

Sierra-Line

Ku, C, X Band GaAs SSPA BUC



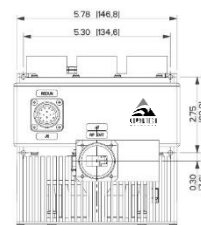
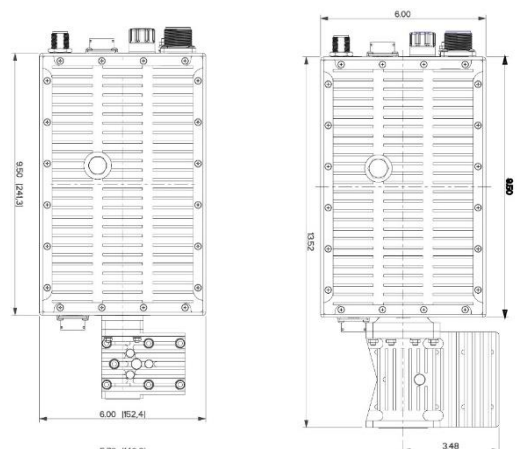
Overview

The Sierra-Line SSPAs / BUCs are an ideal solution for both mobile and fixed Communication terminals. The Sierra-Line SSPAs / BUCs are designed for high efficiency resulting in an optimal compact form factor with high performance and reliability. With advanced customer interface and HTTP embedded web page, the operator is able to monitor and control the BUC and the System Redundancy.

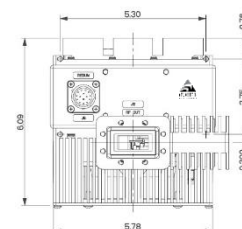
- Ku-Band GaAs: 16W / 20W / 25W
- C-Band GaAs: 20W / 25W / 40W / 50W
- X-Band GaAs: 20W / 25W / 40W / 50W

Features

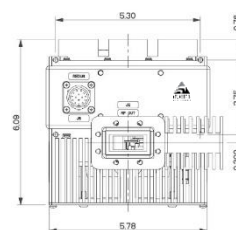
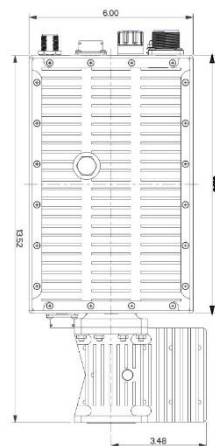
- Compact size
- Available in AC or DC
- Up to 50W of Linear power
- Built-in monitoring of critical parameters such as: RF power detection, mute control, over temperature shutdown, summary alarm
- IP55 rated housing and fan (weather proof construction)
- M&C Interfaces included: RS485, RS232, Ethernet and dry-contacts
- WEB interface and SNMP monitoring
- Redundant Ready
- 1:1 and 1:2 built into the BUC eliminating external controller
- Ku-Band: Optional Dual LO (Switchable). covers both regular and ext. Ku-Band
- Other frequency ranges available
- Internal 10MHz reference
- Optional output sample port
- Optional Remote control unit



Ku-Band



X-Band



C-Band

Sierra-Line GaAs SSPA BUC

Technical Specifications

Ku-Band

Electrical Characteristics	16W	20W	25W
RF Output at P1dB	42 dBm	43 dBm	44 dBm
RF Output at P Lin	39 dBm	40 dBm	41 dBm
Output Frequency Range	Low Ku: 12.75 – 13.25 GHz	Standard Ku: 14.00 – 14.50 GHz	Extended Ku: 13.75 – 14.50 GHz
Input Frequency Range	Low Ku: 950 – 1450 MHz	Standard Ku: 950 – 1450 MHz	Extended Ku: 950 – 1700 MHz
Local Oscillator Frequency	Low Ku: 11.80 GHz	Standard Ku: 13.05 GHz	Extended Ku: 12.80 GHz
Gain Stability Over Temp.	Low Ku Band: ± 1.5 dB nominal; ± 2.25 dB max Standard Band: ± 1.5 dB nominal; ± 2.0 dB max Extended Band: ± 1.5 dB nominal; ± 2.25 dB max		
Gain Variation at fixed temp	Low Ku Band: ± 0.75 dB over max over 40 MHz; ± 2.25 dB over full band Standard Band: ± 0.5 dB over max over 40 MHz; ± 2.0 dB over full band Extended Band: ± 0.75 dB over max over 40 MHz; ± 2.25 dB over full band		
User Adjustable Gain	20 dB nominal in 0.5 dB steps		

