FCC RF Exposure Report

FCC ID	:	**2AU6R04157**
Equipment	:	**802.11be (WiFi 7) Dual-Radio Unified Pro Access Point** **(Please refer to section 1.1.1 for more details)**
Model No.	:	**WBE630S** **(Please refer to section 1.1.1 for more details)**
Multiple Listing	:	**ZYXEL**
Brand Name	:	**Zyxel Networks Corporation**
Applicant	:	**No.2 Industry East RD. IX, Hsinchu Science Park, Hsinchu 30075, Taiwan, R.O.C**
Address	:	**2AU6R04157**
Standard	:	**47 CFR FCC Part 2.1091**
Received Date	:	**Jul. 02, 2024**
Tested Date	:	**Aug. 12 ~ Nov. 25, 2024**

We, International Certification Corporation, would like to declare that the tested sample has been evaluated and in compliance with the requirement of the above standards. The test results contained in this report refer exclusively to the product. It shall not be reproduced except in full without the written approval of our laboratory.

Reviewed by:	**Approved by:**
Along Chen / Assistant Manager	**Gary Chang / Manager**

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Release Record

Report No.	Version	Description	Issued Date
FA470201	Rev. 01	Initial issue	Dec. 09, 2024

1 General Description

1.1 Information

1.1.1 Product Details

The following models are provided to this EUT.

Brand Name	Model Name	Product Name	Description
ZYXEL	WBE630S	802.11be (WiFi 7) Dual-Radio Unified Pro Access Point	RJ45 have 2 port, for marketing purpose
ZYXEL	NWA210BE	802.11be (WiFi 7) Dual-Radio PoE Access Point	
ZYXEL	WBE510D	802.11be (WiFi 7) Dual-Radio Unified Access Point	RJ45 has 1 port, for marketing purpose
ZYXEL	NWA110BE	802.11be (WiFi 7) Dual-Radio PoE Access Point	
✦ The above models, model WBE630S was selected as a representative one for the final test and only its data was recorded in this report.			

2 MPE EVALUATION OF MOBILE DEVICES

2.1 LIMITS FOR GENERAL POPULATION/UNCONTROLLED EXPOSURE

Frequency Range (MHz)	Power Density (mW /cm^2)	Averaging Time (minutes)
300~1500	F/1500	30
1500~100000	1.0	30

2.2 MPE EVALUATION FORMULA

$$\textbf{Pd} = \frac{Pt}{4 * Pi * R^2}$$

Where

Pd= Power density in mW/cm^2
Pt= EIRP in mW
Pi= 3.1416
R= Measurement distance

2.3 REFERENCE GUIDANCE

447498 D01 General RF Exposure Guidance v06

2.4 DEVIATION FROM TEST STANDARD AND MEASUREMENT PROCEDURE

None

2.5 MEASUREMENT UNCERTAINTY

The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)).

Parameters	Uncertainty
Conducted power	±0.808 dB

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.

2.6 MPE EVALUATION RESULTS

Non-beamforming mode

Frequency Range (MHz)	Maximum Conducted Power (dBm)	Maximum Tune Up Limit (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)	*Ratio	Pass / Fail
2412-2462	26.89	27	1.49	20	0.141	1	0.141	Pass
5180-5240	27.98	28	2.39	20	0.218	1	0.218	Pass
5260-5320	23.67	24	2.78	20	0.095	1	0.095	Pass
5500-5720	23.88	24	2.52	20	0.089	1	0.089	Pass
5745-5825	28.51	29	2.56	20	0.285	1	0.285	Pass

Frequency Range (MHz)	EIRP(dBm)	Maximum Tune Up Limit (dBm)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)	*Ratio	Pass / Fail
5925-7125	28.32	28.5	20	0.141	1	0.141	Pass

*Ratio = Power density / Limit.

