



SAR MEASUREMENT REPORT

Project name: SZ081223B01

For

Mobile Phone

Model: KT618

Prepared for

Cellstar I.L Ltd

16 Haadasha st., Haifa, Israel

	SAR MEASUREMENT REPORT
	Project name :
	SZ081223B01

I. INFORMATIONS ON THE TESTING

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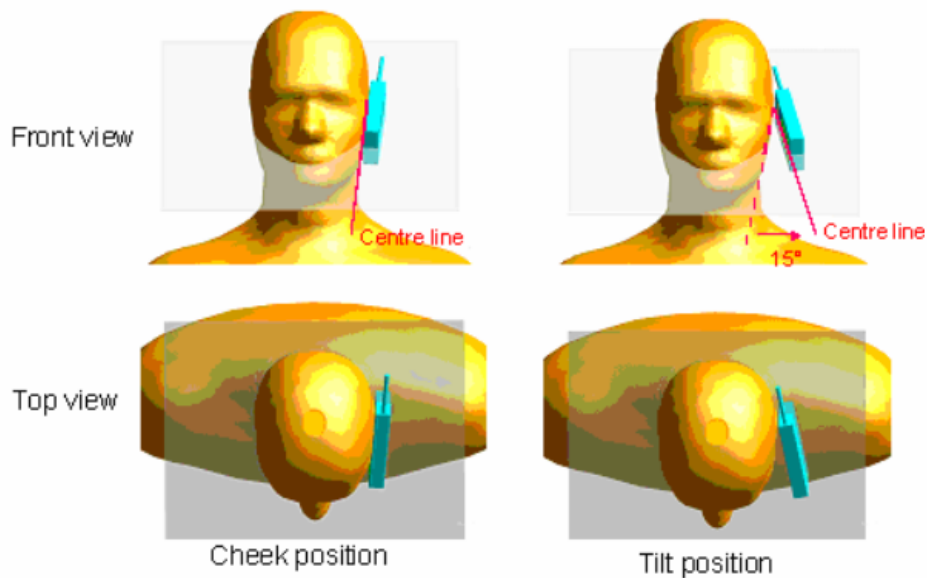
I.1. Normative reference

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

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- 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 surface 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

	<u>TYPE</u>	<u>PARAMETERS</u>
<u>GSM850</u>	<u>Noise</u>	--
	<u>Validation</u>	--
	<u>Phone</u>	<u>Measurement 1:</u> Right Head with Cheek device position on Low Channel in TDMA mode <u>Measurement 2:</u> Right Head with Cheek device position on Middle Channel in TDMA mode <u>Measurement 3:</u> Right Head with Cheek device position on High Channel in TDMA mode <u>Measurement 4:</u> Right Head with Tilt device position on Low Channel in TDMA mode <u>Measurement 5:</u> Right Head with Tilt device position on Middle Channel in TDMA mode <u>Measurement 6:</u> Right Head with Tilt device position on High Channel in TDMA mode <u>Measurement 7:</u> Left Head with Cheek device position on Low Channel in TDMA mode <u>Measurement 8:</u> Left Head with Cheek device position on Middle Channel in TDMA mode <u>Measurement 9:</u> Left Head with Cheek device position on High Channel in TDMA mode <u>Measurement 10:</u> Left Head with Tilt device position on Low Channel in TDMA mode <u>Measurement 11:</u> Left Head with Tilt device position on Middle Channel in TDMA mode <u>Measurement 12:</u> Left Head with Tilt device position on High Channel in TDMA mode <u>Measurement 13:</u> Validation Plane with Body device position on Low Channel in TDMA mode <u>Measurement 14:</u> Validation Plane with Body device position on Middle Channel in TDMA mode <u>Measurement 15:</u> Validation Plane with Body device position on High Channel in TDMA mode

<u>GSM900</u>	<u>Noise</u>	--
	<u>Validation</u>	--
	<u>Phone</u>	--
<u>GSM1800</u>	<u>Noise</u>	--
	<u>Validation</u>	--
	<u>Phone</u>	--
<u>GSM1900</u>	<u>Noise</u>	--
	<u>Validation</u>	--
	<u>Phone</u>	--
<u>IMT2000</u>	<u>Noise</u>	--
	<u>Validation</u>	--
	<u>Phone</u>	--
<u>CUSTOM</u>	<u>Noise</u>	--
	<u>Validation</u>	--
	<u>Phone</u>	--

MEASUREMENT 1

SZ081223B01 R C

Type: Phone measurement (Complete)

Date of measurement: 12/3/2008

Measurement duration: 19 minutes 44 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

Phantom File	zinf15.txt, Adaptive 2 max
Phantom	Right head
Device Position	Cheek
Band	GSM850
Channels	Low
Signal	TDMA

B. Instrumentations.

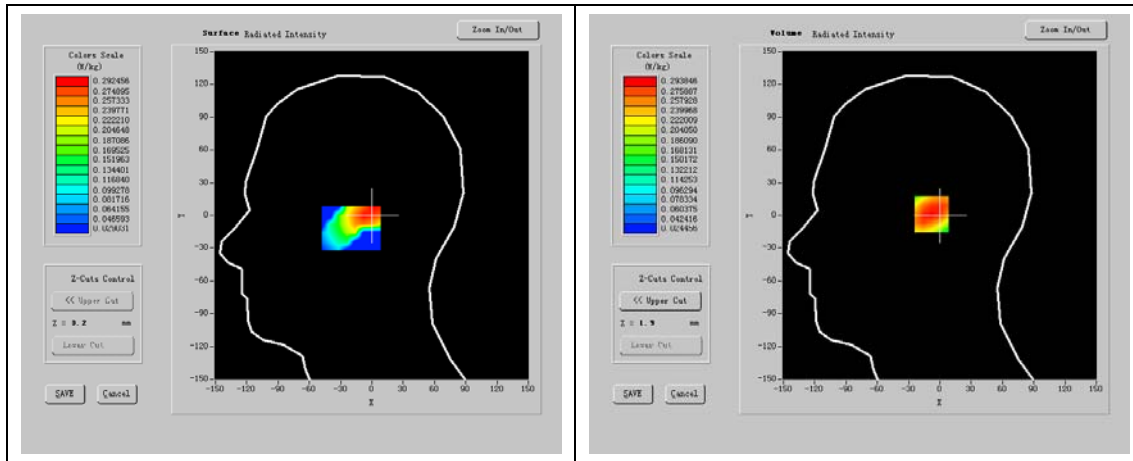
PC	HP (Pentium(R) V 3.06GHz375052-AA1, SN:375052-AA1)
Network Emulator	Agilent (E5071B, SN:B23-03291)
Voltmeter	Keithley (2000, SN:1015843)
Synthesizer	Agilent (E8257C, SN:MY43321570)
Amplifier	Mini-Circuits (ZHL-42, SN:110405)
Power Meter	Agilent (E4416A, SN:QB41292714)
Probe	Antennessa (SN:SN_1205_EP_45)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa (Last Calibration:02/2008)

C. SAR Measurement Results

Lower Band SAR:

Frequency (MHz)	824.200012
Relative permittivity (real part)	41.466999
Relative permittivity (imaginary part)	19.511101
Conductivity (S/m)	0.893392
Variation (%)	-1.680000

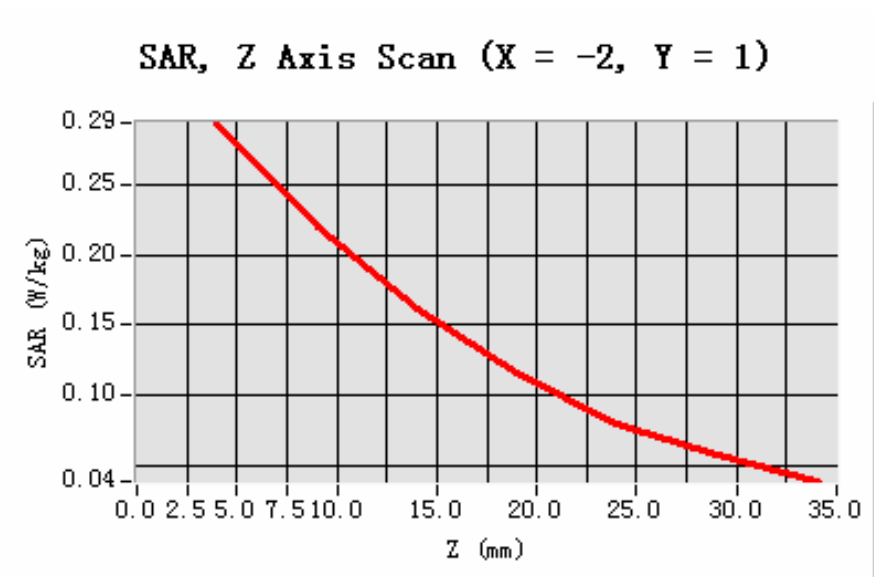
SURFACE SAR	VOLUME SAR
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Maximum location: X=-2.00, Y=1.00

SAR 10g (W/Kg)	0.197071
SAR 1g (W/Kg)	0.282900

Z Axis Scan



MEASUREMENT 2

SZ081223B01 R C

Type: Phone measurement (Complete)

Date of measurement: 12/3/2008

Measurement duration: 19 minutes 44 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

