



Wallys Software

Wireless field:

Wallys' advantage is its ability to help clients complete customized services (hardware customization, software development, etc.).

Artificial intelligence ield :

Provide models for various application fields and the hardware required by the models;

contact: sales@wallystech.com

Software

01

Mesh

02

AP controller

03

TDMA

04

Roaming

05

AI

06

PTP/PTMP



AI solution

NVIDIA Jetson Full-Ecosystem Wi-Fi 6/7 + AI Model Full-Stack Customized Solution;

Innovative Architecture × Ultimate Privacy; 15 Years Heritage



Full Compatibility of Boards

Flexibly adapts to all NVIDIA Jetson series boards, providing maximum hardware flexibility for diverse applications.



Wireless Drivers Optimization

In-depth underlying driver optimization for Wi-Fi 6/7 to unleash the ultimate wireless performance potential.



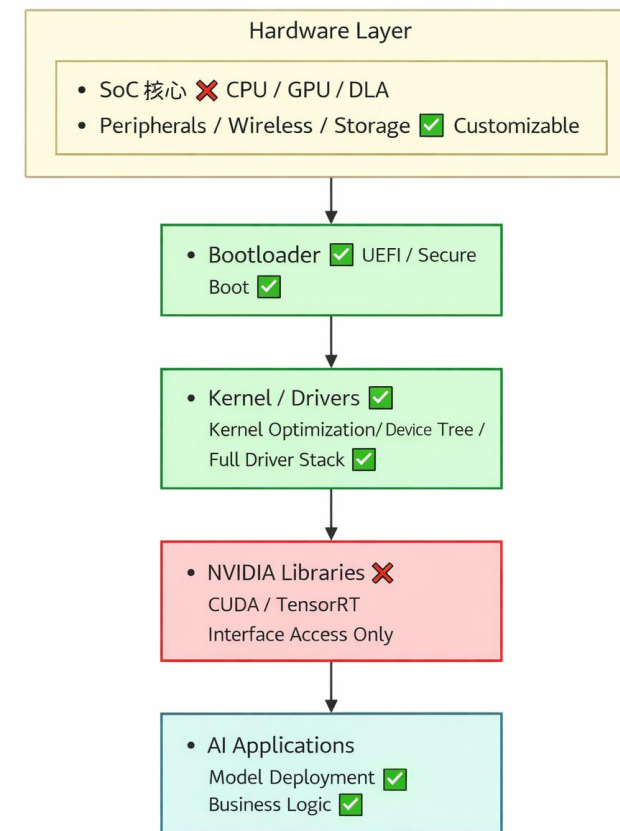
Joint AI Models Development

Co-develop and optimize AI models with customers to ensure practicality and industry leadership of algorithms.



Dual Hardware & Software Customization

Provide integrated software and hardware customization services to achieve the optimal solution from the underlying layer to applications.



PTP-Solution

It enables long-distance, high-bandwidth point-to-point data transmission, adapting to long-distance communication needs such as forest fire fighting and railway lines.



Ultra-long-distance coverage:

Supports stable transmission over tens of kilometers, easily handling complex geographical environments.



Ultra-high bandwidth transmission:

Provides gigabit-level data channels to meet the real-time transmission needs of high-definition video and big data.

Typical application scenarios:

- Forest fire emergency communication
- Railway line data monitoring



DRWave-1000



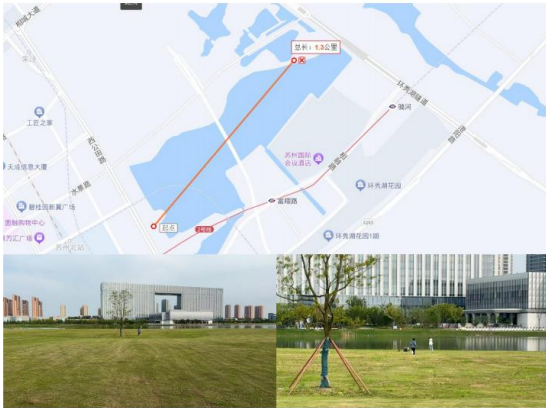
PTP-TEST

Superior Performance, Unbeatable Price!

1.5km PTP test

- 5GHz: 1.5Gbps
- 6GHz: 1Gbps

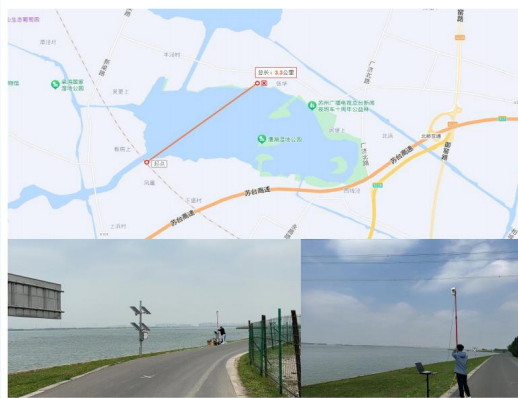
1.5KM TEST ENVIRONMENT



3.3km PTP test

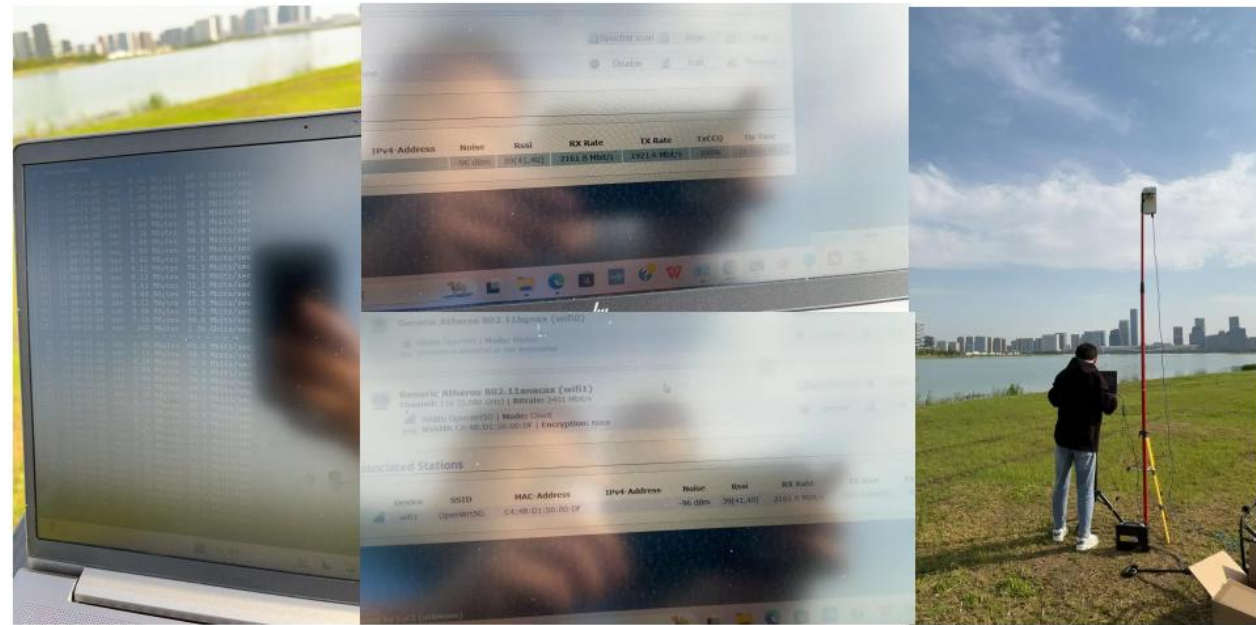
- 5GHz: 949Mbps
- 6GHz: 821Mbps

TEST ENVIRONMENT 3.3KM



1.5KM 5Ghz -1.5Gbps

RSSI:39 ;RX RATE:2161.8MBPS ;TX RATE:1921.6MBPS



AP controller



Centralized Management:

- Supports unified monitoring and configuration of multiple access points, significantly improving management efficiency.



