

# RF Exposure Evaluation Report

Product Name : Wireless module

Model No. : WAPC003

FCC ID : SLE-WAPC003

Applicant : Moxa Inc.

Address : No. 1111, Heping Rd., Bade Dist., Taoyuan City 334004, Taiwan

Date of Receipt : Sep. 07, 2022

Date of Declaration : Sep. 28, 2022

Report No. : 2290178R-RFUSMPEV02-A

Report Version : V1.0



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 DEKRA Testing and Certification Co., Ltd.

Measurement uncertainties evaluated for each testing system and associated connections are given here to provide the system information for reference. Compliance determinations do not take into account measurement uncertainties for each testing system, but are based on the results of the compliance measurement.

Issued Date: Sep. 28, 2022

Report No.: 2290178R-RFUSMPEV02-A



Product Name	Wireless module	
Applicant	Moxa Inc.	
Address	No. 1111, Heping Rd., Bade Dist., Taoyuan City 334004, Taiwan	
Manufacturer	Moxa Inc.	
Model No.	WAPC003	
FCC ID	SLE-WAPC003	
EUT Rated Voltage	12-48 VDC, PoE	
EUT Test Voltage	24 VDC	
Trade Name	MOXA	
Applicable Standard	KDB 447498 D01 v06	<input checked="" type="checkbox"/> Minimum test separation distance $\geq$ 20 cm <input type="checkbox"/> For low power devices
Test Result	Complied	

Documented By :



( Senior Project Specialist / Joanne Lin )

Tested By :



( Senior Engineer / Alan Chen )

Approved By :



( Manager / Tim Sung )

---

## Revision History

Report No.	Version	Description	Issued Date
2290178R-RFUSMPEV02-A	V1.0	Initial issue of report.	Sep. 28, 2022

## 1. General Information

### 1.1. EUT Description

Product Name	Wireless module
Trade Name	MOXA
Model No.	WAPC003
FCC ID	SLE-WAPC003

Note: For more detailed information please refer to report No.: 2290178R-RFNAOTHV03-2, 2290178R-RFNAOTHV03-1 and 2290178R-RFUSDFSV02-A.

## 2. Test Facility

USA : FCC Registration Number: TW0033

Canada : CAB Identifier Number: TW3023 / Company Number: 26930

Site Description : Accredited by TAF  
Accredited Number: 3023

Test Laboratory : DEKRA Testing and Certification Co., Ltd

Address : No. 5-22, Ruishukeng Linkou District, New Taipei City, 24451, Taiwan

Performed Location : No. 26, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan,  
R.O.C.

Phone Number : +886-3-275-7255

Fax Number : +886-3-327-8031

Email Address : [info.tw@dekra.com](mailto:info.tw@dekra.com)

Website : <http://www.dekra.com.tw>

### 3. RF Exposure Evaluation

#### 3.1. Standard Applicable

According to KDB 447498 D01 (7.1), A minimum test separation distance  $\geq 20$  cm is required between the antenna and radiating structures of the device and nearby persons to apply mobile device exposure limits.

#### 3.2. 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:  $Pd = (Pout * G) / (4 * \pi * r^2)$

Where

Pd = power density in mW/cm<sup>2</sup>

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

### 3.3. Test Result of RF Exposure Evaluation

Product : Wireless module  
 Test Item : RF Exposure Evaluation

#### WLAN 2.4 GHz Peak Gain: 7.40 dBi (Dipole Ant no.11)

Band	Frequency	Conducted Peak Power (dBm)	Duty Cycle (%)	Output Power to Antenna (mW)	Power Density at R = 50 cm (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )	Pass/Fail
WLAN 2.4G	2462	28.58	100	721.107	0.1261	1	Pass

Note: The conducted output power is refer to original report No.: 2110552R-E3032110118 from the DEKRA.

#### WLAN 2.4 GHz Peak Gain: 12.34 dBi (Panel Ant no.12)

Band	Frequency	Conducted Peak Power (dBm)	Duty Cycle (%)	Output Power to Antenna (mW)	Power Density at R = 50 cm (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )	Pass/Fail
WLAN 2.4G	2437	27.92	100	619.441	0.3379	1	Pass

Note: The conducted output power is refer to original report No.: 2110552R-E3032110118 from the DEKRA.

#### WLAN 5 GHz Peak Gain: 8.87 dBi (Dipole Ant no.10)

Band	Frequency	Conducted Peak Power (dBm)	Duty Cycle (%)	Output Power to Antenna (mW)	Power Density at R = 50 cm (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )	Pass/Fail
WLAN 5G	5785	26.83	100	481.948	0.1183	1	Pass

Note: The conducted output power is refer to original report No.: 2110552R-E3032110128 from the DEKRA.

#### WLAN 5 GHz Peak Gain: 16.94 dBi (Panel Ant no.11)

Band	Frequency	Conducted Peak Power (dBm)	Duty Cycle (%)	Output Power to Antenna (mW)	Power Density at R = 50 cm (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )	Pass/Fail
WLAN 5G	5785	26.83	100	481.948	0.7583	1	Pass

Note: The conducted output power is refer to original report No.: 2110552R-E3032110128 from the DEKRA.