

## Overview

- Eight foot (2.4 m), eight port antenna with a 65° azimuth beamwidth covering 698-787 MHz, 824-896 MHz and 1695-2180 MHz
- Four high band and four low band ports in a single antenna
- Sharp elevation beamwidth aids in network planning
- Optimal elevation sidelobe performance
- Enhanced array spacing ensures optimal MIMO performance
- Exceeds minimum PIM performance requirements
- Multi-network solution in one radome with eight ports
- Reduces tower load and increases space for tower mounted remote radio heads
- Multi-band design improves site radio resource management
- Field replaceable, integrated AISG 2.0 compliant Remote Electrical Tilt (RET) system with independent tilt control for each paired port

The CCI OctoPort multi-band array is an eight port antenna with full Advanced Wireless Service (AWS) band coverage. With four high band ports covering 1695-2180 MHz, two ports covering 698-787 MHz and two ports covering 824-896 MHz, this eight foot (2.4 m) CCI OctoPort provides the capability to deploy 4x4 Multiple-input Multiple-output (MIMO) in the high band.

CCI has engineered its antennas using new and innovative design techniques to provide optimal sidelobe performance, sharp elevation beams, and high front to back ratio.

Multiple technologies can now be connected to a single antenna, reducing tower load, lease expense, deployment time and installation cost.

CCI antennas are designed and produced to ISO 9001 certification standards for reliability and quality in our state-of-the-art manufacturing facilities.

## Applications

- 4x4 MIMO for the high band and 2x2 MIMO for each of the low bands
- Increase capacity without adding antennas
- Cosite current, and next-generation basestation technologies on the same antenna



OctoPort Multi-Band Antenna

OPA-65I-LCWW-H8

SPECIFICATIONS

Electrical

Ports	2 x Low Band Ports for 698-787 MHz	2 x Low Band Ports for 824-896 MHz	4 x High Band Ports for 1695-2180 MHz		
Frequency Range	698-787 MHz	824-896 MHz	1850-1990 MHz	1695-1755/2110-2180 MHz	
Gain (dBi)	14.7	15.7	17.0	16.4	17.5
Azimuth Beamwidth (-3dB) (°)	65	61	62	67	64
Elevation Beamwidth (-3dB)(°)	10.0	8.4	5.6	6.2	5.1
Electrical Downtilt(°)	2 to 10	2 to 10	0 to 8	0 to 8	0 to 8
Elevation Sidelobes (1st Upper) (dB)	< -17	< -17	< -24	< -22	< -24
Front-to-Back Ratio @180° (dB)	> 25	> 25	> 30	> 30	> 30
Cross-Polar Discrimination (at Peak) (dB)	> 22	> 20	> 25	> 25	> 25
Cross-Polar Port-to-Port Isolation (dB)	> 25	> 25	> 25	> 25	> 25
Voltage Standing Wave Ratio(VSWR)	< 1.5:1	< 1.5:1	< 1.5:1	< 1.5:1	< 1.5:1
Passive Intermodulation (2x20W) (dBc)	≤ -153	≤ -153	≤ -153	≤ -153	≤ -153
Input Power Continuous Wave (CW)	500 watts	500 watts	300 watts	300 watts	300 watts
Polarization	Dual Pol 45°	Dual Pol 45°	Dual Pol 45°	Dual Pol 45°	Dual Pol 45°
Input Impedance	50 ohms	50 ohms	50 ohms	50 ohms	50 ohms
Lightning Protection	DC Ground	DC Ground	DC Ground	DC Ground	DC Ground

BASTA Electrical Specifications\*

	698-787 MHz	824-896 MHz	1850-1990 MHz	1695-1755/2110-2180 MHz	
Frequency Range	698-787 MHz	824-896 MHz	1850-1990 MHz	1695-1755/2110-2180 MHz	
Gain over all Tilts (dBi)	14.7	15.7	17.0	16.4	17.5
Gain over all Tilts Tolerance (dB)	0.6	0.5	0.3	0.2	0.3
Gain at Low-tilt (dBi)	14.9	15.8	16.9	16.5	17.5
Gain at Mid-tilt (dBi)	14.8	15.8	17.1	16.5	17.6
Gain at High-tilt (dBi)	14.6	15.6	17.1	16.4	17.4
Azimuth Beamwidth Tolerance (°)	2.0	3.6	2.5	2.9	4.2
Elevation Beamwidth Tolerance (°)	1.1	0.5	0.3	0.2	0.2
Electrical Downtilt Deviation (°)	1.0	1.0	1.0	0.9	0.9
Front-to-Back Ratio over ± 20° (dB)	21.5	20.6	21.9	21.2	22.2
First Upper Sidelobe Suppression (dB)	16.0	16.8	22.0	19.7	21.5
Upper Sidelobe Suppression peak to 20°(dB)	17.2	16.5	19.7	19.1	19.7