Simplify deployment:

- Complete AP discovery, configuration distribution, and firmware upgrade with a single click.
- Widely adaptable to meet the complex networking needs of commercial complexes, hotels, corporate parks, and other similar applications.

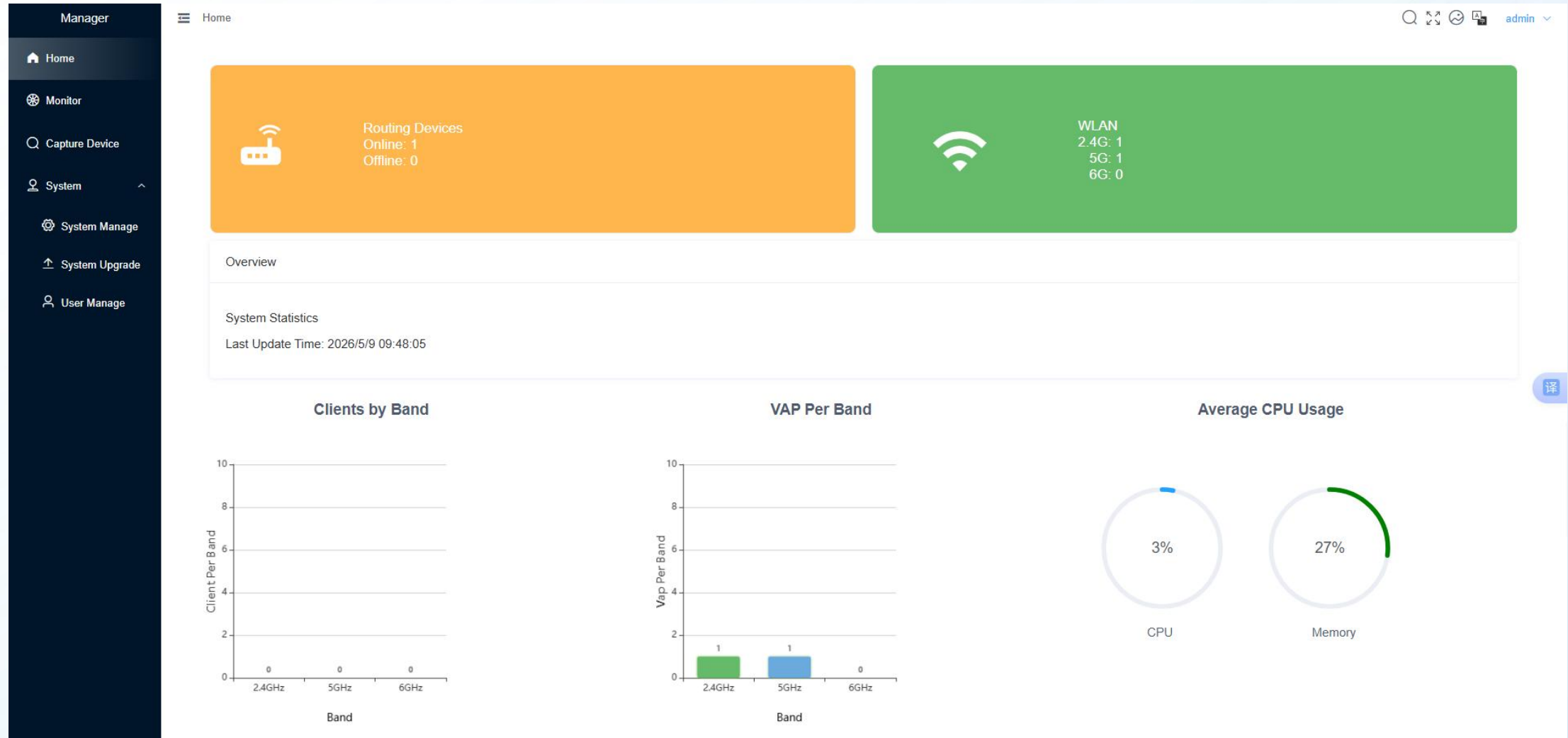
Typical application scenarios:

Wireless coverage in large commercial complexes



AP controller

Help you achieve cross city,cross domain management capabilities!



