



Antennas

DATA SHEET

Three-Beam Special Events Antenna

MBA3F-H3A



- Three foot (0.9 m) tall, single band, six port multibeam array. Containing Three Independent Optimized Beams with 2x2 MIMO capability covering 3400-3800 MHz frequencies
- Six High Band Dual-Pol +45°/-45°ports (two ports per beam) covering 3400-3800 MHz in a single antenna
- Full Spectrum Compliance for 3400-3800 MHz Frequencies
- LTE Optimized Beams for improved LTE data throughput by minimizing beam crossover, providing for an efficient use of valuable radio capacity and frequency spectrum
- LTE Optimized FBR, USLS and Co-Pol Beam Isolation Performance. Essential for today's LTE Data Driven Networks
- Exceeds minimum PIM performance requirements

Overview

This CCI Multibeam Antenna contains Three Independent LTE Optimized Beams with 2x2 MIMO capability. This Multibeam Antenna is intended for use at Fixed Wireless Access, data hotspots and other locals, where high capacity and high data rates are required.

This Multibeam Antenna enables maximum spectrum re-use by sectorization, greatly increasing network capacity. With deployment of 2x2 MIMO, capacity and data throughput is greatly enhanced. Our LTE Optimized Beam Design approach 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 networks. Such an approach enhances data transfer rates within LTE network sectors and addresses "hotspots" in mobile wireless operator networks.

The single panel design of the CCI Multibeam 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
- Antenna intended for use where data throughput and capacity needs are paramount



Antennas

SPECIFICATIONS

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Electrical

Ports	6 x High Band Ports for 3400-3800 MHz
Frequency Range	3400-3800 MHz
Gain	22.3 dBi
Azimuth Beamwidth (-3dB)	17.6°
Azimuth Beam Crossover	11.1 dB
Elevation Beamwidth (-3dB)	5.4°
Electrical Downtilt	4°
Elevation Sidelobes (1st Upper) (Typ.)	< -22 dB
Front-to-Back Ratio @180° (Typ.)	> 35 dB
Cross-Polar Discrimination (at Peak)	> 18 dB
Cross-Polar Port-to-Port Isolation	> 25 dB
Interbeam Co-Pol Isolation (Adjacent Beams)	> 25 dB
Interbeam Co-Pol isolation (Non-Adjacent Beams) (Worse Case)	> 15 dB
Voltage Standing Wave Ratio(VSWR)	< 1.5:1
Passive Intermodulation (2x20W)	≤ -140 dBc
Input Power Continuous Wave (CW)	200 watts
Polarization	Dual Pol 45°
Input Impedance	50 ohms
Lightning Protection	DC Ground

BASTA Electrical Specifications	
Frequency Range	3400-3800 MHz
Gain over all Tilts (dBi)	22.3
Gain over all Tilts Tolerance (dB)	0.4
Azimuth Beam Peak Tolerance (°)	2.2
Azimuth Beamwidth Tolerance (°)	1.8
Elevation Beamwidth Tolerance (°)	0.3
First Upper Sidelobe Suppression (dB)	15.7
Upper Sidelobe Suppression Peak to 20°(dB)	15.7
Front-to-Back Ratio over ±20° (dB)	34.5
Cross-polar Discrimination at ±60° (dB)	14.5

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

Mechanical

Dimensions (LxWxD)	35.6x12.9x6.3 in (904x328x160 mm)
Survival Wind Speed	> 150 mph (> 241 kph)
Front Wind Load	99 lbs (440 N) @ 100 mph (161 kph)
Side Wind Load	53 lbs (237 N) @ 100 mph (161 kph)
Equivalent Flat Plate Area	3.9 ft² (0.4 m²)
Weight *	22.5 lbs (10.2 kg)
Connector	6x 4.3-10 female
Mounting Pole	2 to 5 in (5 to 12 cm)

