Universal Ku-band PLL LNB

RF Frequency: (Low band) 10.7 to 11.7 GHz / (High band) 11.7 to 12.75 GHz
Local Frequency: (Low band) 9.75 GHz / (High band) 10.6 GHz

LO Stability Line-up:

- **Extrenal Reference**
- **Intrenal Reference (+/-3ppm, +/-10ppm , +/-50ppm)**

Model No. NJR2841 series

Local Selection: Outside Mechanical Switch
(IF / Ref. (10MHz) / DC Power Interface: F or N-type Female Connector)

Model No. NJR2842 series

Local Selection: 22kHz Tone
(IF / Ref. (10MHz) / DC Power Interface: F or N-type Female Connector)

Model No. NJR2843 series

Local Selection: Input Voltage High/Low
(IF / Ref. (10MHz) / DC Power Interface: F or N-type Female Connector)

Specifications
Rev.08 March 14, 2012

Caution

1. NJRC strives to produce reliable and high quality microwave components. NJRC's microwave components are intended for specific applications and require proper maintenance and handling. To enhance the performance and service of NJRC's microwave components, the devices, machinery or equipment into which they are integrated should undergo preventative maintenance and inspection at regularly scheduled intervals. Failure to properly maintain equipment and machinery incorporating these products can result in catastrophic system failures.

2. To ensure the highest levels of reliability, NJRC products must always be properly handled. The introduction of external contaminants (e.g. dust, oil or cosmetics) can result in failures of microwave components.

3. NJRC offers a variety of microwave components intended for particular applications. It is important that you select the proper component for your intended application. You may contact NJRC's sales office or sales representatives, if you are uncertain about the products listed in the catalog and the specification sheets.

4. Special care is required in designing devices, machinery or equipment, which demand high levels of reliability. This is particularly important when designing critical components or systems whose foreseeable failure can result in situations that could adversely affect health or safety. In designing such critical devices, equipment or machinery, careful consideration should be given to, amongst other things, their safety design, fail-safe design, back-up and redundancy systems, and diffusion design.

5. The products listed in the catalog and specification sheets may not be appropriate for use in certain equipment where reliability is critical or where the products may be subjected to extreme conditions. You should consult our sales office or sales representatives before using the products in any of the following types of equipment.
   * Aerospace Equipment
   * Equipment Used in the Deep Sea
   * Power Generator Control Equipment (nuclear, steam, hydraulic)
   * Life Maintenance Medical Equipment
   * Fire Alarm/Intruder Detector
   * Vehicle Control Equipment (automobile, airplane, railroad, ship, etc.)
   * Various Safety Equipment

6. NJRC's products have been designed and tested to function within controlled environmental conditions. Do not use products under conditions that deviate from methods or applications specified in the catalog and specification sheets. Failure to employ NJRC's products in the proper applications can lead to deterioration, destruction or failure of the products. NJRC shall not be responsible for any bodily injury, fires or accidents, property damage or any consequential damages resulting from the misuse or misapplication of its products. PRODUCTS ARE SOLD WITHOUT WARRANTY OF ANY OF KIND, EITHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

7. The product specifications and descriptions listed in the catalog and specification sheets are subject to change at any time, without notice.

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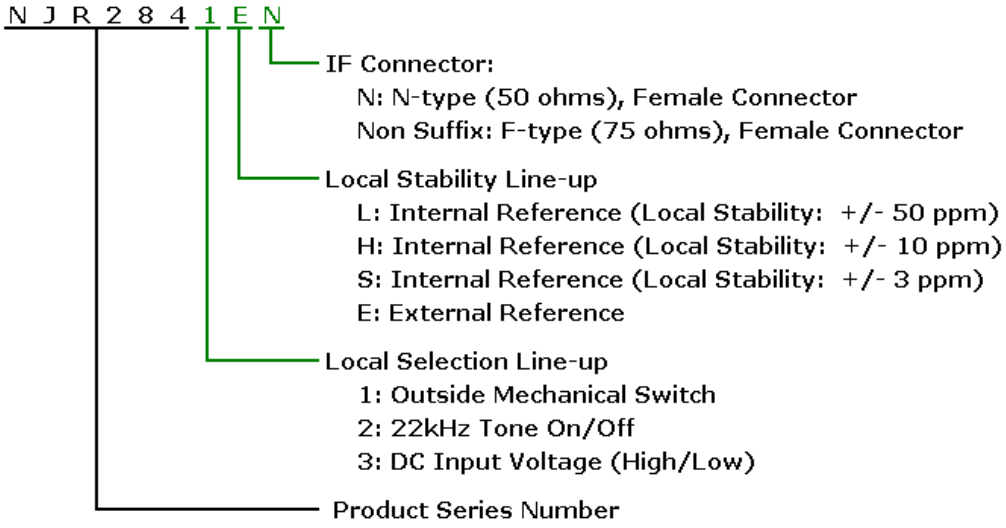
Model Numbering System



