

Ku Band Quad LNB

The Ku-Band Quad LO LNB is designed for use primarily in VSAT applications. This LNB shows so ultra wide bandwidth that covers almost all world-wide Ku-band VAST frequency range(10.7 ~ 12.75 GHz) and its IF frequency band supports almost all kinds of L-Band MODEMs(950 ~ 1700 MHz).

Main Feature

- Ultra wide bandwidth (full Ku-Band)
- Ultra Small size
- Quad Band (4-LO)
- Low Noise Figure
- ± 5 kHz LO Stability(Internal option)
- Internal/External 10MHz reference(Optional)
- LO frequency switching by DC input level(13/18V) and 22kHz Tone signal thru IF cable



Specification

| Item | Parameters | Specifications | | |
|-----------------------------|---------------------------|--|---------------------------|--|
| Electrical Spec. | RF Frequency | 10.7 ~ 12.75 GHz | | |
| | LO Frequency | See the below LO option | | |
| | IF Frequency | 950 ~ 1700 MHz | | |
| | Phase Noise | @ 1 kHz | -70 dBc | |
| | | @ 10 kHz | -80 dBc | |
| | | @ 100 kHz | -95 dBc | |
| | | @ >1 MHz | -115 dBc | |
| | LO stability | Internal: ± 5 kHz, External: Depends on Ext. Ref. | | |
| | Gain | 65 dB | | |
| | Gain variation | ± 0.4 dB | | |
| | | ± 4 dB | | |
| | Noise Figure | 0.8 dB | | |
| | In/Out VSWR | 2:1 | | |
| | Band Switch Configuration | Band1 | VDC 11.5~14.0V / Tone OFF | |
| | | Band2 | VDC 11.5~14.0V / Tone ON | |
| Band3 | | VDC 16.0~19.0V / Tone OFF | | |
| Band4 | | VDC 16.0~19.0V / Tone ON | | |
| DC Input Voltage | Band1,2 | 11.5 ~ 14.0 V | | |
| | Band3,4 | 16.0 ~ 19.0 V | | |
| Current Consumption | 300 mA | | | |
| Requirements for 22kHz Tone | Freq. | 22kHz ± 4 kHz | | |
| | Amp. | 0.6 ± 0.2 V | | |
| | Duty | 50% ± 10 % | | |

| Item | Parameters | Specifications |
|------------------|-----------------------|-------------------------------------|
| Mechanical Spec. | Input | WR-75 with Groove |
| | Output (waterproof) | F-Type, N-type, SMA-type (Optional) |
| | Dimensions | 107.3(L) x 38.8(W) x 38.8 (H) mm |
| | Weight | 310g |
| Thermal Spec. | Operating temperature | -30 ~ +60 °C |
| | Storage temperature | -40 ~ +80 °C |

Line-Up

| Model No. | IF Connector | 10MHz Reference | LO Frequency |
|------------------|--------------|-----------------|-----------------------------------|
| PTL-KUQIF-Option | F-Type, | Internal | Select 4 LO Freq. (See LO Option) |
| PTL-KUQIN-Option | N-Type | | |
| PTL-KUQIS-Option | SMA-Type | | |
| PTL-KUQEF-Option | F-Type | External | |
| PTL-KUQEN-Option | N-Type | | |
| PTL-KUQES-Option | SMA-Type | | |

LO Option

- 01 – LO 9.75/10.25/10.75/11.30 GHz
- 02 – LO 9.75/10.00/10.75/11.30 GHz
- 03 – LO 9.75/10.25/10.75/11.25 GHz
- 04 – LO 10.00/10.50/10.75/11.25 GHz
- 05 – LO 10.00/10.75/11.30/9.75 GHz
- 06 – LO 9.75/10.50/11.05/10.00 GHz

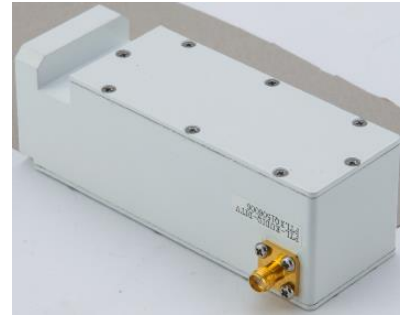
*For other LO frequencies beside the above, Please contact Philtech sales.

