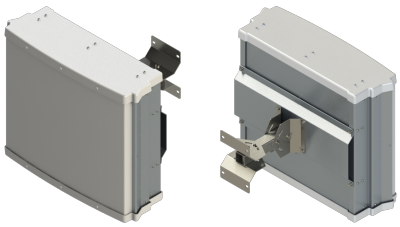
DATA SHEET

Stadium Bi-Sector™ Array

BSA-M65-15F005-22



- Two foot (0.6 m), eight port, dual beam, dual band antenna with patented asymmetrical beam shapes optimized for LTE
- Two low band and two high band 33° beams to match existing 65° patterns, covering 698-894 MHz and 1710-2170 MHz
- One pair of +45° and −45° cross-polarized ports for each beam
- Slim and low weight single panel design supporting two beams in a single antenna
- Fixed electrical downtilt of 5°
- Dramatic increase in site capacity through higher order sectorization which offsets the need to build new sites
- Boosts data throughput by minimizing interference and optimizing coverage
- Sharp elevation beamwidth aides in network planning
- Optimal elevation sidelobe performance
- Exceeds minimum PIM performance requirements

Overview

The CCI multi-band Bi-Sector™ Stadium Antenna is a dual beam phased array with full 700 MHz, SMR 800, Cellular, AWS and PCS band coverage. With two pairs of wideband ports covering 1710-2170 MHz and two pairs of low band ports covering 698-894 MHz, this compact CCI Bi-Sector™ provides the capability to deploy two wideband beams (sectors) and two low band beams (sectors) in a single antenna. This antenna features 5° of Fixed Electrical Tilt (FET).

CCI's unique patented bi-sector technology provides optimized overlap between the pairs of asymmetric beams, lowers soft handover losses in LTE, UMTS/HSPA+ and CDMA/EVDO systems, while minimizing interference between sectors. Fast roll-off of each of the outer beams and high front-to-back ratios ensure reduced interference. This patented approach enhances data transfer rates within LTE, UMTS and EVDO network sectors and addresses "hotspots" in mobile wireless operator networks.

The single panel design of the Bi-Sector™ Array offers the opportunity to reduce antenna count and directly replaces an existing 65° antenna without mount changes and avoids costly leasing and zoning changes. The enhanced coverage matches the existing sector footprint and minimizes the need for optimization and adjacent site changes, providing operators with significant CAPEX and OPEX cost savings.

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

SPECIFICATIONS

Stadium Bi-Sector™ Array

BSA-M65-15F005-22

Applications

- Delivers increased capacity and data-throughput for sites that are performance or capacity constrained
- Provides a higher level of spectrum reuse making it an ideal solution for spectrum limited markets
- Increase capacity without the need for new site builds or carrier adds and without using valuable spectrum resources
- Efficient use of spectrum make it ideally suited for spectrum clearing and refarming
- Large high capacity venues such as stadiums, special events with high traffic and Cell on Wheel (COW) deployments

