DRAGINO
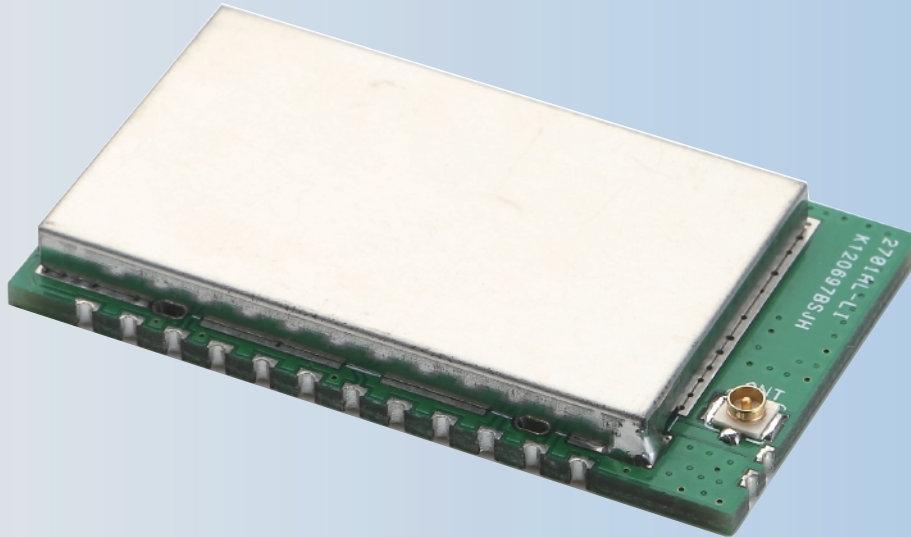
Long Range Wireless Transceiver

LoRa Mini

OVERVIEW:

LoRa Mini is a small IoT development board offers a very compelling mix of long range, low power consumption and secure data transmission.It is designed to facilitate beginners and developers to quickly learn LoRa and IoT technology. It help users to turn the idea into a practical application and make the Internet of Things a reality. It is easy to program, create and connect your things everywhere.

It is based on SX1276/SX1278 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.It targets professional wireless sensor network applications such as irrigation systems, smart metering, smart cities, smartphone detection, building automation, and so on.
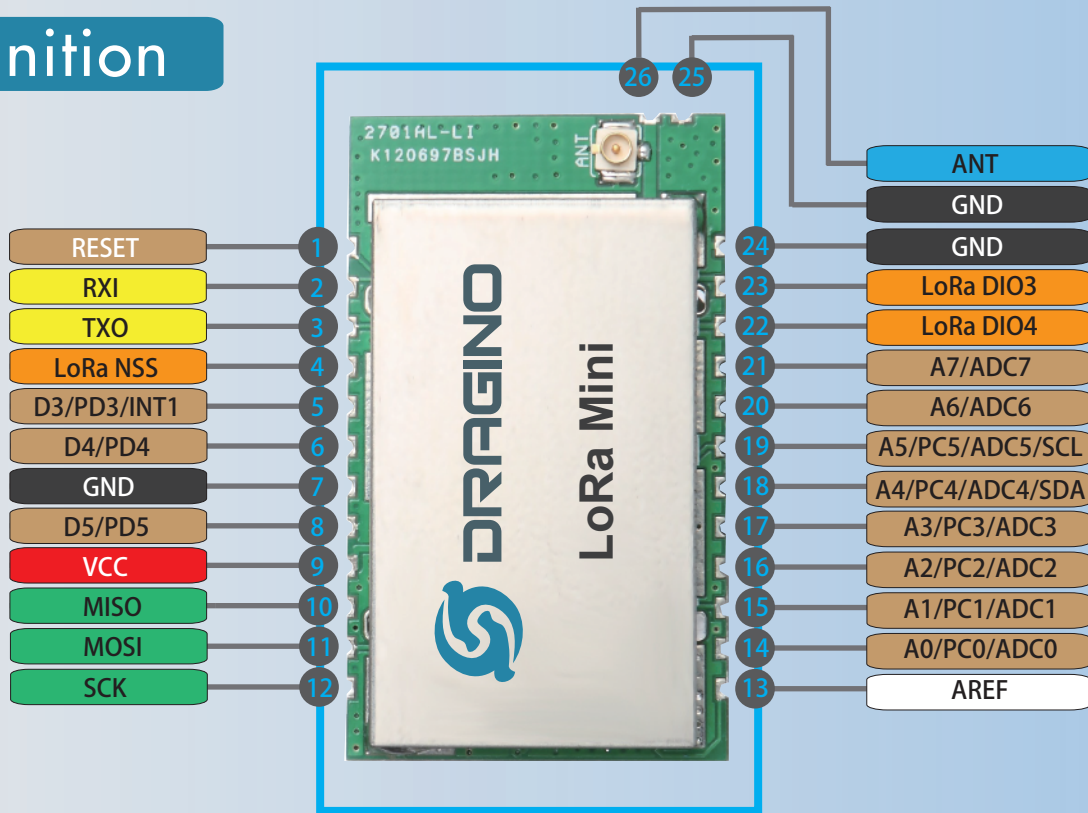
It is an Arduino compatible board based on Atmelmega328/P, a low-power CMOS 8-bit microcontroller based on the AVR® enhanced RISC architecture.LoRa Mini is also open source, user can easily program it using the Arduino IDE.

