



LS RESEARCH, LLC

Wireless Product Development

June 21, 2013

Re: Modular Transmitter Approval
FCC ID: TFB-TIW11-01

To Whom it May Concern:

The following information is being provided per the requirements of 15.212 regarding modular approval of Part 15 devices:

This transceiver is a complete RF module with an integral reference oscillator.


External connections are provided for power and data communication.

The following numbered items correspond to similarly numbered paragraphs in 15.212. Each item is a response to the requirements of that document.

1. The module has integral RF shielding to isolate it from surrounding equipment and the larger environment in general.
2. All inputs are processed as data by the on-board microcontroller. The outside user has no direct control of transmit modulation.
3. The operating range of the device is 3.0 to 4.8 VDC. The output power and frequency of module is relatively invariant to supply voltage for both the WLAN and Bluetooth functions. This is implemented by discrete and integrated voltage regulators (both linear and switching), as well as, integrated bias stabilization networks and power control loops.
4. This module is certified in conjunction with the following external antennas connected through the U.FL connector: 1. LS Research 001-0001 center-fed dipole antenna and LS Research 080-0001 U.FL to Reverse Polarity SMA connector cable, 2. Ethertronics Presetta 1000423 and Johnson Emerson U.FL to U.FL coaxial cable 415-0088-150, and 3 Taoglas FXP831.07.0100C flexible dipole antenna with integrated cable and U.FL connector.
5. The module was tested in a stand-alone configuration and found to be compliant with Part 15 regulations.
6. An FCC ID label is affixed to each unit at the time of manufacture. Information is also clearly presented in the user guide about labeling requirements for the final assembly.
7. This unit is compliant with Part 15.247. Installation and other requirements are presented in the user guide to allow the unit to be correctly installed.
8. The unit is compliant with the RF exposure requirements of Parts 15.247 and 2.1091.

Further information may be obtained from LS Research, LLC.

Sincerely,



William Steinike
President, LS Research