

SATCOM Phased Array Antenna

PALS®

Communication & Technology

- ✓ FULL KU BAND ESA
- ✓ OTM ANTENNA
- ✓ HIGH PERFORMANCE
- ✓ BEAM FORMING IC ANTENNA



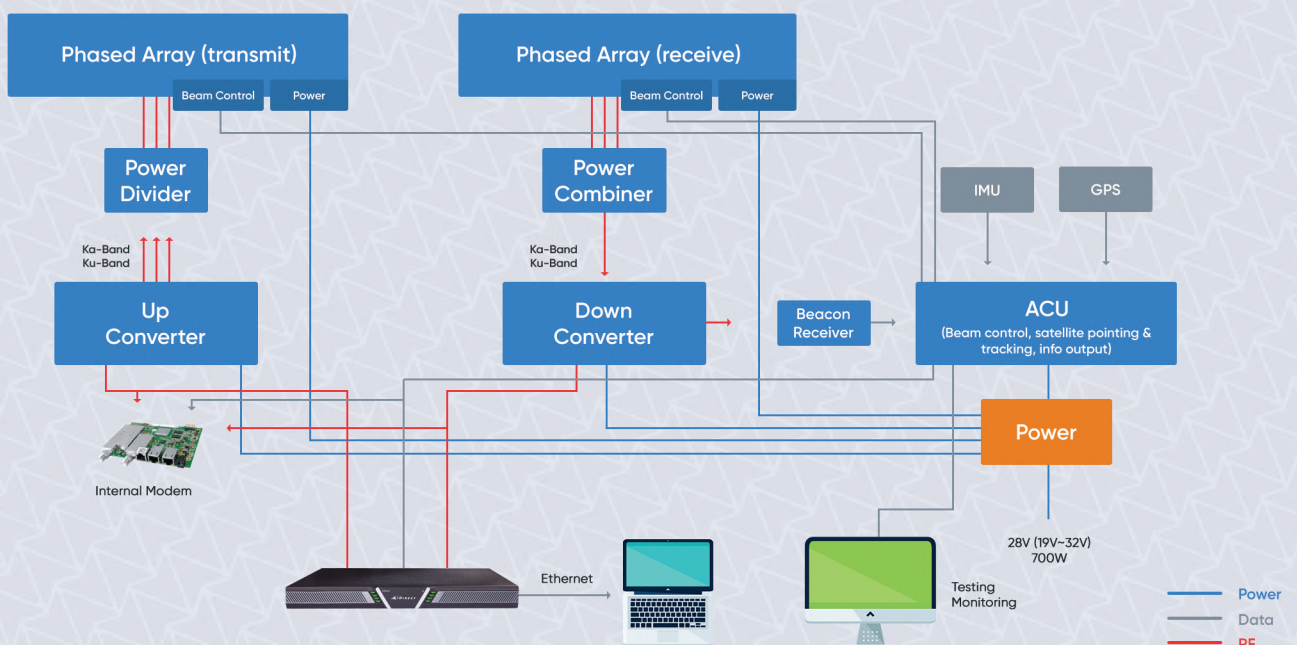
Markets

- Border Security ✓
- Defence ✓
- Maritime Applications ✓
- Security & Intelligence Agencies ✓
- Intercity Buses & Coaches ✓
- Passenger Rail ✓
- Recreational Vehicles ✓
- Emergency Services ✓

Key Features

- Electronic beam scanning brings unparalleled beam tracking speed to ensure online anytime and anywhere
- Tailed for the application of phased array active antenna terminal, all dedicated components (including MMIC chips) are independently developed, and the performance is more excellent
- Fully Digital Phased array Antenna without drive motor, no mechanical wear, high reliability and long service life
- With Support for multi-waveform Open AMIP compatible modems, the PALS PPA Series antenna can be integrated into many unique system configurations.
- GEO/MEO/LEO Interoperability and <math><100\mu\text{s}</math> Auto Beam switching
- High Throughput (up to 2 bits/Hz) of the product, integrating ACU and phased IF converter and 20W Transmit chip.

