

Cascade - Line

300W/400W/500W X-Band and Low-X Band GaN SSPA/BUC

Overview

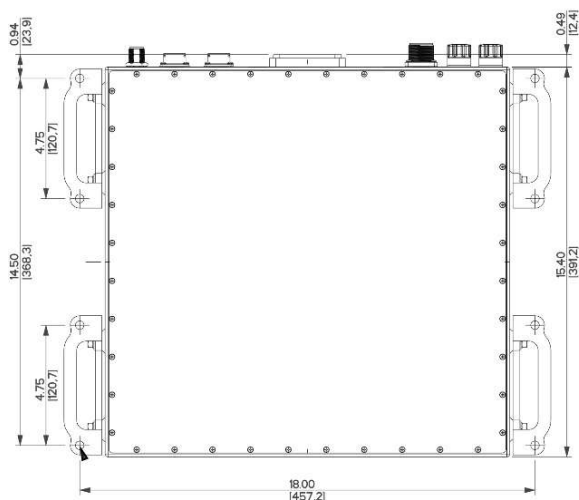
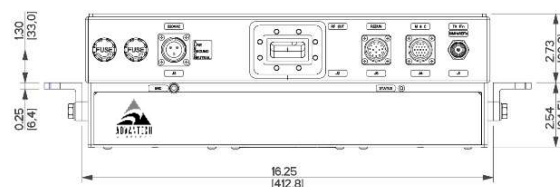
An ideal solution for both mobile and fixed Communication terminals. The Cascade-X Line SSPAs / BUCs are designed for high efficiency resulting in an optimal compact form factor with high performance and reliability. With the advanced customer interface and HTTP embedded web page, the operator is able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

Features:

- Highest power density in the industry
- Up to 500W of Saturated RF Output Power
- Up to 200W of RF Linear power
- Designed to comply with the Mil-STD-461 and Mil-STD-810G
- Built-in monitoring of critical parameters such as: RF power detection, mute control, over temperature shutdown, summary alarm
- M&C Interfaces included: RS485, RS232, Ethernet and dry-contacts
- WEB interface and SNMP monitoring
- 1:1 and 1:2 built-in Redundant Ready to eliminate external controller

Options:

- Internal/External reference with auto-sensing
- Remote control unit
- External X-Band Tx and Rx band-pass and band-reject filters to comply with X-Band Certification Test



Cascade-Line X-Band and Low-X Band GaN SSPA/BUC

Technical Specifications

X-Band			
Electrical Characteristics	300W	400W	*500W
RF Output at P Sat (typ.)	55 dBm	56 dBm	57 dBm
RF Output at P Lin	51 dBm	52 dBm	53 dBm
Output Frequency Range	Standard X-band: 7.9 – 8.4 GHz/Low X-band: 7.145 to 7.250 GHz		
Input Frequency Range	Standard X-band: 950 – 1450 MHz/ Low X-band: 965-1070 MHz		
Local Oscillator Frequency	Standard X-band: 6.95 GHz/ Low X-band: 6.180 GHz		
Linear Gain	70 dB min.		
Gain Flatness	3dB p-p max		
Gain Slope	1dB p-p max. over 40MHz		
Gain Stability Over Temperature	± 1.5 dB max.		
User Adjustable Gain	20 dB in 0.5 dB steps		

Spectral Re-growth	-30dBc @PLinear				
Third order IMD (2 equal tones 5MHz apart)	- 25dBc at Plin (MIL-STD-188-164B).				
10MHz Reference	0dBm ± 5.0 dB - External via IF / (Internal 10MHz reference optional)				
	@ 100 Hz	@ 1 KHz	@ 10 KHz	@ 100 KHz	@ 1 MHz
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	-103 dBc/Hz max

Noise Power Density	-75 dBm/Hz in TX band, -155 dBm/Hz in RX band				
Output Spurious	-60dBc max @PLinear				
Harmonics	-50dBc max @PLinear				
AM/PM	< 2deg/dB at PLin				
VSWR	Input (1:50:1) Output (1:30:1)				

Power consumption

X-Band	300W	400W	500W
Power consumption (at rated power) AC version	2100W	2300W	2500W
Power requirement	220 VAC		

Interface

Output Interface	Waveguide, CPR 112G (Grooved)		
Input Interface	N-Type Female, 50 Ohms		
Connectors	AC Connector: MS3102R16-10P	M&C: MS3112E14-19P	Redundancy: MS3112E14-15P

Mechanical

Dimensions (L x W x H)	16.0 x 16.9 x 5.2 in. / 41.0 x 43.0 x 13.2 cm		
Weight	45 lbs / 20.4 kg		

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)		

* Operating the unit at Psat long term could cause permanent damage. For maximum reliability and link performance, the units should not be operated at more than 250W

Ref.: PB-AWT-CMLg-X-25272

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