



Exhibit 11: SAR Test Report IHDT56CG1

Date of test: 04/01/2002 – 04/12/2002
Date of Report: 04/29/2002

Laboratory: Motorola Personal Communications Sector Product Safety & Compliance
 Laboratory
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Accreditation: This laboratory is accredited to ISO/IEC 17025-1999 to perform the following electromagnetic exposure tests:



System Validation & Interlaboratory Comparison
 Simulated Tissue Specifications and Procedure
 EME Cellular Phone Testing Procedure

On the following types of products:

Wireless Communications Devices (Examples): Two Way Radios; Portable Phones (including Cellular, Licensed Non-Broadcast and PCS); Low Frequency Readers; and Pagers

A2LA certificate #1651-01

Statement of Compliance: Motorola declares under its sole responsibility that portable cellular telephone FCC ID IHDT56CG1 to which this declaration relates, is in conformity with the appropriate General Population/Uncontrolled RF exposure standards, recommendations and guidelines (FCC 47 CFR §2.1093). It also declares that the product was tested in accordance with the appropriate measurement standards, guidelines and recommended practices. Any deviations from these standards, guidelines and recommended practices are noted below:

(none)

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The results and statements contained herein relate only to the items tested. The names of individuals involved may be mentioned only in connection with the statements or results from this report.

Motorola encourages all feedback, both positive and negative, on this test report.

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1. Introduction

The Motorola Personal Communications Sector Product Safety Laboratory has performed measurements of the maximum potential exposure to the user of portable cellular phone (FCC ID IHDT56CG1) The Specific Absorption Rate (SAR) of this product was measured. The portable cellular phone was tested in accordance with FCC OET Bulletin 65 Supplement C 01-01.

2. Description of the Device Under Test

Antenna description

Type	Extendable Antenna	
Location	Right Side	
Dimensions	Length	106 mm
	Width	4 mm
Configuration	Extendable Whip	

Device description

FCC ID Number	IHDT56CG1		
Serial number	CB40A0250A		
Mode(s) of Operation	800 AMPS	800 CDMA	1900 CDMA
Modulation Mode(s)	AMPS	CDMA	CDMA
Maximum Output Power Setting	27.00 dBm	25.00 dBm	25.00 dBm
Duty Cycle	1:1	1:1	1:1
Transmitting Frequency Rang(s)	824-849MHz	824-849MHz	1851-1909MHz
Production Unit or Identical Prototype (47 CFR §2.908)	Identical Prototype		
Device Category	Portable		
RF Exposure Limits	General Population / Uncontrolled		

3. Test Equipment Used

3.1 Dosimetric System

The Motorola Personal Communications Sector Product Safety & Compliance Laboratory utilizes a Dosimetric Assessment System (Dasy3™ v3.1d) manufactured by Schmid & Partner Engineering AG (SPEAG™), of Zurich Switzerland. The overall RSS uncertainty of the measurement system is $\pm 12.0\%$ (K=1) with an expanded uncertainty of $\pm 24.0\%$ (K=2). The breakdown of the individual uncertainties is as follows:

Probe Uncertainty	$\pm\%$
Isotropy error	7.2
Calibration error	3.3
Spatial resolution	0.5

SAR Evaluation	$\pm\%$
Conductivity measurement	5.0
Environmental errors	1.0

Peak SAR Evaluation	±%
Probe positioning	1.0
Volumetric averaging	4.2
Device positioning	6.0

The list of calibrated equipment used for the measurements is shown below.

Description	Serial Number	Cal Due Date
DASY3 DAE V1	SN365	09/26/2002
E-Field Probe ETDV6	SN1508	10/25/2002
Dipole Validation Kit, DV900V2	SN79	10/26/2002
Dipole Validation Kit, DV900V2	SN92	01/03/2003
Dipole Validation Kit, DV900V2	SN94	01/03/2003
SAM Phantom used for 800MHz	TP-1005	
Dipole Validation Kit, DV1900V2	284TR	01/05/2003
Dipole Validation Kit, DV1900V2	280TR	01/04/2003
SAM Phantom used for 1900MHz	TP-1085	

3.2 Additional Equipment

Description	Serial Number	Cal Due Date
Signal Generator HP8648C	3847A04848	01/19/2003
Power Meter - E4419B	GB39511090	11/28/2002
Power Sensor - 8481A	US39211009	02/14/2003
Network Analyzer HP8753ES	US39172529	07/05/2002

4. Electrical parameters of the tissue simulating liquid

Prior to conducting SAR measurements, the relative permittivity, ϵ_r , and the conductivity, σ , of the tissue simulating liquids were measured with a HP85070 Dielectric Probe Kit. These values are shown in the table below. The recommended limits for maximum permittivity and minimum conductivity are also shown. These come from the Federal Communication Commission, OET Bulletin 65 Supplement C 01-01. It is seen that the measured parameters are satisfactory for compliance testing.

f (MHz)	Tissue type	Limits / Measured	Dielectric Parameters		
			ϵ_r	σ (S/m)	Temp (°C)
835	Head	Measured, 04/01/2002	42.90	0.93	N/A
		Recommended Limits	41.50	0.90	20-25
		Measured, 04/02/2002	42.50	0.92	N/A
		Recommended Limits	41.50	0.90	20-25
		Measured, 04/02/2002	42.50	0.91	N/A
		Recommended Limits	41.50	0.90	20-25
		Measured, 04/11/2002	41.30	0.91	N/A
		Recommended Limits	41.50	0.90	20-25
	Body	Measured, 04/03/2002	53.70	0.97	N/A
		Recommended Limits	55.20	0.97	20-25
1880	Head	Measured, 04/05/2002	39.10	1.42	N/A
		Recommended Limits	40.00	1.40	20-25
		Measured, 04/11/2002	39.20	1.43	N/A
		Recommended Limits	40.00	1.40	20-25
	Body	Measured, 04/09/2002	51.90	1.56	N/A
		Recommended Limits	53.30	1.52	20-25

The list of ingredients and the percent composition used for the tissue simulates are indicated in the table below.

Ingredient	800MHz Head	800MHz Body	1900MHz Head	1900MHz Body
Sugar	57.0	44.9	47.0	30.80
DGBE	--	--	52.8	68.91
Water	40.45	53.06	0.2	0.29
Salt	1.45	0.94	--	--
HEC	1.0	1.0	--	--
Bact.	0.1	0.1	--	--

The depth of the tissue simulate was measured in the SAM head phantom. The depth measurement was (15cm +/- 0.5cm) before the tests were performed.

Look at the below figures:

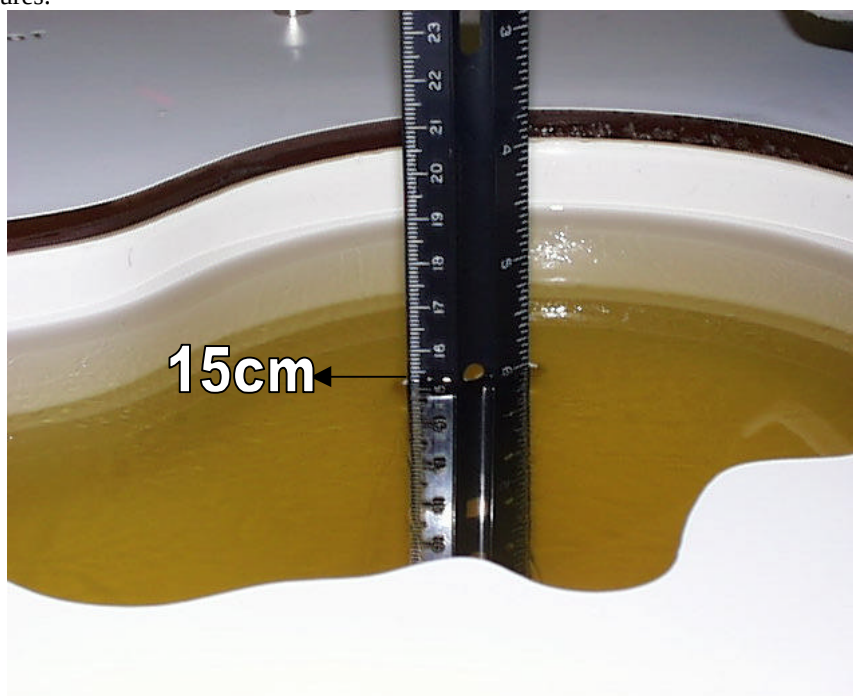


Figure 1. Location of Tissue Simulate Depth Measurement Location in Phantom Head

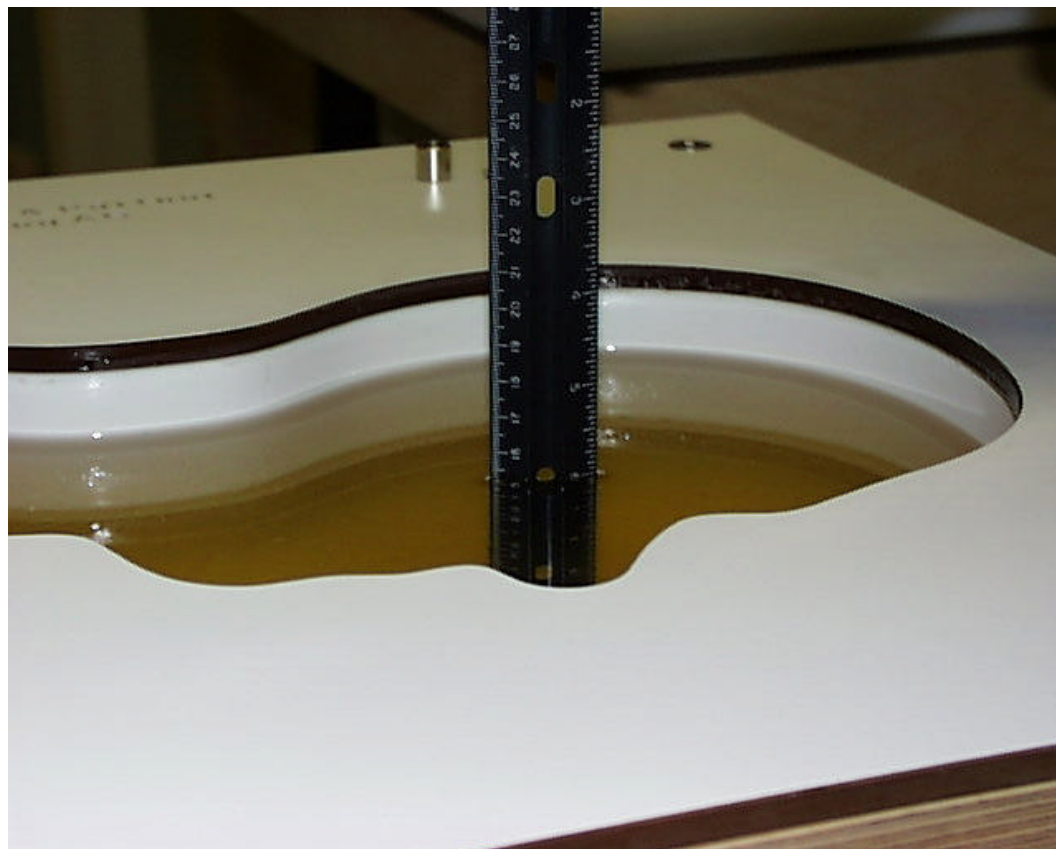


Figure 2. Location of Tissue Simulate Depth Measurement Location in Phantom Head

5. System Accuracy Verification

A system accuracy verification of the DASY3 was performed using the measurement equipment listed in Section 3.1. The daily system accuracy verification occurs within center section of the SAM phantom.

A SAR measurement was performed to see if the measured SAR was within +/- 10% from the target SAR indicated on the dipole certification sheet. These tests were done at 900MHz and/or 1800MHz. These frequencies are within 100MHz of the mid-band frequency of the test device. This is within the allowable window given in Supplement C 01-01 Appendix D System Verification section item #5. The test was conducted on the same days as the measurement of the DUT. Recommended limits for maximum permittivity, minimum conductivity are shown in the table below. These come from the Federal Communication Commission, OET Bulletin 65 Supplement C 01-01. The obtained results from the system accuracy verification are displayed in the table below. The distributions of SAR compare well with those of the reference measurements (see Appendix 1). The tissue stimulant depth was verified to be 15.0cm $\pm$ 0.5cm. Z-axis scans showing the SAR penetration are also included in Appendix 1. SAR values are normalized to 1W forward power delivered to the dipole.

Daily, prior to conducting tests, measurements were made with the RF sources powered off to determine the system noise level. The highest system noise was 0.00 W/kg.

f (MHz)	Description	SAR (W/kg), 1gram	Dielectric Parameters		Ambient Temp (°C)	Tissue Temp (°C)
			e_r	s (S/m)		
900	Measured, 04/01/2002	12.50	0.99	42.20	22.00	21.20
	Recommended Limits	11.40	0.97	40.70	20-25	20-25
	Measured, 04/02/2002	12.15	0.99	41.70	22.00	21.20
	Recommended Limits	11.40	0.95	40.30	20-25	20-25
	Measured, 04/03/2002	12.39	0.97	40.70	22.00	21.50
	Recommended Limits	11.40	0.97	40.70	20-25	20-25
	Measured, 04/11/2002	12.22	0.97	40.50	22.00	21.20
	Recommended Limits	11.40	0.95	40.30	20-25	20-25
1800	Measured, 04/05/2002	37.29	1.34	39.50	22.00	21.70
	Recommended Limits	38.80	1.37	39.60	20-25	20-25
	Measured, 04/09/2002	33.72	1.36	38.90	22.00	21.50
	Recommended Limits	38.80	1.37	39.60	20-25	20-25
	Measured, 04/11/2002	37.42	1.35	39.60	22.00	21.90
	Recommended Limits	38.80	1.37	39.60	20-25	20-25

6. Test Results

The test sample was operated in a test mode that allows control of the transmitter without the need to place actual phone calls. For the purposes of this test the unit is commanded to test mode and manually set to the proper channel, transmitter power level and transmit mode of operation. The phone was then placed in the SAR measurement system with a fully charged battery. The phone was tested in the configurations stipulated in OET Bulletin 65 Supplement C 01-01. The phone was positioned into these configurations using the positioner supplied with the DASY 3.1d SAR measurement system. The measured dielectric constant of the material used for the positioner is less than 2.9 and the loss tangent is less than 0.02 ($\pm$ 30%) at 850MHz. The Cellular Phone (FCC ID IHDT56CG1), has the following battery options:

Model # - TPSW 6MM Battery

The battery with the highest capacity is the TPSW 6MM. This battery was used to do most of the SAR testing. The configuration that resulted in the highest SAR values were tested using the other batteries listed above.

6.1 Head Adjacent Test Results

The SAR results shown in tables 1 through 4 are maximum SAR values averaged over 1 gram of phantom tissue. Also shown are the measured conducted output powers, the temperature of the test facility during the test and the temperature of the tissue simulate after the test. The SAR measurements were performed using the SAM phantoms listed in section 3.1. The test conditions indicated as bold numbers in the following table are included in Appendix 2. All other test conditions measured lower SAR values than those included.

f (MHz)	Description	Conducted Output Power (dBm)	Left Head (Cheek / Touch Position)							
			Ant Extended				Ant Retracted			
			Measured (W/kg)	Drift (dB)	Amb. Temp (°C)	Simulate Temp (°C)	Measured (W/kg)	Drift (dB)	Amb. Temp (°C)	Simulate Temp (°C)
Analog 800MHz	Channel 991	27.12	1.16	0.35	21.20	20.40				
	Channel 384	27.18	1.38	0.31	21.20	20.70	0.265	0.03	21.20	20.20
	Channel 799	27.00	1.26	0.37	21.20	20.50				
Digital 800MHz	Channel 1013	25.10								
	Channel 384	25.17	0.664	-0.13	21.20	20.40	0.217	-0.23	21.20	20.40
	Channel 777	25.04								
Digital 1900MHz	Channel 25	25.18								
	Channel 600	25.11	0.092	-0.54	19.40	19.50	0.695	-0.23	21.70	19.90
	Channel 1175	24.90								

Table 1: SAR measurement results for the portable cellular telephone FCC ID IHDT56CG1 at highest possible output power. Measured against the left head in the Cheek/Touch Position.

f (MHz)	Description	Conducted Output Power (dBm)	Right Head (Cheek / Touch Position)							
			Ant Extended				Ant Retracted			
			Measured (W/kg)	Drift (dB)	Amb. Temp (°C)	Simulate Temp (°C)	Measured (W/kg)	Drift (dB)	Amb. Temp (°C)	Simulate Temp (°C)
Analog 800MHz	Channel 991	27.12	1.29	0.38	21.20	21.00				
	Channel 384	27.18	1.30	0.44	21.20	20.40	0.37	-0.33	21.20	19.50
	Channel 799	27.00	1.25	0.49	21.20	21.00				
Digital 800MHz	Channel 1013	25.10								
	Channel 384	25.17	0.779	-0.13	21.20	21.00	0.181	-0.07	21.20	21.00
	Channel 777	25.04								
Digital 1900MHz	Channel 25	25.18								
	Channel 600	25.11	0.11	-0.22	21.70	19.90	0.808	0.09	21.90	22.00
	Channel 1175	24.90								

Table 2: SAR measurement results for the portable cellular telephone FCC ID IHDT56CG1 at highest possible output power. Measured against the right head in the Cheek/Touch Position.

f (MHz)	Description	Conducted Output Power (dBm)	Left Head (15° Tilt Position)							
			Ant Extended				Ant Retracted			
			Measured (W/kg)	Drift (dB)	Amb. Temp (°C)	Simulat e Temp (°C)	Measured (W/kg)	Drift (dB)	Amb. Temp (°C)	Simulate Temp (°C)
Analog 800MHz	Channel 991	27.12								
	Channel 384	27.18	0.259	0.47	21.20	20.60	0.773	-0.35	21.20	20.30
	Channel 799	27.00								
Digital 800MHz	Channel 1013	25.10								
	Channel 384	25.17	0.156	0.07	21.20	20.40	0.054	-0.28	21.20	20.40
	Channel 777	25.04								
Digital 1900MHz	Channel 25	25.18								
	Channel 600	25.11	0.020	-0.34	19.40	19.60	0.098	0.22	21.90	22.00
	Channel 1175	24.90								

Table 3: SAR measurement results for the portable cellular telephone FCC ID IHDT56CG1 at highest possible output power. Measured against the left head in the 15° Tilt Position.

f (MHz)	Description	Conducted Output Power (dBm)	Right Head (15° Tilt Position)							
			Ant Extended				Ant Retracted			
			Measured (W/kg)	Drift (dB)	Amb. Temp (°C)	Simulate Temp (°C)	Measured (W/kg)	Drift (dB)	Amb. Temp (°C)	Simulate Temp (°C)
Analog 800MHz	Channel 991	27.12								
	Channel 384	27.18	0.275	0.58	21.20	21.00	0.148	0.36	21.20	21.00
	Channel 799	27.00								
Digital 800MHz	Channel 1013	25.10								
	Channel 384	25.17	0.157	-0.06	21.02	21.20	0.0863	-0.27	21.20	21.00
	Channel 777	25.04								
Digital 1900MHz	Channel 25	25.18								
	Channel 600	25.11	0.021	0.01	21.70	19.90	0.098	-0.45	21.70	19.90
	Channel 1175	24.90								

Table 4: SAR measurement results for the portable cellular telephone FCC ID IHDT56CG1 at highest possible output power. Measured against the right head in the 15° Tilt Position.

