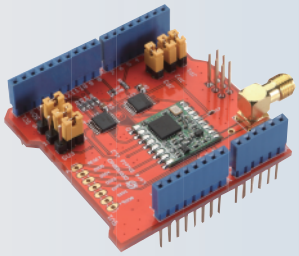
Long Range Wireless Transceiver for Arduino

Lora Shield



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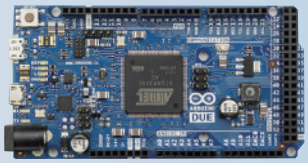
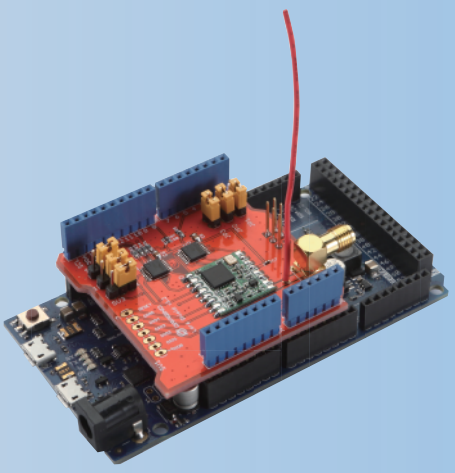


Arduino



Long Range Transceiver Board

OVERVIEW:

Lora Shield is a long range transceiver on a Arduino shield form factor and based on Open source library.The Lora Shield allows the user to send data and reach extremely long ranges at low data-rates.It provides ultra-long range spread spectrum communication and high interference immunity whilst minimising current consumption.

The Lora Shield based on semtech sx1276/sx1278 targets professional wireless sensor network applications such as irrigation systems, smart metering, smart cities, smartphone detection, building automation, and so on.

Using patented LoRaTM modulation technique the Lora Shield can achieve a sensitivity of over -148dBm using a low cost crystal and bill of materials. The high sensitivity combined with the integrated +20 dBm power amplifier yields industry leading link budget making it optimal for any application requiring range or robustness. LoRaTM also provides significant advantages in both blocking and selectivity over conventional modulation techniques, solving the traditional design compromise between range, interference immunity and energy consumption.

Features:

- Compatible with 3.3v or 5v I/O Arduino Board.
- Frequency Band: one of 433/868/915 MHZ (Pre-configure in factory)
- Low power consumption
- Optional External Antenna via SMA jack
- Compatible with Arduino Leonardo, Uno, Mega, DUE

Specification:

- 168 dB maximum link budget
- +20 dBm - 100 mW constant RF output vs
- +14 dBm high efficiency PA
- Programmable bit rate up to 300 kbps
- High sensitivity: down to -148 dBm
- Bullet-proof front end: IIP3 = -12.5 dBm
- Excellent blocking immunity
- Low RX current of 10.3 mA, 200 nA register retention
- FSK, GFSK, MSK, GMSK, LoRaTM and OOK modulation
- Built-in bit synchronizer for clock recovery
- Preamble detection
- 127 dB Dynamic Range RSSI
- Packet engine up to 256 bytes with CRC
- Automatic RF Sense and CAD
- Built-in temperature sensor
- Low battery indicator

Dragino Technology Co., Limited

Room 7009, Zi'An Commercial Building, Qian Jin 1 Road.
Xin'An 6th District, Bao'an District ; Shenzhen 518101,China
Direct: +86 755 86610829 | Fax: +86 755 86647123

WWW.DRAGINO.COM
sales@dragino.com