



RF EXPOSURE REPORT

REPORT NO.: SA141223C35

MODEL NO.: Archer C20

FCC ID: TE7C20

RECEIVED: Dec. 23, 2014

TESTED: Dec. 31, 2014 ~ Jan. 22, 2015

ISSUED: Jan. 23, 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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(R.O.C.)

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA141223C35	Original release	Jan. 23, 2015



1. CERTIFICATION

PRODUCT: AC750 Wireless Dual Band Router

MODEL NO.: Archer C20

BRAND: TP-LINK

APPLICANT: TP-LINK TECHNOLOGIES CO., LTD.

TESTED: Dec. 31, 2014 ~ Jan. 22, 2015

TEST SAMPLE: Prototype

STANDARDS: FCC Part 2 (Section 2.1091)

KDB 447498 D03

IEEE C95.1

The above equipment (model: Archer C20) 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. 23, 2015
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APPROVED BY :  , **DATE** : Jan. 23, 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 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

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

where

Pd = power density in mW/cm²

Pout = 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 20cm 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 ²)	LIMIT (mW/cm ²)
2412-2462	22.07	5.10	20	0.104	1
5180-5240	19.68	1.33	20	0.025	1
5745-5825	19.48	2.31	20	0.030	1

NOTE:

2.4GHz: Directional gain = $2.09\text{dBi} + 10\log(2) = 5.10\text{dBi}$

5.0GHz:

5180 ~ 5240MHz: antenna gain = 1.33dBi

5745 ~ 5825MHz: antenna gain = 2.31dBi

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 = 0.104 + 0.030 = 0.134

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

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