RF Exposure Report

Report No.:	SABENL-WTW-P20110404
FCC ID:	RYK-WPEQ261ACNIBT
Test Model:	WPEQ-261ACNI(BT)
Received Date:	Aug. 28, 2018
Test Date:	Oct. 08 ~ Oct. 24, 2018
Issued Date:	Dec. 07, 2020
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 Lin Kou Laboratories
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan
Test Location:	No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, Taiwan
FCC Registration / Designation Number:	788550 / TW0003

Testing Laboratory
2021

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Release Control Record

Issue No.	Description	Date Issued
SA BENL-WTW-P20110404	Original release.	Dec. 07, 2020

1 Certificate of Conformity

Product:	802.11ac/a/b/g/n 2T2R Industrial-graded Wi-Fi / Bluetooth 4.2 Combo Half mini PCIe Module
Brand:	SparkLAN
Test Model:	WPEQ-261ACNI(BT)
Sample Status:	R&D sample
Applicant:	SparkLAN Communications, Inc.
Test Date:	Oct. 08 ~ Oct. 24, 2018
Standards:	FCC Part 2 (Section 2.1091) IEEE C95.3 -2002
References Test Guidance:	KDB 447498 D01 General RF Exposure Guidance v06

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 : Pettie Chen , **Date:** Dec. 07, 2020

Pettie Chen / Senior Specialist

Approved by : Bruce Chen , **Date:** Dec. 07, 2020

Bruce Chen / Senior 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				
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	($180/f^2$)*	30
30-300	27.5	0.073	0.2	30
300-1500	…	…	f/1500	30
1500-100,000	…	…	1.0	30

f = Frequency in MHz; *Plane-wave equivalent power density

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)	Max Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
WLAN 2412~2462	18.45	8.01	20	0.088	1
WLAN 5180~5240	16.99	8.81	20	0.076	1
WLAN 5260~5320	16.83	8.81	20	0.073	1
WLAN 5500~5700	16.97	8.81	20	0.075	1
WLAN 5745~5825	16.82	8.81	20	0.073	1
BT LE 2402~2480	2.28	5.0	20	0.001	1
BT EDR 2402~2480	2.21	5.0	20	0.001	1

WLAN 2.4GHz Band: Directional gain = 5dBi + 10log(2) = 8.01dBi
WLAN 5.0GHz Band: Max. Directional Gain = 5.8dBi + 10log(2) = 8.81dBi

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