



- Compact and energy efficient
- Integrated Multi-Element Redundancy
- Solid State Reliability
- Easy System Integration
- Thermally Efficient
- Low Thermal Noise
- Superior Harmonic and Spurious Suppression
- Frequency agile design covers complete frequency band
- 3 Year GeoSat Product Warranty

20W Linear Ka-Band Block Up-Converter (BUC)

Model: GB44KAL2931



Section	Item	Specification
Power Requirement	Voltage	90 - 264VAC @50/60 Hz
	Power Consumption	540 W Prime Power at maximum Linear Output Power
RF Characteristics	Frequency	29.0 - 31.0 GHz (single model covers frequency range)
	Psat	Psat 27 Watts (Typical)
	Output Power P-Linear	P-Linear 20 Watts
IF Characteristics	Frequency Range	950-1950 MHz, 1000-2000 MHz
	Impedance	50 Ohms
	Input VSWR	1.5:1 Max
	Input Level	-10 dBm Nominal
Interface:	IF Input	N-Female
	Reference Input	Multiplexed with IF Input
	RF Output	WR 28
	Monitor & Control I/O	RS-485 or Ethernet (SNMP/HTTP)
	Ethernet Connector	Weatherproof RJ-45
	Serial Monitor & Control Connector	Mil-Circ- Bayonet
External Reference:	Power Connector	Mil-Circ- Bayonet
	Frequency	10 MHz
	Frequency Stability	Per Mil-Std-188-115
	Input Level	-10 to +10 dBm

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Section	Item	Specification	
Transfer Characteristics	Type	Single Conversion	
	Frequency Sense	Non-inversion	
	Gain	60 dB +/-2 dB	
	Gain Flatness @ Maximum Gain ▼		
	Over RF Output band:	± 2 dB. Max.	
	Over any 125 MHz segment	±0.50 dB Max.	
	Over any 40 MHz segment	±0.3 dB Max.	
	Gain Adjustment Range	30 dB. Min.	
	Mute	-60 dB relative to P-Linear	
	Gain Variation over operational temp	±2.0 dB max.	
	Gain Step Size	0.25 dB max.	
	Group Delay variation	3.5 nsec over 36 MHz Meets Mil-Std 188-164B	
	Third Order IMD @ P-Linear	With two output carriers @ 43dBm total output power: -25 dBc referenced to total output power, Max.	
	Output Noise Density TX	-75 dBm/Hz	
	Output Noise Density in RX Band	-157 dBm/Hz	
	Spurious	-60 dBc max.	
	Harmonics	-60 dBc max. measured at P-Linear	
	Spectral Regrowth	-30 dBc at P-Linear, QPSK, 5 Ms/s, Alpha=30% at 1 x symbol rate away from the carrier.	
	Phase Noise ▼		
		100Hz	-32 dBc/Hz max.
		100Hz	-63 dBc/Hz max.
		1kHz	-72 dBc/Hz max.
		10kHz	-82 dBc/Hz max.
	100kHz	-92 dBc/Hz max.	
	1mHz	-112 dBc/Hz max.	
	10mHz	-122 dBc/Hz max.	
	Output VSWR	1.3:1 Max Infinite @ 5 Watts	
	Max Load VSWR (no damage)	Infinite @ 20 Watts Linear Output Power	
Environmental:	Operating Temperature Range	-40°C to +60°C	
	Storage Temperature Range	-40°C to + 85°C	
	Humidity	100% Condensing	
	Altitude	10K ft.	
	Vibration	MIL-STD-810G	
	Shock	MIL-STD-810G	
Physical	Size	(LxWxH): 14.0" x 6.7" x 6.6"	
	Weight	29 lbs.	
	FAN	Field Replaceable	