

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

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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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Table of Contents

Release Control Record	3
1 Certificate of Conformity	4
2 RF Exposure	5
2.1 Limits for Maximum Permissible Exposure (MPE).....	5
2.2 MPE Calculation Formula	5
2.3 Classification	5
3 Calculation Result of Maximum Conducted Power	6

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

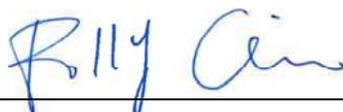
Sample Status: Engineering sample

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 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

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

where

Pd = power density in mW/cm²

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 ²)	Limit (mW/cm ²)
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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