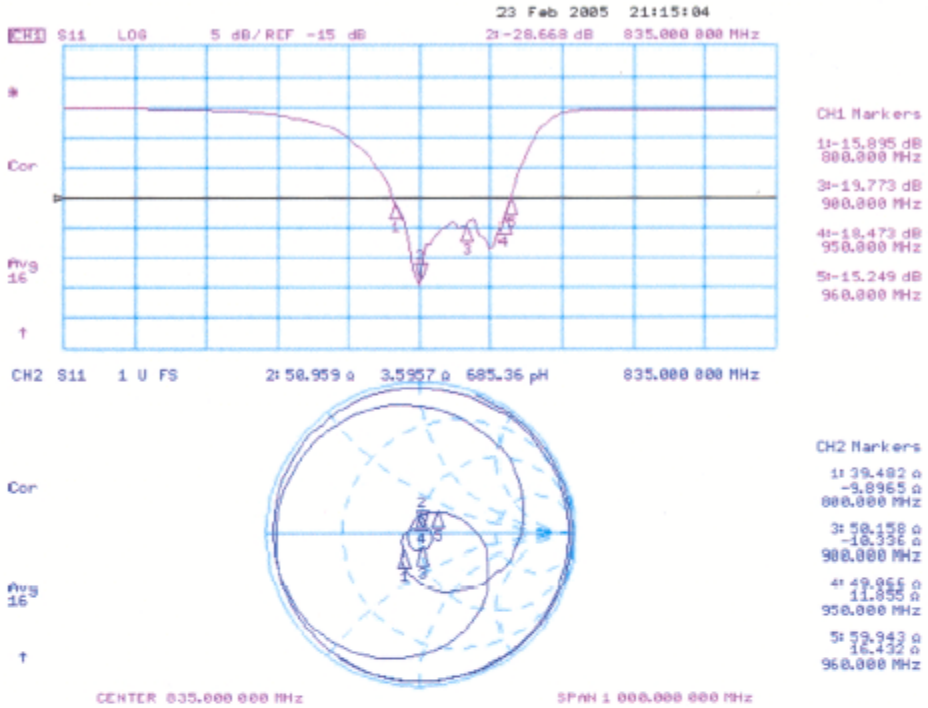
3.3 Measurement Sheets

3.3.1 Return Loss and Smith Chart



3.3.2 DASY4 H-field result

See page 5

3.3.3 DASY4 E-Field result

See page 6

NCL CALIBRATION LABORATORIES

Calibration File No: DC-0267
Project Number: BACL-CAL2450-3985

CERTIFICATE OF CALIBRATION

It is certified that the equipment identified below has been calibrated in the **NCL CALIBRATION LABORATORIES** by qualified personnel following recognized procedures and using transfer standards traceable to NRC/NIST.

BACL Validation Dipole

Manufacturer: APREL Laboratories
Part number: D-1800-S-1
Frequency: 1800 MHz
Serial No: BCL-049

Customer: Bay Area Compliance Laboratory

Calibrated: 4th March 2005
Released on: 4th March 2005

Released By: _____

NCL CALIBRATION LABORATORIES
51 SPECTRUM WAY
NEPEAN, ONTARIO
CANADA K2R 1E6
Division of APREL Lab.
TEL: (613) 820-4988
FAX: (613) 820-4162

NCL Calibration Laboratories
Division of APREL Laboratories.

Conditions

Dipole BCL-049 received from customer, with the attribute of having a repair to one radial arm, in good condition for re-calibration. SMA connector cleaned prior to calibration.

Ambient Temperature of the Laboratory: 22 °C +/- 0.5°C
Temperature of the Tissue: 21 °C +/- 0.5°C

We the undersigned attest that to the best of our knowledge the calibration of this device has been accurately conducted and that all information contained within this report has been reviewed for accuracy.

Stuart Nicol
Director Product Development

D. Brooks
Member of Engineering Staff
(Calibration Engineer)

This page has been reviewed for content and attested to by signature within this document.

NCL Calibration Laboratories
Division of APREL Laboratories.

Calibration Results Summary

The following results relate the Calibrated Dipole and should be used as a quick reference for the user.

Mechanical Dimensions

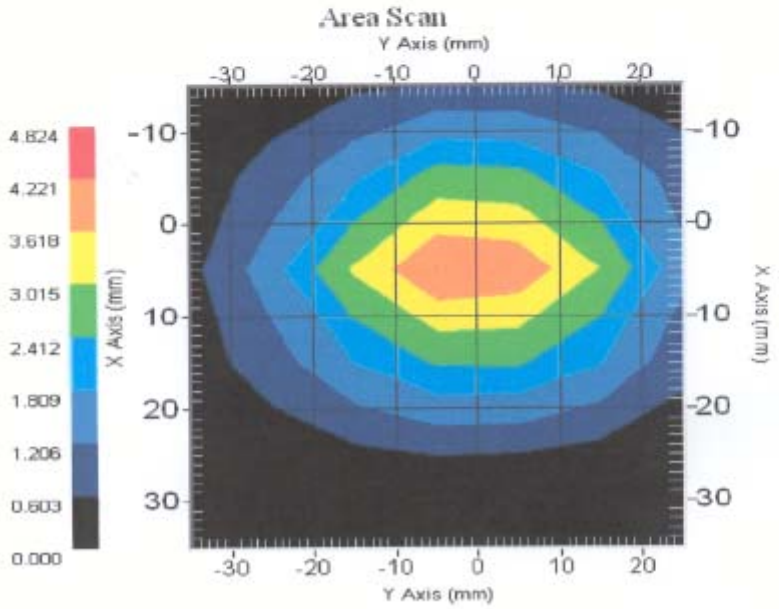
Length: 72.0 mm
Height: 41.7 mm

Electrical Specification

SWR: 1.09 U
Return Loss: -26.9 dB
Impedance: 50.9 Ω

System Validation Results

Frequency	1 Gram	10 Gram	Peak
1800 MHz	38.81	20.01	71.56



3

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NCL Calibration Laboratories
Division of APREL Laboratories.

Introduction

This Calibration Report has been produced in line with the SSI Dipole Calibration Procedure SSI-TP-018-ALSAS. The results contained within this report are for Validation Dipole BCL-049. The calibration routine consisted of a three-step process. Step 1 was a mechanical verification of the dipole to ensure that it meets the mechanical specifications. Step 2 was an Electrical Calibration for the Validation Dipole, where the SWR, Impedance, and the Return loss were assessed. Step 3 involved a System Validation using the ALSAS-10U, along with APREL E-020 130 MHz to 26 GHz E-Field Probe Serial Number 212.

References

SSI-TP-018-ALSAS Dipole Calibration Procedure
SSI-TP-016 Tissue Calibration Procedure
IEEE 1528 "Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Body Due to Wireless Communications Devices: Experimental Techniques"

Conditions

Dipole BCL-049 received from customer in good condition, with the attribute of a repair of one radial arm.

Ambient Temperature of the Laboratory: 22 °C +/- 0.5°C
Temperature of the Tissue: 20 °C +/- 0.5°C

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Dipole Calibration Results

Mechanical Verification

APREL Length	APREL Height	Measured Length	Measured Height
72.0 mm	41.7 mm	71.6 mm	41.7 mm

Tissue Validation

Head Tissue 1800 MHz	Measured
Dielectric constant, ε_r	40.0
Conductivity, σ [S/m]	1.40

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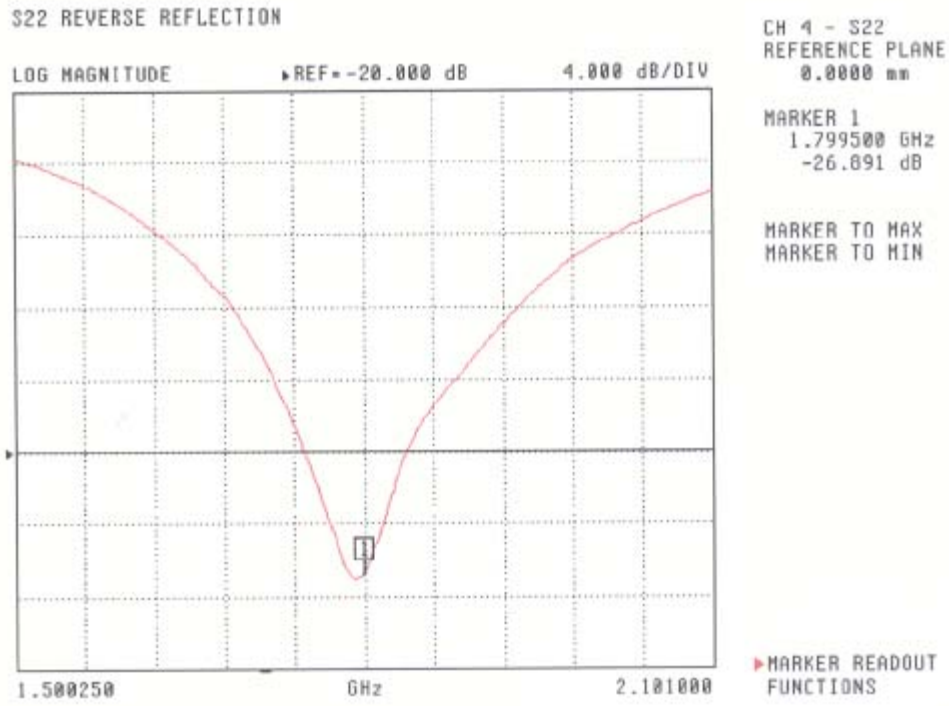
Electrical Calibration

Test	Result
S11 R/L	-26.9 dB
SWR	1.09 U
Impedance	50.9 Ω

The Following Graphs are the results as displayed on the Vector Network Analyzer.

S11 Parameter Return Loss



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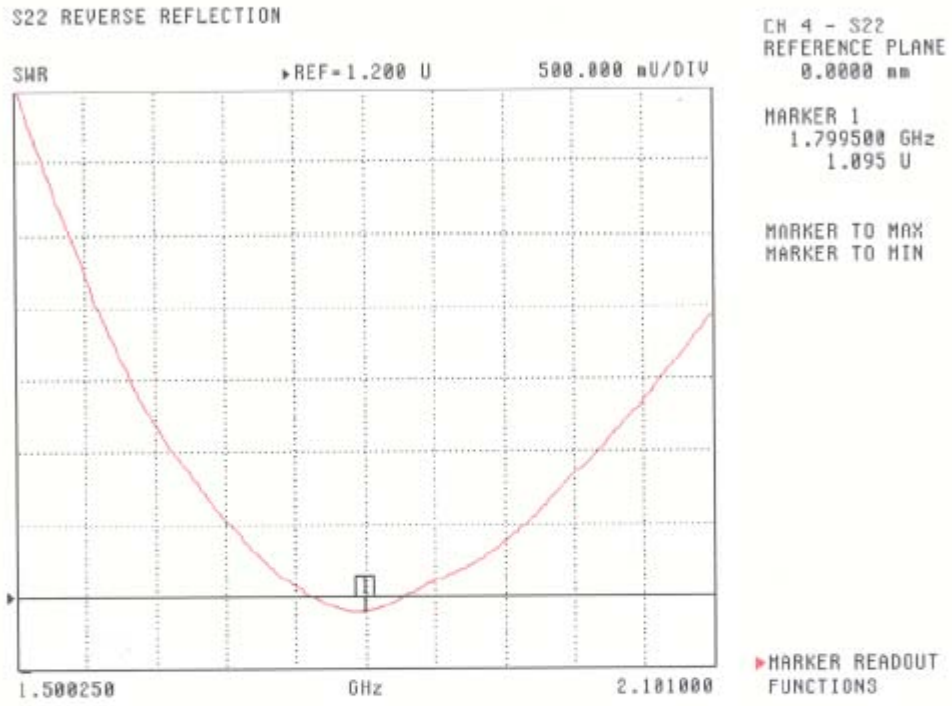
SWR