SPECIFICATIONS

Stadium Bi-Sector™ Array

BSA-M65-15F005-22

Electrical

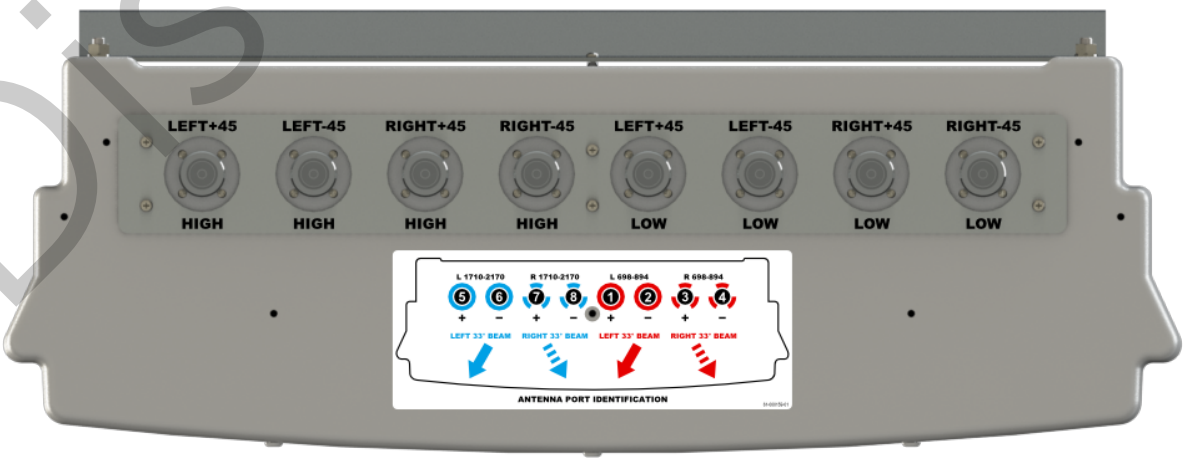
Ports	4 x Low Band Ports for 698-806 MHz		4 x High Band Ports for 1710-2170 MHz		
Frequency Range	698-806 MHz	824-894 MHz	1850-1990 MHz	1710-1755/2110-2155 MHz	
Gain	12.0 dBi	12.5 dBi	14.5 dBi	14.0 dBi	15.0 dBi
Azimuth Beamwidth (-3dB)	34° Asymmetric	30° Asymmetric	32° Asymmetric	32° Asymmetric	28° Asymmetric
Elevation Beamwidth (-3dB)	37.0°	35.0°	15.5°	17.5°	14.0°
Electrical Downtilt	5°	5°	5°	5°	5°
Elevation Sidelobes (1st Upper)	< -15 dB	< -12 dB	< -13 dB	< -12 dB	< -14 dB
Front-to-Back Ratio @180°	> 30 dB	> 30 dB	> 30 dB	> 30 dB	> 30 dB
Front-to-Back Ratio over ± 20°	> 30 dB	> 30 dB	> 30 dB	> 30 dB	> 30 dB
Cross-Polar Discrimination (at Peak)	> 19 dB	> 19 dB	> 25 dB	> 25 dB	> 20 dB
Cross-Polar Discrimination (at ± 60°)	> 16 dB	> 14 dB	> 17 dB	> 17 dB	> 17 dB
Cross-Polar Port-to-Port Isolation	> 25 dB	> 25 dB	> 25 dB	> 25 dB	> 25 dB
Voltage Standing Wave Ratio(VSWR)	< 1.5:1	< 1.5:1	< 1.5:1	< 1.5:1	< 1.5:1
Passive Intermodulation (2x20W)	≤ -150 dBc	≤ -150 dBc	≤ -150 dBc	≤ -150 dBc	≤ -150 dBc
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

Mechanical

Dimensions (LxWxD)	24.7x28.5x9.4 in (627x723x240 mm)
Survival Wind Speed	> 125 mph (> 201 kph)
Front Wind Load	150 lbs (667 N) @ 100 mph (161 kph)
Side Wind Load	50 lbs (222 N) @ 100 mph (161 kph)
Equivalent Flat Plate Area	5.9 ft² (0.5 m²)
Weight *	33.1 lbs (15.0 kg)
Connector	8 x 7-16 DIN female long neck
Mounting Pole	2 to 5 in (5 to 12 cm)
Mounting Bracket	90° rotation allows both horizontal and vertical sectorization

