

7.3 METER EARTH STATION ANTENNA

Shaanxi Probecom Microwave Technology Co.,Ltd. is a specialized company engaged in the design and manufacture of satellite communication earth station antenna with a selected range from 1.8M to 16M (C-Band, KU-Band, Ka-Band, X-band, S-band, L-band)and relevant servo equipment including antenna control system and beacon receiver. Microwave antenna, TVRO antenna and Flyaway antenna, Microwave components and customerized products is also provided.



Probecom 7.3 Meter ring-focus antenna can deliver superior performance for sat communication applications such as Broadcasters, Service Providers, GSM operator, Satellite operator, Military and Government Agencies, FreeLands or Rescue Organizations.

Probecom 7.3 Meter ring focus antenna adopts all aluminum re-enforced reflectors, consisting of precisely formed panels with matched radials and hub assemblies ensure the ease of installation. The standard designed azimuth over elevation pedestal provides a cost-effective solution for high stiffness and stability, full orbital arc coverage and fine drive performance, and ensures the pointing accuracy for C-Band Tx/Rx and Ku-Band Tx/Rx operations.

Highlighted Features

*Meets CCIR 580 and INTELSAT Requirements *CP/LP switchable feed *High RF performance *Galvanized stainless steel hardware *Different frequency ranges from many feed configurations *Ka band antenna with rotary pedestal is available * Antenna reflector be pre-assembly in works, special designed taper-pin easy instillation and ensure on site assembly accuracy ,no theodolite required

Options

*L,S,X bands and multi-bands *800MHz bandwidth is available *Full motion antenna *Feed blower or deicing with automatic controls *Two or four Tx/Rx port in linear or circular polarized feeds

Antenna Accessory

Motorization Kits Limit Switches ODU Support Kits Factory Feed System Testing and Documentation Ocean /AirTransport Packing Foundation Kit Lightening Rod Kit Grounding Kit Cable-Mounting Kit Anti-icing and Deicing

