

Request for Modular Transmitters Approval

Date: August 2, 2022

Subject: Manufacturer's Declaration for Modular Transmitter Approval

Confidentiality Request for: VQSAMNPTTX01

The following table shows the 8 basic requirements compliance for **Modular Transmitter** as defined in **FCC Part 15.212**:

FCC	Modular Approval Requirement	Modular Approval Exhibit	Compliant
15.212(a)(1)	Single modular transmitters consist of a completely self-contained radiofrequency transmitter device that is typically incorporated into another product, host or device. All single modular transmitters are approved with an antenna. All of the following requirements apply: 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.	<i>The module contains a metal shield which covers all RF components and circuitry including the crystal and tuning capacitors. The shield is located on the top of the board next to antenna connector as seen in the photographs listed in the photograph exhibit for the variants: Petit, Jay and Tulip.</i>	Yes
(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.	<i>Data to the modulation circuit is buffered using integrated circuits inside the baseband IC (P/N: AMN2130)</i>	Yes
(iii)	The modular transmitter must have its own power supply regulation.	<i>The module contains its own power supply regulation and will comply with FCC requirements regardless of the design of the power supply of the host device. Please refer to schematic filed with this application</i>	Yes
(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	<i>The module connects to its antenna using an UFL connector or RP-SMA connector which are considered a non-standard connector and the use of an UFL to RP-SMA cable which is also considered a non-standard connector. A list of antennas tested and approved with this device may be found in user manual provided with the application The integrator must design the final device to have an integrated and non-removable antenna for the end-user.</i>	
(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,	<i>The module was tested stand-alone as shown in test setup photographs filed with this application and photographs above</i>	YES

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	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)).		
(vi)(A)	The modular transmitter must be equipped with either a permanently affixed label or must be capable of electronically displaying its FCC identification number. 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.	<i>There is a label on the module as shown in the labeling exhibit filed with this application. Host specific labeling instructions are shown in the installation manual filed with this application.</i>	Yes
(vi)(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	<i>The module doesn't have an electronic display</i>	N/A
(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.	<i>The module complies with FCC Part 15C requirements. Instructions to the OEM installer are provided in the installation manual filed with this application.</i>	Yes
(viii)	Radio frequency devices operating under the provisions of this part are subject to the radio frequency radiation exposure requirements specified in §§ 1.1307(b) , 1.1310 , 2.1091 , and 2.1093 of this chapter , as appropriate. Applications for equipment authorization of modular transmitters under this section must contain a statement confirming compliance with these requirements. The modular transmitter must comply with any applicable RF exposure requirements in its final configuration. Technical information showing the basis for this	<i>The module meets Mobile exclusion levels as shown in the RF exposure information filed with this application</i>	Yes

FCC	Modular Approval Requirement	Modular Approval Exhibit	Compliant
	statement must be submitted to the Commission upon request.		
15.212(a)(2)	Split modular transmitters must meet the requirements in paragraph (a)(1) of this section, excluding paragraphs (a)(1)(i) and (a)(1)(v)	N/A	N/A
15.212(b)	A limited modular approval may be granted for single or split modular transmitters that do not comply with all of the above requirements	N/A	N/A

Sincerely,

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