AP controller

Batch Management AP
Real-time monitoring of AP status



Manager

Home

Monitor

Capture Device

System

System Manage

System Upgrade

User Manage

Monitor / Monitor

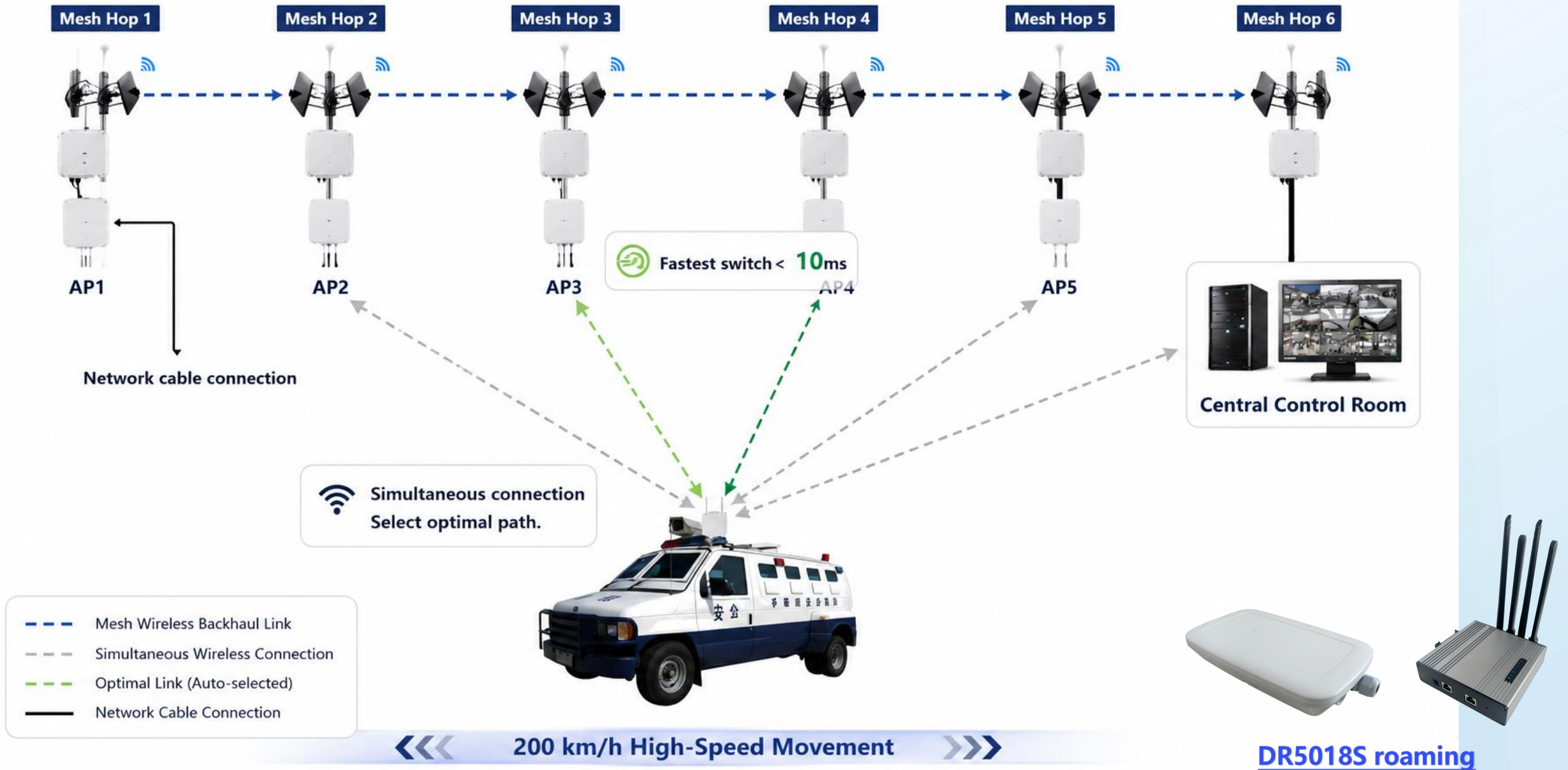
AllAllDevice Manage

	No	Name	Platform	Firmware	IP Address	MAC Address	Active	Up time	Equipment_notes	Action
	1	OpenWrt	IPQ6018	FIRMWARE-2167-202501232159 unknown	10.10.9.4	c4:4b:d1:a0:76:bb	Running	0d 0h 4m 8s		Manage

FIRMWARE-2167-202605072213

Configure WifiFlash firmwareDeleting AP Devicesupdate Equipment_notesImporting WhitelistExecute command

Roaming



BUSINESS TRAVEL

Seamless Wi-Fi roaming
for professionals
on the move

HOW ROAMING HELPS



Automatic connection to trusted
Wi-Fi networks worldwide.



Secure access to email, VPN,
cloud apps, and video calls.



Stay productive without worrying
about roaming charges.



LOGISTICS & TRANSPORTATION

Reliable Wi-Fi connectivity
for fleets, warehouses,
and supply chains

HOW ROAMING HELPS



Real-time tracking of vehicles and cargo.



Instant communication between
drivers, dispatch, and warehouses.



Reduce downtime with continuous
connectivity across regions.



MARITIME & SHIPPING

Stay connected across oceans
with global Wi-Fi coverage
for vessels and crews.

HOW ROAMING HELPS



Connect to Wi-Fi in ports and at sea.



Support crew communication,
welfare, and safety systems.



Enable real-time reporting
and operational updates.



FIELD SERVICES

Empower teams in the field
with secure and fast
Wi-Fi connectivity

HOW ROAMING HELPS



Connect to customer sites,
public Wi-Fi, or private networks.



Access manuals, submit reports,
and upload data instantly.



Improve first-time fix rates and
customer satisfaction.



Roaming



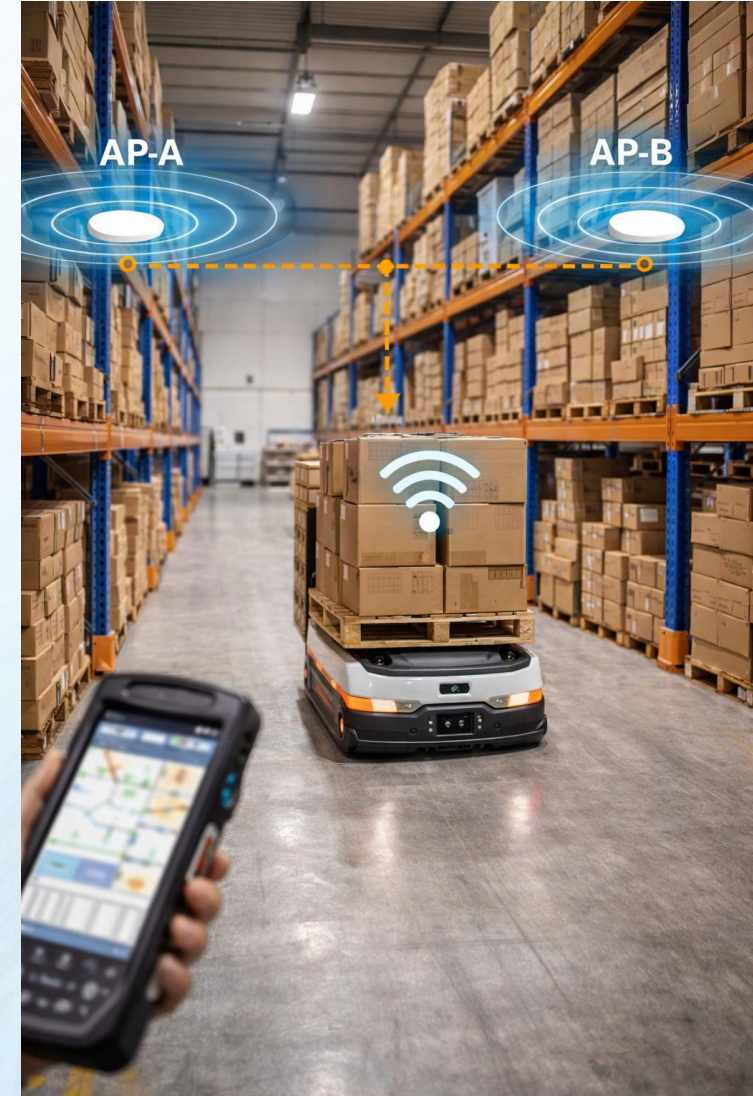
Ensure stable connectivity in mobile scenarios and achieve seamless switching in milliseconds.



