



Indoor LoRa Gateway

WisDevice Series

RAK7258

Package Content



Gateway Device
(1x)



LoRa Antenna
(1x)



Power Adapter
(1x)

Product Description

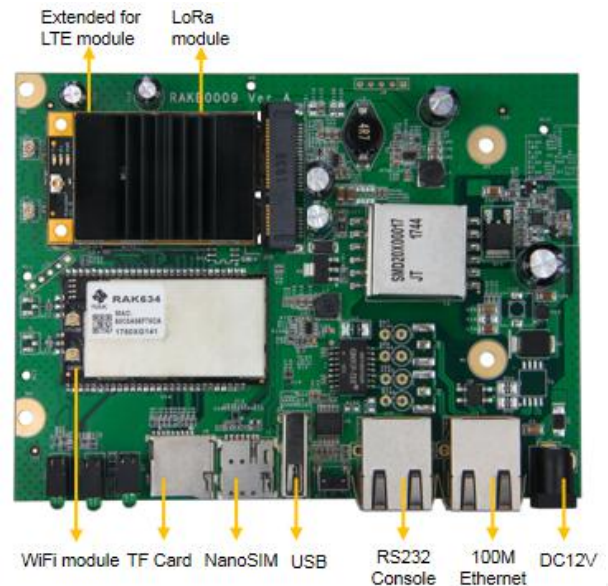
RAK7258 is an indoor gateway based on low power LoRaWAN protocol. It supports PoE power supply and can connect the standard LoRaWAN terminals and carry out bidirectional communication. Gateway can connect the NS (network server) via standard Ethernet, and support network and firewall functions. RAK7258 also supports 2.4G WiFi and LTE (optional) uplink communication connections.

RAK7258 built-in OpenWRT operating system, users can flexibly configure network parameters and LoRaWAN protocol parameters through the Web management platform. RAK7258 supports MQTT Bridge function, can use the MQTT integrated to third-party platforms.

RAK7258 can connect the standard NS (network server) and the local NS. And it also supports the built-in NS (By default, a license that supports 128 terminals and 5 external gateways is embedded). It does not need users to deploy NS in the cloud and locally. It is especially suitable for small and medium-sized scenarios in industry applications, saves the cost for server and R&D investment, and has the advantages of high execution efficiency and shorter delay. RAK7258 integrates the RAK2247 LoRa concentrator module, which supports eight uplink channels and one downlink transmission channel. For the heating problem of SX1301/8 centralized operation, RAK2247 uses the graphene, silicone grease to optimize the heat dissipation performance of chips and modules and ensure the stability of transmission.

Product Features

- LoRa supports 8RX 1TX channels
- Supports 2.4G WiFi
- 100Mbase-T Ethernet with POE
- Multi uplink backup with Ethernet, WiFi
- OpenWRT software supports LoRaWAN gateway and network configuration
- Heat sink to dissipate heat
- Can integrate with both private and public(TTN) Network Servers
- Supports TF card for storage
- Indoor operation temperature
- Supports optional for LTE Cat 4 network



Supported Software

For LoRa

- Support class A, C
- LoRa package forward
- Country code setup
- TX power setup
- Data logger
- Statistic
- Location setup
- Server address & port setup

For Network

- WiFi AP mode
- LTE APN setup
- Uplink backup
- Supports 802.1q
- DHCP Server/Client
- Router module NAT
- Firewall

For Management

- WEB Management
- Supports SSH2, NTP
- Firmware update
- Supports configure the LoRa Packet Forwarder
- Supports Build-in LoRa Server
- Supports OpenVPN, Ping Watch Dog
- Supports MQTT Bridge



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RAK

RAKwireless
Technology Co., Ltd.

