FCC Radio Test Report

FCC ID: 2BDWL2417248

Report No.	:	eLab-FCCP-2-2303E004
Equipment	:	TELUS Doorbell Camera
Brand Name	:	TELUS
Test Model	:	DCF
Series Model	:	N/A
Applicant	:	TELUS Communications Inc.
Address	:	7th Floor,510 West Georgia Street,Vancouver, BC,V6B0M3 Canada
Radio Function	:	WLAN 2.4 GHz
FCC Rule Part(s)	:	FCC CFR Title 47, Part 15, Subpart C (15.247)
Measurement Procedure(s)	:	ANSI C63.10-2013
Date of Receipt	:	2023/12/21
Date of Test	:	2023/12/25 ~ 2024/1/8
Issued Date	:	2024/1/24

The above equipment has been tested and found in compliance with the requirement of the above standards by eLab Inc.

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Approved by : Sam Chuang

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Declaration

eLab represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with standards traceable to international standard(s) and/or national standard(s).

eLab's reports apply only to the specific samples tested under conditions. It is manufacture's responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. **eLab** shall have no liability for any declarations, inferences or generalizations drawn by the client or others from **eLab** issued reports.

This report is the confidential property of the client. As a mutual protection to the clients, the public and ourselves, the test report shall not be reproduced, except in full, without our written approval.

eLab's laboratory quality assurance procedures are in compliance with the **ISO/IEC 17025** requirements, and accredited by the conformity assessment authorities listed in this test report.

eLab is not responsible for the sampling stage, so the results only apply to the sample as received.

The information, data and test plan are provided by manufacturer which may affect the validity of results, so it is manufacturer's responsibility to ensure that the apparatus meets the essential requirements of applied standards and in all the possible configurations as representative of its intended use.

Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.

Please note that the measurement uncertainty is provided for informational purpose only and are not use in determining the Pass/Fail results.

CONTENTS

REVISION HISTORY

Report No.	Version	Description	Issued Date	Note
eLab-FCCP-2-2303E004	R00	Original Report.	2024/1/24	Valid

1 SUMMARY OF TEST RESULTS

Test procedures according to the technical standards.

FCC CFR Title 47, Part 15, Subpart C				
Standard(s) Section	**Test Item**	**Test Result**	**Judgment**	**Remark**
15.207	AC Power Line Conducted Emissions	APPENDIX A	PASS	------
15.247(d) 15.205(a) 15.209(a)	Radiated Emissions	APPENDIX B APPENDIX C	PASS	------
15.247(a)(2)	Bandwidth	APPENDIX D	PASS	------
15.247(b)(3)	Maximum Output Power	APPENDIX E	PASS	------
15.247(d)	Power Spectral Density	APPENDIX F	PASS	------
15.247(e)	Antenna conducted Spurious Emission	APPENDIX G	PASS	------
15.203	Antenna Requirement	------	PASS	**Note(2)**

NOTE:
(1) "N/A" denotes test is not applicable in this Test Report.
(2) The device what use a permanently attached antenna were considered sufficient to comply with the provisions of 15.203.
(3) The report format version is FR15CWL2.4_V1.0

1.1 TEST FACILITY

The test facilities used to collect the test data in this report:

No.64, Ln. 169, Sec. 2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan
The test sites and facilities are covered under FCC RN: 681248 and DN: TW4045.
☒ C01 ☒ CB01 ☒ TR01

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement **y ± U**, where expanded uncertainty **U** is based on a standard uncertainty multiplied by a coverage factor of **k = 2**, providing a level of confidence of approximately **95 %**. The measurement instrumentation uncertainty considerations contained in CISPR 16-4-2. The eLab measurement uncertainty is less than the CISPR 16-4-2 U_{cispr} requirement.

A. AC power line conducted emissions test:

Test Site	Method	Measurement Frequency Range	U (dB)
C01	CISPR	150 kHz ~ 30MHz	3.44

B. Radiated emissions test:

Test Site	Measurement Frequency Range	U,(dB)
CB01	0.03 GHz ~ 0.2 GHz	4.01
	0.2 GHz ~ 1 GHz	4.64
	1 GHz ~ 6 GHz	5.91
	6 GHz ~ 18 GHz	6.24
	18 GHz ~ 26 GHz	3.93
	26 GHz ~ 40 GHz	4.06

C. Conducted test:

Test Item	U,(dB)
Occupied Bandwidth	1.0502
Maximum Output Power	1.0406
Power Spectral Density	1.0502
Conducted Spurious emissions	1.1484
Conducted Band edges	1.0518

NOTE:
Unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.

1.3 TEST ENVIRONMENT CONDITIONS

Test Item	Environment Condition	Test Voltage	Tested by
AC Power Line Conducted Emissions	25°C, 45%	AC 120V	Hunter Chiang
Radiated emissions below 1 GHz	25°C, 60%	AC 120V	Hunter Chiang
Radiated emissions above 1 GHz	25°C, 60%	AC 120V	Hunter Chiang
Bandwidth	25°C, 64%	AC 120V	Hunter Chiang
Maximum Output Power	25°C, 64%	AC 120V	Hunter Chiang
Power Spectral Density	25°C, 64%	AC 120V	Hunter Chiang
Antenna conducted Spurious Emission	25°C, 64%	AC 120V	Hunter Chiang

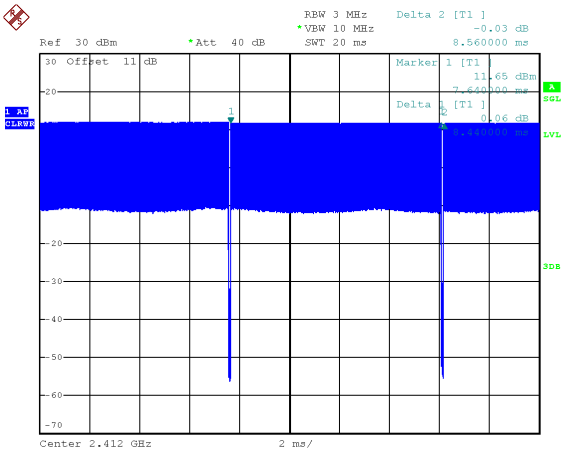
1.4 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING

Test Software	NB-03A1-01			
Mode	2412 MHz	2437 MHz	2462 MHz	Data Rate
IEEE 802.11b	DEF	DEF	DEF	1 Mbps
IEEE 802.11g	14	14	14	6 Mbps
IEEE 802.11n(HT20)	12	12	12	MCS 0
IEEE 802.11ax(HE20)	11	11	11	MCS 0

1.5 DUTY CYCLE

If duty cycle is ≥ 98 %, duty factor is not required.
If duty cycle is < 98 %, duty factor shall be considered.
The output power = measured power + duty factor.

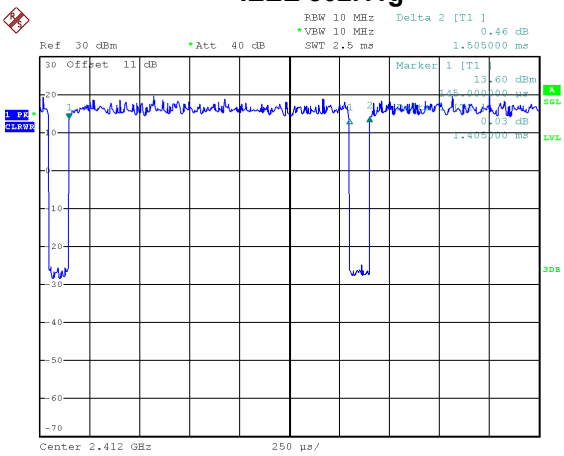
IEEE 802.11b



Date: 29.DEC.2023 10:53:41

Duty cycle = 8.44 ms / 8.56 ms = 98.60%
Duty Factor = 10 log(1/Duty cycle) = 0.00

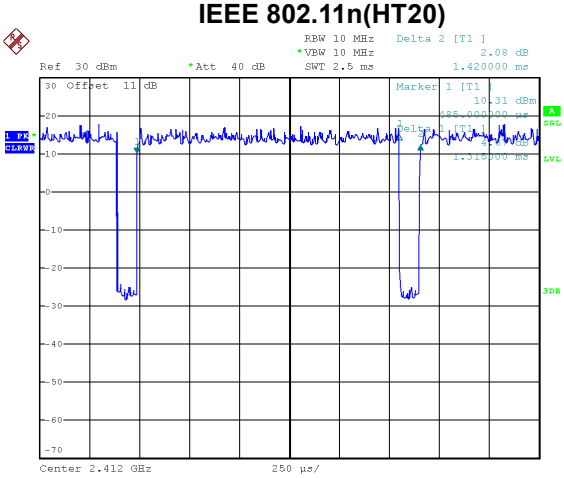
IEEE 802.11g



Date: 2.JAN.2024 17:17:31

Duty cycle = 1.41 ms / 1.51 ms = 93.36%
Duty Factor = 10 log(1/Duty cycle) = 0.30

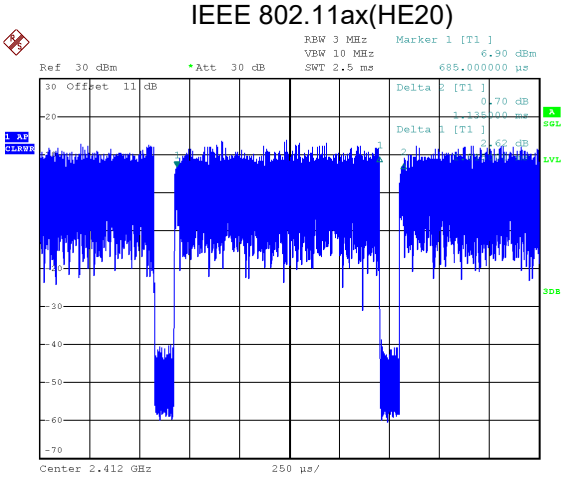
IEEE 802.11n(HT20)



Date: 2.JAN.2024 17:19:14

Duty cycle = 1.32 ms / 1.42 ms = 92.61%
Duty Factor = 10 log(1/Duty cycle) = 0.33

IEEE 802.11ax(HE20)



Date: 2.JAN.2024 17:13:53

Duty cycle = 1.02 ms / 1.14 ms = 89.43%
Duty Factor = 10 log(1/Duty cycle) = 0.49

2 GENERAL INFORMATION

2.1 DESCRIPTION OF EUT

Equipment	TELUS Doorbell Camera
Brand Name	TELUS
Test Model	DCF
Series Model	N/A
Model Difference(s)	N/A
Software Version	FW_0.06.011
Hardware Version	A
Power Source	AC Voltage supplied from AC/AC adapter. (support unit)
Power Rating	AC Voltage 10-24Vac, 10VA
Operation Band	2400 MHz ~ 2483.5 MHz
Operation Frequency	2412 MHz ~ 2462 MHz
Modulation Technology	IEEE 802.11b: DSSS IEEE 802.11g: OFDM IEEE 802.11n: OFDM IEEE 802.11ax: OFDMA
Transfer Rate	IEEE 802.11b: 11/5.5/2/1 Mbps IEEE 802.11g: 54/48/36/24/18/12/9/6 Mbps IEEE 802.11n: up to 300 Mbps IEEE 802.11ax: up to 573.6 Mbps
Maximum Output Power	IEEE 802.11b: 20.32 dBm (0.1076 W)

NOTE:
(1) The above EUT information is declared by manufacturer and for more detailed features description, please refers to the manufacturer's specifications or user's manual.

(2) Channel List:

CH01 - CH11 for IEEE 802.11b, IEEE 802.11g, IEEE 802.11n (HT20), IEEE 802.11ax(HE20)					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2412	05	2432	09	2452
02	2417	06	2437	10	2457
03	2422	07	2442	11	2462
04	2427	08	2447		

(3) Table for Filed Antenna:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	FIT	N/A	Dipole	N/A	2.55
2	FIT	N/A	Dipole	N/A	3.67

Note:

1) This EUT supports CDD (Except IEEE 802.11b), and all antenna gains are not equal, so the Directional Gain = maximum antenna gain is 3.67 dBi < 6 dBi, Thus, the limits of Output Power should not be reduced.
   For the power spectral density, the directional gain=3.67 + 3.01dBi = 6.68. So, the power spectral density limit is 8-(6.68-6)=7.32.
2) Ant.1 refers to Main Antenna, Ant.2 refers to Aux Antenna.
3) The above Antenna information are derived from the antenna data sheet provided by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

(4) Table for Antenna Configuration:

Operating Mode / TX Mode	2TX
IEEE 802.11b	V (Ant. 1 + Ant. 2)
IEEE 802.11g	V (Ant. 1 + Ant. 2)
IEEE 802.11n(HT20)	V (Ant. 1 + Ant. 2)
IEEE 802.11ax(HE20)	V (Ant. 1 + Ant. 2)

2.2 TEST MODES

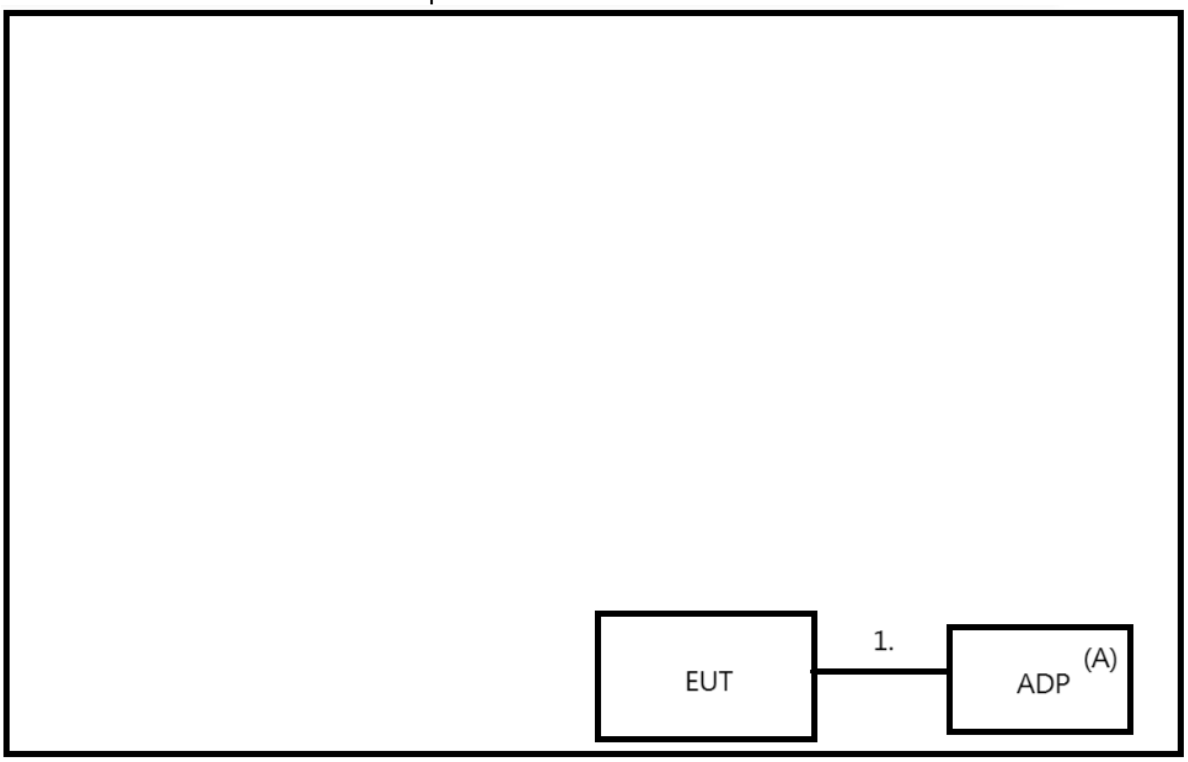
Test Items	Test mode	Channel	Note
AC power line conducted emissions	TX Mode_IEEE 802.11b	11	-
Transmitter Radiated Emissions (below 1GHz)	TX Mode_IEEE 802.11b	11	-
Transmitter Radiated Emissions (above 1GHz)	TX Mode_IEEE 802.11b	01/11	Bandedge
	TX Mode_IEEE 802.11g		
	TX Mode_IEEE 802.11n (HT20)		
	TX Mode_IEEE 802.11ax(HE20)		
Transmitter Radiated Emissions (above 1GHz)	TX Mode_IEEE 802.11b	01/06/11	Harmonic
	TX Mode_IEEE 802.11g		
	TX Mode_IEEE 802.11n (HT20)		
	TX Mode_IEEE 802.11ax(HE20)		
Bandwidth & Output Power & Power Spectral Density & Antenna conducted Spurious Emission	TX Mode_IEEE 802.11b	01/06/11	-
	TX Mode_IEEE 802.11g		
	TX Mode_IEEE 802.11n (HT20)		
	TX Mode_IEEE 802.11ax(HE20)		

NOTE:
(1) For radiated emission band edge test, both Vertical and Horizontal are evaluated, but only the worst case (Vertical) is recorded.

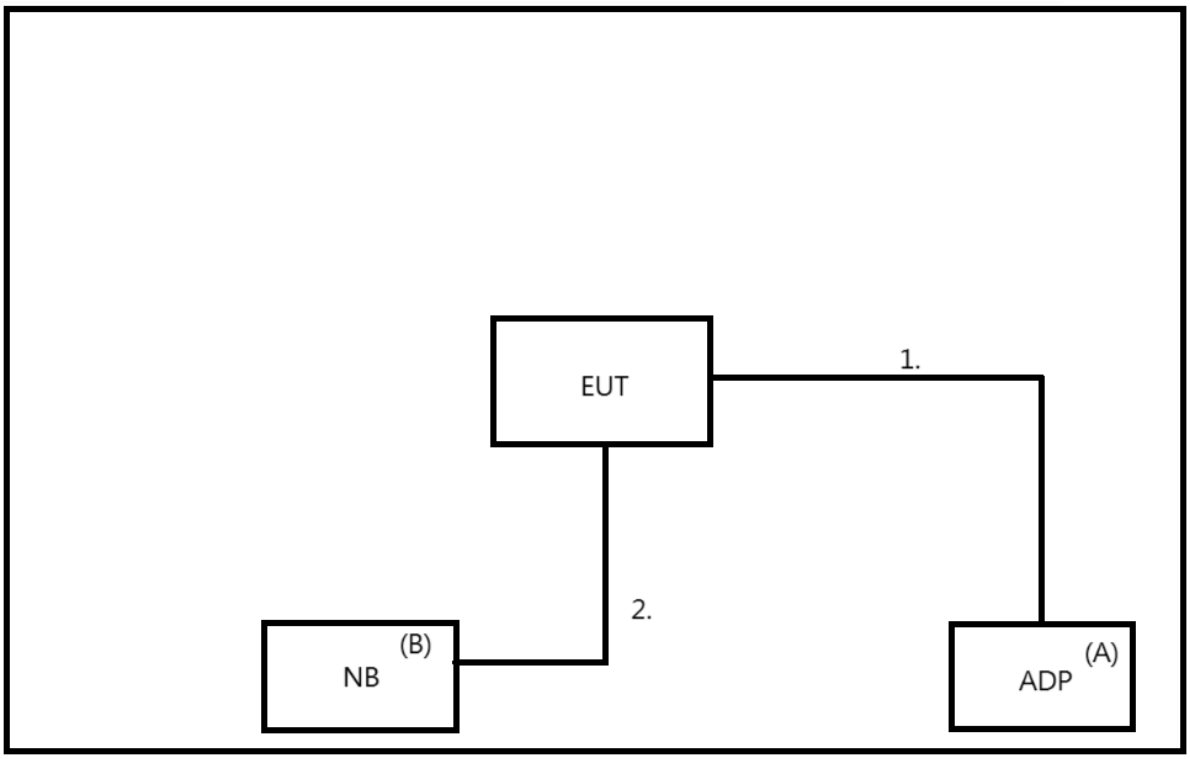
2.3 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Equipment letters and Cable numbers refer to item numbers described in the tables of clause 2.4.

AC power line conducted emissions



Radiated Emissions



2.4 SUPPORT UNITS

Item	Equipment	Brand	Model No.	Remarks
A	AC ADAPTOR	N/A	N/A	Supplied by test requester.
B	NB	lenovo	Lenovo G40-70m	Furnished by test lab.

Item	Cable Type	Ferrite Core	Length	Shielded	Remarks
1	Power Cable	N/A	N/A	1.5m	Supplied by test requester.
2	Type-C Cable	N/A	N/A	1m	Furnished by test lab.

3 AC POWER LINE CONDUCTED EMISSIONS TEST

3.1 LIMIT

Frequency (MHz)	Limit (dBμV)	
	Quasi-peak	Average
0.15 - 0.5	66 - 56 *	56 - 46 *
0.5 - 5.0	56	46
5.0 - 30.0	60	50

NOTE:
(1) The tighter limit applies at the band edges.
(2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.
(3) The test result calculated as following:
Measurement Value = Reading Level + Correct Factor
Correct Factor = Insertion Loss + Cable Loss + Attenuator Factor (if use)
Margin Level = Measurement Value – Limit Value
Calculation example:

Reading Level		Correct Factor		Measurement Value
38.22	+	3.45	=	41.67

Measurement Value		Limit Value		Margin Level
41.67	-	60	=	-18.33

The following table is the setting of the receiver.

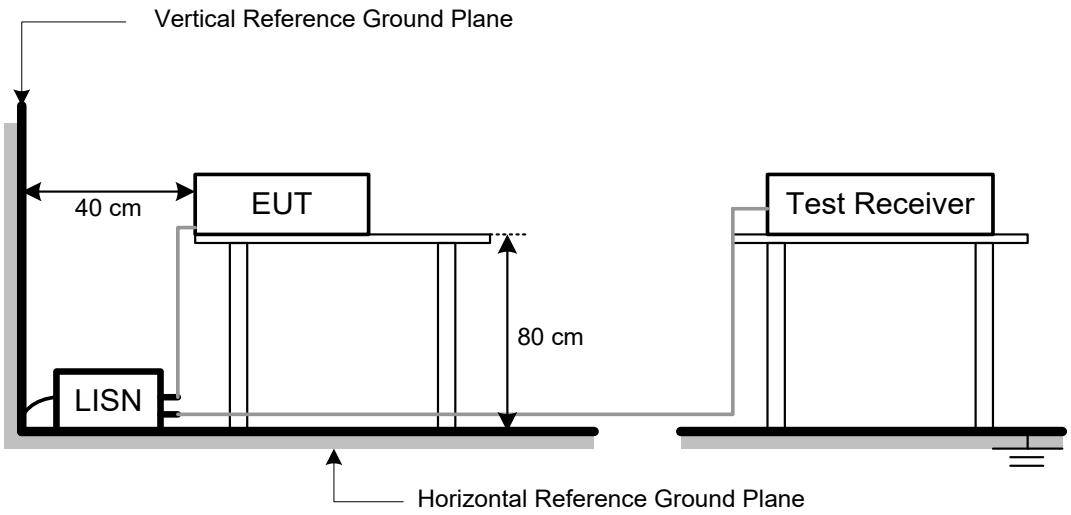
Receiver Parameter	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 KHz

3.2 TEST PROCEDURE

a. The EUT was placed 0.8 m above the horizontal ground plane with the EUT being connected to the power mains through a line impedance stabilization network (LISN).
All other support equipment were powered from an additional LISN(s).
The LISN provides 50 Ohm/50uH of impedance for the measuring instrument.
b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle to keep the cable above 40 cm.
c. Excess I/O cables that are not connected to a peripheral shall be bundled in the center.
The end of the cable will be terminated, using the correct terminating impedance.
The overall length shall not exceed 1 m.
d. The LISN is spaced at least 80 cm from the nearest part of the EUT chassis.
e. For the actual test configuration, please refer to the related Item - EUT TEST PHOTO.