PALS Alpha Phased Array Architecture



GENERAL SPECIFICATIONS

Model Name	PPA-Ka	PPA-Ku	PPA-Ku+
Operating Frequency Range	RX : 17.5GHz ~ 21.5GHz TX : 27.5GHz ~ 30.5GHz	TX: 13.7 - 14.5GHz RX: 10.7 - 12.75GHz	TX: 13.7 - 14.5GHz RX: 10.7 - 12.75GHz
Scanning Range	Azimuth: 0° ~ 360° Elevation: 20° ~ 90°	Azimuth: 0° ~ 360° Elevation: 20° ~ 90°	Azimuth: 0° ~ 360° Elevation: 20° ~ 90°
EIRP (typical)	≥52.5 dBw	≥52dBW	≥45dBW
G/T(typical)	≥12dB/K	≥15dB/K	≥12dB/K
G/T(typical)	≥12dB/K	≥15dB/K	≥12dB/K
Rx Instantaneous Bandwidth	250Mhz	250Mhz	250Mhz
Polarization	LHCP/RHCP, Automatic Switching	Linear H/V Pol (LHCP/RHCP Supportable)	Linear H/V Pol (LHCP/RHCP Supportable)
Cross Polarization	>105dB	≤30dB	≤30dB
Beacon Tracking Receiver	DVB Tracking, Carrier Tracking	DVB Tracking, Carrier Tracking	DVB Tracking, Carrier Tracking
Tracking Accuracy	≤0.2°	≤0.2°	≤0.2°
Beam Switching Time	100μs	100μs	100μs
Beam width	TX : 1.9°@90° , RX : 1.8°@90°	N / A	N / A
Satellite tracking	OPEN Amip Support	OPEN Amip Support	OPEN Amip Support
Initial Mobile Acquisition	≤3 min	≤3 min	≤3 min
Re-Acquisition	Blocking time ≤ 5min < 8sec	Block time ≤ 5min, <8sec	Block time ≤ 5min, <8sec
Modem	In-built or External	In-built or External	In-built or External

INTERFACE FEATURES

Power Supply Interface	J599/20KD18PN-H	J599	J599
Digital Interface	Ethernet RJ45	Ethernet RJ45	Ethernet RJ45

PHYSICAL DIMENSIONS

Size (W x D x H)	970mm x 710mm x 66mm	1260mm x 990mm x 85mm	980mm x 602mm x 89mm
Weight	≤21Kg	≤36kg	≤25kg

POWER SUPPLY REQUIREMENT

Power Input	24V	28V (19V ~ 32V)	28V (19V ~ 32V)
Power Consumption	550W	700W	450W

ENVIRONMENT PARAMETERS

Operating Environment Temp	-40°C ~ +60°C	-40°C ~ +60°C	-40°C ~ +60°C
Storage Temp	-55°C ~ +70°C	-55°C ~ +70°C	-55°C ~ +70°C
Water-proof	IP66	IP66	IP66

FREQUENCY CONVERTER PARAMETERS

Freq Local Oscillator	Transmit: 27.6Ghz, Receive: 16.8Ghz/18.05Ghz	Transmit: 12.8Ghz, Receive: 10.6/9.75Ghz	Transmit: 12.8Ghz, Receive: 10.6/9.75Ghz
LNB, BUC	Phased Transmit 4 Panel Chip (like as 20watt BUC), Phased Receiver 4 Panel Chip	Phased Transmit 4 Panel Chip (like as 40watt BUC), Phased Receiver 4 Panel Chip	Phased Transmit 2 Panel Chip (like as 30watt BUC), Phased Receiver 2 Panel Chip

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Uninterrupted satellite communication, limitless outside communications capabilities with an integration in excellence.



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