



Exhibit 11 : IHDT5YD1 Class 2 Permissive Change Test Report

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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 testing procedures contained within are used for determination of compliance for a Motorola portable cellular with respect to ANSI/IEEE C951-1992 Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3kHz to 300GHz and the Federal Communications Commission rule §2.1093(d)(2).

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The results and statements contained herein relate only to the items tested. The names of the individuals involved may be mentioned only in connection with the statements or results from this 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 IHDT5YD1. The Specific Absorption Rate (SAR) of this product was measured. The portable cellular phone was tested in accordance with the latest available test guidelines. The SAR values found for the portable cellular phone (FCC ID IHDT5YD1) are below the maximum recommended levels of 1.6 W/kg. Detailed procedures of the test are described in the *Motorola Exhibit 11 Reference SAR Test Report*.

2. Description of the Device Under Test

FCC ID Number	IHDT5YD1
Serial Number	77CAA4A9
Modes of Operation	Analog800 and CDMA800
Modulation Mode(s)	AMPS, CDMA
Duty Cycle	1
Transmitting Frequency Range(s)	824.04-848.97MHz

3. Test Equipment Used

3.1 Dosimetric System

The Motorola Personal Communications Sector Product Safety Laboratory utilizes a Dosimetric Assessment System (Dasy3™) SAR measurement system manufactured by Schmid & Partner Engineering AG (SPEAG™), of Zurich Switzerland. The overall RSS uncertainty of the measurement system is ±12.0% (K=1).

Description	Serial Number	Cal Due Date
DASY3 DAE V1	SN385	5/01
E-Field Probe ETDV6	SN1398	10/28/00
Dipole Validation Kit, DV900V2	067	4/3/01

3.2 Additional Equipment

Description	Serial Number	Cal Due Date
Signal Generator HP8648C	3847A04810	1/31/01
Power Meter E4419B	GB39511087	3/13/01
Power Sensor 8481A	US39211007	3/20/01

4. Simulated Tissue Electrical Parameters

Before performing SAR measurements, the relative permittivity and the conductivity of the simulated tissue was measured with the dielectric probe kit. The results are shown below. The recommended limits for maximum permittivity and minimum conductivity are also shown. These come from the Federal Communication Commission, "Tissue Dielectric Properties" web site at <http://www.fcc.gov/fcc-bin/dielec.sh>.

F (MHz)	Description	Dielectric Parameters	
		ϵ_r	s (S/m)
800	Measured	44.35	0.87
	Recommended Limits	46.25	0.72

5. System Accuracy Verification

A system accuracy verification of the DASY3 was performed using the dipole validation kits listed in Section 3.1. The system verification test was conducted on the same day as the measurement of the portable cellular phone FCC ID IHDT5YD1. The results are shown in the table below. See appendix D for printout of the validation test from the Dasy™ measurement system

F (MHz)	Description	SAR (W/kg), 1gram	Dielectric Parameters		Temp (°C)
			ϵ_r	s (S/m)	
800	Measured	9.76	41.0	0.83	22
	Recommended Limits	10.08	43.4	0.87	??

6. Measurement Results Against Phantom Head

The measured SAR values and conducted output powers are shown in the following table. For the purposes of these tests, the transmitter was operated at the highest transmitter output and with the phone on both left and right side talk positions. The SAR results shown are maximum SAR values averaged over 1 gram of phantom tissue.

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.

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 conditions included are indicated as bold numbers in the following table. All other test conditions measured lower SAR values than those included. Note that digital mode SAR data was measured only for the test conditions that resulted in the highest analog SAR values. This is because the only difference between analog and digital modes that can impact SAR is the average transmitter power.

F (MHz)	Description	Conducted Output Power (dBm)	SAR, 1g (W/kg)			
			Left Head		Right Head	
			Ant Ext	Ant Ret	Ant Ext	Ant Ret
Analog 800MHz	Channel 991	27.3	0.158	0.657	0.104	0.803
	Channel 384	27.3	0.179	1.15	0.158	0.580
	Channel 799	27.6	0.162	1.04	0.134	0.685
Digital 800MHz	Channel 1013	25.0				
	Channel 384	25.1	0.09	0.59		
	Channel 779	24.9				

The original application had the following SAR data:

F (MHz)	Description	Conducted Output Power (dBm)	SAR, 1g (W/kg)			
			Left Head		Right Head	
			Ant Ext	Ant Ret	Ant Ext	Ant Ret
Analog 800MHz	Low Channel	27.0	0.54	0.36	0.40	0.35
	Mid Channel	27.0	0.41	0.32	0.48	0.42
	High Channel	27.0	0.36	0.41	0.48	0.33
Digital 800MHz	Low Channel	24.0	0.24			
	Mid Channel	24.0				0.19
	High Channel	24.0				

7. Body Worn Configuration Measurement Results

The measured SAR values and conducted output powers are shown in the following table. For the purposes of these tests, the transmitter was operated at the highest transmitter output and with the phone on both left and right side talk positions. The SAR results shown are maximum SAR values averaged over 1 gram of phantom tissue. 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.

