

# ■ Universal Ku-band 2LO PLL LNB (Switchable Local) - External Reference - MODEL No. **NJR2841E/42E/43E** series

## < Features >

- \* **Switchable Local**
  - Local Frequency: 9.75 / 10.6 GHz
- \* **Full Ku-band Coverage**
  - RF Frequency: 10.70 – 12.75 GHz  
(Low Band) 10.70 – 11.70 GHz  
(High Band) 11.70 – 12.75 GHz
- \* **Local Switching Line-up**
  - Local Frequency Selected by
    - Mechanical Switch: NJR2841 series
    - 22kHz Tone On/Off: NJR2842 series
    - Input Voltage (High/Low): NJR2843 series
- \* **Small Size & Light Weight**
  - Weight: 240 g (N-type Connector Model)
  - Weight: 210 g (F-type Connector Model)
- \* **RoHS Compliance**

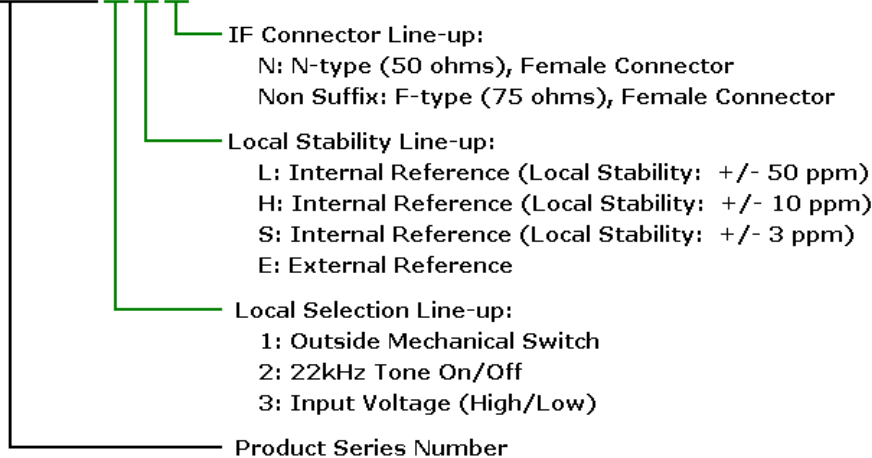


## < Line-Up >

| Model No. | RF Frequency                               | Local Frequency        | IF Connector                             | Local Stability                     | Local Frequency Selected by | IF Connector |
|-----------|--|------------------------|--|-------------------------------------|-----------------------------|--------------|
| NJR2841E  | 10.70 to 11.70 GHz<br>/ 11.70 to 12.75 GHz | 9.75 GHz<br>/ 10.6 GHz | 950 to 1,950 MHz<br>/ 1,100 to 2,150 MHz | Depends on<br>External<br>Reference | Mechanical Switch           | F-type       |
| NJR2841EN |  |                        |  |                                     |                             | N-type       |
| NJR2842E  |  |                        |  |                                     | 22kHz Tone On/Off           | F-type       |
| NJR2842EN |  |                        |  |                                     |                             | N-type       |
| NJR2843E  |  |                        |  |                                     | Input Voltage<br>(High/Low) | F-type       |
| NJR2843EN |  |                        |  |                                     |                             | N-type       |