6.2 Body-Worn Test Results

The SAR results shown in table 5 are the maximum SAR values averaged over 1 gram of phantom tissue. Also shown are the measured conducted output powers, the temperature of the test facility during the test and the temperature of the tissue simulate after the test. A “flat” phantom was for the body-worn tests. This “flat” phantom is made out of 1” thick natural High Density Polyethylene with a thickness at the bottom equal to 2.0mm. It measures 52.7cm(long) x 26.7cm(wide) x 21.2cm(tall). The measured dielectric constant of the material used is less than 2.3 and the loss tangent is less than 0.0046 all the way up to 2.184GHz.

The tissue stimulant depth was verified to be 15.0cm $\pm$ 0.5cm. The same device holder described in section 6 was used for positioning the phone. The functional accessories were divided into two categories, the ones with metal components and the ones with non-metal components. For non-metallic component accessories, testing was performed on the accessory that displayed the closest proximity to the flat phantom. Each metallic component accessory, if any, was checked for uniqueness of metal component so that each is tested with the device. If multiple accessories shared an identical metal component, only the accessory that dictates the closest spacing to the body was tested. The cellular phone was tested with a headset connected to the device for all body-worn SAR measurements.

There are no Body-Worn Accessories available for this phone hence the device was tested per the supplement C testing guidelines for devices that do not have body worn accessories. The back part of the phone was placed 1 inch away from a flat phantom per the supplement C standard guidelines to perform SAR measurements.

A full data set output of the test conditions with the highest SAR values from the Dasy™ measurement system is included as appendix 3. The test conditions included are indicated as bold numbers in the following table. All other test conditions measured lower SAR values than those included.

f (MHz)	Description	Conducted Output Power (dBm)	Body Worn (1 inch away from the flat phantom)							
			Ant Extended				Ant Retracted			
			Measured (W/kg)	Drift (dB)	Amb. Temp (°C)	Simulate Temp (°C)	Measured (W/kg)	Drift (dB)	Amb. Temp (°C)	Simulate Temp (°C)
Analog 800MHz	Channel 991	27.12	0.462	-0.05	22.30	21.10	0.277	0.34	22.30	21.20
	Channel 384	27.18	0.504	0.61	22.30	21.20	0.207	0.33	22.30	21.50
	Channel 799	27.00	0.522	-0.23	22.30	21.00	0.241	-0.31	22.30	21.00
Digital 800MHz	Channel 1013	25.10	0.264	-0.07	22.30	20.80	0.142	-0.11	22.30	20.90
	Channel 384	25.17	0.275	0.12	22.30	20.80	0.191	-0.04	22.30	20.80
	Channel 777	25.04	0.279	-0.15	22.30	20.80	0.085	-0.34	22.30	20.80
Digital 1900MHz	Channel 25	25.18	0.043	-0.05	22.00	21.50	0.081	0.05	22.00	21.50
	Channel 600	25.11	0.078	0.08	22.00	21.50	0.197	-0.19	22.00	21.50
	Channel 1175	24.90	0.103	-0.09	22.00	21.50	0.19	-1.00	22.00	21.50

Table 5: SAR measurement results for the portable cellular telephone FCC ID IHDT56CG1at highest possible output power. Measured against the body, 1 inch away from the flat phantom.

Appendix 1

SAR distribution comparison for the system accuracy verification

Dipole 900 MHz

900MHz Dipole Validation / Dipole Sn# 79 / Forward Power = 251 / Acceptable Temp Range is 15-25°C / Room Temp at time of measurement = 22 Simulant Temp at time of measurement = 21.2

R2: TP-1005 SUGAR (rev. 3) Phantom; Flat Section; Position: (90°,90°); Frequency: 900 MHz

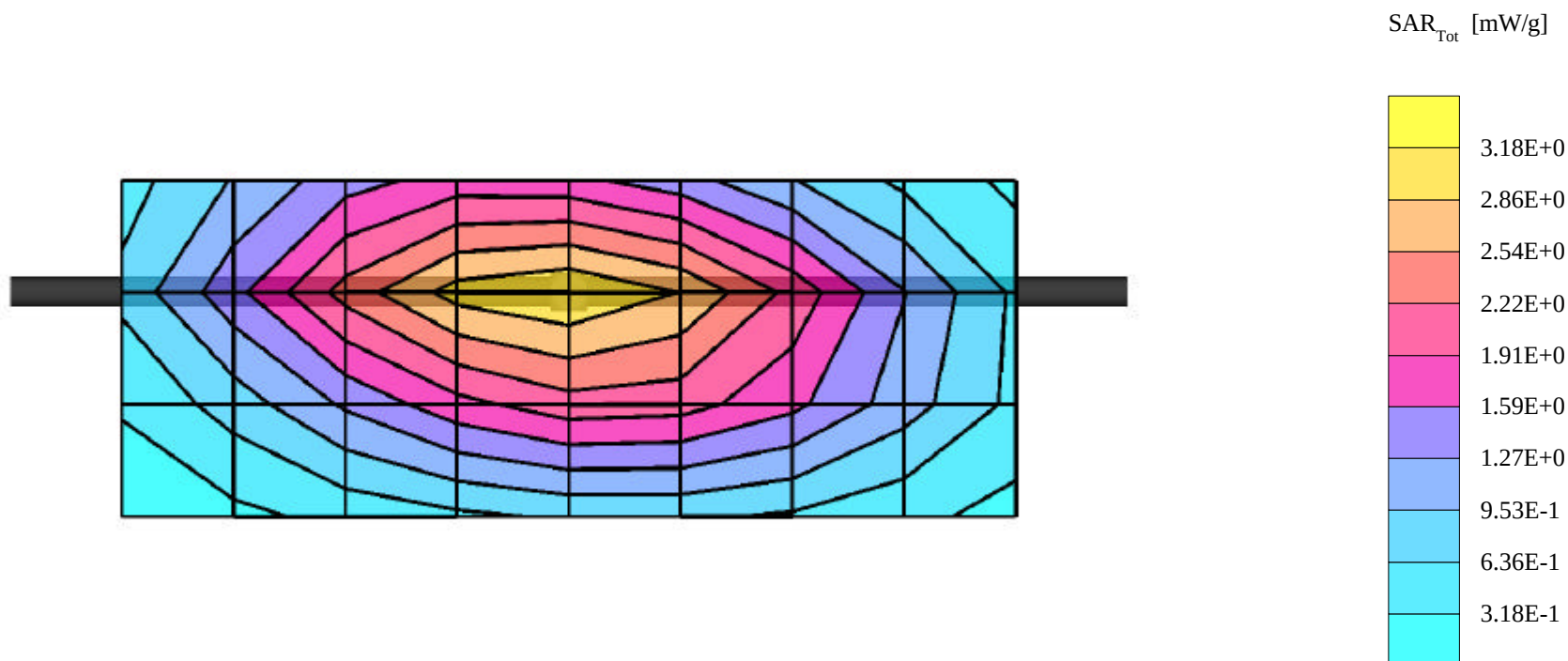
Probe: ET3DV6 - SN1508 - Validation; ConvF(6.35,6.35,6.35); Crest factor: 1.0; 900 MHz VALIDATION: $\sigma = 0.99$ mho/m $\epsilon_r = 42.2$ $\rho = 1.00$ g/cm³

Cubes (2): SAR (1g): 3.14 mW/g ± 0.01 dB, SAR (10g): 1.98 mW/g ± 0.01 dB, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0

Penetration depth: 11.5 (10.6, 12.7) [mm]

Powerdrift: 0.06 dB



Dipole 900 MHz

900MHz Dipole Validation / Dipole Sn# 92 / Forward Power = 251 / Acceptable Temp Range is 15-25°C / Room Temp at time of measurement = 22 Simulant Temp at time of measurement = 21.2

R2: TP-1005 SUGAR (rev. 3) Phantom; Flat Section; Position: (90°,90°); Frequency: 900 MHz

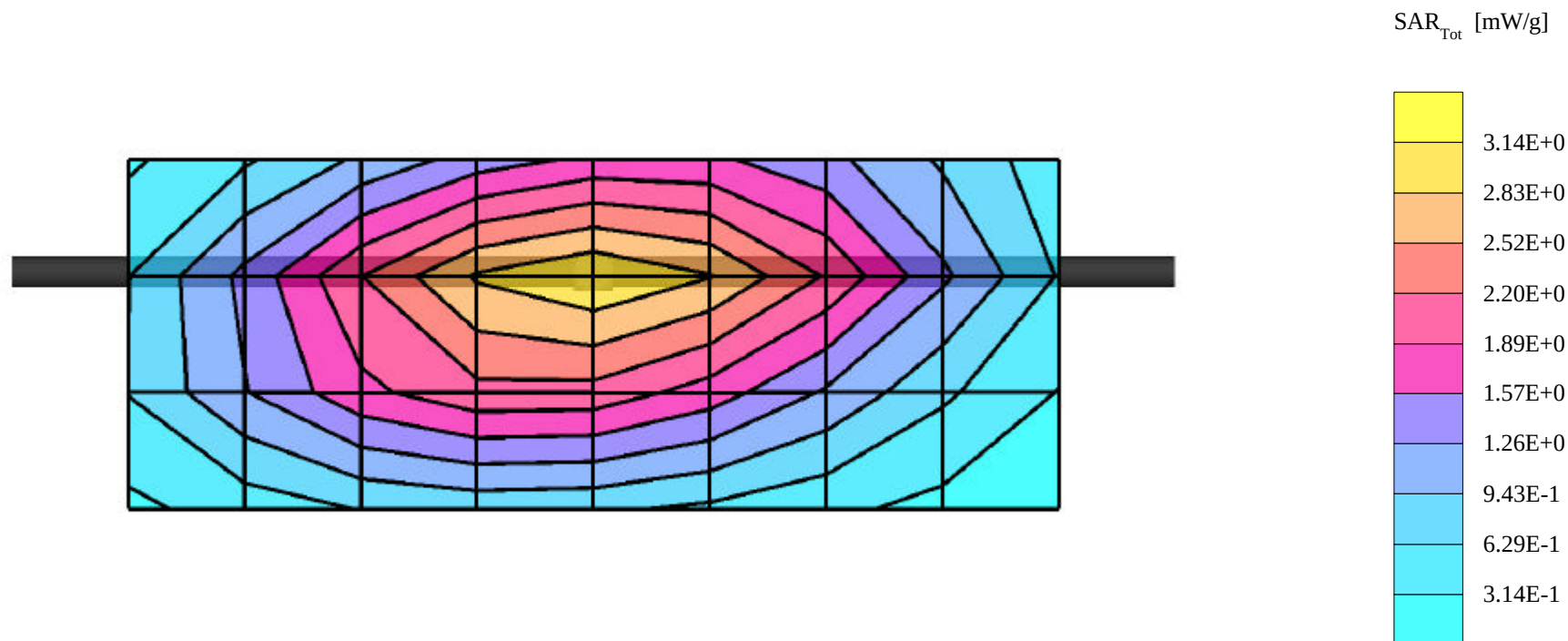
Probe: ET3DV6 - SN1508 - Validation; ConvF(6.35,6.35,6.35); Crest factor: 1.0; 900 MHz VALIDATION: $\sigma = 0.99$ mho/m $\epsilon_r = 41.7$ $\rho = 1.00$ g/cm³

Cubes (2): SAR (1g): 3.11 mW/g ± 0.02 dB, SAR (10g): 1.96 mW/g ± 0.02 dB, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0

Penetration depth: 11.7 (10.8, 12.8) [mm]

Powerdrift: 0.01 dB



Dipole 900 MHz

900MHz Dipole Validation / Dipole Sn# 79 / Forward Power = 251 / Acceptable Temp Range is 15-25°C / Room Temp at time of measurement = 22°C / Simulant Temp at time of measurement = 21.5

R2: TP-1005 SUGAR (rev. 3) Phantom; Flat Section; Position: (90°,90°); Frequency: 900 MHz

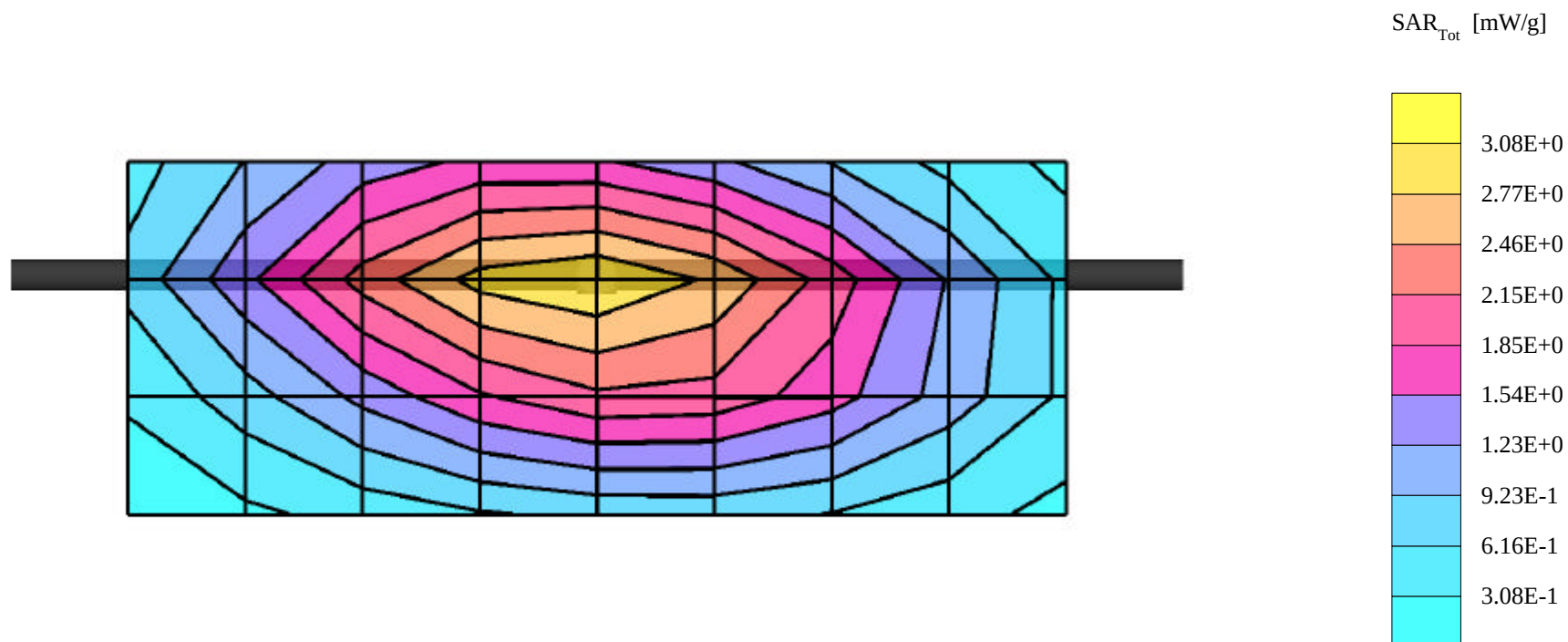
Probe: ET3DV6 - SN1508 - Validation; ConvF(6.35,6.35,6.35); Crest factor: 1.0; 900 MHz VALIDATION: $\sigma = 0.97$ mho/m $\epsilon_r = 40.7$ $\rho = 1.00$ g/cm³

