
	System Validation Plots
	Project name :
	KS100409B01

EUT DESCRIPTION

Product:	HSDPA/WCDMA/EDGE/GPRS/GSM 850/900/1800/1900/2100MHz Mobile Phone
Model:	i-mobile i858
Trade name:	i-mobile
FCCID:	S2VTN100
Tested:	April 16, 2010
Applicant:	YuHua TelTech (Shanghai) Co.,Ltd. 4F/2, District B, No. 1000 Jinhai Road, Pudong 201206, Shanghai, P.R. China

Compliance Certification Services (Kunshan) Inc.
No.10, Weiye Rd., Innovation Park, Eco & Tec. Development Part,
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850 HEAD VALIDATION

I. RESULTS

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

MEASUREMENT 1

Type: Validation measurement (Complete)

Date of measurement: 16/4/2010

Measurement duration: 6 minutes 41 seconds

Mobile Phone IMEI number: --

Air Temperature: 21 °C; Liquefied Temperature: 20 °C

Crest Factor: CW Duty cycle: 1:1

Medium parameters used: $f=835\text{MHz}$; $\sigma=41.46\text{mho/m}$; $\epsilon_r=0.92$; $\rho=1000\text{kg/m}^3$

Area Scan: 7 x 7 x 1

$dx=15\text{mm}$

$dy=15\text{mm}$

Zoom Scan: 5 x 5 x 7

$dx=5\text{mm}$

$dy=5\text{mm}$

$dz=5\text{mm}$

Z Axis Scan: 1 x 1 x 21

$dx=20\text{mm}$

$dy=20\text{mm}$

$dz=5\text{mm}$

A. Experimental conditions.

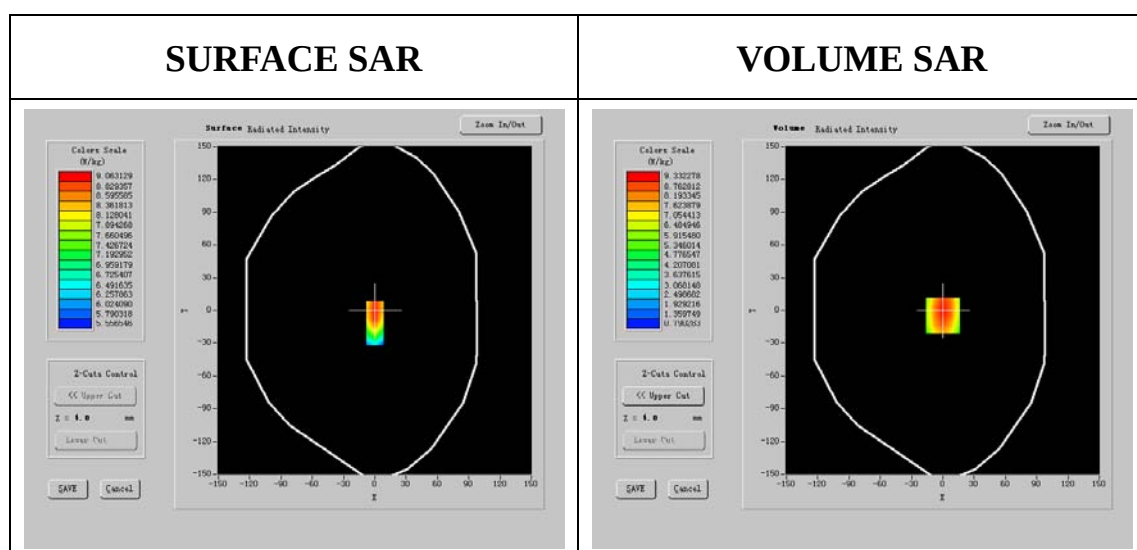
Phantom File	surf_sam_plan.txt, Adaptive 2 max
Phantom	Validation plane
Device Position	Dipole
Band	GSM850
Channels	Middle
Signal	CW

