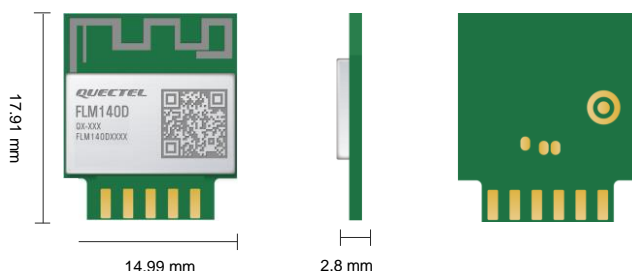


Quectel FLM140D

Wi-Fi 4 & BLE 5.2 Module Compact DIP Package



FLM140D 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 120 MHz and supports IEEE 802.11b/g/n protocol and BLE 5.2. The module features built-in 256 KB RAM, 2 MB or 4 MB flash, ensuring efficient performance. In addition, it complies with WPA-PSK, WPA2-PSK and WPA3-SAE security standards.

FLM140D is in a DIP form factor with an ultra-compact package size of 17.91 mm × 14.99 mm × 2.8 mm, which optimizes the size and cost for end-products and is compatible with diverse designs.

The module supports multiple interfaces including UART, GPIO, 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. Especially suitable for smart sockets and other small volume, high temperature IoT devices.

The module supports the QuecOpen® solution and has a compact protocol stack, allowing for efficient product development.



Key Features

- ✓ Wi-Fi 4 module, single band (2.4 GHz) Wi-Fi, 1 × 1 antenna
- ✓ BLE 5.2 and Bluetooth pairing
- ✓ Large memory, 256 KB RAM, 2 MB or 4 MB flash
- ✓ Supports UART, GPIO, ADC and PWM interfaces
- ✓ PCB antenna
- ✓ High stability, high reliability and full compatibility



IEEE 802.11b/g/n



BLE 5.2



Large Memory



Compact Size



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

Quectel FLM140D

Wi-Fi 4 & BLE 5.2		FLM140D	
WLAN Protocol	IEEE 802.11b/g/n		
Wi-Fi Frequency Band	2.4 GHz		
Wi-Fi Modulation Mode	BPSK/ QPSK/ CCK/ 16QAM/ 64QAM		
Wi-Fi Operating Mode	AP/ STA		
Bluetooth Protocol	Bluetooth 5.2		
Encryption Mode	WPA-PSK/ WPA2-PSK/ WPA3-SAE		
Internet Protocol	IPv6		
Kernel	ARM968 (up to 120 MHz)		
RAM	256 KB		
Flash	2 MB/ 4 MB ^①		
Dimension	17.91 mm × 14.99 mm × 2.8 mm		
Weight	Approx. 0.83 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 The UK: UKCA Canada: IC China: SRRC Australia/New Zealand: RCM		
Interfaces			
Antenna Interface	× 1 (PCB antenna)		
Other Interfaces ^②	UART/ GPIO/ ADC/ PWM		
Electrical Features			
Power Supply Voltage	3.0–3.6 V, Typ. 3.3 V		
RF Performance			
		Receiving Sensitivity	Output Power
2.4 GHz	802.11b/1 Mbps	-97 dBm ±2 dB	16 dBm ±2 dB
	802.11b/11 Mbps	-88 dBm ±2 dB	16 dBm ±2 dB
	802.11g/6 Mbps	-91 dBm ±2 dB	15 dBm ±2 dB
	802.11g/54 Mbps	-74 dBm ±2 dB	14 dBm ±2 dB
	802.11n/HT20 MCS 0	-91 dBm ±2 dB	14 dBm ±2 dB
	802.11n/HT20 MCS 7	-71 dBm ±2 dB	13 dBm ±2 dB
BLE	1 Mbps	-96 dBm ±2 dB	6 dBm ±2 dB

Ordering Code	Flash	Operating Temperature Range	Antenna	Development Board (Only for Debugging)
FLM140DAAMD-0P-04	4 MB	-40 °C to +85 °C	PCB antenna	FLM140DAATB-0P-04
FLM140DAAMD-0P-02	2 MB	-40 °C to +85 °C	PCB antenna	-

NOTE:

- ①: Contact Quectel sales if you need a flash of other specifications.
- ②: See hardware design manual for details of the module interfaces.