FCC Radio Test Report

FCC ID: 2AIMRRD12

This report concerns: Original Grant

Report No.	:	eLab-FCCP-1-2312C025B
Equipment	:	Xiaomi Router AX1500
Brand Name	:	Xiaomi
Test Model	:	RD12
Series Model	:	N/A
Applicant	:	Beijing Xiaomi Electronics Co., Ltd.
Address	:	Room 802, Floor 8, Building 5, No.15 KeChuang 10th Road, Beijing Economic and Technological Development Zone, Beijing City, China.
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	:	2024/03/11
Date of Test	:	2024/03/11 ~ 2024/03/18
Issued Date	:	2024/03/27

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

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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.

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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.

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REPORT ISSUED HISTORY

Report No.	Version	Description	Issued Date	Note
eLab-FCCP-1-2312C025B	R00	Original Report.	2024/03/25	Invalid
eLab-FCCP-1-2312C025B	R01	Updated the description of antenna.	2024/03/27	Valid

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

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)	Conducted Spurious Emissions	APPENDIX F	PASS	------
15.247(e)	Power Spectral Density	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.

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. Other Measurement:

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	Temperature	Humidity	Test Voltage	Tested By
AC Power Line Conducted Emissions	25°C	45%	AC 120V/60Hz	Hunter Chiang
Radiated Emissions-30MHz to 1000MHz	25°C	60%	AC 120V/60Hz	Hunter Chiang
Radiated Emissions-Above 1000MHz	25°C	60%	AC 120V/60Hz	Hunter Chiang
Bandwidth	21°C	64%	AC 120V/60Hz	Cheng Tsai
Maximum Output Power	21°C	64%	AC 120V/60Hz	Cheng Tsai
Conducted Spurious Emissions	21°C	64%	AC 120V/60Hz	Cheng Tsai
Power Spectral Density	21°C	64%	AC 120V/60Hz	Cheng Tsai

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	Xiaomi Router AX1500
Brand Name	Xiaomi
Test Model	RD12
Series Model	N/A
Model Difference(s)	N/A
Software Version	1.0.31
Hardware Version	1.0
Power Source	DC voltage supplied from AC adapter. Model: AD-0121200100US-5
Power Rating	I/P: 100-240V~ 50/60Hz 0.5A O/P: 12V ⎓ 1A
Operation Frequency	2412 MHz ~ 2462 MHz
Modulation Type	IEEE 802.11b: DSSS IEEE 802.11g: OFDM IEEE 802.11n: OFDM
Bit Rate of Transmitter	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
Maximum Output Power	IEEE 802.11n (HT20): 22.28 dBm (0.1690 W)

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.

2. Channel List:

CH01 - CH11 for IEEE 802.11b, IEEE 802.11g, IEEE 802.11n (HT20) CH03 - CH09 for IEEE 802.11n (HT40)							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2412	04	2427	07	2442	10	2457
02	2417	05	2432	08	2447	11	2462
03	2422	06	2437	09	2452		

3. Antenna Specification:

Ant.	Brand	P/N	Antenna Type	Connector	Gain (dBi)
1	South star	N/A	Dipole	N/A	2.51
2	South star	N/A	Dipole	N/A	2.46

Note:

1) This EUT supports SISO and MIMO, any transmit signals are correlated with each other, so Directional gain=10log[$(10^{G1/20}+10^{G2/20}+...10^{GN/20})^2$/N]dBi, that is Directional gain=10log[$(10^{2.51/20}+10^{2.46/20})^2$/2]dBi =5.50.
2) The antenna gain is provided by the manufacturer.

4. Table for Antenna Configuration:

Operating Mode / TX Mode	1TX	2TX
IEEE 802.11b	V (Ant. 1)	-
IEEE 802.11g	V (Ant. 1)	-
IEEE 802.11n(HT20)	-	V(Ant. 1 + Ant. 2)
IEEE 802.11n(HT40)	-	V(Ant. 1 + Ant. 2)

2.2 DESCRIPTION OF TEST MODES

Test Items	Test mode	Channel	Note
AC power line conducted emissions	Normal/Idle	-	-
Radiated Emissions-30MHz to 1000MHz	TX Mode_IEEE 802.11n(HT20)	01	-
Radiated Emissions-Above 1000MHz	TX Mode_IEEE 802.11b	01/11	Bandedge
	TX Mode_IEEE 802.11g		
	TX Mode_IEEE 802.11n (HT20)		
	TX Mode_IEEE 802.11n (HT40)	03/09	
	TX Mode_IEEE 802.11b	01/06/11	Harmonic
	TX Mode_IEEE 802.11g		
	TX Mode_IEEE 802.11n (HT20)		
	TX Mode_IEEE 802.11n (HT40)	03/06/09	
Bandwidth & Maximum Output Power & Conducted Spurious Emissions & Power Spectral Density	TX Mode_IEEE 802.11b	01/06/11	-
	TX Mode_IEEE 802.11g		
	TX Mode_IEEE 802.11n (HT20)		
	TX Mode_IEEE 802.11n (HT40)		

NOTE:
(1) All the bit rate of transmitter have been tested and found the lowest rate is found to be the worst case and recorded.
(2) For AC power line conducted emissions and radiated emission below 1 GHz test, the TX N(HT20) Mode Channel 01 is found to be the worst case and recorded.
(3) For radiated emission band edge test, both Vertical and Horizontal are evaluated, but only the worst case (Horizontal) is recorded.

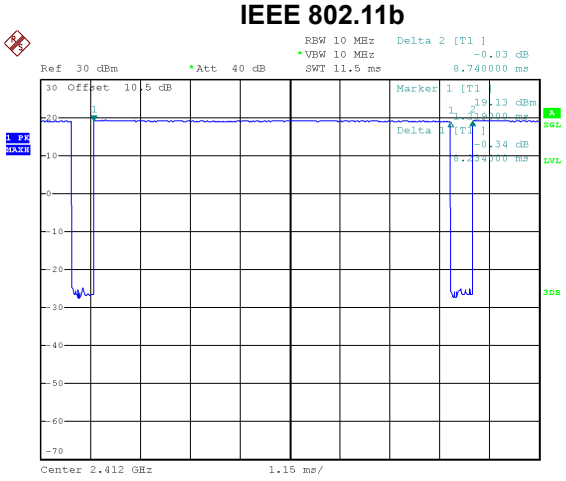
2.3 PARAMETERS OF TEST SOFTWARE

Test Software Version	MP_TEST_210603		
Frequency (MHz)	2412	2437	2462
IEEE 802.11b	40	40	40
IEEE 802.11g	127	127	127
IEEE 802.11n(HT20)	127	127	127
Frequency (MHz)	2422	2437	2452
IEEE 802.11n(HT40)	40	127	127

2.4 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.

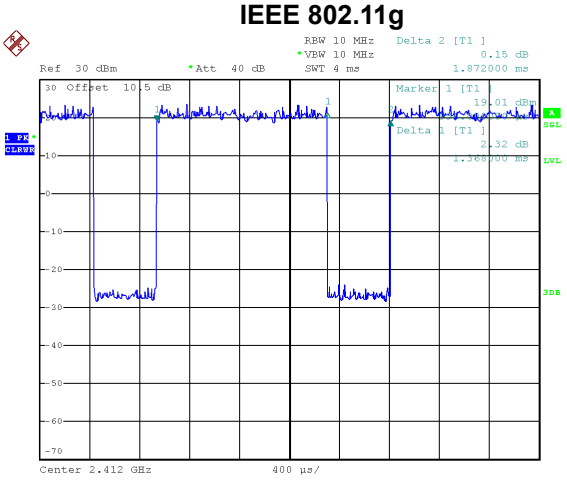
IEEE 802.11b



Date: 15.MAR.2024 11:44:51

Duty cycle = 8.234 ms / 8.740 ms = 94.21%
Duty Factor = 10 log(1/Duty cycle) = 0.26

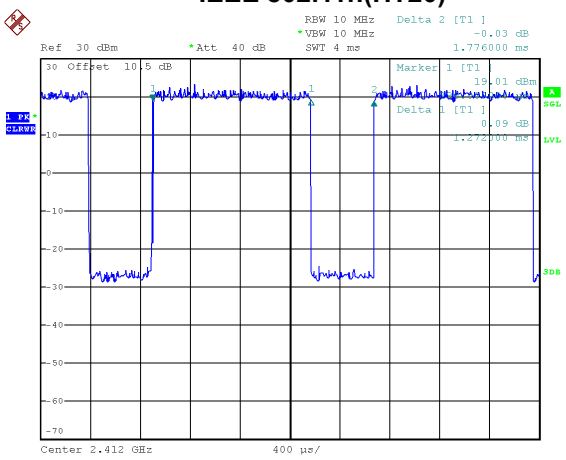
IEEE 802.11g



Date: 15.MAR.2024 11:46:00

Duty cycle = 1.368 ms / 1.872 ms = 73.08%
Duty Factor = 10 log(1/Duty cycle) = 1.36

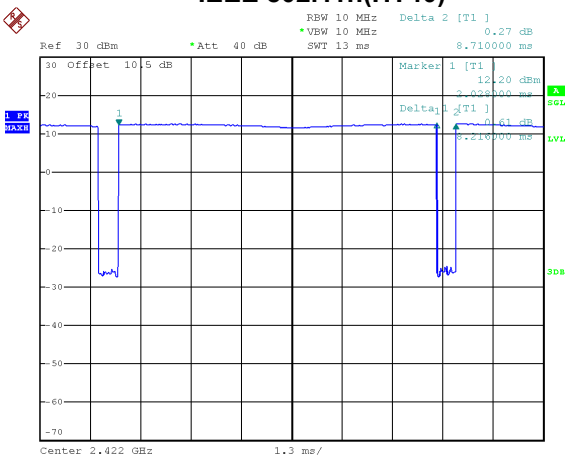
IEEE 802.11n(HT20)



Date: 15.MAR.2024 11:47:17

Duty cycle = 1.272 ms / 1.776 ms = 71.62%
Duty Factor = 10 log(1/Duty cycle) = 1.45

IEEE 802.11n(HT40)



Date: 15.MAR.2024 11:52:33

Duty cycle = 8.216 ms / 8.710 ms = 94.33%
Duty Factor = 10 log(1/Duty cycle) = 0.25

NOTE:
For IEEE 802.11b:
For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 121 Hz.

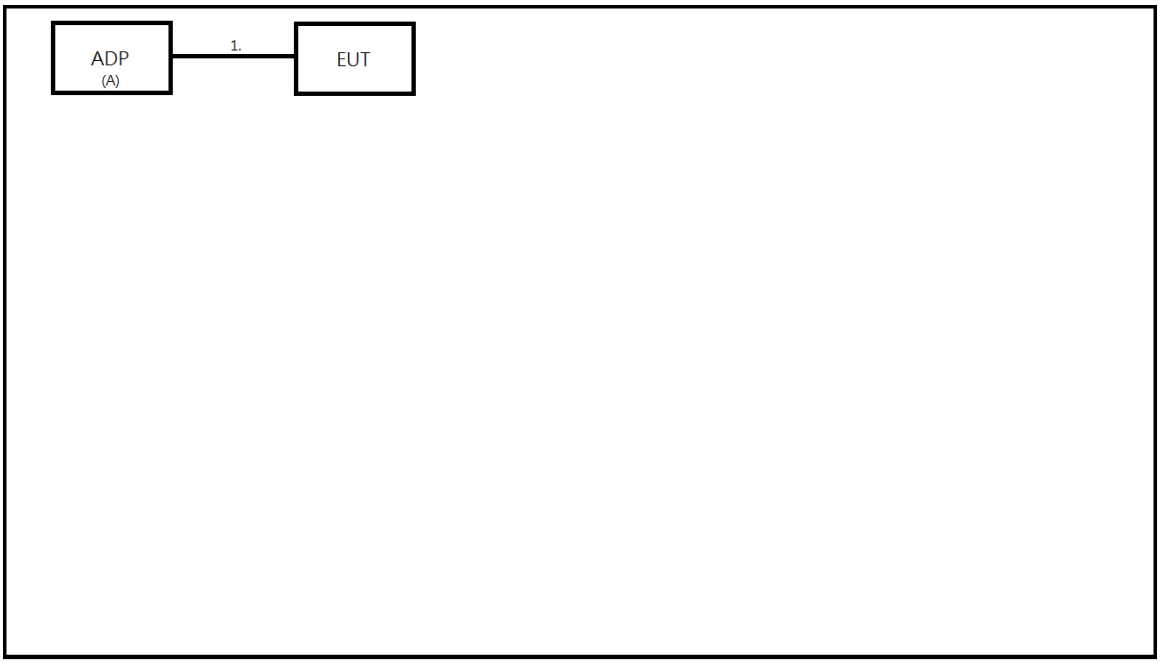
For IEEE 802.11g:
For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 731 Hz.

For IEEE 802.11n(HT20):
For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 786 Hz.

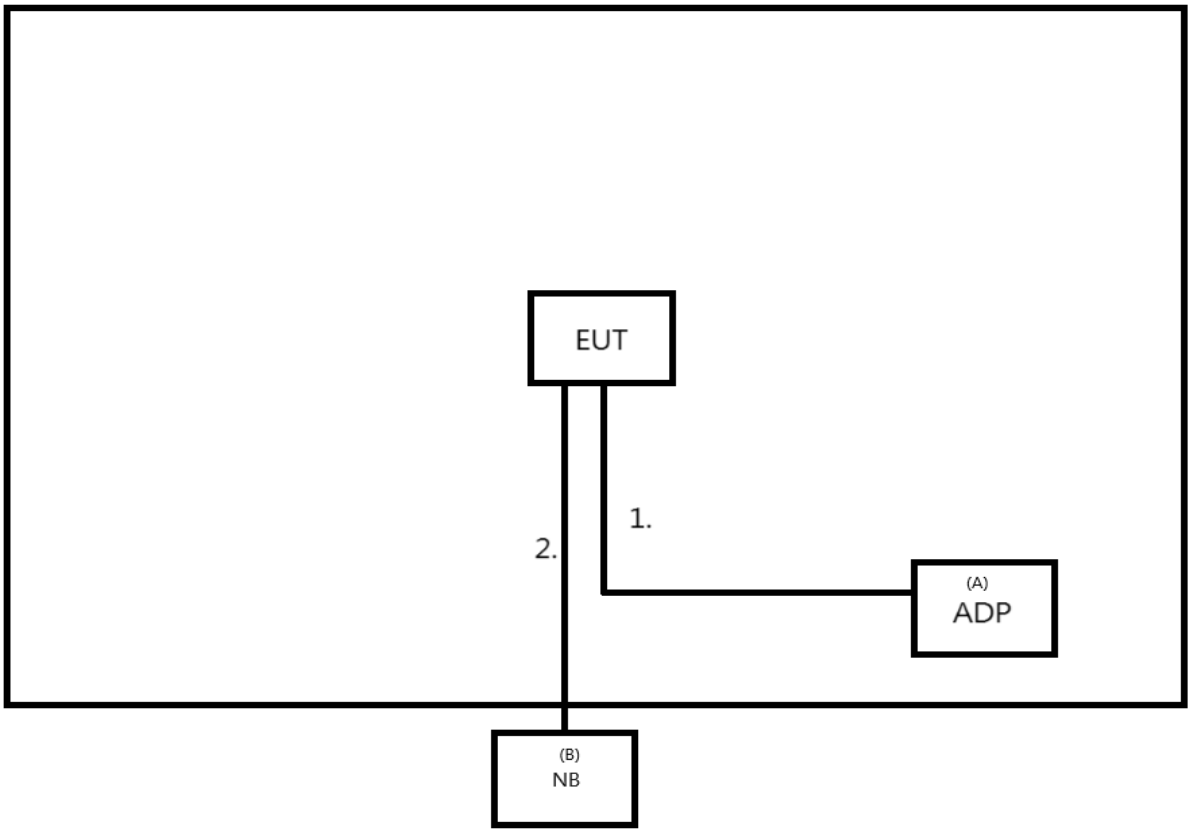
For IEEE 802.11n(HT40):
For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 122 Hz.

2.5 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

AC power line conducted emissions test



Radiated emissions test



2.6 SUPPORT UNITS

Item	Equipment	Brand	Model No.	Series No.	Note
A	ADP	Xiaomi	AD-0121200100US-5	N/A	Supplied by test requester
B	NB	Dynabook	TECRA A40-J	41029336H	Furnished by test lab

Item	Cable Type	Shielded Type	Ferrite Core	Length	Note
1	DC Cable	NO	NO	1.5m	Supplied by test requester
2	RJ45 Cable	NO	NO	10m	Furnished by test lab

3. AC POWER LINE CONDUCTED EMISSIONS

3.1 LIMIT

Frequency of Emission (MHz)	Limit (dBμV)	
	Quasi-peak	Average
0.15 - 0.5	66 to 56*	56 to 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
Sample calculations:

Reading Level		Correct Factor		Measurement Value
38.22	+	3.45	=	41.67

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

3.2 TEST PROCEDURE

a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipment powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling 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 30 to 40 cm long.
c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
d. LISN at least 80 cm from nearest part of EUT chassis.
e. For the actual test configuration, please refer to the related Item -EUT Test Photos.

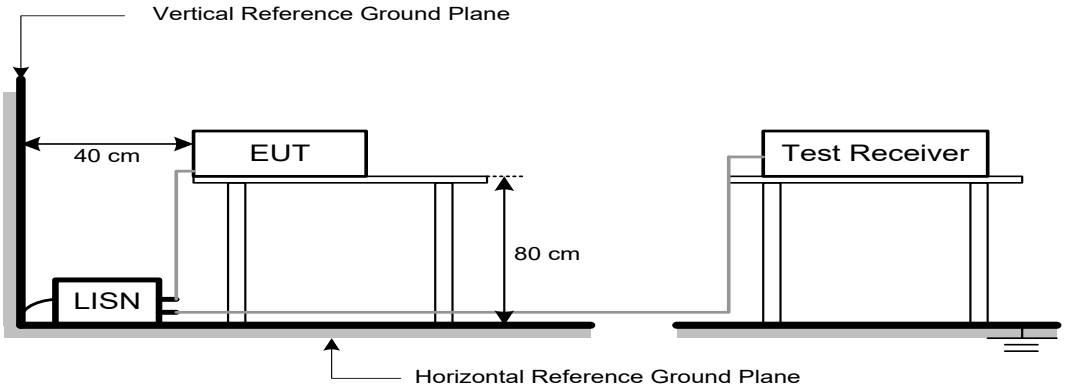
The following table is the setting of the receiver:

Receiver Parameters	Setting
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

3.3 DEVIATION FROM TEST STANDARD

No deviation.

3.4 TEST SETUP



3.5 EUT OPERATION CONDITIONS

EUT was programmed to be in continuously transmitting mode.

3.6 TEST RESULTS

Please refer to the APPENDIX A.

4. RADIATED EMISSIONS

4.1 LIMIT

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

LIMITS OF RADIATED EMISSION MEASUREMENT (9 kHz-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
Above 960	500	3

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000 MHz)

Frequency (MHz)	(dBuV/m at 3 m)	
	Peak	Average
Above 1000	74	54

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
Sample calculations:

Reading Level		Correct Factor		Measurement Value
19.11	+	2.11	=	21.22

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

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 1 GHz)
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 1 GHz)
c. The height of the equipment or of the substitution antenna shall be 0.8m or 1.5m; 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 1 GHz.
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 1 GHz)
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 1 GHz)
i. For the actual test configuration, please refer to the related Item -EUT Test Photos.

