

miro

Edge Sphere



AZURE SPHERE® SECURED INDOOR GATEWAY

High-performance indoor LoRaWAN® gateway secured by the Microsoft Azure Sphere® with global cellular coverage.



miro Edge Sphere is a secure, fully LoRaWAN® compatible gateway. The small form-factor and global out-of-the-box cellular coverage allow simple integration into any infrastructure.

The embedded [Azure Sphere®](#) certified processor provides built-in Microsoft technology based on the [Seven Properties](#) of IoT security. The security service automatically distributes OS updates to all gateways and allows to deploy application updates over-the-air.

VERTICALS

- Smart Buildings, Smart City
- Industry 4.0
- Healthcare

- Logistics and supply chain
- Retail
- Smart Agriculture

KEY FEATURES

- 8 or 18 channels LoRaWAN® gateway
- ETSI Listen Before Talk (LBT)
- Support for 868/915 MHz and 2.4 GHz
- Highly secure processor with hardware root-of-trust (MT3620)
- Azure Sphere®: Automatic security patches and update over-the-air
- Global cellular coverage out-of-the-box (eSIM), Ethernet, WiFi, powered by the [qii](#) Concentrator XN



Document Information

ABOUT

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REVISION HISTORY

Date	Release	Changes
11/10/2021	1.0	Initial revision

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Functional Description

miro Edge Sphere is a secure, fully LoRaWAN[®] compatible gateway. The small form-factor and global out-of-the-box cellular coverage allow simple integration into any infrastructure. [Azure Sphere[®]](#) provides fault-tolerant over-the-air updates, both OS and firmware. Device security maintenance by Microsoft for 10 years is included and security is monitored 24/7 by the [MSRC](#). A build-time firewall prevents botnet activity and ensures that only signed applications can run. A device management portal provided by the Azure Sphere[®] security service and [qii](#) allow simple deployment.

