

RF Test Report

Applicant : Plume Design, Inc.

Product Name : SuperPod with WiFi 7

Trade Name : Plume Design, Inc.

Model Number : PB1A

Applicable Standard : FCC 47 CFR PART 15 SUBPART E
ANSI C63.10:2013

Received Date : Sep. 27, 2024

Test Period : Oct. 14, 2024 ~ Dec. 26, 2024

Issued Date : Feb. 27, 2025

Issued by

Eurofins E&E Wireless Taiwan Co., Ltd.
No. 140-1, Changan Street, Bade District,
Taoyuan City, Taiwan (R.O.C.)
Tel : +886-3-2710188 / Fax : +886-3-2710190
Taiwan Accreditation Foundation accreditation number: 1330
Frequency Range : 9 kHz to 40 GHz
Test Firm Registration Number: 226252 (Bade test site)
Test Firm Registration Number: 191812 (Wugu test site)



Note:

1. The test results are valid only for samples provided by customers and under the test conditions described in this report.
2. This report shall not be reproduced except in full, without the written approval of Eurofins E&E Wireless Taiwan Co., Ltd.
3. The relevant information is provided by customers in this test report. According to the correctness, appropriateness or completeness of the information provided by the customer, if there is any doubt or error in the information which affects the validity of the test results, the laboratory does not take the responsibility.

Revision History

Rev.	Issued Date	Description	Revised By
00	Feb. 27, 2025	Initial Issue	Rowan Hsieh

Verification of Compliance

Applicant : Plume Design, Inc.

Product Name : SuperPod with WiFi 7

Trade Name : Plume Design, Inc.

Model Number : PB1A

FCC ID : 2AG7G- PB1A

Applicable Standard : FCC 47 CFR PART 15 SUBPART E
ANSI C63.10:2013

Test Result : Complied

Performing Lab. : Eurofins E&E Wireless Taiwan Co., Ltd.
No. 140-1, Changan Street, Bade District,
Taoyuan City, Taiwan (R.O.C.)
Tel : +886-3-2710188 / Fax : +886-3-2710190



Taiwan Accreditation Foundation accreditation number: 1330

Eurofins E&E Wireless Taiwan Co., Ltd. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by Eurofins E&E Wireless Taiwan Co., Ltd. based on interpretations and/or observations of test results. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Approved By : _____

TABLE OF CONTENTS

1	General Information.....	5
1.1.	Summary of Test Result	5
1.2.	Testing Location	6
1.3.	Measurement Uncertainty	7
1.4.	Test Site Environment	7
2	EUT Description.....	8
3	Test Methodology	20
3.1.	Mode of Operation	20
3.2.	EUT Test Step	26
3.3.	Configuration of Test System Details	27
3.4.	Test Instruments.....	28
4	Measurement Procedure	31
4.1.	AC Power Conducted Emission Measurement	31
4.2.	Transmitter Radiated Emissions Measurement.....	33
4.3.	Maximum Output Power Measurement.....	38
4.4.	Emission Bandwidth Measurement.....	40
4.5.	In-Band Emission (Mask) Measurement	42
4.6.	Frequency Stability Measurement.....	44
4.7.	Maximum Power Spectral Density Measurement.....	45
4.8.	Contention Based Protocol Measurement.....	48
4.9.	Operational restrictions for 6 GHz U-NII devices	50
4.10.	Proper Power Adjustment, Client Devices Connected to a Standard Power Access Point Measurement	51
4.11.	Automatically discontinue transmission.....	52
4.12.	Antenna Requirement	52
5	Test Results	55
5.1.	Conducted Emission	55
5.2.	Radiated Emission Measurement	57
5.3.	Conducted Test Results	467

Appendix A. Test Results

Appendix B. Test Plots

1 General Information

1.1. Summary of Test Result

Standard	Item	Result	Remark
15.207	AC Power Conducted Emission	PASS	---
15.407(b) 15.205 / 15.209	Transmitter Radiated Emissions	PASS	---
15.407(a)	Maximum Output Power	PASS	---
15.407(a)	Emission Bandwidth	PASS	---
15.407(a)	Maximum Power Spectral Density	PASS	---
15.407(b)	In-Band Emission (Mask)	PASS	---
15.407(g)	Frequency Stability	PASS	---
15.407(d)	Contention based Protocol	PASS	---
15.407(d)	Operational restrictions for 6 GHz U-NII devices	PASS	Note 2
15.407(a)	Dual Client Proper Power Adjustment	N/A	Note 3
15.407(a)	Proper Power Adjustment, Client Devices Connected to a Standard Power Access Point	N/A	Note 3
15.407(d)	Transmit Power Control, Very Low Power Devices	N/A	Note 3
15.407(c)	Automatically discontinue transmission	PASS	---
15.203	Antenna Requirement	PASS	---

Note 1: The above test items refer to the test standards

Note 2: Declaration by applicant

Note 3: Device associates with low power indoor AP only

Decision Rule

- ☒ Uncertainty is not included.
- ☐ Uncertainty is included.