NOTE:
(1) In the results, each reading is marked as Peak, QP or AVG per the detector used.
BW=9 kHz (6 dB Bandwidth)
(2) All readings are Peak unless otherwise stated QP or AVG in column of Note. Both the QP and the AVG readings must be less than the limit for compliance.

3.3 TEST SETUP



3.4 TEST RESULT

Please refer to the **APPENDIX A**.

4 RADIATED EMISSIONS TEST

4.1 LIMIT

In case the emission fall within the restricted band specified on 15.205, then the 15.209 limit in the table below has to be followed.

LIMITS OF RADIATED EMISSIONS MEASUREMENT (9 kHz to 1000 MHz)

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
960~1000	500	3

LIMITS OF RADIATED EMISSIONS MEASUREMENT (Above 1000 MHz)

Frequency (MHz)	Radiated Emissions (dBuV/m)		Measurement Distance (meters)
	Peak	Average	
Above 1000	74	54	3

NOTE:
(1) The limit for radiated test was performed according to FCC CFR Title 47, Part 15, Subpart C.
(2) The tighter limit applies at the band edges.
(3) Emission level (dBuV/m)=20log Emission level (uV/m).
(4) The test result calculated as following:
Measurement Value = Reading Level + Correct Factor
Correct Factor = Antenna Factor + Cable Loss - Amplifier Gain(if use)
Margin Level = Measurement Value - Limit Value
Calculation example:

Reading Level		Correct Factor		Measurement Value
19.11	+	2.11	=	21.22

Measurement Value		Limit Value		Margin Level
21.22	-	54	=	-32.78

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RBW / VBW (Emission in restricted band)	1MHz / 3MHz for Peak, 1MHz / 1/T for Average

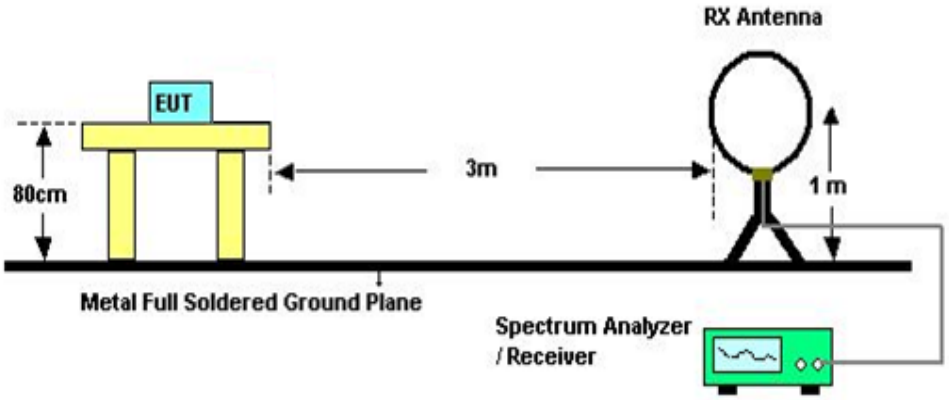
Spectrum Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9KHz~90KHz for PK/AVG detector
Start ~ Stop Frequency	90KHz~110KHz for QP detector
Start ~ Stop Frequency	110KHz~490KHz for PK/AVG detector
Start ~ Stop Frequency	490KHz~30MHz for QP detector
Start ~ Stop Frequency	30MHz~1000MHz for QP detector

4.2 TEST PROCEDURE

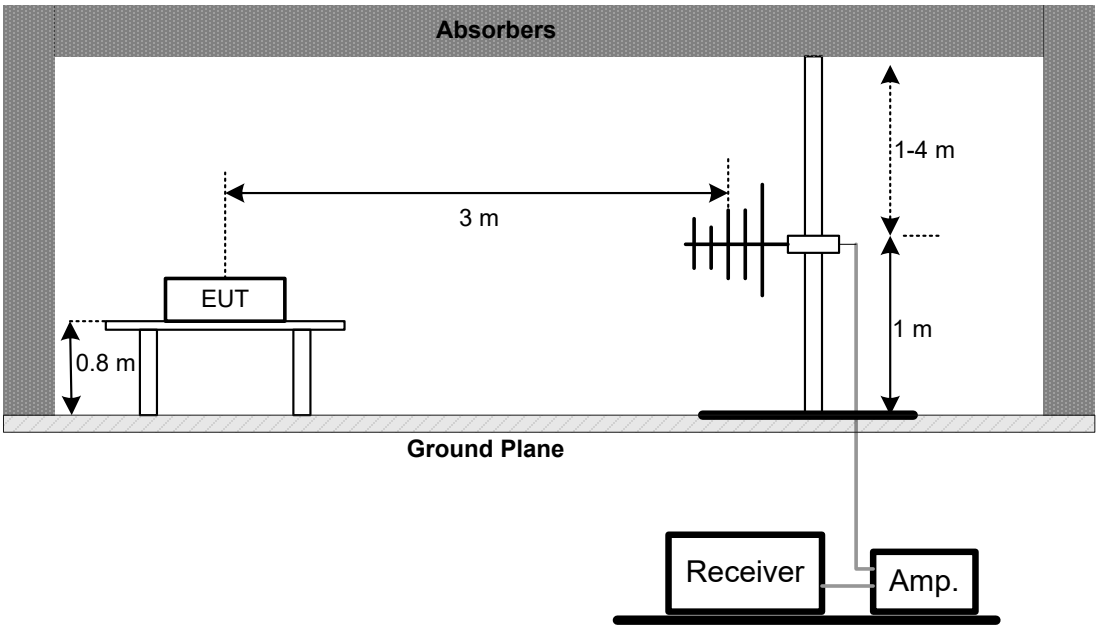
a. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
b. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 1.5 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(above 1GHz)
c. The height of the equipment or of the substitution antenna shall be 0.8 m or 1.5 m, the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights find the maximum reading (used Bore sight function).
e. The receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1GHz.
f. The initial step in collecting radiated emission data is a receiver peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
g. All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn‘t perform. (below 1GHz)
h. All readings are Peak Mode value unless otherwise stated AVG in column of Note. If the Peak Mode Measured value compliance with the Peak Limits and lower than AVG Limits, the EUT shall be deemed to meet both Peak & AVG Limits and then only Peak Mode was measured, but AVG Mode didn‘t perform. (above 1GHz)
i. For the actual test configuration, please refer to the related Item – EUT TEST PHOTO.

4.3 TEST SETUP

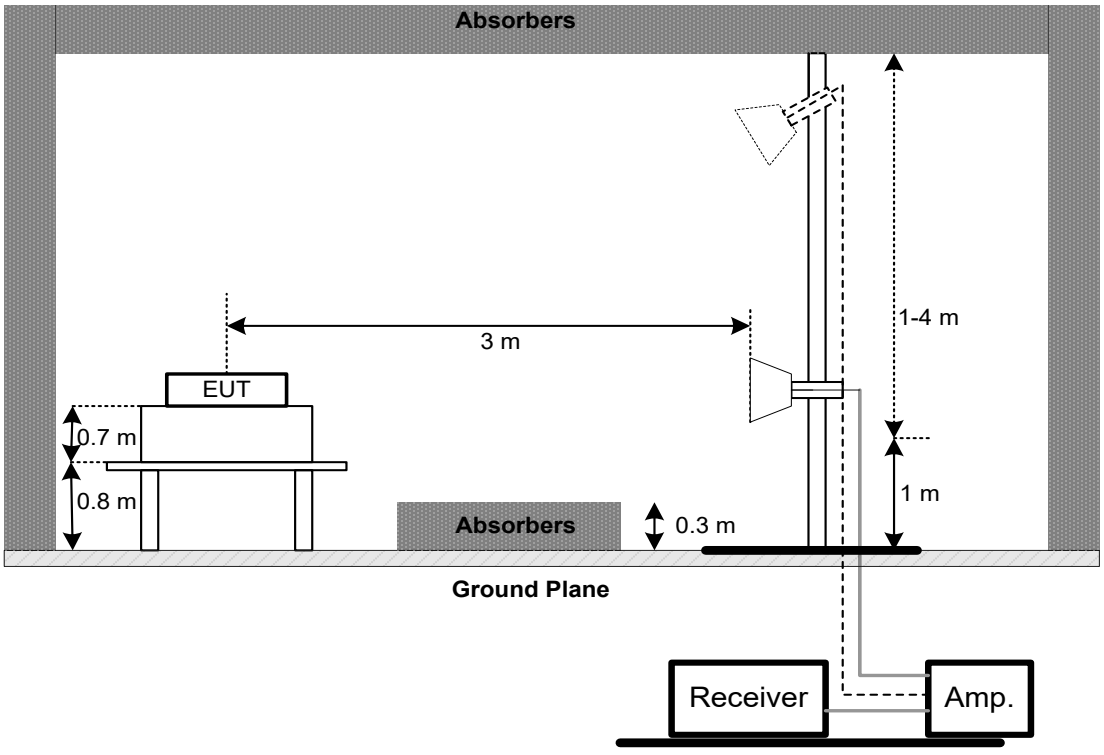
9 kHz to 30 MHz



30 MHz to 1 GHz



Above 1 GHz



4.4 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

4.5 TEST RESULT – BELOW 30 MHZ

There were no emissions found below 30 MHz within 20 dB of the limit.

4.6 TEST RESULT – 30 MHZ TO 1 GHZ

Please refer to the APPENDIX B.

4.7 TEST RESULT – ABOVE 1 GHZ

Please refer to the APPENDIX C.

NOTE:

(1) No limit: This is fundamental signal, the judgment is not applicable.
For fundamental signal judgment was referred to Peak output test.

5 BANDWIDTH TEST

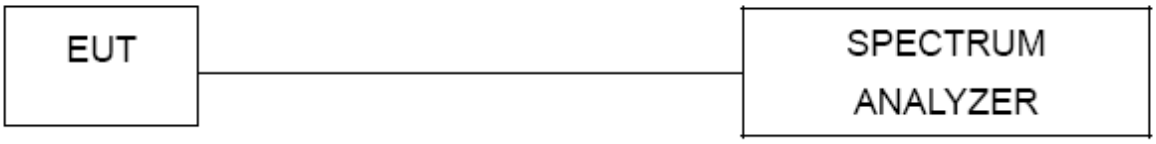
5.1 LIMIT

FCC Part15, Subpart C (15.247)		
Section	Test Item	Limit
15.247(a)	6 dB Bandwidth	500 kHz

5.2 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
b. Spectrum Setting: RBW= 100KHz, VBW=300KHz, Sweep time = 2.5 ms.

5.3 TEST SETUP



5.4 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

5.5 TEST RESULT

Please refer to the APPENDIX D.

6 MAXIMUM OUTPUT POWER TEST

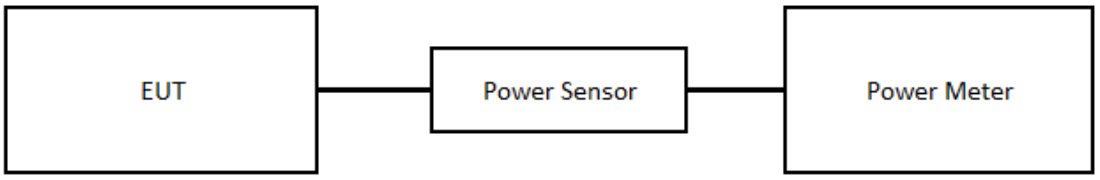
6.1 LIMIT

FCC Part15, Subpart C (15.247)		
Section	Test Item	Limit
15.247(b)	Maximum Output Power	1 Watt or 30dBm

6.2 TEST PROCEDURE

a. The EUT was directly connected to the power meter and antenna output port as show in the block diagram below.
b. The maximum peak conducted output power was performed in accordance with FCC KDB 558074 D01 15.247 Meas Guidance.
c. Subclause 11.9.1.1 of ANSI C63.10 is applied. The maximum peak conducted output power may be measured using a broadband peak RF power meter.
The power meter shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall use a fast-responding diode detector.

6.3 TEST SETUP



6.4 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

6.5 TEST RESULT

Please refer to the APPENDIX E.

7 POWER SPECTRAL DENSITY

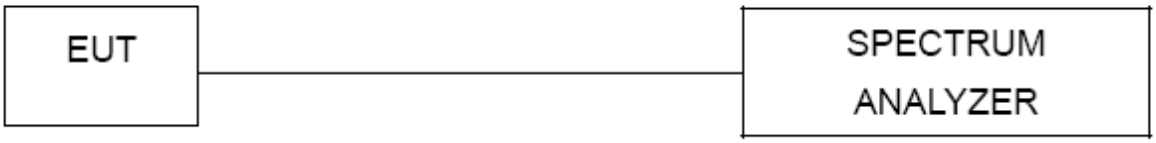
7.1 LIMIT

FCC Part15, Subpart C (15.247)		
Section	Test Item	Limit
15.247(e)	Power Spectral Density	8 dBm (in any 3 kHz)

7.2 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
b. Spectrum Setting: RBW = 3 kHz, VBW = 10 kHz, Sweep time = Auto.

7.3 TEST SETUP



7.4 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

7.5 TEST RESULT

Please refer to the APPENDIX F.

8 ANTENNA CONDUCTED SPURIOUS EMISSIONS TEST

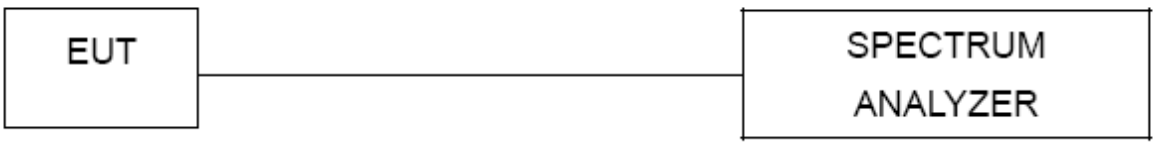
8.1 LIMIT

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced 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 that the transmitter demonstrates compliance with the peak conducted power limits.

8.2 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
b. Spectrum Setting: RBW = 100 kHz, VBW=300 kHz, Sweep time = Auto.
c. Offset = antenna gain + cable loss.

8.3 TEST SETUP



8.4 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

8.5 TEST RESULT

Please refer to the APPENDIX G.

9 LIST OF MEASURING EQUIPMENTS

AC Power Line Conducted Emissions						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until
1	Reciver	MXE EMI Reciver	Agilent Technologies	N9038A	2023/6/26	2024/6/25
2	LISN	Two-Line V-Network	R&S	ENV216	2023/7/21	2024/7/20

Radiated Emissions_ Below 1G						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until
1	Reciver	MXE EMI Reciver	Agilent Technologies	N9038A	2023/6/26	2024/6/25
2	Antenna	Trilog-Broadband Antenna	Schwarzbeck	VULB9168	2023/12/18	2024/12/17
3	Attenuator	6dB Attenuator	EMCI	EMCI-N-6-05	2023/12/18	2024/12/17

Radiated Emissions_ Above 1G						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until
1	Spectrum	EXA Signal Analyzer	Keysight	N9010A	2023/9/12	2024/9/11
2	Pre-Amplifler	1G-18G Pre-Amplifler	EMCI	EMC118A45SE	2023/7/18	2024/7/17
3	Antenna	Broad-Band Horn Antenna	RFSPIN	DRH18-E	2023/2/10	2024/2/9
4	Pre-Amplifler	18G-40G Pre-Amplifler	EMCI	EMC184045SE	2023/12/11	2024/12/10
5	Antenna	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	2023/6/29	2024/6/28

Bandwidth & Maximum Output Power & Power Spectral Density & Antenna conducted Spurious Emission						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until
1	Spectrum Analyzer	R&S	FSP 30	100854	2023/6/26	2024/6/25

Remark: "N/A" denotes no model name, no serial no. or no calibration specified.
All calibration period of equipment list is one year.

10 EUT TEST PHOTO

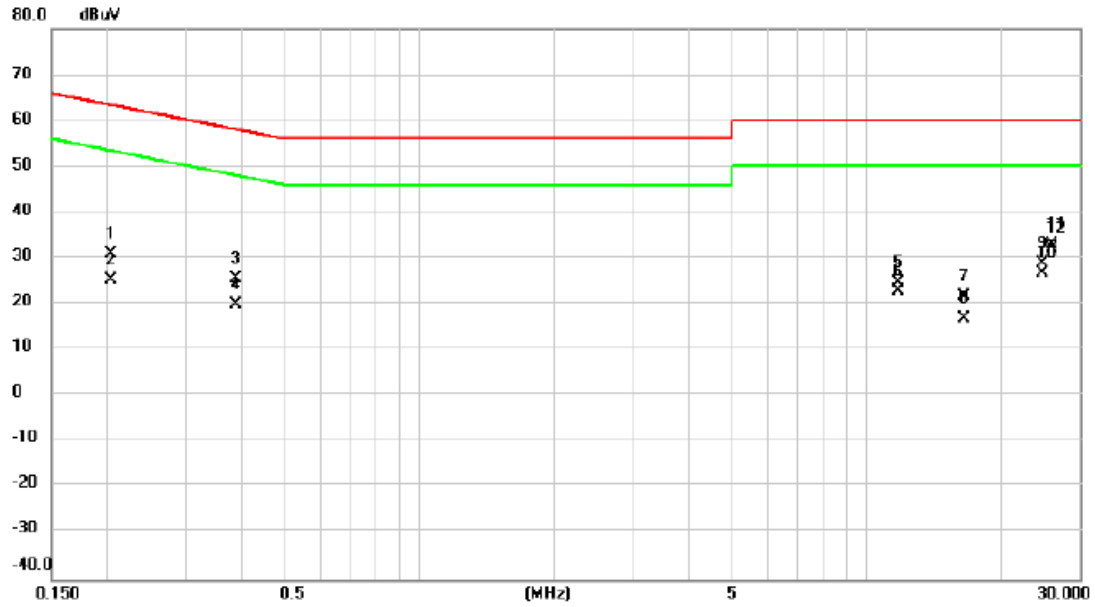
Please refer to APPENDIX-TEST PHOTOS.

11 EUT PHOTOS

Please refer to APPENDIX-EUT PHOTOS.

APPENDIX A AC POWER LINE CONDUCTED EMISSIONS

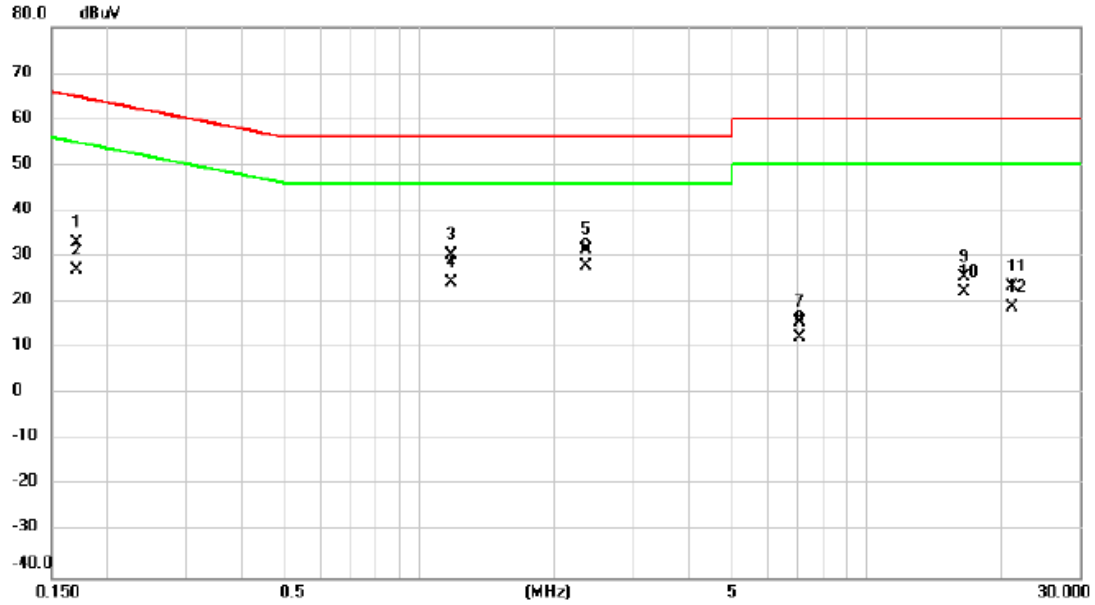
Test Mode	TX B Mode Channel 11	Tested Date	2024/1/5
Test Frequency	2462MHz	Phase	Line



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.2034	21.29	9.67	30.96	63.47	-32.51	QP	
2		0.2034	15.53	9.67	25.20	53.47	-28.27	AVG	
3		0.3880	16.01	9.67	25.68	58.11	-32.43	QP	
4		0.3880	10.24	9.67	19.91	48.11	-28.20	AVG	
5		11.7750	14.58	10.08	24.66	60.00	-35.34	QP	
6		11.7750	12.66	10.08	22.74	50.00	-27.26	AVG	
7		16.4750	11.59	10.14	21.73	60.00	-38.27	QP	
8		16.4750	6.59	10.14	16.73	50.00	-33.27	AVG	
9		24.7250	18.64	10.20	28.84	60.00	-31.16	QP	
10		24.7250	16.40	10.20	26.60	50.00	-23.40	AVG	
11		25.9000	22.86	10.20	33.06	60.00	-26.94	QP	
12	*	25.9000	21.90	10.20	32.10	50.00	-17.90	AVG	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX B Mode Channel 11	Tested Date	2024/1/5
Test Frequency	2462MHz	Phase	Neutral