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.

F (MHz)	Description	SAR, 1g (W/kg)	
		Body Worn	
		Ant Ext	Ant Ret
Analog 800MHz	Low Channel	0.295	0.626
	Mid Channel	0.398	0.654
	High Channel	0.319	0.871

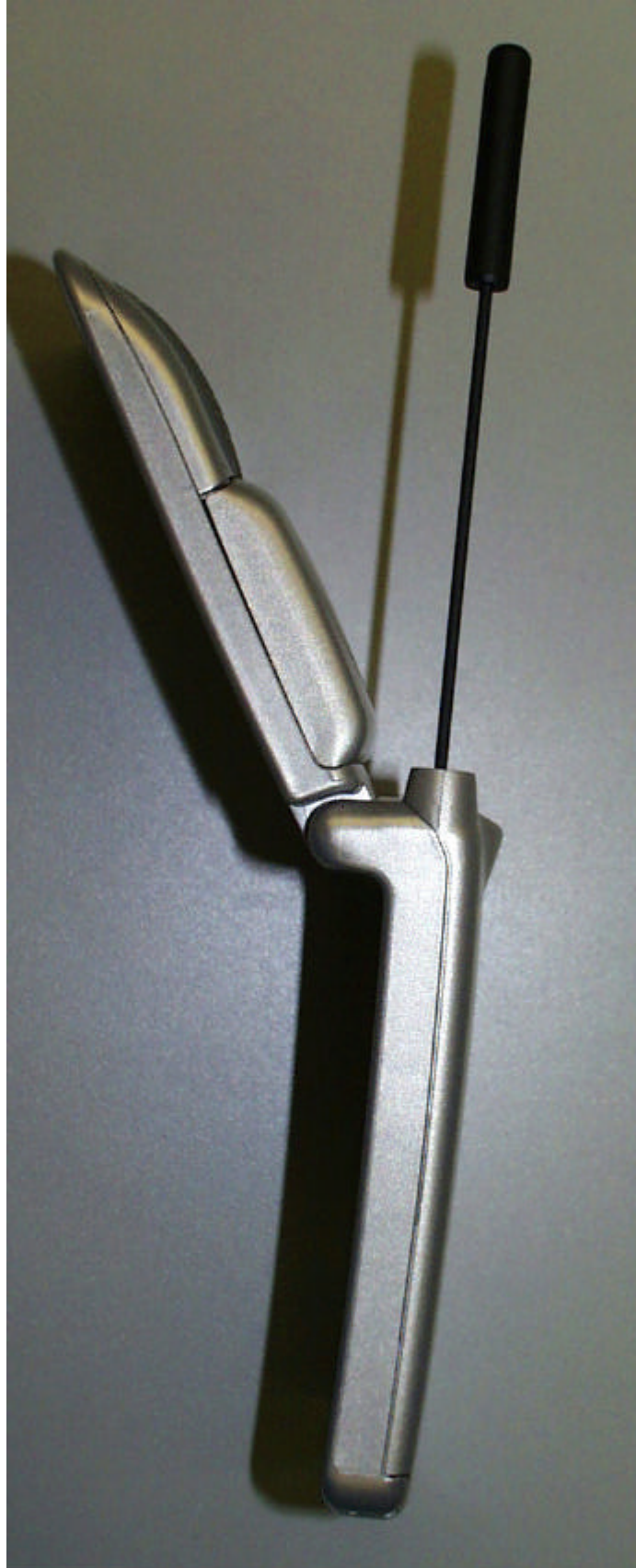
Appendix A

Photographs of Motorola Portable Cellular Phone FCC ID IHDT5YD1













Appendix B

Included data for 800MHz against Phantom Head

s/n 77CAA4A9

Ch# 384 / Pwr Step: 02 / Antenna Position: EXTENDED / Type of Modulation: 800 Analog

Left Head (Barney) Phantom; Left Head Section; Position: (80°,180°); Frequency: 837 MHz

Probe: ET3DV6 - SN1398 - Head; ConvF(6.61,6.61,6.61); Crest factor: 1.0; Head 835 MHz: $\sigma = 0.87$ mho/m $\epsilon_r = 44.4$ $\rho = 1.00$ g/cm³

