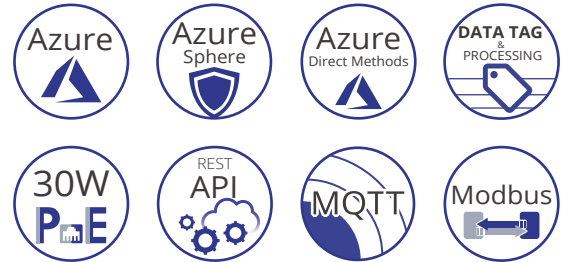


# AIR GUARD

Industrial IoT Cellular Smart Security Gateway  
Building Trust in IIoT Device



## Product Highlights

### ➔ Built-in Microsoft security technology

- AiR GUARD's built-in Azure Sphere chip provides secure connectivity based on a hardware root of trust, and its OS adds layers of protection with continuous updates to ensure a trustworthy platform.

### ➔ Convenient 30W PoE to power connected devices

- Offers one port of 10/100/1000 BASE PoE
- IEEE802.3at Power over Ethernet

### ➔ Smart Data Logging

- Built-in Data Tag Engine
- Easy integration of equipment data into middleware with secured data conversion to optimize efficiency with connected equipment

### ➔ Edge Data display

- Useful for field site debug. Edge data display with timestamp.

### ➔ Supports RESTful API

- Easy to acquire data or remote configure settings

## Overview

Over the past few years, the Internet of Things (IoT) has captured headlines across the world. With its network of "Smart," sensor-enabled devices that can communicate and coordinate with one another via the Internet, the IoT can facilitate computer-mediated strategies for managing city resources, energy management, and numerous other tasks. However, the way forward for IoT may be complicated. As with any technology in its early stages, cybersecurity concerns will be prevalent. There have already been instances of hackers wreaking havoc by infiltrating connected IoT devices. In light of the essential need for security, EtherWAN's AiR GUARD is an advanced IIoT cellular gateway specifically optimized for secure IoT data transmission, running with Microsoft's Azure Sphere. Offering not only secure connectivity, it also provides industrial protocols and easy to use data pre-processing and conversion for efficient and low-cost edge to cloud connectivity. AiR GUARD is your IoT guardian.

# Ordering Information

4G LTE Gateway	Description	RF	Region
AiR GUARD-TA	Industrial IoT Cellular Smart Security Gateway	4G LTE Cat.4	Taiwan & Australia
AiR GUARD-EA	Industrial IoT Cellular Smart Security Gateway	4G LTE Cat.4	EU & APAC* / Singapore / Thailand

## Frequency Bands Region Code Optional

Sku Code	4G LTE		3G	2G	Region
	FDD LTE	TDD LTE	WCDMA	GSM/EDGE	
TA	B1(2100)/3(1800)/4(AWS)/5(850)/7(2600)/8(900)/28(700 APT)	B40(2300)	N/A	N/A	Taiwan & Australia
EA	B1(2100)/3(1800)/5(850)/7(2600)/8(900)/20(800)	B38(TD 2600)/40(TDV 2300)/41(TD 2500)	B1(2100) / 5(850)/8(900)	B3(1800)/8(900)	EU & APAC* / Singapore / Thailand

\* Cellular approval with certification in APAC : Singapore and Thailand are available.

## Azure Sphere platform security features

### → Azure Sphere certified microcontroller

- Azure Sphere MT3620

### → Certificate-based authentication

- Signed certificates validated by cryptographic Key

### → Hardware-based root of trust

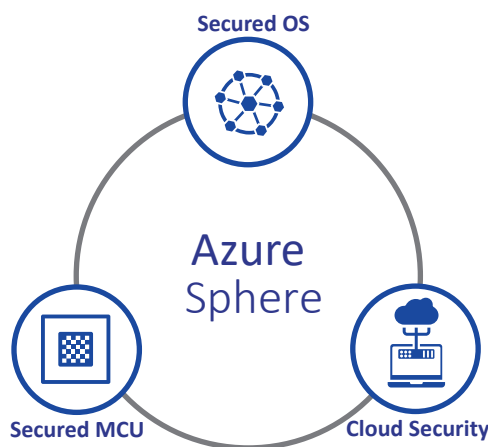
- Prevents device forgery or spoofing

### → Renewable security

- Device software is automatically updated to correct known vulnerabilities or security breaches

