Exhibit 11: SAR Test Report IHDT6CC1

Date of test:	02/07/02 – 02/11/02
Date of Report:	02/11/02
Laboratory:	Motorola Personal Communications Sector Product Safety & Compliance Laboratory 2001 N. Division Room: AS228 Harvard, Illinois 60033
Test Responsible:	Firass Badaruzzaman SAR RF 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 IHDT6CC1 to which this declaration relates, is in conformity with the appropriate 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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Reference Notes

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 IHDT6CC1. The Specific Absorption Rate (SAR) of this product was measured. The portable cellular phone was tested in accordance with the latest available test guidelines.

2. Description of the Device Under Test

Antenna description

Type	Stubby	
Location	Right Side	
Dimensions	Length	37mm
	Width	6mm
Configuration	Helix	

Device description

FCC ID Number	IHDT6CC1
Serial number	EGB0021
Mode(s) of Operation	GSM 1900
Modulation Mode(s)	GSM
Maximum Output Power Setting	30.50 dBm
Duty Cycle	1:8
Transmitting Frequency Rang(s)	1850.2 –1909.8 MHz

3. Test Equipment Used

3.1 Dosimetric System

The Motorola Personal Communications Sector Product Safety Laboratory utilizes a Dosimetric Assessment System (Dasy3™ v3.1d) 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	SN367	30-Jul-02
E-Field Probe ETDV6	SN1397	23-Nov-02
Dipole Validation Kit, DV1900V2	SN280	4-Jan-03
Flat Phantom used for 1900MHz	TP-1105	

Description	Serial Number	Cal Due Date
DASY3 DAE V1	SN398	26-Sep-02
E-Field Probe ETDV6	SN1398	31-Aug-02
Dipole Validation Kit, DV1900V2	SN280	4-Jan-03
Flat Phantom used for 1900MHz		

3.2 Additional Equipment

Description	Serial Number	Cal Due Date
Signal Generator HP8648C	3847A04843	11/15/2002
Power Meter E4419B	GB39511087	11/16/2002
Power Sensor 8481A	US37296473	10/1/2002
Network Analyzer HP8753ES	US39172529	7/5/2002

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 HP85070 Dielectric Probe Kit These values are shown in the table below. 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. The recommended dielectric parameters of the tissue simulant for the exact center frequency of the transmitting band of this portable radio were calculated using linear interpolation from the data points given in Supplement C 01-01. It is seen that the measured parameters are satisfactory for compliance testing. The issue stimulant depth was verified to be 15.0cm ±0.5cm at the center of the ear. The stimulant temperature was measured at the beginning and end of each day. The values measured at the start of each day are shown in the table below. The ambient temperature was also measured throughout the day. The ambient temperature measurements and the tissue stimulant temperature measurements always found the temperature ±2.0 °C from the temperature measured in the morning.

f (MHz)	Tissue type	Limits / Measured	Dielectric Parameters		
			e_r	s (S/m)	Temp (°C)
1880	**Head**	**Measured,** 02/07/02	38.10	1.44	20.00
		Recommended Limits	40.00	1.40	N/A
	Body	**Measured,** 02/10/02	50.90	1.60	22.00
		Recommended Limits	53.30	1.52	N/A

5. System Accuracy Verification

A system accuracy verification of the DASY3 was performed using the measurement equipment listed in Section 3. The dipole was placed below a "flat" phantom. 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.

A SAR measurement was performed to see if the measured SAR was within +/- 8% from the target SAR indicated on the dipole certification sheet. 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 issue stimulant depth was verified to be 15.0cm ±0.5cm. SAR values are normalized to 1W forward power delivered to the dipole

f (MHz)	Description	SAR (W/kg), 1gram	Dielectric Parameters		Temp (°C)
			e_r	s (S/m)	
1800	**Measured,** 02/07/02	37.38	40.30	1.42	19.90
	Recommended Limits	38.60	40.20	1.38	N/A
1800	**Measured,** 02/10/02	37.00	38.40	1.35	19.80
	Recommended Limits	38.60	40.20	1.38	N/A

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 then placed in the SAR measurement system with a fully charged battery. The phone was tested in the configurations stipulated in OET Bulletin 65 Supplement C 01-01.

6.1 Head Adjacent 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 SAR measurements were performed using the SAM phantoms listed in section 3.1. The tissue stimulant depth was verified to be 15.0cm ±0.5cm at the center of the ear. The device holder used was the supplied SPEAG™ device holder. The measured dielectric constant of the material used is less than 3.3 and the loss tangent is less than 0.053 in the 800MHz cellular band.

A full data set output of two test conditions with the highest SAR values from the Dasy™ measurement system is included as appendix 2 . 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 Table 5 contains head adjacent SAR measurements of the phone inside a leather holster. Since the Left side head measured the highest SAR, it was used to these measurements.

			Cheek/Touch Position SAR, 1g			
			Left Head			
			Ant Fixed			
f (MHz)	Description	Conducted Output Power (dBm)	Measured (W/kg)	Drift (dB)	Extrapolated (W/kg)	Temp (°C)
GSM 1900MHz	**Channel 512**	30.84	1.40	-0.25	1.48	20.2
	Channel 661	30.73	1.33	-0.24	1.41	20.0
	Channel 810	30.78	**1.46**	**-0.23**	**1.54**	**20.0**

Table 1: SAR measurement results for the portable cellular telephone FCC ID IHDT6CC1 at highest possible output power. Measured against the left head (Cheek Touch).

f (MHz)	Description	Conducted Output Power (dBm)	Cheek/Touch Position SAR, 1g *Right Head* *Ant Fixed* Measured (W/kg)	Drift (dB)	Extrapolated (W/kg)	Temp (°C)
GSM 1900MHz	Channel 512	30.84	1.41	-0.16	1.46	21.5
	Channel 661	30.73	1.13	0.06	1.13	21.0
	Channel 810	30.78	1.30	-0.05	1.32	21.0

Table 2: SAR measurement results for the portable cellular telephone FCC ID IHT6CC1 at highest possible output power. Measured against the right head (Cheek Touch).

f (MHz)	Description	Conducted Output Power (dBm)	15 Degree/Touch Position SAR, 1g *Left Head* *Ant Fixed* Measured (W/kg)	Drift (dB)	Extrapolated (W/kg)	Temp (°C)
GSM 1900MHz	Channel 512	30.84				
	Channel 661	30.73	**0.25**	**-0.01**	**0.25**	**19.6**
	Channel 810	30.78				

