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Extend Your Reach.

From Wireless to IoT: AsiaRF's Journey of Innovation

Paul Lai, the founder of AsiaRF, foresaw the potential of networking early in the internet's inception. With unwavering belief and passion, he established AsiaRF amidst fierce competition and evolving wireless technologies. To maintain high quality and competitiveness, he made unconventional decisions, investing in skilled R&D, upgraded equipment, and exceptional certification services. This dedication made AsiaRF a standout in the RF industry.

Over 27 years, IoT's progress was unstoppable. Our focus expanded beyond Wi-Fi 6 and 7 to include Wi-Fi HaLow. Partnering with Morse Micro, we expanded global influence, advancing IoT's future.

In June 2023, our Wi-Fi HaLow IoT Gateway achieved the world's first certification, marking a milestone. We launch Wi-Fi HaLow IoT Solution Kits at the Mobile World Congress on September

26th, 2023. This range includes indoor IoT Gateway, wearables, outdoor routers, and relays, offering solutions tailored to specific needs.

In IoT's future, AsiaRF will lead in technological advancement, creating value for the industry.



Paul Lai, CEO





Extend Your Reach.

Mission & Vision

Our mission is to create pioneering communication solutions that streamline and elevate connectivity. Committed to providing

Advanced, Rapid, Flexible

wireless experiences, we aim to extend people's reach.

3Cs

Care for customers,
employees & environment

Care

**Our
Value**

Connect people
closer together

Connect

Customize

Customize our
products to meet
your need





Extend Your Reach.

Slogan

Extend Your Reach.

“

The slogan "Extend Your Reach" conveys a fundamental message: aiming to assist you not only in expanding your coverage within the wireless network world, much like how an extended range reinforces your connections in the network, but also aiding in amplifying your business influence, empowering you to make a more profound impact in the realms of commerce and engagement.

”





1997

Founded in WuKu Industrial Area, New Taipei City, Taiwan Main focus: Pager, Mobile phones and related accessories.

2003

Enters WLAN Antenna & related accessories field.

2004

Integrate Total WLAN solution, including wireless routers, USB LAN Cards, AP etc.

2005

Establishes subsidiary in Shenzhen, China.

2011

Announces High Power USB dongle series.

2013

Buildup full Lab for Wi-Fi devices, Network Analysis Wi-Fi + SLIC / Wi-Fi + Bluetooth / Wi-Fi + ZWave.

2018

11ac Far Distance High Power series cards launched.

2020

Invest in IEEE802.11ax Facility, 11ax Wi-Fi Products launched.

