



- Five foot (1.5 m), WideBand, two port antenna with a 65° azimuth beamwidth covering 1695-2690 MHz frequencies
- Two wide high band ports covering 1695-2690 MHz, with full spectrum compliance
- Narrow enclosure with 10.1" (257 mm) width, reducing tower loading issues
- LTE Optimized FBR and SPR performance, providing for an efficient use of valuable radio capacity
- LTE Optimized Bore-sight and Sector XPD and USL performance, essential for LTE Performance
- Exceeds minimum PIM performance requirements
- 4.3-10 connector, which is 40% smaller than traditional 7/16 DIN connector
- Equipped with 1 field replaceable, integrated AISG 2.0 compliant Remote Electrical Tilt (RET) controller

#### Overview

The CCI WideBand Antenna is a two port antenna, with two wide high band ports covering 1695-2690 MHz. The CCI WideBand Antenna provides the capability to deploy 2x2 Multiple-input Multiple-output (MIMO). The CCI WideBand antenna single RET configuration tilts both ports together, allowing for electrical downtilt uniformity across both 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

- 2x2 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



## Two Port High-Band Antenna

2PA65R-E5A

### SPECIFICATIONS

#### Electrical

| Ports                                | 2 × High Band Ports for 1695-2690 MHz |               |               |               |               |
|--------------------------------------|---------------------------------------|---------------|---------------|---------------|---------------|
| Frequency Range                      | 1695-1880 MHz                         | 1850-1990 MHz | 1920-2180 MHz | 2300-2400 MHz | 2496-2690 MHz |
| Gain                                 | 17.3 dBi                              | 17.5 dBi      | 18.3 dBi      | 18.0 dBi      | 17.9 dBi      |
| Azimuth Beamwidth (-3dB)             | 69°                                   | 68°           | 67°           | 65°           | 64°           |
| Elevation Beamwidth (-3dB)           | 6.5°                                  | 5.9°          | 5.4°          | 4.5°          | 4.4°          |
| Electrical Downtilt                  | 0° to 10°                             | 0° to 10°     | 0° to 10°     | 0° to 10°     | 0° to 10°     |
| Elevation Sidelobes (1st Upper)      | < -16 dB                              | < -17 dB      | < -17 dB      | < -16 dB      | < -18 dB      |
| Front-to-Back Ratio @180°            | > 35 dB                               | > 35 dB       | > 35 dB       | > 35 dB       | > 35 dB       |
| Cross-Polar Discrimination (at Peak) | > 21 dB                               | > 20 dB       | > 22 dB       | > 25 dB       | > 22 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)      | ≤ -153 dBc                            | ≤ -153 dBc    | ≤ -153 dBc    | ≤ -153 dBc    | ≤ -153 dBc    |
| Input Power Continuous Wave (CW)     | 300 watts                             | 300 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     |

#### BASTA Electrical Specifications

| Frequency Range                             | 1695-1880 MHz | 1850-1990 MHz | 1920-2180 MHz | 2300-2400 MHz | 2496-2690 MHz |
|---|---------------|---------------|---------------|---------------|---------------|
| Gain over all Tilts (dBi)                   | 16.8          | 17.1          | 17.5          | 17.6          | 17.1          |
| Gain over all Tilts Tolerance (dB)          | 0.3           | 0.4           | 0.5           | 0.3           | 0.7           |
| Gain at Low-Tilt (dBi)                      | 16.7          | 16.9          | 17.3          | 17.5          | 17.2          |
| Gain at Mid-Tilt (dBi)                      | 16.9          | 17.3          | 17.7          | 17.8          | 17.2          |
| Gain at High-Tilt (dBi)                     | 16.9          | 17.2          | 17.4          | 17.6          | 16.7          |
| Azimuth Beamwidth Tolerance (°)             | 2.1           | 2.1           | 2.0           | 1.7           | 3.1           |
| Elevation Beamwidth Tolerance (°)           | 0.4           | 0.3           | 0.6           | 0.2           | 0.2           |
| Electrical Downtilt Deviation (°)           | 0.7           | 0.6           | 0.6           | 0.7           | 0.8           |
| First Upper Sidelobe Suppression (dB)       | 14.5          | 15.5          | 14.7          | 13.0          | 18.8          |
| Upper Sidelobe Suppression Peak to 20° (dB) | 14.4          | 15.4          | 14.5          | 13.0          | 16.1          |
| Front-to-Back Ratio over ±20° (dB)          | 32.8          | 32.5          | 32.4          | 33.9          | 33.2          |
| Cross-polar Discrimination at ±60° (dB)     | 11.2          | 8.2           | 7.7           | 8.0           | 8.2           |

