



# Antennas

MultiPort  
Series

## DATA SHEET

### Quad Port Low-Band Antenna

QPA65R-T6C



- Six foot (1.8 m) WideBand, four port antenna with a 65° azimuth beamwidth covering 614-896 MHz frequencies
- Four wide low band ports covering 614-896 MHz in a single antenna enclosure
- Full Spectrum Compliance 614-896 MHz
- Innovative Low Array configuration allows for 4T4R (4x4 MIMO), using full length arrays (non stacked)
- 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
- Equipped with new 4.3-10 connector, which is 40% smaller than traditional 7/16 DIN connector
- Equipped with one Internally Integrated RET Controller (Type 17)

#### Overview

The CCI WideBand Antenna is a four port antenna, with four wide low band ports covering 614-896 MHz. The CCI WideBand Antenna provides the capability to deploy 4x4 Multiple-Input Multiple-Output (MIMO). The CCI WideBand antenna single RET configuration tilts all four ports together, allowing for electrical downtilt uniformity across all four ports.

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

#### Applications

- 4x4 MIMO for the high band
- Ready for Network Standardization on 4.3-10 DIN connectors
- With CCI's WideBand Antennas, wireless providers can connect platforms to a single antenna, reducing tower load, lease expense, deployment time and installation costs



## SPECIFICATIONS

## Quad Port Low-Band Antenna

QPA65R-T6C

## Electrical

Ports	2 x Low Band Ports for 614-896 MHz		
Frequency Range	614-698 MHz	698-806 MHz	824-896 MHz
Gain	14.7 dBi	15.4 dBi	15.1 dBi
Azimuth Beamwidth (-3dB)	71°	61°	54°
Elevation Beamwidth (-3dB)	14.5°	12.8°	11.3°
Electrical Downtilt	2° to 12°	2° to 12°	2° to 12°
Elevation Sidelobes (1st Upper)	< -17 dB	< -17 dB	< -19 dB
Front-to-Back Ratio @180°	> 32 dB	> 33 dB	> 35 dB
Cross-Polar Discrimination at Peak	> 25 dB	> 25 dB	> 25 dB
Cross-Polar Port-to-Port Isolation	> 25 dB	> 25 dB	> 25 dB
Voltage Standing Wave Ratio (VSWR)	< 1.5:1	< 1.5:1	< 1.5:1
Passive Intermodulation (2x20W)	≤ -153 dBc	≤ -153 dBc	≤ -153 dBc
Input Power Continuous Wave (CW)	500 watts	500 watts	500 watts
Polarization	Dual Linear 45°	Dual Linear 45°	Dual Linear 45°
Input Impedance	50 ohms	50 ohms	50 ohms
Lightning Protection	DC Ground	DC Ground	DC Ground

BASTA Electrical Specifications*			
Frequency Range	614-698 MHz	698-806 MHz	824-896 MHz
Gain over all Tilts (dBi)	13.8	14.5	14.5
Gain over all Tilts Tolerance (dB)	0.7	0.6	0.6
Gain at Low-Tilt (dBi)	14.0	14.8	14.7
Gain at Mid-Tilt (dBi)	13.8	14.5	14.6
Gain at High-Tilt (dBi)	13.5	14.2	14.1
Azimuth Beamwidth Tolerance (°)	9.2	8.1	7.1
Elevation Beamwidth Tolerance (°)	1.3	1.0	0.6
Electrical Downtilt Deviation (°)	1.0	0.9	0.8
First Upper Sidelobe Suppression (dB)	13.8	14.3	16.9
Upper Sidelobe Suppression Peak to 20° (dB)	16.0	15.0	17.1
Front-to-Back Ratio over ±20° (dB)	25.0	26.2	27.6
Cross-polar Discrimination at ±60° (dB)	13.6	12.8	10.5

\* Electrical specifications follow document "Recommendation on Base Station Antenna Standards" (BASTA) V9.6.  
All specifications are subject to change without notice.

