



Test Report No:
23B0423R-RFUSV01S-A

TEST REPORT

FCC Rules&Regulations

Product Name	Wi-Fi 6 Access Point
Brand Name	E d g e - c o r e
Model No.	EAP111 (XXXXX), EAP111e (XXXXX) (Please refer to the section 1.1 for detail.)
FCC ID	HEDEAP111
Applicant's Name / Address	Accton Technology Corporation No. 1, Creation Rd. III, Science-based Industrial Park, Hsinchu 300, Taiwan, R.O.C.
Manufacturer's Name / Address (1)	Accton Technology Corporation Zhunan Factory 1F & 4F & 5F, No. 1, Keyi St., Zhunan Townhsip, Miaoli County 350, Taiwan, R.O.C.
Manufacturer's Name / Address (2)	Accton Technology Corporation No. 1, Creation Rd. III, Science-based Industrial Park, Hsinchu 300, Taiwan, R.O.C.
Manufacturer's Name / Address (3)	VIETNAM ACCTON TECHNOLOGY COMPANY LIMITED Lot F1-2-3 Thang Long Industrial Park (Vinh Phuc), Tam Hop Commune Binh Xuyen District,Vinh Phuc Province, Vietnam
Test Method Requested, Standard	FCC CFR Title 47 Part 15 Subpart C Section 15.247 ANSI C63.10-2013
Verdict Summary	IN COMPLIANCE
Documented By	<i>Amelia Wu</i> Amelia Wu
Approved By	<i>Rueyyan Lin</i> Rueyyan Lin
Date of Receipt	Nov. 14, 2023
Date of Issue	Mar. 12, 2024
Report Version	V1.0

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Competences and Guarantees

DEKRA is a testing laboratory competent to carry out the tests described in this report.

In order to assure the traceability to other national and international laboratories, DEKRA has a calibration and maintenance program for its measurement equipment.

DEKRA guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated in the report and it is based on the knowledge and technical facilities available at DEKRA at the time of performance of the test.

DEKRA is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

IMPORTANT: No parts of this report may be reproduced or quoted out of context, in any form or by any means, except in full, without the previous written permission of DEKRA.

General Conditions

1. The test results relate only to the samples tested.
2. The test results shown in the test report are traceable to the national/international standard through the calibration report of the equipment and evaluated measurement uncertainty herein.
3. This report must not be used to claim product endorsement by TAF or any agency of the government.
4. The test report shall not be reproduced without the written approval of DEKRA Testing and Certification Co., Ltd.
5. Measurement uncertainties evaluated for each testing system and associated connections are given here to provide the system information for reference. Compliance determinations do not take into account measurement uncertainties for each testing system, but are based on the results of the compliance measurement.

Revision History

Version	Description	Issued Date
V1.0	Initial issue of report	Mar. 12, 2024

Summary of Test Result

Report Clause	Test Items	Result (PASS/FAIL)	Remark
3	AC Power Line Conducted Emission	PASS	-
4	Occupied Bandwidth & DTS Bandwidth	PASS	-
5	Maximum Conducted Output Power	PASS	-
6	Maximum Power Spectral Density	PASS	-
7	Antenna Port Conducted Emission	PASS	-
8	Transmitter Radiated Spurious Emission	PASS	-

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.

Comments and Remarks

The product specification and testing instructions for the EUT declared in the report are provided by the manufacturer who will take all responsibilities for the accuracy.

1. General Information

1.1. EUT Description

Frequency Range	2400 ~ 2483.5 MHz	
Operating Frequency	IEEE 802.11b/g IEEE 802.11n/ac/ax (20 MHz)	2412 ~ 2462 MHz
	IEEE 802.11n/ac/ax (40 MHz)	2422 ~ 2452 MHz
Channel Number	IEEE 802.11b/g IEEE 802.11n/ac/ax (20 MHz)	11 Channels
	IEEE 802.11n/ac/ax (40 MHz)	7 Channels
Type of Modulation	IEEE 802.11b	DSSS-DBPSK, DQPSK, CCK
	IEEE 802.11g/n	OFDM-BPSK, QPSK, 16QAM, 64QAM
	IEEE 802.11ac	OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM
	IEEE 802.11ax	OFDMA-BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM

Accessories Information					
No.	Equipment Name	Brand Name	Model No.	Rating	Remark
1	Adapter (Removable plug)	APD	WB-24J12R	INPUT:100-240V, 50-60Hz, 0.7A Max OUTPUT:12V, 2.0A, 24.0W	With power cable : Non-Shielded, 1.5m
2	PoE Injector	PHIHONG	POE29U-560	INPUT:100-240V, 50-60Hz, 0.8A OUTPUT:56V, 0.536A	--
No.	Equipment Name	Description			
3	Plug Power Cord	Non-Shielded, 1m (For PoE Injector use)			
4	Plug*3	US, EU, UK			
5	Wall Mount (Metal)	--			
6	Wall Mount (Plastic)	--			
7	Pole-mount kit	--			

The difference for each model is shown as below:

EUT	Model No.	Antenna		
		Ant.	Model No.	Remark
1	EAP111 (XXXXXX)	1	KG568-T4-175B17U7S	Internal Antenna
		2	KG568-T4-105W17U7S	Internal Antenna
		3	KG568-T4-175G17U7S	Internal Antenna
2	EAP111e (XXXXXX)	1	98623PRSX001	External Antenna
		2	98623PRSX001	External Antenna
		3	KG568-T4-175G17U7S	Internal Antenna

The difference of "XXXXXX" would be marketing strategy X can be symbol "A~Z, a~z, 1~9 or blank.

Antenna Information for EUT 1									
Ant.	Manufacturer	Model No.	Type	Ant. Gain (dBi)		Directional Gain (dBi)		Function	Remark
				2.4GHz	5GHz	2.4GHz	5GHz		
1	ACCTON Technology Corporation	KG568-T4-175B17U7S	Dipole	4.90	5.53	7.87	10.4	WiFi 2.4GHz / WiFi 5GHz	Internal Antenna
2	ACCTON Technology Corporation	KG568-T4-105W17U7S	Dipole	4.81	5.53			WiFi 2.4GHz / WiFi 5GHz	Internal Antenna
3	ACCTON Technology Corporation	KG568-T4-175G17U7S	Dipole	5.21	5.82			Bluetooth LE / WiFi 5GHz	Internal Antenna

Antenna Information for EUT 2							
Ant.	Manufacturer	Model No.	Type	Ant. Gain (dBi)		Function	Remark
				2.4GHz	5GHz		
1	ACCTON Technology Corporation	98623PRSX001	Dipole	4.67	5.08	WiFi 2.4GHz / WiFi 5GHz	External Antenna
2	ACCTON Technology Corporation	98623PRSX001	Dipole	4.20	5.02	WiFi 2.4GHz / WiFi 5GHz	External Antenna
3	ACCTON Technology Corporation	KG568-T4-175G17U7S	Dipole	5.21	5.82	Bluetooth LE / WiFi 5GHz	Internal Antenna

Directional Gain = $10 \log [(10G1/20 + 10G2/20 + \dots + 10GN/20)^2 / NAnt]$

<WiFi 2.4GHz Function>

For IEEE 802.11b/g/n/ac/ax Mode: (2TX, 2RX)

Both Ant. 1~Ant. 2 can be used as transmitting/receiving antennas, and they can transmit/receive signal simultaneously.

<WiFi 5GHz Function>

For IEEE 802.11a/n/ac/ax Mode: (3TX, 3RX)

Both Ant. 1~Ant. 3 can be used as transmitting/receiving antennas, and they can transmit/receive signal simultaneously.

<Bluetooth LE Function>

Only Ant. 3 can be use as transmit and receive antenna.

Note: Antenna gain of EUT 1 is higher than that of EUT 2, only EUT 1 was selected as representative model for RF Conducted Emission test and its data was recorded in this report.

1.2. EUT Information

EUT Power Type	From Adapter / PoE Injector			
EUT Function	☒	Point-to-multipoint	☐	Point-to-point
Beamforming Function	☒	With beamforming	☐	Without beamforming
Resource Unit of 802.11ax	☒	Full RU	☐	Partial RU

1.3. Testing Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ 47 CFR FCC Part 15
- ♦ ANSI C63.10-2013

The following reference test guidance is not within the scope of accreditation of TAF:

- ♦ KDB 558074 D01 v05r02
- ♦ KDB 662911 D01 v02r01
- ♦ KDB 414788 D01 v01r01

1.4. Testing Location Information

Testing Location Information		
Test Laboratory : DEKRA Testing and Certification Co., Ltd.		
1 (TAF: 3024)	ADD: No.372-2, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 31061, Taiwan, R.O.C. TEL: +886-3-582-8001 FAX: +886-3-582-8958	
2 (TAF: 3024)	ADD: No.372, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 31061, Taiwan, R.O.C. TEL: +886-3-582-8001 FAX: +886-3-582-8958	
Test site number for address 1 includes HC-SR02. Test site number for address 2 includes HC-CB02, HC-CB03, HC-CB04, HC-SR10 and HC-SR12.		

Test Condition	Test Site No.	Test Engineer	Test Environment (°C / %)	Test Date
AC Conduction Emission	HC-SR02	Igor Tseng	20.6 / 57	2024/01/05
RF Conducted Emission	HC-SR12	Scott Chang	22.3~23.8 / 56.5~61.5	2023/12/08~2023/12/15
Radiated Emission	HC-CB02	Gary Lioa Nelson Teng	20.9~23.5 / 56.3~60.7	2023/11/29~2024/01/25

1.5. Measurement Uncertainty

Uncertainties have been calculated according to the DEKRA internal document with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor ($k=2$)).

Test Item	Uncertainty
AC Power Line Conducted Emission	± 2.34 dB
Occupied Bandwidth & DTS Bandwidth	± 282.55 Hz
Maximum Conducted Output Power	± 1.16 dB
Maximum Power Spectral Density	± 2.47 dB
Antenna Port Conducted Emission	± 2.47 dB
Transmitter Radiated Spurious Emission	± 3.52 dB below 1 GHz ± 3.56 dB above 1 GHz

1.6. List of Test Equipment

HC-SR02

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Cal. Date	Next Cal. Date
Artificial Mains Network	R&S	ENV4200	848411/010	9kHz-30MHz, 4line/100A	2023/12/15	2024/12/14
EMI Test Receiver	R&S	ESR3	102608	9 kHz - 3.6 GHz	2023/09/19	2024/09/18
Two-Line V-Network	R&S	ENV216	100096	9kHz-30MHz	2023/06/02	2024/06/01
Coaxial Cable(9 m)	Harbour	RG-400	HC-SR02	9 kHz–2500 MHz	2023/08/04	2024/08/03
EMI Testing System	AUDIX	e3 210616 dekra V9	HC-SR02	N/A	N/A	N/A

HC-SR12

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Cal. Date	Next Cal. Date
High Speed Peak Power Meter Dual Input	Anritsu	ML2496A	1602004	0.3-40 GHz	2023/10/25	2024/10/24
Pulse Power Sensor	Anritsu	MA2411B	1531043	0.3-40 GHz	2023/10/25	2024/10/24
Pulse Power Sensor	Anritsu	MA2411B	1531044	0.3-40 GHz	2023/10/25	2024/10/24
Signal & Spectrum Analyzer	R&S	FSV40	101869	10Hz-40GHz	2023/07/03	2024/07/02

HC-CB02

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Cal. Date	Next Cal. Date
Signal and Spectrum Analyzer	R&S	FSVA40	101435	10 Hz-40 GHz	2023/05/29	2024/05/28
Trilog Broadband Antenna	Schwarzbeck	VULB 9168	1272	30 MHz-2 GHz	2023/04/13	2024/04/12
Double Ridged Horn Antenna	RF SPIN	DRH18-E	211211A18EN	1G-18GHz	2023/11/09	2024/11/08
Horn Antenna	Schwarzbeck	BBHA 9170	203	18G-40GHz	2023/02/13	2024/02/12
Pre-Amplifier	EMCI	EMC01820I	980365	30M-8 GHz,20 dB	2023/04/07	2024/04/06
Pre-Amplifier	EMEC	EM01G18GA	060741	1G-18 GHz,50 dB	2023/05/05	2024/05/04
Pre-Amplifier	DEKRA	AP-400C	201801231	18G-40 GHz,48 dB	2023/10/03	2024/10/02
EMI Test Receiver	R&S	ESR7	102260	10 Hz-7 GHz	2023/11/27	2024/11/26
Magnetic Loop Antenna	Teseq	HLA 6121	44287	0.01-30 MHz	2023/10/13	2024/10/12
Coaxial Cable(13m)	Suhner	SF104	HC-CB02	30M-18 GHz	2023/08/14	2024/08/13
Coaxial Cable(3m)	Suhner,Rosnol	SF102_UP0264	HC-CB02-1	18G-40 GHz 3 m	2023/08/14	2024/08/13
Radiated Software	AUDIX	e3 V9	HC-CB02_1	N/A	N/A	N/A

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

2. Test Configuration of EUT

2.1. Test Condition

EUT Operational Condition	
Testing Voltage	AC 120V/60Hz

2.2. Test Frequency Mode

Test Software Version	QATool v0.0.2.78
-----------------------	------------------

Modulation	Frequency (MHz)	Power Setting
802.11b	2412	13.0
	2437	13.5
	2462	12.5
802.11g	2412	17.0
	2437	20.0
	2462	17.5
802.11ax (20 MHz)	2412	18.0
	2437	21.0
	2462	19.0
802.11ax (40 MHz)	2422	16.5
	2437	19.0
	2452	17.5

2.3. Duty Cycle

Modulation	On Times (ms)	On+Off Times (ms)	Duty Cycle (%)	Duty Factor (dB)	1/T Minimum VBW (kHz)
802.11b	8.400	8.490	98.94	0.046	0.010
802.11g	1.350	1.440	93.75	0.280	0.741
802.11ax (20 MHz)	1.020	1.090	93.58	0.288	0.980
802.11ax (40 MHz)	0.540	0.605	89.26	0.494	1.852



2.4. The Worst Case Measurement Configuration

Tests Item	AC Power Line Conducted Emission
Test Condition	AC power line conducted measurement for line and neutral
Operating Mode	Transmit
1	EUT 1 + Adapter
2	EUT 1 + PoE
3	EUT 2 + Adapter
4	EUT 2 + PoE

Tests Item	Occupied Bandwidth & DTS Bandwidth Maximum Conducted Output Power Maximum Power Spectral Density Antenna Port Conducted Emission
Test Condition	Conducted measurement at transmit chains
Operating Mode	Transmit
1	EUT 1

Tests Item	Transmitter Radiated Spurious Emission
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.
Operating Mode < 1GHz	Transmit
1	EUT 1 + Adapter
2	EUT 1 + PoE
3	EUT 2 + Adapter
4	EUT 2 + PoE
Operating Mode > 1GHz	Transmit
1	EUT 1
2	EUT 2

The EUT was performed at X axis, Y axis and Z axis position for radiated spurious emission test. The worst case was found at Y axis, so the measurement will follow this same test configuration.

Tests Item	Simultaneous Transmission Analysis - Radiated Emission Co-location
Test Condition	Radiated measurement
Operating Mode < 1GHz	Transmit
1	EUT 1 + Adapter: WiFi 2.4 GHz + WiFi 5 GHz + Bluetooth LE function
2	EUT 1 + PoE: WiFi 2.4 GHz + WiFi 5 GHz + Bluetooth LE function
3	EUT 2 + PoE: WiFi 2.4 GHz + WiFi 5 GHz + Bluetooth LE function
Operating Mode > 1GHz	Transmit
1	EUT 1: WiFi 2.4 GHz + WiFi 5 GHz + Bluetooth LE function
2	EUT 2: WiFi 2.4 GHz + WiFi 5 GHz + Bluetooth LE function
Refer to Appendix G for Radiated Emission Co-location.	

