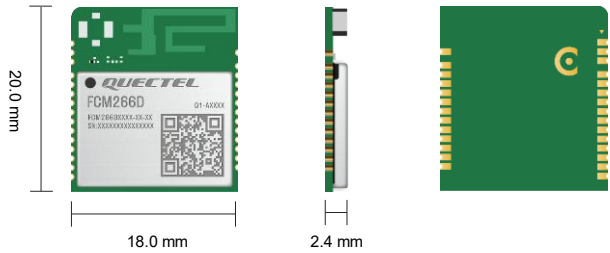




Quectel FCM266D

Wi-Fi 6 & BLE 5.4 Module

Compact LCC Package



FCM266D is a cutting-edge MCU Wi-Fi and Bluetooth module launched by Quectel. It boasts a high-performance ARMv8-M Star MCU processor with a frequency of up to 240 MHz and supports IEEE 802.11 b/g/n/ax protocol and BLE 5.4. The module features built-in 640 KB SRAM and 4 MB flash, ensuring efficient performance.

The module complies with WPA-PSK, WPA2-PSK and WPA3-SAE security standards, supports TRNG (True Random Number Generator) and AES/ RSA/ SHA/ ECC encryption algorithm. The module is in an LCC form factor with an ultra-compact package size of 20.0 mm × 18.0 mm × 2.4 mm, which optimizes the size and cost for end-products and is compatible with diverse designs.

FCM266D supports UART, SPI, I2C, ADC, PWM interfaces by default, and supports SDIO interface 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. Thanks to its high processor frequency and Wi-Fi 6 protocol, the module is particularly suitable for application scenarios such as photovoltaics and energy storage, which require high-speed commands and low-latency data transmission.

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



Key Features

- ✓ Wi-Fi 6 module, single band (2.4 GHz), 1 × 1 antenna
- ✓ BLE 5.4 and Bluetooth-assisted Wi-Fi provisioning
- ✓ Built-in 640 KB SRAM and 4 MB flash
- ✓ Supports up to 21 GPIOs under the QuecOpen® solution, providing multiple peripheral interfaces
- ✓ 1st generation RF coaxial connector, pin antenna interface, PCB antenna (optional)
- ✓ Wide operating temperature range: -40 to +85 °C



IEEE
802.11 b/g/n/ax



BLE 5.4



Large Memory



LCC Form Factor



Compact Size



-40 °C to +85 °C



Multiple
Interfaces

Wi-Fi 6 & BLE 5.4		FCM266D		
WLAN Protocol		IEEE 802.11 b/g/n/ax		
Wi-Fi Frequency Band		2.4 GHz		
Wi-Fi Modulation Mode		BPSK/ QPSK/ CCK/ 16QAM/ 64QAM/ 256QAM		
Wi-Fi Operating Mode		AP/ STA		
Bluetooth Protocol		BLE 5.4		
Encryption Mode		WPA-PSK/ WPA2-PSK/ WPA3-SAE/ TRNG/ AES/ RSA/ SHA/ ECC		
Internet Protocol		IPv4, IPv6		
Kernel		ARMv8-M Star MCU processor (up to 240 MHz)		
SRAM		640 KB		
Flash		4 MB		
Dimensions		20.0 mm × 18.0 mm × 2.4 mm		
Weight		Approx. 1.23 g		
Temperature Range				
Operating Temperature		-40 °C to +85 °C		
Storage Temperature		-45 °C to +95 °C		
Certification				
Regulatory		Europe: CE America: FCC Canada: IC China: SRRC		
Interfaces				
Other Interfaces ①		UART/ SPI/ I2C/ PWM/ ADC/ SDIO		
Antenna Interface		1st generation RF coaxial connector, pin antenna interface, PCB antenna (Optional)		
Supply Voltage				
Power Supply Voltage		2.0–4.35 V, typ. 3.3 V		
RF Performance				
		Receiver Sensitivity		Transmit Power
2.4 GHz	802.11b/ 1 Mbps	-97 dBm ±2 dB		19 dBm ±2 dB
	802.11b/ 11 Mbps	-88 dBm ±2 dB		19 dBm ±2 dB
	802.11g/ 6 Mbps	-93 dBm ±2 dB		16 dBm ±2 dB
	802.11g/ 54 Mbps	-75 dBm ±2 dB		16 dBm ±2 dB
	802.11n/ HT20 MCS 0	-92 dBm ±2 dB		15 dBm ±2 dB
	802.11n/ HT20 MCS 7	-73 dBm ±2 dB		14 dBm ±2 dB
	802.11n/ HT40 MCS 0	-89 dBm ±2 dB		14 dBm ±2 dB
	802.11n/ HT40 MCS 7	-71 dBm ±2 dB		14 dBm ±2 dB
	802.11ax/ HE20 MCS 0	-93 dBm ±2 dB		15 dBm ±2 dB
	802.11ax/ HE20 MCS 7	-75 dBm ±2 dB		14 dBm ±2 dB
	802.11ax/ HE40 MCS 0	-90 dBm ±2 dB		14 dBm ±2 dB
	802.11ax/ HE40 MCS 7	-72 dBm ±2 dB		14 dBm ±2 dB
BLE	1 Mbps	-96 dBm ±2 dB		6 dBm ±2 dB
	2 Mbps	-94 dBm ±2 dB		6 dBm ±2 dB
	S = 2	-97 dBm ±2 dB		6 dBm ±2 dB
	S = 8	-99 dBm ±2 dB		6 dBm ±2 dB
Ordering Code	Flash	Operating Temperature	Antenna	Development Board (Only for Debugging)
FCM266DAAMD-0L-04	4 MB	-40 °C to +85 °C	Pin antenna interface	FCM266DAATB-0L-04
FCM266DAAMD-0P-04	4 MB	-40 °C to +85 °C	PCB antenna	FCM266DAATB-0P-04
FCM266DAAMD-1X-04	4 MB	-40 °C to +85 °C	1st generation RF coaxial connector	FCM266DAATB-1X-04

NOTE:
①: See hardware design manual for details of the module interfaces.