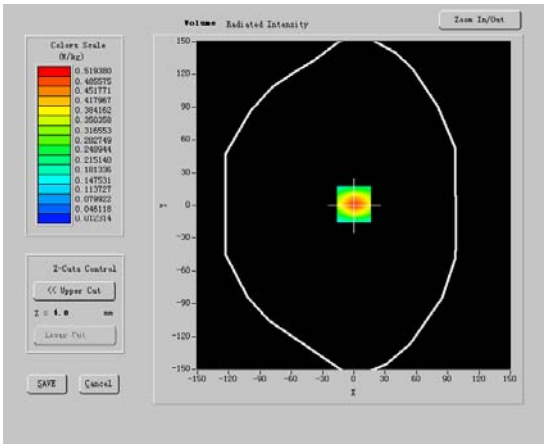
Phantom File	surf_sam_plan.txt, Adaptative 2 max
Phantom	Validation plane
Device Position	Body
Band	EDGE1900
Channels	High
Signal	Custom (Crest factor: 2)

B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)
Network Emulator	AGILENT 8960
Voltmeter	Keithley (2000, SN:1015843)
Synthetizer	Agilent (E8257C, SN:MY43321570)
Amplifier	Mini-Circuits (ZHL-42, SN:110405)
Power Meter	Agilent (E4416A, SN:QB41292714)
Probe	Antennessa (SN:SN_0807_EP_74)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

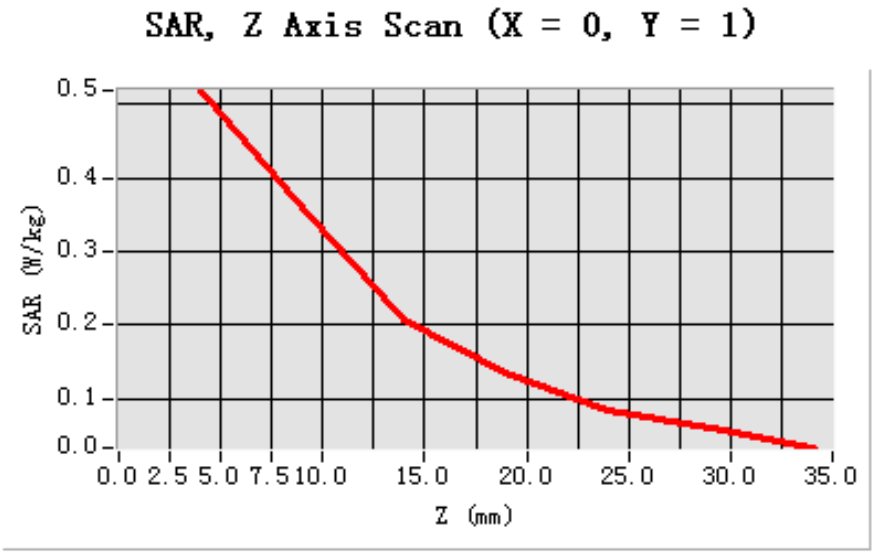
Frequency (MHz)	1909.799976
Relative permitivity (real part)	53.285999
Relative permitivity (imaginary part)	13.669900
Conductivity (S/m)	1.520225
Variation (%)	-1.280000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=0.00, Y=1.00

SAR 10g (W/Kg)	0.276007
SAR 1g (W/Kg)	0.472226

Z Axis Scan


SAR, Z Axis Scan (X = 0, Y = 1)
SAR (W/kg)
0.5
0.4
0.3
0.2
0.1
0.0
0.0 2.5 5.0 7.5 10.0 15.0 20.0 25.0 30.0 35.0
Z (mm)

EDGE configuration 4

Type: Phone measurement (Complete)

Date of measurement: 30/10/2008

Measurement duration: 6 minutes 26 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

