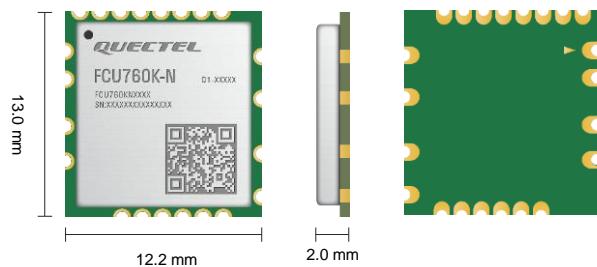


Quectel FCU760K-N

Wi-Fi 6 & Bluetooth 5.4 Module Ultra-compact LCC Package



FCU760K-N is a high-performance Wi-Fi 6 and Bluetooth 5.4 LCC package module launched by Quectel, which can be used for WLAN and Bluetooth connections. The module complies with IEEE 802.11a/b/g/n/ac/ax protocol and supports all rates specified in IEEE 802.11a/b/g/n/ac/ax standard protocols, supporting up to 11ax MCS 11 rate at 40 MHz channel, and the transmission rate can reach 286.8 Mbps. FCU760K-N adopts reliable USB 2.0 interface design and supports WLAN/Bluetooth high speed transmission.

With an ultra-compact size of 13.0 mm × 12.2 mm × 2.0 mm, FCU760K-N optimizes the size and cost for end-products, which fully meets the demands of size-sensitive applications.

Surface-mount Technology (SMT) makes FCU760K-N an ideal solution for durable and rugged designs. The low profile and small size of LCC package ensure that FCU760K-N can be easily embedded into size-constrained applications and provide reliable connectivity with these applications. The advanced package, integrated shielding cover and the laser-engraved label with better heat dissipation and indelible markings allow for large-scale automated manufacturing that has strict requirements on cost and efficiency. Coupled with its compact size and wide operating temperature range, FCU760K-N can meet various needs of commercial and industrial applications.



Key Features

- ✓ 2.4 GHz/5 GHz Wi-Fi bands and Bluetooth 5.4
- ✓ Wi-Fi/Bluetooth antenna 1 × 1
- ✓ USB 2.0 interface that supports higher data transmission rate and enables lower power consumption
- ✓ LCC package, convenient for welding
- ✓ Faster time-to-market: simple design minimizes design-in time and development efforts
- ✓ Wide operating temperature range: -20 °C to +80 °C



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



Bluetooth 5.4



LCC Package



USB 2.0
Interface



Operating Temperature
Range: -20 °C to +80 °C



Ultra-compact
Size

Quectel FCU760K-N

Wi-Fi 6 & Bluetooth 5.4	FCU760K-N
WLAN Protocol	IEEE 802.11a/b/g/n/ac/ax
Wi-Fi Frequency Band	2.4 GHz/5 GHz
Wi-Fi Antenna	1 x 1
Wi-Fi Modulation Mode	DSSS/CCK/BPSK/QPSK/16QAM/64QAM/256QAM/1024QAM
2.4 GHz Channel Bandwidth	20 MHz/40 MHz
5 GHz Channel Bandwidth	20 MHz/40 MHz
Encryption Mode	WEP/WPA/WPA2/WPA3-SAE
Wi-Fi Operating Mode	AP/STA
Bluetooth Protocol	Bluetooth 5.4
Dimensions	13.0 mm x 12.2 mm x 2.0 mm
Weight	Approx. 0.62 g
Temperature Range	
Operating Temperature	-20 °C to +80 °C
Storage Temperature	-25 °C to +90 °C
Physical Rate (Max.)	
802.11b	11 Mbps
802.11a/g	54 Mbps
802.11n	150 Mbps
802.11ac	200 Mbps
802.11ax	286.8 Mbps
Interfaces	
USB 2.0	× 1 (for Wi-Fi/Bluetooth)
PCM	× 1 (for Bluetooth audio)
Wi-Fi/Bluetooth Antenna Interface	× 1 (ANT_WIFI/BT ^①)
Bluetooth Antenna Interface	× 1 (ANT_BT) (Optional)
Electrical Features	
Power Supply Voltage	VBAT: 3.0–3.6 V, Typ. 3.3 V
I/O Power Supply Voltage	VIO: 3.0–3.6 V, Typ. 3.3 V
Power Consumption	Max. current at Tx mode: 310.6 mA
Certifications	
Regulatory	Europe: CE America: FCC Canada: IC China: SRRC Australia/New Zealand: RCM

