



Exhibit 11: SAR Test Report: IHDT6BE1

Date of test: 5/30 – 5/31/2001

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Accreditation: ISO Guide 25 Accredited Lab, A2LA certificate #1651-01

Statement of Compliance: Motorola declares under its sole responsibility that portable cellular telephone FCC ID IHDT6BE1 to which this declaration relates, is in conformity with the appropriate RF exposure standards, recommendations and guidelines. 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:

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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 IHDT6BE1. 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 IHDT6BE1) 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

Antenna description

Type	Internal
Location	Back of Phone

Device description

FCC ID Number	IHDT6BE1
Serial number	300501A
Mode(s) of Operation	GSM1900
Modulation Mode(s)	GSM
Maximum Output Power Setting	30.0dBm
Duty Cycle	1:8
Transmitting Frequency Rang(s)	1850-1910MHz

3. Test Results

The SAR results shown in tables 1 and 2 are maximum SAR values averaged over 1 gram of phantom tissue. Also shown are the measured conducted output powers and the temperature of the test facility during the test.

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 the test conditions with the highest SAR values from the Dasy™ measurement system is included as appendix 2 and 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.

<i>f</i> (MHz)	Description	Conducted Output Power (dBm)	SAR, 1g (W/kg)	
			Left Head	Right Head
Digital 1900MHz	Channel 512	30.18	0.62	0.58
	Channel 661	30.18	0.58	0.53
	Channel 810	30.19	0.57	0.50

Table 1: SAR measurement results for the portable cellular telephone FCC ID IHDT6BE1 at highest possible output power. Measured against the head.

<i>f</i> (MHz)	Description	Conducted Output Power (dBm)	SAR, 1g (W/kg)
			Carry Case
Digital 1900MHz	Channel 512	30.18	0.64
	Channel 661	30.18	0.50
	Channel 810	30.19	0.40

Table 2: SAR measurement results for the portable cellular telephone FCC ID IHDT6BE1 at highest possible output power. Measured against the body.

4. Test Equipment Used

4.1 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 DAE3	SN398	8/28/01
E-Field Probe ETDV6	SN1503	10/06/01
Dipole Validation Kit, DV1800V2	SN280	1/4/03

4.2 Additional Equipment

Description	Serial Number	Cal Due Date
Signal Generator HP8648C	3847A04848	1/19/03
Power Meter E4419B	US39250622	10/4/01
Power Sensor E9301A	US39210915	11/28/01

5. 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 HP85070 Dielectric Probe Kit. These values are shown in the table below. The mass density, ρ , used by the dosimetric system is also given. Recommended limits for maximum permittivity, minimum conductivity and maximum mass density are also shown. These come from the Federal Communication Commission, "Tissue Dielectric Properties" web site at <http://www.fcc.gov/fcc-bin/dielec.sh>. 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)	ρ (g/cm ³)
1880	Head	Measured, 5/30/01	38.67	1.44	1.00
		Recommended Limits	43.41	1.19	1.03
	Body	Measured, 5/30/01	49.54	1.66	1.00
		Recommended Limits	54.33	1.43	1.03

6. System Accuracy Verification

A system accuracy verification of the DASY3 was performed using the measurement equipment listed in Section 4. The test was conducted on the same day as the measurement of the DUT. The obtained results are displayed in the table below. The distributions of SAR compare well with those of the reference measurements (see Appendix 1).

f (MHz)	Description	SAR (W/kg), 1gram	Dielectric Parameters		Temp (°C)
			ϵ_r	σ (S/m)	
1800	Measured	43.25	1.75	39.92	22.1
	Recommended Limits	44.40	1.71	40.00	N/A

Appendix 1

SAR distribution comparison for the system accuracy verification

Dipole 1800 MHz

Robot 5 Amy Twin Phantom ; Section2

Probe: ET3DV6 - SN1503 Validation; ConvF(5.80,5.80,5.80); Crest factor: 1.0; Validation 1800 MHz: $\sigma = 1.75$ mho/m $\epsilon_r = 39.9$ $\rho = 1.00$ g/cm³

Cubes (2): Peak: 21.8 mW/g ± 0.06 dB, SAR (1g): 10.9 mW/g ± 0.07 dB, SAR (10g): 5.41 mW/g ± 0.07 dB, (Worst-case extrapolation)