The following table is the setting of the receiver:

Spectrum Parameters	Setting
Start ~ Stop Frequency	9 kHz~150 kHz for RBW 200 Hz
Start ~ Stop Frequency	0.15 MHz~30 MHz for RBW 9 kHz
Start ~ Stop Frequency	30 MHz~1000 MHz for RBW 100 kHz

Spectrum Parameters	Setting
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RBW / VBW (Emission in restricted band)	1 MHz / 3 MHz for PK value 1 MHz / 1/T Hz for AVG value

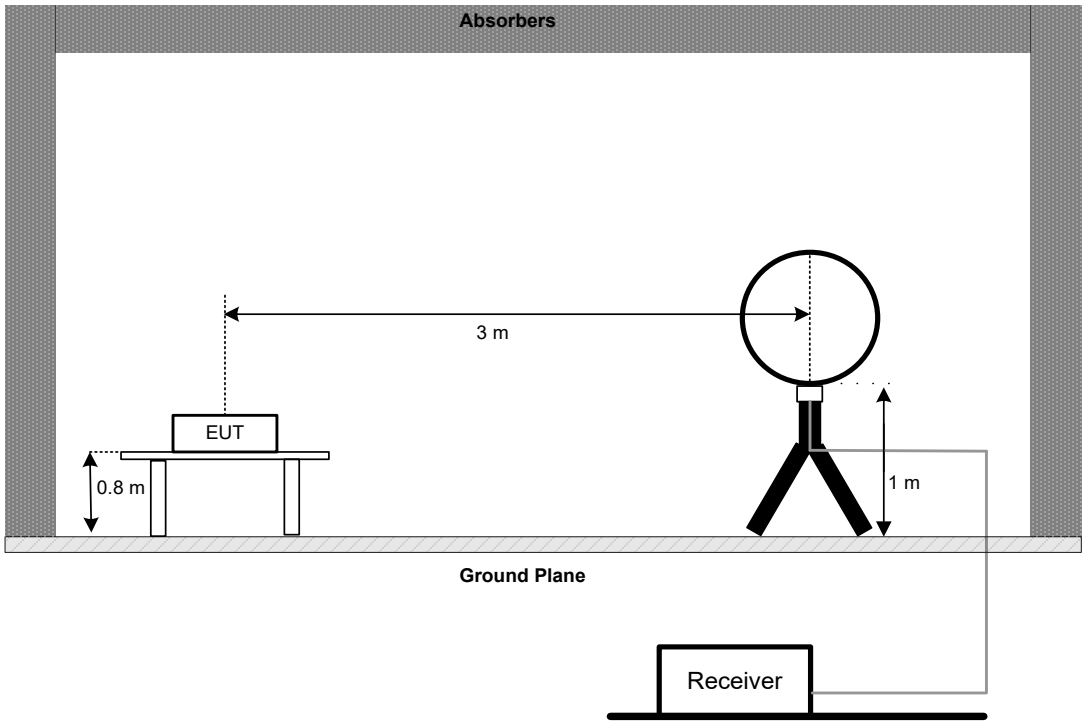
Receiver Parameters	Setting
Start ~ Stop Frequency	9 kHz~90 kHz for PK/AVG detector
Start ~ Stop Frequency	90 kHz~110 kHz for QP detector
Start ~ Stop Frequency	110 kHz~490 kHz for PK/AVG detector
Start ~ Stop Frequency	490 kHz~30 MHz for QP detector
Start ~ Stop Frequency	30 MHz~1000 MHz for QP detector
Start ~ Stop Frequency	1 GHz~26.5 GHz for PK/AVG detector

4.3 DEVIATION FROM TEST STANDARD

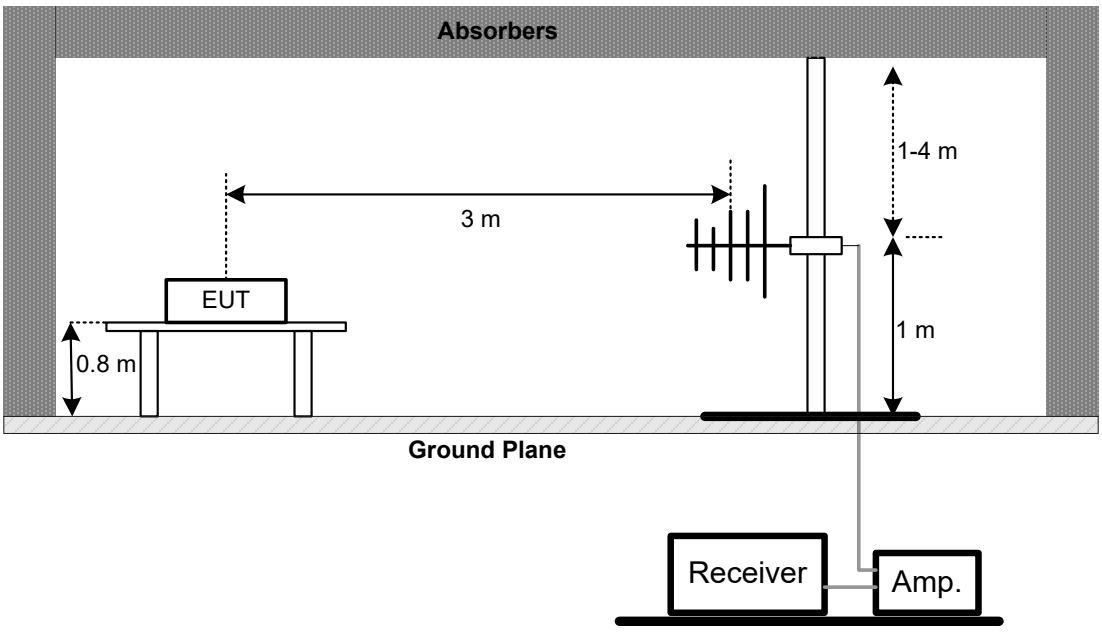
No deviation.

4.4 TEST SETUP

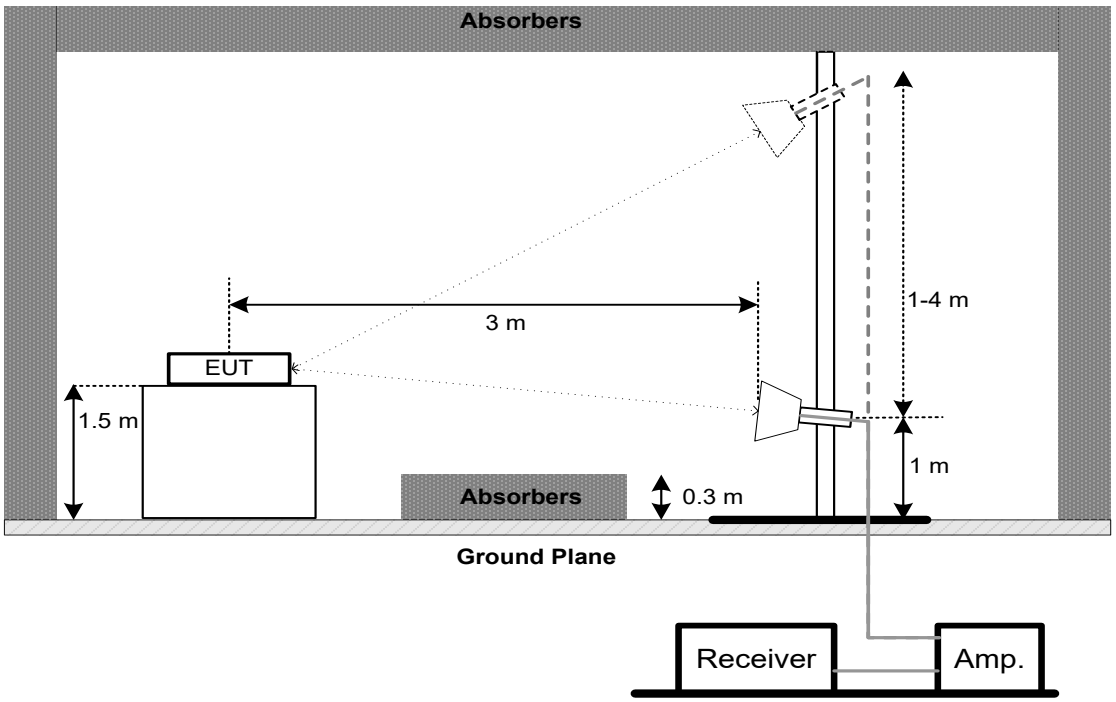
9 kHz to 30 MHz



30 MHz to 1 GHz



Above 1 GHz



4.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

4.6 TEST RESULTS - 9 KHZ TO 30 MHZ

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

4.7 TEST RESULTS - 30 MHZ TO 1000 MHZ

Please refer to the APPENDIX B.

4.8 TEST RESULTS - ABOVE 1000 MHZ

Please refer to the APPENDIX C.

Remark:

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

5. BANDWIDTH

5.1 LIMIT

Section	Test Item	Limit
FCC 15.247(a)(2)	6 dB Bandwidth	Minimum 500 kHz
	99% Emission Bandwidth	-

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. The following table is the setting of the spectrum analyzer:

For 6 dB Bandwidth:

Spectrum Parameters	Setting
Span Frequency	> Measurement Bandwidth
RBW	100 kHz
VBW	300 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

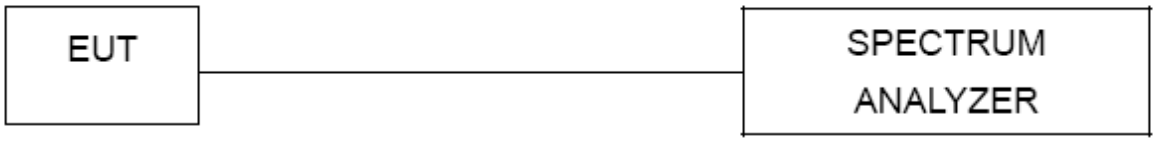
For 99% Emission Bandwidth:

Spectrum Parameters	Setting
Span Frequency	Between 1.5 times and 5.0 times the OBW
RBW	300 kHz For 20MHz 1 MHz For 40MHz
VBW	1 MHz For 20MHz 3 MHz For 40MHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

5.3 DEVIATION FROM STANDARD

No deviation.

5.4 TEST SETUP



5.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

5.6 TEST RESULTS

Please refer to the APPENDIX D.

6. MAXIMUM OUTPUT POWER

6.1 LIMIT

Section	Test Item	Limit
FCC 15.247(b)(3)	Maximum Output Power	1.0000 Watt or 30.00 dBm

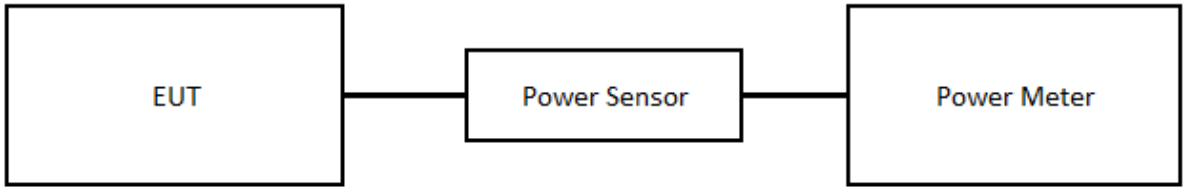
6.2 TEST PROCEDURE

a. The EUT was directly connected to the peak power analyzer and antenna output port as show in the block diagram below.
b. The maximum conducted output power was performed in accordance with method 11.9.2.3.1 of ANSI C63.10-2013 and FCC KDB 662911 D01 v02r01 Multiple Transmitter Output.

6.3 DEVIATION FROM STANDARD

No deviation.

6.4 TEST SETUP



6.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

6.6 TEST RESULTS

Please refer to the APPENDIX E.

7. CONDUCTED SPURIOUS EMISSIONS

7.1 LIMIT

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 Output Power limits. If the transmitter complies with the Output Power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required.

7.2 TEST PROCEDURE

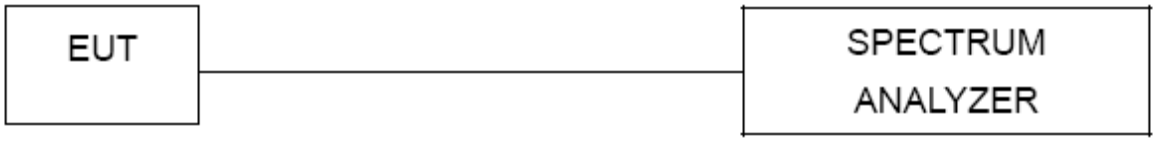
a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
b. The following table is the setting of the spectrum analyzer:

Spectrum Parameters	Setting
Start Frequency	30 MHz
Stop Frequency	26.5 GHz
RBW	100 kHz
VBW	300 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

7.3 DEVIATION FROM STANDARD

No deviation.

7.4 TEST SETUP



7.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

7.6 TEST RESULTS

Please refer to the APPENDIX F.

8. POWER SPECTRAL DENSITY

8.1 LIMIT

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

8.2 TEST PROCEDURE

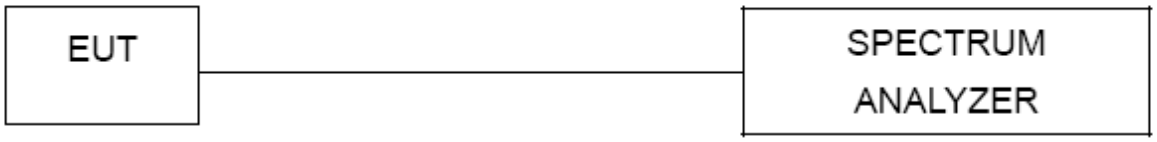
a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
b. The following table is the setting of the spectrum analyzer:

Spectrum Parameters	Setting
Span Frequency	25 MHz (20 MHz) / 60 MHz (40 MHz)
RBW	3 kHz
VBW	10 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

8.3 DEVIATION FROM STANDARD

No deviation.

8.4 TEST SETUP



8.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

8.6 TEST RESULTS

Please refer to the APPENDIX G.

9. MEASUREMENT INSTRUMENTS LIST

AC Power Line Conducted Emissions						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until
1	Two-Line V-Network	R&S	ENV216	101051	2023/7/21	2024/7/20
2	EMI Test Receiver	Keysight	N9038A	MY54130009	2023/6/26	2024/6/25

Radiated Emissions						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until
1	Pre-Amplifier	EMCI	EMC001330-20 201222	980807	2023/12/11	2024/12/10
2	Pre-Amplifier	EMCI	EMC184045SE	980512	2023/12/11	2024/12/10
3	Pre-Amplifier	EMCI	EMC051845SE	980779	2023/12/11	2024/12/10
4	Test Cable	EMCI	EMC105-SM-S M-3000	210118	2023/12/11	2024/12/10
5	Test Cable	EMCI	EMC105-SM-S M-1000	210119	2023/12/11	2024/12/10
6	EMI Test Receiver	Keysight	N9038A	MY54130009	2023/6/26	2024/6/25
7	EXA Spectrum Analyzer	keysight	N9010A	MY56480554	2023/9/12	2024/9/11
8	Broad-Band Horn Antenna	RFSPIN	DRH18-E	210109A18E	2024/1/10	2025/1/9
9	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	340	2023/6/29	2024/6/28
10	Trilog-Broadband Antenna	Schwarzbeck	VULB 9168	01207	2023/12/18	2024/12/17
11	Loop Ant.	Electro-Metrics	EMCI-LPA600	274	2023/6/28	2024/6/27
12	6dB Attenuator	EMCI	EMCI-N-6-05	N/A	2023/12/18	2024/12/17
13	Measurement Software	EZ	EZ_EMC (Version NB-03A1-01)	N/A	N/A	N/A

Maximum Output Power						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until
1	USB Peak Power Sensor	Anritsu	MA24408A	12591	2023/10/25	2024/10/24

Bandwidth & Conducted Spurious Emissions & Power Spectral Density & Maximum Output Power						
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, serial no. or calibration specified.
All calibration period of equipment list is one year.

10. EUT TEST PHOTO

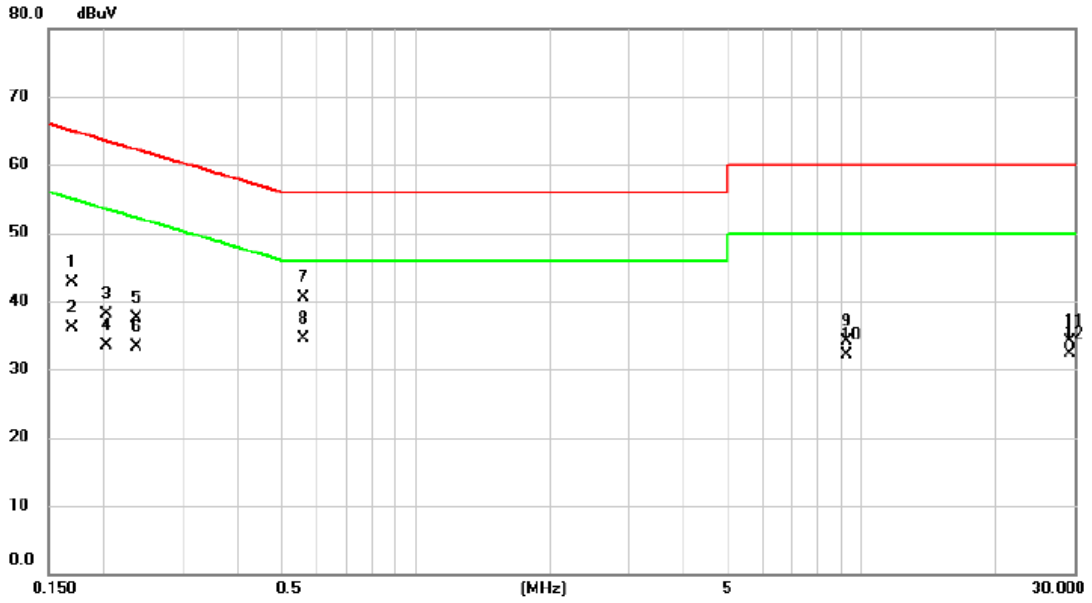
Please refer to APPENDIX-TEST PHOTOS.

11. EUT PHOTO

Please refer to APPENDIX-EUT PHOTOS.

APPENDIX A - AC POWER LINE CONDUCTED EMISSIONS

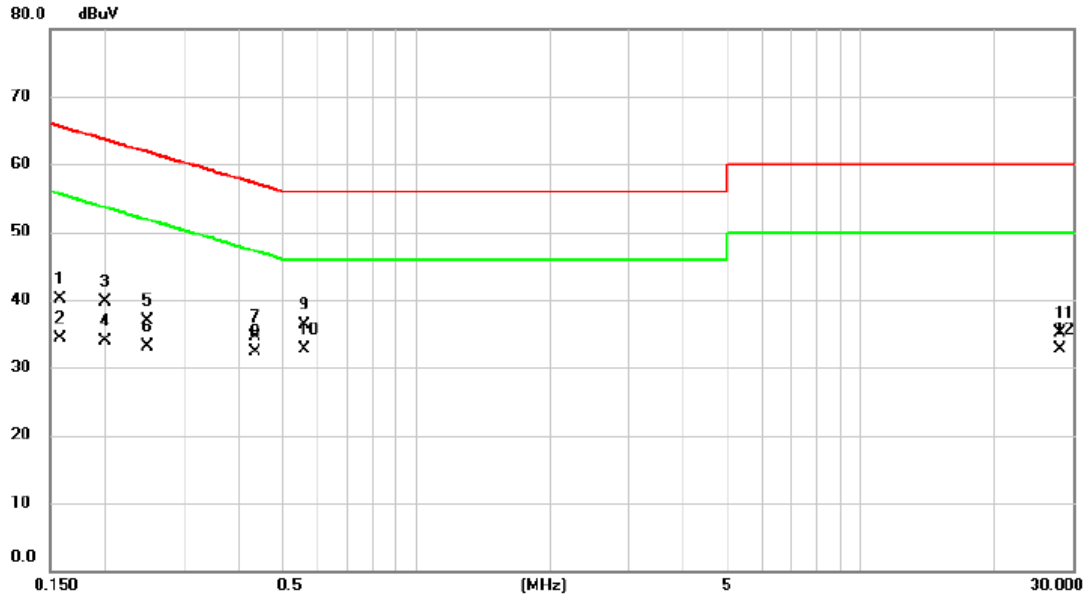
Test Mode	Normal	Test Date	2024/3/18
Test Frequency	-	Phase	Line



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1696	32.94	9.67	42.61	64.98	-22.37	QP	
2		0.1696	26.39	9.67	36.06	54.98	-18.92	AVG	
3		0.2025	28.49	9.67	38.16	63.51	-25.35	QP	
4		0.2025	23.87	9.67	33.54	53.51	-19.97	AVG	
5		0.2368	27.77	9.67	37.44	62.21	-24.77	QP	
6		0.2368	23.57	9.67	33.24	52.21	-18.97	AVG	
7		0.5585	30.83	9.69	40.52	56.00	-15.48	QP	
8	*	0.5585	24.73	9.69	34.42	46.00	-11.58	AVG	
9		9.2250	23.99	10.04	34.03	60.00	-25.97	QP	
10		9.2250	22.07	10.04	32.11	50.00	-17.89	AVG	
11		29.2250	23.97	10.21	34.18	60.00	-25.82	QP	
12		29.2250	22.06	10.21	32.27	50.00	-17.73	AVG	

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

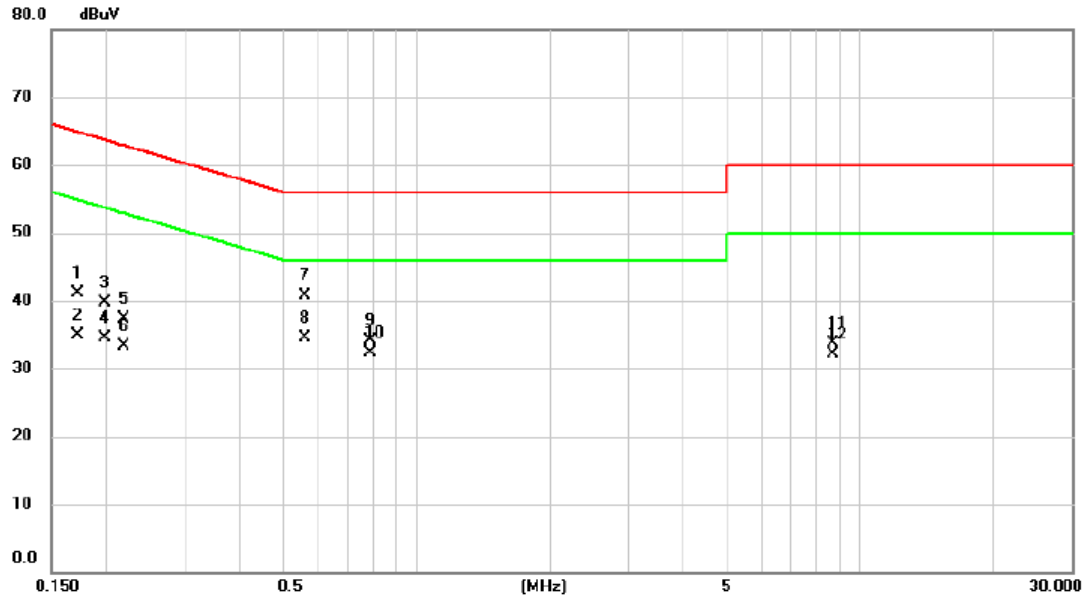
Test Mode	Normal	Test Date	2024/3/18
Test Frequency	-	Phase	Neutral



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1587	30.53	9.67	40.20	65.53	-25.33	QP	
2		0.1587	24.60	9.67	34.27	55.53	-21.26	AVG	
3		0.1993	30.02	9.66	39.68	63.64	-23.96	QP	
4		0.1993	24.28	9.66	33.94	53.64	-19.70	AVG	
5		0.2480	27.15	9.66	36.81	61.82	-25.01	QP	
6		0.2480	23.38	9.66	33.04	51.82	-18.78	AVG	
7		0.4340	24.74	9.68	34.42	57.18	-22.76	QP	
8		0.4340	22.65	9.68	32.33	47.18	-14.85	AVG	
9		0.5585	26.68	9.69	36.37	56.00	-19.63	QP	
10	*	0.5585	22.97	9.69	32.66	46.00	-13.34	AVG	
11		28.0500	24.56	10.45	35.01	60.00	-24.99	QP	
12		28.0500	22.35	10.45	32.80	50.00	-17.20	AVG	

