PRISM
MacroWiFi

Outdoor WiFi Coverage Solution

PRISM

Your reliable partner with innovative wireless solutions that help you enhance your quality of service

MacroWiFi

The MacroWiFi Solution designed for expansive, long-range coverage in rural areas, farms, and remote locations where traditional WiFi solutions often struggle with limited coverage, interference, and user capacity. MacroWiFi features an innovative high-gain, wide-beam antenna array, delivering kilometer-level coverage for reliable connectivity and supporting a massive number of users across vast open spaces.

With an advanced protocol, optimized antenna design, and built-in out-of-band filtering, it ensures exceptional signal clarity and a dependable, high-performance WiFi experience while meeting strict emission standards.

Village Coverage

Industrial Park

Beach Camping

National Park

Temporary Events

Outdoor Resorts

Emergency Services

Mining

Features

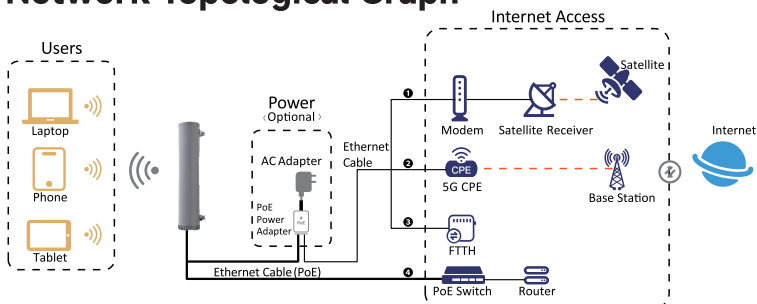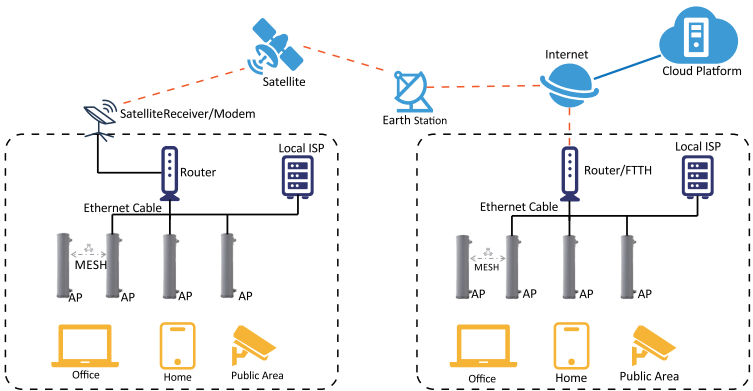|	
📇	Cloud management and billing platform
📱	Support 2.4/5GHz dual band
📊	4*4 MIMO Antenna with 13dBi high gain
🧭	180° Sector coverage
👥	Supports 200 users
🏢	2.5 GE PoE+ Port
🗺	1.5~2.8Km Maximun coverage distance*

＊ Maximum coverage distance is achievable only in open, obstruction-free, and Wi-Fi interference-free environments.

Network Topological Graph

Users
Laptop
Phone
Tablet

Power
‹ Optional ›
AC Adapter
PoE Power Adapter

Ethernet Cable

Ethernet Cable (PoE)

Internet Access

❶ Modem
❷ CPE 5G CPE
❸ FTTH
❹ PoE Switch   Router

Satellite Receiver   Satellite

Base Station

Internet

Networking Platform

Platformized Software Features

Converged Platform
- AC Function
- CRM Function
- Billing Function
- Selfcare Function

Flexible Deployment
- On Premise
- On Cloud
- Multi Tenancy

Flexible Bundles
- Monthly
- Temporary for days
- Unlimited
- Limited
- Speed Control

Rich Services
- KYC
- Selfcare
  Portal   Apps
- Flexible payment
- Invoice

Management
- AP Discover
- Auto Configuration
- Organization
- Dashboard
- Report

Main Design

LAN Interfaces	1x 2.5Gbps Ethernet Port
Wi-Fi Standards	IEEE 802.11 a/b/g/n/ac/ax
Maximum Data Rate	1148 Mbps (2.4 GHz) 2402 Mbps (5 GHz)
Wireless Client Capacity	1000+
Optimal Wireless Client Threshold (LAWiFi Protocol)	200
Maximum EIRP	36dBm for 2.4GHz and 5GHz (EIRP on different channels may be limited by country regulations)
Maximum Coverage Range	1.5-2.8km (An unobstructed coverage environment)
Reception Sensitivity	2.4GHz: 11AX 20MHz MCS0: -95 11AX 20MHz MCS11: -66 11AX 40MHz MCS0: -94 11AX 40MHz MCS11: -63 5GHz: 11AX 20MHz MCS0: -94 11AX 20MHz MCS11: -64.5 11AX 40MHz MCS0: -90.5 11AX 40MHz MCS11: -63 11AX 80MHz MCS0: -88.5 11AX 80MHz MCS11: -60.5

