UG65

LoRaWAN® Hotspot

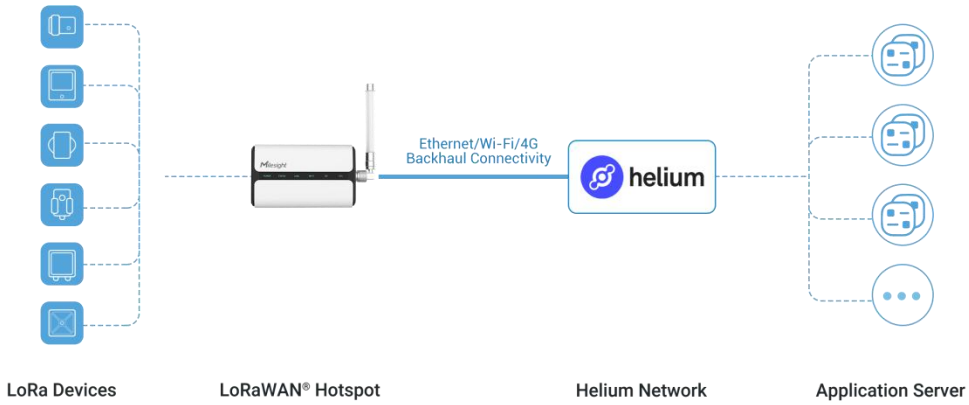
Compatible with Helium Network

Datasheet

UG65 is a robust 8-channel indoor LoRaWAN® hotspot, which is compatible with Helium LongFi technology. Adopting SX1302 LoRa chip, high-performance quad-core CPU and secure crypto chip, UG65 provides high-efficiency and reliable connection. UG65 has line of sight up to 15 km and can cover about 2 km in urbanized environment, which can cover larger areas and provide connectivity to more than 2000 nodes.

Besides helium miner feature, UG65 can also work as a normal gateway with mainstream network servers support(such as TTI, ChirpStack, etc.) and built-in network server and Milesight IoT Cloud for easy deployment.

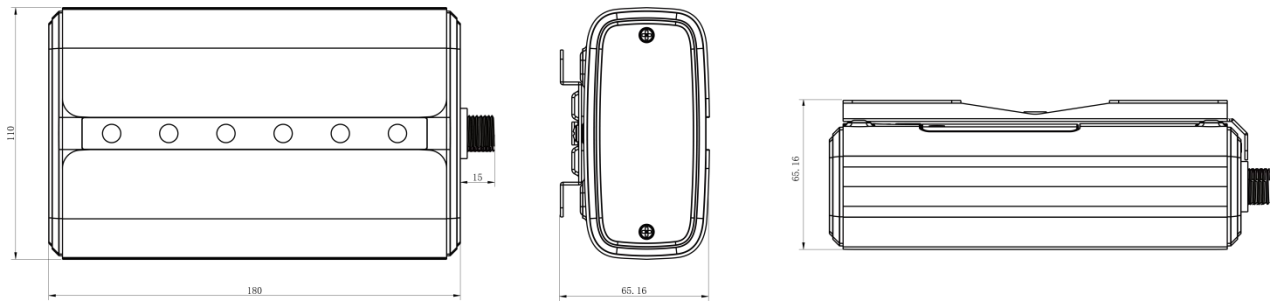
◆ Application Example



◆ Features

- Quad-core NXP industrial processor for high capability applications
- Built-in 2 GB DDR4 RAM and 32 GB eMMC flash for large storage
- Equip with SX1302 chip and support 8 half/full-duplex channels, handing a higher amount of traffic with lower power consumption
- Built-in ECC608 crypto chip for high-security authentication and reliable Helium network connectivity
- IP65 enclosure and industrial design for parts of outdoor environment applications like eaves
- Desktop, wall or pole mounting (optional)
- Multi backhaul backups with Ethernet and Wi-Fi and cellular (4G/3G)
- Set up Helium network with easy steps
- Enable security communication with multiple VPNs like IPsec/OpenVPN/L2TP/PPTP/DMVPN
- Detect and analyze the noise level and provide an intuitive diagram for deployment
- Embedded Python SDK for users secondary development
- Fast and user-friendly programming by Node-RED development tool
- DeviceHub and Milesight IoT Cloud provide easy and centralized management of remote devices