Ku Band Dual LNB

The Ku-Band mini-Dual LO LNB is designed for use primarily in VSAT applications. This LNB shows so ultra wide bandwidth that covers almost all world-wide Ku-band VAST frequency range(10.7 ~ 12.75 GHz) and its IF frequency band supports almost all kinds of L-Band MODEMS(950 ~2150 MHz).

Main Feature

- Ultra Small size
- Dual Band (2-LO)
- Low Noise Figure
- Ultra Low Phase Noise
- ±5kHz LO Stability(Internal option)
- Internal/External 10MHz reference(Optional)
- LO frequency switching by DC input level(13/18V) or 22kHz Tone signal thru IF cable



Specification

| Item | Parameters | Specifications | |
|-----------------------------|----------------|---|-----------------|
| Electrical Spec. | RF Frequency | 10.7 ~ 12.75 GHz | |
| | LO Frequency | See the below LO option | |
| | IF Frequency | 950 ~ 2150 MHz 950 ~ 2150 MHz 950 ~ 2000 MHz | |
| | Phase Noise | @ 1 kHz | -70 dBc |
| | | @ 10 kHz | -80 dBc |
| | | @ 100 kHz | -95 dBc |
| | | @ >1 MHz | -115 dBc |
| | LO stability | Internal: +-5KHz, External: Depends on Ext. Ref. | |
| | Gain | 62 dB | |
| | Gain variation | ±0.4 dB | |
| | | ±4 dB | |
| | Noise Figure | 0.8 dB | |
| | In/Out VSWR | 2:1 | |
| | Band Selection | Option 1 | Voltage 13V/18V |
| Option 2 | | 22KHz Tone On/Off | |
| Current Consumption | 320 mA | | |
| Requirements for 22kHz Tone | Freq. | 22kHz ± 4 kHz | |
| | Amp. | 0.6 ± 0.2V | |
| | Duty | 50% ± 10% | |

| Item | Parameters | Specifications |
|------------------|-----------------------|----------------------------------|
| Mechanical Spec. | Input | WR-75 with Groove |
| | Output (waterproof) | F-connector N (Optional) |
| | Dimensions | 107.3(L) x 38.8(W) x 38.8 (H) mm |
| | Weight | 310g |
| Thermal Spec. | Operating temperature | -30 ~ +60 °C |
| | Storage temperature | -40 ~ +80 °C |

Line-Up

| Model No. | IF Connector | 10Mhz Reference | LO Frequency |
|------------------|--------------|-----------------|--------------------------------------|
| PTL-KUDIF-Option | F-Type, | Internal | Select 2 LO Freq. (See LO Option) |
| PTL-KUDIN-Option | N-Type | | |
| PTL-KUDIS-Option | SMA-Type | | |
| PTL-KUDEF-Option | F-Type | External | |
| PTL-KUDEN-Option | N-Type | | |
| PTL-KUDES-Option | SMA-Type | | |

LO Option

- 01 – LO 10.00/11.00 GHz
- 02 – LO 10.00/10.75 GHz
- 03 – LO 9.75/10.75 GHz
- 04 – LO 10.00/10.80 GHz
- 05 – LO 9.75/10.60 GHz
- 06 – LO 10.00/11.30 GHz
- 07 – LO 10.00/10.90 GHz

*For other LO frequencies beside the above, Please contact Philtech sales.

