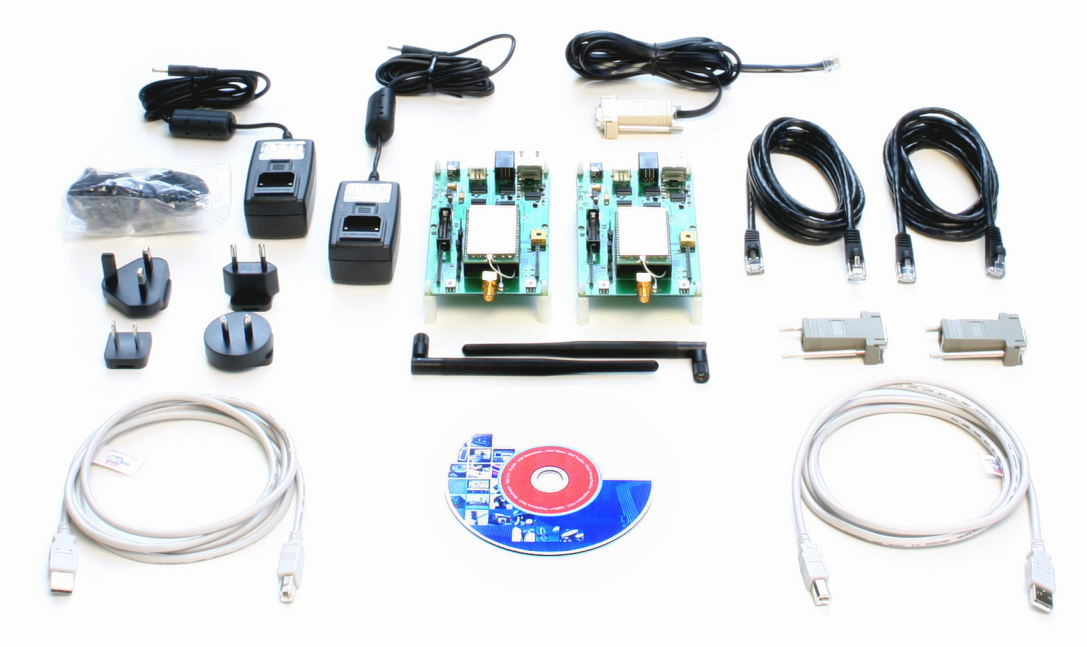
RFM products are now Murata products.

DNT2400DK

Quick Start Guide



Items Supplied in the Kit:

- Two DNT2400P radios installed in DNT interface boards (labeled Base and Remote)
- Two installed U.FL coaxial jumper cables and two 2 dBi dipole antennas
- Two 9 V wall-plug power suppliers, 120/240 VAC, plus two 9 V batteries
- Two RJ-45/DB-9F cable assemblies, one RJ-11/DB-9F cable assembly, two A/B USB cables
- One DNT2400DK documentation and software CD

Additional Items Needed:

- One PC with Microsoft Windows XP, Vista or Windows 7 operating system. The PC must be equipped with a USB port or a serial port capable of operation at 9600 bps.

Developer's Kit Default Operational notes:

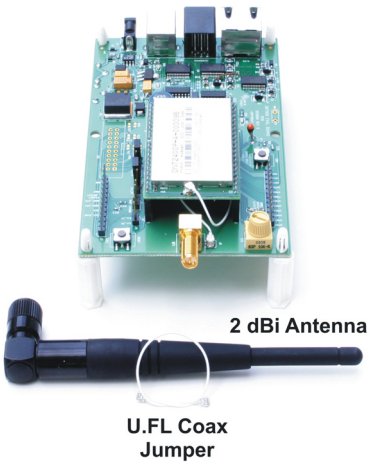
DNT2400DK kits are preconfigured to run at a 500 kb/s RF data rate with 1 mW of RF transmit power. Due to the high sensitivity of the DNT2400 radio module which provides its exceptional range, if the RF transmit power is increased from the default 1 mW, the DNT2400 nodes must be separated by a minimum of 6 feet for 10 mW, or 25 feet for 63 mW in order to reliably link.