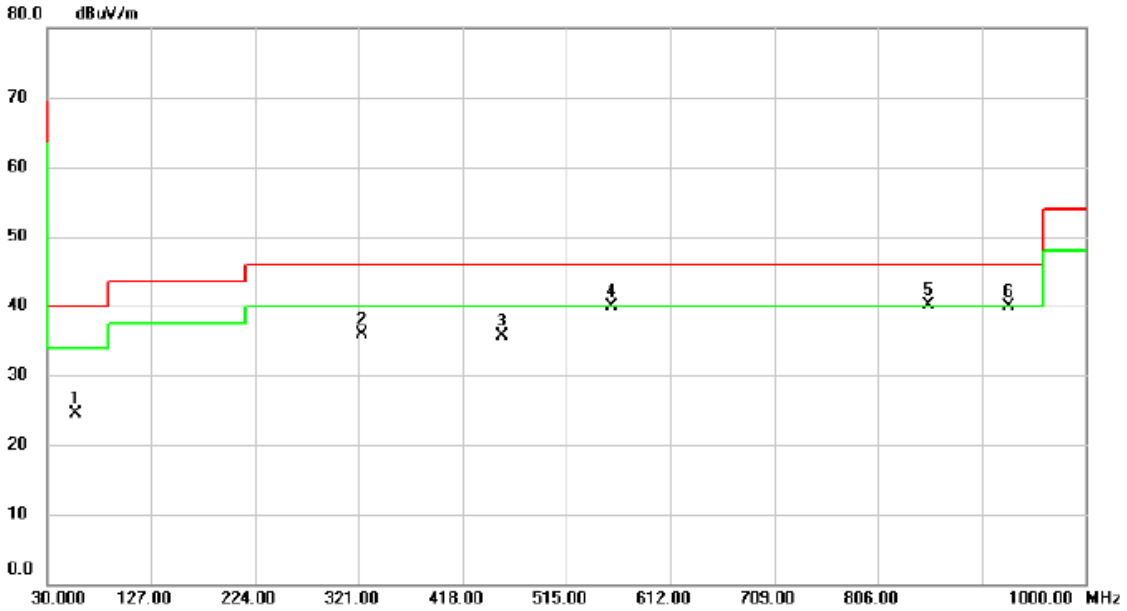


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1706	23.27	9.67	32.94	64.93	-31.99	QP	
2		0.1706	17.26	9.67	26.93	54.93	-28.00	AVG	
3		1.1750	20.54	9.74	30.28	56.00	-25.72	QP	
4		1.1750	14.47	9.74	24.21	46.00	-21.79	AVG	
5		2.3540	21.83	9.82	31.65	56.00	-24.35	QP	
6	*	2.3540	17.99	9.82	27.81	46.00	-18.19	AVG	
7		7.0750	5.63	9.98	15.61	60.00	-44.39	QP	
8		7.0750	2.48	9.98	12.46	50.00	-37.54	AVG	
9		16.4750	15.39	10.23	25.62	60.00	-34.38	QP	
10		16.4750	12.01	10.23	22.24	50.00	-27.76	AVG	
11		21.2000	13.15	10.33	23.48	60.00	-36.52	QP	
12		21.2000	8.61	10.33	18.94	50.00	-31.06	AVG	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

APPENDIX B RADIATED EMISSIONS - 30 MHZ TO 1 GHZ

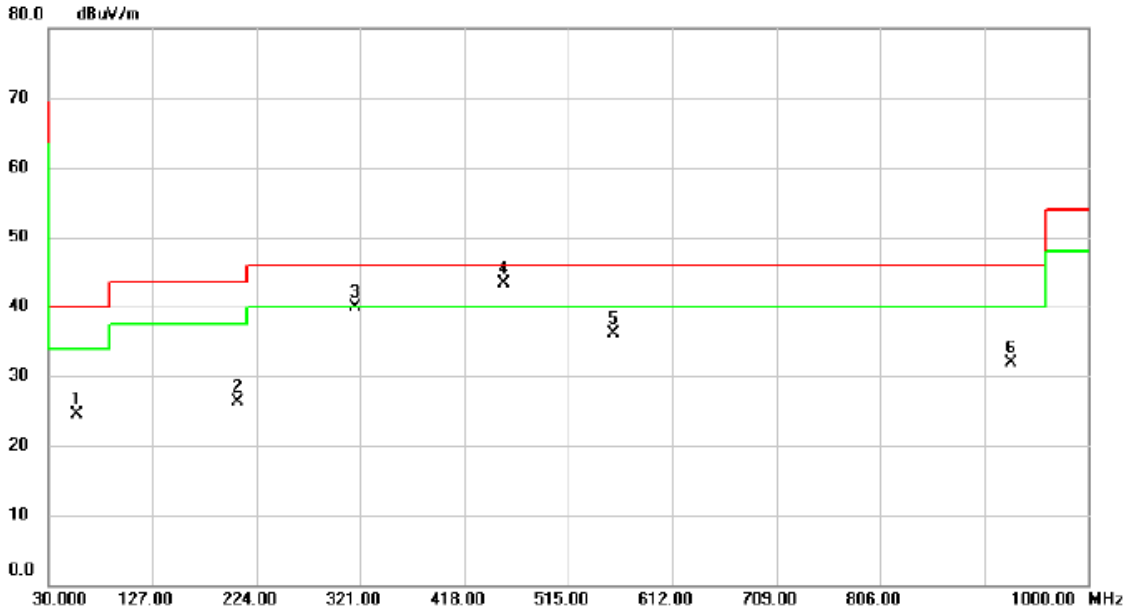
Test Mode	IEEE 802.11b	Test Date	2024/1/5
Test Frequency	2462MHz	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		56.1900	36.11	-11.65	24.46	40.00	-15.54	peak	100	218	
2		323.9100	45.59	-9.61	35.98	46.00	-10.02	peak	101	360	
3		454.8600	41.65	-5.93	35.72	46.00	-10.28	peak	200	100	
4		556.7100	43.88	-3.99	39.89	46.00	-6.11	peak	200	184	
5	*	853.5300	38.65	1.39	40.04	46.00	-5.96	peak	200	263	
6		928.2200	37.78	2.04	39.82	46.00	-6.18	peak	100	172	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

Test Mode	IEEE 802.11b	Test Date	2024/1/5
Test Frequency	2462MHz	Polarization	Horizontal

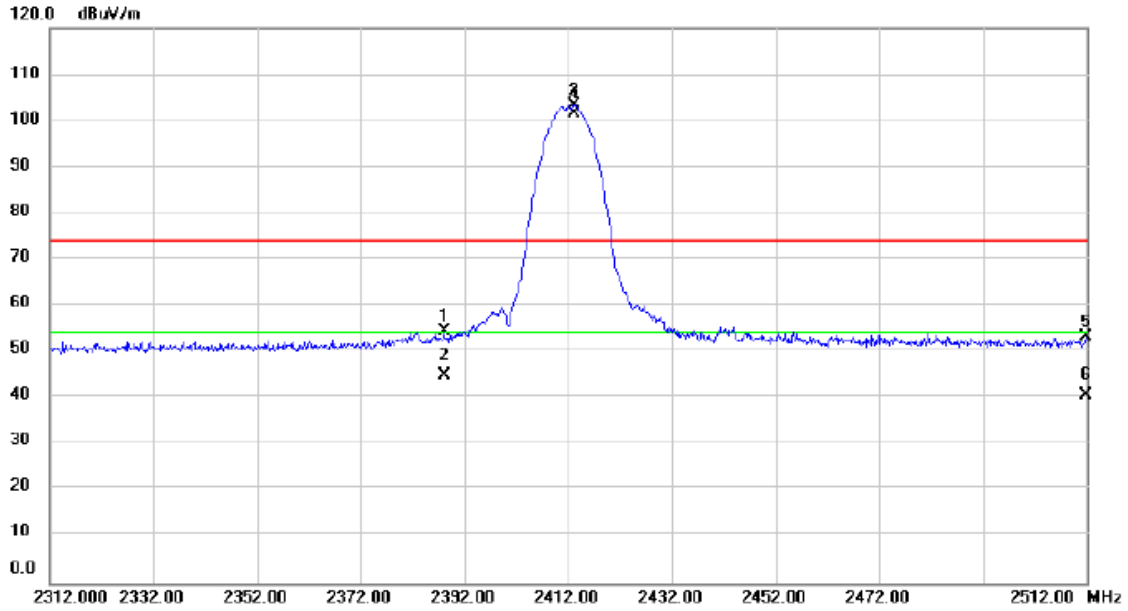


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		56.1900	36.11	-11.65	24.46	40.00	-15.54	peak	200	154	
2		206.5400	40.46	-14.24	26.22	43.50	-17.28	peak	100	256	
3		316.1500	49.64	-9.83	39.81	46.00	-6.19	peak	200	282	
4	*	454.8600	49.15	-5.93	43.22	46.00	-2.78	peak	200	145	
5		556.7100	40.09	-3.99	36.10	46.00	-9.90	peak	100	283	
6		928.2200	29.78	2.04	31.82	46.00	-14.18	peak	100	146	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

APPENDIX C RADIATED EMISSIONS - ABOVE 1 GHZ

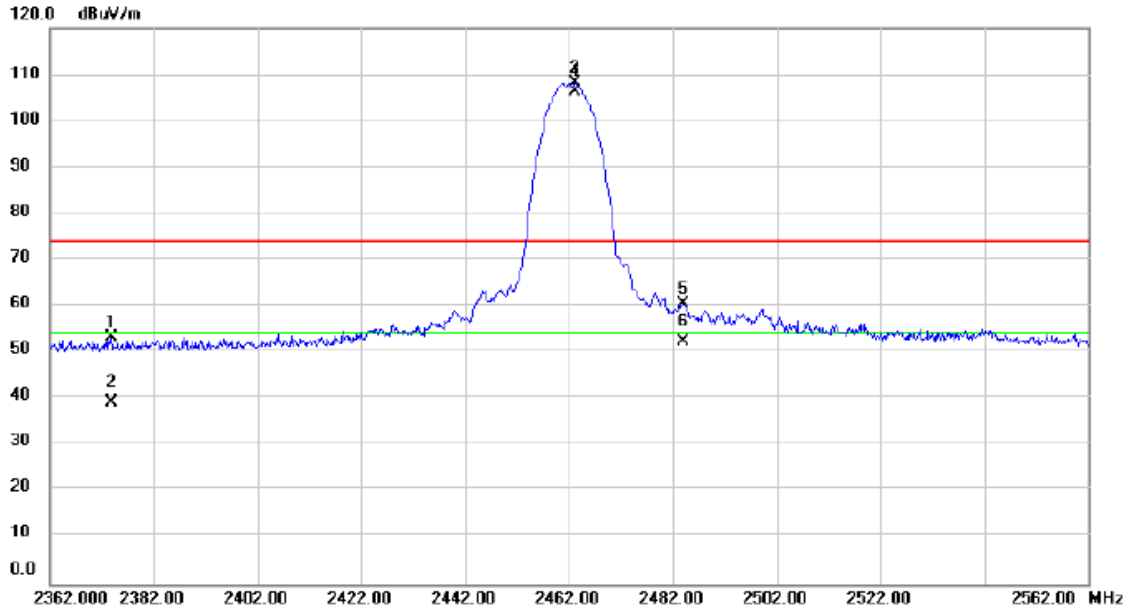
Test Mode	IEEE 802.11b	Test Date	2024/1/2
Test Frequency	2412MHz	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		2388.000	51.38	2.95	54.33	74.00	-19.67	peak			
2		2388.000	41.88	2.95	44.83	54.00	-9.17	AVG			
3	X	2413.200	100.40	2.98	103.38	74.00	29.38	peak			No Limit
4	*	2413.200	98.44	2.98	101.42	54.00	47.42	AVG			No Limit
5		2511.800	50.08	3.09	53.17	74.00	-20.83	peak			
6		2511.800	37.44	3.09	40.53	54.00	-13.47	AVG			

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

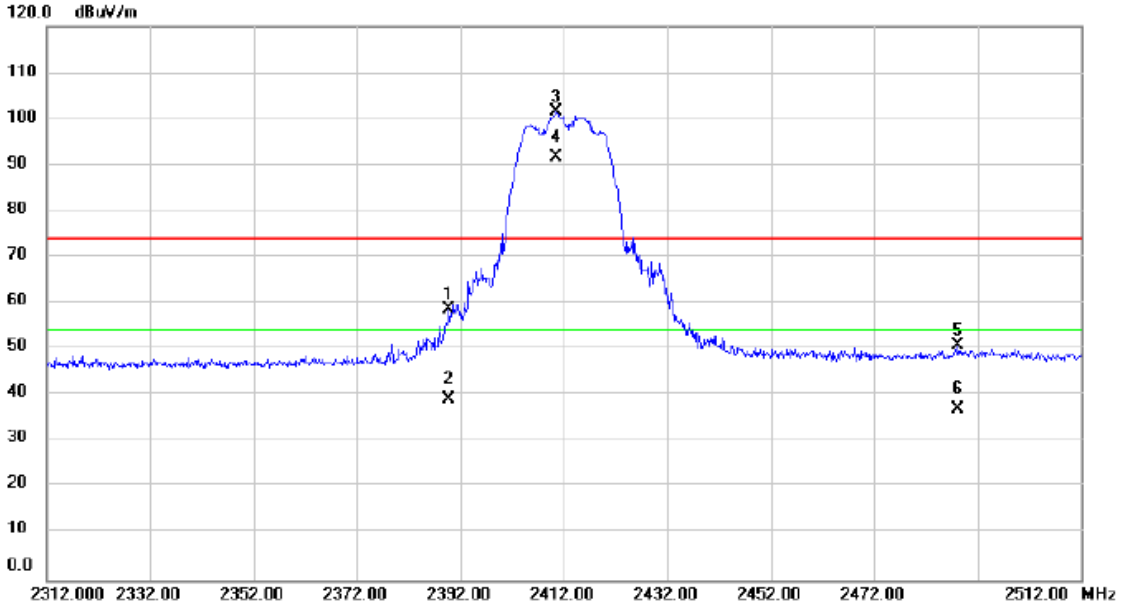
Test Mode	IEEE 802.11b	Test Date	2024/1/2
Test Frequency	2462MHz	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		2373.800	50.30	2.95	53.25	74.00	-20.75	peak			
2		2373.800	36.25	2.95	39.20	54.00	-14.80	AVG			
3	X	2463.200	105.16	3.01	108.17	74.00	34.17	peak			No Limit
4	*	2463.200	103.48	3.01	106.49	54.00	52.49	AVG			No Limit
5		2484.000	57.58	3.02	60.60	74.00	-13.40	peak			
6		2484.000	49.44	3.02	52.46	54.00	-1.54	AVG			

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

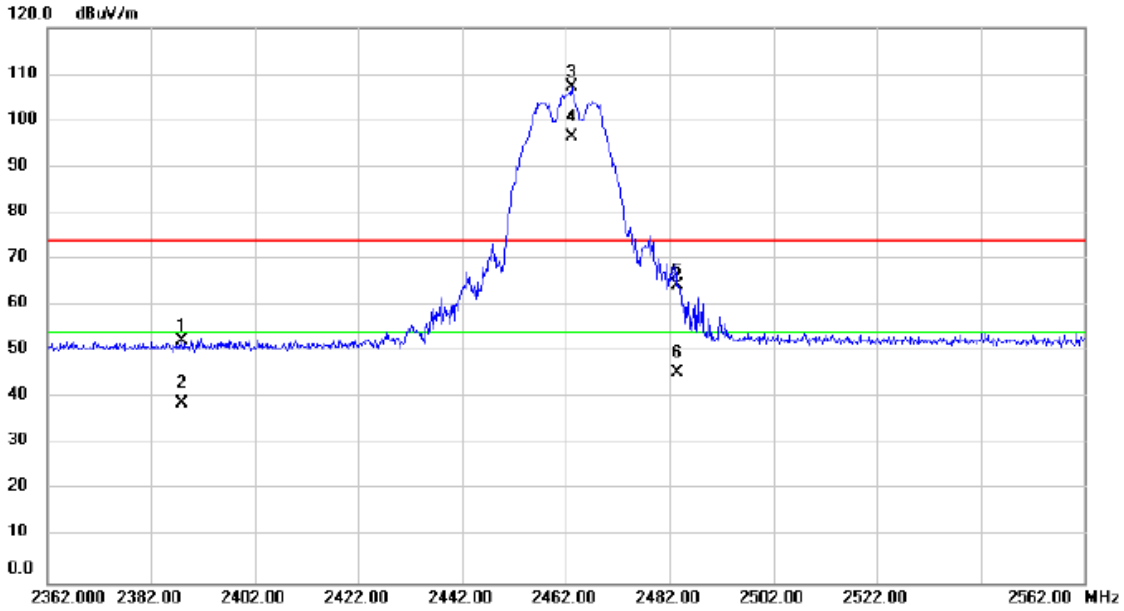
Test Mode	IEEE 802.11g	Test Date	2024/1/2
Test Frequency	2412MHz	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		2389.800	55.82	2.95	58.77	74.00	-15.23	peak			
2		2389.800	36.12	2.95	39.07	54.00	-14.93	AVG			
3	X	2410.600	98.45	2.98	101.43	74.00	27.43	peak			No Limit
4	*	2410.600	88.76	2.98	91.74	54.00	37.74	AVG			No Limit
5		2488.200	47.71	3.03	50.74	74.00	-23.26	peak			
6		2488.200	33.95	3.03	36.98	54.00	-17.02	AVG			

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

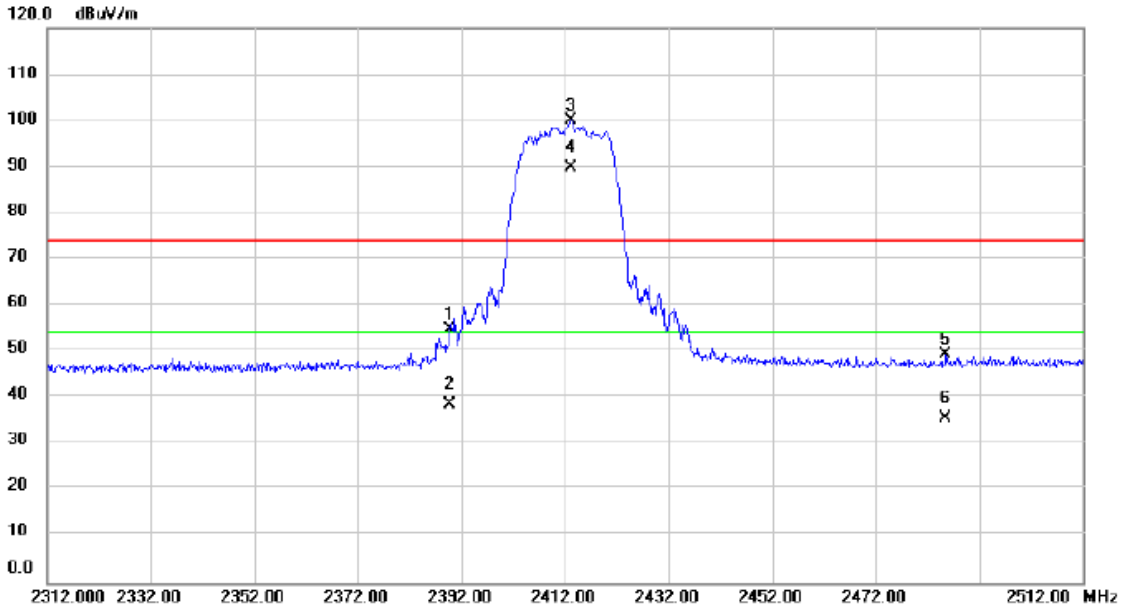
Test Mode	IEEE 802.11g	Test Date	2024/1/2
Test Frequency	2462MHz	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		2388.000	49.38	2.95	52.33	74.00	-21.67	peak			
2		2388.000	36.04	2.95	38.99	54.00	-15.01	AVG			
3	X	2463.200	104.36	3.01	107.37	74.00	33.37	peak			No Limit
4	*	2463.200	93.36	3.01	96.37	54.00	42.37	AVG			No Limit
5		2483.600	61.44	3.02	64.46	74.00	-9.54	peak			
6		2483.600	42.30	3.02	45.32	54.00	-8.68	AVG			

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

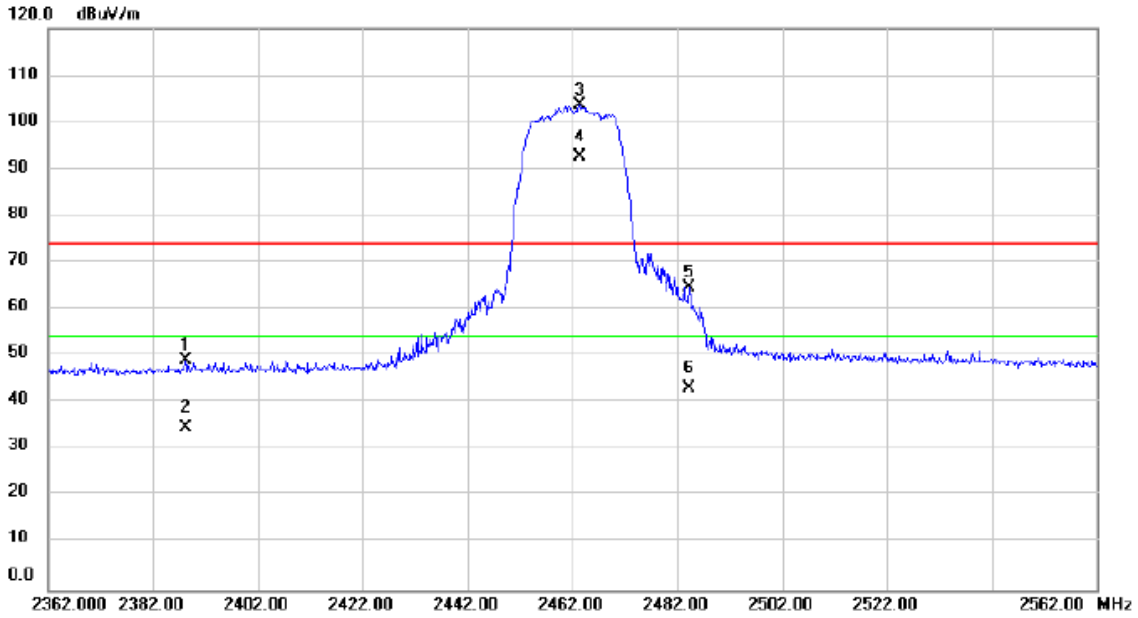
Test Mode	IEEE 802.11n(HT20)	Test Date	2024/1/2
Test Frequency	2412MHz	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		2389.800	51.72	2.95	54.67	74.00	-19.33	peak			
2		2389.800	35.49	2.95	38.44	54.00	-15.56	AVG			
3	X	2413.200	96.94	2.98	99.92	74.00	25.92	peak			No Limit
4	*	2413.200	86.80	2.98	89.78	54.00	35.78	AVG			No Limit
5		2485.600	46.20	3.03	49.23	74.00	-24.77	peak			
6		2485.600	32.47	3.03	35.50	54.00	-18.50	AVG			

