

**FCC 15.407
(Permissive Change)
WLAN 6GHz Test Report**

for

Sony Group Corporation

1-7-1 Konan Minato-ku Tokyo, 108-0075 Japan

Product Name : WIFI+BT Module
Model Name : WXT2HM2001
Brand : GSD
FCC ID : AK8WXT2HM2001

**Prepared by: : AUDIX Technology Corporation,
EMC Department**



The test report is based on a single evaluation of one sample of the above-mentioned products. It does not imply an assessment of the whole production and does not permit the use of the test lab logo.

TABLE OF CONTENTS

Description	Page
TEST REPORT.....	4
1. REVISION RECORD OF TEST REPORT	4
2. SUMMARY OF TEST RESULTS	5
3. GENERAL INFORMATION	6
3.1. Description of Application	6
3.2. Description of EUT	7
3.3. Reference Test Guidance.....	8
3.4. Information for Permissive Change.....	8
3.5. Antenna Information	9
3.6. EUT Specifications Assessed in Current Report	15
3.7. Description of Key Components	18
3.8. Test Configuration.....	18
3.9. Output Power Setting	23
3.10. Tested Supporting System List.....	28
3.11. Setup Configuration.....	28
3.12. Operating Condition of EUT	29
3.13. Description of Test Facility	29
3.14. Measurement Uncertainty	30
4. MEASUREMENT EQUIPMENTLIST.....	31
4.1. Radiated Emission Measurement	31
4.2. RF Conducted Measurement	31
4.3. Contention Based Protocol Measurement	32
5. RADIATED EMISSION	33
5.1. Block Diagram of Test Setup	33
5.2. Radiated Emission Limits.....	35
5.3. Test Procedure	36
5.4. Measurement Result Explanation.....	38
5.5. Test Results	38
6. MAXIMUM CONDUCTED OUTPUT POWER	39
6.1. Block Diagram of Test Setup	39
6.2. Specification Limits.....	39
6.3. Test Procedure	40
6.4. Test Results	40
7. CONTENTION BASED PROTOCOL	41
7.1. Block Diagram of Test Setup	41
7.2. Specification Limits.....	41
7.3. Test Procedure	43
7.4. Test Results	43
8. DEVIATION TO TEST SPECIFICATIONS	44

APPENDIX A TEST DATA AND PLOTS

APPENDIX B TEST PHOTOGRAPHS

TEST REPORT (Permissive Change)

Applicant : Sony Group Corporation
Manufacturer : Hui Zhou Gaoshengda Technology Co.,LTD
EUT Description
(1) Product : WIFI+BT Module
(2) Model : WXT2HM2001
(3) Brand : GSD
(4) Power Supply: DC 3.3V

Applicable Standards:

Title 47 FCC CFR Part 15 Subpart E

Audix Technology Corp. tested the equipment mentioned in accordance with the requirements set forth in the above standards. Test results indicate that the equipment tested is capable of demonstrating compliance with the requirements as documented within this report.

Audix Technology Corp. does not assume responsibility for any conclusions and generalizations drawn from the test results with regard to other specimens and samples.

Date of Report: 2025. 10. 07

Reviewed by:



(Annie Yu/Supervisor)

Approved by:



(Ben Cheng/Manager)



Audix Technology Corp.
No. 491, Zhongfu Rd., Linkou Dist.,
New Taipei City 244, Taiwan

Tel: +886 2 26099301
Fax: +886 2 26099303

1. REVISION RECORD OF TEST REPORT

Edition No	Issued Date	Revision Summary	Report Number
0	2025. 10. 07	Original Report	EM-F250490

2. SUMMARY OF TEST RESULTS

FCC Part Section(s)	Description	Results	
		Client	Master
15.207	Conducted Emission	N/A ^{Note2}	N/A ^{Note2}
15.205/15.209 15.407 (b)(6)	Radiated Band Edge and Radiated Spurious Emission	PASS ^{Note3}	PASS ^{Note3}
15.407(a)(8)	Maximum Power Spectral Density	N/A ^{Note2}	N/A ^{Note2}
15.407(a)(8)	Maximum Conducted Output Power	PASS	PASS
2.1049 15.407(a)(10)	Emission/Occupied Bandwidth	N/A ^{Note2}	N/A ^{Note2}
15.407(b)(6)	Undesirable emission limits: Spurious Emission (Conducted)	N/A ^{Note2}	N/A ^{Note2}
15.407(b)(7)	In-Band Emission (Channel Mask)	N/A ^{Note2}	N/A ^{Note2}
15.407(d)(6)	Contention Based Protocol	PASS	PASS
15.203	Antenna Requirement	PASS	PASS
Note: 1. The uncertainties value is not used in determining the result. 2. Due to add new antennas don't influence on RF characteristics, so it is unnecessary to re-test. 3. For 20 MHz and 40 MHz bandwidths, the EUT was tested in client mode. For 80 MHz bandwidth, only master mode was evaluated since it represents the worst-case configuration with higher output power.			

3. GENERAL INFORMATION

The EUT's information described in this section are all provided by the applicant.

3.1. Description of Application

Applicant	Sony Group Corporation 1-7-1 Konan Minato-ku Tokyo, 108-0075 Japan
Manufacturer	Hui Zhou Gaoshengda Technology Co.,LTD No.2,Jin-da Road,Huinan High-tech Industrial Park,Hui-ao Avenue,Huizhou City,Guangdong,China
Product	WIFI+BT Module
Model	WXT2HM2001
Brand	GSD

3.2. Description of EUT

Test Model	WXT2HM2001		
Serial Number	N/A		
Power Rating	DC 3.3V		
Hardware Version	V1.0		
Software Version	V1.0		
RF Features	WLAN:802.11 a/b/g/n/ac/ax Bluetooth BR/EDR Bluetooth LE		
Transmit Type	2.4 GHz Bands		Client
			Master
	802.11b	2T2R	✓
	802.11g	2T2R	✓
	802.11n-HT20/40	2T2R	✓
	802.11ax-HE20/40	2T2R	✓
	BT/BLE	1T1R	
	U-NII 5G Bands		Client
			Master
	802.11a	2T2R	✓
	802.11n-HT20/ ac-VHT20/ax-HE20	2T2R	✓
	802.11n-HT40	2T2R	✓
	802.11ac-VHT40/80	2T2R	✓
	802.11ax-HE40/80	2T2R	✓
	WLAN 6E Bands		Client
			Master
	802.11ax-HE20/40/80	2T2R	✓
	802.11ax-HE80	2T2R	✓
The MIMO is correlated and supported Cyclic Delay Diversity (CDD).			
Device Category	☐ standard power access point and fixed client device		
	☒ indoor access point		
	☐ subordinate device operating under the control of an indoor access point		
	☐ client devices, except for fixed client devices, operating under the control of a standard power access point		
	☒ client devices operating under the control of an indoor access point		
Test Sample	Sample No.	Test Item	Firmware
	01	RSE, RF Conducted	N/A
Sample Status	Trial sample		

Date of Receipt	2025. 07. 29
Date of Test	2025. 08. 11 ~ 10. 01
Interface Ports of EUT	None
Accessories Supplied	None

Note: Pursuant ISO 17025:2017 section 7.8.2, Audix Technology Corp. does not assume responsibility for all EUT's information including RF features, transmit type, antenna information...etc are provided by customer.

3.3. Reference Test Guidance

ANSI C63.10-2020

KDB 789033 D02 v02r01, KDB 662911 D01 v02r01, KDB 987594 D02 v03

3.4. Information for Permissive Change

- The EUT is an addition version with original FCC ID: AK8WXT2HM2001 is as following.
 - (a) To add new antenna without any other changes. This module has only a change in the antenna; there are no other alterations.
- The differences between this application and original's ID as clarify in following list.
- Due to above different item, there have some test item should be re-tested (see section 2), the test data are recorded in this report.