Cubes (2): SAR (1g): 3.05 mW/g ± 0.03 dB, SAR (10g): 1.92 mW/g ± 0.04 dB, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0

Penetration depth: 11.6 (10.7, 12.7) [mm]

Powerdrift: 0.04 dB



Dipole 1800 MHz

1800MHz Dipole Validation / Dipole Sn# 284TR / Forward Power = 248 mW / Acceptable Temp Range is 15-25°C / Room Temp at time of measurement = 22°C
Temp at time of measurement = 21.7

R2: TP-1085 GLYCOL (rev. 3) Phantom; Flat Section; Position: (90°,90°); Frequency: 1800 MHz

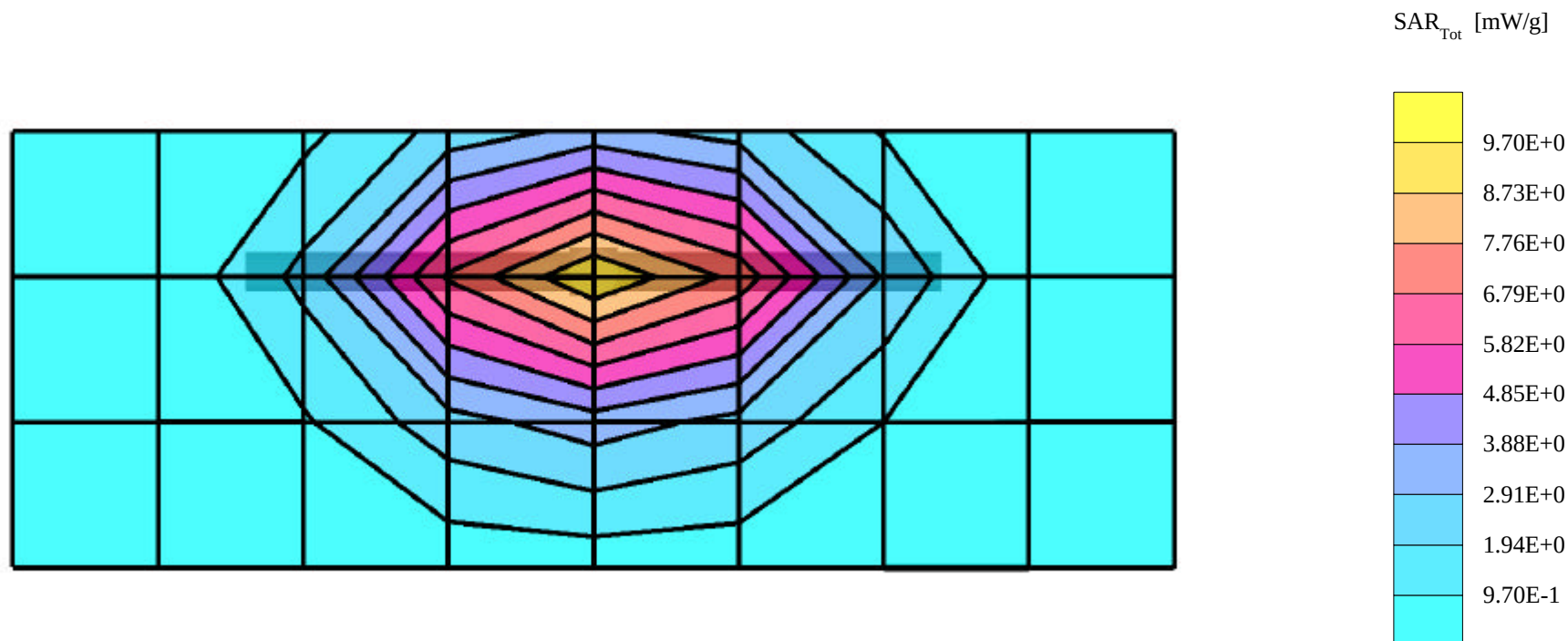
Probe: ET3DV6 - SN1508 - Validation; ConvF(5.41,5.41,5.41); Crest factor: 1.0; 1800 MHz VALIDATION: $\sigma = 1.34$ mho/m $\epsilon_r = 39.5$ $\rho = 1.00$ g/cm³

Cubes (2): SAR (1g): 9.25 mW/g ± 0.05 dB, SAR (10g): 4.90 mW/g ± 0.07 dB, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0

Penetration depth: 8.5 (8.1, 9.4) [mm]

Powerdrift: -0.02 dB



Dipole 1800 MHz

1800MHz Dipole Validation / Dipole Sn# 280TR / Forward Power = 250 mW / Acceptable Temp Range is 15-25°C Room Temp at time of measurement = 22 Simulant Temp at time of measurement = 21.5

R2: Amy Twin Phantom 2.3 Phantom; Section 1 Section; Position: (90°,0°); Frequency: 1800 MHz

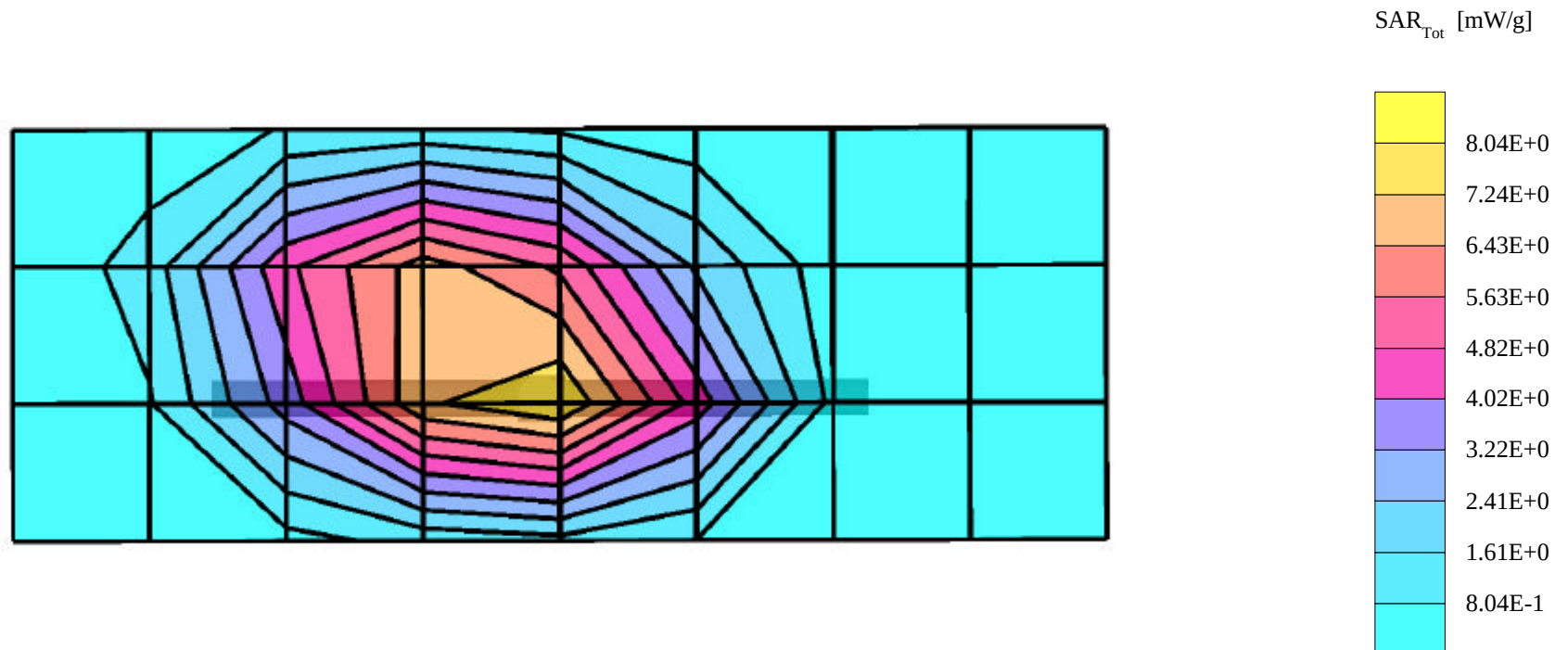
Probe: ET3DV6 - SN1508 - Validation; ConvF(5.41,5.41,5.41); Crest factor: 1.0; 1800 MHz VALIDATION: $\sigma = 1.36 \text{ mho/m}$ $\epsilon_r = 38.9$ $\rho = 1.00 \text{ g/cm}^3$

Cubes (2): SAR (1g): $9.68 \text{ mW/g} \pm 0.07 \text{ dB}$, SAR (10g): $5.15 \text{ mW/g} \pm 0.08 \text{ dB}$, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0

Penetration depth: 8.4 (8.0, 9.2) [mm]

Powerdrift: 0.01 dB



Dipole 1800 MHz

1800MHz Dipole Validation / Dipole Sn# 280TR / Forward Power = 252mW / Acceptable Temp Range is 15-25°C / Room Temp at time of measurement = 22°C
Temp at time of measurement = 21.9

R2: TP-1085 GLYCOL (rev. 3) Phantom; Flat Section; Position: (90°,90°); Frequency: 1800 MHz

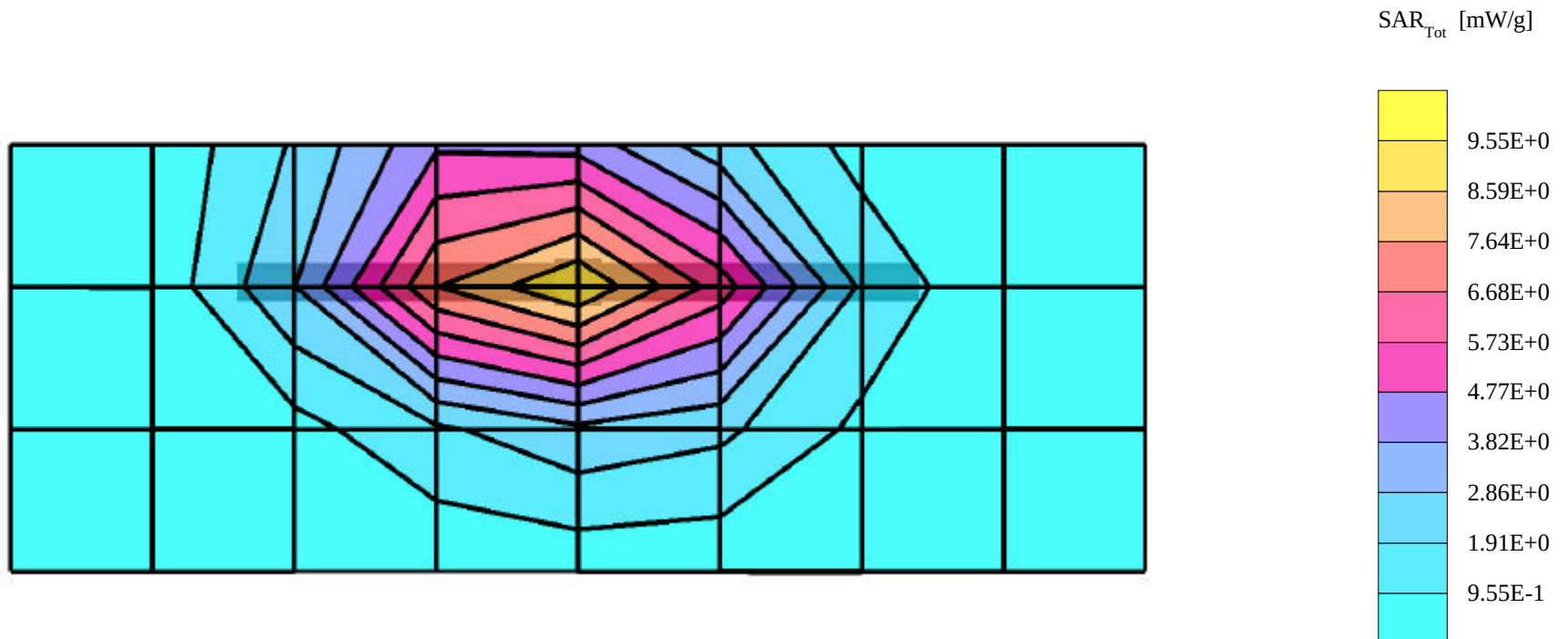
Probe: ET3DV6 - SN1508 - Validation; ConvF(5.41,5.41,5.41); Crest factor: 1.0; 1800 MHz VALIDATION: $\sigma = 1.35 \text{ mho/m}$, $\epsilon_r = 39.6$, $\rho = 1.00 \text{ g/cm}^3$

Cubes (2): SAR (1g): $9.43 \text{ mW/g} \pm 0.06 \text{ dB}$, SAR (10g): $4.99 \text{ mW/g} \pm 0.06 \text{ dB}$, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0

Penetration depth: 8.4 (8.0, 9.3) [mm]

Powerdrift: -0.00 dB



Dipole 900 MHz

900MHz Dipole Validation / Dipole Sn# 94 / Forward Power = 252 / Acceptable Temp Range is 15-25°C / Room Temp at time of measurement = 22 Simulant Temp at time of measurement = 21.2

R2: TP-1005 SUGAR (rev. 3) Phantom; Flat Section; Position: (90°,90°); Frequency: 900 MHz

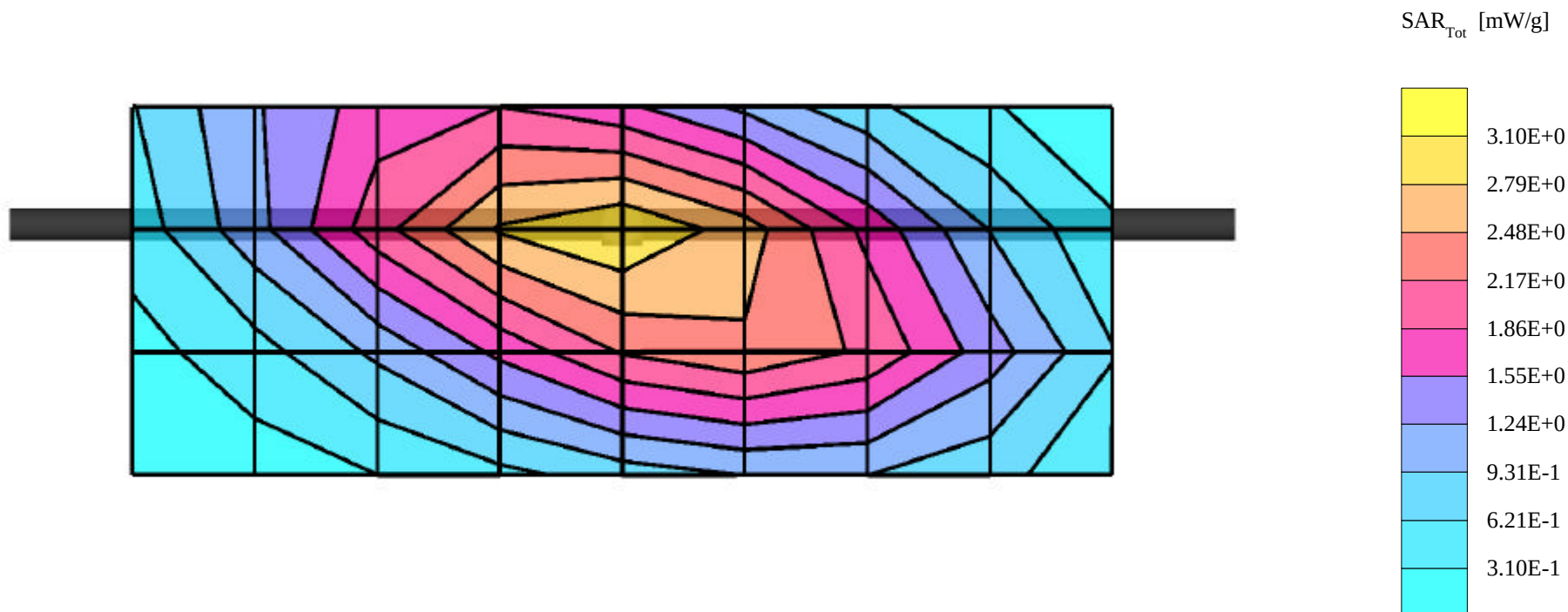
Probe: ET3DV6 - SN1508 - Validation; ConvF(6.35,6.35,6.35); Crest factor: 1.0; 900 MHz VALIDATION: $\sigma = 0.97$ mho/m $\epsilon_r = 40.5$ $\rho = 1.00$ g/cm³

Cubes (2): SAR (1g): 3.08 mW/g ± 0.03 dB, SAR (10g): 1.94 mW/g ± 0.03 dB, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0

Penetration depth: 11.5 (10.7, 12.7) [mm]

