



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 El 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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