RFD Modem Tools

User Manual

Configuration and usage guide

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1 Introduction

The modem tools offer a graphical interface to allow users to manage the settings of RF Design modems including the original 900, + series and x series. Connection to the modem can be established using both the FTDI serial cable or a TCP link in the RFD TX module. This interface can be used to manage the main functions and settings of RF Design modems.

2 Basic Layout

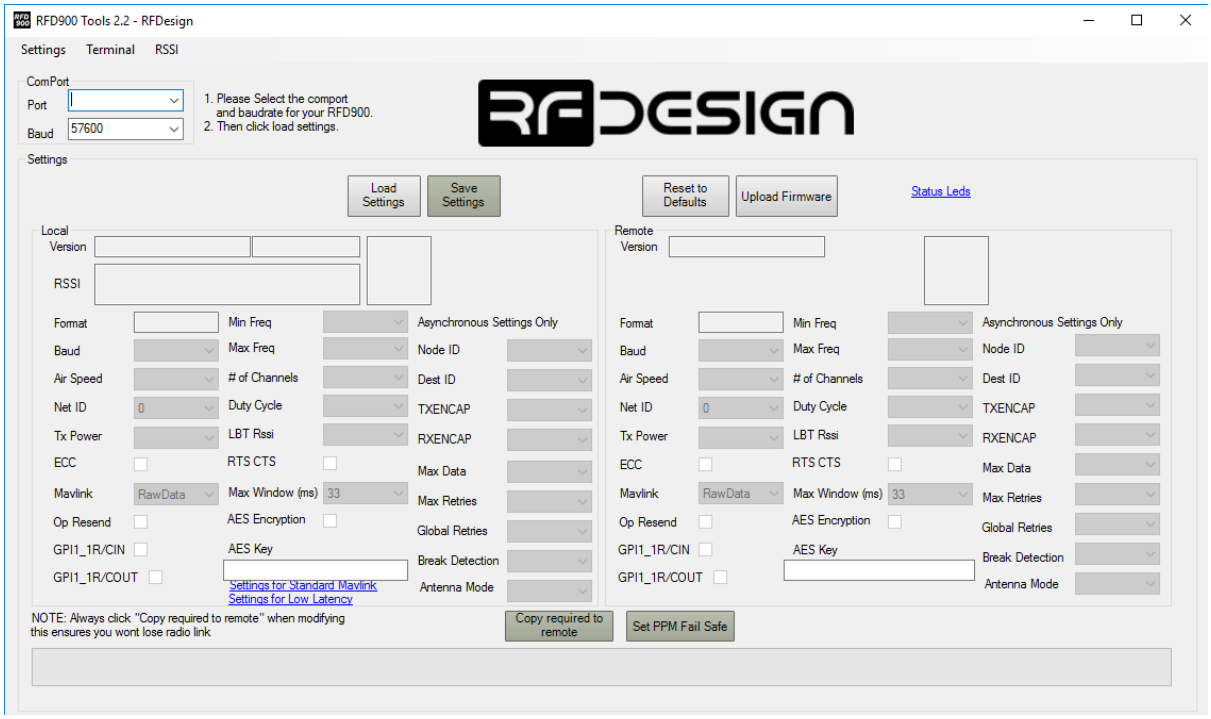

Figure 2-1 RF Design Tools Settings Screenshot

In the top left there are three buttons.

Settings: this mode lets the user change the major settings of the modem through a graphical interface. The exact settings that will be available to modify will depend on the series of modem that has been connected. The remote settings are only applicable if the modem has established a link with another modem. For the details on the meaning of the individual settings please consult the user manual appropriate to the firmware in use.

Figure 2-2 RF Design Tools Terminal Screenshot

Terminal: this mode allows the user to connect to the modem through a terminal allowing settings to be modified with AT commands. Some of the basic commands are shown to the right of the terminal. The particular commands for modem settings can be found in the user manual appropriate to the firmware in use

