RF EXPOSURE REPORT

Applicant	TP-Link Technologies Co., Ltd.
Address	Building 24(floors1,3,4,5) and 28(floors1-4) Central Science and Technology Park, Shennan Rd, Nanshan, Shenzhen, China

Manufacturer or Supplier	TP-Link Technologies Co., Ltd.
Address	Building 24(floors1,3,4,5) and 28(floors1-4) Central Science and Technology Park, Shennan Rd, Nanshan, Shenzhen, China
Product	AC1200 Wireless Dual Band Gigabit Router
Brand Name	tp-link
Model	Archer C5
Additional Model & Model Difference	Archer C1210; TSP EC220-G5U;
Date of tests	Oct. 25, 2017 ~ Nov. 27, 2017

☒ **FCC Part 2 (Section 2.1091)**
☒ **KDB 447498 D01**
☒ **IEEE C95.1**

CONCLUSION: The submitted sample was found to COMPLY with the test requirement

Tested by Harry Li Project Engineer/ EMC Department	Approved by Glyn He Supervisor/ EMC Department
	 Date: Dec. 11, 2017

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
FS171025N006	Original release	Dec. 11, 2017

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1. CERTIFICATION

PRODUCT:	AC1200 Wireless Dual Band Gigabit Router
BRAND NAME:	tp-link
MODEL NO.:	Archer C5
ADDITIONAL MODEL:	Archer C1210; TSP EC220-G5U;
DEVIATION AMONG MODELS	Model name only
FCC ID:	TE7C5SPV4
TEST SAMPLE:	ENGINEERING SAMPLE
APPLICANT:	TP-Link Technologies Co., Ltd.
TESTED DATE:	Nov. 27, 2017
STANDARDS:	FCC Part 2 (Section 2.1091) KDB 447498 D01 IEEE C95.1

2. RF EXPOSURE LIMIT

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

3. MPE CALCULATION FORMULA

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

where

Pd = power density in mW/cm^2

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

4. 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**.

5. ANTENNA GAIN

The antennas provided to the EUT, please refer to the following table:

Frequency Band	Antenna 0 Peak Gain (dBi)	Antenna 1 Peak Gain (dBi)	Total Gain (dBi)	Antenna Type
2.4GHz	5	5	8.01	Dipole Antenna
5GHz	5	5	8.01	Dipole Antenna

Note: 2.4GHz: Total gain=3dBi+10log(2)=6.01dBi; 5GHz: Total gain=5dBi+10log(2)=8.01dBi

6. CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm^2)	LIMIT (mW/cm^2)
WLAN 2.4GHz	229.67	5	20	0.144489	1.0
WLAN 5GHz 5180-5240MHz	228.071	5	20	0.143483	1.0
WLAN 5GHz 5745-5850MHz	343.815	5	20	0.216299	1.0

CONCLUSION:

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

$CPD_1 / LPD_1 + CPD_2 / LPD_2 + ……etc. < 1$

CPD = Calculation power density

LPD = Limit of power density

Therefore, the worst-case situation is 0.144489 / 1 + 0.216299 / 1= 0.360788, which is less than “1”. This confirmed that the device comply with FCC 1.1310 MPE limit.

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