RF Exposure Evaluation Report

Product Name : Wireless Adaptor

Model No. : EXW1-A1

FCC ID : 2AJE7SMC-WEX08

Applicant : SMC Corporation

Address : 4-2-2, KINUNODAI, TSUKUBAMIRAI-SHI, IBARAKI-KEN 300-2493 JAPAN

Date of Receipt : Apr. 29, 2022

Date of Declaration : June 20, 2022

Report No. : 2240834R-RFUSWL2V01-A

Report Version : V1.0

Testing Laboratory
3023

Issued Date: June 20, 2022
Report No.: 2240834R-RFUSWL2V01-A

Product Name	Wireless Adaptor	
Applicant	SMC Corporation	
Address	4-2-2, KINUNODAI, TSUKUBAMIRAI-SHI, IBARAKI-KEN 300-2493 JAPAN	
Manufacturer	SMC Corporation	
Model No.	EXW1-A1	
FCC ID	2AJE7SMC-WEX08	
Trade Name	SMC	
Applicable Standard	KDB 447498 D01 v06	☒ Minimum test separation distance ≥ 20 cm ☐ For low power devices
Test Result	Complied	

Documented By : Genie Chang
(Senior Project Specialist / Genie Chang)

Tested By : Alan Chen
(Senior Engineer / Alan Chen)

Approved By : Tim Sung
(Manager / Tim Sung)

Revision History

Report No.	Version	Description	Issued Date
2240834R-RFUSWL2V01-A	V1.0	Initial issue of report.	June 20, 2022

1. GENERAL INFORMATION

1.1. EUT Description

Product Name	Wireless Adaptor
Trade Name	SMC
Model No.	EXW1-A1
FCC ID.	2AJE7SMC-WEX08
Frequency Range	2403MHz – 2481MHz
Channel Number	79
Type of Modulation	GFSK
Channel Control	Auto
Antenna Type	Sleeve Dipole Antenna
Antenna Gain	Refer to the table “Antenna List”

1.2. Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	SMC	P5742-106	Sleeve Dipole Antenna	4.37dBi for 2.4 GHz

1.3. 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	:	+866-3-327-8031
Email address	:	info.tw@dekra.com
Website	:	http://www.dekra.com.tw

2. RF Exposure Evaluation

2.1. Standard Applicable

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

2.2. 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^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

2.3. Test Result of RF Exposure Evaluation

Product : Wireless Adaptor
Test Item : RF Exposure Evaluation

Channel	Frequency	Conducted maximum Peak Power (dBm)	Antenna Gain (dBi)	Power Density at R = 20 cm (mW/cm^2)	Limit (mWc/m^2)	Pass/Fail
40	2442	12.93	4.37	0.0107	1	Pass

Note: The conducted output power is refer to report No.: 2240834R-RFUSWL2V01-A from the DEKRA.