* Weight excludes mounting



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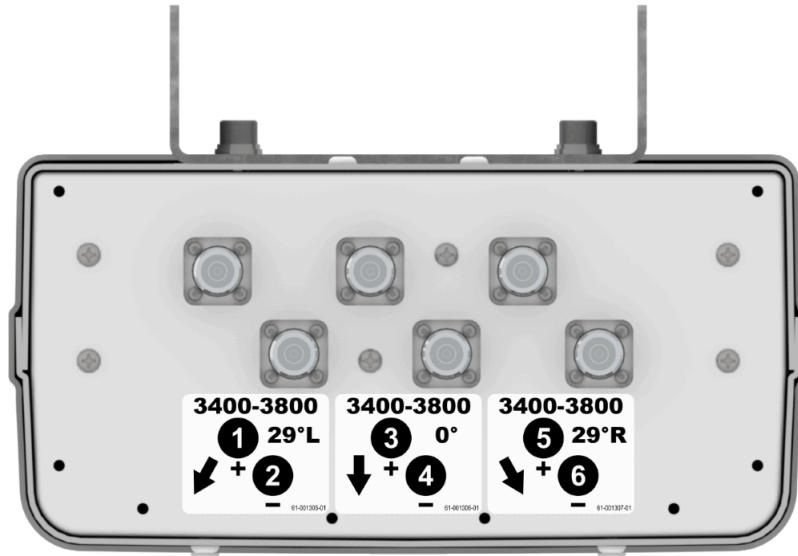
SPECIFICATIONS

Three-Beam Special Events Antenna

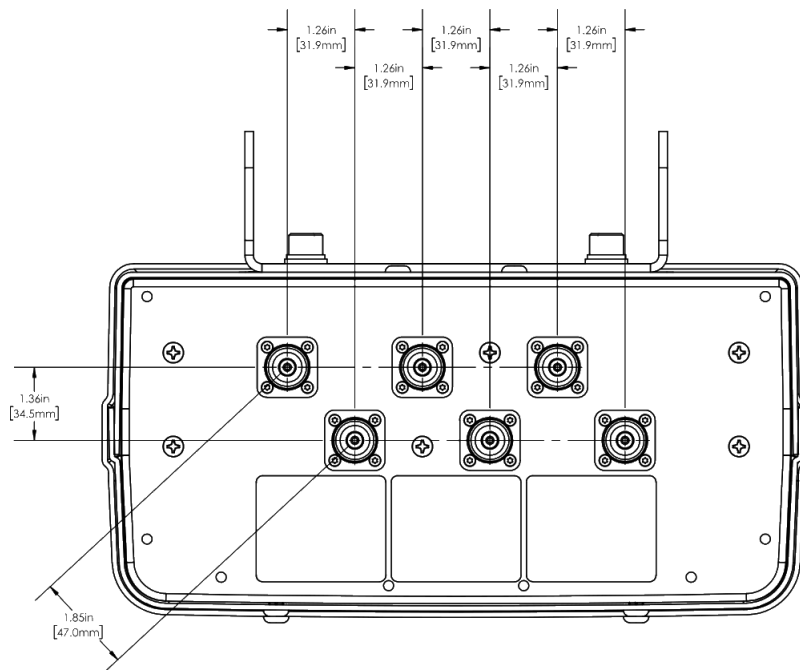
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Mechanical

