Quectel FCM360W

Wi-Fi 6 & Bluetooth 5.1 Module
Compact LCC Package

25.5 mm

18.0 mm   **3.2 mm**
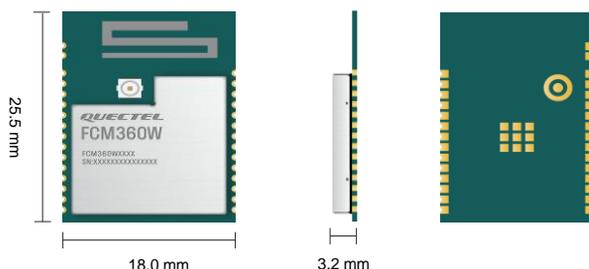
FCM360W is a cutting-edge MCU Wi-Fi and Bluetooth module launched by Quectel. It boasts a high-performance processor with a frequency of up to 240 MHz and supports IEEE 802.11b/g/n/ax protocol and Bluetooth 5.1. The module features built-in 512 KB SRAM and 4 MB/ 8 MB flash, ensuring efficient performance. In addition, it complies with WPA-PSK, WPA2-PSK and WPA3-PSK security standards, providing 128-bit AES encryption for added security.

FCM360W is in a LCC form factor with an ultra-compact package size of 25.5 mm × 18.0 mm × 3.2 mm, which optimizes the size and cost for end-products and is compatible with diverse designs.

FCM360W supports multiple interfaces including UART, SPI, I2C, I2S, ADC and PWM, and many low power consumption modes and keep-alive mechanism, which provide flexibility and versatility for a range of applications, especially in smart homes and industrial IoT scenarios.

FCM360W supports the QuecOpen® solution, and has a user-friendly protocol stack and large memory. This allows for multi-channel SSL connections and local cache of large amounts of data, making it especially suitable for photovoltaic inverters, energy storage batteries and other smart devices that require long-term data monitoring and storage.

Key Features

✔ Wi-Fi 6 module, single band (2.4 GHz) Wi-Fi, 1 × 1 antenna

✔ Bluetooth 5.1 and Bluetooth pairing

✔ Large memory, 512 KB SRAM and 4 MB/ 8 MB flash

✔ Multiple interfaces, 19 GPIOs

✔ UART, SPI, I2C, I2S, ADC and PWM

✔ RF coaxial connector, external antenna pin, PCB antenna (optional)

✔ SPI interface available for Ethernet solution*

IEEE 802.11b/g/n/ax   Bluetooth 5.1   Large Memory

Compact Size   LCC Form Factor   Multiple Interfaces

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

Version: 1.0 | Status: Released

Wi-Fi 6 & Bluetooth 5.1	FCM360W
WLAN Protocol	IEEE 802.11b/g/n/ax
Wi-Fi Frequency Band	2.4 GHz
Wi-Fi Modulation Mode	CCK/ BPSK/ QPSK/ 16QAM/ 64QAM
Wi-Fi Operating Mode	AP/ STA
Bluetooth Protocol	Bluetooth 5.1
Encryption Mode	WPA-PSK/ WPA2-PSK/ WPA3-PSK/ AES-128
Internet Protocol	IPv6
Kernel	RISC Processor (up to 240 MHz)
SRAM	512 KB
Flash [1]	4 MB/ 8MB
Dimension	25.5 mm × 18.0 mm × 3.2 mm
Weight	1.65 g
Temperature Range	
Operating Temperature Range	-40 °C to +85 °C
Storage Temperature Range	-45 °C to +95 °C
Certification	
Regulatory	**Europe:** CE* **America:** FCC* **China:** SRRC* **Canada:** IC* **Australia/New Zealand:** RCM*
Interfaces	
Antenna Interface	× 1 (RF coaxial connector, external antenna pin, PCB antenna) (Optional)
Other Interfaces [2]	UART/ SPI/ I2C/ I2S/ PWM/ ADC
Electrical Features	
Power Supply Voltage	3.0–3.6 V, Typ. 3.3 V
RF Performance	

		Receiver Sensitivity	Transmit Power
2.4 GHz	802.11b/1 Mbps	-92 dBm ±2 dB	17 dBm ±2 dB
	802.11b/11 Mbps	-86 dBm ±2 dB	17 dBm ±2 dB
	802.11g/6 Mbps	-89 dBm ±2 dB	14 dBm ±2 dB
	802.11g/54 Mbps	-73 dBm ±2 dB	14 dBm ±2 dB
	802.11n/HT20 MCS 0	-89 dBm ±2 dB	14 dBm ±2 dB
	802.11n/HT20 MCS 7	-70 dBm ±2 dB	14 dBm ±2 dB
	802.11n/HT40 MCS 0	-87 dBm ±2 dB	13 dBm ±2 dB
	802.11n/HT40 MCS 7	-67 dBm ±2 dB	13 dBm ±2 dB
	802.11ax/HT20 MCS 0	-89 dBm ±2 dB	14 dBm ±2 dB
	802.11ax/HT20 MCS 7	-69 dBm ±2 dB	14 dBm ±2 dB
BLE	1 Mbps	-90 dBm ±2 dB	6 dBm ±2 dB
	2 Mbps	-89 dBm ±2 dB	6 dBm ±2 dB

Ordering Code	Flash	Operating Temperature Range	Antenna	Development Board (Only for Debugging)
FCM360WAAMD-1X-04	4 MB	-40 °C to +85 °C	RF coaxial connector	-
FCM360WAAMD-0L-04	4 MB	-40 °C to +85 °C	External antenna pin	FCM360WAATB-0L-04
FCM360WAAMD-0P-04	4 MB	-40 °C to +85 °C	PCB antenna	FCM360WAATB-0P-04
FCM360WAAMD-0P-08	8 MB	-40 °C to +85 °C	PCB antenna	-

NOTE:

1. [1]: Contact Quectel sales if you need a flash of other specifications.
2. [2]: See hardware design documents for details of the module interfaces.
3. *: under development or ongoing.

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