5G MMWAVE INDUSTRY MARKET APPLICATIONS

HDR Small Cell

Designed specifically for industrial access points, operating in the 60GHz frequency band.

OVERVIEW

HDR Small Cell 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.

HDR Small Cell delivers at a high data rate of 2.5Gbps, which throughput of up to 1Gbps at 1km. Enclosed in an IP67-rated casing, it is most suited for outdoor environment applications, while providing a stable and optimal wireless communication.

FEATURES

Less Crowded, Unlicensed Band

The use of 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.

Beam-forming Technology

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

High Throughtput

Operating in the 60GHz band enables more accommodation of frequencies in the spectrum. This allows for data transmission with higher throughout in the Gigabit range.

HDR Small Cell provides maximum throughput in the following scenario:

- Up to 1.8Gbps at 500m
- Up to 1.5Gbps at 800m
- Up to 1Gbps at 1.3km

Industrial-Grade Design, Weather Resistant

HDR Small Cell 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.

HDR Small Cell also encompasses port lightning protection, making it ideal to deploy in harsh climate conditions, typical of outdoor environment.

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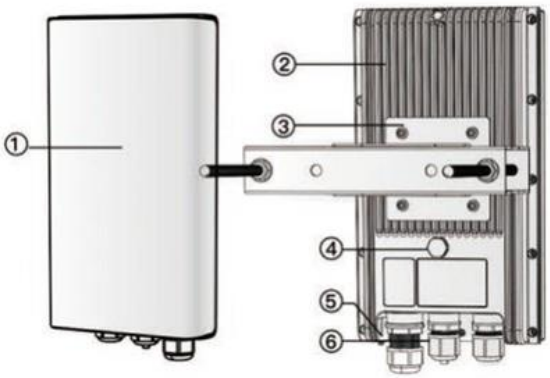
APPLICATIONS

HDR Small Cell is designed for a wide range of applications which includes the following:

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

Example : P2P

PRODUCT OVERVIEW



① A-Side Casing

② B-Side Casing

③ Mounting Kit

④ Air Release Value

⑤ Grounding Terminal

⑥ Waterproof Connector

Standard Package

- One Access Point Module
- Quick Installation Guide
- Pole Mounting Bracket Kit
- PoE Injector (1pcs)
- Safety Chain (1pcs optional)

Interface	
Power IN	- 48V/0.5A Passive Gigabit PoE - IEEE 802.3 at PoE - DC Input (12V/3A)
Power consumption	22 Watts Maximum
Interface	- 1 x 10G SFP+ - 1 x 2.5GbE LAN Port (PoE In) - 1 x Grounding Terminal - 1 x Reset
LED	- SFP+ - 60G - ETH - SYS

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Environment	
IP Rating	IP67
Protection	- ±15KV ESD Protection - ±6KV Lighting Protection
Operating Temperature	-30°C to +55°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) - Hardware Watchdog - Dual Flash Image Support

Wireless	
Wireless LAN Standards	IEEE 802.11ad
Throughput	- Up to 1.8Gbps at 500m - Up to 1.5Gbps at 800m - Up to 1Gbps at 1.3km
Operating Frequencies	IEEE 802.11ad: 60GHz Unlicensed
Channel Bandwidth	- Multiple: 2.16GHz - 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 1.3km
Antenna Gain @Channel 2	23dBi
3dB Beamwidth	- 45° (azimuth) - 45° (elevation)
Over-The-Air RF Performance (TX) Peak EIRP @Channel 2	Up to 44dBm
Over-The-Air RF Performance (RX) (±2dB)	- -71dBm @MCS1 - -68dBm @MCS5 - -65dBm @MCS9
Operation Mode	Base/Terminal

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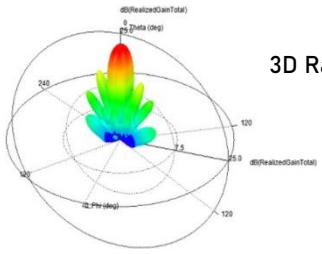
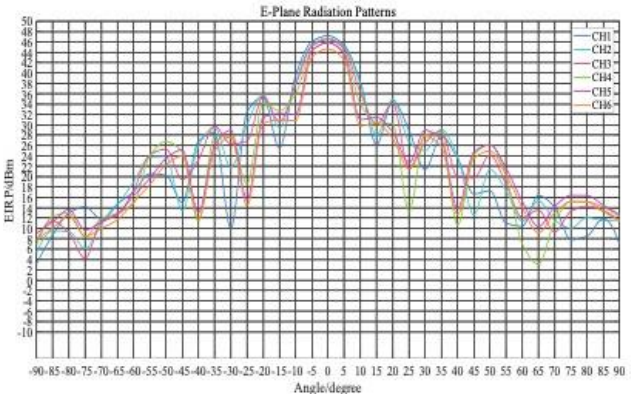
Antenna Performance Parameter	
Antenna Type	Patch/Directional
Vertical Polarization	
3dB Beamwidth In E-Plane (Beam Steering)	45°
3dB Beamwidth In H-Plane (Beam Steering)	45°
Impedance Bandwidth	57GHz to 70GHz

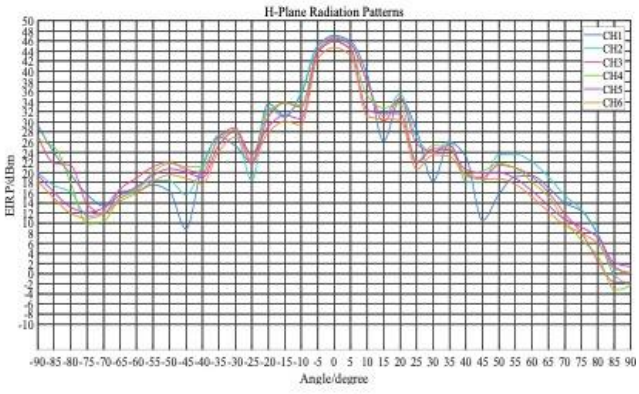


3D Radiation Pattern

V Polarization E-Plane



V Polarization H-Plane



TX Basic Information	
Frequency Range	57GHz ~ 66GHz
Channels	1 to 4
Modulation	MCS 1 ~ 9
EIRP (Max.)	43dBm
Antenna Gain	17.2dBi
Beam Angle	H: 120°, V: 20°
Throughput	1 ~ 2Gbps
Interface	1 x Micro-B USB 3.0
Power Supply	DC input (5V)
Power Consumption	~ 3W
Operating Temperature	-30°C to +55°C
Storage Temperature	-40°C to +70°C
Environmental Humidity Non-condensing	Operating: 10% to 90% Storage: 5% to 95%

RX Basic Information	
Frequency Range	100MHz ~ 70GHz
Antenna Gain	~ 20dBi
Power Supply	DC input (5V)
Power Consumption	~ 0.2W
Sensitivity (without Antenna)	-38dBm ~ 0dBm
Operating Temperature	-30°C to +55°C
Storage Temperature	-40°C to +70°C
Environmental Humidity Non-condensing	Operating: 10% to 90% Storage: 5% to 95%

European Union CE Specifications and Our frequency range are customizable.

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