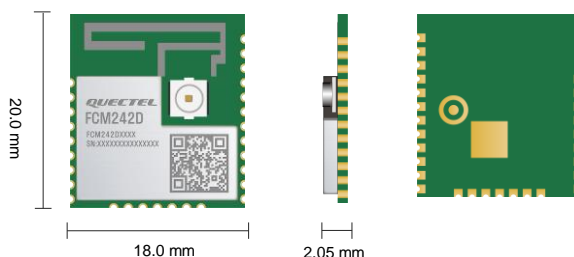


Quectel FCM242D

Wi-Fi 4 & BLE 5.2 Module Compact LCC Package



FCM242D 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 160 MHz and supports IEEE 802.11b/g/n protocol and BLE 5.2. The module features built-in 288 KB RAM and 2 MB flash, ensuring efficient performance.

FCM242D is in an LCC form factor with an ultra-compact package size of 20.0 mm × 18.0 mm × 2.05 mm, which optimizes the size and cost for end-products and is compatible with diverse designs.

FCM242D complies with WPA-PSK, WPA2-PSK and WPA3-PSK security standards, supports TRNG (True Random Number Generator) and AES-128 encryption algorithm, and supports secure firmware and flash encryption.

FCM242D supports UART and GPIO interfaces by default and supports SPI, I2C, ADC and PWM interfaces in QuecOpen® solution, 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.

FCM242D supports QuecOpen® solution and standard AT commands, with a compact protocol, and can realize efficient product development for customers.



Key Features

- ✓ Wi-Fi 4 module, single band (2.4 GHz) Wi-Fi, 1 × 1 antenna
- ✓ Bluetooth Low Energy (BLE 5.2)
- ✓ Built-in 2 MB flash
- ✓ Supports up to 17 GPIOs for SPI, I2C, ADC and PWM interfaces in QuecOpen® solution
- ✓ 1st generation RF coaxial connector, pin antenna interface, PCB antenna (optional)
- ✓ Operating Temperature Range: -40 to +105 °C



IEEE 802.11b/g/n



BLE 5.2



Operating Temperature Range: -40 to +105 °C



Compact Size



LCC Form Factor



Multiple Interfaces

Quectel FCM242D

Wi-Fi 4 & BLE 5.2		FCM242D	
WLAN Protocol	IEEE 802.11b/g/n		
Wi-Fi Frequency Band	2.4 GHz		
Wi-Fi Modulation Mode	DBPSK/ DQPSK/ CCK/ BPSK/ QPSK/ 16QAM/ 64QAM		
Wi-Fi Operating Mode	AP/ STA		
Bluetooth Protocol	BLE 5.2		
Encryption Mode	WPA-PSK/ WPA2-PSK/ WPA3-PSK/ AES-128/ TRNG		
Internet Protocol	IPv4/ IPv6		
Kernel	ARM968 processor (up to 160 MHz)		
RAM	288 KB		
Flash	2 MB ^①		
Dimensions	20.0 mm × 18.0 mm × 2.05 mm		
Weight	Approx. 1.09 g		
Temperature Range			
Operating Temperature	-40 °C to +105 °C		
Storage Temperature	-45 °C to +115 °C		
Certification			
Regulatory	Europe: CE America: FCC Canada: IC China: SRRC Australia/New Zealand: RCM		
Interfaces			
Antenna Interface	× 1 (1 st generation RF coaxial connector, pin antenna interface, PCB antenna) (optional)		
Other Interfaces ^②	UART/ GPIO/ SPI/ I2C/ ADC/ PWM		
Electrical Features			
Power Supply Voltage	3.0–3.6 V, Typ. 3.3 V		
RF Performance			
		Receiver Sensitivity (Typ.)	Transmit Power (Typ.)
2.4 GHz	802.11b/1 Mbps	-99 dBm	17 dBm
	802.11b/11 Mbps	-91 dBm	17 dBm
	802.11g/6 Mbps	-91 dBm	15 dBm
	802.11g/54 Mbps	-77 dBm	14 dBm
	802.11n/HT20 MCS 0	-91 dBm	14 dBm
	802.11n/HT20 MCS 7	-73 dBm	13 dBm
BLE	125 kbps	-102 dBm	7 dBm
	500 kbps	-97 dBm	7 dBm
	1 Mbps	-97 dBm	7 dBm
	2 Mbps	-95 dBm	7 dBm

Ordering Code	Operating Temperature	Storage Temperature	Antenna	Development Board (Only for Debugging)
FCM242DAAMD-1X-02	-40 °C to +105 °C	-45 °C to +115 °C	1 st generation RF coaxial connector	FCM242DAATB-1X-02
FCM242DAAMD-0L-02	-40 °C to +105 °C	-45 °C to +115 °C	Pin antenna interface	FCM242DAATB-0L-02
FCM242DAAMD-0P-02	-40 °C to +105 °C	-45 °C to +115 °C	PCB antenna	FCM242DAATB-0P-02

NOTE:

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