Powerdrift: 0.08 dB

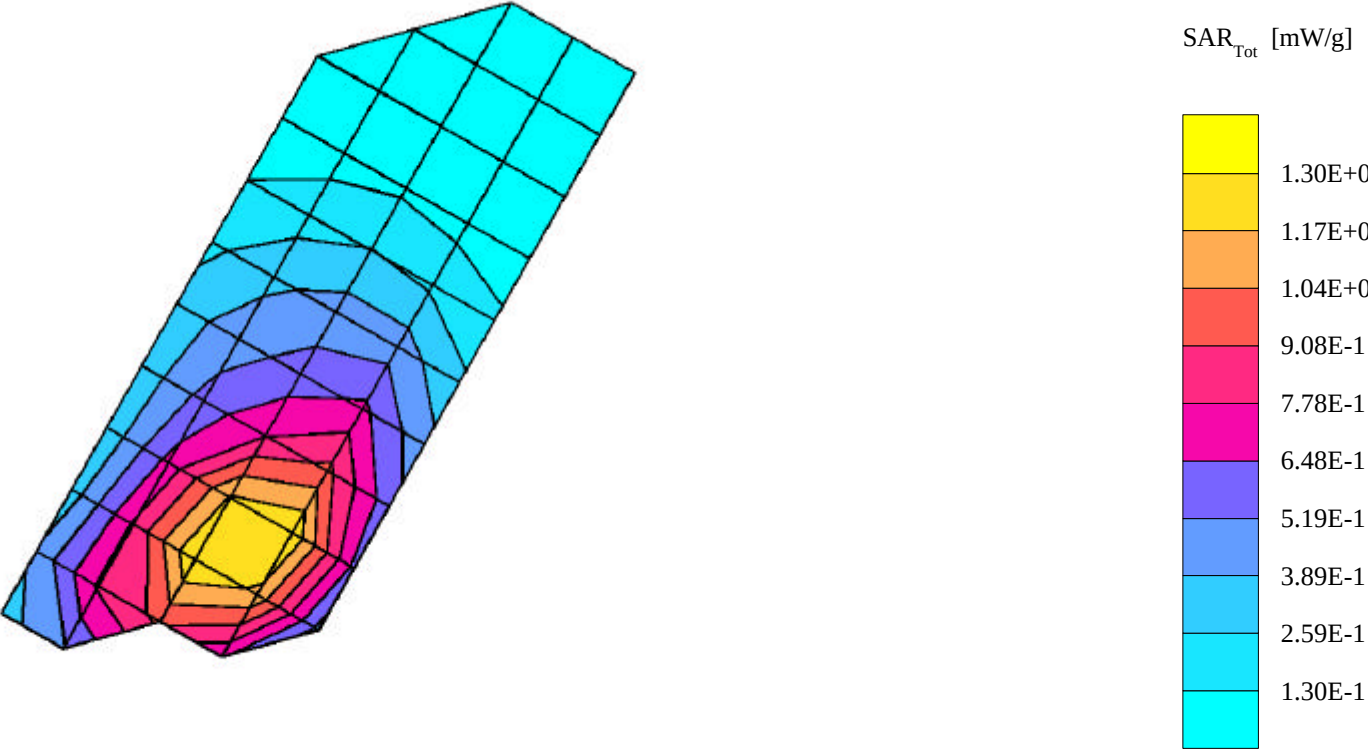


Appendix 2

SAR distribution plots for Phantom Head Adjacent Use

PHONE: CB40A0250A

Ch# 384 / Pwr Step: 2(OTA) / Antenna Position: Extended / Type of Modulation: 800 Analog / Battery Model #: TPSW 6MM / SIM'T TEMP: After Test = 20.7°C
R2: TP-1005 SUGAR (rev. 3) Phantom; R2 Homer Left Head Section; Position: (90°,180°); Frequency: 837 MHz
Probe: ET3DV6 - SN1508 - IEEE Head; ConvF(6.50,6.50,6.50); Crest factor: 1.0; 835 MHz Head & Body: $\sigma = 0.93$ mho/m $\epsilon_r = 42.9$ $\rho = 1.00$ g/cm³
Cube 7x7x7: SAR (1g): 1.38 mW/g, SAR (10g): 0.958 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 15.0
Penetration depth: 14.8 (12.5, 17.7) [mm]
Powerdrift: 0.31 dB



PHONE: CB40A0250A

Ch# 384 / Pwr Step:02 / Antenna Position: Extended / Type of Modulation: 800 CDMA / Battery Model #: TPSW 6MM / SIM'T TEMP: When Measured After Test = 20.4° C

R2: TP-1005 SUGAR (rev. 3) Phantom; R2 Homer Left Head Section; Position: (90°,180°); Frequency: 836 MHz

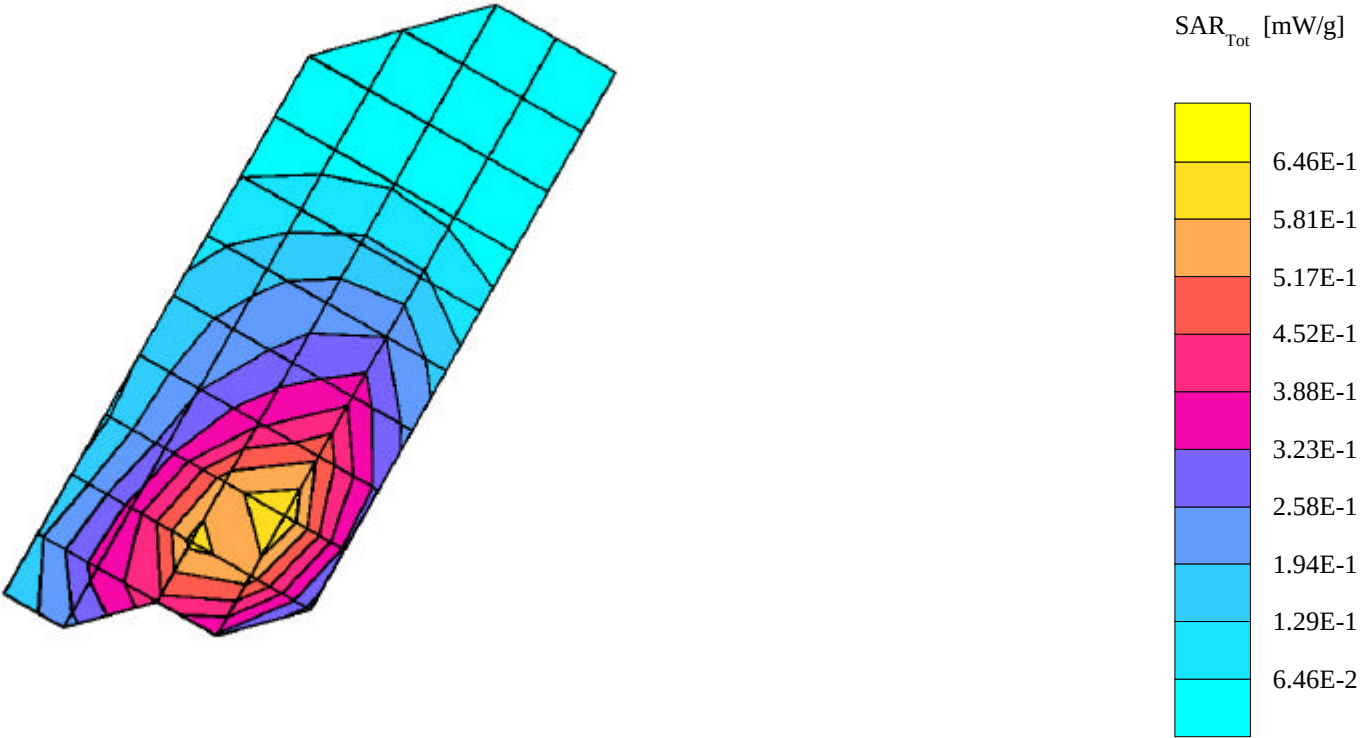
Probe: ET3DV6 - SN1508 - IEEE Head; ConvF(6.50,6.50,6.50); Crest factor: 1.0; 835 MHz Head & Body: $\sigma = 0.92 \text{ mho/m}$ $\epsilon_r = 42.5$ $\rho = 1.00 \text{ g/cm}^3$

Cube 7x7x7: SAR (1g): 0.664 mW/g, SAR (10g): 0.449 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 15.0

Penetration depth: 15.3 (12.2, 19.1) [mm]

Powerdrift: -0.13 dB



PHONE: CB40A0250A

Ch# 384 / Pwr Step: 2(OTA) / Antenna Position: Extended / Type of Modulation: 800 Analog / Battery Model #: TPSW 6MM / SIM'T TEMP: When Measured After Test = 20.6°C

R2: TP-1005 SUGAR (rev. 3) Phantom; R2 Homer Left Head Section; Position: (90°,180°); Frequency: 837 MHz

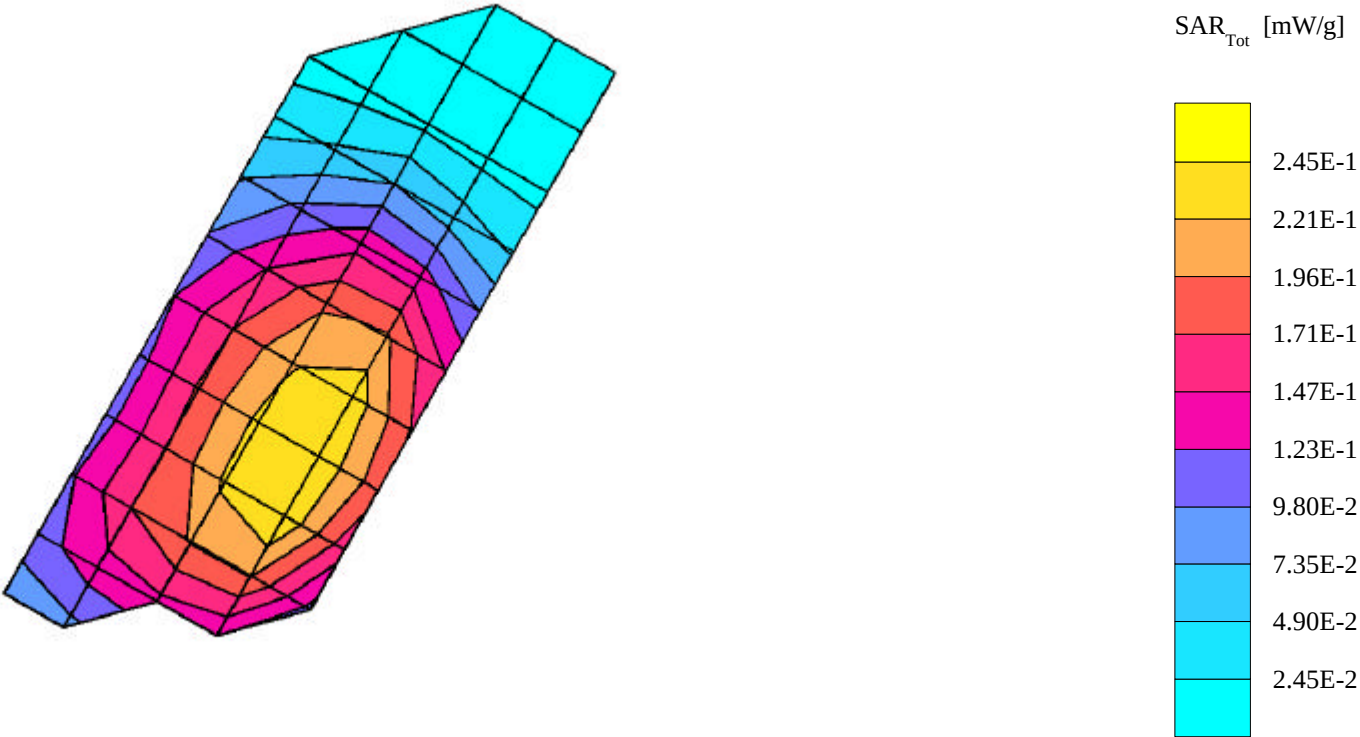
Probe: ET3DV6 - SN1508 - IEEE Head; ConvF(6.50,6.50,6.50); Crest factor: 1.0; 835 MHz Head & Body: $\sigma = 0.93 \text{ mho/m}$ $\epsilon_r = 42.9$ $\rho = 1.00 \text{ g/cm}^3$

Cube 7x7x7: SAR (1g): 0.259 mW/g, SAR (10g): 0.189 mW/g * Max outside, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 15.0

Penetration depth: 17.6 (15.2, 20.5) [mm]

Powerdrift: 0.47 dB



04/02/02

PHONE: CB40A0250A

Ch# 384 / Pwr Step:02 / Antenna Position: Extended / Type of Modulation: 800 CDMA / Battery Model #: TPSW 6MM / DEVICE POSITION: Tilted / SIM'T TEMP:

When Measured After Test = 20.4°C

R2: TP-1005 SUGAR (rev. 3) Phantom; R2 Homer Left Head Section; Position: (90°,180°); Frequency: 836 MHz

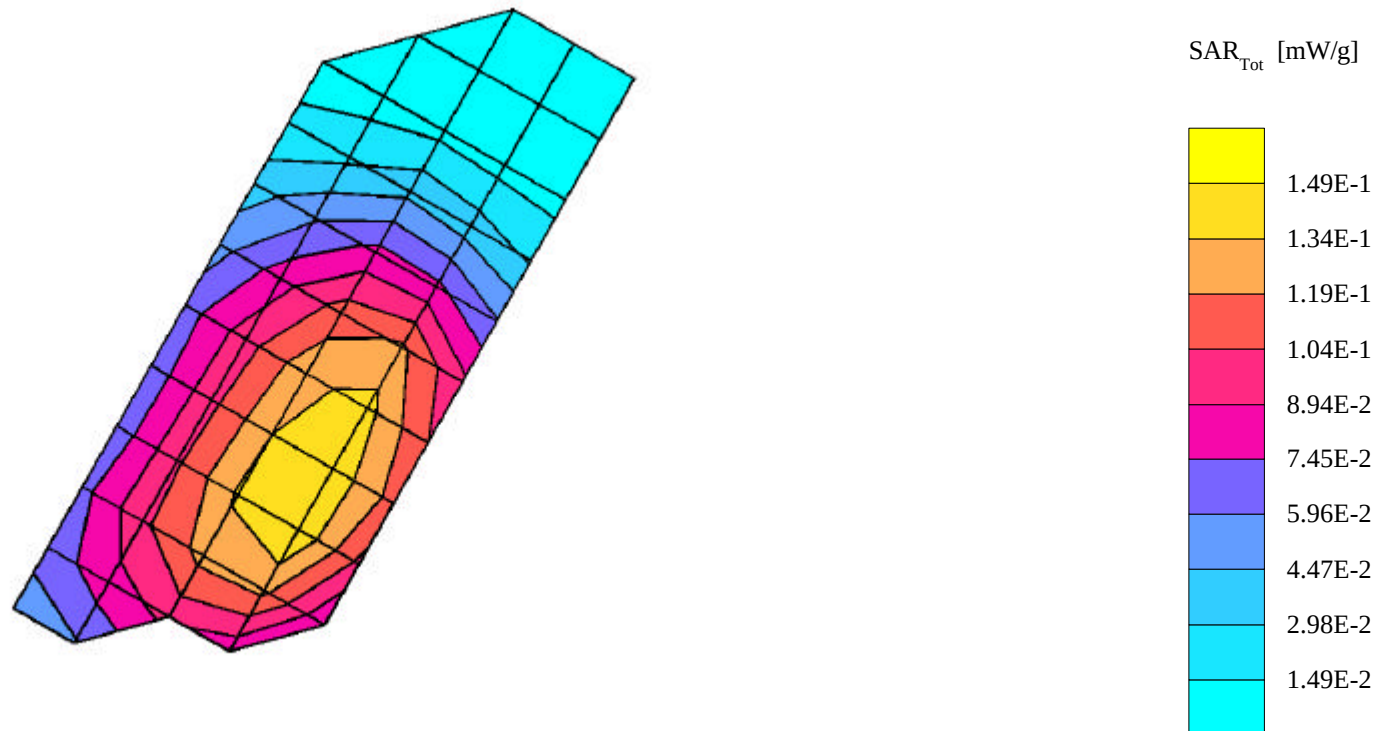
Probe: ET3DV6 - SN1508 - IEEE Head; ConvF(6.50,6.50,6.50); Crest factor: 1.0; 835 MHz Head & Body: $\sigma = 0.92$ mho/m $\epsilon_r = 42.5$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 0.156 mW/g, SAR (10g): 0.114 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 15.0

