

## RF Exposure Report

**Report No.:** SA150202C14

**FCC ID:** MSQ-RT1D00

**Test Model:** RT-AC1200

**Series Model:** RT-N600

**Received Date:** Feb. 02, 2015

**Test Date:** Apr. 13 ~ May 06, 2015

**Issued Date:** May 27, 2015

**Applicant:** ASUSTeK COMPUTER INC.

**Address:** 4F, NO. 150, Li-Te Rd. Peitou, Taipei Taiwan

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

**Lab Address:** No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan, R.O.C.

**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  |
|-------------|-------------------|--------------|
| SA150202C14 | Original release. | May 27, 2015 |

## 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:** Apr. 13 ~ May 06, 2015

**Standards:** FCC Part 2 (Section 2.1091)

KDB 447498 D03

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 :**

  
Pettie Chen / Senior Specialist

**Date:** May 27, 2015

**Approved by :**

  
Ken Liu / Senior Manager

**Date:** May 27, 2015

## 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 <sup>2</sup> ) | 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/cm<sup>2</sup>

$P_{out}$  = 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

### 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 <sup>2</sup> ) | Limit (mW/cm <sup>2</sup> ) |
|----------------------|-----------------|--------------------|---------------|-------------------------------------|-----------------------------|
| 2412-2462            | 23.79           | 8.01               | 20            | 0.301                               | 1                           |
| 5180-5240            | 25.03           | 8.01               | 20            | 0.401                               | 1                           |
| 5745-5825            | 25.12           | 8.01               | 20            | 0.409                               | 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

$$\text{WLAN 2.4G} + \text{WLAN 5.0G} = 0.301 + 0.409 = 0.710$$

Therefore, the maximum calculation of this situation is 0.710, which is less than the "1" limit.

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