Standard	Description
CFR47, Part 15, Subpart E	Unlicensed National Information Infrastructure Devices
ANSI C63. 10: 2013	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices
KDB789033 D02 v02r01	Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices Part 15, Subpart E
KDB 662911 D01 v02r01	Emissions Testing of Transmitters with Multiple Outputs in the Same Band (e.g., MIMO, Smart Antenna, etc)
KDB 987594 D02 v02	Guidelines for Compliance Testing of Unlicensed National Information Infrastructure 6 GHz (U-NII) Devices Part 15, Subpart E

1.2. Testing Location

Lab Name: Eurofins E&E Wireless Taiwan Co., Ltd.

Site Address: ■ No. 140-1, Changan Street, Bade District, Taoyuan City, Taiwan (R.O.C.)

Site Address: ■ No. 2, Wuquan 5th Rd. Wugu Dist., New Taipei City, Taiwan (R.O.C.)

1.3. Measurement Uncertainty

Test Item	Frequency	Uncertainty				
		BD	WG			
Conducted Emission	150 kHz ~ 30 MHz	2.7 dB	2.6 dB			
Conducted Output Power		1.1 dB	1.1 dB			
RF Bandwidth		4.4 %	4.4 %			
Power Spectral Density		1.1 dB	1.1 dB			
Duty Cycle		0.3 %	0.3 %			
Time Occupancy		0.2 %	0.1 %			
Frequency Stability		1.2×10^{-7}	1.2×10^{-7}			
Test Item	Frequency	Uncertainty				
		96601-BD	96603-BD	96602-WG	96603-WG	96604-WG
Radiated Emission	9 kHz ~ 30 MHz	1.8 dB	1.8 dB	1.9 dB	1.9 dB	1.9 dB
	30 MHz ~ 1000 MHz	4.7 dB	4.7 dB	4.7 dB	4.7 dB	4.5 dB
	1000 MHz ~ 18000 MHz	4.7 dB	4.8 dB	4.6 dB	4.7 dB	5.1 dB
	18000 MHz ~ 26500 MHz	4.0 dB	4.1 dB	3.9 dB	4.1 dB	4.3 dB
	26500 MHz ~ 40000 MHz	4.2 dB	4.2 dB	4.2 dB	4.2 dB	4.6 dB

1.4. Test Site Environment

Items	Required (IEC 60068-1)	Interval(*)
Temperature (°C)	15-35	20-30
Humidity (%RH)	25-75	45-75

(*)The measurement ambient temperature is within this range.

2 EUT Description

The product specifications of the EUT presented in the report are declared by the manufacturer who shall take full responsibility for the authenticity(except Maximum Output Power (e.i.r.p.)).

Applicant	Plume Design, Inc. 325 Lytton Ave., Palo Alto, CA 94301		
Product Name	SuperPod with WiFi 7		
Trade Name	Plume Design, Inc.		
Model No.	PB1A		
FCC ID	2AG7G- PB1A		
Operate Frequency	Frequency Band		Frequency Range (MHz)
	802.11ax HE20/ 802.11be EHT20	U-NII Band 5	5955 – 6415
		U-NII Band 6	6435 – 6515
		U-NII Band 7	6535 – 6855
		U-NII Band 8	6875 – 7115
	802.11ax HE40/ 802.11be EHT40	U-NII Band 5	5965 – 6405
		U-NII Band 6	6445 – 6485
		U-NII Band 7	6525 – 6845
		U-NII Band 8	6885 – 7085
	802.11ax HE80/ 802.11be EHT80	U-NII Band 5	5985 – 6385
		U-NII Band 6	6465
		U-NII Band 7	6545 – 6865
		U-NII Band 8	6945 – 7025
	802.11ax HE160/ 802.11be EHT160	U-NII Band 5	6025 – 6345
		U-NII Band 6</	

Modulation Type	OFDM/OFDMA				
Antenna information	ANT	Type	Max. Gain (dBi)		
	ANT-0 (Ant1)	PIFA Antenna	U-NII Band 5	4.3	
			U-NII Band 6	4.9	
			U-NII Band 7	5.4	
			U-NII Band 8	5.4	
	ANT-1 (Ant2)	PIFA Antenna	U-NII Band 5	4.8	
			U-NII Band 6	4.8	
			U-NII Band 7	4.8	
			U-NII Band 8	4.6	
	ANT-2 (Ant3)	PIFA Antenna	U-NII Band 5	2.7	
			U-NII Band 6	2.3	
			U-NII Band 7	3.3	
			U-NII Band 8	3.6	
	ANT-3 (Ant4)	PIFA Antenna	U-NII Band 5	5.1	
			U-NII Band 6	5.1	
			U-NII Band 7	5.2	
			U-NII Band 8	5.2	
Antenna Delivery	Reference section 3.1				
Operate Temp. Range	0 ~ +40 °C				
EUT Power Rating	100-240 V, 50-60 Hz, 0.8 A				