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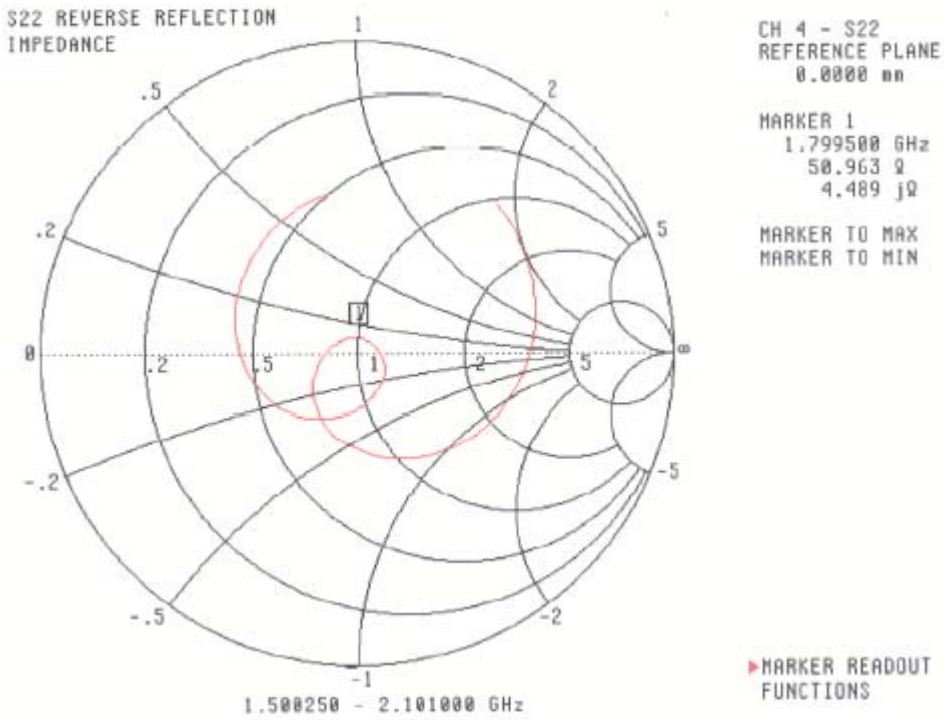
Smith Chart Dipole Impedance



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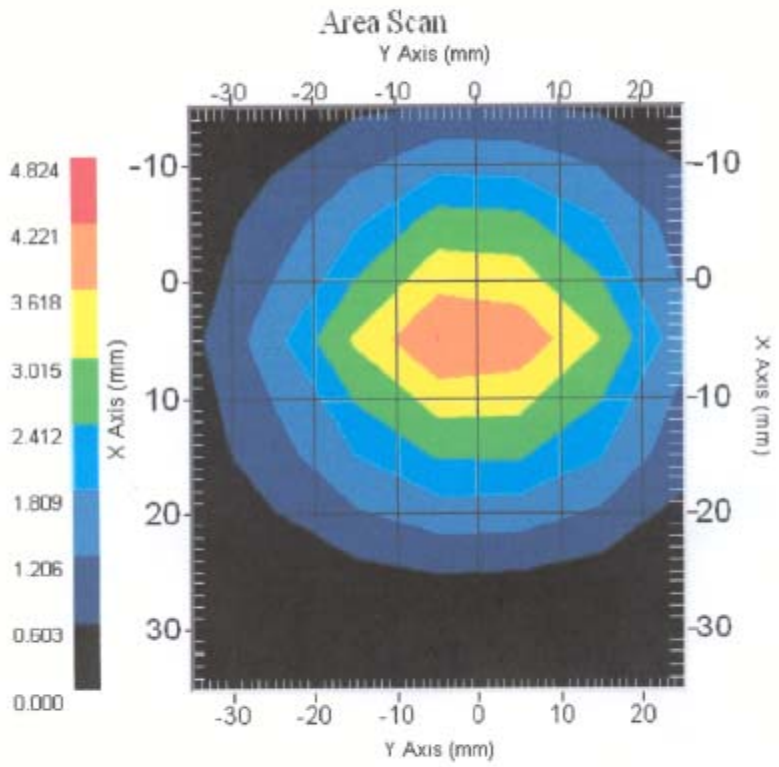
NCL Calibration Laboratories
Division of APREL Laboratories.

System Validation Results Using the Electrically Calibrated Dipole

Head Tissue Frequency	1 Gram	10 Gram	Peak Above Feed Point
1800 MHz	38.81	20.01	71.56



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NCL Calibration Laboratories
Division of APREL Laboratories.

Test Equipment

The test equipment used during Probe Calibration, manufacturer, model number and, current calibration status are listed and located on the main APREL server R:\NCL\Calibration Equipment\Instrument List May 2004

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APPENDIX D - TEST SYSTEM VERIFICATIONS SCANS

Liquid Measurement Result

2005-06-18

Simulant	Freq [MHz]	Parameters	Liquid Temp [ºC]	Target Value	Measured Value	Deviation	Limits [%]
Body	835	ε_r	22.0	55.2	55.9	1.27	±5
		σ	22.0	0.97	0.96	-1.03	±5
		1g SAR	22.0	8.872	8.71	-1.83	±10
Head	835	ε_r	22.0	41.5	41.5	0.00	±5
		σ	22.0	0.90	0.89	-1.11	±5
		1g SAR	22.0	9.5	9.65	1.58	±10

ε_r = relative permittivity, σ = conductivity and ρ=1000kg/m^3

2005-06-17

Simulant	Freq [MHz]	Parameters	Liquid Temp [ºC]	Target Value	Measured Value	Deviation	Limits [%]
Body	1880	ε_r	22.0	53.3	54.0	1.31	±5
		σ	22.0	1.52	1.53	0.66	±5
		1g SAR	22.0	24.97	23.8	-4.69	±10
Head	1880	ε_r	22.0	40.0	39.8	-0.50	±5
		σ	22.0	1.4	1.45	3.57	±5
		1g SAR	22.0	39.7	38.7	-2.52	±10

ε_r = relative permittivity, σ = conductivity and ρ=1000kg/m^3

Date/Time: 6/18/2005 9:40:48 AM ; Date/Time: 6/18/2005 9:48:28 PM

Test Laboratory: Bay Area Compliance Lab Corp.
File Name: 050608_ET_1604_SystemValidationCheck_D835_Body.da4

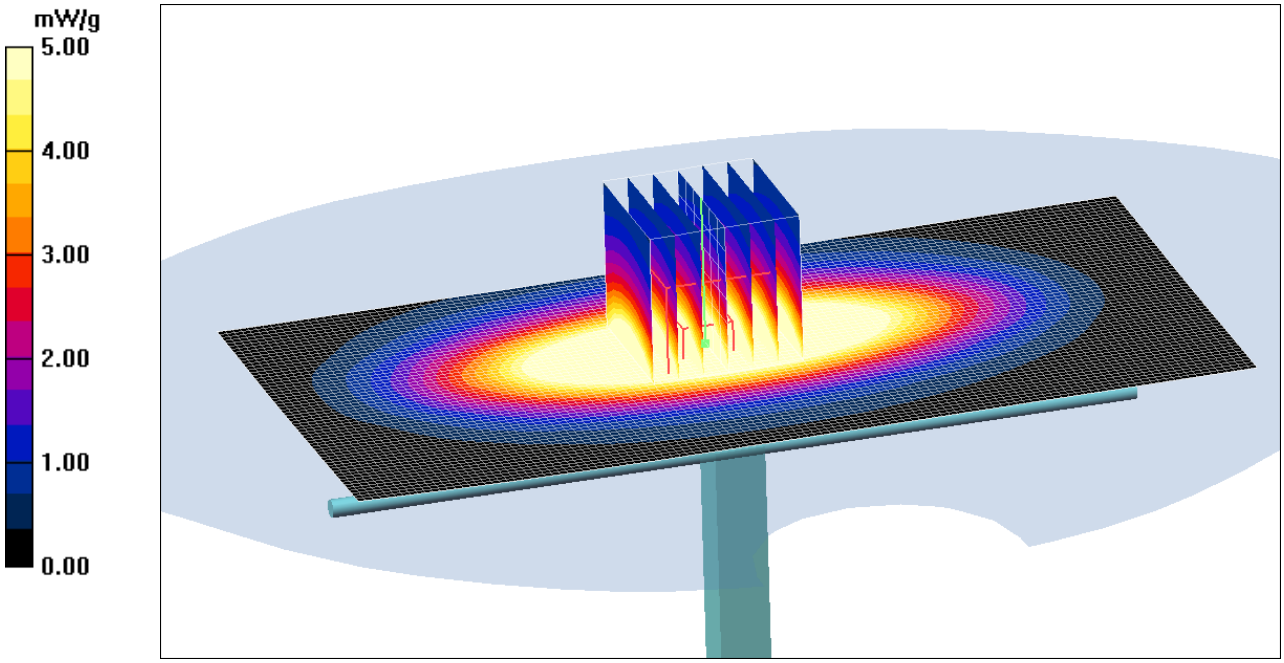
DUT: Dipole 835 MHz; Type: CD835V3; Serial: CD835V3 - SN:1012
Program Name: System Performance Check at 835 MHz

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; σ = 0.96 mho/m; ε_r = 55.9; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1604; ConvF(6.27, 6.27, 6.27); Calibrated: 3/18/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn456; Calibrated: 6/1/2004
- Phantom: SAM with CRP; Type: Twin SAM; Serial: TP-1032
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

d=15mm, Pin=1W/Area Scan (61x121x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 8.16 mW/g

d=15mm, Pin=1W/Zoom Scan : Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 97.5 V/m; Power Drift = -0.012 dB
Peak SAR (extrapolated) = 11.6 W/kg
SAR(1 g) = 8.71 mW/g; SAR(10 g) = 4.91 mW/g
Maximum value of SAR (measured) = 8.34 mW/g



Date/Time: 6/18/2005 10:52:04 AM ; Date/Time: 6/18/2005 10:59:04 AM

Test Laboratory: Bay Area Compliance Lab Corp.
File Name: 050608_ET_1604_SystemValidationCheck_D835_Head.da4

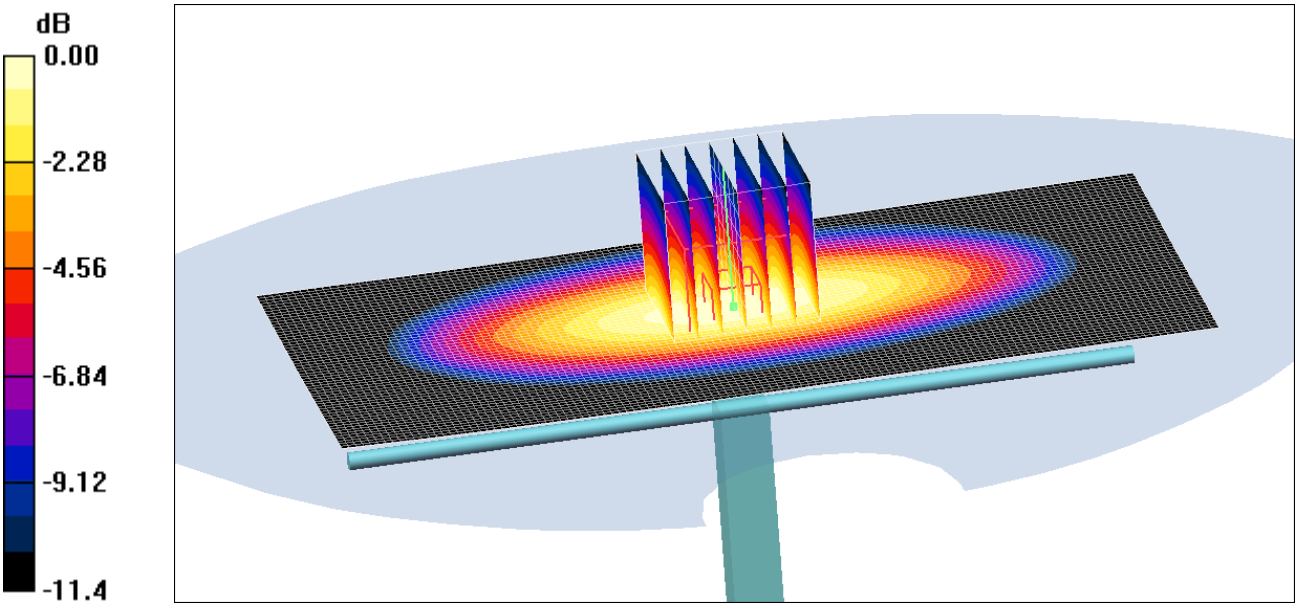
DUT: Dipole 835 MHz; Type: CD835V3; Serial: CD835V3 - SN:1012
Program Name: System Performance Check at 835 MHz

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; σ = 0.89 mho/m; ε_r = 41.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1604; ConvF(6.62, 6.62, 6.62); Calibrated: 3/18/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn456; Calibrated: 6/1/2004
- Phantom: SAM with CRP; Type: Twin SAM; Serial: TP-1032
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

d=15mm, Pin=1W 4/Area Scan (61x121x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 10.3 mW/g

d=15mm, Pin=1W 4/Zoom Scan: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 112.7 V/m; Power Drift = 0.010 dB
Peak SAR (extrapolated) = 14.8 W/kg
SAR(1 g) = 9.65 mW/g; SAR(10 g) = 6.13 mW/g
Maximum value of SAR (measured) = 10.5 mW/g



0 dB = 10.5mW/g

Date/Time: 6/17/2005 9:30:31 PM ; Date/Time: 6/17/2005 9:37:51 PM

Test Laboratory: Bay Area Compliance Lab Corp.