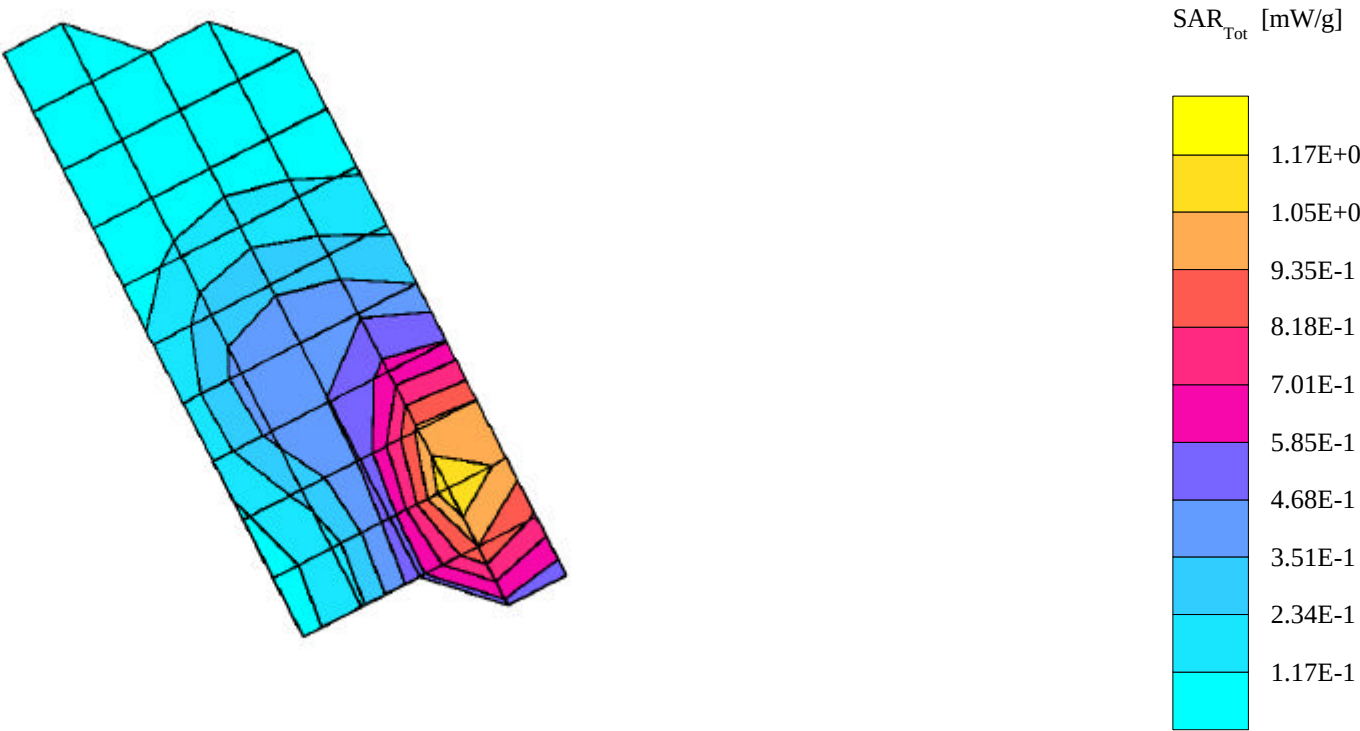
Penetration depth: 17.8 (15.4, 20.6) [mm]

Powerdrift: 0.07 dB



PHONE: CB40A0250A

Ch# 384 / Pwr Step:02 / Antenna Position: RETRACTED / Type of Modulation: 800 Analog / Battery Model #: TPSW 6MM / SIM'T TEMP: When Measured After Test = 20.4°C
R2: TP-1005 SUGAR (rev. 3) Phantom; R2 Marge Right Head Section; Position: (90°,180°); Frequency: 836 MHz
Probe: ET3DV6 - SN1508 - IEEE Head; ConvF(6.50,6.50,6.50); Crest factor: 1.0; 835 MHz Head & Body: $\sigma = 0.92$ mho/m $\epsilon_r = 42.5$ $\rho = 1.00$ g/cm³
Cube 7x7x7: SAR (1g): 1.30 mW/g, SAR (10g): 0.859 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 15.0
Penetration depth: 14.6 (13.2, 16.4) [mm]
Powerdrift: 0.44 dB



PHONE: CB40A0250A

Ch# 384 / Pwr Step: 02 / Antenna Position: EXTENDED / Type of Modulation: 800 CDMA / Battery Model #: TPSW 6MM / SIM'T TEMP: When Measured After Test = 21 °C

R2: TP-1005 SUGAR (rev. 3) Phantom; R2 Marge Right Head Section; Position: (90°, 180°); Frequency: 836 MHz

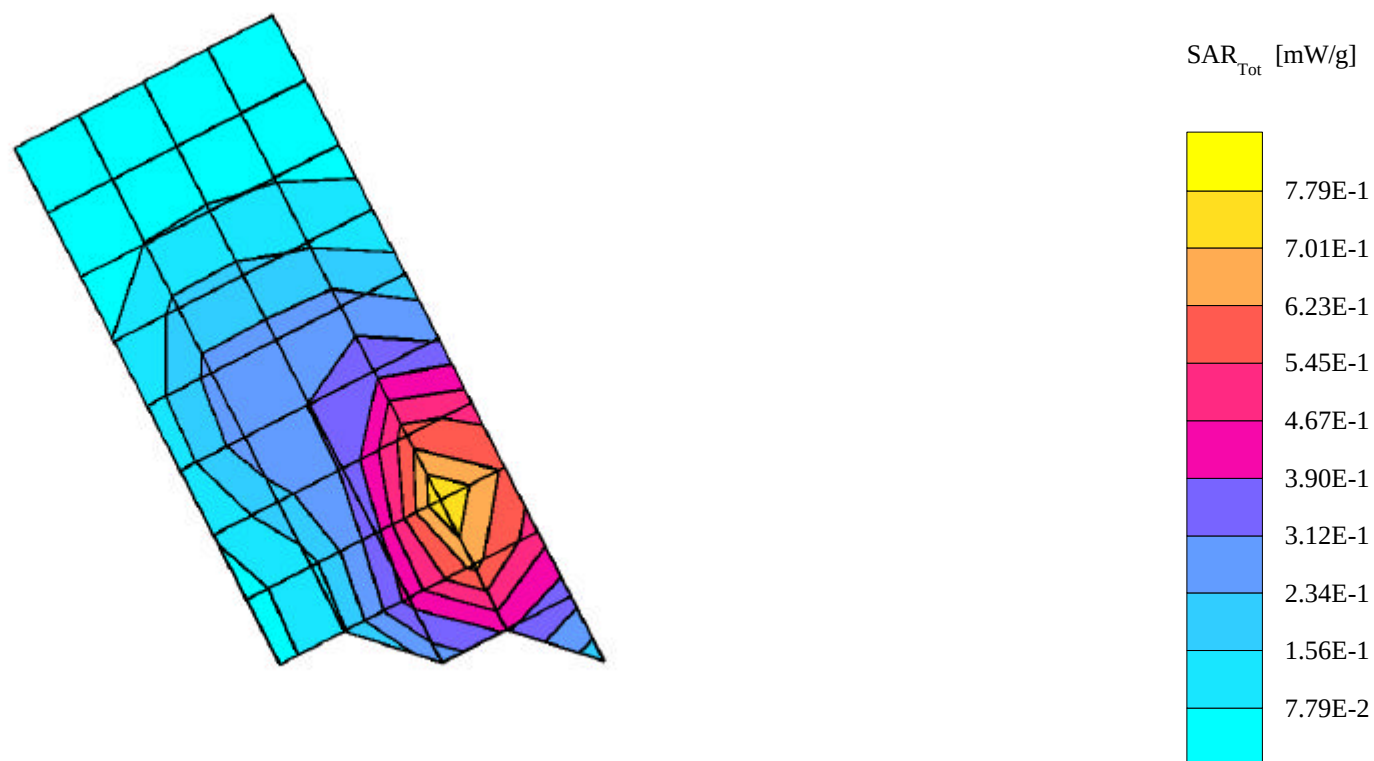
Probe: ET3DV6 - SN1508 - IEEE Head; ConvF(6.50, 6.50, 6.50); Crest factor: 1.0; 835 MHz Head & Body: $\sigma = 0.91$ mho/m $\epsilon_r = 41.3$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 0.779 mW/g, SAR (10g): 0.510 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 15.0

Penetration depth: 14.2 (12.4, 16.4) [mm]

Powerdrift: -0.13 dB



PHONE: CB40A0250A

Ch# 384 / Pwr Step: 02 / Antenna Position: EXTENDED / Type of Modulation:800 ANALOG / Battery Model #: TPSW 6MM / SIM'T TEMP: When Measured After Test = 21 °C

R2: TP-1005 SUGAR (rev. 3) Phantom; R2 Marge Right Head Section; Position: (90°,180°); Frequency: 836 MHz

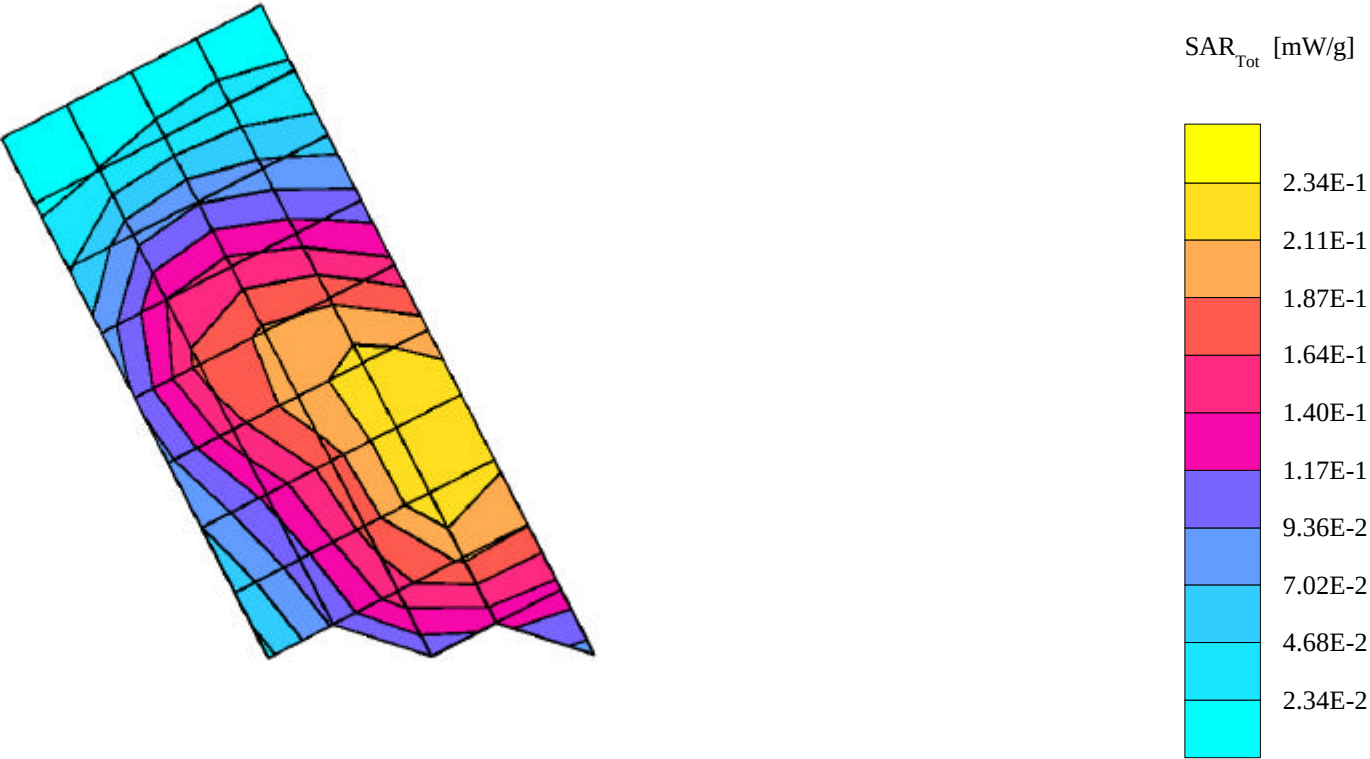
Probe: ET3DV6 - SN1508 - IEEE Head; ConvF(6.50,6.50,6.50); Crest factor: 1.0; 835 MHz Head & Body: $\sigma = 0.91$ mho/m $\epsilon_r = 41.3$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 0.275 mW/g, SAR (10g): 0.205 mW/g * Max outside, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 15.0

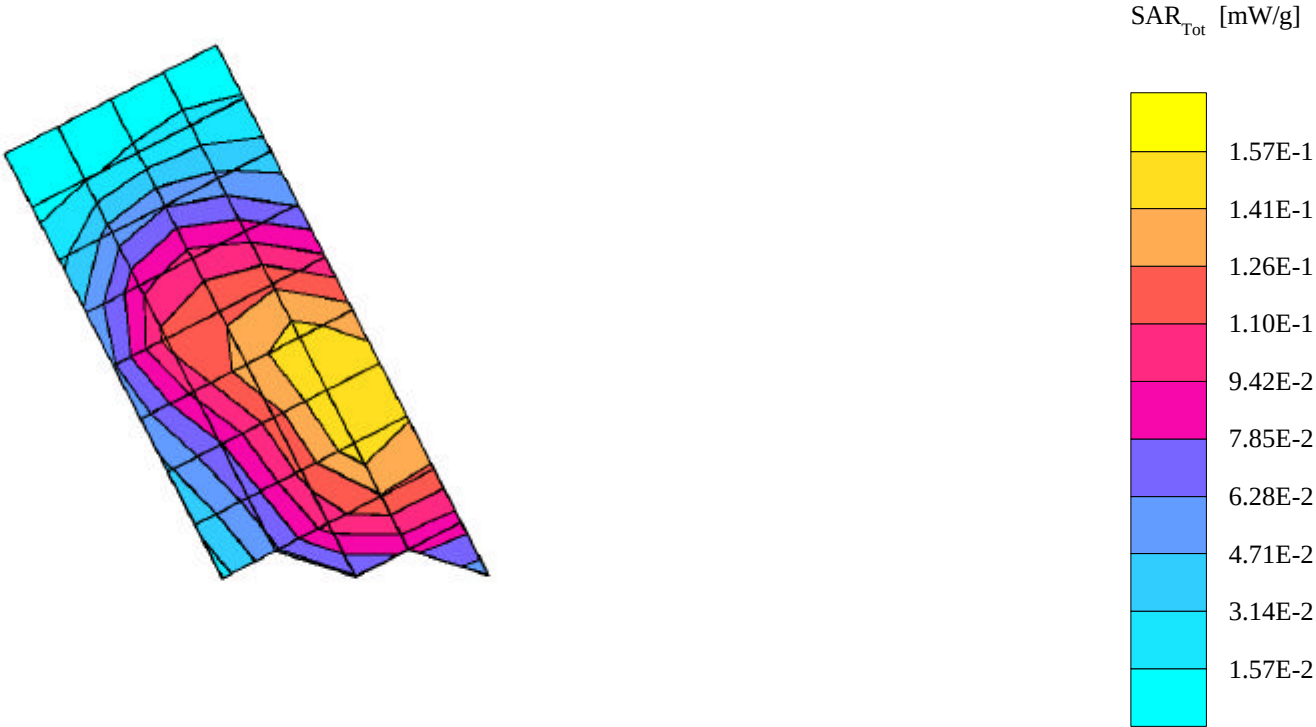
Penetration depth: 19.2 (16.9, 21.8) [mm]

Powerdrift: 0.58 dB



SN# CB40A0250A

Ch# 384 / Pwr Step: OTA / Antenna Position: EXTENDED / Battery Model #: TPSW 6MM / SIM'T TEMP: When Measured = 21.2°C After Test = 21 °C
R2: TP-1005 SUGAR (rev. 3) Phantom; R2 Marge Right Head Section; Position: (90°,180°); Frequency: 836 MHz
Probe: ET3DV6 - SN1508 - IEEE Head; ConvF(6.50,6.50,6.50); Crest factor: 1.0; 835 MHz Head & Body: $\sigma = 0.91$ mho/m $\epsilon_r = 41.3$ $\rho = 1.00$ g/cm³
Cube 7x7x7: SAR (1g): 0.157 mW/g, SAR (10g): 0.117 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 15.0
Penetration depth: 19.0 (17.2, 20.9) [mm]
Powerdrift: -0.06 dB



PHONE: CB40A0250A

Ch# 25 / Pwr Step: Always Up / Antenna Position: RETRACTED / Type of Modulation: 1900 CDMA / Battery Model #: TPSW 6MM / SIM'T TEMP: When Measured After Test = 19.90 °C

R2: TP-1085 GLYCOL (rev. 3) Phantom; R2 Bart Left Head Section; Position: (90°,180°); Frequency: 1880 MHz

