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EASY TO USE, VERSATILE ROBOTICS KITS

RF 2.4Ghz USB Serial Link [RKI-1198]

Users Manual

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Make your products wireless with RF 2.4GHz USB Serial Link module. It is ideal for connecting to Personal Computers, Tablets etc. for commuication with other electronic products that require medium range full-duplex, high-speed and reliable communication.

RF 2.4HGhz USB Serial Link module is an embedded solutions providing wireless end-point connectivity to devices. These modules use a simple proprietary networking protocol for fast point-to-multipoint or peer-to-peer networking. They are designed for high-throughput applications requiring low latency and predictable communication timing.

It should be connected standard USB port where it will create a virtual COM port. It also supports 17 unique RF channel selections to reduce congestions on the same channel during peer-to-peer communication.

This Package Includes

- **A RF 2.4GHz USB Serial Link Module**

Features

- **No configuration needed for out-of-the-box RF communications**
- **Standard USB Socket for easy integration**
- **Fast 250 kbps RF air-data rate to the end node**
- **2.4 GHz for worldwide deployment**
- **Baud-rate selection and channel frequency selection**
- **Up to 100meters outdoor open air node-to-node range**
- **Backward compatible with [RKI-1197]**

Applications

- **Wireless telemetry for transmitting sensor data**
- **Remote control applications with fast response requirements**
- **Wireless Home Networking applications**
- **Point-to-point and point-to-multipoint network topologies**
- **Wireless mouse, wireless keyboard and other wireless user interface devices**
- **Wireless data logging applications**
- **Audience response systems**
- **UAV communication and control**
- **Swarm Robotics**
- **Wireless Audio transmission applications**

LED Info

POWER/RF DATA LED – RF transmission of data and to indicate startup of device

Baud Rate and Frequency Channel Selection and Configuration

- **The factory default baud rate and frquency channel settings are 9600bps and 2433MHz respectively.**
- **The RF 2.4GHz USB Serial Module can be configured to operate at baudrates of 9600bps, 19200bps, 38400bps, 57600bps and 115200bps.**
- **The RF 2.4GHz USB Serial Module can be configured to operate at RF frequencies from 2433MHz to 2450MHz with a 1MHz separation.**
- **First install the PL2303HX driver that will create a virtual com port on a PC. The driver can be download from http://robokits.co.in/resources/?page_id=113**
- **Then download the setup for out propriety product configuration software http://robokits.co.in/downloads/robokits_config_setup.exe**
- **Run the setup and then the application for the configuration software.**
- **Selected the COM port assigned to the module and hit connect.**
- **Now you should be able to read the setting for the baud rate and frequency from the module and write new settings as required. You can always revert back to factory defaults.**
- **Remember to exit config mode and disconnect the configuration software from the module so that it can start its normal operation with the updated settings.**

Using with RF 2.4GHz Serial Link Module [RKI-1197]

- **The RF 2.4GHz USB Serial Link Module [RKI-1198] is backward compatible with the RF 2.4GHz USB Serial Link Module [RKI-1197].**
- **Out of the box the factory default settings for both the modules are the same. So they can directly communicate without any configuration changes.**
- **The baud rates on both devices are independent of each other. So, you can set any baud rate required on either modules. But, remember that the maximum obtainable data rate will be defined by the lower baud rate setting of the two.**
- **This device can be used for multipoint communication too and can send and receive data from multiple other RKI-1198 and RKI-1197 modules.**
- **Make sure to keep the frequency of operation for all the devices at the same frequency. If the frequency of a module is set for example to 2450MHz then it will only be able to communicate with devices that are set to the same frequency of 2450Mhz.**

Usage Steps

1. **Connect the module to a standard USB socket on a PC. Make sure the PL2303 drivers are already installed in the computer before hand.**
2. **Please use the terminal software provided at http://robokits.co.in/downloads/robokits_terminal_setup.exe**
3. **Power LED should be blink within 3 seconds of connection with a USB port.**
4. **Send data to the COM port assigned to the module at the baud rate set. Default baud rate is 9600bps. RXD line of the first module at the correct baud rate based on the baud rate jumpers. Default baud rate is 9600bps. The led should blink representing attempts to send the data it is receiving from the COM port.**
5. **The second module at the other end of the wireless communication link will receive the data sent wirelessly by the first module and it LED will blink showing that it is correctly receiving the data.**
6. **Receive the output of the link serially from the TXD line on the other module at the baud rate selected based on the baud jumpers or on the COM port of a USB module.**
7. **Data can be sent simultaneously to and from each module and will be received wireless at the other end seamlessly.**
8. **Multiple units can send and receive data to each other as all the data is broadcasted on the wireless channel.**
9. **If multiple simultaneous point-to-point communications are required the frequency jumpers can be used to have them communicate on separate channels.**

Service and Support
Service and support for this product are available from Robokits India. The Robokits Web site (http://www.robokits.co.in) maintains current contact information for all Robokits products.

Limitations and Warrantees
The **RF 2.4Ghz USB Serial Link [RKI-1198]** is intended for personal experimental and amusement use and in no case should be used where the health or safety of persons may depend on its proper operation. Robokits provides no warrantee of suitability or performance for any purpose for the product. Use of the product software and or hardware is with the understanding that any outcome whatsoever is at the users own risk. Robokits sole guarantee is that the software and hardware perform in compliance with this document at the time it was shipped to the best of our ability given reasonable care in manufacture and testing. All products are tested for their best performance before shipping, and no warranty or guarantee is provided on any of them. Of course the support is available on all of them for no cost.

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