





### **Overview**

The Advantech Wireless A-Line Series models 3920TCX, 3920TC: 20M and 3916TCX, 3916TC: 16M antenna systems are designed and manufactured with CAD and can be applied to the newly updated INTELSAT (IESS) standard A earth station.

The Advantech Wireless A-Line Series antenna system consists of dual shaped Cassegrain reflectors, a frequency reuse feed network with corrugated horn, an elevation-over-azimuth limit motion kingpost pedestal for limit motion or a turntable mount for full motion. The backup structure for the reflector, the hub connecting the main reflector with mount and the pedestal provides the guaranteed pointing accuracy required in normal operation.

The main reflector diameter consists of precision stretch formed aluminium panels riveted with the rings and radials in three rings.

The Advantech Wireless A-Line Series antenna system is characteristic of high gain, low sidelobes, low cross polarization, capable for frequency reuse both in transmit and receive bands, high driving/control accuracy with angle position display in high resolution.

The radiation patterns meet the associated requirements of INTELSAT (IESS), FCC and CCIR for 2 degree spacing location of geostationary satellites.

# A-Line Series 16m-20m ANTENNA



## **Antenna Specifications**

Antenna Specificat		
R.F Specifications		
20M GREGORAIN	X-Band	
With 4-PORT 2Tx/2Rx Circular Pol FEED	Receive	Transmit
Frequency in GHz	7.25-7.75	7.9-8.4Ghz
Gain	61.7+ 20lg[f(GHz)/7.5]	62.5 + 20lg[f(GHz)/8.25]
Antenna Noise Temp.		
5°Elevation	74k with TRF	
10°Elevation	65k with TRF	
20°Elevation	58k with TRF	
40°Elevation	54k with TRF	
Sidelobe Pattern	First sidelobe level ≤-14dB Beyond first sidelobe meet IESS(Intelsat) or CCIR 580	
VSWR	1.25:1	
Axial Ratio (CP only)	1.09:1	1.09:1
3dB Beamwidth	0.14Deg	0.127Deg
Polarization	RHCP/LHCP	LHCP/RHCP
Feed Insertion or Ohmic	0.70 dB	0.70dB
Loss Power Handling		1kw cw
Capability		
Port to Port Isolation		
Tx to Rx	≥70dB(with TRF)	
Rx to Rx		≥20dB
Tx to Tx		≥20dB
Feed Interfaces	WR112	WR112
		******
<b>B.F.Specifications</b>		
R.F Specifications 16M Dual Shaped		X-Band
16M Dual Shaped Cassegrain Antenna With 4-PORT 2Tx/2Rx	Receive	X-Band Transmit
16M Dual Shaped Cassegrain Antenna With 4-PORT 2Tx/2Rx Circular Pol Feed		Transmit
16M Dual Shaped Cassegrain Antenna With 4-PORT 2Tx/2Rx Circular Pol Feed Frequency in GHz	7.25-7.75	Transmit 7.9-8.4Ghz
16M Dual Shaped Cassegrain Antenna With 4-PORT 2Tx/2Rx Circular Pol Feed Frequency in GHz Gain		Transmit
