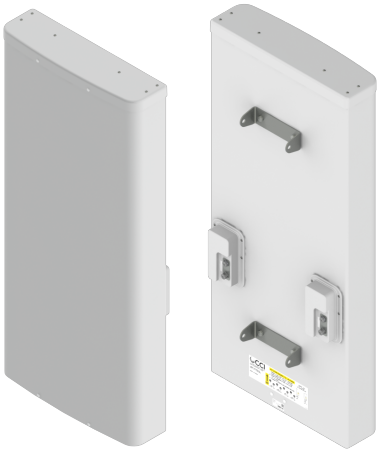
DATA SHEET

OctoPort Multi-Band Antenna

OPA65R-W4B



- Four foot (1.3 m), eight port antenna with a 65° azimuth beamwidth covering 1710-2180 MHz
- Eight high 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 Electrictal Tilt (RET) system with independent tilt control for each paired port

Overview

The CCI OctoPort multi-band array is an eight port antenna with full Advanced Wireless Service band coverage. With eight high band ports covering 1710-2180 MHz, this four foot (1.3 m) CCI OctoPort provides the capability to deploy 4×4 Multiple-input Multiple-output (MIMO) in the high band. The OctoPort allows separate tilt control for each pair of ports enabling maximum flexibility in network deployment.

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

- 4×4 MIMO for the high band
- Increase capacity without adding antennas
- Cosite current, and next-generation basestation technologies on the same antenna

07/11/2017

MultiPort Series

SPECIFICATIONS

OctoPort Multi-Band Antenna

OPA65R-W4B

Electrical

Ports	8 x High Band Ports for 1710-2180 MHz		
Frequency Range	1710-1880 MHz	1850-1990 MHz	1920-2180 MHz
Gain Peak[1]	17.8 dBi	17.9 dBi	18.0 dBi
Gain Average[2]	17.1 dBi	17.4 dBi	17.4 dBi
Azimuth Beamwidth (-3dB)	65°	65°	66°
Elevation Beamwidth (-3dB)	7.1°	6.5°	6.2°
Electrical Downtilt	0° to 10°	0° to 10°	0° to 10°
Elevation Sidelobes (1st Upper)	< -18 dB	< -18 dB	< -18 dB
Front-to-Back Ratio @180°	> 30 dB	> 30 dB	> 30 dB
Cross-Polar Discrimination (at Peak)	> 21 dB	> 21 dB	> 21 dB
Cross-Polar Discrimination (at Sector)[2]	14 dB	10 dB	8.5 dB
Cross-Polar Port-to-Port Isolation	> 25 dB	> 25 dB	> 25 dB
Voltage Standing Wave Ratio (VSWR)	< 1.5:1	< 1.5:1	< 1.5:1
Passive Intermodulation (2x20W)	≤ -150 dBc	≤ -150 dBc	≤ -150 dBc
Input Power Continuous Wave (CW)	300 watts	300 watts	300 watts
Polarization	Dual Pol 45°	Dual Pol 45°	Dual Pol 45°
Input Impedance	50 ohms	50 ohms	50 ohms
Lightning Protection	DC Ground	DC Ground	DC Ground

[1]Peak gain across sub-bands.
[2]Electrical specifications follow document "Recommendation on Base Station Antenna Standards" (BASTA) V9.6.

Mechanical

Dimensions (LxWxD)	51.4x23.1x6.3 in (1307x587x161 mm)
Survival Wind Speed	> 150 mph (> 241 kph)
Front Wind Load	254 lbs (1128 N) @ 100 mph (161 kph)
Side Wind Load	83 lbs (370 N) @ 100 mph (161 kph)
Equivalent Flat Plate Area	9.9 ft^2 (0.9 m^2)
Weight*	50.7 lbs (23.0 kg)
RET System Weight	3.3 lbs (1.5 kg)
Connector	8 x 4.3-10 female
Mounting Pole	2 to 5 in (5 to 12 cm)