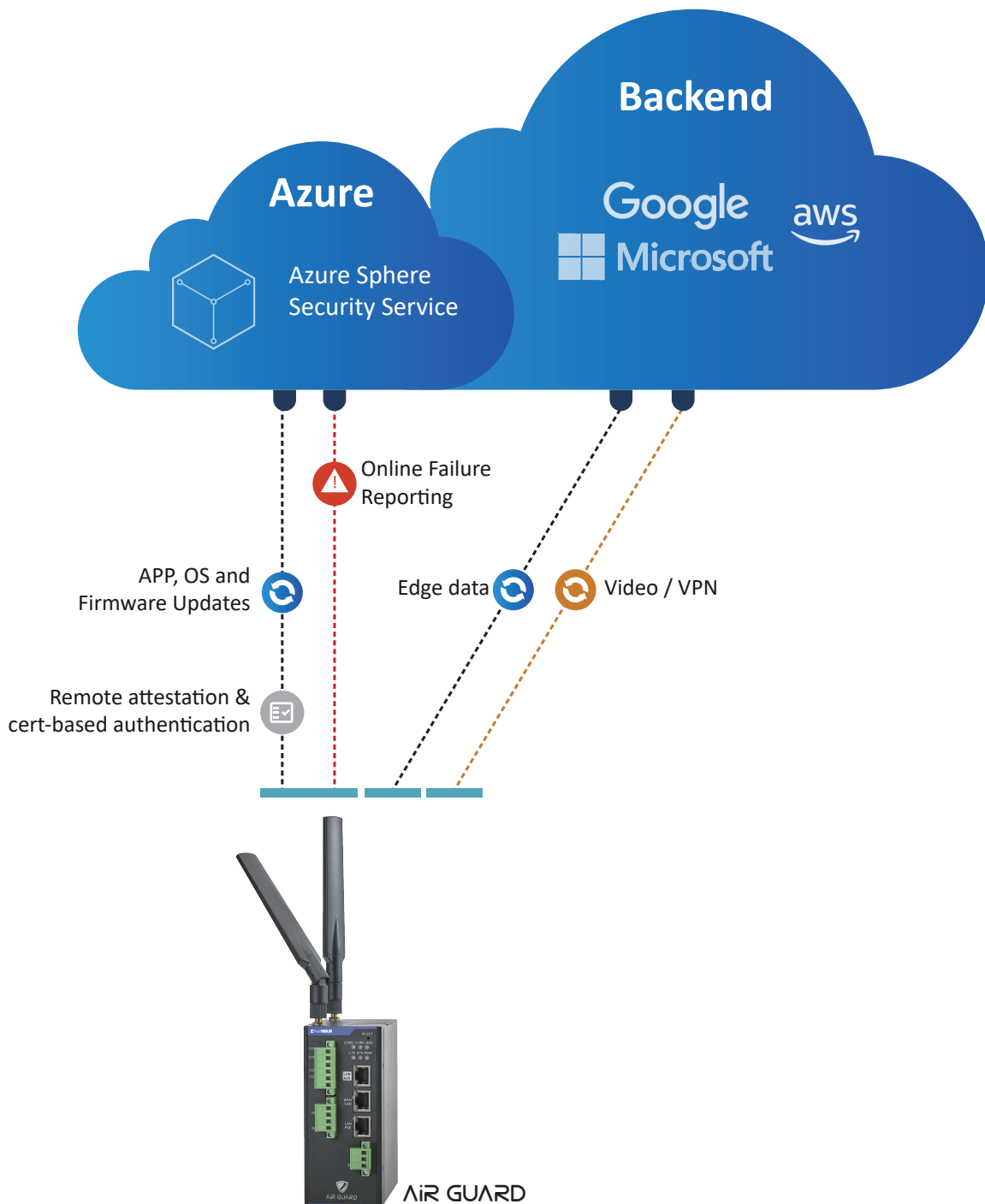
### → Defense in depth

- Multiple layers of security - each layer of soft-ware (Azure Sphere OS) verifies that the layer above it is secured



# AiR GUARD IIoT Connectivity with Azure Sphere Security Service

- ➔ Microsoft secures the Firmware with timely updates for 10 years
- ➔ Protects your devices and your customers with certificate-based authentication of all devices and communication
- ➔ Detects emerging security threats through automated processing of on-device errors