Key Features

Computing	<ul style="list-style-type: none"> • MT7628, DDR2RAM 128MB
WiFi Feature	<ul style="list-style-type: none"> • Frequency: 2.400 - 2.4835GHz • (802.11b/g/n) • RX Sensitivity: -95dBm (Min) • TX Power: 20dBm (Max)
LoRa Feature	<ul style="list-style-type: none"> • SX1301 Mini PCIe card • 8 Channels • RX Sensitivity: -142 dBm (Min) • TX Power: 27 dBm (Max) • Frequency: EU433 / CN470 / EU868 / US915 / AS923 / AU915 / IN865 / KR920
Cellular	<ul style="list-style-type: none"> • Supports Quectel EG95-E / EG95-NA(IoT/M2M-optimized LTE Cat 4 Module), nonsupport by default
Power Supply	<ul style="list-style-type: none"> • DC 12V-1A • POE (IEEE 802.3af), 42~57VDC
Power Consumption	<ul style="list-style-type: none"> • 12W (typical)
ETH	<ul style="list-style-type: none"> • RJ45 (10/100M)
Console	<ul style="list-style-type: none"> • RJ45 (RS232)
Antenna	<ul style="list-style-type: none"> • LoRa: RP-SMA Female Connector • WiFi: Internal Antenna
LED	<ul style="list-style-type: none"> • LoRa LED(1), Cellular LED (2), • POWER LED(1), ETH LED(1), • WiFi LED(1)
Ingress Protection	<ul style="list-style-type: none"> • IP30
Enclosure Material	<ul style="list-style-type: none"> • Plastics
Weight	<ul style="list-style-type: none"> • 0.3kg
Dimension	<ul style="list-style-type: none"> • 180mm x 120mm x 43mm
Operating Temp	<ul style="list-style-type: none"> • -10 to 55 °C
Installation Method	<ul style="list-style-type: none"> • Wall mounting

RF Specifications

Wireless Standard	<ul style="list-style-type: none"> • IEEE 802.11b/g/n
WiFi Operating Frequency	<ul style="list-style-type: none"> • ISM band: 2.412~2.472(GHz)
WiFi Operation Channels	<ul style="list-style-type: none"> • 2.4GHz: 1-13
WiFi Transmit Power (The maximum power may be different depending on local regulations)	<ul style="list-style-type: none"> • 802.11b 19dBm@ 1Mbps 19dBm@ 11Mbps • 802.11g 18dBm@ 6Mbps 16dBm@ 54Mbps -per chain • 802.11n(2.4G) 18dBm@MCS0 (HT20) 16dBm@MCS7 (HT20) 17dBm@MCS0 (HT40) 15dBm@MCS7 (HT40)
WiFi Receiver Sensitivity (Typical)	<ul style="list-style-type: none"> • 802.11b -95dBm@1Mbps -88dBm@11Mbps • 802.11g -90dBm@6 Mbps -75dBm@54Mbps • 802.11n(2.4G) -89dBm@MCS0 (HT20) -72dBm@MCS7(HT20) -86dBm@MCS0(HT40) -68dBm@MCS7(HT40)
LoRa Transmit Power	<ul style="list-style-type: none"> • 27 dBm (Max)
LoRa Receiver Sensitivity	<ul style="list-style-type: none"> • -142 dBm (Min)
Certification	<ul style="list-style-type: none"> • FCC

Order Information

Part Number	Package	Description
RAK7258-01-R01	1x RAK7258, 1x LoRa Antenna and 1x Power Adapter retail package	LoRa 8RX EU433
RAK7258-02-R01	1x RAK7258, 1x LoRa Antenna and 1x Power Adapter retail package	LoRa 8RX CN470
RAK7258-03-R01	1x RAK7258, 1x LoRa Antenna and 1x Power Adapter retail package	LoRa 8RX EU868
RAK7258-04-R01	1x RAK7258, 1x LoRa Antenna and 1x Power Adapter retail package	LoRa 8RX US915
RAK7258-06-R01	1x RAK7258, 1x LoRa Antenna and 1x Power Adapter retail package	LoRa 8RX AS923



About RAKwireless:

RAKwireless is the pioneer in providing innovative and diverse cellular and LoRaconnectivity solutions for IoT edge devices. It's easy and modular design can be used in different IoT applications and accelerate time-to-market. For more information, please visit Rakwireless website at www.rakwireless.com.

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