

RF Exposure Evaluation declaration

Product Name	Industrial 802.11n Access Point
Model No.	AWK-11xyz-p-t, where "x" can be 0-9, "y" can be 0-9, "z" can be 0-9, A-Z, dash or blank; "p" can be PoE or blank, "t" can be T or blank
FCC ID	SLE-WAPN008

Applicant	MOXA Inc.
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Date of Receipt	July. 30, 2015
Date of Declaration	Dec. 02, 2015
Report No.	1580115R-RFUSP06V00

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.

This report must not be used to claim product endorsement by TAF or any agency of the government.

The test report shall not be reproduced without the written approval of QuieTek Corporation.

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

Where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

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

P_d is the limit of MPE, 1 mW/cm². 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 : Industrial 802.11n Access Point
Test Item : RF Exposure Evaluation
Test Site : No.3 OATS

RF Exposure_2.4GHz

Operation Frequency	2412~2462, 2422~2452MHz
Maximum Conducted output power	29.07dBm
Antenna gain	4.62dBi

Output Power Into Antenna & RF Exposure Evaluation Distance:

Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm ²)
807.2350	0.465297

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

RF Exposure_5GHz

Operation Frequency	5180~5240MHz, 5260~5320MHz, 5500~5700MHz, 5745~5825MHz, 5190~5230MHz, 5270~5310MHz, 5510~5670MHz, 5755~5795MHz
Maximum Conducted output power	23.74dBm
Antenna gain	2.34dBi

Output Power Into Antenna & RF Exposure Evaluation Distance:

Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm ²)
236.5920	0.080673

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