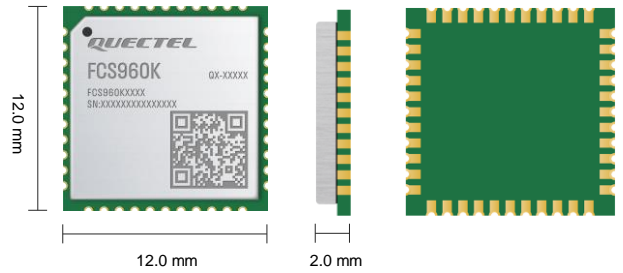


Quectel FCS960K

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



FCS960K 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, supports up to 11ax MCS 11 rate at 80 MHz channel, and the transmission rate can reach 600.5 Mbps. FCS960K adopts reliable SDIO 3.0 interface to support WLAN high-rate transmissions.

With an ultra-compact size of 12.0 mm × 12.0 mm × 2.0 mm, FCS960K optimizes the size and cost for end-products, which fully meets the demands of size-sensitive applications.

Surface-mount Technology (SMT) makes FCS960K an ideal solution for durable and rugged designs. The low profile and small size of LCC package ensure that FCS960K 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, FCS960K can meet various needs of commercial and industrial applications.



Key Features

- ✓ 2.4 GHz/ 5 GHz Wi-Fi band and Bluetooth 5.4
- ✓ Wi-Fi/Bluetooth antenna 1 × 1
- ✓ SDIO 3.0 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



SDIO 3.0
Interface



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



Ultra-compact
Size

Quectel FCS960K

Wi-Fi 6 & Bluetooth 5.4 FCS960K	
WLAN Protocol	IEEE 802.11a/b/g/n/ac/ax
Wi-Fi Frequency Band	2.4 GHz/ 5 GHz
Wi-Fi/Bluetooth Antenna	1 × 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/ 80 MHz
Encryption Mode	WEP/ WPA/ WPA2/ WPA3-SAE
Wi-Fi Operating Mode	AP/ STA
Bluetooth Protocol	Bluetooth 5.4
Dimensions (mm)	12.0 mm × 12.0 mm × 2.0 mm
Weight (g)	Approx. 0.59 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	433.3 Mbps
802.11ax	600.5 Mbps
Interfaces	
SDIO 3.0	× 1 (for Wi-Fi)
HCI_UART	× 1 (for Bluetooth)
PCM	× 1 (for Bluetooth)
Wi-Fi/Bluetooth Antenna Interface	× 1 (ANT_WIFI/BT ^①)
Bluetooth Antenna Interface	× 1 (Optional)
Electrical Features	
Power Supply Voltage	VBAT: 3.0–3.6 V, Typ. 3.3 V
I/O Power Supply Voltage	VDD_IO: 1.7–3.6 V, Typ. 1.8 V/ 3.3 V
Power Consumption	Max. current at Tx mode: 381.56 mA @VBAT
Certifications	
Regulatory	Europe: CE America: FCC Canada: IC China: SRRC

NOTE:
①: ANT_WIFI/BT serves as a Wi-Fi and Bluetooth antenna interface in single antenna solution and only Wi-Fi antenna interface in two-antenna solution.

Wi-Fi 6 & Bluetooth 5.4 FCS960K

Wi-Fi Performance			
		Transmit Power (Typ.)	Receiver Sensitivity (Typ.)
2.4 GHz	802.11b/1 Mbps	18 dBm	-97 dBm
	802.11b/11 Mbps	18 dBm	-88 dBm
	802.11g/6 Mbps	17 dBm	-91 dBm
	802.11g/54 Mbps	15 dBm	-76 dBm
	802.11n/HT20 MCS 0	17 dBm	-90 dBm
	802.11n/HT20 MCS 7	15 dBm	-73 dBm
	802.11n/HT40 MCS 0	17 dBm	-88 dBm
	802.11n/HT40 MCS 7	15 dBm	-70 dBm
	802.11ax/HE20 MCS 0	17 dBm	-93 dBm
	802.11ax/HE20 MCS 11	13 dBm	-64 dBm
	802.11ax/HE40 MCS 0	17 dBm	-88 dBm
	802.11ax/HE40 MCS 11	13 dBm	-61 dBm
5 GHz	802.11a/6 Mbps	17 dBm	-91 dBm
	802.11a/54 Mbps	15 dBm	-76 dBm
	802.11n/HT20 MCS 0	17 dBm	-91 dBm
	802.11n/HT20 MCS 7	15 dBm	-74 dBm
	802.11n/HT40 MCS 0	17 dBm	-87 dBm
	802.11n/HT40 MCS 7	15 dBm	-72 dBm
	802.11ac/VHT20 MCS 0	17 dBm	-90 dBm
	802.11ac/VHT20 MCS 8	14 dBm	-69 dBm
	802.11ac/VHT40 MCS 0	17 dBm	-88 dBm
	802.11ac/VHT40 MCS 9	12 dBm	-64 dBm
	802.11ac/VHT80 MCS 0	17 dBm	-84 dBm
	802.11ac/VHT80 MCS 9	12 dBm	-60 dBm
	802.11ax/HE20 MCS 0	16 dBm	-89 dBm
	802.11ax/HE20 MCS 11	12 dBm	-61 dBm
	802.11ax/HE40 MCS 0	16 dBm	-87 dBm
	802.11ax/HE40 MCS 11	12 dBm	-59 dBm
	802.11ax/HE80 MCS 0	16 dBm	-85 dBm
	802.11ax/HE80 MCS 11	12 dBm	-56 dBm
Bluetooth Performance			
		Transmit Power (Typ.)	Receiver Sensitivity (Typ.)
BR		4 dBm	-89 dBm
EDR (π/4-DQPSK)		4 dBm	-89 dBm
EDR (8-DPSK)		4 dBm	-89 dBm
BLE (1 Mbps)		4 dBm	-90 dBm
BLE (2 Mbps)		4 dBm	-89 dBm

Model	Ordering Code	Antenna	DBS	Coexistence with Cellular Module	Development Board (Only for Debugging)
FCS960K	FCS960KAAMD	Single antenna solution: Wi-Fi and Bluetooth shared one antenna	-	-	FCS960KAAM2
FCS960K	FCS960KBAAMD	Two-antenna solution: Wi-Fi antenna + exclusive Bluetooth antenna	-	-	FCS960KBAAM2