Submit 1 System Validation Plots

	System Validation Plots
	Project name :
	KS091120B03

EUT DESCRIPTION

Product:	GSM Mobile Phone
Model:	WG6
Trade name:	Tiger
FCC ID:	XQF-T106I
Tested:	November 22,2009
Applicant:	Harvest Bloom Limited Flat/Rm 19, Blk B, 2/F, Sheung Shui Plaza, Sheung Shui.NT.HK

Air Temperature: 21 °C Liqued Temperature: 20 °C

Crest Factor: CW:___1__ GSM:__8___ GPRS 12: __2___

Area Scan: 7 x 7 x 1 dx=15mm dy=15mm

Zoom Scan: 5 x 5 x 7 dx=5mm dy=5mm dz=5mm

Z Axis Scan: 1 x 1 x 21 dx=20mm dy=20mm dz=5mm

Probe： Antennessa (SN:SN_1109_EP_100)

Compliance Certification Services (Kunshan) Inc.
No.10, Weiye Rd., Innovation Park, Eco & Tec. Development Part,
Kunshan City, Jiangsu Province, PRC.
TEL: 86-512-57355888
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http://www.ccsrf.com

850 HEAD VALIDATION

I. RESULTS

	TYPE	PARAMETERS
GSM850	Noise	--
	Validation	Measurement 1: Validation Plane with Dipole device position on Middle Channel in CW mode
	Phone	--

MEASUREMENT 1

Type: Validation measurement (Complete)

Date of measurement: 22/11/2009

Measurement duration: 6 minutes 41 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

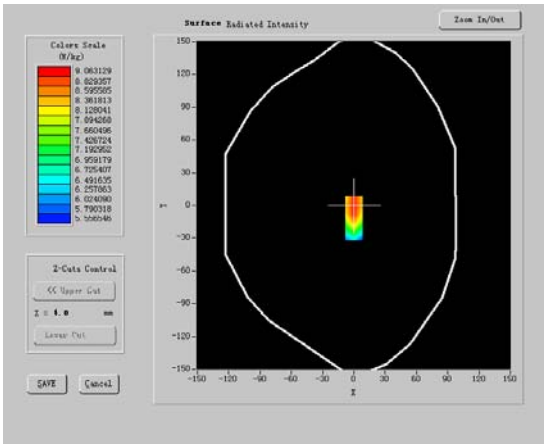
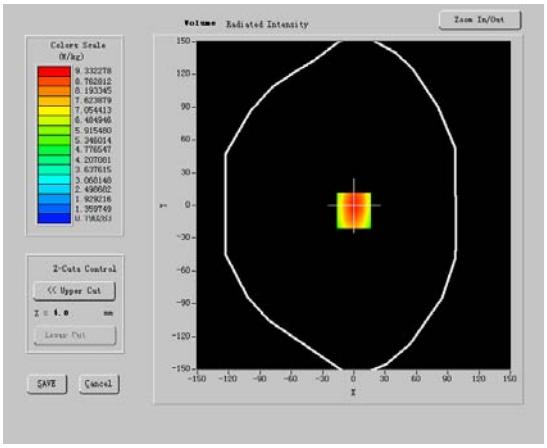
Phantom File	surf_sam_plan.txt, Adaptative 2 max
Phantom	Validation plane
Device Position	Dipole
Band	GSM850
Channels	Middle
Signal	CW

B. Instrumentations.

PC	HP (Pentium(R) V 3.06GHz, 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_1109_EP_100)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

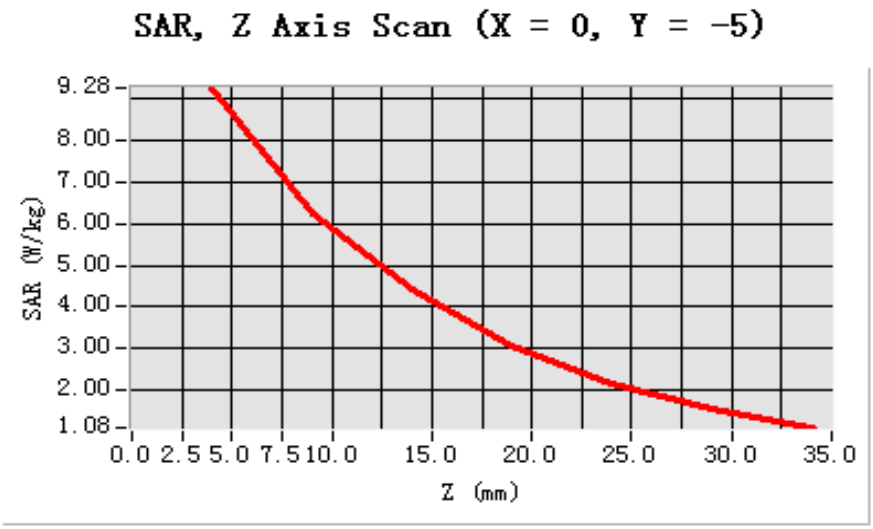
Frequency (MHz)	835.000024
Relative permitivity (real part)	41.466180
Relative permitivity (imaginary part)	19.591301
Conductivity (S/m)	0.903156
Variation (%)	0.600000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=0.00, Y=-5.00

SAR 10g (W/Kg)	6.132786
SAR 1g (W/Kg)	9.294164

Z Axis Scan


SAR, Z Axis Scan (X = 0, Y = -5)
SAR (W/kg)
9.28
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.08
0.0 2.5 5.0 7.5 10.0 15.0 20.0 25.0 30.0 35.0
Z (mm)

1900 HEAD VALIDATION

I. RESULTS

	TYPE	PARAMETERS
GSM1900	Noise	--
	Validation	Measurement 1: Validation Plane with Cheek device position on Middle Channel in CW mode
	Phone	--

MEASUREMENT 1

Type: Validation measurement (Complete)

Date of measurement: 22/11/2009

Measurement duration: 7 minutes 3 seconds

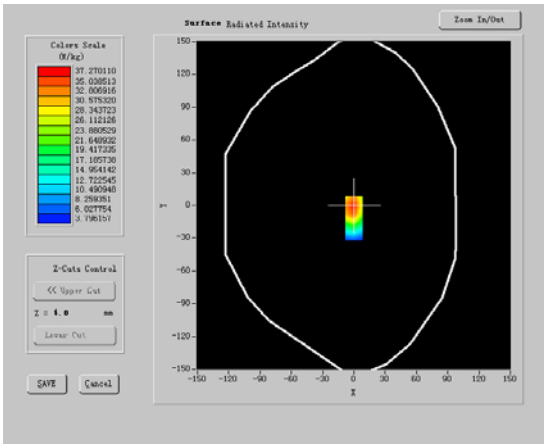
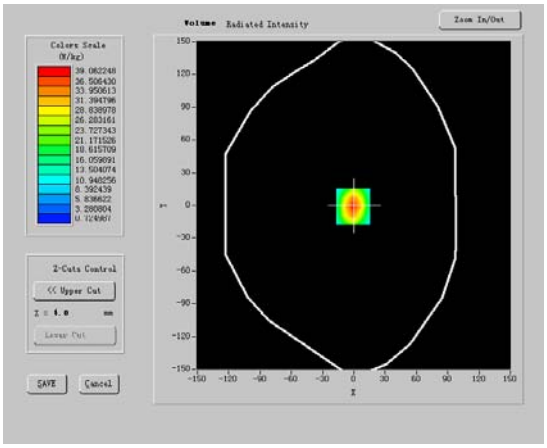
Mobile Phone IMEI number: --

A. Experimental conditions.

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

B. SAR Measurement Results

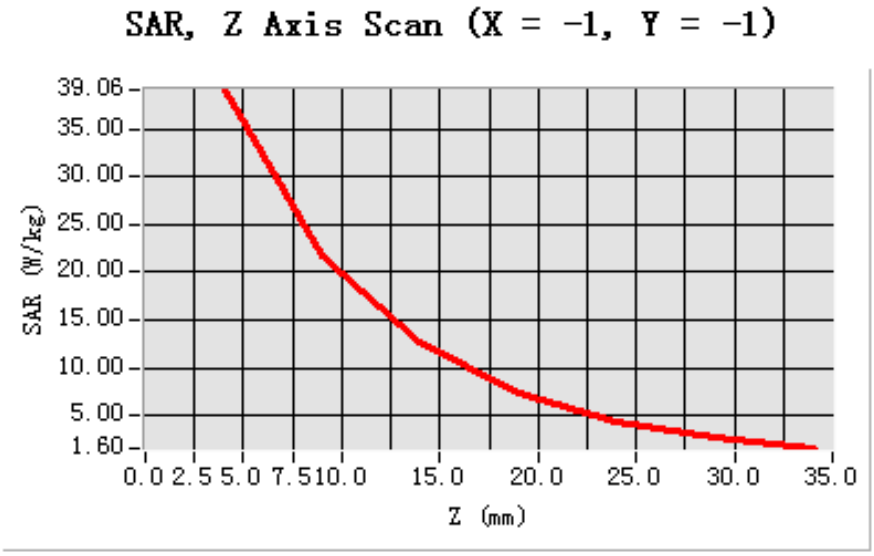
Frequency (MHz)	1880.000000
Relative permitivity (real part)	40.193119
Relative permitivity (imaginary part)	13.731020
Conductivity (S/m)	1.412380
Variation (%)	0.085000

SURFACE SAR	**VOLUME SAR**
	

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

SAR 10g (W/Kg)	19.426230
SAR 1g (W/Kg)	38.995227

Z Axis Scan


SAR, Z Axis Scan (X = -1, Y = -1)
39.06
35.00
30.00
25.00
20.00
15.00
10.00
5.00
1.60
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)

850 BODY VALIDATION

I. RESULTS

	TYPE	PARAMETERS
GSM850	Noise	--
	Validation	Measurement 1: Validation Plane with Dipole device position on Middle Channel in CW mode
	Phone	--

MEASUREMENT 1

Type: Validation measurement (Complete)

Date of measurement: 22/11/2009

Measurement duration: 6 minutes 51 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

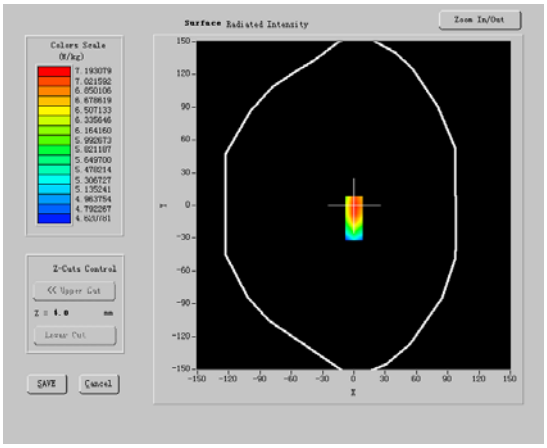
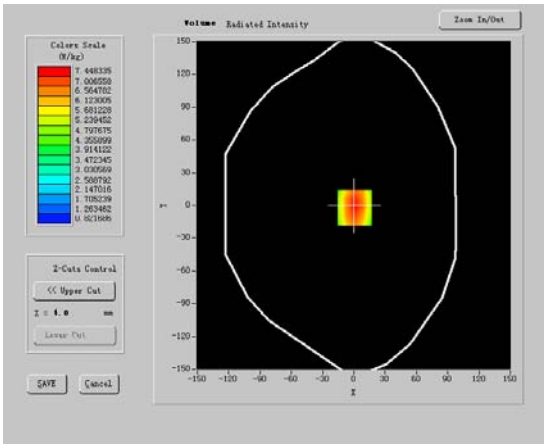
Phantom File	surf_sam_plan.txt, Adaptative 2 max
Phantom	Validation plane
Device Position	Dipole
Band	GSM850
Channels	Middle
Signal	CW

B. Instrumentations.

PC	HP (Pentium(R) V 3.06GHz, 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_1109_EP_100)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

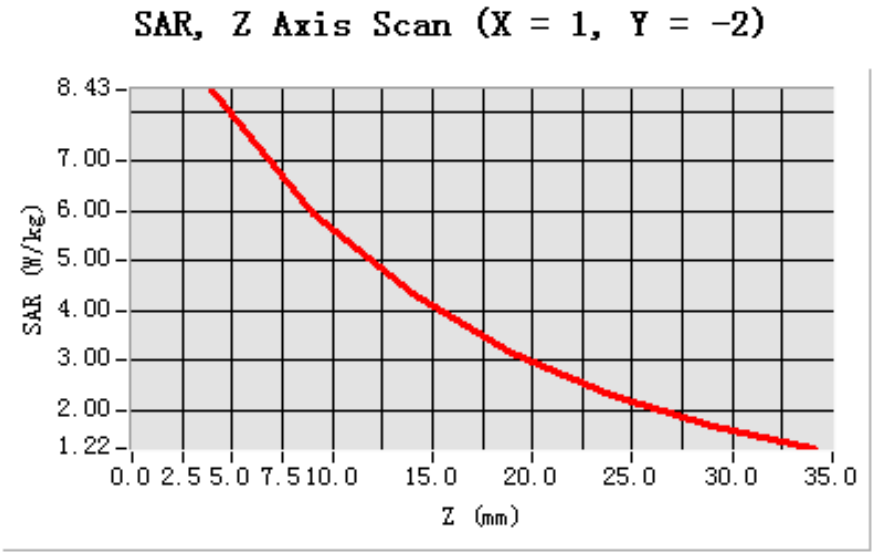
Frequency (MHz)	835.000024
Relative permitivity (real part)	55.502325
Relative permitivity (imaginary part)	22.120529
Conductivity (S/m)	0.966149
Variation (%)	0.240000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=1.00, Y=-2.00

SAR 10g (W/Kg)	6.235653
SAR 1g (W/Kg)	9.623380

Z Axis Scan


SAR, Z Axis Scan (X = 1, Y = -2)
8.43
7.00
6.00
5.00
4.00
3.00
2.00
1.22
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)

1900 BODY VALIDATION

I. RESULTS

	TYPE	PARAMETERS
GSM1900	Noise	--
	Validation	Measurement 1: Validation Plane with Dipole device position on Middle Channel in CW mode
	Phone	--

MEASUREMENT 1

Type: Validation measurement (Complete)

Date of measurement:22/11/2009

Measurement duration: 6 minutes 43 seconds

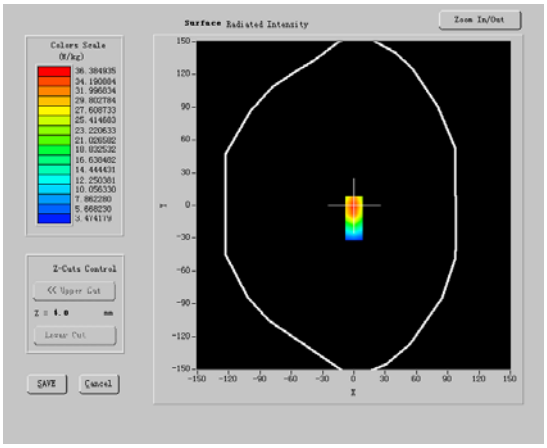
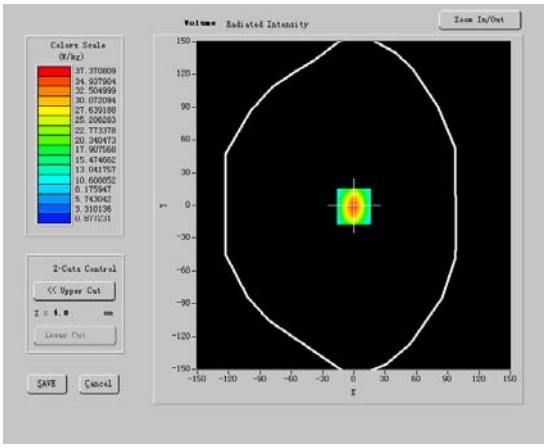
Mobile Phone IMEI number: --

A. Experimental conditions.

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

B. SAR Measurement Results

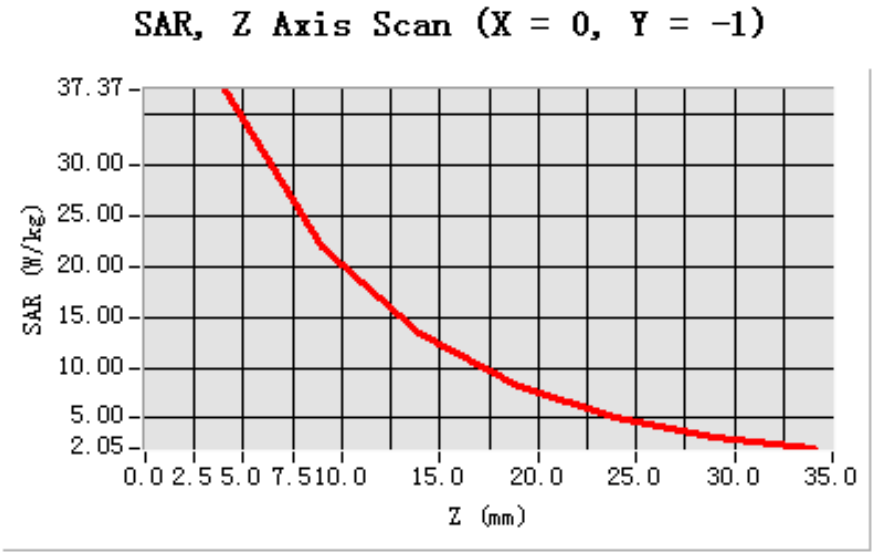
Frequency (MHz)	1880.000000
Relative permitivity (real part)	52.993168
Relative permitivity (imaginary part)	13.810000
Conductivity (S/m)	1.513290
Variation (%)	-0.500000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=0.00, Y=-1.00

SAR 10g (W/Kg)	18.692125
SAR 1g (W/Kg)	38.958421

Z Axis Scan


SAR, Z Axis Scan (X = 0, Y = -1)
37.37
30.00
25.00
20.00
15.00
10.00
5.00
2.05
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)

Submit 2 SAR Test Plots

SAR Test Plots

Project name :

KS091120B03

EUT DESCRIPTION

Product:	GSM Mobile Phone
Model:	WG6
Trade name:	Tiger
FCC ID:	XQF-T106I
Tested:	November 22,2009
Applicant:	Harvest Bloom Limited Flat/Rm 19, Blk B, 2/F, Sheung Shui Plaza, Sheung Shui.NT.HK

Air Temperature: 21 °C Liqued Temperature: 20 °C

Crest Factor: CW:___1__ GSM:__8___ GPRS 12: __2___

Area Scan: 7 x 7 x 1 dx=15mm dy=15mm

Zoom Scan: 5 x 5 x 7 dx=5mm dy=5mm dz=5mm

Z Axis Scan: 1 x 1 x 21 dx=20mm dy=20mm dz=5mm

Probe： Antennessa (SN:SN_1109_EP_100)

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FAX: 86-512-57370818
http://www.ccsrf.com

GSM850

I. RESULTS

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

MEASUREMENT 1

Type: Phone measurement (Complete)

Date of measurement: 22/11/2009

Measurement duration: 19 minutes 56 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

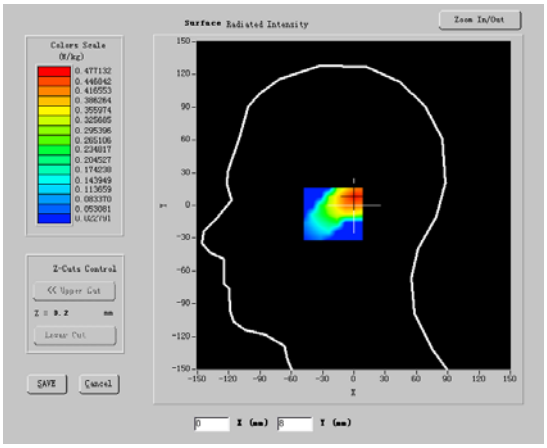
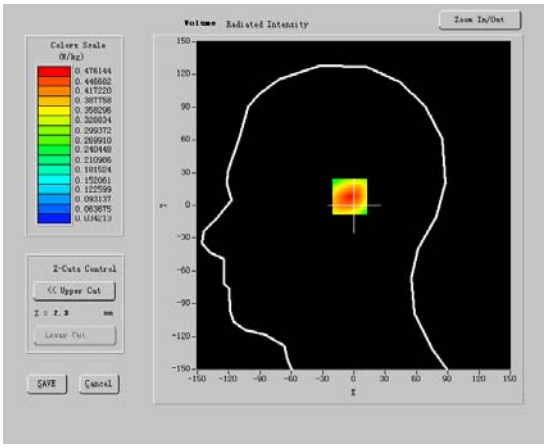
Phantom File	zinf15.txt, Adaptative 2 max
Phantom	Right head
Device Position	Cheek
Band	GSM850
Channels	Low
Signal	GSM

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_1109_EP_100)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

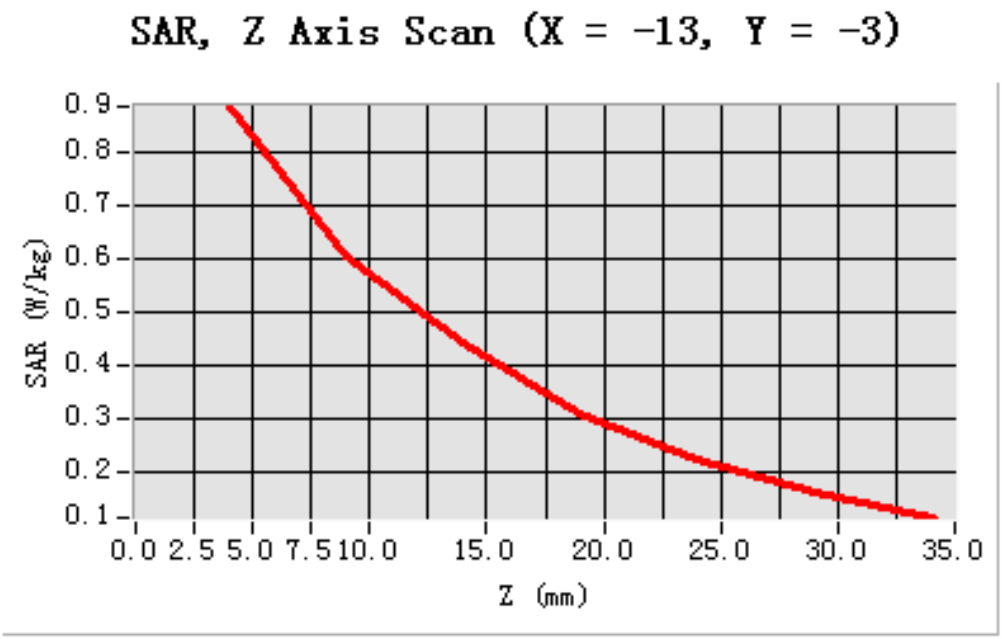
C. SAR Measurement Results

Frequency (MHz)	824.200012
Relative permitivity (real part)	41.466999
Relative permitivity (imaginary part)	19.511101
Conductivity (S/m)	0.893392
Variation (%)	-1.490000

SURFACE SAR	**VOLUME SAR**
	

SAR 10g (W/Kg)	0.557768
SAR 1g (W/Kg)	0.833372

Z Axis Scan


SAR, Z Axis Scan (X = -13, Y = -3)
SAR (W/kg)
0.9
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)

MEASUREMENT 2

Type: Phone measurement (Complete)

Date of measurement: 22/11/2009

Measurement duration: 19 minutes 56 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

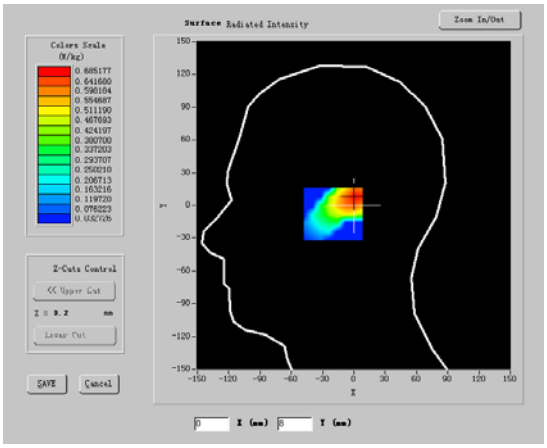
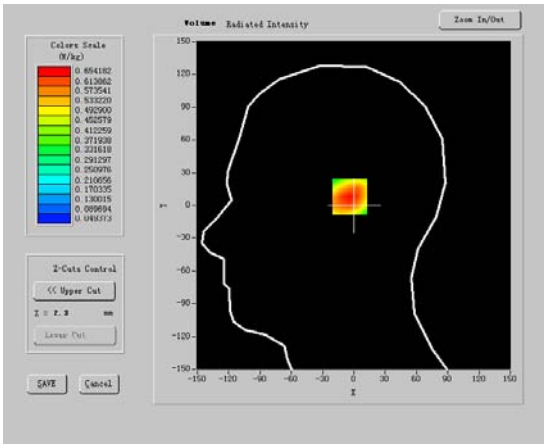
Phantom File	zinf15.txt, Adaptative 2 max
Phantom	Right head
Device Position	Cheek
Band	GSM850
Channels	Middle
Signal	GSM

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_1109_EP_100)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

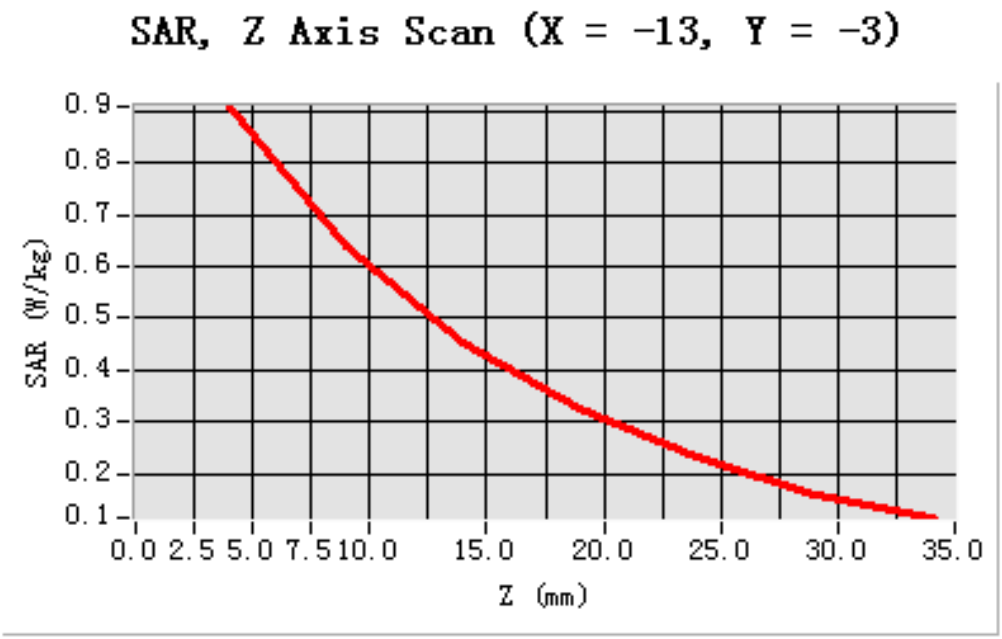
Frequency (MHz)	836.400024
Relative permitivity (real part)	41.466999
Relative permitivity (imaginary part)	19.511101
Conductivity (S/m)	0.906616
Variation (%)	-0.110000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=-13.00, Y=-3.00

SAR 10g (W/Kg)	0.582415
SAR 1g (W/Kg)	0.852109

Z Axis Scan


SAR, Z Axis Scan (X = -13, Y = -3)
SAR (W/kg)
0.9
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)

MEASUREMENT 3

Type: Phone measurement (Complete)

Date of measurement: 22/11/2009

Measurement duration: 19 minutes 56 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

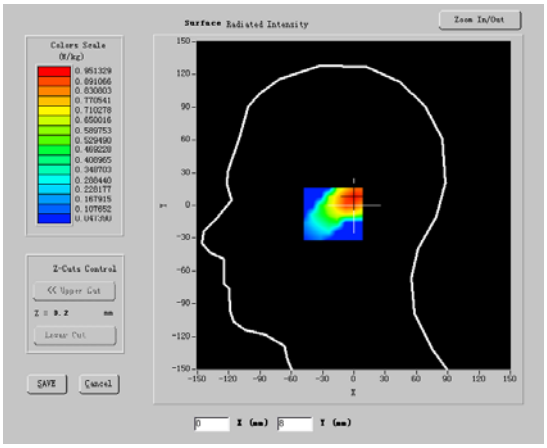
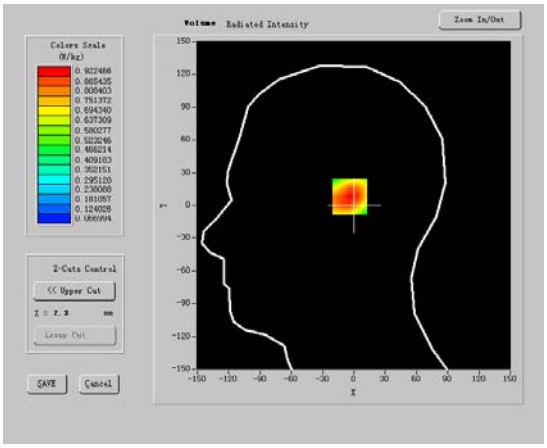
Phantom File	zinf15.txt, Adaptative 2 max
Phantom	Right head
Device Position	Cheek
Band	GSM850
Channels	High
Signal	GSM

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_1109_EP_100)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

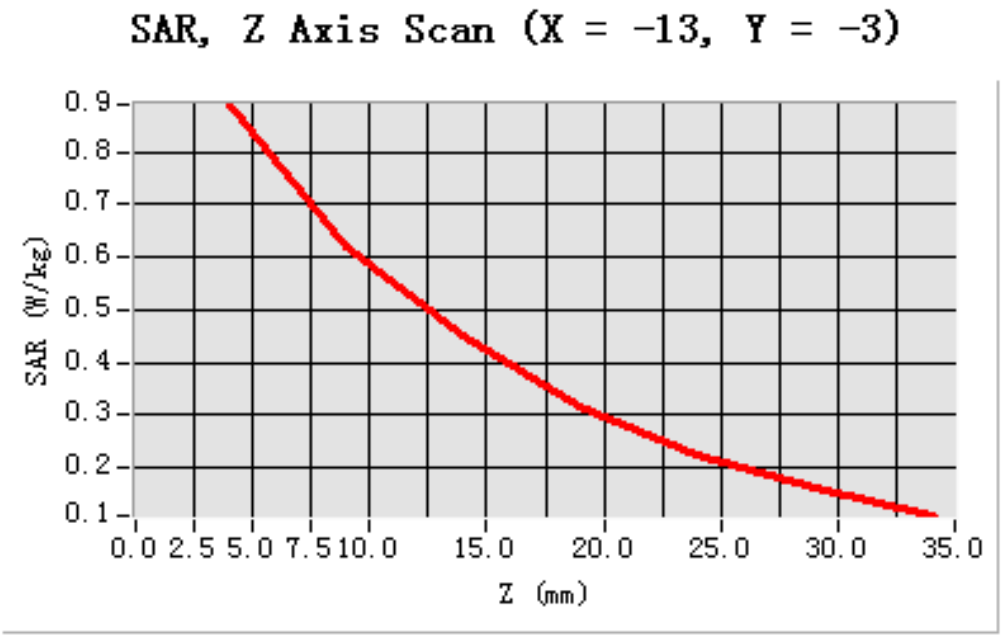
Frequency (MHz)	848.599976
Relative permitivity (real part)	41.262001
Relative permitivity (imaginary part)	19.598200
Conductivity (S/m)	0.903946
Variation (%)	-0.100000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=-13.00, Y=-3.00

SAR 10g (W/Kg)	0.574414
SAR 1g (W/Kg)	0.826428

Z Axis Scan


SAR, Z Axis Scan (X = -13, Y = -3)
SAR (W/kg)
0.9
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)

MEASUREMENT 4

Type: Phone measurement (Complete)

Date of measurement: 22/11/2009

Measurement duration: 19 minutes 47 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