Table 3: SAR measurement results for the portable cellular telephone FCC ID IHT6CC1 at highest possible output power. Measured against the left head (15° Tilt Position)

f (MHz)	Description	Conducted Output Power (dBm)	15 Degree/Touch Position SAR, 1g *Right Head* *Ant Fixed* Measured (W/kg)	Drift (dB)	Extrapolated (W/kg)	Temp (°C)
GSM 1900MHz	Channel 512	30.84				
	Channel 661	30.73	0.221	-0.04	0.22	20.20
	Channel 810	30.78				

Table 4: SAR measurement results for the portable cellular telephone FCC ID IHT6CC1 at highest possible output power. Measured against the right head (15° Tilt Position)

f (MHz)	Description	Conducted Output Power (dBm)	Cheek/Touch Position SAR, 1g *Highest Head Measurement with Leather Holster* *Ant Fixed* Measured (W/kg)	Drift (dB)	Extrapolated (W/kg)	Temp (°C)
GSM 1900MHz	Channel 512	30.84	1.41	0.08	1.41	21.00
	Channel 661	30.73	1.33	0.06	1.33	22.60
	Channel 810	30.78	1.46	-0.09	1.49	21.20

Table 5: SAR measurement results for the portable cellular telephone FCC ID IHT6CC1 at highest possible output power. Measured against the highest head measurement with the leather holster (Cheek Touch)

6.2 Body-Worn Test Results

The SAR results shown in table 3 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 same "flat" phantom used for the system accuracy verification in section 5 was used for the body-worn tests. The issue stimulant depth was verified to be 15.0cm ±0.5cm. The same device holder described in section 6.1 was used for positioning the phone. The portable radio was tested with a headset connected to the device for all body-worn SAR measurements.

A full data set output of two test conditions with the highest SAR values from the Dasy™ measurement system is included as appendix 2 . The test conditions included are indicated as bold numbers in the following table. All other test conditions measured lower SAR values than those included.

			Body-Worn SAR, 1g			
			Leather Pouch with Belt Clip			
f			*Ant Fixed*			
(MHz)	Description	Conducted Output Power (dBm)	Measured (W/kg)	Drift (dB)	Extrapolated (W/kg)	Temp (°C)
GSM 1900MHz	**Channel 512**	30.84	**0.431**	**-0.02**	**0.43**	**22.0**
	Channel 661	30.73	0.269	-0.04	0.27	22.0
	Channel 810	30.78	0.299	-0.27	0.32	22.0

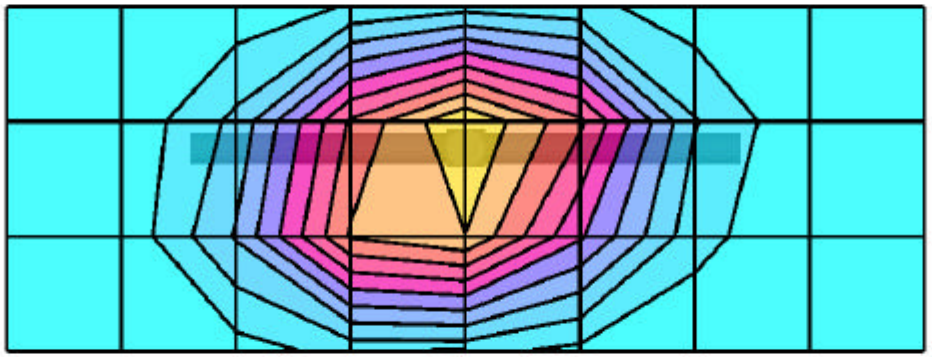
Table 6: SAR measurement results for the portable cellular telephone FCC ID IHDT6CC1 at highest possible output power. Measured against the body.

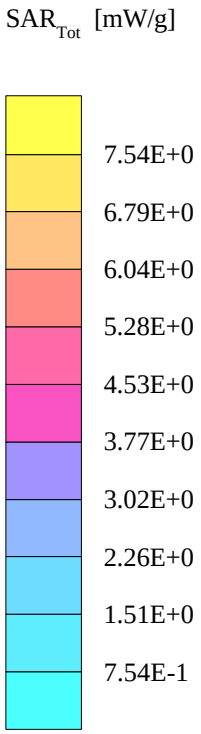
Appendix 1

SAR distribution comparison for the system accuracy verification

Dipole 1800 MHz

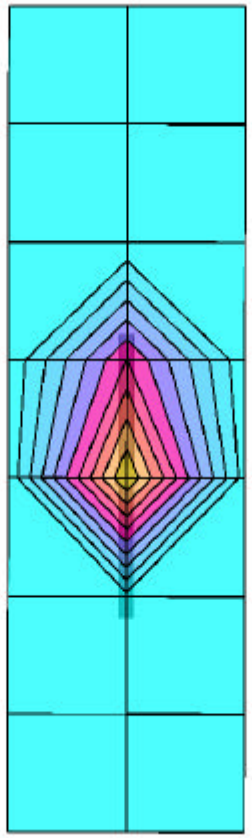
1800 MHz Dipole Validation / Dipole Sn# 280 / Forward Power =248mw / Simulant Temp at time of measurement = 19.9*C
R8 SAM Phantom (rev. 3) 2Jan02 Glycol Head Phantom; Flat Section; Position: (90°,90°); Frequency: 1800 MHz
Probe: ET3DV6 - SN1397 - Validation; ConvF(5.47,5.47,5.47); Crest factor: 1.0; 1800 MHz VALIDATION: σ = 1.42 mho/m ε_r = 40.3 ρ = 1.00 g/cm^3
Cubes (2): SAR (1g): 9.27 mW/g ± 0.05 dB, SAR (10g): 4.81 mW/g ± 0.06 dB, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Penetration depth: 8.2 (7.8, 9.0) [mm]
Powerdrift: -0.02 dB

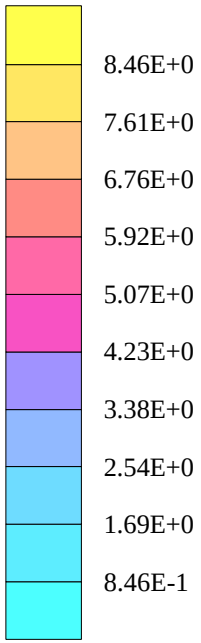




Dipole 1800 MHz

1800 MHz Dipole Validation / Dipole Sn# 280 / Forward Power = 250mw / Simulant Temp at time of measurement = 19.8*C
R6 Amy Twin Phantom 2.3 Phantom; Section2 Section; Position: (90°,180°); Frequency: 1800 MHz
Probe: ET3DV6 - SN1398 - Validation; ConvF(5.39,5.39,5.39); Crest factor: 1.0; 1800 MHz VALIDATION: σ = 1.35 mho/m ε_r = 38.4 ρ = 1.00 g/cm^3
Cubes (2): SAR (1g): 9.25 mW/g ± 0.04 dB, SAR (10g): 4.87 mW/g ± 0.03 dB, (Worst-case extrapolation)
Coarse: Dx = 30.0, Dy = 30.0, Dz = 10.0
Penetration depth: 8.2 (7.9, 8.9) [mm]
Powerdrift: -0.01 dB