### Model Numbering

N J R 2 8 4 1 E N


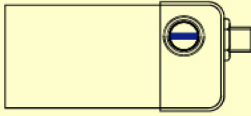


# ■ Universal Ku-band 2LO PLL LNB (Switchable Local) - External Reference - MODEL No. NJR2841E/42E/43E series

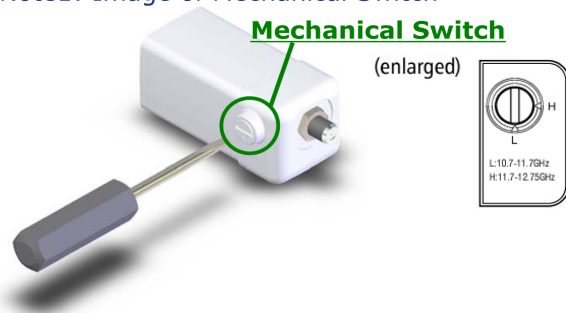
## < Specifications >

| Item  | Specifications  |
|---|---|
| Input Interface   | Waveguide, WR75 (with Groove)   |
| Output Interface  | N-type, female (50 ohm) [Model No.: NJR2841EN/42EN/43EN]<br>F-type, female (75 ohm) [Model No.: NJR2841E/42E/43E]   |
| Noise Figure at +25 C   | 0.8 dB typ., 1.0 dB max.  |
| Linear Gain (Ta.: +25 C)  | 48 dB min., 62 dB max.  |
| L.O. Phase Noise (SSB)  | -50 dBc/Hz typ. @ 100 Hz, -70 dBc/Hz typ. @ 1 kHz<br>-75 dBc/Hz typ. @ 10 kHz, -85 dBc/Hz typ. @ 100 kHz<br>Depends on phase noise of external reference  |
| L.O. Leakage Level  | -40 dBm max. at the IF Output Connector<br>-60 dBm max. at the RF Input Flange  |
| Spurious  | a) -120 dBm max.<br>at input, fixed frequency spur, unrelated to test CW signal (Measured at specified IF band).<br>b) -40 dBc typ.<br>with test CW signal -10 dBm IF output (Measured at specified IF band).           |
| Input V.S.W.R.  | 2.5 : 1 typ.  |
| Output V.S.W.R.   | 2.3 : 1 max.  |
| Power Requirement   | +24 VDC (+10 to +24 VDC)  |
| Current Drain   | 200 mA max.   |
| Temperature Range (ambient)                                     | -40 to +60 C (operating), -40 to +80 C (storage)  |
| Dimension & Housing<br>( without Interface Connectors / Switch) | 83.4 mm (L) x 42 mm (W) x 42 mm (H) [Model No.: NJR2841E/41EN]<br>[3.28" (L) x 1.65" (W) x 1.65" (H)]<br>82.2 mm (L) x 40 mm (W) x 40 mm (H) [Model No.: NJR2842E/42EN/43E/43EN]<br>[3.24" (L) x 1.57" (W) x 1.57" (H)] |
| Weight  | 240 g [0.53 lbs] [Model No.: NJR2841EN/42EN/43EN]<br>210 g [0.46 lbs] [Model No.: NJR2841E/42E/43E]   |

### Specifications of Local Switch

|                        | RF Frequency  |   |
|------------------------|---|---|
|                        | Low Band (10.7 to 11.7 GHz)   | High Band (11.7 to 12.75 GHz)   |
| Mechanical Switch      | Initial Set  |  |
| 22kHz Tone On/Off      | Tone Level: 0 to 0.2 Vp-p   | Tone Level: 0.4 to 0.8 Vp-p   |
| Input Voltage High/Low | Voltage: +10 to +14 VDC   | Voltage: +15.5 to +24 VDC   |

