ANTENNESSA

ANTENNESSA Bâtiment le Ponant Avenue de la PEROUSE 29280 PLOUZANÉ France Tél. : 02.98.05.13.34 Fax : 02.98.05.53.87	**SAR MEASUREMENT REPORT**
	Project name :
	KS080709A03

I. RESULTS

TYPE	BAND	PARAMETERS
Noise	--	--
Validation	--	--
Phone	**GSM1900**	Measurement 1: Right Head with Cheek device position on Low Channel in TDMA mode Measurement 2: Right Head with Cheek device position on Middle Channel in TDMA mode Measurement 3: Right Head with Cheek device position on High Channel in TDMA mode Measurement 4: Right Head with Tilt device position on Low Channel in TDMA mode Measurement 5: Right Head with Tilt device position on Middle Channel in TDMA mode Measurement 6: Right Head with Tilt device position on High Channel in TDMA mode Measurement 7: Left Head with Cheek device position on Low Channel in TDMA mode Measurement 8: Left Head with Cheek device position on Middle Channel in TDMA mode Measurement 9: Left Head with Cheek device position on High Channel in TDMA mode Measurement 10: Left Head with Tilt device position on Low Channel in TDMA mode Measurement 11: Left Head with Tilt device position on Middle Channel in TDMA mode Measurement 12: Left Head with Tilt device position on High Channel in TDMA mode

MEASUREMENT 1

Type: Phone measurement (Complete)

Date of measurement: 10/7/2008

Measurement duration: 6 minutes 21 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

Phantom File	zinf15.txt, Adaptative 2 max
Phantom	Right head
Device Position	Cheek
Band	GSM1900
Channels	Low
Signal	TDMA

B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)
Network Emulator	R&S (CMU200, 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_0807_EP_74)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

Frequency (MHz)	1850.200024
Relative permitivity (real part)	40.193001
Relative permitivity (imaginary part)	13.813800
Conductivity (S/m)	1.442775
Variation (%)	-3.320000

SURFACE SAR	VOLUME SAR

Maximum location: X=1.00, Y=6.00

SAR 10g (W/Kg)	0.172775
SAR 1g (W/Kg)	0.331314

Z Axis Scan

SAR, Z Axis Scan (X = 1, Y = 6)
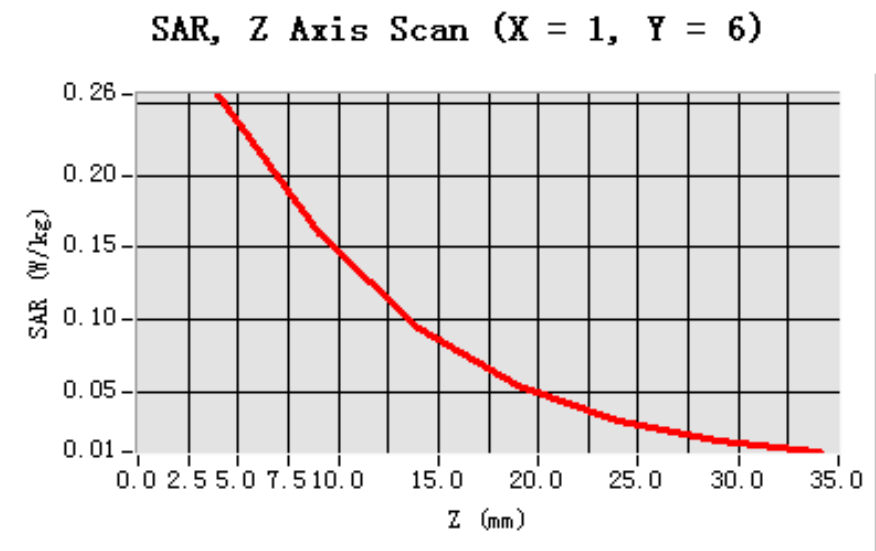
MEASUREMENT 2

Type: Phone measurement (Complete)

Date of measurement: 10/7/2008

Measurement duration: 6 minutes 38 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

Phantom File	zinf15.txt, Adaptative 2 max
Phantom	Right head
Device Position	Cheek
Band	GSM1900
Channels	Middle
Signal	TDMA

B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)
Network Emulator	R&S (CMU200, 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_0807_EP_74)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

Frequency (MHz)	1880.000000
Relative permitivity (real part)	40.193001
Relative permitivity (imaginary part)	13.813800
Conductivity (S/m)	1.442775
Variation (%)	-3.290000

SURFACE SAR	VOLUME SAR

Maximum location: X=8.00, Y=15.00

SAR 10g (W/Kg)	0.200998
SAR 1g (W/Kg)	0.390983

Z Axis Scan

SAR, Z Axis Scan (X = 8, Y = 15)
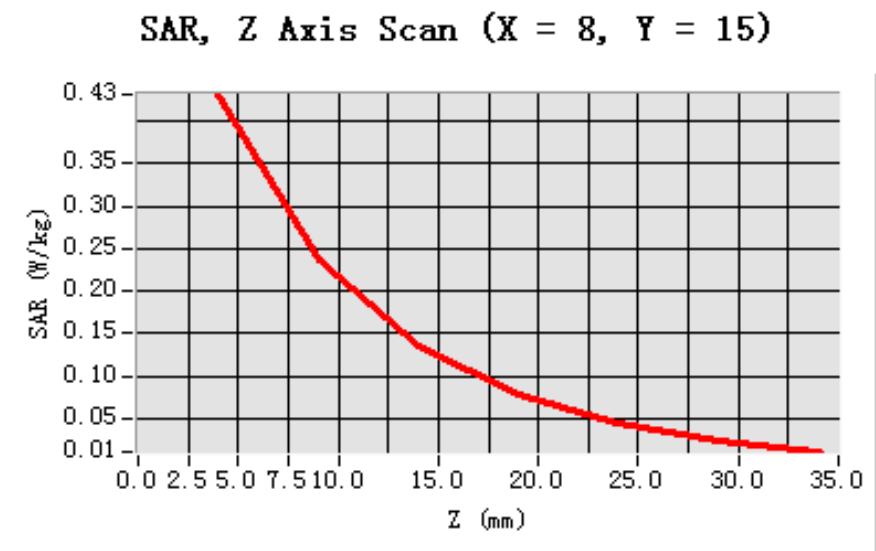
MEASUREMENT 3