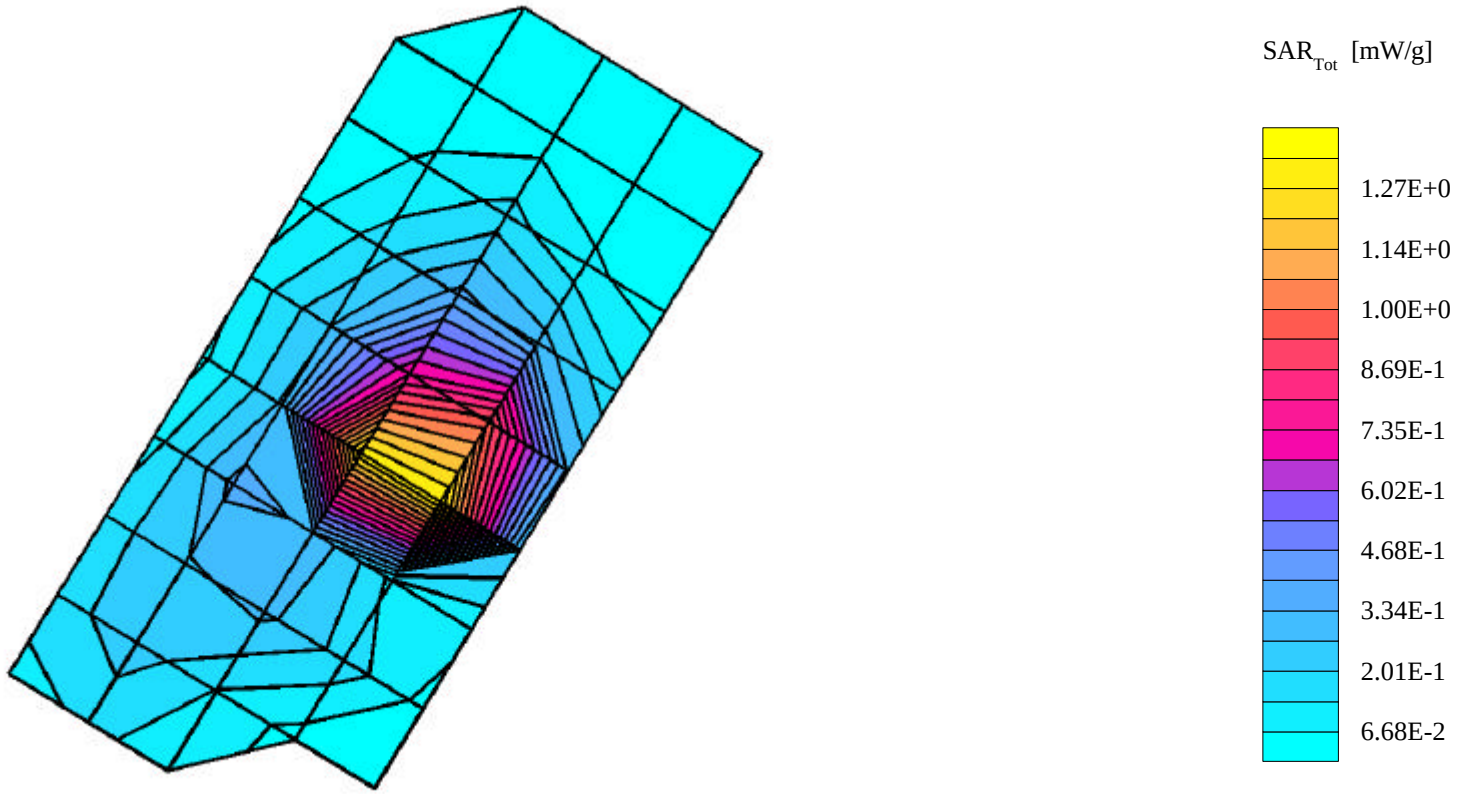


Appendix 2

SAR distribution plots for Phantom Head Adjacent Use

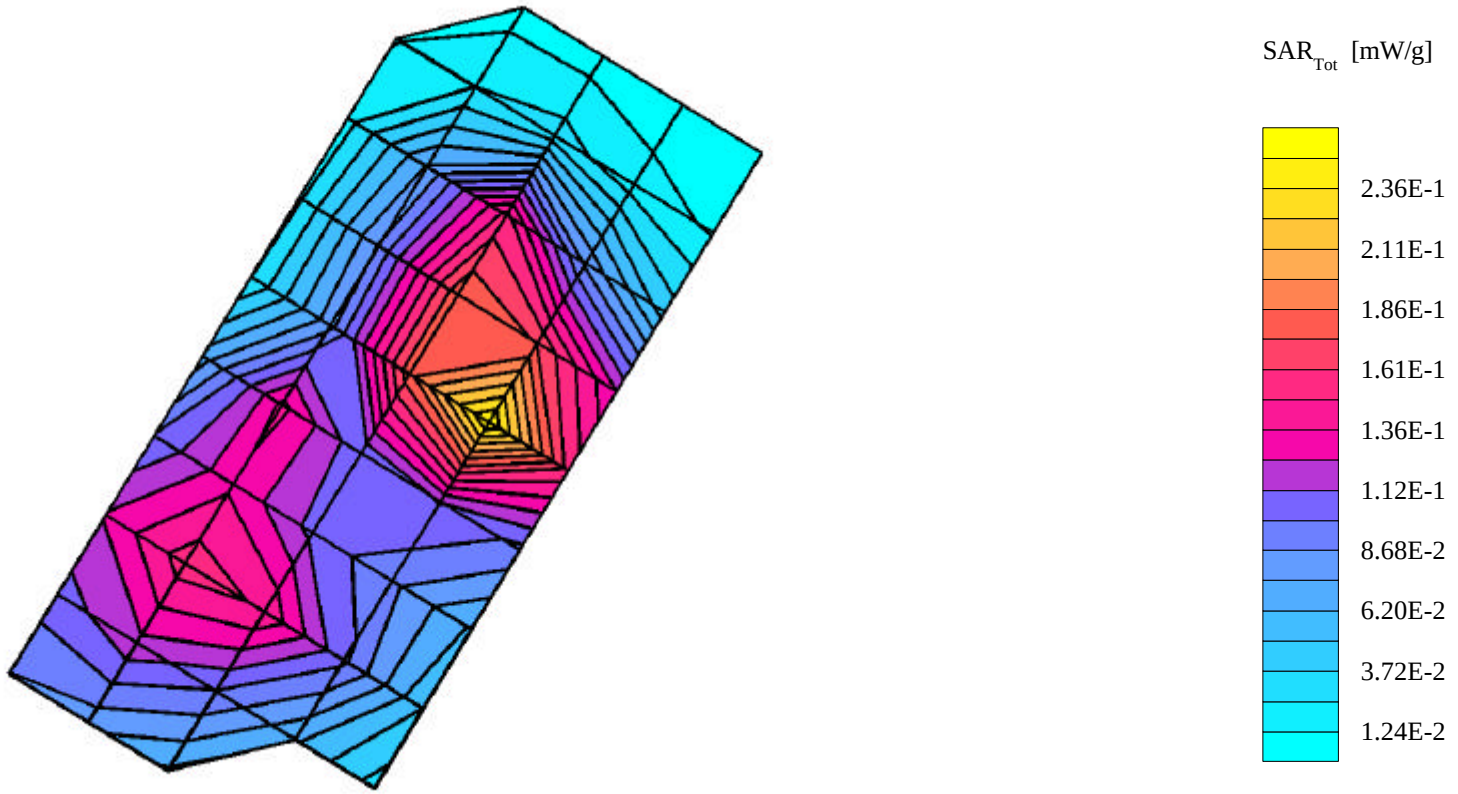
SN# EGB0021

Ch# 810 / Pwr Step: 00(OTA) / Antenna Position: Fixed / DEVICE POSITION: cheek touch (Per Supplement C) / Temp = 20.0 °C
R8 SAM Phantom (rev. 3) 2Jan02 Glycol Head Phantom; Left Hand Section; Position: (90°,180°); Frequency: 1910 MHz
Probe: ET3DV6 - SN1397 - IEEE Head; ConvF(5.47,5.47,5.47); Crest factor: 8.0; 1880 MHz Head & Body: σ = 1.44 mho/m ε_r = 38.1 ρ = 1.00 g/cm^3
Cube 7x7x7: SAR (1g): 1.46 mW/g, SAR (10g): 0.705 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 15.0
Penetration depth: 7.6 (7.2, 8.5) [mm]
Powerdrift: -0.23 dB



