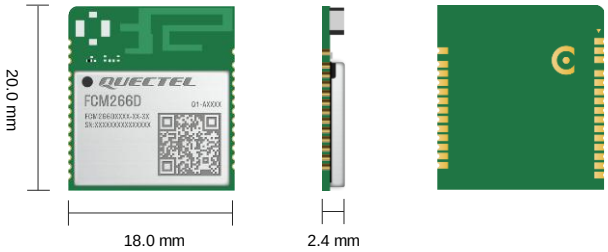
Quectel FCM266D

Wi-Fi 6 & BLE 5.4 Module
Compact LCC Package



FCM266D is a cutting-edge MCU Wi-Fi and Bluetooth Combo module launched by Quectel. It boasts a high-performance ARMv8-M Star MCU processor with a frequency of up to 240 MHz supporting IEEE 802.11 b/ g/ n/ ax protocol and BLE 5.4. The module features built-in 512 KB SRAM and 4 MB flash. The module adopts an LCC form factor and features an ultra-compact mechanical size of 20.0 mm × 18.0 mm × 2.4 mm, enabling flexible compatibility with various mechanical designs for end devices.

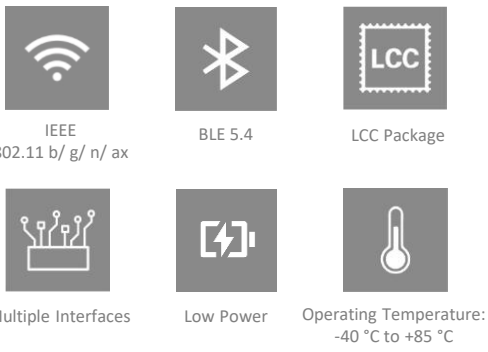
The module provides interfaces such as UART, SPI, I2C, ADC, PWM, SDIO, and multiple low power consumption modes as well as best designed keep-alive mechanism, enabling its compatibilities in a wide range of applications, especially in smart homes and industrial IoT applications. Thanks to its ultra-low power design, this module is particularly ideal for battery-powered Wi-Fi devices such as smart locks, video transmission devices and sensors.

The module complies with WPA-PSK, WPA2-PSK and WPA3-SAE security standards, and supports TRNG (True Random Number Generator) and AES/ RSA/ SHA/ ECC encryption algorithm.

The module supports QuecOpen® solution and standard AT commands with a comprehensive profiles offering easy and highly efficient application development.

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 512 KB SRAM and 4 MB flash
- Up to 21 GPIOs with flexible multiplexing options
- RF coaxial connector (IPEX Gen 1), pin antenna interface, PCB antenna (optional)



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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	512 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
Certifications	
Regulatory/ Conformance	**Europe:** CE **America:** FCC **Canada:** IC **China:** SRRC **Japan:** JATE/ TELEC
Interfaces	
Other Interfaces ①	UART/ SPI/ I2C/ PWM/ ADC/ SDIO
Antenna Interface	× 1, (RF coaxial connector (IPEX Gen 1), pin antenna interface, PCB antenna) (Optional)
Supply Voltage	
Power Supply Voltage ①	2.0–5.5 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
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	SRAM	Flash	Operating Temperature	Antenna	Development Board (Only for Debugging)
FCM266DABMD-0L-04	512 KB	4 MB	-40 °C to +85 °C	Pin antenna interface	FCM266DABTB-0L-04
FCM266DABMD-0P-04	512 KB	4 MB	-40 °C to +85 °C	PCB antenna	FCM266DABTB-0P-04
FCM266DABMD-1X-04	512 KB	4 MB	-40 °C to +85 °C	RF coaxial connector (IPEX Gen 1)	FCM266DABTB-1X-04

NOTE:
①: See hardware design manual for details.

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