Phantom File	zinf15.txt, Adaptive 2 max
Phantom	Right head
Device Position	Cheek
Band	GSM850
Channels	Middle
Signal	TDMA

B. Instrumentations.

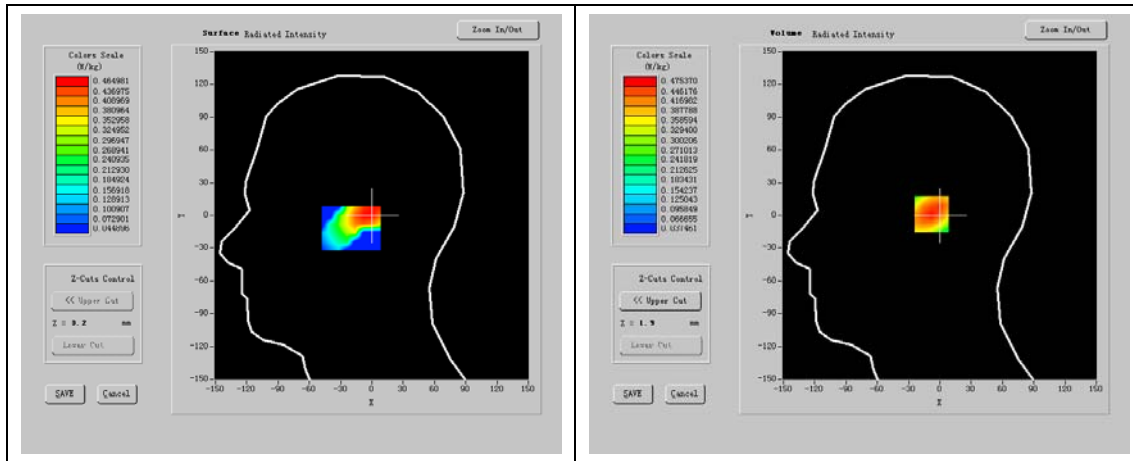
PC	HP (Pentium(R) V 3.06GHz375052-AA1, SN:375052-AA1)
Network Emulator	Agilent (E5071B, SN:B23-03291)
Voltmeter	Keithley (2000, SN:1015843)
Synthetizer	Agilent (E8257C, SN:MY43321570)
Amplifier	Mini-Circuits (ZHL-42, SN:110405)
Power Meter	Agilent (E4416A, SN:QB41292714)
Probe	Antennessa (SN:SN_1205_EP_45)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa (Last Calibration:02/2008)

C. SAR Measurement Results

Middle Band SAR:

Frequency (MHz)	836.400024
Relative permittivity (real part)	41.466999
Relative permittivity (imaginary part)	19.511101
Conductivity (S/m)	0.906616
Variation (%)	-1.680000

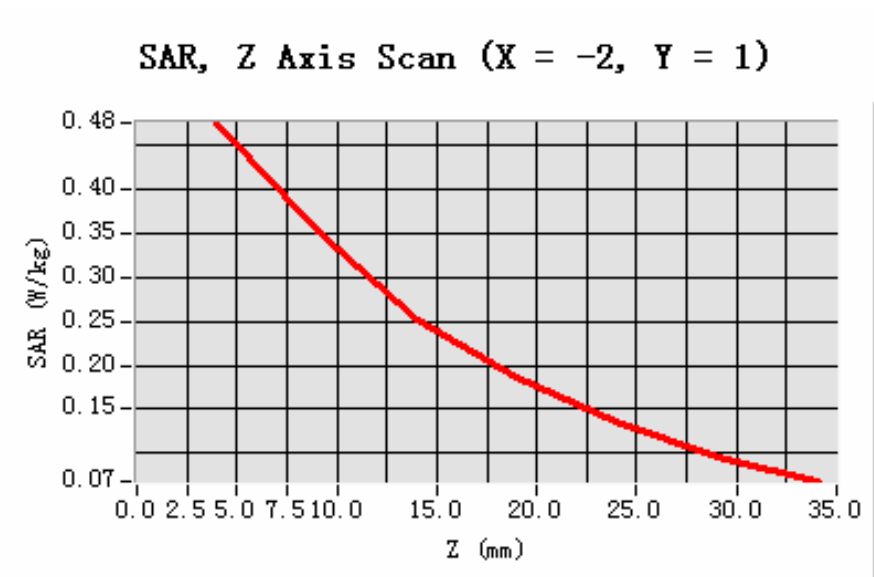
SURFACE SAR	VOLUME SAR
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Maximum location: X=-2.00, Y=1.00

SAR 10g (W/Kg)	0.312315
SAR 1g (W/Kg)	0.453785

Z Axis Scan



MEASUREMENT 3

SZ081223B01 R C

Type: Phone measurement (Complete)

Date of measurement: 12/3/2008

Measurement duration: 19 minutes 44 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

Phantom File	zinf15.txt, Adaptive 2 max
Phantom	Right head
Device Position	Cheek
Band	GSM850
Channels	High
Signal	TDMA

B. Instrumentations.

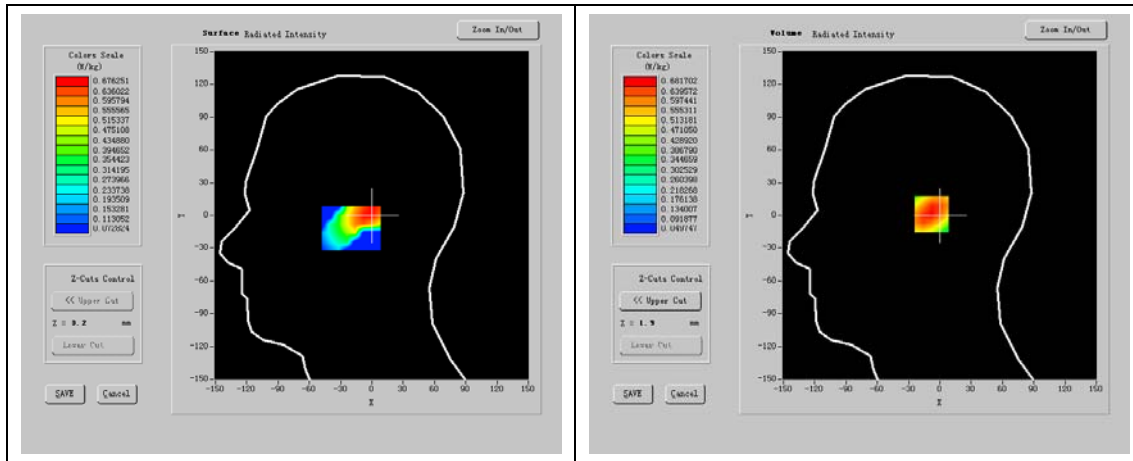
PC	HP (Pentium(R) V 3.06GHz375052-AA1, SN:375052-AA1)
Network Emulator	Agilent (E5071B, SN:B23-03291)
Voltmeter	Keithley (2000, SN:1015843)
Synthetizer	Agilent (E8257C, SN:MY43321570)
Amplifier	Mini-Circuits (ZHL-42, SN:110405)
Power Meter	Agilent (E4416A, SN:QB41292714)
Probe	Antennessa (SN:SN_1205_EP_45)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa (Last Calibration:02/2008)

C. SAR Measurement Results

Higher Band SAR:

Frequency (MHz)	848.599976
Relative permittivity (real part)	41.262001
Relative permittivity (imaginary part)	19.598249
Conductivity (S/m)	0.923949
Variation (%)	-1.680000

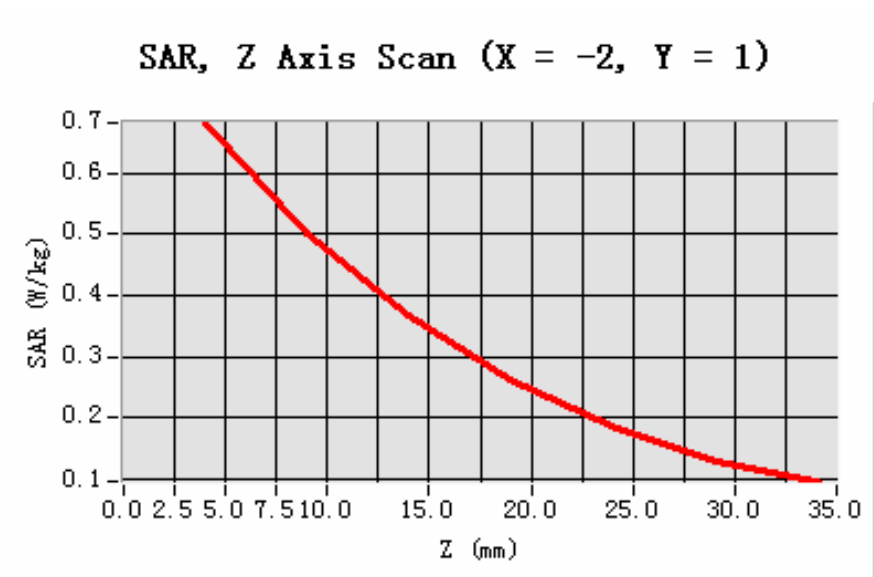
SURFACE SAR	VOLUME SAR
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Maximum location: X=-2.00, Y=1.00