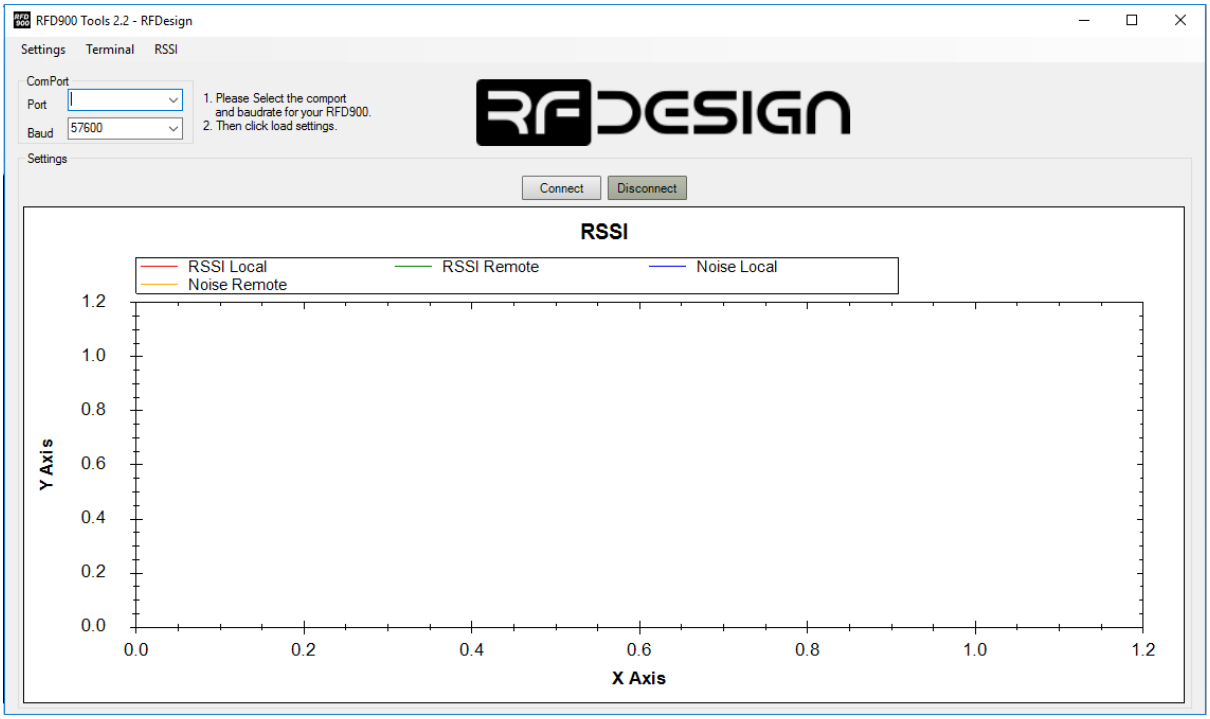

Figure 2-1 RF Design Tools RSSI Screenshot

RSSI: this mode lets the user monitor the RSSI values of the link. This tool can be helpful in diagnosing link condition.

3 Connecting to the modem

When using the FTDI cable to connect to the modem through a COM port requires that the cable be connected with the black wire of the FTDI (pin 1) connect to pin 1 on the modem as shown in Figure 3-1.

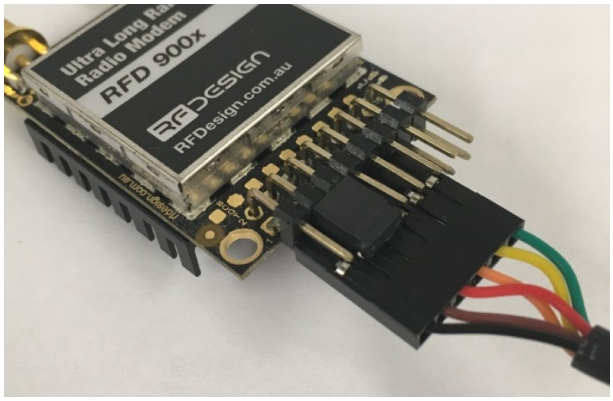

Figure 3-1: An FTDI cable connected to the RFD900x modem

For the specifics of connecting to the modem through the TX module please see the user manual. In general the TCP connecting is established by connecting to the appropriate wireless network then selecting TCP from the 'Port' box on the settings page and then selecting the required data rate. When 'load settings' is pressed the user will be prompted to enter the IP and port number to establish the link.

4 Key Functions

This section outlines the functions of the buttons on the settings page.

Load Settings: connects to the modem and reads the current settings of the modem and if a link is established the settings of the remote unit too.

Save Settings: saves the settings from the screen on to the modem and if applicable to the remote modem.

Reset to Default: Applies the default settings to the modem and if applicable the remote.

Upload Firmware: Allows the loading of new firmware on to the connected modem. Does not apply to remote.

Copy Required to Remote: Loads any setting changes that are required to be the same on both modems from the local to the remote modem.

Set PPM Fail Safe: Allows the user to record a default PPM stream that will be output in the case of a link failure when using the modem in PPM pass through mode.

5 Frequently asked questions (FAQ)

The Tools fail to connect to my modem.

Check that the Cable is connected correctly to the modem and that it is registering a COM port in the device manager. Make sure that the selected COM port is the correct one and that you are using the required baud rate. Ensure that the port is not in use with some other programme such as a terminal or Mission Planner.

The Tools fail to set boot loader mode.

It is possible for the user to manually force the boot loader. To do this for 900, 900+ and 868+ modems the CTS line must be shorted to ground during power up. This can be done by shorting the first pad (inline with pin one, between the pin header and the shield) to the second pad or the shield of the modem as it is powered up. The 900x and 868x the final pad (inline with pin sixteen, between the pin header and the shield) is shorted to pin sixteen or the shield during power up. The red LED on the modem will turn on and remain solid if the unit is in boot loader mode.

The Tools do not allow me to set some options.

The Tools will restrict the available options based on the type of modem and firmware detected.

6 Useful links

RFD Modem Firmware

http://rfdesign.com.au/firmware/

FTDI Cable documentation

http://www.ftdichip.com/Support/Documents/DataSheets/Cables/DS_TTL-232R_CABLES.pdf

7 Document revision history

Version	Date	Changes
1.0	15/09/17	Release document