

X-band Doppler Sensor Module

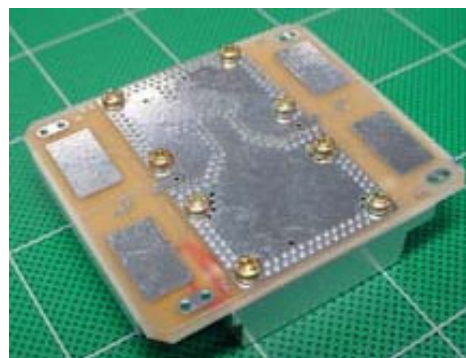
MODEL NO. NJR4175 / 76 / 77 / 78 / 81 / 78J

<Description>

This specification covers the general requirements for X-band microwave Doppler module.

This module is designed for motion sensing applications.

It consists of DRO (Dielectric Resonator Oscillator), balanced Schottky Barrier Diode mixer and Micro-strip Patch Antennas.



<Line-Up>

Model No.	Center Frequency	Output Power	Operating Voltage	Operation	Region
NJR4175	10.525 GHz	20 mW E.I.R.P.	+5 Vdc	CW / Pulse	U.S. / Canada
NJR4176	9.900 GHz				France, Italy
NJR4177	10.687 GHz				U.K.
NJR4178	10.525 GHz				Belgium, Netherlands
NJR4181	9.350 GHz				Germany
NJR4178J	10.525 GHz	7 mW E.I.R.P.			Japan

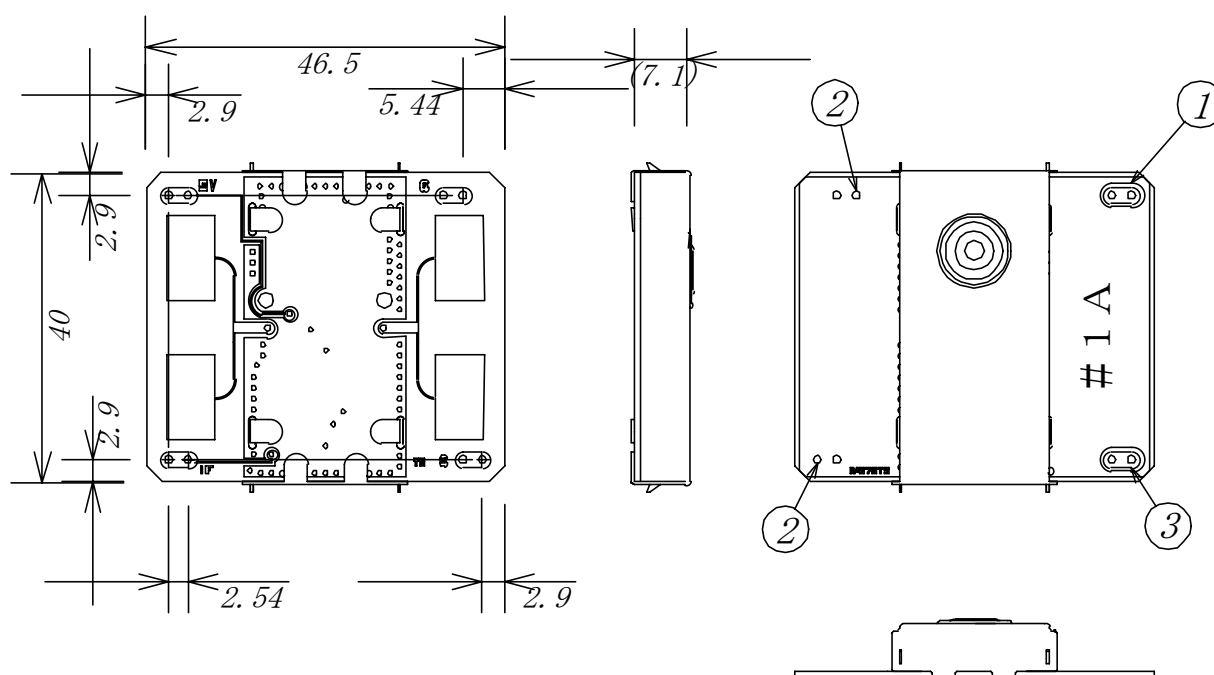
<Specifications>

#	Item	Specification
Electrical Characteristics (at +25°C, +5VDC)		
1.	Operating Voltage	5.0±0.2 Vdc
2.	Operating Current	30 mA typ.
3.	Frequency Stability	±5 MHz max. (-30 to +55°C)
4.	Return Loss Sensitivity	-90dBc typ.
5.	Second Harmonic Emission	1 μW max. [Model: NJR4176 / 77 / 78 / 81] 2.5 μW max. [Model : NJR4178J] < 25 mV/m (at 3m) [Model : NJR4175]
6.	Antenna Beamwidth (-3dB) : E-Plane H-Plane	36 deg. nom. 72 deg. nom.
Pulse Mode Operation		
1.	Pulse Width	5 μ sec
2.	Duty Cycle	0.01
Absolute Maximum Ratings		
1.	DC Input Voltage	+8 Vdc
2.	Operating Temperature Range	-30 to +55°C
3.	Storage Temperature Range	-40 to +80°C
4.	Relative Humidity	95 % at 35°C
5.	Vibration	G=10 (f=30,50 Hz, t=10min., Direction; X, Y, Z)
6.	Shock	G=20 (Half Sine, 10msec., Direction; X, Y, Z)

