

GigaRay™ Liberty

60GHz Wireless Backhaul Solution

GigaRay™ Liberty CP18BHx8 series provides an ideal solution for the wireless backhaul network applications.



GigaRay™ Liberty CP18BHx8 is fully compatible with the IEEE802.11ad/WiGig standard and utilize the channel 2 and 3 of 60GHz ISMband, which span from 59.4 to 63.7GHz. The channel bandwidth is 2.16GHz and supports a raw data rate up to 2.31Gbps, which translates to a data throughput of 1.3Gbps under TCP/IP protocol. CP18BHx8 adopts many other advanced wireless technologies such as MIMO, phase array antenna design and beamforming algorithm. Those technologies enable CP18BHx8 to offer much higher transmission data rate, better anti-interference performance and the advantage of spatial reuse.

CP18BHx8 also supports multiple modulation schemes, which can be configured through MCS setting. Lower or more robust modulation schemes can be selected under the nonideal channel conditions.

Key Features

GigaRay™ Liberty CP18BHx8 wireless backhaul solution has the following features

- Offers broadband connection, over 1.3Gbps data throughput under TCP/IP at a distance of 200m can be achieved;
- Support both point-to-point and relay transmission configuration;
- Support frequency and spatial re-use, increase network capacity;
- ±30 degree direction coverage for beam tracking, make easy deployment possible;
- Link quality and MCS setting can be monitored;
- Line-of-sight transmission.

MCS Index	Modulation	Code Rate	Data Rate (Mbps)
0 (Control PHY)	DBPSK	1/2, 32X Spreading	27.5
1	BPSK	1/2	385
2	BPSK	1/2	770
3	BPSK	5/8	962
4	BPSK	3/4	1155
5	BPSK	13/16	1251
6	QPSK	1/2	1540
7	QPSK	5/8	1925
8	QPSK	3/4	2310

Table 1, Raw transmission data rate vs MCS settings

Application Scenarios

GigaRay™ Liberty CP18BHx8 series supports 2 major deployment scenarios, point-to-point transmission and relay transmission. As illustrated in Fig. 1, path A is a point-to-point connection and path A-C shows a relay connection. The connection between AP and STA2 is relayed through STA1 in the A-C path.

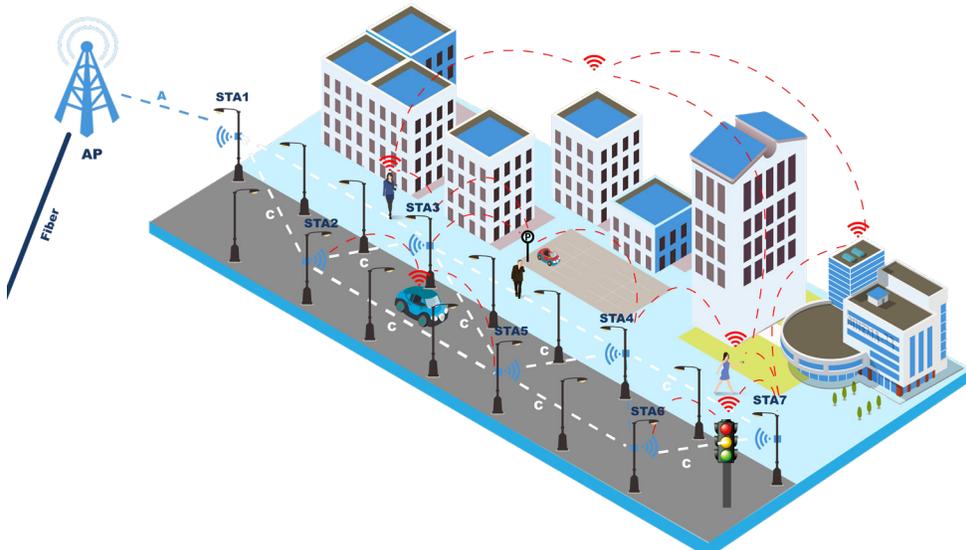


Fig. 1 CP18BHx8 in real deployment

Specifications

Items		SPecs			Units
		Min	Typ	Max	
GigaRay Modules	Standard	IEEE 802.11 ad, WiGig			
	Frequency Bands	59		64	GHZ
	Max Down Link Throughput ¹		1.3		Gbps
	Max Dual Link Throughput ¹		1.5		Gbps
	Down Link Throughput @ 50m ¹		1.3		Gbps
	Down Link Throughput @ 200m ¹		1.0		Gbps
	Down Link Throughput @ 300m ¹		0.7		Gbps
	TX EIRP			39.4	dBm
	RX Sensitivity	-83			dBm
	Horizontal Directional Coverage ²		±30		dgree
¹ Data Throughput is tested under TCP/IP protocol					
² Test distance at 50m					

Ordering Information

Part Number: CP18BHx8