

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

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INSAT C-band 3W BUC

RF Frequency:

RF Frequency: 6.725 to 7.025 GHz

Model No. NJT8103E 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.: (3W)+34.5 dBm

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

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

Output Interface: Waveguide, CPR-137

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Microwave Division

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Caution Information

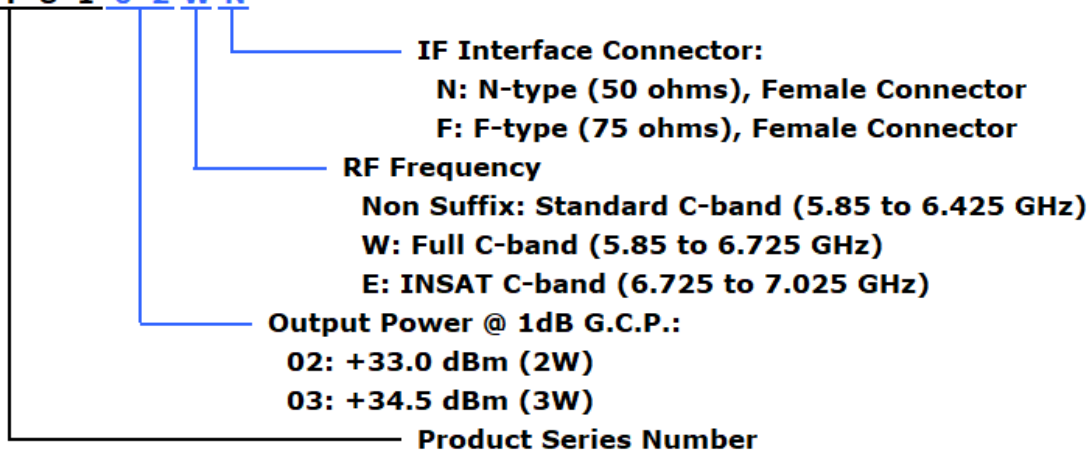
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Model Number

- Numbering System

N J T 8 1 0 2 W N



- 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			

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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)	+34.5 dBm min. over temperature
1.8.	Linear Gain	59 dB nom., 53 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 = + 34.5 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

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#	Items	Specifications
1.21.	DC Power Requirement [Voltage Range] [Power Consumption]	+24 VDC (+12 to +30 VDC) 21 W typ., 25 W max. @ Pout = +34.5 dBm 18 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) × 3.35" (W) × 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 °C -40 to +75 °C
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

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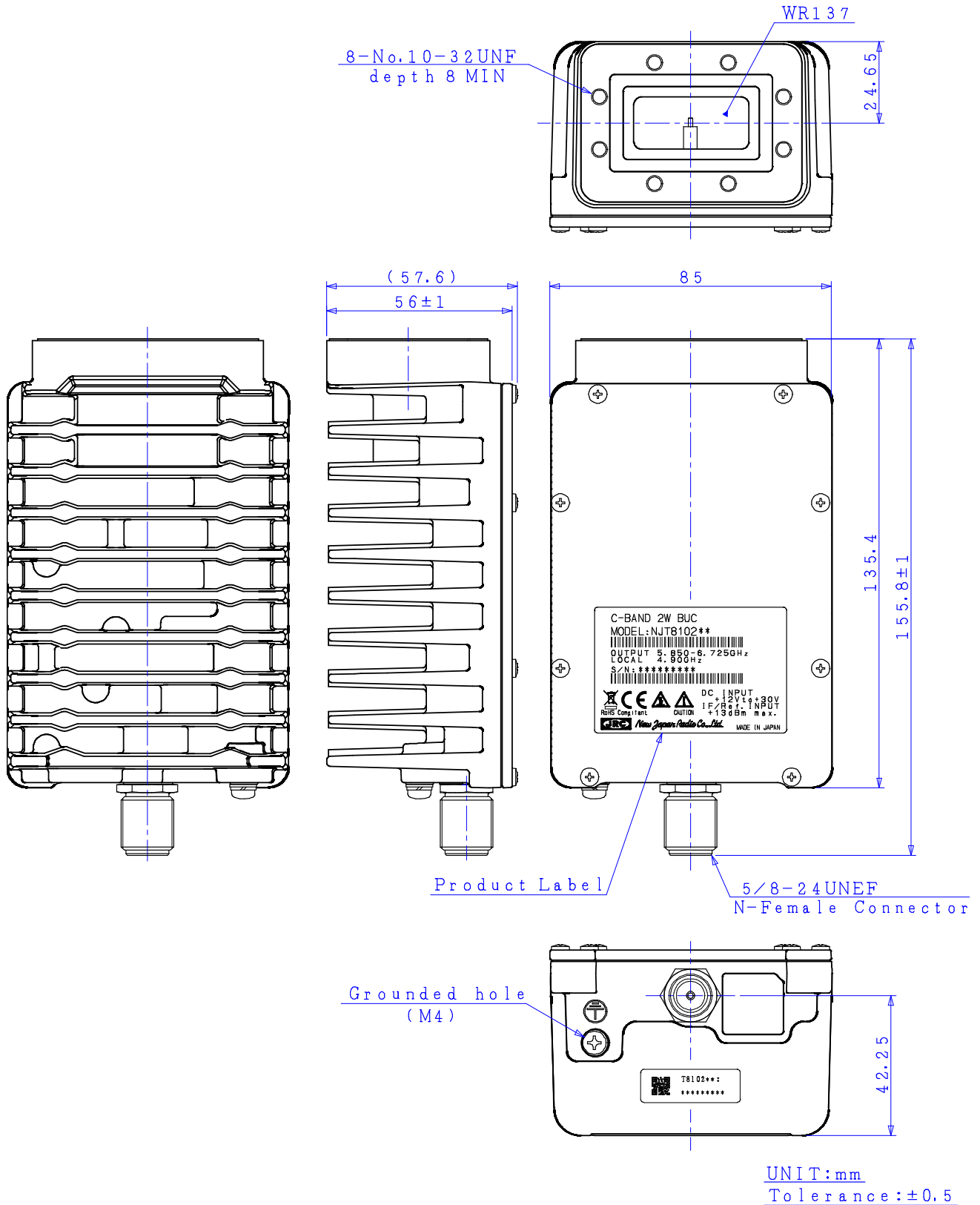
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4. Outline Drawing