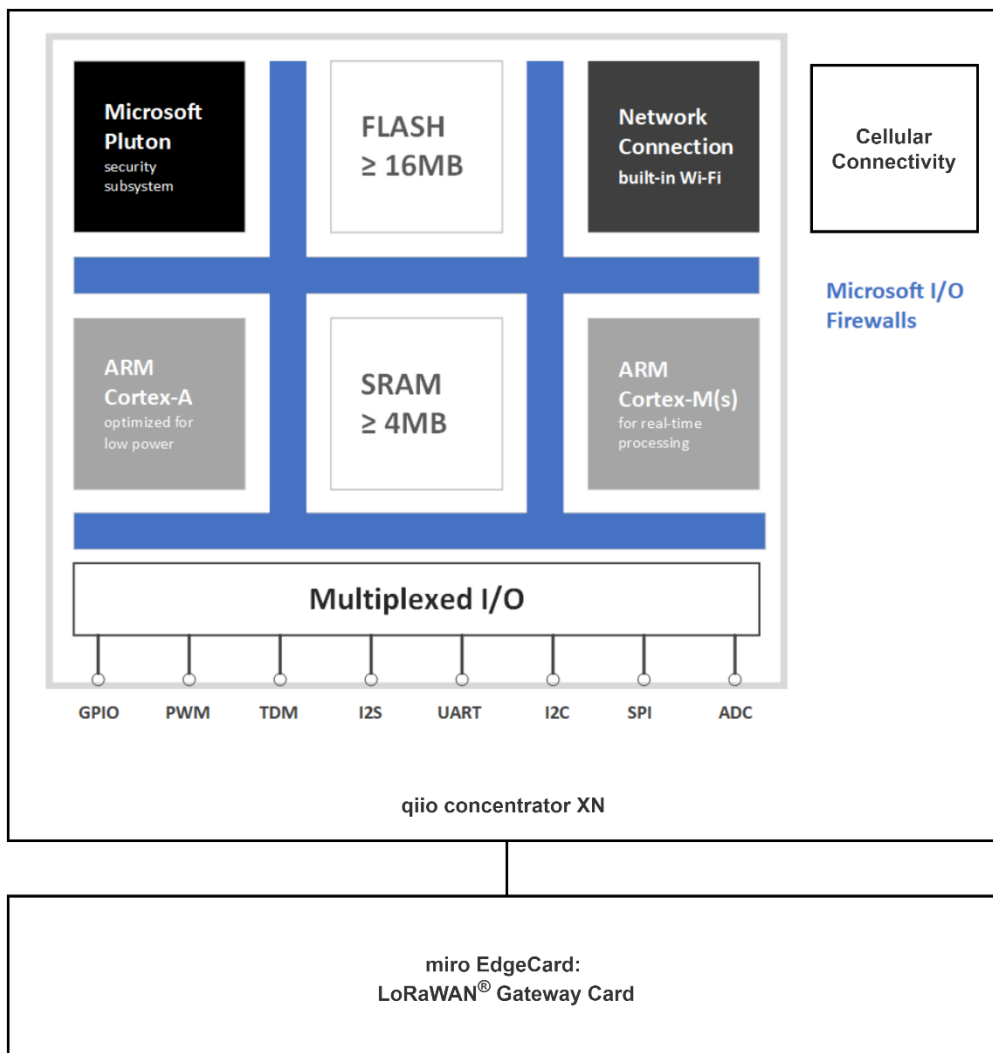


Figure 1: Architecture



Figure 2: miro Edge Sphere with antennas

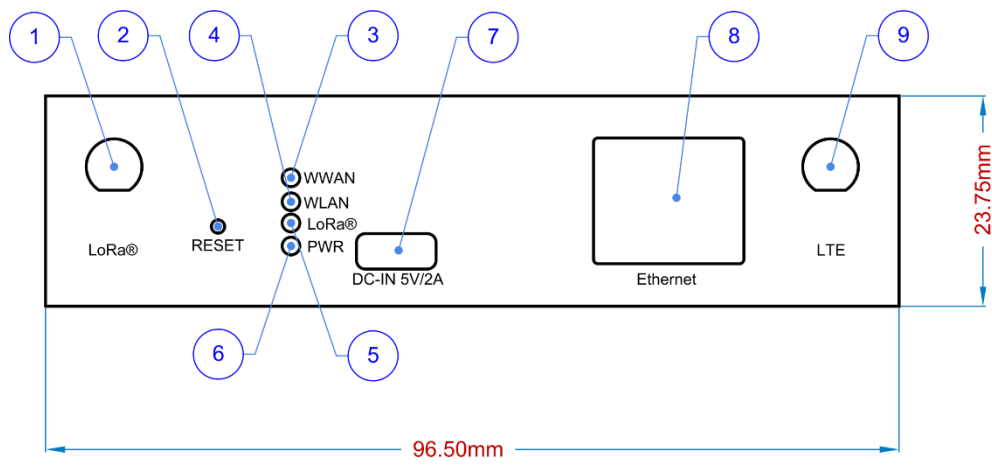


Figure 3: Interfaces

INTERFACES

1	External LoRa® antenna
2	Reset button
3	WWAN LED (cellular)
4	WLAN LED
5	LoRa LED

6	Power indicator
7	Power input, USB micro
8	Ethernet
9	External LTE antenna

Technical Specifications

MECHANICAL SPECIFICATIONS

Weight	196 g
Dimensions	110 x 129 x 33 mm, see Figure
Enclosure	plastic, ABS
Ingress Protection	IP41

OPERATING CONDITIONS

Temperature	0 – 80 °C
Humidity	0 – 95% RH, non-condensing

DEVICE POWER SUPPLY

Power supply	5 VDC, 12 W USB mini connector
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RADIO / WIRELESS

Supported ISM bands	868 MHz, 915 MHz, 2.4 GHz
Data rates	0.6 – 300 kbps (FSK) SF7-SF12, 125/250/500 kHz (Sub-GHz LoRa®)
Rx sensitivity	-139.5 dBm (SF12)
RF transmission power	up to 30 dBm
LoRa antenna	integrated or external SMA antenna, software selectable
LTE antenna	external SMA

Mechanical Dimensions

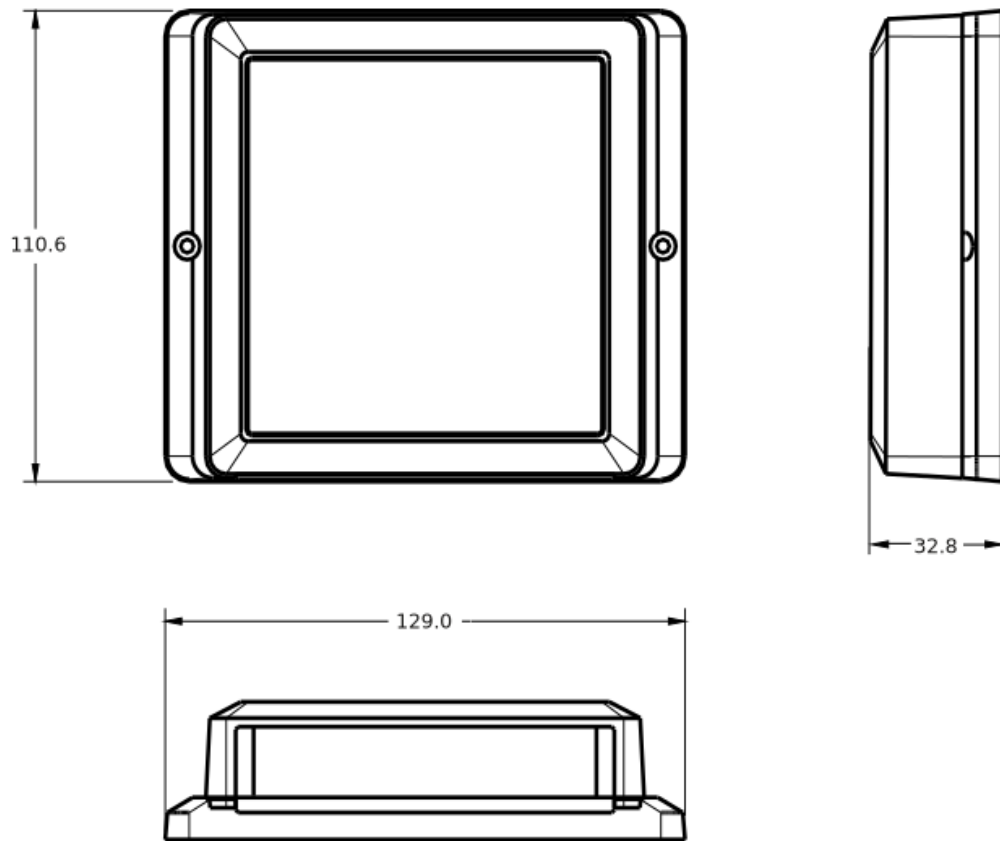


Figure 4: Mechanical Dimensions



Additional Documentation

ADDITIONAL RESSOURCES

Documentation

[Documentation](#)

Other Miromico products

[Product Website](#)



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