



**Advantech
Wireless**



SapphireBlu™ Class Solid State GaN Technology 6,600W X-Band Rackmount UltraLinear™ Modular SSPA/ SSPB

SSPA ARMAg-X 7000-SapphireBlu™ series
SSPB (BUC) ARMUg-X 7000-SapphireBlu™ series



THE ULTIMATE SOLUTION FOR WIDE BANDWIDTH, ULTRA HIGH POWER SATELLITE TELEPORT UPLINKS

The maximum power/ bandwidth combination that you will ever need

Save Millions of dollars in Energy Cost, Satellite Bandwidth, CAPEX

Can cover multiple transponders, full DVB-S2 enabled

Indoor Modular Package, for maximum link availability

Optional Built in redundant L-band Interface

Built in Redundancy, field replaceable RF modules



- High power density GaN Technology SSPA concept, in a compact, indoor modular package with Built in Redundancy
- 6.6 KW single thread or 3.3 KW 1:1 Redundant
- UltraLinear™, designed for Multi Carrier Operations
- Built in Arc Detection Circuitry



- ⇒ The Highest Linear Power Available! Exceeds all barriers between Klystrons, TWTs and SSPAs
- ⇒ We can now saturate all transponders of an entire satellite and obtain maximum bandwidth/power efficiency!
- ⇒ 3 years warranty, due to increased GaN Technology reliability
- ⇒ Backed by over 25 years of Outdoor SSPA design and manufacturing.

Please call or visit our site for more information ►►►

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Specifications		X-band	
Operating Frequency		7.9-8.4 GHz	
L-Band input (BUC)		950 – 1450 MHz	
Output Power		6600W	
PSAT, PA Module		+68.12 dBm nominal	
P _{SAT} , at Flange		+68.0 dBm nominal	
PLINEAR		+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 QPSK/OQPSK/8PSK modulation	
Gain	SSPA SSPB (BUC)	75 dB typical 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, -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		-55 dBc @ P _{LINEAR}	
AM/PM conversion		<1.0º/dB P _{LINEAR}	
Third order intermod (two tones)		-25 dBc two signals 5 MHz apart versus total power (64.0 dBm Plinear)	
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	12.8 GHz
Internal Reference frequency (optional)	10 MHz	Aging/day	±2 ⁻¹⁰
		Aging/year	±5 ⁻⁸
		Stability	±2 ⁻⁸ over temp range
Phase Noise	-53 dBc/Hz at 10Hz		-83 dBc/Hz at 10 kHz
	-63 dBc/Hz at 100Hz		-93 dBc/Hz at 100 kHz
	-73 dBc/Hz at 1000Hz		
External Reference Frequency phase noise (max)	10 MHz		
	-120 dBc/Hz at 10Hz		-155 dBc/Hz at 10 kHz
	-135 dBc/Hz at 100Hz		-160 dBc/Hz at 100 kHz
	-150 dBc/Hz at 1000Hz		
Weight & Dimensions			
Dimensions		L x W x H 62 x 62 x 90 inches (157.5 x 157.5 x 229 cm) 2 x 19” cabinets	
Weight		990 lbs (450 kg)	
AC input voltage		190 – 265 VAC (47-63 Hz) 3 phase	
Cooling		Water cooled (Optional Forced Air Cooled)	
Power consumption		47,000 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 0ºC to +50 ºC Storage -55ºC to +85 ºC	
	Humidity	5% to 95% non-condensing	
	Altitude	10,000’ AMSL, derated by 2 ºC/1000’ from AMSL	

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Specifications are subject to change without notice