

1000W CL-Band Hubmount SapphireBlu™ SSPA/SSPB Second Generation GaN Technology for TROPO Applications

SSPA	AWMAg-CL	TT series
SSPB (BUC)	SSPBMg-CL	TT series

Features

- Saturated output power of 1,000W in a compact single package, transmitting in 4.4-5.0 GHz
- High linearity
- Redundant ready with no external controller
- Full M&C capability via RS232, RS485 or Ethernet port
- Built-in Forward precision powering metering
- Output RF calibrated Sample Port
- Redundant Systems shipped fully tested
- Infinite VSWR protection with automatic high reflected power shutdown
- Weatherproof construction
- CE marking



Options

- 1:1 or 1:2 Redundant configuration
- L-Band input (SSPB/BUC operation)
- Internal/External reference with auto-sensing
- Ethernet port
- Tropo LNB
- Output quick connect/disconnect option (available upon request)

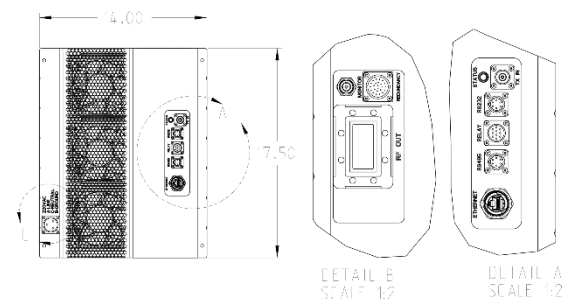
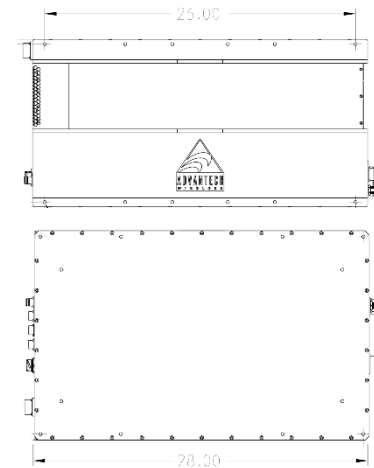


Accessories

- Mounting kits
- External Harmonics Reject Filter (-65dBc)
- Remote M&C panel with optional SNMP
- Tropo Channel filters
- Flexible and rigid waveguides
- Mounting frames
- High power terminations

Overview

The new Super Compact TT-Series CL-Band SSPA/BUCs provide highest power density in the industry. Combined with the traditional Advantech features, these new series of BUCs provide the ultimate in performance and convenience for Tropo applications using 4.4-5 GHz frequency band.



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General Specifications			
Output power	1000W		
P_{SAT} (typ.)	+60dBm		
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 for a single QPSK/OQPSK/8PSK signal	+57dBm		
Operating Frequency	4.4 – 5.0 GHz		
L-Band input (BUC)	950 – 1550 MHz		
Gain	SSPA 70dB min	SSPB (BUC)	80dB min
Gain adjustment range	20 dB in 0.1 dB steps		
Gain flatness over full band	SSPA 2dB p-p max	SSPB (BUC)	3 dB p-p max
Gain slope over 40 MHz	± 0.3 dB max	SSPB (BUC)	± 0.5 dB max
Gain variation over temperature	± 1.5 dB max		
Input Impedance and VSWR	50 Ω SSPA 1.3:1	SSPB (BUC)	1.4:1
Output VSWR	1.3:1		
Noise power density	-70 dBm/Hz in Transmit Band		
Spurious at P_{LINEAR}	SSPA: -65 dBc max SSPB (BUC): -55 dBc max		
Harmonics	-65 dBc at P_{LINEAR}		
AM/PM conversion	1°/dB at P_{LINEAR}		
Third order intermod (two tones)	-25 dBc two signal 5 MHz apart at P_{LINEAR}		
Spectral Regrowth	-30 dBc at P_{LINEAR} (for QPSK at 1.5 x symbol rate and OQPSK at 1.0 x symbol rate)		
Group delay	Ripple	1 nsec p-p max over any 40 MHz band	
Residual AM Noise	0 – 10 kHz	-45 dBc	
	10 kHz – 500 kHz	-20 (1.25 + log F) dBc	F = Frequency in kHz
	500 kHz – 1 MHz	-80 dBc	
SSPB (BUC)			
Local Oscillator freq.	3.450 MHz		
Internal Reference frequency (optional)	10 MHz	Aging/day	±2-10
		Aging/year	±5-8
		Stability	±2-8 over temp range
Phase Noise	-73 dBc/Hz at 100Hz		-78 dBc/Hz at 1kHz
	-88 dBc/Hz at 10 kHz		-98 dBc/Hz at 100 kHz
External Reference	10 MHz		
Frequency phase noise (max)	-120 dBc/Hz at 10Hz	-155 dBc/Hz at 10 kHz	
	-135 dBc/Hz at 100Hz	-160 dBc/Hz at 100 kHz	
	-150 dBc/Hz at 1000Hz		
Weight & Dimensions			
Dimensions (L x W x H)	28.0" x 17.5" x 14" (712 x 445 x 356mm)		
Weight	150.0 lbs. (68 kg)		
AC input voltage	220V AC ± 20% (47 – 63 Hz) Power Factor 0.95 min.		
Power consumption (typical)	3200W at P_{LINEAR} 3800W at P_{SAT}		
Interfaces	Input (RF or L-Band)	N type female	AC line MS3102 type
	Output Sample Port	N type female	RF output CPR187
	RS485/RS232/Ethernet	MS3112 type	
Environmental	Temperature	Operating -30°C to +55°C	Optional -40°C to +60°C
		Storage -55°C to +85°C	
	Humidity	100% condensing	
	Altitude	10,000' AMSL, derated by 2 °C/1000' from AMSL	

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