Wireless Function

Multiple SSIDs	16 (8 on each band)

Channel	US: 2.4GHz: 1 - 11;
	    5GHz: 36,40,44,48,149,153,157,161,165;
	
	EU: 2.4GHz: 1 - 13;
	    5GHz: 36,40,44,48,52,56,60,64,100,104,108,112,116,120,124,128,132,136,140

Automatic Channel Selection	√
Transmit Power Control	Adjust transmit Power on dBm
QoS (WMM)	√
Seamless Roaming	√

Wireless Function

MESH	√
Beamforming	√
MU-MIMO	2G: 4x4 DL MU-MIMO; 5G: 4x4 DL MU-MIMO
OFDMA	UL/DL OFDMA
Rate Limit	Based on SSID/Client
LAWiFi Protocol	√

Support Data Rates

802.11ax	8 Mbps to 2402 Mbps (MCS0-MCS11, NSS = 1 to 4 HE20/40/80)
802.11ac	6.5 Mbps to 2166.7 Mbps (MCS0-MCS11, NSS = 1 to 4 VHT20/40/80)
802.11n	6.5 Mbps to 600 Mbps (MSC0-MCS31, HT20/40)
802.11g	6, 9, 12, 18, 24, 36, 48, 54 Mbps
802.11b	1, 2, 5.5, 11 Mbps
802.11a	6, 9, 12, 18, 24, 36, 48, 54 Mbps

Security

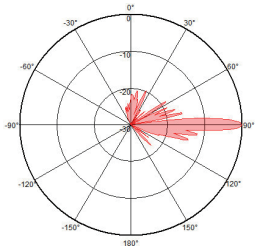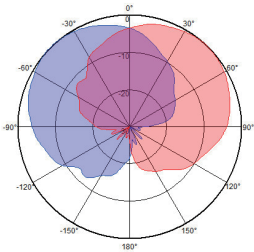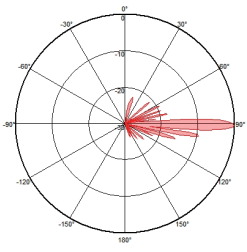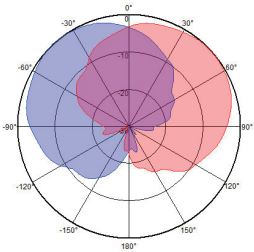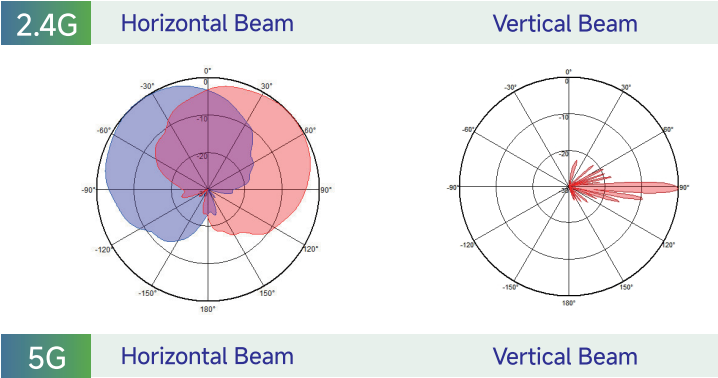|	
Access Control	√
Maximum MAC Filter	4000
VLAN	√
Wireless Encryption	WPA-Personal/Enterprise WPA2-Personal/Enterprise WPA3-Personal/Enterprise
802.1X Support	√

Antenna

Radiation Pattern	Directional antenna
Polarization	±45°
Gain (dBi)	2.4GHz: 4 x 12.5 / 13±0.5 5GHz: 4 x 12.5 / 13±0.5
Horizontal 3dB Beamwidth (°)	2.4GHz: 85±5 5GHz: 85±5
Electrical Downtilt (°)	1.5 (Customizable)

Physical Design

Power Supply	802.3at PoE
Maximum Power Consumption	25.5W (for PoE)
Reset	√
Mounting	Pole bracket
Dimensions	Φ250 mm x 845 mm / Φ250 mm x 1245 mm
Net Weight	9.8 Kg / 12.6Kg
Enclosure Material / Rack Material	UPVC / Hot-dip galvanized steel
Packing Size (mm)	1020x355x380 / 1415x355x380
Installation Kit Weight (kg)	2.5
Packing Weight (kg)	14.5 / 17.8
Wind Load (N,at 150km/h)	168/168/168
Environment	Operating Temperature: -40 °C ~ 70 °C Storage Temperature: -40 °C ~ 70 °C Operating Humidity: 10% ~ 90% non-condensing; Storage Humidity: 5% ~ 90% non-condensing;

Antenna Radiation Pattern

2.4G	Horizontal Beam	Vertical Beam

5G	Horizontal Beam	Vertical Beam

Contact us

Yrttipellontie 1, 90230 Oulu, Finland

https://prismtelecom.com/

Sales@Prismtelecom.com