



15 June 2010

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: IHDT56KD1 i860/i866 Series iDEN 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: **IHDT56KD1**.

**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 new sales model has been created consisting primarily of cosmetic changes to the housing and decoration, but including electrical and mechanical changes intended to improve performance. Specifically, these changes are:

- Key electrical changes:
  - The inductor on the SW1 buck converter (L700B7) increases in value from 2.2uH to 4.7uH. This inductor and the associated capacitor C715B7 were moved to prevent spurious energy from this converter contaminating the adjacent ground, which (with the 4.7uH inductor) could cause phase noise degradation on specific channels. Additionally a number of DC control components about L700B7 and C715B7 were moved to accommodate this layout change.
  - Minor changes to RF shields to improved effectiveness, and/or provide more clearance for components below.
  - Various additions/modifications to RF bypass and DC block capacitors in audio lines.
- Key mechanical changes:
  - A phosphor-bronze Hinge Ground Clip and screw were added to the hinge assembly to ensure a ground contact is reliably made across the hinge knuckle assembly.
  - The Hinge Flex Circuit was changed from an RA copper construction to an HA copper construction to improve the hinge life-cycling performance, and improve in-service reliability.
  - On the Flip PC Board, the earpiece speaker contacts change from copper pads to metal pucks. This change was made to prevent the earpiece contacts from wearing through the copper pads over extended time in service.
  - Various housing changes to improve environmental sealing, fit-and-finish, etc. Changed color scheme to black-on-black.

**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. The only significant change in performance was a slight increase in SAR at the head when operating in the Part 90 (iDEN) operating mode. The levels are still compliant, 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.

Sincerely,



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Andrew J. Bachler  
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Motorola Mobile Devices Business  
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Attachments:

1. Exhibit 2 (Statements of Certification).
2. Exhibit 11 (Amended RF Exposure Report).