2021

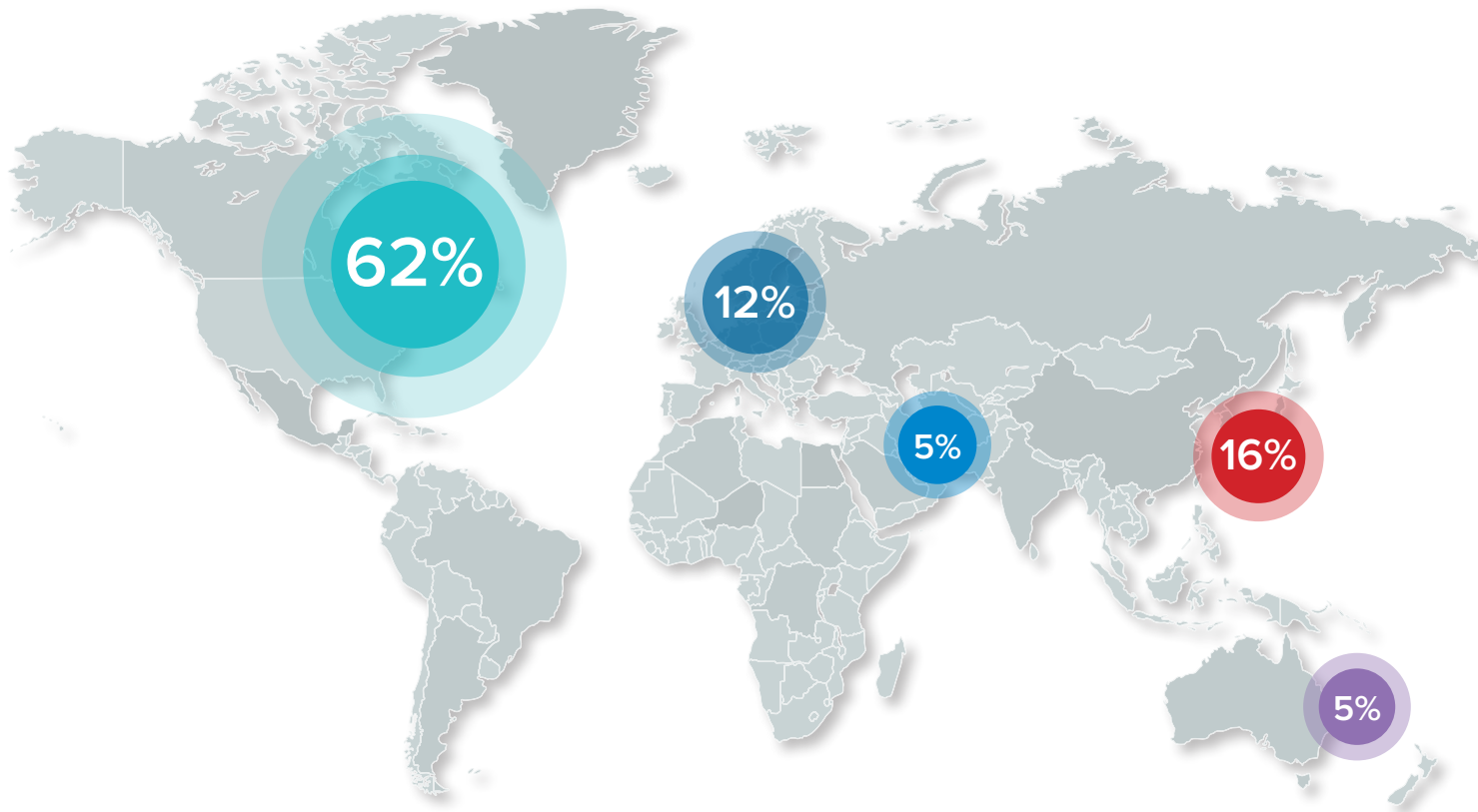
11ax, Wi-Fi 6, 5G Router

2023

- The world's first Wi-Fi CERTIFIED HaLow IoT Gateway.
- Launch W-Fi HaLow IoT ToTal Solution Kit
- Wi-Fi 6, Wi-Fi 6E, Wi-Fi 7

Milestone





Regional Sales Ratio Chart

With our valued customers and partners in mind, we proudly present our Regional Sales Ratio, a clear reflection of our global achievements.

