시 험 성 적 서
TEST REPORT

성적서 번호 Report No.		ICRT-TR-E231001-0A
신청자 Client	기관명 Name	TRUEN Co., Ltd.
	주 소 Address	Office 1309, Woolim e-Biz Center 1, 28, Digital-ro 33-gil, Guro-gu, Seoul, Republic of Korea
시험대상품목 Sample description		Wireless Home Camera
모델명 Type designation		TSC-421P
정 격 Ratings		DC 5.0 V
시험장소 Place of test		■ 고정시험(Inside test) □ 현장시험(Field test) 주소지(Address): 112, Hwanggeum 3-ro 7beon-gil, Hagun-ri, Yangchon-eup, Gimpo-si, Gyeonggi-do, Korea
시험기간 Date of test		02. May. 2023 ~ 03. May. 2023
시험방법/항목 Test Method/Item		FCC Part 15 Subpart C §15.247
시험결과 Test Results		Refer to 3. Test Summary
확 인 Affirmation	작성자 Tested by 성 명 Name Eun-Hye, Gwak (Signature)	기술책임자 Technical Manager 성 명 Name Tae-Yang, Yoon (Signature)

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The above test report is certified that the above mentioned products have been tested for the sample.

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2023. 05. 04

주식회사 아이씨알 대표이사

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경기도 김포시 양촌읍 황금3로7번길 112 / Tel: 02-6351-9001 ~ 6
112, Hwanggeum3-ro 7beon-gil, Yangchon-eup, Gimpo-si, Gyeonggi-do, Korea / Tel: 02-6351-9001 ~ 6

Contents

Revision History

Issued Report No.	Issued Date	Revisions	Effect Section
ICRT-TR-E231001-0A	2023.05.04	Initial Issue	All

1. Applicant & Manufacturer & Test Laboratory Information

1.1 Applicant information

Applicant	TRUEN Co., Ltd.
Address	Office 1309, Woolim e-Biz Center 1, 28, Digital-ro 33-gil, Guro-gu, Seoul, Republic of Korea
Contact Person	Sunguk Lee
Telephone No.	-
Fax No.	-
E-mail	leesg@truen.co.kr

1.2 Manufacturer Information

Manufacturer	TRUEN Co., Ltd.
Address	Office 1309, Woolim e-Biz Center 1, 28, Digital-ro 33-gil, Guro-gu, Seoul, Republic of Korea

1.3 Test Laboratory Information

Conducted tests were performed at	
Laboratory	ICR Co., Ltd.
Address	112, Hwanggeum 3-ro 7beon-gil, Hagun-ri, Yangchon-eup, Gimpo-si, Gyeonggi-do, Korea
Telephone No.	+82-2-6351-9002
Fax No.	+82-2-6351-9007
RRA No.	KR0165
KOLAS No.	KT652

2. Equipment under Test(EUT) Information

2.1 General Information

Product Name	Wireless Home Camera
Brand Name	-
Model Name	TSC-421P
Additional Model Name	-
FCC ID	2AZK3-TSC-421P
Power Supply	DC 5.0 V

2.2 Additional Information

Equipment Class	DTS-Digital Transmission System	
Device Type	Stand-alone	
Operating Frequency	2.4 ㎓ WLAN (802.11b/g/n(HT20))	2 412 ㎒ ~ 2 462 ㎒
RF Output Power	2.4 ㎓ WLAN 802.11b	11.84 dBm
	2.4 ㎓ WLAN 802.11g	13.31 dBm
	2.4 ㎓ WLAN 802.11n20	14.42 dBm
Number of Channel	2.4 ㎓ WLAN (802.11b/g/n(HT20))	11
Modulation Type	2.4 ㎓ WLAN 802.11b	DSSS
	2.4 ㎓ WLAN 802.11g/n20	OFDM
Antenna Type	FPCB Antenna	
Antenna Gain	1.85 dBi	
Antenna Operating Mode	Single Antenna Equipment with only one antenna	

2.3 Mode of operation during the test

- The EUT is continuous transmission mode during the test with set at Low Channel, Middle Channel, and High Channel. To get a maximum radiated emission levels from the EUT, the EUT was moved throughout the XY, YZ, XZ planes.

2.4 Modifications of EUT

- None

3. Test Summary

3.1 Test standards and results

FCC Part 15 Subpart C			
Clause	Test items	Applied	Results
§15.247 (a) (2)	6 dB Bandwidth	☒	PASS
§15.247 (b) (3)	Maximum Conducted Output Power	☒	PASS
§15.247 (e)	Power Spectral Density	☒	PASS
§15.247 (d)	Conducted Spurious Emission	☒	PASS
§15.247 (d) & §15.209 & §15.205	Radiated Spurious Emission	☒	PASS
§15.203	Antenna Requirement	☒	PASS
§15.207	Power Line Conducted Emission	☒	PASS

3.2 Purpose of the test

- To determine whether the equipment under test fulfills the requirements of the standards stated in FCC Part 15 Subpart C Section 15.247.

3.3 Test Methodology

Both conducted and radiated testing was performed according to the procedures in ANSI C63.10: 2013.

Radiated testing was performed at a distance of 3 m from EUT to the antenna.

3.4 Configuration of Test System

3.4.1 Radiated emission test

Preliminary radiated emissions test were conducted using the procedure in ANSI C63.10: 2013 to determine the worse operating conditions. Final radiated emission tests were conducted at 3 m Semi Anechoic Chamber.

The turntable was rotated through 360 degrees and the EUT was tested by positioned three orthogonal planes to obtain the highest reading on the field strength meter. Once maximum reading was determined, the search antenna was raised and lowered in both vertical and horizontal polarization.

3.4.2 AC power line conducted emission test

The EUT was connected to LISN. All supporting equipment were connected to another LISN. Preliminary Power line Conducted Emission test was performed by using the procedure in ANSI C63.10: 2013 to determine the worse operating conditions.

3.5 Antenna requirement

According to §15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.
The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section.
The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.
And according to §15.247(b)(4), the conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi.
Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3.5.1 Result: Pass

The transmitter has a ***FPCB Antenna.*** The directional gain of the antenna is ***1.85 dBi.***

4. Used equipment on test

	Description	Model Name	Manufacturer	Serial Number	Next Cal. (cycle)
☒	SIGNAL GENERATOR	SMB100A	ROHDE & SCHWARZ	180607	2024-03-02
☒	LOOP ANTENNA	HFH2-Z2	ROHDE & SCHWARZ	100271	2025-03-08
☒	HORN ANTENNA	LB-42-10-C-KF	A-INFOMW	J202024625	2024-03-07
☒	SPECTRUM ANALYZER	FSV40-N	ROHDE & SCHWARZ	101303	2024-03-03
☒	ATTENUATOR	PFA40K2-10	PSATEK	-	2024-03-07
☒	PREAMPLIFIER	AMF-4F-18265-35-8P-1	MITEQ	771846	2024-03-07
☒	DC POWER SUPPLY	XDL35-5P	XANTREX	J00385373	2024-03-03
☒	BI-Log ANTENNA	VULB 9162	SCHWARZBECK	120	2024-12-26
☒	EMI TEST RECEIVER	ESR26	ROHDE & SCHWARZ	101462	2024-04-04
☒	SIGNAL CONDITIONING UNIT	SCU08	ROHDE & SCHWARZ	100746	2024-04-03
☒	EMI TEST RECEIVER	ESR26	ROHDE & SCHWARZ	101461	2024-04-04
☒	SIGNAL CONDITIONING UNIT	SCU18	ROHDE & SCHWARZ	102342	2024-04-03
☒	DOUBLE RIDGED HORN ANTENNA	HF907	ROHDE & SCHWARZ	102556	2023-08-22

※ All test equipment used is calibration on a regular basis.

5. 6 dB Bandwidth

5.1 Operating environment

Temperature : 24.7 ℃

Relative humidity : 47.3 %

5.2 Measurement method

Standard : §15.247 (a) (2)

5.3 Test data

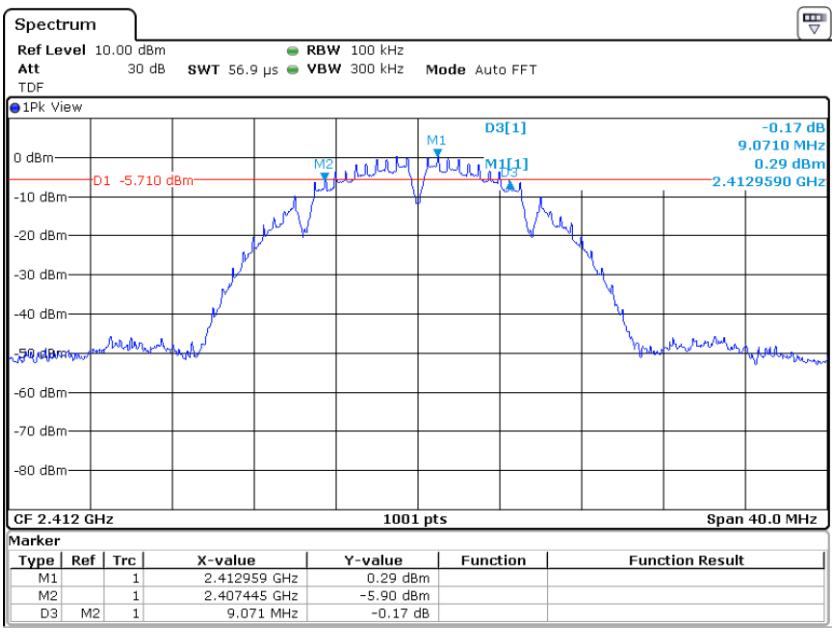
Operating mode : Transmit mode

Test Result : Pass

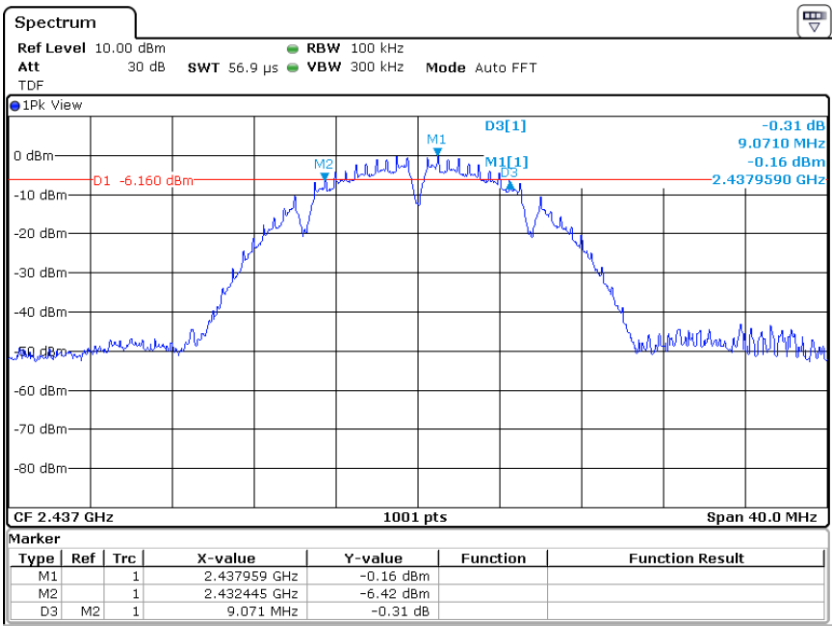
5.3.1 Measured Results

Modulation Type	Channel (Frequency)	Measured Value (㎒)	Limit (㎑)
802.11b	0 (2 412 ㎒)	9.071	at least 500
	5 (2 437 ㎒)	9.071	
	10 (2 462 ㎒)	9.071	
802.11g	0 (2 412 ㎒)	16.330	
	5 (2 437 ㎒)	16.355	
	10 (2 462 ㎒)	16.368	
802.11n20	0 (2 412 ㎒)	17.581	
	5 (2 437 ㎒)	17.581	
	10 (2 462 ㎒)	17.581	

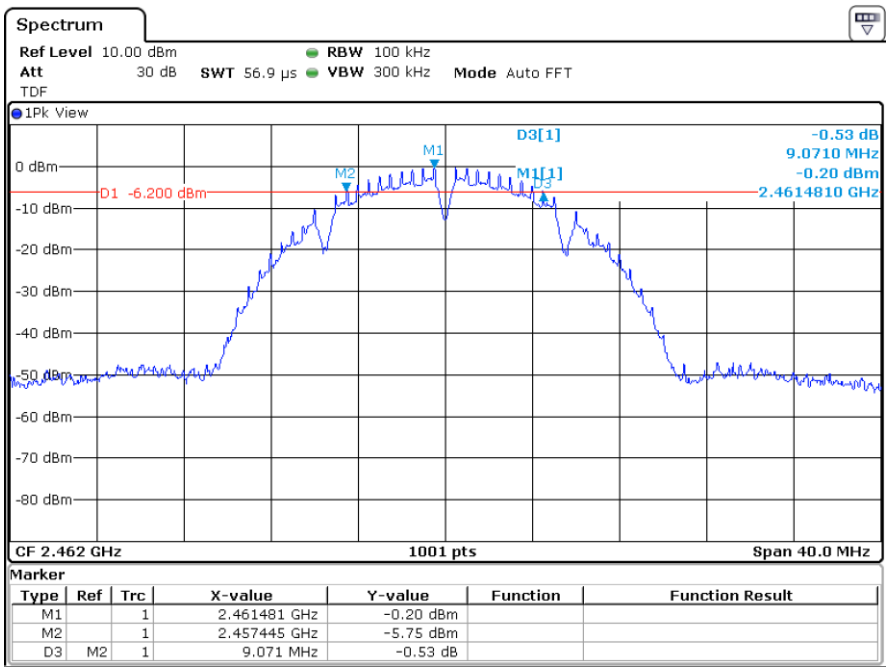
5.3.2 Measured Graph (6 dB Bandwidth)_802.11b



Low CH

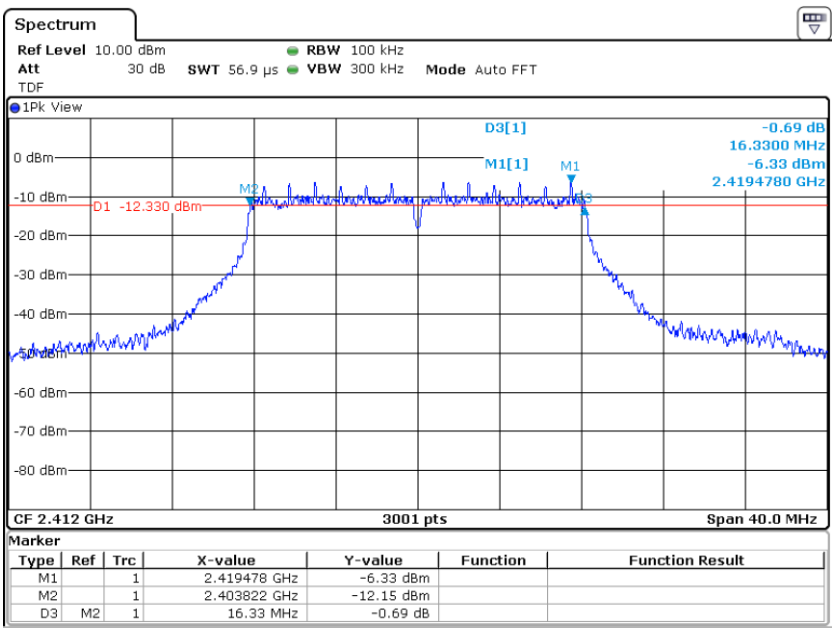


Mid CH

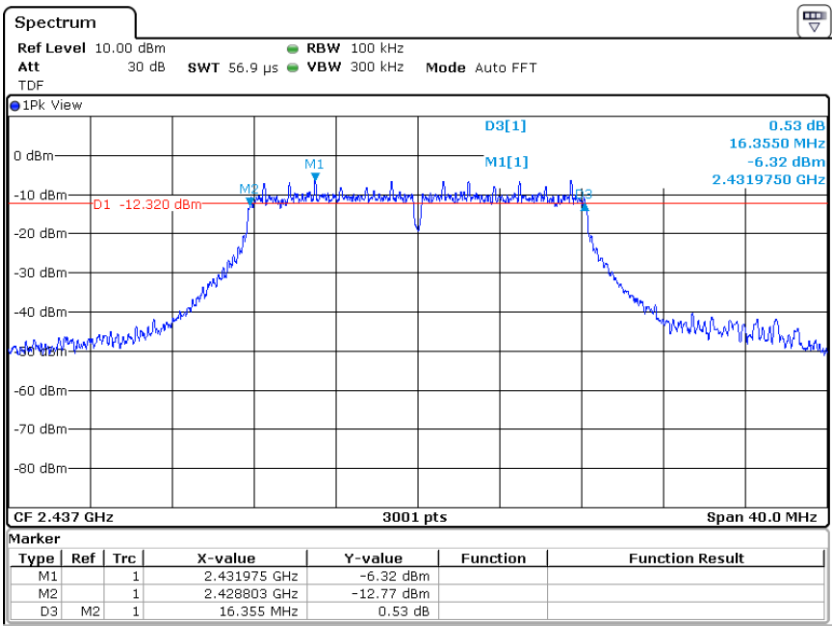

Spectrum
Ref Level 10.00 dBm
RBW 100 kHz
Att 30 dB
SWT 56.9 µs
VBW 300 kHz
Mode Auto FFT
TDF
1Pk View
D3[1]
-0.53 dB
9.0710 MHz
M1[1]
-0.20 dBm
2.4614810 GHz
D1 -6.200 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
-80 dBm
CF 2.462 GHz
1001 pts
Span 40.0 MHz
Marker
Type Ref Trc X-value Y-value Function Function Result
M1 1 2.461481 GHz -0.20 dBm
M2 1 2.457445 GHz -5.75 dBm
D3 M2 1 9.071 MHz -0.53 dB

High CH

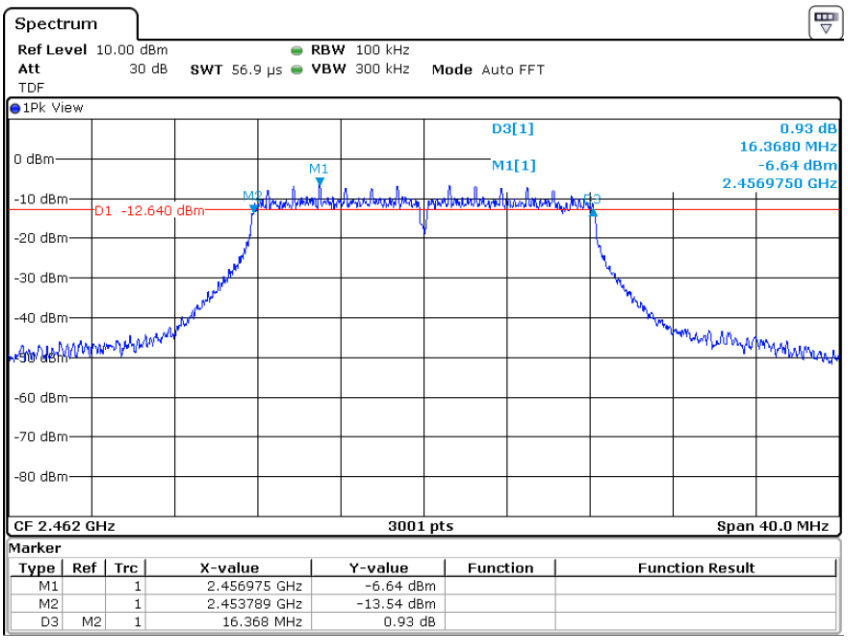
5.3.3 Measured Graph (6 dB Bandwidth)_ 802.11g



Low CH

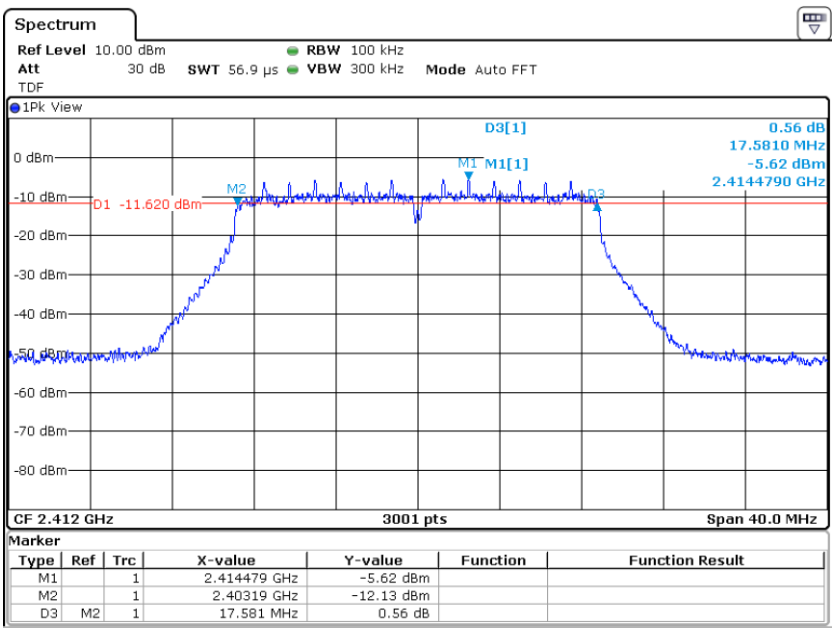


Mid CH

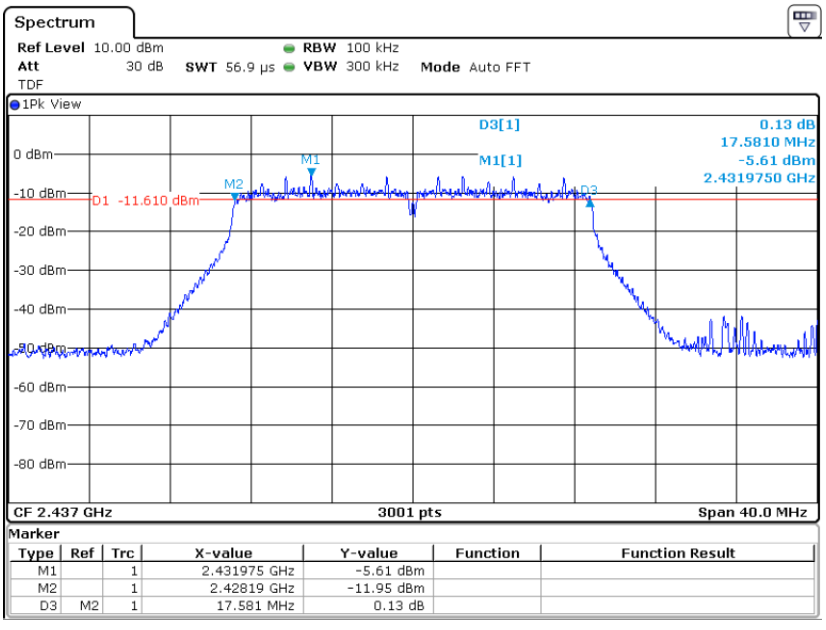

Spectrum
Ref Level 10.00 dBm
RBW 100 kHz
Att 30 dB
SWT 56.9 µs
VBW 300 kHz
Mode Auto FFT
TDF
1Pk View
D3[1]
0.93 dB
16.3680 MHz
M1[1]
-6.64 dBm
2.4569750 GHz
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
-80 dBm
D1 -12.640 dBm
M1
M2
D3
CF 2.462 GHz
3001 pts
Span 40.0 MHz
Marker
Type Ref Trc X-value Y-value Function Function Result
M1 1 2.456975 GHz -6.64 dBm
M2 1 2.453789 GHz -13.54 dBm
D3 M2 1 16.368 MHz 0.93 dB