16M Dual Shaped Cassegrain Antenna With 4-PORT 2Tx/2Rx Circular Pol Feed Frequency in GHz Gain Antenna Noise Temp.	7.25-7.75 59.7+ 20lg[f(GHz)/7.5]	Transmit 7.9-8.4Ghz 60.5 + 20lg[f(GHz)/8.25]
16M Dual Shaped Cassegrain Antenna With 4-PORT 2Tx/2Rx Circular Pol Feed Frequency in GHz Gain Antenna Noise Temp. 5°Elevation	7.25-7.75 59.7+ 20lg[f(GHz)/7.5]	Transmit 7.9-8.4Ghz 60.5 + 20lg[f(GHz)/8.25] 74k with TRF
16M Dual Shaped Cassegrain Antenna With 4-PORT 2Tx/2Rx Circular Pol Feed Frequency in GHz Gain Antenna Noise Temp. 5°Elevation 10°Elevation	7.25-7.75 59.7+ 20lg[f(GHz)/7.5]	Transmit 7.9-8.4Ghz 60.5 + 20lg[f(GHz)/8.25] 74k with TRF 55k with TRF
16M Dual Shaped Cassegrain Antenna With 4-PORT 2Tx/2Rx Circular Pol Feed Frequency in GHz Gain Antenna Noise Temp. 5°Elevation 10°Elevation 20°Elevation	7.25-7.75 59.7+ 20lg[f(GHz)/7.5]	Transmit 7.9-8.4Ghz 60.5 + 20lg[f(GHz)/8.25] 74k with TRF 55k with TRF 58k with TRF
16M Dual Shaped Cassegrain Antenna With 4-PORT 2Tx/2Rx Circular Pol Feed Frequency in GHz Gain Antenna Noise Temp. 5°Elevation 10°Elevation	7.25-7.75 59.7+ 20lg[f(GHz)/7.5]	Transmit 7.9-8.4Ghz 60.5 + 20lg[f(GHz)/8.25] 74k with TRF 55k with TRF 58k with TRF 54k with TRF
16M Dual Shaped Cassegrain Antenna With 4-PORT 2Tx/2Rx Circular Pol Feed Frequency in GHz Gain Antenna Noise Temp. 5°Elevation 10°Elevation 20°Elevation 40°Elevation Sidelobe Pattern	7.25-7.75 59.7+ 20lg[f(GHz)/7.5]	Transmit 7.9-8.4Ghz 60.5 + 20lg[f(GHz)/8.25] 74k with TRF 55k with TRF 58k with TRF 54k with TRF -14dB Beyond first sidelobe or CCIR 580
16M Dual Shaped Cassegrain Antenna With 4-PORT 2Tx/2Rx Circular Pol Feed Frequency in GHz Gain Antenna Noise Temp. 5°Elevation 10°Elevation 20°Elevation 40°Elevation Sidelobe Pattern	7.25-7.75 59.7+ 20lg[f(GHz)/7.5] 7 6 6 7 7 7 7 6 7 7 7 6 7 7 7 7 7 7 7	Transmit 7.9-8.4Ghz 60.5 + 20lg[f(GHz)/8.25] 74k with TRF 55k with TRF 58k with TRF 54k with TRF -14dB Beyond first sidelobe or CCIR 580 1.25:1
16M Dual Shaped Cassegrain Antenna With 4-PORT 2Tx/2Rx Circular Pol Feed Frequency in GHz Gain Antenna Noise Temp. 5°Elevation 10°Elevation 20°Elevation 20°Elevation Sidelobe Pattern VSWR 3dB Beamwidth	7.25-7.75 59.7+ 20lg[f(GHz)/7.5] 7 6 7 6 7 7 6 7 7 6 7 7 6 7 7 6 7 7 7 6 7	Transmit 7.9-8.4Ghz 60.5 + 20lg[f(GHz)/8.25] 74k with TRF 55k with TRF 58k with TRF 54k with TRF 54k with TRF 54k with TRF 54k with TRF 54k 0.125:1 0.159Deg