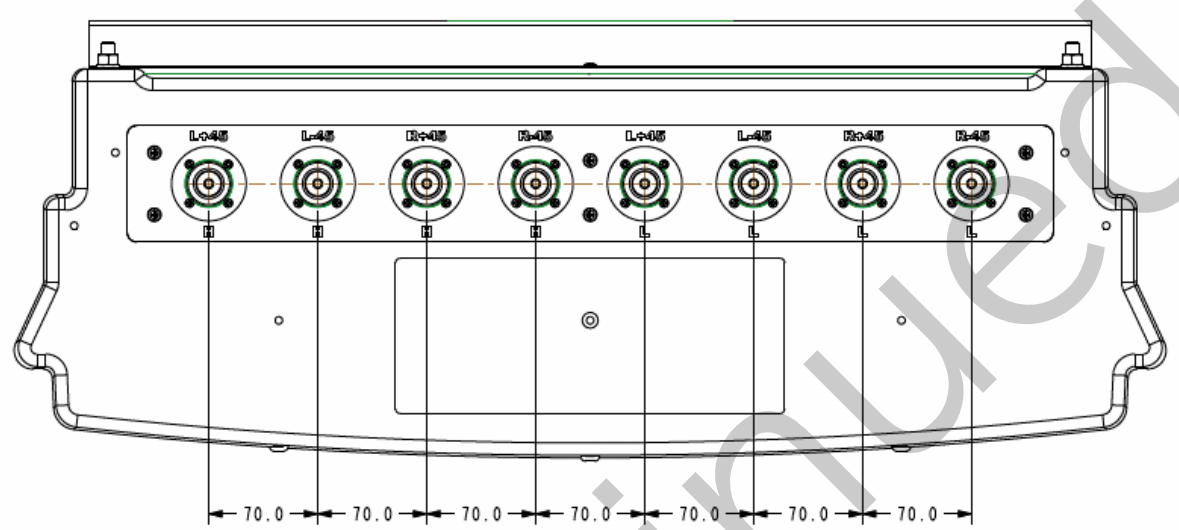
** Weight excludes mounting*

Bottom View



Mechanical

Connector Spacing



All connector spacing is 2.8 inches (70 mm) on center

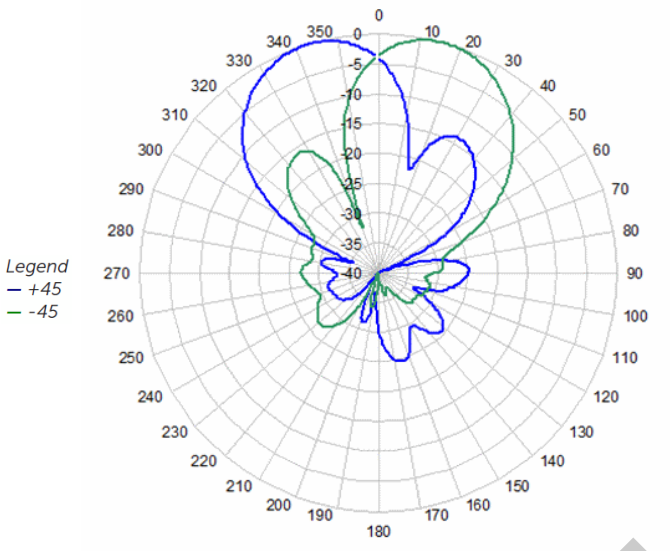
SPECIFICATIONS

Stadium Bi-Sector™ Array

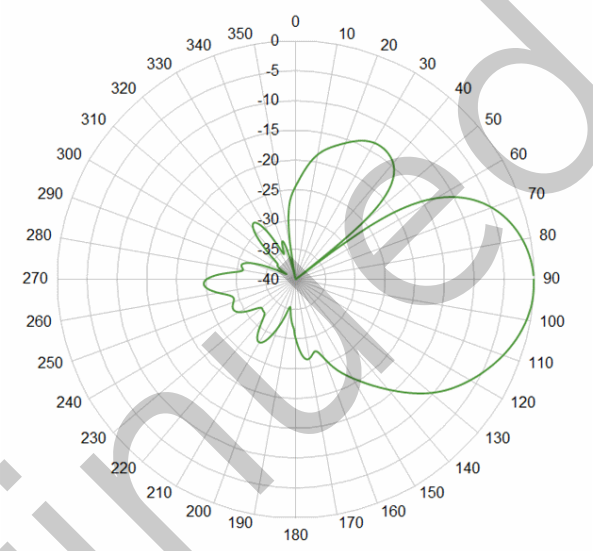
BSA-M65-15F005-22

Typical Antenna Patterns

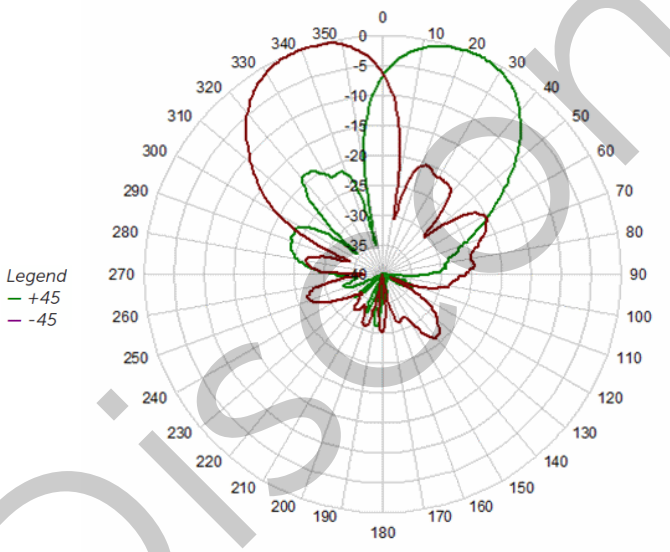
For detailed information on additional antenna patterns, contact customer support at support@cciproducts.com



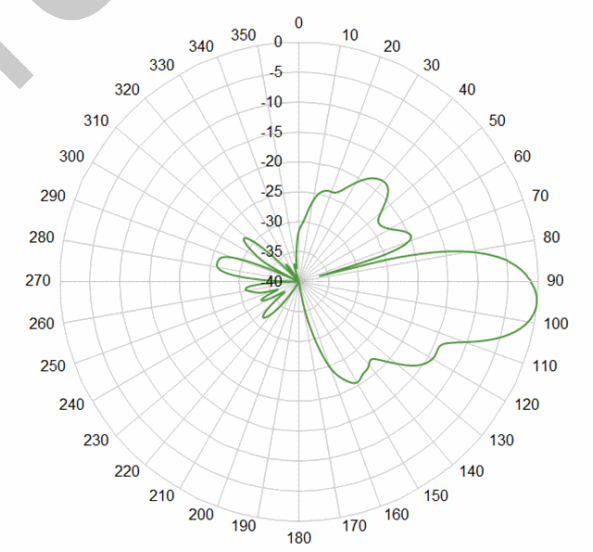
743 MHz Azimuth



743 MHz Elevation 5°



1878 MHz Azimuth



1878 MHz Elevation 5°

ORDERING

Stadium Bi-Sector™ Array

BSA-M65-15F005-22

Parts & Accessories

BSA-M65-15F005-22	Two foot (0.6 M) antenna, Bi-Sector™ Array, Multiband (700, 800, 850, 1900, 1710/2110 MHz), Fixed Electrical Tilt
BSA-M65-15F005-22-K	Complete kit with antenna, and BSA-M05 adjustable mast bracket and MBC-01 mast bracket clamp
BSA-M05	Adjustable mast bracket kit with ±35° horizontal adjustment and ±55° vertical adjustment mechanical tilt for wall or mast mounting
MBC-01	Mast bracket clamp for mast mounting of BSA-M05