Note1: Image of Mechanical Switch

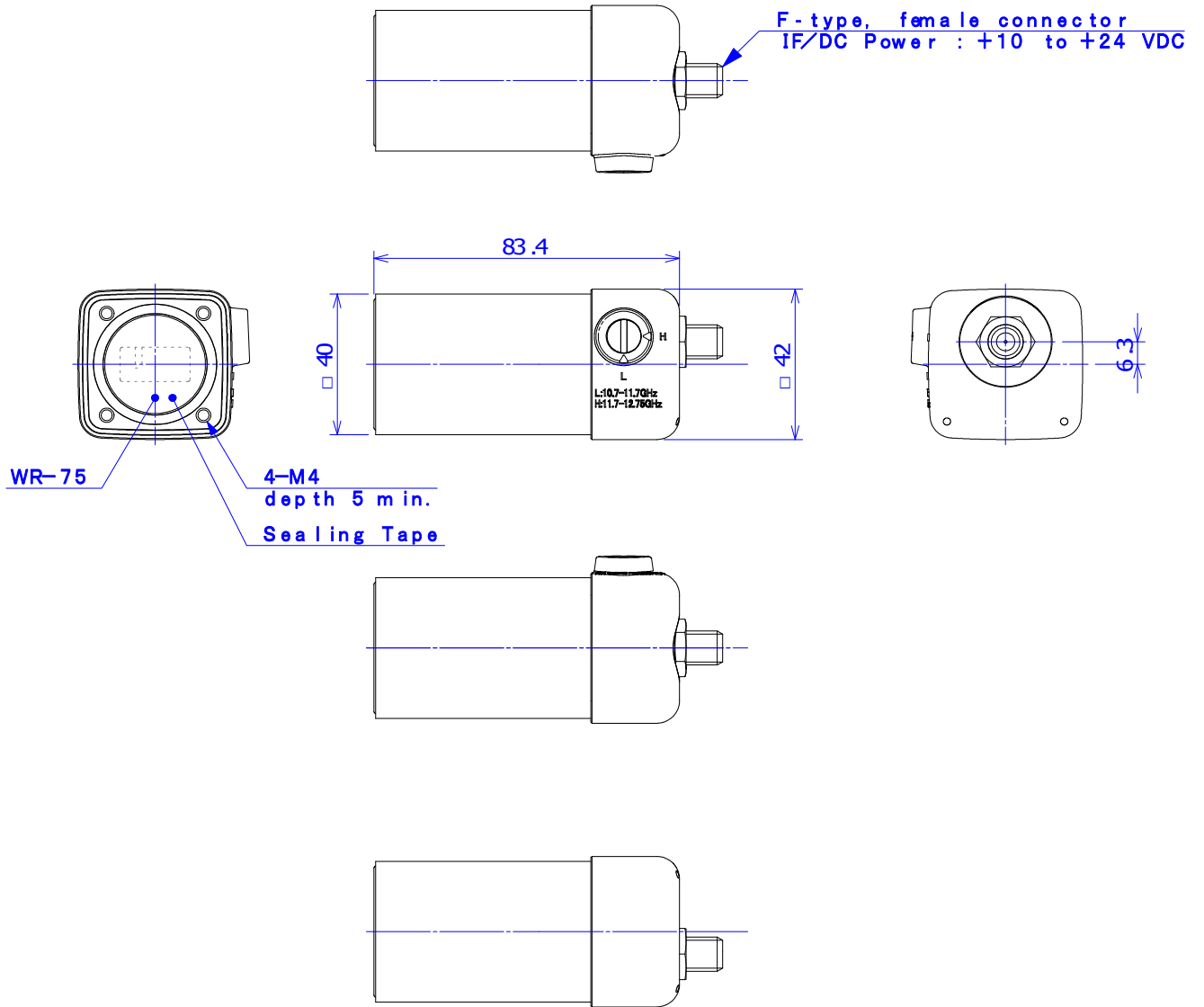


Note2: Specification of 22 kHz Tone

Input Port: IF Output Connector  
(Combine DC Supply with IF Signal)  
Wave Form: Square-wave  
Frequency: 22 +/- 4 kHz  
Duty Cycle: 30 to 70 %

■ Universal Ku-band 2LO PLL LNB (Switchable Local) - External Reference -  
 MODEL No. **NJR2841E/42E/43E** series

