

**Alpha Technologies, Ltd.**

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Federal Communications Commission

Authorization and Evaluation Division

7435 Oakland Mills Rd

Columbia MD USA 21046

Ref: Section 15.212 Modular Transmitters

FCC ID or Grantee Code: 2BA9E-GL0005322

IC: 30668-GL0005322

Applicant: Alpha Technologies Ltd.

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Type of Equipment: Modular WiFi/Bluetooth Radio (2.4GHz)

	Modular Approval Requirement	EUT Conditions	Comply (Y/N)
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.	The radio elements of the modular transmitter have their own shielding.	Y
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	The modular transmitter has buffered modulation/data inputs	Y
3	The modular transmitter must have its own power supply regulation.	The modular transmitter has its own power supply regulation.	Y
4	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.	Antenna is attached with support cable via "unique" U.FL. connector	Y
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	Device was tested by being installed into a carrier PCB created for this purpose. Module shown installed in Carrier PCB in all reports.	Y

	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)).		
6	<p>The modular transmitter must be equipped with either a permanently affixed label or must be capable of electronically displaying its FCC identification number.</p> <p>(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.</p> <p>(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.</p>	<p>One proposed FCC ID Label format is included in the filing. The label is to be placed on the module's Silkscreen. See GL0005323-0000-00_5_.PDF</p> <p>Additionally, the outside of any device into which the module will be installed will display a label referring to the enclosed module. See label art GL0013372-0000_A_.pdf</p>	Y
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.	Reference the Common SOM Theory of Operation.pdf	Y
8	The modular transmitter must comply with any applicable RF exposure requirements in its final configuration.		Y

Sincerely,


Colin Soutar, B.Sc.E.E.T.

Principal Compliance Engineer II

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