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Products

RF Exposure Statement: 50034429 002

Client:	**New Japan Radio Co., Ltd.** 1-1, Fukuoka 2-Chome, Fujimino City Saitama, 356-8510 Japan
Test item:	**K-Band Doppler Sensor Module (Movement Sensor)**
Identification:	**NJR4265RF3**

FCC Requirement

According to FCC 2.1093, portable devices that transmit at frequencies above 6 GHz must comply with the following applicable limit for maximum permissible exposure (MPE) specified in FCC 1.1310:

Equipment Use	Frequency Range	Power Density	Average Time [min]
General Population / Uncontrolled Exposure	1.5 – 100GHz	1.0 [mW/cm^2]	30

Note: According to the FCC 2.1093 (d), this evaluation was conducted at **5cm distance**.

IC Requirement

According to RSS-102 (Issue 5), clause 3, RF exposure evaluation is required if the transmitter operates above 6GHz regardless of the separation distance. Therefore, limit in the Table 4 in section 3.2 is applied:

Equipment Use	Frequency Range	Power Density
General Public / Uncontrolled Exposure	15000 – 150000MHz	10 [W/m^2] (i.e. **1.0 [mW/cm^2]**)

Note: According to specification of the equipment, this evaluation was conducted at 5cm distance.

Measurement Result

The maximum measured transmitter field strength is given in the following table:

Measured E-Field Strength [dBuV/m]	Meas. Distance [m]	Evaluated Distance [cm]	Distance Correction Factor [dB]	Calculated E-Field Strength E (at 5cm)		Calculated Power Density S [mW/cm^2]
				[dBuV/m]	[V/m]	
108.6	3	5	35.6	144.2	16.2	0.0696

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Note:

Distance Correction Factor = $20 \times \text{Log}_{10}$ (3 / 0.05) = 35.6 dB

The power density S in mW/cm^2 is calculated in conjunction with the next formula:

$S = E^2 / 3770$, Where E = electric field strength in V/m

$S = 16.2^2 / 3770 =$ **0.0696 [mW/cm^2]**

Conclusion

This transmitter is specified as a portable device by customer.

SAR evaluation is not required since the transmitter nominal frequency is higher than 6GHz (i.e. 24.125GHz). Therefore, RF exposure evaluation was conducted by the calculations mentioned above.

As a result, calculated Power Density S is below both FCC and IC thresholds at 5cm distance.

For more details, refer to the submitted test report 50034429 001 especially the section 5.2 Radiated measurement.