



RF Exposure Evaluation Report

Equipment : Wireless-AC9600 Dual-band Gigabit Router,
ROG Rapture Aura 10G Gaming Router,
Ultimate Gaming Router,
ASUS ROG Rapture AC9600 Ultimate 10G Gaming Router,
Wireless-AC9600 Dual-band 10G Gigabit Router

Brand Name : ASUS

Model No. : GT-AC9600, RT-AC9600R, ROG Rapture GT-AC9600,
ROG Aura Rapture GT-AC9600

FCC ID : MSQ-RTG03H

Standard : 47 CFR Part 2.1091

Applicant : ASUSTeK COMPUTER INC.
4F, No. 150, Li-Te Rd., Peitou, Taipei 112, Taiwan

Manufacturer (1) : ASKEY TECHNOLOGY (JIANG SU) LTD
NO1388, Jiao Tong Road, Wujiang Economic
Technological Development Area Jiangsu Province
215200 China

Manufacturer (2) : Compal Networking (KunShan) Co., LTD.
No. 520, Nabbang Rd., Economic & Technical
Development Zone Kunshan, Jiangsu Province China

The product sample received on Jan. 09, 2017 and completely tested on Apr. 21, 2017. We, SPORTON, would like to declare that the tested sample has been evaluated in accordance with 47 CFR Part 2.1091, and pass the limit.

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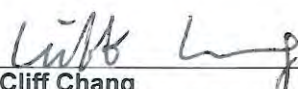

Cliff Chang
SPORTON INTERNATIONAL INC.





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PHOTOGRAPHS OF EUT V01		

REVISION HISTORY

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1 General Description

1.1 EUT General Information

RF General Information			
Evaluation Mode	Frequency Range (MHz)	Operating Frequency (MHz)	Modulation Type
2.4GHz WLAN	2400-2483.5	2412-2462	802.11b: DSSS (DBPSK, DQPSK, CCK) 802.11g/n: OFDM (BPSK, QPSK, 16QAM, 64QAM) 802.11ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM)
5GHz WLAN	5150-5250 5725-5850	5180-5240 5745-5825	802.11a/n: OFDM (BPSK, QPSK, 16QAM, 64QAM) 802.11ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM)

1.2 Table for Multiple Listing

1. The EUT has five equipment names which are identical to each other in all aspects except for the following table:

Equipment Name	Description
Wireless-AC9600 Dual-band Gigabit Router	All the equipment names are identical, the different equipment names served as marketing strategy.
ROG Rapture Aura 10G Gaming Router	
Ultimate Gaming Router	
ASUS ROG Raputre AC9600 Ultimate 10G Gaming Router	
Wireless-AC9600 Dual-band 10G Gigabit Router	

From the above models, equipment name: Wireless-AC9600 Dual-band Gigabit Router, model number: GT-AC9600 was selected as representative model for the test and its data was recorded in this report.

2. The EUT has four model numbers which are identical to each other in all aspects except for the following table:

Model No.	Description
GT-AC9600	All the models are identical, the different model numbers served as marketing strategy.
RT-AC9600R	
ROG Rapture GT-AC9600	
ROG Aura Rapture GT-AC9600	

From the above models, equipment name: Wireless-AC9600 Dual-band Gigabit Router, model number: GT-AC9600 was selected as representative model for the test and its data was recorded in this report.

3. The EUT has two SKU which are identical to each other in all aspects except for the following table:

SKU	SKU 1	SKU 2
Description		
Vendor	MINGTEK	SWAP
LAN port transformer (Model No.)	HN8031VG	NS777202A

1.3 Testing Location

Testing Location		
☐	HWA YA	ADD : No. 52, Hwa Ya 1st Rd., Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL : 886-3-327-3456 FAX : 886-3-327-0973
☒	JHUBEI	ADD : No.8, Lane 724, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C. TEL : 886-3-656-9065 FAX : 886-3-656-9085

2 Maximum Permissible Exposure

2.1 Limit of Maximum Permissible Exposure

(A) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-100,000			5	6

(B) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1.0	30

Note: f = frequency in MHz ; *Plane-wave equivalent power density

2.2 MPE Calculation Method

The MPE was calculated at 21 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

$$E \text{ (V/m)} = \frac{\sqrt{30 \times P \times G}}{d} \quad \text{Power Density: } Pd \text{ (W/m}^2\text{)} = \frac{E^2}{377}$$

E = Electric field (V/m)

P = RF output power (W)

G = EUT Antenna numeric gain (numeric)

d = Separation distance between radiator and human body (m)

The formula can be changed to

$$Pd = \frac{30 \times P \times G}{377 \times d^2}$$



2.3 Calculated Result and Limit

Exposure Environment: General Population / Uncontrolled Exposure

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	EIRP (W)	Distance (cm)	S (mW/cm ²)	S Limit (mW/cm ²)	Ratio (S/Limit)
5.8G;D1D	6.00	29.70	35.70	3.71535	21	0.67043	1.00000	0.67043
2.4G;G1D	2.13	29.97	32.10	1.62181	21	0.29265	1.00000	0.29265
							Sum Ratio	0.96308
							Ratio Limit	1