

External Reference Ku band PLL LNB

Model No. NJR2633E

Model No. NJR2634E

Model No. NJR2635E

Model No. NJR2636E

Model No. NJR2637E

Model No. NJR2639E

Specifications

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New Japan Radio Co., Ltd.

Microwave Components Division

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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 F-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. NJR2633E> 12.20 to 12.70 GHz <Model No. NJR2634E> 11.70 to 12.20 GHz <Model No. NJR2635E> 12.25 to 12.75 GHz <Model No. NJR2636E> 10.95 to 11.70 GHz <Model No. NJR2637E> 11.20 to 11.70 GHz <Model No. NJR2639E>
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. NJR2633E/34E/35E/36E/39E> 950 to 1,700 MHz <Model No. NJR2637E>
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. NJR2633E> 11.25 GHz nom. <Model No. NJR2634E> 10.75 GHz nom. <Model No. NJR2635E> 11.30 GHz nom. <Model No. NJR2636E> 10.00 GHz nom. <Model No. NJR2637E> 10.25 GHz nom. <Model No. NJR2639E>
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 (75 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.

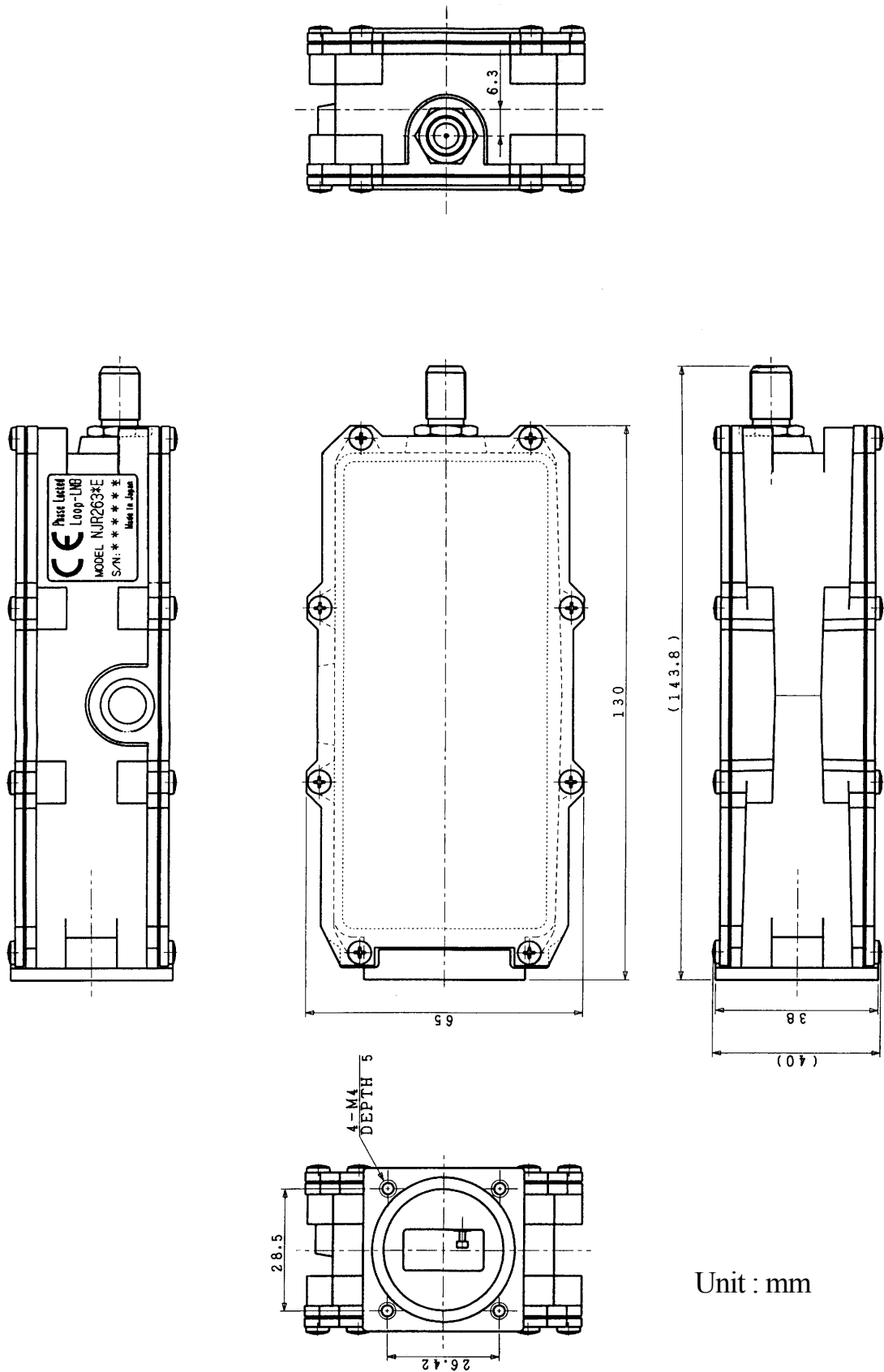
3. Environmental Specifications

#	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