

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.

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lin Kou Laboratories

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FCC Registration / 788550 / TW0003
Designation Number:



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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

$$P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot r^2)$$

where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 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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