

## Starwin 0.35m Airborne Antenna Datasheet



### Introduction:

Starwin SW035 Ku/Ka band airborne antenna is widely used on various UAV (Unmanned Aerial Vehicle) platforms to enhance team mobility and stay informed of on-site conditions; It is also can be used in emergency command and communication departments such as public security, fire protection, transportation and safety supervision, to improve the ability of relevant departments to deal with emergencies such as flood fighting and emergency rescue, earthquake rescue, forest fire alarm, fire protection, and citizen protection.

### Features:

- Support Ku and Ka band.
- Utilizing hat-shaped feed design for higher efficiency and better side lobe characteristics.
- Fast initial pointing time to satellite: GPS/Beidou GNSS module cold start positioning time to satellite <90s, hot start (or manual input) <60s.
- High tracking accuracy: Tracking error <0.2dB (RMS) without occlusion.
- Excellent Tracking Stability: The azimuth adopts a closed-loop stability algorithm, which can accurately track the satellite even during rapid turning or "S" move.
- Fast occlusion recovery time: Occlusion time <5min, recovery time <3s; Occlusion time <20min, recovery time <5s.

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- Rapid satellite switching: switching time between different satellites < 8s.
- High reliability: Using self-developed transceiver to reduce weight and improve reliability.
- Easy to operate: It can achieve dynamic satellite alignment, dynamic satellite switching, and other functions during move.
- Standardized modular components: system modular design, simple interface specification, convenient fault diagnosis and maintenance.
- Three-axis stabilization system, the tracking stability is strong.

## Specifications:

SW035 Ku/Ka Band Airborne Antenna Datasheet					
Overall Specifications					
<b>Model</b>	SW035		<b>Type</b>	Carbon fibre, circularly symmetrical reflector and hat-shaped feed	
<b>Working Frequency, Ku Band</b>	<b>Tx</b>	13.75 ~ 14.5 GHz	<b>Antenna Gain, dBi Ku Band</b>	<b>Tx</b>	$\geq 32.3 + 20\lg(f/14.0)$
	<b>Rx</b>	10.7 ~ 12.75 GHz		<b>Rx</b>	$\geq 31.1 + 20\lg(f/12.25)$
<b>Working Frequency Ka Band</b>	<b>Tx</b>	27.4 ~ 31.0 GHz	<b>Antenna Gain, dBi Ka Band</b>	<b>Tx</b>	$\geq 38.7 + 20\lg(f/29.4)$
	<b>Rx</b>	17.7 ~ 21.2 GHz		<b>Rx</b>	$\geq 35.2 + 20\lg(f/19.6)$
<b>Polarization Mode</b>	<b>Ku</b>	Linear Polarization	<b>XPD, Ku Band</b>		35 dB, on axis
	<b>Ka</b>	Circular Polarization	<b>Axis Ratio, Ka Band</b>		1.5 dB
<b>VSWR Ka/Ku Band</b>	<b>Tx</b>	1.4:1	<b>Tx – Rx Isolation</b>		85 dB
	<b>Rx</b>	1.5:1	<b>Rx – Tx Isolation</b>		30 dB
Mechanical Specifications					
<b>Rotation Range</b>	<b>Az</b>	N×360°, unlimited			
	<b>EI</b>	-8° ~ 100°			
	<b>Roll</b>	±20°			
	<b>Pol</b>	±110°			
<b>Rotation Speed</b>	<b>Az</b>	100°/s			
	<b>EI</b>	100°/s			
<b>Acceleration</b>	<b>Az</b>	200°/s <sup>2</sup>			
	<b>EI</b>	200°/s <sup>2</sup>			
<b>Pointing Accuracy</b>		≤ 0.2° (R.M.S)			
<b>Capture Time of First Boot</b>		< 90s			

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<b>Recapture Time After loss</b>	≤5s (Occlusion 20min)		
<b>Weight</b>	≤6.5Kg (Including antenna system, 16W BUC, LNB, and IQ200 modem)		
<b>Overall Dimension</b>	≤Φ412 × H398mm		
<b>Electrical Specifications</b>			
<b>System Power Supply</b>	DC18-60V	<b>Positioning Method</b>	GPS+Beidou
<b>Power Consumption</b>	80W	<b>Stable Mode</b>	Three-axis stabilization
<b>Environmental Specifications</b>			
<b>Operating Temperature</b>	-40°C~+55°C	<b>Storage Temperature</b>	-55°C~+70°C