

External Reference

Ku band PLL LNB N-female Type

Model No. NJR2633EN0

Model No. NJR2634EN0

Model No. NJR2635EN0

Model No. NJR2636EN0

Model No. NJR2637EN0

Model No. NJR2639EN0

Specifications

Rev.03M February 18, 2003

Copyright 2003

New Japan Radio Co., Ltd.

Microwave Components Division

-Notice of Proprietary Information-

This documents and its contents are proprietary to New Japan Radio Co., Ltd.

This publication and its contents may not be reproduced or distributed for any other purpose without the written permission of New Japan Radio Co., Ltd.



1. Scope

This specification defines the low noise and block downconverter intended for the satellite data communication downlink application in the Ku-Band.

This LNB has a combined 3-stage HEMT Amplifier and Block Down Converter with a Phase Locked Local, which is constituted with a VCO, SPD (Sampling Phase Detector), Loop Filter and Reference Recovery VCXO providing low phase noise.

This LNB has type N-female IF output connector.

All specifications shall apply throughout the full range of the specified environmental conditions unless otherwise specified.

2. Electrical Specifications

| # | Item | Specification |
|-------|---|--|
| 2-1. | Input Frequency Band | 11.45 to 11.95 GHz <Model No. NJR2633EN0> 12.20 to 12.70 GHz <Model No. NJR2634EN0> 11.70 to 12.20 GHz <Model No. NJR2635EN0> 12.25 to 12.75 GHz <Model No. NJR2636EN0> 10.95 to 11.70 GHz <Model No. NJR2637EN0> 11.20 to 11.70 GHz <Model No. NJR2639EN0> |
| 2-2. | Input Waveguide Flange | WR 75 |
| 2-3. | Input V.S.W.R. | 2.5 : 1 typ. |
| 2-4. | Noise figure (Ta: +25 C) | 0.8 dB typ. 1.2 dB max. |
| 2-5. | Output Frequency | 950 to 1,450 MHz <Model No. NJR2633EN0/34EN0/35EN0/36EN0/39EN0> 950 to 1,700 MHz <Model No. NJR2637EN0> |
| 2-6. | Conversion Gain (Ta: +25 C) | 55 dB min. 60 dB typ. |
| 2-7. | Conversion Gain Variation (Ta: +25 C) | 2.0 dB max. in any 50 MHz segment over the frequency band. |
| 2-8. | Output Power for 1 dB Gain Compression | 0 dBm min. |
| 2-9. | Intermodulation Products (3rd order Intermodulation rejection with two RF input carriers separated by 10 MHz, -10 dBm IF Output Power) | 45 dBc min |
| 2-10. | Local Oscillator Leakage Levels | -25 dBm max. at the IF Output Connector. -60 dBm max. at the RF Input Flange. |
| 2-11. | Local Oscillator Frequency | 10.50 GHz nom. <Model No. NJR2633EN0> 11.25 GHz nom. <Model No. NJR2634EN0> 10.75 GHz nom. <Model No. NJR2635EN0> 11.30 GHz nom. <Model No. NJR2636EN0> 10.00 GHz nom. <Model No. NJR2637EN0> 10.25 GHz nom. <Model No. NJR2639EN0> |
| 2-12. | Phase Noise (SSB) | -75 dBc/Hz at 100 Hz -80 dBc/Hz at 1 kHz -90 dBc/Hz at 10 kHz -110 dBc/Hz at 100 kHz *Depend on Phase Noise of the External Reference. |
| 2-13. | External Reference Input Frequency | 10 MHz nom. |
| 2-14. | External Reference Input Power | -10 to 0 dBm (50 ohm) @IF Output connector |
| 2-15. | External Reference Input Port | IF Output Connector (Combine Reference with IF Signal) |



| # | Item | Specification |
|-------|--------------------------------|--|
| 2-16. | External Reference Phase Noise | -135 dBc/Hz at 100 Hz -143 dBc/Hz at 1 kHz -145 dBc/Hz at 10 kHz (Input Condition) |
| 2-17. | Spurious | a) -140 dBm max. At input, fixed frequency spur, unrelated to test CW signal. (Measured at specified IF band ; 950 to 1,450 or 1,700 MHz) b) -50 dBc max. With test CW signal -10 dBm IF output (Measured at specified IF band ; 950 to 1,450 or 1,700 MHz) |
| 2-18. | Image Rejection | 45 dB min. |
| 2-19. | Output V.S.W.R. (75 ohm) | 2.3 : 1 max. |
| 2-20. | Input Voltage | +15 to +24 V DC |
| 2-21. | Current Drain | 380 mA typ. 400 mA max. |

