

# Ka-BAND LOW NOISE BLOCK

## ACLNBDI-Ka-E84-V3

Dual Band Series Simultaneous Outputs

The ACLNB-Ka family of LNBs is designed for the most challenging Ka-band professional & military satellite communication systems (ground, SOTP, SOTM, maritime, etc.). Latest technology is applied to obtain the best noise figure, phase noise, gain stability and return losses according to MIL-STD-188-164C. The ACLNB-Ka family is a high reliability solution designed for harsh environmental conditions, with every single production unit fully tested in an environmental chamber and delivered with a complete factory acceptance test report.



### RECEIVER SPECIFICATIONS

|                                   |                                                        |               |
|-----------------------------------|--------------------------------------------------------|---------------|
| Input frequency                   | 17.7 to 20.2 GHz                                       |               |
| Input Ka-Band VSWR (50 $\Omega$ ) | < 1.5:1                                                |               |
| Output frequency                  | 950 to 2450 MHz                                        |               |
| Output L-band VSWR (50 $\Omega$ ) | < 1.3:1                                                |               |
| Spectrum inversion                | None                                                   |               |
| Max. input level without damage   | 0 dBm                                                  |               |
| Gain                              | 50 dB min / 55 dB max                                  |               |
| Gain flatness                     | $\pm 2.0$ dB over whole BW<br>$\pm 0.5$ dB over 40 MHz |               |
| Gain stability (24 hours)         | $\pm 0.25$ dB @ const. temp.                           |               |
| Gain variation over temperature   | $\pm 1.5$ dB                                           |               |
|                                   | @ 25 °C                                                | @ 50 °C       |
| Noise figure                      | $\leq 1.6$ dB                                          | $\leq 1.9$ dB |
| Noise temperature                 | $\leq 130$ K                                           | $\leq 160$ K  |
| Image rejection                   | > 45 dB                                                |               |
| Output P1dB                       | > +10 dBm                                              |               |
| In-band spurious                  | < -60 dBc @ Pout = 0 dBm                               |               |

### LOCAL OSCILLATOR

| Output phase noise           | Max.                               | Typ.        |
|------------------------------|------------------------------------|-------------|
| 10 Hz                        | -50 dBc/HZ                         | -55 dBc/HZ  |
| 100 Hz                       | -70 dBc/HZ                         | -75 dBc/HZ  |
| 1 kHz                        | -85 dBc/HZ                         | -90 dBc/HZ  |
| 10 kHz                       | -95 dBc/HZ                         | -100 dBc/HZ |
| 100 kHz                      | -100 dBc/HZ                        | -105 dBc/HZ |
| 1 MHz                        | -120 dBc/HZ                        | -125 dBc/HZ |
| External reference           | 10 MHz (Auto external on presence) |             |
| External reference level     | 0 dBm $\pm$ 5 dB                   |             |
| Internal reference stability | $\pm 2$ ppb/day                    |             |

### POWER SUPPLY

|                  |                                           |
|------------------|-------------------------------------------|
| DC input voltage | 15-24 V <sub>DC</sub>                     |
| Consumption      | 10 W typ steady state<br>12 W typ warm-up |

### MECHANICAL SPECIFICATIONS

|              |                                         |
|--------------|-----------------------------------------|
| Size (LxWxH) | 150 x 100 x 40 mm<br>5.9 x 3.9 x 1.6 in |
| Weight       | 850 g<br>1.9 lbs                        |
| Finish       | RAL 9003 (White)                        |

### ENVIRONMENTAL SPECIFICATIONS

|                       |                  |
|-----------------------|------------------|
| Storage temperature   | -40 °C to +85 °C |
| Operating temperature | -30 °C to +60 °C |
| Relative humidity     | up to 100%       |
| Operating altitude    | up to 4500 m     |

### INTERFACES

|                      |                         |
|----------------------|-------------------------|
| RX input (Ka-Band)   | WR42 grooved (PBR 220)  |
| RX outputs (L-Band)  | Type N(F) 50 $\Omega$   |
| External reference   | Type SMA(F) 50 $\Omega$ |
| Power supply & alarm | 62IN12E8-4S-4-622       |

*All mating connectors provided*

### OPTIONS

| Ka-band input                              |  | L-band output                      |  |
|--------------------------------------------|--|------------------------------------|--|
| 17.7 to 19.2 GHz<br>18.7 to 20.2 GHz       |  | 950 to 2450 MHz<br>950 to 2450 MHz |  |
| LO freq.                                   |  | Standard freq. option              |  |
| 16.750 GHz @ Path 1<br>17.750 GHz @ Path 2 |  | ACLNBDI-Ka-E84-V3                  |  |