B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)	Calibrated: N/A
Network Emulator	R&S (CMU200, SN:B23-03291)	Calibrated: 06/17/2009
Voltmeter	Keithley (2000, SN:1015843)	Calibrated: 05/01/2009
Synthesizer	Agilent (E8257C, SN:MY43321570)	Calibrated: 08/07/2009
Amplifier	Mini-Circuits (ZHL-42, SN:110405)	Calibrated: 07/29/2009
Power Meter	Agilent (E4416A, SN:QB41292714)	Calibrated: 07/29/2009
Probe	Antennessa (SN:SN_1109_EP_100)	Calibrated: 04/16/2009
DIPOLE 835	Antennessa (DIPI32,SN 48/05)	Calibrated: 12/10/2010
Phantom	Antennessa (SN:SN41_05_SAM29)	Calibrated: N/A
Liquid	Antennessa	Calibrated: N/A
Measurement SW	OPEN SAR V2.1	Calibrated: N/A

C. SAR Measurement Results

Frequency (MHz)	835.000024
Relative permittivity (real part)	41.461238
Relative permittivity (imaginary part)	19.593300
Conductivity (S/m)	0.924135
Variation (%)	0.679500

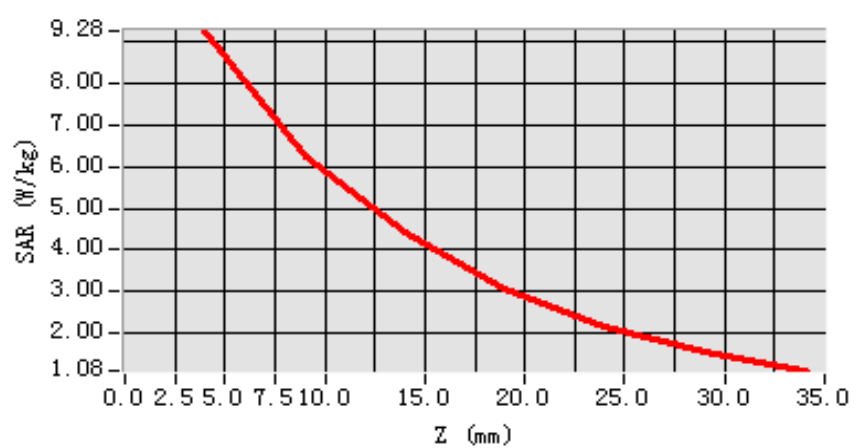


Maximum location: X=0.00, Y=-5.00

SAR 10g (W/Kg)	6.151466
SAR 1g (W/Kg)	9.546258

Z Axis Scan

SAR, Z Axis Scan (X = 0, Y = -5)



1900 HEAD VALIDATION

I. RESULTS

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

MEASUREMENT 1

Type: Validation measurement (Complete)

Date of measurement: 16/4/2010

Measurement duration: 7 minutes 3 seconds

Mobile Phone IMEI number: --

Air Temperature: 21 °C; Liquefied Temperature: 20 °C

Crest Factor: CW Duty cycle: 1:1

Medium parameters used: $f=1950\text{MHz}$; $\sigma=40.21\text{mho/m}$; $\epsilon_r=1.4$; $\rho=1000\text{kg/m}^3$