1X1

Frequency Band		Maximum Output Power (e.i.r.p.)	
		(dBm)	(W)
802.11ax HE20	U-NII Band 5	16.33	0.043
	U-NII Band 6	16.24	0.042
	U-NII Band 7	16.47	0.044
	U-NII Band 8	16.30	0.043
802.11ax HE40	U-NII Band 5	19.84	0.096
	U-NII Band 6	18.97	0.079
	U-NII Band 7	19.16	0.083
	U-NII Band 8	18.68	0.074
802.11ax HE80	U-NII Band 5	22.39	0.173
	U-NII Band 6	21.36	0.137
	U-NII Band 7	21.06	0.128
	U-NII Band 8	20.44	0.111
802.11ax HE160	U-NII Band 5	21.15	0.130
	U-NII Band 6	19.73	0.094
	U-NII Band 7	20.01	0.100
	U-NII Band 8	20.21	0.105

Frequency Band		Maximum Output Power (e.i.r.p.)	
		(dBm)	(W)
802.11be EHT20	U-NII Band 5	17.12	0.051
	U-NII Band 6	16.51	0.045
	U-NII Band 7	16.92	0.049
	U-NII Band 8	16.83	0.048
802.11be EHT40	U-NII Band 5	19.85	0.097
	U-NII Band 6	19.62	0.092
	U-NII Band 7	19.43	0.088
	U-NII Band 8	18.87	0.077
802.11be EHT80	U-NII Band 5	22.39	0.173
	U-NII Band 6	21.38	0.137
	U-NII Band 7	21.08	0.128
	U-NII Band 8	20.48	0.112
802.11be EHT160	U-NII Band 5	21.35	0.137
	U-NII Band 6	19.85	0.097
	U-NII Band 7	20.06	0.101
	U-NII Band 8	20.26	0.106
802.11be EHT320	U-NII Band 5	22.92	0.196
	U-NII Band 6	21.68	0.147
	U-NII Band 7	21.40	0.138
	U-NII Band 8	20.42	0.110

4X4

Frequency Band		Maximum Output Power (e.i.r.p.)	
		(dBm)	(W)
802.11ax HE20	U-NII Band 5	13.03	0.020
	U-NII Band 6	12.85	0.019
	U-NII Band 7	13.04	0.020
	U-NII Band 8	14.25	0.027
802.11ax HE40	U-NII Band 5	15.91	0.039
	U-NII Band 6	16.17	0.041
	U-NII Band 7	16.23	0.042
	U-NII Band 8	16.83	0.048
802.11ax HE80	U-NII Band 5	19.30	0.085
	U-NII Band 6	19.22	0.084
	U-NII Band 7	19.59	0.091
	U-NII Band 8	19.76	0.095
802.11ax HE160	U-NII Band 5	21.81	0.152
	U-NII Band 6	22.17	0.165
	U-NII Band 7	22.04	0.160
	U-NII Band 8	22.08	0.161

Frequency Band		Maximum Output Power (e.i.r.p.)	
		(dBm)	(W)
802.11be EHT20	U-NII Band 5	13.12	0.021
	U-NII Band 6	12.93	0.020
	U-NII Band 7	13.09	0.020
	U-NII Band 8	14.32	0.027
802.11be EHT40	U-NII Band 5	16.18	0.042
	U-NII Band 6	16.30	0.043
	U-NII Band 7	16.28	0.043
	U-NII Band 8	16.86	0.049
802.11be EHT80	U-NII Band 5	19.38	0.087
	U-NII Band 6	19.27	0.085
	U-NII Band 7	19.62	0.092
	U-NII Band 8	19.83	0.096
802.11be EHT160	U-NII Band 5	22.00	0.159
	U-NII Band 6	22.22	0.167
	U-NII Band 7	22.09	0.162
	U-NII Band 8	22.17	0.165
802.11be EHT320	U-NII Band 5	24.40	0.276
	U-NII Band 6	24.83	0.304
	U-NII Band 7	24.34	0.272
	U-NII Band 8	23.88	0.244

