



3 December 2009

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: IHDT56KQ1, i890 iDEN Handset 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: **IHDT56KQ1**.

**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 device also possesses a transmitter that operates in the ISM band (902 – 928 MHz). The two transmitters are configured so that they operate exclusive of each other (i.e. only one mode can operate at a time). While in this mode there is no connectivity to any cellular networks, and the transceiver uses only the FHSS protocol, as permitted in the ISM band. The operational mode is selected by the user via a menu selection.

This radio product is 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 (typically +8 dBm). The physical location of the Bluetooth antenna is shown in Exhibit 7b. The Bluetooth device complies 15.247 (c), 15.205 and 15.209 (b).

This radio product features an integrated GPS receiver, 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:**

A number of minor PC Board layout and component changes were made as a consequence of on-going design optimization activities that have taken place since the original filing. The most salient of these include:

1. PCB circuitry routing changes supporting:
  - a. Camera digital circuitry.
  - b. Microphone audio circuitry.
  - c. Bluetooth supply optimization and length adjustment of balanced lines.
2. Optimization of internal grounding scheme.
3. Optimization of Antenna Launch Contacts.
4. Optimization of several ancillary electrical components, including values and placement.
5. Removal of a test connector used to facilitate product development.
6. Removal of Battery Cover latch.

**Impact of Change:**

The performance of all applicable and reportable operating parameters under FCC Rule Part 90, Part 24D, and Part 15 band were evaluated and compared with filed values. In particular, the RF Exposure performance of this transmitter was evaluated in accordance with 47 CFR 2.1093 at Motorola's Government & Public Safety EME Laboratory in Plantation, FL. Transmitter radiated spurious emissions performance was found to have degraded beyond what could be explained by measurement error, though they continue to be compliant with FCC rules. All other aspects of the transmitter's Part 90, Part 24D, and Part 15 ISM band performance (including RF Exposure and 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 RF exposure and emissions requirements for which authorization was granted. Since all other data currently on file with the FCC for this transmitter are unchanged, this change meets the requirements for a Class 2 Permissive Change, in accordance with 47 CFR 2.1043.

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

Sincerely,



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Andrew J. Bachler  
FCC Liaison  
Motorola Mobile Devices Business  
Email: [A.Bachler@motorola.com](mailto:A.Bachler@motorola.com)

Attachments:

1. Exhibit 2 (Statements of Certification).
2. Exhibit 6 (Amended MOTotalk RF Report).