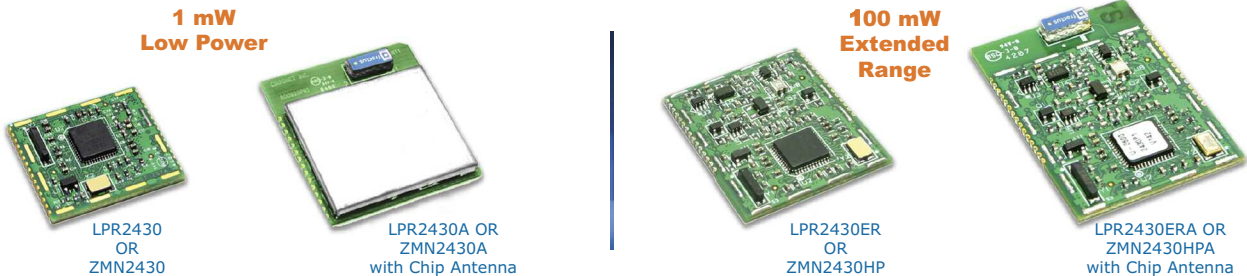


LPR2430 Series 2.4 GHz 802.15.4 Wireless Sensor Networking (page 7). Comprised of the low-power 1 mW RF power LPR2430 / LPR2430A and the extended range 100 mW RF power LPR2430ER / LPR2430ERA, the RFM LPR Series modules provide the flexibility and versatility to serve a variety of applications, from simple cable replacement to remote terminal data collection to sophisticated sensor networks. The LPR Series modules are easy to integrate and provide robust wireless communications in applications where meshing is not needed or desired. **HIGHLIGHTS:** 2.4 GHz; IEEE 802.15.4 standard; peer-to-peer, point-to-point and point-to-multipoint networks; DSSS technology; 250 kb/s data rate, 1 mW / 100 mW RF power; 30 meters / 100 meters indoor range and 100 meters / 1,000 meters outdoor range; Serial, Analog & Digital I/O including Analog & Digital I/O Binding; 0.8 to 1.5 sq. inch footprint with same form factor as RFM ZMN2430, WSN802G and XDM2140 modules.

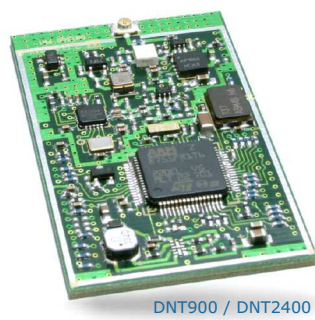


ZMN2430 Series 2.4 GHz 802.15.4 ZigBee® Wireless Sensor Networking (page 8). Comprised of the low-power 1 mW RF power ZMN2430 / ZMN2430A and the high power 100 mW ZMN2430HP / LPR2430HPA, the RFM ZMN2430 Series modules are based on the IEEE 802.15.4 wireless standard and the ZigBee protocol stack. The ZMN Series modules are easy to integrate and provide robust wireless mesh networking. **HIGHLIGHTS:** 2.4 GHz; IEEE 802.15.4 / ZigBee standard; point-to-point, point-to-multipoint and MESH networks; DSSS technology; 250 kb/s data rate; 1 mW / 100 mW RF power; 30 meters / 100 meters indoor range and 100 meters / 1,000 meters outdoor range; Analog, Digital and Serial I/O; 0.8 to 1.5 sq. inch footprint with same form factor as RFM LPR2430, WSN802G and XDM2140 modules.

WSN802G 2.4 GHz 802.11b/g Wi-Fi® Wireless Sensor Networking (page 6). Ideal for building battery-powered wireless local area networking (WLAN) and sensor monitoring solutions for the global market, the WSN802G delivers an exceptionally low-power profile with long battery life capabilities in a fully functional certified radio module. RFM's full-function module firmware combined with GainSpan's SoC provide a ready-to-use, extremely low-power 802.11b/g radio at a remarkably low price. **HIGHLIGHTS:** 2.4 GHz; IEEE 802.11b/g standard; multipoint and point-to-point networks; DSSS technology; 1 Mb/s and 2 Mb/s data rates; 10 mW RF power; 50 meters typical indoor and 250 meters typical outdoor transmission ranges; Analog, Digital and Serial I/O; 1.05 sq. inch footprint with same form factor as the RFM LPR2430, ZMN2430 and XDM2140 modules.



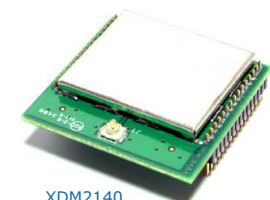
WSN802G
PIN and Castellated
Versions Available



DNT900 / DNT2400





DNT900 (900 MHz) and DNT2400 (2.4 GHz) FHSS Multi-Function Wireless Sensor Networking (page 11). The DNT Series is a low-cost, long-range, multi-purpose, multi-function frequency hopping line of RF modules. DNT modules support analog and digital I/O and serial data, and have the ability to auto-report and sleep between reports thereby reducing power consumption. DNT modules provide a selection of over-the-air data rates and transmit power levels, thus allowing one module to work for many products. When using DNT modules, designers can be confident that the radio performance can be adjusted if needed when the design is finished without having to design-in another radio. **HIGHLIGHTS:** 900 MHz (DNT900) and 2.4 GHz (DNT2400); proprietary FHSS technology; multipoint, point-to-point, and peer-to-peer networks with store and forward repeating; configurable data rates from 38 kb/s and 500 kb/s; configurable RF power of 1 mW to 1 W (DNT900) and 1 mW to 100 mW (DNT2400); 40+ mile range (DNT900) and 5+ mile range (DNT2400) with omni-directional antennas (antenna height dependent); Analog, Digital and Serial I/O; 2.8 sq. inch footprint.

XDM2140 2.4 GHz 802.15.4 SmartMESH-XD Wireless Sensor Networking (page 9). Based on Dust Networks' SmartMESH-XD™ technology, the RFM XDM2140 module is designed to provide ultra-reliable communications, and ultra-low-power for ultra-long battery life in a wide range of sensor network applications. The XDM2140 combines an IEEE 802.15.4 transceiver with Time Synchronized Mesh Protocol (TSMP) to blend the reliability of self-organizing and self-healing mesh networking with synchronized power duty-cycling to achieve battery life operation of up to 10 years. **HIGHLIGHTS:** 2.4 GHz; IEEE 802.15.4 and Dust's proprietary TSMP protocol; mesh networks; channel hopping over DSSS; 250 kb/s data rates; 1 mW and 10 mW RF power; 100 meters typical indoor and 250 meters typical outdoor transmission ranges; Serial I/O; 1.05 sq. inch footprint with same form factor as RFM LPR2430, ZMN2430 and WSN802G modules.




XDM2140
PIN and Castellated
Versions Available

WIT Series FHSS Wireless Telemetry (page 12). RFM proprietary FHSS RF modules provide robust wireless telemetry for commercial, industrial and factory environments that require radio transmission that is far more resistant to electrical noise and interference, jamming and multi-path fading than conventional radio transmission. Originally developed for the military, FHSS is widely utilized for industrial and manufacturing applications because it employs a technique to spread a signal over multiple frequencies to ensure reliable over-the-air transmission under adverse conditions. For industrial and SCADA (supervisory control and data acquisition industrial automation systems) applications, FHSS provides ultra-reliable transmission over very long transmission distances. FHSS networking is useful in outdoor applications where nodes may be separated by up to 20 miles, while ensuring fast, error-free delivery of data. The WIT Series includes:

900 MHz*		2.4 GHz	
			
WIT910 @172.8 kb/s and WIT934 @345.6 kb/s 1 W	460.8 kb/s WIT2410 @ 10-100 mW WIT2450 @ 40-250 mW	921.6 kb/s WIT2492 @ 10-100 mW	1.23 Mb/s WIT2411* @ 10-100 mW

HN, HNIO, SNAP, and SEM Series FHSS Boxed Radios. RFM offers 900 MHz and 2.4 GHz Proprietary FHSS boxed radios which are built upon RFM WIT series modules. Whether paired with RFM WIT Series RF modules or used standalone, RFM FHSS boxed radios are ideal for fixed wireless network applications for a wide range of indoor, outdoor, and harsh environments. They are available in 900 MHz and 2.4 GHz versions, support data rates of 172.8 kb/s to 1.23 Mb/s, are Class I Div 2 certified, and support Modbus, DNP3, and DF1 protocols. They come in a variety of enclosures, some including NEMA 4X and IP. 66 rated enclosures with an effective operating temperature range of -30 °C to +70 °C. Most are DIN-rail mountable.

HN Serial Modems (page 13)	HNIO I/O Modems and Relays (page 14)	SNAP Serial-to-Ethernet Access Points and SEM Ethernet Bridges (pages 15 & 16)
		
900 MHz* 172.8 kb/s 1 W	900 MHz* 172.8 kb/s 1 W	SNAP Serial-to-Ethernet Access Points (page 15)
2.4 GHz 460.8 kb/s 100 mW	2.4 GHz 460.8 kb/s 100 mW	900 MHz* Used with WIT910-based devices
2.4 GHz 460.8 kb/s 40 mW / 100 mW / 250 mW		2.4 GHz Used with WIT2410-based devices
		2.4 GHz* Used with WIT2411-based devices
		SEM Ethernet Bridges (page 16)
		900 MHz* 172.8 kb/s 1 W
		2.4 GHz 460.8 kb/s 100 mW
		2.4 GHz* 1.23 Mb/s 100 mW

*900 MHz products, WIT 2411, SEM2411, and SNAP2411 do not comply with RoHS.



