MX10FHG665-HG

NWAV™ X-Pol Hex-Port Antenna

X-Pol Ten-Port 6 ft, 65° Form in Tighter High Gain (FHG) with Smart Bias Ts, 698-4200 MHz:

2 ports 698-894 MHz, 4 ports 1695-2180 MHz, and 4 ports 3400-4200 MHz

- Industry-leading RF efficiency with high gain for MB and LB for extended cell coverage
- Excellent passive intermodulation (PIM) performance reduces harmful interference.
- Fully integrated (iRETs) with independent RET control for low band, mid band, and high band
- Suitable for all interface technologies
- Integrated Smart Bias-Ts reduce leasing costs
- Optimized form factor for reduced wind loading
- Optimized CBRS radiation pattern for improved RSRP

Electrical specification (minimum/maximum)	Ports 1, 2		Ports 3, 4, 5, 6		
Frequency bands, MHz	698-806	806-894	1695-1880	1850-1990	1920-2200
Polarization	± 45°		± 45°		
Max gain over all tilts, dBi	15.5	16.0	18.9	19.0	19.6
Average gain, dBi	15.3 ± 0.2	15.8 ± 0.2	18.8 ± 0.1	18.8 ± 0.2	19.3 ± 0.3
Horizontal beamwidth (HBW), degrees	67.0	64.0	63.0	64.0	64.0
Front-to-back ratio, co-polar power @180°± 30°, dB	>25.0	>25.0	>28.0	>26.0	>25.0
X-Pol discrimination (CPR) at boresight, dB	>20.0	>18.0	>25	>20	>18
Sector power ratio, percent[1]	<4.0	<3.6	<5.0	<3.8	<3.6
Vertical beamwidth (VBW), degrees[1]	14.0	12.5	5.8	5.5	5.0
Electrical downtilt (EDT) range, degrees	0-12		0-9		
First upper side lobe (USLS) suppression, dB[1]	≤-16.0	≤-15.0	≤-16.0	≤-16.0	≤-16.0
Cross-polar isolation, port-to-port, dB[1]	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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Electrical specification (minimum/maximum)	Ports 7, 8, 9, 10			
Frequency bands, MHz	3400-3550	3550-3700	3700-3950	3950-4200
Polarization	± 45°			
Average gain over all tilts, dBi	13.6	13.9	14.0	14.2
Horizontal beamwidth (HBW), degrees	65	61	60	58
Front-to-back ratio, co-polar power @180°± 30°, dB	>23	>23	>23	>22
Vertical beamwidth (VBW), degrees[1]	17.9	17.6	16.9	16.5
Electrical downtilt (EDT) range, degrees	2-12			
First upper side lobe (USLS) suppression, dB[1]	≤-15	≤-15	≤-15	≤-15
Cross-polar isolation, port-to-port, dB[1]	25	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 (1-10), watts	1500			