Reference & Local Stability Line-up:

(L-type) Internal Reference, +/- 50 ppm Local Stability
(H-type) Internal Reference, +/- 10 ppm Local Stability
(S-type) Internal Reference, +/- 3 ppm Local Stability
(E-type) External Reference

1. Electrical Specifications

#	Item	Specification
1-1.	Input Frequency Band	
	[Low band]	10.70 to 11.70 GHz
	[High band]	11.70 to 12.75 GHz
1-2.	Output Frequency Band	
	[Low band]	950 to 1,950 MHz
	[High band]	1,100 to 2,150 MHz
1-3.	Local Frequency	
	[Low band]	9.75 GHz
	[High band]	10.60 GHz
1-4.	Conversion Gain	48 dB min., 62 dB max.
1-5.	Gain Variation	6 dB max. over frequency 1.5 dB max. in any 36 MHz segment
1-6.	Noise Figure at + 25 degree C	0.8 dB typ., 1.0 dB max.
1-7.	Output Power for 1 dB Gain Compression	0 dBm min. @ +25 C
1-8.	Output Intercept Point of 3rd Order Intermodulation	+5 dBm min.
1-9.	Requirement for External Reference (Only E-type Specified)	
	[Input Port]	IF Output Connector (Combine DC Supply with IF Signal)
	[Frequency]	10 MHz (sine-wave)
	[Input Power]	-10 to 0 dBm
	[Phase Noise]	-125 dBc/Hz max. @ 100 Hz -135 dBc/Hz max. @ 1 kHz -140 dBc/Hz max. @ 10 kHz

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#	Item	Specification
1-10.	Local Stability (Initial Setting Error & Over Temperature) <L-type> <H-type> <S-type> <E-type>	 +/- 50 ppm max. +/- 10 ppm max. +/- 3 ppm max. Depend on External Reference Stability
1-11.	L. O. Phase Noise (SSB)	-50 dBc/Hz typ. @ 100 Hz -70 dBc/Hz typ. @ 1 kHz -75 dBc/Hz typ. @ 10 kHz -85 dBc/Hz typ. @ 100 kHz -105 dBc/Hz typ. @ 1 MHz In case of E-type, depend on External Reference Stability
1-12.	Local Leakage Levels	-40 dBm max. at the IF Output Connector -60 dBm max. at the RF Input Flange
1-13.	Image Rejection	40 dB min.
1-14.	Spurious	a) -120 dBm max. at input, fixed frequency spur, unrelated to test CW signal. b) -40 dBc typ., -30 dBc max. with test CW signal -10 dBm IF output
1-15.	Input V.S.W.R.	2.5 : 1 typ.
1-16.	Output Impedance <NJR2841*/42*/43*> <NJR2841*N/42*N/43*N>	 75 ohms nom. (F-type Female Connecter) 50 ohms nom. (N-type Female Connecter)
1-17.	Output V.S.W.R.	2.3 : 1 max.
1-18.	Requirement for DC Supply [Input Port] [Input Voltage] [Current Drain] <L/H/S-type> <E-type>	 IF Output Connector (Combine DC Supply with IF Signal) +10 to +24 VDC 170 mA max. 200 mA max.

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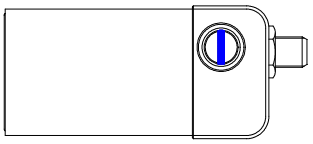
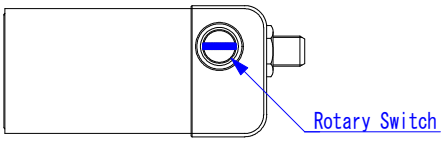
#	Item	Specification
1-19.	Frequency Band Select Function <NJR2841 series> [Select Type] [Band Selection] [Switch Side Definition]	 Outside Mechanical Switch Low Band: A side: (Initial Set) High Band: B side A side:  B side: 
	<NJR2842 series> [Select Type] [Band Selection] [22kHz Specifications]	 22 kHz Tone (Compliance with DiSEqC Standard) Low Band: 0 to 0.2 Vp-p High Band: 0.4 to 0.8 Vp-p Input Port: IF Output Connector (Combine DC Supply with IF Signal) Wave Form: Square-wave Frequency: 22 +/- 4 kHz Duty Cycle: 30 to 70 %
	<NJR2843 series> [Select Type] [Band Selection]	 Input Voltage (High/Low) Low Band: Low Voltage (+10 to +14 V) High Band: High Voltage (+15.5 to +24 V)