Type: Phone measurement (Complete)

Date of measurement: 10/7/2008

Measurement duration: 6 minutes 29 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

Phantom File	zinf15.txt, Adaptative 2 max
Phantom	Right head
Device Position	Cheek
Band	GSM1900
Channels	High
Signal	TDMA

B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)
Network Emulator	R&S (CMU200, 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_0807_EP_74)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

Frequency (MHz)	1909.800000
Relative permitivity (real part)	40.193001
Relative permitivity (imaginary part)	13.813800
Conductivity (S/m)	1.442775
Variation (%)	0.810000

SURFACE SAR	VOLUME SAR
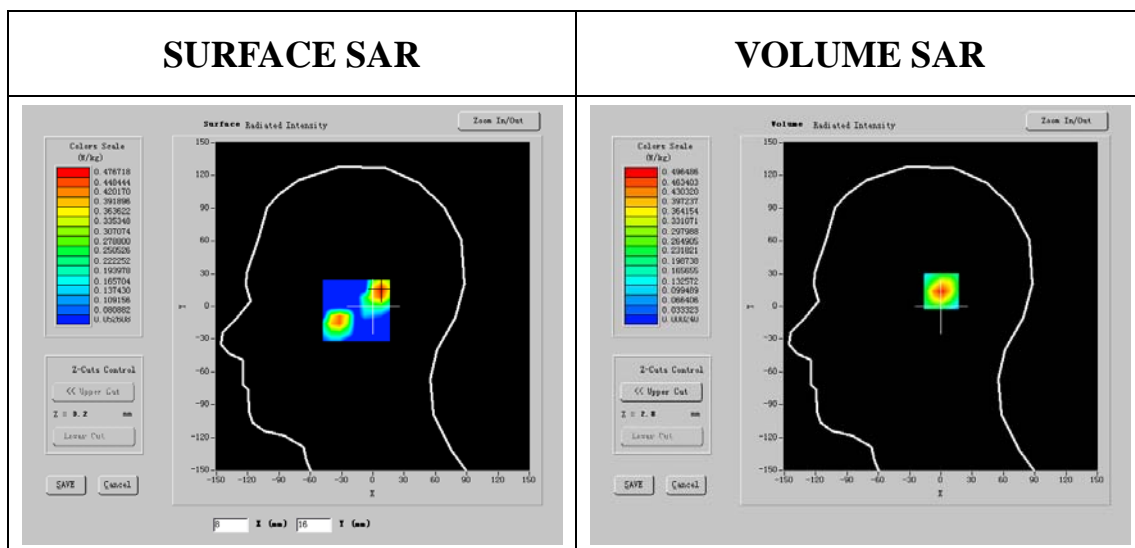
Maximum location: X=7.00, Y=14.00

SAR 10g (W/Kg)	0.237674
SAR 1g (W/Kg)	0.458556

Z Axis Scan

SAR, Z Axis Scan (X = 7, Y = 14)
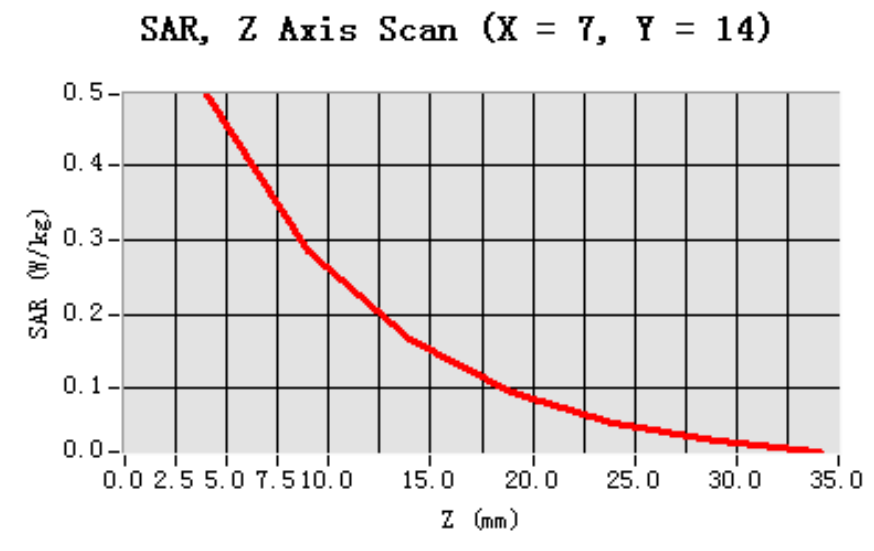
MEASUREMENT 4

Type: Phone measurement (Complete)

Date of measurement: 10/7/2008

Measurement duration: 6 minutes 31 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

Phantom File	zinf15.txt, Adaptative 2 max
Phantom	Right head
Device Position	Tilt
Band	GSM1900
Channels	Low
Signal	TDMA

B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)
Network Emulator	R&S (CMU200, 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_0807_EP_74)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

Frequency (MHz)	1850.200024
Relative permitivity (real part)	40.193001
Relative permitivity (imaginary part)	13.813800
Conductivity (S/m)	1.442775
Variation (%)	-1.780000

