

# Ku LNB 10.70-12.75 GHz WDL ULP Dual & Quattro

## Key features



Dual WDL LNB



QUATTRO WDL LNB with weather case

- Simultaneous reception Low and High band
- Full Ku-Band 10.70-12.75 GHz
- Ultra Low Phase Noise (ULP) as standard
- Models with Ext. 10 MHz ref. or Internal  $\pm 1$  ppm
- High P1dB and IP3
- Wide operating temperature range
- Dual output Low band and High band
- Available as Dual LNB or Quattro LNB for both polarisations V/H

## Description

With simultaneous reception of Low & High Ku-Band 10.70-12.75 GHz (model E) or 10.95-12.75 GHz (model B) you are ready for all demands.

It comes with Ultra Low Phase Noise is standard to meet the requirements for reception of DVB-S2X (professional profiles), N3 and N4 signals.

Can be ordered as a Single polarisation LNB or as a Quattro LNB for both Horizontal and Vertical polarisation including OMT and weather protection case.

### Ultra Low Phase Noise (ULP) is recommended\* for:

DVB-S2: - Narrowband 8PSK 8/9 and 9/10 FEC  
 - 16 APSK or higher modulation type (any bandwidth)  
 - All applications with "Pilot Off"

DVB-S2X: All "MODCODS" and symbol rates

NS3/NS4: All "MODCODS" and symbol rates

\* Please note that these are general recommendations and that all other system components also will influence system performance.

## LNB rear connectors



### Connector A

Type: Female F, N or SMA  
 Function: Low band RF Output

### Connector B

Type: Female F, N or SMA  
 Function: DC input, 10 MHz input, High band RF Output

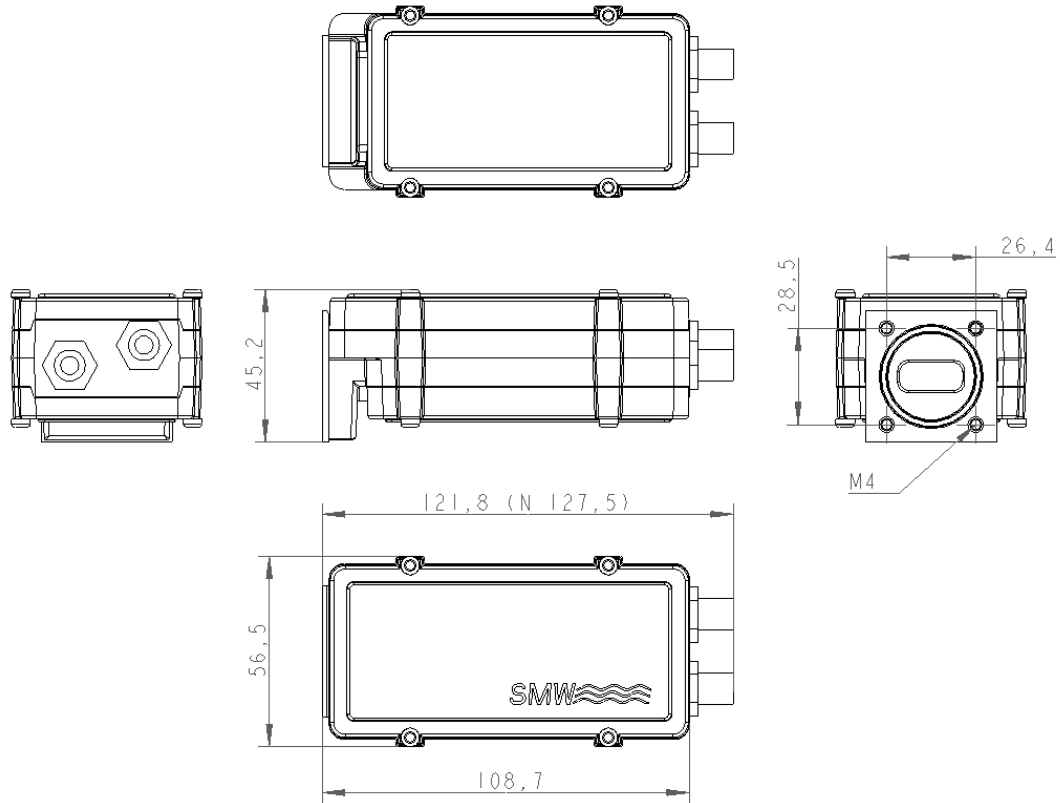
# Ku LNB 10.70-12.75 GHz WDL ULP Dual & Quattro

