RF EXPOSURE REPORT

REPORT NO.: SA130709C02C

MODEL NO.: WPEA-252NI

FCC ID: RYK-WPEA252NI

RECEIVED: Jun. 24, 2014

ISSUED: Aug. 14, 2014

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 Tsuen, Kwei Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA130709C02C	Original release	Aug. 14, 2014

1. CERTIFICATION

PRODUCT:	802.11abgn Mini PCIe module
MODEL NO.:	WPEA-252NI
BRAND:	SparkLAN
APPLICANT:	SparkLAN Communications, Inc.
TEST SAMPLE:	ENGINEERING SAMPLE
STANDARDS:	**FCC Part 2 (Section 2.1091)**
	KDB 447498 D03
	IEEE C95.1

The above equipment (Model: WPEA-252NI) 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:** Aug. 14, 2014
Maggie Wu / Specialist

APPROVED BY : _____ , **DATE:** Aug. 14, 2014
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**.

2.4 CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

FREQUENCY BAND (MHz)	MODE	MAX POWER (dBm)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm^2)	LIMIT (mW/cm^2)
2412 ~ 2462	802.11b	21.30	1.5	20	0.038	1
	802.11g	24.34	1.5	20	0.076	1
	802.11n (20MHz)	26.36	4.51	20	0.243	1
	802.11n (40MHz)	25.92	4.51	20	0.220	1
5180 ~ 5240	802.11a	13.98	1.5	20	0.007	1
	802.11n (20MHz)	14.87	4.51	20	0.017	1
	802.11n (40MHz)	13.74	4.51	20	0.013	1
5745 ~ 5825	802.11a	21.57	1.5	20	0.040	1
	802.11n (20MHz)	23.58	4.51	20	0.128	1
	802.11n (40MHz)	22.84	4.51	20	0.108	1

2.4GHz Band:

802.11n (20MHz), 802.11n (40MHz): Directional gain = 1.5dBi + 10log(2) = 4.51dBi

5GHz Band:

802.11n (20MHz), 802.11n (40MHz): Directional gain = 1.5dBi + 10log(2) = 4.51dBi