High CH

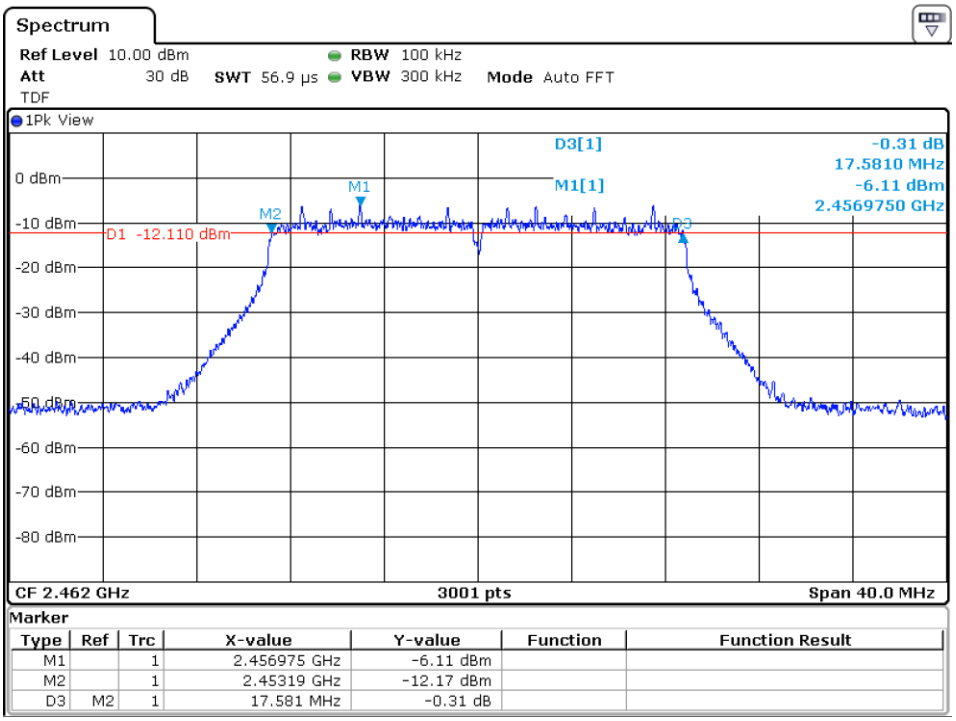
5.3.4 Measured Graph (6 dB Bandwidth)_802.11n20



Low CH



Mid CH


Spectrum
Ref Level 10.00 dBm
RBW 100 kHz
Att 30 dB
SWT 56.9 µs
VBW 300 kHz
Mode Auto FFT
TDF
1Pk View
D3[1]
-0.31 dB
17.5810 MHz
M1[1]
-6.11 dBm
2.4569750 GHz
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
-80 dBm
M1
M2
D3
D1 -12.110 dBm
CF 2.462 GHz
3001 pts
Span 40.0 MHz
Marker
Type Ref Trc X-value Y-value Function Function Result
M1 1 2.456975 GHz -6.11 dBm
M2 1 2.45319 GHz -12.17 dBm
D3 M2 1 17.581 MHz -0.31 dB

High CH

6. Maximum Conducted Output Power

6.1 Operating environment

Temperature : 24.7 ℃

Relative humidity : 47.3 %

6.2 Measurement method

Standard : §15.247 (b) (3) / ANSI C63.10-2013

6.3 Test data

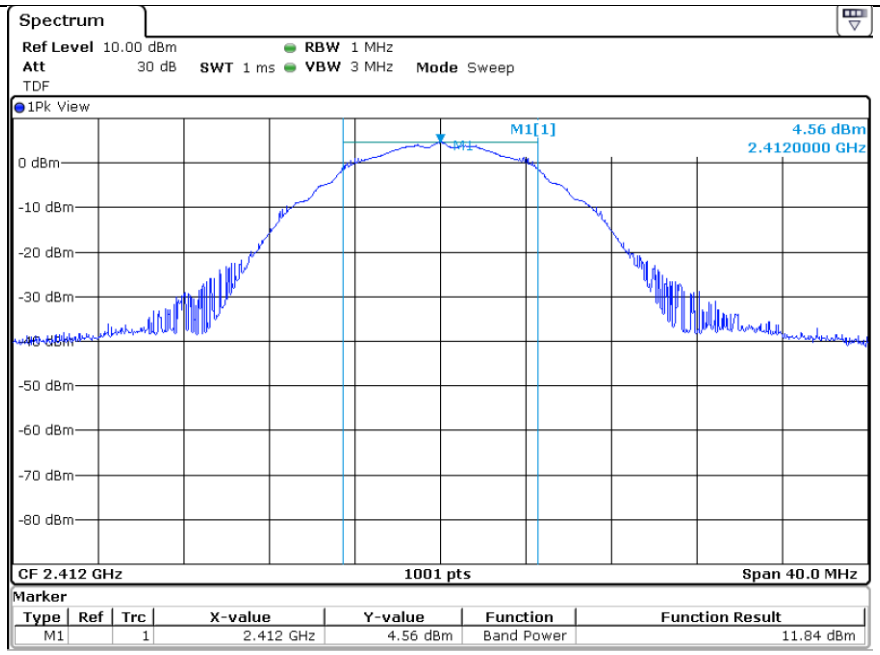
Operating mode : Transmit mode

Test Result : Pass

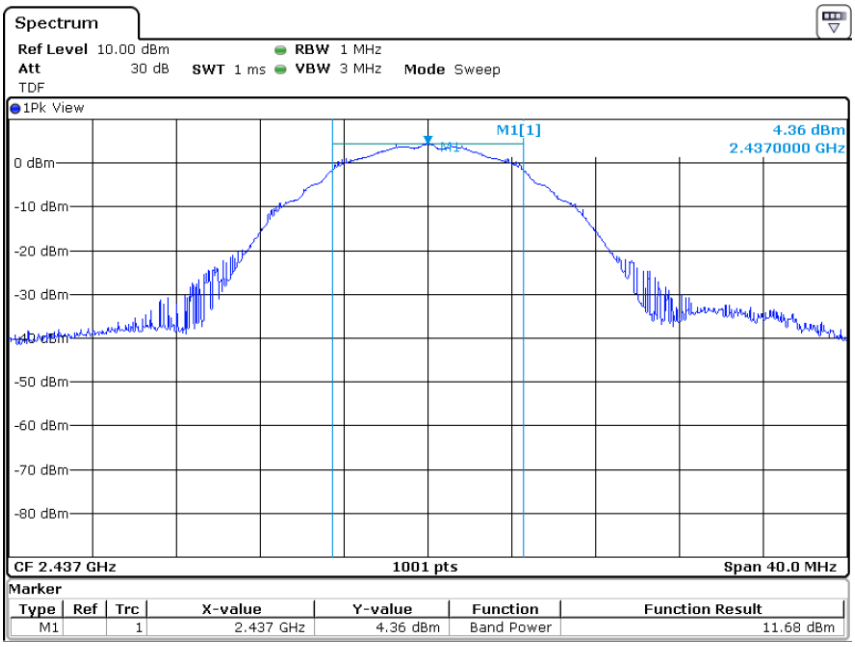
6.3.1 Measured Results

Modulation Type	Channel (Frequency)	Highest signal level (dBm)	Limit (dBm)
802.11b	0 (2 412 ㎒)	***11.84***	30 (1 Watt)
	5 (2 437 ㎒)	11.68	
	10 (2 462 ㎒)	11.42	
802.11g	0 (2 412 ㎒)	***13.31***	
	5 (2 437 ㎒)	12.50	
	10 (2 462 ㎒)	13.08	
802.11n20	0 (2 412 ㎒)	14.31	
	5 (2 437 ㎒)	***14.42***	
	10 (2 462 ㎒)	13.99	

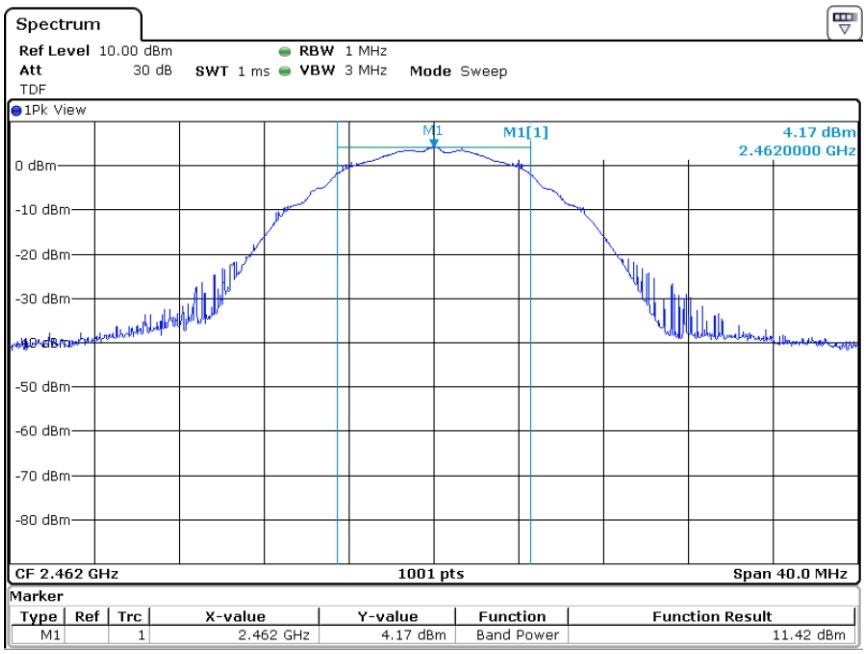
6.3.1.1 Measured Graph 802.11b



Low CH

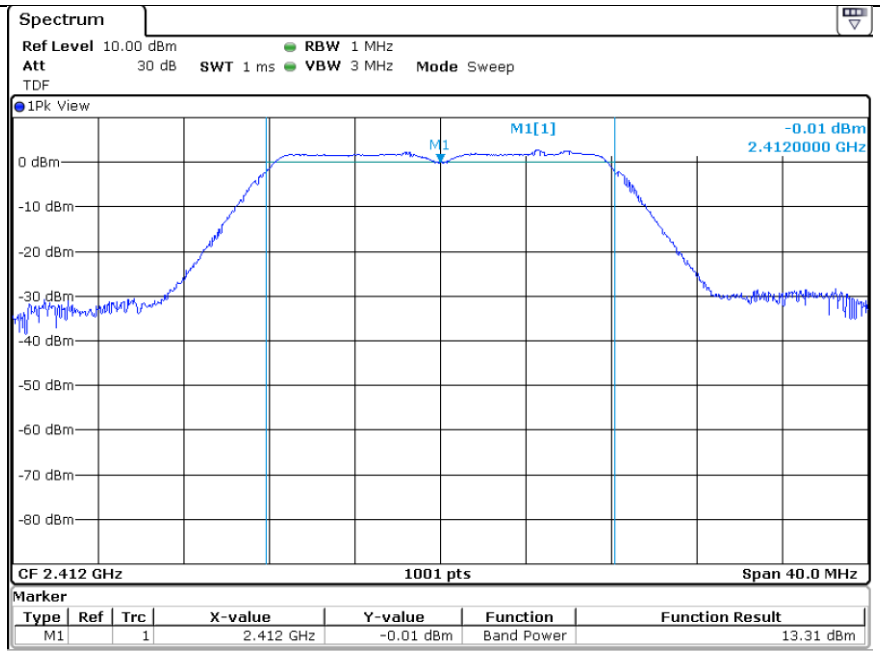


Mid CH

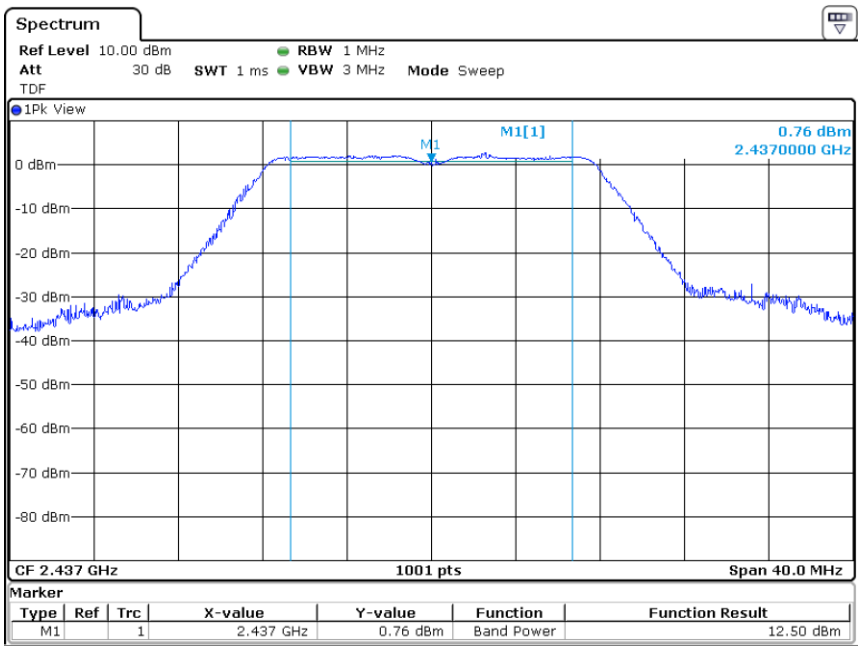

Spectrum
Ref Level 10.00 dBm
RBW 1 MHz
Att 30 dB
SWT 1 ms
VBW 3 MHz
Mode Sweep
TDF
1Pk View
M1
M1[1]
4.17 dBm
2.4620000 GHz
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
-80 dBm
CF 2.462 GHz
1001 pts
Span 40.0 MHz
Marker
Type Ref Trc X-value Y-value Function Function Result
M1 1 2.462 GHz 4.17 dBm Band Power 11.42 dBm

High CH

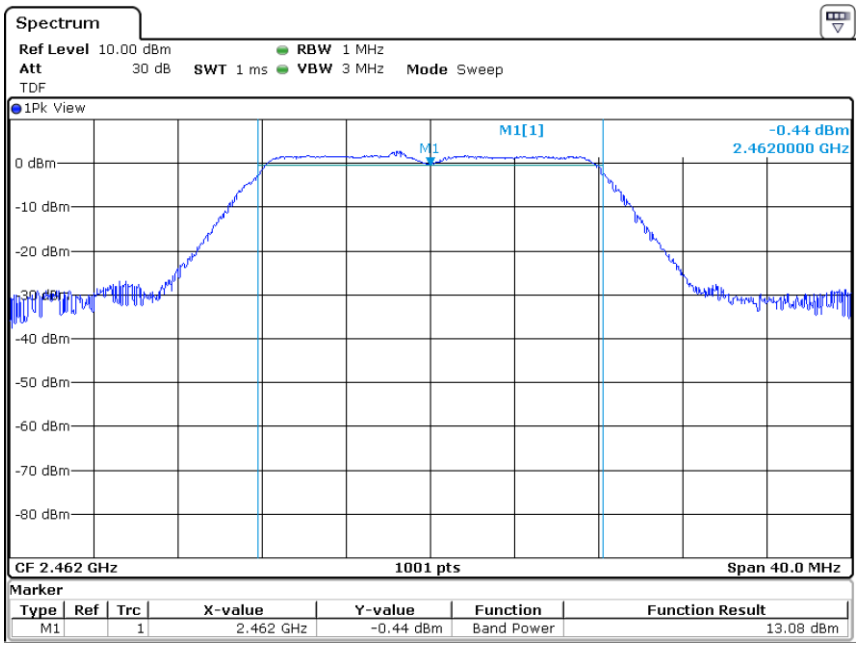
6.3.1.2 Measured Graph 802.11g



Low CH

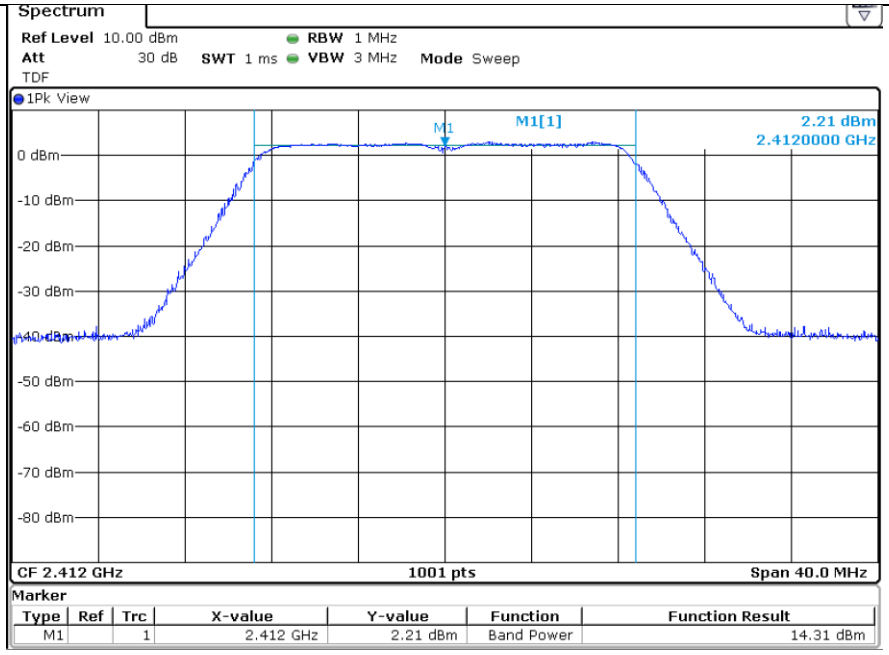


Mid CH

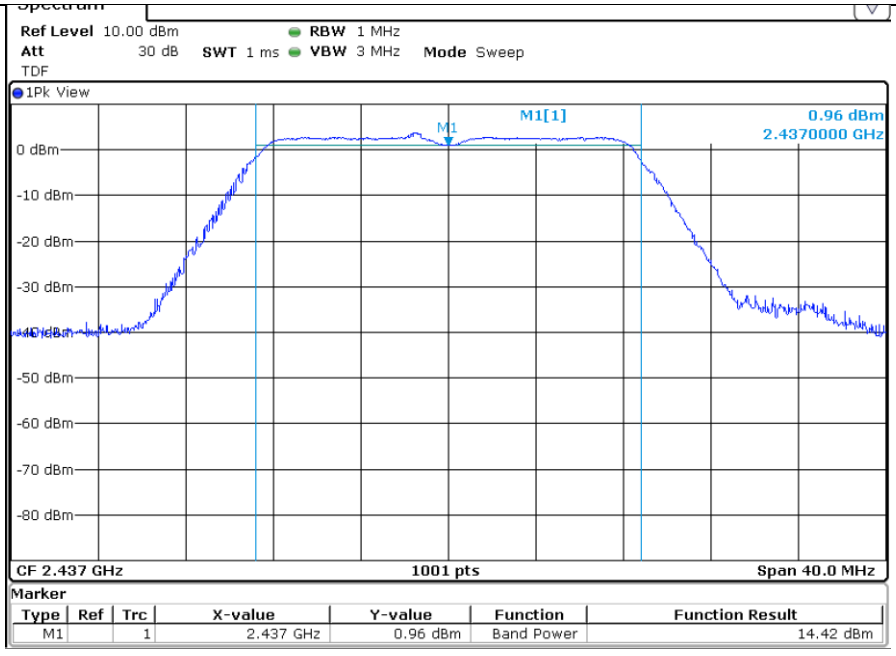

Spectrum
Ref Level 10.00 dBm
RBW 1 MHz
Att 30 dB
SWT 1 ms
VBW 3 MHz
Mode Sweep
TDF
1Pk View
M1[1]
-0.44 dBm
2.4620000 GHz
M1
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
-80 dBm
CF 2.462 GHz
1001 pts
Span 40.0 MHz
Marker
Type Ref Trc X-value Y-value Function Function Result
M1 1 2.462 GHz -0.44 dBm Band Power 13.08 dBm