16M Dual Shaped Cassegrain Antenna With 4-PORT 2Tx/2Rx Circular Pol Feed Frequency in GHz Gain Antenna Noise Temp. 5°Elevation 10°Elevation 20°Elevation 20°Elevation Sidelobe Pattern VSWR 3dB Beamwidth Axial Ratio (CP only)	7.25-7.75 59.7+ 20lg[f(GHz)/7.5] 7 6 7 7 6 7 7 6 7 7 6 7 7 6 7 7 6 7 7 7 6 7	Transmit 7.9-8.4Ghz 60.5 + 20lg[f(GHz)/8.25] 74k with TRF 55k with TRF 58k with TRF 54k with TRF 54k with TRF -14dB Beyond first sidelobe or CCIR 580 1.25:1 0.159Deg 1.09:1
16M Dual Shaped Cassegrain Antenna With 4-PORT 2Tx/2Rx Circular Pol Feed Frequency in GHz Gain Antenna Noise Temp. 5°Elevation 10°Elevation 20°Elevation 20°Elevation Sidelobe Pattern VSWR 3dB Beamwidth Axial Ratio (CP only) Feed Insertion or Ohmic Loss	7.25-7.75 59.7+ 20lg[f(GHz)/7.5] 7 6 7 6 7 7 6 7 7 6 7 7 6 7 7 6 7 7 7 6 7	Transmit 7.9-8.4Ghz 60.5 + 20lg[f(GHz)/8.25] 74k with TRF 55k with TRF 58k with TRF 54k with TRF 54k with TRF 54k with TRF 54k with TRF 54k 0.125:1 0.159Deg
16M Dual Shaped Cassegrain Antenna With 4-PORT 2Tx/2Rx Circular Pol Feed Frequency in GHz Gain Antenna Noise Temp. 5°Elevation 10°Elevation 20°Elevation 20°Elevation Sidelobe Pattern VSWR 3dB Beamwidth Axial Ratio (CP only) Feed Insertion or Ohmic Loss Power Handling	7.25-7.75 59.7+ 20lg[f(GHz)/7.5] 7 6 7 7 6 7 7 6 7 7 6 7 7 6 7 7 6 7 7 7 6 7	Transmit     7.9-8.4Ghz     60.5 +     20lg[f(GHz)/8.25]     74k with TRF     55k with TRF     58k with TRF     58k with TRF     54k with TRF     54k with TRF     54k 0.1 Constant     1.25:1     0.159Deg     1.09:1     0.70dB
16M Dual Shaped Cassegrain Antenna With 4-PORT 2Tx/2Rx Circular Pol Feed Frequency in GHz Gain Antenna Noise Temp. 5°Elevation 10°Elevation 20°Elevation 20°Elevation 3dB leamwidth Axial Ratio (CP only) Feed Insertion or Ohmic Loss Power Handling Capability	7.25-7.75 59.7+ 20lg[f(GHz)/7.5] 7 6 7 7 6 7 7 6 7 7 6 7 7 6 7 7 6 7 7 7 6 7	Transmit 7.9-8.4Ghz 60.5 + 20lg[f(GHz)/8.25] 74k with TRF 55k with TRF 58k with TRF 54k with TRF 54k with TRF -14dB Beyond first sidelobe or CCIR 580 1.25:1 0.159Deg 1.09:1
16M Dual Shaped Cassegrain Antenna With 4-PORT 2Tx/2Rx Circular Pol Feed Frequency in GHz Gain Antenna Noise Temp. 5°Elevation 10°Elevation 20°Elevation 30°Elevation Sidelobe Pattern VSWR 3dB Beamwidth Axial Ratio (CP only) Feed Insertion or Ohmic Loss Power Handling Capability Port to Port Isolation	7.25-7.75 59.7+ 20lg[f(GHz)/7.5] 7 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	Transmit     7.9-8.4Ghz     60.5 +     20lg[f(GHz)/8.25]     74k with TRF     35k with TRF     36k with TRF     36k with TRF     374k with TRF     38k with TRF     39k with TRF     30k with TRF     14dB Beyond first sidelobe     0r CCIR 580     1.25:1     0.159Deg     1.09:1     0.70dB     1kw