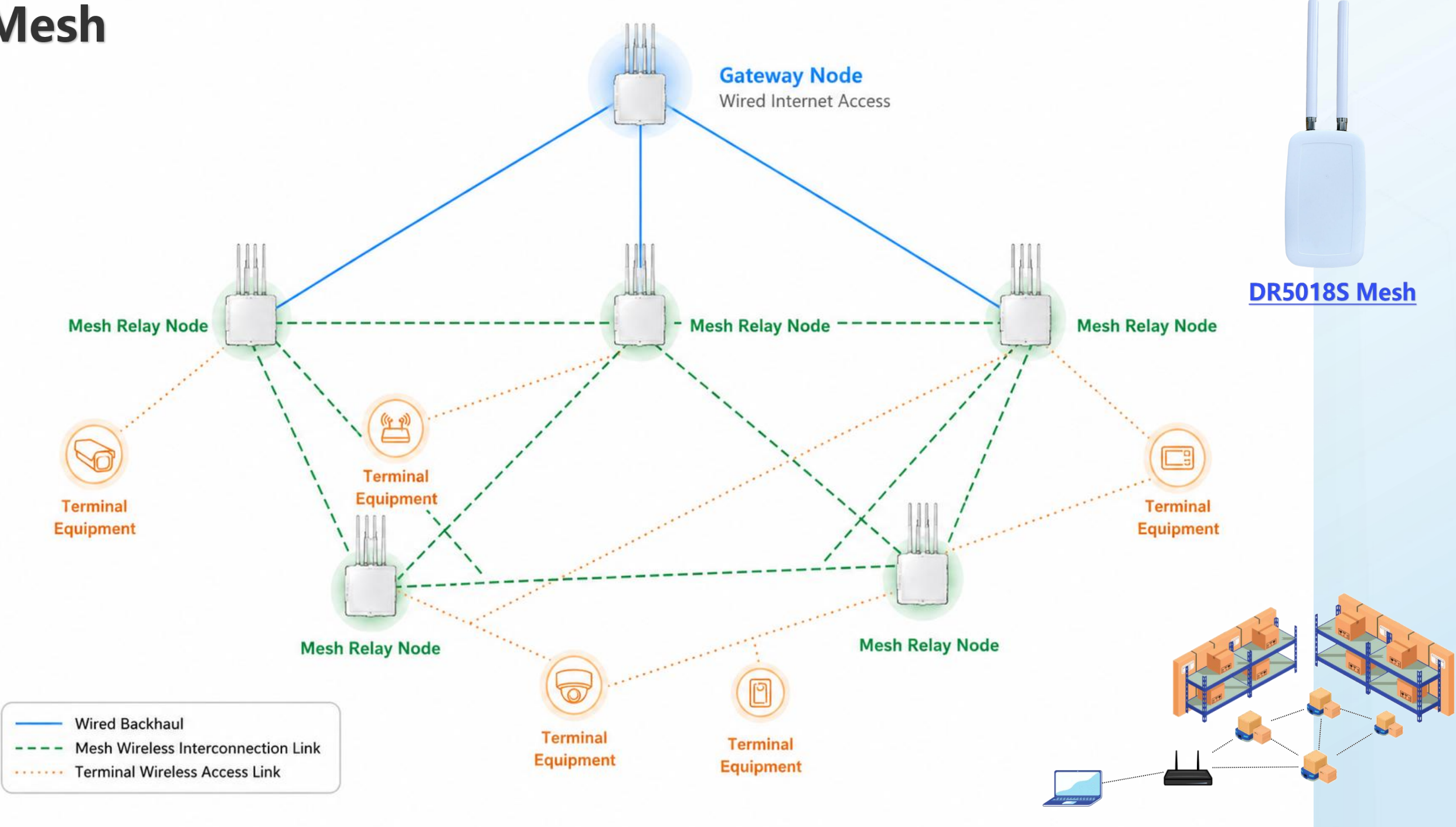
It is perfectly suited for highly mobile scenarios such as high-speed rail, smart warehousing AGVAMR, and large venues.



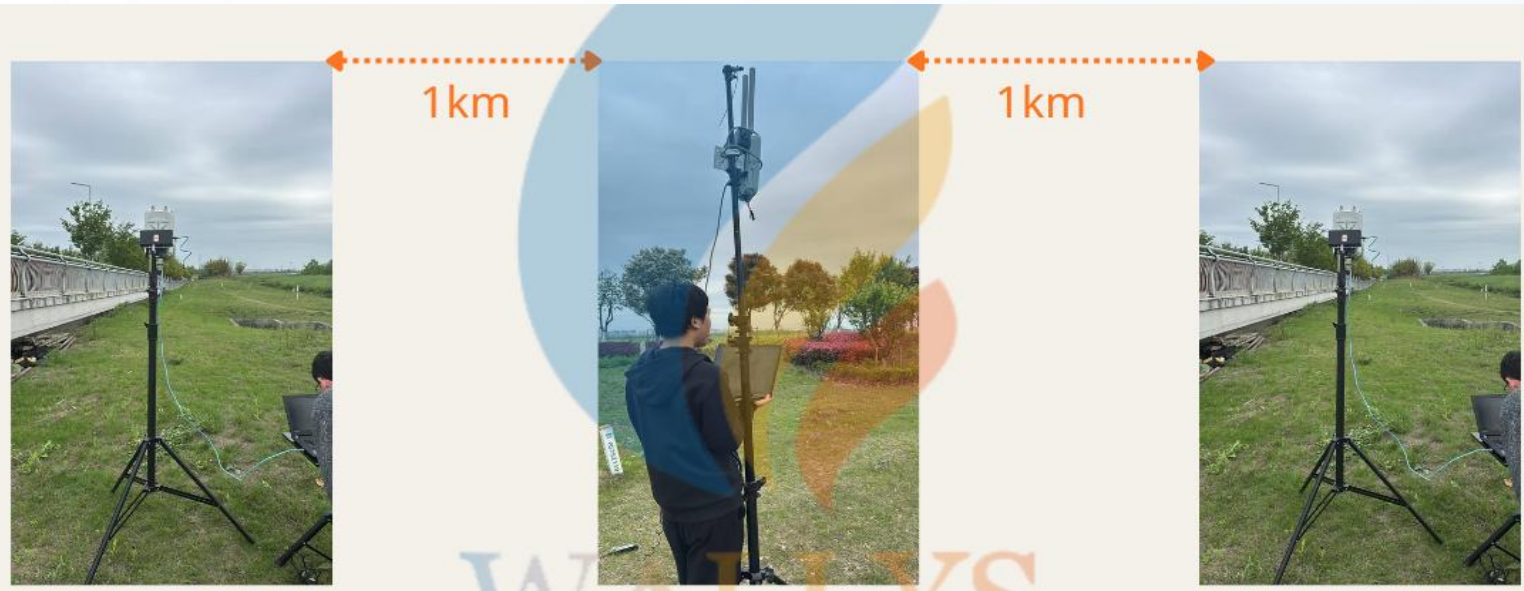
It supports both AP frequency and different frequency standards, ensuring the smooth operation of applications such as high-definition video and VR.



Mesh



Mesh outdoor test



168.2.2	x	192.168.2.3	x	192.168.2.3	x	192.168.2.1	x	+
MBytes	23.3	Mbits/sec						
MBytes	24.1	Mbits/sec						
MBytes	36.7	Mbits/sec						
MBytes	46.1	Mbits/sec						
MBytes	32.5	Mbits/sec						
MBytes	38.8	Mbits/sec						
MBytes	43.0	Mbits/sec						
MBytes	37.7	Mbits/sec						
MBytes	33.6	Mbits/sec						
MBytes	35.9	Mbits/sec						
MBytes	32.5	Mbits/sec						
MBytes	27.3	Mbits/sec						
MBytes	39.8	Mbits/sec						
MBytes	45.1	Mbits/sec						
MBytes	32.5	Mbits/sec						
MBytes	27.3	Mbits/sec						
[12]	24.0-25.0	sec	4.62	MBytes	30.8	Mbits/sec		
[5]	24.0-25.0	sec	4.12	MBytes	34.6	Mbits/sec		
[3]	24.0-25.0	sec	4.88	MBytes	40.9	Mbits/sec		
[11]	24.0-25.0	sec	3.50	MBytes	29.4	Mbits/sec		
[SUM]	24.0-25.0	sec	41.5	MBytes	348	Mbits/sec		
[13]	25.0-26.0	sec	3.12	MBytes	26.2	Mbits/sec		
[12]	25.0-26.0	sec	4.38	MBytes	36.7	Mbits/sec		
[8]	25.0-26.0	sec	4.62	MBytes	38.8	Mbits/sec		
[6]	25.0-26.0	sec	5.12	MBytes	43.0	Mbits/sec		
[9]	25.0-26.0	sec	7.00	MBytes	58.7	Mbits/sec		
[4]	25.0-26.0	sec	2.88	MBytes	24.1	Mbits/sec		
[10]	25.0-26.0	sec	5.38	MBytes	45.1	Mbits/sec		
[11]	25.0-26.0	sec	3.50	MBytes	29.4	Mbits/sec		
[3]	25.0-26.0	sec	4.00	MBytes	33.6	Mbits/sec		
[5]	25.0-26.0	sec	4.25	MBytes	35.9	Mbits/sec		
[SUM]	25.0-26.0	sec	44.2	MBytes	371	Mbits/sec		

SMART CITY

City-wide coverage,
smart connectivity,
building a
smarter future.



