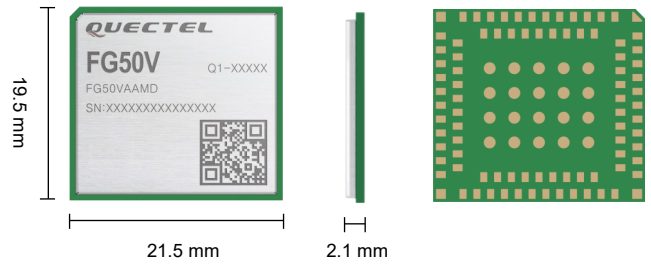


Quectel FG50V

Wi-Fi & BT Module Compact LGA Package



FG50V is a high-performance Wi-Fi 6 and BT 5.1 module in LGA package. It can be used together with Quectel 5G module RG500Q to establish WLAN and Bluetooth connections. Supporting 2×2 MU-MIMO, it provides a maximum data rate up to 1774.5 Mbps.

With a compact and unified form factor of 19.5 mm \times 21.5 mm \times 2.1 mm, FG50V is an ideal Wi-Fi/BT solution for size-sensitive applications, and helps customers reduce product size and optimize application design cost. The surface-mount technology enhances its durability and robustness, and the LGA package makes sure the module can be easily embedded into size-constrained applications and provide reliable connectivity with these applications. The advanced package allows for large-scale automated manufacturing which has strict requirements on cost and efficiency.

Designed with a reliable PCIe 2.0 interface to provide WLAN capability, FG50V achieves low-power and high-speed data transmission. This, coupled with its compact size and extended temperature range, enables the module to meet Wi-Fi/BT+5G application design requirements in industrial, consumer and automotive industries.



Key Benefits

- ✓ Wi-Fi & BT module supporting 2.4 GHz and 5 GHz dual-band and BT 5.1*
- ✓ Support PCIe 2.0 interface which provides higher data transmission rate and lower power consumption
- ✓ Excellent co-existence with Quectel 5G module
- ✓ Fast time-to-market: simple design minimizes design-in time and development efforts
- ✓ Wide operation temperature range (-40°C to +85°C)



Ultra Compact Size



LGA Package



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



BT 5.1*



Extended Temperature Range: -40°C ~ +85°C

Quectel FG50V

Wi-Fi & BT Module Compact LGA Package

Variant for the Global

FG50V*:

Functions: Wi-Fi 2.4 GHz/5 GHz + BT 5.1

WLAN Standard: IEEE 802.11a/b/g/n/ac/ax

BT Standard: BT 5.1*

Modulation Mode: BPSK, QPSK, CCK, 16QAM, 64QAM, 256QAM, 1024QAM

Data

802.11a: Max 54 Mbps

802.11b: Max 11 Mbps

802.11g: Max 54 Mbps

802.11n: Max 600 Mbps

802.11ac: Max 866 Mbps

802.11ax: Max 1774.5 Mbps

BLE: Max 2 Mbps

Interfaces

PCIe × 1

PCM × 1

UART × 1

WLAN_EN

BT_EN

Wi-Fi/BT Antenna Interface

Electrical Characteristics

Receiving Sensitivity (2 × 2):

2.4 GHz:

TBD @802.11b/1 Mbps

TBD @802.11b/11 Mbps

TBD @802.11g/6 Mbps

TBD @802.11g/54 Mbps

TBD @802.11n/1SS MCS0

TBD @802.11n/1SS MCS7

TBD @802.11ac/1SS MCS0

TBD @802.11ac/1SS MCS9

TBD @802.11ac/2SS MCS9

TBD @802.11ax/1SS MCS0

TBD @802.11ax/1SS MCS11

TBD @802.11ax/2SS MCS0

TBD @802.11ax/2SS MCS11

5 GHz:

TBD @802.11a/6 Mbps

TBD @802.11a/54 Mbps

TBD @802.11n/1SS MCS0

TBD @802.11n/1SS MCS7

TBD @802.11ac/1SS MCS0

TBD @802.11ac/1SS MCS9

TBD @802.11ac/2SS MCS9

TBD @802.11ax/1SS MCS0

TBD @802.11ax/1SS MCS11

TBD @802.11ax/2SS MCS0

TBD @802.11ax/2SS MCS11

Transmitting Power:

2.4 GHz:

19.5 dBm @802.11b/1 Mbps

19.5 dBm @802.11b/11 Mbps

18.0 dBm @802.11b/6 Mbps

17.0 dBm @802.11g/54 Mbps

17.5 dBm @802.11n/HT20 MCS0

16.0 dBm @802.11n/HT40 MCS7

17.5 dBm @802.11ac/VHT20 MCS0

14.5 dBm @802.11ac/VHT40 MCS9

17.5 dBm @802.11ax/HE20 MCS0

12.0 dBm @802.11ax/HE40 MCS11

5 GHz:

17.0 dBm @802.11a/6 Mbps

15.0 dBm @802.11a/54 Mbps

16.0 dBm @802.11n/HT20 MCS0

14.0 dBm @802.11n/HT20 MCS7

13.0 dBm @802.11n/HT40 MCS9

11.5 dBm @802.11n/HT80 MCS11

16.0 dBm @802.11ac/VHT20 MCS0

14.0 dBm @802.11ac/VHT20 MCS7

13.0 dBm @802.11ac/VHT40 MCS9

11.5 dBm @802.11ac/VHT80 MCS11

16.0 dBm @802.11ax/HE20 MCS0

14.0 dBm @802.11ax/HE20 MCS7

13.0 dBm @802.11ax/HE40 MCS9

11.5 dBm @802.11ax/HE80 MCS11

General Features

Encryption Mode: WPA3

Operator Mode: AP/STA

Max Number of Clients: 32

Supply Voltage Range:

Voltage for Core: 0.95 V, 1.35 V, 1.95 V

I/O Power supply: 1.8 V

RF Power supply: 3.85 V

Temperature Range:

Operation Temperature Range: -35°C to +75°C

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

Dimensions:

19.5 mm × 21.5 mm × 2.1 mm

Weight: TBD

*Under Development