SURFACE SAR	**VOLUME SAR**
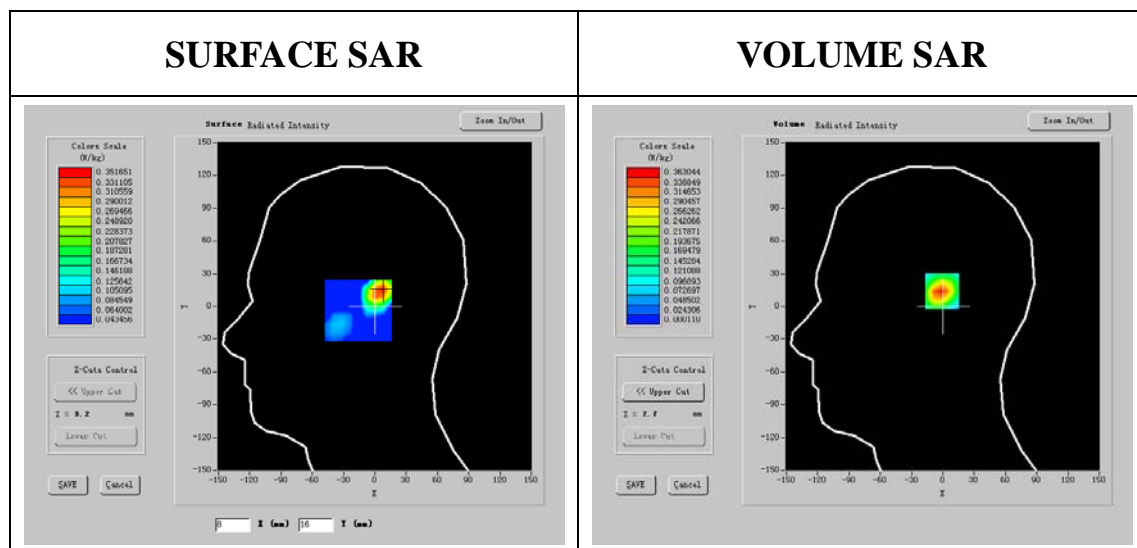
Maximum location: X=6.00, Y=14.00

SAR 10g (W/Kg)	0.173422
SAR 1g (W/Kg)	0.341013

Z Axis Scan

SAR, Z Axis Scan (X = 6, Y = 14)
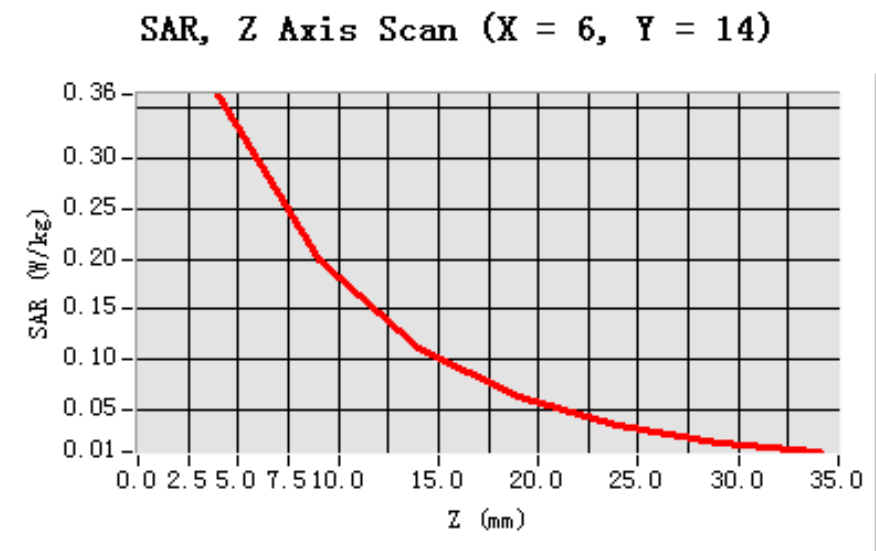
MEASUREMENT 5

Type: Phone measurement (Complete)

Date of measurement: 10/7/2008

Measurement duration: 6 minutes 29 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

Phantom File	zinf15.txt, Adaptative 2 max
Phantom	Right head
Device Position	Tilt
Band	GSM1900
Channels	Middle
Signal	TDMA

B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)
Network Emulator	R&S (CMU200, 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_0807_EP_74)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

Frequency (MHz)	1880.000000
Relative permitivity (real part)	40.193001
Relative permitivity (imaginary part)	13.813800
Conductivity (S/m)	1.442775
Variation (%)	-2.160000

SURFACE SAR	VOLUME SAR
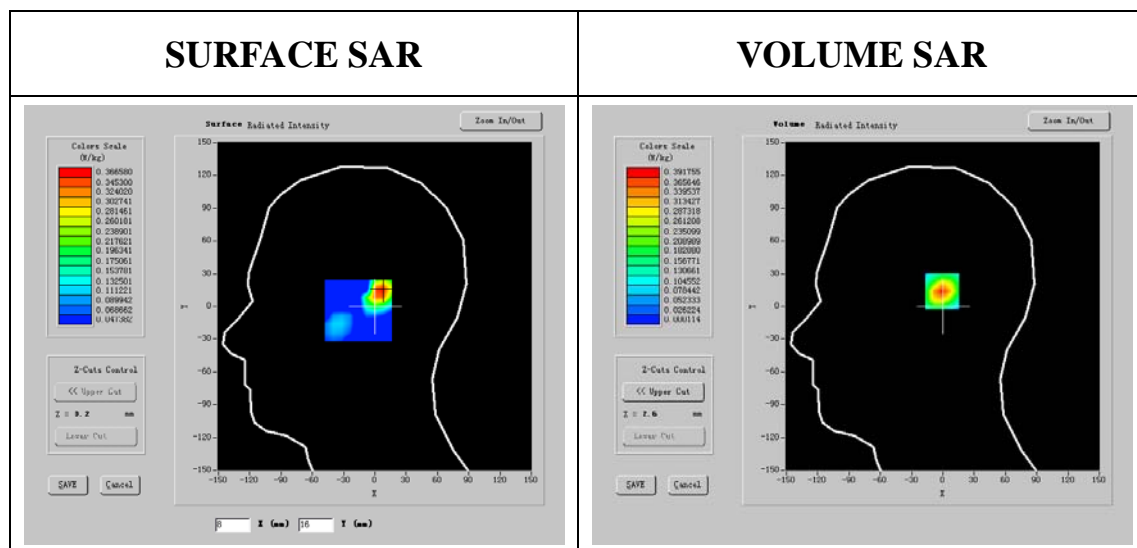
Maximum location: X=5.00, Y=14.00