## Mechanical

Dimensions (LxWxD)	71.2x25.5x8.1 in (1808x648x205 mm)
Survival Wind Speed	> 150 mph (> 241 kph)
Front Wind Load	392 lbs (1742 N) @ 100 mph (161 kph)
Side Wind Load	149 lbs (664 N) @ 100 mph (161 kph)
Equivalent Flat Plate Area	15.3 ft² (1.4 m²)
Weight *	73.9 lbs (33.5 kg)
Connector	4 x 4.3-10 female
Mounting Pole	2 to 5 in (5 to 12 cm)

\* Weight excludes mounting



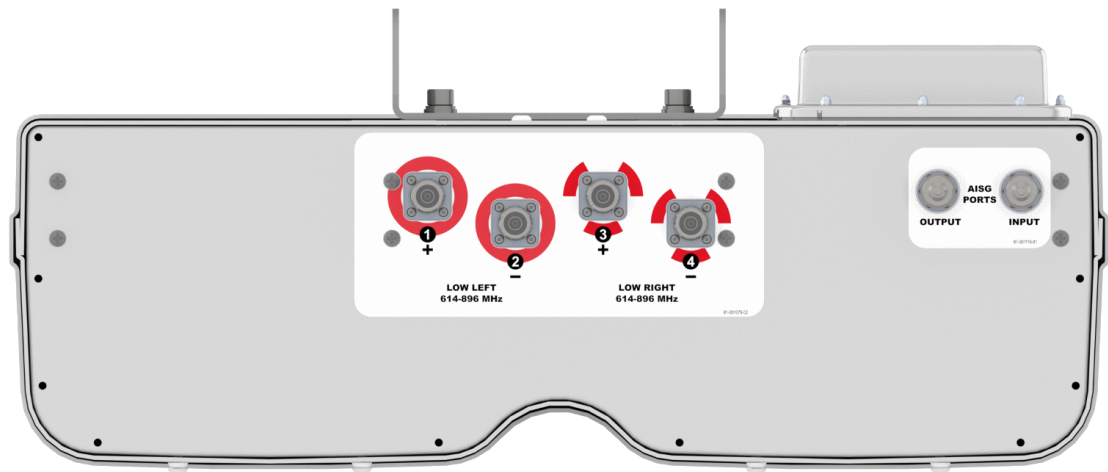
SPECIFICATIONS

Quad Port Low-Band Antenna

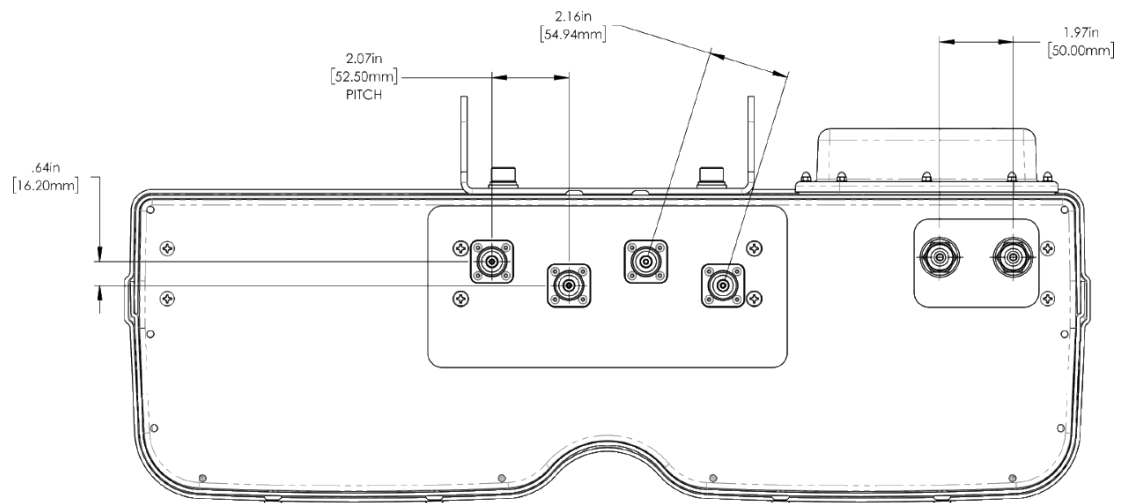
QPA65R-T6C

Mechanical

Bottom View



Connector Spacing





SPECIFICATIONS

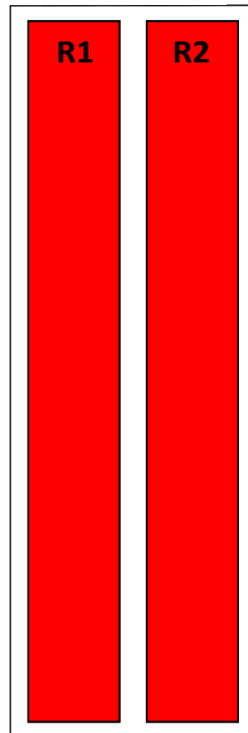
Quad Port Low-Band Antenna

QPA65R-T6C

Mechanical

RET to Element Configuration

**Element arrays as viewed  
from rear of antenna**



**RET placement  
as viewed from rear  
of antenna**

Top of antenna



Array	Ports	Freq (MHz)	Ports controlled by common RET	AISG RET UID
R1	1, 2	614-896	1, 2, 3, 4	C1xxxxxxMM.1
R2	3, 4	614-896		