SN# EGB0021

Ch# 661 / Pwr Step: 00(OTA) / Antenna Position: Fixed / DEVICE POSITION: 15 degree tilt position per supplement C / Temp = 19.6 °C
R8 SAM Phantom (rev. 3) 2Jan02 Glycol Head Phantom; Left Hand Section; Position: (90°,180°); Frequency: 1880 MHz
Probe: ET3DV6 - SN1397 - IEEE Head; ConvF(5.47,5.47,5.47); Crest factor: 8.0; 1880 MHz Head & Body: σ = 1.44 mho/m ε_r = 38.1 ρ = 1.00 g/cm^3
Cube 7x7x7: SAR (1g): 0.250 mW/g, SAR (10g): 0.135 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 15.0
Penetration depth: 8.3 (8.0, 9.1) [mm]
Powerdrift: -0.01 dB



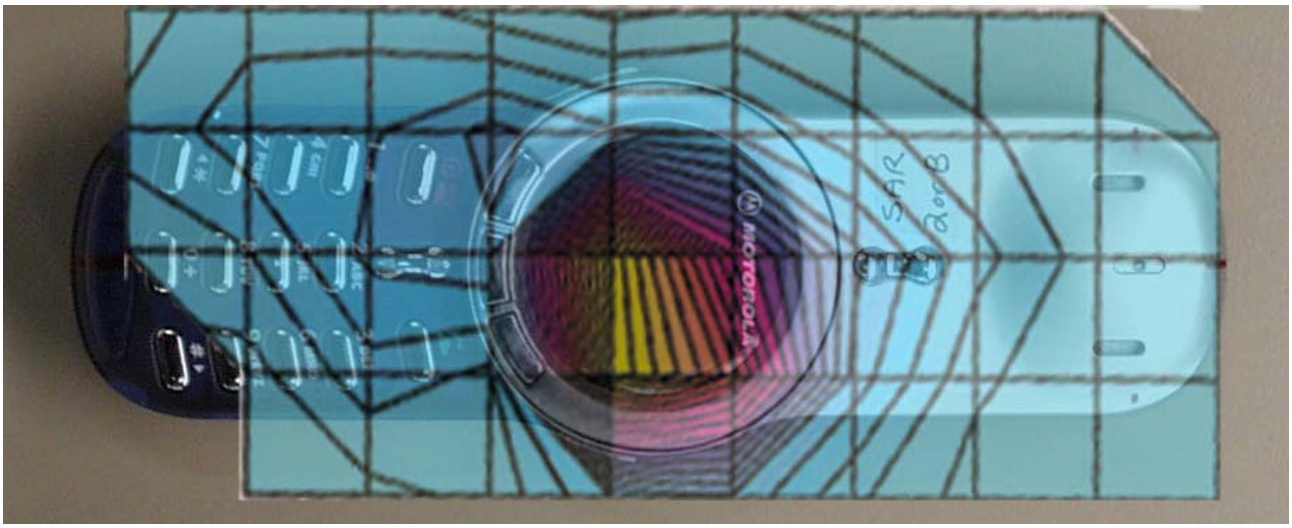


Figure 1 Typical 900 MHz Cheek Touch Position Contour Overlaid on the Phone with Antenna Fixed

