



Exhibit 11 : IHDT5AE1 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 IHDT5AE1. 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 IHDT5AE1) 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 | IHDT5AE1 |
| Serial Number | 042600/A |
| Modes of Operation | CDMA800 |
| Modulation Mode(s) | 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 | SN378 | 2/01 |
| E-Field Probe ETDV6 | SN1391 | 8/06/00 |
| Dipole Validation Kit, DV900V2 | 050 | 8/25/01 |

3.2 Additional Equipment

| Description | Serial Number | Cal Due Date |
|--------------------------|---------------|--------------|
| Signal Generator HP8648C | 3947A04844 | 2/29/01 |
| Power Meter E4419B | GB39511084 | 3/13/01 |
| Power Sensor E9301A | US39211006 | 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 | 50.10 | 0.95 |
| | 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 IHDT5AE1. 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 | 9.92 | 41.25 | 0.84 | 22 |
| | Recommended Limits | 9.36 | 43.40 | 0.86 | ?? |

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.

| F (MHz) | Description | Conducted Output Power (dBm) | SAR, 1g (W/kg) | |
|-------------------|---------------------|---------------------------------|----------------|-------------|
| | | | Left Head | Right Head |
| | | | Ant Fixed | Ant Fixed |
| Digital 800MHz | Channel 1013 | 25.0 | 1.26 | 1.14 |
| | Channel 384 | 25.0 | 1.31 | 1.18 |
| | Channel 779 | 25.0 | 1.16 | 1.13 |