DM1810 434 MHz and 916 MHz Low Data Rate Mesh Wireless Sensor Networking (page 10). The DM1810 module is an inexpensive embedded solution for small mesh networking applications needing very low data rates and few nodes. Based on RFM ASH radio technology and a PIC microcontroller, the DM1810 is ideal for applications that require long-life operation on batteries.
HIGHLIGHTS: 434 MHz and 916 MHz; proprietary RFM ASH technology; mesh networks; 4.8 kb/s data rate; 10 mW RF power; 100 meters indoor and 250 meters outdoor transmission ranges; Analog, Digital and Serial I/O; <4 sq. inch footprint.

Consider the seven key questions below matching them to the product selection tables to identify the part number for the module that is most suitable for your application. Then locate the part number in the catalog and select the developer kit part number. Order your developer kit today!

	1 FREQUENCY			2 MAX RF DATA RATE								3 RANGE								4 RF POWER					5 STANDARD			6 NETWORK			7 TECHNOLOGY		INTERFACE																
	434 MHz	900 MHz	2.4 GHz	4.8 kbps	9.6 kbps	172.8 kbps	250 kbps	460.8 kbps	500 kbps	1.23 Mbps	2 Mbps	3 Mbps	11 Mbps	Indoor 30 m	Indoor 100 m	Indoor >100 m	Outdoor 30 m	Outdoor 100 m	Outdoor 250 m	Outdoor 500 m	Outdoor 1,000 m	Outdoor 10,000 m	Outdoor >10,000 m	1 mW	10 mW	100 mW	250 mW	1 W	ZigBee	802.15.4	Proprietary	802.11	Mesh/S&F	Multipoint	Peer-to-Peer	Narrowband	Frequency Hopping	Direct Sequence	UART Only	I/O and UART									
DM1810	✓	✓		✓									✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓							
DNT900		✓							✓*				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓							
DNT2400			✓						✓*				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓						
LPR2430			✓				✓						✓	✓		✓	✓							✓																			✓	✓					
LPR2430A			✓				✓						✓	✓		✓	✓							✓																			✓	✓					
LPR2430ER			✓				✓						✓	✓		✓	✓							✓	✓	✓																	✓	✓					
LPR2430ERA			✓				✓						✓	✓		✓	✓							✓	✓	✓																	✓	✓					
WIT910		✓			✓								✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					
WIT2410			✓				✓						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
WIT2411			✓						✓				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
WIT2450			✓				✓						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
WSN802G			✓							✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
XDM2140			✓				✓						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
ZMN2405			✓				✓						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
ZMN2405HP			✓				✓						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
ZMN2430			✓				✓						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
ZMN2430A			✓				✓						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
ZMN2430HP			✓				✓						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ZMN2430HPA			✓				✓						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

* Modules can be software configured for lower rates.
+ Coming in Early 2010

- Frequency:** If the product application will be offered in many countries 2.4 GHz modules provide a single solution for all markets. If the product will be marketed in:
 - N. or S. America choose 900 MHz or 2.4 GHz
 - Europe or China choose 434 MHz or 2.4 GHz
 - Japan or Korea choose 2.4 GHz
 - Australia or New Zealand choose 434 MHz, 900 MHz, or 2.4 GHz
- Data rate and range:** Does the application require low, medium, or high data through-put? Over what indoor or outdoor distance is data to be transmitted?
- RF Power:** Is long battery life or transmission distance the primary importance? The lower the RF power - the longer the battery life. The longer the transmission range - the higher the RF power required to transmit over extended ranges. Also, is the application to be powered by AC mains or by battery? If battery-powered, then obtaining the lowest RF power is important.
- Standards:** If standards-compatible products or standards-based wireless communications is important for the product application then choose ZigBee, 802.15.4, or 802.11b/g. If lowest power is most important choose mesh. If highest resistance to interference is most important then choose FHSS mesh or proprietary FHSS.

- Network Topology:** If the application requires a decentralized network topology where if a node fails it will dynamically find and re-route the data (like the Internet), then choose mesh. Further, if in a mesh network topology the application requires devices to be mobile, then choose RFM proprietary mesh. Choose point-to-point or point-to-multi-point network topology if a centralized network topology bearing very low attendant overhead costs is most important.
- Technology:** If the product application primarily operates where:
 - long-range and/or high data-rate transmission within adverse conditions (e.g., industrial), FHSS provides secure and highly reliable RF transmission that is resistant to interference
 - high data-rate transmission, particularly for Ethernet LAN, 802.11b/g provides wireless communications for data rates of 11 Mb/s
 - a balance between data rate and power consumption is important, 802.15.4 and ZigBee technology provide rapid synchronization, moderate interference robustness and a good data rate-to-power consumption ratio
 - low power consumption is required to support battery operation in sensor networks or low traffic serial communications, the proprietary mesh modules are the best choice
- Sensors / Serial Connections or UART / I/O Interface:** Does the application need direct connection to sensors, or serial devices, or both?



WI-FI / 802.11b/g MODULES

Wireless Sensor Networking

Point-to-Point and Point-to-Multipoint Networks



WSN802G 802.11b/g Low-Power Wi-Fi Modules. Ideal for building battery-powered wireless local area networking (WLAN) and Wi-Fi sensor monitoring solutions for the global market, the WSN802G delivers an exceptionally low-power profile with long battery life capabilities in a fully functional certified radio module. RFM's full-function module firmware combined with GainSpan's SoC provide a ready-to-use, extremely low-power 802.11b/g radio at a remarkably low price.



WSN802G
PIN and Castellated
Versions Available

- **Leverage existing Wi-Fi 802.11b/g infrastructure** — Ensures interoperability with other 802.11b/g compatible devices and existing WLAN networks
- **1 Mb/s and 2 Mb/s data rate** — Appropriate for most commercial and industrial sensing applications
- **WPA2 Security** — Allows the most sensitive data to be sent securely
- **Up to 5 year battery life** — Enabled by ability to sleep between active periods, <8 uA sleep current, <200 mA active power current
- **Configurable automatic I/O reporting** — Interval timer, interrupt and ADC level triggers
- **Available in two versions** — Pinned and Castellated

802.11b/g Low-Power Wi-Fi Modules						
RFM Part	Frequency Band	Data Rate	Transmit Power	RF Conn/Antenna	Description	I/O
WSN802GC	2.4 GHz	1 or 2 Mbps	10 mW	U.FL	Low Power 802.11b/g Module with Sleep, Auto-Report, and Transparent Serial, Castellated	2 UART, SPI, 3 Analog, 4 Digital
WSN802GP	2.4 GHz	1 or 2 Mbps	10 mW	U.FL	Low Power 802.11b/g Module with Sleep, Auto-Report, and Transparent Serial, Pinned	2 UART, SPI, 3 Analog, 4 Digital

802.11b/g Developer Kits	
WSN802GDK \$139	Contains: 1 WSN802G module, 1 WSN802G development board, Serial and USB Cables, 9 V Battery and Wall-mount Power Supply, Antenna, Program CD with software and manuals, Quick Start Guide
WSN802GDK-A \$199	Contains: 1 WSN802G module, 1 WSN802G development board, Pre-configured Wireless Router, Serial and USB Cables, 9 V Battery and Wall-mount Power Supply, Antenna, Program CD with software and manuals, Quick Start Guide

\$139 / \$199*

Fast-track Your Wi-Fi Networking Design... Order WSN802GDK Developer Kit Today!

- (1) WSN802G module
- (1) WSN802G development board
- Serial and USB Cables
- 9 V Battery and Wall-mount power supply
- Antenna
- Program CD with software and manuals
- Quick Start guide
- ***WSN802GDK-A** also contains pre-configured wireless router



WSN802G Module
Installed on the
Development Board

LPR Series 802.15.4 RF Modules. For 2.4 GHz applications that need cost and power savings but do not require mesh networking with its attendant overhead, RFM LPR Series 802.15.4 modules provide excellent peer-to-peer and star topology wireless networking in residential, office and commercial applications. Each RFM 802.15.4 LPR module can be installed like an integrated circuit with reflow soldering to the host PCBs. The RFM Networking Layer eases integration and adds support for sophisticated networks through a simple-to-use command language.

- **Peer-to-peer and star topology networking** — Use as simple cable replacement or a sophisticated network
- **RFM Networking Layer** — Eases integration and network configuration
- **Low cost** — Extends wireless to virtually any sensor
- **Low power consumption** — Ideal for battery operation
- **Small size, light weight** — Easy to integrate
- **Direct sequence spread spectrum** — Fast acquisition time
- **Sleep modes and auto reporting** — Simplifies sensor monitoring
- **I/O Binding** — Automates I/O replication



LPR2430



LPR2430A
with Chip Antenna



LPR2430ER

**100 mW
Extended
Range**



LPR2430ERA
with Chip Antenna

802.15.4 Modules

RFM Part	Frequency Band	Data Rate	Transmit Power	RF Conn/ Antenna	Description	I/O
LPR2430	2.4 GHz	250 kbps	1 mW	Module Pin	Low-Power, Point-to-Point, Multipoint, & Peer-to-Peer, Sleep, Auto-Report, Castellated	UART, SPI, 5 Analog, 6 Digital
LPR2430A	2.4 GHz	250 kbps	1 mW	Chip Antenna	Low-Power, Point-to-Point, Multipoint, & Peer-to-Peer, Sleep, Auto-Report, Castellated	UART, SPI, 5 Analog, 6 Digital
LPR2430ER	2.4 GHz	250 kbps	10 mW to 100 mW	Module Pin	Extended Range, Point-to-Point, Multipoint, & Peer-to-Peer, Sleep, Auto-Report, Castellated	UART, SPI, 5 Analog, 6 Digital
LPR2430ERA	2.4 GHz	250 kbps	10 mW to 100 mW	Chip Antenna	Extended Range, Point-to-Point, Multipoint, & Peer-to-Peer, Sleep, Auto-Report, Castellated	UART, SPI, 5 Analog, 6 Digital