#### Mechanical

|                            |   |
|----------------------------|---|
| Dimensions (LxWxD)         | 58.2x10.1x4.2 in (1479x257x106 mm)        |
| Survival Wind Speed        | > 150 mph (> 241 kph)                     |
| Front Wind Load            | 141 lbs (626 N) @ 100 mph (161 kph)       |
| Side Wind Load             | 70 lbs (312 N) @ 100 mph (161 kph)        |
| Equivalent Flat Plate Area | 5.5 ft <sup>2</sup> (0.5 m <sup>2</sup> ) |
| Weight *                   | 25.4 lbs (11.5 kg)                        |
| Connector                  | 2 × 4.3-10 female                         |
| Mounting Pole              | 2 to 5 in (5 to 12 cm)                    |

\* Weight excludes mounting



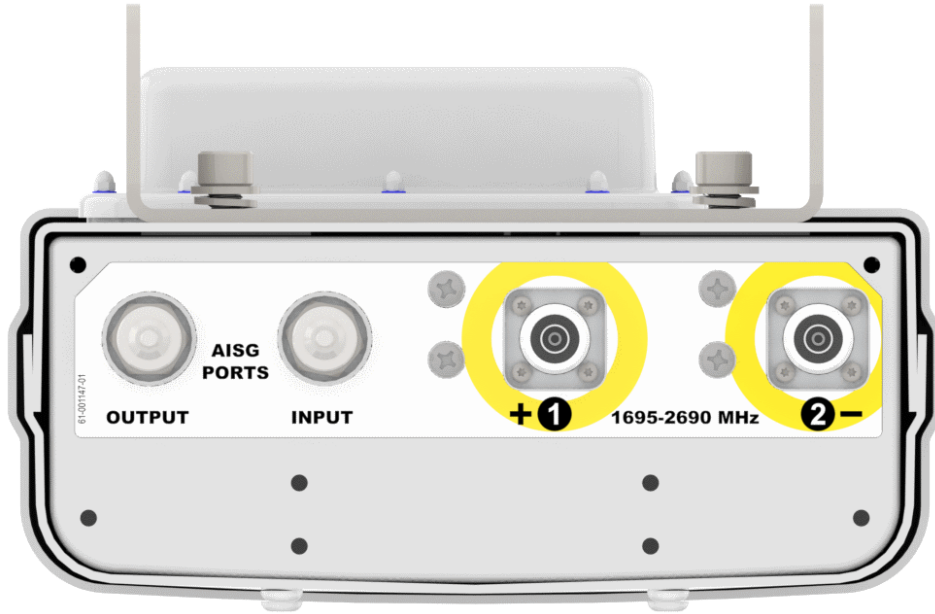
SPECIFICATIONS

Two Port High-Band Antenna

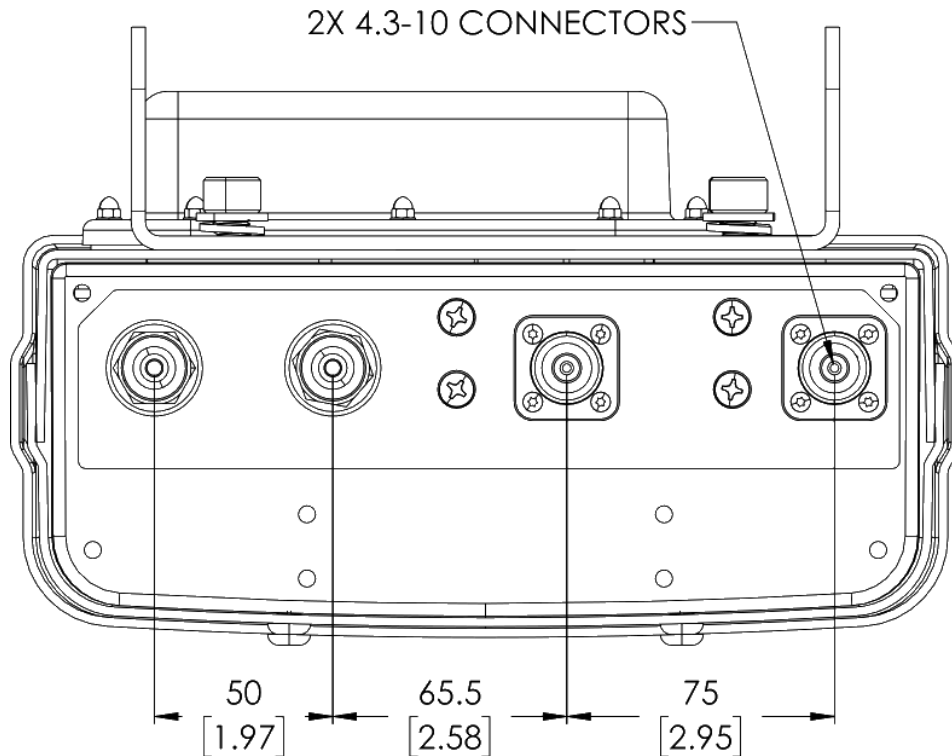
2PA65R-E5A

Mechanical

Bottom View



Connector Spacing





Two Port High-Band Antenna

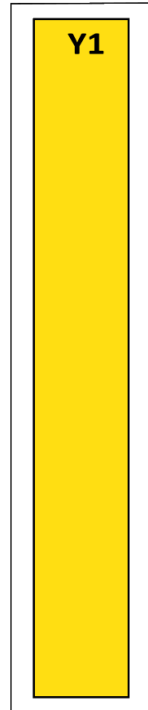
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SPECIFICATIONS

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 |
|-------|-------|------------|--------------------------------|--------------|
| Y1    | 1, 2  | 1695-2690  | 1, 2                           | C1xxxxxxMM.1 |