16M Dual Shaped Cassegrain Antenna With 4-PORT 2Tx/2Rx Circular Pol Feed Frequency in GHz Gain Antenna Noise Temp. 5°Elevation 10°Elevation 20°Elevation 20°Elevation 30°Elevation Sidelobe Pattern VSWR 3dB Beamwidth Axial Ratio (CP only) Feed Insertion or Ohmic Loss Power Handling Capability Port to Port Isolation Tx to Rx	7.25-7.75 59.7+ 20lg[f(GHz)/7.5] 7 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	Transmit   7.9-8.4Ghz   60.5 +   20lg[f(GHz)/8.25]   74k with TRF   55k with TRF   58k with TRF   58k with TRF   54k with TRF   54k with TRF   0.159Deg   1.09:1   0.70dB   1kw   0dB(with TRF)
16M Dual Shaped Cassegrain Antenna With 4-PORT 2Tx/2Rx Circular Pol Feed Frequency in GHz Gain Antenna Noise Temp. 5°Elevation 10°Elevation 20°Elevation 20°Elevation Sidelobe Pattern VSWR 3dB Beamwidth Axial Ratio (CP only) Feed Insertion or Ohmic Loss Power Handling Capability Port to Port Isolation Tx to Rx Rx to Rx	7.25-7.75 59.7+ 20lg[f(GHz)/7.5] 7 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	Transmit7.9-8.4Ghz $60.5 +$ $20lg[f(GHz)/8.25]$ 74k with TRF55k with TRF58k with TRF54k with TRF54k with TRF0.14dB Beyond first sidelobeor CCIR 5801.25:10.159Deg1.09:10.70dB1kw0dB(with TRF) $\geq 20dB$
16M Dual Shaped Cassegrain Antenna With 4-PORT 2Tx/2Rx Circular Pol Feed Frequency in GHz Gain Antenna Noise Temp. 5°Elevation 10°Elevation 20°Elevation 20°Elevation 30°Elevation Sidelobe Pattern VSWR 3dB Beamwidth Axial Ratio (CP only) Feed Insertion or Ohmic Loss Power Handling Capability Port to Port Isolation Tx to Rx Rx to Rx Tx to Tx	7.25-7.75 59.7+ 20lg[f(GHz)/7.5] 7 6 7 7 6 7 7 6 7 7 6 7 7 6 7 7 6 7 7 7 6 7	Transmit7.9-8.4Ghz $60.5 +$ $20lg[f(GHz)/8.25]$ 74k with TRF55k with TRF58k with TRF54k with TRF54k with TRF0.14dB Beyond first sidelobeor CCIR 5801.25:10.159Deg1.09:10.70dB1kw0dB(with TRF) $\geq 20dB$ $\geq 20dB$
16M Dual Shaped Cassegrain Antenna With 4-PORT 2Tx/2Rx Circular Pol Feed Frequency in GHz Gain Antenna Noise Temp. 5°Elevation 10°Elevation 20°Elevation 20°Elevation 30°Elevation Sidelobe Pattern VSWR 3dB Beamwidth Axial Ratio (CP only) Feed Insertion or Ohmic Loss Power Handling Capability Port to Port Isolation Tx to Rx Rx to Rx	7.25-7.75 59.7+ 20lg[f(GHz)/7.5] 7 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	Transmit7.9-8.4Ghz $60.5 +$ $20lg[f(GHz)/8.25]$ 74k with TRF55k with TRF58k with TRF54k with TRF54k with TRF0.14dB Beyond first sidelobeor CCIR 5801.25:10.159Deg1.09:10.70dB1kw0dB(with TRF) $\geq 20dB$

