Exhibit 11: SAR Test Report IHDT56AD1 Class II Permissive Change

Date of test:	November 12 - 18, 2002
Date of Report:	December 12, 2002
Laboratory:	Motorola Personal Communications Sector Product Safety & Compliance Laboratory 2001 N. Division Room: AS228 Harvard, Illinois 60033
Test Responsible:	Steven Hauswirth Principal Staff Engineer
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 IHDT56AD1 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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References:

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 IHDT56AD1)) using the newly developed body-worn accessories for this product.. 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	Helix	
Location	Upper Right Corner	
Dimensions	Length	106mm
	Width	4mm
Configuration	Extendable	

Device description

FCC ID Number	IHDT56AD1		
Serial number	52CAF879		
Mode(s) of Operation	AMPS800	CDMA800	CDMA1900
Modulation Mode(s)	AMPS	CDMA	CDMA
Maximum Output Power Setting	27.30dBm	24.70dBm	24.70dBm
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 ±11.7% (K=1) with an expanded uncertainty of ±23.0% (K=2). The measurement uncertainty budget is given in Appendix 6. Per IEEE 1528, this uncertainty budget is applicable to the SAR range of 0.4 W/kg to 10 W/kg. The list of calibrated equipment used for the measurements is shown below.

Description	Serial Number	Cal Due Date
DASY3 DAE V1	SN383	2-Sept-03
E-Field Probe ETDV6	SN1398	6-Sept-03
Dipole Validation Kit, DV900V2	SN420TR	24-Sep-04
Dipole Validation Kit, DV1800V2	SN250TR	24-Aug-03

3.2 Additional Equipment

Description	Serial Number	Cal Due Date
Signal Generator HP8648C	9232643	11-Oct-04
Power Meter E4419B	7103028	18-Jan-03
Power Sensor #1 – E9301A	N021095-1	23-Feb-03
Power Sensor #2 - E9301A	D060499-8	14-Feb-03
Network Analyzer HP8753ES	US39220999	2-May-03
Dielectric Probe Kit HP85070B	594146-01	N/A

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 the HP85070 Dielectric Probe Kit These values, along with the temperature of the tissue simulate 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,** 14-Nov-02	41.4	0.90	24
		Recommended Limits	41.5	0.90	20-25
	Body	**Measured,** 15-Nov-02	53.3	0.95	23.1
		Recommended Limits	55.2	0.97	20-25
1880	**Head**	**Measured,** 12-Nov-02	38.8	1.46	24
		Recommended Limits	40.0	1.40	20-25
	Body	**Measured,** 18-Nov-02	51.3	1.57	23.0
		Recommended Limits	53.3	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	--	--

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 ±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 0.0038 W/kg, which is below the recommended limit.

f (MHz)	Description	SAR (W/kg), 1gram	Dielectric Parameters ε_r	Dielectric Parameters σ (S/m)	Ambient Temp (°C)	Tissue Temp (°C)
835	**Measured,** 14-Nov-02	10.08	40.5	0.88	24	20.7
	Recommended Limits	9.68	41.3	0.88	20-25	20-25
	Measured, 15-Nov-02	10.43	42.8	0.91	23	21.6
	Recommended Limits	9.68	41.3	0.88	20-25	20-25
1800	**Measured,** 12-Nov-02	39.48	39.1	1.37	24	21.5
	Recommended Limits	38.80	39.6	1.37	20-25	20-25
	Measured, 13-Nov-02	40.04	38.4	1.36	24	20.6
	Recommended Limits	38.80	39.6	1.37	20-25	20-25
	Measured, 18-Nov-02	40.08	40.7	1.39	23	22.3
	Recommended Limits	38.80	39.6	1.37	20-25	20-25

The following probe conversion factors were used on the E-Field probe(s) used for the system accuracy verification measurements:

Description	Serial Number	f (MHz)	Conversion Factor	Cal Cert pg #
E-Field Probe ETDV6	SN1398	835	6.20	2 of 10
		1800	5.20	2 of 10

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 tested in the configurations stipulated in OET Bulletin 65 Supplement C 01-01. Motorola also followed the requirements in Supplement. C / Appendix D: SAR Measurement Procedures, section titled "*Devices Operating Next To A Person's Ear* ". These directions state "The device should be tested on the left and right side of the head phantom in the "Cheek/Touch" and "Ear/Tilt" positions. When applicable, each configuration should be tested with the antenna in its fully extended and fully retracted positions. These test configurations should be tested at the high, middle and low frequency channels of each operating mode; for example, AMPS, CDMA, and TDMA. If the SAR measured at the middle channel for each test configuration (left, right, Cheek/Touch, Tile/Ear, extended and retracted) is at least 2.0 dB lower than the SAR limit, testing at the high and low channels is optional for such test configuration(s)."

The DASY v3.1d SAR measurement system specified in section 3.1 was utilized within the intended operations as set by the SPEAG™ setup. The phone was positioned into the measurement 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 (± 30%) at 850MHz. The default settings for the "coarse" and "cube" scans were chosen and use for measurements. The grid spacing of the course scan was set to 15cm as shown in the SAR plots included in appendix 2 and 3. Please refer to the DASY manual for additional information on SAR scanning procedures and algorithms used.

The Cellular Phone (FCC ID IHDT56AD1) has the following battery options:

SNN5704A - 500 mAH Battery
SNN5505A - 800 mAH Battery

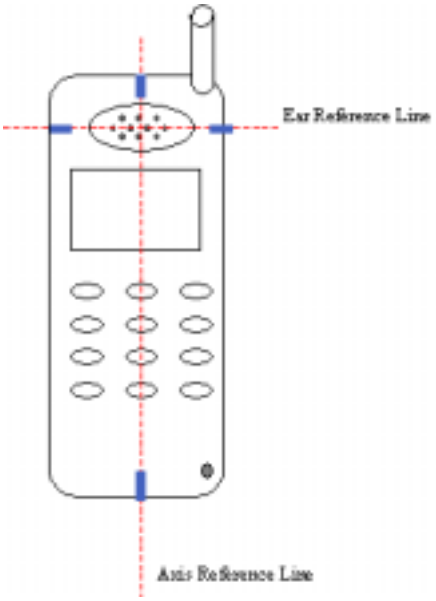
The battery with the highest capacity is the SNN5505A. This battery was used to do all of the SAR testing. The phone was placed in the SAR measurement system with a fully charged battery.

6.1 Head Adjacent Test Results

To aid in positioning repeatability, the ear reference line of the device and the axis reference line of the device have been physically added using a non-metallic marker.

- Per Figure 1, the "Ear Reference Line" is centered vertically through the center of the listening area (as defined by the speaker holes in the housing).
- The "Axis Reference Line" bisects the front surface of the device at its top and bottom edges.
- The intersection of these two lines defines the location of the "Ear Reference Point".

The lines drawn on the device extended to the outside edges, as shown in blue in the figure below, & wrap around the sides of the device.



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, the temperature of the tissue simulate after the test, the measured drift and the extrapolated SAR. The exact method of extrapolation is New SAR = Old SAR * 10^(drift/10). The SAR reported at the end of the measurement process by the DASY™ measurement system can be scaled up by the measured drift to determine the SAR at the beginning of the measurement process. This is the most conservative SAR because it corresponds to the average output power at the beginning of the SAR test. This extrapolation has been done because when the DUT is operating properly it may exhibit a slump in radiated power and SAR over time. This is verified by measuring the SAR drift after the test. The test conditions indicated as bold numbers in the following table are included in Appendix 2

The SAR measurements were performed using the SAM phantoms listed in section 3.1. Since same phantoms and tissue simulate are used for the system accuracy verification as the device SAR measurements, the Z-axis scans included in within Appendix 1 are applicable for verification of tissue simulate depth to be 15.0cm ±0.5cm. All other test conditions measured lower SAR values than those included in Appendix 2. Note that 800MHz digital mode SAR measurements were performed in accordance with Supplement C.

The following probe conversion factors were used on the E-Field probe(s) used for the head adjacent measurements:

Description	Serial Number	f (MHz)	Conversion Factor	Cal Cert pg #
E-Field Probe ETDV6	SN1398	835	6.2	7 of 10
		1900	5.2	7 of 10
	SN1515	835	6.5	7 of 8

f (MHz)	Description	Conducted Output Power (dBm)	Left Head (Cheek / Touch Position)									
			Ant Extended					Ant Retracted				
			Measured (W/kg)	Drift (dB)	Extrapolated (W/kg)	Amb. Temp (°C)	Simulate Temp (°C)	Measured (W/kg)	Drift (dB)	Extrapolated (W/kg)	Amb. Temp (°C)	Simulate Temp (°C)
Analog 800MHz	Channel 991	27.24										
	Channel 384	27.33	**0.45**	**-0.14**	**0.46**	**24**	**21.7**	0.227	-0.04	0.23	24	21.7
	Channel 799	27.33										
Digital 1900MHz	Channel 25	24.70										
	Channel 600	24.70	0.13	0.17	0.13	24	21.7	**0.596**	**0.45**	**0.60**	**24**	**21.7**
	Channel 1175	24.70										

Table 1: SAR measurement results for the portable cellular telephone FCC ID IHDT56AD1 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)	Extrapolated (W/kg)	Amb. Temp (°C)	Simulate Temp (°C)	Measured (W/kg)	Drift (dB)	Extrapolated (W/kg)	Amb. Temp (°C)	Simulate Temp (°C)
Analog 800MHz	Channel 991	27.24										
	Channel 384	27.33	0.324	0.04	0.32	24	21.5	0.322	-0.29	0.34	24	21.7
	Channel 799	27.33										
Digital 1900MHz	Channel 25	24.70										
	Channel 600	24.70	0.143	0.29	0.14	24	21.7	0.524	-0.57	0.60	24	21.7
	Channel 1175	24.70										

Table 2: SAR measurement results for the portable cellular telephone FCC ID IHDT56AD1 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)	Extrapolated (W/kg)	Amb. Temp (°C)	Simulate Temp (°C)	Measured (W/kg)	Drift (dB)	Extrapolated (W/kg)	Amb. Temp (°C)	Simulate Temp (°C)
Analog 800MHz	Channel 991	27.24										
	Channel 384	27.33	**0.333**	**-0.24**	**0.35**	**24**	**21.8**	0.0929	-0.23	0.10	24	21.7
	Channel 799	27.33										
Digital 1900MHz	Channel 25	24.70										
	Channel 600	24.70	0.0692	-0.13	0.07	24	21.7	**0.166**	**-0.14**	**0.17**	**24**	**21.7**
	Channel 1175	24.70										

Table 3: SAR measurement results for the portable cellular telephone FCC ID IHDT56AD1 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)	Extrapolated (W/kg)	Amb. Temp (°C)	Simulate Temp (°C)	Measured (W/kg)	Drift (dB)	Extrapolated (W/kg)	Amb. Temp (°C)	Simulate Temp (°C)
Analog 800MHz	Channel 991	27.24										
	Channel 384	27.33	0.288	0.23	0.29	24	21.5	0.0641	0.4	0.06	24	21.5
	Channel 799	27.33										
Digital 1900MHz	Channel 25	24.70										
	Channel 600	24.70	0.0221	-0.17	0.02	24	22.0	0.027	-0.18	0.03	24	22.0
	Channel 1175	24.70										

Table 4: SAR measurement results for the portable cellular telephone FCC ID IHDT56AD1 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, the temperature of the tissue simulate after the test, the measured drift and the extrapolated SAR. The exact method of extrapolation is New SAR = Old SAR * 10^(drift/10). The SAR reported at the end of the measurement process by the DASY™ measurement system can be scaled up by the measured drift to determine the SAR at the beginning of the measurement process. This is the most conservative SAR because it corresponds to the average output power at the beginning of the SAR test. This extrapolation has been done because when the DUT is operating properly it may exhibit a slump in radiated power and SAR over time. This is verified by measuring the SAR drift after the test. The test conditions indicated as bold numbers in the following table are included in Appendix 3. Note that 800MHz digital mode SAR measurements were performed in accordance with OET Bulletin 65 Supplement C 01-01. All other test conditions measured lower SAR values than those included in Appendix 3.

