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## RF Exposure Report

**Report No.:** SA130702E05C

**FCC ID:** Q87-E2500V3

**Test Model:** E2500

**Received Date:** Apr. 29, 2016

**Test Date:** May 05, 2016

**Issued Date:** July 28, 2016

**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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### Report Issue History Record

Issue No.	Reason for Change	Date Issued
SA130702E05	Original	Aug. 09, 2013
SA130702E05B R1	Upgraded the standard to section 15.407 under new rule for U-NII-1 and U-NII-3 band.	Apr. 21, 2016
SA130702E05C	Upgraded the standard to section 15.407 under new rule (16-24) for U-NII-3 band.	July 28, 2016

### Release Control Record

Issue No.	Description	Date Issued
SA130702E05C	Original release.	July 28, 2016



# 1 Certificate of Conformity

**Product:** Linksys E2500 Dual-Band Wireless-N Router  
**Brand:** Linksys  
**Test Model:** E2500  
**Sample Status:** MASS-PRODUCTION  
**Applicant:** LINKSYS LLC  
**Test Date:** May 05, 2016  
**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 :** Wendy Wu , **Date:** July 28, 2016  
Wendy Wu / Specialist

**Approved by :** May Chen , **Date:** July 28, 2016  
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				
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<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 20cm away from the body of the user. So, this device is classified as **Mobile Device**.

### 2.4 Antenna Gain

2.4GHz			
Transmitter Circuit	Antenna Type	Antenna Gain (dBi)	Connector
Chain (0)	PIFA	2.5	NA
Chain (1)	PIFA	4	NA
5GHz			
Transmitter Circuit	Antenna Type	Antenna Gain (dBi)	Connector
Chain (0)	PIFA	4	NA
Chain (1)	PIFA	5	NA

### 3 Calculation Result of Maximum Conducted Power

The data (Except UNII-3 band) was copied from the original test report (Report No.: SA130702E05B)

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	570.997	6.29	20	0.28534	1
5180-5240	194.939	7.52	20	0.21909	1
5745-5825	155.943	7.52	20	0.17525	1

NOTE:

2.4GHz: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 6.29\text{dBi}$

5GHz: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 7.52\text{dBi}$

#### Conclusion:

The formula of calculated the MPE is:

$CPD1 / LPD1 + CPD2 / LPD2 + \dots\text{etc.} < 1$

CPD = Calculation power density

LPD = Limit of power density

$WLAN\ 2.4\text{GHz} + WLAN\ 5\text{GHz} = 0.28534 / 1 + 0.21909 / 1 = 0.504$

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

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