

# 80 W Ku-band GaN BUC

## Compact and Lightweight

Designed and built with VSAT stabilized antenna platforms and other similar satcom-on-the-move customer applications in mind.

## Highly Efficient

CPI has incorporated state-of-the-art Gallium Nitride (GaN) HEMT technology into its popular and field-proven Mini-BUC packaging. 30% to 50% more efficient than comparable GaAs-based products.

## Comprehensive M&C Functionality

Accessible anytime, anywhere via Internet or mobile phone. Integrate with SNMP to NMS. Enables effective operational management and minimizes network outage. Allows change of IP address without serial cable. Dual LO, serial and LAN interface.

## Internal Self-Resetting Protection

Protects against high temperatures, open/short/overdrive RF output conditions, INT/EXT reference 10 MHz conditions, prime power fluctuations. RF output overdrive protection prevents damage from higher than rated input power.

## Global Applications

Meets Electromagnetic Compatibility Directive 2004/108/EC to satisfy worldwide requirements and is CE-marked.

## Worldwide Support

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



### Model 4980L

80 watt Ku-band GaN BUC  
for **satellite uplink applications**

### OPTIONS

- Internal or multiplexed 10 MHz reference
- Multi-band BUC: select from multiple factory-set frequency bands within Ku-band
- 1:1 Redundant Switching



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## 80 W Ku-band GaN BUC

Specification	Model 4980L
Frequency	14.00 to 14.50 GHz or 13.75 to 14.50 GHz
L-Band Input	950 to 1450 MHz or 950 to 1700 MHz
Output Power (min.) Saturated (P <sub>sat</sub> , CW) Linear (Plin1) Linear (Plin2) P1dB Equivalent	Note: Plin1 is with two equal carriers at 3 dB backoff. Plin2 is output power at specified spectral regrowth. 80 W (49.0 dBm) 40 W (46.0 dBm) 50 W (47.0 dBm) 70 W (48.5 dBm)
Local Oscillator Frequency	13050 MHz (with extended band option user may select 13050 or 12800 MHz)
Gain at 0 dB Attenuation	80 dB ±2.0 dB
Gain Stability	±2.0 dB max. (over temperature, frequency set) ±0.25 dB (over 24 hours, fixed temperature)
Gain Flatness	±1.50 dB max. over full band; ±0.75 dB max. over 40 MHz
Intermodulation	-25 dBc max. with respect to each of two equal carriers 5 MHz apart
VSWR	Input: 14 dB return loss, 1.5:1; Output: 19 dB return loss, 1.3:1
Spectral Regrowth	<-30 dBc @ 1.0x symbol rate, 1024 kbps, QPSK 7/8 Vit
Reference (internal or external)	10 MHz
Reference Freq. Input (external)	Multiplexed on N-type transmit IF input
Reference Freq. Level (external)	-10 to +5 dBm
Ref. Freq. Level Meter	Yes, via M&C
IF Input Level Meter	-5 to -45 dBm, ±2.0 dBm
Output Phase Noise	-65 dBc/Hz at 100 Hz, -75 dBc/Hz at 1 kHz, -85 dBc/Hz at 10 kHz, -95 dBc/Hz at 100 kHz
Transmit Attenuator	0 to 20 in 1 dB steps
AM/PM Conversion	2.0°/dB max. at 2 dB output backoff
Output Power Meter Range	15 dB
Output Power Meter Absolute Accuracy Relative Accuracy	±1 dB max. when frequency compensation set ±0.5 dB max. when frequency compensation set
Output Power Meter Modes	CW and burst with adjustable threshold
Spurious/Harmonic Output	-55 dBc max. at linear output power
Group Delay	0.03 ns/MHz linear max, 0.01 ns/MHz <sup>2</sup> parabolic max, 1.0 ns pk-pk ripple max. in any 80 MHz band
Prime Power	90 to 265 VAC
Power Consumption	450 watts typ. at Plin, 700 watts max.
Ambient Temperature	-40°C to +60°C operating, -40°C to +70°C non-operating
Relative Humidity	100% condensing
Weatherproofing	IP67 rating that provides protection from water or dust storms; Sealed to 34 kPa
Altitude (operating)	Up to 2000 m (6,500 ft)
Shock and Vibration	20 g peak, 11 msec, 1/2 sine; 2.1 g <sub>rms</sub> , 5 to 500 Hz
RF Output Connection	WR-75 PBR120 flange with 4.2 mm through-holes
L-band Input Connection	Type N female
M&C Interface	FSK, RS-232, RS485/422, LAN
M&C Protocols	ASCII, NDSatcom v1, SABus, Codan packet, Telnet, SNMP v1, WEB GUI
Prime Power Connections	AC Connector: LTW PWF-04PMMS-SC7001; AC Mating Connector: C016 20D003 110 12 (provided)
Dimensions, L x W x H (not including connectors, isolator or top screws, contact CPI for outline drawing if needed)	270 x 182 x 151 mm (10.6" x 7.2" x 5.9")
Weight	7.2 kg (15.2 lbs)

## 80 W Ku-band GaN BUC

## Configure your 4980L GaN BUC

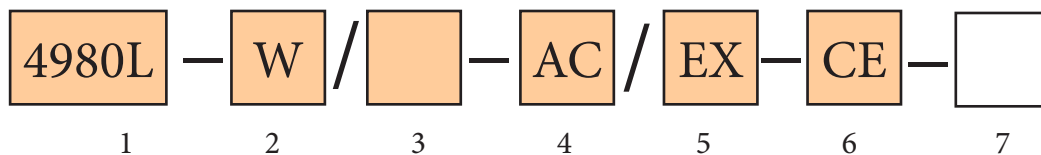
Configuring your BUC is easy. For this product, most of the configuration is predetermined. All that is left is to indicate which frequency range is needed, and whether the internal reference option is required. Instructions follow:

Box 3: Frequency range (within Ku-band)

- Enter "S" for 14.00 to 14.50 GHz
- Enter "E" for 13.75 to 14.50 GHz

Box 7: Internal reference

- Enter "R" only if internal reference option is selected
- LEAVE BLANK if internal reference option is not selected



Examples: 4980L-W/S-AC/EX-CE-R indicates a BUC with a frequency range of 14.0 -14.5 GHz and internal reference. 4980L-W/E-AC/EX-CE indicates a BUC with a frequency range of 13.75 to 14.5 GHz and with no internal reference.

Notes: Box 2 indicates a waveguide RF output connection. Box 4 indicates that this product is AC powered. Box 5 indicates that power is fed via a dedicated connector. Box 6 indicates that this product is CE marked.