4.1. N-type Model



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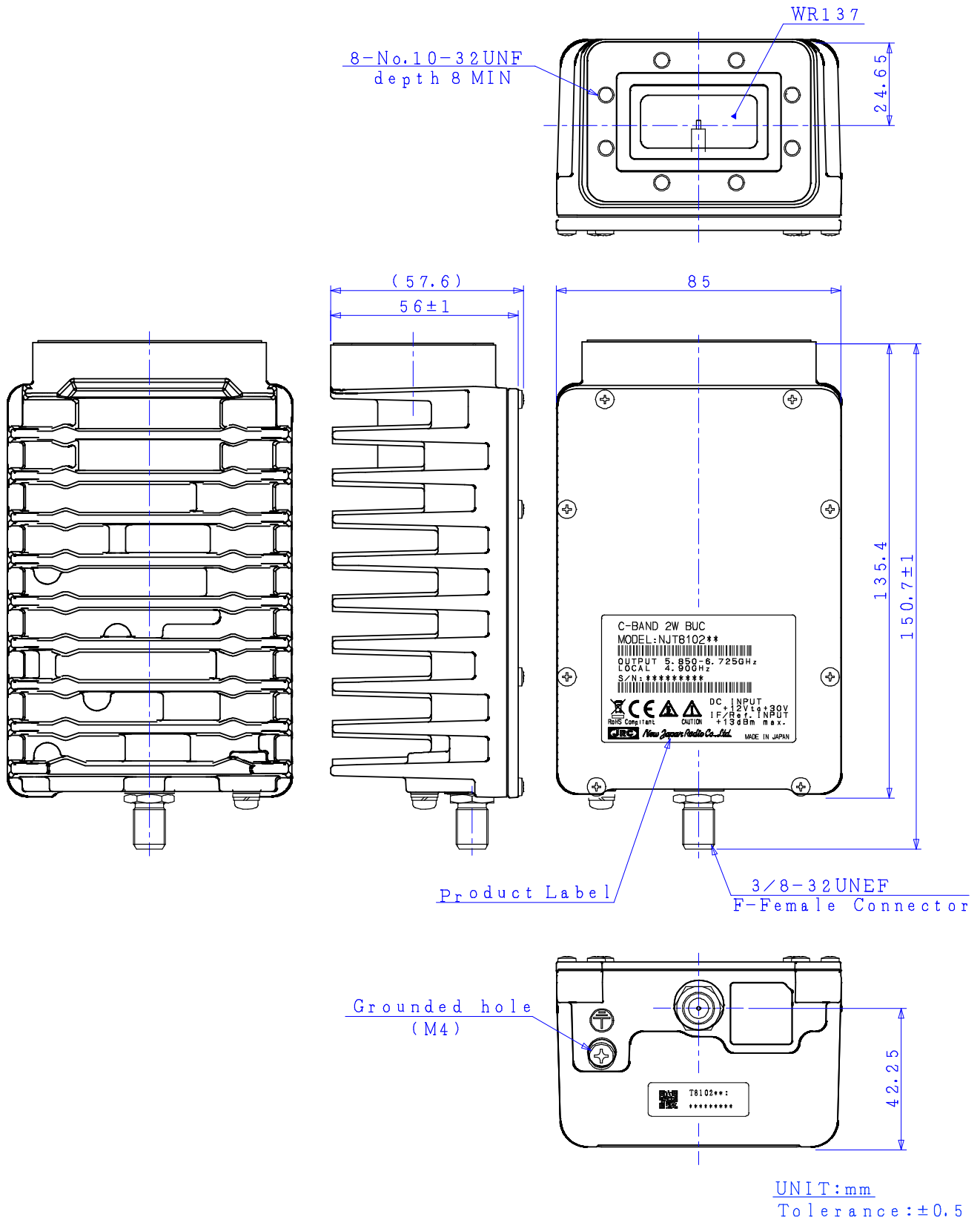
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4.2. F-type Model



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