

KU LNC 127132 C PRO



Manual preliminary

Specification

| | |
|--|---|
| Frequency range (RF) RF input power | 12750 ... 13250 MHz max. 1 mW (0 dBm) |
| Output frequency (IF) Output IP3 Gain (switchable) Noise figure @ 18 °C | 300 ... 800 MHz (local oscillator 12450 MHz) 450 ... 950 MHz (local oscillator 12300 MHz) 250 ... 750 MHz (local oscillator 12500 MHz) 150 ... 650 MHz (local oscillator 12600 MHz) typ. +22 dBm (high gain), typ. +8 dBm (low gain) typ. 42 dB (high gain), typ. 20 dB (low gain) (LO frequency 12450 MHz) typ. 1.9 dB, max. 2.4 dB (LO frequency 12450 MHz, IF amplifier enabled) |
| LO frequency (switchable) LO accuracy @ 18 °C LO frequency stability (0 ... 40 °C) Phase noise @ 1840 MHz @ 1 kHz @ 10 kHz @ 100 kHz | 12300 MHz, 12450 MHz, 12500 MHz, 12600 MHz +/- 2 ppm +/- 3 ppm typ. -83 dBc/Hz typ. -89 dBc/Hz typ. -94 dBc/Hz |
| Operating case temperature range | -20 ... +55 °C |
| Supply voltage Current consumption Power consumption | +9 ... 36 V DC typ. 250 mA @ 12V (IF amplifier enabled) typ. 3.0 W |
| Input connector / impedance Output connector / impedance | SMA-female, 50 ohms SMA-female, 50 ohms |
| Dimensions (mm) Case Weight | 82 x 64 x 22 milled aluminium, water resistant IP43 typ. 230 g |

Features

- Low noise figure
- Large bandwidth
- Low phase noise oscillator
- High frequency stability of the oscillator
- High linearity
- Antenna port protected against static discharge
- Small and light-weight to allow easy pole mounting
- Tri-colour LED indicates unit status and gain mode setting
- Overvoltage protection and reverse polarity protection
- Remote power supply via output connector

Applications

- Multichannel Multipoint Distribution Services (MMDS)
- Digital broadcast systems (DVB-T, DVB-S)
- Analog and digital transmission systems

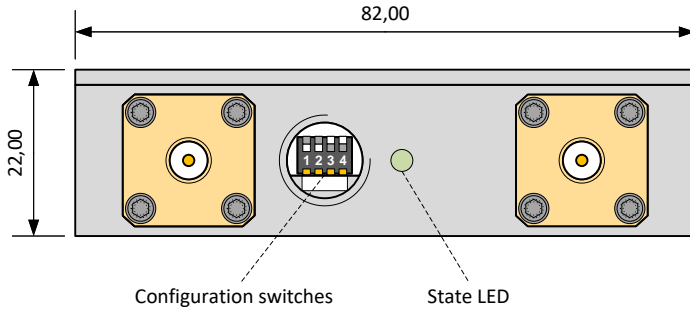
Sig _____

Products are only to be sold to competent companies or to radio amateurs with a licence.
For operating high frequency modules legal instructions must be followed.

