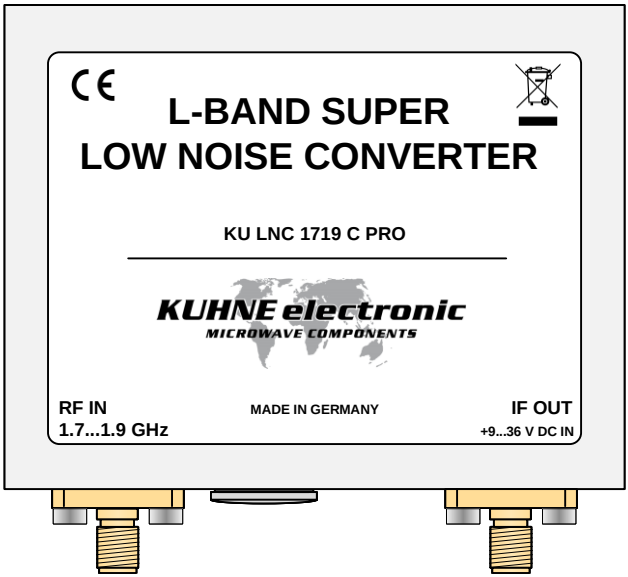
KU LNC 1719 C PRO



Manual

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Specification

Frequency range (RF) RF input power	1700 ... 1900 MHz max. 1 mW (0 dBm)
Output frequency (IF) Output IP3 (@Delta F: 1 MHz) P1dB Gain (switchable) Noise figure @ 18 °C	300 ... 500 MHz (local oscillator 1400, 2100 MHz) 200 ... 400 MHz (local oscillator 1500, 2200 MHz) typ. +20 dBm (high gain), typ. +12 dBm (low gain) typ. +11 dBm (high gain), typ 2 dB (low gain) typ. 48 dB (high gain), typ. 35 dB (low gain) typ. 0.4 dB, max. 0.6 dB
LO frequency (switchable) LO accuracy @ 18 °C LO frequency stability (0 ... 40 °C) Phase noise @ 1400 MHz	1400 MHz, 1500 MHz, 2100 MHz, 2200 MHz +/- 1 kHz +/- 1 ppm @ 1 kHz: typ. -100 dBc/Hz @ 10 kHz: typ. -110 dBc/Hz @ 100 kHz: typ. -103 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 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
- Digital broadcasting and communication systems
- Multichannel Multipoint Distribution Services (MMDS)
- 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 _____

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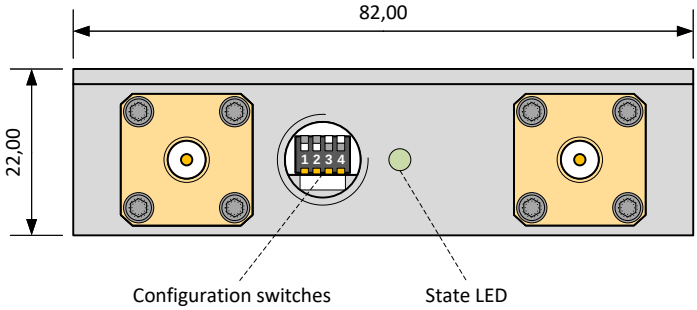
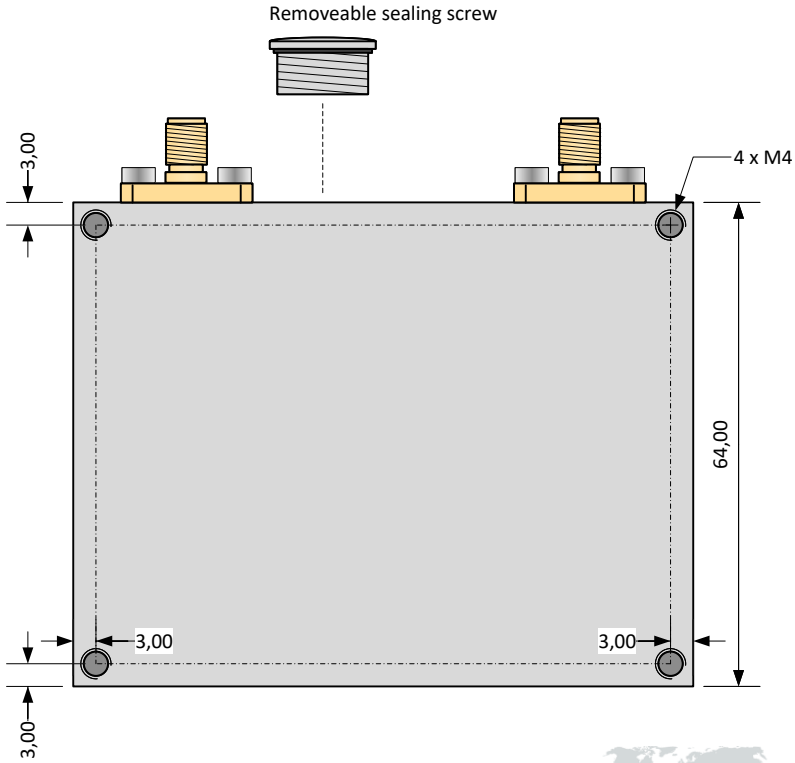
Dimensions / Mounting holes

