





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.



Antenna Specifications

R.F Specifications			
20M GREGORAIN		X-Band	
ANTENNA			
With 4-PORT 2Tx/2Rx Circular Pol FEED	Receive	Transmit	
Frequency in GHz	7.25-7.75	7.9-8.4Ghz	
Gain	61.7+	62.5 +	
	20lg[f(GHz)/7.5]	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		el ≤-14dB Beyond first sidelobe 6(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 Loss	0.70 dB	0.70dB	
Power Handling		1kw cw	
Capability Port to Port Isolation			
Tx to Rx	\704D\ith TDT\		
Rx to Rx	≥70dB(with TRF)		
Tx to Tx		≥20dB ≥20dB	
Feed Interfaces	WR112	≥200B WR112	
R.F Specifications	WINIZ	WICHE	
16M Dual Shaped		X-Band	
Cassegrain Antenna With 4-PORT 2Tx/2Rx	Receive	Transmit	
Cassegrain Antenna With 4-PORT 2Tx/2Rx Circular Pol Feed		Transmit	
Cassegrain Antenna With 4-PORT 2Tx/2Rx Circular Pol Feed Frequency in GHz	7.25-7.75	Transmit 7.9-8.4Ghz	
Cassegrain Antenna With 4-PORT 2Tx/2Rx Circular Pol Feed Frequency in GHz Gain		Transmit	
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]	
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	
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	
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 65k with TRF	
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 65k with TRF 58k with TRF	
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] 7.25-7.75 59.7+ 20lg[f(GHz)/7.5] 6.5 5.5 First sidelobe level ≤ meet IESS(Intelsat) of	Transmit 7.9-8.4Ghz 60.5 + 20lg[f(GHz)/8.25] 74k with TRF 65k with TRF 58k with TRF 54k with TRF -14dB Beyond first sidelobe or CCIR 580	
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 VSWR	7.25-7.75 59.7+ 20lg[f(GHz)/7.5] 6 6 7 6 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 65k with TRF 58k with TRF 54k with TRF -14dB Beyond first sidelobe or CCIR 580 1.25:1	
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 VSWR 3dB Beamwidth	7.25-7.75 59.7+ 20lg[f(GHz)/7.5] 6 6 5 First sidelobe level ≤ meet IESS(Intelsat) 6 1.25:1 0.175Deg	Transmit 7.9-8.4Ghz 60.5 + 20lg[f(GHz)/8.25] 74k with TRF 65k with TRF 58k with TRF 54k with TRF -14dB Beyond first sidelobe or CCIR 580 1.25:1 0.159Deg	
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 VSWR 3dB Beamwidth Axial Ratio (CP only)	7.25-7.75 59.7+ 20lg[f(GHz)/7.5] 6 6 8 First sidelobe level ≤ meet IESS(Intelsat) of 1.25:1 0.175Deg 1.09:1	Transmit 7.9-8.4Ghz 60.5 + 20lg[f(GHz)/8.25] 74k with TRF 65k with TRF 54k with TRF 54k with TRF -14dB Beyond first sidelobe or CCIR 580 1.25:1 0.159Deg 1.09:1	
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 VSWR 3dB Beamwidth Axial Ratio (CP only) Feed Insertion or Ohmic Loss	7.25-7.75 59.7+ 20lg[f(GHz)/7.5] 6 6 5 First sidelobe level ≤ meet IESS(Intelsat) 6 1.25:1 0.175Deg	Transmit 7.9-8.4Ghz 60.5 + 20lg[f(GHz)/8.25] 74k with TRF 65k with TRF 58k with TRF 54k with TRF -14dB Beyond first sidelobe or CCIR 580 1.25:1 0.159Deg	