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

A. Experimental conditions.

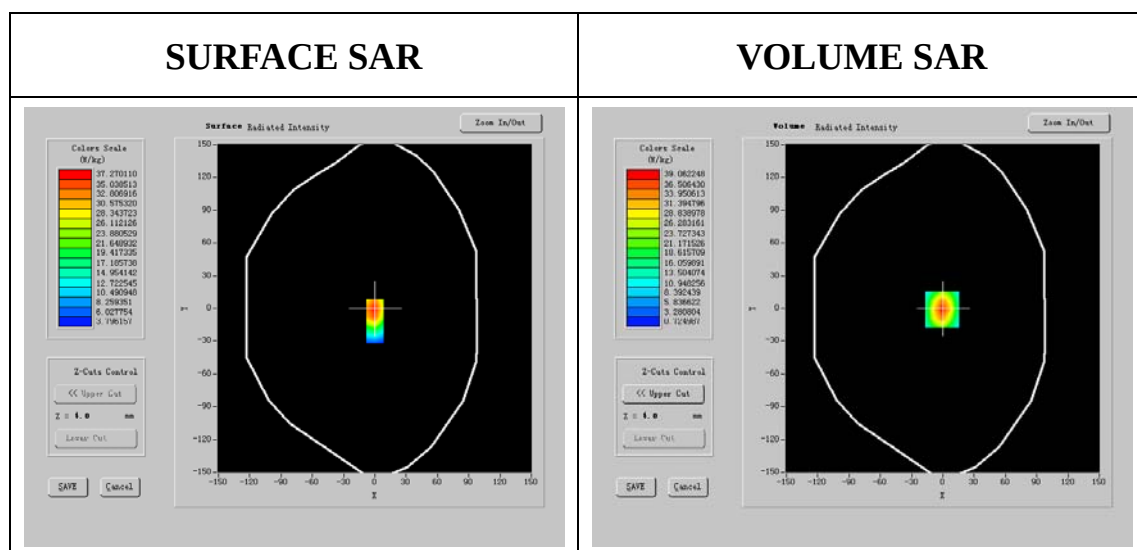
Phantom File	surf_sam_plan.txt, Adaptive 2 max
Phantom	Validation plane
Device Position	Dipole
Band	GSM1900
Channels	Middle
Signal	CW

B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)	Calibrated: N/A
Network Emulator	R&S (CMU200, SN:B23-03291)	Calibrated: 06/17/2009
Voltmeter	Keithley (2000, SN:1015843)	Calibrated: 05/01/2009
Synthetizer	Agilent (E8257C, SN:MY43321570)	Calibrated: 08/07/2009
Amplifier	Mini-Circuits (ZHL-42, SN:110405)	Calibrated: 07/29/2009
Power Meter	Agilent (E4416A, SN:QB41292714)	Calibrated: 07/29/2009
Probe	Antennessa (SN:SN_1109_EP_100)	Calibrated: 04/16/2009
DIPOLE 1900	Antennessa (DIPI36, SN 48/05)	Calibrated: 12/10/2010
Phantom	Antennessa (SN:SN41_05_SAM29)	Calibrated: N/A
Liquid	Antennessa	Calibrated: N/A
Measurement SW	OPEN SAR V2.1	Calibrated: N/A

C. SAR Measurement Results

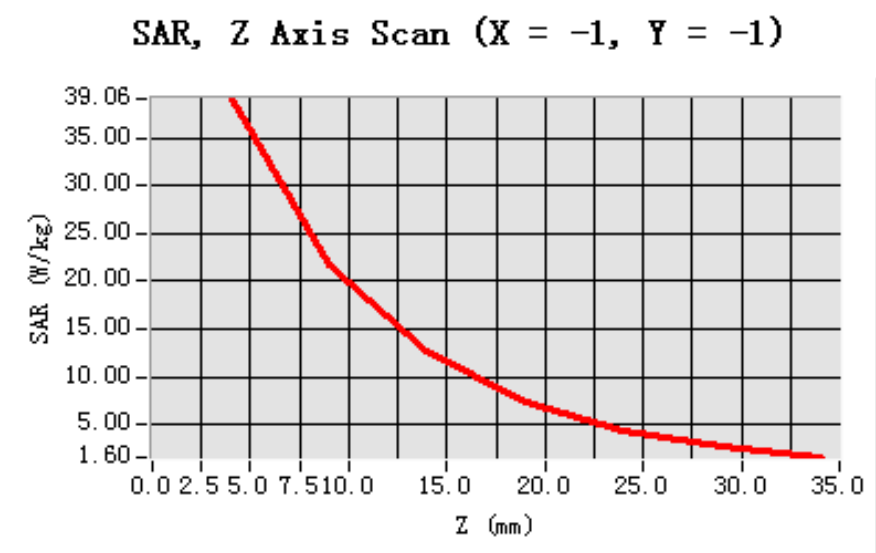
Frequency (MHz)	1950.000000
Relative permittivity (real part)	40.211523
Relative permittivity (imaginary part)	13.740051
Conductivity (S/m)	1.440591
Variation (%)	0.085000



