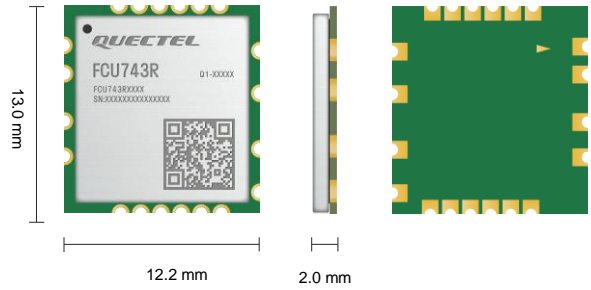


Quectel FCU743R

Wi-Fi 4 & Bluetooth 5.2 Module Ultra-compact LCC Package



FCU743R is a high-performance Wi-Fi 4 and Bluetooth 5.2 module launched by Quectel, which supports 2.4 GHz and 5 GHz frequencies. Thus, it can be used for WLAN connection. With an ultra-compact size of 13.0 mm × 12.2 mm × 2.0 mm, the module optimizes the size and cost for end-products, which fully meets the demands of size-sensitive applications.

Designed with a reliable USB 2.0 interface, the module can ensure high sensitivity in interference environments, and the module can realize high-speed, low-power WLAN wireless transmission with a maximum data transmission rate of up to 150 Mbps.

Surface-mount technology (SMT) makes FCU743R an ideal solution for durable and rugged designs. The low profile and small size of LCC package ensure that it can be easily embedded into size-constrained applications and provide reliable connectivity with these applications. The advanced package and the laser-engraved label with better heat dissipation and indelible markings allow for large-scale automated manufacturing which has strict requirements on cost and efficiency.

Key Features

- ✓ 2.4 GHz/5 GHz Wi-Fi bands and Bluetooth 5.2
- ✓ USB 2.0 interface which features higher data transmission rate and lower power consumption
- ✓ Faster time-to-market: simple design minimizes design-in time and development efforts
- ✓ Wide operating temperature range: -20 °C to +70 °C



LCC Package



Bluetooth 5.2



IEEE 802.11
a/b/g/n



USB 2.0
Interface



Operating Temperature
Range: -20 °C to +70 °C



Ultra-compact
Size

Quectel FCU743R

Wi-Fi 4 & Bluetooth 5.2

FCU743R

WLAN Protocol	IEEE 802.11a/b/g/n
Wi-Fi Frequency Band	2.4 GHz/ 5 GHz
Wi-Fi Antenna	1 × 1
Wi-Fi Modulation Mode	CCK/ DBPSK/ DQPSK/ BPSK/ QPSK/ 16QAM/ 64QAM
2.4 GHz Channel Bandwidth	20 MHz/ 40 MHz
5 GHz Channel Bandwidth	20 MHz/ 40 MHz
Encryption Mode	WPA3
Wi-Fi Operating Mode	AP/ STA
Bluetooth Protocol	Bluetooth 5.2
Dimension	13.0 mm × 12.2 mm × 2.0 mm
Weight	Approx. 0.56 g
Temperature Range	
Operating Temperature	-20 °C to +70 °C
Physical Rate (Max.)	
802.11a	54 Mbps
802.11b	11 Mbps
802.11g	54 Mbps
802.11n	150 Mbps
Interfaces	
USB 2.0	× 1 (For Wi-Fi/Bluetooth)
Wi-Fi/Bluetooth Antenna	× 1
Electrical Features	
Power Supply Voltage	VBAT: 3.0–3.6 V, typ. 3.3 V
Power Consumption	Max. current at Tx mode: 410.2 mA @ 3.3 V
Certification	
Regulatory	Europe: CE America: FCC China: SRRC Australia/New Zealand: RCM Canada: IC Japan: TELEC*/ JATE* Korea: KC*

NOTE:

*: Planning.

Quectel FCU743R

Wi-Fi 4 & Bluetooth 5.2

FCU743R

Wi-Fi Performance

		Receiver Sensitivity	Transmit Power
2.4 GHz	802.11b/1 Mbps	-99.5 dBm ±2 dB	20 dBm ±2 dB
	802.11b/11 Mbps	-91 dBm ±2 dB	20 dBm ±2 dB
	802.11g/6 Mbps	-94.5 dBm ±2 dB	20 dBm ±2 dB
	802.11g/54 Mbps	-77.5 dBm ±2 dB	19 dBm ±2 dB
	802.11n/HT20 MCS 0	-94.5 dBm ±2 dB	20 dBm ±2 dB
	802.11n/HT20 MCS 7	-75.5 dBm ±2 dB	18 dBm ±2 dB
	802.11n/HT40 MCS 0	-91.5 dBm ±2 dB	20 dBm ±2 dB
	802.11n/HT40 MCS 7	-72 dBm ±2 dB	18 dBm ±2 dB
5 GHz	802.11a/6 Mbps	-93 dBm ±2 dB	19 dBm ±2 dB
	802.11a/54 Mbps	-76 dBm ±2 dB	17 dBm ±2 dB
	802.11n/HT20 MCS 0	-92.5 dBm ±2 dB	18 dBm ±2 dB
	802.11n/HT20 MCS 7	-73.5 dBm ±2 dB	16 dBm ±2 dB
	802.11n/HT40 MCS 0	-89 dBm ±2 dB	18 dBm ±2 dB
	802.11n/HT40 MCS 7	-70 dBm ±2 dB	16 dBm ±2 dB

Bluetooth Performance

	Receiver Sensitivity	Transmit Power
BR	-96.5 dBm ±3 dB	5 dBm ±3 dB
EDR ($\pi/4$ -DQPSK)	-96.5 dBm ±3 dB	5 dBm ±3 dB
EDR (8-DPSK)	-90.5 dBm ±3 dB	5 dBm ±3 dB
BLE (1 Mbps)	-99 dBm ±3 dB	5 dBm ±3 dB
BLE (2 Mbps)	-95.5 dBm ±3 dB	5 dBm ±3 dB
BLE (LR S=2)	-102 dBm ±3 dB	5 dBm ±3 dB
BLE (LR S=8)	-107.5 dBm ±3 dB	5 dBm ±3 dB

Model	Ordering Code	Antenna	DBS	Coexistence with Cellular Module	Development Board (Only for Debugging)
FCU743R	FCU743RAAMD	One antenna	-	-	FCU743RAATA