

Limited Modular Approval (LMA)

Limited module approval for use in the grantee's own products.

FCC ID: 2AEFAODINW160

15.212(a)(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 module has its RF-parts covered by a shield box that is soldered on to the module ground plane.

(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 electrical connection consists of power supply, UART, SDIO, SPI and digital-I/O.

The interface signals (UART, SDIO, SPI and digital-I/O) are internally buffered by the module SoC (System on Chip) and cannot affect the modulation.

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

The module has its own voltage regulators. In case the supply voltage changes, the internal voltages will be kept unchanged.

(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 is equipped with a U.FL antenna connector that is considered to be unique.

(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)).

The module was tested in a stand-alone configuration.



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

(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 is marked with its own FCC ID number.

The final product will be labelled with the Contains FCC ID: statement as documented in this filing.

(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.

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

The module was tested for SAR in a specific host as documented in this filing.

Hereby Victor Hasselblad AB declares that conditions described in this document is valid.

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