



**MOTOROLA**

**Date:** January 22, 2003

**Subject:** Request for additional information (FCC ID: IHDT56CQ1)

**Reference:**

Application Received:	12/23/2002 (Amended 01/10/2003)
Correspondence Reference Number:	230121.IHD
Confirmation Number:	TC1414
Date of Original Email:	01/21/2003

**Prepared by:**

Steven Hauswirth  
Motorola Personal Communications Sector Product Safety Laboratory  
Harvard, Illinois

Andrew Bachler, Principal Staff Engineer  
Motorola Personal Communications Sector  
Libertyville, Illinois

## Summary of FCC request for additional information

- 1) Clarification on the maximum power at the antenna terminal. The Analog max power states 3 W (34.76dBm) but the modulation plots indicate 34.65 dBm (unmodulated carrier). The CDMA power shown in the Operational Description Exhibit 12A listed 0.2 - 1 Watt and nominal 0.3dBm, however Exhibit 12B shows 0.26W. Please clarify the max. power for all frequency bands of operation.

**Response:** The rated power output reported in Exhibit 6 (test report) is:

800 MHz Analog: 3.0 W  
800 MHz Digital CDMA: 0.25 W  
1900 MHz Digital CDMA: 0.27 W

Minor power output discrepancies, in the test report, are due to rounding and truncating of the measured values.

- 2) Please specify the method of measurement of output power.

**Response:** Conducted power output reported in exhibit 6 (test report) was measured using the following test equipment:

Giga-Tronics 8652A Universal Power Meter  
Serial number: 1835324  
Calibration due by: 03/14/03

- 2) Please supply MPE calculation at 20 cm. Recent FCC policy requires MPE exhibits for mobile devices.

**Response:** Please refer to supplemental rf exposure report Exhibit 11A.

- 3) Please supply the maximum antenna gain and cable loss that is to be used with this device. Please indicate how this system loss will qualify for categorical exclusion requirements of Section 2.1091.

**Response:**

Antenna Gain: 0 to -1 dBi (-2.1 to -3.1 dBd)

Cable loss 800 MHz: 1.7, 1.9, 2.2, or 2.5 dB (dependent upon installation configuration)

Cable loss 1900 MHz: 2.1, 2.5, 2.9, or 3.3 dB (dependent upon installation configuration)

Based on rated conducted power output, the highest antenna gain, and the lowest line loss:

Highest 800 MHz ERP =

34.77 dbm (3W conducted power)  
-2.1 dBd (antenna gain)  
-1.7 dB (line loss)

**30.97 dBm (1.250 W ERP)**

Highest 1900 MHz ERP=

24.31 dbm (0.270W conducted power)  
-2.1 dBd (antenna gain)  
-2.1 dB (line loss)

**20.11 dBm (0.103 W ERP)**

The categorical exclusion (Section 2.1091) applies to 800 MHz, since the maximum power is less than 1.5 W ERP.

The categorical exclusion (Section 2.1091) applies to 1900 MHz, since the maximum power is less than 3.0 W ERP.

5) Please revise the antenna installation instruction information to include the antenna location on the vehicle with the appropriate RF exposure statement or supply MPE calculation for each antenna location, if appropriate.

**Response:** Please refer to revised exhibit 8A.

6) Please confirm that this is not a user installed transmitter.

**Response:** Motorola confirms that this is not an end user installed transmitter.