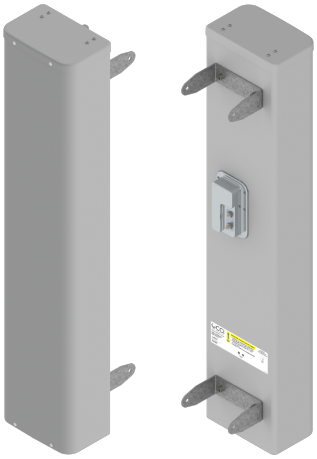
Antennas

MultiPort Series

DATA SHEET

LowBand Antenna

2PA65R-K5A



- Five foot (1.5 m), two port antenna with a 65° azimuth beamwidth covering 698-960 MHz frequencies
- Array Optimized B20 Gain for superior performance
- Gain Variance is minimized over a wide tilt range, for consistent performance over any tilt setting
- Two wide low band ports covering 698-960 MHz in a single antenna
- Full Spectrum Compliance 698-960 MHz
- 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
- Exceeds minimum PIM performance requirements

Overview

The CCI antenna is a two port antenna, with two wide low band ports covering 698-960 MHz. The CCI antenna provides the capability to deploy 2x2 Multiple-input Multiple-output in the low band.

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

Applications

- 2x2 MIMO for the low band
- Ready for Network Standardization on 4.3-10 connectors
- With CCI's antennas, wireless providers can connect multiple platforms to a single antenna, reducing tower load, lease expense, deployment time and installation costs

SPECIFICATIONS

LowBand Antenna

2PA65R-K5A

Electrical

Ports	2 x Low Band Ports for 698-960 MHz			
Frequency Range	698-806 MHz	791-832 MHz	832-862 MHz	862-960 MHz
Gain	14.8 dBi	14.7 dBi	14.9 dBi	15.1 dBi
Azimuth Beamwidth (-3dB)	64°	68°	68°	59°
Elevation Beamwidth (-3dB)	14.3°	13.5°	12.8°	12.2°
Electrical Downtilt	0° to 12°	0° to 12°	0° to 12°	0° to 12°
Elevation Sidelobes (1st Upper)	<-17 dB	<-19 dB	<-18 dB	<-19 dB
Front-to-Back Ratio @180°	> 30 dB	> 35 dB	> 35 dB	> 35 dB
Cross-Polar Discrimination at Peak	> 25 dB	> 25 dB	> 25 dB	> 25 dB
Cross-Polar Port-to-Port Isolation	> 27 dB	> 27 dB	> 27 dB	> 27 dB
Voltage Standing Wave Ratio (VSWR)	< 1.5:1	< 1.5:1	< 1.5:1	< 1.5:1
Passive Intermodulation (2x20W)	≤ -153 dBc	≤ -153 dBc	≤ -153 dBc	≤ -153 dBc
Input Power Continuous Wave (CW)	500 watts	500 watts	500 watts	500 watts
Polarization	Dual Linear 45°	Dual Linear 45°	Dual Linear 45°	Dual Linear 45°
Input Impedance	50 ohms	50 ohms	50 ohms	50 ohms
Lightning Protection	DC Ground	DC Ground	DC Ground	DC Ground

BASTA Electrical Specifications*				
Frequency Range	698-806 MHz	791-832 MHz	832-862 MHz	862-960 MHz
Gain over all Tilts (dBi)	14.4	14.5	14.6	14.9
Gain over all Tilts Tolerance (dB)	0.4	0.2	0.3	0.2
Gain at Low-Tilt (dBi)	14.5	14.6	14.8	15.0
Gain at Mid-Tilt (dBi)	14.3	14.4	14.5	14.8
Gain at High-Tilt (dBi)	14.5	14.5	14.6	15.0
Azimuth Beamwidth Tolerance (°)	2.5	2.4	2.2	4.1
Elevation Beamwidth Tolerance (°)	0.8	0.6	0.5	0.6
Electrical Downtilt Deviation (°)	1.0	1.1	0.9	1.0
First Upper Sidelobe Suppression (dB)	15.1	17.5	16.3	16.2
Upper Sidelobe Suppression Peak to 20° (dB)	16.9	17.7	16.3	16.3
Front-to-Back Ratio over ±20° (dB)	20.7	24.3	26.3	24.6
Cross-polar Discrimination at ±60° (dB)	8.0	7.5	8.4	7.9

