

50W Solid State Power BUC

CPI Solid Inside and Out

B3UO-2G Series

50 W Ku-band
Solid State Block
Upconverter —
Environmentally sealed
compact design for
outdoor operation

CPI-Built RF Brick Inside

With CPI-built RF brick inside and plenty of thermal margin, this SSPB is rock-solid and highly efficient.

High Linearity

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

Simple to Operate

User-friendly microprocessor-controlled serial interface with basic Ethernet interface (advanced Ethernet interface optional). Also contains digitally controlled attenuator. Redundant systems available.

Extended Band Operation

Provides 45 watts of P1dB output power at the flange over the entire 13.75 to 14.50 GHz frequency range.

Ku-Band



Ku-Band

50W Solid State BUC

Global Applications

Perfect for Satcom on the Move, Micro Flyaway Systems, VSATs, and antenna-mount applications. Meets Electromagnetic Compatibility Directive 2004/108/EC to satisfy worldwide requirements.

Worldwide Support

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

satcom  **division**

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SPECIFICATIONS, 50 W Ku-Band Outdoor Solid State Power BUC (SSPB) (Model B3UO-2G)

Electrical

Frequency	13.75 to 14.50 GHz or 14.0 to 14.5 GHz
L-Band Input	950 to 1700 MHz or 950 to 1450 MHz
Output Power	50 W (47.0 dBm) Psat 45 W (46.5 dBm) P1dB
Local Oscillator Frequency	12,800 MHz or 13,050 MHz (select either)
Internal 10 MHz Reference	standard
BUC Stability	±1 ppm
Small Signal Gain	70 dB min.
Gain Stability	Over temp., constant drive ±1.5 dB over oper. temp. range Over 24 hours, fixed temp. ±0.25 dB
Gain Slope	±0.04 dB/MHz max.
Small Signal Gain Variation	Across any 40 MHz band ±0.3 dB pk-pk max. Across the full band ±1.25 dB
Gain Adjustment Range	20 dB
Input VSWR	1.5:1 max. (50 ohms)
Output VSWR	1.3:1 max.
Load VSWR	Continuous operation 2.0:1 Full spec compliance 1.5:1
Residual AM, max.	-80 dBc > 100 kHz from carrier
Phase Noise, max.	10 Hz -33 dBc/Hz 100 Hz -63 dBc/Hz 1 kHz -73 dBc/Hz 10 kHz -83 dBc/Hz 100 kHz -93 dBc/Hz 1 MHz -93 dBc/Hz
AM/PM Conversion	2.5°/dB max. for a single-carrier at 2.5 dB backoff from rated P1dB
Harmonic Output	-60 dBc max. at rated P1dB
Spurious Response at P1dB	-60 dBc max. in band
Noise Power Density	<-150 dBW/4 kHz, receive band <-70 dBW/4 kHz, passband
Intermodulation Distortion	-25 dBc max. with two equal carriers and 5 MHz apart at 3.0 dB total backoff from rated P1dB
Group Delay (in any 80 MHz band)	0.03 ns/MHz linear max. 0.003 ns/MHz ² parabolic max. 1.0 ns pk-pk ripple max.
Primary Power	40-52 VDC (AC Input Option: 100 - 240 VAC ±10%, single phase, 47-63 Hz)

OPTIONS:

- *External Multiplexed 10 MHz reference*
- *1 RU Remote Control Panel*
- *1:1 Redundant Switching*
- *Advanced Ethernet Interface*
- *External AC Input Module*

Electrical (continued)

Power Consumption	450 W typ. (AC input option)
Power Factor Correction	.99 (with AC input option)
Remote Status	Transmit/Standby/Inhibit Status Control Point (local/CIF/Internet)

Monitor and Control

Remote Control	Transmit ON/OFF Fault Reset Attenuator Setting
Computer/Network Interface	RS-232C and 422/485 with basic Ethernet (advanced Ethernet optional)
Remote Status	Transmit/Standby/Inhibit Status Control Point (local/CIF/Internet)

Environmental

Ambient Temperature	-40°C to +55°C operating in direct sunlight; -40°C to +60°C operating out of direct sunlight; -50°C to +85°C non-operating
Relative Humidity	100% condensing
Altitude	12,000 ft. with standard adiabatic derating of 2°C/1000 ft., operating; 50,000 ft., 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.

Mechanical

RF Output Connection	WR-75 waveguide flange, grooved with UNC 2B 6-32 threaded holes
L-Band Input Connection	Type N female
Dimensions (w x l x h)	6.5" x 13.1" x 6.2 " (166 x 333 x 158 mm)
External AC Input Module	6.1" x 12.1" x 4.8" (155 x 308 x 122 mm)
Weight	16.5 lbs (7.5 kg) typ. External AC Input Module 10 lbs (4.5 kg) without cables



For more detailed information, please refer to the corresponding CPI Technical Description.

Note: Specifications may change without notice as a result of additional data or product refinement.

Please contact CPI before using this information for system design.



Communications & Power Industries

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