Features:

- ATMega328P Controller
- SX1276/78 Wireless Chip
- Pre-load with Arduino bootloader
- Arduino IDE compatible
- 11 x Digital I/Os
- 8 x 10bit ADC
- UART,I2C,PWM
- LoRa™ Modem
- Preamble detection
- Baud rate configurable
- LoRa™ and OOK modulation
- FSK, GFSK, MSK and GMSK modulation
- Open source software
- Available Band:433/868/915/920 Mhz
- External Antenna via I-Pex connector
- Low power consumption

Long Range Wireless Transceiver

Pin Definition

Left pins		Right pins	
RESET	1		ANT
RXI	2		GND
TXO	3	24 GND	
LoRa NSS	4	23	LoRa DIO3
D3/PD3/INT1	5	22	LoRa DIO4
D4/PD4	6	21	A7/ADC7
GND	7	20	A6/ADC6
D5/PD5	8	19	A5/PC5/ADC5/SCL
VCC	9	18	A4/PC4/ADC4/SDA
MISO	10	17	A3/PC3/ADC3
MOSI	11	16	A2/PC2/ADC2
SCK	12	15	A1/PC1/ADC1
		14	A0/PC0/ADC0
		13	AREF

(Pins 26, 25 at top)

Module markings: 2701HL-LI K120697BSJH ANT DRAGINO LoRa Mini

Specifications:

MCU Side:
- MCU: ATMega328P
- Flash:32KB
- SRAM:2KB
- EEPROM:1KB
- Clock Speed: 16Mhz

LoRa Side:
- LoRa Chip: sx1276/sx1278
- 68 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.
- 127 dB Dynamic Range RSSI.

Absolute Maximum Ratings:
- VCC: 0.5v ~ 3.9v
- Operating Tempature: -40 ~ 85°C
- I/O pins: 0.5v ~ VCC+0.5V

Common DC Characteristics:
- Supply Voltage: 1.8v ~ 3.7v
- Operating Tempature: -40 ~ 85°C
- I/O pins: Refer ATmega328P datasheet

Power Consumption:
- Sleep Mode: 22µA
- RX Mode: 7.2mA
- TX Mode: 88mA@ 20dbm

Applications:
- Wireless Alarm and Security Systems
- Home and Building Automation
- Automated Meter Reading
- Industrial Monitoring and Control
- Long range Irrigation Systems,etc.

Dimensions:
- Size: 41.2mmx24.1mmx3.6mm
- Net Weight: 5g

Order Info:
- LoRa Mini-433: Best Tuned at 433Mhz
- LoRa Mini-868: Best Tuned at 868Mhz
- LoRa Mini-915: Best Tuned at 915Mhz