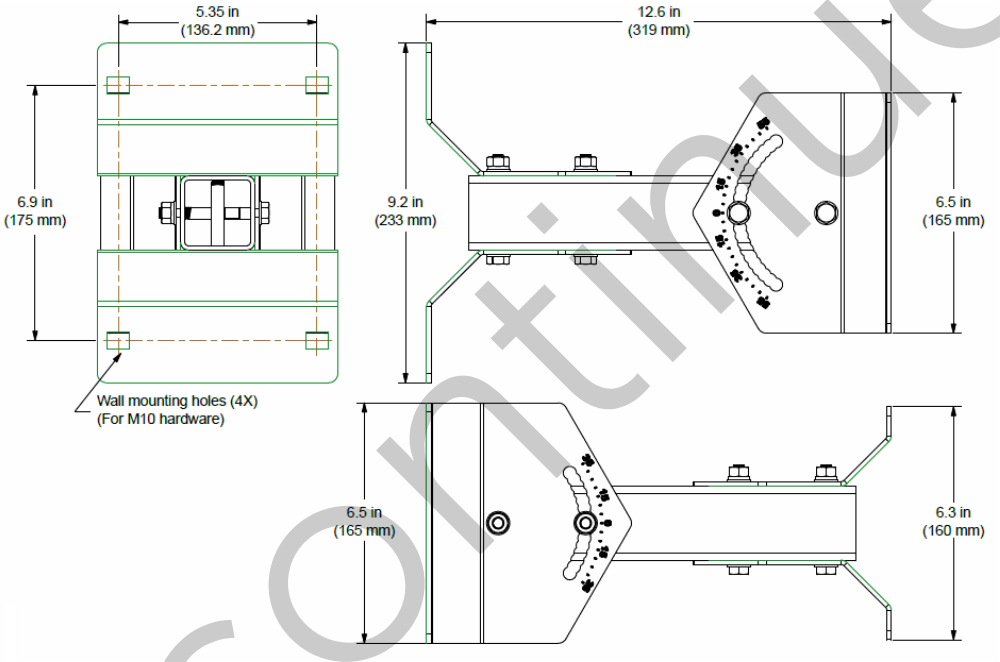
ACCESSORIES

Adjustable Mast Bracket

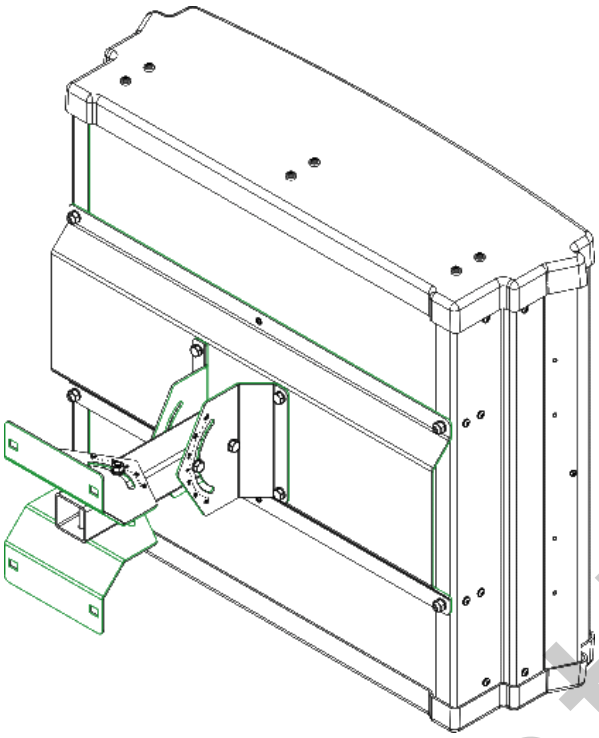
BSA-M05

Mechanical

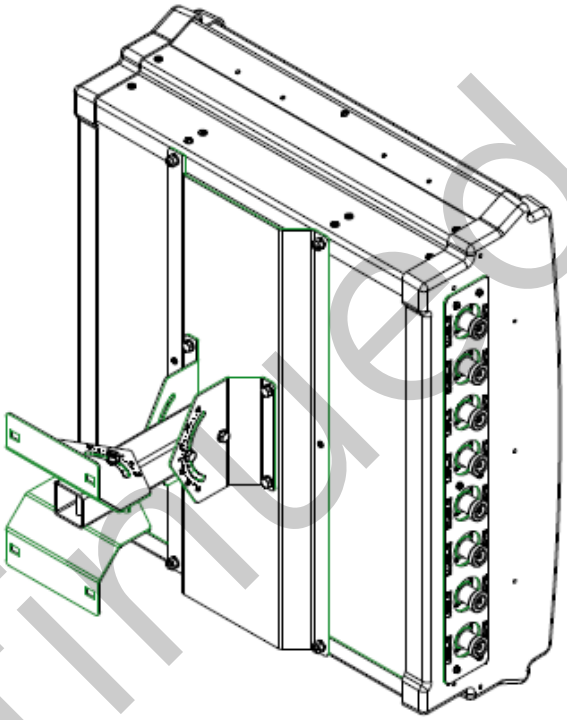
Weight	7.7 lbs (3.5 kg)
Hinge Pitch	Horizontal(± 35°), Vertical(± 55°)
Fastener Size	M10
Installation Torque	15 ft-lbs (20 Nm)
Mechanical Tilt Adjustment	Horizontal(± 35°), Vertical(± 55°)
Mounting Pole(when used with MBC-01)	2 to 5 in (5 to 12 cm)



