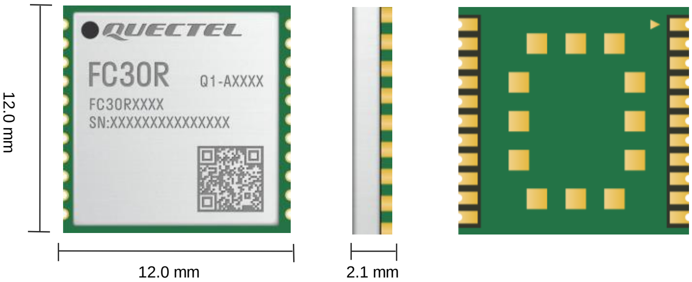
Quectel FC30R

Wi-Fi Module
Ultra-compact LCC Package



Quectel FC30R is a cost-effective, industrial grade Wi-Fi module featuring high performance and small size. With an ultra-compact size of 12.0 mm × 12.0 mm × 2.1 mm, it optimizes the size and cost for end-products, which fully meets the demands of size sensitive applications.

Surface-mount technology (SMT) makes FC30R an ideal solution for durable and rugged designs. The low profile and small size of LCC package ensure that FC30R 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.

Combining advantages such as compact form factor, low power consumption, extended temperature range and stable SDIO interface, FC30R is typically used in combination with Quectel EC21 series, EC25 series, EC20-CE and EG25-G modules and other application processors (IMX6, IMX8, etc.) to serve a wide range of M2M applications, such as smart safety, industrial PDA, MiFi, and health care.

Key Features

- Ultra-compact and cost-effective Wi-Fi module
- Support IEEE 802.11 b/g/n standards
- Easier soldering and testing process with LCC package
- Stable and reliable SDIO communication interface
- Faster time to market: simple design minimizes design-in time and development efforts

Ultra-compact Size

LCC Package

IEEE 802.11 b/g/n Standards

SDIO Interface

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

Version: 1.5 | Status: Released

Wi-Fi	FC30R
Region	Global
Function	2.4 GHz Wi-Fi
WLAN	IEEE 802.11 b/g/n
Modulation Mode	DBPSK, DQPSK, BPSK, QPSK, CCK, 16QAM, 64QAM
Temperature Range	
Operating Temperature	-40 °C to +85 °C
Data Rate (Max.)	
802.11b	11 Mbps
802.11g	54 Mbps
802.11n	150 Mbps
Interfaces	
SDIO	× 1
Antenna	× 1
Electrical Features	
Power Supply Voltage	3.0–3.6 V, Typ. 3.3 V
I/O Power Supply Voltage	• 1.75–1.89 V, Typ. 1.8 V • 3.0–3.6 V, Typ. 3.3 V
Power Consumption (Typ.)	**OFF State:** 31 µA @ VDD_3V3 power supply 1 µA @ VDD_SDIO power supply **Idle (no connection):** 60 mA @ VDD_3V3 power supply 2 mA @ VDD_SDIO power supply
General Features	
Encryption Mode	WPA3
AP (Max. Access Points)	16
Operating Mode	AP/STA
Dimension	12.0 mm × 12.0 mm × 2.1 mm
Weight	Approx. 0.58 g
Certification	
Regulatory	**Europe:** CE **America:** FCC **Canada:** IC **China:** SRRC **South Korea:** KC* **Japan:** JATE/TELEC **Australia/New Zealand:** RCM

RF Performance		
	Receiving Sensitivity (Typ.)	**Transmitting Power (Range)**
802.11b/1 Mbps	-93 dBm	16 ±2.5 dBm
802.11b/11 Mbps	-86 dBm	16 ±2.5 dBm
802.11g/6 Mbps	-87 dBm	16 ±2.5 dBm
802.11g/54 Mbps	-70 dBm	14 ±2.5 dBm
802.11n (HT20)/MCS 0	-87 dBm	15 ±2.5 dBm
802.11n (HT40)/MCS 0	-84 dBm	15 ±2.5 dBm
802.11n (HT20)/MCS 7	-68 dBm	13 ±2.5 dBm
802.11n (HT40)/MCS 7	-64 dBm	13 ±2.5 dBm

NOTE:
* means planning.