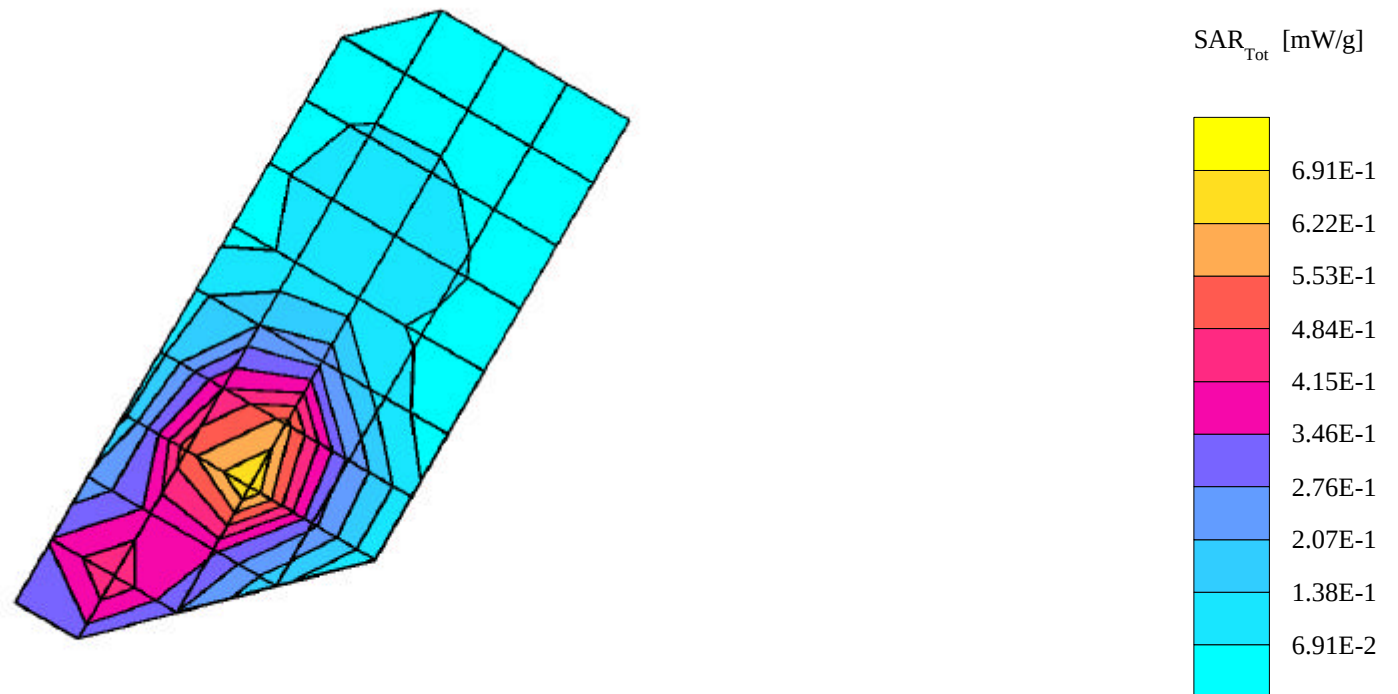
Probe: ET3DV6 - SN1508 - IEEE Head; ConvF(5.41,5.41,5.41); Crest factor: 1.0; 1880 MHz Head & Body: $\sigma = 1.42$ mho/m $\epsilon_r = 39.1$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 0.695 mW/g, SAR (10g): 0.375 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 15.0

Penetration depth: 8.3 (7.6, 9.9) [mm]

Powerdrift: -0.23 dB



04/11/02

PHONE: CB40A0250A

Ch# 600 / Pwr Step: Always Up / Antenna Position: RETRACTED / Type of Modulation: 1900 CDMA / Battery Model #: TPSW 6MM / SIM'T TEMP: When Measured After Test = 22 °C

R2: TP-1085 GLYCOL (rev. 3) Phantom; R2 Bart Left Head Section; Position: (90°, 180°); Frequency: 1880 MHz

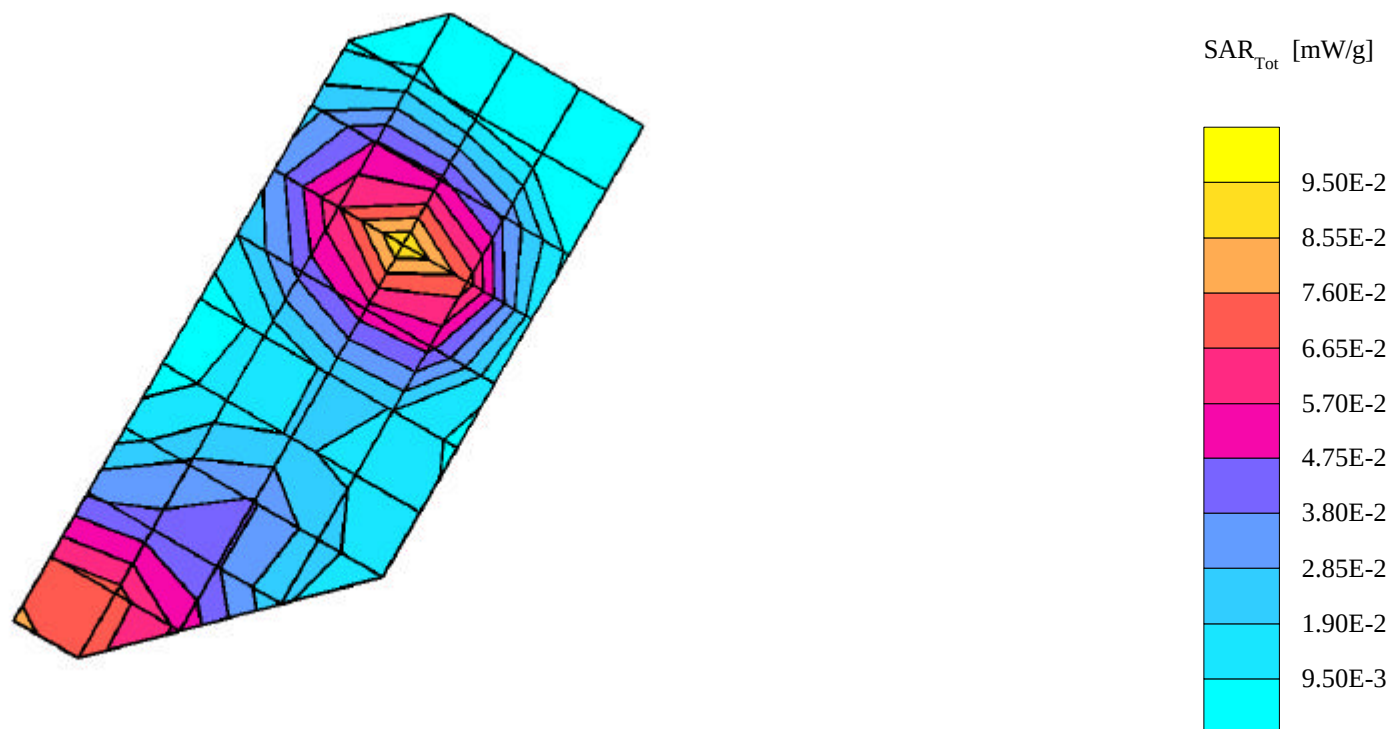
Probe: ET3DV6 - SN1508 - IEEE Head; ConvF(5.41, 5.41, 5.41); Crest factor: 1.0; 1880 MHz Head & Body: $\sigma = 1.43$ mho/m $\epsilon_r = 39.2$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 0.0985 mW/g, SAR (10g): 0.0572 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 15.0

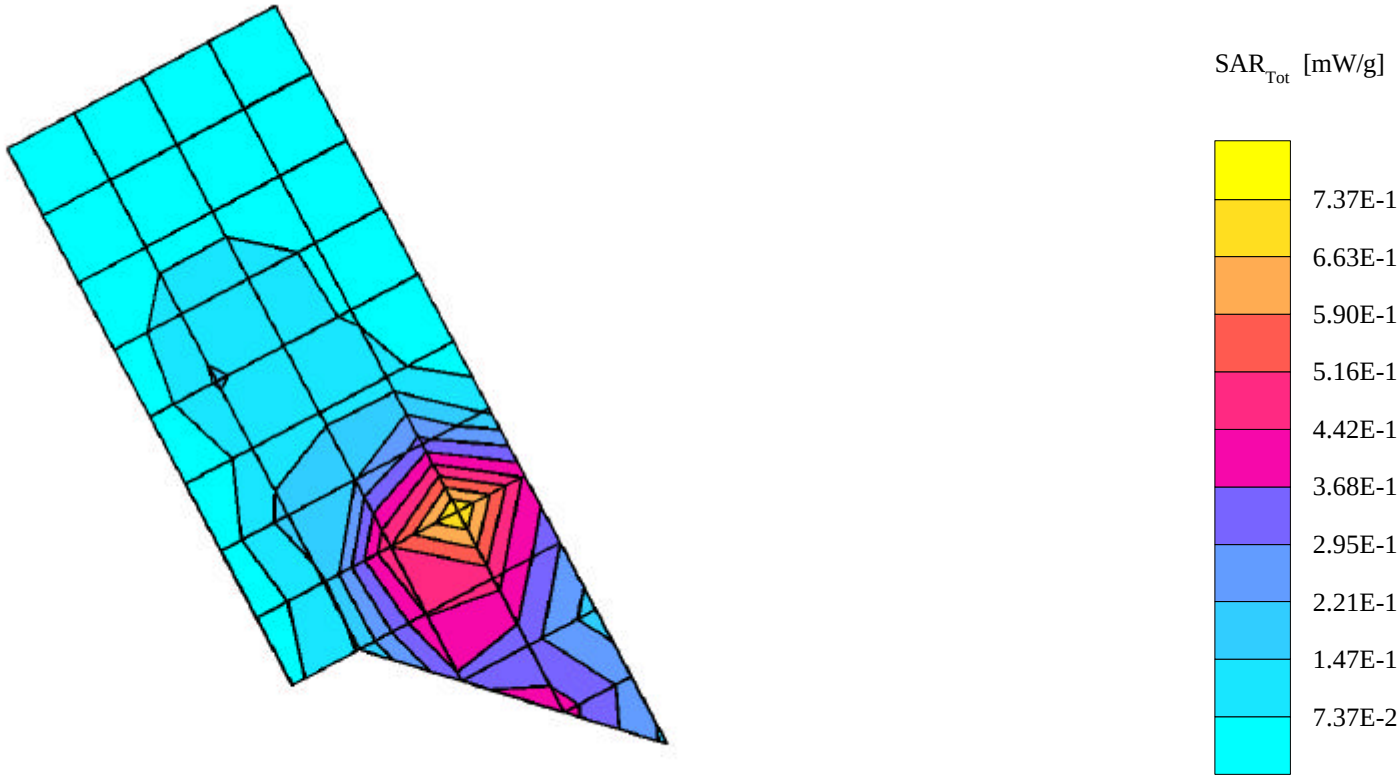
Penetration depth: 10.6 (9.9, 11.5) [mm]

Powerdrift: 0.22 dB



PHONE: CB40A0250A

Ch# 600 / Pwr Step: OTA / Antenna Position: Retracted / Type of Modulation:1900 CDMA / Battery Model #: TPSW 6MM / SIM'T TEMP: Measured After Test = 22°C
R2: TP-1085 GLYCOL (rev. 3) Phantom; R2 Lisa Right Head Section; Position: (90°,180°); Frequency: 1880 MHz
Probe: ET3DV6 - SN1508 - IEEE Head; ConvF(5.41,5.41,5.41); Crest factor: 1.0; 1880 MHz Head & Body: $\sigma = 1.43 \text{ mho/m}$ $\epsilon_r = 39.2$ $\rho = 1.00 \text{ g/cm}^3$
Cube 7x7x7: SAR (1g): 0.808 mW/g, SAR (10g): 0.431 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 15.0
Penetration depth: 9.9 (6.4, 17.5) [mm]
Powerdrift: 0.09 dB



04/05/02

PHONE: CB40A0250A

Ch# 600 / Pwr Step: Always Up / Antenna Position: Retracted / Type of Modulation: 1900 CDMA / Battery Model #: TPSW 6MM / SIM'T TEMP: When Measured After Test = 19.9 °C

R2: TP-1085 GLYCOL (rev. 3) Phantom; R2 Lisa Right Head Section; Position: (90°, 180°); Frequency: 1880 MHz

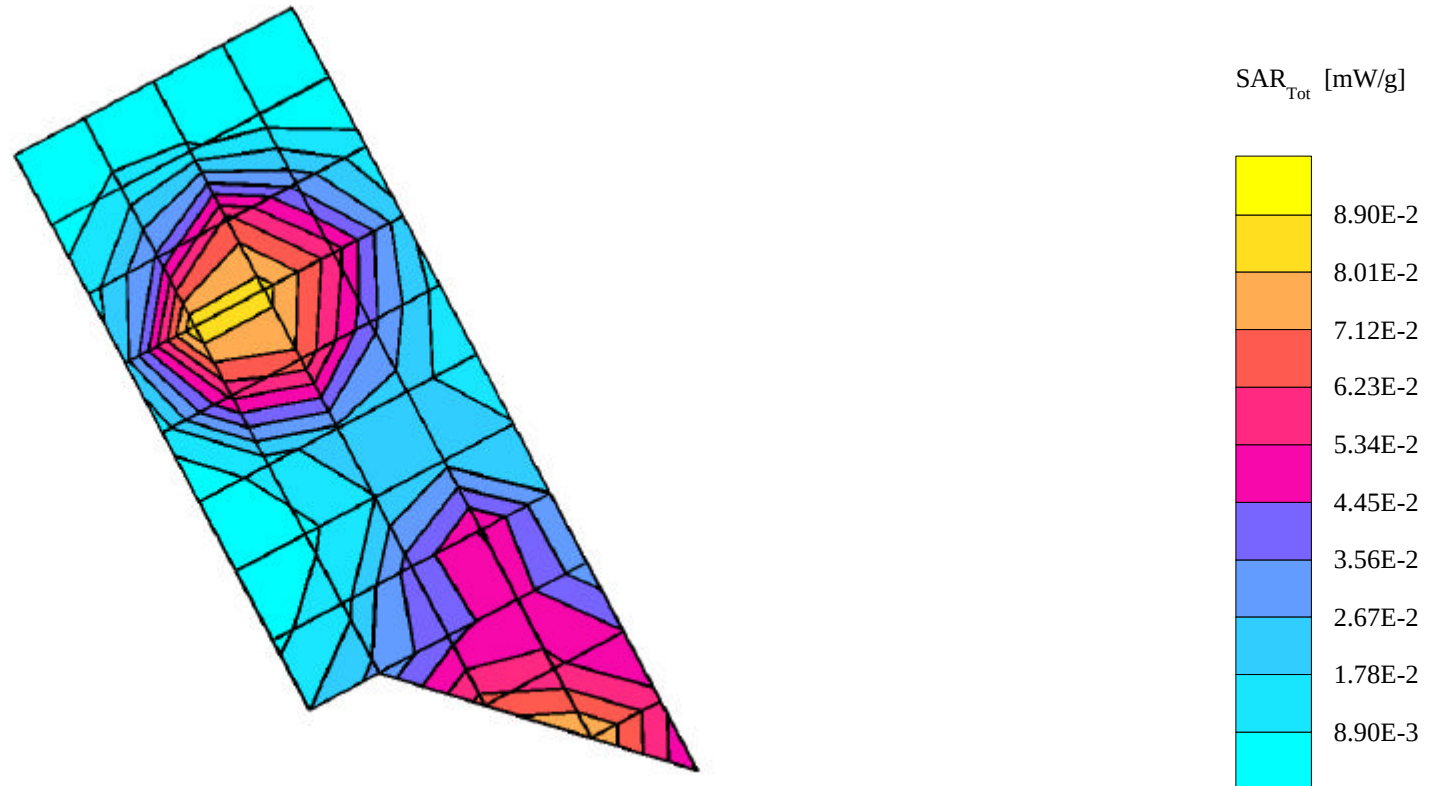
Probe: ET3DV6 - SN1508 - IEEE Head; ConvF(5.41, 5.41, 5.41); Crest factor: 1.0; 1880 MHz Head & Body: $\sigma = 1.42$ mho/m $\epsilon_r = 39.1$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 0.0987 mW/g, SAR (10g): 0.0550 mW/g * Max outside, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 15.0

Penetration depth: 10.1 (9.5, 10.8) [mm]

Powerdrift: -0.45 dB



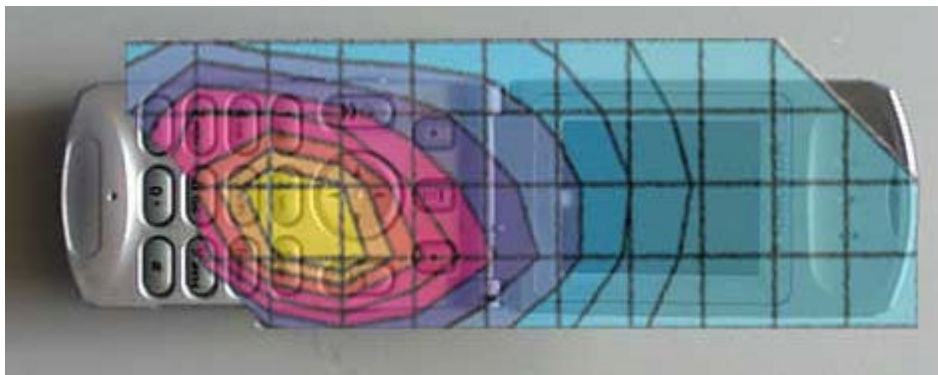


Figure 3. Typical 800MHz Left Head Adjacent Contour Overlaid on Phone with Antenna Fixed (Cheek Touch)

