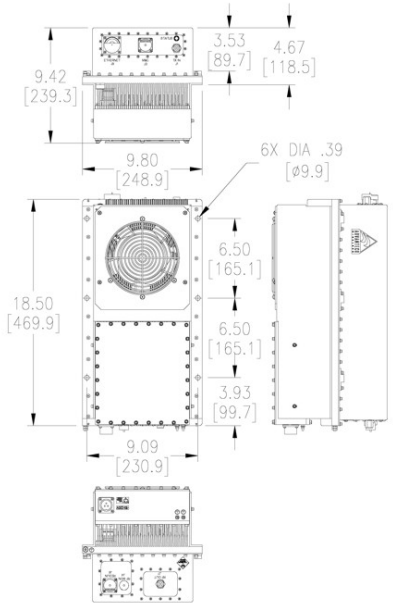
80W - 250W S-Band Hub-mount SSPA
Advanced Solid State GaN Technology

Phoenix Line

AWMAg-S™ Tracker series
Solid State Technology for Satellite TT&C and Deep Space Communication

Features

- Full range of output power up to 250W in a single package
- High linearity
- Unconditionally stable at any load VSWR
- Redundant ready with no external controller
- M&C capability via RS232/485/Ethernet/SNMP
- Infinite VSWR protection with automatic high reflected power shutdown
- Forward and Reflected power monitoring
- Output Sample Port
- Built-in Receive Reject Filter
- Redundant Systems shipped fully tested, assembled and tested
- Weatherproof construction



Overview

Advantech Wireless S-Band line of Amplifiers is intended for satellite TT&C and Deep Space Communication. The design of these units is based on Advantech Wireless proven techniques resulting in high linearity and operating efficiency. Conservative thermal design contributes to the high MTBF for these units. Full monitor and control is provided via the serial or Ethernet ports. Special features such as automatic over-temperature shutdown and high-reflected power protection contribute to a trouble-free operation.

This package is available for 80W - 250W. Higher power operation may be provided using external phase combining techniques. Please contact factory for more details.

The full set of accessories made available will facilitate the integration of these units in any application.

Options

- 1:1 or 1:2 Redundant configuration
- Phase combined systems for higher power

Accessories

- Mounting kits
- Remote M&C panel

Redundancy

Advantech Wireless S-Band line of Amplifiers may be configured to operate in 1:1 or 1:2 redundancy mode. No extra controller is required for the redundancy operation as the built-in controller in each unit provides this function. For 1:1 redundancy operation, in addition to the two units (operating and standby) a special redundancy kit is required. For 1:2 redundancy operation another redundancy kit is needed in addition to the three units. The kits include the switches, terminations, splitter, interconnecting cable assemblies and mounting frames.

All redundancy systems are delivered fully assembled, integrated, and tested.

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Technical Specifications

General Specifications						
Operating Frequency	2.025 – 2.120 GHz					
Saturated Output Power	80W	100W	125W	150W	200W	250W
P_{SAT}, typ.	+49 dBm	+50 dBm	+51 dBm	+52 dBm	+53 dBm	+54 dBm
$P_{LINEAR, min.}$	+45 dBm	+46 dBm	+47 dBm	+49 dBm	+50 dBm	+51 dBm
Gain	65 dB min.					
Gain adjustment range	20 dB in 0.1 dB steps					
Gain flatness	2.0 dB p-p max over full band 0.5 dB p-p over any 10 MHz					
Gain slope	0.06 dB/ MHz max.					
Gain variation over temperature	± 1.5 dB max					
Input Impedance and VSWR	50 Ω 1.4:1					
Output Impedance and VSWR	50 Ω 1.3:1					
Noise power density	-80 dBm/Hz max in TX band, -120dBm/Hz in Rx band (2.2 – 2.4GHz)					
Spurious at Plin	-60 dBc max					
Harmonics	-60 dBc at Plin					
AM/PM conversion	<1.0°/dB P_{LINEAR}, <2.5°/dB at Psat					
Third order IMD (2- tones 5MHz apart)	-25 dBc at Plin					
Group delay	Linear 0.05 nsec/MHz max Parabolic 0.005 nsec/MHz^2 max Ripple 1 nsec p-p max					
Residual Phase Noise, Continuous	-60 dBc/Hz at 10Hz -90 dBc/Hz at 100Hz -100 dBc/Hz at 1000Hz - 110 dBc/Hz at 10 kHz -115 dBc/Hz at 100 KHz -125 dBc/Hz at 1 MHz -130 dBc/Hz at 10 MHz - 130 dBc/Hz at 100 MHz					
Input voltage	110/220 Auto ranging					
Power consumption W (nominal)	350W	400W	500W	700W	850W	1000W
Weight & Dimensions	18.5"x9.8"x9.42" (470x249x239 mm), 50.7 lbs (23 kg)					
Interfaces	Input (S-Band) N type female Output Sample Port N type female RF output N type female AC line MS3102 type M&C MS3112E14-19P Ethernet port RJ45 outdoor					
Environmental	Temperature Operating -30°C to +55 °C Option 1 -40°C to +55 °C Storage -55°C to +85 °C Humidity 100% condensing Altitude 10,000' AMSL, derated by 2 °C/1000> from AMSL					

Ref.: PB-AWMAg-S-300-25284

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