802.15.4 Developer Kits (See Page 17 for Developer Kit Product Image)

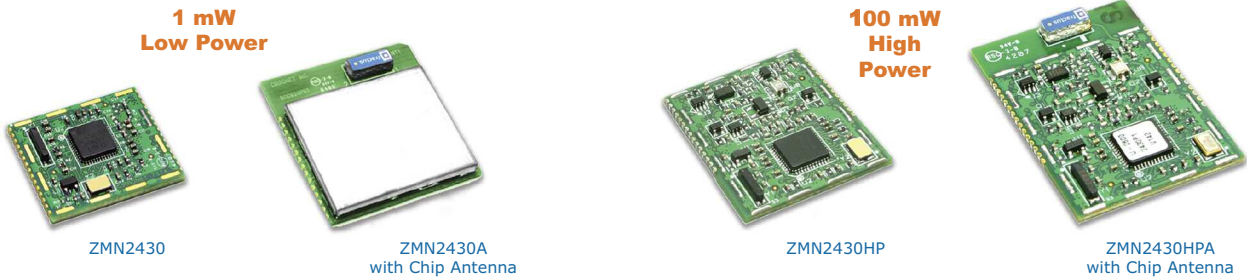
LPR2430DK \$299	2.4 GHz	Contains: 4 LPR2430 modules (2 installed on developer boards labeled Base and Remote), 2 patch antennas, 2 dipole antennas with MMCX to SMA-R adapter cables, 2 9 V wall-plug power suppliers (120/240 VAC plus 2 9 V batteries), 2 RS-232 cables, 2 USB Serial cables, Documentation and Software CD				
LPR2430ADK \$299	2.4 GHz	Contains: 4 LPR2430A modules (2 installed on developer boards labeled Base and Remote), 2 9 V wall-plug power suppliers (120/240 VAC plus 2 9 V batteries), 2 RS-232 cables, 2 USB Serial cables, Documentation and Software CD				
LPR2430ERDK \$299	2.4 GHz	Contains: 4 LPR2430ER modules (2 installed on developer boards labeled Base and Remote), 2 patch antennas, 2 dipole antennas with MMCX to SMA-R adapter cables, 2 9 V wall-plug power suppliers (120/240 VAC plus 2 9 V batteries), 2 RS-232 cables, 2 USB Serial cables, Documentation and Software CD				
LPR2430ERADK \$299	2.4 GHz	Contains: 4 LPR2430ERA modules (2 installed on developer boards labeled Base and Remote), 2 9 V wall-plug power suppliers (120/240 VAC plus 2 9 V batteries), 2 RS-232 cables, 2 USB Serial cables, Documentation and Software CD				

802.15.4 Wireless Serial Data Modem

Wireless Series Data Modems. The RFM 802.15.4 wireless data modem can provide an auto-configured, wireless replacement for RS-232 cable in office environments, and can also serve as a platform for multi-drop RS-485 networks in industrial settings.

RFM Part	Frequency Band	Data Rate	Transmit Power	RF Conn/ Antenna	Description
ZN-241G	2.4 GHz	250 kbps	10 mW to 100 mW	Reverse SMA	Standalone RS-232 Serial 802.15.4 Modem with DB9 Connector, Antenna, Power Supply, and Serial Cable
ZN-241GOEM	2.4 GHz	250 kbps	10 mW to 100 mW	Reverse SMA	10 Pack of the ZN-241G without Antenna, Power Supply, or Serial Cable
ZN-241GI	2.4 GHz	250 kbps	10 mW to 100 mW	Reverse SMA	Standalone Half-duplex RS-485/RS-232 Serial 802.15.4 Modem with Screw Terminal Connector, Antenna, and Power Supply
ZN-241GIOEM	2.4 GHz	250 kbps	10 mW to 100 mW	Reverse SMA	10 Pack of the ZN-241GM without Antenna or Power Supply
ZN-241GSK	2.4 GHz	250 kbps	10 mW to 100 mW	Reverse SMA	Starter kit including 2 ZN-241Gs, 2 2 dBi Antennas, 2 Power Supplies, 2 Serial Cables and Windows-based Configuration Utility
ZN-241GU	2.4 GHz	250 kbps	10 mW to 100 mW	Reverse SMA	Standalone USB Serial 802.15.4 Modem, Antenna, Power Supply, and USB Cable (Can be powered from USB port)
ZN-241GUOEM	2.4 GHz	250 kbps	10 mW to 100 mW	Reverse SMA	10 Pack of the ZN-241GU without Antenna, Power Supply, or USB Cable

ZMN Series ZigBee modules from RFM are ideal for low-cost, low-power, low data rate wireless applications including sensor monitoring, building and home automation, and any other applications requiring low-power consumption. These 2.4 GHz OEM modules come in 1 mW (ZMN2405/ZMN2430) transmit power versions for short-range applications and in 100 mW (ZMN2405HP/ZMN2430HP) versions for applications needing extended range. RFM ZigBee modules can be installed like integrated circuits. Even though they are complete OEM modules, they are reflow soldered to the host PCBs. With its small footprint, there is no size penalty associated with the convenience of a module. RFM has relied on its experience in helping hundreds of OEMs integrate RFM modules to create a full set of development and configuration tools.



ZigBee Modules						
RFM Part	Frequency Band	Data Rate	Transmit Power	RF Conn/ Antenna	Description	I/O
ZMN2405-C	2.4 GHz	250 kbps	1 mW	Module Pin	Low-Power ZigBee Coordinator, Solder Bump	UART, 5 Analog, 6 Digital
ZMN2405-E	2.4 GHz	250 kbps	1 mW	Module Pin	Low-Power ZigBee End Device, Solder Bump	UART, 5 Analog, 6 Digital
ZMN2405-R	2.4 GHz	250 kbps	1 mW	Module Pin	Low-Power ZigBee Router, Solder Bump	UART, 5 Analog, 6 Digital
ZMN2405HP-C	2.4 GHz	250 kbps	1 mW to 100 mW	Module Pin	High-Power ZigBee Coordinator, Solder Bump	UART, 5 Analog, 6 Digital
ZMN2405HP-E	2.4 GHz	250 kbps	1 mW to 100 mW	Module Pin	High-Power ZigBee End Device, Solder Bump	UART, 5 Analog, 6 Digital
ZMN2405HP-R	2.4 GHz	250 kbps	1 mW to 100 mW	Module Pin	High-Power ZigBee Router, Solder Bump	UART, 5 Analog, 6 Digital
ZMN2405HPA-C	2.4 GHz	250 kbps	1 mW to 100 mW	Chip Antenna	High-Power ZigBee Coordinator, Solder Bump	UART, 5 Analog, 6 Digital
ZMN2405HPA-E	2.4 GHz	250 kbps	1 mW to 100 mW	Chip Antenna	High-Power ZigBee End Device, Solder Bump	UART, 5 Analog, 6 Digital
ZMN2405HPA-R	2.4 GHz	250 kbps	1 mW to 100 mW	Chip Antenna	High-Power ZigBee Router, Solder Bump	UART, 5 Analog, 6 Digital
ZMN2430-C	2.4 GHz	250 kbps	1 mW	Module Pin	Low-Power ZigBee Coordinator, Castellated	UART, 5 Analog, 6 Digital
ZMN2430-E	2.4 GHz	250 kbps	1 mW	Module Pin	Low-Power ZigBee End Device, Castellated	UART, 5 Analog, 6 Digital
ZMN2430-R	2.4 GHz	250 kbps	1 mW	Module Pin	Low-Power ZigBee Router, Castellated	UART, 5 Analog, 6 Digital
ZMN2430A-C	2.4 GHz	250 kbps	1 mW	Chip Antenna	Low-Power ZigBee Coordinator, Castellated	UART, 5 Analog, 6 Digital
ZMN2430A-E	2.4 GHz	250 kbps	1 mW	Chip Antenna	Low-Power ZigBee End Device, Castellated	UART, 5 Analog, 6 Digital
ZMN2430A-R	2.4 GHz	250 kbps	1 mW	Chip Antenna	Low-Power ZigBee Router, Castellated	UART, 5 Analog, 6 Digital
ZMN2430HP-C	2.4 GHz	250 kbps	1 mW to 100 mW	Module Pin	High-Power ZigBee Coordinator, Castellated	UART, 5 Analog, 6 Digital
ZMN2430HP-E	2.4 GHz	250 kbps	1 mW to 100 mW	Module Pin	High-Power ZigBee End Device, Castellated	UART, 5 Analog, 6 Digital
ZMN2430HP-R	2.4 GHz	250 kbps	1 mW to 100 mW	Module Pin	High-Power ZigBee Router, Castellated	UART, 5 Analog, 6 Digital
ZMN2430HPA-C	2.4 GHz	250 kbps	1 mW to 100 mW	Chip Antenna	High-Power ZigBee Coordinator, Castellated	UART, 5 Analog, 6 Digital
ZMN2430HPA-E	2.4 GHz	250 kbps	1 mW to 100 mW	Chip Antenna	High-Power ZigBee End Device, Castellated	UART, 5 Analog, 6 Digital
ZMN2430HPA-R	2.4 GHz	250 kbps	1 mW to 100 mW	Chip Antenna	High-Power ZigBee Router, Castellated	UART, 5 Analog, 6 Digital