** Weight excludes mounting and RET*

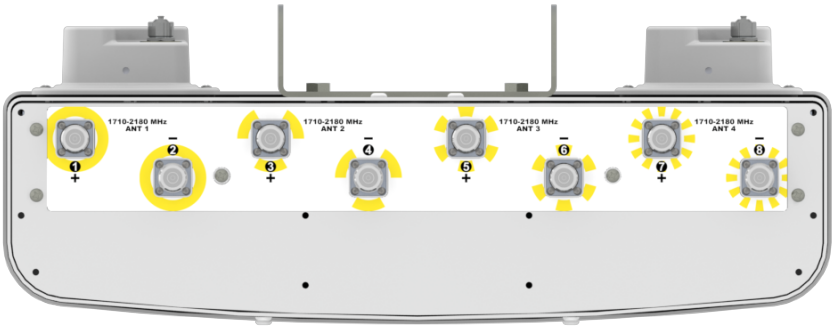
SPECIFICATIONS

OctoPort Multi-Band Antenna

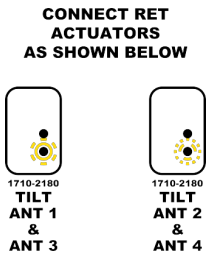
OPA65R-W4B

Mechanical

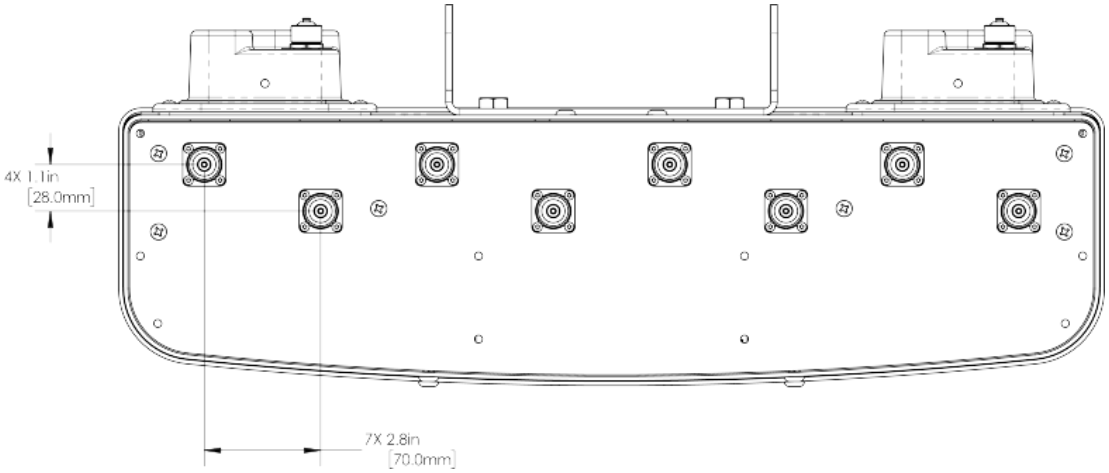
Bottom View



RET Connection Diagram

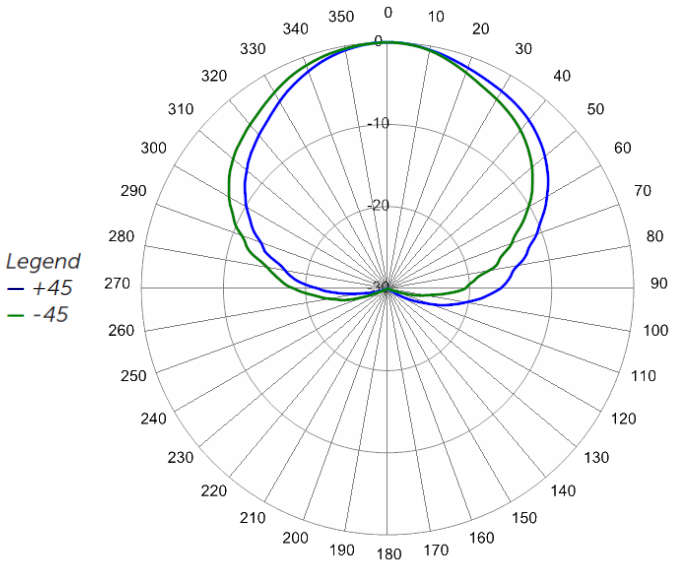


Connector Spacing

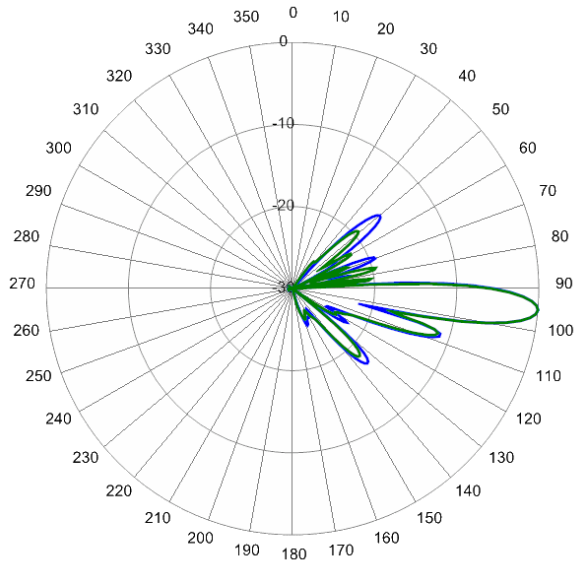


Typical Antenna Patterns

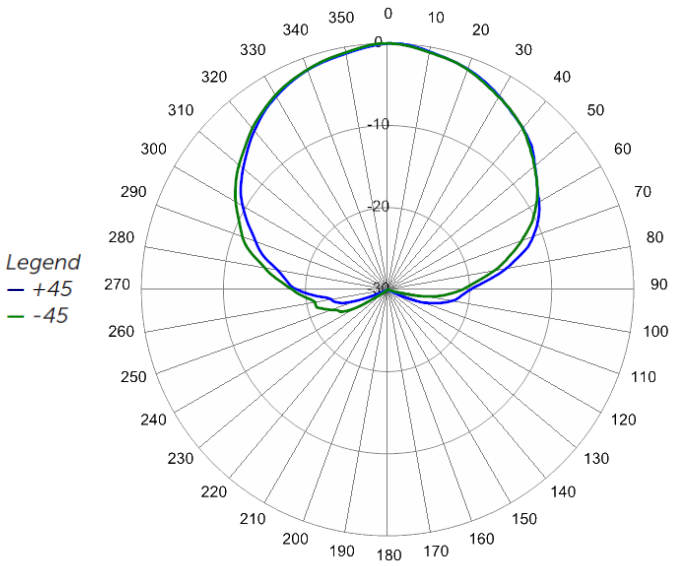
For detailed information on additional antenna patterns, contact customer support at support@cciproducts.com



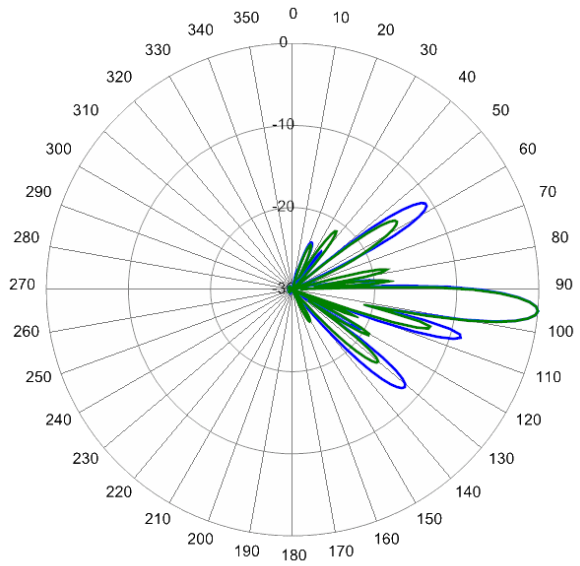
1710 MHz Azimuth



1710 MHz Elevation 5°



1920 MHz Azimuth



1920 MHz Elevation 5°

ORDERING

OctoPort Multi-Band Antenna

OPA65R-W4B

Parts & Accessories

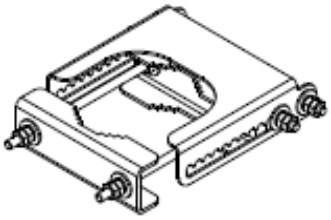