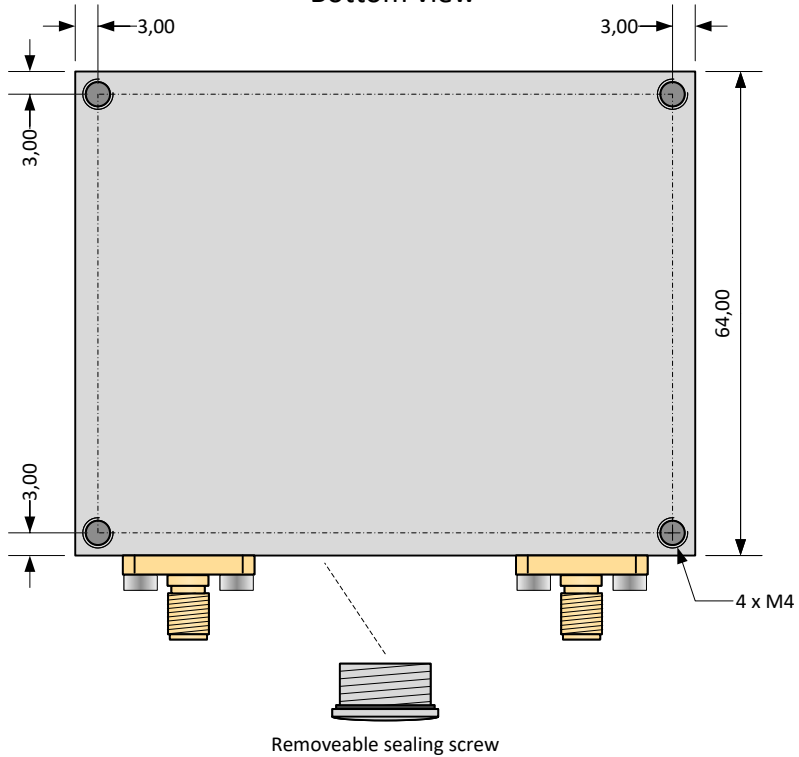
QS _____

Dimensions / Mounting holes

Front view

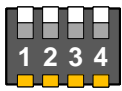


Bottom view



Configuration Switches / State LED

Overview



↑ OFF
↓ ON

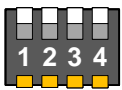
Switch 1 + 2 - (Local oscillator frequency)
Switch 3 - (Gain)
Switch 4 - (User local oscillator frequency)

Device Error

State LED
Red

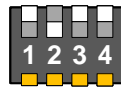


Switch 1 + 2: Preset LO



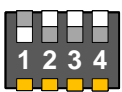
↑ OFF
↓ ON

Switch 1 – OFF
Switch 2 – OFF
LO 12450 MHz
IF 300 ... 800 MHz



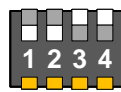
↑ OFF
↓ ON

Switch 1 – OFF
Switch 2 – ON
LO 12300 MHz
IF 450 ... 950 MHz



↑ OFF
↓ ON

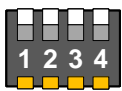
Switch 1 – ON
Switch 2 – OFF
LO 12500 MHz
IF 250 ... 750 MHz



↑ OFF
↓ ON

Switch 1 – ON
Switch 2 – ON
LO 12600 MHz
IF 150 ... 650 MHz

Switch 3: (Low-/High-) Gain switch

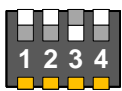


↑ OFF
↓ ON

Switch 3 – OFF
Low Gain



State LED
Green



↑ OFF
↓ ON

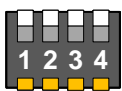
Switch 3 – ON
High Gain



State LED
Blue

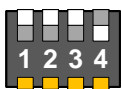


Switch 4: User defined local oscillator frequency



↑ OFF
↓ ON

Switch 4 – OFF
Local oscillator configuration with Switch 1 + 2



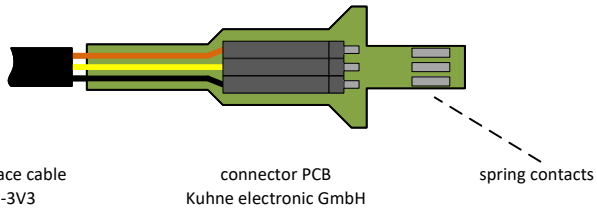
↑ OFF
↓ ON

Switch 4 – ON
Local oscillator configuration with Switch 1 + 2 disabled
User defined local oscillator frequency is enabled

In the case that **Switch 4** is in position **ON** the user defined local oscillator frequency is activated. This user defined local oscillator frequency can be selected in the range from 12300 ... 12600 MHz. The frequency step size of the oscillator frequency is 2 MHz. The user defined oscillator frequency can be programmed with a special programming cable.

For example the oscillator frequency can be chosen to 12350 MHz or 12560 MHz.

Optional Connector PCB



Configure the user defined local oscillator frequency

- connect the USB – serial interface cable with your PC
- start a terminal program on your PC (for example „hterm“)
- choose the COM port of the USB – serial interface cable

```
BAUDRATE 9600
DATABITS 8
STOPBITS 1
NO FLOW CONTROL
```

- insert the connector PCB with connected USB – serial interface cable into the configuration slot
the spring contact must show to the top cover of the down converter
- power up the down converter
- send „s“ with the terminal program to the converter to get the state of the converter