System Validation for Body

DUT: Dipole 1800 MHz; Type: D1800; Serial: D1800 - SN:xxx

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:1

Medium parameters used: f = 1880 MHz; σ = 1.53 mho/m; ε_r = 54; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1604; ConvF(4.79, 4.79, 4.79); Calibrated: 3/18/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn456; Calibrated: 6/1/2004
- Phantom: SAM with CRP; Type: Twin SAM; Serial: TP-1032
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

d=10mm, Power Iinput=1W/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 27.6 mW/g

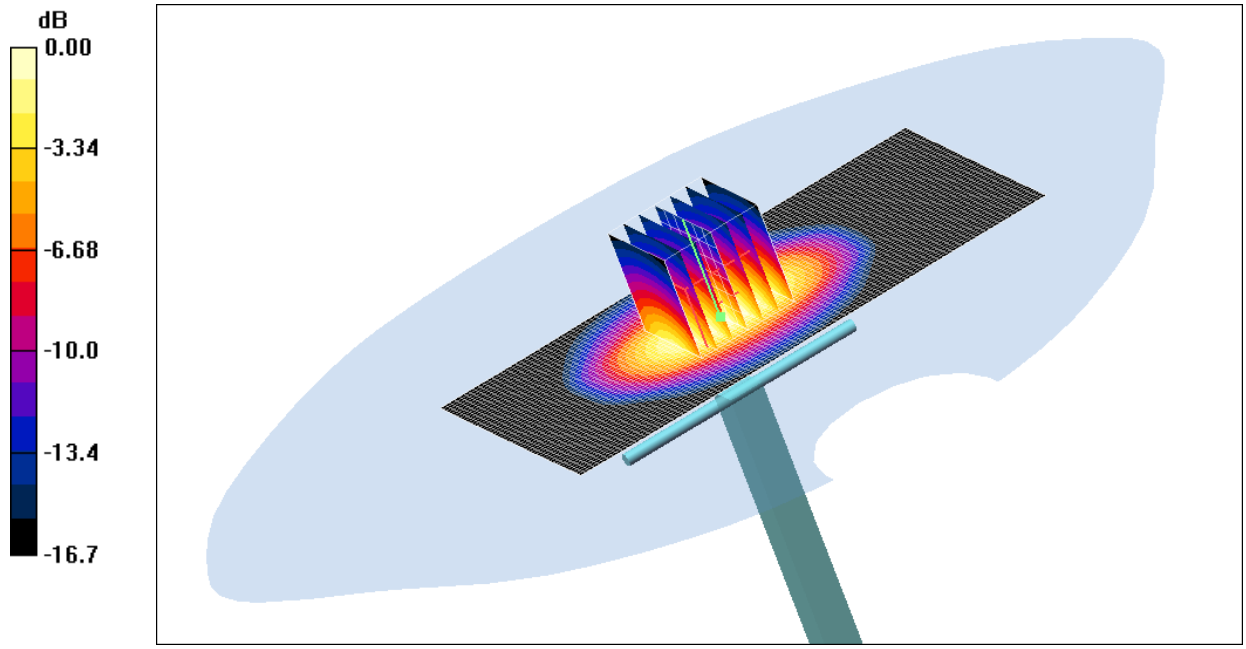
d=10mm, Power Iinput=1W/Zoom Scan: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 140.4 V/m; Power Drift = -0.147 dB

Peak SAR (extrapolated) = 38.7 W/kg

SAR(1 g) = 23.8 mW/g; SAR(10 g) = 12.1 mW/g

Maximum value of SAR (measured) = 25.6 mW/g



0 dB = 25.6mW/g

Date/Time: 6/17/2005 11:05:07 AM; Date/Time: 6/17/2005 11:12:27 AM

Test Laboratory: Bay Area Compliance Lab Corp.
File Name: 050615_ET_1604_SystemValidationCheck_D1900_Head.da4

DUT: Dipole 1800 MHz; Type: D1800V2; Serial: D1800V2 - SN:5122
Program Name: System Performance Check at 1900 MHz

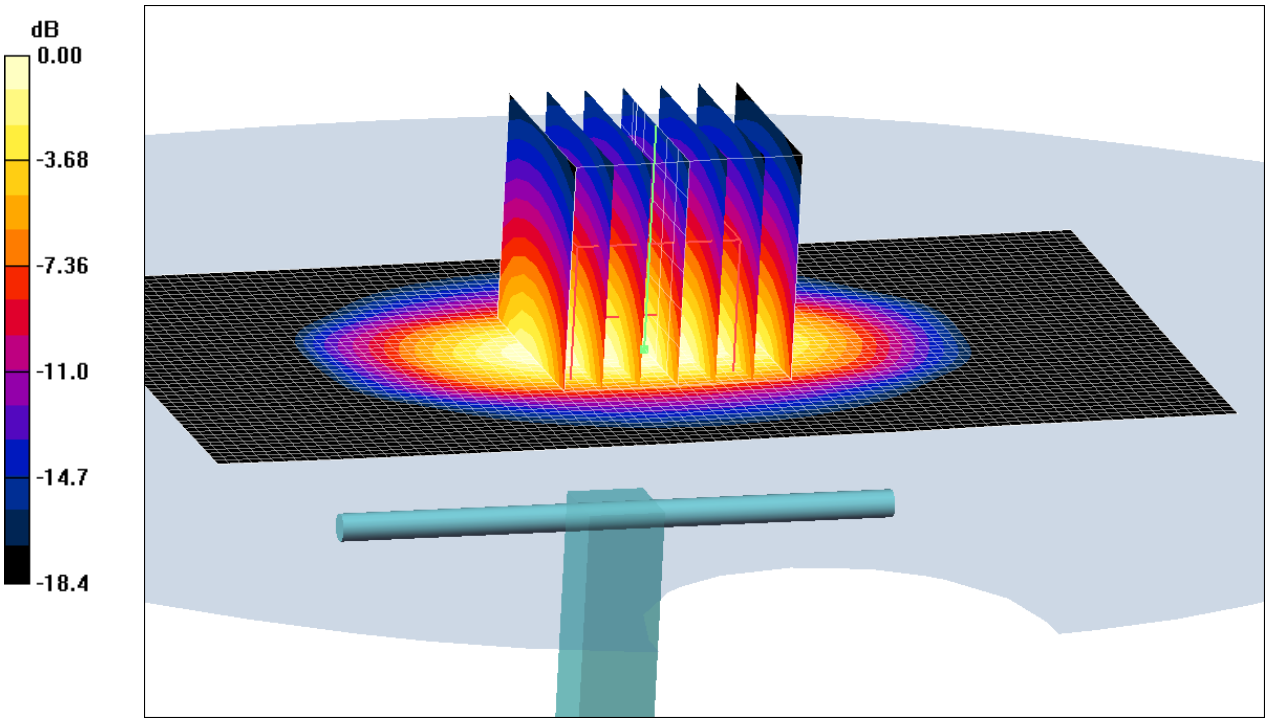
Communication System: GSM1900; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 39.8; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1604; ConvF(5.19, 5.19, 5.19); Calibrated: 3/18/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE3 Sn456; Calibrated: 6/1/2004
- Phantom: SAM with CRP; Type: Twin SAM; Serial: TP-1032
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

d=10mm, Pin=1W 2 2/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 51.7 mW/g

d=10mm, Pin=1W 2 2/Z Scan (1x1x16): Measurement grid: dx=20mm, dy=20mm, dz=20mm
Maximum value of SAR (interpolated) = 9.13 mW/g

d=10mm, Pin=1W 2 2/Zoom Scan: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 185.5 V/m; Power Drift = 0.047 dB
Peak SAR (extrapolated) = 69.9 W/kg
SAR(1 g) = 38.7 mW/g; SAR(10 g) = 19.8 mW/g
Maximum value of SAR (measured) = 44.0 mW/g



0 dB = 44.0mW/g

APPENDIX E - EUT SCANS

Date/Time: 6/18/2005 9:59:39 PM ; Date/Time: 6/18/2005 10:06:59 PM

Test Laboratory: Bay Area Compliance Lab Corp.
File Name: 050531_ZTE A12_Body.da4

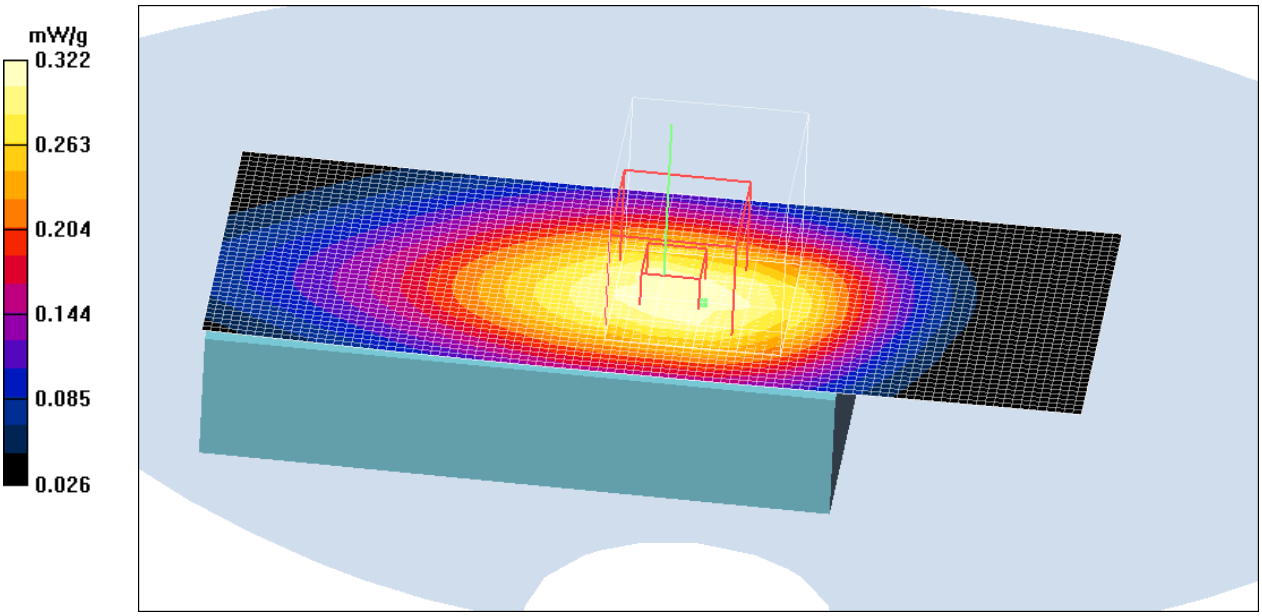
DUT: DUT; Type: Sample; Serial: Program Name: ZTE A12

Communication System: GSM 835; Frequency: 836.41 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 836.41 MHz; σ = 0.96 mho/m; ε_r = 55.9; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1604; ConvF(6.27, 6.27, 6.27); Calibrated: 3/18/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn456; Calibrated: 6/1/2004
- Phantom: SAM with CRP; Type: Twin SAM; Serial: TP-1032
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

1.5cm Body position - Middle 2/Area Scan (41x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.319 mW/g

1.5cm Body position - Middle 2/Zoom Scan: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 18.4 V/m; Power Drift = -0.024 dB
Peak SAR (extrapolated) = 0.412 W/kg
SAR(1 g) = 0.302 mW/g; SAR(10 g) = 0.214 mW/g
Maximum value of SAR (measured) = 0.322 mW/g



Plot #1

Date/Time: 6/18/2005 11:29:35 AM ; Date/Time: 6/18/2005 11:36:55 AM

Test Laboratory: Bay Area Compliance Lab Corp.
File Name: 050527_ZTE A12_Left Head.da4

