



May 4, 2005

Supplement to SAR Test Report for Motorola portable cellular phone (FCC ID IHDT56EG1)

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## Summary of FCC request for additional information

There was a request for additional information regarding Motorola's SAR Test Report for Motorola portable cellular phone (FCC ID IHDT56EG1). The requested information is addressed below in the same numbering sequence received.

1. Please provide 800 MHz dipole validation data and tissue parameters for April 13, 2005 - the day on which the cellular band head SAR measurements were performed.

**Response:** The daily system validation for April 13, 2005 was inadvertently left out of the original Class II filing. Please see below for an updated section 5. The validation plot is included in Appendix 1.

### 5. System Accuracy Verification

A system accuracy verification of the DASY4.4 was performed using the measurement equipment listed in Section 3.1. The daily system accuracy verification occurs within center section of the SAM phantom.

A SAR measurement was performed to see if the measured SAR was within +/- 10% from the target SAR indicated in Section 8.3.7 Reference SAR Values in IEEE 1528. These tests were done at 900MHz and/or 1800MHz. These frequencies are within 100MHz of the mid-band frequency of the test device. This is within the allowable window given in Supplement C 01-01 *Appendix D System Verification* section item #5. 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 tissue stimulant depth was verified to be 15.0cm ±0.5cm. Z-axis scans showing the SAR penetration are also included in Appendix 1. SAR values are normalized to 1W forward power delivered to the dipole.

<i>f</i> (MHz)	Description	SAR (W/kg), 1gram	Dielectric Parameters		Ambient Temp (°C)	Tissue Temp (°C)
			$\epsilon_r$	$\sigma$ (S/m)		
900	Measured, 13-Apr-05	11.4	40.5	0.96	22	22.2
	Measured, 14-Apr-05	11.4	41.0	0.97	22	22.2
	Recommended Limits	10.8	41.5 ±5%	0.97 ±5%	18-25	18-25
1800	Measured, 14-Apr-05	38.0	39.0	1.35	22	22.4
	Measured, 15-Apr-05	38.4	38.8	1.35	21	21.9
	Recommended Limits	38.1	40.0 ±5%	1.4 ±5%	18-25	18-25

## **Appendix 1**

### **SAR distribution plot of Daily System Validation**

Date/Time: 4/13/2005 8:43:08 AM

# Test Laboratory: Motorola

## 900 MHz Validation

**DUT: Dipole 900 MHz; Type: D900V2; Serial: D900V2 - SN:094;**

Procedure Notes: 900 MHz System Performance Check / Dipole Sn# 094

PM1 Power = 199 mW Refl.Pwr PM3 = -24.31 dB [Sim.Temp@SPC](#) = 22.2 °C Room Temp @ SPC = 22 °C

Communication System: CW - Dipole; Frequency: 900 MHz; Duty Cycle: 1:1

Medium: VALIDATION Only; Medium parameters used:  $\sigma = 0.96$  mho/m,  $\epsilon_r = 40.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

DASY4 Configuration:

- Probe: ET3DV6 - SN1502; ConvF(6.45, 6.45, 6.45); Calibrated: 7/16/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn367; Calibrated: 10/7/2004
- Phantom: PCS-8: Sugar Water SAM; Type: SAM; Serial: TP-1168;
- Measurement SW: DASY4, V4.4 Build 3; Postprocessing SW: SEMCAD, V1.8 Build 147

**Daily SPC Check/Dipole Area Scan (4x9x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 2.23 mW/g

**Daily SPC Check/0-Degree 5x5x7 Cube (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 51.9 V/m; Power Drift = -0.010 dB

Peak SAR (extrapolated) = 3.36 W/kg

**SAR(1 g) = 2.23 mW/g; SAR(10 g) = 1.43 mW/g**

Maximum value of SAR (measured) = 2.40 mW/g

**Daily SPC Check/90-Degree 5x5x7 Cube (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 51.9 V/m; Power Drift = -0.010 dB

Peak SAR (extrapolated) = 3.48 W/kg

**SAR(1 g) = 2.32 mW/g; SAR(10 g) = 1.5 mW/g**

Maximum value of SAR (measured) = 2.47 mW/g

**Daily SPC Check/Z-Axis Retraction (1x1x31):** Measurement grid: dx=20mm, dy=20mm, dz=5mm

Maximum value of SAR (measured) = 2.43 mW/g

