



Engineering Department

KEF GPE Sub TX GPE Replies on Modular Approval

Customer : KEF
Product Description : GPE Subwoofer Transmitter Module
Issue Date : 12 Aug, 2013



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1. 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..

GPE modular transmitter has its own metal shielding to cover radio portion. Refer to the external photos.

2. 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.

GPE modular transmitter has buffered data inputs, it is integrated in chip CC85xx. The data format is digital audio IIS stream.

3. The modular transmitter must have its own power supply regulation.

The power line derived from the host device are regulated before energizing GPE modular transmitter. Refer to the transmitter's schematic diagram, the module has the on-board regulator to provide the constant voltage for all chips (CC85xx, CC2591, ADC). Therefore, the modular transmitter complies with the power supply regulation.

4. The modular transmitter must comply with the antenna and transmission system requirements of Sections 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 Section 15.203 is not applicable to modules but can apply to limited modular approvals under paragraph (b) of this section.

The GPE module connected to permanent PIFA antenna. Any connector is not used. The module meets the FCC antenna requirement. Refer to external photos.

5. 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 Section 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 Section 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 Section 15.31(i)).

The modular device was tested in a stand-alone configuration with the help of another board that supplied only mechanical support, data source and power connections. Refer to the setup photos.



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6. 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.*

GPE modular transmitter is marked with a unique FCC identification number. Proposed ID Label is permanently affixed to the module. If FCC ID label is not visible when module is installed into the host, "contains FCC ID: UXD13002" shall be placed on the outside of final product.

7. 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.

Detail instructions for maintaining compliance are given in the User's Manual. GPE modular is compliant with all applicable FCC rules.

8. The modular transmitter must comply with any applicable RF Exposure requirements.

GPE modular meets the RF Exposure requirements. Final product is installed in the dedicated video powered speaker for fixed location operation, and means that the device is physically secured at one location and is not able to be easily moved to another location. Distance between audience and wireless pair is typically 4m to 7m.