

KU-BAND BLOCK UP CONVERTER (BUC)

ACTX-Ku-LC Medium Power Series Low Cost (40, 80 & 100W)



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

The ACTX-Ku-LC series BUCs has been tested and calibrated between -20° and $+60^{\circ}\text{C}$, 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-Ku-LC series allows RS-485/RS-232 communication with TCP/IP and SNMP as option. Built-in receive reject filter.

TRANSMITTER SPECIFICATIONS

Input frequency	950 – 1700 MHz (see options)
Input impedance	50 Ohms
Input L-band VSWR	<1.5:1
Output frequency	13.75 – 14.50 GHz (see options)
Output impedance	50 Ohms
Output Ku-band VSWR	<1.3:1
Spectrum inversion.....	None

Transmit Characteristics @ 25°C	P1dB (typ.)	Gain	Power Consumption	Size (LxWxH)	Weight
ACTX-Ku40W-LC	46.0 dBm	70 dB min	390 W	360 x 265 x 235 mm	16 kg
ACTX-Ku80W-LC	49.0 dBm	70 dB min	900 W	495 x 265 x 255 mm	25 kg
ACTX-Ku100W-LC	50.0 dBm	70 dB min	1000 W	495 x 265 x 255 mm	25 kg

Gain flatness over the whole bandwidth.....	± 2 dB
Gain flatness over 40 MHz.....	± 0.6 dB
Gain variation over temperature	± 2 dB over the whole range
Signal monitor	-40 ± 2 dBc
Attenuation adjustment range	20 dB, with 0.5 dB steps
Mute	> 60 dBc
Noise figure.....	≤ 15 dB (at maximum gain)
Spurious	< -60 dBc at POUT=P1dB dBm
Harmonics	≤ -50 dBc
Third order intermodulation products	< -29 dBc for 2 tones $\Delta f=5$ Mhz for POUT=P1dB-6 dB

LOCAL OSCILATOR

Output phase noise (IESS-308/309 – 4 dB):

100 Hz	-64 dBc/Hz
1 kHz	-74 dBc/Hz
10 kHz	-84 dBc/Hz
100 kHz	-94 dBc/Hz

Reference frequency 10 MHz

Reference mode External (internal as option)

Reference frequency level 0 dBm ± 3 dB (at input L-Band Connector)

Reference stability same as external reference

Minimum reference to compliant typical phase noise (IESS-308/309 – 4 dB):

100 Hz	-135 dBc/Hz
1 kHz	-145 dBc/Hz
10 kHz	-155 dBc/Hz

POWER SUPPLY

AC input voltage 110/220 VAC (47-63 Hz) (*1)

(*1) DC supply 48 VDC could be selected as option.

ENVIRONMENTAL SPECIFICATIONS

Storage temperature -40 to +80°C

Operating temperature -20 to +60°C (*2)

Relative humidity up to 95%

Operating altitude up to 3500 m

(*2) Operating temperature (-40°C to +60°C) could be selected as an option.

MECHANICAL SPECIFICATIONS

Interfaces:

TX input (L-Band): Type N(F) 50 ohm

TX output (Ku-Band): WR75 grooved

TX sample (Ku-Band): Type N(F) 50 ohm

Power supply: MS3112E12-3P

Monitoring & Control: MS3112E12-14S

Cooling system Forced air integrated

Finish White

OPTIONS

Frequency band	L-band output	LO frequency	Model Number
14.0 to 14.5 GHz	950 to 1450 MHz	13.050 GHz	ACTX-Kuxx-LC-E1-xxx
13.75 to 14.5 GHz	950 to 1700 MHz	12.800 GHz	ACTX-Kuxx-LC-E2-xxx

MP1: 48 VDC Power supply

MP2: Internal 10 MHz Reference

MP3: Operating temperature (-40 to +55°C)

MP4: Ethernet interface (TCP/IP)

MP5: SNMP Agent