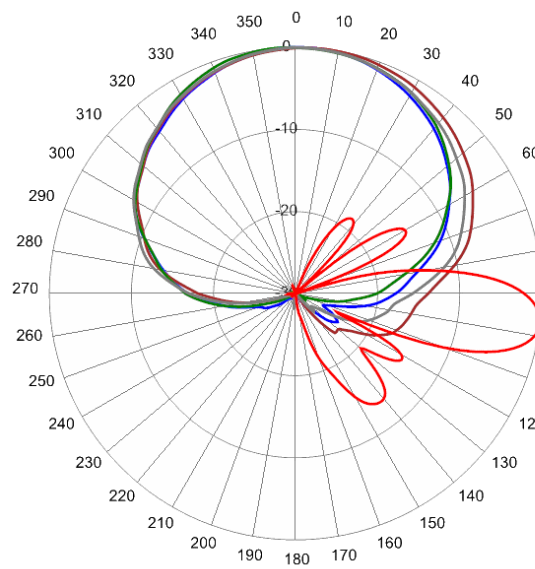
## SPECIFICATIONS

### Quad Port Low-Band Antenna

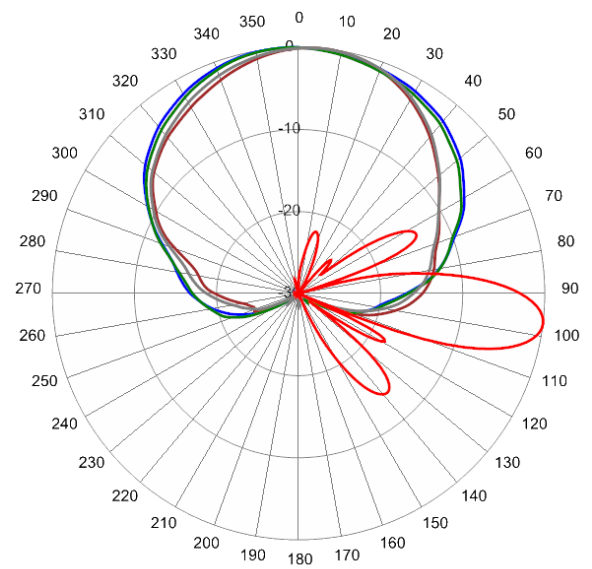
QPA65R-T6C

#### Typical Antenna Patterns

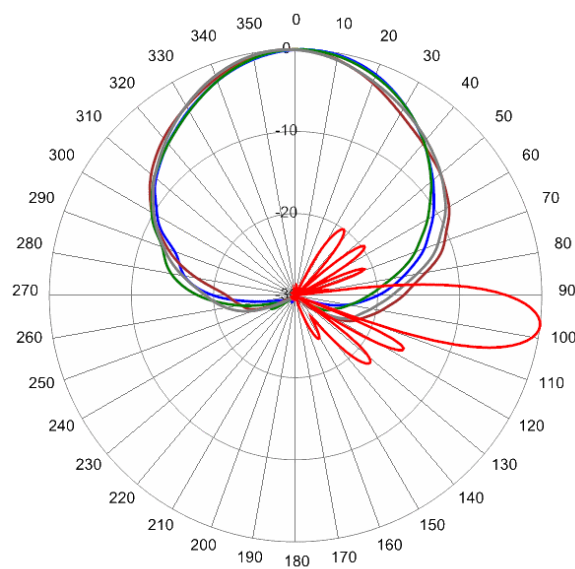
For detailed information on additional antenna patterns, contact customer support at [support@cciprducts.com](mailto:support@cciprducts.com)



614 MHz Azimuth & Elevation 7°



698 MHz Azimuth & Elevation 7°



824 MHz Azimuth & Elevation 7°



ORDERING

Quad Port Low-Band Antenna

QPA65R-T6C

Parts & Accessories

<b>QPA65R-T6CA-K</b>	Five foot (1.5 m) QuadPort antenna with 65° azimuth beamwidth, 4.3-10 female connectors, 1 factory installed BSA-RET400 RET actuator (Type 17 internal) and MBK-01 mounting brackets
