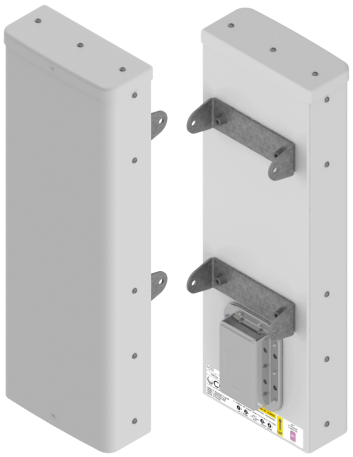
Antennas

MultiPort Series

DATA SHEET

Quad Port High-Band Antenna

QPA65R-H2A



- Two foot (0.75 m), WideBand, four port antenna with a 65° azimuth beamwidth covering 3300-4200 MHz frequencies
- Four wide high band ports covering 3300-4200 MHz, with full spectrum compliance
- Narrow enclosure with 10.1" (256 mm) width, reducing tower loading issues
- The Low weight and Low profile of this 65° panel antenna, makes this an ideal solution for Fixed Wireless Access (FWA) and Small Cell/C-RAN Densification deployments
- LTE Optimized FBR and SPR performance, providing for an efficient use of valuable radio capacity
- LTE Optimized Boresight and Sector XPD and USL performance, essential for LTE Performance
- Equipped with 1 field replaceable, integrated AISG 2.0 compliant Remote Electrical Tilt (RET) controller
- Equipped with 4.3-10 connector

Overview

The CCI WideBand Antenna is a four port antenna, with four wide High Band ports covering 3300-4200 MHz. The CCI WideBand Antenna provides the capability to deploy 4x4 Multiple-Input Multiple-Output (MIMO). The CCI WideBand antenna single RET configuration tilts all four ports together, allowing for electrical downtilt uniformity across all four ports.

CCI antennas are designed and produced to ISO 9001:2008 certification standards for reliability and quality in our state-of-the-art manufacturing facilities.

Applications

- Ideal for FWA deployments or other deployments where 4x4 MIMO is required in 3.5 GHz spectrum
- Ready for Network Standardization on 4.3-10 connectors
- With CCI's WideBand Antennas, wireless providers can connect platforms to a single antenna, reducing tower load, lease expense, deployment time and installation costs

SPECIFICATIONS

Quad Port High-Band Antenna

QPA65R-H2A

Electrical

Specifications	4 x High Band Ports for 3300-4200 MHz	
Frequency Range	3300-3800 MHz	3700-4200 MHz
Gain	17.6 dBi	17.6 dBi
Azimuth Beamwidth (-3dB)	62°	59°
Elevation Beamwidth (-3dB)	6.8°	6.3°
Electrical Downtilt	0° to 10°	0° to 10°
Elevation Sidelobes (1st Upper)	< -19 dB	< -16 dB
Front-to-Back Ratio @180°	> 35 dB	> 35 dB
Cross-Polar Discrimination (at Peak)	> 20 dB	> 19 dB
Cross-Polar Port-to-Port Isolation	> 25 dB	> 25 dB
Voltage Standing Wave Ratio(VSWR)	< 1.5:1	< 1.5:1
Passive Intermodulation (2x20W)	≤ -140 dBc	≤ -140 dBc
Input Power Continuous Wave (CW)	100 watts	100 watts
Polarization	Dual Pol 45°	Dual Pol 45°
Input Impedance	50 ohms	50 ohms
Lightning Protection	DC Ground	DC Ground

BASTA Electrical Specifications*		
Frequency Range	3300-3800 MHz	3700-4200 MHz
Gain (dBi)	16.6	16.6
Gain over all Tilts Tolerance (dB)	0.6	0.6
Gain at Low-Tilt (dBi)	16.7	16.6
Gain at Mid-Tilt (dBi)	16.9	16.9
Gain at High-Tilt (dBi)	16.3	16.3
Azimuth Beamwidth Tolerance (°)	4.4	6.0
Elevation Beamwidth Tolerance (°)	0.7	0.5
Electrical Downtilt Deviation (°)	0.6	0.6
First Upper Sidelobes Suppression (dB)	13.0	13.4
Upper Sidelobe Suppression Peak to 20° (dB)	13.0	14.6
Front-to-Back Ratio over ±20° (dB)	28.2	25.8
Cross-polar Discrimination at 3 dB (dB)	5.1	5.1

** Electrical specifications follow document "Recommendation on Base Station Antenna Standards" (BASTA) V11.1.*
All specifications are subject to change without notice.

