

# RF Exposure Evaluation Report

**Equipment** : AC1350 Wireless Dual Band Router  
**Brand Name** : TP-LINK  
**Model No.** : Archer C60  
**FCC ID** : TE7C60  
**Standard** : 47 CFR Part 2.1091  
**Applicant / Manufacturer** : TP-LINK TECHNOLOGIES CO., LTD.  
Building 24 (floors 1,3,4,5) and 28 (floors1-4) Central Science and Technology Park, Shennan Rd, Nanshan, Shenzhen, China

The product sample received on Jun. 23, 2016 and completely tested on Mar. 07, 2017. We, SPORTON, would like to declare that the tested sample has been evaluated in accordance with 47 CFR Part 2.1091, and pass the limit.

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Reviewed by:

  
Jordan Hsiao / Manager





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**PHOTOGRAPHS OF EUT v02**





# 1 General Description

## 1.1 EUT General Information

| RF General Information |                        |                           |   |
|------------------------|------------------------|---------------------------|---|
| Evaluation Mode        | Frequency Range (MHz)  | Operating Frequency (MHz) | Modulation Type   |
| 5GHz WLAN              | 5150-5250<br>5725-5850 | 5180-5240<br>5745-5825    | 802.11a/n: OFDM (BPSK, QPSK, 16QAM, 64QAM)<br>802.11ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM) |

## 1.2 Table for Permissive Change

This product is an extension of original one reported under Sporton project number: FA642212-02

Below is the table for the change of the product with respect to the original one.

| Modifications            | Performance Checking |
|--------------------------|----------------------|
| Add beamforming function | All                  |

## 1.3 Testing Location

| Testing Location                    |        |  |
|-------------------------------------|--------|--|
| <input checked="" type="checkbox"/> | HWA YA | ADD : No. 52, Hwa Ya 1st Rd., Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C.<br>TEL : 886-3-327-3456      FAX : 886-3-327-0973  |
| <input type="checkbox"/>            | JHUBEI | ADD : No.8, Lane 724, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C.<br>TEL : 886-3-656-9065      FAX : 886-3-656-9085 |



## 2 Maximum Permissible Exposure

### 2.1 Limit of Maximum Permissible Exposure

(A) Limits for Occupational / Controlled Exposure

| Frequency Range (MHz) | Electric Field Strength (E) (V/m) | Magnetic Field Strength (H) (A/m) | Power Density (S) (mW/ cm <sup>2</sup> ) | Averaging Time  E  <sup>2</sup> , H  <sup>2</sup> or S (minutes) |
|-----------------------|-----------------------------------|-----------------------------------|--|--|
| 0.3-3.0               | 614                               | 1.63                              | (100)*                                   | 6  |
| 3.0-30                | 1842 / f                          | 4.89 / f                          | (900 / f)*                               | 6  |
| 30-300                | 61.4                              | 0.163                             | 1.0                                      | 6  |
| 300-1500              |                                   |                                   | F/300                                    | 6  |
| 1500-100,000          |                                   |                                   | 5  | 6  |

(B) Limits for General Population / Uncontrolled Exposure

| Frequency Range (MHz) | Electric Field Strength (E) (V/m) | Magnetic Field Strength (H) (A/m) | Power Density (S) (mW/ cm <sup>2</sup> ) | Averaging Time  E  <sup>2</sup> , H  <sup>2</sup> or S (minutes) |
|-----------------------|-----------------------------------|-----------------------------------|--|--|
| 0.3-1.34              | 614                               | 1.63                              | (100)*                                   | 30   |
| 1.34-30               | 824/f                             | 2.19/f                            | (180/f)*                                 | 30   |
| 30-300                | 27.5                              | 0.073                             | 0.2                                      | 30   |
| 300-1500              |                                   |                                   | F/1500                                   | 30   |
| 1500-100,000          |                                   |                                   | 1.0                                      | 30   |

Note: f = frequency in MHz ; \*Plane-wave equivalent power density

### 2.2 MPE Calculation Method

The MPE was calculated at 20 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

$$E \text{ (V/m)} = \frac{\sqrt{30 \times P \times G}}{d} \qquad \text{Power Density: } Pd \text{ (W/m}^2\text{)} = \frac{E^2}{377}$$

**E** = Electric field (V/m)

**P** = RF output power (W)

**G** = EUT Antenna numeric gain (numeric)

**d** = Separation distance between radiator and human body (m)

The formula can be changed to

$$Pd = \frac{30 \times P \times G}{377 \times d^2}$$



### 2.3 Calculated Result and Limit

**Exposure Environment: General Population / Uncontrolled Exposure**

| Mode     | DG (dBi) | Power (dBm) | EIRP (dBm) | EIRP (W) | Distance (cm) | S (mW/cm <sup>2</sup> ) | S Limit (mW/cm <sup>2</sup> ) |
|----------|----------|-------------|------------|----------|---------------|-------------------------|-------------------------------|
| 5.2G;D1D | 5.54     | 21.56       | 27.09      | 0.51168  | 20            | 0.10180                 | 1.00000                       |
| 5.8G;D1D | 6.31     | 20.89       | 27.20      | 0.52481  | 20            | 0.10441                 | 1.00000                       |