Front view



Bottom view



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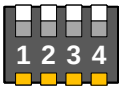
Configuration Switches / State LED

Overview



Switch 1 + 2 - (Local oscillator frequency)

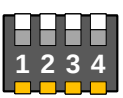
Switch 3 - (Gain)

Switch 4 - (User local oscillator frequency)

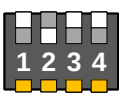
Device Error

State LED
Red

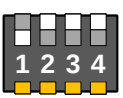
Switch 1 + 2: Preset LO



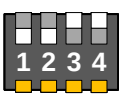
Switch 1 – OFF
Switch 2 – OFF
LO 1400 MHz
IF 300 … 500 MHz



Switch 1 – OFF
Switch 2 – ON
LO 2100 MHz
IF 400 … 200 MHz

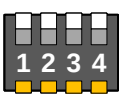


Switch 1 – ON
Switch 2 – OFF
LO 1500 MHz
IF 200 … 400 MHz



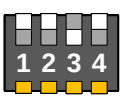
Switch 1 – ON
Switch 2 – ON
LO 2200 MHz
IF 500 … 300 MHz

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



Switch 3 – OFF
Low Gain

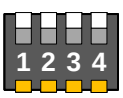
State LED
Green



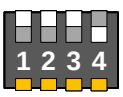
Switch 3 – ON
High Gain

State LED
Blue

Switch 4: User defined local oscillator frequency



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



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 1300 … 1700 MHz and from 1900 … 2400 MHz. The frequency step size of the oscillator frequency is 10 MHz.
The user defined oscillator frequency can be programmed with a special programming cable.

For example the oscillator frequency can be choosen to 1560 MHz or 2180 MHz .

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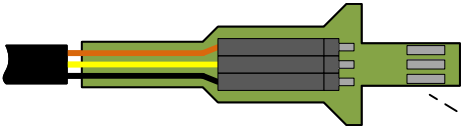
Optional Connector PCB



USB – serial interface cable
FTDI TTL-232R-3V3

connector PCB
Kuhne electronic GmbH

spring contacts

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 1719 C PRO

PLL locked
GAIN high
Selected LO frequency: 1400 MHz
User defined LO frequency: 1400 MHz
User defined LO frequency enabled
```

- send „1560LO“ with the terminal program to the converter to get set the user defined oscillator frequency to 1560 MHz