C-Band

Electrical Characteristics	20W	25W	40W	50W
RF Output at P1dB	43 dBm	44 dBm	46 dBm	47 dBm
RF Output at P Lin	40 dBm	41 dBm	43 dBm	44 dBm
Output Frequency Range	Lower C: 5.725 – 6.425 GHz	Standard C: 5.85 – 6.425 GHz	Extended C: 5.85 – 6.725 GHz	Insat C: 6.725 – 7.025 GHz
Input Frequency Range	Lower C: 975 – 1675 MHz	Standard C: 950 – 1525 MHz	Extended C: 950 – 1825 MHz	Insat C: 1275 – 1575 MHz
Local Oscillator Frequency	Lower C: 4.75 GHz	Standard C: 4.9 GHz	Extended C: 4.9 GHz	Insat C: 5.45 GHz
Linear Gain	70 dB nominal			
Max Input Power w/o Damage	0 dBm			
Gain flatness Over Full Band	± 2.0 dB max			
Gain Slope	± 0.4 dB max / 40 MHz max.			
Gain Variation	± 2.0 dB over max over operating temperature range			
Gain Adjustment Range	20 dB in 0.1 dB steps			
In/Output Return Loss (VSWR)	14 dB min. (1.5:1 max)			

X-Band

Electrical Characteristics	20W	25W	40W	50W
RF Output at P1dB	43 dBm	44 dBm	46 dBm	47 dBm
RF Output at P Lin	40 dBm	41 dBm	43 dBm	44 dBm
Output Frequency Range	7.9 – 8.4 GHz			
Input Frequency Range	950 – 1450 MHz			
Local Oscillator Frequency	6.95 GHz			
Linear Gain	70 dB nominal			
Max Input Power w/o Damage	0 dBm			
Gain flatness Over Full Band	± 2.0 dB max			
Gain Slope	± 0.4 dB max / 40 MHz max.			
Gain Variation	± 2.0 dB over max over operating temperature range			
Gain Adjustment Range	20 dB in 0.1 dB steps			
In/Output Return Loss (VSWR)	14 dB min. (1.5:1 max)			

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Sierra-Line GaAs SSPA BUC

Technical Specifications				
Ku, C, X Band				
Spectral Re-growth	-30dBc @PLinear			
Third order IMD (2 equal tones 5MHz apart)	-25 dBc, with 2 equal carriers at 3dB total power back off from rated power (P Sat -3dB)			
	@ 100 Hz	@ 1 KHz	@ 10 KHz	@ 100 KHz
Local Oscillator Phase Noise	-63 dBc/Hz max	-73 dBc/Hz max	-83 dBc/Hz max	-93 dBc/Hz max
Output Spurious	-55dBc max @PLinear			
Harmonics	-50dBc max @PLinear			
VSWR	Input (1:50:1) Output (1.30:1)			
Power consumption				
	Ku-Band	16W	20W	25W
Power consumption (at rated power) AC version		150W	200W	225W
	C -Band	20W	25W	40W
Power consumption (at rated power) AC version		150W	175W	200W
	X -Band	20W	25W	40W
Power consumption (at rated power) AC version		150W	175W	200W
Power requirement	110-220 VAC or 48 VDC isolated			
Prime Power Voltage	90 – 265 VAC (high power models 190 – 265)			
Prime Power Frequency	47 – 63 Hz			
Interface				
Output Interface	Ku-Band: Waveguide, WR75G (Grooved) C-Band: Waveguide, CPR 137G (Grooved) X-Band: Waveguide, CPR 112G (Grooved)			
Input Interface	N-Type Female, 50 Ohms, F-Type Female, 75 Ohms (optional)			
Connectors	DC Connector: MS3102R16-11P AC Connector: MS3102R16-10P	M&C: MS3112E14-19P	Redundancy: MS3112E14-15P (Optional)	
Mechanical				
Cooling	Forced Air			
Dimensions (L x W x H)	9.3 x 6.0 x 5.8 / 23.6 x 15.2 x 14.7			
Weight	Ku-Band: 12.9 / 6.3 X-Band / C-Band: 14.7 / 6.7			
Environmental				
	Temperature Range (ambient)	Humidity		Altitude
	-40°C to + 55°C (operating) -40°C to + 75°C (storage)	0 to 100% (condensing)		10,000 ft ASL

Ref.: PB-AWT-SL-GaAs-19109

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