

Ku Band Full Dimensional Electronic Steering Phased Array Terminal Datasheet



Starwin Seagull Ku-band Full Dimension ESA Terminal

Starwin Seagull Ku-band Full Dimension ESA Terminal is a high-performance, multi-functional VSAT solution designed to meet the demands of high-speed satellite tracking, seamless integration, and exceptional reliability, all within a compact form factor. This terminal offers a smart and cost-effective solution for satellite communications.



This terminal integrates a fully electronic steering phased array antenna, control unit, up/down converter, and satellite router into a single unit, all housed under one radome. Additionally, it includes wireless access functionality, making deployment easy and efficient. The electronic steering beam ensures high-speed satellite tracking, while the absence of mechanical moving parts guarantees robust reliability.

Starwin Seagull Ku-band ESA terminal provides an innovative, universal broadband solution for Communication On The Move (COTM) and Communication On The Pause (COTP), simplifying satellite communication and making it accessible to a wide range of users.

Features

- **High-Speed Tracking:** Fully electronic steering of the satellite beam ensures fast and precise tracking.
- **High Integration:** Combines phased array antenna, ACU, satellite modem, and up/down converter in a single outdoor unit.
- **High Reliability:** Solid-state circuitry and no moving parts for dependable operation.
- **Simple Setup:** Installation doesn't require a satellite technician; no complex cabling or commissioning needed.
- **Easy Operation:** Access satellite broadband wirelessly via smartphone or laptop.
- **Scalable Options:** Customizable to meet specific needs.
- **Wide Application:** Ideal for mobile and fixed broadband connectivity in GEO, MEO, and LEO orbits.
 - Land (Fixed Platform - COTP)
 - Mobile (Vehicle & Train - COTM)
 - Maritime (Shipping Vessels - COTM)
 - Aero (Aircraft & UAV - COTM)
- **Cost-Effective:** Fully designed and manufactured by Starwin for reduced production costs.

Ku Band Electronic Steering Phased Array Terminal Specifications

Overall Specifications	
Model No.	ESA49125MUF
Antenna Type	Electronic Steering Phased Array
RF Performance	
Frequency Range	TX 13.75~14.50 GHz, RX 10.70~12.75 GHz
EIRP	≥ 49 dBW @ Normal (Normal direction = Elevation 90°) ≥ 48 dBW @ 30° (30° off axial angle = Elevation 60°) ≥ 44.5 dBW @ 60° (60° off axial angle = Elevation 30°)
G/T	≥ 12.5 dB/K @ Normal (Normal direction = Elevation 90°) ≥ 11.5 dB/K @ 30° (30° off axial angle = Elevation 60°) ≥ 8 dB/K @ 60° (60° off axial angle = Elevation 30°)
Applicable Satellite Type	for GEO (HTS), MEO and LEO (Optional)
Polarization	Full polarization, automatic switching
Axis Ratio	≤ 3 dB (Electronically Controlled)
X-Pol Isolation	> 30 dB @ Normal
Coverage	0-360° @ azimuth, off axis angle 0° to 60°
Integrated Tracking System	
Tracking Accuracy	$\leq 0.2^\circ$
Integrated Tracking Type	DVB-S, DVB-S2, DVB-S2X
Beam Switching Time	≤ 3 ms (any position)
Dynamic Capture Time of First Boot	≤ 120 s
Static Capture Time of First Boot	≤ 30 s
Recapture Time After Loss	< 15 sec (Duration of occlusion ≤ 5 min) < 25 sec (Duration of occlusion > 5 min)
Scan Mode	Electronic Steering
Integrated Ku Up-Down Converter	
IF Frequency	RX: 950 ~ 2150 MHz, TX: 950 ~ 1700 MHz
IF Input Power (Modem Output)	-35 ~ 0 dBm
LO.	Rx: 9.75/10.6 GHz, Tx: 12.8 GHz
Phase Noise	≤ -60 dBc/Hz (@100Hz), ≤ -70 dBc/Hz (@1kHz) ≤ -80 dBc/Hz (@10kHz), ≤ -90 dBc/Hz (@100kHz) ≤ -120 dBc/Hz (@1MHz)
Modem	
Internal /External Modem	Customizable
Mechanical	
Dimensions	$\leq 990 \times 600 \times 80$ mm
Weight	≤ 27 kg
Environmental	
Operating Temperature	-25°C ~ +55°C (Standard), -40 °C ~ +70 °C (Customizable)
Storage Temperature	-40 °C ~ +85 °C
Humidity	5 ~ 95%
Wind Speed	150 km/h
Ingress Protection	IP67
Power	
DC Power Supply	(With Adapter) AC 100 ~ 240V/50~60Hz (Without Adapter) 30VDC $\pm 5\%$
Power Consumption	Average ≤ 440 W; Peak ≤ 560 W
Interfaces	
IF TX/IF RX	SMA
Network Interface	Waterproof Quick Plug
Power Interface	Waterproof Quick Plug