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Room: AS228
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Federal Communications Commission
Authorization & Evaluation Division
7435 Oakland Mills Rd
Columbia MD 21046

Attention: Equipment Authorization Branch

We hereby certify that the portable cellular phone (FCC ID IHDT56AD1) complies with ANSI/IEEE C951-1992 Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3kHz to 300GHz.

Compliance was determined by testing appropriate parameters according to the standard.

Prepared by:

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Contents	Page
1) Introduction	3
2) Applicable Regulations	3
3) Description of Test Sample	3
4) Description of Motorola SAR Test Facility	4
5) Test Sample Conditions	5
6) Method of Measurement	6
7) Measurement Uncertainty	6
8) SAR Test Results Against Phantom Head	7
9) Body Worn Configuration	9
10) SAR in the Hand	11
11) Battery Options	12
12) Summary	12
Appendix A: Included data for 800MHz against Phantom Head	13
Appendix B: Included data for 1900MHz against Phantom Head	14
Appendix C: Included data for Body Worn Configuration	15
Appendix D: Printout from the Dasy™ measurement system validation test	16

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. The Specific Absorption Rate (SAR) of this product was measured. This report details the test setup and equipment as well as the results of those tests.

2. Applicable Regulations

Federal Communications Commission rule §2.1093(d)(2), the ANSI/IEEE C95.1 1992 and the NCRP Report Number 86 specify the maximum exposure limit of 1.6 W/kg as averaged over any 1 gram of tissue for portable devices being used within 20cm of the user in the uncontrolled environment.

3. Description of Test Sample

A prototype unit serial number DFB2366D was measured. This unit is identical in physical construction, maximum radiated power levels and antenna structure to units that will be in production. It transmits in the frequency range of 824 to 849 MHz using AMPS and CDMA modes, and 1850 to 1910 MHz using CDMA mode. The unit is equipped with a telescoping antenna that serves as both a receive and transmit antenna. The antenna has a retracted and an extended operating position as shown in figures 1 and 2 respectively.



Figure 1. Showing Retracted Antenna



Figure 2. Showing Extended Antenna



Figure 3. Showing Retracted Antenna



Figure 4. Showing Extended Antenna

4. SAR Test Facility

The Motorola test facility utilized for the SAR testing of this product is the Personal Communications Sector Product Safety Laboratory, in Libertyville Illinois. The laboratory utilizes a Dosimetric Assessment System (Dasy™) SAR measurement system manufactured by Schmid & Partner Engineering AG (SPEAG™), of Zurich Switzerland. This system utilizes a computer controlled six axis robot to move a measurement probe to measure the SAR. A photo of the Dasy™ system with the Motorola phantom is shown in figure 5. Probe serial number 1508 was used for the measurements 800MHz head measurements. It was calibrated at SPEAG™, and has a calibration date October 28, 1999. Dipole Validation Kit type D900V2, serial number 57 was used to validate the system accuracy at 800MHz. The validation SAR value is 9.6 mW/g normalized to 1 Watt, and the Dasy™ system used for the test phone measured 9.96 mW/g normalized to 1 Watt. This is within the required accuracy, and thus the measured SAR values are considered correct. See appendix D for printout of the validation test from the Dasy™ measurement system. Probe serial number 1514 was used for the measurements 1900MHz head measurements. It was calibrated at SPEAG™, and has a calibration date November 25, 1999. Dipole Validation Kit type D1800V2, serial number 258 was used to validate the system accuracy at 1900MHz. The validation SAR value is 40.52 mW/g normalized to 1 Watt, and the Dasy™ system used for the test phone measured 42.8 mW/g normalized to 1 Watt. This is within the required accuracy, and thus the measured SAR values are considered correct. See appendix D for printout of the validation test from the Dasy™ measurement system. Probe serial number 1506 was used for all the body worn measurements. It was calibrated at SPEAG™, and has a calibration date October 28, 1999. Dipole Validation Kit type D900V2, serial number 67 was used to validate the system accuracy at 800MHz. The validation SAR value is 10.08 mW/g normalized to 1 Watt, and the Dasy™ system used for the test phone measured 10.08 mW/g normalized to 1 Watt. This is within the required accuracy, and thus the measured SAR values are considered correct. See appendix D for printout of the validation test from the Dasy™ measurement system.

Dipole Validation Kit type D1800V2, serial number 250 was used to validate the system accuracy at 1900MHz. The validation SAR value is 38.89 mW/g normalized to 1 Watt, and the Dasy™ system used for the test phone measured 37.64 mW/g normalized to 1 Watt. This is within the required accuracy, and thus the measured SAR values are considered correct. See appendix D for printout of the validation test from the Dasy™ measurement system.

The measurement methodology is described in IEEE Transactions on Vehicular Technology, vol. 44, no. 3, August 1995, titled Electromagnetic Energy Exposure of Simulated users of Portable Cellular Telephones. The Dasy™ system is operated per the instructions in the Dasy™ Users Manual. The manual is available directly from SPEAG™.



Figure 5. Dasy™ System

5. Test Sample Conditions

For the purposes of these tests the subject phone was positioned on the measurement phantom per the instructions in the Motorola users manual for the subject phone. The position used for the tests is the 3-point contact position. In this position the test sample contacts the phantom's ear and cheek and is positioned with a repeatability of better than $\pm 6\%$. Since the antenna is not located on the center of the phone, the SAR was measured with the phone on both the left and right side talk positions. Due to the construction of the phone, the base of the antenna is 18 mm away from the phantom for the left side head, which is the closest.

The test sample is capable of operation in a test mode that allows control of the transmitter without the need to place actual phone calls. This guarantees that the unit does not change its transmitter power, and that the resultant SAR values will not be affected by external connections. For the purposes of Analog mode tests the unit is commanded to test mode and manually set to the proper channel, transmitter power level and transmit mode of operation. For the purposes of the CDMA mode tests, the unit is placed in a phone call using an HP8924 and is commanded to the highest possible power by means of the "always up" command. The phone is then placed in the SAR measurement system with a fully charged battery. At the end of each test the Dasy™ system measures the drift of the SAR at a fixed point in the phantom so as to ensure that the test sample has not changed in transmitter power. For the purposes of these tests, the transmitter was operated at the highest transmitter output and with the phone and module on both left and right side talk positions.

6. Method of Measurement

The system is instructed to scan as much of the face of the phone as is in close proximity to the phantom. Using the information gained about the general region of highest SAR, the system then automatically scans a smaller area centered around the location of peak spatial SAR. During this scan the system automatically measures the fall off of electric field strength as the measurement probe is moved away from the inner surface of the phantom in the direction of the local normal to the phantom surface. Using appropriate probe calibration techniques, the SAR in 1 gram of phantom tissue is then calculated. The 800MHz phantom head was filled with a liquid having relative dielectric constant equal to 44.2 and conductivity equal to 0.85 S/m. This mixture is a good dielectric equivalent of the gray matter of the human brain. The composition of the liquid mixture is as follows: 42.5% water; 55.6.0% sugar; 0.8% salt, 1% HEC; and 0.1% bactericide. The 1900MHz phantom head, also shown in figures 3 and 4, was filled with a liquid having relative dielectric constant equal to 40.99 and conductivity equal to 1.85 S/m. This mixture is a good dielectric equivalent of the gray matter of the human brain. The composition of the liquid mixture is as follows: 45.9% water; 53.0% sugar; 0% salt, 1% HEC; and 0.1% bactericide.

7. Measurement Uncertainty

The overall RSS uncertainty of the measurement system is $\pm 12.0\%$ (K=1). 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	
Conductivity measurement	5.0
Environmental errors	1.0
Peak SAR Evaluation	
Probe positioning	1.0
Volumetric averaging	4.2
Device positioning	6.0

8. SAR Test Results

Figure 6 shows the phone overlaid with a typical contour plot. The phone is placed on the phantom's head with the center of the phone's speaker at the center of the ear, and the center line of the phone extends downward to the center of the phantom's mouth. The same orientation and phone position are used for left and right side talk positions.

The maximum SAR level for the Motorola portable cellular phone (FCC ID IHDT56AD1) in the 800MHz band is 0.397 W/kg was found on the left side head. The SAR numbers against the phantom head are very low because of the method of implementation of the metal case on the phone. A full data set output of the conditions with the highest SAR values from the Dasy™ measurement system is included as appendix A. The test conditions included are indicated as bold numbers in the following table. All other test conditions measured lower SAR values than those included.

