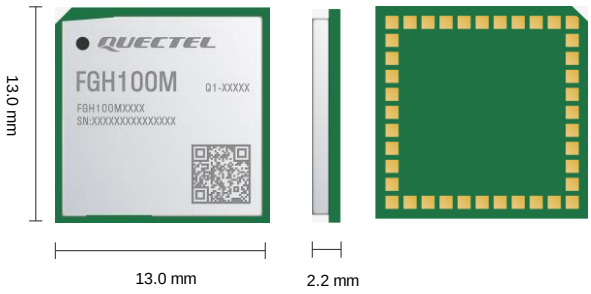
Quectel FGH100M

Wi-Fi HaLow Module
Compact LGA Package



FGH100M is Quectel's new long range, low-power Wi-Fi HaLow module compliant with IEEE 802.11ah standard. It operates in 850–950 MHz bands with 1/2/4/8 MHz channel width and features 21 dBm maximum output power and 32.5 Mbps maximum transmission rate theoretically.

Wi-Fi HaLow is an open, standard, Wi-Fi technology operating in the license-exempt Sub-1 GHz range, designed to meet the unique IoT requirements, thereby expanding the smart home or smart city network with its Sub-1 GHz signal coverage, and allowing users to control IoT devices in 1 km radius.

The surface-mount technology enhances its durability and robustness. The LGA package ensures easy embedding of the module into size-constrained applications and provides reliable connectivity. The advanced package allows for largescale automated manufacturing, which has strict requirements on cost and efficiency.

With its ultra-compact size of 13.0 mm × 13.0 mm × 2.2 mm, FGH100M optimizes and effectively reduces end-product size and design cost, and fully meets the demands of size-sensitive applications.

Key Features

- Wi-Fi HaLow module, 850–950 MHz operating frequency
- AES, SHA-256, SHA-384, SHA-512, WPA3
- SDIO 2.0 interface, long-distance transmission and lower power consumption
- Fast time-to-market via simple design
- Wide operating temperature range: -30 °C to +85 °C


Ultra-compact Size

LGA Package


IEEE 802.11ah

HaLow

SDIO 2.0 Interface


Operating Temperature Range: -30 °C to +85 °C

Version: 1.0.0 | Status: Preliminary

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Wi-Fi HaLow	FGH100M	
WLAN Protocol	IEEE 802.11ah	
Wi-Fi Frequency	850–950 MHz	
Wi-Fi Antenna	× 1	
Wi-Fi Modulation Mode	OFDM, BPSK, QPSK, 16QAM, 64QAM	
Encryption Mode	AES, SHA-256, SHA-384, SHA-512, WPA3	
Operating Mode	AP/STA	
Size	13.0 mm × 13.0 mm × 2.2 mm	
Weight	TBD	
Temperature Range		
Operating Temperature Range	-30 °C to +85 °C	
Data Rate (Max.)		
802.11ah	32.5 Mbps	
Interfaces		
SDIO	× 1	
SPI	× 1	
Electrical Characteristics		
Power Supply Voltage	VBAT: 3.0–3.6 V, typ. 3.3 V	
I/O Power Supply Voltage	VDDIO: 1.8–3.6 V, typ. 3.3 V	
Power Consumption	TBD	
Certifications		
Regulatory (Planning)	**Europe:** CE **America:** FCC **China:** SRRC	
Wi-Fi Performance		
	Receiver Sensitivity (Typ.)	**Transmit Power (Typ.)**
MCS0 (1 MHz)	TBD	TBD
MCS0 (2 MHz)	TBD	TBD
MCS0 (4 MHz)	TBD	TBD
MCS0 (8 MHz)	TBD	TBD
MCS7 (1 MHz)	TBD	TBD
MCS7 (2 MHz)	TBD	TBD
MCS7 (4 MHz)	TBD	TBD
MCS7 (8 MHz)	TBD	TBD
MCS10 (1 MHz)	TBD	TBD

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