SAR 10g (W/Kg)	0.452045
SAR 1g (W/Kg)	0.658797

Z Axis Scan



MEASUREMENT 4

SZ081223B01 R T

Type: Phone measurement (Complete)

Date of measurement: 12/3/2008

Measurement duration: 20 minutes 35 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

Phantom File	zinf15.txt, Adaptive 2 max
Phantom	Right hand
Device Position	Tilt
Band	GSM850
Channels	Low
Signal	TDMA

B. Instrumentations.

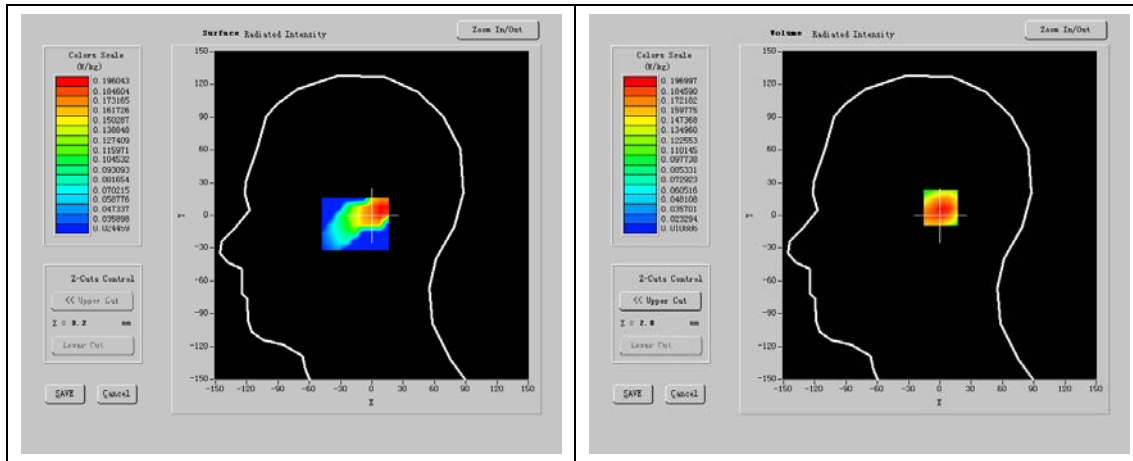
PC	HP (Pentium(R) V 3.06GHz375052-AA1, SN:375052-AA1)
Network Emulator	Agilent (E5071B, SN:B23-03291)
Voltmeter	Keithley (2000, SN:1015843)
Synthetizer	Agilent (E8257C, SN:MY43321570)
Amplifier	Mini-Circuits (ZHL-42, SN:110405)
Power Meter	Agilent (E4416A, SN:QB41292714)
Probe	Antennessa (SN:SN_1205_EP_45)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa (Last Calibration:02/2008)

C. SAR Measurement Results

Lower Band SAR:

Frequency (MHz)	824.200012
Relative permittivity (real part)	41.466999
Relative permittivity (imaginary part)	19.511101
Conductivity (S/m)	0.893392
Variation (%)	-2.410000

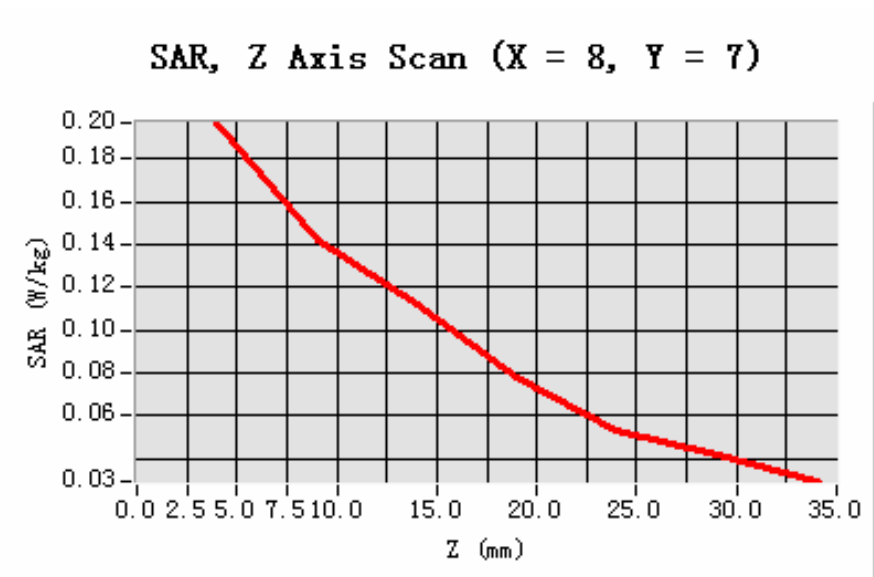
SURFACE SAR	VOLUME SAR
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Maximum location: X=8.00, Y=7.00

SAR 10g (W/Kg)	0.131991
SAR 1g (W/Kg)	0.190125

Z Axis Scan



MEASUREMENT 5

SZ081223B01 R T

Type: Phone measurement (Complete)

Date of measurement: 12/3/2008

Measurement duration: 20 minutes 35 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

Phantom File	zinf15.txt, Adaptive 2 max
Phantom	Right head
Device Position	Tilt
Band	GSM850
Channels	Middle
Signal	TDMA

B. Instrumentations.

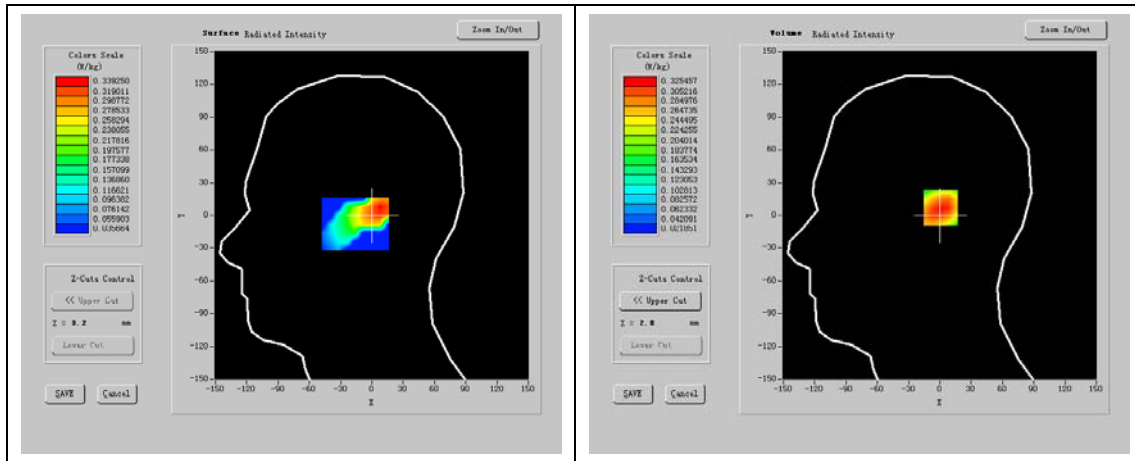
PC	HP (Pentium(R) V 3.06GHz375052-AA1, SN:375052-AA1)
Network Emulator	Agilent (E5071B, SN:B23-03291)
Voltmeter	Keithley (2000, SN:1015843)
Synthetizer	Agilent (E8257C, SN:MY43321570)
Amplifier	Mini-Circuits (ZHL-42, SN:110405)
Power Meter	Agilent (E4416A, SN:QB41292714)
Probe	Antennessa (SN:SN_1205_EP_45)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa (Last Calibration:02/2008)

C. SAR Measurement Results

Middle Band SAR:

Frequency (MHz)	836.400024
Relative permittivity (real part)	41.466999
Relative permittivity (imaginary part)	19.511101
Conductivity (S/m)	0.906616
Variation (%)	-2.410000

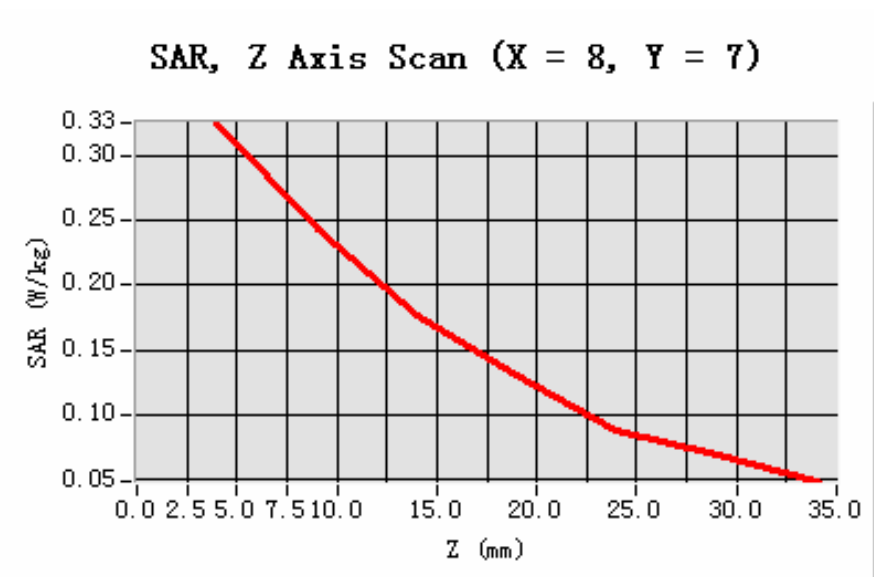
SURFACE SAR	VOLUME SAR
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Maximum location: X=8.00, Y=7.00