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

SAR 10g (W/Kg)	21.435044
SAR 1g (W/Kg)	40.212670

Z Axis Scan



2450 HEAD VALIDATION

I. RESULTS

<u>TYPE</u>	<u>BAND</u>	<u>PARAMETERS</u>
<u>Noise</u>	--	--
<u>Validation</u>	<u>CUSTOM</u>	<u>Measurement 1:</u> Validation Plane with Dipole device position (band wireless)
<u>Phone</u>	--	--

MEASUREMENT 1

Type: Validation measurement (Complete)

Date of measurement: 16/4/2010

Measurement duration: 6 minutes 39 seconds

Mobile Phone IMEI number: --

Air Temperature: 21 °C; Liquefied Temperature: 20 °C

Crest Factor: CW Duty cycle: 1:1

Medium parameters used: $f=2450\text{MHz}$; $\sigma=40.41\text{mho/m}$; $\epsilon_r=1.86$; $\rho=1000\text{kg/m}^3$

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

A. Experimental conditions.

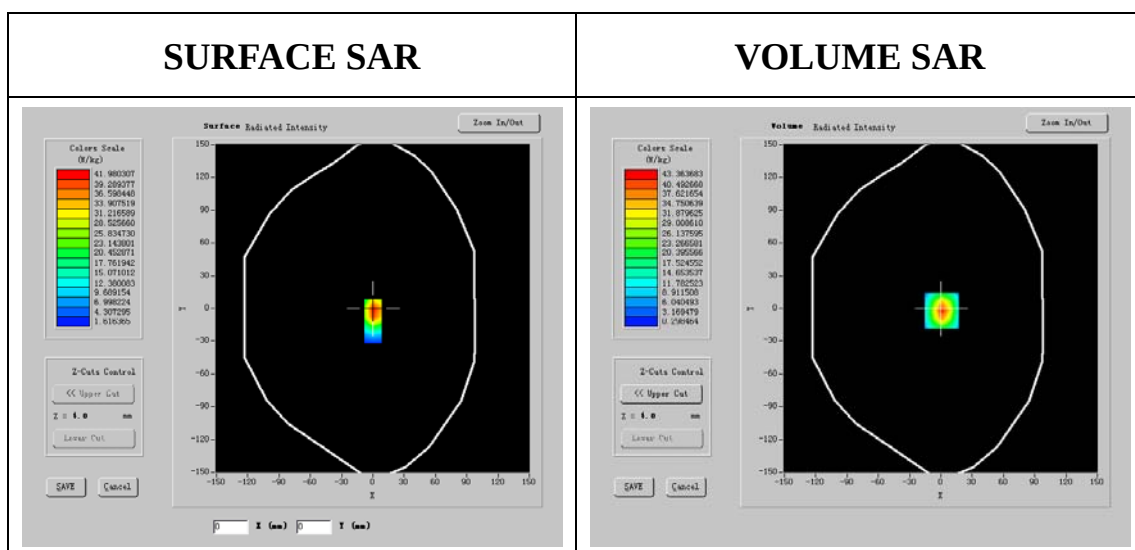
Phantom File	surf_sam_plan.txt, Adaptive 2 max
Phantom	Validation plane
Device Position	Dipole
Band	CUSTOM (wireless)
Channels	Middle
Signal	Duty Cycle: 1

B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)	Calibrated: N/A
Network Emulator	R&S (CMU200, SN:B23-03291)	Calibrated: 06/17/2009
Voltmeter	Keithley (2000, SN:1015843)	Calibrated: 05/01/2009
Synthetizer	Agilent (E8257C, SN:MY43321570)	Calibrated: 08/07/2009
Amplifier	Mini-Circuits (ZHL-42, SN:110405)	Calibrated: 07/29/2009
Power Meter	Agilent (E4416A, SN:QB41292714)	Calibrated: 07/29/2009
Probe	Antennessa (SN:SN_1109_EP_100)	Calibrated: 04/16/2009
DIPOLE 2450	Antennessa (DIPI37, SN 48/05)	Calibrated: 12/10/2010
Phantom	Antennessa (SN:SN41_05_SAM29)	Calibrated: N/A
Liquid	Antennessa	Calibrated: N/A
Measurement SW	OPEN SAR V2.1	Calibrated: N/A