Ku Single PLL LNB

Main Feature

- Low Noise Figure (0.7dB)
- Ultra Low Phase Noise
- Excellent Frequency Stability($\pm 0.5\text{ppm}$)



Specification

| Item | Parameters | Specifications | |
|-------------------------|-------------------|----------------|----------|
| Electrical Spec. | Phase Noise | @ 1 kHz | -70 dBc |
| | | @ 10 kHz | -80 dBc |
| | | @ 100 kHz | -95 dBc |
| | | @ >1 MHz | -115 dBc |
| | LO stability | ± 0.5 ppm | |
| | Conversion Gain | 60 dB | |
| | Gain variation | ± 0.4 dB | |
| | | ± 2.5 dB | |
| | Noise Figure | 0.7 dB | |
| | Input/Output VSWR | 2:1 | |
| DC Input Voltage | 13 ~ 24.0 V | | |
| Current Consumption | 300 mA | | |

| Item | Parameters | Specifications | Notes |
|-------------------------|-----------------------|----------------------------------|-----------------|
| Mechanical Spec. | Input | WR-75 with Groove | |
| | Output (waterproof) | F-connector / N (Optional) | 75 ohm (50 ohm) |
| | Dimensions | 107.3(L) x 38.8(W) x 38.8 (H) mm | |
| | Weight | 310g | |
| Thermal Spec. | Operating temperature | $-30 \sim +60$ °C | |
| | Storage temperature | $-40 \sim +80$ °C | |

Line-Up

| Model No. | IF Connector | 10Mhz Reference | LO Frequency |
|------------------|--------------|-----------------|-----------------------------------|
| PTL-KUSIF-Option | F-Type, | Internal | Select 1 LO Freq. (See LO Option) |
| PTL-KUSIN-Option | N-Type | | |
| PTL-KUSIS-Option | SMA-Type | | |
| PTL-KUSEF-Option | F-Type | External | |
| PTL-KUSEN-Option | N-Type | | |
| PTL-KUSES-Option | SMA-Type | | |

LO Option

- 01 – LO 9.75 GHz
- 02 – LO 10.00 GHz
- 03 – LO 10.25 GHz
- 04 – LO 10.50 GHz
- 05 – LO 10.60 GHz
- 06 – LO 10.75 GHz
- 07 – LO 10.80 GHz
- 08 – LO 10.90 GHz
- 09 – LO 11.00 GHz
- 10 – LO 11.05 GHz
- 11 – LO 11.25 GHz
- 12 – LO 11.30 GHz

*For other LO frequencies beside the above, Please contact Philtech sales.

Ka Band LNB

The Ka-Band LNB is designed for use primarily in K/Ka Band satellite applications.

Main Feature

- Ultra Small size
- Low Noise Figure
- Ultra Low Phase Noise



Specification

| Item | Parameters | Specifications | | |
|---------------------|-----------------------|--|----------------|--|
| Electrical Spec. | RF Input Frequency | 19.20 ~ 20.20 GHz 20.20 ~ 21.20 GHz | | |
| | LO Frequency | 18.25 GHz/19.25 GHz | | |
| | IF frequency | 950 ~ 1950 MHz | | |
| | Noise Figure | 1.5dB | | |
| | Ext. ref. Phase Noise | @ 100 Hz | -100 dBc | |
| | | @ 1 kHz | -110 dBc | |
| | | @ >10 kHz | -115 dBc | |
| | | @ 100 kHz | -125 dBc | |
| | | @ >1 MHz | -145 dBc | |
| | Ext. freq. reference | 10 MHz | | |
| | LO Stability | Slave to Ext. Ref. | | |
| | Conversion Gain | 70 dB | | |
| | Gain(absolute linear) | Over input freq. range | Min.65, Max.75 | |
| | Output P1dB | +10 dBm min. | | |
| | OIP3 | 20 dBm min. | | |
| | LO leakage | At Input, only LO | | |
| | Image Rejection | 60dB | | |
| Input VSWR | 2.0:1 | | | |
| Output VSWR | 1.7:1 | | | |
| DC Input Voltage | 9 ~ 15 VDC | | | |
| Current Consumption | 4W Max. | | | |

| Item | Parameters | Specifications |
|------------------|-----------------------|-------------------------|
| Mechanical Spec. | Input Interface | WR-42 with Groove |
| | Output Interface | F/N/SMA- type Connector |
| | Dimensions | 110.0 x 47.0 x 32.0 mm |
| | Weight | 300g |
| Thermal Spec. | Humidity | 100% Condensing |
| | Operating temperature | -30 ~ +60 °C |
| | Storage temperature | -40 ~ +85 °C |