Analog 800 Channel	Left side head		Right side head		Conducted Power (Watts)
	Ant Ret	Ant Ext	Ant Ret	Ant Ext	
991	0.015	0.258	0.113	0.247	0.525
384	0.086	0.397	0.081	0.348	0.562
799	0.062	0.186	0.047	0.269	0.513

CDMA 800 Channel	Left side head		Right side head		Conducted Power (Watts)
	Ant Ret	Ant Ext	Ant Ret	Ant Ext	
1013	0.071	0.066	0.063	0.132	0.295
384	0.046	0.075	0.053	0.084	0.302
777	0.038	0.071	0.038	0.141	0.269

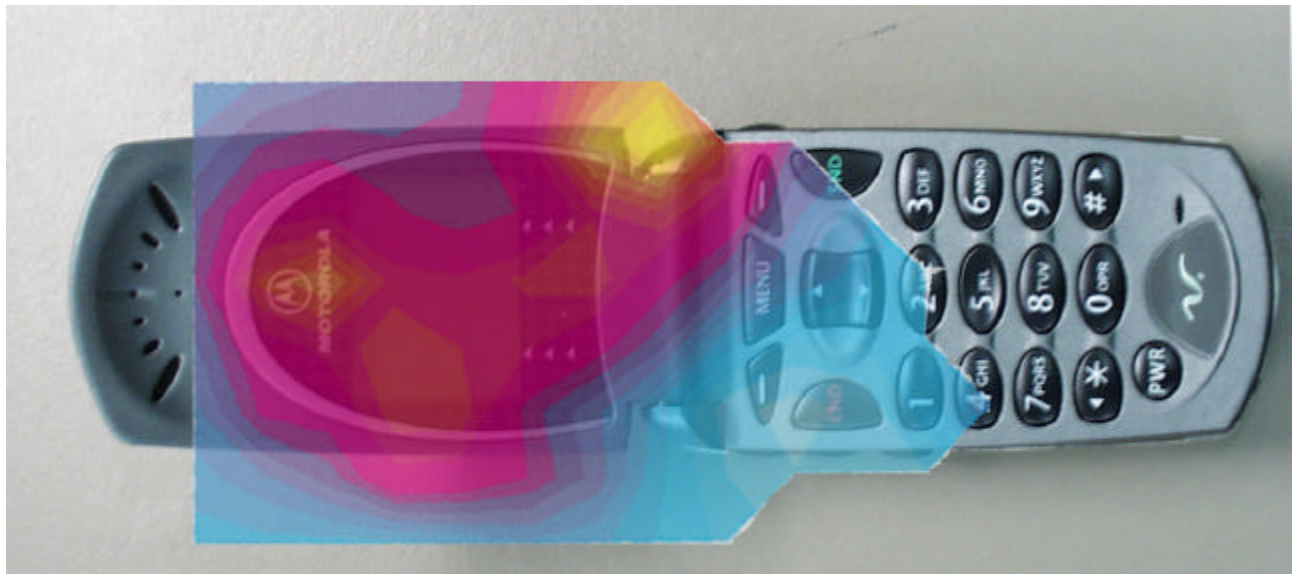


Figure 6. 800MHz Contour Plot Overlaid on Face of Phone.

The maximum SAR level for the Motorola portable cellular phone (FCC ID IHDT56AD1) in the 1900MHz band is 0.42 W/kg and was found on the right side head. A full data set output of two test conditions with the highest SAR values from the Dasy™ measurement system is included as appendix B. The test condition included is indicated as a bold number in the following table. All other test conditions measured lower SAR values than those included. Figure 7 shows the contour plot of the highest test condition overlaid onto a picture of the phone.

CDMA 1900 Channel	Left side head		Right side head		Conducted Power (Watts)
	Ant Ret	Ant Ext	Ant Ret	Ant Ext	
25	0.034	0.016	0.010	0.420	0.295
600	0.008	0.011	0.059	0.071	0.302
1175	0.011	0.030	0.068	0.043	0.324



Figure 7. 1900MHz Contour Plot Overlaid on Face of Phone.

9. Body Worn Configuration

The cellular phone (FCC ID IHDT56AD1) can be used in a body-worn configuration using the supplied belt clip. We have performed an evaluation to show RF exposure compliance when used with the belt clip. Figure 8 shows the test unit as it is placed onto the belt clip. The 800MHz phantom was filled with a liquid having relative dielectric constant equal to 50.6 and conductivity equal to 1.08 S/m. The composition of the liquid mixture is as follows: 52.5% water; 45.0% sugar; 1.3% salt, 1% HEC; and 0.2% bactericide. The 1900MHz phantom was filled with a liquid having relative dielectric constant equal to 49.3 and conductivity equal to 1.63 S/m. The composition of the liquid mixture is as follows: 66.1% water; 33.4% Glycol; and 0.5 salt.

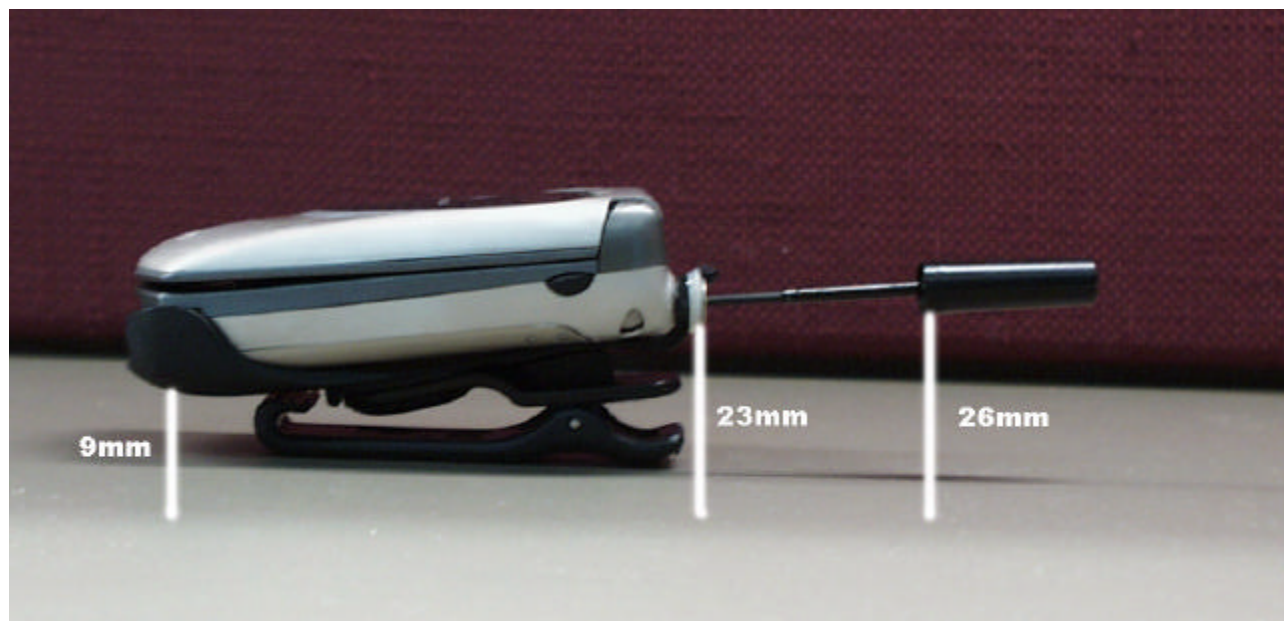


Figure 8. Phone In Belt Clip Showing Provided Distance

The following table shows the SAR values for the body worn condition for 800MHz and 1900MHz. A full data set output of two test conditions with the highest SAR values from the Dasy™ measurement system in each frequency band is included as appendix C. The test conditions included are indicated as a bold number in the following table. All other test conditions measured lower SAR values than those included.

Analog 800 Channel	Ant Ret	Ant Ext	CDMA1900 Channel	Ant Ret	Ant Ext
991	0.39	1.23	25	0.71	0.70
384	0.24	1.15	600	0.74	0.53
799	0.22	1.18	1175	0.77	1.05

