

File No.	File version	Confidential
	V1.0	

F8L10D-N LoRa Module TECHNICAL SPECIFICATION



General

F8L10D-N LoRa module is a kind of embedded device that provides data transfer function by LoRa network. It provides ultra-long range spread spectrum communication.

The product uses high-performance industrial-grade LoRa solution, support transparent data transmission function; low power consumption design, the lowest working current can less than 2uA; supply multil I/O channels, compatible analog inputs and pulse input counters.

It has been widely used on M2M fields, such as intelligent transportation, smart grid, industrial automation, telemetry, finance, POS, water supply, environment protection, post, weather, and so on.

Product Feature

Design for Industrial Application

- ◆ High-powered industrial LoRa chip and MCU
- ◆ Low power consumption design, support multi-sleep and trigger modes to reduce the power dissipation farthest
- ◆ Support UART
- ◆ ISM 433MHz,
- ◆ High sensitivity: down to -148 dBm. 160 dB maximum link budget
- ◆ Adjust Emission power level
- ◆ Forward error correction techniques
- ◆ Power range: DC 3.3~5.0V

Stability and Reliability

- ◆ Support software WDT
- ◆ Support auto recovery mechanism
- ◆ 3.3V low power LDO, support 3.3V TTL

Standard and Convenience

- ◆ Adopt a miniature package, support 2.54mm*7pin spacing stamp hole for SMT and 2*2.0mm*10pin spacing through-hole pins simultaneous
- ◆ Support intellectual mode, enter into communication state automatically when powered, support several work modes.
- ◆ Convenient configuration and maintenance interface
- ◆ Support for serial software upgrades

High-performance

- ◆ Support LoRa wireless data transmission
- ◆ Support repeater and end-device function
- ◆ Support Point-to-Point, Point-to-Multipoint, Peer-to-Peer and Mesh network
- ◆ Support broadcast and target address transfer
- ◆ Wide communication range
- ◆ Supply multi I/O channels, compatible analog inputs and pulse input counters.
- ◆ OTA

F8L10 Model Sheet

Model	Content
F8L10-N	Without PA,100mW(+20dBm)

LoRa Specification

Item	Content
Communication Protocol and Band	410MHz - 441MHz step 1000KHz Recommend 433±5MHz Default 433.0MHz
Indoor/Urban Range	F8L10D-N 1000m
Outdoor/RF Line-of-Sight Range	F8L10D-N 3500m
Transmit Power	F8L10D-N 100mW
RF Data Rate	6 level, 0.3,1.2,2.4,4.8,9.6,19.2Kbps
Receiver Sensitivity	F8L10D-N:-140dBm
Network Topology	Point-to-Point, Point-to-Multipoint, Peer-to-Peer and Mesh
Channels	32
Max Serial Buffer Size	4K Bytes

Interface Type

Item	Content
UART	Data bits: 8 Stop bits: 1, 2 Checksum: none,odd,even Baud rate: 300, 600, 1200, 2400, 4800, 9600, 19200, 38400,57600, 115200 bps
Antenna connector	U.FL RF connector, impedance 50 ohm
Package	Support 2.54mm*7pin spacing stamp hole for SMT and 2*2.0mm*10pin spacing through-hole pins simultaneous

Power Input

Item	Content
Recommended Power	DC 5V/1A
Power Range	DC3.3~5V

Power Consumption

Working States		Power Consumption
F8L10D-N	RX Mode	<22mA@3.3V DC
	TX Mode	127~129mA@3.3V DC,(the max pulse current ≤130mA)
	Timing wake up	<3.0uA@3.3VDC
	Deep Sleep	<2.0uA@3.3VDC

Physical Characteristics

Item	Content
Dimensions	24.4x37.5x5 mm
Weight	5.0g

Environmental Limits

Item	Content
Operating Temperature	-40~+85°C (-104~+185 °F)
Storage Temperature	-40~+125°C (-104~+257°F)
Operating Humidity	95% (unfreezing)