

Sierra-Line

C and Ku Band GaN 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.

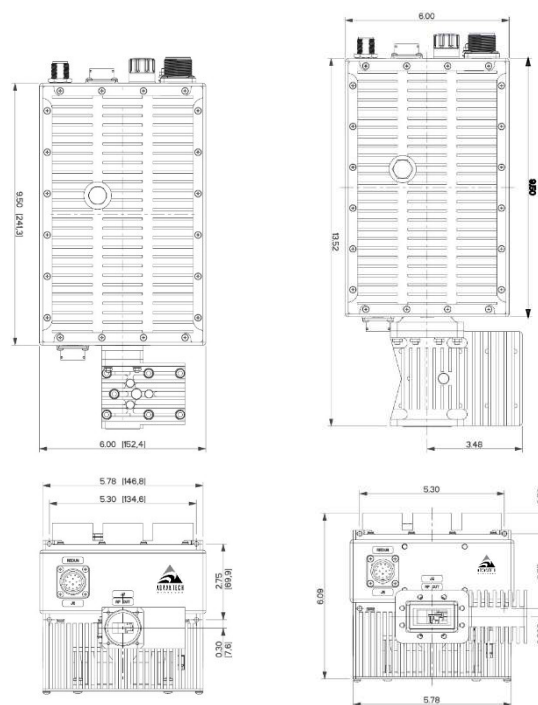
- Ku-Band: 16W / 25W / 40W / 50W
- C-Band: 80W / 100W

Features:

- Available in AC or DC
- Built-in monitoring of critical parameters such as: RF power detection, mute control, over temperature shutdown, summary alarm
- IP65 rated housing and fan (weather proof construction)
- M&C Interfaces included: RS485, RS232, Ethernet and dry-contacts
- WEB interface and SNMP monitoring
- 1:1 and 1:2 Redundant Ready built into the BUC eliminating external controller

Options:

- Internal/External reference with auto-sensing
- Remote control unit



Ku-Band

C-Band

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Technical Specifications

Ku-Band				
Electrical Characteristics	16W	25W	40W	50W
RF Output at P Sat (typical)	42 dBm	44 dBm	46 dBm	47 dBm
RF Output at P Lin	39 dBm	41 dBm	43 dBm	44 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	80W		100W	
RF Output at P Sat (typical)	49 dBm		50 dBm	
RF Output at P Lin	46 dBm		47 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)			

*P_{LINEAR} is the power at which the IMD=-25 dBc for two CW signals 5 MHz apart and the Spectral regrowth is <-30 dBc @ 1.0 x symbol rate, tested with a single QPSK, 2MS/s SR, 0.35 roll-off.

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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	@ 1 MHz
Local Oscillator Phase Noise	-63 dBc/Hz max	-73 dBc/Hz max	-83 dBc/Hz max	-93 dBc/Hz max	-103 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	25W	40W	50W	
Power consumption (at rated power) AC version	180W	200W	350W	400W	
C -Band	80W		100W		
Power consumption (at rated power) AC version	450W		500W		
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)				
Input Interface	N-Type Female, 50 Ohms				
Connectors	DC Connector: MS3102R16-11P AC Connector: MS3102R16-10P		M&C: MS3112E14-19P	Redundancy: MS3112E14-15P	
Mechanical					
Cooling	Forced Air				
Dimensions (L x W x H)	9.3 x 6.0 x 5.8 in/ 23.6 x 15.2 x 14.7 cm				
Weight	Ku-Band: 12.9 lbs / 6.3kg; C-Band: 14.7 lbs/ 6.7kg				
Environmental					
	Temperature Range (ambient)		Humidity		Altitude
	-40°C to + 55°C (operating)		0 to 100% (condensing)		10,000 ft ASL
	-40°C to + 75°C (storage)				

Ref.: PB-AWT-SLg-25332

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