\* Electrical specifications follow document "Recommendation on Base Station Antenna Standards" (BASTA) V9.6. All specifications are subject to change without notice.

Mechanical

Dimensions (LxWxD)	92.8x14.4x7.3 in (2358x366x185 mm)
Survival Wind Speed	> 150 mph (> 241 kph)
Front Wind Load	327 lbs (1455 N) @ 100 mph (161 kph)
Side Wind Load	191 lbs (849 N) @ 100 mph (161 kph)
Equivalent Flat Plate Area	12.8 ft <sup>2</sup> (1.2 m <sup>2</sup> )
Weight *	70.6 lbs (32.0 kg)
Connector	8 x 7-16 DIN female long neck
Mounting Pole	2 to 5 in (5 to 12 cm)

\* Weight excludes mounting



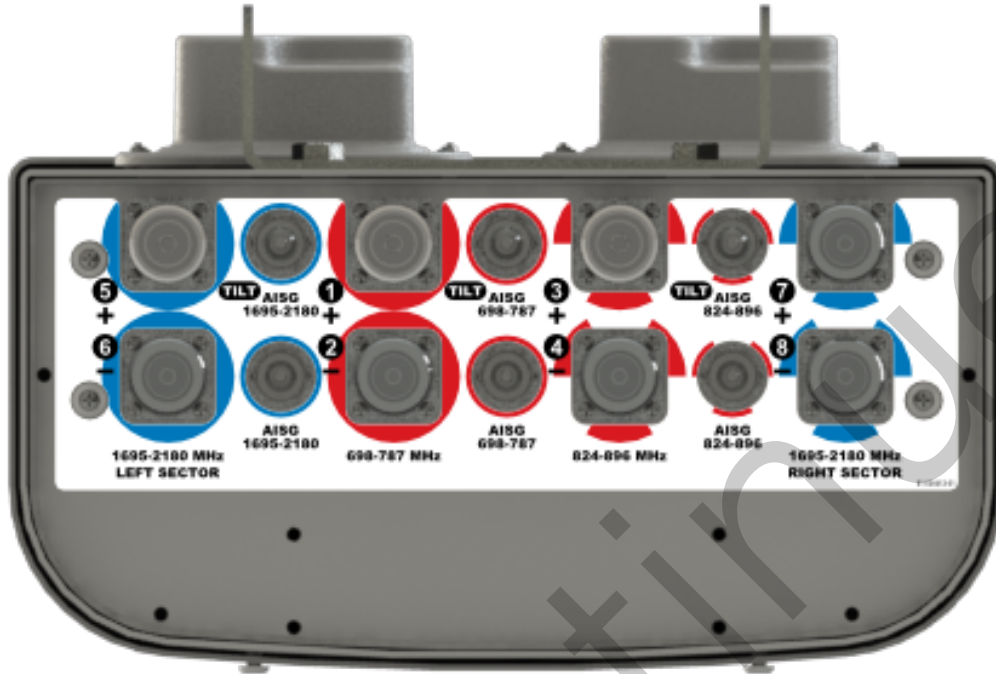
OctoPort Multi-Band Antenna

OPA-65I-LCWW-H8

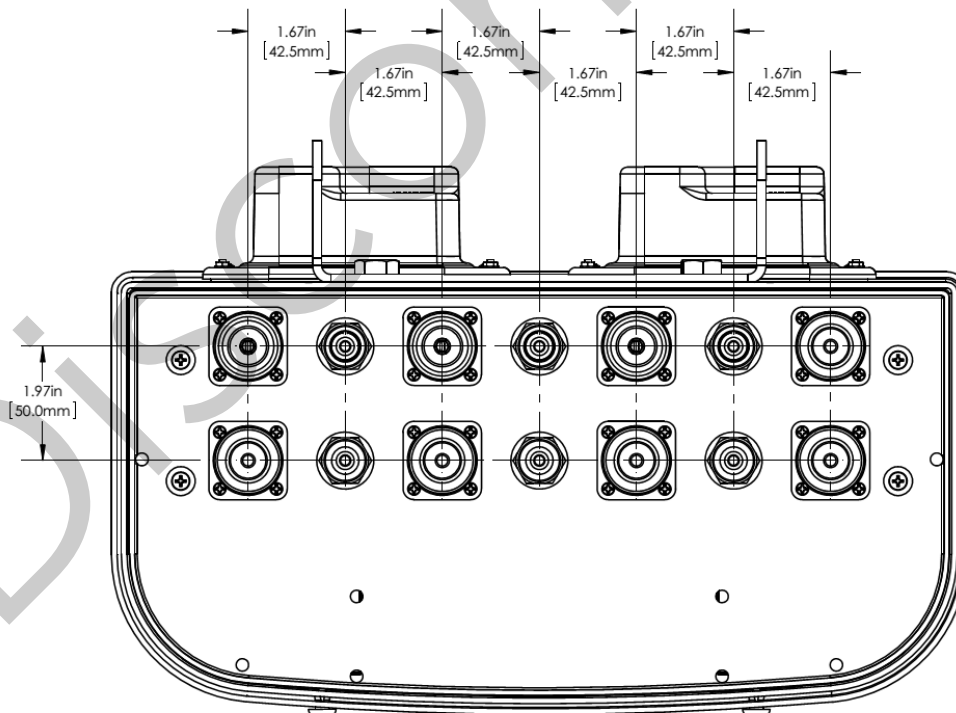
SPECIFICATIONS