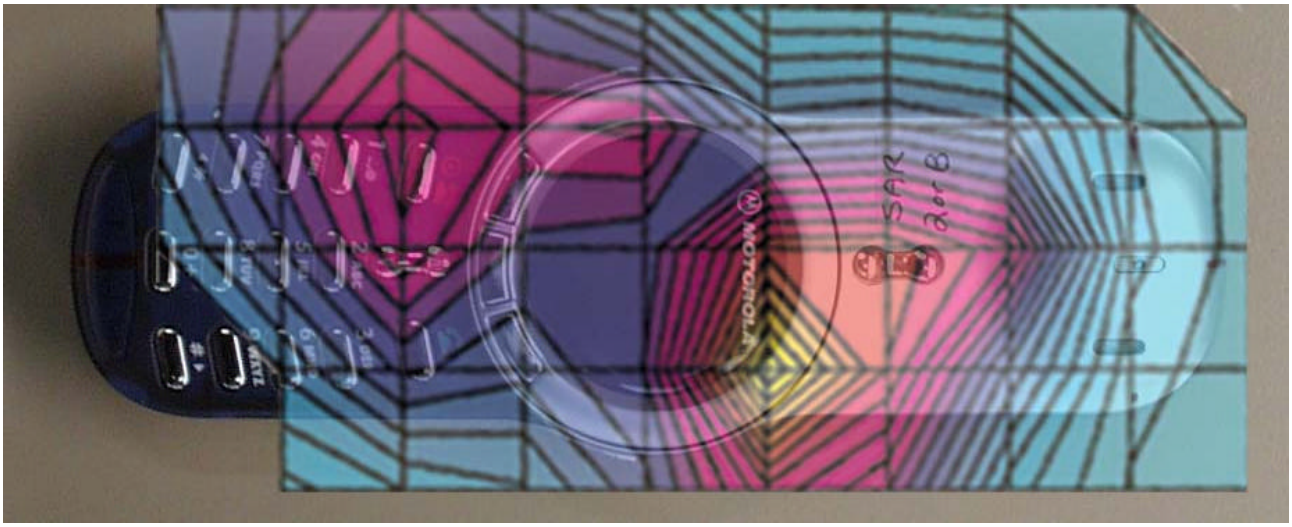


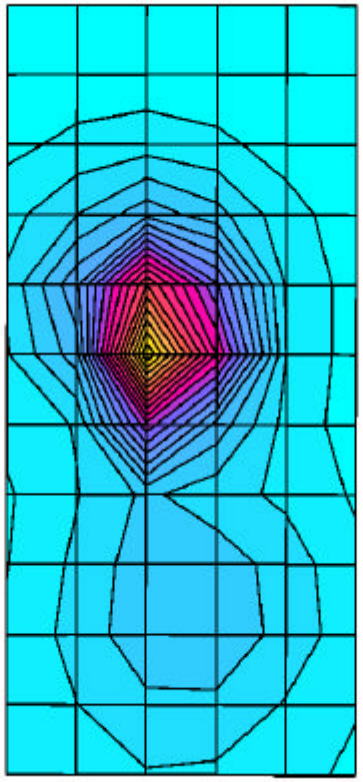
Figure2. Typical 1900 MHz 15° Tilt Position Contour Overlaid on the Phone with Antenna Fixed

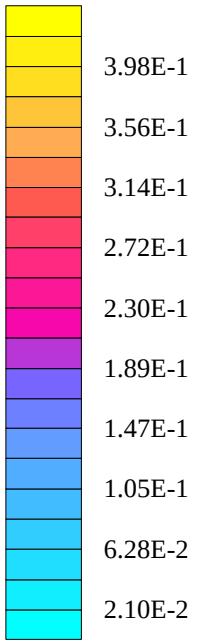
Appendix 3

SAR distribution plots for Body Worn Configuration

SN# EGB0021

Ch# 512 / Pwr Step: 0 (OTA) / Antenna Position: FIXED / Accessory Name and Model #:leather pouch / universal clip
R6 Amy Twin Phantom 2.3 Phantom; Section 1 Section; Position: (0°,0°); Frequency: 1850 MHz
Probe: ET3DV6 - SN1398 - FCC Body; ConvF(5.00,5.00,5.00); Crest factor: 8.0; 1880 MHz Head & Body: σ = 1.60 mho/m ε_r = 50.9 ρ = 1.00 g/cm^3
Cube 7x7x7: SAR (1g): 0.431 mW/g, SAR (10g): 0.217 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Penetration depth: 7.9 (7.5, 8.9) [mm]
Powerdrift: -0.02 dB





