



MOTOROLA

Date: December 9, 2002

Subject: Request for additional information (FCC ID: IHDT56CM1)

Reference:

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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 IHDT56CM1). The requested information is addressed below in the same numbering sequence received.

1) Please provide justification for the probe conversion factor used for 1900 MHz Body measurements per OET 65 Supp. C.

Response: The calibration certificate for the probe utilized (probe SN1503), page 2 of 8 shows that the conversion factor for 1800MHz & 1900MHz head is 6.43 for probe SN1503. This is the value that was used for testing in the original filing. Since simulated tissue targets are the same for both 1800 & 1900 MHz head and the conversion factor for both 1800 & 1900 MHz head is the same ('5.24' for Probe SN1503), it is also true for body worn that both 1800 & 1900 MHz share the same conversion factor ('4.9' for Probe SN1503) since they share the same simulated tissue targets. This is demonstrated in all newly calibrated probes from SPEAG. These new calibration sheets show that the 1800MHz & 1900MHz body do share the common conversion factor.

2) Please provide the test configuration photo/sketch of body-worn position. Photograph or sketch provided must clearly show the distance between the body of the device and the flat phantom.

Response: Please see photographs below of the test setup described in the original filing:



Figure 1. "Twin Tub" Body-Worn Measurement Phantoms and Fixture.



Figure 2. Underside of "Twin Tub" showing DUT placement locations.

Please see photographs shown below for the body worn configuration.



