RF Exposure Evaluation declaration

Product Name	WLAN MODULE
Model No.	CMN-727B
FCC ID	CKECMN727B

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

Date of Receipt	Oct. 26, 2012
Date of Declaration	Feb. 25, 2013
Report No.	12B032R-RFUSP42V01-A

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^2)	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^2

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 id the limit of MPE, 1 mW/cm^2. 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℃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/cm2)
1	2412.00	63.0957	0.015803
6	2437.00	48.9779	0.012267
11	2462.00	32.9610	0.008255

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

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/cm2)
1	2412.00	263.6331	0.066028
6	2437.00	276.0578	0.069140
11	2462.00	139.3157	0.034892

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

802.11a (6Mbps) Output Power Into Antenna & RF Exposure Evaluation Distance (0.9dBi):

Channel	Frequency (MHz)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm2)
36	5180	36.9828	0.009052
44	5220	41.3048	0.010110
48	5240	42.4620	0.010393

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