



Datasheet for the 7.3m Ka-band THA antenna

1 Antenna Electrical Characteristics

Item	Description	
Type	SCE(KA)730	
Frequency(GHz)	Tx:27.0-31.0	Rx:17.7-21.2
Gain (Mid-band, dBi)	≥ 64.09	≥ 61.35
Pattern Beamwidth -3dB at midband	0.09°	0.15°
Typical G/T (Db/k) (19.45GHz,120K LNA)	38.2	
Polarization	Circular	
Axial Ratio(dB)	0.40	0.40
Side Lobes	1 st sidelobe not higher than -14dB Other sidelobes compliant with ITU-R S.580-6.	
Antenna Noise Temperature (Diplexer Insertion loss less than 0.5dB)	150K (at 10° EL angel)	
VSWR	≤ 1.25	≤ 1.25
Power Capability	500W pre Tx port	/

2 Antenna Mechanical Characteristics

Item	Description
Antenna Type	Modified Cassegrain Antenna, El over Az geometry
Antenna Diameter (m)	7.3
Main Reflector Accuracy (mm)	≤ 0.35 rms
Subreflector Accuracy (mm)	≤ 0.15 rms
Mount Type	Az for Full-motion, EL for Limited-Motion (THA)



Item	Description
Driving Chain Mode	Dual-motor for azimuth axis Single motor for elevation axis
Drive range	Azimuth drive: $\pm 360^\circ$ continuous, gear and pinion Elevation drive: $5^\circ - 90^\circ$ continuous, ball screw jack drive.
Antenna Accessorial Parts and Interface	Enclosure with roller door
	Hot Dipped zinc
	Access ladder & platform, Hot Dipped zinc
	Lightning Arresting Rods
	Lightning Arrestor down-conductors
	Foundation HW

3 Antenna Servo Control and Tracking Characteristics

Item	Description
Travel maximum velocity	AZ Axis Drive Rates up to $0.5^\circ/\text{s}$; EL Axis Drive Rates up to $0.1^\circ/\text{s}$.
Autotrack method	Step Tracking
Antenna Operation Mode	Step tracking, Programmed Tracking; Stand-by, Manual Driving; Position Preset

4 Antenna Environmental Conditions and Other Features

Item	Description	Remark
Ambient Temperature	$-40^\circ\text{C} \sim +55^\circ\text{C}$ (Outdoor) $0^\circ\text{C} \sim +30^\circ\text{C}$ (indoor)	
Relative Humidity	$0\% \sim 100\%$	
Rain	Rate up to 50mm/h	
Anti-wind Capability	Steady wind: 45km/h, gust: 72km/h	Normal Operation
	Steady wind: 72km/h, gust: 97km/h	Degraded Operation
	gust wind: 180km/h	Survival in any position



Item	Description	Remark
	gust wind:200km/h	Survival in stow at peak
Others	Packing (sea freight)	
	Feed Rain Blower	
	Dehydrator	
	24 months warranty	

5 Antenna drawing

