



MODULAR APPROVAL REQUEST

13.06.2013

RE: FCC Modular Approval
FCC ID: QOQAPX4

Dear Application Examiner

Bluegiga Technologies Oy / Wireless system-on-module, FCC ID: QOQAPX4, would like to have your authorization as a modular approval. The requirements of section 15.212 of FCC rules have been met and shown on the following statements.

The modular transmitter must have its own RF shielding.	The module has its own RF shielding
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 buffered data inputs
The modular transmitter must have its own power supply regulation.	The module has its own power supply regulation
The modular transmitter must comply with the antenna requirements of Section 15.203 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). Any antenna used with the module must be approved	The module has a embedded chip antenna or a unique RF coupler for an external antenna as an assembly variant. The antenna coupler is an u.fl connector. Instructions for the OEM are given in the user manual (datasheet).

<p>with the module, either at the time of initial authorization or through a Class II permissive change. The “professional installation” provision of Section 15.203 may not be applied to modules.</p>	
<p>The modular transmitter must be tested in a stand-alone configuration, i.e., the module must not be inside another device during testing. This is intended to demonstrate that the module is capable of complying with Part 15 emission limits regardless of the device into which it is eventually installed. 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 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 or commercially available (see Section 15.31(i)).</p>	<p>The module was tested in a stand alone configuration using a test kit.</p>
<p>The modular transmitter must be labeled with its own FCC ID number, and, if the FCC ID is not</p>	<p>Please see exhibition label sample for the FCC ID of this module. And also in the</p>

<p>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>exhibition User manual, there are instructions to give to the OEM on how to label the end product.</p>
<p>The modular transmitter must comply with any specific rule or operating requirements applicable to the 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. For example, there are very strict operational and timing requirements that must be met before a transmitter is authorized for operation under Section 15.231. For instance, data transmission is prohibited,</p>	<p>The module is compliant with all applicable FCC rules. Detailed instructions for remaining compliance are given in the User Manual (datasheet).</p>

<p>except for operation under Section 15.231(e), in which case there are separate field strength level and timing requirements. Compliance with these requirements must be assured.</p>	
<p>The modular transmitter must comply with any applicable RF exposure requirements. For example, FCC Rules in Sections 2.1091, 2.1093 and specific Sections of Part 15, including 15.319(i), 15.407(f), 15.253(f) and 15.255(g), require that Unlicensed PCS, UNII and millimeter wave devices perform routine environmental evaluation for RF exposure to demonstrate compliance. In addition, spread spectrum transmitters operating under Section 15.247 are required to address RF Exposure compliance in accordance with Section 15.247(b)(4). Modular transmitters approved under other Sections of Part 15, when necessary, may also need to address certain RF Exposure concerns, typically by providing specific installation and operating instructions for users, installers and other interested parties to ensure compliance.</p>	<p>The module complies with RF exposure requirement. RF exposure is addressed in the RF exposure exhibition.</p>

Best regards

Pasi Rahikkala, HW Compliance Engineer
Bluegiga Technologies Oy