

MULTI BAND BI-SECTOR™ ARRAY

Model BSA-M65-19V010-02



Multi Band

The CCI VET Series Multi Band Bi-Sector™ Array is an industry first LTE ready advanced phased array that supports multiple sectors (two low bands, two high bands) from a single antenna and provides capability for 700 MHz, SMR 800 MHz, Cellular 850 MHz, PCS 1900 MHz, and AWS 1710/2170 MHz coverage in a single enclosure. Our unique patented bi-sector technology provides optimized overlap between pairs of asymmetric beams, lowers soft handover losses in UMTS/HSPA+ and CDMA/EVDO systems, and minimizes interference between sectors. Fast-roll off of each of the outer beams and high front-to-back ratios ensure reduced interference. Such an approach enhances data transfer rates within UMTS/LTE and EVDO network sectors and addresses “hotspots” in mobile wireless operator networks for SMR, GSM, CDMA, UMTS and LTE technologies. The variable electrical tilt (VET) capability allows independent adjustment of sub-beams for easier optimization.

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 new coverage that matches the existing footprint minimizes the need for optimization and adjacent site changes, and allows for Bi-Sector Array sites to have significant CAPEX and OPEX cost savings.

All CCI antennas are manufactured under ISO 9001.

Benefits

Multi band applications – 700 MHz, SMR 800 MHz, Cellular 850 MHz, PCS 1900 MHz, AWS 1710/2170 MHz

Enables efficient evolution of wireless networks

Dramatically increase site capacity through higher order sectorization

Avoid carrier-adds and building of new capacity sites

Boosts data throughput by lowering interference

Patented asymmetrical beam shape maximizes coverage in a standard tri-sector cell plan

Features

- ◆ Asymmetrical dual beams optimized to match existing cloverleaf (65°) patterns over a wide range of frequency bands – (698-824 MHz); (824-894 MHz); (1710 -1920 MHz); and (1920-2170 MHz)
- ◆ Slim and low weight single panel design supporting four beams without mount changes
- ◆ Dual +45° and -45° cross-polarization for Left and Right beams
- ◆ Independent adjustable sub-beams provide unmatched optimization flexibility
- ◆ Separate Low-band and High-band ports, Left and Right beams, support 4 sub-sectors
- ◆

Applications

- ◆ Upgrade of data-throughput or capacity constrained sites
- ◆ Spectrum limited markets
- ◆ Deferral of CDMA/EVDO or UMTS//HSPA+ carrier adds



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BSA-M65 Bi-Sector™ Array

Electrical Specifications

	698-824 MHz	824-894 MHz	1710-1920 MHz	1920-2170 MHz
Frequency Range	698-824 MHz	824-894 MHz	1710-1920 MHz	1920-2170 MHz
Azimuth Beamwidth (-3dB)	34° Asymmetric	30° Asymmetric	33° Asymmetric	30° Asymmetric
Elevation Beamwidth (-3dB)	11.6° ± 1°	11.0° ± 1°	6.0° ± 0.5°	5.5° ± 0.5°
Elevation Sidelobes (1st Upper) (Typ.)	< -17dB	< -17dB	< -17dB	< -17dB
Gain	15.5 ± 1.0 dBi	16.0 ± 1.0 dBi	17.5 ± 1.0 dBi	18.1 ± 1.0 dBi
Polarization	Dual Linear 45°	Dual Linear 45°	Dual Linear 45°	Dual Linear 45°
VSWR	< 1.5:1	< 1.5:1	< 1.5:1	< 1.5:1
Front-to-Back Ratio @180° (Typ.)	> 30dB	> 30dB	> 30dB	> 30dB
Isolation ¹	> 25dB	> 25dB	> 30dB	> 30dB
Electrical Downtilt	0° to 10°	0° to 10°	0° to 8°	0° to 8°
Input Impedance	50 Ohms	50 Ohms	50 Ohms	50 Ohms
Input Power	250 Watts CW	250 Watts CW	250 Watts CW	250 Watts CW
Passive Intermodulation (2x20W)	≤ -150dBc	≤ -150dBc	≤ -150dBc	≤ -150dBc
Lightning Protection	DC Ground	DC Ground	DC Ground	DC Ground

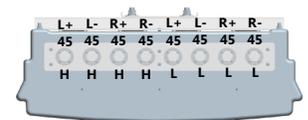
¹ Cross-Polar Port-to-Port Isolation

Mechanical Specifications

Dimensions (LxWxD)	72.0 x 28.5 x 9.4 inches (1828 x 723 x 240 mm)
Survival Wind Speed	> 120 mph (> 193 km/hr)
Front Wind Load	438 lbs (1946 N) @ 100 mph (161 kph)
Side Wind Load	172 lbs (764 N) @ 100 mph (161 kph)
Equivalent Flat Plate Area	17.0 ft ² (1.6 m ²)
Weight (without Mounting)	94.6 lbs (43 kg)
Connector	8; 7-16 DIN female
Mounting Pole	2-5 inches (5-12 cm)



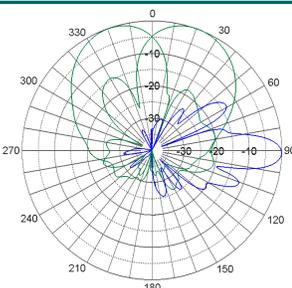
Rear View



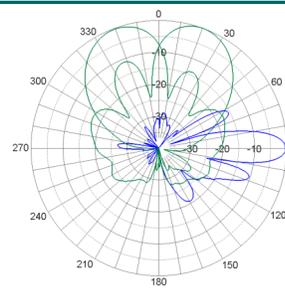
Bottom View

H - High Band
L - Low Band

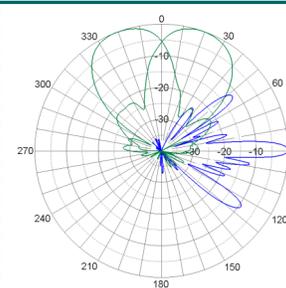
Antenna Patterns*



698 MHz
— Elevation 0°
— Azimuth



849 MHz
— Elevation 0°
— Azimuth



1910 MHz
— Elevation 0°
— Azimuth

*Typical antenna patterns. For detail information on antenna pattern, please contact us at info@cciproducts.com. All specifications are subject to change without notice.