Beamforming on

Frequency Band		Maximum Output Power (e.i.r.p.)	
		(dBm)	(W)
802.11ax HE20	U-NII Band 5	16.50	0.045
	U-NII Band 6	16.64	0.046
	U-NII Band 7	16.08	0.041
	U-NII Band 8	16.91	0.049
802.11ax HE40	U-NII Band 5	19.23	0.084
	U-NII Band 6	18.71	0.074
	U-NII Band 7	18.13	0.065
	U-NII Band 8	17.95	0.062
802.11ax HE80	U-NII Band 5	20.49	0.112
	U-NII Band 6	19.27	0.085
	U-NII Band 7	19.11	0.081
	U-NII Band 8	18.01	0.063
802.11ax HE160	U-NII Band 5	22.22	0.167
	U-NII Band 6	23.10	0.204
	U-NII Band 7	22.49	0.178
	U-NII Band 8	23.42	0.220

Frequency Band		Maximum Output Power (e.i.r.p.)	
		(dBm)	(W)
802.11be EHT20	U-NII Band 5	16.62	0.046
	U-NII Band 6	16.80	0.048
	U-NII Band 7	16.21	0.042
	U-NII Band 8	17.00	0.050
802.11be EHT40	U-NII Band 5	19.34	0.086
	U-NII Band 6	18.84	0.077
	U-NII Band 7	18.23	0.067
	U-NII Band 8	18.07	0.064
802.11be EHT80	U-NII Band 5	20.55	0.113
	U-NII Band 6	19.33	0.086
	U-NII Band 7	19.22	0.084
	U-NII Band 8	18.10	0.065
802.11be EHT160	U-NII Band 5	22.43	0.175
	U-NII Band 6	23.36	0.217
	U-NII Band 7	22.71	0.186
	U-NII Band 8	23.64	0.231
802.11be EHT320	U-NII Band 5	19.55	0.090
	U-NII Band 6	18.81	0.076
	U-NII Band 7	17.99	0.063
	U-NII Band 8	17.10	0.051

Equipment Type	
Indoor access point	V
Subordinate device	---
Indoor Client devices	---

5925 MHz ~ 6425 MHz (U-NII-5) :

BW 20M	CH	1	5	9	13	17	21	25	29								
	Freq.(MHz)	5955	5975	5995	6015	6035	6055	6075	6095								
BW 40M	CH	3		11		19		27									
	Freq.(MHz)	5965		6005		6045		6085									
BW 80M	CH	7				23											
	Freq.(MHz)	5985				6065											
BW 160M	CH	15															
	Freq.(MHz)	6025															

BW 20M	CH	33	37	41	45	49	53	57	61
	Freq.(MHz)	6115	6135	6155	6175	6195	6215	6235	6255
BW 40M	CH	35		43		51			

6425 MHz ~ 6525 MHz (U-NII-6) :

BW 20M	CH	97	101	105	109	113			
	Freq.(MHz)	6435	6455	6475	6495	6515			
BW 40M	CH	99		107					
	Freq.(MHz)	6445		6485					
BW 80M	CH	103							
	Freq.(MHz)	6465							
BW 160M	CH	111							
	Freq.(MHz)	6505							
BW 320M	CH	95							
	Freq.(MHz)	6425							

6525 MHz ~ 6875 MHz (U-NII-7) :

BW 20M	CH	117	121	125	129	133	137	141	145								
	Freq.(MHz)	6535	6555	6575	6595	6615	6635	6655	6675								
BW 40M	CH	115		123		131		139									
	Freq.(MHz)	6525		6565		6605		6645									
BW 80M	CH	119				135											
	Freq.(MHz)	6545				6625											
BW 160M	CH	143															
	Freq.(MHz)	6665															
BW 320M	CH	127															
	Freq.(MHz)	6585															

BW 20M	CH	149	153	157	16
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6875 MHz ~ 7125 MHz (U-NII-8) :

BW 20M	CH	185	189	193	197	201	205				
	Freq.(MHz)	6875	6895	6915	6935	6955	6975				
BW 40M	CH	187		195		203					
	Freq.(MHz)	6885		6925		6965					
BW 80M	CH	199									
	Freq.(MHz)	6945									
BW 160M	CH	207									
	Freq.(MHz)	6985									
BW 320M	CH	191									
	Freq.(MHz)	6905									

BW 20M	CH	209	213	217	221	225	229	233
	Freq.(MHz)	6995	7015	7035	7055	7075	7095	7115
BW 40M	CH	211		219				

3 Test Methodology

3.1. Mode of Operation

Decision of Test Eurofins has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

Pre-Test Mode	Final-Test Mode
Transmit Mode	V
802.11ax HE20	
802.11ax HE40	
802.11ax HE80	
802.11ax HE160	
802.11be EHT20	V
802.11be EHT40	V
802.11be EHT80	V
802.11be EHT160	V
802.11be EHT320	V

Software used to control the EUT for staying in continuous transmitting mode was programmed.

After verification, all tests were carried out with the worst case test modes.

