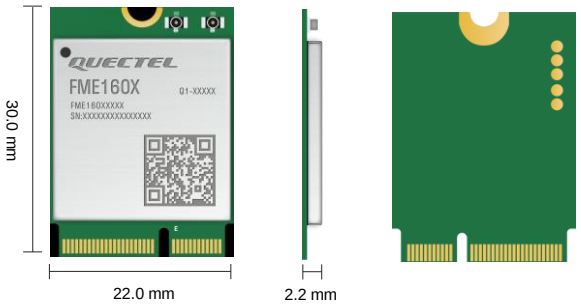
Quectel FME160X

Wi-Fi 6 & Bluetooth 5.4 Module
M.2 2230 KEY-E Package



FME160X is a high-performance Wi-Fi 6 and Bluetooth 5.4 module featuring 2T2R, designed in M.2 2230 KEY-E form factor. It can be used for WLAN and Bluetooth connections, delivering a maximum data rate up to 1201 Mbps.

With an ultra-compact size of 22.0 mm × 30.0 mm × 2.2 mm, the module optimizes the size and cost for end-products, which fully meets the demands of size-sensitive applications.

The M.2 KEY-E form factor makes this module an ideal solution for rugged designs, enabling easy integration into space-constrained applications while delivering reliable connectivity.

FME160X is a low-power, cost-effective Wi-Fi and Bluetooth module that operates in the 2.4 GHz and 5 GHz Wi-Fi bands. Additionally, it supports Bluetooth Classic (BR + EDR) and BLE (Bluetooth Low Energy).

FME160X has successfully undergone compatibility verification with Kylin V10 and UnionTech UOS V20. Its driver has passed Microsoft Windows Hardware Quality Labs (WHQL) certification, fulfilling both general compatibility criteria and performance/reliability benchmarks. Its compact form factor, low power consumption and wide temperature range make it especially well-suited for applications such as laptop.

Key Features

- 2.4 GHz and 5 GHz Wi-Fi bands and Bluetooth 5.4
- PCIe 2.0 interface that supports higher data transmission rate and enables lower power consumption
- M.2 2230 KEY-E package
- Wider operating temperature range: -20 °C to +80 °C

IEEE 802.11 a/b/g/n/ac/ax

Bluetooth 5.4

PCIe 2.0 Interface

Ultra-compact Size

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

M.2 Package

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

Quectel FME160X

Wi-Fi 6 & Bluetooth 5.4	FME160X
WLAN Protocol	IEEE 802.11a/b/g/n/ac/ax
Wi-Fi Frequency Band	2.4 GHz/5 GHz
Wi-Fi Antenna	2 × 2
Wi-Fi Modulation Mode	DSSS/CCK/BPSK/QPSK/DBPSK/DQPSK/16QAM/64QAM/256QAM/1024QAM/OFDMA
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, WAPI①
Wi-Fi Operating Mode	AP/STA
Bluetooth Protocol	Bluetooth 5.4
Dimensions	22.0 mm × 30.0 mm × 2.2 mm
Weight	Approx. 3.02 g
Temperature Range	
Operating Temperature	-20 °C to +80 °C
Physical Rate (Max.)	
802.11a	54 Mbps
802.11b	11 Mbps
802.11g	54 Mbps
802.11n	300 Mbps
802.11ac	866.7 Mbps
802.11ax	1201 Mbps
Interfaces	
PCIe 2.0	× 1 (for Wi-Fi)
PCM	× 1 (for Bluetooth)
USB	× 1 (for Bluetooth)
Wi-Fi/Bluetooth Antenna (ANT_WIFI0/BT②)	× 1, RF coaxial connector (IPEX Gen 4)
Wi-Fi Antenna (ANT_WIFI1)	× 1, RF coaxial connector (IPEX Gen 4)
Bluetooth Antenna (ANT_BT②) (Optional)	× 1, RF coaxial connector (IPEX Gen 4)
Electrical Features	
Power Supply Voltage	VCC: 3.0–3.6 V, typ. 3.3 V
Power Consumption	Max. current at Tx mode: 323.92 mA @ VCC
Certifications	
Regulatory	**Europe:** CE③ **America:** FCC③ **Canada:** IC③ **China:** SRRC **Australia/New Zealand:** RCM③
Others	WHQL

NOTE:

1. ①: WAPI is supported on Linux systems and not supported on Windows systems.
2. ②: ANT_WIFI0/BT serves as a shared connector for Wi-Fi and Bluetooth antenna and there is no ANT_BT connector in two-antenna solution. Exclusive Bluetooth antenna is supported in three-antenna solution with ANT_WIFI0/BT only served as Wi-Fi antenna.
3. ③: Planning.

