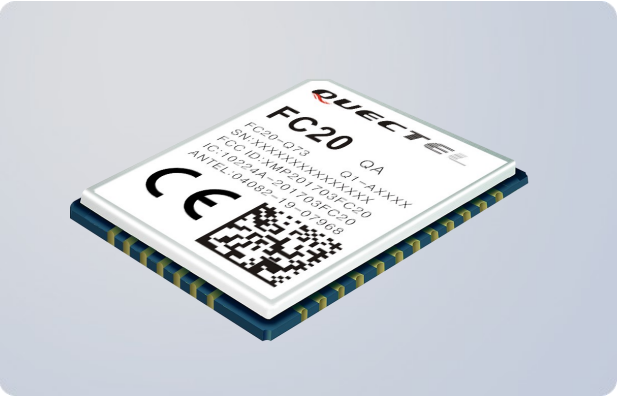
Quectel FC20

Wi-Fi & BT Module with Ultra-compact LCC Package



FC20 is a series of cost-effective Wi-Fi & BT module featuring high performance. Designed in ultra-compact 16.6mm × 13.0mm × 2.1mm profile, it optimizes the size and cost for end-products, which fully meets the demands of size sensitive applications. FC20 contains two variants (FC20 and FC20-N) which can be adapted to different application scenarios.

Surface-mount technology (SMT) makes FC20 an ideal solution for durable and rugged designs. The low profile and small size of LCC package make sure FC20 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.

Combining advantages such as compact form factor, low power consumption, extended temperature range and stable SDIO interface, FC20 is typically used in combination with Quectel EC21, EC25, EC20 R2.0, EC20 R2.1 and EG25-G modules to serve a wide range of M2M applications, such as automotive, security, industrial PDA, MiFi and health care.

Key Benefits

- Ultra-compact Wi-Fi & BT module
- Support BT 4.2*
- Support IEEE802.11a/b/g/n/ac standards
- Easier soldering and testing process with LCC package
- Stable and reliable SDIO communication interface
- Fast time-to-market: simple design minimizes design-in time and development efforts

Ultra Compact Size

LCC Package

IEEE802.11a/b/g/n/ac Standards

SDIO Interface

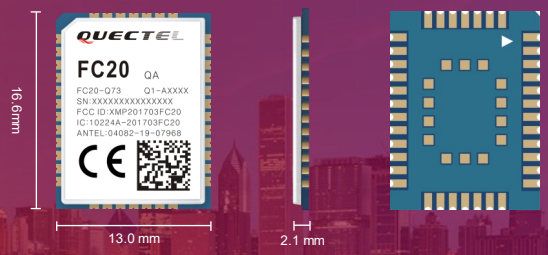
Extended Temperature Range: -40°C ~ +85°C

BT 4.2*

Rev.: V1.3 | Status: Released

Quectel FC20

Wi-Fi & BT Module with Ultra-compact LCC Package



Variants for the Global

FC20①:

Function: Wi-Fi 2.4GHz+5GHz & BT 4.2*

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

BT Standard: BT 4.2*

Modulation Mode:

BPSK, QPSK, CCK, 16QAM, 64QAM, 256QAM

FC20-N①:

Function: Wi-Fi 2.4GHz

WLAN Standard: 802.11b/g/n

Modulation Mode:

BPSK, QPSK, CCK, 16QAM, 64QAM

Data Rate

802.11a: Max 54Mbps

802.11b: Max 11Mbps

802.11g: Max 54Mbps

802.11n: Max 150Mbps

802.11ac: Max 433Mbps

BT 4.2*: Max 24Mbps

Interfaces

SDIO × 1 (SDIO 3.0)

BT_UART × 1

DBG_TXD × 1 (used for software debugging)

32KHz_IN × 1 (used in low power modes)

Wi-Fi & BT Antenna Interface × 1

Electrical Characteristics

Receiving Sensitivity:

-90dBm @802.11a/6Mbps

-74dBm @802.11a/54Mbps

-92dBm @802.11b/1Mbps

-85dBm @802.11b/11Mbps

-88dBm @802.11g/6Mbps

-72dBm @802.11g/54Mbps

-88.5dBm @802.11n/HT20 MCS0

-85dBm @802.11n/HT40 MCS0

-70dBm @802.11n/HT20 MCS7

-67dBm @802.11n/HT40 MCS7

-90dBm @802.11ac/VHT20 MCS0

-87dBm @802.11ac/VHT40 MCS0

-67dBm @802.11ac/VHT20 MCS7

-62dBm @802.11ac/VHT40 MCS9

-84dBm @802.11ac/VHT80 MCS0

-59dBm @802.11ac/VHT80 MCS9

Transmitting Power:

14.5dBm @802.11a/6Mbps

12.5dBm @802.11a/54Mbps

17.5dBm @802.11b/1Mbps

17.0dBm @802.11b/11Mbps

16.5dBm @802.11g/6Mbps

15.0dBm @802.11g/54Mbps

15.5dBm @802.11n/HT20 MCS0

15.0dBm @802.11n/HT40 MCS0

14.5dBm @802.11n/HT20 MCS7

13.0dBm @802.11n/HT40 MCS7

13.5dBm @802.11ac/VHT20 MCS0

12.0dBm @802.11ac/VHT40 MCS0

11.5dBm @802.11ac/VHT20 MCS7

10.5dBm @802.11ac/VHT40 MCS9

11.5dBm @802.11ac/VHT80 MCS0

10.5dBm @802.11ac/VHT80 MCS9

Consumption:

0μA @OFF State, 3.3V WLAN Supply Voltage

554μA @OFF State, 1.8V I/O Pins Supply Voltage

66mA @Idle②, 3.3V WLAN Supply Voltage

6.5mA @Idle②, 1.8V I/O Pins Supply Voltage

General Features

Power Supply Voltage Range:

3.14V~3.46V, 3.3V Typ.

I/O Pins Supply Voltage Range:

1.71V~1.89V, 1.8V Typ.

Encryption Mode:

WEP/TKIP/AES/WPA-PSK/WPA2-PSK

AP (Max Access Point): 16

Operation Mode: AP, STA

Temperature Range: -40°C ~ +85°C

Dimension: 16.6mm × 13.0mm × 2.1mm

Weight: approx. 0.81g

Approvals

Regulatory:

CE (Europe)

FCC (North America)

IC (Canada)

Anatel (Brazil)

JATE/TELEC (Japan)

Others:

RoHS Compliant

* means under development.

① FC20/FC20-N must be used in combination with EC21/EC25/EC20 R2.0/EC20 R2.1/ EG25-G module.

② In idle state, WLAN is enabled without any device connected.

HQ address: Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, China 200233
Tel: +86 21 51086236 Email: info@quectel.com