



MX12FHG865-01

NWAV™ X-Pol 12-Port Antenna

X-Pol 12-Port 8 ft, 65° Form In Tigher High Gain, with Smart Bias Ts, 698-2690 MHz:

4 ports 698-894 MHz, 8 ports 1695-2690 MHz

- 12-Port antenna offering the same functionality as 2 Hex Port antennas in a single unit
- Industry-leading high gain for MB and LB for extended coverage
- Full mid band arrays for maximum gain
- Fully integrated (iRETs) with independent RET control for low band and mid band
- Excellent passive intermodulation (PIM) performance reduces harmful interference.
- Suitable for 3G, 4G, and 5G interface technologies
- Integrated Smart Bias-Ts reduce leasing costs
- Optimized form factor for reduced wind loading
- Ultra low insertion loss antenna technology with reduced antenna weight



Electrical specification (minimum/maximum)	Ports 1, 2, 3, 4		Ports 5, 6, 7, 8, 9, 10, 11, 12				
	698-798	824-894	1695-1880	1850-1990	1920-2180	2300-2360	2496-2690
Frequency bands, MHz	698-798	824-894	1695-1880	1850-1990	1920-2180	2300-2360	2496-2690
Polarization	± 45°		± 45°				
Maximum gain over all tilts, dBi	17.2	17.4	19.4	19.5	20.0	20.1	20.2
Average gain over all tilts, dBi	16.8 ± 0.4	17.0 ± 0.4	19.2 ± 0.2	19.2 ± 0.3	19.5 ± 0.5	19.6 ± 0.5	19.5 ± 0.7
Horizontal beamwidth (HBW), degrees ¹	67	63	71	66	62	60	62
Front-to-back ratio, co-polar power @180°± 30°, dB	>25.0	>25.0	>32.0	>31.0	>32.0	>33.0	>33.0
X-Pol discrimination (CPR) at boresight, dB	>20.0	>18.0	>18	>18	>18	>18	>18
Vertical beamwidth (VBW), degrees ¹	9.0	8.3	5.0	4.6	4.3	4.0	3.7
Electrical downtilt (EDT) range, degrees	0-10		0-7				
First upper side lobe (USLS) suppression, dB ¹	≤-15.0	≤-15.0	≤-16.0	≤-16.0	≤-16.0	≤-16.0	≤-16.0
Cross-polar isolation, port-to-port, dB ¹	25	25	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		250				
Total composite power all ports, watts			1500				