Penetration depth: 7.0 (6.7, 7.8) [mm]

Powerdrift: -0.04 dB



Appendix 2

SAR distribution plots for Phantom Head Adjacent Use

s/n 300501A

Ch# 512/ Pwr Step:00 / Antenna Position:Fixed

Robot 5 Left Head (Skipper) Phantom; Left Head Section; Position: (80°,180°); Frequency: 1850 MHz

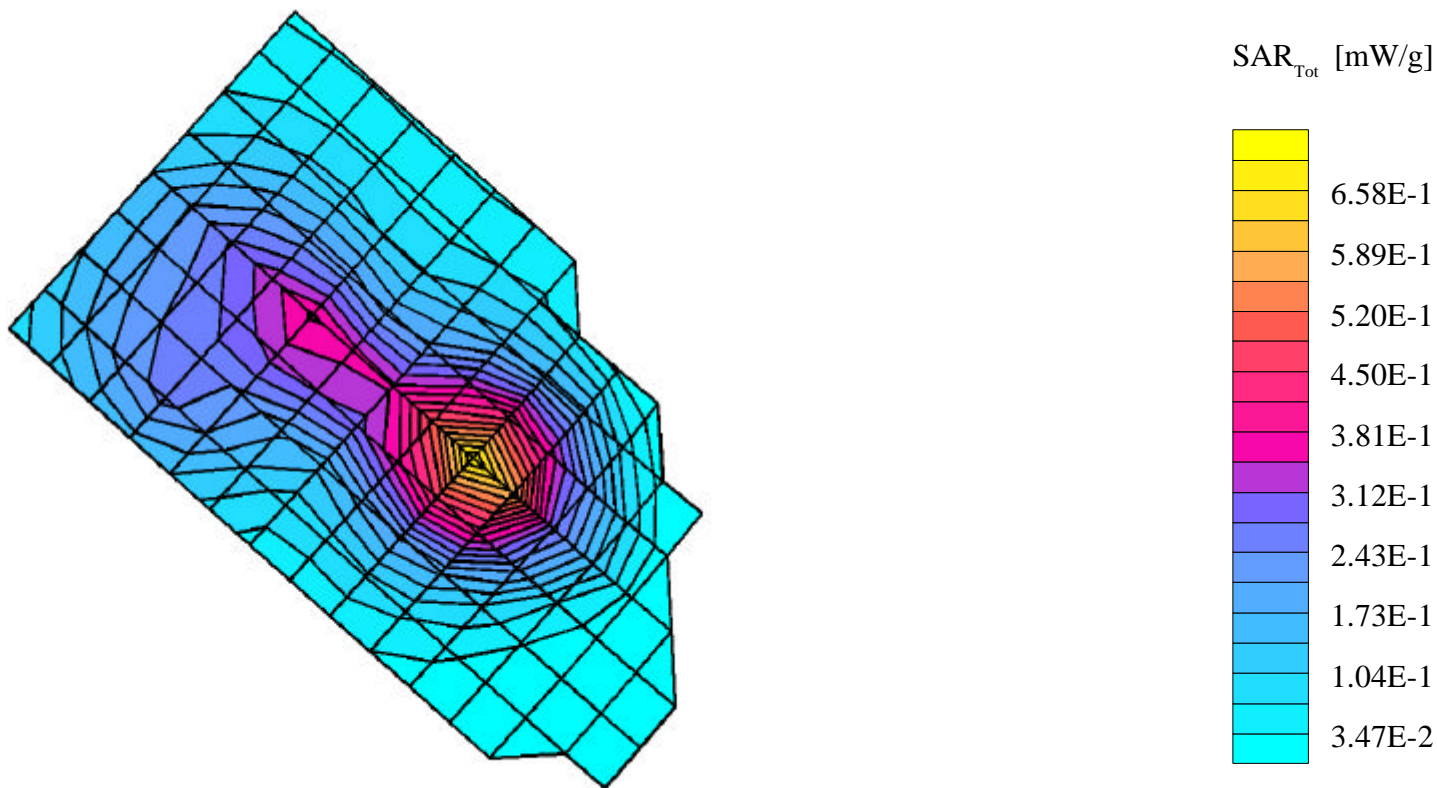
Probe: ET3DV6 - SN1503 Head (Glycol); ConvF(5.53,5.53,5.53); Crest factor: 8.0; Head Glycol 1900 MHz: $\sigma = 1.44$ mho/m $\epsilon_r = 38.7$ $\rho = 1.00$ g/cm³

