RF Exposure Evaluation declaration

Product Name	Moxa IEEE 802.11a/b/g/n MiniPCI Module
Model No.	WAPN001
FCC ID	SLE-WAPN001

Applicant	MOXA Inc.
Address	FL.4, NO. 135. LANE 235, BAOQIAO RD. XINDIAN DIST.,NEW TAIPEI CITY, TAIWAN

Date of Receipt	March 04, 2015
Date of Declaration	April 13, 2015
Report No.	1530096R-RFUSP47V00

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 : Moxa IEEE 802.11a/b/g/n MiniPCI Module
Test Item : RF Exposure Evaluation
Test Site : No.3 OATS

Operation Frequency Range	5180-5240MHz, 5745-5825MHz 5190-5230MHz, 5755-5795MHz
Maximum Conducted output power	17.25dBm
Antenna gain	2.0dBi

Output Power Into Antenna & RF Exposure Evaluation Distance:

Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm2)
53.0884	0.016739

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