ZigBee Developer Kits (See Page 17 for Developer Kit Product Image)		
ZMN2405DK \$299	2.4 GHz	Contains: 2 ZMN2405 ZigBee evaluation boards (high-power serial interface boards built around the 1 mW ZigBee ZMN2405 module), 2 AC power adapters and cords, 2 patch antennas, 2 USB cables, 2 Serial cables, 2 RF cables, 2 omni antennas, 2 9 V batteries, 1 Software CD
ZMN2405HPDK \$299	2.4 GHz	Contains: 2 ZMN2405HP evaluation boards (high-power serial interface boards built around the 100 mW ZigBee ZMN2405HP module), 2 AC power adapters and cords, 2 patch antennas, 2 USB cables, 2 Serial cables, 2 RF cables, 2 omni antennas, 2 9 V batteries, 1 Software CD
ZMN2430ADK \$299	2.4 GHz	Contains: 2 ZMN2430A evaluation boards (high-power serial interface boards built around the 1 mW ZigBee ZMN2430A module), 2 AC power adapters and cords, 2 patch antennas, 2 USB cables, 2 Serial cables, 2 RF cables, 2 omni antennas, 2 9 V batteries, 1 Software CD
ZMN2430HPADK \$299	2.4 GHz	Contains: 2 ZMN2430HPA evaluation boards (high-power serial interface boards built around the 100 mW ZigBee ZMN2430HPA module), 2 AC power adapters and cords, 2 patch antennas, 2 USB cables, 2 Serial cables, 2 RF cables, 2 omni antennas, 2 9 V batteries, 1 Software CD
ZMN24HPDK-B \$199	2.4 GHz	Contains: 1 serial / sensor evaluation board configured as a Router, 1 ZN-241Z serial radio modem built around the ZigBee ZMN2405HP module configured as a Coordinator, 1 patch antenna, 1 USB cable, 2 Serial cables, 1 RF cable, 2 omni antennas, 1 9 V battery, 1 Software CD

ZigBee Gateways						
ZigBee Gateways. Allowing seamless integration of ZigBee networked sensors and devices into existing industrial networks, the ZG-2400E combines a 2.4GHz 100mW ZigBee module and a TCP/IP-to-ZigBee translation engine in a Class I Div 2 certified DIN-rail mount product. The ZG-2400E operates over a -40 °C to +70 °C temperature range and accepts a +9 Vdc to +24 Vdc supply voltage.						
ZG-2400E	2.4 GHz	250 kbps	10 mW to 100 mW	Reverse SMA	10/100Base-T ZigBee to Ethernet Gateway	

XDM2140 2.4 GHz Ultra-Low-Power Mesh Transceiver Module. Based on DUST Networks' SmartMesh-XD™ technology, RFM's XDM2140 module is designed to provide excellent communications reliability and long battery life in a wide range of sensor network applications. The XDM2140's combination of an IEEE 802.15.4 transceiver and Time Synchronized Mesh Protocol (TSMP) blends the reliability of self-organizing and self-healing mesh networking with synchronized power duty cycling to achieve very long battery life operation. The multifunctional interface of the XDM2140 gives it the flexibility to be used in a wide variety of applications, from energy management to building control to machine health monitoring. The XDM2140 requires no embedded programming which greatly reduces development time and cost of a wireless sensor network application.

Ultra Low Power Consumption

- Innovative radio design consumes 80% less power in receive mode than competing solutions
- Ultra-efficient power usage, enabled through SmartMesh Intelligent Network management, delivers over a decade of network operation on two AA batteries
- Automatic network-wide coordination for efficient power usage



XDM2140
PIN and Castellated
Versions Available

Ultra Reliable Networking

- SmartMesh-XD™ protocol delivers greater than 99.9% typical network reliability
- Frequency hopping provides interference rejection and minimizes multi-path fading
- Mesh networking provides built-in redundancy
- Every XDM2140 acts as both an end-point and a router thereby increasing network reliability with Mesh-to-the Edge™
- Automatic self-organizing mesh networking capability built in

Easy Integration

- XDM2140 provides all the module functionality with no embedded programming or complex configuration requirements
- XDM2140 interface is well designed and multi-functional
- XDM2140P version for plug in installation, XDM2140C version for solder reflow



Front



Back

XG-2400-E
Network Manager
Gateway for
SmartMesh-XD-based
devices

SmartMesh-XD 2.4 GHz 250 kbps						
RFM Part	Frequency Band	RF Data Rate	Transmit Power	RF Conn./Antenna	Description	I/O
XDM2140C	2.4 GHz	250 kbps	10 mW	U.FL	Routing Node	UART
XDM2140P	2.4 GHz	250 kbps	10 mW	U.FL	Routing Node	UART

Developer Kit				
RFM Part	Frequency Band	RF Data Rate	Transmit Power	Description
XDM2140DK \$2,995	2.4 GHz	250 kbps	10 mW	Contains 4 XDM2140 modules, 4 XDM2140 development boards, 1 XG2400E gateway, 1 Ethernet and 5 Serial cables, 9 V batteries and wall-mount power supplies, Antennas and RF cables, Program CD with software and manuals, Quick Start Guide

SmartMesh-XD Network Manager / Gateway	
The XG2400E gateway and network manager is multi-functional, combining Ethernet gateway functions with sophisticated networking, data, and security management capabilities for a network of XDM2140 modules. It includes a standard IEEE 802.15.4 compliant, 2.4 GHz radio with a power amplifier, processor and memory, embedded networking software, and interfaces to host systems. The XG2400E is only sold in tandem with XDM2140 networking products.	
XG2400E	10/100Base-T Ethernet/Serial Network Manager/Gateway for SmartMesh-XD based devices

**Fast-track Your Ultra-Reliable Mesh Networking Design...
Order XDM2140DK Developer Kit Today!**

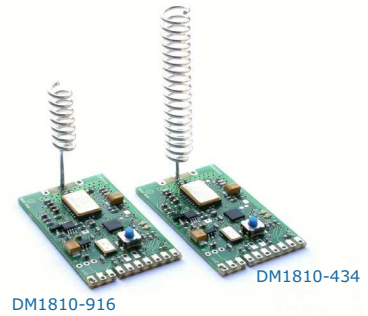
\$2,995

- (4) XDM2140 modules
- (4) XDM2140 development boards
- (1) XG2400E gateway
- (1) Ethernet and 5 Serial cables
- 9 V batteries and wall-mount power supplies
- Antennas and RF cables
- Program CD with software and manuals
- Quick Start Guide



DM1810 434 MHz or 916 MHz. The DM1810 is based on the RFM proprietary miniMESH protocol. Characterized by low-latencies, miniMESH supports 15 routers and 1,000 nodes. DM modules provide long battery runtime through their low operating current and the ability to sleep all the nodes in the network, including the routers and base station. DM1810 modules provide serial I/O, a 10-bit ADC input, a digital input and a digital output with 10 mW transmit power and miniMESH protocol with support for up to 15 routers.

- DM1810-434 Modules ETSI certified for European applications
- DM1810-916 Modules FCC certified for US applications and IC certified for Canadian applications



- IM1800: Base station application interface board for DM1810 series modules
- IM1800-1: Field node or router application interface board for DM1810 series modules

DM1810 Series 434MHz / 916MHz 4.8 kb/s

RFM Part	Frequency	RF Data Rate	Transmit Power	RF Conn./Antenna	Description	I/O
DM1810-434MB	433.92 MHz	4.8 kbps	10 mW	Helical Ant/PCB Pad	Base Station	1 Analog, 1 Digital, 1 Serial
DM1810-434MN	433.92 MHz	4.8 kbps	10 mW	Helical Ant/PCB Pad	Field Node	1 Analog, 1 Digital, 1 Serial
DM1810-434MN-V	433.92 MHz	4.8 kbps	10 mW	Helical Ant/PCB Pad	Field Node	1 Analog, 1 Digital, 1 Serial
DM1810-434MR	433.92 MHz	4.8 kbps	10 mW	Helical Ant/PCB Pad	Network Router	1 Analog, 1 Digital, 1 Serial
DM1810-434MR-PAH	433.92 MHz	4.8 kbps	10 mW	Helical Ant/PCB Pad	Network Router	1 Analog, 1 Digital, 1 Serial
DM1810-434MR-PAV	433.92 MHz	4.8 kbps	10 mW	Helical Ant/PCB Pad	Network Router	1 Analog, 1 Digital, 1 Serial
DM1810-434MR-V	433.92 MHz	4.8 kbps	10 mW	Helical Ant/PCB Pad	Network Router	1 Analog, 1 Digital, 1 Serial
DM1810-916MB	916.50 MHz	4.8 kbps	10 mW	Helical Ant/PCB Pad	Base Station	1 Analog, 1 Digital, 1 Serial
DM1810-916MN	916.50 MHz	4.8 kbps	10 mW	Helical Ant/PCB Pad	Field Node	1 Analog, 1 Digital, 1 Serial
DM1810-916MN-V	916.50 MHz	4.8 kbps	10 mW	Helical Ant/PCB Pad	Field Node	1 Analog, 1 Digital, 1 Serial
DM1810-916MR	916.50 MHz	4.8 kbps	10 mW	Helical Ant/PCB Pad	Network Router	1 Analog, 1 Digital, 1 Serial
DM1810-916MR-PAH	916.50 MHz	4.8 kbps	10 mW	Helical Ant/PCB Pad	Network Router	1 Analog, 1 Digital, 1 Serial
DM1810-916MR-PAV	916.50 MHz	4.8 kbps	10 mW	Helical Ant/PCB Pad	Network Router	1 Analog, 1 Digital, 1 Serial
DM1810-916MR-V	916.50 MHz	4.8 kbps	10 mW	Helical Ant/PCB Pad	Network Router	1 Analog, 1 Digital, 1 Serial
IM1800*		4.8 kbps			Application Interface Module	
IM1800-1		4.8 kbps			Application Interface Module	

*DM1800 is not RoHS compliant.

