



18 June 2007

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

**Subject: Application for Certification of dual transmitter with FCC ID: IHDT56HG1, i290.**

Gentlemen;

Motorola Inc., 600 North US Hwy 45, Libertyville, IL herein submits its application for certification of the multi-mode handset with FCC ID: **IHDT56HG1**.

This is 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. Certification is also sought for this transceiver, and performance data is provided for that purpose (Exhibit 6c).

The first transmitter is of the receive-first type described in International Telecommunications Union Recommendation ITU-R M.1221 entitled *Technical and Operational Requirements for Cellular Multimode Mobile Radio Stations*. It must first find, acquire and lock onto a control channel from a predefined set of control channel frequencies assigned to a companion Authorized base station (e.g. – FCC ID: ABZ89FC5794). Transmissions are not possible until a lock to the respective base station control channel has been achieved, and then transmissions are limited to digitally modulated service request bursts on the reverse control channel. Upon recognition of a proper request, the control channel base station transmitter will then assign the transceiver a traffic channel for transmission of digital voice or circuit-switched data from the set of frequencies for which the trunking system is licensed. Exhibit 12 provides additional descriptive details.

To facilitate global roaming it is kindly requested that a note be provided in the Grant for Equipment Authorization, which states that this 'receive first' type of equipment is compliant for transmitter operation over the broader range 806-825 MHz when used with a compatible Authorized Base Station. This will aid equipment authorization in foreign countries, which accept a United States FCC Grant for Equipment Authorization, yet not jeopardize United States public safety or cellular systems licensed to operate in the 821-825 MHz frequency band since no compatible base station may be authorized on those frequencies in the United States.

It is also expected that this transceiver type will be marketed outside the United States and brought into the United States for itinerant "roaming" operation on compatible 806 - 821 MHz base stations located within the United States. Consequently, upon receipt of Authorization, those units of this equipment type authorized for marketing in countries outside the United States will also bear a label with the specified FCC identifier.

The second transceiver is a frequency hopping spread spectrum type, operating in the unlicensed ISM (902-928 MHz) band. It uses an FSK (Frequency Shift Key) modulation scheme, 50 kHz channel spacing, and up to 1 watt RF power output. The protocol is defined to have 10 interleaved hop sets of 50 frequencies each with 500 kHz separation between set members. All 10 hop sets span the entire ISM band. In this transceiver mode, conversations are held only via the speakerphone: the earpiece is disabled.

All transmitters contained in this radio product have been subjected to routine environmental evaluation according to 47 CFR Part 2.1093 (c) for RF exposure and found to be compliant with the limits specified in 47 CFR 2.1093(d)(2).

These transmitters comply with 47 CFR 90.203 of the rules in that the operator cannot directly program transmit frequencies using only the unit's normally accessible external controls.

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). For these reasons a Declaration of Conformity has been prepared and provided on page 3 of the User Guide in the Exhibit 8.

Enclosed is a complete Certification Application. Contact me at (847) 523-6167 if you require any additional information.

Sincerely,

/s/ Andrew Bachler (signed)

Andrew J. Bachler  
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