# Ku band Full Dimensional Electronic Steering Phased array Terminal Datasheet

## Starwin Elephant Ku-band Full Dimension ESA Terminal Description

Starwin Elephant Ku-band Full Dimension ESA Terminal is designed with high performance multi-function chipset, addressing the need of high-speed tracking, high integration, high reliability, lower profile, delivering fully smart and economical VSAT terminal solution.

Starwin Elephant Ku-band Full Dimension ESA Terminal integrates the electronic steering phased array antenna, control unit, up&down converter and satellite router into one unit under one radome and the wireless access function is also included, which makes the terminal easy to deploy. The electronic steering beam enables high speed satellite tracking. No moving mechanical parts design ensures the high reliability of the terminal. These special features enable Ku-Band ESA terminal to deliver the innovative universal broadband solutions for COTM (Communication On The Move) and COTP (Communication On The Pause), making satellite communication simple & easy.

## Features

* High speed tracking: Fully electronic steering satellite beam

* High integration: All in one, phased array, ACU, satellite Modem, Up&Down Converter are all integrated in one outdoor unit

* High reliability: Solid State circuit, no moving mechanical parts inside

* Simple Setting up: No need satellite technician for installation, cabling, connection and commission etc.

* Easy Operation: Access satellite broadband in wireless way by smartphone or laptop.

* Scalable Option: Can be scalable per request

* Wide application: Work for mobile broadband connectivity under GEO, MEO and LEO.

  -Land (Fixed Platform-COTP)
  -Mobile (Vehicle&Train -COTM)
  -Maritime (Shipping Vessels-COTM)
  -Aero (Airplane and UAV-COTM)

* Cost Effectiveness: Fully R&D and production by Starwin come down production cost

# Ku Band Electronic Steering Phased Array Terminal Specifications

| Overall Specifications | |
|---|---|
| **Model No.** | ESA43095MUF |
| **Antenna Type** | Electronic Steering Phased Array |
| **RF Performance** | |
| **Frequency Range** | TX 13.75~14.50 GHz, RX 10.70~12.75 GHz |
| **EIRP** | ≥ 43 dBW @ Normal<br>(Normal direction =Elevation 90°)<br>≥ 42 dBW@ 30°<br>(30°off axial angle= Elevation 60°)<br>≥ 38.5 dBW@ 60°<br>(60°off axial angle= Elevation 30°) |
| **G/T** | ≥ 9.5 dB/K @ Normal<br>(Normal direction =Elevation 90°)<br>≥ 8.5 dB/K@ 30°<br>(30°off axial angle= Elevation 60°)<br>≥ 5 dB/K@ 60°<br>(60°off axial angle= Elevation 30°) |
| **Applicable Satellite Type** | for GEO (HTS), MEO and LEO (Optional) |
| **Polarization** | Full polarization, automatic switching |
| **Axis Ratio** | ≤3dB (Electronically Controlled) |
| **X-Pol Isolation** | >30dB@ Normal |
| **Coverage** | 0-360° @ azimuth, off axis angle 0° to 60° |
| **Integrated Tracking System** | |
| **Tracking Accuracy** | ⩽0.2° |
| **Integrated Tracking Type** | DVB-S, DVB-S2, DVB-S2X |
| **Beam Switching Time** | ≤3ms (any position) |
| **Dynamic Capture Time of First Boot** | ≤ 120s |
| **Static Capture Time of First Boot** | ≤ 30s |
| **Recapture Time After Loss** | <15sec (Duration of occlusion ≤5min)<br><25sec (Duration of occlusion >5min) |
| **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 ~ 0dBm |
| **LO.** | Rx: 9.75/10.6 GHz, Tx: 12.8 GHz |
| **Phase Noise** | ≤-60dBc/Hz (@100Hz), ≤-70dBc/Hz (@1kHz)<br>≤-80dBc/Hz (@10kHz), ≤-90dBc/Hz (@100kHz)<br>≤-120dBc/Hz (@1MHz) |
| **Modem** | |
| **Internal /External Modem** | **Customizable** |
| **Mechanical** | |
| **Dimensions** | ≤610×510×67mm |
| **Weight** | ≤11 kg |
| **Environmental** | |
| **Operating Temperature** | -25°C ~ +55°C (Standard),<br>-40 °C ~ +70 °C (Customizable) |
| **Storage Temperature** | -40 °C ~ +85 °C |
| **Humidity** | 5 ~ 95% |
| **Wind Speed** | 150km/h |
| **Ingress Protection** | IP67 |
| **Power** | |
| **DC Power Supply** | (With Adapter) AC 100 ~ 240V/50~60Hz<br>(Without Adapter) 28VDC±5% |
| **Power Consumption** | Average≤260W; Peak≤360W |
| **Interfaces** | |
| **IF TX/IF RX** | SMA |
| **Network Interface** | Waterproof Quick Plug |
| **Power Interface** | Waterproof Quick Plug |