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

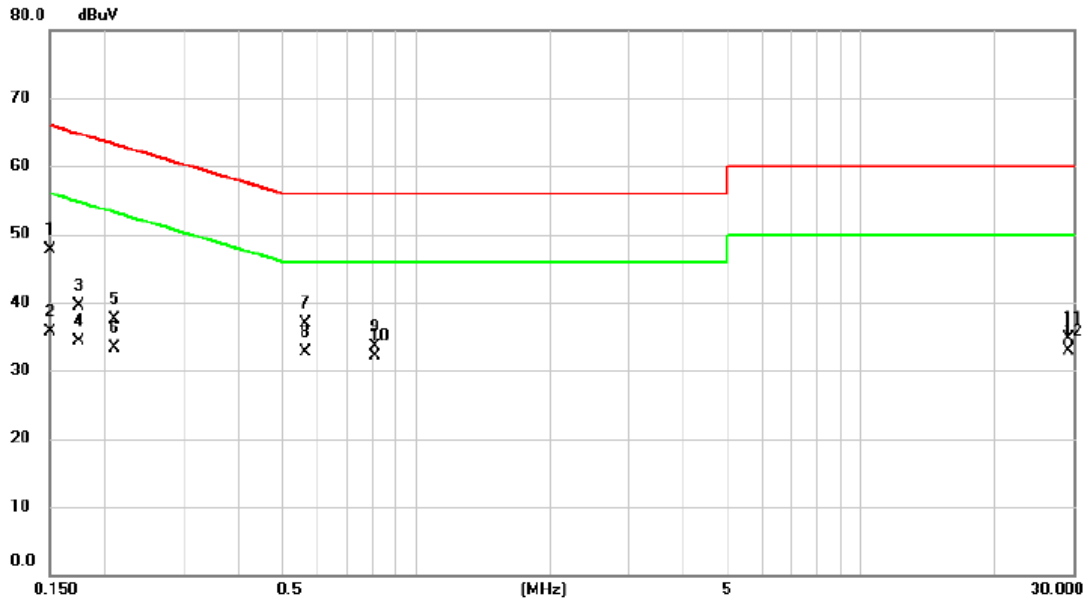
Test Mode	Idle	Test Date	2024/3/18
Test Frequency	-	Phase	Line



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1727	31.44	9.67	41.11	64.83	-23.72	QP	
2		0.1727	25.29	9.67	34.96	54.83	-19.87	AVG	
3		0.1986	30.07	9.67	39.74	63.67	-23.93	QP	
4		0.1986	24.78	9.67	34.45	53.67	-19.22	AVG	
5		0.2190	27.61	9.67	37.28	62.86	-25.58	QP	
6		0.2190	23.64	9.67	33.31	52.86	-19.55	AVG	
7		0.5585	30.94	9.69	40.63	56.00	-15.37	QP	
8	*	0.5585	24.81	9.69	34.50	46.00	-11.50	AVG	
9		0.7880	24.37	9.72	34.09	56.00	-21.91	QP	
10		0.7880	22.67	9.72	32.39	46.00	-13.61	AVG	
11		8.7000	23.71	10.01	33.72	60.00	-26.28	QP	
12		8.7000	22.11	10.01	32.12	50.00	-17.88	AVG	

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

Test Mode	Idle	Test Date	2024/3/18
Test Frequency	-	Phase	Neutral

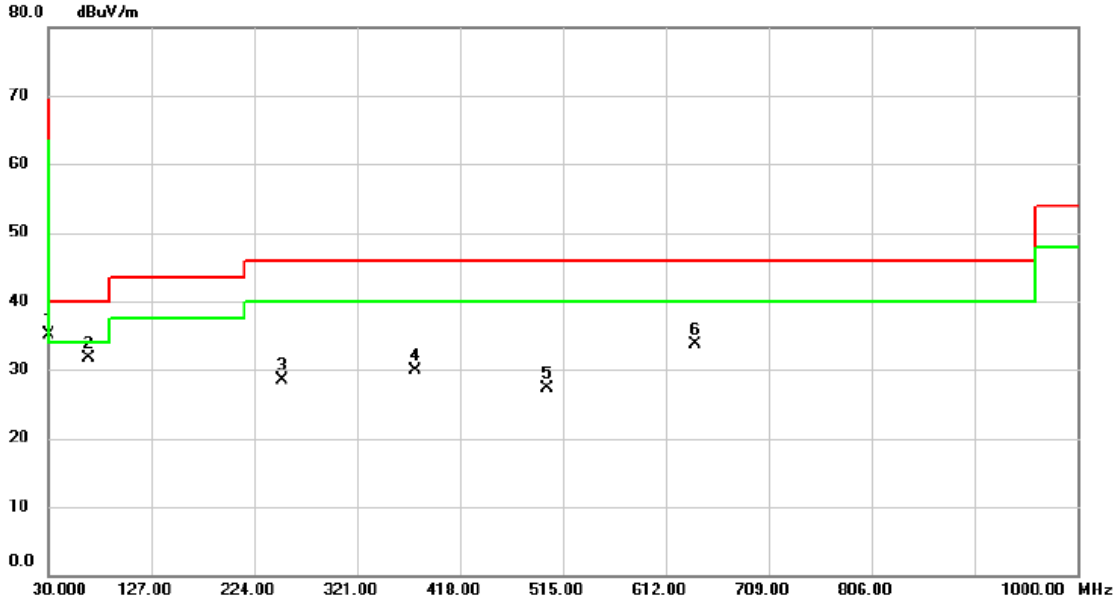


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1510	38.01	9.67	47.68	65.94	-18.26	QP	
2		0.1510	26.12	9.67	35.79	55.94	-20.15	AVG	
3		0.1745	29.84	9.67	39.51	64.74	-25.23	QP	
4		0.1745	24.70	9.67	34.37	54.74	-20.37	AVG	
5		0.2091	27.77	9.66	37.43	63.24	-25.81	QP	
6		0.2091	23.65	9.66	33.31	53.24	-19.93	AVG	
7		0.5630	27.20	9.69	36.89	56.00	-19.11	QP	
8	*	0.5630	22.93	9.69	32.62	46.00	-13.38	AVG	
9		0.8060	23.76	9.72	33.48	56.00	-22.52	QP	
10		0.8060	22.44	9.72	32.16	46.00	-13.84	AVG	
11		29.2000	24.32	10.47	34.79	60.00	-25.21	QP	
12		29.2000	22.43	10.47	32.90	50.00	-17.10	AVG	

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

APPENDIX B - RADIATED EMISSION - 30 MHZ TO 1000 MHZ

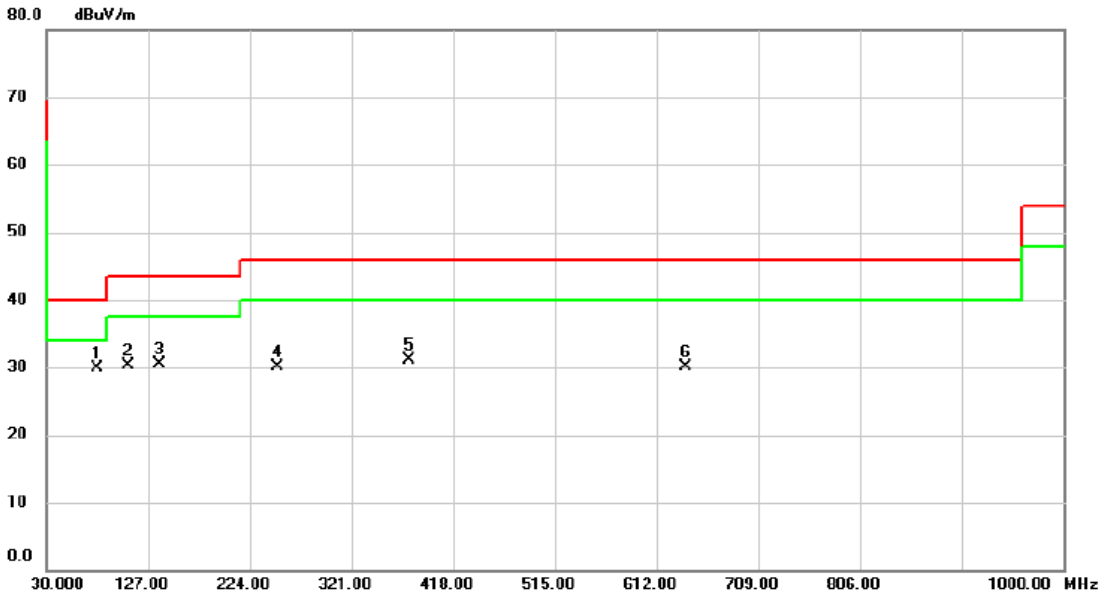
Test Mode	IEEE 802.11n (HT20)	Test Date	2024/3/18
Test Frequency	2412 MHz	Polarization	Vertical



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	*	30.0000	48.76	-13.64	35.12	40.00	-4.88	peak	100	255	
2		67.8300	45.05	-13.25	31.80	40.00	-8.20	peak	100	243	
3		250.1900	40.41	-11.99	28.42	46.00	-17.58	peak	200	238	
4		375.3200	38.08	-8.19	29.89	46.00	-16.11	peak	200	126	
5		500.4500	32.46	-5.23	27.23	46.00	-18.77	peak	100	347	
6		640.1300	35.42	-1.80	33.62	46.00	-12.38	peak	100	312	

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

Test Mode	IEEE 802.11n (HT20)	Test Date	2024/3/18
Test Frequency	2412 MHz	Polarization	Horizontal

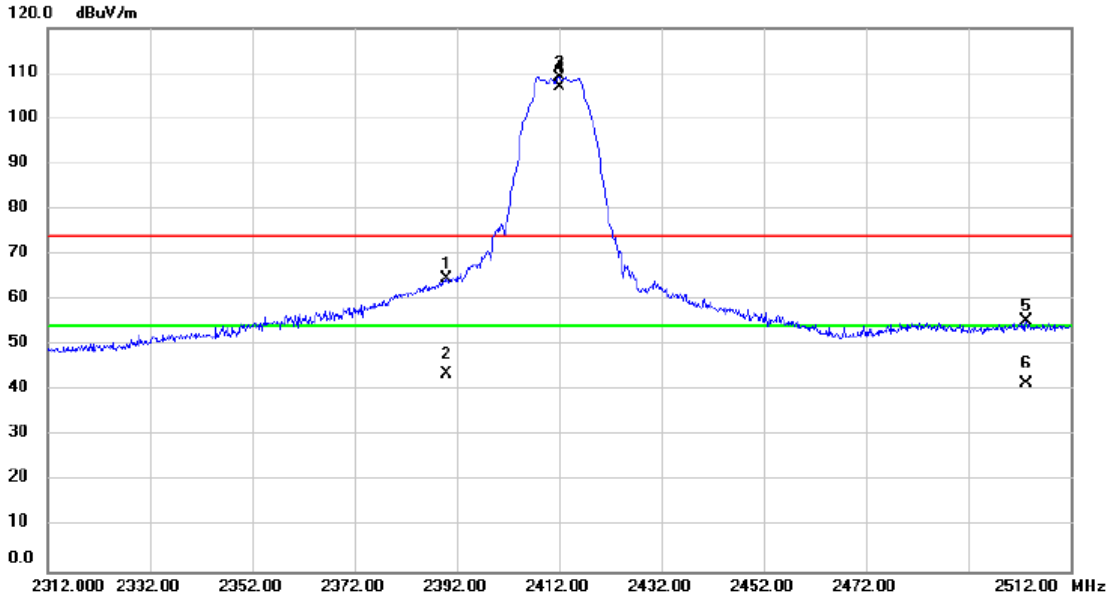


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	78.5000	45.65	-15.78	29.87	40.00	-10.13	peak	200	178	
2		108.5700	45.35	-15.03	30.32	43.50	-13.18	peak	200	272	
3		138.6400	42.65	-12.11	30.54	43.50	-12.96	peak	100	107	
4		250.1900	42.14	-11.99	30.15	46.00	-15.85	peak	122	360	
5		375.3200	39.38	-8.19	31.19	46.00	-14.81	peak	100	140	
6		640.1300	31.82	-1.80	30.02	46.00	-15.98	peak	100	224	

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

APPENDIX C - RADIATED EMISSION- ABOVE 1000 MHZ

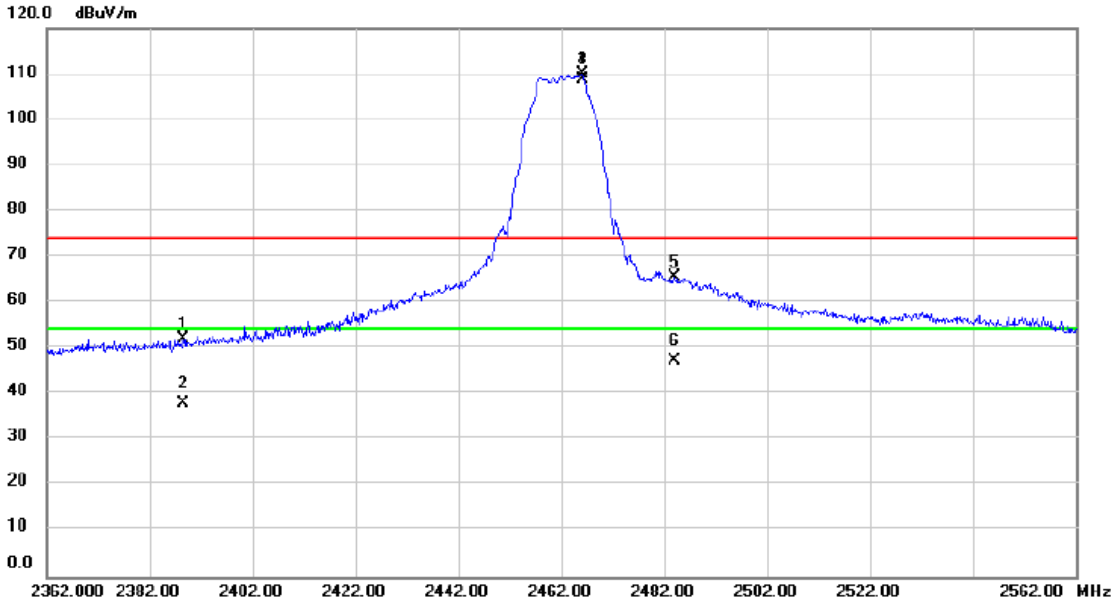
Test Mode	IEEE 802.11b	Test Date	2024/3/15
Test Frequency	2412 MHz	Polarization	Horizontal



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		2390.000	61.75	3.04	64.79	74.00	-9.21	peak			
2		2390.000	40.68	3.04	43.72	54.00	-10.28	AVG			
3	X	2412.000	106.10	3.09	109.19	74.00	35.19	peak			No Limit
4	*	2412.000	103.85	3.09	106.94	54.00	52.94	AVG			No Limit
5		2503.400	52.15	3.25	55.40	74.00	-18.60	peak			
6		2503.400	38.23	3.25	41.48	54.00	-12.52	AVG			

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

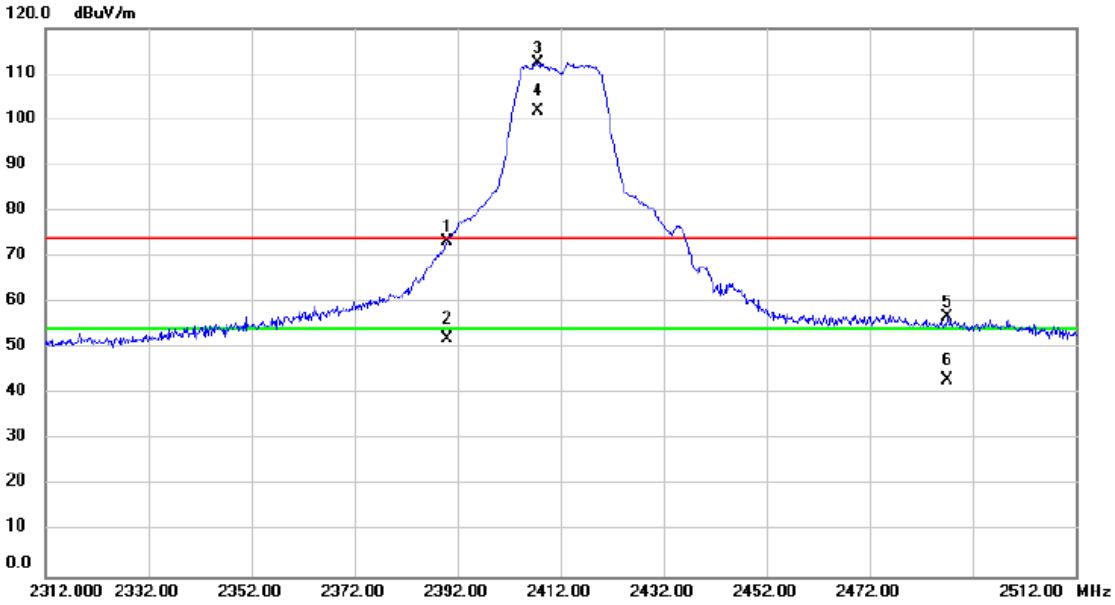
Test Mode	IEEE 802.11b	Test Date	2024/3/15
Test Frequency	2462 MHz	Polarization	Horizontal



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		2388.600	49.01	3.04	52.05	74.00	-21.95	peak			
2		2388.600	34.89	3.04	37.93	54.00	-16.07	AVG			
3	X	2466.000	106.85	3.19	110.04	74.00	36.04	peak			No Limit
4	*	2466.000	105.63	3.19	108.82	54.00	54.82	AVG			No Limit
5		2484.000	62.48	3.20	65.68	74.00	-8.32	peak			
6		2484.000	43.94	3.20	47.14	54.00	-6.86	AVG			

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

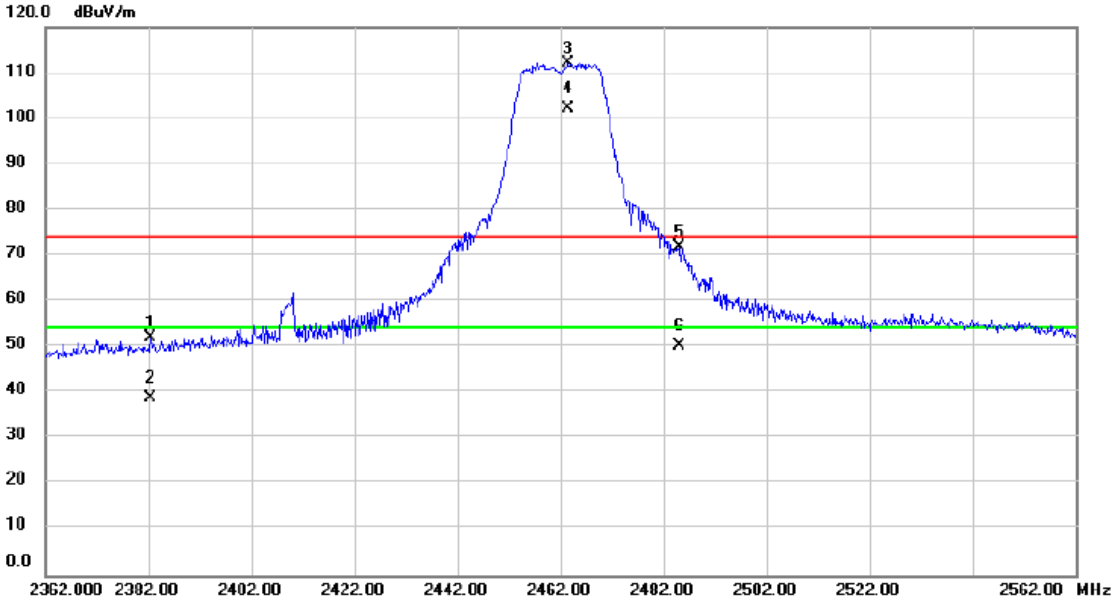
Test Mode	IEEE 802.11g	Test Date	2024/3/15
Test Frequency	2412 MHz	Polarization	Horizontal



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		2390.000	70.36	3.04	73.40	74.00	-0.60	peak			
2		2390.000	49.07	3.04	52.11	54.00	-1.89	AVG			
3	X	2407.600	109.16	3.08	112.24	74.00	38.24	peak			No Limit
4	*	2407.600	98.90	3.08	101.98	54.00	47.98	AVG			No Limit
5		2487.200	53.73	3.22	56.95	74.00	-17.05	peak			
6		2487.200	39.73	3.22	42.95	54.00	-11.05	AVG			

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

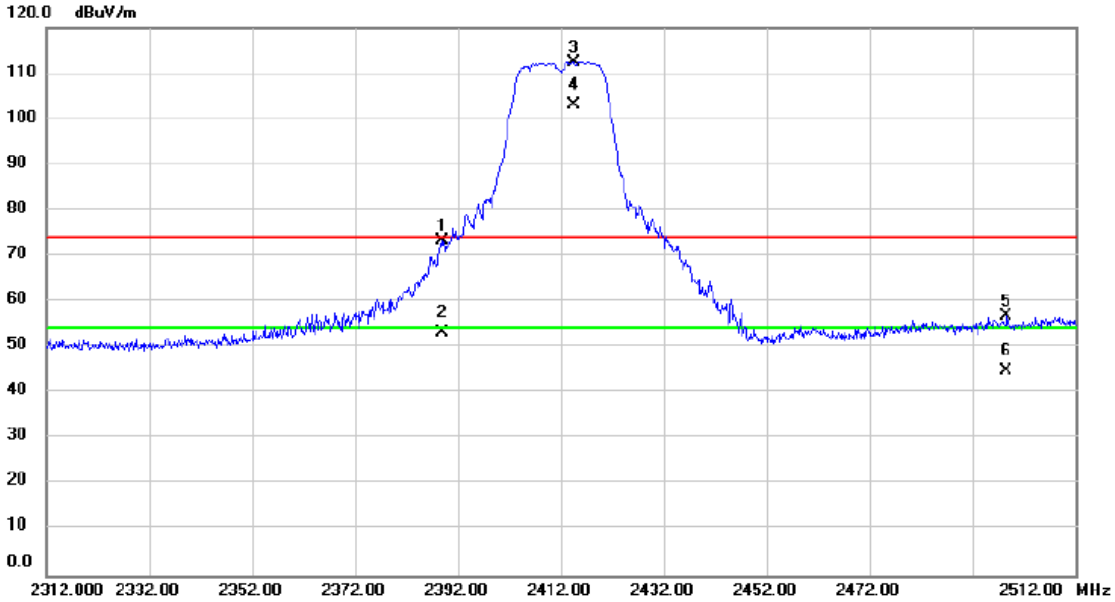
Test Mode	IEEE 802.11g	Test Date	2024/3/15
Test Frequency	2462 MHz	Polarization	Horizontal