Line-Up

| Model No. | IF Connector | 10Mhz Reference | LO Frequency |
|------------------|--------------|-----------------|-----------------------------------|
| PTL-KASIF-Option | F-Type, | Internal | Select 1 LO Freq. (See LO Option) |
| PTL-KASIN-Option | N-Type | | |
| PTL-KASIS-Option | SMA-Type | | |
| PTL-KASEF-Option | F-Type | External | |
| PTL-KASEN-Option | N-Type | | |
| PTL-KASES-Option | SMA-Type | | |

LO Option

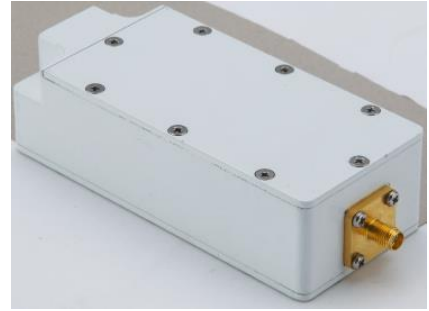
- | |
|-------------------|
| 01 – LO 18.25 GHz |
| 02 – LO 19.25 GHz |

*For other LO frequencies beside the above, Please contact Philtech sales.

Ka Band Dual LNB

Main Feature

- Ultra wide bandwidth (19.2~20.2GHz/20.2~21.2GHz)
- Dual Band (2-LO)
- Ultra Low Noise Figure
- Ultra Low Phase Noise
- Internal/External Reference Auto-detect/selection
- High P1dB, High IP3
- LO frequency switching by DC input level(13/18V) thru IF cable



| Item | Parameters | Specifications | |
|---------------------------|-----------------------------------|--|----------|
| Electrical Spec. | RF Input Frequency | Band 1 : 19.2~20.2GHz Band 2 : 20.2~21.2GHz | |
| | LO Frequency | Band 1 : 18.25 GHz Band 2 : 19.25 GHz | |
| | IF frequency | 950 ~ 1950 MHz | |
| | Phase Noise | @ 1 kHz | -75 dBc |
| | | @ 10 kHz | -85 dBc |
| | | @ 100 kHz | -95 dBc |
| | | @ >1 MHz | -110 dBc |
| | LO stability | <ul style="list-style-type: none"> • Internal : ±0.5ppm • External : Dependent on Ext. reference | |
| | Required External Reference Level | 0dBm | |
| | Conversion Gain | 65 dB | |
| | Gain variation | | ±0.4 dB |
| | | | ±2 dB |
| | Noise Figure | 1.5 dB | |
| | Input / Output VSWR | Input VSWR : 2.5:1 Output VSWR : 1.5:1 | |
| | P1dB output | 20dBm | |
| | OIP3 | 40dBm | |
| Image Rejection | -60dBc | | |
| Band Switch Configuration | | Band1 | |
| | | Band2 | |
| Power Consumption | Band1: 430mA Band2: 290mA | | |

| Item | Parameters | Specifications |
|-------------------------|-----------------------|------------------------|
| Mechanical Spec. | Input | WR-42 with Groove |
| | Output (waterproof) | SMA/K-type Optional |
| | Dimensions | 110.0 x 47.0 x 32.0 mm |
| | Weight | 300 g |
| Line-Up | Operating temperature | -30 ~ +60 °C |
| | Storage temperature | -40 ~ +85 °C |

Line-Up

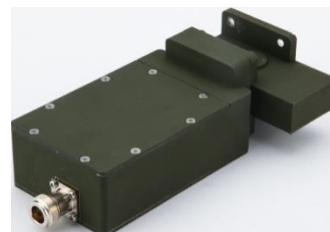
| Model No. | IF Connector | 10Mhz Reference |
|------------------|--------------|-----------------|
| PTL-KADIF-Option | F-Type, | Internal |
| PTL-KADIN-Option | N-Type | |
| PTL-KADIS-Option | SMA-Type | |
| PTL-KADEF-Option | F-Type | External |
| PTL-KADEN-Option | N-Type | |
| PTL-KADES-Option | SMA-Type | |

X-band LNB

The X-Band LNB is designed for use primarily in VSAT applications. This LNB shows so ultra low noise and low phase noise performance.

