

RF Exposure Report

Report No.: SA150802C01C

FCC ID: MSQ-CMBT00

Test Model: CM-32_AC2600

Received Date: Aug. 02, 2015

Test Date: Nov. 19 ~ Nov. 30, 2015 (For 2.4G and 5G U-NII-1 Band) May 26 ~ May 31, 2016 (For U-NII-3 Band)

Issued Date: Jun. 01, 2016

Applicant: ASUSTek COMPUTER INC.

Address: 4F, NO. 150, LI-TE RD. PEITOU, TAIPEI 112, 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
- Test Location: No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN (R.O.C.)



TAF Testing Laboratory 2021

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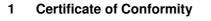


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Release Control Record						
Issue No.	Description			Date Issued		
SA150802C01C	Original release			Jun. 01, 2016		
Report No.: SA150802C	01C	Page No. 3 / 7	Rer	oort Format Version: 6.1.1		



Product:	Wireless-AC3100 Dual Band Gigabit Router
Brand:	ASUS
Test Model:	CM-32_AC2600
Sample Status:	Engineering sample
Applicant:	ASUSTek COMPUTER INC.
Test Date:	Nov. 19 ~ Nov. 30, 2015 (For 2.4G and 5G U-NII-1 Band)
	May 26 ~ May 31, 2016 (For U-NII-3 Band)
Standards:	FCC Part 2 (Section 2.1091)
	KDB 447498 D01 (October 23, 2015)
	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 :	Celine Celine Chou / S	Choy Specialist	, Date:	Jun. 01, 2016	
Approved by :	Ken Liu / Senior	<u>Lin</u> Manager	, Date:	Jun. 01, 2016	



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

 $Pd = power density in mW/cm^{2}$

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 37cm 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)	Mode	Max Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)	
	Beamforming off Mode						
	802.11b	28.65	8.72	37	0.317	1	
	802.11g	28.77	8.72	37	0.326	1	
0410 0400	802.11n (HT20)	29.35	8.72	37	0.373	1	
2412-2462	802.11n (HT40)	24.64	8.72	37	0.126	1	
			Beamforming	on Mode			
	802.11n (HT20)	26.56	8.72	37	0.196	1	
	802.11n (HT40)	22.31	8.72	37	0.074	1	
	•		Beamforming	off Mode			
	802.11a	22.38	9.41	37	0.088	1	
	802.11n (HT20)	22.28	9.41	37	0.086	1	
	802.11n (HT40)	22.23	9.41	37	0.085	1	
5180-5240	802.11ac (VHT80)	19.85	9.41	37	0.049	1	
	Beamforming on Mode						
	802.11ac (VHT20)	21.90	9.41	37	0.079	1	
	802.11ac (VHT40)	20.62	9.41	37	0.059	1	
	802.11ac (VHT80)	19.12	9.41	37	0.041	1	
			Beamforming	off Mode			
	802.11a	26.27	10.37	37	0.268	1	
	802.11n (HT20)	26.32	10.37	37	0.271	1	
	802.11n (HT40)	29.78	10.37	37	0.602	1	
5745-5825	802.11ac (VHT80)	29.07	10.37	37	0.511	1	
	Beamforming on Mode						
	802.11ac (VHT20)	25.30	10.37	37	0.214	1	
	802.11ac (VHT40)	25.32	10.37	37	0.215	1	
	802.11ac (VHT80)	25.34	10.37	37	0.216	1	

Note:

2.4GHz: Directional gain = 2.70dBi + 10log(4) = 8.72dBi

5180-5240MHz: Directional gain = 3.39dBi + 10log(4) = 9.41dBi

5745-5825MHz: Directional gain = 4.35dBi + 10log(4) = 10.37dBi



Conclusion:

The formula of calculated the MPE is: CPD1 / LPD1 + CPD2 / LPD2 +etc. < 1 CPD = Calculation power density LPD = Limit of power density

WLAN 2.4GHz + WLAN 5GHz = 0.373 + 0.602 = 0.975Therefore all the maximum calculations of above situations are less than the "1" limit.

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