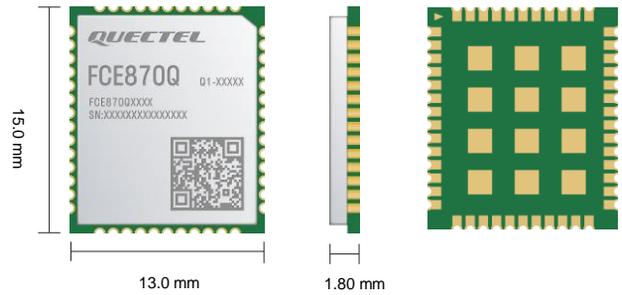


Quectel FCE870Q

2.4/ 5/ 6 GHz Wi-Fi Bands
2 × 2 MIMO
Wi-Fi 7 & Bluetooth 6.0 Module



FCE870Q is a highly integrated module supporting Wi-Fi 7 and Bluetooth 6.0.

With 4K-QAM and 320 MHz bandwidth, FCE870Q delivers a peak data rate of 5.8 Gbps. Meanwhile, it supports ultra-low latency for real-time response. FCE870Q supports 320 MHz enhanced Multi-Link Single Radio (eMLSR) technology, bringing faster data rate, much lower latency and higher network reliability to users.

FCE870Q features dual-mode Bluetooth with LE Audio support, delivering compatibility for 2 Mbps Bluetooth Low Energy (BLE) and BLE Long Range communications, while enabling High Accuracy Distance Measurement (HADDM) for precision location tracking.

The higher data rate, lower latency and enhanced network reliability makes FCE870Q suitable for OTT, high-definition video, AR/VR, etc.



Key Features

- ✓ 2.4 GHz/ 5 GHz/ 6 GHz Wi-Fi bands and Bluetooth 6.0
- ✓ 4096 QAM
- ✓ 320 MHz bandwidth
- ✓ 320 MHz enhanced Multi-Link Single Radio (eMLSR)
- ✓ Ultra-low latency
- ✓ Multi-User Multiple Input Multiple Output
- ✓ Wide operating temperature range: -30 °C to +85 °C



Bluetooth 6.0



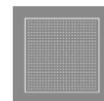
eMLSR



Ultra-low Latency



MU-MIMO



4K-QAM



320 MHz Bandwidth

Quectel FCE870Q

Wi-Fi 7 & Bluetooth 6.0	FCE870Q
WLAN Protocol	IEEE 802.11a/b/g/n/ac/ax/be
Wi-Fi Frequency Band	2.4 GHz/ 5 GHz/ 6 GHz
Wi-Fi Antenna	Pin antenna interface
Wi-Fi Modulation Mode	DBPSK/ DQPSK/ CCK/ BPSK/ QPSK/ QAM/ OFDMA
2.4 GHz Channel Bandwidth	20 MHz/ 40 MHz
5 GHz Channel Bandwidth	20 MHz/ 40 MHz/ 80 MHz/ 160 MHz
6 GHz Channel Bandwidth	20 MHz/ 40 MHz/ 80 MHz/ 160 MHz/ 320 MHz
Encryption Mode	WPA2/ WPA3
Wi-Fi Operating Mode	AP/ STA
Bluetooth Protocol	Bluetooth 6.0
Dimensions	15.0 mm × 13.0 mm × 1.80 mm
Weight	TBD
Temperature Range	
Operating Temperature	-30 °C to +85 °C
Physical Rate (Max.)	
802.11a	54 Mbps
802.11b	11 Mbps
802.11g	54 Mbps
802.11n	300 Mbps
802.11ac	1732 Mbps
802.11ax	2400 Mbps
802.11be	5800 Mbps
Interfaces	
PCIe 3.0	× 1 (for Wi-Fi)
PCM*	× 1 (for Bluetooth audio)
UART	× 1 (for Bluetooth)
Electrical Features	
Power Supply Voltage	VBAT: 3.0–3.6 V, Typ. 3.3 V VDD_IO: 1.71–1.89 V, Typ. 1.8 V
Power Consumption	Max. current at Tx mode: TBD @ VBAT
Certifications	
Regulatory (Planning)	Europe: CE America: FCC China: SRRC Canada: IC Australia/New Zealand: RCM

Model	Ordering Code	Antenna	Development Board (Only for Debugging)
FCE870Q	FCE870QAAMD	Pin antenna interface	FCE870QAAM2

NOTE:

*: Under development.