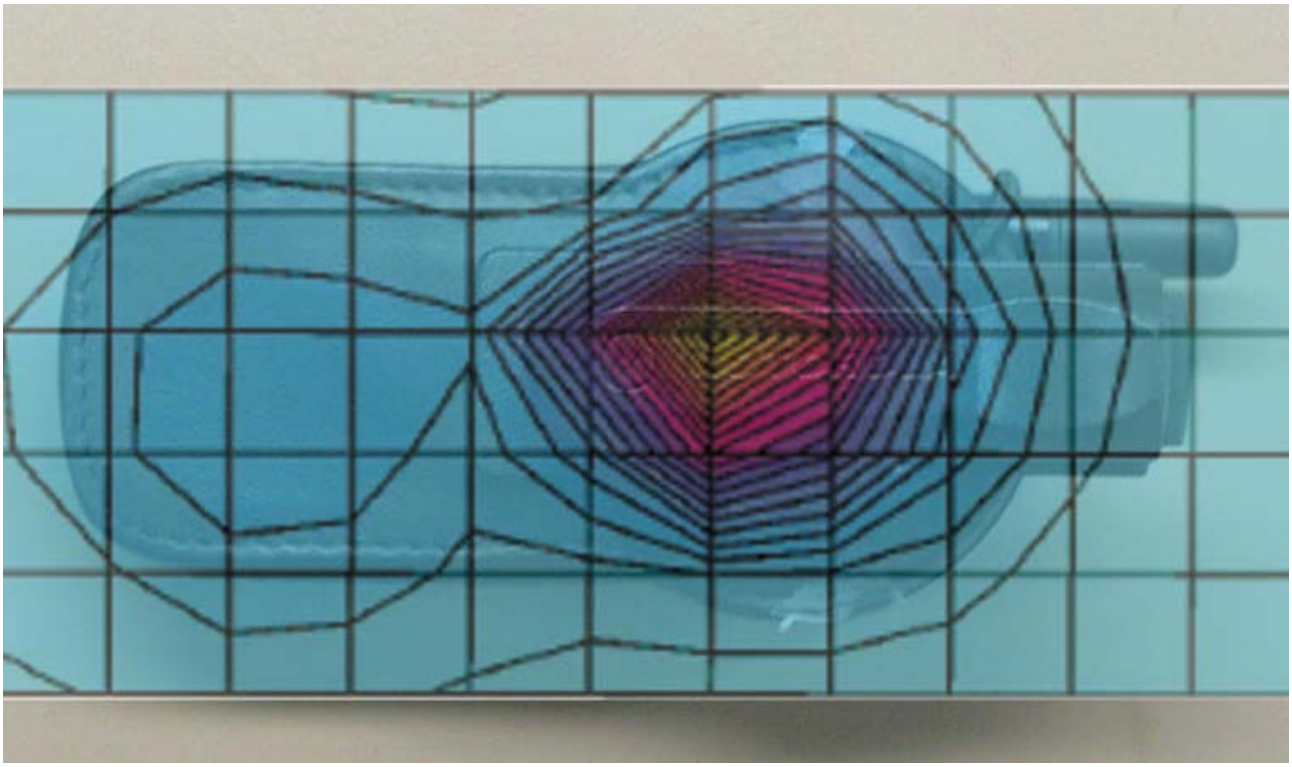


Figure 3. Typical 1900 MHz Body Worn Contour Overlaid with Antenna Fixed

Appendix 4

Probe Calibration Certificate

Please Refer to the Attached PDF Document

Appendix 5

Photographs of the device under test

Figure 4. Front View of the Phone Closed

Figure 5. Front View of the phone Open

Figure 6. Side View of the Phone

Figure 7. Back of the Phone Open

Figure 8. Back of the Phone with the Leather Holster / Belt Clip

Figure 9. Front of the Phone with the Leather Holster

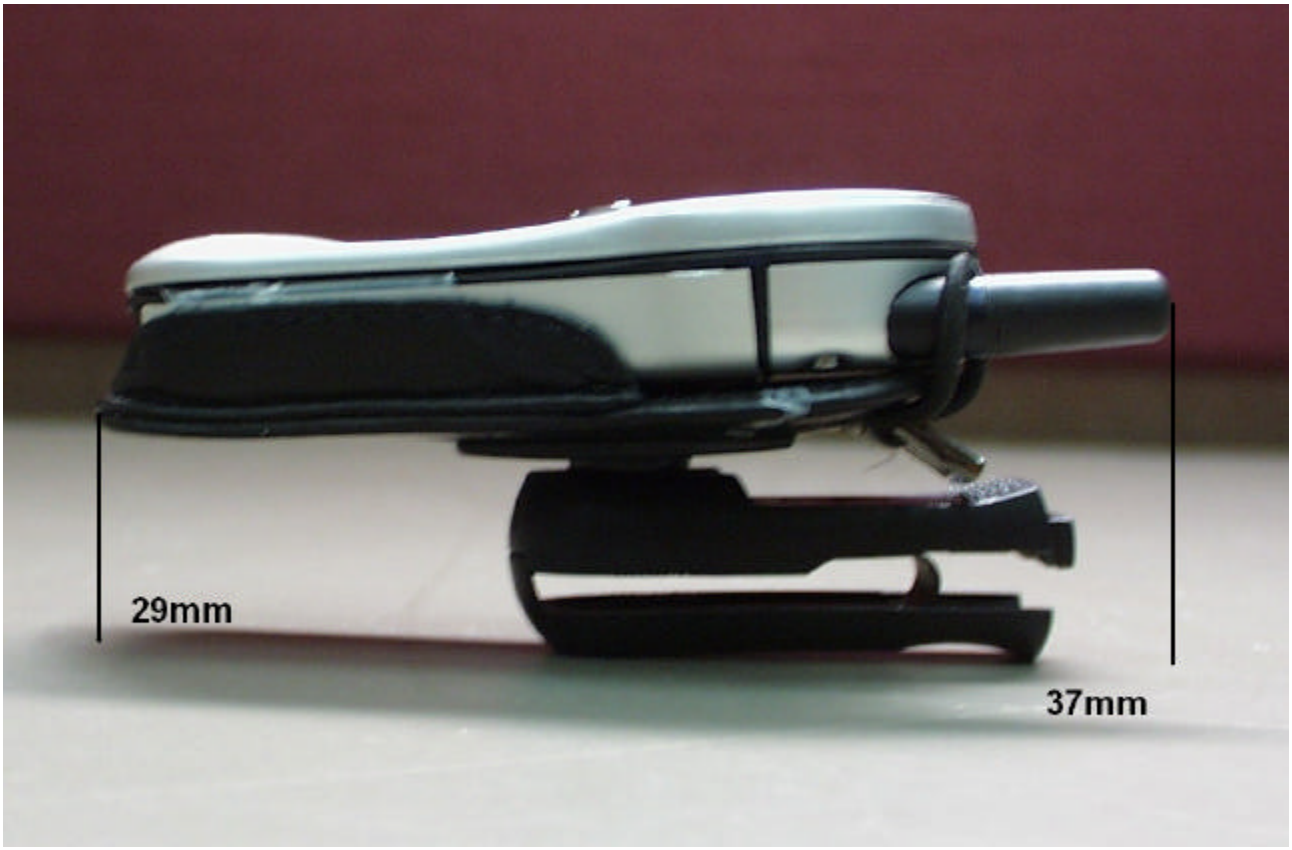


Figure 10. Distance of the Phone with the (Leather Holster / Belt Clip), from the Base of the Flat Phantom