3.5. Antenna Information

Entry Name	Antenna Model	Manufacture	Antenna Type	Frequency (MHz)	Max Gain(dBi)
YY2099C	SH1-Ant-4#-V1.3	ZTX	PCB	5150~5250	4.49
				5250~5350	4.49
				5450~5750	4.24
				5750~5850	4.12
				5925~6425	4.42
				6425~6525	4.42
				6525~6875	4.48
				6875~7125	4.43
	SH1-Ant-3#-V1.0	ZTX	PCB	5150~5250	4.01
				5250~5350	3.99
				5450~5750	4.12
				5750~5850	3.76
				5925~6425	4.01
				6425~6525	3.73
				6525~6875	3.78
				6875~7125	4.08
	SH1-Ant-5#-V1.3	ZTX	PCB	2402-2480	2.79

Audix Technology Corp.
No. 491, Zhongfu Rd., Linkou Dist.,
New Taipei City 244, Taiwan

Tel: +886 2 26099301
Fax: +886 2 26099303

Entry Name	Antenna Model	Manufacture	Antenna Type	Frequency (MHz)	Max Gain(dBi)
YY2100C1	ZTX-AHC-Ant-3#-V02 (WIFI 0)	ZTX	PCB	5150~5250	3.69
				5250~5350	3.52
				5450~5750	4.08
				5750~5850	4.33
				5925~6425	4.38
				6425~6525	4.08
				6525~6875	4.11
				6875~7125	4.48
	ZTX-AHC-Ant-3#-V02 (WIFI 1)	ZTX	PCB	5150~5250	4.38
				5250~5350	4.46
				5450~5750	4.46
				5750~5850	3.48
				5925~6425	4.42
				6425~6525	3.46
				6525~6875	4.06
				6875~7125	4.26
	ZTX-AHC-BT-V03	ZTX	PCB	2402-2480	3.16

Entry Name	Antenna Model	Manufacture	Antenna Type	Frequency (MHz)	Max Gain(dBi)
YY2101C	ZTX-RH5-WI FI0-V04 (WIFI0)	ZTX	PCB	2402-2480	3.47
				5150~5250	4.75
				5250~5350	4.75
				5450-5750	4.62
				5750-5850	3.65
				5925-6425	4.74
				6425-6525	3.39
				6525-6875	3.58
				6875-7125	3.56
	ZTX-RH5-WI FI1-V02 (WIFI1)	ZTX	PCB	2402-2480	3.51
				5150~5250	4.67
				5250~5350	4.69
				5450-5750	4.61
				5750-5850	4.61
				5925-6425	4.74
				6425-6525	4.31
				6525-6875	4.08
				6875-7125	4.04
	ZTX-RH5-BT-V02	ZTX	PCB	2402-2480	3.06

Audix Technology Corp.
No. 491, Zhongfu Rd., Linkou Dist.,
New Taipei City 244, Taiwan

Tel: +886 2 26099301
Fax: +886 2 26099303

Entry Name	Antenna Model	Manufacture	Antenna Type	Frequency (MHz)	Max Gain(dBi)
YY2100C2, YY2100C3	ZTX-AHS-Ant-1#-V03 (WIFI0)	ZTX	PCB	5150~5250	3.58
				5250~5350	3.49
				5450-5750	3.71
				5750-5850	3.68
				5925-6425	3.90
				6425-6525	3.90
				6525-6875	3.58
				6875-7125	3.53
	ZTX-AHS-Ant-3#-V02 (WIFI0)	ZTX	PCB	5150~5250	3.11
				5250~5350	3.15
				5450-5750	3.55
				5750-5850	3.60
				5925-6425	3.83
				6425-6525	3.32
				6525-6875	3.27
				6875-7125	3.13

Entry Name	Antenna Model	Manufacture	Antenna Type	Frequency (MHz)	Max Gain(dBi)
YY2103C	ZTX-SWH3-WIFI-0-V04 (WIFI0)	ZTX	PCB	2402-2480	2.69
				5150~5250	3.28
				5250~5350	3.89
				5450-5750	3.95
				5750-5850	3.95
				5925-6425	3.85
				6425-6525	3.76
				6525-6875	3.28
				6875-7125	3.78
	ZTX-SWH3-WIFI-1-V02 (WIFI1)	ZTX	PCB	2402-2480	2.86
				5150~5250	3.27
				5250~5350	3.85
				5450-5750	3.98
				5750-5850	3.29
				5925-6425	3.99
				6425-6525	3.96
				6525-6875	3.96
				6875-7125	3.90
	ZTX-SWH3-BT-V04	ZTX	PCB	2402-2480	2.99

Entry Name	Antenna Model	Manufacture	Antenna Type	Frequency (MHz)	Max Gain(dBi)
YY2102C	ZTX-SWH5-WIFI-0-V02 (WIFI0)	ZTX	PCB	2402-2480	2.81
				5150~5250	1.98
				5250~5350	3.01
				5450-5750	2.85
				5750-5850	1.75
				5925-6425	3.02
				6425-6525	3.21
				6525-6875	3.32
				6875-7125	3.24
	ZTX-SWH5-WIFI-1-V02 (WIFI1)	ZTX	PCB	2402-2480	2.98
				5150~5250	3.88
				5250~5350	3.86
				5450-5750	4.01
				5750-5850	4.56
				5925-6425	4.30
				6425-6525	2.76
				6525-6875	2.73
				6875-7125	2.86
	ZTX-SWH5-BT-V01	ZTX	PCB	2402-2480	2.94

According to KDB 662911 D01 d) i), transmit signals are completely uncorrelated, then

Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}]$ dBi

Note 1. 2.4G: Directional gain =

2400~2500MHz: Directional gain = $10 \log[(10^{3.47/20} + 10^{3.51/20})^2 / 2] = 6.5$ dBi

Note 2. 5G: Directional gain =

5150~5350MHz: $= 10 \log[(10^{4.75/20} + 10^{4.67/20})^2 / 2] = 7.72$ dBi

Note 3. UNII Band (WLAN 6G):

UNII Band 5: Directional gain = $10 \log[(10^{4.74/10} + 10^{4.74/10})^2 / 2] = 7.75$ dBi

UNII Band 6: Directional gain = $10 \log[(10^{4.42/10} + 10^{3.73/10})^2 / 2] = 7.09$ dBi

UNII Band 7: Directional gain = $10 \log[(10^{4.48/10} + 10^{3.78/10})^2 / 2] = 7.15$ dBi

UNII Band 8: Directional gain = $10 \log[(10^{4.48/10} + 10^{4.29/10})^2 / 2] = 7.40$ dBi

Remark: The EUT supports multiple antenna configurations for WXT2HM2001 module (WiFi 2.4GHz/5GHz/6GHz and BT). For FCC testing, all antenna configurations were evaluated, and the antenna with the worst-case performance was selected for final measurements to represent the compliance results.

Therefore, only the worst-case antenna configuration was reported in this test report.

3.6. EUT Specifications Assessed in Current Report

Mode	U-NII Band	Fundamental Range (MHz)	Channel Number
802.11ax-HE20	5	5955-6415	24
	6	6435-6515	5
	7	6535-6855	17
	8	6875-7115	13
802.11ax-HE40	5	5965-6405	12
	6	6445-6485	2
	7	6525-6845	9
	8	6885-7085	6
802.11ax-HE80	5	5985-6385	6
	6	6465-6545	2
	7	6625-6785	3
	8	6865-7025	3

Mode	Modulation	Data Rate (Mbps)
802.11ax-HE20	OFDMA (BPSK/ QPSK/ 16QAM/ 64QAM/ 256QAM/1024QAM)	Up to 287
802.11ax-HE40		Up to 574
802.11ax-HE80		Up to 1201