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		2382.400	49.10	3.04	52.14	74.00	-21.86	peak			
2		2382.400	35.66	3.04	38.70	54.00	-15.30	AVG			
3	X	2463.600	108.95	3.18	112.13	74.00	38.13	peak			No Limit
4	*	2463.600	98.98	3.18	102.16	54.00	48.16	AVG			No Limit
5		2485.000	68.62	3.22	71.84	74.00	-2.16	peak			
6		2485.000	46.94	3.22	50.16	54.00	-3.84	AVG			

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

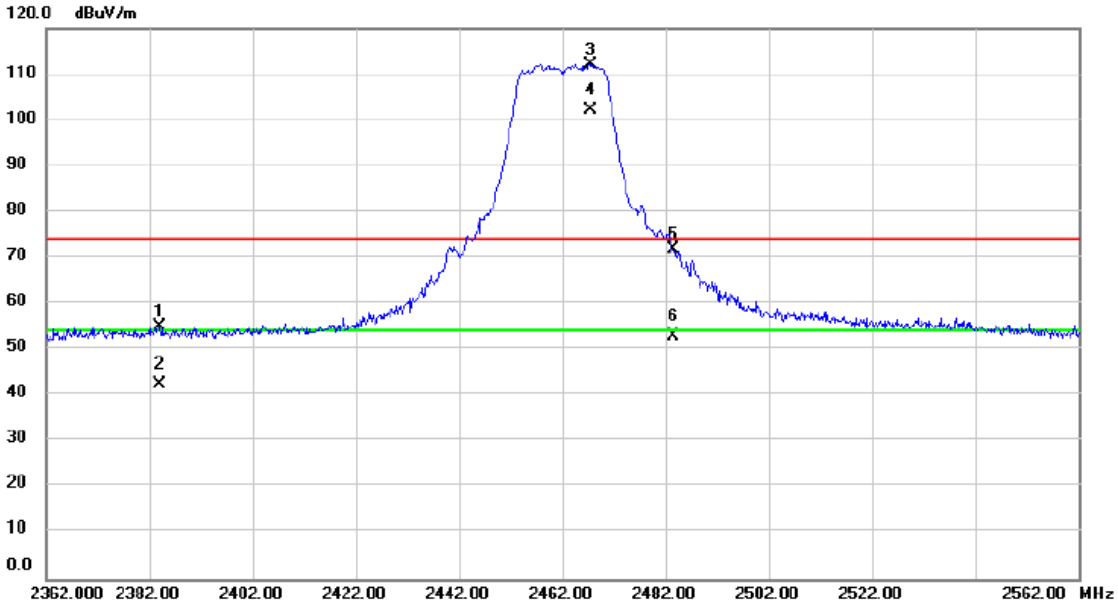
Test Mode	IEEE 802.11n (HT20)	Test Date	2024/3/15
Test Frequency	2412 MHz	Polarization	Horizontal



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		2389.000	70.28	3.04	73.32	74.00	-0.68	peak			
2		2389.000	50.15	3.04	53.19	54.00	-0.81	AVG			
3	X	2414.600	109.25	3.09	112.34	74.00	38.34	peak			No Limit
4	*	2414.600	99.86	3.09	102.95	54.00	48.95	AVG			No Limit
5		2498.600	53.74	3.24	56.98	74.00	-17.02	peak			
6		2498.600	41.64	3.24	44.88	54.00	-9.12	AVG			

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

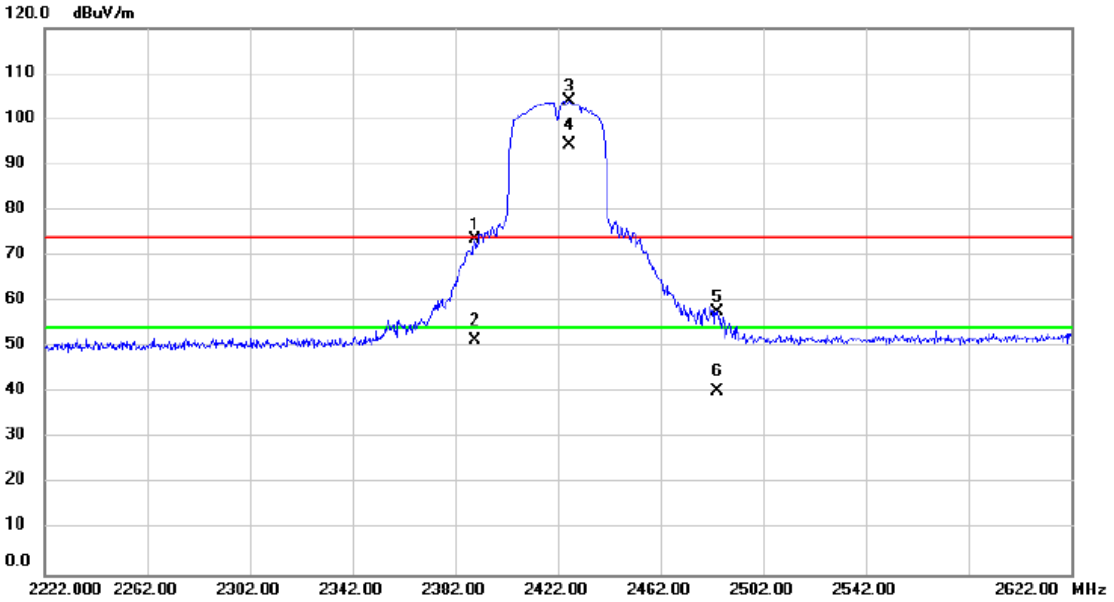
Test Mode	IEEE 802.11n (HT20)	Test Date	2024/3/15
Test Frequency	2462 MHz	Polarization	Horizontal



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		2384.000	52.15	3.04	55.19	74.00	-18.81	peak			
2		2384.000	39.37	3.04	42.41	54.00	-11.59	AVG			
3	X	2467.400	109.00	3.19	112.19	74.00	38.19	peak			No Limit
4	*	2467.400	99.10	3.19	102.29	54.00	48.29	AVG			No Limit
5		2483.500	68.69	3.20	71.89	74.00	-2.11	peak			
6		2483.500	49.81	3.20	53.01	54.00	-0.99	AVG			

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

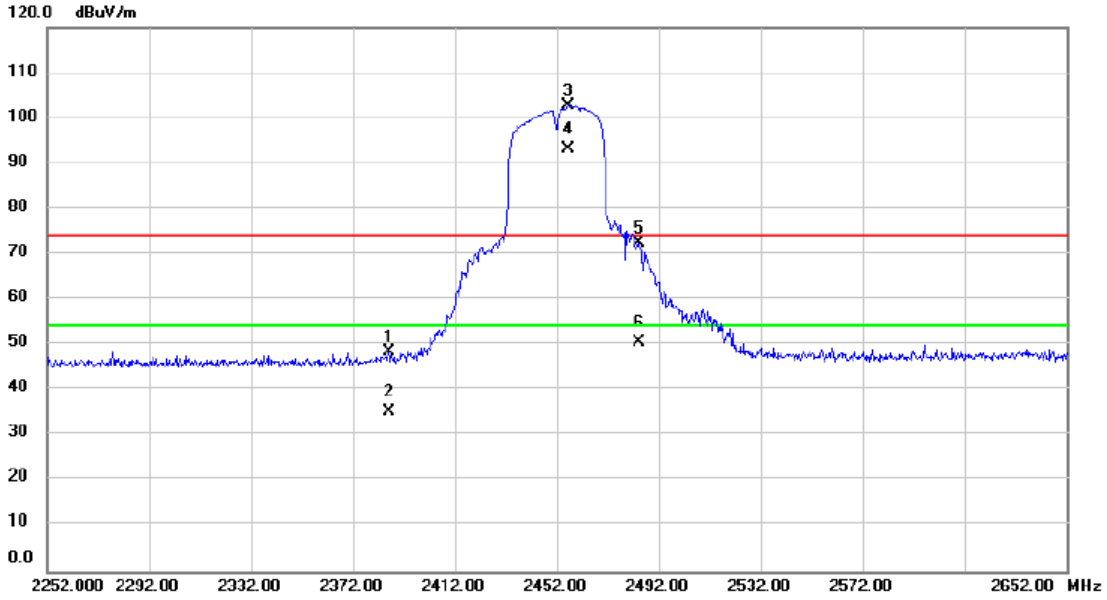
Test Mode	IEEE 802.11n (HT40)	Test Date	2024/3/15
Test Frequency	2422 MHz	Polarization	Horizontal



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		2389.600	70.55	3.04	73.59	74.00	-0.41	peak			
2		2389.600	48.38	3.04	51.42	54.00	-2.58	AVG			
3	X	2426.400	100.94	3.11	104.05	74.00	30.05	peak			No Limit
4	*	2426.400	91.16	3.11	94.27	54.00	40.27	AVG			No Limit
5		2484.000	54.69	3.20	57.89	74.00	-16.11	peak			
6		2484.000	37.29	3.20	40.49	54.00	-13.51	AVG			

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

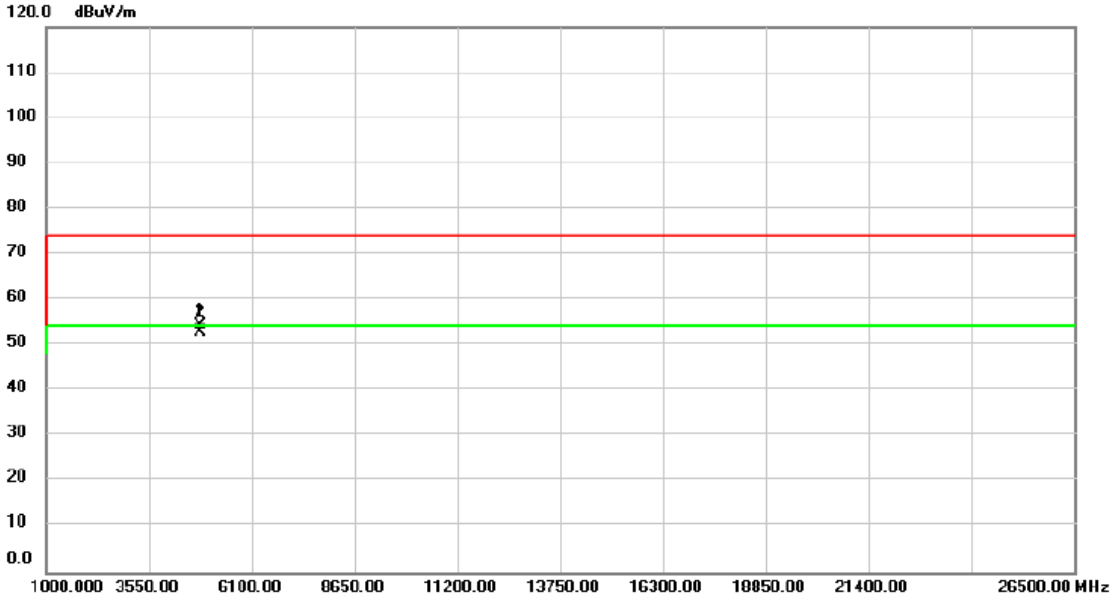
Test Mode	IEEE 802.11n (HT40)	Test Date	2024/3/15
Test Frequency	2452 MHz	Polarization	Horizontal



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		2386.000	45.48	3.05	48.53	74.00	-25.47	peak			
2		2386.000	32.20	3.05	35.25	54.00	-18.75	AVG			
3	X	2456.400	99.51	3.17	102.68	74.00	28.68	peak			No Limit
4	*	2456.400	89.97	3.17	93.14	54.00	39.14	AVG			No Limit
5		2484.000	69.25	3.20	72.45	74.00	-1.55	peak			
6		2484.000	47.32	3.20	50.52	54.00	-3.48	AVG			

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

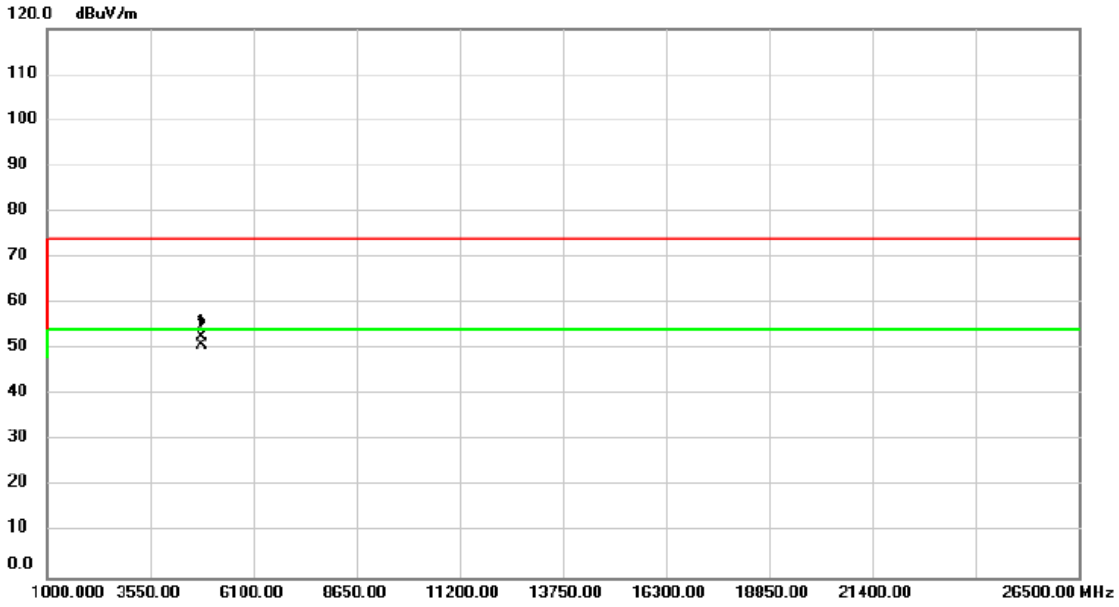
Test Mode	IEEE 802.11b	Test Date	2024/3/18
Test Frequency	2412 MHz	Polarization	Vertical



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	55.01	-0.63	54.38	74.00	-19.62	peak			
2	*	4825.000	53.47	-0.63	52.84	54.00	-1.16	AVG			

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

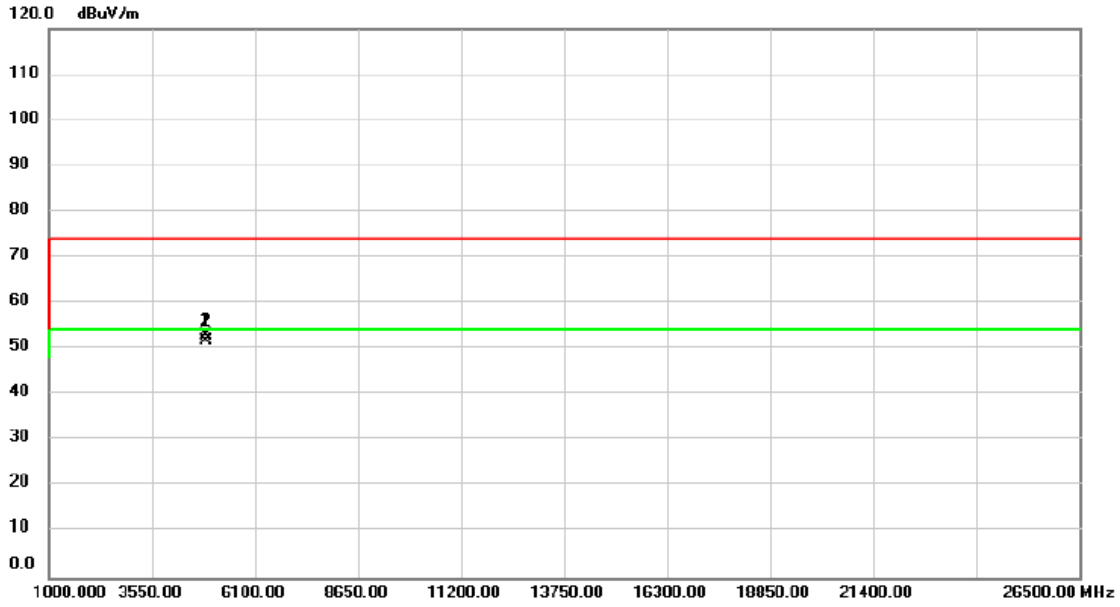
Test Mode	IEEE 802.11b	Test Date	2024/3/18
Test Frequency	2412 MHz	Polarization	Horizontal



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		4825.000	53.19	-0.63	52.56	74.00	-21.44	peak			
2	*	4825.000	51.41	-0.63	50.78	54.00	-3.22	AVG			

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

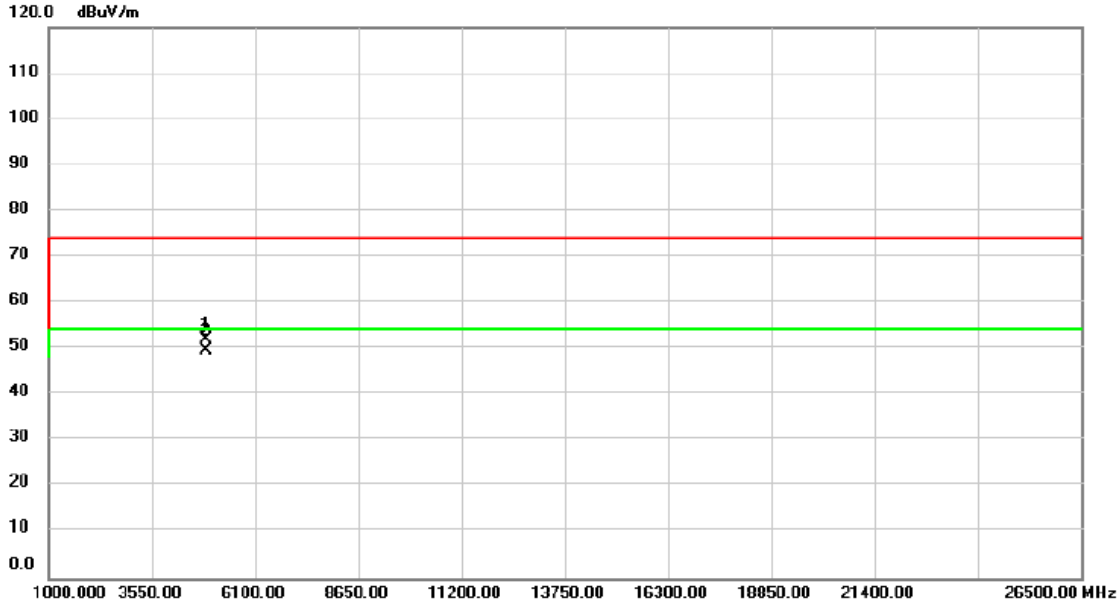
Test Mode	IEEE 802.11b	Test Date	2024/3/18
Test Frequency	2437 MHz	Polarization	Vertical



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	53.41	-0.48	52.93	74.00	-21.07	peak			
2	*	4876.000	52.32	-0.48	51.84	54.00	-2.16	AVG			

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

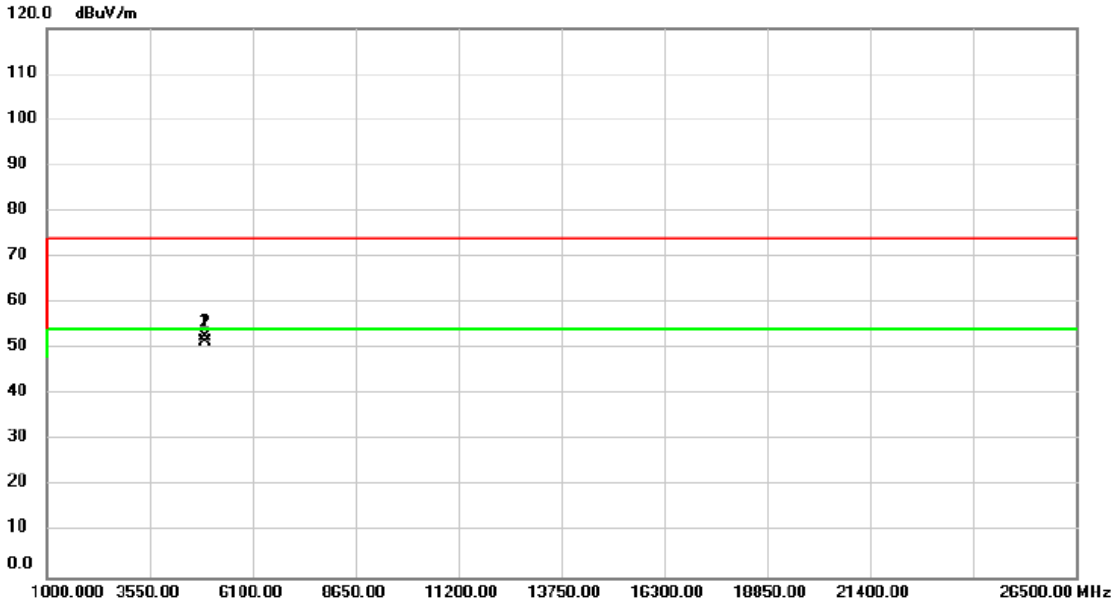
Test Mode	IEEE 802.11b	Test Date	2024/3/18
Test Frequency	2437 MHz	Polarization	Horizontal



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	52.61	-0.48	52.13	74.00	-21.87	peak			
2	*	4876.000	50.26	-0.48	49.78	54.00	-4.22	AVG			