1X1: By preliminary testing and verifying three axis (X, Y and Z) position of EUT transmitted status, it was found that "X axis" position was the worst, then the final test was executed the worst condition and test data were recorded in this report.

4X4: By preliminary testing and verifying three axis (X, Y and Z) position of EUT transmitted status, it was found that "Z axis" position was the worst, then the final test was executed the worst condition and test data were recorded in this report.

Note 1: This product supports normal mode and Beamforming on mode. According to power table, the normal mode is worst power. So, normal mode has to test and record results for Conducted.

Note 2: Investigation has been done on all the possible configurations for searching the worst cases (6 GHz EHT Mode covers HE Mode). The table is a list of the test modes show in this test report.

Note 3: The test result of IEEE 802.11ax & 802.11be only supports Full RU, not supports Channel puncturing.

1X1

Test Mode	ANT-0
802.11ax HE20	V
802.11ax HE40	V
802.11ax HE80	V
802.11ax HE160	V
802.11be EHT20	V
802.11be EHT40	V
802.11be EHT80	V
802.11be EHT160	V
802.11be EHT320	V

Test Mode	Antenna Delivery	Data Rate (Mbps)	Band	Test Channel
802.11ax HE20	1TX	MCS0	U-NII Band 5	1, 45, 93
			U-NII Band 6	97, 105, 113
			U-NII Band 7	117, 149, 181
			U-NII Band 8	185, 189, 209, 233
802.11ax HE40	1TX	MCS0	U-NII Band 5	3, 43, 91
			U-NII Band 6	99, 107
			U-NII Band 7	115, 123, 147, 179
			U-NII Band 8	187, 195, 211, 227
802.11ax HE80	1TX	MCS0	U-NII Band 5	7, 39, 87
			U-NII Band 6	103
			U-NII Band 7	119, 135, 151, 167, 183
			U-NII Band 8	199, 215
802.11ax HE160	1TX	MCS0		

Test Mode	Antenna Delivery	Data Rate (Mbps)	Band	Test Channel
802.11be EHT20	1TX	MCS0	U-NII Band 5	1, 45, 93
			U-NII Band 6	97, 105, 113
			U-NII Band 7	117, 149, 181
			U-NII Band 8	185, 189, 209, 233
802.11be EHT40	1TX	MCS0	U-NII Band 5	3, 43, 91
			U-NII Band 6	99, 107
			U-NII Band 7	115, 123, 147, 179
			U-NII Band 8	187, 195, 211, 227
802.11be EHT80	1TX	MCS0	U-NII Band 5	7, 39, 87
			U-NII Band 6	103
			U-NII Band 7	119, 135, 151, 167, 183
			U-NII Band 8	199, 215
802.11be EHT160	1TX	MCS0	U-NII Band 5	15, 47, 79
			U-NII Band 6	111
			U-NII Band 7	143, 175
			U-NII Band 8	207
802.11be EHT320	1TX	MCS0	U-NII Band 5	31, 63
			U-NII Band 6	95

4X4

Test Mode	ANT-0	ANT-1	ANT-2	ANT-3	ANT-0+1+2+3
802.11ax HE20	V	V	V	V	V
802.11ax HE40	V	V	V	V	V
802.11ax HE80	V	V	V	V	V
802.11ax HE160	V	V	V	V	V
802.11be EHT20	V	V	V	V	V
802.11be EHT40	V	V	V	V	V
802.11be EHT80	V	V	V	V	V
802.11be EHT160	V	V	V	V	V
802.11be EHT320	V	V	V	V	V

Test Mode	Antenna Delivery	Data Rate (Mbps)	Band	Test Channel
802.11ax HE20	4TX (CDD)	MCS0	U-NII Band 5	1, 45, 93
			U-NII Band 6	97, 105, 113
			U-NII Band 7	117, 149, 181
			U-NII Band 8	185, 189, 209, 233
802.11ax HE40	4TX (CDD)	MCS0	U-NII Band 5	3, 43, 91
			U-NII Band 6	99, 107
			U-NII Band 7	115, 123, 147, 179
			U-NII Band 8	187, 195, 211, 227
802.11ax HE80	4TX (CDD)	MCS0	U-NII Band 5	7, 39, 87

Test Mode	Antenna Delivery	Data Rate (Mbps)	Band	Test Channel
802.11be EHT20	4TX (CDD)	MCS0	U-NII Band 5	1, 45, 93
			U-NII Band 6	97, 105, 113
			U-NII Band 7	117, 149, 181
			U-NII Band 8	185, 189, 209, 233
802.11be EHT40	4TX (CDD)	MCS0	U-NII Band 5	3, 43, 91
			U-NII Band 6	99, 107
			U-NII Band 7	115, 123, 147, 179
			U-NII Band 8	187, 195, 211, 227
802.11be EHT80	4TX (CDD)	MCS0	U-NII Band 5	7, 39, 87
			U-NII Band 6	103
			U-NII Band 7	119, 135, 151, 167, 183
			U-NII Band 8	199, 215
802.11be EHT160	4TX (CDD)	MCS0	U-NII Band 5	15, 47, 79
			U-NII Band 6	111
			U-NII Band 7	143, 175
			U-NII Band 8	207
802.11be EHT320	4TX (CDD)	MCS0	U-NII Band 5	31, 63
			U-NII Band 6	95</