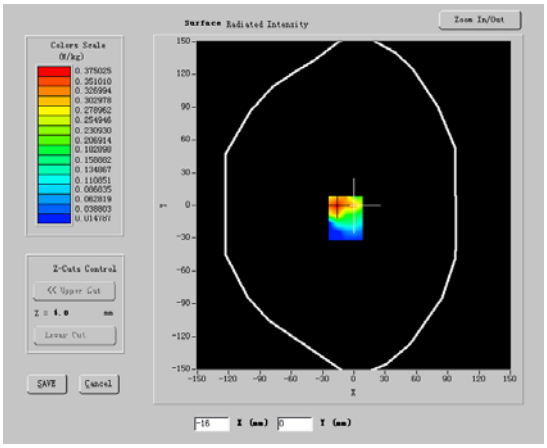
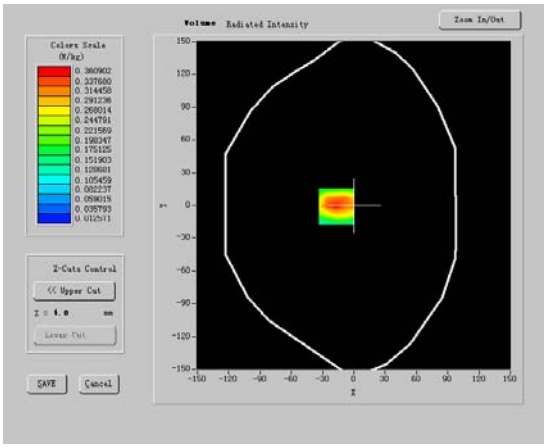
Phantom File	surf_sam_plan.txt, Adaptative 2 max
Phantom	Validation plane
Device Position	Body
Band	EDGE1900
Channels	Low
Signal	Custom (Crest factor: 2)

B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)
Network Emulator	AGILENT 8960
Voltmeter	Keithley (2000, SN:1015843)
Synthetizer	Agilent (E8257C, SN:MY43321570)
Amplifier	Mini-Circuits (ZHL-42, SN:110405)
Power Meter	Agilent (E4416A, SN:QB41292714)
Probe	Antennessa (SN:SN_0807_EP_74)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

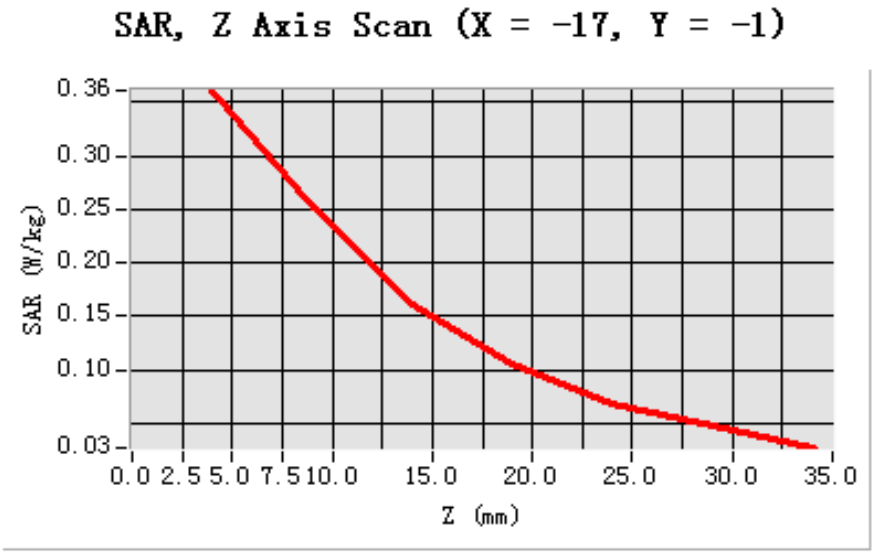
Frequency (MHz)	1850.200024
Relative permitivity (real part)	53.313000
Relative permitivity (imaginary part)	13.584900
Conductivity (S/m)	1.526528
Variation (%)	-2.720000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=-17.00, Y=-1.00

SAR 10g (W/Kg)	0.211942
SAR 1g (W/Kg)	0.339691

Z Axis Scan


SAR, Z Axis Scan (X = -17, Y = -1)
SAR (W/kg)
0.36
0.30
0.25
0.20
0.15
0.10
0.03
0.0 2.5 5.0 7.5 10.0 15.0 20.0 25.0 30.0 35.0
Z (mm)

EDGE configuration 4

Type: Phone measurement (Complete)

Date of measurement: 30/10/2008

Measurement duration: 6 minutes 49 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

