

600W Ku-Band Indoor BUC/SSPB/SSPA Second Generation GaN Technology



SSPA	ARMAg-K	SapphireBlu™ series
SSPB (BUC)	ARMUg-K	SapphireBlu™ series

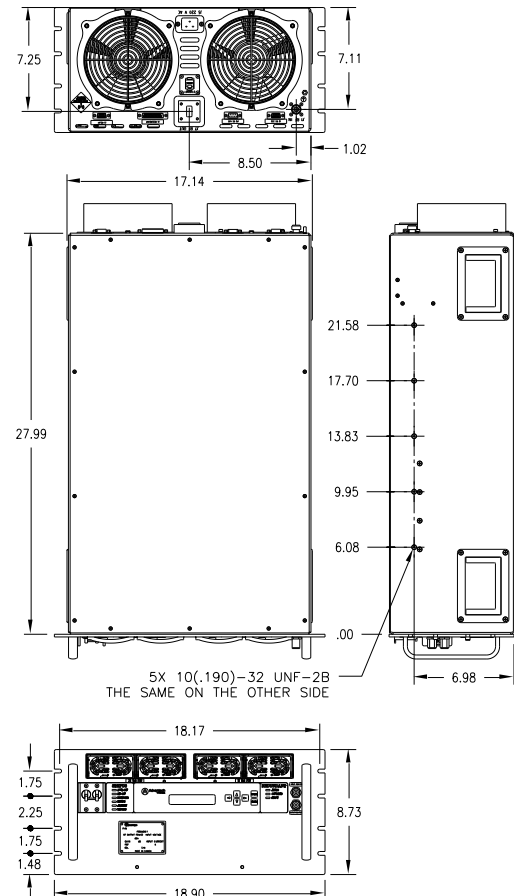
SapphireBlu™ Super Compact

- High power density in a compact indoor package
- UltraLinear™, designed for Multi Carrier Operations
- High Performance GaN Technology SSPA Indoor design concept
- High Reliability, High Linearity, Low Energy Consumption



The Ultimate Solution for Direct to Home TV

- We can now saturate all transponders of an entire satellite and obtain maximum bandwidth/power efficiency! (using modular RF concept)
- 2 years warranty, due to increased GaN Technology reliability
- Backed by over 25 years of Indoor SSPA design and manufacturing



- Exceeds all barriers between Klystrons, TWTs and SSPAs
- We can now saturate all transponders of an entire satellite, full DVB-S2 enabled
- Indoor Package
- MIL-STD-188-164A Compliant
- Redundant Ready, Power Expandable to 3kW by phase combining

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Technical Specifications			
Output Power	600W		
P_{SAT} , PA Module	+57.7 dBm nominal		
P_{SAT} , at Flange	+56.5 dBm nominal		
P_{LINEAR}	+54.0 dBm minimum		
	P_{LINEAR} is the power at which the IMD specs are met and the spectral regrowth is <-30 dBc @ 1.0 x symbol rate for QPSK/OQPSK/8PSK modulation		
Operating Frequency	KS 14.0 – 14.500 GHz	KX 13.75 – 14.5 GHz	
L-Band input (BUC)	KS 950 – 1450 MHz	KX 950 – 1700 MHz	
Gain	SSPA 68 ± 3 dB	SSPB (BUC) 73 ± 3 dB	
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 (KS); 4dB p-p (KX)	
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	1.25:1		
Noise power density	-70 dBm/Hz in Transmit Band, -145 dBm/Hz in Receive Band (10.95 GHz – 12.75 GHz)		
Spurious at P_{LINEAR}	SSPA: -65 dBc max SSPB (BUC): -55 dBc max		
Harmonics	-50 dBc @ P_{LINEAR}		
AM/PM conversion	<1.0°/dB P_{LINEAR}		
Third order intermod (two tones)	-25 dBc two signals 5 MHz apart versus total +53 dBm P_{LINEAR}		
Group delay	Ripple 0 – 10 kHz	1 nsec p-p max over any 40 MHz band	
Residual AM Noise	10 kHz – 500 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.	KS –13.050 GHz	KX – 12.800 GHz	
Internal Reference frequency (optional)	10 MHz		
	Aging/day ±2 × 10 ⁻¹⁰	Aging/year ±5 × 10 ⁻⁸	Stability ±2 × 10 ⁻⁸ over temp range
Phase Noise	-53 dBc/Hz at 10 kHz	-73 dBc/Hz at 1000Hz	-93 dBc/Hz at 100 kHz
	-63 dBc/Hz at 100Hz	-83 dBc/Hz at 10 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)	19" rackmount 5U high , 28" deep		
Weight	99 lbs (44kg)		
AC input voltage	190 – 265 VAC (47-63 Hz)		
Power consumption (nominal)	2500W at P_{LINEAR} 3300W at P_{SAT}		
Interfaces	Input (RF or L-Band): N type female	AC line: IEC 320 Inlet	
	Output Sample Port: N type female RS485/ Ethernet: DB9/RJ45	RF output: WR75 Cover	
Environmental	Temperature	Operating 0°C to +50 °C Storage -55°C to +85 °C	
	Humidity	5% to 95% non condensing	
	Altitude	10,000' AMSL, de-rated by 2 °C/1000' from AMSL	

Ref.: PB-SSPBg-2G-Ku-Rack-600W-18145

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