

# Compact C-Band Hub-mount SSPA/BUC

80W to 125W  
SSPB-2100C™ series



## Features

- Converts L-Band to C (see table A)
- Integrated amplifier with output power of 80W to 125W (see table A)
- Phase-locked oscillator to external 10MHz reference
- High linearity (low intermodulation products)
- Remote Monitor & Control
- RMS power detector
- Protection against thermal runaway and out-of-lock conditions
- Output sample monitoring port
- Built-in power supply. Integral Harmonic Filter
- Light weight. Compact Weatherproof packaging
- CE Marking

## Options

- Redundant ready (with isolator option only)
- Discrete monitor & control interface
- Internal 10 MHz reference (auto-sensing)

## Accessories

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

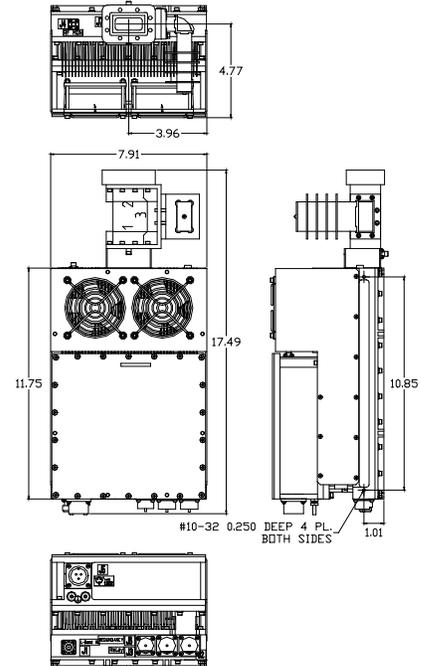


Figure 1: Outline 80W – 125W

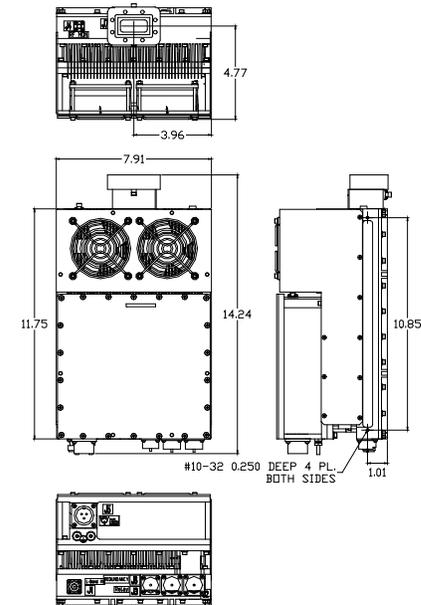


Figure 2: Outline 80W – 125W  
Without isolator

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		80W	100W	125W
<b>Electrical Characteristics</b>				
C-Band	CS	√	√	√
	CP/CI/CX/CR	√	√	-
Output power (P <sub>SAT</sub> )	dBm	+49	+50	+51
Output power (P <sub>1dB</sub> ) min	dBm	+48	+49	+50
Conversion gain @ maximum setting	dB	69	70	71
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	With output isolator 1.3 :1 dB min		Without isolator 2:1	
Noise power density (NPD)	-75dBm/Hz in TX band -155 dBm/Hz in RX band			
Spurious at rated power	-55 dBc, max			
Harmonics	-60 dB at P <sub>1dB</sub>			
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>Reference</b>				
Reference frequency	10 MHz			
External Reference phase noise (max.)	-115 dBc/Hz at 10 Hz -155 dBc/Hz at 10 kHz		-135 dBc/Hz at 100 Hz -160 dBc/Hz at 100 kHz	
External Reference frequency level	0 dBm ± 5 dB supplied via input L-Band cable			
Internal reference (option)	10 MHz			
<b>Power Requirements</b>				
Input voltage	90 to 264 V AC (47-63 Hz) Power Factor 0.95 min. or 48V DC (40 – 60 V)			
Power consumption (W nominal)	425	570	600	
<b>Mechanical Characteristics</b>				
Dimensions (L x W x H)	With isolator 16.4" x 7.9" x 5.7"		(416 x 201 x 137 mm)	
	Without isolator 12.4" x 7.9" x 5.7"		(308 x 201 x 137 mm)	
Weight	19.8 lbs (9.0 kg)			
Interfaces:	RF input	Type N (F)	RS-485/RS232	MS3112E12-10P
	RF output	CPR137	AC Line	MS3102R16-10P
			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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