9m earth station SATCOM antenna

Datasheet (FMA)

Model		SW90C0505		SW90Ku0505		SW90Ka0505	
Specifications		Receive in C band	Transmit in C band	Receive in Ku band	Transmit in Ku band	Receive in Ka band	Transmit in Ka band
Electrical	Frequency Band(GHz)	3.4～4.2	5.85～6.65	10.95～12.75	13.75～14.50	19.6～21.2	29.4～31.0
	Gain(dBi)	≥49.7+20lg(f/4)	≥53.1+20lg(f/6)	≥58.8+20lg(f/12)	≥60.2+20lg(f/14)	≥63.1+20lg(f/20.4)	≥66.4+20lg(f/30.2)
	VSWR	≤1.25：1	≤1.25：1	≤1.25：1	≤1.25：1	≤1.25：1	≤1.25：1
	Beam Width(-3dB)	≤0.59°	≤0.40°	≤0.20°	≤0.17°		
	Beam Width(-10dB)	≤1.09°	≤0.73°	≤0.37°	≤0.32°		
	Noise Temperature(K)	2/4 ports		2/4 ports		4ports	
	10° EL	≤45/50		≤57/65		≤157 @20.4GHz	
	20° EL	≤40/45		≤47/55			
	30° EL	≤35/40		≤43/51		≤113 @20.4GHz	
	Power Capacity(kW)		5		1		1
	Interface Type	CPR-229G	CPR-159G/137G	WR-75		CPR-42G	CPR-28G
	Polarization Type	Linear polarization or circular polarization.		Linear Polarization		Circular Polarization	
	Insertion Loss of Feed(dB)(inc. rejection Tx filter)	≤0.3/0.4	≤0.3/0.4	≤0.35/0.5	≤0.35/0.5	≤1.2	≤1.3
	Interport Isolation(dB)						
	Rx/Tx	≥85		≥85		≥85	
	Linear Polarization, Rx/Rx, Tx/Tx	≥30	≥30	≥30	≥30		
	Circular Polarization, Rx/Rx, Tx/Tx	≥21	≥21			≥15	≥20
	Cross Polarization Isolation(linear polarization)	≥35 , axially	≥35 , axially	≥35 , axially	≥35 , axially		
	Axial Ratio(dB)	≤0.9/0.5	≤0.9/0.5			≤0.5	≤0.5

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	1st Sidelobe Level(dB)	≤-14	≤-14	≤-14	≤-14	≤-14	≤-14
	Side Lobe Envelope(Over 90% sidelobes meet this envelope requirement.)	29-25lg(θ) dBi	1°≤θ≤20°				
		-3.5dBi	20°<θ≤26.3°				
		32-25lg(θ) dBi	26.3°<θ≤48°				
		-10 dBi	θ>48°				
Mechanical	Azimuth Slewing Range	±170°			Continuous		
	Elevation Slewing Range	0°～90°			Continuous		
	Polarization Slewing Range	±90°					
	Az Rate	0.01°/s～1°/s			DC anti-backlash drive		
	El Rate	0.01°/s～1°/s			DC anti-backlash drive		
	Polarization Rate	1°/s					
	Tracking Accuracy	1/8-1/10 beam width					
	Surface Accuracy	≤0.5mm(RMS)					
	Surface Coating	The reflector surface is coated with strontium yellow primer and polyurethane finish paint. The steel structural members are sandblasted and galvanized before painting.			The coating for steel structural members is optional.		
	Weight	18000kg					
	Servo Power Consumption	8.8kW/380V 0.5kW/220V					
Environmental	Operational Wind Speed	20.8m/s to work in assured precision; 28.4m/s to work in lower accuracy					
	Stowage Wind Speed	35m/s					
	Survival Wind Speed	55m/s			Antenna locked upwards		
	Temperature	-40℃ to +60℃(outdoor); -20℃ to +55℃(indoor)					
	Humidity	0%～100%					
	Earthquake(survivable)	0.3 G's（horizontally）; 0.15 G's（vertically）					
	Solar Radiation	360 BTU/h/ft²					
	Antenna Icing Depth	3 cm					

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