



**Advantech
Wireless**



MENTOR™ Class Ka-band Solid State Technology

500W Ka-Band Hubmount Wide Band Modular SSPA/ SSPB

SSPA AWMAg-Ka 7000-Mentor™ series
SSPB (BUC) SSPBMg-Ka 7000-Mentor™ series

*In the memory of Edward B. Kevork.
True Mentor of the Advantech Wireless Team*



The Ultimate Solution for Ka-Band Satellite Broadcasting

- Covers up to 2 GHz of bandwidth , ready for the next generation wide bandwidth transponders
- Save Millions of dollars in Energy Cost, Satellite Bandwidth, CAPEX
- Fully DVB-S2 enabled
- Rugged, Weatherproof Outdoor Package, MIL-STD-188-164A Compliant
- Built in Redundancy, Field replaceable RF or Power Supplies Modules

- High power density in a compact, rugged, weatherproof package
- UltraLinear™, designed for Multi Carrier Operations
- High Performance Solid State Technology
- Outdoor Modular design concept
- High Reliability, High Linearity, Built in Redundancy



- ⇒ **The Highest Linear Power Available over Wide Bandwidth!**
- ⇒ **Obtain maximum bandwidth/power efficiency!**
- ⇒ **Backed by over 25 years of Outdoor SSPA design and manufacturing.**

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

www.AdvantechWireless.com

Specifications	Ka - band		
Operating Frequency	28.0 – 31.0 GHz in sub bands		
L-Band input (BUC)	950 – 1950 MHz		
Output Power	500W		
PSAT, PA Module	+57.0 dBm nominal		
P _{SAT} , at Flange	+55 dBm nominal		
PLINEAR	+51 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	60 ± 3 dB		
SSPB (BUC)	75 ± 3 dB		
Gain adjustment range	20 dB in 0.1 dB steps		
Gain flatness over 1 GHz band	SSPA 2dB p-p max	SSPB (BUC) 4 dB p-p max	
Gain slope over 40 MHz	± 0.3 dB max	SSPB (BUC) ± 0.6 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, -130 dBm/Hz in Receive Band		
Spurious at P _{LINEAR}	SSPA: -65 dBc max	SSPB (BUC): -55 dBc max	
AM/PM conversion	<1.0°/dB P _{LINEAR}		
Third order intermod (two tones)	-25 dBc two signals 5 MHz apart versus total power (51 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.	Depends on Output Frequency, Spectrum NINIV		
Internal Reference frequency	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	
	-150 dBc/Hz at 1000Hz		
Weight & Dimensions			
Dimensions	L x W x H 67.00" x 22.00" x 33.00" (170 x 56 x 84 mm)		
Weight	500 lbs (230 kg)		
AC input voltage	190 – 265 VAC (47-63 Hz)		
Power consumption	7,000W at P _{LINEAR} 8,000W at P _{SAT}		
Interfaces	Input (RF or L-Band) - N type female		AC line - MS3102 type
	Output Sample Port - N type female		RF output - WR28 Cover
	RS485/Ethernet		MS3112 type
Environmental	Temperature	Operating -30°C to +55 °C	Option 1 -40°C to +55 °C Option 2 -50°C to +50 °C
		Storage -55°C to +85 °C	
	Humidity	100% condensing	
Altitude	10,000' AMSL, derated by 2 °C/1000' from AMSL		

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