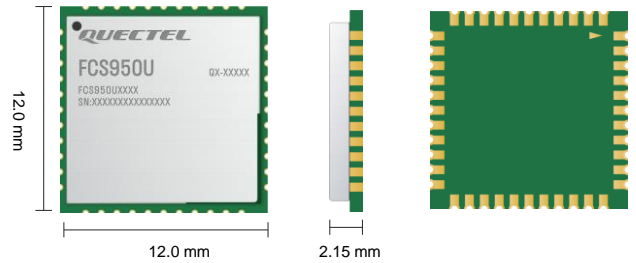


Quectel FCS950U

Wi-Fi 5 & Bluetooth 5.0 Module Ultra-compact LCC Package



FCS950U is a new high-performance, cost-effective Wi-Fi 5 and Bluetooth 5.0 LCC package module launched by Quectel, which can be used for WLAN and Bluetooth connections. With an ultra-compact size of 12.0 mm × 12.0 mm × 2.15 mm, FCS950U optimizes the size and cost for end-products, which fully meets the demands of size-sensitive applications.

FCS950U provides a reliable SDIO 3.0 interface that features higher data transmission rate and lower power consumption, and also supports Classic Bluetooth and Bluetooth Low Energy (BLE) and WPA3 encryption mode.

Surface-mount Technology (SMT) makes FCS950U 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. FCS950U can meet various requirements of commercial and industrial applications, such as smart speakers, set-top boxes, POS machines, etc.



Key Features

- ✓ 2.4 GHz and 5 GHz Wi-Fi bands and Bluetooth 5.0
- ✓ Wi-Fi antenna 1 × 1
- ✓ SDIO 3.0 interface that 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: -40 °C to +85 °C



IEEE 802.11
a/b/g/n/ac



Bluetooth 5.0



Ultra-compact Size



SDIO 3.0 Interface



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



LCC Package

Quectel FCS950U

Wi-Fi 5 & Bluetooth 5.0		FCS950U	
WLAN Protocol	IEEE 802.11a/b/g/n/ac		
Wi-Fi Frequency Band	2.4 GHz/ 5 GHz		
Wi-Fi Antenna	1 × 1		
Wi-Fi Modulation Mode	DSSS, DBPSK, DQPSK, CCK, BPSK, QPSK, 16QAM, 64QAM, 256QAM		
2.4 GHz Channel Bandwidth	20/ 40 MHz		
5 GHz Channel Bandwidth	20/ 40/ 80 MHz		
Encryption Mode	WPA3		
Wi-Fi Operating Mode	AP/ STA		
Bluetooth Protocol	Bluetooth 5.0		
Dimensions	12.0 mm × 12.0 mm × 2.15 mm		
Weight	0.55 g		
Temperature Range			
Operating Temperature	-40 °C to +85 °C		
Data Rate (Max.)			
802.11a	54 Mbps		
802.11b	11 Mbps		
802.11g	54 Mbps		
802.11n	150 Mbps		
802.11ac	433 Mbps		
Interfaces			
SDIO 3.0	× 1 (for Wi-Fi)		
PCM*	× 1 (for Bluetooth)		
UART*	× 1 (for Bluetooth)		
Wi-Fi/Bluetooth Antenna Interface	× 1		
Electrical Features			
Power Supply Voltage	VBAT: 3.2–3.4 V, Typ. 3.3 V		
I/O Power Supply Voltage	VIO: 1.7–1.98 V, Typ. 1.8 V		
Certification			
Regulatory	Europe: CE America: FCC Canada: IC Brazil: Anatel China: SRRC Australia/New Zealand: RCM		
Wi-Fi Performance			
	Receiver Sensitivity	Transmit Power	
	802.11b/1 Mbps	-97 dBm ±2 dB	
	802.11b/11 Mbps	-88 dBm ±2 dB	
	802.11g/6 Mbps	-93 dBm ±2 dB	
2.4 GHz	802.11g/54 Mbps	-77 dBm ±2 dB	
	802.11n/HT20 MCS 0	-93 dBm ±2 dB	
	802.11n/HT20 MCS 7	-75 dBm ±2 dB	
	802.11n/HT40 MCS 0	-91 dBm ±2 dB	
	802.11n/HT40 MCS 7	-72 dBm ±2 dB	

NOTE:

*: under development.

Quectel FCS950U

Wi-Fi 5 & Bluetooth 5.0

FCS950U

Wi-Fi Performance

	Receiver Sensitivity	Transmit Power
802.11a/6 Mbps	-94 dBm ±2 dB	17 dBm ±2 dB
802.11a/54 Mbps	-75 dBm ±2 dB	15 dBm ±2 dB
802.11n/HT20 MCS 0	-94 dBm ±2 dB	16 dBm ±2 dB
802.11n/HT20 MCS 7	-74 dBm ±2 dB	14 dBm ±2 dB
802.11n/HT40 MCS 0	-91 dBm ±2 dB	16 dBm ±2 dB
5 GHz 802.11n/HT40 MCS 7	-72 dBm ±2 dB	14 dBm ±2 dB
802.11ac/VHT20 MCS 0	-93 dBm ±2 dB	16 dBm ±2 dB
802.11ac/VHT20 MCS 8	-70 dBm ±2 dB	14 dBm ±2 dB
802.11ac/VHT40 MCS 0	-91 dBm ±2 dB	16 dBm ±2 dB
802.11ac/VHT40 MCS 9	-66 dBm ±2 dB	13 dBm ±2 dB
802.11ac/VHT80 MCS 0	-87 dBm ±2 dB	16 dBm ±2 dB
802.11ac/VHT80 MCS 9	-61 dBm ±2 dB	13 dBm ±2 dB

Bluetooth Performance

	Receiver Sensitivity	Transmit Power
BR	-91 dBm ±2 dB	8 dBm ±2 dB
EDR ($\pi/4$ -DQPSK)	-92 dBm ±2 dB	6 dBm ±2 dB
EDR (8-DPSK)	-86 dBm ±2 dB	6 dBm ±2 dB
BLE	-95 dBm ±2 dB	6.5 dBm ±2 dB

Ordering Code	Antenna	Current in Sleep Mode @ VBAT	Max. Current at Tx mode @ VBAT	Development Board (Only for Debugging)
FCS950UAAMD	Single antenna	1.84 mA	265 mA	FCS950UAAM2
FCS950UABMD	Single antenna	0.67 mA	116 mA	FCS950UABM2