Mechanical

Bottom View



Connector Spacing





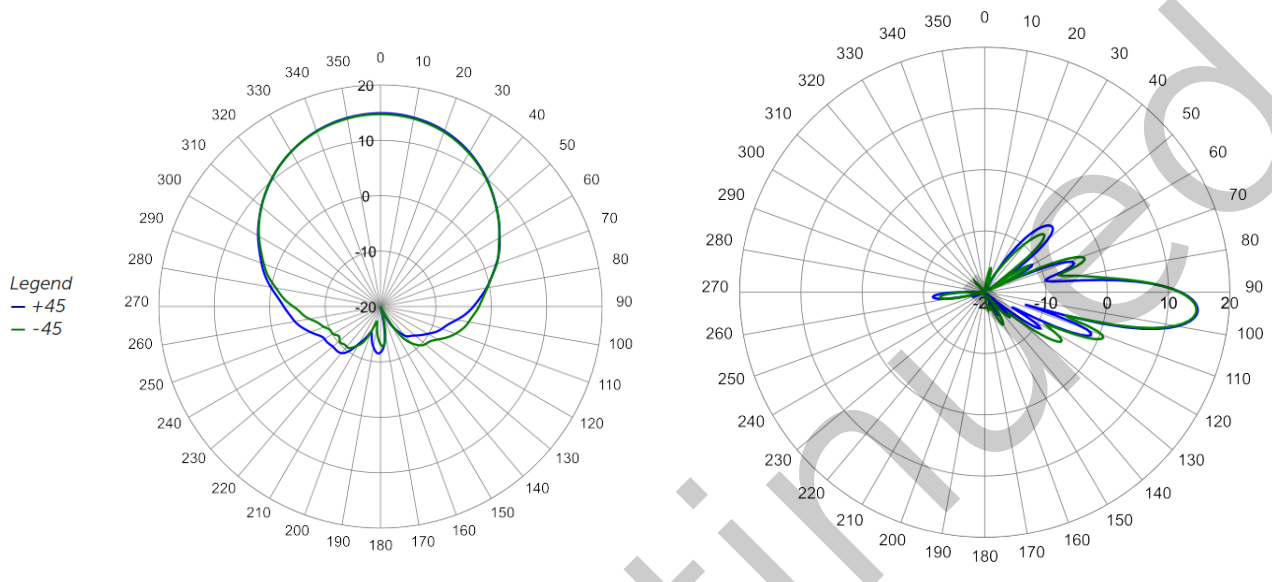
SPECIFICATIONS

OctoPort Multi-Band Antenna

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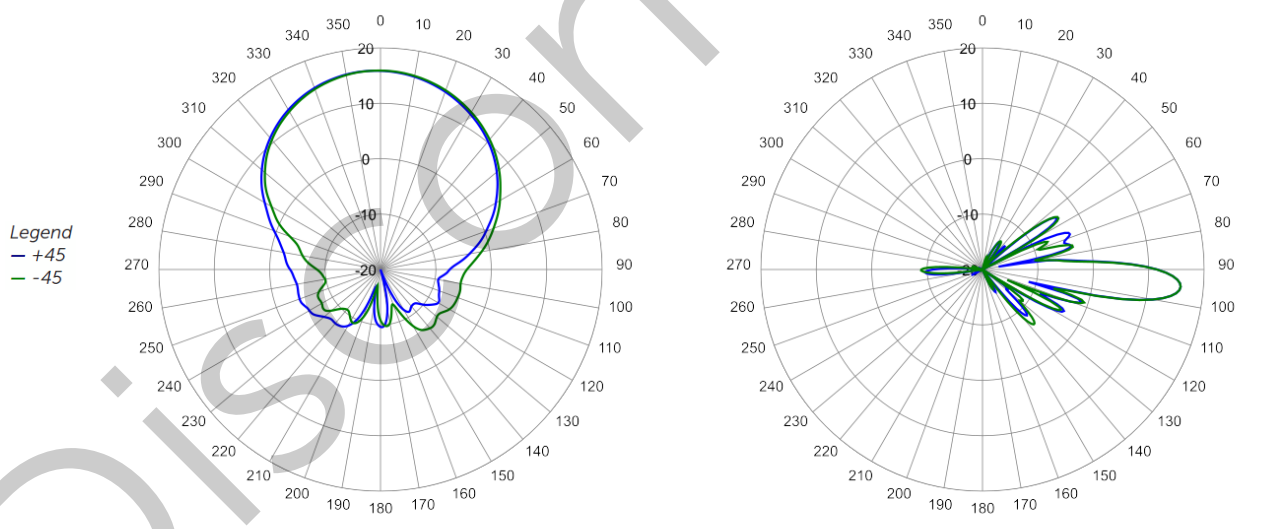
Typical Antenna Patterns

For detailed information on additional antenna patterns, contact customer support at support@cciproducts.com