Notably, North America stands out with a commanding

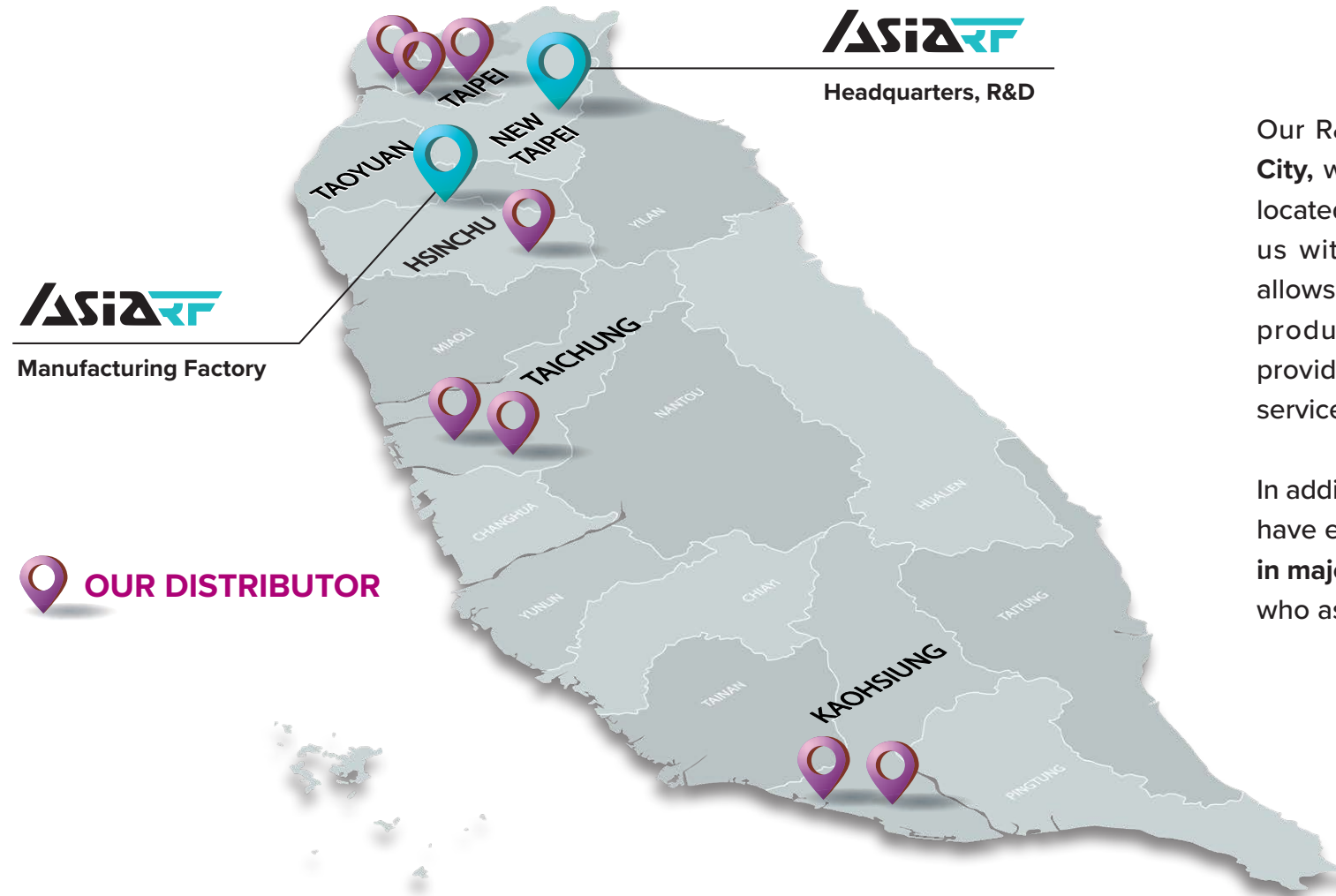
62% share

of our sales, highlighting our industry leadership. Through innovative solutions, North America has wholeheartedly embraced our offerings, firmly establishing us as a premier provider in this critical market.



Extend Your Reach.

Location & Distributors



Our R&D team is based in **New Taipei City**, while our manufacturing factory is located in **Taoyuan**. This setup provides us with a significant advantage as it allows us to integrate research, design, production, and support, helping us provide customers with comprehensive service.

In addition to our own sales channels, we have established reliable **distributors in major cities throughout Taiwan** who assist us in distribution.



Our Clients

(AU) Morse Micro and PredictWIND, (USA) Supermicro Computer, C.CRane, Digi, T-Mobile, (PH) PLDT, Streamtech, (IL) Align, and (TW) Delta are our main buyers. We have established long-term and stable partnerships with them.

Additionally, we collaborate with distributors such as ASEC, Chii Yan, and Holy Stone. As our primary distributors, they work closely with end customers, introducing our products to the market and providing professional services. with them and ensure the delivery of professional services to our customers.





Extend Your Reach.

