

## RF Exposure Report

**Report No.:** SA170925E04

**FCC ID:** Q87-CG6350

**Test Model:** CG6350

**Received Date:** Sep. 25, 2017

**Test Date:** Oct. 27, 2017

**Issued Date:** Nov. 21, 2017

**Applicant:** Linksys LLC

**Address:** 121 Theory Drive Irvine California 92617 United States

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

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### Release Control Record

Issue No.	Description	Date Issued
SA170925E04	Original release.	Nov. 21, 2017

## 1 Certificate of Conformity

**Product:** D3 WiFi Gateway

**Brand:** Linksys

**Test Model:** CG6350

**Sample Status:** ENGINEERING SAMPLE

**Applicant:** Linksys LLC

**Test Date:** Oct. 27, 2017

**Standards:** FCC Part 2 (Section 2.1091)

KDB 447498 D01 General RF Exposure Guidance v06

IEEE C95.1-1992

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 :**

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**Date:**

Nov. 21, 2017

Mary Ko / Specialist

:

**Approved by**

May Chen

**Date:**

Nov. 21, 2017

May Chen / 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 <sup>2</sup> )	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 <sup>2</sup> )*	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

$$Pd = (Pout \cdot G) / (4 \cdot \pi \cdot r^2)$$

where

Pd = power density in mW/cm<sup>2</sup>

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 35cm away from the body of the user.

So, this device is classified as **Mobile Device**.

## 2.4 Antenna Gain

Ant Set.	Brand	Model	Antenna Net Gain (dBi)	Frequency rang (GHz)	Antenna type	Connector type	*Cable Length
1	Airgain	N5X20B5-T-PK1-G1XST85BU	2.8	5.15~5.35	PCB	I-PEX(U.FL)	85
			4.1	5.47~5.725			
			5.0	5.725~5.85			
		N5X20SD-T-PK1-G1XST85BU	3.48	5.15~5.35	PCB	I-PEX(U.FL)	85
			3.48	5.47~5.725			
			3.48	5.725~5.85			
2	Airgain	N2420GS-T-PK1-B1XST210BU	1.6	2.4~2.49	PCB	I-PEX(U.FL)	210
		N2420GS-T-PK1-B1XST245BU	1.6	2.4~2.49	PCB	I-PEX(U.FL)	245

## 2.5 Calculation Result of Maximum Conducted Power

Frequency Band (MHz)	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
2412-2462	564.108	4.61	35	0.10593	1
5180-5240	939.469	6.16	35	0.25208	1
5745-5825	156.806	7.28	35	0.05445	1

NOTE:

2.4GHz: Directional gain = 1.60dBi + 10log(2) = 4.61dBi

5GHz:

For U-NII-1: Directional gain =  $10 \log[(10^{G0/20} + 10^{G1/20})^2 / 2]$  = 6.16dBi

For U-NII-3: Directional gain =  $10 \log[(10^{G0/20} + 10^{G1/20})^2 / 2]$  = 7.28dBi

### Conclusion:

The formula of calculated the MPE is:

CPD1 / LPD1 + CPD2 / LPD2 + .....etc. < 1

CPD = Calculation power density

LPD = Limit of power density

WLAN 2.4GHz + WLAN 5GHz = 0.10593 / 1 + 0.25208 / 1 = 0.35801

**Therefore the maximum calculations of above situations are less than the "1" limit.**

**--- END ---**