Quectel FC21

Wi-Fi & Bluetooth Module
Ultra-compact LCC Package
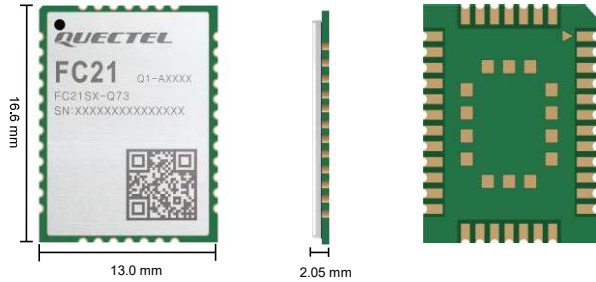
16.6 mm

13.0 mm   **2.05 mm**

Quectel FC21 is a cost-effective Wi-Fi & Bluetooth module featuring high performance. Designed in ultra-compact 16.6 mm × 13.0 mm × 2.05 mm profile, it optimizes the size and cost for end-products, which fully meets the demands of size sensitive applications.

Surface-mount technology (SMT) makes FC21 an ideal solution for durable and rugged designs. The low profile and small size of LCC package make sure FC21 can be easily embedded into size-constrained applications and provide reliable connectivity with these applications. The advanced package allows for large-scale automated manufacturing which has strict requirements on cost and efficiency.

Combining advantages such as compact form factor, low power consumption, extended temperature range and stable SDIO interface, FC21 is typically used in combination with Quectel LTE Standard EC21 series, EC25 series, EC20 R2.1 and EG25-G series modules and other application processors (IMX6, IMX8, etc.) to serve a wide range of M2M applications, such as automotive, security, industrial PDA, MiFi and health care.

Key Features

✔ Ultra-compact Wi-Fi & Bluetooth module

✔ Support BLE (Bluetooth 5.0)

✔ Support IEEE802.11 a/b/g/n/ac standards

✔ Easier soldering and testing process with LCC package

✔ Stable and reliable SDIO communication interface

✔ Fast time-to-market: simple design minimizes design-in time and development efforts

Ultra Compact Size	LCC Package	IEEE 802.11 a/b/g/n/ac Standards
SDIO Interface	Operating Temperature Range: -40 °C to +85 °C	Bluetooth 5.0

Wi-Fi&Bluetooth	FC21
Region	Global
Function	Wi-Fi 2.4GHz+5GHz; Bluetooth 5.0
WLAN	IEEE 802.11 a/b/g/n/ac
Bluetooth	Bluetooth 5.0
Modulation Mode	BPSK, QPSK, CCK, 16QAM, 64QAM, 256QAM
Temperature Range	
Operating Temperature Range	-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
BT AMP	24 Mbps
Interfaces	
SDIO 3.0	× 1
BT_UART	× 1
PCM	× 1
Wi-Fi/Bluetooth Antenna	× 1
Electrical Features	
Power Supply Voltage	3.14–3.46 V, Typ. 3.3 V
I/O Power Supply Voltage	1.71–3.46 V, Typ. 1.8/3.3 V
Power Consumption (Typ.)	**OFF State (Wi-Fi is disabled):** ● 0 µA @3.3 V WLAN power supply ● 179 µA @1.8 V I/O Pins power supply **Idle (Wi-Fi is enabled without any device connected):** ● 31 mA @3.3 V WLAN power supply ● 2.8 mA @1.8 V I/O Pins power supply
Encryption Mode	WEP/ TKIP/ AES/ WPA-PSK/ WPA2-PSK
AP (Max. Access Points)	16
Operating Mode	AP/ STA
Dimension	16.6 mm × 13.0 mm × 2.05 mm
Weight	Approx. 0.73 g
Certifications	
Regulatory	**China:** SRRC **Europe:** CE **America:** FCC **Canada:** IC* **Brazil:** Anatel* **Japan:** JATE*/ TELEC*
Others	RoHS/ Bluetooth

Note:
* means planning or ongoing.

Wi-Fi&Bluetooth		FC21	
RF Performance			
		Receiving Sensitivity (Typ.)	Transmitting Power (Typ.)
2.4 GHz	802.11b/1 Mbps	-95 dBm	17 dBm
	802.11b/11 Mbps	-88 dBm	17 dBm
	802.11g/6 Mbps	-90 dBm	16.5 dBm
	802.11g/54 Mbps	-74 dBm	15 dBm
	802.11n/HT20 MCS0	-90 dBm	16.5 dBm
	802.11n/HT20 MCS7	-71 dBm	15 dBm
	802.11n/HT40 MCS0	-87 dBm	15 dBm
	802.11n/HT40 MCS7	-68.5 dBm	14 dBm
5 GHz	802.11a/6 Mbps	-90.5 dBm	15 dBm
	802.11a/54 Mbps	-74 dBm	12 dBm
	802.11n/HT20 MCS0	-90 dBm	14 dBm
	802.11n/HT20 MCS7	-71 dBm	11 dBm
	802.11n/HT40 MCS0	-87.5 dBm	14 dBm
	802.11n/HT40 MCS7	-68.5 dBm	11 dBm
	802.11ac/VHT20 MCS0	-90 dBm	14 dBm
	802.11ac/VHT20 MCS8	-67 dBm	11 dBm
	802.11ac/VHT40 MCS0	-87 dBm	13 dBm
	802.11ac/VHT40 MCS9	-62.5 dBm	8.5 dBm
	802.11ac/VHT80 MCS0	-84.5 dBm	13 dBm
	802.11ac/VHT80 MCS9	-59.5 dBm	9 dBm