



R.F.Specification

for

VertexRSI 6.10 Meter Compact Cassegrain Antenna With Four Port Receive Only Linearly Polarized Feed

Preliminary Spec

	Receive	Receive	Receive	Receive
Frequency in GHz-----	3.700-4.200	3.700-4.200	11.700-12.200	11.700-12.200
Port Type-----	Rx1	Rx2	Rx3	Rx4
Polarization-----	Linear	Linear	Linear	Linear
Feed Port Polarizations-----	VLP	HLP	VLP	HLP
Antenna Gain (+/- 0.2 dB)				
3.700 / 3.700 ,11.700 / 11.700 GHz-----	45.00 dBi	45.00 dBi	54.10 dBi	54.10 dBi
3.950 / 3.950 ,11.950 / 11.950 GHz-----	45.50 dBi	45.50 dBi	54.20 dBi	54.20 dBi
4.200 / 4.200 ,12.200 / 12.200 GHz-----	46.10 dBi	46.10 dBi	54.30 dBi	54.30 dBi
Antenna Noise Temperture				
5 degree Elevation-----	70 K	70 K	85 K	85 K
10 degree Elevation-----	64 K	64 K	81 K	81 K
20 degree Elevation-----	59 K	59 K	74 K	74 K
40 degree Elevation-----	52 K	52 K	63 K	63 K
Typical G/T at 20 deg Elevation 3.950,11.950 GHz , clear horizon				
35 degree K LNA -----	25.8 dB/K	25.8 dB/K		
50 degree K LNA -----	25.1 dB/K	25.1 dB/K		
90 degree K LNA-----			31.8 dB/K	31.8 dB/K
150 degree K LNA-----			30.5 dB/K	30.5 dB/K
Pattern Beamwidth in degrees at 3.950 / 3.950 ,11.950 / 11.950 GHz				
-3 dB Beamwidth-----	0.90	0.90	0.32	0.32
-15 dB Beamwidth-----			0.67	0.67
Sidelobes				
For Angle A from 1 to 48 Degrees-----	32 - 25 log A	32 - 25 log A		
For Angles from 48 to 180 Degrees-----	-10 dBi	-10 dBi		
For Angle A from 1 to 48 Degrees-----			32 - 25 log A	32 - 25 log A
For Angles from 48 to 180 Degrees-----			-10 dBi	-10 dBi
Cross Polarization Isolation				
On Axis -----	25.0 dB	25.0 dB	24.0 dB	24.0 dB
Within 1.0 dB Beamwidth -----	25.0 dB	25.0 dB	24.0 dB	24.0 dB



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	Receive	Receive	Receive	Receive
VSWR (Return Loss)-----	1.70:1(11.7dB)	1.70:1(11.7dB)	1.50:1(14.0dB)	1.50:1(14.0dB)
Feed Insertion or Ohmic Loss-----	0.20 dB	0.20 dB	0.40 dB	0.40 dB
Port to Port Isolation (Rx to Rx Same Band)-----	25.0 dB	25.0 dB	30.0 dB	30.0 dB
Port to Port Isolation-----	0.0 dB (Input)	-25.0 dB		
Port to Port Isolation-----	-25.0 dB	0.0 dB (Input)		
Port to Port Isolation-----			0.0 dB (Input)	-30.0 dB
Port to Port Isolation-----			-30.0 dB	0.0 dB (Input)
Output Waveguide Flange Interface-----	CPR-229G	CPR-229G	WR-75 Flat	WR-75 Flat

Notes - Other operational frequencies available
 - 10% of sidelobes may exceed the sidelobe specifications where applicable.

-G/T is calculated by bolting single LNA directly to the feed.It does not allow for any post LNA effects.

All values are at the rear feed output flange.