High CH

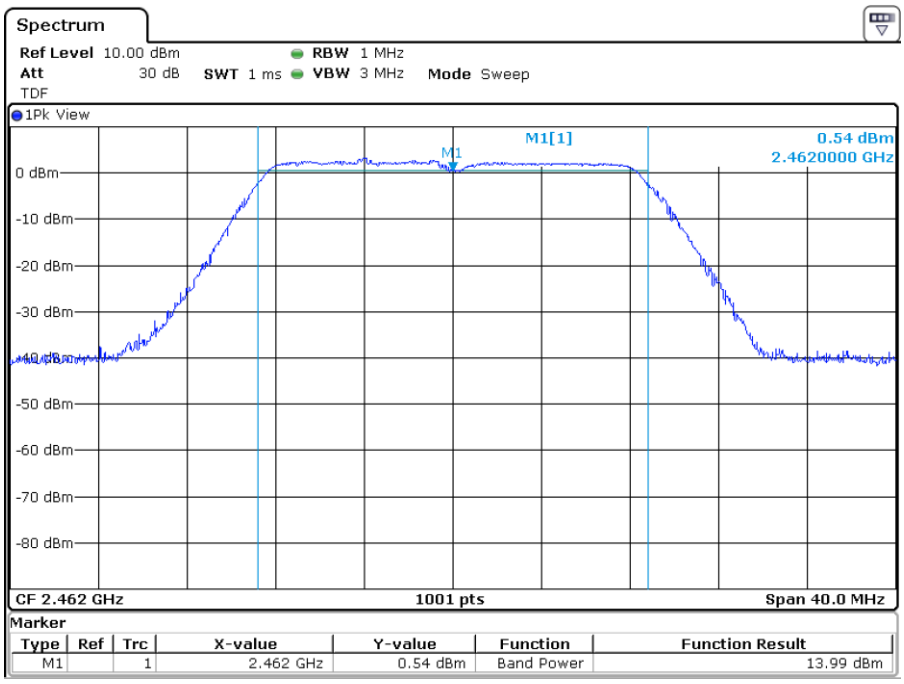
6.3.1.3 Measured Graph 802.11n20



Low CH



Mid CH


Spectrum
Ref Level 10.00 dBm
RBW 1 MHz
Att 30 dB
SWT 1 ms
VBW 3 MHz
Mode Sweep
TDF
1Pk View
M1[1]
0.54 dBm
2.4620000 GHz
M1
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
-80 dBm
CF 2.462 GHz
1001 pts
Span 40.0 MHz
Marker
Type Ref Trc X-value Y-value Function Function Result
M1 1 2.462 GHz 0.54 dBm Band Power 13.99 dBm

High CH

7. Power Spectral Density

7.1 Operating environment

Temperature : 24.7 ℃

Relative humidity : 47.3 %

7.2 Measurement method

Standard : §15.247 (e)

7.3 Test data

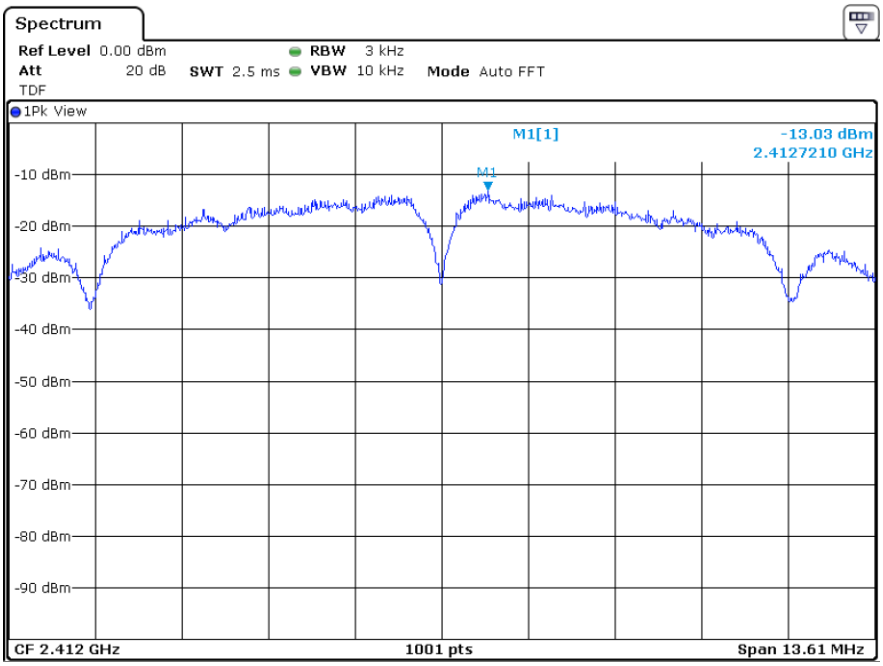
Operating mode : Transmit mode

Test Result : Pass

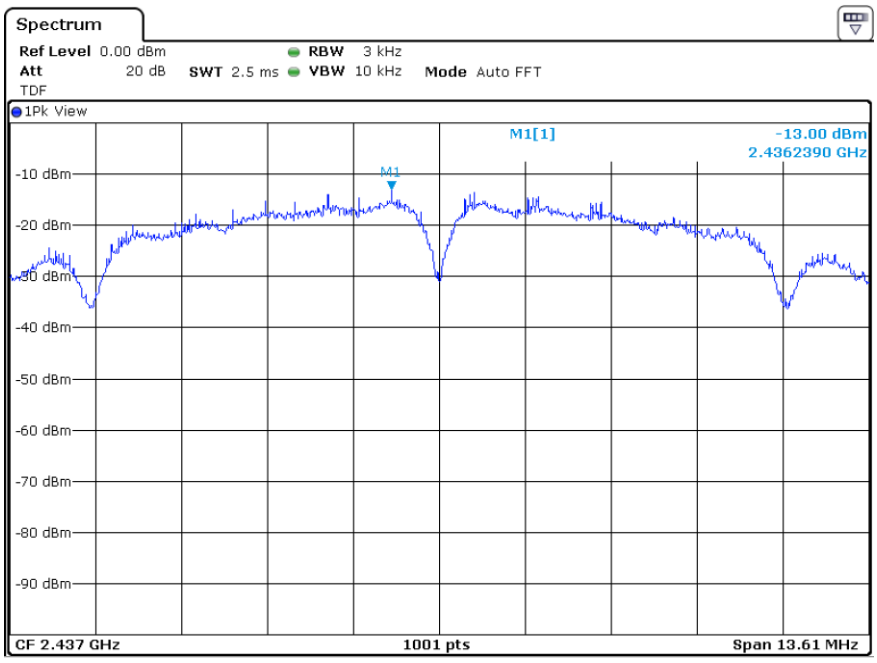
7.3.1.3 Measured Results

Modulation Type	Channel (Frequency)	Highest signal level (dBm)	Limit (dBm/3㎑)
802.11b	0 (2 412 ㎒)	-13.03	8
	5 (2 437 ㎒)	-13.00	
	10 (2 462 ㎒)	-13.82	
802.11g	0 (2 412 ㎒)	-19.51	
	5 (2 437 ㎒)	-21.02	
	10 (2 462 ㎒)	-20.77	
802.11n20	0 (2 412 ㎒)	-19.96	
	5 (2 437 ㎒)	-19.94	
	10 (2 462 ㎒)	-19.10	

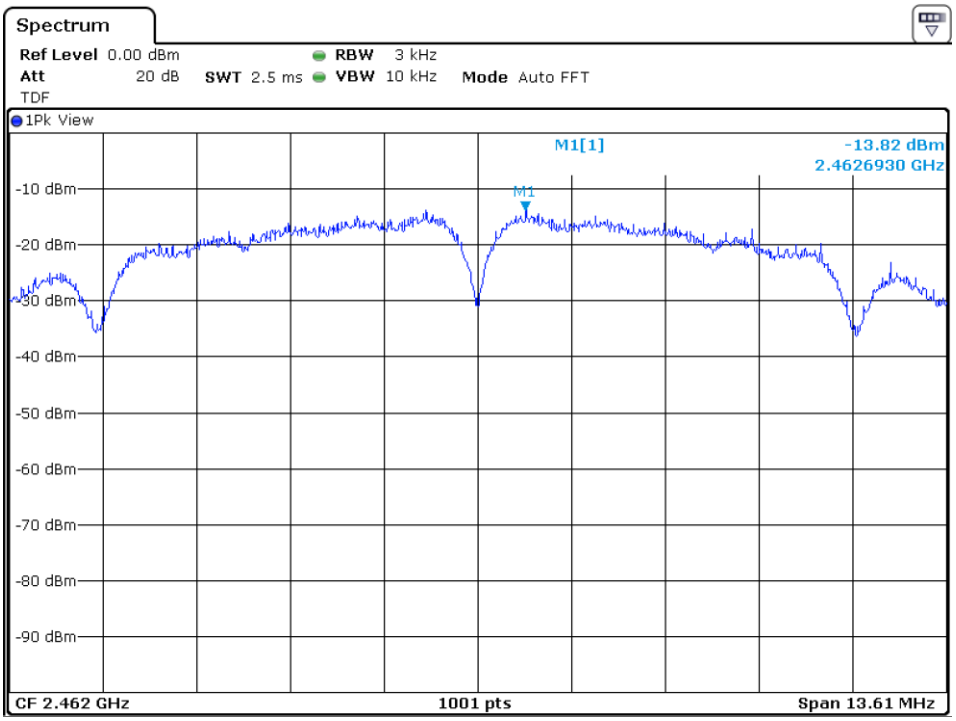
7.3.1.3 Measured Graph_ 802.11b



Low CH

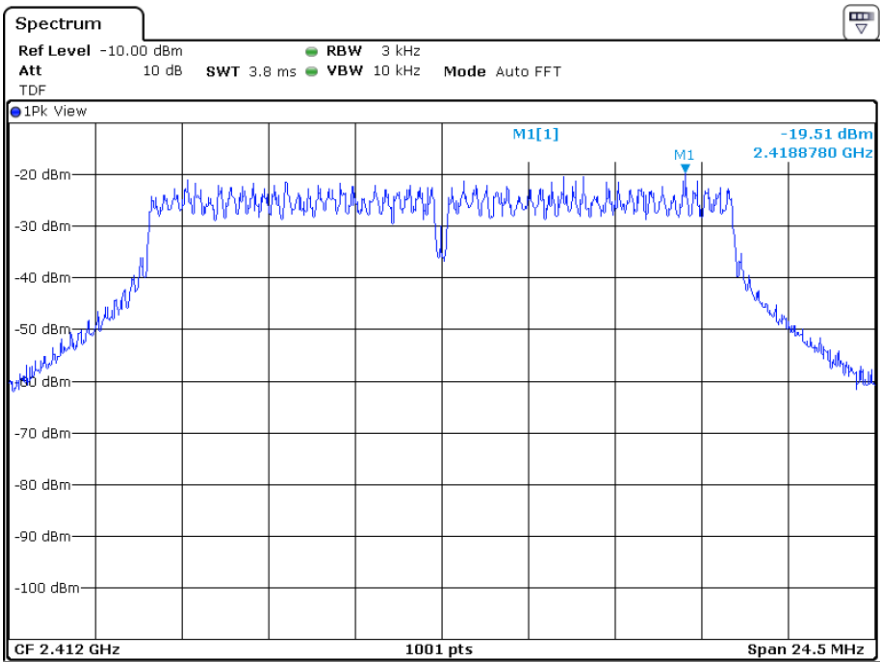


Mid CH

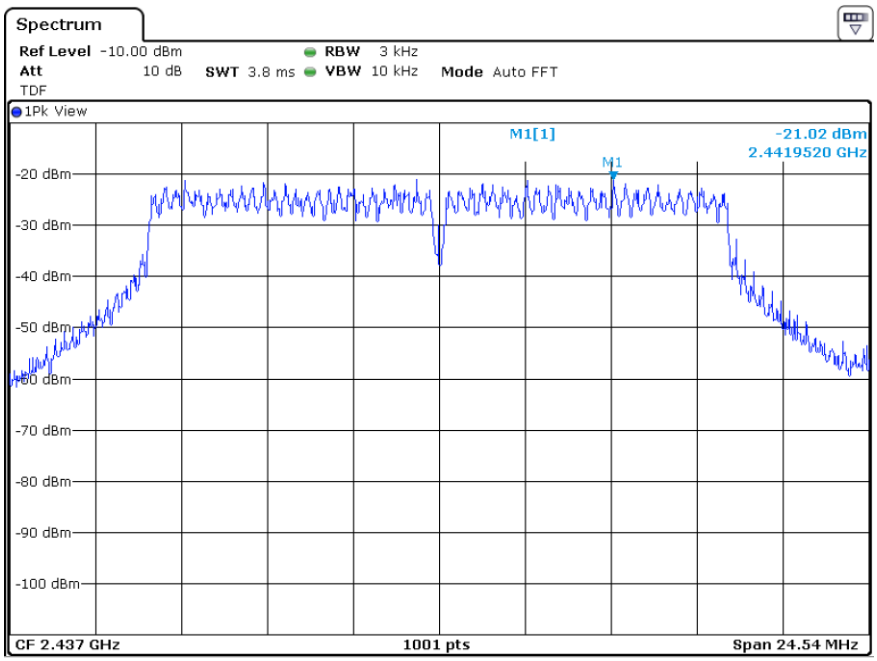

Spectrum
Ref Level 0.00 dBm
RBW 3 kHz
Att 20 dB
SWT 2.5 ms
VBW 10 kHz
Mode Auto FFT
TDF
1Pk View
M1[1]
-13.82 dBm
2.4626930 GHz
M1
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
-80 dBm
-90 dBm
CF 2.462 GHz
1001 pts
Span 13.61 MHz

High CH

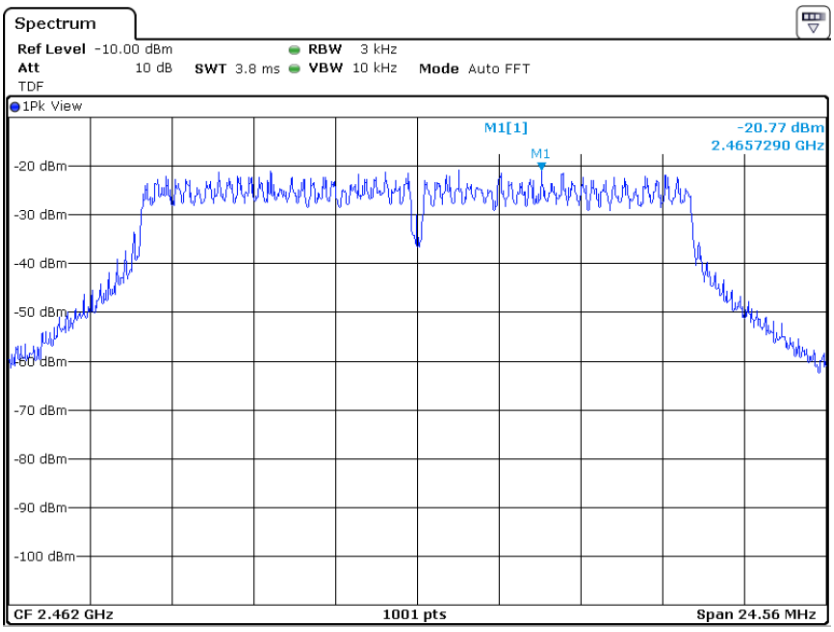
7.3.1.3 Measured Graph_ 802.11g



Low CH

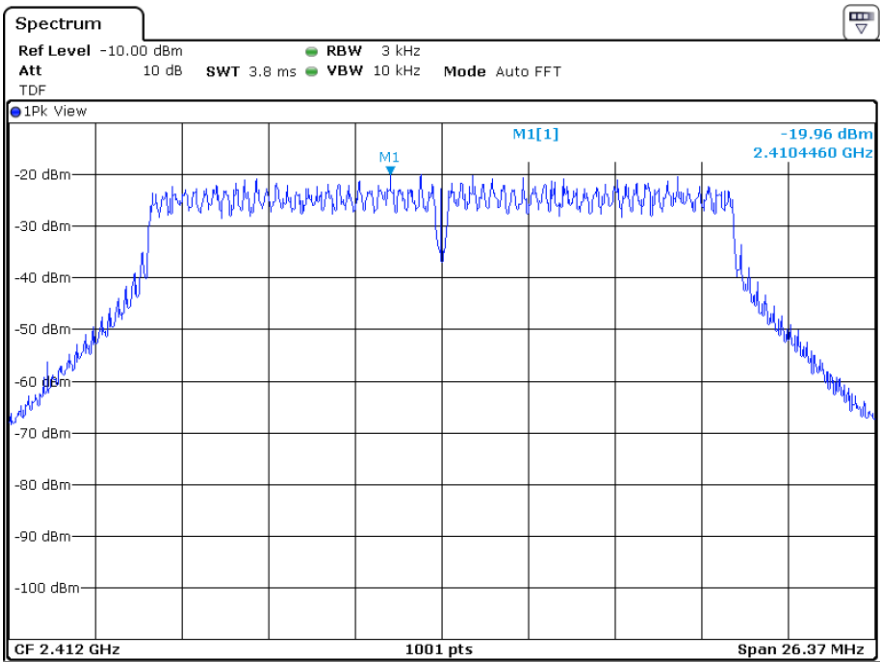


Mid CH

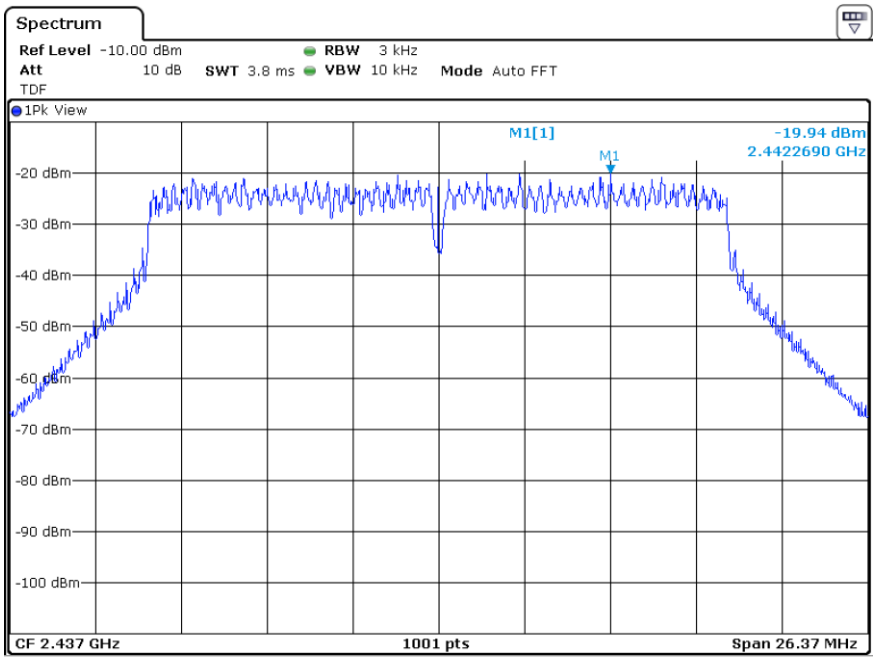

Spectrum
Ref Level -10.00 dBm
RBW 3 kHz
Att 10 dB
SWT 3.8 ms
VBW 10 kHz
Mode Auto FFT
TDF
1Pk View
M1[1]
-20.77 dBm
2.4657290 GHz
M1
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
-80 dBm
-90 dBm
-100 dBm
CF 2.462 GHz
1001 pts
Span 24.56 MHz

High CH

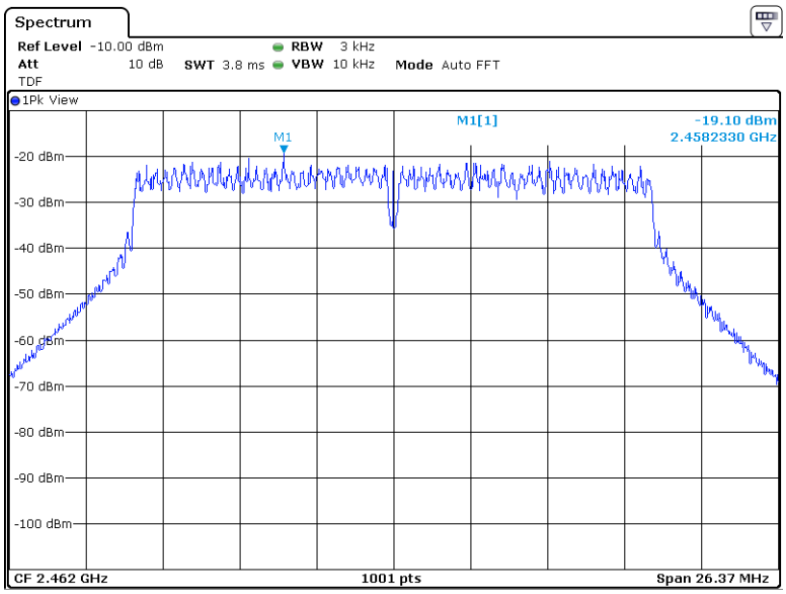
7.3.1.3 Measured Graph_802.11n20



Low CH



Mid CH


Spectrum
Ref Level -10.00 dBm
RBW 3 kHz
Att 10 dB
SWT 3.8 ms
VBW 10 kHz
Mode Auto FFT
TDF
1Pk View
M1[1]
-19.10 dBm
2.4582330 GHz
M1
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
-80 dBm
-90 dBm
-100 dBm
CF 2.462 GHz
1001 pts
Span 26.37 MHz

High CH

8. Conducted Spurious Emission

8.1 Operating environment

Temperature : 24.7 ℃

Relative humidity : 47.3 %

8.2 Measurement method

Standard : §15.247 (d)

