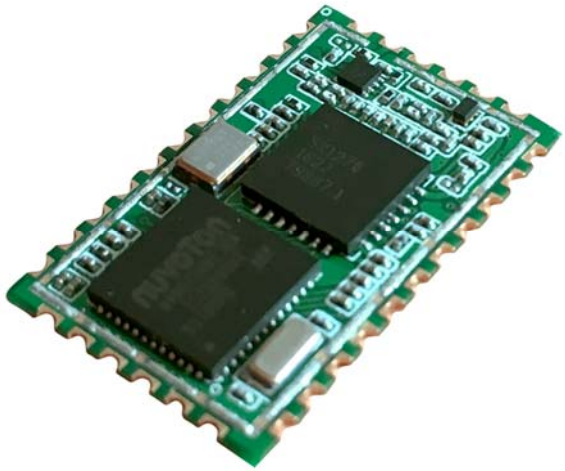
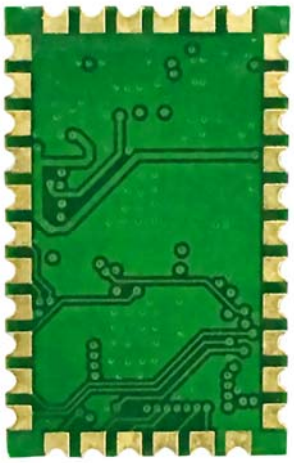




RAK811 LoRa / LoRAWAN module (based on SX1276) 868/915MHz up to 3km range

RAK811 LoRa Module

LoRaWAN module base on SX1276 LoRa spread spectrum.

- Embedded LoRaWAN protocol class A&C. Easily connects to LoRa technology gateway.
- LoRaWAN protocol stack ready in system
- Full certification by region
- Long Range - Greater than 15 km
- Simple ASC11 command set
- Serial Port AT Command
- Automatic modification of frequency points supported

RAK811 LoRa Technology

RAK811 is a wireless transparent communications module, based on the Semtech SX1276. LoRa technology utilises a spread spectrum modulation in the Sub-GHz band to enable long range (greater than 10 miles) coverage, low power consumption (up to 10 years battery power), high network capacity (up to 1 million nodes), robust communication, and localisation capability. With strength of RF hardware capability by RAK, RAK811 communication distance maintains to 3000m with improved receive sensitivity. Moreover, RAK811 fully supports and conforms to the specifications of LoRaWAN Class A&C protocol, facilitating an easy access to LWPA IoT platforms such as Activity.

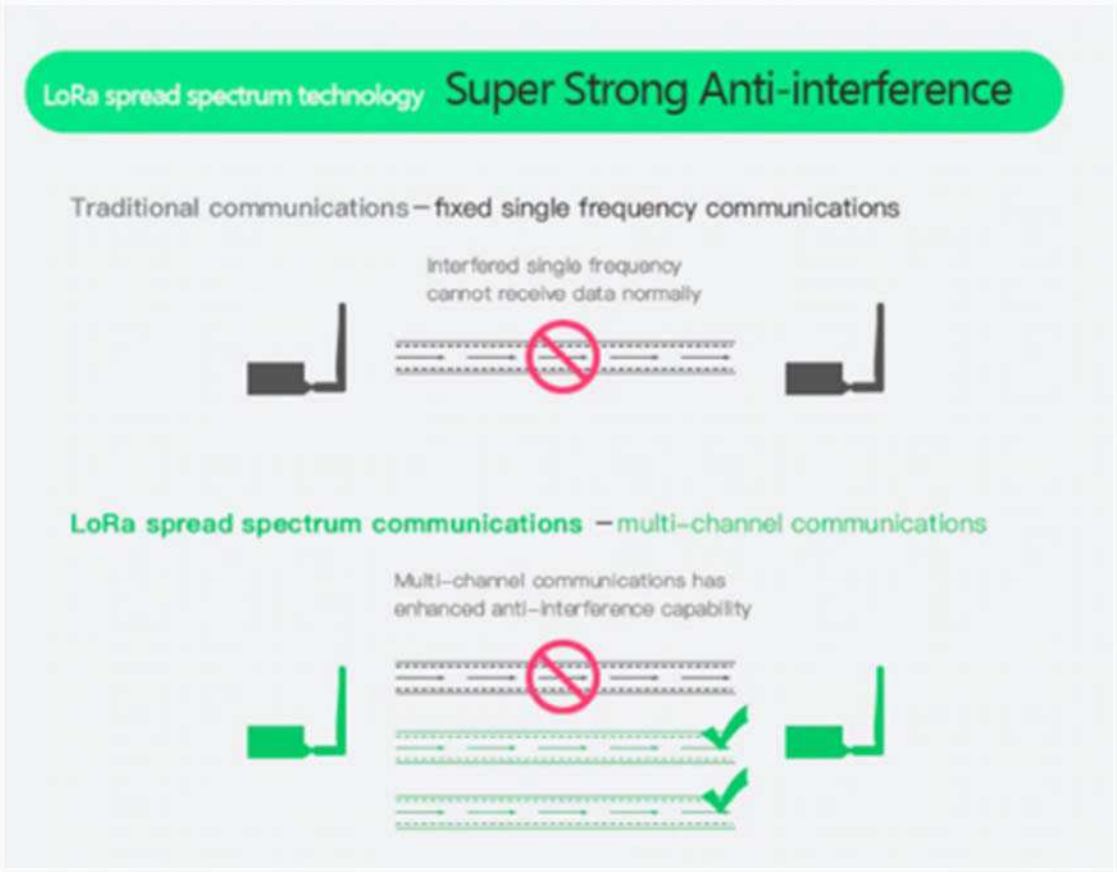
LoRa technology applies physical layer or wireless modulation to build long distance communication links. Based on LFM SS modulation, it maintains the same low power consumption as of FSK modulation, but significantly prolongs communication distance.

