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REF: Models DR4100, DR4110, DR4200, DR4210
FCC ID: TMEDR4100X007
IC ID: 8327A-DR4100X007
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 radio elements are not shielded. However, the transmitter uses effective use of ground planes to limit the effects of external electromagnetic fields. The host equipment that interfaces to the radio module only emits low energy fields that do not impact the radio's operation. The radio module is not sold to the general public and the installation is limited to use with the host system..

(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 that resides on the radio module.

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

Answer: The radio module utilizes an on-board DC-to-DC buck regulator 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: The radio module uses an integrated loop antenna on a printed wiring board. The antenna board is permanently attached to the radio transceiver circuit board. Both circuit boards are then encapsulated with potting compound in a plastic housing.

(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 in a standalone configuration. There were no ferrite filters on the conductors supplying power to the module during compliance testing. The lengths of the supply conductors 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.

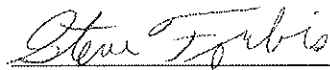
Answer: The FCC ID label is affixed to the housing of the unit. A copy of the label has been submitted with the module application.

(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 and host system controls all aspects of its operation.

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

Answer: Please Reference the SAR Not Required Documentation.

A handwritten signature in cursive script, reading "Steve Forbis", is positioned above a horizontal line.

Steve Forbis
Director Product Development
Blackboard Inc.