Tests Item	Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation
Operating Mode	Transmit
1	WiFi 2.4 GHz + WiFi 5 GHz + Bluetooth LE function
Refer to DEKRA Test Report No.: 23B0423R-RFUSV17S-A for Co-location RF Exposure Evaluation.	

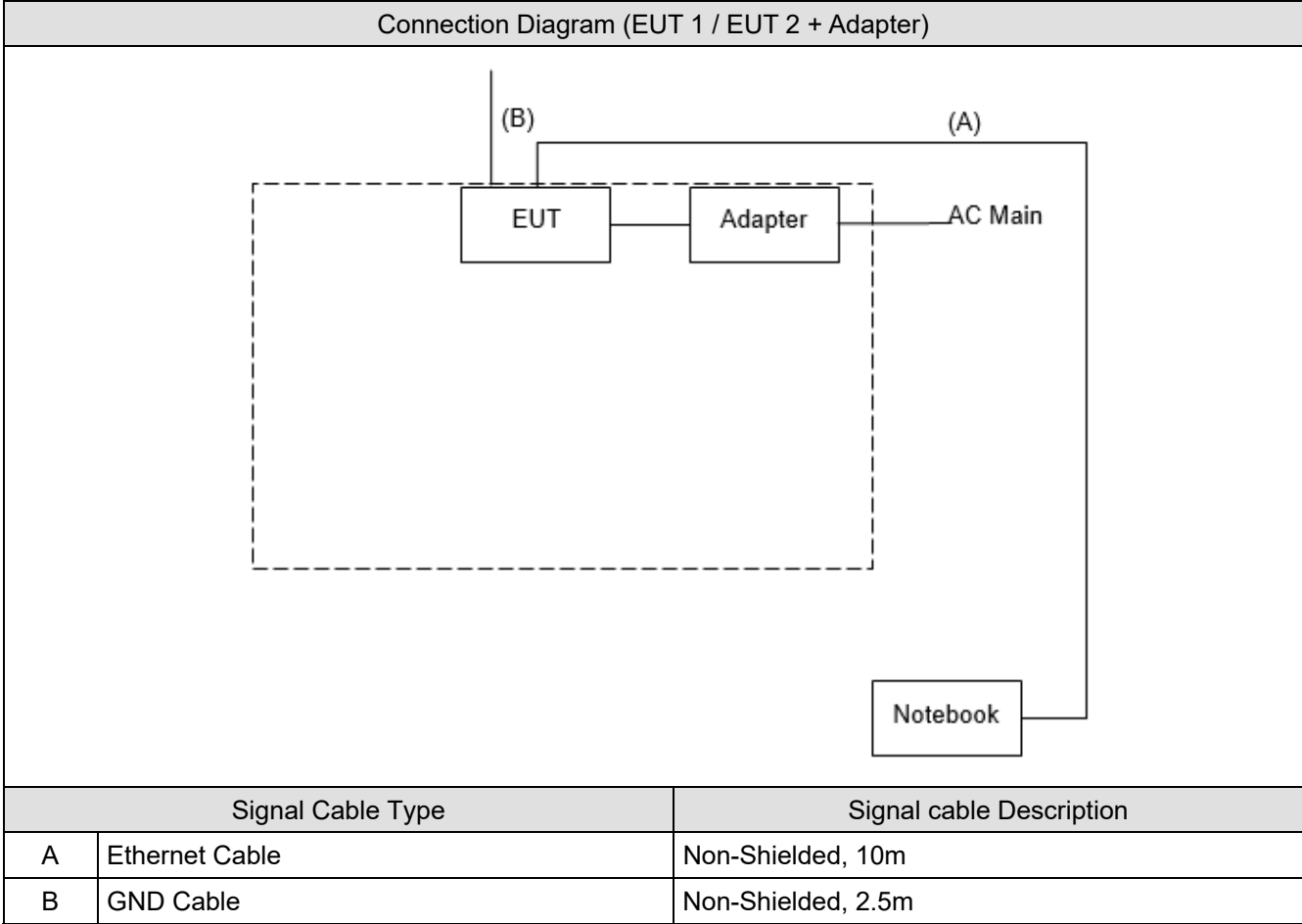
Note:

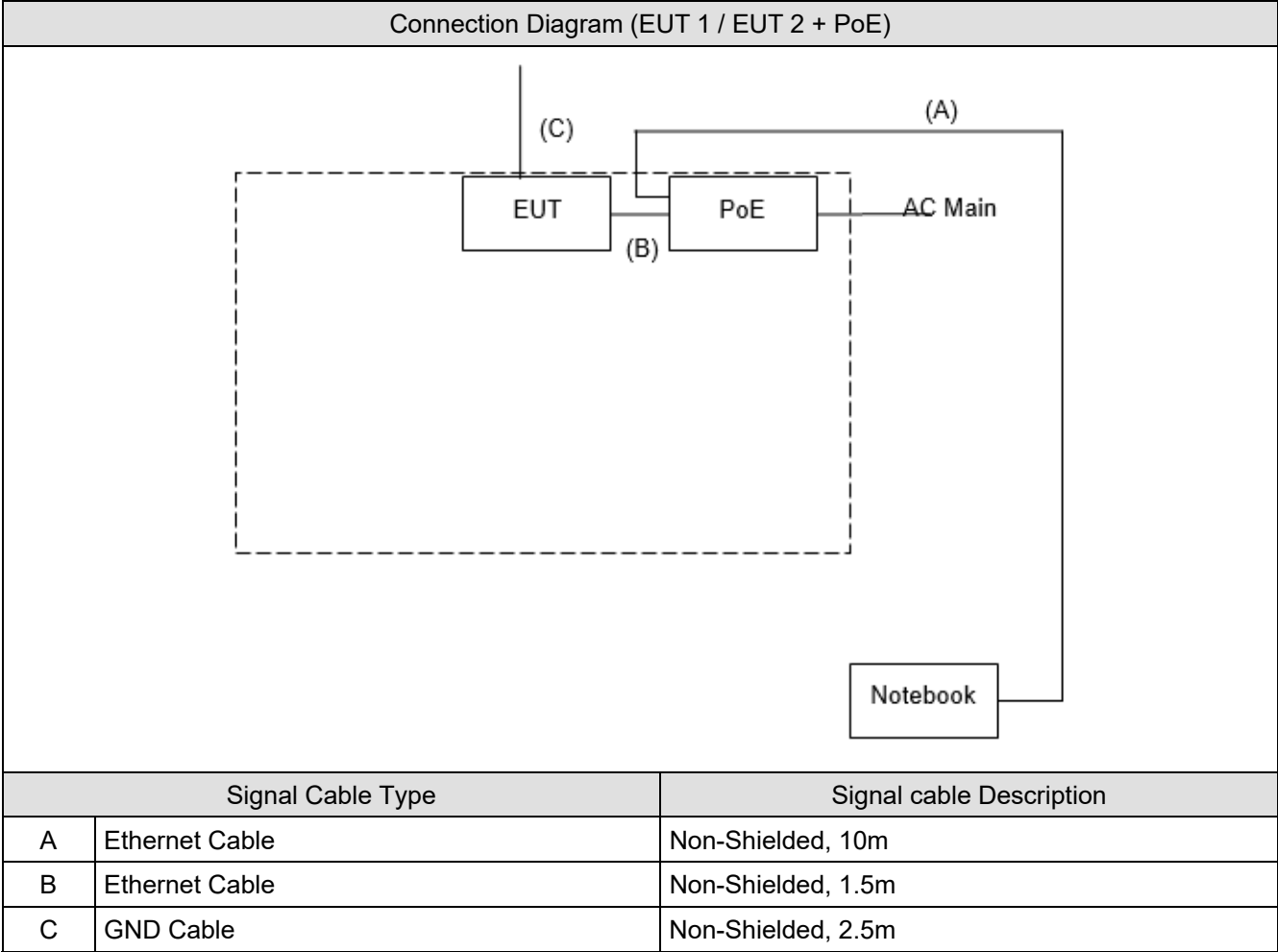
1. Determining compliance shall be based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
2. For radiated spurious emission below 1 GHz and AC power line conducted emission have performed all modes of operation were investigated and the worst-case emissions are reported.
3. The modulation and bandwidth are similar for 802.11n mode for HT20/HT40, 802.11ac mode for VHT20/VHT40 and 802.11ax mode for HEW20/HEW40, therefore investigated worst case to representative mode in test report.

2.5. Tested System Details

No.	Equipment	Brand Name	Model No.	Serial No.
1	Notebook	Lenovo	Lenovo Ideapad 320	PF0SXXY1

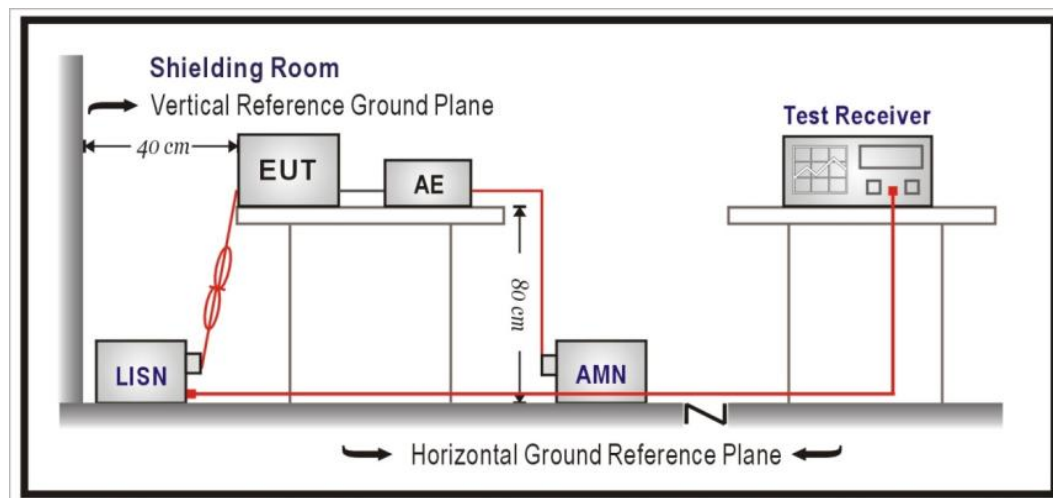
2.6. Configuration of Tested System





3. AC Power Line Conducted Emission

3.1. Test Setup



3.2. Test Limit

Frequency (MHz)	QP (dBuV)	AV (dBuV)
0.15 - 0.50	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30	60	50

Remarks: In the above table, the tighter limit applies at the band edges.

3.3. Test Procedure

The EUT was setup according to ANSI C63.10: 2013. The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface. The EUT and simulators are connected to the main power through a line impedance stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs.)

Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.

The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.

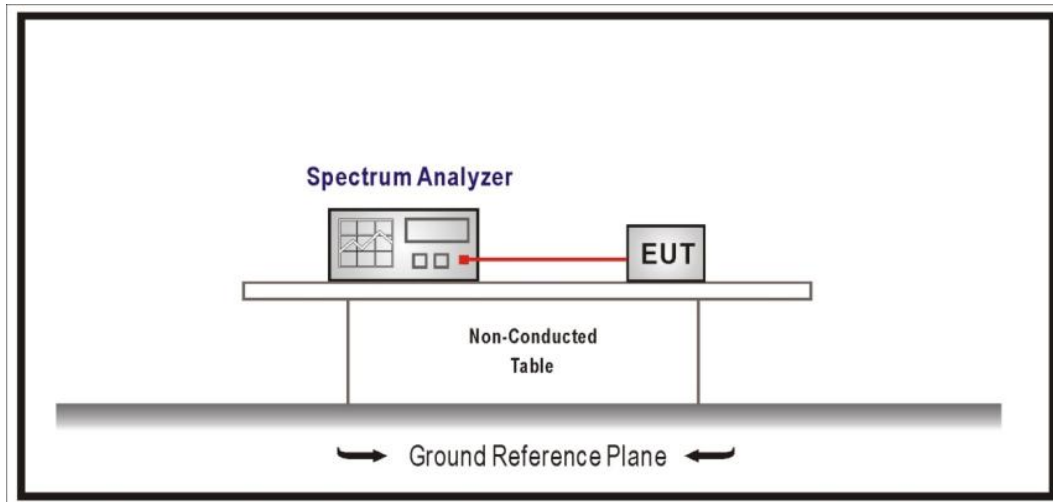
Conducted emissions were investigated over the frequency range from 0.15 MHz to 30 MHz using a receiver bandwidth of 9 kHz.

3.4. Test Result of AC Power Line Conducted Emission

Refer as Appendix A

4. Occupied Bandwidth & DTS Bandwidth

4.1. Test Setup



4.2. Test Limit

The 6 dB bandwidth: ≥ 0.50 MHz.

Occupied Bandwidth: N/A

4.3. Test Procedures

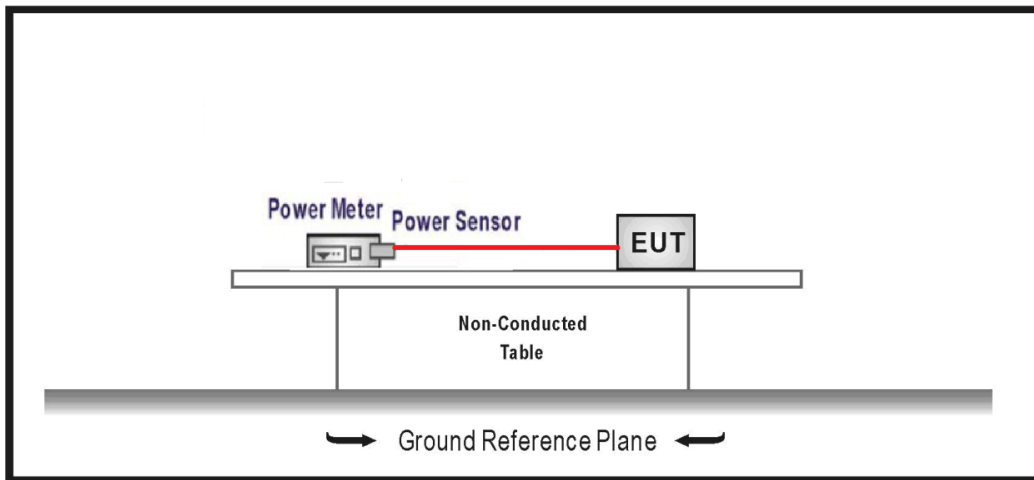
The EUT was setup according to ANSI C63.10: 2013; tested according to DTS test procedure of KDB 558074.

4.4. Test Result of Occupied Bandwidth & DTS Bandwidth

Refer as Appendix B

5. Maximum Conducted Output Power

5.1. Test Setup



5.2. Test Limit

The maximum conducted output power shall be less 30 dBm (1 Watt).