SAR 10g (W/Kg)	0.182804
SAR 1g (W/Kg)	0.361182

Z Axis Scan

SAR, Z Axis Scan (X = 5, Y = 14)
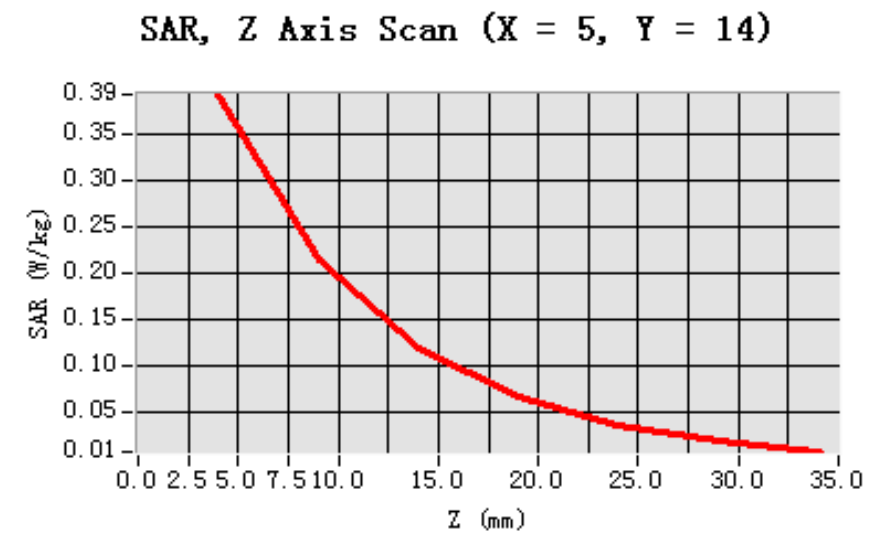
MEASUREMENT 6

Type: Phone measurement (Complete)

Date of measurement: 10/7/2008

Measurement duration: 6 minutes 27 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

Phantom File	zinf15.txt, Adaptative 2 max
Phantom	Right head
Device Position	Tilt
Band	GSM1900
Channels	High
Signal	TDMA

B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)
Network Emulator	R&S (CMU200, 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_0807_EP_74)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

Frequency (MHz)	1909.800000
Relative permitivity (real part)	40.193001
Relative permitivity (imaginary part)	13.813800
Conductivity (S/m)	1.442775
Variation (%)	-3.320000

SURFACE SAR	VOLUME SAR

Maximum location: X=6.00, Y=15.00

SAR 10g (W/Kg)	0.228550
SAR 1g (W/Kg)	0.462105

Z Axis Scan

SAR, Z Axis Scan (X = 6, Y = 15)
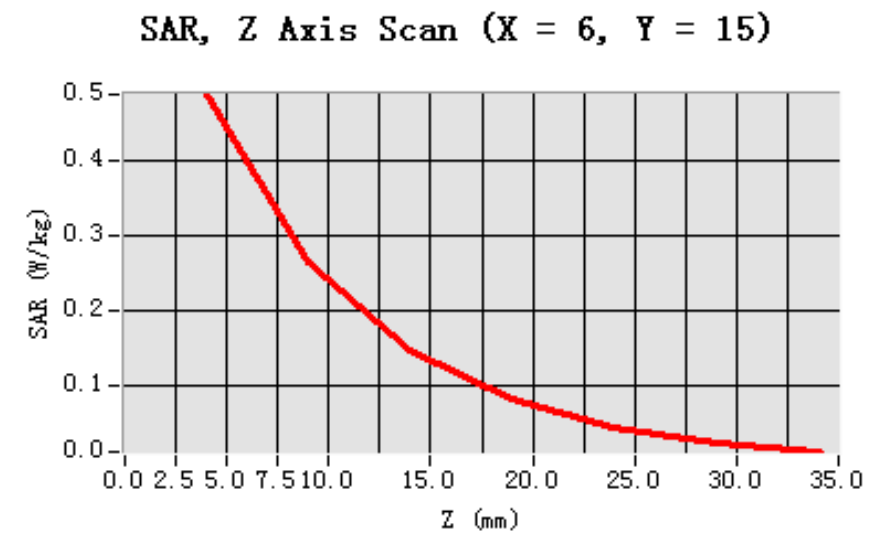
MEASUREMENT 7

Type: Phone measurement (Complete)

Date of measurement: 10/7/2008

Measurement duration: 6 minutes 49 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

Phantom File	zinf15.txt, Adaptative 2 max
Phantom	Left head
Device Position	Cheek
Band	GSM1900
Channels	Low
Signal	TDMA

B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)
Network Emulator	R&S (CMU200, 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_0807_EP_74)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