## Technical specifications

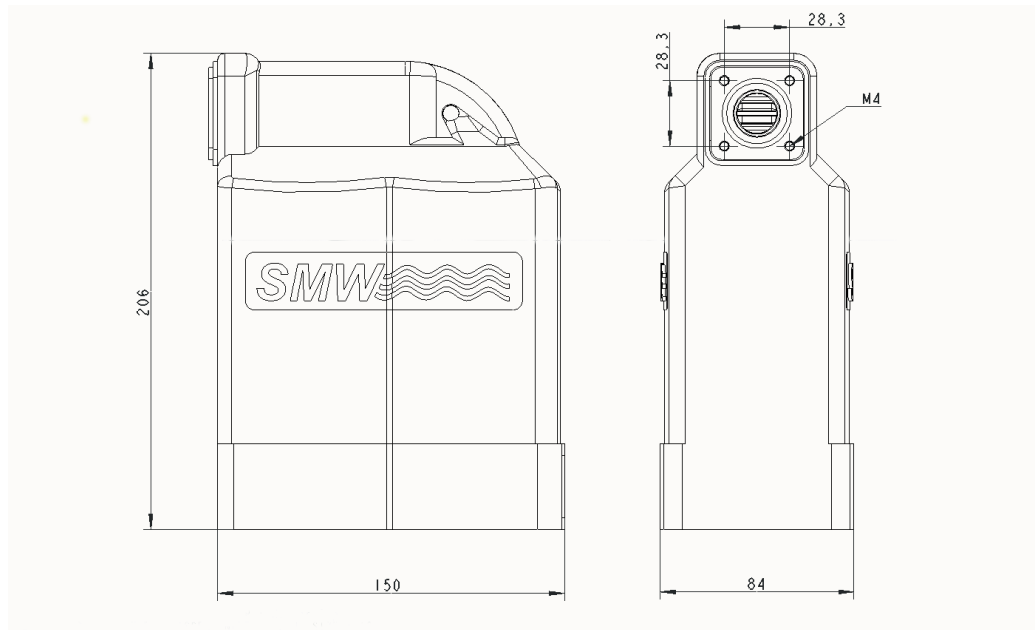
|          | Model                                             | E                                                                                                                                                                                                                                               | B |                                                    |  |  |
|----------|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|----------------------------------------------------|--|--|
| INPUT    | Input frequency                                   | 10.70-12.75 GHz                                                                                                                                                                                                                                 |   | 10.95-12.75 GHz                                    |  |  |
|          | LO                                                | 9.75 and 10.60 GHz                                                                                                                                                                                                                              |   | 10.00 and 10.75 GHz                                |  |  |
|          | Low/High band                                     | 10.70-11.70 / 11.70-12.75 GHz                                                                                                                                                                                                                   |   | 10.95-11.70 / 11.70-12.75 GHz                      |  |  |
|          | Input WG                                          | WR75 / R120                                                                                                                                                                                                                                     |   |                                                    |  |  |
|          | Input flange                                      | PBR120 with M4 thread                                                                                                                                                                                                                           |   |                                                    |  |  |
|          | Input VSWR                                        | 2.3:1 max.                                                                                                                                                                                                                                      |   |                                                    |  |  |
|          | Input max power                                   | 0 dBm instantaneous (not continuous)                                                                                                                                                                                                            |   |                                                    |  |  |
|          | DC input                                          | +15 to 24 V (15 V min., 26 V max.) via High band connector on Ext. 10 MHz. Ref models and one or both connectors on Internal ref. models. Power consumption 5W typ.                                                                             |   |                                                    |  |  |
| INTERNAL | Gain                                              | 60 dB typ., 55 dB min.                                                                                                                                                                                                                          |   | 60 dB typ., 55 dB min.                             |  |  |
|          | Gain flatness                                     | ± 0.25 dB max. within 30 MHz, ±2 dB max. over band                                                                                                                                                                                              |   | ± 0.25 dB max. within 30 MHz, ±2 dB max. over band |  |  |
|          | MODEL with Internal LO ref.                       | ±1 ppm max. -40 to +80°C                                                                                                                                                                                                                        |   |                                                    |  |  |
|          | MODEL with External 10 MHz ref.                   | Sine Wave, Level -10 dBm to +10 dBm. Supplied through High band output connector. With no ext. 10 MHz ref. present LO shifts -20 ppm.                                                                                                           |   |                                                    |  |  |
|          | Spurioses Low/High band                           | -60dBm @ 1700 MHz / -70dBm @ 1700 MHz typ.                                                                                                                                                                                                      |   | -60dBm @ 1500 MHz / -70dBm @ 1500 MHz typ.         |  |  |
|          | Out of band rejection                             | 20 dB min.                                                                                                                                                                                                                                      |   |                                                    |  |  |
|          | Group Delay                                       | ±1 ns max.                                                                                                                                                                                                                                      |   |                                                    |  |  |
|          | Image rejection                                   | 40 dB typ.                                                                                                                                                                                                                                      |   |                                                    |  |  |
|          | Phase Noise                                       | -35 dBc @ 10 Hz   -65 dBc @ 100 Hz   -82 dBc @ 1 kHz   -94 dBc @ 10 kHz   -98 dBc @ 100 kHz   -120 dBc @ ≥1MHz, typ.                                                                                                                            |   |                                                    |  |  |