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

Mechanical

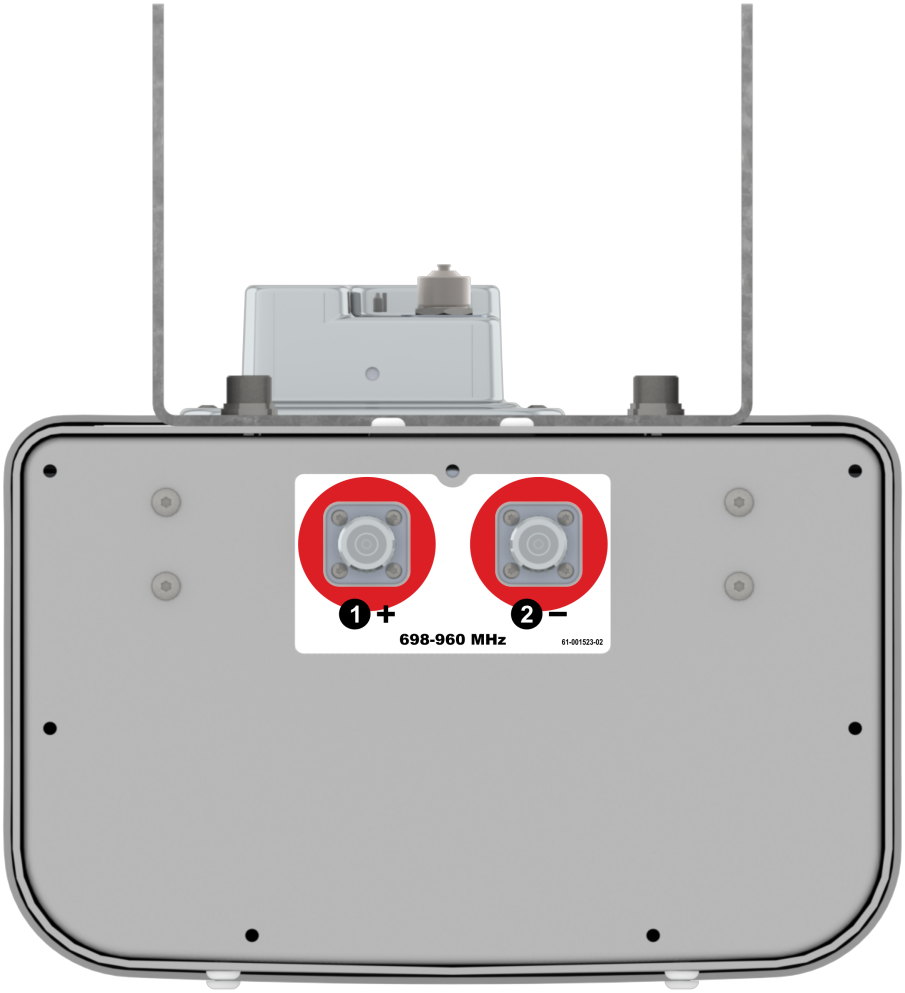
Dimensions (LxWxD)	59.0x12.1x7.7 in (1500x307x196 mm)
Survival Wind Speed	> 150 mph (> 241 kph)
Front Wind Load[1]	89 lbf @ 100 mph 395 N @ 161 kph
Side Wind Load[1]	66 lbf @ 100 mph 292 N @ 161 kph
Effective Projective Area (EPA), Front[1]	5.1 ft^2 (0.5 m^2)
Weight*	28.4 lbs (12.9 kg)
RF Connector	2 x 4.3-10 female
Mounting Pole	3 to 6 in (76 to 152 mm)

