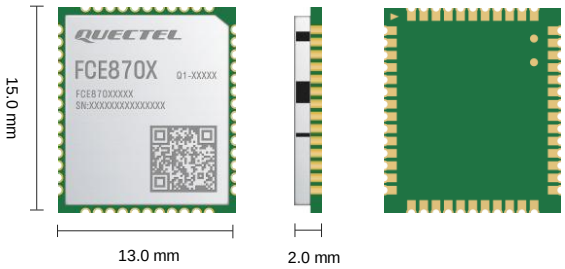
Quectel FCE870X

2.4/5/6 GHz Wi-Fi Bands
2 × 2 or 1 × 1 + 1 × 1 MIMO
Wi-Fi 7 & Bluetooth 6.0 &
IEEE 802.15.4 (Thread/Zigbee) Module



FCE870X is a highly integrated module supporting Wi-Fi 7, Bluetooth 6.0 and IEEE 802.15.4 (Thread/Zigbee).

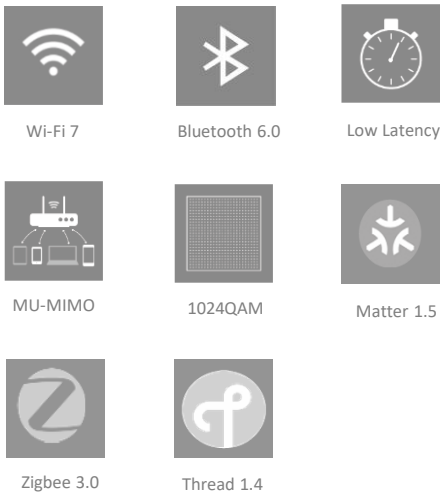
Equipped with 1024QAM modulation and up to 80 MHz bandwidth (20 MHz for 2.4 GHz, 20/40/80 MHz for 5/6 GHz), FCE870X delivers a peak physical rate of 1200 Mbps per radio chain (2 × 2 MIMO configuration for higher throughput). Meanwhile, it supports low latency transmission optimized for real-time response, bringing faster data rates, lower latency and higher network reliability.

FCE870X features dual-mode Bluetooth with LE Audio, delivering compatibility for 2 Mbps Bluetooth Low Energy (BLE) and BLE Long Range communications, while enabling High Accuracy Distance Measurement (HADM) for precision location tracking.

With its high data rate, low latency and enhanced network reliability, FCE870X is suitable for OTT, high-definition video, AR/VR, smart home and other scenarios.

Key Features

- 2.4 GHz/5 GHz/6 GHz Wi-Fi bands, Bluetooth 6.0 (BR/EDR + BLE), and IEEE 802.15.4 (Thread/Zigbee)
- Matter
- 1024QAM modulation
- 20 MHz (2.4 GHz), 20/40/80 MHz (5 GHz/6 GHz) bandwidth
- LE Audio
- Low latency
- DBS supported, 1 × 1 + 1 × 1 configuration
- Wide operating temperature range: -30 °C to +85 °C



EMAIL US: info@quectel.com
VISIT US: www.quectel.com

Quectel FCE870X

Wi-Fi 7 & Bluetooth 6.0	FCE870X	
WLAN Protocol	IEEE 802.11a/b/g/n/ac/ax/be, IEEE 802.15.4 (Thread/Zigbee)	
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	
5 GHz Channel Bandwidth	20/40/80 MHz	
6 GHz Channel Bandwidth	20/40/80 MHz	
Encryption Mode	WPA2/WPA3	
Wi-Fi Operating Mode	STA/AP/P2P	
Bluetooth Protocol	Bluetooth 6.0	
Dimensions	15.0 mm × 13.0 mm × 2.0 mm	
Weight	TBD	
Temperature Range		
Operating Temperature	-30 °C to +85 °C	
Physical Rate (Max.)		
	2 × 2	1 × 1 + 1 × 1
802.11a	54 Mbps	-
802.11b	11 Mbps	-
802.11g	54 Mbps	-
802.11n	300 Mbps	-
802.11ac	866.7 Mbps	-
802.11ax	1200 Mbps	-
802.11be	1200 Mbps	142.4 Mbps (2.4 GHz) + 600.5 Mbps (5 GHz/6 GHz)
Interfaces		
PCIe 3.0	× 1 (for Wi-Fi)	
PCM	× 1 (for Bluetooth Audio)	
UART	× 1 (for Bluetooth)	
Antenna Interfaces	Wi-Fi antenna × 1, Wi-Fi/Bluetooth antenna × 1	
Electrical Features		
Power Supply Voltage	VBAT: 3.0–3.6 V, Typ. 3.3 V VDD_IO: 1.62–1.98 V, Typ. 1.8 V	
Power Consumption	TBD @ VBAT	
Certifications		
Regulatory (Planning)	**Europe:** CE **America:** FCC **China:** SRRC **Canada:** IC	

Model	Ordering Code	Antenna	Development Board
FCE870X	FCE870XAAMD	Pin antenna interface	FME170XAAMD

NOTE:
TBD: To be determined.

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Quectel Global Center: No. 8 Waipojing Road, Sijing Town, Songjiang District, Shanghai 201601, China
Tel: +86 21 51086236 Email: info@quectel.com