Main Feature

- External Reference (10MHz)
- Frontal WG Isolator (option)
- Low Noise Figure
- Low Phase Noise
- Internal TCXO option



Specification

| Item | Parameters | Specifications | |
|-------------------------|---|--------------------|----------|
| Electrical Spec. | RF Input Frequency | 7.25 ~ 7.75 GHz | |
| | LO Frequency | 6.3 GHz | |
| | IF frequency | 950 ~ 1450 MHz | |
| | Noise temperature | 0.7dB | |
| | Phase Noise | @ 100 Hz | -65 dBc |
| | | @ 1 kHz | -75 dBc |
| | | @ 10 kHz | -85 dBc |
| | | @ 100 kHz | -95 dBc |
| | | @ >1 MHz | -105 dBc |
| | Min. Ext. Ref. Phase Noise requirements | @ 100 Hz | -125 dBc |
| | | @ 1 kHz | -135 dBc |
| | | @ 10 kHz | -145 dBc |
| | Ext. freq. reference | 10 MHz | |
| | Ref. freq. level | -10~+15 dBm | |
| | LO Stability | Slave to Ext. Ref. | |
| | Conversion Gain | 65 dB | |
| | Gain flatness | | ±0.75 dB |
| | | | ±1.5 dB |
| | Gain stability | ≤0.5 dB | |
| | Gain variation | ±2 dB | |
| Output P1dB | +5 dBm | | |
| OIP3 | +17dBm | | |
| LO leakage | -90dBm | | |
| Image Rejection | > 70dBc | | |
| Input VSWR | 1.3:1 | | |
| Output VSWR | 1.5:1 | | |
| DC Input Voltage | 10 ~ 30 VDC | | |
| Current Consumption | 280 mA | | |

| Item | Parameters | Specifications |
|-------------------------|-----------------------|--|
| Mechanical Spec. | Input Interface | WR-112 with Groove |
| | Output Interface | SMA,F,N Optional |
| | Dimensions | 151.5 x 86.5 x 50.4 mm (with isolator) |
| | Weight | 670 g |
| Thermal Spec. | Humidity | 100% Condensing |
| | Operating temperature | -30 ~ +70 °C |
| | Storage temperature | -40 ~ +85 °C |

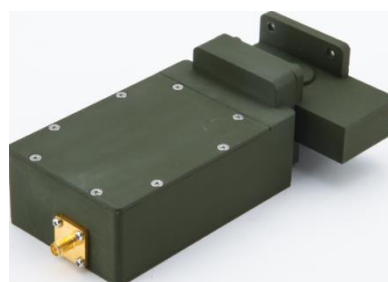
Line-Up

| Model No. | IF Connector |
|-------------|--------------|
| PTL-XSIS-01 | SMA-Type |
| PTL-XSIN-01 | N-Type |
| PTL-XSIF-01 | F-Type |

X-band Up-link LNB

Main Features

- X-Band Up-link operation (7.9 GHz ~ 8.4GHz)
- Internal & External Reference Detection and Auto Selection
- Frontal Waveguide Isolator
- Ultra Low Noise Figure
- Ultra Low Phase Noise
- Compact size and light weight
- Rugged Design/High Reliability