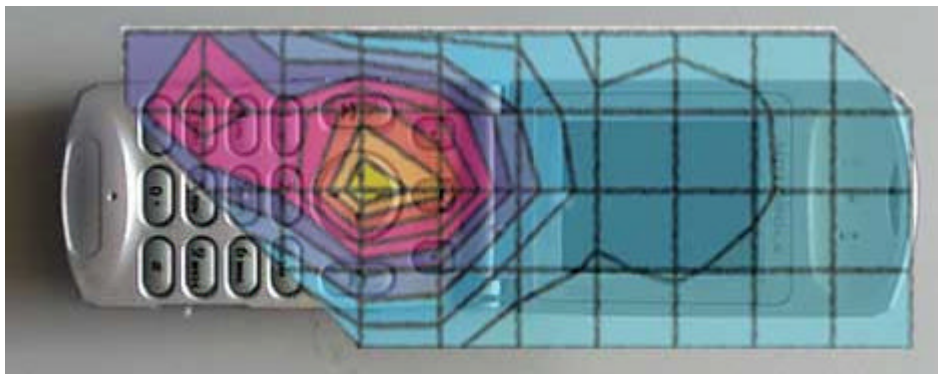


Figure 4. Typical 1900MHz Left Head Adjacent Contour Overlaid on Phone with Antenna Fixed (Cheek Touch)

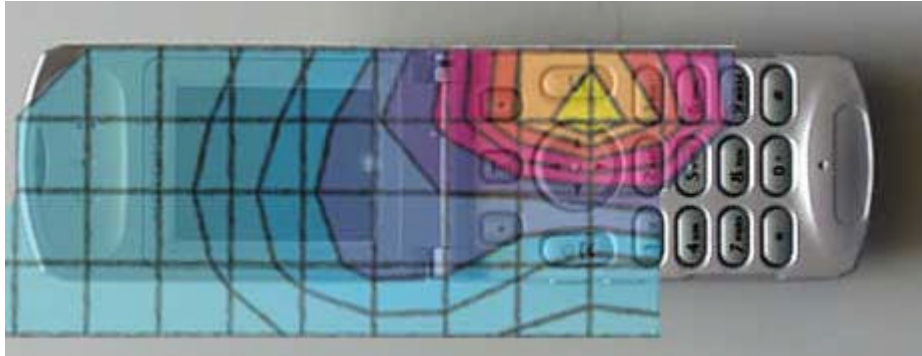


Figure 5. Typical 1900MHz Right Head Adjacent Contour Overlaid on Phone with Antenna Fixed (Cheek Touch)

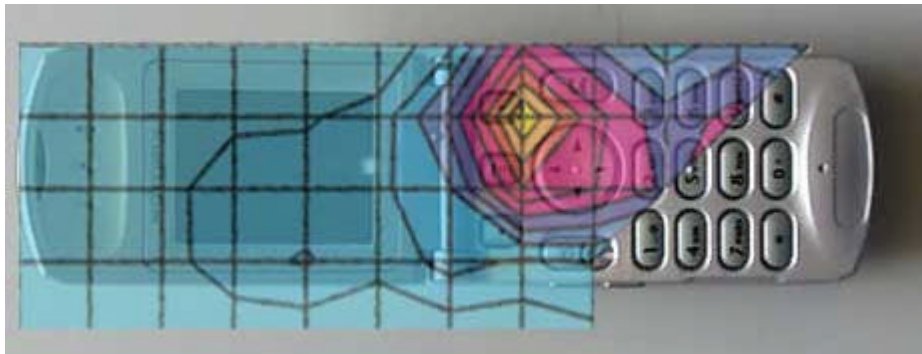


Figure 6. Typical 1900MHz Right Head Adjacent Contour Overlaid on Phone with Antenna Fixed (Cheek Touch)

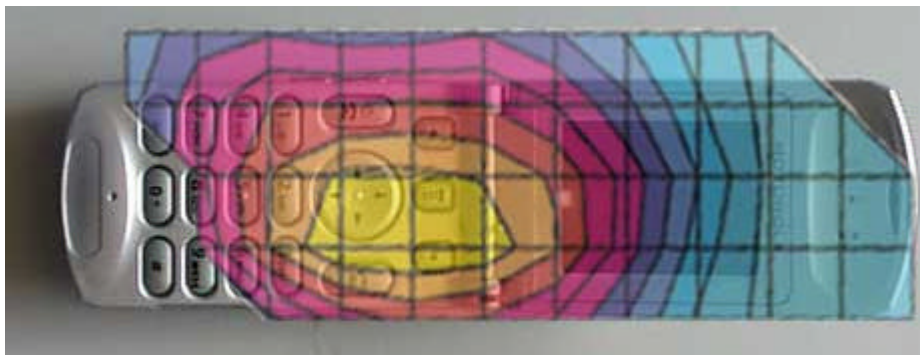


Figure 7. Typical 800MHz Left Head Adjacent Contour Overlaid on Phone with Antenna Fixed (15 ° Tilt)

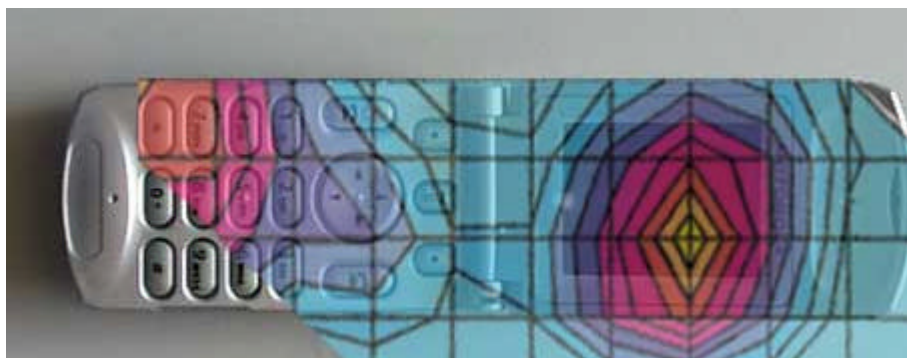


Figure 8. Typical 1900MHz Left Head Adjacent Contour Overlaid on Phone with Antenna Fixed (15 ° Tilt)



Figure 9. Typical 800MHz Right Head Adjacent Contour Overlaid on Phone with Antenna Fixed (15 ° Tilt)

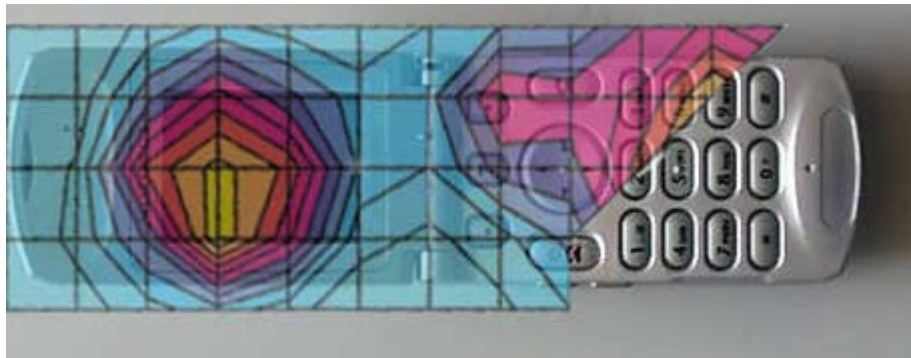


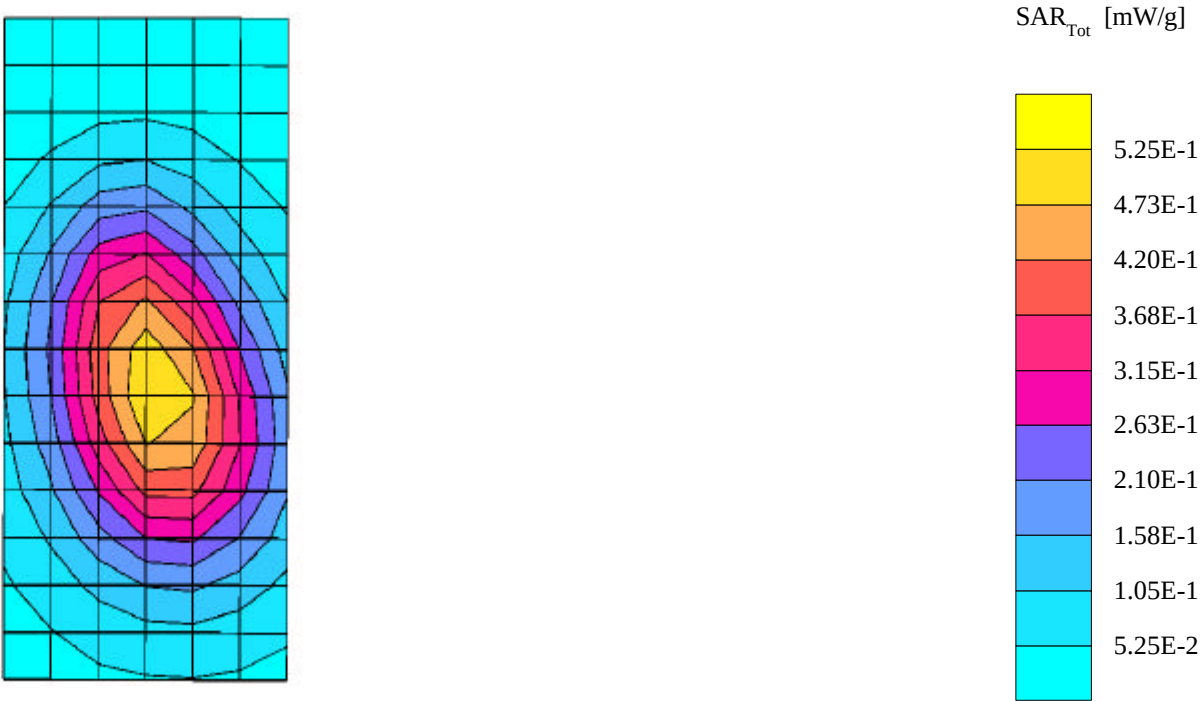
Figure 10. Typical 1900MHz Right Head Adjacent Contour Overlaid on Phone with Antenna Fixed (15 ° Tilt)

Appendix 3

SAR distribution plots for Body Worn Configuration

PHONE: CB40A0250A

Ch# 799/ Pwr Step: 2 / Antenna Position: RETRACTED / Type of Modulation:800 Analog / Battery Model #: TPSW 6MM / Config: BACK of phone 1inch from Phantom / Temperature Measured after test temp: 22c
R2: Amy Twin Phantom 2.3 Phantom; Section 1 Section; Position: (0°,0°); Frequency: 848 MHz
Probe: ET3DV6 - SN1508 - FCC Body; ConvF(6.20,6.20,6.20); Crest factor: 1.0; 835 MHz Head & Body: $\sigma = 0.97$ mho/m $\epsilon_r = 53.7$ $\rho = 1.00$ g/cm³
Cube 7x7x7: SAR (1g): 0.522 mW/g, SAR (10g): 0.372 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Penetration depth: 15.9 (14.6, 17.3) [mm]
Powerdrift: -0.23 dB



PHONE: CB40A0250A

Ch# 777 / Pwr Step: Always Up / Antenna Position: Extended / Type of Modulation: 800 CDMA / Battery Model #:TPSW 6MM / SIM'T TEMP: When Measured After Test = 20.8 °C / Config # = Back of Phone 1inch from Phantom

R2: Amy Twin Phantom 2.3 Phantom; Section 1 Section; Position: (0°,0°); Frequency: 848 MHz

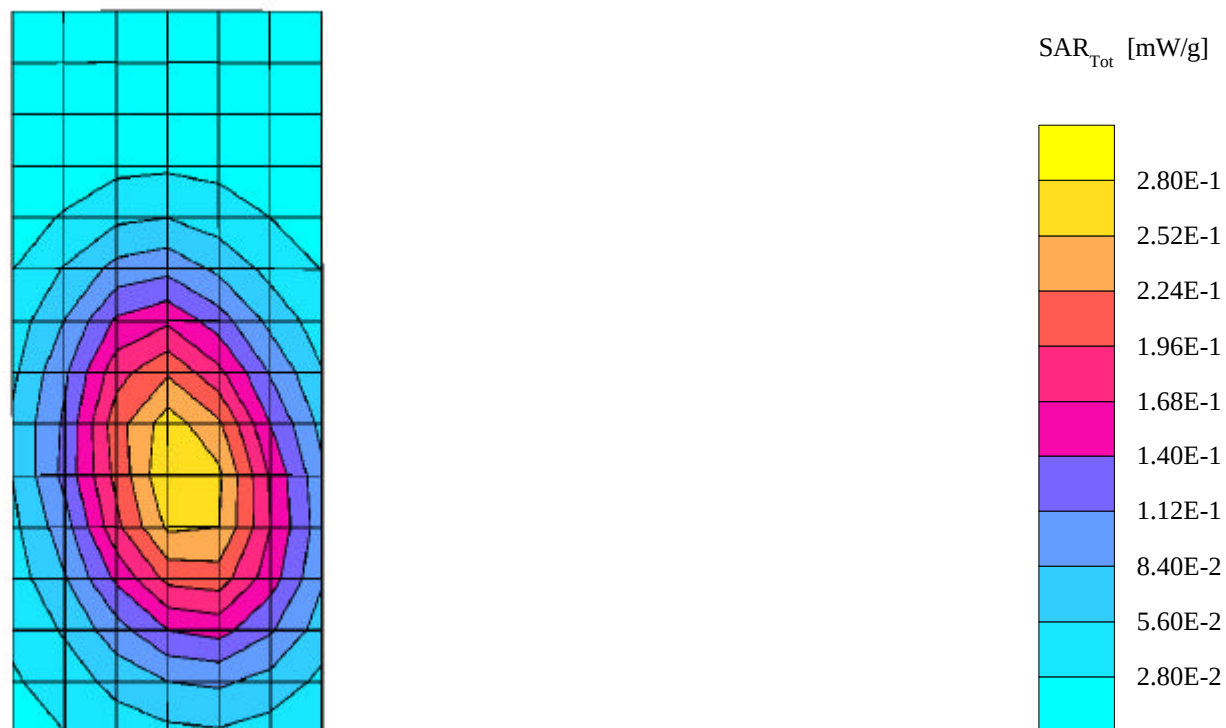
Probe: ET3DV6 - SN1508 - FCC Body; ConvF(6.20,6.20,6.20); Crest factor: 1.0; 835 MHz Head & Body: $\sigma = 0.97$ mho/m $\epsilon_r = 53.7$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 0.279 mW/g, SAR (10g): 0.197 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0

Penetration depth: 16.6 (16.0, 17.9) [mm]

Powerdrift: -0.15 dB



04/09/02

PHONE: CB40A0250A

Ch#1175 / Pwr Step: OTA / Antenna Position: RETRACTED / Type of Modulation: 1900 CDMA / Battery Model #: TPSW 6MM / SIM'T TEMP: After Test = 21.5 °C /

Config= Back of the Phone 1" away from the flat phantom

R2: Amy Twin Phantom 2.3 Phantom; Section2 Section; Position: (0°,0°); Frequency: 1909 MHz

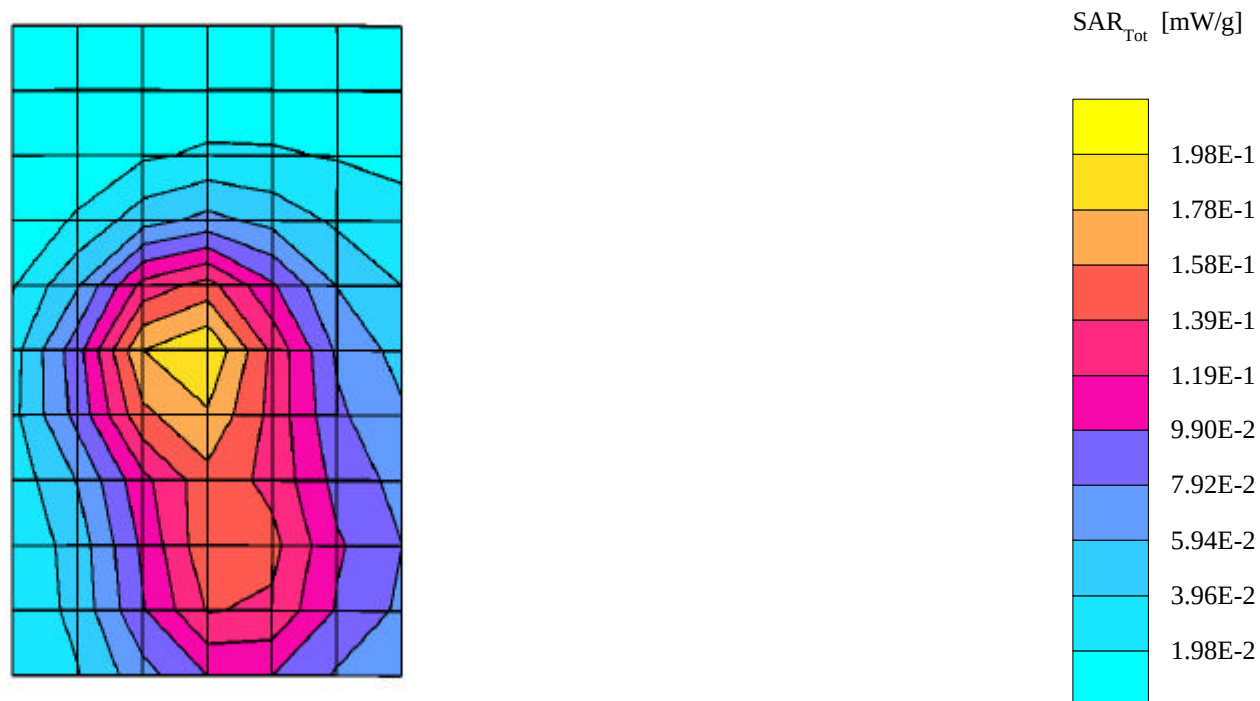
Probe: ET3DV6 - SN1508 - FCC Body; ConvF(5.00,5.00,5.00); Crest factor: 1.0; 1880 MHz Head & Body: $\sigma = 1.56$ mho/m $\epsilon_r = 51.9$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 0.190 mW/g, SAR (10g): 0.116 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0

