光普森科
GPSENKE

# 5KM Wireless Bridge 5GHz 15dBi 866Mbps

## GP-AB950S-5 Series




INDUSTRIAL NETWORK SOLUTION SPECIALIST
WWW.GPSENKE.COM

# Introduction

The GP-AB950S-5 is a high-performance and highly stable 5GHz wireless bridge based on an IEEE 802.11ac wireless SOC. It integrates 64MB RAM and 16MB Flash memory, and features a 15dBi high-gain dual-polarized directional antenna, delivering stable wireless transmission speeds of up to 866Mbps.

The GP-AB950S-5 supports Gigabit Ethernet with PoE and DC power input, compatible with a wide voltage range of 12–32VDC. It features advanced QoS to prioritize voice, video, and data traffic, supporting both Layer 2 (CoS) and Layer 3 (ToS/DSCP), and uses WRR scheduling to improve bandwidth efficiency and reduce packet loss.

Designed for harsh environments, the GP-AB950S-5 features a robust IP67-rated enclosure, making it suitable for deployment in urban, rural, forest, coastal, border, oil & gas fields, highways, and tunnel environments.It is widely used for video surveillance, data transmission, wireless network extension, and IoT applications.

# Main Feature

- Support 802.11 a/n/ac Standard
- Support Single-Band with 866Mbps Speed ( 2×2 MIMO)
- Support MAX. up to 5km wifi transmit distance（PTMP）
- Support Intelligent QoS wireless multimedia optimization technology
- Prioritizes stable transmission of voice and video.
- Web-based management for easy installation and maintenance.
- Support 10/100/1000 Mbps RJ45 Ethernet (PoE)
- Support IEEE 802.3 at PoE/DC Power Supply
- Support Diversified Access Authentication Methods
- Support IP67 Protection-Level

## Hardware Parameter

| | |
|---|---|
| Model | GP-AB950S-5 |
| Chipset | Qualcomm 750MHz QCA9563 core SOC + QCA9882 RF SOC |
| Modulation technology | 256-QAM |
| RAM | 64 MB |
| Flash | 16 MB |
| Mode & Distance | PTP:7 KM PTMP:5KM |
| 5 GHz Operating Band | 5.15 ~ 5.85GHz |
| 5 GHz Wi-Fi Protocol | IEEE 802.11 a/n/ac |
| Transmission Mode | 2*2 MU-MIMO |
| Maximum Data Rate | 866Mbps |
| Transmit Power | Up to 30 dBm (varies by country/region regulations) |
| Channel Bandwidth | 5, 10, 20, 40, 80MHz |
| Modulation Scheme | 802.11 a/n: OFDM (64-QAM, 16-QAM, QPSK, BPSK)<br>802.11 ac: OFDM (256-QAM, 64-QAM, 16-QAM, QPSK, BPSK) |
| Throughput | 802.11 ac @ 40 MHz: 400, 360, 300, 270, 240, 180, 120, 90, 60, 30Mbps<br>802.11 ac @ 80 MHz: 866, 780, 650, 585, 520, 390, 260, 195, 130, 65Mbps |
| Error Correction | FEC, LDPC |
| Duplex Mode | Time Division Duplex (TDD) |

## Software Parameter

| | |
|---|---|
| Management | System monitoring: SNMP v3, Syslog, Web UI, WNMS, Infinity Controller |
| | Configuration: WebUI, WNMS, Infinity Controller |
| Wireless Operating Mode | Access point (Auto WDS), Station (WDS), Station (ARP NAT) |
| Wireless techniques | Smart station polling, smart auto-channel, adaptive auto modulation, automatic transmit power control (ATPC) |
| Wireless security | WPA/WPA2 personal, WPA/WPA2 enterprise, WACL, user isolation |
| Wireless QoS | 4 Queues Prioritization |
| Network Operating Mode | Bridge, Router iPv4, Router IPv6 |
| Network techniques | Routing with and without NAT, VLAN |
| WAN protocols | Static IP, DHCP client, PPPoE client |
| Services | DHCP server, SNMP server, NTP client, router advertisement daemon, ping watchdog |
| Management | HTTP(S) GUI, SSH, SNMP read, Telnet, Infinity controller |
| Tools | Site survey, link test, antenna alignment |