| Parameters | Specifications | |
|---|--|----------|
| RF Input Frequency | 7.9 ~ 8.4 GHz | |
| LO Frequency | 6.95 GHz | |
| IF frequency | 950 ~ 1450 MHz | |
| Noise Figure | 0.75dB typ | |
| Phase Noise | @ 100 Hz | -80 dBc |
| | @ 1 kHz | -85 dBc |
| | @ 10 kHz | -95 dBc |
| | @ 100 kHz | -105 dBc |
| | @ >1 MHz | -125 dBc |
| Min. Ext. Ref. Phase Noise requirements | @ 100 Hz | -125 dBc |
| | @ 1 kHz | -135 dBc |
| | @ 10 kHz | -145 dBc |
| Ext. freq. reference | 10 MHz | |
| Ref. freq. level | > 0 dBm | |
| LO Stability | External : Slave to Ext. Ref. Internal : ±0.5 ppm | |
| Conversion Gain | 65 dB | |
| Gain flatness | ±0.5 dB | |
| | ±1.5 dB | |
| Gain stability | ≤0.5 dB | |
| Gain variation | ±2 dB | |
| Output P1dB | +5 dBm | |
| OIP3 | +17dBm | |
| Image Rejection | > 50dBc | |
| Input VSWR | 1.3:1 | |
| Output VSWR | 1.5:1 | |

| Parameters | Specifications |
|-----------------------|-------------------------------------|
| DC Input Voltage | 12 ~ 20 VDC |
| Current Consumption | 520 mA |
| Input Interface | WR-112 with Grooved |
| Output Interface | SMA/N/F-Type Optional |
| Dimensions | 149 x 94 x 48 mm (with WG isolator) |
| Weight | 605g |
| Humidity | 100% Condensing |
| Operating temperature | -30 ~ +70 °C |
| Storage temperature | -40 ~ +85 °C |

Line-Up

| Model No. | IF Connector |
|-------------|--------------|
| PTL-XUAS-01 | SMA-Type |
| PTL-XUAN-01 | N-Type |
| PTL-XUAF-01 | F-Type |

C Band Dual LNB

Main Feature

- Ultra wide bandwidth (3.4~4.2GHz/4.5~4.8GHz)
- Satellite Band : Standard, Extended, ST-1/Palapa, Gorizont, Insat-C
- Dual Band (2-LO)
- Ultra Low Noise Figure
- Ultra Low Phase Noise
- Internal/External Reference Auto-detect/selection
- High P1dB, High IP3
- LO frequency switched by DC input level(13/18V) thru IF cable



| Parameters | Specifications |
|-----------------------------------|---|
| RF Input Frequency | Band 1 : 3.4~4.2GHz Band 2 : 4.5~4.8GHz |
| LO Frequency | Band 1 : 5.15 GHz Band 2 : 5.76 GHz |
| IF frequency | Band 1 : 950 ~ 1750 MHz Band 2 : 960 ~ 1260 MHz |
| Phase Noise | @ 1 kHz -75 dBc |
| | @ 10 kHz -85 dBc |
| | @ 100 kHz -95 dBc |
| | @ >1 MHz -115 dBc |
| LO stability | <ul style="list-style-type: none"> • Internal : ± 0.25ppm • External : Dependent on Ext. reference |
| Required External Reference Level | -5dBm |
| Conversion Gain | 65 dB |
| Gain variation | ± 0.4 dB |
| | ± 2 dB |
| Noise Figure | 0.5 dB |
| Input / Output VSWR | Input VSWR : 2.0:1 Output VSWR : 1.5:1 |
| P1dB output | 20dBm |
| OIP3 | 40dBm |
| Image Rejection | -60dBc |
| Band Switch Configuration | Band1 |
| | Band2 |
| Power Consumption | Refer to the table |

| Item | Parameters | Specifications |
|-------------------------|-----------------------|----------------------------|
| Mechanical Spec. | Input | CPR-229 with Groove |
| | Output (waterproof) | N-connector F-connector |
| | Dimensions | 90.4 x 98.6 x 69.8 mm |
| | Weight (typ.) | 840 g |
| Thermal Spec. | Operating temperature | -30 ~ +60 °C |
| | Storage temperature | -40 ~ +85 °C |

Line-Up

| Model No. | IF Connector |
|-------------|--------------|
| PTL-CDAN-01 | N Connector |
| PTL-CDAF-01 | F Connector |