# A-Line Series 16m-20m ANTENNA



## Antenna Specifications

R.F Specifications		
16M Dual Shaped Cassegrain Antenna	C-Band	
With 4-PORT 2Tx/2Rx	Receive	Transmit
Linear POL Feed	TIECEIVE	Transmit
Frequency in GHz*	3.625-4.200	5.850-6.425
Gain	55+ 20lg[f(GHz)/4]	58.2+ 20lg[f(GHz)/6]
Antenna Noise Temp.		
5°Elevation		48k with TRF
10°Elevation	36k with TRF	
20°Elevation	29k with TRF	
40°Elevation	24k with TRF	
Sidelobe Pattern	First sidelobe level ≤-14dB Beyond first sidelobe meet IESS(Intelsat) or CCIR 580-5	
Cross Pol. Discrimination		30dB (within 1 dB Beamwidth)
	1.30:1(LP)	1.30:1(LP)
VSWR	1.25:1(CP)	1.25:1 (CP)
3dB Beamwidth	0.30°	0.20°
Axial Ratio (CP only)	1.06:1	1.06:1
Feed Insertion or Ohmic	0.30dB	0.30dB
Loss		
Power Handling Capability	5kw cw per port	
Port to Port Isolation		
Tx to Rx	≥8	5dB(with TRF)
Rx to Rx		≥30dB
Tx to Tx		≥30dB
Feed Interfaces	CPR-229G	CPR-137G
R.F Specifications		
		Full C-Band
16M Dual Shaped Cassegrain Antenna		Full C-Band
16M Dual Shaped Cassegrain Antenna With 4-PORT 2Tx/2Rx	Receive	Full C-Band Transmit
16M Dual Shaped Cassegrain Antenna With 4-PORT 2Tx/2Rx Linear POL Feed		Transmit
16M Dual Shaped Cassegrain Antenna With 4-PORT 2Tx/2Rx	3.4 -4.200	Transmit 5.850-6.65
16M Dual Shaped Cassegrain Antenna With 4-PORT 2Tx/2Rx Linear POL Feed	3.4 -4.200 54.8+	Transmit 5.850-6.65 58.2+
16M Dual Shaped Cassegrain Antenna With 4-PORT 2Tx/2Rx Linear POL Feed Frequency in GHz Gain	3.4 -4.200	Transmit 5.850-6.65
16M Dual Shaped Cassegrain Antenna With 4-PORT 2Tx/2Rx Linear POL Feed Frequency in GHz Gain Antenna Noise Temp.	3.4 -4.200 54.8+ 20lg[f(GHz)/4]	Transmit 5.850-6.65 58.2+ 20lg[f(GHz)/6]
16M Dual Shaped Cassegrain Antenna With 4-PORT 2Tx/2Rx Linear POL Feed Frequency in GHz Gain Antenna Noise Temp. 5°Elevation	3.4 -4.200 54.8+ 20lg[f(GHz)/4]	Transmit 5.850-6.65 58.2+ 20lg[f(GHz)/6] 54k with TRF
16M Dual Shaped Cassegrain Antenna With 4-PORT 2Tx/2Rx Linear POL Feed Frequency in GHz Gain Antenna Noise Temp. 5°Elevation 10°Elevation	3.4 -4.200 54.8+ 20lg[f(GHz)/4]	Transmit 5.850-6.65 58.2+ 20lg[f(GHz)/6] 54k with TRF 46k with TRF
16M Dual Shaped Cassegrain Antenna With 4-PORT 2Tx/2Rx Linear POL Feed Frequency in GHz Gain Antenna Noise Temp. 5°Elevation 10°Elevation 20°Elevation	3.4 -4.200 54.8+ 20lg[f(GHz)/4]	Transmit 5.850-6.65 58.2+ 20lg[f(GHz)/6] 54k with TRF 46k with TRF 36k with TRF
16M Dual Shaped Cassegrain Antenna With 4-PORT 2Tx/2Rx Linear POL Feed Frequency in GHz Gain Antenna Noise Temp. 5°Elevation 10°Elevation	3.4 -4.200 54.8+ 20lg[f(GHz)/4]	Transmit 5.850-6.65 58.2+ 20lg[f(GHz)/6] 54k with TRF 46k with TRF 36k with TRF 30k with TRF
