July 18, 2002

Subject: Supplement to SAR Test Report for Motorola portable cellular phone (FCC ID: IHDT56CE1)

Reference:

Correspondence Reference Number:	220717.IHD
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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 IHDT56CE1). The requested information is addressed below in the same numbering sequence received.

1) Justification for the reduced number of configurations/frequencies tested. Alternatively, please provide SAR data from additional test configurations/frequencies.

Response: The testing was performed in each configuration / frequency band per the FCC OET Bulletin 65 Supplement C 01-01 standard, which states:

"The device should be tested on the left and right side of the head phantom in the "Cheek/Touch" and "Ear/Tilt" positions. When applicable, each configuration should be tested with the antenna in its fully extended and fully retracted positions. These test configurations should be tested at the high, middle and low frequency channels of each operating mode; for example, AMPS, CDMA, and TDMA. If the SAR measured at the middle channel for each test configuration (left, right, Cheek/Touch, Tile/Ear, extended and retracted) is at least 2.0 dB lower than the SAR limit, testing at the high and low channels is optional for such test configuration(s)." (Appendix D: SAR Measurement Procedures – Page 42).

In Configuration / frequency band where measured SAR was below this threshold, additional tests were not required.

2) Please provide a measurement uncertainty budget that meets the IEEE draft 1528 or the FCC/OET Bulletin 65 Supp. C (2001). Please state when these values will be available.

Response: Motorola is working on developing an uncertainty budget per the format shown in IEEE P1528. We have received many suggested values for various line items in the budget from SPEAG™. In order to verify that these values were determined per the methods indicated in IEEE P1528, we have requested, from SPEAG™, how these values were determined. Subsequently, there has been a lot of input from various members of the IEEE committee suggesting that certain line items be changed. Also, values for the line items under the *Test Sample Related* section of the budget are device specific and must be determined by the test location. Motorola is currently completing various studies to determine what these values should be for our products. We expect to have a complete uncertainty budget per IEEE P1528 available prior to the

ratification of IEEE P1528. Per item #13 of the *OET 65 Supplement C EAB Part 22/24 SAR Review Reminder Sheet 01/2002* handed out during the February, 2002 TCB council meeting, the tabulated total measurement uncertainty is nominal until the IEEE Std 1528 is completed. The 12% overall RSS uncertainty of measurement previously stated in the section 3.1 breaks down into the following line items:

Probe Uncertainty	**±%**
Isotropy error	7.2
Calibration error	3.3
Spatial resolution	0.5

SAR Evaluation	**±%**
Conductivity measurement	5.0
Environmental errors	1.0

Peak SAR Evaluation	**±%**
Probe positioning	1.0
Volumetric averaging	4.2
Device positioning	6.0

Total: 12.0%

3) Justification for the conversion factors used. CF numbers used were not consistent between SAR plots and not always in agreement with numbers stated in the calibration certificates. Please clarify.

Response: Please refer to the original SAR report. The conversion factors used for 1900 MHz 'head' could be found in (Appendix 4: page 38 – Original Conversion Factors) and conversion factors for 835 MHz 'head' can be found in (Appendix 4: page 46 – Additional Conversion Factors). Please also look at the additional conversion factors for body, which agree with the ones provided on the SAR plots.

4) Additional descriptive information of the SAR measurement system to meet Supplement C Appendix B part II recommendations. Please includes details of the E-field probe, holder, scan procedures, calculations, Robot, SAM phantom, and computer.

Response: The DASY v3.1 system specified in section 3.1 of the original filing SAR Test report was utilized within the intended operations as set by the SPEAG™ setup. The default style of "coarse" and "cube" scans were chosen and

use for measurements. The grid spacing of the course scan was 15cm as shown in the SAR plots. Please refer to the DASY manual for additional information on SAR scanning procedures and algorithms used.

5) Please provide the SAR data plots for the Hour Glass Housing (15 deg tilt position) for both bands. We could not locate the plots in the documents provided.

Response: Please refer to Appendix 1 of this document for the SAR plot.

6) Please provide the revised the users manual (page 8) indicating the frequency of operation and output power. In addition, please address the body-worn statement regarding the use of metallic components in the users manual.

Response: Please refer to the attached revised page 8 of the users manual. In regards to the body worn statement, Motorola does not endorse the use of non-Motorola body-worn accessories. As stated in the manual, "Use of non-Motorola-approved accessories may exceed FCC/Health Canada RF exposure guidelines." Any future Motorola body-worn accessories, whether they contain metal or not, will be evaluated for compliance prior to shipment.