8.3 Test data

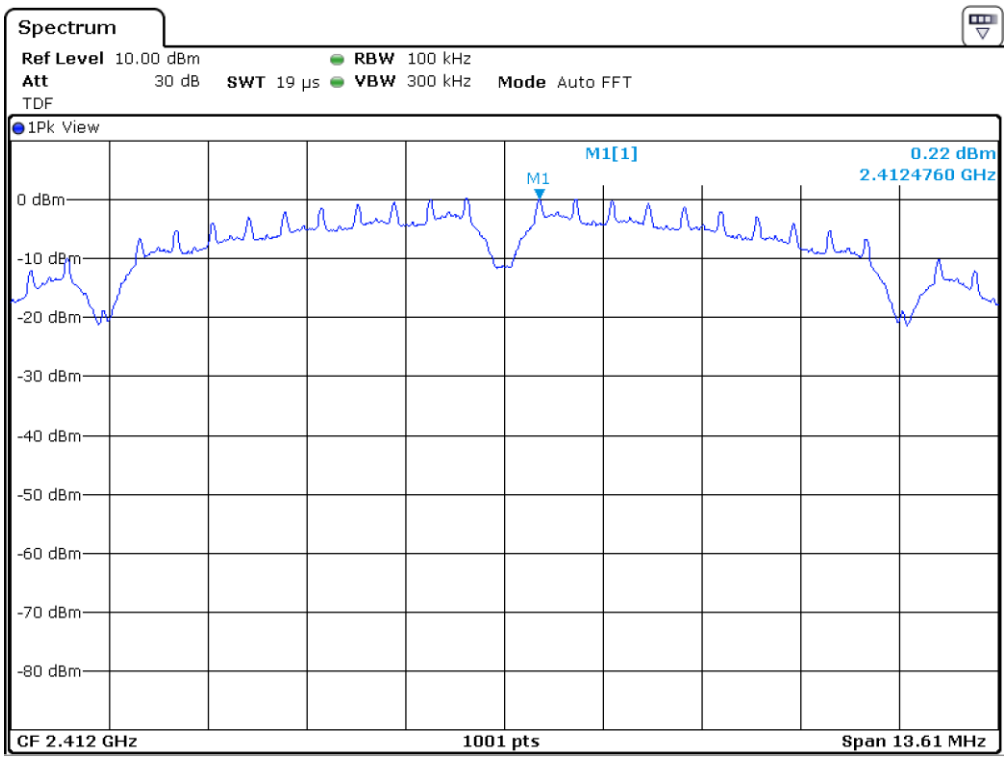
Operating mode : Transmit mode

Test Result : Pass

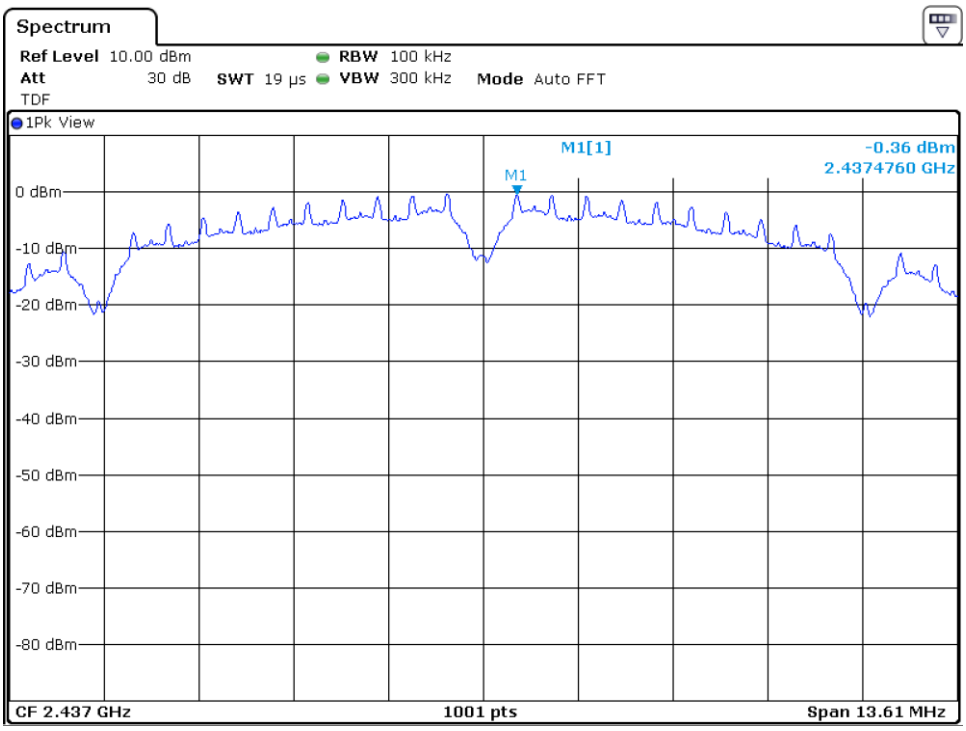
8.3.1.3 Measured Results

8.3.1.1 802.11b

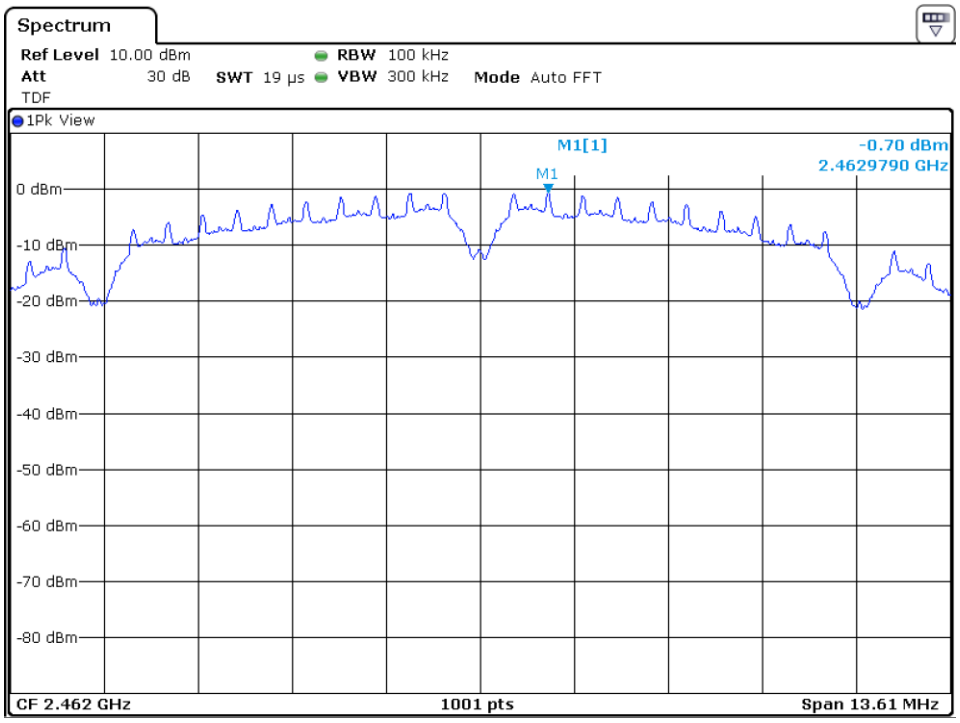
8.3.1.1.1 Signal level (dB m)



Low CH

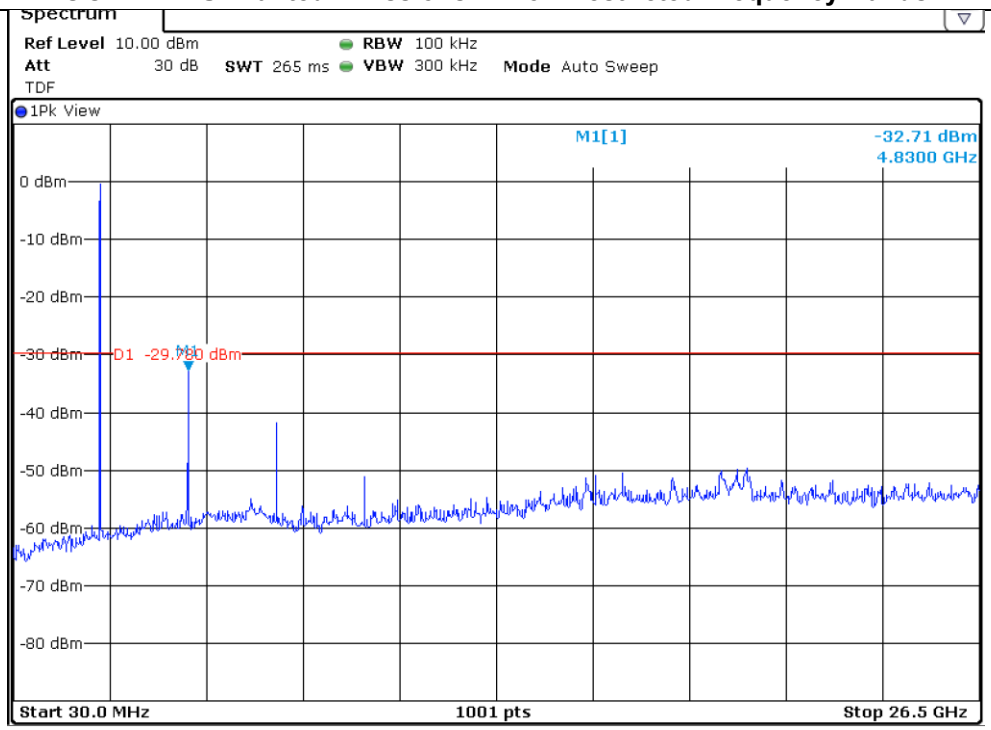


Mid CH

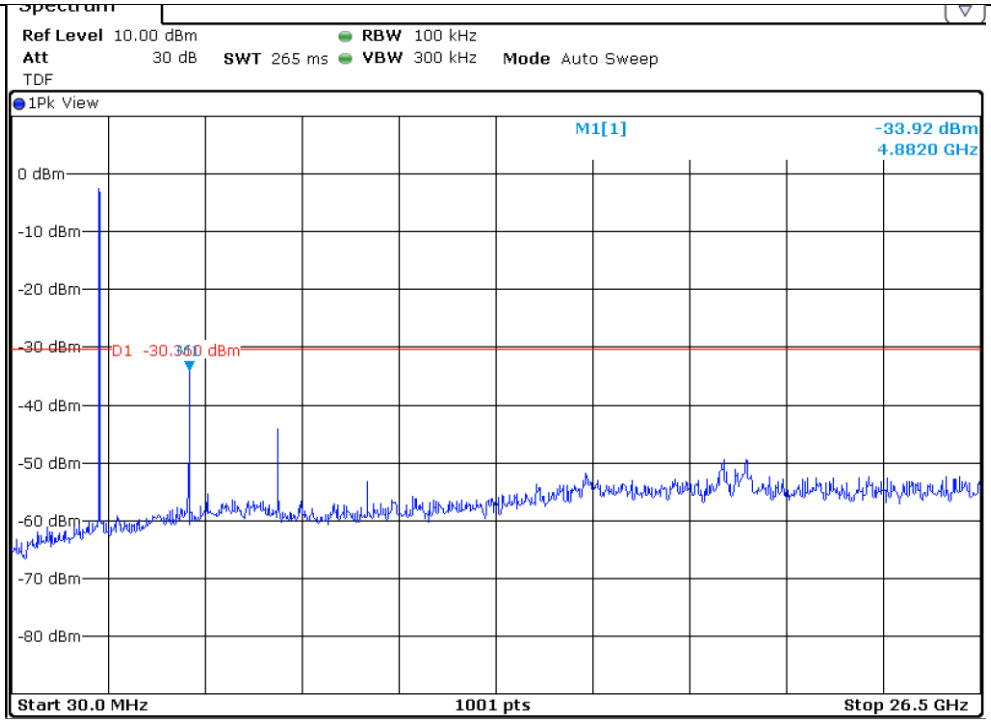


High CH

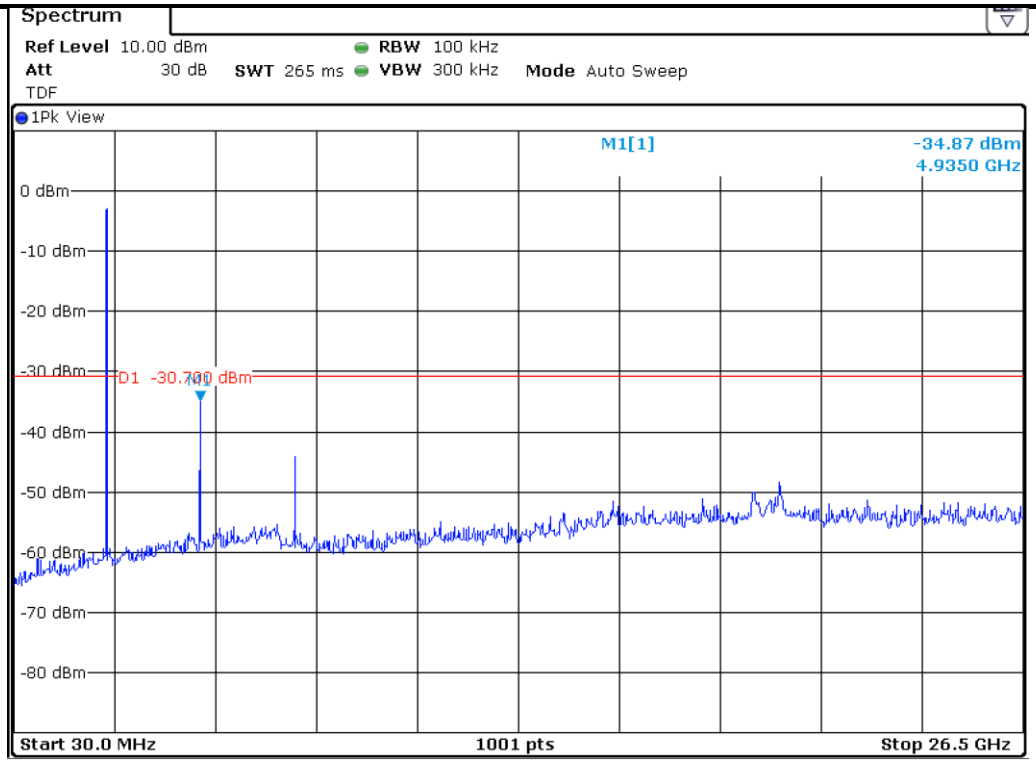
8.3.1.1.2 Unwanted Emissions In Non-Restricted Frequency Bands



Low CH

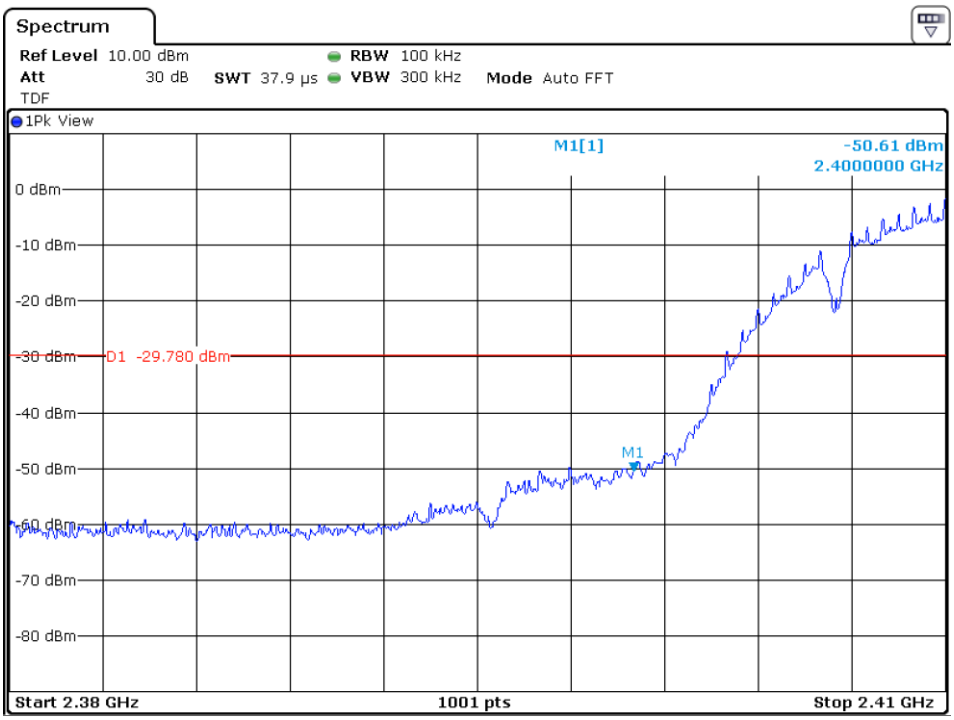


Mid CH

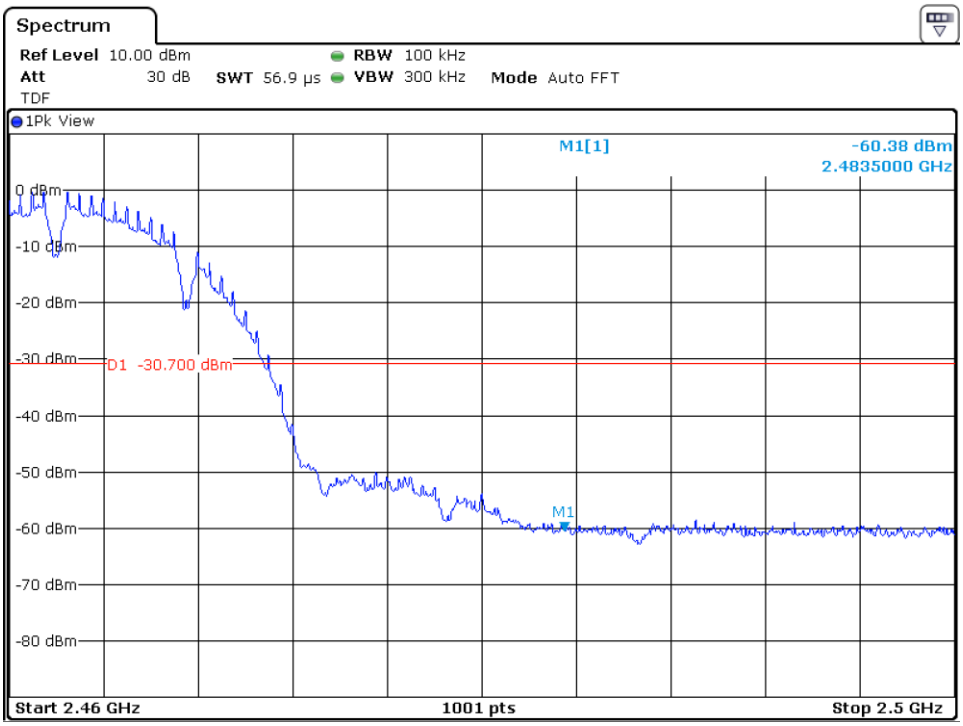

Spectrum
Ref Level 10.00 dBm
RBW 100 kHz
Att 30 dB
SWT 265 ms
VBW 300 kHz
Mode Auto Sweep
TDF
1Pk View
M1[1]
-34.87 dBm
4.9350 GHz
0 dBm
-10 dBm
-20 dBm
-30 dBm
D1 -30.700 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
-80 dBm
Start 30.0 MHz
1001 pts
Stop 26.5 GHz

High CH

8.3.1.1.3 Band Edge



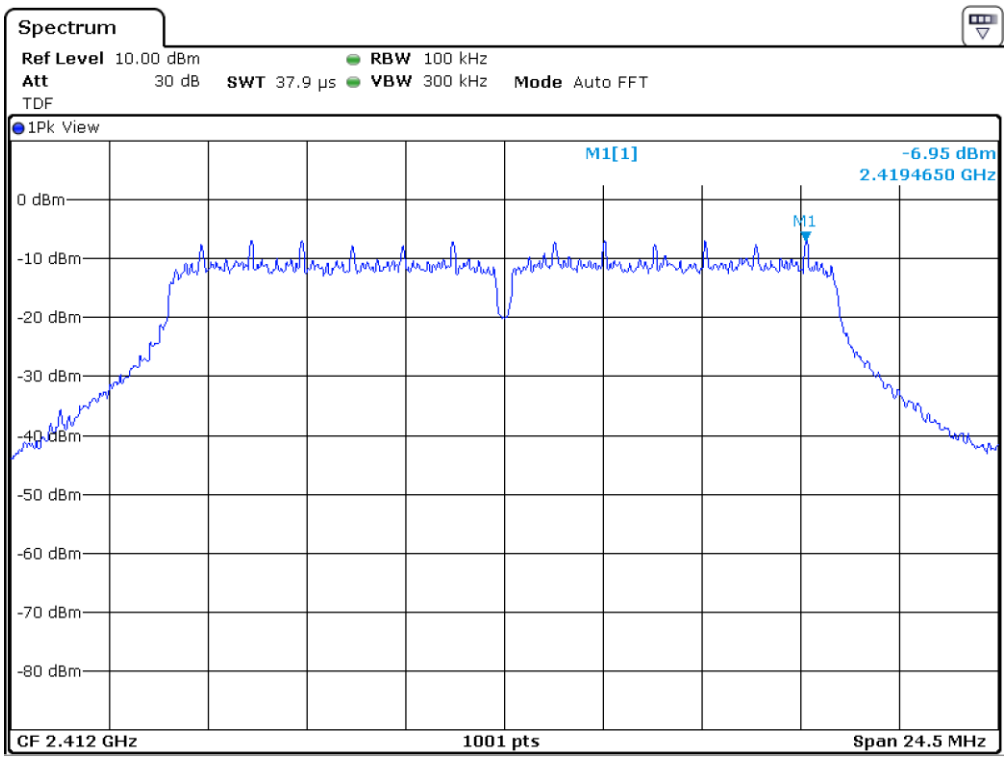
Low CH



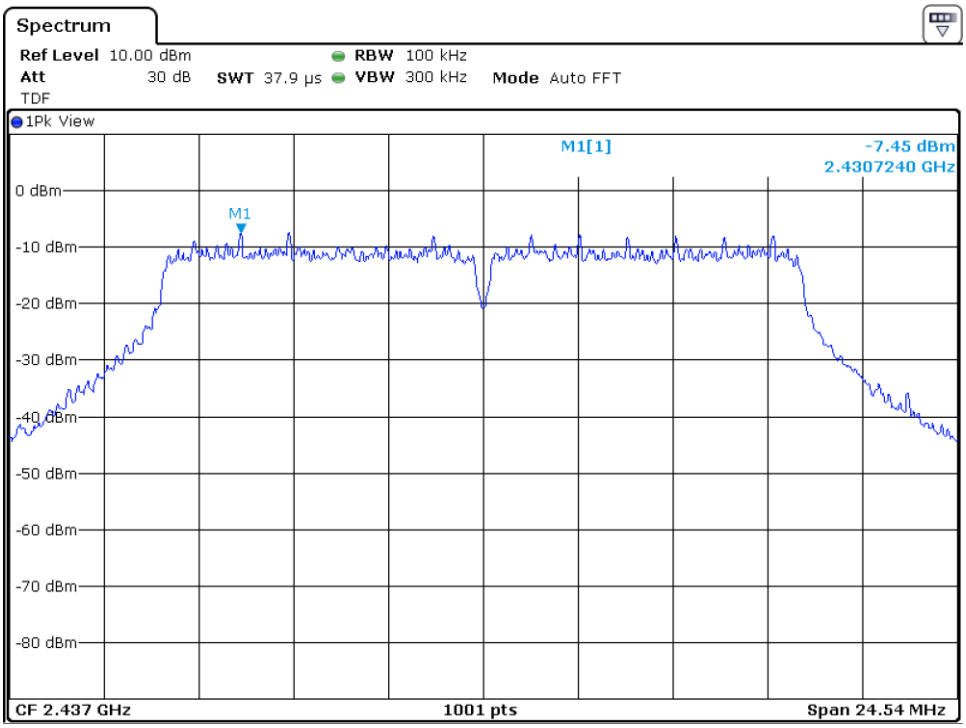
High CH

8.3.1.2 802.11g

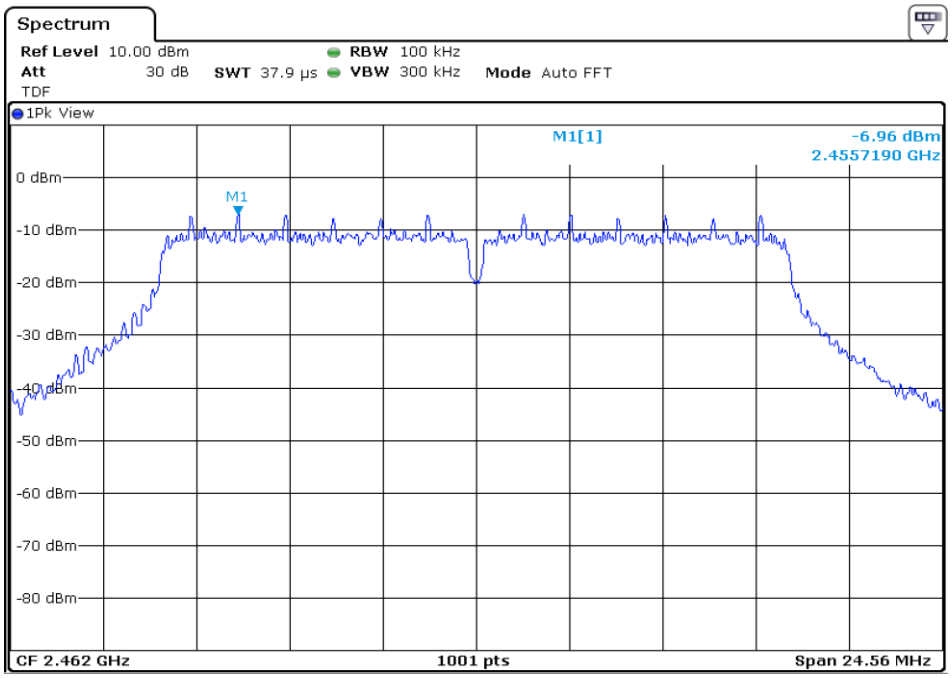
8.3.1.2.1 Signal level (dB m)