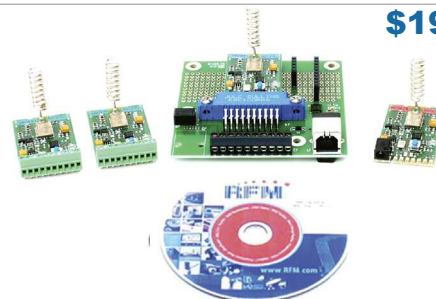
Developer Kits

RFM Part	Frequency	RF Data Rate	Transmit Power	Description
DM1810-434-DK \$495	433.92 MHz	4.8 kbps	10 mW	Developer Kit containing 1 Base, 3 Routers, 3 Nodes
DM1810-434-QK \$199	433.92 MHz	4.8 kbps	10 mW	Quick Kit containing 1 Base, 1 Router, 2 Nodes
DM1810-916-DK \$495	916.50 MHz	4.8 kbps	10 mW	Developer Kit containing 1 Base, 3 Routers, 3 Nodes
DM1810-916-QK \$199	916.50 MHz	4.8 kbps	10 mW	Quick Kit 1 Base, 1 Router, 2 Nodes

**Fast-track Your Low-Data Rate Mesh Networking Design...
Order Your Quick Kit* or Developer Kit Today!**

\$199* / \$495

- (1) DM1810 Base
- (3) Routers
- (3) Nodes
- Antennas
- Program CD with software and manuals
- Quick Start guide



* Quick Kit only includes (1) Base, (1) Router and (2) Nodes



LOW-COST FREQUENCY HOPPING MODULES

Multi-function Wireless Sensor Networking & Telemetry for Peer-to-Peer, Point-to-Point, and Point-to-Multipoint Networks



DNT900 / DNT2400

DNT Series FHSS Multi-Function Wireless Sensor Networking Modules.

Comprised of the 900 MHz DNT900 and the 2.4 GHz DNT2400, the DNT series is a low-cost, long-range, multi-purpose, multi-function frequency hopping line of RF modules. DNT modules support Analog and Digital I/O and Serial data, and have the ability to auto-report and sleep between reports thereby reducing power consumption. DNT modules support all standard serial data rates for host communications from 1.2 to 460.8 kb/s. On-board data buffering and an error-correcting air protocol provide smooth data flow and simplify the task of integration with existing applications.

900 MHz DNT900. The 900 MHz ISM band allows license-free use in the US, Canada, South America, Australia and New Zealand.

2.4 GHz DNT2400. 2.4 GHz ISM band allows the DNT2400 to be used license-free world-wide.

Highly Reliable and Secure FHSS Capabilities at Very Low Cost

- RFM proprietary frequency hopping technology provides both robust communications reliability and interference rejection while minimizing multi-path fading
- 40+ mile range (DNT900) and 5+ mile range (DNT2400) with omni-directional antennas (antenna height dependent)
- AES-128 Encryption allows the most sensitive data to be securely sent wirelessly
- Support for point-to-point, point-to-multipoint, and peer-to-peer applications
- Low cost provides substantial cost savings over existing long-range radios without compromising features or radio performance
- Non-volatile memory stores DNT module configuration when powered off
- Dynamic TDMA slot assignment that maximizes throughput and CSMA modes that maximizes network size
- Transparent ARQ protocol with data buffering ensures data integrity
- Simple serial interface handles both data and control at up to 460.8 kb/s

Highly Configurable Including RF Data Rate and RF Transmit Power. The DNT Series modules provide a selection of over-the-air data rates and transmit power levels thus allowing one module to work for many products. When using the DNT Series, designers can be confident that the radio performance can be modified if needed when the design is finished without having to design-in another radio.

- Configurable RF Data Rates from 38 kb/s and 500 kb/s
- DNT900 configurable RF Transmit Power of 1 mW to 1W
- DNT2400 configurable RF Transmit Power of 1 mW to 100 mW
- 40+ mile range DNT900, 5+ mile DNT2400 with omni-directional antennas
- Co-Located Network Support
- Multi-point, point-to-point, peer-to-peer and store & forward repeating
- Bandwidth Allocation
- Configurable Frequency Hopping Rate
- Analog and Digital I/O
- Sleep Modes

FHSS Modules Configurable						
RFM Part	Frequency	RF Data Rate	Transmit Power	RF Conn/ Antenna	Description	I/O
DNT900C	900 MHz	38.4 to 500 kbps	1mW to 1W	U.FL	Frequency hopping, star, peer-to-peer, store and forward repeating, castellated	2 UART, SPI, 5 Analog, 6 Digital
DNT900P	900 MHz	38.4 to 500 kbps	1mW to 1W	U.FL	Frequency hopping, star, peer-to-peer, store and forward repeating, pinned	2 UART, SPI, 5 Analog, 6 Digital
DNT2400C	2.4 GHz	38.4 to 500 kbps	1mW to 100mW	U.FL	Frequency hopping, star, peer-to-peer, store and forward repeating, castellated	2 UART, SPI, 5 Analog, 6 Digital
DNT2400P	2.4 GHz	38.4 to 500 kbps	1mW to 100 mW	U.FL	Frequency hopping, star, peer-to-peer, store and forward repeating, pinned	2 UART, SPI, 5 Analog, 6 Digital

FHSS Developer Kits	
DNT900DK \$359	Contains: 2 DNT900P radios, 2 DNT900 development boards, 2 2 dBi dipole antennas, 2 - 120/240 VAC 9 V wall-plug power suppliers, 2 9 V batteries, 2 RJ-45/DB-9F cable assemblies, 1 RJ-11/DB-9F cable assembly, 2 A/B USB cables, DNT900DK documentation and software CD
DNT2400DK \$359	Contains: 2 DNT2400P radios, 2 DNT2400 development boards, 2 2 dBi dipole antennas, 2 120/240 VAC 9 V wall-plug power suppliers, 2 9 V batteries, 2 RJ-45/DB-9F cable assemblies, 1 RJ-11/DB-9F cable assembly, 2 A/B USB cables, DNT2400DK documentation and software CD

Fast-track Your FHSS Networking Design... Order DNT900DK or DNT2400DK Developer Kit Today!

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



\$359

WIT Series FHSS Wireless Telemetry Modules. Especially well-suited to commercial, industrial and factory settings, RFM's WIT modules ensure long-range data throughput even in the presence of electrical noise and multi-path fading. They can be configured in point-to-point and point-to-multipoint network topologies. WIT modules operate in either a TDMA mode with dynamic, automatic bandwidth allocation which support up to 62 remotes or a CSMA mode that supports up to 1024 remotes. The TDMA mode is used where guaranteed bandwidth and latency are required. The CSMA mode is used where large numbers of remotes are needed. Latencies of the TDMA mode are as low as 5 ms. WIT modules consume a sufficiently low amount of power to allow 8+ hours of battery operation. Error-less data reception is further assured by CRC error checking and ARQ (automatic repeat-request) schemes for auto-retransmission of bad packets.

900 MHz*



WIT910* @172.8 kb/s
and
WIT934* @345.6 kb/s
1W

- **License-free** use in US, Canada, South America, Australia and New Zealand
- **High-speed wireless data:** Up to 172.8 kb/s for extended range applications such as SCADA
- **Superior transmission range:** 1000 foot indoors; 20+ miles outdoors with omnidirectional antennas
- **Store-and-forward repeating:** forwards data meant for another mode while also acting as an end device

2.4 GHz



460.8 kb/s
WIT2410 @ 10-100mW
WIT2450 @ 40-250mW



921.6 kb/s
WIT2492 @ 10-100mW



1.23 Mb/s
WIT2411* @ 10-100mW

- **License-free use world-wide**
- **High-speed wireless data:** Up to 1.23 Mb/s throughput serves virtually any data need
- **Superior transmission range:** 900 foot indoors; over 5 miles outdoors with gain antennas
- **WIT2450 offers store-and-forward repeating** to extend range and enable transmission around barriers without expensive dedicated repeaters.

FHSS Modules						
RFM Part	Frequency Band	RF Data Rate	Transmit Power	RF Conn/ Antenna	Description	I/O
WIT910M*	900 MHz	172.8 kbps	1 W	MMCX	Frequency hopping star, TDMA only, pins down	UART
WIT910M2*	900 MHz	172.8 kbps	1 W	MMCX	Frequency hopping, star, CSMA & TDMA, pins down	UART
WIT910S*	900 MHz	172.8 kbps	1 W	MMCX	Frequency hopping star, TDMA only, pins up	UART
WIT934M*	900 MHz	345.6 kbps	10 mW to 100 mW	MMCX	Frequency hopping star, TDMA only, pins down	UART
WIT2410M4G	2.4 GHz	460.8 kbps	10 mW to 100 mW	MMCX	Frequency hopping star, TDMA only, pins down	UART
WIT2410S4G	2.4 GHz	460.8 kbps	10 mW to 100 mW	MMCX	Frequency hopping star, TDMA only, pins up	UART
WIT2411D*	2.4 GHz	1.23 Mbps	10 mW to 100 mW	MMCX	Frequency hopping star, on-demand, pins down	UART
WIT2411F*	2.4 GHz	1.23 Mbps	11 m W to 100 mW	MMCX	Frequency hopping star, on-demand, socket	UART
WIT2450FG	2.4 GHz	460.8 kbps	40 mW to 250 mW	MMCX	Frequency hopping star, TDMA only, socket	UART
WIT2450M2	2.4 GHz	460.8 kbps	40 mW to 250 mW	MMCX	Frequency hopping, star, CSMA & TDMA, socket	UART
WIT2492M	2.4 GHz	921.6 kbps	10 mW to 100 mW	MMCX	Frequency hopping star, TDMA only, pins down	UART

WIT910-, WIT934-, and WIT2411-series products are not RoHS compliant.