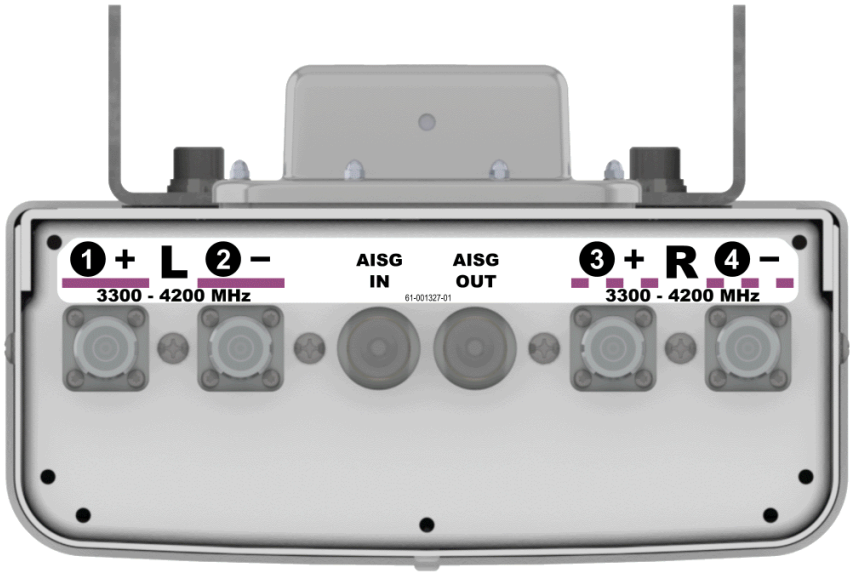
Mechanical

Dimensions (LxWxD)	29.5x10.1x4.3 in (750x256x108 mm)
Survival Wind Speed	> 150 mph (> 241 kph)
Front Wind Load	65 lbs (287 N) @ 100 mph (161 kph)
Side Wind Load	31 lbs (139 N) @ 100 mph (161 kph)
Equivalent Flat Plate Area	2.5 ft^2 (0.2 m^2)
Weight *	15.4 lbs (7.0 kg)
Connector	4 x 4.3-10 female
Mounting Pole	2 to 5 in (5 to 12 cm)