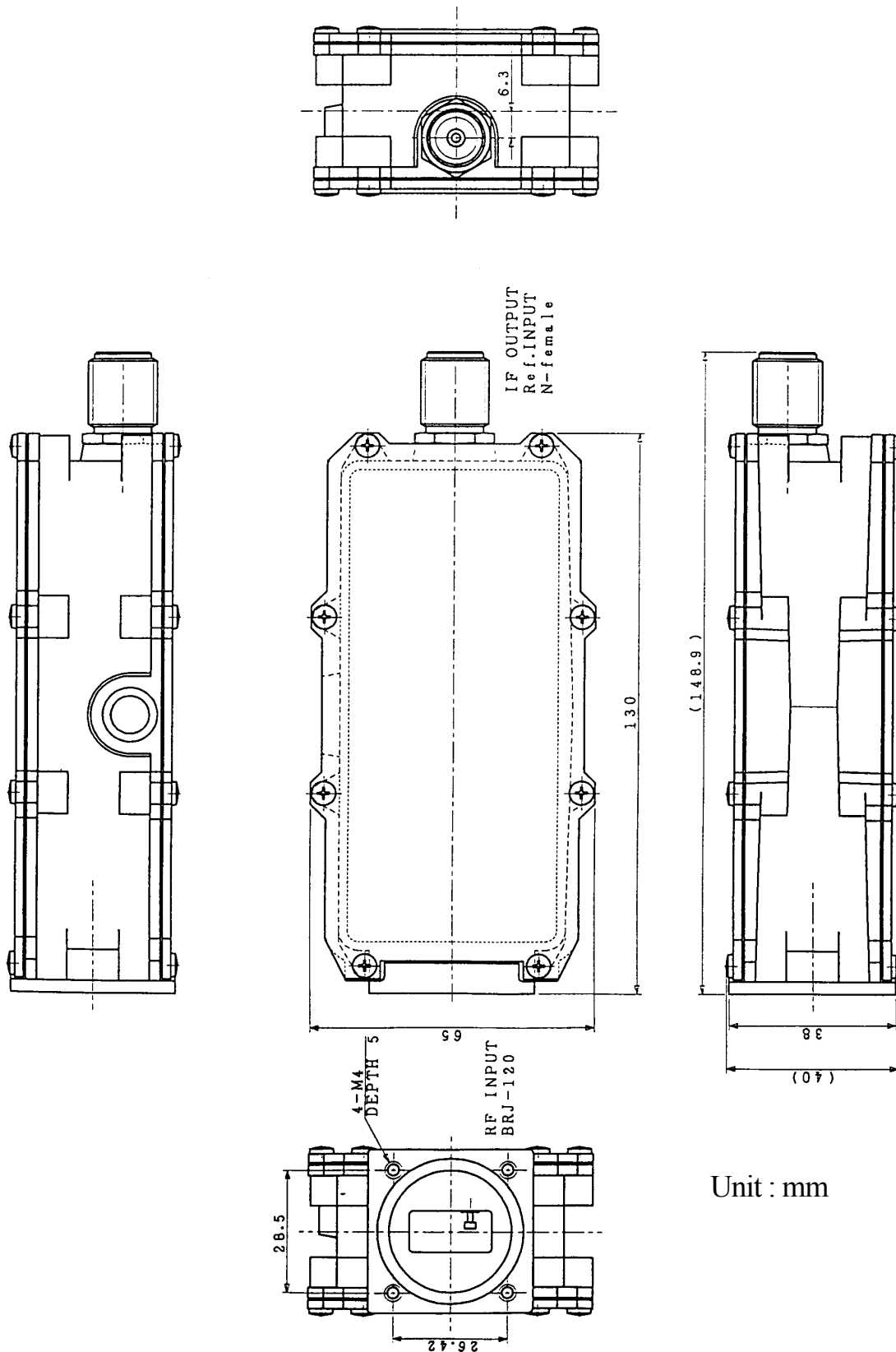
3. Environmental Specifications

| # | Item | Specification |
|------|-----------------------------|---|
| 3-1. | Operating Temperature Range | -40 to +60 C |
| 3-2. | Storage Temperature Range | -40 to +80 C |
| 3-3. | Humidity | 100 % Rh max. |
| 3-4. | Vibration | 5 G (f : 50 Hz, T : 5 min. Direction : X,Y,Z) |
| 3-5. | Shock | 15 G (Direction : X,Y,Z) |

4. Absolute Maximum Rating

| # | Item | Specification |
|------|----------------|----------------|
| 4-1 | RF Input Power | -10 dBm (@ CW) |
| 4-2. | Supply Voltage | +28 Vdc |

5. Outline Drawing



Unit : mm