

FFC Modular Approval Request Letter PCR2-TWN4

The PCR2-TWN4 is a 13.56 MHz RFID Device.
FCC ID: XFIPCR2TWN4

FCC 15.212 Requirements	Manufacturer Attestation
(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. All of the following requirements apply, except as provided in paragraph (b) of this section.	The PCR2-TWN4 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 part of the module is not shielded due to ineffectiveness of a shield at these frequencies. This module is limited to be installed/used in products designed by Schindler.
(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 module has a memory management unit inside of the main IC. It buffers the data inputs from the USB interface.
(iii) The modular transmitter must have its own power supply regulation.	The module has a USB interface. The internal voltages will be supplied by the USB.
(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.	The module has an integrated PCB trace antenna and has no antenna connector.
(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 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	The module was tested in a stand-alone configuration and according the cabling rules. The module was connected with an USB host via USB interface.

connected to the module during testing shall be unmodified and commercially available (see §15.31(i)).	
(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 module is permanently marked/labeled with its FCC identification number.
(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.	The module user guide contains the necessary end product marking requirements. The module can be installed inside another device and his label contains the required information.
(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 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.	The module does not have an electronic display.
(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 module is compliant with all applicable FCC rules. The module user guide contains all of the required instructions.
(viii) The modular transmitter must comply with any applicable RF exposure requirements in its final configuration.	The module is excluded from the RF exposure requirements due to its very low radiating power.
(b) A limited modular approval may be granted for single or split modular transmitters that do not comply with all of the above requirements, e.g., shielding, minimum signaling amplitude, buffered modulation/data inputs, or power supply regulation, if the manufacturer can demonstrate by alternative	-

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means in the application for equipment authorization that the modular transmitter meets all the applicable part 15 requirements under the operating conditions in which the transmitter will be used. Limited modular approval also may be granted in those instances where compliance with RF exposure rules is demonstrated only for particular product configurations. The applicant for certification must state how control of the end product into which the module will be installed will be maintained such that full compliance of the end product is always ensured.	
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