Ku-BAND Block Up Converter (BUC)

Ed.04

ACTX-Ku-LC Medium Power Series Low Cost

26/08/09

DESCRIPTION

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 -20º and +60ºC, 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 @25ºC	P1dB (typ.)	Gain	Power Consumption	Size (LxWxH)	Weight
ACTX-Ku20W-LC	43.0 dBm	65 dB min	210 W	360 x 265 x 235 mm	15 Kg
ACTX-Ku40W-LC	46.0 dBm	70 dB min	390 W	360 x 265 x 235 mm	16 Kg
ACTX-Ku60W-LC	47.8 dBm	70 dB min	800 W	495 x 265 x 255 mm	25 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 P_{OUT}=P1dB dBm
Harmonics ..... ≤ -50 dBc
Third order intermodulation products ..... < -29 dBc for 2 tones Δf=5 Mhz for P_{OUT}=P1dB-6 dB

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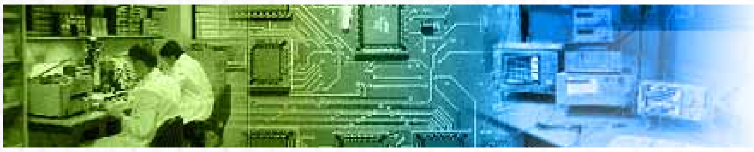

ACORDE TECHNOLOGIES

LOCAL OSCILLATOR

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 input	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 +60°C)
MP4:	Ethernet interface (TCP/IP)
MP5:	SNMP Agent

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