# Azure Direct Methods

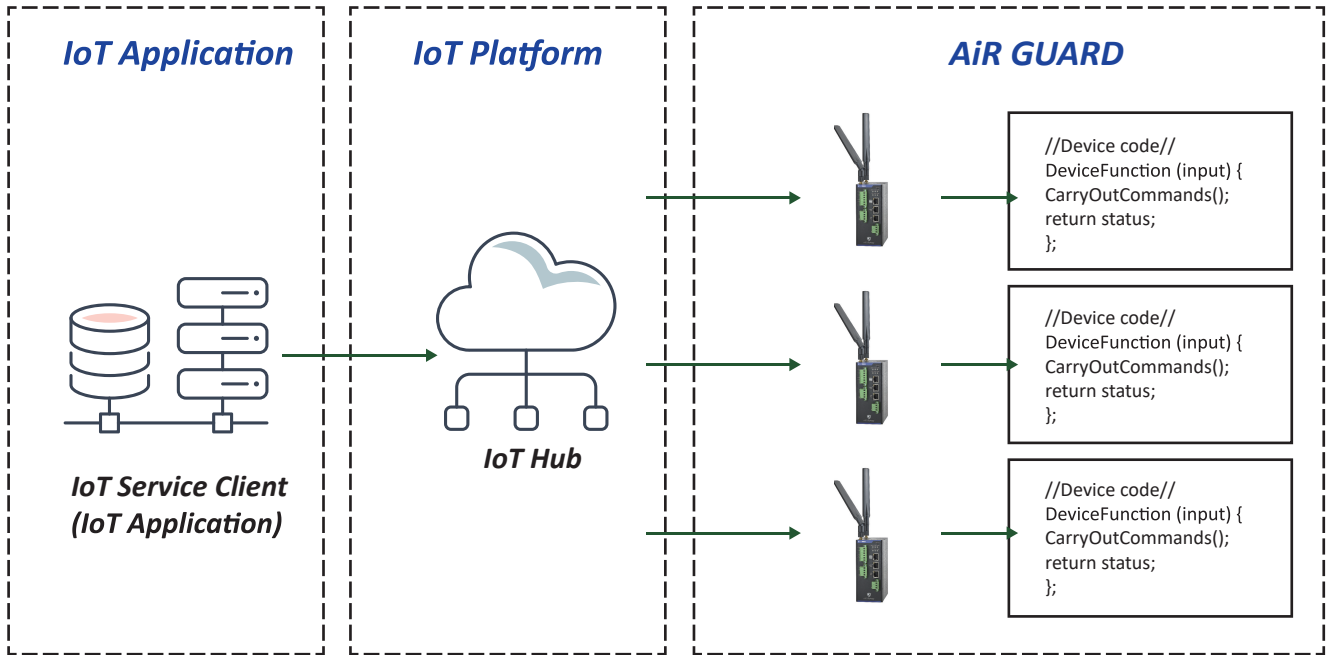
Application Invokes  
Function for specific Device



IoT Hub invokes  
function on connected  
device, passing input



Device immediately receives function call and  
input, executes function, and returns result.



## Software Features

Functions		+
Cellular	3GPP, 4G LTE	
Ether-WAN	Dynamic IP, Static IP, PPPoE	
Protocols	DHCP Server	
Port Forwarding	NAT, Virtual Server/Computer	
Network Management		+
Configuration	Web Console, SSH, HTTPS	
System	Firmware upgrade, configuration backup & restore, reboot & reset defaultt	
Diagnostic	Ping, Traceroute	
Cloud	Azure : DPS to IoT Central / Hub. Azure Plug & Play Azure Direct Methods AWS: IoT Core	
Security		+
VPN	OpenVPN: • Server / Client	

## Hardware Specifications

Cellular		+
Standards	4G LTE: FDD-LTE, Transfer rate (max): • LTE FDD: 150Mbps down; 50Mbps up	
SIM Slot	1 x nano SIM card slot	
Antenna connector	2 x SMA Female	
Ethernet		+
Standards	IEEE 802.3 10BASE-T IEEE 802.3u 100BASE-TX/100BASE-FX IEEE 802.3ab 1000BASE-T IEEE802.3at Power over Ethernet	
Ports	1 x 10/100/1000 PoE 802.3at PSE + 1x 100/1000 BASE-T(X) + 1 x 10/100BASE-T(X)	
Serial		+
Ports	2 x RS485	
I/O		+
DI/DO	1 x Digital In ("Logic 0": 0-2V, "Logic 1": 5-30V) 1 x Digital Out (Relay Mode, up to 30V/1A)	
Micro SD		+
Capacity	Max. Storage of 64GB	
LED Indicators		+
System	Power , System status, NB2 status , AZS (Azure Sphere) , COM 1, COM 2	

