



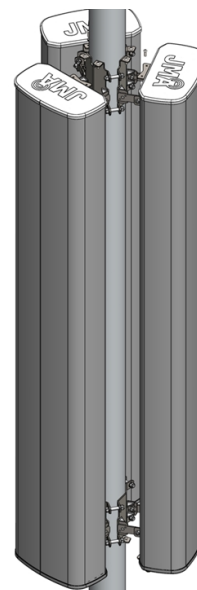
# MX04FFP465-01

## NWAV™ X-Pol Four-Port Antenna

### X-Pol Four-Port 4 ft, 65° Form in Tighter with Smart Bias Ts, 698-3980 MHz:

#### 4 ports 698-3980 MHz

- Low profile / smaller form-factor antennas suitable for shrouded sites, flagpoles, etc., for enabling full 4x4 C-Band spectrum deployment.
- Integrated feeder reduction and Smart Bias-Ts for ease of deployment and reduced leasing costs
- Optimized form-factor for reduced weight and wind loading
- Fully integrated (iRETs) with independent RET control for low band, midband, and CBRS/C-Band.
- Excellent passive intermodulation (PIM) performance reduces harmful interference.
- Advanced element technology for improved RF efficiency
- Optimized CBRS radiation pattern for improved RSRP



| Electrical specification (minimum/maximum)                | Ports 1, 2    |         | Ports 1, 2, 3, 4 |           |           |
|---|---------------|---------|------------------|-----------|-----------|
| Frequency bands, MHz                                      | 698-806       | 806-894 | 1695-1880        | 1850-1990 | 1920-2200 |
| Polarization  | ± 45°         |         | ± 45°            |           |           |
| Average gain over all tilts, dBi                          | 13.4          | 13.6    | 16.3             | 16.5      | 16.2      |
| Horizontal beamwidth (HBW), degrees <sup>1</sup>          | 73.0          | 71.0    | 69.0             | 71.0      | 62.0      |
| Front-to-back ratio, co-polar power @180°± 30°, dB        | >29           | >29     | >27              | >27       | >27       |
| X-Pol discrimination (CPR) at boresight, dB               | >21           | >22     | >17              | >20       | >19       |
| Vertical beamwidth (VBW), degrees <sup>1</sup>            | 17.0          | 14.5    | 8.0              | 7.8       | 7.6       |
| Electrical downtilt (EDT) range, degrees                  | 2-16          |         | 0-9              |           |           |
| First upper side lobe (USLS) suppression, dB <sup>1</sup> | ≤-15          | ≤-16    | ≤-15             | ≤-15      | ≤-15      |
| Cross-polar isolation, port-to-port, dB <sup>1</sup>      | 25            | 25      | 25               | 25        | 25        |
| Max VSWR / return loss, dB                                | 1.5:1 / -14.0 |         | 1.5:1 / -14.0    |           |           |
| Max passive intermodulation (PIM), 2x20W carrier, dBc     | -153          |         | -153             |           |           |
| Max input power per any port, watts                       | 300           |         | 200              |           |           |
| Total composite power all ports (1-4), watts              | 1200          |         |                  |           |           |

<sup>1</sup> Typical value over frequency and tilt



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| Electrical specification (minimum/maximum)                | Ports 1, 2, 3, 4 |           |           |
|---|------------------|-----------|-----------|
| Frequency bands, MHz                                      | 3400-3550        | 3550-3700 | 3700-3980 |
| Polarization  | ± 45°            |           |           |
| Average gain over all tilts, dBi                          | 13.0             | 13.0      | 13.2      |
| Horizontal beamwidth (HBW), degrees                       | 66               | 60        | 62        |
| Front-to-back ratio, co-polar power @180°± 30°, dB        | >25              | >25       | >25       |
| Vertical beamwidth (VBW), degrees <sup>1</sup>            | 20.0             | 18.0      | 17.0      |
| Electrical downtilt (EDT) range, degrees                  | 2-12             |           |           |
| First upper side lobe (USLS) suppression, dB <sup>1</sup> | ≤-15             | ≤-15      | ≤-15      |
| Cross-polar isolation, port-to-port, dB <sup>1</sup>      | 25               | 25        | 25        |
| Max VSWR / return loss, dB                                | 1.5:1 / -14.0    |           |           |
| Max input power per any port, watts                       | 150              |           |           |
| Total composite power all ports (1-4), watts              | 1200             |           |           |