Research & Quality Assurance Facilities:

With advanced facilities and cutting-edge equipment, our company guarantees high-quality products. Our research and quality assurance facilities encompass testers for Wi-Fi, Wi-Fi HaLow, BLE, Zigbee, LoRa, and Sigfox.

Equipped with an 18GHz network analyzer and a 13GHz spectrum analyzer, we ensure consistent performance across various frequencies. Specialized shielding cases, digital programming power supply, and digital storage oscilloscope enhance our testing capabilities. This dedication to quality ensures outstanding products for our customers.

- **Testers for Wi-Fi, Wi-Fi HaLow, BLE, Zigbee, LoRa, and Sigfox**
- **Network Analyzer operating at 18GHz**
- **Spectrum Analyzer operating at 13GHz**
- **Shielding Cases for testing**
- **Digital Programming Power Supply**
- **Digital Storage Oscilloscope**



Ingenious



Professional



Integrated











Reliable



Best-selling Wi-Fi Modules

- Wi-Fi 6E
- Wi-Fi HaLow

Best-selling Wi-Fi Modules

	MM610X-001	AW7916-AED	AW7916-NPD	AW7915-NP1	AW7915-NPD	AW7915-AE1	AW7915-AED	AW7915-BMD
Product Picture								
Wi-Fi Generation	Wi-Fi HaLow	Wi-Fi 6E	Wi-Fi 6E	Wi-Fi 6	Wi-Fi 6	Wi-Fi 6	Wi-Fi 6	Wi-Fi 6
Communication Protocol	11ah	11ax	11ax	11ax	11ax	11ax	11ax	11ax
Number of Connectors	1T1R	G-band 2T2R A-band 2T3R	G-band 2T2R A-band 2T3R	4T4R	2T2R	4T4R	2T2R	2T2R
BUS Interface	SDIO/SPI	M.2 AE Key	Mini PCIe	Mini PCIe	Mini PCIe	M.2 AE Key	M.2 AE Key	M.2 BM Key
Baseband IC	MM6108 RF SOC	MT7916AN	MT7916AN	MT7915AN	MT7915DAN	MT7915AN	MT7915DAN	MT7915DAN
Transfer Rate	20 Mbps	3000 Mbps	3000 Mbps	2400 Mbps	1800 Mbps	2400 Mbps	1800 Mbps	1800 Mbps
Frequency Bands	850-950MHz	DBDC 2.4G & 5/6G	DBDC 2.4G & 5/6G	Dual Bands Selectable 2.4G or 5G	DBDC 2.4G & 5G	Dual Bands Selectable 2.4G or 5G	DBDC 2.4G & 5G	DBDC 2.4G & 5G
Size of SIM Card	17 X 22 mm	30 X 52 mm	30 X 51 mm	30 X 51 mm	30 X 51 mm	30 X 52 mm	30 X 52 mm	30 X 52 mm
Certificating	FCC ID: TKZMM610X-001 IC: 9968A-MM610X001 NCC, RCM: Approved CE, TELEC: Application in Progress	Coming soon	FCC ID:TKZAW7916-NPD IC: 9968A-AW7916NPD CE: Certification Approved	FCC ID: TKZAW7915NP1 IC: 9968A-AW7915NP1 CE: Certification Approved	FCC ID: TKZAW7915-NPD IC: 9968A-AW7915NPD NCC ID : CCAF22Y1024T CE: Certification Approved	Coming soon	Coming soon	Coming soon



Wi-Fi HaLow Module

AsiaRF's Wi-Fi HaLow module, powered by the Morse Micro® MM6108 RF SOC, MM610X-001, is an IoT wireless module that follows the Wi-Fi HaLow (802.11ah) standard. This standard brings a new realm of possibilities to IoT applications with its low power consumption, long-range communication, and high throughput.