< **Outline Drawing** >  
**NJR2841E**

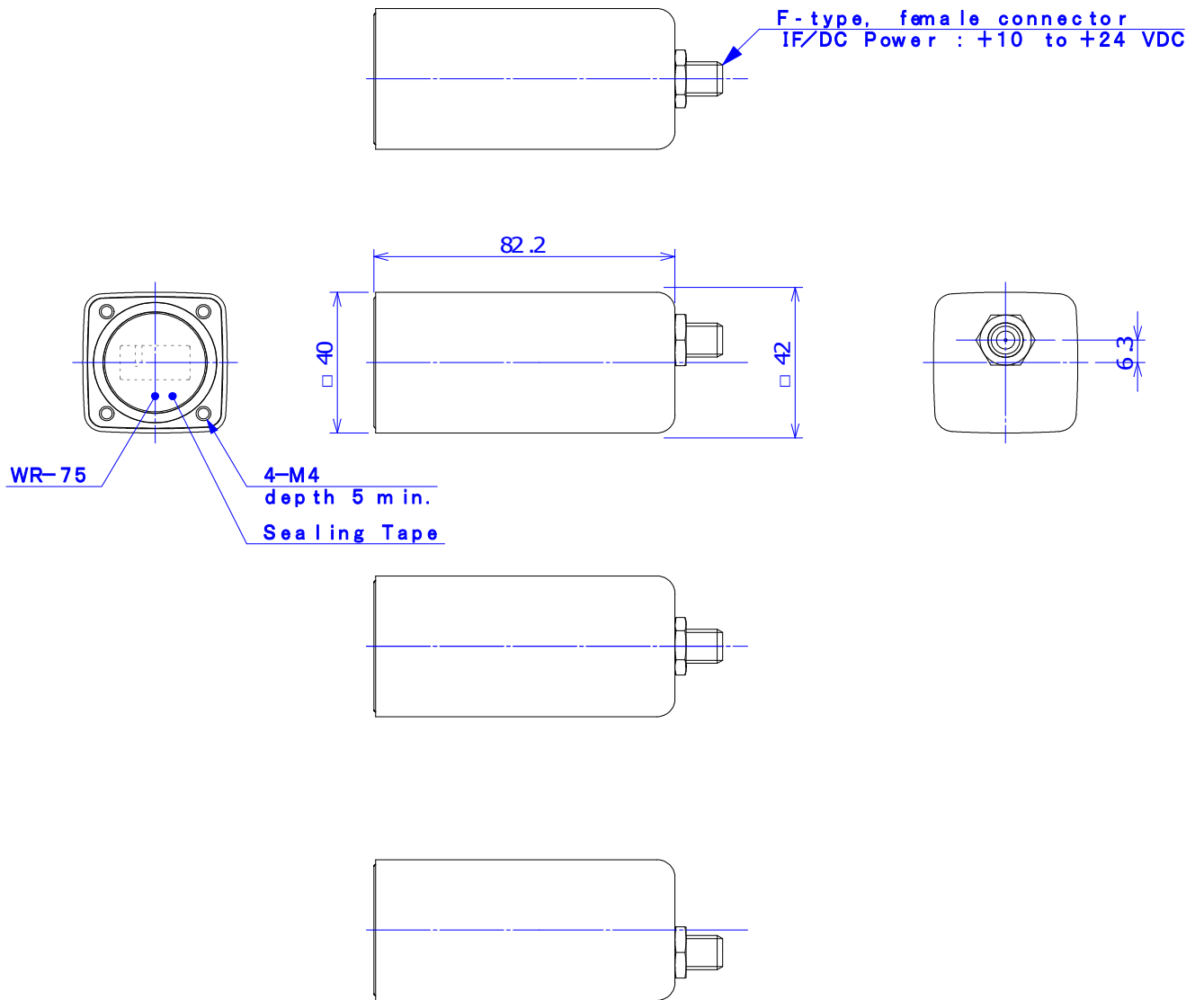


Unit: mm

■ Universal Ku-band 2LO PLL LNB (Switchable Local) - External Reference -  
MODEL No. **NJR2841E/42E/43E** series