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

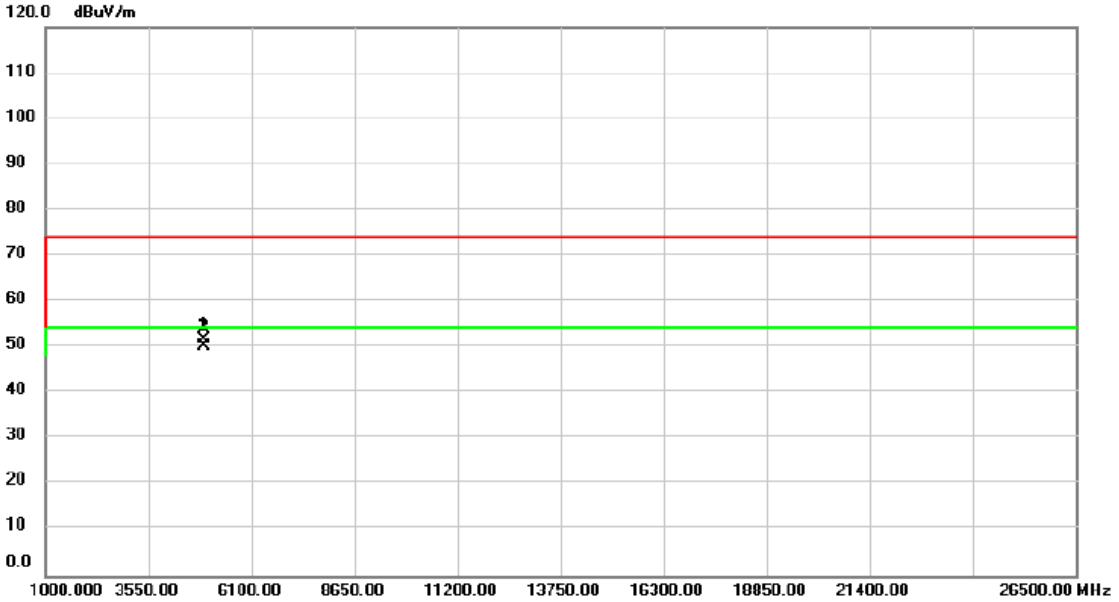
Test Mode	IEEE 802.11b	Test Date	2024/3/18
Test Frequency	2462 MHz	Polarization	Vertical



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	53.14	-0.34	52.80	74.00	-21.20	peak			
2	*	4927.000	51.85	-0.34	51.51	54.00	-2.49	AVG			

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

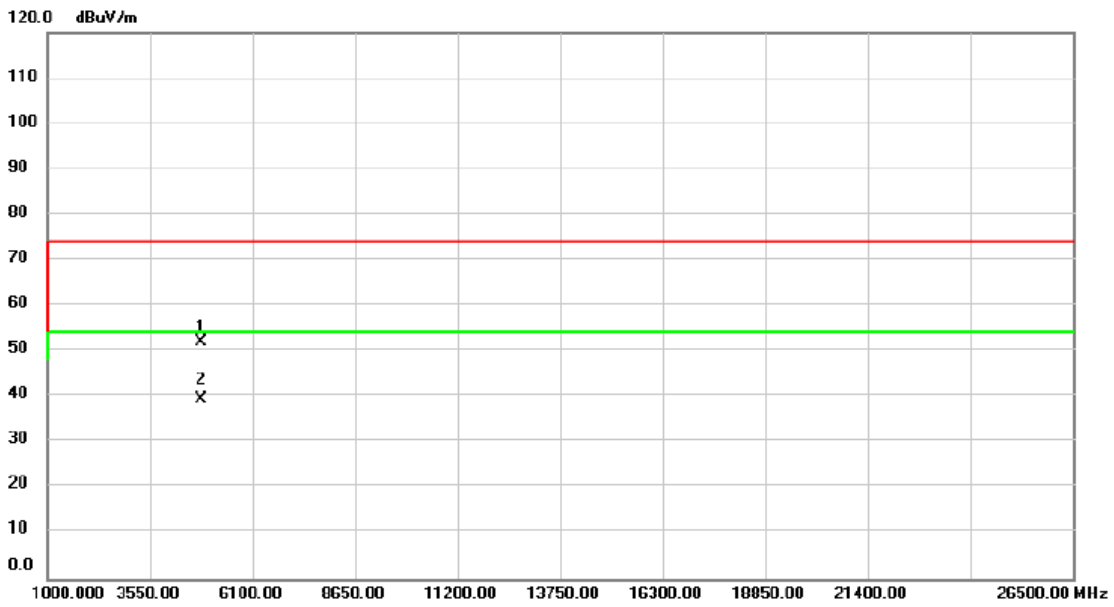
Test Mode	IEEE 802.11b	Test Date	2024/3/18
Test Frequency	2462 MHz	Polarization	Horizontal



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	52.12	-0.34	51.78	74.00	-22.22	peak			
2	*	4927.000	50.69	-0.34	50.35	54.00	-3.65	AVG			

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

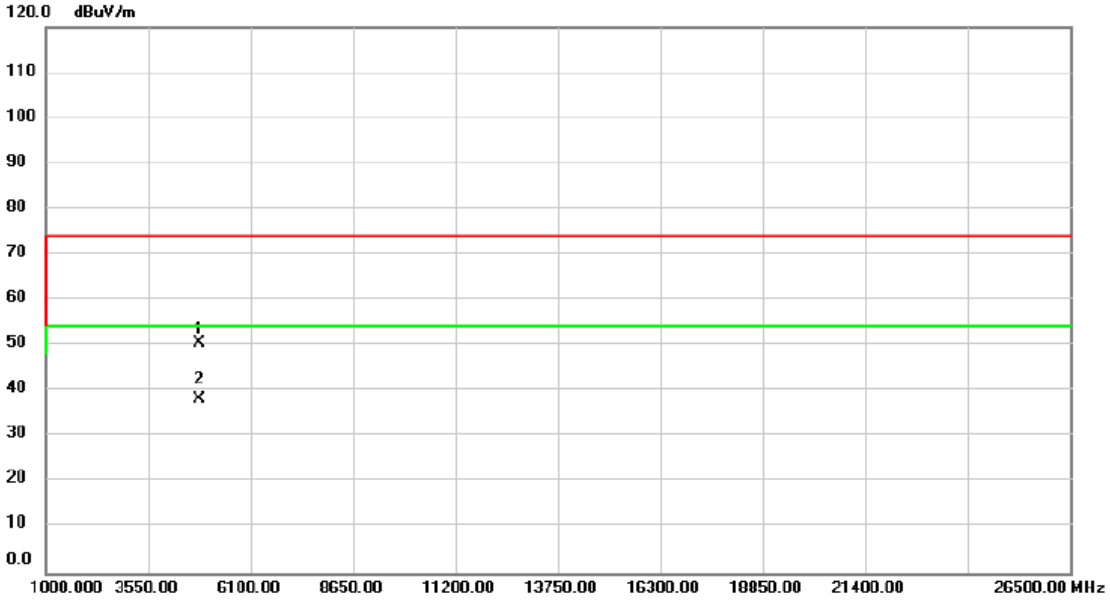
Test Mode	IEEE 802.11g	Test Date	2024/3/18
Test Frequency	2412 MHz	Polarization	Vertical



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	52.72	-0.63	52.09	74.00	-21.91	peak			
2	*	4825.000	40.20	-0.63	39.57	54.00	-14.43	AVG			

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

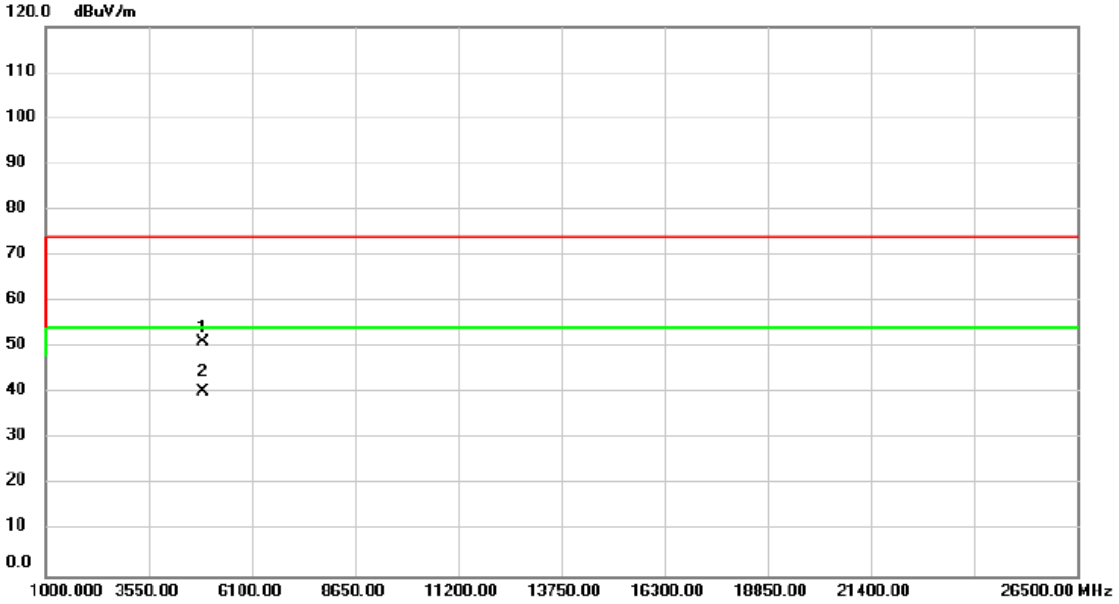
Test Mode	IEEE 802.11g	Test Date	2024/3/18
Test Frequency	2412 MHz	Polarization	Horizontal



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		4825.000	51.27	-0.63	50.64	74.00	-23.36	peak			
2	*	4825.000	38.98	-0.63	38.35	54.00	-15.65	AVG			

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

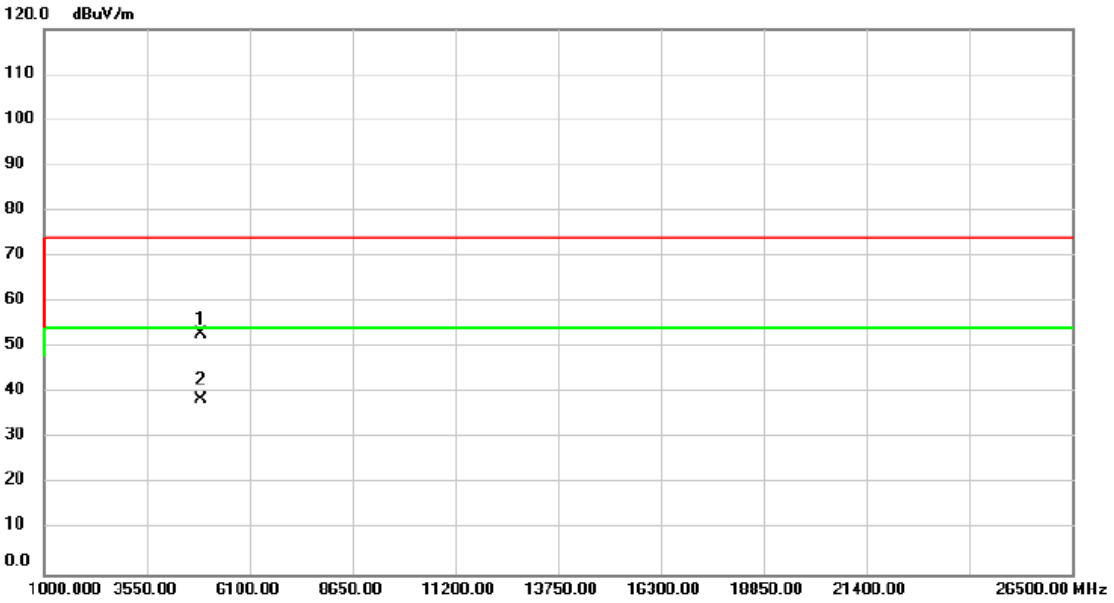
Test Mode	IEEE 802.11g	Test Date	2024/3/18
Test Frequency	2437 MHz	Polarization	Vertical



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	51.72	-0.48	51.24	74.00	-22.76	peak		
2	*	4876.000	40.73	-0.48	40.25	54.00	-13.75	AVG		

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

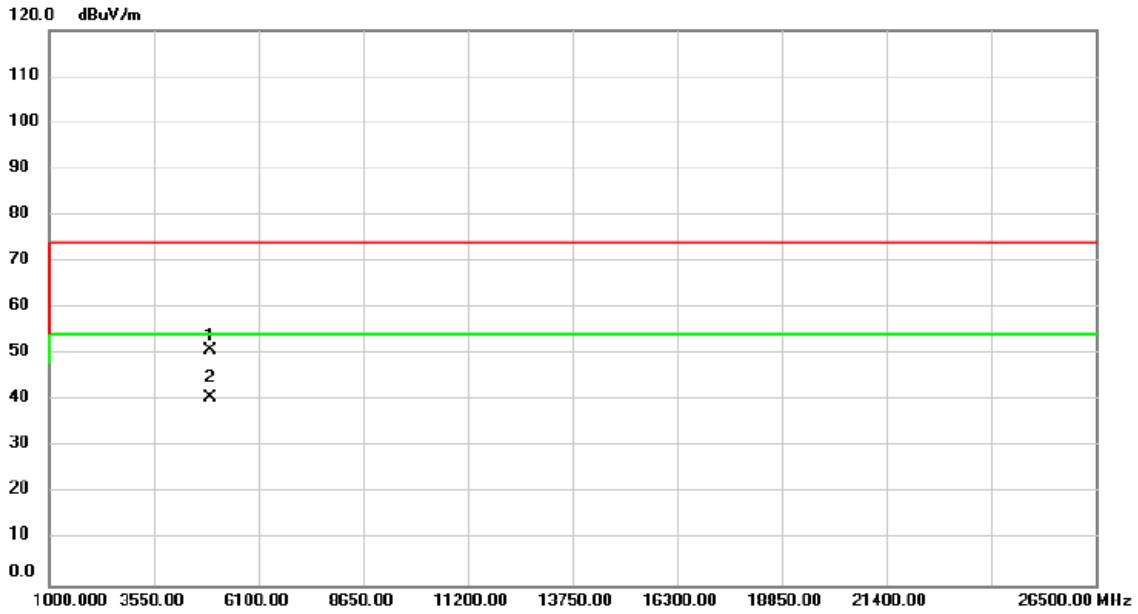
Test Mode	IEEE 802.11g	Test Date	2024/3/18
Test Frequency	2437 MHz	Polarization	Horizontal



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	53.47	-0.48	52.99	74.00	-21.01	peak			
2	*	4876.000	38.91	-0.48	38.43	54.00	-15.57	AVG			

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

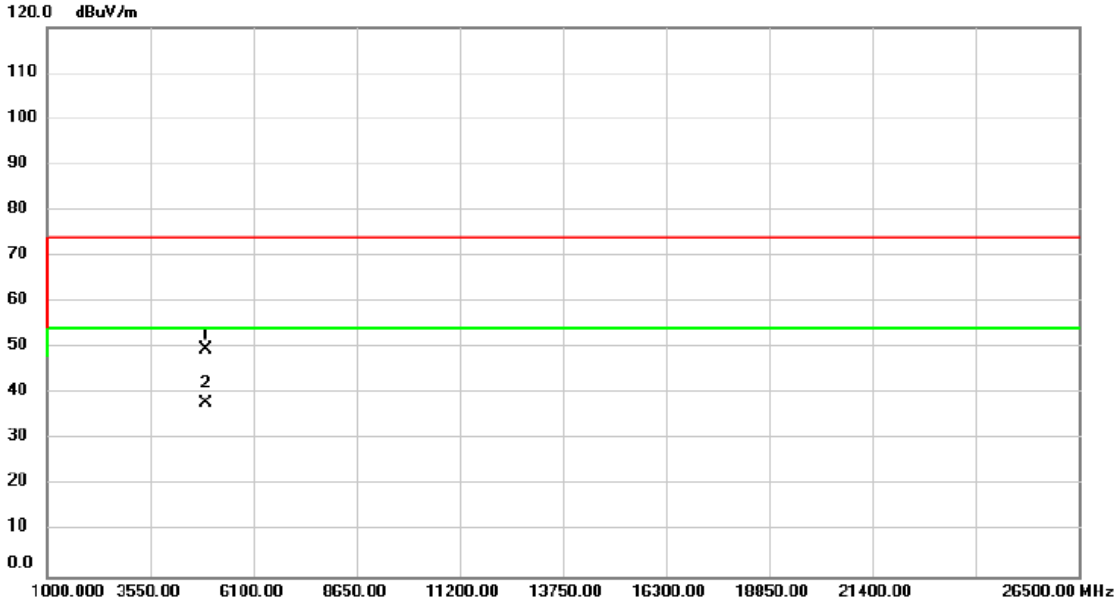
Test Mode	IEEE 802.11g	Test Date	2024/3/18
Test Frequency	2462 MHz	Polarization	Vertical



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	51.15	-0.34	50.81	74.00	-23.19	peak			
2	*	4927.000	41.00	-0.34	40.66	54.00	-13.34	AVG			

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

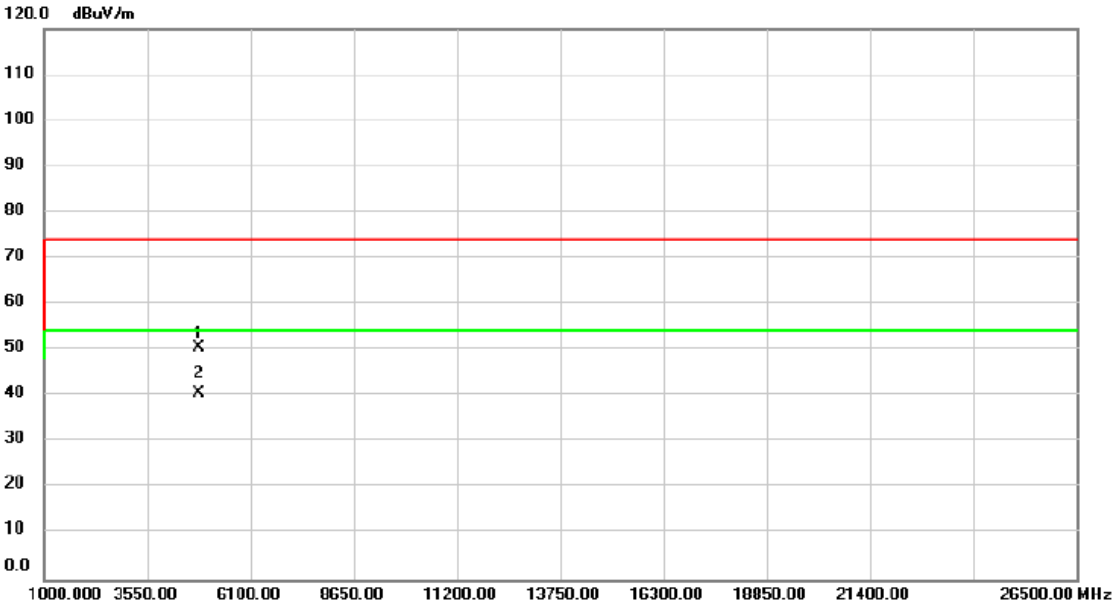
Test Mode	IEEE 802.11g	Test Date	2024/3/18
Test Frequency	2462 MHz	Polarization	Horizontal



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	50.12	-0.34	49.78	74.00	-24.22	peak			
2	*	4927.000	38.38	-0.34	38.04	54.00	-15.96	AVG			

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

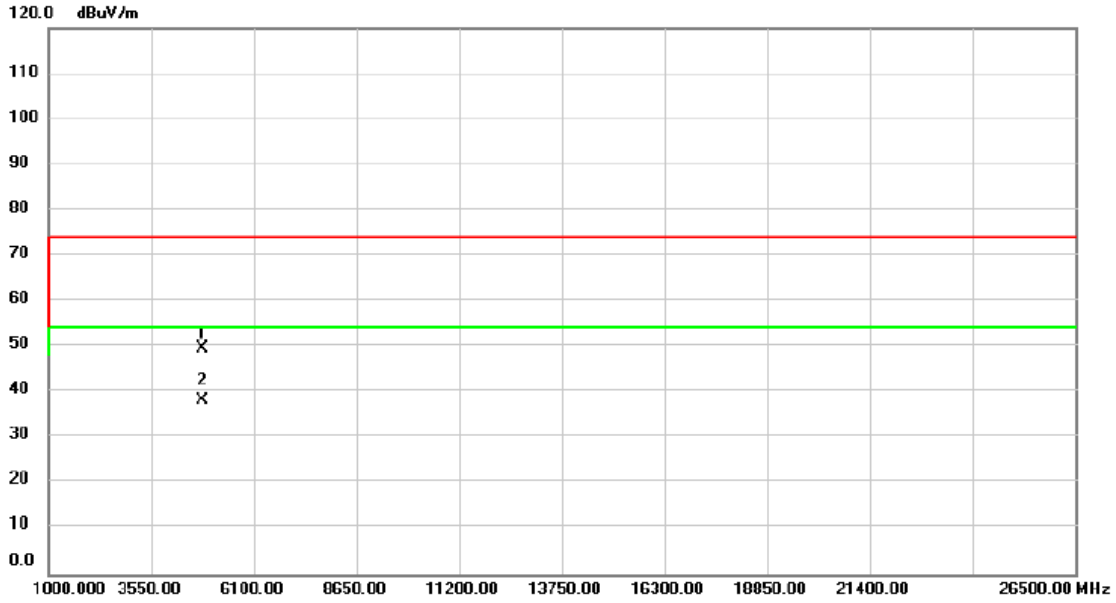
Test Mode	IEEE 802.11n (HT20)	Test Date	2024/3/18
Test Frequency	2412 MHz	Polarization	Vertical



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	51.25	-0.63	50.62	74.00	-23.38	peak			
2	*	4825.000	41.32	-0.63	40.69	54.00	-13.31	AVG			