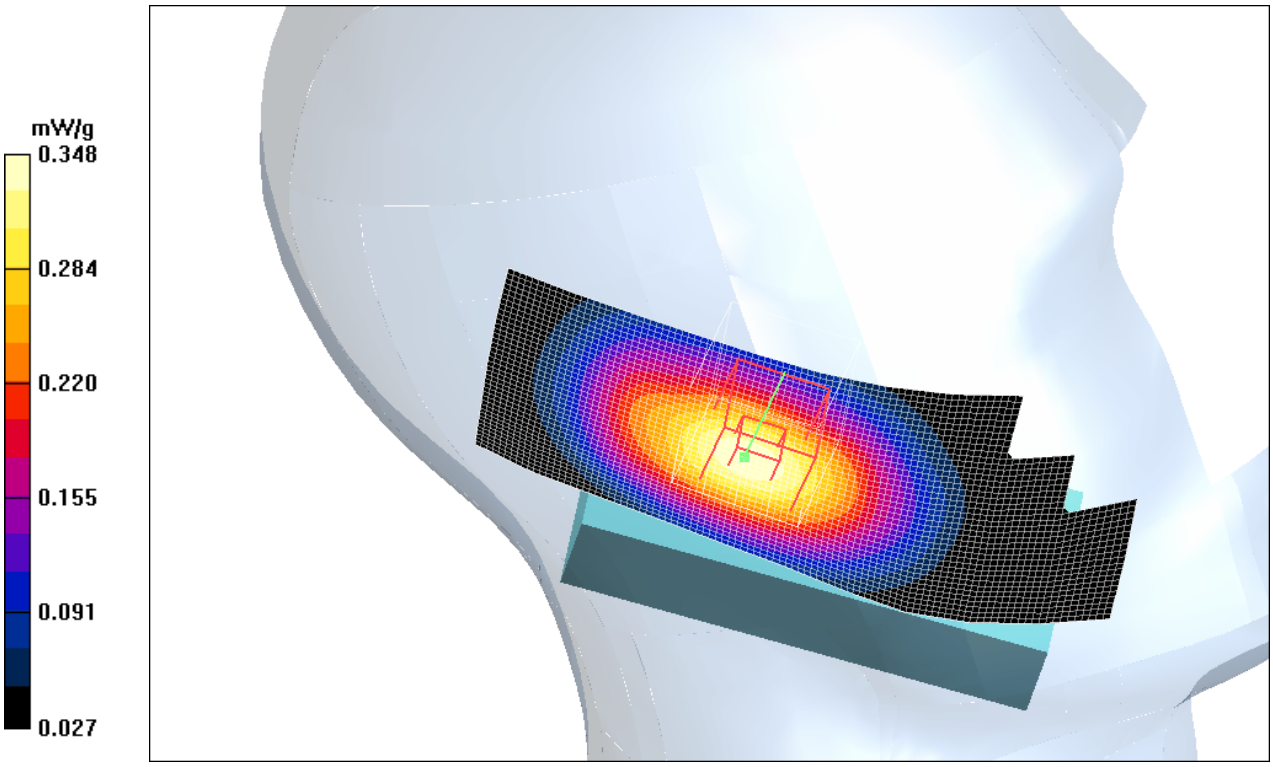
DUT: DUT; Type: Sample; Serial: Program Name: ZTE A12

Communication System: GSM 835; Frequency: 836.41 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 836.41 MHz; σ = 0.89 mho/m; ε_r = 41.5; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1604; ConvF(6.62, 6.62, 6.62); Calibrated: 3/18/2005
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn456; Calibrated: 6/1/2004
- Phantom: SAM with CRP; Type: Twin SAM; Serial: TP-1032
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Touch position - Middle/Area Scan (41x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.348 mW/g

Touch position - Middle/Zoom Scan: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.6 V/m; Power Drift = 0.017 dB
Peak SAR (extrapolated) = 0.452 W/kg
SAR(1 g) = 0.328 mW/g; SAR(10 g) = 0.224 mW/g
Maximum value of SAR (measured) = 0.348 mW/g



Plot #2

Date/Time: 6/18/2005 11:43:35 AM

Test Laboratory: Bay Area Compliance Lab Corp.
File Name: 050527_ZTE A12_Left Head.da4

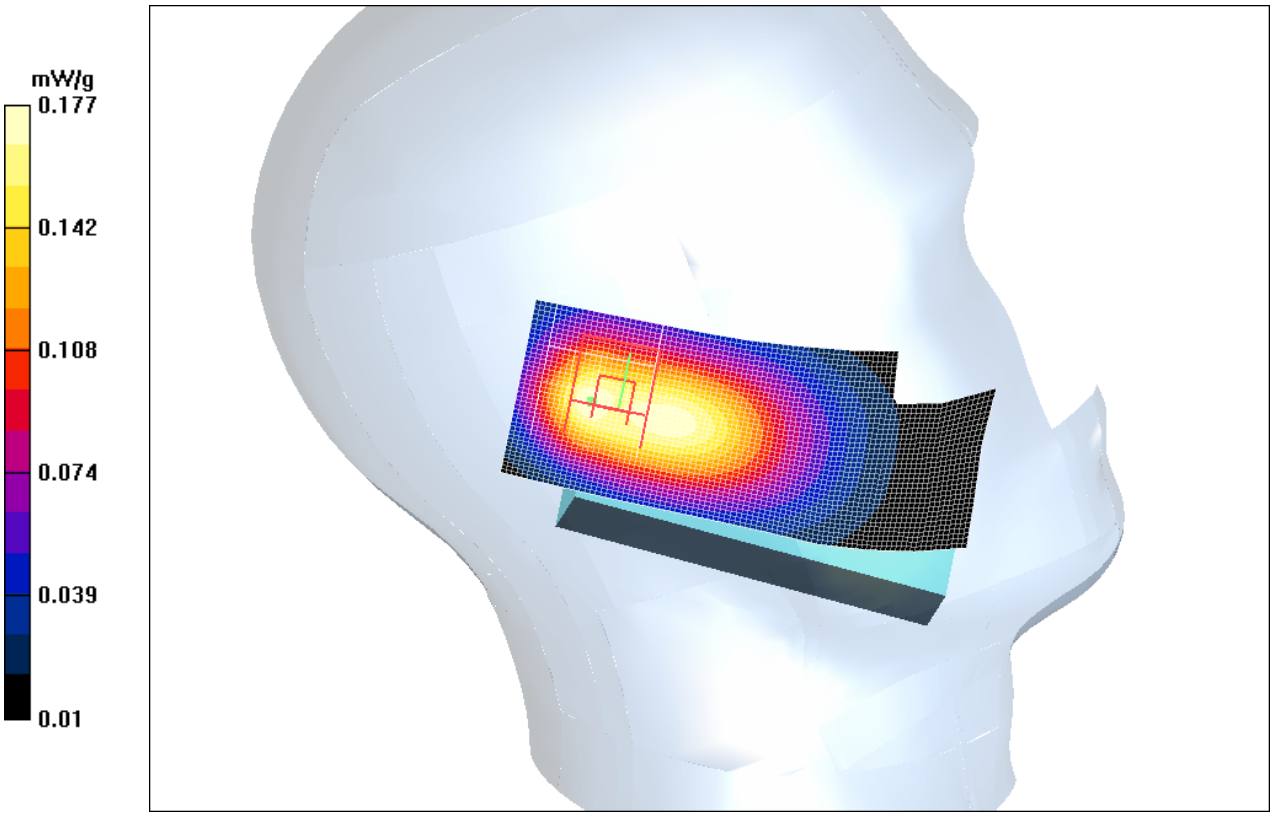
DUT: DUT; Type: Sample; Serial: Program Name: ZTE A12

Communication System: GSM 835; Frequency: 836.41 MHz;Duty Cycle: 1:1
Medium parameters used: f = 836.41 MHz; σ = 0.89 mho/m; ε_r = 41.5; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1604; ConvF(6.62, 6.62, 6.62); Calibrated: 3/18/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn456; Calibrated: 6/1/2004
- Phantom: SAM with CRP; Type: Twin SAM; Serial: TP-1032
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Tilt position - Middle/Area Scan (41x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.178 mW/g

Tilt position - Middle/Zoom Scan 1 (7.5mmx5x7) (5x5x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.3 V/m; Power Drift = -0.078 dB
Peak SAR (extrapolated) = 0.276 W/kg
SAR(1 g) = 0.162 mW/g; SAR(10 g) = 0.104 mW/g
Maximum value of SAR (measured) = 0.177 mW/g



Plot #3

Date/Time: 6/18/2005 1:02:12 PM ; Date/Time: 6/18/2005 1:08:32 PM

Test Laboratory: Bay Area Compliance Lab Corp.
File Name: 050527_ZTE A12_Right Head.da4

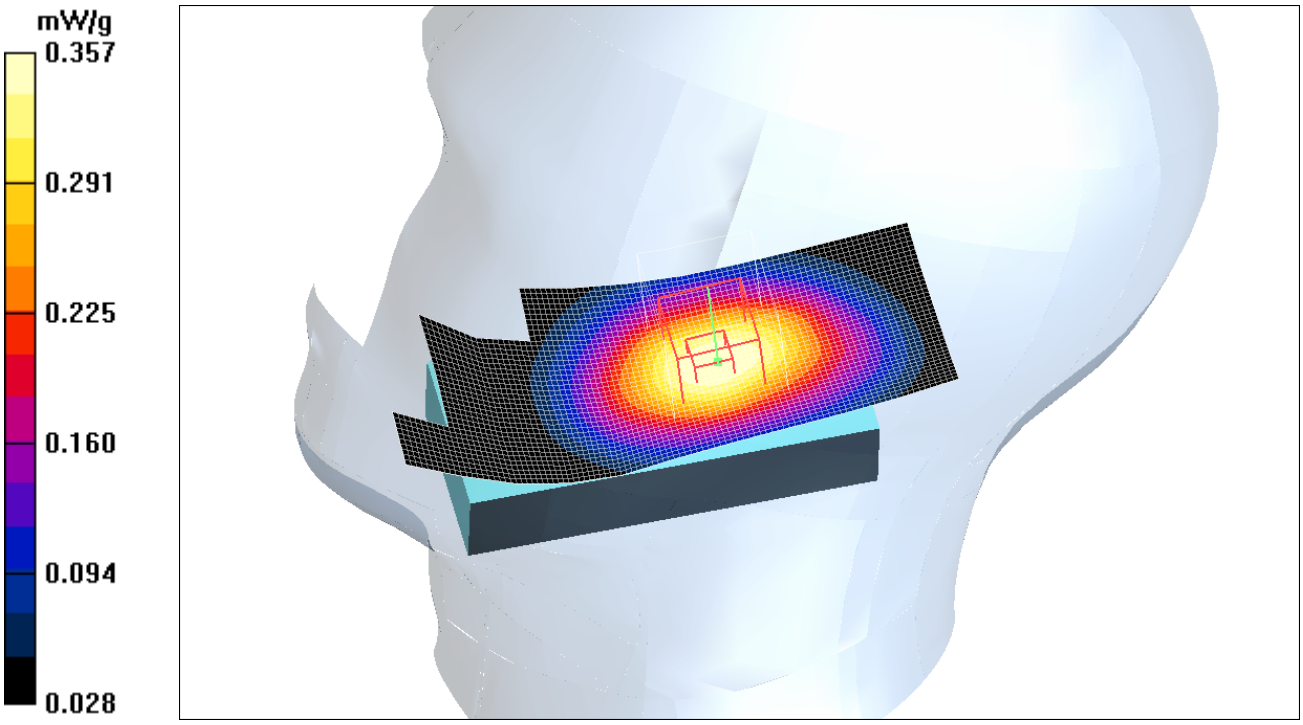
DUT: DUT; Type: Sample; Serial: Program Name: ZTE A12

Communication System: GSM 835; Frequency: 836.41 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 836.41 MHz; σ = 0.89 mho/m; ε_r = 41.5; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1604; ConvF(6.62, 6.62, 6.62); Calibrated: 3/18/2005
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn456; Calibrated: 6/1/2004
- Phantom: SAM with CRP; Type: Twin SAM; Serial: TP-1032
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Touch position - Middle/Area Scan (41x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.365 mW/g

Touch position - Middle/Zoom Scan: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.1 V/m; Power Drift = -0.127 dB
Peak SAR (extrapolated) = 0.468 W/kg
SAR(1 g) = 0.334 mW/g; SAR(10 g) = 0.226 mW/g
Maximum value of SAR (measured) = 0.357 mW/g



Plot #4

Date/Time: 6/18/2005 1:25:32 PM; Date/Time: 6/18/2005 1:32:52 PM

Test Laboratory: Bay Area Compliance Lab Corp.
File Name: 050527_ZTE A12_Right Head.da4