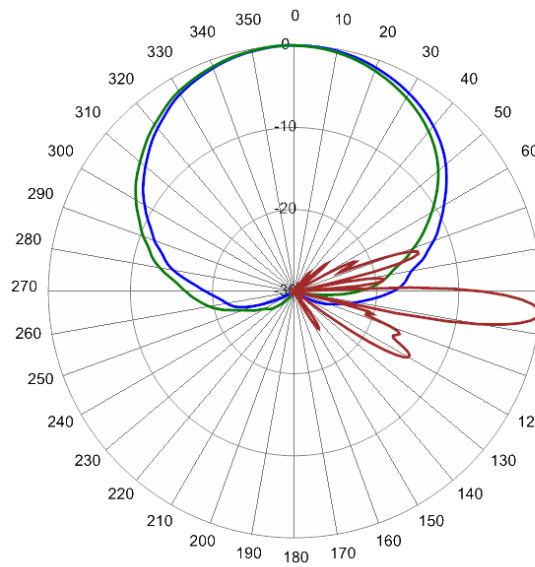
SPECIFICATIONS

Two Port High-Band Antenna

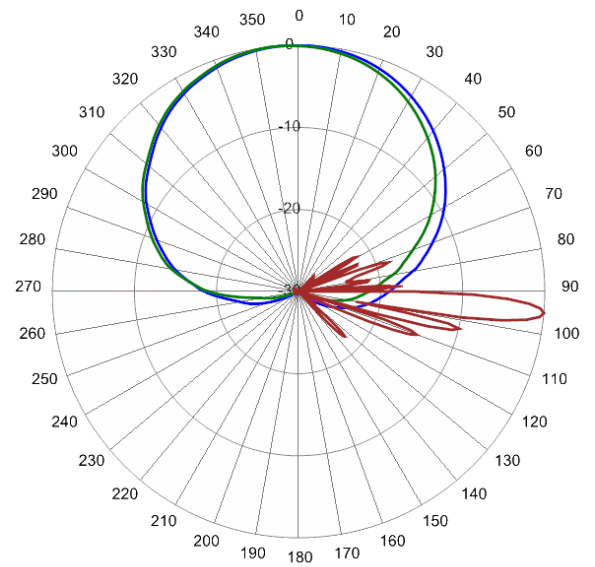
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Typical Antenna Patterns

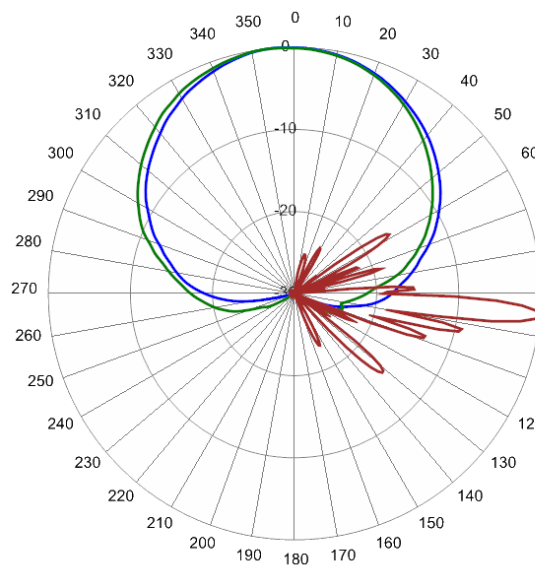
For detailed information on additional antenna patterns, contact customer support at support@cciproducts.com



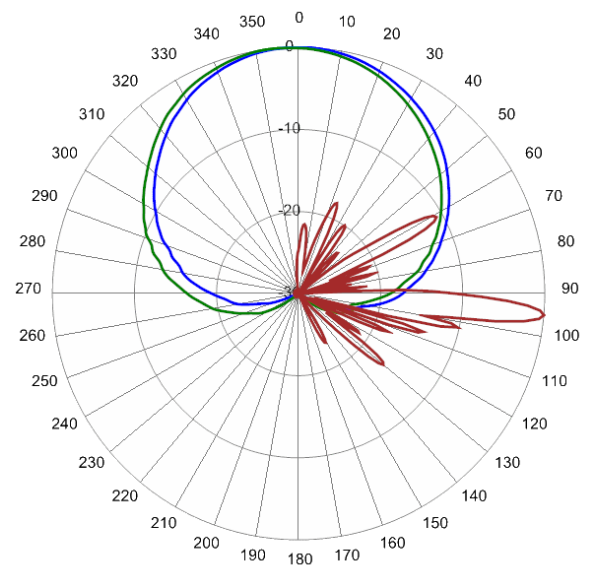
1740 MHz Azimuth & Elevation 5°



2155 MHz Azimuth & Elevation 5°



2360 MHz Azimuth & Elevation 5°



2580 MHz Azimuth & Elevation 5°



ORDERING

Two Port High-Band Antenna

2PA65R-E5A

Parts & Accessories

- 2PA65R-E5AA-K** Five foot (1.5 m) QuadPort antenna with 65° azimuth beamwidth, 4.3-10 female connectors, 1 factory installed BSA-RET400 RET actuators (Type 17 internal) and MBK-02 mounting brackets
- MBK-02** Mounting bracket kit (top and bottom) with 0° to 10° mechanical tilt adjustment
- BSA-RET400** Remote electrical tilt actuator
- AISGC-M-F-10FT** 10 Ft (3 m) Male/Female RRU to Antenna AISG cable

