



SKY74 Ka-band 74cm Antenna

Key Features:

- Commercial Ka-band coverage
- Optimised for Skyware Technologies Ka-band RF equipment
- Precision reflector geometry for optimum performance
- Strong weatherproof construction for optimum stability and long life
- 720 hour salt spray tolerance

Compatible Products:

- XRF Family Transceiver



The SKY74 Ka 74cm Antenna from Skyware Technologies provides a robust and reliable solution delivering excellent performance for Consumer and Enterprise applications. The optics are chosen to complement the range of Skyware Technologies RF equipment and together this combination provides high performance at a competitive price.

The all steel reflector is designed for strength, accuracy and stability under the harshest conditions. The precision Azimuth/Elevation mount is manufactured from corrosion resistant galvanised steel designed to allow easy pointing adjustment with minimal backlash and lockdown errors.

This antenna is designed for installation on a standard 60mm (2 3/8 inch) outside diameter mast pipe.

- *Operating frequency*: TX 28 - 30 GHz, RX 17.8 - 20.2 GHz*
- *Gain: TX 45.4 dBi, RX 41.7 dBi*
- *3dB beamwidth: TX 0.9°, RX 1.4°*
- *Polarisation: Circular, RH, LH*
- *Antenna optics: precision one-piece single offset feed prime focus*
- *All steel reflector*

SPECIFICATIONS

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Electrical

Parameter		Minimum	Typical	Maximum	Unit	Note
Operating Frequency*	Transmit	28.0		30.0	GHz	
	Receive	17.8		20.2	GHz	
Polarization	Transmit	Circular, RH or LH				
	Receive	Circular, RH or LH				
Gain** +/- 0.5 dB	Transmit		45.3		dBi	@ 29 GHz
	Receive		41.6		dBi	@ 19.2 GHz
3 dB Bandwidth	Transmit		1		°	@ 29 GHz
	Receive		1.5		°	@ 19.2 GHz
Sidelobe Envelope Tx Co-Pol	100 $\lambda/D < \theta < 20^\circ$		29 - 25 Log θ		dBi	
	20° < $\theta < 26.3^\circ$		-3.5		dBi	
	26.3° < $\theta < 48^\circ$		32 - 25 Log θ		dBi	
	48° < $\theta < 180^\circ$		-10		dBi	
Antenna Cross Polarisation	Transmit		> 25		dB	w/in 1dB bandwidth
	Receive		> 23		dB	
Antenna Noise Temperature				50	K	@ 30° Elevation
VSWR				1:3:1		
Feed Interface			Custom Circular			

* Subject to RF Electronics payload

** Gain and Noise Temperature at Feed Horn Flange

Mechanical

Parameter	Typical
Reflector Material	Steel
Antenna Optics	One piece offset Feed Prime Focus
Mast Pipe Size	60 mm OD (2 3/8 inch)
Elevation Adjustment Range	6° - 90° Continuous Fine Adjustment
Azimuth Adjustment Range	360° Continuous Coarse Adjustment ± 3° Fine Adjustment

Environmental

Parameter	Typical	
Wind Loading	Operational	73 km/h (45 mph)
	Ultimate Survival	201 km/h (125 mph)
Temperature	Operational	-40° C to 60° C
Rain	Operational	10 mm/h
Atmospheric Conditions		Salt, pollutants and contaminants as encountered in coastal and industrial areas 720 hour ASTM B117 Salt Spray
Relative Humidity		0 - 100% with condensation
Solar Radiation		1135 W/m ²
Shipping Weight (bulk)		8.5 kg (19 lbs)