Channel List								
802.11ax-HE20								
U-NII Band	Channel Number	Freq. (MHz)	U-NII Band	Channel Number	Freq. (MHz)	U-NII Band	Channel Number	Freq. (MHz)
5	2	5955	5	81	6335	7	161	6755
	5	5975		85	6375		165	6775
	9	5995		89	6395		169	6795
	13	6015		93	6415		173	6815
	17	6035	6	97	6435	8	177	6835
	21	6055		101	6455		181	6855
	25	6075		105	6475		185	6875
	29	6095		109	6495		189	6895
	33	6115		113	6515		193	6915
	37	6135	7	117	6535		197	6935
	41	6155		121	6555		201	6955
	45	6175		125	6575		205	6975
	49	6195		129	6595		209	6995
	53	6215		133	6615		213	7015
	57	6235		137	6635		217	7035
	61	6255		141	6655		221	7055
	65	6275		145	6675		225	7075
	69	6295		149	6695		229	7095
	73	6315		153	6715		233	7115
	77	6335		157	6735			

Channel List								
802.11ax-HE40								
U-NII Band	Channel Number	Freq. (MHz)	U-NII Band	Channel Number	Freq. (MHz)	U-NII Band	Channel Number	Freq. (MHz)
5	3	5965	5	83	6365	7	163	6765
	11	6005		91	6405		171	6805
	19	6045	6	99	6445		179	6845
	27	6085		107	6485	8	187	6885
	35	6125	7	115	6525		195	6925
	43	6165		123	6565		203	6965
	51	6205		131	6505		211	7005
	59	6245		139	6645		219	7045
	67	6285		147	6685		227	7085
	75	6325		155	6725			

Audix Technology Corp.
No. 491, Zhongfu Rd., Linkou Dist.,
New Taipei City 244, Taiwan

Tel: +886 2 26099301
Fax: +886 2 26099303

Channel List								
802.11ax-HE80								
U-NII Band	Channel Number	Freq. (MHz)	U-NII Band	Channel Number	Freq. (MHz)	U-NII Band	Channel Number	Freq. (MHz)
5	7	5985	5	87	6385	7	167	6785
	23	6065	6	103	6465	8	183	6865
	39	6145		119	6545		199	6945
	55	6225	7	135	6625		215	7025
	71	6305		151	6705			

Note: Test modes are presented at section 3.8.

3.7. Description of Key Components

None

3.8. Test Configuration

Mode	TX _{on} (ms)	TX _{on+off} (ms)	Duty Cycle (x)	Duty Cycle Factor [10log(1/x)] (dB)
802.11ax-HE20	1.980	2.470	0.802	0.985
802.11ax-HE40	1.020	1.500	0.680	1.675
802.11ax-HE80	0.525	1.010	0.520	2.840
802.11ax-HE20 (RU Config 26)	1.540	1.890	0.815	0.888
802.11ax-HE20 (RU Config 52)	1.500	1.850	0.811	0.91
802.11ax-HE20 (RU Config 106)	2.680	3.080	0.870	0.605
802.11ax-HE40 (RU Config 242)	2.300	2.800	0.821	0.857
802.11ax-HE80 (RU Config 484)	1.210	1.680	0.720	1.427

Note: When duty cycle is less than 98% (0.98) that duty cycle factor 10log(1/x) is needed to add in conducted test items measured in average detector.

Audix Technology Corp.
No. 491, Zhongfu Rd., Linkou Dist.,
New Taipei City 244, Taiwan

Tel: +886 2 26099301
Fax: +886 2 26099303



Audix Technology Corp.
No. 491, Zhongfu Rd., Linkou Dist.,
New Taipei City 244, Taiwan

Tel: +886 2 26099301
Fax: +886 2 26099303



Item		Entry Name ^{Note5}	Tones	Data Rate	Test Channel
Radiated Test Case	Radiated Spurious Emission (30MHz~1GHz)	YY2100C1	802.11ax-HE80	MCS0	199

● OFDM Modulation

Item		Entry Name ^{Note5}	Tones	Data Rate	Test Channel
Radiated Test Case	Radiated Spurious Emission (Above 1GHz)	YY2101C & YY2099C & YY2100C1	802.11ax-HE20	MCS0	93/105/181/209
			802.11ax-HE40	MCS0	43/107/179/211
			802.11ax-HE80	MCS0	7/103/135/199
	Band Edge	YY2101C & YY2099C & YY2100C1	802.11ax-HE20	MCS0	2/209/233
			802.11ax-HE40	MCS0	3/227
			802.11ax-HE80	MCS0	7/215

Item		Entry Name ^{Note5}	Tones	Data Rate	Test Channel
Conducted Test Case	Maximum Conducted Output power	YY2101C & YY2099C & YY2100C1	802.11ax-HE20	MCS0	2/45/93/97/105/11 3/117/149/181/18 5/209/229/223
			802.11ax-HE40	MCS0	3/43/91/99/107/11 5/147/179/187/21 1/227
			802.11ax-HE80	MCS0	7/39/87/103/119/1 35/151/167/183/1 99/215

Item		Entry Name ^{Note5}	Tones	Data Rate	Test Channel
Conducted Test Case	Contention Based Protocol	YY2101C & YY2099C & YY2100C1	802.11ax-HE20	MCS0	37/101/149/213
			802.11ax-HE80	MCS0	31/95/159/191

● OFDMA Modulation

Item		Entry Name Note5	Tones	RU Index	Mode	Data Rate	Test Channel
Radiated Test Case	Band Edge	YY2101C & YY2099C & YY2100C1	26T	0	802.11ax-HE20	MCS0	2
				8	802.11ax-HE20	MCS0	233
			52T	37	802.11ax-HE40	MCS0	3
				40	802.11ax-HE20	MCS0	233
			106T	53	802.11ax-HE20	MCS0	2
				54	802.11ax-HE20	MCS0	233
			242T	61	802.11ax-HE40	MCS0	3
				62	802.11ax-HE40	MCS0	227
			484T	65	802.11ax-HE80	MCS0	7
				66	802.11ax-HE40	MCS0	215

Note 1: ☐ Mobile Device ☒ Portable Device

and 3 axis were assessed. The worst scenario for Radiated Spurious Emission as follow:

☒ Lie ☐ Side ☐ Stand

Note 2: Low, mid, and high channels were measured, only the worst channel of each modulation was presented in this report.

Note 3: The data rates were selected based on preliminary testing that identified rate as the worst case for output power.

Note 4: For the CBP test, The EUT does not support channel puncturing mechanism.

Note 5: According to the manufacturer's declaration, the Master mode only supports a 80 MHz bandwidth and uses the difference power settings as the Client mode. Therefore, additional testing is required. The detail refers to section 2 Summary of results table.

Note 6: According to the antenna information provided by the manufacturer, there are six antennas with same type for the application. According to KDB 178919 guidelines, select the antenna with the highest antenna gain for testing.

3.9. Output Power Setting

● OFDM Modulation
Client

Channel									
Mode	U-NII Band	Centre Frequency (MHz)	Power Setting		Mode	U-NII Band	Centre Frequency (MHz)	Power Setting	
			WiFi 0	WiFi 1				WiFi 0	WiFi 1
802.11ax-HE20	5	5955	-1.00	-1.00	802.11ax-HE20	7	6535	-1.00	-1.00
		6175	-1.00	-1.00			6695	-1.00	-1.00
		6415	-1.00	-1.00			6855	-1.00	-1.00
	6	6435	-1.00	-1.00		8	6875	-1.00	-1.00
		6475	-1.00	-1.00			6995	-1.00	-1.00
		6515	-1.00	-1.00			7095	-1.00	-1.00
							7115	-10.00	-10.00

Mode	U-NII Band	Centre Frequency (MHz)	Power Setting		Mode	U-NII Band	Centre Frequency (MHz)	Power Setting	
			WiFi 0	WiFi 1				WiFi 0	WiFi 1
802.11ax-HE40	5	5965	1.00	1.00	802.11ax-HE40	7	6525	1.00	1.00
		6165	1.00	1.00			6685	1.00	1.00
		6405	1.00	1.00			6845	1.00	1.00
	6	6445	1.00	1.00		8	6885	1.00	1.00
		6485	1.00	1.00			7005	1.00	1.00
							7085	1.00	1.00