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 ±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 is one new Body-Worn Accessory available for this phone:
A Plastic Holster and Belt Clip: Model #SYN8454D

Since it is a rotating Holster/Belt Clip, the antenna is at the closest proximity to the flat phantom when the belt clip along with the phone is rotated +90° (clockwise direction). See figures 4 and 5 for reference (Appendix 5).

The following probe conversion factors were used on the E-Field probe(s) used for the body worn measurements:

Description	Serial Number	f (MHz)	Conversion Factor	Cal Cert pg #
E-Field Probe ETDV6	SN1398	835	5.90	8 of 10
		1900	4.90	8 of 10

As shown in the table below, the measured SAR value for the Analog 800MHz mode has increased with respect to the previously reported SAR value. Where the measured SAR value for the Digital 1900MHz has actually decreased. This class II permissive change is requesting approval for the change in the Analog 800MHz and to leave the previously reported characteristics for the Digital 1900MHz in place.

f (MHz)	Description	Conducted Output Power (dBm)	Body Worn									
			Ant Extended					Ant Retracted				
			Measured (W/kg)	Drift (dB)	Extrapolated (W/kg)	Amb. Temp (°C)	Simulate Temp (°C)	Measured (W/kg)	Drift (dB)	Extrapolated (W/kg)	Amb. Temp (°C)	Simulate Temp (°C)
Analog 800MHz	Channel 991	27.24	1.26	-0.02	1.27	23.1	21.1	0.756	0	0.76	23.1	21.2
	Channel 384	27.33	**1.45**	**-0.01**	**1.45**	**23.1**	**21.4**	**1.18**	**-0.33**	**1.27**	**23.1**	**21.5**
	Channel 799	27.33	1.06	-0.09	1.08	23.1	21.1	0.978	-0.09	1.00	23.1	21.0
Digital 1900MHz	Channel 25	24.70	0.392	-0.19	0.41	23.0	22.1	0.226	-0.01	0.23	23.0	22.5
	Channel 600	24.70	0.246	-0.17	0.26	23.0	21.7	0.307	-0.06	0.31	23.0	22.3
	Channel 1175	24.70	0.147	-0.11	0.15	23.0	21.4	0.521	-0.05	0.53	23.0	21.5

Table 1: SAR measurement results for the portable cellular telephone FCC ID IHDT56AD1 at highest possible output power. Measured against the body.

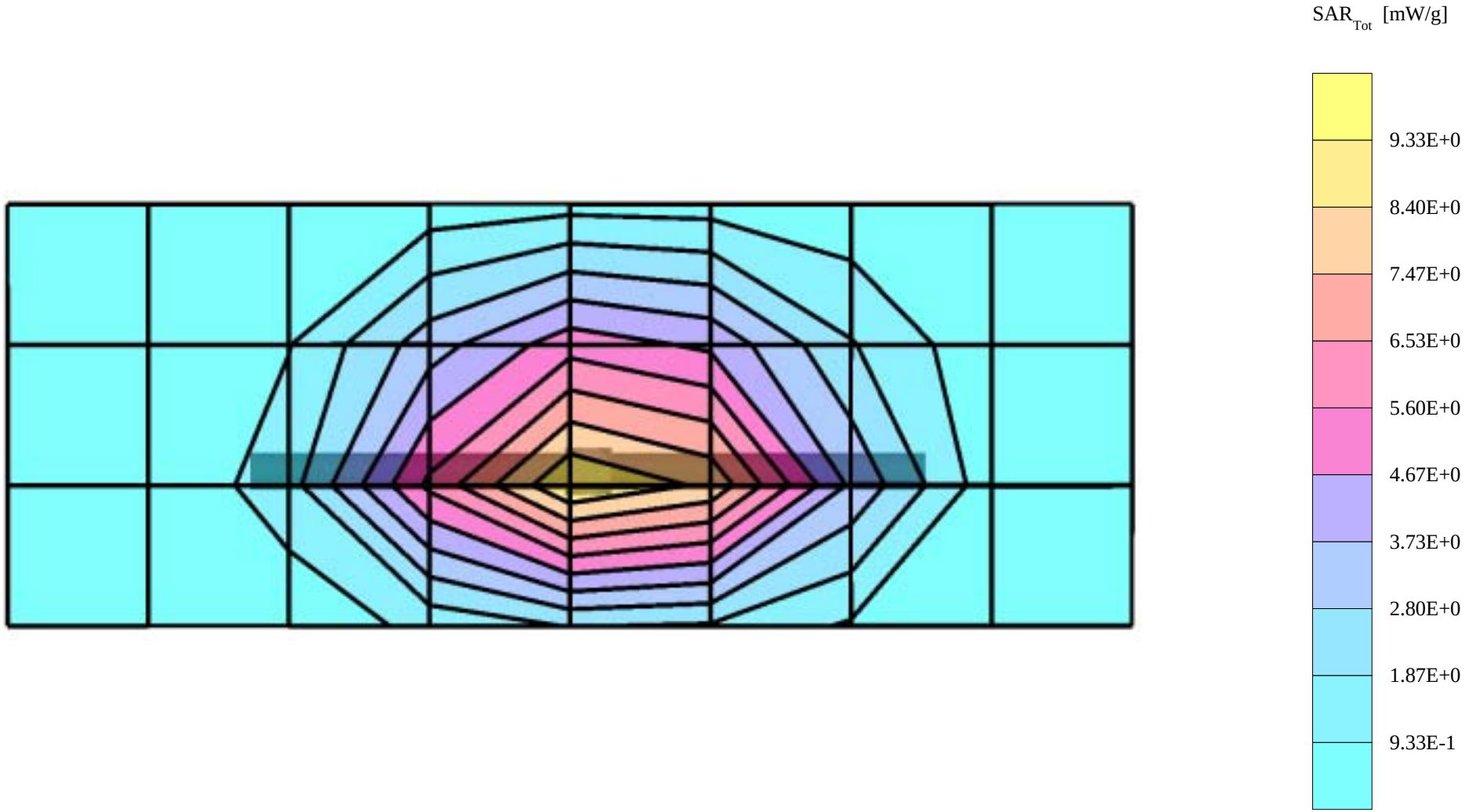
Appendix 1

SAR distribution comparison for the system accuracy verification

11/12/02

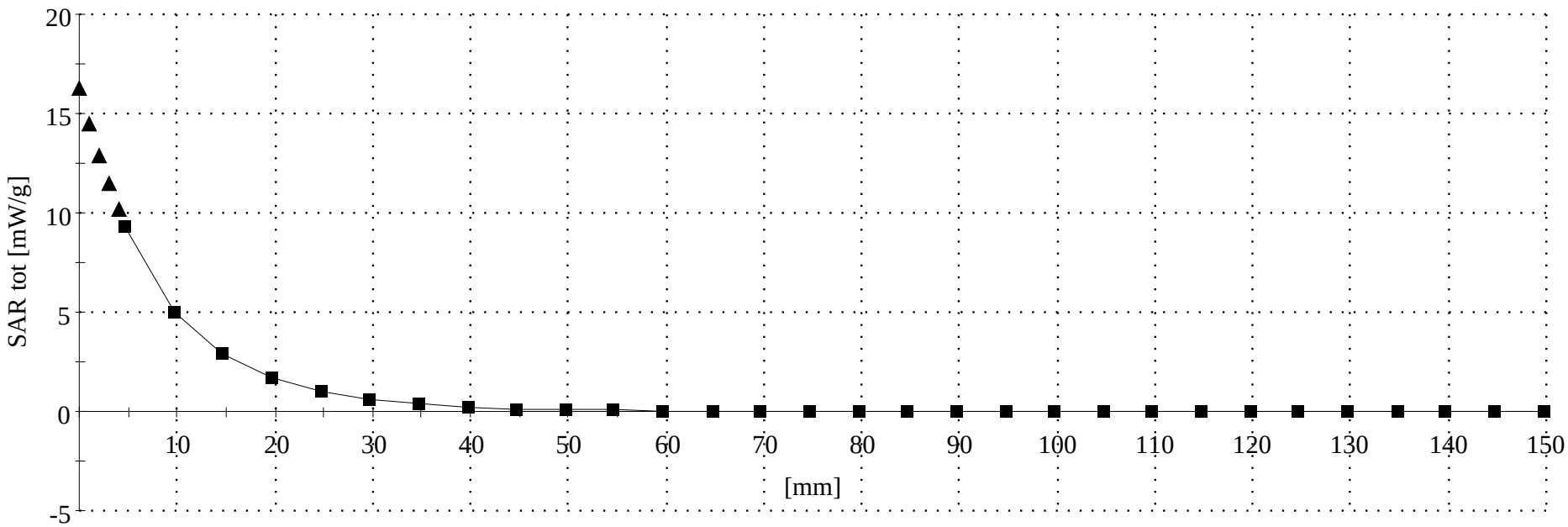
Dipole 1800 MHz

01800 MHz Dipole Validation / Dipole Sn# 277tr
Forward Power = 249 Reflected Power = -23.1
Room Temp at time of measurement = 24 Simulant Temp at time of measurement = 21.5
R1: TP-1154 GLYCOL (rev. 3) ; Flat
Probe: ET3DV6 - SN1398 - VALIDATION; ConvF(5.20,5.20,5.20); Crest factor: 1.0; 1800 MHz VALIDATION: σ = 1.37 mho/m ε_r = 39.1 ρ = 1.00 g/cm^3
Cubes (2): Peak: 18.1 mW/g ± 0.04 dB, SAR (1g): 9.83 mW/g ± 0.01 dB, SAR (10g): 5.14 mW/g ± 0.05 dB, (Worst-case extrapolation)
Penetration depth: 8.4 (8.1, 9.2) [mm]
Powerdrift: 0.00 dB



Dipole 1800 MHz

01800 MHz Dipole Validation / Dipole Sn# 277tr
Forward Power = 249 Reflected Power = -23.1
Room Temp at time of measurement = 24 Simulant Temp at time of measurement = 21.5
R1: TP-1154 GLYCOL (rev. 3) ;
Probe: ET3DV6 - SN1398 - VALIDATION; ConvF(5.20,5.20,5.20); Crest factor: 1.0; 1800 MHz VALIDATION: σ = 1.37 mho/m ε_r = 39.1 ρ = 1.00 g/cm^3
: , , ()
Penetration depth: 8.5 (8.2, 9.2) [mm]