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2. Mechanical Specifications

#	Item	Specification
2-1.	Input Interface	Waveguide, WR-75 with Groove
2-2.	Output Interface <NJR2841*/42*/43*> <NJR2841*N/42*N/43*N>	 F-type, Female connector N-type, Female connector
2-3.	Dimension & Housing (without Interface Connector & Rotary SW) <NJR2841 series> <NJR2842/43 series>	 (L) 83.4 x (W) 42 x (H) 42 mm [(L) 3.28" x (W) 1.65" x (H) 1.65"] (L) 82.2 x (W) 40 x (H) 40 mm [(L) 3.24" x (W) 1.57" x (H) 1.57"]
2-4.	Weight <NJR2841*/42*/43*> <NJR2841*N/42*N/43*N>	 210 g [0.46 lbs] 240 g [0.53 lbs]

3. Environmental Specifications

#	Item	Specification
3-1.	Temperature Range (ambient) [Operating] [Storage]	 -40 to +60 C -40 to +80 C
3-2.	Humidity	0 to 100 % Rh
3-3.	Altitude	15,000 feet 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)
3-6.	Comply with RoHS (Restricting the use of Hazardous Substances) directives	

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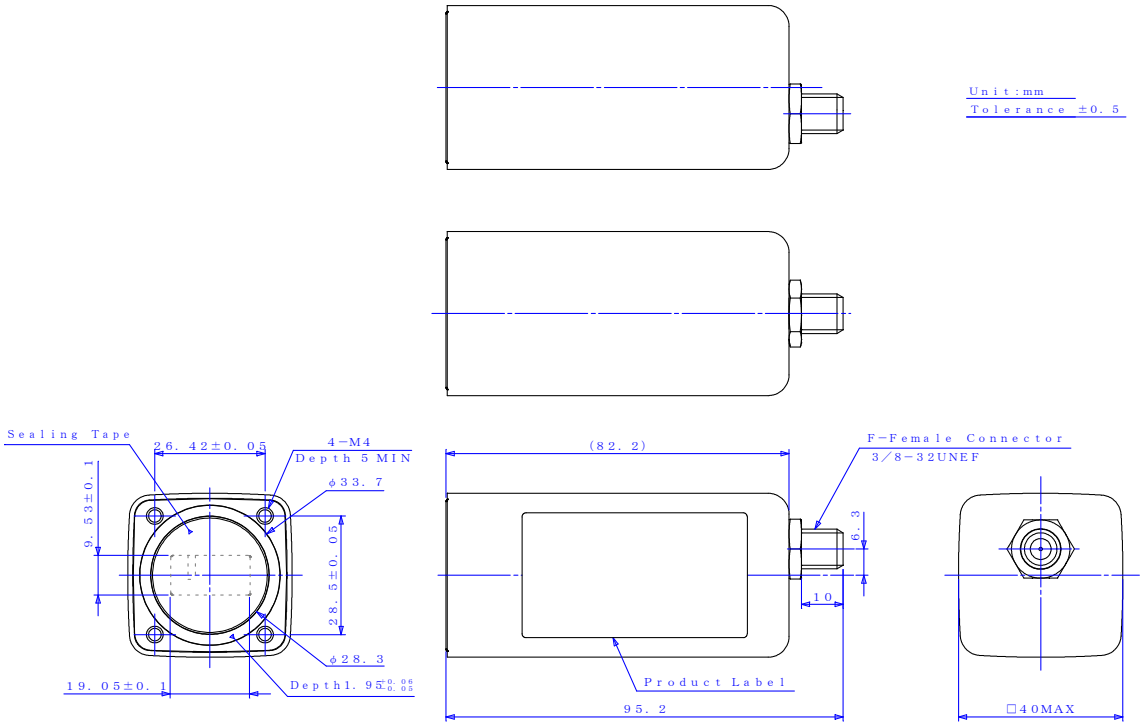
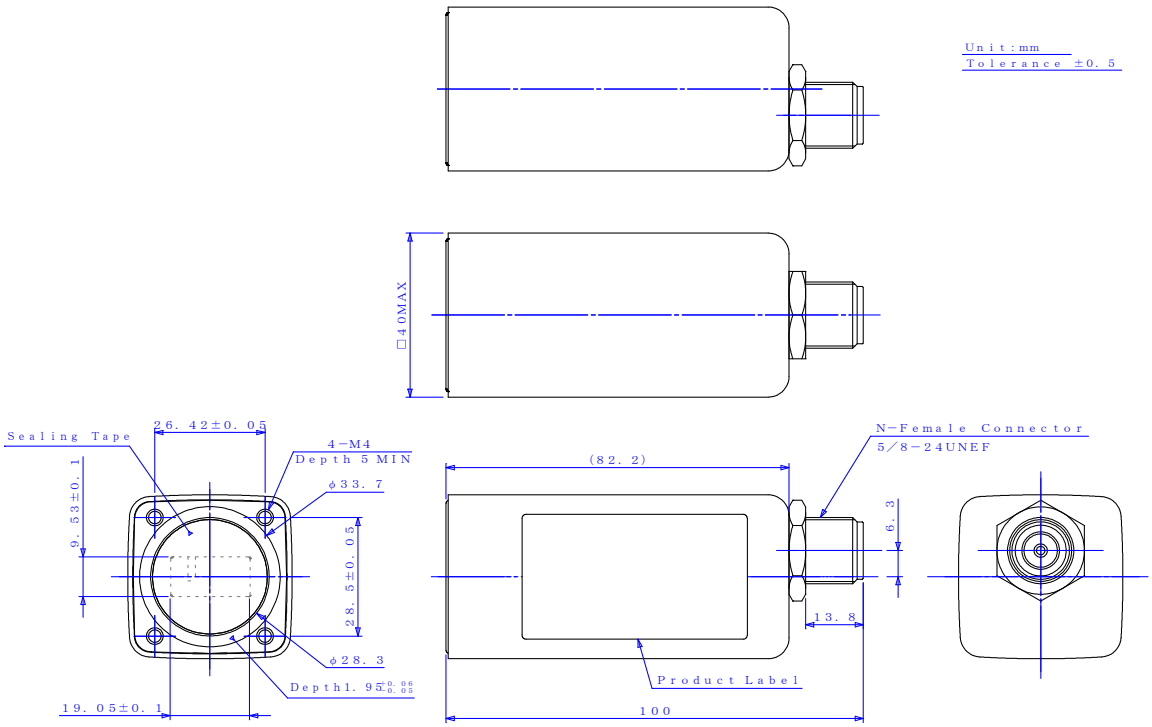
● NJR2842*/43* (F-type Female Connecter):