C. SAR Measurement Results

Frequency (MHz)	2450.000000
Relative permittivity (real part)	40.412512
Relative permittivity (imaginary part)	13.352477
Conductivity (S/m)	1.860180
Variation (%)	-0.980000



Maximum location: X=1.00, Y=-2.00

SAR 10g (W/Kg)	23.726477
SAR 1g (W/Kg)	51.222589

850 BODY VALIDATION

I. RESULTS

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

MEASUREMENT 1

Type: Validation measurement (Complete)

Date of measurement: 16/4/2010

Measurement duration: 6 minutes 51 seconds

Mobile Phone IMEI number: --

Air Temperature: 21 °C; Liquefied Temperature: 20 °C

Crest Factor: CW Duty cycle: 1:1

Medium parameters used: $f=835\text{MHz}$; $\sigma=56.51\text{mho/m}$; $\epsilon_r=0.98$; $\rho=1000\text{kg/m}^3$

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

A. Experimental conditions.

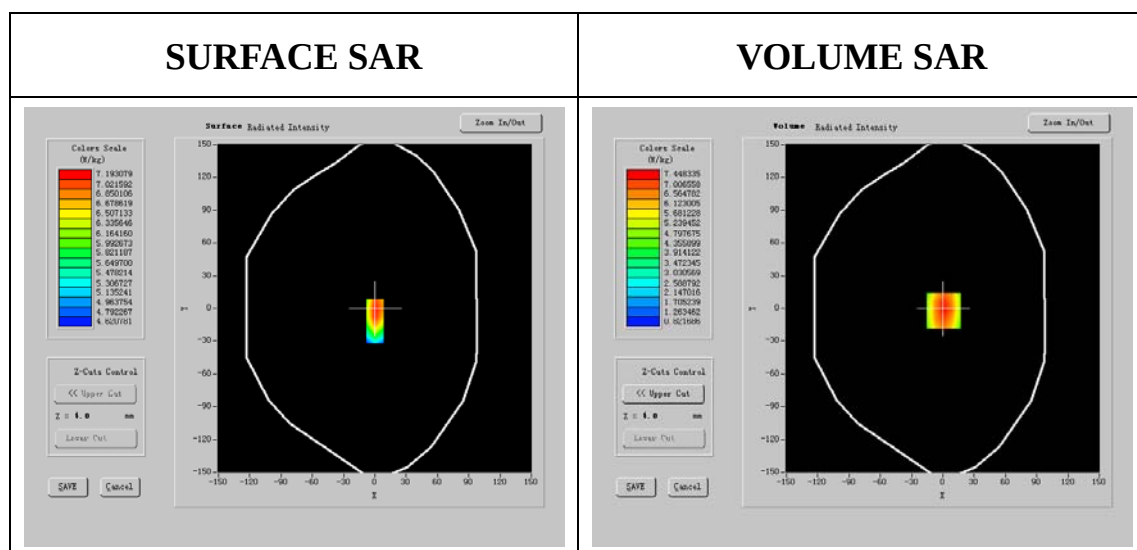
Phantom File	surf_sam_plan.txt, Adaptive 2 max
Phantom	Validation plane
Device Position	Dipole
Band	GSM850
Channels	Middle
Signal	CW

B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)	Calibrated: N/A
Network Emulator	R&S (CMU200, SN:B23-03291)	Calibrated: 06/17/2009
Voltmeter	Keithley (2000, SN:1015843)	Calibrated: 05/01/2009
Synthesizer	Agilent (E8257C, SN:MY43321570)	Calibrated: 08/07/2009
Amplifier	Mini-Circuits (ZHL-42, SN:110405)	Calibrated: 07/29/2009
Power Meter	Agilent (E4416A, SN:QB41292714)	Calibrated: 07/29/2009
Probe	Antennessa (SN:SN_1109_EP_100)	Calibrated: 04/16/2009
DIPOLE 835	Antennessa (DIPI32, SN 48/05)	Calibrated: 12/10/2010
Phantom	Antennessa (SN:SN41_05_SAM29)	Calibrated: N/A
Liquid	Antennessa	Calibrated: N/A
Measurement SW	OPEN SAR V2.1	Calibrated: N/A