Cube 5x5x7: SAR (1g): 0.179 mW/g, SAR (10g): 0.128 mW/g, (Worst-case extrapolation)

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

Penetration depth: 16.9 (15.6, 18.1) [mm]

Powerdrift: 0.01 dB



s/n 77CAA4A9

Ch# 384 / Pwr Step: 02 / Antenna Position: RETRACTED / Type of Modulation: 800 Analog

Left Head (Barney) Phantom; Left Head Section; Position: (80°,180°); Frequency: 837 MHz

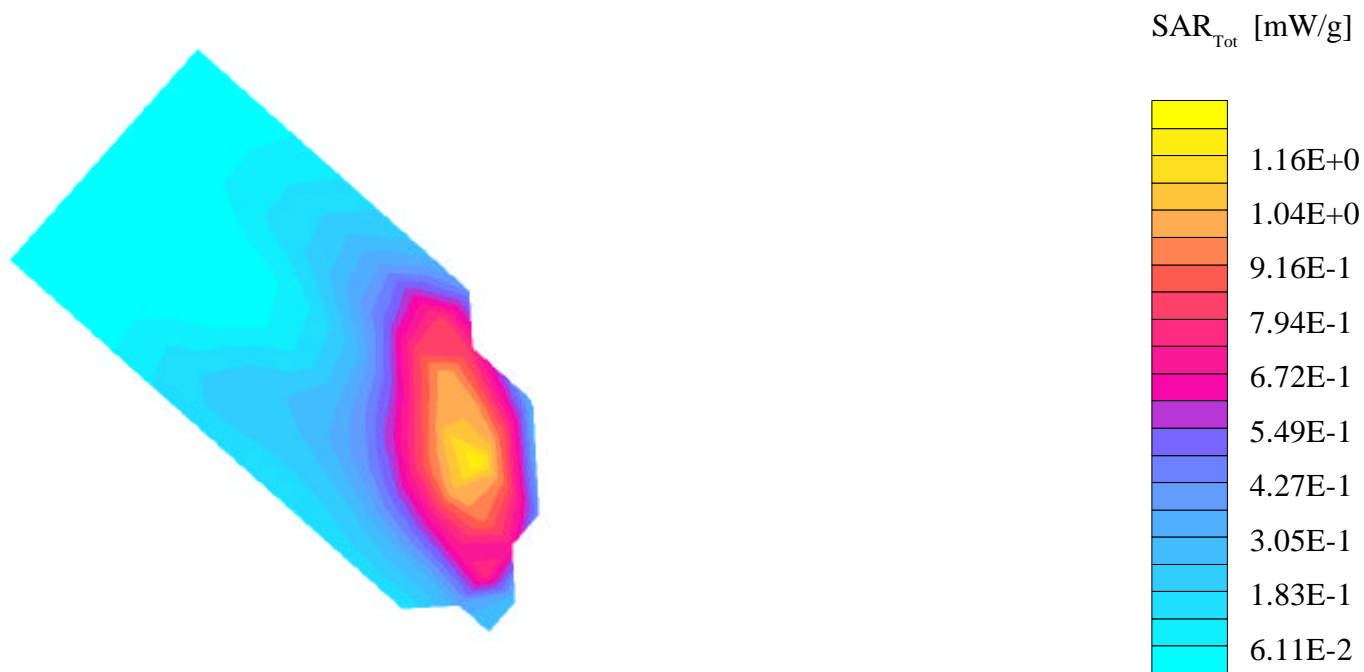
Probe: ET3DV6 - SN1398 - Head; ConvF(6.61,6.61,6.61); Crest factor: 1.0; Head 835 MHz: $\sigma = 0.87$ mho/m $\epsilon_r = 44.4$ $\rho = 1.00$ g/cm³

Cube 5x5x7: SAR (1g): 1.15 mW/g, SAR (10g): 0.776 mW/g * Max outside, (Worst-case extrapolation)

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

Penetration depth: 15.3 (14.8, 15.6) [mm]

Powerdrift: 0.16 dB



Appendix C

Included data for Body Worn Configuration

s/n 77CAA4A9

Ch#384 / Pwr Step:2 / Antenna Position:Extended / Type of Modulation: Analog

Amy Twin Phantom Phantom; Section2 Section; Position: (0°,0°); Frequency: 837 MHz