SAR 10g (W/Kg)	0.216645
SAR 1g (W/Kg)	0.312862

Z Axis Scan



MEASUREMENT 6

SZ081223B01 R T

Type: Phone measurement (Complete)

Date of measurement: 12/3/2008

Measurement duration: 20 minutes 35 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

Phantom File	zinf15.txt, Adaptive 2 max
Phantom	Right hand
Device Position	Tilt
Band	GSM850
Channels	High
Signal	TDMA

B. Instrumentations.

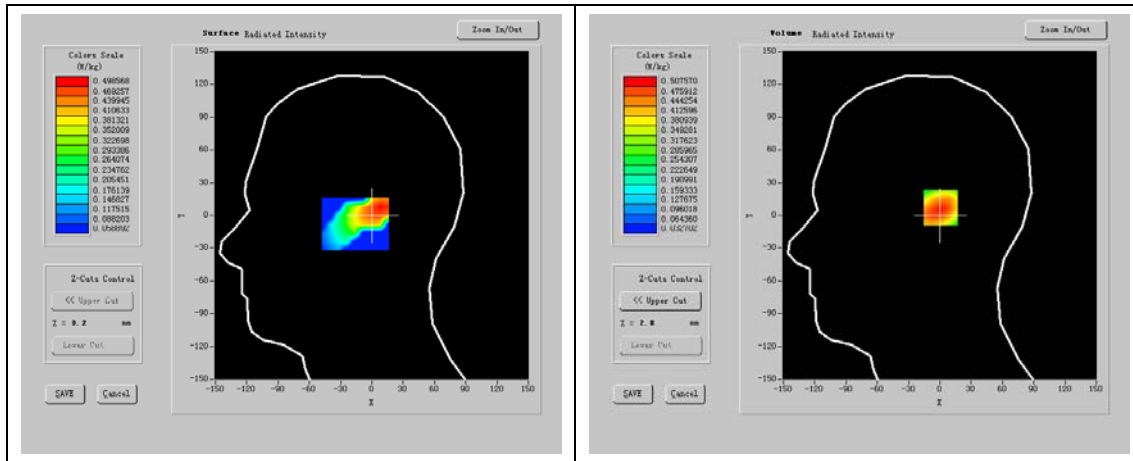
PC	HP (Pentium(R) V 3.06GHz375052-AA1, SN:375052-AA1)
Network Emulator	Agilent (E5071B, SN:B23-03291)
Voltmeter	Keithley (2000, SN:1015843)
Synthetizer	Agilent (E8257C, SN:MY43321570)
Amplifier	Mini-Circuits (ZHL-42, SN:110405)
Power Meter	Agilent (E4416A, SN:QB41292714)
Probe	Antennessa (SN:SN_1205_EP_45)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa (Last Calibration:02/2008)

C. SAR Measurement Results

Higher Band SAR:

Frequency (MHz)	848.599976
Relative permittivity (real part)	41.262001
Relative permittivity (imaginary part)	19.598249
Conductivity (S/m)	0.923949
Variation (%)	-2.410000

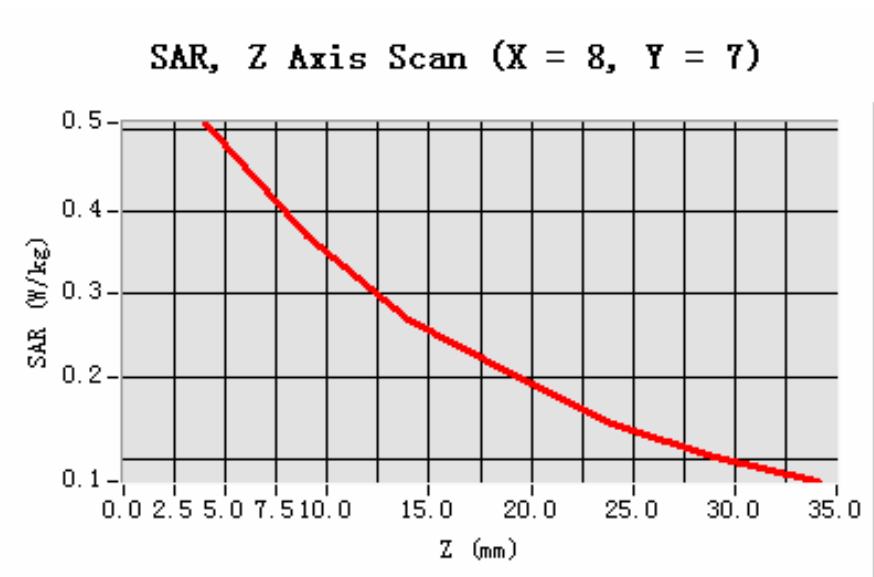
SURFACE SAR	VOLUME SAR
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Maximum location: X=8.00, Y=7.00

SAR 10g (W/Kg)	0.336880
SAR 1g (W/Kg)	0.488836

Z Axis Scan



MEASUREMENT 7

SZ081223B01 L C

Type: Phone measurement (Complete)

Date of measurement: 12/3/2008

Measurement duration: 20 minutes 7 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

Phantom File	zinf15.txt, Adaptive 2 max
Phantom	Left head
Device Position	Cheek
Band	GSM850
Channels	Low
Signal	TDMA

B. Instrumentations.

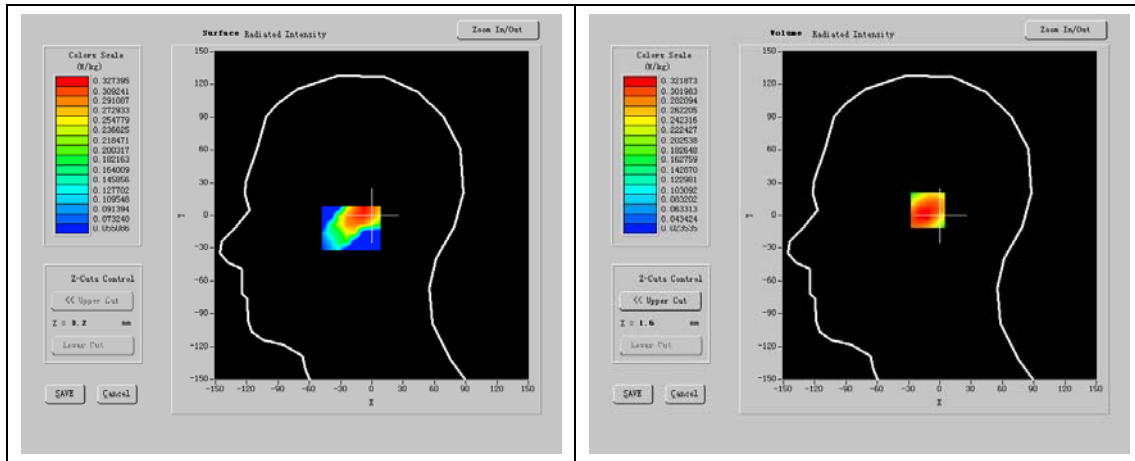
PC	HP (Pentium(R) V 3.06GHz375052-AA1, SN:375052-AA1)
Network Emulator	Agilent (E5071B, SN:B23-03291)
Voltmeter	Keithley (2000, SN:1015843)
Synthetizer	Agilent (E8257C, SN:MY43321570)
Amplifier	Mini-Circuits (ZHL-42, SN:110405)
Power Meter	Agilent (E4416A, SN:QB41292714)
Probe	Antennessa (SN:SN_1205_EP_45)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa (Last Calibration:02/2008)

C. SAR Measurement Results

Lower Band SAR:

Frequency (MHz)	824.200012
Relative permittivity (real part)	41.466999
Relative permittivity (imaginary part)	19.511101
Conductivity (S/m)	0.893392
Variation (%)	-0.280000

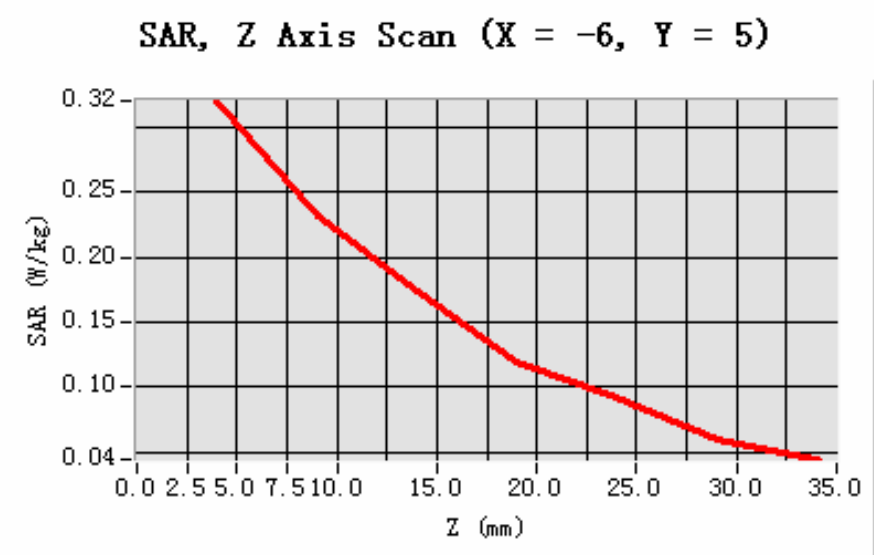
SURFACE SAR	VOLUME SAR
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Maximum location: X=-6.00, Y=5.00