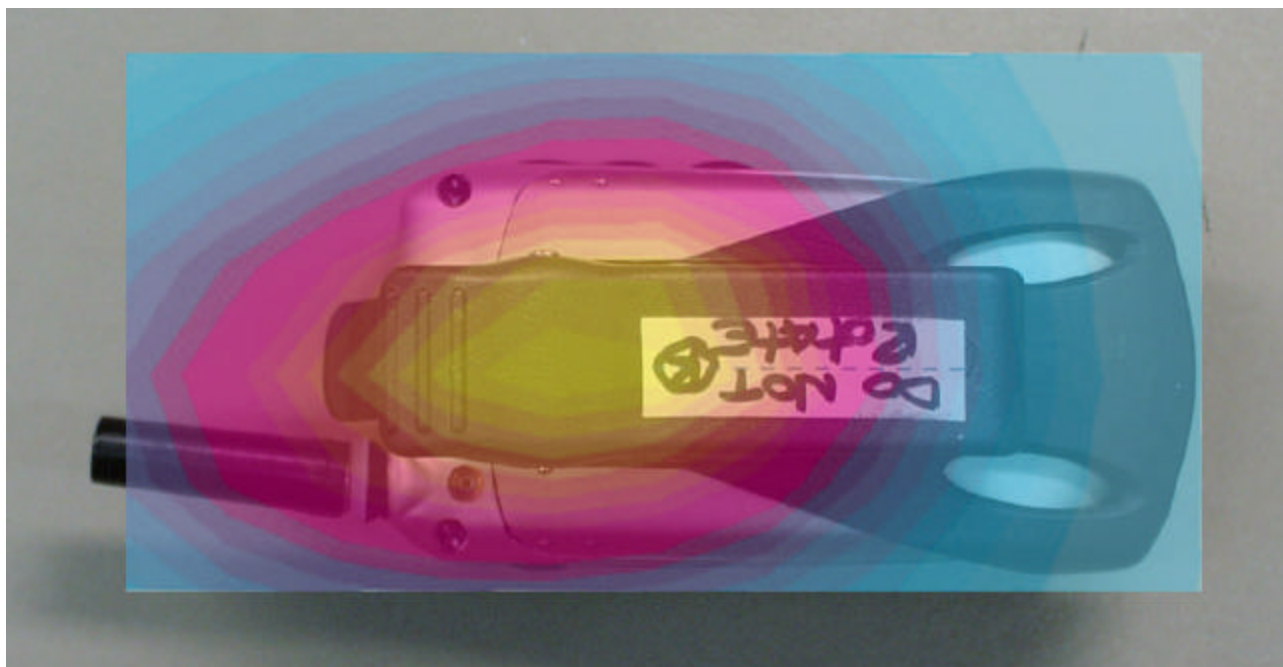


Figure 9. Showing Typical 800MHz contour plot overlaid on Belt Clip

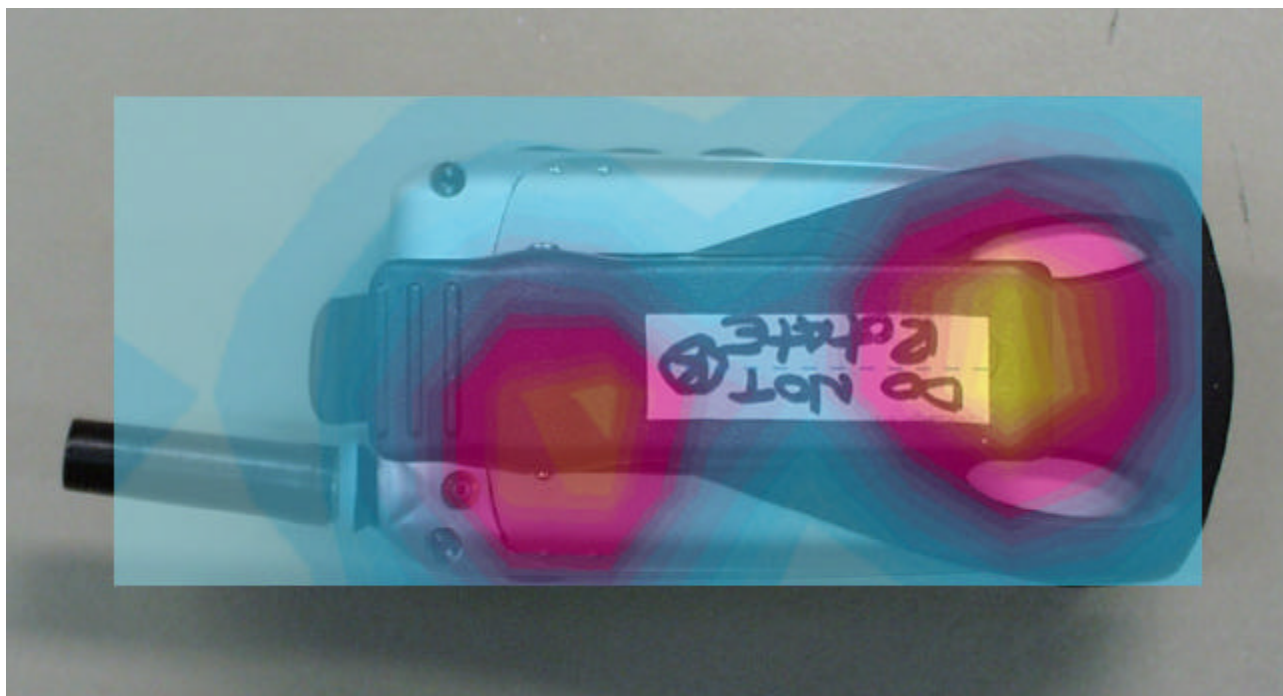


Figure 10. Showing Typical 1900MHz contour plot overlaid on Belt Clip

10. SAR in the Hand

The Motorola Portable cellular phone (FCC ID IHDT56AD1) was measured for total radiated power in the presence of a human phantom complete with a hand holding the phone. The phone was positioned on a full body measurement phantom per the instructions in the Motorola users manual for the subject phone. Total radiated power was measured without a hand holding the phone, and then as a second measurement with a phantom hand holding the phone in a normal position. One can see the placement of the phantom hand relative to the subject phone in figure 11. The phantom hand has the same dimensions as a real human hand, and is made of a pliable shell that is filled with tissue simulant. The tissue simulant is the same as is used in the head phantom. The dielectric constant is 43.0 and the conductivity is 0.85 S/m. The phantom is placed inside of an anechoic chamber capable of performing full spherical scans of the phones radiation characteristics, specifically total radiated power. The difference in total radiated with and without the phantom hand is then measured for both the antenna retracted and extended cases. This difference in total radiated power is then the maximum power that is deposited in the hand. The phone was set to transmit on maximum power (0.56 Watt) in analog mode and maximum power (0.32 Watt) in CDMA 1900MHz mode.

For the subject phone, the maximum power deposited in the hand was found to be less than 40mW for both the antenna retracted and extended positions in the both the 800MHz analog mode and 1900MHz CDMA mode. Federal Communications Commission rule §2.1093(d)(2), the ANSI/IEEE C95.1 1992 and the NCRP Report Number 86 specify the maximum exposure limit in the hand of 4 W/kg as averaged over any 10 grams of tissue for portable devices being used within 20cm of the user in the uncontrolled environment. More than 40mW of total power deposited in the hand would be required for the limit of 4 W/kg averaged over 10 grams to be exceeded. Since the total power deposited in the hand for the test phone is less than 34 mW, the standard is not exceeded. Included are two pictures. Figure 11 shows the subject phone in the normal talk position with the phantom hand in the test position. Figure 12 shows the full body phantom in the anechoic chamber.



Figure 11. Simulated Hand Against Phantom Head.

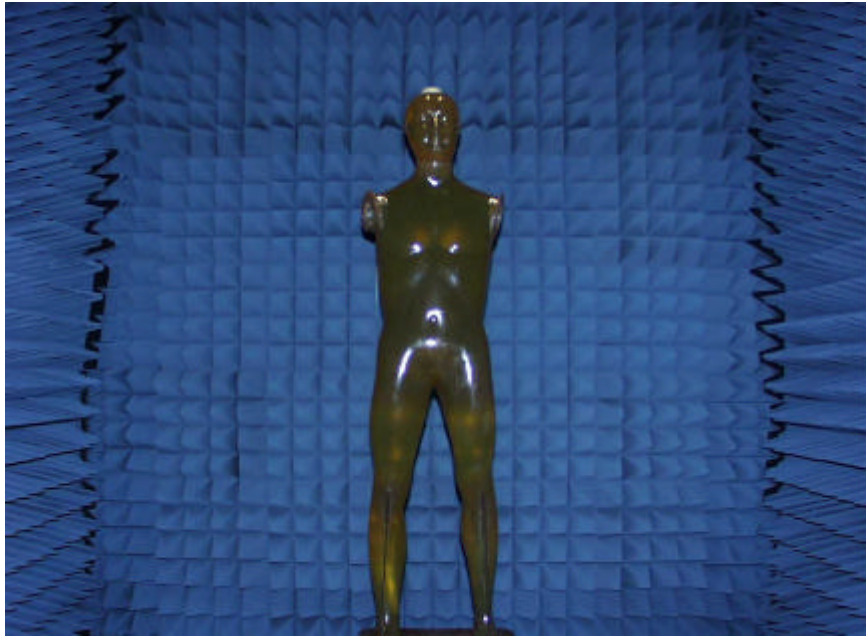


Figure 12. Phantom in Anechoic Chamber.

11. Battery Options

The cellular phone (FCC ID IHDT56AD1) uses only one battery model. This model used for all testing. There are no other battery options for this cellular phone.