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Electrical Specification

$ \begin{array}{ $	Electrical Specification						
$ \begin{array}{ c c c } \mbox{Operating Frequev}, GHz & Receive & Transmit & Receive & Transmit \\ \mbox{3.625^4.2} & 5.85^{\circ}6.425 & 10.95^{\circ}12.75 & 13.75^{\circ}14.5 \\ \mbox{Gain, Mid-band, dBi } & 47.85 & 51.42 & 57.14 & 58.45 \\ \hline Polarizatiow & Inserver & Inserve$	Туре		С73Т		к73Т		
3.625~4.2 5.85~6.425 10.95~12.75 13.75~14.5 Gain, Mid-band, dB 47.85 51.42 57.14 58.45 Polarization Linear/Circular Linear/Circular Linear/Circular Linear/Circular XPD (on Axis), dB 35 35 35 35 35 XPD across 1dB Beam Width, dB 33 33 33 33 Axial Ratio 2-Port Feed 1.30 1.09	Operating Frequency, GHz		C-Band		Ku-Band		
Gain, Mid-band, dBi 47.85 51.42 57.14 58.45 Polarization Linear/Circular Linear/Circular Linear/Circular Linear/Circular XPD (on Axis), dB 35 35 35 35 35 XPD across 1dB Beam Width, dB 33 33 33 33 33 Axial Ratio 2-Port Feed 1.30 1.09 - - (Circular-Polarized) 4-Port Feed 1.06 1.06 - - VSWR 1.25 1.25 1.25 1.25 1.25 Antenna Noise Temperature 2/4 Port Feed 35K/49K 60K/87K - 10° Elevation 26K/43K 50K/73K - - 30° Elevation 24K/35K 48K/61K - - -3 dB Beam Width, Mid-band 0.66° 0.44° 0.23° 0.19° Typical G/T (EL>10°, 2-port) 30.2dB/K - 2 - Typical G/T (EL>10°, 2-port) 30.2dB/K - 2 -			Receive	Transmit	Receive	Transmit	
PolarizatioLinear/CircularLinear/CircularXPD (on Axis), dB353535XPD across 1dB Bear353535XPD across 1dB Bear333333Axial Ratio2-Port Feed1.301.09(Circular-Polarized)4-Port Feed1.061.06VSWR1.251.251.25Antenna Noise Terrerature2/4 Port Feed2/4 Port Feed10° Elevatior35K/49K60K/87K30° Elevatior26K/43K50K/73K30° Elevatior24K/35K48K/61K-3 dB Beam Width, Mid-band0.66°0.44°0.23°Typical G/T (EL>10° , 2-port)30.2dB/K (30° LNA)36.1dB/K (70° LNA)2Tx. Power Capability, KW522Feed InterfacCPR-229FCPR-137FWR-75 UR-75WR-75Feed Insertion Loss, dB0.2/0.250.2/0.250.25/0.350.25/0.4Isolation, Tx to Rx, dB8585851Tx/Tx ,Rx /Rx, Lin=r , dB30303030Tx/Tx ,Rx /Rx, Circur , dB2020202Side lobeCICIR 580-4222Antenna Diameter7.3m7.3m1			3.625~4.2	5.85~6.425	10.95~12.75	13.75~14.5	
$\begin{array}{c c c c c c } & XPD(on Axis), \end{bmatrix} & 35 & 35 & 35 & 35 & 35 & 35 & 35 & 3$	Gain, Mid-band, dBi		47.85	51.42	57.14	58.45	
$\begin{array}{ c c c c } \hline XPD \mbox{ across 1dB Beam Width, dB} & 33 & 33 & 33 & 33 & 33 & 33 & 33 & $	Polarization		Linear/Circular		Linear		
Axial Ratio (Circular-Polarized) 2-Port Feed 1.30 1.09 1.09 (Circular-Polarized) 4-Port Feed 1.06 1.06 1.05 VSWR 1.25 1.25 1.25 1.25 Antenna Noise Temperature 2/4 Port Feed 2/4 Port Feed 60K/87K 10° Elevation 26K/43K 50K/73K 60K/87K 30° Elevation 26K/43K 50K/73K 60L9 -3 dB Beam Width, Mid-band 0.66° 0.44° 0.23° 0.19° Typical G/T (EL>10°, 2-port) 30.2dB/K 36.1dB/K (70° LNA) 1.05 Tx. Power Capability, KW 5 2 2 2 Feed Interface CPR-229F CPR-137F WR-75 WR-75 Feed Interface CPR-229F CPR-137F WR-75 0.25/0.4 0.25/0.4 0.20 0.20 Isolation, Tx to Rx, dB 85 85 30 0.20 0.20 0.20 Side lobe CCIR 580-4 20 20 20 20 20	XPD(on Axis), dB		35	35	35	35	
(Circular-Polarized)4-Port Feed1.061.061.06VSWR1.251.251.251.25Antenna Noise Terrer2/4 Port Feed2/4 Port Feed2/4 Port Feed10° Elevatior35K/49K60K/87K60K/87K30° Elevatior26K/43K50K/73K48K/61K50° Elevatior24K/35K48K/61K0.19°-3 dB Beam Width, Mid-band0.66°0.44°0.23°0.19°-3 dB Beam Width, Mid-band0.66°0.44°0.23°0.19°Typical G/T (EL>10° , 2-port)30.2dB/K36.1dB/K(70° LNA)1Tx. Power Capability, KW5222Feed InterfacCPR-229FCPR-137FWR-75WR-75Feed Interfac0.2/0.250.25/0.350.25/0.40.25/0.4Isolation, Tx to x, dB850.2/0.250.25/0.350.25/0.4Tx/Tx ,Rx /Rx, Lin=r , dB30CCIR SU-111Side lobeSide lobe5I1Mechanical SpecificationKechanical Specification	XPD across 1dB Beam Width, dB		33	33	33	33	
