



# Antennas

DATA SHEET

## Special Events Multibeam Antenna

MBA6-9F-P-H3



- Six dual beams optimised for maximum throughput over the PCS band
- Three foot (0.9 m), single-panel design supports six beams - without mount changes
- Each beam pair dual +45°/-45° polarized
- Separate beams support 6 sub-sectors
- Rugged, weather resistant, highly reliable design
- Enables efficient evolution of wireless networks
- Increases site capacity through higher order sectorization
- Avoid carrier-adds and building of new capacity sites
- Boosts data throughput by lowering interference
- Patented beam shaping technology maximizes coverage
- Optimized beam crossover and spacing for maximum throughput

### Overview

The CCI Six-Beam Special Events Antenna is an LTE ready multi-beam antenna that supports multiple sectors (6) from a single antenna. This Six-Beam Antenna is intended for use at sporting and entertainment venues where social media and the ability to share photos and videos demand high capacity and high data rates. The antenna provides capability for PCS 1900 MHz coverage in a compact, 3 ft (0.9 m) high single enclosure. This six-beam antenna has one row of six dual +45° and -45° cross-polarized beam pairs, each roughly 15 degrees apart that are used to segment large audiences into multiple sectors. The antenna enables maximum spectrum re-use by sectorization, providing as much as nine times increase in network capacity. Our unique beam shaping technology provides fast roll off between beams, minimizing interference between sectors thus increasing the carrier to interference plus noise (CINR) ratio and lowering soft handover losses in LTE, UMTS/HSPA+ and CDMA/EVDO networks. Such an 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 CCI Six-Beam Special Event Antenna offers the opportunity to reduce antenna count and directly replaces multiple narrow beam antennas. The antenna minimizes the need for optimization as each beam is spaced optimally for maximum throughput thus providing 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.

### Applications

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



# Antennas

## SPECIFICATIONS

### Special Events Multibeam Antenna

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#### Electrical

Ports	12 × High-Band Ports for 1850-1995 MHz
Gain	22.7 dBi
Azimuth Beamwidth (-3dB)	9.0°
Azimuth Beam Crossover	-10.5 dB
Elevation Beamwidth (-3dB)	11.2°
Electrical Downtilt	4°
Elevation Sidelobes (1st Upper)	< -21 dB
Front-to-Back Ratio @180°	> 35 dB
Cross-Polar Port-to-Port Isolation	> 30 dB
Interbeam Co-Pol Isolation (Adjacent Beams)	>15 dB
Interbeam Co-Pol Isolation (Non-Adjacent Beams)	>12.5 dB
Voltage Standing Wave Ratio(VSWR)	< 1.5:1
Passive Intermodulation (2x20W)	≤ -153 dBc
Input Power Continuous Wave (CW)	300 watts
Polarization	Dual Pol 45°
Input Impedance	50 ohms
Lightning Protection	DC Ground

#### Mechanical

Dimensions (LxWxD)	35.0x45.9x6.4 in (890x1165x163 mm)
Survival Wind Speed	> 125 mph (> 201 kph)
Front Wind Load	343 lbs (1525 N) @ 100 mph (161 kph)
Side Wind Load	53 lbs (237 N) @ 100 mph (161 kph)
Equivalent Flat Plate Area	13.4 ft <sup>2</sup> (1.2 m <sup>2</sup> )
Weight *	72.6 lbs (32.9 kg)
Connector	12 × 7-16 DIN female long neck
Mounting Pole	2x 2 to 5 in (5 to 12 cm)