LoRaWAN defines communication protocol and system architecture of networking aiming at some core requirements of IoT, such as safe two-way communications, mobility, and local service. The technology does not require local complex configuration to allow seamless interoperability among smart devices, releasing the operating authority to the users, developers and enterprises of IoT.

LoRaWAN protocol gives you...

- Universality - LoRaWAN specifications have been formulated in Europe and North America. It's impact is widening with more developers and resources getting behind it.
- Safety - The protocol uses strict encryption algorithm assuring more stringent safety in its own private protocol module.
- Network roaming - LoRaWAN includes detailed protocol planning of roaming to smoothen your network.
- Business advantage - LoRaWAN protocol has been adopted in LoRa networks of Japan, South Korea, and Singapore with outstanding business prospect.

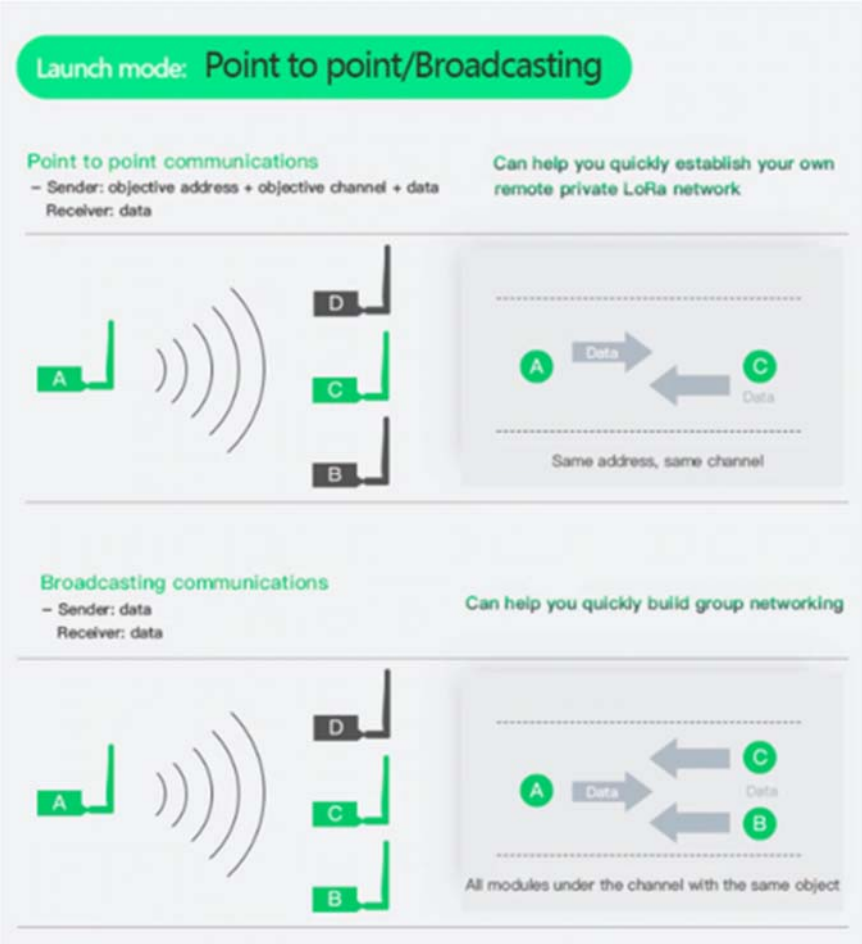
Super Strong Anti-interference



Access LoRaWAN Platform



Point to point/Broadcasting



Easy to user: Serial Port AT Commands
UART interface and serial port AT command provided makes it easy to use.



Features of the module

- LoRaWAN protocol supported / global license free ISM band / full certification by region.
- remote LoRaWAN band: 868MHz / 915MHZ
- Easy to use UAST interface / serial port AT command / baud rate and air rate online change supported / simple ASC11 command set.
- Maximum output power 100MW (20dBm) / adjustable from 5 to 20dBm
- High sensitivity: -148dBm enabling extremely long range connectivity.
- Longe range: Greater than 15 km
- High capacity of up to 1 million nodes
- Low power consumption / 500nA on standby / in-air wake-up supported
- Multi-channel, dual data buffer (256 bytes each)
- LoRa/FSK/GFSK/OOKmodulation bidirectional two way communications
- Long battery life - over 10 years
- LoRa technology is capable of demodulating 20dB below noise level, significantly improving immunity to the interference when combined with integrated forward error connection.



https://uk.pi-supply.com/products/rak811-lora-lorawan-module 9-17-18