Mode	U-NII Band	Centre Frequency (MHz)	Power Setting		Mode	U-NII Band	Centre Frequency (MHz)	Power Setting	
			WiFi 0	WiFi 1				WiFi 0	WiFi 1
802.11ax-HE80	5	5985	5.00	5.00	802.11ax-HE80	7	6625	5.00	5.00
		6145	5.00	5.00			6705	5.00	5.00
		6385	5.00	5.00			6785	5.00	5.00
	6	6465	5.00	5.00		8	6865	5.00	5.00
		6545	5.00	5.00			6945	5.00	5.00
							7025	5.00	5.00

Audix Technology Corp.
No. 491, Zhongfu Rd., Linkou Dist.,
New Taipei City 244, Taiwan

Tel: +886 2 26099301
Fax: +886 2 26099303

Master

Mode	U-NII Band	Centre Frequency (MHz)	Power Setting		Mode	U-NII Band	Centre Frequency (MHz)	Power Setting	
			WiFi 0	WiFi 1				WiFi 0	WiFi 1
802.11ax-HE80	5	5985	10.00	10.00	802.11ax-HE80	7	6625	10.00	10.00
		6145	10.00	10.00			6705	10.00	10.00
		6385	10.00	10.00			6785	10.00	10.00
	6	6465	10.00	10.00		8	6865	10.00	10.00
		6545	10.00	10.00			6945	10.00	10.00
							7025	10.00	10.00

● OFDMA Modulation

Tones: 26T

Mode	U-NII Band	Centre Frequency (MHz)	Tones	Average Conducted Output power (dBm)					
				RU Index 0		RU Index 4		RU Index 8	
				WiFi 0	WiFi 1	WiFi 0	WiFi 1	WiFi 0	WiFi 1
802.11ax-HE20	5	5955	26T	-10.50	-10.50	-10.50	-10.50	-10.50	-10.50
		6175		-10.00	-10.00	-10.00	-10.00	-10.00	-10.00
		6415		-10.00	-10.00	-10.00	-10.00	-10.00	-10.00
	6	6435		-10.00	-10.00	-10.00	-10.00	-10.00	-10.00
		6475		-10.00	-10.00	-10.00	-10.00	-10.00	-10.00
		6515		-10.00	-10.00	-10.00	-10.00	-10.00	-10.00
	7	6535		-10.00	-10.00	-10.00	-10.00	-10.00	-10.00
		6695		-10.00	-10.00	-10.00	-10.00	-10.00	-10.00
		6855		-10.00	-10.00	-10.00	-10.00	-10.00	-10.00
	8	6875		-10.00	-10.00	-10.00	-10.00	-10.00	-10.00
		6995		-10.00	-10.00	-10.00	-10.00	-10.00	-10.00
		7115		-10.00	-10.00	-10.00	-10.00	-10.00	-10.00

Tones: 52T

Mode	U-NII Band	Centre Frequency (MHz)	Tones	Average Conducted Output power (dBm)					
				RU Index 37		RU Index 39		RU Index 40	
				WiFi 0	WiFi 1	WiFi 0	WiFi 1	WiFi 0	WiFi 1
802.11ax-HE20	5	5955	52T	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
		6175		-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
		6415		-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
	6	6435		-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
		6475		-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
		6515		-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
	7	6535		-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
		6695		-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
		6855		-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
	8	6875		-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
		6995		-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
		7115		-9.00	-9.00	-9.00	-9.00	-9.00	-9.00

Tones: 106T

Mode	U-NII Band	Centre Frequency (MHz)	Tones	Average Conducted Output power (dBm)			
				RU Index 53		RU Index 54	
				WiFi 0	WiFi 1	WiFi 0	WiFi 1
802.11ax-HE20/be-EHT20	5	5955	106T	-5.50	-5.50	-5.50	-5.50
		6175		-5.50	-5.50	-5.50	-5.50
		6415		-5.50	-5.50	-5.50	-5.50
	6	6435		-5.50	-5.50	-5.50	-5.50
		6475		-5.50	-5.50	-5.50	-5.50
		6515		-5.50	-5.50	-5.50	-5.50
	7	6535		-5.50	-5.50	-5.50	-5.50
		6695		-5.50	-5.50	-5.50	-5.50
		6855		-5.50	-5.50	-5.50	-5.50
	8	6875		-5.50	-5.50	-5.50	-5.50
		6995		-5.50	-5.50	-5.50	-5.50
		7115		-5.50	-5.50	-5.50	-5.50

Mode	U-NII Band	Centre Frequency (MHz)	Tones	Average Conducted Output power (dBm)					
				RU Index 53		RU Index 54		RU Index 56	
				WiFi 0	WiFi 1	WiFi 0	WiFi 1	WiFi 0	WiFi 1
802.11ax-HE40/be-EHT40	5	5965	106T	-5.50	-5.50	-5.50	-5.50	-5.50	-5.50
		6165		-5.50	-5.50	-5.50	-5.50	-5.50	-5.50
		6405		-5.50	-5.50	-5.50	-5.50	-5.50	-5.50
	6	6445		-5.50	-5.50	-5.50	-5.50	-5.50	-5.50
		6485		-5.50	-5.50	-5.50	-5.50	-5.50	-5.50
	7	6525		-5.50	-5.50	-5.50	-5.50	-5.50	-5.50
		6685		-5.50	-5.50	-5.50	-5.50	-5.50	-5.50
		6845		-5.50	-5.50	-5.50	-5.50	-5.50	-5.50
	8	6885		-5.50	-5.50	-5.50	-5.50	-5.50	-5.50
		7005		-5.50	-5.50	-5.50	-5.50	-5.50	-5.50
		7085		-5.50	-5.50	-5.50	-5.50	-5.50	-5.50

Tones: 242T

Mode	U-NII Band	Centre Frequency (MHz)	Tones	Average Conducted Output power (dBm)			
				RU Index 61		RU Index 62	
				WiFi 0	WiFi 1	WiFi 0	WiFi 1
802.11ax-HE40	5	5965	242T	-3.00	-3.00	-3.00	-3.00
		6165		-3.00	-3.00	-3.00	-3.00
		6405		-3.00	-3.00	-3.00	-3.00
	6	6445		-3.00	-3.00	-3.00	-3.00
		6485		-3.00	-3.00	-3.00	-3.00
	7	6525		-3.00	-3.00	-3.00	-3.00
		6685		-3.00	-3.00	-3.00	-3.00
		6845		-3.00	-3.00	-3.00	-3.00
	8	6885		-3.00	-3.00	-3.00	-3.00
		7005		-3.00	-3.00	-3.00	-3.00
		7085		-3.00	-3.00	-3.00	-3.00

Mode	U-NII Band	Centre Frequency (MHz)	Tones	Average Conducted Output power (dBm)					
				RU Index 61		RU Index 62		RU Index 64	
				WiFi 0	WiFi 1	WiFi 0	WiFi 1	WiFi 0	WiFi 1
802.11ax-HE80	5	5985	242T	-3.00	-3.00	-3.00	-3.00	-3.00	-3.00
		6145		-3.00	-3.00	-3.00	-3.00	-3.00	-3.00
		6385		-3.00	-3.00	-3.00	-3.00	-3.00	-3.00
	6	6465		-3.00	-3.00	-3.00	-3.00	-3.00	-3.00
		6545		-3.00	-3.00	-3.00	-3.00	-3.00	-3.00
	7	6625		-3.00	-3.00	-3.00	-3.00	-3.00	-3.00
		6705		-3.00	-3.00	-3.00	-3.00	-3.00	-3.00
		6785		-3.00	-3.00	-3.00	-3.00	-3.00	-3.00
	8	6865		-3.00	-3.00	-3.00	-3.00	-3.00	-3.00
		6945		-3.00	-3.00	-3.00	-3.00	-3.00	-3.00
		7025		-3.00	-3.00	-3.00	-3.00	-3.00	-3.00

