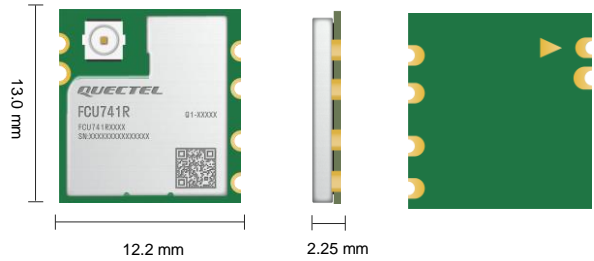


Quectel FCU741R

Wi-Fi 4 Module

Ultra-compact LCC Package



FCU741R is a high-performance Wi-Fi 4 module launched by Quectel, supporting 2.4 GHz and 5 GHz frequencies. It can be used for WLAN connection. With an ultra-compact size of 13.0 mm × 12.2 mm × 2.25 mm, the module optimizes the size and cost for end-products, which fully meets the demands of size-sensitive applications.

Designed with a reliable USB 2.0 interface, the module can ensure high sensitivity in interference environments, and the maximum data rate can be up to 150 Mbps. The module supports two antenna designs: first generation RF coaxial connector and pin antenna interface.

Surface-mount technology (SMT) makes FCU741R an ideal solution for durable and rugged designs. The low profile and small size of LCC package ensure that it can be easily embedded into size-constrained applications and provide reliable connectivity with these applications. The advanced package and the laser-engraved label with better heat dissipation and indelible markings allow for large-scale automated manufacturing which has strict requirements on cost and efficiency.



Key Features

- ✓ Wi-Fi 4 module, supporting 2.4 GHz/ 5 GHz Wi-Fi bands
- ✓ USB 2.0 interface which features higher data transmission rate and low power consumption
- ✓ Faster time-to-market: simple design minimizes design-in time and development efforts
- ✓ Operating temperature range: -20 °C to +70 °C



Ultra-compact Size



LCC Package



IEEE 802.11
a/b/g/n



USB 2.0
Interface



Operating Temperature
Range: -20 °C to +70 °C

Quectel FCU741R

| Wi-Fi 4 | | FCU741R | |
|-----------------------------|--------------------|---|-----------------------|
| WLAN Protocol | | IEEE 802.11a/b/g/n | |
| Wi-Fi Frequency Band | | 2.4 GHz/ 5 GHz | |
| Wi-Fi Antenna | | 1 × 1 | |
| Wi-Fi Modulation Mode | | CCK/ DBPSK/ DQPSK/ BPSK/ QPSK/ 16QAM/ 64QAM | |
| Encryption Mode | | WPA3 | |
| Wi-Fi Operating Mode | | AP/ STA | |
| Dimensions | | 13.0 mm × 12.2 mm × 2.25 mm | |
| Weight | | Approx. 0.68 g | |
| Temperature Range | | | |
| Operating Temperature Range | | -20 °C to +70 °C | |
| Physical Rate (Max.) | | | |
| 802.11a | | 54 Mbps | |
| 802.11b | | 11 Mbps | |
| 802.11g | | 54 Mbps | |
| 802.11n | | 150 Mbps | |
| Interfaces | | | |
| USB 2.0 | | × 1 (for Wi-Fi) | |
| Wi Fi Antenna | | × 1 | |
| Electrical Features | | | |
| Power Supply Voltage | | VBAT: 3.0–3.6 V, Typ. 3.3 V | |
| Power Consumption | | Max. current at Tx mode: 400 mA @ VBAT | |
| Certification | | | |
| Regulatory | | Europe: CE America: FCC China: SRRC Canada: IC Australia/New Zealand: RCM Japan: JATE/ TELEC South Korea: KC* | |
| Wi-Fi Performance | | | |
| | | Receiver Sensitivity (Typ.) | Transmit Power (Typ.) |
| 2.4 GHz | 802.11b/1 Mbps | -98 dBm | 21 dBm |
| | 802.11b/11 Mbps | -88.5 dBm | 21 dBm |
| | 802.11g/6 Mbps | -94 dBm | 19 dBm |
| | 802.11g/54 Mbps | -77 dBm | 19 dBm |
| | 802.11n/HT20 MCS 0 | -94 dBm | 19 dBm |
| | 802.11n/HT20 MCS 7 | -75 dBm | 18 dBm |
| | 802.11n/HT40 MCS 0 | -91 dBm | 19 dBm |
| | 802.11n/HT40 MCS 7 | -72 dBm | 18 dBm |

NOTE:
*: Planning.

Quectel FCU741R

| Wi-Fi 4 | | FCU741R | |
|-------------------|--------------------|-----------------------------|-----------------------|
| Wi-Fi Performance | | | |
| | | Receiver Sensitivity (Typ.) | Transmit Power (Typ.) |
| 5 GHz | 802.11a/6 Mbps | -92.5 dBm | 18 dBm |
| | 802.11a/54 Mbps | -75.5 dBm | 17 dBm |
| | 802.11n/HT20 MCS 0 | -92 dBm | 18 dBm |
| | 802.11n/HT20 MCS 7 | -73.5 dBm | 16 dBm |
| | 802.11n/HT40 MCS 0 | -89.5 dBm | 18 dBm |
| | 802.11n/HT40 MCS 7 | -69.5 dBm | 16 dBm |

| Ordering Code | Antenna | Shielding Cover | Dimensions | Development Board (Only for Debugging) |
|---------------|-------------------------------------|----------------------|-----------------------------|---|
| FCU741RACMD | 1st generation RF coaxial connector | With shielding cover | 13.0 mm × 12.2 mm × 2.25 mm | FCU741RACTA |
| FCU741RADMD | Pin antenna interface | With shielding cover | 13.0 mm × 12.2 mm × 2.25 mm | FCU741RADTA |