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 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] 6 6 8 First sidelobe level ≤ meet IESS(Intelsat) of 1.25:1 0.175Deg 1.09:1	Transmit 7.9-8.4Ghz 60.5 + 20lg[f(GHz)/8.25] 74k with TRF 65k with TRF 64k with TRF -14dB Beyond first sidelobe or CCIR 580 1.25:1 0.159Deg 1.09:1 0.70dB	
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 VSWR 3dB Beamwidth Axial Ratio (CP only) Feed Insertion or Ohmic Loss Power Handling Capability	7.25-7.75 59.7+ 20lg[f(GHz)/7.5] 6 6 8 First sidelobe level ≤ meet IESS(Intelsat) of 1.25:1 0.175Deg 1.09:1	Transmit 7.9-8.4Ghz 60.5 + 20lg[f(GHz)/8.25] 74k with TRF 65k with TRF 54k with TRF 54k with TRF -14dB Beyond first sidelobe or CCIR 580 1.25:1 0.159Deg 1.09:1	
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] First sidelobe level ≤ meet IESS(Intelsat) of 1.25:1 0.175Deg 1.09:1 0.70dB	Transmit 7.9-8.4Ghz 60.5 + 20lg[f(GHz)/8.25] 74k with TRF 65k with TRF 54k with TRF -14dB Beyond first sidelobe or CCIR 580 1.25:1 0.159Deg 1.09:1 0.70dB	
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 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] First sidelobe level ≤ meet IESS(Intelsat) of 1.25:1 0.175Deg 1.09:1 0.70dB	Transmit 7.9-8.4Ghz 60.5 + 20lg[f(GHz)/8.25] 74k with TRF 65k with TRF 65k with TRF 64k with TRF -14dB Beyond first sidelobe or CCIR 580 1.25:1 0.159Deg 1.09:1 0.70dB 1kw	
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 VSWR 3dB Beamwidth Axial Ratio (CP only) Feed Insertion or Ohmic Loss Power Handling Capability Port to Port Isolation Tx to Rx Rx Tx to Rx	7.25-7.75 59.7+ 20lg[f(GHz)/7.5] First sidelobe level ≤ meet IESS(Intelsat) of 1.25:1 0.175Deg 1.09:1 0.70dB	Transmit 7.9-8.4Ghz 60.5 + 20lg[f(GHz)/8.25] 74k with TRF 65k with TRF 65k with TRF 64k with TRF -14dB Beyond first sidelobe or CCIR 580 1.25:1 0.159Deg 1.09:1 0.70dB 1kw 0dB(with TRF) ≥20dB	
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 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] First sidelobe level ≤ meet IESS(Intelsat) of 1.25:1 0.175Deg 1.09:1 0.70dB	Transmit 7.9-8.4Ghz 60.5 + 20lg[f(GHz)/8.25] 74k with TRF 65k with TRF 65k with TRF 64k with TRF 64k with TRF 674k Beyond first sidelobe or CCIR 580 1.25:1 0.159Deg 1.09:1 0.70dB 1kw 0dB(with TRF) ≥20dB ≥20dB	
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 VSWR 3dB Beamwidth Axial Ratio (CP only) Feed Insertion or Ohmic Loss Power Handling Capability Port to Port Isolation Tx to Rx Rx Tx to Rx	7.25-7.75 59.7+ 20lg[f(GHz)/7.5] First sidelobe level ≤ meet IESS(Intelsat) of 1.25:1 0.175Deg 1.09:1 0.70dB	Transmit 7.9-8.4Ghz 60.5 + 20lg[f(GHz)/8.25] 74k with TRF 65k with TRF 65k with TRF 64k with TRF -14dB Beyond first sidelobe or CCIR 580 1.25:1 0.159Deg 1.09:1 0.70dB 1kw 0dB(with TRF) ≥20dB	



Antenna Specifications

C-Band	Antenna Specificati	ons		
