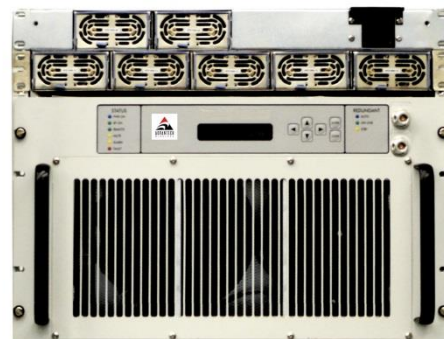


1000W Ku-Band Indoor BUC/SSPB/SSPA Second Generation GaN Technology

SSPA	ARMAg-K	5200-SapphireBlu™ series
SSPB (BUC)	ARMUg-K	5200-SapphireBlu™ series

Overview

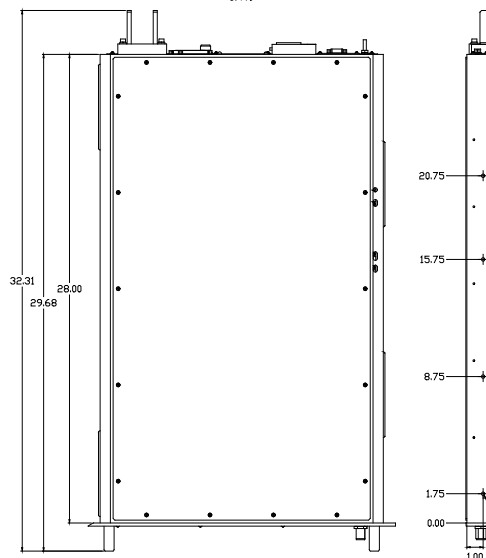
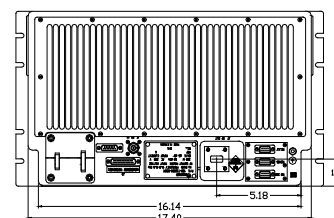
The 1000W Ku-Band Indoor unit is a high performance GaN technology based Indoor SSPA / BUC designed for Multi Carrier Operations. High Reliability, High Linearity and Low Energy Consumption in a compact indoor package.



The Ultimate Solution for Direct to Home TV

Features

- Redundant Ready, Power Expandable to 2-4 kW by phase combining
- Exceeds all barriers between Klystrons, TWTs and SSPAs
- Save in Energy Cost, Satellite Bandwidth, CAPEX
- Can cover multiple transponders, full DVB-S2 enabled
- Indoor Package, MIL-STD-188-164A Compliant
- 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



1000W Ku-Band Indoor BUC/SSPB/SSPA Second Generation GaN Technology

Technical Specifications			
Output Power		1000W	
P_{SAT} , at Flange	+60 dBm nominal		
P_{LINEAR}	+57 dBm minimum		
	P_{LINEAR} is the maximum combined transmit power of two equal amplitude continuous wave (CW) carriers 5MHz apart, when the third order intermodulation product power is <-30 dBc relative to each carrier 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) 78 ± 3 dB	
Gain adjustment range	20 dB in 1.0 dB steps		
Gain flatness over 500 MHz	SSPA: 2 dB 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	-75 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): -60 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 at total +57 dBm Plinear, versus each carrier		
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.	KS –13.050 GHz		KX – 12.800 GHz
Internal Reference frequency (optional)	10 MHz		
Phase Noise	Aging/day ±2 × 10 ⁻¹⁰	Aging/year ±5 × 10 ⁻⁸	Stability ±2 × 10 ⁻⁸ over temp range
	-53 dBc/Hz at 10 kHz	-73 dBc/Hz at 1000Hz	-93 dBc/Hz at 100 kHz
External Reference Frequency phase noise (max)	-63 dBc/Hz at 100Hz	-83 dBc/Hz at 10 kHz	
	10 MHz	-120 dBc/Hz at 10Hz	-150 dBc/Hz at 1000Hz
	-135 dBc/Hz at 100Hz	-160 dBc/Hz at 100 kHz	
		-155 dBc/Hz at 10 kHz	
Weight & Dimensions			
Dimensions (L x W x H)	19" Rackmount 6 RU + 2 RU Power supply 28" deep		
Weight	198 lbs (90 kg)		
AC input voltage	190 – 265 VAC (47-63 Hz)		
Power consumption (nominal)	3.8KW at 46 dBm	5KW at 56 dBm	6.5KW at P_{SAT}
Interfaces	Input (RF or L-Band): N type female		AC line: IEC 320 Inlet
	Output Sample Port: N type female		RF output: WR75 Cover
	RS485/ Ethernet: DB9/RJ45		
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-SAPPH-2G-Ku-Rack-1000W-001-19112

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