



FFR Module Installation Guide

Overview

The FFR Module is a highly reliable, frequency hopping, spread-spectrum radio transceiver that operates within the 902 to 928 MHz license-free band. In order to ensure proper integration into the final product and maintain compliance with the rules and regulations under which this module has been granted certification, the requirements listed below must be followed.

Compliance Requirements:

The FFR Module complies with FCC, Title 47, Chapter 1, Subchapter A, Part 15, Subpart C, Section 15.212 (a)(1)(i through viii). The final host/module combination may also need to be evaluated against the FCC Part 15B criteria for unintentional radiators in order to be properly authorized for operation as a Part 15 digital device.

Additional Compliance Information per FCC 47 CFR, Section 2.1077:

1. Product Identification – EchoStream FFR Transceiver Module
2. The FFR module is in compliance with 47 CFR, Section 15.19(a)(3) as follows:

Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

3. Responsible party for Supplier's Declaration of Conformity:
 - a. Name of Responsible Party: Inovonics Corporation
 - b. Address of Responsible Party: 397 S. Taylor Ave., Louisville, CO 80027
 - c. Telephone Numbers: (800) 782-2709; (303) 939-9336
 - d. E-mail: support@inovonics.com

- The FFR Module is intended only for use in Inovonics end-products. End products are to be installed and maintained by professional security technicians.

NOTE 1. It is the policy of Inovonics Corporation to maintain complete control of all firmware associated with this device.

NOTE 2. The FFR Module and antenna remain under the control of Inovonics Corporation - and neither will be sold separately to any third party.

- Manually test all FFR Module based products weekly.
- The FFR Module can operate only with the Inovonics approved antenna.
- When installed in a host's end-device, the antenna must maintain a minimum separation distance of 20 cm from all persons.
- In accordance with FCC multi-transmitter product procedures, the FFR module must not transmit simultaneously with any other co-located antenna or transmitter.



FFR Module Installation Guide

- The FFR Module does not contain any user serviceable components.
- A label must be affixed to the outside of the host product with the following wording:
Contains FCC ID: HCQ3B6F Contains IC ID: 2309A-F

FCC and Industry Canada Compliance

FCC Part 15 and Industry Canada Statements:

- a. CFR 47 Part 15.19 Labeling Requirements – Host product must bear the following in a conspicuous location on the device.

This device complies with part 15 of the FCC Rules and Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

- b. Part 15.21 Information to the user – The user's manual shall contain the following caution:

This device complies with part 15 of the FCC Rules, and any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC and Industry Canada RF Exposure Requirements

The user's manual for the host product must clearly indicate the operating requirements and conditions that must be observed to ensure compliance with current FCC / IC RF exposure guidelines.

IMPORTANT: The following statements must be included in the User's Manual:

FCC Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the antenna shall not be less than 20 cm during normal operation and must not be co-located or operating in conjunction with any other antenna or transmitter.



FFR Module Installation Guide

Industry Canada Statement:

This equipment complies with ISSED RSS-102 radiation exposure limits set forth for an uncontrolled environment. This transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

Cet équipement est conforme avec ISSED RSS-102 des limites d'exposition aux rayonnements définies pour un environnement non contrôlé. Cet émetteur doit être installé à au moins 20 cm de toute personne et ne doit pas être colocalisé ou fonctionner en association avec une autre antenne ou émetteur.

IMPORTANT: The End-User's Manual must include the appropriate language relating to the specific Class of Unintentional Radiation:

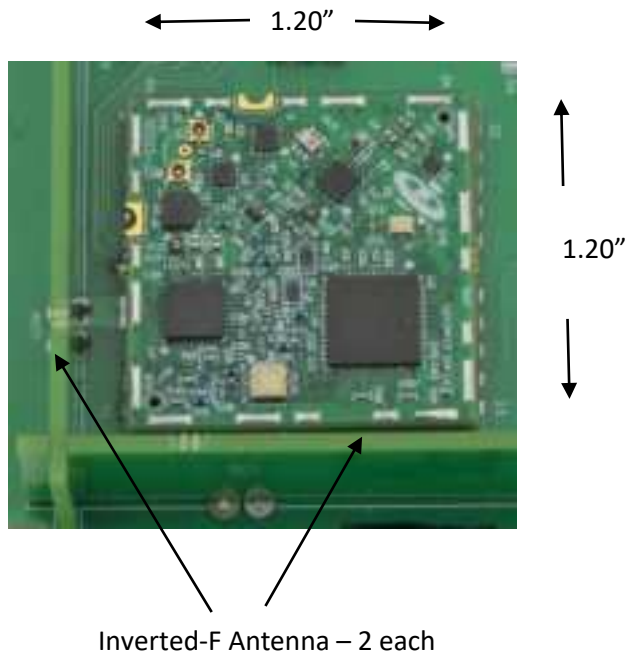
Specifications

Model #	EchoStream FFR Transceiver Module
Frequency Range	902-928 MHz ISM Band
Power Supply	3.8-5.0 Vdc
Tx Power	170 mW (22.30 dBm) Conducted
Antenna Gain	2.8 dBi
Tx Current	360 mA, typical
Rx Current	<125 mA
RF Technology	Frequency Hopping Spread Spectrum
Number of Hop Channels	25
Operating Temperature Range	-20°C to +60°C, non-condensing
Spurious Emissions (Worst Case)	37.36 dBµV/m



FFR Module Installation Guide

FFR RF Module Shown Without Can



Special Instructions

The antenna must not be tampered with; no connection to an alternate antenna is permitted. Antenna type is an Inverted-F style antenna.

IMPORTANT NOTE: In the event that these conditions cannot be met, the FCC authorization is no longer considered valid and the FCC ID cannot be used on the final product. In these circumstances, the end-user will be responsible for re-evaluating the end-product (including the transceiver) and obtaining a separate FCC certification.

When the module is installed inside another device and the FCC ID is not visible, the outside of the device into which the module is installed must display a label referring to the enclosed module. This exterior label must use the wording described on the second page of this document.



FFR Module Installation Guide

End User Manual Information

The end-user must not provide information in his User's Manual regarding the installation and / or the removal of the FFR module. The end user manual shall include all required regulatory information/warnings as shown in this manual.

Inovonics Corporation Contact Information

If you have any question or problems with this procedure, please contact Inovonics Corporation Technical Services:

- E-mail: support@inovonics.com
- Phone: (800) 782-2709; (303) 939-9336.