Date		Business Development, Microwave Division New Japan Radio Co., Ltd.
Nov. 30, 2018		

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INSAT C-band 2W BUC

RF Frequency:

RF Frequency: 6.725 to 7.025 GHz

Model No. NJT8102E series

RF Frequency: 6.725 to 7.025 GHz

LO Frequency: 5.76 GHz

IF Frequency: 965 to 1,265 MHz

Output Power @ 1dB G.C.P.: (2W)+33.0 dBm

RF Input Interface: N-type / F-type, Female Connector

DC Power / Ref. (10MHz) Input: IF Connector

Output Interface: Waveguide, CPR-137

Caution Information

1. New Japan Radio Co., Ltd (NJR) strives to produce reliable and high quality microwave components. NJR's microwave components are intended for specific applications and require proper maintenance and handling. To enhance the performance and service of NJR'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, NJR products must always be properly handled. The invasion of external contaminants (e.g. dust, oil or chemical compound) can result in failures of microwave components.

3. 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.

4. The products listed in this document 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

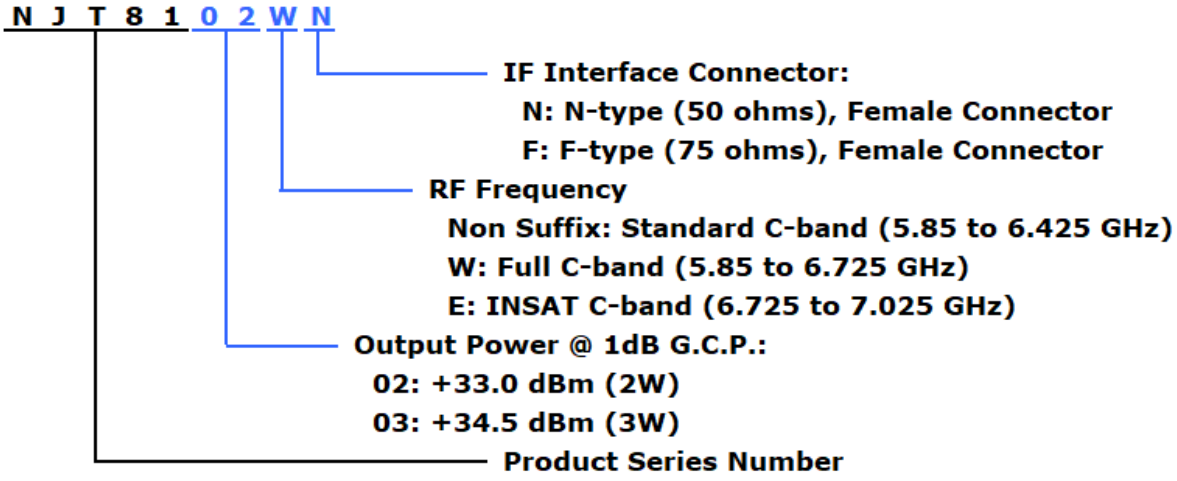
5. NJR offers a variety of microwave components intended for particular applications. It is important that you select the proper component for your intended application. You may contact NJR's sales office or sales representatives, if you are uncertain about the products listed in this document.

6. NJR'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 this document. Failure to employ NJR's products in the proper applications can lead to deterioration, destruction or failure of the products. NJR 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 this document are subject to change at any time, without notice.

Model Number

- **Numbering System**



- **Line-up**

Model No.	RF Frequency	Local Frequency	IF Frequency	Output Power @ P1dB	IF Connector	Power Supply
NJT8103N	5.85 to 6.425 GHz (Standard C-band)	4.90 GHz	950 to 1,525 MHz	3W Linear (+34.5dBm min.)	N-type	+12 to +30 V DC Power
NJT8103F					F-type	
NJT8103WN	5.85 to 6.725 GHz (Full C-band)		950 to 1,825 MHz		N-type	
NJT8103WF					F-type	
NJT8103EN	6.725 to 7.025 GHz (INSAT C-band)	5.76 GHz	965 to 1,265 MHz		N-type	
NJT8103EF					F-type	
NJT8102N	5.85 to 6.425 GHz (Standard C-band)	4.90 GHz	950 to 1,525 MHz	2W Linear (+33.0dBm min.)	N-type	
NJT8102F					F-type	
NJT8102WN	5.85 to 6.725 GHz (Full C-band)		950 to 1,825 MHz		N-type	
NJT8102WF					F-type	
NJT8102EN	6.725 to 7.025 GHz (INSAT C-band)	5.76 GHz	965 to 1,265 MHz		N-type	
NJT8102EF					F-type	