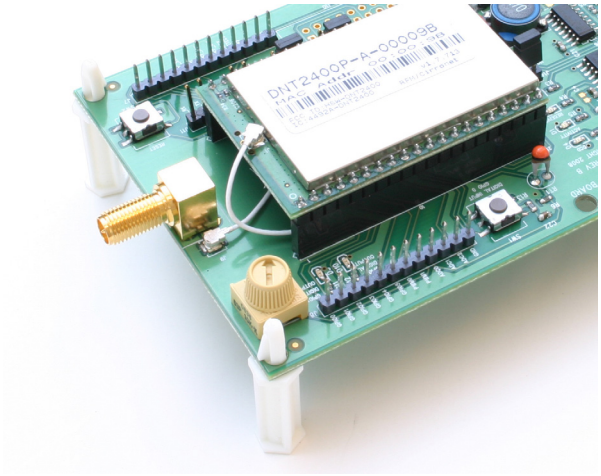
Developer's Kit Assembly:

1. Observe ESD precautions when handling the kit circuit boards. The components that make up a development board are shown in Figure 1, and are shipped with the DNT2400P radio and U.FL coax jumper cable installed in the interface board.

2. If a DNT2400P radio and/or the U.FL jumper cable has been unplugged after receipt, confirm the DNT2400P is correctly plugged into its interface board with the radio oriented so that its U.FL connector is next to the U.FL connector on the interface board, as shown in Figure 2. Also check the radio's alignment in the socket on the interface board. No pins should be hanging out over the ends of the connector. If needed, reinstall the U.FL jumper as shown in Figure 2.

3. Install the 2 dBi dipole antennas on each interface board.





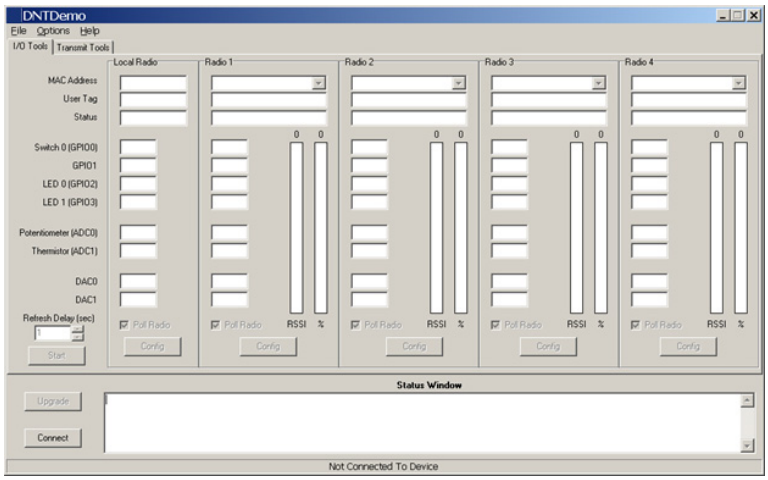


Figure 4

4. Start the Demo on the PC. The Demo program start-up window is shown in Figure 4.

5. Click on Connect to open the Select Comm Port Settings dialog box, as shown in Figure 5. If necessary, set the baud rate to 9600 bps. Set the Comm Port to match the serial port connected to the *Base* - either the hardware port or the USB virtual serial port. Then click *OK* to activate the serial connection.

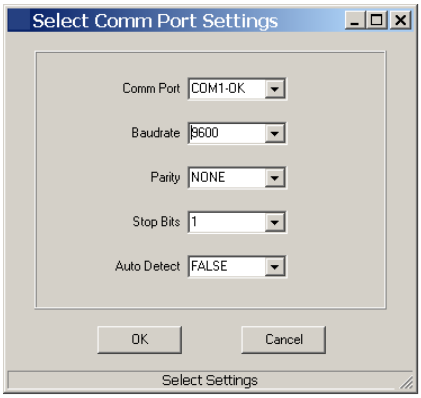


Figure 5

6. At this point the Demo will collect data from the *Base*, filling in the *Local Radio* column on the Demo window as shown in Figure 6.