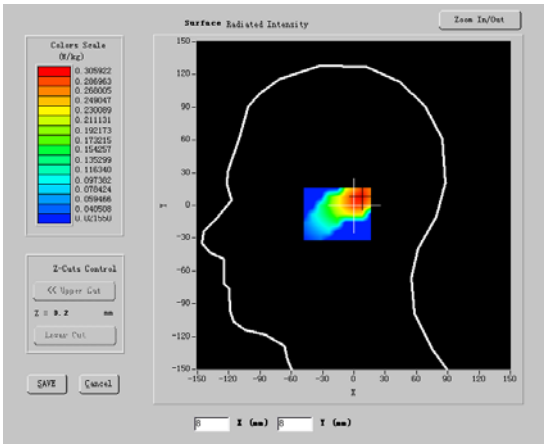
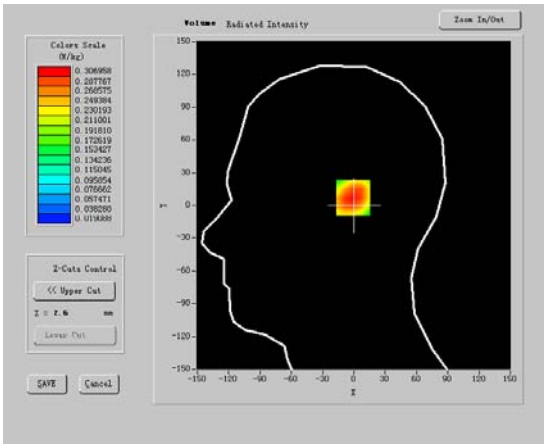
Phantom File	zinf15.txt, Adaptative 2 max
Phantom	Right head
Device Position	Tilt
Band	GSM850
Channels	Low
Signal	GSM

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_1109_EP_100)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

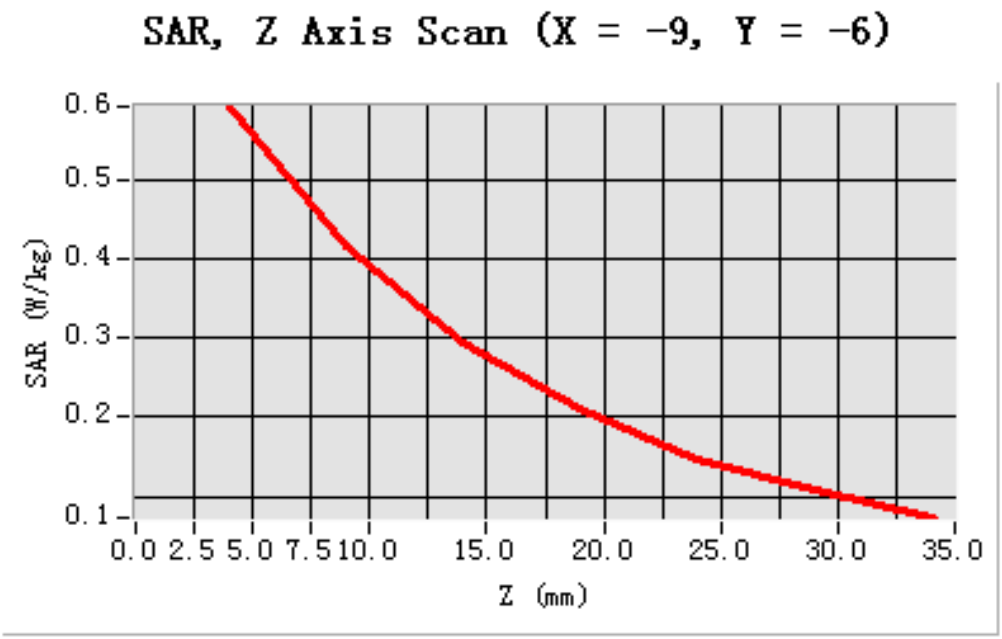
Frequency (MHz)	824.200012
Relative permitivity (real part)	41.466999
Relative permitivity (imaginary part)	19.511101
Conductivity (S/m)	0.893392
Variation (%)	-1.200000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=-9.00, Y=-6.00

SAR 10g (W/Kg)	0.387502
SAR 1g (W/Kg)	0.588237

Z Axis Scan


SAR, Z Axis Scan (X = -9, Y = -6)
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)

MEASUREMENT 5

Type: Phone measurement (Complete)

Date of measurement: 22/11/2009

Measurement duration: 19 minutes 47 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

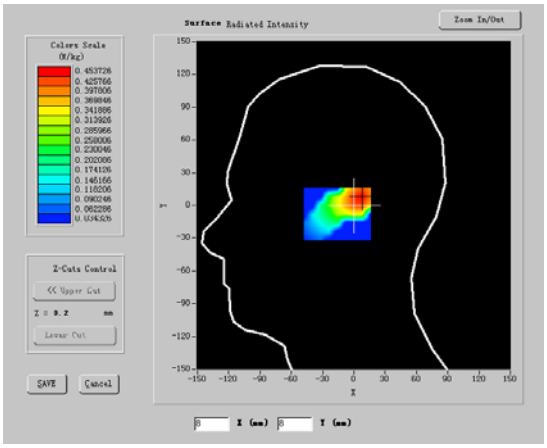
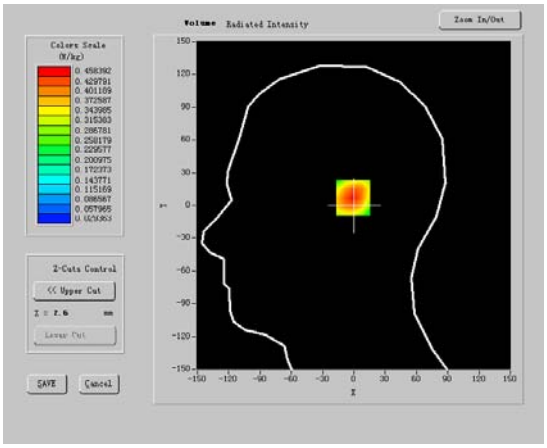
Phantom File	zinf15.txt, Adaptative 2 max
Phantom	Right head
Device Position	Tilt
Band	GSM850
Channels	Middle
Signal	GSM

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_1109_EP_100)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

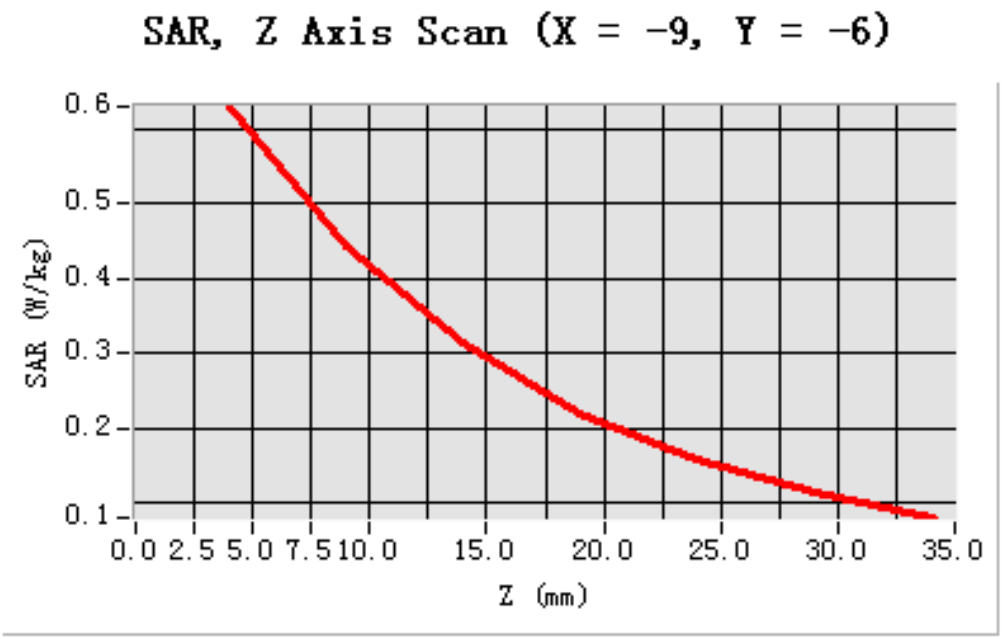
Frequency (MHz)	836.400024
Relative permitivity (real part)	41.466999
Relative permitivity (imaginary part)	19.511101
Conductivity (S/m)	0.906616
Variation (%)	-0.880000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=-9.00, Y=-6.00

SAR 10g (W/Kg)	0.414193
SAR 1g (W/Kg)	0.613257

Z Axis Scan


SAR, Z Axis Scan (X = -9, Y = -6)
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)

MEASUREMENT 6

Type: Phone measurement (Complete)

Date of measurement: 22/11/2009

Measurement duration: 19 minutes 47 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

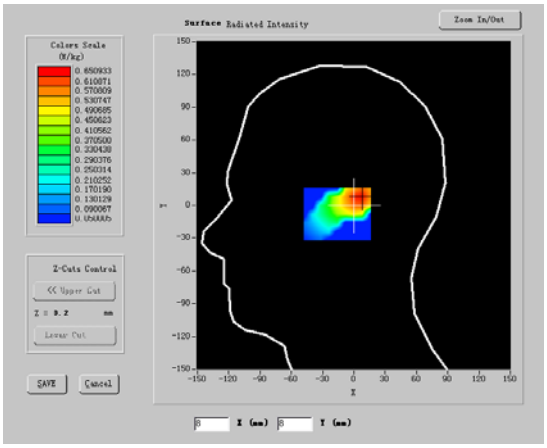
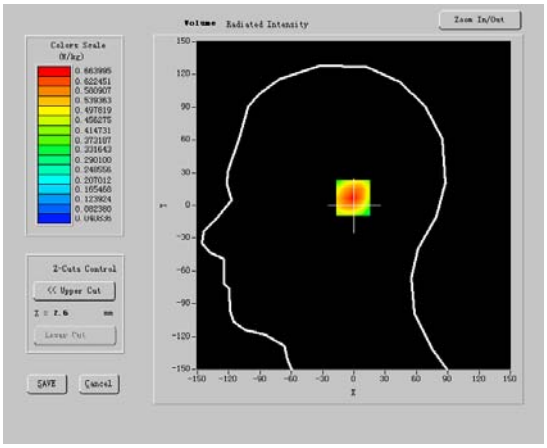
Phantom File	zinf15.txt, Adaptative 2 max
Phantom	Right head
Device Position	Tilt
Band	GSM850
Channels	High
Signal	GSM

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_1109_EP_100)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

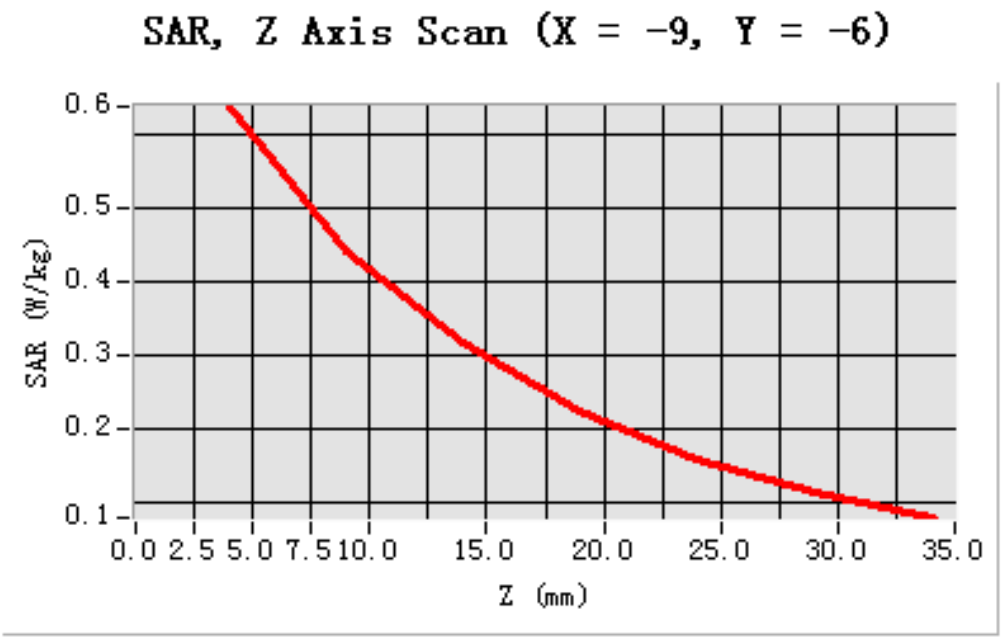
Frequency (MHz)	848.599976
Relative permitivity (real part)	41.262001
Relative permitivity (imaginary part)	19.598200
Conductivity (S/m)	0.903946
Variation (%)	-0.200000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=-9.00, Y=-6.00

SAR 10g (W/Kg)	0.417575
SAR 1g (W/Kg)	0.622125

Z Axis Scan


SAR, Z Axis Scan (X = -9, Y = -6)
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)

MEASUREMENT 7

Type: Phone measurement (Complete)

Date of measurement: 22/11/2009

Measurement duration: 20 minutes 2 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

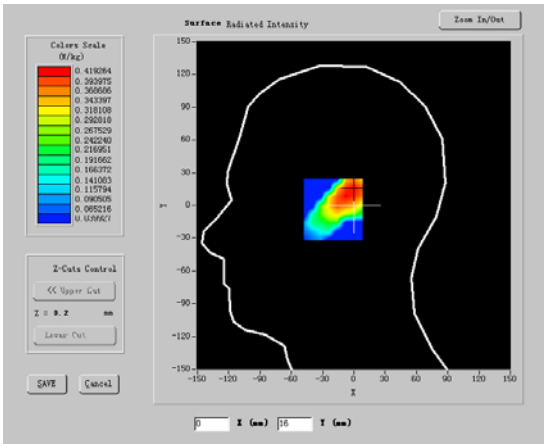
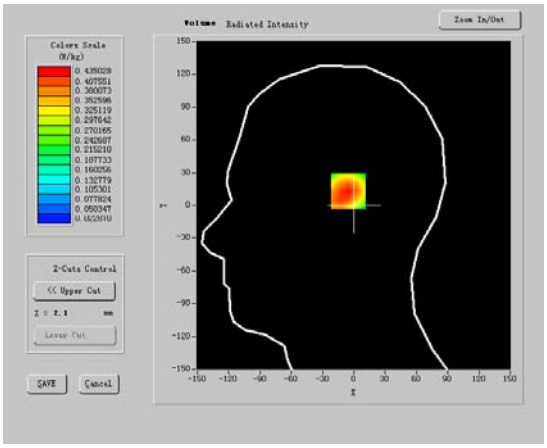
Phantom File	zinf15.txt, Adaptative 2 max
Phantom	Left head
Device Position	Cheek
Band	GSM850
Channels	Low
Signal	GSM

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_1109_EP_100)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

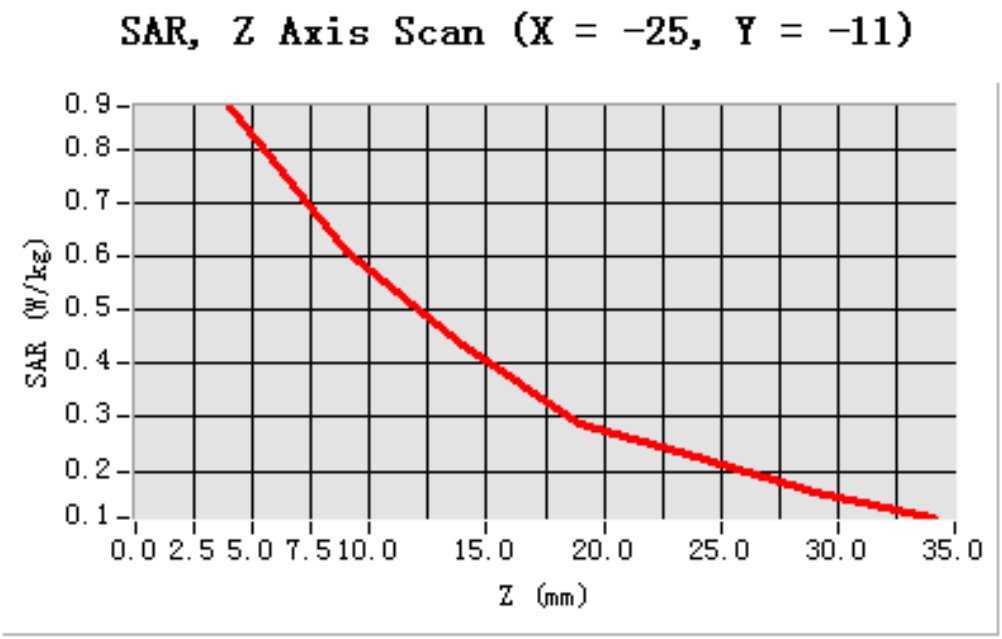
Frequency (MHz)	824.200012
Relative permitivity (real part)	41.466999
Relative permitivity (imaginary part)	19.511101
Conductivity (S/m)	0.893392
Variation (%)	-0.240000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=-25.00, Y=-11.00

SAR 10g (W/Kg)	0.542154
SAR 1g (W/Kg)	0.830452

Z Axis Scan


SAR, Z Axis Scan (X = -25, Y = -11)
SAR (W/kg)
0.9
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)

MEASUREMENT 8

Type: Phone measurement (Complete)

Date of measurement: 22/11/2009

Measurement duration: 20 minutes 2 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

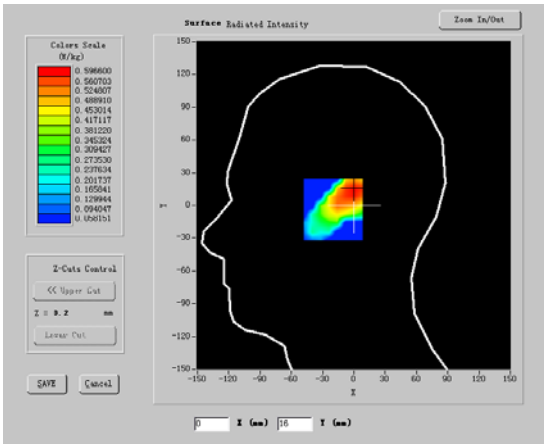
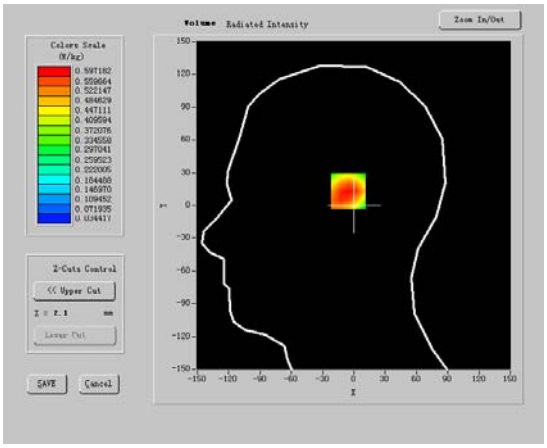
Phantom File	zinf15.txt, Adaptative 2 max
Phantom	Left head
Device Position	Cheek
Band	GSM850
Channels	Middle
Signal	GSM

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_1109_EP_100)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

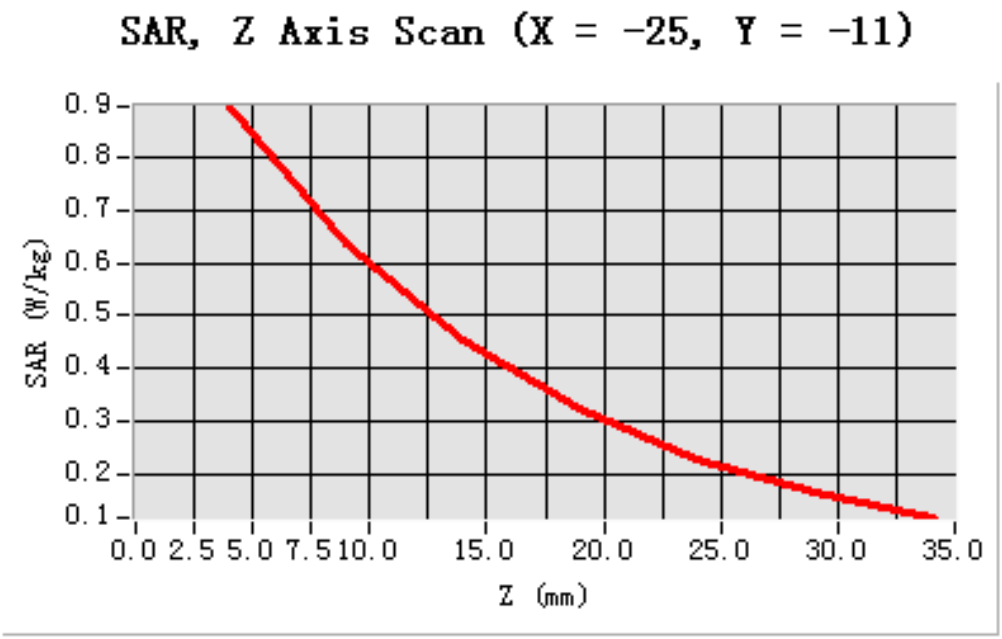
Frequency (MHz)	836.400024
Relative permitivity (real part)	41.491999
Relative permitivity (imaginary part)	19.511101
Conductivity (S/m)	0.906616
Variation (%)	-0.240000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=-25.00, Y=-11.00

SAR 10g (W/Kg)	0.574744
SAR 1g (W/Kg)	0.847028

Z Axis Scan


SAR, Z Axis Scan (X = -25, Y = -11)
SAR (W/kg)
0.9
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)

MEASUREMENT 9

Type: Phone measurement (Complete)

Date of measurement: 22/11/2009

Measurement duration: 20 minutes 2 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

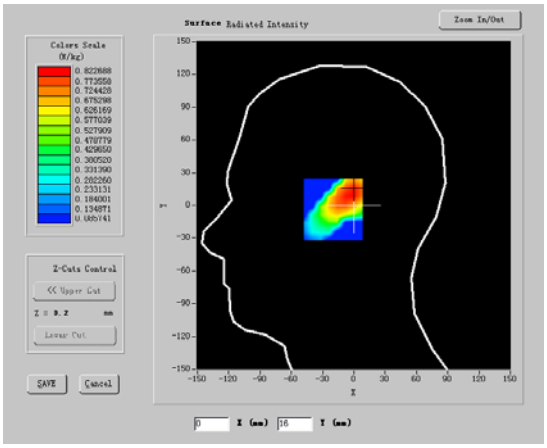
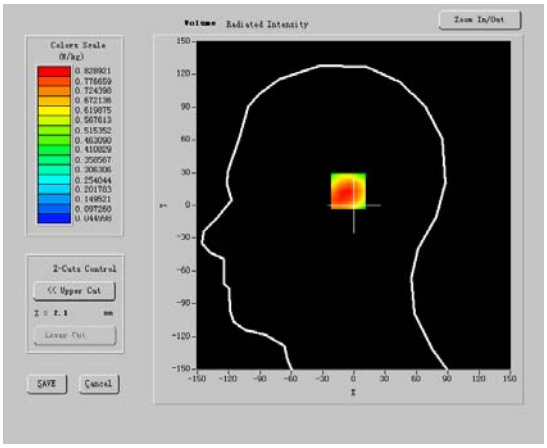
Phantom File	zinf15.txt, Adaptative 2 max
Phantom	Left head
Device Position	Cheek
Band	GSM850
Channels	High
Signal	GSM

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_1109_EP_100)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

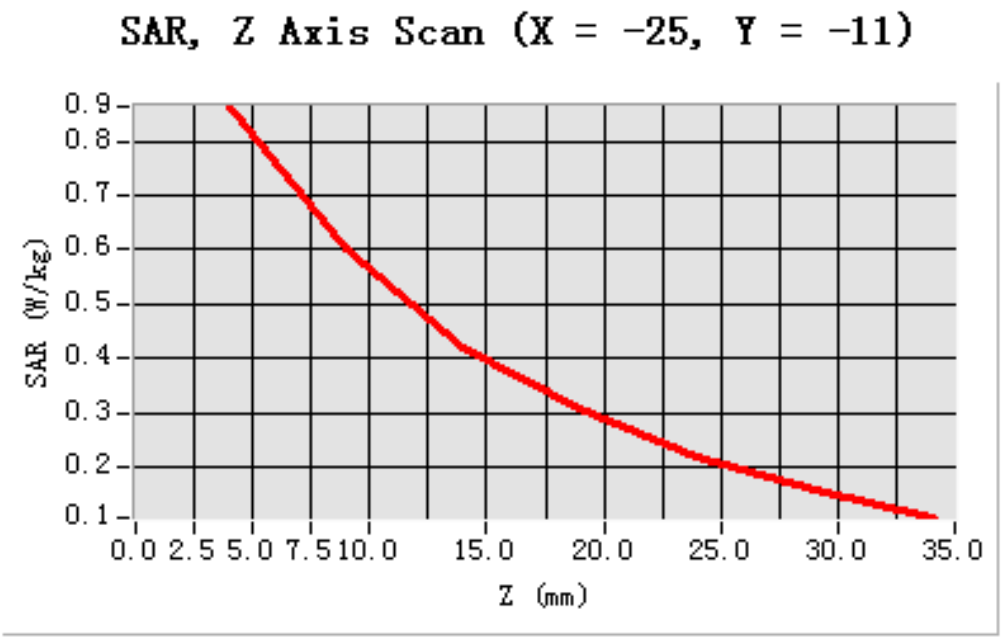
Frequency (MHz)	848.599976
Relative permitivity (real part)	41.262001
Relative permitivity (imaginary part)	19.598200
Conductivity (S/m)	0.900946
Variation (%)	-1.200000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=-25.00, Y=-11.00

SAR 10g (W/Kg)	0.559423
SAR 1g (W/Kg)	0.823281

Z Axis Scan


SAR, Z Axis Scan (X = -25, Y = -11)
SAR (W/kg)
0.9
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)

MEASUREMENT 10

Type: Phone measurement (Complete)

Date of measurement: 22/11/2009

Measurement duration: 19 minutes 49 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

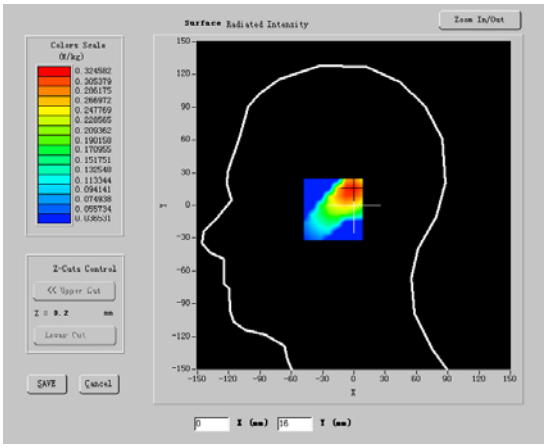
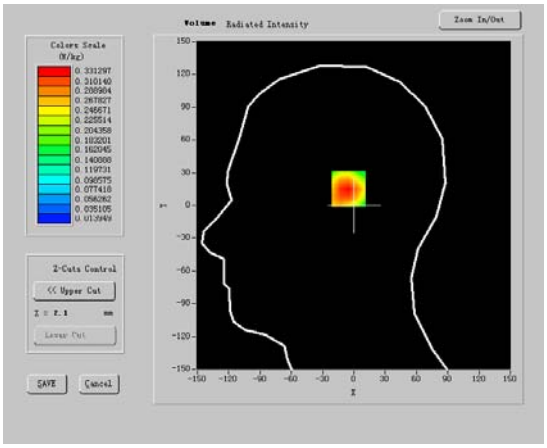
Phantom File	zinf15.txt, Adaptative 2 max
Phantom	Left head
Device Position	Tilt
Band	GSM850
Channels	Low
Signal	GSM

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_1109_EP_100)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

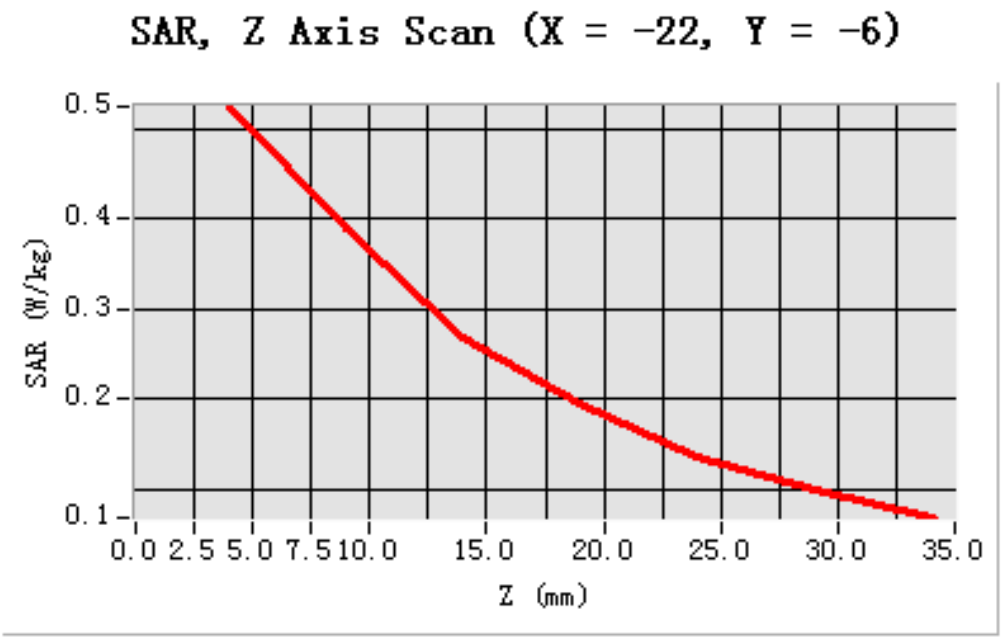
Frequency (MHz)	824.200012
Relative permitivity (real part)	41.466999
Relative permitivity (imaginary part)	19.511101
Conductivity (S/m)	0.903392
Variation (%)	-0.100000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=-22.00, Y=-6.00

SAR 10g (W/Kg)	0.350809
SAR 1g (W/Kg)	0.492087

Z Axis Scan


SAR, Z Axis Scan (X = -22, Y = -6)
SAR (W/kg)
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)

MEASUREMENT 11

Type: Phone measurement (Complete)

Date of measurement: 22/11/2009

Measurement duration: 19 minutes 49 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

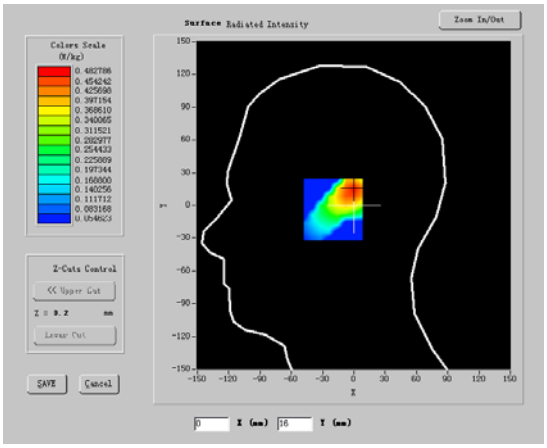
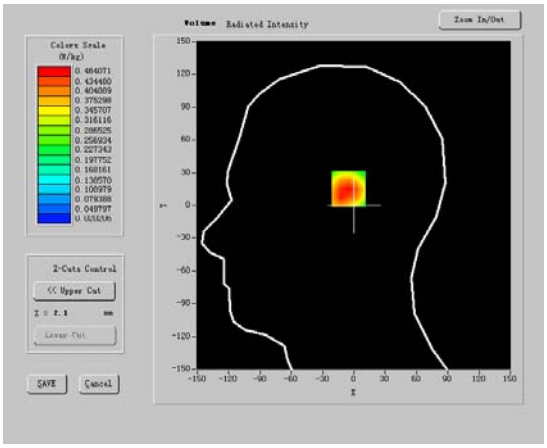
Phantom File	zinf15.txt, Adaptative 2 max
Phantom	Left head
Device Position	Tilt
Band	GSM850
Channels	Middle
Signal	GSM

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_1109_EP_100)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

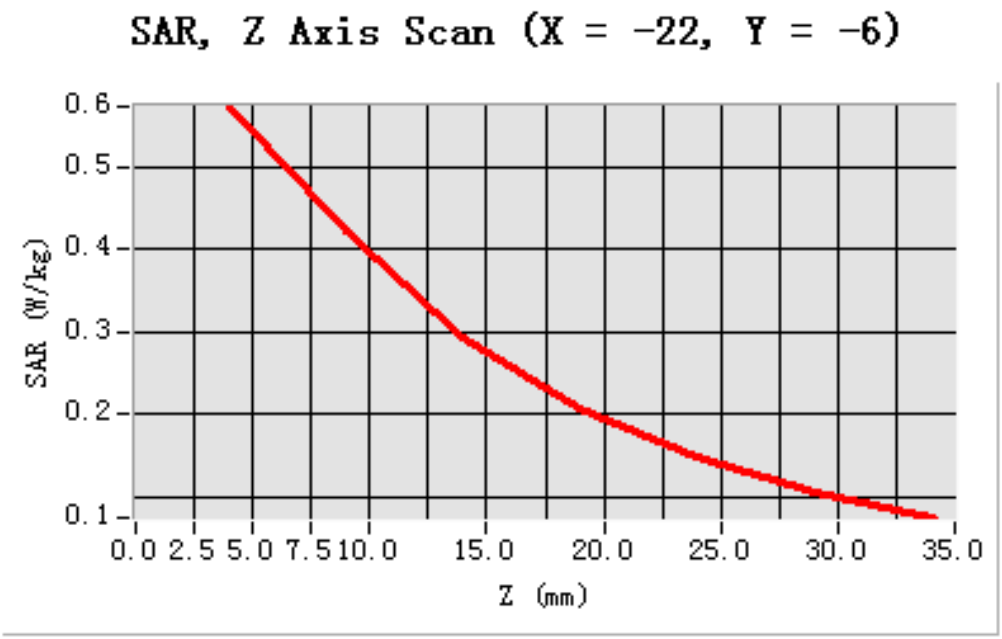
Frequency (MHz)	836.400024
Relative permitivity (real part)	41.466999
Relative permitivity (imaginary part)	19.511101
Conductivity (S/m)	0.900616
Variation (%)	-0.170000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=-22.00, Y=-6.00

