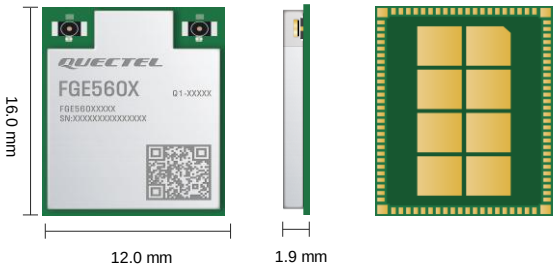
Quectel FGE560X

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.

FGE560X 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
- 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

Version: 1.1 | Status: Released

Quectel FGE560X

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 ①
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 ②	× 1 (for Bluetooth)
USB ②	× 1 (for Bluetooth)
PCM	× 1 (for Bluetooth)
Wi-Fi Antenna	× 1, RF coaxial connector (IPEX Gen 4)
Wi-Fi/Bluetooth Antenna	× 1, RF coaxial connector (IPEX Gen 4)
Electrical Features	
Power Supply Voltage	VBAT: 3.0–3.6 V, typ. 3.3 V VDD_IO: 3.135–3.465 V, typ. 3.3 V; 1.71–1.89 V, typ. 1.8 V
Power Consumption	Max. current at Tx mode: 243.19 mA @ VBAT 0.15 mA @ VDD_IO
Certifications	
Regulatory	**Europe:** CE **America:** FCC **Canada:** IC **China:** SRRC **Australia/New Zealand:** RCM
Others	WHQL

NOTE:

①: WAPI is supported on Linux systems and not supported on Windows systems.

②: FGE560X in Bluetooth mode supports USB interface (default) or UART interface on Linux systems with ARM architecture, while only USB interface is supported on Windows systems. For more details, please contact Quectel Technical Support.

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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 (π/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

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