

Modular Approval Requirements

Modular Approval is being requested for this device, FCC ID: TWG-SDCCF10AG, IC ID: 6616A-SDCCF10AG. There are eight requirements that the device must meet for full modular approval. The following paragraphs detail these requirements and the manner in which the device meets them.

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

The module has its own RF shielding.

The module contains a shield. The entire radio transmitter is covered by a metal shield. The shield is made out of a copper/nickel/Zinc/Silver alloy.

All modulation and data input(s) are buffered.

Data to the modulation circuit is buffered on the module inside the BCM4318E (U7) IC.

The module has its own power supply regulation and local reference oscillator.

The module has its own power supply regulation and local reference oscillator. The module has its own reference oscillator (the 20MHz crystal Y1 is used with the BCM4318E U7 IC to create the reference oscillator for the device). The power supply regulation is provided by U5 and U21 for the radio.

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.

The module connects to its antenna via a Hirose connector. This antenna is a non-standard connector.

The antennas are:

Laird Centurion, m/n NanoBlade, pcb antenna, 3.8dBi @ 2.45GHz, 5.1dBi @ 5.25GHz, 4.5dBi @ 5.8GHz

Volex, p/n VLX-51004-A, Omni, 2.3dBi @ 2.4GHz, 1.9dBi @ 5GHz

Larson, p/n R380.500.314, Omni, 1.6dBi @ 2.4GHz, 5dBi @ 5GHz

Installation instructions for the module explain that only these antennas may be used with the device and that the end user should not be able to access the antenna port or change antennas.

For Industry Canada, the module meets certification labeling requirements. Host devices that contain separately certified modules do not need to be re-certified, provided that they meet the following conditions:

- The host device, as a stand alone unit without any separately certified modules, complies with all applicable Radio Standards Specifications.
- The host device and all the separately certified modules it contains jointly meet the safety requirements of RSS-102, if applicable.
- The host device complies with the certification labeling requirements of each of the modules it contains.

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

For the FCC, 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.

Test data contained in this application is for the device tested as a stand-alone device. Radiated spurious emissions data and AC conducted emissions data demonstrating compliance with the requirements of Part 15 of the FCC rules for intentional radiators has been provided.

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). Information to the integrator of this system regarding the labeling requirements for the host system are contained in the instructions provided with the module.

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.