Date
December 26, 2018

Released

C-band PLL LNB

Internal & External Reference Model

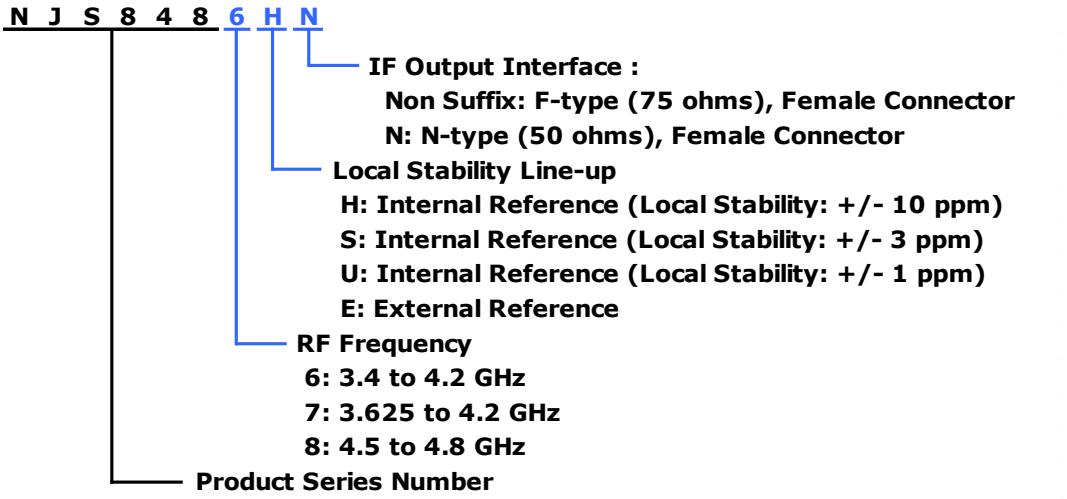
Model No. NJS8486 series

Model No.	RF Frequency	Local Frequency	IF Frequency
NJS8486 series	3.4 to 4.2 GHz	5.15 GHz	950 to 1,750 MHz
NJS8487 series	3.625 to 4.2 GHz	5.15 GHz	950 to 1,525 MHz
NJS8488 series	4.5 to 4.8 GHz	5.76 GHz	960 to 1,260 MHz

IF Interface Connector: N-type / F-type, Female Connector
Local Reference Type: Internal / External Reference
Local Stability: H-type, +/- 10 ppm (+/- 100 kHz typ.)
S-type, +/- 3 ppm (+/- 30 kHz typ.)
U-type, +/- 1 ppm (+/- 10 kHz typ.)
E-type, External Reference
Input Interface: Waveguide, CPR-229G

Model Number

- **Numbering System**



Reference & Local Stability Line-up:

(H-type) Internal Reference, +/- 10 ppm Local Stability
(S-type) Internal Reference, +/- 3 ppm Local Stability
(U-type) Internal Reference, +/- 1 ppm Local Stability
(E-type) External Reference

- **Line-up**

Model No.	RF Frequency	Local Frequency	IF Frequency	Local Stability [-40 to +60 °C]	IF Connector
NJS8486E	3.400 to 4.200 GHz (Palapa C-band)	5.15 GHz	950 to 1,750 MHz	Depends on External Reference	F-type
NJS8486EN					N-type
NJS8486H				+/- 10 ppm (+/- 50kHz typ.)	F-type
NJS8486HN					N-type
NJS8486S				+/- 3 ppm (+/- 15kHz typ.)	F-type
NJS8486SN					N-type
NJS8486U				+/- 1 ppm (+/- 5kHz typ.)	F-type
NJS8486UN					N-type
NJS8487E	3.625 to 4.200 GHz (Standard C-band)	5.15 GHz	950 to 1,525 MHz	Depends on External Reference	F-type
NJS8487EN					N-type
NJS8487H				+/- 10 ppm (+/- 50kHz typ.)	F-type
NJS8487HN					N-type
NJS8487S				+/- 3 ppm (+/- 15kHz typ.)	F-type
NJS8487SN					N-type
NJS8487U				+/- 1 ppm (+/- 5kHz typ.)	F-type
NJS8487UN					N-type
NJS8488E	4.500 to 4.800 GHz (Insat C-band)	5.76 GHz	960 to 1,260 MHz	Depends on External Reference	F-type
NJS8488EN					N-type
NJS8488H				+/- 10 ppm (+/- 50kHz typ.)	F-type
NJS8488HN					N-type
NJS8488S				+/- 3 ppm (+/- 15kHz typ.)	F-type
NJS8488SN					N-type
NJS8488U				+/- 1 ppm (+/- 5kHz typ.)	F-type
NJS8488UN					N-type