SAR 10g (W/Kg)	0.380494
SAR 1g (W/Kg)	0.551022

Z Axis Scan


SAR, Z Axis Scan (X = -22, Y = -6)
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)

MEASUREMENT 12

Type: Phone measurement (Complete)

Date of measurement: 22/11/2009

Measurement duration: 19 minutes 49 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

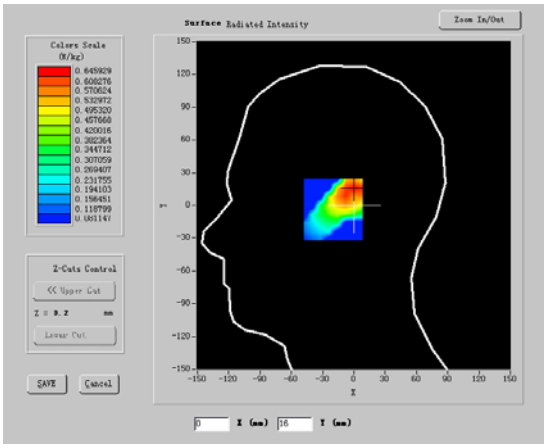
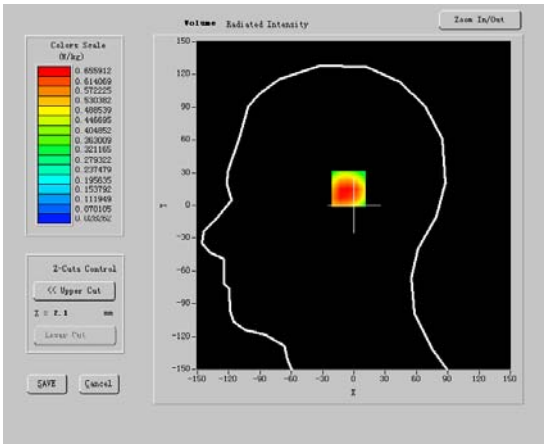
Phantom File	zinf15.txt, Adaptative 2 max
Phantom	Left head
Device Position	Tilt
Band	GSM850
Channels	High
Signal	GSM

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_1109_EP_100)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

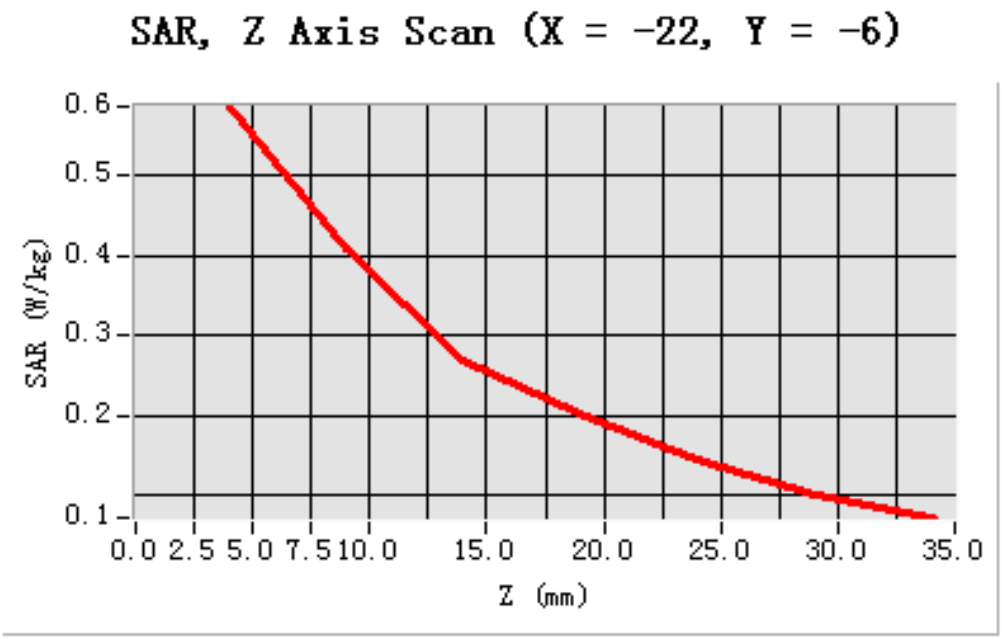
Frequency (MHz)	848.599976
Relative permitivity (real part)	41.462001
Relative permitivity (imaginary part)	19.588200
Conductivity (S/m)	0.900546
Variation (%)	-1.000000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=-22.00, Y=-6.00

SAR 10g (W/Kg)	0.372748
SAR 1g (W/Kg)	0.554354

Z Axis Scan


SAR, Z Axis Scan (X = -22, Y = -6)
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)

MEASUREMENT 13

Type: Phone measurement (Complete)

Date of measurement: 22/11/2009

Measurement duration: 14 minutes 29 seconds

Mobile Phone IMEI number:

A. Experimental conditions.

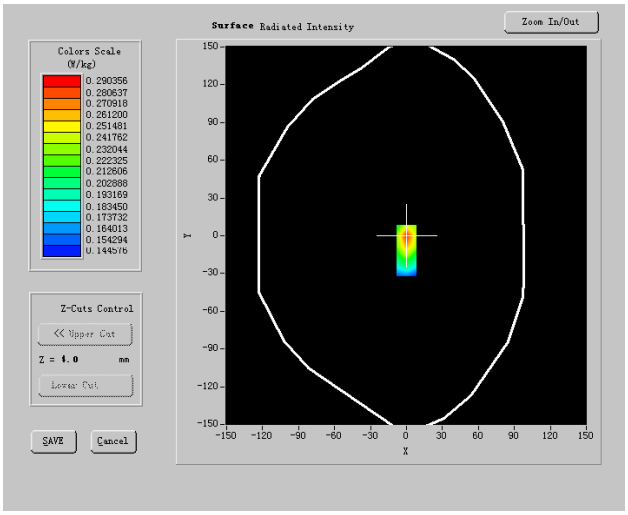
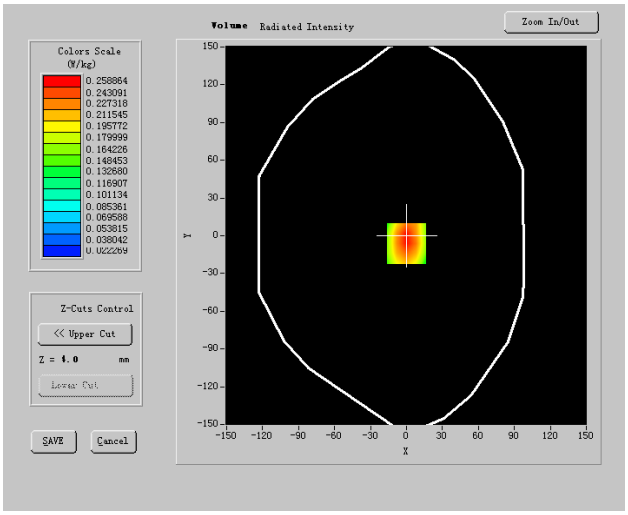
Phantom File	surf_sam_plan.txt, Adaptative 2 max
Phantom	Validation plane
Device Position	Body
Band	GSM850
Channels	Low
Signal	GSM

B. Instrumentations.

PC	HP (Pentium(R) V 3.06GHz, 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_1109_EP_100)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

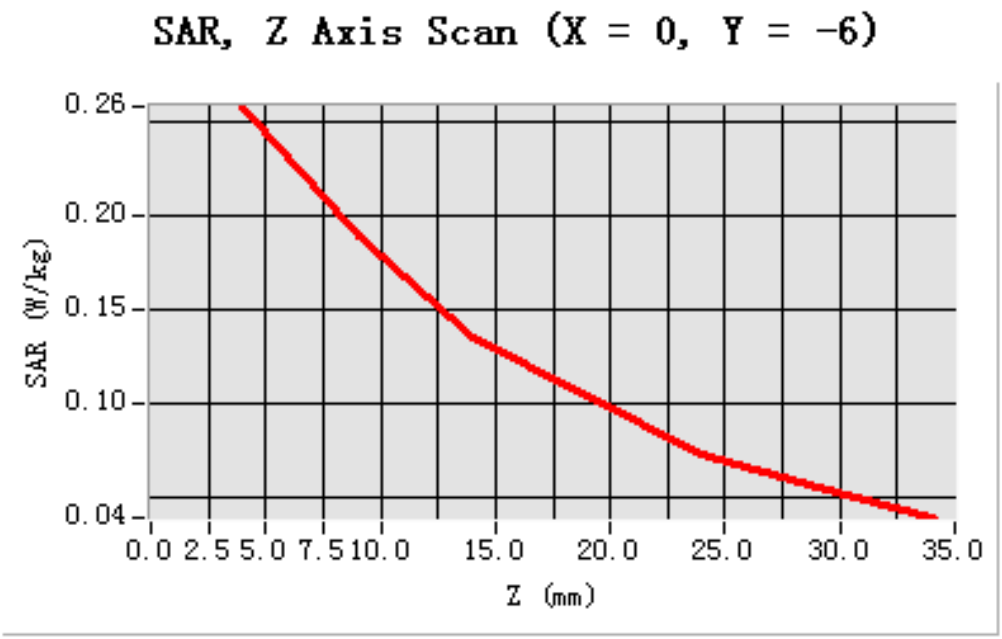
Frequency (MHz)	824.200012
Relative permitivity (real part)	55.584000
Relative permitivity (imaginary part)	21.654150
Conductivity (S/m)	0.951519
Variation (%)	-1.120000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=0.00, Y=-6.00

SAR 10g (W/Kg)	0.183444
SAR 1g (W/Kg)	0.262058

Z Axis Scan


SAR, Z Axis Scan (X = 0, Y = -6)
SAR (W/kg)
0.26
0.20
0.15
0.10
0.04
0.0 2.5 5.0 7.5 10.0 15.0 20.0 25.0 30.0 35.0
Z (mm)

MEASUREMENT 14

Type: Phone measurement (Complete)

Date of measurement: 22/11/2009

Measurement duration: 14 minutes 29 seconds

Mobile Phone IMEI number:

A. Experimental conditions.

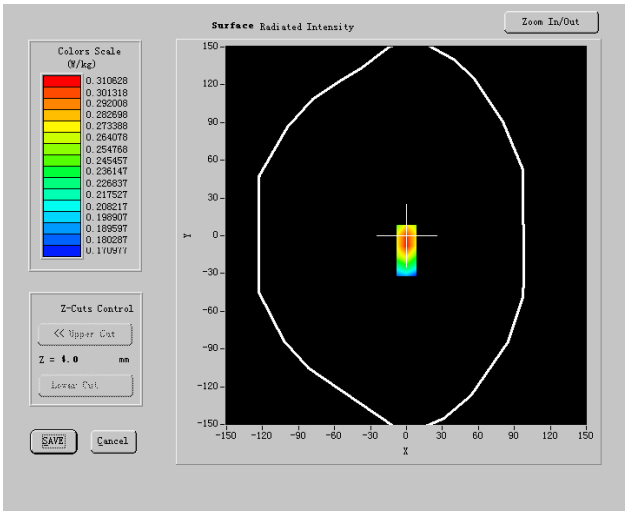
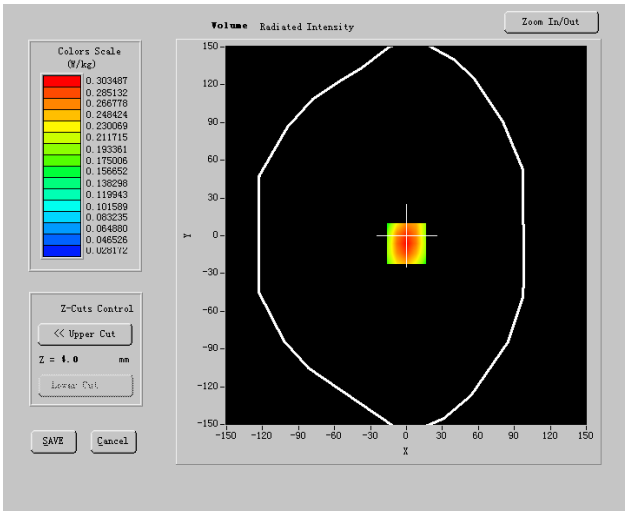
Phantom File	surf_sam_plan.txt, Adaptative 2 max
Phantom	Validation plane
Device Position	Body
Band	GSM850
Channels	Middle
Signal	GSM

B. Instrumentations.

PC	HP (Pentium(R) V 3.06GHz, 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_1109_EP_100)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

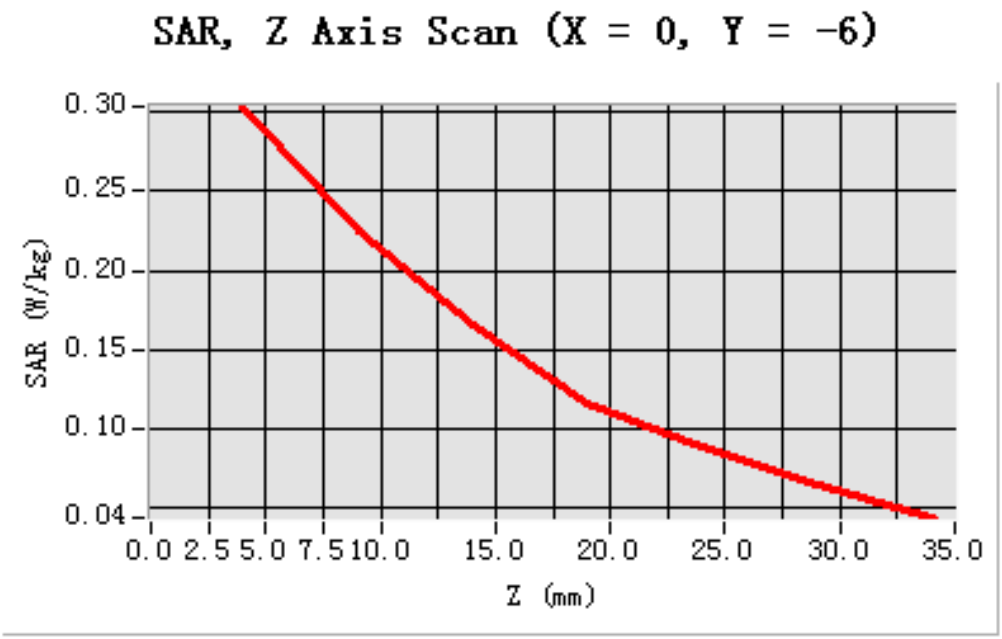
Frequency (MHz)	836.400024
Relative permitivity (real part)	55.501999
Relative permitivity (imaginary part)	21.866249
Conductivity (S/m)	0.966052
Variation (%)	-1.120000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=0.00, Y=-6.00

SAR 10g (W/Kg)	0.211751
SAR 1g (W/Kg)	0.271161

Z Axis Scan


SAR, Z Axis Scan (X = 0, Y = -6)
SAR (W/kg)
0.30
0.25
0.20
0.15
0.10
0.04
0.0 2.5 5.0 7.5 10.0 15.0 20.0 25.0 30.0 35.0
Z (mm)

MEASUREMENT 15

Type: Phone measurement (Complete)

Date of measurement: 22/11/2009

Measurement duration: 14 minutes 29 seconds

Mobile Phone IMEI number:

A. Experimental conditions.

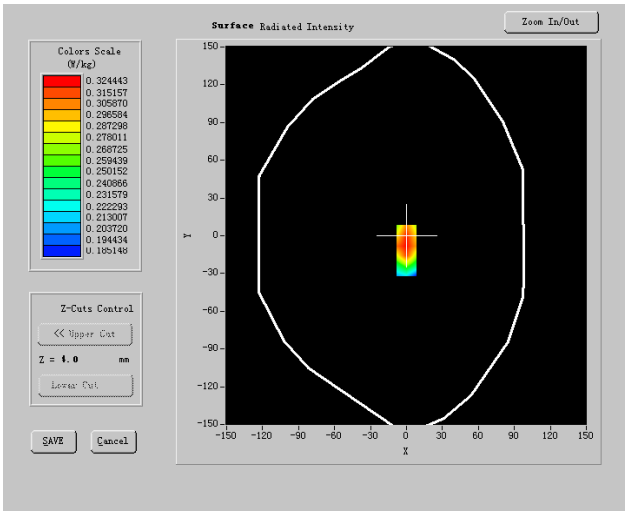
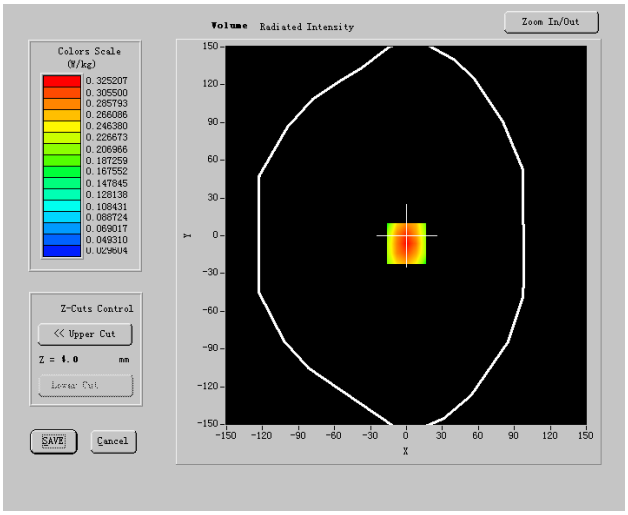
Phantom File	surf_sam_plan.txt, Adaptative 2 max
Phantom	Validation plane
Device Position	Body
Band	GSM850
Channels	High
Signal	GSM

B. Instrumentations.

PC	HP (Pentium(R) V 3.06GHz, 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_1109_EP_100)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

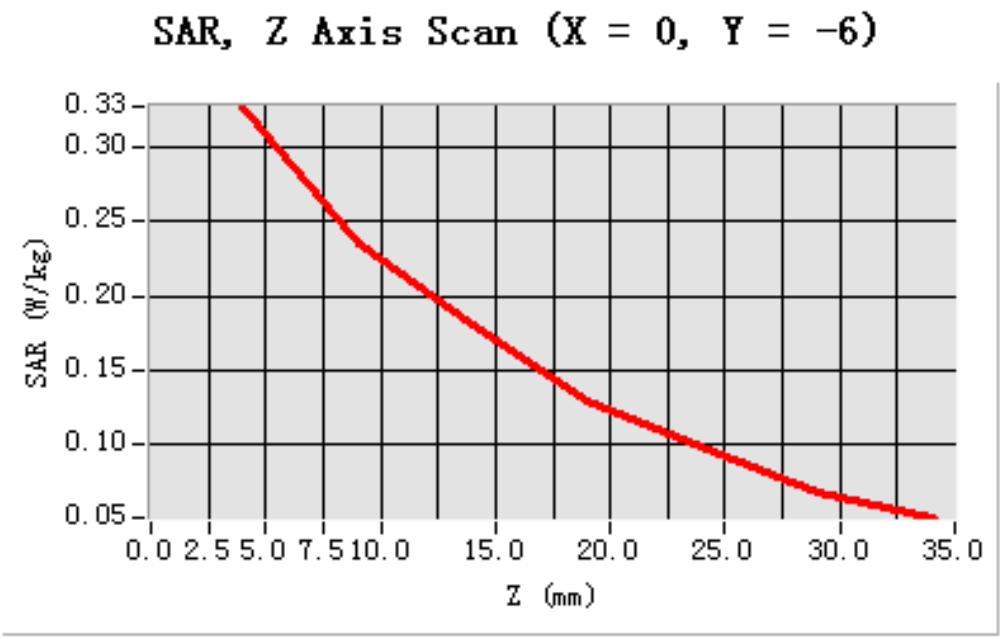
Frequency (MHz)	848.599976
Relative permitivity (real part)	55.576000
Relative permitivity (imaginary part)	21.726601
Conductivity (S/m)	0.964288
Variation (%)	-1.120000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=0.00, Y=-6.00

SAR 10g (W/Kg)	0.228683
SAR 1g (W/Kg)	0.314212

Z Axis Scan


SAR, Z Axis Scan (X = 0, Y = -6)
SAR (W/kg)
0.33
0.30
0.25
0.20
0.15
0.10
0.05
0.0 2.5 5.0 7.5 10.0 15.0 20.0 25.0 30.0 35.0
Z (mm)

GSM 1900

I. RESULTS

TYPE	BAND	PARAMETERS
Noise	--	--
Validation	--	--
Phone	GSM1900	Measurement 1: Right Head with Cheek device position on Low Channel in GSM mode Measurement 2: Right Head with Cheek device position on Middle Channel in GSM mode Measurement 3: Right Head with Cheek device position on High Channel in GSM mode Measurement 4: Right Head with Tilt device position on Low Channel in GSM mode Measurement 5: Right Head with Tilt device position on Middle Channel in GSM mode Measurement 6: Right Head with Tilt device position on High Channel in GSM mode Measurement 7: Left Head with Cheek device position on Low Channel in GSM mode Measurement 8: Left Head with Cheek device position on Middle Channel in GSM mode Measurement 9: Left Head with Cheek device position on High Channel in GSM mode Measurement 10: Left Head with Tilt device position on Low Channel in GSM mode Measurement 11: Left Head with Tilt device position on Middle Channel in GSM mode Measurement 12: Left Head with Tilt device position on High Channel in GSM mode Measurement 13: Validation Plane with Body device position on Low Channel in GSM mode Measurement 14: Validation Plane with Body device position on Middle Channel in GSM mode Measurement 15: Validation Plane with Body device position on High Channel in GSM mode

MEASUREMENT 1

Type: Phone measurement (Complete)

Date of measurement: 22/11/2009

Measurement duration: 15 minutes 3 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

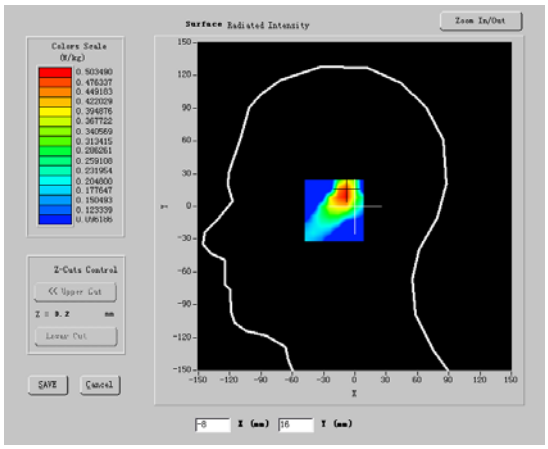
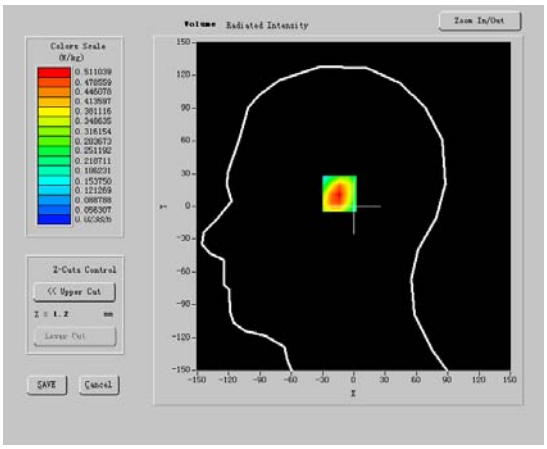
Phantom File	zinf15.txt, Adaptative 2 max
Phantom	Right head
Device Position	Cheek
Band	GSM1900
Channels	Low
Signal	GSM

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 11-09 EP100)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

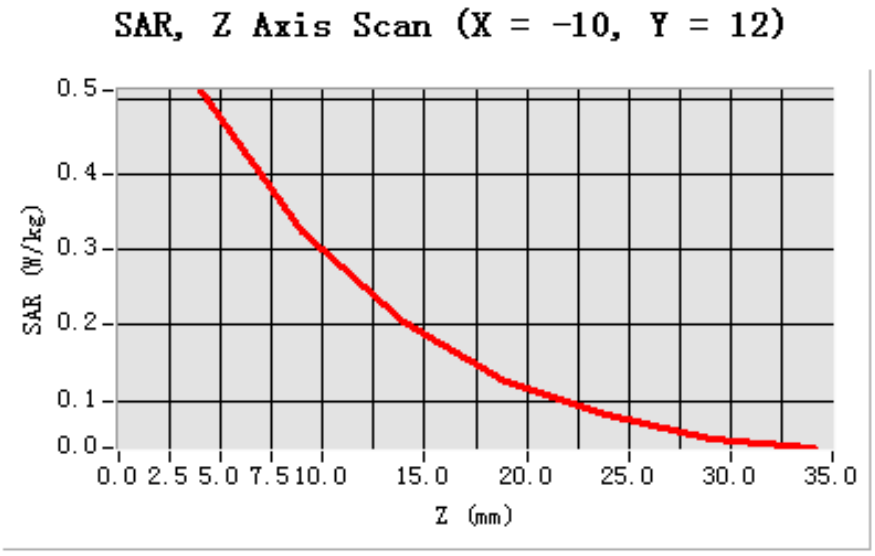
Frequency (MHz)	1850.400024
Relative permitivity (real part)	40.313000
Relative permitivity (imaginary part)	13.584900
Conductivity (S/m)	1.416528
Variation (%)	-1.200000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=-10.00, Y=12.00

SAR 10g (W/Kg)	0.292292
SAR 1g (W/Kg)	0.475137

Z Axis Scan


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

MEASUREMENT 2

Type: Phone measurement (Complete)

Date of measurement: 22/11/2009

Measurement duration: 15 minutes 3 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

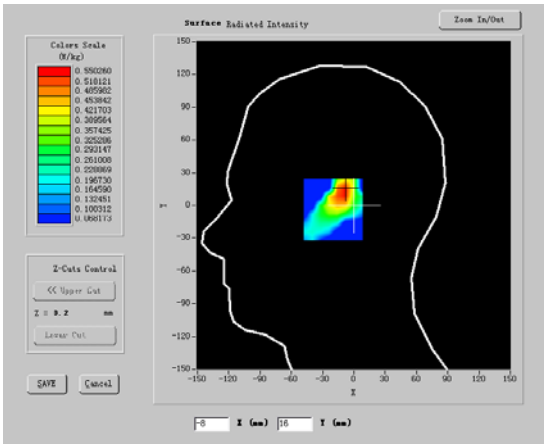
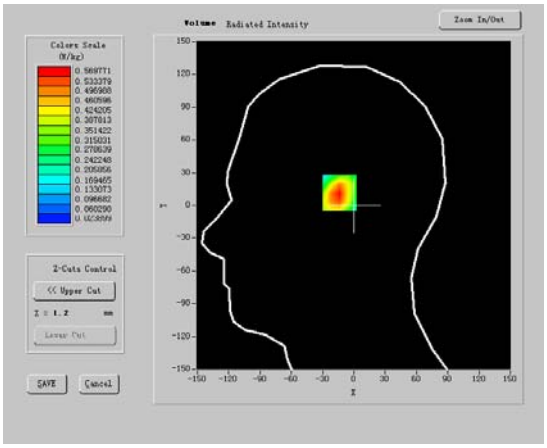
Phantom File	zinf15.txt, Adaptative 2 max
Phantom	Right head
Device Position	Cheek
Band	GSM1900
Channels	Middle
Signal	GSM

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 11-09 EP100)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

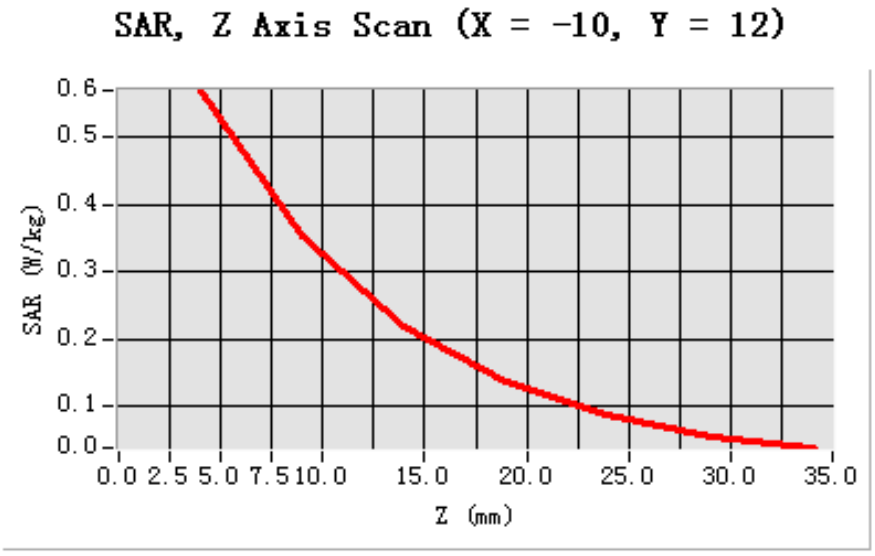
Frequency (MHz)	1880.000000
Relative permitivity (real part)	40.193001
Relative permitivity (imaginary part)	13.813800
Conductivity (S/m)	1.412775
Variation (%)	-0.210000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=-10.00, Y=12.00

SAR 10g (W/Kg)	0.329204
SAR 1g (W/Kg)	0.533215

Z Axis Scan


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

MEASUREMENT 3

Type: Phone measurement (Complete)

Date of measurement: 22/11/2009

Measurement duration: 15 minutes 3 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

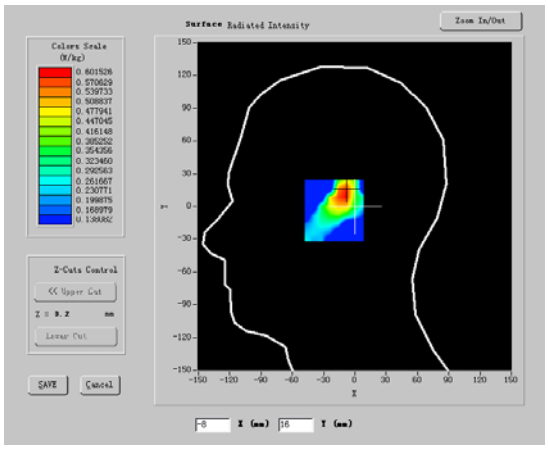
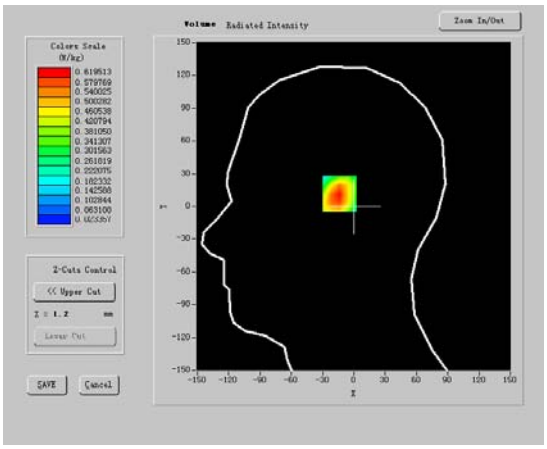
Phantom File	zinf15.txt, Adaptative 2 max
Phantom	Right head
Device Position	Cheek
Band	GSM1900
Channels	High
Signal	GSM

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 11-09 EP100)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

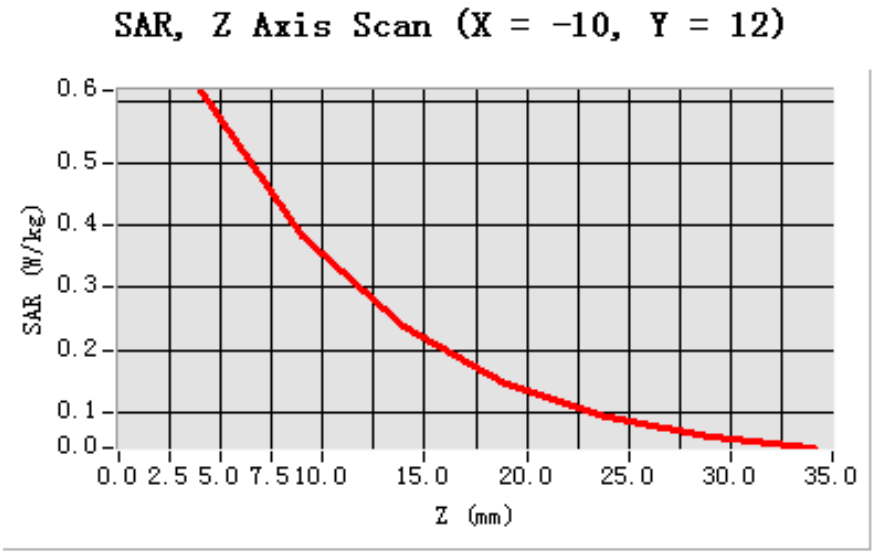
Frequency (MHz)	1909.599976
Relative permitivity (real part)	40.285999
Relative permitivity (imaginary part)	13.669900
Conductivity (S/m)	1.420225
Variation (%)	-0.300000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=-10.00, Y=12.00