5.3. Test Procedures

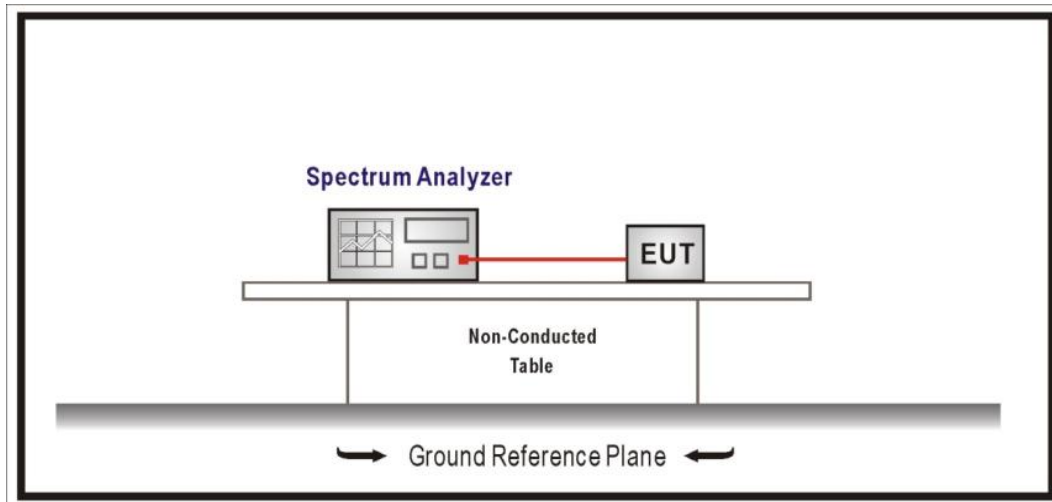
The EUT was setup according to ANSI C63.10: 2013; tested according to DTS test procedure of KDB 558074.

5.4. Test Result of Maximum Conducted Output Power

Refer as Appendix C

6. Maximum Power Spectral Density

6.1. Test Setup



6.2. Test Limit

The peak power spectral density conducted from the intentional radiated to the antenna shall not be greater than +8 dBm in any 3 kHz band during any time interval of continuous transmission.

6.3. Test Procedures

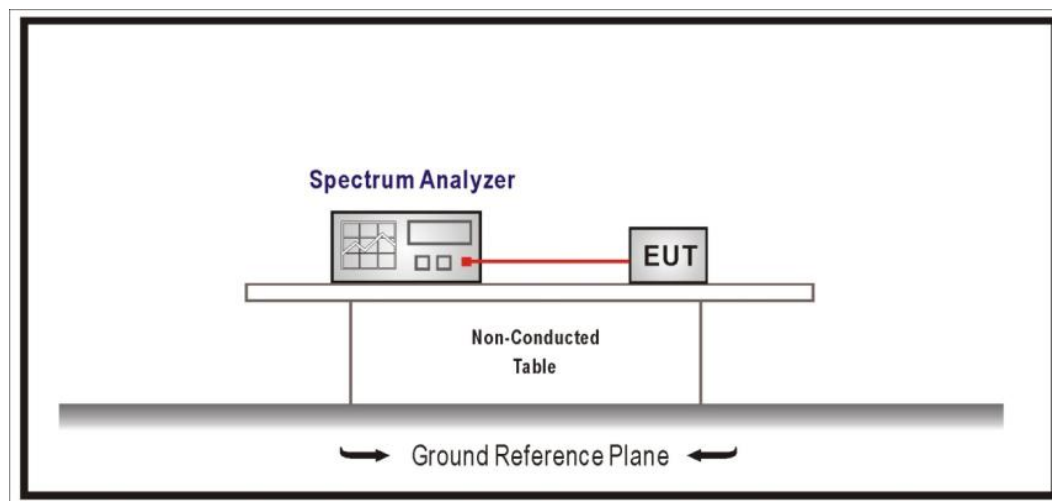
The EUT was setup according to ANSI C63.10: 2013; tested according to DTS test procedure of KDB 558074.

6.4. Test Result of Maximum Power Spectral Density

Refer as Appendix D

7. Antenna Port Conducted Emission

7.1. Test Setup



7.2. Test Limit

RF output power procedure	Limit (dBc)
Peak output power procedure	20
Average output power procedure	30

Remarks:

1. In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limit.
2. If the transmitter complies with the conducted power limit based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

7.3. Test Procedure

The EUT was setup according to ANSI C63.10: 2013 and tested according to DTS test procedure of KDB 558074.

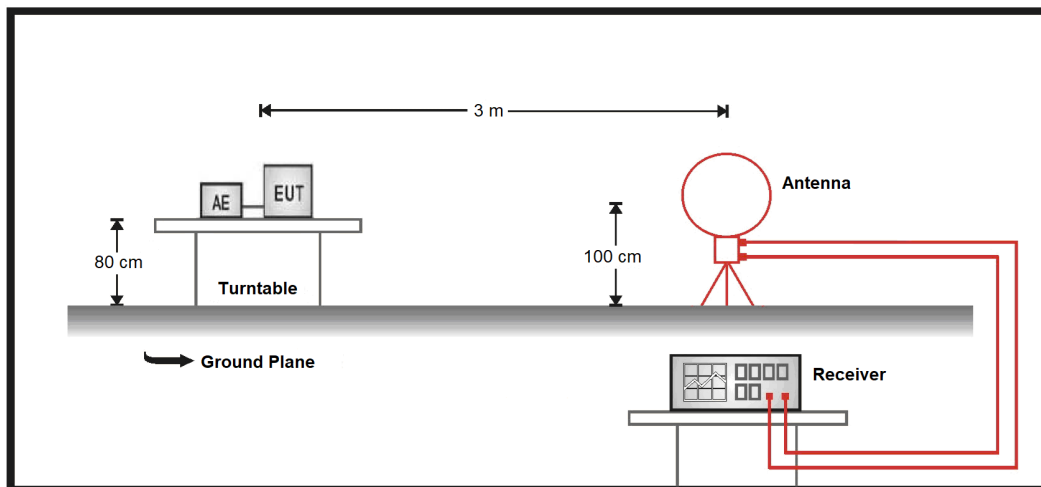
7.4. Test Result of Antenna Port Conducted Emission

Refer as Appendix E

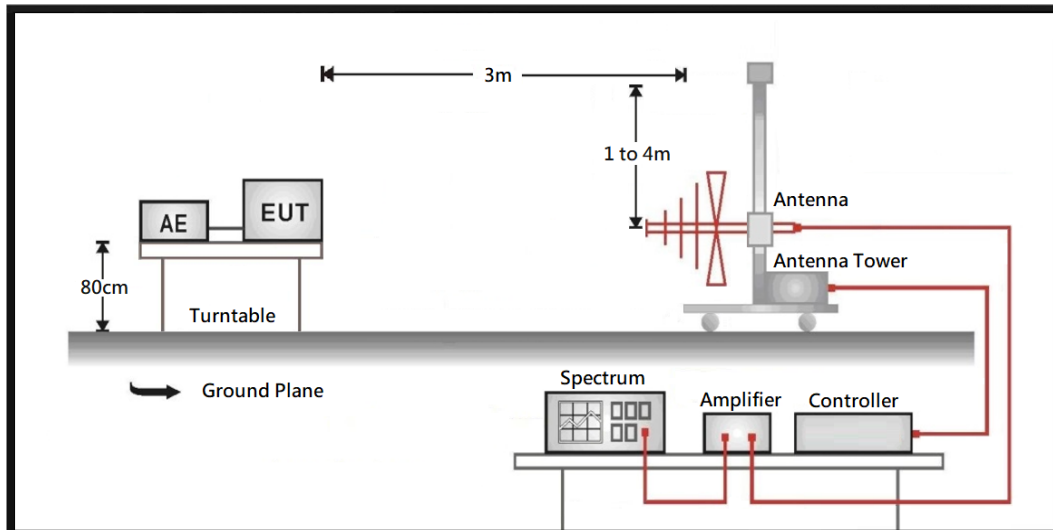
8. Transmitter Radiated Spurious Emission

8.1. Test Setup

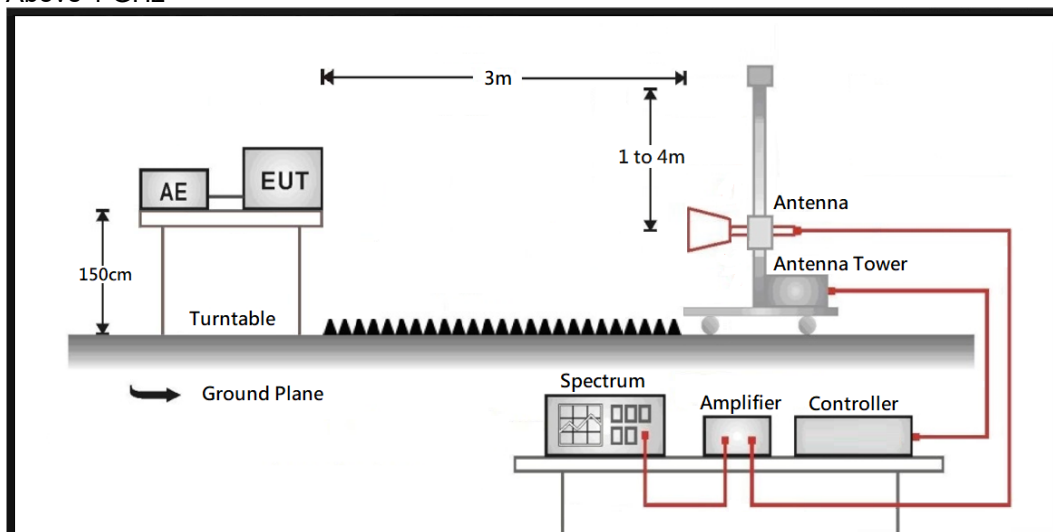
9 kHz ~ 30 MHz



30 MHz ~ 1 GHz



Above 1 GHz



8.2. Test Limit

Frequency (MHz)	Field strength (uV/m)	Field strength (dBuV/m)	Measurement distance (m)
0.009 – 0.490	2400/F(kHz)	20 log (2400/F(kHz))	300
0.490 – 1.705	24000/F(kHz)	20 log (24000/F(kHz))	30
1.705 - 30	30	29.5	30
30 - 88	100	40	3
88 - 216	150	43.5	3
216 - 960	200	46	3
Above 960	500	54	3

Remarks:

1. Field strength (dBuV/m) = 20 log Field strength (uV/m)
2. In the Above Table, the tighter limit applies at the band edges.
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.

8.3. Test Procedure

The EUT was setup according to ANSI C63.10: 2013 and tested according to DTS test procedure of KDB 558074.

The EUT and its simulators are placed on a turn table which is 0.8 or 1.5 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level.

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level. Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.10: 2013 on radiated measurement.

On any frequency or frequencies from 9 kHz(include The the lowest oscillator frequency generated within the device up to the 10th harmonic) to 1000 MHz, the limit shown are based on measuring equipment employing a quasi-peak detector function and on any frequency or frequencies above 1000 MHz the radiated limit shown are based upon the use of measurement instrumentation employing an average detector function. When average radiated emission measurement are included emission measurement below 1000 MHz, there also is a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit.

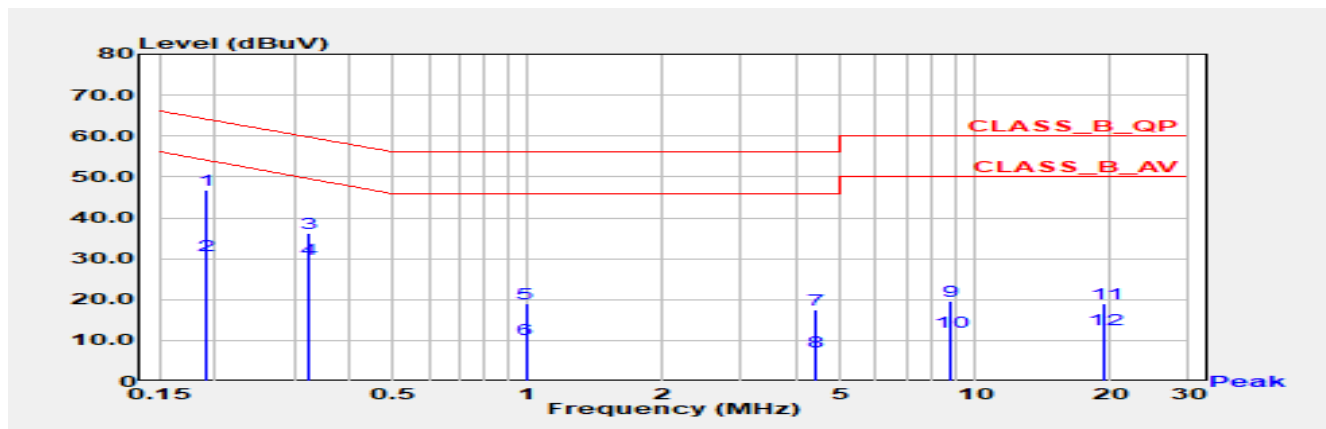
The bandwidth below 1 GHz setting on the field strength meter is 120 kHz and above 1 GHz is 1 MHz.

8.4. Test Result of Transmitter Radiated Spurious Emission

Refer as Appendix F

Appendix A. Test Result of AC Power Line Conducted Emission

Test Mode	Mode 1: EUT 1 + Adapter	Phase	Line
Test Condition	802.11ax (40 MHz) / Ant. 1 + Ant. 2 / 2422 MHz		

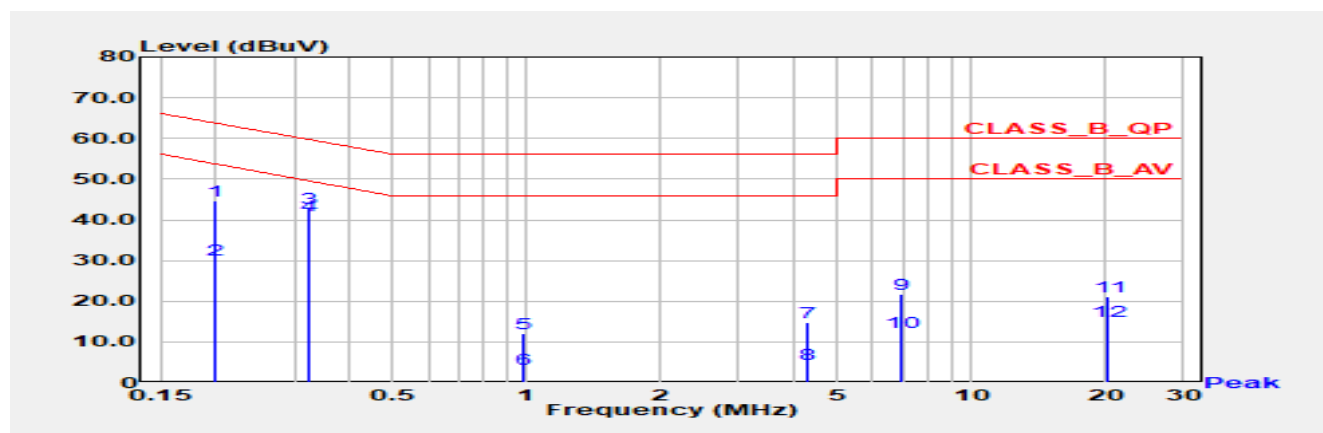


No	Frequency (MHz)	Emission Level (dBuV)	Limit (dBuV)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
*1	0.190	46.92	64.01	-17.10	37.05	9.87	QP
2	0.190	30.67	54.01	-23.34	20.81	9.87	AV
3	0.325	36.11	59.57	-23.45	26.23	9.88	QP
4	0.325	29.82	49.57	-19.74	19.95	9.88	AV
5	0.989	19.05	56.00	-36.95	9.12	9.93	QP
6	0.989	10.25	46.00	-35.75	0.32	9.93	AV
7	4.396	17.51	56.00	-38.49	7.43	10.09	QP
8	4.396	7.37	46.00	-38.63	-2.72	10.09	AV
9	8.821	19.68	60.00	-40.32	9.45	10.23	QP
10	8.821	12.16	50.00	-37.84	1.94	10.23	AV
11	19.511	19.00	60.00	-41.00	8.58	10.42	QP
12	19.511	12.69	50.00	-37.31	2.27	10.42	AV

Remark:

1. "*" means this data is the worst emission level.
2. Emission Level = Reading Level + Correct Factor (Correct Factor = LISN Insertion Loss + Cable Loss).
3. Margin = Emission Level - Limit.