FHSS Developer Kits (See Page 18 for Developer Kit Image)	
WIT910DK* \$795	Contains: 2 HN-591 serial modems with flow control indicators, RS-232 interface, battery pack, power supply, dipole antenna, 2 WIT910M modules, RF cables, antennas and programming software
WIT910SDK* \$1,795	SNAP910 Developer Kit containing 2 HN-591 serial modems with flow control indicators, RS-232 interface, battery, dipole antenna, 1 SNAP910 10/100BaseT access point, 2 WIT910 modules, RF cables, antennas and programming software
WIT2410DK* \$795	Contains: 2 HN-510 serial modems with flow control indicators, RS-232 interface, battery pack, power supply, dipole antenna, 2 WIT2410M modules, RF cables, antennas and programming software
WIT2410SDK* \$1,795	SNAP2410 Developer Kit containing 2 HN-510 serial modems with flow control indicators, RS-232 interface, battery, dipole antenna, 1 SNAP2410 10/100BaseT access point, 2 WIT2410 modules, RF cable, antennas and programming software
WIT2411DK* \$995	Contains: 2 HN-211 serial modems with flow control indicators, RS-232 and USB interfaces, battery, dipole antenna, 2 WIT2411 modules, and programming software
WIT2411SDK* \$1,995	SNAP2411 Developer Kit containing 2 HN-211 serial modems with flow control indicators, RS-232 and USB interfaces, battery, dipole antenna, 1 SNAP2411 10/100BaseT access point, 2 WIT2411 modules, RF cables and dipole antennas and programming software
WIT2450DK* \$495	Contains: 2 HN-550 serial modems with flow control indicators, RS-232 interface, battery pack, power supply, dipole antenna, 2 WIT2450 modules, RF cables, antennas and programming software



FREQUENCY HOPPING SERIAL MODEMS

Wireless Telemetry for Point-to-Point and Point-to-Multipoint Networks



HN Series Wireless Modems (900 MHz – 2.4 GHz). Built on the RFM WIT Series RF modules, the versatile RFM HN series wireless modems employ the RFM proprietary FHSS and are well-suited for any industrial or commercial application needing complete, reliable, long-range, serial modems. Whether paired with RFM WIT series RF modules or used standalone, HN wireless modems are ideal for fixed wireless network applications in a range of indoor, outdoor, and harsh environments. They are available in 900 MHz and 2.4 GHz versions, support data rates of 172.8 kb/s to 1.23 Mb/s, are Class I Div 2 certified, and support Modbus, DNP3, and DF1 protocols. HN wireless modems come in a variety of enclosures including NEMA 4X and IP 66 rated enclosures with an effective operating temperature range of -30 °C to +70 °C.

900 MHz Modems. The HN-591 desktop wireless modems are right at home in the relative comfort of a plant foreman's office, while the HN-291 modems deliver indoor / outdoor SCADA flexibility.

2.4 GHz Modem. The HN-510 and HN-550 are suitable for desktop use while the HN-1510 is a rugged indoor unit suitable for factory floor environments. The HN-21x, HN-1010, HN2010, and HN-3010 are rugged enclosures designed for outdoor and wash-down environments. Each HN-D Series is a DIN rail mount, low-cost modem with a remote mounted radio in a NEMA 4X/ IP 66 enclosure with either an internal 6 dBi patch antenna or a reverse TNC antenna connector. A standard RS-232 interface connects to the device to be networked. The 2.4 GHz HN-series radios have over-the-air data rates of 460.8 kb/s or 1.23 Mb/s.

Combining HN-series Wireless Modems with SNAP Serial to Ethernet Access Point. Add SNAP Wireless Serial to Ethernet Access Points as a base station for both WIT OEM modules and HN modems, which allow non-Ethernet serial devices to operate as nodes on an Ethernet network.

900MHz Long Range HN-91 Series Standalone Wireless Modems

RFM Part	Frequency Band	Data Rate	Transmit Power	RF Conn/ Antenna	Interface
HN-291*	900 MHz	172.8 kbps	1 W	Internal 3 dBi Patch	RS-232 DB9, 50 foot cable
HN-291X*	900 MHz	172.8 kbps	1 W	Reverse TNC	RS-232 DB9, 50 foot cable
HN-291U*	900 MHz	172.8 kbps	1 W	Internal 3 dBi Patch	USB, 50 foot cable
HN-291UX*	900 MHz	172.8 kbps	1 W	Reverse TNC	USB, 50 foot cable
HN-294*	900 MHz	172.8 kbps	1 W	Internal 3 dBi Patch	RS-232 DB9, 4 foot cable
HN-294X*	900 MHz	172.8 kbps	1 W	Reverse TNC	RS-232 DB9, 4 foot cable
HN-294U*	900 MHz	172.8 kbps	1 W	Internal 3 dBi Patch	USB, 4 foot cable
HN-294UX*	900 MHz	172.8 kbps	1 W	Reverse TNC	USB, 4 foot cable
HN-591*	900 MHz	172.6 kbps	1 W	Reverse SMA	RS-232 DB9

2.4GHz Low Cost HN-50 Series Standalone Wireless Modems

RFM Part	Frequency Band	Data Rate	Transmit Power	RF Conn/ Antenna	Interface
HN-250	2.4 GHz	460.8 kbps	40 mW to 250 mW	Internal 6 dBi Patch	RS-232 DB9, 50 foot cable
HN-250X	2.4 GHz	460.8 kbps	40 mW to 250 mW	Reverse TNC	RS-232 DB9, 50 foot cable
HN-250-100	2.4 GHz	460.8 kbps	40 mW to 250 mW	Internal 6 dBi Patch	RS-232 DB9, 100 foot cable
HN-250U	2.4 GHz	460.8 kbps	40 mW to 250 mW	Internal 6 dBi Patch	USB, 50 foot cable
HN-250UX	2.4 GHz	460.8 kbps	40 mW to 250 mW	Reverse TNC	USB, 50 foot cable
HN-250U-100	2.4 GHz	460.8 kbps	40 mW to 250 mW	Internal 6 dBi Patch	USB, 100 foot cable
HN-254	2.4 GHz	460.8 kbps	40 mW to 250 mW	Internal 6 dBi Patch	RS-232 DB9, 4 foot cable
HN-254X	2.4 GHz	460.8 kbps	40 mW to 250 mW	Reverse TNC	RS-232 DB9, 4 foot cable
HN-254U	2.4 GHz	460.8 kbps	40 mW to 250 mW	Internal 6 dBi Patch	USB, 4 foot cable
HN-254UX	2.4 GHz	460.8 kbps	40 mW to 250 mW	Reverse TNC	USB, 4 foot cable
HN-550	2.4 GHz	460.8 kbps	40 mW to 250 mW	Reverse SMA	RS-232 DB9 Desktop Version

2.4GHz HN-10/HN-11 Series Standalone Wireless Modems

RFM Part	Frequency Band	Data Rate	Transmit Power	RF Conn/ Antenna	Interface
HN-210	2.4 GHz	460.8 kbps	100 mW	Internal 6 dBi Patch	RS-232 DB9, 50 foot cable
HN-210D	2.4 GHz	460.8 kbps	100 mW	Internal 6 dBi Patch	DIN-Rail mount, RS-232, DB9, 50 foot cable
HN-210DX	2.4 GHz	460.8 kbps	100 mW	Reverse TNC	DIN-Rail mount, RS-232, DB9, 50 foot cable
HN-210X	2.4 GHz	460.8 kbps	100 mW	Reverse TNC	RS-232 DB9, 50 foot cable
HN-211R	2.4 GHz	1.23 Mbps	100 mW	Internal 6 dBi Patch	RS-232 DB9, 50 foot cable
HN-211RX	2.4 GHz	1.23 Mbps	100 mW	Reverse TNC	RS-232 DB9, 50 foot cable
HN-211U	2.4 GHz	1.23 Mbps	100 mW	Internal 6 dBi Patch	RS-232 DB9, 50 foot cable
HN-211UX	2.4 GHz	1.23 Mbps	100 mW	Reverse TNC	RS-232 DB9, 50 foot cable
HN-214	2.4 GHz	460.8 kbps	100 mW	Internal 6 dBi Patch	RS-232 DB9, 4 foot cable
HN-214D	2.4 GHz	460.8 kbps	100 mW	Internal 6 dBi Patch	DIN-Rail mount RS-232 DB9, 4 foot cable
HN-214DX	2.4 GHz	460.8 kbps	100 mW	Reverse TNC	DIN-Rail mount, RS-232 DB9, 4 foot cable
HN-214X	2.4 GHz	460.8 kbps	100 mW	Reverse TNC	RS-232 DB9, 4 foot cable
HN-214U	2.4 GHz	460.8 kbps	100 mW	Internal 6 dBi Patch	USB, 4 foot cable
HN-214UX	2.4 GHz	460.8 kbps	100 mW	Reverse TNC	USB, 4 foot cable
HN-510	2.4 GHz	460.8 kbps	100 mW	Reverse SMA	RS-232 DB9 Desktop Version
HN-511	2.4 GHz	1.23 Mbps	100 mW	Reverse SMA	RS-232 DB9 Desktop Version
HN-1010	2.4 GHz	460.8 kbps	100 mW	TNC	RS-232 Connexall
HN-1510	2.4 GHz	460.8 kbps	100 mW	TNC	RS-232 DB9
HN-2010	2.4 GHz	460.8 kbps	100 mW	2 TNC	N/A
HN-3010	2.4 GHz	460.8 kbps	100 mW	TNC	RS-232 Connexall

HNIO Series I/O Modems (900 MHz – 2.4 GHz). RFM HNIO modems feature bidirectional transmission and the company's patented FHSS technology. The product line includes the HNIO-091R and HNIO-241R relay modems, which operate at 900 MHz and 2.4 GHz respectively, and two analog/digital modems, the 900 MHz HNIO-091A and 2.4 GHz HNIO-241A. The relay modems provide four 250 VAC 5 A relays, and the analog/digital modems provide two 4-20mA receivers and transmitters along with two digital I/O channels.

Unlike wireless data transceivers, which transmit serial data streams, wireless I/O modems transmit voltage or digital signals. Analog/digital models are typically used to relay key levels of sensor data, while relay units control the state of such equipment as light fixtures, alarms, and locks. Line of sight range extends beyond 20 miles for the 900 MHz I/O modems and up to seven miles for the 2.4 GHz units, depending upon the antenna used. The modems can operate over an input voltage range of +9 Vdc to +30 Vdc, making them suitable for battery and solar power sources. Class I Div 2 certification allows the modems to be deployed in hazardous locations. All are DIN-rail mountable.