Cassegrain Antenna With 4-PORT 2Tx/2Rx Linear POL Feed Receive Transmit Frequency in GHz* 3.625-4.200 5.850-6.425 Gain 55+ 58.2+ 20lg[f(GHz)/4] 20lg[f(GHz)/6] Antenna Noise Temp. 5°Elevation 48k with TRF 10°Elevation 29k with TRF 20°Elevation 29k with TRF 36elobe Pattern First sidelobe level <-14dB Beyond first sidelobe meet IESS(intelsat) or CCIR 580-5	R.F Specifications			
With 4-PORT 2Tx/2Rx Linear POL Feed			C-Bana	
Linear POL Feed Frequency in GHz* 3.625-4.200 5.850-6.425 58.2+ 20 g[f(GHz)/4] 20 g[f(GHz)/6] Antenna Noise Temp. 5°Elevation 48k with TRF 10°Elevation 29k with TRF 20°Elevation 24k with TRF 20°Elevation 29k with TRF 20°Elevation 24k with TRF 20°Elevation 35dB (On axis) 30dB (within 1 dB Beamwidth) 1.30·1(LP) 1.30·1(LP) 1.30·1(LP) 1.30·1(LP) 1.25·1 (CP) 3dB Beamwidth 0.30° 0.20° 0.20° 0.20° 0.30dB 0.30dB	With 4-PORT 2Tx/2Rx	Receive	Transmit	
Gain 255+ 20lg[f(GHz)/4] 58.2+ 20lg[f(GHz)/6] Antenna Noise Temp. 5°Elevation 48k with TRF 10°Elevation 29k with TRF 20°Elevation 24k with TRF 80°Elevation 24k with TRF Sidelobe Pattern First sidelobe level ≤-14dB Beyond first sidelobe meet IESS(Intelsar) or CCIR 580-5 Cross Pol. Discrimination 35dB (On axis) 30dB (with 1 dB Beamwidth) VSWR 1.30:1(LP) 1.30:1(LP) 3dB Beamwidth 0.30° 0.20° Axial Ratio (CP only) 1.06:1 1.06:1 Feed Insertion or Ohmic Loss 0.30dB 0.30dB Power Handling Capability 5kw cw per port Port to Port Isolation 5kw cw per port Tx to Tx ≥30dB Feed Interfaces CPR-229G CPR-137G Respecifications Full C-Band Respecifications Receive Transmit Receive Interpretation 5.850-6.65 Gain 20left(GHz)/4) 20left(GHz)/6] Antenna Noise Temp. 5'Elevation 36k with TRF 0°Elevation <td></td> <td>TOOCIVO</td> <td>Transmit</td>		TOOCIVO	Transmit	
Antenna Noise Temp. Section 48k with TRF	Frequency in GHz*	3.625-4.200	5.850-6.425	
20lg[t(GHz)/4] 20lg[t(GHz)/6] Antenna Noise Temp. 5°Elevation	Gain			
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 35dB (On axis) 30dB (within 1 dB Beamwidth) VSWR 1.30:1(LP) 1.30:1(LP) 3dB Beamwidth 0.30° 0.20° Axial Ratio (CP only) 1.06:1 1.06:1 Feed Insertion or Ohmic Loss 0.30dB 0.30dB Power Handling Capability 5kw cw per port Port to Port Isolation 5kw cw per port Tx to Rx ≥85dB(with TRF) Rx to Rx ≥30dB Tx to Tx ≥30dB Receive Interfaces CPR-137G Respectifications Full C-Band 16M Dual Shaped Cassegrain Antenna Cassegrain Antenna Receive Transmit With 4-PORT 2Tx/2Rx Receive Transmit Gain 54k.8+ 58.2+ 20lg[f(GHz)/4] 20lg[f(GHz)/6]		20lg[f(GHz)/4]	20lg[f(GHz)/6]	
10°Elevation	-			
20°Elevation				
40°Elevation 24k with TRF				
First sidelobe level ≤-14dB Beyond first sidelobe meet IESS(Intelsat) or CCIR 580-5 Cross Pol. Discrimination 35dB (On axis) 30dB (within 1 dB Beamwidth)				
Material Residence Pattern Material Residence Pattern	40°Elevation	=		
VSWR	Sidelobe Pattern			
1.25:1 (CP) 1.25:1 (CP) 3dB Beamwidth 0.30° 0.20°	Cross Pol. Discrimination			