<sup>1</sup> Typical value over frequency and tilt

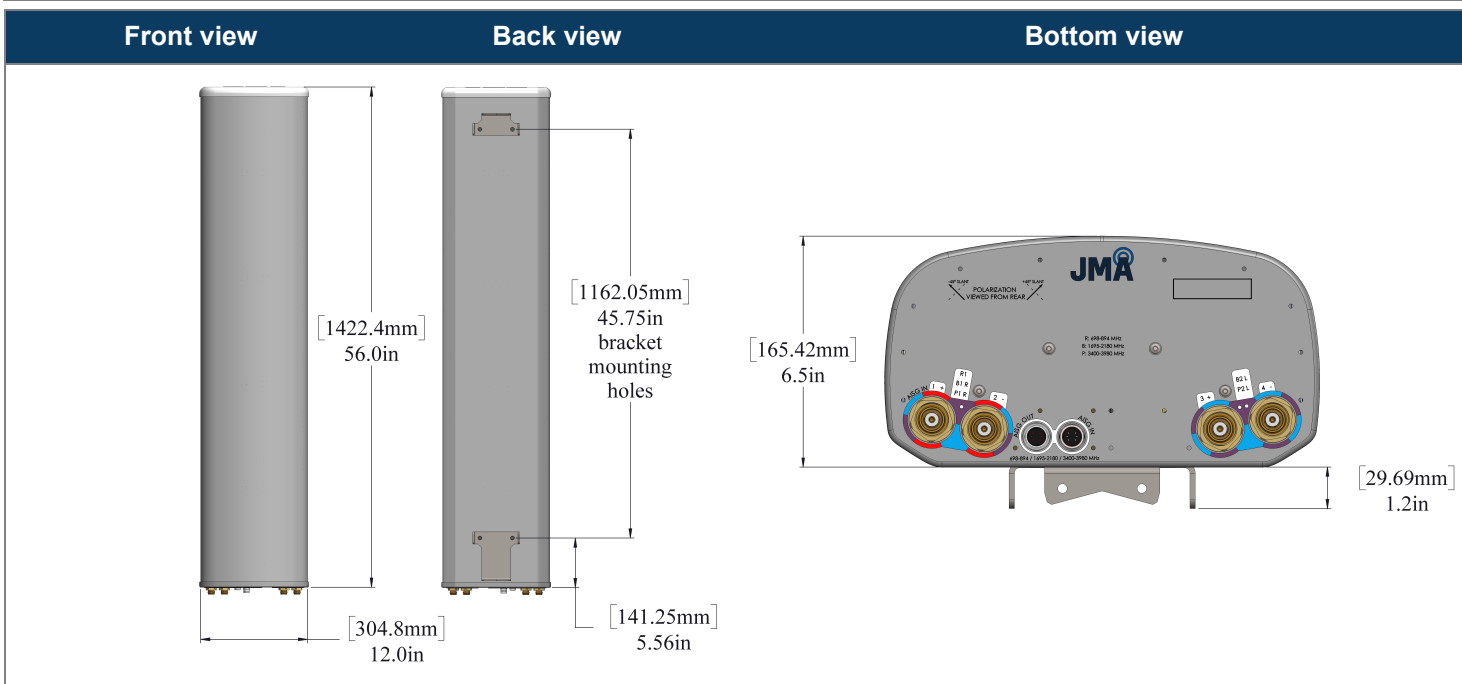
| Ordering information                           |  |
|--|--|
| Antenna model                                  | Description  |
| MX04FFP465-01                                  | 4F X- Pol 4 Port FFP 65° 2-16°/ 0-9°/ 2-12°, 4.3-10 & SBTs                   |
| Optional accessories                           |  |
| <a href="#">AISG cables</a>                    | M/F cables for AISG connections  |
| <a href="#">PCU-1000 RET controller</a>        | Stand-alone controller for RET control and configurations                    |
| <a href="#">91900339-01 (1 per 3 antennas)</a> | Tri-Sector Pole-Mount Bracket (see 91900339-01 bracket document for details) |