SAR 10g (W/Kg)	0.220388
SAR 1g (W/Kg)	0.327913

Z Axis Scan



MEASUREMENT 8

SZ081223B01 L C

Type: Phone measurement (Complete)

Date of measurement: 12/3/2008

Measurement duration: 20 minutes 7 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

Phantom File	zinf15.txt, Adaptive 2 max
Phantom	Left head
Device Position	Cheek
Band	GSM850
Channels	Middle
Signal	TDMA

B. Instrumentations.

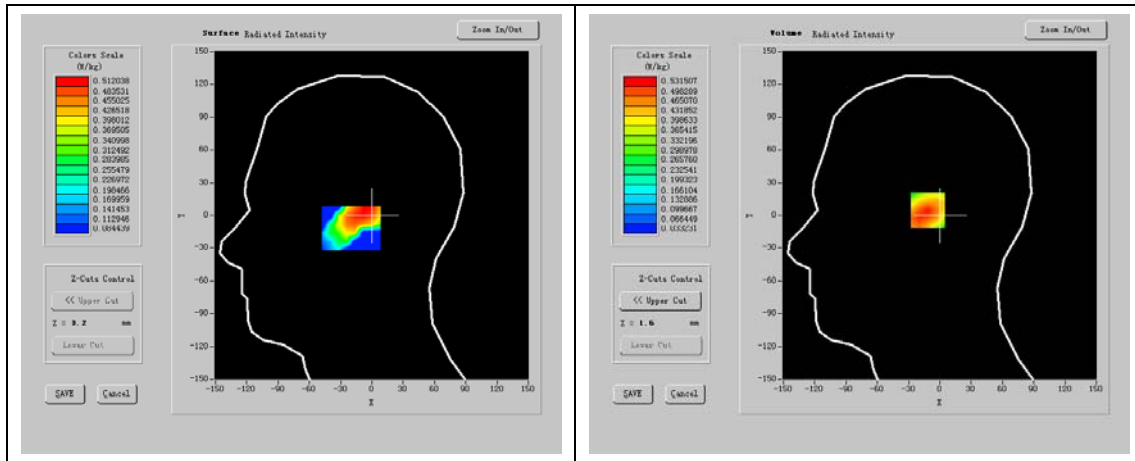
PC	HP (Pentium(R) V 3.06GHz375052-AA1, SN:375052-AA1)
Network Emulator	Agilent (E5071B, SN:B23-03291)
Voltmeter	Keithley (2000, SN:1015843)
Synthetizer	Agilent (E8257C, SN:MY43321570)
Amplifier	Mini-Circuits (ZHL-42, SN:110405)
Power Meter	Agilent (E4416A, SN:QB41292714)
Probe	Antennessa (SN:SN_1205_EP_45)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa (Last Calibration:02/2008)

C. SAR Measurement Results

Middle Band SAR:

Frequency (MHz)	836.400024
Relative permittivity (real part)	41.466999
Relative permittivity (imaginary part)	19.511101
Conductivity (S/m)	0.906616
Variation (%)	-0.280000

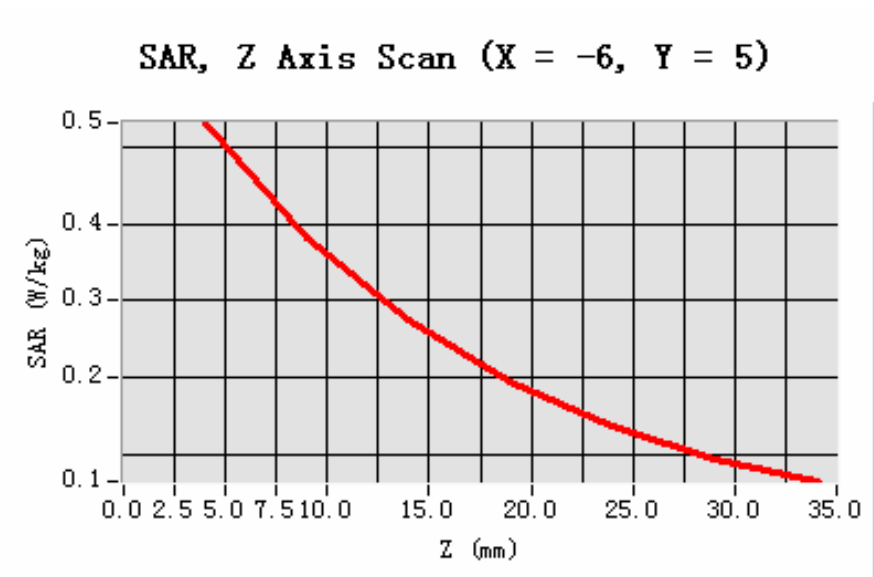
SURFACE SAR	VOLUME SAR
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Maximum location: X=-6.00, Y=5.00

SAR 10g (W/Kg)	0.344589
SAR 1g (W/Kg)	0.501341

Z Axis Scan



MEASUREMENT 9

SZ081223B01 L C

Type: Phone measurement (Complete)

Date of measurement: 12/3/2008

Measurement duration: 20 minutes 7 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

Phantom File	zinf15.txt, Adaptive 2 max
Phantom	Left head
Device Position	Cheek
Band	GSM850
Channels	High
Signal	TDMA

B. Instrumentations.

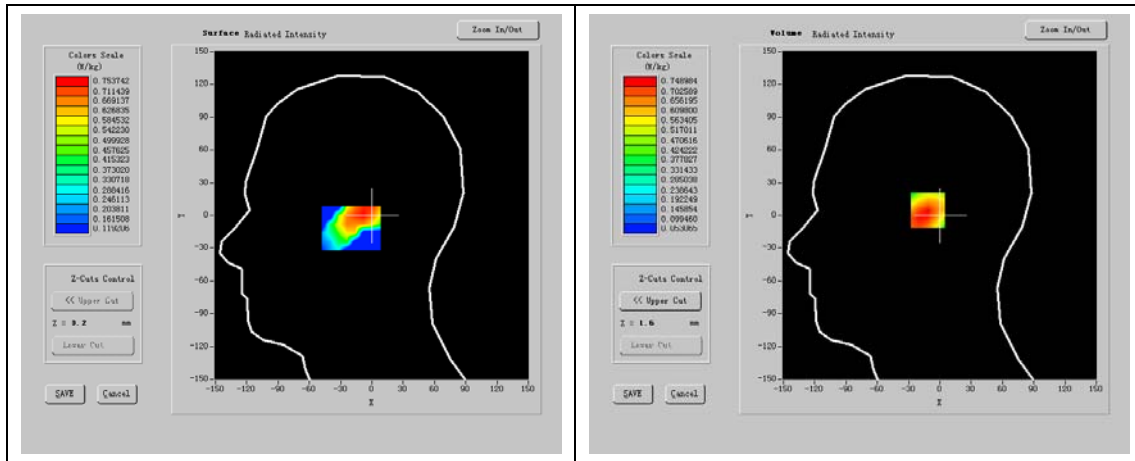
PC	HP (Pentium(R) V 3.06GHz375052-AA1, SN:375052-AA1)
Network Emulator	Agilent (E5071B, SN:B23-03291)
Voltmeter	Keithley (2000, SN:1015843)
Synthesizer	Agilent (E8257C, SN:MY43321570)
Amplifier	Mini-Circuits (ZHL-42, SN:110405)
Power Meter	Agilent (E4416A, SN:QB41292714)
Probe	Antennessa (SN:SN_1205_EP_45)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa (Last Calibration:02/2008)

C. SAR Measurement Results

Higher Band SAR:

Frequency (MHz)	848.599976
Relative permittivity (real part)	41.262001
Relative permittivity (imaginary part)	19.598249
Conductivity (S/m)	0.923949
Variation (%)	-0.280000

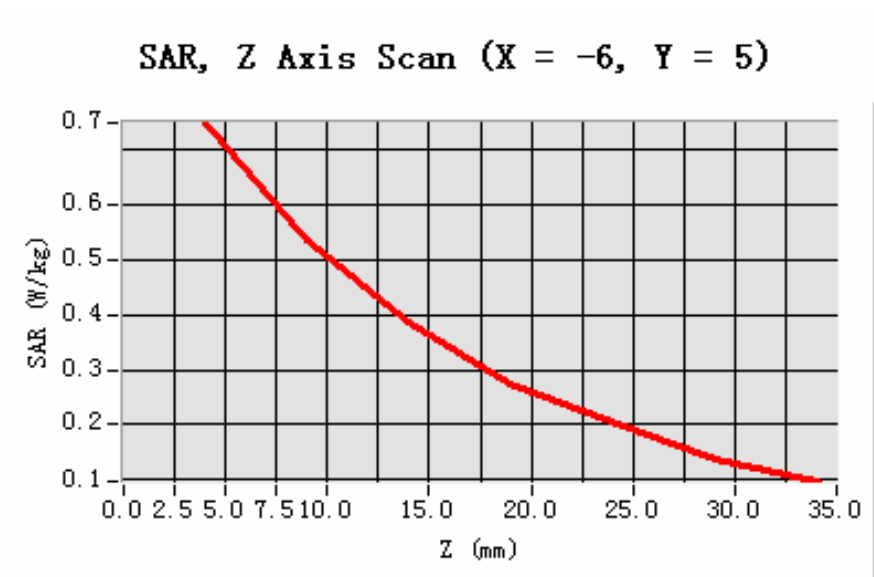
SURFACE SAR	VOLUME SAR
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Maximum location: X=-6.00, Y=5.00

