

## 600W/ 700W/ 800W/ 1000W C-Band Hub-mount SSPA/SSPB

SSPA-4100C series  
SSPB-4100C series  
600W to 1000W

### Features

- Full range of output power from 600W to 1000W in a single package
- High linearity
- Redundant ready with no external controller
- Full M&C capability via RS485
- Forward and Reflected power monitoring
- Output Sample Port
- Redundant Systems shipped fully tested
- Infinite VSWR protection with automatic high reflected power shutdown
- Built-in harmonic Filter
- Weatherproof construction
- CE marking

### Overview

Advantech Wireless C-Band line of Amplifiers and BUCs are intended for satellite up-link applications. The design of these units is based on Advantech's 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.

Also available from Advantech Wireless is the SSPB-2100 series of compact low weight BUCs with output power of to 125W in C-Band, mainly intended for mobile applications.

Advantech Wireless also offers the SUMMIT modular SSPA system for either indoor or outdoor applications.

Please contact factory for more details.

The 4100C series is available in output power from 600W to 1000W. Higher power operation may be provided using external phase combining techniques offering an output power up to 6000W.

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
- L-Band input (SSPB/BUC operation)
- Ethernet port
- Internal 10 MHz reference for SSPB applications

### Accessories

- Mounting kits
- Remote M&C panel with optional SNMP
- Handheld terminal

### Redundancy

Advantech Wireless C-Band line of Amplifiers and BUCs may be configured to operate in 1:1 or 1:2 redundancy modes. 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 waveguide 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 A**

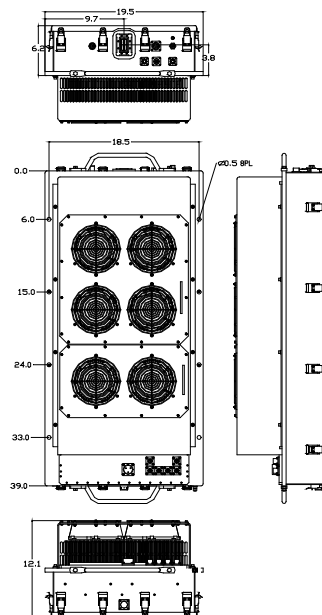
Band*	RF Band (GHz)	L-Band Input for BUC (MHz)	LO for BUC (GHz)	Output Power (W)
<b>CS</b>	5.850 - 6.425	950 - 1525	4.900	600 - 1000
<b>CX</b>	5.850 - 6.725	950 - 1825	4.900	600 - 800
<b>CL</b>	4.400 - 5.000	950 - 1550	3.450	600 - 1000
<b>CI</b>	6.725 - 7.025	1225 - 1525	5.500	600 - 700
<b>CP</b>	6.425 - 6.725	1025 - 1325	5.400	600 - 800
<b>CR</b>	5.725 - 6.025	950 - 1250	4.775	400 - 800

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

**Table B**  
**SSPA/SSPB (BUC) Line**

Rated Power W	Psat dBm	P1dB dBm	Gain (dB) minimum		Availability in this series		Power Consumption W (nominal)	Weight	Dimensions Outline
			SSPA	SSPB BUC	CS/ CI CP	CX			
<b>600W</b>	+58	+57	+68	+78	√	√	3500	176 lbs (80kg)	39"x18.5"x12.1" 990x470x307 mm Outline 2
<b>700W</b>	+58.5	+57.5	+69	+79	√	√	4000		
<b>800W</b>	+59	+58	+70	+80	√	√	4500		
<b>1000W</b>	+60	+59	+70	+80	√	-	5500		

**Product Outline**



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**USA**  
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**C-Band Hub-mount SSPA/SSPB**

General Specifications			
Operating Frequency	See table A		
L-Band input (BUC)	See table A		
Output Power	See table B		
Gain	See table B		
Gain adjustment range	20 dB in 0.1 dB steps		
Gain flatness over full band	± 1dB max for SSPA	± 2dB max for SSPB (BUC)	
Gain slope over 40 MHz	± 0.3 dB max		
Gain variation over temperature	± 1.5 dB max		
Input Impedance and VSWR	50 Ω	SSPA 1.3:1	SSPB (BUC) 1.4:1
Output VSWR	1.3:1 max		
Noise power density	-70 dBm/Hz in Transmit Band,		
Spurious at P1dB	-65 dBc max		
Harmonics	-60 dBc @ P1dB -3 dB max		
AM/PM conversion	2.5°/dB at P1dB		
Third order intermod (two tones)	-25 dBc at 3 dB total back-off from rated P1dB		
Group delay	Linear	0.02 nsec/MHz max	Parabolic 0.003 nsec/MHz <sup>2</sup> 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	
SSPB (BUC)			
Local Oscillator frequency	See table A		
Internal Reference frequency (option)	10 MHz	Stability ±2 × 10 <sup>-8</sup> over temp range Aging ±5 × 10 <sup>-8</sup> /year	
Phase Noise	-60 dBc/Hz at 10Hz	-85 dBc/Hz at 10 kHz	
	-65 dBc/Hz at 100Hz	-95 dBc/Hz at 100 kHz	
	-75 dBc/Hz at 1000Hz		
External reference	10 MHz		
External reference level	0 dBm ± 5 dB via L-Band interface or separate connector		
External Reference Frequency phase noise (max)	-115 dBc/Hz at 10Hz	-150 dBc/Hz at 10 kHz	
	-135 dBc/Hz at 100Hz	-160 dBc/Hz at 100 kHz	
	-148 dBc/Hz at 1000Hz		
Weight & Dimensions	See table B		
AC input voltage	220 VAC 47-63 Hz		
Interfaces	Input (RF or L-Band)	N type female	
	Output Sample Port	N type female	
	RF output	CPR 137 contact	
	AC line	MS3102 type	
	RS232 serial port	MS3112E10-6P	
	RS485	MS3112 type	
	Ethernet (option)	RJ45	
Environmental	Temperature	Operating -30°C to +55 °C	Option 1 -40°C to +55 °C Option 2 -50°C to +50 °C
		Storage -55°C to +85 °C	
	Humidity	100% condensing	
	Altitude	10,000' AMSL, derated by 2 °C/1000' from AMSL	

Ref.: PB-AWMA-C-600-1000-18268

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