### • Note:

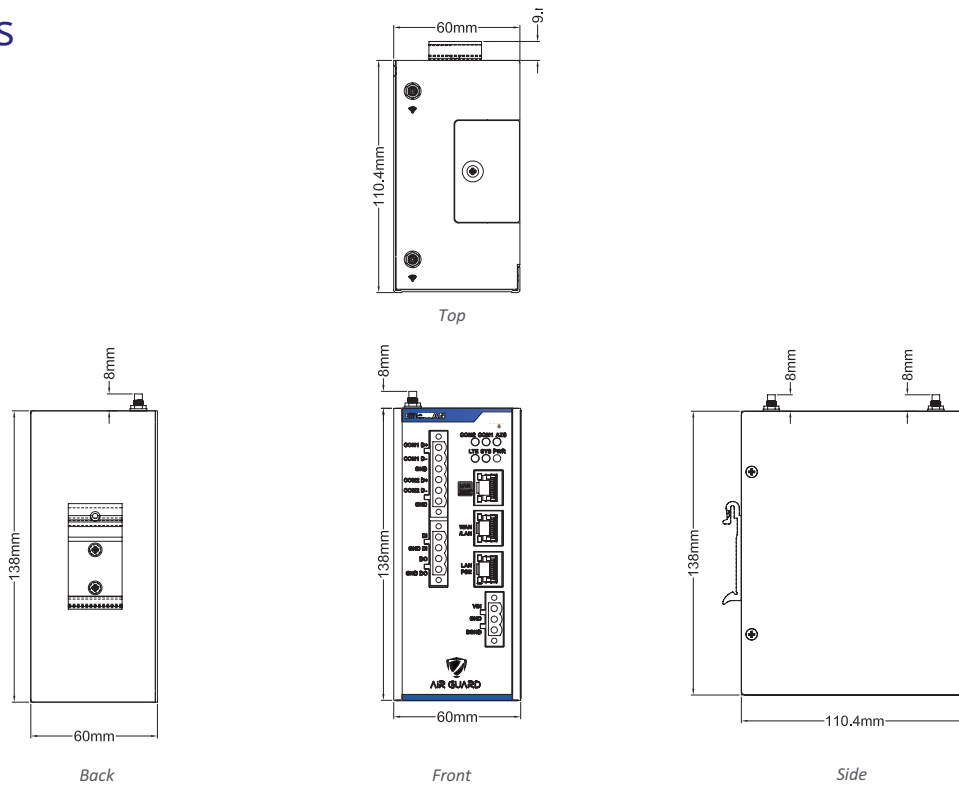
Radio Power Density MPE standard value: 1 W/cm<sup>2</sup>, the measured value of the test product: 0.074 W/cm<sup>2</sup>. It is recommended to use when the device antenna is at least 20 cm away from the human body.

Please use properly to reduce the influence from electromagnetic waves.

Field Communication		+
Modbus	Modbus TCP, MQTT broker, Modbus RTU Master	
Data Interchange	MQTT Client	
RESTful API	Easy to acquire data or remote configure settings	
Data Tag Engine	Front-end device raw data to convert to be logical data by Tag based and specified Tag data format combination to the cloud.	
Data Logging	Full time proxy mode	
Edge data Display	Display tag data with timestamp	
Service		+
OTA F/W upgrade automatically	Use Cellular or Ethernet WAN to update new version system firmware and Azure Sphere Security	
Event Engine	Events: DI, DO, Modbus, SMS, Syslog, Email Alert, Reboot, LINE Notification LINE Notify for Modbus over Threshold	
LTE Fee Saving for Modbus Data to Cloud	Rules to control and release alert	

Power		+
Input	12-24VDC	
Physical		+
Casing Material	Metal case	
IP Rating	IP30	
Dimensions	138 x 110 x 45mm (HxDxW)	
Weight	0.7Kg	
Installation Type	DIN-Rail mounting	
Environment Limits		+
Operating Temp.	-40 to 75°C (-40 to 167°F)	
Storage Temp.	-40 to 85°C (-40 to 185°F)	
Relative Humidity	5% to 95% (non-condensing)	
Regulatory		+
Safety	EN IEC 62368-1:2020+A11:2020	
Emissions/Immunity	EU: CE UK: UKCA US: FCC part 15B Taiwan: NCC Singapore: IMDA Thailand: NBTC Australia: RCM	

# Dimensions



## Accessory Optional

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<b>HDR-60-24</b>	60W/2.5A DIN-Rail 24VDC Industrial Power Supply
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