



Overview

Advantech Wireless A-Line Series antennas are designed and manufactured in batches with 4.5-meter aluminum reflector antenna for VSAT applications in C band (Model C45T) and Ku band (Model K45T).

The A-Line Series 4.5M antenna adopts a Dual Shaped Compact Cassegrain precision-formed reflector mounted on an EI over Az pedestal providing necessary stiffness and pointing accuracy required in C and Ku band operation. It is provided with a Rx/Tx (2 ports) feed with corrugated horn and OMT and is of optimized R.F. specification, operates in circular or linear polarization selectable manually and meets the customer's requirements for any application.

The A-Line Series 4.5m antenna meets the regulations of CCIR 580-4 and has been type approved by ASIASAT and INTELSAT. The A-Line Series 4.5m antenna can enter ASIASAT-2 and INTELSAT Network without the need of certification testing after installation on site.

A-Line Series 4.5m ANTENNA



Antenna Specifications

R.F Specifications				
Cassegrain Antenna with 2 port feed	C-Band		Ku-Band	
	Receive	Transmit	Receive	Transmit
Frequency in GHz*	3.625-4.200*	5.850-6.425	10.95-12.75	14.0-14.5
Gain	>43.6dB	>47.1dB	>53.0dB	>54.5dB
Antenna Noise Temp.				
10°Elevation	36k		60K	
20°Elevation	31K		50K	
40°Elevation	26K		44K	
Sidelobe Pattern	First sidelobe level \leq -14dB Beyond first sidelobe meet IESS(Intelsat) or CCIR 580-4 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)	1.25:1	1.25:1
-3 dB beamwidth	1.07°	0.69°	0.35°	0.30°
Axial Ratio (CP only)	1.5dB	1.0dB	0.5dB	0.5dB
Feed Insertion or Ohmic Loss	0.20dB	0.10dB	0.50dB	0.50dB
Power Handling Capability	1 Kw		500w	
Port to Port Isolation	85dB		85dB	
Feed Interfaces	CPR-229F	CPR-137G	WR75	WR75
<p>All values are at the feed output flange.</p> <p>* The frequency range are Rx: 3.4-4.5GHz/Tx: 6.424-6.725GHz or Rx:3.4-4.2GHz /Tx:5.85-6.650GHz optional.</p> <p>** The other operational frequency bands of VSAT antennas can be of 10.95- 11.7GHz or 11.7-12.2GHz, even extended as 10.7-12.75GHz. They are available with an option for customers when order.</p>				
Mechanical Specifications				
Azimuth Travel	\pm 65°continuous, 360° in total			
Elevation Range	0-90°			
Reflector	Aluminium			
Backup Structure	Steel			
Pedestal Structure	Steel			
Finish				
Reflector Surface	Aluminium panels with heat-diffusing white paint			
Pedestal and Steel Structure	Sand blast and hot spray galvanized and two times paint			
Foundation	5.0m x 5.0m			
Antenna Drive Mode	Manual (Motorized drive optional)			
Options				
	Motorized drive			

A-Line Series 4.5m ANTENNA



Antenna Specifications

Physical	
Ambient Temperature	-40°C to 60°C
Operational Wind	50km/h gusts to 97km/h
Survival Wind	200km/h, 80m/s optional
Rain	Up to 100mm/h
Relative Humidity	Up to 100%
Solar Radiation	1000 kcal/m ² /h
Radial Ice (Survival)	25mm on all surface or 13mm on all surface 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
Seismic(Survival)	0.3g's horizontal 0.1g's vertical
Shipping Weight	1500kg
Shipping Volume	8.2m ³

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Ref.: PB-AW-ALINE-4.5m-13150