#	Item	Specification
Regulation		
1.	Regulation for compliance	ETS 300 440 [Model: NJR4176 / 77 / 78 / 81] Japanese Radio Law [Model : NJR4178J] FCC Part 15 [Model : NJR4175]

<Outline Drawing>

[Outline Drawing for NJR4175]



Unit : mm

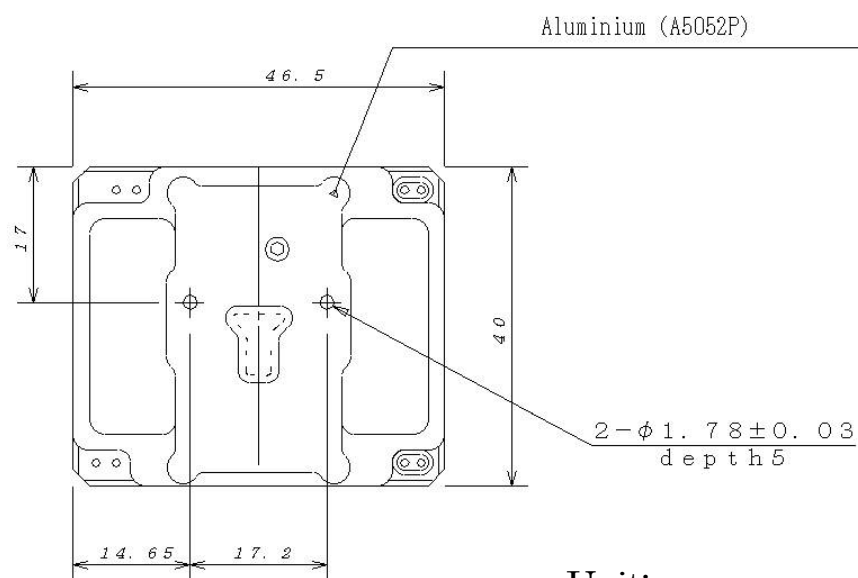
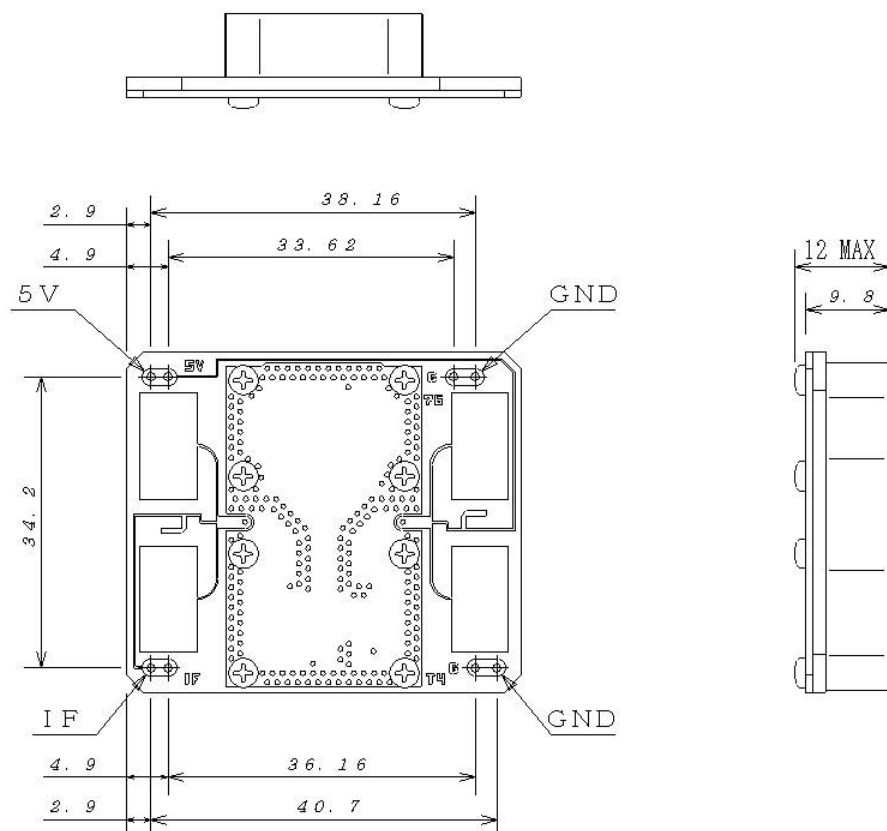
Pin Assignment

- ① +5V
- ② GND
- ③ IF out



Microwave Components Division
1-1, Fukuoka 2-Chome, Kamifukuoka-City
SAITAMA, 356-8510 JAPAN
E-mail : mcsales@njr.co.jp
Phone : +81-49-278-1271
FAX : +81-49-278-1234
<http://www.njr.co.jp>

[Outline Drawing for NJR4176 / 77 / 78 / 81 / 78J]



Unit: mm