

# 60GHz Outdoor mmWave PTP

PTP6500/6501 Datasheet (Preliminary)



## Product Features



### Less Crowded, Unlicensed Band

The use of the unlicensed 60GHz band avoids the already crowded frequency usage of the 2.4GHz and 5GHz band. As it is less crowded in the 60GHz band, incidents of interference are very low, thus making it easy to deploy a stable wireless transmission.



### Beamforming Technology

The wireless transmission performance has been greatly enhanced through phased-array radio and beamforming algorithm which improves the gain and directionality. This results in a faster, more direct and reliable wireless connection.



### High Throughput

Operating in the 60GHz band enables more accommodation of frequencies in the spectrum. This allows for data transmission with higher throughput in the Gigabit range. The PTP6500/6501 provides maximum throughput in the following scenario: Up to 1.8Gbps at 2km; Up to 1.5Gbps at 4km; Up to 1.2Gbps at 4.8km.



### Industrial-Grade Design; Weather Resistant

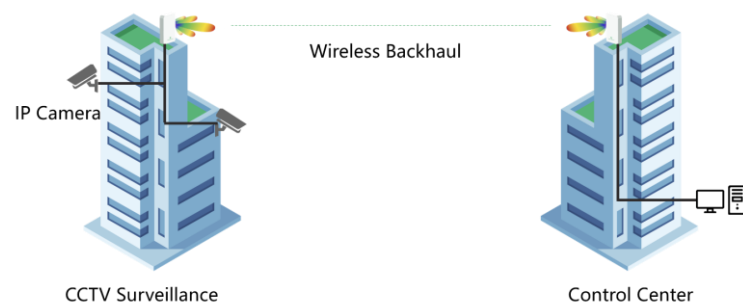
The PTP6500/6501 is housed in an industrial-grade casing that is strong and light. It has an IP rating of 67, making it Dust-Tight (no ingress of dust) and is protected in water of up to 1m. The PTP6500/6501 also encompasses port lightning protection, making it ideal to deploy in harsh climate conditions, typical of outdoor environment.

The PTP6500/6501 is a specially designed industrial-grade Access Point, capable of providing multi-gigabit Wi-Fi transmission at the 60GHz spectrum. It is developed based on the IEEE 802.11ad wireless networking standards, which allows for more bandwidth usage for data transmission at high data rates.

The PTP6500/6501 delivers at a high data rate of 2.0Gbps, with throughput of up to 1.2Gbps at 4.8km. Enclosed in an IP67-rated casing, it is most suited for outdoor environment applications, while providing a stable and optimal wireless communication.

## Applications

- Gigabit Wireless Backhaul (Similar to Wireless Air Fiber)
- Fixed Broadband Communication
- Point-To-Point Wireless
- Wireless CCTV Surveillance
- Industrial Wireless Applications



## Specifications

Interface	
Power IN	<ul style="list-style-type: none"><li>• 53 V/0.6A Passive Gigabit PoE</li><li>• IEEE802.3at PoE+</li><li>• DC Input (12V/3A)</li></ul>
Power consumption	22 Watts maximum
Interface	<ul style="list-style-type: none"><li>• 1x 10G SFP+ port (Only PTP6501,the optical module is not included in the sales package)</li><li>• 1x 2.5 GbE LAN Port (PoE In)</li><li>• 1x Grounding Terminal</li><li>• 1x Reset</li></ul>
LED	<ul style="list-style-type: none"><li>• SFP+( Only PTP6501)</li><li>• 60G</li><li>• ETH</li><li>• SYS</li></ul>

Wireless	
Wireless LAN Standards	IEEE 802.11 ad
Throughput*	<ul style="list-style-type: none"><li>• Up to 1.8Gbps at 2km</li><li>• Up to 1.5Gbps at 4km</li><li>• Up to 1.2Gbps at 4.8km</li></ul>
Operating Frequencies	IEEE 802.11ad: 60GHz Unlicensed
Channel Bandwidth	Multiple 2.16 GHz Channels: Channel 1: 58.32 GHz Channel 2: 60.48 GHz Channel 3: 62.64 GHz Channel 4: 64.80 GHz Channel 5: 66.96 GHz Channel 6: 69.12 GHz
Modulation & Coding Scheme (MCS)	MCS 1-9
Transmission Range	Up to 4.8km
Antenna Gain	30dBi
3 dB Beamwidth	8°(azimuth) 8°(elevation)
Over-The-Air RF Performance(TX) Peak EIRP	52 dBm (max.)
Operation Mode	Base / Terminal

Antenna Performance Parameter	
Antenna Type: Patch / Directional	
Vertical Polarization	
3dB Beamwidth In E-Plane (Beam Steering)	8°
3dB Beamwidth In H-Plane (Beam Steering)	8°
Impedance Bandwidth	57GHz to 71GHz

