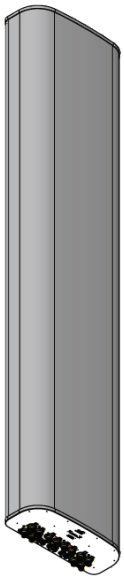
MX04FRO845-02E

NWAV™ X-Pol 4-Port Antenna

X-Pol 4-Port 8 ft, 45° Fast Roll-Off, with Smart Bias Ts, 698-894 MHz:

4 ports 698-894 MHz

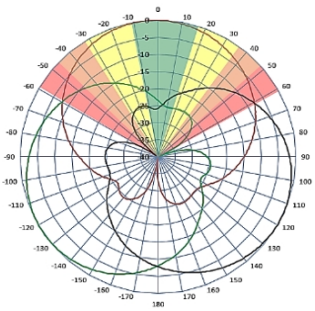
- Full low-band arrays for maximum gain
- Fast Roll Off (FRO™) azimuth beam pattern improves Intra- and Inter-cell SINR
- Enhanced pattern performance with superior cross polarization and front-to-back ratio for excellent MIMO performance
- Excellent passive intermodulation (PIM) performance reduces harmful interference.
- Fully integrated (iRETs) with independent RET control for low band for ease of network optimization
- FRO performance on smallest form factor, reducing leasing costs
- Suitable for 5G/LTE/CDMA/PCS/UMTS/GSM air interface technologies
- Lighter weight and lower profile radome shape optimized for superior wind loading
- Integrated Smart Bias-T reduce leasing costs



Fast Roll-Off antennas increase data throughput without compromising coverage

The horizontal beam produced by Fast Roll-Off (FRO) technology increases the Signal to Interference & Noise Ratio (SINR) by eliminating overlap between sectors .

Non-FRO antenna



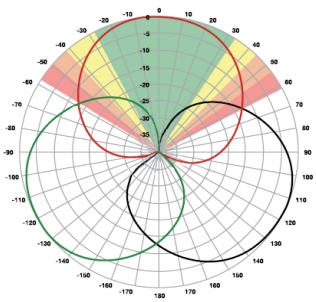
Large traditional antenna pattern overlap creates harmful interference.

JMA's FRO antenna pattern minimizes overlap, thereby minimizing interference.

LTE throughput	SINR	Speed (bps/Hz)	Speed increase	CQI
Excellent	>18	>4.5	333+%	8-10
Good	15-18	3.3-4.5	277%	6-7
Fair	10-15	2-3.3	160%	4-6
Poor	<10	<2	0%	1-3

The LTE radio automatically selects the best throughput based on measured SINR.

JMA FRO antenna



Electrical specification (minimum/maximum)	Ports 1, 2, 3, 4	
Frequency bands, MHz	698-806	806-894
Polarization	± 45°	
Maximum gain over all tilts, dBi	16.9	17.5
Average gain over all tilts, dBi	16.7 ± 0.2	17.3 ± 0.2
Horizontal beamwidth (HBW), degrees[1]	46	44
Front-to-back ratio, co-polar power @180°± 30°, dB	>25.0	>25.0
X-Pol discrimination (CPR) at boresight, dB	>25.0	>25.0
Vertical beamwidth (VBW), degrees[1]	9	8
Electrical downtilt (EDT) range, degrees	2-12	
First upper side lobe (USLS) suppression, dB[1]	≤-15.0	≤-15.0
Cross-polar isolation, port-to-port, dB[1]	25	25

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Electrical specification (minimum/maximum)	Ports 1, 2, 3, 4
Max VSWR / return loss, dB	1.5:1 / -14.0
Max passive intermodulation (PIM), 2x20W carrier, dBc	-153
Max input power per any port, watts	300
Total composite power all ports, watts	1500

[1] Typical value over frequency and tilt

Mechanical specifications	
Dimensions height/width/depth, inches (mm)	96/ 20/ 8(2440/ 510/ 203)
Shipping dimensions length/width/height, inches (mm)	100.6/ 23.8/ 14.5(2555/ 605/ 368)
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)	48 (21.8)
Shipping weight, lb (kg)	90 (40.8)
Antenna mounting and downtilt kit included with antenna	91900318, 91900319 (middle bracket)
Net weight of the mounting and downtilt kit, lb (kg)	26 (11.82)
Range of mechanical up/down tilt	-2° to 12°
Rated wind survival speed, mph (km/h)	150 (241)
Frontal and lateral wind loading @ 150 km/h, lbf (N)	172.3 (766.4), 79.8 (355.0)
EPA frontal and lateral, ft^2, (m^2)	7.7 (0.72), 3.6 (0.33)