Appendix A

Photographs of Motorola Portable Cellular Phone FCC ID IHDT5AE1



Figure 1. Front of Phone



Figure 2. Side of Phone

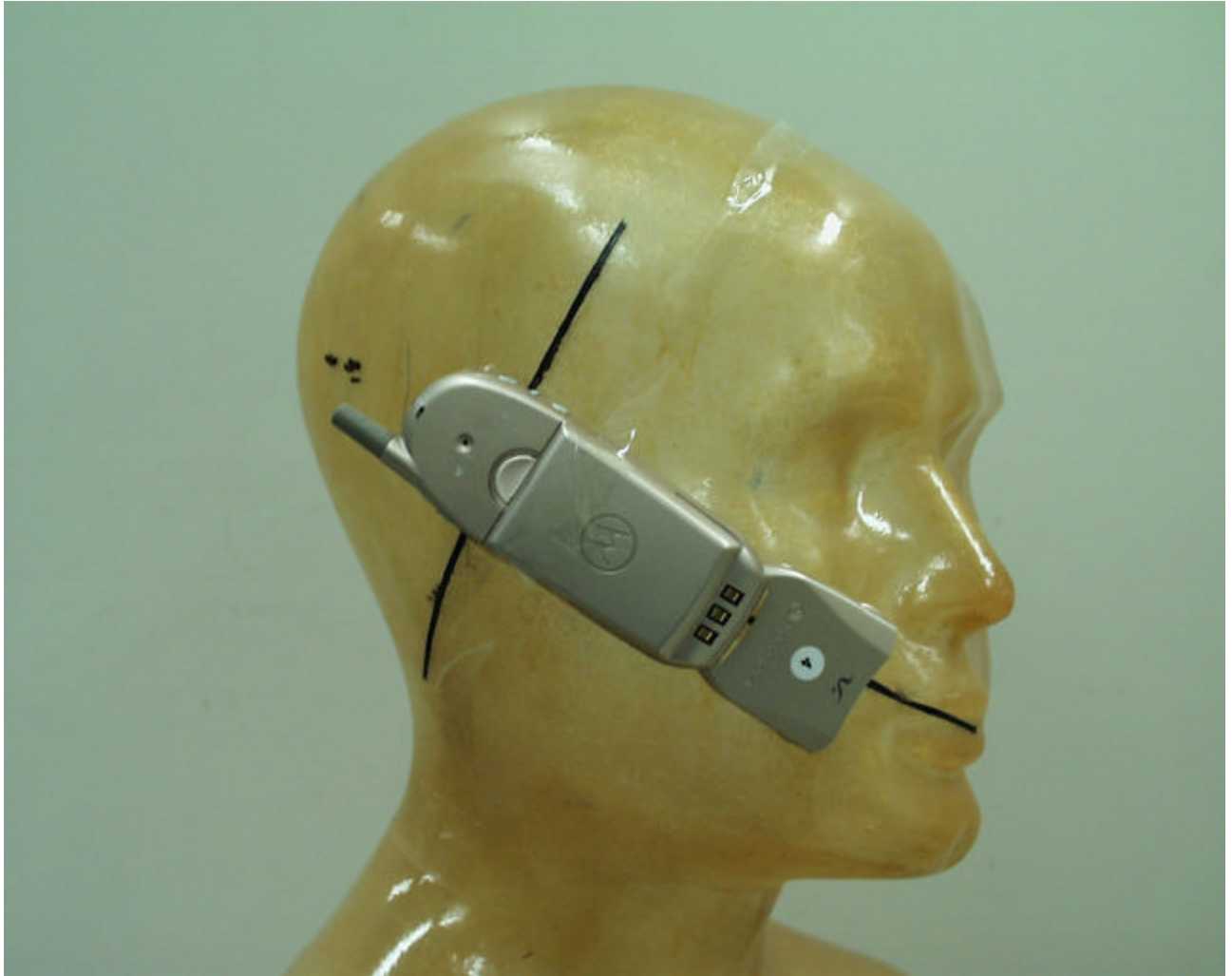


Figure 3. Phone against Right Side Phantom Head

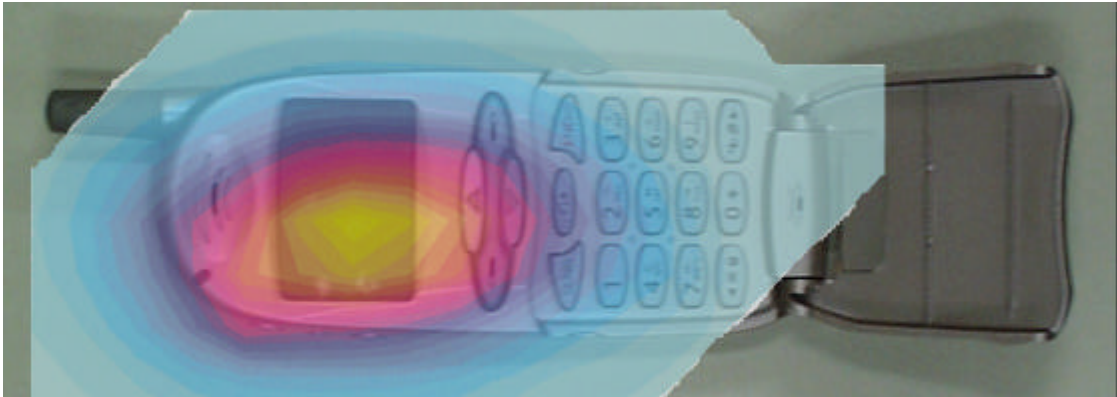


Figure 4. Typical Contour Plot Overlaid on Face of Phone

Appendix B

Included data for 800MHz against Phantom Head

04/12/00

s/n: 042600/A

Ch# 384 / Pwr Step:2

Mork(left) Phantom; Left Head Section; Position: (0°,0°); Frequency: 837 MHz