● NJR2842*N/43*N (N-type Female Connecter):



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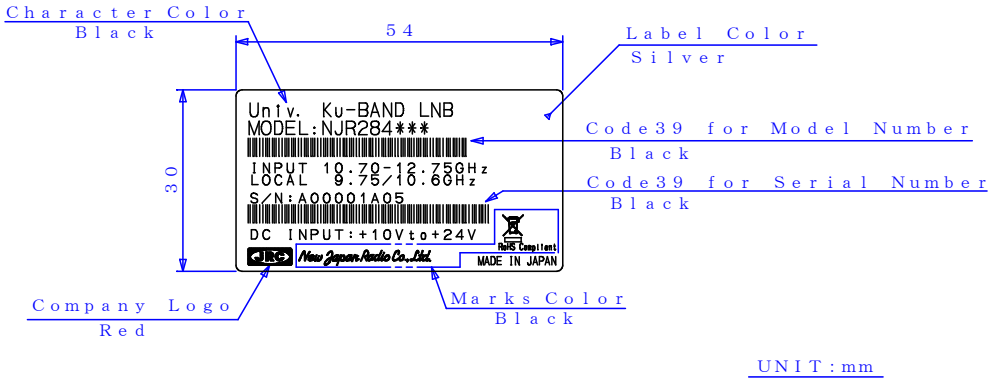
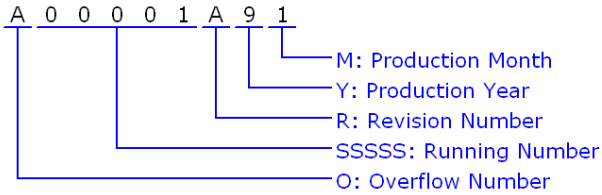
5. Label