## Wireless Parameter

| | |
|---|---|
| Built-in antenna | Built-in 15dBi dual-polarized directional flat panel antenna |
| Ethernet port | 10/100/1000M adaptive Ethernet port, supporting PoE power supply |
| Power supply | 12 ~ 32VDC, DC-5.5*2.1 socket |
| Power adapter | 24VDC Gigabit passive PoE power supply |
| AC power supply | 100 ~ 240VAC |
| Power consumption | 10W |
| Product dimensions | 154mm*116mm*58mm |
| Weight | 380g |
| Installation method | Pole Mount / In-Wall Mount |
| Operating environment | Operating temperature: -40° C ~ +65° C<br>Humidity: 0%~95% (non-condensing) |

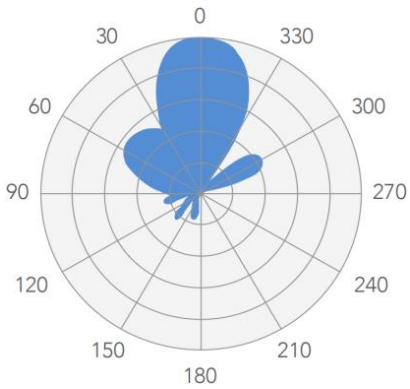
## RF Parameter

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 40MHz | Transmission rate, Mbps | 400 | 360 | 300 | 270 | 240 | 180 | 120 | 90 | 60 | 30 |
| | Transmit power, dBm | 26 | 27 | 28 | 29 | 30 | 30 | 30 | 30 | 30 | 30 |
| | Receiver sensitivity, dBm | -70 | -72 | -76 | -78 | -80 | -84 | -87 | -92 | -94 | -95 |
| 80MHz | Transmission rate, Mbps | 866 | 780 | 650 | 585 | 520 | 390 | 260 | 195 | 130 | 65 |
| | Transmit power, dBm | 24 | 25 | 25 | 26 | 27 | 28 | 28 | 29 | 29 | 29 |
| | Receiver sensitivity, dBm | -64 | -66 | -70 | -72 | -74 | -78 | -81 | -85 | -88 | -90 |

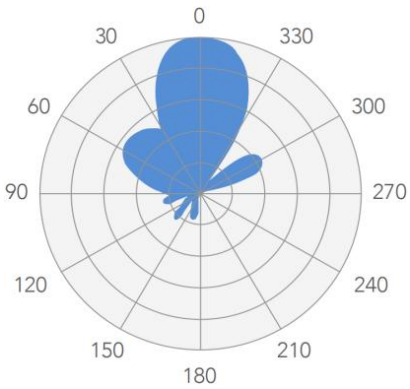
## Antenna Specifications

| | |
|---|---|
| Working Band | 5.1 – 5.9GHz |
| Gain | 15dBi |
| Polarization | Vertical and horizontal dual polarization |
| Cross-pol Isolation | 21 dBi |
| VSWR | <1.4 |
| Azimuth beamwidth (H pol) | 35° |
| Azimuth beamwidth (V pol) | 35° |
| Elevation beamwidth | 35° |