Copyright © 2026 Quectel Wireless Solutions Co., Ltd. All Rights Reserved http://www.quectel.com
Quectel Global Center: No. 8 Waipojing Road, Sijing Town, Songjiang District, Shanghai 201601, China
Tel: +86 21 51086236 Email: info@quectel.com

Quectel FME160X

Wi-Fi 6 & Bluetooth 5.4		FME160X	
Wi-Fi Performance			
		Transmit Power (Typ.)	**Receiver Sensitivity (Typ.)**
2.4 GHz	**802.11b/1 Mbps**	18 dBm	-100 dBm
	802.11b/11 Mbps	18 dBm	-92 dBm
	802.11g/6 Mbps	18 dBm	-95 dBm
	802.11g/54 Mbps	15 dBm	-79 dBm
	802.11n/HT20 MCS 0	18 dBm	-95 dBm
	802.11n/HT20 MCS 7	15 dBm	-77 dBm
	802.11n/HT40 MCS 0	18 dBm	-92 dBm
	802.11n/HT40 MCS 7	15 dBm	-74 dBm
	802.11ax/HE20 MCS 0	18 dBm	-95 dBm
	802.11ax/HE20 MCS 11	13 dBm	-66 dBm
	802.11ax/HE40 MCS 0	18 dBm	-92 dBm
	802.11ax/HE40 MCS 11	13 dBm	-64 dBm
5 GHz	**802.11a/6 Mbps**	18 dBm	-92 dBm
	802.11a/54 Mbps	15 dBm	-76 dBm
	802.11n/HT20 MCS 0	18 dBm	-92 dBm
	802.11n/HT20 MCS 7	15 dBm	-75 dBm
	802.11n/HT40 MCS 0	18 dBm	-89 dBm
	802.11n/HT40 MCS 7	15 dBm	-71 dBm
	802.11ac/VHT20 MCS 0	18 dBm	-92 dBm
	802.11ac/VHT20 MCS 8	14 dBm	-70 dBm
	802.11ac/VHT40 MCS 0	18 dBm	-89 dBm
	802.11ac/VHT40 MCS 9	14 dBm	-65 dBm
	802.11ac/VHT80 MCS 0	18 dBm	-85 dBm
	802.11ac/VHT80 MCS 9	14 dBm	-62 dBm
	802.11ax/HE20 MCS 0	18 dBm	-92 dBm
	802.11ax/HE20 MCS 11	12 dBm	-64 dBm
	802.11ax/HE40 MCS 0	18 dBm	-90 dBm
	802.11ax/HE40 MCS 11	12 dBm	-61 dBm
	802.11ax/HE80 MCS 0	18 dBm	-85 dBm
	802.11ax/HE80 MCS 11	12 dBm	-57 dBm
Bluetooth Performance			
		Transmit Power (Typ.)	**Receiver Sensitivity (Typ.)**
BR (GFSK)		5 dBm	-94 dBm
EDR (π/4-DQPSK)		5 dBm	-94 dBm
EDR (8-DPSK)		5 dBm	-89 dBm
BLE (1 Mbps)		5 dBm	-98 dBm
BLE (2 Mbps)		5 dBm	-96 dBm
BLE (S = 2)		5 dBm	-102 dBm
BLE (S = 8)		5 dBm	-105 dBm

Model	Ordering Code	Antenna	Temperature Range	Development Board (Only for Debugging)
FME160X	FME160XAAMD	Two antennas	-20 °C to +80 °C	FME160XAAMD
FME160X	FME160XBAAMD	Three antennas	-20 °C to +80 °C	FME160XAAMD

Copyright © 2026 Quectel Wireless Solutions Co., Ltd. All Rights Reserved http://www.quectel.com
Quectel Global Center: No. 8 Waipojing Road, Sijing Town, Songjiang District, Shanghai 201601, China
Tel: +86 21 51086236 Email: info@quectel.com