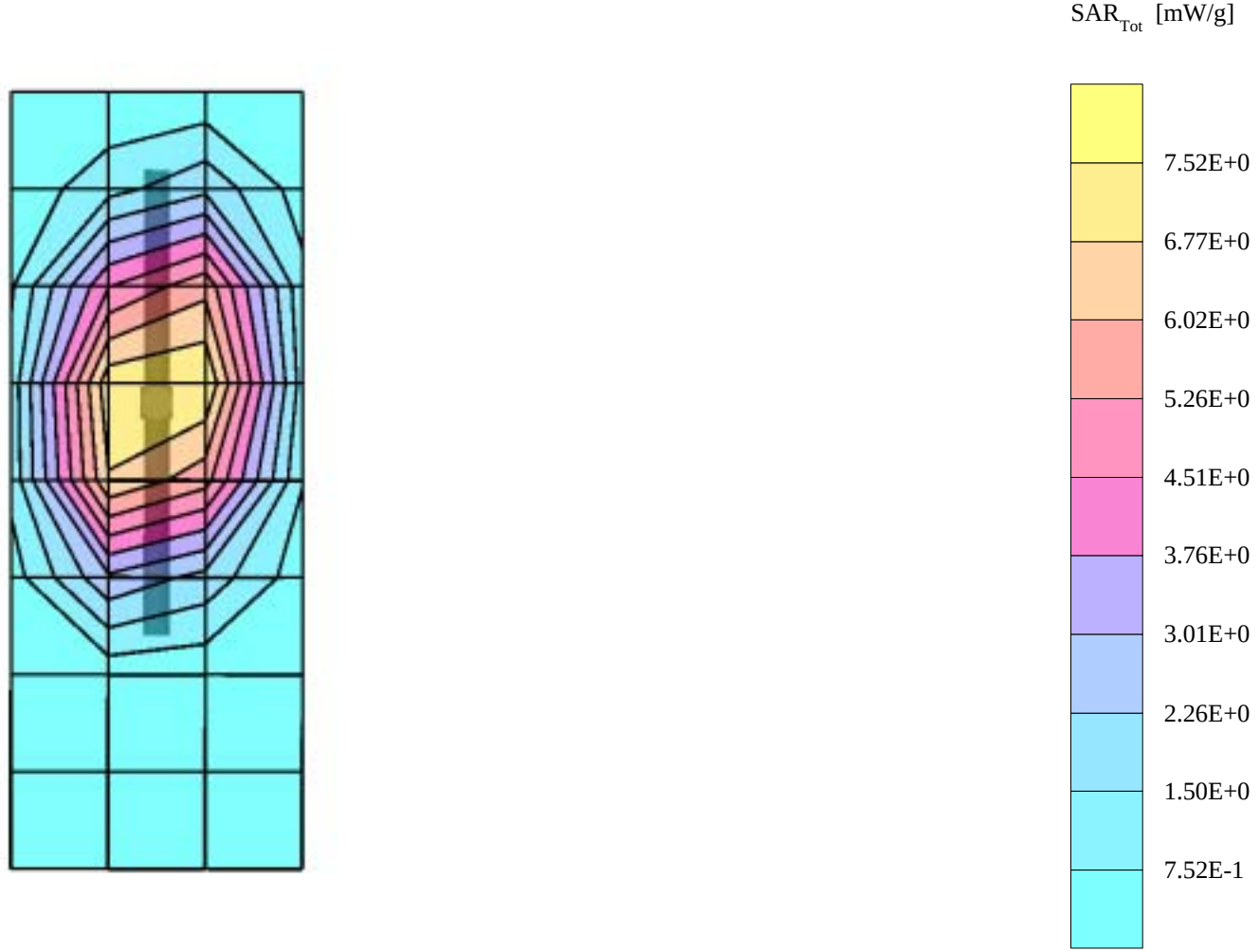


11/13/02

Dipole 1800 MHz

1800 MHz Dipole Validation / Dipole Sn# 277tr
Forward Power = 247 Reflected Power =-22.02
Room Temp at time of measurement = 24 Simulant Temp at time of measurement = 20.6

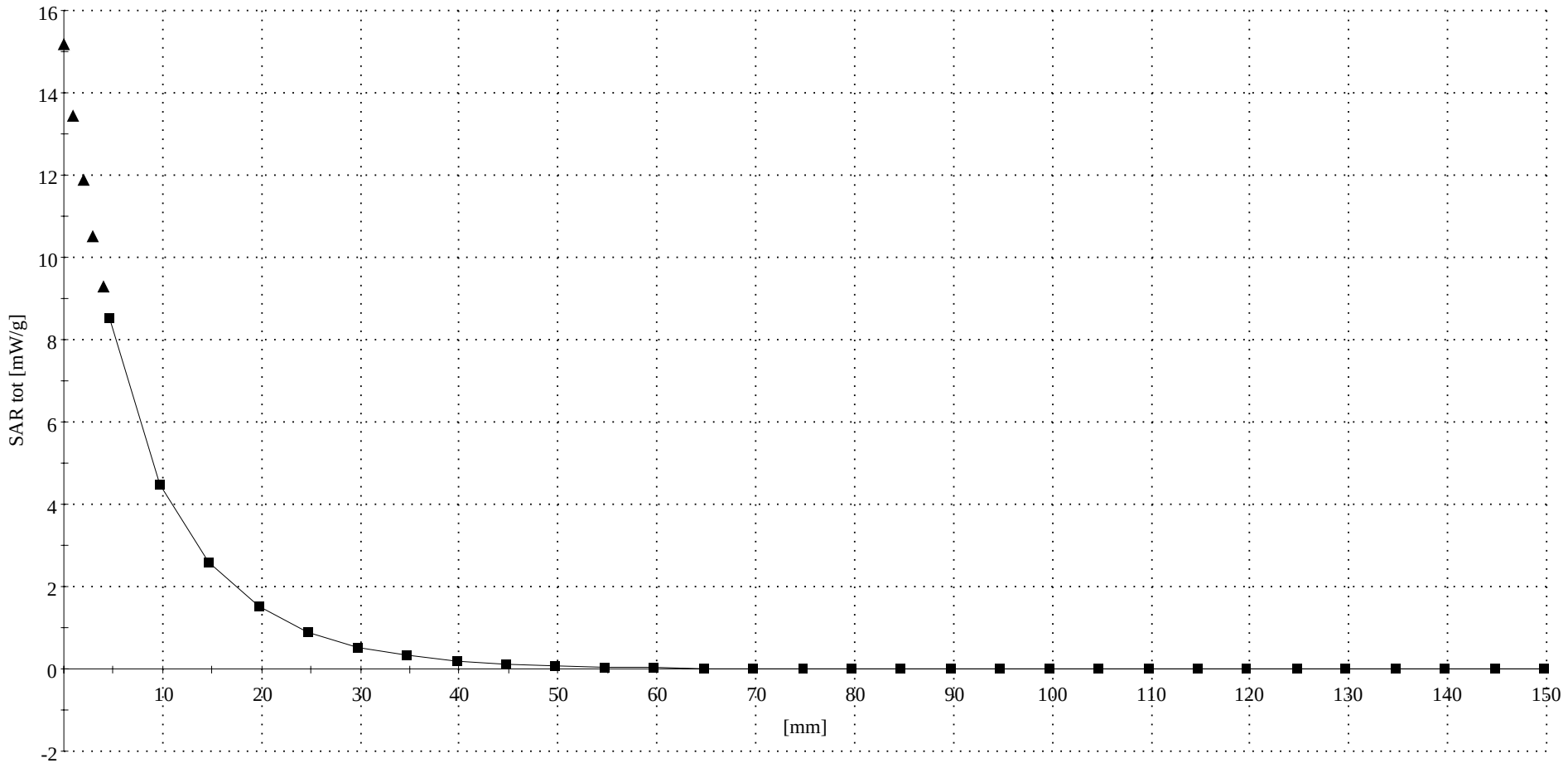
R1 Amy Twin Phantom Rev.3 ; section 1
Probe: ET3DV6 - SN1398 - VALIDATION; ConvF(5.20,5.20,5.20); Crest factor: 1.0; 1800 MHz VALIDATION: σ = 1.36 mho/m ε_r = 38.4 ρ = 1.00 g/cm^3
Cubes (2): Peak: 18.4 mW/g ± 0.03 dB, SAR (1g): 9.89 mW/g ± 0.04 dB, SAR (10g): 5.17 mW/g ± 0.04 dB, (Worst-case extrapolation)
Penetration depth: 8.2 (7.8, 9.0) [mm]
Powerdrift: 0.02 dB



Dipole 1800 MHz

1800 MHz Dipole Validation / Dipole Sn# 277tr
Forward Power = 247 Reflected Power =-22.02
Room Temp at time of measurement = 24 Simulant Temp at time of measurement = 20.6

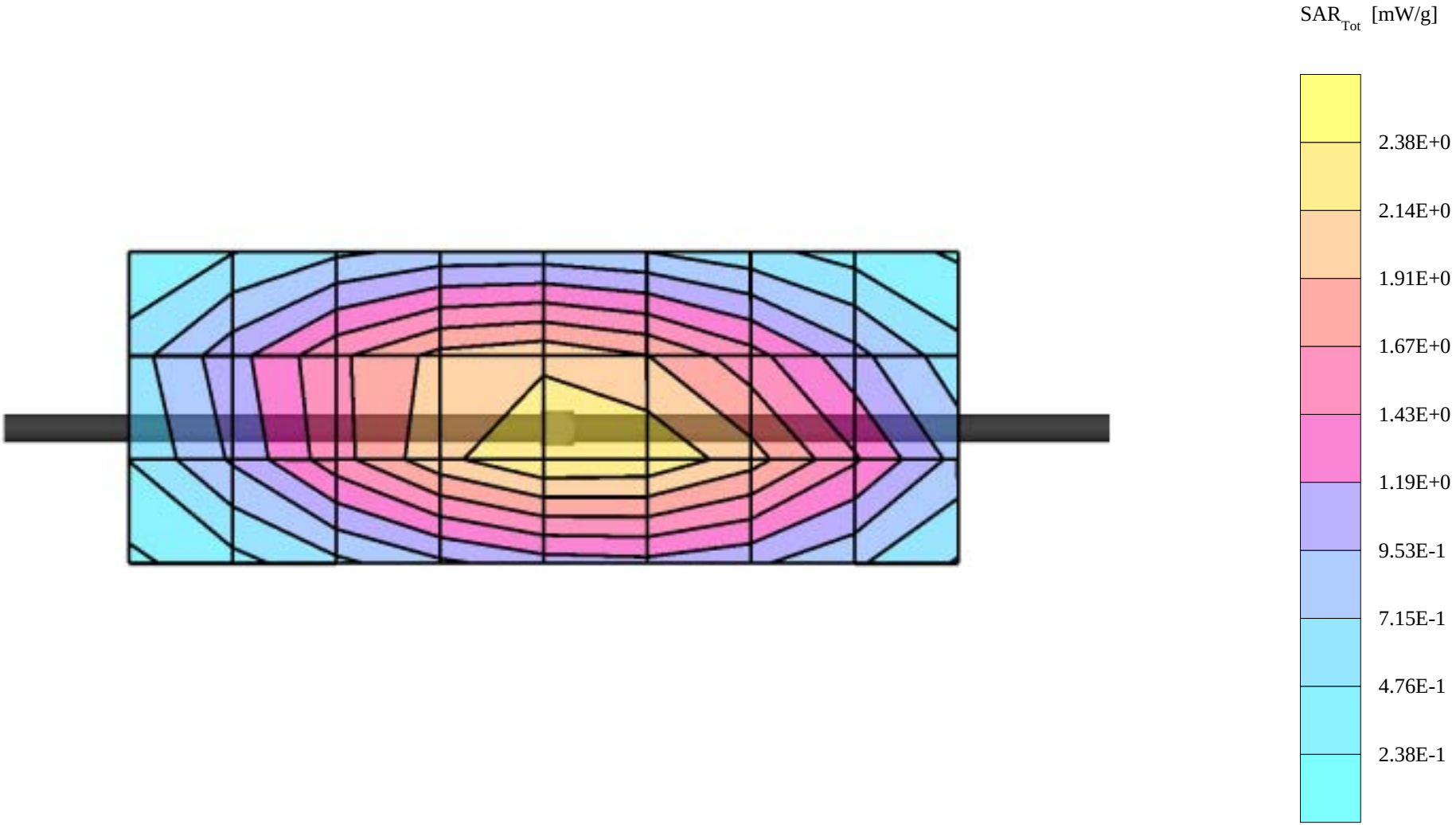
R1 Amy Twin Phantom Rev.3 ;
Probe: ET3DV6 - SN1398 - VALIDATION; ConvF(5.20,5.20,5.20); Crest factor: 1.0; 1800 MHz VALIDATION: σ = 1.36 mho/m ε_r = 38.4 ρ = 1.00 g/cm^3
: , , ()
Penetration depth: 8.3 (7.9, 9.0) [mm]