Beamforming mode

Frequency Range (MHz)	Maximum Conducted Power (dBm)	Maximum Tune Up Limit (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)	*Ratio	Pass / Fail
2412-2462	23.53	24	3.81	20	0.120	1	0.120	Pass
5180-5240	21.96	22	2.39	20	0.055	1	0.055	Pass
5260-5320	17.65	18	2.78	20	0.024	1	0.024	Pass
5500-5720	17.86	18	2.52	20	0.022	1	0.022	Pass
5745-5825	22.49	22.5	2.56	20	0.064	1	0.064	Pass

*Ratio = Power density / Limit.

Frequency Range (MHz)	EIRP(dBm)	Maximum Tune Up Limit (dBm)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)	*Ratio	Pass / Fail
5925-7125	22.30	22.5	20	0.035	1	0.035	Pass

*Ratio = Power density / Limit.

Note:
For 802.11be
Directional Gain = 10 log [($10^{G1/10}$ + $10^{G2/10}$ + …+ $10^{GN/10}$)/N_{ANT}]

Ant. No.	Operating Frequencies (MHz) / Antenna Gain (dBi)				
	2.4-2.4835	**5150 ~ 5250**	**5250 ~ 5350**	**5470 ~ 5725**	**5725 ~ 5850**
1	1.49	3.10	3.19	2.30	2.74
2	0.06	2.62	3.19	3.25	2.69
3	---	0.70	1.24	1.65	0.40
4	---	2.75	3.20	2.71	3.77
Directional Gain (dBi)	3.81	2.39	2.78	2.52	2.56

2.7 MPE EVALUATION OF SIMULTANEOUS TRANSMISSION

Non-beamforming mode

Mode	Max Ratio of Each Mode
2.4 GHz Wi-Fi	0.141
5 GHz Wi-Fi	0.285
Sum	0.426
Limit	1
Pass / Fail	Pass

Mode	Max Ratio of Each Mode
2.4 GHz Wi-Fi	0.141
6 GHz Wi-Fi	0.141
Sum	0.282
Limit	1
Pass / Fail	Pass

Beamforming mode

Mode	Max Ratio of Each Mode
2.4 GHz Wi-Fi	0.120
5 GHz Wi-Fi	0.064
Sum	0.184
Limit	1
Pass / Fail	Pass

Mode	Max Ratio of Each Mode
2.4 GHz Wi-Fi	0.120
6 GHz Wi-Fi	0.035
Sum	0.155
Limit	1
Pass / Fail	Pass

3 Test laboratory information

Established in 2012, ICC provides foremost EMC & RF Testing and advisory consultation services by our skilled engineers and technicians. Our services employ a wide variety of advanced edge test equipment and one of the widest certification extents in the business.

International Certification Corporation (EMC and Wireless Communication Laboratory), it is our definitive objective is to institute long term, trust-based associations with our clients. The expectation we set up with our clients is based on outstanding service, practical expertise and devotion to a certified value structure. Our passion is to grant our clients with best EMC / RF services by oriented knowledgeable and accommodating staff.

Our Test sites are located at Linkou District and Kwei Shan District. Location map can be found on our website http://www.icertifi.com.tw.

Linkou

Tel: 886-2-2601-1640

No.30-2, Ding Fwu Tsuen, Lin Kou District, New Taipei City, Taiwan (R.O.C.)

Kwei Shan

Tel: 886-3-271-8666

No.3-1, Lane 6, Wen San 3rd St., Kwei Shan Dist., Tao Yuan City 33381, Taiwan (R.O.C.)

No.2-1, Lane 6, Wen San 3rd St., Kwei Shan Dist., Tao Yuan City 33381, Taiwan (R.O.C.)

Kwei Shan Site II

Tel: 886-3-271-8640

No.14-1, Lane 19, Wen San 3rd St., Kwei Shan Dist., Tao Yuan City 33381, Taiwan (R.O.C.)

If you have any suggestion, please feel free to contact us as below information.

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Fax: 886-3-318-0345
Email: ICC_Service@icertifi.com.tw

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