

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

SapphireBlu™ SSPA SSPB (BUC)

AWMAg-C TT series SSPBMg-C TT series

Features

- Full range of output power of 400W 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

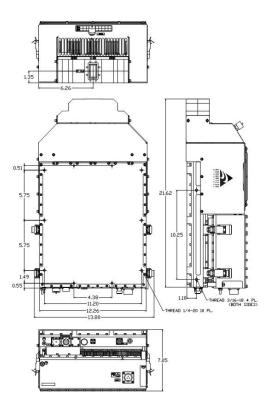
Accessories

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







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Technical Specifications	
	400W
P _{SAT (typ.)}	+56 dBm (nominal)
Linear Output power, P _{LINEAR} *	+53 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
	-70 dBm/Hz in Transmit Band,
Noise power density	-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
	0 – 10 kHz -45 dBc
Residual AM Noise	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 Deference frequency	10 MHz Aging/day $\pm 2 \times 10^{-10}$
Internal Reference frequency	Aging/year ±5 × 10 ⁻⁸
(optional)	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
rhase noise	-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}
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	<u>Ref.:</u> PB-SSPBMg-2G-C-400W-19109



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