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

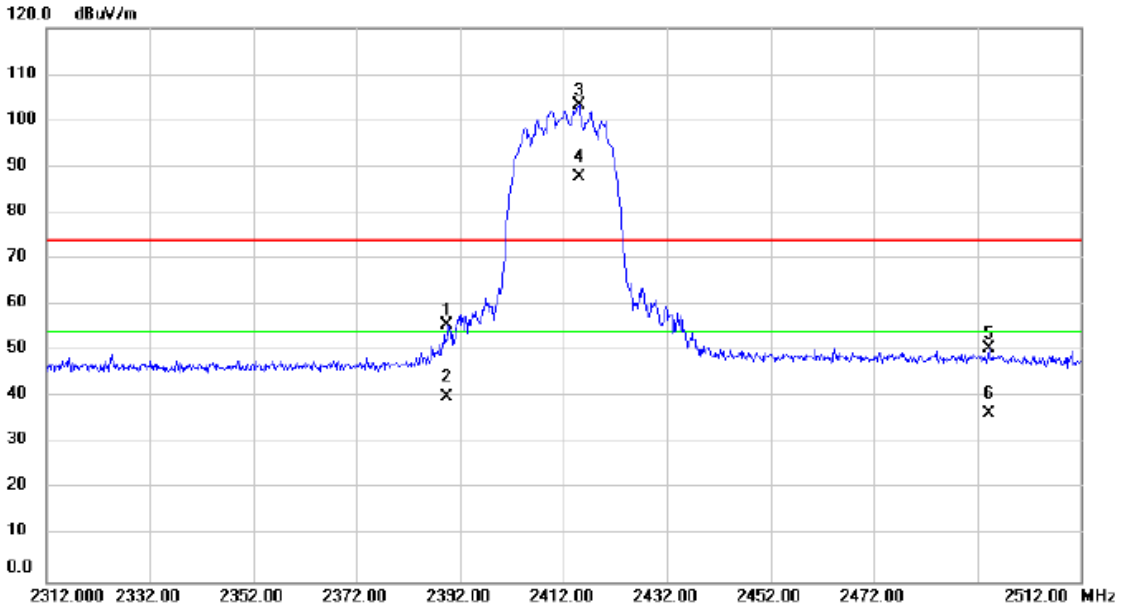
Test Mode	IEEE 802.11n(HT20)	Test Date	2024/1/2
Test Frequency	2462MHz	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		2388.200	46.22	2.95	49.17	74.00	-24.83	peak			
2		2388.200	31.82	2.95	34.77	54.00	-19.23	AVG			
3	X	2463.400	100.76	3.01	103.77	74.00	29.77	peak			No Limit
4	*	2463.400	89.43	3.01	92.44	54.00	38.44	AVG			No Limit
5		2484.200	61.62	3.02	64.64	74.00	-9.36	peak			
6		2484.200	40.14	3.02	43.16	54.00	-10.84	AVG			

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

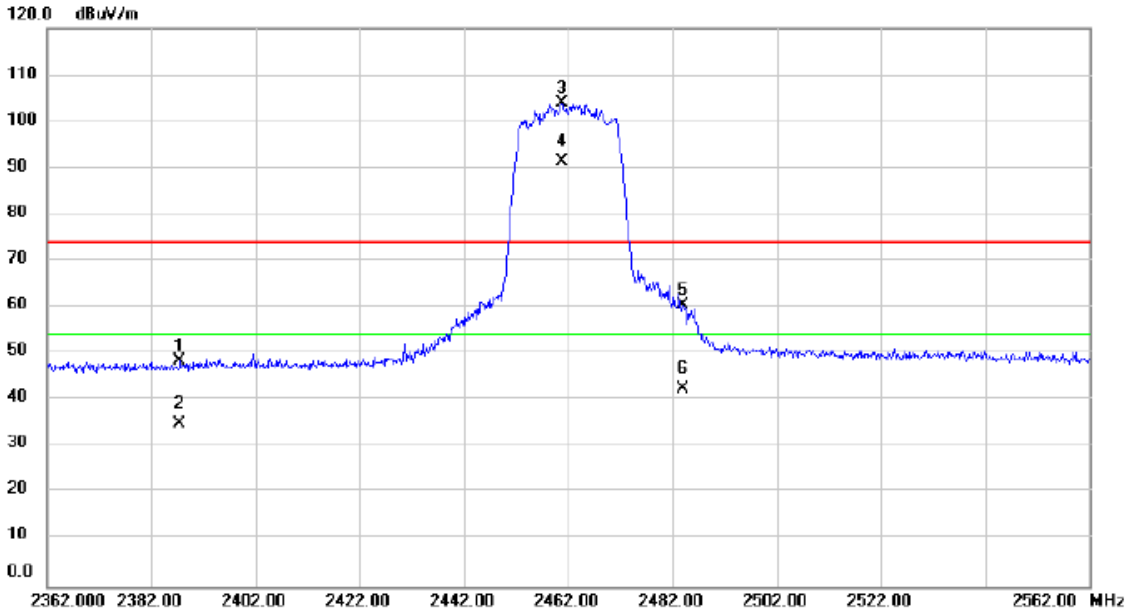
Test Mode	IEEE 802.11ax(HE20)	Test Date	2024/1/2
Test Frequency	2412MHz	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		2389.600	52.57	2.95	55.52	74.00	-18.48	peak			
2		2389.600	37.06	2.95	40.01	54.00	-13.99	AVG			
3	X	2415.000	100.30	2.98	103.28	74.00	29.28	peak			No Limit
4	*	2415.000	84.69	2.98	87.67	54.00	33.67	AVG			No Limit
5		2494.200	47.63	3.03	50.66	74.00	-23.34	peak			
6		2494.200	33.35	3.03	36.38	54.00	-17.62	AVG			

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

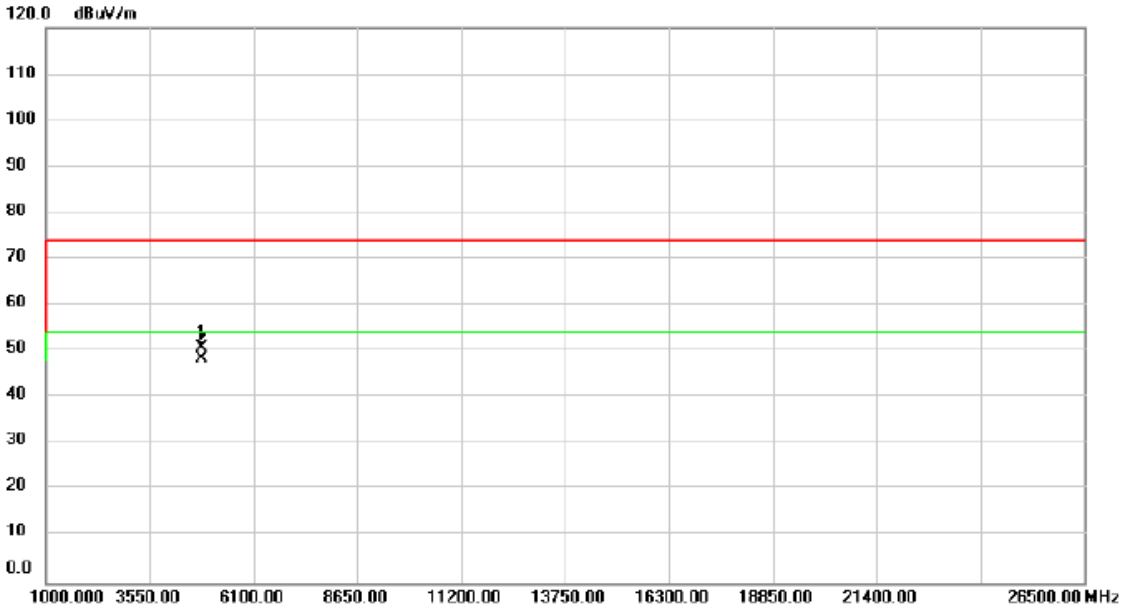
Test Mode	IEEE 802.11ax(HE20)	Test Date	2024/1/2
Test Frequency	2462MHz	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		2387.600	45.60	2.95	48.55	74.00	-25.45	peak			
2		2387.600	31.93	2.95	34.88	54.00	-19.12	AVG			
3	X	2460.800	101.04	3.01	104.05	74.00	30.05	peak			No Limit
4	*	2460.800	88.25	3.01	91.26	54.00	37.26	AVG			No Limit
5		2484.000	57.42	3.02	60.44	74.00	-13.56	peak			
6		2484.000	39.37	3.02	42.39	54.00	-11.61	AVG			

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

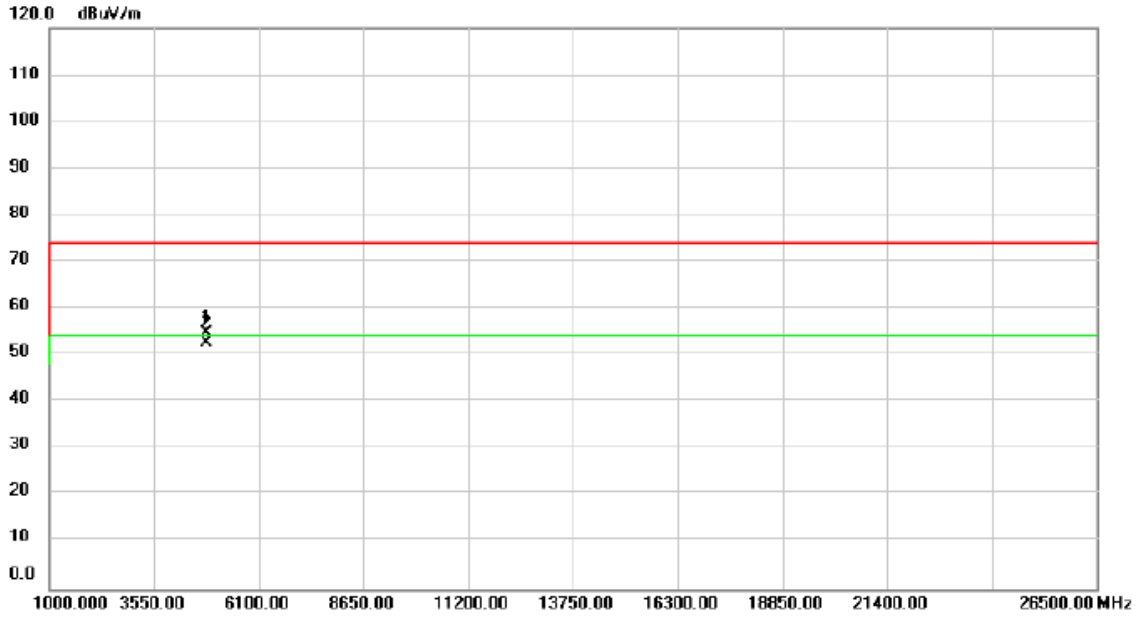
Test Mode	IEEE 802.11b	Test Date	2024/1/2
Test Frequency	2412MHz	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		4825.000	51.53	-0.57	50.96	74.00	-23.04	peak			
2	*	4825.000	49.12	-0.57	48.55	54.00	-5.45	AVG			

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

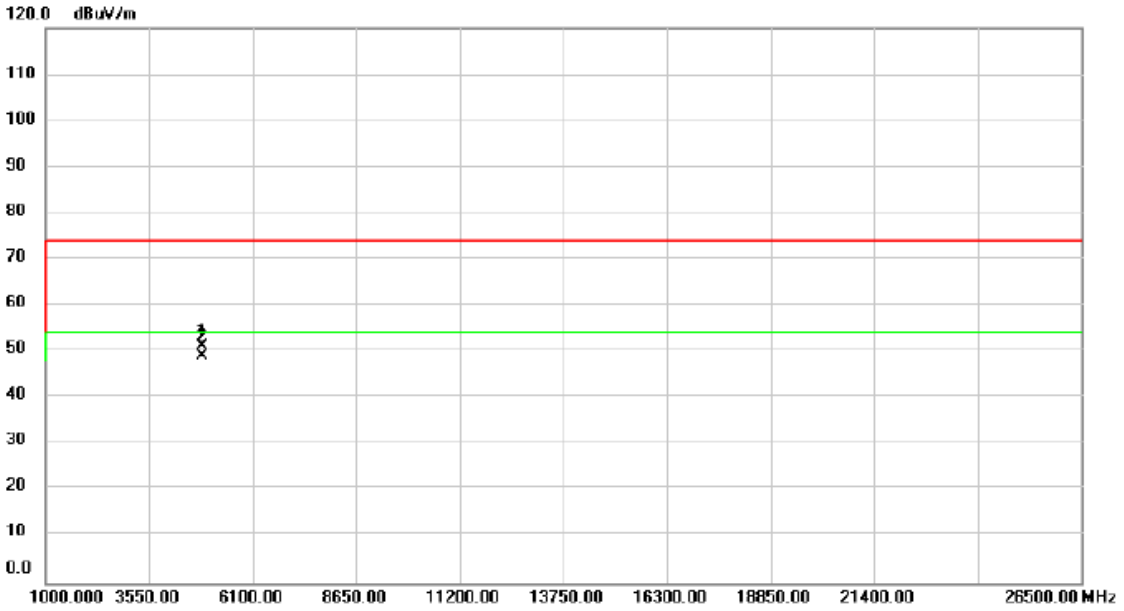
Test Mode	IEEE 802.11b	Test Date	2024/1/2
Test Frequency	2412MHz	Polarization	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		4824.000	55.19	-0.57	54.62	74.00	-19.38	peak			
2	*	4824.000	53.18	-0.57	52.61	54.00	-1.39	AVG			

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

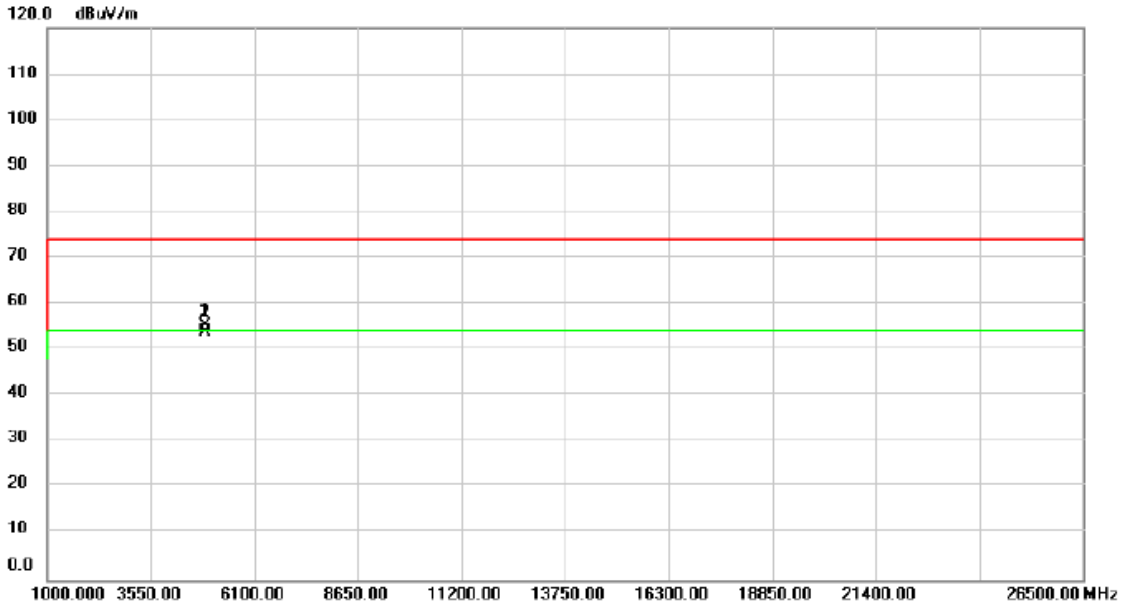
Test Mode	IEEE 802.11b	Test Date	2024/1/2
Test Frequency	2437MHz	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		4874.000	51.65	-0.41	51.24	74.00	-22.76	peak			
2	*	4874.000	49.50	-0.41	49.09	54.00	-4.91	AVG			

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

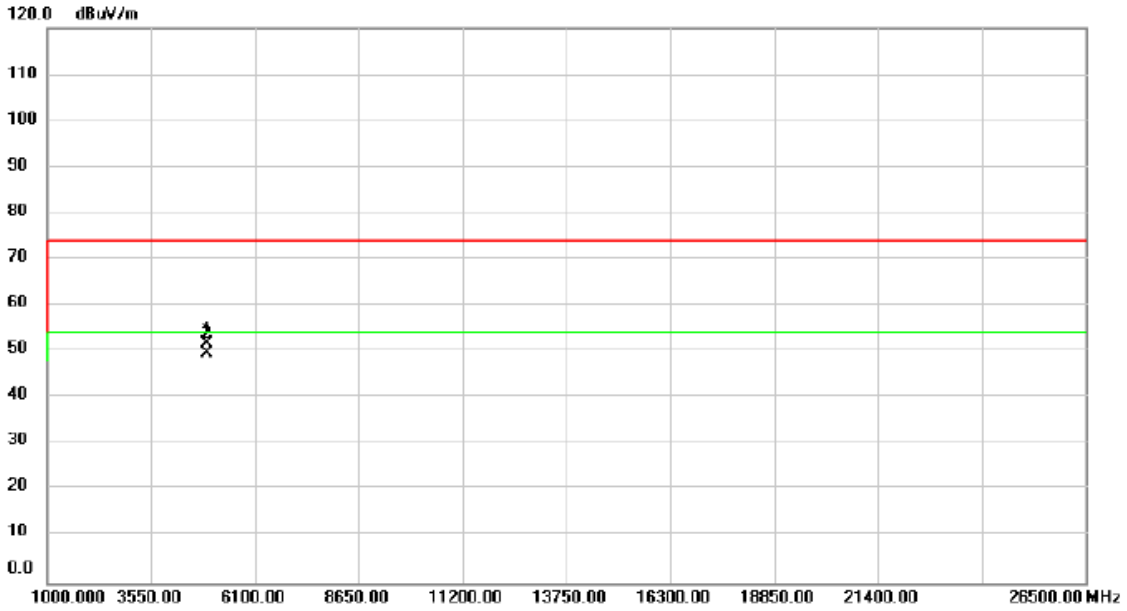
Test Mode	IEEE 802.11b	Test Date	2024/1/2
Test Frequency	2437MHz	Polarization	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		4876.000	55.88	-0.41	55.47	74.00	-18.53	peak			
2	*	4876.000	54.12	-0.41	53.71	54.00	-0.29	AVG			

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

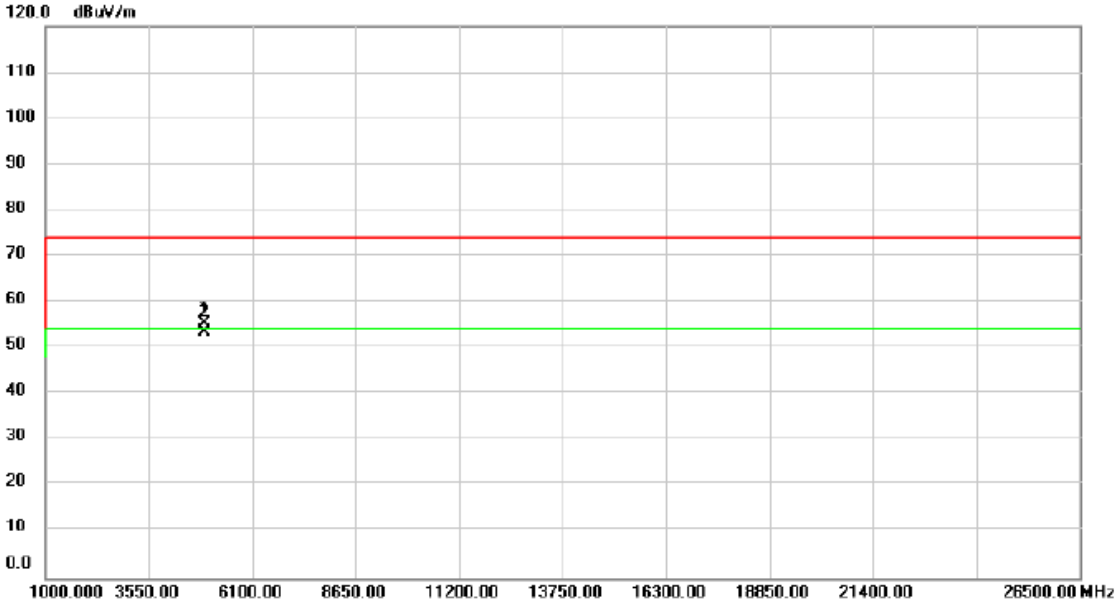
Test Mode	IEEE 802.11b	Test Date	2024/1/2
Test Frequency	2462MHz	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		4927.000	51.91	-0.25	51.66	74.00	-22.34	peak			
2	*	4927.000	49.83	-0.25	49.58	54.00	-4.42	AVG			

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

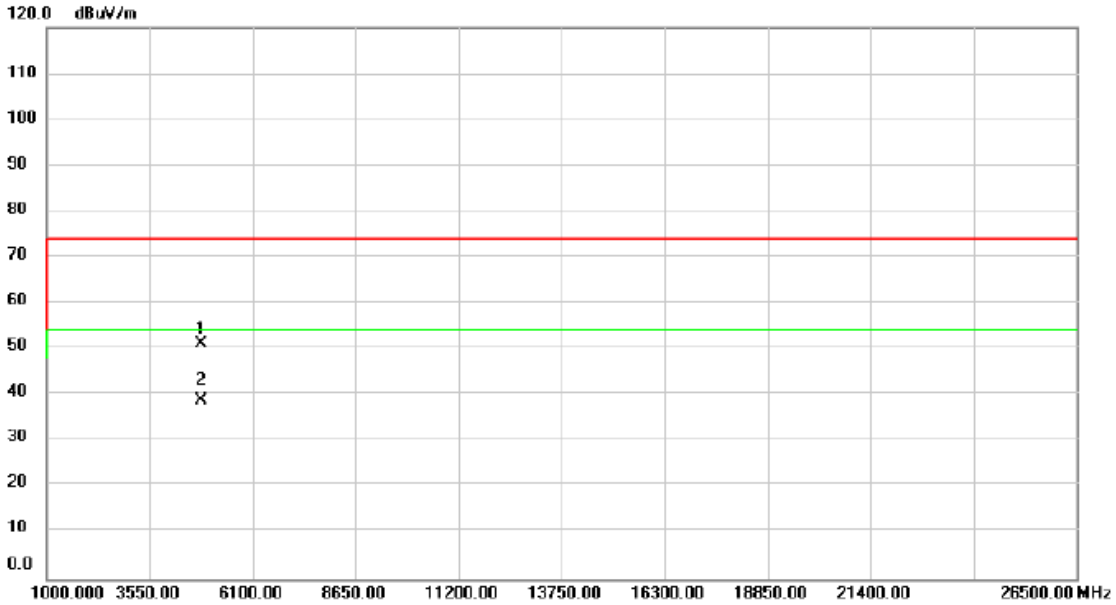
Test Mode	IEEE 802.11b	Test Date	2024/1/2
Test Frequency	2462MHz	Polarization	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		4927.000	55.50	-0.25	55.25	74.00	-18.75	peak			
2	*	4927.000	53.73	-0.25	53.48	54.00	-0.52	AVG			

