Ka-BAND LOW NOISE BLOCK (LNB)

ACLNBW-Ka-E33-V2 Wide Band Series

17.7 – 21.2 GHz

Ed. 05

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ACLNBW-Ka Standard Series have been designed to meet restrictive specifications for Ka Band communication systems. The equipment has a typical gain of 60 dB with a Noise Figure lower than 1.5 dB typically, with low current consumption, weight and dimensions.

ACLNBW-Ka Standard Series have been tested between -20ºC and +60ºC, providing very good gain stability with temperature. Band selection is arranged by serial port dedicated connector.

RECEIVER SPECIFICATIONS

Input Ka-band frequency	17.7 - 21.2 GHz
Input VSWR	< 1.5:1 (max)
Input Stability	Unconditionally stable
Output L-band frequency	1.0 - 2.0 GHz
Output VSWR	< 2.0:1 (max)
Spectrum inversion	None
Gain	60 dB min.
Maximum input level without damage	0 dBm
Gain flatness	± 0.5 dB over 40 MHz
	± 2.0 dB over 1 GHz bandwidth
Gain variation over temperature	± 1.5 dB over the whole range
Gain stability (24 Hours)	< 0.5 dB
Noise figure @ 25ºC	≤ 1.8 dB (1.5 dB typ.)
Image Rejection	≥ 40 dB
Output power @ P1dB	> +5 dBm
Spurious in Band	< -60 dBc @ Pout = 0 dBm

LOCAL OSCILLATOR

Oscillator frequency (selected by M&C port)	16.700 GHz (Input 17.7 - 18.2 GHz)
	17.200 GHz (Input 18.2 - 19.2 GHz)
	18.200 GHz (Input 19.2 - 20.2 GHz)
	19.200 GHz (Input 20.2 - 21.2 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
External frequency reference	10 MHz (at output L-Band Connector)
Reference input level	0 dBm ± 5 dB
Reference stability	Slave to external reference
Minimum external reference to compliant phase noise (IESS-308/309 – 5 dB):	
100 Hz	-135 dBc/Hz
1 kHz	-145 dBc/Hz
10 kHz	-155 dBc/Hz

POWER SUPPLY

DC input voltage	+12 to +18 V_{DC} (at output L-Band Connector)
DC input current	290 mA typ @ +15Vdc (at output L-Band Connector)

ENVIRONMENTAL SPECIFICATIONS

Storage temperature	-40ºC to +80ºC
Operating temperature	-20ºC to +60ºC (see options)
Relative humidity	up to 100%
Operating altitude	up to 3500 m

MECHANICAL SPECIFICATIONS

Interfaces	
RX input (Ka-Band):	WR42 grooved
RX output (L-Band+DC+Ext. Ref.):	Type N(F) 50 Ω
M&C (Serial port RS485):	MS3112E8-4S (mating connector provided)
Dimensions	120 x 60 x 40 mm
Weight	500 gr

OPTIONS

Frequency band	L-band output	LO frequency	Model Number
17.7 to 18.2 GHz	1000 to 1500 MHz	16.700 GHz	ACLNBW-Ka-E33-V2-xxx
18.2 to 19.2 GHz	1000 to 2000 MHz	17.200 GHz	
19.2 to 20.2 GHz	1000 to 2000 MHz	18.200 GHz	
20.2 to 21.2 GHz	1000 to 2000 MHz	19.200 GHz	

LN1:	RX output connector type SMA female 50 Ω
LN2:	Operating temperature (-40ºC to +60ºC)
LNC:	Custom Design

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