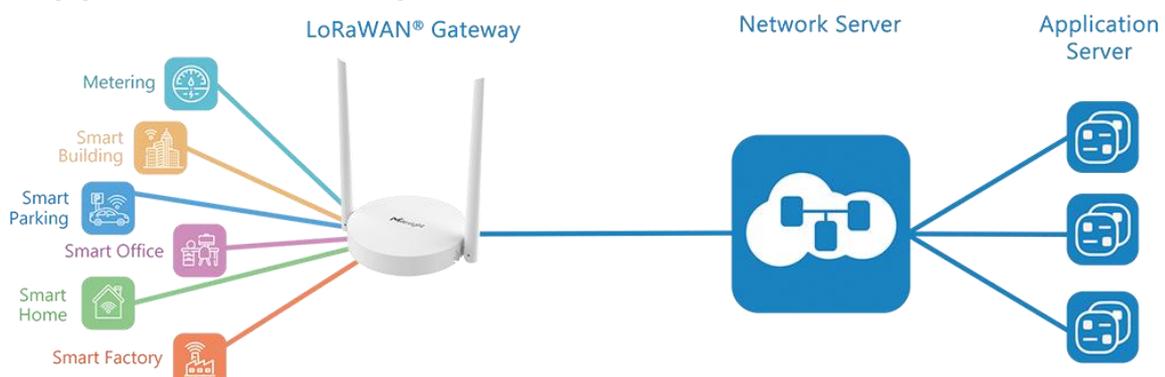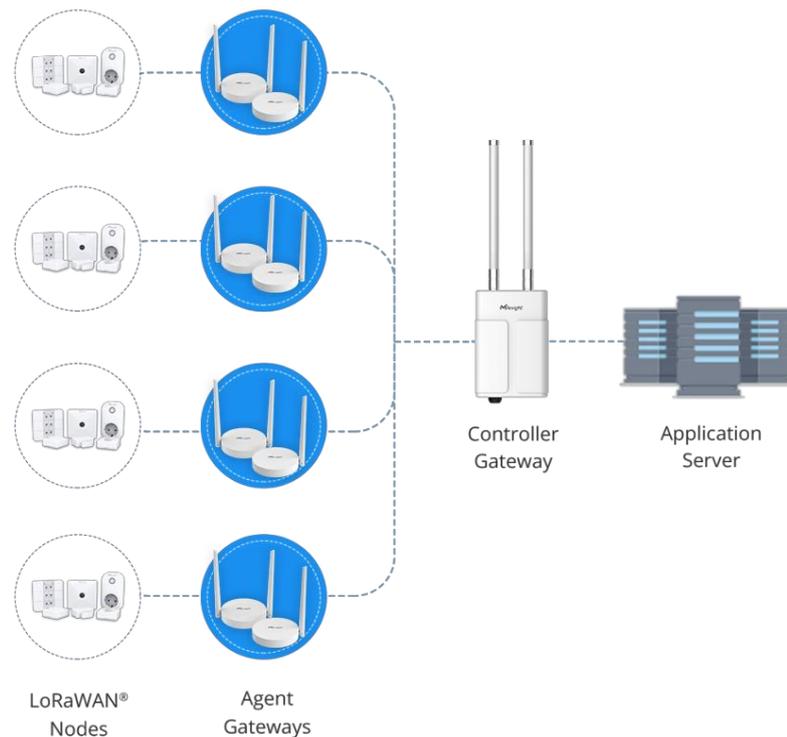# Mini LoRaWAN® Gateway

UG63

Milesight

UG63 is a 8-channel lightweight indoor LoRaWAN® gateway. Adopting, SX1302 chip, UG63 can set up packet forwarding connection between end nodes and mainstream network servers (such as The Thing Network, Chirpstack, etc.). With its compact size and high performance, it is highly suitable for independent deployment of LoRaWAN® networks in small-scale scenarios or single spaces. It can also serve as a supplementary gateway, along with UG56/UG65/UG67 gateways, to enhance LoRaWAN® signal coverage in large-scale scenarios by filling in signal blind spots. it is an ideal supplement for wide indoor areas such as office, parking lots, campuses, etc.

◆ Application Example

Metering
Smart Building
Smart Parking
Smart Office
Smart Home
Smart Factory

LoRaWAN® Gateway

Network Server

Application Server

LoRaWAN®
Nodes

Agent
Gateways

Controller
Gateway

Application
Server

*Note: This shows the blind-filling function among Milesight gateways.

◆ Features

➢ Equip with SX1302 chip, handing a higher amount of traffic with lower consumption

➢ 8 half-duplex channels for more than 2000 end-nodes connections

➢ Small in size for easy carrying & deployment

➢ Desktop, wall or ceiling mounting support

➢ Multi backhaul backups with Ethernet and Cellular (4G)

➢ Cover the blind spot of LoRaWAN® network by transmitting data to Milesight UG56/UG65/UG 67 controller gateway

➢ High cost performance, suitable for small applications

➢ Compatible with remote management system for simple deployment even in remote regions

➢ Compatible with mainstream network servers like The Things Stack, ChirpStack, AWS IoT Core for LoRaWAN®, etc.

