



ALB110 Series

Compact 16W/20W/25W
Ka-Band Block-Up Converter

This small and light weight new Ka-Band BUC is ideal for mobile and satellite uplink applications. Designed to be mounted on the feed horn, the BUC has excellent efficiency. The unit works on a wide range input DC power supply from 38V to 60V. Innovative and efficient thermal design makes this BUC one of the smallest, lightest and most reliable in the industry.

With redundancy-ready feature, the unit can be easily configured to work in 1:1 redundant mode.

Features

- Compact and lightweight
- Excellent linearity
- Extremely reliable
- High power efficiency
- Excellent phase noise characteristics
- Low spurious
- Forward power detection function
- Remote monitor & control through RS232/RS485 and Ethernet (SNMP & HTTP)
- Wide input DC voltage range
- Automatic fault identification & alarm generation
- Automatic temperature compensation feature
- Redundancy option
- Wide operating temperature range -40°C to +60°C
- RoHS compliant
- Waterproof
- LED indicator for BUC status

Quality Assurance

100% of all BUCs go through stringent quality checks in addition to well defined Electrical Stress Screening to ensure operation in harsh outdoor environments. The BUCs are also subjected to seal test for water ingress verification.

Reliability

Field proven under harsh environment conditions, Agilis ODUs can withstand temperature ranging from -40°C to +60°C with up to 100% humidity.

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Technical Specifications

RF Specifications

Transmit Frequency	27.5GHz to 31.0GHz (Multiple operating Bands Selection are available. Please refer to the Table 1 below)
Input Frequency Range	950MHz to 1950MHz
LO Frequency	Switchable(Refer Table 1)
Output Power @Psat	42dBm(16W) /43dBm(20W)/ 44dBm (25W)
Output Power @ PLinear	39dBm for 16W 40dBm for 20W 41dBm for 25W
Small Signal Gain	60dB (typ)
Gain Flatness	±2.0dB(typ)
Gain Flatness over 40MHz	±1.0dB typ
Gain Variation	±2dB over the operating temperature range
Spectral Re-Growth	-30dBc at PLinear
Phase Noise @ Offset	
1KHz	-73dBc/Hz typ
10KHz	-83dBc/Hz typ
100KHz	-93dBc/Hz typ
Spurious	-60dBc
I/P VSWR	1.5:1 max
O/P VSWR	2.0:1 max

Power Supply

Prime Power	48VDC (range 38 to 60VDC) Optional AC supply		
Power Consumption		Plinear	Psat
	16W	85W	125W
	20W	100W	140W
	25W	110W	160W

Interfaces

IF Input Interface	50Ohms N-type Female / 75Ohms F-type Female (optional)
Output Interface	WR28 grooved

External Reference

Frequency	10 MHz (50MHz optional)
Power	-5dBm to +5dBm
External reference phase noise requirement @ frequency offset	
1KHz	-150dBc/Hz
10KHz	-155dBc/Hz
100KHz	-160dBc/Hz

Table 1

Band	RF Band (GHz)	IF Band (MHz)	LO Frequency (GHz)
Band 1	27.5 – 29.5	950 – 1950	26.55/27.55
Band 2	29.0 – 30.0	950 – 1950	28.05
Band 3	29.0 – 31.0	950 – 1950	28.05/29.05

Other operating bands available

Monitor & Control

Monitor	BUC temperature LO unlocked alarm Status alarm RF Output Power detection / OpenBMIP LED indication
Control	30dB Adjustable gain with 0.25dB step size RF output mute
Interface	RS232/RS485, Ethernet (SNMP & HTTP) OpenBMIP (Optional)
Tx Redundancy	Redundancy-ready (with external RCU)

Environmental

Operating Temperature	-40°C to +60°C
Humidity	Up to 100% Weather protection sealed to IP65

Mechanical

Size	240L x 100W x 107H mm
Weight	3.3kg
Color	White Powder Coat

Compliance Standard

IEC 609501-2nd Edition	International Safety Standard for Information Technology Equipment
ETSI EN 301 489-12	Electromagnetic Compatibility and Radio Spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) Standard for radio equipment and services; Part 12: Specific conditions for Very Small Aperture Terminal, Satellite Interactive Earth Stations operated in the frequency ranges between 4 GHz and 30 GHz in the fixed Satellite Service (FSS)
	Electromagnetic Compatibility and Radio Spectrum Matters (ERM); ElectroMagnetic Compatibility Standard for Radio Equipment and Services
FCC Part 15 Class B	Two levels of radiation and conducted emissions Limits for unintentional radiators (FCC Mark)
	Note: All specifications are subject to change without notice. Rev. 230514