I/O modems and Relays for Analog / Relay Input / Output					
RFM Part	Frequency Band	RF Data Rate	Transmit Power	RF Conn/ Antenna	Description
HNIO-091A*	900 MHz	172.8 kbps	1 W	Reverse TNC	2, 4 - 20 mA Inputs, 2, 4 - 20 mA Transmitters, 2 Digital Inputs, 2 form C Relay Outputs, Integral Radio
HNIO-091AR*	900 MHz	172.8 kbps	1 W	Internal 3 dBi Patch	2, 4 - 20 mA Inputs, 2, 4 - 20 mA Transmitters, 2 Digital Inputs, 2 form C Relay Outputs, Remote Radio with 50 foot cable
HNIO-091AX*	900 MHz	172.8 kbps	1 W	Reverse TNC	2, 4 - 20 mA Inputs, 2, 4 - 20 mA Transmitters, 2 Digital Inputs, 2 Form C Relay Outputs, Remote Radio with 50 foot cable
HNIO-091R*	900 MHz	172.8 kbps	1 W	Reverse TNC	4 Digital Inputs, 4 Form C Relay Outputs, Internal Radio
HNIO-091RR*	900 MHz	172.8 kbps	1 W	Internal 3 dBi Patch	4 Digital Inputs, 4 Form C Relay Outputs, Remote Radio with 50 foot cable
HNIO-091RX*	900 MHz	172.8 kbps	1 W	Reverse TNC	4 Digital Inputs, 4 Form C Relay Outputs, Remote Radio with 50 foot cable
HNIO-241A	2.4 GHz	460.8 kbps	100 mW	Reverse TNC	2, 4 - 20 mA Inputs, 2, 4 - 20 mA Transmitters, 2 Digital Inputs, 2 Form C Relay Outputs, Internal Radio
HNIO-241AR	2.4 GHz	460.8 kbps	100 mW	Internal 6 dBi Patch	2, 4 - 20 mA Inputs, 2, 4 - 20 mA Transmitters, 2 Digital Inputs, 2 Form C Relay Outputs, Remote Radio with 50 foot cable
HNIO-241AX	2.4 GHz	460.8 kbps	100 mW	Reverse TNC	2, 4 - 20 mA Inputs, 2, 4 - 20 mA Transmitters, 2 Digital Inputs, 2 form C Relay Outputs, Remote Radio with 50 foot cable
HNIO-241R	2.4 GHz	460.8 kbps	100 mW	Reverse TNC	4 Digital Inputs, 4 Form C Relay Outputs, Internal Radio
HNIO-241RR	2.4 GHz	460.8 kbps	100 mW	Internal 6 dBi Patch	4 Digital Inputs, 4 Form C Relay Outputs, Remote Radio with 50 foot cable
HNIO-241RX	2.4 GHz	460.8 kbps	100 mW	Reverse TNC	4 Digital Inputs, 4 Form C Relay Outputs, Remote Radio with 50 foot cable

HN Serial Modems
← (page 13)



900 MHz*
172.8 kb/s
1 W

2.4 GHz
460.8 kb/s
100 mW

2.4 GHz
460.8 kb/s
40 mW / 100 mW /
250 mW

2.4 GHz
1.23* Mb/s
100 mW

HNIO I/O Modems & Relays ↑
(this page - see above)



900 MHz*
172.8 kb/s
1 W

2.4 GHz
460.8 kb/s
100 mW

*Boxed products based on WIT910-, WIT934- and WIT2411-series modules (1.23 Mb/s data rate) are not RoHS compliant.

SNAP Wireless Serial-to-Ethernet Access Points (900 MHz – 2.4 GHz). As the base station for WIT series 900 MHz and 2.4 GHz OEM modules (WIT910, WIT2410, and WIT2411) and HN series modems, SNAP access points provide seamless Serial-to-Ethernet connectivity with remote wireless nodes transmitting unformatted data to a server-based application running on the SNAP Ethernet network. SNAP devices remove the need for the remote devices to handle the TCP/IP protocol. Certified by the FCC and CE marked on 2.4 GHz products, the SNAP family offers license-free use.

- **RFM FHSS technology** — Patented FHSS technology provides reliable communications in high noise floor environments, superior jamming and interference immunity. CRC checking and automatic repeat request (ARQ) deliver error-free data.
- **Serial to Ethernet connectivity** — Allows transparent communication with remote devices and network-based applications. Allows limited intelligence and legacy serial devices to appear as nodes on an Ethernet network.
- **Customizable operation** — All parameters are configurable under software control. Even transmit power can be selected through a straightforward command set.
- **Suited to tough environments** — All SNAPs are available in "D" DIN rail mount versions and "X" remote radio versions for harsh and outdoor use.

SNAP Wireless Access Points for Ethernet Network					
RFM Part	Frequency	RF Data Rate	Transmit Power	RF Conn/ Antenna	Description
SNAP910*	900 MHz	172.8 kbps	1 W	Reverse TNC	Serial-to-Ethernet Access Point for WIT910 and Series 91-based devices, Internal Radio
SNAP910D*	900 MHz	172.8 kbps	1 W	Reverse TNC	DIN-Rail Mount Serial-to-Ethernet Access Point for WIT910 and Series 91-based devices, Internal Radio
SNAP910DX*	900 MHz	172.8 kbps	1 W	Reverse TNC	DIN-Rail Mount Serial-to-Ethernet Access Point for WIT910 and Series 91-based devices, Remote Radio with up to 500 foot cable
SNAP910X*	900 MHz	172.8 kbps	1 W	Reverse TNC	Serial-to-Ethernet Access Point for WIT910 and Series 91-based devices, Remote Radio with up to 500 foot cable
SNAP2410	2.4 GHz	460.8 kbps	100 mW	Reverse TNC	Serial-to-Ethernet Access Point for WIT2410 and Series 10-based devices, Internal Radio
SNAP2410D	2.4 GHz	460.8 kbps	100 mW	Reverse TNC	DIN-Rail Mount, Serial-to-Ethernet Access Point for WIT2410 and Series 10-based devices, Internal Radio
SNAP2410DX	2.4 GHz	460.8 kbps	100 mW	Reverse TNC	DIN-Rail Mount Serial-to-Ethernet Access Point for WIT2410 and Series 10-based devices, Remote Radio with up to 500 foot cable
SNAP2410X	2.4 GHz	460.8 kbps	100 mW	Reverse TNC	Serial-to-Ethernet Access Point for WIT2410 and Series 10-based devices, Remote Radio with up to 500 foot cable
SNAP2411*	2.4 GHz	1.23 Mbps	100 mW	Reverse TNC	Serial-to-Ethernet Access Point for WIT2411 and Series 11-based devices, Internal Radio
SNAP2411D*	2.4 GHz	1.23 Mbps	100 mW	Reverse TNC	DIN-Rail Mount, Serial-to-Ethernet Access Point for WIT2411 and Series 11-based devices, Internal Radio
SNAP2411DX*	2.4 GHz	1.23 Mbps	100 mW	Reverse TNC	DIN-Rail Mount Serial-to-Ethernet Access Point for WIT2411 and Series 11-based devices, Remote Radio with up to 500 foot cable
SNAP2411X*	2.4 GHz	1.23 Mbps	100 mW	Reverse TNC	Serial-to-Ethernet Access Point for WIT2411 and Series 11-based devices, Remote Radio with up to 500 foot cable



SNAP Serial-to-Ethernet Access Points
(this page - see above) ↑

SEM Ethernet Bridges
(page 16) →

900 MHz* SNAP910* Used with WIT910-based devices	2.4 GHz SNAP2410 Used with WIT2410-based devices	2.4 GHz SNAP2411* Used with WIT2411-based devices
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900 MHz* 172.8 kb/s 1 W	2.4 GHz 460.8 kb/s 100 mW	2.4 GHz 1.23* Mb/s 100 mW
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*Boxed products based on WIT910-, WIT934- and WIT2411-series modules (1.23 Mb/s data rate) are not RoHS compliant.



SEM Wireless Spread Spectrum Ethernet Bridges (900 MHz – 2.4 GHz). RFM SEM series wireless Ethernet bridges provide high-speed wireless connectivity between distant Ethernet nodes where cable runs are impractical. All SEMs feature the company's patented FHSS technology for robust RF performance. Typical SEM uses include Ethernet bridging, SCADA networking, PLC networking, and other industrial automation or data collection applications. SEMs can function as a high speed bridge between two 10/100 Base-T Ethernet networks; they can also provide wireless connectivity between an Ethernet network and multiple remote Ethernet network segments. Highly complex networks and extended coverage can be achieved by combining point-to-point or point-to-multipoint configurations with RFM repeaters.

The RFM SEM Ethernet Bridges are Class I, Div. 2 certified in both the 900 MHz and 2.4 GHz bands. SEM bridges include a standard 10/100 Base-T Ethernet port, antenna, and power connectors. Five LEDs indicate power status and data activity. Class I Div 1 versions are available by special order.

The SEM "D" model Ethernet radio is a DIN rail mount version, and the SEM "X" models use a remote, weatherproof, wireless Ethernet radio housed in a NEMA 4X / I.P. 66 enclosure.

900 MHz SEM Ethernet Bridges*. RFM SEM wireless 900 MHz Ethernet bridge is a high speed/long range wireless networking product that provides 172.8 kb/s over-the-air data rate and over 20 miles demonstrated communications range with 3 dB omni-directional antenna. Uses for a SEM wireless 900 MHz Ethernet bridge include SCADA networks, PLC networking, and other industrial automation or data collection applications.

2.4 GHz SEM Ethernet Bridges. The SEM2410 and SEM2411 link Ethernet nodes in an industrial communication hierarchy up to 5 miles apart (with gain antennas). The over-the-air data rate for the SEM2410 is 460 Kb/s and 1.23 Mb/s for the SEM2411. RFM patented FHSS assures reliable performance even in high-multi-path and noisy RF environments.

