RF Exposure Report

Report No.:	SA190429C30B
FCC ID:	MSQ-RTAC4A00
Test Model:	RT-AC1200_V2
Series Model:	RT-AC51, RT-AC750L, RT-AC1200RU, RT-AC1200L, RT-AC52
Received Date:	Apr. 29, 2019
Test Date:	May 03 ~ May 07, 2019, Jul. 30 ~ Aug. 01, 2019 and Aug. 19 ~ Aug. 20, 2019
Issued Date:	Aug. 26, 2019

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 Lin Kou Laboratories
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan
Test Location:	No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, Taiwan

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Release Control Record

Issue No.	Description	Date Issued
SA190429C30B	Original release.	Aug. 26, 2019

1 Certificate of Conformity

Product:	Wireless-AC1200 Dual Band Router
Brand:	ASUS
Test Model:	RT-AC1200_V2
Series Model:	RT-AC51, RT-AC750L, RT-AC1200RU, RT-AC1200L, RT-AC52
Sample Status:	Engineering sample
Applicant:	ASUSTeK COMPUTER INC.
Test Date:	May 03 ~ May 07, 2019, Jul. 30 ~ Aug. 01, 2019 and Aug. 19 ~ Aug. 20, 2019
Standards:	FCC Part 2 (Section 2.1091) KDB 447498 D01 General RF Exposure Guidance v06 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 RF characteristics under the conditions specified in this report.

Prepared by : Pettie Chen , **Date:** Aug. 26, 2019

Pettie Chen / Senior Specialist

Approved by : Bruce Chen , **Date:** Aug. 26, 2019

Bruce Chen / Senior 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				
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

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

where

Pd = power density in mW/cm^2

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)
CDD Mode					
2412-2462	22.80	5	20	0.120	1
5180-5240	21.52	8.01	20	0.179	1
5745-5825	24.15	8.01	20	0.327	1
Beamforming Mode					
5180-5240	21.52	8.01	20	0.179	1
5745-5825	24.15	8.01	20	0.327	1

Note:
1. For 5.0GHz Band: Directional gain = 5.0dBi + 10log(2) = 8.01dBi

2. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

Conclusion:

2.4GHz & 5GHz Band can transmit at same time.

The formula of calculated the MPE is:

CPD1 / LPD1 + CPD2 / LPD2 + ……etc. < 1

CPD = Calculation power density

LPD = Limit of power density

1. WLAN 2.4GHz + WLAN 5GHz = 0.120/1 + 0.327/1 = 0.447

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

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