16M Dual Shaped Cassegrain Antenna With 4-PORT 2Tx/2Rx Linear POL Feed Frequency in GHz Gain Antenna Noise Temp. 5°Elevation 10°Elevation 20°Elevation 40°Elevation Sidelobe Pattern	3.4 -4.200 54.8+ 20lg[f(GHz)/4]	Transmit $5.850-6.65$ $58.2+$ $20lg[f(GHz)/6]$ $54k$ with TRF $46k$ with TRF $36k$ with TRF $30k$ with TRF $1 \le -14dB$ Wide sidelobes meets $telsat$ and CCIR 580.
16M Dual Shaped Cassegrain Antenna With 4-PORT 2Tx/2Rx Linear POL Feed Frequency in GHz Gain Antenna Noise Temp. 5°Elevation 10°Elevation 20°Elevation 40°Elevation	3.4 -4.200 54.8+ 20lg[f(GHz)/4]	Transmit $5.850-6.65$ $58.2+$ $20lg[f(GHz)/6]$ $54k$ with TRF $46k$ with TRF $36k$ with TRF $30k$ with TRF $1 \le -14dB$ Wide sidelobes meets $20dB$ (within 1 dB Beamwidth)
16M Dual Shaped Cassegrain Antenna With 4-PORT 2Tx/2Rx Linear POL Feed Frequency in GHz Gain Antenna Noise Temp. 5°Elevation 10°Elevation 20°Elevation 40°Elevation Sidelobe Pattern	3.4 -4.200 54.8+ 20lg[f(GHz)/4]	Transmit $5.850-6.65$ $58.2+$ $20lg[f(GHz)/6]$ $54k$ with TRF $46k$ with TRF $36k$ with TRF $30k$ with TRF $1 \le -14dB$ Wide sidelobes meets $telsat$ and CCIR 580.
16M Dual Shaped Cassegrain Antenna With 4-PORT 2Tx/2Rx Linear POL Feed Frequency in GHz Gain Antenna Noise Temp. 5°Elevation 10°Elevation 20°Elevation 40°Elevation Sidelobe Pattern Cross Pol. Discrimination VSWR 3dB Beamwidth	3.4 -4.200 54.8+ 20lg[f(GHz)/4]	Transmit $5.850-6.65$ $58.2+$ $20lg[f(GHz)/6]$ $54k$ with TRF $46k$ with TRF $36k$ with TRF $30k$ with TRF $1 \le -14dB$ Wide sidelobes meets $20dB$ (within 1 dB Beamwidth) $1.30:1(LP)$
16M Dual Shaped Cassegrain Antenna With 4-PORT 2Tx/2Rx Linear POL Feed Frequency in GHz Gain Antenna Noise Temp. 5°Elevation 10°Elevation 20°Elevation 20°Elevation Sidelobe Pattern Cross Pol. Discrimination VSWR 3dB Beamwidth Axial Ratio (CP only)	3.4 -4.200 54.8+ 20lg[f(GHz)/4] First sidelobe leve IESS, Eu 35dB (On axis) 1.30:1(LP) 1.25:1(CP)	Transmit $5.850-6.65$ $58.2+$ $20lg[f(GHz)/6]$ $54k$ with TRF $46k$ with TRF $36k$ with TRF $30k$ with TRF $1 \le -14dB$ Wide sidelobes meets $20dB$ (within 1 dB Beamwidth) $1.30:1(LP)$ $1.25:1$ (CP)
16M Dual Shaped Cassegrain Antenna With 4-PORT 2Tx/2Rx Linear POL Feed Frequency in GHz Gain Antenna Noise Temp. 5°Elevation 10°Elevation 20°Elevation 40°Elevation Sidelobe Pattern Cross Pol. Discrimination VSWR 3dB Beamwidth	3.4 -4.200 54.8+ 20lg[f(GHz)/4] First sidelobe leve IESS, Eu 35dB (On axis) 3 1.30:1(LP) 1.25:1(CP) 0.30°	Transmit $5.850-6.65$ $58.2+$ $20lg[f(GHz)/6]$ $54k$ with TRF $46k$ with TRF $36k$ with TRF $30k$ with TRF $30k$ with TRF $1 \le -14dB$ Wide sidelobes meets $1 \le -14dB$ Wide sidelobes $1 \le -14dB$ Wide sidelobes $0 \ge 0.20^{\circ}$