Test Mode	Mode 1: EUT 1 + Adapter	Phase	Neutral
Test Condition	802.11ax (40 MHz) / Ant. 1 + Ant. 2 / 2422 MHz		

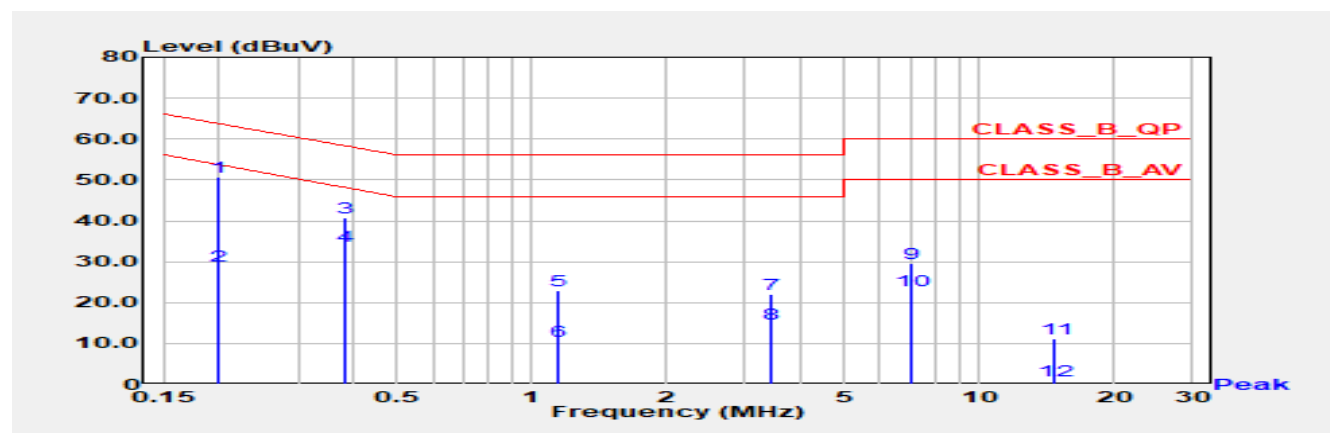


No	Frequency (MHz)	Emission Level (dBUV)	Limit (dBUV)	Margin (dB)	Reading Level (dBUV)	Correct Factor (dB)	Detector Type
1	0.199	44.58	63.63	-19.05	34.72	9.85	QP
2	0.199	30.27	53.63	-23.37	20.41	9.85	AV
3	0.325	42.98	59.57	-16.58	33.12	9.87	QP
*4	0.325	40.97	49.57	-8.59	31.11	9.87	AV
5	0.985	12.16	56.00	-43.84	2.24	9.92	QP
6	0.985	3.18	46.00	-42.82	-6.74	9.92	AV
7	4.288	14.70	56.00	-41.30	4.64	10.05	QP
8	4.288	4.62	46.00	-41.38	-5.43	10.05	AV
9	6.922	21.66	60.00	-38.34	11.53	10.13	QP
10	6.922	12.51	50.00	-37.49	2.38	10.13	AV
11	20.323	21.03	60.00	-38.97	10.72	10.31	QP
12	20.323	15.06	50.00	-34.94	4.75	10.31	AV

Remark:

1. "*" means this data is the worst emission level.
2. Emission Level = Reading Level + Correct Factor (Correct Factor = LISN Insertion Loss + Cable Loss).
3. Margin = Emission Level - Limit.

Test Mode	Mode 2: EUT 1 + PoE	Phase	Line
Test Condition	802.11ax (40 MHz) / Ant. 1 + Ant. 2 / 2422 MHz		

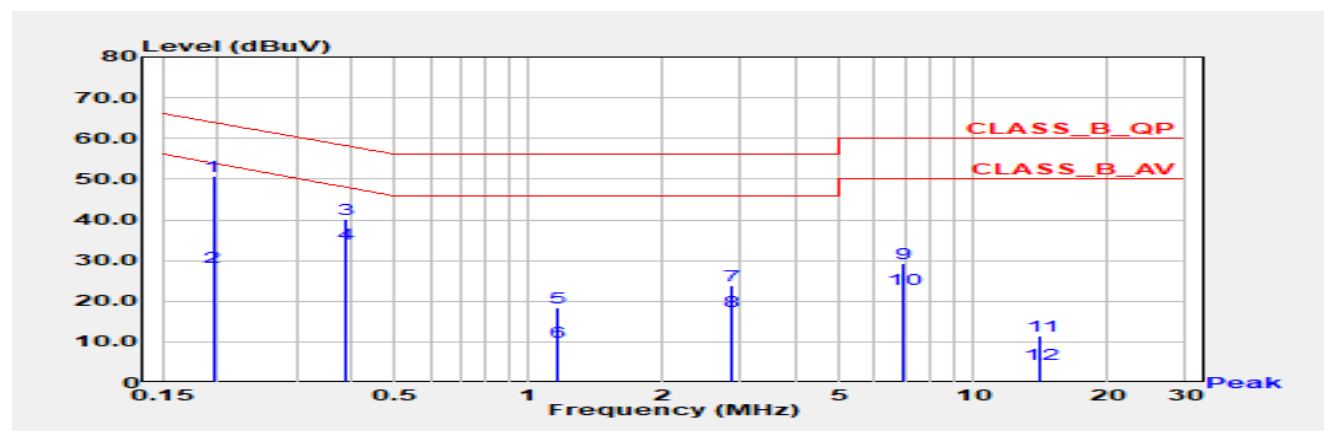


No	Frequency (MHz)	Emission Level (dBuV)	Limit (dBuV)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
*1	0.199	50.69	63.63	-12.94	40.82	9.87	QP
2	0.199	28.95	53.63	-24.68	19.08	9.87	AV
3	0.384	40.67	58.19	-17.52	30.79	9.88	QP
4	0.384	33.69	48.19	-14.50	23.81	9.88	AV
5	1.149	22.85	56.00	-33.15	12.91	9.94	QP
6	1.149	10.69	46.00	-35.31	0.75	9.94	AV
7	3.408	22.13	56.00	-33.87	12.09	10.05	QP
8	3.408	14.83	46.00	-31.17	4.79	10.05	AV
9	7.033	29.56	60.00	-30.44	19.38	10.17	QP
10	7.033	22.91	50.00	-27.09	12.74	10.17	AV
11	14.754	11.13	60.00	-48.87	0.79	10.35	QP
12	14.754	0.81	50.00	-49.19	-9.53	10.35	AV

Remark:

1. "*" means this data is the worst emission level.
2. Emission Level = Reading Level + Correct Factor (Correct Factor = LISN Insertion Loss + Cable Loss).
3. Margin = Emission Level - Limit.

Test Mode	Mode 2: EUT 1 + PoE	Phase	Neutral
Test Condition	802.11ax (40 MHz) / Ant. 1 + Ant. 2 / 2422 MHz		

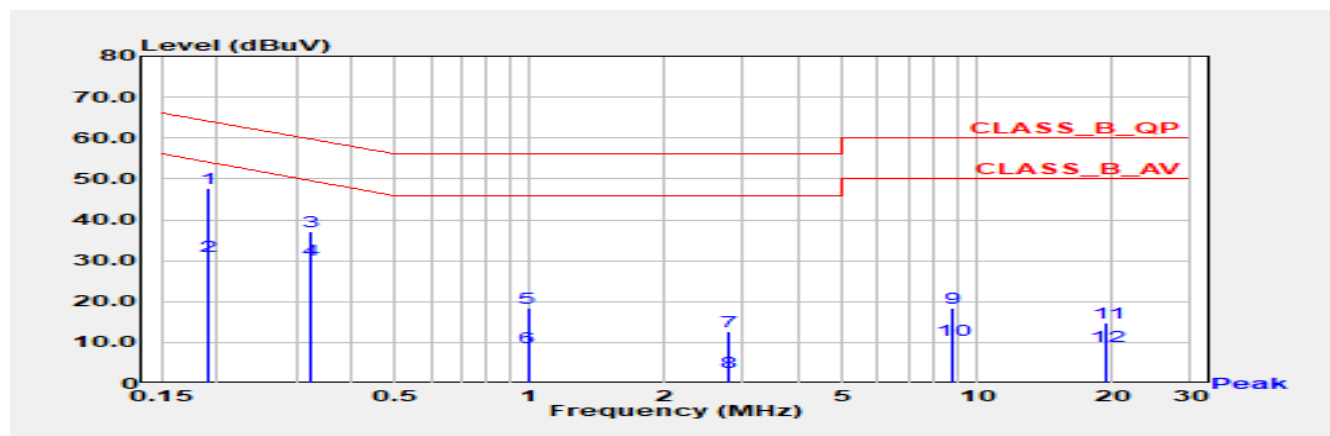


No	Frequency (MHz)	Emission Level (dBuV)	Limit (dBuV)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
*1	0.195	50.77	63.82	-13.05	40.93	9.85	QP
2	0.195	28.29	53.82	-25.53	18.44	9.85	AV
3	0.388	40.21	58.10	-17.88	30.34	9.87	QP
4	0.388	33.97	48.10	-14.13	24.10	9.87	AV
5	1.160	18.45	56.00	-37.55	8.52	9.93	QP
6	1.160	9.94	46.00	-36.06	0.01	9.93	AV
7	2.870	23.86	56.00	-32.14	13.85	10.00	QP
8	2.870	17.56	46.00	-28.44	7.56	10.00	AV
9	6.990	29.34	60.00	-30.66	19.21	10.13	QP
10	6.990	22.87	50.00	-27.13	12.74	10.13	AV
11	14.138	11.57	60.00	-48.43	1.32	10.25	QP
12	14.138	4.56	50.00	-45.44	-5.69	10.25	AV

Remark:

1. "*" means this data is the worst emission level.
2. Emission Level = Reading Level + Correct Factor (Correct Factor = LISN Insertion Loss + Cable Loss).
3. Margin = Emission Level - Limit.

Test Mode	Mode 3: EUT 2 + Adapter	Phase	Line
Test Condition	802.11ax (40 MHz) / Ant. 1 + Ant. 2 / 2437 MHz		

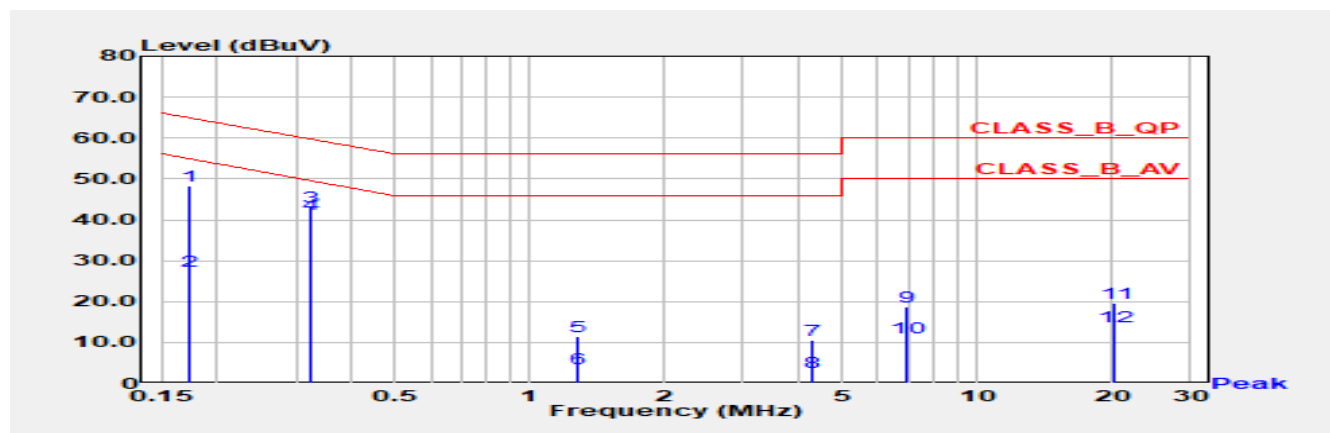


No	Frequency (MHz)	Emission Level (dBuV)	Limit (dBuV)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
*1	0.190	47.74	64.01	-16.28	37.87	9.87	QP
2	0.190	31.10	54.01	-22.91	21.23	9.87	AV
3	0.325	37.17	59.57	-22.40	27.29	9.88	QP
4	0.325	30.04	49.57	-19.52	20.17	9.88	AV
5	0.989	18.40	56.00	-37.60	8.48	9.93	QP
6	0.989	8.65	46.00	-37.35	-1.28	9.93	AV
7	2.791	12.60	56.00	-43.40	2.59	10.02	QP
8	2.791	2.66	46.00	-43.34	-7.35	10.02	AV
9	8.821	18.36	60.00	-41.64	8.13	10.23	QP
10	8.821	10.60	50.00	-39.40	0.37	10.23	AV
11	19.511	14.71	60.00	-45.29	4.29	10.42	QP
12	19.511	9.02	50.00	-40.98	-1.41	10.42	AV

Remark:

1. "*" means this data is the worst emission level.
2. Emission Level = Reading Level + Correct Factor (Correct Factor = LISN Insertion Loss + Cable Loss).
3. Margin = Emission Level - Limi

Test Mode	Mode 3: EUT 2 + Adapter	Phase	Neutral
Test Condition	802.11ax (40 MHz) / Ant. 1 + Ant. 2 / 2437 MHz		

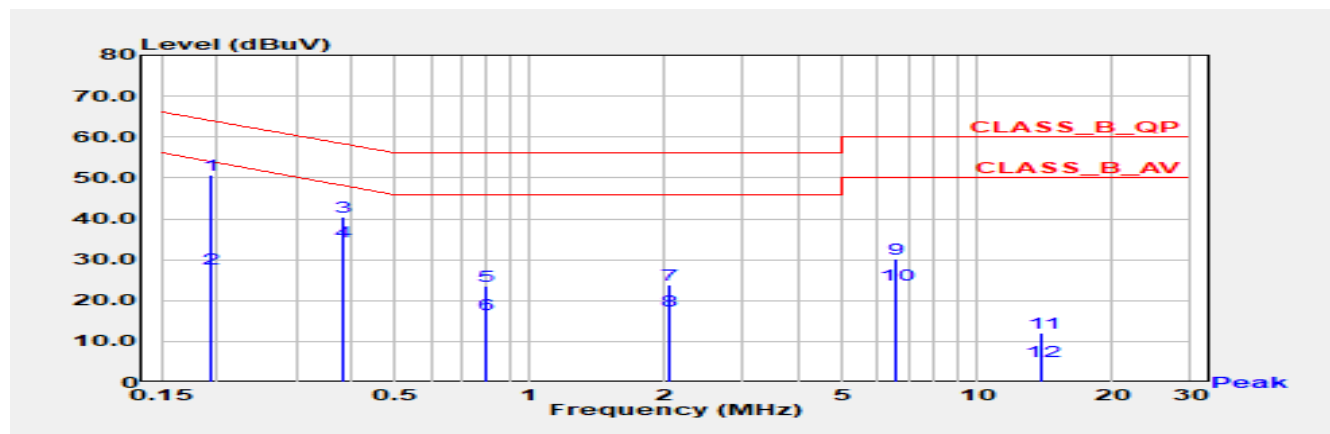


No	Frequency (MHz)	Emission Level (dBuV)	Limit (dBuV)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	0.172	48.36	64.84	-16.48	38.54	9.82	QP
2	0.172	27.62	54.84	-27.22	17.79	9.82	AV
3	0.325	43.21	59.57	-16.36	33.34	9.87	QP
*4	0.325	41.44	49.57	-8.12	31.58	9.87	AV
5	1.284	11.48	56.00	-44.52	1.55	9.93	QP
6	1.284	3.53	46.00	-42.47	-6.40	9.93	AV
7	4.288	10.59	56.00	-45.41	0.54	10.05	QP
8	4.288	2.62	46.00	-43.38	-7.44	10.05	AV
9	6.922	18.64	60.00	-41.36	8.51	10.13	QP
10	6.922	11.07	50.00	-38.93	0.94	10.13	AV
11	20.323	19.77	60.00	-40.23	9.46	10.31	QP
12	20.323	13.75	50.00	-36.25	3.44	10.31	AV

Remark:

1. "*" means this data is the worst emission level.
2. Emission Level = Reading Level + Correct Factor (Correct Factor = LISN Insertion Loss + Cable Loss).
3. Margin = Emission Level - Limit.