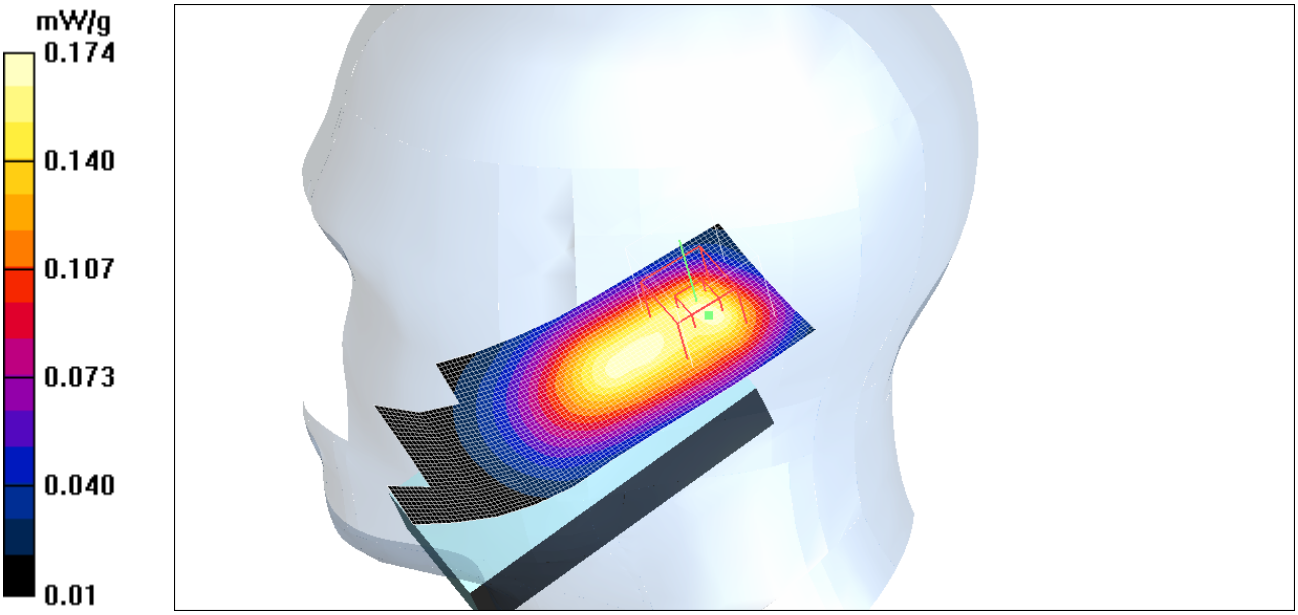
DUT: DUT; Type: Sample; Serial: Program Name: ZTE A12

Communication System: GSM 835; Frequency: 836.41 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 836.41 MHz; σ = 0.89 mho/m; ε_r = 41.5; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1604; ConvF(6.62, 6.62, 6.62); Calibrated: 3/18/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn456; Calibrated: 6/1/2004
- Phantom: SAM with CRP; Type: Twin SAM; Serial: TP-1032
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Tilt position - Middle/Area Scan (41x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.170 mW/g

Tilt position - Middle/Zoom Scan: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.7 V/m; Power Drift = -0.00 dB
Peak SAR (extrapolated) = 0.259 W/kg
SAR(1 g) = 0.160 mW/g; SAR(10 g) = 0.104 mW/g
Maximum value of SAR (measured) = 0.174 mW/g



Plot #5

Date/Time: 6/17/2005 10:01:51 AM ; Date/Time: 6/17/2005 10:09:11 AM

Test Laboratory: Bay Area Compliance Lab Corp.
File Name: 050531_ZTE A12_Body.da4

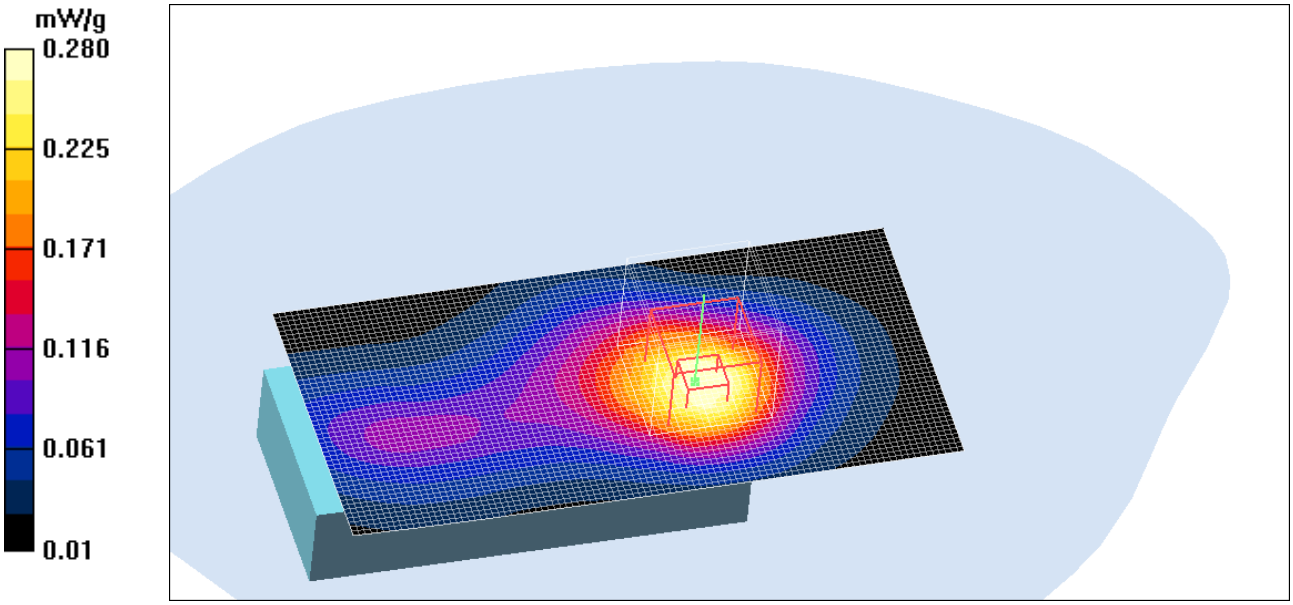
DUT: DUT; Type: Sample; Serial: Program Name: ZTE A12

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.57 mho/m; ε_r = 53.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1604; ConvF(4.79, 4.79, 4.79); Calibrated: 3/18/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn456; Calibrated: 6/1/2004
- Phantom: SAM with CRP; Type: Twin SAM; Serial: TP-1032
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

1.5cm Body position - Middle/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.299 mW/g

1.5cm Body position - Middle/Zoom Scan: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.5 V/m; Power Drift = -0.217 dB
Peak SAR (extrapolated) = 0.439 W/kg
SAR(1 g) = 0.260 mW/g; SAR(10 g) = 0.153 mW/g
Maximum value of SAR (measured) = 0.280 mW/g



Plot #6

Date/Time: 6/17/2005 11:24:48 AM ; Date/Time: 6/17/2005 11:32:08 AM

Test Laboratory: Bay Area Compliance Lab Corp.
File Name: 050527_ZTE A12_Left Head.da4

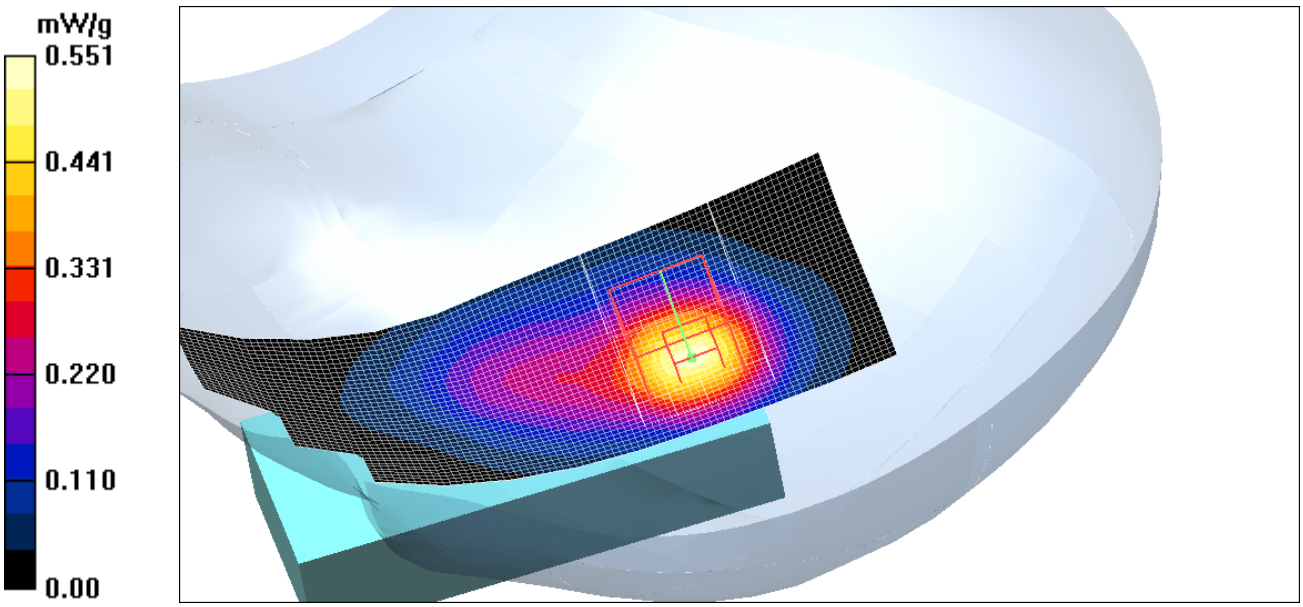
DUT: DUT; Type: Sample; Serial: Program Name: ZTE A12

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 39.7; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1604; ConvF(5.19, 5.19, 5.19); Calibrated: 3/18/2005
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn456; Calibrated: 6/1/2004
- Phantom: SAM with CRP; Type: Twin SAM; Serial: TP-1032
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Touch position - Middle/Area Scan (41x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.539 mW/g

Touch position - Middle/Zoom Scan: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.1 V/m; Power Drift = 0.143 dB
Peak SAR (extrapolated) = 0.860 W/kg
SAR(1 g) = 0.489 mW/g; SAR(10 g) = 0.264 mW/g
Maximum value of SAR (measured) = 0.551 mW/g



Plot #7

Date/Time: 6/17/2005 11:50:41 AM ; Date/Time: 6/17/2005 11:58:01 AM

Test Laboratory: Bay Area Compliance Lab Corp.
File Name: 050527_ZTE A12_Left Head.da4

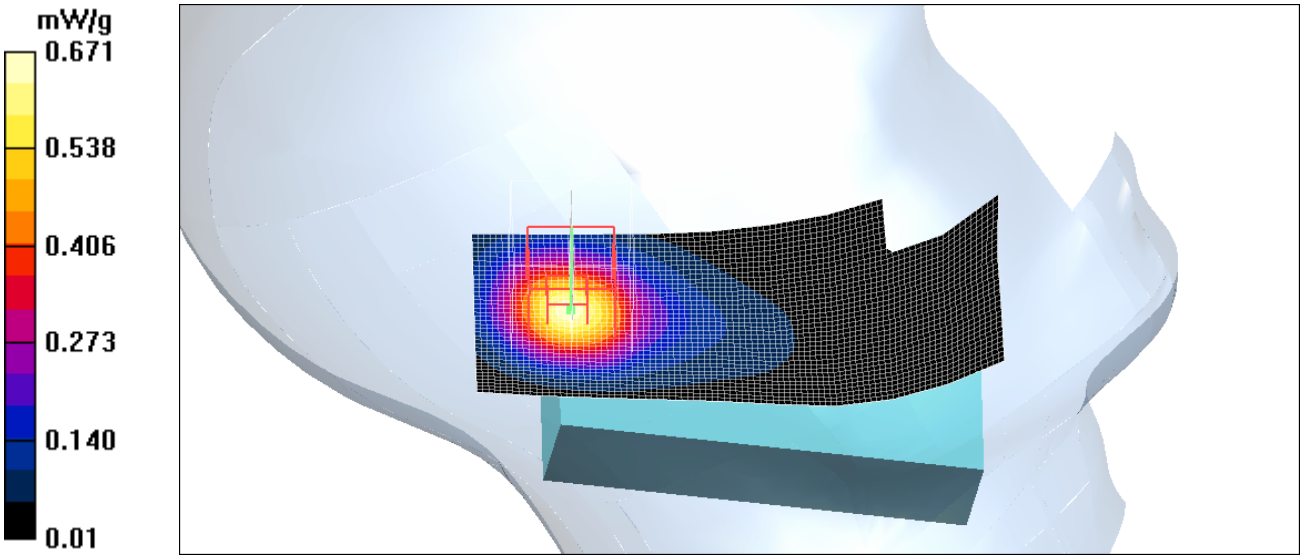
DUT: DUT; Type: Sample; Serial: Program Name: ZTE A12

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 39.7; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1604; ConvF(5.19, 5.19, 5.19); Calibrated: 3/18/2005
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn456; Calibrated: 6/1/2004
- Phantom: SAM with CRP; Type: Twin SAM; Serial: TP-1032
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Tilt position - Middle/Area Scan (41x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.656 mW/g

Tilt position - Middle/Zoom Scan: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 20.9 V/m; Power Drift = 0.031 dB
Peak SAR (extrapolated) = 1.03 W/kg
SAR(1 g) = 0.600 mW/g; SAR(10 g) = 0.321 mW/g
Maximum value of SAR (measured) = 0.671 mW/g