< **Outline Drawing** >

**NJR2842E/43E**

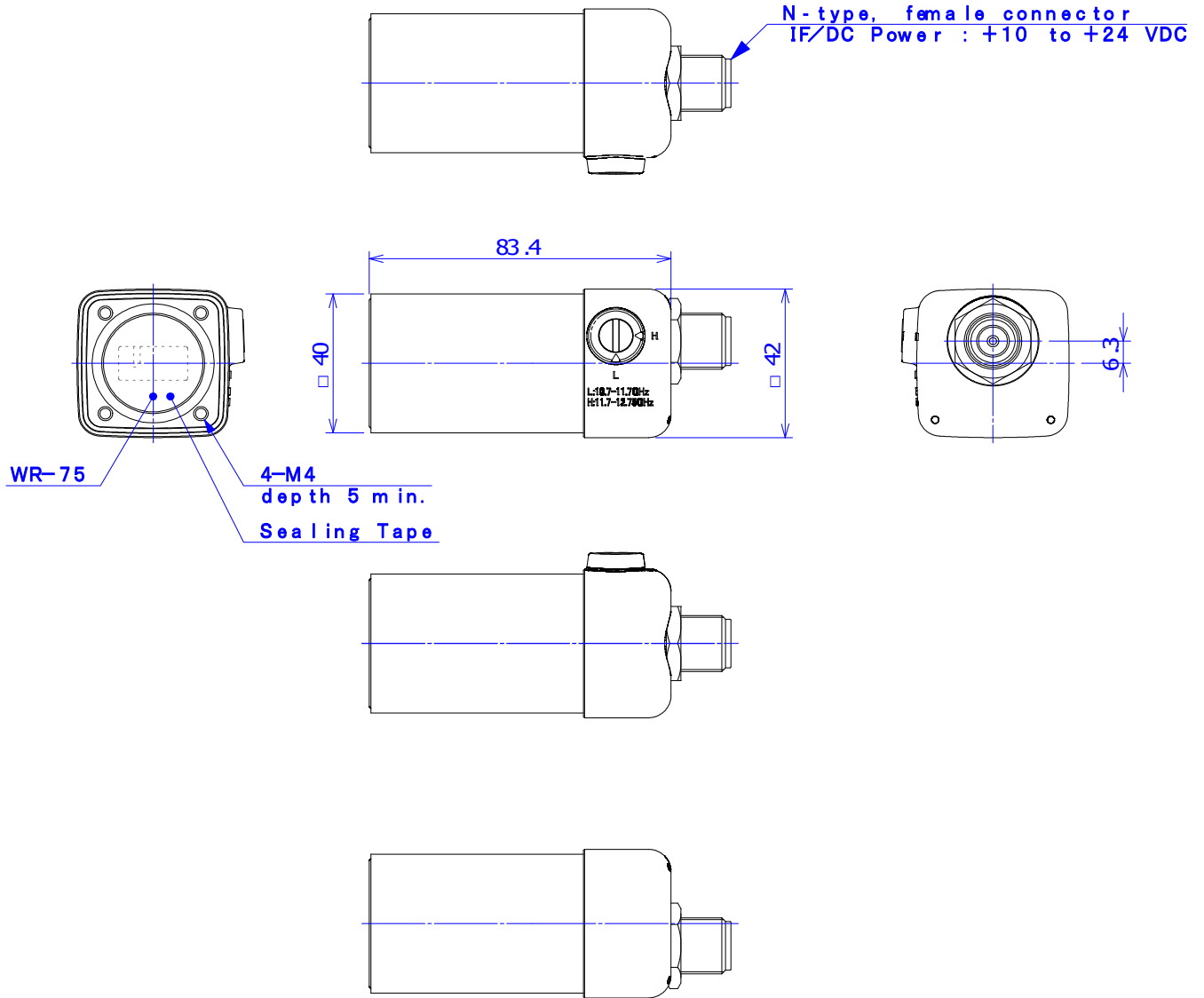


Unit: mm

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< **Outline Drawing** >

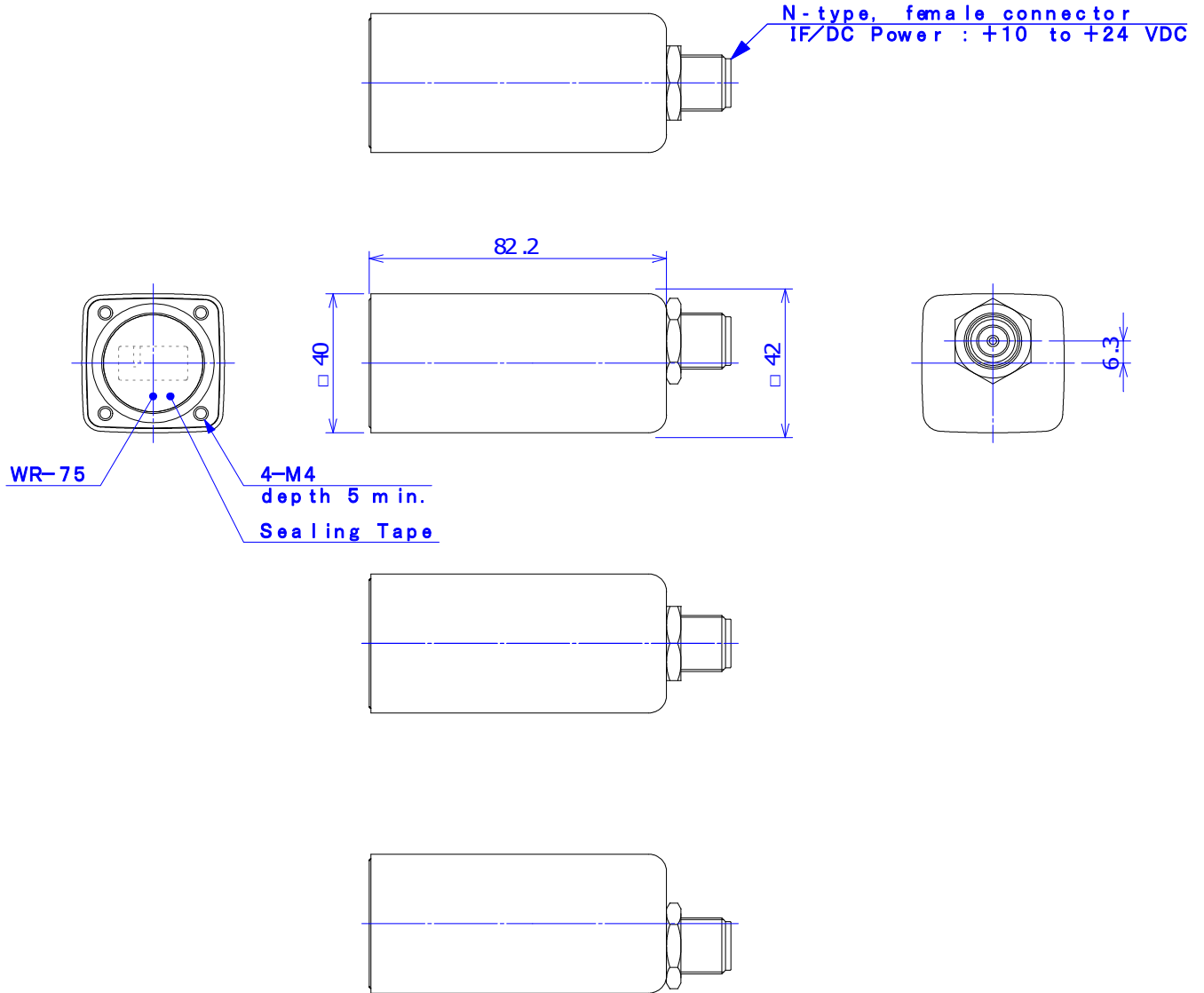
**NJR2841EN**



Unit: mm

■ Universal Ku-band 2LO PLL LNB (Switchable Local) - External Reference -  
MODEL No. **NJR2841E/42E/43E** series

< **Outline Drawing** >  
**NJR2842EN/43EN**



Unit: mm

■ Universal Ku-band 2LO PLL LNB (Switchable Local) - Int. Ref. ( $\pm 50$  ppm) -  
**MODEL No. NJR2841L/42L/43L series**

**< Features >**

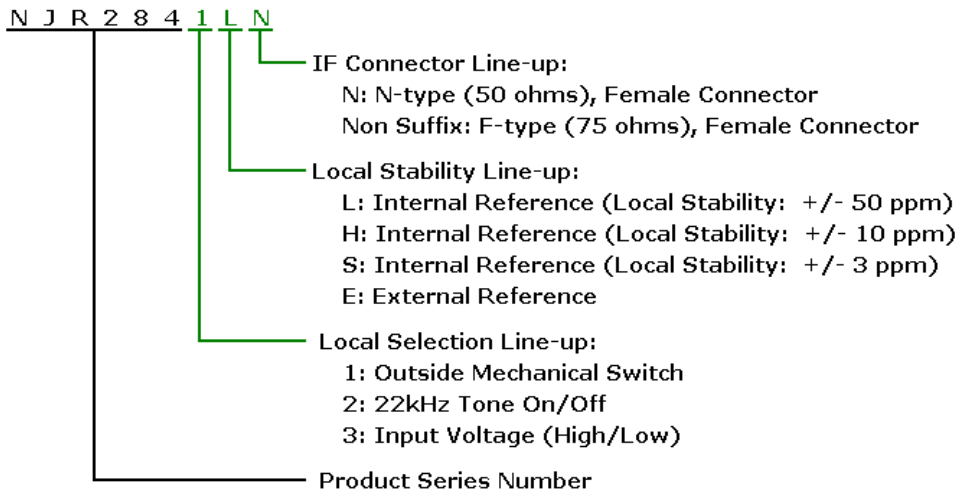
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  - Local Frequency: 9.75 / 10.6 GHz
- \* **Full Ku-band Coverage**
  - RF Frequency: 10.70 – 12.75 GHz  
 (Low Band) 10.70 – 11.70 GHz  
 (High Band) 11.70 – 12.75 GHz
- \* **Local Switching Line-up**
  - Local Frequency Selected by
    - Mechanical Switch: NJR2841 series
    - 22kHz Tone On/Off: NJR2842 series
    - Input Voltage (High/Low): NJR2843 series
- \* **Small Size & Light Weight**
  - Weight: 240 g (N-type Connector Model)
  - Weight: 210 g (F-type Connector Model)
- \* **RoHS Compliance**