Smart City

INDUSTRIAL MANUFACTURING

Equipment monitoring,
data stable transmission,
empowering intelligent
manufacturing.



Industrial
Manufacturing

SMART AGRICULTURE

Environmental monitoring,
remote control,
precision agriculture.



Smart Agriculture

CONSTRUCTION SITE MANAGEMENT

On-site monitoring,
personnel positioning,
ensuring construction
safety.



Construction Site
Management

SMART WAREHOUSE

Asset management,
AGV scheduling,
data real-time backhaul.



Smart Warehouse

SCENIC AREA

Wi-Fi coverage for tourists,
security monitoring,
enhanced visitor
experience.



Scenic Area

Mesh + MLO



WiFi 7 Mesh + MLO (5G+6G) Application Scenarios

High Throughput · Low Latency · High Reliability · Rapid Deployment

SMART CITY

- City-wide WiFi coverage
- Smart connectivity
- Video surveillance
- Intelligent transportation



INDUSTRIAL MANUFACTURING

- Equipment monitoring
- Data transmission
- AGV/Robot communication
- Factory automation



MINING / OIL & GAS

- Long-distance video monitoring
- Sensor data transmission
- Vehicle communication
- Remote operation



UAV / ROBOT COMMUNICATION

- UAV data backhaul
- Low latency control
- Multi-drone coordination
- Real-time video transmission



EMERGENCY COMMUNICATION

- Rapid deployment
- Temporary command
- Disaster response
- On-site communication



OUTDOOR / SCENIC AREA

- Scenic WiFi coverage
- Tourist network access
- HD video surveillance
- Wireless backhaul



TDMA

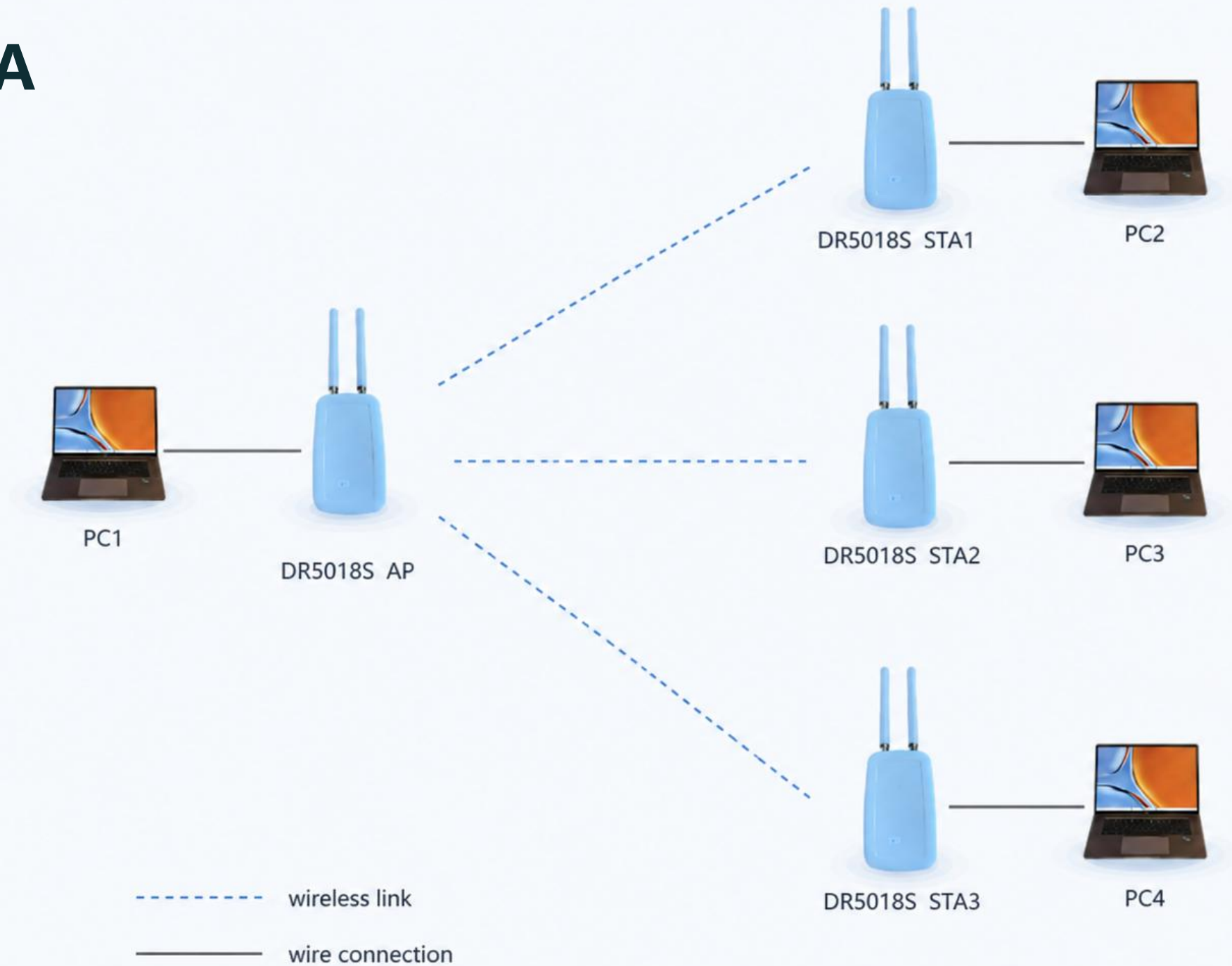
Time Division Multiple Access (TDMA) is mainly used in scenarios where multiple devices share the same wireless channel and stable, collision-free communication is required, including:

- * Wireless Mesh Networks (Mining, Oil & Gas, Campus, Emergency Communications)
- * Wireless Backhaul / Point-to-Multipoint Networks
- * Industrial IoT Communications
- * Satellite Communications
- * Legacy 2G GSM Mobile Networks
- * Drone Swarm Communications
- * Military Tactical Networks
- * Long-Range Wireless Bridge Networks

In simple terms:

When many devices need to communicate simultaneously and traditional WiFi may cause signal collisions, TDMA helps by allowing devices to transmit in scheduled time slots.

