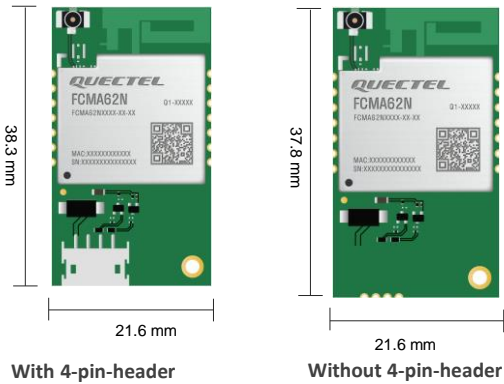




# Quectel FCMA62N

## Wi-Fi 6 & BLE 5.3 Module Compact LCC Package



FCMA62N is a cutting-edge MCU Wi-Fi and Bluetooth module launched by Quectel. It boasts a high-performance processor (ARM Cortex-M33) with a frequency of up to 260 MHz and supports IEEE 802.11a/b/g/n/ac/ax protocol and BLE 5.3. The module features built-in 1.2 MB SRAM and 8 MB flash, ensuring efficient performance. In addition, it complies with WPA-PSK, WPA2-PSK, and WPA3-SAE security standards, providing an AES-128 encryption algorithm.

FCMA62N is in a LCC form factor with an ultra-compact package size of 38.3 mm × 21.6 mm × 4.8 mm or 37.8 mm × 21.6 mm × 3.65 mm , which optimizes the size and cost for end-products and is compatible with diverse designs.

FCMA62N supports UART, SWD and GPIO interfaces by default and supports SPI, I2C, I2S and PWM interfaces in QuecOpen® solution and many low power consumption modes and keep-alive mechanism, which provide flexibility and versatility for a range of applications, especially in smart homes and industrial IoT scenarios.

FCMA62N supports QuecOpen® solution and standard AT commands, with a compact protocol, and can realize efficient product development for customers.



### Key Features

- ✓ Wi-Fi 6 module, 2.4 GHz & 5 GHz Wi-Fi bands, 1 × 1 antenna
- ✓ Bluetooth Low Energy (BLE 5.3)
- ✓ Large memory, 1.2 MB SRAM and 8 MB Flash
- ✓ Supports up to 12 GPIOs for SPI, I2C, I2S and PWM interfaces in QuecOpen® solution
- ✓ 1st generation RF coaxial connector, PCB antenna (optional)



IEEE  
802.11a/b/g/n/ac/ax



BLE 5.3



Large Memory



Compact Size



LCC Form Factor



Multiple  
Interfaces



Operating Temperature  
Range: -40 °C to +85 °C

Wi-Fi 6 & BLE 5.3		FCMA62N
WLAN Protocol		IEEE 802.11a/b/g/n/ac/ax
Wi-Fi Frequency Band		2.4 GHz/ 5 GHz
Wi-Fi Modulation Mode		DSSS/ OFDM/ DBPSK/ DQPSK/ CCK/ BPSK/ QPSK/ 16QAM/ 64QAM/ 256QAM
Wi-Fi Operating Mode		AP/ STA
Bluetooth Protocol		BLE 5.3
Encryption Mode		WPA-PSK/ WPA2-PSK/ WPA3-SAE/ AES-128
Internet Protocol		IPv6
Kernel		ARM Cortex-M33 processor (up to 260 MHz)
SRAM		1.2 MB
Flash		8 MB ①
Dimensions		38.3 mm × 21.6 mm × 4.8 mm (with 4-pin-header) 37.8 mm × 21.6 mm × 3.65 mm (without 4-pin-header)
Weight		Approx. 3.6 g/ 3.3 g
Temperature Range		
Operating Temperature		-40 °C to +85 °C
Storage Temperature		-45 °C to +95 °C
Certification		
Regulatory		Europe: CE
		America: FCC
		Canada: IC
		China: SRRC
Other		Australia/New Zealand: RCM
		Bluetooth
Interfaces		
Antenna Interface		× 1 (1 <sup>st</sup> generation RF coaxial connector, PCB antenna) (Optional)
Other Interfaces ②		UART/ SPI/ I2C/ I2S/ PWM/ GPIO/ SWD
Electrical Features		
Power Supply Voltage		4.5–5.5 V, Typ. 5.0 V
Wi-Fi Performance		

		Receiver Sensitivity	Transmit Power
2.4 GHz	802.11b/1 Mbps	-94 dBm ±2 dB	19 dBm ±2 dB
	802.11b/11 Mbps	-87 dBm ±2 dB	19 dBm ±2 dB
	802.11g/6 Mbps	-89 dBm ±2 dB	18 dBm ±2 dB
	802.11g/54 Mbps	-73 dBm ±2 dB	17 dBm ±2 dB
	802.11n/HT20 MCS 0	-89 dBm ±2 dB	18 dBm ±2 dB
	802.11n/HT20 MCS 7	-70 dBm ±2 dB	16 dBm ±2 dB
	802.11ax/HE20 MCS 0	-86 dBm ±2 dB	18 dBm ±2 dB
5 GHz	802.11ax/HE20 MCS 9	-60 dBm ±2 dB	15 dBm ±2 dB
	802.11a/6 Mbps	-89 dBm ±2 dB	17 dBm ±2 dB
	802.11a/54 Mbps	-72 dBm ±2 dB	16 dBm ±2 dB
	802.11n/HT20 MCS 0	-89 dBm ±2 dB	18 dBm ±2 dB
	802.11n/HT20 MCS 7	-70 dBm ±2 dB	15 dBm ±2 dB
	802.11ac/VHT20 MCS 0	-89 dBm ±2 dB	18 dBm ±2 dB
	802.11ac/VHT20 MCS 8	-66 dBm ±2 dB	13 dBm ±2 dB
	802.11ax/HE20 MCS 0	-86 dBm ±2 dB	18 dBm ±2 dB
	802.11ax/HE20 MCS 9	-60 dBm ±2 dB	13 dBm ±2 dB

Bluetooth Performance		Receiver Sensitivity	Transmit Power
BLE (1 Mbps)		-94 dBm ±2 dB	8 dBm ±2 dB
BLE (2 Mbps)		-92 dBm ±2 dB	8 dBm ±2 dB
BLE (S = 2)		-96 dBm ±2 dB	8 dBm ±2 dB
BLE (S = 8)		-102 dBm ±2 dB	8 dBm ±2 dB

Ordering Code	4-pin-header	Weight	Dimensions	Antenna	Development Board (Only for Debugging)
FCMA62NACMD-0P-08	Without	Approx. 3.3 g	37.8 mm × 21.6 mm × 3.65 mm	PCB antenna	FCMA62NABTB-0P-08
FCMA62NABMD-0P-08	With	Approx. 3.6 g	38.3 mm × 21.6 mm × 4.8 mm	PCB antenna	
FCMA62NACMD-1X-08	Without	Approx. 3.3 g	37.8 mm × 21.6 mm × 3.65 mm	1 <sup>st</sup> generation RF coaxial connector	FCMA62NABTB-1X-08
FCMA62NABMD-1X-08	With	Approx. 3.6 g	38.3 mm × 21.6 mm × 4.8 mm	1 <sup>st</sup> generation RF coaxial connector	

NOTE:

1. ①: Contact Quectel sales if you need a flash of other specifications.

2. ②: See hardware design manual for details of the module interfaces.

