RF Exposure Evaluation Report

Product Name : Software defined radio

Model No. : SDR-2400, SM-SDR-2400

FCC ID : XTC-SDR2400

Applicant : Lilee Systems, Ltd.

Address : 91 East Tasman Drive Suite 150, San Jose, California 95134, United States

Date of Receipt : Nov. 16, 2018

Date of Declaration : Mar. 04, 2019

Report No. : 18B0256R-SAUSP03V00

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.
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Issued Date: Mar. 04, 2019
Report No.: 18B0256R-SAUSP03V00

Product Name	Software defined radio
Applicant	Lilee Systems, Ltd.
Address	91 East Tasman Drive Suite 150, San Jose, California 95134, United States
Manufacturer	Lilee Systems, Ltd.
Model No.	SDR-2400, SM-SDR-2400
FCC ID.	XTC-SDR2400
Trade Name	LILEE SYSTEMS
Applicable Standard	FCC 47 CFR 1.1310
Test Result	Complied

Documented By : Joanne Lin

(Senior Adm. Specialist / Joanne Lin)

Tested By : wen Lee

(Senior Engineer / Wen Lee)

Approved By :

(Director / Vincent Lin)

1. GENERAL INFORMATION

1.1. EUT Description

Product Name	Software defined radio
Trade Name	LILEE SYSTEMS
Model No.	SDR-2400, SM-SDR-2400
FCC ID.	XTC-SDR2400
Frequency Range	2412-2462MHz
Channel Number	11
Type of Modulation	OFDM (BPSK, QPSK, 16-QAM, 64-QAM)
Antenna Type	Dipole Antenna、Patch Antenna
Channel Control	Auto
Antenna Gain	Refer to the table “Antenna List”

Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	JOYMAX ELECTRONICS	IAF-6491RS5X-991	Dipole	2dBi for 2.4 GHz
2	JOYMAX ELECTRONICS	IPX-026XNFX9-999	Patch	13dBi for 2.4 GHz

2. RF Exposure Evaluation

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

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

2.2. Test Result of RF Exposure Evaluation

Product : Software defined radio
Test Item : RF Exposure Evaluation

Dipole Peak Gain: 2dBi

Band	Frequency	Conducted Peak Power (dBm)	Duty Cycle (%)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm^2)	Limit (mW/cm^2)	Pass/Fail
WLAN 2.4G	2462	29.83	100	961.612	0.3032	1	Pass

Patch Peak Gain: 13dBi

Band	Frequency	Conducted Peak Power (dBm)	Duty Cycle (%)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm^2)	Limit (mW/cm^2)	Pass/Fail
WLAN 2.4G	2437	22.87	100	193.642	0.7687	1	Pass

Note: The conducted output power is refer to report No.: 18B0256R-RFUSP26V00 from the DEKRA.