[1]Windload values calculated using EN 1991-1-4:2010 standard
** Weight excludes mounting*

Mechanical

Bottom View

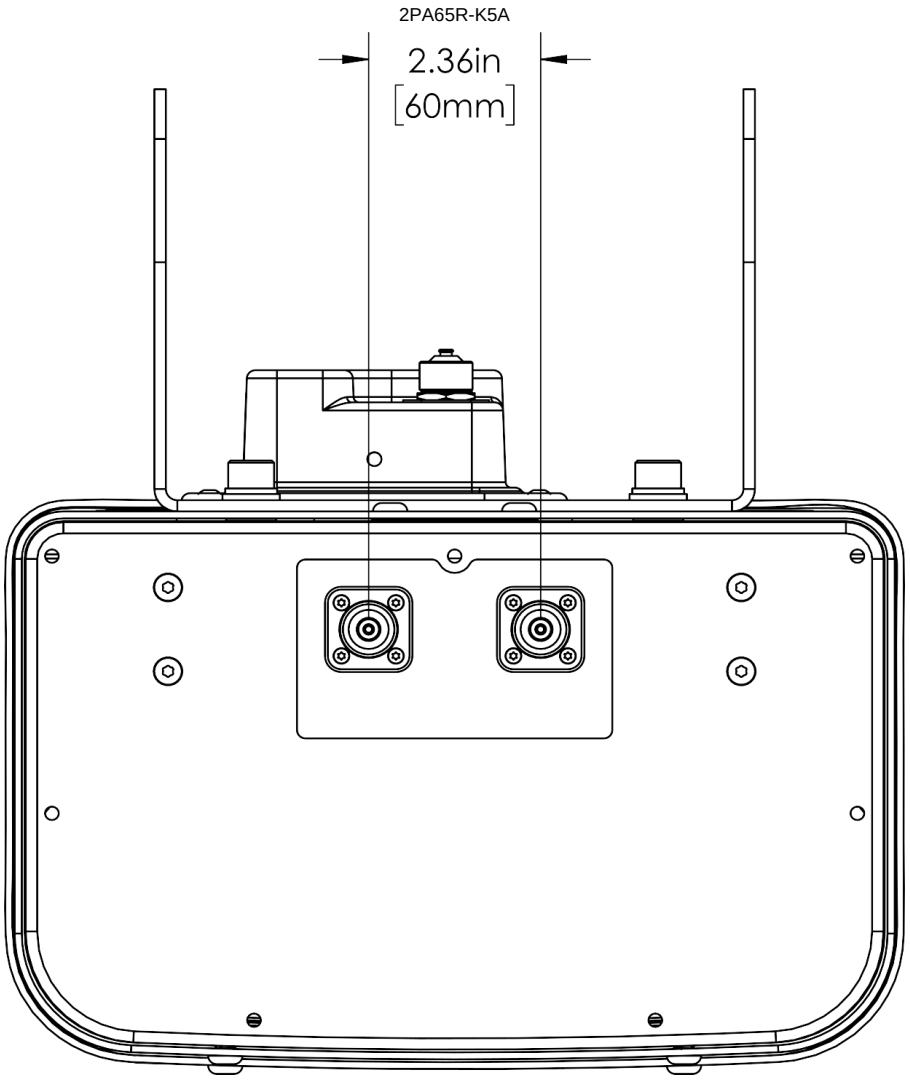
2PA65R-K5A



SPECIFICATIONS

Mechanical

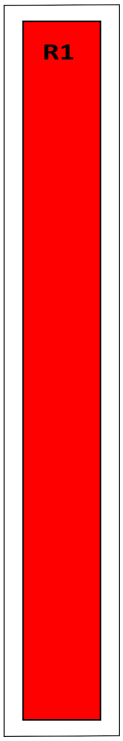
Connection Spacing Diagram



RET to Element Configuration

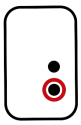
2PA65R-K5AA Element and RET configuration