12. Summary

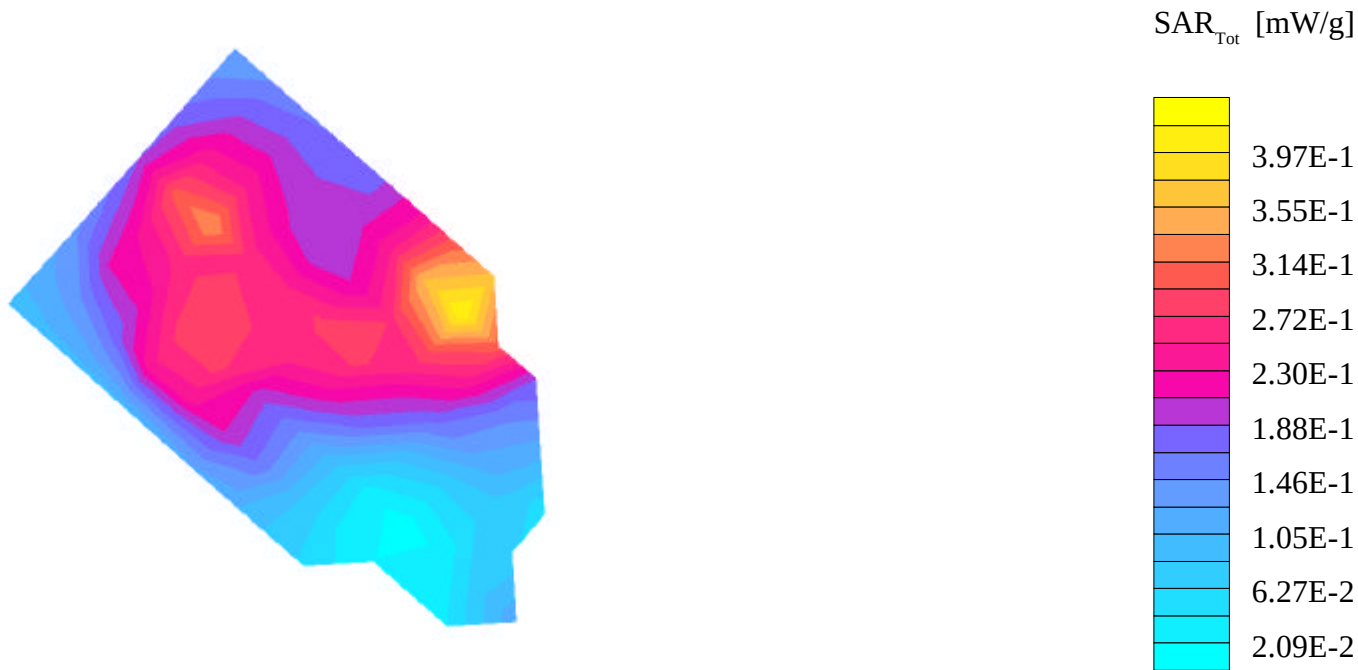
The SAR values found for the portable cellular phone (FCC ID IHDT56AD1) are below the maximum recommended levels of 1.6 W/kg.

Appendix A

The following pages are printouts from the Dasy™ measurement system of the data as indicated.

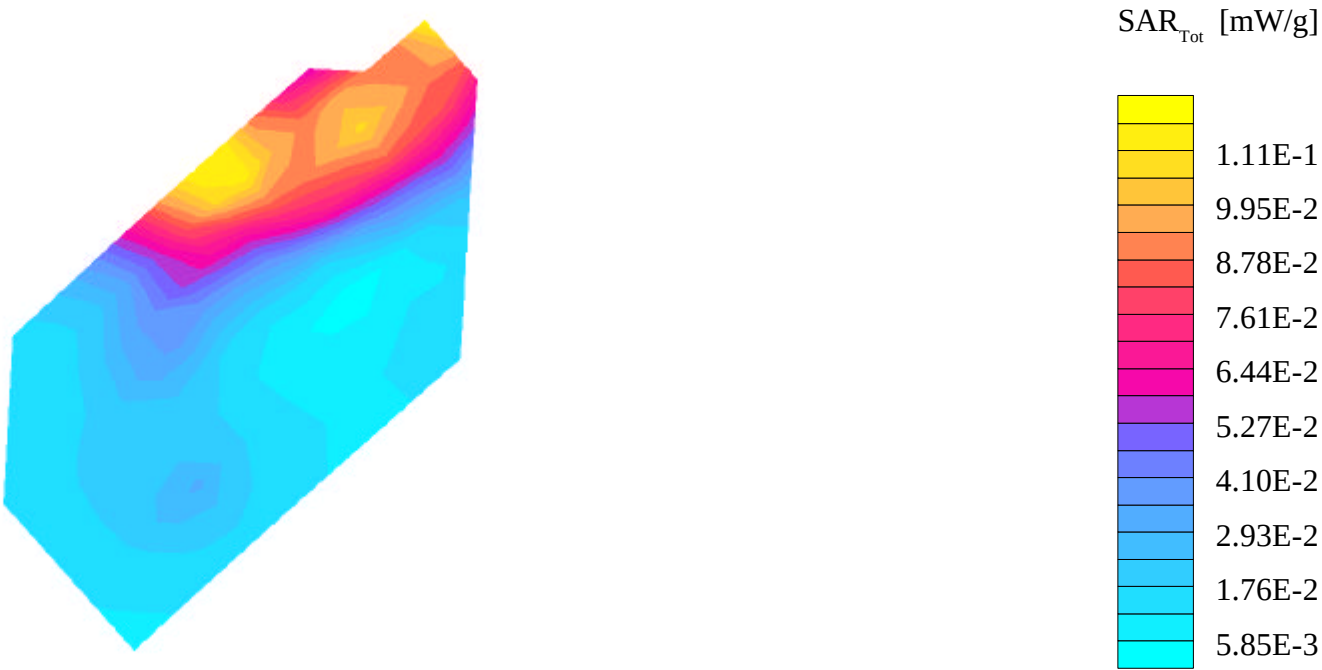
s/n DFB2366D

Ch#/384 Pwr 2 / Modulation: analog / ant: extended
Luke Left Head Phantom; Left Head Section; Position: (80°,180°); Frequency: 837 MHz
Probe: ET3DV6 - SN1508; ConvF(6.70,6.70,6.70); Crest factor: 1.0; Brain 835MHz: $\sigma = 0.85 \text{ mho/m}$ $\epsilon_r = 44.2$ $\rho = 1.00 \text{ g/cm}^3$
Cube 5x5x7: SAR (1g): 0.397 mW/g, SAR (10g): 0.265 mW/g * Max outside, (Worst-case extrapolation)
Coarse: Dx = 12.0, Dy = 12.0, Dz = 0.0
Penetration depth: 15.9 (13.1, 19.5) [mm]
Powerdrift: -0.46 dB



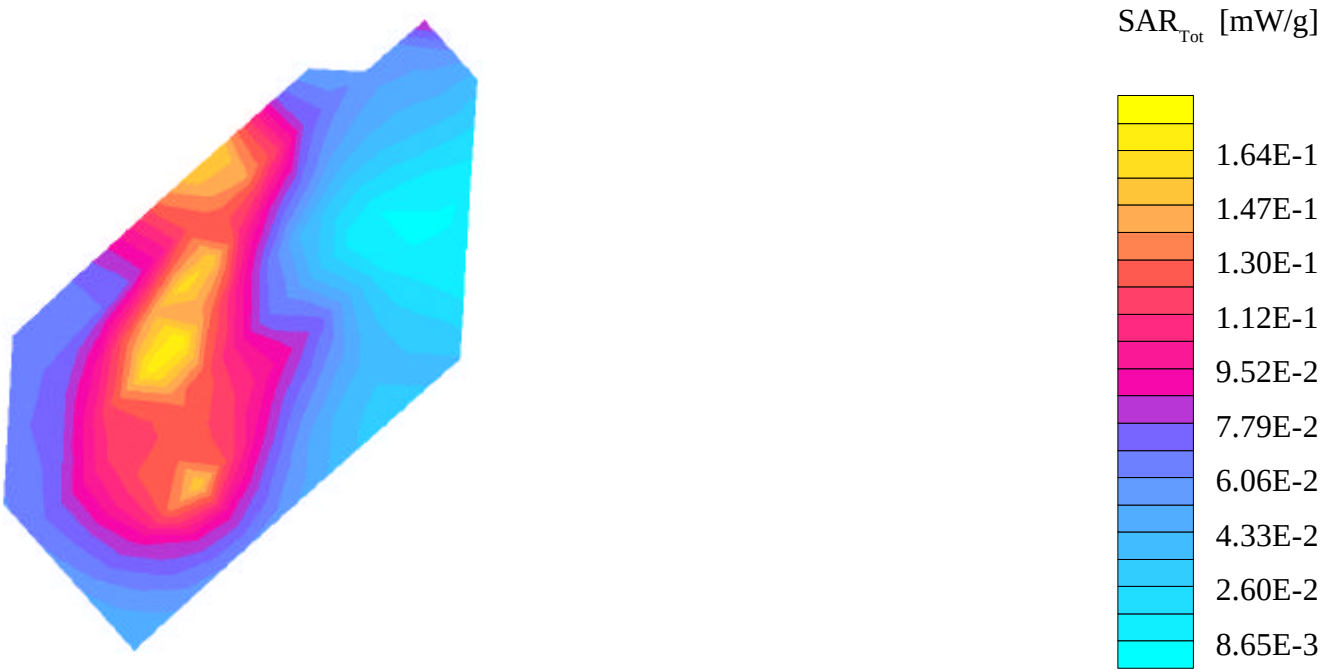
S/N DFB2366D

Ch# 991 Pwr 2 Modulation: Analog Antenna Retracted
Leia Right Head Phantom; Right Head Section; Position: (80°,180°); Frequency: 824 MHz
Probe: ET3DV6 - SN1508; ConvF(6.70,6.70,6.70); Crest factor: 1.0; Brain 835MHz: $\sigma = 0.87$ mho/m $\epsilon_r = 46.6$ $\rho = 1.00$ g/cm³
Cube 5x5x7: SAR (1g): 0.113 mW/g, SAR (10g): 0.0746 mW/g * Max outside, (Worst-case extrapolation)
Coarse: Dx = 10.0, Dy = 10.0, Dz = 10.0
Penetration depth: 14.4 (11.6, 17.8) [mm]
Powerdrift: -0.62 dB