16M Dual Shaped Cassegrain Antenna With 4-PORT 2Tx/2Rx Linear POL Feed Frequency in GHz Gain Antenna Noise Temp. 5°Elevation 10°Elevation 20°Elevation 20°Elevation 30'Elevation Sidelobe Pattern Cross Pol. Discrimination VSWR 3dB Beamwidth Axial Ratio (CP only) Feed Insertion or Ohmic Loss Power Handling	3.4 -4.200 54.8+ 20lg[f(GHz)/4] First sidelobe leve IESS, EL 35dB (On axis) 3 1.30:1(LP) 1.25:1(CP) 0.30° 1.06:1 0.30dB	Transmit $5.850-6.65$ $58.2+$ $20lg[f(GHz)/6]$ $54k$ with TRF $46k$ with TRF $36k$ with TRF $30k$ with TRF $30k$ with TRF $1 \le -14dB$ Wide sidelobes meets $1telsat$ and CCIR $580$ . $30dB$ (within 1 dB Beamwidth) $1.30:1(LP)$ $1.25:1$ (CP) $0.20^{\circ}$ $1.06:1$
16M Dual Shaped Cassegrain Antenna With 4-PORT 2Tx/2Rx Linear POL Feed Frequency in GHz Gain Antenna Noise Temp. 5°Elevation 10°Elevation 20°Elevation 40°Elevation Sidelobe Pattern Cross Pol. Discrimination VSWR 3dB Beamwidth Axial Ratio (CP only) Feed Insertion or Ohmic Loss Power Handling Capability	3.4 -4.200 54.8+ 20lg[f(GHz)/4] First sidelobe leve IESS, EL 35dB (On axis) 3 1.30:1(LP) 1.25:1(CP) 0.30° 1.06:1 0.30dB	Transmit $5.850-6.65$ $58.2+$ $20lg[f(GHz)/6]$ $54k$ with TRF $46k$ with TRF $36k$ with TRF $30k$ with TRF $1 \le -14dB$ Wide sidelobes meets $30dB$ (within 1 dB Beamwidth) $1.30:1(LP)$ $1.25:1$ (CP) $0.20^{\circ}$ $1.06:1$ $0.30dB$
16M Dual Shaped Cassegrain Antenna With 4-PORT 2Tx/2Rx Linear POL Feed Frequency in GHz Gain Antenna Noise Temp. 5°Elevation 10°Elevation 20°Elevation 20°Elevation 30°Elevation Sidelobe Pattern Cross Pol. Discrimination VSWR 3dB Beamwidth Axial Ratio (CP only) Feed Insertion or Ohmic Loss Power Handling Capability Port to Port Isolation	3.4 -4.200 54.8+ 20lg[f(GHz)/4] First sidelobe leve IESS, EL 35dB (On axis) 3 1.30:1(LP) 1.25:1(CP) 0.30° 1.06:1 0.30dB	Transmit $5.850-6.65$ $58.2+$ $20lg[f(GHz)/6]$ $54k$ with TRF $46k$ with TRF $36k$ with TRF $30k$ with TRF $1 \le -14dB$ Wide sidelobes meets $200B$ $1 \le -14dB$ Wide sidelobes meets $0 \le -14dB$ Wide sidelobes meets $1 \le -14dB$ Wide sidelobes meets $1 \le -14dB$ Wide sidelobes meets $1 \le -14dB$ Wide sidelobes meets $0 \le -14dB$ Wide sidelobes $0 \le -14dB$ Wide
16M Dual Shaped Cassegrain Antenna With 4-PORT 2Tx/2Rx Linear POL Feed Frequency in GHz Gain Antenna Noise Temp. 5°Elevation 10°Elevation 20°Elevation 20°Elevation 30°Elevation Sidelobe Pattern Cross Pol. Discrimination VSWR 3dB Beamwidth Axial Ratio (CP only) Feed Insertion or Ohmic Loss Power Handling Capability Port to Port Isolation Tx to Rx	3.4 -4.200 54.8+ 20lg[f(GHz)/4] First sidelobe leve IESS, EL 35dB (On axis) 3 1.30:1(LP) 1.25:1(CP) 0.30° 1.06:1 0.30dB	Transmit $5.850-6.65$ $58.2+$ $20lg[f(GHz)/6]$ 54k with TRF46k with TRF36k with TRF30k with TRF30k with TRF $I \le -14dB$ Wide sidelobes meetsutelsat and CCIR 580.30dB (within 1 dB Beamwidth) $1.30:1(LP)$ $1.30:1(LP)$ $1.25:1$ (CP) $0.20^{\circ}$ $1.06:1$ $0.30dB$ kw cw per port $25dB(with TRF)$
