

300W / 400W / 500W C-Band BUC/SSPB/SSPA Second Generation GaN Technology

SapphireBlu™

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

Features

- Output power of 300W / 400W / 500W in a compact single package
- High linearity
- Redundant ready with no external controller
- Full M&C capability via RS485, 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
- Detachable power supply module
- Weatherproof construction
- CE marking

Options

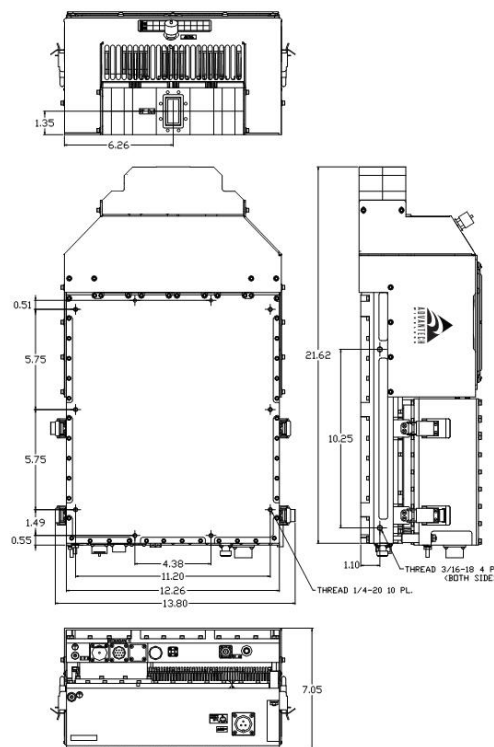
- 1:1 or 1:2 Redundant configuration
- L-Band input (SSPB/BUC operation)
- Internal/External reference with auto-sensing

Accessories

- Mounting kits
- External Harmonics reject filter (-65dBc)
- Remote M&C panel with optional SNMP
- Flexible and rigid waveguides
- Mounting frames
- High power terminations

Overview

The Super Compact TT-Series C-Band SSPA/BUCs provide highest power density in the industry. Combined with the traditional Advantech Wireless' features, these series of BUCs provide the ultimate in performance, reliability, and convenience.



300W / 400W / 500W C-Band BUC/SSPB/SSPA

Second Generation GaN Technology

Technical Specifications

	300W	400W	500W
P_{SAT} (typ.)	+55 dBm (nominal)	+56 dBm (nominal)	+57 dBm (nominal)
Linear Output power, P_{LINEAR} *	+52 dBm (Min)	+53 dBm (Min)	+54 dBm (Min)
	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		
Operating Frequency	5.850 – 6.425 GHz (Cs-band) or 5.850 – 6.725 GHz (Cx-band) or 6.725 – 7.025 GHz (Ci-band)		
L-Band input (BUC)	950 – 1525 MHz (for Cs-band) or 950 – 1825 MHz (for Cx-band) or 965 – 1265 MHz (for Ci-band)		
Gain	SSPA 67dB min	SSPB (BUC) 75dB min	
Gain adjustment range	20 dB in 0.1 dB steps		
Gain flatness over full band	SSPA 2dB p-p max SSPB (BUC) 4 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, -135 dBm/Hz in Receive Band (3.4GHz – 4.2 GHz)		
Spurious at P_{LINEAR}	SSPA: -65 dBc max SSPB (BUC): -55 dBc max		
Harmonics	-35 dBc at P_{LINEAR}		
AM/PM conversion	1.0°/dB at P_{LINEAR}		
Third order intermod (two tones)	-25 dBc two signal 5 MHz apart at P_{LINEAR} relative to total power		
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.	4.9 GHz for Cs/Cx-band 5.76 GHz for Ci-band		
Internal Reference frequency (optional)	10 MHz	Aging/day $\pm 2 \times 10^{-10}$	
		Aging/year $\pm 5 \times 10^{-8}$	
		Stability $\pm 2 \times 10^{-8}$ over temp range	
Phase Noise	-53 dBc/Hz at 10Hz	-63 dBc/Hz at 100Hz	-83 dBc/Hz at 10 kHz
	-73 dBc/Hz at 1kHz	-93 dBc/Hz at 100 kHz	
External Reference	10 MHz		
Frequency phase noise (max)	-120 dBc/Hz at 10Hz	-150 dBc/Hz at 1000Hz	-160 dBc/Hz at 100 kHz
	-135 dBc/Hz at 100Hz	-155 dBc/Hz at 10 kHz	

Weight & Dimensions

Dimensions (L x W x H)	21.6" x 12.26" x 7.05" (549x311x179 mm)		
Weight	57.3 lbs. (26 kg)		
AC input voltage	220V AC ± 20% (47 – 63 Hz) Power Factor 0.95 min.		
Power consumption (nominal)	1500W at P _{LINEAR} 1800W at P _{SAT}		1900W at P _{LINEAR} 2400W at P _{SAT}
Interfaces	Input (RF or L-Band): N type female AC line: MS3102 type Output Sample Port:N type female RF output: CPR137 RS485/Ethernet: MS3112 type		
Environmental	Temperature	Operating -30°C to +55 °C Optional -40°C to +55 °C	
		Storage -55°C to +85 °C	
	Humidity	100% condensing	
	Altitude	10,000' AMSL, de-rated by 2 °C/1000' from AMSL	

*Linearizer Required

Ref.: PB-SSPBMg-2G-C-300W-400W-500W-20014

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