NOTE:

①: In single antenna solution, ANT_WIFI/BT serves as Wi-Fi and Bluetooth shared antenna and ANT_BT is kept unconnected. In two-antenna solution, exclusive Bluetooth antenna (ANT_BT) is supported and ANT_WIFI/BT only serves as Wi-Fi antenna.

Quectel FCU760K-N

Wi-Fi 6 & Bluetooth 5.4		FCU760K-N	
Wi-Fi Performance		Transmit Power (Typ.)	Receiver Sensitivity (Typ.)
2.4 GHz	802.11b/1 Mbps	18 dBm	-95 dBm
	802.11b/11 Mbps	18 dBm	-88 dBm
	802.11g/6 Mbps	17 dBm	-93 dBm
	802.11g/54 Mbps	15 dBm	-77 dBm
	802.11n/HT20 MCS 0	17 dBm	-93 dBm
	802.11n/HT20 MCS 7	15 dBm	-75 dBm
	802.11n/HT40 MCS 0	17 dBm	-89 dBm
	802.11n/HT40 MCS 7	15 dBm	-71 dBm
	802.11ax/HE20 MCS 0	17 dBm	-92 dBm
	802.11ax/HE20 MCS 11	13 dBm	-65 dBm
	802.11ax/HE40 MCS 0	17 dBm	-91 dBm
	802.11ax/HE40 MCS 11	13 dBm	-60 dBm
	802.11a/6 Mbps	17 dBm	-94 dBm
5 GHz	802.11a/54 Mbps	15 dBm	-77 dBm
	802.11n/HT20 MCS 0	17 dBm	-93 dBm
	802.11n/HT20 MCS 7	15 dBm	-75 dBm
	802.11n/HT40 MCS 0	17 dBm	-91 dBm
	802.11n/HT40 MCS 7	15 dBm	-72 dBm
	802.11ac/VHT20 MCS 0	17 dBm	-94 dBm
	802.11ac/VHT20 MCS 8	14 dBm	-71 dBm
	802.11ac/VHT40 MCS 0	17 dBm	-91 dBm
	802.11ac/VHT40 MCS 9	13 dBm	-66 dBm
	802.11ax/HE20 MCS 0	16 dBm	-94 dBm
	802.11ax/HE20 MCS 11	12 dBm	-66 dBm
	802.11ax/HE40 MCS 0	16 dBm	-91 dBm
	802.11ax/HE40 MCS 11	12 dBm	-62 dBm
Bluetooth Performance		Transmit Power (Typ.)	Receiver Sensitivity (Typ.)
BR		4 dBm	-89 dBm
EDR ($\pi/4$ -DQPSK)		4 dBm	-89 dBm
EDR (8-DPSK)		4 dBm	-88 dBm
BLE (1 Mbps)		4 dBm	-90 dBm
BLE (2 Mbps)		4 dBm	-90 dBm

Model	Ordering Code	Antenna	Dimensions	Shielding Cover	Development Board (Only for Debugging)
FCU760K-N	FCU760KNAAMD	Single antenna solution: Wi-Fi and Bluetooth share one antenna	13.0 mm × 12.2 mm × 2.0 mm	With shielding cover	FCU760KNAATA
FCU760K-N	FCU760KNBAAMD	Two-antenna solution: Wi-Fi antenna + exclusive Bluetooth antenna	13.0 mm × 12.2 mm × 2.0 mm	With shielding cover	FCU760KNBAATA