737 MHz Azimuth

737 MHz Elevation 5°



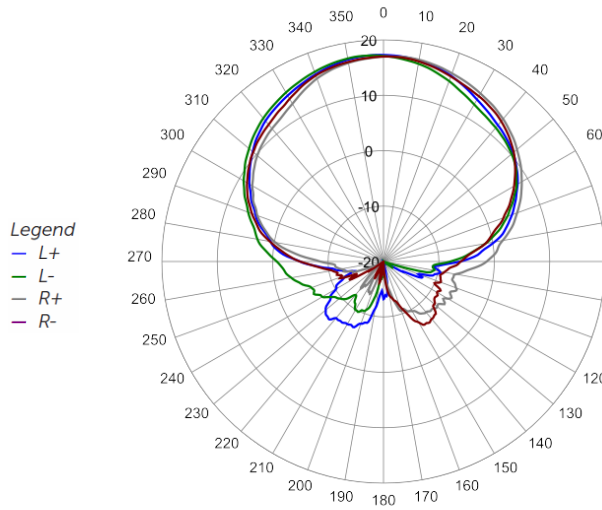
887 MHz Azimuth

887 MHz Elevation 5°

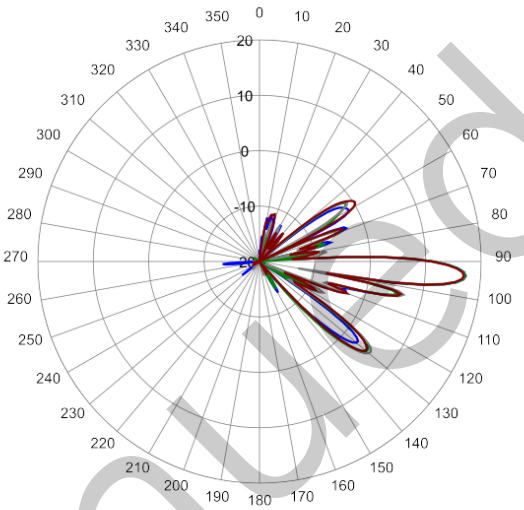


OctoPort Multi-Band Antenna

OPA-65I-LCWW-H8



1920 MHz Azimuth



1920 MHz Elevation 4°



ORDERING

OctoPort Multi-Band Antenna

OPA-65I-LCWW-H8

Parts & Accessories

- |                        |  |
|------------------------|--|
| <b>OPA-65I-LCWW-H8</b> | Eight foot (2.4 m) OctoPort antenna with 65° azimuth beamwidth and 3 factory installed BSA-RET400 RET actuators, and MBK-01 mounting bracket |
| <b>MBK-01</b>          | Mounting bracket kit (top and bottom) with 0° to 10° mechanical tilt adjustment  |
| <b>TM-01</b>           | Optional triple mount mast bracket for mounting up to three 65° antennas on a pole (or mast).  |
| <b>BSA-RET400</b>      | Remote electrical tilt actuator  |

Discontinued

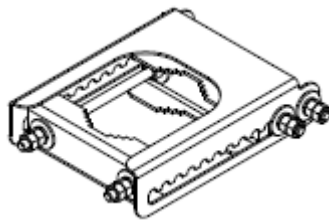


Mounting Bracket Kit

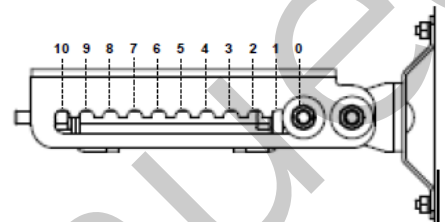
MBK-01

Mechanical

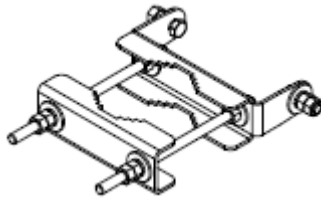
<b>Weight</b>	12.6 lbs (5.7 kg)
<b>Hinge Pitch</b>	47.25 in (1200 mm)
<b>Mounting Pole Dimension</b>	2 to 5 in (5 to 12 cm)
<b>Fastener Size</b>	M12
<b>Installation Torque</b>	40 ft·lb (54 N·m)
<b>Mechanical Tilt Adjustment</b>	0° - 10°



MBK-01 Top Adjustable Bracket



MBK-01 Top Adjustable Bracket Side View



MBK-01 Bottom Fixed Bracket

Discontinued

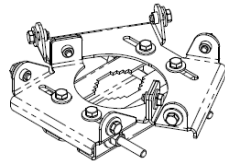


Triple Mount Cluster Bracket

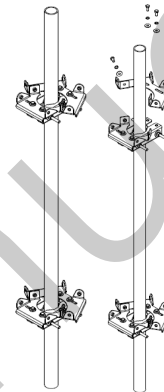
TM-01

Mechanical

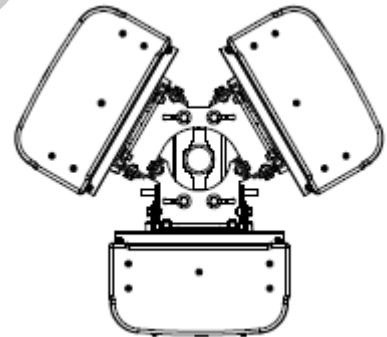
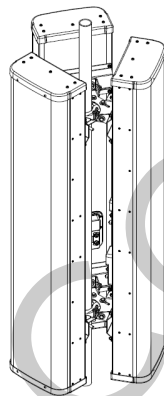
<b>Weight</b>	21.6 lbs (9.8 kg)
<b>Fastener Size</b>	M10
<b>Installation Torque</b>	40 ft-lb (54 N-m)
<b>Hinge Pitch (Vertical)</b>	13.0 in (330 mm) or 31.5 in (800 mm) or 47.2 in (1200 mm)
<b>Mechanical Tilt Adjustment</b>	None