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

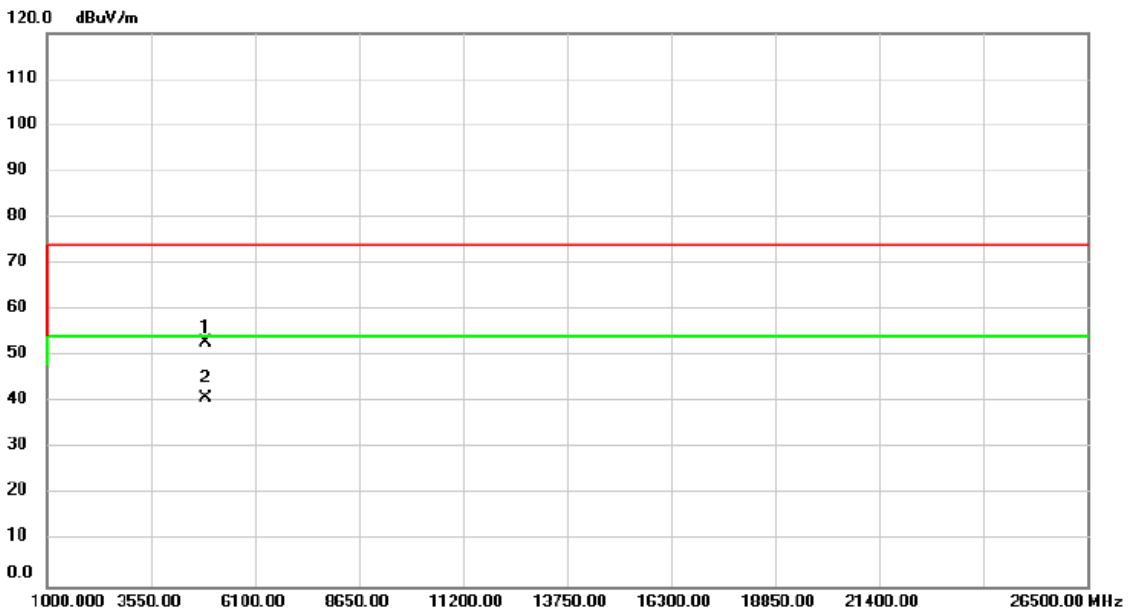
Test Mode	IEEE 802.11n (HT20)	Test Date	2024/3/18
Test Frequency	2412 MHz	Polarization	Horizontal



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		4825.000	50.22	-0.63	49.59	74.00	-24.41	peak			
2	*	4825.000	38.84	-0.63	38.21	54.00	-15.79	AVG			

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

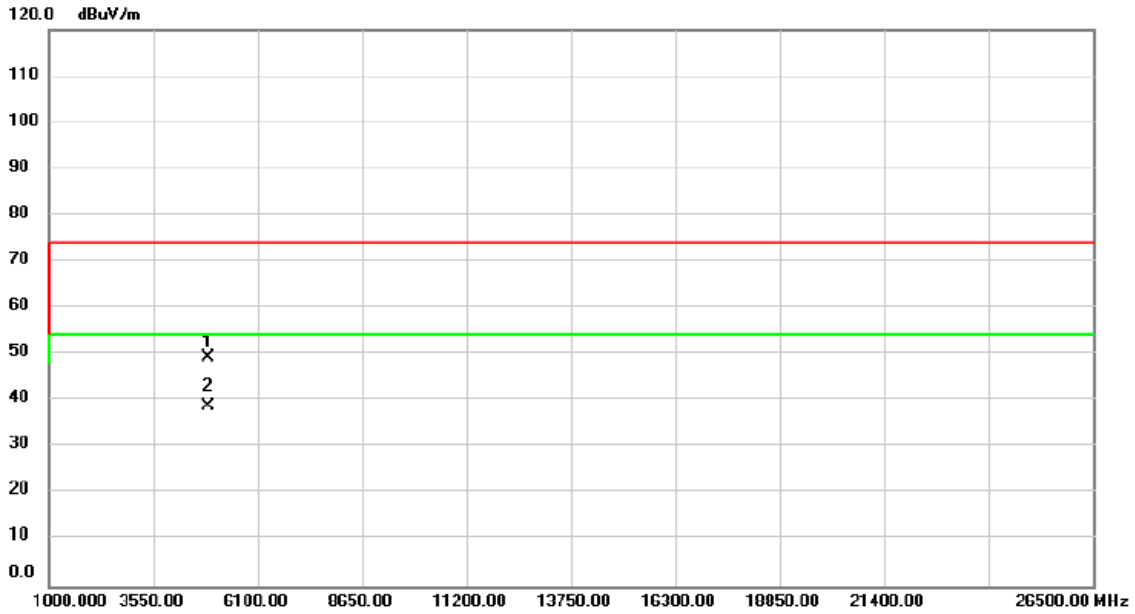
Test Mode	IEEE 802.11n (HT20)	Test Date	2024/3/18
Test Frequency	2437 MHz	Polarization	Vertical



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	53.36	-0.48	52.88	74.00	-21.12	peak			
2	*	4876.000	41.51	-0.48	41.03	54.00	-12.97	AVG			

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

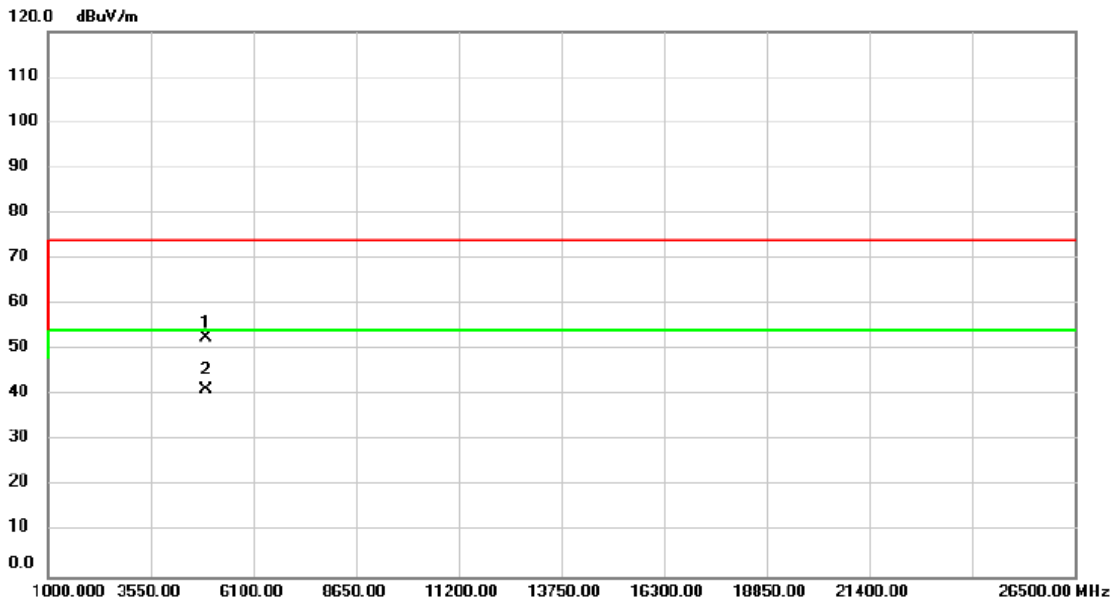
Test Mode	IEEE 802.11n (HT20)	Test Date	2024/3/18
Test Frequency	2437 MHz	Polarization	Horizontal



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	49.88	-0.48	49.40	74.00	-24.60	peak			
2	*	4876.000	39.35	-0.48	38.87	54.00	-15.13	AVG			

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

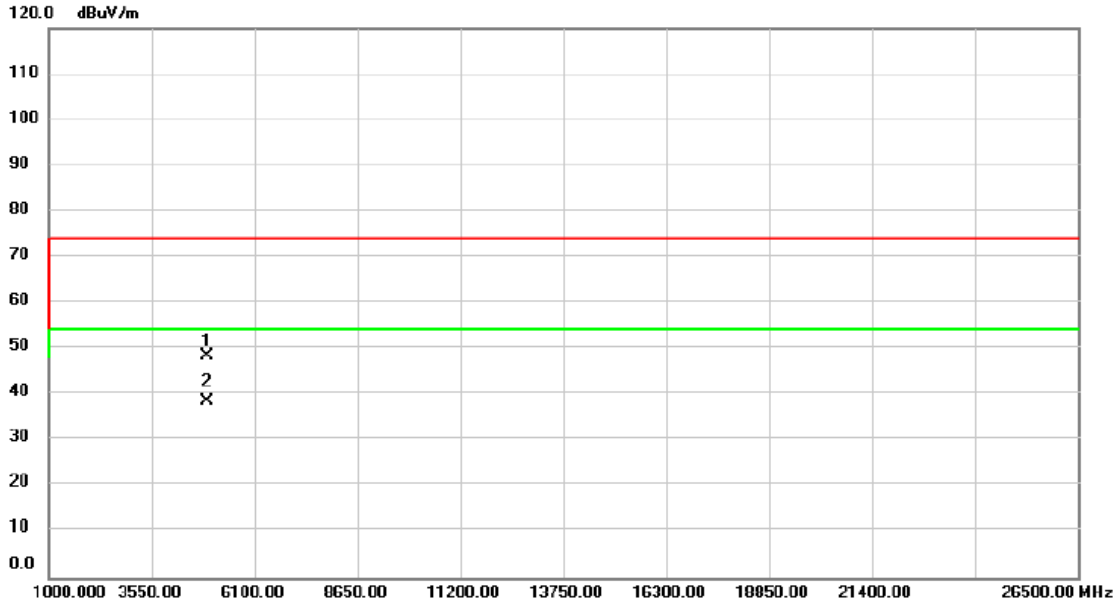
Test Mode	IEEE 802.11n (HT20)	Test Date	2024/3/18
Test Frequency	2462 MHz	Polarization	Vertical



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	52.85	-0.34	52.51	74.00	-21.49	peak			
2	*	4927.000	41.51	-0.34	41.17	54.00	-12.83	AVG			

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

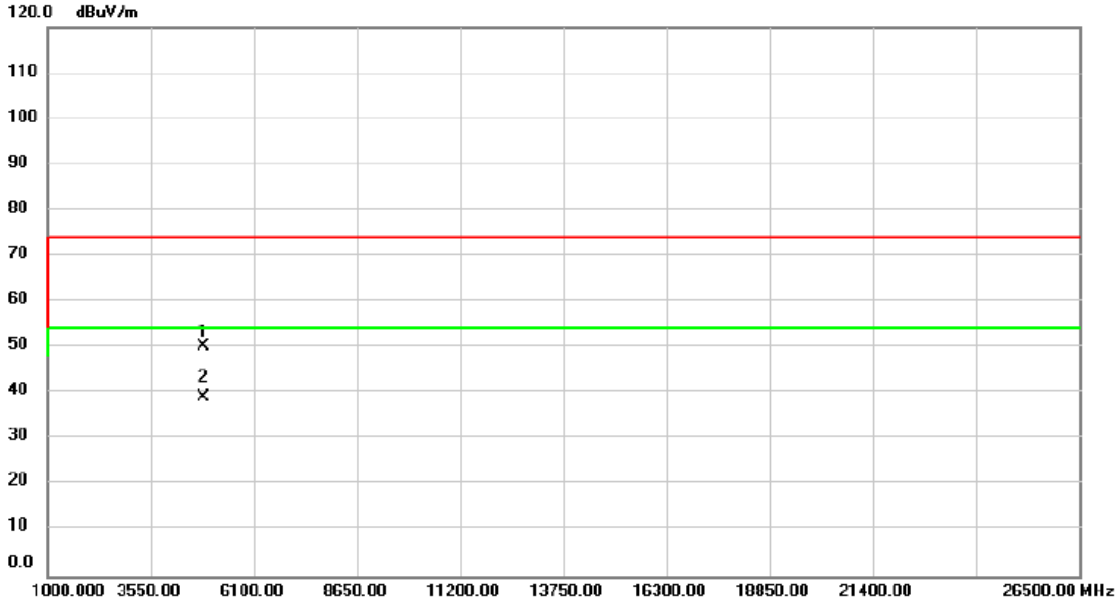
Test Mode	IEEE 802.11n (HT20)	Test Date	2024/3/18
Test Frequency	2462 MHz	Polarization	Horizontal



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	48.77	-0.34	48.43	74.00	-25.57	peak			
2	*	4927.000	38.98	-0.34	38.64	54.00	-15.36	AVG			

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

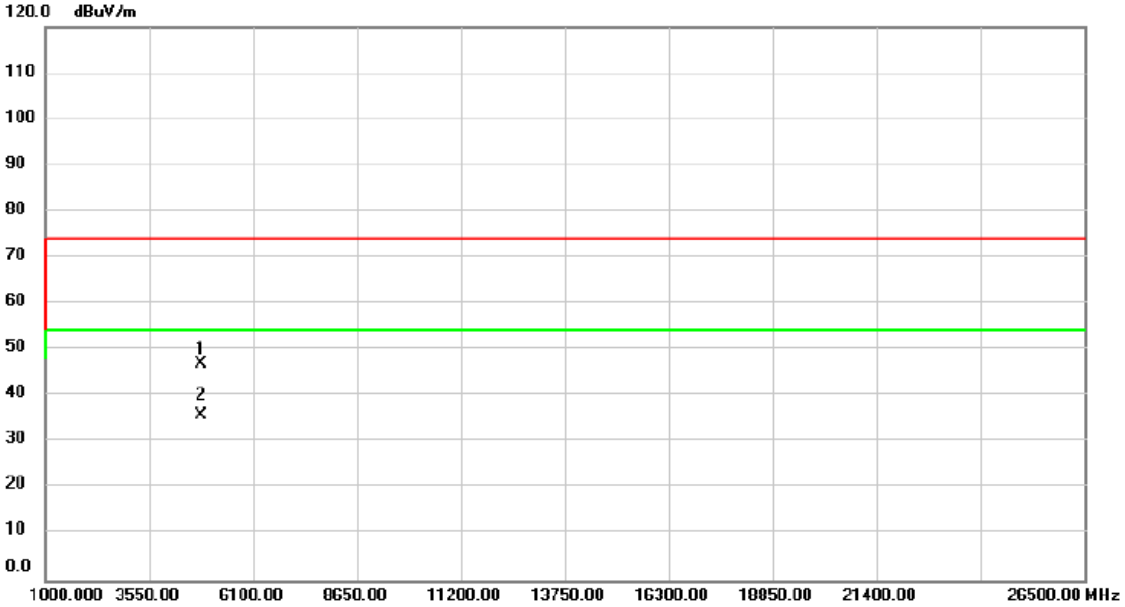
Test Mode	IEEE 802.11n (HT40)	Test Date	2024/3/18
Test Frequency	2422 MHz	Polarization	Vertical



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		4850.500	50.74	-0.56	50.18	74.00	-23.82	peak			
2	*	4850.500	39.72	-0.56	39.16	54.00	-14.84	AVG			

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

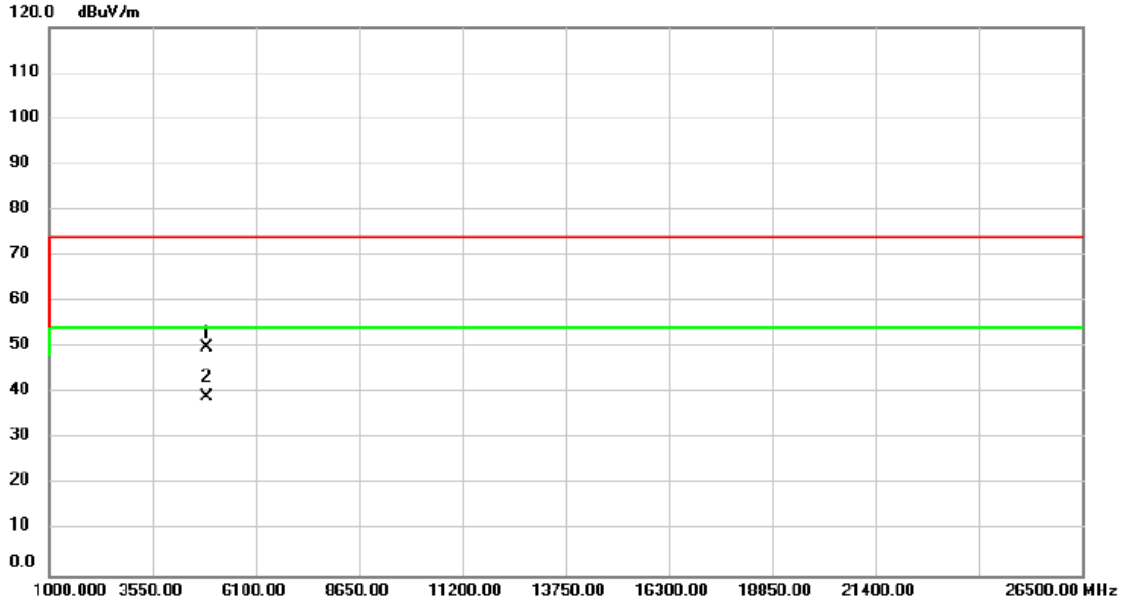
Test Mode	IEEE 802.11n (HT40)	Test Date	2024/3/18
Test Frequency	2422 MHz	Polarization	Horizontal



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		4825.000	47.73	-0.63	47.10	74.00	-26.90	peak			
2	*	4825.000	36.37	-0.63	35.74	54.00	-18.26	AVG			

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

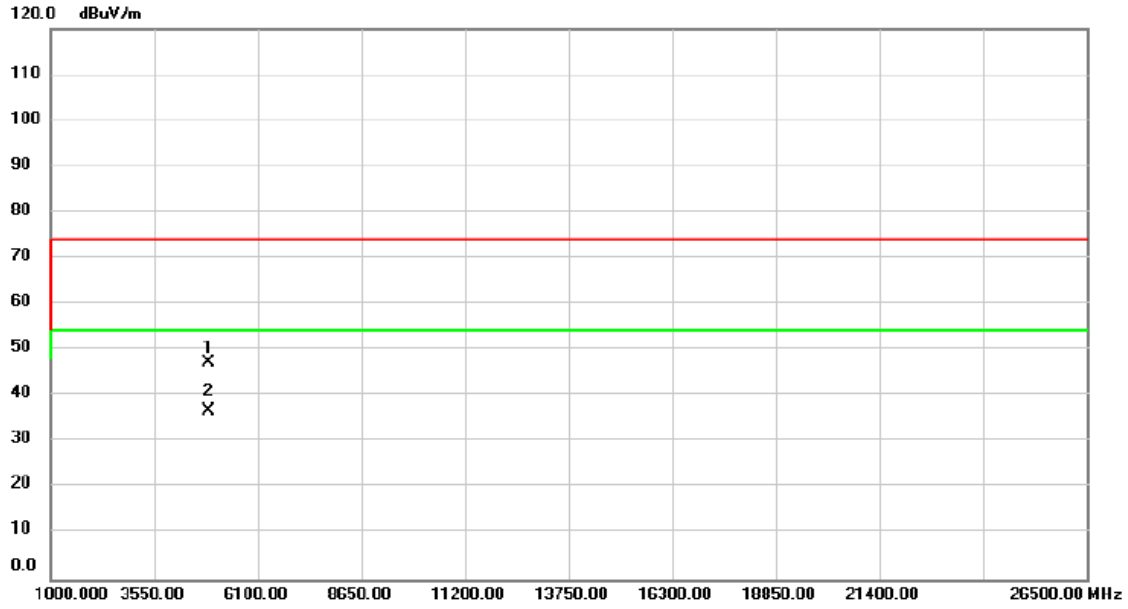
Test Mode	IEEE 802.11n (HT40)	Test Date	2024/3/18
Test Frequency	2437 MHz	Polarization	Vertical



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	50.43	-0.48	49.95	74.00	-24.05	peak			
2	*	4876.000	39.70	-0.48	39.22	54.00	-14.78	AVG			

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

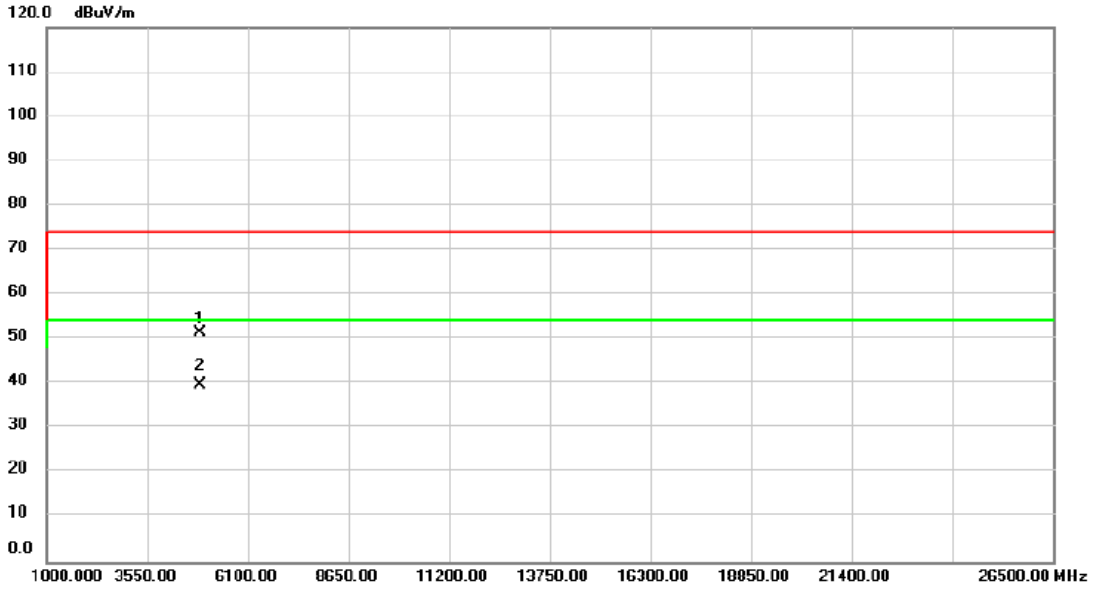
Test Mode	IEEE 802.11n (HT40)	Test Date	2024/3/18
Test Frequency	2437 MHz	Polarization	Horizontal