Plot #8

Date/Time: 6/17/2005 1:05:35 PM Date/Time: 6/17/2005 1:12:55 PM

Test Laboratory: Bay Area Compliance Lab Corp.
File Name: 050615_ZTE A12_Right Head.da4

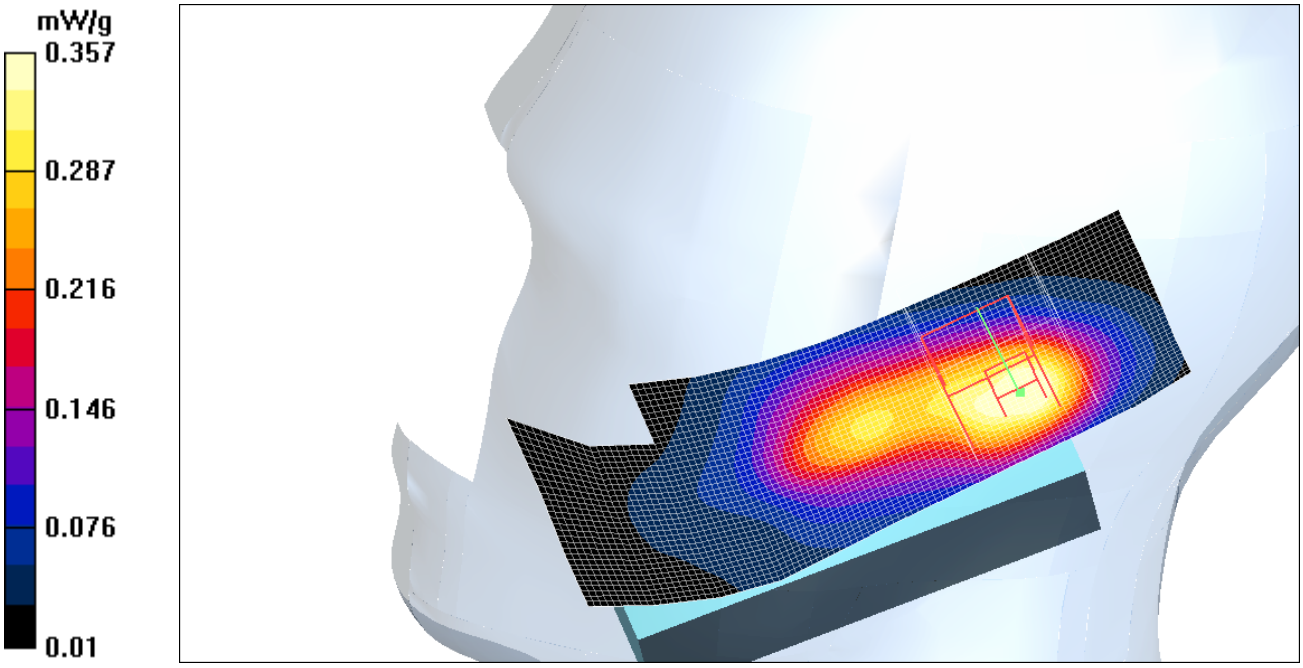
DUT: DUT; Type: Sample; Serial: Program Name: ZTE A12 DUAL BAND GSM

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 39.8; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1604; ConvF(5.19, 5.19, 5.19); Calibrated: 3/18/2005
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn456; Calibrated: 6/1/2004
- Phantom: SAM with CRP; Type: Twin SAM; Serial: TP-1032
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Touch position - Middle/Area Scan (41x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.390 mW/g

Touch position - Middle/Zoom Scan: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.7 V/m; Power Drift = 0.015 dB
Peak SAR (extrapolated) = 0.495 W/kg
SAR(1 g) = 0.328 mW/g; SAR(10 g) = 0.201 mW/g
Maximum value of SAR (measured) = 0.357 mW/g



Plot #9

Date/Time: 6/17/2005 1:30:29 PM ; Date/Time: 6/17/2005 1:37:49 PM

Test Laboratory: Bay Area Compliance Lab Corp.
File Name: 050615_ZTE A12_Right Head.da4

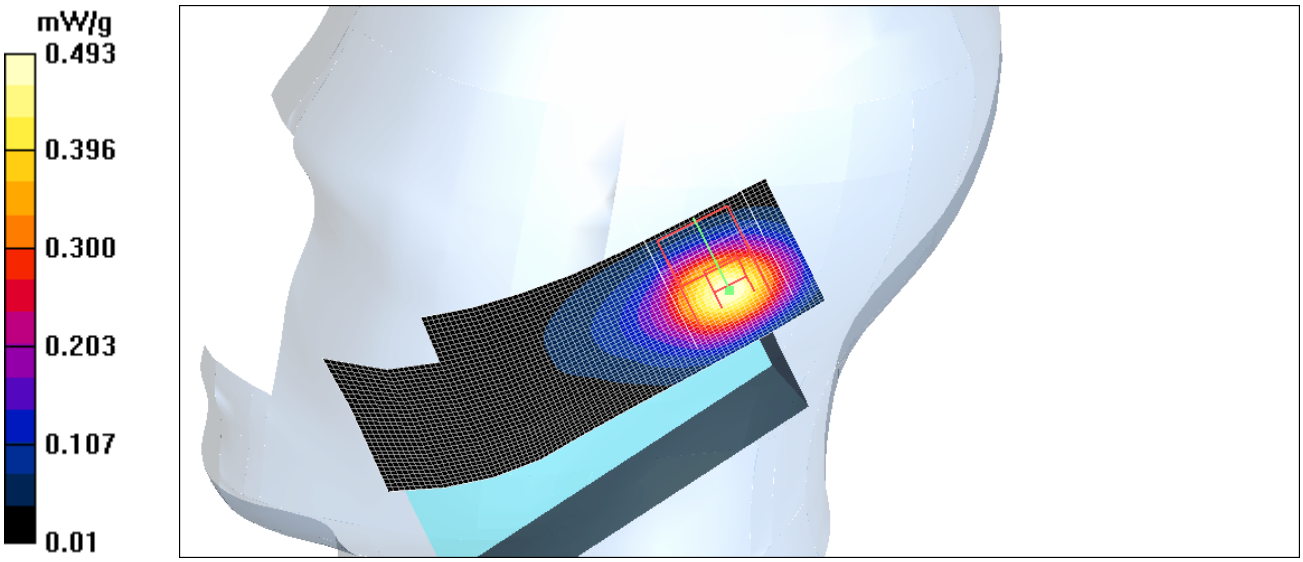
DUT: DUT; Type: Sample; Serial: Program Name: ZTE A12 DUAL BAND GSM

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 39.8; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1604; ConvF(5.19, 5.19, 5.19); Calibrated: 3/18/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn456; Calibrated: 6/1/2004
- Phantom: SAM with CRP; Type: Twin SAM; Serial: TP-1032
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Tilt position - Middle/Area Scan (41x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.498 mW/g

Tilt position - Middle/Zoom Scan: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 18.0 V/m; Power Drift = 0.095 dB
Peak SAR (extrapolated) = 0.672 W/kg
SAR(1 g) = 0.440 mW/g; SAR(10 g) = 0.248 mW/g
Maximum value of SAR (measured) = 0.493 mW/g



Plot #10

APPENDIX F – CONDUCTED OUTPUT POWER MEASUREMENT

Provision Applicable

The measured peak output power should be greater and within 5% than EMI measurement.

Test Procedure

The RF output of the transmitter was connected to the input of the spectrum analyzer through sufficient attenuation.

Test equipment

Hewlett Packard HP8564E Spectrum Analyzer, Calibration Due Date: 2005-10-04.
Hewlett Packard HP 7470A Plotter, Calibration not required.
A.H. Systems SAS200 Horn Antenna, Calibration Due Date: 2006-04-20.
Com-Power AB-100 Dipole Antenna, Calibration Due Date: 2005-09-05.

Test Results

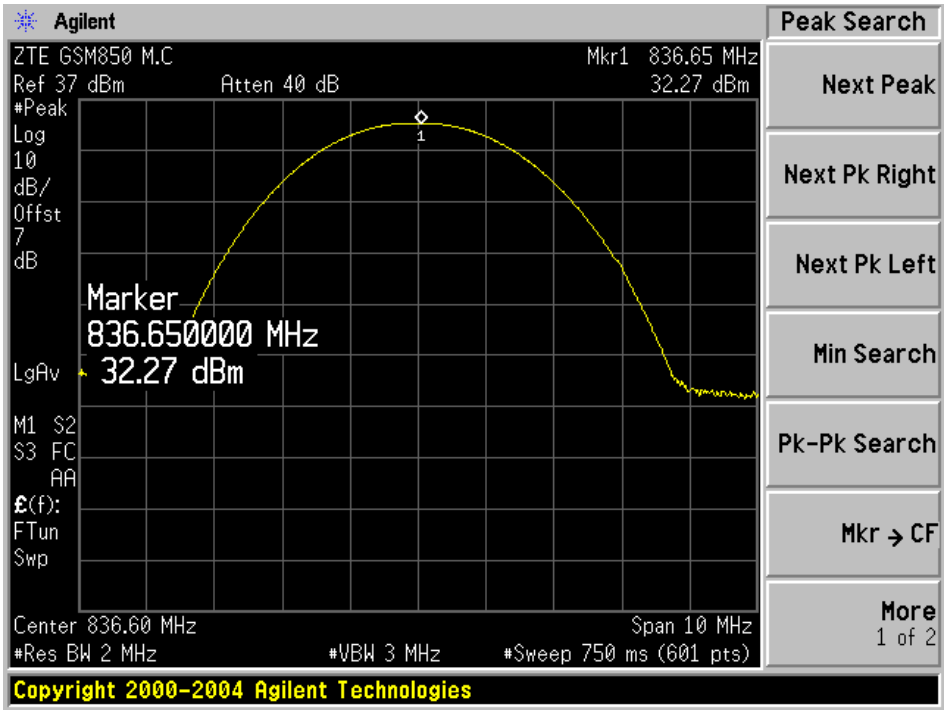
GSM 850:

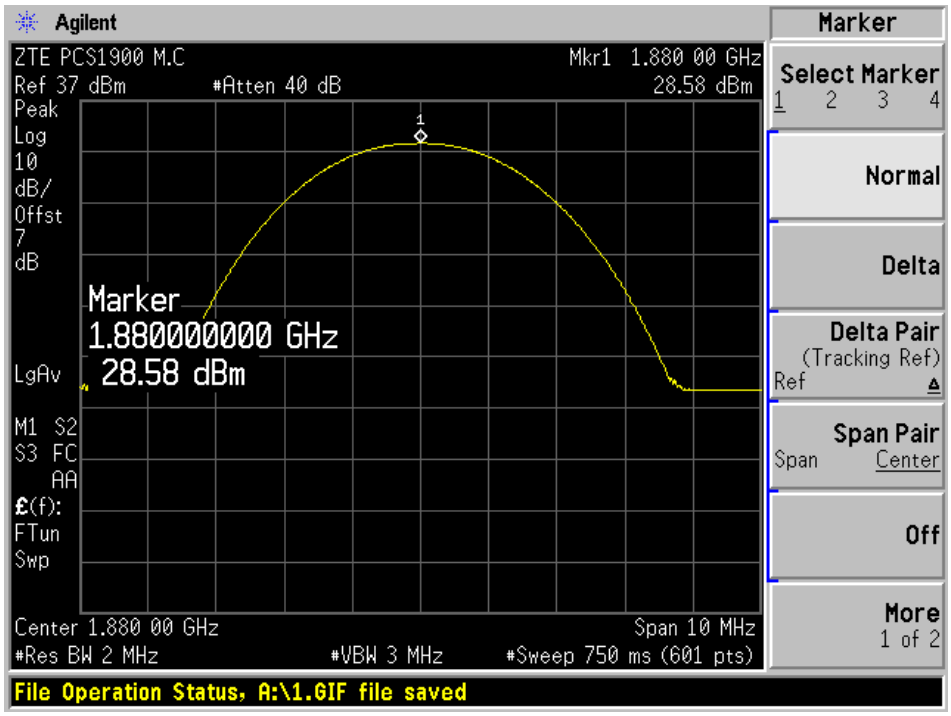
Channel	Frequency (MHz)	Output Power in dBm	Output Power in W	Limit in W
MIDDLE	836.65	32.27	1.687	7

GSM 1900:

Channel	Frequency (MHz)	Output Power in dBm	Output Power in W	Limit in W
MIDDLE	1880	28.58	0.721	2

Please refer to the following plots.