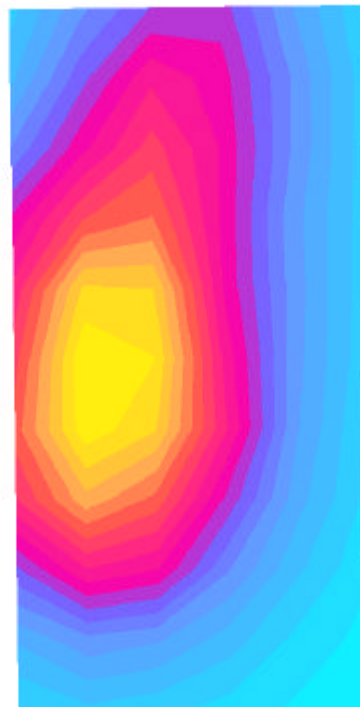
Probe: ET3DV6 - SN1398 - Muscle; ConvF(6.66,6.66,6.66); Crest factor: 1.0; Muscle 800 MHz: $\sigma = 1.13$ mho/m $\epsilon_r = 51.3$ $\rho = 1.00$ g/cm³

Cube 5x5x7: SAR (1g): 0.398 mW/g, SAR (10g): 0.257 mW/g, (Worst-case extrapolation)

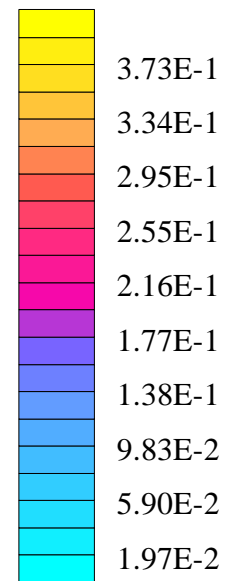
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0

Penetration depth: 11.3 (9.2, 14.4) [mm]

Powerdrift: -0.01 dB



SAR_{Tot} [mW/g]



s/n 77CAA4A9

Ch#799 / Pwr Step:2 / Antenna Position:Retracted / Type of Modulation:Analog

Amy Twin Phantom Phantom; Section2 Section; Position: (0°,0°); Frequency: 849 MHz

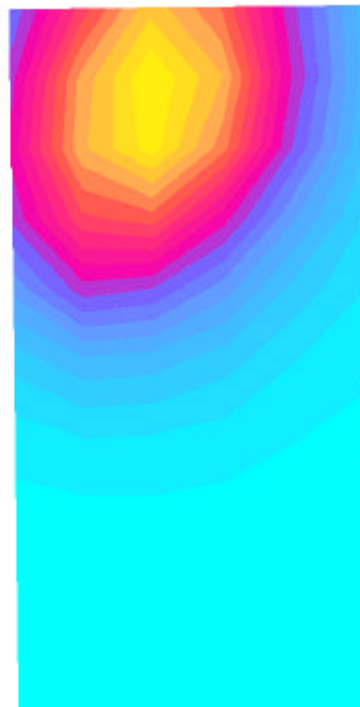
Probe: ET3DV6 - SN1398 - Muscle; ConvF(6.66,6.66,6.66); Crest factor: 1.0; Muscle 800 MHz: $\sigma = 1.13$ mho/m $\epsilon_r = 51.3$ $\rho = 1.00$ g/cm³

Cube 5x5x7: SAR (1g): 0.871 mW/g, SAR (10g): 0.568 mW/g, (Worst-case extrapolation)

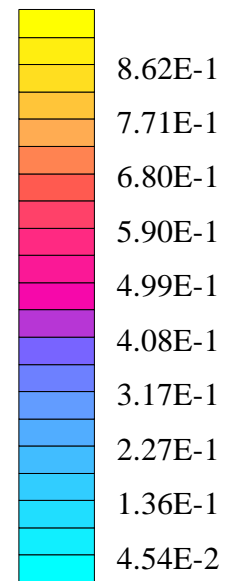
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0

Penetration depth: 11.8 (9.7, 14.8) [mm]

Powerdrift: -0.12 dB



SAR_{Tot} [mW/g]



Appendix D

Printout from the Dasy™ measurement system validation test

Dipole 900 MHz

900 MHz Dipole Validation / Dipole Sn# 67 / Forward Power = 253mW

Temp at time of measurement = 22

Amy Twin Phantom ; Section 1

Probe: ET3DV6 - SN1398 - Validation; ConvF(6.61,6.61,6.61); Crest factor: 1.0; Validation 900 MHz: $\sigma = 0.83$ mho/m $\epsilon_r = 41.0$ $\rho = 1.00$ g/cm³

Cubes (2): Peak: 3.82 mW/g ± 0.03 dB, SAR (1g): 2.44 mW/g ± 0.03 dB, SAR (10g): 1.57 mW/g ± 0.03 dB, (Worst-case extrapolation)

Penetration depth: 12.2 (11.0, 13.7) [mm]

Powerdrift: -0.06 dB