VSWR1.251.251.251.25Antenna Noise Temperature2/4 Port Feed $2/4$ Port Feed $60K/87K$ 10° Elevation35K/49K $60K/87K$ $60K/87K$ 30° Elevation26K/43K $50K/73K$ $48K/61K$ -3 dB Beam Width, Mid-band 0.66° 0.44° 0.23° 0.19° Typical G/T (EL>10°, 2-port) $30.2dB/K$ $36.1dB/K$ $(70^{\circ} LNA)$ $(70^{\circ} LNA)$ Tx. Power Capability, KW52 2 Feed InterfaceCPR-229FCPR-137FWR-75WR-75Feed InterfaceCPR-229F $0.2/0.25$ $0.25/0.35$ $0.25/0.4$ Isolation, Tx to Rx, dB8585 30 30 Tx/Tx ,Rx /Rx, Linear , dB30 30 30 30 Tx/Tx ,Rx /Rx, Circular , dB20CCIR 580-4 $Mechanical Specification$ $7.3m$	Axial Ratio	2-Port Feed	1.30	1.09			
Antenna Noise Temperature $2/4$ Port Feed $2/4$ Port Feed 10° Elevation $35K/49K$ $60K/87K$ 30° Elevation $26K/43K$ $50K/73K$ 50° Elevation $24K/35K$ $48K/61K$ -3 dB Beam Width, Mid-band 0.66° 0.44° 0.23° 0.19° $30.2dB/K$ $36.1dB/K$ $(70^{\circ} LNA)$ Typical G/T (EL>10°, 2-port) $30.2dB/K$ $36.1dB/K$ $(70^{\circ} LNA)$ Tx. Power Capability, KW 5 2 Feed InterfaceCPR-229FCPR-137FWR-75Feed InterfaceCPR-229F $0.2/0.25$ $0.25/0.35$ $0.25/0.4$ Isolation, Tx to Rx, dB 85 85 85 85 Tx/Tx ,Rx /Rx, Linear , dB 30 30 30 Tx/Tx ,Rx /Rx, Circular , dB 20 20 20 Side lobeCCIR 58U-4 20 Mechanical Specification $7.3m$	(Circular-Polarized)	4-Port Feed	1.06	1.06			
10° Elevation 35K/49K 60K/87K 30° Elevation 26K/43K 50K/73K 50° Elevation 24K/35K 48K/61K -3 dB Beam Width, Mid-band 0.66° 0.44° 0.23° 0.19° Typical G/T (EL>10° , 2-port) 30.2dB/K 36.1dB/K (70° LNA) 2 Tx. Power Capability, KW 5 2 2 Feed Interface CPR—229F CPR—137F WR-75 WR-75 Feed Interface 0.20.25 0.25/0.35 0.25/0.4 Isolation, Tx to Rx, dB 85 30.2 30.2 Tx/Tx ,Rx /Rx, Linear , dB 30.2 2 2 Side lobe CPR—229F CPR—137F WR-75 WR-75 Feed Insertion Loss, dB 0.2/0.25 0.25/0.35 0.25/0.4 Isolation, Tx to Rx, dB 85 30 30 Tx/Tx ,Rx /Rx, Linear , dB 30 30 30 Side lobe CCIR 580-4 20 20 Mechanical Specification 7.3m 30	VSWR		1.25	1.25	1.25	1.25	
30° Elevation 26K/43K 50K/73K 50° Elevation 24K/35K 48K/61K -3 dB Beam Width, Mid-band 0.66° 0.44° 0.23° 0.19° Typical G/T (EL>10° , 2-port) 30.2dB/K 36.1dB/K (70° LNA) Tx. Power Capability, KW 5 2 2 Feed Interface CPR—229F CPR—137F WR-75 WR-75 Feed Insertion Loss, dB 0.2/0.25 0.25/0.35 0.25/0.4 Isolation, Tx to Rx, dB 85 85 5 2 Tx/Tx ,Rx /Rx, Linear , dB 30 0 20 2 Side lobe CCIR 58U 20 2 1 Mechanical Specification Antenna Diameter 7.3m 1	Antenna Noise Temperature		2/4 Port Feed		2/4 Port Feed		
50° Elevation24K/35K48K/61K-3 dB Beam Width, Mid-band 0.66° 0.44° 0.23° 0.19° Typical G/T (EL>10°, 2-port) $30.2dB/K$ $36.1dB/K$ $(70^{\circ} LNA)$ $(70^{\circ} LNA)$ Tx. Power Capability, KW52 2 Feed InterfaceCPR-229FCPR-137FWR-75WR-75Feed Insertion Loss, dB $0.2/0.25$ $0.2/0.25$ $0.25/0.35$ $0.25/0.4$ Isolation, Tx to Rx, dB85 85 30 30 Tx/Tx ,Rx /Rx, Linear, dB30 20 20 20 Side lobe $CVIR = 30$ 20 20 20 Mechanical Specification 5 2 $7.3m$ $30.26/0.25$			35K/49K		60K/87K		
-3 dB Beam Width, Mid-band 0.66° 0.44° 0.23° 0.19° Typical G/T (EL>10°, 2-port) 30.2dB/K 36.1dB/K (70° LNA) Tx. Power Capability, KW 5 2 Feed Interface CPR—229F CPR—137F WR-75 WR-75 Feed Interface 0.20.25 0.20.25 0.25/0.35 0.25/0.4 Isolation, Tx to Rx, dB 85 85 30 30 Tx/Tx ,Rx /Rx, Linear , dB 30 20 20 20 Side lobe CCIR 580-4 20 20 25/0.4 20 Mechanical Specification Antenna Diameter 7.3m 30 30 30			26K/43K		50K/73K		