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

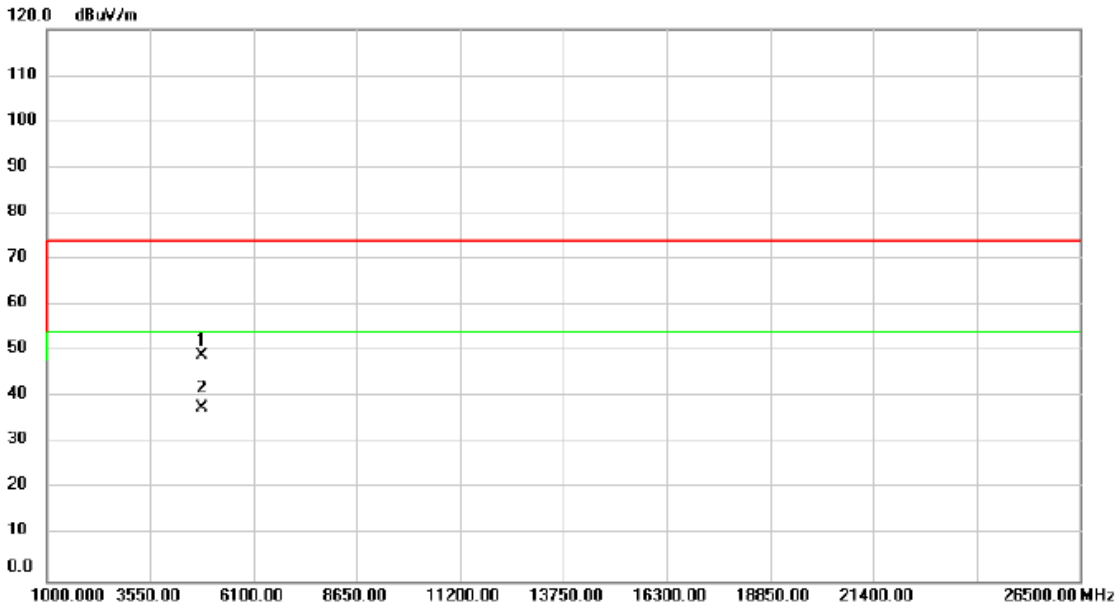
Test Mode	IEEE 802.11g	Test Date	2024/1/2
Test Frequency	2412MHz	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		4825.000	51.60	-0.57	51.03	74.00	-22.97	peak			
2	*	4825.000	39.42	-0.57	38.85	54.00	-15.15	AVG			

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

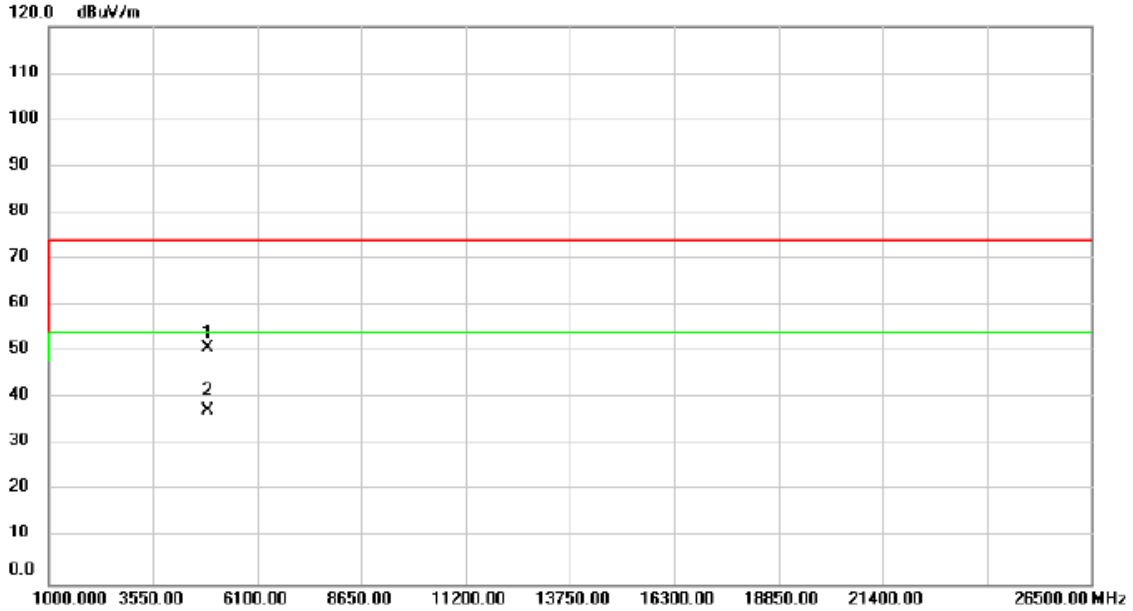
Test Mode	IEEE 802.11g	Test Date	2024/1/2
Test Frequency	2412MHz	Polarization	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		4824.000	49.55	-0.57	48.98	74.00	-25.02	peak			
2	*	4824.000	38.31	-0.57	37.74	54.00	-16.26	AVG			

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

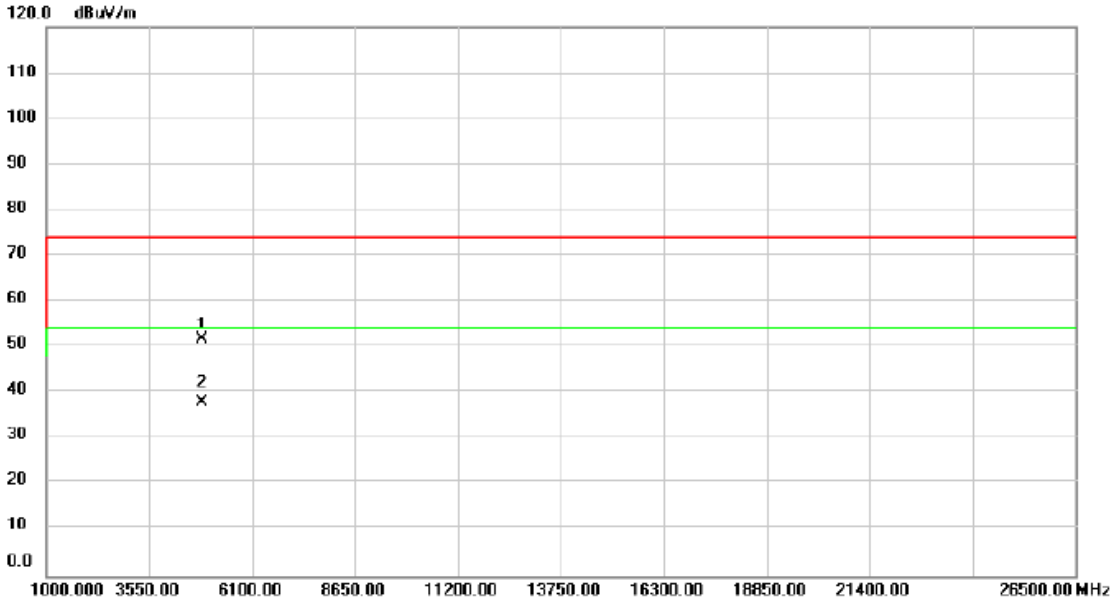
Test Mode	IEEE 802.11g	Test Date	2024/1/2
Test Frequency	2437MHz	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		4876.000	51.21	-0.41	50.80	74.00	-23.20	peak			
2	*	4876.000	37.79	-0.41	37.38	54.00	-16.62	AVG			

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

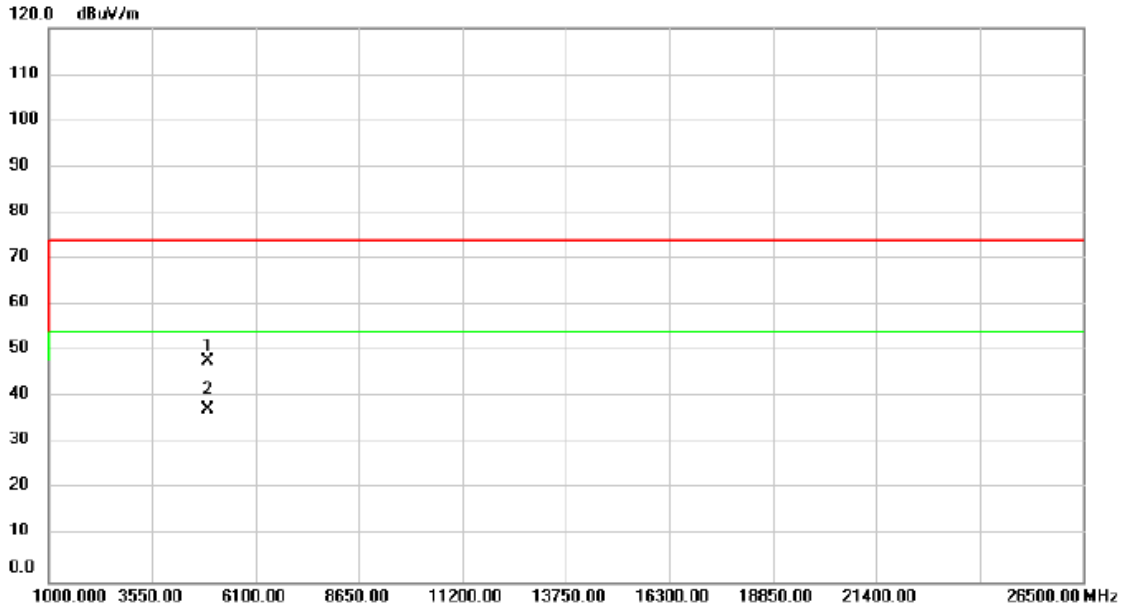
Test Mode	IEEE 802.11g	Test Date	2024/1/2
Test Frequency	2437MHz	Polarization	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		4874.000	52.28	-0.41	51.87	74.00	-22.13	peak			
2	*	4874.000	38.40	-0.41	37.99	54.00	-16.01	AVG			

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

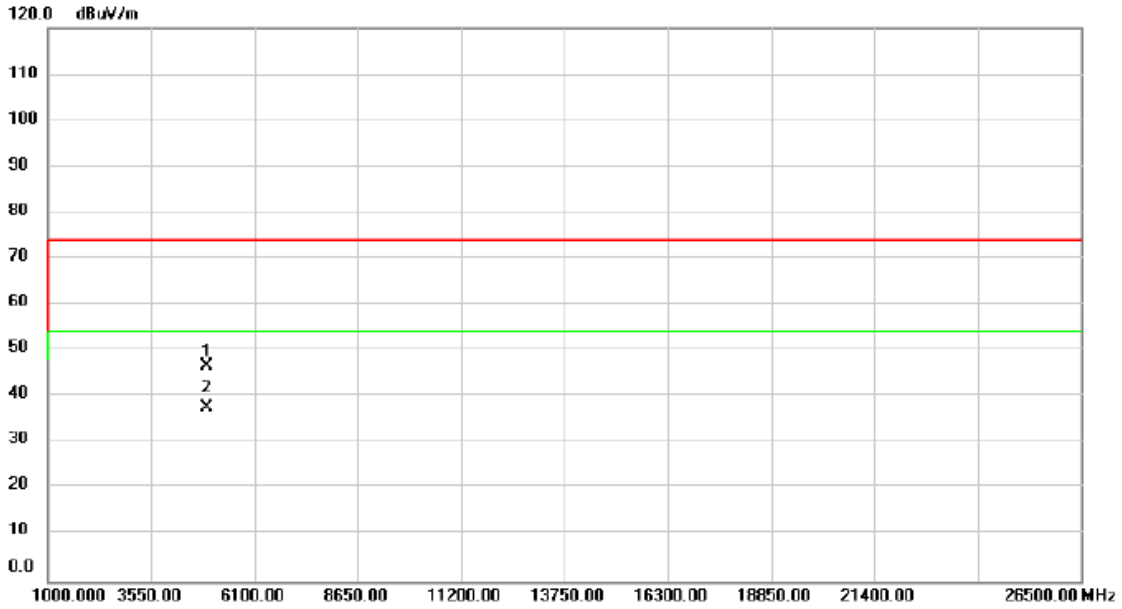
Test Mode	IEEE 802.11g	Test Date	2024/1/2
Test Frequency	2462MHz	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		4927.000	48.00	-0.25	47.75	74.00	-26.25	peak			
2	*	4927.000	37.74	-0.25	37.49	54.00	-16.51	AVG			

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

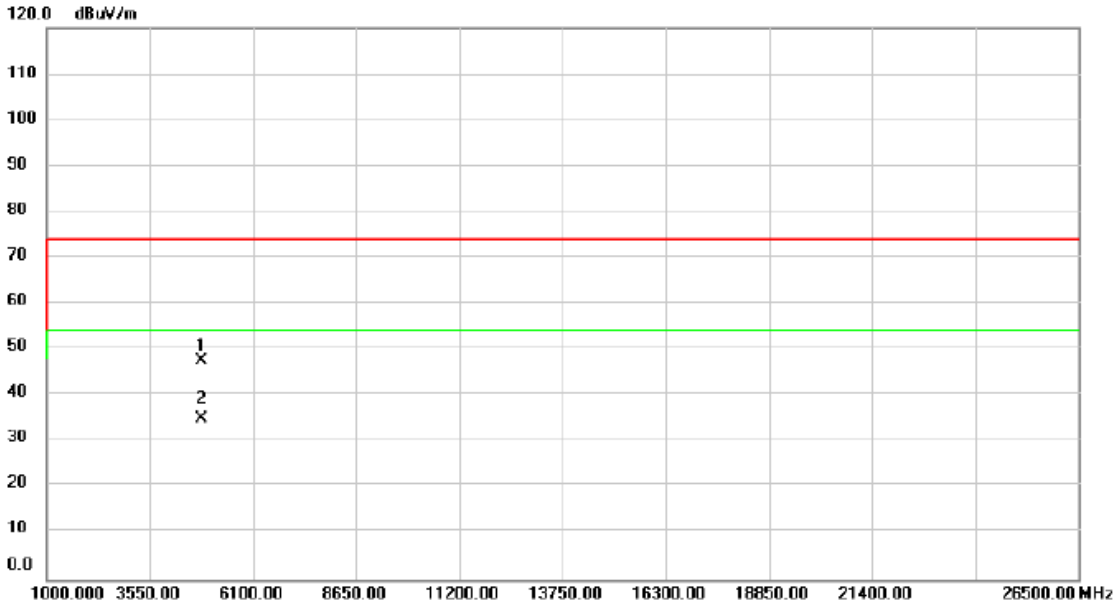
Test Mode	IEEE 802.11g	Test Date	2024/1/2
Test Frequency	2462MHz	Polarization	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		4924.000	46.78	-0.27	46.51	74.00	-27.49	peak			
2	*	4924.000	38.05	-0.27	37.78	54.00	-16.22	AVG			

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

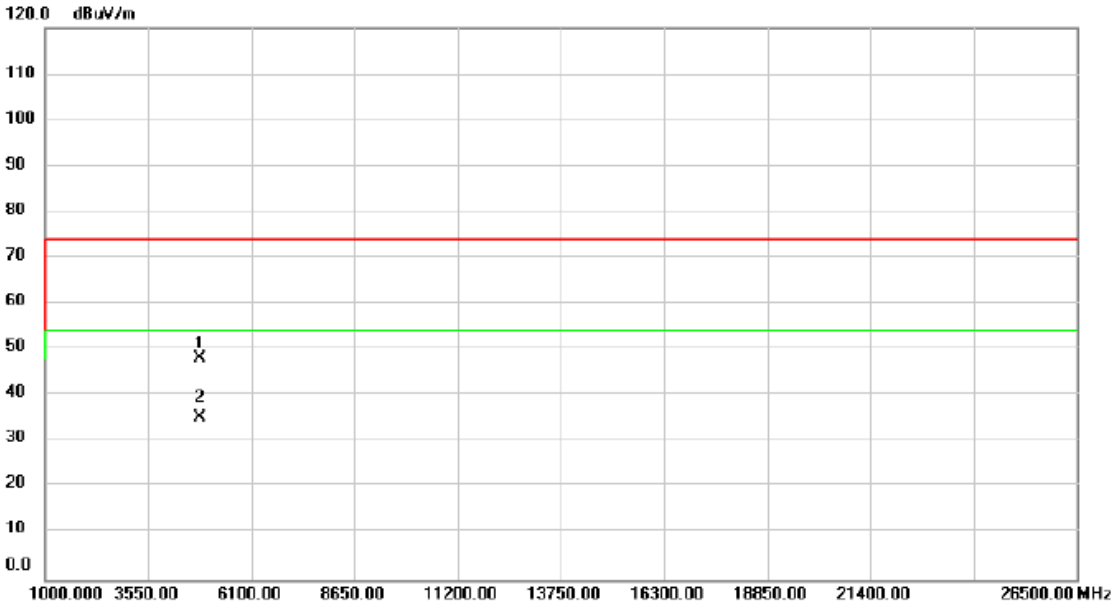
Test Mode	IEEE 802.11n(HT20)	Test Date	2024/1/3
Test Frequency	2412MHz	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		4824.000	48.24	-0.57	47.67	74.00	-26.33	peak			
2	*	4824.000	35.61	-0.57	35.04	54.00	-18.96	AVG			

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

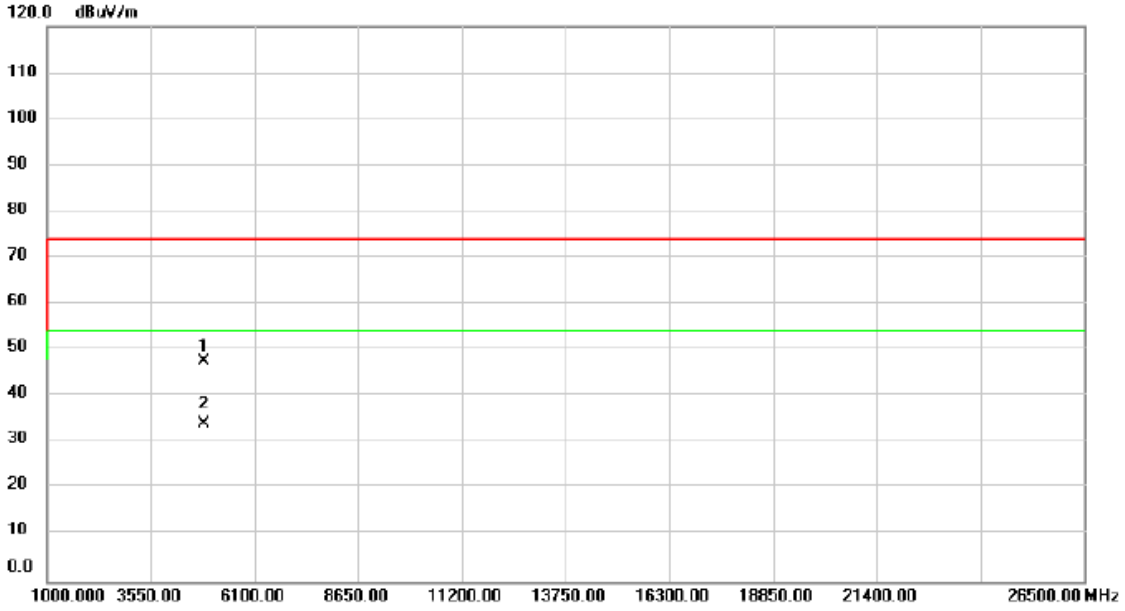
Test Mode	IEEE 802.11n(HT20)	Test Date	2024/1/3
Test Frequency	2412MHz	Polarization	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		4824.000	48.60	-0.57	48.03	74.00	-25.97	peak			
2	*	4824.000	35.79	-0.57	35.22	54.00	-18.78	AVG			

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

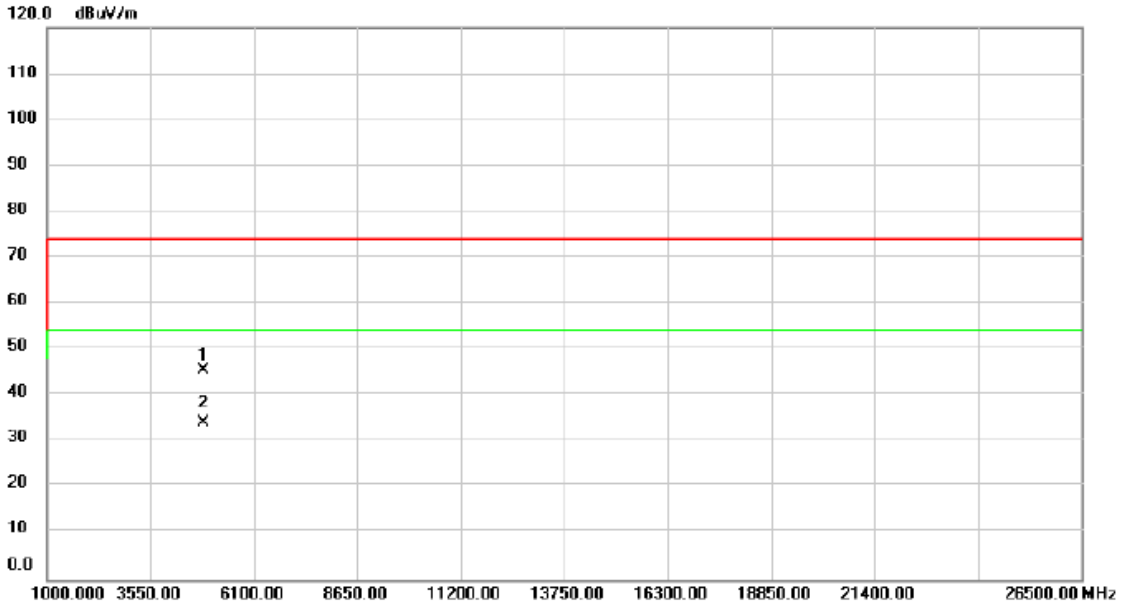
Test Mode	IEEE 802.11n(HT20)	Test Date	2024/1/3
Test Frequency	2437MHz	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		4874.000	48.08	-0.41	47.67	74.00	-26.33	peak			
2	*	4874.000	34.52	-0.41	34.11	54.00	-19.89	AVG			

