



25W to 60W  
SSPB-2100C® series



## Features

- Converts L-Band to C (see table A)
- Integrated amplifier with an output power of 25W to 60W(see table A)
- Phase-locked oscillator to external 10MHz reference
- High linearity (low intermodulation products)
- Remote Monitor & Control
- Protection against thermal runaway and out-of-lock conditions
- Output sample monitoring port
- Built-in power supply
- Light weight
- Weatherproof package
- Compact packaging
- Redundant ready (option)
- CE Marking

## Accessories

- Remote M&C panel (Ethernet port optional)
- Handheld terminal
- Boom mounting kit

## Overview

The SSPB-2100C® series are hub-mount up-converter transmitters, operating in the C/X and Ku-Band. The SSPB-2100C® is an integrated unit, complete with power supply, phase-locked oscillator, mixer, filter and cooling mechanism. Intended for outdoor operation, the SSPB-2100® provides the utmost in convenience and efficiency. Other SSPB's are also available for higher powers or for operation at other up-link frequencies.

The design of these units is based on ADVANTECH Wireless industry proven reliable solid-state high power amplifiers. The use of high efficiency power supply and conservative thermal designs contribute to the trouble-free operation of the amplifier. Built-in microprocessor controller provides the capability for serial port interfaces (RS232/485) for remote monitoring and control.

## Application

The SSPB-2100C® series convert an L-Band signal to the C-band frequency (see table A). Designed for satellite up-link applications, the SSPB series are available in output power from 10W to 1000W. The SSPB-2100C® series are fully integrated units from 25W to 125W output power designed for mounting outdoors, near the hub of an antenna.

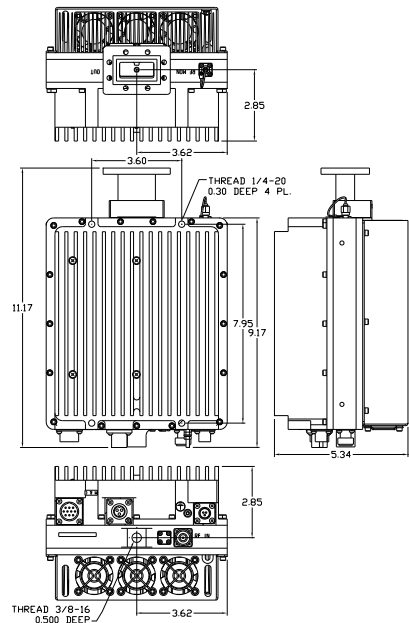


Figure 1: Outline 25W – 30W

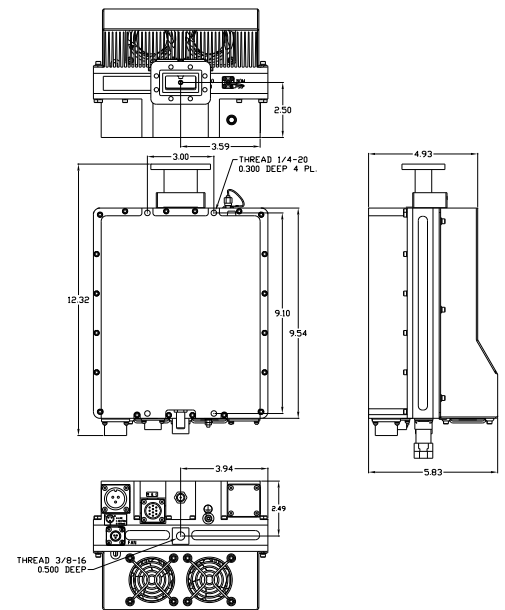


Figure 2: Outline 40W – 60W

Table A

Band	RF-Band (GHz)	IF-Band (MHz)	LO GHz
CS	5.850 - 6.425	950 - 1525	4.900
CP	6.425- 6.725	1025 - 1325	5.400
CI	6.725- 7.025	1225 - 1525	5.500
CR	5.725 – 6.025	950 - 1250	4.775
CX	5.850 – 6.725	950 - 1825	4.900

# Compact C-Band Hub-mount SSPA/BUC

Technical Specifications			25W	30W	40W	50W	60W
<b>Electrical Characteristics</b>							
C-Band	CS/CR/ CP/CI/CX		√ √	√ √	√ √	√ √	√ √
Output power (P <sub>SAT</sub> )		dBm	+44	+45	+46	+47	+48
Output power (P <sub>1dB</sub> ) min		dBm	+43	+44	+45	+46	+47
Conversion gain @ maximum setting		dB	64	65	66	67	68
Gain adjustment range	20 dB min						
Input/Output frequency range	See table A on front page						
Max input power without damage	+10 dBm						
Gain flatness	3.0 dB p-p for CS, CP, CI, CR, CL - band, 4 dB p-p for CX-band, 1.0 dB p-p/40 MHz						
Gain variation over temperature	±1.5 dB over full operating range (temperature compensation mode)						
Gain variation over 24 hours	±0.5 dB max at constant temperature & drive level						
Input VSWR	1.5 :1 dB, min						
Output VSWR	2 :1 dB min						
Noise power density (NPD)	-80 dBm/Hz in TX band -155 dBm/Hz in RX band						
Spurious at rated power	-55 dBc, max						
AM/PM conversion	2.5°/dB typical (at P <sub>1dB</sub> )						
Third order IMD (2 tones)	-26 dBc, max at 3 dB back-off from P <sub>1dB</sub>						
Local Oscillator frequency (LO)	See table A on front page						
LO leakage	-20 dBm max						
Phase noise			-50 dBc/Hz at 10Hz -63 dBc/Hz at 100Hz -73 dBc/Hz at 1000Hz	-83 dBc/Hz at 10 kHz -93 dBc/Hz at 100 kHz -105 dBc/Hz at 1 MHz			
Group delay (over any 40 MHz):	Linear		0.02 ns /MHz, max				
	Parabolic		0.003 ns/MHz <sup>2</sup> , max				
	Ripple		1 nsec p-p, max				
<b>External reference</b>							
Reference frequency	10 MHz						
Reference frequency phase noise			-115 dBc/Hz at 10 Hz -135 dBc/Hz at 100 Hz -148 dBc/Hz at 1000 Hz		-155 dBc/Hz at 10 kHz -160 dBc/Hz at 100 kHz		
Reference frequency level	0 dBm ± 5 dB supplied via input L-Band cable						
<b>Power Requirements</b>							
AC input voltage	110 /220 VAC (47-63 Hz) auto-ranging (90-132 V / 180-264 V)						
Power consumption (W nominal)			200	250	300	375	400
<b>Mechanical Characteristics</b>							
Dimensions (L x W x H)	11.7" x 8" x4.8" (297 x 203 x 114 mm)					DC	12.3" x 8" x4.8" (312 x 203 x 114 mm)
						AC	13" x 8" x5.2" (330 x 203 x 132 mm)
Weight	14.4 lbs (6.5 kg)					22 lbs (10.0 kg)	
Interfaces:	RF input	Type N (F)	RS-485/RS232MS3112E12-10P			AC Line	MS3102R16-10P
	RF output	CPR137				DC Line	MS3102R16-10PX
<b>Environmental Conditions</b>							
Temperature:	Operating		-30°C to +55°C; Option: E-40°C to +55°C; G: -50°C to +50°C				
	Storage		-55°C to +85°C				
Humidity	100%, condensing (2" rain/hour)						
Altitude	10,000' AMSL, de-rated 2°C/1,000' from AMSL						

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