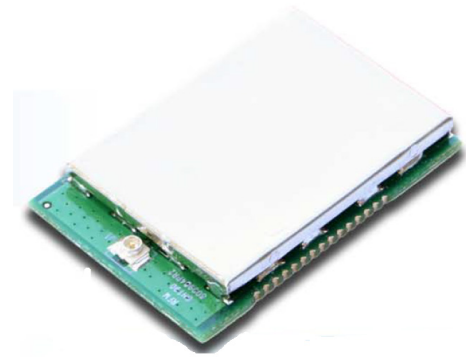




## 900 MHz Frequency Hopping Module

**Low cost, long range, multi-purpose for cost-sensitive applications**

## Featuring Murata's advanced networking and robust FHSS technology



- Remote Control
- Electronic Signs
- Tank Farm Monitoring
- AMI and Smart Grid signs
- Scoreboards
- Irrigation Control
- Industrial/Commercial Wireless Sensing
- Agricultural Monitoring
- Oil and Gas Pipeline Monitoring
- Building Automation and Control

## Exceptional performance at a very low cost

The DNT90 is a low cost, long range, multi-purpose, 900 MHz frequency hopping OEM RF module from Murata. The DNT90 provides a 100 kb/s RF data rate with +22dBm (150mW) RF power coupled with a receive sensitivity of -99dBm to provide exceptional range and performance all in an FCC and IC certified module. The DNT90 also provides a sub-band mode that meets Australian requirements.

The DNT90 uses frequency hopping technology with a unique TDMA/CSMA hybrid multiple access scheme that delivers low latency yet a virtually unlimited number of nodes in a single network. Point-to-point and multi-point network are supported as well as peer-to-peer and store-and-forward repeating.

### **Best value 900 MHz frequency hopping module on the market**

For cost-sensitive applications the DNT90 delivers FHSS reliability without breaking the bank. But that does not mean it is a limited performance module. Best-in-class RF power, -99dBm receive sensitivity, AES-128 encryption, and sophisticated networking features allow this low-cost

### **150mW (+22dBm) RF power + Store & Forward repeating**

One key benefit of 900 MHz operation is longer transmission range. At a full 150 mW of RF power, the DNT90 provides more than twice the power of competing modules to deliver better range. And if that is not enough, the DNT90's store-and-forward repeating can extend the range even further without the need for dedicated routing. The combination of 150 mW RF power, -99dBm receive sensitivity, and Murata's proven frequency hopping technology delivers a module that is small in size but big on reliability and robustness.

### **Analog and digital I/O for serial and sensor data**

The DNT90 supports wireless applications needing to send over-the-air analog and digital data and/or serial data. The DNT 90 offers 3 analog inputs and 6 GPIOs to not only report signal status but also to initiate actions without the need for intelligence. With a standard UART serial port supporting standard baud rates plus a collection of 3 ADC points, 2 DAC outputs and 6 GPIOs, the DNT90 is well suited for any sensor applications. Its ability to auto report sensor data and to sleep in between reports makes the DNT90 suitable for battery operation.

Murata's advanced networking features and robust frequency hopping technology, along with a full 24-bit CRC and ARQ error detection and correction scheme, provide an extremely reliable radio with sophisticated features at a remarkably low price.

AES-128 encryption is included along with analog and digital IOP and UART and SPI ports. The DNT90 offers the best value in a 900 MHz frequency hopping module.

- 900 MHz and 2.4 GHz Frequency Hopping and Spread Spectrum Transceivers
- Point-to-Point and Point-to-Multipoint, Peer-to-peer, and Store-and-Forward repeating
- Transmitter power of a full 150mW (+22dBm)
- DNT2400 transmitter power configurable from 1mW to 1W
- RF data rate of 100 kb/s
- Over-the-air module programming and configuration
- Auto reporting of module inputs
- 128-bit AES encryption
- Analog and digital I/O for sensor applications
- FCC and Canadian IC Certified for unlicensed operation
- Australian limited 900 MHz band support
- Drop-in replacement for Murata LPR2430ER 2.4 GHz 802.15.4

## Robust frequency hopping technology from industry leader Murata

The DNT90 delivers robust Frequency Hopping technology and sophisticated networking features typically only found in more expensive modules. The speed at which the DNT90 hops is software configurable to provide the exact match of throughput and latency for your application. 20+ years of FHSS know-how learned in the harshest RF environments overcoming multi-path and interference is in each DNT90 module.

Sophisticated networking features including heartbeats/join announcements, store and forward repeating, over-the-air module programming, over-the-air configuration and reading of analog and digital inputs, auto-reporting of module inputs, and a transparent data mode let the DNT90 out perform modules costing more than twice the DNT90,

## Fast-track your design -- order a developer kit

- Everything you need to get a wireless link going in less than 10 minutes
- Two development boards providing a simple means to interface to your device and showcasing DNT features
- Utility programs that demonstrate network operation and performance
- Documentation, including source code to the utility program to speed your development

### DNT90DK contains:

- 2 DNT90 modules with pins
- 2 DNT90 development boards
- 2 USB and 2 Serial Cables
- 9V Batteries and Wall-mount Power Supplies
- Antennas and RF Cables
- Program CD with software and manuals
- Quick Start Guide



## How To Buy

Murata products are sold through a world-wide network of sales reps and distributors. Go to the Murata website at [www.murata.com](http://www.murata.com) and visit the "Products - Wireless Connectivity Platforms" section to locate a sales/distribution partner near you.