Cube 5x5x7: SAR (1g): 0.621 mW/g, SAR (10g): 0.353 mW/g, (Worst-case extrapolation)

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

Penetration depth: 12.3 (11.5, 13.1) [mm]

Powerdrift: -0.12 dB



s/n 300501A

Ch# 512/ Pwr Step:00 / Antenna Position:Fixed

Robot 5 Right Head (Ginger) Phantom; Right Head Section; Position: (80°,180°); Frequency: 1850 MHz

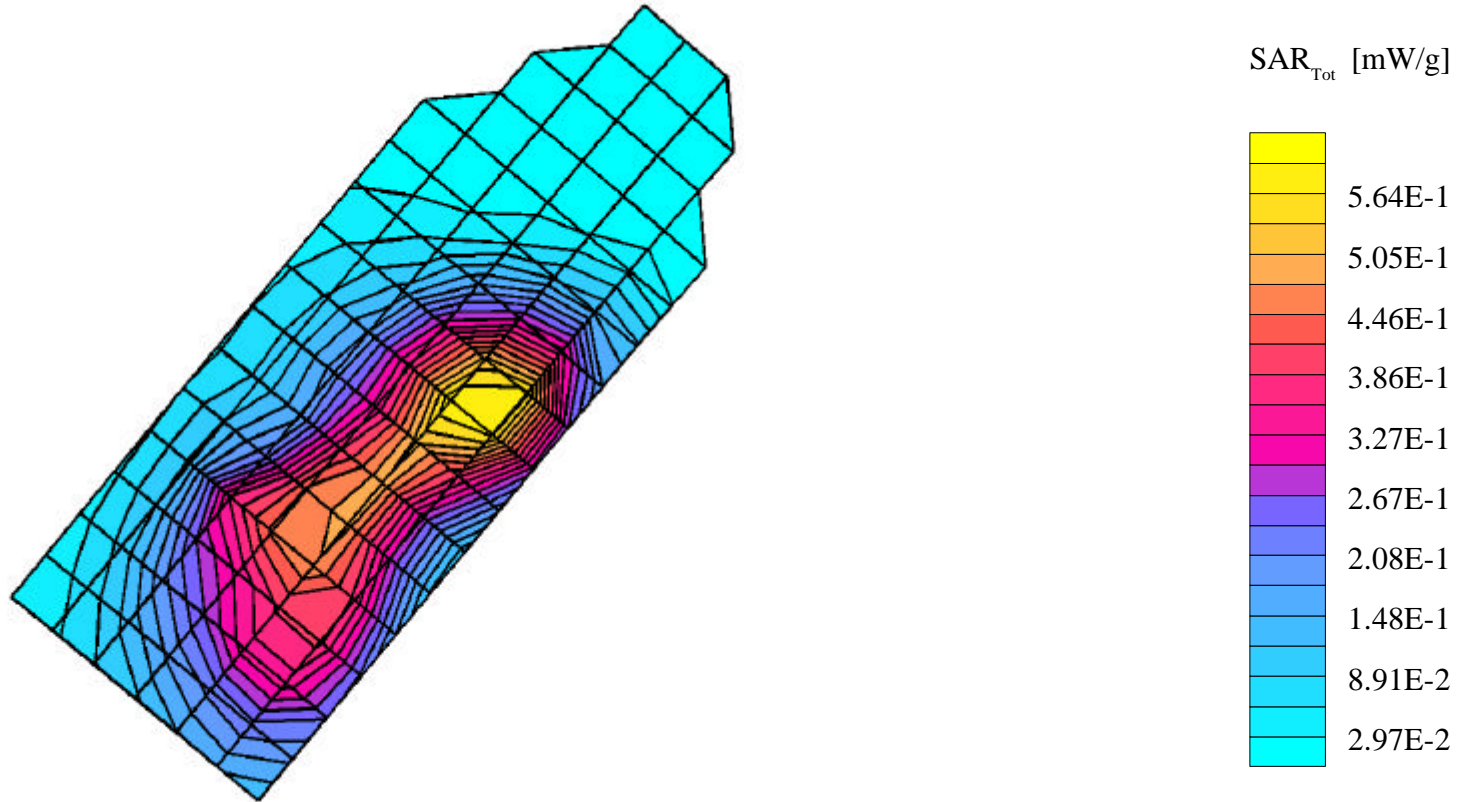
Probe: ET3DV6 - SN1503 Head (Glycol); ConvF(5.53,5.53,5.53); Crest factor: 8.0; Head Glycol 1900 MHz: $\sigma = 1.44$ mho/m $\epsilon_r = 38.7$ $\rho = 1.00$ g/cm³

