



Digi International
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Wednesday, June 10, 2010

To Whom It May Concern:

Digi International would like to apply for Modular FCC approval. This letter is our application for such according to FCC Part 15.212.

XBEE S2C Modular Transmitter Requirements (MCQ-XBS2C)

Modular Transmitter Requirements	Manufacturer Clarification
(a) Single modular transmitters consist of a completely self-contained radiofrequency transmitter device that is typically incorporated into another product, host or device. Split modular transmitters consist of two components: a radio front end with antenna (or radio devices) and a transmitter control element (or specific hardware on which the software that controls the radio operation resides). All single or split modular transmitters are approved with an antenna.	The radio is a Single Modular Transmitter
(1) Single modular transmitters must meet the following requirements to obtain a modular transmitter approval. (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 radio and crystal are all located under the 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.	The modular transmitter has buffered modulation/data inputs.
(iii) The modular transmitter must have its own power supply regulation.	The modular transmitter has its own power regulation
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.	The module is in compliance it has one version with an attached antenna, and employs unique antenna coupling devices in U.FL, and RF Pad forms.
(v) The modular transmitter must be tested in a stand-alone configuration, <i>i.e.</i> , the module must not be inside another device during testing for compliance with part 15 requirements. Unless	The Module was testes in its stand-alone configuration.



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<p>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)).</p>	
<p>(vi) The modular transmitter must be equipped with either a permanently affixed label or must be capable of electronically displaying its FCC identification number.</p> <p>(A) If using a permanently affixed label, the modular transmitter must be labeled with its own FCC identification number, and, if the FCC identification number is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. This exterior label can use wording such as the following: "Contains Transmitter Module FCC ID: XYZMODEL1" or "Contains FCC ID: XYZMODEL1." Any similar wording that expresses the same meaning may be used. The Grantee may either provide such a label, an example of which must be included in the application for equipment authorization, or, must provide adequate instructions along with the module which explain this requirement. In the latter case, a copy of these instructions must be included in the application for equipment authorization.</p>	<p>The modular transmitter is labeled with its own FCC ID number. The label is fixed on the shield or printed on the PCB.</p> <p>End users must conform with the following instructions stated in the users' manual:</p> <p>- Labeling requirement for equipment using this modular transmitter.</p>
<p>(B) If the modular transmitter uses an electronic display of the FCC identification number, the information must be readily accessible and visible on the modular transmitter or on the device in which it is installed. If the module is installed inside another device, then the outside of the device into which the module is installed must display a label referring to the enclosed module. This exterior label can use wording such as the following: "Contains FCC certified transmitter module(s)." Any similar wording that expresses the</p>	<p>The modular does not have an electronic display.</p>



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same meaning may be used. The user manual must include instructions on how to access the electronic display. A copy of these instructions must be included in the application for equipment authorization.	
(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.	The modular transmitter user's manual contains all the instructions required
(viii) The modular transmitter must comply with any applicable RF exposure requirements in its final configuration.	RF Exposure information for compliance with FCC Rules 2.1091 or 2.1093 are specified in the user manual for OEM, integrator, and/or end user.

Sincerely,

Paul Dahl
Hardware Manager