➢ Embedded network server and MQTT API for easily integration

◆ Specifications

Hardware System	
CPU	Dual-core 240MHz, 32-bit Xtensa® LX7
Memory	8 MB PSRAM

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Site Web : www.es-canada.com

Flash	16 MB Flash

LoRaWAN®

Antenna Connector	1 × External Antenna
Channel	8 (Half-duplex)
Frequency Band	CN470/IN865/EU868/RU864/US915/AU915/KR920/AS923-1&2&3&4
Sensitivity	-140dBm Sensitivity @292bps
Tx Power	Max. 27dBm

Packet Forwarder

Compatibility	Milesight Gateway Embedded NS, DeviceHub LNS, Milesight Development Platform LNS, etc. For more see [ecosystem program](#).
Supported Devices	Around 2000 Class A/B/C Devices (Depending on uplink/downlink frequencies)
Advanced Feature	Packet Filter, Data Retransmission

Embedded Network Server

Protocol	V1.0.3 Class A/Class C
Supported Devices	Max. 20 Devices
Integration	MQTT

Cellular Interface (Optional)

Network	4G LTE (CAT 1)/GSM
Tx Power	LTE: Class 3 (23 dBm ±2 dB)
Antenna	1 x External Antenna
Cellular Band	**L08GL (Global except North America):** LTE-FDD: B1/2/3/4/5/7/8/12/13/17/18/19/20/25/26/28/66 LTE-TDD: B34/38/39/40/41; GSM: B2/3/5/8 **L09NA (North America):** LTE-FDD: B2/4/5/12/13/66
SIM Slots	1 (Micro SIM-3FF)

Ethernet Interface

Port	1 × RJ45 WAN Port
Physical Layer	10/100 Base-T (IEEE 802.3)
Data Rate	10/100 Mbps (Auto-Sensing)
Interface	Auto MDI/MDIX
Mode	Full or Half Duplex (Auto-Sensing)

Ethernet Isolation	1.5 kV RMS

Wi-Fi

Standards	IEEE 802.11b/g/n, 2.4 GHz
Mode	AP Mode (Device Configuration Only)
Security	WPA-PSK

Others

LED Indicators	1 × SYSTEM, 1 x LTE
Button	1 × Reset Button
USB	1 × USB 2.0 (Type-C) for Power Supply and Console
Built-in	Watchdog, Timer

Network and Management

Network Protocols	HTTP, HTTPS, MQTT
VPN	OpenVPN Client
Reliability	Link Backup
Configuration	Web, MQTT API, Milesight Development Platform, DeviceHub
Update	Web, Milesight Development Platform, DeviceHub
Diagnostics Tool	Ping

Power Supply and Consumption

Power Supply	1. 5V/2A by Type-C Port 2. 5~12V by DC Power Cable 3. 802.3af standard PoE input by PoE Splitter
Power Consumption	Typical 1.3W, Max 3.1 W

Physical Characteristics

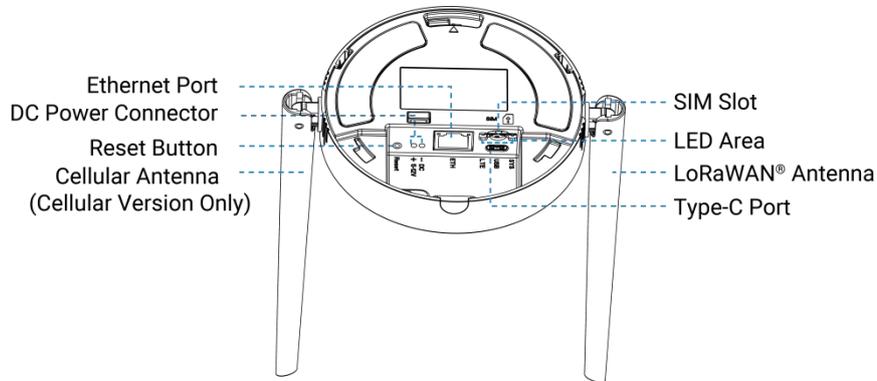|	
Ingress Protection	IP30
Housing & Color	PC + ABS, White
Weight	140g (Non-cellular Version), 158.2g (Cellular Version)
Dimensions	Φ 115 x 21 mm (Φ 4.52 x 0.83 in) (Antenna Excluded)
Installation	Desktop, Wall or Ceiling Mounting

Environmental

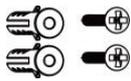|	
Operating Temperature	-20°C to +50°C (-4°F to +122°F)
Storage Temperature	-40°C to +85°C (-40°F to +185°F)
Relative Humidity	0% to 95% (non-condensing) at 25°C/77°F

Approvals

Regulatory	CE, FCC

Environmental	RoHS

◆ Hardware Overview

Ethernet Port .... SIM Slot
DC Power Connector .... LED Area
Reset Button .... LoRaWAN® Antenna
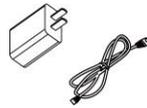Cellular Antenna .... Type-C Port
(Cellular Version Only)
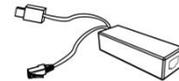
◆ Accessories

2 × Wall Mounting Kits   1 ×Type-C Cable (1m) & Power Adapter**   1 x PoE Splitter**

Note:

* Contact us if you need any other special accessories or customized accessories.

**One of the Type-C Cable&Power Adapter and PoE Splitter can be provided as standard accessory, while the other can be offered as an optional accessory.

◆ Dimensions(mm)

177.32
115
24
21
148.63

87