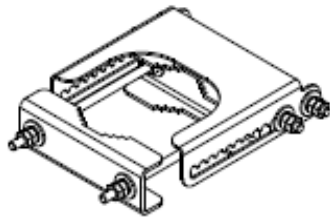


Mounting Bracket Kit

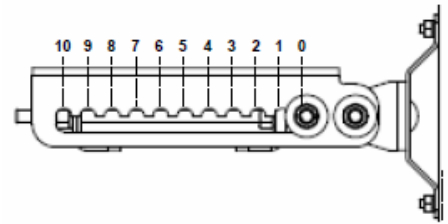
MBK-02

Mechanical

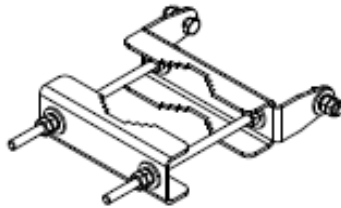
|                                   |                        |
|-----------------------------------|------------------------|
| <b>Weight</b>                     | 9.8 lbs (4.4 kg)       |
| <b>Hinge Pitch</b>                | 31.5 in (800 mm)       |
| <b>Mounting Pole Dimension</b>    | 2 to 5 in (5 to 12 cm) |
| <b>Fastener Size</b>              | M10                    |
| <b>Installation Torque</b>        | 15 ft-lbs (20 N-m)     |
| <b>Mechanical Tilt Adjustment</b> | 0° - 10°               |



MBK-02 Top Adjustable Bracket



MBK-02 Top Adjustable Bracket Side View



MBK-02 Bottom Fixed Bracket



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     | ±0.1°           |
| Temperature Range | -40° C to 70° C |

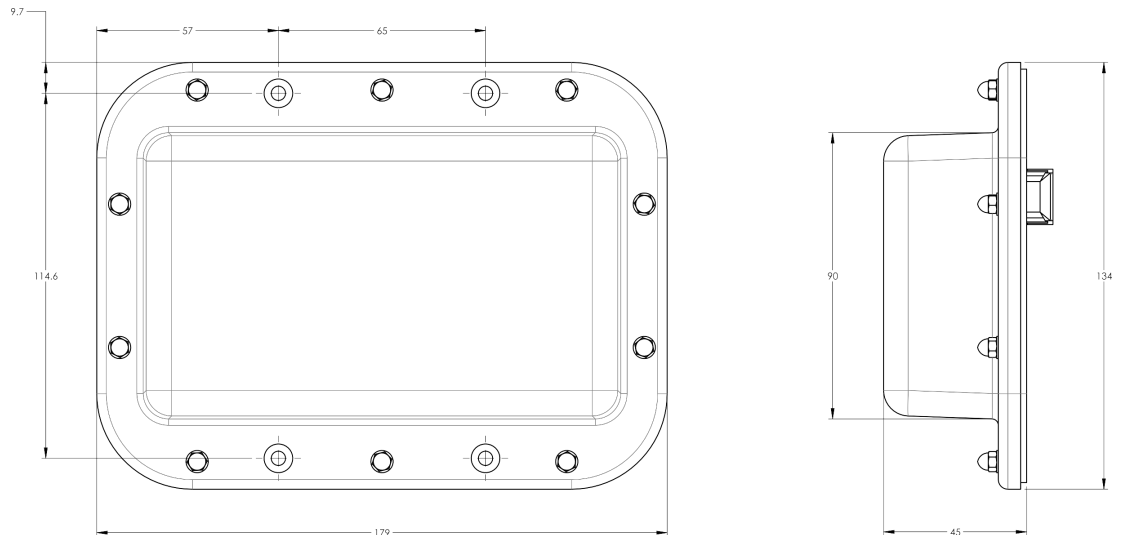
Electrical

|                          |                                    |
|--------------------------|------------------------------------|
| 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