3dB Beamwidth 0.30° 0.20° Axial Ratio (CP only) 1.06:1 1.06:1 Feed Insertion or Ohmic Loss 0.30dB 0.30dB Power Handling Capability 5kw cw per port Port to Port Isolation ≥85dB(with TRF) Tx to Rx ≥30dB Tx to Tx ≥30dB Feed Interfaces CPR-229G CPR-137G F. Specifications 16M Dual Shaped Full C-Band Cassegrain Antenna Receive Transmit With 4-PORT 2Tx/2Rx Receive Transmit Linear POL Feed Fedelore Fedelore Frequency in GHz 3.4 -4.200 5.850-6.65 Gain 20/g[f(GHz)/4] 20/g[f(GHz)/6] Antenna Noise Temp. 5*Elevation 54k with TRF 0°Elevation 36k with TRF 46k with TRF 0°Elevation 36k with TRF Sidelobe Pattern First sidelobe level ≤-14dB Wide sidelobes meets IESS, Eutelsat and CCIR 580. Cross Pol. Discrimination 35dB (on axis) 30dB (with in 1 dB Beamwidth) VSWR 1.30:1(VSWR			
Feed Insertion or Ohmic Loss	3dB Beamwidth			
Doss	Axial Ratio (CP only)	1.06:1	1.06:1	
Power Handling Capability	Feed Insertion or Ohmic	0.30dB	0.30dB	
Capability Skw cw per port Port to Port Isolation				
Capability Sestion Port to Port Isolation Tx to Rx Rx to Rx ≥30dB Tx to Tx ≥30dB Feed Interfaces CPR-229G CPR-137G R.F Specifications 16M Dual Shaped Full C-Band Cassegrain Antenna With 4-PORT 2Tx/2Rx Linear POL Feed Transmit Frequency in GHz 3.4 - 4.200 5.850-6.65 Gain 54.8+ 58.2+ 20lg[f(GHz)/4] 20lg[f(GHz)/6] Antenna Noise Temp. 5*Elevation 54k with TRF 10°Elevation 46k with TRF 20°Elevation 36k with TRF Sidelobe Pattern First sidelobe level <-14dB Wide sidelobes meets IESS, Eutelsat and CCIR 580.		51	kw cw per port	
Tx to Rx ≥85dB(with TRF) Rx to Rx ≥30dB Tx to Tx ≥30dB Feed Interfaces CPR-229G CPR-137G Feed Interfaces CPR-229G CPR-137G R.F Specifications 16M Dual Shaped Full C-Band Cassegrain Antenna Full C-Band With 4-PORT 2Tx/2Rx Linear POL Feed Transmit Frequency in GHz 3.4 - 4.200 5.850-6.65 Gain 54.8+ 58.2+ 20lg[f(GHz)/4] 20lg[f(GHz)/6] Antenna Noise Temp. 54k with TRF 5°Elevation 46k with TRF 10°Elevation 36k with TRF 20°Elevation 36k with TRF Sidelobe Pattern First sidelobe level ≤-14dB Wide sidelobes meets IESS, Eutelsat and CCIR 580. Cross Pol. Discrimination 35dB (On axis) 30dB (within 1 dB Beamwidth) VSWR 1.30:1(LP) 1.25:1 (CP) 3dB Beamwidth 0.30° 0.20° Axial Ratio (CP only) 1.06:1 1.06:1 Feed Insertion or Oh				
Rx to Rx ≥30dB Tx to Tx ≥30dB Feed Interfaces CPR-229G CPR-137G R.F Specifications 16M Dual Shaped Cassegrain Antenna With 4-PORT 2Tx/2Rx Linear POL Feed Full C-Band Frequency in GHz 3.4 - 4.200 5.850-6.65 Gain 54.8+ 20lg[f(GHz)/4] 20lg[f(GHz)/6] Antenna Noise Temp. 5°Elevation 54k with TRF 10°Elevation 46k with TRF 20°Elevation 36k with TRF 40°Elevation 30k with TRF Sidelobe Pattern First sidelobe level ≤-14dB Wide sidelobes meets IESS, Eutelsat and CCIR 580. Cross Pol. Discrimination 35dB (On axis) 30dB (within 1 dB Beamwidth) VSWR 1.30:1(LP) 1.30:1(LP) 3dB Beamwidth 0.30° 0.20° Axial Ratio (CP only) 1.06:1 1.06:1 Feed Insertion or Ohmic Loss 0.30dB 0.30dB Power Handling Capability 5kw cw per port Port to Port Isolation 5kw cw x ≥85dB(with TRF) Tx to Tx ≥30dB				