Features:

- Achieves maximum **transmission rate of 32.5 Mbps** and enables communication up to 1 kilometer, a **10-fold increase over traditional Wi-Fi connections**.
- Designed based on **Morse Micro® MM6108 RF SOC** with low-power design and intelligent Power Management Unit (PMU), extending device lifespan to around 5 years with a button cell battery.
- Supports **WPA3** encryption and Opportunistic Wireless Encryption (OWE) technology for robust security.
- Exceptional sensitivity, selectivity, and impedance performance for stable RF connections.
- Offers multiple communication interfaces: **UART, SDIO, SPI, and I2C**, suitable for various application scenarios.
- Built-in **AES encryption** engine and hardware-supported hash functions for exceptional data security.



Wi-Fi 6E Module

The Wi-Fi 6E Module AW7916-NPD is a highly advanced Mini PCIe module with Wi-Fi 6E 3000 capabilities. It features G-band 2T2R + A-band 3T3R 2ss dual-band dual-concurrent (DBDC) technology, providing a transmission efficiency of 3000 Mbps. With support for Wi-Fi 6E, even in densely crowded environments, the Wi-Fi 6E Module AW7916-NPD delivers efficient network performance while accommodating a greater number of Wi-Fi users. Its wider spectrum and increased capacity ensure smooth operations, reducing latency and interruptions.

Features:

- IEEE 802.11 a/b/g/n/ac/ax compliant
- G-band 2T2R + A-band 3T3R 2ss, dual-band dual concurrent (DBDC) with PHY rate up to 3000Mbps
- Support 20/40MHz bandwidth in G-band, and 20/40/80/160MHz bandwidth in A-band
- Security support for WPA WPA2/WPA3 personal, WPS2.0
- Support MU-OFDMA TX/RX
- Support MU-MIMO TX/RX
- Support greenfield, mixed mode, legacy modes

Wi-Fi HaLow IoT Solution Kit

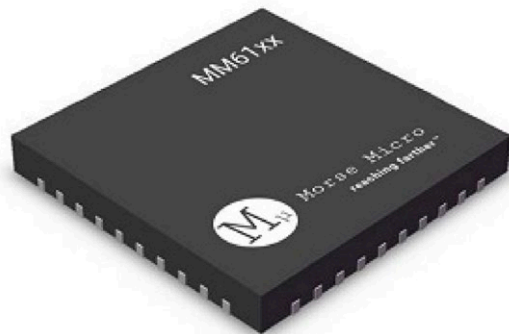
- IoT Gateway
- Wearable Gateway
- Outdoor Gateway
- Outdoor relay
- DIY Kit

Wi-Fi HaLow Revolution: Empowering a New Era of Connectivity

The AsiaRF Wi-Fi HaLow IoT Solution Kit is tailored for Industrial Internet of Things (IIoT) applications. It showcases Morse Micro's MM6108 Wi-Fi HaLow SoC, the market's fastest, smallest, lowest power-consuming, and longest-range chip. Paired with Morse Micro HaLow wireless tech, it's powered by OpenWrt software supporting WiFi 4 AP/WiFi WAN functions. Through collaboration, our AP7688-WHM product became the **world's first Wi-Fi Certified HaLow End-product** in June 2023.

This September, we've unveiled a line of Wi-Fi HaLow IoT Solution Kits.

These kits bolster our Wi-Fi HaLow leadership, providing innovative solutions for customers. We're committed to advancing IoT tech, supporting digital transformation across industries.

A promotional graphic for the AP7688-WHM Wi-Fi HaLow IoT Gateway. The background is dark blue with a glowing blue wave pattern. At the top, it says "World's First Wi-Fi CERTIFIED HaLow™ Gateway". Below this is the AsiaRF logo, the Wi-Fi Alliance logo, and the HaLow logo. The product name "AP7688-WHM Wi-Fi HaLow IoT Gateway" is prominently displayed. Below the name, it says "IoT Gateway. Easy Setup. Powerful Results." and shows a white gateway device with a single antenna. At the bottom, there are four icons with text: "Long range: Sub-1GHz", "Greater Penetration: 10 times greater.", "Extended Range: 100 times coverage.", and "More Connections: more than 8,000 table connections".