OPA65R-W4BA-K	Four foot (1.3 m) OctoPort Antenna with 65° azimuth beamwidth, 4.3-10 connectors, 2 factory installed BSA-RET200 RET actuators and MBK-02 mounting bracket
MBK-02	Mounting bracket kit (top and bottom) with 0° to 10° mechanical tilt adjustment
BSA-RET200	Remote electrical tilt actuator
QPA-CBK-AG-RRU	OctoPort antenna with 2 RET's to RRU AISG cable kit
CBK-RA-AG-RRU-001	OctoPort antenna with 2 RET's to RRU AISG right angle cable kit

Mounting Bracket Kit

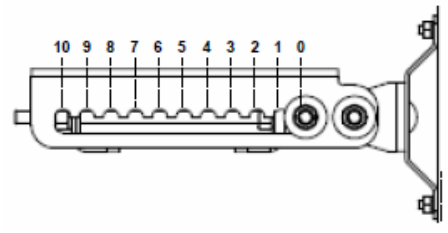
MBK-02

Mechanical

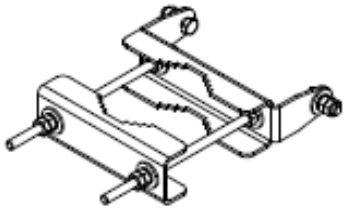
Weight	9.8 lbs (4.4 kg)
Hinge Pitch	31.5 in (800 mm)
Mounting Pole Dimension	2 to 5 in (5 to 12 cm)
Fastener Size	M10
Installation Torque	15 ft·lbs (20 N·m)
Mechanical Tilt Adjustment	0° - 10°