```
New LO frequency 1560 MHz accepted
```

- power down the down converter

- remove the connector PCB

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Mounting instructions

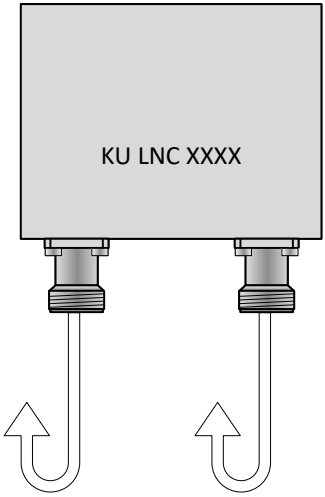
All LNCs of Kuhne electronic GmbH are marked with protection class **IP43** according to **DIN EN 60529**.

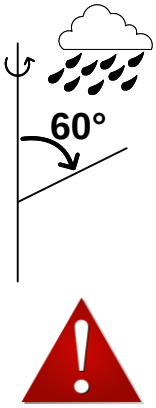
This provides information on the resistance of the unit against unwanted penetration of foreign bodies or moisture into the interior of the unit according to the following provision:

- 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.

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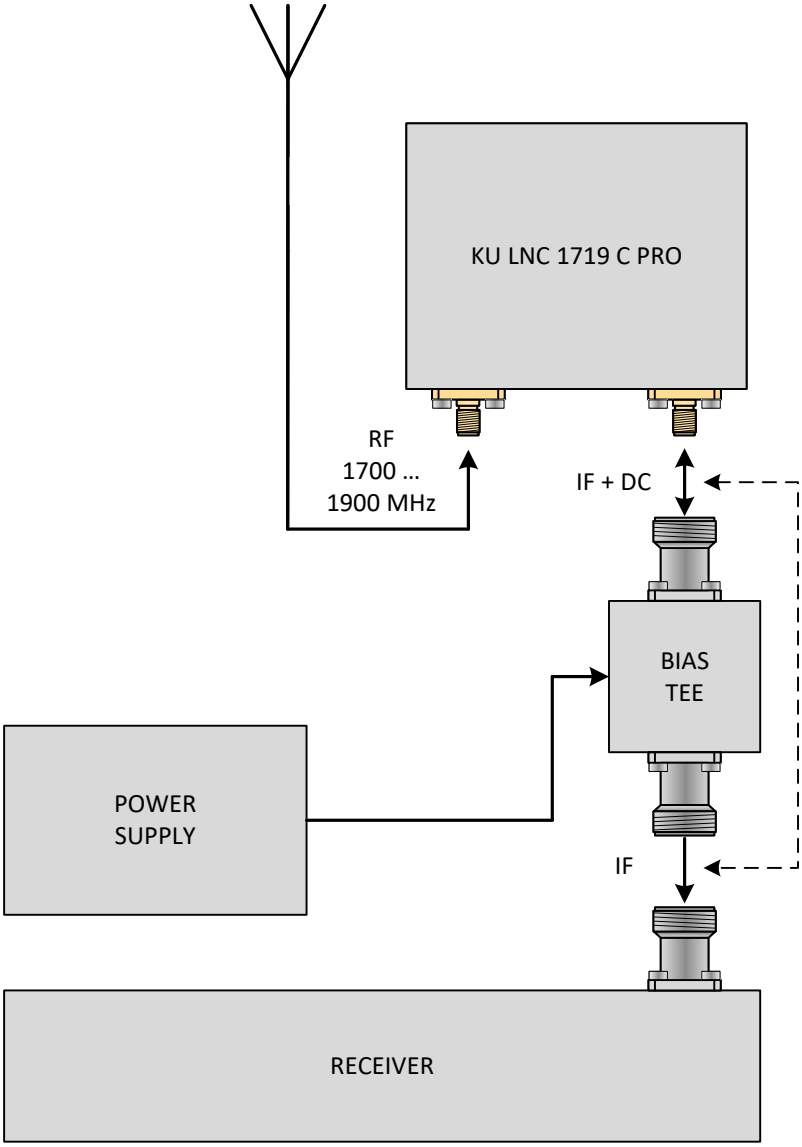
Application diagram



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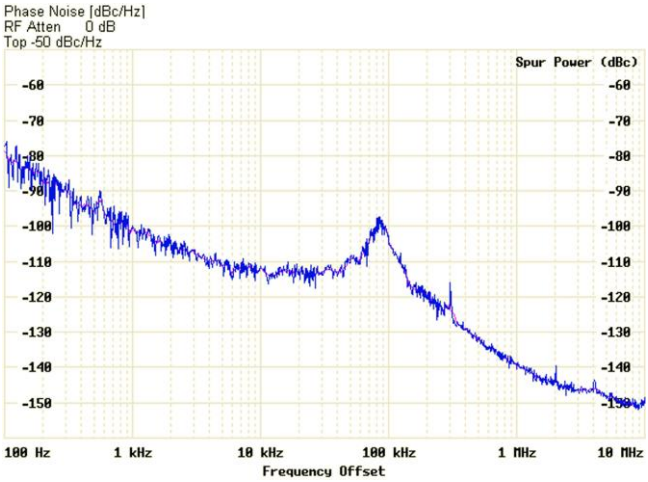
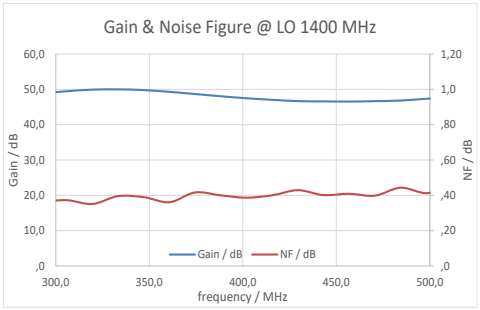
Typical performance

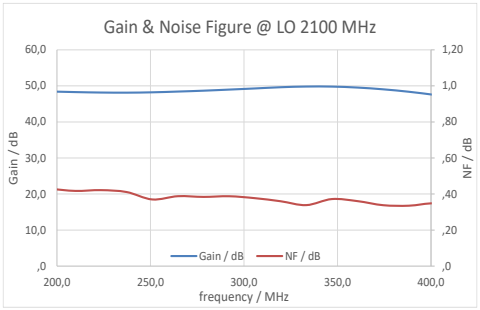
Typical phase noise at 1400 MHz
local oscillator frequency



Typical gain and noise figure
(1400 MHz local oscillator frequency)



Typical gain and noise figure
(2100 MHz local oscillator frequency)



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