TDMA



TDMA Test

文件(F) 编辑(E) 查看(V) 工具(T) 窗口(W) 帮助(H)

新建 重新连接

1 192.168.1.3

option network 'lan'
option mode 'ap'
option ssid 'OpenWrt'
option encryption 'no'
option wds '1'
option shortgi '1'

管理员: C:\Windows\System32\cmd.exe - iperf3 -s -B 192.168.1.19 -p 5201

[17]	1935.00-1936.00	sec	1.75	MBytes	14.7	Mbits/sec
[19]	1935.00-1936.00	sec	2.00	MBytes	16.8	Mbits/sec
[21]	1935.00-1936.00	sec	1.75	MBytes	14.7	Mbits/sec
[23]	1935.00-1936.00	sec	1.75	MBytes	14.7	Mbits/sec
[SUM]	1935.00-1936.00	sec	18.5	MBytes	155	Mbits/sec
[5]	1936.00-1937.01	sec	1.62	MBytes	13.5	Mbits/sec
[7]	1936.00-1937.01	sec	2.12	MBytes	17.6	Mbits/sec
[9]	1936.00-1937.01	sec	2.12	MBytes	17.6	Mbits/sec
[11]	1936.00-1937.01	sec	2.12	MBytes	17.6	Mbits/sec
[13]	1936.00-1937.01	sec	1.62	MBytes	13.5	Mbits/sec
[15]	1936.00-1937.01	sec	1.75	MBytes	14.5	Mbits/sec
[17]	1936.00-1937.01	sec	1.75	MBytes	14.5	Mbits/sec
[19]	1936.00-1937.01	sec	2.12	MBytes	17.6	Mbits/sec
[21]	1936.00-1937.01	sec	1.75	MBytes	14.5	Mbits/sec
[23]	1936.00-1937.01	sec	1.62	MBytes	13.5	Mbits/sec
[SUM]	1936.00-1937.01	sec	18.6	MBytes	155	Mbits/sec
[5]	1937.01-1938.01	sec	1.62	MBytes	13.6	Mbits/sec
[7]	1937.01-1938.01	sec	1.75	MBytes	14.6	Mbits/sec
[9]	1937.01-1938.01	sec	1.88	MBytes	15.7	Mbits/sec
[11]	1937.01-1938.01	sec	1.75	MBytes	14.6	Mbits/sec
[13]	1937.01-1938.01	sec	1.62	MBytes	13.6	Mbits/sec
[15]	1937.01-1938.01	sec	1.50	MBytes	12.6	Mbits/sec
[17]	1937.01-1938.01	sec	1.62	MBytes	13.6	Mbits/sec
[19]	1937.01-1938.01	sec	1.88	MBytes	15.7	Mbits/sec
[21]	1937.01-1938.01	sec	1.50	MBytes	12.6	Mbits/sec
[23]	1937.01-1938.01	sec	1.62	MBytes	13.6	Mbits/sec
[SUM]	1937.01-1938.01	sec	16.8	MBytes	140	Mbits/sec
[5]	2118.01-2119.00	sec	2.00	MBytes	16.9	Mbits/sec
[7]	2118.01-2119.00	sec	1.75	MBytes	14.7	Mbits/sec
[9]	2118.01-2119.00	sec	1.75	MBytes	14.7	Mbits/sec
[11]	2118.01-2119.00	sec	1.38	MBytes	11.6	Mbits/sec
[13]	2118.01-2119.00	sec	1.38	MBytes	11.6	Mbits/sec
[15]	2118.01-2119.00	sec	18.2	MBytes	154	Mbits/sec
[5]	2119.00-2120.00	sec	1.62	MBytes	13.7	Mbits/sec
[7]	2119.00-2120.00	sec	1.62	MBytes	13.7	Mbits/sec
[9]	2119.00-2120.00	sec	1.62	MBytes	13.7	Mbits/sec
[11]	2119.00-2120.00	sec	1.88	MBytes	15.8	Mbits/sec
[13]	2119.00-2120.00	sec	1.75	MBytes	14.7	Mbits/sec
[15]	2119.00-2120.00	sec	1.75	MBytes	14.7	Mbits/sec
[17]	2119.00-2120.00	sec	1.75	MBytes	14.7	Mbits/sec
[19]	2119.00-2120.00	sec	1.50	MBytes	12.6	Mbits/sec
[21]	2119.00-2120.00	sec	1.75	MBytes	14.7	Mbits/sec
[23]	2119.00-2120.00	sec	1.62	MBytes	13.7	Mbits/sec
[SUM]	2119.00-2120.00	sec	16.9	MBytes	142	Mbits/sec
[5]	2120.00-2121.00	sec	1.88	MBytes	15.7	Mbits/sec
[7]	2120.00-2121.00	sec	1.62	MBytes	13.6	Mbits/sec
[9]	2120.00-2121.00	sec	1.62	MBytes	13.6	Mbits/sec
[11]	2120.00-2121.00	sec	1.88	MBytes	15.7	Mbits/sec
[13]	2120.00-2121.00	sec	1.50	MBytes	12.6	Mbits/sec
[15]	2120.00-2121.00	sec	1.75	MBytes	14.7	Mbits/sec
[17]	2120.00-2121.00	sec	1.62	MBytes	13.6	Mbits/sec
[19]	2120.00-2121.00	sec	1.50	MBytes	12.6	Mbits/sec
[21]	2120.00-2121.00	sec	1.62	MBytes	13.6	Mbits/sec
[23]	2120.00-2121.00	sec	1.25	MBytes	10.5	Mbits/sec
[SUM]	2120.00-2121.00	sec	16.2	MBytes	136	Mbits/sec

UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1
RX packets:19841 errors:0 dropped:3 overruns:0 frame:0
TX packets:11580 errors:0 dropped:0 overruns:0 carrier:0
collisions:0 txqueuelen:1000
RX bytes:2691851 (2.5 MiB) TX bytes:3923055 (3.7 MiB)

