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# C-BAND Block Up Converter (BUC) Ed.04

## ACTX-C-LCS Saturated High Power Series Low Cost (300 & 400W) 31/08/09

## DESCRIPTION

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

The ACTX-C-LCS 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-C-LC series allows RS-485/RS-232 communication with TCP/IP and SNMP as options.

## TRANSMITTER SPECIFICATIONS

Input frequency ..... 950 – 1825 MHz (see options)
Input impedance ..... 50 Ohms
Input L-Band VSWR ..... <1.5:1

Output frequency ..... 5.850 – 6.725 GHz (see options)
Output impedance ..... 50 Ohms
Output C-Band VSWR ..... <1.3:1
Spectrum inversion ..... None

| Transmit Characteristics @ 25ºC | PsatdB (typ.) | Gain | Power Consumption | Size (LxWxH) | Weight |
|---|---|---|---|---|---|
| ACTX-C300W-LCS | 54.7 dBm | 70 dB min | ~ 1500 W max @ Psat | 495 x 265 x 255 mm (1) | 25 Kg |
| ACTX-C400W-LCS | 56.0 dBm | 75 dB min | ~ 2700 W max @ Psat | 605 x 450 x 245 mm (2) | 40 Kg |

Gain flatness over the whole bandwidth ..... ± 2.0 dB
Gain flatness over 40 MHz ..... ± 0.75 dB
Gain variation over temperature ..... ± 2.0 dB over the whole range
Signal monitor ..... -45 ± 2 dBc

Attenuation adjustment range ..... 20 dB, with 0.5 dB steps
Mute ..... > 50 dB
Noise figure ..... ≤ 15 dB (at maximum gain)

Spurious ..... < -60 dBc at $P_{OUT}$=Psat – 3 dB dBm
Harmonics ..... ≤ -50 dBc
Third order intermodulation products ..... < -25 dBc for 2 tones Δf=5 Mhz for $P_{OUT}$=P1dB-3 dB

(1) Size for E2 option → 605 x 450 x 245 mm
(2) Contact factory for E2 option

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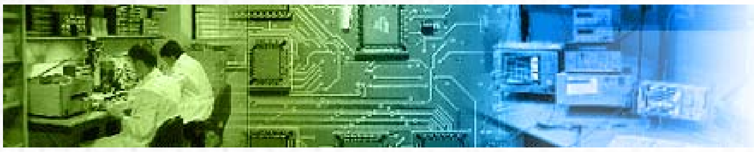

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## LOCAL OSCILLATOR

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 (multiplexed 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 ........ 110/220 VAC Autoranging (47-63 Hz)

## ENVIRONMENTAL SPECIFICATIONS

Storage temperature ........ -40 to +80ºC

Operating temperature ........ -20 to +60ºC (-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. |
| TX output (C-Band): | WR137 CPRG flange |
| TX output sample: | 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 |
|---|---|---|---|
| 5.85 to 6.425 GHz | 950 to 1525 MHz | 4.900 GHz | ACTX-Cxx-LCS-E1-xxx |
| 5.85 to 6.725 GHz | 950 to 1825 MHz | 4.900 GHz | ACTX-Cxx-LCS-E2-xxx |

HP1: ........ Internal 10 MHz Reference

HP2: ........ Operating temperature (-40 to +60ºC)

HP3: ........ Ethernet interface (TCP/IP)

HP4: ........ SNMP Agent

HPC: ........ Custom design

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