Element arrays as viewed from rear of antenna



RET placement as viewed from rear of antenna

Top of antenna

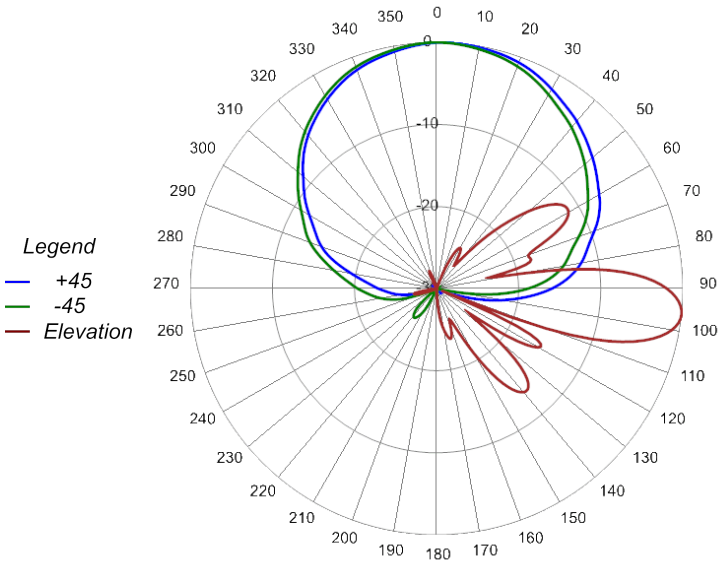


698-896
Ports 1 & 2
(R1)

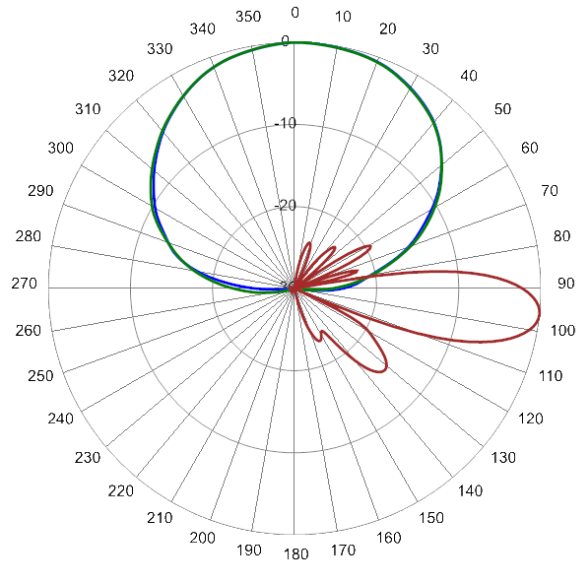
Array	Ports	Freq (MHz)	Ports controlled by common RET	AISG RET UID
R1	1, 2	698-960	1, 2	CIxxxxxxMM.1

Typical Antenna Patterns

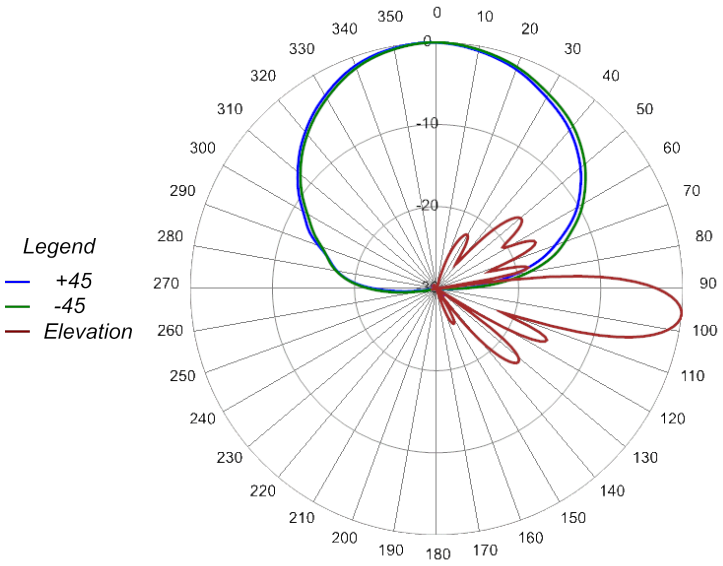
For detailed information on additional antenna patterns, contact customer support at support@cciproducts.com