管理员: C:\Windows\System32\cmd.exe - iperf3 -s -B 192.168.1.19 -p 5202

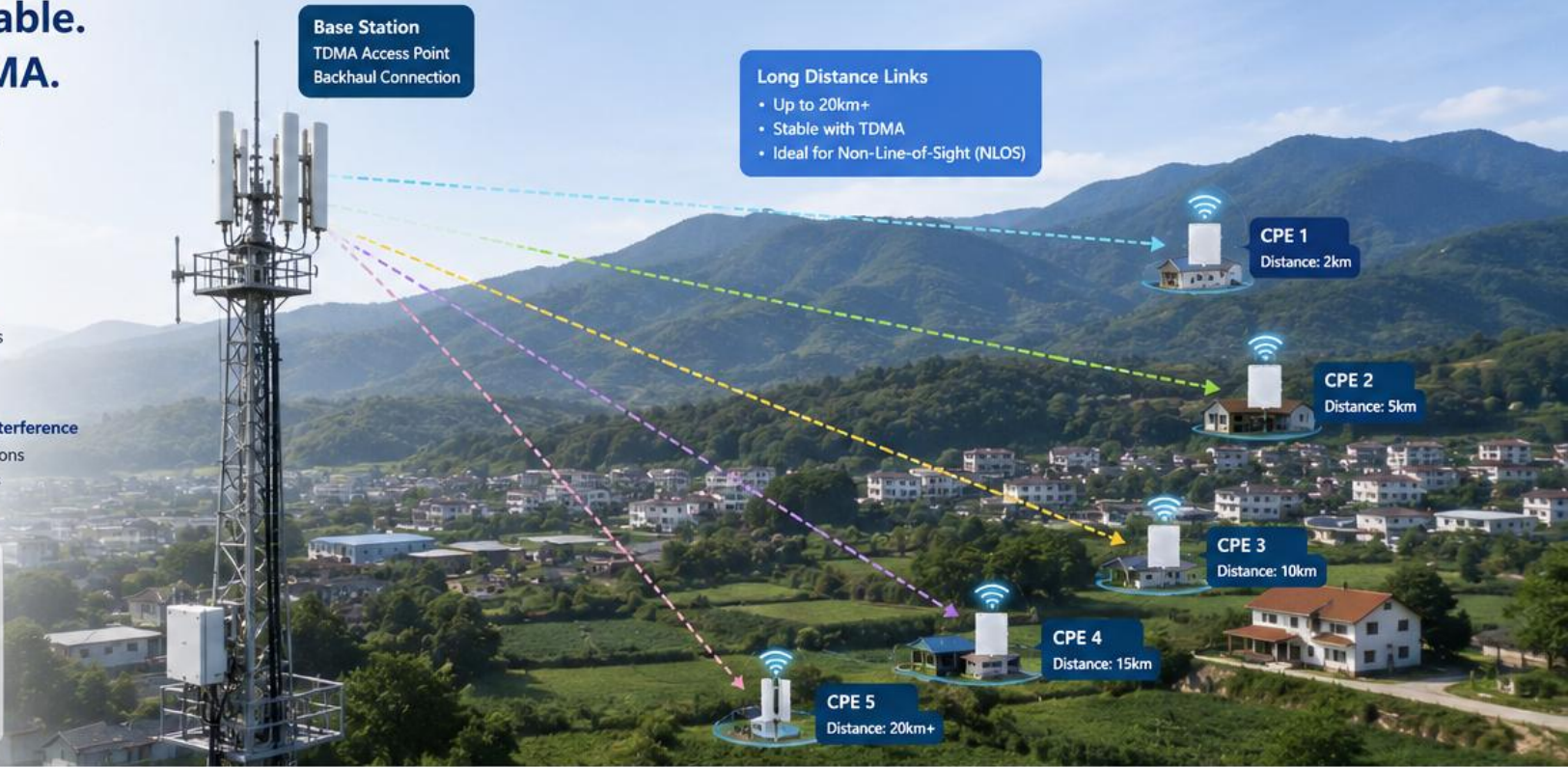
[17]	2099.01-2100.01	sec	2.00	MBytes	16.8	Mbits/sec
[19]	2099.01-2100.01	sec	1.75	MBytes	14.7	Mbits/sec
[21]	2099.01-2100.01	sec	2.00	MBytes	16.8	Mbits/sec
[23]	2099.01-2100.01	sec	1.62	MBytes	13.7	Mbits/sec
[SUM]	2099.01-2100.01	sec	19.1	MBytes	161	Mbits/sec
[5]	2100.01-2101.01	sec	1.88	MBytes	15.8	Mbits/sec
[7]	2100.01-2101.01	sec	1.88	MBytes	15.8	Mbits/sec
[9]	2100.01-2101.01	sec	1.88	MBytes	15.8	Mbits/sec
[11]	2100.01-2101.01	sec	1.88	MBytes	15.8	Mbits/sec
[13]	2100.01-2101.01	sec	1.75	MBytes	14.7	Mbits/sec
[15]	2100.01-2101.01	sec	1.75	MBytes	14.7	Mbits/sec
[17]	2100.01-2101.01	sec	1.75	MBytes	14.7	Mbits/sec
[19]	2100.01-2101.01	sec	1.75	MBytes	14.7	Mbits/sec
[21]	2100.01-2101.01	sec	1.75	MBytes	14.7	Mbits/sec
[23]	2100.01-2101.01	sec	1.38	MBytes	11.6	Mbits/sec
[SUM]	2100.01-2101.01	sec	17.6	MBytes	148	Mbits/sec
[5]	2101.01-2102.01	sec	1.88	MBytes	15.7	Mbits/sec
[7]	2101.01-2102.01	sec	2.00	MBytes	16.8	Mbits/sec
[9]	2101.01-2102.01	sec	2.00	MBytes	16.8	Mbits/sec
[11]	2101.01-2102.01	sec	1.88	MBytes	15.7	Mbits/sec
[13]	2101.01-2102.01	sec	2.00	MBytes	16.8	Mbits/sec
[15]	2101.01-2102.01	sec	1.88	MBytes	15.7	Mbits/sec
[17]	2101.01-2102.01	sec	1.88	MBytes	15.7	Mbits/sec
[19]	2101.01-2102.01	sec	1.88	MBytes	15.7	Mbits/sec
[21]	2101.01-2102.01	sec	1.88	MBytes	15.7	Mbits/sec
[23]	2101.01-2102.01	sec	1.75	MBytes	14.7	Mbits/sec
[SUM]	2101.01-2102.01	sec	19.0	MBytes	159	Mbits/sec

Long Distance. More Stable. That's the Power of TDMA.

In long-distance PtMP (Point-to-MultiPoint) wireless networks, TDMA technology reduces collisions, improves efficiency, and delivers stable connectivity even in challenging environments.

- **Long Distance**
Stable Performance
Up to 20km+
- **Low Latency**
Fixed time slots
reduce jitter
- **High Capacity**
Support more users
without congestion
- **Strong Anti-interference**
Minimize collisions
and packet loss

Distance	Performance
• 2km • 5km • 10km • 15km • 20km+	✓ Stable Connection ✓ Low Latency ✓ Low Packet Loss ✓ High Throughput



Without TDMA (CSMA/CA)

Devices compete for the channel.
Collisions increase with distance due to signal delay.



- ⊗ High retransmissions
- ⊗ High latency & jitter
- ⊗ Low throughput
- ⊗ Unstable connection

With TDMA

Each device gets its own time slot.
No collisions. Stable and efficient.



- ✓ Low latency
- ✓ High throughput
- ✓ High stability
- ✓ Better experience

Why TDMA Performs Better in Long-Distance Links?

- Eliminates collisions caused by signal propagation delay.
- Ensures each device has a dedicated time to transmit.
- Maintains high performance even in NLOS environments.
- Ideal for PtMP deployments in rural, industrial, and city-wide networks.

Typical Applications

- **Rural Broadband Access**
- **Video Surveillance**
- **Industrial Automation**
- **Smart City Networks**
- **Ports & Mining Operations**

ATH11/12K

Ath12k Driver and Firmware Integration

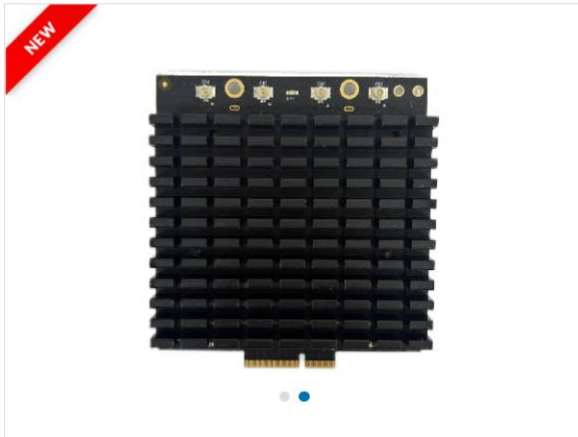
The ath12k driver has been optimized to support QCN9274-based Wi-Fi 7 solutions, providing a reliable foundation for OpenWrt, Ubuntu, and other Linux-based systems.