Beamforming on

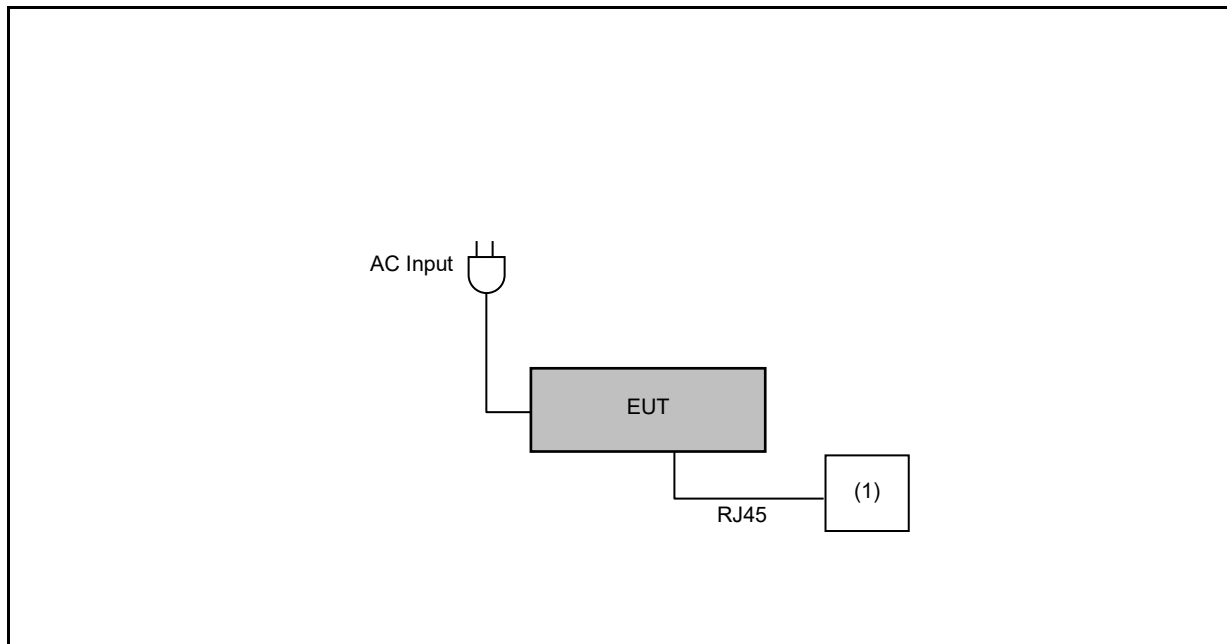
Test Mode	ANT-0	ANT-1	ANT-2	ANT-3	ANT-0+1+2+3
802.11ax HE20	V	V	V	V	V
802.11ax HE40	V	V	V	V	V
802.11ax HE80	V	V	V	V	V
802.11ax HE160	V	V	V	V	V
802.11be EHT20	V	V	V	V	V
802.11be EHT40	V	V	V	V	V
802.11be EHT80	V	V	V	V	V
802.11be EHT160	V	V	V	V	V
802.11be EHT320	V	V	V	V	V

Test Mode	Antenna Delivery	Data Rate (Mbps)	Band	Test Channel
802.11ax HE20	4TX (Beamforming on)	MCS0	U-NII Band 5	1, 45, 93
			U-NII Band 6	97, 105, 113
			U-NII Band 7	117, 149, 181
			U-NII Band 8	185, 189, 209, 233
802.11ax HE40	4TX (Beamforming on)	MCS0	U-NII Band 5	3, 43, 91
			U-NII Band 6	99, 107
			U-NII Band 7	115, 123, 147, 179
			U-NII Band 8	187, 195, 211, 227
802.11ax HE80	4TX (Beamforming on)	MCS0	U-NII	