Test Mode	Mode 4: EUT 2 + PoE	Phase	Line
Test Condition	802.11ax (40 MHz) / Ant. 1 + Ant. 2 / 2437 MHz		

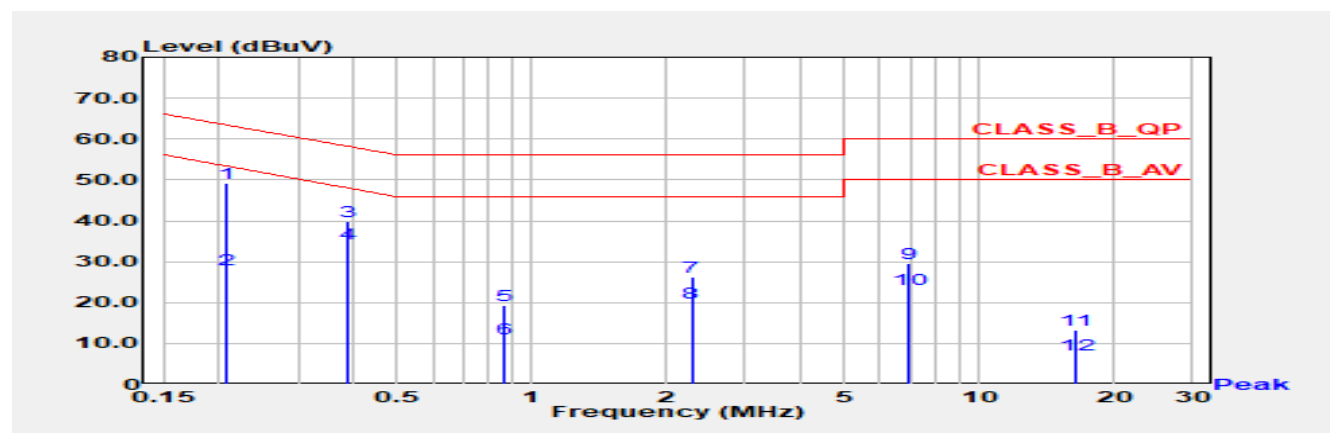


No	Frequency (MHz)	Emission Level (dBuV)	Limit (dBuV)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
*1	0.193	50.75	63.92	-13.17	40.88	9.87	QP
2	0.193	27.92	53.92	-26.00	18.05	9.87	AV
3	0.384	40.47	58.19	-17.72	30.59	9.88	QP
4	0.384	34.38	48.19	-13.82	24.49	9.88	AV
5	0.798	23.41	56.00	-32.59	13.50	9.91	QP
6	0.798	16.53	46.00	-29.47	6.62	9.91	AV
7	2.047	23.79	56.00	-32.21	13.81	9.98	QP
8	2.047	17.57	46.00	-28.43	7.58	9.98	AV
9	6.616	30.13	60.00	-29.87	19.97	10.16	QP
10	6.616	23.74	50.00	-26.26	13.58	10.16	AV
11	13.996	11.97	60.00	-48.03	1.64	10.33	QP
12	13.996	5.24	50.00	-44.76	-5.09	10.33	AV

Remark:

1. "*" means this data is the worst emission level.
2. Emission Level = Reading Level + Correct Factor (Correct Factor = LISN Insertion Loss + Cable Loss).
3. Margin = Emission Level - Limit.

Test Mode	Mode 4: EUT 2 + PoE	Phase	Neutral
Test Condition	802.11ax (40 MHz) / Ant. 1 + Ant. 2 / 2437 MHz		



No	Frequency (MHz)	Emission Level (dBuV)	Limit (dBuV)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	0.206	49.17	63.36	-14.19	39.31	9.85	QP
2	0.206	27.95	53.36	-25.40	18.10	9.85	AV
3	0.388	39.91	58.10	-18.19	30.04	9.87	QP
*4	0.388	34.37	48.10	-13.73	24.50	9.87	AV
5	0.865	19.27	56.00	-36.73	9.36	9.91	QP
6	0.865	11.07	46.00	-34.93	1.16	9.91	AV
7	2.274	26.25	56.00	-29.75	16.27	9.98	QP
8	2.274	19.87	46.00	-26.13	9.89	9.98	AV
9	6.925	29.59	60.00	-30.41	19.46	10.13	QP
10	6.925	23.36	50.00	-26.64	13.23	10.13	AV
11	16.401	13.20	60.00	-46.80	2.93	10.27	QP
12	16.401	7.33	50.00	-42.67	-2.94	10.27	AV

Remark:

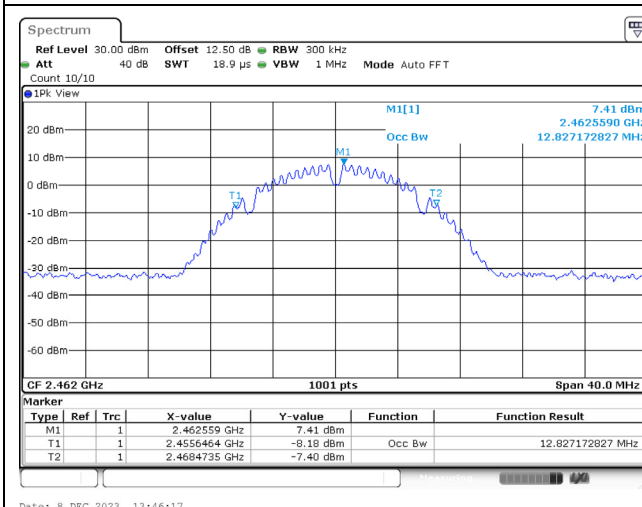
1. "*" means this data is the worst emission level.
2. Emission Level = Reading Level + Correct Factor (Correct Factor = LISN Insertion Loss + Cable Loss).
3. Margin = Emission Level - Limit.

Appendix B.1 Test Result of Occupied Bandwidth

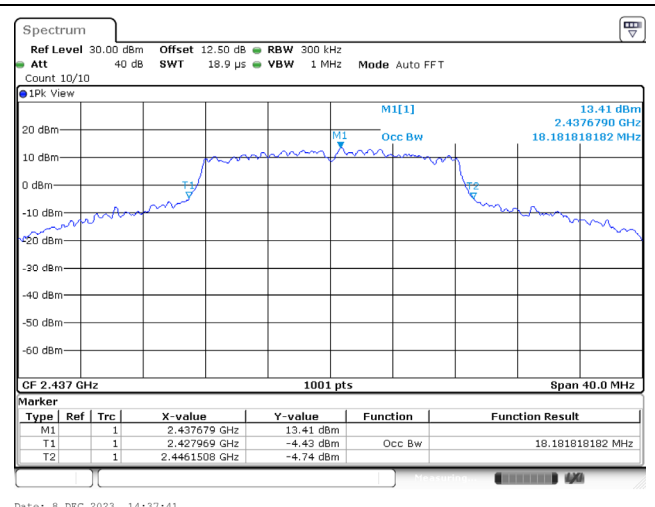
Modulation	Frequency (MHz)	Occupied Bandwidth (MHz)		Limit (MHz)
		Ant. 1	Ant. 2	
802.11b	2412	12.867	12.867	-
	2437	12.827	12.867	-
	2462	12.907	12.827	-
802.11g	2412	17.022	17.182	-
	2437	18.101	18.181	-
	2462	16.903	16.983	-
802.11ax (20 MHz)	2412	18.901	18.981	-
	2437	19.140	19.140	-
	2462	19.140	19.100	-
802.11ax (40 MHz)	2422	38.041	37.882	-
	2437	38.041	38.121	-
	2452	38.201	38.281	-

Spectrum plot of maximum value

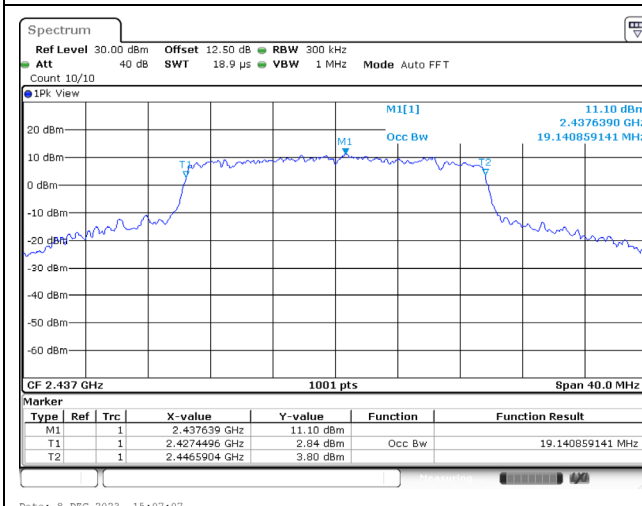
802.11b / Ant. 1 / 2462 MHz



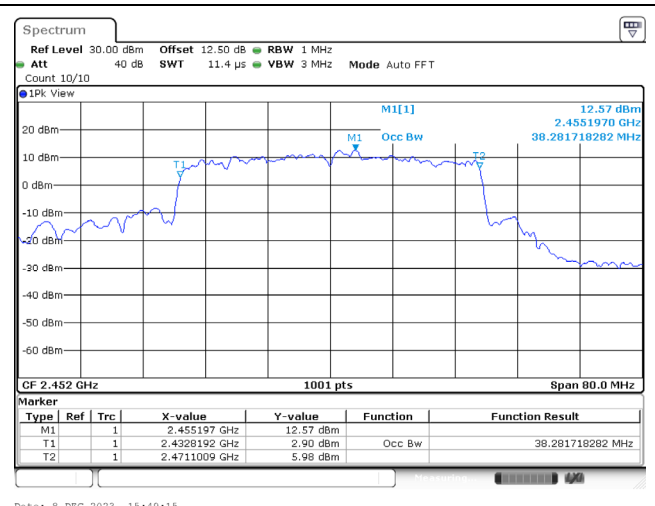
802.11g / Ant. 2 / 2437 MHz



802.11ax (20 MHz) / Ant.1 / 2437 MHz



802.11ax (40 MHz) / Ant. 2 / 2452 MHz

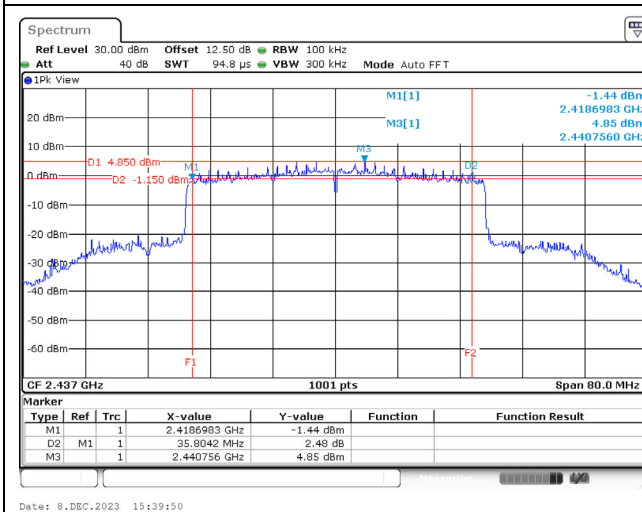


Appendix B.2 Test Result of DTS Bandwidth

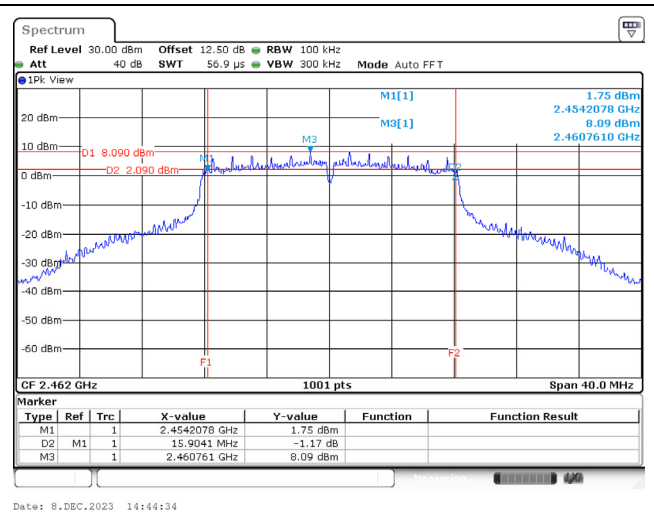
Modulation	Frequency (MHz)	DTS Bandwidth (MHz)		Limit (MHz)	Result
		Ant. 1	Ant. 2		
802.11b	2412	8.071	8.032	0.50	Pass
	2437	8.032	8.071	0.50	Pass
	2462	8.071	8.071	0.50	Pass
802.11g	2412	16.024	16.303	0.50	Pass
	2437	16.024	16.303	0.50	Pass
	2462	15.904	16.303	0.50	Pass
802.11ax (20 MHz)	2412	18.581	18.741	0.50	Pass
	2437	18.301	18.061	0.50	Pass
	2462	18.381	18.581	0.50	Pass
802.11ax (40 MHz)	2422	37.402	35.084	0.50	Pass
	2437	35.804	35.084	0.50	Pass
	2452	35.084	36.044	0.50	Pass

