Ku-Band Rack-mount SSPA/SSPB

www.cdip.ru
info@cdip.ru
+7 (495) 956-20-22

Features

- Full range of output power from 80W to 500W
- High linearity
- Redundant ready with no external controller
- Full M&C capability via RS-485 or Ethernet port
- Forward and Reflected power monitoring
- Output Sample Ports
- Redundant Systems shipped fully tested
- Infinite VSWR protection with automatic high reflected power shutdown
- Built-in Harmonic Filter
- PFC (Power Factor Correction)
- CE marking

Options

- 1:1 or 1:2 redundant configuration
- Phase combined systems for higher power
- L-Band input (SSPB/BUC operation)
- SNMP Interface

Accessories

- Mounting slides
- Remote M&C panel

Overview

Advantech Wireless Technologies Ku-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.

Advantech also offers the SUMMIT modular SSPA system for either indoor or outdoor applications. The full set of accessories made available will facilitate the integration of these units in any application.

The ARM-K series Rackmount SSPA/SSPB (BUC) is available in output power from 80W to 500W. Higher power operation may be provided using external phase combining techniques offering an output power up to 800W.

Please contact factory for more details.

Redundancy

Advantech's Ku-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 assembled, integrated, and tested.

Ku-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)
KS	14.00 – 14.50	950 – 1450	13.05	80 - 500
KX	13.75 – 14.50	950 – 1700	12.80	80 - 500*
KL	12.75 – 13.25	950 – 1450	11.80	80 - 200

*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	KS	KX	KL			
80W	+49	+48	+59	+69	√	√	-	1000	66 lbs (30kg)	4RU Outline #1
100W	+50	+49	+60	+70	√	√	-	1100	99 lbs (45kg)	5RU Outline #2
125W	+51	+50	+61	+71	√	√	√	1400		
150W	+52	+51	+62	+72	√	√	-	1700		
200W	+53	+52	+63	+73	√	√	√	2000	198 lbs (90kg)	8RU Outline #3 +2RU for power supply shelf
250W	+54	+53	+64	+74	√	√	-	2200		
300W	+55	+54	+65	+75	√	√	-	3500		
400W	+56	+55	+66	+76	√	√	-	4500		
500W	+57	+56	+67	+77	√	√	-	5500		

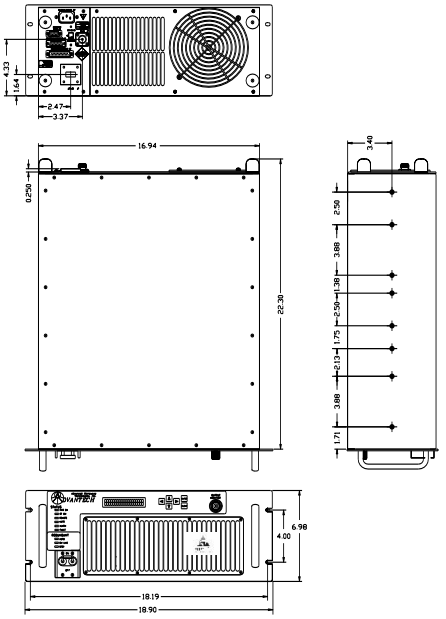
Ku-Band Rack-mount SSPA/SSPB

General Specifications

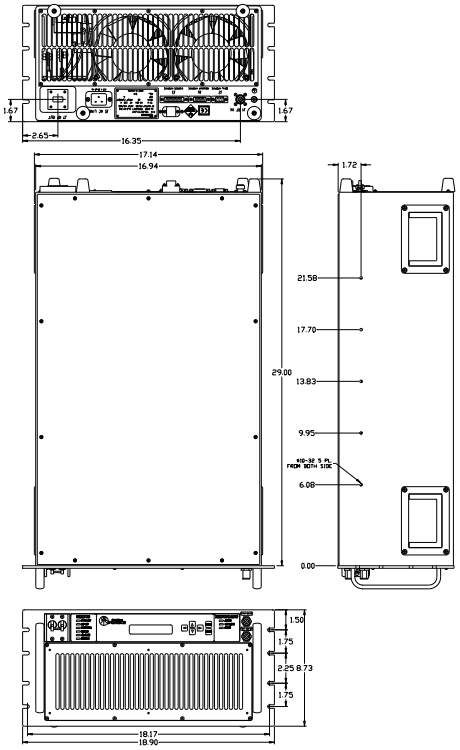
Operating Frequency	See table A
L-Band input (BUC)	See table A
Output Power	See table B
Gain	See table B
Gain adjustment range	20 dB in 0.1 dB steps
Gain flatness over full band	SSPA ± 1 dB max SSPB ± 2 dB max
Gain slope over 40 MHz	SSPA ± 0.3 dB max SSPB ± 0.5 dB max
Gain variation over temperature	± 1.5 dB max @ center frequency
Input Impedance and VSWR	50 Ω SSPA 1.3:1 SSPB (BUC) 1.4:1
Output VSWR	1.25:1
Noise power density	-70 dBm/Hz in Transmit Band, -145 dBm/Hz in Receive Band (10.95 – 12.75 GHz)
Spurious at P1dB	-65 dBc max
Harmonics	-40 dBc @ P1dB, -50 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 (-23dBc max for 500W KX unit)
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
SSPB (BUC)	
Local Oscillator frequency	See table A
Reference frequency	10 MHz stability ±1^{-8} over temp range aging ±1^{-7}/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 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	Up to 125W output power 95 - 265 VAC, 47-63 Hz, Option 48V DC 150W output power and higher 220VAC 47 – 63 Hz
Cooling system	Forced air with front intake
Interfaces	Input (RF or L-Band) N type female Output Sample Port N type female RF output WR75 AC line IEC 320 inlet RS232 serial port D-sub 9S RS485 D-sub 9S Ethernet (option) RJ45
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

Ku-Band Rack-mount SSPA/SSPB

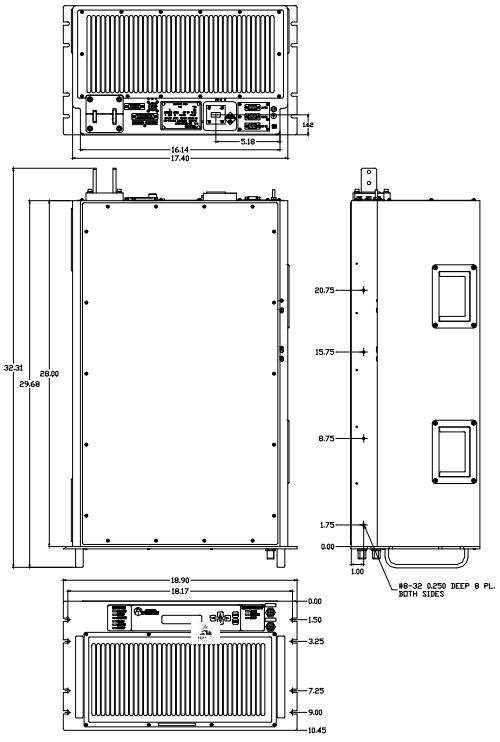
Outline 1



Outline 2



Outline 3



www.cdip.ru
info@cdip.ru
+7 (495) 956-20-22