Tx to Tx ≥30dB Feed Interfaces CPR-229G CPR-137G R.F Specifications Full C-Band 16M Dual Shaped Cassegrain Antenna With 4-PORT 2Tx/2Rx Linear POL Feed Full C-Band Frequency in GHz 3.4 - 4.200 5.850-6.65 Gain 54.8+ 20lg[f(GHz)/4] 20lg[f(GHz)/6] Antenna Noise Temp. 5°Elevation 54k with TRF 10°Elevation 46k with TRF 40°Elevation 30k with TRF 30k with TRF Sidelobe Pattern First sidelobe level ≤-14dB Wide sidelobes meets IESS, Eutelsat and CCIR 580. Cross Pol. Discrimination 35dB (On axis) 30dB (within 1 dB Beamwidth) VSWR 1.30:1(LP) 1.30:1(LP) 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 Loss 0.30dB 0.30dB Power Handling Capability 5kw cw per port Port to Port Isolation 285dB(with TRF) Tx to Rx ≥80dB 20dB 20dB		≥8	· · · · · · · · · · · · · · · · · · ·	
Feed Interfaces CPR-229G CPR-137G R.F Specifications 16M Dual Shaped Full C-Band Cassegrain Antenna With 4-PORT 2Tx/2Rx Linear POL Feed Transmit Frequency in GHz 3.4 - 4.200 5.850-6.65 Gain 54.8+ 58.2+ 20lg[f(GHz)/4] 20lg[f(GHz)/6] Antenna Noise Temp. 5°Elevation 46k with TRF 10°Elevation 36k with TRF 20°Elevation 30k with TRF Sidelobe Pattern First sidelobe level ≤-14dB Wide sidelobes meets IESS, Eutelsat and CCIR 580. Cross Pol. Discrimination 35dB (On axis) 30dB (within 1 dB Beamwidth) VSWR 1.30:1(LP) 1.30:1(LP) 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 Loss 0.30dB 0.30dB Power Handling Capability 5kw cw per port Port to Port Isolation 285dB(with TRF) Tx to Rx ≥80dB 20dB	1 14 1			
R.F Specifications		CDD 220C		
Tell C-Band Full C-Band Cassegrain Antenna With 4-PORT 2Tx/2Rx		CPR-229G	CFK-137G	
Cassegrain Antenna Receive Transmit With 4-PORT 2Tx/2Rx 3.4 - 4.200 5.850-6.65 Frequency in GHz 3.4 - 4.200 5.850-6.65 Gain 54.8+				
With 4-PORT 2Tx/2Rx Receive Transmit Frequency in GHz 3.4 -4.200 5.850-6.65 Gain 54.8+ 20lg[f(GHz)/4] 20lg[f(GHz)/6] Antenna Noise Temp. 5°Elevation 54k with TRF 10°Elevation 46k with TRF 46k with TRF 20°Elevation 36k with TRF 30k with TRF Sidelobe Pattern First sidelobe level ≤-14dB Wide sidelobes meets IESS, Eutelsat and CCIR 580. 1.30:1(LP) Cross Pol. Discrimination 35dB (On axis) 30dB (within 1 dB Beamwidth) VSWR 1.30:1(LP) 1.30:1(LP) 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 Loss 0.30dB 0.30dB Power Handling Capability 5kw cw per port Port to Port Isolation 285dB(with TRF) Tx to Rx ≥30dB Tx to Tx ≥20dB			Tuli C-Barid	
