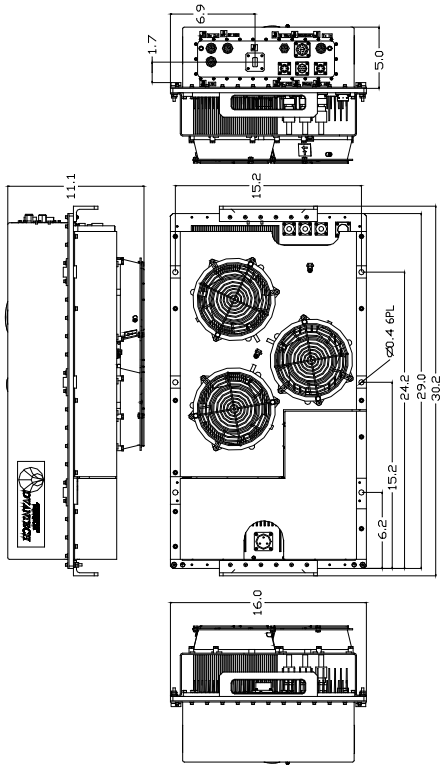
Advantech Wireless

C-Band Hub-mount SSPA

300W to 500W
AWMA-5000C™ series





Features

- Remote Monitor & Control
- High gain and linearity
- Output power up to 500W (see table A)
- Gain adjustment
- Output sample monitor port
- Temperature gain compensation
- Automatic over-temperature shutdown
- Automatic high reflected power shutdown
- Infinite VSWR protection
- CE Marking

Overview

The AWMA-C series are the outdoor solid-state power amplifiers (SSPAs), operating in C-Band frequency range. The amplifier is an integrated unit, complete with power supply and cooling system. Intended for outdoor operation, the AWMA-5000C® is weatherproof. Built-in microprocessor controller provides the capability for serial port interfaces (RS485) for remote monitoring and control.

Advantech's SSPAs set the industry standard for linearity and operating efficiency. Built-in design features and assembly methods incorporated with efficient combining techniques result in the trouble-free operation of the amplifier.

Application

The SSPAs are designed for C-Band satellite up-link applications. They are mounted outdoors, near the hub of an antenna. The AWMA-C series are available in output power from 20W to 1000W. For higher power Advantech provides phase-combined systems.

Other SSPAs are available for operation at other satellite frequency bands. With all the features of the AWMA-C, Advantech also offers a built-in converter.

Redundancy

With the addition of the appropriate waveguide and switch kit, the AWMA-5000C™ amplifiers can be easily converted for the operation in 1:1 redundant configuration with full remote Monitor and Control capability of the redundant system via serial interface. A single Monitor and Control interface is required to manage redundant system.

Table A

Band	RF Band (GHz)	Output Power (W)
CL	4.400 - 5.000	300-500
CP	6.425 - 6.725	300-400
CI	6.725 - 7.025	300-400
CR	5.725 - 6.025	300-500
CS	5.850 - 6.425	300-500
CX	5.850 - 6.725	300-400

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

Options

- Integrated Block Up Converter
- Additional harmonic filter
- Extreme temperature operation
- Redundant system

Accessories

- Redundancy Kit
- Mounting Frames
- Remote M&C panel (Ethernet port optional)

C-Band Hub-mount SSPA

Technical Specifications	300W	350W	400W	500W
Electrical Characteristics				
Availability in this series				
CS, CR, CL	√	√	√	√
CX, CI, CP	√	√	√	*Note 1*
Output power (P_{SAT})	+55 dBm	+55.5 dBm	+56 dBm	+57 dBm
Output power (P1dB) min.	+54 dBm	+54.5 dBm	+55 dBm	+56 dBm
Power gain @ maximum setting	64 dB min			
Operating frequency range	See table A on front page			
Max input power without damage	+10 dBm			
Gain slope	0.6 dB max over 40 MHz			
Gain flatness over 600 MHz	±1.0 dB max			
Gain variation over temperature	±1.5 dB over full operating temperature range			
Gain variation over 24 hours	±0.25 dB max at constant temperature & drive level			
Gain adjustment range	20 dB min (0.1 dB resolution)			
Input return loss	18 dB			
Output return loss	19 dB			
Noise power density	-70 dBm/Hz max in TX band -150 dBm/Hz max in 3.4 – 4.2 GHz RX band			
Spurious at rated power	-65 dBc max			
Harmonics at rated power	-60 dBc max			
AM/PM conversion at rated power	2.5°/dB typical (at P_{1dB}), 1°/dB max. at 3 dB back-off			
Third order IMD (2 tones 5 MHz apart)	-26 dBc max 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: 1.0 nsec p-p max.			
Residual AM (F* - frequency in kHz)	0-10 kHz -45 dBc 10 kHz - 500 kHz -20 (1.25+log F*) dBc 500 kHz - 1 MHz -80 dBc			
Power Requirements				
AC input voltage	220 VAC (47-63 Hz)			
Power consumption, (nominal)	1700W	2000W	2200W	2700W
Mechanical Characteristics				
Dimensions (L x W x H)	30.00” x 16.00” x 11.00” (76.20x 40.60 x 28.00 cm)			
Weight	117 lbs (53 kg)			
Interfaces: RF input Type N (Female); Output sample port Type N (Female); AC Line MS3102E20-19P	Redundancy MS3112E14-12P; Discrete port MS3112E16-26P; RS-485 MS3112E10-6P	RF output CPR137 contact (for CL series - CPR187)		
Environmental Conditions				
Temperature Operating	-30°C to +55°C. *Option 1: -40°C to +55°C; option 2: -50°C to +50°C*			
Temperature Storage	-55°C to +85°C			
Humidity	100%, condensing (2” rain/hour)			
Altitude	10,000’ AMSL, derated 2°C/1,000’ from AMSL			

Note 1 : Please refer to AWMA-6000C™ product datasheet

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Ref.: PB-AWMA-C-300-500-13150

Specifications are subject to change without prior notice