SAR 10g (W/Kg)	0.497492
SAR 1g (W/Kg)	0.722522

Z Axis Scan



MEASUREMENT 10

SZ081223B01 L T

Type: Phone measurement (Complete)

Date of measurement: 12/3/2008

Measurement duration: 20 minutes 43 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

Phantom File	zinf15.txt, Adaptive 2 max
Phantom	Left head
Device Position	Tilt
Band	GSM850
Channels	Low
Signal	TDMA

B. Instrumentations.

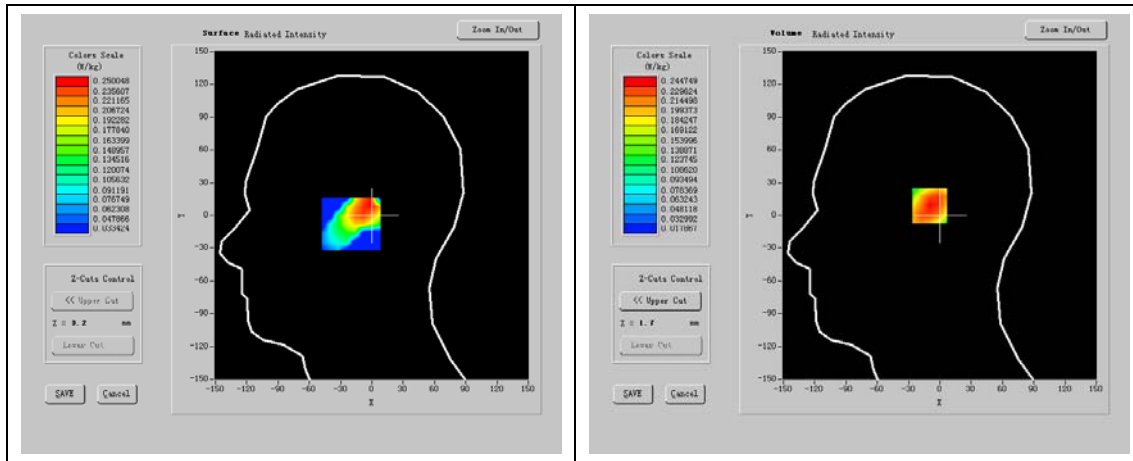
PC	HP (Pentium(R) V 3.06GHz375052-AA1, SN:375052-AA1)
Network Emulator	Agilent (E5071B, SN:B23-03291)
Voltmeter	Keithley (2000, SN:1015843)
Synthetizer	Agilent (E8257C, SN:MY43321570)
Amplifier	Mini-Circuits (ZHL-42, SN:110405)
Power Meter	Agilent (E4416A, SN:QB41292714)
Probe	Antennessa (SN:SN_1205_EP_45)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa (Last Calibration:02/2008)

C. SAR Measurement Results

Lower Band SAR:

Frequency (MHz)	824.200012
Relative permittivity (real part)	41.466999
Relative permittivity (imaginary part)	19.511101
Conductivity (S/m)	0.893392
Variation (%)	-2.940000

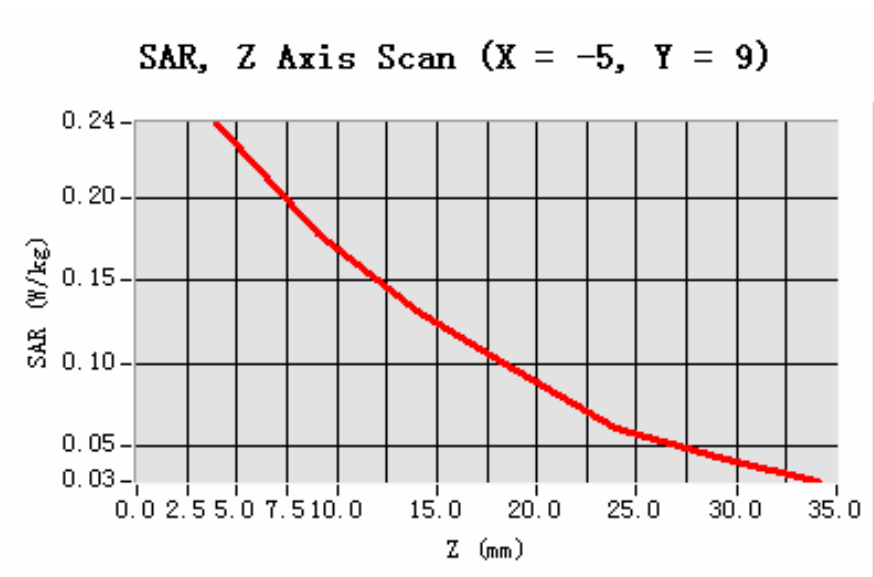
SURFACE SAR	VOLUME SAR
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Maximum location: X=-5.00, Y=9.00

SAR 10g (W/Kg)	0.161402
SAR 1g (W/Kg)	0.236171

Z Axis Scan



MEASUREMENT 11

SZ081223B01 L T

Type: Phone measurement (Complete)

Date of measurement: 12/3/2008

Measurement duration: 20 minutes 43 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

Phantom File	zinf15.txt, Adaptive 2 max
Phantom	Left head
Device Position	Tilt
Band	GSM850
Channels	Middle
Signal	TDMA

B. Instrumentations.

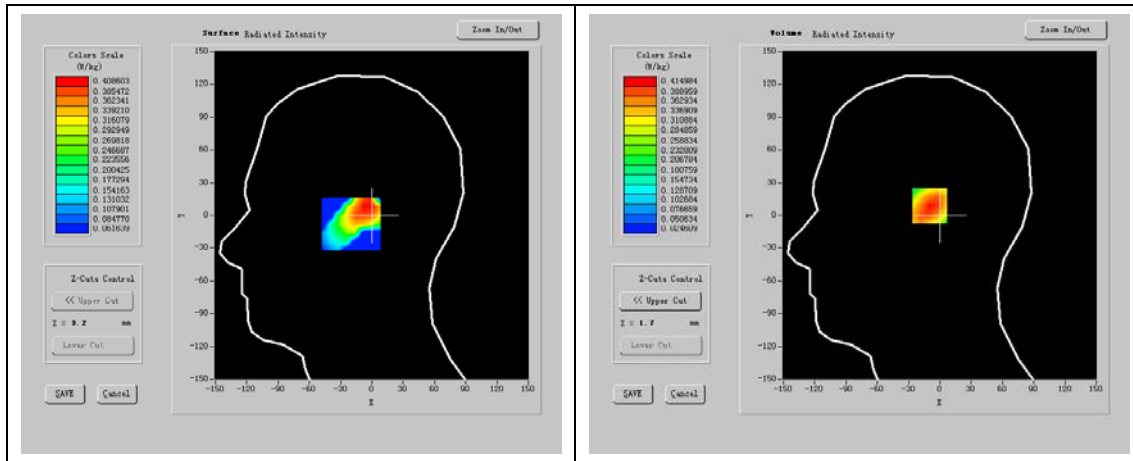
PC	HP (Pentium(R) V 3.06GHz375052-AA1, SN:375052-AA1)
Network Emulator	Agilent (E5071B, SN:B23-03291)
Voltmeter	Keithley (2000, SN:1015843)
Synthesizer	Agilent (E8257C, SN:MY43321570)
Amplifier	Mini-Circuits (ZHL-42, SN:110405)
Power Meter	Agilent (E4416A, SN:QB41292714)
Probe	Antennessa (SN:SN_1205_EP_45)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa (Last Calibration:02/2008)

C. SAR Measurement Results

Middle Band SAR:

Frequency (MHz)	836.400024
Relative permittivity (real part)	41.466999
Relative permittivity (imaginary part)	19.511101
Conductivity (S/m)	0.906616
Variation (%)	-2.940000