Cube 5x5x7: SAR (1g): 0.582 mW/g, SAR (10g): 0.350 mW/g, (Worst-case extrapolation)

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

Penetration depth: 13.5 (12.5, 14.4) [mm]

Powerdrift: -0.02 dB



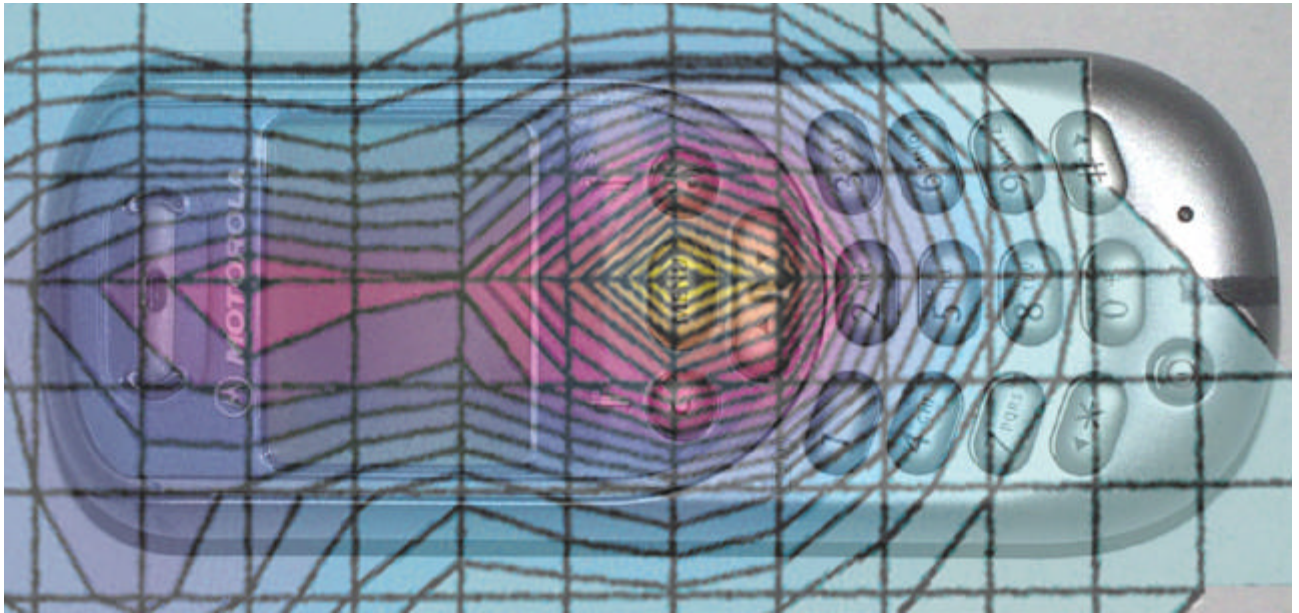


Figure 1. Typical 1900MHz Contour Plot overlaid on Face of Phone

Appendix 3

SAR distribution plots for Body Worn Configuration

s/n 300501A

Ch# 512 / Pwr Step: 00 / Antenna Position: Fixed / Body Worn

Robot 5 Amy Twin Phantom Phantom; Section 1 Section; Position: (0°,0°); Frequency: 1850 MHz

