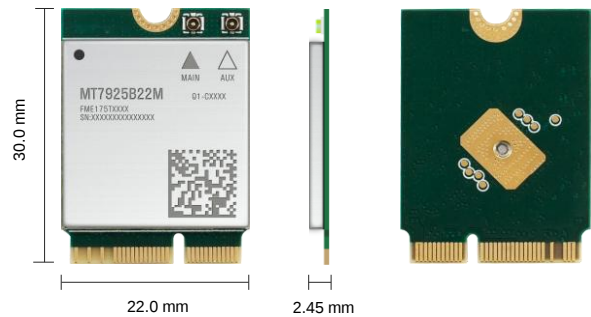


Quectel FME175T

2.4/ 5/ 6 GHz Wi-Fi Bands
2 × 2 MIMO
Wi-Fi 7 & Bluetooth 5.4 Module



FME175T is a highly integrated consumer-grade module featuring dual-mode support for Wi-Fi 7 and Bluetooth 5.4. Utilizing an M.2 form factor with compact dimensions of 22.0 mm × 30.0 mm × 2.45 mm, the module ensures seamless integration into host devices.

FME175T is a low-power, cost-effective Wi-Fi and Bluetooth module that operates in the 2.4 GHz, 5 GHz, and 6 GHz Wi-Fi bands. Additionally, it supports Classic Bluetooth (BR + EDR) and BLE (Bluetooth Low Energy). Among these, the maximum data transmission rate in BLE mode can reach 2 Mbps, and BLE long-distance transmission is supported. The module also ensures that Bluetooth and Wi-Fi coexistence can operate concurrently on the 2.4 GHz band without interfering with one another.

FME175T supports 2 × 2 MIMO, 4K-QAM and 160 MHz bandwidth, with a maximum data rate of up to 2.9 Gbps. The module allows terminals to use multiple wireless bands and channels to connect to Wi-Fi 7 clients simultaneously through Multi-Link Operation (MLO), which can achieve higher data rates, lower latency and higher network reliability, making it particularly suitable for laptop applications.



Key Features

- ✓ 2.4 GHz/ 5 GHz/ 6 GHz Wi-Fi bands
- ✓ Bluetooth 5.4
- ✓ 4K-QAM
- ✓ Multi-Link Operation (MLO)
- ✓ Multi-User Multiple Input Multiple Output
- ✓ M.2 form factor
- ✓ Wide operating temperature range: -10 °C to +70 °C



IEEE 802.11
a/b/g/n/ac/ax/be



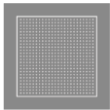
Bluetooth 5.4



Ultra-low Latency



Multi-Link Operation (MLO)



4K-QAM



M.2 Form Factor



MU-MIMO

Quectel FME175T

Wi-Fi 7 & Bluetooth 5.4		FME175T
WLAN Protocol	IEEE 802.11a/b/g/n/ac/ax/be	
Wi-Fi Frequency Band	2.4 GHz/ 5 GHz/ 6 GHz	
Wi-Fi Antenna	2 × 2 + 2 × 2	
Wi-Fi Modulation Mode	DBPSK/ DQPSK/ CCK/ BPSK/ QPSK/ 16QAM/ 64QAM/ 256QAM/ 1024QAM/ 4096QAM	
2.4 GHz Channel Bandwidth	20 MHz/ 40 MHz	
5 GHz Channel Bandwidth	20 MHz/ 40 MHz/ 80 MHz/ 160 MHz	
6 GHz Channel Bandwidth	20 MHz/ 40 MHz/ 80 MHz/ 160 MHz	
Encryption Mode	WPA3	
Wi-Fi Operating Mode	AP/ STA	
Bluetooth Protocol	Bluetooth 5.4	
Dimensions	22.0 mm × 30.0 mm × 2.45 mm	
Weight	Approx. 2.33 g	
Temperature Range		
Operating Temperature	-10 °C to +70 °C	
Physical Rate (Max.)		
802.11a	54 Mbps	
802.11b	11 Mbps	
802.11g	54 Mbps	
802.11n	300 Mbps	
802.11ac	1732 Mbps	
802.11ax	2400 Mbps	
802.11be	2900 Mbps	
Interfaces		
PCIe 2.1	× 1 (for Wi-Fi)	
USB	× 1 (for Bluetooth)	
PCM	× 1 (for Bluetooth)	
Wi-Fi/Bluetooth Antenna Interfaces	× 2	
Electrical Features		
Power Supply Voltage	VCC: 3.0–3.6 V, Typ. 3.3 V	
Power Consumption	Max. current at Tx mode: 948.01 mA @ VCC	
Certifications		
Regulatory	Europe: CE America: FCC Canada: IC China: SRRC Japan: JATE/TELEC Australia/New Zealand: RCM South Korea: KC Brazil: Anatel	