**< Line-Up >**

| Model No. | RF Frequency                               | Local Frequency        | IF Connector                             | Local Stability | Local Frequency Selected by | IF Connector |
|-----------|--|------------------------|--|-----------------|-----------------------------|--------------|
| NJR2841L  | 10.70 to 11.70 GHz<br>/ 11.70 to 12.75 GHz | 9.75 GHz<br>/ 10.6 GHz | 950 to 1,950 MHz<br>/ 1,100 to 2,150 MHz | +/- 50 ppm      | Mechanical Switch           | F-type       |
| NJR2841LN |  |                        |  |                 |                             | N-type       |
| NJR2842L  |  |                        |  |                 | 22kHz Tone On/Off           | F-type       |
| NJR2842LN |  |                        |  |                 |                             | N-type       |
| NJR2843L  |  |                        |  |                 | Input Voltage (High/Low)    | F-type       |
| NJR2843LN |  |                        |  |                 |                             | N-type       |

**Model Numbering**


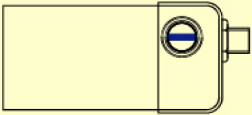


# ■ Universal Ku-band 2LO PLL LNB (Switchable Local) - Int. Ref. ( $\pm 50$ ppm) - MODEL No. **NJR2841L/42L/43L** series

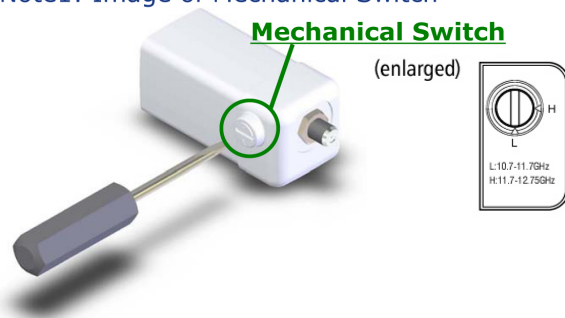
## < Specifications >

| Item  | Specifications  |
|---|---|
| Input Interface   | Waveguide, WR75 (with Groove)   |
| Output Interface  | N-type, female (50 ohm) [Model No.: NJR2841LN/42LN/43LN]<br>F-type, female (75 ohm) [Model No.: NJR2841L/42L/43L]   |
| Noise Figure at +25 C   | 0.8 dB typ., 1.0 dB max.  |
| Linear Gain (Ta.: +25 C)  | 48 dB min., 62 dB max.  |
| L.O. Phase Noise (SSB)  | -50 dBc/Hz typ. @ 100 Hz, -70 dBc/Hz typ. @ 1 kHz<br>-75 dBc/Hz typ. @ 10 kHz, -85 dBc/Hz typ. @ 100 kHz<br>Depends on phase noise of external reference  |
| L.O. Leakage Level  | -40 dBm max. at the IF Output Connector<br>-60 dBm max. at the RF Input Flange  |
| Spurious  | a) -120 dBm max.<br>at input, fixed frequency spur, unrelated to test CW signal (Measured at specified IF band).<br>b) -40 dBc typ.<br>with test CW signal -10 dBm IF output (Measured at specified IF band).           |
| Input V.S.W.R.  | 2.5 : 1 typ.  |
| Output V.S.W.R.   | 2.3 : 1 max.  |
| Power Requirement   | +24 VDC (+10 to +24 VDC)  |
| Current Drain   | 200 mA max.   |
| Temperature Range (ambient)                                     | -40 to +60 C (operating), -40 to +80 C (storage)  |
| Dimension & Housing<br>( without Interface Connectors / Switch) | 83.4 mm (L) x 42 mm (W) x 42 mm (H) [Model No.: NJR2841L/41LN]<br>[3.28" (L) x 1.65" (W) x 1.65" (H)]<br>82.2 mm (L) x 40 mm (W) x 40 mm (H) [Model No.: NJR2842L/42LN/43L/43LN]<br>[3.24" (L) x 1.57" (W) x 1.57" (H)] |
| Weight  | 240 g [0.53 lbs] [Model No.: NJR2841LN/42LN/43LN]<br>210 g [0.46 lbs] [Model No.: NJR2841L/42L/43L]   |

## Specifications of Local Switch

|                        | RF Frequency  |   |
|------------------------|---|---|
|                        | Low Band (10.7 to 11.7 GHz)   | High Band (11.7 to 12.75 GHz)   |
| Mechanical Switch      | Initial Set  |  |
| 22kHz Tone On/Off      | Tone Level: 0 to 0.2 Vp-p   | Tone Level: 0.4 to 0.8 Vp-p   |
| Input Voltage High/Low | Voltage: +10 to +14 VDC   | Voltage: +15.5 to +24 VDC   |