Spectrum plot of worst value

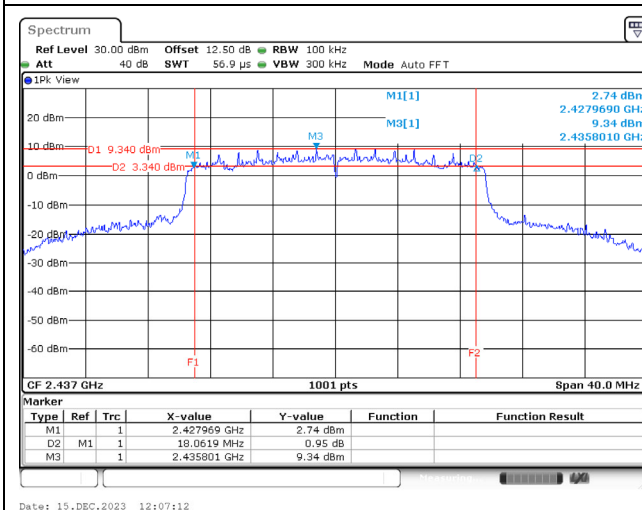
802.11b / Ant. 1 / 2437 MHz



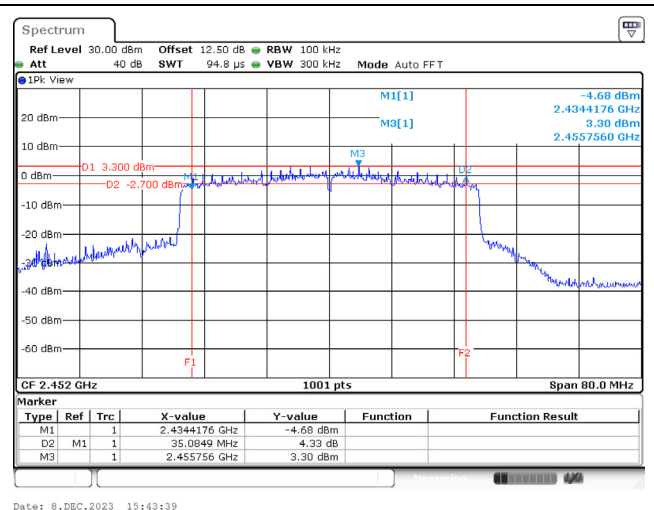
802.11g / Ant. 1 / 2462 MHz



802.11ax (20 MHz) / Ant. 2 / 2437 MHz



802.11ax (40 MHz) / Ant. 1 / 2452 MHz



Appendix C. Test Result of Maximum Conducted Output Power

<Non-beamforming function>

Modulation	Frequency (MHz)	Maximum Conducted Average Output Power (dBm)				Antenna Gain (dBi)	E.I.R.P Power (dBm)	E.I.R.P Limit (dBm)
		Ant. 1	Ant. 2	Total	Limit			
802.11b	2412	15.66	15.77	18.73	30.00	4.90	23.63	36.00
	2437	16.19	16.41	19.31	30.00	4.90	24.21	36.00
	2462	15.03	15.33	18.19	30.00	4.90	23.09	36.00
802.11g	2412	18.26	18.31	21.30	30.00	4.90	26.20	36.00
	2437	21.01	21.04	24.04	30.00	4.90	28.94	36.00
	2462	18.63	18.71	21.68	30.00	4.90	26.58	36.00
802.11ax (20 MHz)	2412	17.31	17.43	20.38	30.00	4.90	25.28	36.00
	2437	20.26	20.36	23.32	30.00	4.90	28.22	36.00
	2462	18.05	18.42	21.25	30.00	4.90	26.15	36.00
802.11ax (40 MHz)	2422	15.78	15.91	18.86	30.00	4.90	23.76	36.00
	2437	18.23	18.33	21.29	30.00	4.90	26.19	36.00
	2452	16.66	16.85	19.77	30.00	4.90	24.67	36.00

Note: E.I.R.P. = Maximum Conducted Output Power + Antenna Gain.

<Beamforming function>

Modulation	Frequency (MHz)	Maximum Conducted Average Output Power (dBm)				Directional Gain (dBi)	E.I.R.P Power (dBm)	E.I.R.P Limit (dBm)
		Ant. 1	Ant. 2	Total	Limit			
802.11ax (20 MHz)	2412	14.23	14.39	17.32	28.13	7.87	25.19	36.00
	2437	17.18	17.27	20.24	28.13	7.87	28.11	36.00
	2462	15.01	15.34	18.19	28.13	7.87	26.06	36.00
802.11ax (40 MHz)	2422	12.68	12.77	15.74	28.13	7.87	23.61	36.00
	2437	15.14	15.37	18.27	28.13	7.87	26.14	36.00
	2452	13.66	13.69	16.69	28.13	7.87	24.56	36.00

Note:

1. E.I.R.P. = Maximum Conducted Output Power + Directional Gain.
2. Directional Gain = $10 \log [(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{Ant}] = 7.87 \text{ dBi} > 6 \text{ dBi}$, so power limit = $30 - (7.87 - 6) = 28.13 \text{ dBm}$.

Appendix D. Test Result of Maximum Power Spectral Density

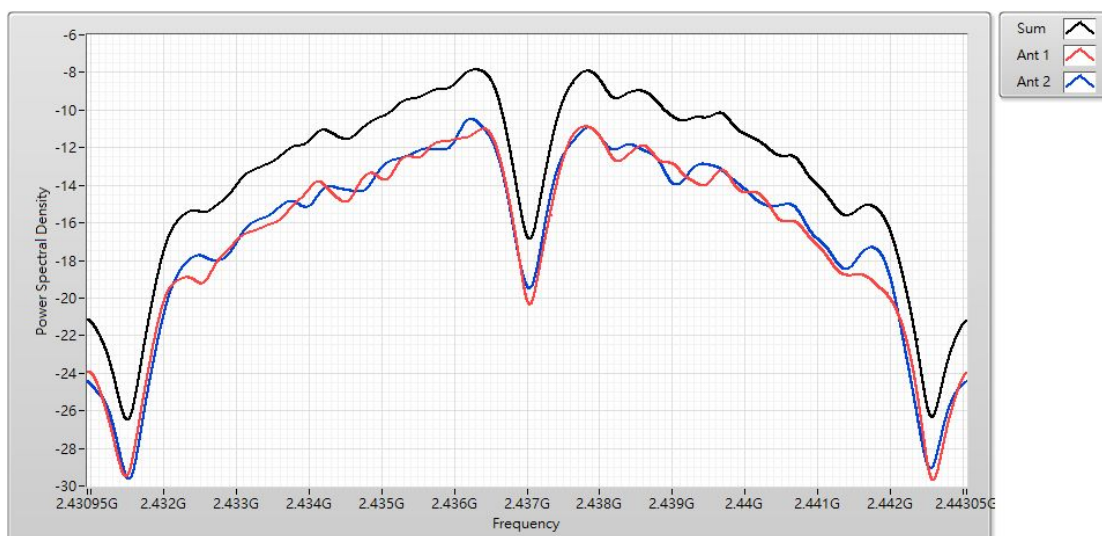
Modulation	Frequency (MHz)	Power Spectral Density (dBm/3kHz)		Limit (dBm/3kHz)	Result
		Ant. 1 + Ant. 2	Total		
802.11b	2412	-8.860	-8.814	6.13	Pass
	2437	-7.860	-7.814	6.13	Pass
	2462	-8.880	-8.834	6.13	Pass
802.11g	2412	-10.150	-9.870	6.13	Pass
	2437	-6.790	-6.510	6.13	Pass
	2462	-8.910	-8.630	6.13	Pass
802.11ax (20 MHz)	2412	-10.660	-10.372	6.13	Pass
	2437	-7.680	-7.392	6.13	Pass
	2462	-9.630	-9.342	6.13	Pass
802.11ax (40 MHz)	2422	-15.940	-15.446	6.13	Pass
	2437	-13.550	-13.056	6.13	Pass
	2452	-14.490	-13.996	6.13	Pass

Note:

1. Total power spectral density = power spectral density + duty factor, and the duty factor refer to section 2.3.
2. Directional Gain = $10\log [(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{Ant}] = 7.87\text{dBi} > 6\text{dBi}$, so the limit = $8 - (7.87 - 6) = 6.13\text{dBm/3kHz}$.

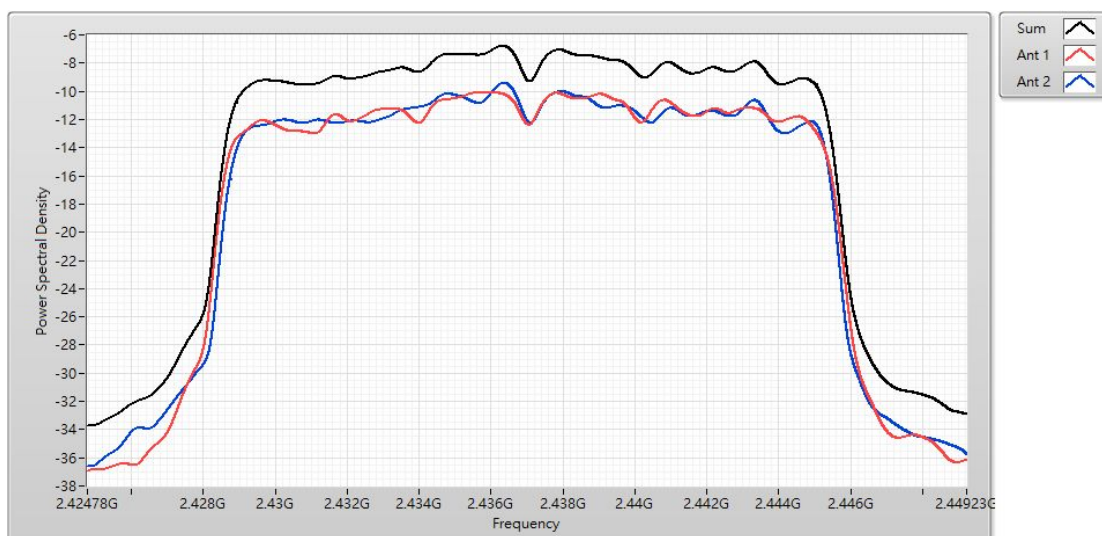
Spectrum plot of worst value

802.11b / Ant. 1 + Ant. 2 / 2437 MHz



Sum (dBm/RBW)	Ant 1 (dBm/RBW)	Ant 2 (dBm/RBW)
-7.86	-10.89	-10.47

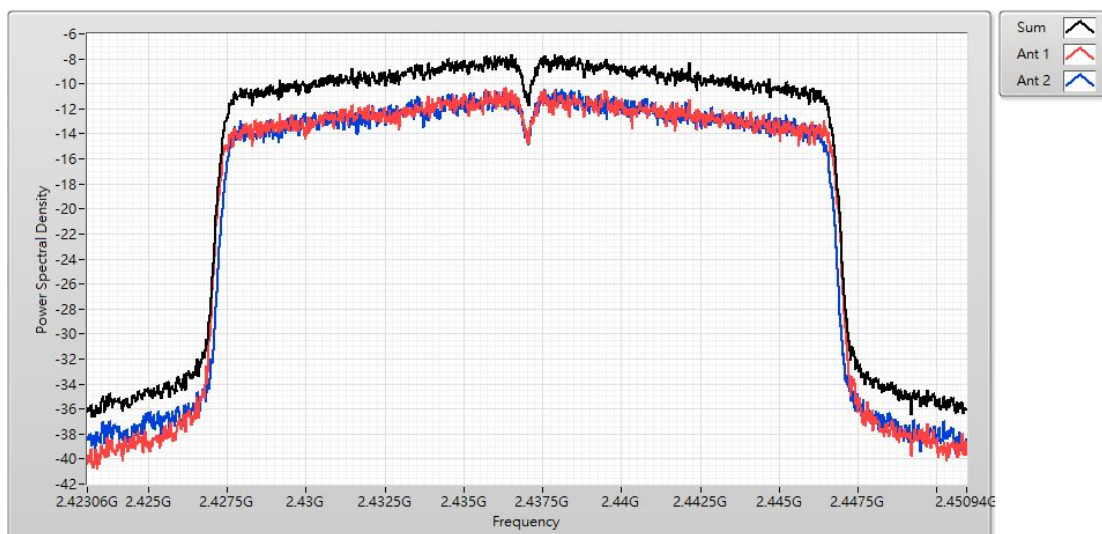
802.11g / Ant. 1 + Ant. 2 / 2437 MHz



Sum (dBm/RBW)	Ant 1 (dBm/RBW)	Ant 2 (dBm/RBW)
-6.79	-10.09	-9.42

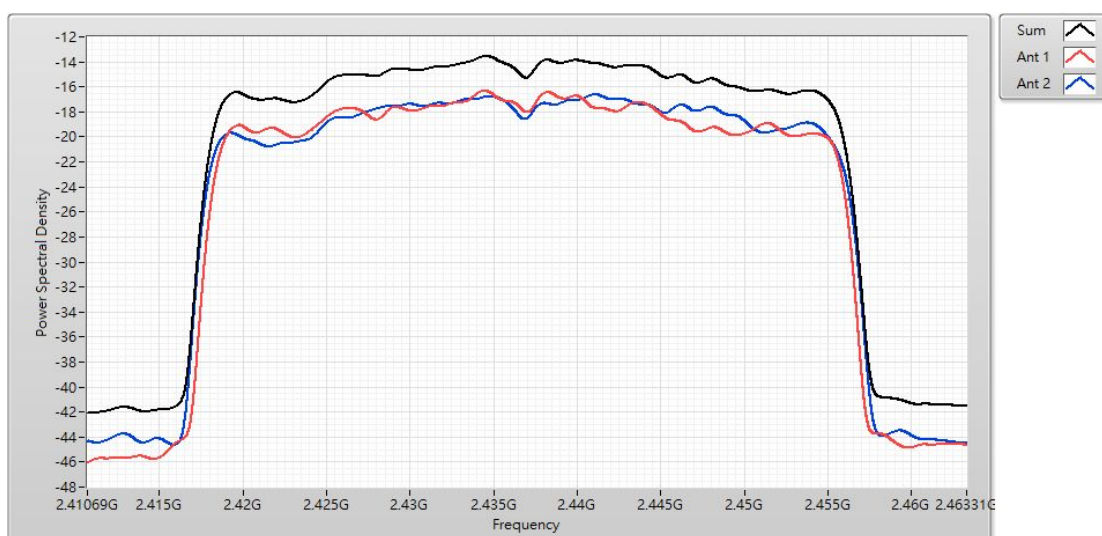
Spectrum plot of worst value

802.11ax (20 MHz) / Ant. 1 + Ant. 2 / 2437 MHz



Sum (dBm/100kHz)	Ant 1 (dBm/100kHz)	Ant 2 (dBm/100kHz)
-7.68	-10.33	-10.43

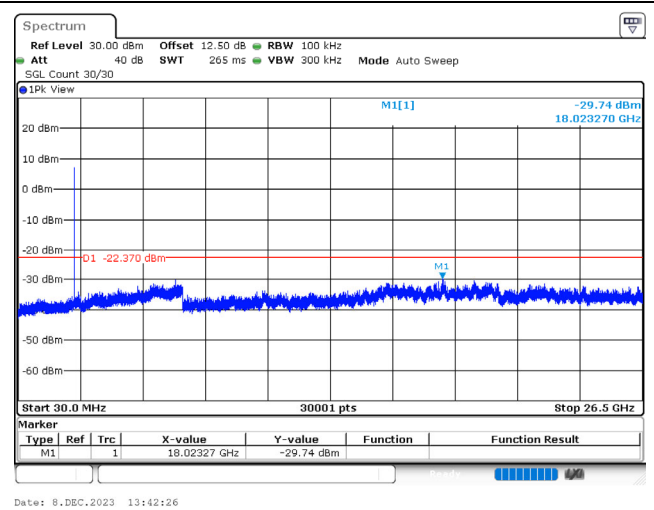
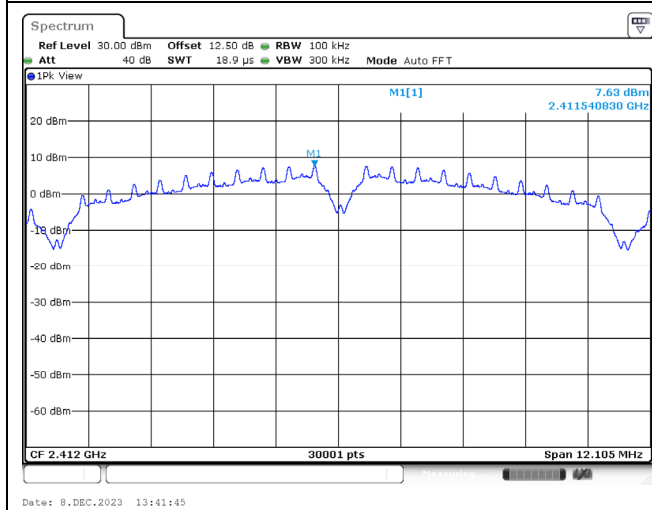
802.11ax (40 MHz) / Ant. 1 + Ant. 2 / 2437 MHz