＊Above Specifications are subject to change without notice.

1. Electrical Specifications

#	Items	Specifications
1.1.	Absolute Maximum Rating	
	[RF Input Power]	-10 dBm (@ CW), +10 dBm (@ Pulse)
	[Supply Voltage]	+28 V DC
1.2.	Input RF Frequency Range	
	<Model No. NJS8486>	3.4 to 4.2 GHz
	<Model No. NJS8487>	3.625 to 4.2 GHz
	<Model No. NJS8488>	4.5 to 4.8 GHz
1.3.	Noise Temperature @ +25 ºC	15 K typ. 30 K max.
1.4.	Output IF Frequency Range	
	<Model No. NJS8486>	950 to 1,750 MHz
	<Model No. NJS8487>	950 to 1,525 MHz
	<Model No. NJS8488>	960 to 1,260 MHz
1.5.	Conversion Gain @ +25 ºC	59 dB min. 66 dB max.
1.6.	Conversion Gain Ripple @ +25 ºC	2 dBp-p max. at 50 MHz segments.
1.7.	Conversion Gain Flatness over Freq. @ +25 ºC	
	<Model No. NJS8486>	7 dBp-p max. at 800 MHz BW
	<Model No. NJS8487>	5 dBp-p max. at 575 MHz BW
	<Model No. NJS8488>	4 dBp-p max. at 300 MHz BW
1.8.	Conversion Gain Variation over Temperature	5 dB max.
1.9.	Output Power @ 1dB G.C.P. (P1dB)	+3 dBm min.
1.10.	Intermodulation Products (3rd order Intermodulation rejection with two -75 dBm input carriers separated by 10 MHz.)	45 dBm min.
1.11.	Output Intercept Point	+13 dBm min.
1.12.	Local Oscillator Frequency	
	<Model No. NJS8486 series>	5.15 GHz
	<Model No. NJS8487 series>	5.15 GHz
	<Model No. NJS8488 series>	5.76 GHz
1.13.	Local Oscillator Stability (Initial set and Temp.: -40 to +60 ºC)	
	<H-type>	Internal Reference, +/- 10 ppm max.
	<S-type>	Internal Reference, +/- 3 ppm max.
	<U-type>	Internal Reference, +/- 1 ppm max.
	<E-type>	Depends on External Reference

＊Above Specifications are subject to change without notice.

#	Items	Specifications
1.14.	L.O. Phase Noise (SSB)	-70 dBc/Hz typ. -63 dBc/Hz max. @ 100 Hz -80 dBc/Hz typ. -73 dBc/Hz max. @ 1 kHz -85 dBc/Hz typ. -83 dBc/Hz max. @ 10 kHz -95 dBc/Hz typ. -90 dBc/Hz max. @ 100 kHz -105 dBc/Hz typ. -100 dBc/Hz max. @ 1 MHz
1.15.	Requirement for External Reference (Only E-type Specified) [Input Port] [Frequency] [Input Power] [Phase Noise]	 IF Output Connector (Combine reference with IF Signal) 10 MHz nom. (Sine-wave) -10 to 0 dBm @ IF Output connector -135 dBc/Hz max. at 100 Hz -143 dBc/Hz max. at 1 kHz -145 dBc/Hz max. at 10 kHz (Input Condition)
1.16.	Spurious	a) -140 dBm max. at input, Fixed frequency spur, unrelated to test CW signal. (Measured at specified IF band: 950 to 1,750 MHz, 950 to 1,525 MHz, or 960 to 1,260 MHz) b) -55 dBc max. with test CW signal -10 dBm IF output (Measured at specified IF band: 950 to 1,750 MHz, 950 to1,525 MHz, or 960 to 1,260 MHz)
1.17.	Image Rejection	60 dB min.
1.18.	Output V.S.W.R. (75 ohm)	2.5 : 1 max.
1.19.	Input Voltage	+12 to +24 VDC
1.20.	Current Drain <Internal Reference type> <External Reference type>	 350 mA max. 400 mA max.