C. SAR Measurement Results

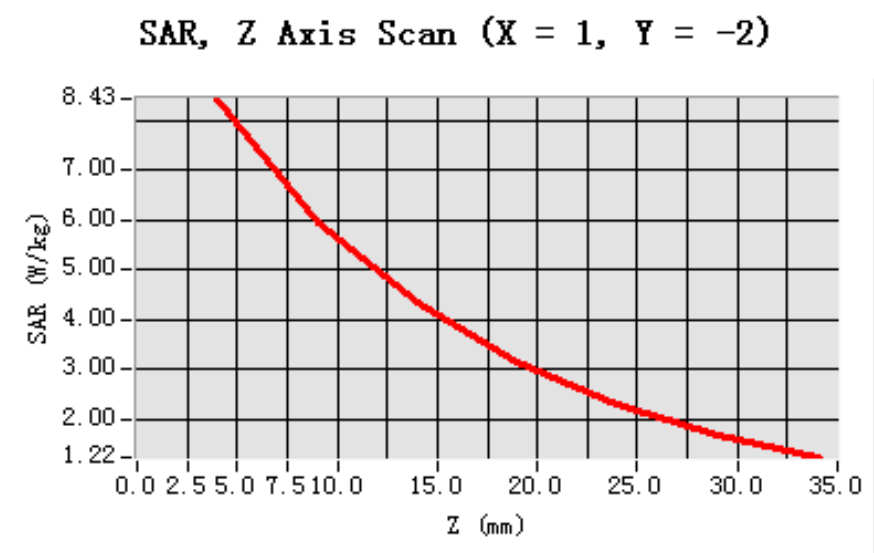
Frequency (MHz)	835.000024
Relative permittivity (real part)	56.511305
Relative permittivity (imaginary part)	22.074512
Conductivity (S/m)	0.979455
Variation (%)	0.230000



Maximum location: X=1.00, Y=-2.00

SAR 10g (W/Kg)	6.545111
SAR 1g (W/Kg)	9.683422

Z Axis Scan



1900 BODY VALIDATION

I. RESULTS

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

MEASUREMENT 1

Type: Validation measurement (Complete)

Date of measurement: 16/4/2010

Measurement duration: 6 minutes 43 seconds

Mobile Phone IMEI number: --

Air Temperature: 21 °C; Liquefied Temperature: 20 °C

Crest Factor: CW Duty cycle: 1:1

Medium parameters used: $f=1950\text{MHz}$; $\sigma=52.95\text{mho/m}$; $\epsilon_r=1.49$; $\rho=1000\text{kg/m}^3$

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

A. Experimental conditions.

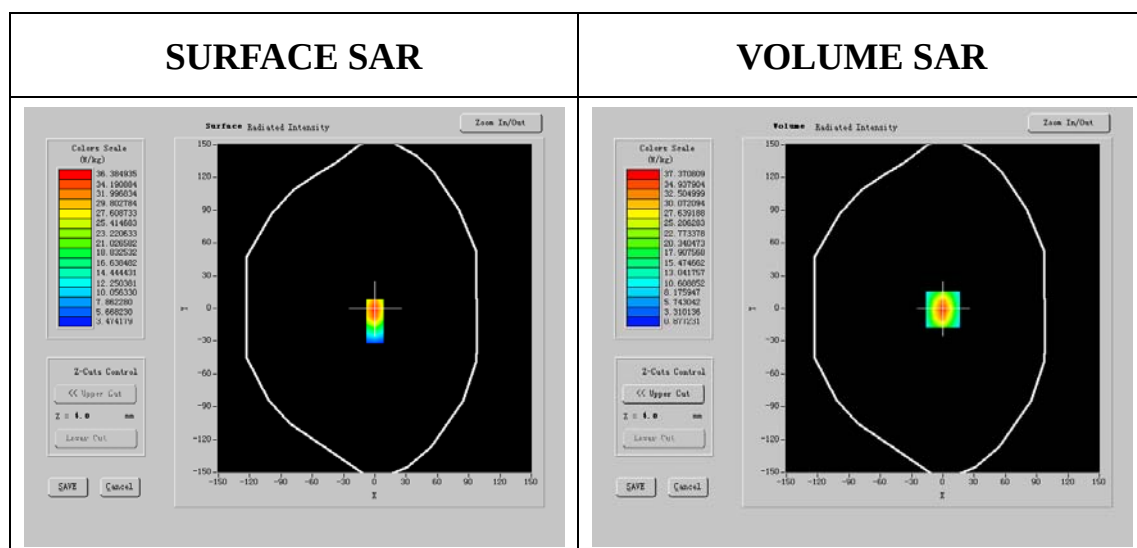
Phantom File	surf_sam_plan.txt, Adaptive 2 max
Phantom	Validation plane
Device Position	Dipole
Band	GSM1900
Channels	Middle
Signal	CW