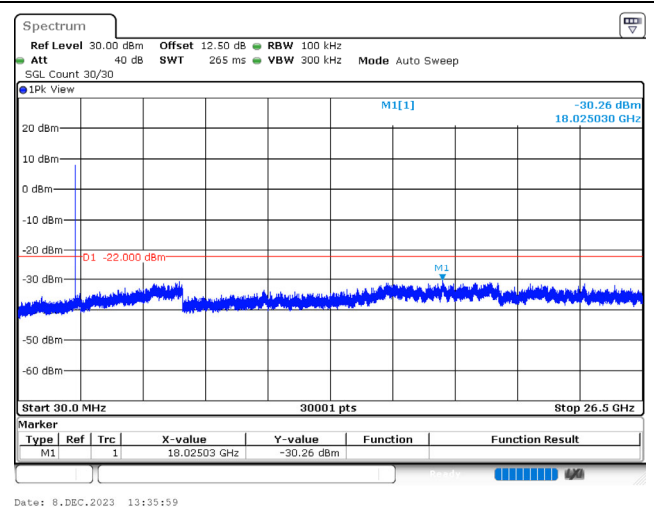
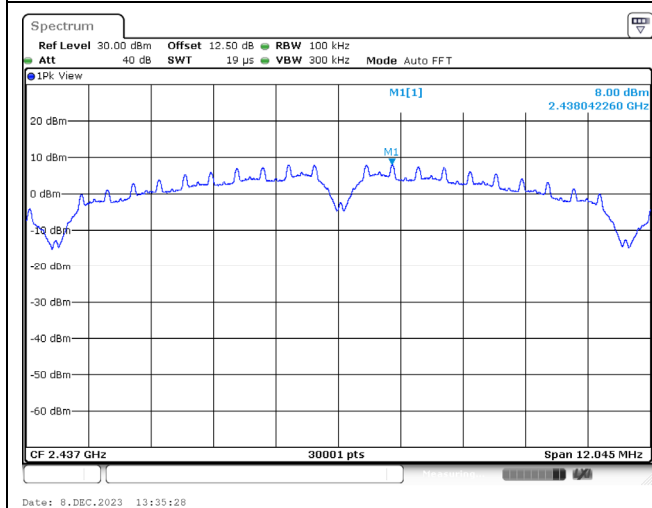
Sum (dBm/100kHz)	Ant 1 (dBm/100kHz)	Ant 2 (dBm/100kHz)
-13.55	-16.32	-16.62

Appendix E. Test Result of Antenna Port Conducted Emission

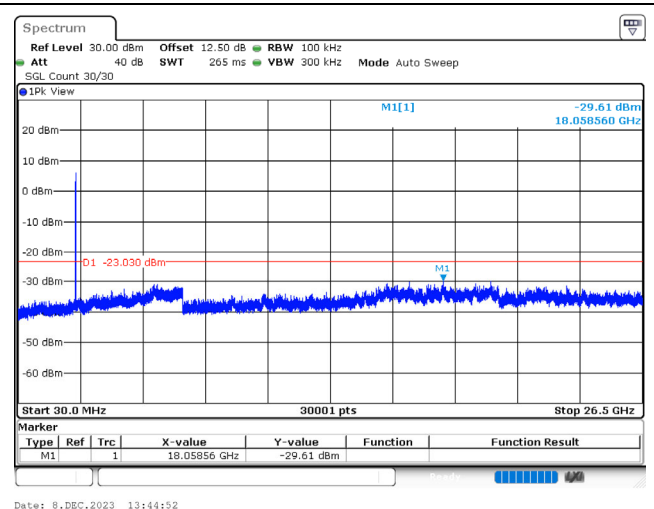
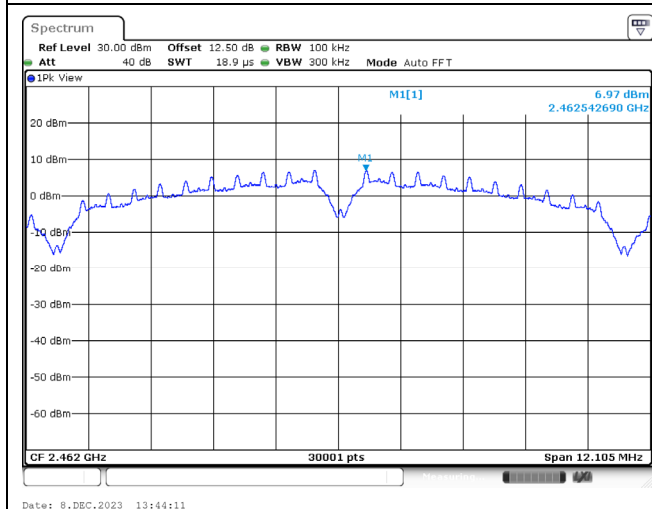
802.11b / Ant. 1 / 2412 MHz



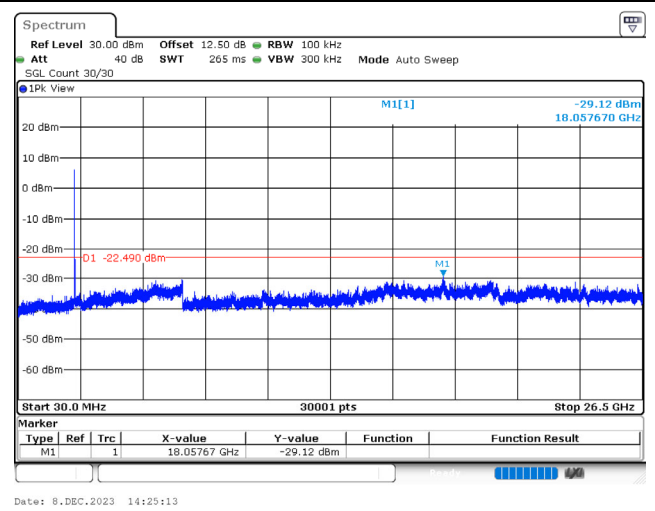
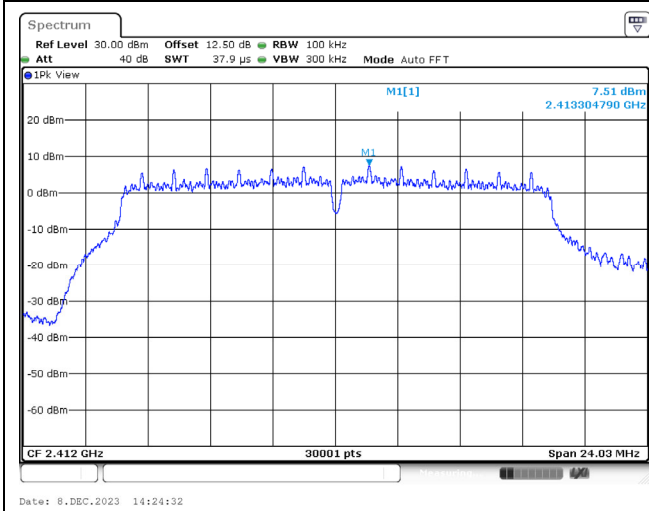
802.11b / Ant. 1 / 2437 MHz



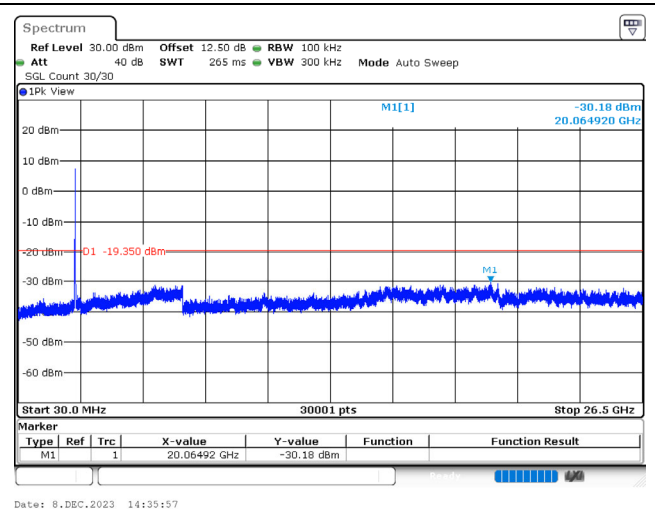
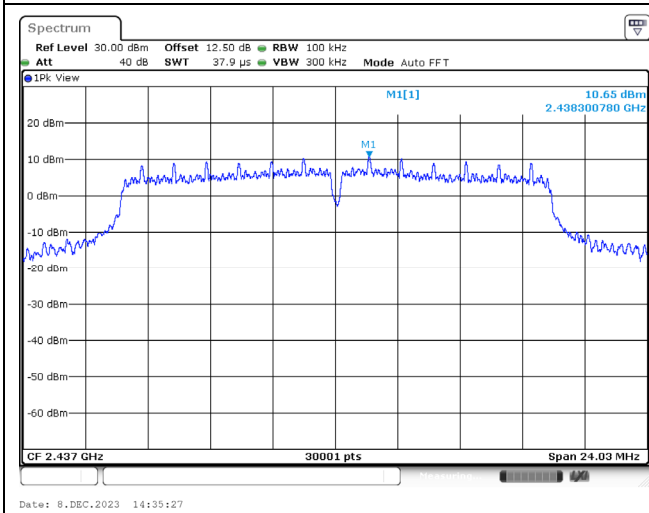
802.11b / Ant. 1 / 2462 MHz



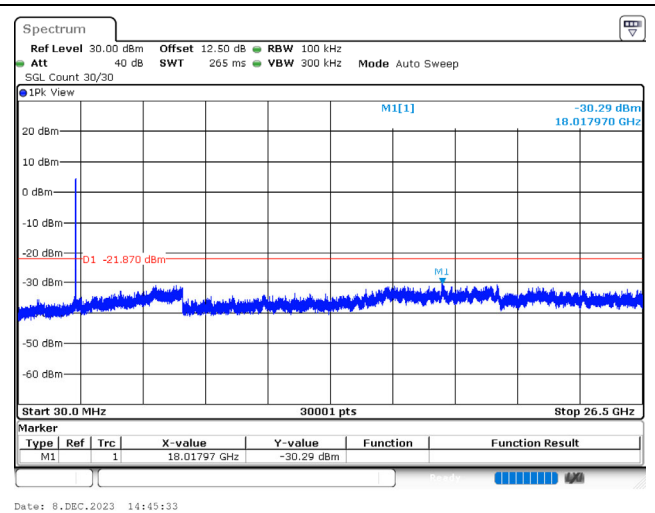
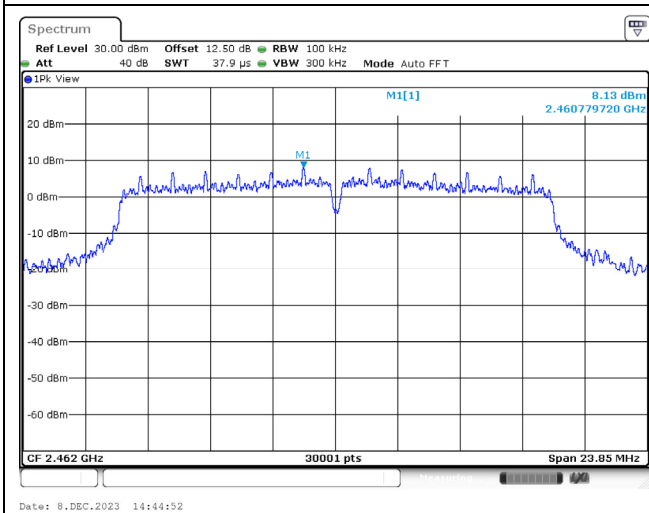
802.11g / Ant. 1 / 2412 MHz



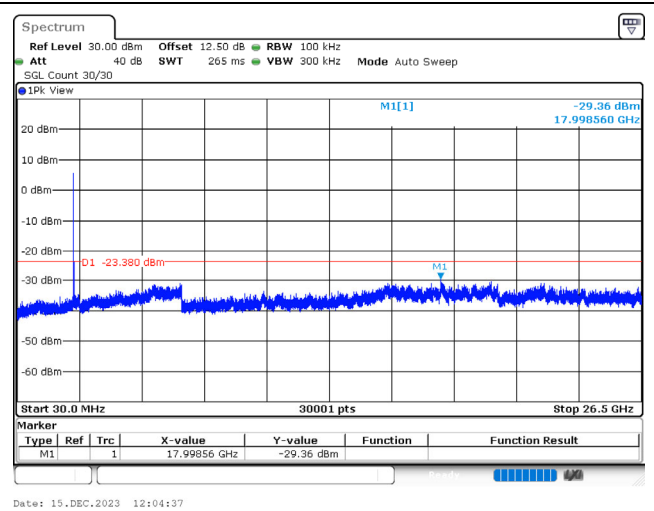
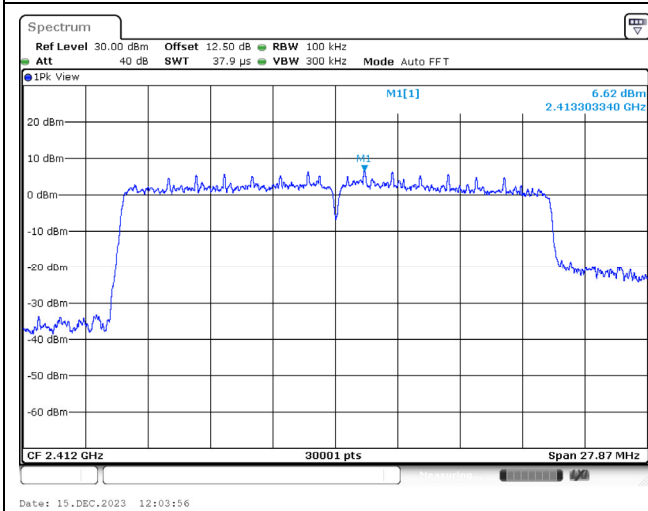
802.11g / Ant. 1 / 2437 MHz