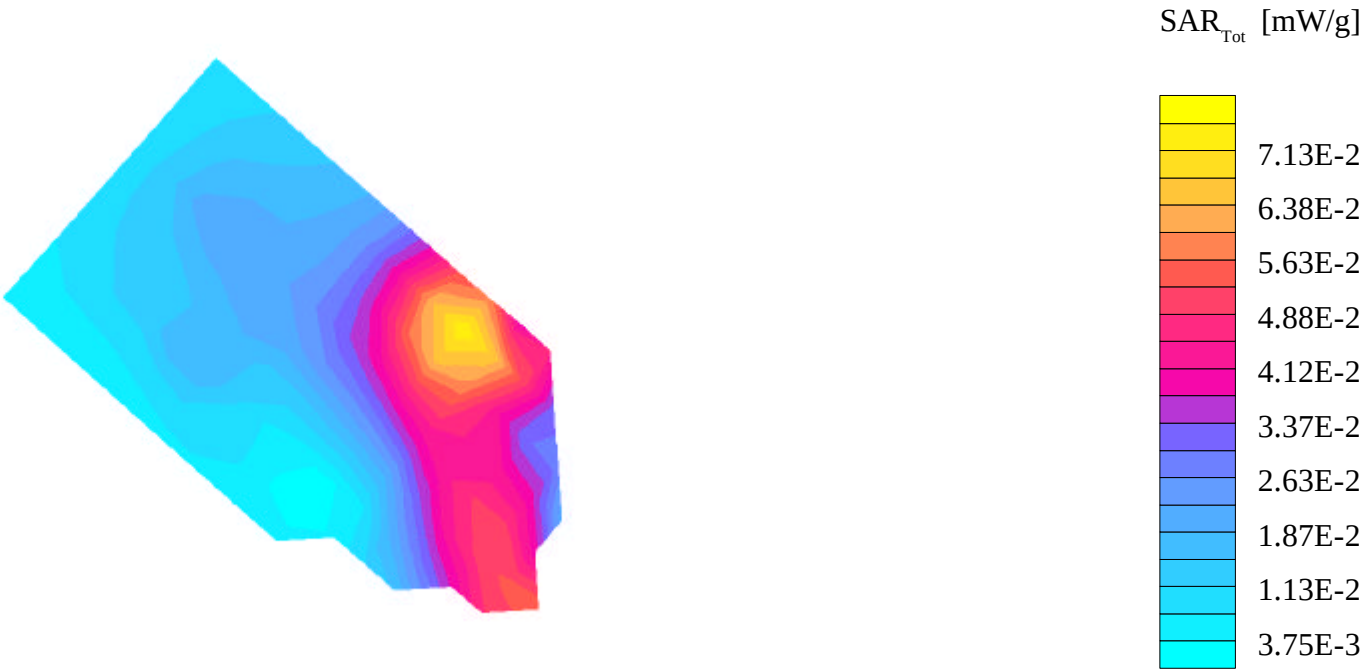
S/N DFB2366D

Ch# 777 Pwr 2 Modulation:800 CDMA Antenna Extended
Leia Right Head Phantom; Right Head Section; Position: (80°,180°); Frequency: 848 MHz
Probe: ET3DV6 - SN1508; ConvF(6.70,6.70,6.70); Crest factor: 1.0; Brain 835MHz: $\sigma = 0.85$ mho/m $\epsilon_r = 47.5$ $\rho = 1.00$ g/cm³
Cube 5x5x7: SAR (1g): 0.141 mW/g, SAR (10g): 0.0988 mW/g, (Worst-case extrapolation)
Coarse: Dx = 10.0, Dy = 10.0, Dz = 10.0
Penetration depth: 15.1 (11.9, 19.3) [mm]
Powerdrift: -0.77 dB



S/N DFB2366D

Ch#1013 Pwr 2 Modulation:800 CDMA Antenna Retracted
Luke Left Head Phantom; Left Head Section; Position: (80°,180°); Frequency: 824 MHz
Probe: ET3DV6 - SN1508; ConvF(6.70,6.70,6.70); Crest factor: 1.0; Brain 835MHz: $\sigma = 0.85$ mho/m $\epsilon_r = 47.5$ $\rho = 1.00$ g/cm³
Cube 5x5x7: SAR (1g): 0.0707 mW/g, SAR (10g): 0.0474 mW/g, (Worst-case extrapolation)
Coarse: Dx = 10.0, Dy = 10.0, Dz = 0.0
Penetration depth: 16.7 (14.2, 20.2) [mm]
Powerdrift: -0.33 dB

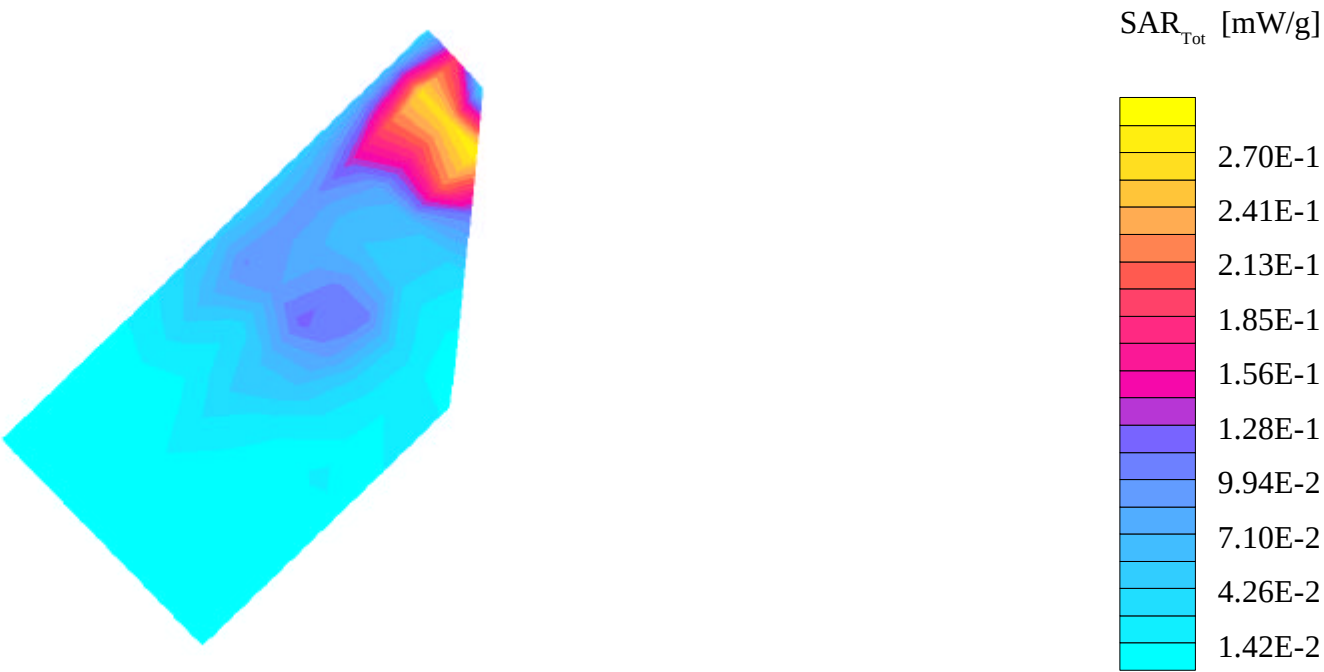


Appendix B

The following pages are printouts from the Dasy™ measurement system of the data as indicated