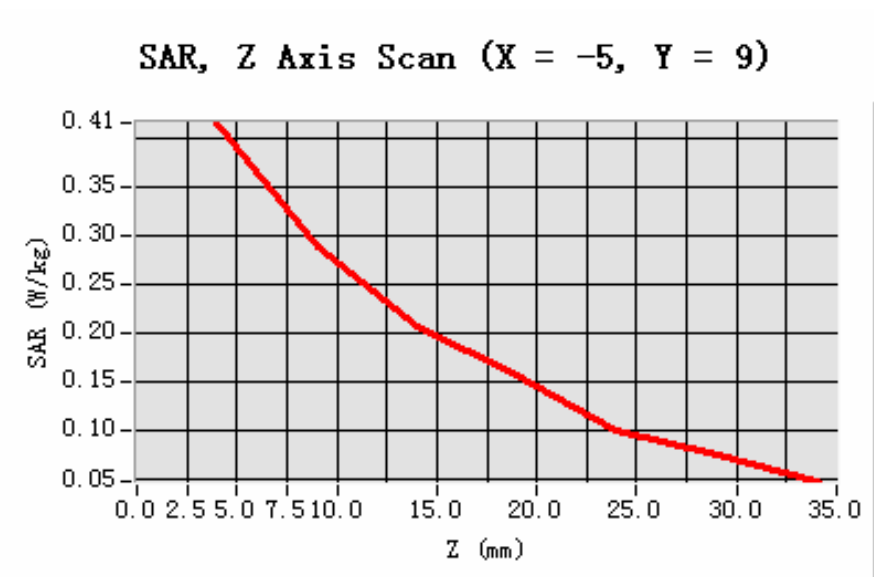
SURFACE SAR	VOLUME SAR
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Maximum location: X=-5.00, Y=9.00

SAR 10g (W/Kg)	0.270529
SAR 1g (W/Kg)	0.401238

Z Axis Scan



MEASUREMENT 12

SZ081223B01 L T

Type: Phone measurement (Complete)

Date of measurement: 12/3/2008

Measurement duration: 20 minutes 43 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

Phantom File	zinf15.txt, Adaptive 2 max
Phantom	Left head
Device Position	Tilt
Band	GSM850
Channels	High
Signal	TDMA

B. Instrumentations.

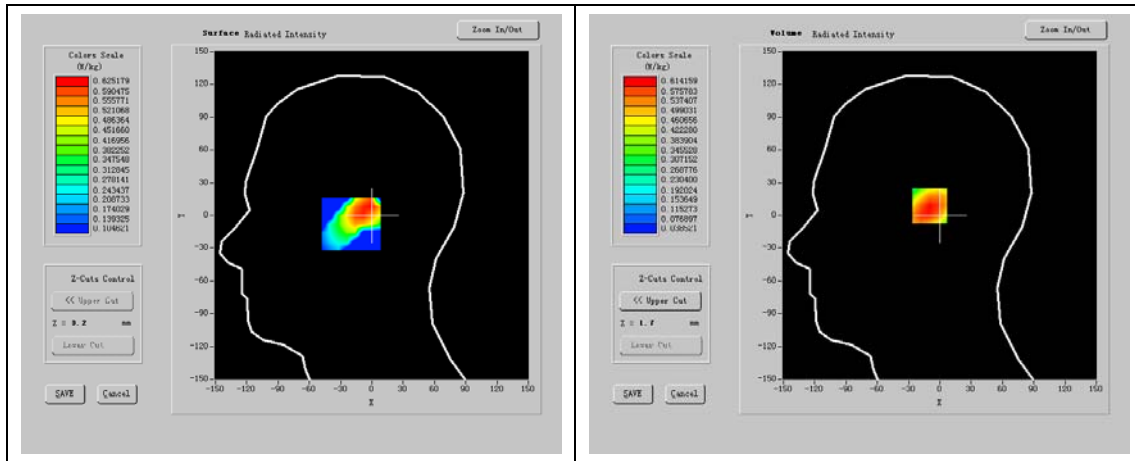
PC	HP (Pentium(R) V 3.06GHz375052-AA1, SN:375052-AA1)
Network Emulator	Agilent (E5071B, SN:B23-03291)
Voltmeter	Keithley (2000, SN:1015843)
Synthetizer	Agilent (E8257C, SN:MY43321570)
Amplifier	Mini-Circuits (ZHL-42, SN:110405)
Power Meter	Agilent (E4416A, SN:QB41292714)
Probe	Antennessa (SN:SN_1205_EP_45)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa (Last Calibration:02/2008)

C. SAR Measurement Results

Higher Band SAR:

Frequency (MHz)	848.599976
Relative permittivity (real part)	41.262001
Relative permittivity (imaginary part)	19.598249
Conductivity (S/m)	0.923949
Variation (%)	-2.940000

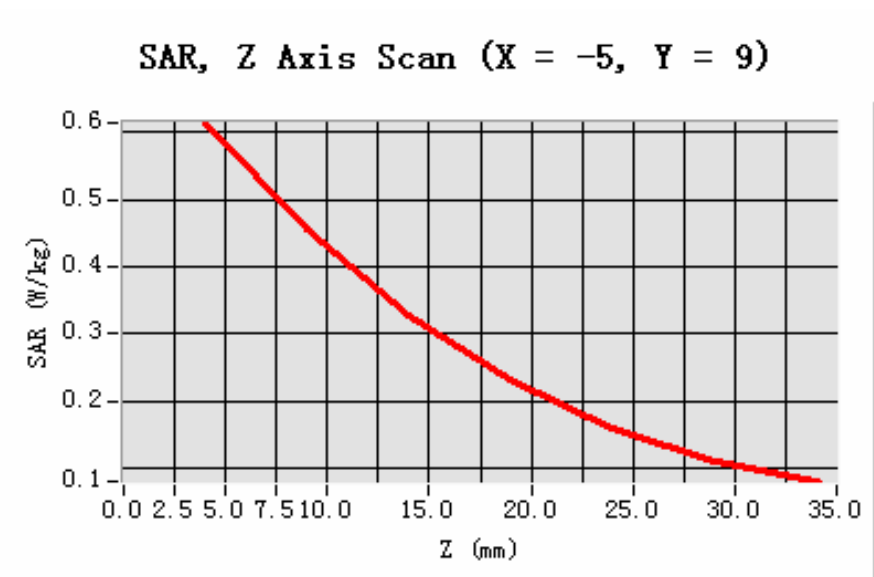
SURFACE SAR	VOLUME SAR
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Maximum location: X=-5.00, Y=9.00

SAR 10g (W/Kg)	0.410473
SAR 1g (W/Kg)	0.593547

Z Axis Scan



MEASUREMENT 13

SZ081223B01 850BODY

Type: Phone measurement (Complete)

Date of measurement: 12/3/2008

Measurement duration: 20 minutes 2 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

Phantom File	surf_sam_plan.txt, Adaptive 2 max
Phantom	Validation plane
Device Position	Body
Band	GSM850
Channels	Low
Signal	TDMA

B. Instrumentations.

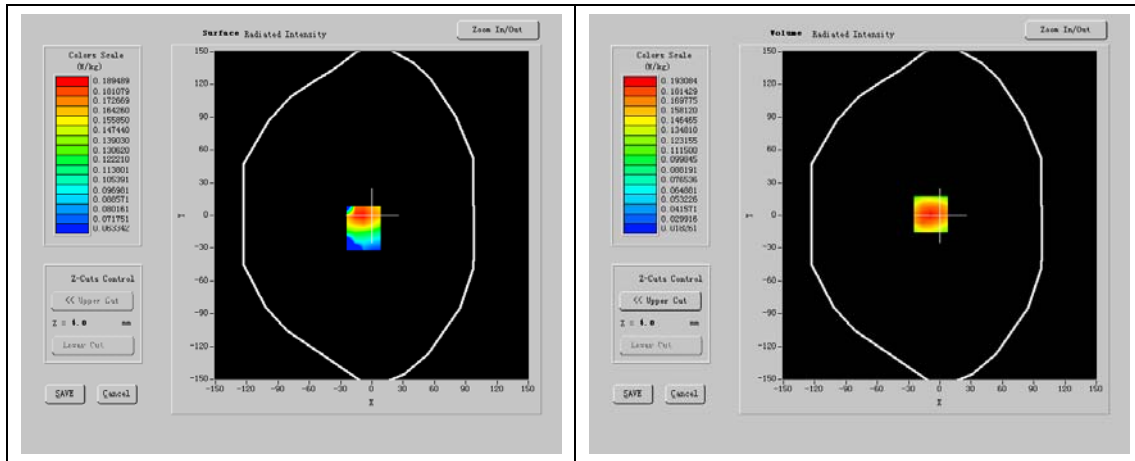
PC	HP (Pentium(R) V 3.06GHz375052-AA1, SN:375052-AA1)
Network Emulator	Agilent (E5071B, SN:B23-03291)
Voltmeter	Keithley (2000, SN:1015843)
Synthesizer	Agilent (E8257C, SN:MY43321570)
Amplifier	Mini-Circuits (ZHL-42, SN:110405)
Power Meter	Agilent (E4416A, SN:QB41292714)
Probe	Antennessa (SN:SN_1205_EP_45)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa (Last Calibration:02/2008)

C. SAR Measurement Results

Lower Band SAR):

Frequency (MHz)	824.200012
Relative permittivity (real part)	56.047001
Relative permittivity (imaginary part)	22.085699
Conductivity (S/m)	1.011280
Variation (%)	-2.140000