Note1: Image of Mechanical Switch



Note2: Specification of 22 kHz Tone

Input Port: IF Output Connector  
(Combine DC Supply with IF Signal)

Wave Form: Square-wave

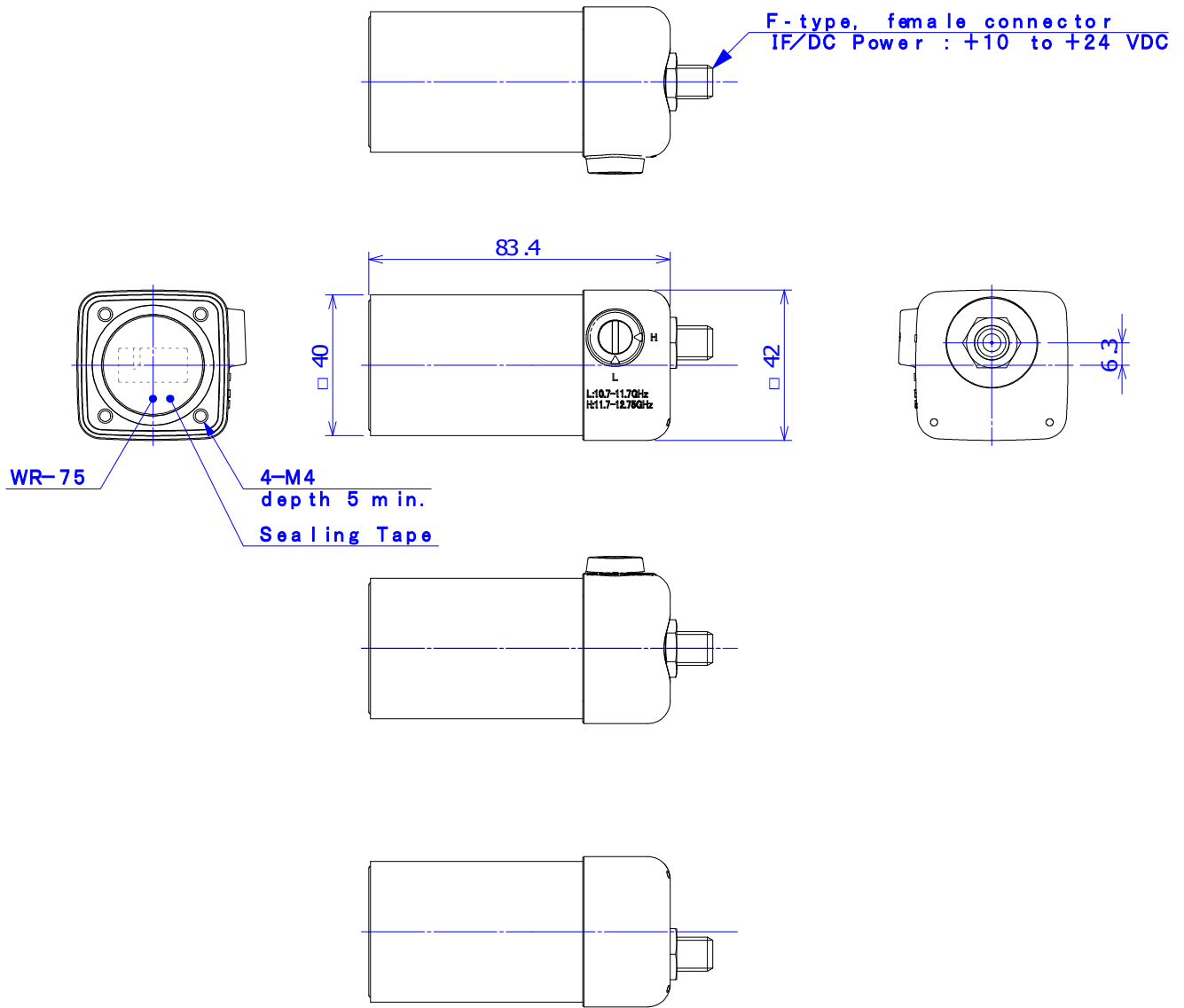
Frequency: 22 +/- 4 kHz

Duty Cycle: 30 to 70 %



■ Universal Ku-band 2LO PLL LNB (Switchable Local) - Int. Ref. ( $\pm 50$  ppm) -  
MODEL No. **NJR2841L/42L/43L** series

< **Outline Drawing** >  
**NJR2841L**



Unit: mm