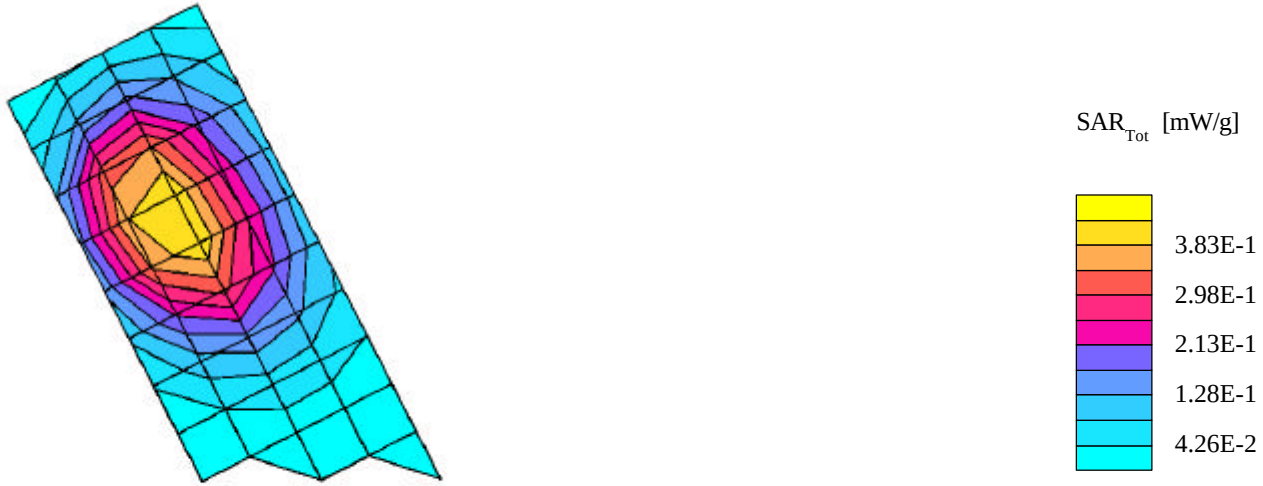
Appendix 1

SN 5630032 (Hour Glass Housing)

Ch# 661 / Pwr Step: 0 / Antenna Position: Internal / Type of Modulation: 1900 GSM / Battery Model #: SYN9624A / DEVICE POSITION: 15 Degree Tilt / SIM'T
TEMP: When Measured = 22.2 °C After Test = 22.4 °C
R1: TP-1085 GLYCOL (rev. 3) Phantom; R2 Bart Left Head Section; Position: (90°,180°); Frequency: 1880 MHz
Probe: ET3DV6 - SN1508 - IEEE Head; ConvF(5.41,5.41,5.41); Crest factor: 8.0; 1880 MHz Head & Body: σ = 1.45 mho/m ε_r = 38.3 ρ = 1.00 g/cm^3
Cube 7x7x7: SAR (1g): 0.769 mW/g, SAR (10g): 0.398 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 15.0
Penetration depth: 8.7 (8.6, 9.0) [mm]
Powerdrift: -0.25 dB

SN 5630032 (Hour Glass Housing)

Ch# 189 / Pwr Step: 7 / Antenna Position: Internal / Type of Modulation: 850 GSM / Battery Model #: SYN9624A / DEVICE POSITION: 15 Degree Tilt / SIM'T
TEMP: When Measured = 22.6 °C After Test = 22.2 °C
R1: TP-1005 SUGAR (rev. 3) Phantom; R2 Marge Right Head Section; Position: (90°,180°); Frequency: 836 MHz
Probe: ET3DV6 - SN1508 - IEEE Head; ConvF(6.50,6.50,6.50); Crest factor: 8.0; 835 MHz Head & Body: σ = 0.92 mho/m ε_r = 41.8 ρ = 1.00 g/cm^3
Cube 7x7x7: SAR (1g): 0.449 mW/g, SAR (10g): 0.305 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 15.0
Penetration depth: 14.6 (13.7, 15.7) [mm]
Powerdrift: -0.03 dB



Safety and General Information

IMPORTANT INFORMATION ON SAFE AND EFFICIENT OPERATION. READ THIS INFORMATION BEFORE USING YOUR PHONE.

The information provided in this document supersedes the general safety information contained in user guides published prior to July 2000. For information regarding radio use in a hazardous atmosphere please refer to the Factory Mutual (FM) Approval Manual Supplement or Instruction Card, which is included with radio models that offer this capability.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

RF Operational Characteristics

Your phone contains a transmitter and a receiver. When it is ON, it receives and transmits radio frequency (RF) energy. The phone operates in the frequency range of 824 MHz to 849 MHz and 1850 MHz to 1910 MHz.

When you communicate with your phone, the system handling your call controls the power level at which your phone transmits. The output power level typically may vary over a range from 0.0 watts to 1.0 watts.