Ethernet Radio Security. RFM SEM wireless Ethernet bridges provide multiple levels of security. First, their communications use RFM proprietary frequency hopping spread spectrum (FHSS) protocol, which is understood only by other SEM Ethernet radio devices configured to use the same hopping pattern (out of 64 possibilities). To ensure that the SEM master communicates only with its intended SEM slaves, the SEM master can be configured to define the precise number of slaves (up to 62) that can register on the network, and can also be configured to authenticate an ID and password from each SEM slave prior to granting registration. Finally, SEM Ethernet radios include password protection for both console port and Telnet sessions, and can be configured to allow the opening of Telnet sessions only from specified IP addresses.

SEM: Spread Spectrum Wireless Ethernet Bridge

RFM Part	Frequency Band	RF Data Rate	Transmit Power	RF Conn/ Antenna	Description
SEM910*	900 MHz	172.8 kbps	1 W	Reverse TNC	10/100Base-T Ethernet Bridge, Internal Radio
SEM910D*	900 MHz	172.8 kbps	1 W	Reverse TNC	10/100Base-T DIN-Rail mount Ethernet bridge, Internal Radio
SEM910DX*	900 MHz	172.8 kbps	1 W	Reverse TNC	10/100Base-T DIN-Rail mount Ethernet bridge, Remote Radio with up to 500 foot cable
SEM910-HL*	900 MHz	172.8 kbps	1 W	Reverse TNC	10/100Base-T Ethernet Bridge, Internal Radio, Explosion-proof enclosure
SEM910X*	900 MHz	172.8 kbps	1 W	Reverse TNC	10/100Base-T Ethernet bridge, Remote Radio with up to 500 foot cable
SEM2410	2.4 GHz	460.8 kbps	100 mW	Reverse TNC	10/100Base-T Ethernet Bridge, Internal Radio
SEM2410D	2.4 GHz	460.8 kbps	100 mW	Reverse TNC	10/100Base-T DIN-Rail mount Ethernet bridge, Internal Radio
SEM2410DX	2.4 GHz	460.8 kbps	100 mW	Reverse TNC	10/100Base-T DIN-Rail mount Ethernet bridge, Remote Radio with up to 500 foot cable
SEM2410HL	2.4 GHz	460.8 kbps	100 mW	Reverse TNC	10/100Base-T Ethernet Bridge, Internal Radio, Explosion-proof enclosure
SEM2410X	2.4 GHz	460.8 kbps	100 mW	Reverse TNC	10/100Base-T Ethernet bridge, Remote Radio with up to 500 foot cable
SEM2411*	2.4 GHz	1.23 Mbps	100 mW	Reverse TNC	10/100Base-T Ethernet Bridge, Internal Radio
SEM2411D*	2.4 GHz	1.23 Mbps	100 mW	Reverse TNC	10/100Base-T DIN-Rail mount Ethernet bridge, Internal Radio
SEM2411DX*	2.4 GHz	1.23 Mbps	100 mW	Reverse TNC	10/100Base-T DIN-Rail mount Ethernet bridge, Remote Radio with up to 500 foot cable
SEM2411HL*	2.4 GHz	1.23 Mbps	100 mW	Reverse TNC	10/100Base-T Ethernet Bridge, Internal Radio, Explosion-proof enclosure
SEM2411LC*	2.4 GHz	1.23 Mbps	100 mW	Internal 12 dBi Patch	10/100Base-T Ethernet Bridge Client, Remote Radio with 50 foot cable
SEM2411X*	2.4 GHz	1.23 Mbps	100 mW	Reverse TNC	10/100Base-T Ethernet bridge, Remote Radio with up to 500 foot cable

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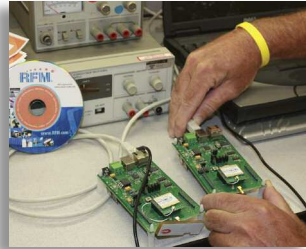
ACCELERATES INTEGRATION PROCESS

- Complete out-of-the-box solution with the all components need to put a system "on the air"
- Utility Program includes multi-tab dialog boxes for rapid and straight-forward parameter configuration
- Register your developer kit to receive free technical support

RFM RF Modules Developer Kits include the technology hardware and software to support the development and integration of RFM RF Modules into any machine-to-machine (M2M) application.

SIMPLE TO SET-UP AND CONFIGURE

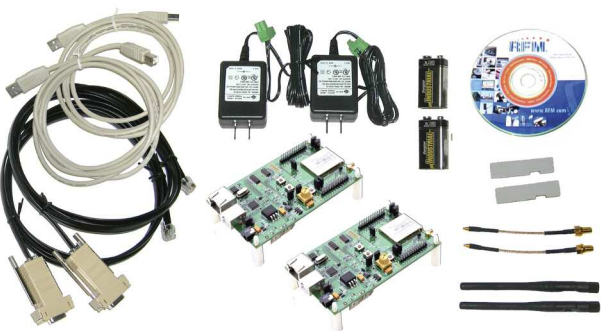
- Includes "Quick Start Guide" to rapidly put a system on the air in less than an hour
- Utility Program is Windows-based and very intuitive to use
- Development boards included in each kit feature power supplies, interfaces and direct connections to quickly connect to PC



WSN802GDK (shown) \$139	(1) WSN802G module, (1) WSN802G development board, Serial and USB Cables, 9 V Battery and Wall-mount Power Supply, Antenna, Program CD with software and manuals, Quick Start Guide
WSN802GDK-A \$199	(1) WSN802G module, (1) WSN802G development board, Pre-configured Wireless Router, Serial and USB Cables, 9 V Battery and Wall-mount Power Supply, Antenna, Program CD with software and manuals, Quick Start Guide



LPR2430DK LPR2430ERDK (shown) \$299	(4) LPR2430 or (4) LPR2430ER modules (2) installed on developer boards labeled Base and Remote), (2) patch antennas, (2) dipole antennas with MMCX to SMA-R adapter cables, (2) 9 V wall-plug power suppliers (120/240 Vac plus (2) 9 V batteries), (2) RS-232 cables, (2) USB Serial cables, Documentation, Software CD
LPR2430ADK LPR2430ERADK \$299	(4) LPR2430A or LPR2430ERA modules (2) installed on developer boards labeled Base and Remote), (2) 9 V wall-plug power suppliers (120/240 Vac plus (2) 9 V batteries), (2) RS-232 cables, (2) USB Serial cables, Documentation, Software CD



ZMN2405DK ZMN2405HPDK (shown) \$299	(2) ZMN2430A or (2) ZMN24030HPA evaluation boards, (2) AC power adapters and cords, (2) patch antennas, (2) USB cables, (2) Serial cables, (2) RF cables, (2) omni antennas, (2) 9 V batteries, Software CD
ZMN2430ADK ZMN2430HPADK \$299	(2) ZMN2430A or (2) ZMN2430HPA evaluation boards, (2) AC power adapters and cords, (2) patch antennas, (2) USB cables, (2) Serial cables, (2) RF cables, (2) omni antennas, (2) 9 V batteries, Software CD
ZMN24HPDK-B \$199	(1) serial / sensor evaluation board configured as a Router, (1) ZN-241Z serial radio modem built around the ZigBee ZMN2405HP module configured as a Coordinator, (1) patch antenna, (1) USB cable, (2) Serial cables, (1) RF cable, (2) omni antennas, (1) 9 V battery, Software CD

RF MODULES DEVELOPER KITS

Manufacturer's Suggested Retail Price in US Dollars



XDM2140DK
\$2,995

(4) XDM2140 modules, (4) XDM2140 development boards, (1) XG2400E gateway, (1) Ethernet and (5) Serial cables, 9 V batteries and wall-mount power supplies, Antennas and RF cables, Program CD with software and manuals, Quick Start Guide



DM1810-434-DK
\$495

Developer Kit containing (1) DM1810-434 Base, (3) Routers, 3 Nodes

DM1810-434-QK
\$199

Quick Kit containing (1) DM1810-434 Base, (1) Router, 2 Nodes

DM1810-916-DK
\$495

Developer Kit containing (1) DM1810-916 Base, (3) Routers, 3 Node

DM1810-916-QK
\$199

Quick Kit containing (1) DM1810-916Base, (1) Router, (2) Nodes



DNT900DK (shown)
\$359

(2) DNT900P radios, (2) DNT900 development boards, (2) 2 dBi dipole antennas, (2) 120/240 VAC 9 V wall-plug power supplies, (2) 9 V batteries, (2) RJ-45/DB-9F cable assemblies, (1) RJ-11/DB-9F cable assembly, (2) A/B USB cables, DNT900DK documentation and software CD

DNT2400DK
\$359

(2) DNT2400P radios, (2) DNT2400 development boards, (2) 2 dBi dipole antennas, (2) 120/240 VAC 9 V wall-plug power supplies, (2) 9 V batteries, (2) RJ-45/DB-9F cable assemblies, (1) RJ-11/DB-9F cable assembly, (2) A/B USB cables, DNT2400DK documentation and software CD



WIT910DK
\$795

(2) HN-591 serial modems with flow control indicators, RS-232 interface, battery pack, power supply, dipole antenna, (2) WIT910M modules, RF cables, antennas and programming software

WIT2410DK
\$795

(2) HN-510 serial modems with flow control indicators, RS-232 interface, battery pack, power supply, dipole antenna, (2) WIT2410M modules, RF cables, antennas and programming software

WIT2411DK
\$995

(2) HN-211 serial modems with flow control indicators, RS-232 and USB interfaces, battery, dipole antenna, (2) WIT2411 modules, and programming software

WIT2450DK
\$495

(2) HN-550 serial modems with flow control indicators, RS-232 interface, battery pack, power supply, dipole antenna, (2) WIT2450 modules, RF cables, antennas and programming software