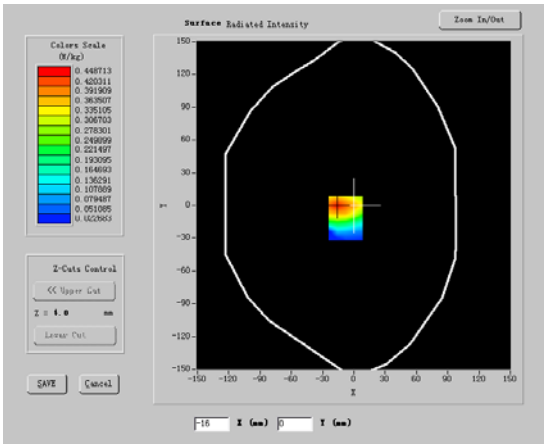
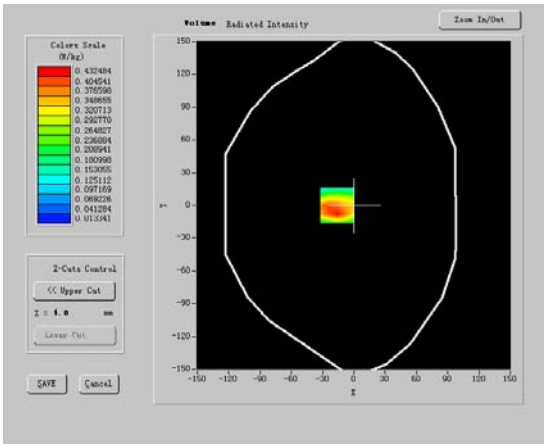
Phantom File	surf_sam_plan.txt, Adaptative 2 max
Phantom	Validation plane
Device Position	Body
Band	EDGE1900
Channels	Middle
Signal	Custom (Crest factor: 2)

B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)
Network Emulator	AGILENT 8960
Voltmeter	Keithley (2000, SN:1015843)
Synthetizer	Agilent (E8257C, SN:MY43321570)
Amplifier	Mini-Circuits (ZHL-42, SN:110405)
Power Meter	Agilent (E4416A, SN:QB41292714)
Probe	Antennessa (SN:SN_0807_EP_74)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa (Last Calibration:02/2006)

C. SAR Measurement Results

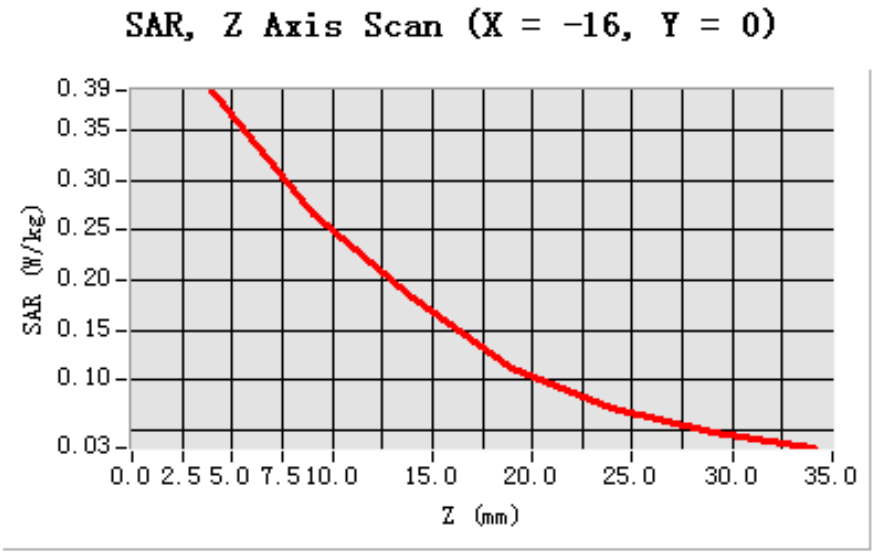
Frequency (MHz)	1880.000000
Relative permitivity (real part)	53.219001
Relative permitivity (imaginary part)	13.921000
Conductivity (S/m)	1.502467
Variation (%)	-4.530000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=-16.00, Y=0.00

SAR 10g (W/Kg)	0.250587
SAR 1g (W/Kg)	0.465380

Z Axis Scan


SAR, Z Axis Scan (X = -16, Y = 0)
SAR (W/kg)
0.39
0.35
0.30
0.25
0.20
0.15
0.10
0.03
0.0 2.5 5.0 7.5 10.0 15.0 20.0 25.0 30.0 35.0
Z (mm)

EDGE configuration 4

Type: Phone measurement (Complete)

Date of measurement: 30/10/2008

Measurement duration: 6 minutes 52 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