<b>MBK-01</b>	Mounting bracket kit (top and bottom) with 0° to 10° mechanical tilt adjustment
<b>MBK-16</b>	Mounting bracket kit (top and bottom) with fixed 0° mechanical tilt
<b>BSA-RET400</b>	Remote electrical tilt actuator



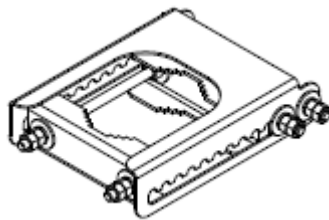
ACCESSORIES

Mounting Bracket Kit

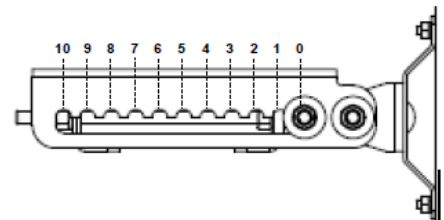
MBK-01

Mechanical

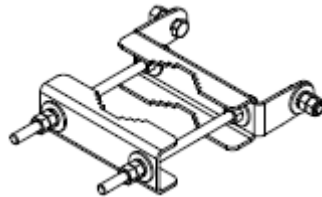
Weight	12.6 lbs (5.7 kg)
Hinge Pitch	47.25 in (1200 mm)
Mounting Pole Dimension	2 to 5 in (5 to 12 cm)
Fastener Size	M12
Installation Torque	40 ft·lb (54 Nm)
Mechanical Tilt Adjustment	0° - 10°