SAR 10g (W/Kg)	0.342159
SAR 1g (W/Kg)	0.576260

Z Axis Scan


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

MEASUREMENT 4

Type: Phone measurement (Complete)

Date of measurement: 22/11/2009

Measurement duration: 14 minutes 27 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

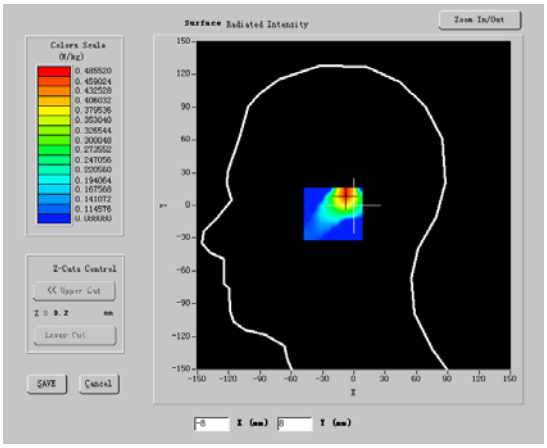
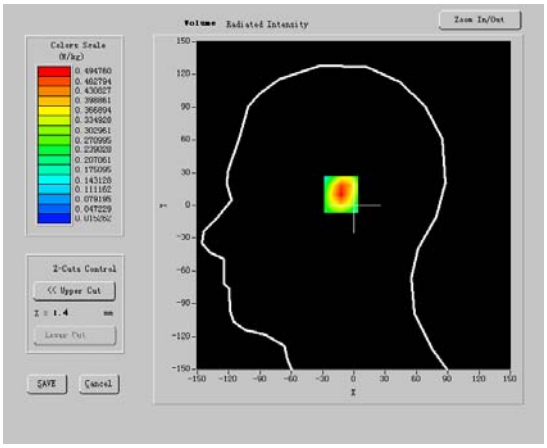
Phantom File	zinf15.txt, Adaptative 2 max
Phantom	Right head
Device Position	Tilt
Band	GSM1900
Channels	Low
Signal	GSM

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 11-09 EP100)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

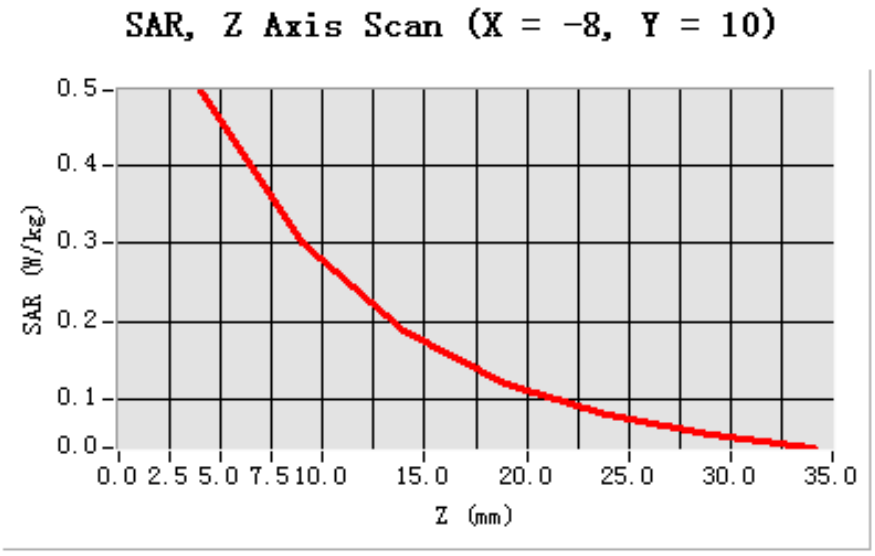
Frequency (MHz)	1850.400024
Relative permitivity (real part)	40.313000
Relative permitivity (imaginary part)	13.584900
Conductivity (S/m)	1.416528
Variation (%)	-1.400000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=-8.00, Y=10.00

SAR 10g (W/Kg)	0.285610
SAR 1g (W/Kg)	0.462368

Z Axis Scan


SAR, Z Axis Scan (X = -8, Y = 10)
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)

MEASUREMENT 5

Type: Phone measurement (Complete)

Date of measurement: 22/11/2009

Measurement duration: 14 minutes 27 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

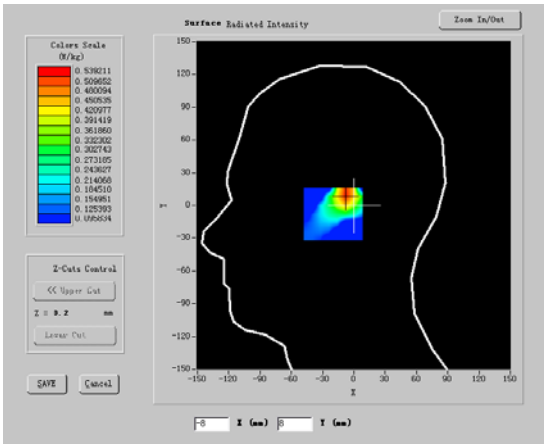
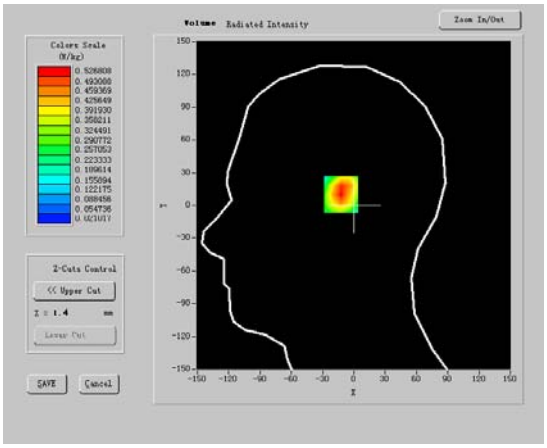
Phantom File	zinf15.txt, Adaptative 2 max
Phantom	Right head
Device Position	Tilt
Band	GSM1900
Channels	Middle
Signal	GSM

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 11-09 EP100)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

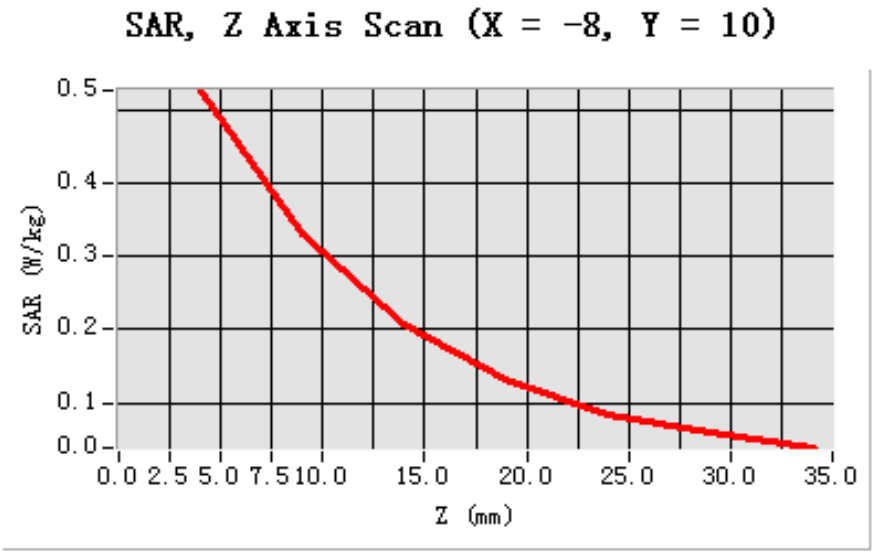
Frequency (MHz)	1880.000000
Relative permitivity (real part)	40.193001
Relative permitivity (imaginary part)	13.813800
Conductivity (S/m)	1.412315
Variation (%)	-0.460000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=-8.00, Y=10.00

SAR 10g (W/Kg)	0.304206
SAR 1g (W/Kg)	0.481132

Z Axis Scan


SAR, Z Axis Scan (X = -8, Y = 10)
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)

MEASUREMENT 6

Type: Phone measurement (Complete)

Date of measurement: 22/11/2009

Measurement duration: 14 minutes 27 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

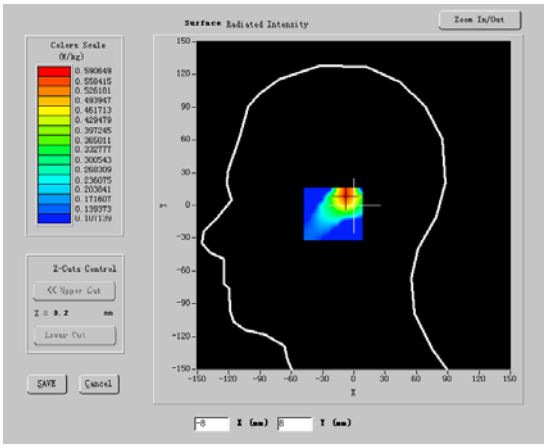
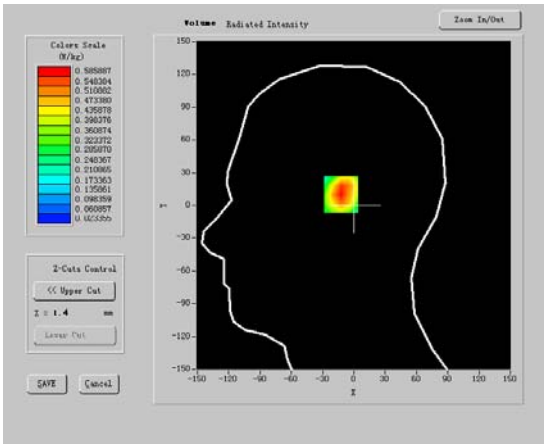
Phantom File	zinf15.txt, Adaptative 2 max
Phantom	Right head
Device Position	Tilt
Band	GSM1900
Channels	High
Signal	GSM

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 11-09 EP100)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

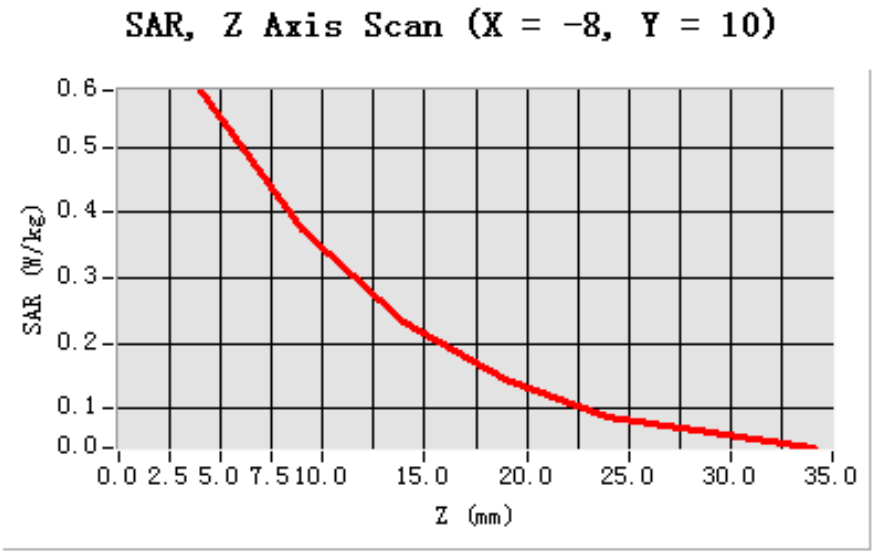
Frequency (MHz)	1909.599976
Relative permitivity (real part)	40.285999
Relative permitivity (imaginary part)	13.669900
Conductivity (S/m)	1.410225
Variation (%)	-1.500000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=-8.00, Y=10.00

SAR 10g (W/Kg)	0.339155
SAR 1g (W/Kg)	0.534059

Z Axis Scan


SAR, Z Axis Scan (X = -8, Y = 10)
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)

MEASUREMENT 7

Type: Phone measurement (Complete)

Date of measurement: 22/11/2009

Measurement duration: 14 minutes 27 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

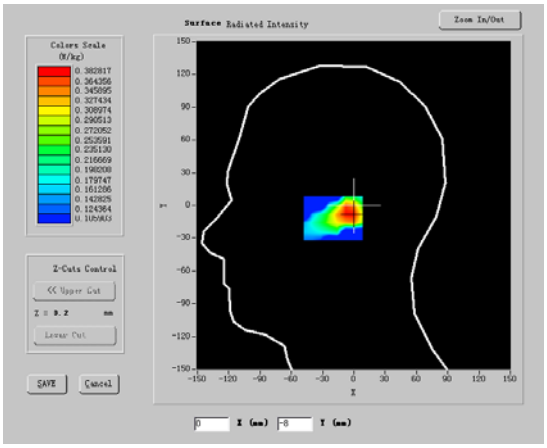
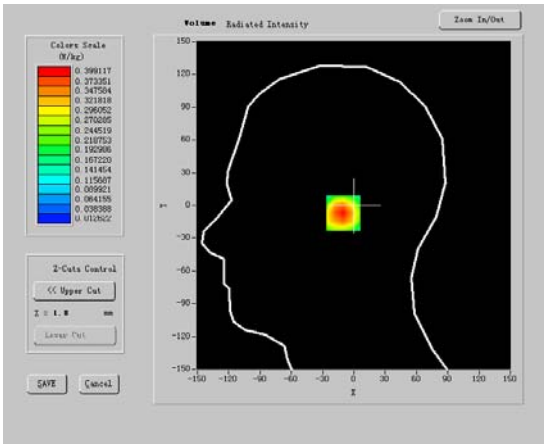
Phantom File	zinf15.txt, Adaptative 2 max
Phantom	Left head
Device Position	Cheek
Band	GSM1900
Channels	Low
Signal	GSM

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 11-09 EP100)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

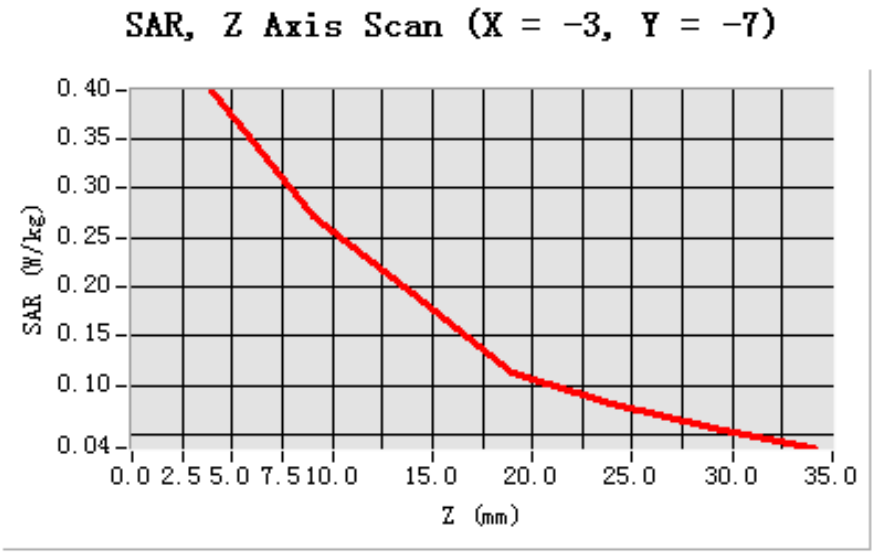
Frequency (MHz)	1850.400024
Relative permitivity (real part)	40.313000
Relative permitivity (imaginary part)	13.584900
Conductivity (S/m)	1.426528
Variation (%)	0.400000

SURFACE SAR	**VOLUME SAR**
	

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

SAR 10g (W/Kg)	0.252191
SAR 1g (W/Kg)	0.353390

Z Axis Scan


SAR, Z Axis Scan (X = -3, Y = -7)
SAR (W/kg)
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.04
0.0 2.5 5.0 7.5 10.0 15.0 20.0 25.0 30.0 35.0
Z (mm)

MEASUREMENT 8

Type: Phone measurement (Complete)

Date of measurement: 22/11/2009

Measurement duration: 14 minutes 27 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

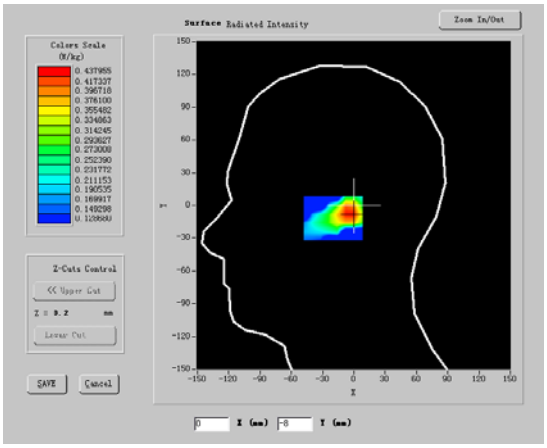
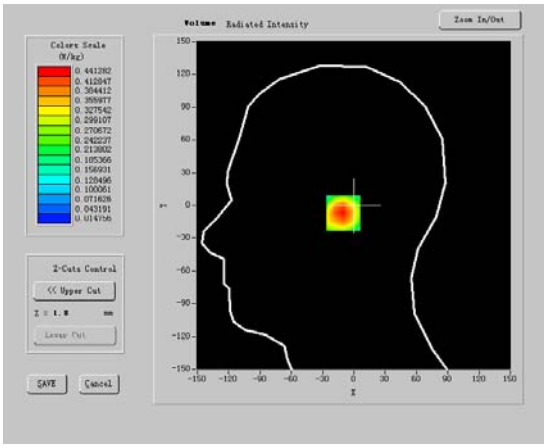
Phantom File	zinf15.txt, Adaptative 2 max
Phantom	Left head
Device Position	Cheek
Band	GSM1900
Channels	Middle
Signal	GSM

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 11-09 EP100)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

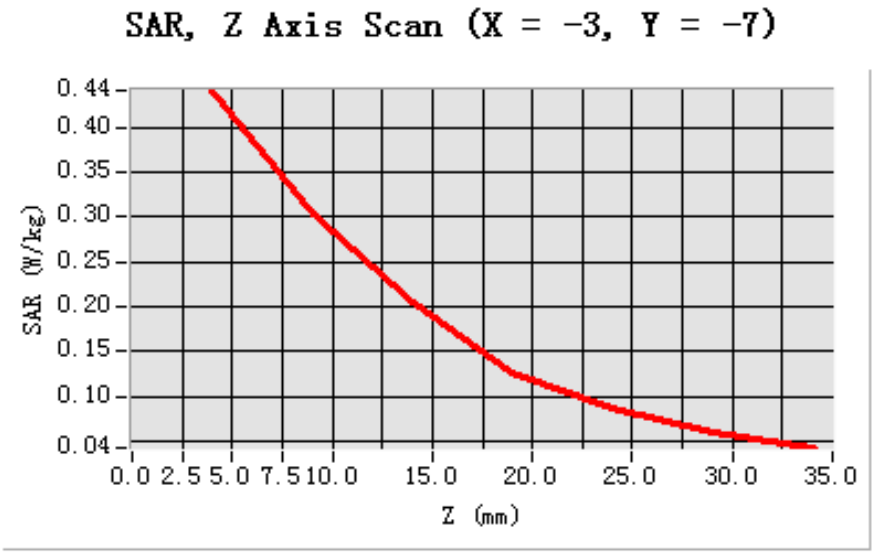
Frequency (MHz)	1880.000000
Relative permitivity (real part)	40.193001
Relative permitivity (imaginary part)	13.813800
Conductivity (S/m)	1.412775
Variation (%)	1.800000

SURFACE SAR	**VOLUME SAR**
	

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

SAR 10g (W/Kg)	0.265947
SAR 1g (W/Kg)	0.415263

Z Axis Scan


SAR, Z Axis Scan (X = -3, Y = -7)
SAR (W/kg)
0.44
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.04
0.0 2.5 5.0 7.5 10.0 15.0 20.0 25.0 30.0 35.0
Z (mm)

MEASUREMENT 9

Type: Phone measurement (Complete)

Date of measurement: 22/11/2009

Measurement duration: 14 minutes 27 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

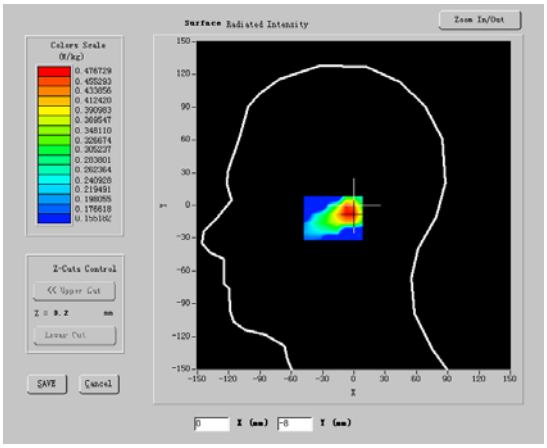
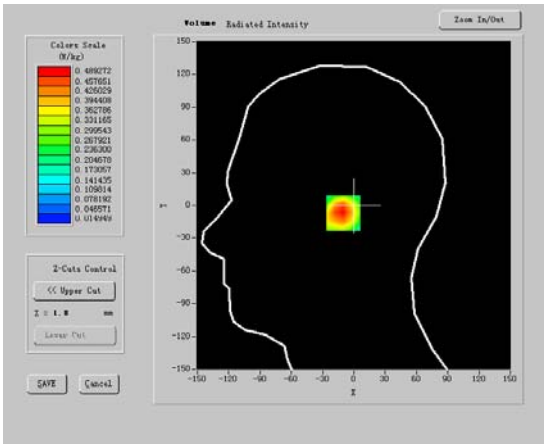
Phantom File	zinf15.txt, Adaptative 2 max
Phantom	Left head
Device Position	Cheek
Band	GSM1900
Channels	High
Signal	GSM

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 11-09 EP100)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

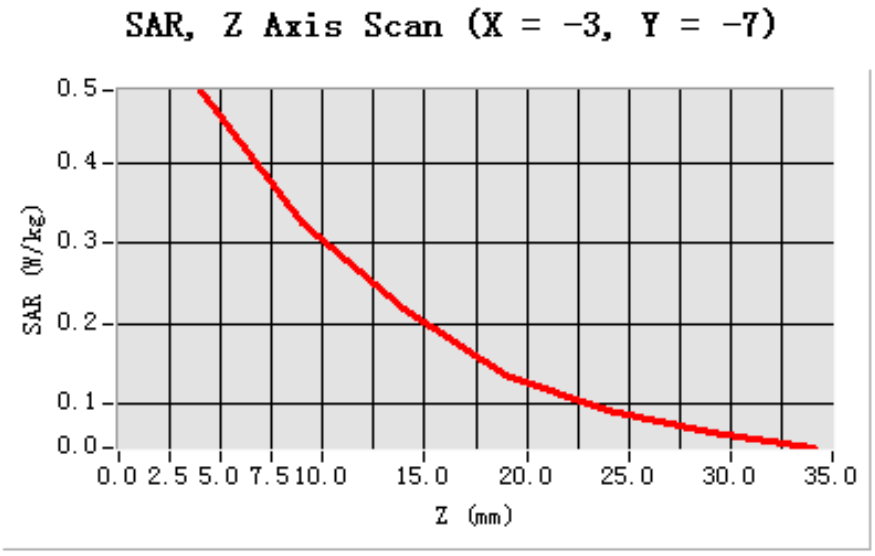
Frequency (MHz)	1909.599976
Relative permitivity (real part)	40.275999
Relative permitivity (imaginary part)	13.669900
Conductivity (S/m)	1.410227
Variation (%)	0.400000

SURFACE SAR	**VOLUME SAR**
	

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

SAR 10g (W/Kg)	0.293749
SAR 1g (W/Kg)	0.442230

Z Axis Scan


SAR, Z Axis Scan (X = -3, Y = -7)
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)

MEASUREMENT 10

Type: Phone measurement (Complete)

Date of measurement: 22/11/2009

Measurement duration: 14 minutes 19 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

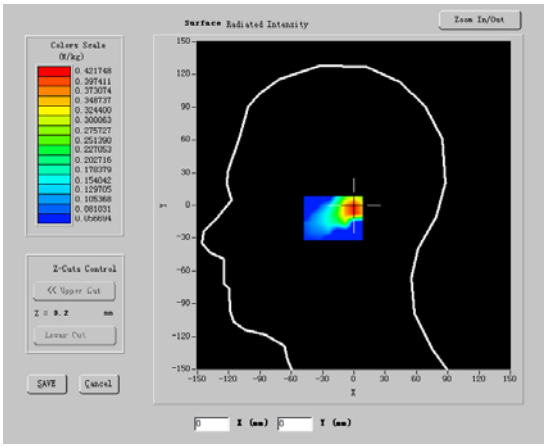
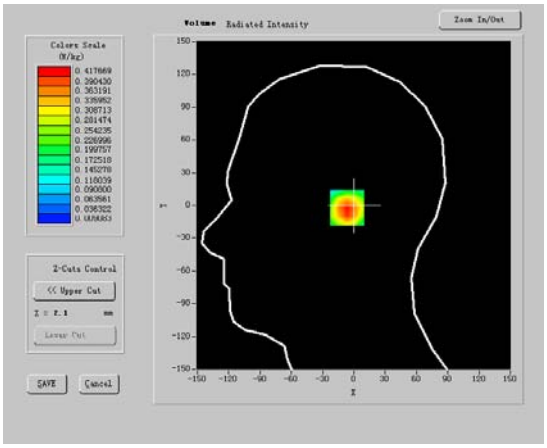
Phantom File	zinf15.txt, Adaptative 2 max
Phantom	Left head
Device Position	Tilt
Band	GSM1900
Channels	Low
Signal	GSM

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 11-09 EP100)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

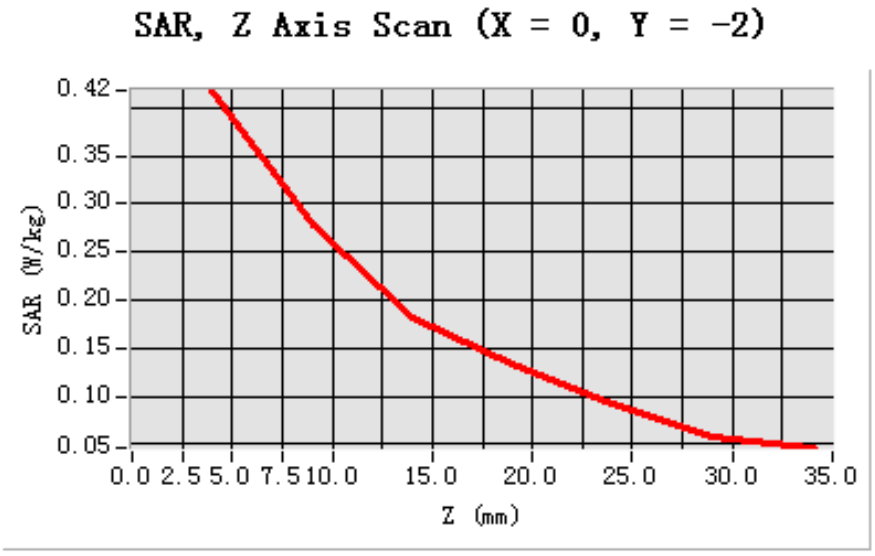
Frequency (MHz)	1850.400024
Relative permitivity (real part)	40.313000
Relative permitivity (imaginary part)	13.584900
Conductivity (S/m)	1.416528
Variation (%)	-0.700000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=0.00, Y=-2.00

SAR 10g (W/Kg)	0.254328
SAR 1g (W/Kg)	0.384459

Z Axis Scan


SAR, Z Axis Scan (X = 0, Y = -2)
SAR (W/kg)
0.42
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.0 2.5 5.0 7.5 10.0 15.0 20.0 25.0 30.0 35.0
Z (mm)

MEASUREMENT 11

Type: Phone measurement (Complete)

Date of measurement: 22/11/2009

Measurement duration: 14 minutes 19 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

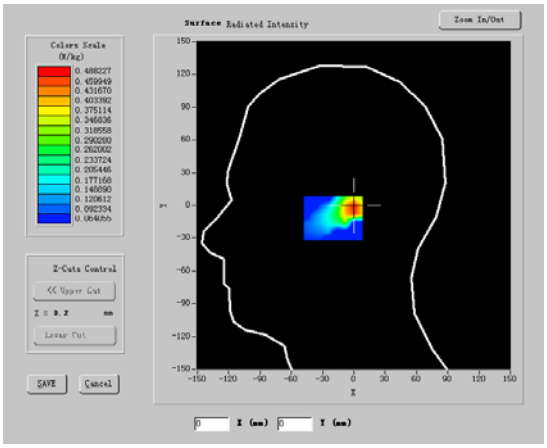
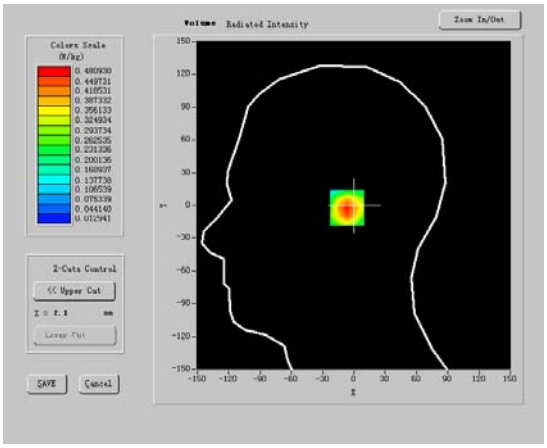
Phantom File	zinf15.txt, Adaptative 2 max
Phantom	Left head
Device Position	Tilt
Band	GSM1900
Channels	Middle
Signal	GSM

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 11-09 EP100)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

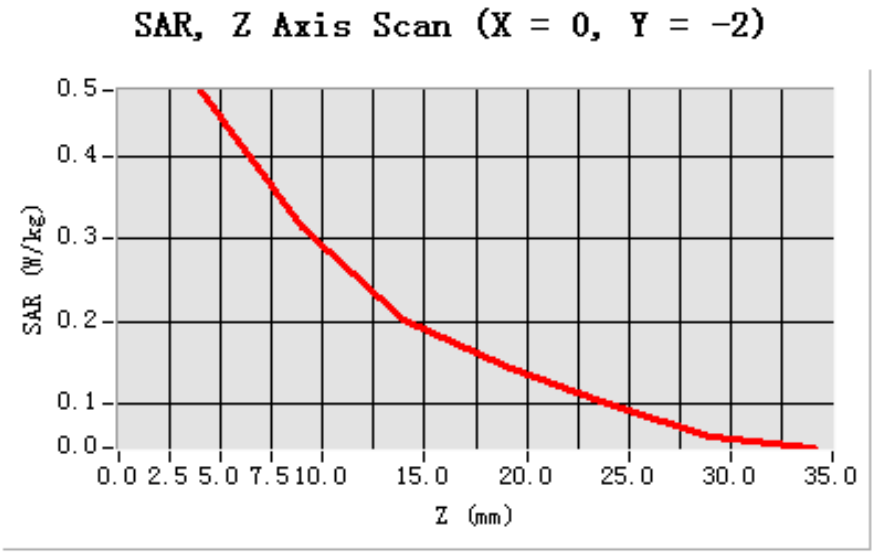
Frequency (MHz)	1880.000000
Relative permitivity (real part)	40.193001
Relative permitivity (imaginary part)	13.813800
Conductivity (S/m)	1.40775
Variation (%)	-1.100000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=0.00, Y=-2.00

SAR 10g (W/Kg)	0.290492
SAR 1g (W/Kg)	0.436185

Z Axis Scan


SAR, Z Axis Scan (X = 0, Y = -2)
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)

MEASUREMENT 12

Type: Phone measurement (Complete)

Date of measurement: 22/11/2009

Measurement duration: 14 minutes 19 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

