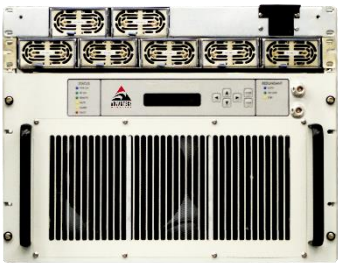
C-Band Rack-mount SSPA/SSPB

600W to 1000W
ARM-C Series



Features

- Output power from 600W to 1000W
- High linearity
- Redundant ready with no external controller required
- Full M&C capability via RS-232 or RS-485
- Forward and Reflected high precision power monitoring
- Input / Output Sample Ports with precision Calibration Charts
- Redundant Systems shipped fully tested
- Infinite VSWR protection with automatic high reflected power shutdown
- Built-in Harmonic Filter
- PFC (Power Factor Correction)
- 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 Wireless' proven techniques resulting in high linearity and operating efficiency. Conservative thermal design contributes to the very 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 and overdrive protection contribute to a trouble free operation.

The ARM-C series rackmount SSPA/SSPB (BUC) is available in output power ranging from 600W to 1000W. Higher power operation may be provided using external phase combining techniques offering an output power up to 6,000W. Please contact factory for more details.

Advantech Wireless also offers the SUMMIT™ and SupphireBlu™ modular SSPA systems for either indoor or outdoor applications.

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)
- 10/100BT Ethernet, WEB Interface,
- SNMP v1, v2, v3 Interface
- CLI
- Very high stability 10 MHz OCXO (BUC)
- Button RF On/Mute for fast emergency
- Audible Alarm and ACO (Audible Cut Off) button

Accesories

- Mounting slides
- Remote M&C panel
- 500W, 1kW, 3kW Waveguide Loads
- W/G Circulators
- W/G Switches

Redundancy

Advantech Wireless C-Band line of Amplifiers and BUCs 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 waveguide switches, terminations, splitter, interconnecting cable assemblies and mounting frames.

All redundancy systems are delivered fully tested.

C-Band Rack-mount SSPA/SSPB

Technical Specifications

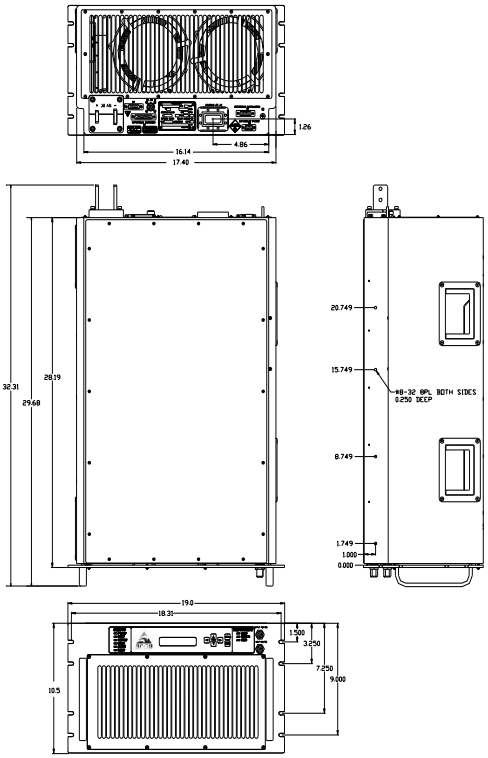
Table A

Band*	RF Band (GHz)	L-Band Input for BUC (MHz)	LO for BUC (GHz)	Output Power (W)
CS	5.850 – 6.425	950 – 1525	4.900	600 - 1000
CX	5.850 – 6.725	950 – 1825	4.900	600 - 800
CL	4.400 – 5.000	950 – 1550	3.450	600 - 1000
CI	6.725 – 7.025	1225 – 1525	5.500	600 - 1000
CP	6.425 – 6.725	1025 – 1325	5.400	600 - 1000
CR	5.725 – 6. 325	950 – 1750	4.775	600 - 1000

*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	BUC	CS CI CP	CX			
600W	+58	+57	+68	+78	√	√	3500	198 lbs (90kg)	8RU
700W	+58.5	+57.5	+69	+79	√	√	4000		
800W	+59	+58	+70	+80	√	√	4500		
1000W	+60	+59	+70	+80	√	-	5500		



NORTH AMERICA

USA
info.usa@advantechwireless.com

CANADA
Info.canada@advantechwireless.com

EUROPE

UNITED KINGDOM
info.uk@advantechwireless.com

RUSSIA & CIS
info.russia@advantechwireless.com

SOUTH AMERICA

info.latam@advantechwireless.com

BRAZIL
info.brazil@advantechwireless.com

ASIA

info.asia@advantechwireless.com

INDIA
info.india@advantechwireless.com

C-Band Rack-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 (SSPA), ±1.5dB max (SSPB)
Gain slope over 40 MHz	± 0.3 dB max
Gain variation over temperature	± 1.5 dB max
Input Impedance and VSWR	50 Ω SSPA VSWR: 1.3:1, isolator on input; SSPB (BUC) VSWR:1.4:1
Output VSWR	1.25:1, isolator protected from infinit VSWR: power detector/shutdown
Noise power density	-70 dBm/Hz in Transmit Band,
	-150 dBm/Hz in Receive Band (3.40 – 4.20 GHz)
Spurious at P1dB	-60 dBc max
Harmonics	-70 dBc @ P1dB,
AM/PM conversion	2.5°/dB max at P1dB
Third order intermod (two tones)	-26 dBc at 3 dB total power 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 max
	10 kHz – 500 kHz: -20 (1.25 + log F) dBc max, F = Frequency in kHz
	500 kHz – 1 MHz: -80 dBc max
SSPB (BUC)	
Local Oscillator frequency	See table A
Reference frequency	10 MHz stability ±1^{-8} over temp range ±2^{-10}/day
Phase Noise	-60 dBc/Hz at 10 Hz; -85 dBc/Hz at 10 kHz
	-65 dBc/Hz at 100 Hz; -95 dBc/Hz at 100 kHz
	-75 dBc/Hz at 1 kHz; -110 dBc/Hz at 1 MHz
External Reference Frequency phase noise (max)	-115 dBc/Hz at 10 Hz; -150 dBc/Hz at 10 kHz
	-135 dBc/Hz at 100 Hz; -160 dBc/Hz at 100 kHz
	-145 dBc/Hz at 1 kHz; -160 dBc/Hz at 1 MHz
Weight & Dimensions	See table B
AC input voltage	600W output power and higher 195-265 VAC, 45-65 Hz
Cooling system	Forced air with front intake
Interfaces	Input (RF or L-Band) N type female
	Input / Output Sample Ports N type female, with Calibration Chart
	RF output CPR-137G (Grooved)
	AC line IEC 320 inlet
	RS-232 serial port D-sub 9S
	RS-485 D-sub 9S
	Ethernet (option) RJ-45
Environmental	Temperature Operating 0°C to +50 °C
	Storage -55°C to +85 °C
	Humidity 5% to 95% non-condensing
	Altitude 10,000' AMSL, derated by 2 °C/1000' from AMSL

Ref.: PB-ARMA-C-600-1000-001-19290

NORTH AMERICA

USA
info.usa@advantechwireless.com

CANADA
Info.canada@advantechwireless.com

EUROPE

UNITED KINGDOM
info.uk@advantechwireless.com

RUSSIA & CIS
info.russia@advantechwireless.com

SOUTH AMERICA

info.latam@advantechwireless.com

BRAZIL
info.brazil@advantechwireless.com

ASIA

info.asia@advantechwireless.com

INDIA
info.india@advantechwireless.com