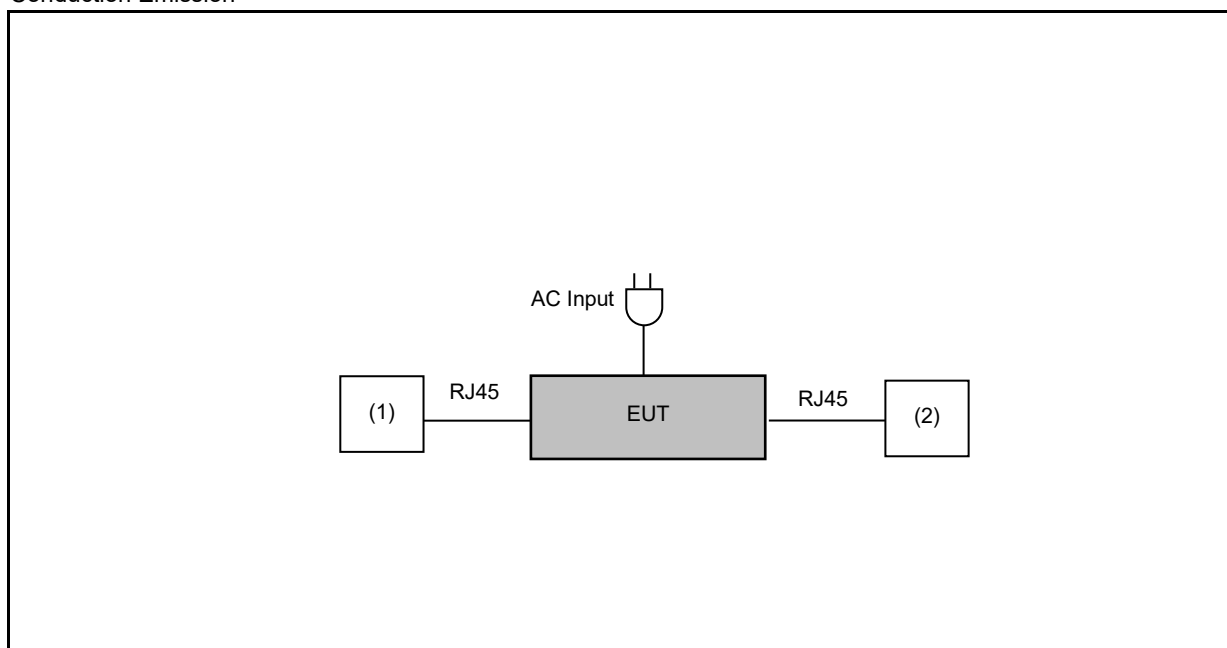
Test Mode	Antenna Delivery	Data Rate (Mbps)	Band	Test Channel
802.11be EHT20	4TX (Beamforming on)	MCS0	U-NII Band 5	1, 45, 93
			U-NII Band 6	97, 105, 113
			U-NII Band 7	117, 149, 181
			U-NII Band 8	185, 189, 209, 233
802.11be EHT40	4TX (Beamforming on)	MCS0	U-NII Band 5	3, 43, 91
			U-NII Band 6	99, 107
			U-NII Band 7	115, 123, 147, 179
			U-NII Band 8	187, 195, 211, 227
802.11be EHT80	4TX (Beamforming on)	MCS0	U-NII Band 5	7, 39, 87
			U-NII Band 6	103
			U-NII Band 7	119, 135, 151, 167, 183
			U-NII Band 8	199, 215
802.11be EHT160	4TX (Beamforming on)	MCS0	U-NII Band 5	15, 47, 79
			U-NII Band 6	111
			U-NII Band 7	143, 175
			U-NII Band 8	207
802.11be EHT320	4TX (Beamforming on)	MCS0	U-NII Band 5	31, 63

3.3. Configuration of Test System Details

Radiated Emission



Conduction Emission



Devices Description					
	Product	Manufacturer	Model Number	Serial Number	Power Cord
(1)	Notebook	ASUS	P1448U	---	---
(2)	Notebook	acer	N19C1	---	---

3.4. Test Instruments

For Conducted Emission

Test Period: Dec. 26, 2024 ~ Dec. 26, 2024

Testing Engineer: Jayson Hsieh

Test Site		Conduction01-BD				
Use	Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
☒	Test Receiver	R&S	ESCI	100367	May 21, 2024	1 year
☒	LISN	R&S	ENV216	101040	Mar. 21, 2024	1 year
☒	RF Cable	Woken	00100D1380194M	TE-02-03	Jun. 05, 2024	1 year
☒	Software	EZ EMC	1.1.4.3	N/A	N.C.R.	---

For Conducted

Test Period: Oct. 21, 2024 ~ Dec. 26, 2024

Testing Engineer: An Wu, Joanne Tian

Test Site		RF02-WG				
Use	Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
☒	Spectrum Analyzer (10 Hz~44 GHz)	R&S	FSV3044	101255	Nov. 30, 2023	1 year
☒	Spectrum Analyzer (10 Hz~44 GHz)	R&S	FSV3044	101416	Nov. 09, 2023 Oct. 29, 2024	1 year
☒	Signal Generator	R&S	SMM100A	101740	Jan. 26, 2024	1 year