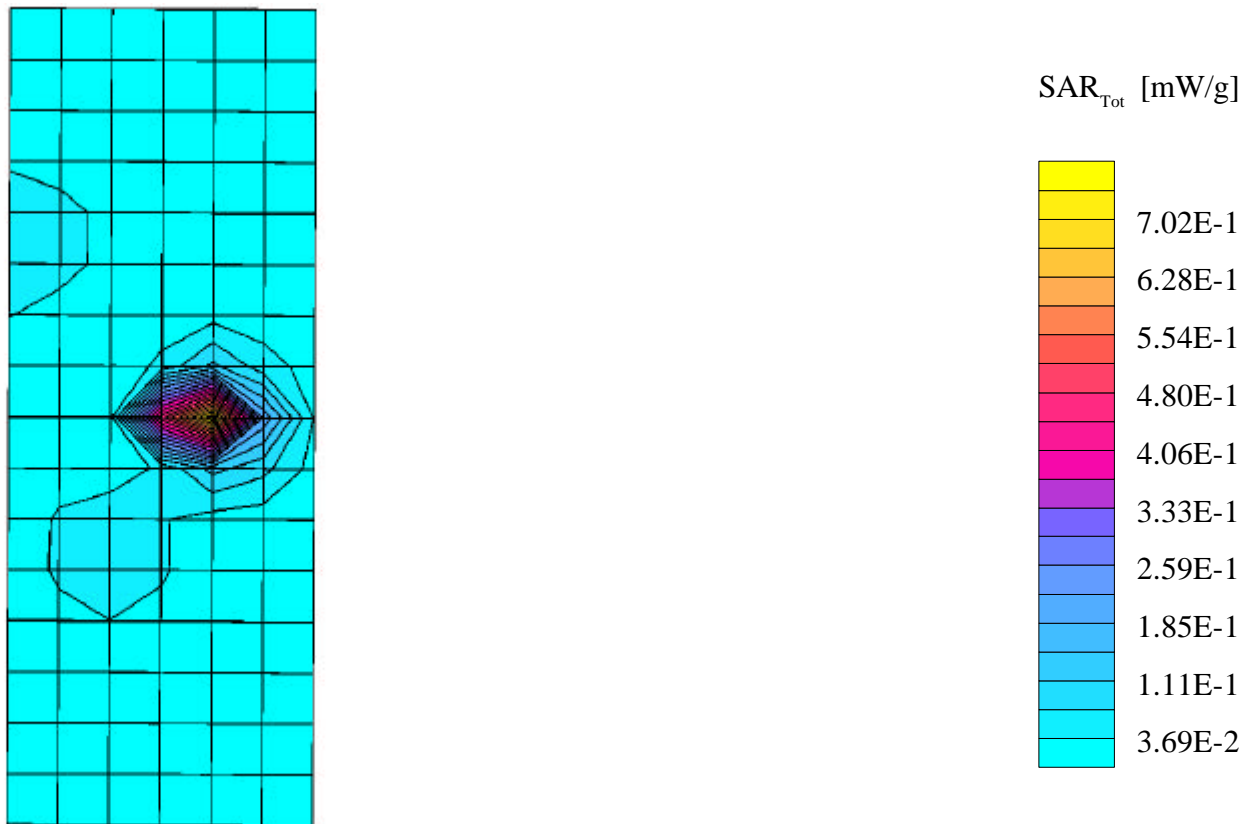
Probe: ET3DV6 - SN1503 - Muscle (Glycol); ConvF(5.24,5.24,5.24); Crest factor: 8.0; Muscle Glycol 1900 MHz: $\sigma = 1.66 \text{ mho/m}$ $\epsilon_r = 49.5$ $\rho = 1.00 \text{ g/cm}^3$

Cube 5x5x7: SAR (1g): 0.639 mW/g, SAR (10g): 0.264 mW/g, (Worst-case extrapolation)

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

Penetration depth: 6.8 (6.5, 7.7) [mm]