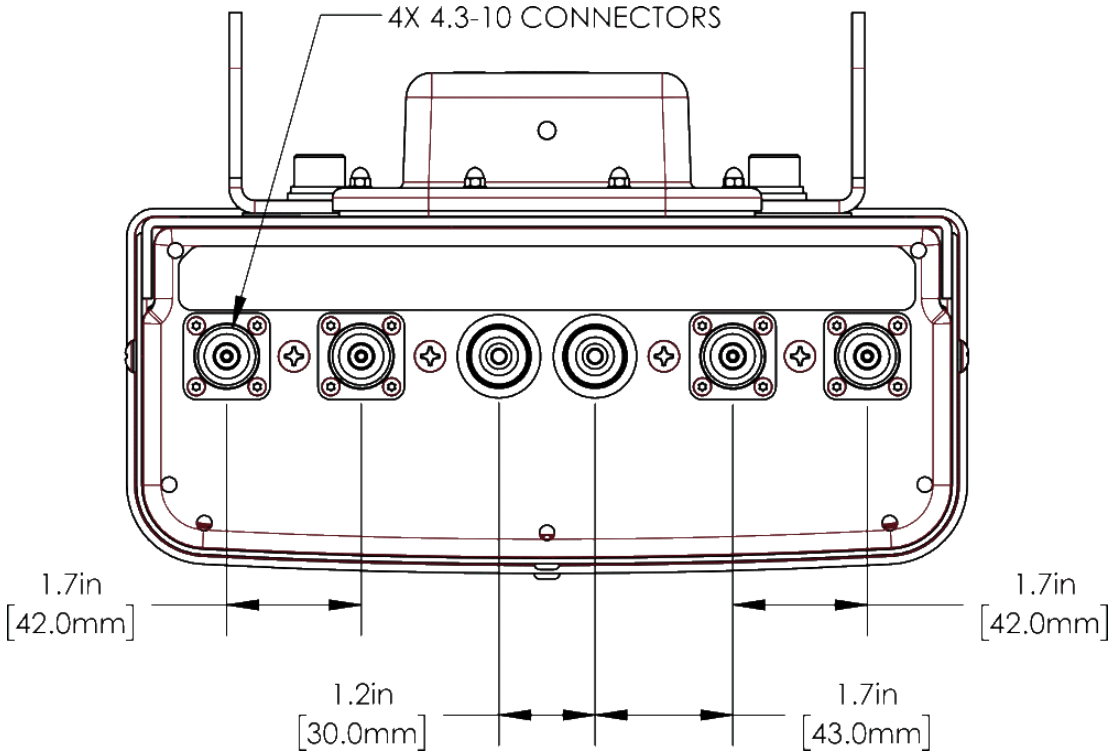
** Weight excludes mounting*

Mechanical

Bottom View



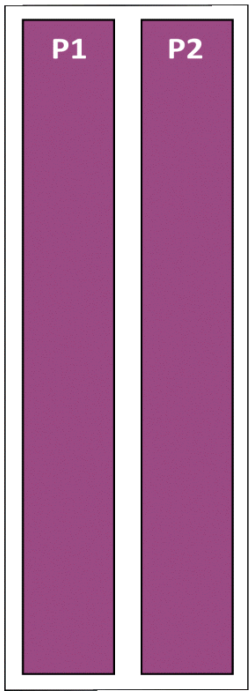
Connector Spacing



Mechanical

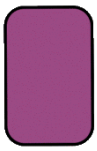
RET to Element Configuration

Element arrays as viewed from rear of antenna



RET placement as viewed from rear of antenna

Top of antenna

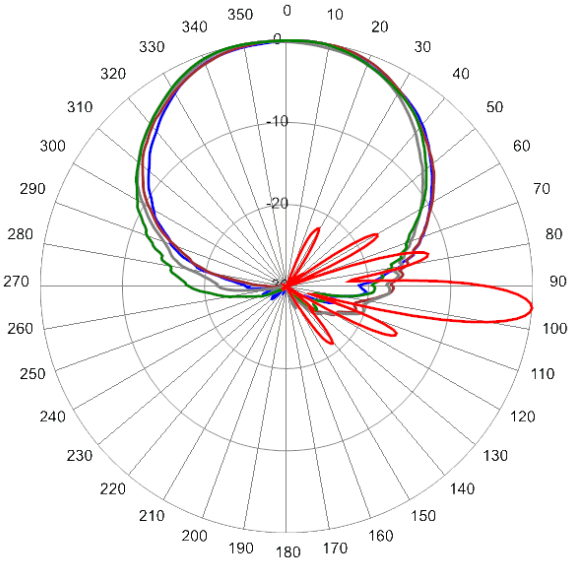


MM.1

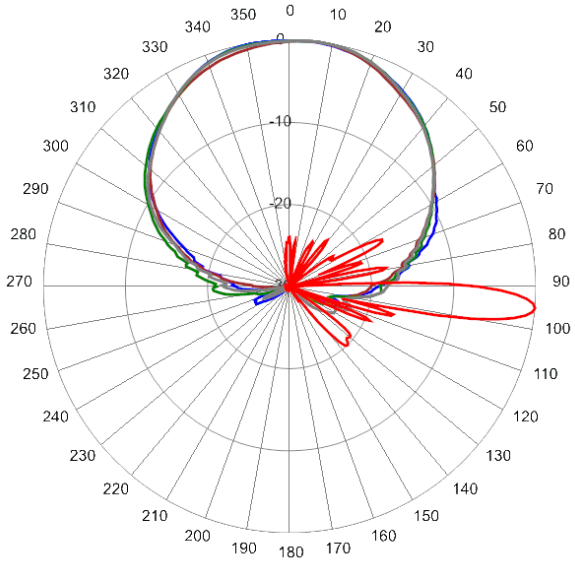
Array	Ports	Freq (MHz)	Ports controlled by common RET	AISG RET UID
P1	1, 2	3300-4200	1, 2, 3, 4	ClxxxxxxMM.1
P2	3, 4	3300-4200		