Frequency (MHz)	1850.200024
Relative permitivity (real part)	40.193001
Relative permitivity (imaginary part)	13.813800
Conductivity (S/m)	1.442775
Variation (%)	-1.030000

SURFACE SAR	VOLUME SAR
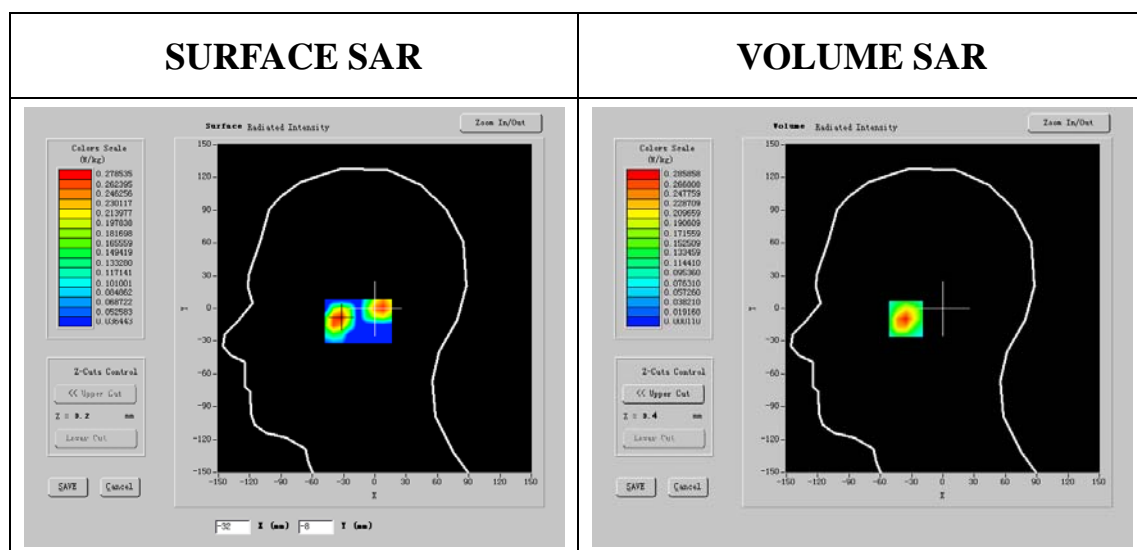
Maximum location: X=-34.00, Y=-9.00

SAR 10g (W/Kg)	0.140909
SAR 1g (W/Kg)	0.265223

Z Axis Scan

SAR, Z Axis Scan (X = -34, Y = -9)
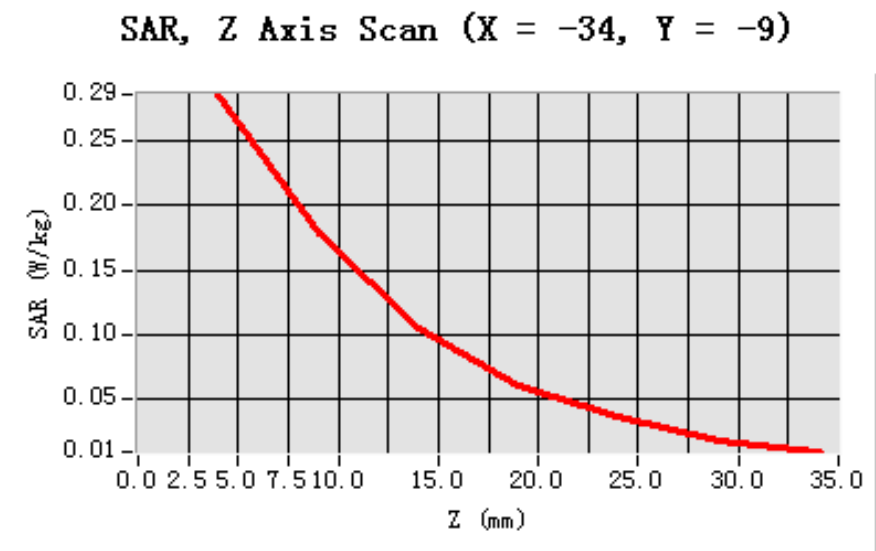
MEASUREMENT 8

Type: Phone measurement (Complete)

Date of measurement: 10/7/2008

Measurement duration: 6 minutes 50 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

Phantom File	zinf15.txt, Adaptative 2 max
Phantom	Left head
Device Position	Cheek
Band	GSM1900
Channels	Middle
Signal	TDMA

B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)
Network Emulator	R&S (CMU200, 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_0807_EP_74)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

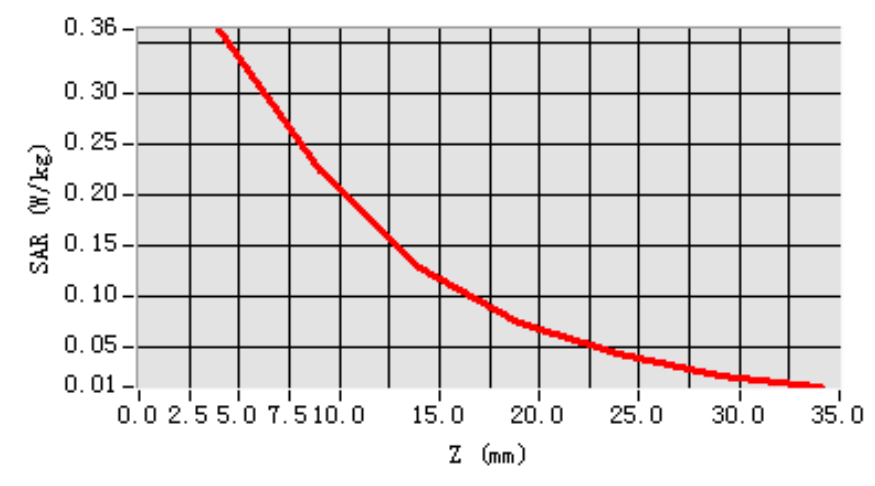| Frequency (MHz)	1880.000000
Relative permitivity (real part)	40.193001
Relative permitivity (imaginary part)	13.813800
Conductivity (S/m)	1.442775
Variation (%)	-2.080000