World's First Wi-Fi CERTIFIED HaLow™ Gateway

AP7688-WHM
Wi-Fi HaLow IoT Gateway

IoT Gateway. Easy Setup. Powerful Results.

Long range: Sub-1GHz | Greater Penetration: 10 times greater. | Extended Range: 100 times coverage. | More Connections: more than 8,000 table connections

Wi-Fi HaLow IoT Solution Kit

	ARFHL-AP	ARFHL-UM	ARFHL-OR	ARFHL-OR L	ARFHL-57 5
Product Picture					
Product Name	W -F HaLow IoT Gatewa	Wi-Fi HaLow Wearable Gateway	Wi-Fi HaLow Outdoor Gateway	Wi-Fi HaLow Outdoor Relay	Wi-Fi HaLow DIY Kit
Certification	FCC, FC, IC, CE, RCM, NCC, TELEC, ACMA, EMI	FCC, FC, IC, CE, RCM, NCC, TELEC, ACMA, EMI	FCC, FC, IC, CE, RCM, NCC, TELEC, ACMA, EMI	FCC, FC, IC, CE, RCM, NCC, TELEC, ACMA, EMI	FCC, FC, IC, CE, RCM, NCC, TELEC, ACMA, EMI
Wi-Fi Alliance Certification	Wi-Fi CERTIFIED HaLow® end product certifications	Wi-Fi CERTIFIED HaLow® end product certifications	Wi-Fi CERTIFIED HaLow® end product certifications	Wi-Fi CERTIFIED HaLow® end product certifications	
Wi-Fi	Wi-Fi 4	Wi-Fi 4	Wi-Fi 4	Wi-Fi 4	
Network Interface	RJ-45U	SB	RJ-45(POE)	None	None
Dimension (mm)	W89 x H125 x D30.5mm (without antenna)	W99 x H62 x D29mm (without antenna)	W104 x H201 x D46mm (without antenna)	W160 x H232 x D46.5mm (without antenna)	W90 x H50 x D1.6mm
Multi-modes	AP/Client	Client	Ap/Client	Ap/Client	Client
Power Supply	DC 5V	Type CU	PoE (Power over Ethernet) 10/100Mb	SB	AC85V~277V

Wi-Fi HaLow IoT Solution Kit

Our Wi-Fi HaLow IoT solution kit aimed at addressing the limitations of traditional networks, such as limited coverage and signal interference, as well as the technical and cost challenges faced by satellite networks. This solution kit offers high-speed, long-range connectivity with excellent penetration capabilities, while consuming lower power and lower costs. Additionally, it supports point-to-point closed networks, enhancing the security of information transmission. This kit provides a new level of connectivity for IoT, meeting the demands of your business:



Long range : **approximately 1 Km**



Sub-1GHz
spectrum operation



Greater Penetration :

10 times greater



Extended Range : **100 times overage**



Power-Saving Mode



More Connections : **more than**

8,000 stable connections

Application in Energy & Environment



Rural Internet Enhancement Solution

Reliable internet is vital for rural development and social inclusion. Our Rural Internet Enhancement Solution with Wi-Fi HaLow™ tech bridges the digital divide, empowering rural communities with enhanced connectivity.

KEY APPLICATIONS:

- Bridging
- Connectivity
- Economic development
- Education
- Telehealth

KEY BENEFITS:

- Extended reach
- Reliability
- Affordability
- Scalability
- Empowerment



Agricultural IoT Device Solution

IoT tech transforms agriculture. Our Agricultural IoT Device Solution, with WiFi HaLow, boosts productivity, optimizes resources, and promotes sustainability for farmers.

KEY APPLICATIONS:

- Agriculture
- Farming practices
- IoT devices
- Wireless connectivity
- Precision farming
- Livestock management
- Sustainable agriculture

KEY BENEFITS:

- Efficiency
- Resource utilization
- Remote monitoring
- Precision farming
- Livestock tracking
- Data analytics
- Sustainable practices



Energy Remote Sensor/Control Solution

Real-time monitoring tracks energy consumption for efficient management. Remote control allows real-time adjustments, reducing waste. The solution ensures reliability and scalability for diverse energy needs.