Typical Antenna Patterns

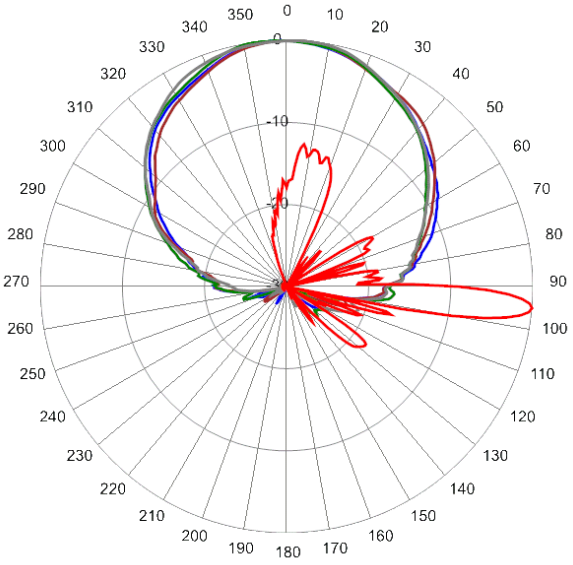
For detailed information on additional antenna patterns, contact customer support at support@cciproducts.com



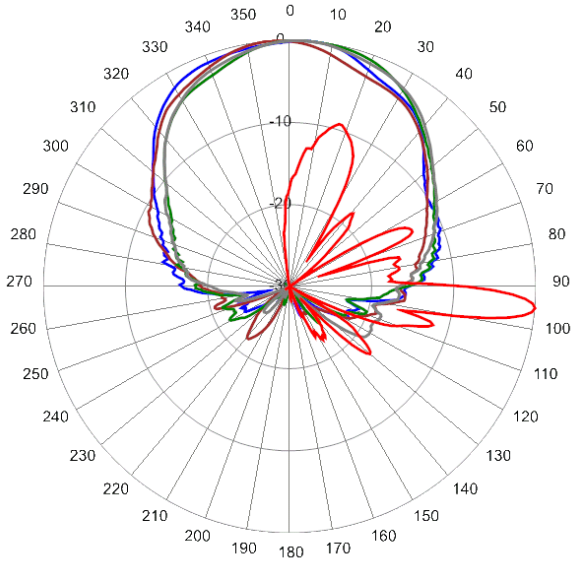
3300 MHz Azimuth & Elevation 5°



3600 MHz Azimuth & Elevation 5°



3900 MHz Azimuth & Elevation 5°



4100 MHz Azimuth & Elevation 5°

Parts & Accessories

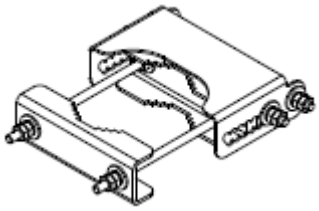
QPA65R-H2AA-K	Two foot (0.75 m) QuadPort antenna with 65° azimuth beamwidth, 4.3-10 female connectors, 1 factory installed BSA-RET400 RET actuator (Type 17 Internal) and MBK-03 mounting brackets
MBK-03	Mounting bracket kit (top and bottom) with 0° to 10° mechanical tilt adjustment
BSA-RET400	Remote electrical tilt actuator
AISGC-M-F-xFT	RRU AISG cable for single RET antenna

Mounting Bracket Kit

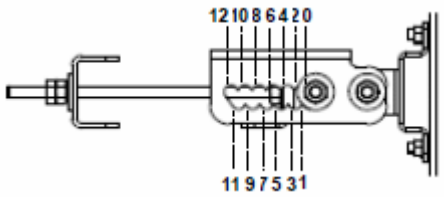
MBK-03

Mechanical

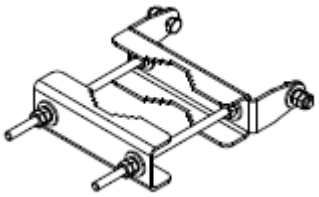
Weight	9.8 lbs (4.4 kg)
Hinge Pitch	13 in (330 mm)
Mounting Pole Dimension	2 to 5 in (5 to 12 cm)
Fastener Size	M10
Installation Torque	15 ft·lbs (20 N·m)
Mechanical Tilt Adjustment	0° - 12°