11/14/02

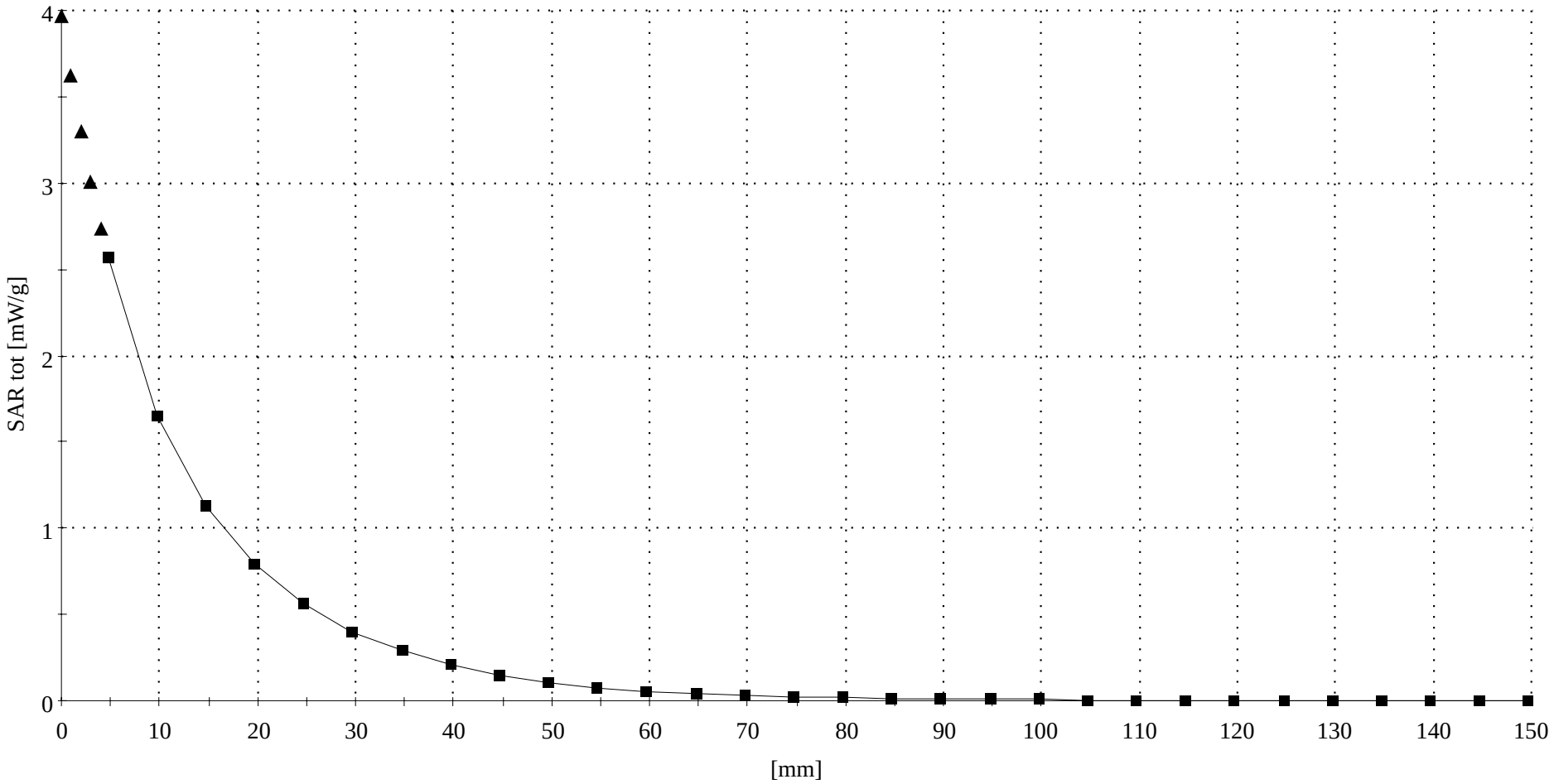
Dipole 835 MHz

835 MHz Dipole Validation / Dipole Sn# 420tr
Forward Power = 252 Reflected Power = -26.07
Room Temp at time of measurement = 24 Simulant Temp at time of measurement = 20.7
R1: TP-1005 SUGAR (rev. 3) ; Flat
Probe: ET3DV6 - SN1398 - VALIDATION; ConvF(6.20,6.20,6.20); Crest factor: 1.0; 835 MHz VALIDATION: σ = 0.88 mho/m ε_r = 40.5 ρ = 1.00 g/cm^3
Cubes (2): Peak: 3.97 mW/g ± 0.00 dB, SAR (1g): 2.54 mW/g ± 0.01 dB, SAR (10g): 1.63 mW/g ± 0.01 dB, (Worst-case extrapolation)
Penetration depth: 12.1 (11.1, 13.4) [mm]
Powerdrift: 0.02 dB



Dipole 835 MHz

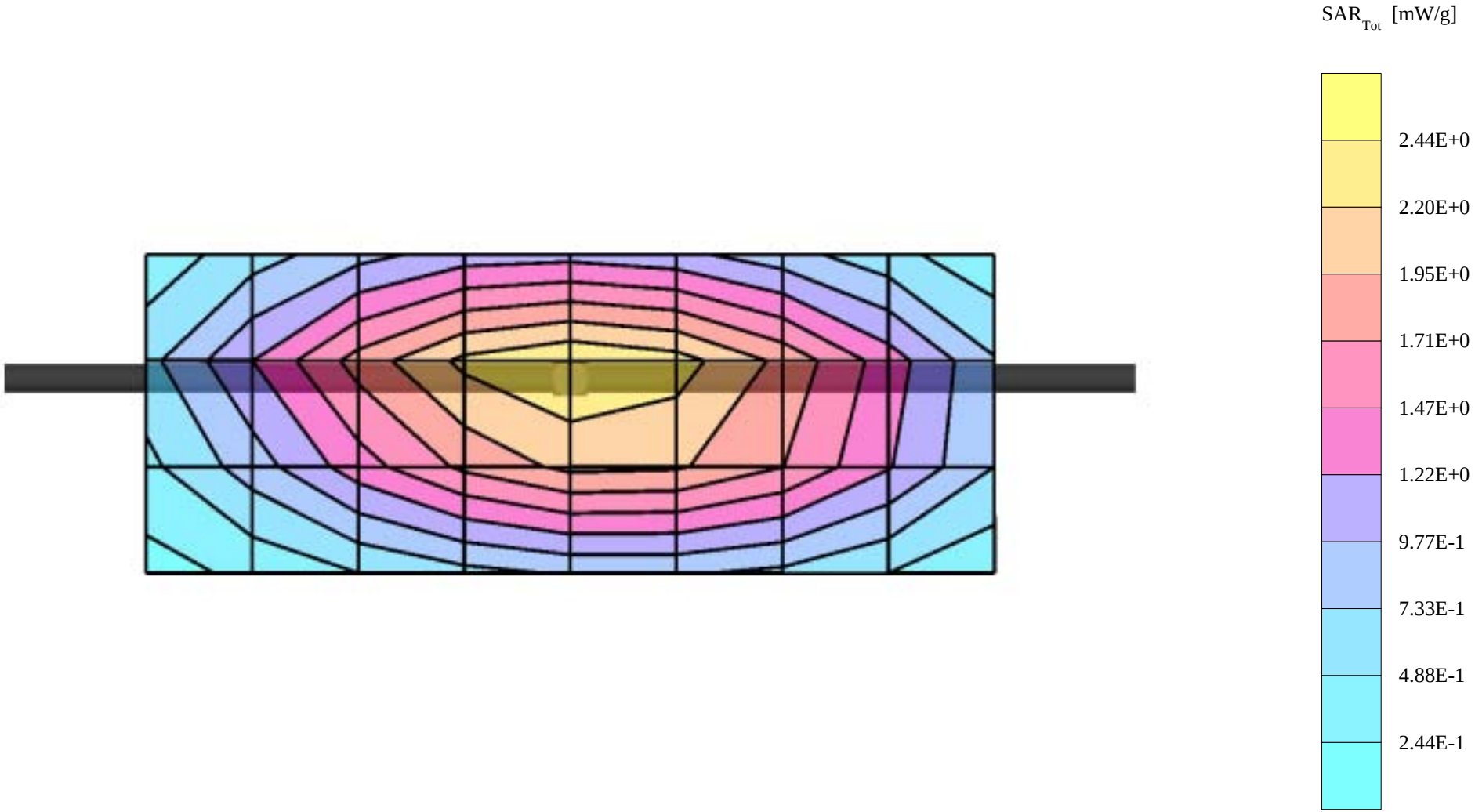
835 MHz Dipole Validation / Dipole Sn# 420tr
Forward Power = 252 Reflected Power = -26.07
Room Temp at time of measurement = 24 Simulant Temp at time of measurement = 20.7
R1: TP-1005 SUGAR (rev. 3) ;
Probe: ET3DV6 - SN1398 - VALIDATION; ConvF(6.20,6.20,6.20); Crest factor: 1.0; 835 MHz VALIDATION: σ = 0.88 mho/m ε_r = 40.5 ρ = 1.00 g/cm^3
: , , ()
Penetration depth: 12.0 (11.0, 13.4) [mm]



11/15/02

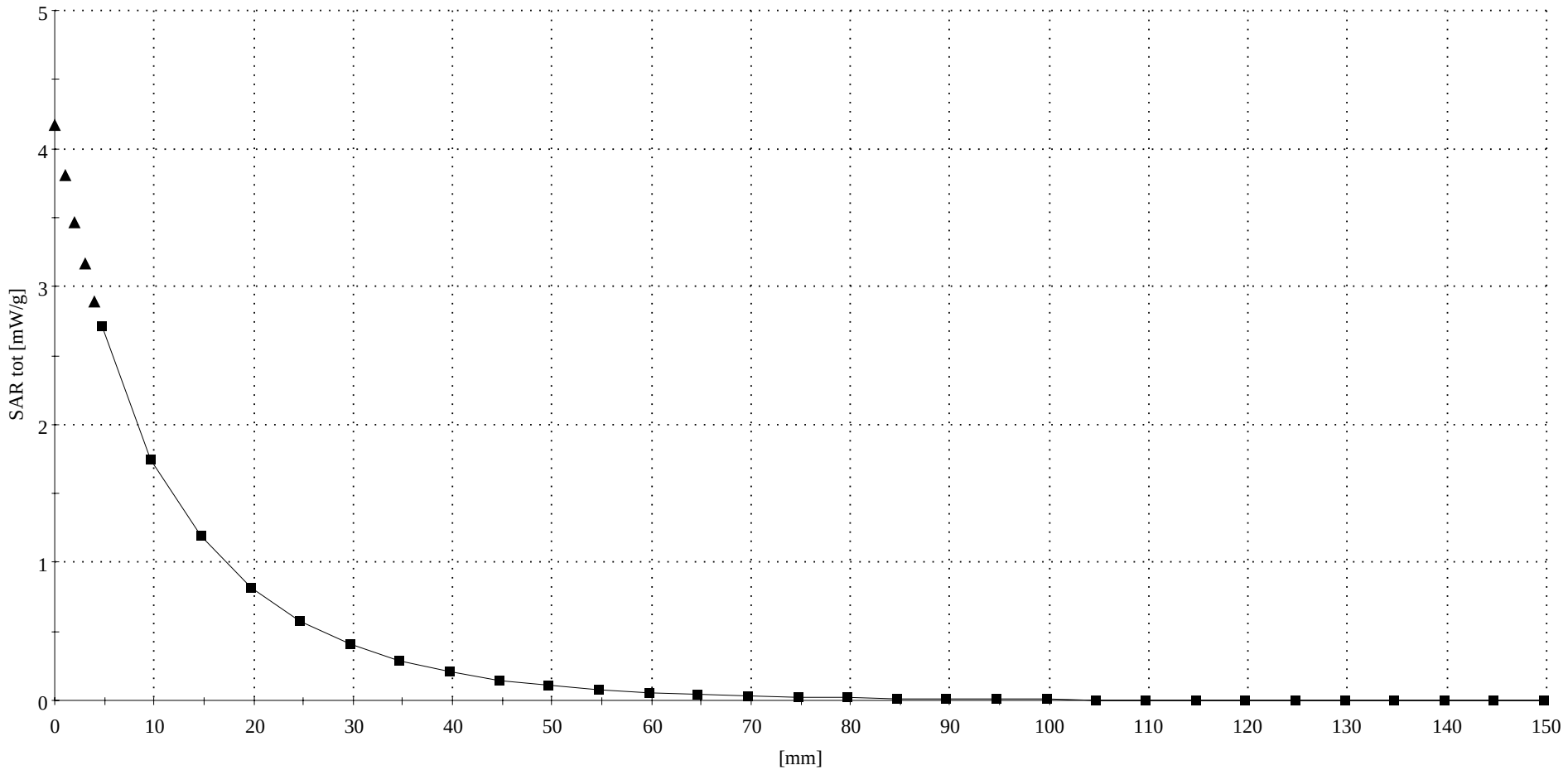
Dipole 835 MHz

835 MHz Dipole Validation / Dipole Sn# 420tr
Forward Power =253 Reflected Power =-27.28
Room Temp at time of measurement = 23 Simulant Temp at time of measurement = 21.6
R1: TP-1005 SUGAR (rev. 3) ; Flat
Probe: ET3DV6 - SN1398 - VALIDATION; ConvF(6.20,6.20,6.20); Crest factor: 1.0; 835 MHz VALIDATION: σ = 0.91 mho/m ε_r = 42.8 ρ = 1.00 g/cm^3
Cubes (2): Peak: 4.15 mW/g ± 0.17 dB, SAR (1g): 2.64 mW/g ± 0.17 dB, SAR (10g): 1.69 mW/g ± 0.17 dB, (Worst-case extrapolation)
Penetration depth: 12.0 (11.0, 13.4) [mm]
Powerdrift: 0.06 dB



