

## RF Exposure Evaluation declaration

Product Name	MOXA IEEE 802.11 a/b/g/n
Model No.	WAPN008
FCC ID	SLE-WAPN008

Applicant	MOXA Inc.
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Date of Declaration	Apr. 21, 2016
Report No.	1620423R-RFUSP48V00

The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration of the equipment and evaluated measurement uncertainty herein.

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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:  $P_d = (P_{out} * G) / (4 * \pi * r^2)$

Where

$P_d$  = power density in mW/cm<sup>2</sup>

$P_{out}$  = 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

$P_d$  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 : MOXA IEEE 802.11 a/b/g/n  
Test Item : RF Exposure Evaluation  
Test Site : No.3 OATS

#### RF Exposure\_2.4GHz

Operation Frequency	2412~2462, 2422~2452MHz
Maximum Conducted output power	26.27dBm
Antenna gain	15dBi

#### Output Power Into Antenna & RF Exposure Evaluation Distance:

Output Power to Antenna (mW)	Power Density at R = <b>33 cm</b> (mW/cm2)
423.6429	0.9790

Power density is lower than the limit (1 mW/cm2).

#### RF Exposure\_5GHz

Operation Frequency	5180~5240, 5260~5320, 5500~5700, 5745~5825MHz 5190~5230, 5270~5310, 5510~5670, 5755~5795MHz
Maximum Conducted output power	17.88dBm
Antenna gain	18dBi

#### Output Power Into Antenna & RF Exposure Evaluation Distance:

Output Power to Antenna (mW)	Power Density at R = <b>33 cm</b> (mW/cm2)
61.3762	0.2830

Power density is lower than the limit (1 mW/cm2).