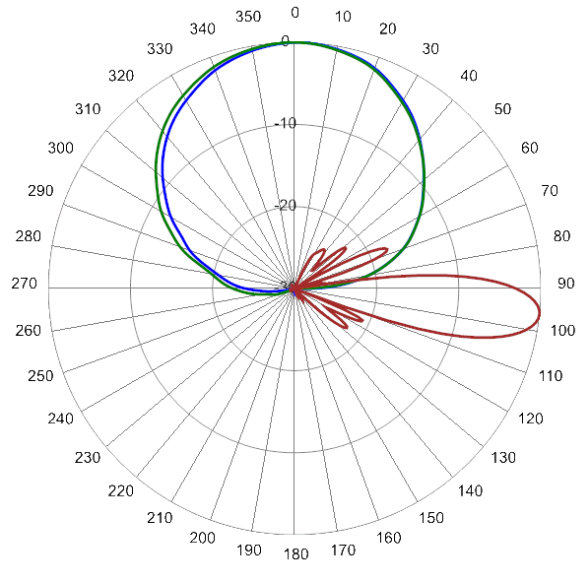
710 MHz Azimuth with Elevation 6°



806 MHz Azimuth with Elevation 6°



880 MHz Azimuth with Elevation 6°



945 MHz Azimuth with Elevation 6°

Parts & Accessories

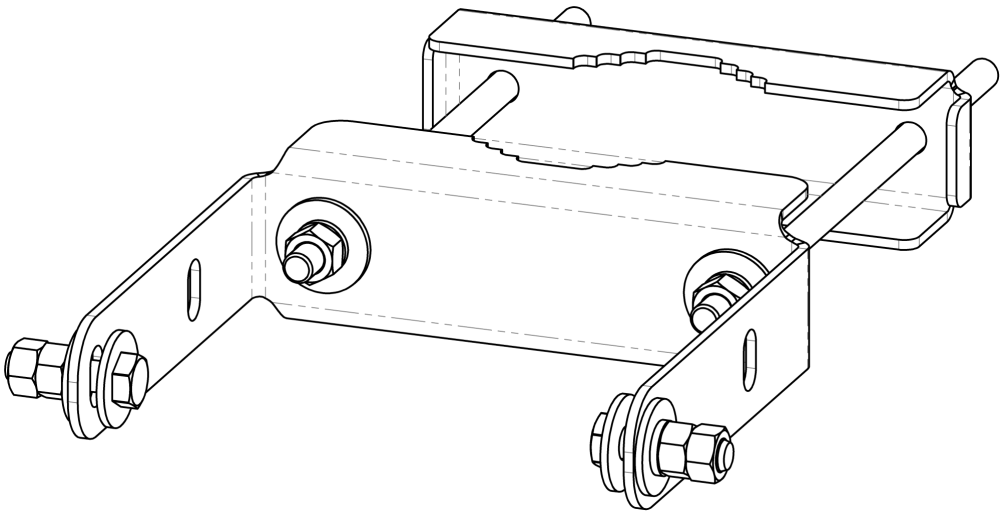
2PA65R-K5AA-K	Five foot (1.5 m) two port LowBand antenna with 65° azimuth beamwidth, 4.3-10 female connectors, 1 factory installed BSA-RET200 RET actuators and MBK-32 mounting bracket
MBK-32	Mounting Kit with either 0 or 5 degrees of mechanical tilt
BSA-RET200	Type 1 External remote electrical tilt actuator