Frequency in GHz 3.4 - 4.200 5.850-6.65 Gain 54.8+ 20lg[f(GHz)/4] 58.2+ 20lg[f(GHz)/6] Antenna Noise Temp. 5°Elevation 54k with TRF 10°Elevation 46k with TRF 36k with TRF 20°Elevation 30k with TRF 30k with TRF Sidelobe Pattern First sidelobe level ≤-14dB Wide sidelobes meets IESS, Eutelsat and CCIR 580. 1ESS, Eutelsat and CCIR 580. Cross Pol. Discrimination 35dB (On axis) 30dB (within 1 dB Beamwidth) 1.30:1(LP) 1.30:1(LP) VSWR 1.25:1(CP) 1.25:1 (CP) 30:25:1 (CP) 3dB Beamwidth 0.30° 0.20° Axial Ratio (CP only) 1.06:1 1.06:1 Feed Insertion or Ohmic Loss 0.30dB 0.30dB Power Handling Capability 5kw cw per port Port to Port Isolation ≥85dB(with TRF) Tx to Rx ≥30dB Tx to Tx ≥20dB		Receive	Transmit	
Gain 54.8+ 20lg[f(GHz)/4] 58.2+ 20lg[f(GHz)/6] Antenna Noise Temp. 5°Elevation 54k with TRF 10°Elevation 36k with TRF 46k with TRF 20°Elevation 36k with TRF 30k with TRF Sidelobe Pattern First sidelobe level ≤-14dB Wide sidelobes meets IESS, Eutelsat and CCIR 580. 1ESS, Eutelsat and CCIR 580. Cross Pol. Discrimination 35dB (On axis) 30dB (within 1 dB Beamwidth) 1.30:1(LP) 1.30:1(LP) 1.30:1(LP) VSWR 1.30:1(LP) 1.25:1 (CP) 1.25:1 (CP) 3dB Beamwidth 0.30° 0.20° 0.20° Axial Ratio (CP only) 1.06:1 1.06:1 Feed Insertion or Ohmic Loss 0.30dB 0.30dB Power Handling Capability 5kw cw per port Port to Port Isolation ≥85dB(with TRF) Tx to Rx ≥30dB Tx to Tx ≥20dB	Linear POL Feed			
Gain 20lg[f(GHz)/4] 20lg[f(GHz)/6] Antenna Noise Temp. 5°Elevation 54k with TRF 10°Elevation 36k with TRF 20°Elevation 30k with TRF 40°Elevation 30k with TRF Sidelobe Pattern First sidelobe level ≤-14dB Wide sidelobes meets IESS, Eutelsat and CCIR 580. Cross Pol. Discrimination 35dB (On axis) 30dB (within 1 dB Beamwidth) VSWR 1.30:1(LP) 1.30:1(LP) 3dB Beamwidth 0.30° 0.20° Axial Ratio (CP only) 1.06:1 1.06:1 Feed Insertion or Ohmic Loss 0.30dB 0.30dB Power Handling Capability 5kw cw per port Port to Port Isolation ≥85dB(with TRF) Rx to Rx ≥30dB Tx to Tx ≥20dB	Frequency in GHz			
Antenna Noise Temp. 5°Elevation 5°Elevation 54k with TRF 10°Elevation 36k with TRF 20°Elevation 30k with TRF 40°Elevation 30k with TRF Sidelobe Pattern First sidelobe level ≤-14dB Wide sidelobes meets IESS, Eutelsat and CCIR 580. Cross Pol. Discrimination 35dB (On axis) 30dB (within 1 dB Beamwidth) VSWR 1.30:1(LP) 1.30:1(LP) 1.30:1(LP) 1.25:1(CP) 1.25:1 (CP) 3dB Beamwidth 0.30° 0.20° Axial Ratio (CP only) 1.06:1 Feed Insertion or Ohmic Loss 0.30dB Power Handling Capability 5kw cw per port Port to Port Isolation ≥85dB(with TRF) Tx to Rx ≥85dB(with TRF) Rx to Rx ≥30dB Tx to Tx ≥20dB	Gain			
5°Elevation 54k with TRF 10°Elevation 36k with TRF 20°Elevation 30k with TRF 40°Elevation 30k with TRF Sidelobe Pattern First sidelobe level ≤-14dB Wide sidelobes meets IESS, Eutelsat and CCIR 580. Cross Pol. Discrimination 35dB (On axis) 30dB (within 1 dB Beamwidth) VSWR 1.30:1(LP) 1.30:1(LP) 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 Loss 0.30dB 0.30dB Power Handling Capability 5kw cw per port Port to Port Isolation ≥85dB(with TRF) Tx to Rx ≥30dB Tx to Tx ≥20dB	Antonno Noise Torre	201g[f(GHZ)/4]	20ig[f(GHZ)/6]	
