

## RF Exposure Evaluation declaration

Product Name	WLAN MODULE
Model No.	CMN-727B
FCC ID	CKECCMN727B

Applicant	Japan Radio Co.,Ltd.
Address	1011 SW Klickitat Way, Suite 201B, Seattle, WA 98134 U.S.A.

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The declaration results relate only to the samples calculated.

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## 1. RF Exposure Evaluation

### 1.1. Limits

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

#### LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Average Time (Minutes)
(A) Limits for Occupational/ Control Exposures				
300-1500	--	--	F/300	6
1500-100,000	--	--	5	6
(B) Limits for General Population/ Uncontrolled Exposures				
300-1500	--	--	F/1500	6
1500-100,000	--	--	1	30

F= Frequency in MHz

Friis Formula

Friis transmission formula:  $Pd = (Pout * G) / (4 * \pi * r^2)$

Where

Pd = power density in mW/cm<sup>2</sup>

Pout = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 3.1416

R = distance between observation point and center of the radiator in cm

Pd is the limit of MPE, 1 mW/cm<sup>2</sup>. If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

### 1.2. Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

The temperature and related humidity: 18°C and 78% RH.

### 1.3. Test Result of RF Exposure Evaluation

Product : WLAN MODULE  
 Test Item : RF Exposure Evaluation  
 Test Site : No.3 OATS

#### 802.11b (1Mbps) Output Power Into Antenna & RF Exposure Evaluation Distance (1dBi):

Channel	Frequency (MHz)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm <sup>2</sup> )
1	2412.00	58.2103	0.014579
6	2437.00	47.9733	0.012015
11	2462.00	32.5087	0.008142

Power density in column 4 is much lower than the limit (1 mW/cm<sup>2</sup>).

#### 802.11g (6Mbps) Output Power Into Antenna & RF Exposure Evaluation Distance (1dBi):

Channel	Frequency (MHz)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm <sup>2</sup> )
1	2412.00	261.8183	0.065574
6	2437.00	251.1886	0.062912
11	2462.00	130.6171	0.032714

Power density in column 4 is much lower than the limit (1 mW/cm<sup>2</sup>).

#### 802.11a (6Mbps) Output Power Into Antenna & RF Exposure Evaluation Distance (2dBi):

Channel	Frequency (MHz)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm <sup>2</sup> )
36	5180	39.9025	0.012581
44	5220	40.0867	0.012640
48	5240	39.9945	0.012610

Power density in column 4 is much lower than the limit (1 mW/cm<sup>2</sup>).