WisGate Edge Lite 2

RAK7268 Series User Manual

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Overview

This document helps customers quickly understand the hardware interface, RF, software, and electrical specifications of **RAK**7268.

Variety of the Product Series

- Main model: **RAK**7268XXX
- Sub-models:

Indicator	Meaning
C	With Cellular connectivity
V2	With WisGateOS 2
H	With a Bluetooth

Product Description

The **RAK7268 WisGate Edge Lite 2** (and all its varieties) is a full 8-channel indoor gateway, based on the LoRaWAN protocol, with built-in Ethernet connectivity for a straightforward setup. Additionally, there is an onboard Wi-Fi (supporting 2.4G Wi-Fi) that allows it to be easily configured via the default Wi-Fi AP mode. Additionally, the gateway supports LTE cellular connection available with the C models (RAK7268C, RAK7268CV2, and RAK7268CV2H).

As with the other Industrial Gateways, it also supports MQTT Bridge mode, with the option for TLS authentication. Power-over-Ethernet (PoE) is supported to serve cases where wall or ceiling mounting is required without the need to install additional power lines.

The software(WisGateOS/2) for the management and configuration of this gateway device is based on OpenWRT. It has a built-in LoRa packet forwarder and a graphical user interface, allowing for a quick setup without giving up the freedom of a fully customized solution.

RAK7268 also supports the MQTT Bridge function and can use the MQTT integrated into third-party platforms.

RAK7268 is especially suitable for small and medium-sized deployment scenarios in industry applications, saving the additional cost for server and R&D investment, and has the advantages of high execution efficiency.

Product Features

- Full LoRaWAN Stack support in Built-In Server mode
- Supports 2.4 G Wi-Fi AP for configuration
- 100M Base-T Ethernet with PoE
- Multi back-haul with Ethernet and Wi-Fi
- Cellular LTE Cat 4 network (optional, available with C versions)
- BLE connectivity (optional, available with H versions)
- OpenWRT software supports Web UI for easy configuration and monitoring
- Can integrate with both private (e.g. Chirp Stack) and public (e.g. TTN) network servers
- SD card for system logs backup
- Built-in Network Server for easy deployment of applications and integration of gateways

Specifications

Hardware Interfaces

The hardware interfaces of **WisGate Edge Lite 2** gateway include DC 12V, ETH interface, Console interface, Reset key, micro SD card slot, Status indicator LEDs, LoRa Antenna connector, etc. As shown in the following figure.

The function of the Reset key is as follows:

Short press: Restart the Gateway.
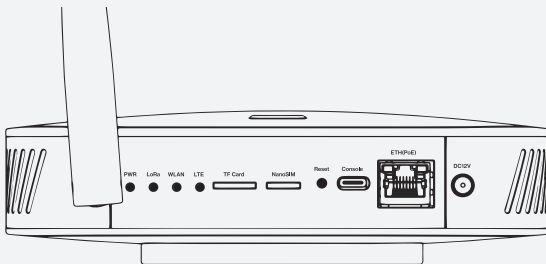**Long press (5s and above):** Restore Factory Settings.

Figure 1: **RAK**7268 Interfaces

Main specifications, LEDs and connectors

Feature	Address
Power supply	DC 12 V - 1A
Wi-Fi feature Power consumption ETH Console	PoE (IEEE 802.3 af), 36-57 VDC
	12W (typical)
	RJ45 (10/100 M)
	Type-C USB
Cellular (optional, available with C models) Ingress protection Enclosure material Weight	Breathing LED (Top side)
	ETH LED (On ETH connector)
	LoRa LED
	WLAN LED
	LTE LED (functional only in C models)
	IP30
	Plastic
	0.3 kg
Dimension	166x127x36 mm
Operating temperature Installation method	-10 to 45˚C
	Wall mounting

📋 Important Note

- **The SD card and the SIM card do not support hot-swap.** Always turn off the gateway before you insert or take off SIM or SD card.
- **Do not power the Gateway without a connected antenna/s.** This may damage the radios.

Software Specifications

The following chapters introduce software specifications of **RAK**7268 indoor gateway. It includes LoRa, network and management.

