



# Ruggedized

20W/40W  
Ku-Band Block Up Converter

ALB128-RG series of Ruggedized BUCs have been developed for operation in extreme environments. Powerful and robust, these BUCs are designed and tested to meet the stringent MIL STD 810F for shock and vibration. The units are light and compact and have built-in redundancy feature. With just a control cable connection between the two units, they can be ready for operation in the redundancy mode.

The BUCs operate over a very wide output frequency range from 13.75GHz to 14.80GHz. Stringent phase noise specification renders the BUC suitable for use in low, medium and high data rate links. The BUCs are highly linear, so that they can be used close to their rated output power.

The BUCs are designed to meet the EN310489-1 for Radio Spectrum matters, IEC60950 for safety and FCC part 15 class B for EMI/EMC.

The BUC can be controlled and monitored through the PC on an RS232/RS485 Interface and Ethernet.

## Features

- Fully MIL STD 810F certified
- World's first rugged BUC design
- Compact with enhanced M&C feature
- Available for wide frequency range of operation 13.75 to 14.80GHz
- Highly reliable
- Wide operation temperature range
- Gain compensation over temperature
- RS232/RS485 and Ethernet M&C option
- Built-in redundancy feature

## Applications

- Emergency link restoration
- Hub and VSAT Terminals
- Video conferencing
- Broadcast

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## Technical Specifications

### Frequency Range

Input Frequency	950-1700MHz (Extended) 950-1450MHz (Standard) 950- 2000MHz (Super Extended)
Output Frequency	13.75-14.50GHz (Extended) 14.0-14.5GHz (Standard) 13.75-14.8GHz (Super Extended)
LO Frequency	12800MHz (Extended) 13050MHz (Standard) Switchable Lo for Super Extended
Rated Output Power at P1dB	46dBm
Small Signal Gain	75dB Min
Gain Flatness	±2.5dB
Gain Stability Over Temperature	±2dB
Spurious @Rated	-55dBc (Inband spurious)
Phase Noise	
@100Hz Offset	60dBc/Hz
@ 1KHz Offset	73dBc/Hz
@ 10KHz Offset	83dBc/Hz
@ 100KHz Offset	93dBc/Hz
Inter Modulation	-27dBc @ Relative to combine power of two carriers at 3dB total power backoff from Rated Output power
Input and Output VSWR	1.25:1 max

### External Reference (OCXO)

Frequency	10MHz
Power	-5dBm to +5dBm
Internal reference	Built-in
External reference phase noise	
Requirement @ frequency offset	
1KHz	-150dBc/Hz
10KHz	-155dBc/Hz
100KHz	-160dBc/Hz

### Power Supply

AC Input voltage	207-253VAC
Power Consumption	480W (typical)
Interface Type	KPTO2E12-3P

### I/O Interface

Input	50Ohms N-type Female
Output	WR 75G

### Monitor and Control

Interface	RS232/458 and Ethernet
SSPA Output Power Monitoring	Yes
System Alarm	Yes
SSPA On/Off	Yes
Attenuation Control	20dB, 1dB step
Built-in redundancy	Yes

### Environmental

Operating Temperature	-40°C to +55°C
Humidity (Non-condensing)	Up to 100% Ext

### Mechanical Specifications

Dimension	415mm x 230mm x 220mm
Weight	16Kg
Finish	Temasek Green / Nato Green

### Compliance Standard

Safety	IEC 60950
EMI/EMC	ETSI EN 300 673 FCC Part 15 Class B MIL STD 461E
ERM	ETSI EN 301489 -1
MIL STD810F	Vibration (Operational) Method 514.5, 5-500Hz
Shock (Operational)	X-axis:1.97 GRMS Y-axis:2.24 GRMS Z-axis:3.29 GRMS MIL STD 810F Method 516.6 40g 11ms, Terminal Peak Saw tooth Pulse, X, Y, Z axis

Note: All specifications are subject to change without notice.  
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