



## 15W X-Band Block Up Converter

### KEY FEATURES

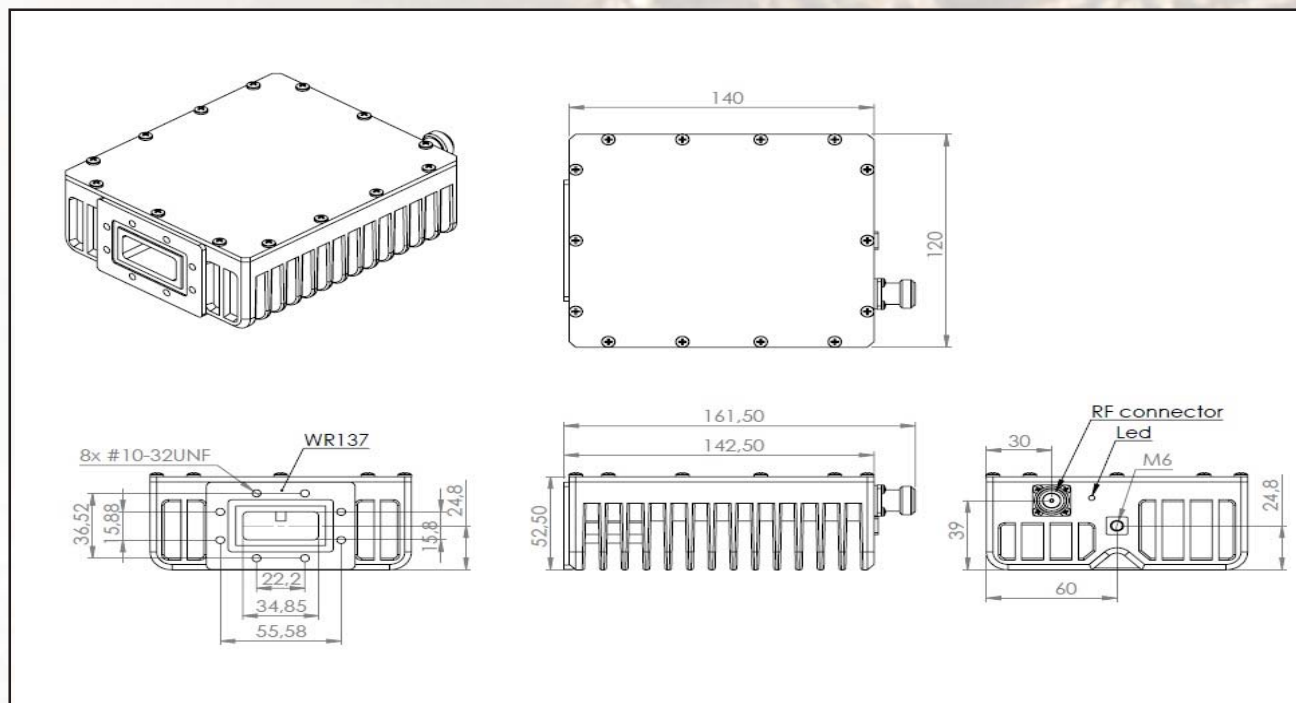
- ◆ 7.90 GHz - 8.40 GHz output frequency
- ◆ Based on GaN technology which enables high efficiency, low power consumption and high reliability.
- ◆ Local oscillator 6.95 GHz
- ◆ Incomparable low power consumption (48 W max)
- ◆ Auto-ranging 15-60 VDC powering option
- ◆ Digital temperature compensation
- ◆ Field-exchangeable (F/N) IF connector
- ◆ Power and lock status LED
- ◆ Internal 10MHz high stability  $10^{-8}$  reference (optional)
- ◆ RoHS compliant
- ◆ Three-year warranty

### ABE15X / ABE15XF



This smallest and lightest 15W L-To X-Band Block Up Converter is based on GaN technology. It is designed to be mounted on the feed horn. High power efficiency resulting in low current (<2A @ 24VDC).

### Mechanical Drawing





# 15W X-Band Block Up Converter

| TECHNICAL SPECIFICATIONS   |   |
|--|---|
| RF frequency   | 7.90 to 8.40 GHz  |
| Local oscillator   | 6.95 GHz  |
| IF frequency   | 950 to 1,450 MHz  |
| Output power   | 15W (+41.8 dBm min.)  |
| IF connector   | N-type or F-type (field-exchangeable)   |
| Power supply : auto-ranging via IF connector   | 15-60 VDC, 48 W max   |
| Output interface   | CPR 137G, CPR-112G, WR-112G, WR-90G   |
| Internal 10MHz high stability reference  | 10 <sup>-8</sup>  |
| Gain   | 65 dB nominal   |
| IMD3 (two tones)   | -26 dBc max. 2 signal 5MHz apart at P-LINEAR  |
| L.O. leakage   | -45 dBm max   |
| Spurious   | -50 dBc max   |
| Spectral regrowth<br>(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:  | via IF cable  |
| frequency  | 10 MHz (sine-wave)  |
| input power  | -5 to +5 dBm @ input port   |
| TX Gain variation  | ± 0.5 dB over 40MHz<br>± 1.8 dB over full band  |
| TX Gain stability over temperature range   | ± 1.5 dB typ., ± 1.8 dB max.  |
| Phase noise<br><br>(Exceeds Intelsat's standard IESS308/309)   | -53 dBc/Hz max. @ 10 Hz<br>-63 dBc/Hz max. @ 100 Hz<br>-73 dBc/Hz max. @ 1 KHz<br>-83 dBc/Hz max. @ 10 KHz<br>-93 dBc/Hz max @ 100 KHz<br>-113 dBc/Hz max @ 1 MHz |
| Noise power density  | Transmit<br>Receive   |
|  | -66 dBm/Hz (max)<br>-157 dBm/Hz (max)   |
| 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<br>GREEN  |
|  | Summary alarm<br>All OK   |
| Temperature range (ambient)  |   |
| operating  | -40 deg C to +55 deg C  |
| storage  | -55 deg C to +85 deg C  |
| Vibration and shock  | Complies with MIL-STD-810E  |
| Dimensions & housing   | 140 (L) x 120 (W) x 52.5 (H) mm<br>5.51" (L) x 4.72" (W) x 2.06" (H)  |
| Weight   | 1 kg (2.2 lbs) max  |