LoRa	Network	Management
• Supports class A, C • Supports LoRa package forward - Packet Forwarder - Basics™ Station - RAK Built-In Server • Supports country code setup • Supports TX power setup • Supports data logger • Supports statistic • Supports location setup • Supports server address & port setup	• Supports Wi-Fi AP mode • Supports uplink backup • Supports 802.1q • Supports DHCP Server/Client • Supports router module NAT • Supports firewall	• WisDM remote management platform • Supports WEB management • Supports SSH2 • Supports firmware update • Supports NTP • Supports configuring the LoRa Packet Forwarder • Supports Build-in LoRa Server • Supports OpenVPN, Ping Watch Dog • Supports MQTT Bridge

Configure the Gateway

You can log in to the WEB management page to overview the status of your gateway and configure it. By default, the gateway will work in Wi-Fi AP Mode, which means that you can find an SSID named **RAK7268_XXXX** on your PC's Wi-Fi Network List. **XXXX** is the last two bytes of the gateway's MAC address. No password is required to connect via Wi-Fi. **Using your preferred Web browser, access the gateway on the IP address shown below:**

Browser Address: 192.168.230.1
Username: root
Password: root

For WisGate Edge Lite 2 models V2 and H you need to set the login password at the first login. For more information about the WEB management platform and the configuration guide of the gateway, please refer to this document:

https://docs.rakwireless.com/Product-Categories/WisGate/RAK7268/Overview/

Certification Information

CE

Operating frequency range:

Technology		Frequency band [MHz]	Maximum RF output power (dBm)
LoRa		863-865, 865-868, 868-868.6, 868.7-869.2, 869.7-870	14
		869.4-869.65	27
BLE		2402-2480	10
WLAN 802.11 b/g/n		2400-2483.5	20
GSM 900		880-915(TX), 925-960(RX)	33
GSM 1800		1710-1785(TX), 1805-1880(RX)	30
WCDMA Band I		1920-1980(TX), 2110-2170(RX)	24
WCDMA Band VIII		880-915(TX), 925-960(RX)	24
LTE	Band 1	1920-1980(TX), 2110-2170(RX)	23
	Band 3	1710-1785(TX), 1805-1880(RX)	23
	Band 7	2500-2570(TX), 2620-2690(RX)	23
	Band 8	880-915(TX), 925-960(RX)	23
	Band 20	832-862(TX), 791-821(RX)	23
	Band 28A	703-733(TX), 758-788(RX)	23

Simplified EU Declaration of Conformity

Hereby, **Shenzhen RAKwireless Technology Co.,Ltd.** declares that the radio equipment type **RAK7268/RAK7268V2/RAK7268V2H** is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address:

 https://downloads.rakwireless.com/LoRa/RAK7268/Certification/RAK7268%20%20CE%20DOC.pdf

The radio equipment type **RAK7268C/RAK7268CV2/RAK7268CV2H** is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address:

https://downloads.rakwireless.com/LoRa/RAK7268/Certification/RAK7268C%20%20CE%20DOC.pdf

Economic operators for EU

Company	Address
Allnet	Maistr. 2, Munich 82110 Germering, Germany
Marcom SRL (marcomweb)	Via della Metallurgia 11, 37139 Verona, Italy
Arduino SRL	Via Andrea Appiani 25, 20900 Monza MB Italy

Economic operators for UK

Company	Address
Metavurt Ltd	1st Floor Tuspark Newcastle 27 Grainger Street NE1 5JE Newcastle upon Tyne UK

Correct Disposal of this product

This marking indicates that this product should not be disposed of with other household wastes throughout the EU. To prevent possible harm to the environment or human health from uncontrolled waste disposal, recycle it responsibly to promote the sustainable reuse of material resources. To return your used device, please use the return and collection systems or contact the retailer where the product was purchased. They can take this product for environmentally safe recycling.

FCC Compliance

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC Caution

This equipment has been tested and found to comply with the limits for a Class B digital device, according to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used following the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

— Reorient or relocate the receiving antenna.
— Increase the separation between the equipment and receiver.
— Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
— Consult the dealer or an experienced radio/TV technician for help.

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 30 cm between the radiator and any part of your body for RAK7268/RAK7268V2/ RAK7268V2H, and 40cm for RAK7268C/RAK7268CV2/ RAK7268CV2H.

ISED Certification

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

1. L'appareil ne doit pas produire de brouillage;
2. L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

ISED

The device complies with RF exposure guidelines, users can obtain Canadian information on RF exposure and compliance. The minimum distance from the body to use the device is 30 cm for RAK7268/RAK7268V2/ RAK7268V2H, and 40 cm for RAK7268C/RAK7268CV2/ RAK7268CV2H.

Le présent appareil est conforme Après examen de ce matériel aux conformité ou aux limites d'intensité de champ RF, les utilisateurs peuvent sur l'exposition aux radiofréquences et la conformité and compliance d'acquérir les informations correspondantes. La distance minimale du corps pour utiliser l'appareil est de 30 cm pour RAK7268/ RAK7268V2/ RAK7268V2H, et de 40 cm pour RAK7268C/ RAK7268CV2/ RAK7268CV2H.