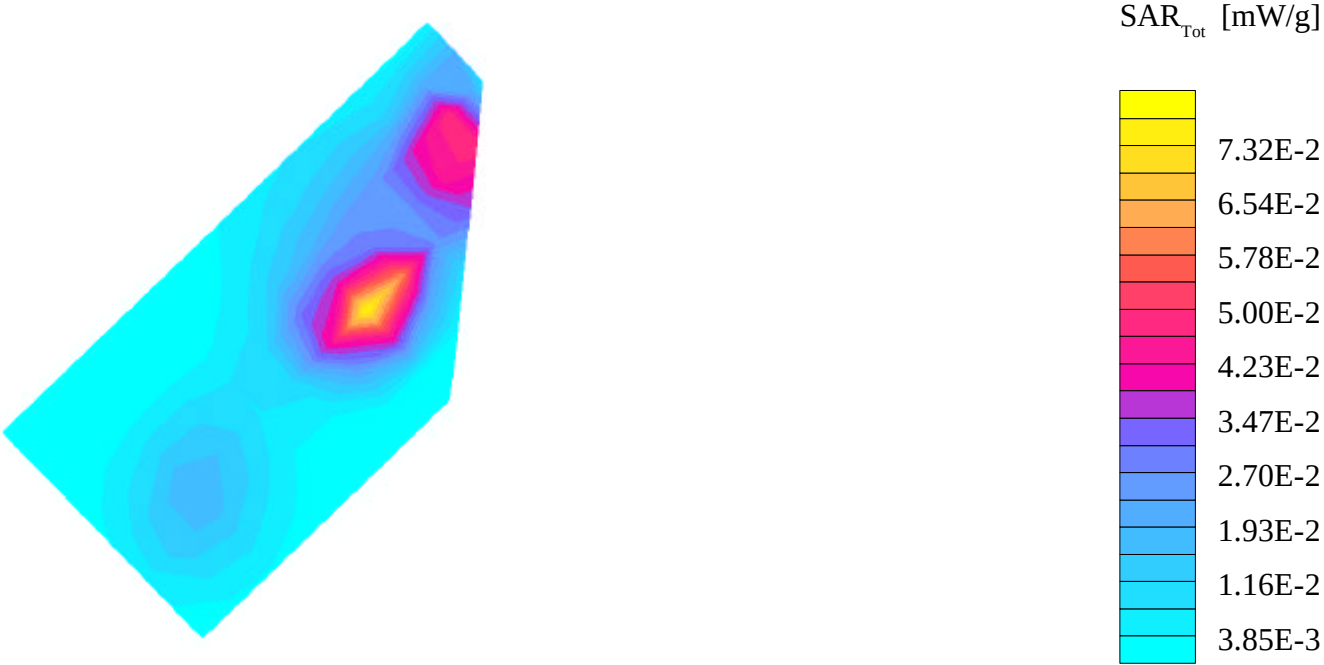
s/n DFB2366D

Ch# 25 / Over the air call / Antenna Position: ext
Ginger Right Head Phantom; Right Head Section; Position: (80°,180°); Frequency: 1851 MHz
Probe: ET3DV6 - SN1514; ConvF(5.66,5.66,5.66); Crest factor: 3.0; Brain 1800 MHz: $\sigma = 1.85 \text{ mho/m}$ $\epsilon_r = 41.0$ $\rho = 1.00 \text{ g/cm}^3$
Cube 5x5x7: SAR (1g): 0.420 mW/g, SAR (10g): 0.246 mW/g, (Worst-case extrapolation)
Coarse: Dx = 12.0, Dy = 10.0, Dz = 0.0
Penetration depth: 21.5 (12.9, 29.5) [mm]
Powerdrift: 0.46 dB



s/n DFB2366D

Ch# 1175 / Over the air call / Antenna Position: Retracted
Ginger Right Head Phantom; Right Head Section; Position: (80°,180°); Frequency: 1909 MHz
Probe: ET3DV6 - SN1514; ConvF(5.66,5.66,5.66); Crest factor: 3.0; Brain 1800 MHz: $\sigma = 1.85 \text{ mho/m}$ $\epsilon_r = 41.0$ $\rho = 1.00 \text{ g/cm}^3$
Cube 5x5x7: SAR (1g): 0.0676 mW/g, SAR (10g): 0.0290 mW/g, (Worst-case extrapolation)
Coarse: Dx = 12.0, Dy = 10.0, Dz = 0.0
Penetration depth: 7.6 (7.2, 8.4) [mm]
Powerdrift: 0.01 dB



Appendix C

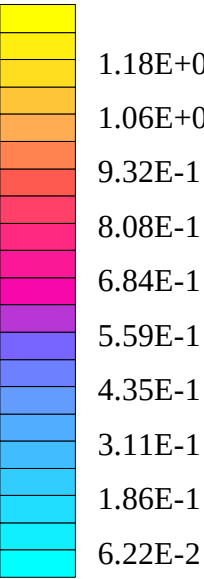
The following pages are printouts from the Dasy™ measurement system of the data as indicated

s/n DFB2366D

Ch#991/ Pwr Step: 2 / Antenna Position:Extended / 800 Analog
Amy Twin Optics OFF Phantom; Section2 Section; Position: (0°,0°); Frequency: 824 MHz
Probe: ET3DV6 - SN1506 - Muscle; ConvF(6.54,6.54,6.54); Crest factor: 1.0; 800 Muscle: $\sigma = 1.08 \text{ mho/m}$ $\epsilon_r = 50.6$ $\rho = 1.00 \text{ g/cm}^3$
Cube 5x5x7: SAR (1g): 1.23 mW/g, SAR (10g): 0.842 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Penetration depth: 13.9 (12.7, 15.3) [mm]
Powerdrift: -0.14 dB

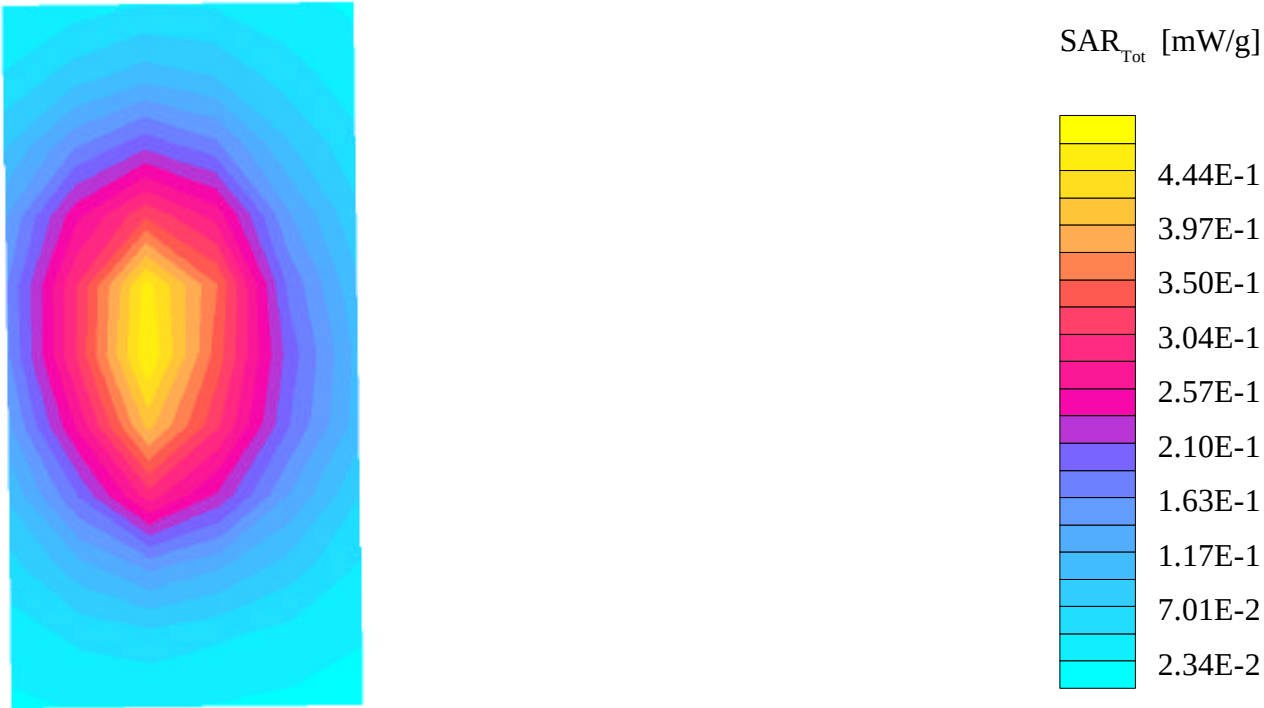


SAR_{Tot} [mW/g]



