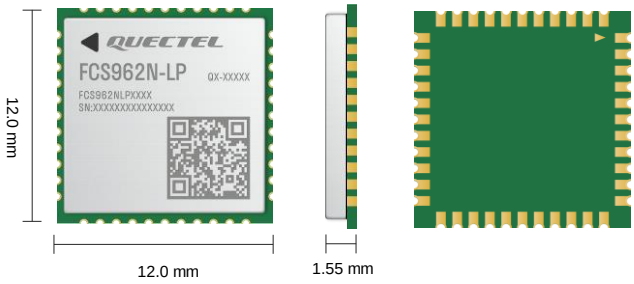
Quectel FCS962N-LP

Wi-Fi 6 & Bluetooth 5.4 Module
2.4 GHz/5 GHz Wi-Fi Bands
Ultra-compact LCC Package



FCS962N-LP is a highly integrated industrial-grade module that supports Wi-Fi 6 and Bluetooth 5.4. The module supports 2.4 GHz and 5 GHz dual-band and 1 × 1 SISO. In addition, it can support Bluetooth LE Audio and BLE long-range.

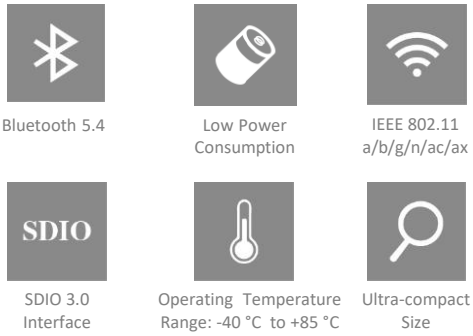
With an ultra-compact size of 12.0 mm × 12.0 mm × 1.55 mm, the module optimizes the size and cost for end-products, which fully meets the demands of size-sensitive applications.

Surface-mount technology (SMT) makes the module an ideal solution for durable and rugged designs. The low profile and small size of LCC package ensure that the module can be easily embedded into size-constrained applications and provide reliable connectivity with these applications.

FCS962N-LP is designed for IoT applications to improve network efficiency, expand IoT applications, and save energy. The module is particularly suitable for low-speed transmission scenarios to meet the different needs of IoT and IIoT applications, such as network cameras, video doorbells, smart homes, smart glasses, smart locks, smart speakers, smart lighting, and home appliances.

Key Features

- 2.4 GHz and 5 GHz Wi-Fi bands
- Bluetooth 5.4
- Supports Bluetooth LE Audio and BLE Long Range
- SDIO 3.0 interface with lower power consumption
- Wide operating temperature: -40 °C to +85 °C



Version: 1.0 | Status: Released

Quectel FCS962N-LP

Wi-Fi 6 & Bluetooth 5.4	FCS962N-LP
WLAN Protocol	IEEE 802.11a/b/g/n/ac/ax
Wi-Fi Frequency Band	2.4 GHz/5 GHz
Wi-Fi Antenna	1 × 1
Wi-Fi Modulation Mode	DSSS/CCK/BPSK/QPSK/DBPSK/DQPSK/16QAM/64QAM/256QAM/1024QAM
2.4 GHz Channel Bandwidth	20 MHz
5 GHz Channel Bandwidth	20 MHz
Encryption Mode	WPA3
Wi-Fi Operating Mode	AP/STA
Bluetooth Protocol	Bluetooth 5.4
Dimensions	12.0 mm × 12.0 mm × 1.55 mm
Weight	Approx. 0.5 g
Temperature Range	
Operating Temperature	-40 °C to +85 °C
Physical Rate (Max.)	
802.11a	54 Mbps
802.11b	11 Mbps
802.11g	54 Mbps
802.11n	72.2 Mbps
802.11ac	86.7 Mbps
802.11ax	143.4 Mbps
Interfaces	
SDIO 3.0/GSPI	× 1 (for Wi-Fi)
PCM	× 1 (for Bluetooth Audio)
UART	× 1 (for Bluetooth)
Wi-Fi/Bluetooth Antenna	× 1
Electrical Features	
Power Supply Voltage	VBAT: 3.0–4.8 V ①, Typ. 3.3 V VDD_IO: 1.62–1.98 V, Typ. 1.8 V
Power Consumption	Max. current at Tx mode: 325.12 mA @ VBAT 2.88 mA @ VDD_IO
Certifications	
Regulatory*	**Europe:** CE **America:** FCC **Canada:** IC **China:** SRRC **Australia/New Zealand:** RCM

NOTE:

1. ①: Functionality is guaranteed within this supply voltage range. Optimum RF performance is only guaranteed in the 3.13 V-3.6 V.
2. *: In progress.

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

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Wi-Fi 6 & Bluetooth 5.4		FCS962N-LP	
Wi-Fi Performance			
		Transmit Power	**Receiver Sensitivity**
2.4 GHz	**802.11b/1 Mbps**	19 dBm ±2 dB	-97 dBm ±2 dB
	802.11b/11 Mbps	19 dBm ±2 dB	-89 dBm ±2 dB
	802.11g/6 Mbps	18.5 dBm ±2 dB	-93 dBm ±2 dB
	802.11g/54 Mbps	18 dBm ±2 dB	-76 dBm ±2 dB
	802.11n/HT20 MCS 0	18 dBm ±2 dB	-93dBm ±2 dB
	802.11n/HT20 MCS 7	17 dBm ±2 dB	-75 dBm ±2 dB
	802.11ax/HE20 MCS 0	18 dBm ±2 dB	-93 dBm ±2 dB
	802.11ax/HE20 MCS 11	15 dBm ±2 dB	-63 dBm ±2 dB
5 GHz	**802.11a/6 Mbps**	17.5 dBm ±2 dB	-91 dBm ±2 dB
	802.11a/54 Mbps	16.5 dBm ±2 dB	-74 dBm ±2 dB
	802.11n/HT20 MCS 0	17.5 dBm ±2 dB	-91 dBm ±2 dB
	802.11n/HT20 MCS 7	15 dBm ±2 dB	-74 dBm ±2 dB
	802.11ac/VHT20 MCS 0	17.5 dBm ±2 dB	-91 dBm ±2 dB
	802.11ac/VHT20 MCS 8	14 dBm ±2 dB	-68 dBm ±2 dB
	802.11ax/HE20 MCS 0	17.5 dBm ±2 dB	-91 dBm ±2 dB
	802.11ax/HE20 MCS 11	13 dBm ±2 dB	-60 dBm ±2 dB
Bluetooth Performance			
		Transmit Power	**Receiver Sensitivity**
BR (GFSK)		9.5 dBm ±3.5 dB	-89 dBm ±3.5 dB
EDR (π/4-DQPSK)		4.5 dBm ±3.5 dB	-87 dBm ±3.5 dB
EDR (8-DPSK)		4.5 dBm ±3.5 dB	-87 dBm ±3.5 dB
BLE (1 Mbps)		9.5 dBm ±3.5 dB	-94 dBm ±3.5 dB
BLE (2 Mbps)		9.5 dBm ±3.5 dB	-92 dBm ±3.5 dB

Model	Ordering Code	Antenna	DBS	Development Board (Only for Debugging)
FCS962N-LP	FCS962NLPAAMD	One antenna	-	FCS962NLPAAM2

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