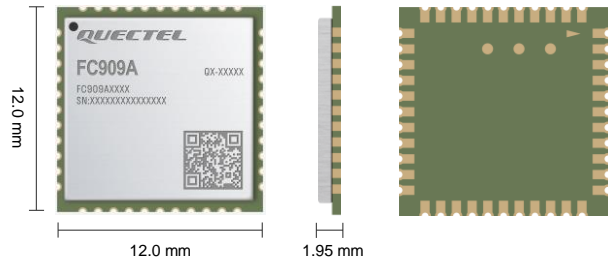


Quectel FC909A

Wi-Fi&Bluetooth Module Ultra-compact LCC Package



FC909A is a high-performance Wi-Fi 4 and BLE (Bluetooth 5.2) module in LCC package. It can be used to establish WLAN and Bluetooth connections. With an ultra-compact size of 12.0 mm × 12.0 mm × 1.95 mm, FC909A optimizes the size and cost for end-products. Designed with a reliable SDIO 2.0 interface to provide WLAN capability, it also provides an integrated power management unit (PMU), power amplifiers (PAs), and a low noise amplifier to address the needs of mobile devices requiring low power consumption and compact size.

FC909A is a Bluetooth 5.2 compliant module. The Bluetooth transmitter also features a Class 1 power amplifier. FC909A supports extended Synchronous Connection Oriented link (eSCO) for enhancing voice quality by allowing for retransmission of dropped packets and Adaptive Frequency Hopping (AFH) for reducing radio frequency interference.

Surface-mount Technology (SMT) makes FC909A 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

- ✓ Single band 2.4 GHz Wi-Fi and BLE (Bluetooth 5.2)
- ✓ SDIO 2.0 interface that supports higher data transmission rate and enables lower power consumption
- ✓ Faster time-to-market: simple design minimizes design-in time and development efforts
- ✓ Wide operating temperature range: -30 °C to +85 °C



Ultra-compact Size



LCC Package



IEEE 802.11b/g/n



SDIO Interface



Operating Temperature Range: -30 °C to +85 °C



BLE (Bluetooth 5.2)

Quectel FC909A

Wi-Fi&Bluetooth		FC909A	
WLAN Protocol	IEEE 802.11b/g/n		
Wi-Fi Frequency Band	2.4 GHz		
Wi-Fi Antenna	1 × 1		
Wi-Fi Modulation Mode	DSSS, OFDM, DBPSK, DQPSK, CCK, BPSK, QPSK, 16QAM, 64QAM		
Bluetooth Protocol	Bluetooth 5.2		
Bluetooth Antenna	Share antenna with Wi-Fi		
Encryption Mode	WPA3		
Operating Mode	AP/STA		
Dimension	12.0 mm × 12.0 mm × 1.95 mm		
Weight	Approx. 0.6 g		
Temperature Range			
Operating Temperature Range	-30 °C to +85 °C ^①		
Data Rate (Max.)			
802.11b	11 Mbps		
802.11g	54 Mbps		
802.11n	72 Mbps		
Interfaces			
PCM	× 1 (for Bluetooth)		
SDIO 2.0	× 1 (for Wi-Fi)		
UART	× 1 (for Bluetooth)		
Wi-Fi/Bluetooth Antenna	× 1		
Electrical Features			
Power Supply Voltage	VBAT: 3.0–4.8 V, Typ. 3.3 V		
I/O Power Supply Voltage	VDDIO: 1.71–3.63 V, Typ. 1.8/3.3 V		
Power Consumption (Max.)	Max. current at Tx mode: 300 mA @ VBAT 0.7 mA @ VIO		
Certification			
Regulatory	Europe: CE America: FCC Canada: IC China: SRRC		
Wi-Fi Performance			
		Receiving Sensitivity (Typ.)	Transmitting Power (Typ.)
2.4 GHz	802.11b/1 Mbps	-95 dBm	16 dBm
	802.11b/11 Mbps	-88 dBm	16 dBm
	802.11g/6 Mbps	-90 dBm	15 dBm
	802.11g/54 Mbps	-75 dBm	15 dBm
	802.11n/HT20 MCS0	-89 dBm	14 dBm
	802.11n/HT20 MCS7	-72 dBm	14 dBm
Bluetooth Performance			
		Receiving Sensitivity	Transmitting Power
BR		-88 dBm	9 dBm
EDR (π/4-DQPSK)		-90 dBm	8 dBm
EDR (8-DPSK)		-84 dBm	8 dBm
BLE		-90 dBm	8 dBm

NOTE:

①: Functionality is guaranteed across this ambient temperature range. Optimum RF performance is guaranteed only in the temperature range from -30 °C to 75 °C.