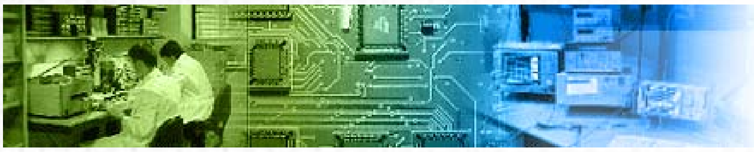

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X-BAND Block Up Converter (BUC) Ed.05

ACTX-X High Power Series (100 & 150W) 07/09/08

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 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... -45 ± 2 dBc
Spectrum inversion .... None

Transmit Characteristics @ 25°C	P1dB	Gain	Power Consumption	Size (LxWxH)	Weight
ACTX-X100W	50.0 dBm	70 dB min	900 W	550 x 265 x 280 mm	25 Kg
ACTX-X150W	51.8 dBm	70 dB min	1300 W	550 x 265 x 280 mm	25 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
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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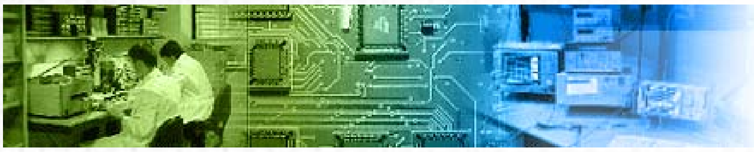

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LOCAL OSCILLATOR

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 input 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 – 5 dB):	
100 Hz	-125 dBc/Hz
1 KHz	-135 dBc/Hz
10 KHz	-145 dBc/Hz

POWER SUPPLY

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

ENVIRONMENTAL SPECIFICATIONS

Storage temperature	-40 to +80°C
Operating temperature	-20 to +55°C (-40 to +55°C 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

HP1:	Internal 10 MHz Reference
HP2:	Operating temperature (-40 to +55°C)
HP3:	Ethernet interface (TCP/IP)
HP4:	SNMP Agent
HPC:	Custom design

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