SURFACE SAR	VOLUME SAR
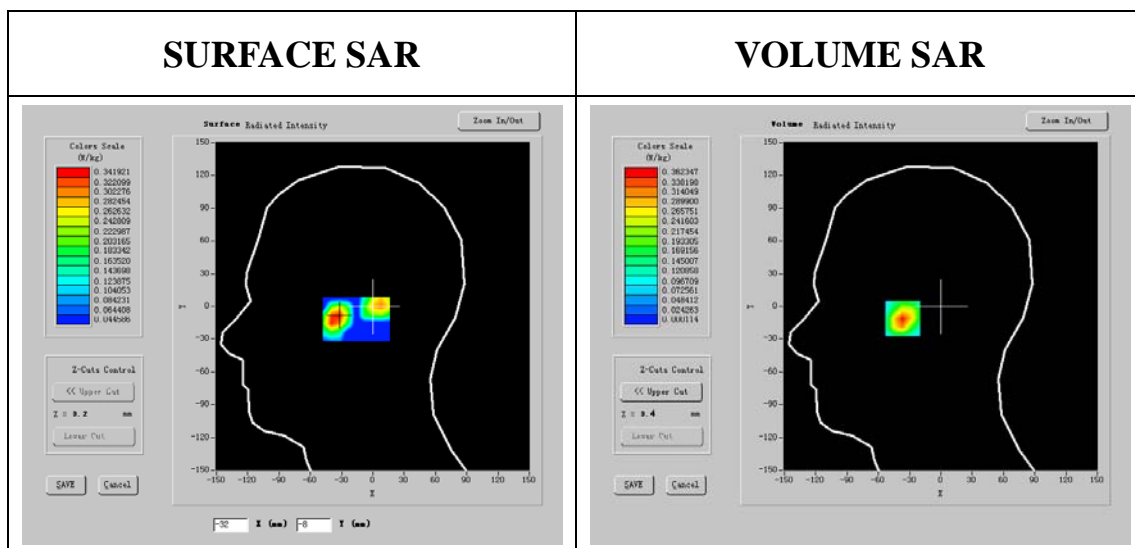
Maximum location: X=-36.00, Y=-10.00

SAR 10g (W/Kg)	0.171788
SAR 1g (W/Kg)	0.332982

Z Axis Scan

SAR, Z Axis Scan (X = -36, Y = -10)

MEASUREMENT 9

Type: Phone measurement (Complete)

Date of measurement: 10/7/2008

Measurement duration: 6 minutes 15 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

Phantom File	zinf15.txt, Adaptative 2 max
Phantom	Left head
Device Position	Cheek
Band	GSM1900
Channels	High
Signal	TDMA

B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)
Network Emulator	R&S (CMU200, 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_0807_EP_74)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

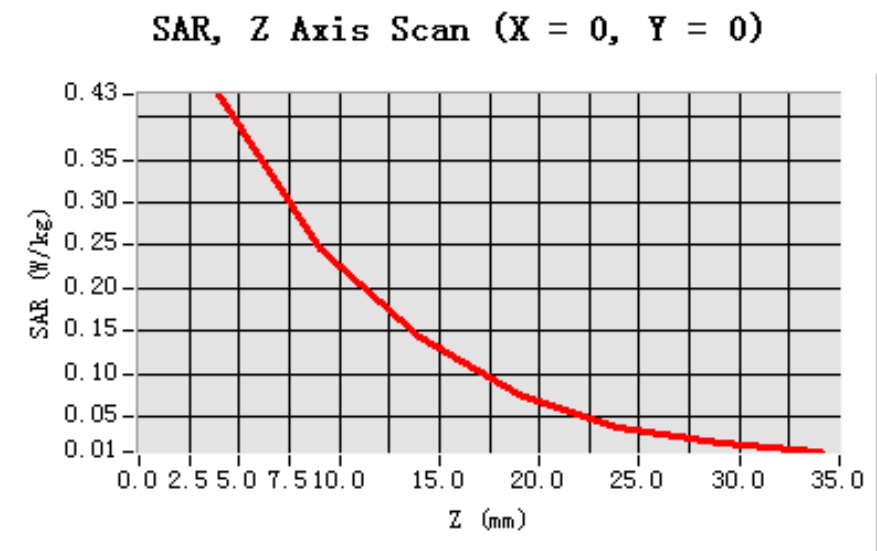| Frequency (MHz)	1909.800000
Relative permitivity (real part)	40.193001
Relative permitivity (imaginary part)	13.813800
Conductivity (S/m)	1.442775
Variation (%)	-3.250000

SURFACE SAR	VOLUME SAR

Maximum location: X=0.00, Y=0.00

SAR 10g (W/Kg)	0.204864
SAR 1g (W/Kg)	0.391185

Z Axis Scan

SAR, Z Axis Scan (X = 0, Y = 0)

MEASUREMENT 10

Type: Phone measurement (Complete)

Date of measurement: 10/7/2008

Measurement duration: 6 minutes 30 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

Phantom File	zinf15.txt, Adaptative 2 max
Phantom	Left head
Device Position	Tilt
Band	GSM1900
Channels	Low
Signal	TDMA

B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)
Network Emulator	R&S (CMU200, 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_0807_EP_74)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