¹ Typical value over frequency and tilt

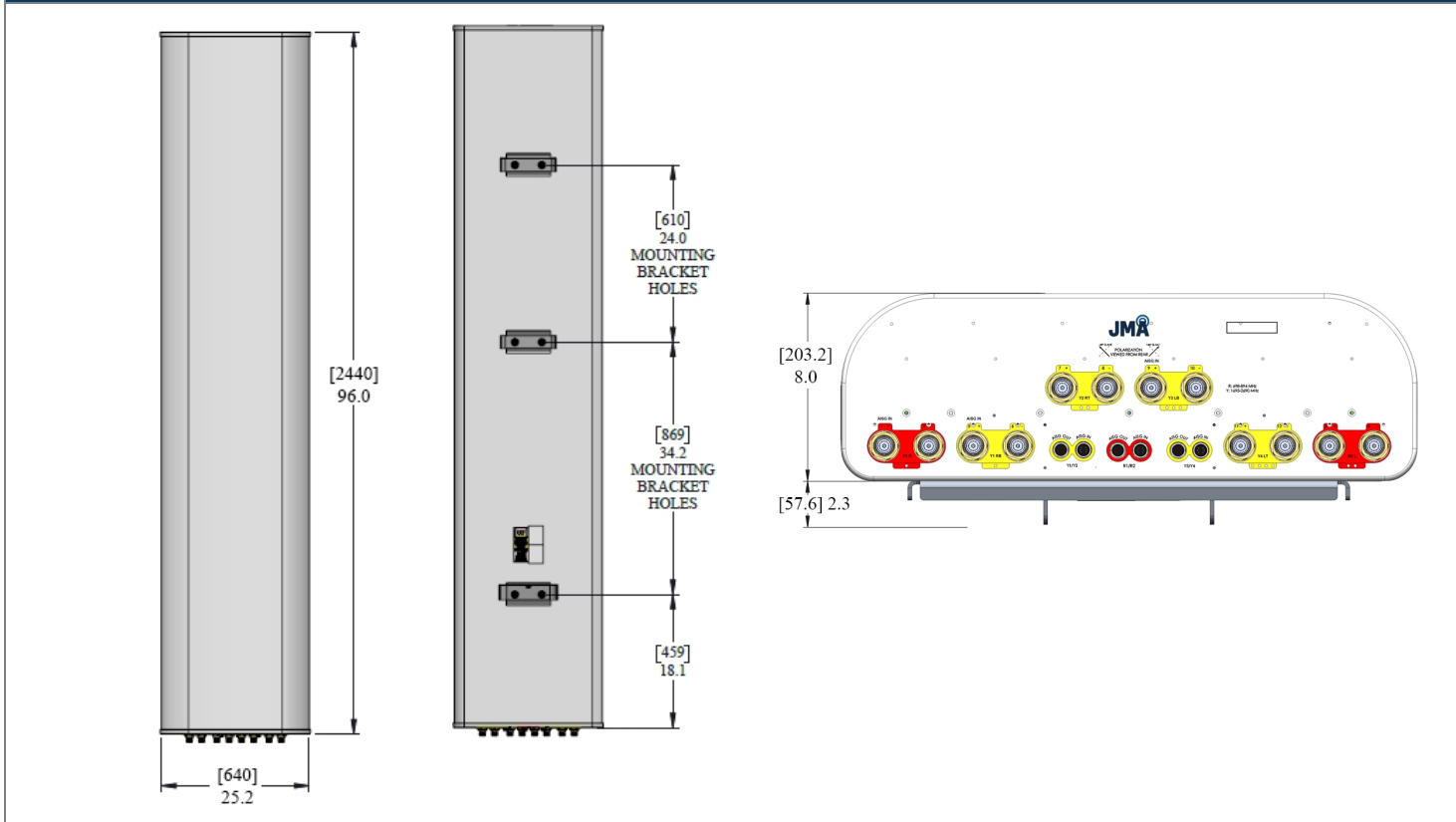


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Mechanical specifications	
Dimensions height/width/depth, inches (mm)	96/ 25.2/ 8 (2440/ 640/ 203)
Shipping dimensions length/width/height, inches (mm)	100.6/ 29.0/ 14.5(2555/ 737/ 368)
No. of RF input ports, connector type, and location	12 x 4.3-10 female, bottom
RF connector torque	96 lbf-in (10.85 N·m or 8 lbf-ft)
Net antenna weight, lb (kg)	97 (43.99)
Shipping weight, lb (kg)	153 (69.39)
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)	220 (978), 70 (311)
EPA projected area @150 km/h (EPA) frontal	10.0

Front view	Back view	Bottom view
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Ordering information

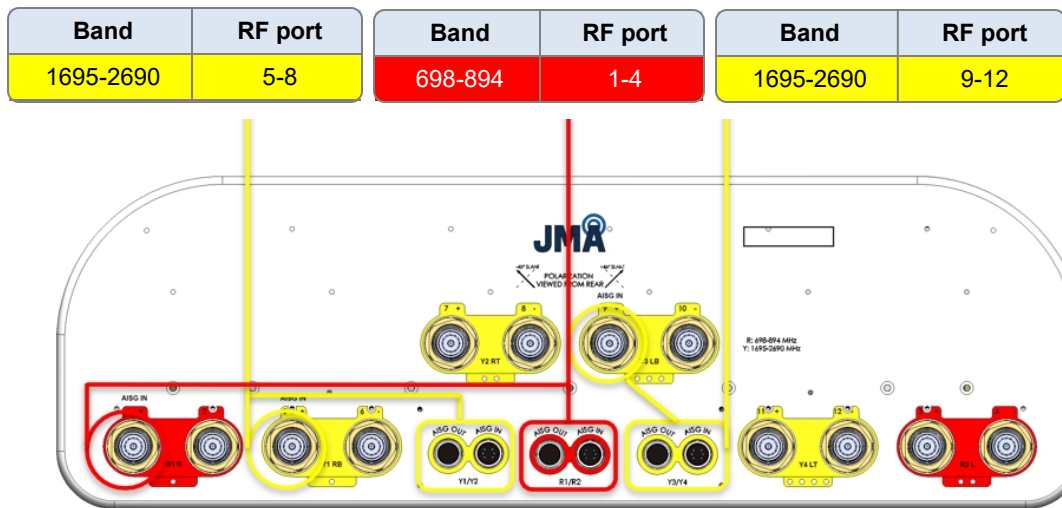
Antenna model	Description
MX12FHG865-01	8F X- Pol 12 PORT FIT 65° 0-10°/ 0-7° RET, 4.3-10 & SBT
Optional accessories	
AISG cables	M/F cables for AISG connections
PCU-1000 RET controller	Stand-alone controller for RET control and configurations
91900314-03	Dual Mount Bracket (see 91900314 bracket document for details)

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	3 pairs of AISG male/female connectors and 3 RF port Bias Ts
RET interface connector location	Bottom of the antenna
Total no. of internal RETs 698-894 MHz	1
Total no. of internal RETs 1695-2690 MHz	2
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

6 sets of radiating arrays

- R1: 698-894 MHz
- R2: 698-894 MHz
- Y1: 1695-2690 MHz
- Y2: 1695-2690 MHz
- Y3: 1695-2690 MHz
- Y4: 1695-2690 MHz

Band	RF port
1695-2690	5-12
698-894	1-4

