COXSAT

洛赛科技

Marketing Department

Product Specification

Product Name: Ka-band Rx512 Phased Array Antenna

1 Product Description

This product is a highly integrated satellite communication phased array antenna, incorporating the antenna, RF network, and control module. It supports multi-subarray tiling for extended applications.

2 Application Scenarios

It is designed for satellite communication systems requiring high reliability, low cost, high integration, high data rates, and low power consumption.

3 Product characteristics

- 512-element phased array antenna subarray
- Standard subarray design for flexible scaling into larger arrays
- FDD-mode transmit beamforming RF circuitry
- Low power consumption
- High-power CMOS power amplifiers
- Scanning range: ±70°
- 12V power supply input
- RS422 communication interface for control

4 Technical Parameters

S/N	Items	Technical Parameters	Remarks
1	Working Frequency	17.7GHz ~ 21.2GHz	
2	Polarization	LHCP/RHCP, switchable	
3	Scanning Range	± 70°	
4	G/T	≥4.9dB/K @ 19.45GHz;	Normal Direction
5	Scan Loss @19.45GHz;	Off-axis angle 30°: ≤2dB;	
		Off-axis angle 45°: ≤3dB;	
		Off-axis angle 60°: ≤5dB;	

S/N	Items	Technical Parameters	Remarks
		Off-axis angle 70°: ≤6.5dB;	
6	Sidelobe Suppression @19.45GHz;	Normal direction: ≥12dB;	
		Off-axis angle 30 °: ≥11dB;	
		Off-axis angle 45°: ≥10dB;	
		Off-axis angle 60°: ≥9dB;	
		Off-axis angle 70°: ≥8dB;	
7	Axial Ratio @19.45GHz;	Normal direction: ≤2dB;	
		Off-axis angle 30°: ≤3dB;	
		Off-axis angle 45°: ≤4dB;	
		Off-axis angle 60°: ≤5dB;	
		Off-axis angle 70°: ≤6.5dB;	
8	Gain	≥50dB	
9	Output VSWR	≤2	
10	Operating Voltage	12V	
11	Power Consumption	≤25.5W	
12	Working Temperature	-40℃ ~ +55℃	
13	Storage Temperature	-40℃ ~ +70℃	
14	Dimensions	287.6mm*108.8mm*3.5mm	

5 Product Photo