

RF EXPOSURE REPORT

REPORT NO.: SA130508C34B

MODEL NO.: C5

FCC ID: TE7C5

RECEIVED: May 08, 2013

TESTED: May 14 ~ May 21, 2013

ISSUED: Jun. 12, 2014

APPLICANT: TP-LINK TECHNOLOGIES CO., LTD.

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ISSUED BY: Bureau Veritas Consumer Products Services
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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA130508C34B	Original release	Jun. 12, 2014

1. CERTIFICATION

PRODUCT: AC1200 Wireless Dual Band Gigabit Router
MODEL NO.: C5
BRAND: TP-LINK
APPLICANT: TP-LINK TECHNOLOGIES CO., LTD.
TESTED: May 14 ~ May 21, 2013
TEST SAMPLE: PROTOTYPE
STANDARDS: FCC Part 2 (Section 2.1091)
FCC OET Bulletin 65, Supplement C (01-01)
IEEE C95.1

The above equipment (model: C5) 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.

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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 ²)	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

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

where

P_d = power density in mW/cm²

P_{out} = 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 36cm away from the body of the user. So, this device is classified as **Mobile Device**.

2.4 Calculation result of maximum conducted power

FREQUENCY BAND (MHz)	MAX POWER (dBm)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
2412-2462	29.27	9.27	36	0.464	1
5180-5240	16.87	9.77	36	0.030	1
5745-5825	29.66	9.77	36	0.570	1

NOTE:

2.4GHz: Directional gain = 4.5dBi + 10log(3) = 9.27dBi

5.0GHz: Directional gain = 5dBi + 10log(3) = 9.77dBi

CONCLUSION:

Both of the 2.4 and 5GHz can transmit simultaneously, the formula of calculated the MPE is:

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

CPD = Calculation power density

LPD = Limit of power density

1. WLAN 2.4G + WLAN 5.0G = 0.439 + 0.538 = 0.977

Therefore, the maximum calculation of this situation is 0.977, which is less than the "1" limit.