

RNXV Bluetooth®/Wi-Fi® Modules

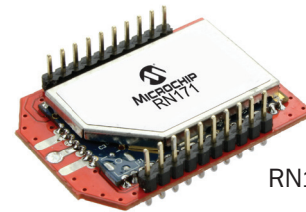
Provides Drop-In, Certified Bluetooth or Wi-Fi Connectivity for Existing Systems Currently Designed for 802.15.4 Modules

Summary

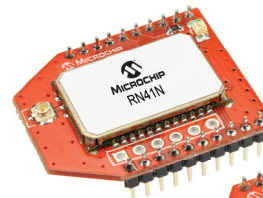
The RNXV modules by Microchip provide drop-in, certified Bluetooth or Wi-Fi connectivity for existing systems using 802.15.4 modules. Based on the popular 2 × 10 (2 mm) footprint often found in embedded applications, the RNXV offers a complete wireless solution for customers looking to migrate to a standard protocol without modifying existing hardware.

The RN171XV Wi-Fi module is built upon Microchip's RN171 ultra-low power 802.11 b/g technology which boasts a complete onboard TCP/IP stack with a simple UART interface. The onboard stack offers network services including full WEP/WPA/WPA2 security, FTP/HTTP client, UDP, TCP, HTTP, Telnet, DNS, DHCP, and Wi-Fi protected setup (WPS) amongst others. It supports infrastructure networking, Ad hoc connectivity, and SoftAP.

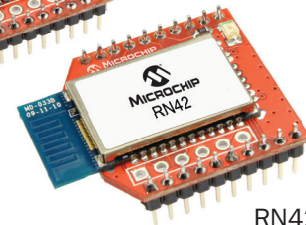
The RN41XV and RN42XV modules are built upon Microchip's RN41 and RN42 low power Bluetooth modules. The modules have an embedded Bluetooth stack and support multiple profiles including the commonly used SPP and HID profiles. The RN42 and RN41 are functionally compatible with high-performance, onboard antennas and support for Bluetooth EDR.



RN171XVW



RN41XVU

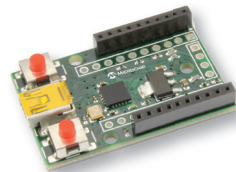


RN42XVP

Development Tools

RNXV Evaluation Kit with UART to USB Connector and Module Socket (RN-XV-EK1)

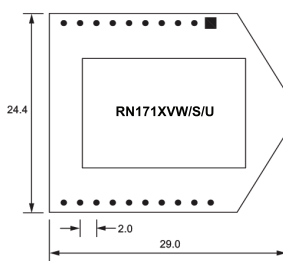
Microchip offers several development tools for both Bluetooth and Wi-Fi RNXV modules such as the RN-XV-EK1, an evaluation kit that connects to a PC via a standard USB cable. It has 2 pushbutton switches and connectors for the RNXV.



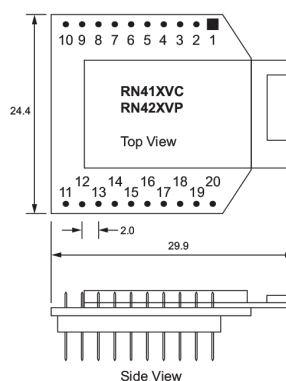
Ordering Information

| Module | Protocol | Antenna |
|---------------|------------|----------------|
| RN171XVW-I/RM | Wi-Fi® | Wire |
| RN171XVS-I/RM | Wi-Fi | SMA connector |
| RN171XVU-I/RM | Wi-Fi | U.FL connector |
| RN41XVC-I/RM | Bluetooth® | Chip |
| RN41XVU-I/RM | Bluetooth | U.FL connector |
| RN42XVP-I/RM | Bluetooth | PCB trace |
| RN42XVU-I/RM | Bluetooth | U.FL connector |

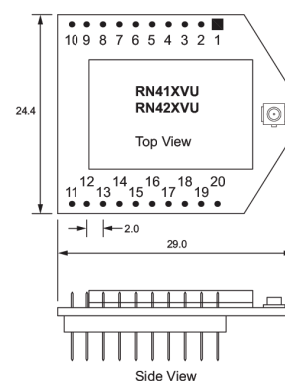
Pin Diagram



Dimensions in mm



Side View



Side View



MICROCHIP

RN171XV (Wi-Fi)

- Direct internet connectivity
- Full 802.11 b/g data rate support
- Onboard TCP/IP stack
- Infrastructure, Ad hoc, and AP modes
- Low power operation:
 - 4 μ A sleep, 40 mA active Rx, 180 mA Tx (at +12 dBm)
- Certifications: FCC, IC, CE, Wi-Fi
- Firmware over-air upgradeable
- Webserver configurator

| Specifications | |
|-----------------------------|---|
| Wi-Fi® Data Rates | Up to 54 Mbps |
| Frequency Band | 2.412–2.484 GHz |
| Modulation | 802.11b: DSSS (CCK-11, CCK-5.5, DQPSK-2, DBPSK-1) 802.11g: OFDM |
| Wi-Fi Security | WEP, WPA, WPA2 |
| Protocols | DHCP, DNS, ARP, ICMP, FTP Client, HTTP Client, TCP, UDP |
| Supply Voltage | 3.3V \pm 10% |
| Output Power | 0 dBm to +12 dBm |
| Power Consumption | 4 μ A sleep, 40 mA active Tx, 180 mA Tx (at +12 dBm) |
| Operating Temperature Range | –40°C to +85°C |
| Range | Up to 200m |
| Interface | UART, Wi-Fi |
| Antenna Options | Wire antenna, SMA connector, U.FI connector |
| Certifications | FCC, IC, CE, Wi-Fi Alliance |

RN41XV/RN42XV (Bluetooth)

- Fully certified Bluetooth module, supports version 2.1 + Enhanced Data Rate (EDR)
- Backwards-compatible with Bluetooth version 2.0, 1.2, and 1.1
- Low power:
 - RN41XV: 30 mA connected, < 10 mA sniff mode
 - RN42XV: 26 μ A sleep, 3 mA connected, 30 mA transmit
- UART (SPP) data connection interface
- Certifications: FCC, IC, CE, Bluetooth SIG

| Specifications | |
|-----------------------------|---|
| Bluetooth® Versions | 2.1 + EDR, 2.0, 1.2, 1.1 |
| Data Rate | With onboard stack: 300 Kbps |
| Frequency Band | 2.412–2.484 GHz |
| Modulation | FHSS/GFSK modulation, 79 channels at 1 MHz intervals |
| Profiles | SPP, DUN, HID, iAP, HCI, RFCOM, L2CAP, SDP |
| Supply Voltage | 3.3V \pm 10% |
| Output Power | RN41: +15 dBm; RN42: +4 dBm |
| Power Consumption | Standby/Idle 25 mA : Connected (normal mode) 30 mA Connected (low power Sniff) 8 mA Standby/Idle (Deep sleep enabled) 26 μ A (250 μ A for RN41) |
| Operating Temperature Range | –40°C to +85°C |
| Interface | UART, USB, Bluetooth |
| Antenna Options | RN41: Chip antenna, U.FL connector RN42: PCB trace, U.FL connector |
| Certifications | FCC, IC, CE, Bluetooth SIG |



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