

RF Exposure Report

Report No.: SA160728C11

FCC ID: MSQ-BAPAC1750

Test Model: BAP-AC1750

Received Date: July 28, 2016

Test Date: Nov. 09, 2016

Issued Date: Dec. 07, 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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Release Control Record

Issue No.	Description	Date Issued
SA160728C11	Original release.	Dec. 07, 2016

1 Certificate of Conformity

Product: Business Dual-band Wireless-AC Access Point

Brand: ASUS

Test Model: BAP-AC1750

Sample Status: ENGINEERING SAMPLE

Applicant: ASUSTek COMPUTER INC.

Test Date: Nov. 09, 2016

Standards: FCC Part 2 (Section 2.1091)

KDB 447498 D01 General RF Exposure Guidance v06

IEEE C95.1-1992

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 : Wendy Wu , **Date:** Dec. 07, 2016
Wendy Wu / Specialist

Approved by : May Chen , **Date:** Dec. 07, 2016
May Chen / 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

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

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 40cm away from the body of the user.

So, this device is classified as **Mobile Device**.

2.4 Antenna Gain

2.4GHz Band						
Antenna No	Brand	Model	Antenna Gain (dBi) <Including cable loss>	Frequency range (GHz)	Antenna Type	Connector Type
Chain (0)	Adant	STAR-X3	4	2.4~2.4835	monopole	i-pex(MHF)
Chain (1)	Adant	STAR-X3	4	2.4~2.4835	monopole	i-pex(MHF)
Chain (2)	Adant	STAR-X3	4	2.4~2.4835	monopole	i-pex(MHF)
5GHz Band						
Antenna No	Brand	Model	Antenna Gain (dBi) <Including cable loss>	Frequency range (GHz)	Antenna Type	Connector Type
Chain (0)	Adant	STAR-X3	6	5.15~5.85	monopole	i-pex(MHF)
Chain (1)	Adant	STAR-X3	6	5.15~5.85	monopole	i-pex(MHF)
Chain (2)	Adant	STAR-X3	6	5.15~5.85	monopole	i-pex(MHF)

2.5 Calculation Result Of Maximum Conducted Power

Frequency Band (MHz)	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
2412-2462	993.877	8.77	40	0.37239	1
5180-5240	657.486	10.77	40	0.39044	1
5745-5825	637.99	10.77	40	0.37886	1

NOTE:

2.4GHz: Directional gain = 4dBi + 10log(3) = 8.77dBi

5GHz: Directional gain = 6dBi + 10log(3) = 10.77dBi

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

$WLAN\ 2.4GHz + WLAN\ 5GHz = 0.37239 / 1 + 0.39044 / 1 = 0.76283$

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

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