

X-BAND MINI BLOCK UP CONVERTER (MBUC)

ACMB-X Low Power Series (10, 20 & 40W)



Ed.04
30/10/17

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 +60°C, so they assure very good gain stability with temperature. ACMB-X also includes internal output power detection, temperature alarm and power amplifier shutdown to protect the amplifier from permanent damages in high temperature conditions.

Moreover, ACMB-X 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 and SNMP 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 (external waveguide isolator 40W version)	< 1.3:1

Transmit Characteristics @ 25°C	P1 dB (min.)	Conv. Gain	Power Consumption
ACMB-X10W	40.0 dBm	60 dB min.	100 W @ P1dB
ACMB-X20W	43.0 dBm	60 dB min.	180 W @ P1dB
ACMB-X40W	46.0 dBm	67 dB min.	300 W @ P1dB

Spectrum inversion	None
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 protection	Protected against infinite VSWR
Sample output.....	-40 dBc ± 2 dB (10/20W version) -45 dBc ± 2 dB (40W version)

Output noise RX Band (7.25-7.75 GHz)	≤ -100 dBm/Hz (10/20W version) ≤ -94 dBm/Hz (40W version)
Spurious	< -60 dBc @ Pout = P1dB
Harmonics	< -50 dBc
Intermodulation products.....	< -25 dBc 2 tones Δf=5MHz for Pout=P1dB-3 dB

LOCAL OSCILATOR

Local oscillator frequency	6.950 GHz
Output phase noise typical:	
100 Hz.....	-70 dBc/Hz
1 kHz.....	-78 dBc/Hz
10 kHz.....	-88 dBc/Hz
100 kHz.....	-110 dBc/Hz
Reference frequency.....	10 MHz
Reference mode	External (Internal as option)
Reference level.....	0 ± 5 dBm (multiplexed on L-band)

POWER SUPPLY

DC input	48 Vdc (multiplexed on L-band 10W version upon request)
DC input (as option).....	24 Vdc
AC input (as option).....	85-264 Vac (47-63 Hz)

ENVIRONMENTAL SPECIFICATIONS

Storage temperature	-40°C to +85°C
Operating temperature	-20°C to +60°C (-40 to +60°C as option)
Relative humidity	up to 95%
Operating altitude	up to 3500 m

MECHANICAL SPECIFICATIONS

Interfaces

Input (L-band+Ext.Ref.)	Type N(f)
Output (X-band)	WR112 CPRG flange (Type N(f) as option)
Output sample	Type SMA(f)
M&C (RS232/485)	62IN12E12-14S-4-622 (mating connector provided)
M&C (IP/SNMP) as option	62IN12E12-8S-4-622 (mating connector provided)
Supply (DC).....	62IN12E12-8P-4-622 (mating connector provided)
Supply (AC) as option.....	62IN12E12-3P-4-622 (mating connector provided)

	Dimensions		Weight	
	DC supply	AC supply	DC supply	AC supply
ACMB-X10/20W	281 x 160 x 85 mm 11.0 x 6.3 x 3.3 inches	302 x 160 x 85 mm 11.9 x 6.3 x 3.3 inches	4,3 kg / 9.5 lbs	4,6 kg / 10.1 lbs
ACMB-X40W	345 x 160 x 85 mm 13.6 x 6.3 x 3.3 inches	391 x 160 x 85 mm 15.4 x 6.3 x 3.3 inches	4,7 kg / 10.4 lbs	5,0 kg / 11.0 lbs

Cooling system	Forced air integrated (10W without fans upon request)
----------------------	---

OPTIONS

LP1:	AC power supply 85-264 Vac 47-63 Hz
LP2:	DC power supply 24 Vdc
LP3:	Internal reference (automatic external selection on presence)
LP4:	Operating temperature -40 to +60°C
LP5:	Ethernet interface (TCP/IP)
LP6:	SNMP Agent
LP7:	Output RF interface N(f) (available for 10/20W version)