Two-Way RF Module Overview

1.1 Introduction

EchoStream RF modules are designed to be easily interfaced with your electronic remote application controller (RAC). RF modules allow the assimilation of any user-specific application into an EchoStream system. Once integrated with existing products, RF modules provide you with complete EchoStream functionality.

1.2 Two-Way Serial Data RF Module Components

The EN3942XS is a two-way serial data transceiver, designed to physically interface with OEM products. Serial data sent to the EN3942XS from your remote application controller is formatted by the EN3942XS. The data is then transmitted as an RF message to the network coordinator. Likewise, RF messages received by the EN3942XS are formatted and then sent as serial data to the OEM application controller device.
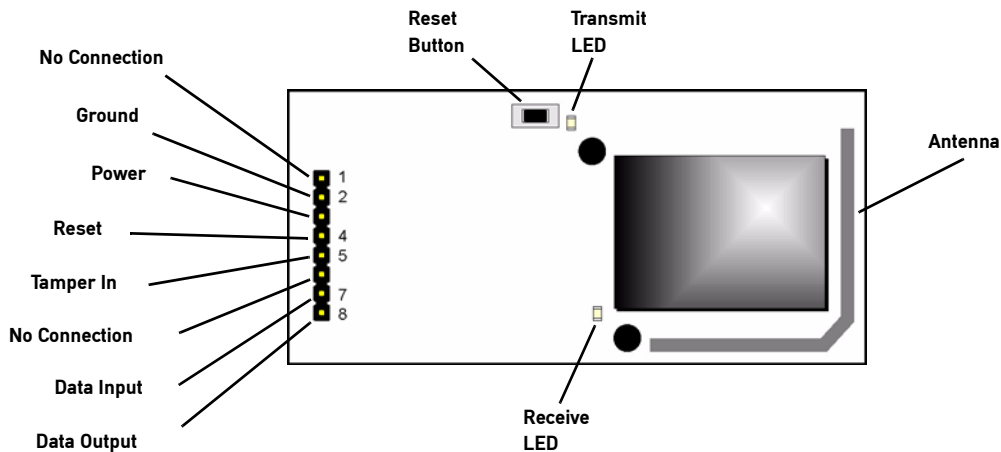
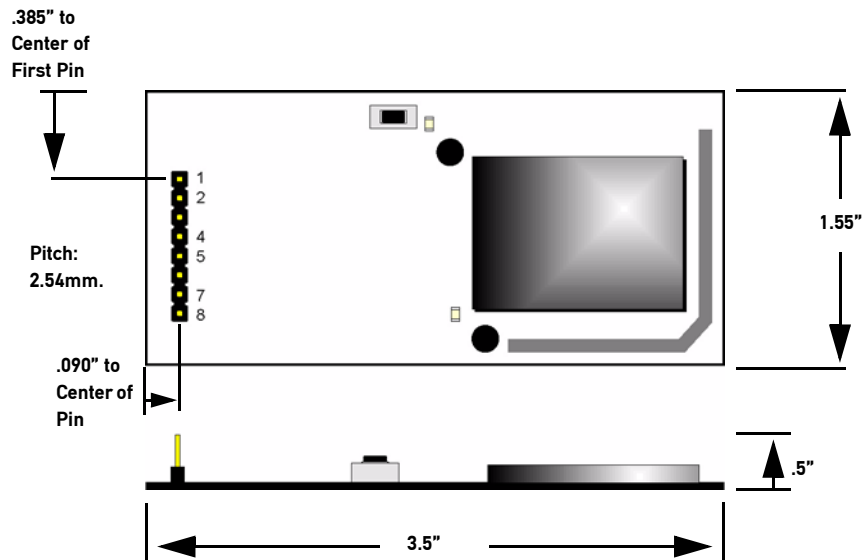**Figure 1-1** EN3942 Two-Way Serial Data RF Module Components

.385" to Center of First Pin

Pitch: 2.54mm.

