



MX16FSS833-01

NWAV™ X-Pol 16-Port Antenna

X-Pol 16-Port 8 ft Sector/Multibeam Antenna, 40°/32°, with Smart Bias Ts, 698-2690 MHz:

8 ports 698-894 MHz (40°), 8 ports 1695-2690 MHz (32°)

- Ability to convert traditional 3 sectors to 6 sectors with enhanced sector splitting in low band and midband in a low-profile single antenna
- Optimized pattern, with excellent sector roll-off and stable crossover between sectors
- Fully integrated (iRETs) with independent RET control for low-band and midband arrays per beam
- Superior pattern characteristics with excellent cross polarization discrimination, front-to-back ratio performance, and maximum gain
- Excellent passive intermodulation (PIM) performance reduces harmful interference.
- Integrated Smart Bias-Ts reduce leasing costs
- Optimized form factor for reduced wind loading



Electrical specification (minimum/maximum)	Ports 1, 2, 3, 4, 5, 6, 7, 8		Ports 9, 10, 11, 12, 13, 14, 15, 16				
	698-798	824-894	1695-1880	1850-1990	1920-2200	2300-2360	2496-2690
Frequency bands, MHz	698-798	824-894	1695-1880	1850-1990	1920-2200	2300-2360	2496-2690
Polarization	± 45°		± 45°				
Maximum gain over all tilts, dBi	16.3	16.7	19.1	20.6	20.7	19.5	19.7
Average gain over all tilts, dBi	16.0 ± 0.3	16.4 ± 0.3	18.8 ± 0.3	20.3 ± 0.3	20.4 ± 0.3	19.3 ± 0.2	19.4 ± 0.3
Horizontal beamwidth (HBW), degrees ¹	42	40	34	32	30	27	26
Front-to-back ratio, co-polar power @180°± 30°, dB	>28.0	>27.0	>30.0	>33.0	>33.0	>29.0	>30.0
X-Pol discrimination (CPR) at boresight, dB	>20.0	>18.0	>19	>19	>19	>18	>18
Vertical beamwidth (VBW), degrees ¹	17.5	16.9	7.0	6.9	6.5	6.2	6.1
Electrical downtilt (EDT) range, degrees	2-14		2-10				
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	3000						