MBK-02 Top Adjustable Bracket



MBK-02 Top Adjustable Bracket Side View



MBK-02 Bottom Fixed Bracket

MultiPort Series

Remote Electrical Tilt Actuator (RET)

BSA-RET200

General Specifications

Part Number	BSA-RET200
Protocols	AISG 2.0
RET Type	Type 1
Adjustment Cycles	>10,000 cycles
Tilt Accuracy	±0.1°
Temperature Range	-40° C to 70° C

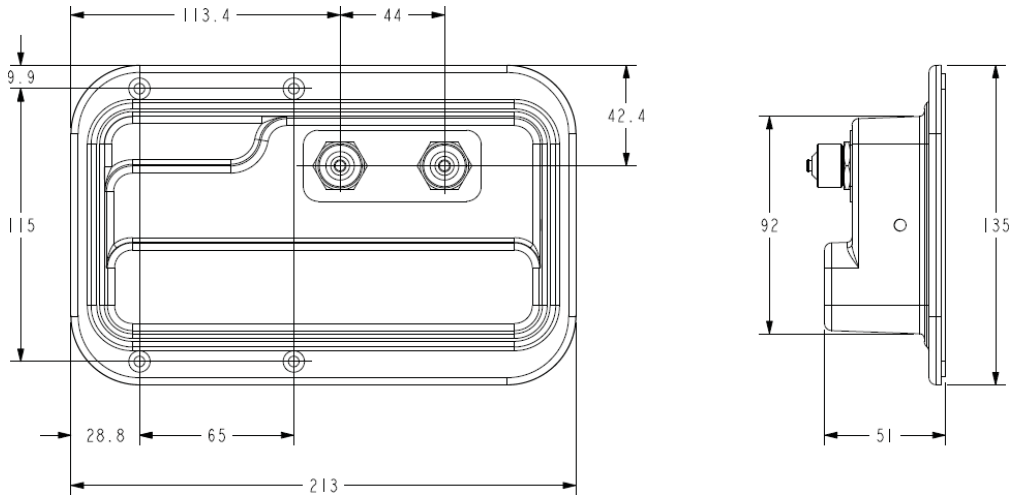
Electrical

Data Interface Signal	DC
Input Voltage	10-30 Vdc
Current Consumption Tilt	120 mA at V_{in}=24
Current Consumption Idle	55 mA at V_{in}=24
Hardware Interface	AISG-RS 485 A/B
Input Connector	Male 1 x 8 pin Daisy Chain
Output Connector	Female 1 x 8 pin Daisy Chain

Mechanical

Dimensions (LxWxD)	8.0x5.0x2.0 in. (213x135x51 mm)
Housing	ASA/ABS/Aluminum
Weight	1.7 lbs (0.75 kg)

