

RF Exposure Report

Report No.: SA130709C02E

FCC ID: RYK-WPEA252NI

Test Model: WPEA-252NI

Received Date: Jul. 09, 2013

Test Date: Jul. 11 ~ Jul. 12, 2013
Apr. 21 ~ Apr. 24, 2015

Issued Date: Apr. 28, 2015

Applicant: SparkLAN Communications, Inc.

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

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Test Location: No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.



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Release Control Record

Issue No.	Description	Date Issued
SA130709C02E	Original release	Apr. 28, 2015

1 Certificate of Conformity

Product: 802.11abgn Mini PCIe module

Brand: SparkLAN

Test Model: WPEA-252NI

Sample Status: Engineering sample

Applicant: SparkLAN Communications, Inc.

Test Date: Jul. 11 ~ Jul. 12, 2013
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Standards: FCC Part 2 (Section 2.1091)
KDB 447498 D03
IEEE C95.1

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 EMC characteristics under the conditions specified in this report.

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Date:

Apr. 28, 2015

Approved by :



Ken Liu / Senior Manager

Date:

Apr. 28, 2015

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/cm²

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)	Modulation Mode	Max Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
2412-2462	802.11b	21.30	3	20	0.054	1
	802.11g	24.34	6.01	20	0.216	1
	802.11n (HT20)	26.36	6.01	20	0.343	1
	802.11n (HT40)	25.92	6.01	20	0.310	1
5180-5240	802.11a	13.98	5	20	0.016	1
	802.11n (HT20)	14.87	8.01	20	0.039	1
	802.11n (HT40)	13.74	8.01	20	0.030	1
5260-5320	802.11a	13.94	5	20	0.016	1
	802.11n (HT20)	14.90	8.01	20	0.039	1
	802.11n (HT40)	13.65	8.01	20	0.020	1
5500-5720	802.11a	13.91	5	20	0.015	1
	802.11n (HT20)	14.78	8.01	20	0.038	1
	802.11n (HT40)	13.75	8.01	20	0.030	1
5745-5825	802.11a	13.89	5	20	0.015	1
	802.11n (HT20)	14.59	8.01	20	0.036	1
	802.11n (HT40)	14.05	8.01	20	0.032	1

NOTE:

2.4GHz Band: 802.11n(HT20)/ 802.11n(HT40): Directional gain = 3dBi + 10log(2) = 6.01dBi

5GHz Band: 802.11n(HT20)/ 802.11n(HT40): Directional gain = 5dBi + 10log(2) = 8.01dBi

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