

Outdoor mmWave Train Access Unit

TAU6002



Product Features



Less Crowded, Unlicensed Band

Unlicensed 60GHz band avoids the crowded frequency 2.4GHz and 5GHz band. Less crowded, anti-interference, easy to deploy a more stable&safer wireless transmission.



Beamforming

Through phased-array radio and beamforming algorithm, it improves the gain and directionality. This results in a faster, more directional and reliable wireless connection.



High Throughput

Operating in the 60GHz band enables wider spectrum and channel bandwidth. This allows for data transmission with higher throughput up to 1.8Gbps at 500m range, 1.5Gbps at 800m range, 1Gbps at 1km range.



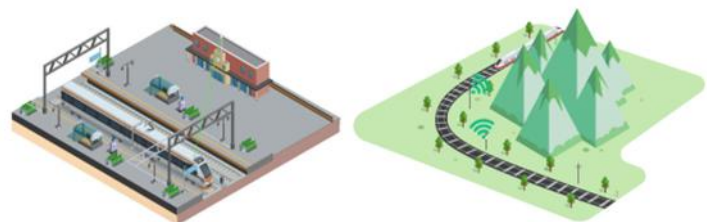
Industrial & Railway Specifications

Industrial-grade casing, strong and reliable. IP67 protection, Railway application design, Ideal to be deployed on the train and can be resistant to harsh environment and conditions.

Techsoar' s outdoor train access unit device operates over 60GHz millimeter waves (mmWave). It brings the advantages of mmWave - multi-gigabit capacity, immunity to interference and always-on reliability - to cost-effective railway transmission solutions. The plug & play system is designed to easily assemble and scale, taking advantage of scanning antennas that auto-align links, and enables connectivity range up to 1~2 kilometers. Perfect for the outdoor onboard applications like train-to-wayside communication, onboard data transferring, BVR (beyond-visual-range) communications, etc.

Applications

- Trains onboard data transferring
- BVR (Beyond Visual Range) camera monitor backhaul
- Tunnel/Railway curve camera monitor backhaul
- Others



Specifications

Hardware	
Powering	<ul style="list-style-type: none">• 53 V/0.6A Passive Gigabit PoE Adaptor• IEEE802.3at PoE+• DC(12V/48V)
Power Consumption	< 22W
Interfaces	<ul style="list-style-type: none">• 1x 2.5 Gb M12 ETH port (PoE+供电)• 1x M12 DC port• 1x Ground Terminal• 1x Reset button
LED	<ul style="list-style-type: none">• 60G• ETH• SYS

Wireless	
Wireless Standard	IEEE 802.11 ad
Throughput*	500m 1.8Gbps 800m 1.5Gbps 1km 1.0Gbps
Operating Frequencies	57GHz~71GHz
Channels	CH 1: 58.32 GHz CH 2: 60.48 GHz CH 3: 62.64 GHz CH 4: 64.80 GHz CH 5: 66.96 GHz CH 6: 69.12 GHz
Modulation & Coding Scheme (MCS)	MCS 1-9
Transmission Range*	Up to 1.3km
Antenna Gain	23dBi
Steering Angle	45° (azimuth) 45° (elevation)
Over-The-Air RF Performance(TX) Average EIRP	40dBm (max.)
Over-The-Air RF Performance (RX) (+/- 2dBm)	-71 dBm @ MCS1 -68 dBm @ MCS5 -65 dBm @ MCS9
Operation Mode	Base / Terminal

Antenna Performance	
Antenna Type: Patch / Directional	
Vertical Polarization	
3dB Beamwidth In E-Plane (Beam Steering)	45°
3dB Beamwidth In H-Plane (Beam Steering)	45°
Impedance Bandwidth	57GHz to 71GHz

Specification are subject to changes without prior notice due to engineering improvement. All brands and product names are trademarks or registered trademarks of their respective holders. *Wireless range and performance may vary with environment.

Specifications

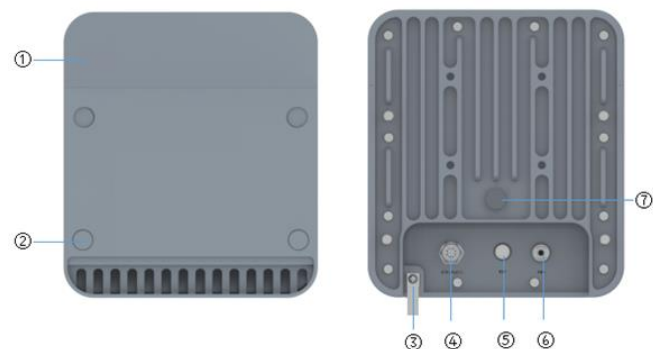
Environmental	
IP Rating	IP67
ESD Protection	±15 KV Air Protection ±8 KV Contact Protection
Operating Temperature	-40°C~70°C
Storage Temperature	-40°C~70°C
Operating Humidity	10% ~ 90% non-condensing
Storage Humidity	5% ~ 95% non-condensing

Management Function	
Management	<ul style="list-style-type: none">• Web Management and TR-069• Firmware Update By Web UI• System Log
Security	<ul style="list-style-type: none">• 60GHz: WPA2-PSK encryption, Static IP Settings, Basic WLAN Settings
Network	<ul style="list-style-type: none">• VPN Client• Static IP Settings• Basic WLAN Settings
System Tools and Monitoring	<ul style="list-style-type: none">• Indicators: CPU, Memory• Monitoring: Throughput, Interfaces
Other System Optimizations	<ul style="list-style-type: none">• Jumbo Packet Support (Up to 7,900 bytes)• Hardware Watchdog• Dual Flash Image Support

Others	
Dimensions (L x W x H)	225 x 200 x 123 mm
Weight	4.2 Kg (Net weight of the device)
Enclosure Material	Aluminum alloy+Plastic
Mounting Way	Bracket mounting on the train top (Bracket to be customized separately, not included in the sales package)

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Product Overview

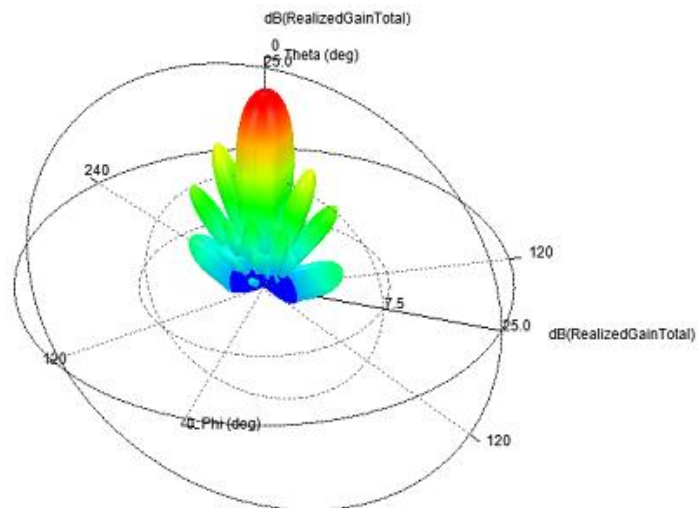


- ① Enclosure
- ② Mounting Hole
- ③ Ground Terminal
- ④ M12 ETH
- ⑤ Reset
- ⑥ M12Power
- ⑦ Waterproof Valve

Standard Package

- Device x 1
- QSG x 1
- Mounting Screws x 4
- Rubber cap x 4
- PoE Adaptor x 1
- AC cable x 1
- Safety Steel rope x 1

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.