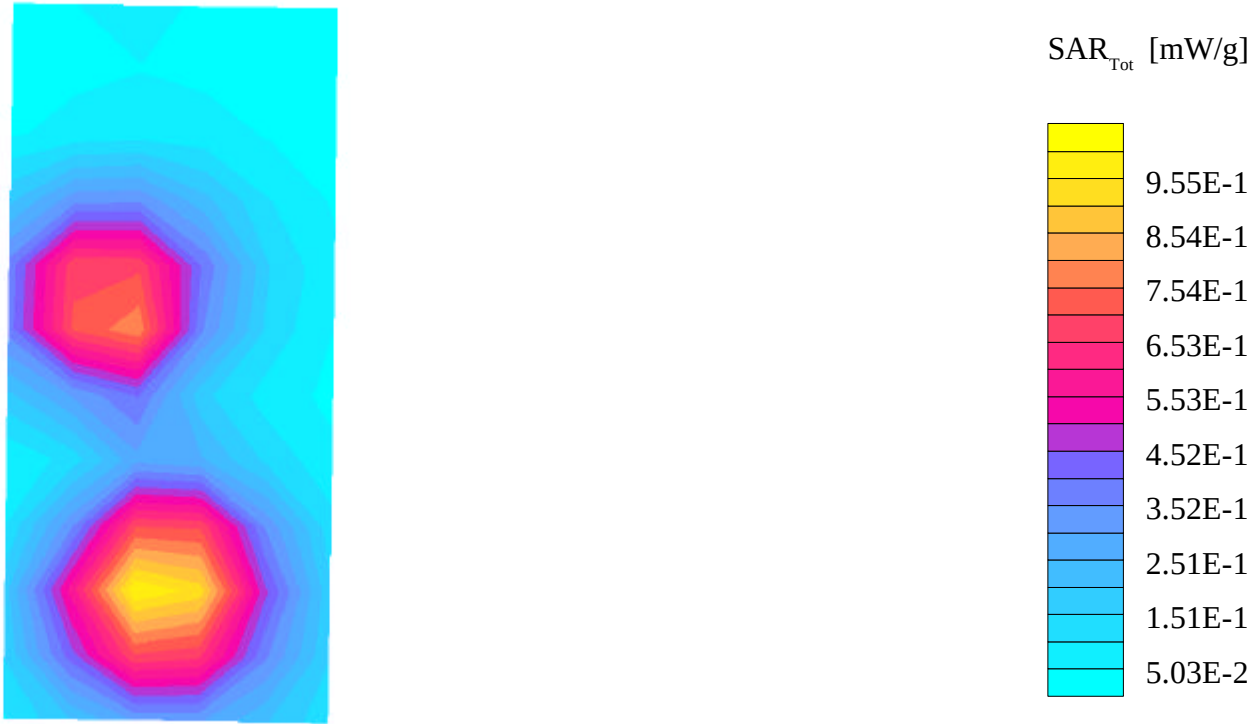
s/n DFB2366D

Ch#991 / Pwr Step: 2 / Antenna Position:Retracted / Type of Modulation: 800 Analog
Amy Twin Optics OFF Phantom; Section2 Section; Position: (0°,0°); Frequency: 824 MHz
Probe: ET3DV6 - SN1506 - Muscle; ConvF(6.54,6.54,6.54); Crest factor: 1.0; 800 Muscle: $\sigma = 1.08 \text{ mho/m}$ $\epsilon_r = 50.6$ $\rho = 1.00 \text{ g/cm}^3$
Cube 5x5x7: SAR (1g): 0.390 mW/g, SAR (10g): 0.268 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Penetration depth: 14.2 (13.3, 15.1) [mm]
Powerdrift: -0.10 dB



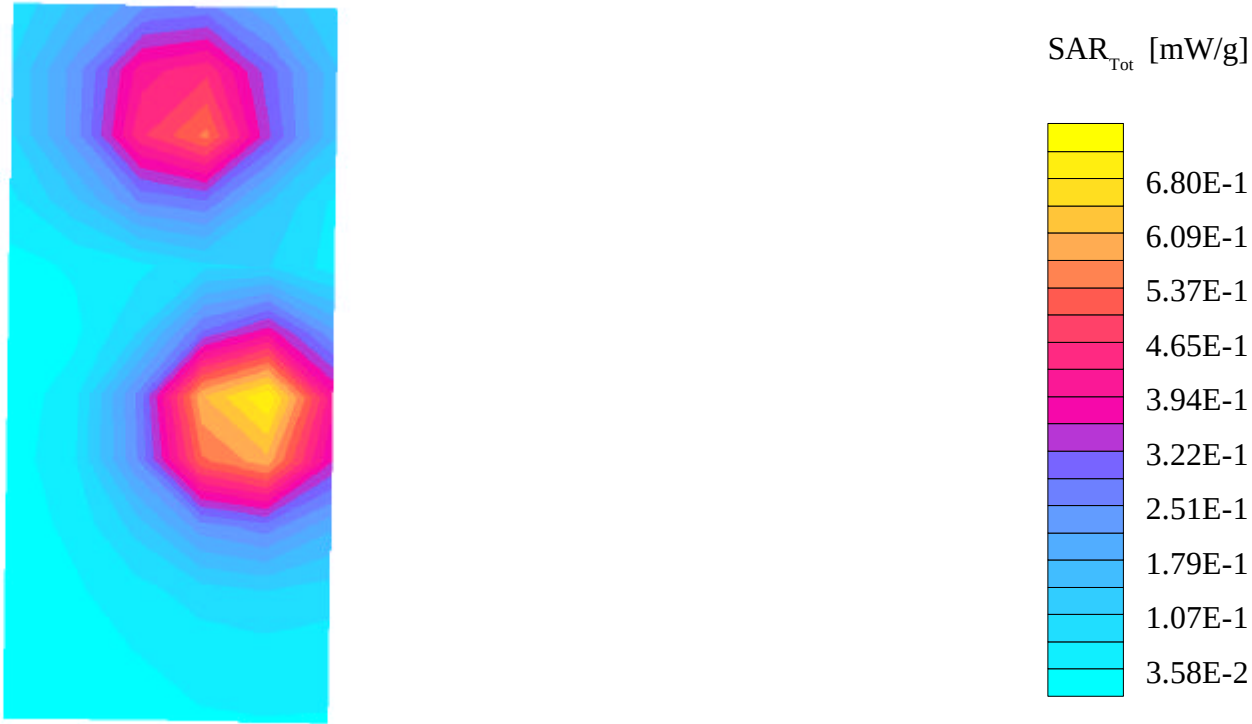
s/n DFB2366D

Ch#1175 / Pwr Step:always up / Antenna Position: Extended / Modulation:1900 CDMA
Amy Twin Phantom Phantom; Section 1 Section; Position: (0°,0°); Frequency: 1910 MHz
Probe: ET3DV6 - SN1506 - Muscle; ConvF(5.12,5.12,5.12); Crest factor: 1.0; Muscle Glycol 1900mhz: $\sigma = 1.63 \text{ mho/m}$ $\epsilon_r = 49.3$ $\rho = 1.00 \text{ g/cm}^3$
Cube 5x5x7: SAR (1g): 1.05 mW/g, SAR (10g): 0.617 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Penetration depth: 9.9 (8.7, 11.7) [mm]
Powerdrift: 0.02 dB



s/n DFB2366D

Ch#1175 / Pwr Step:always up / Antenna Position: retracted / Modulation: 1900 CDMA
Amy Twin Optics OFF Phantom; Section 1 Section; Position: (0°,0°); Frequency: 1910 MHz
Probe: ET3DV6 - SN1506 - Muscle; ConvF(5.12,5.12,5.12); Crest factor: 1.0; Muscle Glycol 1900mhz: $\sigma = 1.68 \text{ mho/m}$ $\epsilon_r = 49.5$ $\rho = 1.00 \text{ g/cm}^3$
Cube 5x5x7: SAR (1g): 0.770 mW/g, SAR (10g): 0.451 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Penetration depth: 9.8 (8.8, 11.3) [mm]
Powerdrift: 0.33 dB



Appendix D

The following page is the printout from the Dasy™ measurement system validation tests

Dipole 900 MHz

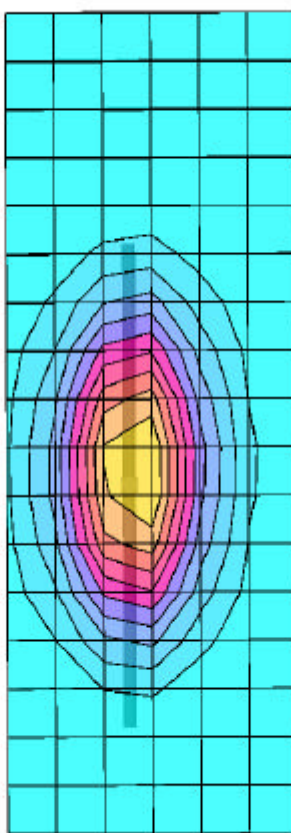
Amy Twin Phantom; Section 1

Probe: ET3DV6 - SN1508; ConvF(6.70,6.70,6.70); Crest factor: 1.0; Brain 900 MHz: $\sigma = 0.87$ mho/m $\epsilon_r = 44.1$ $\rho = 1.00$ g/cm³

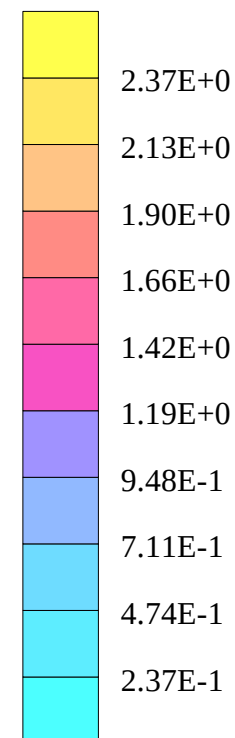
Cubes (2): Peak: 3.89 mW/g ± 0.08 dB, SAR (1g): 2.49 mW/g ± 0.07 dB, SAR (10g): 1.61 mW/g ± 0.06 dB, (Worst-case extrapolation)

Penetration depth: 12.7 (11.4, 14.2) [mm]

Powerdrift: -0.01 dB



SAR_{Tot} [mW/g]