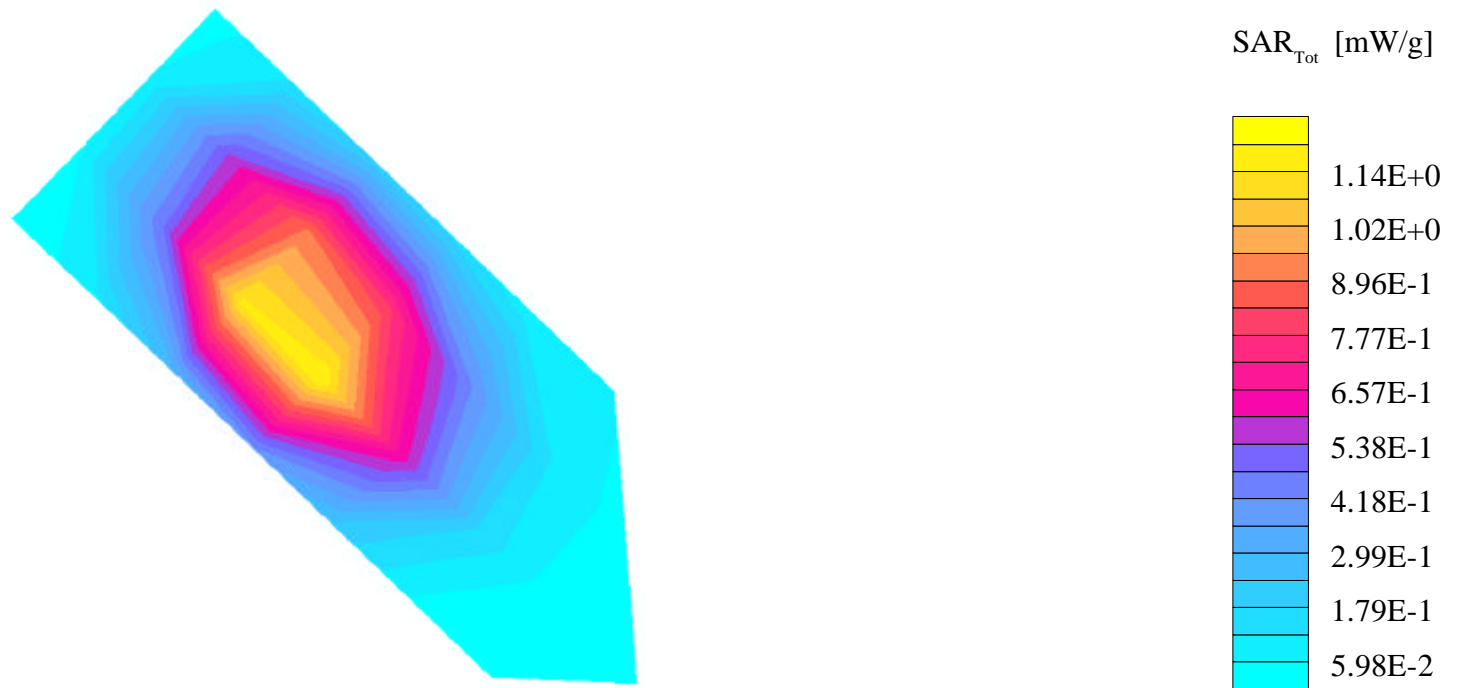
Probe: ET3DV6 - SN1391; ConvF(6.18,6.18,6.18); Crest factor: 1.0; Brain 835 MHz Mork: $\sigma = 0.95$ mho/m $\epsilon_r = 50.1$ $\rho = 1.00$ g/cm³

Cube 5x5x7: SAR (1g): 1.31 mW/g, SAR (10g): 0.917 mW/g, (Worst-case extrapolation)

Coarse: Dx = 25.0, Dy = 22.0, Dz = 0.0

Penetration depth: 16.9 (15.3, 18.3) [mm]

Powerdrift: -0.05 dB



s/n: 042600/A

Ch# 384 / Pwr Step:2

Mindy (right) Phantom; Right Head Section; Position: (80°,180°); Frequency: 837 MHz

