Wi-Fi HaLow Wearable Gateway
ARFHL-UM

Exquisite, Seamless Mobile Experience.

SPECIFICATIONS | HARDWARE FEATURES

Chipset	Mediatek MT76X8, Morse Micro MM610X
System Memory	DDR2 512Mbit
NOR Flash	128Mbit
Wireless / Wi-Fi 4	2T2R Mode
	802.11n 20MHz/40MHz
	802.11b/g/n
Frequency Range	2.412 ~ 2.484GHz (subject to local regulations)
	USA, Canada (FCC):11 channels (2.412GHz~2.462GHz)
	Europe (CE): 13 channels (2.412GHz~2.472GHz)
	Japan(TELEC): 14 channels (2.412GHz~2.472GHz, 2.484MHz)
Data Rate	802.11n: up to 300Mbps
	802.11b: 1, 2, 5.5, 11Mbps
	802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps
Wireless / Wi-Fi HaLow	
Frequency Range	850MHz ~ 950MHz (subject to local regulations)
Data Rate	802.11ah: 1/2/4/8MHz bandwidth(varies by country)
Interface	USB Type-C ,5V
	SMA connector for antenna
	Reset Button x 1
Power	USB Type-C , DC 5V
Power consumption	<5W
Transmit Power (EIRP)	11n HT40 MCS7: +13 dBm
	11b CCK: +18 dBm
	11g OFDM: +15 dBm
	11ah +21 dBm (Typical) MCS0
Environmental Temperature	Operating: -10ºC to 60ºC, Storage: -40ºC to 85ºC
Environmental Humidity	Operating: 5% to 95%, Storage: Max. 90%
Dimension (W x H x D) in mm	W99.6 x H62 x D28mm (Dimensions exclude antenna)

SPECIFICATIONS | SOFTWARE FEATURES

Network Features	IPv4/IPv6
	DHCP Client/Relay/Server
	Dynamics DNS
	NTP Client
	DNS Cashe/Proxy
Wireless / Wi-Fi 4	Support Multiple SSID
	Security: WEP 64/128, TKIP, WPA, WPA2 mixed, 802.1x and 802.11i
Wireless / Wi-Fi HaLow	AP Mode/Client Mode
	Security: WPA3

Seamless Connections, Smooth Mobile Experience with WiFi HaLow Wearable.

Long range :
Sub-1GHz

Greater Penetration :
10 times greater.

Extended Range :
100 times overage.

More Connections :
> 8,000 nodes

Wi-Fi HaLow Wearable Gateway

ARFHL-UM

W99.6

D28

H62

- **Plug-and-Play, Zero Configuration:**
  No setup required, offering immediate access to wireless internet.

- **Energy Efficiency:**
  Wi-Fi HaLow ensures low power consumption, long-range connectivity, excellent signal penetration, and energy effi-ciency, all while reducing costs and environmental impact.

- **USB Power Bank Support:**
  A wearable, convenient solution. A standard power bank can keep the ARFHL-UM operational for up to 8 hours.

- **Seamless On-the-Go Connectivity:**
  Lightweight, convenient wearable devices, combined with WiFi HaLow's long-range connectivity, provide wireless net-working anytime, anywhere.

- **Long-Range Solution:**
  Offers connectivity over distances exceeding 1 km, surpassing the limitations of traditional Wi-Fi protocols.