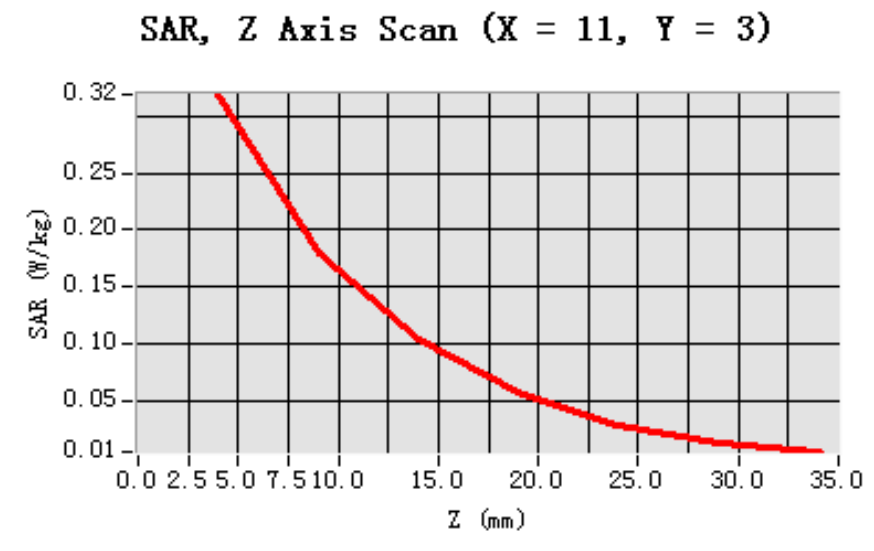| Frequency (MHz)	1850.200024
Relative permitivity (real part)	40.193001
Relative permitivity (imaginary part)	13.813800
Conductivity (S/m)	1.442775
Variation (%)	-3.470000

SURFACE SAR	VOLUME SAR
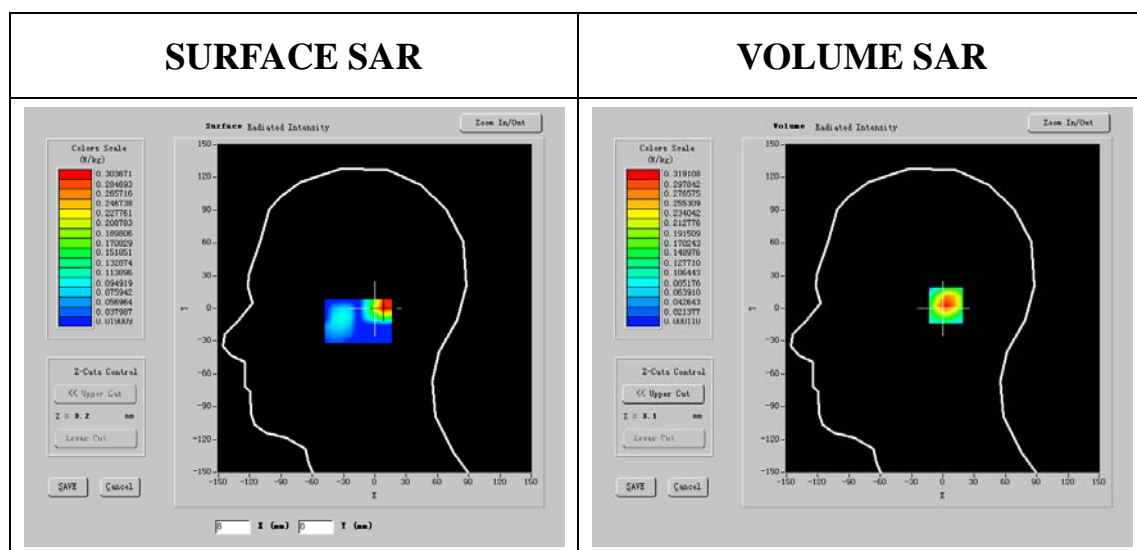
Maximum location: X=11.00, Y=3.00

SAR 10g (W/Kg)	0.156495
SAR 1g (W/Kg)	0.299977

Z Axis Scan

SAR, Z Axis Scan (X = 11, Y = 3)

MEASUREMENT 11

Type: Phone measurement (Complete)

Date of measurement: 10/7/2008

Measurement duration: 6 minutes 32 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

Phantom File	zinf15.txt, Adaptative 2 max
Phantom	Left head
Device Position	Tilt
Band	GSM1900
Channels	Middle
Signal	TDMA

B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)
Network Emulator	R&S (CMU200, 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_0807_EP_74)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

Frequency (MHz)	1880.000000
Relative permitivity (real part)	40.193001
Relative permitivity (imaginary part)	13.813800
Conductivity (S/m)	1.442775
Variation (%)	-2.490000

SURFACE SAR	VOLUME SAR
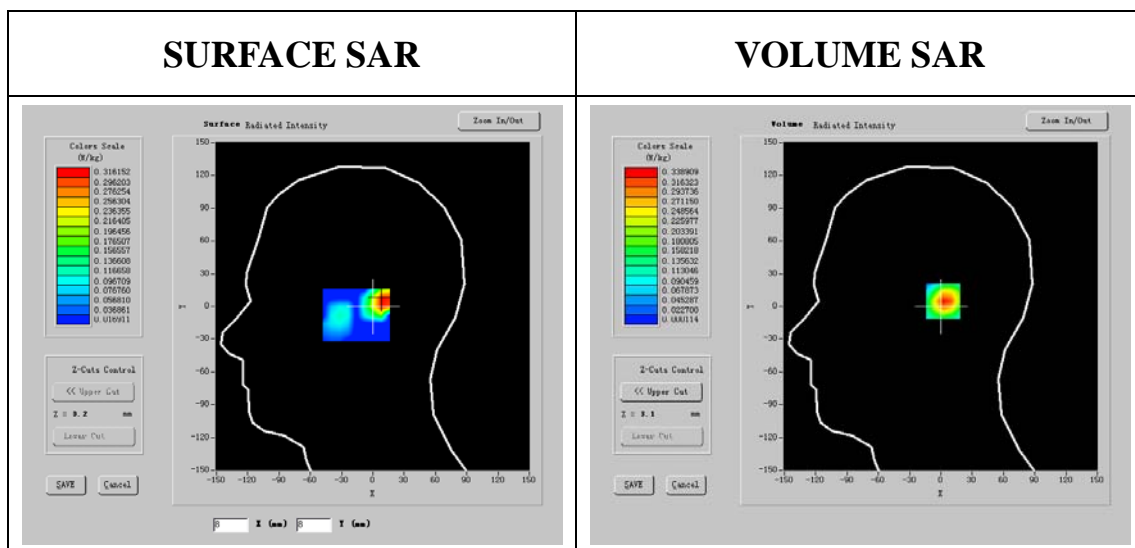
Maximum location: X=10.00, Y=5.00

