

3.7M BANDE Ka antenna – AST3.7Ka

Full motion



Feature

The 3.7M Cassegrain antenna has been designed for Ka-band satellite telecommunications. It offers outstanding performance for typical Transmit/Receive or Receive applications only. A central hub provides housing for mounting equipment. The aluminum reflector is supported by a zinc hot-galvanized pedestal, providing the rigidity required for accurate pointing and tracking. The antenna is designed for full coverage of the orbital arc and is easily adaptable to ground or roof installations. The electrical performance is in accordance with the ITU and FCC side lobe specifications. All configurations comply with SATCOM Technologies.

Technical specifications			
Feed	Two Ka-band TX/RX CP ports	Two Ka-band TX/RX CP ports	Two Ka-band TX/RX LP ports
Frequency	Rx: 20.20-21.20 GHz Tx: 30.00-31.00 GHz	Rx: 19.40-21.20 GHz Tx: 29.20-31.00 GHz	Rx: 18.70-21.20 GHz Tx: 27.00-31.00 GHz
Mid-band gain Gain (± 0.5 dB)	Rx: 55.4 dB Tx: 58.8 dB	Rx: 55.3 dB Tx: 58.7 dB	Rx: 55.1 dB Tx: 58.4 dB
VSWR	1.3 :1 max	1.3 :1 max	1.5 :1 max
Beam-width at -3 dB	Rx: 0.27° ; Tx: 0.18°	Rx: 0.28° ; Tx: 0.18°	Rx: 0.28° ; Tx: 0.19°
Antenna Noise Temperature			
<ul style="list-style-type: none"> • 10° EI • 20° EI • 40° EI 	139K 118K 107K	139K 118K 107K	140K 121K 106K
Cross Polarization Isolation			
<ul style="list-style-type: none"> • On axis • Within 1 dB beam-width 	26 dB 25 dB	26 dB 25 dB	35 dB 33 dB
Power Handling	100W	100W	100W
Waveguide flange output	WR42(Rx) / WR28(Tx)	WR42(Rx) / WR28(Tx)	WR42(Rx) / WR28(Tx)
1st side lobe (90%) Peaks under following envelop	-14 dB 29-25log Θ ($1^\circ \leq \Theta \leq 20^\circ$)	-14 dB 29-25log Θ ($1^\circ \leq \Theta \leq 20^\circ$)	-14 dB 29-25log Θ ($1^\circ \leq \Theta \leq 20^\circ$)
Mechanical specification			
Surface accuracy (RMS)	≤ 0.3 mm		
Antenna pointing range	AZ : $\approx 0^\circ - 360^\circ$ continu EL : $\approx 0^\circ - 90^\circ$ continu Pol : $\approx \pm 360^\circ$ continu		
Drive mode	Manual or motorized		
Antenna reflector material	Aluminium Alloy		
Finish of steel parts	Hot dipped Zinc		
Environmental specification			
Operational Wind	72km/h gusting to 97km/h		
Survival wind	216km/h		
Operational Temperature	-40°C to +60°C		
Relative Humidity	100%		
Solar Radiation	1135kcal/h/m ²		
Seismic (survival)	0.3g (H), 0.15g (V)		
Ice loading	13mm operational ; 25 mm Survival		