RF Exposure Report

Report No.:	SA180913C25
FCC ID:	RYK-WPEA252NIRB
Test Model:	WPEA-252NIRB
Received Date:	Sep. 13, 2018
Test Date:	Oct. 03 ~ Oct. 11, 2018
Issued Date:	Oct. 24, 2018
Applicant:	SparkLAN Communications, Inc.
Address:	8F., No. 257, Sec. 2, Tiding Blvd., Neihu District, Taipei City 11493, Taiwan (R.O.C.)
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan (R.O.C.)
Test Location:	No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN (R.O.C.)
FCC Registration / Designation Number:	788550 / TW0003

Testing Laboratory
2021

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Release Control Record

Issue No.	Description	Date Issued
SA180913C25	Original release	Oct. 24, 2018

1 Certificate of Conformity

Product:	802.11a/b/g/n 2T2R Industrial Grade Mini PCIe Module
Brand:	SparkLAN
Test Model:	WPEA-252NIRB
Sample Status:	R & D sample
Applicant:	SparkLAN Communications, Inc.
Test Date:	Oct. 03 ~ Oct. 11, 2018
Standards:	FCC Part 2 (Section 2.1091) KDB 447498 D01 General RF Exposure Guidance v06 IEEE C95.1-1992

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

Prepared by : Celine Chou , **Date:** Oct. 24, 2018

Celine Chou / Senior Specialist

Approved by : Bruce Chen , **Date:** Oct. 24, 2018

Bruce Chen / Project Engineer

2 RF Exposure

2.1 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)
Limits For General Population / Uncontrolled Exposure				
300-1500	…	…	F/1500	30
1500-100,000	…	…	1.0	30

F = Frequency in MHz

2.2 MPE Calculation 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 Classification

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user. So, this device is classified as **Mobile Device**.

3 Calculation Result of Maximum Conducted Power

Frequency Band (MHz)	TX Function	Max Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
2412-2462	1TX	20.24	5.00	20	0.066	1
	2TX	19.26	8.01	20	0.106	1
5180-5240	1TX	15.49	5.80	20	0.027	1
	2TX	16.24	8.81	20	0.064	1
5260-5320	1TX	15.72	5.80	20	0.028	1
	2TX	16.40	8.81	20	0.066	1
5500-5700	1TX	15.49	5.80	20	0.027	1
	2TX	16.46	8.81	20	0.067	1
5745-5825	1TX	15.48	5.80	20	0.027	1
	2TX	16.50	8.81	20	0.068	1

Note:

2.4GHz: Directional gain = 5dBi + 10log(2) = 8.01dBi

5GHz: Directional gain = 5.8dBi + 10log(2) = 8.81dBi

* WLAN 2.4G and 5G technology cannot transmit simultaneously.

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