RAK811 LoRa Modül

Parameter

Frequency Band	868/915MHz (support LoRaWAN)
Host Interface	UART1, UART2, GPIOs
Transmit	14dBm, Max20dBm
RX Sensitivity	-130dBm(RSSI), -15dBm(SNR)
Current Consumption	TX: 60mA, RX: 9.9mA, Hibernate: 500nA
Size	22×14×1.7mm
Operating Temperature	-40°C～85°C
Storage Temperature	-40°C～85°C

Distance	15km

LoRa Technology

LoRa technology applies physical layer or wireless modulation to build long-distance communication link, based on LEF SS modulation, it maintains the same low power consumption as of FSK modulation, but significantly prolongs communication distance (less cost in commercial uses). 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 Benefits

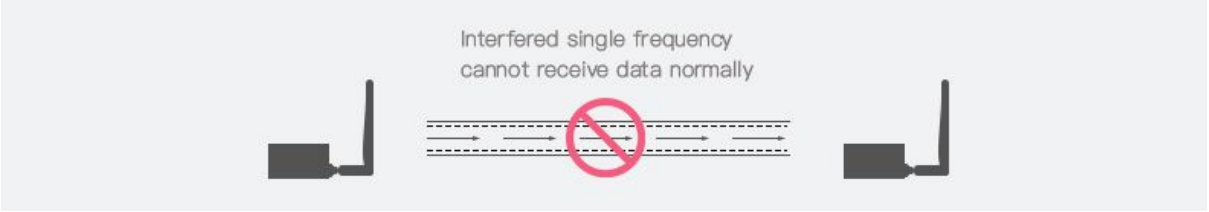
- ☼ Complete Ecosystem（LoRaWAN specifications have been formulated in Europe and North America, more

developers, and more materials, to help you standardize application.）

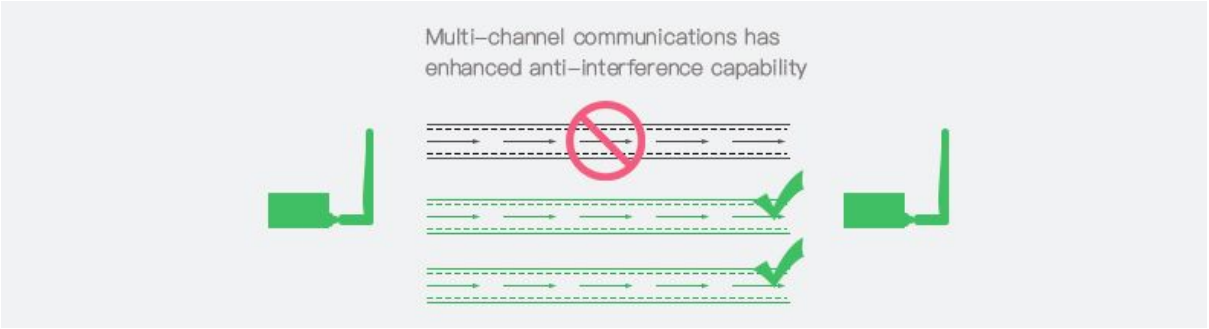
- ☼ Highest Security（Unique Network session key ensures security on Network Server/Network level, unique Application session key ensures security on the Application Server/Application level, application key specific for the end-device.）
- ☼ Network Roaming（LoRaWAN includes detailed protocol planning of roaming, to smoothen your network protocol.）
- ☼ Localization Services（LoRaWAN protocol has been adopted in LoRa network of Japan, Korea and Singapore, with outstanding business prospect.）

LoRa Spread Spectrum Technology - Super Strong Anti-Interference

Traditional communications - fixed single frequency communication



LoRa spread spectrum communication - multi-channel communication



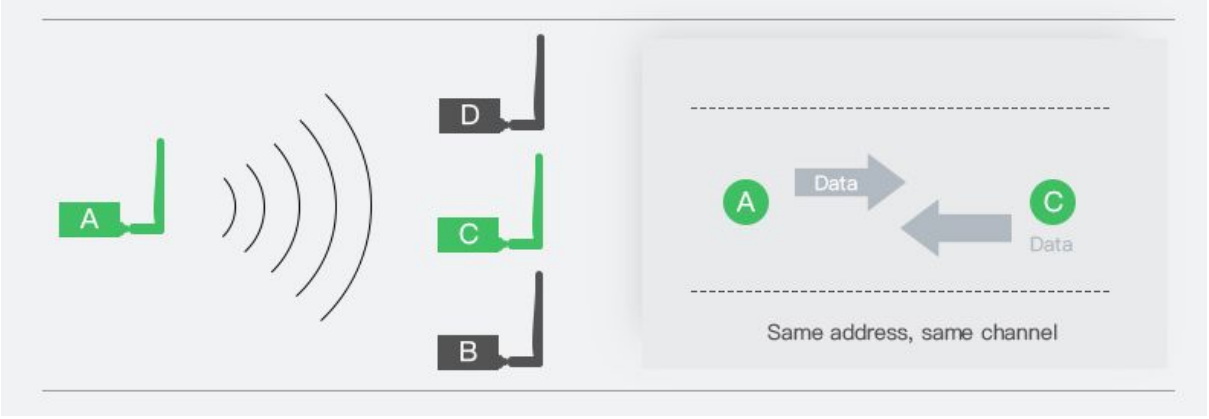
Launch Mode: Point to Point/Broadcasting

Point to point communication: help you

quickly establish your own remote private

LoRa network

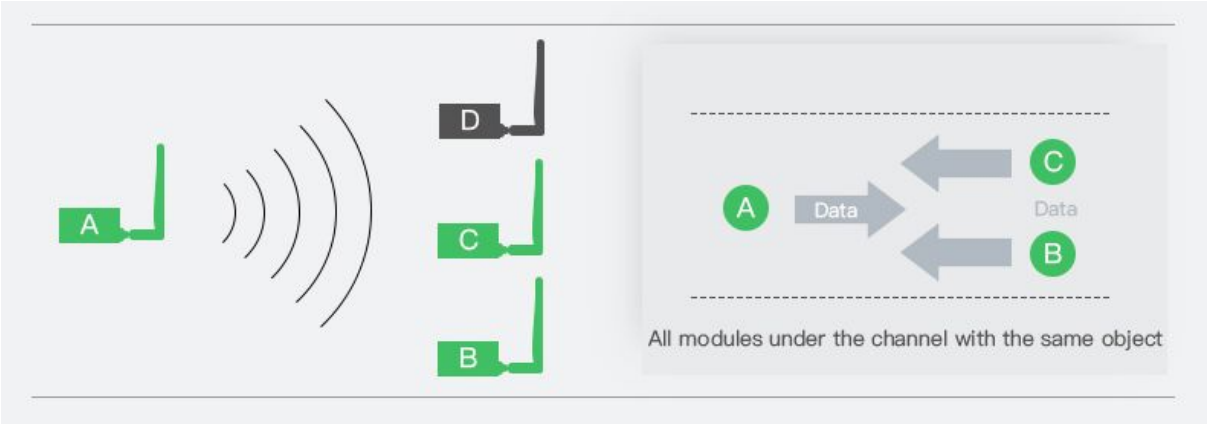
- ☼ Sender: objective address + objective channel + data
- ☼ Receiver: data



Broadcasting communication: Help you

quickly build group networking

- ☼ Sender: data
- ☼ Receiver: data


A
D
C
B
A
Data
C
Data
B
All modules under the channel with the same object