1. Electrical Specifications

#	Items	Specifications
1.1.	Output RF Frequency Range	6.725 to 7.025 GHz
1.2.	Input IF Frequency Range	965 to 1,265 MHz
1.3.	Maximum IF Input Level (without damage)	+10 dBm max.
1.4.	Conversion Type	Single, fixed L.O.
1.5.	L.O. Frequency	5.76 GHz
1.6.	Frequency Sense	Positive
1.7.	Output Power @ 1dB G.C.P. (P1dB)	+33.0 dBm min. over temperature
1.8.	Linear Gain	58 dB nom., 52 dB min.
1.9.	Gain Variation over frequency @ fixed temperature	4 dBp-p max. over 300 MHz 2 dBp-p max. over 36 MHz
1.10.	Gain Stability over temperature @ fixed frequency	5 dBp-p max. 2 dBp-p typ.
1.11.	ACPR	-26 dBc typ. @ Pout = +33 dBm
1.12.	Requirement for External Reference [Frequency] [Input Power] [Phase Noise]	 10 MHz (sine-wave) -5 to +5 dBm @ Input port -120 dBc/Hz max. @ 100 Hz -130 dBc/Hz max. @ 1 kHz -140 dBc/Hz max. @ 10 kHz -150 dBc/Hz max. @ 100 kHz
1.13.	L.O. Phase Noise	-60 dBc/Hz max. @ 100 Hz -70 dBc/Hz max. @ 1 kHz -80 dBc/Hz max. @ 10 kHz -90 dBc/Hz max. @ 100 kHz
1.14.	Spurious @ P1dB [In-band] [Receive band] [Out-of-band]	 -50 dBc max. @ 6.725 to 7.025 GHz -70 dBm max. @ 4.5 to 4.8 GHz -50 dBc max.
1.15.	Receive Band Noise Density	-87 dBm/4kHz max. @ 4.5 to 4.8 GHz
1.16.	Noise Figure	20 dB max.
1.17.	Input Impedance	
	<N-type Model>	50 ohms nom
	<F-type Model>	75 ohms nom.
1.18.	Input V.S.W.R.	2 : 1 max.
1.19.	Output V.S.W.R.	2 : 1 max.
1.20.	Output Load V.S.W.R. [Recommendation] [Non Damage]	 1.3 : 1 max. Infinite : 1

#	Items	Specifications
1.21.	DC Power Requirement [Voltage Range] [Power Consumption]	 +24 VDC (+12 to +30 VDC) 18 W typ., 22 W max. @ Pout = +33 dBm 15 W typ. @ No IF signal 2 W max. @ 10 MHz reference off (Mute on)
1.22.	Mute	Shut off the HPA in case of L.O. unlocked or no 10 MHz reference signal.