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	47.81	-0.48	47.33	74.00	-26.67	peak			
2	*	4876.000	37.11	-0.48	36.63	54.00	-17.37	AVG			

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

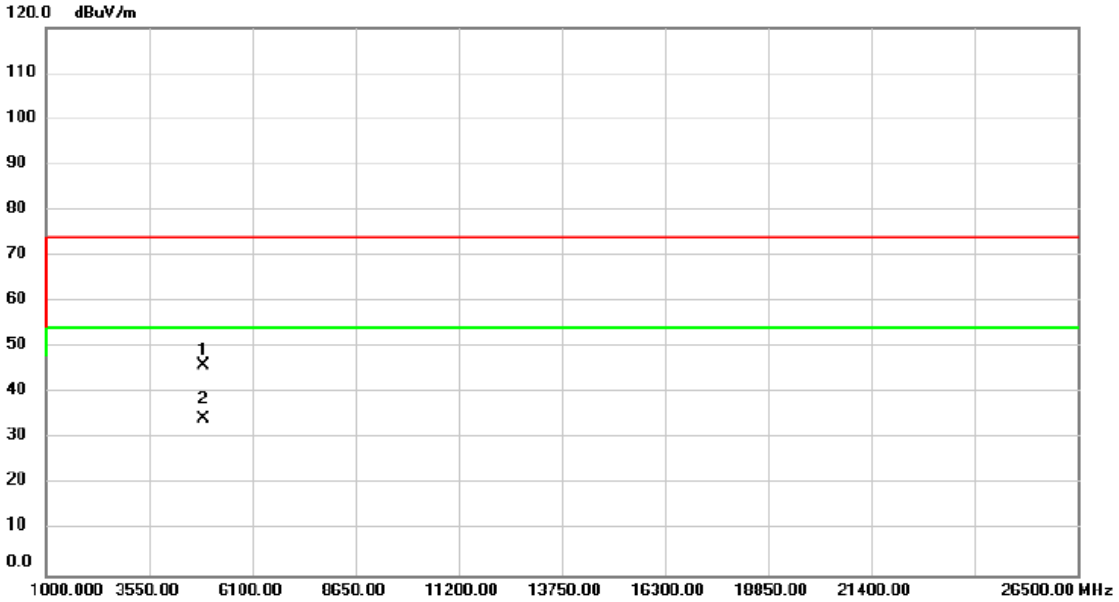
Test Mode	IEEE 802.11n (HT40)	Test Date	2024/3/18
Test Frequency	2452 MHz	Polarization	Vertical



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		4901.500	51.80	-0.41	51.39	74.00	-22.61	peak			
2	*	4901.500	40.17	-0.41	39.76	54.00	-14.24	AVG			

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

Test Mode	IEEE 802.11n (HT40)	Test Date	2024/3/18
Test Frequency	2452 MHz	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		4901.500	46.60	-0.41	46.19	74.00	-27.81	peak			
2	*	4901.500	34.78	-0.41	34.37	54.00	-19.63	AVG			

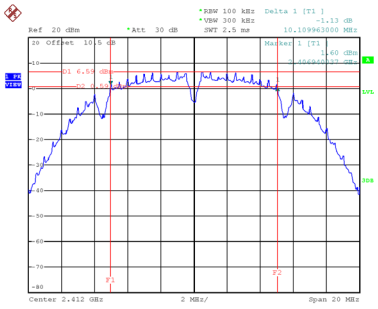
REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

APPENDIX D - BANDWIDTH

Test Mode	TX B Mode

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)	6 dB Bandwidth Min. Limit (MHz)	Result
01	2412	10.110	13.200	0.5	Complies
06	2437	10.070	13.280	0.5	Complies
11	2462	10.080	13.200	0.5	Complies

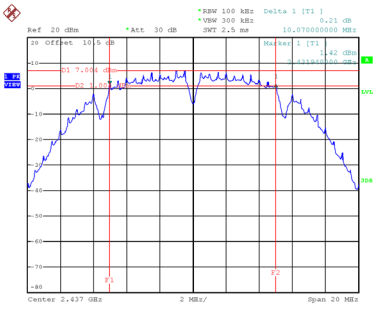
CH01



Date: 15.MAR.2024 10:59:56

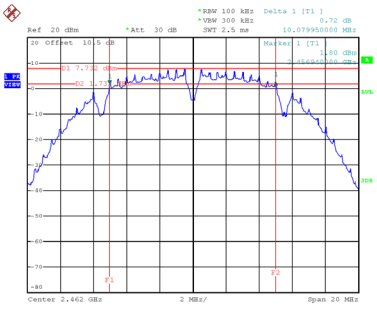
CH06

6 dB Bandwidth



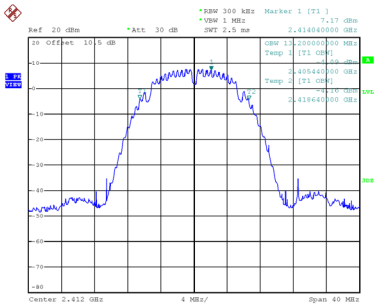
Date: 15.MAR.2024 11:01:42

CH11

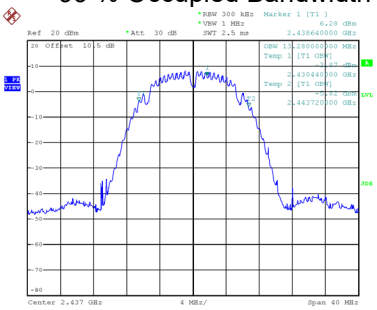


Date: 15.MAR.2024 11:03:26

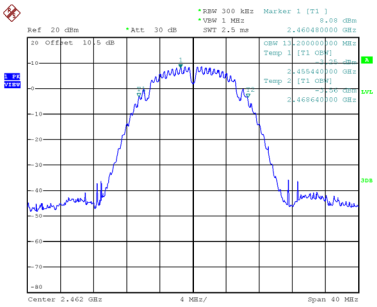
99 % Occupied Bandwidth



Date: 15.MAR.2024 11:00:05



Date: 15.MAR.2024 11:01:51

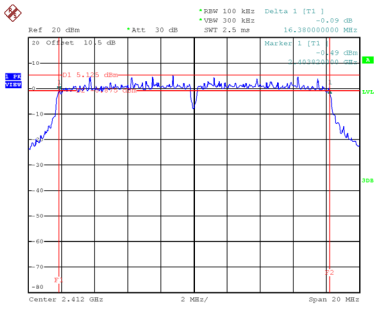


Date: 15.MAR.2024 11:03:35

Test Mode	TX G Mode

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)	6 dB Bandwidth Min. Limit (MHz)	Result
01	2412	16.380	16.880	0.5	Complies
06	2437	16.380	16.880	0.5	Complies
11	2462	16.380	16.880	0.5	Complies

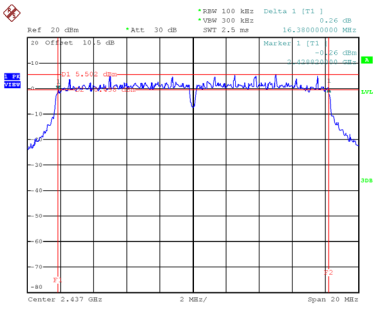
CH01



Date: 15.MAR.2024 11:06:50

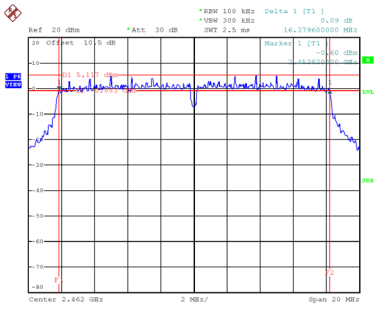
CH06

6 dB Bandwidth

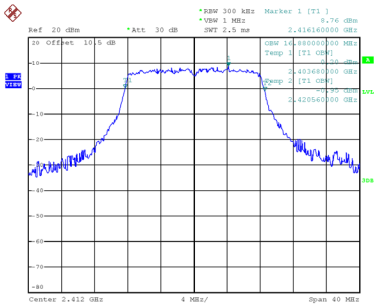


Date: 15.MAR.2024 11:09:45

CH11

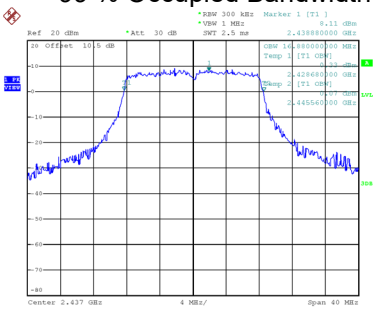


Date: 15.MAR.2024 11:11:43

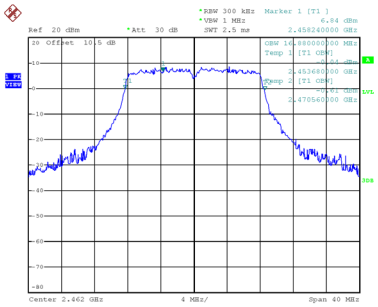


Date: 15.MAR.2024 11:06:59

99 % Occupied Bandwidth



Date: 15.MAR.2024 11:09:54

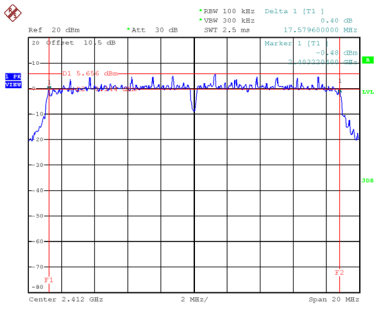


Date: 15.MAR.2024 11:11:52

Test Mode	TX N(HT20) Mode

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)	6 dB Bandwidth Min. Limit (MHz)	Result
01	2412	17.580	18.000	0.5	Complies
06	2437	17.320	18.080	0.5	Complies
11	2462	17.380	18.080	0.5	Complies

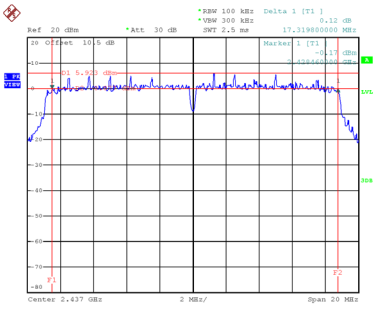
CH01



Date: 15.MAR.2024 11:38:50

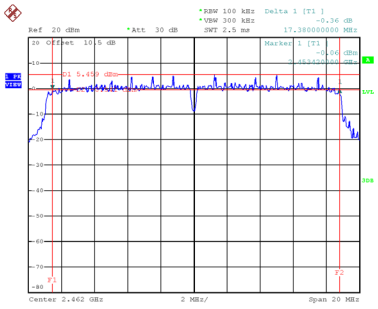
CH06

6 dB Bandwidth



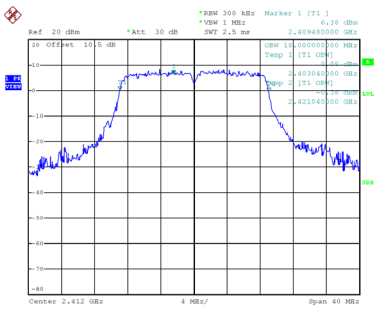
Date: 15.MAR.2024 11:40:31

CH11

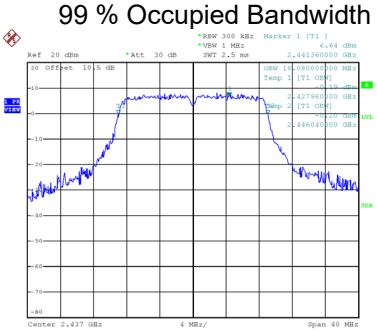


Date: 15.MAR.2024 11:42:32

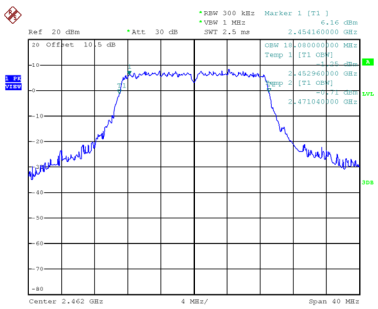
99 % Occupied Bandwidth



Date: 15.MAR.2024 11:38:58



Date: 15.MAR.2024 11:40:40

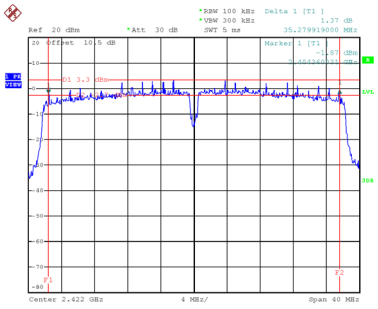


Date: 15.MAR.2024 11:42:41

Test Mode	TX N(HT40) Mode

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)	6 dB Bandwidth Min. Limit (MHz)	Result
03	2422	35.280	36.160	0.5	Complies
06	2437	35.280	36.160	0.5	Complies
09	2452	35.160	36.160	0.5	Complies

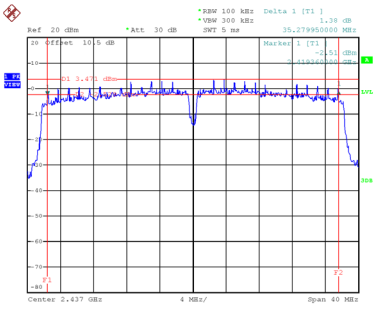
CH03



Date: 15.MAR.2024 11:24:50

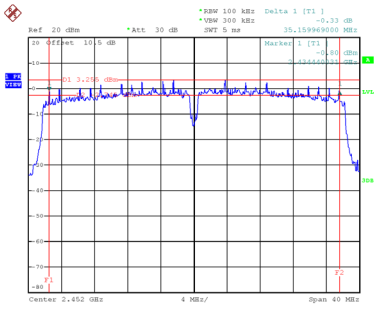
CH06

6 dB Bandwidth

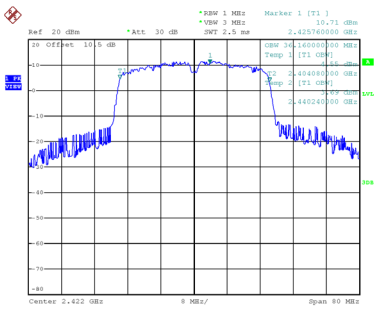


Date: 15.MAR.2024 11:26:44

CH09

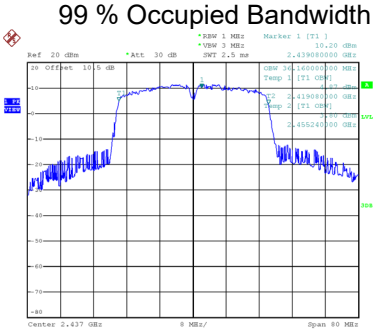


Date: 15.MAR.2024 11:28:53

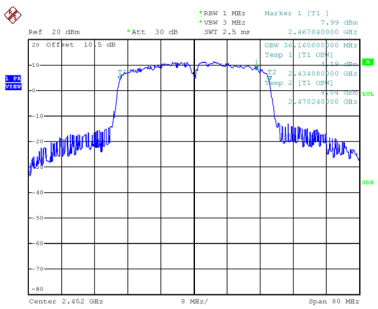


Date: 15.MAR.2024 11:24:59

99 % Occupied Bandwidth



Date: 15.MAR.2024 11:26:53



Date: 15.MAR.2024 11:29:01

APPENDIX E - MAXIMUM OUTPUT POWER

Test Mode	TX B Mode_Ant. 1	Test Date	2024/3/18

Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	15.63	0.26	15.89	30.00	1.0000	Complies
06	2437	15.69	0.26	15.95	30.00	1.0000	Complies
11	2462	15.83	0.26	16.09	30.00	1.0000	Complies

Test Mode	TX G Mode_Ant. 1	Test Date	2024/3/18

Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	17.91	1.36	19.27	30.00	1.0000	Complies
06	2437	18.04	1.36	19.40	30.00	1.0000	Complies
11	2462	17.14	1.36	18.50	30.00	1.0000	Complies

Test Mode	TX N(HT20) Mode_Ant. 1	Test Date	2024/3/18

Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	17.91	1.45	19.36	30.00	1.0000	Complies
06	2437	17.92	1.45	19.37	30.00	1.0000	Complies
11	2462	17.81	1.45	19.26	30.00	1.0000	Complies

Test Mode	TX N(HT20) Mode_Ant. 2	Test Date	2024/3/18

Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	17.73	1.45	19.18	30.00	1.0000	Complies
06	2437	17.56	1.45	19.01	30.00	1.0000	Complies
11	2462	17.57	1.45	19.02	30.00	1.0000	Complies

Test Mode	TX N(HT20) Mode_Total	Test Date	2024/3/18

Channel	Frequency (MHz)	Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	22.28	30.00	1.0000	Complies
06	2437	22.20	30.00	1.0000	Complies
11	2462	22.15	30.00	1.0000	Complies

Test Mode	TX N(HT40) Mode_Ant. 1	Test Date	2024/3/18

Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
03	2422	15.51	0.25	15.76	30.00	1.0000	Complies
06	2437	16.38	0.25	16.63	30.00	1.0000	Complies
09	2452	16.31	0.25	16.56	30.00	1.0000	Complies

Test Mode	TX N(HT40) Mode_Ant. 2	Test Date	2024/3/18

Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
03	2422	15.75	0.25	16.00	30.00	1.0000	Complies
06	2437	16.67	0.25	16.92	30.00	1.0000	Complies
09	2452	16.59	0.25	16.84	30.00	1.0000	Complies

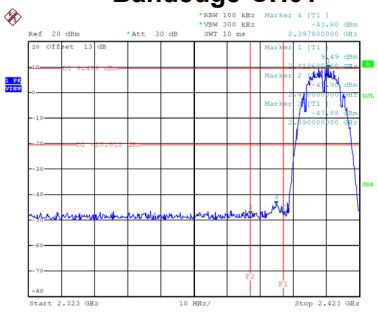
Test Mode	TX N(HT40) Mode_Total	Test Date	2024/3/18

Channel	Frequency (MHz)	Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
03	2422	18.90	30.00	1.0000	Complies
06	2437	19.79	30.00	1.0000	Complies
09	2452	19.72	30.00	1.0000	Complies

APPENDIX F - CONDUCTED SPURIOUS EMISSIONS

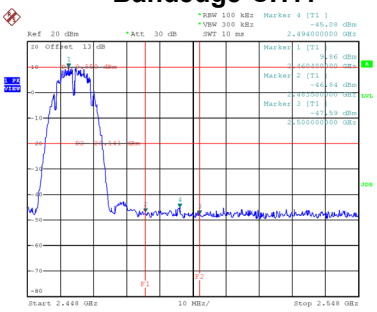
Test Mode	TX B Mode_Ant. 1

Bandedge-CH01



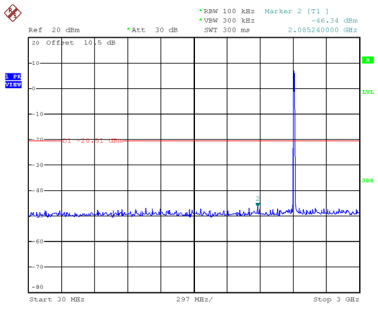
Date: 15.MAR.2024 11:00:14

Bandedge-CH11

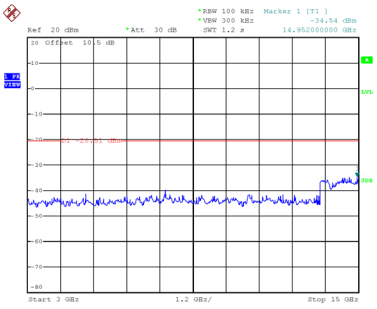


Date: 15.MAR.2024 11:03:45

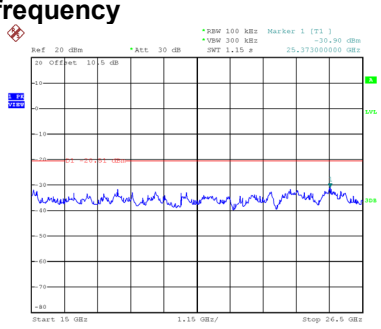
CH01 – 10th Harmonic of the fundamental frequency



Date: 15.MAR.2024 11:00:29

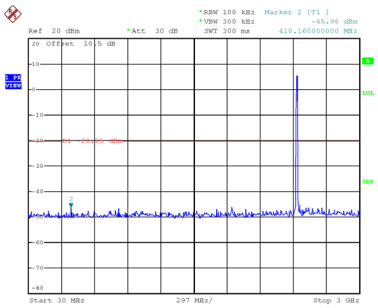


Date: 15.MAR.2024 11:00:38

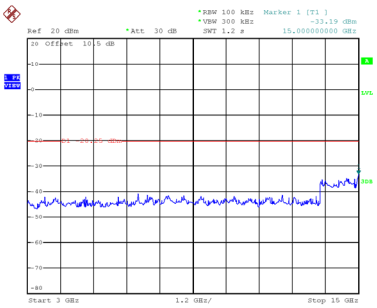


Date: 15.MAR.2024 11:00:48

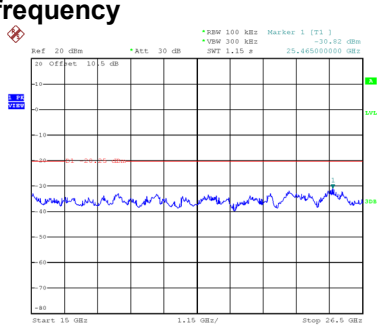
CH06 – 10th Harmonic of the fundamental frequency