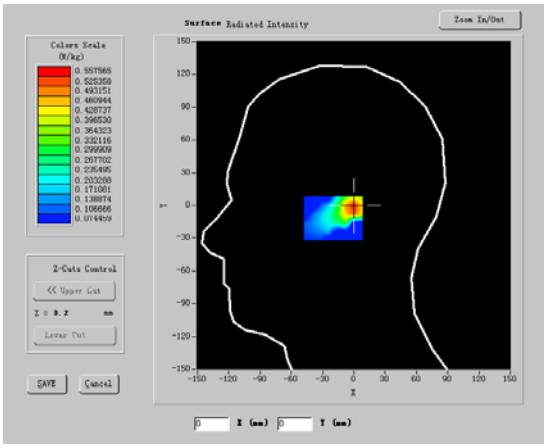
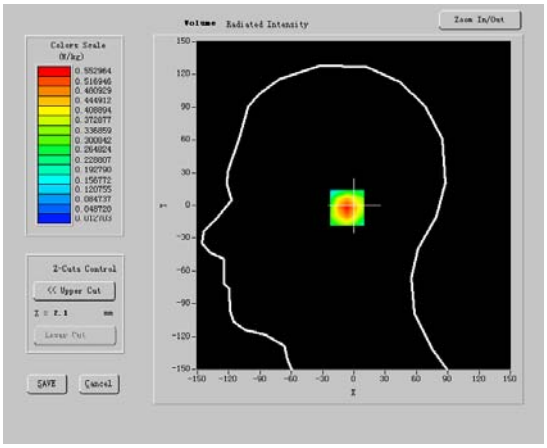
Phantom File	zinf15.txt, Adaptative 2 max
Phantom	Left head
Device Position	Tilt
Band	GSM1900
Channels	High
Signal	GSM

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 11-09 EP100)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

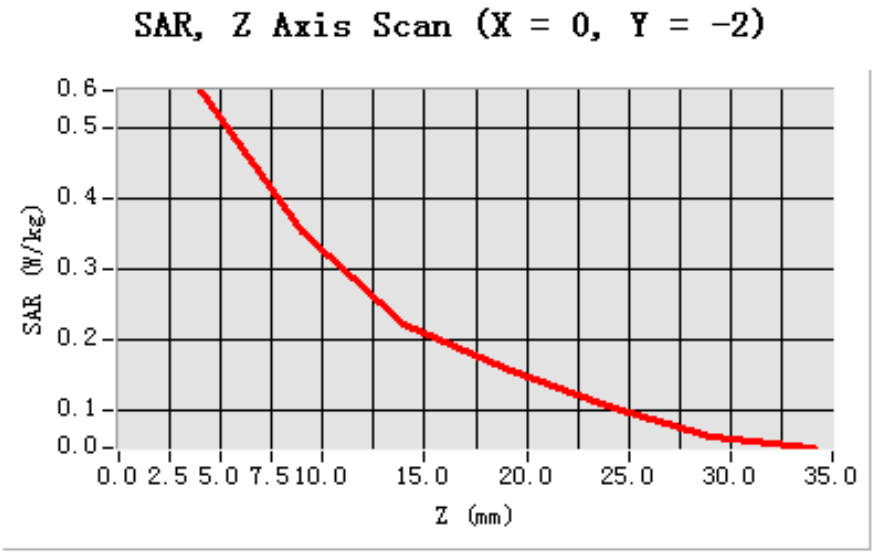
Frequency (MHz)	1909.599976
Relative permitivity (real part)	40.285999
Relative permitivity (imaginary part)	13.669900
Conductivity (S/m)	1.420225
Variation (%)	-1.130000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=0.00, Y=-2.00

SAR 10g (W/Kg)	0.318245
SAR 1g (W/Kg)	0.498739

Z Axis Scan


SAR, Z Axis Scan (X = 0, 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)

MEASUREMENT 13

Type: Phone measurement (Complete)

Date of measurement: 22/11/2009

Measurement duration: 14 minutes 44 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

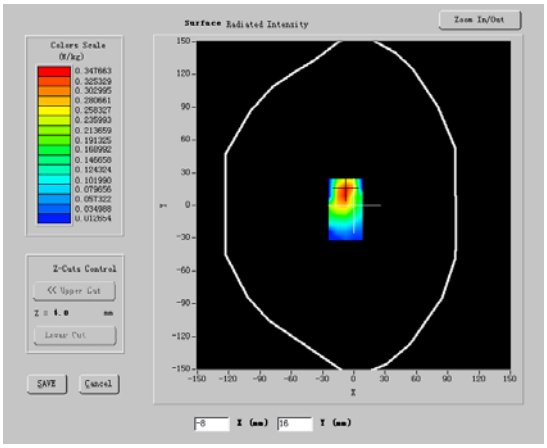
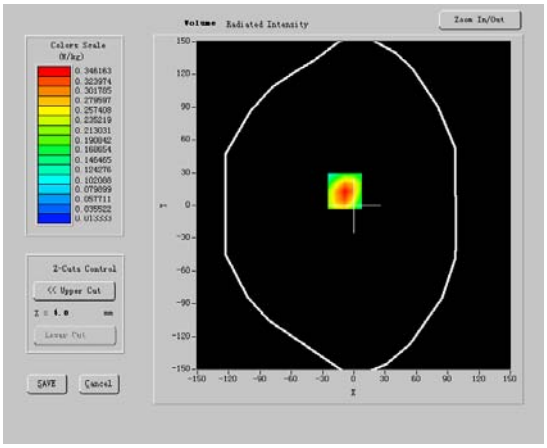
Phantom File	surf_sam_plan.txt, Adaptative 2 max
Phantom	Validation plane
Device Position	Body
Band	GSM1900
Channels	Low
Signal	GSM

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 11-09 EP100)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

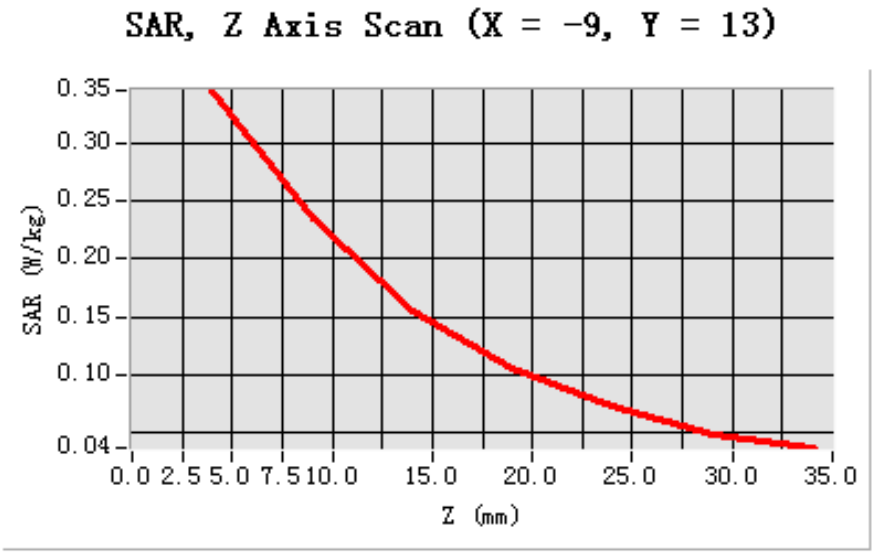
Frequency (MHz)	1850.400024
Relative permitivity (real part)	53.313000
Relative permitivity (imaginary part)	13.584900
Conductivity (S/m)	1.506528
Variation (%)	-0.130000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=-9.00, Y=13.00

SAR 10g (W/Kg)	0.224379
SAR 1g (W/Kg)	0.327318

Z Axis Scan


SAR, Z Axis Scan (X = -9, Y = 13)
SAR (W/kg)
0.35
0.30
0.25
0.20
0.15
0.10
0.04
0.0 2.5 5.0 7.5 10.0 15.0 20.0 25.0 30.0 35.0
Z (mm)

MEASUREMENT 14

Type: Phone measurement (Complete)

Date of measurement: 22/11/2009

Measurement duration: 14 minutes 44 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

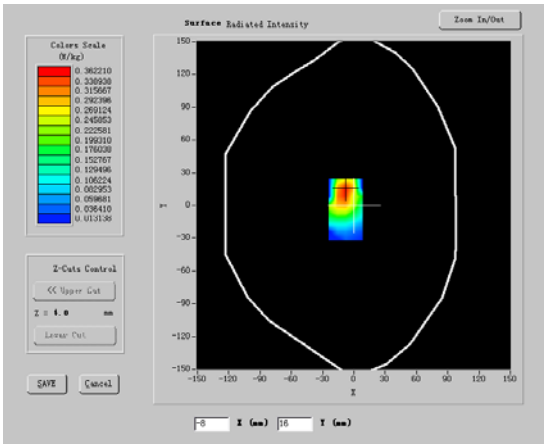
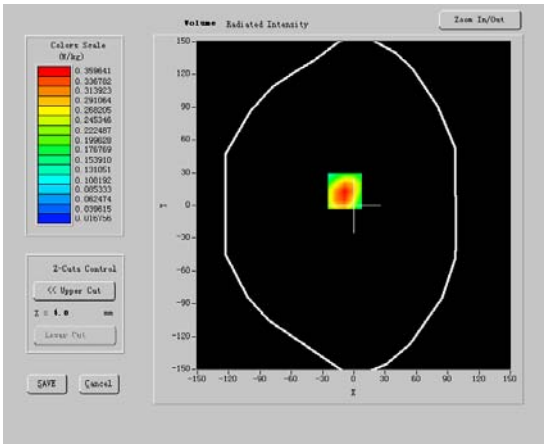
Phantom File	surf_sam_plan.txt, Adaptative 2 max
Phantom	Validation plane
Device Position	Body
Band	GSM1900
Channels	Middle
Signal	GSM

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 11-09 EP100)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

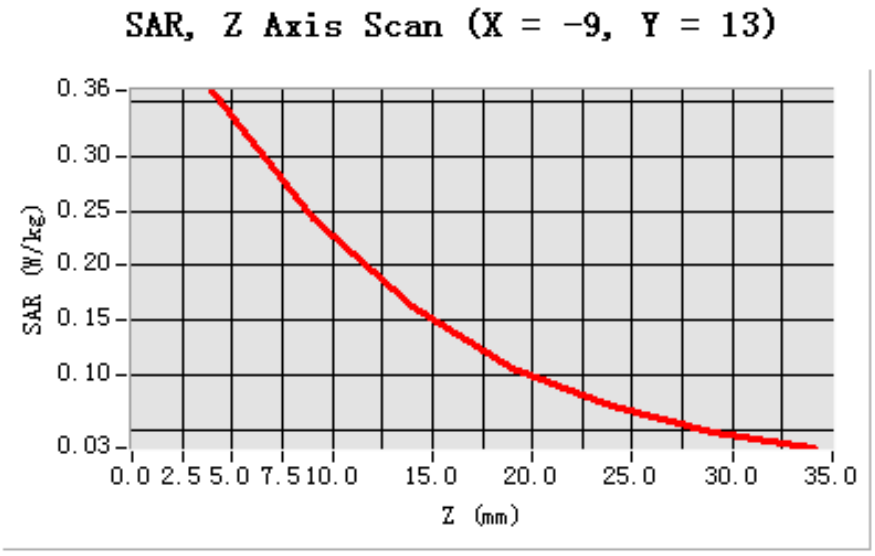
Frequency (MHz)	1880.000000
Relative permitivity (real part)	52.993001
Relative permitivity (imaginary part)	13.813800
Conductivity (S/m)	1.512775
Variation (%)	-0.700000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=-9.00, Y=13.00

SAR 10g (W/Kg)	0.223231
SAR 1g (W/Kg)	0.336180

Z Axis Scan


SAR, Z Axis Scan (X = -9, Y = 13)
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)

MEASUREMENT 15

Type: Phone measurement (Complete)

Date of measurement: 22/11/2009

Measurement duration: 14 minutes 44 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

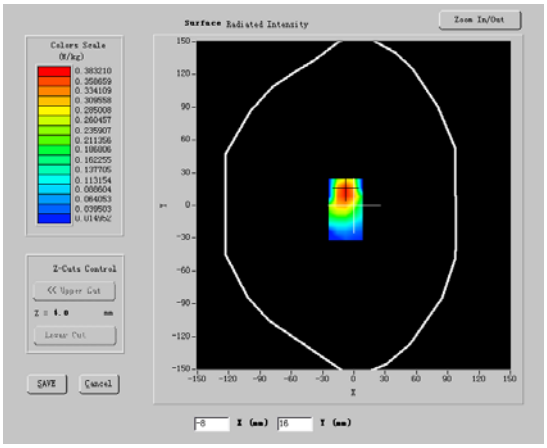
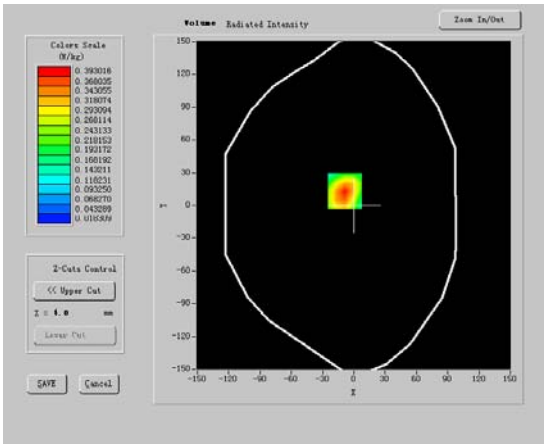
Phantom File	surf_sam_plan.txt, Adaptative 2 max
Phantom	Validation plane
Device Position	Body
Band	GSM1900
Channels	High
Signal	GSM

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 11-09 EP100)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

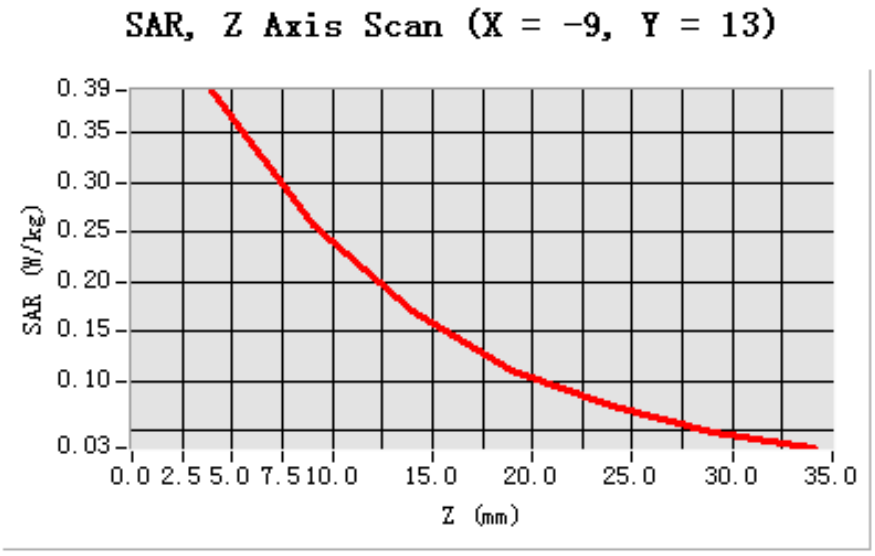
Frequency (MHz)	1909.599976
Relative permitivity (real part)	52.285999
Relative permitivity (imaginary part)	13.669900
Conductivity (S/m)	1.510225
Variation (%)	-0.600000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=-9.00, Y=13.00

SAR 10g (W/Kg)	0.236303
SAR 1g (W/Kg)	0.353321

Z Axis Scan


SAR, Z Axis Scan (X = -9, Y = 13)
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)

GPRS 850

I. RESULTS

TYPE	BAND	PARAMETERS
Noise	--	--
Validation	--	--
Phone	GPRS850	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

MEASUREMENT 1

Type: Phone measurement (Complete)

Date of measurement: 22/11/2009

Measurement duration: 14 minutes 29 seconds

Mobile Phone IMEI number:

A. Experimental conditions.

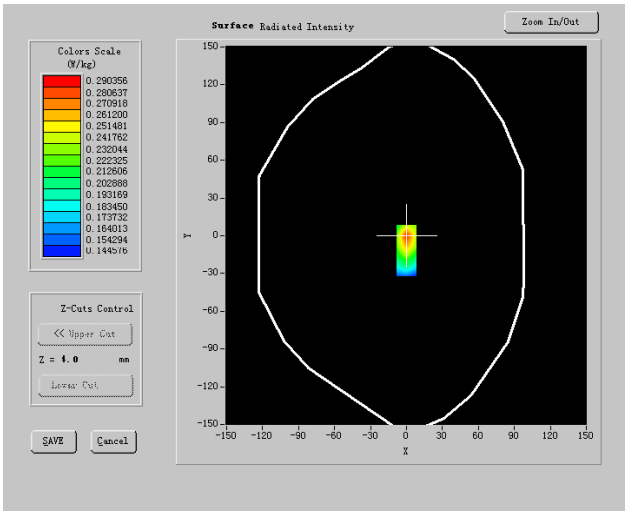
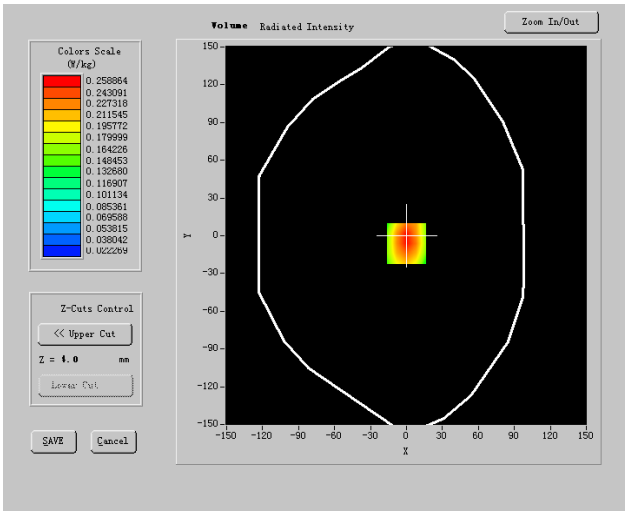
Phantom File	surf_sam_plan.txt, Adaptative 2 max
Phantom	Validation plane
Device Position	Body
Band	GPRS850
Channels	Low
Signal	GPRS

B. Instrumentations.

PC	HP (Pentium(R) V 3.06GHz, 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_1109_EP_100)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

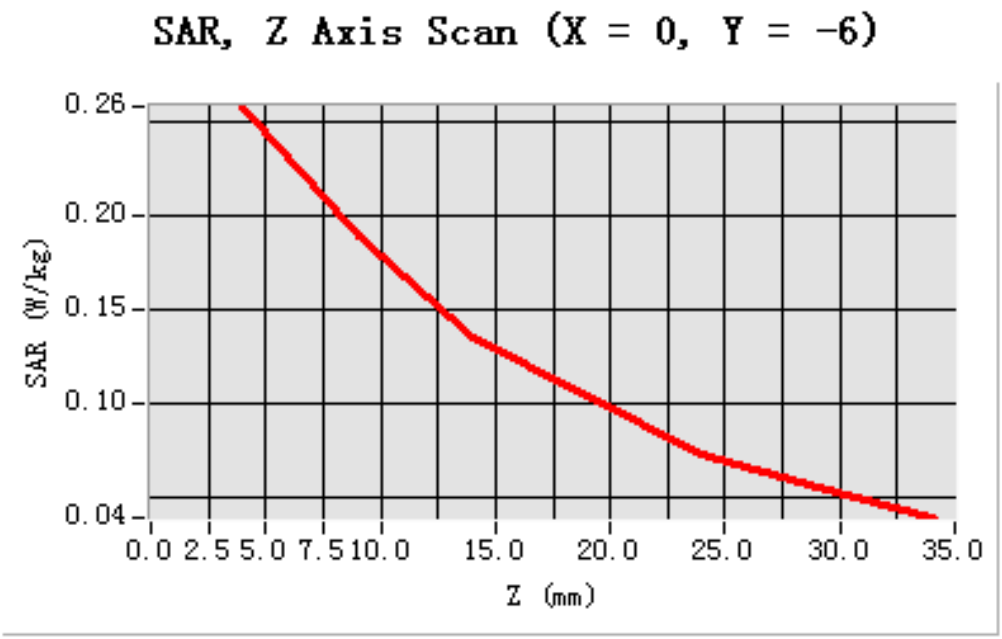
Frequency (MHz)	824.200012
Relative permitivity (real part)	55.584000
Relative permitivity (imaginary part)	21.654150
Conductivity (S/m)	0.961519
Variation (%)	-0.120000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=0.00, Y=-6.00

SAR 10g (W/Kg)	0.167044
SAR 1g (W/Kg)	0.288168

Z Axis Scan


SAR, Z Axis Scan (X = 0, Y = -6)
SAR (W/kg)
0.26
0.20
0.15
0.10
0.04
0.0 2.5 5.0 7.5 10.0 15.0 20.0 25.0 30.0 35.0
Z (mm)

MEASUREMENT 2

Type: Phone measurement (Complete)

Date of measurement: 22/11/2009

Measurement duration: 14 minutes 29 seconds

Mobile Phone IMEI number:

A. Experimental conditions.

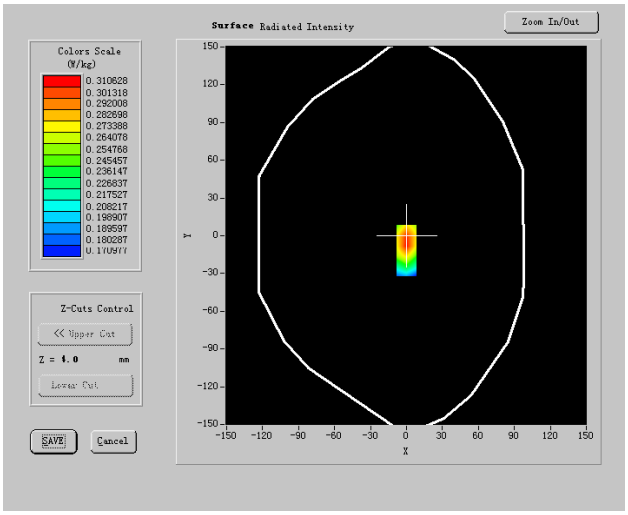
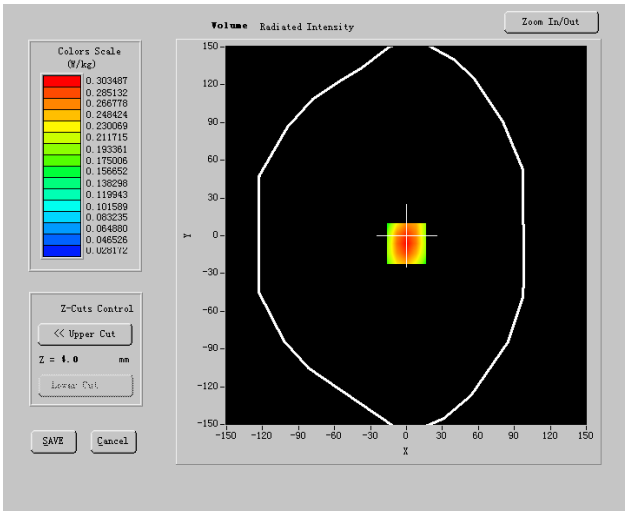
Phantom File	surf_sam_plan.txt, Adaptative 2 max
Phantom	Validation plane
Device Position	Body
Band	GPRS850
Channels	Middle
Signal	GPRS

B. Instrumentations.

PC	HP (Pentium(R) V 3.06GHz, 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_1109_EP_100)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

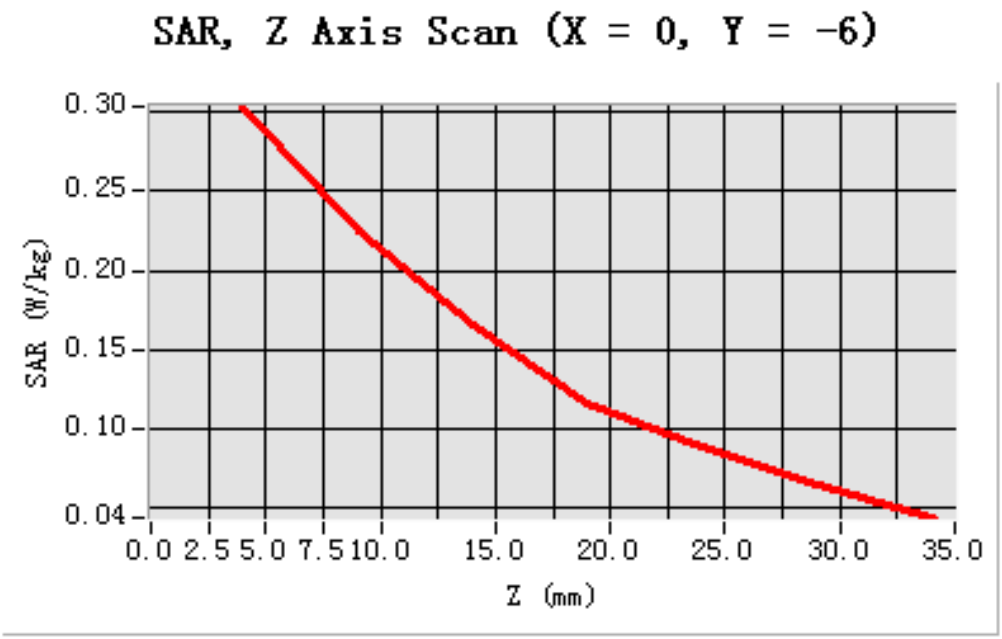
Frequency (MHz)	836.400024
Relative permitivity (real part)	55.501999
Relative permitivity (imaginary part)	21.866249
Conductivity (S/m)	0.966052
Variation (%)	-0.200000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=0.00, Y=-6.00

SAR 10g (W/Kg)	0.246021
SAR 1g (W/Kg)	0.306465

Z Axis Scan


SAR, Z Axis Scan (X = 0, Y = -6)
SAR (W/kg)
0.30
0.25
0.20
0.15
0.10
0.04
0.0 2.5 5.0 7.5 10.0 15.0 20.0 25.0 30.0 35.0
Z (mm)

MEASUREMENT 3

Type: Phone measurement (Complete)

Date of measurement: 22/11/2009

Measurement duration: 14 minutes 29 seconds

Mobile Phone IMEI number:

A. Experimental conditions.

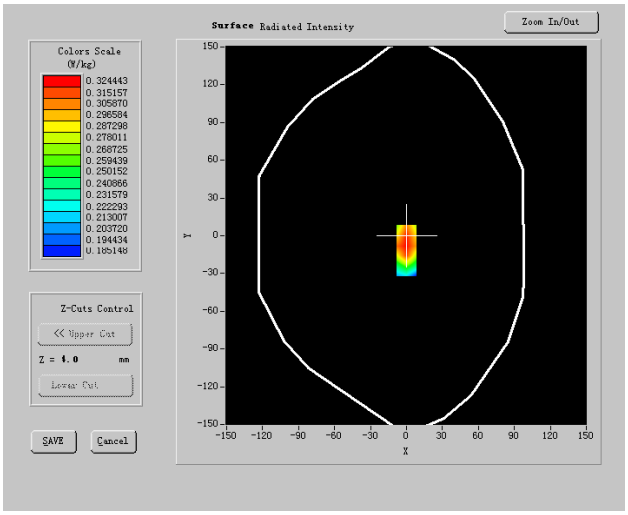
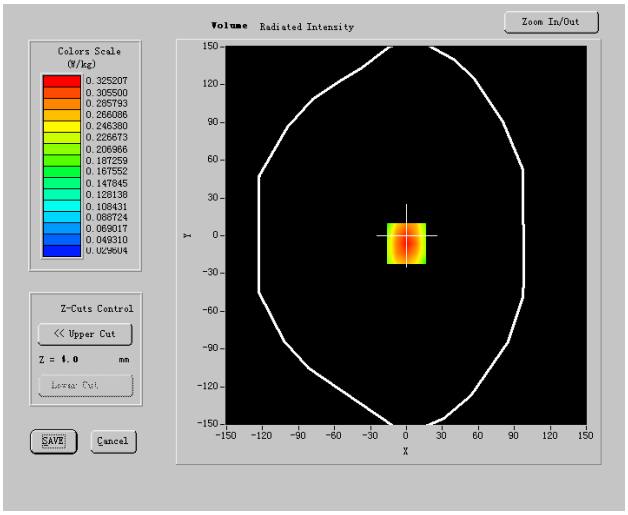
Phantom File	surf_sam_plan.txt, Adaptative 2 max
Phantom	Validation plane
Device Position	Body
Band	GPRS850
Channels	High
Signal	GPRS

B. Instrumentations.

PC	HP (Pentium(R) V 3.06GHz, 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_1109_EP_100)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

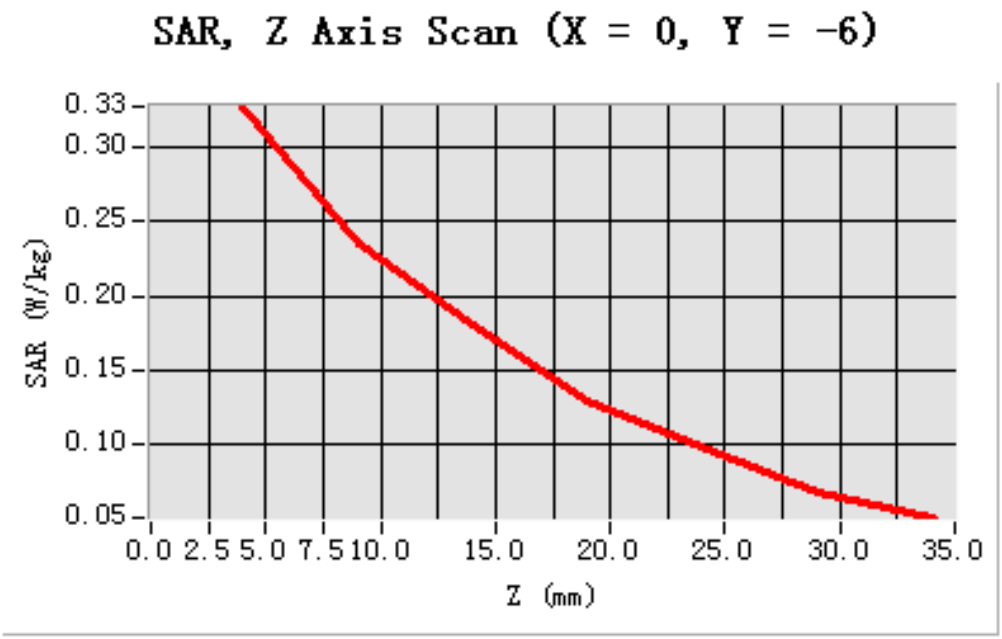
Frequency (MHz)	848.599976
Relative permitivity (real part)	55.576000
Relative permitivity (imaginary part)	21.726601
Conductivity (S/m)	0.969288
Variation (%)	-0.200000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=0.00, Y=-6.00

SAR 10g (W/Kg)	0.238383
SAR 1g (W/Kg)	0.332187

Z Axis Scan


SAR, Z Axis Scan (X = 0, Y = -6)
SAR (W/kg)
0.33
0.30
0.25
0.20
0.15
0.10
0.05
0.0 2.5 5.0 7.5 10.0 15.0 20.0 25.0 30.0 35.0
Z (mm)

GPRS 1900

I. RESULTS

TYPE	BAND	PARAMETERS
Noise	--	--
Validation	--	--
Phone	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

MEASUREMENT 1

Type: Phone measurement (Complete)

Date of measurement: 22/11/2009

Measurement duration: 6 minutes 46 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

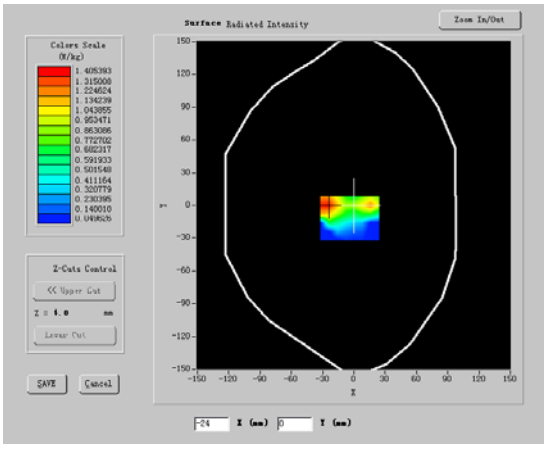
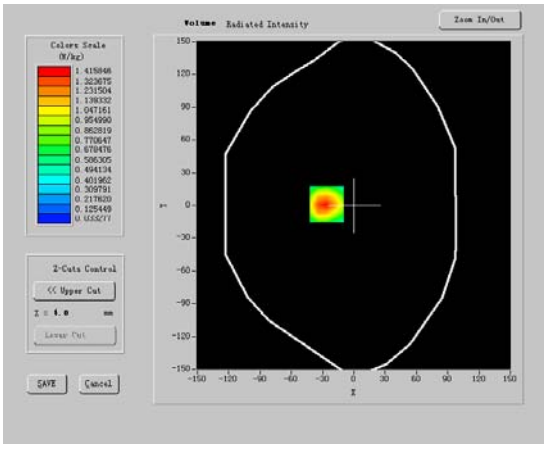
Phantom File	zinf15.txt, Adaptative 2 max
Phantom	Validation plane
Device Position	Body
Band	GPRS1900
Channels	Low
Signal	GPRS