Star Topology Network

In its initial stages of deployment, the purpose of Wi-Fi HaLow is to be used in both indoor and outdoor scenarios where traditional Wi-Fi cannot cover, such as battery-powered monitoring systems, wireless cameras, and door-bells. It is also commonly used in large venues, where a single HaLow access point may replace many APs, eliminating redundant, complex mesh architectures, simplifying installation, and reducing total cost of ownership. In an increasingly automated world, many industries, including industrial automation, process control sensors, building automation, warehouses, and retail stores, need this technology to maintain connectivity everywhere.
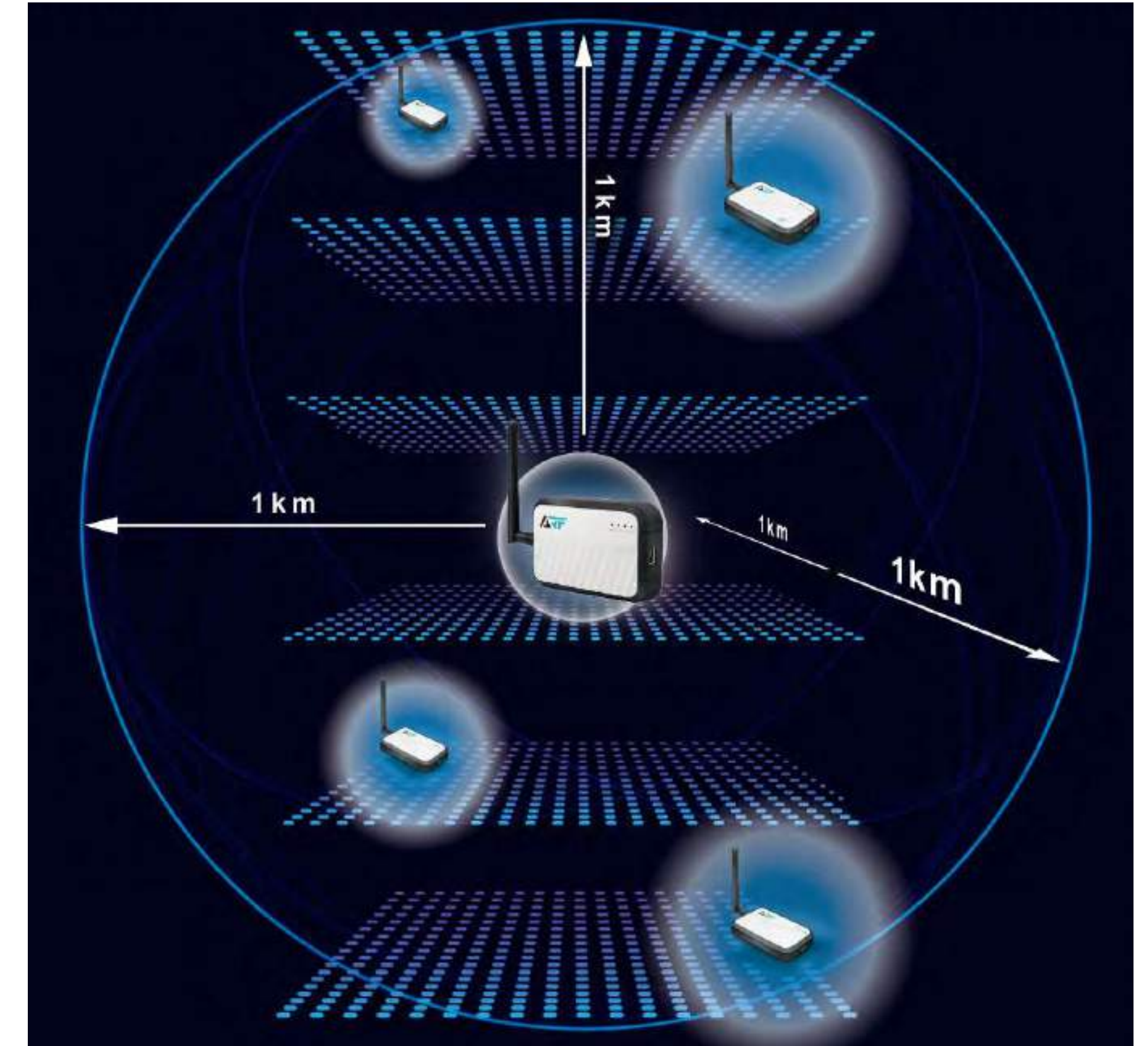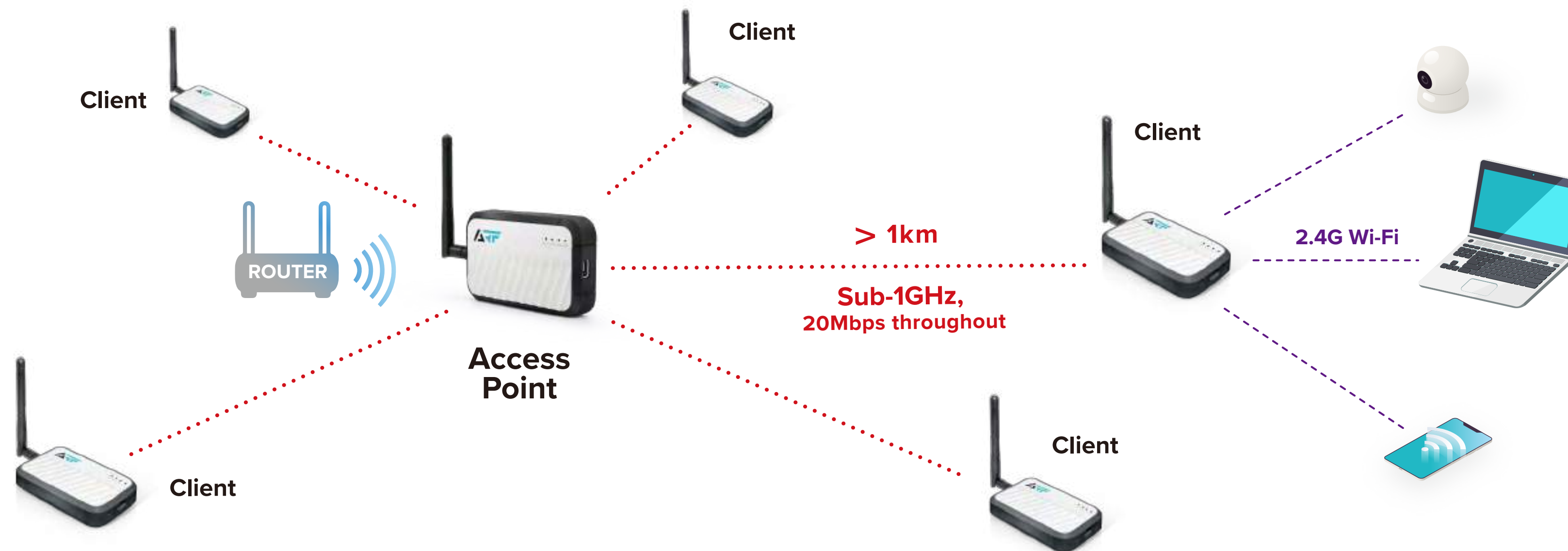
ARFHL-UM Application in PTT (Press-to-Talk) Scenarios

2.4G Wi-Fi

> 1km

Sub-1GHz HaLow
20Mbps throughout

2.4G Wi-Fi

Comprising a design with Wi-Fi HaLow-enabled, long-range stable connection PTT (Press-to-Talk), it offers superior quality two-way multi-party PTT service in various industry sectors.

- **Transportation/Logistics PTT Service**

- **Large-scale Industrial and Facility PTT Service**

- **Business Group Calls Between Headquarters/Branch Offices**

- **Public Services like Emergency Response Sites**

Applications in PTT (Press-to-Talk)

Warehousing Facilities (Industrial and 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.

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.

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.