Dipole 1800 MHz

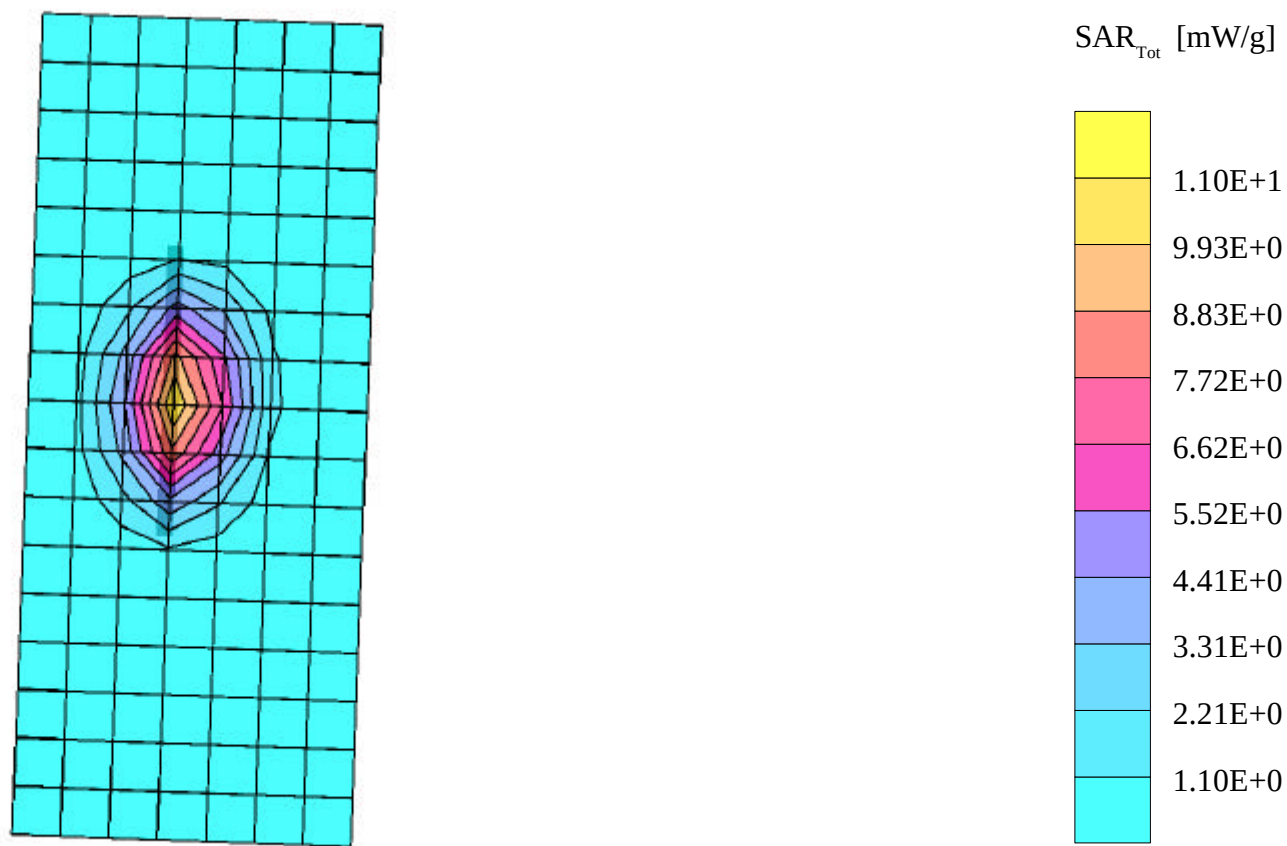
The Island - Amy Twin Phantom; Section 1 - The Lagoon

Probe: ET3DV6 - SN1514; ConvF(5.66,5.66,5.66); Crest factor: 1.0; Brain 1800 MHz: $\sigma = 1.72$ mho/m $\epsilon_r = 41.0$ $\rho = 1.00$ g/cm³

Cubes (2): Peak: 20.8 mW/g ± 0.05 dB, SAR (1g): 10.7 mW/g ± 0.08 dB, SAR (10g): 5.34 mW/g ± 0.10 dB, (Worst-case extrapolation)

Penetration depth: 7.2 (6.9, 8.0) [mm]

Powerdrift: -0.01 dB



Dipole 900 MHz

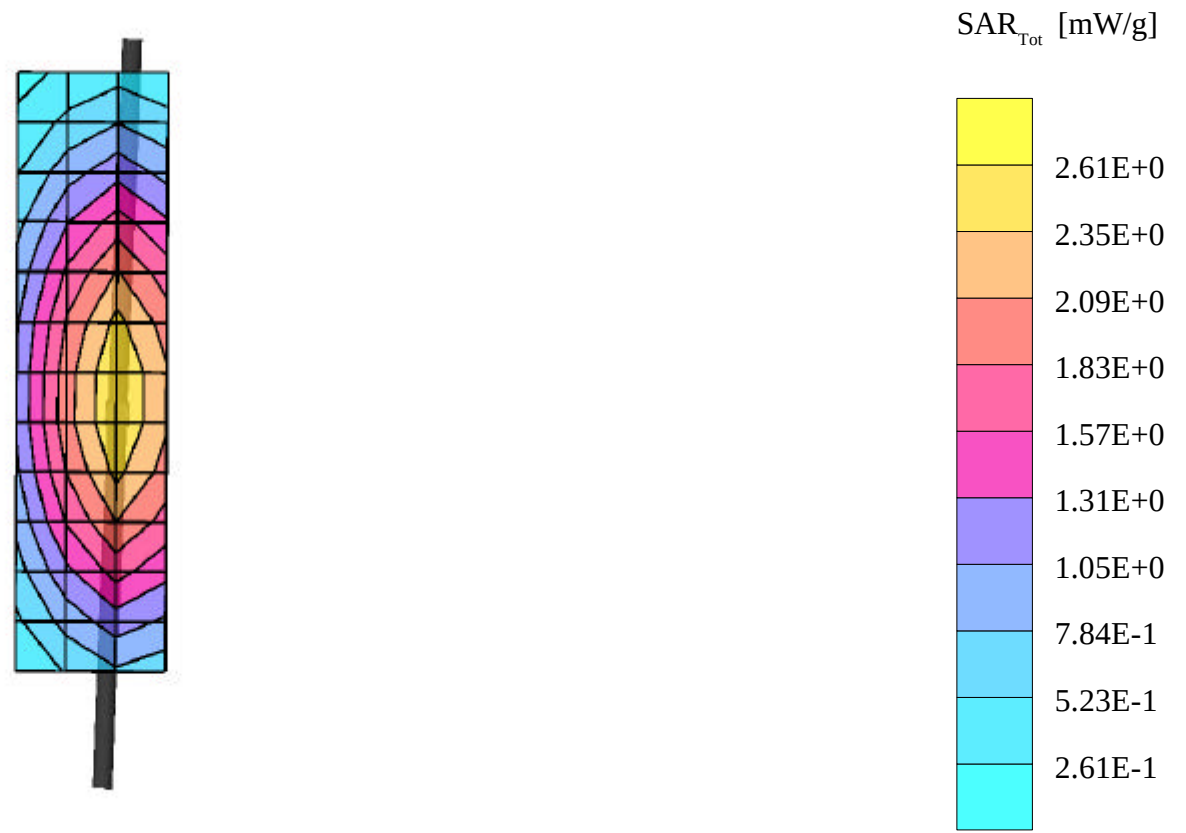
Amy Twin Phantom ; Section2

Probe: ET3DV6 - SN1506 - Validation; ConvF(6.45,6.45,6.45); Crest factor: 1.0; Validation 900 MHz: $\sigma = 0.86$ mho/m $\epsilon_r = 42.4$ $\rho = 1.00$ g/cm³

Cubes (2): Peak: 3.95 mW/g ± 0.02 dB, SAR (1g): 2.52 mW/g ± 0.03 dB, SAR (10g): 1.61 mW/g ± 0.03 dB, (Worst-case extrapolation)

Penetration depth: 12.2 (11.1, 13.5) [mm]

Powerdrift: -0.05 dB



Dipole 1800 MHz

1800 MHz Dipole Validation / Dipole Sn# 250 / Forward Power =250

Amy Twin Optics OFF; Section2

Probe: ET3DV6 - SN1506 - Validation; ConvF(5.67,5.67,5.67); Crest factor: 1.0; Validation 1800 MHz: $\sigma = 1.68 \text{ mho/m}$ $\epsilon_r = 39.8$ $\rho = 1.00 \text{ g/cm}^3$

Cubes (2): Peak: $18.2 \text{ mW/g} \pm 0.04 \text{ dB}$, SAR (1g): $9.41 \text{ mW/g} \pm 0.05 \text{ dB}$, SAR (10g): $4.74 \text{ mW/g} \pm 0.06 \text{ dB}$, (Worst-case extrapolation)

Penetration depth: 7.4 (7.1, 8.0) [mm]

Powerdrift: -0.04 dB