Bottom View



Connector Spacing





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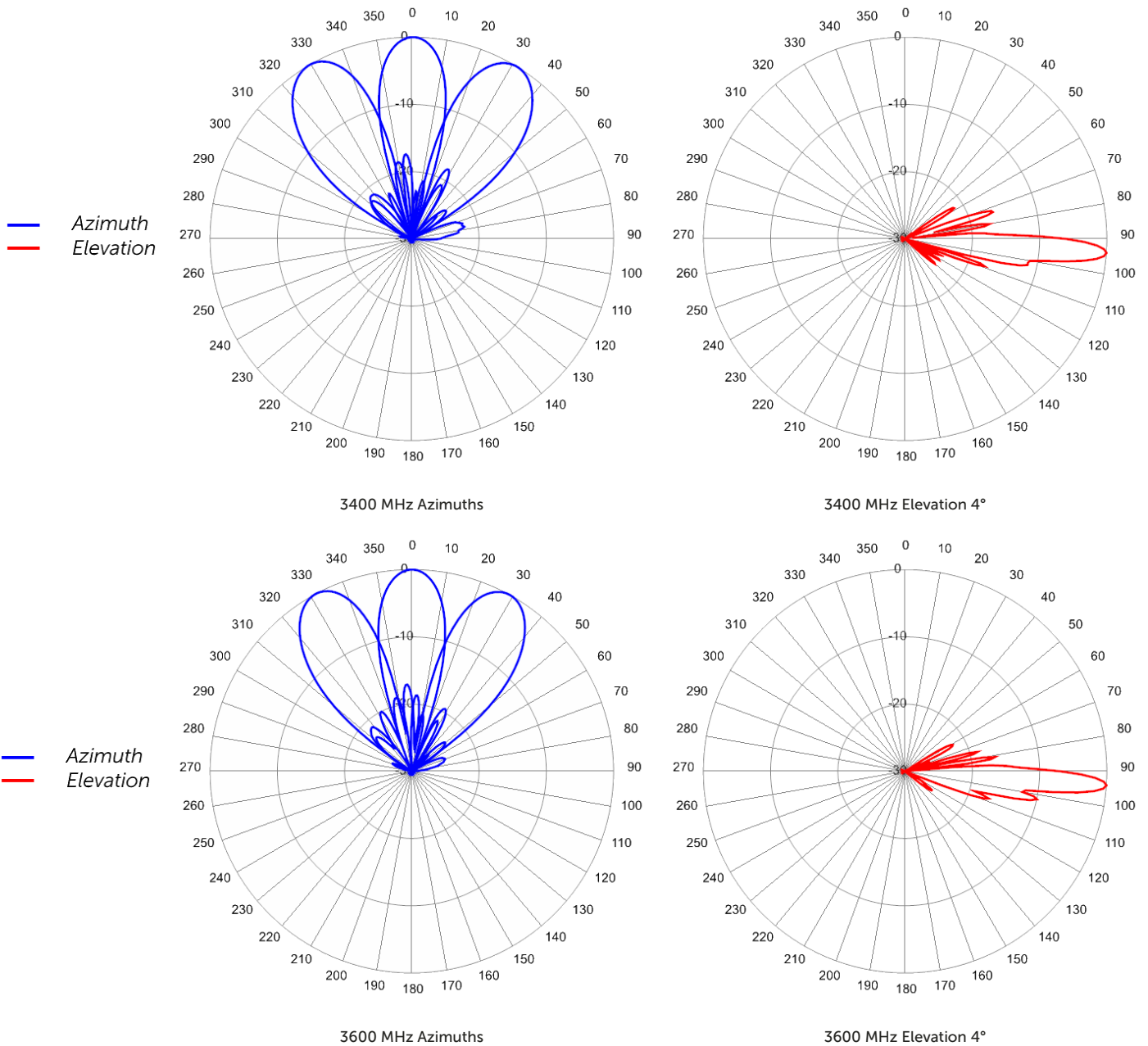
SPECIFICATIONS