16M Dual Shaped Cassegrain Antenna With 4-PORT 2Tx/2Rx Linear POL Feed Frequency in GHz Gain Antenna Noise Temp. 5°Elevation 10°Elevation 20°Elevation 20°Elevation 30°Elevation Sidelobe Pattern Cross Pol. Discrimination VSWR 3dB Beamwidth Axial Ratio (CP only) Feed Insertion or Ohmic Loss Power Handling Capability Port to Port Isolation Tx to Rx Rx to Rx	3.4 -4.200 54.8+ 20lg[f(GHz)/4] First sidelobe leve IESS, EL 35dB (On axis) 3 1.30:1(LP) 1.25:1(CP) 0.30° 1.06:1 0.30dB	Transmit5.850-6.6558.2+20lg[f(GHz)/6]54k with TRF46k with TRF36k with TRF30k with TRF30k with TRF1 $\leq$ -14dB Wide sidelobes meetsitelsat and CCIR 580.30dB (within 1 dB Beamwidth)1.30:1(LP)1.25:1 (CP)0.20°1.06:10.30dBkw cw per port25dB(with TRF) $\geq$ 30dB
16M Dual Shaped Cassegrain Antenna With 4-PORT 2Tx/2Rx Linear POL Feed Frequency in GHz Gain Antenna Noise Temp. 5°Elevation 10°Elevation 20°Elevation 20°Elevation 30°Elevation Sidelobe Pattern Cross Pol. Discrimination VSWR 3dB Beamwidth Axial Ratio (CP only) Feed Insertion or Ohmic Loss Power Handling Capability Port to Port Isolation Tx to Rx	3.4 -4.200 54.8+ 20lg[f(GHz)/4] First sidelobe leve IESS, EL 35dB (On axis) 3 1.30:1(LP) 1.25:1(CP) 0.30° 1.06:1 0.30dB	Transmit $5.850-6.65$ $58.2+$ $20lg[f(GHz)/6]$ 54k with TRF46k with TRF36k with TRF30k with TRF30k with TRF $I \le -14dB$ Wide sidelobes meetsutelsat and CCIR 580.30dB (within 1 dB Beamwidth) $1.30:1(LP)$ $1.30:1(LP)$ $1.25:1$ (CP) $0.20^{\circ}$ $1.06:1$ $0.30dB$ kw cw per port $25dB(with TRF)$

## A-Line Series 16m-20m ANTENNA



### **Antenna Specifications**

Mechanical Specifications		
Azimuth Travel	180°(in two overlapped 100°deg sectors)	
Travel Rate for Az and El	0.1 %second	
Elevation Travel	0°to 90°Continuous	
Elevation Travel Rate	0.1 %second *	
Tracking travel rate for Az and El	0.01 %second	
Reflector	Steel	
Pedestal Structure	Steel	
Finish	Aluminium panels with high-diffusive white paint, steel part with Hot-Zinc Spray	
Physical		
Ambient Temperature	-40°C to 60°C (survival) , -15°C to 50°C (Operational)	
Operational Wind	72km/h gusts to 97km/h	
Survival Wind	200km/hm	
Rain	up to 4 in/h(10cm/h), lasting 10 minutes	
Relative Humidity	up to 100% with condensation	
Solar Radiation	1000 kcal/M <sup>2</sup> /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	

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