

## 2.4 Meter Earth Station Antenna

Electrical Specification					
Type		C24T		K24T	
Operating Frequency, GHz		C-Band		Ku-Band	
		Receive	Transmit	Receive	Transmit
		3.625~4.2	5.85~6.425	10.95~12.75	13.75~14.5
Gain, Mid-band, dBi		38.18	41.76	47.48	48.79
Polarization		Linear/Circular		Linear	
XPD(on Axis), dB		35	35	35	35
XPD across 1dB Beam Width, dB		33	33	33	33
Axial Ratio (Circular-Polarized)	2-Port Feed	1.30	1.09		
VSWR		1.25	1.25	1.25	1.25
Antenna Noise Temperature					
2-port feed					
10° Elevation		32K		52K	
30° Elevation		24K		38K	
50° Elevation		20K		34K	
-3 dB Beam Width, Mid-band		2.03°	1.34°	0.69°	0.59°
Typical G/T ( EL>10° )		20dB/K (30° LNA)		27.1dB/K (70° LNA)	
Tx. Power Capability, KW			5		1
Feed Interface		CPR—229F	CPR—137F	WR-75	WR-75
Feed Insertion Loss, dB		0.2	0.2	0.25	0.2
Isolation, Tx to Rx, dB		85		85	
First Side lobe		-14		-14	
90% Peaks under Following Envelop		29-25log $\theta$ (1° $\leq\theta < 20^\circ$ )		29-25log $\theta$ (1° $\leq\theta < 20^\circ$ )	
Mechanical Specification					
Antenna Diameter		2.4m			
Antenna Type		Ring Focus			
Surface Accuracy ( RMS )		$\leq 0.35\text{mm}$			
Antenna Pointing Range	Azimuth Elevation Polarization	0°~360°(Continuous) 0°~90°(Continuous) $\pm 90^\circ$ (Continuous)			
Drive Mode		Manual or Motorized			
Motor Drive System	Azimuth Travel Rate Elevation Travel Rate	0.30°/S(0.06°/S) 0.20°/S(0.04°/S)			
Environmental Specification					
Operational Wind		72km/h gusting to 97km/h			
Survival Wind		200km/h			
Temperature		-40°~+60°			
Relative Humidity		100%			
Solar Radiation		1135Kcal/h/m <sup>2</sup>			
Seismic(Survival)		0.3g(H), 0.15g(V)			
Ice Loading		13mm Operational; 25mm Survival			