Low CH

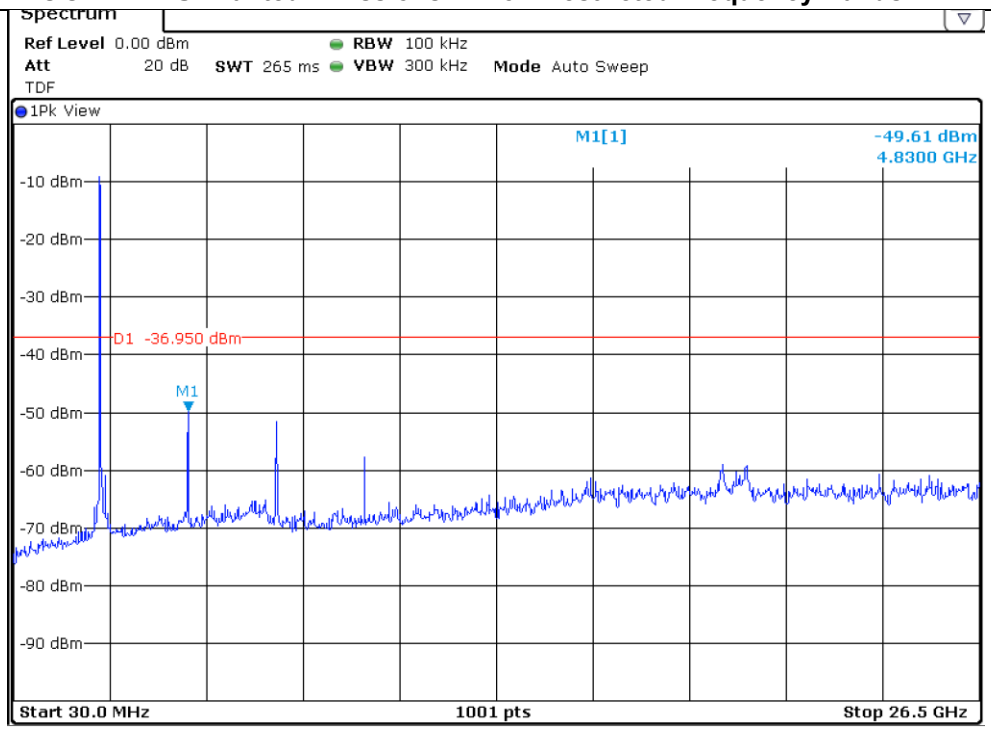


Mid CH

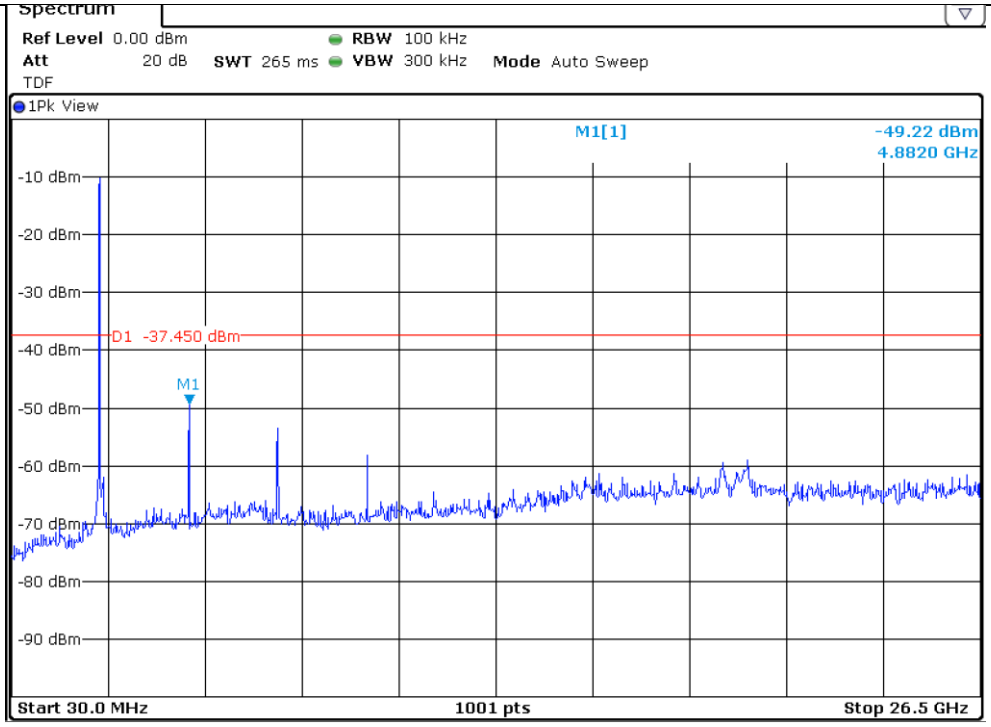


High CH

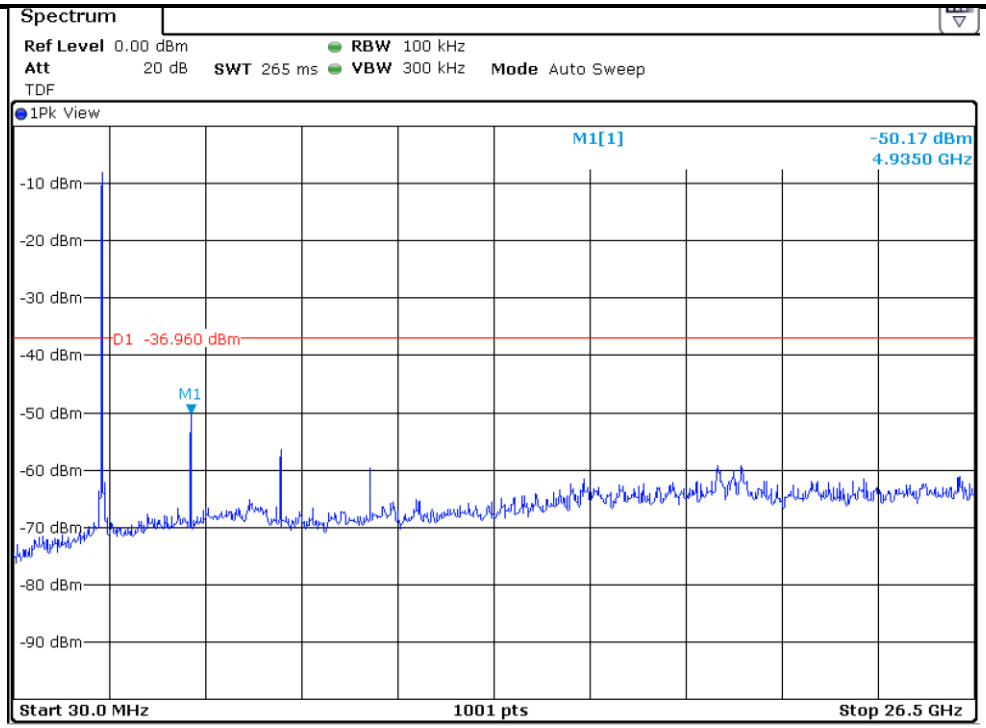
8.3.1.2.2 Unwanted Emissions In Non-Restricted Frequency Bands



Low CH

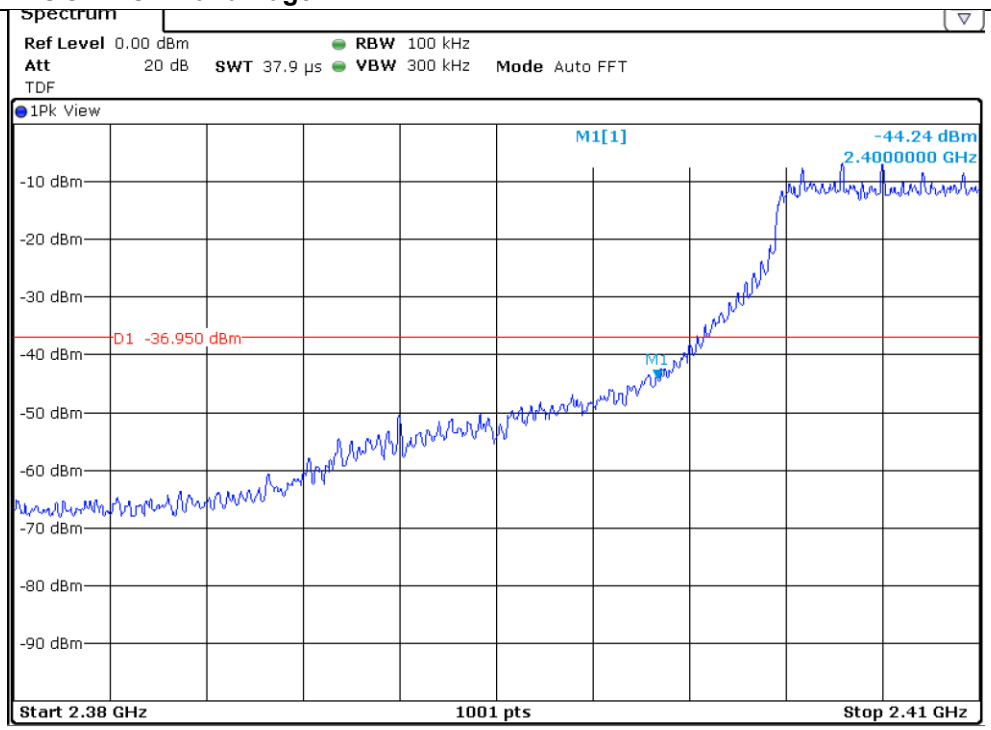


Mid CH

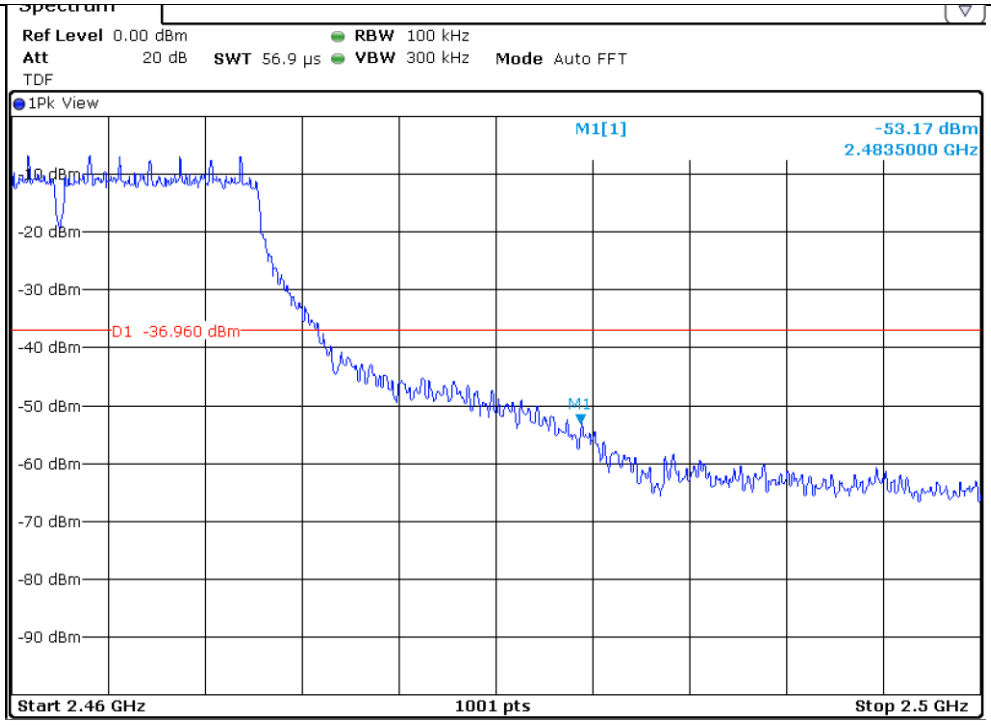

Spectrum
Ref Level 0.00 dBm
RBW 100 kHz
Att 20 dB
SWT 265 ms
VBW 300 kHz
Mode Auto Sweep
TDF
1Pk View
M1[1]
-50.17 dBm
4.9350 GHz
-10 dBm
-20 dBm
-30 dBm
D1 -36.960 dBm
-40 dBm
M1
-50 dBm
-60 dBm
-70 dBm
-80 dBm
-90 dBm
Start 30.0 MHz
1001 pts
Stop 26.5 GHz

High CH

8.3.1.2.3 Band Edge



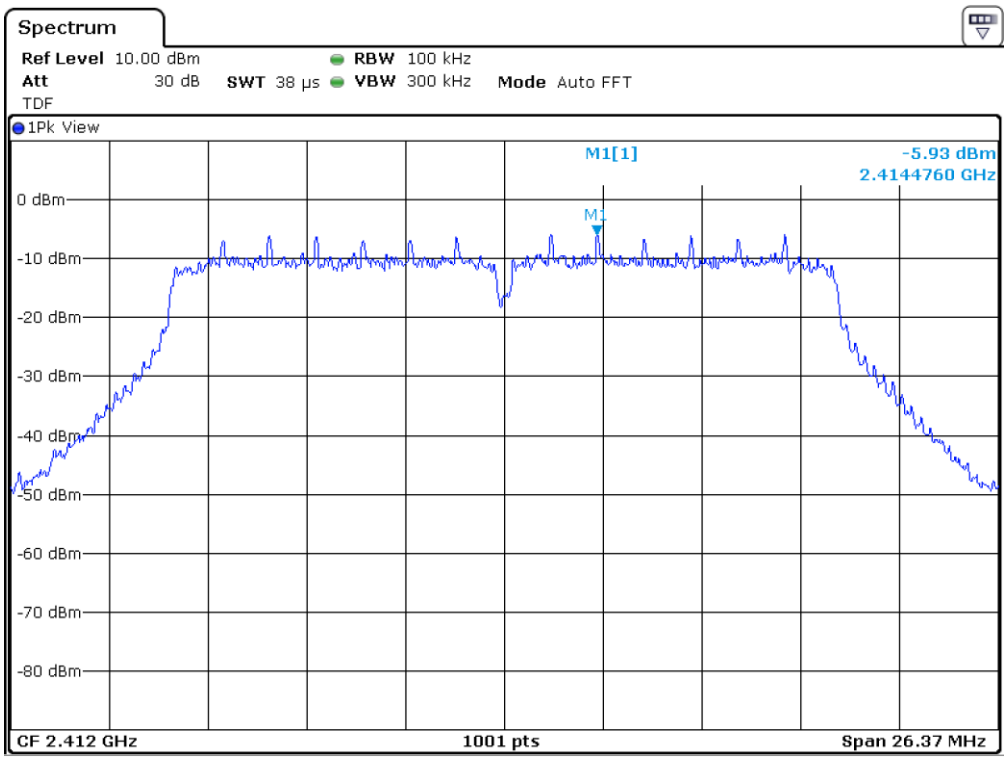
Low CH



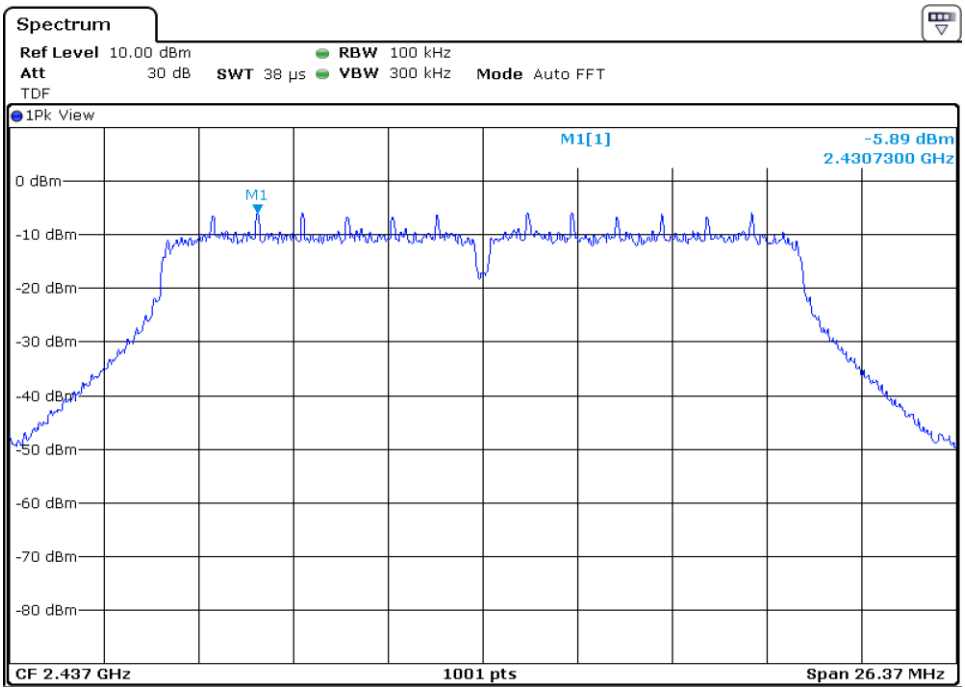
High CH

8.3.1.3 802.11n20

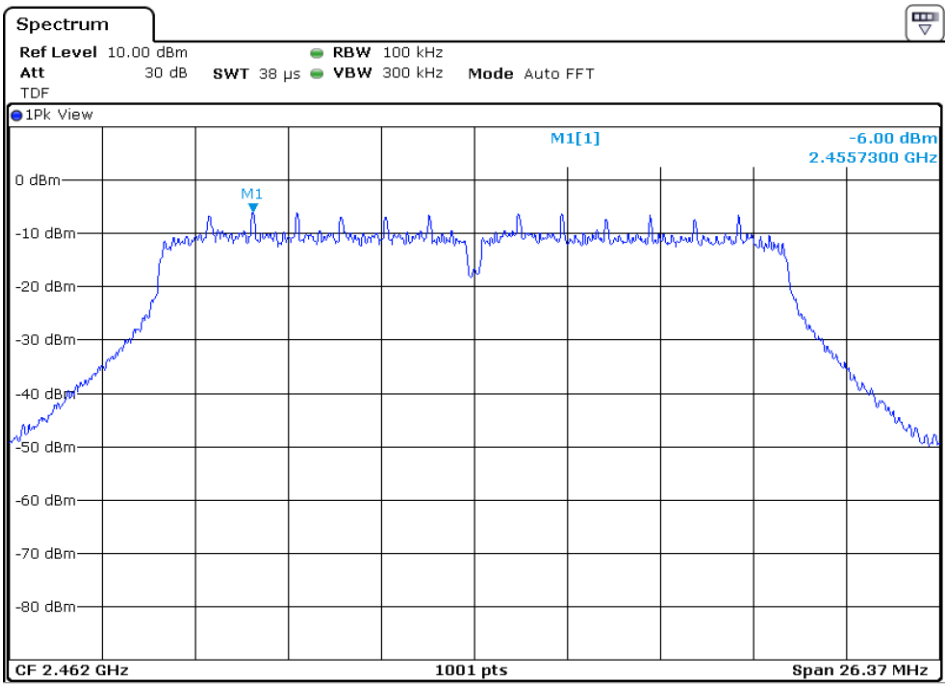
8.3.1.3.1 Signal level (dB m)