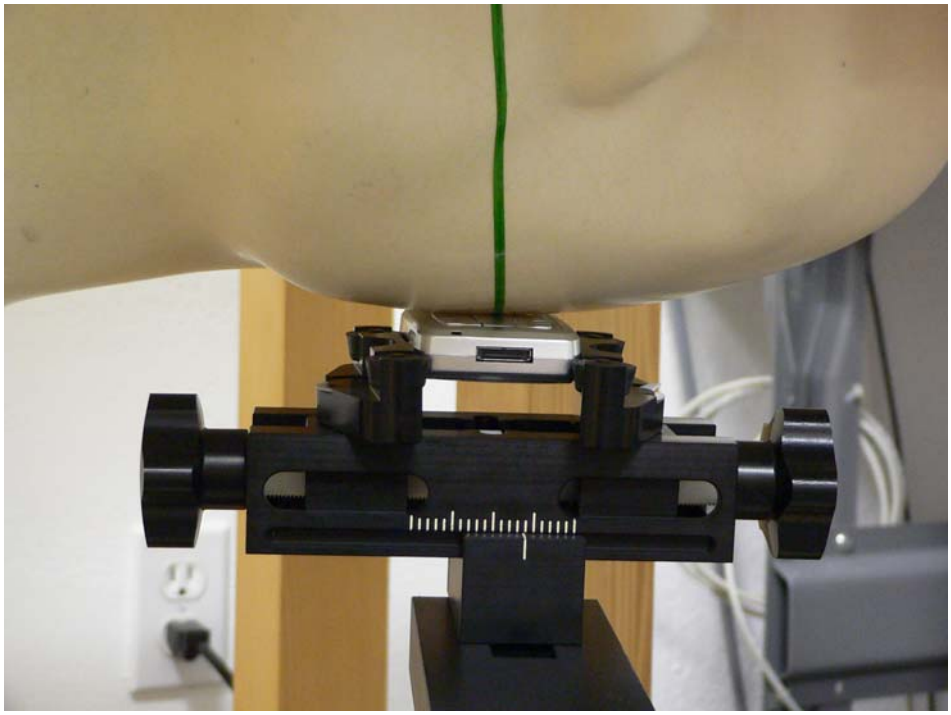



Agilent
ZTE PCS1900 M.C
Mkr1 1.880 00 GHz
Ref 37 dBm
#Atten 40 dB
28.58 dBm
Peak
Log
10
dB/
Offst
7
dB
Marker
1.880000000 GHz
28.58 dBm
LgAv
M1 S2
S3 FC
AA
£(f):
FTun
Swp
Center 1.880 00 GHz
Span 10 MHz
#Res BW 2 MHz
#VBW 3 MHz
#Sweep 750 ms (601 pts)
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Span Pair
Span Center
Off
More
1 of 2
File Operation Status, A:\1.GIF file saved