## Vertical RF Direction

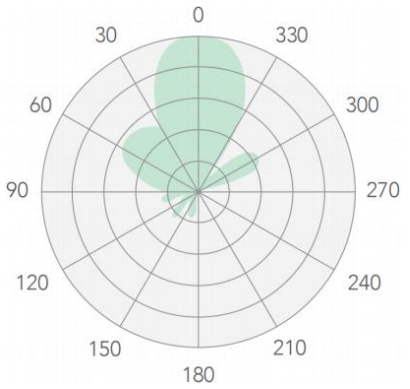



**Azimuth Angle**

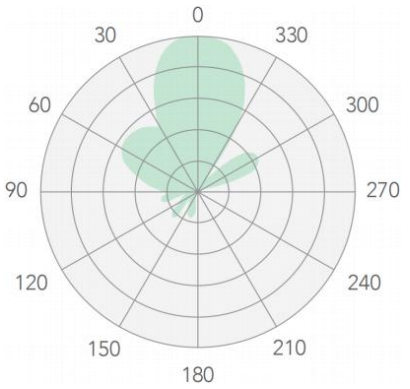



**Elevation Angle**

## Horizontal RF Direction



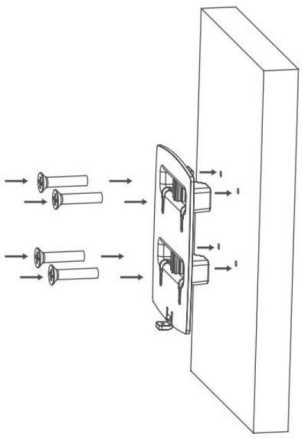

**Azimuth Angle**



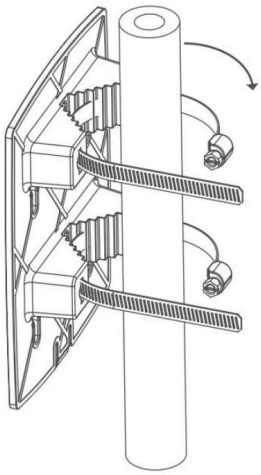

**Elevation Angle**

## Pole Installation Method

❶

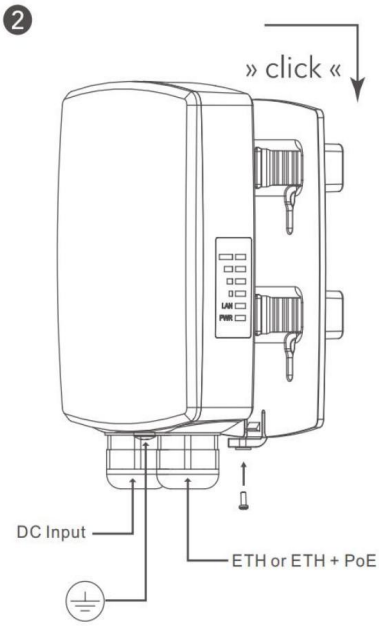


In-Wall Mount

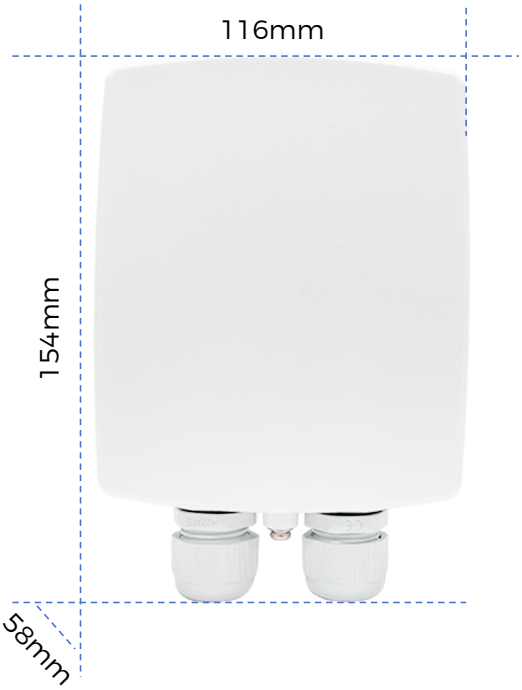


Pole Mount

❷



## Appearance & Accessories





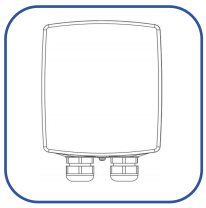


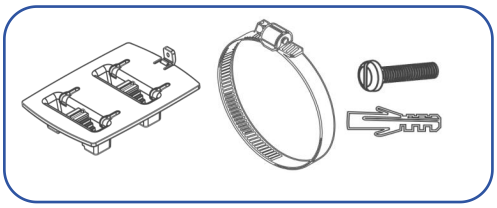







Package*1


Device * 1


Mounting backplate x1 + Mounting clamps x2 + Rubber plugs + screws x4


PoE Adapter*1 Set


Manual*1

## Model Selection

| Model | GP-AB950S-5 | GP-AB950S-10 |
|---|---|---|
| Speed | 866Mbps | 866Mbps |
| Distance(PTMP) | 5Km | 10Km |
| Distance(PTP) | 7Km | 15Km |
| Antenna | Build-in 15dBi dual-polarized directional flat panel antenna | Build-in 20dBi dual-polarized directional flat panel antenna |

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