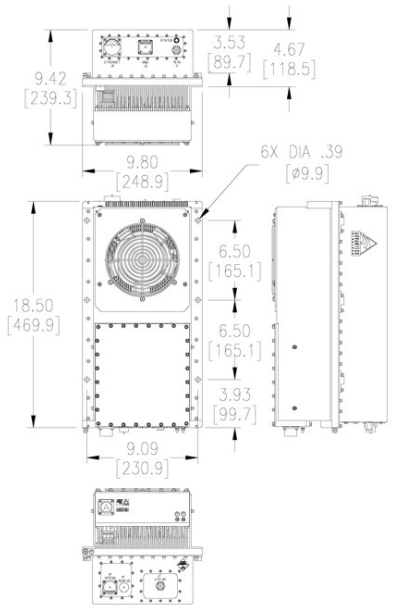
200W/250W/300W SH-Band Hub-mount SSPA
Advanced Solid State GaN Technology

Phoenix Line

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

Features

- Full range of output power up to 300W 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
- Redundant Systems shipped fully tested, assembled and tested
- Weatherproof construction, IP 65 rated housing and fan



Overview

Advantech Wireless SH-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 200W/250W/300W. 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

Accesories

- Mounting kits
- Remote M&C panel

Redundancy

Advantech Wireless SH-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	2.2 – 2.4GHz		
Saturated Output Power	200W	250W	300W
P_{SAT}, typ.	+53 dBm	+54 dBm	+54.8 dBm
$P_{LINEAR, min.}$	+49 dBm	+50 dBm	+51 dBm
Gain	65 dB min.		
Gain adjustment range	20 dB in 0.1 dB steps		
Gain flatness	2.5 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 1.5:1		
Output Impedance and VSWR	50 Ω 1.3:1		
Noise power density	-80 dBm/Hz max in TX band		
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 0.02 nsec/MHz max Parabolic 0.003 nsec/MHz^2 max Ripple 1 nsec p-p max		
Residual AM Noise	0 – 10 kHz-45 dBc 10 kHz – 500 kHz -20 (1.25 + log F) dBc F = Frequency in kHz 500 kHz – 1 MHz -80 dBc		
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)	1400W	1450W	1500W
Weight & Dimensions	18.5"x9.8"x9.42" (470x249x239 mm), 50.7 lbs (23 kg)		
Interfaces	Input (L/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-SH-300-26005

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