# MX04FFP465-01

## NWAV™ X-Pol Four-Port Antenna

| Mechanical specifications                                    |                                    |
|--|------------------------------------|
| Dimensions height/width/depth, inches (mm)                   | 56.0/ 12.0/ 6.5 (1422/ 304.8/ 165) |
| Shipping dimensions length/width/height, inches (mm)         | 62/ 20/ 12 (1574/ 508/ 305)        |
| No. of RF input ports, connector type, and location          | 4 x 4.3-10 female, bottom          |
| RF connector torque  | 96 lbf-in (10.85 N·m or 8 lbf-ft)  |
| Net antenna weight, lb (kg)                                  | 37.5 (17)                          |
| Shipping weight, lb (kg)                                     | 50.8 (23)                          |
| Antenna mounting kit, 1 per 3 antennas (sold separately)     | See <a href="#">91900339-01</a>    |
| Rated wind survival speed, mph (km/h)                        | 150 (241)                          |
| Frontal and lateral wind loading @ 150 km/h, lbf (N)         | 48.7 (216.6), 11.3 (50.2)          |
| EPA frontal and lateral, ft <sup>2</sup> , (m <sup>2</sup> ) | 2.2 (0.2), 0.5 (0.046)             |

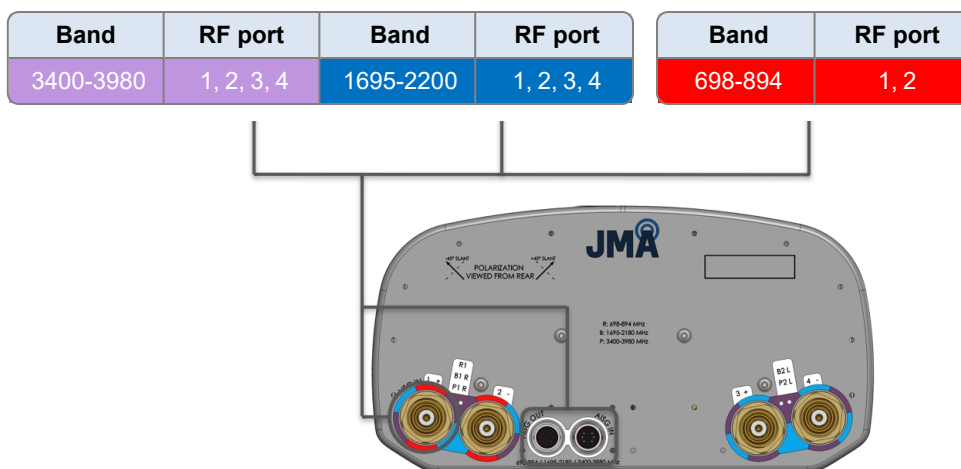


### Remote electrical tilt (RET 1000) information

|   |  |
|---|--|
| RET location  | Integrated into antenna                                    |
| RET interface connector type                              | 8-pin AISG connector per IEC 60130-9 or RF port bias-t     |
| RET connector torque                                      | Min 0.5 N·m to max 1.0 N·m (hand pressure & finger tight)  |
| RET interface connector quantity                          | 1 pair of AISG male/female connectors and 1 RF port bias-t |
| RET interface connector location                          | Bottom of the antenna                                      |
| Total no. of internal RETs 698-894 MHz                    | 1  |
| Total no. of internal RETs 1695-2200 MHz                  | 1  |
| Total no. of internal RETs 3400-3980 MHz                  | 1  |
| RET input operating voltage, vdc                          | 10-30  |
| RET max power consumption, idle state, W                  | ≤ 2.0  |
| RET max power consumption, normal operating conditions, W | ≤ 13.0   |
| RET communication protocol                                | AISG 2.0 / 3GPP  |

### RET and RF connector topology

Each RET device can be controlled either via the designated external AISG connector or RF smart bias-t port as shown below:



### Array topology

5 sets of radiating arrays

- R1: 698-894 MHz
- B1: 1695-2200 MHz
- B2: 1695-2200 MHz
- P1: 3400-3980 MHz
- P2: 3400-3980 MHz

| Band      | RF port |
|-----------|---------|
| 698-894   | 1-2     |
| 1695-2200 | 1-2     |
| 1695-2200 | 3-4     |
| 3400-3980 | 1-2     |
| 3400-3980 | 3-4     |