Penetration depth: 9.8 (8.9, 11.2) [mm]

Powerdrift: -1.00 dB



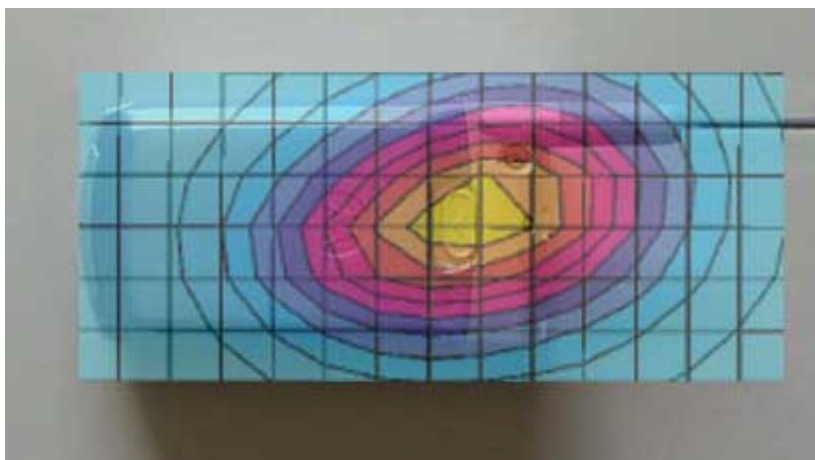


Figure 11. Typical 800 MHz Body-Worn Contour Overlaid on Phone with Antenna Extended

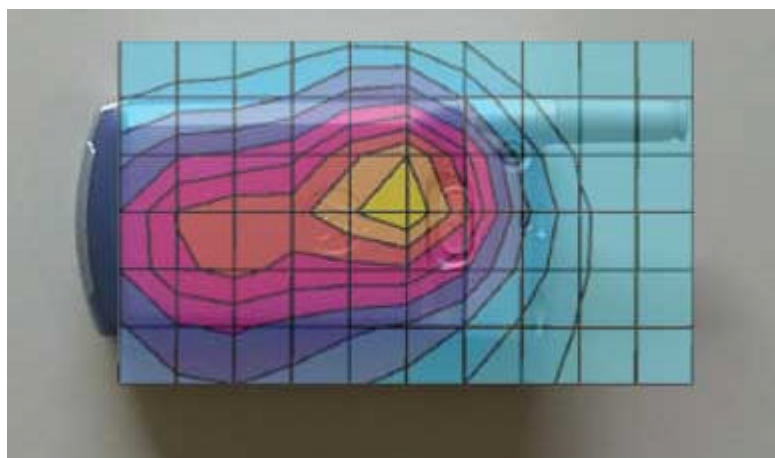


Figure 12. Typical 1900 MHz Body-Worn Contour Overlaid on Phone with Antenna Retracted

Appendix 4

Probe Calibration Certificate - Please See Attachement

Appendix 5

Photographs of the device under test



Figure 13. Front of Phone



Figure 14. Back of Phone



Figure 15. Side view of the phone with (Antenna Extended)



Figure 16. Side view of the phone with (Antenna Retracted)



Figure 17. Front of the phone with Flip open

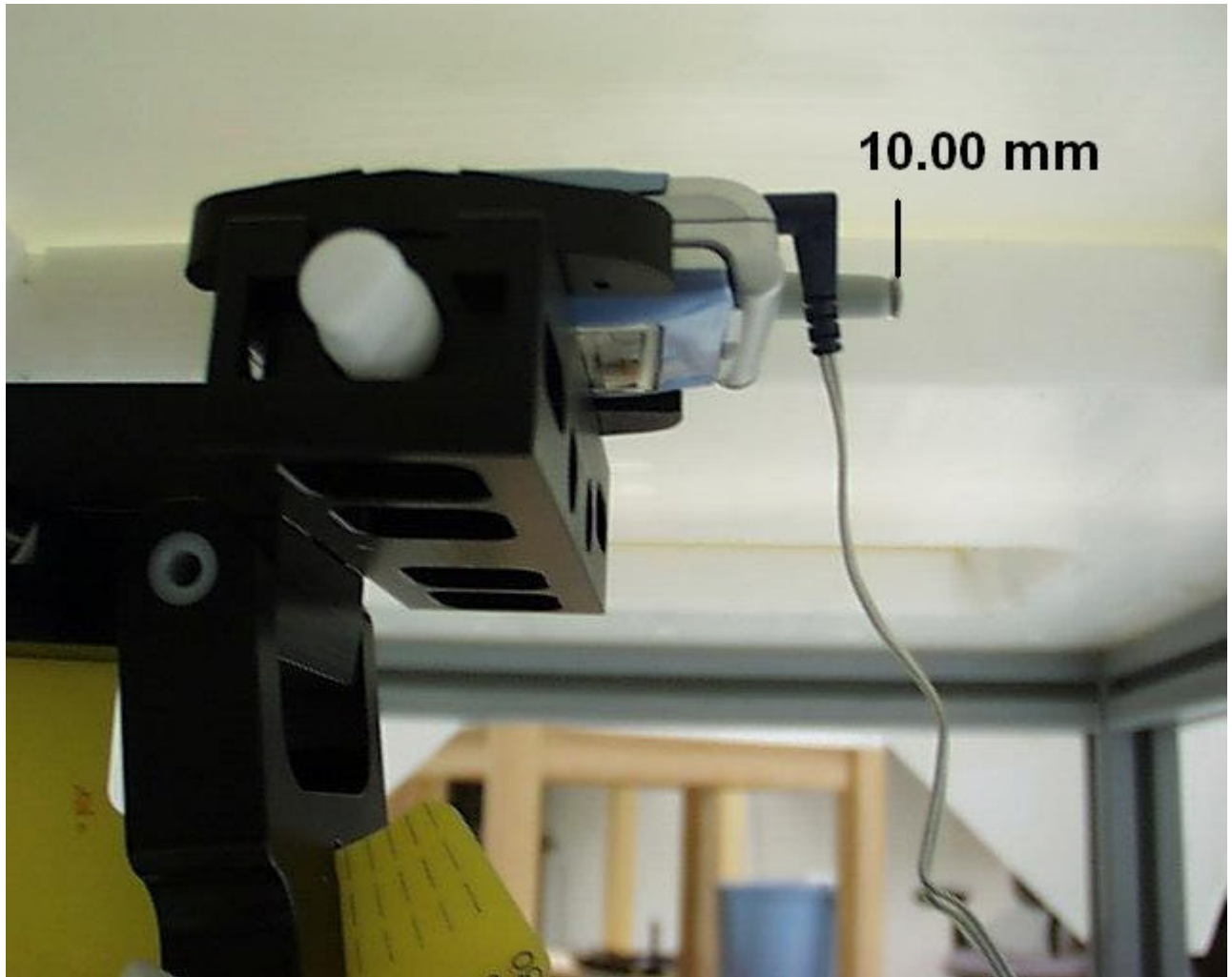


Figure 18. Phone in the positioner distanced 1 inch away from the flat phantom (Antenna Retracted)

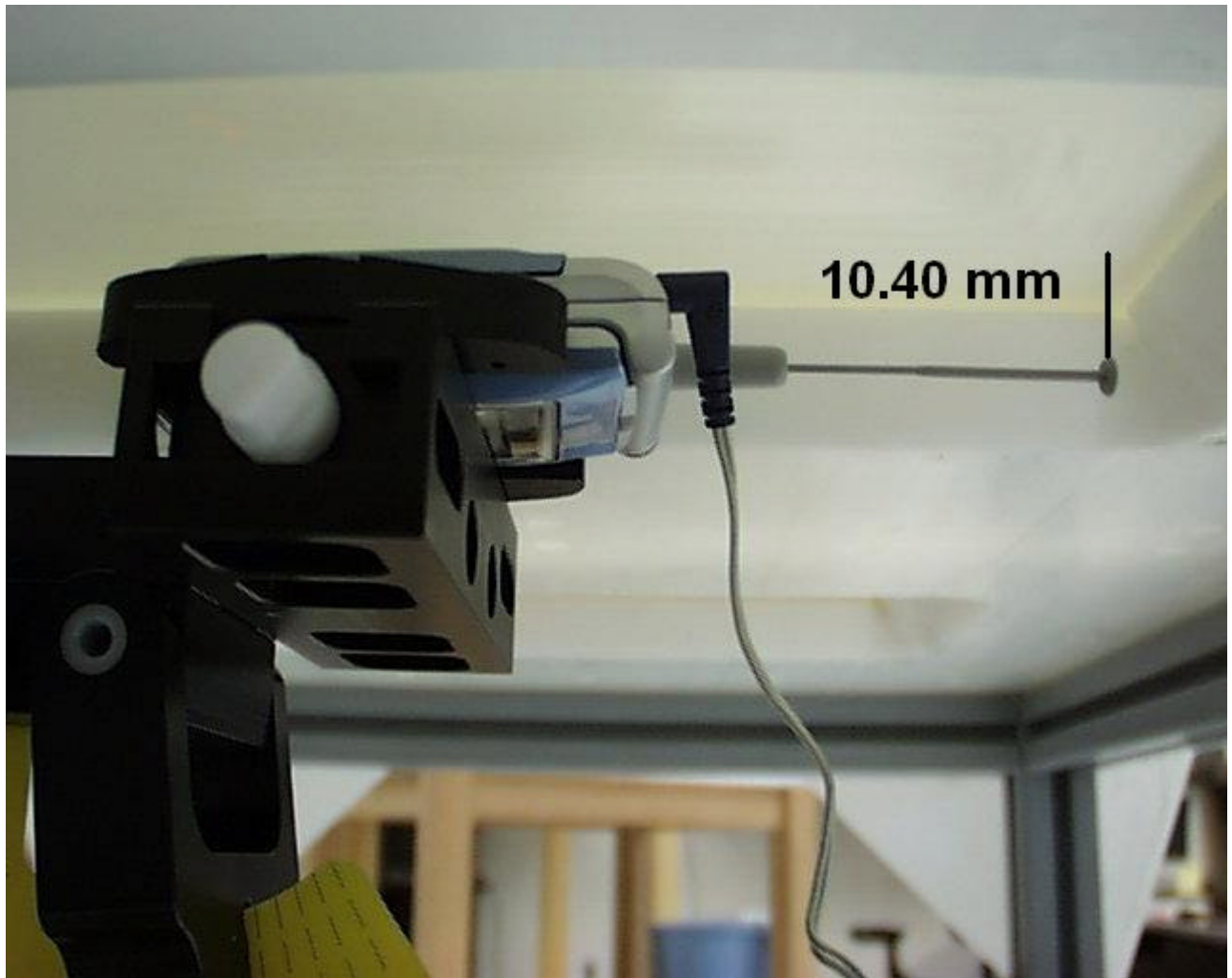


Figure 19. Phone in the positioner distanced 1 inch away from the flat phantom (Antenna Retracted)

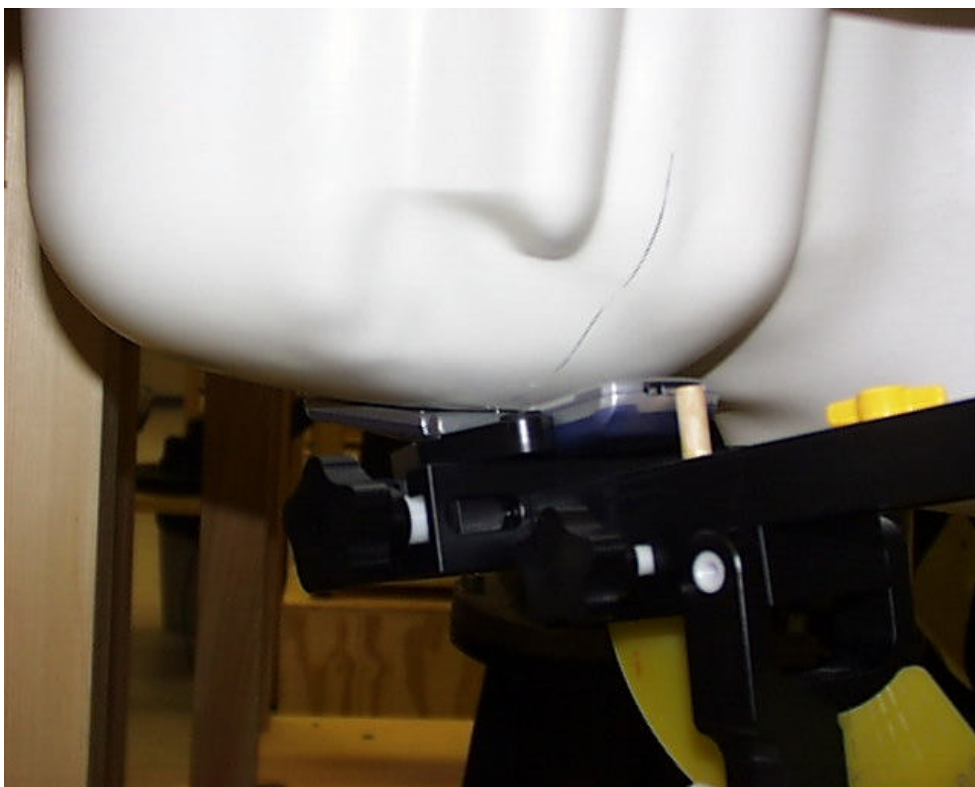


Figure 20. Front View of Phone Placed Against Head with Antenna Retracted (Cheek Touch)



Figure 21. Back View of Phone Placed Against Head with Antenna Retracted (Cheek Touch)



Figure 22. Back View of Phone Placed Against Head with Antenna Extended (Cheek Touch)

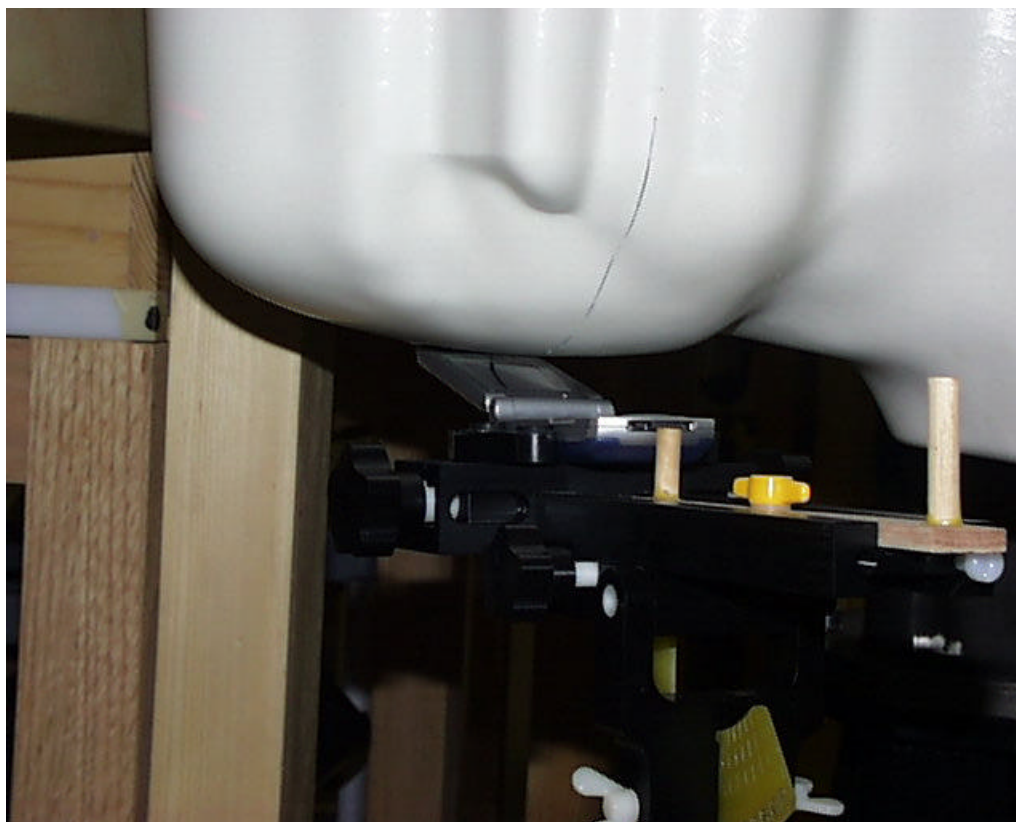


Figure 23. Front View of Phone Placed Against Head with Antenna Fixed (15 ° Tilt)



Figure 24. Back View of Phone Placed Against Head with Antenna Extended (15 ° Tilt)



Figure 25. Back View of Phone Placed Against Head with Antenna Retracted (15 ° Tilt)