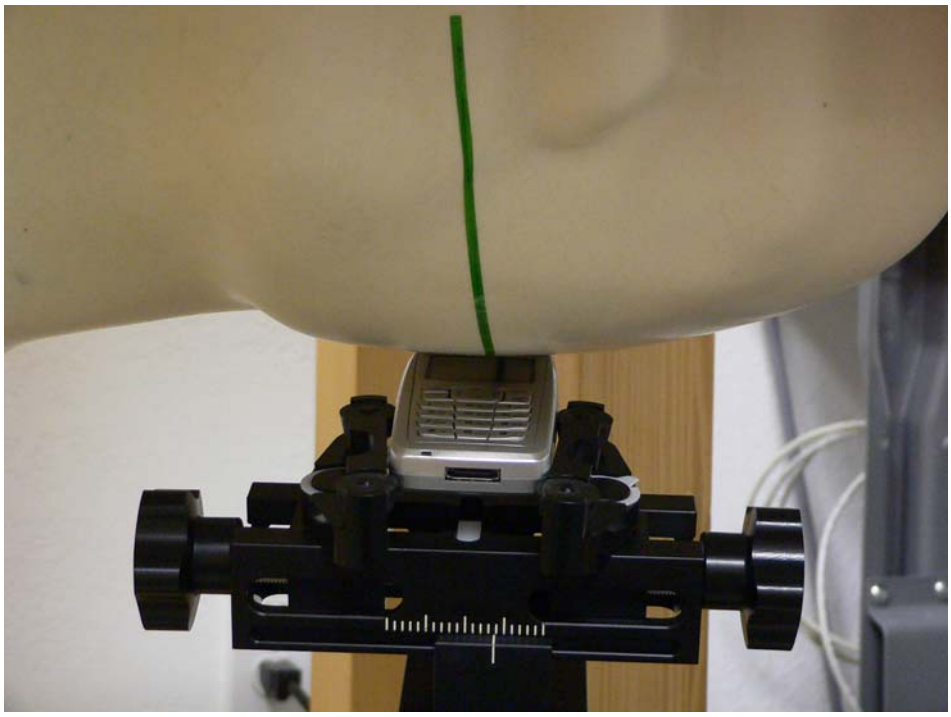
APPENDIX G – EUT TEST POSITION PHOTOS

Body

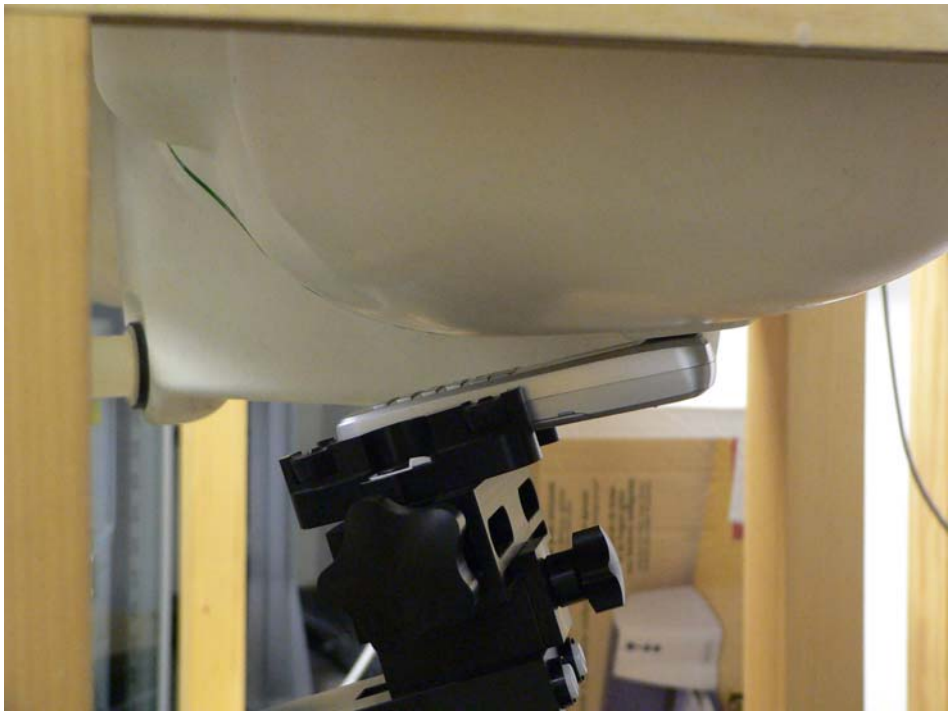
Left Head Touch



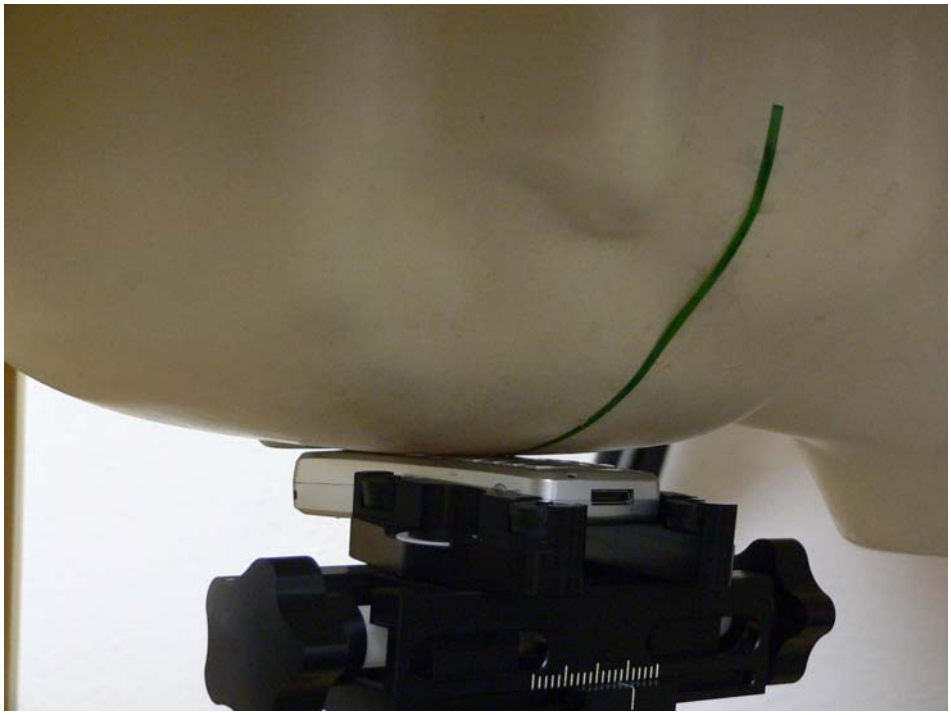
Left Head Tile 1



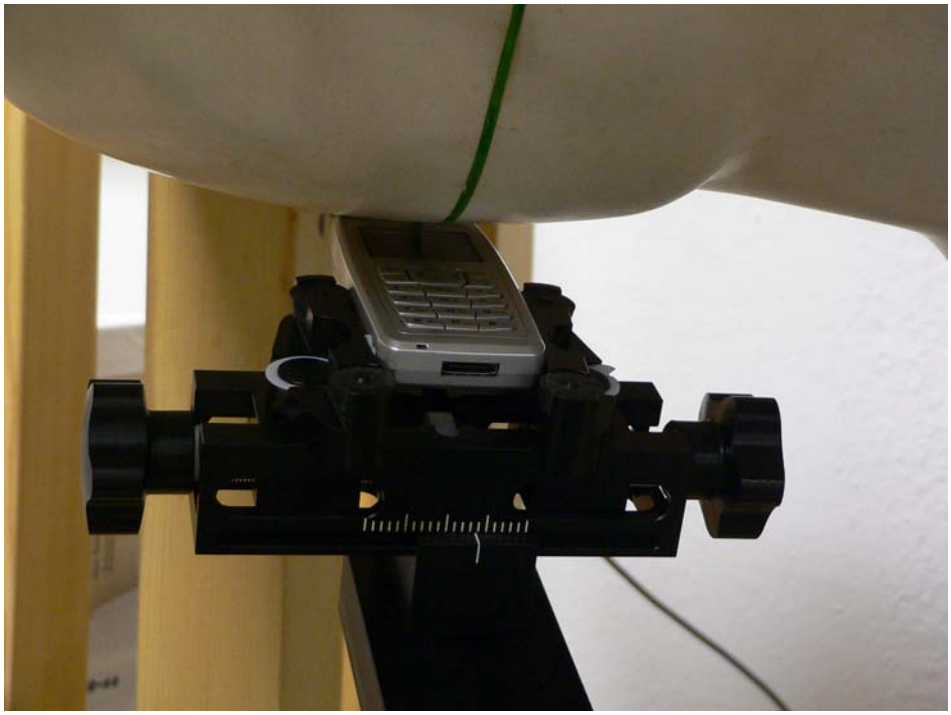
Left Head Tile 2



Right Head Touch



Right Head Tile 1

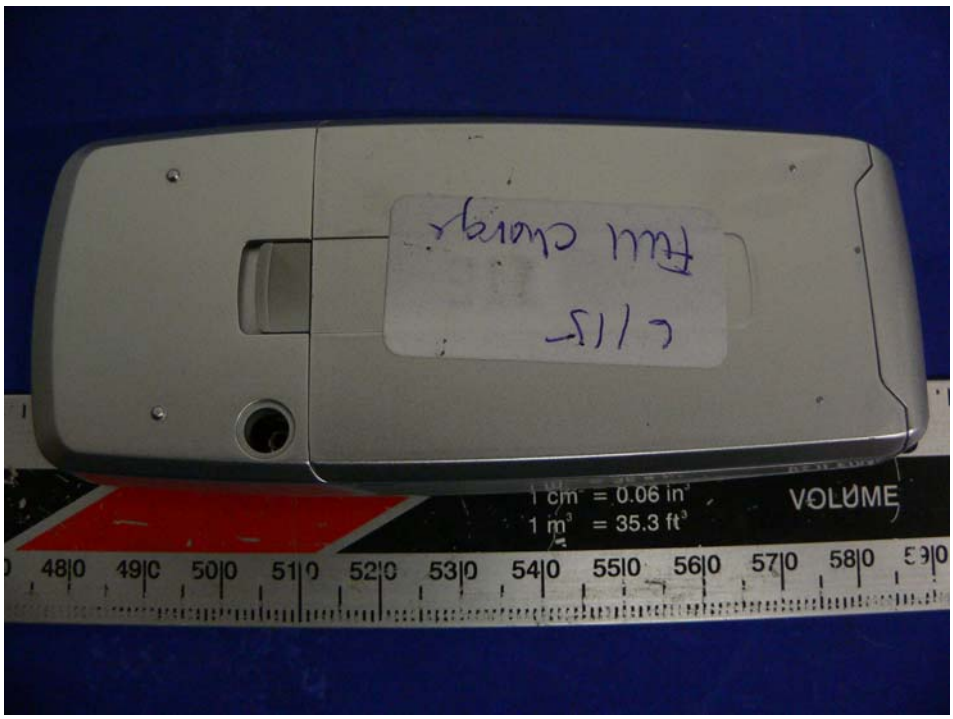


Right Head Tile 2

APPENDIX H – EUT & ACCESSORIES PHOTOS

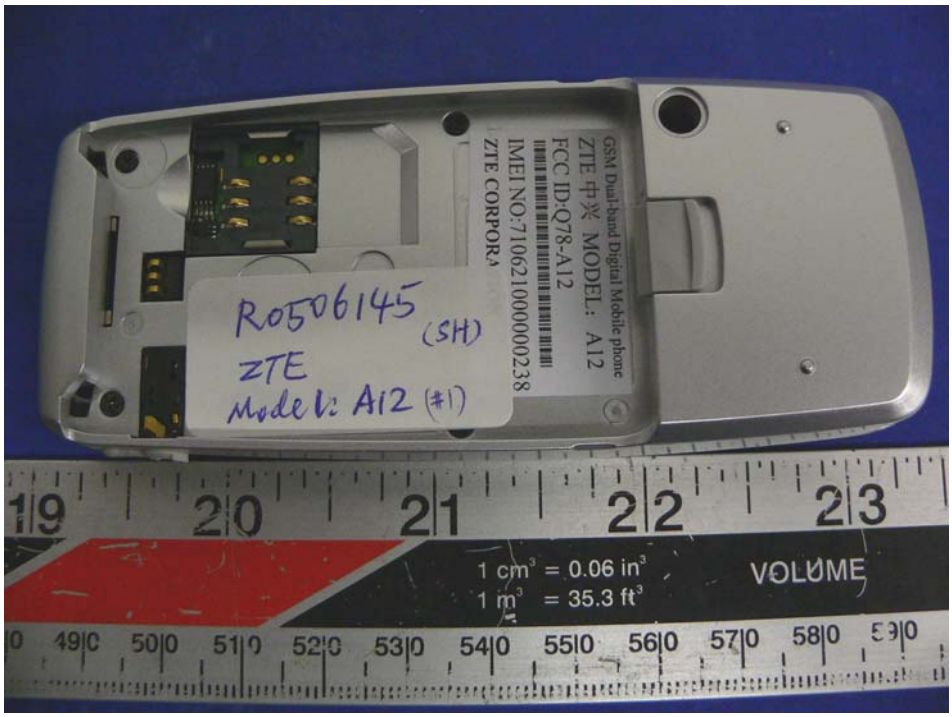
EUT Front View

EUT Rear View

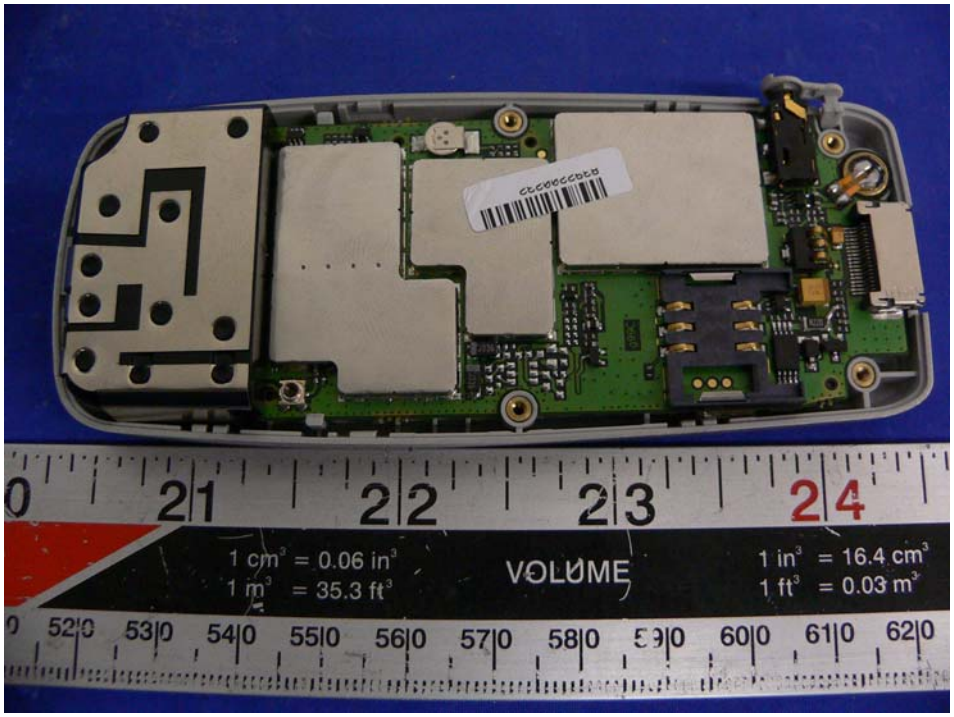


EUT Port View

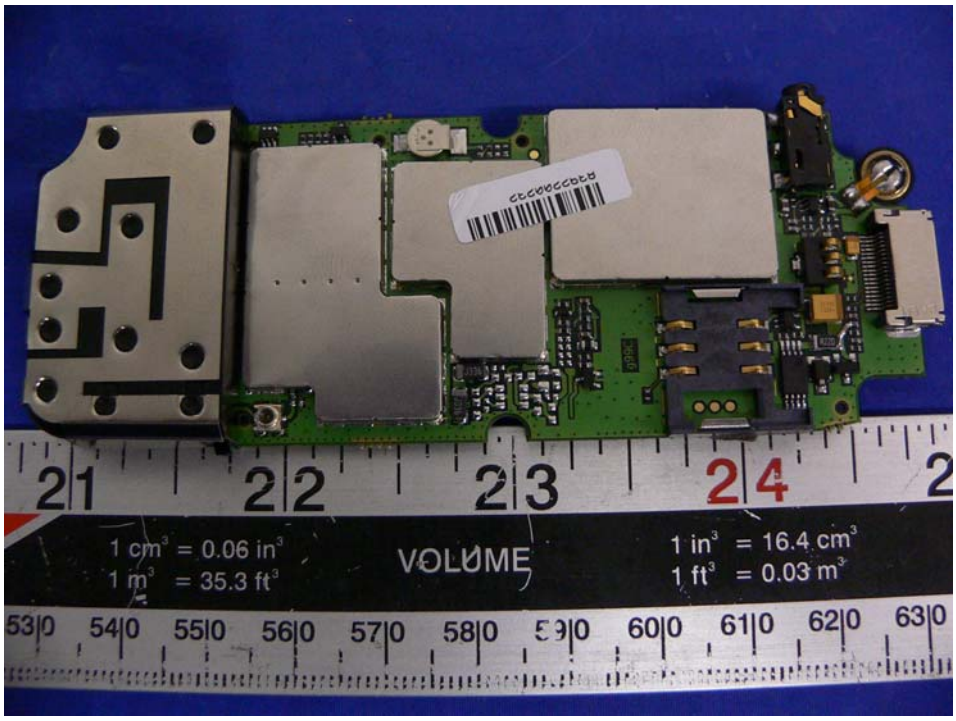
EUT Battery Cover Off View



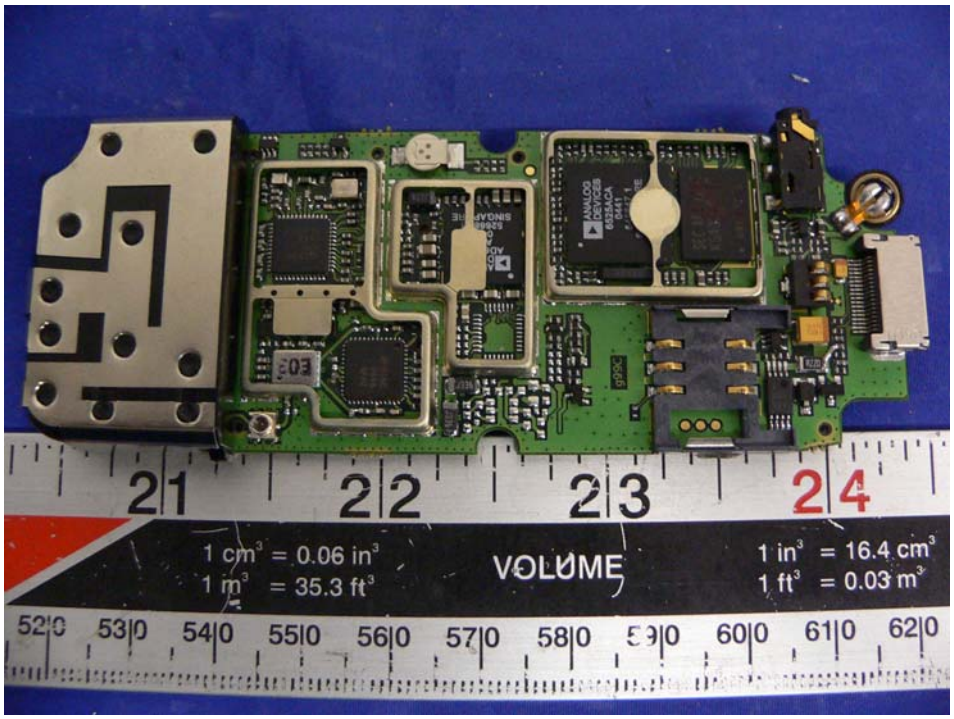
EUT Cover Off View



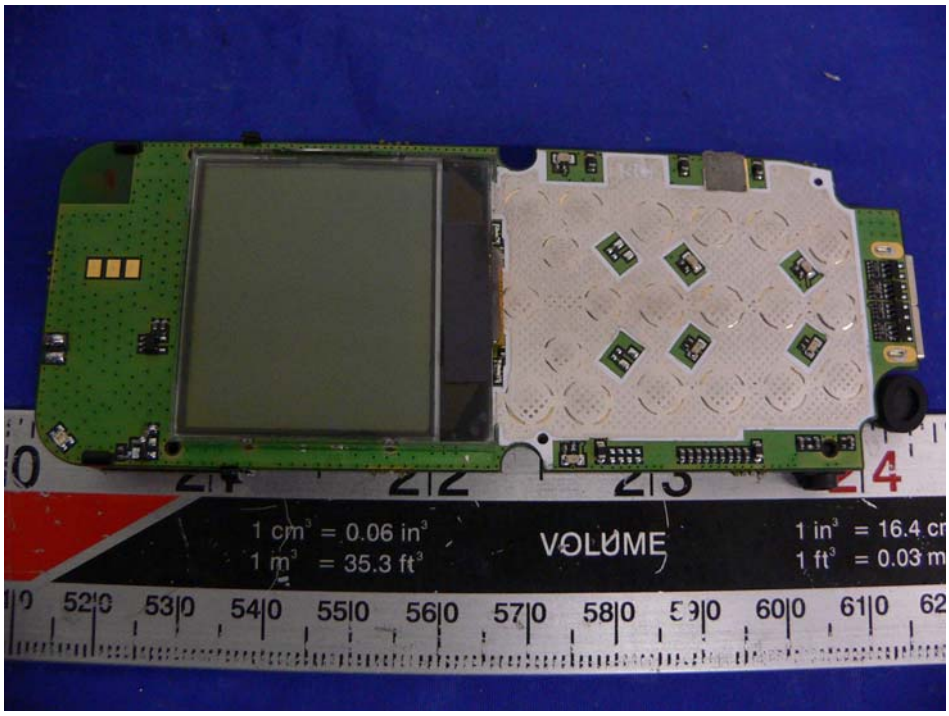
EUT Component with Shielding View



EUT Component without Shielding View



EUT Displayer and Keyboard View



Battery

Adapter

Earphone

APPENDIX I - INFORMATIVE REFERENCES

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