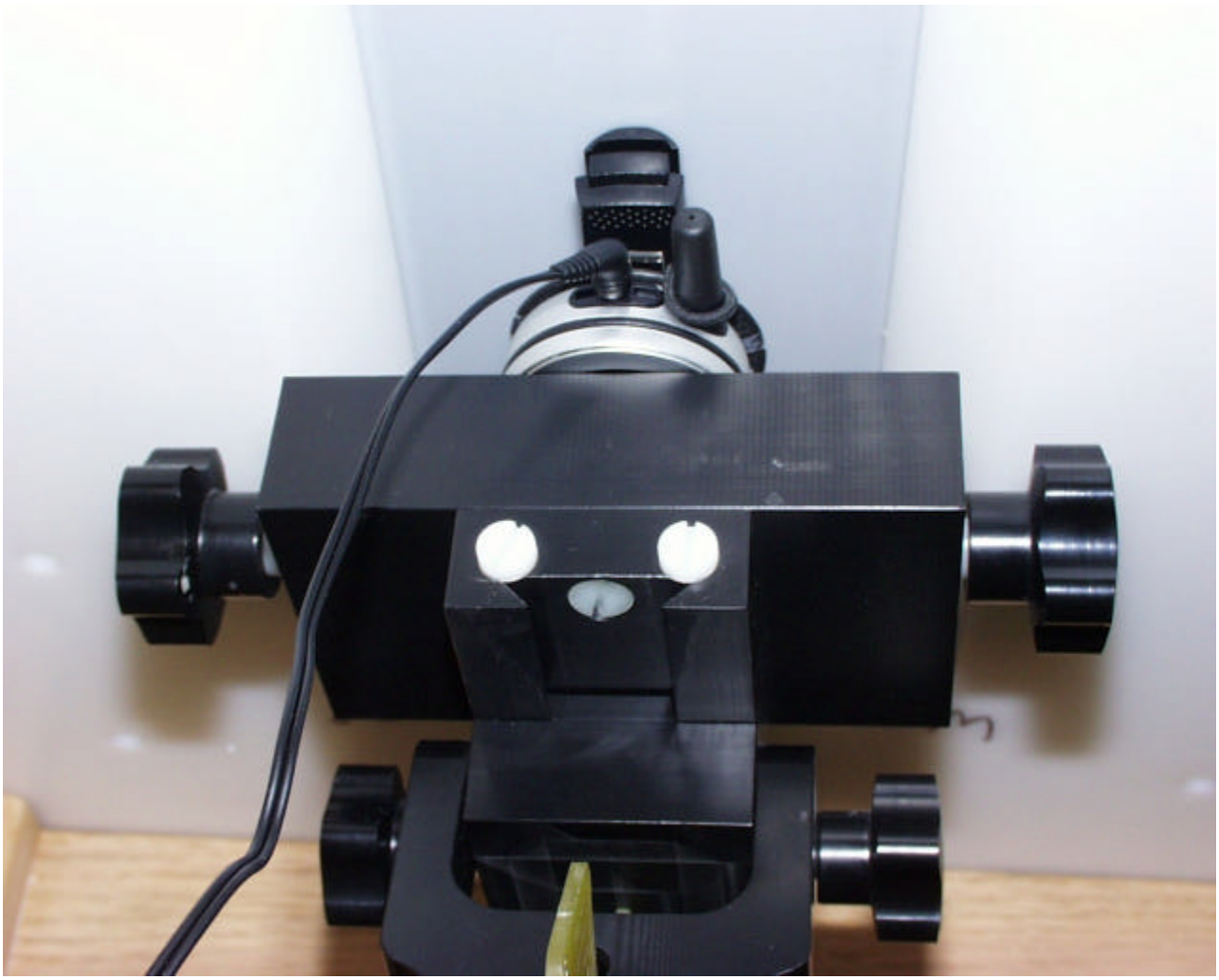


Figure 11. Phone inside (Leather Holster / Belt Clip) under the Flat Phantom with the Head Set Attached

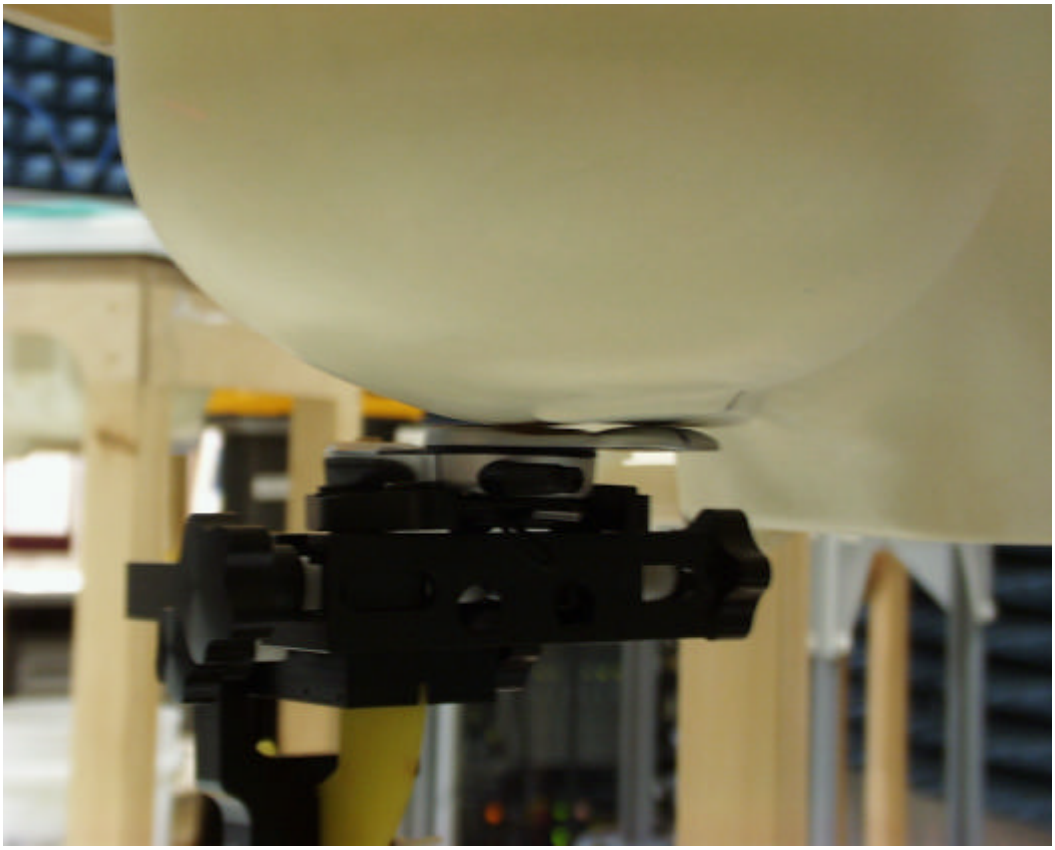


Figure 12. Phone Against the SAM Head Phantom (Back View)

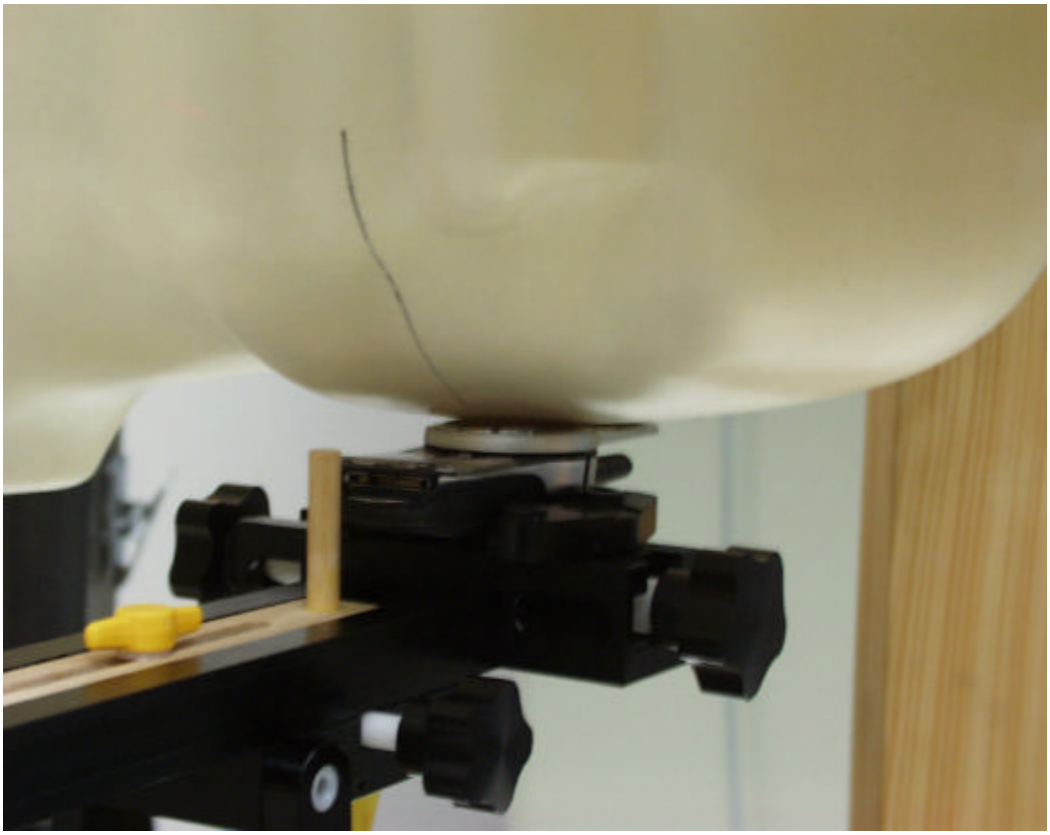


Figure 13. Phone Against the SAM Head Phantom (Front View)

