NWIEE 6 METER EARTH STATION ANTENNA

NWIEE designed and manufactured in batches 6-meter Dual-shaped Compact Cassegrain all aluminum reflector antenna for VSAT applications in both C band(Model C3956T) and Ku band(Model K6T).

C3956T and K6T adopt precision-formed reflector mounted on a Az.over El. pedestal providing necessary stiffness and pointing accuracy required in C and Ku band operation. It is provided with a feed with corrugated horn and OMT and is of optimized R.F.specifications, operates in circular or linear polarization selectable manually and meets any requirements of customers for particular applications.

C6T and K6T antennas meet the regulations of CCIR 580-4 and have been approved by ASIASAT, INTELSAT, CHINASAT, etc.

NWIEE C3956T 6M CASSEGRAIN ANTENNA IN C-BAND WITH 2-PORT FEED		
R.F. SPECIFICATION	**RECEIVE**	**TRANSMIT**
Frequency in GHz	3.625-4.200	5.850-6.425
Gain	46.6+20lg[f(GHz)/4]	49.7+20lg[f(GHz)/6]
Antenna Noise Temperature 10° Elevation 20°Elevation 40°Elevation	 40k 30k 22k	
Side lobe	First side lobe level <= - 14dB Beyond first side lobe meet IESS(Intelsat) or CCIR 580-5 Recommendation	
On Axis	35dB	35dB
Within 1 dB Beam width	30dB	30dB
Axial Ratio(CP only) ,dB	1.5	1.0
VSWR	1.3:1	1.3:1
Feed Insertion or Ohmic Loss	0.20dB	0.20dB
Transmit to Receive Port Isolation	85	
Typical G/T at mid band	28.4dB/k at 20 El with 35k LNA	
Pattern Beam width in Degree at 4GHz/6GHz -3dB	 0.81	 0.54
Feed Interfaces	CPR-229F	CPR-137F
Total Power Handling Capability	3kw cw	

NOTE: All values are at the rear feed output flange.

* NWIEE antennas operational in C band 3.4--3.7GHz/ 6.424--6.725GHz or 3.4-- 4.2GHz /5.85--6.65GHz is available in NWIEE and optional for customer.

NWIEE K6T 6M CASSEGRAIN ANTENNA IN Ku-BAND WITH 2-PORT FEED		
R.F. SPECIFICATION	**RECEIVE**	**TRANSMIT**
Frequency in GHz	10.95-12.75GHz	14.0-14.5GHz
Gain at mid band	55.4	56.5
Antenna Noise Temperature 10° Elevation 20°Elevation 40°Elevation	 65k 50k 41k	
Side lobe	First sidelobe level <= - 14dB Beyond first sidelobe meet IESS(Intelsat) or CCIR 580-5 Recommendation	
Cross Polarization Isolation On Axis Within 1 dB Beam width	 35dB 30dB	 35dB 30dB
VSWR	1.3:1	1.3:1
Feed Insertion or Ohmic Loss	0.35dB	0.35dB
Typical G/T at mid band	34.8dB/k at 20 El with 70k LNA	
Transmit to Receive Port Isolation	85	
Pattern Beam width in Degree at 12GHz/14GHz -3dB	0.27	0.23
Feed Interfaces	WR75	WR75
Total Power Handling Capability	1kw cw	

NOTE: All values are at the rear feed output flange.

NWIEE 6M COMPACT CASSEGRAIN ANTENNA IN C-OR Ku-BAND WITH 4-PORT. LINEAR/CIRCULAR POL. FEED				
R.F. Specification	**C-Band**		**Ku-Band**	
	Receive	Transmit	Receive	Transmit
Frequency in GHz	3.625-4.2	5.850-6.425	10.95-12.75	14.0-14.5
Gain at mid band	46.5	49.6	55.3	56.4
Ant. Noise Temp. 10°Elevation 20°Elevation 40°Elevation	 45K 35K 27K		 65K 50K 41K	
Sidelobe Pattern	First sidelobe level ≤-14dB Beyond first sidelobe meet IESS(Intelsat) or CCIR 580-5 Recommendation			
Cross-Pol. Discrimination	35dB (On axis) 30dB (within 1 dB Beamwidth)			
VSWR	1.3:1 (LP) 1.25:1 (CP)	1.3:1 (LP) 1.25:1 (CP)	1.3:1	1.3:1
Axial Ratio (CP only)	1.0dB	1.0dB		
Feed Insertion or Ohmic Loss	0.25dB	0.20dB	0.50dB	0.50dB
Power Handling Capability	3 Kw		1 Kw	
Port to Port Isolation Tx/Rx Rx/Rx ,Tx/Tx	 85dB 20dB (CP) 30dB(LP)		 85 dB 30dB	
Typical G/T at mid band	28.1dB/K with 35K LNA		34.5dB/k with 70K LNA	
Feed Interfaces	CPR-229F	CPR-137F	WR75F	WR75F

NOTE: All values are at the rear feed output flange.

* The frequency range is Rx: 3.4-3.7GHz/Tx: 6.424-6.725GHz or Rx: 3.4-4.2GHz /Tx:5.85-6.650GHz optional.

** The other operational frequency bands of NWIEE VSAT antennas can be of 10.95- 11.7GHz or 11.7-12.2GHz even extended as 10.95-12.75GHz. They

are available in NWIEE and an option for customers when order.

NWIEE 6M MECHANICAL SPECIFICATIONS	
Azimuth Travel	120°continuous (180°in two sector)
Elevation Travel	0°to 90°continuous
Az and El Travel Rate	0.01°/second (with motor for ku band, option)
Polarization Travel	±90°
Reflector	Aluminum
Backup Structure	Steel
Pedestal Structure	Steel
Finish Reflector Surface Pedestal and Steel	 Aluminum panels with heat-diffusing white paint Sand blast and hot spray galvanized and two times
Surface Accuracy	0.5mm(RMS)
Foundation Antenna drive model	5.0m x 5.0m x 0.7m Manual (motor drive ,option)

NWIEE 6M ENVIRONMENTAL SPECIFICATIONS	
Operation Wind	72km/h gusts to 97km/h
Survival Wind	200km/h
Ambient Temperature	-40℃to 60℃
Rain	up to 100mm/h
Relative Humidity	up to 100%
Solar Radiation	1000 kal/h/m^2
Radial Ice (Survival)	25mm on all surface or 13mm on all surfaces with 130km/h wind gusts.
Shock and Vibration	As encountered during shipment by commercial air, sea or truck
Corrosive atmosphere	As encountered in coastal regions and/or heavily industrialized areas