Quectel FME175T

Wi-Fi 7 & Bluetooth 5.4		FME175T	
Wi-Fi Performances			
		Transmit Power	Receiver Sensitivity
2.4 GHz	802.11b @ 1 Mbps	22 dBm ±2 dB	-96 dBm ±2 dB
	802.11b @ 11 Mbps	22 dBm ±2 dB	-87 dBm ±2 dB
	802.11g @ 6 Mbps	22 dBm ±2 dB	-93 dBm ±2 dB
	802.11g @ 54 Mbps	19 dBm ±2 dB	-75 dBm ±2 dB
	802.11n, HT20 @ MCS 0	21.5 dBm ±2 dB	-93 dBm ±2 dB
	802.11n, HT20 @ MCS 7	19 dBm ±2 dB	-73 dBm ±2 dB
	802.11n, HT40 @ MCS 0	20 dBm ±2 dB	-90 dBm ±2 dB
	802.11n, HT40 @ MCS 7	19 dBm ±2 dB	-70 dBm ±2 dB
	802.11ax, HE20 @ MCS 0	21.5 dBm ±2 dB	-93 dBm ±2 dB
	802.11ax, HE20 @ MCS 11	17 dBm ±2 dB	-63 dBm ±2 dB
	802.11ax, HE40 @ MCS 0	20 dBm ±2 dB	-90 dBm ±2 dB
	802.11ax, HE40 @ MCS 11	16.5 dBm ±2 dB	-60 dBm ±2 dB
	802.11be, EHT20 @ MCS 0	21.5 dBm ±2 dB	-93 dBm ±2 dB
	802.11be, EHT20 @ MCS 13	15.5 dBm ±2 dB	-57 dBm ±2 dB
	802.11be, EHT40 @ MCS 0	20 dBm ±2 dB	-90 dBm ±2 dB
	802.11be, EHT40 @ MCS 13	15.5 dBm ±2 dB	-54 dBm ±2 dB
5 GHz	802.11a @ 6 Mbps	22 dBm ±2 dB	-92 dBm ±2 dB
	802.11a @ 54 Mbps	18 dBm ±2 dB	-75 dBm ±2 dB
	802.11n, HT20 @ MCS 0	22 dBm ±2 dB	-92 dBm ±2 dB
	802.11n, HT20 @ MCS 7	18.5 dBm ±2 dB	-73 dBm ±2 dB
	802.11n, HT40 @ MCS 0	21 dBm ±2 dB	-90 dBm ±2 dB
	802.11n, HT40 @ MCS 7	18 dBm ±2 dB	-70 dBm ±2 dB
	802.11ac, VHT20 @ MCS 0	22 dBm ±2 dB	-92 dBm ±2 dB
	802.11ac, VHT20 @ MCS 8	17.5 dBm ±2 dB	-69 dBm ±2 dB
	802.11ac, VHT40 @ MCS 0	21 dBm ±2 dB	-90 dBm ±2 dB
	802.11ac, VHT40 @ MCS 9	17 dBm ±2 dB	-65 dBm ±2 dB
	802.11ac, VHT80 @ MCS 0	20.5 dBm ±2 dB	-87 dBm ±2 dB
	802.11ac, VHT80 @ MCS 9	17 dBm ±2 dB	-61 dBm ±2 dB
	802.11ac, VHT160 @ MCS 0	18 dBm ±2 dB	-84 dBm ±2 dB
	802.11ac, VHT160 @ MCS 9	15.5 dBm ±2 dB	-58 dBm ±2 dB
	802.11ax, HE20 @ MCS 0	22 dBm ±2 dB	-92 dBm ±2 dB
	802.11ax, HE20 @ MCS 11	16.5 dBm ±2 dB	-62 dBm ±2 dB
	802.11ax, HE40 @ MCS 0	21 dBm ±2 dB	-90 dBm ±2 dB
	802.11ax, HE40 @ MCS 11	16.5 dBm ±2 dB	-60 dBm ±2 dB
	802.11ax, HE80 @ MCS 0	20.5 dBm ±2 dB	-87 dBm ±2 dB
	802.11ax, HE80 @ MCS 11	15.5 dBm ±2 dB	-56 dBm ±2 dB
	802.11ax, HE160 @ MCS 0	18 dBm ±2 dB	-84 dBm ±2 dB
	802.11ax, HE160 @ MCS 11	14 dBm ±2 dB	-54 dBm ±2 dB
	802.11be, EHT20 @ MCS 0	22 dBm ±2 dB	-92 dBm ±2 dB
	802.11be, EHT20 @ MCS 13	15 dBm ±2 dB	-56 dBm ±2 dB
	802.11be, EHT40 @ MCS 0	21 dBm ±2 dB	-90 dBm ±2 dB
	802.11be, EHT40 @ MCS 13	15 dBm ±2 dB	-54 dBm ±2 dB
	802.11be, EHT80 @ MCS 0	20.5 dBm ±2 dB	-87 dBm ±2 dB
	802.11be, EHT80 @ MCS 13	13.5 dBm ±2 dB	-49 dBm ±2 dB
	802.11be, EHT160 @ MCS 0	18 dBm ±2 dB	-84 dBm ±2 dB
	802.11be, EHT160 @ MCS 13	11.5 dBm ±2 dB	-47 dBm ±2 dB