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Kuhne electronic GmbH - KU LNC 127132 C PRO
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PLL locked
GAIN high
Selected LO frequency: 12350 MHz
User defined LO frequency: 12350 MHz
User defined LO frequency enabled
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- send „12350LO“ with the terminal program to the converter to get set the user defined oscillator frequency to 1860 MHz
- power down the down converter
- remove the connector PCB

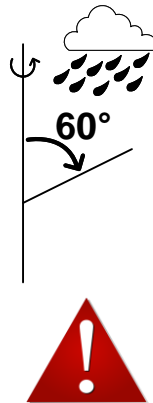
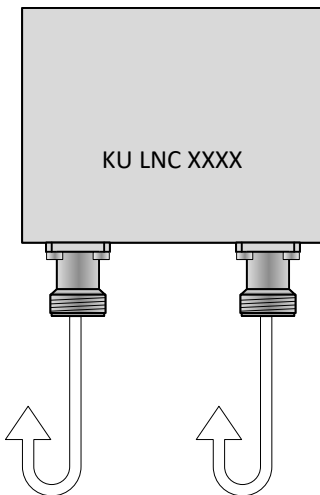
Mounting Instructions

All LNCs of Kuhne electronic GmbH are marked with protection class **IP43** according to **DIN EN 60529**.

This provides information on the resistance of the unit against unwanted penetration of foreign bodies or moisture into the interior of the unit according to the following provision:

- **Protected against granular solid foreign bodies (diameter ≥ 1 mm).**
- **Protection against falling spray up to 60° from vertical**

The LNC modules have been designed with maximum protection against moisture. Nevertheless, water may enter the unit due to the design of the RF connectors, which is why some special features should be taken into account during installation.

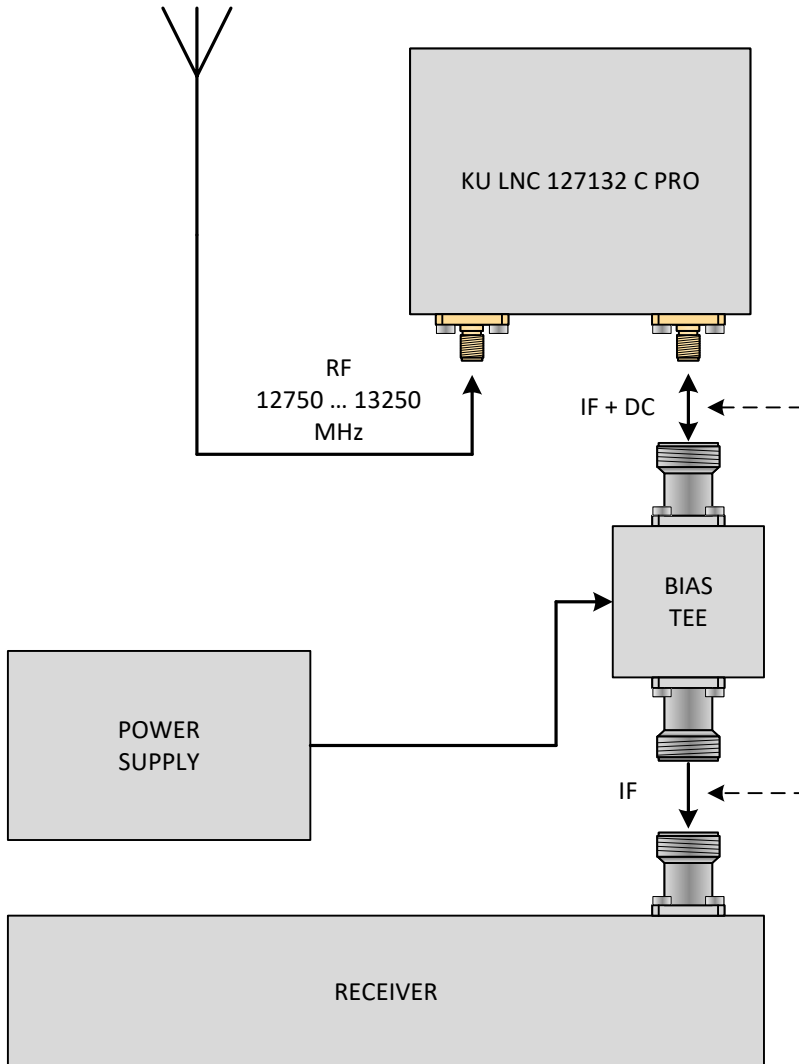


Mounting with the RF connectors vertically downwards

If possible, do not use cable connections with angled elbow connectors, but lead plugs out with a straight cable and a loop pointing downwards.