SAR 10g (W/Kg)	0.165592
SAR 1g (W/Kg)	0.319544

Z Axis Scan

SAR, Z Axis Scan (X = 10, Y = 5)
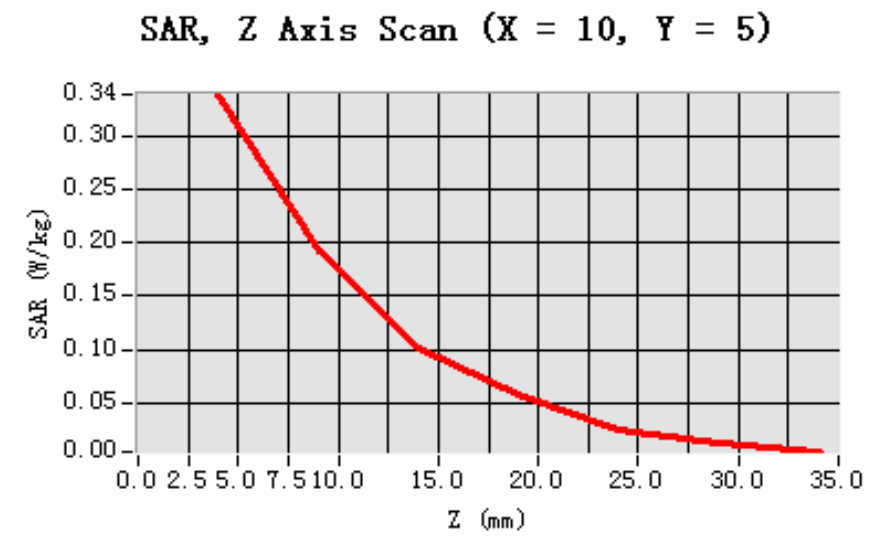
MEASUREMENT 12

Type: Phone measurement (Complete)

Date of measurement: 10/7/2008

Measurement duration: 6 minutes 31 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

Phantom File	zinf15.txt, Adaptative 2 max
Phantom	Left head
Device Position	Tilt
Band	GSM1900
Channels	High
Signal	TDMA

B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)
Network Emulator	R&S (CMU200, 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_0807_EP_74)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

Frequency (MHz)	1909.800000
Relative permitivity (real part)	40.193001
Relative permitivity (imaginary part)	13.813800
Conductivity (S/m)	1.442775
Variation (%)	-3.140000

SURFACE SAR	VOLUME SAR
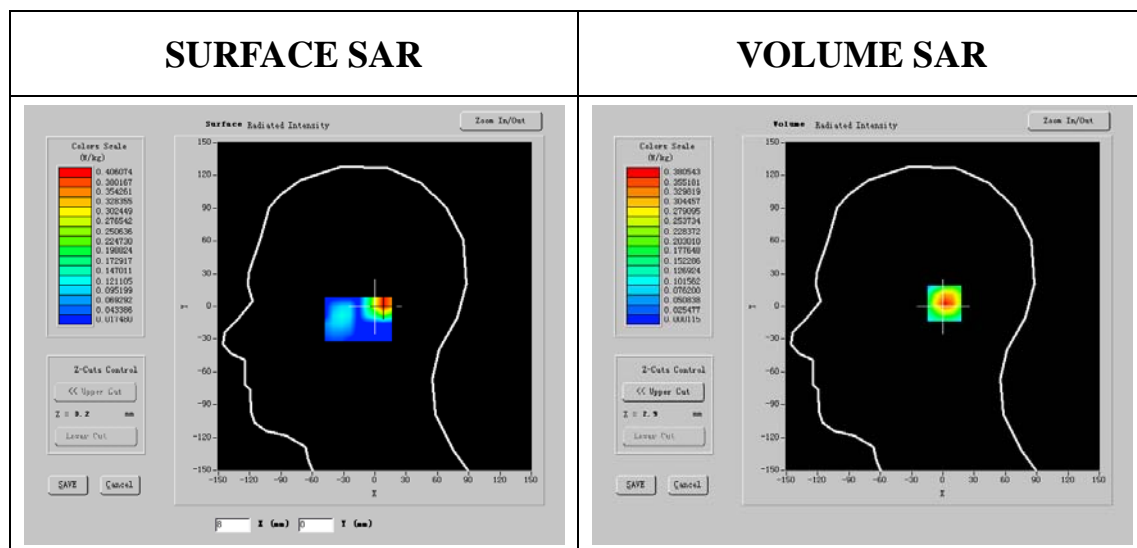
Maximum location: X=9.00, Y=3.00

SAR 10g (W/Kg)	0.186507
SAR 1g (W/Kg)	0.353957

Z Axis Scan

SAR, Z Axis Scan (X = 9, Y = 3)