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_11/09_EP_100)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

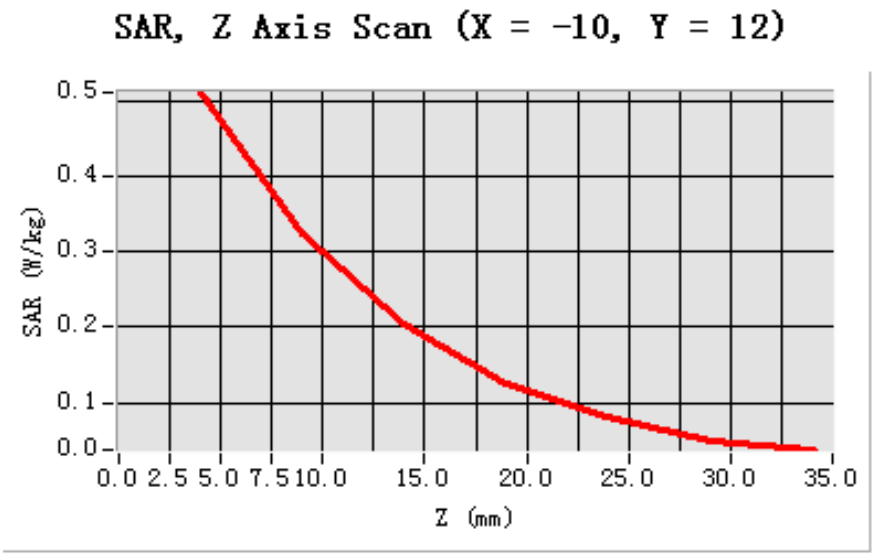
Frequency (MHz)	1710.199951
Relative permitivity (real part)	52.347400
Relative permitivity (imaginary part)	14.450693
Conductivity (S/m)	1.510698
Variation (%)	-0.400000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=-31.00, Y=-16.00

SAR 10g (W/Kg)	0.237940
SAR 1g (W/Kg)	0.424081

Z Axis Scan


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

MEASUREMENT 2

Type: Phone measurement (Complete)

Date of measurement: 22/11/2009

Measurement duration: 6 minutes 51 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

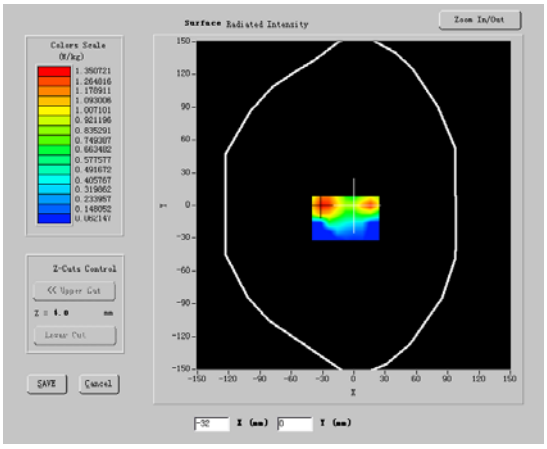
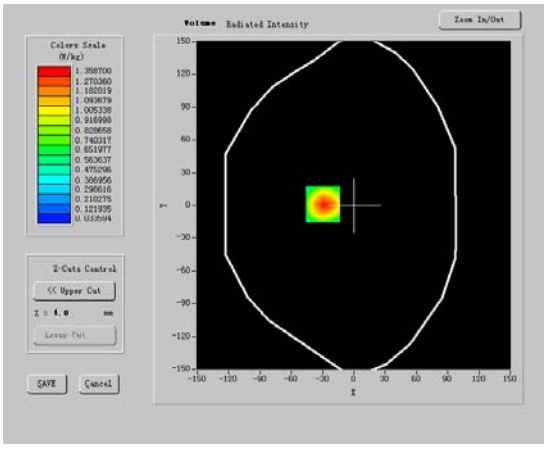
Phantom File	zinf15.txt, Adaptative 2 max
Phantom	Validation plane
Device Position	Body
Band	GPRS1900
Channels	Middle
Signal	GPRS

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_11/09_EP_100)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

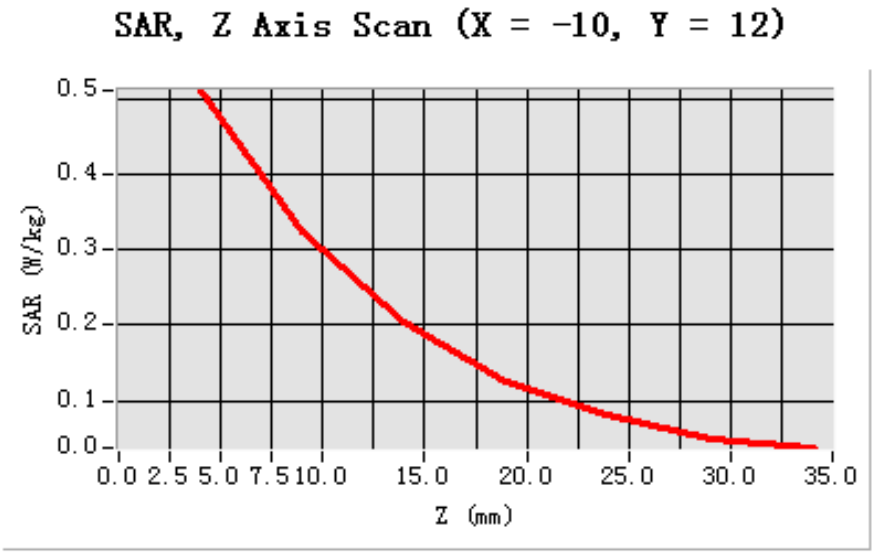
Frequency (MHz)	1747.400004
Relative permitivity (real part)	52.417028
Relative permitivity (imaginary part)	14.293556
Conductivity (S/m)	1.514286
Variation (%)	-1.000000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=-31.00, Y=-16.00

SAR 10g (W/Kg)	0.224078
SAR 1g (W/Kg)	0.412171

Z Axis Scan


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

MEASUREMENT 3

Type: Phone measurement (Complete)

Date of measurement: 22/11/2009

Measurement duration: 6 minutes 21 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

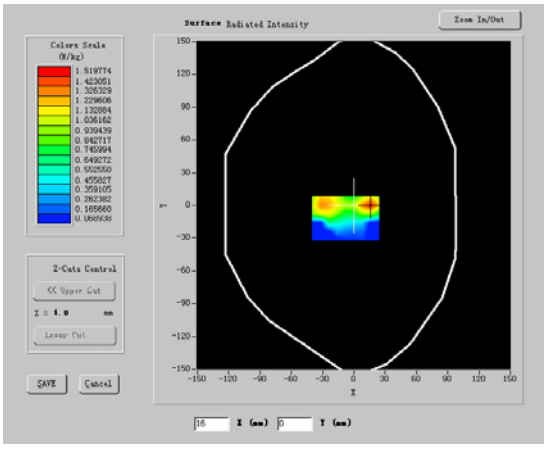
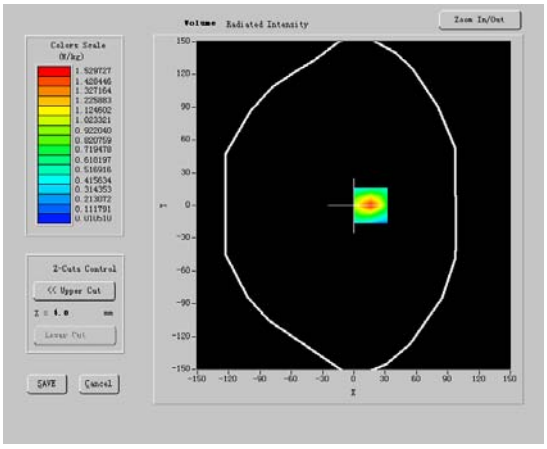
Phantom File	zinf15.txt, Adaptative 2 max
Phantom	Validation plane
Device Position	Body
Band	GPRS1900
Channels	High
Signal	GPRS

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_11/09_EP_100)
Phantom	Antennessa (SN:SN41_05_SAM29)
Liquid	Antennessa

C. SAR Measurement Results

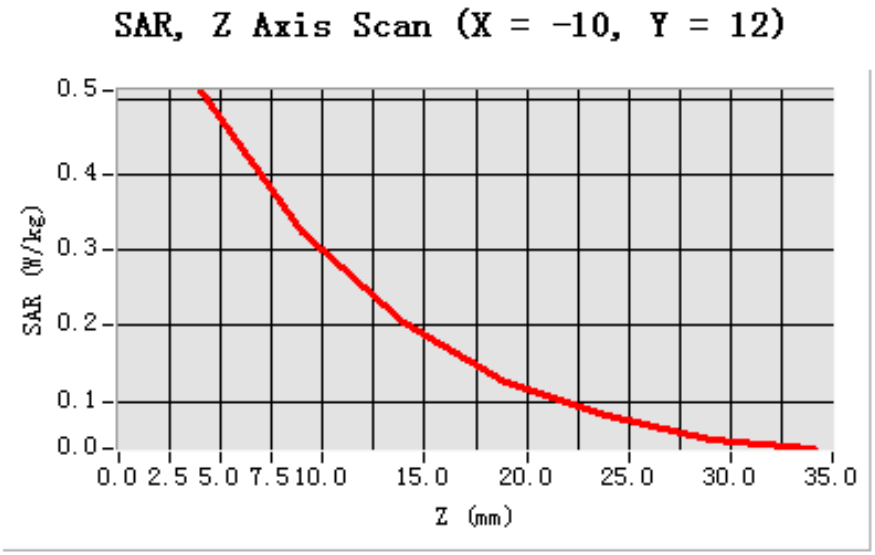
Frequency (MHz)	1784.599036
Relative permitivity (real part)	52.813332
Relative permitivity (imaginary part)	14.319230
Conductivity (S/m)	1.513265
Variation (%)	-0.130000

SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=2.00, Y=9.00

SAR 10g (W/Kg)	0.252584
SAR 1g (W/Kg)	0.430074

Z Axis Scan


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

Submit 3 Dipole Calibration Report

ANTENNESSA

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Fax. : 02.98.05.53.87
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CALIBRATION REPORT

VALIDATION DIPOLE

1800 MHz

DATE : 21/09/2007

REFERENCE : SN 01/06 DIP F 34

OBJECT : COMOSAR IEEE REF DIPOLE

MANUFACTURER : ANTENNESSA

SERIAL NUMBER : SN 01/06 DIP F 34

CUSTOMER : CCS

DATE OF CALIBRATION : 19/09/2007

WARRANTY :

Date

25 OCT. 2007

SEAL

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COMOSAR PROJECT MANAGER

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Fax. : 02.98.05.53.87
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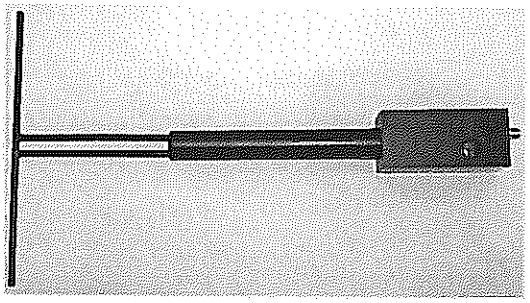
CALIBRATION REPORT

VALIDATION DIPOLE

1800 MHz

PRODUCT DESCRIPTION

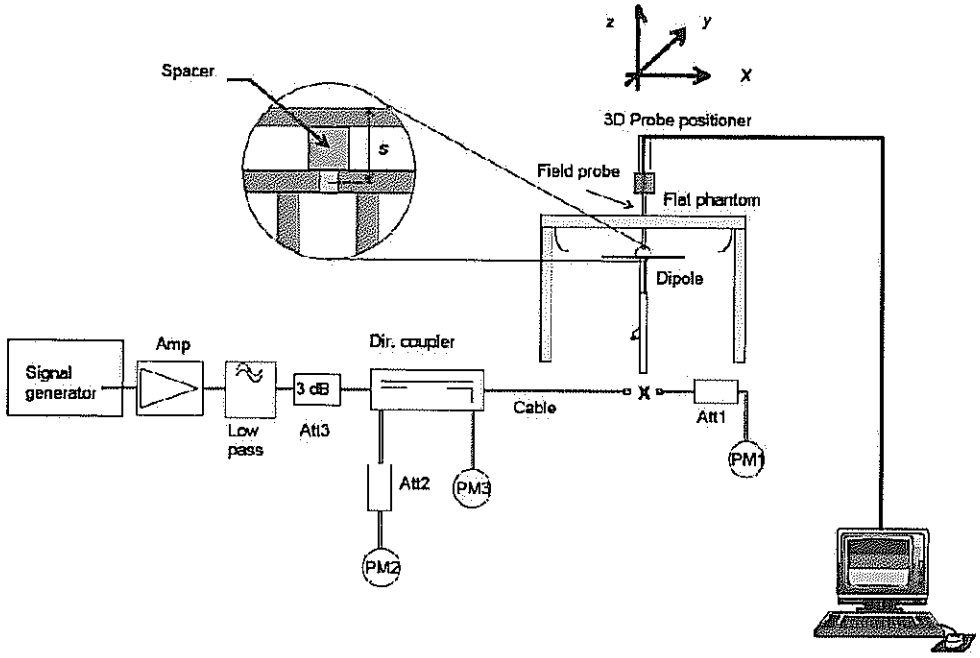


CALIBRATION TEST EQUIPMENT

TYPE	IDENTIFICATION
Vector Network Analyzer	HP8753D

MEASUREMENT PROCEDURE

We placed the dipole as define in IEEE1528-2005 SAR standard :



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CALIBRATION REPORT

VALIDATION DIPOLE

1800 MHz

RETURN LOSS MEASUREMENT RESULTS

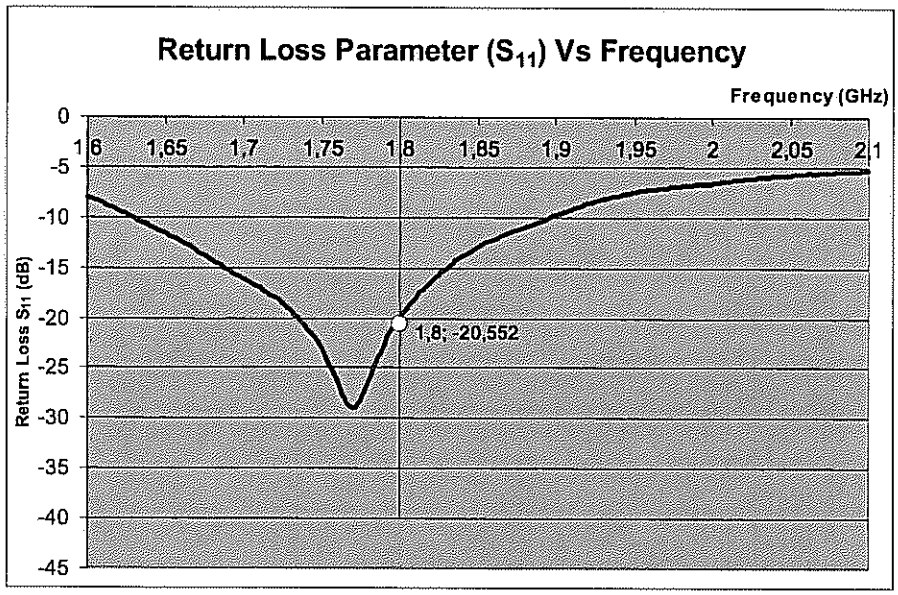

Figure 1 : Return Loss in Head Liquid

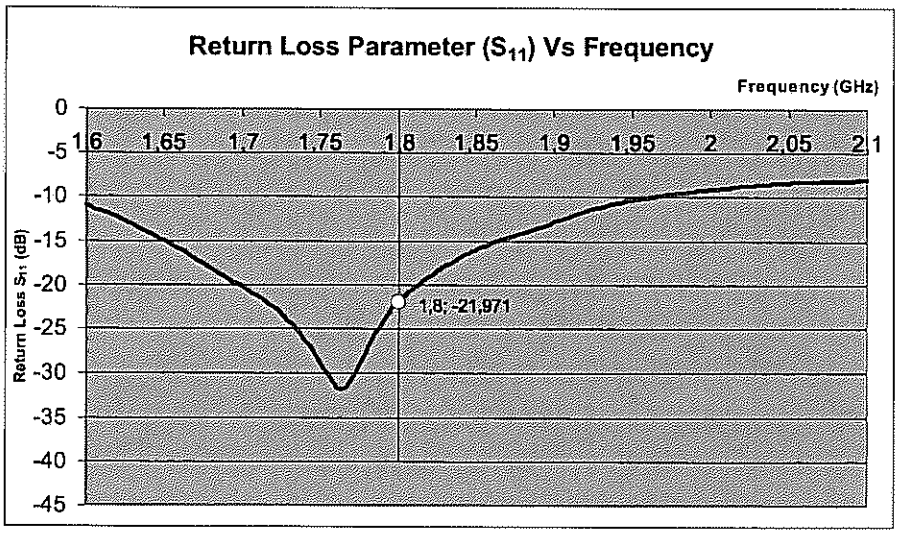

Figure 2 : Return Loss in Body Liquid

VSWR at 1800 MHz in HL: **1.207:1**
VSWR at 1800 MHz in BL: **1.173:1**

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CALIBRATION REPORT

VALIDATION DIPOLE

1800 MHz

SAR MEASUREMENT EQUIPEMENT

PC	Dell (Pentium IV 2.4GHz, SN:X10-23533)
Voltmeter	Keithley (2000, SN:1000572)
Synthetizer	Rohde&Schwarz (SML_03, SN:101868)
Amplifier	Nuclétudes (ALB216, SN:10800)
Power Meter	Rohde&Schwarz (NRVD, SN:101066)
Probe	Antennessa (SN:EP37)
Phantom	Antennessa (SN: SN_20_07_SAM42)
Liquid	Antennessa (Last Calibration: 17 09 07) Head Liquid Values: eps' : 38,93 sigma : 1,341 Body Liquid Values: eps' : 51,90 sigma : 1,439
Sotfware	OpenSAR V3

SAR MEASUREMENT RESULT

	10g	1g
SAR measured Liquid : HL Input power : 1W	**20,490 W/Kg** **+ 3,48%**	**39,120 W/Kg** **+ 2,68%**
SAR measured Liquid : BL Input power : 1W	**20,606 W/Kg** **+ 4,07 %**	**39,042 W/Kg** **+ 2,47 %**

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CALIBRATION REPORT

VALIDATION DIPOLE

900 MHz

DATE : 21/09/2007

REFERENCE : SN 01/06 DIP D 33

OBJECT : COMOSAR IEEE REF DIPOLE

MANUFACTURER : ANTENNESSA

SERIAL NUMBER : SN 01/06 DIP D 33

CUSTOMER : CCS

DATE OF CALIBRATION : 18/09/2007

WARRANTY :

Date

25 OCT. 2007

SEAL

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COMOSAR PROJECT MANAGER

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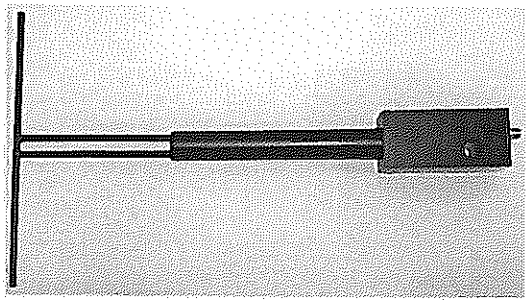
Fax. : 02.98.05.53.87
sar@antennessa.com

CALIBRATION REPORT

VALIDATION DIPOLE

900 MHz

PRODUCT DESCRIPTION

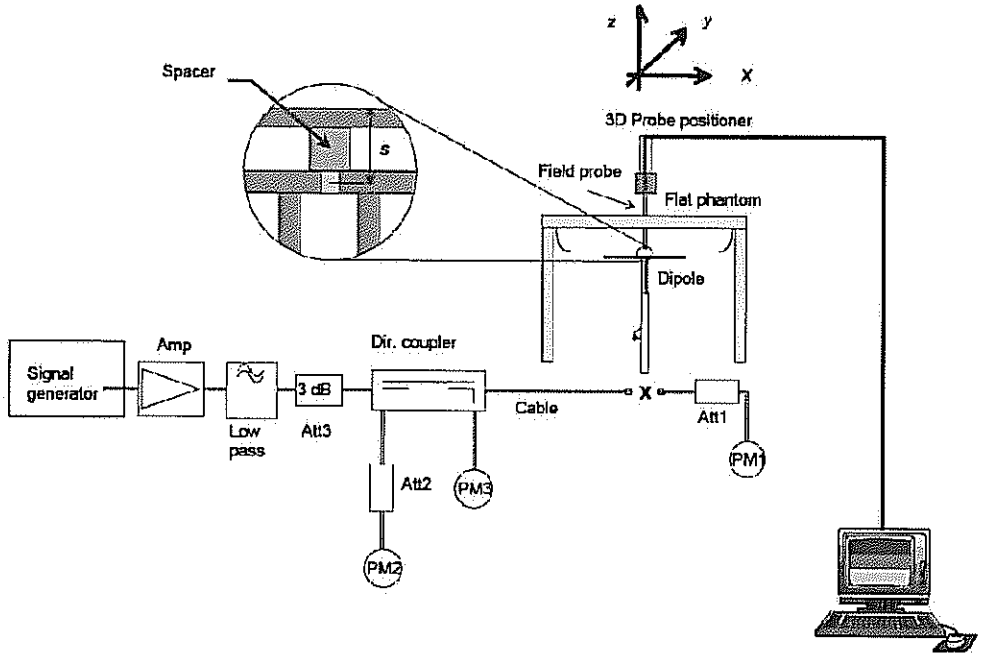


CALIBRATION TEST EQUIPMENT

TYPE	IDENTIFICATION
Vector Network Analyzer	HP8753D

MEASUREMENT PROCEDURE

We placed the dipole as define in IEEE1528-2005 SAR standard :



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CALIBRATION REPORT

VALIDATION DIPOLE

900 MHz

RETURN LOSS MEASUREMENT RESULTS

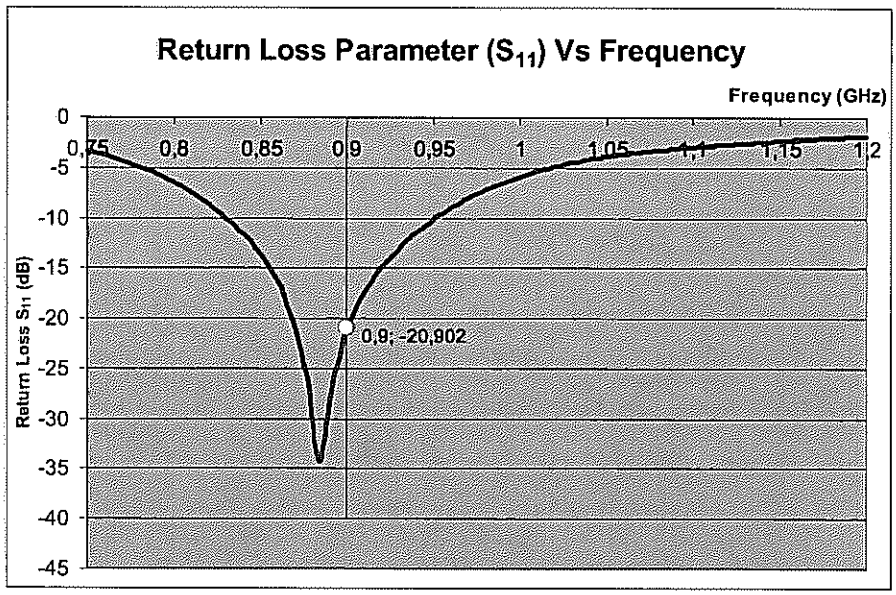

Figure 1 : Return Loss in Head Liquid

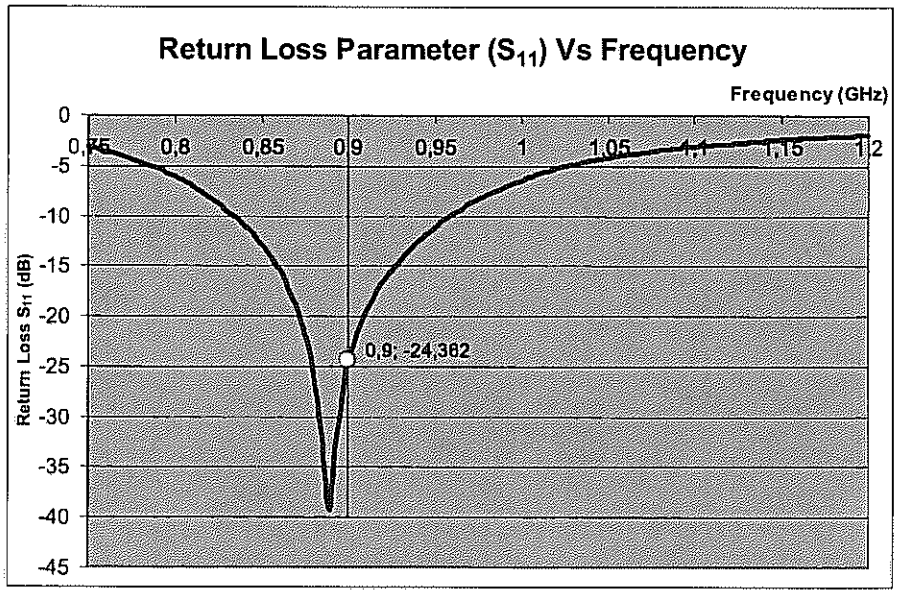

Figure 2 : Return Loss in Body Liquid

VSWR at 900 MHz in HL: **1.222:1**
VSWR at 900 MHz in BL: **1.129:1**

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CALIBRATION REPORT

VALIDATION DIPOLE

900 MHz

SAR MEASUREMENT EQUIPEMENT

PC	Dell (Pentium IV 2.4GHz, SN:X10-23533)
Voltmeter	Keithley (2000, SN:1000572)
Synthetizer	Rohde&Schwarz (SML_03, SN:101868)
Amplifier	Nuclétudes (ALB216, SN:10800)
Power Meter	Rohde&Schwarz (NRVD, SN:101066)
Probe	Antennessa (SN:EP37)
Phantom	Antennessa (SN: SN_20_07_SAM42)
Liquid	Antennessa (Last Calibration: 17 09 07) Head Liquid Values: eps' : 39,55 sigma : 0,972 Body Liquid Values: eps' : 55,37 sigma : 1,053
Sotfware	OpenSAR V3

SAR MEASUREMENT RESULT

	10g	1g
SAR measured Liquid : HL Input power : 1W	**7,168 W/Kg** **+ 3,88%**	**11,028 W/Kg** **+ 2,11%**
SAR measured Liquid : BL Input power : 1W	**7,110 W/Kg** **+ 3,04%**	**10,752 W/Kg** **- 0,44%**

Submit 4 E-field Calibration Report

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COMOSAR SEPT ISOTROPIC E-FIELD PROBE CALIBRATION REPORT

DATE: 05/04/2009

REFERENCE: SN 08/07 EP74

OBJECT: COMOSAR SEPT ISOTROPIC E-FIELD PROBE

MANUFACTURER: SATIMO

SERIAL NUMBER: SN 08/07 EP74

CUSTOMER: CCS

ORDER :

DATE OF CALIBRATION : 01/05/2009

WARRANTY :

Date

04 MAY 2009

SEAL SATIMO
Bâtiment PONANT
Avenue La Pérouse
Technopole BREST IROISE
29280 PLOUZANE

COMOSAR PROJECT MANAGER

Date

04 MAY 2009

SEAL SATIMO
Bâtiment PONANT
Avenue La Pérouse
Technopole BREST IROISE
29280 PLOUZANE

COMOSAR PROJECT MANAGER

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PRODUCT DESCRIPTION

Frequency Range	100 MHz - 30 GHz
Probe length	330 mm
Length of one dipole	4.5 mm
Maximum external diameter	8 mm
Probe extremity diameter	6.5 mm
Distance between dipoles/probe extremity	< 2.7 mm
Resistance of the three dipole (at the connector)	Dipole 1: R1=1.384 MΩ Dipole 2: R2=0.992 MΩ Dipole 3: R3=1.784 MΩ
Connector (HIROSE series SR30)	6 wire male (Hirose SR30series)

The probe could be checked by measuring the resistance of the three dipoles.

CALIBRATION TEST EQUIPMENT

TYPE	IDENTIFICATION
Calibration bench	CALISAR
Voltmeter	Keithley 2000

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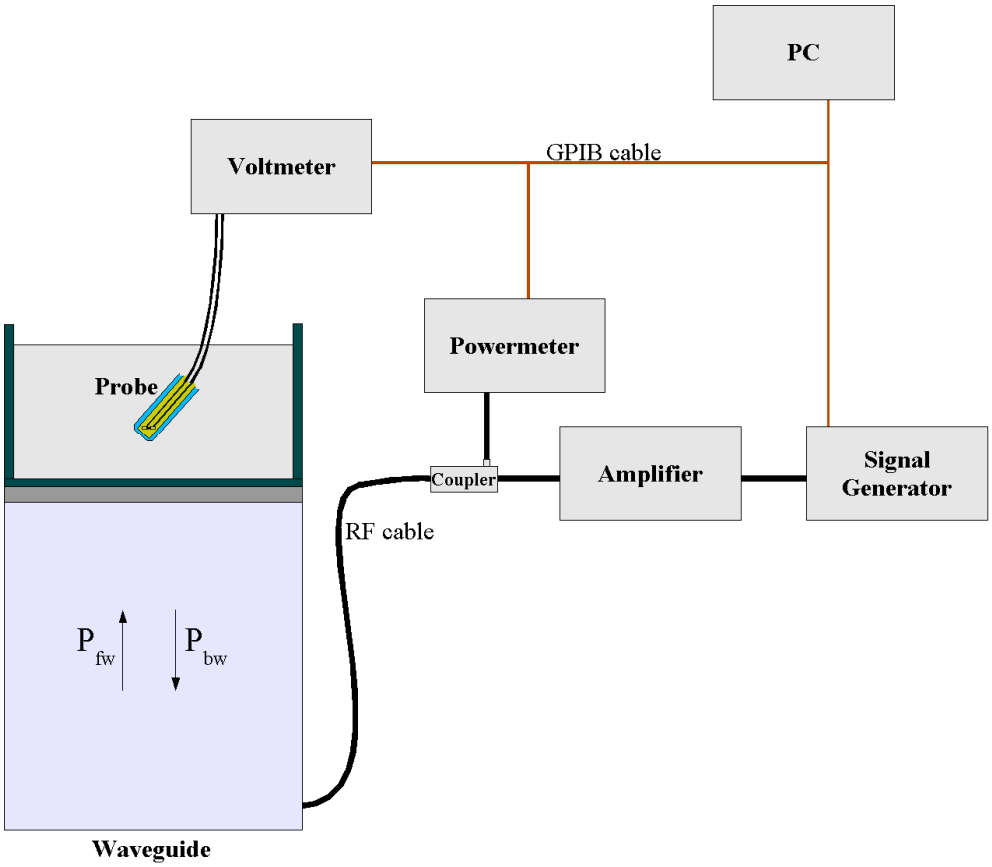
MEASUREMENT PROCEDURE

Probe calibration is realized, in compliance with CENELEC EN 50361 and IEEE 1528 std, with CALISAR, Satimo proprietary calibration system. The calibration is performed with the EN 50361 annexe technique using reference guide at the five frequencies.



$$SAR = \frac{4\left(P_{fw} - P_{bw}\right)}{ab\delta}\cos^2\left(\pi\frac{y}{a}\right)e^{-(2z/\delta)}$$

Where :

P_{fw} = Forward Power
P_{bw} = Backward Power
a and b = Waveguide dimensions
δ = Skin depth

Keithley Voltmeter configuration:

Rate = Medium; Filter =ON; RDGS=10; FILTER TYPE =MOVING AVERAGE; RANGE AUTO

After each calibration, a SAR measurement is performed on a validation dipole and compared with a NPL calibrated probe, to verify it.