.090" to Center of Pin

1.55"

.5"

3.5"

Figure 1-2 EN3942 Two-Way Serial Data RF Module Dimensions

.156" Radius

1.6" to Center of Mounting Hole

.455 to Center of Mounting Hole

.105" to Center of Mounting Hole

.156" Radius
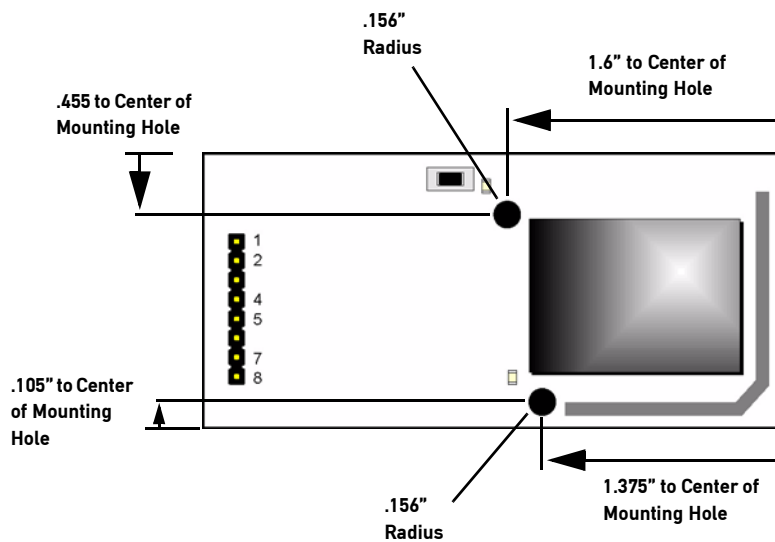
1.375" to Center of Mounting Hole

Figure 1-3 EN3942 Two-Way Serial Data RF Module Mounting Hole Dimensions

Power The EN3942XS has an on-board voltage regulator. Connect power cabling to an external power supply of 3.6 to 5.5 volts.

Data output Outputs messages to the RAC.

Data input Inputs messages to the RAC.

Interrupt/enable Connects an input to activate or deactivate EN3942XS sleep mode.

Ground Connects to ground.

Tamper input Connects a tamper input to send a message when user-specific end-device is tampered with.

Reset input Connects a reset input to reset the two-way serial data RF module after a frequency band selection change and to initiate an RF transmission.

Reset button Press to reset the two-way serial data RF module after a frequency band selection change.

Mounting Hole Used to mount the two-way serial data RF module to the user-specific product. The mounting hole should only be used with a nylon standoff, never metal.

1.2.1 LEDs

EN3942XS two-way serial data RF modules have two LEDs. One illuminates when an RF transmission is being made, and the other illuminates when an RF message is being received.

1.3 Two-Way Serial Data RF Module Requirements

1.3.1 Timing Requirements

All data is sent at a default rate of 9600 baud, no parity, 8 data bits and one stop bit. The data is transmitted least significant bit first.

1.3.2 Power Requirements

The prototype two-way serial data RF modules with RS232 data levels accept +5 VDC as the power input; the two-way serial data RF modules with logic data levels use 3.6 to 5.5 volts.

1.3.3 Current Draw

The normal receive is 60 mA maximum; the transmit peak it 115 mA maximum.

1.4 FCC Label Requirements

Inovonics Wireless has received Federal Communications Commission (FCC) and Industry Canada (IC) approval to market RF modules. The application integrator is responsible for properly labeling the product containing the RF module. Labels must be placed on the outside of the product, and must include a statement indicating the product contains the module, along with the FCC ID number.

Example 1 "Contains RF Module FCC ID: HCQ3B6EXTWRM; IC ID: 2309A–EXTWRM"

Example 2 "Contains FCC ID: HCQ3B6EXTWRM; IC ID: 2309A–EXTWRM"