

## RF Exposure Evaluation declaration

|              |                                 |
|--------------|---------------------------------|
| Product Name | IEEE 802.11a/b/g miniPCI module |
| Model No.    | WAPA003                         |
| FCC ID       | SLE-WAPA003                     |

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

|                     |                     |
|---------------------|---------------------|
| Date of Receipt     | Feb. 16, 2015       |
| Date of Declaration | Apr. 01, 2016       |
| Report No.          | 1620261R-RFUSP02V00 |

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 report 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 <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 : IEEE 802.11a/b/g miniPCI module  
Test Item : RF Exposure Evaluation  
Test Site : No.3 OATS

|                                |              |
|--------------------------------|--------------|
| Operation Frequency Range      | 2412-2462MHz |
| Maximum Conducted output power | 23.11dBm     |
| Antenna gain                   | 14dBi        |

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

| Output Power to Antenna (mW) | Power Density at R = 21 cm (mW/cm <sup>2</sup> ) |
|------------------------------|--------------------------------------------------|
| 204.6444637                  | 0.9276                                           |

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