Quectel FME175T

Wi-Fi 7 & Bluetooth 5.4		FME175T		
Wi-Fi Performances				
		Transmit Power	Receiver Sensitivity	
6 GHz (< 6.5 GHz, including CH111)	802.11a @ 6 Mbps	21 dBm ±2 dB	-91 dBm ±2 dB	
	802.11a @ 54 Mbps	17 dBm ±2 dB	-73 dBm ±2 dB	
	802.11ax, HE20 @ MCS 0	21 dBm ±2 dB	-91 dBm ±2 dB	
	802.11ax, HE20 @ MCS 11	15.5 dBm ±2 dB	-61 dBm ±2 dB	
	802.11ax, HE40 @ MCS 0	20 dBm ±2 dB	-90 dBm ±2 dB	
	802.11ax, HE40 @ MCS 11	15.5 dBm ±2 dB	-59 dBm ±2 dB	
	802.11ax, HE80 @ MCS 0	19.5 dBm ±2 dB	-86 dBm ±2 dB	
	802.11ax, HE80 @ MCS 11	14.5 dBm ±2 dB	-55 dBm ±2 dB	
	802.11ax, HE160 @ MCS 0	17 dBm ±2 dB	-83 dBm ±2 dB	
	802.11ax, HE160 @ MCS 11	13 dBm ±2 dB	-52 dBm ±2 dB	
	802.11be, EHT20 @ MCS 0	21 dBm ±2 dB	-91 dBm ±2 dB	
	802.11be, EHT20 @ MCS 13	14 dBm ±2 dB	-55 dBm ±2 dB	
	802.11be, EHT40 @ MCS 0	20 dBm ±2 dB	-90 dBm ±2 dB	
	802.11be, EHT40 @ MCS 13	14 dBm ±2 dB	-53 dBm ±2 dB	
	802.11be, EHT80 @ MCS 0	19.5 dBm ±2 dB	-86 dBm ±2 dB	
	802.11be, EHT80 @ MCS 13	12.5 dBm ±2 dB	-48 dBm ±2 dB	
	802.11be, EHT160 @ MCS 0	17 dBm ±2 dB	-83 dBm ±2 dB	
	802.11be, EHT160 @ MCS 13	10.5 dBm ±2 dB	-46 dBm ±2 dB	
6 GHz (> 6.5 GHz)	802.11a @ 6 Mbps	20 dBm ±2 dB	-91 dBm ±2 dB	
	802.11a @ 54 Mbps	16 dBm ±2 dB	-73 dBm ±2 dB	
	802.11ax, HE20 @ MCS 0	20 dBm ±2 dB	-91 dBm ±2 dB	
	802.11ax, HE20 @ MCS 11	14.5 dBm ±2 dB	-61 dBm ±2 dB	
	802.11ax, HE40 @ MCS 0	19 dBm ±2 dB	-89 dBm ±2 dB	
	802.11ax, HE40 @ MCS 11	14.5 dBm ±2 dB	-58 dBm ±2 dB	
	802.11ax, HE80 @ MCS 0	18.5 dBm ±2 dB	-85 dBm ±2 dB	
	802.11ax, HE80 @ MCS 11	13.5 dBm ±2 dB	-54 dBm ±2 dB	
	802.11ax, HE160 @ MCS 0	16 dBm ±2 dB	-82 dBm ±2 dB	
	802.11ax, HE160 @ MCS 11	12 dBm ±2 dB	-51 dBm ±2 dB	
	802.11be, EHT20 @ MCS 0	20 dBm ±2 dB	-91 dBm ±2 dB	
	802.11be, EHT20 @ MCS 13	13 dBm ±2 dB	-55 dBm ±2 dB	
	802.11be, EHT40 @ MCS 0	19 dBm ±2 dB	-89 dBm ±2 dB	
	802.11be, EHT40 @ MCS 13	13 dBm ±2 dB	-52 dBm ±2 dB	
	802.11be, EHT80 @ MCS 0	18.5 dBm ±2 dB	-85 dBm ±2 dB	
	802.11be, EHT80 @ MCS 13	11.5 dBm ±2 dB	-47 dBm ±2 dB	
	802.11be, EHT160 @ MCS 0	16 dBm ±2 dB	-82 dBm ±2 dB	
	802.11be, EHT160 @ MCS 13	9.5 dBm ±2 dB	-45 dBm ±2 dB	
Bluetooth Performances				
		Transmit Power	Receiver Sensitivity	
BR (GFSK)		10 dBm ±2 dB	-93 dBm ±2 dB	
EDR (π/4-DQPSK)		7 dBm ±2 dB	-92 dBm ±2 dB	
EDR (8-DQPSK)		7 dBm ±2 dB	-86 dBm ±2 dB	
BLE (1 Mbps)		10 dBm ±2 dB	-96 dBm ±2 dB	
BLE (2 Mbps)		10 dBm ±2 dB	-93 dBm ±2 dB	
BLE (S = 2)		10 dBm ±2 dB	-99 dBm ±2 dB	
BLE (S = 8)		10 dBm ±2 dB	-105 dBm ±2 dB	
Ordering Code		Antenna	DBS	Host Platform
FME175TAAMD		Two Antennas	Not supported	X86 Platform

NOTE:
The module’s laser-engraved label is customized.