Tones: 484T

Mode	U-NII Band	Centre Frequency (MHz)	Tones	Average Conducted Output power (dBm)			
				RU Index 65		RU Index 66	
				WiFi 0	WiFi 1	WiFi 0	WiFi 1
802.11ax-HE80	5	5985	484T	-1.00	-1.00	-1.00	-1.00
		6145		-1.00	-1.00	-1.00	-1.00
		6385		-1.00	-1.00	-1.00	-1.00
	6	6465		-1.00	-1.00	-1.00	-1.00
		6545		-1.00	-1.00	-1.00	-1.00
	7	6625		-1.00	-1.00	-1.00	-1.00
		6705		-1.00	-1.00	-1.00	-1.00
		6785		-1.00	-1.00	-1.00	-1.00
	8	6865		-1.00	-1.00	-1.00	-1.00
		6945		-1.00	-1.00	-1.00	-1.00
		7025		-1.00	-1.00	-1.00	-1.00

3.10. Tested Supporting System List

3.10.1. Support Peripheral Unit

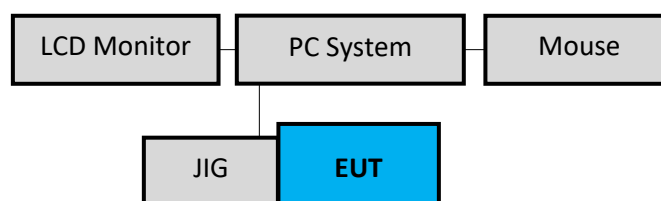
No.	Product	Brand	Model No.	Serial No.	Approval
1.	LCD Monitor	lenovo	D17195HE3	N/A	N/A
2.	PC System	lenovo	B4550-B031	N/A	N/A
3.	USB Mouse	N/A	N/A	N/A	N/A
4.	JIG	N/A	N/A	N/A	N/A

3.10.2. Cable Lists

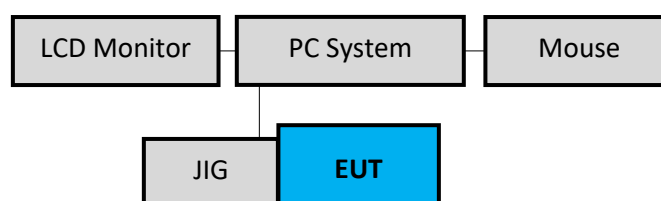
No.	Cable Description Of The Above Support Units
1.	DVI Cable: Shielded, Detachable, 1.5m AC Power Cord: Unshielded, Detachable, 1.8m
2.	USB Cable: Unshielded, Undetachable, 1.8 m
3.	Bus Cable: Unshielded, Undetachable, 0.5m

3.11. Setup Configuration

3.11.1. EUT Configuration for Radiated Emission



3.11.2. EUT Configuration for RF Conducted Test Items



3.12. Operating Condition of EUT

Test program “QA Tool” is used for enabling EUT WLAN function under continues transmitting and choosing data rate/ channel.

3.13. Description of Test Facility

Name of Test Firm	Audix Technology Corporation / EMC Department No. 491, Zhongfu Rd., Linkou Dist., New Taipei City 244, Taiwan Tel: +886-2-26092133 Fax: +886-2-26099303 Website : www.audixtech.com Contact e-mail: attemc_report@audixtech.com
Accreditations	The laboratory is accredited by following organizations under ISO/IEC 17025:2017 (1) NVLAP(USA) NVLAP Lab Code 200077-0 (2) TAF(Taiwan) No. 1724
Test Facilities	FCC OET Designation Number under APEC MRA by NCC is : TW1724 ISED CAB Identifier Number under APEC TEL MRA by NCC is TW1724 (1) No.1 3m Semi Anechoic Chamber

3.14.Measurement Uncertainty

The measurement uncertainty levels have been estimated as specified in ETSI TR 100 028-2001

Test Items/Facilities			Frequency Range	Uncertainty
Conduction Test	☐	No. 7 Shielded Room	9kHz-150kHz	±3.7dB
			150kHz-30MHz	±3.4dB
	☐	No. 8 Shielded Room	9kHz-150kHz	±3.7dB
			150kHz-30MHz	±3.4dB
Radiation Test	☒	No.1 3m Semi Anechoic Chamber	30MHz-200MHz, 3m, Horizontal	±4.0dB
			200MHz-1000MHz, 3m, Horizontal	±4.0dB
			30MHz-200MHz, 3m, Vertical	±4.8dB
			200MHz-1000MHz, 3m, Vertical	±4.5dB
			1GHz-6GHz, 3m	±4.2dB
			6GHz-18GHz, 3m	±4.0dB
	☐	No.3 3m Semi Anechoic Chamber	30MHz-200MHz, 3m, Horizontal	±3.9dB
			200MHz-1000MHz, 3m, Horizontal	±3.9dB
			30MHz-200MHz, 3m, Vertical	±4.6dB
			200MHz-1000MHz, 3m, Vertical	±4.3dB
			1GHz-6GHz, 3m	±4.6dB
			6GHz-18GHz, 3m	±4.1dB
	☐	No.4 3m Semi Anechoic Chamber	30MHz-200MHz, 3m, Horizontal	±4.4dB
			200MHz-1000MHz, 3m, Horizontal	±4.2dB
			30MHz-200MHz, 3m, Vertical	±4.9dB
			200MHz-1000MHz, 3m, Vertical	±5.1dB
			1GHz-6GHz, 3m	±4.4dB
			6GHz-18GHz, 3m	±4.0dB
	☐	No.5 3m Semi Anechoic Chamber	30MHz-200MHz, 3m, Horizontal	±4.2dB
			200MHz-1000MHz, 3m, Horizontal	±4.1dB
			30MHz-200MHz, 3m, Vertical	±4.9dB
			200MHz-1000MHz, 3m, Vertical	±4.6dB
			1GHz-6GHz, 3m	±4.4dB
			6GHz-18GHz, 3m	±4.0dB
	Radiated emissions (18GHz-40GHz)		18GHz-40GHz, 3m	±3.6dB

Remark : Uncertainty = $ku_c(y)$

Test Items	Uncertainty
Maximum Conducted Output Power	±0.42dB
Contention Based Protocol	±2.8%

4. MEASUREMENT EQUIPMENT LIST

4.1. Radiated Emission Measurement

Item	Type	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Interval
1.	Spectrum Analyzer	Keysight	N9030B	MY61330403	2024.12.18	1 Year
2.		Agilent	N9010A-526	MY53400071	2025.08.07	1 Year
3.	Test Receiver	R&S	ESCS30	100338	2025.06.14	1 Year
4.	Amplifier	HP	8447D	2944A06305	2024.12.16	1 Year
5.	Microwave Preamplifier	HP	8449B	3008A01284	2025.07.07	1 Year
6.	Microwave Amplifier	Keysight	83051A	MY56480113	2024.09.11	1 Year
7.	Loop antenna	TESEQ	HLA 6121	60478	2025.06.05	1 Year
8.	Bilog Antenna	TESEQ	CBL6112D	33821	2025.02.08	1 Year
9.	Horn Antenna	EMCO	3115	9112-3775	2025.05.06	1 Year
10.	Horn Antenna	COM-POWER	AH-840	101092	2025.01.09	1 Year
11.	Notch Filter	Warison	WFIL-N5925-642 5F	WR61CFWC4 B1	2025.01.11	1 Year
12.	Notch Filter	Warison	WFIL-N6425-652 5F	WR61CFWC6 B1	2025.01.11	1 Year
13.	Notch Filter	Warison	WFIL-N6525-687 5F	WR61CFWC8 B1	2025.01.11	1 Year
14.	Notch Filter	Warison	WFIL-N6875-712 5F	WR61CFWC2 B1	2025.01.11	1 Year
15.	Coaxial Cable	MIYAZAKI	5D2W	RE-11	2025.01.03	1 Year
16.	Coaxial Cable	HUBER+SUHNER	RG223/U	RE-33	2025.06.10	1 Year
17.	Coaxial Cable	HUBER+SUHNER	SUCOFLEX 106	RE-14	2025.01.03	1 Year
18.	Coaxial Cable	HUBER+SUHNER	SUCOFLEX 102	RE-30	2025.08.19	1 Year
19.	Digital Thermo-Hygro Meter	iMax	HTC-1	No.1 3m A/C	2025.04.09	1 Year
20.	Test Software	Audix	e3	V9 18621a	N.C.R.	N.C.R.