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

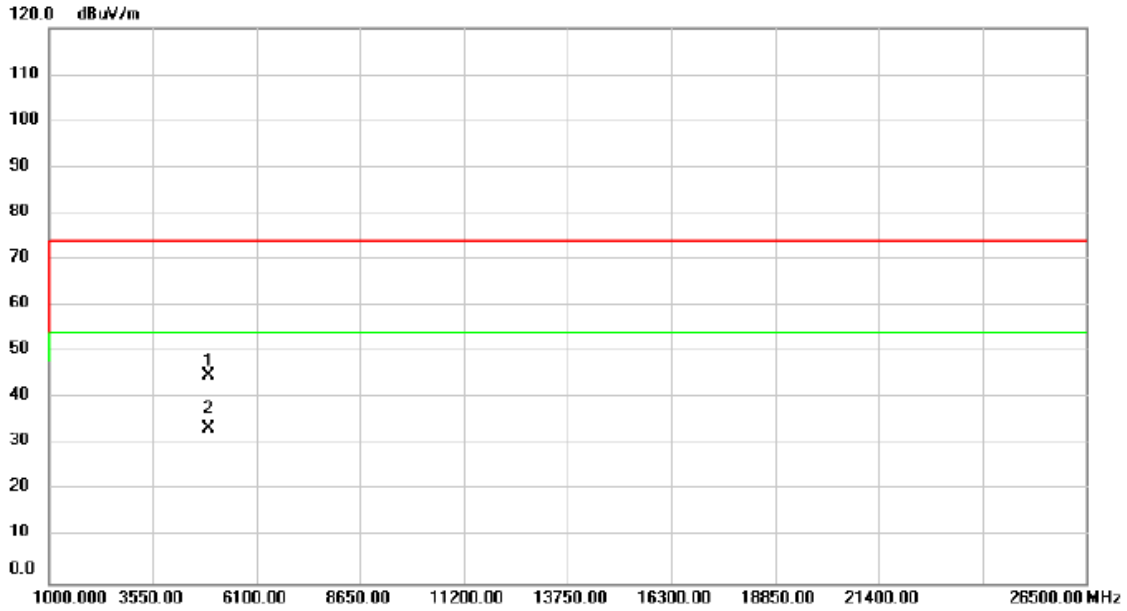
Test Mode	IEEE 802.11n(HT20)	Test Date	2024/1/3
Test Frequency	2437MHz	Polarization	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		4874.000	45.99	-0.41	45.58	74.00	-28.42	peak			
2	*	4874.000	34.49	-0.41	34.08	54.00	-19.92	AVG			

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

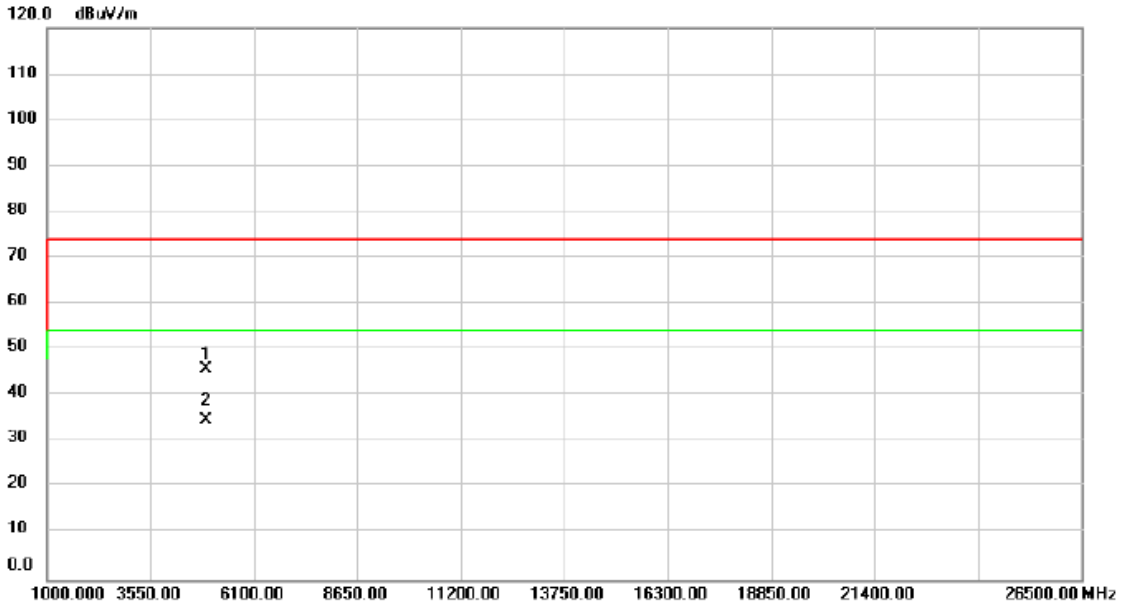
Test Mode	IEEE 802.11n(HT20)	Test Date	2024/1/3
Test Frequency	2462MHz	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		4927.000	44.99	-0.25	44.74	74.00	-29.26	peak			
2	*	4927.000	33.58	-0.25	33.33	54.00	-20.67	AVG			

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

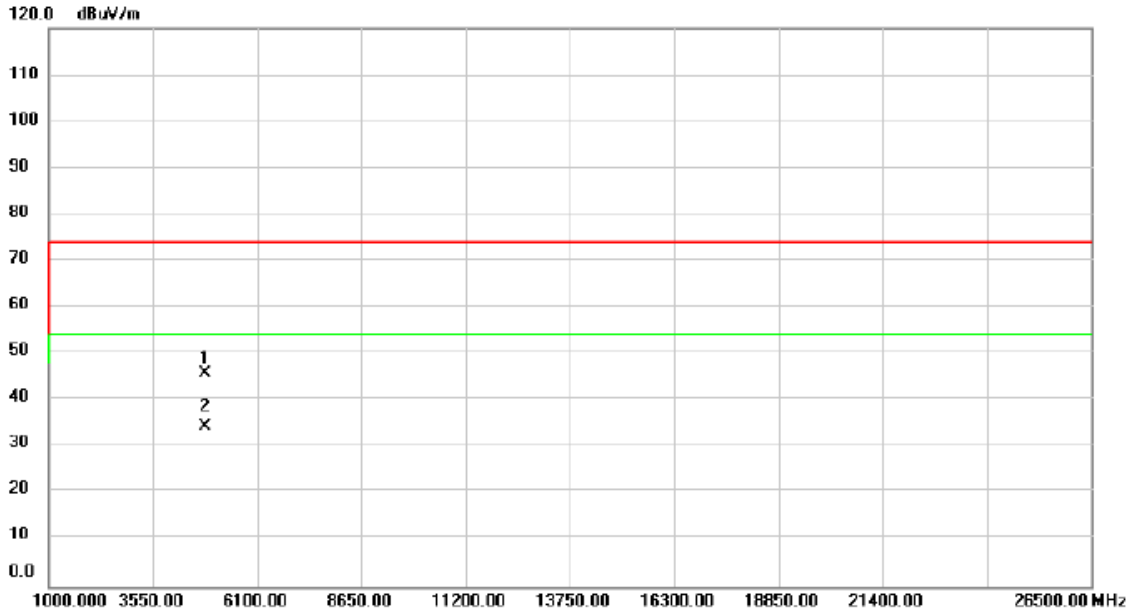
Test Mode	IEEE 802.11n(HT20)	Test Date	2024/1/3
Test Frequency	2462MHz	Polarization	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		4927.000	45.98	-0.25	45.73	74.00	-28.27	peak			
2	*	4927.000	34.90	-0.25	34.65	54.00	-19.35	AVG			

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

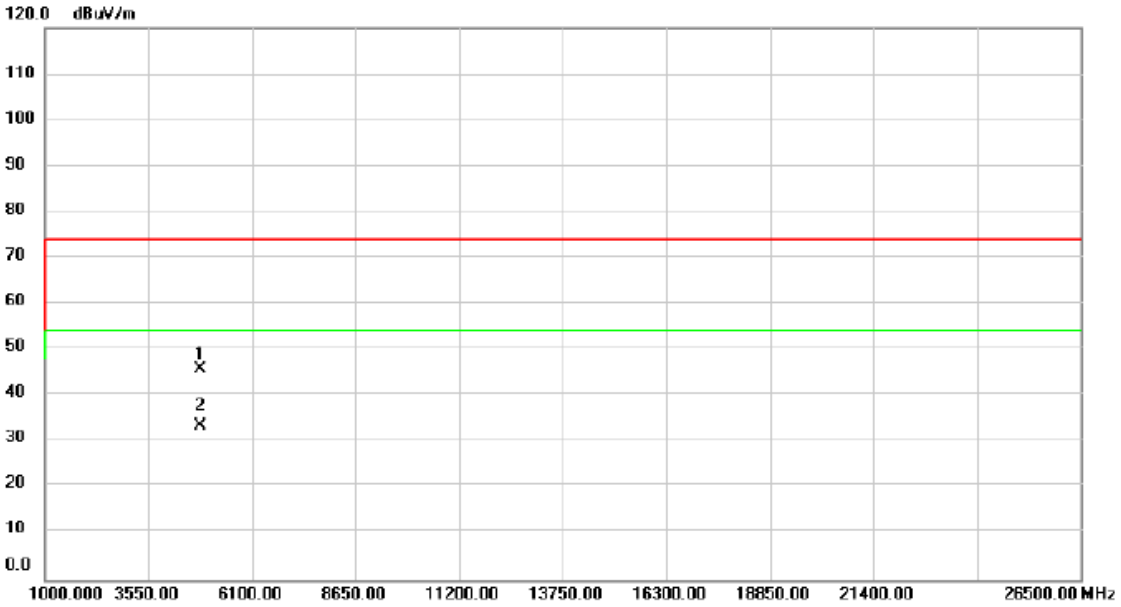
Test Mode	IEEE 802.11ax(HE20)	Test Date	2024/1/3
Test Frequency	2412MHz	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		4824.000	46.36	-0.57	45.79	74.00	-28.21	peak			
2	*	4824.000	34.80	-0.57	34.23	54.00	-19.77	AVG			

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

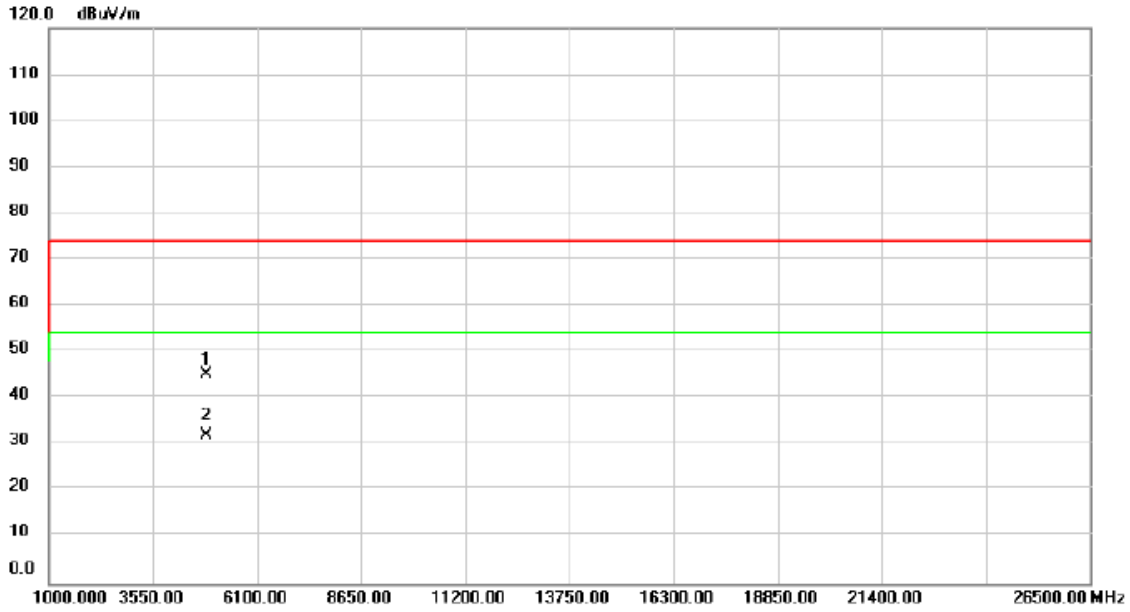
Test Mode	IEEE 802.11ax(HE20)	Test Date	2024/1/3
Test Frequency	2412MHz	Polarization	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		4824.000	46.30	-0.57	45.73	74.00	-28.27	peak			
2	*	4824.000	34.10	-0.57	33.53	54.00	-20.47	AVG			

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

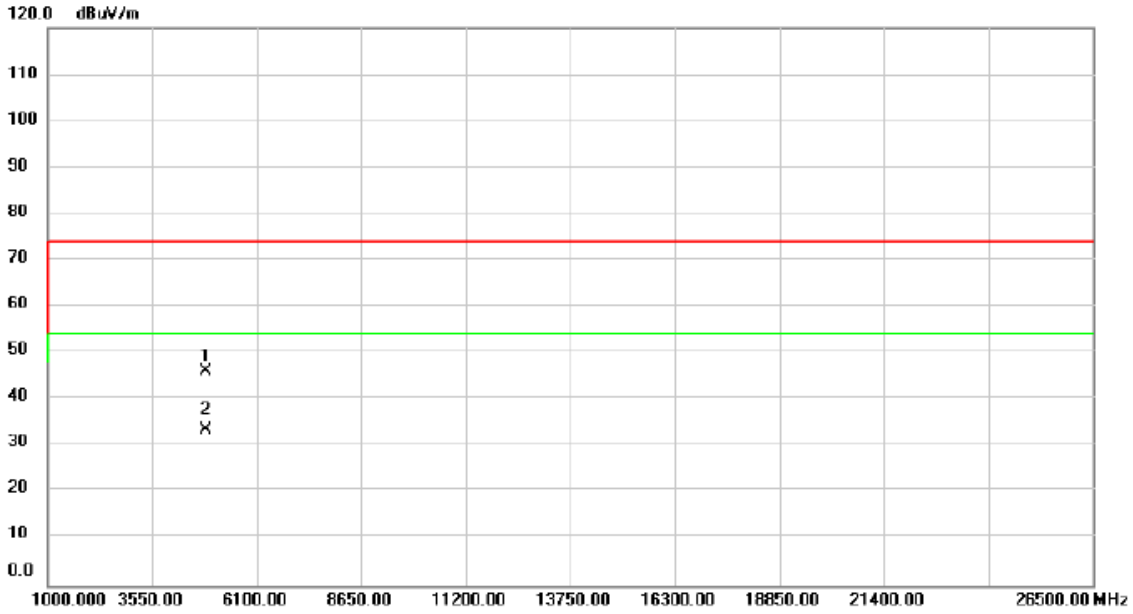
Test Mode	IEEE 802.11ax(HE20)	Test Date	2024/1/3
Test Frequency	2437MHz	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		4874.000	45.56	-0.41	45.15	74.00	-28.85	peak			
2	*	4874.000	32.33	-0.41	31.92	54.00	-22.08	AVG			

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

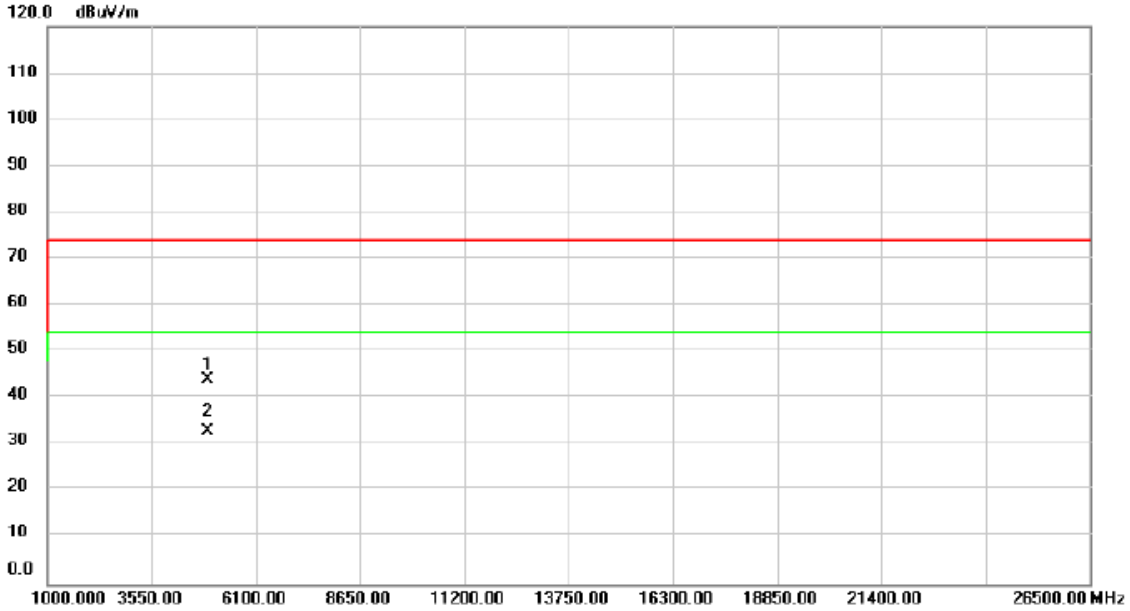
Test Mode	IEEE 802.11ax(HE20)	Test Date	2024/1/3
Test Frequency	2437MHz	Polarization	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		4874.000	46.56	-0.41	46.15	74.00	-27.85	peak			
2	*	4874.000	33.86	-0.41	33.45	54.00	-20.55	AVG			

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

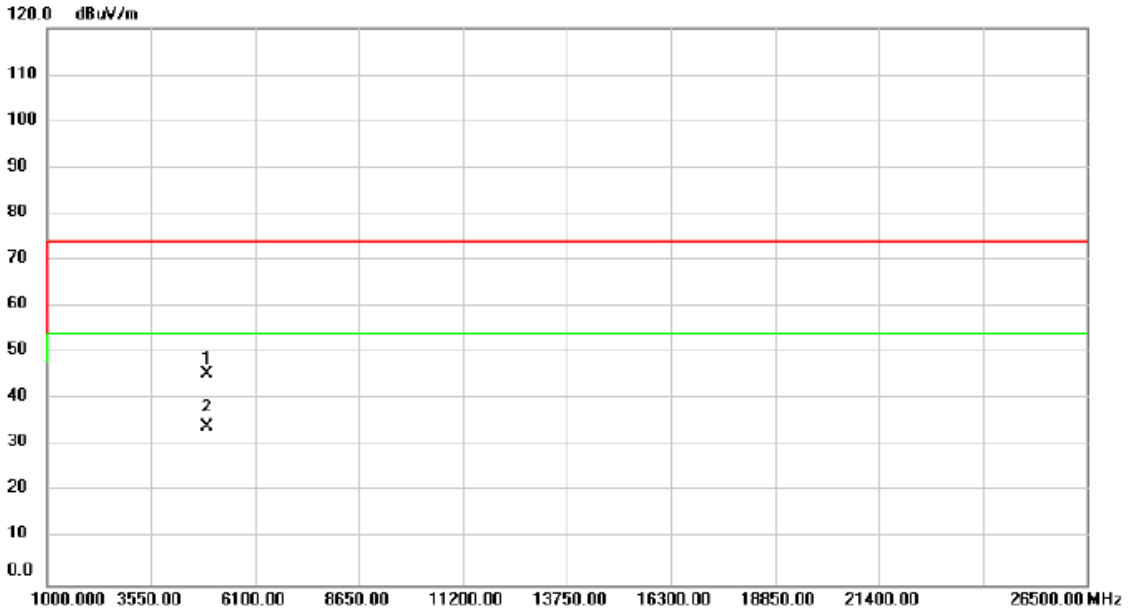
Test Mode	IEEE 802.11ax(HE20)	Test Date	2024/1/3
Test Frequency	2462MHz	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		4927.000	44.12	-0.25	43.87	74.00	-30.13	peak			
2	*	4927.000	33.13	-0.25	32.88	54.00	-21.12	AVG			

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

Test Mode	IEEE 802.11ax(HE20)	Test Date	2024/1/3
Test Frequency	2462MHz	Polarization	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		4924.000	45.73	-0.27	45.46	74.00	-28.54	peak			
2	*	4924.000	34.25	-0.27	33.98	54.00	-20.02	AVG			

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

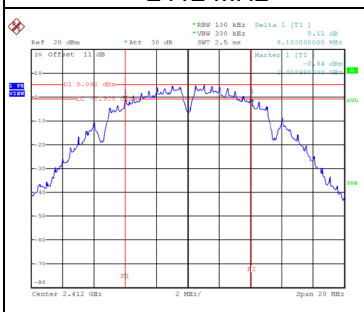
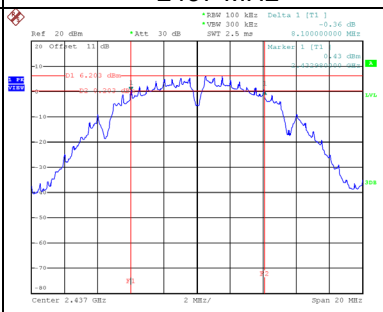
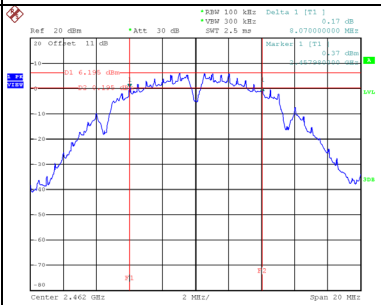
APPENDIX D BANDWIDTH

For Ant. 1

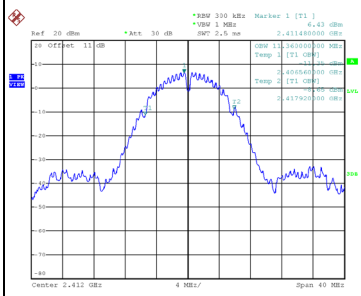
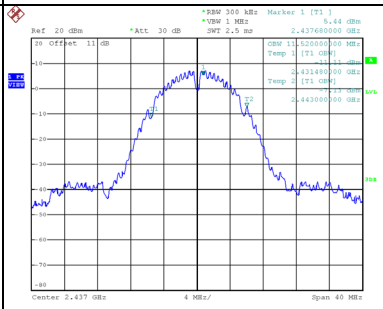
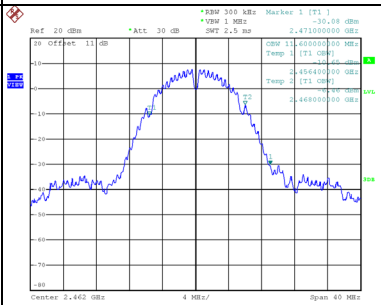
Test Mode	IEEE 802.11b

Test Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)	Minimum 6 dB Bandwidth Limit (kHz)	Result
2412	8.100	11.360	≥ 500	Pass
2437	8.100	11.520	≥ 500	Pass
2462	8.070	11.600	≥ 500	Pass