MBK-01 Top Adjustable Bracket



MBK-01 Top Adjustable Bracket Side View



MBK-01 Bottom Fixed Bracket



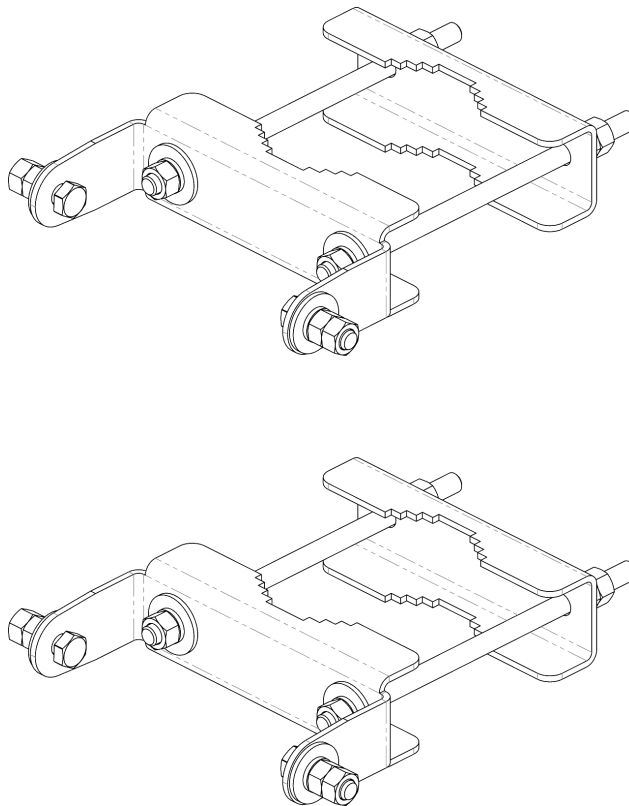
ACCESSORIES

Mounting Bracket Kit

MBK-16

Mechanical

Weight	9.9 lbs (4.5 kg)
Hinge Pitch	47.25 in (1200 mm)
Mounting Pole Dimension	2 to 5 in (5 to 12 cm)
Fastener Size	M12
Installation Torque	40 ft·lbs (54 Nm)
Mechanical Tilt	0°



MBK-16 Top and Bottom Bracket



ACCESSORIES

Internal Remote Electrical Tilt (iRET)

BSA-RET400

General Specifications

Part Number	BSA-RET400
Protocols	AISG 2.0
RET Type	Type 17
Adjustment Cycles	>10,000 cycles
Tilt Accuracy	$\pm 0.1^\circ$
Temperature Range	-40° C to 70° C

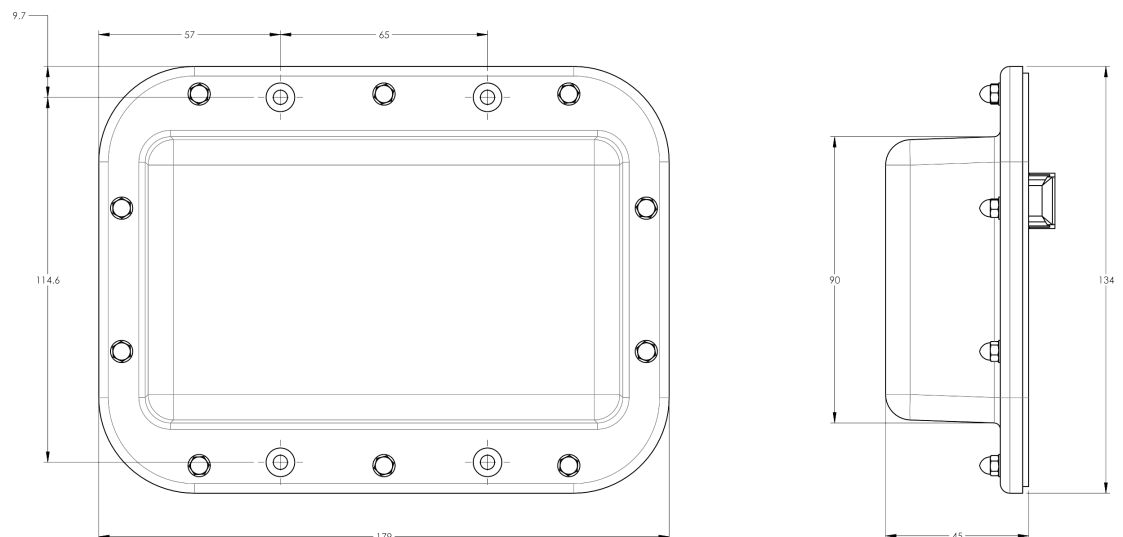
Electrical

Data Interface Signal	DC
Input Voltage	10-30 Vdc
Current Consumption Tilt	100 mA at $V_{in}=24$ (500 mA MAX)
Current Consumption Idle	10 mA at $V_{in}=24$

Mechanical

Dimensions (LxWxD)	7.0x5.3x1.8 in. (179x134x45 mm)
Housing	ASA/ABS/Aluminum
Weight	1.3 lbs (0.6 kg)

ASA= Acrylic Styrene Acrylonitrile  
ABS=Acrylonitrile Butadiene Styrene





## STANDARDS & CERTIFICATIONS

### Quad Port Low-Band Antenna

QPA65R-T6C

#### Standards & Compliance

<b>Safety</b>	EN 60950-1, UL 60950-1
<b>Emission</b>	EN 55022
<b>Immunity</b>	EN 55024
<b>Environmental</b>	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

