



## 20W Fan-less Ext. Ku-Band Block Up Converter

### KEY FEATURES

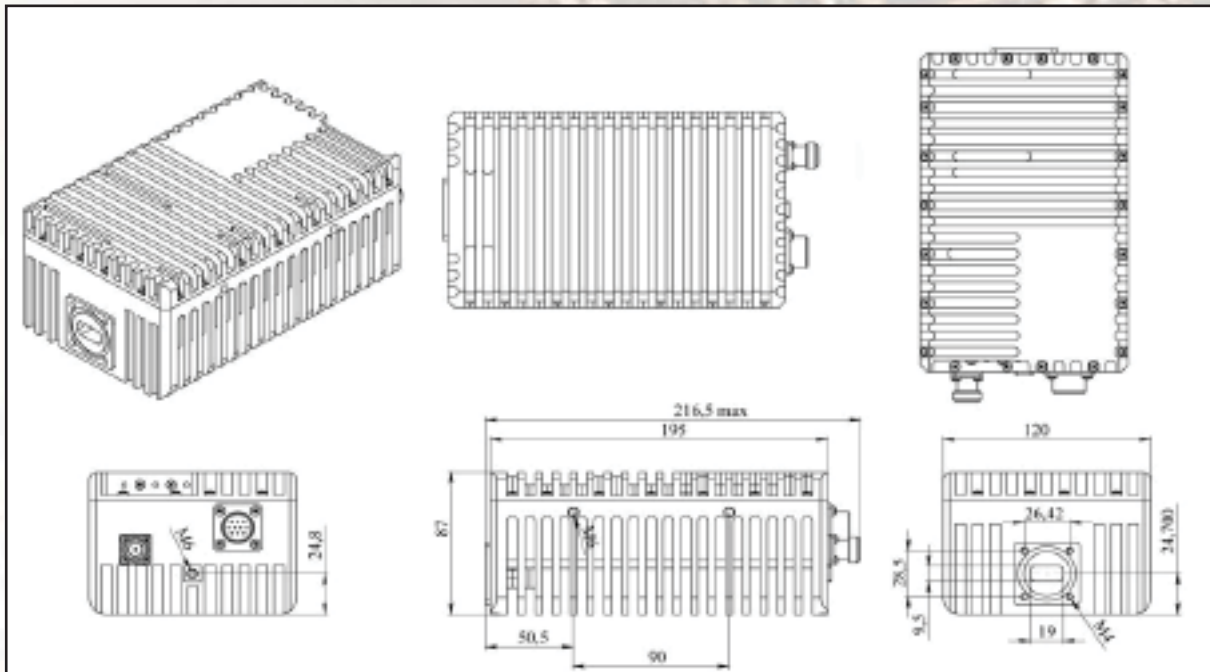
- ◆ Output frequency 13.75-14.50 GHz
- ◆ Built-in redundancy option
- ◆ Based on GaN technology which enables high efficiency, low power consumption and high reliability
- ◆ Incomparable low power consumption (97W max.)
- ◆ Auto-ranging powering option 15 - 60 VDC
- ◆ Smallest, lightest and fan-less
- ◆ Internal 10MHz high stability reference (optional)
- ◆ Digital temperature compensation
- ◆ Field-exchangeable (F/N) IF connector
- ◆ M&C - combined RS-232/485 and optional FSK
- ◆ Amplifier, L.O. and 10MHz Reference Status LEDs
- ◆ RoHS compliant

### ABEN20KX/ ABEN20KXF



This smallest and lightest fanless 20W L-To Ku-Band Block Up Converter is designed to be mounted on a feed horn. The unit is ideal for portable and mobile applications. Double - L.O. feature makes unit universal for Ku-Band requirements. It is powered either with 24/48 VDC and consumes less than 97W.

### Mechanical Drawing





## 20W Fan-less Ext. Ku-Band Block Up Converter

TECHNICAL SPECIFICATIONS		
<b>RF frequency</b>		14.00 to 14.50 GHz 13.75 to 14.50 GHz
<b>Dual local oscillator</b>		13.05 GHz and 12.80 GHz
<b>IF frequency</b>		950 to 1,700 MHz
<b>Output power</b>		20W (+43 dBm min.) 10.7W P-Linear (40.3 dBm min.)
<b>IF connector</b>		N-type or F-type (field-exchangeable)
<b>Power supply auto-ranging</b>		+15 ~ +60 VDC via IF cable, 97W typ.
<b>Output interface</b>		WR-75 G
<b>Gain</b>		68 dB typ.
<b>IMD3 (two tones)</b>		-26 dBc max. 2 signal 5 MHz apart at P-LINEAR
<b>L.O. leakage</b>		-45 dBm max
<b>Spurious</b>		-53 dBc max
<b>Spectral regrowth</b> (QPSK at 1.5x and OQPSK at 1.0x symbol rate offset with 2dB back-off from rated output power)		-30 dBc
<b>Requirement for external reference:</b>		<b>via IF cable</b>
frequency		10 MHz (sine-wave)
input power		-5 to +5 dBm @ input port
<b>TX Gain variation</b>		± 0.5 dB over 40 MHz
<b>TX Gain stability over temperature range</b>		± 1.8 dB over full band ± 1.5 dB typ., ± 1.8 dB max.
<b>Phase noise</b>		-53 dBc/Hz max. @ 10 Hz
(Exceeds Intelsat's standard IESS308/309)		-63 dBc/Hz max. @ 100 Hz
		-73 dBc/Hz max. @ 1 KHz
		-83 dBc/Hz max. @ 10 KHz
		-93 dBc/Hz max @ 100 KHz
		-113 dBc/Hz max @ 1 MHz
<b>Noise power density</b>	<b>Transmit</b>	-66 dBm/Hz (max)
	<b>Receive</b>	-157 dBm/Hz (max)
<b>Noise figure</b>		20 dB max
<b>Input V.S.W.R.</b>		2 : 1 max
<b>Output V.S.W.R.</b>		2 : 1 max.
<b>M&amp;C</b>		RS-232 and RS-485, Ethernet, FSK (optional)
<b>Mute</b>		Shut off the HPA if L.O. unlocked
<b>Status LED</b>		
<b>Amplifier</b>	<b>RED</b>	Summary alarm
	<b>GREEN</b>	All OK
<b>L.O.</b>	<b>YELLOW</b>	All OK standard L.O. 13.05 GHz
	<b>YELLOW blinking</b>	All OK extended L.O. 12.80 GHz
<b>10MHz</b>	<b>GREEN</b>	External 10MHz reference
	<b>GREEN blinking</b>	Internal 10MHz reference
	<b>RED</b>	No 10MHz reference detected
<b>Temperature range (ambient)</b>		
operating		-40 deg C to +55 deg C
storage		-55 deg C to +85 deg C
<b>Vibration and shock</b>		Complies with MIL-STD-810E
<b>Dimensions &amp; housing</b>		216.5 (L) x 120 (W) x 87 (H) mm 7.67" (L) x 4.72" (W) x 3.93" (H)
<b>Weight</b>		2.8 kg (6.17 lbs) max