<https://www.linkedin.com/pulse/qcn9274qcn6274-based-wifi-7-modules-wallystech-dr9274-yiyi-peng-rbzbe/?trackingId=Ugu2nRu2ds12V%2Bbh3dsxXg%3D%3D>



ATH11/12K

DR9074-TRIBAND



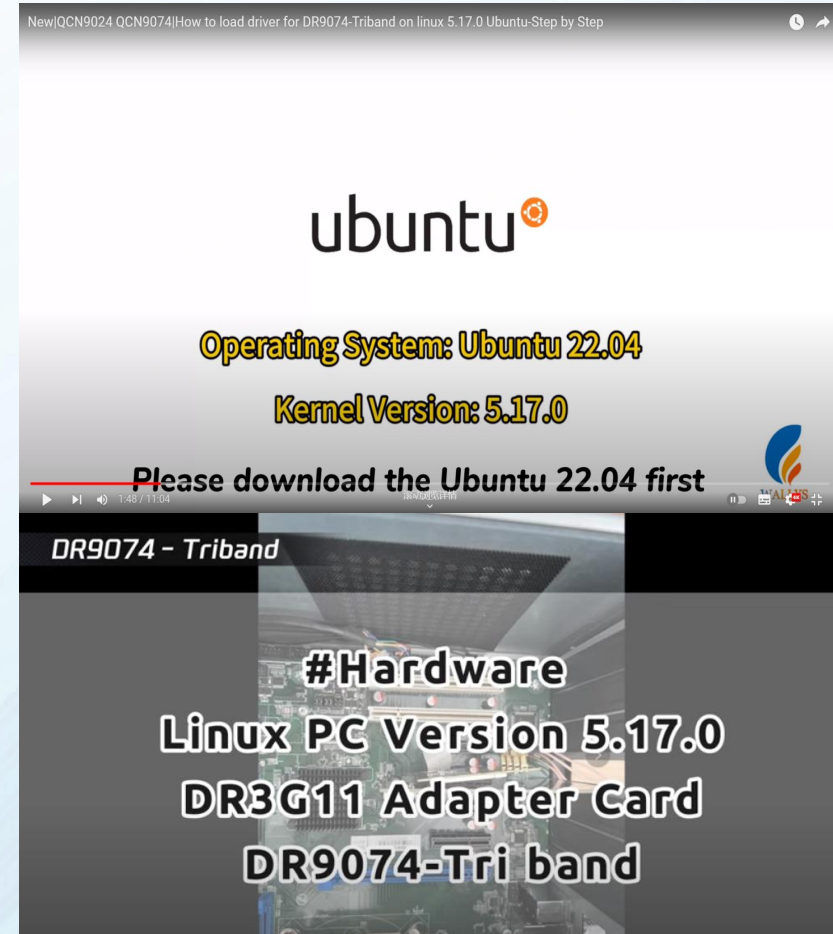
Features

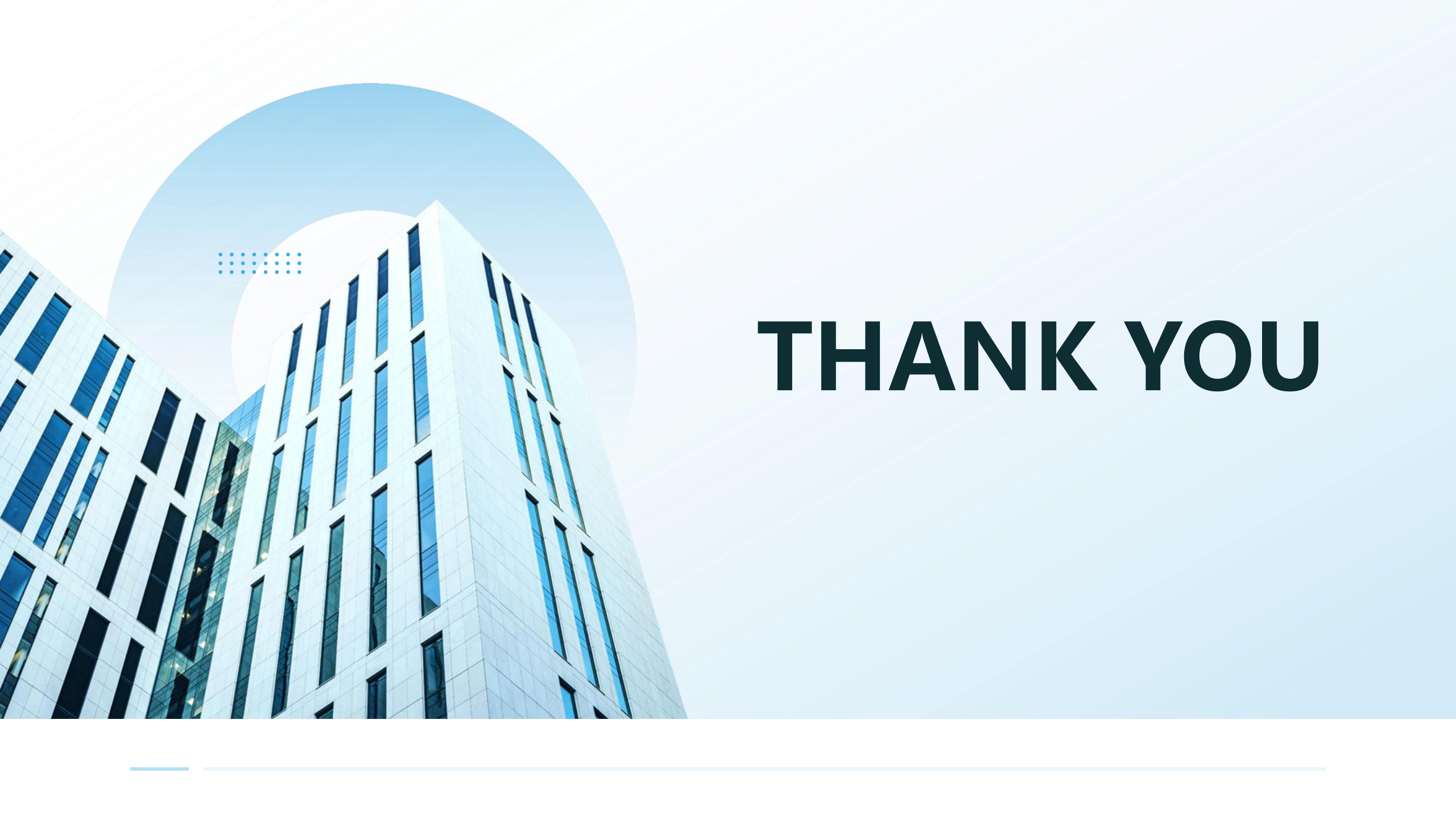
- Qualcomm Atheros QCN9024
- Maxim 23 dBm per chain, up to 4804Mbps
- Data Rate up to 4949Mbps
- Support Tri Band 2.4GHz&5GHz&6GHz 4x4 WiFi 6E (802.11ax)
- 4 spatial streams (4SS)
- M.2 E Key Interface
- PCI Express 3.0 Interface

Applications

- Security Surveillance
- Commercial radio coverage
- Hotel Wireless application
- Forest fire protection engineering
- Country coverage
- Some special scene application

<https://www.wallstech.com/forum/info.php?id=43>





THANK YOU