\* Weight excludes mounting

Bottom View





# Antennas

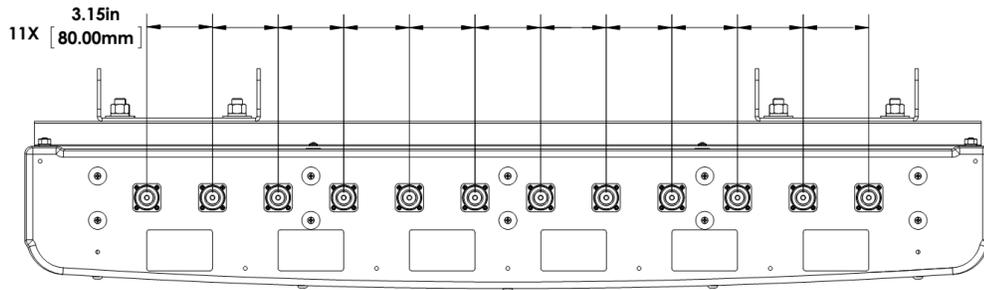
## SPECIFICATIONS

### Special Events Multibeam Antenna

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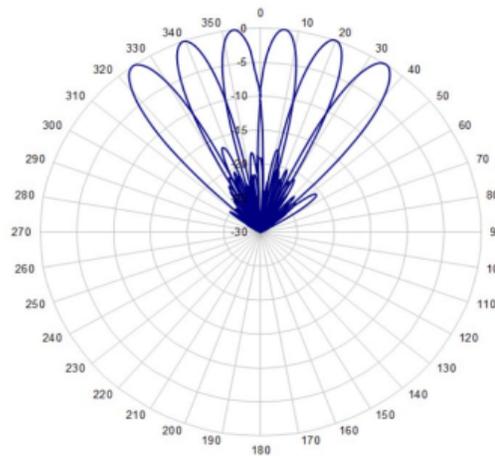
#### Mechanical

Connector Spacing

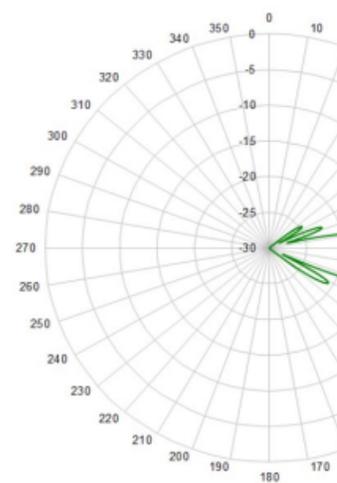


#### Typical Antenna Patterns

For detailed information on additional antenna patterns, contact customer support at [support@ccipr.com](mailto:support@ccipr.com)



1930 MHz Azimuth



1930 MHz Elevation



# Antennas

ORDERING

## Special Events Multibeam Antenna

MBA6-9F-P-H3

### Parts & Accessories

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**MBA6-9F-P-H3** Three foot (0.9 m) Special Events Six-Beam Antenna with Fixed Electrical Tilt

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**MBA6-9F-P-H3-K** Antenna kit with three foot (0.9 m) Antenna and 2X MBK-03 Mounting Bracket

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**MBK-03 x 2** Mounting bracket kit (top and bottom) with 0° to 12° mechanical tilt adjustment

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# Antennas

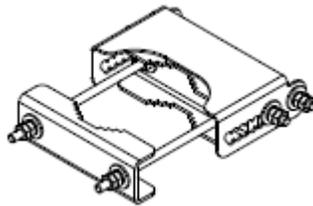
ACCESSORIES

## Mounting Bracket Kit

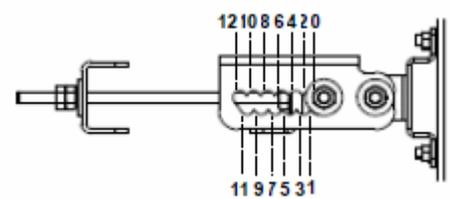
MBK-03

Mechanical

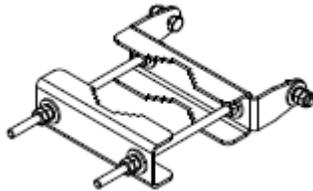
<b>Weight</b>	9.8 lbs (4.4 kg)
<b>Hinge Pitch</b>	13 in (330 mm)
<b>Mounting Pole Dimension</b>	2 to 5 in (5 to 12 cm)
<b>Fastener Size</b>	M10
<b>Installation Torque</b>	15 ft-lbs (20 Nm)
<b>Mechanical Tilt Adjustment</b>	0° - 12°



MBK-03 Top Adjustable Bracket



MBK-03 Top Adjustable Bracket Side View



MBK-03 Bottom Fixed Bracket



# Antennas

## STANDARDS & CERTIFICATIONS

### Special Events Multibeam Antenna

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#### 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

Antenna Interface Standards Group (AISG), Federal Communication  
 Commission (FCC) Part 15 Class B, CE, CSA US, ISO 9001



# CCI

## Communication Components Inc.

EXTENDING WIRELESS PERFORMANCE