● Product Label



● Definition of Serial Number

Serial Number (OSSSSSRYM) - ALPHANUMERIC (9 characters)



O: Overflow Number - ALPHABET (1 character)
"A" to "Z", e.g.: A99999 ⇒ B00001

SSSSS: Running Number - NUMBER (5 digits)
"00001" to "99999"

R: Revision Number - ALPHABET (1 character)
"A" to "Z"

Y: Production Year - NUMBER (1 digit)
Calendar Number, e.g.: 2009:9, 2010:0, 2011:1, 2012:2 ····

M: Production Month - ALPHANUMERIC (1character)
"1" to "9", "X" as October, "Y" as November, "Z" as December

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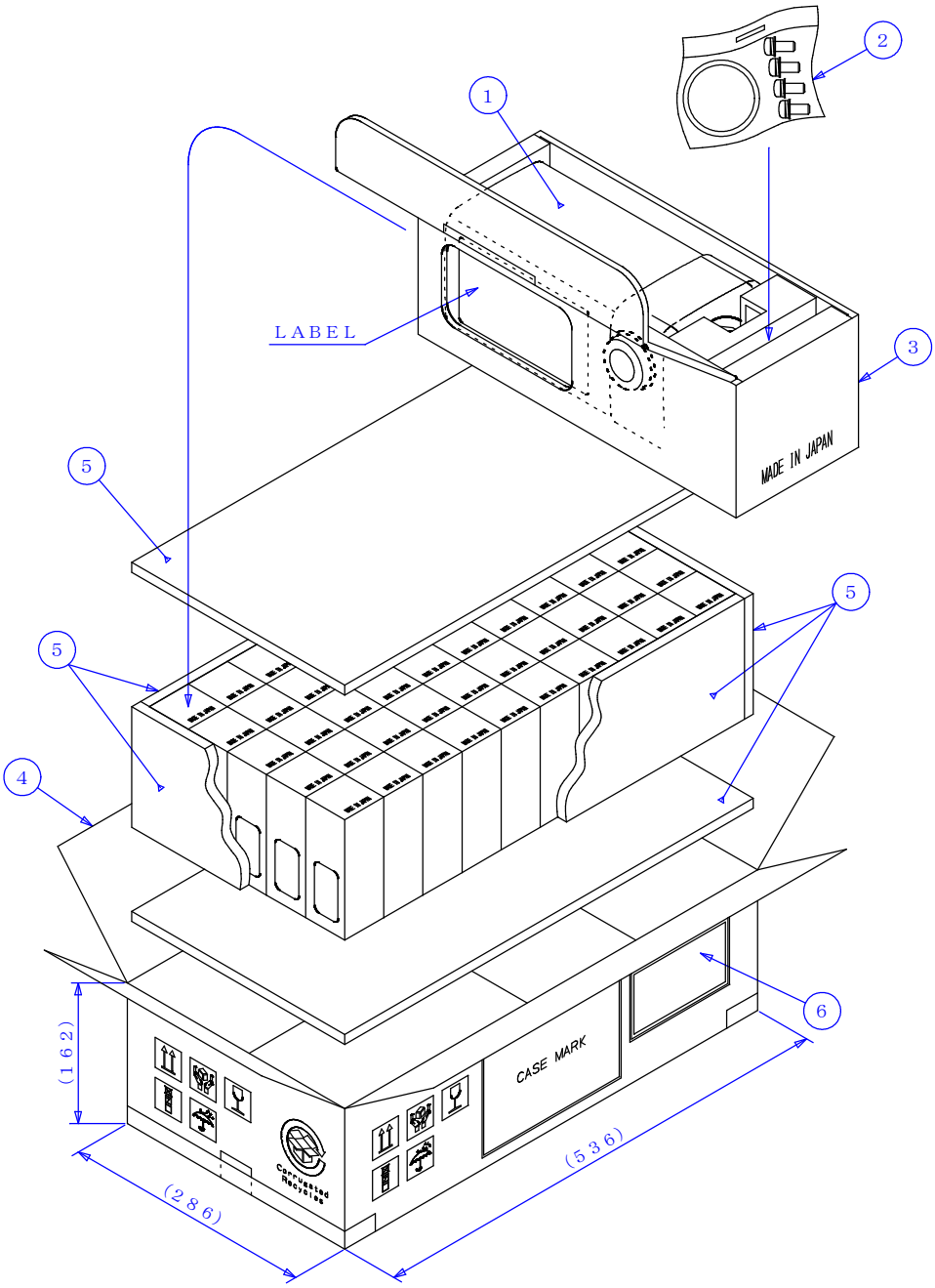
6. Packing

