



18 May 2011

Authorization & Evaluation Division
Federal Communications Commission Laboratory
7435 Oakland Mills Road
Columbia, MD 21046

Subject: Application for Class II Permissive Change to Certified transmitter with FCC ID: IHDT56MR1, i420/i412-Series Handsets with Bluetooth.

Gentlemen;

Motorola Inc., 600 North US Hwy 45, Libertyville, IL herein submits its application for a Class II Permissive Change to the certified multi-mode handset with FCC ID: **IHDT56MR1**.

Description of Transceiver:

This transceiver features a variable output power (0.22 to 640 milliwatts) transmitter that is part of a handheld transceiver used in SMR and EA SMR trunking systems operating within the United States 806-821/851-866 MHz and 896-901/935-940 MHz frequency bands. Operation is also extended for use in a Narrowband PCS system operating in the United States in the spectrum between 901-902/940-941 MHz, on channels which the licensee has aggregated together to form twenty-one 25 kHz operating channels.

This radio product is also equipped with a Bluetooth (BT) transceiver. BT supports both voice and data for short range wireless communications. The Bluetooth Band of Operation is 2.4 - 2.4835 GHz (1 MHz channel bandwidth). It is a Class 1 type device, with power rated +4 to +10 dBm (typical +8 dBm). The physical location of the Bluetooth antenna is shown in Exhibit 7b. The BT device complies 15.247 (c), 15.205 and 15.209 (b).

This radio product features integrated GPS and FM broadcast receivers, and is designed to function as a computer peripheral device when functioning as an RF modem, while connected to a computer via a data cable, as described in 47 CFR Part 15.3(r).

Description of Changes:

Modifications to the DC Power Management and Charging circuitry were needed due to parts availability problems stemming from the impact of the Japanese earthquake and tsunami, as summarized in the table below. Changes to the PC Board were also required to support these parts.

Ref Des	Rev A Part Numbers	Rev 8 Part Numbers	Comment
U706	5109920D64	32012GL00	Charge Pump changed from TI to Semtech
L9013	24014300135	63011WJ00	91nH Inductor
R758	DNP	0613952R66	Semtech Components
R759	DNP	0613952R66	Semtech Components
R719	DNP	0613952Y66	Semtech Components
C7003	DNP	2175181C01	Semtech Components
C7005	DNP	2175181C01	Semtech Components
C7006	DNP	2175511A01	Semtech Components
E719	0613952Y66	DNP	Replaced with R719
C750	2175036B01	DNP	
C751	2175036B01	DNP	

Impact of Change:

The performance of all applicable and reportable operating parameters under FCC Rule Part 90S, Part 24D, and Part 15 were evaluated and compared with the values originally filed. In particular, the RF Exposure performance (per 47 CFR 2.1093), Radiated Emissions, and other characteristics (per 47 CFR 2.1046 – 2.1055, as required) were evaluated. Some harmonics degraded more than 3 dB, but still have more than 10 dB of margin to the specification. The SAR measurements were done and found no significant change from the original submission. The levels remain compliant with FCC limits, with significant margin. All other aspects of the transmitter's Part 90, Part 24D, and Part 15 ISM band performance (including HAC performance) remains unchanged, within measurement uncertainty, from that originally filed with the FCC for this ID

Conclusion:

This transceiver continues to meet all FCC requirements for which the original authorization was granted. The changes described, therefore, meet the requirements for a Class 2 Permissive Change, in accordance with 47 CFR 2.1043.

Enclosed are an amended test report, and Statements of Certification. Contact me at (847) 523-6167 if you require any additional information.

Attachments:

1. Exhibit 2 (Statements of Certification).
2. Exhibit 6 (New Part 90 RF Report).