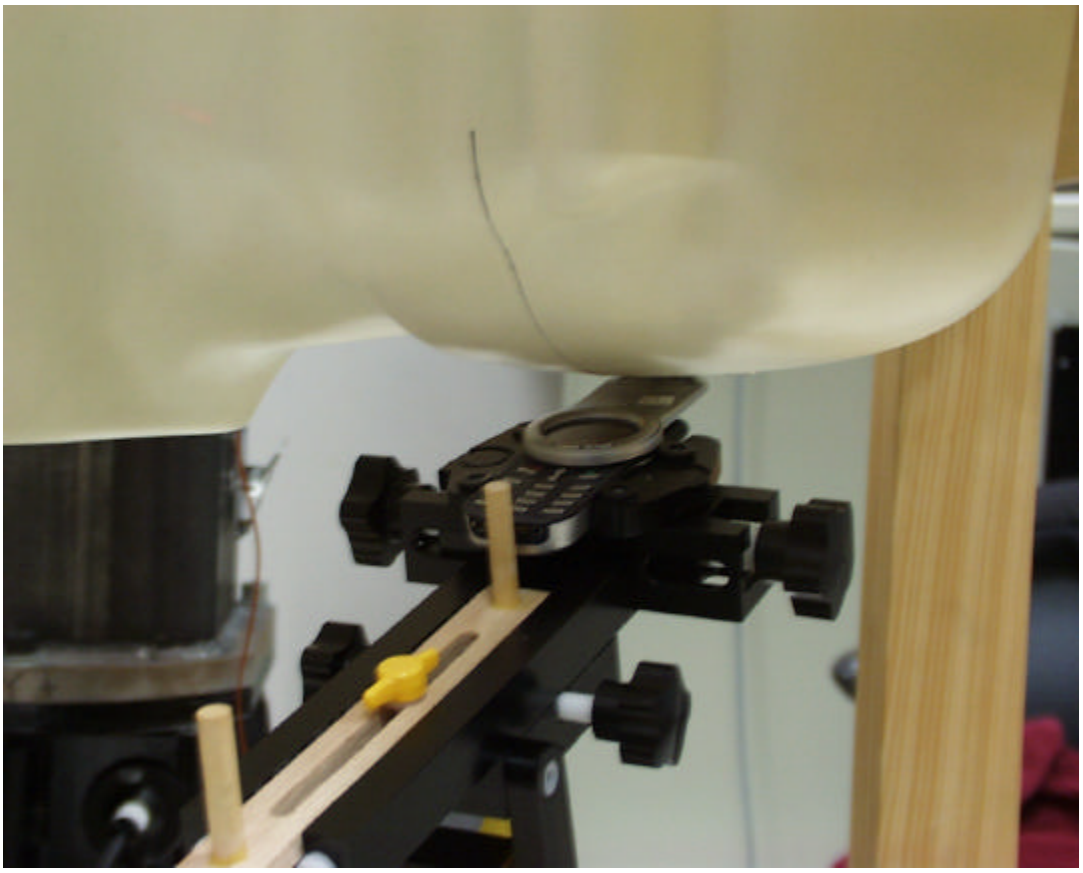


Figure 14. Phone Against the SAM Head Phantom 15° Tilt Position (Front View)

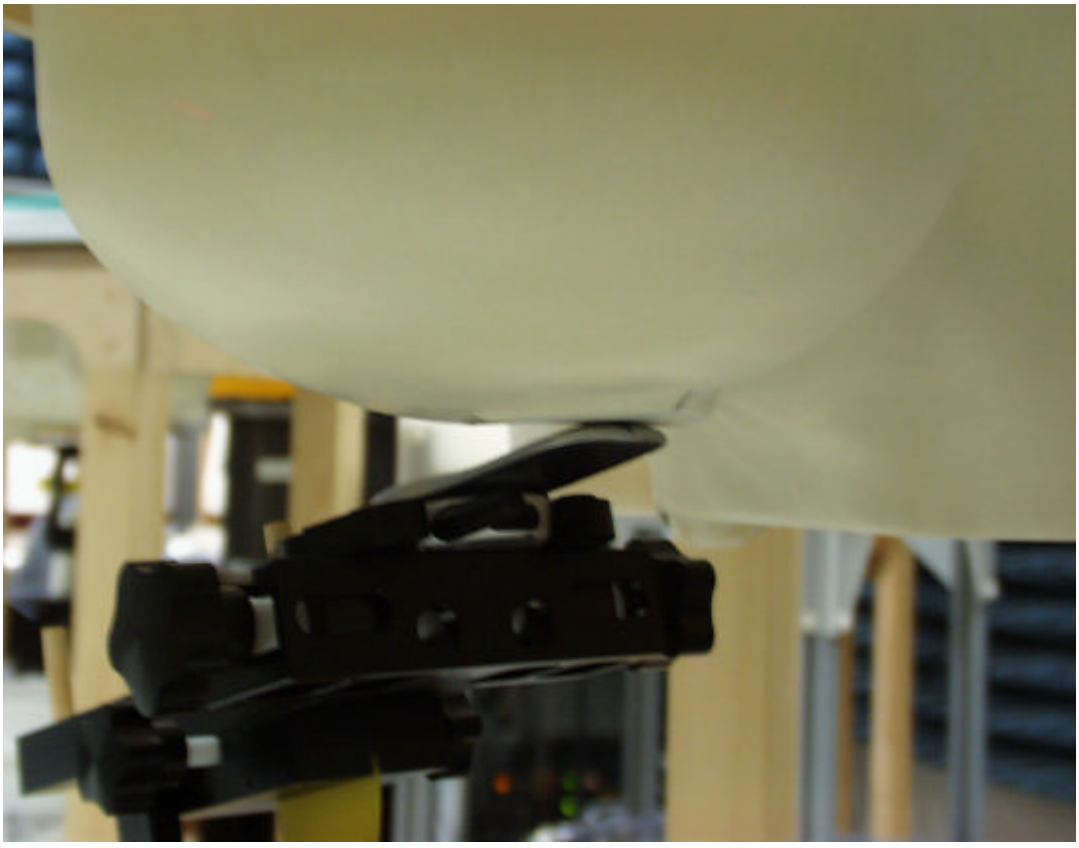


Figure 15. Phone Against the SAM Head Phantom 15° Tilt Position (Back View)