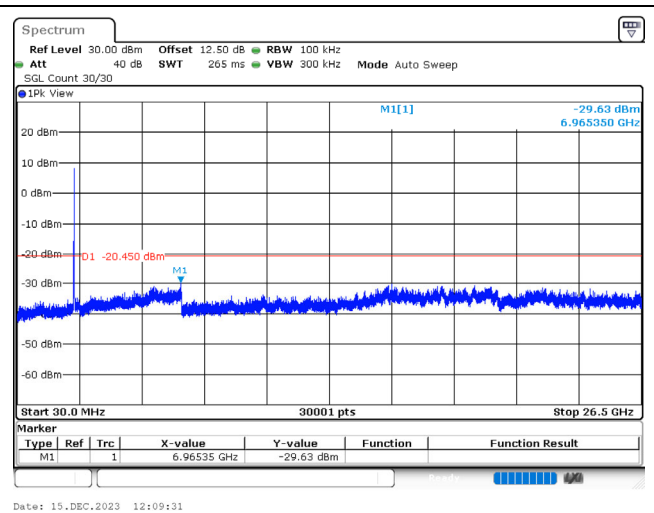
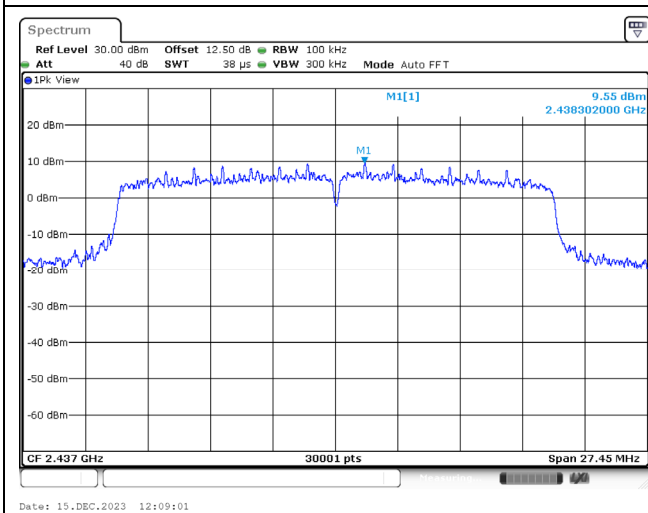
802.11g / Ant. 1 / 2462 MHz



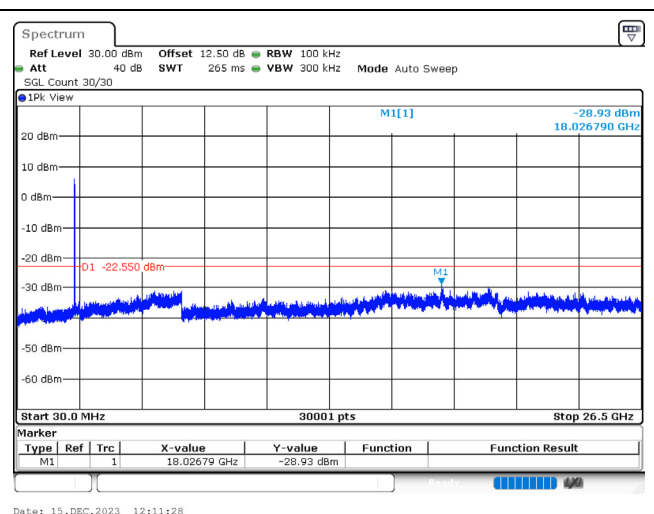
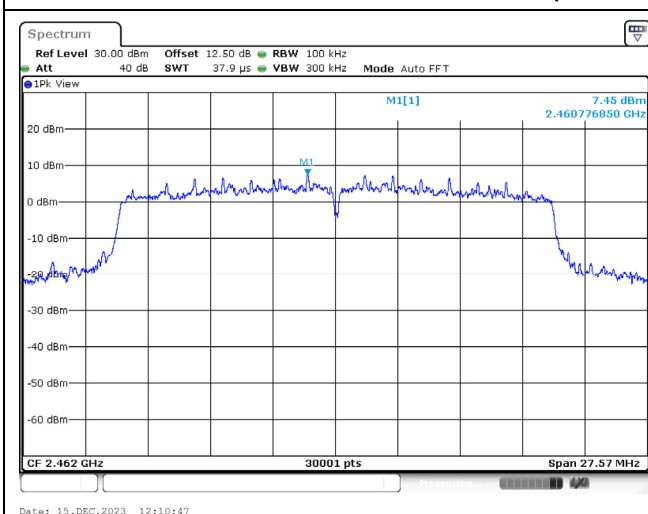
802.11ax (20 MHz) / Ant. 1 / 2412 MHz



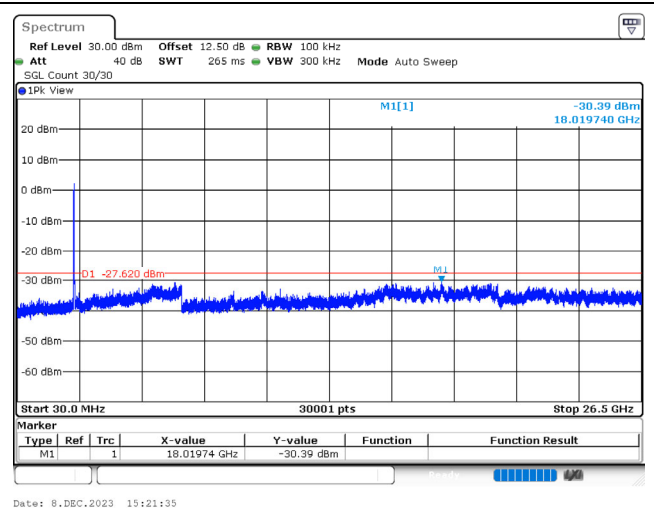
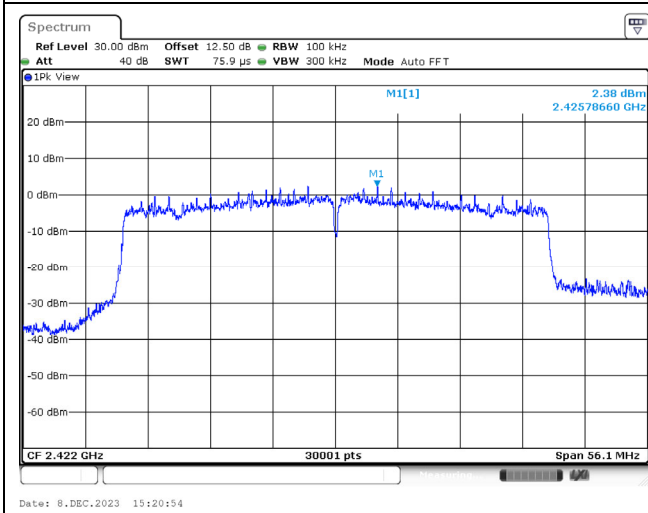
802.11ax (20 MHz) / Ant. 1 / 2437 MHz



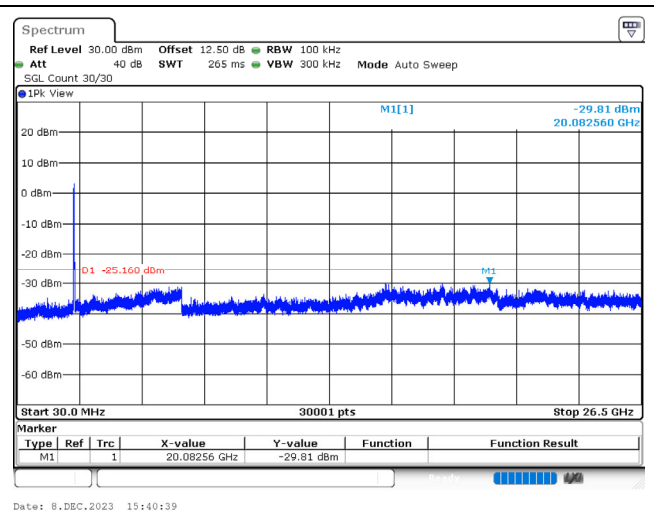
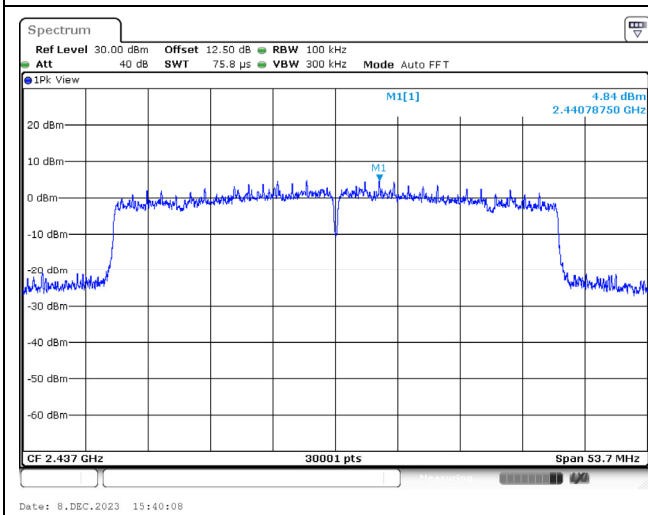
802.11ax (20 MHz) / Ant. 1 / 2462 MHz



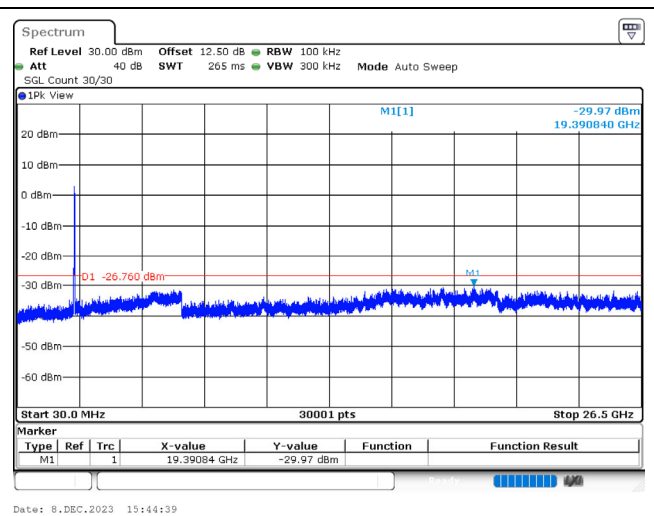
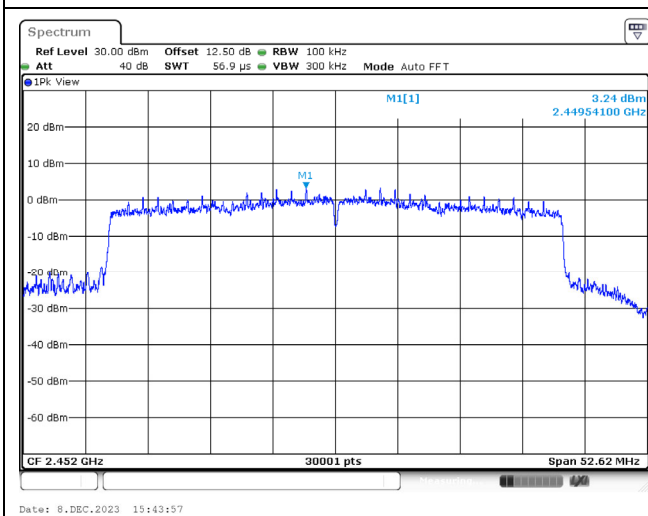
802.11ax (40 MHz) / Ant. 1 / 2422 MHz



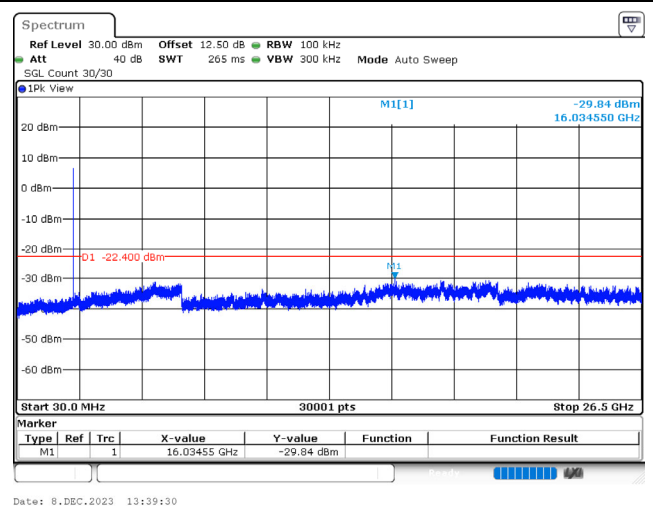
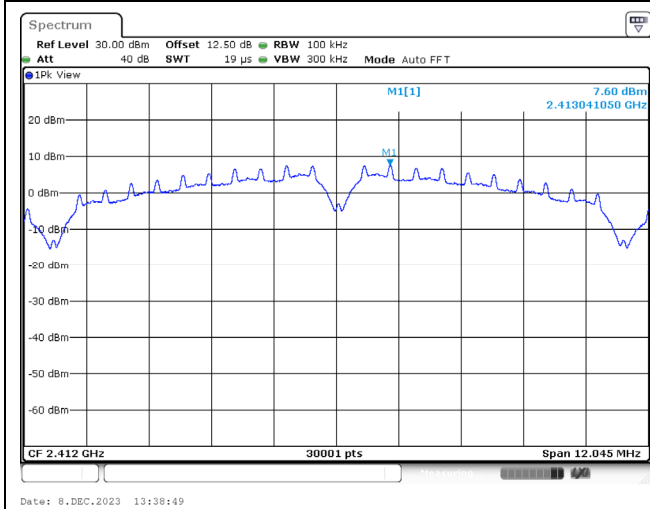
802.11ax (40 MHz) / Ant. 1 / 2437 MHz



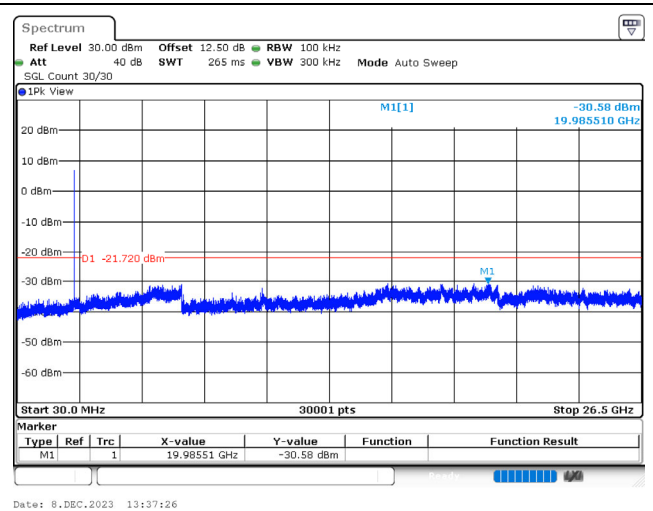
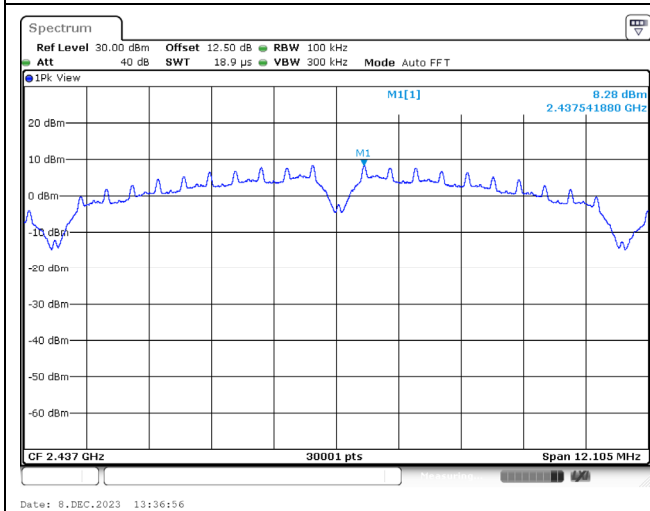
802.11ax (40 MHz) / Ant. 1 / 2452 MHz



802.11b / Ant. 2 / 2412 MHz



802.11b / Ant. 2 / 2437 MHz



802.11b / Ant. 2 / 2462 MHz