KEY APPLICATIONS:

- Energy management
- Real-time monitoring
- Remote control
- Sustainability

KEY BENEFITS:

- Efficient energy usage
- Energy consumption reduction
- Environmental sustainability
- Reliable connections
- Scalability
- Optimization recommendations

Applications in Robotics, Healthcare & Automation



Wi-Fi HaLow boosts robotic automation

Robotics, powered by Wi-Fi HaLow™, transforms industries with automation and increased productivity. This low-power, long-range wireless tech enhances robots' capabilities and efficiency, revolutionizing automation.

KEY APPLICATIONS:

- Robotics automation
- Industrial automation
- Power management
- Real-time monitoring

KEY BENEFITS:

- Enhanced connectivity
- Improved efficiency
- Increased productivity
- Real-time monitoring & control
- Efficient power management
- Scalability
- Flexibility



Healthcare Revolution

Wi-Fi HaLow™ revolutionizes healthcare by enhancing connectivity for better patient care, monitoring, and efficiency. This article explores its applications and benefits in the industry.

KEY APPLICATIONS:

- Medical device connectivity
- Remote patient monitoring
- Operational efficiency
- Secure data transmissionSustainable agriculture

KEY BENEFITS:

- Enhanced patient care
- Timely interventions
- Streamlined workflows
- Real-time inventory management
- Automated equipment maintenance
- Data security and privacy
- Compliance with regulatory standards



Factory Automation Revolution

Wi-Fi HaLow™ revolutionizes factory automation, enabling seamless communication, real-time monitoring, and enhanced efficiency. This article explores its transformative impact on modern industrial operations.

KEY APPLICATIONS:

- Industrial automation
- Manufacturing processes
- Asset management
- Remote monitoring
- Robotics integration

KEY BENEFITS:

- Enhanced connectivity
- Real-time monitoring
- Improved efficiency
- Increased productivity
- Reduced downtime
- Cost reduction

Applications in PTT (Press-To-Talk)



Warehousing Facilities (Industrial & Utilities)

By wearing the gateway, warehouse workers can track inventory and logistics information in real-time, enhancing storage and retrieval efficiency, and reducing human errors.

KEY APPLICATIONS:

- Real-time inventory tracking, logistics monitoring.

KEY BENEFITS:

- Enhanced efficiency, reduced human errors, improved storage and retrieval processes.



Transportation Services (Transportation and Logistics)

In the context of transportation services, the gateway can be utilized to establish connectivity among cargo trains, equipment, and personnel, enabling real-time information exchange and communication. This includes monitoring vehicle status, tracking locations, and ensuring safety.

KEY APPLICATIONS:

- Enhanced operational efficiency, heightened safety measures, and instantaneous access to real-time information.

KEY BENEFITS:

- Enhanced tracking and management of cargo trains and assets.
- Improved communication between train operators and personnel.
- Real-time monitoring of vehicle health and performance.
- Swift response to emergencies and incidents.
- Streamlined logistics and supply chain operations.
- Increased overall productivity and cost-effectiveness.



Contractors (Construction)

On construction sites, contractors can monitor machinery and personnel status in real-time through the gateway, promoting collaborative work, enhancing work efficiency, and strengthening safety monitoring.

KEY APPLICATIONS:

- Real-time machinery and personnel monitoring, collaborative work support.

KEY BENEFITS:

- Enhanced work efficiency, improved safety monitoring, facilitated collaboration.



Ambulance and Emergency Medical Providers (Medical)

For ambulance and emergency medical providers, this gateway's long-range connectivity and plug-and-play feature can provide a critical communication link, supporting remote monitoring and data sharing to improve emergency response.

KEY APPLICATIONS:

- Remote monitoring, emergency communication, data sharing.

KEY BENEFITS:

- Improved emergency response
- Seamless connectivity
- Support for critical medical operations.



THANK YOU!

Please contact us using the following information:

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