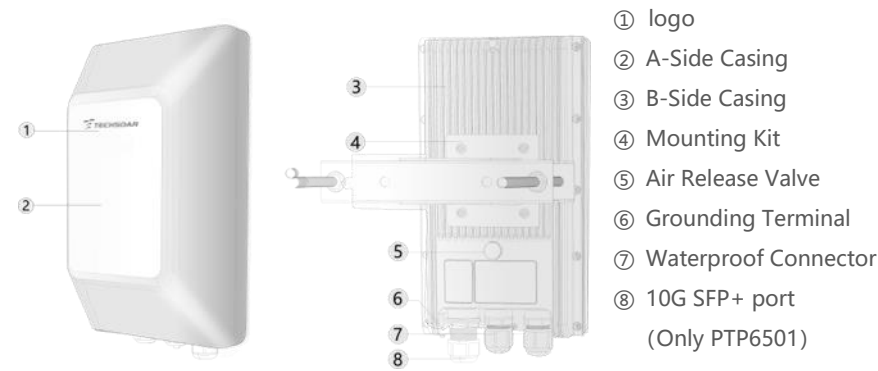
# Specifications

Environmental	
IP Rating	IP67
Protection	· ±4KV Contact ESD Protection · ±8KV Air ESD Protection
Operating Temperature	-30°C to 55°C (The suitable temperature for the product is -30°C to 55°C while POE adapter max-temperature is 40°C)
Storage Temperature	-40°C to +70°C
Operating Humidity	10% ~ 90% max non-condensing
Storage Humidity	5% ~ 95% max non-condensing

Management Function	
Management	· Web Management and TR-069 · Firmware Update By Web UI · System Log
Security	· 60GHz: WPA2-PSK encryption, Static IP Settings, Basic WLAN Settings
Network	· VPN Client · Static IP Settings · Basic WLAN Settings
System Tools and Monitoring	· Indicators: CPU, Memory · Monitoring: Throughput, Interfaces
Other System Optimizations	· Jumbo Packet Support (Up to 7,900 bytes)

General	
Dimension L × W × H	282 x 160 x 125 mm
Weight	2.8 Kg (With Mounting Kit) 2.1 Kg (Without Mounting Kit)
Enclosure	Material: Outdoor ASA Stabilized Plastic
Mounting	Wall and Pole Mounting

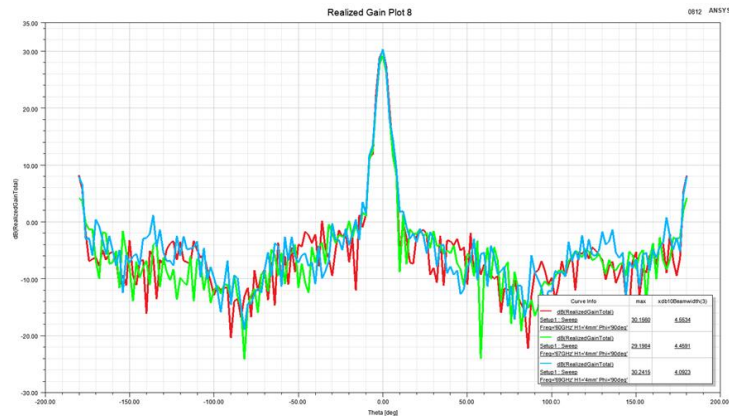
## Product Overview



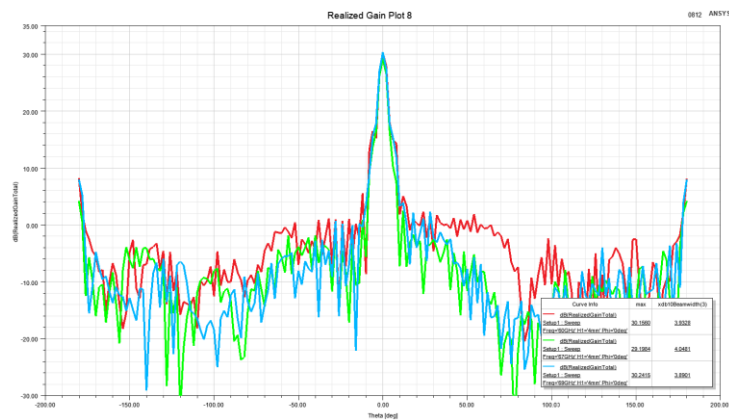
## Standard Package

- One Access Point Module
- Quick Installation Guide
- Pole Mounting Bracket Kit
- POE Injector (1 pcs)

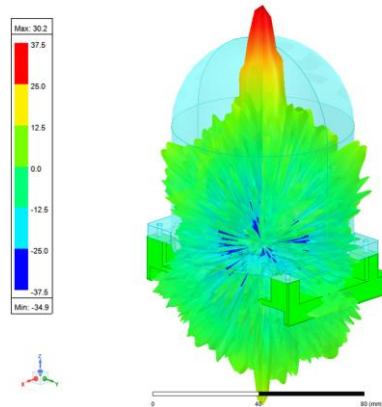
## Phi 90\_E Plane



## Phi 0\_H Plane



## 3D Radiation Pattern



## About Techsoar

Techsoar is a pioneering force in the development of mmWave technology and related products. Equipped with a state-of-the-art mmWave R&D lab and a team of top-tier wireless communication industry professionals, we are dedicated to providing cutting-edge solutions to meet the demands of the modern world. We possess a wealth of experience in developing mmWave system and which enables us to build a solid foundation for the application of mmWave technology in industrial internet, smart city, AR & VR, and other emerging fields.