

# RN-XVee Wi-Fi Module

Provides drop in, certified Wi-Fi connectivity for existing systems currently using 802.15.4 modules.

PRODUCT BRIEF



## RN-XVee

The RN-XVee module by Roving Networks provides drop-in, certified Wi-Fi™ connectivity for existing systems using 802.15.4 modules. The pin compatible footprint and simple ASCII configuration interface allows designers to quickly have the RN-XVee module up and running in existing 802.15.4 based products.

The RN-XVee module supports infrastructure networking for worldwide internet access directly by every node and AdHoc connectivity for fully connected point to point networks, unlike many 802.15.4 implementations that need extensive, custom network application profiles and additional bridging products. The RN-XVee supports industrial temperature ranges, making it ideal for applications such as sensor networks, industrial or commercial controllers, utility meters and M2M applications.

The RN-XVee module is built upon Roving's RN-171 ultra-low power 802.11 b/g technology, which boasts a complete onboard TCP/IP stack with a simple UART or SPI slave HW interface. The stack offers network services including IPv4 addressing with full WEP/WPA/WPA2 security, FTP/HTTP client, UDP, TCP, HTTP, Telnet, DNS, and DHCP and Wi-Fi protected setup (WPS) amongst others.

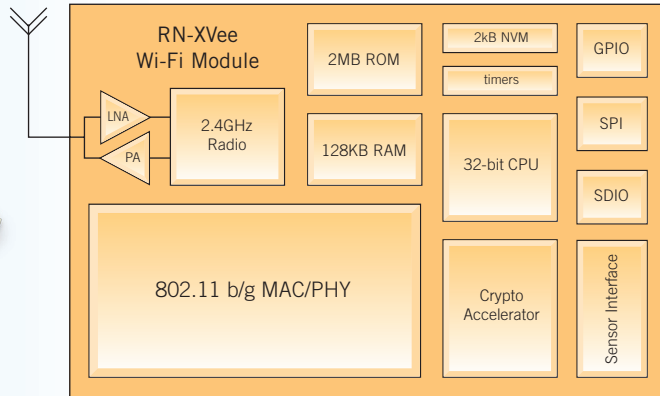
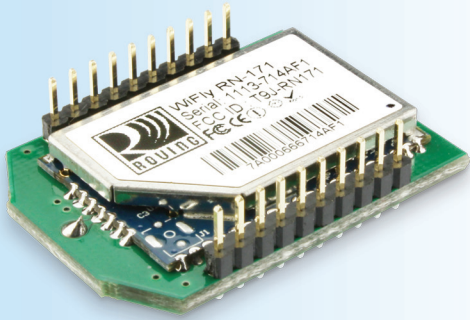
In sleep mode the module consumes as little as 4µA but can wake, associate, and send a full network packet in less than 100ms. In the connected state the module consumes only 35mA and its configurable output power allows for an optimized TX power consumption. The RN-XVee pins can be configured for digital GPIO or analog inputs. The analog inputs provide 14-bit A to D converter resolution while the GPIO can be configured to signal a host microcontroller to simplify the interface between the Wi-Fi module and host controller and further reduce system wake times.

The module complete with onboard stack is available in low quantities for only \$34.95 USD and is offered with step pricing for volume orders.

## FEATURES

- Direct internet connectivity
- Full 802.11 b/g data rate support
- Onboard TCP/IP stack
- Infrastructure and AdHoc modes
- Ultra low power operation
- Industrial temperature range
- Multiple antenna options
- FCC, CE, IC, and Wi-Fi certifications

## BLOCK DIAGRAM



## SPECIFICATIONS

**Performance**

RF Data Rates	Up to 54Mbps
Range (LoS)	~200m
Transmit Power (Tx)	-2 to +12dBm (programmable)
Sensitivity (Rx)	-83dBm

**Features**

Serial Data Interface	UART (up to 464Kbps), SPI (up to 1.5Mbps)
Configuration	API, local or remote (over air)
Frequency	2.4GHz
ADC	(8) 14-bit inputs
Digital I/O	3
Antenna options	Wire, SMA*, UFL*, chip*

\*Custom configuration with extended lead times.

**Networking**

Security & Encryption	WEP, WPA-TKIP, WPA2-AES
Packet Delivery	UDP, TCP, HTTP/FTP client
Network Stack	Onboard or Raw for external

**Power**

Supply Voltage	3.3v regulated ( $\pm 10\%$ )
Tx Current	120mA @ 0dBm
Rx Current	35mA (while connected)
Sleep Current	4 $\mu$ A

**Other**

Dimensions (max)	22mm x 32.94mm (0.960" x 1.297")
Wi-Fi Protected Services (WPS)	Yes
Certifications	FCC, CE, IC, Wi-Fi Alliance