10°Elevation 46k with TRF 20°Elevation 36k with TRF 40°Elevation 30k with TRF Sidelobe Pattern First sidelobe level ≤-14dB Wide sidelobes meets IESS, Eutelsat and CCIR 580. Cross Pol. Discrimination 35dB (On axis) 30dB (within 1 dB Beamwidth) VSWR 1.30:1(LP) 1.30:1(LP) 1.30:1(LP) 3dB Beamwidth 0.30° 0.20° Axial Ratio (CP only) 1.06:1 1.06:1 Feed Insertion or Ohmic Loss 0.30dB 0.30dB 0.30dB Power Handling Capability 5kw cw per port Port to Port Isolation ≥85dB(with TRF) Tx to Rx ≥30dB Tx to Tx ≥20dB		EAL AND TRE		
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40°Elevation 30k with TRF Sidelobe Pattern First sidelobe level ≤-14dB Wide sidelobes meets IESS, Eutelsat and CCIR 580. Cross Pol. Discrimination 35dB (On axis) 30dB (within 1 dB Beamwidth) VSWR 1.30:1(LP) 1.30:1(LP) 1.25:1 (CP) 3dB Beamwidth 0.30° 0.20° Axial Ratio (CP only) 1.06:1 1.06:1 Feed Insertion or Ohmic Loss 0.30dB 0.30dB 0.30dB Power Handling Capability 5kw cw per port Port to Port Isolation ≥85dB(with TRF) Tx to Rx ≥30dB Tx to Tx ≥20dB				
Sidelobe Pattern First sidelobe level ≤-14dB Wide sidelobes meets IESS, Eutelsat and CCIR 580. Cross Pol. Discrimination 35dB (On axis) 30dB (within 1 dB Beamwidth) VSWR 1.30:1(LP) 1.30:1(LP) 1.25:1 (CP) 3dB Beamwidth 0.30° 0.20° Axial Ratio (CP only) 1.06:1 1.06:1 Feed Insertion or Ohmic Loss 0.30dB 0.30dB 0.30dB Power Handling Capability 5kw cw per port Port to Port Isolation ≥85dB(with TRF) Tx to Rx ≥30dB Tx to Tx ≥20dB				
IESS, Eutelsat and CCIR 580. Cross Pol. Discrimination 35dB (On axis) 30dB (within 1 dB Beamwidth) VSWR 1.30:1(LP) 1.30:1(LP) 3dB Beamwidth 0.30° 0.20° Axial Ratio (CP only) 1.06:1 1.06:1 Feed Insertion or Ohmic Loss 0.30dB 0.30dB 0.30dB Power Handling Capability 5kw cw per port Port to Port Isolation ≥85dB(with TRF) Tx to Rx ≥30dB Tx to Tx ≥20dB				
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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 Loss 0.30dB 0.30dB Power Handling Capability 5kw cw per port Port to Port Isolation ≥85dB(with TRF) Tx to Rx ≥30dB Tx to Tx ≥20dB	Cross Pol. Discrimination			
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Feed Insertion or Ohmic Loss 0.30dB 0.30dB Power Handling Capability 5kw cw per port Port to Port Isolation ≥85dB(with TRF) Tx to Rx ≥30dB Tx to Tx ≥20dB				
Loss Power Handling 5kw cw per port Capability 5kw cw per port Port to Port Isolation				
Capability Skw cw per port Port to Port Isolation	Loss	0.30dB	0.30dB	
Tx to Rx $\geq 85dB(with TRF)$ Rx to Rx $\geq 30dB$ Tx to Tx $\geq 20dB$		5kw cw per port		
Rx to Rx \geq 30dB Tx to Tx \geq 20dB	Capability			
Tx to Tx ≥20dB				
	Port to Port Isolation	≥8	5dB(with TRF)	
Feed Interfaces CPR-229G CPR-137G	Port to Port Isolation Tx to Rx	≥8	·	
· · · · · · · · · · · · · · · · · · ·	Port to Port Isolation Tx to Rx Rx to Rx Tx to Tx		≥30dB ≥20dB	



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 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	

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