Dipole 835 MHz

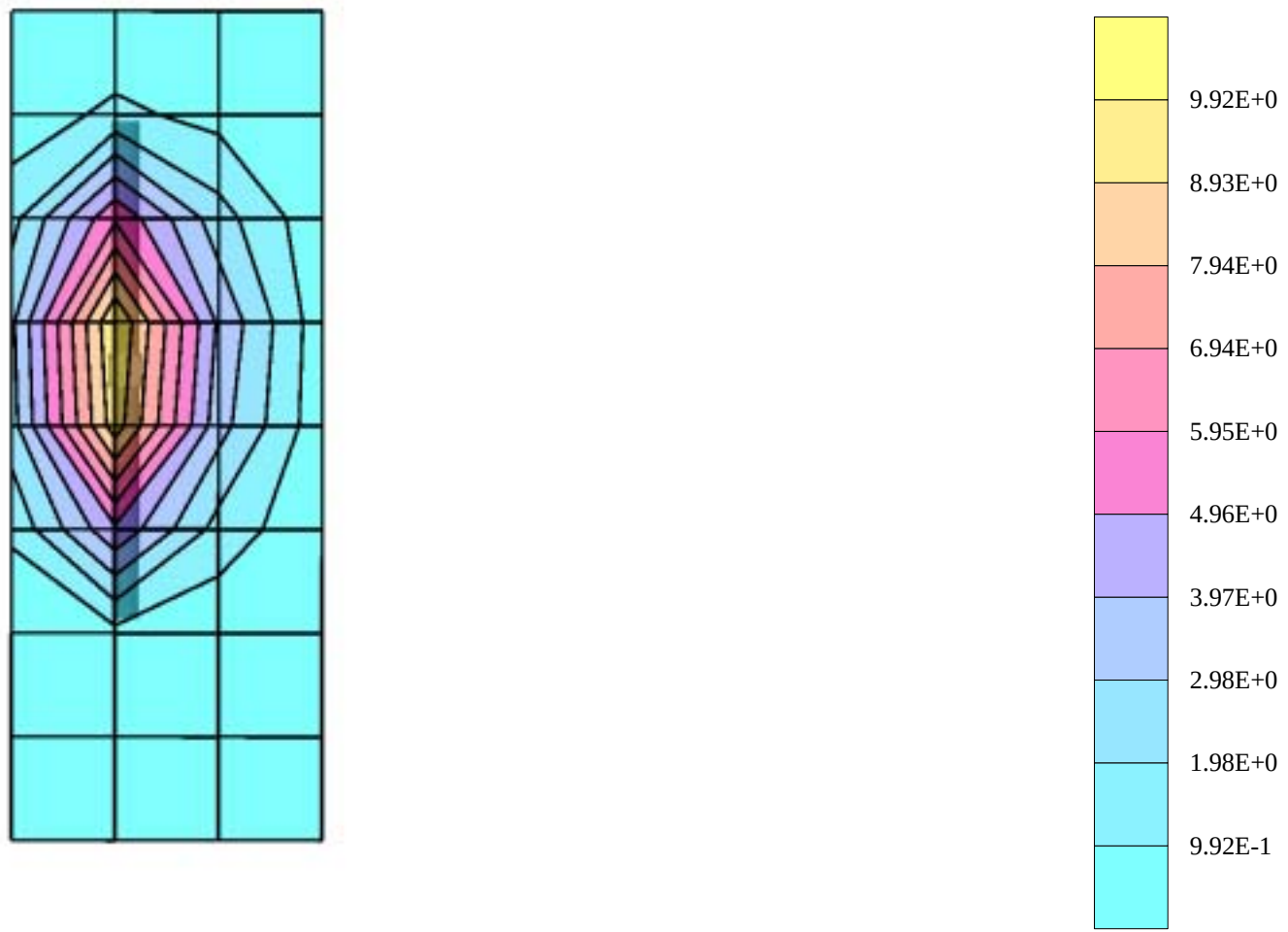
835 MHz Dipole Validation / Dipole Sn# 420tr
Forward Power =253 Reflected Power =-27.28
Room Temp at time of measurement = 23 Simulant Temp at time of measurement = 21.6
R1: TP-1005 SUGAR (rev. 3) ;
Probe: ET3DV6 - SN1398 - VALIDATION; ConvF(6.20,6.20,6.20); Crest factor: 1.0; 835 MHz VALIDATION: σ = 0.91 mho/m ε_r = 42.8 ρ = 1.00 g/cm^3
: , , ()
Penetration depth: 12.0 (11.1, 13.2) [mm]



11/18/02

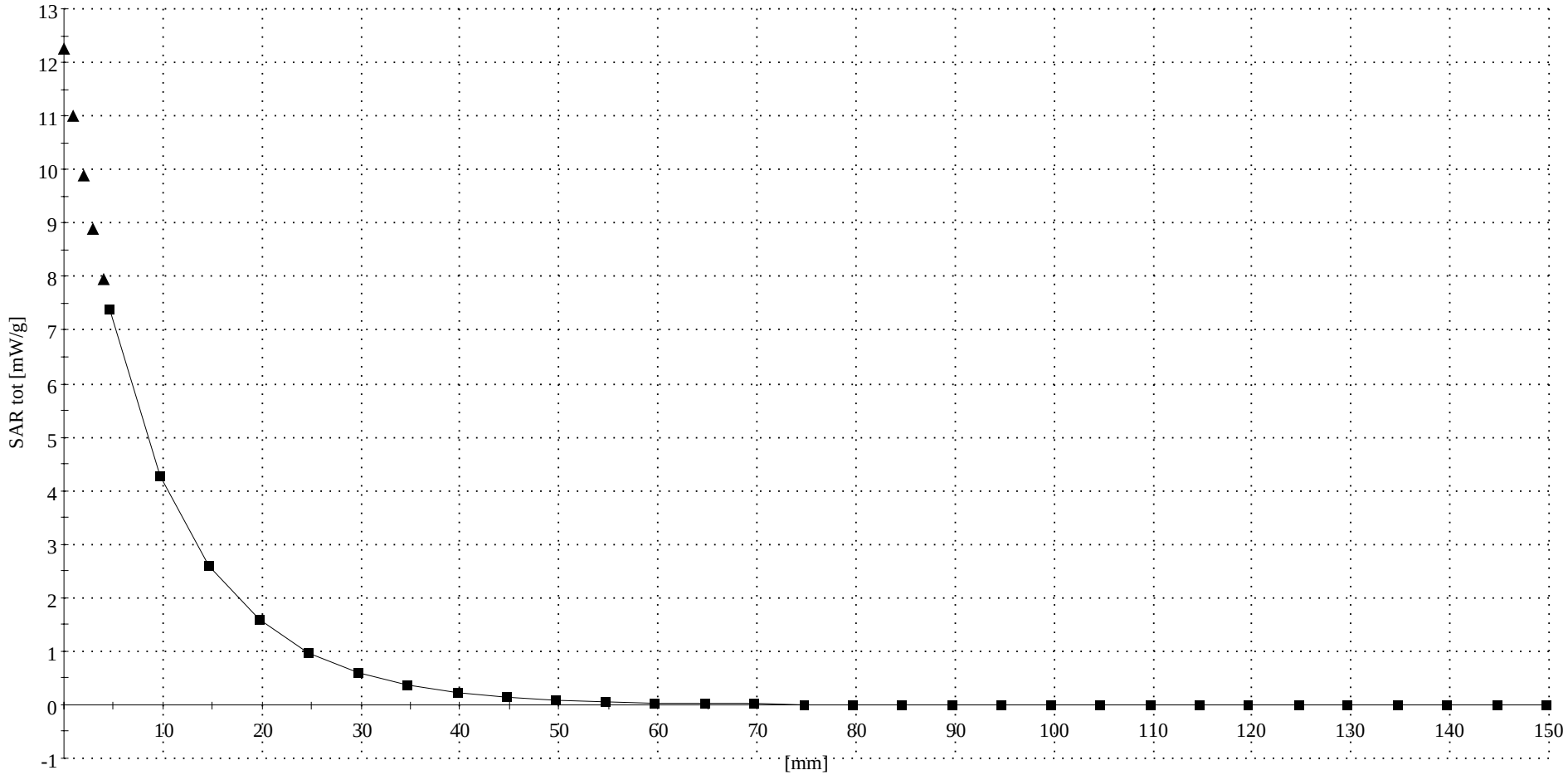
Dipole 1800 MHz

1800 MHz Dipole Validation / Dipole Sn# 250TR
Forward Power = 248 Reflected Power = -20.42
Room Temp at time of measurement = 23C Simulant Temp at time of measurement = 22.3C
R1 Amy Twin Phantom Rev.3 ; section 1
Probe: ET3DV6 - SN1398 - VALIDATION; ConvF(5.20,5.20,5.20); Crest factor: 1.0; 1800 MHz VALIDATION: σ = 1.39 mho/m ε_r = 40.7 ρ = 1.00 g/cm^3
Cubes (2): Peak: 18.2 mW/g ± 0.07 dB, SAR (1g): 9.94 mW/g ± 0.08 dB, SAR (10g): 5.25 mW/g ± 0.09 dB, (Worst-case extrapolation)
Penetration depth: 8.6 (8.1, 9.5) [mm]
Powerdrift: 0.03 dB



Dipole 1800 MHz

1800 MHz Dipole Validation / Dipole Sn# 250TR
Forward Power = 248 Reflected Power = -20.42
Room Temp at time of measurement = 23C Simulant Temp at time of measurement = 22.3C
R1 Amy Twin Phantom Rev.3 ;
Probe: ET3DV6 - SN1398 - VALIDATION; ConvF(5.20,5.20,5.20); Crest factor: 1.0; 1800 MHz VALIDATION: σ = 1.39 mho/m ε_r = 40.7 ρ = 1.00 g/cm^3
: , , ()
Penetration depth: 9.5 (9.2, 10.0) [mm]



