

## RF Exposure Report

**Report No.:** SA170224C10B

**FCC ID:** MSQ-RPACRR00

**Test Model:** RP-AC55

**Series Model:** RP-AC1200

**Received Date:** Dec. 13, 2017

**Test Date:** Jan. 09 ~ Mar. 06, 2018

**Issued Date:** Mar. 07, 2018

**Applicant:** ASUSTeK COMPUTER INC.

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**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
SA170224C10B	Original release.	Mar. 07, 2018

## 1 Certificate of Conformity

**Product:** Dual-band Wireless Repeater

**Brand:** ASUS

**Test Model:** RP-AC55

**Series Model:** RP-AC1200

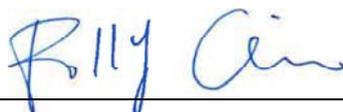
**Sample Status:** Engineering sample

**Applicant:** ASUSTeK COMPUTER INC.

**Test Date:** Jan. 09 ~ Mar. 06, 2018

**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:** Mar. 07, 2018  
Polly Chien / Specialist

**Approved by :**  , **Date:** Mar. 07, 2018  
Bruce Chen / Project Engineer

## 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

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

where

Pd = power density in mW/cm<sup>2</sup>

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

### 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> )
WLAN: CDD Mode					
2412-2462	23.53	5.60	20	0.163	1
5180-5240	24.44	7.73	20	0.328	1
5745-5825	24.91	7.73	20	0.365	1
WLAN: Beamforming Mode					
2412-2462	23.53	5.60	20	0.163	1
5180-5240	24.25	7.73	20	0.314	1
5745-5825	24.91	7.73	20	0.365	1
BT EDR					
2402-2480	7.02	1.75	20	0.001	1

\* The WLAN 2.4GHz can transmit with WLAN 5GHz at the same time except BT.

Note:

WLAN 2.4GHz: Directional gain = 2.59dBi + 10log(2)=5.60dBi

WLAN 5GHz: Directional gain = 4.72dBi + 10log(2)=7.73dBi

BT EDR: Antenna gain = 1.75dBi

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 = 0.163 + 0.365 = 0.528 < 1

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

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