Date: 15.MAR.2024 11:02:15

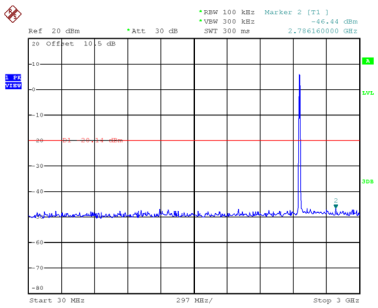


Date: 15.MAR.2024 11:02:25

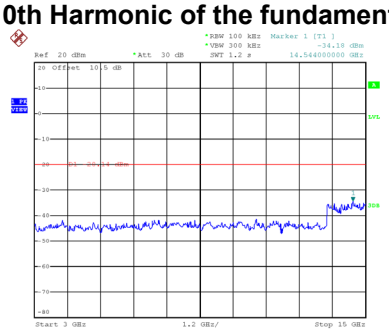


Date: 15.MAR.2024 11:02:34

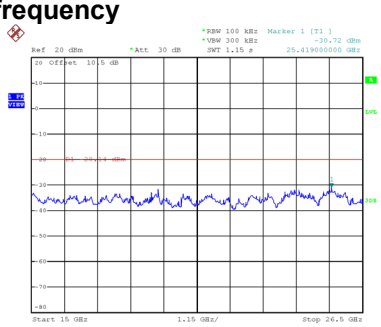
CH11 – 10th Harmonic of the fundamental frequency



Date: 15.MAR.2024 11:04:00



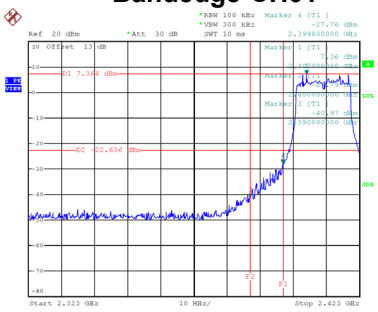
Date: 15.MAR.2024 11:04:09



Date: 15.MAR.2024 11:04:18

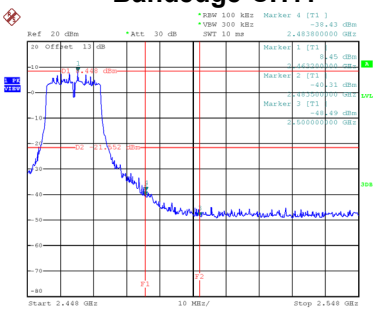
Test Mode	TX G Mode_Ant. 1

Bandedge-CH01



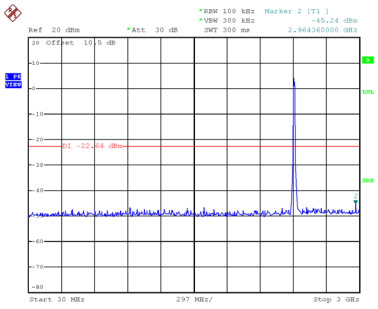
Date: 15.MAR.2024 11:07:08

Bandedge-CH11

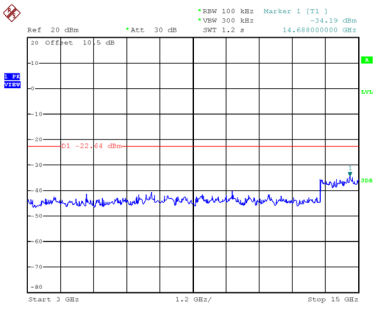


Date: 15.MAR.2024 11:12:01

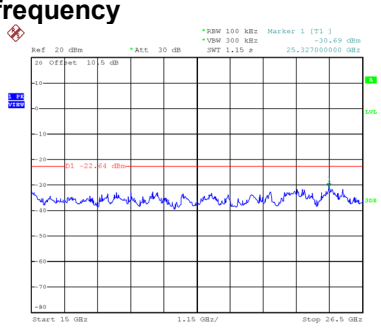
CH01 – 10th Harmonic of the fundamental frequency



Date: 15.MAR.2024 11:07:23

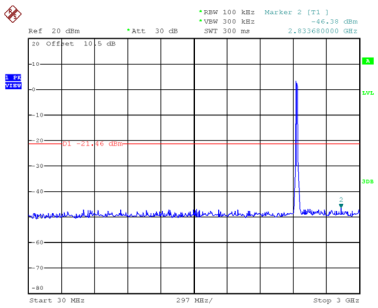


Date: 15.MAR.2024 11:07:32

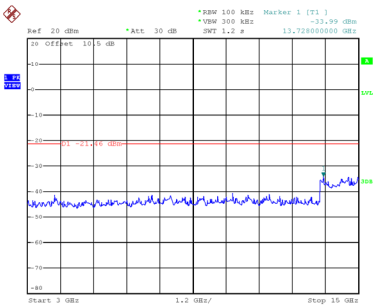


Date: 15.MAR.2024 11:07:41

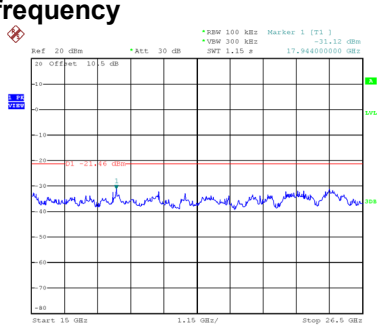
CH06 – 10th Harmonic of the fundamental frequency



Date: 15.MAR.2024 11:10:18

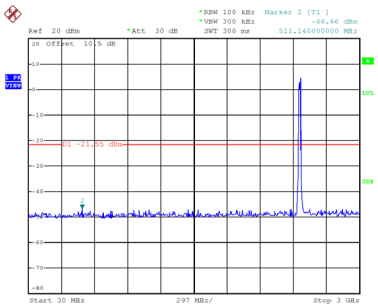


Date: 15.MAR.2024 11:10:27

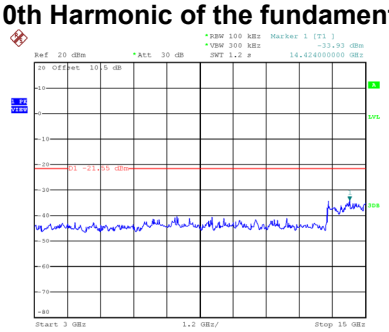


Date: 15.MAR.2024 11:10:36

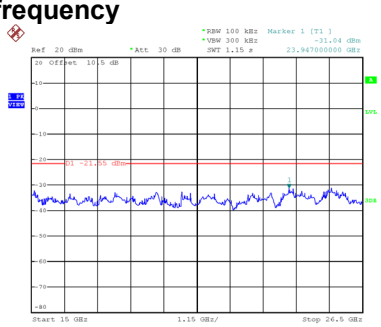
CH11 – 10th Harmonic of the fundamental frequency



Date: 15.MAR.2024 11:12:16



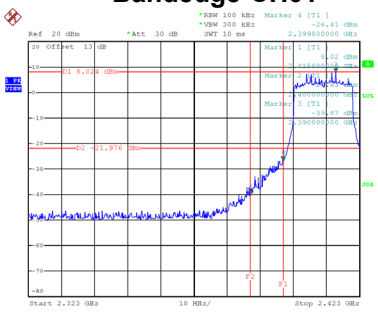
Date: 15.MAR.2024 11:12:25



Date: 15.MAR.2024 11:12:34

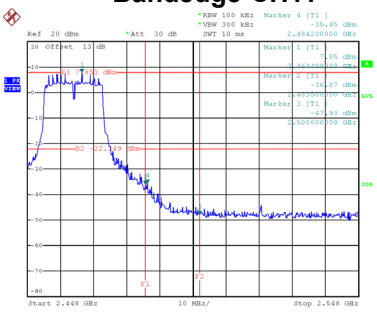
Test Mode	TX N(HT20) Mode_Ant. 1

Bandedge-CH01



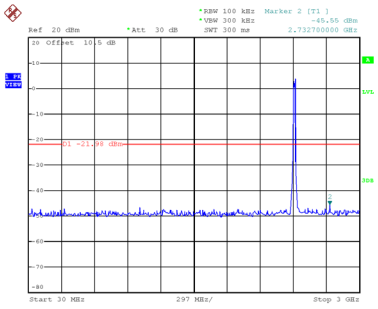
Date: 15.MAR.2024 11:39:08

Bandedge-CH11

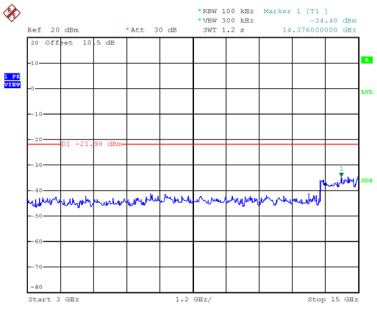


Date: 15.MAR.2024 11:42:50

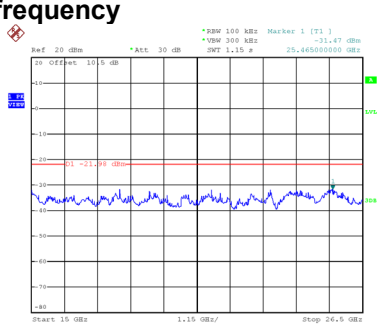
CH01 – 10th Harmonic of the fundamental frequency



Date: 15.MAR.2024 11:39:23

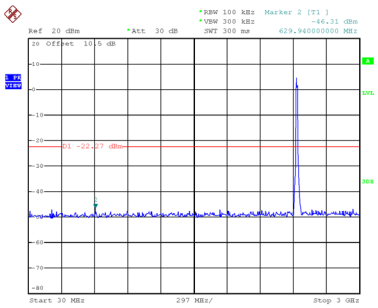


Date: 15.MAR.2024 11:39:32

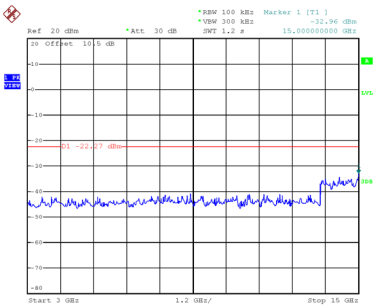


Date: 15.MAR.2024 11:39:41

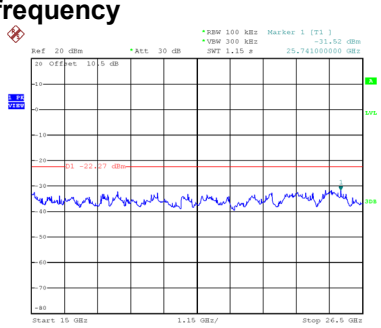
CH06 – 10th Harmonic of the fundamental frequency



Date: 15.MAR.2024 11:41:04

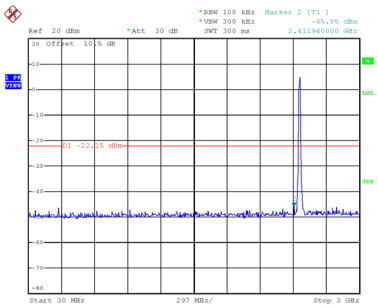


Date: 15.MAR.2024 11:41:14

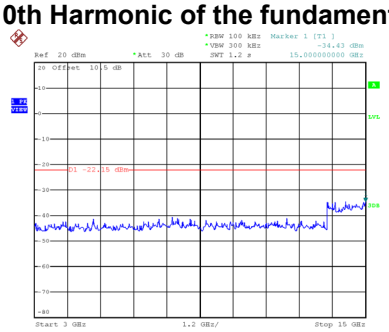


Date: 15.MAR.2024 11:41:23

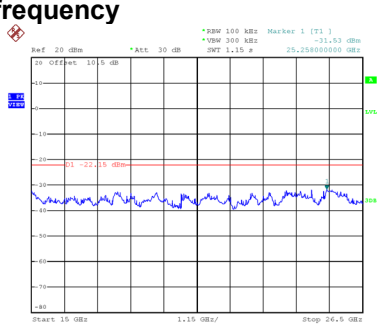
CH11 – 10th Harmonic of the fundamental frequency



Date: 15.MAR.2024 11:43:05



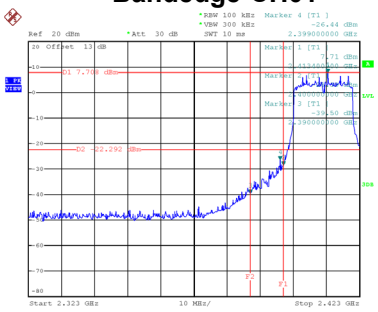
Date: 15.MAR.2024 11:43:14



Date: 15.MAR.2024 11:43:24

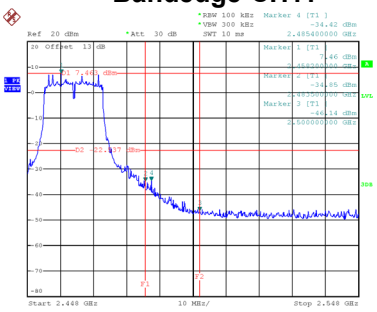
Test Mode	TX N(HT20) Mode_Ant. 2

Bandedge-CH01



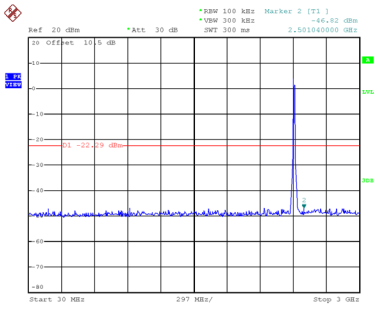
Date: 15.MAR.2024 12:56:03

Bandedge-CH11

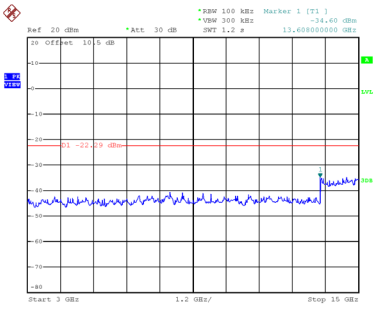


Date: 15.MAR.2024 12:59:26

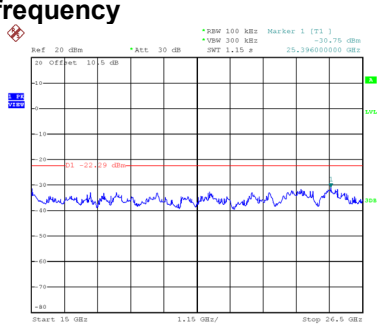
CH01 – 10th Harmonic of the fundamental frequency



Date: 15.MAR.2024 12:56:18

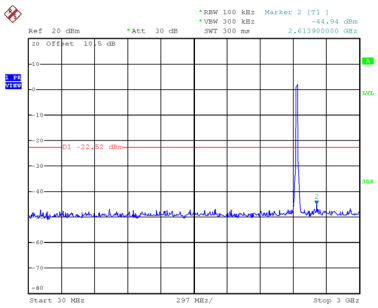


Date: 15.MAR.2024 12:56:28

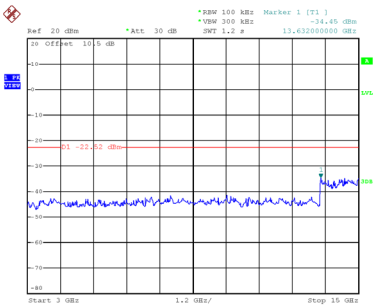


Date: 15.MAR.2024 12:56:37

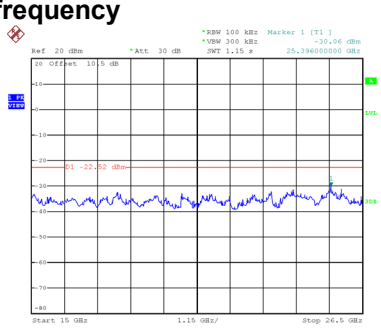
CH06 – 10th Harmonic of the fundamental frequency



Date: 15.MAR.2024 12:58:16

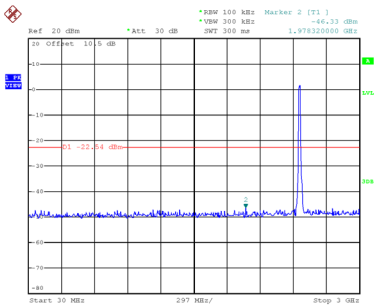


Date: 15.MAR.2024 12:58:25

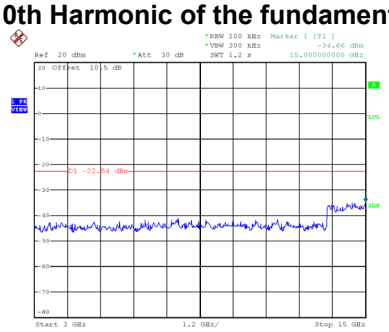


Date: 15.MAR.2024 12:58:35

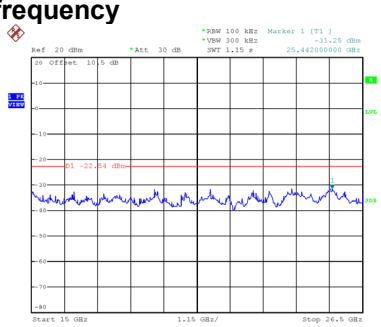
CH11 – 10th Harmonic of the fundamental frequency



Date: 15.MAR.2024 12:59:41



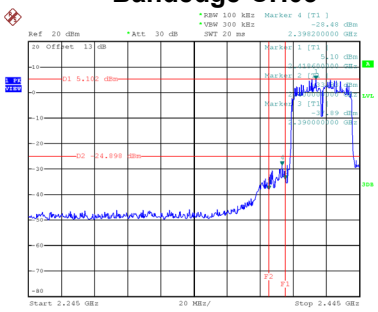
Date: 15.MAR.2024 12:59:51



Date: 15.MAR.2024 13:00:00

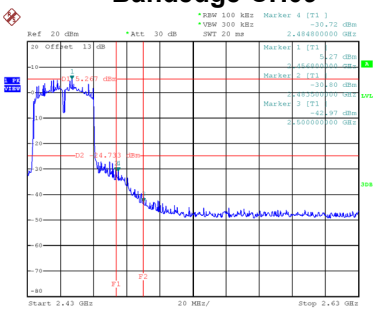
Test Mode	TX N(HT40) Mode_Ant. 1

Bandedge-CH03



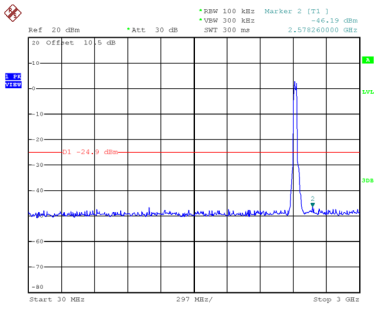
Date: 15.MAR.2024 11:25:08

Bandedge-CH09

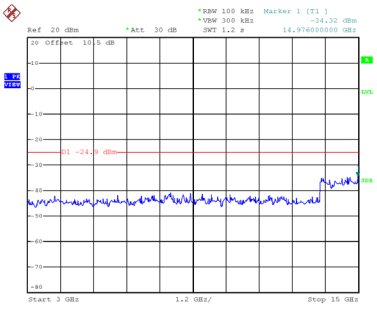


Date: 15.MAR.2024 11:29:11

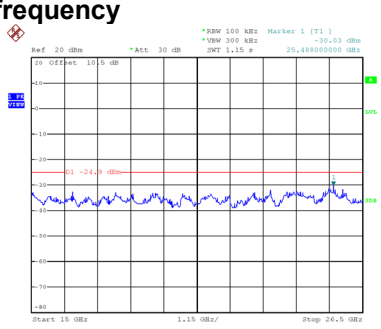
CH03 – 10th Harmonic of the fundamental frequency



Date: 15.MAR.2024 11:25:23

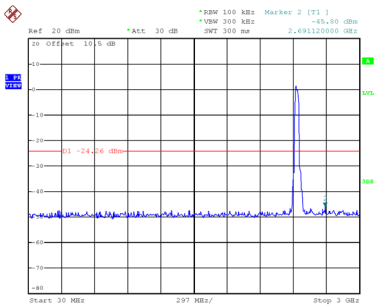


Date: 15.MAR.2024 11:25:32

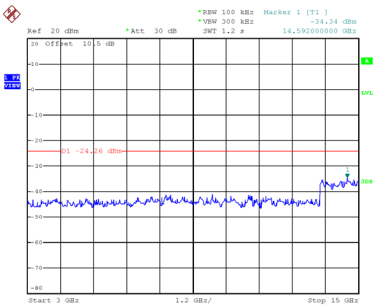


Date: 15.MAR.2024 11:25:42

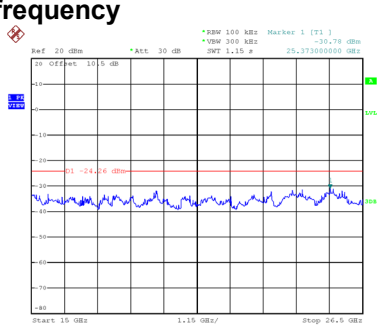
CH06 – 10th Harmonic of the fundamental frequency



Date: 15.MAR.2024 11:27:18

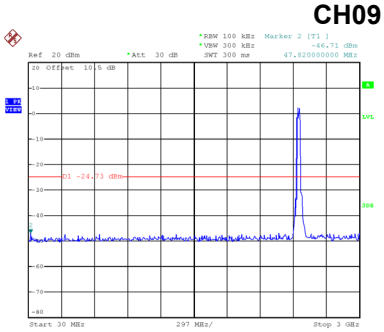


Date: 15.MAR.2024 11:27:27

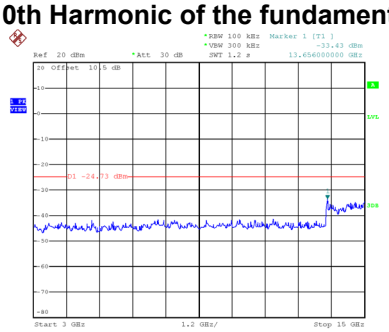


Date: 15.MAR.2024 11:27:36

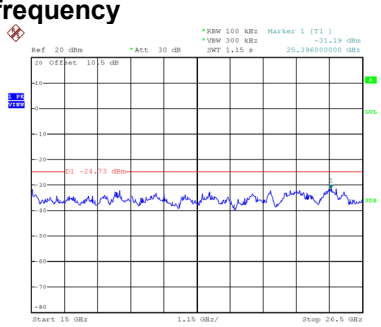
CH09 – 10th Harmonic of the fundamental frequency



Date: 15.MAR.2024 11:29:26



Date: 15.MAR.2024 11:29:35



Date: 15.MAR.2024 11:29:44