

SMW Dual Output PLL-LNB



The optimized system to receive two bands

The Dual Output PLL-LNB is the commercial solution to receive the two band simultaneously with a very high LO-stability. The LO stability is +/- 25 kHz (option +/- 10 kHz or with external 10 MHz reference) over temperature to limit the frequency drift. To ensure the lowest possible BER (Bit Error Rate) the Phase noise is optimized to a very low level.

The solution consists of one LNA with dual SMA-outputs, SMA-cables (4, 5 or 6 m) and two Block Downconverters. One for each frequency range. All parts are optimized, adjusted and tested as a complete matched unit.

All units are individually hand tuned to get the very best performance available for each unit. Quality and long term reliability is also essential. Therefore are all units tested according to a very extensive test program, which includes heating, cooling, water-proof testing and rigorous electrical testing.

Swedish Microwave was founded 1986 and, within Europe, is the oldest manufacturer of LNBS. In the standard product range we have DRO-LNBS, PLL-LNBS, LNAs, Block Downconverters (BDC), Up- & Down Converters, Quattro LNBS, Twin LNBS, Ortho mode transducers (OMT), Line Amplifiers and Feed horns.

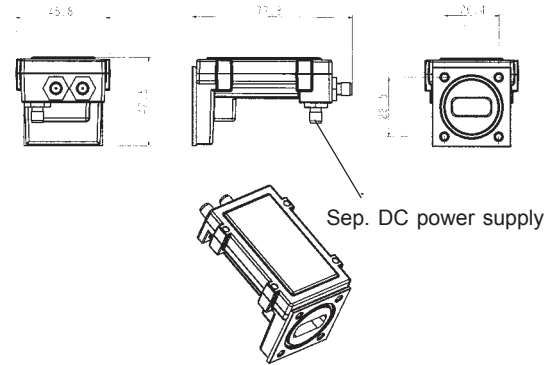
Swedish Microwave is today one of the leading manufacturers of microwave components needed for satellite receiving equipment and other industrial products.

Specification SMW†Dual Output PLL-LNB System

| SMW | LO 9.75 & 10.75 GHz | LO 10.0 & 10.75 GHz | LO 10.0 & 11.3 GHz |
|----------------------------|---|---|---|
| Frequency range Low / High | 10.7 - 11.8 / 11.7 - 12.75 GHz | 10.95 - 12.1 / 11.7 - 12.75 GHz | 10.95 - 12.1 / 12.25 - 12.75 GHz |
| LO frequency | 9.75 GHz (Low band) 10.75 GHz (High band) | 10.0 GHz (Low band) 10.75 GHz (High band) | 10.0 GHz (Low band) 11.3 GHz (Low band) |
| Output frequency | 950 - 2050 MHz (Low band) 950 - 2000 MHz (High band) | 950 - 2100 MHz (Low band) 950 - 2000 MHz (High band) | 950 - 2100 MHz (Low band) 950 - 1450 MHz (High band) |
| Spurious signals | -60 dBm typ. @ 1000 MHz | -60 dBm typ. @ 1500 MHz | -60 dBm typ. @ 1300 MHz |

| SMW | LO 10.75 & 11.3 GHz |
|--------------------------|---|
| Frequency range Low/High | 11.7 - 12.75 / 12.25 - 12.75 GHz |
| LO frequency | 10.75 GHz (Low band) 11.3 GHz (High band) |
| Output frequency | 950 - 2000 MHz (Low band) 950 - 1450 MHz (High band) |
| Spurious signals | -60 dBm typ. @ 1100 MHz |

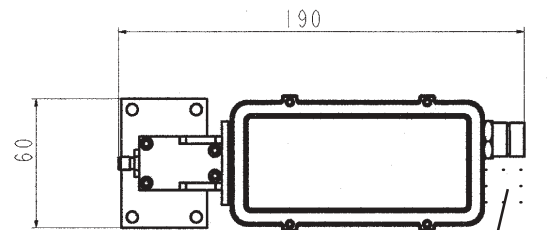
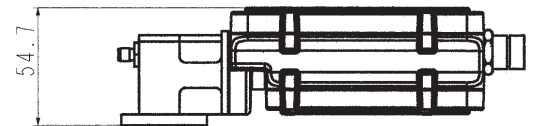
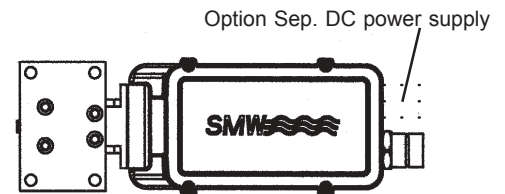
LNA



Typical System specification (may vary with SMA cable length)

| | |
|-----------------------------------|--|
| Noise figure, typical | 1.0 dB |
| Gain typ | 52 dB +/- 4 dB within each band (See option) |
| Gain variation typ | +/- 0.4 dB within 30 MHz |
| LO stability over temp. | +/- 25 kHz |
| Option | +/- 10 kHz (-10 to +70°C) |
| LO Phase noise typ. | ext. 10 MHz reference -70 dBc @ 1 kHz -85 dBc @ 5 kHz -90 dBc @ 10 kHz -110 dBc @ 100 kHz -120 dBc @ >1 MHz |
| LO radiation | -60 dBm |
| Image rejection | 40 dB min. |
| 1 dB gain compression point | +5 dBm |
| DC power LNA (sep.) | 12-24V / 40 mA typ |
| DC power for each BDC | 12-24V / 250 mA typ |
| Operating temperature | -30 to +60°C (-30 to +70°C for LO stab. +/- 10 kHz) |
| Input flange LNA | WR-75 waveguide |
| Output LNA (waterproof) | SMA-connectors |
| Input BDC (waterproof) | SMA-connectors |
| Output connector BDC (waterproof) | F-connector 75 ohm or N-connector 50 ohm |
| Output VSWR | 2.0:1 max |
| Dimensions LNA | 81 x 40x 40 mm |
| Weight LNA | 124 g |
| Dimensions Block Downconverter | 191 x 63 x 50 mm |
| Weight Block Downconverter | 606 g (F-connector) 645 g (N-connector) |

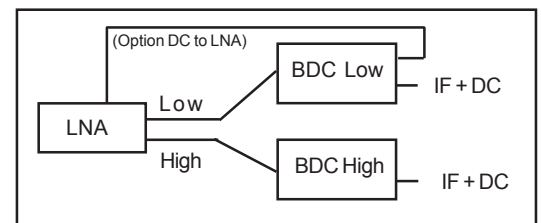
Block Downconverter (BDC)



Options

LO stability +/- 10 kHz over the temp. -10°C to +70°C
 Customized gain (The total gain included the dish shouldn't exceed 100 dB)
 RF-shielding
 Sep. DC power supply BDC
 DC from one of the BDCs to LNA
 Specified LO. Min. 50-100 pcs
 PLL with ext. 10 MHz ref.

The system consists of:
 1 pc LNA Dual Output SMA
 2 pcs SMA-cables length 4, 5 or 6 m
 2 pcs Block downconverters (BDC)



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