Mounting Bracket Kit

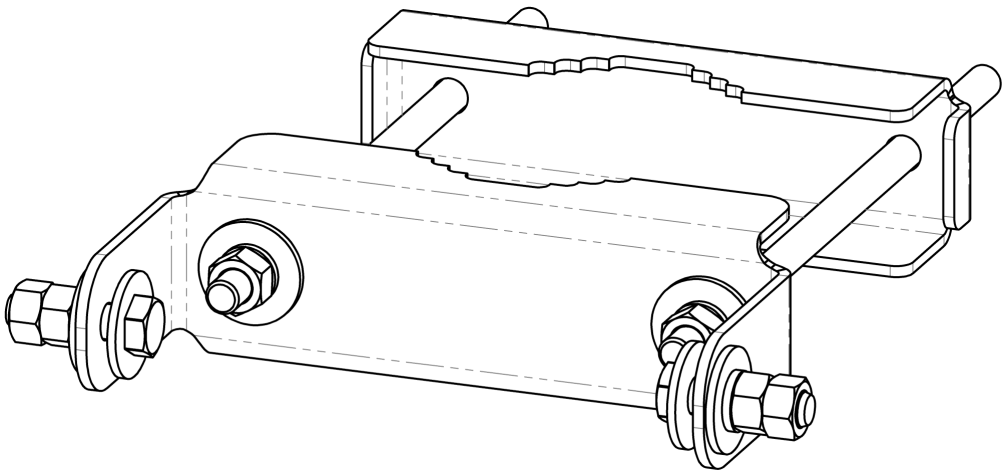
MBK-32

Mechanical

Weight	6.0 kg (13.2 lbs)
Hinge Pitch	1200 mm (37.25 in)
Mounting Pole Dimension	76 to 152 mm (3 to 6 in) (OD by measurement)
Fastener Size	M12
Installation Torque	54 N·m (40 ft·lbs)
Mechanical Tilt	0°, 5°



MBK-32 Tilt Bracket



MBK-32 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

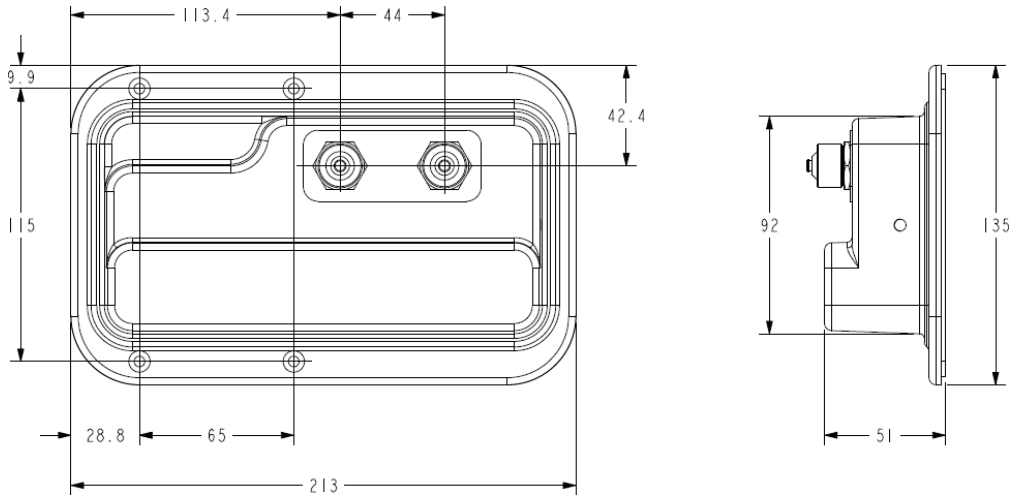
Electrical

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=Acrylonitrile Butadiene Styrene



STANDARDS & CERTIFICATIONS

Standards & Compliance

Safety	EN 60950-1, UL 60950-1
Emission	EN 55032
Immunity	EN 55035
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 60068-2-27:2008, 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