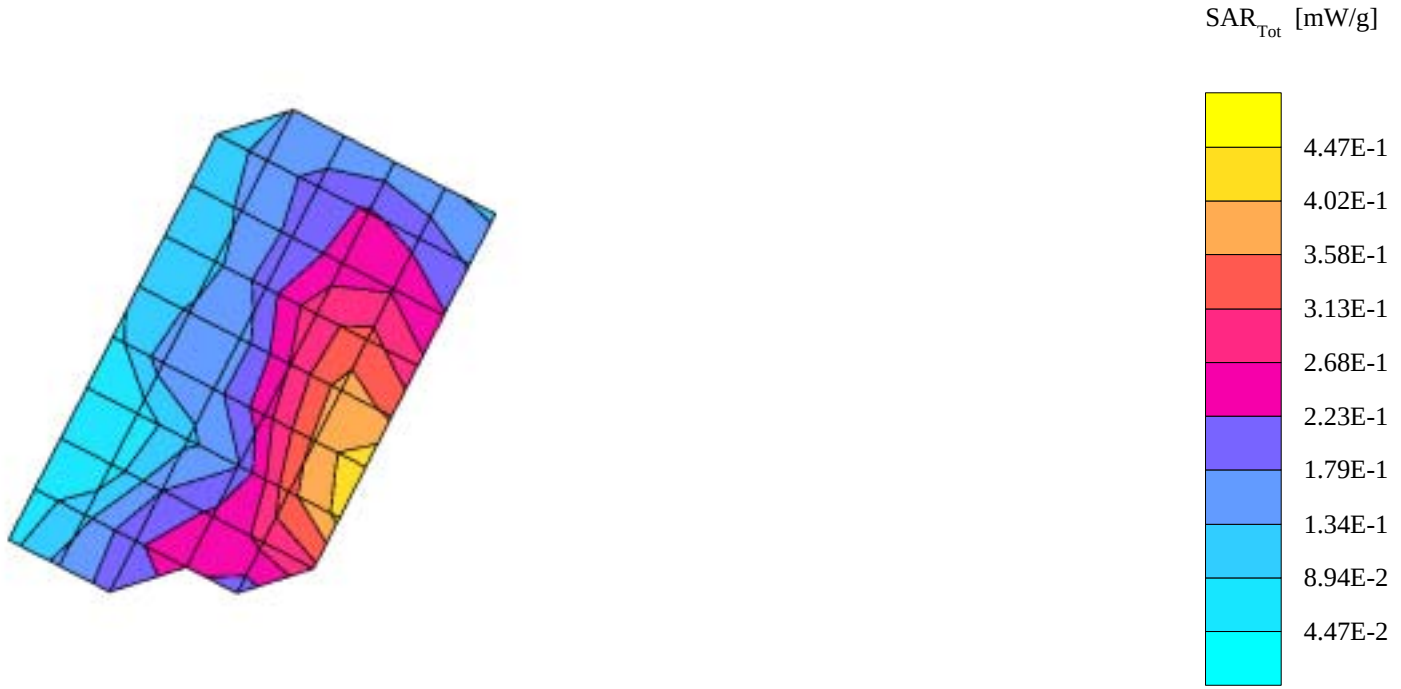
Appendix 2

SAR distribution plots for Head Adjacent Configuration

11/14/02

s/n: 52CAF879

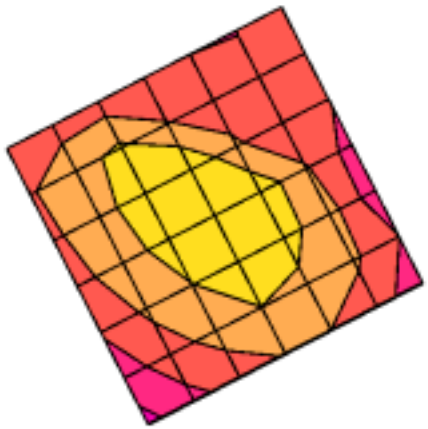
Ch# 384 / Pwr Step: 2 / Antenna Position: Extended
Type of Modulation: 800 Analog / Battery Model #:SNN5505A
DEVICE POSITION (cheek or rotated): Cheek
R2 TP-1106 SUGAR SAM (rev. 4) Phantom; Left Hand Section; Position: (90°,180°); Frequency: 836 MHz
Probe: ET3DV6 - SN1515 - IEEE Head; ConvF(6.50,6.50,6.50); Crest factor: 1.0; 835 MHz Head & Body: σ = 0.90 mho/m ε_r = 41.4 ρ = 1.00 g/cm^3
Cube 7x7x7: SAR (1g): 0.450 mW/g, SAR (10g): 0.307 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 15.0
Penetration depth: 14.2 (12.0, 17.2) [mm]
Powerdrift: -0.14 dB

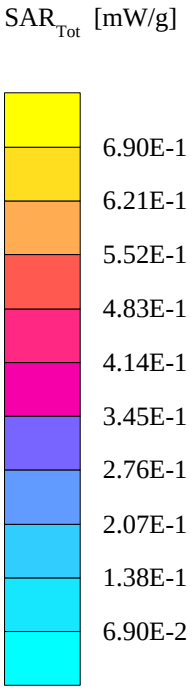


11/14/02

s/n: 52CAF879

Ch# 384 / Pwr Step: 2 / Antenna Position: Extended
Type of Modulation: 800 Analog / Battery Model #:SNN5505A
DEVICE POSITION (cheek or rotated): Cheek
R2 TP-1106 SUGAR SAM (rev. 4) Phantom; Left Hand Section; Position: (90°,180°); Frequency: 836 MHz
Probe: ET3DV6 - SN1515 - IEEE Head; ConvF(6.50,6.50,6.50); Crest factor: 1.0; 835 MHz Head & Body: σ = 0.90 mho/m ε_r = 41.4 ρ = 1.00 g/cm^3
Cube 7x7x7: SAR (1g): 0.450 mW/g, SAR (10g): 0.307 mW/g, (Worst-case extrapolation)
Cube 7x7x7: Dx = 5.0, Dy = 5.0, Dz = 5.0
Penetration depth: 14.2 (12.0, 17.2) [mm]

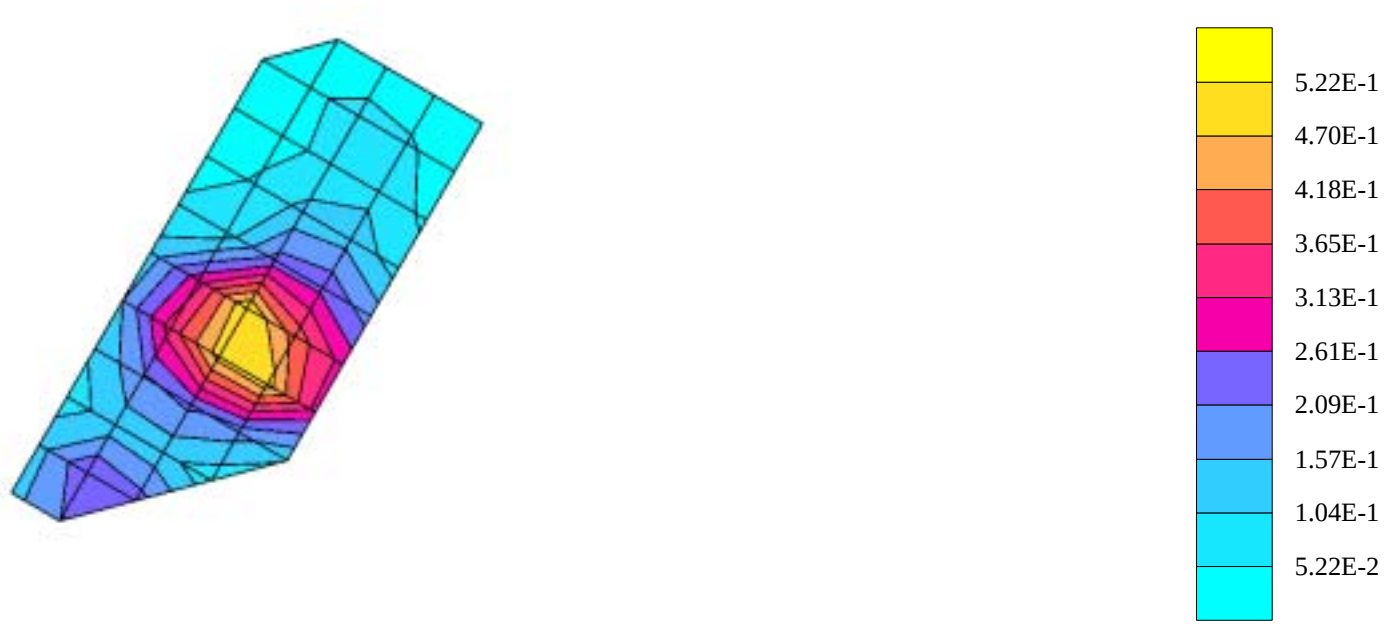




11/12/02

s/n: 52CAF879

Ch# 600 / Pwr Step: OTA / Antenna Position:Retracted
Type of Modulation: 1900 CDMA / Battery Model #: SNN5505A
DEVICE POSITION (cheek or rotated):Cheek
R1: TP-1154 GLYCOL (rev. 3) Phantom; R2 Bart Left Head Section; Position: (90°,180°); Frequency: 1880 MHz
Probe: ET3DV6 - SN1398 - IEEE HEAD; ConvF(5.20,5.20,5.20); Crest factor: 1.0; 1880 MHz Head & Body: σ = 1.46 mho/m ε_r = 38.8 ρ = 1.00 g/cm^3
Cube 7x7x7: SAR (1g): 0.596 mW/g, SAR (10g): 0.340 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 15.0
Penetration depth: 11.4 (10.1, 13.0) [mm]
Powerdrift: 0.45 dB



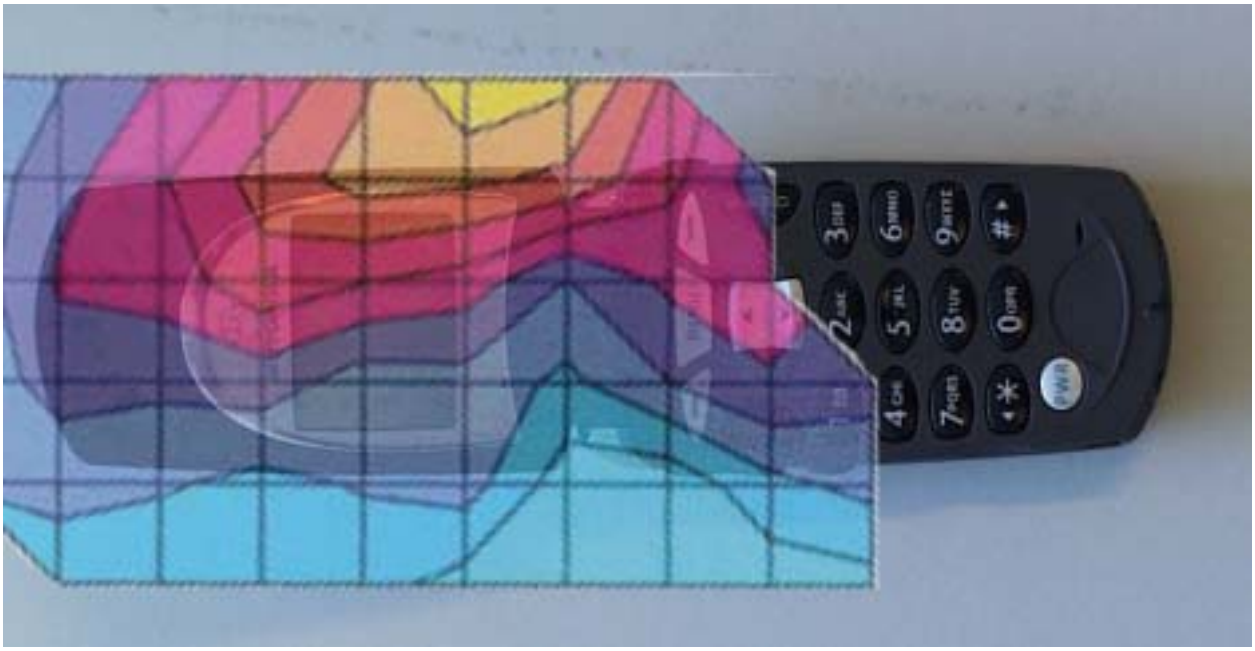


Figure 1.Typical 800MHz Head Adjacent Contour Overlaid on Phone (Cheek Touch)