ASA= Acrylic Styrene Acrylonitrile
ABS=Acrylanitrile Butadiene Styrene



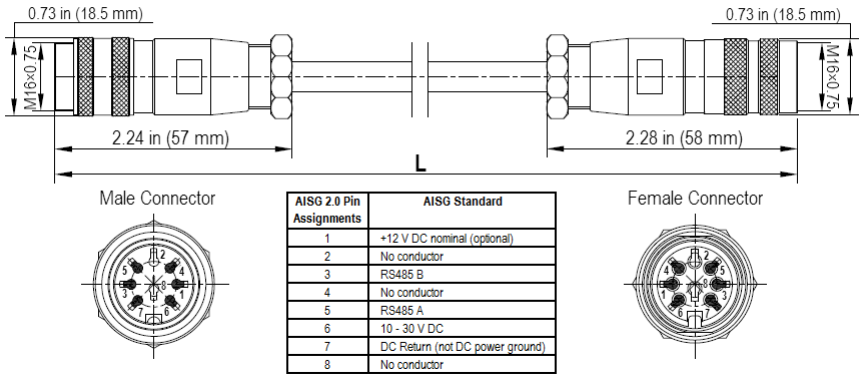
Quad Port AISG Cable Kit

QPA-CBK-AG-RRU

Electrical/Mechanical/Environmental Specifications

	RET to RET Cables	RRU to Antenna Cables
Individual Cable Part Number	AISGC-M-F-18	AISGC-M-F-10FT
Cable style	UL2464	
Protocol	AISG 1.1 and AISG 2.0	
Maximum voltage	300 V	
Rated current	5 A at 104° F (40° C)	
Temperature Range	-40° to 80° C	
Flammability	UL 1581 VW-1	
Ingress Protection	IEC 60529:2001, IP67	
Tightening torque	Hand tighten only ≈ 1.84 ft-lbs (2.5 N·m)	
Construction	Shielded (Tinned Copper Braid)	
Braid coverage	85%	
Jacket Material	Matte Polyurethane (Black)	
Conductors	1 twisted pair - 24 AWG 3 conductors - 19 AWG AWM style 2464	
Cable Diameter	0.307 in (7.8 mm)	
Minimum bend radius	3.9 in (100 mm)	
Connectors	2 x 8 pin IEC 60130-9 Straight male/straight female	
Length	18-20 in (457-508)	120 in (3048 mm)
Weight	0.27 lbs (0.12 kg)	0.69 lbs (0.31 kg)
Cables per kit	1	2

Mechanical Specifications



AISG 2.0 Pin Assignments	AISG Standard
1	+12 V DC nominal (optional)
2	No conductor
3	RS485 B
4	No conductor
5	RS485 A
6	10 - 30 V DC
7	DC Return (not DC power ground)
8	No conductor

AISG-Male to AISG-Female Jumper Cable

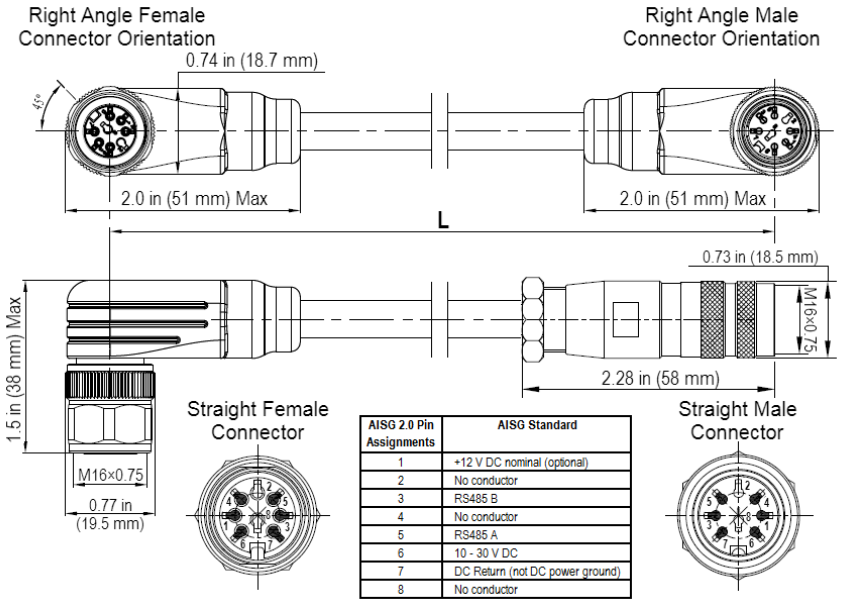
AISG Cable Kit

CBK-RA-AG-RRU-001

Electrical/Mechanical/Environmental Specifications

	RET to RET Cables	RRU to Antenna Cables
Individual Cable Part Number	AISGC-MRA-FRA-27	AISGC-M-FRA-10FT
Cable style	UL2464	
Protocol	AISG 1.1 and AISG 2.0	
Maximum voltage	300 V	
Rated current	5 A at 104° F (40° C)	
Temperature Range	-40° to 80° C	
Flammability	UL 1581 VW-1	
Ingress Protection	IEC 60529:2001, IP67	
Tightening torque	Hand tighten only ≈ 1.84 ft-lbs (2.5 N·m)	
Construction	Shielded (Tinned Copper Braid)	
Braid coverage	85%	
Jacket Material	Matte Polyurethane (Black)	
Conductors	1 twisted pair - 24 AWG 3 conductors - 19 AWG AWM style 2464	
Cable Diameter	0.307 in (7.8 mm)	
Minimum bend radius	3.9 in (100 mm)	
Connectors	2 x 8 pin IEC 60130-9 Right angle male/right angle female	2 x 8 pin IEC 60130-9 Straight male/right angle female
Length	27 in (686 mm)	120 in (3048 mm)
Weight	0.20 lbs (0.09 kg)	0.77 lbs (0.35 kg)
Cables per kit	1	2

Mechanical Specifications



Right Angle to Right Angle and Right Angle to Straight Jumper Cable

Standards & Compliance

Safety	EN 60950-1, UL 60950-1
Emission	EN 55022
Immunity	EN 55024
Environmental	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