



## Cascade-Line

### Ku, C, X-Band GaN SSPA BUC

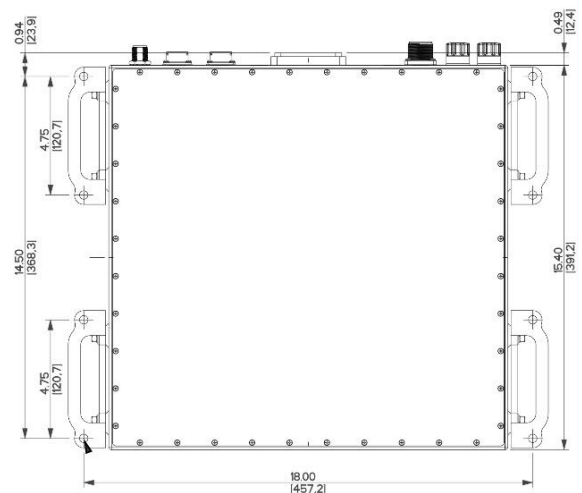
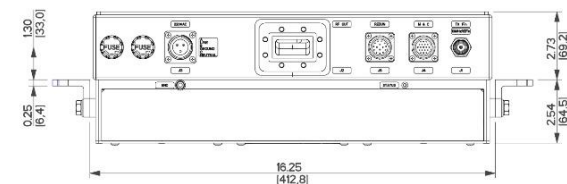
#### Overview

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

- Ku-Band: 150W / 200W / 250W
- C-Band: 300W / 400W / 500W
- X-Band: 300W / 400W / 500W

#### Features

- Compact size
- Available in AC
- Up to 500W of RF Output Power
- Up to 250W 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
- Optional 10MHz reference
- Optional output sample port
- Optional Remote control unit





## Cascade-Line GaN SSPA BUC

### Technical Specifications

Ku-Band				
Electrical Characteristics	150W	200W	250W	
RF Output at P Sat	52 dBm	53 dBm	54 dBm	
RF Output at P Lin	49 dBm	50 dBm	51 dBm	
Output Frequency Range	Lower Ku: 12.75 – 13.25 GHz	Standard Ku: 14.00 – 14.50 GHz	Extended Ku: 13.75 – 14.50 GHz	
Input Frequency Range	Lower Ku: 950 – 1450 MHz	Standard Ku: 950 – 1450 MHz	Extended Ku: 950 – 1700 MHz	
Local Oscillator Frequency	Lower Ku: 11.80 GHz	Standard Ku: 13.05 GHz	Extended Ku: 12.80 GHz	
Gain Stability Over Temp.	Low Ku Band: $\pm 1.5$ dB nominal; $\pm 2.25$ dB max Standard Band: $\pm 1.5$ dB nominal; $\pm 2.0$ dB max Extended Band: $\pm 1.5$ dB nominal; $\pm 2.25$ dB max			
Gain Variation at fixed temp	Low Ku Band: $\pm 0.75$ dB over max over 40 MHz; $\pm 2.25$ dB over full band Standard Band: $\pm 0.5$ dB over max over 40 MHz; $\pm 2.0$ dB over full band Extended Band: $\pm 0.75$ dB over max over 40 MHz; $\pm 2.25$ dB over full band			
Linear Gain	70 dB min.			
User Adjustable Gain	20 dB nominal in 0.5 dB steps			
C-Band				
Electrical Characteristics	300W	400W	500W	
RF Output at P Sat	55 dBm	56 dBm	57 dBm	
RF Output at P Lin	52 dBm	53 dBm	54 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
Gain Stability Over Temperature	$\pm 1.5$ dB nominal			
Gain Variation at fixed temperature	$\pm 0.5$ dB over max over 36 MHz; $\pm 2.0$ dB over full band			
Linear Gain	70 dB min.			
User Adjustable Gain	20 dB in 0.5 dB steps			
X-Band				
Electrical Characteristics	300W	400W	500W	
RF Output at P Sat	55 dBm	56 dBm	57 dBm	
RF Output at P Lin	52 dBm	53 dBm	54 dBm	
Output Frequency Range	7.9 – 8.4 GHz			
Input Frequency Range	950 – 1450 MHz			
Local Oscillator Frequency	6.95 GHz			
Gain Stability Over Temperature	$\pm 1.5$ dB nominal			
Gain Variation at fixed temperature	$\pm 0.5$ dB over max over 40 MHz; $\pm 2.0$ dB over full band			
Linear Gain	70 dB min.			
User Adjustable Gain	20 dB in 0.5 dB steps			



## Cascade-Line GaN SSPA BUC

Technical Specifications				
Ku, C 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)			
10MHz Reference	0dBm ± 5.0 dB - External via IF / (Internal 10MHz reference optional)			
	@ 100 Hz	@ 1 KHz	@ 10 KHz	@ 100 KHz
Ref Phase Noise Requirement		-140 dBc/Hz max	-150 dBc/Hz max	-155 dBc/Hz max
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	150W	200W	250W
Power consumption (at rated power) AC version		1600W	1650W	1650W
	C-Band	300W	400W	500W
Power consumption (at rated power) AC version		1900W	2000W	2200W
	X-Band	300W	400W	500W
Power consumption (at rated power) AC version		2100W	2300W	2500W
Power requirement	220 VAC			
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			
Connectors	AC Connector: MS3102R16-10P	M&C: MS3112E14-19P	Redundancy: MS3112E14-15P (Optional)	
Mechanical				
Dimensions (L x W x H)	16.0 x 16.9 x 5.2 / 41.0 x 43.0 x 13.2			
Weight	45 / 20.4			
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-ALT-CLg-20337