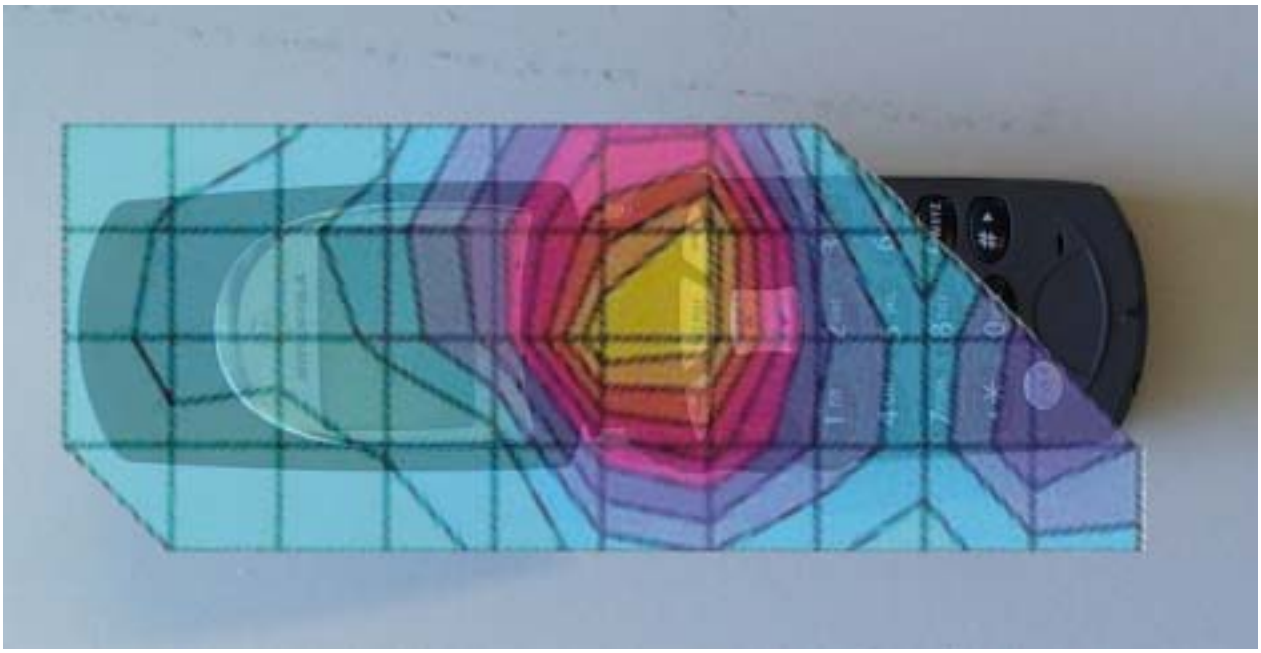
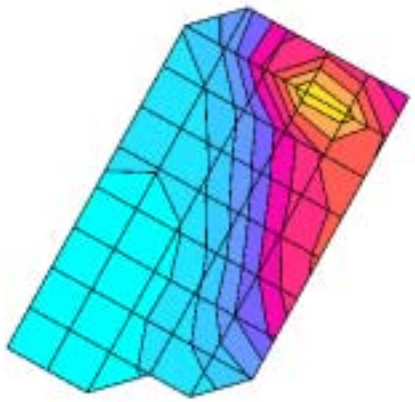


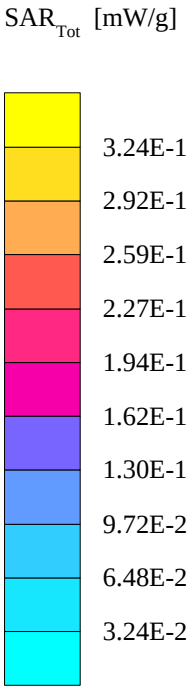
Figure 2.Typical 1900MHz Head Adjacent Contour Overlaid on Phone (Cheek Touch)

11/15/02

s/n: 52CAF879

Ch# 384 / Pwr Step: 02 / Antenna Position: EXT
Type of Modulation:Analog / Battery Model #: SNN5705
DEVICE POSITION (cheek or rotated): Tilted
R1: TP-1005 SUGAR (rev. 3) Phantom; Left Hand Section; Position: (90°,180°); Frequency: 836 MHz
Probe: ET3DV6 - SN1398 - IEEE HEAD; ConvF(6.20,6.20,6.20); Crest factor: 1.0; 835 MHz Head & Body: σ = 0.91 mho/m ε_r = 42.8 ρ = 1.00 g/cm^3
Cube 7x7x7: SAR (1g): 0.333 mW/g, SAR (10g): 0.205 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 15.0
Penetration depth: 11.4 (9.9, 13.5) [mm]
Powerdrift: -0.24 dB

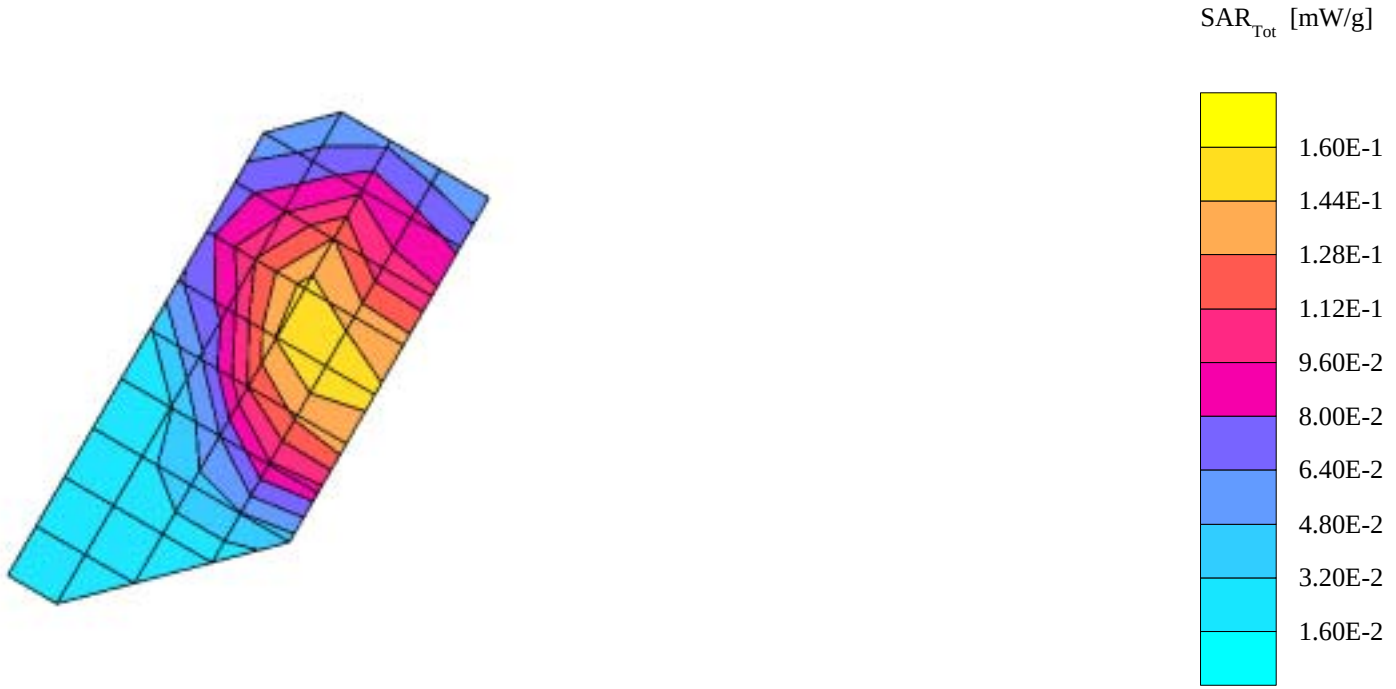




11/12/02

s/n: 52CAF879

Ch# 600 / Pwr Step: OTA / Antenna Position: Retracted
Type of Modulation: 1900 CDMA / Battery Model #: SNN5505A
DEVICE POSITION (cheek or rotated):Rotated
R1: TP-1154 GLYCOL (rev. 3) Phantom; R2 Bart Left Head Section; Position: (90°,180°); Frequency: 1880 MHz
Probe: ET3DV6 - SN1398 - IEEE HEAD; ConvF(5.20,5.20,5.20); Crest factor: 1.0; 1880 MHz Head & Body: σ = 1.46 mho/m ε_r = 38.8 ρ = 1.00 g/cm^3
Cube 7x7x7: SAR (1g): 0.166 mW/g, SAR (10g): 0.106 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 15.0
Penetration depth: 11.6 (7.7, 18.4) [mm]
Powerdrift: -0.14 dB



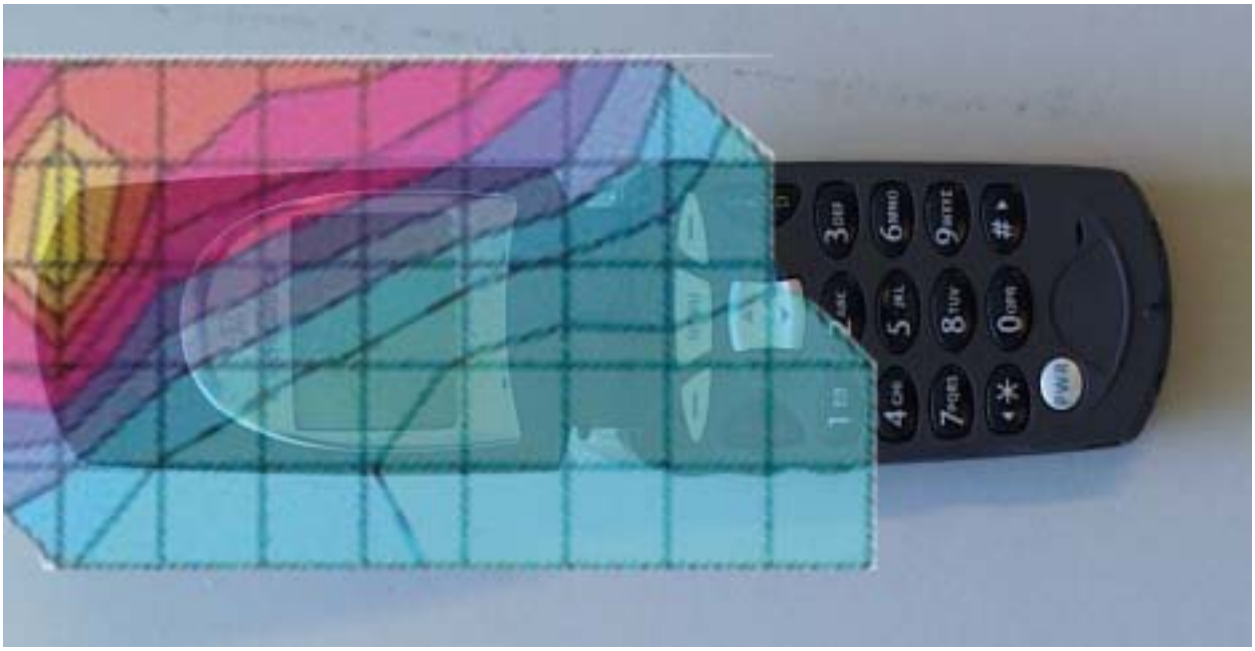


Figure 3.Typical 800MHz Head Adjacent Contour Overlaid on Phone (15 ˚ Tilt)