4.2. RF Conducted Measurement

Item	Type	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Interval
1.	Spectrum Analyzer	Keysight	N9010B	MY59071380	2025.03.28	1 Year
2.	Power Meter	Anritsu	ML2495A	2127005	2024.11.19	1 Year
3.	Power Meter	Anritsu	ML2495A	2127004	2024.11.30	1 Year
4.	Power Sensor	Anritsu	MA2411B	1911360	2024.11.30	1 Year
5.	Power Sensor	Anritsu	MA2411B	1911356	2024.11.19	1 Year
6.	Digital Thermo-Hygro Meter	iMax	HTC-1	RF-03	2025.04.09	1 Year
7.	Coaxial Cable	woken	18GHz Stainless SMA(M)-SMA(M)) for 100cm SS402 Cable Assembly	20241206-1	2025.03.21	1 Year

4.3. Contention Based Protocol Measurement

Item	Type	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Interval
1.	Spectrum Analyzer	Agilent	N9030A-544	US51350140	2024.11.07	1 Year
2.	MXG RF Vector Signal Generator	Agilent	N5182B	MY53050409	2024.11.29	1 Year
3.	Frequency Extender	KEYSIGHT	N5182BX07	MY59362533	2024.11.29	1 Year
4.	Digital Thermo-Hygro Meter	iMax	HTC-1	RF-03	2025.04.09	1 Year
5.	Attenuator (10dB) X2	Worken	WK0602-10	0120A02208001S	N.C.R	N.C.R
6.	Attenuator (30dB) X1	Worken	WK0602-30	0120A02208002S	N.C.R	N.C.R
7.	CBP Test Unit	Keysight	N.C.R	N.C.R	N.C.R	N.C.R

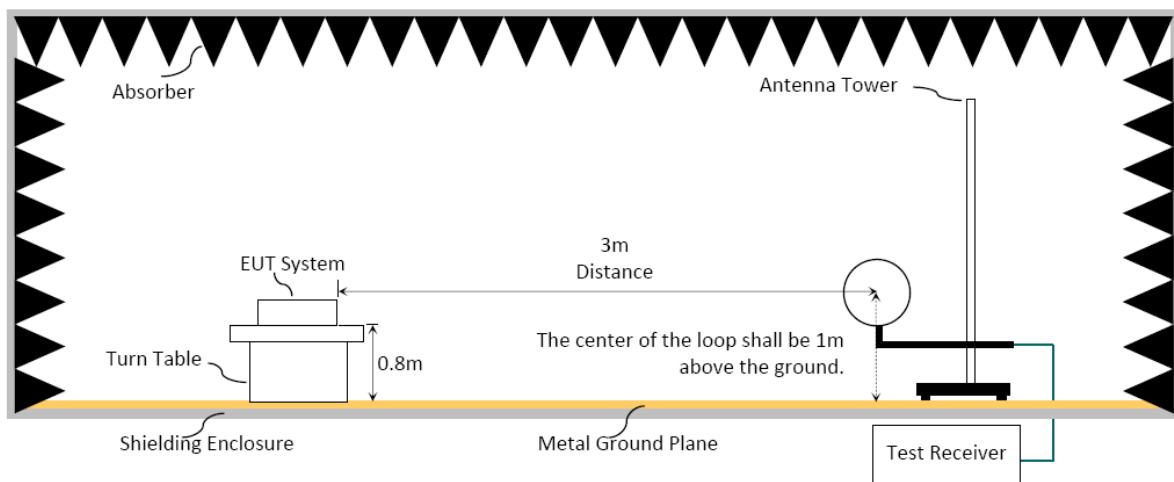
5. RADIATED EMISSION

5.1. Block Diagram of Test Setup

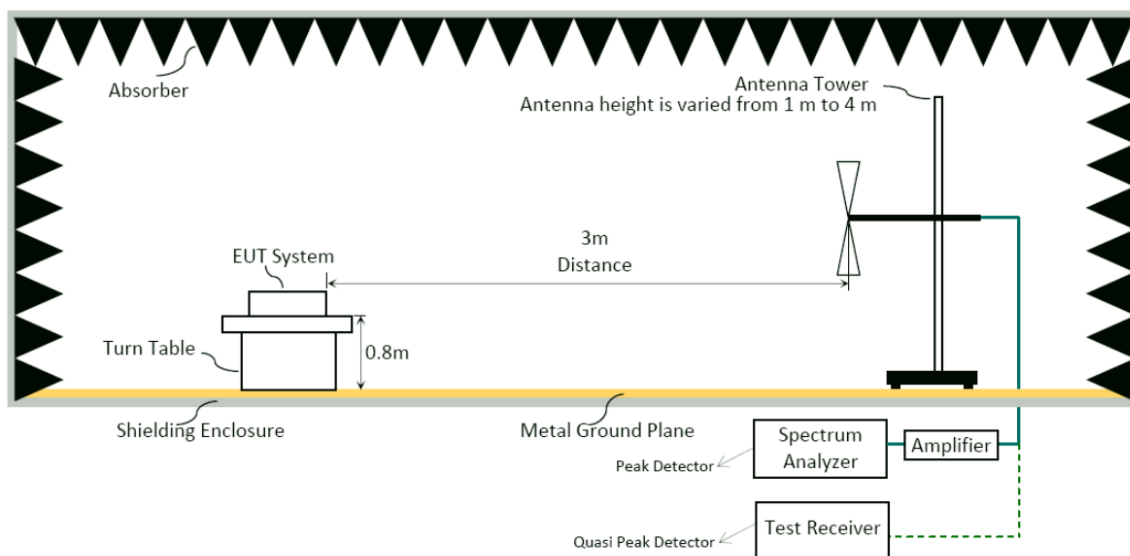
5.1.1. Block Diagram of EUT

Indicated as section 3.11

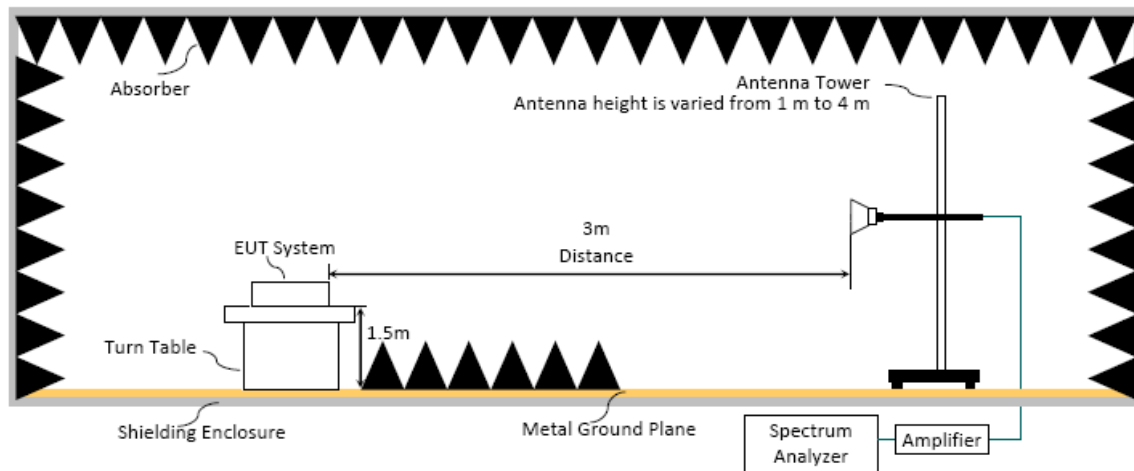
5.1.2. Setup Diagram for 9kHz-30MHz



5.1.3. Setup Diagram for 30-1000MHz



5.1.4. Setup Diagram for above 1GHz



5.2. Radiated Emission Limits

Radiated emissions fall in restricted bands, as defined in FCC Section 15.205/RSS-Gen Section 8.10 table 7 must be in compliance with the radiated emission limits specified in FCC Section 15.209/RSS-Gen Section 8.9 table 6 as below.

