



RADIO EXPOSURE TEST REPORT

FCC ID : MSQ-RTAXIC00

Equipment : AXE6600 Tri Band WiFi Router

Brand Name : ASUS

Model Name : ET8, ZenWiFi ET8, ASUS ZenWiFi ET8

Applicant : ASUSTeK COMPUTER INC.
1F., No. 15, Lide Rd., Beitou, 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 Jan. 27, 2021, and testing was started from Jan. 27, 2021 and completed on Mar. 08, 2021. We, Sporton International Inc. Hsinchu 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 test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. Hsinchu Laboratory, the test report shall not be reproduced except in full.

Approved by: Sam Chen

Sporton International Inc. Hsinchu Laboratory

No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.)



Table of Contents

History of this test report.....	3
Summary of Test Result.....	4
1 General Description	5
1.1 EUT General Information	5
1.2 Antenna Information	6
1.3 Table for Multiple Listing	7
1.4 Table for EUT supports functions.....	7
1.5 Accessories	7
1.6 Testing Location	8
2 Maximum Permissible Exposure	9
2.1 Limit of Maximum Permissible Exposure	9
2.2 MPE Calculation Method.....	9
2.3 Calculated Result and Limit.....	10
Photographs of EUT v01	



History of this test report

TEL : 886-3-656-9065
FAX : 886-3-656-9085
Report Template No.: CB-A1_1 Ver1.1

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Report Version : 01



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: Cindy Peng

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 5725-5850	5180-5240 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)
6GHz WLAN	5925-7125	6115-7095	802.11ax: OFDMA (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM)
Bluetooth	2400-2483.5	2402-2480	LE: GFSK

1.2 Antenna Information

Ant.	Port	Brand	Model Name	Type	Connector	Gain (dBi)	Remark
1	1	M.gear	C660-510551-A	Dipole	I-PEX	Note1	WLAN 2.4GHz and 5GHz UNII 1, 3
2	2	M.gear	C660-510551-A	Dipole	I-PEX		WLAN 2.4GHz and 5GHz UNII 1, 3
3	1	M.gear	C660-510551-A	Dipole	I-PEX		WLAN 6GHz UNII 5~8
4	2	M.gear	C660-510551-A	Dipole	I-PEX		WLAN 6GHz UNII 5~8
5	3	M.gear	C660-510551-A	Dipole	I-PEX		WLAN 6GHz UNII 5~8
6	4	M.gear	C660-510551-A	Dipole	I-PEX		WLAN 6GHz UNII 5~8
7	1	Yageo	ANT3216A063R2400A	Chip	N/A	1.69	Bluetooth

Note1:

Ant.	Port	Function	Gain (dBi)		
			CDD	Beamforming: Nss1	Beamforming: Nss2
1~2	1~2	WLAN 2.4GHz	1.82	4.81	-
1~2	1~2	WLAN 5GHz UNII 1	2.31	5.30	-
1~2	1~2	WLAN 5GHz UNII 3	2.21	5.20	-
3~6	1~4	WLAN 6GHz UNII 5	1.74	7.75	4.75
3~6	1~4	WLAN 6GHz UNII 6	0.98	6.21	3.82
3~6	1~4	WLAN 6GHz UNII 7	0.50	6.16	3.32
3~6	1~4	WLAN 6GHz UNII 8	0.35	5.97	3.21

Note2: The above information was declared by manufacturer.

For WLAN 2.4GHz function, 802.11 b/g/n/VHT/ax mode (2TX/2RX):

Port 1 and Port 2 can be used as transmitting/receiving antenna.

Port 1 and Port 2 could transmit/receive simultaneously.

For WLAN 5GHz UNII 1, 3 function, 802.11a/n/ac/ax mode (2TX/2RX):

Port 1 and Port 2 can be used as transmitting/receiving antenna.

Port 1 and Port 2 could transmit/receive simultaneously.

For WLAN 6GHz UNII 5~8 function, 802.11ax mode (4TX/4RX):

Port 1, Port 2, Port 3 and Port 4 can be used as transmitting/receiving antenna.

