



Discover the Noni, a state-of-the-art WiFi7 radio module in a compact M.2 A+E form factor. Powered by Qualcomm's QCA9274/QCA6274 chipsets, Noni operates on the IEEE 802.11be standard with speeds over 11 Gbps in 4x4 MIMO or split 2x2 + 2x2 configurations. It supports up to 320 MHz channel sizes and advanced 4K QAM modulation, enhancing efficiency and connection quality.

Noni features Multi-Link for simultaneous communication on different frequencies, improving reliability and signal strength. Its adaptive interference puncturing maintains performance in challenging environments. With dual-band capabilities in both 5GHz and 6GHz frequencies, Noni is versatile for present and future wireless needs. Embrace a new level of connectivity with Noni's WiFi7 features.

Features

- 4x4 320MHz 802.11be/ax/ac/n/a Wi-Fi 7 radio module/card;
- Wide-band: 5 GHz, 6 GHz full band support;
- PCI Express 3.0 dual-lane interface;
- Additional interfaces: GPIOs, JTAG;
- Noni module available as mini-PCIe, M.2 A+E, SOM;
- Dual-synthesizer WLAN radio up to 320MHz bandwidth support;
- Supports 5/10 MHz in 4.9 GHz (Public Safety band);
- Supports 20/40/80/160 or 320-80 MHz in 5 GHz;
- Supports 20/40/80/160,320-80 or 320 MHz in 6-7.125 GHz;
- Supports up to 1024 QAM (4SS) and 4096 QAM(2SS);
- Data rates of up to 11.530 Mbps in 802.11be/ax 320 MHz channels 6GHz mode;
- Data rates of up to 8647.2 Mbps in 802.11be/ax/ac/n/a 240 MHz channels 5GHz mode;
- DL/UL MU-MIMO, up to 4 users per PPDU;
- DL/UL MU-OFDMA, up to 37 users per PPDU;
- TxBF, MU-MIMO, MU-OFDMA/TxBF, ML, STBC;
- Dynamic frequency selection (DFS) and Agile DFS; (dynamic switching between 4 and 3+1);
- Spectral Analysis (SA) and Agile Spectral Analysis (aSA); for all bands (dynamic switching between 4 and 3+1);
- PTA (3-wire) and MCI (2-wire) for advanced coexistence;
- 802.11 be/ac/ax explicit transmit beamforming (TxBF);
- 802.11 be/ac/ax beamformee for STA mode;
- 802.11e-compatible bursting;
- Supports monitor mode;
- Supports:
 - IEEE 802.11a/b/g/n/ac/ax/be,
 - IEEE 802.11d/e/h/i/j/k/r/u/v/w,
 - IEEE 802.11ba;
- AES-CCMP/GCMP at 128/256 bits;
- WEP, TKIP hardware encryption;
- * WAPI 1.0 and WAPI 2.0 hardware encryption
- WPA/WPA2-Personal/WPA2-Enterprise and WPA3 Personal;
- FIPS ECB.

Noni options

	Noni56M2-4x4-B	Noni56M2	Noni56M2-4x4-I
Chipset	QCN-6274	QCN-9274	QCN-9274
Form factor	M.2 A+E key	M.2 A+E key	M.2 A+E key
Frequency	5.1 - 7.125 GHz	4.9 - 7.125 GHz	4.9 - 7.125 GHz
MiMo	MU 4x4 or 2x2 + 2x2	MU 4x4 or 2x2 + 2x2	MU 4x4 or 2x2 + 2x2
Bandwidth	20 - 320 MHz	20 - 320 MHz	20 - 320 MHz
Modulation	4096 (4K) QAM	4096 (4K) QAM	4096 (4K) QAM
Multiplexing	16 user DL/UL OFDMA	37 user DL/UL OFDMA	37 user DL/UL OFDMA
Datarate	11 Gbps+	11 Gbps+	11 Gbps+
No. of clients	256	512	512
Multi link operation (MLO)	Yes	Yes	Yes
Interference puncturing	Static	Static and dynamic	Static and dynamic
Advanced software features	No*	Provisioned Multi Link	Provisioned Multi Link
	No*	Dense deployment	Dense deployment
	No*	Location and RF sensing	Location and RF sensing

* Optional binary package can be licensed from Qualcomm

Specifications

Platform	
Chipset code	QCN9274/QCN6274
Interface Code	PCIe 3.0 dual lane
Linux Support	QSDK/ath12k (no upstream support)
Linux mainline kernel	From 6.1.x upwards
Windows Support	N/A
Wi-Fi	
Standard	IEEE 802.11a/b/g/n/ac/ax/be
Band	4920-7125MHz
MIMO	4x4
Monitor Mode	yes
Power (Per Chain)	up to 22 dBm
Receiver Sensitivity	-94...-92dB (4920-7125MHz)
Antenna Connector	U.FL
Module Spec	
Power Supply	3.3V
Power Consumption	preliminary 8W
Temperature Range	0°C to 65°C or -40°C to 85°C
Form factor	Mini PCIe / M.2 / SOM
Certifications	CE(RED)/ FCC/ IC**

* Certification is in progress

Block diagram