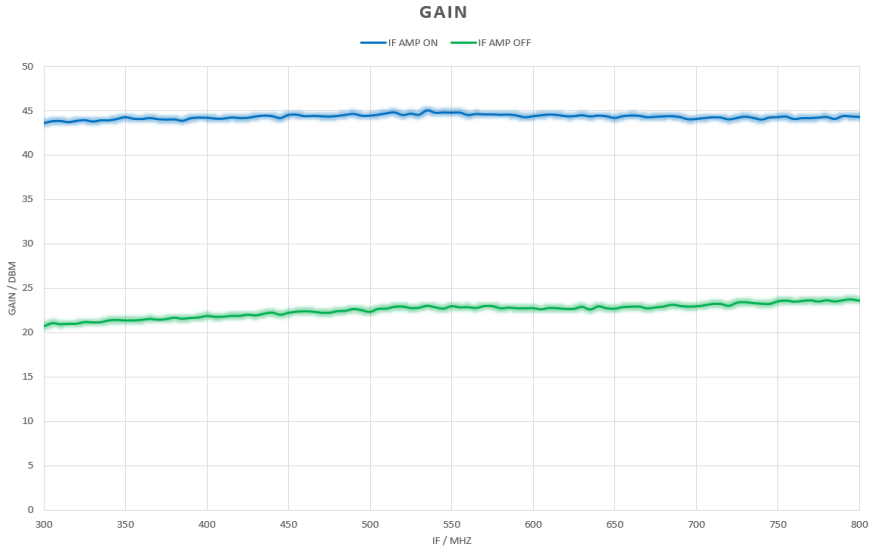
In the event of improper installation or handling that does not comply with our recommendations, Kuhne electronic reserves the right to exclude the warranty claim.

Application diagram

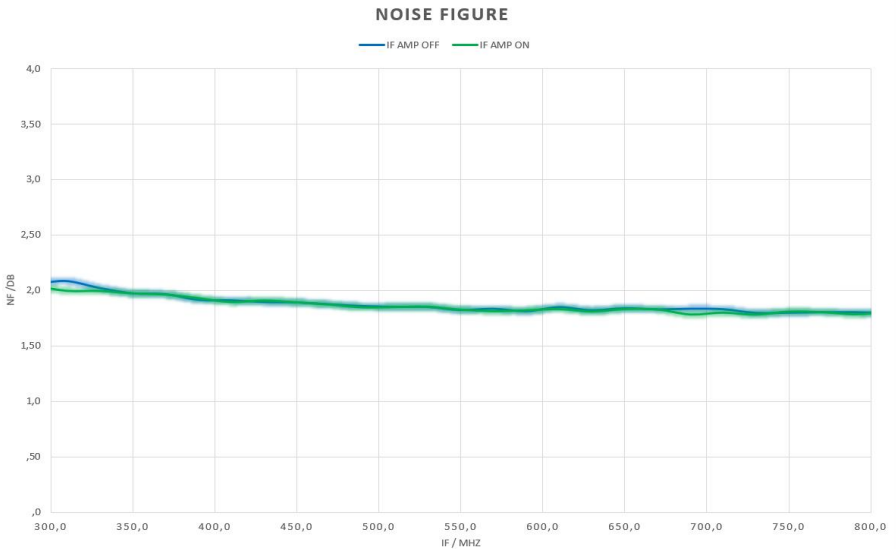


Typical performance

Gain (12450 MHz local oscillator frequency)