¹ Typical value over frequency and tilt

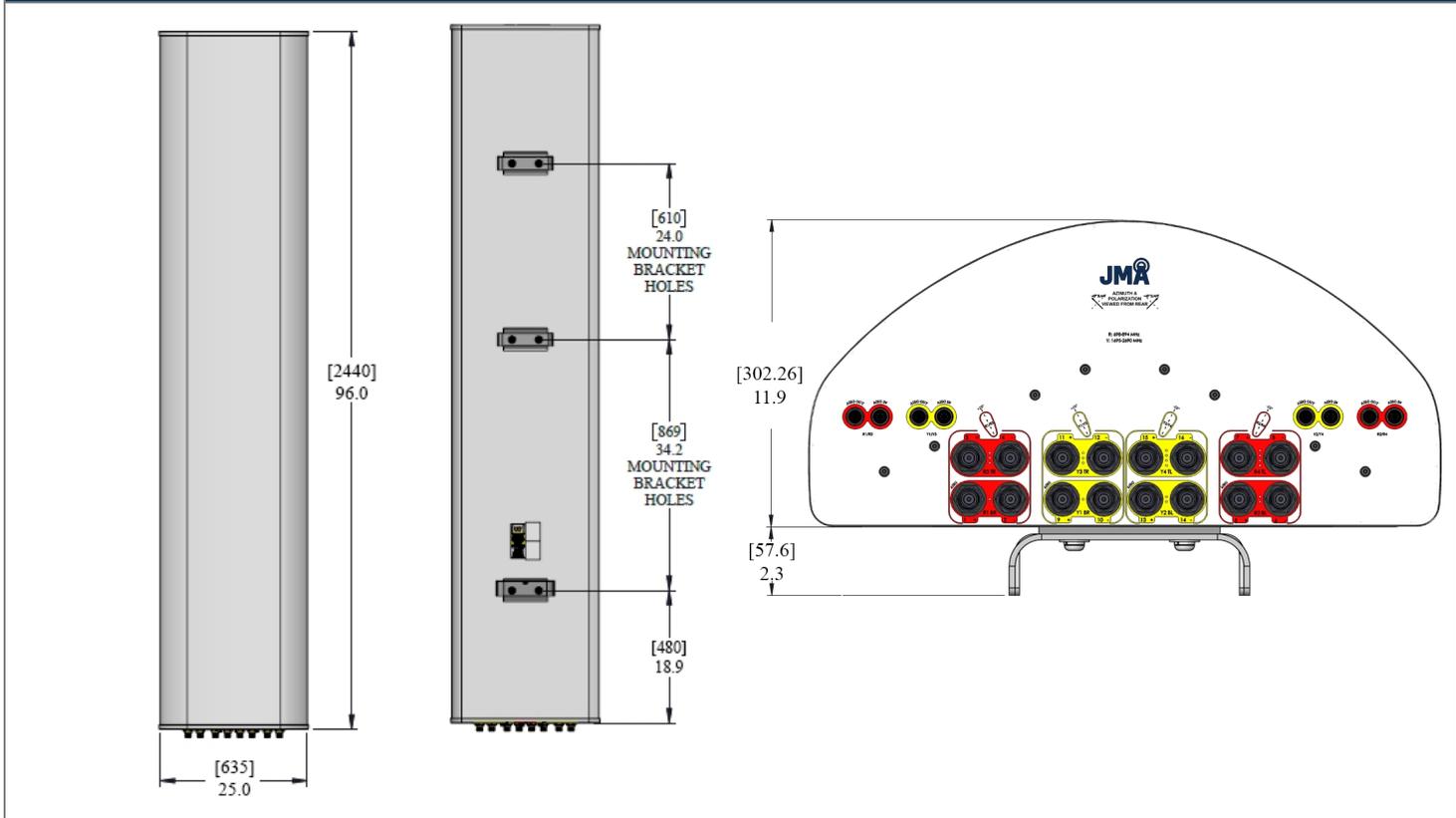


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Mechanical specifications	
Dimensions height/width/depth, inches (mm)	96/ 25/ 11.9 (2438/ 625/ 302.26)
Shipping dimensions length/width/height, inches (mm)	100.6/ 29/ 14.5 (2555/ 737/ 368)
No. of RF input ports, connector type, and location	16 x 4.3-10 female, bottom
RF connector torque	96 lbf-in (10.85 N·m or 8 lbf-ft)
Net antenna weight, lb (kg)	111 (50.3)
Shipping weight, lb (kg)	163 (73.9)
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)	200 (890), 70 (311)
EPA frontal and lateral, ft ² (m ²)	9.0 (0.84), 3.1 (0.29)

Front view	Back view	Bottom view
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Ordering information	
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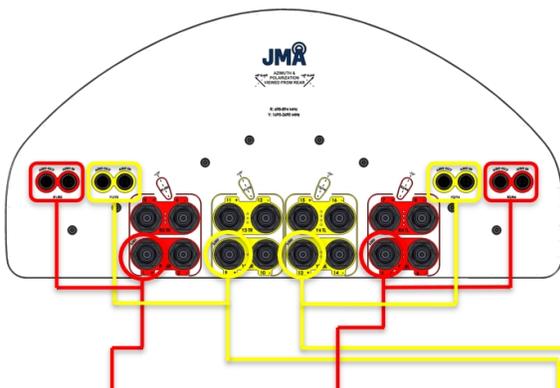
Antenna model	Description
MX16FSS833-01	8F X- Pol 16 PORT SPLIT SECTOR 2-14°/ 2-10° RET, 4.3-10 & SBT
Optional accessories	
AISG cables	M/F cables for AISG connections
PCU-1000 RET controller	Stand-alone controller for RET control and configurations
91900314-03	Dual Mount Bracket (see 91900314 bracket 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	4 pairs of AISG male/female connectors and 4 RF port Bias Ts
RET interface connector location	Bottom of the antenna
Total no. of internal RETs 698-894 MHz	2
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 ID	R1	R3	R2	R4	Y1	Y3	Y2	Y4
RF port	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16
RET ID	R1		R2		Y1		Y2	

Array topology

8 sets of radiating arrays

- R1: 698-894 MHz
- R2: 698-894 MHz
- R3: 698-894 MHz
- R4: 698-894 MHz
- Y1: 1695-2690 MHz
- Y2: 1695-2690 MHz
- Y3: 1695-2690 MHz
- Y4: 1695-2690 MHz

Array ID	Azimuth	Band	RF port	RET#
R1	+28°	698-894	1-2	R1
R3		698-894	3-4	
R2	-28°	698-894	5-6	R2
R4		698-894	7-8	
Y1	+28°	1695-2690	9-10	Y1
Y3		1695-2690	11-12	
Y2	-28°	1695-2690	13-14	Y2
Y4		1695-2690	15-16	