6dB Bandwidth

2412 MHz	2437 MHz	2462 MHz
		

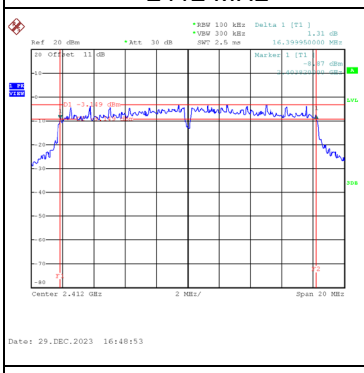
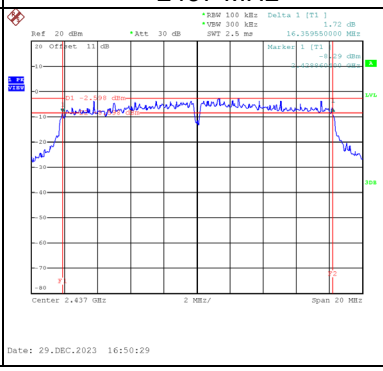
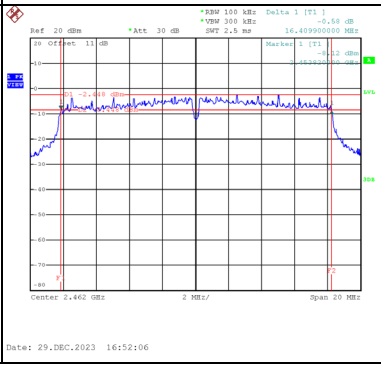
99% Occupied BW

2412 MHz	2437 MHz	2462 MHz
		

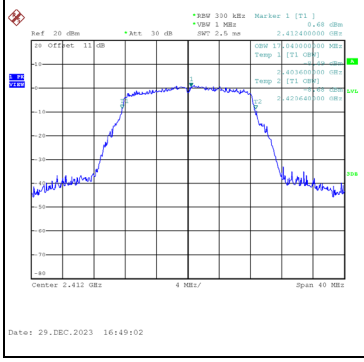
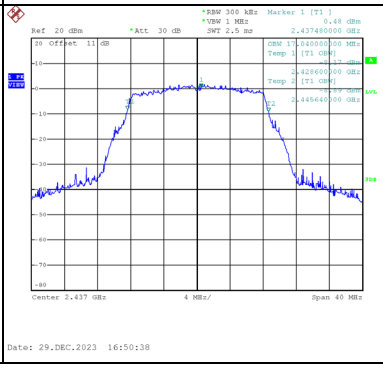
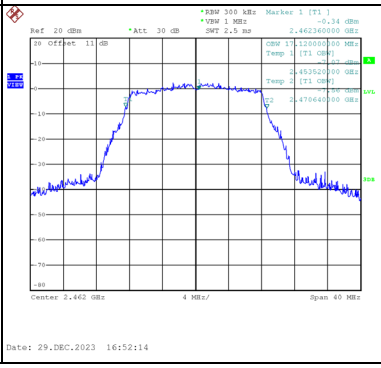
Test Mode	IEEE 802.11g

Test Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)	Minimum 6 dB Bandwidth Limit (kHz)	Result
2412	16.400	17.040	≥ 500	Pass
2437	16.360	17.040	≥ 500	Pass
2462	16.410	17.120	≥ 500	Pass

6dB Bandwidth

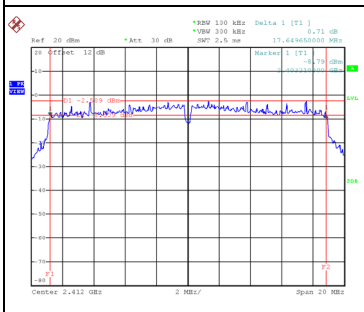
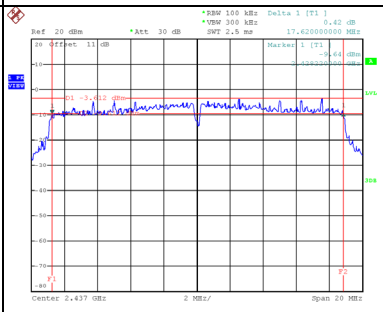
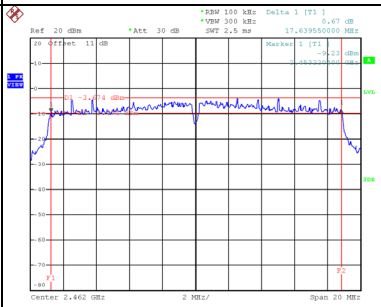
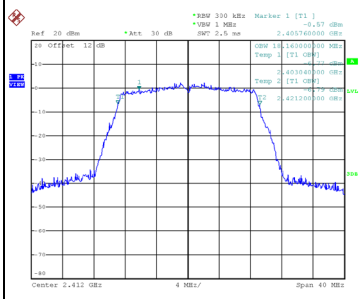
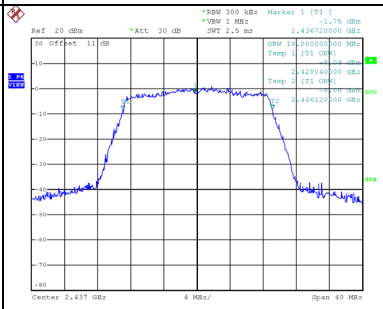
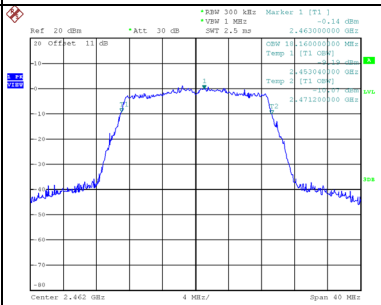
2412 MHz	2437 MHz	2462 MHz
		

99% Occupied BW

2412 MHz	2437 MHz	2462 MHz
		

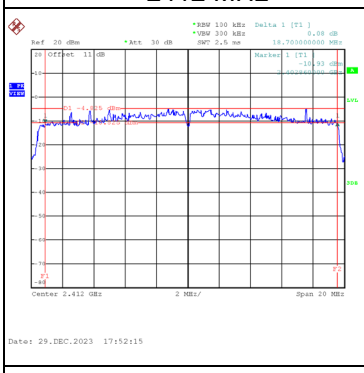
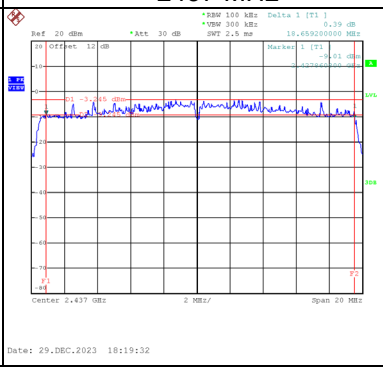
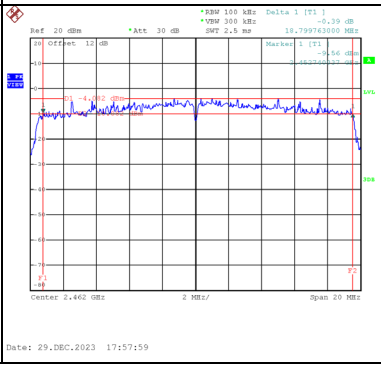
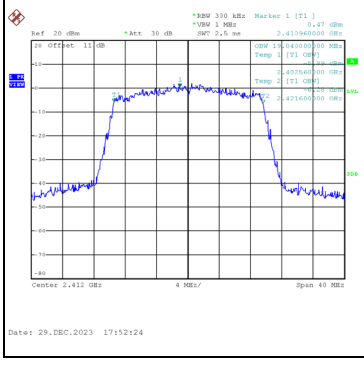
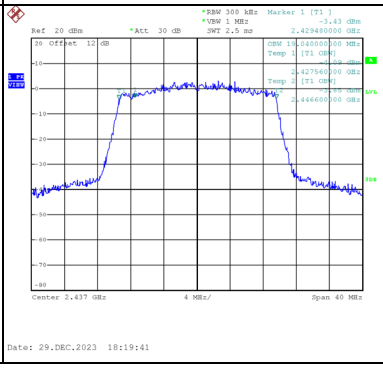
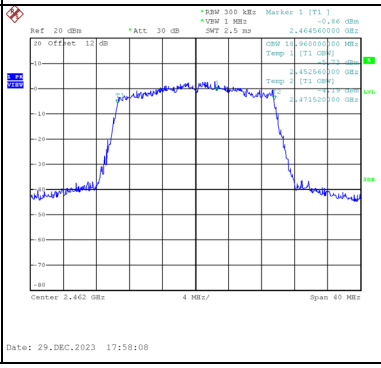
Test Mode	IEEE 802.11n (HT20)

Test Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)	Minimum 6 dB Bandwidth Limit (kHz)	Result
2412	17.650	18.160	≥ 500	Pass
2437	17.620	18.080	≥ 500	Pass
2462	17.640	18.160	≥ 500	Pass

6dB Bandwidth		
2412 MHz	2437 MHz	2462 MHz
		
99% Occupied BW		
2412 MHz	2437 MHz	2462 MHz
		

Test Mode	IEEE 802.11ax(HE20)

Test Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)	Minimum 6 dB Bandwidth Limit (kHz)	Result
2412	18.700	19.040	≥ 500	Pass
2437	18.659	19.040	≥ 500	Pass
2462	18.780	18.960	≥ 500	Pass

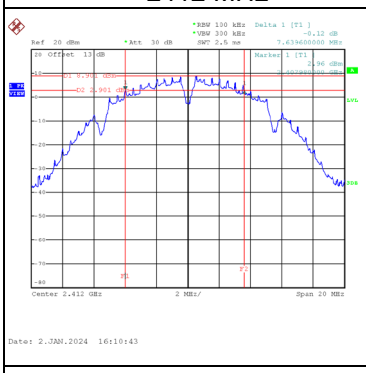
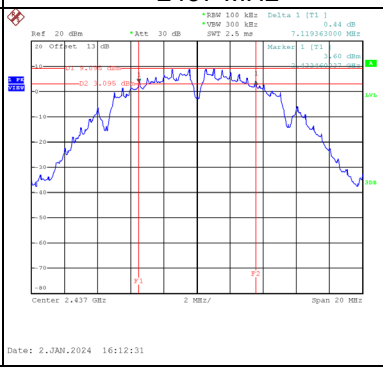
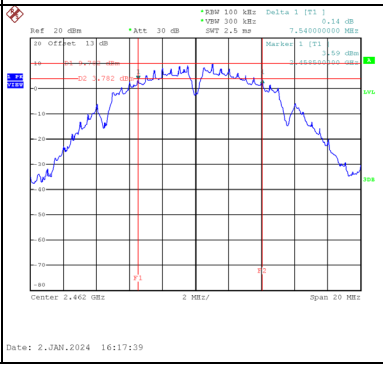
6dB Bandwidth		
2412 MHz	2437 MHz	2462 MHz
		
99% Occupied BW		
2412 MHz	2437 MHz	2462 MHz
		

For Ant. 2

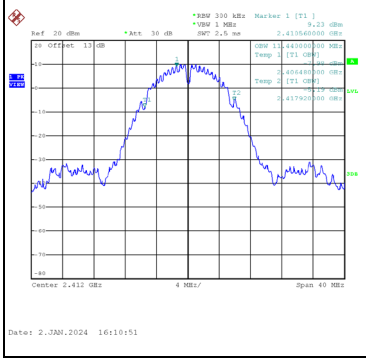
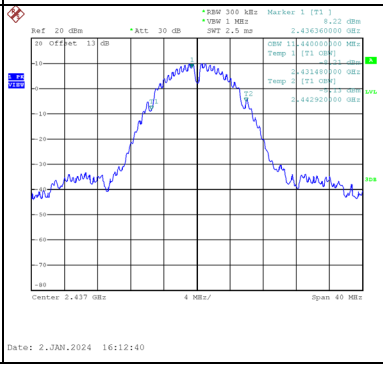
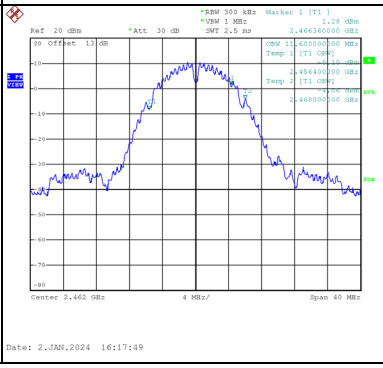
Test Mode	IEEE 802.11b

Test Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)	Minimum 6 dB Bandwidth Limit (kHz)	Result
2412	7.640	11.440	≥ 500	Pass
2437	7.119	11.440	≥ 500	Pass
2462	7.540	11.600	≥ 500	Pass

6dB Bandwidth

2412 MHz	2437 MHz	2462 MHz
		

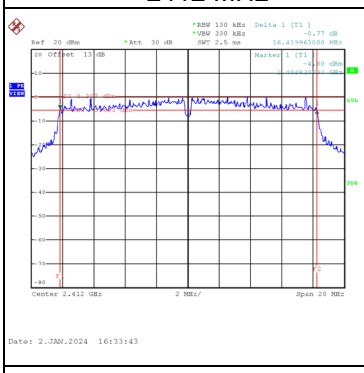
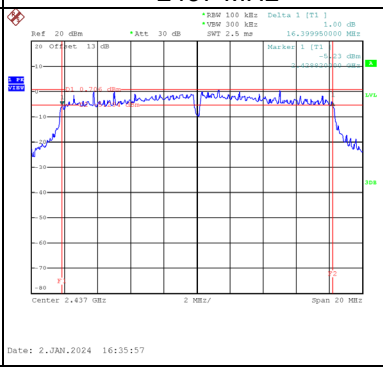
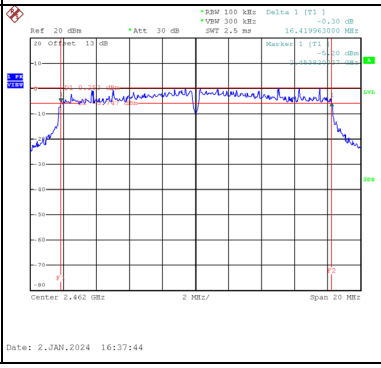
99% Occupied BW

2412 MHz	2437 MHz	2462 MHz
		

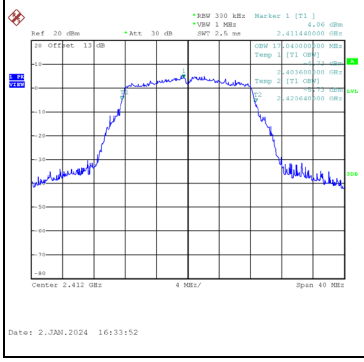
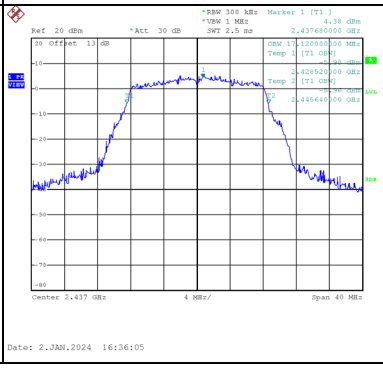
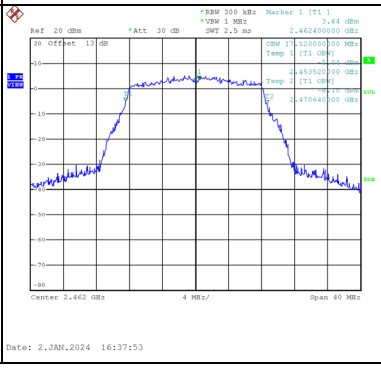
Test Mode	IEEE 802.11g

Test Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)	Minimum 6 dB Bandwidth Limit (kHz)	Result
2412	16.420	17.040	≥ 500	Pass
2437	16.400	17.120	≥ 500	Pass
2462	16.420	17.120	≥ 500	Pass

6dB Bandwidth

2412 MHz	2437 MHz	2462 MHz
		

99% Occupied BW

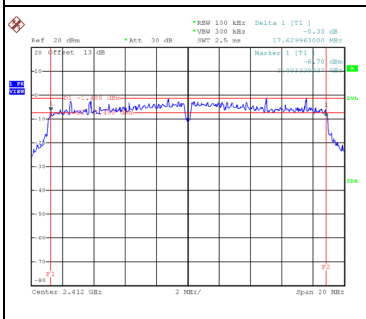
2412 MHz	2437 MHz	2462 MHz
		

Test Mode	IEEE 802.11n (HT20)

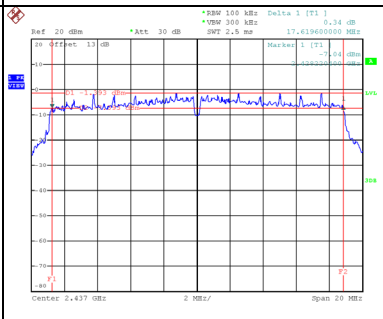
Test Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)	Minimum 6 dB Bandwidth Limit (kHz)	Result
2412	17.630	18.160	≥ 500	Pass
2437	17.620	18.160	≥ 500	Pass
2462	17.660	18.080	≥ 500	Pass

6dB Bandwidth

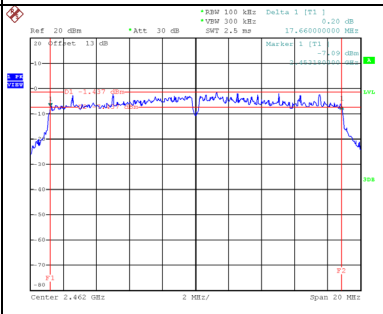
2412 MHz



2437 MHz

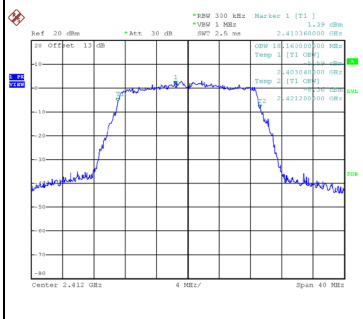


2462 MHz

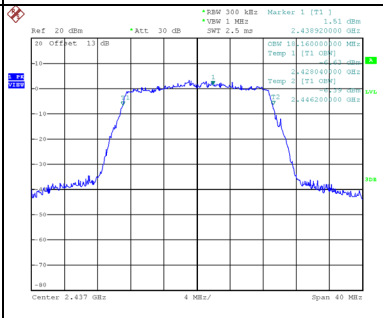


99% Occupied BW

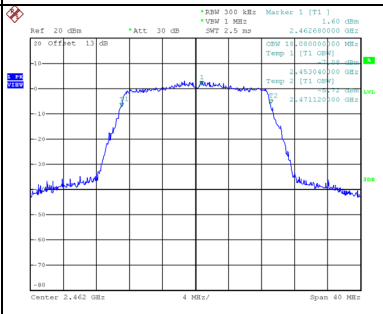
2412 MHz



2437 MHz



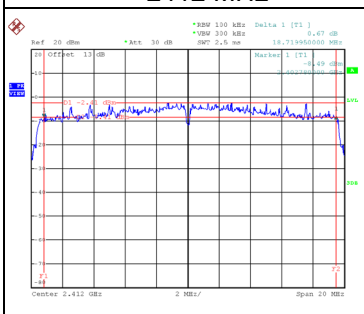
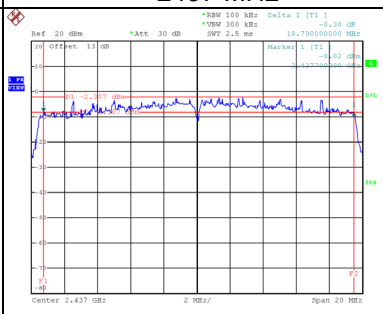
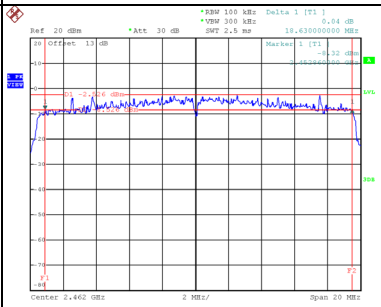
2462 MHz



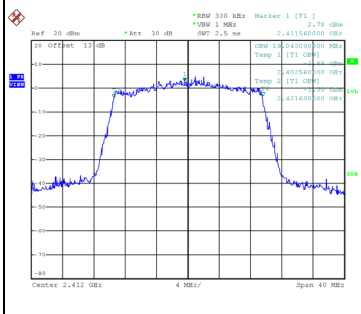
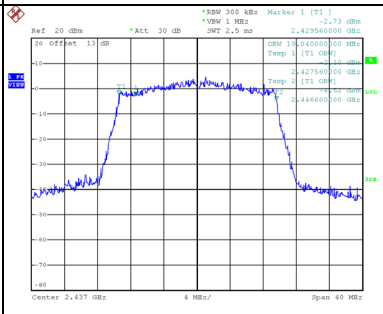
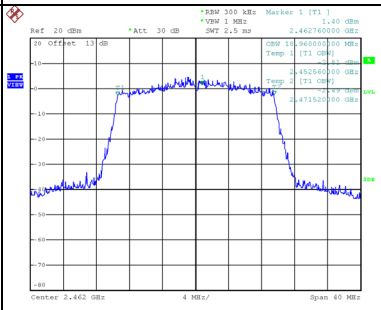
Test Mode	IEEE 802.11ax(HE20)

Test Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)	Minimum 6 dB Bandwidth Limit (kHz)	Result
2412	18.720	19.040	≥ 500	Pass
2437	18.790	19.040	≥ 500	Pass
2462	18.630	18.960	≥ 500	Pass

6dB Bandwidth

2412 MHz	2437 MHz	2462 MHz
		

99% Occupied BW

2412 MHz	2437 MHz	2462 MHz
		

APPENDIX E MAXIMUM OUTPUT POWER

Test Mode	IEEE 802.11b_ Ant. 1	Tested Date	2023/12/29

Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	15.93	0.00	15.93	30.00	1.0000	Complies
06	2437	15.78	0.00	15.78	30.00	1.0000	Complies
11	2462	15.97	0.00	15.97	30.00	1.0000	Complies

Test Mode	IEEE 802.11b_ Ant. 2	Tested Date	2023/12/29

Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	17.67	0.00	17.67	30.00	1.0000	Complies
06	2437	17.69	0.00	17.69	30.00	1.0000	Complies
11	2462	18.33	0.00	18.33	30.00	1.0000	Complies

Test Mode	IEEE 802.11b_ Total	Tested Date	2023/12/29

Channel	Frequency (MHz)	Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	19.90	30.00	1.0000	Complies
06	2437	19.85	30.00	1.0000	Complies
11	2462	20.32	30.00	1.0000	Complies

Test Mode	IEEE 802.11g_ Ant. 1	Tested Date	2023/12/29

Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	12.16	0.30	12.46	30.00	1.0000	Complies
06	2437	12.05	0.30	12.35	30.00	1.0000	Complies
11	2462	11.95	0.30	12.25	30.00	1.0000	Complies

Test Mode	IEEE 802.11g_ Ant. 2	Tested Date	2023/12/29

Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	14.09	0.30	14.39	30.00	1.0000	Complies
06	2437	14.04	0.30	14.34	30.00	1.0000	Complies
11	2462	14.48	0.30	14.78	30.00	1.0000	Complies

Test Mode	IEEE 802.11g_ Total	Tested Date	2023/12/29

Channel	Frequency (MHz)	Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	16.54	30.00	1.0000	Complies
06	2437	16.47	30.00	1.0000	Complies
11	2462	16.71	30.00	1.0000	Complies