5.2.1. General Limit

Frequency (MHz)	Distance(m)	Limits	
		dB μ V/m	μ V/m
0.009 - 0.490	300	67.6-20 log f(kHz)	2400/f kHz
0.490 - 1.705	30	87.6-20 log f(kHz)	24000/f kHz
1.705 - 30	30	29.5	30
30 - 88	3	40.0	100
88- 216	3	43.5	150
216- 960	3	46.0	200
Above 960	3	54.0	500
Above 1000	3	74.0 dB μ V/m (Peak) 54.0 dB μ V/m (Average)	

Remark : (1) dB μ V/m = 20 log (μ V/m)

(2) The tighter limit applies to the edge between two frequency bands.

(3) Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

(4) Fundamental and emission fall within operation band are exempted from this section.

(5) Pursuant to ANSI C63.10: 6.6.4.3, if the maximized peak measured value complies with the average limit, then it is unnecessary to perform an average measurement.

5.2.2. Limit for non-restricted frequency above 1 GHz

Frequency Band (MHz)	E.I.R.P. Limit	Field Strength Limit at 3 m
Out of 5925 to 7125	-27 dBm/MHz	68.2 dB μ V/m

Note: Field Strength at 3 m= E.I.R.P. + 95.2 dB

5.3. Test Procedure

Frequency Range 9kHz~30MHz:

The EUT setup on the turntable which has 0.8 m height to the ground. The turn table rotated 360 degrees and antenna fixed to 1 m to find the maximum emission level. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10-2020 regulation.

(1) RBW = 9kHz with peak and average detector.

(2) Detector: average and peak (9kHz-490kHz)

Q.P. (490kHz-30MHz)

Frequency Range 30MHz ~ 40GHz:

The EUT setup on the turn table which has 80cm (for 30-1000MHz) and 1.5m (for above 1GHz) height to the ground. The turn table rotated 360 degrees and antenna varied from 1 m to 4 m to find the maximum emission level. Both horizontal and vertical polarization are required. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10-2020 regulation.

5.3.1. Radiated measurement Spectrum Analyzer Setting

6.3.1.1 Frequency below 1GHz:

Spectrum Analyzer is used for pre-testing with following setting:

(1) RBW = 120kHz

(2) VBW $\geq 3 \times$ RBW.

(3) Detector = Peak.

(4) Sweep time = auto.

(5) Trace mode = max hold.

(6) Allow sweeps to continue until the trace stabilizes.

Note 1: When peak-detected value is lower than limit that the measurement using the Q.P. detector is not required, otherwise using Q.P. for final measurement.

Note 2: When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds.

6.3.1.2 Frequency above 1GHz to 10th harmonic (up to 40 GHz):

Peak Detector:

(1) RBW = 1MHz

(2) VBW $\geq 3 \times$ RBW.

(3) Detector = Peak.

(4) Sweep time = auto.

(5) Trace mode = max hold.

(6) Allow sweeps to continue until the trace stabilizes.

Note: When peak-detected value is lower than limit that the measurement using the average detector is not required, otherwise using average detector for final measurement.

Average Detector:**■ Option 1:**

(1) RBW = 1MHz

(2) VBW $\geq 1/T$. (Duty Cycle < 98%, when duty cycle presented in section 3.8)

Mode	VBW Setting
802.11ax-HE20	505Hz
802.11ax-HE40	980Hz
802.11ax-HE80	1.905kHz
RU (26T)	680Hz
RU (52T)	680Hz
RU (106T)	390Hz
RU (242T)	470Hz
RU (484T)	910Hz

(3) VBW = set $VBW \leq RBW / 100$, but not less than 10Hz (Duty Cycle $\geq 98\%$, when duty cycle presented in section 3.8)

(4) Detector = Peak.

(5) Sweep time = auto.

(6) Trace mode = max hold.

(7) Allow sweeps to continue until the trace stabilizes.

□ Option 2:

Average Emission Level = Peak Emission Level + D.C.C.F.

5.3.2. Radiated band edge measurement Spectrum Analyzer Setting

For without 99% OBW edge within 2 MHz of the authorized band edge:

The spectrum analyzer setting, please refer to section 6.3.1.2

For with 99% OBW edge within 2 MHz of the authorized band edge:

Per KDB 789033 Section G.3.d and ANSI C63.10-2020 6.10.4, SA setting as below:

a. Fundamental field strength of SA setting:

The spectrum analyzer setting, please refer to section 6.3.1.2

b. Delta of SA setting:

- (1) RBW = 1% SPAN but no less than 30 KHz
(In this case, RBW = 500 KHz)
- (2) VBW $\geq 3 \times$ RBW.
- (3) Detector = Peak.
- (4) Sweep time = auto.
- (5) Trace mode = max hold.
- (6) Allow sweeps to continue until the trace stabilizes.

Correction Factor (Via delta, dB) = Fundamental Emission Level (dB μ V/m) @ RBW 500KHz - Band Edge Emission Level (dB μ V/m) @ RBW 500kHz

Band Edge Emission Level (dB μ V/m) =
Fundamental Emission Level (dB μ V/m) @ RBW 1MHz - Marker Delta (dB)

5.4. Measurement Result Explanation

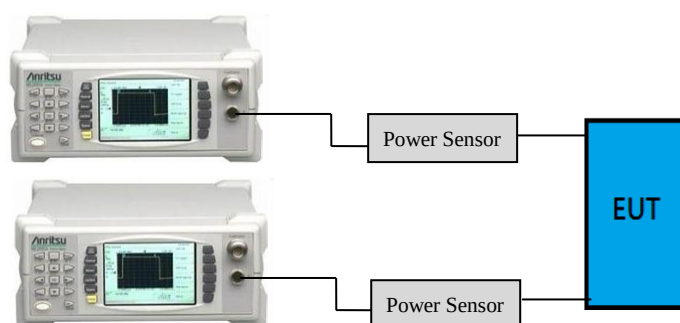
- Peak Emission Level (dB μ V/m) = Antenna Factor (dB/m) + Cable Loss (dB) + Meter Reading (dB μ V) (including Preamp factor if test used)
- Average Emission Level (dB μ V/m) = Antenna Factor (dB/m) + Cable Loss (dB) + Meter Reading (dB μ V) (including Preamp factor if test used)
- ☐ Average Emission Level (dB μ V/m) = Peak Emission Level (dB μ V/m) + DCCF (dB)
Duty Cycle Correction Factor (DCCF) = $20\log(TX_{on}/TX_{on+off})$ presented in section 3.7.
- ☐ ERP = Peak Emission Level (dB μ V/m) - 95.2dB - 2.14dB
- ☐ Band Edge Emission Level (dB μ V/m) = Fundamental Emission Level (dB μ V/m) - Marker-Delta (dB)

5.5. Test Results

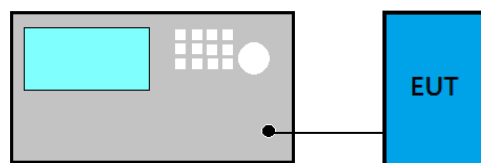
Please refer to Appendix A.

6. MAXIMUM CONDUCTED OUTPUT POWER

6.1. Block Diagram of Test Setup



- For 802.11ac-VHT80/, 802.11ax-HE80 modes only



6.2. Specification Limits

For client devices operating under the control of an indoor access point in the 5.925-7.125 GHz bands, the maximum e.i.r.p. over the frequency band of operation must not exceed 24 dBm.

6.3. Test Procedure

Following measurement procedure is reference to KDB 789033 D02 General UNII Test Procedures New Rules v02r01:

■ **Method AVGPM (Measurement using an RF average power meter):**

EUT is connected to power sensor and record the maximum average output power and duty cycle factor is added when duty cycle presented in section 3.7 is < 98%.