2. Mechanical Specifications

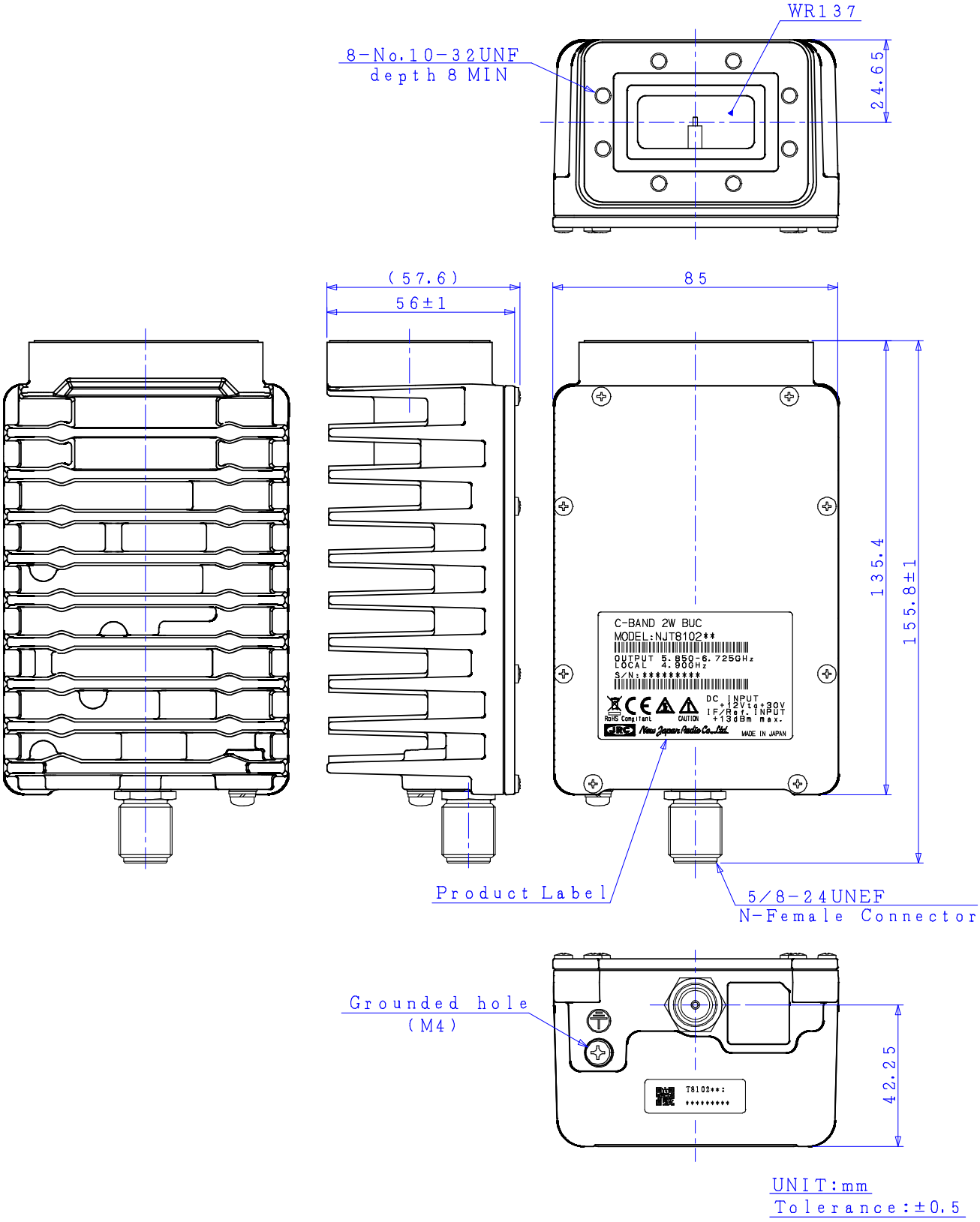
#	Items	Specifications
2.1.	Input Interface	IF / Ref. / DC Power Input:
	<N-type Model>	N-type female connector, 50 ohms
	<F-type Model>	F-type female connector, 75 ohms
2.2.	Output Interface	Waveguide, CPR-137 (with Grooved)
2.3.	Dimension & Housing	135.4 (L) × 85 (W) × 56 (H) mm [5.33" (L) x 3.35" (W) x 2.20" (H)] without interface connectors and screws
2.4.	Weight	800 g [1.8 lbs]

3. Environmental Specifications

#	Items	Specifications
3.1.	Temperature Range (ambient) [Operating] [Storage]	 -40 to +60 ºC -40 to +75 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 to 2 kHz) 1 mm p-p (3 axis, 5 to 50 Hz)
3.5.	Shock	30 G [294.20 m/s^2] (3 axis)
3.6.	Waterproof / Dustproof (IP Code)	IP 67
3.7.	Regulations	EU Directive (CE Marking) RE (2014/53/EU) EMC (2014/30/EU) RoHS (2011/65/EU) Safety: EN60950-1

4. Outline Drawing

4.1. N-type Model



4.2. F-type Model