Low CH

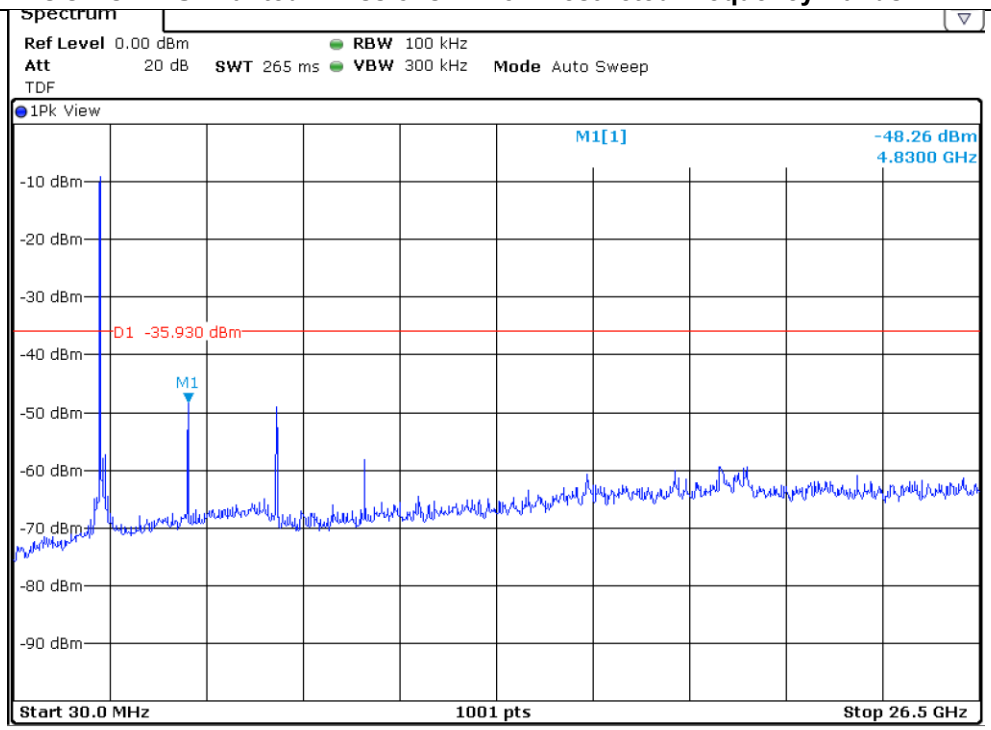


Mid CH

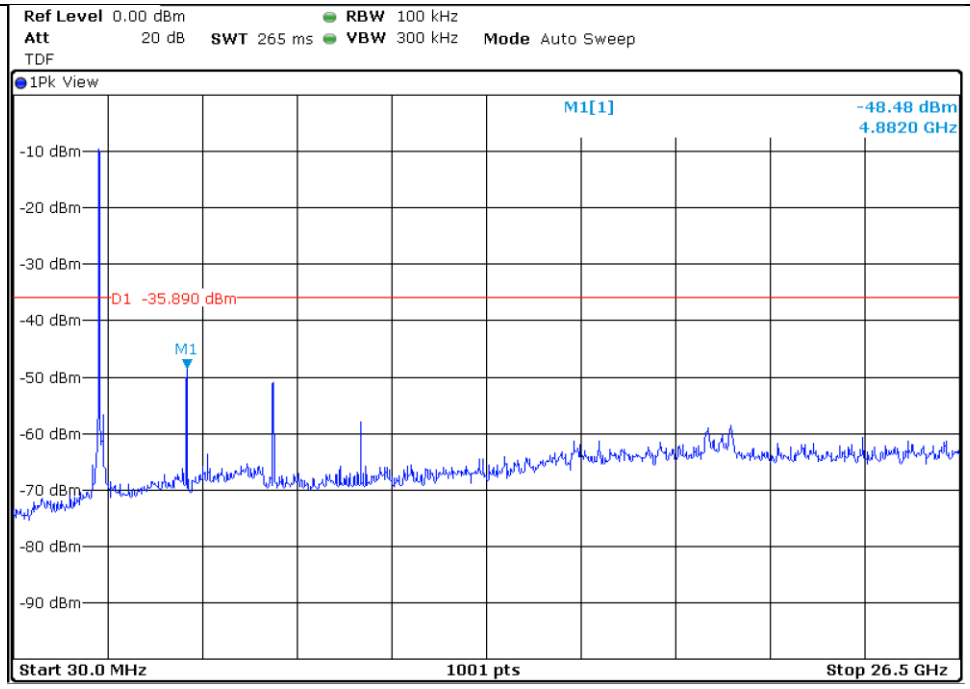


High CH

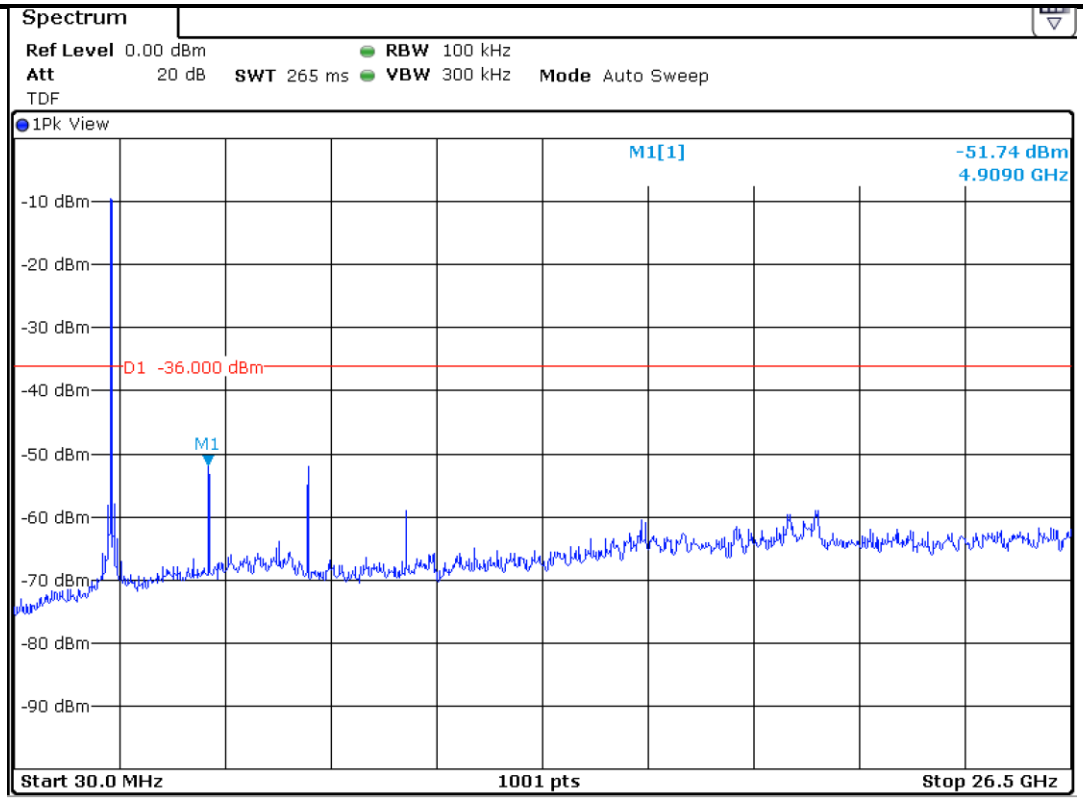
8.3.1.3.2 Unwanted Emissions In Non-Restricted Frequency Bands



Low CH

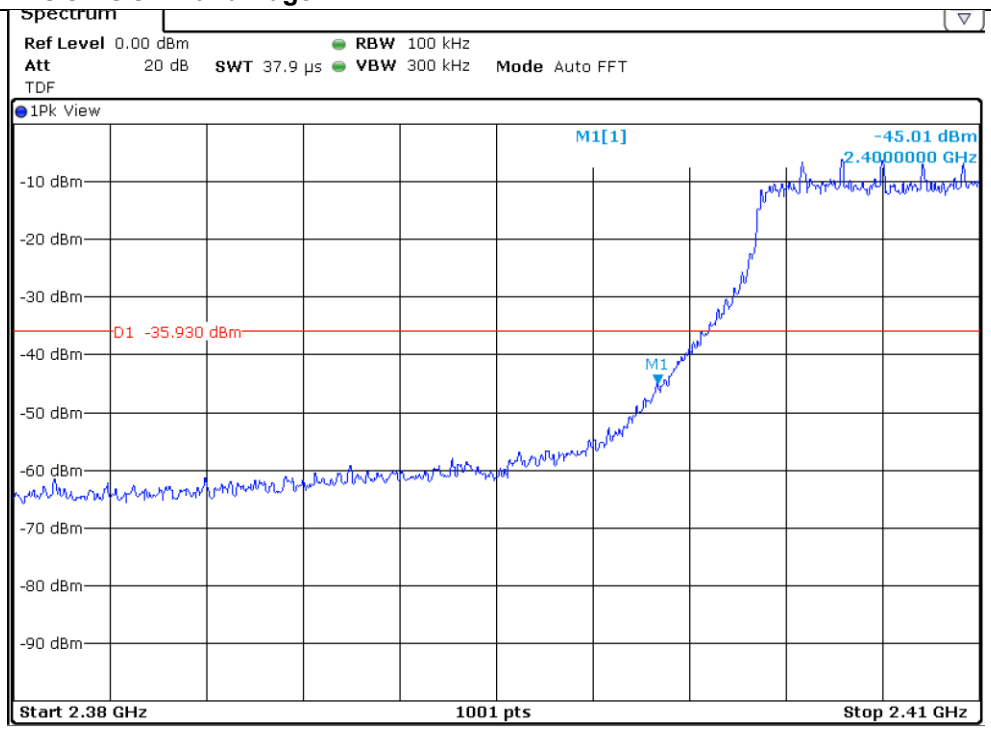


Mid CH

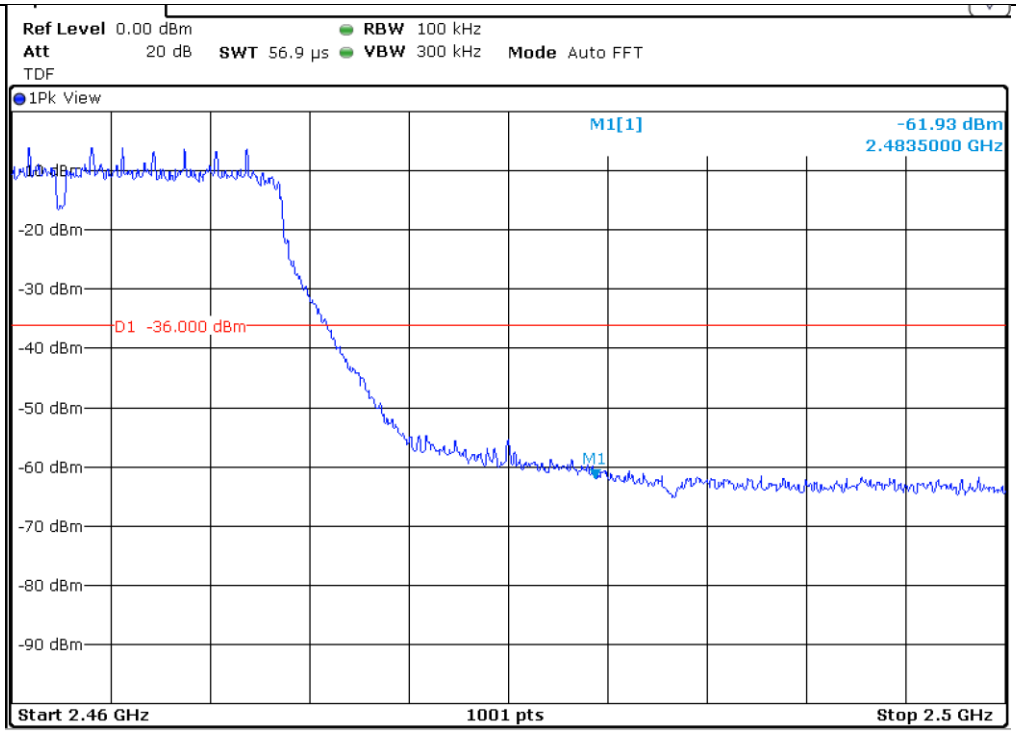

Spectrum
Ref Level 0.00 dBm
RBW 100 kHz
Att 20 dB
SWT 265 ms
VBW 300 kHz
Mode Auto Sweep
TDF
1Pk View
M1[1]
-51.74 dBm
4.9090 GHz
-10 dBm
-20 dBm
-30 dBm
D1 -36.000 dBm
-40 dBm
M1
-50 dBm
-60 dBm
-70 dBm
-80 dBm
-90 dBm
Start 30.0 MHz
1001 pts
Stop 26.5 GHz

High CH

8.3.1.3.3 Band Edge



Low CH



High CH

9. Radiated Spurious Emission

9.1 Operating environment

Temperature : 23.8 ℃

Relative humidity : 47.1 %

9.2 Measurement method

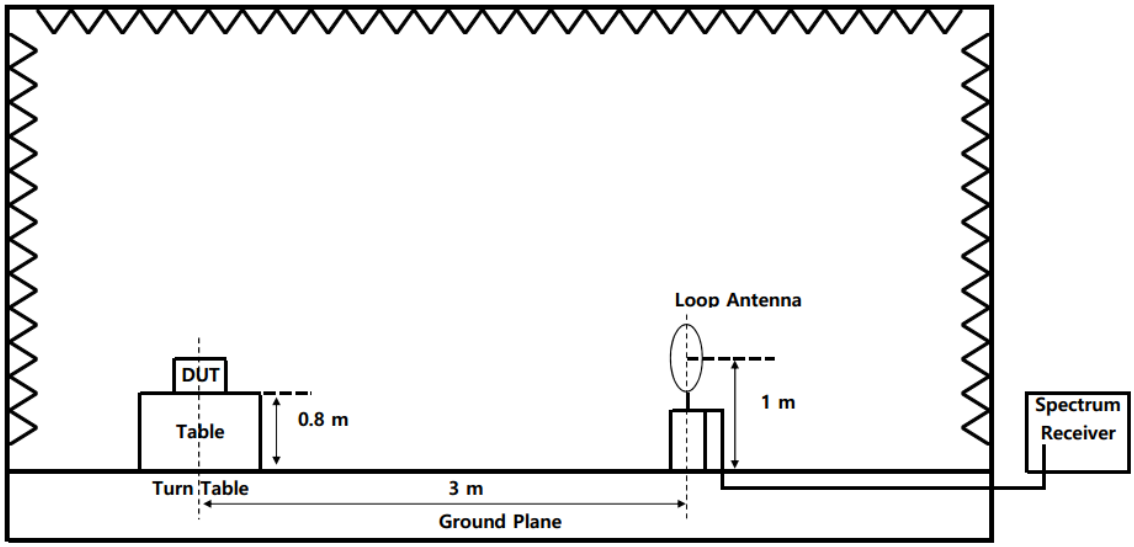
Standard : §15.247 (d), §15.209, §15.205

9.3 Test setup

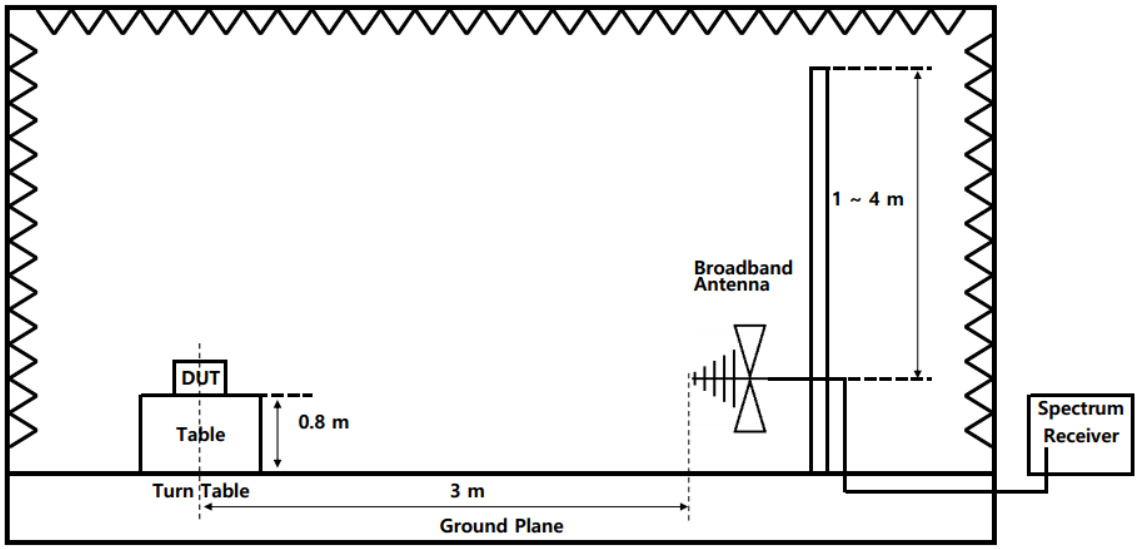
The radiated emissions measurements were performed on the 3 m, Semi-Anechoic Camber. The EUT was placed on a non-conductive turntable above the ground plane.

The frequency spectrum from 9 ㎑ to 26.5 ㎓ was scanned and maximum emission levels at each frequency recorded. The system was rotated 360°, and the antenna was varied in the height between 1.0 m and 4.0 m in order to determine the maximum emission levels. This procedure was performed for horizontal and vertical polarization of the receiving antenna.

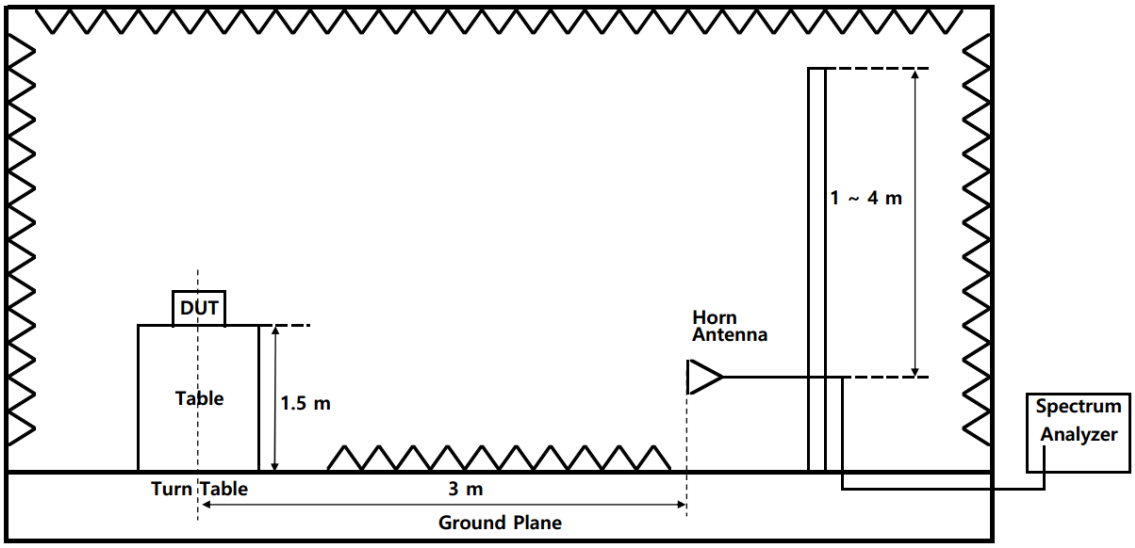
9.3.1.3 Below 30 ㎒



9.3.1.3 30 MHz to 1 GHz



9.3.1.3 Above 1 GHz



9.4 Test data

Operating mode : Transmit mode

Test Result : Pass

9.4.1.3 Test data for Restricted band

9.4.1.1 802.11b

Frequency (㎒)	Reading (dBμV)	Detector	Ant. Pol. (H/V)	Corr. Factor (dB)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Low CH							
2 386.512	64.07	Peak	H	-10.10	53.97	73.98	20.01
	59.57	Average	H		49.47	53.98	4.51
High CH							
2 487.464	60.72	Peak	H	-9.70	51.02	73.98	22.96
2 487.651	53.96	Average	H		44.26	53.98	9.72

9.4.1.2 802.11g

Frequency (㎒)	Reading (dBμV)	Detector	Ant. Pol. (H/V)	Corr. Factor (dB)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Low CH							
2 389.704	70.76	Peak	H	-10.10	60.66	73.98	13.32
	49.95	Average	H		39.85	53.98	14.13
High CH							
2 484.075	73.20	Peak	H	-9.70	63.50	73.98	10.48
2 484.115	52.61	Average	H		42.91	53.98	11.07

9.4.1.3 802.11n20

Frequency (㎒)	Reading (dBμV)	Detector	Ant. Pol. (H/V)	Corr. Factor (dB)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Low CH							
2 389.976	79.19	Peak	H	-10.10	69.09	73.98	4.89
	60.23	Average	H		50.13	53.98	3.85
High CH							
2 484.454	80.85	Peak	H	-9.70	71.15	73.98	2.83
	61.50	Average	H		51.80	53.98	2.18

※ Ant. Pol. : Antenna Polarization
※ Corr. Factor. : Antenna Factor + Cable Loss - Amplifier Gain
※ Result = Reading + Corr. Factor
※ Margin = Limit - Result

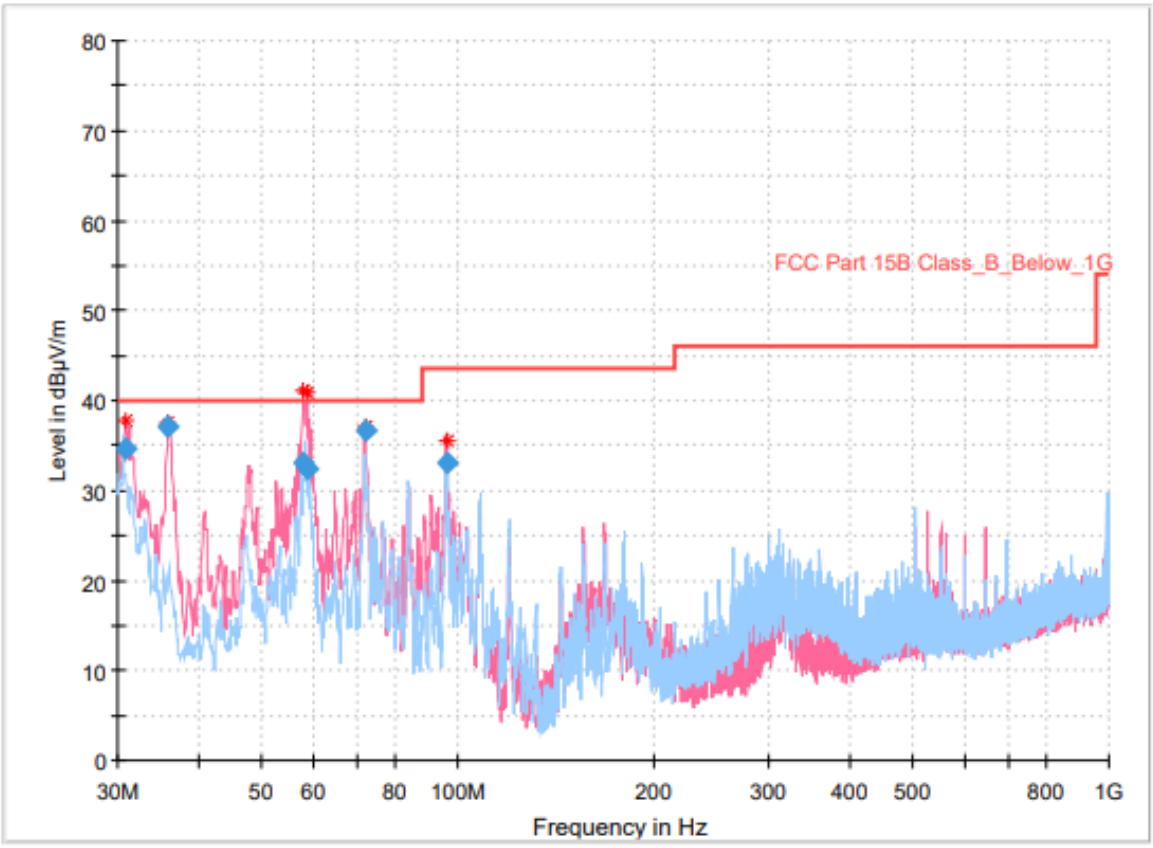
9.4.1.3 Test data for Spurious & Harmonic

9.4.2.1 Measurement Results for below 30 ㎒

Frequency (㎒)	Reading (dBμV)	Detector	Ant. Pol. (H/V)	Corr. Factor (dB)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Low CH							
It was not found any emissions peaks found from the EUT.							
Mid CH							
It was not found any emissions peaks found from the EUT.							
High CH							
It was not found any emissions peaks found from the EUT.							