＊Above Specifications are subject to change without notice.

2. Mechanical Specifications

#	Items	Specifications
2.1.	Input Waveguide Flange	Waveguide, CPR-229G (with Grooved)
2.2.	IF Interface Connector	
	<F-type Model>	F-type female connector, 75 ohms
	<N-type Model>	N-type female connector, 50 ohms
2.3.	Dimension & Housing	80.8 mm (L) x 99.6 mm (W) x 76 mm (H) [3.18" (L) x 3.92" (W) x 2.99" (H)] without interface connectors and screws
2.4.	Weight	800 g [1.76 lbs]

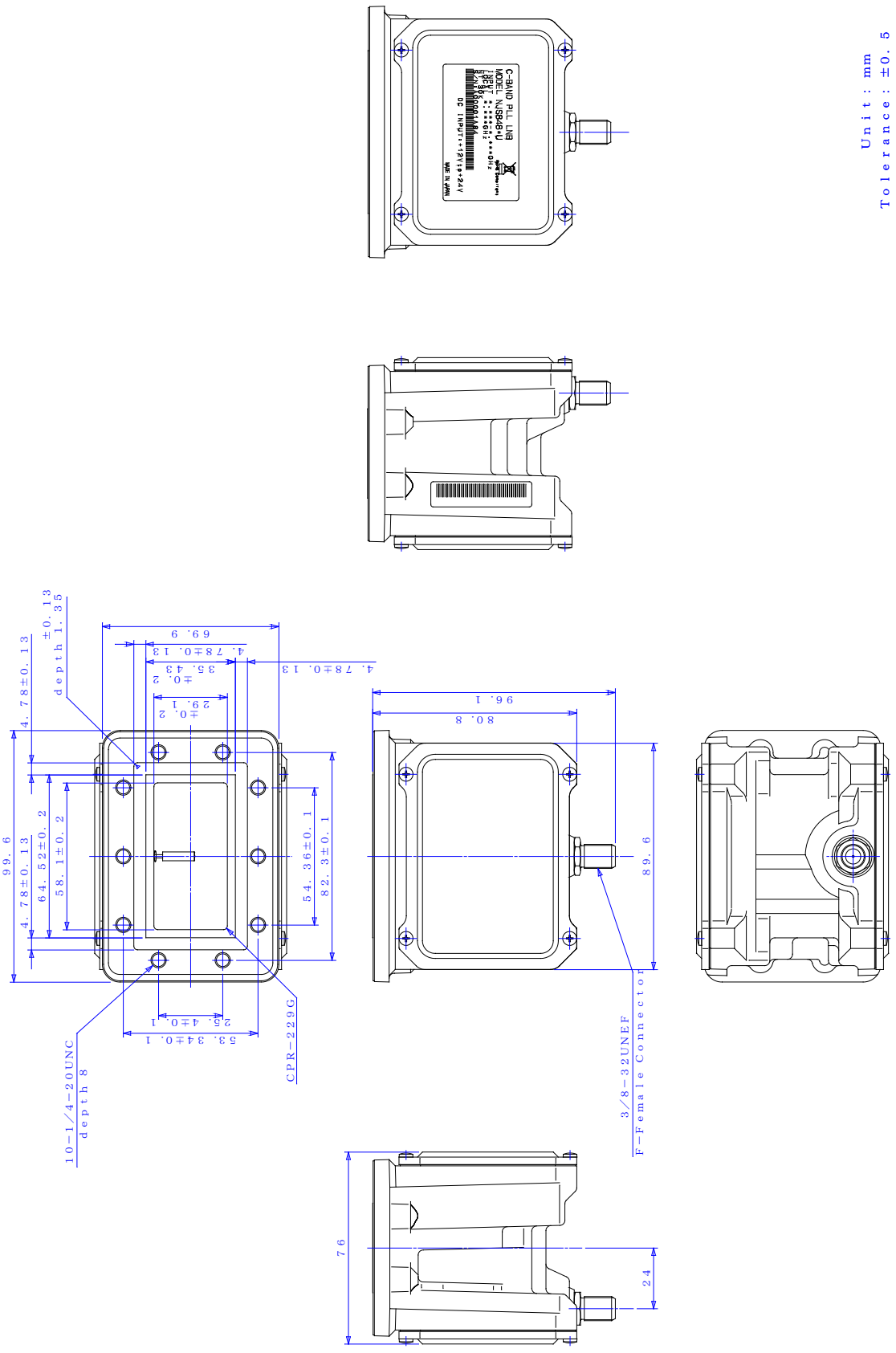
3. Environmental Specifications

#	Items	Specifications
3.1.	Temperature Range (ambient) [Operating] [Storage]	 -40 to +60 ºC -40 to +80 ºC
3.2.	Humidity	0 to 100 % RH
3.3.	Altitude	15,000 feet (4,572 m)
3.4.	Vibration	5 G [49.03 m/s^2] (3 axis, 50 Hz)
3.5.	Shock	15 G [147.1 m/s^2] (3 axis)
3.6.	Waterproof / Dustproof (IP Code)	IP 67
3.7.	Regulations	EU Directive (CE Marking) EMC (2014/30/EC) RoHS (2011/65/EU) Safety: EN60950-1
3.8.	Comply with RoHS (Restricting the use of Hazardous Substances) directives	

＊Above Specifications are subject to change without notice.