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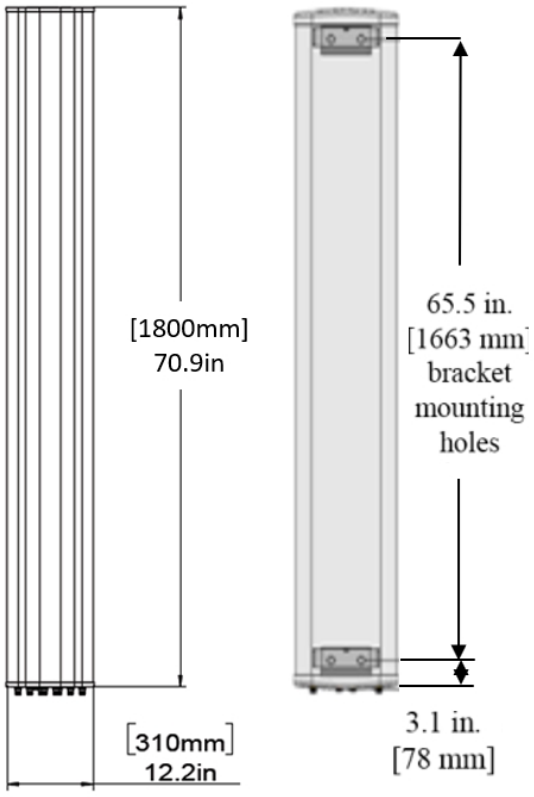
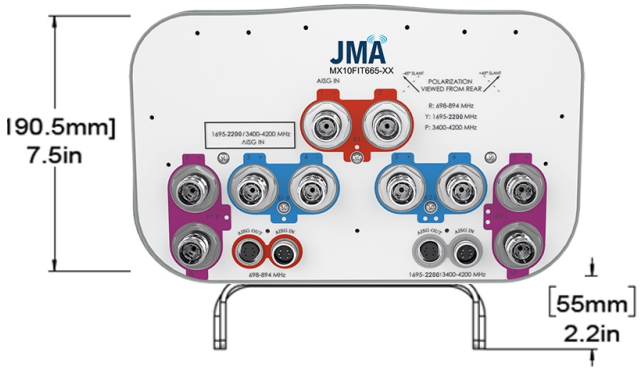
Mechanical specifications	
Dimensions height/width/depth, inches (mm)	70.9/ 12.2/ 7.5 (1800/ 309.9/ 190.5)
Shipping dimensions length/width/height, inches (mm)	76/ 20/ 14.5 (1930/ 508/ 368)
No. of RF input ports, connector type, and location	10 x 4.3-10 female, bottom
RF connector torque	96 lbf·in (10.85 N·m or 8 lbf·ft)
Net antenna weight, lb (kg)	46 (20.86)
Shipping weight, lb (kg)	91 (41.27)
Antenna mounting and downtilt kit included with antenna	91900318
Net weight of the mounting and downtilt kit, lb (kg)	20.3 (9.2)
Range of mechanical up/down tilt	-2° to 12°
Rated wind survival speed, mph (km/h)	150 (241)
Frontal and lateral, and rear wind loading @ 150 km/h, lbf (N)	66.9 (297.6), 60.0 (266.9)
Equivalent flat plate @ 100 mph and Cd=2, sq ft	1.49
EPA frontal and lateral, ft^2, (m^2)	3.0 (0.28), 3.6 (0.33)

Front view **Back view** **Bottom view**





Ordering information	
Antenna model	**Description**
MX10FHG665-HG	6F X- Pol 10 Port FHG 65º 0-12º/ 0-9º/ 2-12º, 4.3-10 & SBTs
Optional accessories	
AISG cables	M/F cables for AISG connections
PCU-1000 RET controller	Stand-alone controller for RET control and configurations
91900314-02	Dual Mount Bracket (see 91900314 bracket document for details)

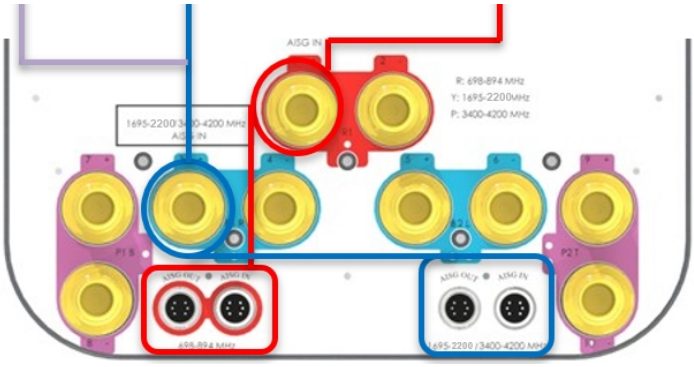
Remote electrical tilt (RET 1000) information	
RET location	Integrated into antenna
RET interface connector type	8-pin AISG connector per IEC 60130-9 or RF port bias-t
RET connector torque	Min 0.5 N·m to max 1.0 N·m (hand pressure & finger tight)
RET interface connector quantity	2 pairs of AISG male/female connectors and 2 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 1695-2180 MHz	1
Total no. of internal RETs 3400-4200 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	Band	RF port
3400-4200	7-10	1695-2200	3-6

Band	RF port
698-894	1-2



Note: The RET Device for 3400-4200 MHz is connected via the 1695-2200 Port 3 Bias T port or 1695-2200/3400-4200 MHz AISG ports.

Array topology

5 sets of radiating arrays

R1: 698-894 MHz
B1: 1695-2200 MHz
B2: 1695-2200 MHz
P1: 3400-4200 MHz
P2: 3400-4200 MHz

Band	RF port
698-894	1-2
1695-2200	3-4
1695-2200	5-6
3400-4200	7-8
3400-4200	9-10