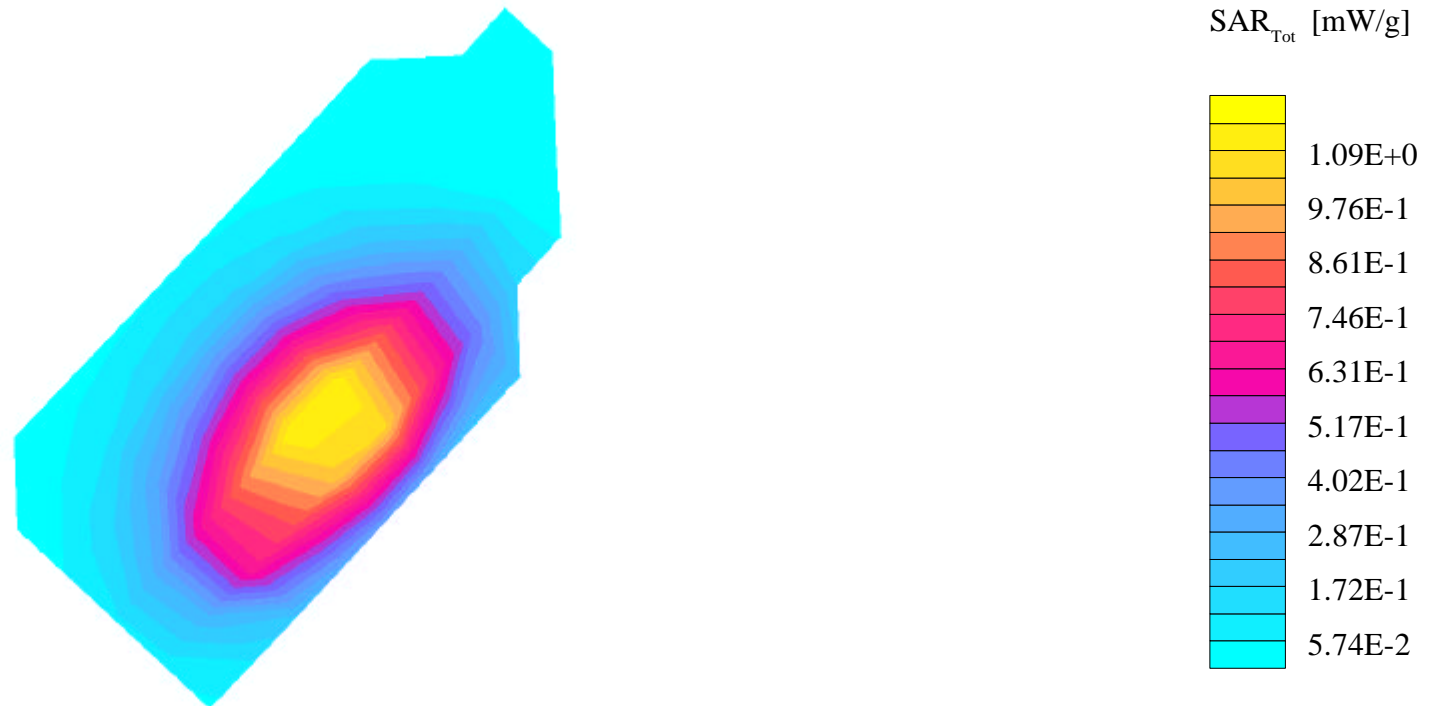
Probe: ET3DV6 - SN1391; ConvF(6.18,6.18,6.18); Crest factor: 1.0; Brain 835 MHz Mindy: $\sigma = 0.88$ mho/m $\epsilon_r = 43.6$ $\rho = 1.00$ g/cm³

Cube 5x5x7: SAR (1g): 1.18 mW/g, SAR (10g): 0.826 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 0.0

Penetration depth: 17.1 (15.3, 18.5) [mm]

Powerdrift: -0.07 dB



Appendix C

Printout from the Dasy™ measurement system validation test

Dipole 900 MHz

900MHz Dipole Validation / Dipole Sn# 50 / Forward power = 251mW

Amy Twin Phantom; Section2

Probe: ET3DV6 - SN1391; ConvF(6.18,6.18,6.18); Crest factor: 1.0; Brain 900 MHz: $\sigma = 0.84$ mho/m $\epsilon_r = 41.3$ $\rho = 1.00$ g/cm³

Cubes (2): Peak: 3.89 mW/g ± 0.03 dB, SAR (1g): 2.48 mW/g ± 0.03 dB, SAR (10g): 1.60 mW/g ± 0.04 dB, (Worst-case extrapolation)