AISG Cable

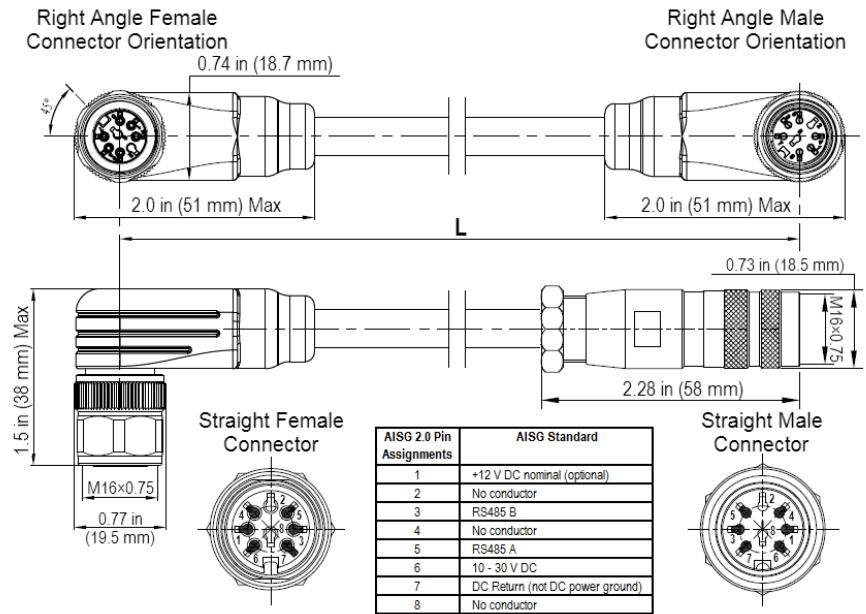
AISGC-M-F-xFT

Electrical Specifications

|                              |                       |
|------------------------------|-----------------------|
| Individual Cable Part Number | AISGC-M-F-x(FT)       |
| Cable style                  | UL2464                |
| Protocol                     | AISG 1.1 and AISG 2.0 |
| Maximum voltage              | 300 V                 |
| Rated current                | 5 A at 104° F (40° C) |

Mechanical Specifications

|                              |  |
|------------------------------|--|
| Individual Cable Part Number | AISGC-M-F-x(FT)  |
| Cables per kit               | 1  |
| Connectors                   | 2 x 8 pin IEC 60130-9<br>Straight male/straight female             |
| Tightening torque            | Hand tighten only $\approx$ 1.84 ft-lbs (2.5 Nm)                   |
| Construction                 | Shielded (Tinned Copper Braid)                                     |
| Braid coverage               | 85%  |
| Jacket Material              | Matte Polyurethane (Black)   |
| Conductors                   | 1 twisted pair - 24 AWG<br>3 conductors - 19 AWG<br>AWM style 2464 |
| Cable Diameter               | 0.307 in (7.8 mm)  |
| Length                       | See order details  |
| Minimum bend radius          | 3.15 in (80 mm)  |



AISG-Male to AISG-Female Jumper Cable



Environmental Specifications

|                              |                      |
|------------------------------|----------------------|
| Individual Cable Part Number | AISGC-M-F-xFT        |
| Temperature Range            | -40° to 80° C        |
| Flammability                 | UL 1581 VW-1         |
| Ingress Protection           | IEC 60529:2001, IP67 |



STANDARDS & CERTIFICATIONS

Two Port High-Band Antenna

2PA65R-E5A

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