※ Ant. Pol. : Antenna Polarization
※ Corr. Factor. : Antenna Factor + Cable Loss - Amplifier Gain
※ Result = Reading + Corr. Factor
※ Margin = Limit – Result

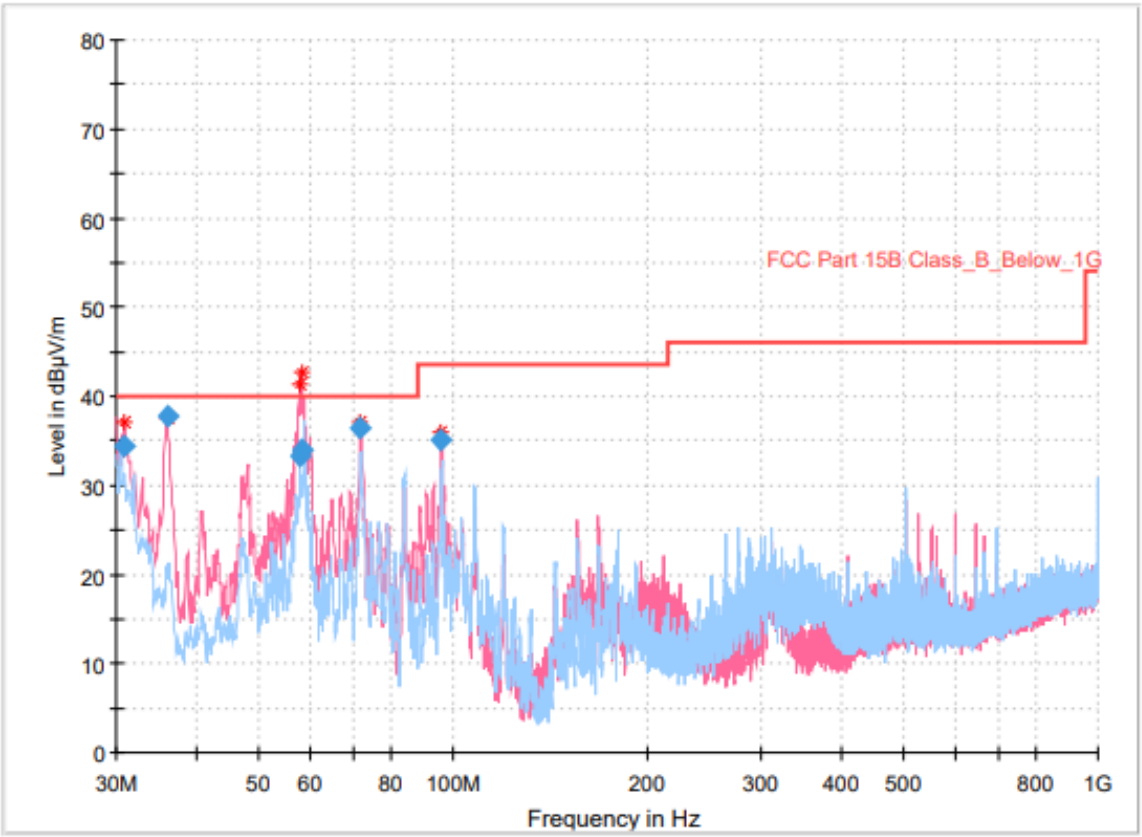
9.4.2.2 Measurement Results for below 1 ㎓_802.11b



Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
30.873000	34.67	40.00	5.33	1000.0	120.000	99.9	V	69.0	-26.9
35.917000	37.00	40.00	3.00	1000.0	120.000	99.9	V	305.0	-25.8
57.839000	33.14	40.00	6.86	1000.0	120.000	99.9	V	193.0	-23.8
58.615000	32.49	40.00	7.51	1000.0	120.000	99.9	V	0.0	-23.9
72.098000	36.65	40.00	3.35	1000.0	120.000	200.0	V	287.0	-28.1
96.348000	33.17	43.50	10.33	1000.0	120.000	99.9	V	0.0	-25.2

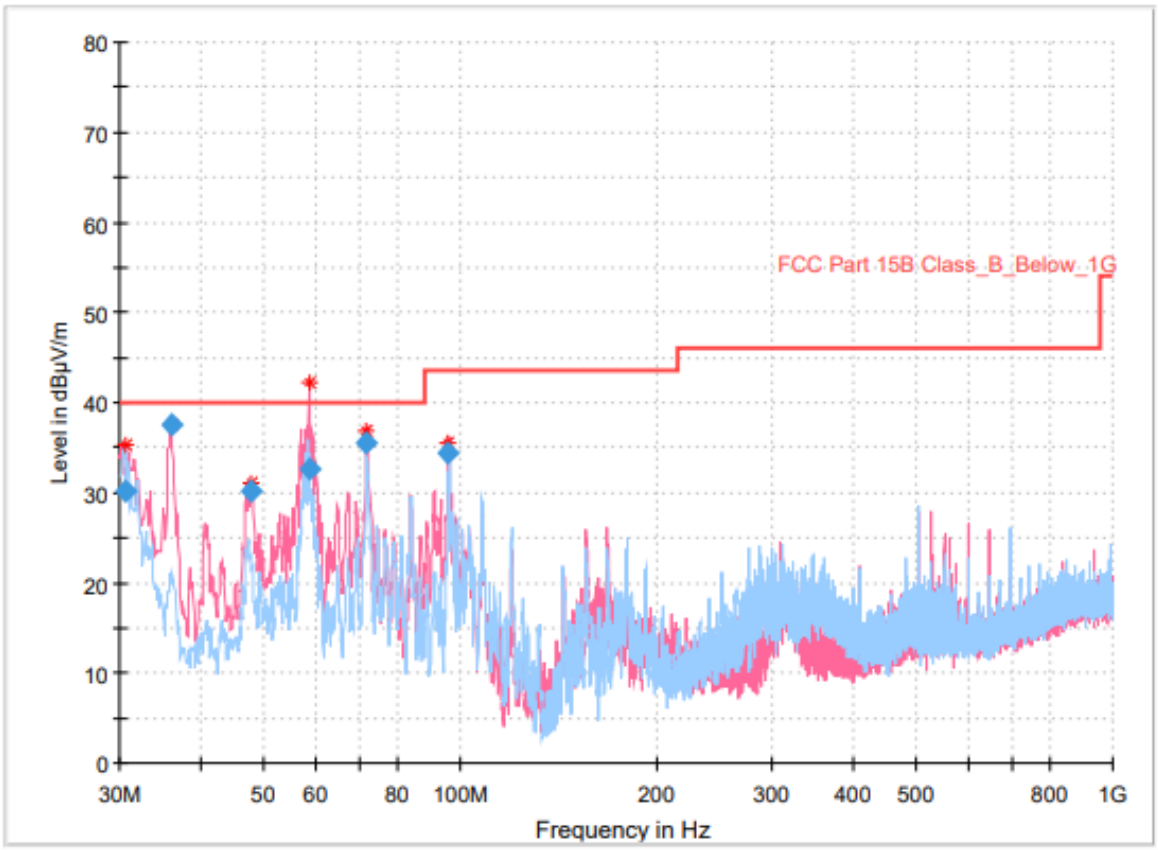
Low CH



Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
30.970000	34.33	40.00	5.67	1000.0	120.000	100.0	V	290.0	-26.9
36.014000	37.73	40.00	2.27	1000.0	120.000	100.0	V	279.0	-25.8
57.839000	33.39	40.00	6.61	1000.0	120.000	100.0	V	0.0	-23.8
58.130000	33.96	40.00	6.04	1000.0	120.000	100.0	V	46.0	-23.8
71.904000	36.50	40.00	3.50	1000.0	120.000	200.0	V	282.0	-28.0
95.863000	35.13	43.50	8.37	1000.0	120.000	100.0	V	0.0	-25.3

Mid CH

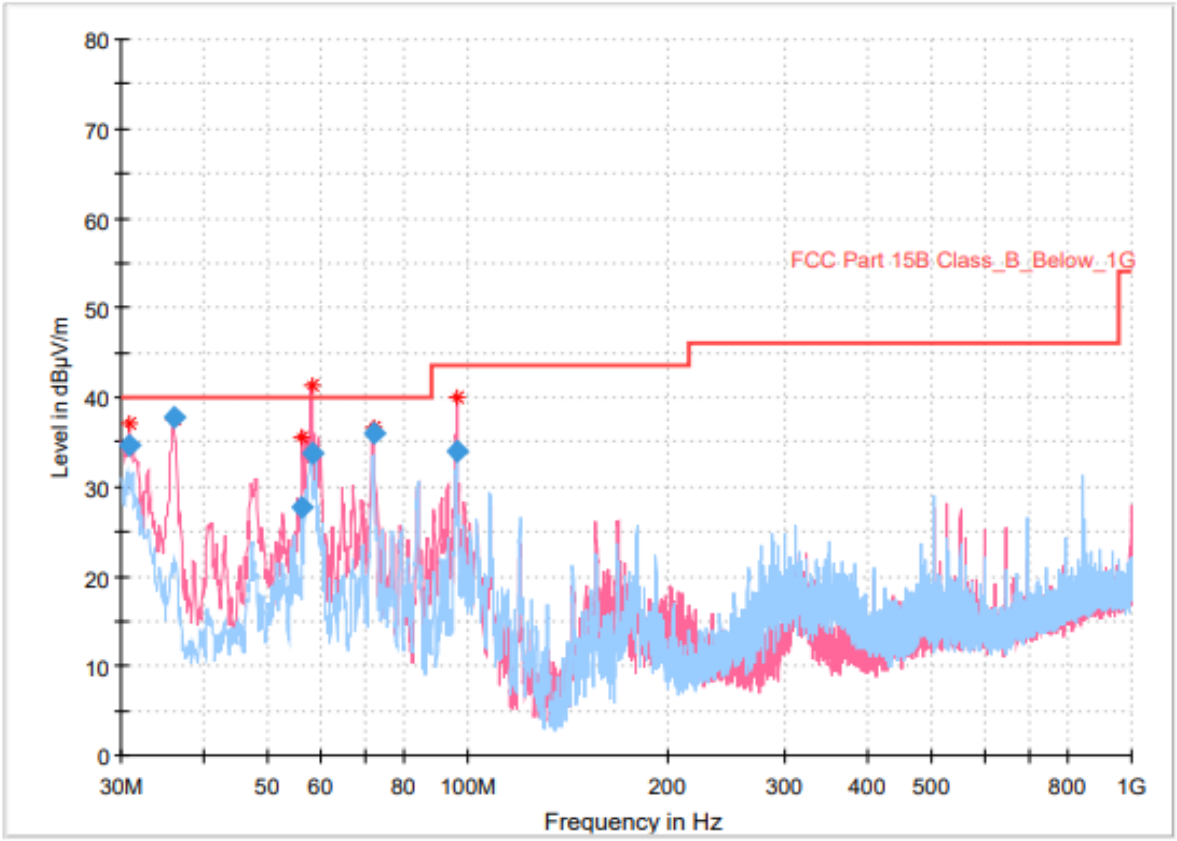


Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
30.679000	30.16	40.00	9.84	1000.0	120.000	200.0	H	0.0	-26.8
36.014000	37.61	40.00	2.39	1000.0	120.000	99.9	V	261.0	-25.8
47.848000	30.08	40.00	9.92	1000.0	120.000	99.9	V	56.0	-22.9
58.518000	32.73	40.00	7.27	1000.0	120.000	99.9	V	0.0	-23.9
71.807000	35.60	40.00	4.40	1000.0	120.000	200.0	V	278.0	-28.0
95.766000	34.34	43.50	9.16	1000.0	120.000	99.9	V	34.0	-25.3

High CH

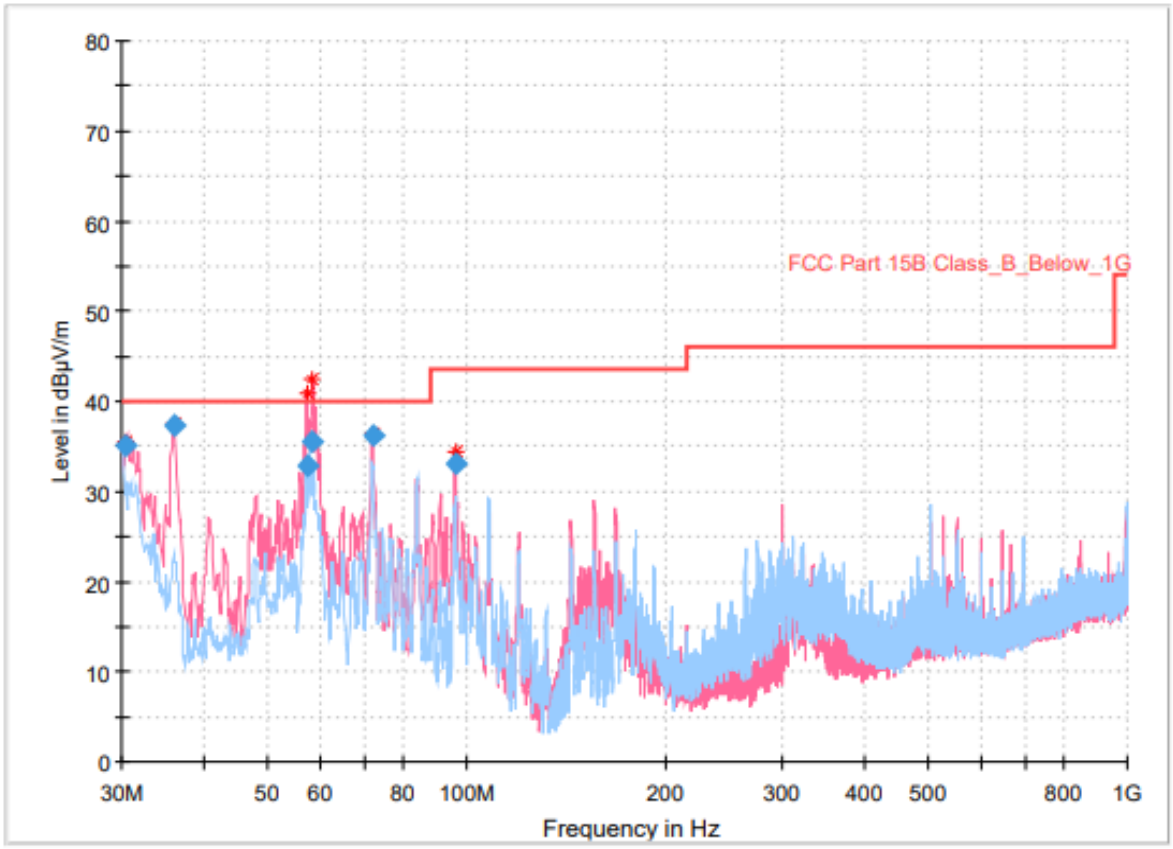
9.4.2.3 Measurement Results for below 1 ㎓_802.11g



Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
30.873000	34.65	40.00	5.35	1000.0	120.000	100.0	V	171.0	-26.9
36.014000	37.79	40.00	2.21	1000.0	120.000	100.0	V	279.0	-25.8
56.287000	27.65	40.00	12.35	1000.0	120.000	100.0	V	196.0	-23.4
58.130000	33.77	40.00	6.23	1000.0	120.000	100.0	V	196.0	-23.8
72.195000	35.88	40.00	4.12	1000.0	120.000	200.0	V	276.0	-28.1
96.057000	34.02	43.50	9.48	1000.0	120.000	200.0	V	297.0	-25.3

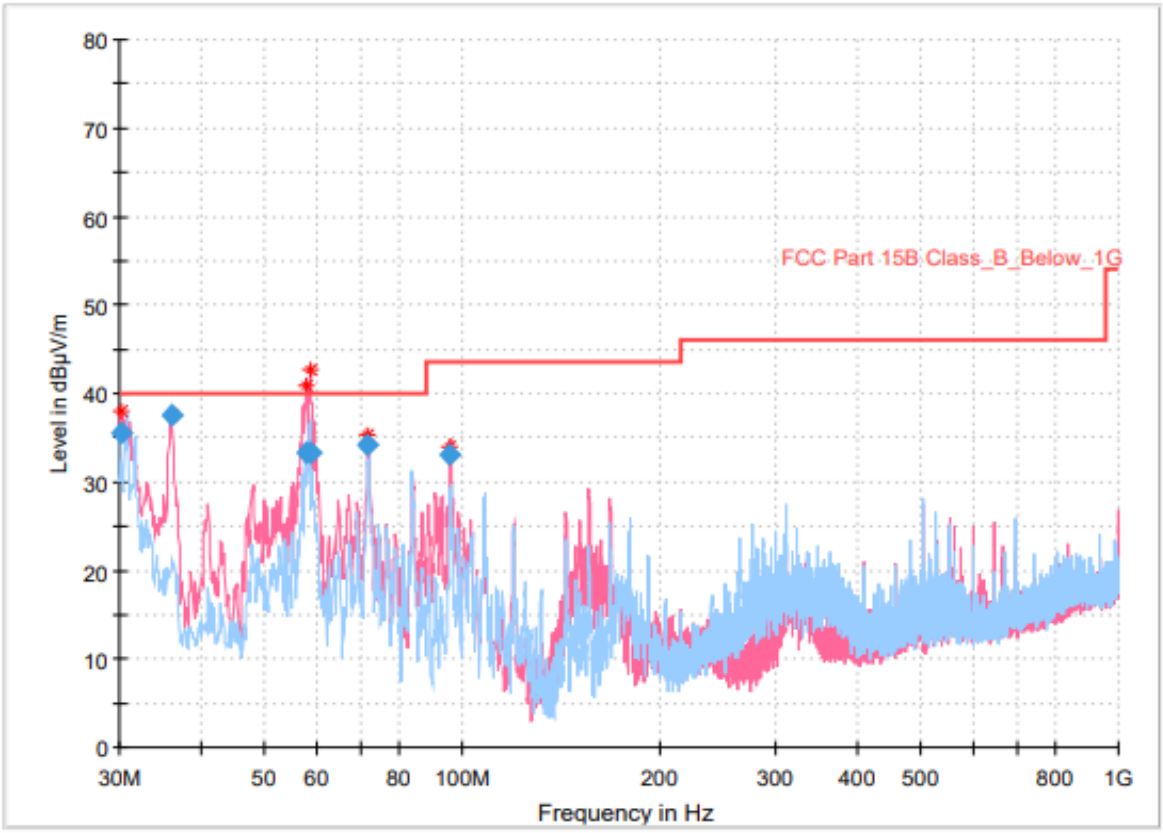
Low CH



Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
30.485000	35.05	40.00	4.95	1000.0	120.000	99.9	V	0.0	-26.7
36.014000	37.41	40.00	2.59	1000.0	120.000	99.9	V	332.0	-25.8
57.451000	32.91	40.00	7.09	1000.0	120.000	99.9	V	179.0	-23.7
58.421000	35.51	40.00	4.49	1000.0	120.000	99.9	V	0.0	-23.9
72.001000	36.19	40.00	3.81	1000.0	120.000	200.0	V	272.0	-28.1
96.251000	33.14	43.50	10.36	1000.0	120.000	99.9	V	0.0	-25.2