PROBE UNCERTAINTIES

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Calibration report of dosimetric Antennessa probe

Uncertainty analysis for the evaluation of reference antenna gain						
ERROR SOURCES	**Description (Section)**	**Uncertainty value (%)**	**Probability Distribution**	**Divisor**	**ci**	**Standard Uncertainty (%)**
Incident Power	B.2.2	0,20%	Rectangular	$\sqrt{3}$	1	0,115%
Reflection coefficients	B.2.2	0,75%	Rectangular	$\sqrt{3}$	1	0,433%
Distance	B.2.2	2,50%	Rectangular	$\sqrt{3}$	1	1,443%
Liquid Permittivity	B.2.2	3,00%	Rectangular	$\sqrt{3}$	1	1,732%
Combined standard uncertainty	B.2.2					2,299%
Expanded uncertainty (confidence interval of 95%)	B.2.2					4,506%

Uncertainty analysis for the technique using reference antennas						
ERROR SOURCES	**Description (Section)**	**Uncertainty value (%)**	**Probability Distribution**	**Divisor**	**ci**	**Standard Uncertainty (%)**
Incident Power	B.2.2	0,20%	Rectangular	$\sqrt{3}$	1	0,200%
Reflection coefficients	B.2.2	0,75%	Rectangular	$\sqrt{3}$	1	0,433%
Antenna Gain	B.2.2	2,50%	Normal	1	1	2,500%
Liquid Permittivity	B.2.2	3,00%	Rectangular	$\sqrt{3}$	0	1,732%
Probe Positioning	B.2.2	2,50%	Rectangular	$\sqrt{3}$	1	1,443%
Combined standard uncertainty	B.2.2					2,926%
Expanded uncertainty (confidence interval of 95%)	B.2.2					5,735%

Uncertainty on measurement system						
ERROR SOURCES	**Description (Section)**	**Uncertainty value (%)**	**Probability Distribution**	**Divisor**	**ci**	**Standard Uncertainty (%)**
Probe Calibration	7.2.1.	5,73%	Normal	1	1	5,735%
Axial Isotropy	7.2.1.	5,00%				
Hemispherical Isotropy	7.2.1.	10,00%				
Total Isotropy	7.2.1.	7,50%	Rectangular	$\sqrt{3}$	1	4,330%
Linearity	7.2.1.	4,60%	Rectangular	$\sqrt{3}$	1	2,656%
Detection Limits	7.2.1.	0,50%	Rectangular	$\sqrt{3}$	1	0,289%
Boundary Effect	7.2.1.	0,50%	Rectangular	$\sqrt{3}$	1	0,289%
Readout Electronics	7.2.1.	0,02%	Normal	1	1	0,020%
Response Time	7.2.1.	0,50%	Normal	1	1	0,500%
Noise	7.2.1.	0,50%	Normal	1	1	0,500%
Integration Time	7.2.1.	0,50%	Normal	1	1	0,500%
Combined standard uncertainty						7,721%
Expanded uncertainty (confidence interval of 95%)						15,132%

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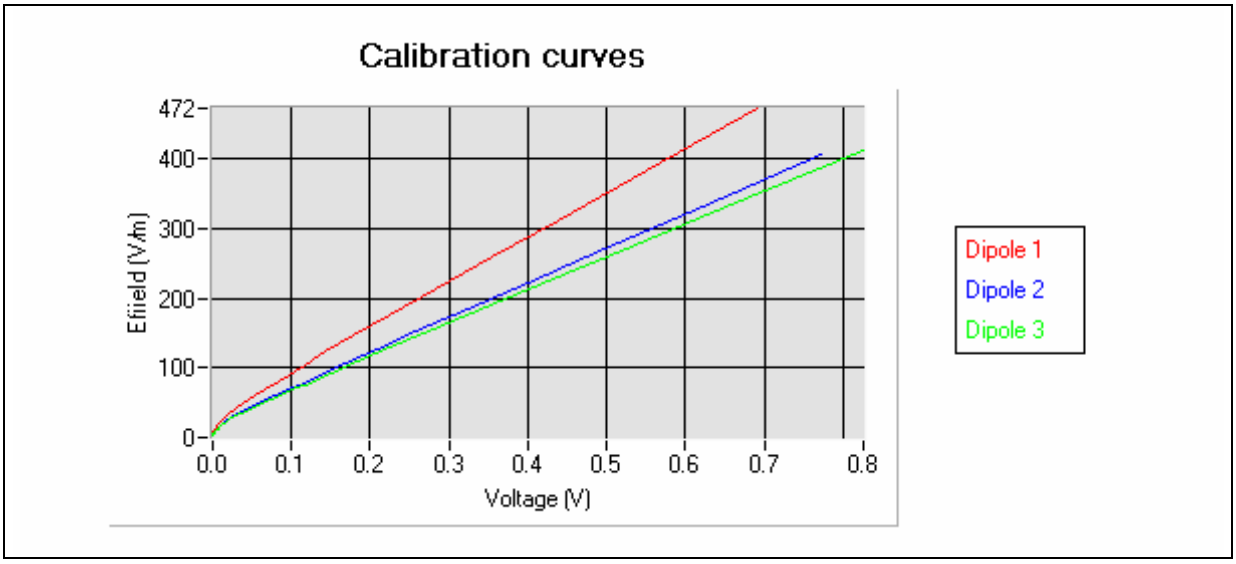
1. Calibration at 835.00 MHz

A. Calibration parameters.

Label	850
Epsilon	42.85
Sigma	0.90 S/m
Temperature	21°C
Cable loss	0.00 dB
Coupler loss	20.50 dB
Waveguide S11	-13.70 dB
Low limit detection	0.81 V/m

Calibration curves ei=f(V) (i=1,2,3) allow to obtain E-field value using the formula:

$$E=\sqrt{(e1*e1+e2*e2+e3*e3)}$$



The following tables represent the linearization of calibration curves by curve segment in CW signal.

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Calibration coefficients for the three dipoles in CW in Head Liquid:

v1	e1	v2	e2	v3	e3
0,691632	472,469639	0,772451	405,957381	0,825739	413,318265
0,549620	382,639655	0,620862	331,578486	0,657416	334,289191
0,437325	311,460548	0,497822	271,113132	0,525764	272,389737
0,355035	259,149501	0,400237	223,048336	0,426258	225,511344
0,282981	213,157505	0,324365	185,558731	0,346218	187,699439
0,225042	175,950719	0,258583	152,904897	0,279404	156,011857
0,179282	146,314486	0,208726	127,994491	0,225173	130,148243
0,143487	122,863947	0,169357	108,156093	0,182466	109,626084
0,116348	104,821349	0,110118	74,665345	0,117682	74,751356
0,076592	74,751356	0,101452	71,222805	0,107071	71,222805
0,070062	71,222805	0,091281	66,775797	0,097406	66,852719
0,062587	66,775797	0,080062	61,463753	0,085597	61,463753
0,054484	61,463753	0,068235	55,222883	0,073138	55,286497
0,045958	55,286497	0,054729	47,766022	0,058604	47,601328
0,036331	47,766022	0,046420	42,915984	0,049834	42,817280
0,030491	42,915984	0,039320	38,647293	0,042261	38,558407
0,025547	38,647293	0,033245	34,843283	0,035822	34,763146
0,021383	34,803192	0,028025	31,449886	0,030264	31,377553
0,017845	31,449886	0,023487	28,354310	0,025434	28,289097
0,014812	28,354310	0,019519	25,504633	0,021165	25,445973
0,012189	25,504633	0,015990	22,783429	0,017391	22,757213
0,009896	22,809674	0,012879	20,212456	0,014045	20,189198
0,007887	20,235740	0,010102	17,705944	0,011048	17,705944
0,006173	17,746760	0,007396	14,983700	0,008121	14,983700
0,004478	15,018241	0,005921	13,338871	0,006474	13,323523
0,003564	13,369621	0,004782	11,929413	0,005221	11,901976
0,002839	11,929413	0,003847	10,693480	0,004214	10,668886
0,002292	10,693480	0,003141	9,607692	0,003401	9,585595
0,001841	9,607692	0,002517	8,642096	0,002762	8,612299
0,001473	8,642096	0,002025	7,755666	0,002246	7,737828
0,001196	7,780188	0,001611	6,936160	0,001778	6,920207
0,000934	6,910083	0,001269	6,153455	0,001380	6,116763
0,000721	6,112095	0,000981	5,415257	0,001067	5,408774
0,000565	5,454082	0,000657	4,492108	0,000732	4,530048
0,000379	4,546725	0,000527	4,050537	0,000571	4,040302
0,000284	4,004745	0,000418	3,639234	0,000453	3,639748
0,000218	3,580233	0,000319	3,220461	0,000357	3,277961
0,000173	3,259245	0,000267	2,976994	0,000274	2,929370
0,000133	2,944692	0,000197	2,613680	0,000211	2,634158
0,000104	2,693771	0,000162	2,411584	0,000162	2,379359
0,000078	2,447029	0,000120	2,144069	0,000114	2,099996
0,000047	2,115554	0,000080	1,853743	0,000080	1,877125
0,000029	1,896684	0,000051	1,610862	0,000048	1,639925

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0,000002	1,510025	0,000024	1,345891	0,000012	1,323188
-0,000001	1,460758	0,000023	1,335068	0,000003	1,231339
-0,000013	1,244341	0,000014	1,233392	-0,000001	1,188240
-0,000021	1,075964	-0,000007	0,954936	-0,000015	1,022525
-0,000027	0,921179	0,000002	1,083076	-0,000025	0,884138
-0,000032	0,784133	-0,000008	0,937569	-0,000033	0,753782
-0,000035	0,675741	-0,000016	0,803009	-0,000039	0,651644
-0,000038	0,573492	-0,000022	0,690529	-0,000043	0,555423
-0,000040	0,489442	-0,000026	0,594816	-0,000047	0,472935
		-0,000029	0,510033		
		-0,000032	0,441176		

Sensitivity in liquid:

Liquid	ε	σ	CF dipole 1 ($W.kg^{-1}$ $(mV)^{-1}$)	CF dipole 2 ($W.kg^{-1}$ $(mV)^{-1}$)	CF dipole 3 ($W.kg^{-1}$ $(mV)^{-1}$)
Head	42.85	0.90	42.96	25.82	23.62
Body	55.95	0.94	42.01	25.11	22.97

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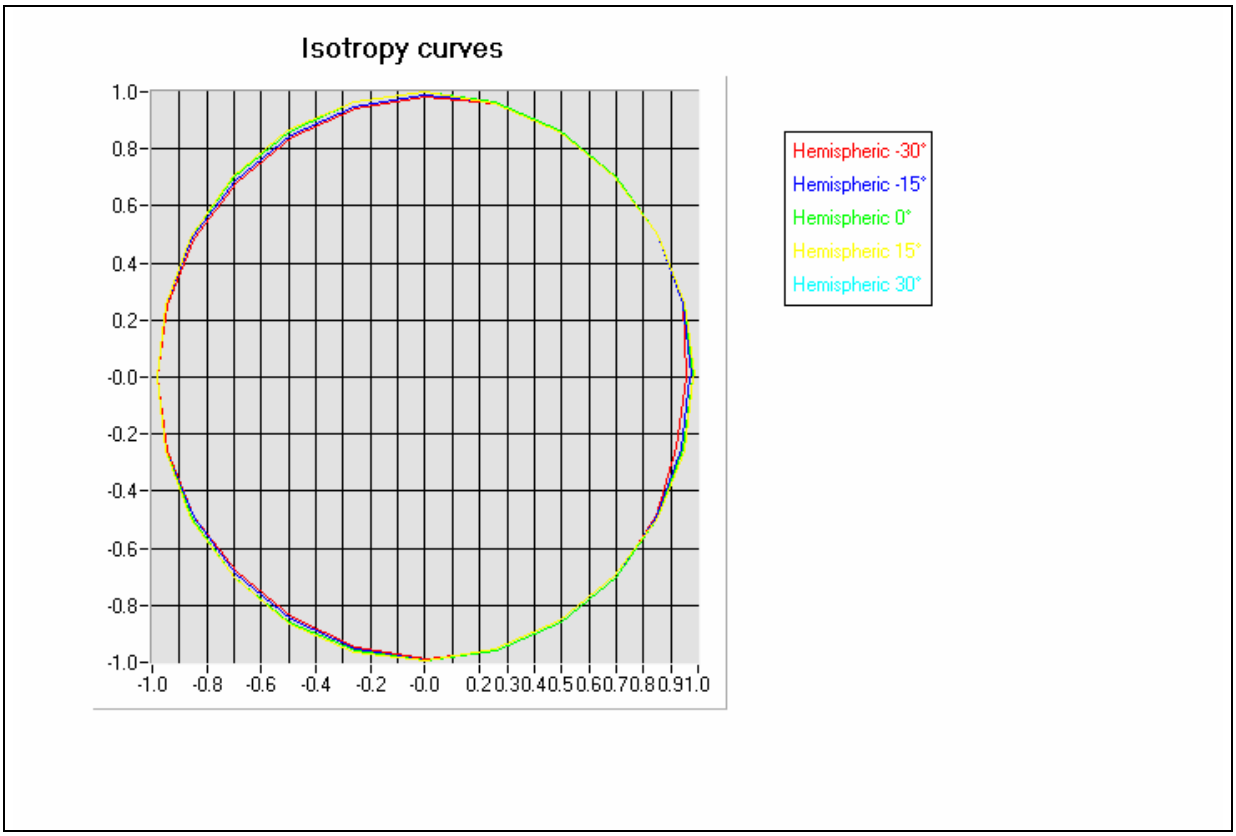
B. Isotropy.

- Axial isotropy: 0.08 dB
- Hemispherical isotropy: 0.09 dB



E-field E (V/m)= f (phi, theta)

C. Linearity.

- Linearity: 0.10 dB

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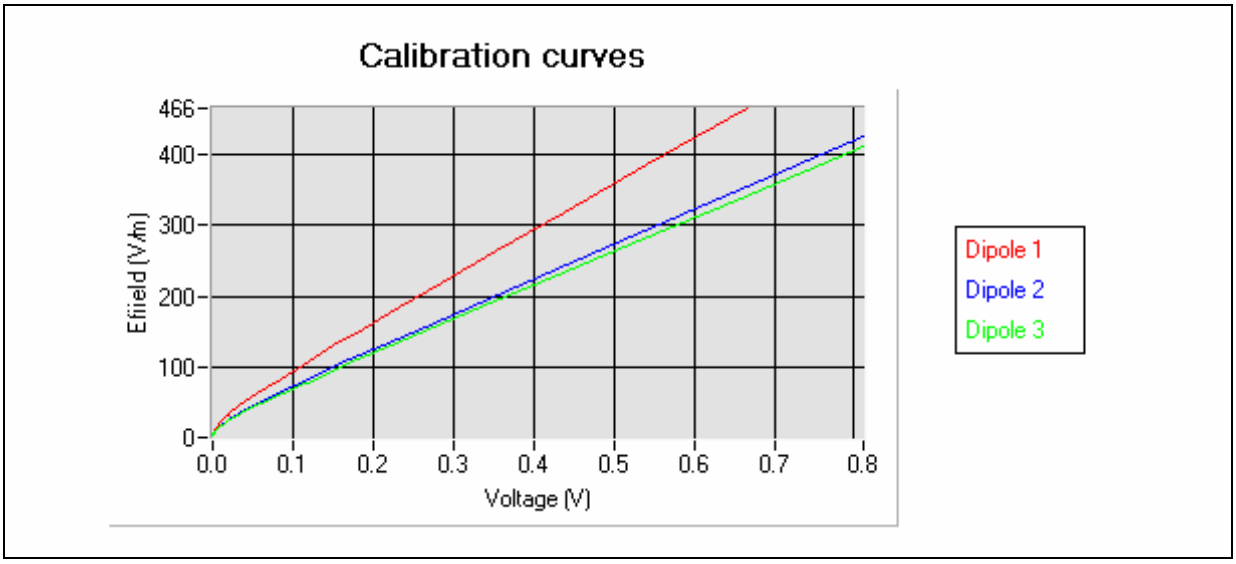
2. Calibration at 897.00 MHz

A. Calibration parameters.

Label	900
Epsilon	42.33
Sigma	0.95 S/m
Temperature	21°C
Cable loss	0.00 dB
Coupler loss	20.30 dB
Waveguide S11	-13.40 dB
Low limit detection	0.78 V/m

Calibration curves ei=f(V) (i=1,2,3) allow to obtain E-field value using the formula:

$$E=\sqrt{(e1*e1+e2*e2+e3*e3)}$$



The following tables represent the linearization of calibration curves by curve segment in CW signal.

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Calibration coefficients for the three dipoles in CW in Head Liquid:

v1	e1	v2	e2	v3	e3
0,665706	465,714150	0,810449	426,787300	0,811412	412,225759
0,540789	384,894554	0,649435	347,501876	0,657697	339,052008
0,439489	319,232472	0,519900	283,620686	0,531720	279,003081
0,354044	263,697494	0,418086	233,299182	0,431709	231,240434
0,286572	219,674327	0,332186	190,705403	0,346780	190,567737
0,232092	183,938723	0,264490	156,977610	0,275348	156,216203
0,188352	155,039264	0,212735	131,021705	0,222775	130,786340
0,151283	130,301982	0,171466	110,142000	0,180830	110,342367
0,120242	109,296622	0,110498	76,788839	0,118093	76,877296
0,077028	76,788839	0,102786	73,501821	0,108188	73,501821
0,071126	73,501821	0,093211	68,991899	0,099556	69,150942
0,064143	69,150942	0,082352	63,649955	0,088081	63,723276
0,056208	63,796683	0,070459	57,318934	0,075491	57,451067
0,047622	57,451067	0,057468	49,922704	0,061647	49,980213
0,038267	49,980213	0,048841	44,853682	0,052545	44,957081
0,032197	44,957081	0,041437	40,438785	0,044700	40,485369
0,027014	40,485369	0,035129	36,500440	0,037945	36,542487
0,022666	36,542487	0,029733	32,983603	0,032226	33,021599
0,019001	33,021599	0,024966	29,771320	0,027105	29,805615
0,015786	29,805615	0,020794	26,779231	0,022663	26,810079
0,013037	26,840963	0,017086	23,977180	0,018684	24,032453
0,010638	24,032453	0,013808	21,296003	0,015124	21,345095
0,008506	21,345095	0,010877	18,698127	0,011936	18,741231
0,006635	18,741231	0,007938	15,768780	0,008715	15,786945
0,004799	15,786945	0,006355	14,021617	0,006979	14,053940
0,003819	14,053940	0,005114	12,540016	0,005635	12,554462
0,003040	12,554462	0,004124	11,227888	0,004549	11,253771
0,002455	11,240823	0,003342	10,099459	0,003696	10,111093
0,001980	10,099459	0,002702	9,073986	0,003003	9,084439
0,001588	9,077673	0,002190	8,152637	0,002411	8,134499
0,001271	8,151397	0,001729	7,255009	0,001935	7,310548
0,001023	7,345754	0,001364	6,464579	0,001523	6,513770
0,000779	6,455718	0,001062	5,728715	0,001141	5,675944
0,000599	5,710908	0,000733	4,800352	0,000786	4,767109
0,000387	4,684193	0,000579	4,297435	0,000608	4,238686
0,000322	4,320803	0,000434	3,762965	0,000469	3,774953
0,000248	3,865738	0,000352	3,423980	0,000367	3,394595
0,000174	3,349405	0,000278	3,086268	0,000316	3,187441
0,000141	3,091469	0,000213	2,755696	0,000241	2,855632
0,000096	2,700319	0,000170	2,513226	0,000176	2,533149
0,000075	2,496900	0,000132	2,277565	0,000108	2,144493
0,000059	2,330025	0,000090	1,984806	0,000091	2,035768
0,000032	2,017361	0,000059	1,737362	0,000041	1,675587
0,000011	1,735665	0,000024	1,406611	0,000011	1,416169
-0,000006	1,473326	0,000011	1,261870	-0,000009	1,215330
-0,000017	1,264369	-0,000004	1,075672	-0,000023	1,044719
-0,000025	1,087811	-0,000014	0,926687	-0,000034	0,889038
-0,000031	0,938743	-0,000021	0,801349	-0,000042	0,766932

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-0,000036	0,803565	-0,000027	0,682548	-0,000048	0,659378
-0,000039	0,694300	-0,000031	0,584326	-0,000052	0,567002
-0,000042	0,590051	-0,000034	0,505336	-0,000055	0,486289
-0,000044	0,508815	-0,000036	0,428867		
-0,000045	0,440610				

Sensitivity in liquid:

Liquid	ε	σ	CF dipole 1 ($W.kg^{-1}$ $(mV)^{-1}$)	CF dipole 2 ($W.kg^{-1}$ $(mV)^{-1}$)	CF dipole 3 ($W.kg^{-1}$ $(mV)^{-1}$)
Head	42.33	0.95	44.78	26.10	24.28
Body	56.33	1.05	44.03	25.55	23.69

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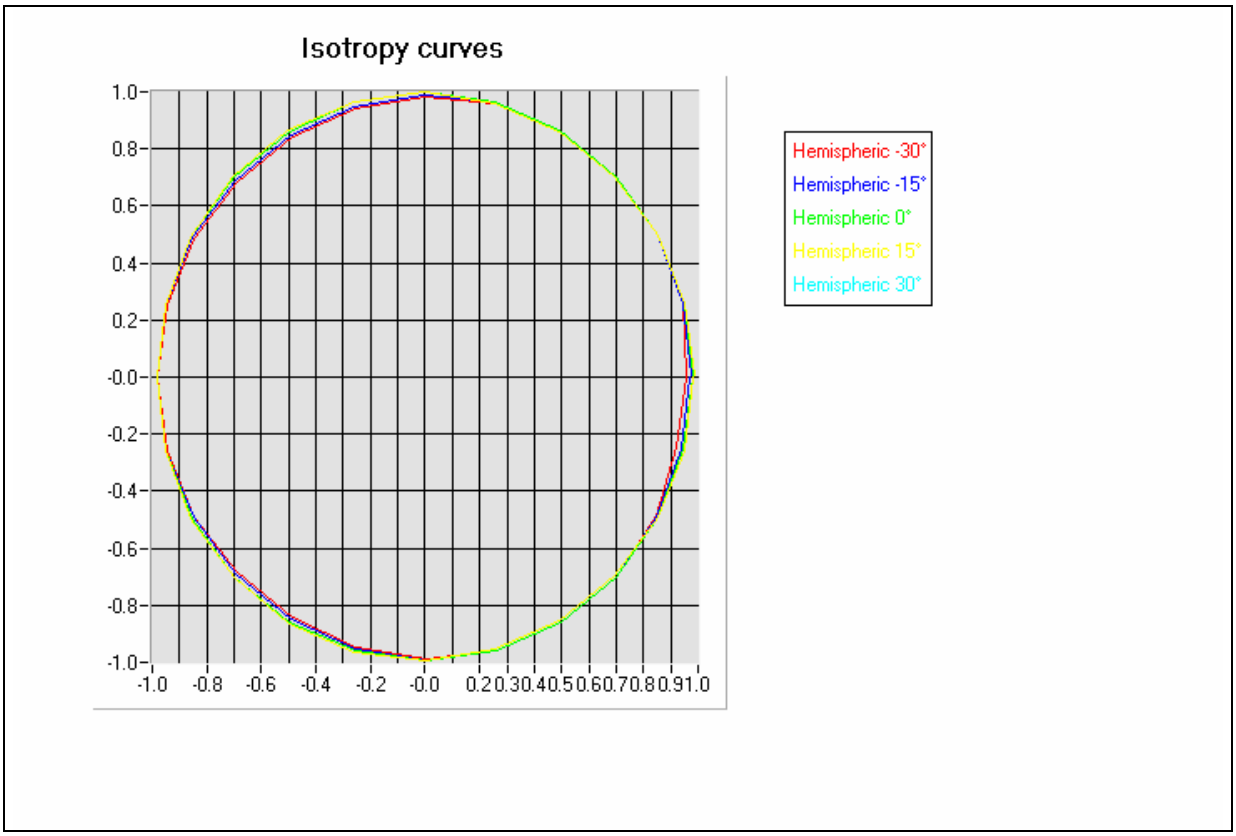
B. Isotropy.

- Axial isotropy: 0.08 dB
- Hemispherical isotropy: 0.09 dB



E-field E (V/m)= f (phi, theta)

C. Linearity.

- Linearity: 0.10 dB

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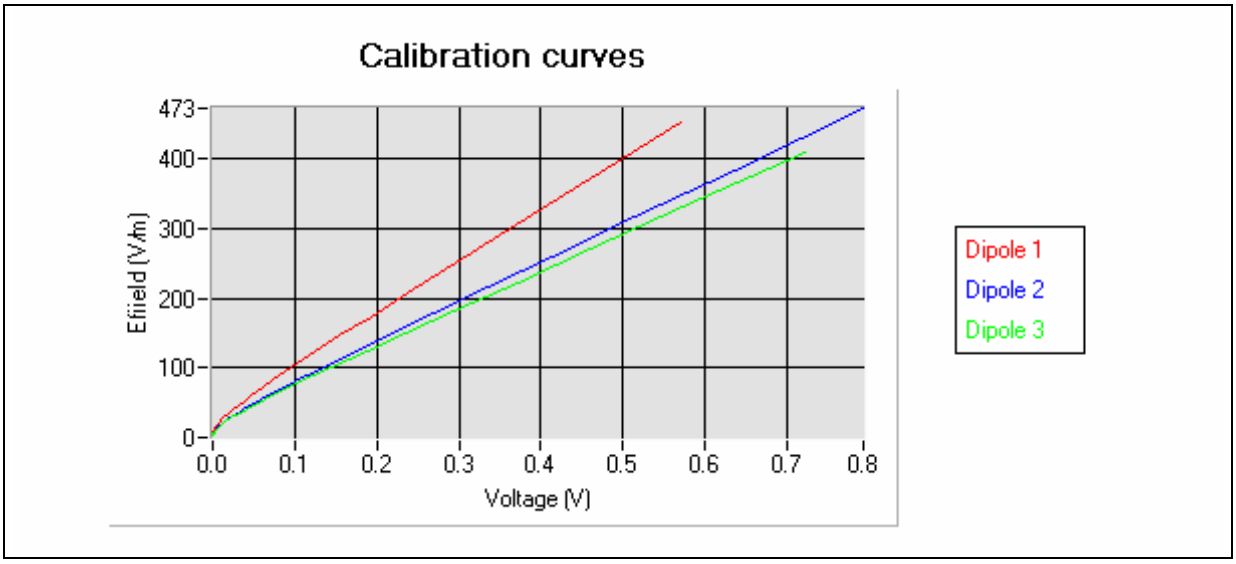
3. Calibration at 1747.00 MHz

A. Calibration parameters.

Label	1800
Epsilon	38.47
Sigma	1.27 S/m
Temperature	21°C
Cable loss	0.00 dB
Coupler loss	20.18 dB
Waveguide S11	-13.10 dB
Low limit detection	0.79 V/m

Calibration curves ei=f(V) (i=1,2,3) allow to obtain E-field value using the formula:

$$E=\sqrt{(e1*e1+e2*e2+e3*e3)}$$



The following tables represent the linearization of calibration curves by curve segment in CW signal.

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Calibration coefficients for the three dipoles in CW in Head Liquid:

v1	e1	v2	e2	v3	e3
0,570159	454,293234	0,793185	473,147314	0,721893	410,039855
0,460154	373,160321	0,635366	384,425275	0,573698	331,134299
0,369498	306,169332	0,514367	316,324158	0,459716	270,357451
0,297011	252,454068	0,414053	259,771394	0,370994	222,952315
0,237094	207,872549	0,335191	215,206069	0,294440	181,924913
0,192713	174,665175	0,270310	178,416230	0,235103	149,981916
0,155416	146,548115	0,218846	149,094844	0,187414	124,147596
0,125492	123,756028	0,176546	124,835376	0,122819	88,900273
0,080839	88,797982	0,114803	88,900273	0,104066	80,984722
0,070906	80,891538	0,100748	81,078013	0,094016	73,435000
0,061543	73,350503	0,088681	73,350503	0,083000	66,359499
0,053072	66,283144	0,077136	66,435942	0,072073	60,103962
0,045601	60,034805	0,066880	60,103962	0,061346	53,691198
0,038306	53,629419	0,056766	53,691198	0,050255	46,870878
0,030878	46,816948	0,046364	46,870878	0,041175	41,105799
0,024916	41,105799	0,037914	41,153151	0,033839	36,341521
0,020169	36,299704	0,031060	36,341521	0,027880	32,277738
0,016397	32,240598	0,025510	32,277738	0,022970	28,734463
0,013330	28,734463	0,020964	28,734463	0,018957	25,698223
0,010851	25,668654	0,017251	25,698223	0,015635	23,009284
0,008857	23,009284	0,014206	23,035790	0,012869	20,672981
0,007245	20,672981	0,011681	20,696795	0,010623	18,616717
0,005927	18,616717	0,009618	18,616717	0,008642	16,649573
0,004774	16,649573	0,007806	16,649573	0,006674	14,534601
0,003642	14,534601	0,006026	14,534601	0,005193	12,761540
0,002819	12,746857	0,004690	12,776240	0,004078	11,269459
0,002204	11,269459	0,003684	11,282442	0,003234	10,009286
0,001725	10,020817	0,002915	10,020817	0,002565	8,931061
0,001362	8,902166	0,002318	8,931061	0,002060	7,996558
0,001082	7,979127	0,001865	7,996558	0,001639	7,165960
0,000866	7,186516	0,001480	7,155475	0,001324	6,472146
0,000692	6,477875	0,001200	6,469667	0,001060	5,827379
0,000549	5,831370	0,000966	5,835021	0,000802	5,119400
0,000411	5,130803	0,000730	5,115820	0,000587	4,444080
0,000310	4,550215	0,000545	4,471884	0,000432	3,885072
0,000226	4,003728	0,000409	3,931809	0,000330	3,468399
0,000156	3,483435	0,000310	3,486440	0,000253	3,117175
0,000104	3,039820	0,000236	3,112188	0,000185	2,770221
0,000075	2,761638	0,000170	2,735534	0,000129	2,447843
0,000040	2,383041	0,000131	2,486288	0,000096	2,236212
0,000024	2,188260	0,000097	2,246546	0,000070	2,054173
0,000013	2,043607	0,000070	2,036153	0,000045	1,862431
-0,000002	1,827997	0,000049	1,856098	0,000019	1,639400
-0,000018	1,564266	0,000021	1,584512	0,000005	1,505684
-0,000030	1,332010	0,000001	1,357657	-0,000016	1,283825
-0,000039	1,139349	-0,000014	1,164576	-0,000031	1,090682
-0,000045	0,985683	-0,000024	0,996555	-0,000041	0,935894
-0,000049	0,851579	-0,000032	0,862679	-0,000049	0,809308

-0,000052	0,731933	-0,000038	0,745570	-0,000054	0,693172
-0,000055	0,621221	-0,000042	0,643679	-0,000059	0,591308
-0,000057	0,532537	-0,000045	0,553958	-0,000062	0,510125
-0,000058	0,454794	-0,000047	0,475392	-0,000064	0,436585

Sensitivity in liquid:

Liquid	ε	σ	CF dipole 1 $(W.kg^{-1} (mV)^{-1})$	CF dipole 2 $(W.kg^{-1} (mV)^{-1})$	CF dipole 3 $(W.kg^{-1} (mV)^{-1})$
Head	38.47	1.27	56.41	33.29	29.79
Body	54.31	1.47	57.02	33.98	30.25

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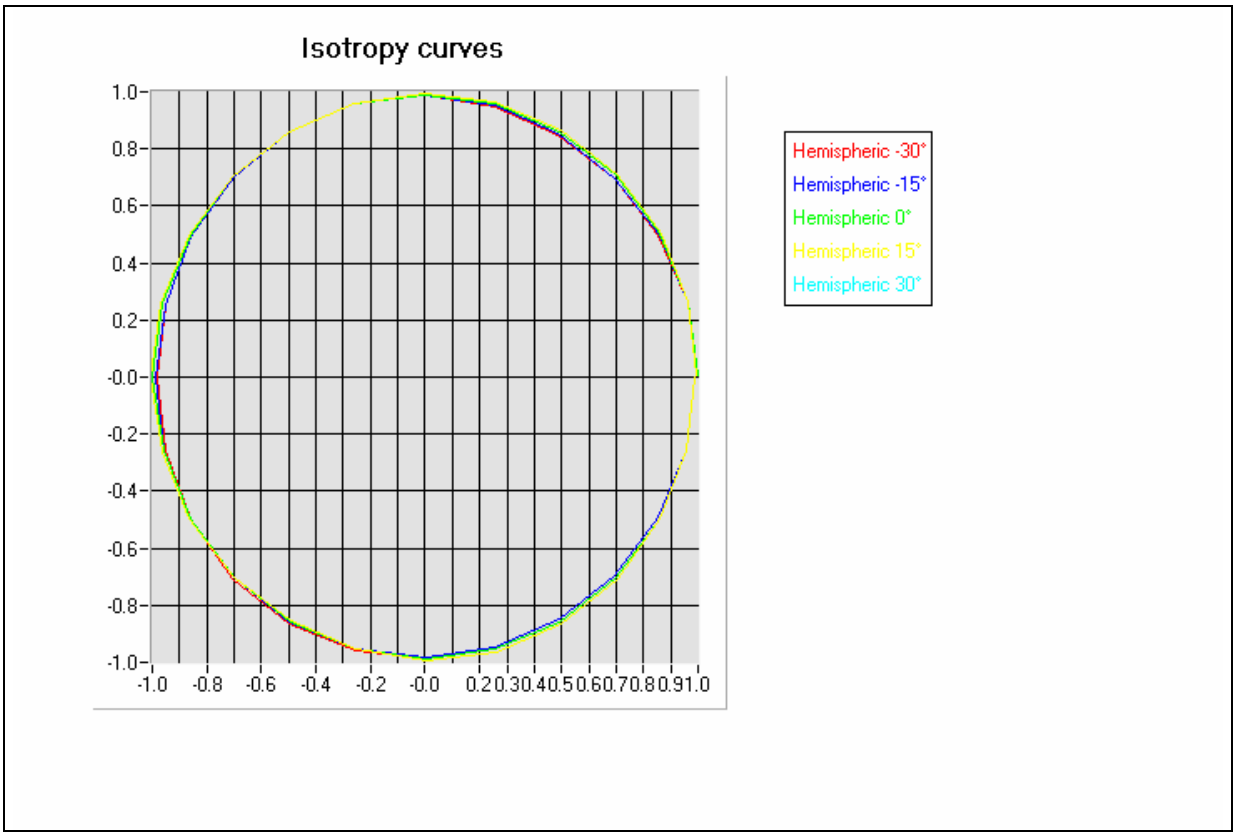
B. Isotropy.