TM-01 Bracket



TM-01 Mounting Brackets (on Pole)



3 - 65° Antennas Mounted on Pole using TM-01 Brackets (Iso and Top Views)





Internal Remote Electrical Tilt (iRET)

BSA-RET400

General Specifications

Part Number	BSA-RET400
Protocols	AISG 2.0
RET Type	Type 17
Adjustment Cycles	>10,000 cycles
Tilt Accuracy	±0.1°
Temperature Range	-40° C to 70° C

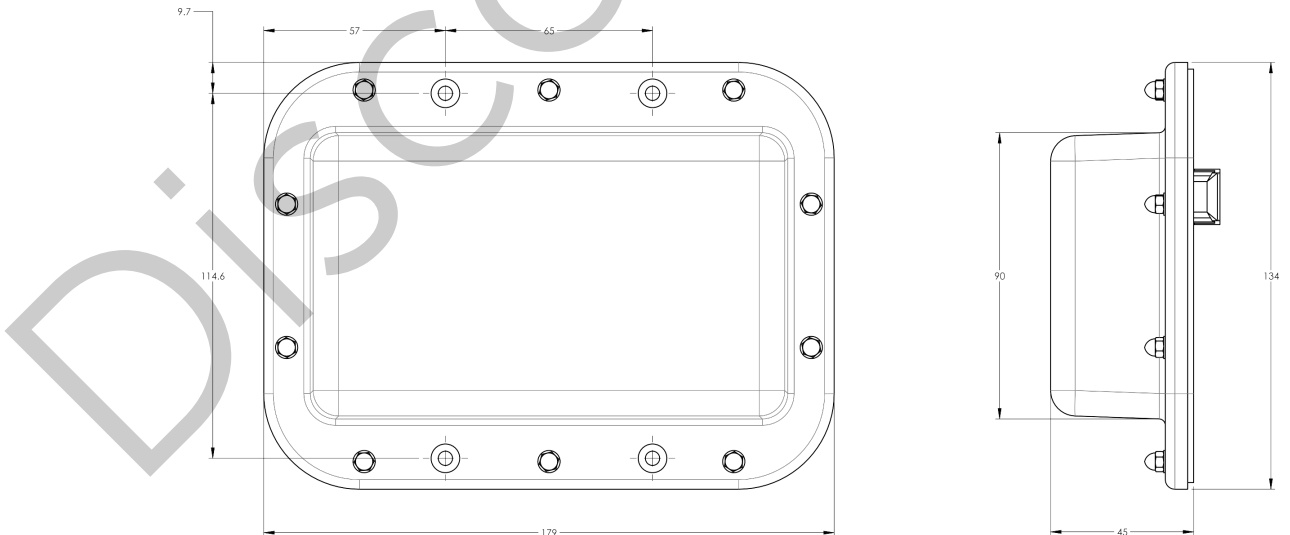
Electrical

Data Interface Signal	DC
Input Voltage	10-30 Vdc
Current Consumption Tilt	100 mA at $V_{in}=24$ (500 mA MAX)
Current Consumption Idle	10 mA at $V_{in}=24$

Mechanical

Dimensions (LxWxD)	7.0x5.3x1.8 in. (179x134x45 mm)
Housing	ASA/ABS/Aluminum
Weight	1.3 lbs (0.6 kg)

ASA= Acrylic Styrene Acrylonitrile  
ABS=Acrylonitrile Butadiene Styrene





STANDARDS & CERTIFICATIONS

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OPA-65I-LCWW-H8

Standards & Compliance

<b>Safety</b>	EN 60950-1, UL 60950-1
<b>Emission</b>	EN 55022
<b>Immunity</b>	EN 55024
<b>Environmental</b>	IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-5, IEC 60068-2-6, IEC-60068-2-11, IEC 60068-2-14, IEC 60068-2-18, IEC 60068-2-27, IEC 60068-2-29, IEC 60068-02-30, IEC 60068-2-52, IEC 60068-2-64, GR-63-CORE 4.3.1, EN 60529, IP 24

Certifications

Antenna Interface Standards Group (AISG), Federal Communication Commission (FCC) Part 15 Class B, CE, CSA US, ISO 9001



Discontinued

