RF Exposure Report

Report No.:	SA120328C12J
FCC ID:	RYK-WPEA127NI
Test Model:	WPEA-127NI
Received Date:	Apr. 13, 2016
Test Date:	Apr. 25 ~ May 12, 2016
Issued Date:	May 16, 2016
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
Test Location:	No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN (R.O.C.)

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Release Control Record

Issue No.	Description	Date Issued
SA120328C12J	Original release	May 16, 2016

1 Certificate of Conformity

Product:	802.11a/b/g/n 3T3R Mini PCIe Module
Brand:	SparkLAN
Test Model:	WPEA-127NI
Sample Status:	Engineering Sample
Applicant:	SparkLAN Communications, Inc.
Test Date:	Apr. 25 ~ May 12, 2016
Standards:	FCC Part 2 (Section 2.1091) KDB 447498 D01 (October 23, 2015) 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.

Prepared by :  , **Date:** May 16, 2016

Polly Chien / Specialist

Approved by :  , **Date:** May 16, 2016

Ken Liu / Senior Manager

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)	Modulation Mode	Max Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
2412-2462	802.11b	16.52	3	20	0.018	1
	802.11g	16.30	3	20	0.017	1
	802.11n (20MHz)	19.60	7.77	20	0.109	1
	802.11n (40MHz)	19.40	7.77	20	0.104	1
5180-5240	802.11a	14.41	5	20	0.017	1
	802.11n (20MHz)	11.26	9.77	20	0.025	1
	802.11n (40MHz)	12.78	9.77	20	0.036	1
5260-5320	802.11a	15.67	5	20	0.023	1
	802.11n (20MHz)	17.10	9.77	20	0.097	1
	802.11n (40MHz)	16.82	9.77	20	0.091	1
5500-5700	802.11a	15.14	5	20	0.021	1
	802.11n (20MHz)	16.90	9.77	20	0.092	1
	802.11n (40MHz)	16.88	9.77	20	0.092	1
5745-5825	802.11a	15.53	5	20	0.022	1
	802.11n (20MHz)	21.10	9.77	20	0.243	1
	802.11n (40MHz)	20.53	9.77	20	0.213	1

Note:

2.4GHz:

802.11n (20MHz) & 802.11n (40MHz): Directional gain = 3dBi + 10log(3) = 7.77dBi

5.0GHz:

802.11n (20MHz) & 802.11n (40MHz): Directional gain = 5dBi + 10log(3) = 9.77dBi

* Both of the 2.4GHz and 5GHz can not transmit simultaneously

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