Mid CH

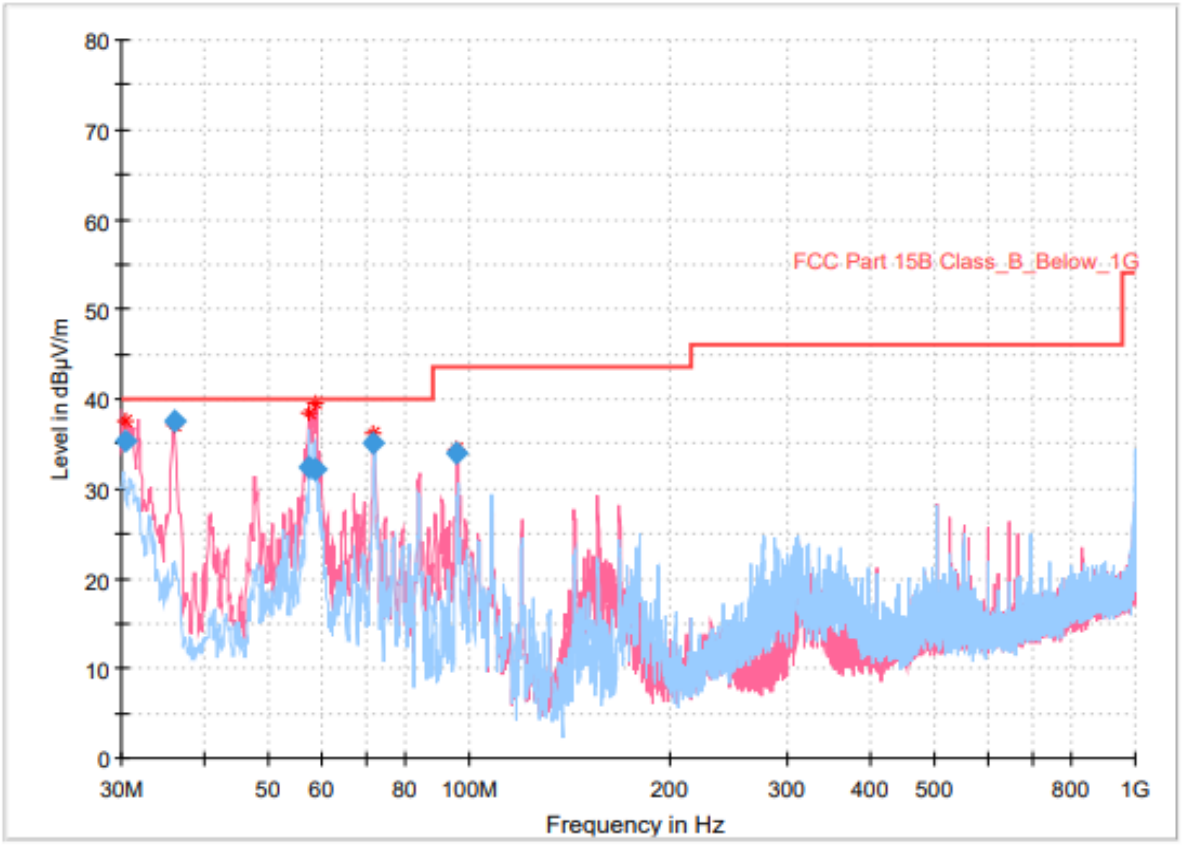


Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
30.194000	35.46	40.00	4.54	1000.0	120.000	100.0	V	287.0	-26.7
36.014000	37.54	40.00	2.46	1000.0	120.000	100.0	V	308.0	-25.8
58.033000	33.36	40.00	6.64	1000.0	120.000	100.0	V	141.0	-23.8
58.518000	33.25	40.00	6.75	1000.0	120.000	100.0	V	86.0	-23.9
71.807000	34.29	40.00	5.71	1000.0	120.000	200.0	V	286.0	-28.0
95.863000	33.10	43.50	10.40	1000.0	120.000	100.0	V	141.0	-25.3

High CH

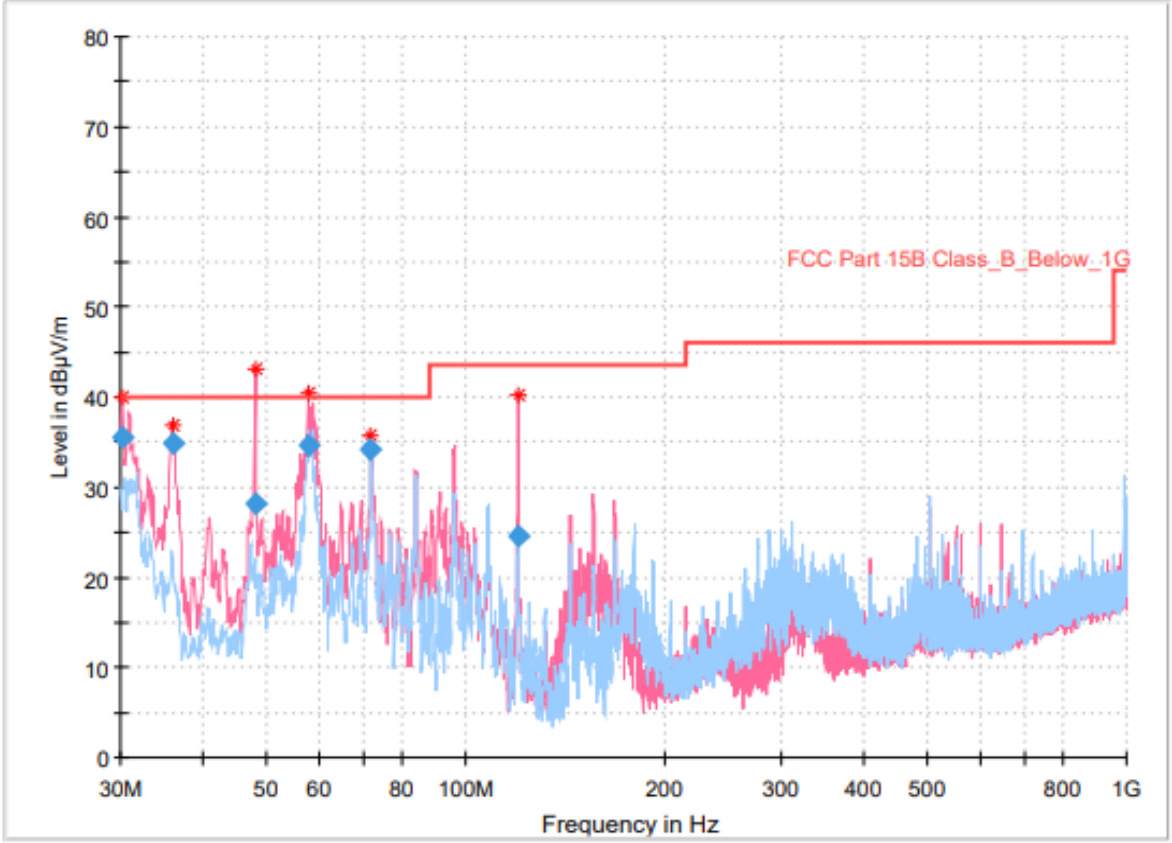
9.4.2.4 Measurement Results for below 1 ㎓_802.11n20



Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
30.485000	35.28	40.00	4.72	1000.0	120.000	99.8	V	247.0	-26.7
36.014000	37.51	40.00	2.49	1000.0	120.000	99.8	V	324.0	-25.8
57.354000	32.44	40.00	7.56	1000.0	120.000	99.8	V	247.0	-23.7
58.906000	32.18	40.00	7.82	1000.0	120.000	99.8	V	247.0	-24.0
71.904000	35.05	40.00	4.95	1000.0	120.000	200.0	V	279.0	-28.0
95.863000	34.02	43.50	9.48	1000.0	120.000	99.8	V	258.0	-25.3

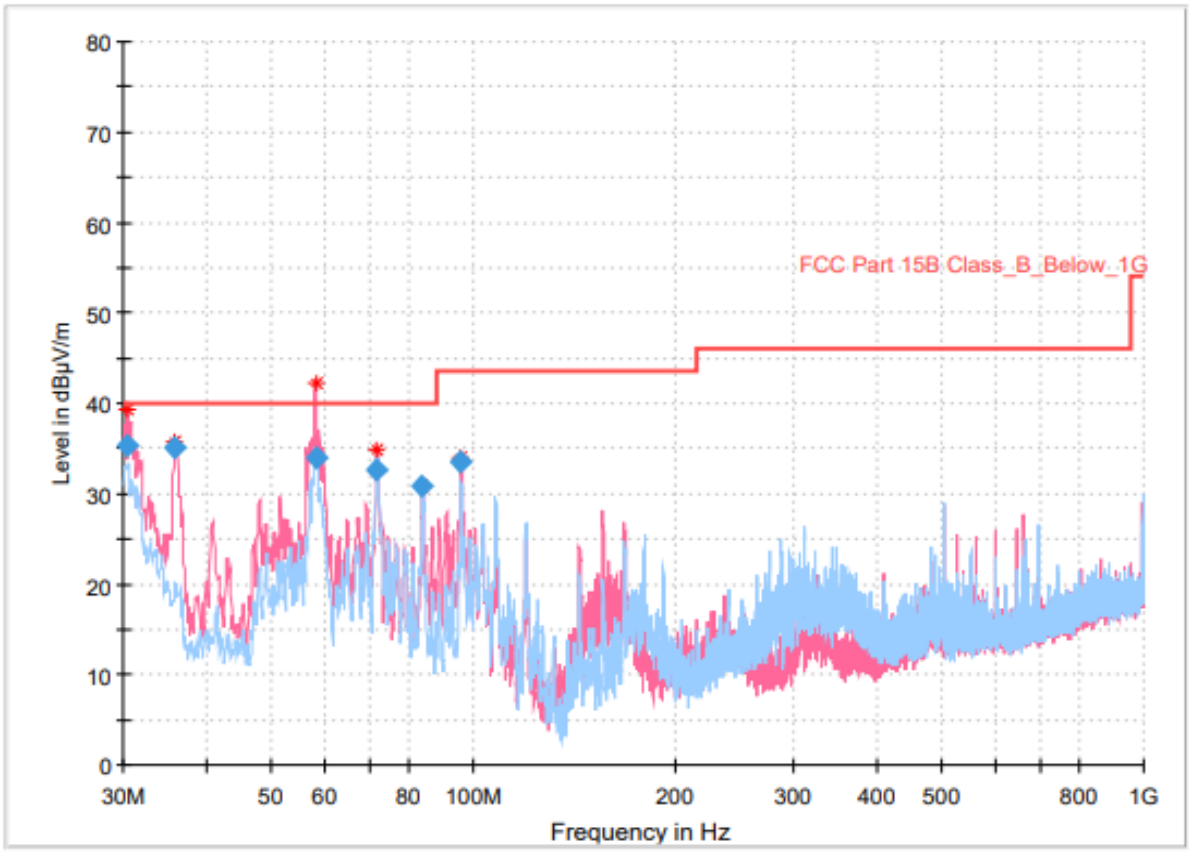
Low CH



Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
30.194000	35.56	40.00	4.44	1000.0	120.000	99.8	V	260.0	-26.7
36.111000	34.91	40.00	5.09	1000.0	120.000	99.8	V	0.0	-25.7
48.042000	28.09	40.00	11.91	1000.0	120.000	200.0	V	262.0	-22.9
57.742000	34.70	40.00	5.31	1000.0	120.000	99.8	V	174.0	-23.8
71.904000	34.16	40.00	5.85	1000.0	120.000	200.0	V	262.0	-28.0
120.016000	24.55	43.50	18.95	1000.0	120.000	99.8	V	228.0	-26.6

Mid CH



Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
30.485000	35.21	40.00	4.79	1000.0	120.000	100.0	V	59.0	-26.7
35.917000	35.17	40.00	4.83	1000.0	120.000	100.0	V	246.0	-25.8
58.130000	33.92	40.00	6.08	1000.0	120.000	100.0	V	27.0	-23.8
71.807000	32.59	40.00	7.41	1000.0	120.000	200.0	V	250.0	-28.0
83.932000	30.76	40.00	9.24	1000.0	120.000	100.0	V	284.0	-29.0
95.863000	33.59	43.50	9.91	1000.0	120.000	100.0	V	272.0	-25.3

High CH

9.4.2.5 Measurement Results for Above 1 ㎓_802.11b

Frequency (㎒)	Reading (dBμV)	Detector	Ant. Pol. (H/V)	Corr. Factor (dB)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Low CH							
4 823.300	60.73	Peak	V	-0.90	59.83	73.98	14.15
	51.74	Average	V		50.84	53.98	3.14
7 235.600	50.67	Peak	V	3.50	54.17	73.98	19.81
	42.30	Average	V		45.8	53.98	8.18
Mid CH							
4 874.300	57.28	Peak	V	-0.90	56.38	73.98	17.60
	52.16	Average	V		51.26	53.98	2.72
7 312.100	41.51	Peak	V	3.00	44.51	73.98	29.47
	30.52	Average	V		33.52	53.98	20.46
High CH							
4 923.600	58.04	Peak	V	-1.10	56.94	73.98	17.04
	51.70	Average	V		50.60	53.98	3.38
7 386.900	42.10	Peak	H	3.10	45.20	73.98	28.78
	31.73	Average	H		34.83	53.98	19.15

9.4.2.6 Measurement Results for Above 1 ㎓_802.11g

Frequency (㎒)	Reading (dBμV)	Detector	Ant. Pol. (H/V)	Corr. Factor (dB)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Low CH							
4 821.600	48.78	Peak	V	-0.90	47.88	73.98	26.10
	34.95	Average	V		34.05	53.98	19.93
7 230.500	39.27	Peak	V	3.50	42.77	73.98	31.21
	25.83	Average	V		29.33	53.98	24.65
Mid CH							
4 874.300	54.74	Peak	V	-0.90	53.84	73.98	20.14
	39.02	Average	V		38.12	53.98	15.86
7 315.500	43.43	Peak	V	3.00	46.43	73.98	27.55
	26.94	Average	V		29.94	53.98	24.04
High CH							
4 923.600	57.03	Peak	V	-1.10	55.93	73.98	18.05
	41.04	Average	V		39.94	53.98	14.04
7 385.200	39.03	Peak	V	3.10	42.13	73.98	31.85
	25.71	Average	V		28.81	53.98	25.17

9.4.2.7 Measurement Results for Above 1 ㎓_802.11n20

Frequency (㎒)	Reading (dBμV)	Detector	Ant. Pol. (H/V)	Corr. Factor (dB)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Low CH							
4 825.000	58.26	Peak	V	-0.90	57.36	73.98	16.62
	37.11	Average	V		36.21	53.98	17.77
7 232.200	41.13	Peak	H	3.50	44.63	73.98	29.35
	26.21	Average	H		29.71	53.98	24.27
Mid CH							
4 870.900	62.46	Peak	V	-0.90	61.56	73.98	12.42
	42.48	Average	V		41.58	53.98	12.40
7 300.200	46.91	Peak	V	3.10	50.01	73.98	23.97
	27.99	Average	V		31.09	53.98	22.89
High CH							
4 920.200	62.03	Peak	V	-1.10	60.93	73.98	13.05
	42.99	Average	V		41.89	53.98	12.09
7 373.300	46.02	Peak	V	3.00	49.02	73.98	24.96
	27.92	Average	V		30.92	53.98	23.06

※ Ant. Pol. : Antenna Polarization

※ Corr. Factor. : Antenna Factor + Cable Loss - Amplifier Gain

※ Result = Reading + Corr. Factor

※ Margin = Limit – Resul

10. Power Line Conducted Emission

10.1 Operating environment

Temperature : 24.7 ℃

Relative humidity : 47.3 %

10.2 Measurement method

Standard : §15.207 (a)

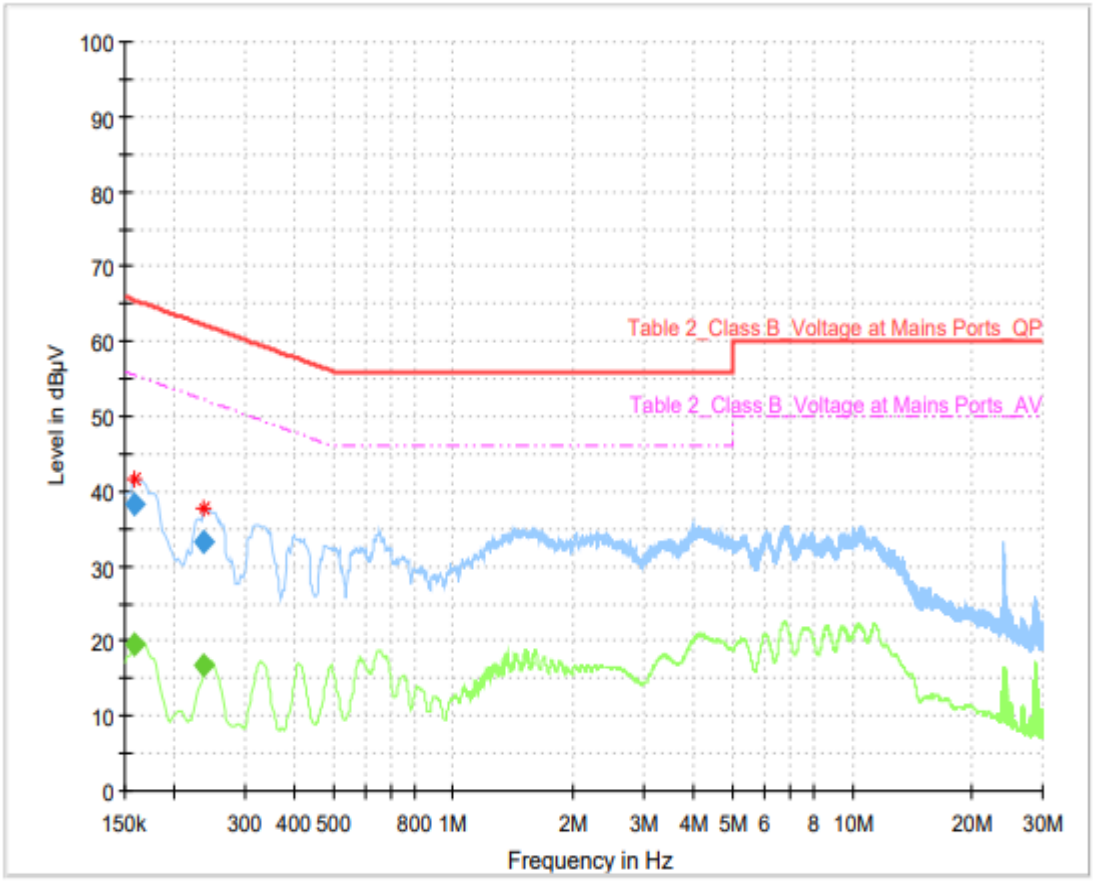
10.3 Test data

Operating mode : Transmit mode

Test Result : Pass

- END -

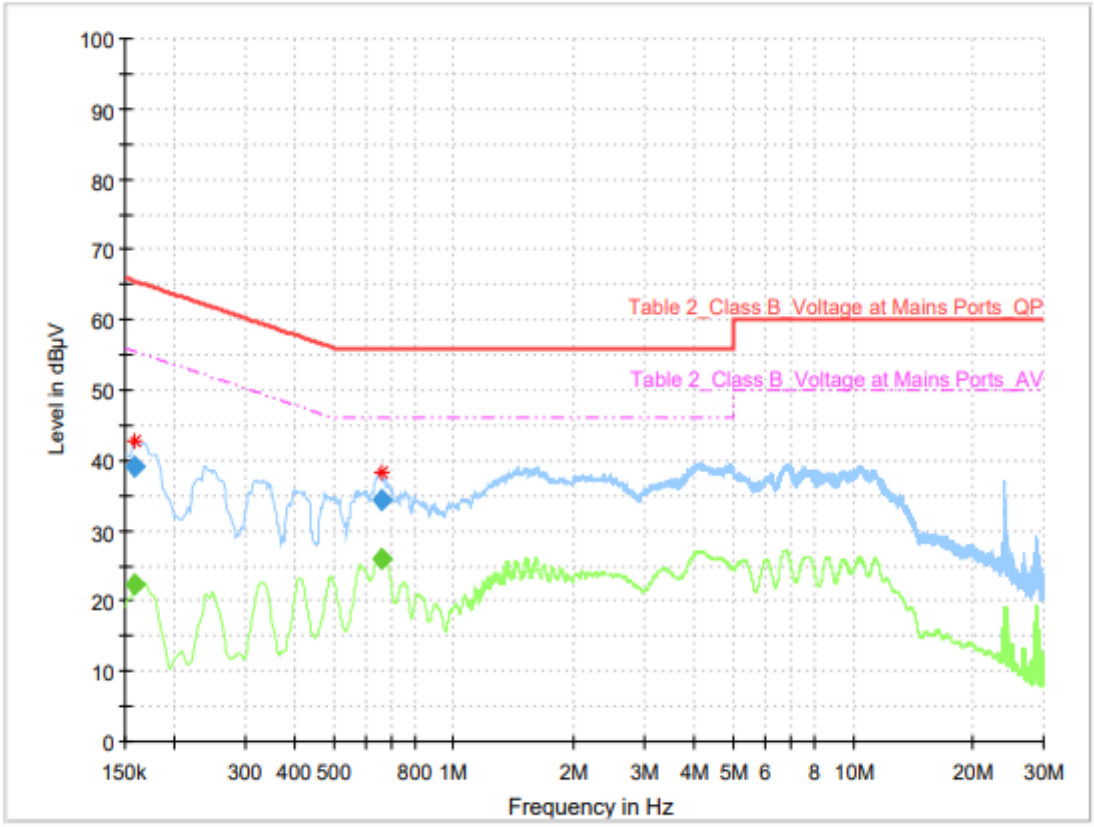
10.3.1 Measured Results & Graph



Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.159000	---	19.65	55.52	35.86	5000.0	9.000	L1	9.9
0.159000	38.22	---	65.52	27.30	5000.0	9.000	L1	9.9
0.237750	---	16.66	52.17	35.51	5000.0	9.000	L1	9.7
0.237750	33.22	---	62.17	28.96	5000.0	9.000	L1	9.7

Live line



Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.159000	---	22.27	55.52	33.25	5000.0	9.000	N	9.8
0.159000	39.22	---	65.52	26.30	5000.0	9.000	N	9.8
0.658500	---	25.96	46.00	20.04	5000.0	9.000	N	9.8
0.658500	34.30	---	56.00	21.70	5000.0	9.000	N	9.8

Neutral line