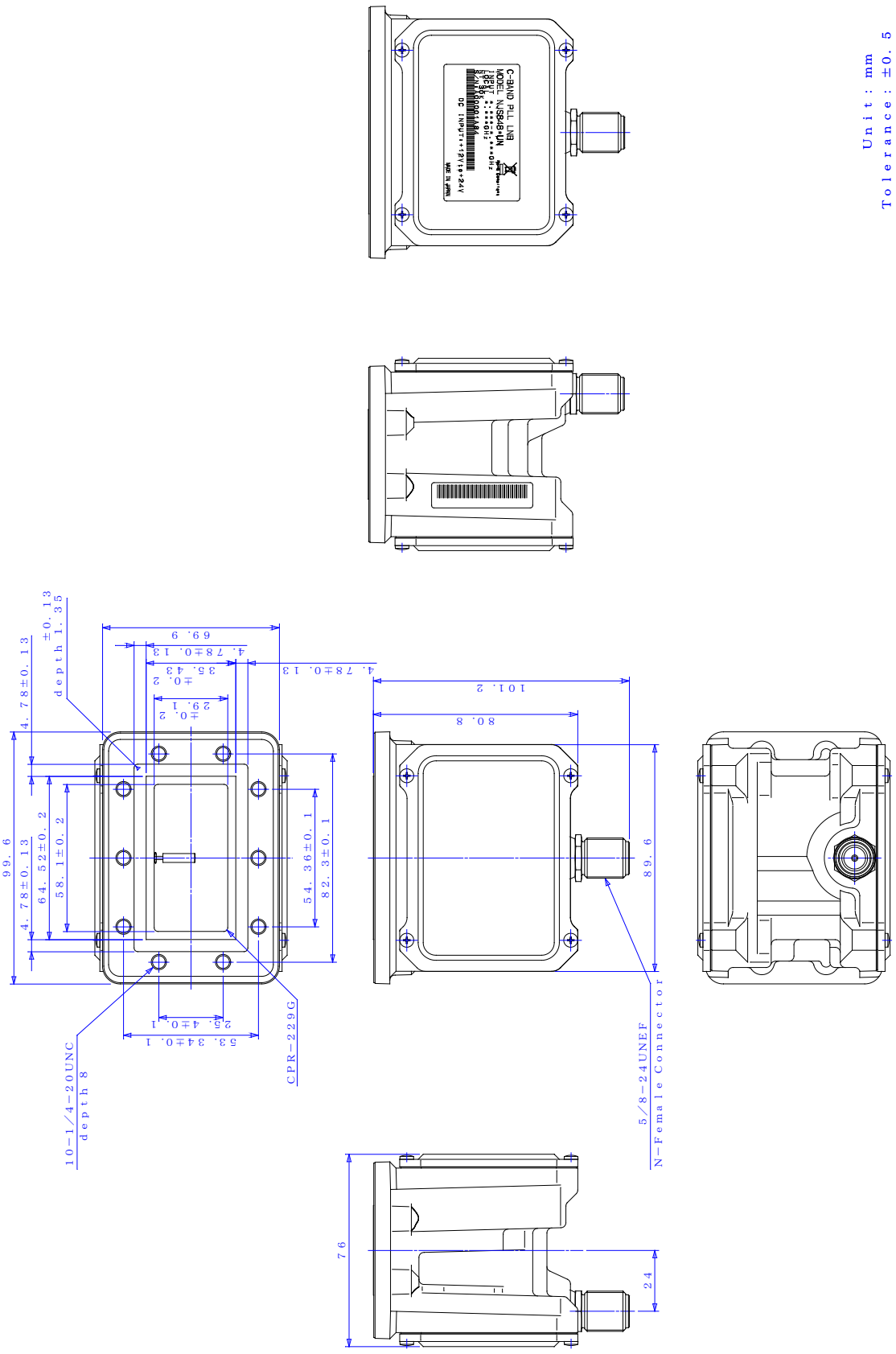
4. Outline Drawing

4.1. F-type Model



＊Above Specifications are subject to change without notice.

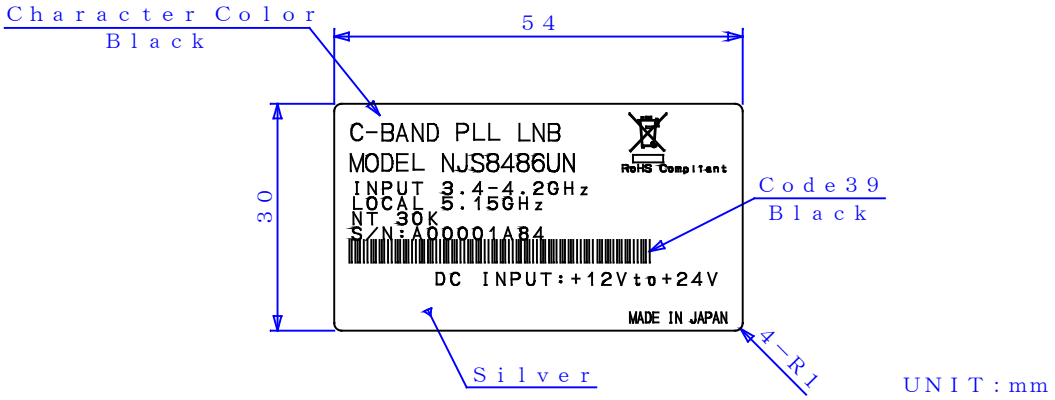
4.2. N-type Model



＊Above Specifications are subject to change without notice.

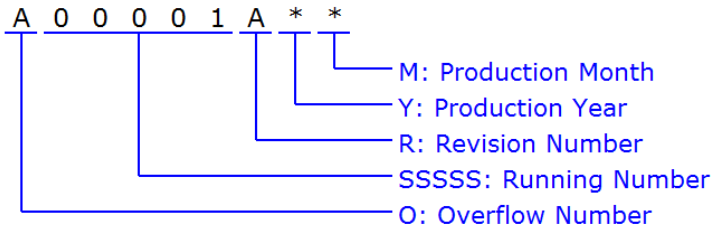
5. Label

5.1. Label Outline (e.g. NJS8486UN)



5.2. Definitions

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

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.

＊Above Specifications are subject to change without notice.