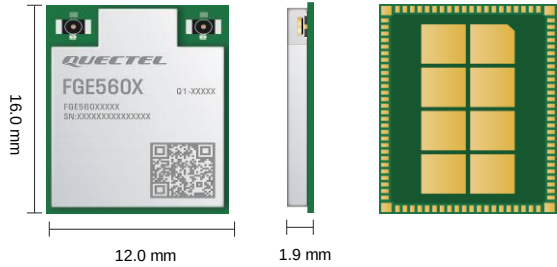


Quectel FGE560X

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



FGE560X is a high-performance Wi-Fi 6 and Bluetooth 5.4 module featuring 2T2R in LGA package. It can be used for WLAN and Bluetooth connections, delivering a maximum data rate up to 1201 Mbps.

With an ultra-compact size of 16.0 mm × 12.0 mm × 1.9 mm, the module optimizes the size and cost for end-products, which fully meets the demands of size-sensitive applications.

Surface-mount technology (SMT) makes the module an ideal solution for durable and rugged designs. The low profile and small size of LGA package ensure that the module can be easily embedded into size-constrained applications and provide reliable connectivity with these applications.

Based on the reliable PCIe 2.0 interface, the module enables high-speed, low-power WLAN wireless transmission. With its compact form factor, low power consumption, wide temperature range, and high reliability, FGE560X is particularly suitable for laptop applications.



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
- ✓ Faster time-to-market: simple design minimizes design-in time and development efforts
- ✓ 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



LGA Package

Wi-Fi 6 & Bluetooth 5.4		FGE560X
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, WAPI	
Wi-Fi Operating Mode	AP/STA	
Bluetooth Protocol	Bluetooth 5.4	
Dimensions	16.0 mm × 12.0 mm × 1.9 mm	
Weight	Approx. 0.73 g	
Temperature Range		
Operating Temperature	-20 °C to +80 °C	
Storage Temperature	-25 °C to +90 °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)	
UART ①	× 1 (for Bluetooth)	
USB ①	× 1 (for Bluetooth)	
PCM	× 1 (for Bluetooth)	
Enable Pin	WLAN_EN	
Wi-Fi Antenna Interface	× 1 (ANT_WIFI1)	
Wi-Fi/Bluetooth Antenna Interface	× 1 (ANT_WIFI0/BT)	
Electrical Features		
Power Supply Voltage	VBAT: 3.0–3.6 V, Typ. 3.3 V VDD_IO: 1.71–3.465 V, Typ. 3.3 V	
Power Consumption	Max. current at Tx mode: 243.19 mA @ VBAT 0.15 mA @ VDD_IO	
Certifications		
Regulatory (Planning)	Europe: CE America: FCC Canada: IC China: SRRC Australia/New Zealand: RCM	

NOTE:
①: FGE560X in Classic Bluetooth mode supports UART and USB interfaces on Linux systems with ARM architecture, while only USB interface is supported on Windows systems. For more details, please contact Quectel Technical Support.

Quectel FGE560X

Wi-Fi 6 & Bluetooth 5.4

FGE560X

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	-73 dBm
	802.11ax/HE20 MCS 0	18 dBm	-94 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	-63 dBm
5 GHz	802.11a/6 Mbps	18 dBm	-94 dBm
	802.11a/54 Mbps	15 dBm	-77 dBm
	802.11n/HT20 MCS 0	18 dBm	-94 dBm
	802.11n/HT20 MCS 7	15 dBm	-75 dBm
	802.11n/HT40 MCS 0	18 dBm	-90 dBm
	802.11n/HT40 MCS 7	15 dBm	-72 dBm
	802.11ac/VHT20 MCS 0	18 dBm	-94 dBm
	802.11ac/VHT20 MCS 8	14 dBm	-71 dBm
	802.11ac/VHT40 MCS 0	18 dBm	-90 dBm
	802.11ac/VHT40 MCS 9	14 dBm	-66 dBm
	802.11ac/VHT80 MCS 0	18 dBm	-87 dBm
	802.11ac/VHT80 MCS 9	14 dBm	-63 dBm
	802.11ax/HE20 MCS 0	18 dBm	-93 dBm
	802.11ax/HE20 MCS 11	12 dBm	-64 dBm
	802.11ax/HE40 MCS 0	18 dBm	-91 dBm
	802.11ax/HE40 MCS 11	12 dBm	-62 dBm
	802.11ax/HE80 MCS 0	18 dBm	-87 dBm
	802.11ax/HE80 MCS 11	12 dBm	-58 dBm

Bluetooth Performance

	Transmit Power (Typ.)	Receiver Sensitivity (Typ.)
BR (GFSK)	5 dBm	-93 dBm
EDR ($\pi/4$ -DQPSK)	5 dBm	-95 dBm
EDR (8-DPSK)	5 dBm	-88 dBm
BLE (1 Mbps)	5 dBm	-100 dBm
BLE (2 Mbps)	5 dBm	-98 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)
FGE560X	FGE560XAAMD	Two antennas	-20 °C to +80 °C	FGE560XAAM2