

# X-BAND MINI BLOCK UP CONVERTER (MBUC)

ACMB-X Low Power Series (10 & 20W)



Ed. 00

23/09/10

The ACMB-X series consists of integrated RF Block Up Converters (BUCs), designed for X-band satellite communication systems.

All products in this series have been tested and calibrated between -20°C and +55°C, so they assure very good gain stability with temperature. ACMB-X10W also includes a temperature alarm and power supply shutdown to protect the amplifier from permanent damages in high temperature conditions. Moreover, ACMB-X10W could be configured with AC or DC power supply, easy to change in field without tools. This MBUC allows communication via serial port (RS232/RS485), but TCP/IP, SNMP and WIFI could be selected as options.

## TRANSMITTER SPECIFICATIONS

Input frequency .....	950 - 1450 MHz
Input impedance .....	50 Ω
Input L-band VSWR .....	< 1.5:1
Output frequency .....	7.9 - 8.4 GHz
Output impedance.....	50 Ω
Output X-band VSWR .....	< 1.3:1
Output P1dB @ 25°C .....	43.0 dBm min
Spectrum inversion.....	None

Transmit Characteristics @ 25°C	Power Consumption
ACMB-X10W	100 W
ACMB-X20W	170 W

Conversion gain .....	60 dB min
Gain flatness over 500 MHz.....	± 1.5 dB
Gain flatness over 40 MHz.....	± 0.5 dB
Gain stability over 24h .....	≤ 0.5 dB @ constant temp.
Gain variation over temp .....	± 1.5 dB
Attenuation range .....	30 dB with 0.5 dB step
Mute .....	> 50 dB
Noise figure.....	≤ 15 dB @ maximum gain

Output noise .....	≤ -90 dBm/Hz (7.25-7.75 GHz)
Spurious .....	< -60 dBc @ P <sub>OUT</sub> = P1dB
Harmonics .....	< -50 dBc
Intermodulation products.....	< -25 dBc 2 tones Δf=5MHz for P <sub>OUT</sub> =P1dB-3 dB

## 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 .....	5/10 MHz
Reference mode .....	External
Reference level.....	0 ± 3 dBm (multiplexed on L-band)

## POWER SUPPLY

DC input .....	48 VDC (MS-type dedicated connector)
AC input (as option).....	85-264 VAC (47-63 Hz)

## ENVIRONMENTAL SPECIFICATIONS

Storage temperature .....	-50 to +85°C
Operating temperature.....	-20 to +55°C (-40 to +55°C as option)
Relative humidity .....	Up to 95%
Operating altitude.....	Up to 3500 m

## MECHANICAL SPECIFICATIONS

### Interfaces:

Input (L-band+DC+Ext.Ref.) .....	Type N(f)
Output (X-band) .....	Type N(f)
Output sample .....	Type SMA(f)
M&C (RS232/485) .....	MS3112E12-14S
M&C (IP/SNMP) .....	MS3112E12-8S (option)
Supply (DC) .....	MS3112E12-3P (AC option)

### Dimensions:

DC supply .....	235 x 160 x 100 mm
AC supply.....	260 x 160 x 100 mm

### Weight:

DC supply .....	4.5 kg
AC supply.....	5.0 kg

Cooling system..... None

## OPTIONS

LP1: .....	AC power supply
LP2: .....	Operating temp -40 to +55°C
LP3: .....	Ethernet interface (TCP/IP)
LP4: .....	SNMP Agent
LP5: .....	WIFI interface