◆ Dimensions(mm)



◆ Specifications

Hardware System	
CPU	Quad-core 1.5 GHz, 64-bit ARM Cortex-A53
Memory	2 GB DDR4 RAM
Flash	32 GB eMMC
Encryption Chip	ECC608B
LoRaWAN	
Antenna	2 × Internal Antennas + 1 × 50 Ω N-Female External Connector
Channel	8 (Half/Full-duplex)

Frequency Band	CN470/IN865/EU868/RU864/US915/AU915/KR920/AS923/AS923-2
Sensitivity	-140dBm Sensitivity @292bps
Output Power	27dBm Max
Protocol	V1.0 Class A/Class B/Class C and V1.0.2 Class A/Class B/Class C
Ethernet Interface	
Port	1 × RJ45 (PoE PD supported)
Physical Layer	10/100/1000 Base-T (IEEE 802.3)
Data Rate	10/100/1000 Mbps (Auto-Sensing)
Interface	Auto MDI/MDIX
Mode	Full or Half Duplex (Auto-Sensing)
Wi-Fi Interface	
Antenna	Internal Antenna
Standards	IEEE 802.11 b/g/n, 2.4GHz
Mode	AP or Client mode
Security	WPA/WPA2 authentication, WEP/TKIP/AES encryption
Tx Power	802.11b: 18 dBm +/-2.0 dBm (11 Mbps) 802.11g: 15 dBm +/-2.0 dBm (6 Mbps) 802.11g: 15 dBm +/-2.0 dBm (54 Mbps) 802.11n@2.4 GHz: 14 dBm +/-2.0 dBm (MCS0_HT20) 802.11n@2.4 GHz: 14 dBm +/-2.0 dBm (MCS7_HT20) 802.11n@2.4 GHz: 13 dBm +/-2.0 dBm (MCS0_HT40) 802.11n@2.4 GHz: 13 dBm +/-2.0 dBm (MCS7_HT40)
Cellular Interface (Optional)	
Antenna	Internal Antenna
SIM Slot	1 (mini SIM-2FF)
Others	
Reset Button	1 × RST
Console Port	1 × Type-C
LED Indicators	1 × POWER, 1 × STATUS, 1 × LoRa, 1 × Wi-Fi, 1 × LTE, 1 × ETH
Built-in	Watchdog, RTC, Timer
Software	
Network Protocols	PPPoE, SNMP v1/v2c/v3, TCP, UDP, DHCP, DDNS, HTTP, HTTPS, DNS, ARP, SNTP, Telnet, SSH, MQTT, etc.
VPN Tunnel	OpenVPN/IPsec/PPTP/L2TP/GRE/DMVPN
Firewall	ACL/DMZ/Port Mapping/MAC Binding/URL Filter

Management	Web, CLI, SMS, On-demand dial up, DeviceHub, Milesight IoT Cloud
Reliability	WAN Failover
App	Python SDK, Node-RED

Power Supply

Power Input	1. DC Jack Connector for 9-24 VDC power supply 2. 1 × 802.3 af PoE input

Physical Characteristics

Ingress Protection	IP65
Dimensions	180 x 110 x 56.5 mm (7.09 x 4.33 x 2.22 in)
Installation	Desktop, Wall or Pole Mounting

Environmental

Operating Temperature	-40°C to +70°C (-40℉ to +158℉) Reduced Cellular Performance Above 60°C
Storage Temperature	-40°C to +85°C (-40℉ to +185℉)
Ethernet Isolation	1.5 kV RMS
Relative Humidity	0% to 95% (non-condensing) at 25°C/77℉