B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)	Calibrated: N/A
Network Emulator	R&S (CMU200, SN:B23-03291)	Calibrated: 06/17/2009
Voltmeter	Keithley (2000, SN:1015843)	Calibrated: 05/01/2009
Synthetizer	Agilent (E8257C, SN:MY43321570)	Calibrated: 08/07/2009
Amplifier	Mini-Circuits (ZHL-42, SN:110405)	Calibrated: 07/29/2009
Power Meter	Agilent (E4416A, SN:QB41292714)	Calibrated: 07/29/2009
Probe	Antennessa (SN:SN_1109_EP_100)	Calibrated: 04/16/2009
DIPOLE 1900	Antennessa (DIPI36, SN 48/05)	Calibrated: 12/10/2010
Phantom	Antennessa (SN:SN41_05_SAM29)	Calibrated: N/A
Liquid	Antennessa	Calibrated: N/A
Measurement SW	OPEN SAR V2.1	Calibrated: N/A

C. SAR Measurement Results

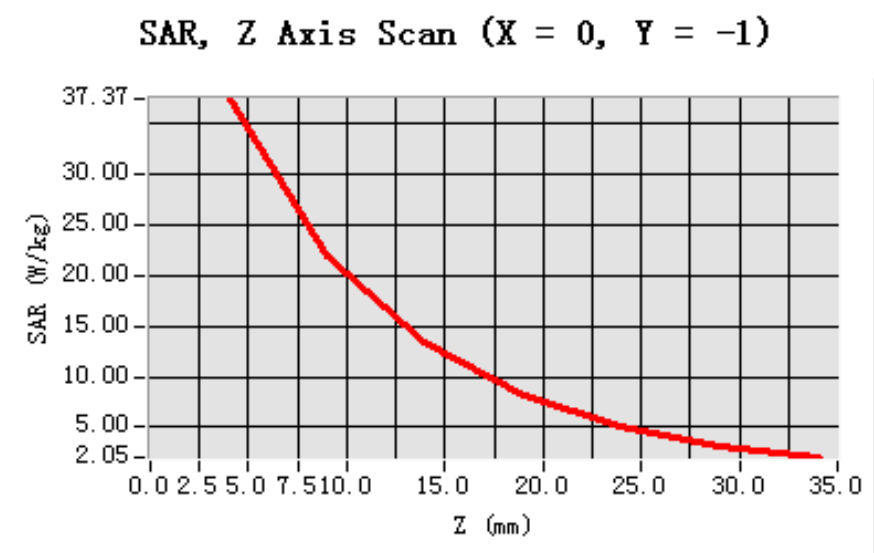
Frequency (MHz)	1950.000000
Relative permittivity (real part)	52.950128
Relative permittivity (imaginary part)	13.683420
Conductivity (S/m)	1.490157
Variation (%)	-0.500000



Maximum location: X=0.00, Y=-1.00

SAR 10g (W/Kg)	20.722465
SAR 1g (W/Kg)	38.977841

Z Axis Scan



2450 BODY VALIDATION

I. RESULTS

<u>TYPE</u>	<u>BAND</u>	<u>PARAMETERS</u>
<u>Noise</u>	--	--
<u>Validation</u>	<u>CUSTOM</u>	<u>Measurement 1:</u> Validation Plane with Dipole device position (band wireless)
<u>Phone</u>	--	--

MEASUREMENT 1

Type: Validation measurement (Complete)