7. Next power up the *Remote* using a wall-plug power supply. The Remote will transmit a “heartbeat” message on power

up as shown in the *Status Window*.

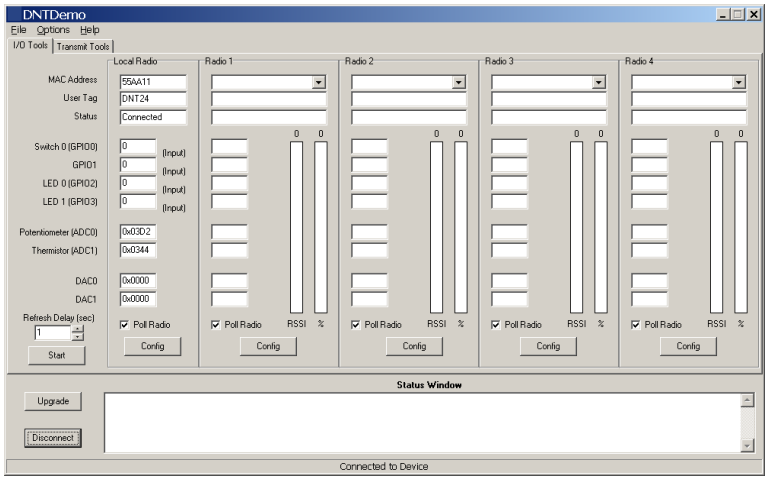


Figure 6

8. Click on the drop-down box at the top of the Radio 1 column and load the MAC Address for the Remote from the heartbeat message.

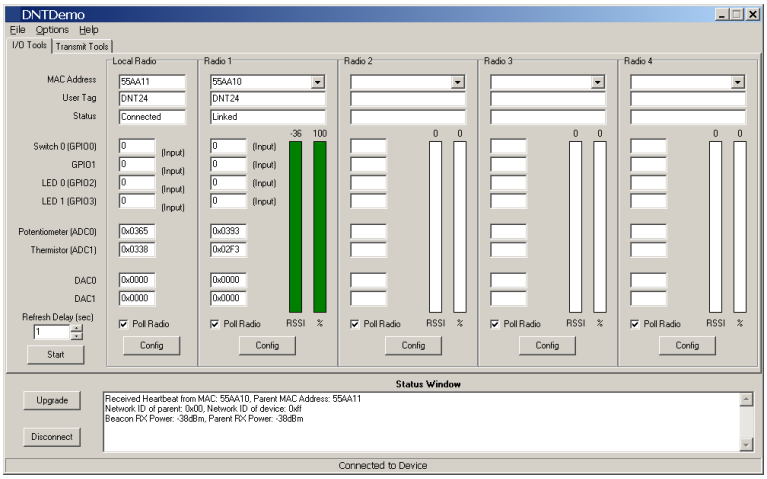


Figure 7

9. Next press the Start button using the default 1 second Refresh Delay.

10. The Demo will display data on the Remote in the Radio 1 column, including bar graphs of RSSI (signal strength) and percent packet success rate, as shown in Figure 7. Adjusting the pot on the Remote can be observed in the Potentiometer (ADC0) data. You can change the Refresh setting from the drop down menu at the bottom left. Adjusting the pot on the base can be observed in the Potentiometer (ADC0) data in the Local Radio column.

If any difficulty is encountered in setting up your DNT24DK, contact Murata's module technical support group. The phone number is +1.678.684.2000. Phone support is available from 8:30 AM to 5:30 PM US Eastern Time Zone, Monday through Friday. The E-mail address is tech_sup@murata.com.

For more details on the DNT24 module and to learn more about its features and capabilities see the Integration Guide on the CD.