- **NJR2841 series:**



①:LNB
②:Accessory
O-RING, Screw (M4×12 4Pieces SUS、SW and W)
③:Single Wall Corrugated Fibreboard
④:Double Wall Corrugated Fiberboard
⑤:Polystyrene Foam For Package Cushioning
⑥:Package Label (MODEL No, QUANTITY)

UNIT:mm

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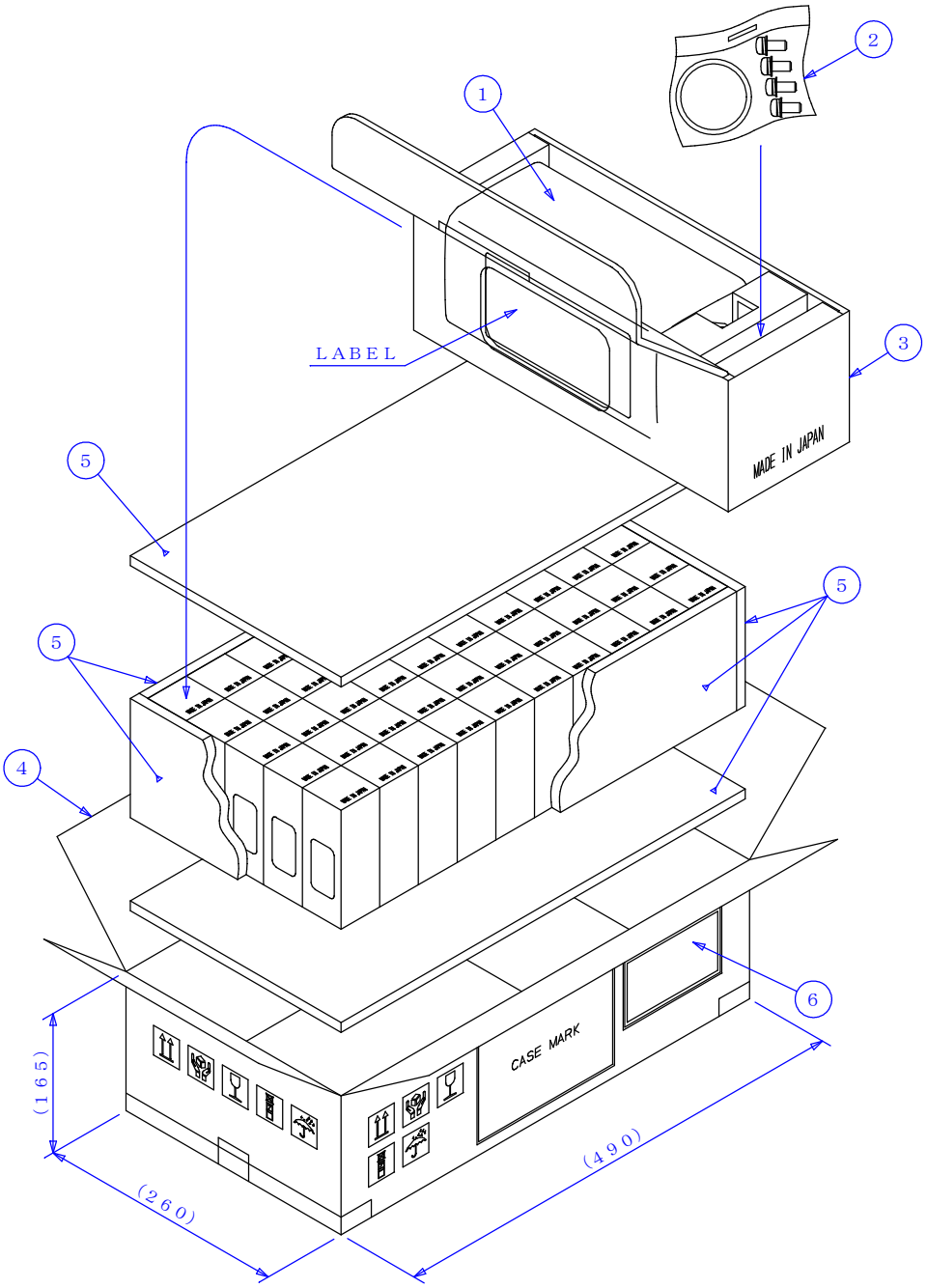
● **NJR2842/43 series:**



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