Test Mode	IEEE 802.11n (HT20) _ Ant. 1	Tested Date	2023/12/29

Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	10.26	0.33	10.59	30.00	1.0000	Complies
06	2437	10.05	0.33	10.38	30.00	1.0000	Complies
11	2462	10.04	0.33	10.37	30.00	1.0000	Complies

Test Mode	IEEE 802.11n (HT20) _ Ant. 2	Tested Date	2023/12/29

Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	12.52	0.33	12.85	30.00	1.0000	Complies
06	2437	12.25	0.33	12.58	30.00	1.0000	Complies
11	2462	12.63	0.33	12.96	30.00	1.0000	Complies

Test Mode	IEEE 802.11n (HT20) _ Total	Tested Date	2023/12/29

Channel	Frequency (MHz)	Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	14.88	30.00	1.0000	Complies
06	2437	14.63	30.00	1.0000	Complies
11	2462	14.87	30.00	1.0000	Complies

Test Mode	IEEE 802.11ax(HE20) _ Ant. 1	Tested Date	2023/12/29

Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	10.83	0.49	11.32	30.00	1.0000	Complies
06	2437	10.62	0.49	11.11	30.00	1.0000	Complies
11	2462	10.66	0.49	11.15	30.00	1.0000	Complies

Test Mode	IEEE 802.11ax(HE20) _ Ant. 2	Tested Date	2023/12/29

Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	12.15	0.49	12.64	30.00	1.0000	Complies
06	2437	12.24	0.49	12.73	30.00	1.0000	Complies
11	2462	12.62	0.49	13.11	30.00	1.0000	Complies

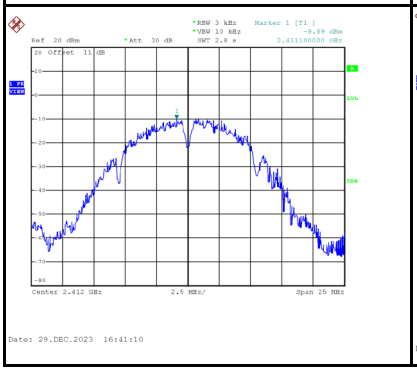
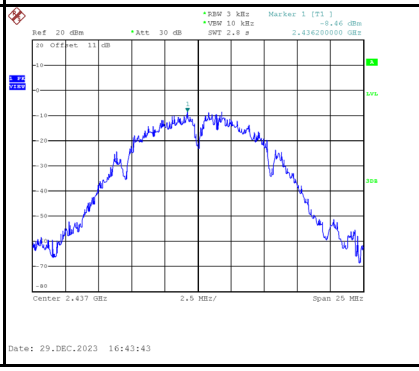
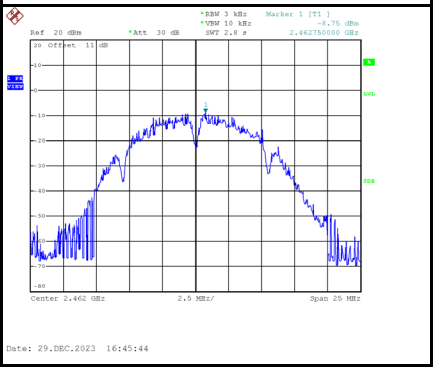
Test Mode	IEEE 802.11ax(HE20) _ Total	Tested Date	2023/12/29

Channel	Frequency (MHz)	Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	15.04	30.00	1.0000	Complies
06	2437	15.01	30.00	1.0000	Complies
11	2462	15.25	30.00	1.0000	Complies

APPENDIX F POWER SPECTRAL DENSITY

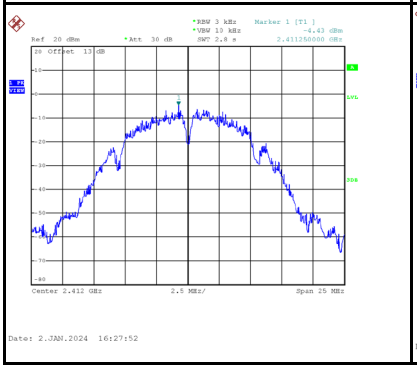
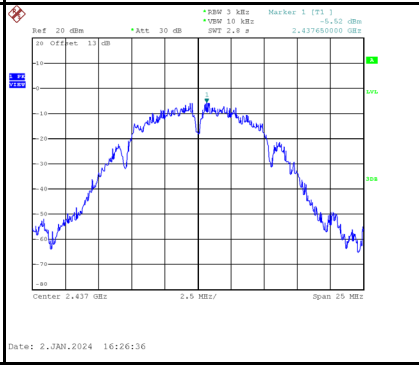
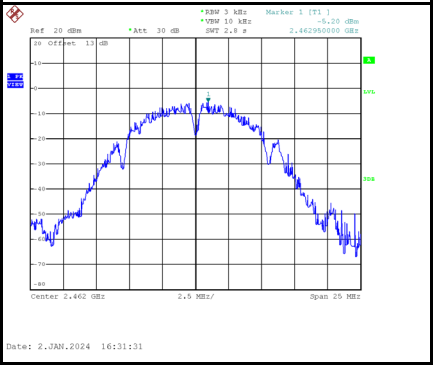
Test Mode	IEEE 802.11b_ Ant. 1

Test Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Maximum Limit (dBm/3kHz)	Result
2412	-9.89	7.32	Pass
2437	-8.46	7.32	Pass
2462	-8.75	7.32	Pass

2412 MHz	2437 MHz	2462 MHz
		

Test Mode	IEEE 802.11b_ Ant. 2

Test Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Maximum Limit (dBm/3kHz)	Result
2412	-4.43	7.32	Pass
2437	-5.52	7.32	Pass
2462	-5.20	7.32	Pass

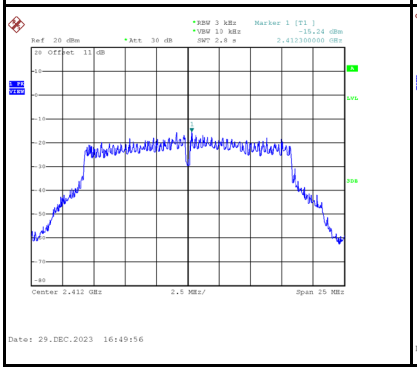
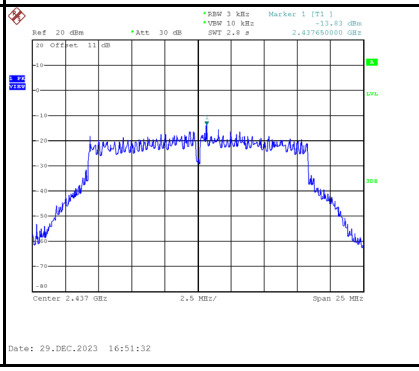
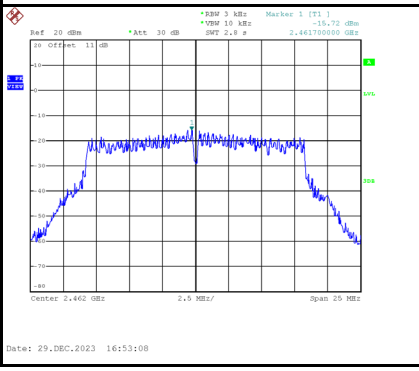
2412 MHz	2437 MHz	2462 MHz
		

Test Mode	IEEE 802.11b_ Total

Test Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Maximum Limit (dBm/3kHz)	Result
2412	-3.34	7.32	Pass
2437	-3.74	7.32	Pass
2462	-3.61	7.32	Pass

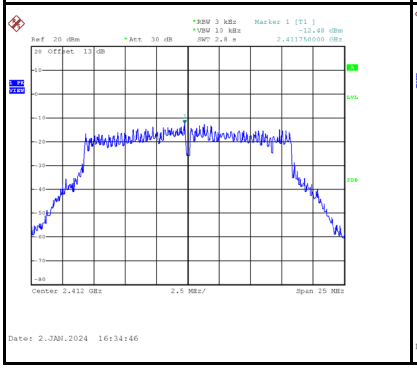
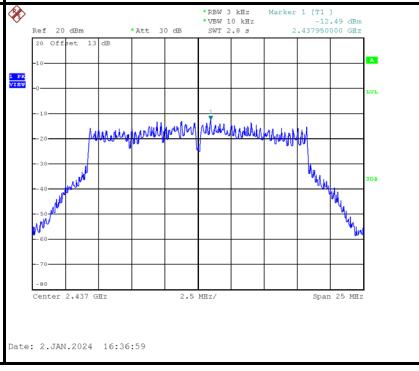
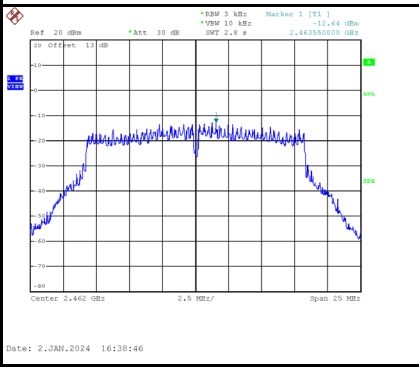
Test Mode	IEEE 802.11g_ Ant. 1

Test Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Maximum Limit (dBm/3kHz)	Result
2412	-15.24	7.32	Pass
2437	-13.83	7.32	Pass
2462	-15.72	7.32	Pass

2412 MHz	2437 MHz	2462 MHz
		

Test Mode	IEEE 802.11g_ Ant. 2

Test Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Maximum Limit (dBm/3kHz)	Result
2412	-12.48	7.32	Pass
2437	-12.49	7.32	Pass
2462	-12.64	7.32	Pass

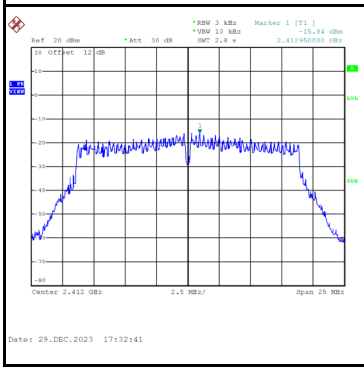
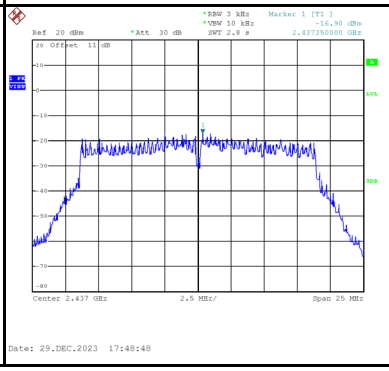
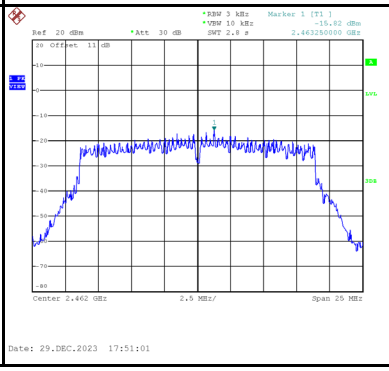
2412 MHz	2437 MHz	2462 MHz
		

Test Mode	IEEE 802.11g_ Total

Test Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Maximum Limit (dBm/3kHz)	Result
2412	-10.63	7.32	Pass
2437	-10.10	7.32	Pass
2462	-10.90	7.32	Pass

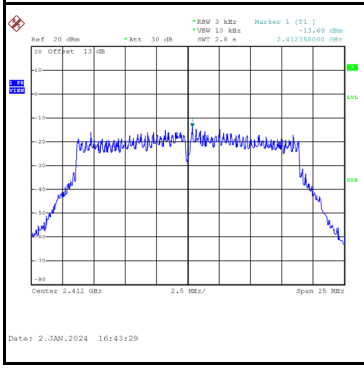
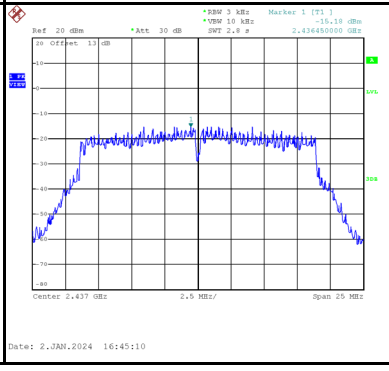
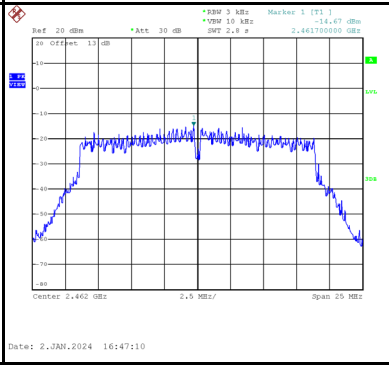
Test Mode	IEEE 802.11n (HT20)_ Ant. 1

Test Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Maximum Limit (dBm/3kHz)	Result
2412	-15.84	7.32	Pass
2437	-16.90	7.32	Pass
2462	-15.82	7.32	Pass

2412 MHz	2437 MHz	2462 MHz
		

Test Mode	IEEE 802.11n (HT20)_ Ant. 2

Test Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Maximum Limit (dBm/3kHz)	Result
2412	-13.69	7.32	Pass
2437	-15.18	7.32	Pass
2462	-14.67	7.32	Pass

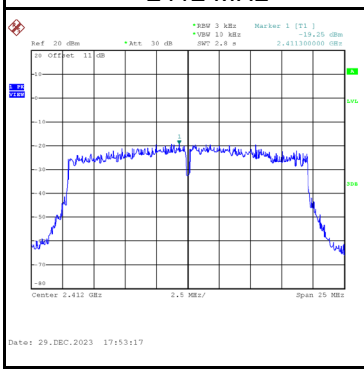
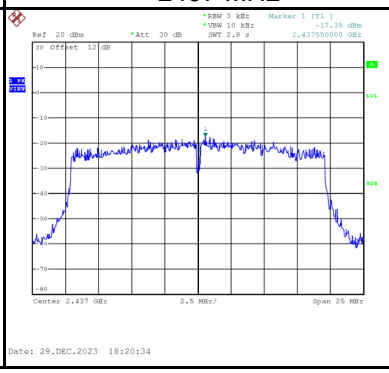
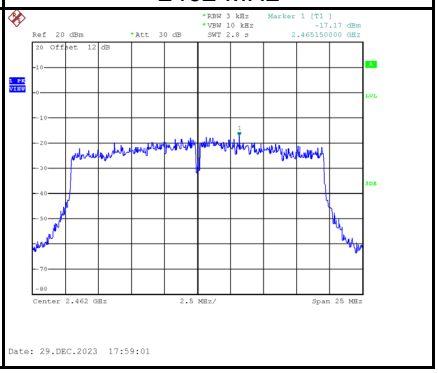
2412 MHz	2437 MHz	2462 MHz
		

Test Mode	IEEE 802.11n (HT20)_ Total

Test Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Maximum Limit (dBm/3kHz)	Result
2412	-11.62	7.32	Pass
2437	-12.95	7.32	Pass
2462	-12.20	7.32	Pass

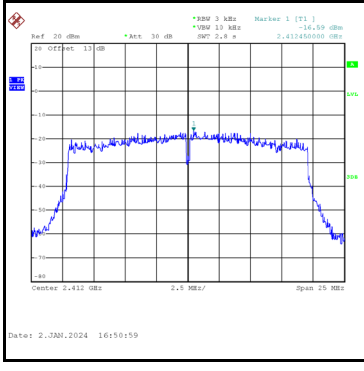
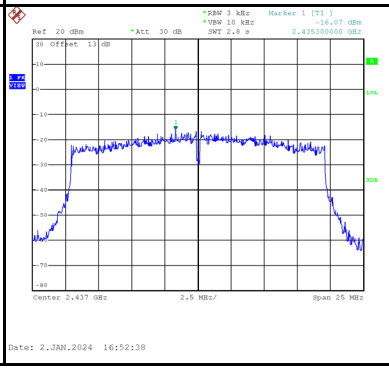
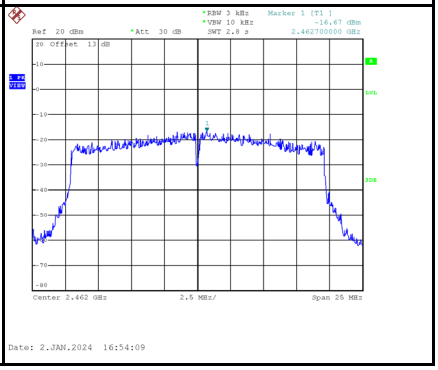
Test Mode	IEEE 802.11ax(HE20)_ Ant. 1

Test Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Maximum Limit (dBm/3kHz)	Result
2412	-19.25	7.32	Pass
2437	-17.35	7.32	Pass
2462	-17.17	7.32	Pass

2412 MHz	2437 MHz	2462 MHz
		

Test Mode	IEEE 802.11ax(HE20)_ Ant. 2

Test Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Maximum Limit (dBm/3kHz)	Result
2412	-16.59	7.32	Pass
2437	-16.07	7.32	Pass
2462	-16.67	7.32	Pass

2412 MHz	2437 MHz	2462 MHz
		

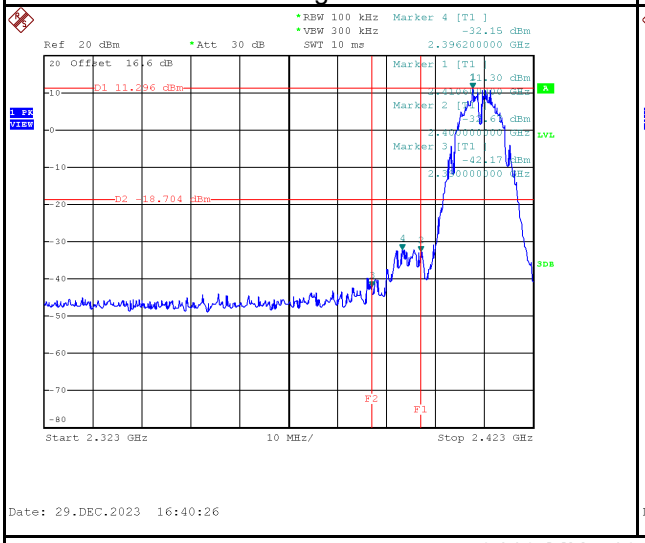
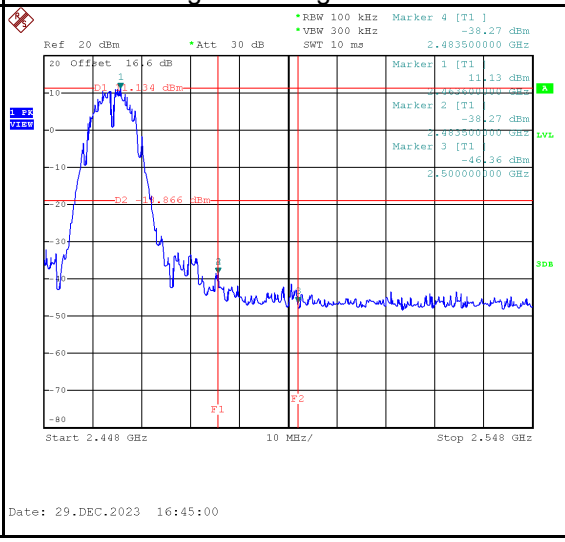
Test Mode	IEEE 802.11ax(HE20)_ Total

Test Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Maximum Limit (dBm/3kHz)	Result
2412	-14.71	7.32	Pass
2437	-13.65	7.32	Pass
2462	-13.90	7.32	Pass

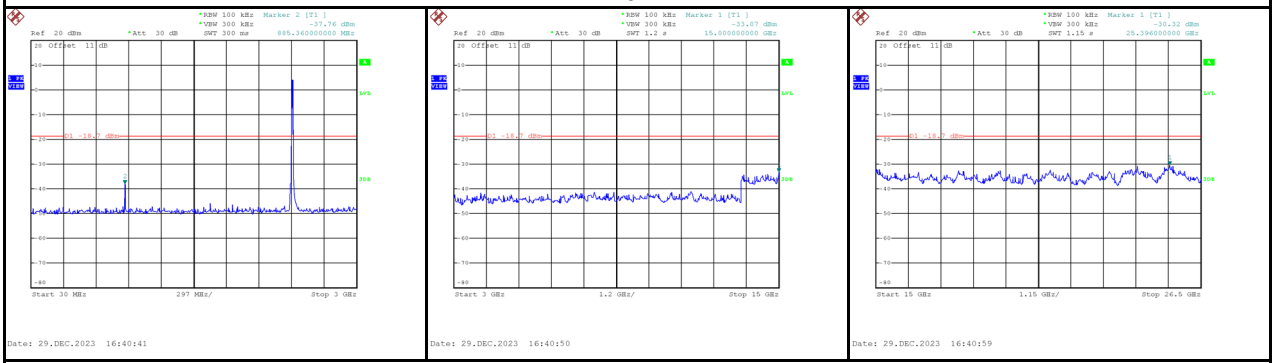
APPENDIX G ANTENNA CONDUCTED SPURIOUS EMISSIONS

For Ant. 1

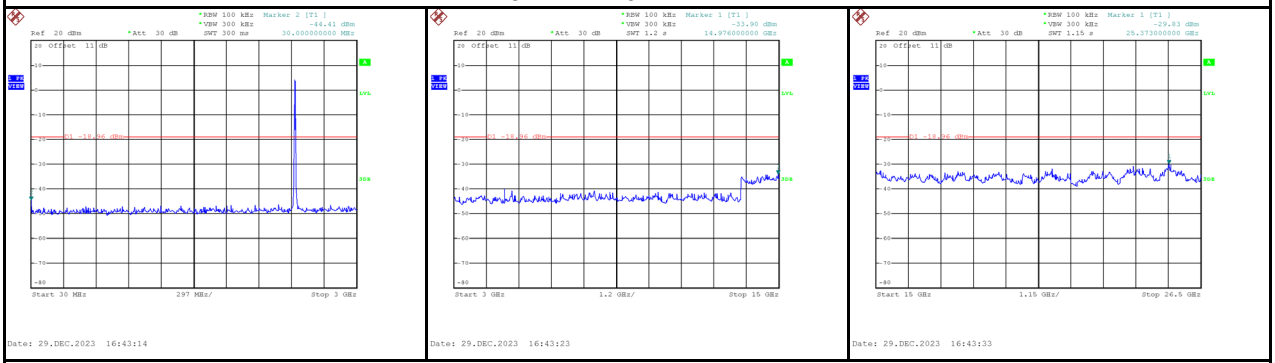
Test Mode	IEEE 802.11b

Low Bandedge-2412 MHz	High Bandedge-2462 MHz
	
Date: 29.DEC.2023 16:40:26	Date: 29.DEC.2023 16:45:00

2412 MHz-10th Harmonics



2437 MHz-10th Harmonics



2462 MHz-10th Harmonics