

RF Exposure Report

Report No.: SA190717D15A

FCC ID: 2AATB-WAP-7530

Test Model: WAP-7530

Received Date: Jan. 20, 2020

Test Date: Feb. 24 to Apr. 16, 2020

Issued Date: Apr. 27, 2020

Applicant: Tatung Technology Inc.

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Release Control Record

| Issue No. | Description | Date Issued |
|--------------|-------------------|---------------|
| SA190717D15A | Original release. | Apr. 27, 2020 |

1 Certificate of Conformity

Product: Dual Band Wireless Router

Brand: TTI, WizeLink

Test Model: WAP-7530

Sample Status: Engineering sample

Applicant: Tatung Technology Inc.

Test Date: Feb. 24 to Apr. 16, 2020

Standards: FCC Part 2 (Section 2.1091)
IEEE C95.3 -2002

References Test Guidance: KDB 447498 D01 General RF Exposure Guidance v06

The above equipment 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 RF characteristics under the conditions specified in this report.

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Date: Apr. 27, 2020

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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 | | | | |
| 0.3-1.34 | 614 | 1.63 | (100)* | 30 |
| 1.34-30 | 824/f | 2.19/f | (180/f ²)* | 30 |
| 30-300 | 27.5 | 0.073 | 0.2 | 30 |
| 300-1500 | ... | ... | f/1500 | 30 |
| 1500-100,000 | ... | ... | 1.0 | 30 |

f = Frequency in MHz ; *Plane-wave equivalent power density

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 20cm 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 AV Power (dBm) | Antenna Gain (dBi) | Distance (cm) | Power Density (mW/cm ²) | Limit (mW/cm ²) |
|----------------------|--------------------|--------------------|---------------|-------------------------------------|-----------------------------|
| 2412-2462 | 19.86 | 6.39 | 20 | 0.0839 | 1 |
| 5180-5240 | 22.04 | 10.44 | 20 | 0.3522 | 1 |
| 5745-5825 | 24.02 | 10.44 | 20 | 0.5556 | 1 |

Note:

1. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
2. 2.4GHz: Directional gain = 3.38dBi + 10log(2) = 6.39dBi
5.0GHz: Directional gain = 4.42dBi + 10log(4) = 10.44dBi
3. WLAN 2.4GHz & WLAN 5GHz can transmit simultaneously.

Conclusion:

The formula of calculated the MPE is:

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

CPD = Calculation power density

LPD = Limit of power density

WLAN 2.4GHz + WLAN 5GHz = 0.0839 + 0.5556 = 0.6395

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

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