

WaveFlex Inc.



Address: 5480 Roesland Dr., Galena OH 43021 Phone: 614-682-5293 Fax: 740-549-4640

7/12/2019

Federal Communications Commission
Office of Engineering and Technology
7435 Oakland Mills Road
Columbia, MD 21046

To Whom It May Concern:

This letter is to request Single Modular Approval in accordance with under FCC Rule Part 15.212(a)(1) for certification request under FCC ID: 2ASYA-1001003. This product, the WaveFlex Picocell Gateway Radio (WPGR), is an FCC Certified LoRa®-Enabled multi-channel high performance transceiver that is based on the Semtech Rev 2b Reference Design. This design incorporates the Semtech SX1308 Digital Baseband IC and two Semtech SX1257 Radio Transceiver IC's over the 902 – 928 MHz FCC authorized bandwidths for North America. The RF Front End is capable of receiving data simultaneously on 8 LoRa® Channels and is terminated with a Reverse Polarity SMA connector for connecting an FCC approved 2.0 dBi maximum gain antenna. The WPGR only transmits using the 8 LoRa® downlink channels from 923.3 – 927.5MHz. The WPGR is designed to plug into a standard USB 2.0 Type A Female Host Port for Power and the Host Gateway Data Interface. The WPGR enclosure is made of aluminum which is conductive, and this is used as the shield. The aluminum is anodized, and this coating is an electrical insulator. There are internal rails where the PCB sits that are masked during the anodizing process which connect the ground plane of the board to the enclosure. Also, the SMA antenna jack is grounded and a star washer and nut are used to fasten this to the enclosure. The star washer digs through the anodized coating and makes electrical contact.

Declaration of conditions.

Y/N	15.212(a)(1) Condition
Y	(i) The radio elements of the module have their own shielding. The physical crystal and tuning capacitors may be located external to the shielded radio elements
Y	(ii) The module has 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.
Y	(iii) The module has its own power supply regulation.
Y	(iv) The module complies with the antenna and transmission system requirements of §§15.203, 15.204(b) and 15.204(c). The antenna(s) are either permanently attached or employ a "unique" antenna coupler (at all connections between the module and the antenna, including the cable).
Y	(v) The module was tested in a stand-alone configuration, i.e., the module was not inside another device during testing for compliance with part 15 requirements. Unless the transmitter module will be battery powered, it complies with the AC line conducted requirements found in §15.207. AC or DC power lines and data input/output lines connected to the module do not contain ferrites, unless they will be marketed with the module (see §15.27(a)). The length of these lines was the length typical of actual use or, if that length is unknown, at least 10 centimeters was used 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 were unmodified and commercially available (see §15.31(i)).
Y	(vi) The module is equipped with either a permanently affixed label or is capable of electronically displaying its FCC identification number.

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Y	(vii) The module complies with any specific rules or operating requirements that ordinarily apply to a complete transmitter and the applicant has provided adequate instructions along with the module to explain any such requirements.
Y	(viii) The module complies with any applicable RF exposure requirements in its final configuration. The instructions provided with the module adequately explain any usage conditions or restrictions.

I acknowledge on behalf of the applicant that compliance of this module in all final configurations is the responsibility of the applicant under the condition that the integrator follows all provided installation instructions.

Sincerely,

SIGNATURE:

A handwritten signature in black ink, appearing to read "Shawn S. Flannery", written over a horizontal line.

NAME: Shawn S. Flannery

COMPANY POSITION: President

COMPANY: WaveFlex, Inc.