

# Ka-BAND BLOCK UP CONVERTER (BUC)

ACTX-Ka Medium Power Series (10 & 20W)



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**ACTX-Ka series are a family of outdoor RF Block-Up Converters (BUC), designed for Ka-band satellite communication systems. ACTX-Ka BUCs are integrated units with power supply, phase locked oscillator, power amplifier and frequency converter.**

**ACTX-Ka series BUCs have been tested and calibrated between -20°C and +55°C, providing 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. Standard communication is via serial port (RS232/RS485), but TCP/IP and SNMP could be selected as options.**

## TRANSMITTER SPECIFICATIONS

Input frequency.....	950 to 1950 MHz (See options)
Input impedance.....	50 Ω
Input L-band VSWR.....	< 1.5:1
Output frequency.....	29.5 to 31.0 GHz (See options)
Output impedance.....	50 Ω
Output Ka-band VSWR.....	< 1.5:1
Spectrum inversion.....	None

Transmitter Characteristics @ 25°C	P1dB min.	Gain	Power Consumption	Size (LxWxH)	Weight
ACTX-Ka10W	40.0 dBm	65 dB min	110 W @ P1dB	260 x 140 x 125 mm	5 kg
ACTX-Ka20W	43.0 dBm	65 dB min	200 W @ P1dB	260 x 140 x 125 mm	5 kg

Maximum input level without damage.....	+10 dBm
Gain flatness over the whole bandwidth.....	± 1.5 dB BW=500 MHz ± 2 dB BW=1 GHz
Gain flatness over 40 MHz.....	± 0.5 dB
Gain stability (24 Hours).....	< 0.5 dB
Gain variation over temperature.....	± 1.5 dB over the whole range (-20 to +55°C) ± 2 dB over the whole range (-40 to +55°C)
Attenuation adjustment range.....	20 dB, with 0.5 dB steps

Mute .....	> 50 dB
Noise figure.....	≤ 15 dB (at maximum gain)
Output noise.....	< - 90 dBm/Hz (Tx Band 29.5 to 31.0 GHz) < -140 dBm/Hz (Rx Band 19.2 to 21.2 GHz)
Spurious .....	< -60 dBc at Pout = P1 dB dBm
Spectral Regrowth @ P1dB.....	< -20dBc QPSK modulation at 1.0 x rate offset from carrier

## LOCAL OSCILLATOR

Output phase noise (IESS-308/309 – 2 dB):	
100 Hz .....	-62 dBc/Hz
1 kHz.....	-72 dBc/Hz
10 kHz.....	-82 dBc/Hz
100 kHz.....	-92 dBc/Hz
Reference frequency .....	10 MHz
Reference mode .....	External (internal as option)
Reference input level.....	0 dBm ± 3 dB (multiplexed on L-band input)
LO frequency stability .....	same as external reference
Minimum external reference to compliant typical phase noise (IESS-308/309 – 2 dB):	
100 Hz .....	-135 dBc/Hz
1 kHz.....	-145 dBc/Hz
10 kHz.....	-155 dBc/Hz

## POWER SUPPLY

DC input voltage .....	48VDC	(AC supply as option)
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## ENVIRONMENTAL SPECIFICATIONS

Storage temperature .....	-40 to +80°C
Operating temperature .....	-20 to +55°C (-40 to +55°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 Ω
TX output (Ka-Band): .....	WR28 grooved
Monitoring & Control: .....	MS3112E12-14S
Power supply: .....	MS3112E12-3P
Cooling system.....	Forced-air integrated
Finish.....	White

## OPTIONS

Frequency band:	L-band input	LO frequency	Model Number
29.5 to 30.0 GHz	950 to 1450 MHz	28.550 GHz	ACTX-KaxxW-E2-xxx
30.0 to 31.0 GHz	950 to 1950 MHz	29.050 GHz	ACTX-KaxxW-E6-xxx
30.0 to 31.0 GHz	1000 to 2000 MHz	29.000 GHz	ACTX-KaxxW-E66-xxx

MP1: .....	AC power supply (85-265 VAC 47-63 Hz)
MP2: .....	Internal reference (with automatic external selection on presence)
MP3: .....	Operating temperature (-40 to +55°C)
MP4: .....	Ethernet interface (TCP/IP)
MP5: .....	SNMP Agent
MP6: .....	NATO green IR finish
MP7: .....	Desert sand finish (RAL 1019)