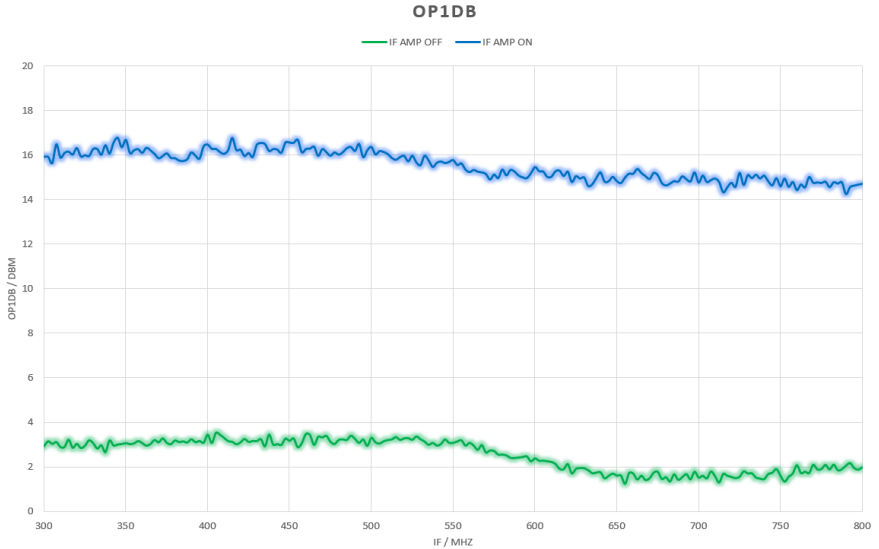


Noise figure (12450 MHz local oscillator frequency)

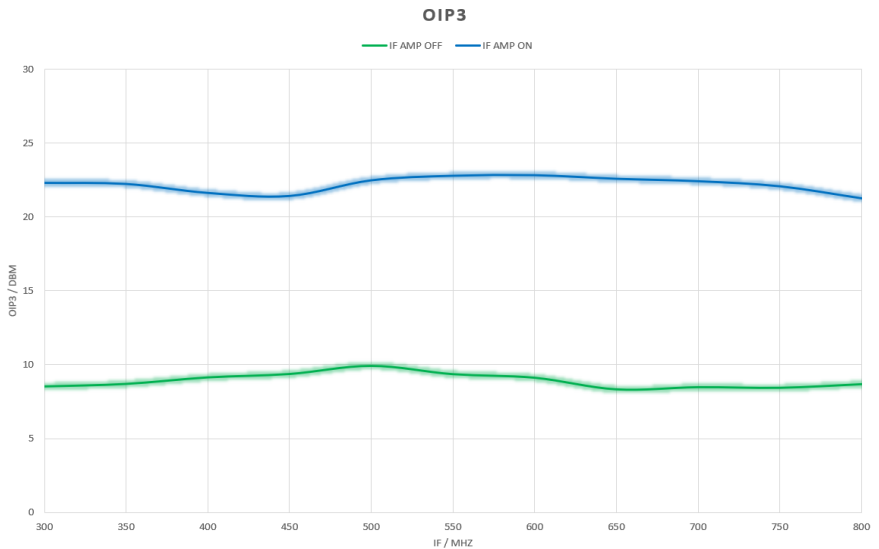


Typical performance

Output P1dB (12450 MHz local oscillator frequency)

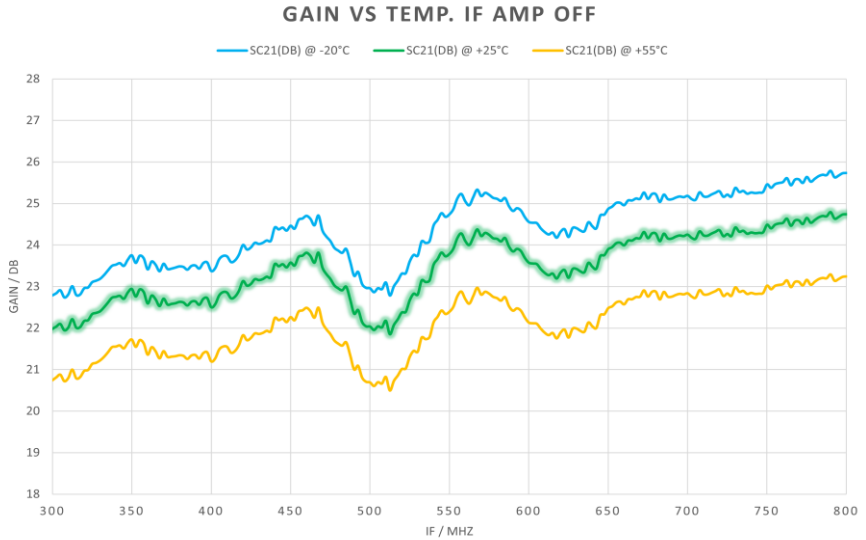


Output IP3 (12450 MHz local oscillator frequency)



Typical performance

Gain vs. Temp. IF AMP OFF (12450 MHz local oscillator frequency)



Gain vs. Temp. IF AMP ON (12450 MHz local oscillator frequency)

