



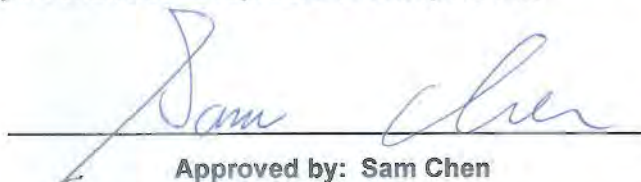
# FCC RADIO EXPOSURE TEST REPORT

**FCC ID** : MSQ-AXHZ00  
**Equipment** : AX6600 Tri Band WiFi Router  
**Brand Name** : ASUS  
**Model Name** : RT-AX95Q, ZenWiFi XT8, ASUS ZenWiFi XT8, XT8, ASUS ZenWiFi  
**Applicant** : ASUSTeK COMPUTER INC.  
4F, No. 150, Li-Te Rd., Peitou, Taipei 112, Taiwan  
**Manufacturer (1)** : Compal Networking (KunShan) Co., LTD.  
No. 520, Nanbang Rd., Economic & Technical Development Zone Kunshan, Jiangsu Province China  
**Manufacturer (2)** : ARCADYAN TECHNOLOGY (VIETNAM) CO., LTD.  
Ba Thien Industrial Park, Ba Hien commune, Binh Xuyen district, Vinh Phuc Province  
**Standard** : 47 CFR Part 2.1091

The product was received on May 15, 2019, and testing was started from May 15, 2019 and completed on Aug. 16, 2019. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in 47 CFR Part 2.1091 and shown compliance with the applicable technical standards.

The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

  
Approved by: Sam Chen

**SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory**  
No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)



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### Photographs of EUT v01



### History of this test report

Report No.	Version	Description	Issued Date
FA951008	01	Initial issue of report	Aug. 28, 2019



### Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
2	-	Exposure evaluation	PASS	-

**Declaration of Conformity:**

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

**Comments and Explanations:**

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Reviewed by: **Sam Chen**

Report Producer: **Viola Huang**



# 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) VHT: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM) 802.11ax: OFDMA (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM)
5GHz WLAN	5150-5250 5470-5725 5725-5850	5180-5240 5500-5720 5745-5825	802.11a/n: OFDM (BPSK, QPSK, 16QAM, 64QAM) 802.11ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM) 802.11ax: OFDMA (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM)
Bluetooth	2400-2483.5	2402-2480	LE: GFSK

## 1.2 Table for Multiple Listing

The five model names in the following table are all refer to the identical product.

Brand Name	Model Name	Description
ASUS	RT-AX95Q	All the models are identical, the different model names served as marketing strategy.
	ZenWiFi XT8	
	ASUS ZenWiFi XT8	
	XT8	
	ASUS ZenWiFi	

From the above models, model: RT-AX95Q was selected as representative model for the test and its data was recorded in this report.

## 1.3 Table for SKU information

EUT No.	SKU No.	Brand Name	P/N
1	SKU 1	NETSWAP	NS773602 / NS771802
2	SKU 2	Mingtek	HN36201CG / HN18101CG



### 1.4 Table for EUT supports functions

Function	Support Type
AP Router	Master
Bridge	Slave without radar detection
Repeater	Master
Mesh	Master

### 1.5 Table for radio information

Radio	2.4GHz	5GHz	Bluetooth
1	V	V (Band 1)	X
2	X	V (Band 3~Band 4)	X
3	X	X	V

### 1.6 Testing Location

Testing Location		
<input type="checkbox"/>	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
<input checked="" type="checkbox"/>	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

Test site Designation No. TW0006 with FCC.

Test site registered number IC 4086B with Industry Canada.



## 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 <sup>2</sup> )	Averaging Time  E  <sup>2</sup> , H  <sup>2</sup> 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 <sup>2</sup> )	Averaging Time  E  <sup>2</sup> , H  <sup>2</sup> 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 30 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

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

**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)	Tolerance (dB)	Tune-up EIRP (dBm)	Tune-up EIRP (W)	Distance (cm)	S (mW/cm <sup>2</sup> )	S Limit (mW/cm <sup>2</sup> )
2.4G;D1D (2T1S)	4.70	29.91	34.61	0.50	35.11	3.24340	30	0.28677	1.00000
2.4G;D1D (2T2S)	1.82	29.90	31.72	0.50	32.22	1.66725	30	0.14741	1.00000
5.2G;D1D (2T1S)	5.99	29.48	35.47	0.50	35.97	3.95367	30	0.34957	1.00000
5.2G;D1D (2T2S)	3.08	28.41	31.49	0.50	31.99	1.58125	30	0.13981	1.00000
5.6G;D1D (4T1S)	8.07	21.89	29.96	0.03	29.99	0.99770	30	0.08821	1.00000
5.6G;D1D (4T2S)	5.22	23.95	29.17	0.50	29.67	0.92683	30	0.08195	1.00000
5.8G;D1D (4T1S)	8.21	27.76	35.97	0.02	35.99	3.97192	30	0.35119	1.00000
5.8G;D1D (4T2S)	5.23	29.97	35.20	0.50	35.70	3.71535	30	0.32850	1.00000
2.4G;BT-LE	2.02	0.72	2.74	0.50	3.24	0.00211	30	0.00019	1.00000

Simultaneous Transmission Analysis

Test Mode 1: WLAN 2.4GHz\_Radio 1 + WLAN 5GHz\_Radio 2 + Bluetooth\_Radio 3

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Tune-up EIRP (W)	Distance (cm)	S (mW/cm <sup>2</sup> )	S Limit (mW/cm <sup>2</sup> )	Ratio (S/Limit)
2.4G;BT-LE	2.02	0.72	2.74	0.50	3.24	0.00211	30	0.00019	1.00000	0.00019
2.4G;D1D	4.70	29.91	34.61	0.50	35.11	3.24340	30	0.28677	1.00000	0.28677
5.8G;D1D	8.21	27.76	35.97	0.02	35.99	3.97192	30	0.35119	1.00000	0.35119
									Sum Ratio	0.63815
									Ratio Limit	1

Test Mode 2: WLAN 5GHz\_Radio 1 + WLAN 5GHz\_Radio 2 + Bluetooth\_Radio 3

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Tune-up EIRP (W)	Distance (cm)	S (mW/cm <sup>2</sup> )	S Limit (mW/cm <sup>2</sup> )	Ratio (S/Limit)
2.4G;BT-LE	2.02	0.72	2.74	0.50	3.24	0.00211	30	0.00019	1.00000	0.00019
5.2G;D1D	5.99	29.48	35.47	0.50	35.97	3.95367	30	0.34957	1.00000	0.34957
5.8G;D1D	8.21	27.76	35.97	0.02	35.99	3.97192	30	0.35119	1.00000	0.35119
									Sum Ratio	0.70095
									Ratio Limit	1

Note: The above antenna gain was declared by manufacturer.

—————THE END—————