MBK-03 Top Adjustable Bracket



MBK-03 Top Adjustable Bracket Side View



MBK-03 Bottom Fixed Bracket

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

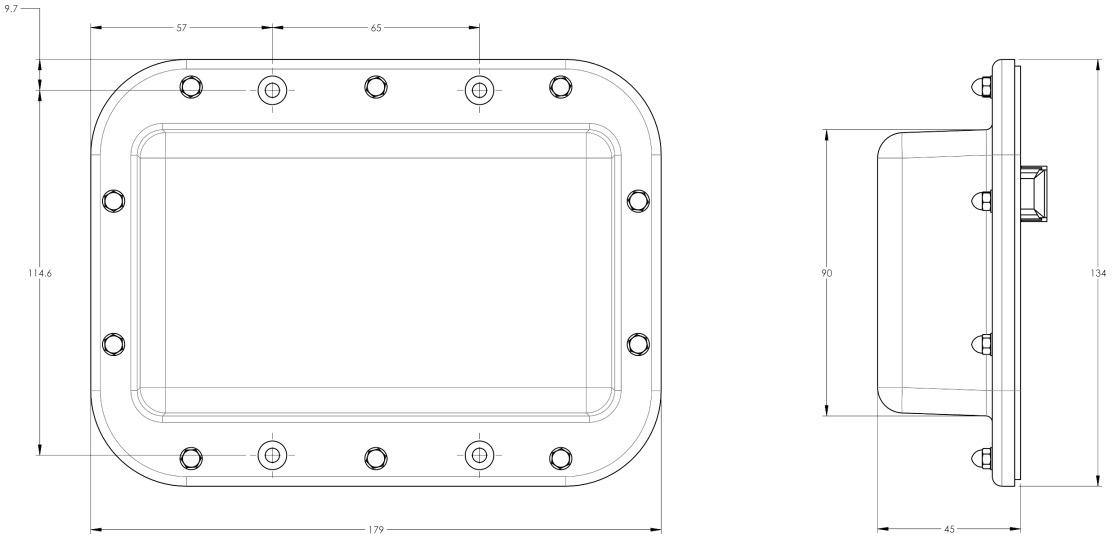
Data Interface Signal	DC
Input Voltage	10-30 Vdc
Current Consumption Tilt	100 mA at V_{in}=24 (500 mA MAX)
Current Consumption Idle	10 mA at V_{in}=24

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=Acrylanitrile Butadiene Styrene



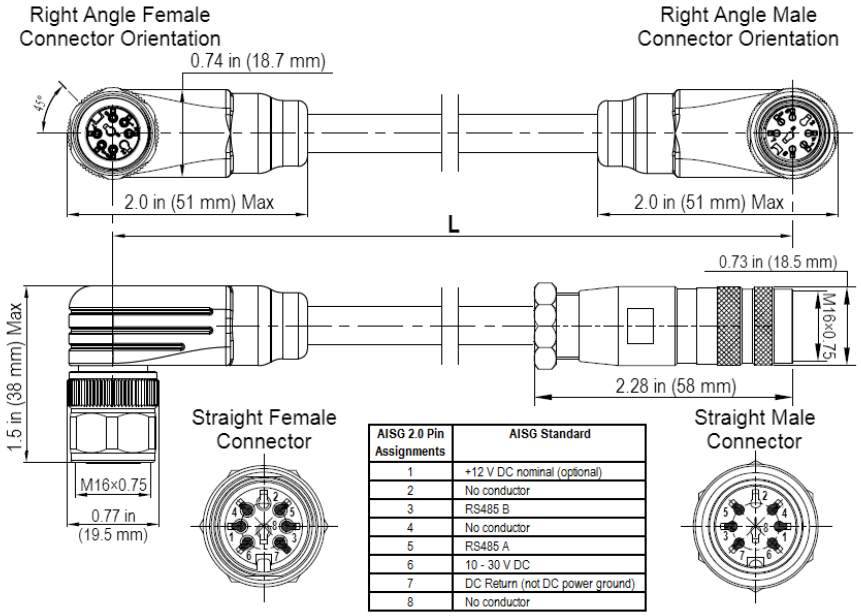
AISG Cable

Electrical Specifications

Individual Cable Part Number	AISGC-M-F-x(FT)
Cable style	UL2464
Protocol	AISG 1.1 and AISG 2.0
Maximum voltage	300 V
Rated current	5 A at 104° F (40° C)

Mechanical Specifications

Individual Cable Part Number	AISGC-M-F-x(FT)
Cables per kit	1
Connectors	2 x 8 pin IEC 60130-9 Straight male/straight female
Tightening torque	Hand tighten only ≈ 1.84 ft-lbs (2.5 Nm)
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)
Length	See order details
Minimum bend radius	3.15 in (80 mm)



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

Environmental Specifications

Individual Cable Part Number	AISGC-M-F-xFT
Temperature Range	-40° to 80° C
Flammability	UL 1581 VW-1
Ingress Protection	IEC 60529:2001, IP67

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