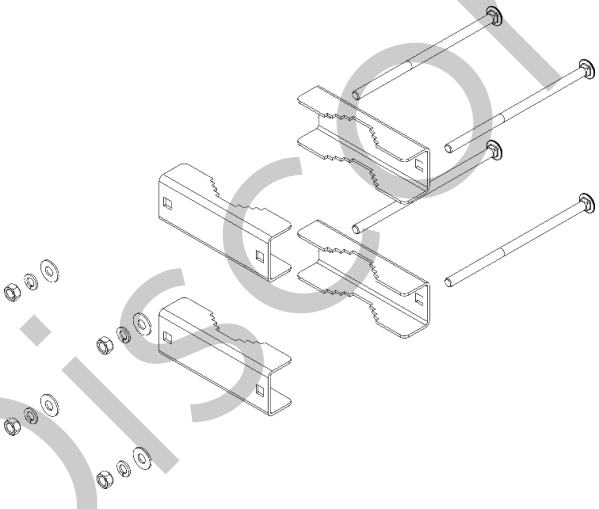
BSA-M05
Dimensions



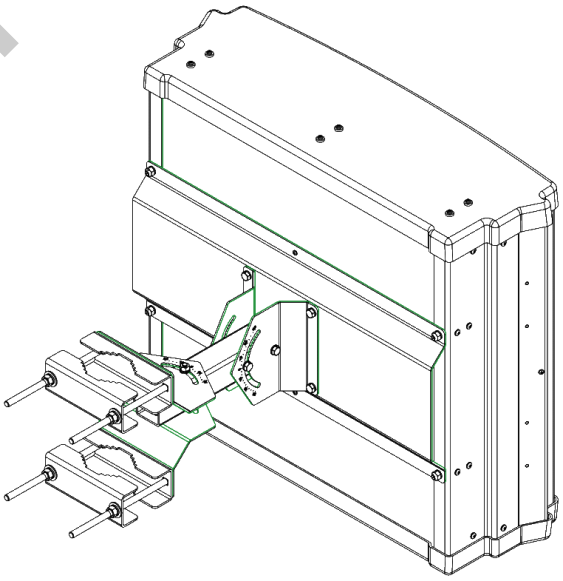
BSA-M05 horizontal mount on "Stadium Antenna"



BSA-M05 vertical mount on "Stadium Antenna"



MBC-01 Mast Bracket Clamp



BSA-M05 and MBC-01 mounting application

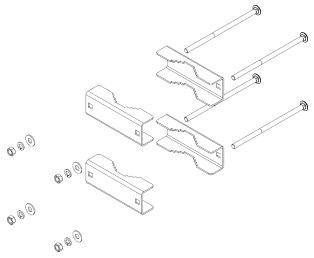
ACCESSORIES

Mounting Bracket Clamp

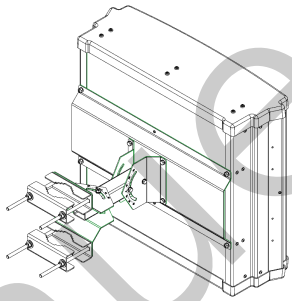
MBC-01

Mechanical

Weight	5.4 lbs (2.4 kg)
Mounting Pole Dimension	2 to 5 in (5 to 12 cm)
Fastener Size	M10
Installation Torque	15 ft·lb (20 N·m)



MBC-01



MBC-01 with BSA-M05

STANDARDS & CERTIFICATIONS

Stadium Bi-Sector™ Array

BSA-M65-15F005-22

Standards & Compliance

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