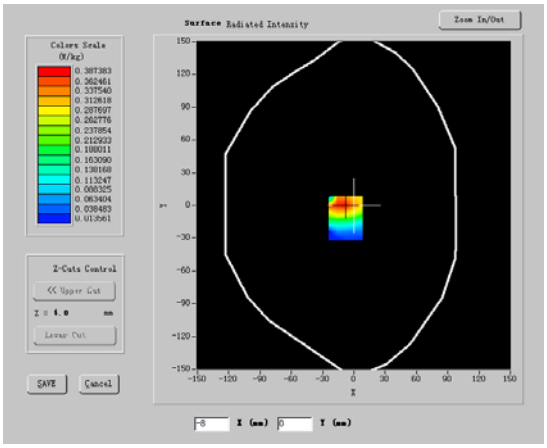
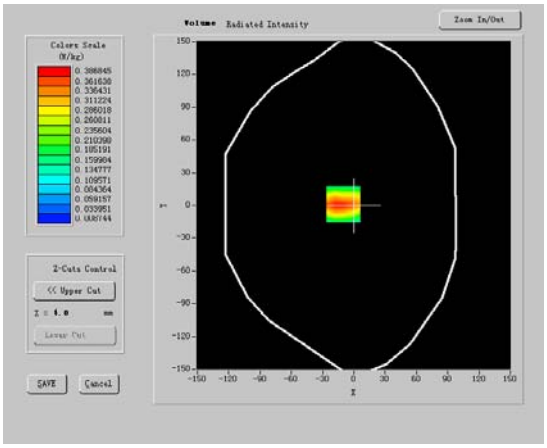
Phantom File	surf_sam_plan.txt, Adaptative 2 max
Phantom	Validation plane
Device Position	Body
Band	EDGE1900
Channels	High
Signal	Custom (Crest factor: 2)

B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)
Network Emulator	AGILENT 8960
Voltmeter	Keithley (2000, SN:1015843)
Synthetizer	Agilent (E8257C, SN:MY43321570)
Amplifier	Mini-Circuits (ZHL-42, SN:110405)
Power Meter	Agilent (E4416A, SN:QB41292714)
Probe	Antennessa (SN:SN_0807_EP_74)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

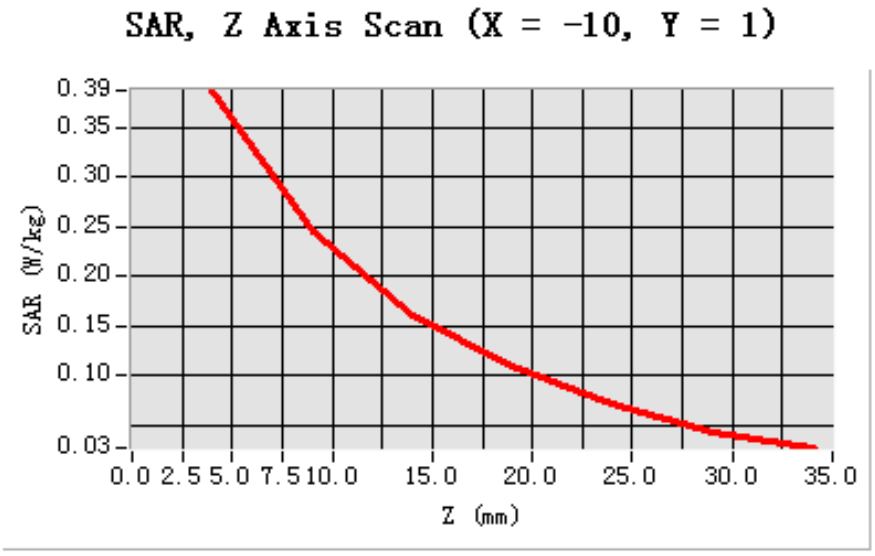
Frequency (MHz)	1909.799976
Relative permitivity (real part)	53.285999
Relative permitivity (imaginary part)	13.669900
Conductivity (S/m)	1.520225
Variation (%)	-3.970000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=-10.00, Y=1.00

SAR 10g (W/Kg)	0.222738
SAR 1g (W/Kg)	0.368008

Z Axis Scan


SAR, Z Axis Scan (X = -10, Y = 1)
SAR (W/kg)
0.39
0.35
0.30
0.25
0.20
0.15
0.10
0.03
0.0 2.5 5.0 7.5 10.0 15.0 20.0 25.0 30.0 35.0
Z (mm)