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Typical Antenna Patterns

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





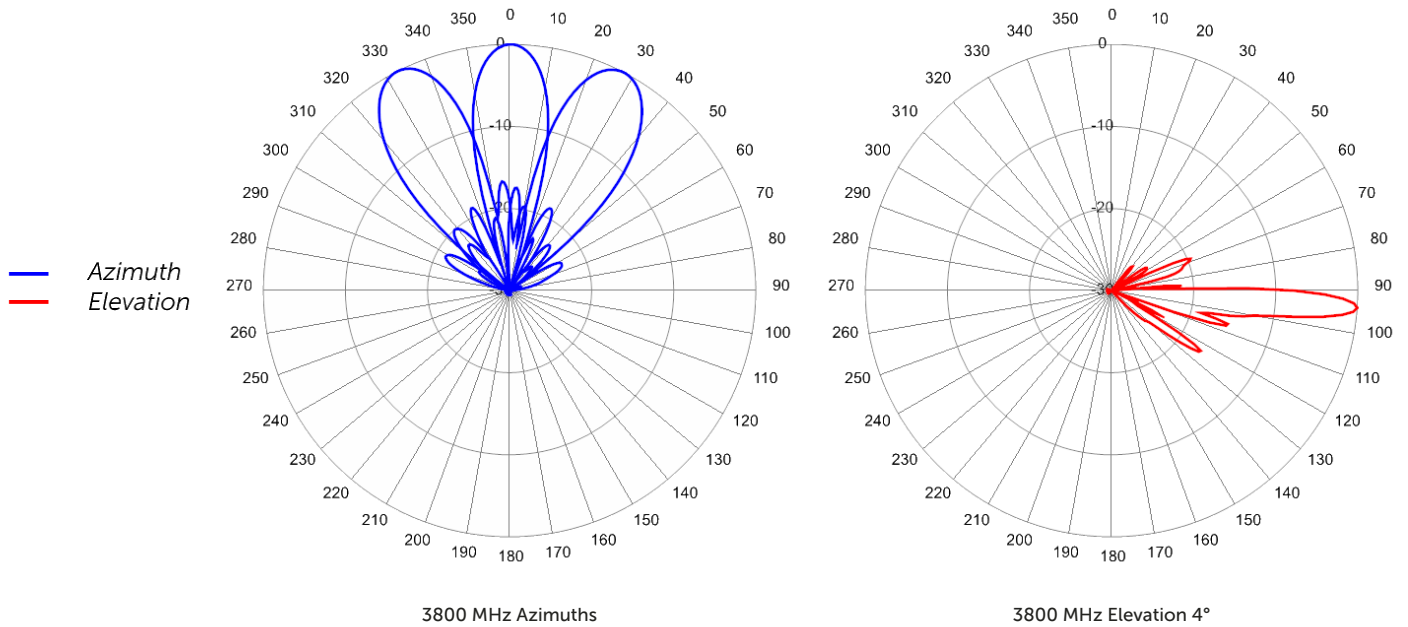
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Typical Antenna Patterns





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ORDERING

Three-Beam Special Events Antenna

MBA3F-H3A

Parts & Accessories

MBA3F-H3AA-K 3 foot (0.8 m) Special Events 3-Beam Antenna with fixed electrical tilt, 4.3-10 connectors and MBK-10 mounting bracket.

MBK-10 Mounting bracket kit (top and bottom) with 0° to 12° mechanical tilt adjustment



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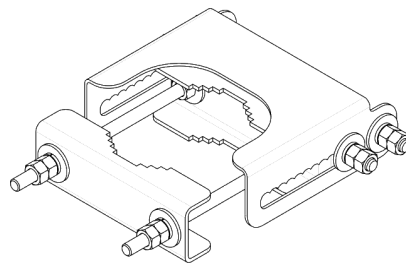
ACCESSORIES

Mounting Bracket Kit

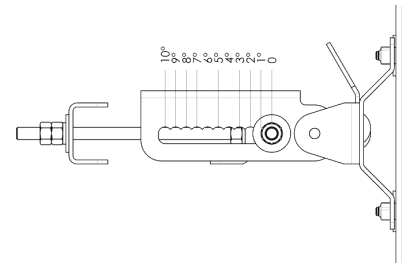
MBK-10

Mechanical

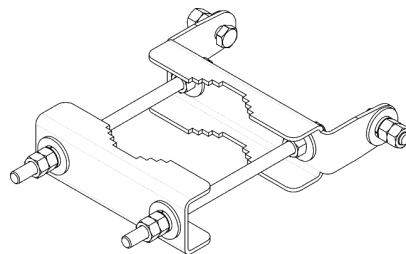
Weight	14.0 lbs (6.4 kg)
Hinge Pitch	23.6 in (600 mm)
Mounting Pole Dimension	2 to 5 in (5 to 12 cm)
Fastener Size	M12
Installation Torque	40 ft·lb (54 N·m)
Mechanical Tilt Adjustment	0° - 10°



MBK-10 Top Adjustable Bracket



MBK-10 Top Adjustable Bracket Side View



MBK-10 Bottom Fixed Bracket



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STANDARDS & CERTIFICATIONS

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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

Federal Communication Commission (FCC) Part 15 Class B, ISO 9001



CCI Communication Components Inc.
EXTENDING WIRELESS PERFORMANCE