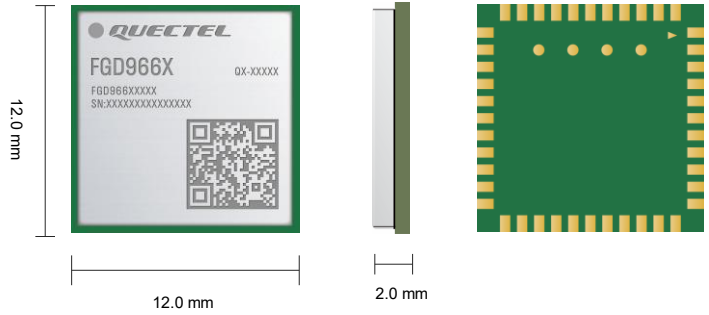


Quectel FGD966X

Wi-Fi 6 & BLE 5.4 & IEEE 802.15.4 Module



FGD966X is a high-performance Wi-Fi 6, BLE 5.4 and 802.15.4 module in LGA package launched by Quectel. Under the IEEE 802.11ax standard protocol, it supports MCS 0–MCS 9 rates in a 20 MHz bandwidth with 256QAM supported. The module is designed with a reliable SDIO 3.0 and USB interface to provide WLAN capability.

With an ultra-compact size of 12.0 mm × 12.0 mm × 2.0 mm, FGD966X optimizes the size and cost for end-products, which fully meets the demands of size-sensitive applications.

Surface-mount Technology (SMT) makes FGD966X 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. The advanced package, integrated shielding cover and the laser-engraved label with better heat dissipation and indelible markings allow for large-scale automated manufacturing that has strict requirements on cost and efficiency. Coupled with its compact size and wide operating temperature range, FGD966X is suitable for a variety of smart home and industrial applications.

Key Features

- ✓ 2.4 GHz/ 5 GHz Wi-Fi bands, BLE 5.4 and 802.15.4 standard
- ✓ SDIO 3.0/ USB 2.0 interface that support higher data transmission rate and enable lower power consumption
- ✓ Faster time-to-market: simple design minimizes design-in time and development efforts
- ✓ Wide operating temperature range: -40 °C to +85 °C



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



BLE 5.4



LGA Package



SDIO 3.0
Interface



USB 2.0
Interface



Ultra-compact
Size



Multiple
Interfaces



Operating Temperature
Range: -40 °C to +85 °C

Quectel FGD966X

Wi-Fi 6 & BLE 5.4	FGD966X
WLAN Protocol	IEEE 802.11 a/b/g/n/ac/ax
Wi-Fi Frequency Band	2.4 GHz/ 5 GHz
Wi-Fi Antenna	1 × 1
Wi-Fi Modulation Mode	DSSS/ OFDM/ DBPSK/ DQPSK/ CCK/ BPSK/ QPSK/ 16QAM/ 64QAM/ 256QAM
Encryption Mode	WPA2/ WPA3
Wi-Fi Operating Mode	AP/ STA
IEEE 802.15.4	Supported
Bluetooth Protocol	BLE 5.4
Dimensions	12.0 mm × 12.0 mm × 2.0 mm
Weight	TBD
Temperature Range	
Operating Temperature	-40 °C to +85 °C
Storage Temperature	-40 °C to +90 °C
Physical Rate (Max.)	
802.11a	54 Mbps
802.11b	11 Mbps
802.11g	54 Mbps
802.11n	72.2 Mbps
802.11ac	86.7 Mbps
802.11ax	114.7 Mbps
Interfaces	
Wi-Fi/Bluetooth/802.15.4 Antenna	× 1
SDIO 3.0 ^①	× 1 (for Wi-Fi)
USB 2.0 ^①	× 1 (for Wi-Fi & Bluetooth)
UART ^①	× 1 (for Bluetooth)
SPI	× 1 (for 802.15.4)
Electrical Features	
Power Supply Voltage	VBAT_3V3: 3.14–3.46 V, Typ. 3.3 V
I/O Power Supply Voltage	VDDIO: • 3.14–3.46 V, Typ. 3.3 V • 1.71–1.89 V, Typ. 1.8 V
Power Consumption	Max. current at Tx mode: • TBD @ 3.3 V • TBD @ 1.8 V
Certifications	
Regulatory (Planning)	Europe: CE America: FCC China: SRRC

Model	Ordering Code	Antenna	Interface	Development Board (Only for Debugging)
FGD966X	FGD966XAAMD	One antenna	Wi-Fi application: SDIO 3.0 Bluetooth application: UART	FGD966XAAM2
FGD966X	FGD966XABMD	One antenna	Wi-Fi & Bluetooth application: USB 2.0	FGD966XABM2

NOTE:

①: The module can support SDIO interface or USB interface, but they cannot be utilized simultaneously. When using the USB interface, the SDIO and UART interfaces need to be kept open. You can choose the corresponding module model according to the actual application. For details, please contact Quectel Technical Support.