

X-BAND BLOCK UP CONVERTER (BUC)

ACTX-X High Power Series (150 & 200W)



Ed.15
08/02/17

The ACTX-X series is a family of outdoor RF Block-Up Converters (BUC), designed for X-band satellite communication systems. ACTX-X BUCs are integrated units with power supply, phase locked oscillator, power amplifier, frequency converters and cooling system.

The ACTX-X series BUCs has been tested and calibrated between -20° and +60°C, so they assure very good gain stability with temperature. They also include a temperature alarm and power supply shutdown to protect the amplifier from permanent damages in high temperature conditions. Moreover, ACTX-X series allows RS-485/RS-232 communication and TCP/IP and SNMP as option.

TRANSMITTER SPECIFICATIONS

Input frequency	950 – 1450 MHz (see options)
Input impedance.....	50 Ohms
Input L-Band VSWR	<1.5:1
Output frequency.....	7.9 – 8.4 GHz (see options)
Output impedance.....	50 Ohms
Output X-Band VSWR	<1.3:1
Output sample	-40 ± 2 dBc
Spectrum inversion	None

Transmit Characteristics @ 25°C	P1dB (typ)	Gain	Power Consumption	Size (LxWxH)	Weight
ACTX-X150W-E1-V1	51.8 dBm	72 dB min	1200 W	495 x 265 x 255 mm	24 kg
ACTX-X200W-E1-V1	53.0 dBm	75 dB min	1300 W	19.5 x 10.4 x 10.0 inches	52.9 lbs

Maximum input level without damage.....	+10 dBm
Gain flatness over the whole bandwidth	±1.5 dB
Gain flatness over 40 MHz	± 0.75 dB
Gain stability (24 Hours)	± 0.25 dB @ constant temp.
Gain variation over temperature.....	± 1.5 dB over the whole range
Attenuation adjustment range.....	20 dB, with 0.5 dB steps
Mute	> 50 dB
Noise figure	≤ 15 dB (at maximum gain)

Output noise	< -155 dBm/Hz (Rx Band 7.25 to 7.75 GHz)
Spurious	< -60 dBc at Pout=P1dB dBm
Harmonics	≤ -50 dBc
Main frequency related spurious	≤ -35 dBc
SSB added spurious	≤ -41 dBc
Third order intermodulation products.....	< -25 dBc for 2 tones $\Delta f=5\text{Mhz}$ for Pout = P1dB - 3 dB

LOCAL OSCILLATOR

Local oscillator frequency	6.950 GHz
Output phase Noise (IESS-308/309 – 8 dB):	
100 Hz.....	-70 dBc/Hz
1 kHz.....	-78 dBc/Hz
10 kHz.....	-88 dBc/Hz
100 kHz.....	-105 dBc/Hz
Reference frequency.....	10 MHz
Reference mode	External (internal as option)
Reference input level.....	0 dBm \pm 3 dB (at input L-Band Connector)
Reference stability	same as external reference
Minimum reference to compliant typical phase noise (IESS-308/309 – 8 dB):	
100 Hz.....	-125 dBc/Hz
1 kHz.....	-135 dBc/Hz
10 kHz.....	-145 dBc/Hz

POWER SUPPLY

AC input voltage	85 - 265 V _{AC} (47-63 Hz)
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ENVIRONMENTAL SPECIFICATIONS

Storage temperature	-40 to +80°C
Operating temperature	-20 to +60°C (-40 to +60°C as option)
Relative humidity	up to 95%
Operating altitude	up to 3500 m.

MECHANICAL SPECIFICATIONS

Interfaces:		
TX input(L-Band+Ext. Ref.):.....	Type N(F) 50 ohm.	
Sample output (X-Band):.....	Type N(F) 50 ohm	
TX output (X-Band):	WR112 CPRG flange	
Power supply:	62IN12E12-3P-4-622	(mating connector provided)
M&C (RS232/485):	62IN12E12-14S-4-622	(mating connector provided)
M&C (IP/SNMP) as option:	62IN12E12-8S-4-622	(mating connector provided)
Cooling system.....	Forced air integrated	
Finish.....	White RAL 9003	

OPTIONS

HP1:	Internal 10 MHz Reference
HP2:	Operating temperature (-40 to +60°C)
HP3:	Ethernet interface (TCP/IP)
HP4:	SNMP Agent
HPC:	Custom design