



# RF EXPOSURE REPORT

**REPORT NO.:** SA141112C38

**MODEL NO.:** C7

**FCC ID:** TE7C7V3

**RECEIVED:** Jan. 07, 2014

**TESTED:** Nov. 22, 2014 ~ Jan. 07, 2015

**ISSUED:** Jan. 09, 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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**TEST LOCATION:** No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei  
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## RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA141112C38	Original release	Jan. 09, 2015



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## 1. CERTIFICATION

**PRODUCT:** AC1750 Wireless Dual Band Gigabit Router

**MODEL NO.:** C7

**BRAND:** TP-LINK

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

**TESTED:** Nov. 22, 2014 ~ Jan. 07, 2015

**TEST SAMPLE:** Prototype

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

KDB 447498 D03

IEEE C95.1

The above equipment (model: C7) 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 :** Jan. 09, 2015

Polly Chien / Specialist

**APPROVED BY :**  , **DATE :** Jan. 09, 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)
<b>LIMITS FOR GENERAL POPULATION / UNCONTROLLED EXPOSURE</b>				
300-1500	...	...	F/1500	30
1500-100,000	...	...	1.0	30

F = Frequency in MHz

### 2.2 MPE CALCULATION FORMULA

$$P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot r^2)$$

where

P<sub>d</sub> = power density in mW/cm<sup>2</sup>

P<sub>out</sub> = output power to antenna in mW

G = gain of antenna in linear scale

π = 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 24cm away from the body of the user. So, this device is classified as **Mobile Device**.



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## 2.4 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	28.53	6.77	24	0.468	1
5180-5240	26.14	7.77	24	0.340	1
5745-5825	27.39	7.77	24	0.453	1

### NOTE:

**2.4GHz:** Directional gain = 2dBi + 10log(3) = 6.77dBi

**5.0GHz:** Directional gain = 3dBi + 10log(3) = 7.77dBi

### 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 = 0.468 + 0.453 = 0.921

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

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