

RF Exposure Report

Report No.: SA150202C14F

FCC ID: MSQ-RT1D00

Test Model: RT-AC1200

Series Model: RT-N600

Received Date: Nov. 10, 2015

Test Date: Nov. 23, 2015 ~ May 10, 2016

Issued Date: May 11, 2016

Applicant: ASUSTeK COMPUTER INC.

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch

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Test Location: No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN (R.O.C.)



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Release Control Record

| Issue No. | Description | Date Issued |
|--------------|-------------------|--------------|
| SA150202C14F | Original release. | May 11, 2016 |

1 Certificate of Conformity

Product: Wireless-AC1200 Dual Band USB Router

Brand: ASUS

Test Model: RT-AC1200

Series Model: RT-N600

Sample Status: Engineering sample

Applicant: ASUSTeK COMPUTER INC.

Test Date: Nov. 23, 2015 ~ May 10, 2016

Standards: FCC Part 2 (Section 2.1091)
KDB 447498 D03 (January 17, 2014)
IEEE C95.1

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 EMC characteristics under the conditions specified in this report.

Prepared by :  , **Date:** May 11, 2016
Pettie Chen / Senior Specialist

Approved by :  , **Date:** May 11, 2016
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

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

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**.

3 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 | 23.79 | 8.01 | 20 | 0.301 | 1 |
| 5180-5240 | 25.03 | 8.01 | 20 | 0.401 | 1 |
| 5745-5825 | 24.52 | 8.01 | 20 | 0.356 | 1 |

Note: Directional gain = 5dBi + 10log(2) = 8.01dBi

CONCLUSION:

Both of the WLAN 2.4G & WLAN 5G 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

$$\text{WLAN 2.4G} + \text{WLAN 5.0G} = 0.301 + 0.401 = 0.702$$

Therefore, the maximum calculation of this situation is 0.702, which is less than the "1" limit.

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