|          | Noise figure @ 23°C                               | 0.8 dB / 59 K typ.                                                                                                                                                                                                                              |   |                                                    |  |  |
| OUTPUT   | Output frequency                                  | Low band 950-1950MHz, High band 1100-2150 MHz                                                                                                                                                                                                   |   | Low band 950-1700MHz, High band 950-2000 MHz       |  |  |
|          | Output P1dB                                       | +15 dBm min.                                                                                                                                                                                                                                    |   |                                                    |  |  |
|          | Output IP3                                        | +25 dBm min.                                                                                                                                                                                                                                    |   |                                                    |  |  |
|          | Output VSWR                                       | 1.7:1 typ.                                                                                                                                                                                                                                      |   |                                                    |  |  |
|          | Output Connectors                                 | F female 75Ω , N female 50Ω or SMA female 50Ω                                                                                                                                                                                                   |   |                                                    |  |  |
| GENERAL  | Dimensions                                        | 122 x 57 x 46 mm (F and SMA), 128 x 57 x 46 mm (N)                                                                                                                                                                                              |   |                                                    |  |  |
|          | Weight                                            | 335 g (F and SMA), 371 g (N)                                                                                                                                                                                                                    |   |                                                    |  |  |
|          | Temperature range                                 | Storage and operating: -40 to +80°C, -40 to +176° F                                                                                                                                                                                             |   |                                                    |  |  |
|          | MTBF                                              | MTBF as per MIL-HDBK-217F Notice 2: Environmental Condition GF (Ground Fixed): >245000 hours, Environmental Condition AIC (Airborne, Inhabited, Cargo): >122000 hours, Quality level: Commercial, Temp used for MTBF calculation: +35 C Ambient |   |                                                    |  |  |
|          | Miscellaneous                                     | Enclosed conductive O-ring, mounting screws, M4x10,4 pcs                                                                                                                                                                                        |   |                                                    |  |  |
| OPTIONS  | Low gain option (48 to 54 dB for larger antennas) |                                                                                                                                                                                                                                                 |   |                                                    |  |  |
|          | Quattro LNB including OMT and weather protection  |                                                                                                                                                                                                                                                 |   |                                                    |  |  |
|          | DC and 10 MHz input at Low band output connector  |                                                                                                                                                                                                                                                 |   |                                                    |  |  |
| QUATTRO  | Cross polarisation                                | 31.5 dB min.                                                                                                                                                                                                                                    |   |                                                    |  |  |
|          | Input Waveguide                                   | C-120 (circular 18 mm)                                                                                                                                                                                                                          |   |                                                    |  |  |
|          | Dimensions                                        | 205 x 152 x 83 mm                                                                                                                                                                                                                               |   |                                                    |  |  |
|          | Weight                                            | 1162 g (F-connectors), 1231 g (N-connectors)                                                                                                                                                                                                    |   |                                                    |  |  |

# Ku LNB 10.70-12.75 GHz WDL ULP Dual & Quattro

## Technical Drawing



QUATTRO weather case



Designed and  
Manufactured



IN SWEDEN

**SMW** 

**ESATCOM**   
INC

SMW authorized distributor

**ESATCOM INC.**

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