SparkLAN Communications, Inc.
8F., No.257, Sec. 2, Tiding Blvd., Neihu District, Taipei 11493
Taiwan

Federal Communications Commission
Authorization and Evaluation Division
Equipment Authorization Branch
7435 Oakland Mills Road
Columbia, MD 21046

Applicant's declaration concerning RF Radiation Exposure

We hereby indicate that the product
Product description: Wifi USB module
Model No: WUBQ-159ACN(BT)

The equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. The integral antennas used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter within the host device.

A safety statement concerning minimum separation distances from enclosure of the
Product : Wifi USB module
will be integrated in the user's manual to provide end-users with transmitter operating conditions for satisfying RF exposure compliance.

The appropriate information can be drawn from the test report no: W6M21703-16703-C-1 and W6M21703-16703-C-54
and the accompanying calculations.

Company: SparkLAN Communications, Inc.
Address: 8F., No.257, Sec. 2, Tiding Blvd., Neihu District, Taipei 11493 Taiwan
Date: June 08, 2017

Signature Grady

3.2 Equivalent isotropic radiated power

FCC Rule: 15.247(b)(3)

Test exclusion = max. conducted output power + adjusted for tune-up tolerance
Test exclusion = 20.32 dBm

Test equipment used: ETSTW-RE 055

3.3 RF Exposure Compliance Requirements

FCC OET Bulletin 65 Edition 97.01 determines the equations for predicting RF fields and applicable limits.
The prediction for power density in the far-field but will over-predict power density in the near field, where it could be used for walking a “worst case” or conservative prediction.

$$S = \frac{PG}{4\pi R^2}$$

S – Power Density
P – Output power ERP
R – Distance
D – Cable Loss
AG – Antenna Gain

Item	Unit	Value	**Remarks**
P	mW	107.6465	Peak value
D	dB		
AG	dBi	4.6	
G		2.8840	Calculated Value
R	cm	20	Assumed value
S	mW/cm^2	0.0618	Calculated value

Limits:

Limit for General Population / Uncontrolled Exposure	
Frequency (MHz)	Power Density (mW/cm^2)
1500 – 100.000	1.0

3.9 Equivalent isotropic radiated power, FCC 15.407 (f)

FCC Rule: 15.407(b)(3)
Band 1
Test exclusion = max. conducted output power + adjusted for tune-up tolerance
Test exclusion = 18.87 dBm

Band 4
Test exclusion = max. conducted output power + adjusted for tune-up tolerance
Test exclusion = 18.28 dBm

Test equipment used: ETSTW-RE 055

3.10 RF Exposure Compliance Requirements

ystems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess limit for maximum permissible exposure.
In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.25 m normally can be maintained between the user and the device.
FCC OET Bulletin 65 Edition 97.01 determines the equations for predicting RF fields and applicable limits.
The prediction for power density in the far-field but will over-predict power density in the near field, where it could be used for walking a “worst case” or conservative prediction.

$$S = \frac{PG}{4\pi R^2}$$

S – Power Density
P – Output power ERP
R – Distance
D – Cable Loss
AG – Antenna Gain

Band 1

Item	Unit	Value	**Remarks**
P	mW	77.0903	Peak value
D	dB	- -	- -
AG	dBi	5.46	- -
G	- -	3.5156	Calculated Value
R	cm	20	Assumed value
S	mW/cm2	0.0539	Calculated value

Band 4

Item	Unit	Value	**Remarks**
P	mW	67.2977	Peak value
D	dB	- -	- -
AG	dBi	5.46	- -
G	- -	3.5156	Calculated Value
R	cm	20	Assumed value
S	mW/cm2	0.0471	Calculated value

Limits:

Limit for General Population / Uncontrolled Exposure	
Frequency (MHz)	Power Density (mW/cm^2)
1500 – 100.000	1.0

3.11 Transmit Power Control (TPC)

Transmit power control (TPC). U-NII devices operating in the 5.25-5.35 GHz band and the 5.47-5.725 GHz band shall employ a TPC mechanism. The U-NII device is required to have the capability to operate at least 6 dB below the mean EIRP value of 30 dBm. A TPC mechanism is not required for systems with an e.i.r.p. of less than 500 mW.

Explanation: The EUT operates 5150 MHz – 5250 MHz and 5725 MHz-5850 MHz , so this test item is not required.