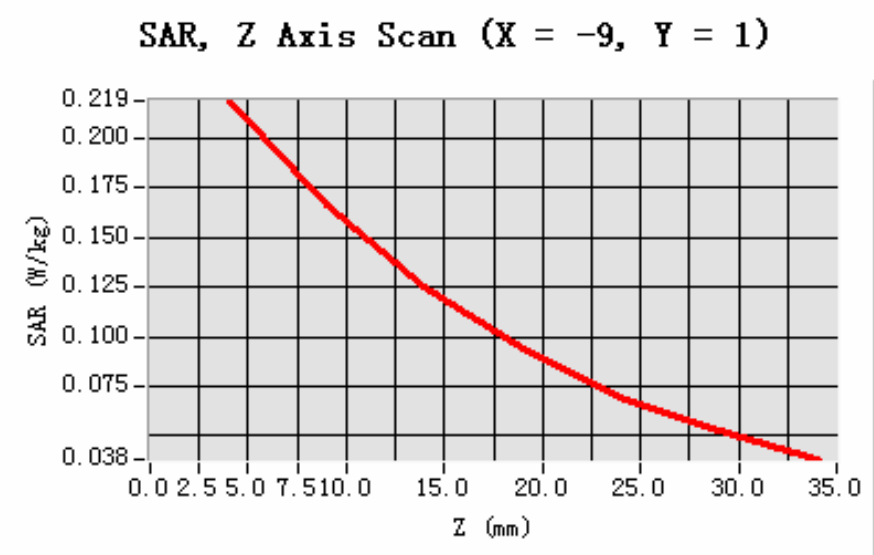
SURFACE SAR	VOLUME SAR
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Maximum location: X=-9.00, Y=1.00

SAR 10g (W/Kg)	0.147803
SAR 1g (W/Kg)	0.208582

Z Axis Scan



MEASUREMENT 14

SZ081223B01 850BODY

Type: Phone measurement (Complete)

Date of measurement: 12/3/2008

Measurement duration: 20 minutes 2 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

Phantom File	surf_sam_plan.txt, Adaptive 2 max
Phantom	Validation plane
Device Position	Body
Band	GSM850
Channels	Middle
Signal	TDMA

B. Instrumentations.

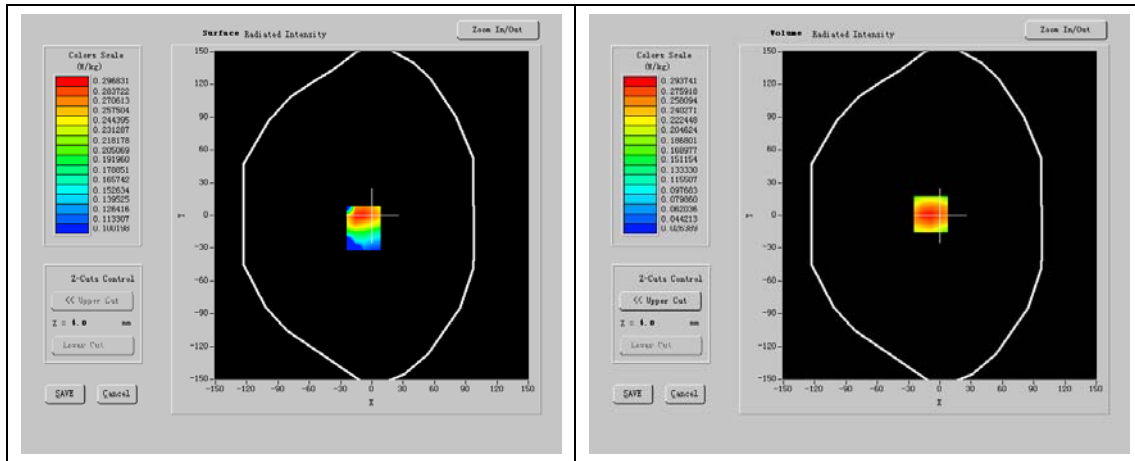
PC	HP (Pentium(R) V 3.06GHz375052-AA1, SN:375052-AA1)
Network Emulator	Agilent (E5071B, SN:B23-03291)
Voltmeter	Keithley (2000, SN:1015843)
Synthetizer	Agilent (E8257C, SN:MY43321570)
Amplifier	Mini-Circuits (ZHL-42, SN:110405)
Power Meter	Agilent (E4416A, SN:QB41292714)
Probe	Antennessa (SN:SN_1205_EP_45)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa (Last Calibration:02/2008)

C. SAR Measurement Results

Middle Band SAR:

Frequency (MHz)	836.400024
Relative permittivity (real part)	56.047001
Relative permittivity (imaginary part)	22.085699
Conductivity (S/m)	1.026249
Variation (%)	-2.140000

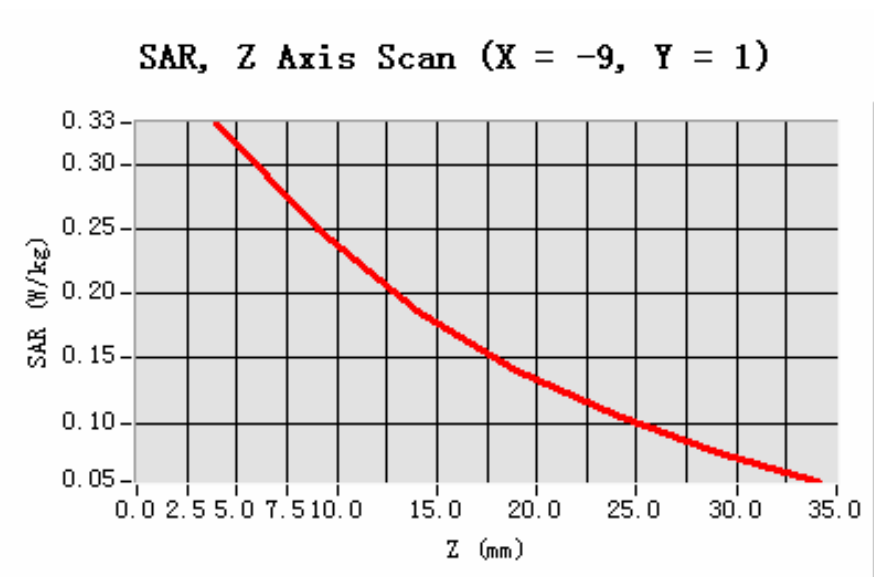
SURFACE SAR	VOLUME SAR
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Maximum location: X=-9.00, Y=1.00

SAR 10g (W/Kg)	0.223282
SAR 1g (W/Kg)	0.319410

Z Axis Scan



MEASUREMENT 15

SZ081223B01 850BODY

Type: Phone measurement (Complete)

Date of measurement: 12/3/2008

Measurement duration: 20 minutes 2 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

Phantom File	surf_sam_plan.txt, Adaptive 2 max
Phantom	Validation plane
Device Position	Body
Band	GSM850
Channels	High
Signal	TDMA

B. Instrumentations.

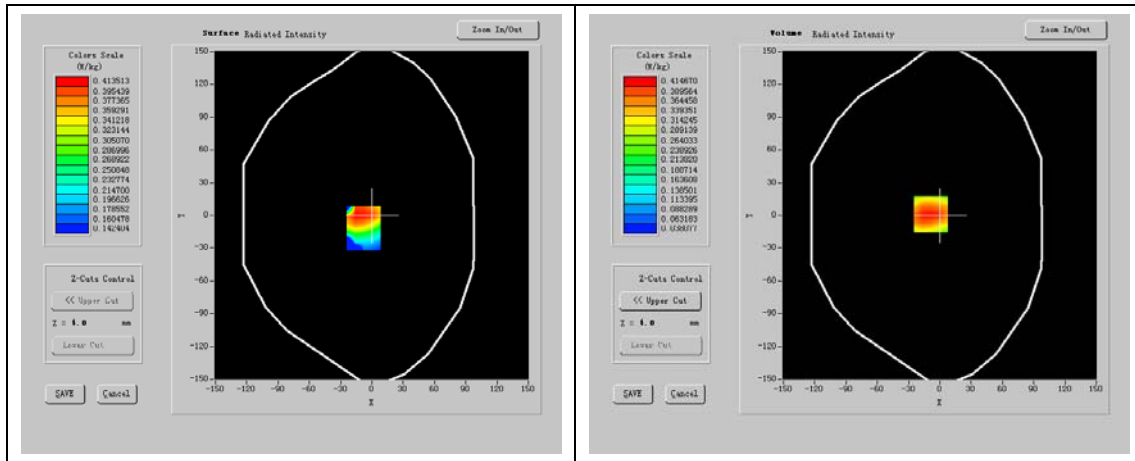
PC	HP (Pentium(R) V 3.06GHz375052-AA1, SN:375052-AA1)
Network Emulator	Agilent (E5071B, SN:B23-03291)
Voltmeter	Keithley (2000, SN:1015843)
Synthetizer	Agilent (E8257C, SN:MY43321570)
Amplifier	Mini-Circuits (ZHL-42, SN:110405)
Power Meter	Agilent (E4416A, SN:QB41292714)
Probe	Antennessa (SN:SN_1205_EP_45)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa (Last Calibration:02/2008)

C. SAR Measurement Results

Higher Band SAR:

Frequency (MHz)	848.599976
Relative permittivity (real part)	56.734001
Relative permittivity (imaginary part)	21.163799
Conductivity (S/m)	0.997756
Variation (%)	-2.140000

SURFACE SAR	VOLUME SAR
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Maximum location: X=-9.00, Y=1.00

SAR 10g (W/Kg)	0.304976
SAR 1g (W/Kg)	0.430409

Z Axis Scan