Figure 3. DUT below "Twin Tub" Body-Worn Measurement Phantom



Figure 4. DUT below “Twin Tub” Body-Worn Measurement Phantom

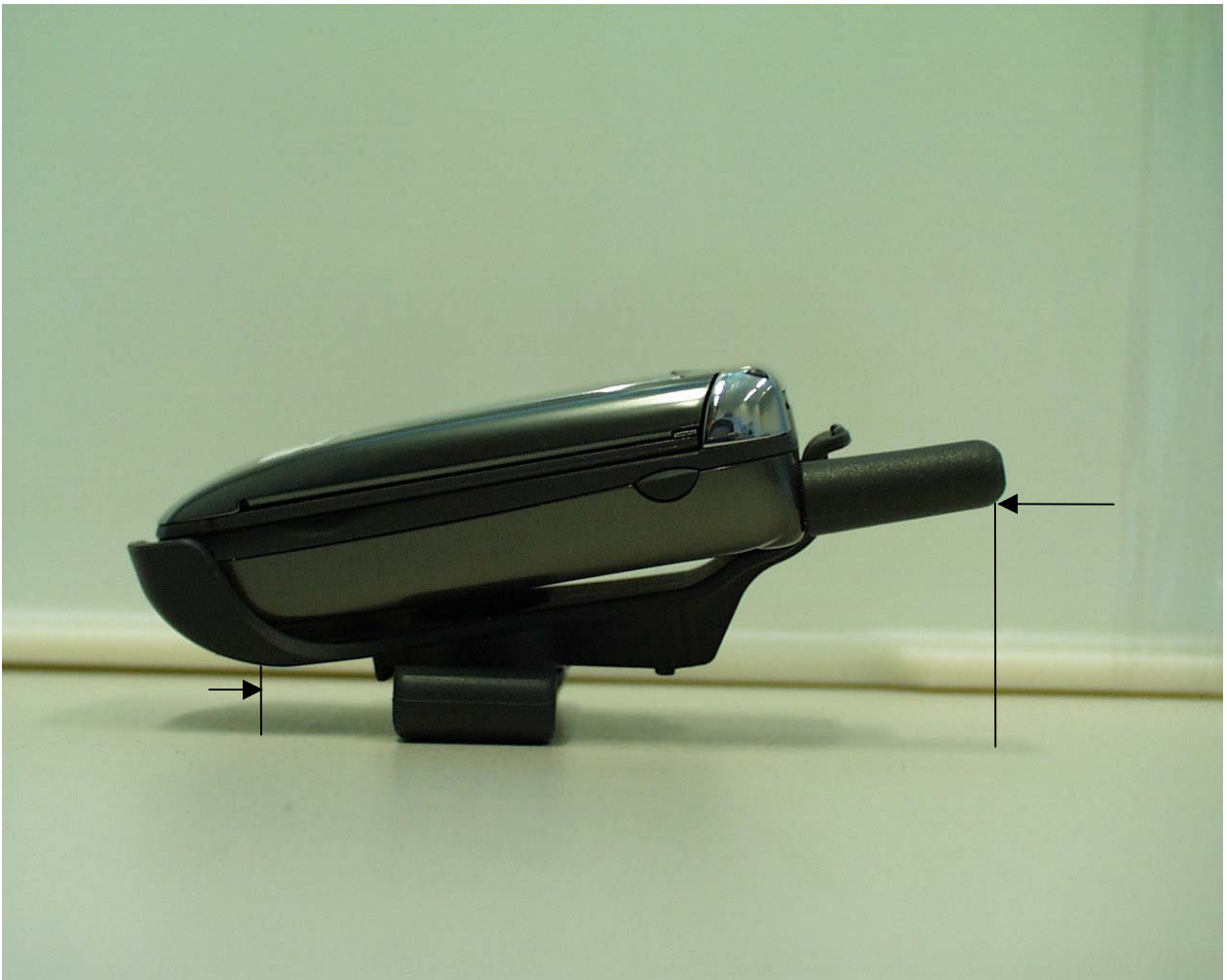


Figure 5. Separation Distance of 25 mm from Tip of Antenna to Flat Phantom and 8 mm from the bottom of the clip when rotated +90° (Clockwise Direction)

3) Confirmation that identical serial numbers and power configuration was used for both EMC and SAR testing.

Response: To maximize correlation of critical values listed on the grants, the following reported parameters were based on the same unit (identical serial number):

- SAR values
- Conducted power
- Radiated power (EIRP)

Other EMC related characteristics (frequency stability, occupied bandwidth, conducted and radiated spurs) were based on units of identical power configurations.

4) Confirmation that power was measured for each SAR test scan.

Response: The complete set of conducted output power measurements was measured prior to the complete set of SAR measurements being performed. For each SAR measurement, the SAR was be checked at a reference location immediately before and after each SAR measurement to verify device output and SAR drifts. These drifts were reported in the original filing.

5) Statement explaining the second/cutoff hotspots which are evident on several 1900 MHz head/body SAR plots. Please provide additional test data fully measuring the second hotspot, as appropriate.

Response: The Cheek Touch and Body-worn SAR measurements in the 1900MHz band showed two RF hot spots. The primary RF hot spot was used for the cube measurement to determine the SAR value. The peak within the 2nd RF hot spot for these measurements was not within 2dB of the peak within the primary RF hot spot. Supplement C specifies that only “peaks within 2.0 dB (58.5%) of the highest peak identified by the interpolated data should be evaluated with a fine resolution volume scan to determine the highest one-gram averaged SAR”.

6) Confirmation that body-worn SAR with "back to phantom" is worst case compared with "face to phantom". Please clarify if testing was performed.

Response: The DUT was tested with a body-worn accessory in the original filing. This accessory only allows the DUT to be held with the back of the product towards the phantom. Additional testing is not required.

7) Please correct page 4 of the equipment used listed in the SAR report (Exhibit 11). The Power Meter E4419B contains an expired date.

Response: The table below has been corrected for all errors in the original equipment list.

Description	Serial Number	Cal Due Date
Signal Generator HP8648C	N120299-23	10-Oct-04
Power Meter E4419B	N120299-27	18-Jan-03
Power Sensor #1 – E9301A	N120299-25	14-Feb-03
Power Sensor #2 - E9301A	N120299-28	15-Feb-03
Network Analyzer HP8753ES	US39220999	2-May-03
Dielectric Probe Kit HP85070C	594146-01	

8) The two statements contained in the confidential filing of Exhibit 12 Operational Description (ESN Exh. 12I and E911 Exh. 12K only) will be uploaded as NOT CONFIDENTIAL as part of the Attestation Statements to avoid FCC requests for these documents (ESN Protection and 911 Call Processing). Please confirm.

Response: Motorola confirms.