Date of measurement: 16/4/2010

Measurement duration: 6 minutes 39 seconds

Mobile Phone IMEI number: --

Air Temperature: 21 °C; Liquefied Temperature: 20 °C

Crest Factor: CW Duty cycle: 1:1

Medium parameters used: $f=2450\text{MHz}$; $\sigma=51.52\text{mho/m}$; $\epsilon_r=1.97$; $\rho=1000\text{kg/m}^3$

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

A. Experimental conditions.

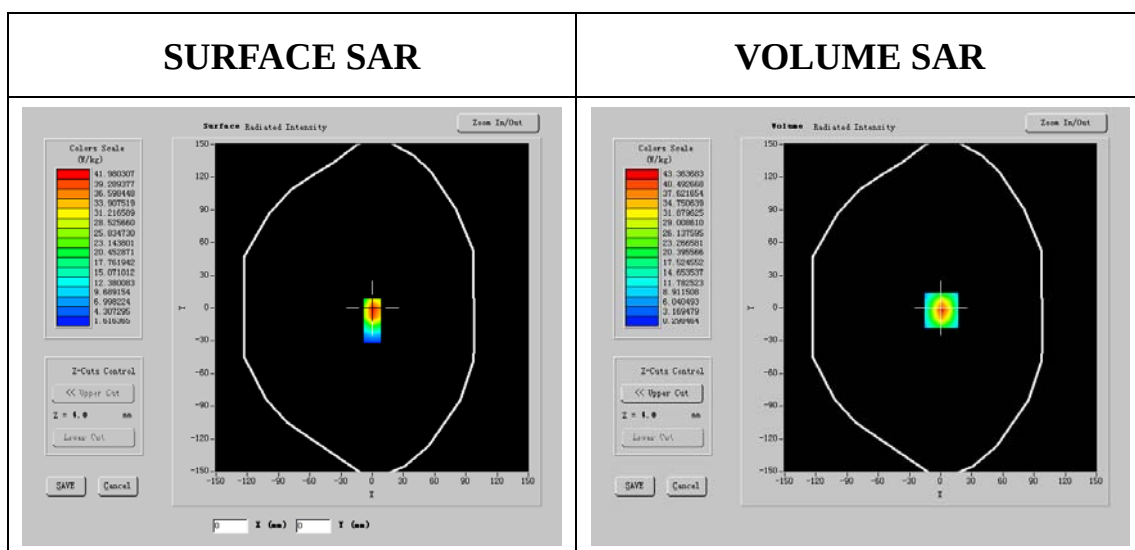
Phantom File	surf_sam_plan.txt, Adaptive 2 max
Phantom	Validation plane
Device Position	Dipole
Band	CUSTOM (wireless)
Channels	Middle
Signal	Duty Cycle: 1

B. Instrumentations.

PC	HP (Pentium(R) V3.06GHz, SN:375052-AA1)	Calibrated: N/A
Network Emulator	R&S (CMU200, SN:B23-03291)	Calibrated: 06/17/2009
Voltmeter	Keithley (2000, SN:1015843)	Calibrated: 05/01/2009
Synthesizer	Agilent (E8257C, SN:MY43321570)	Calibrated: 08/07/2009
Amplifier	Mini-Circuits (ZHL-42, SN:110405)	Calibrated: 07/29/2009
Power Meter	Agilent (E4416A, SN:QB41292714)	Calibrated: 07/29/2009
Probe	Antennessa (SN:SN_1109_EP_100)	Calibrated: 04/16/2009
DIPOLE 2450	Antennessa (DIPI37, SN 48/05)	Calibrated: 12/10/2010
Phantom	Antennessa (SN:SN41_05_SAM29)	Calibrated: N/A
Liquid	Antennessa	Calibrated: N/A
Measurement SW	OPEN SAR V2.1	Calibrated: N/A

C. SAR Measurement Results

Frequency (MHz)	2450.000000
Relative permittivity (real part)	51.523447
Relative permittivity (imaginary part)	13.367488
Conductivity (S/m)	1.971156
Variation (%)	-0.956000



Maximum location: X=1.00, Y=-2.00

SAR 10g (W/Kg)	22.564213
SAR 1g (W/Kg)	48.796258