

Provides up to 20 watts of linear power over any 2 GHz within the 27.5 - 31.0 GHz frequency range. An optional 1, 2, or 3 LO BUC is available to provide 500 - 1000 MHz, software switchable, within this band.

High Linearity

Excellent AM/PM, phase noise and spectral regrowth performance.

Simple to Operate

User-friendly microprocessor-controlled logic with Ethernet computer interface (serial interface optional). Also contains digitally controlled attenuator. Redundant systems available. SNMP enabled (v1, v2, or v3).

Global Applications

Perfect for Satcom on the Move, VSATs, and antenna-mount applications. Meets Electromagnetic Compatibility Directive 2014/30/EU to satisfy worldwide requirements and is CE-marked.

Worldwide Support

Backed by over 40 years of satellite communications experience, and CPI's worldwide 24-hour customer support network that includes more than 20 regional factory service centers.



CPI 40 W Ka-band GaAs BUC

OPTIONS:

- Multiplexed 10 MHz reference
- Multi-band BUC: select from multiple factory-set frequency bands within Ka-band
- 1 RU remote control
- 10/50 MHz external reference auto-detect
- AC option (requires external AC converter model 7581B)

Quality Management
System - ISO 9001:2015



Electrical Specifications	Model B3KO-A SSPA	Model B3KO-A BUC Options
Output Frequency	Any 2 GHz band within 27.5 to 31.0 GHz	Up to 1 GHz within the 27.5 to 31.0 GHz frequency band 1, 2 and 3 LO BUCs available
L-Band Input (BUC option only)	N/A	950 to 1450 MHz or 1000 to 1500 MHz, 500 MHz option; 950 to 1950 MHz or 1000 to 2000 MHz, 1000 MHz option
Output Power (at the flange) Saturated (P_{sat} , CW) Linear (P_{lin})	40 watts (46 dBm) min. 15 watts (41.76 dBm) min. over temp. and freq. (WGS - OQPSK modulation scheme); 20 watts (43.01 dBm) min. over temp. and freq. (8PSK modulation scheme)	
Small Signal Gain	57 dB min.	
Gain Stability Over temp, constant drive Over 24 hours, fixed temp.	± 2.0 dB max. ± 0.25 dB	
Gain Slope	± 0.04 dB/MHz max.	
Gain Stability	± 1.75 dB max. over full band; ± 0.5 dB pk-pk max. over any 10 MHz	
Gain Adjustment Range	20 dB	
VSWR (Input/Output/Load)	1.5:1 max. (50 ohms); 1.35:1 max; 2.0:1 continuous operation; 1.5:1 full spec. compliance	
Residual AM, max.	-80 dBc > 100 kHz from carrier	
Intermodulation	-25 dBc max. with respect to each of two equal carriers 5 MHz apart, at 15 W output power	
Reference	N/A	10/50 MHz auto-detect
Phase Noise External Reference	Level from -5 dBm (min) to +5 dBm (max.)	-125 dBc/Hz at 10 Hz; -150 dBc/Hz at 100 Hz; 160 dBc/Hz at 1 kHz; -165 dBc/Hz at 10 kHz; Level from -12 dBm (min) to +5 dBm (max.)
Output Phase Noise	N/A	3 dB better than MIL-STD-188-164A
AM/PM Conversion	2.0°/dB max. for a single carrier at rated linear power	
Harmonic Output	-60 dBc max. at rated linear power	
Spurious Response at P_{lin}	-60 dBc max. in band	
Noise Power Density	<-150 dBW/4 kHz, receive band; <-70 dBW/4 kHz, passband	
Group Delay	0.03 ns/MHz linear max, 0.003 ns/MHz ² parabolic max, 1.0 ns pk-pk ripple max. in any 80 MHz band	
Prime Power	48 VDC $\pm 20\%$ (AC optional)	
Power Consumption	420 watts max. at P_{lin}	
Ambient Temperature	-40°C to +50°C operating in direct sunlight; -40°C to +60°C operating out of direct sunlight; -54°C to +85°C non-operating;	
Relative Humidity	100% condensing	
Altitude (operating)	12,000 with standard adiabatic derating of 2°C per 1000 feet (305 m), operating; 50,000 feet (15,240 m), non-operating	
Cooling	Integral forced air	
Shock and Vibration	20 g _{peak} , 11 msec, 1/2 sine; 2.1 g _{rms} , 5 to 500 Hz	
RF Output Connection	WR-28 grooved waveguide flange	
Input Connection	2.9 mm female	Type N Female (L-band input)
M&C Interface	RJ45 Ethernet connector; RS-232 and 422/485 serial interface; 12-10 circular MIL serial I/O (serial interface optional)	
Remote Status	Transmit ON/OFF; Summary Fault Temp; Fault Identification; RF Inhibit (ON/OFF); Lock Detect	
Remote Control	Transmit ON/OFF; Fault Reset; Attenuator Setting	
Dimensions	12.50" x 6.43" x 6.30" (318 x 164 x 160 mm) (not including connectors, isolator or top screws, contact CPI for outline drawing if needed)	
Weight	16 lbs (7.5 kg) typ, DC input version	



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For more detailed information, please refer to the corresponding CPI technical description if one has been published, or contact CPI. Specifications may change without notice as a result of additional data or product refinement. Please contact CPI before using this information for system design.

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