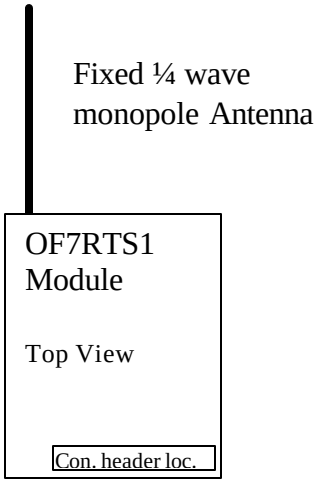
RTS1 User Manual

The RTS1 module can be interfaced with our host boards through the 8 pin connector designated as SV1. This is a standard 0.1" center header connector.

The RTS1 module is only designed and authorized to operate in our own Toro Company Host devices. It will not be a commercially available module and the applicant will retain control over the final installation.

In order to allow proper operation of the module, the antenna is permanently attached to the module and its orientation is shown below. The antenna will have a guide or sheath to make sure it complies with the authorized orientation as is shown below:



The module connector pins are shown in the schematics and drawings and should be only connected to host equipment as designated and controlled by The Toro Company. The VCC input voltage must be 3.3 volts +/- 5% and all the digital signals comply with standard CMOS "1" and "0" requirements. The maximum RSSI signal is 1.7 volts.

The maximum data rate that the module uses is 9600bps.
The minimum hopping frequency is 902 Mhz.
The maximum hopping frequency is 927 Mhz
The maximum peak power is less than 9 dBm using any bandwidth.
The typical sensitivity is –108 dBm.
Typical communication range is ~1000 feet

Installation Instructions

1. The module is ESD sensitive and should be handled accordingly. Make sure that a ground strip is used at all time.
2. Before connecting the module be sure that the connection pins adhere to the specs as set in the schematic;
    a. Pins 2 & 8 are properly grounded.
    b. Pin 1 should be connected to the power supply. 3.3 volts controlled (+/- 5%)

    c. Pin 5 carries an analog RSSI signal and should be routed to avoid close digital lines.
    d. The rest of the pins are digital pins carrying data and signaling with “1” as 3.3 volts and 0 as “0”. They should adhere to CMOS type levels.
3. The RF portion of the module has its own 2.7V regulation but the input voltage should be kept within 5% of 3.3 volts.
4. The hosting device must have a label that states “Contains FCC ID: OF7RTS1” besides other required FCC labels for that device.
5. The hosting device must have a label that states “Contains IC: 3575A-RTS1” besides other required IC labels for that device.
6. The antenna should not be modified and must not be co-located or operated in conjunction with any other antenna or transmitter.

FCC Statement
The module itself must have a FCC Identifier “FCC ID: OF7RTS1”.

This device complies with Part 15 of the FCC Rules. 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.

Caution: The user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Additional radiated spurious emission evaluation for the additional host device may be required.

Statement needed to be shown on End Product

Since this module is installed inside the end product, the end product should be affixed a label on visible area showing this product contains a RF model, and also its FCC ID and IC ID.

Important Note
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
The Toro Company (module integrator and applicant) will not provide information to the end use regarding how to install or remove this RF module in the user manual of the end product which integrate this module.

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

Caution: The user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.