Typical G/T (EL>10°, 2-port) 30.2dB/K (30° LNA) 36.1dB/K (70° LNA) Tx. Power Capability, KW 5 2 Feed Interface CPR-229F CPR-137F WR-75 WR-75 Feed Insertion Loss, dB 0.2/0.25 0.2/0.25 0.25/0.35 0.25/0.4 Isolation, Tx to Rx, dB 85 0.2/0.25 0.25/0.35 0.25/0.4 Tx/Tx ,Rx /Rx, Linear , dB 30 30 30 30 Side lobe CCIR 580-4 2 30 Mechanical Specification Antenna Diameter 7.3m 7.3m			24K/35K		48K/61K		
Typical G/T (EL>10° , 2-port)(30° LNA)(70° LNA)Tx. Power Capability, KW52Feed InterfaceCPR-229FCPR-137FWR-75WR-75Feed Insertion Loss, dB0.2/0.250.2/0.250.25/0.350.25/0.4Isolation, Tx to Rx, dB850.2/0.250.2/0.250.25/0.4Tx/Tx ,Rx /Rx, Linear , dB303030Tx/Tx ,Rx /Rx, Circular , dB20CCIR 580-4Side lobeCCIR 580-41Mechanical Specification7.3m	-3 dB Beam Width, Mid-band		0.66°	0.44°	0.23°	0.19°	
Tx. Power Capability, KW52Feed InterfaceCPR—229FCPR—137FWR-75WR-75Feed Insertion Loss, dB0.2/0.250.2/0.250.25/0.350.25/0.4Isolation, Tx to Rx, dB85858530Tx/Tx ,Rx /Rx, Linear , dB30202020Side lobeCCIR 580-4555Mechanical SpecificationAntenna Diameter7.3m7	Typical G/T(EL>10°,2-port)		30.2dB/K		36.1dB/K		
Feed Interface CPR-229F CPR-137F WR-75 WR-75 Feed Insertion Loss, dB 0.2/0.25 0.2/0.25 0.25/0.35 0.25/0.4 Isolation, Tx to Rx, dB 85 0.2/0.25 0.25/0.35 0.25/0.4 Tx/Tx ,Rx /Rx, Linear , dB 30 30 30 Tx/Tx ,Rx /Rx, Circular , dB 20 20 20 Side lobe CCIR 580-4 5 5 Mechanical Specification 7.3m 7.3m 7			(30° LNA)		(70° LNA)		
Feed Insertion Loss, dB 0.2/0.25 0.2/0.25 0.25/0.35 0.25/0.4 Isolation, Tx to Rx, dB 85 85 85 Tx/Tx, Rx /Rx, Linear, dB 30 30 30 Tx/Tx, Rx /Rx, Circular, dB 20 20 20 Side lobe CCIR 580-4 5 5 Mechanical Specification 7.3m 7 7	Tx. Power Capability, KW			5	, ,	2	
Isolation, Tx to Rx, dB8585Tx/Tx ,Rx /Rx, Linear , dB3030Tx/Tx ,Rx /Rx, Circular , dB2020Side lobeCCIR 580-4Mechanical SpecificationAntenna Diameter7.3m	Feed Interface		CPR—229F	CPR—137F	WR-75	WR-75	
Tx/Tx ,Rx /Rx, Linear , dB3030Tx/Tx ,Rx /Rx, Circular , dB2020Side lobeCCIR 580-4Mechanical Specification7.3m	Feed Insertion Loss, dB		0.2/0.25	0.2/0.25	0.25/0.35	0.25/0.4	
Tx/Tx ,Rx /Rx, Circular , dB2020Side lobeCCIR 580-4Mechanical Specification7.3m	Isolation, Tx to Rx, dB		85		8	5	
Side lobe CCIR 580-4 Mechanical Specification 7.3m			30		30		
Mechanical Specification Antenna Diameter 7.3m	Tx/Tx ,Rx /Rx, Circular , dB		20		20		
Antenna Diameter 7.3m	Side lobe		CCIR 580-4				
	Mechanical Specification						
Antenna Type Ring Focus							
	А	ntenna Type					
Surface Accuracy(RMS) ≤0.35mm	• •						
Antenna Pointing Range Azimuth ±85°			Azimuth				
Elevation 0°~90°(Continuous)							
Polarization ±90°(Continuous)			Polarization		· · ·		
	Drive Mode				Manual or Motorized		
Motor Drive System Azimuth or Elevation Travel Rate 0.02°/S-0.04°/S	Motor Drive System						
Polarization Travel Rate 1% Environmental Specification	Environmental Specificatio		ion iravel kate		1/5		
Operational Wind 79km/h gusting to 126km/h				79ki	79km/h gusting to 126km/h		
Survival Wind 198km/h	•						
Temperature -40°~+60°							
Relative Humidity 100%							
Solar Radiation 1135Kcal/h/m ²			1135Kcal/h/m ²				
Seismic(Survival) 0.3g(H), 0.15g(V)	Sei						
Ice Loading 13mm Operational; 30mm Survival	Ice Loading			13mm (13mm Operational; 30mm Survival		

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