GaN Based Product

30W Fanless X-Band Block Up Converter

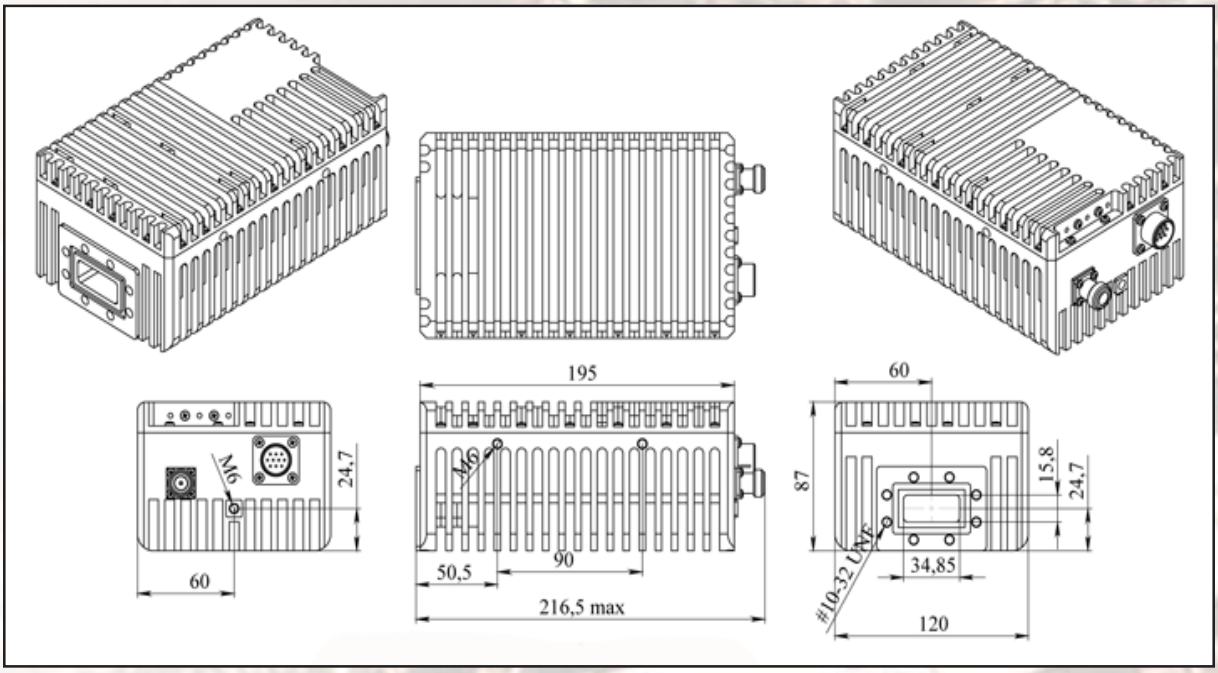
KEY FEATURES

- 7.9 GHz - 8.4 GHz output frequency
- Based on GaN technology which enables high efficiency, low power consumption and high reliability.
- Incomparable low power consumption (89W max)
- Auto-ranging powering option 15-60VDC
- High power efficiency (30W min over temperature)
- Digital temperature compensation
- Field-exchangeable (F/N) IF connector
- Status and 10MHz detection LED
- Advanced M&C RS-232/485, FSK , Ethernet (optional)
- Internal 10MHz high stability 10^{-8} reference (optional)
- RoHS compliant

ABE30X / ABE30XF

This smallest and lightest fanless 30W L-To X-Band Block Up Converter is based on GaN technology. It could be mounted directly on a feed horn. M&C (FSK) capability enables troubleshooting, monitoring and controlling the BUC. The unit can be powered either with 24VDC or 48VDC. Unit can use either external or internal 10MHz reference.

Mechanical Drawing



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30W Fanless X-Band Block Up Converter

TECHNICAL SPECIFICATIONS	
RF frequency	7.90 to 8.4 GHz
Local oscillator	6.95 GHz
IF frequency	950 to 1,450 MHz
Output power	30 W (+45 dBm min.) , 16 W (42 dBm) P-Linear
IF connector	N-type or F-type (field-exchangeable)
Power supply : auto-ranging via IF connector	15-60 VDC, 89 W max
Output interface	CPR-137G, CPR-112G, WR-90, WR-112G
Internal 10MHz high stability reference	10^{-8}
Gain	68 dB nominal
IMD3 (two tones)	-26 dBc max. 2 signal 5MHz apart at P-LINEAR
L.O. leakage	-45 dBm max
Spurious	-53 dBc max
Spectral regrowth (QPSK at 1.5x and OQPSK at 1.0x symbol rate offset with 2dB back-off from rated output power)	-30dBc
Requirement for external reference: frequency input power	**via IF cable** 10 MHz (sine-wave) -5 to +5 dBm @ input port
TX Gain variation **TX Gain stability over temperature range**	± 0.5 dB over 40 MHz ± 1.8 dB over full band ± 1.5 dB typ., ± 1.8 dB max.
Phase noise (Exceeds Intelsat's standard IESS308/309)	-55 dBc/Hz max. @ 10 Hz -65 dBc/Hz max. @ 100 Hz -75 dBc/Hz max. @ 1 KHz -85 dBc/Hz max. @ 10 KHz -95 dBc/Hz max @ 100 KHz -115 dBc/Hz max @ 1 MHz
Noise power density **Transmit** **Receive**	-66 dBm/Hz (max) -157 dBm/Hz (max)
M&C Interface	RS-232 and RS-485, Ethernet
FSK	Multiplexed on TX IFL, compatible with Comtech and Paradigm
Noise figure	15 dB max
Input V.S.W.R.	2 : 1 max
Output V.S.W.R.	2 : 1 max.
Mute	Shut off the HPA if L.O. unlocked
Status LED **RED** **GREEN** **10MHz LED** **RED** **GREEN**	Summary Alarm All OK No 10MHz reference detected 10MHz reference detected within requirement
Temperature range (ambient) operating storage	 -40 deg C to +55 deg C -55 deg C to +85 deg C
Vibration and shock	Complies with MIL-STD-810E
Dimensions & housing	216.5 (L) x 120 (W) x 87 (H) mm 8.66" (L) x 4.8 (W) x 3.48" (H)
Weight	2.76 kg (6.1 lbs) max