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Inquiry Tracking Number: 608102**Date of Original Submission: 01/03/2007****Date of Submission: 01/30/2007****Related Sites**[Equipment Authorization
System \(EAS\)](#)[Telecommunications
Certification Bodies \(TCB\)](#)**Subject: TCB Procedures**

Question: 15.239 FM Transmitter Equipment Class DXX Category 1 - 15.239 FM Transmitter 1) How does this device operate? Please see "Users Manual.pdf" and "Operational Description(Confidential).pdf" 2) Provide information on the device and its antenna. Please see "Users Manual.pdf" and "Operational Description(Confidential).pdf" for the device and "Antenna Information.doc" for the antenna. 3) How is it installed? Please see "Example of setting.pdf". 4) What test procedure was used? Details of test procedures are described per test items after section 3 of the test report. 5) If tested in a car, how was it configured/tested? The testing for this device has done with stand-alone configuration. 6) Was the tuning range properly verified? The test lab should indicate in the report that the tuning controls were manually adjusted to verify maximum tuning range. Please see Page 6 Section 4.1 of the test report. 7) Was the bandwidth properly tested with maximum audio input? Please see Page 6 Section 4.1 of the test report. 8) Provide the test report. Submitted.

---Reply from Customer on 01/09/2007---

1) THG4649 is the IC designed to modulate the audio signal, and transmit it so as to be received by the FM radio, where all signal processing from the modulation up to the transmission are conducted by one chip. 3-wire Serial data from HD64F38004FP set the transmission frequency. Synthesized oscillator of THG4649 combine a Voltage

Controlled Oscillator Audio in (VCO) with a Phase-Locked Loop IC (PLL), frequency reference. The PLL is used to stabilize and control the frequency. The VCO is used to generate the RF output frequency. The RF signal is output from an antenna through the power amplifier of THG4649. 2) The Antenna is built in microstrip antenna of pattern type 3) The EUT is connected to an audio device via 3.5mm jack audio cable 4) The following tests were performed 200kHz Bandwidth 2.1049, 15.239(a) Emissions from Intentional radiators 2.1046, 15.239(b) Spurious Emissions 2.1053, 15.239(c) 20dB Bandwidth C63.4:2003, 15.239(c) 5) The testing for this device has been done with stand-alone configuration. 6) The EUT was operated in a manner similar to typical use during tests Transmitting mode (88.1/98.0/107.9 MHz) with Audio Signal 1kHz The EUT does not have user power control function The test was performed with the same range as tuning (88.1 – 107.9 MHz) The output level was confirmed with and without modulation -As the result, there was no difference in the output level The system was configured in typical fashion (as a customer would normally use it) for testing 7) same as #6 8) Test report was provided

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Question:

---Reply from Customer on 01/30/2007---

Retested using typical device. Report attached

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