

Unlicensed Single Modular Transmitter Approval Justification for FCC per 15.212

Monday, February 08, 2016

To: Federal Communications Commission
7435 Oakland Mills Road
Columbia, MD 21046-1609

Re FCC ID: SZ9TM-ZP05X

To whom it may concern:

We at Temperature@alert are hereby applying for full modular approval of the above-referenced FCC ID, based on compliance with all of the criteria as detailed below.

- i. *The radio elements of the modular transmitter must have their own shielding. The physical crystal and tuning capacitors may be located external to the shielded radio elements.*

The entire radio is shielded by a PCB mounted shield.

- ii. *The modular transmitter must have buffered modulation/data inputs (if such inputs are provided) to ensure that the module will comply with part 15 requirements under conditions of excessive data rates or over-modulation.*

All I/O to the module are buffered from the radio. There is not direct way an input (or output) pin can modulate the radio or change its output. There is no direct connection from any I/O pin to the radio transmitter.

- iii. *The modular transmitter must have its own power supply regulation.*

The radio transceiver (EM357) provides internal regulation to the radio transceiver.

- iv. *The modular transmitter must comply with the antenna and transmission system requirements of §§ 15.203, 15.204(b) and 15.204(c). The antenna must either be permanently attached or employ a "unique" antenna coupler (at all connections between the module and the antenna, including the cable). The "professional installation" provision of § 15.203 is not applicable to modules but can apply to limited modular approvals under paragraph (b) of this section.*

There are two module antenna configurations. The first is a printed PCB antenna. The second is a U.FL coax connector.

- v. *The modular transmitter must be tested in a stand-alone configuration, i.e., the module must not be inside another device during testing for compliance with part 15 requirements. Unless the transmitter module will be battery powered, it must comply with the AC line conducted requirements found in § 15.207. AC or DC power lines and data input/output lines connected to the module must not contain ferrites, unless they will be marketed with the module (see § 15.27(a)). The length of these lines shall be the length typical of actual use or, if that length is unknown, at least 10 centimeters to insure that there is no coupling between the case of the module and supporting equipment. Any accessories, peripherals, or support equipment connected to the module during testing shall be unmodified and commercially available (see § 15.31(i)).*

The module will be programmed with firmware that will allow it to be tested in stand-alone configuration. The device will can either be battery powered or powered with a DC power supply. Power and data lines to the device will be populated with leads at least 10 cm long for testing to insure there is no coupling between the case of the module and the supporting equipment.

- vi. *The modular transmitter must be equipped with either a permanently affixed label or must be capable of electronically displaying its FCC identification number.*

The device will either have a permanent label on the outside of its RF shield that will have its FCC ID and IC ID.

- vii. *The modular transmitter must comply with any specific rules or operating requirements that ordinarily apply to a complete transmitter and the manufacturer must provide adequate instructions along with the module to explain any such requirements. A copy of these instructions must be included in the application for equipment authorization.*

An instruction manual is included with the application for authorization. The module meets all applicable 15.247 requirements.

- viii. *The modular transmitter must comply with any applicable RF exposure requirements in its final configuration.*

The module meets 2.1091 of the FCC rules for RF exposure as a mobile device. Instructions and warnings are included in the product manual.

If you have any further questions, please contact us.

Sincerely,



Harry J. Schechter

CEO

2/8/2016