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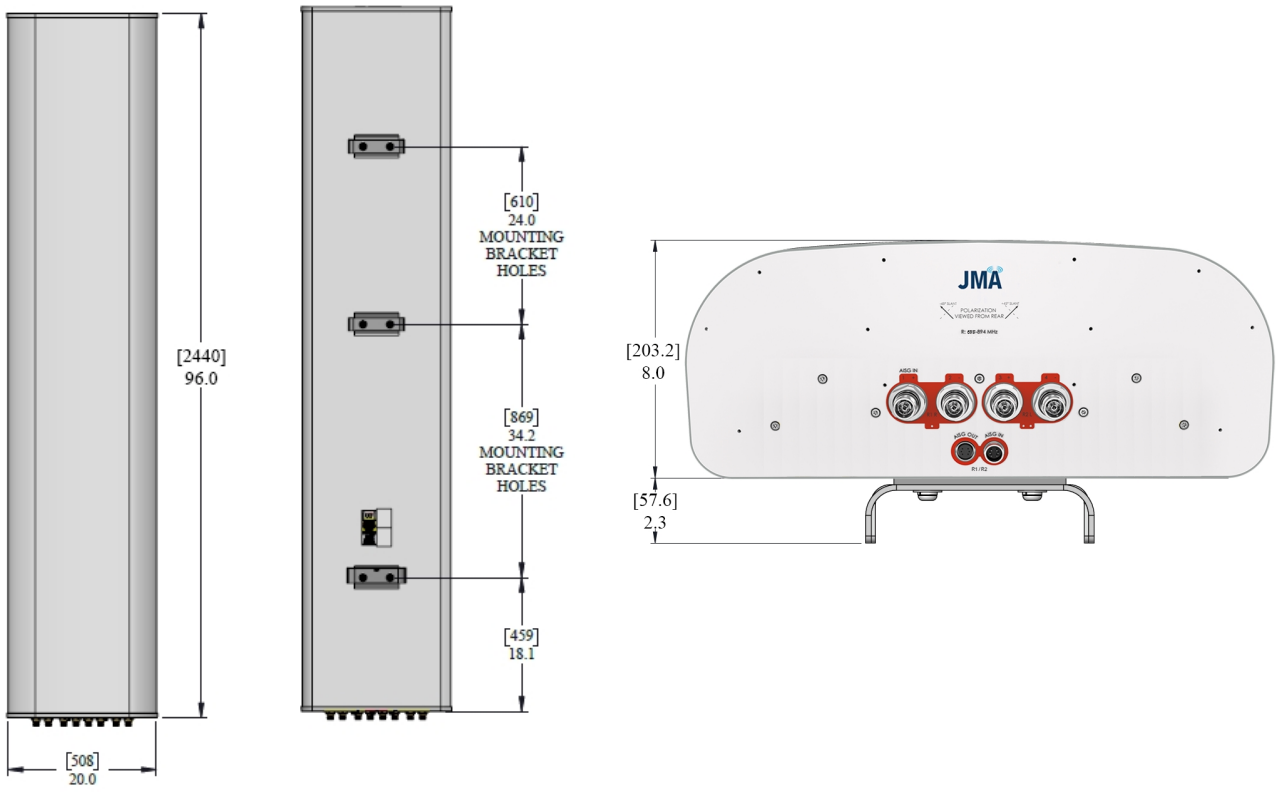
Front view	Back view	Bottom view



Ordering information	
Antenna model	**Description**
MX04FRO845-02E	8F X- Pol 4 PORT FRO 45º 2-12º, 4.3-10 & SBT
Optional accessories	
AISG cables	M/F cables for AISG connections
PCU-1000 RET controller	Stand-alone controller for RET control and configurations
91900314-03	Dual Mount Bracket (see 91900314 bracket document for details)

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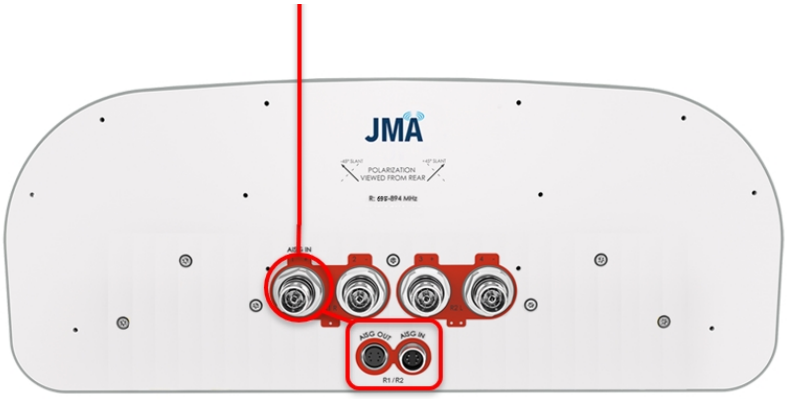
Remote electrical tilt (RET 1000) information	
RET location	Integrated into antenna
RET interface connector type	8-pin AISG connector per IEC 60130-9 or RF port bias-t
RET connector torque	Min 0.5 N·m to max 1.0 N·m (hand pressure & finger tight)
RET interface connector quantity	1 pair of AISG male/female connectors and 1 RF port Bias T
RET interface connector location	Bottom of the antenna
Total no. of internal RETs 698-894 MHz	1
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:

Band	RF port
698-894	1-4



Array topology

2 sets of radiating arrays

R1: 698-894 MHz
R2: 698-894 MHz

Band	RF port
698-894	1-4

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