

## *Modular Approval Requirements*

Limited Modular Approval is being requested for this device and the device will be installed only in host systems manufactured by Xirrus. There are requirements that the device must meet for full modular approval. The following paragraphs detail those eight requirements and explains, where applicable, how the module meets those requirements.

The module meets all of the technical specifications applicable to the frequency band of operation.

1. The module has its own RF shielding (RSS GEN 3.2.2a).

*The module does not have a shield and this is why a limited modular approval is being requested. Suppression of spurious radiated emissions from the module, where not addressed by the design of the radio, is provided by the host system. Radiated spurious emissions tests have been performed in a host system and it is understood that the spurious emissions will need to be re-evaluated in any new host systems.*

2. All modulation and data input(s) are buffered (RSS GEN 3.2.2b).

*Data to the modulation circuit is buffered on the module via U202.*

3. The module has its own power supply regulation (RSS GEN 3.2.2c).and local reference oscillator.

*The module contains its own power supply regulation and the rf reference oscillator is contained within the module. Power supply regulation is provided via U203. The rf reference oscillator is provided by X200.*

4. The modular transmitter must comply with the antenna requirements of Section 15.203 and 15.204(c). The certification submission contains a detailed description of the configuration of all antennas that will be used with the module. (RSS GEN 3.2.2d).

*The antenna system is integrated into the radio module and consists of two separate antennas. Each antenna has a nominal gain of 1dBi in the 2.4 GHz band and 4dBi in the 5GHz bands.*

5. The modular transmitter must be tested in a stand-alone configuration, i.e., the module must not be inside another device during testing (RSS GEN 3.2.2e). 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.

*Test data contained in this application is for the device tested in the host system. This is required because the module does not meet the requirement for having a shield over the rf circuitry (item (1) above and so does not qualify for a full modular approval.*

*Radiated spurious emissions data and AC conducted emissions data demonstrating compliance with the requirements of Part 15 of the FCC rules for intentional radiators and RSS GEN/RSS 210 has been provided.*

6. For the FCC, the modular transmitter must be labeled with its own FCC ID number, and, if the FCC ID 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.”

*The module is appropriately labeled (refer to the label and label location drawings contained within this application). Xirrus are aware of the labeling requirements for the host systems and will label them appropriately.*

7. For Industry Canada, the module shall comply with the Category I equipment labeling requirements. (RSS GEN 3.2.2f).

*The module is appropriately labeled (refer to the label and label location drawings contained within this application).*

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

*The module meets the requirements for a mobile device that may be used at separation distances of more than 20cm from the human body. Refer to the MPE calculation that addresses use of multiple modules (up to 8 co-located modules) in a single enclosure.*

9. (RSS GEN 3.2.1) The host device shall be properly labelled to identify the modules within the host device. The Industry Canada certification label of a module shall be clearly visible at all times when installed in the host device, otherwise the host device must be labelled to display the Industry Canada certification number of the module, preceded by the words “Contains transmitter module”, or the word “Contains”, or similar wording expressing the same meaning, as follows:

Contains transmitter module IC: XXXXXX-YYYYYYYYYYYY

where XXXXXX-YYYYYYYYYYYY is the module’s certification number.

The applicant for equipment certification of the module shall provide with each unit of the module either a label such as described above, or an explanation and instructions to the user as to the host device labelling requirements.

*Xirrus are aware of the labeling requirements for the host systems and will label the hosts appropriately. This module is limited to installation into Xirrus’ host systems and, therefore, instructions to the user are not required.*

RSS GEN Checklist		
Modular approval requirement	Yes	No *
(a) The radio elements must have the radio frequency circuitry must be shielded. Physical/discrete and tuning capacitors may be located external to the shield, but must be on the module assembly.		X
(b) The module shall have buffered modulation/data input(s) (if such inputs are provided) to ensure that the module will comply with the requirements set out in the applicable RSS standard under conditions of excessive data rates or over-modulation.	√	
(c) The module shall have its own power supply regulation on the module. This is to ensure that the module will comply with the requirements set out in the applicable standard regardless of the design of the power supplying circuitry in the host device which houses the module.	√	
(d) The module shall comply with the provisions for external power amplifiers and antennas detailed in this standard. The equipment certification submission shall contain a detailed description of the configuration of all antennas that will be used with the module.	√	
(e) The module shall be tested for compliance with the applicable standard in a stand-alone configuration, i.e. the module must not be inside another device during testing.		X
(f) The module shall comply with the Category I equipment labelling requirements.	X	
(g) The module shall comply with applicable RSS-102 exposure requirements, which are based on the intended use/configurations.	√	
(h) Is the modular device for an Industry Canada licensed exempt service?	√	
* Please refer to the previous sections for a detailed explanation if the answer is “No.”		