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REF: FCC ID: **YK7045004701CXXXM**

Subject: 15.212 Modular Transmitters

(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.

Answer: The transmitter module uses effective use of ground planes to limit the effects of external electromagnetic fields. The host equipment that the radio module is used with only emits low energy fields that do not impact the radio's operation. The radio module does not use a discrete crystal but rather a TCXO built inside a shielded case.

(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.

Answer: Control of the radio's modulation and data characteristics are determined solely by the microcontroller and other circuitry that resides on the radio module.

(iii) The modular transmitter must have its own power supply regulation.

Answer: The radio module utilizes two on-board linear regulators to condition its supply power.

(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.

Answer: This radio module is not an unlicensed Part-15 radio but is certified as a licensed Part-90 and/or Part 22 transmitter. As such, it is not required to preclude the end user from attaching optional antennas.

(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)).

Answer: The transmitter module was tested connected to a host chassis to provide its necessary power and control interfaces. There were no ferrite filters on the conductors supplying power to the module during compliance testing. The lengths of the supply conductors are those of actual use and were greater than 10cm.

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

Answer. The FCC ID is displayed on a label that is permanently affixed and visible on the rear of the unit. A copy of this label has been submitted with the module application.

(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.

Answer: The radio module controls most aspects of its operation and the manufacturer includes written instructions in the regarding those that the end user can change.

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

Answer: Please Reference the SAR Not Required Documentation.

Sincerely,

Sean Johnson
President
RFI Americas, Inc.