For Radiated Emissions

Test Period: Oct. 14, 2024 ~ Dec. 19, 2024

Testing Engineer: Hung Chou, Eason Lee, Marc Yeh

Test Site		96603-BD				
Radiation test sites		Semi Anechoic Room				
Use	Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
☒	Spectrum Analyzer (10 Hz~44 GHz)	Keysight	N9020B	MY60112363	Jan. 10, 2024	1 year
☒	Amplifier (100 kHz~1.3 GHz)	Agilent	8447D	2944A11119	Jan. 10, 2024	1 year
☒	Broadband Amplifier (1 GHz~26.5 GHz)	Titan	T0912E01263025 A1F	002	Jul. 31, 2024	1 year
☒	Preamplifier (26.5 GHz~40 GHz)	EMCI	EMC2654045	980028	Sep. 02, 2024	1 year
☒	Loop Antenna (9 kHz~30 MHz)	COM-POWER CORPORATION	AL-130	121014	Mar. 27, 2024	1 year
☒	Trilog Broadband Antenna (30 kHz~1 GHz)	Schwarzbeck Mess-Elektronik	VULB9168	01146	Jun. 28, 2024	1 year
☒	Broadband Horn Antenna (1 GHz~18 GHz)	Schwarzbeck Mess-Elektronik	9120D	02207	Aug. 30, 2024	1 year
☒	Broadband Horn Antenna (18 GHz~40 GHz)	Schwarzbeck Mess-Elektronik	9170	9170-320	Jul. 22, 2024	1 year
☒	Coaxial Cable	Titan	T0710AT327A10A 100	J		

The actual field is intensity in referenced to 1 microvolt per meter (dBuV/m) is determined by algebraically adding the measured reading in dBuV, the antenna factor (dB/m), and cable loss (dB) and Subtracting the gain of preamplifier (dB) is auto calculate in spectrum analyzer.

(1) Amplitude (dBuV/m) = FI (dBuV) +AF (dB/m) +CL (dB)

FI= Reading of the field intensity.

AF= Antenna factor.

CL= Cable loss.

P.S Amplitude is auto calculate in spectrum analyzer.

Measuring Instruments and setting

The following table is the setting of spectrum analyzer and receiver.

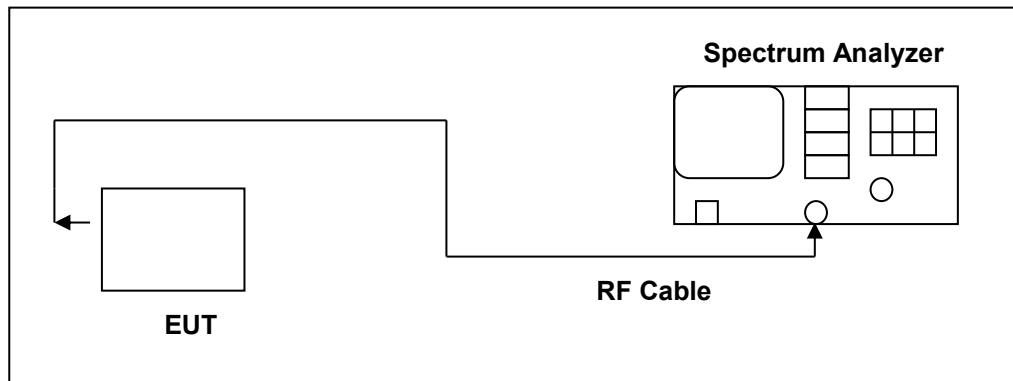
Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	40 GHz
RBW/VBW(Emission in restricted band)	1 MHz / 3 MHz for Peak 1 MHz / (1/T) for Average
RBW/VBW(Emission in non-restricted band)	1 MHz / 3 MHz for Peak 1 MHz / (1/T) for Average (Only WLAN 6G)

4.4. Emission Bandwidth Measurement

■ Limit

≤ 320 MHz

■ Test Setup



■ Test Procedure

The test is performed in accordance with ANSI C63.10:2013 section 12.4 Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - Part 15, Subpart E.

For 26 dB Bandwidth:

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	>26 dB Bandwidth
RBW	Approximately 1 % of the emission bandwidth
VBW	VBW > RBW
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

For 99% Bandwidth:

The occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5% of the total mean power of the given emission. The following procedure shall be used for measuring 99% power bandwidth:

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	1.5 times and 5.0 times the OBW
RBW	Approximately 1 % ~ 5 % of the emission bandwidth
VBW	VBW > RBW
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Encompass the entire emissions bandwidth (EBW) of the signal
RBW	1 MHz
VBW	3 MHz
Detector	RMS
Trace	AVERAGE
Sweep Time	Auto
Trace Average	100 times