Powerdrift: -0.01 dB



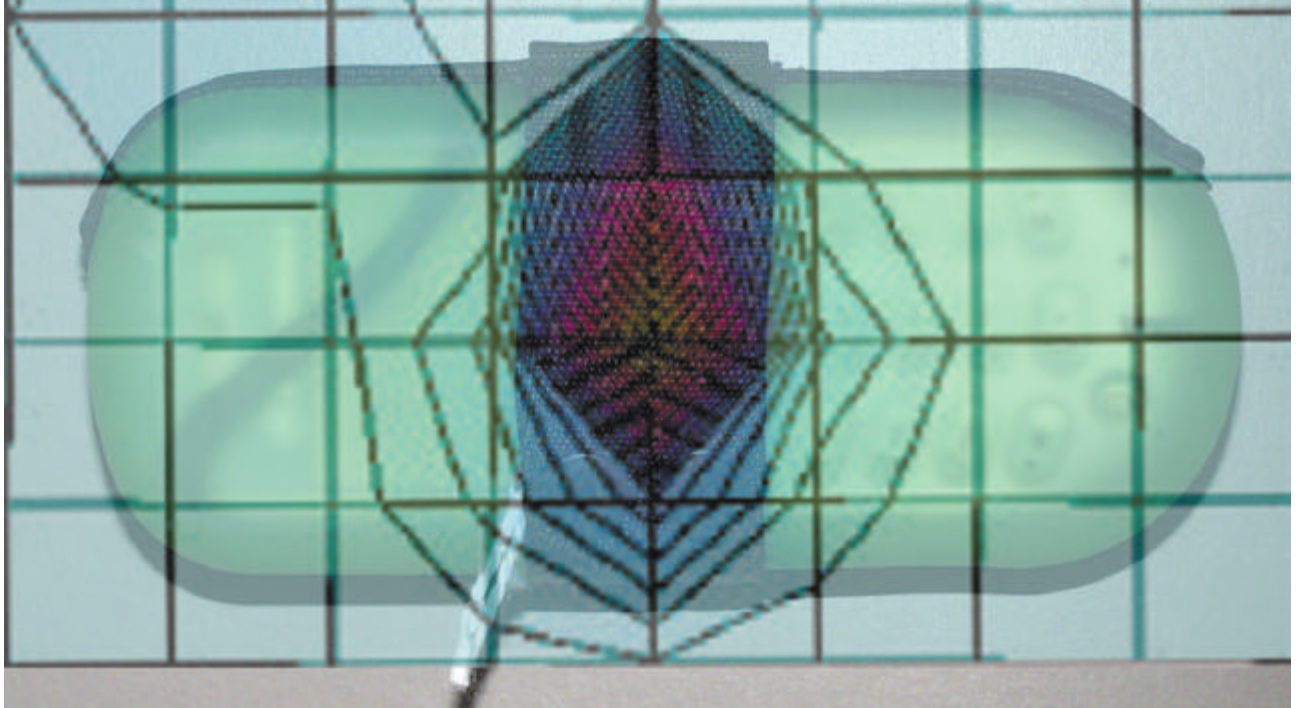


Figure 2. Typical 1900MHz Body Worn Contour Overlaid on Carry Case

Appendix 4

Photographs of the device under test



Figure 1. Front of Phone



Figure 2. Side of Phone



