ACORDE TECHNOLOGIES

X-BAND Block Up Converter (BUC) Ed.05

ACTX-X Medium Power Series (20,40,80W) 19/06/09

DESCRIPTION

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 -20º and +55ºC, 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 for monitoring and control and TCP/IP and SNMP as options.

TRANSMITTER SPECIFICATIONS

Input frequency ..... 950 – 1450 MHz
Input impedance ..... 50 Ohms
Input L-Band VSWR..... <1.5:1
Output frequency ..... 7.9 – 8.4 GHz
Output impedance ..... 50 Ohms
Output X-Band VSWR..... <1.3:1
Spectrum inversion ..... None

Transmit Characteristics @ 25ºC	P1dB	Gain	Power Consumption	Size	Weight
ACTX-X20W	43.0 dBm	63 dB min	220 W	360 x 265 x 235 mm	15 Kg
ACTX-X40W	46.0 dBm	67 dB min	300 W	360 x 265 x 235 mm	15 Kg
ACTX-X80W	49.0 dBm	72 dB min	630 W	430 x 265 x 215 mm	20 Kg

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) ..... ≤ 0.5 dB
Gain variation over temperature ..... ±1.5 dB over the whole range
Attenuation adjustment range ..... 20 dB, with 0.5 dB steps
Sample..... -45 dBc ± 2 dBc
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 P_{OUT}=P1dB dBm
Harmonics ..... ≤ -50 dBc
Mains frequency related spurious ..... ≤ -35 dBc
SSB added spurious ..... ≤ -41dBc
Third order intermodulation products ..... < -25 dBc for 2 tones Δf=5 Mhz for P_{OUT}=P1dB-3 dB

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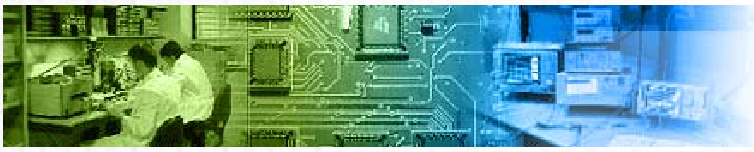

LOCAL OSCILLATOR

Local oscillator frequency	6.950 GHz
Output phase Noise (IESS-308/309 – 5 dB):	
100 Hz	-65 dBc/Hz
1 KHz	-75 dBc/Hz
10 KHz	-85 dBc/Hz
100 KHz	-95 dBc/Hz
Reference frequency	10 MHz
Reference mode	External (internal as option)
Reference frequency level	0 dBm ± 3 dB (at input L-Band Connector)
Frequency stability	same as external reference
Minimum reference to compliant typical phase noise (IESS-308/309 – 5 dB):	
100 Hz	-125 dBc/Hz
1 KHz	-135 dBc/Hz
10 KHz	-145 dBc/Hz

POWER SUPPLY

AC input voltage	110/220 VAC (47-63 Hz) (48 VDC could be selected as option)

ENVIRONMENTAL SPECIFICATIONS

Storage temperature	-40 to +80ºC
Operating temperature	-20 to +55ºC (-40 to +55ºC could be selected 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 :	MS3112E12-3P
	Monitoring & Control :	MS3112E12-14S
Cooling system	Forced air integrated	
Finish	White RAL 9003 // Caqui M12IR	

OPTIONS

MP1:	48 VDC Power supply
MP2:	Internal 10 MHz Reference
MP3:	Operating temperature (-40 to +55ºC)
MP4:	Ethernet interface (TCP/IP)
MP5:	SNMP Agent
MPC:	Custom design

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