■ **Method AVGSA-2 (Spectrum channel power) for 802.11ac-VHT80/160, 802.11ax-HE80/160 modes only**

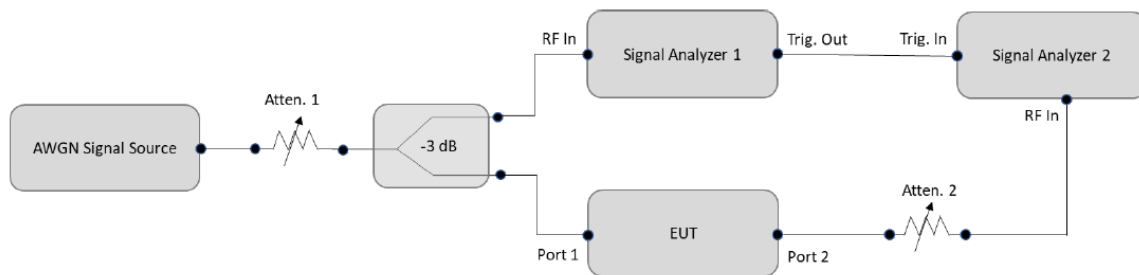
- (1) Set span to at least 1.5 times the OBW
- (2) Set RBW = 1 MHz
- (3) Set the video bandwidth (VBW) $\geq$ 3 MHz.
- (4) Detector = RMS.
- (5) Trace mode = trace average at least 100 traces
- (6) Sweep = auto couple.
- (7) Compute power by integrating the spectrum across the OBW of the signal using the instrument's band power measurement function with band limits set equal to the OBW band edges.
- (8) Duty cycle factor is added when duty cycle presented in section 3.8 is < 98%.

6.4. Test Results

Please refer to Appendix A

7. CONTENTION BASED PROTOCOL

7.1. Block Diagram of Test Setup



7.2. Specification Limits

Indoor access points, subordinate devices and client devices operating in the 5.925-7.125 GHz band must employ a contention-based protocol

FCC KDB 987594 D02 U-NII 6GHz EMC Measurement v01v01

Unlicensed low-power indoor devices must detect co-channel radio frequency power that is at least -62 dBm or lower. Upon detection of energy in the band, unlicensed low power indoor devices must vacate the channel (in which incumbent signal is transmitted) and stay off the incumbent channel as long as detected radio frequency power is equal to or greater than the threshold (-62 dBm)¹. The -62 dBm (or lower) threshold is referenced to a 0 dBi antenna gain

To ensure incumbent operations are reliably detected in the band, low power indoor devices must detect RF energy throughout their intended operating channel. For example, an 802.11 device that plans to transmit a 40 MHz- wide signal (on a primary 20 MHz channel and a secondary 20 MHz channel) must detect energy throughout the entire 40 MHz channel. Additionally, low-power indoor devices must detect co-channel energy with 90% or greater certainty.

Table 1. Criteria to determine number of times detection threshold test may be performed

If	Number of Tests	Placement of Incumbent Transmission
$BW_{EUT} \leq BW_{Inc}$	One	Tune incumbent and EUT transmission ($f_{c1} = f_{c2}$)
$BW_{Inc} < BW_{EUT} \leq 2BW_{Inc}$	One	Incumbent transmission is contained within BW_{EUT}
$2BW_{Inc} < BW_{EUT} \leq 4BW_{Inc}$	Twice. Incumbent transmission is contained within BW_{EUT}	Incumbent transmission is located as closely as possible to the lower edge and upper edge, respectively, of the EUT channel
$BW_{EUT} > 4BW_{Inc}$	Three times	Incumbent transmission is located as closely as possible to the lower edge of the EUT channel, in the middle of EUT channel, and as closely as possible to the upper edge of the EUT channel

Where:

BW_{EUT} : Transmission bandwidth of EUT signal

BW_{Inc} : Transmission bandwidth of the simulated incumbent signal (10 MHz wide AWGN signal)

f_{c1} : Center frequency of EUT transmission

f_{c2} : Center frequency of simulated incumbent signal

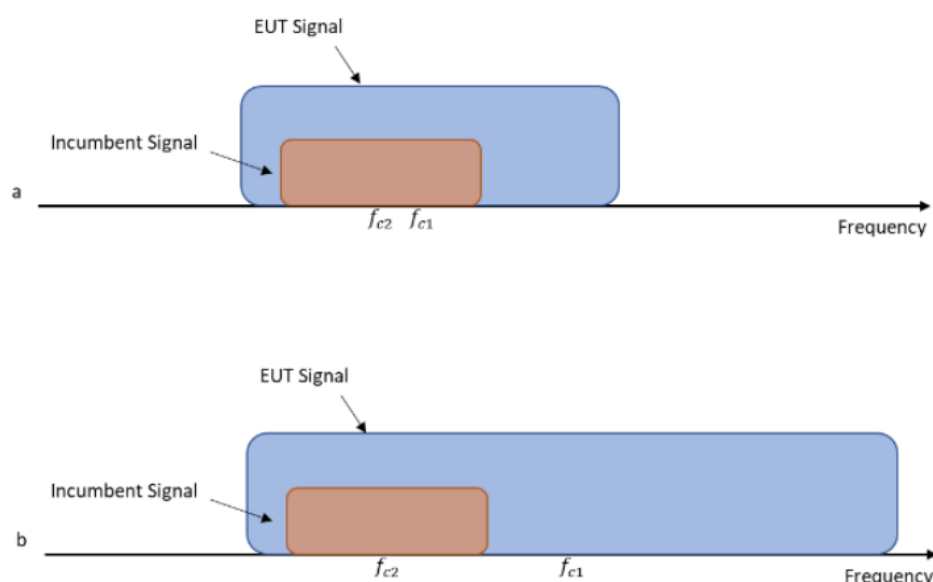


Figure 1. Two possible scenarios where a) center frequency of EUT transmission falls within incumbent's bandwidth, or b) outside of it

7.3. Test Procedure

Following measurement procedure is reference to KDB 987594 D02 U-NII 6GHz EMC Measurement v01v01:

- (1) To ensure EUT reliably detects an incumbent signal in both scenarios shown in Figure 1, the detection threshold test may be repeated more than once with the incumbent signal (having center frequency f_{c2}) tuned to different center frequencies within the EUT transmission bandwidth. The criteria specified in Table 1 determines how many times the detection threshold test must be performed
- (2) Using an AWGN signal source, generate (but do not transmit, i.e., RF OFF) a 10 MHz-wide AWGN signal. Use Table 1 to determine the center frequency of the 10 MHz AWGN signal relative to the EUT's channel bandwidth and center frequency.
- (3) Monitor the signal analyzer to verify if the AWGN signal has been detected and the EUT has ceased transmission. If the EUT continues to transmit, then incrementally increase the AWGN signal power level until the EUT stops transmitting.
- (4) (Including all losses in the RF paths) Determine and record the AWGN signal power level (at the EUT's antenna port) at which the EUT ceased transmission. Repeat the procedure at least 10 times to verify the EUT can detect an AWGN signal with 90% (or better) level of certainty.
- (5) Refer to Table 1 to determine number of times the detection threshold testing needs to be repeated. If testing is required more than once, then go back to step 2, choose a different center frequency for the AWGN signal and repeat the process.
- (6) The test tool is "LAN test" to let the EUT to transmit with a constant duty cycle.

7.4. Test Results

Please refer to Appendix A



Audix Technology Corp.
No. 491, Zhongfu Rd., Linkou Dist.,
New Taipei City 244, Taiwan

Tel: +886 2 26099301
Fax: +886 2 26099303

8. DEVIATION TO TEST SPECIFICATIONS

【NONE】



Audix Technology Corp.
No. 491, Zhongfu Rd., Linkou Dist.,
New Taipei City 244, Taiwan

Tel: +886 2 26099301
Fax: +886 2 26099303

APPENDIX A

TEST DATA AND PLOTS

(Model: WXT2HM2001)



Audix Technology Corp.
No. 491, Zhongfu Rd., Linkou Dist.,
New Taipei City 244, Taiwan

APPENDIX B

Tel: +886 2 26099301
Fax: +886 2 26099303

APPENDIX B

TEST PHOTOGRAPHS

(Model: WXT2HM2001)