- Axial isotropy: 0.08 dB
- Hemispherical isotropy: 0.12 dB



E-field E (V/m)= f (phi, theta)

C. Linearity.

- Linearity: 0.13dB

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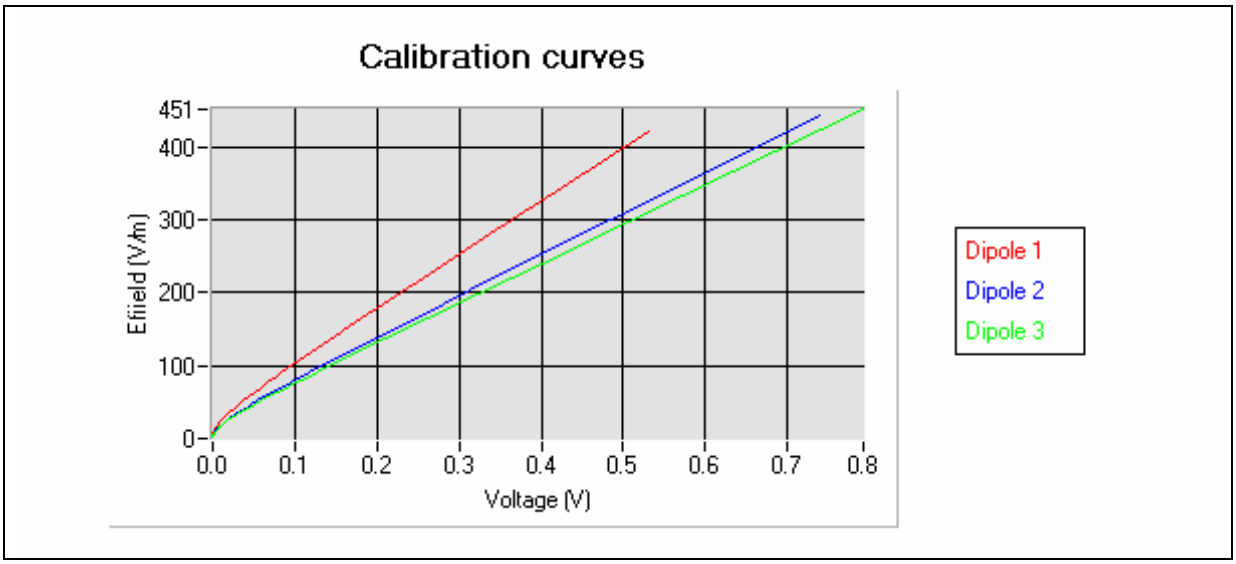
4. Calibration at 1880.00 MHz

A. Calibration parameters.

Label	1900
Epsilon	38.22
Sigma	1.35 S/m
Temperature	21°C
Cable loss	0.00 dB
Coupler loss	20.13 dB
Waveguide S11	-29.23 dB
Low limit detection	0.79 V/m

Calibration curves ei=f(V) (i=1,2,3) allow to obtain E-field value using the formula:

$$E=\sqrt{(e1*e1+e2*e2+e3*e3)}$$



The following tables represent the linearization of calibration curves by curve segment in CW signal.

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Calibration coefficients for the three dipoles in CW in Head Liquid:

v1	e1	v2	e2	v3	e3
0,529809	421,189214	0,738169	442,897549	0,792274	450,886437
0,424640	344,222761	0,598731	364,275971	0,634458	366,118127
0,338295	280,886982	0,483509	299,229473	0,504978	296,490196
0,272073	232,149840	0,385295	243,681963	0,401271	240,624598
0,216150	190,794926	0,312949	202,657085	0,323177	198,451479
0,174812	160,022350	0,248912	166,205932	0,261662	165,116922
0,141210	134,787822	0,201907	139,305880	0,210633	137,330435
0,090821	95,977362	0,127941	96,087924	0,136503	95,977362
0,083431	90,296063	0,118038	90,296063	0,126013	90,296063
0,075266	83,978634	0,106291	84,075375	0,114452	83,978634
0,066756	77,209157	0,095518	77,298099	0,100873	77,209157
0,058294	70,334566	0,084032	70,415588	0,090128	70,415588
0,050447	63,851162	0,073344	63,851162	0,078779	63,851162
0,043484	57,832080	0,063826	57,898700	0,068664	57,832080
0,037029	52,139733	0,054906	52,199797	0,059171	52,199797
0,029804	45,516496	0,044766	45,621421	0,048406	45,621421
0,024020	39,963988	0,036563	40,010025	0,039648	40,056114
0,019425	35,291393	0,029906	35,332048	0,032537	35,332048
0,015767	31,345039	0,024578	31,381147	0,026779	31,381147
0,012805	27,936295	0,020191	27,968476	0,022063	27,968476
0,010423	24,955645	0,016609	24,984393	0,018162	24,984393
0,008500	22,344405	0,013660	22,395915	0,014973	22,395915
0,006955	20,075613	0,011227	20,121892	0,012341	20,121892
0,005689	18,078767	0,009242	18,120443	0,010182	18,120443
0,004608	16,224406	0,007542	16,261807	0,008306	16,243096
0,003532	14,163442	0,005821	14,179758	0,006415	14,179758
0,002740	12,435659	0,004514	12,449984	0,005002	12,449984
0,002138	10,994330	0,003555	10,994330	0,003930	10,994330
0,001686	9,764923	0,002798	9,764923	0,003109	9,776172
0,001334	8,713022	0,002236	8,713022	0,002462	8,713022
0,001068	7,800022	0,001793	7,792356	0,001968	7,792356
0,000851	6,999852	0,001441	7,002368	0,001596	7,002905
0,000672	6,263330	0,001158	6,303258	0,001263	6,259729
0,000552	5,716686	0,000931	5,680639	0,001042	5,713391
0,000397	4,921547	0,000685	4,917697	0,000758	4,923080
0,000301	4,356901	0,000526	4,354018	0,000578	4,348436
0,000212	3,758399	0,000383	3,775860	0,000422	3,780404
0,000158	3,343442	0,000287	3,331912	0,000316	3,339754
0,000121	3,026448	0,000209	2,921953	0,000246	3,013640
0,000089	2,722690	0,000177	2,736052	0,000190	2,724791
0,000056	2,368992	0,000119	2,362105	0,000136	2,413740
0,000039	2,164342	0,000097	2,203727	0,000099	2,175081
0,000022	1,938202	0,000071	2,000450	0,000067	1,945201
0,000008	1,729914	0,000052	1,837737	0,000046	1,778266
0,000004	1,665625	0,000033	1,659143	0,000029	1,630658
-0,000010	1,416306	0,000000	1,291534	0,000002	1,363771
-0,000019	1,226054	-0,000013	1,111845	-0,000016	1,157488
-0,000027	1,043085	-0,000023	0,950480	-0,000028	0,992248

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-0,000032	0,899809	-0,000031	0,811234	-0,000037	0,847393
-0,000036	0,775098	-0,000036	0,693110	-0,000043	0,723593
-0,000039	0,665743	-0,000040	0,588244	-0,000048	0,618670
-0,000041	0,574709	-0,000043	0,506953	-0,000051	0,528446
-0,000042	0,491321	-0,000045	0,434342	-0,000054	0,450006

Sensitivity in liquid:

Liquid	ε	σ	CF dipole 1 ($W.kg^{-1} (mV)^{-1}$)	CF dipole 2 ($W.kg^{-1} (mV)^{-1}$)	CF dipole 3 ($W.kg^{-1} (mV)^{-1}$)
Head	38.22	1.35	55.42	33.34	30.29
Body	54.66	1.49	55.99	34.03	30.89

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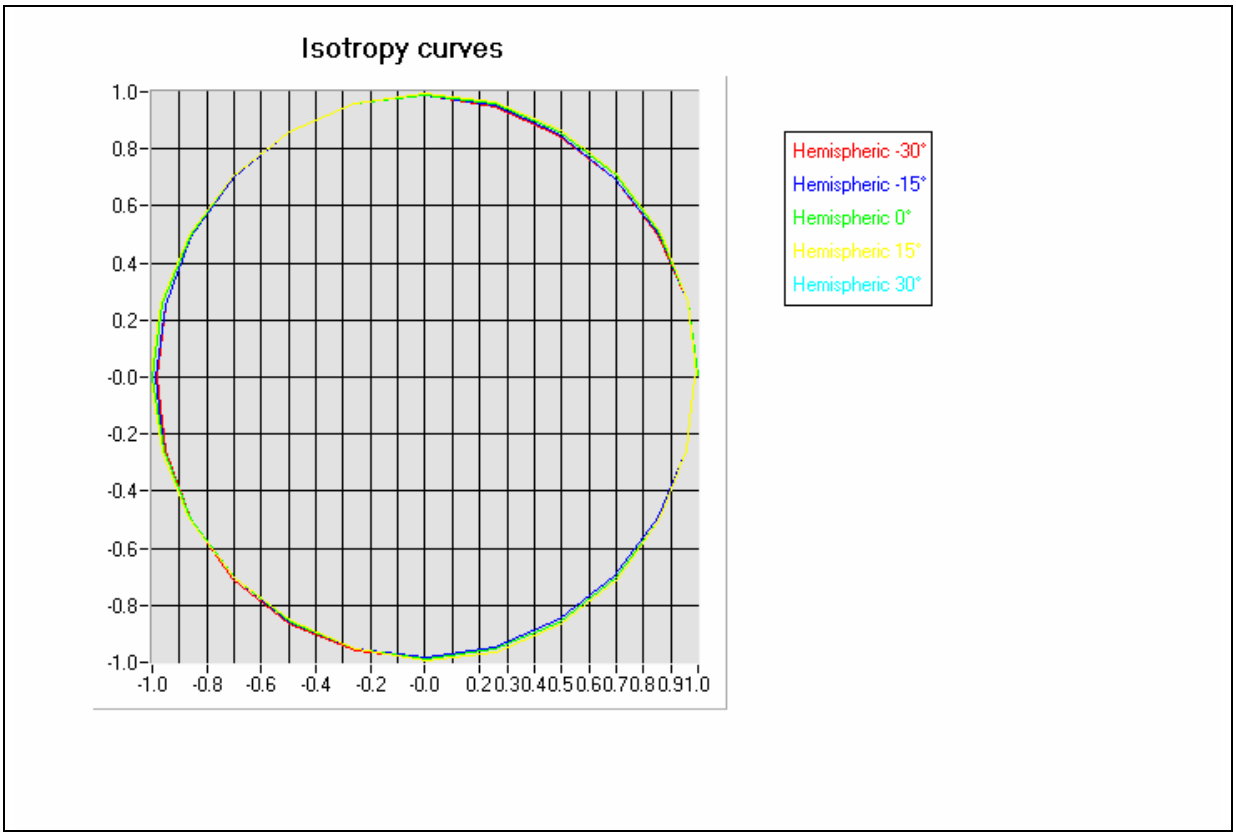
B. Isotropy.

- Axial isotropy: 0.09 dB
- Hemispherical isotropy: 0.12 dB



E-field E (V/m)= f (phi, theta)

C. Linearity.

- Linearity: 0.12 dB

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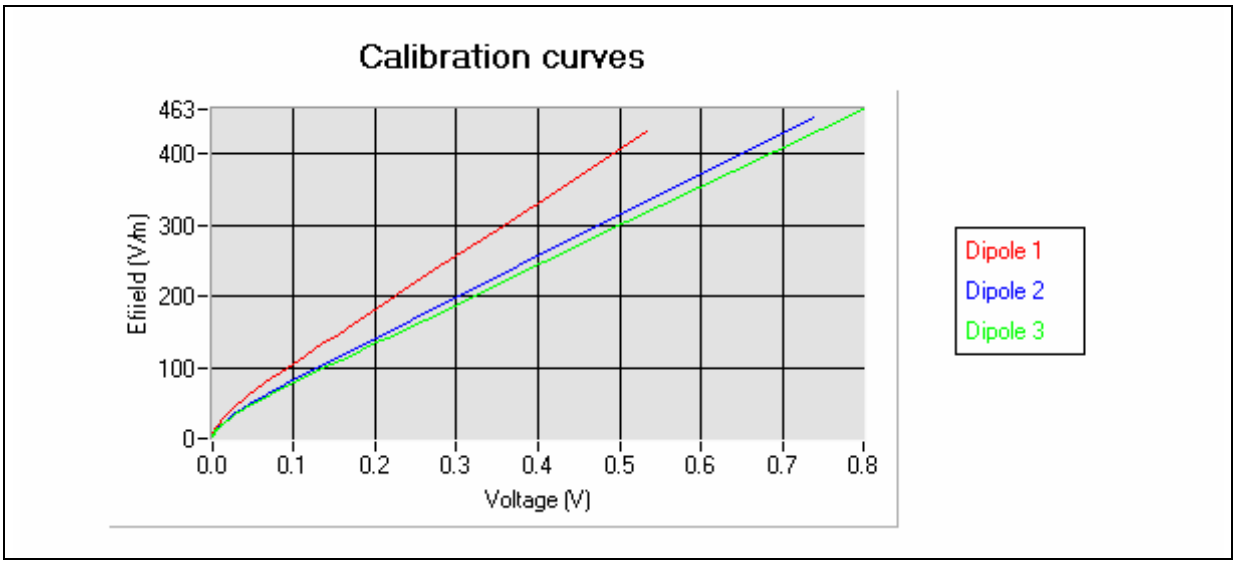
5. Calibration at 1950.00 MHz

A. Calibration parameters.

Label	2000
Epsilon	38.21
Sigma	1.42 S/m
Temperature	21°C
Cable loss	0.00 dB
Coupler loss	20.07 dB
Waveguide S11	-36.66 dB
Low limit detection	0.81 V/m

Calibration curves ei=f(V) (i=1,2,3) allow to obtain E-field value using the formula:

$$E=\sqrt{(e1*e1+e2*e2+e3*e3)}$$



The following tables represent the linearization of calibration curves by curve segment in CW signal.

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Calibration coefficients for the three dipoles in CW in Head Liquid:

v1	e1	v2	e2	v3	e3
0,534425	431,091500	0,737803	451,051257	0,799998	463,436357
0,430476	354,221932	0,586704	364,502368	0,639440	375,856970
0,349783	294,408346	0,467143	295,916666	0,508056	304,101193
0,279435	242,084421	0,375502	243,234093	0,406240	248,390230
0,180175	166,687020	0,245613	166,687020	0,260530	166,687020
0,155350	148,389026	0,213053	148,389026	0,226312	148,389026
0,133334	131,795865	0,184015	131,795865	0,195741	131,795865
0,114461	117,328031	0,158993	117,328031	0,169311	117,193030
0,097953	104,568719	0,137185	104,568719	0,146349	104,568719
0,083979	93,519416	0,118571	93,519416	0,126685	93,519416
0,072097	83,927017	0,102685	83,830448	0,108562	83,830448
0,061842	75,492148	0,088837	75,405285	0,095234	75,405285
0,053034	68,061542	0,076898	68,061542	0,082584	68,061542
0,045561	61,574627	0,066595	61,503777	0,071642	61,503777
0,036785	53,752886	0,054567	53,752886	0,058850	53,691037
0,029852	47,195630	0,044849	47,249998	0,048450	47,195630
0,024263	41,725523	0,036960	41,725523	0,039985	41,725523
0,019821	37,102382	0,030530	37,102382	0,033152	37,059691
0,016195	33,067532	0,025227	33,067532	0,027466	33,067532
0,013283	29,607503	0,020888	29,607503	0,022801	29,607503
0,010883	26,570626	0,017294	26,570626	0,018924	26,570626
0,008965	23,900214	0,014319	23,927745	0,015711	23,900214
0,007373	21,572565	0,011888	21,572565	0,013034	21,572565
0,006262	19,787995	0,010120	19,787995	0,011110	19,787995
0,004806	17,274353	0,007853	17,274353	0,008648	17,274353
0,003741	15,167073	0,006125	15,167073	0,006751	15,167073
0,002912	13,393738	0,004823	13,409166	0,005310	13,393738
0,002304	11,909727	0,003828	11,909727	0,004214	11,896023
0,001823	10,614556	0,003041	10,626783	0,003366	10,614556
0,001447	9,482197	0,002453	9,503899	0,002690	9,492963
0,001162	8,543363	0,001975	8,538897	0,002168	8,529072
0,000937	7,721968	0,001581	7,689566	0,001739	7,664934
0,000743	6,936084	0,001281	6,930230	0,001404	6,924571
0,000555	6,078323	0,000977	6,093630	0,001070	6,097574
0,000414	5,345426	0,000737	5,341386	0,000799	5,333148
0,000292	4,618370	0,000562	4,717856	0,000603	4,703485
0,000219	4,122460	0,000428	4,177969	0,000452	4,153797
0,000160	3,673053	0,000319	3,680859	0,000353	3,749925
0,000120	3,334090	0,000241	3,279191	0,000263	3,340664
0,000087	3,025996	0,000196	3,023282	0,000192	2,978382
0,000044	2,569700	0,000137	2,650584	0,000142	2,694178
0,000037	2,487510	0,000116	2,504581	0,000099	2,423248
0,000023	2,314389	0,000080	2,232182	0,000066	2,192738
0,000012	2,168693	0,000053	2,003727	0,000045	2,032483
-0,000010	1,841430	0,000034	1,825907	0,000009	1,723435
-0,000024	1,594396	0,000010	1,572814	-0,000009	1,545913
-0,000036	1,359673	-0,000002	1,429562	-0,000028	1,333385
-0,000044	1,173558	-0,000017	1,223543	-0,000043	1,139152

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-0,000050	1,009988	-0,000028	1,052775	-0,000054	0,968528
-0,000055	0,865391	-0,000037	0,896000	-0,000062	0,827294
-0,000058	0,741183	-0,000042	0,771116	-0,000067	0,710292
-0,000060	0,640408	-0,000047	0,663189	-0,000072	0,610988
-0,000062	0,549927	-0,000050	0,568953	-0,000075	0,524565
-0,000064	0,466964	-0,000052	0,491462	-0,000077	0,448757

Sensitivity in liquid:

Liquid	ε	σ	CF dipole 1 $(W.kg^{-1} (mV)^{-1})$	CF dipole 2 $(W.kg^{-1} (mV)^{-1})$	CF dipole 3 $(W.kg^{-1} (mV)^{-1})$
Head	38.21	1.42	57.24	34.64	31.45
Body	55.02	1.48	58.01	34.16	31.99

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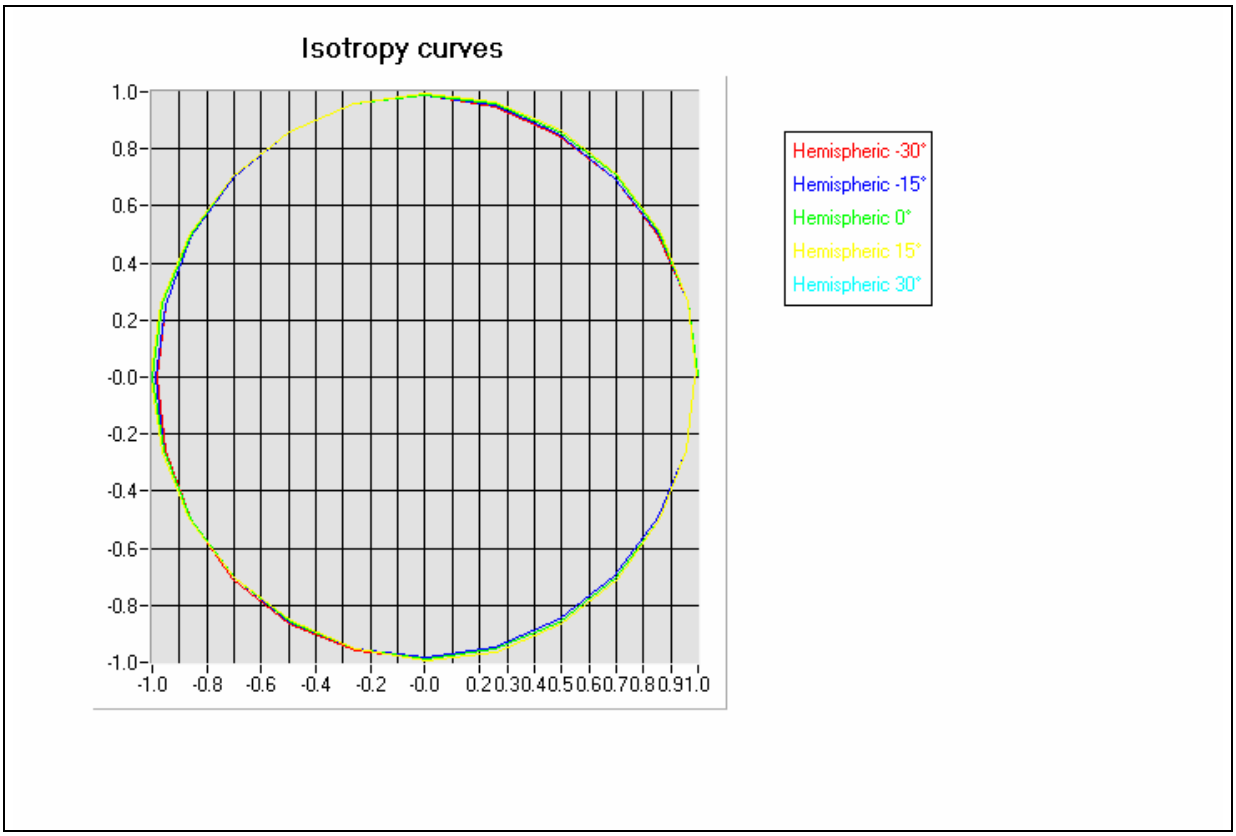
B. Isotropy.

- Axial isotropy: 0.09 dB
- Hemispherical isotropy: 0.11 dB



E-field E (V/m)= f (phi, theta)

C. Linearity.

- Linearity: 0.14 dB

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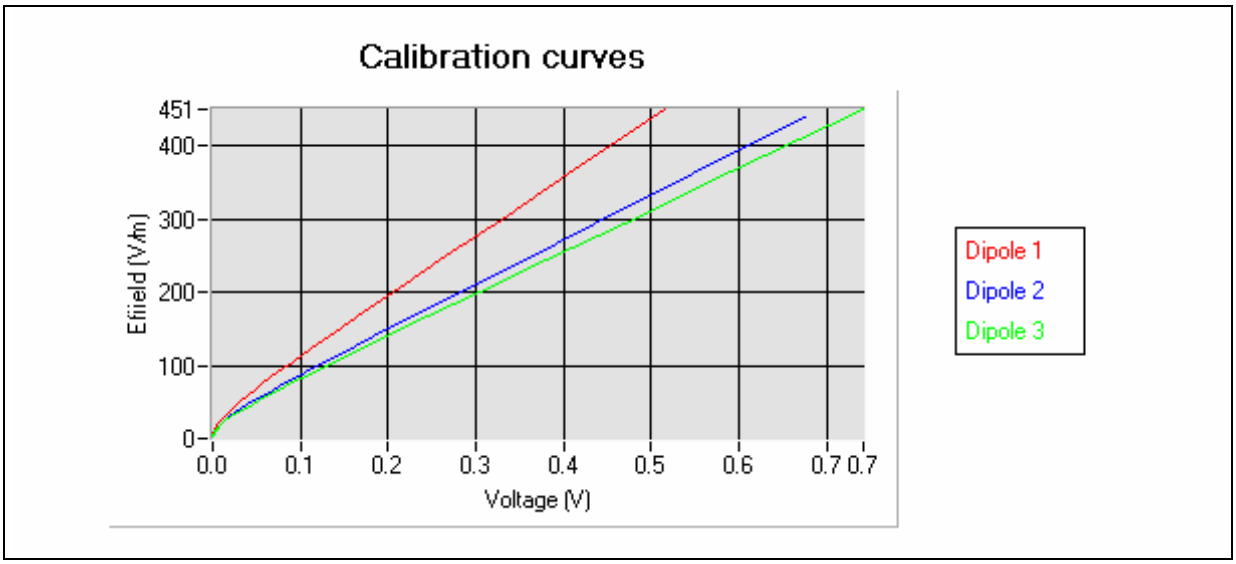
6. Calibration at 2450.00 MHz

A. Calibration parameters.

Label	2450
Epsilon	38.59
Sigma	1.71 S/m
Temperature	21 °C
Cable loss	0.00 dB
Coupler loss	21.50 dB
Waveguide S11	-14.70 dB
Low limit detection	0.76 V/m

Calibration curves ei=f(V) (i=1,2,3) allow to obtain E-field value using the formula:

$$E=\sqrt{(e1*e1+e2*e2+e3*e3)}$$



The following tables represent the linearization of calibration curves by curve segment in CW signal.

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Calibration coefficients for the three dipoles in CW in Head Liquid:

v1	e1	v2	e2	v3	e3
0,515625	449,294640	0,676349	440,467121	0,742339	450,608367
0,412769	366,940956	0,548041	362,538522	0,590630	364,352274
0,329117	299,801694	0,435956	294,354038	0,468929	295,053758
0,266670	249,511541	0,351850	243,070371	0,380690	244,701522
0,213517	206,501698	0,281214	199,855036	0,303582	200,567558
0,171296	172,105532	0,225482	165,592392	0,244680	166,705463
0,138846	145,428362	0,183037	139,327528	0,197851	139,622583
0,112251	123,304481	0,147395	117,077681	0,158817	116,861388
0,091138	105,468010	0,117935	98,461424	0,126506	97,801112
0,073208	90,015130	0,093777	82,939661	0,101131	82,596985
0,058128	76,668364	0,075657	71,048214	0,081518	70,611257
0,047030	66,521704	0,061074	61,228571	0,065474	60,561207
0,038175	58,121529	0,048976	52,817151	0,053131	52,593274
0,030799	50,813522	0,039502	45,971301	0,042842	45,708936
0,024930	44,698062	0,032006	40,310109	0,034668	40,002842
0,020265	39,556619	0,025878	35,442793	0,028127	35,210731
0,016110	34,673539	0,016536	27,333989	0,018220	27,333989
0,010491	27,333989	0,013240	24,138098	0,014655	24,138098
0,008358	24,165904	0,010553	21,315868	0,011675	21,315868
0,006599	21,340423	0,008464	18,932285	0,009357	18,932285
0,005265	18,954095	0,006810	16,873418	0,007538	16,873418
0,004209	16,892853	0,005510	15,107863	0,006093	15,107863
0,003379	15,064805	0,004462	13,558232	0,004945	13,558232
0,002737	13,581202	0,003623	12,209645	0,004035	12,209645
0,002217	12,248507	0,002957	11,020545	0,003264	11,007863
0,001797	11,055435	0,001949	8,926949	0,002163	8,926949
0,001177	9,009979	0,001884	8,784217	0,002043	8,784217
0,001136	8,858080	0,001429	7,712640	0,001582	7,719746
0,000856	7,741451	0,001110	6,806506	0,001219	6,825167
0,000656	6,833038	0,000867	6,060847	0,000935	6,033495
0,000506	6,063057	0,000685	5,435784	0,000741	5,426714
0,000399	5,447701	0,000534	4,856505	0,000556	4,776817
0,000301	4,815601	0,000417	4,354997	0,000431	4,282221
0,000232	4,315360	0,000324	3,910750	0,000360	3,973972
0,000180	3,896155	0,000257	3,556477	0,000289	3,639711
0,000128	3,426034	0,000161	2,976247	0,000168	2,985014
0,000065	2,750858	0,000139	2,826552	0,000147	2,856146
0,000035	2,365475	0,000105	2,578165	0,000079	2,391682
0,000013	2,028751	0,000060	2,206841	0,000070	2,323261
-0,000003	1,745864	0,000041	2,029766	0,000043	2,104695
-0,000015	1,506784	0,000027	1,888696	0,000019	1,889305
-0,000024	1,303495	0,000005	1,642717	0,000004	1,741208
-0,000031	1,111268	-0,000002	1,556319	-0,000017	1,506882
-0,000036	0,949907	-0,000018	1,335812	-0,000034	1,287641
-0,000039	0,813084	-0,000031	1,137100	-0,000046	1,110854
-0,000042	0,696402	-0,000039	0,977685	-0,000055	0,959722
-0,000044	0,592435	-0,000045	0,845533	-0,000061	0,829151
-0,000045	0,505653	-0,000050	0,724896	-0,000066	0,711492

-0,000046	0,434170	-0,000054	0,620208	-0,000070	0,603730
		-0,000056	0,527348	-0,000073	0,514851
		-0,000058	0,449920	-0,000075	0,439809

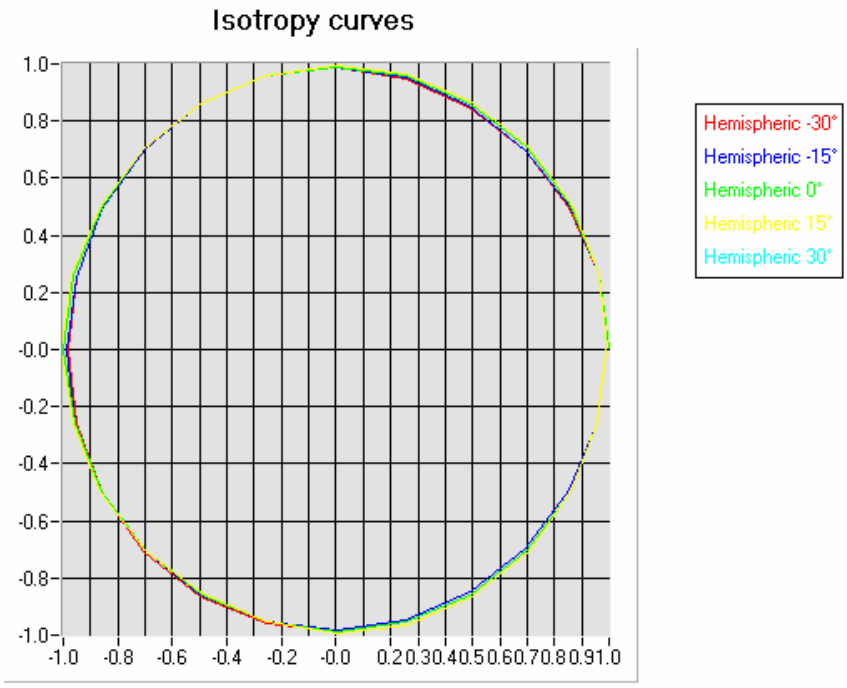
Sensitivity in liquid:

Liquid	ε	σ	CF dipole 1 ($W.kg^{-1}$ $(mV)^{-1}$)	CF dipole 2 ($W.kg^{-1}$ $(mV)^{-1}$)	CF dipole 3 ($W.kg^{-1}$ $(mV)^{-1}$)
Head	38.59	1.71	66.22	38.80	34.19
Body	53.63	1.87	66.76	39.11	34.71

Bâtiment PONANT, Ave La Pérouse
Zone du Technopole Brest Iroise, 29280 PLOUZANE.
☎ : +33 (0)2-98-05-13-34.
: +33 (0)2-98-05-53-87.

B. Isotropy.

- Axial isotropy: 0.10 dB
- Hemispherical isotropy: 0.11 dB



E-field E (V/m)= f (phi, theta)

C. Linearity.

- Linearity: 0.13 dB