Figure 3. Phone against the Right Side of the Head

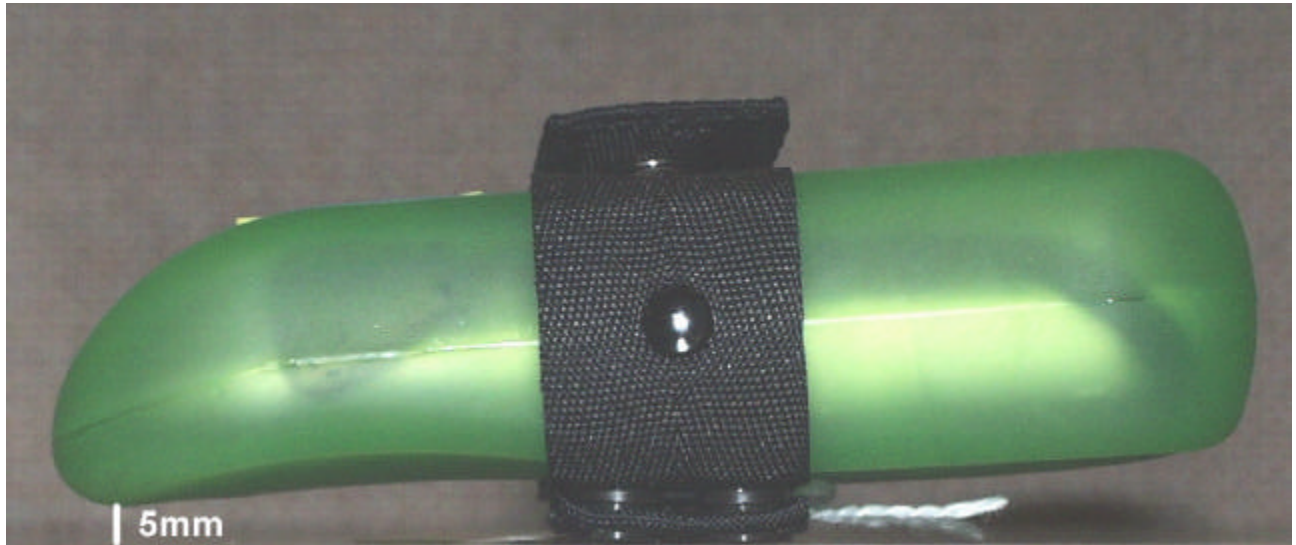


Figure 4. Distance Provided when Phone is in Carry Case

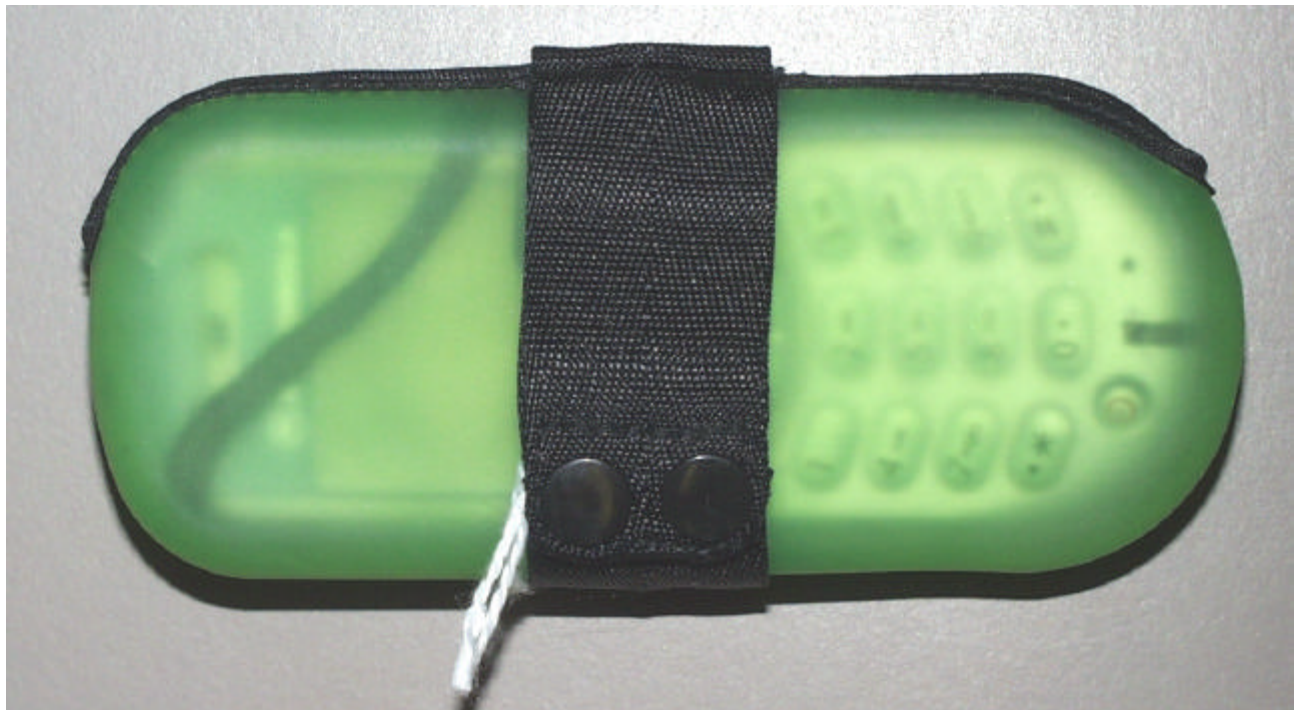


Figure 5. Picture of Phone in Carry Case as seen from the Users Body