

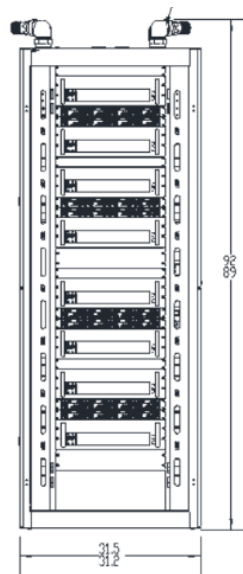
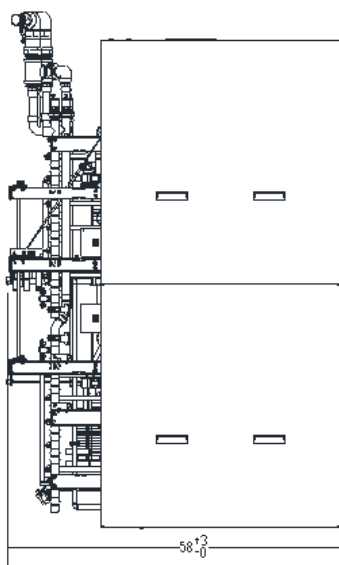
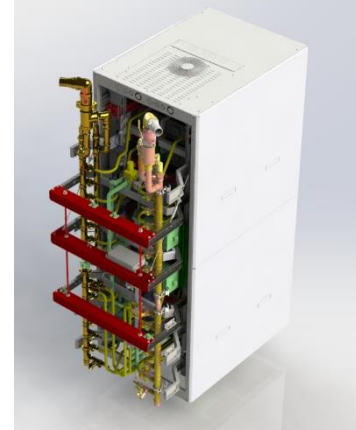
6600W X-Band Indoor Modular BUC/SSPB/SSPA Solid State GaN Technology

SSPA
SSPB (BUC)

ARMAg-X 7000-SapphireBlu™ series
ARMUg-X 7000-SapphireBlu™ series

Features

- High power density GaN technology SSPA concept, in a compact, indoor modular package with Built in Redundancy
- 6.6kW single thread or 3.3kW 1:1 Redundant
- Built in Arc Detection Circuitry
- Maximum power/ bandwidth combination
- Indoor Modular Package, for maximum link availability
- Optional Built in redundant L-band Interface
- Built in Redundancy, field replaceable RF modules
- Highest Linear Power Available. Exceeds all barriers between Klystrons, TWTs and SSPAs
- Backed by over 25 years of Indoor SSPA design and manufacturing



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Technical Specifications			
Output Power	6600 W		
P_{SAT} , PA Module	+68.12 dBm nominal		
P_{SAT} , at Flange	+68.0 dBm nominal		
P_{LINEAR}	+64.0 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	7.9-8.4 GHz		
L-Band input (BUC)	950 – 1450 MHz		
Gain	SSPA 75 dB typical	SSPB (BUC)	78 dB typical
Gain adjustment range	20 dB in 0.1 dB steps		
Gain flatness over full band	SSPA 3dB p-p max	SSPB (BUC) 4 dB p-p max (CS); 4dB p-p over 500 MHz (CX)	
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, -110 dBm/Hz in Receive Band (7.25 GHz – 7.75 GHz)		
Spurious at P_{LINEAR}	SSPA: -65 dBc max SSPB (BUC): -55 dBc max		
Harmonics	-55 dBc @ P_{LINEAR}		
AM/PM conversion	<1.0°/dB P_{LINEAR}		
Third order IMD (two tones)	-25 dBc two signals 5 MHz apart at 64.0 dBm P_{linear}		
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.	6.950 GHz		
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 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)	L x W x H 60 x 31.5 x 90 inches (152.5 x 80.0 x 229 cm)1 x 19" cabinet		
Weight	770 lbs (350 kg)		
AC input voltage	190 – 265 VAC (47-63 Hz) 3 phase		
Cooling	Water cooled (Optional Forced Air Cooled)		
Power consumption	40,000 W at P_{LINEAR} 50,000 W at P_{SAT}		
Interfaces	Input (RF or L-Band) - N type female	AC line - 3 x Phase PDU	
	Output Sample Port - N type female	RF output - CPR112	
	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-X-6600W-19277-1

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