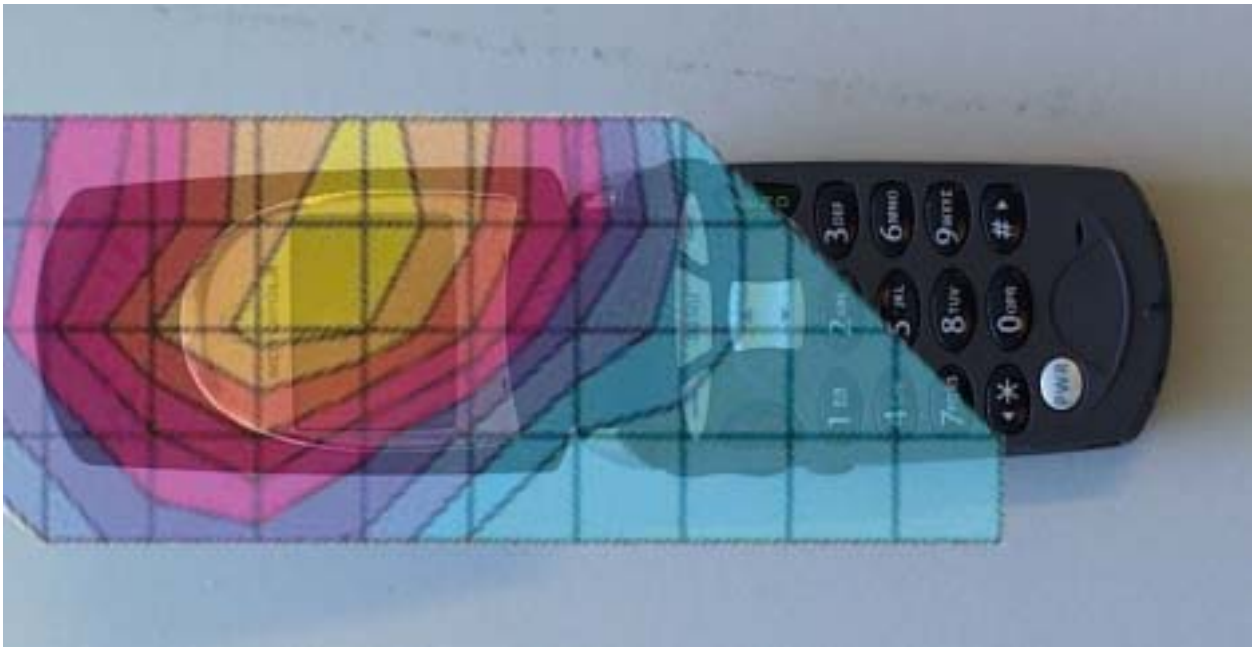


Figure 4.Typical 1900MHz Head Adjacent Contour Overlaid on Phone (15 ˚ Tilt)

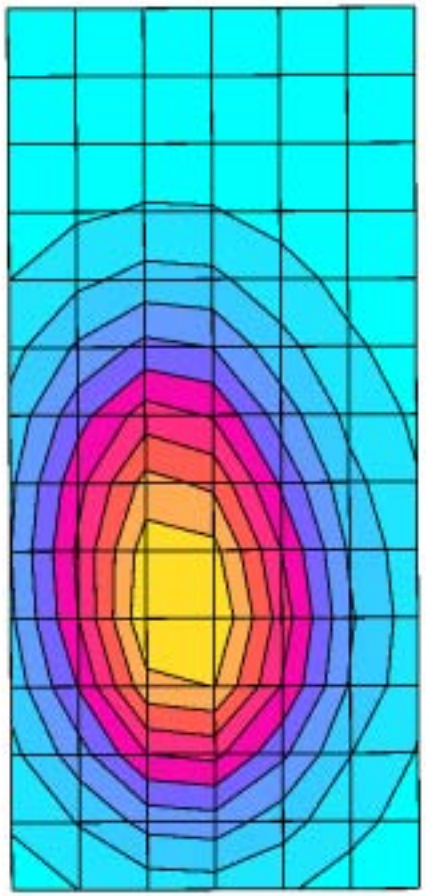
Appendix 3

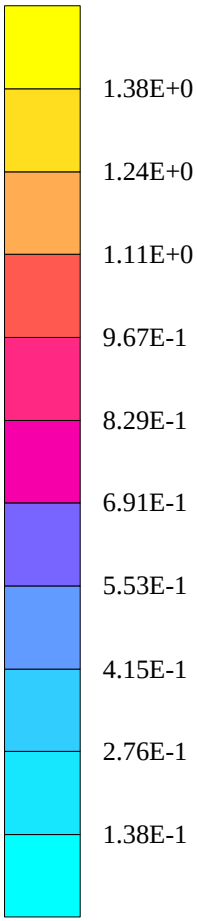
SAR distribution plots for Body Worn Configuration

11/15/02

s/n: 52CAF879

Ch# 384 / Pwr Step: 02 / Antenna Position: Ext
Type of Modulation: Analog / Battery Model #: SNN5705A
Accessory Model #: Holster SYN8454D
R1 Amy Twin Phantom Rev.3 Phantom; section 2 Section; Position: (0°,0°); Frequency: 836 MHz
Probe: ET3DV6 - SN1398 - FCC Body; ConvF(5.90,5.90,5.90); Crest factor: 1.0; 835 MHz Head & Body: σ = 0.95 mho/m ε_r = 53.3 ρ = 1.00 g/cm^3
Cube 7x7x7: SAR (1g): 1.45 mW/g, SAR (10g): 1.03 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Penetration depth: 16.3 (15.0, 17.6) [mm]
Powerdrift: -0.01 dB

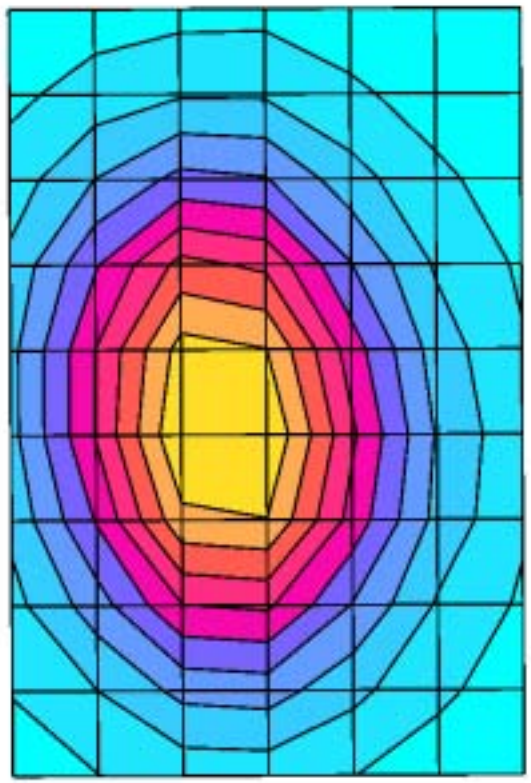




11/15/02

s/n: 52CAF879

Ch# 384 / Pwr Step: 02 / Antenna Position: Ret
Type of Modulation: Analog / Battery Model #: SNN5705A
Accessory Model #: Holster SYN8454D
R1 Amy Twin Phantom Rev.3 Phantom; section 2 Section; Position: (0°,0°); Frequency: 836 MHz
Probe: ET3DV6 - SN1398 - FCC Body; ConvF(5.90,5.90,5.90); Crest factor: 1.0; 835 MHz Head & Body: σ = 0.95 mho/m ε_r = 53.3 ρ = 1.00 g/cm^3
Cube 7x7x7: SAR (1g): 1.18 mW/g, SAR (10g): 0.838 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Penetration depth: 16.1 (14.8, 17.5) [mm]
Powerdrift: -0.33 dB



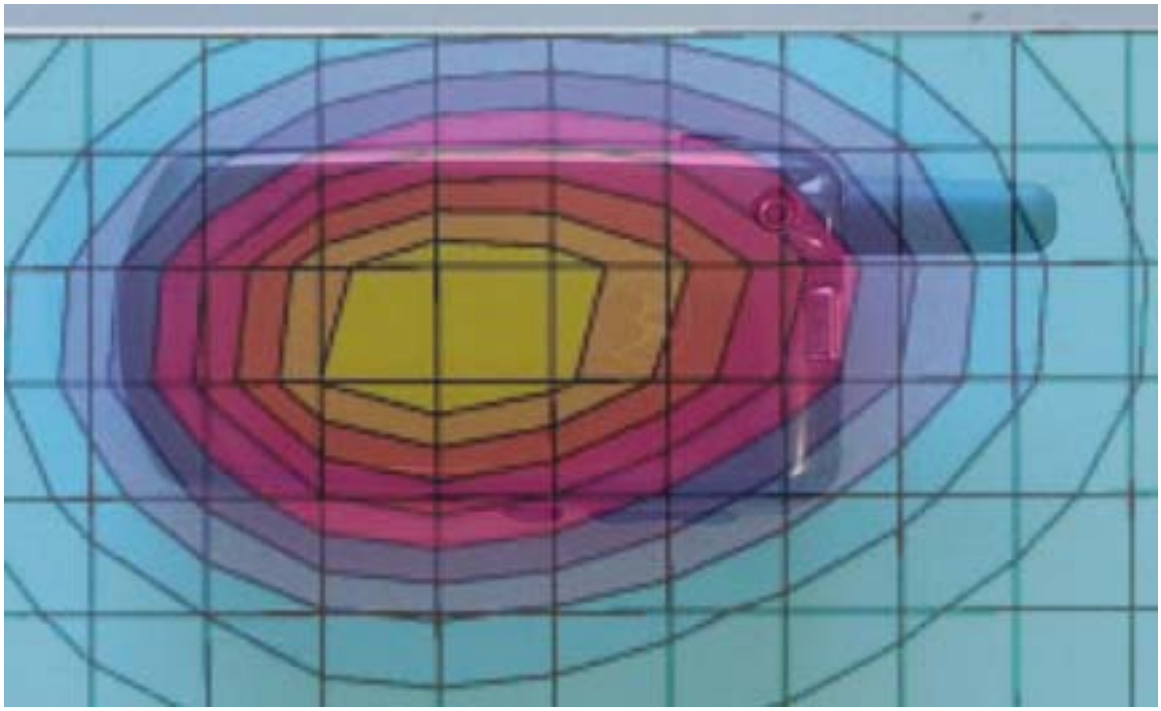


Figure 5.Typical 1900 MHz Body-Worn Contour Overlaid on Phone with Antenna Extended

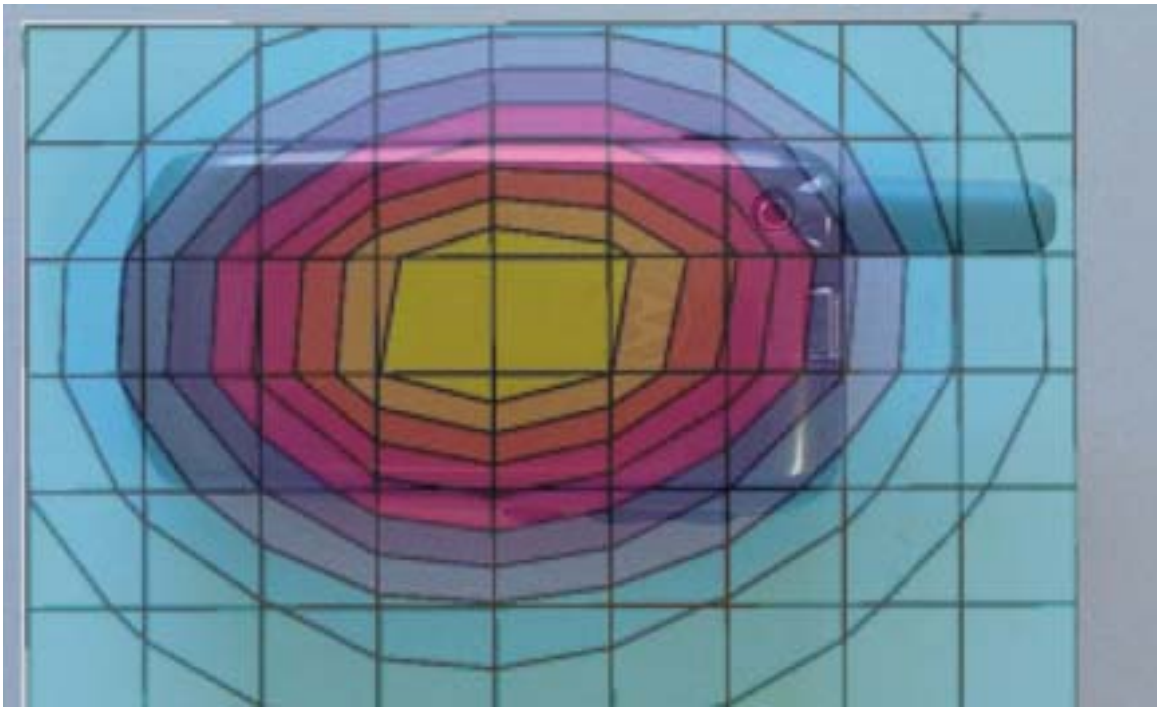


Figure 6. Typical 1900 MHz Body-Worn Contour Overlaid on Phone with Antenna Retracted