

## RF Exposure Report

**Report No.:** SA141219C21

**FCC ID:** TE7C5V2

**Test Model:** Archer C5

**Received Date:** Dec. 19, 2014

**Test Date:** Dec. 29, 2014 ~ Feb. 17, 2015

**Issued Date:** Mar. 06, 2015

**Applicant:** TP-LINK TECHNOLOGIES CO., LTD.

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

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### Table of Contents

<b>Release Control Record</b> .....	<b>3</b>
<b>1 Certificate of Conformity</b> .....	<b>4</b>
<b>2 RF Exposure</b> .....	<b>5</b>
2.1 Limits for Maximum Permissible Exposure (MPE).....	5
2.2 MPE Calculation Formula .....	5
2.3 Classification .....	5
<b>3 Calculation Result of Maximum Conducted Power</b> .....	<b>6</b>



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### Release Control Record

Issue No.	Description	Date Issued
SA141219C21	Original release	Mar. 06, 2015

## 1 Certificate of Conformity

**Product:** AC1200 Wireless Dual Band Gigabit Router

**Brand:** TP-LINK

**Test Model:** Archer C5

**Sample Status:** Prototype

**Applicant:** TP-LINK TECHNOLOGIES CO., LTD.

**Test Date:** Dec. 29, 2014 ~ Feb. 17, 2015

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

KDB 447498 D03

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:**

Mar. 06, 2015

Suntee Liu / Specialist

**Approved by :**



**Date:**

Mar. 06, 2015

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 <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 21cm 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)	Max Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
2412-2462	27.15	5.01	21	0.297	1
5180-5240	22.34	6.01	21	0.123	1
5745-5825	27.56	6.01	21	0.411	1

Note:

2412-2462MHz Directional gain = 2dBi + 10log(2) = 5.01dBi

5180-5240MHz Directional gain = 3dBi + 10log(2) = 6.01dBi

5745-5825MHz Directional gain = 3dBi + 10log(2) = 6.01dBi

#### 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 2.4GHz + WLAN 5GHz = 0.297 + 0.411 = 0.708

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

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