Port 1, Port 2, Port 3 and Port 4 could transmit/receive simultaneously.

For Bluetooth function (1TX/1RX):

Only Port 1 can be use as transmit and receive antenna.

1.3 Table for Multiple Listing

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

Model Name	Description
ET8	All the model names are identical, the different model names served as marketing strategy.
ZenWiFi ET8	
ASUS ZenWiFi ET8	

Note1: From the above models, model: ET8 was selected as representative model for the test and its data was recorded in this report.

Note2: The above information was declared by manufacturer.

1.4 Table for EUT supports functions

Function	Support Type	WLAN 6G Function
AP Router	Master	V
Bridge	Slave without radar detection	N/A
Repeater	Master	N/A
Mesh	Master	N/A

1.5 Accessories

Accessories				
No.	Power	Brand Name	Model Name	Rating
1	Adapter 1	DELTA	ADP-33AW Y	INPUT: 100-240V ~ 1.0A, 50-60Hz OUTPUT: 19.0V, 1.75A, 33.0W
2	Adapter 2	DELTA	ADP-33AW Y	INPUT: 100-240V ~ 1.0A, 50-60Hz OUTPUT: 19.0V, 1.75A, 33.0W
3	Adapter 3	PI	AD2131320	INPUT: 100-240V ~ 50/60Hz, 0.8A OUTPUT: 19.0V, 1.75A, 33.0W
4	Adapter 4	PI	AD2131320	INPUT: 100-240V ~ 50/60Hz, 0.8A OUTPUT: 19.0V, 1.75A, 33.0W
No.	Others			
5	RJ-45 cable*1, Non-shielded, 1.5m			



1.6 Testing Location

Testing Location Information	
Test Lab. : Sporton International Inc. Hsinchu Laboratory	
Hsinchu	ADD: No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.)
(TAF: 3787)	TEL: 886-3-656-9065 FAX: 886-3-656-9085
	Test site Designation No. TW0006 with FCC.
	Test site registered number IC 4086D 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 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 ²)	<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 ²)	<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 25 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)	Tolerance (dB)	Tune-up EIRP (dBm)	Tune-up EIRP (W)	Distance (cm)	S (mW/cm ²)	S Limit (mW/cm ²)
2.4G;G1D	4.81	29.73	34.54	0.50	35.04	3.19154	25	0.40635	1.00000
5.2G;D1D	5.30	28.97	34.27	0.50	34.77	2.99916	25	0.38186	1.00000
5.8G;D1D	5.20	29.90	35.10	0.50	35.60	3.63078	25	0.46227	1.00000
6.2G;D1D	4.75	27.29	28.31	0.50	28.81	0.76033	25	0.09681	1.00000
6.4G;D1D	6.21	21.68	25.25	0.50	25.75	0.37584	25	0.04785	1.00000
6.7G;D1D	3.32	26.95	27.23	0.50	27.73	0.59293	25	0.07549	1.00000
7.0G;D1D	5.97	23.47	26.85	0.50	27.35	0.54325	25	0.06917	1.00000
2.4G;BT-LE	1.69	2.09	3.78	0.50	4.28	0.00268	25	0.00034	1.00000

Simultaneous Transmission Analysis Mode: WLAN 2.4GHz + WLAN 5GHz UNII 1, 3 + WLAN 6GHz UNII 5~8 +
Bluetooth

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Tune-up EIRP (W)	Distance (cm)	S (mW/cm ²)	S Limit (mW/cm ²)	Ratio (S/Limit)
2.4G;G1D	4.81	29.73	34.54	0.50	35.04	3.19154	25	0.40635	1.00000	0.40635
5.8G;D1D	5.20	29.90	35.10	0.50	35.60	3.63078	25	0.46227	1.00000	0.46227
6.2G;D1D	4.75	27.29	28.31	0.50	28.81	0.76033	25	0.09681	1.00000	0.09681
2.4G;BT-LE	1.69	2.09	3.78	0.50	4.28	0.00268	25	0.00034	1.00000	0.00034
									Sum Ratio	0.96577
									Ratio Limit	1

Note: The above antenna gain was declared by manufacturer.

—THE END—