

## S-Band Hub-mount SSPA

### Advanced Solid State LDMOS Technology

300W to 500W  
AWMA-S™ series  
Talon Line

#### Features

- Full range of output power up to 500W 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

#### 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 300W to 500W. 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

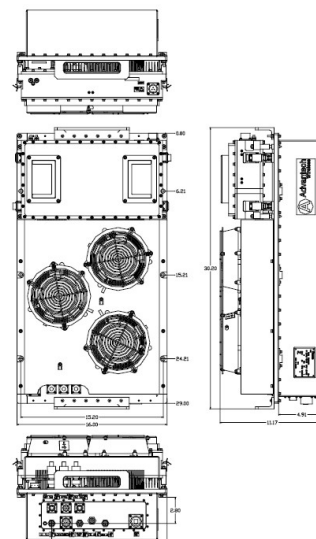
- Remote M&C panel
- Phase combined systems for higher power



Table A

Band*	RF Band (GHz)	Output Power (W)
S	2.025 - 2.120	300 - 500

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



#### 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
300W	+55	+54	+70	1400W	98 lbs (44.5 kg)	30"x16"x11" 762x406x280 mm	220V
400W	+56	+55	+70	1500W			
500W	+57	+56	+70	1600W			

#### 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 25°C		
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	2.5°/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/MHz² 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	MS3102R16-10P	
	RS232 serial port	MS3112E10-6P	
	RS485 serial port	MS3112E10-6P	
	Ethernet	RJ-45	
Environmental	Temperature	Operating -30°C to +55 °C Storage -55°C to +85 °C	Option 1 -40°C to +55 °C
	Humidity	100% condensing	
	Altitude	10,000' AMSL, derated by 2 °C/1000' from AMSL	

Ref.: PB-AWMA-S-300-500-25341

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