S-Band Hub-mount SSPA
Advanced Solid State LDMOS Technology

80W to 250W
AWMA-S^{TM} series
Talon Line

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
- Redundant Systems shipped fully tested, assembled and tested
- Weatherproof construction

Table A

Band*	RF Band (GHz)	Output Power (W)
S	2.025 - 2.120	80 - 250

Other frequency sub-bands are available. Please consult factory.

Outline – Phoenix Line

Overview

Advantech Wireless S-Band line of Amplifiers is intended for satellite up-link applications. 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.

The AWMA-S series is available in output power from 80W to 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.
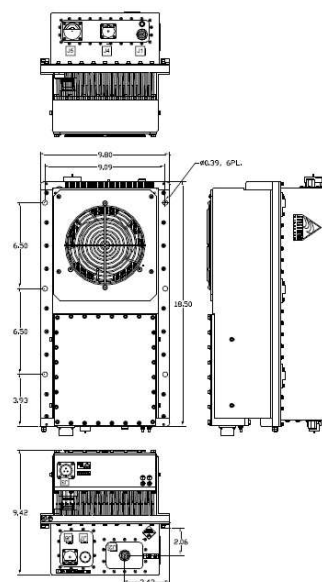
Options

- Remote M&C panel
- Handheld terminal

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

Table B

Rated Power W	Psat dBm	P1dB dBm	Gain (dB) (minimum)	Power consumption W (nominal)	Weight	Dimensions	Voltage
80W	+49	+48	+65	350W			
100W	+50	+49	+65	400W			
125W	+51	+50	+65	500W	48.5 lbs (22 kg)	18.5"x9.8"x9.42" 470x249x239 mm	110/220 Auto ranging
150W	+52	+51	+65	600W			
200W	+53	+52	+65	800W			
250W	+54	+53	+65	850W			

General Specifications

Operating Frequency	2.025 – 2.120 GHz
Output Power	See table B
Gain	See table B
Gain adjustment range	20 dB in 0.1 dB steps
Gain flatness	1.5 dB p-p max over full band 0.5 dB p-p over 10 MHz at 25ºC
Gain slope	0.06 dB/ MHz max.
Gain variation over temperature	± 1.5 dB max
Input Impedance and VSWR	50 Ω 1.3:1
Output Impedance/VSWR	50 Ω 1.3:1
Noise power density	-80 dBm/Hz max in TX band -85 dBm/Hz max in RX band (without optional filter)
Spurious at P1dB	-60 dBc max
Harmonics	-60 dBc at P1dB
AM/PM conversion	2.5º/dB at P1dB
Third order intermod (2- tones)	-24 dBc at 3 dB total back-off from rated P1dB
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
Weight & Dimensions	See table B
Input voltage	See table B
Interfaces	Input (S-Band) N type female Output Sample Port N type female RF output N type female AC line MS3102 type RS232/RS485 serial port MS3112F14-19P Ethernet RJ-45
Environmental	Temperature Operating -30ºC to +55 ºC Option 1 -40ºC to +55 ºC Storage -55ºC to +85 ºC Humidity 100% condensing Altitude 10,000' AMSL, derated by 2 ºC/1000> from AMSL

<u>Ref.:</u> PB-AWMA-S-80-250-25341