



시험 성적서

TEST REPORT

페이지(page) : (1) / (총(Total) 56)

성적서 번호 Report No.		ICRT-TR-E212935-0A	
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-221SP	
정 격 Ratings		DC 5.0 V	
시험장소 Place of test		☒ 고정시험(Inside test) ☐ 현장시험(Field test) 주소지(Address): 112, 113 Hwanggeum 3-ro 7beon-gil, Hagun-ri, Yangchon-eup, Gimpo-si, Gyeonggi-do, Korea	
시험기간 Date of test		15. Nov. 2021 ~ 16. Nov. 2021	
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	기술책임자 Technical Manager	
	성 명 Name Yeong-Hwan, Hong (Signature)	성 명 Name Min-Gi, Son (Signature)	
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2021. 11. 18 주식회사 아이씨알 대표이사 The head of INTERNATIONAL CERTIFICATION REGISTRATION			



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Revision History

Issued Report No.	Issued Date	Revisions	Effect Section
ICRT-TR-E212935-0A	18-Nov-2021	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	YangHoon Cho
Telephone No.	+82-070-8677-6000
Fax No.	+82-02-2108-1595
E-mail	yhcho0926@truen.co.kr

1.2 Manufacturer Information

Manufacturer 1	TRUEN Co., Ltd.
Address	1309, Woolim e-BIZ Center 1, 28, Digital-ro 33-gil, Guro-gu, Seoul, Republic of Korea
Manufacturer 2	FENGTAIDA
Address	4/F BLDG G, NO. 4010 BANXUEGANG ROAD, BANTIAN LOGGANG DISTRICT, SHENZHEN, CHINA

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
Test Firm Registration Number	490614



2. Equipment under Test(EUT) Information

2.1 General Information

Product Name	Wireless Home Camera
Brand Name	-
Model Name	TSC-221SP
Additional Model Name	-
FCC ID	2AZK3-TSC-221SP
Power Supply	DC 5.0 V

2.2 Additional Information

Equipment Class	DTS-Digital Transmission System
Device Type	Stand-alone
Operating Frequency	2 412 MHz ~ 2 462 MHz
RF Output Power	15.52 dBm
Number of Channel	11
Modulation Type	802.11b: DSSS Modulation 802.11g/n(HT20): OFDM Modulation
Antenna Type	FPCB Antenna
Antenna Gain	4.17 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 to each of the Low Channel, Middle Channel, and High Channel at the worst case data rate. The worst case data rate for each modulation is determined 1 Mbps for IEEE 802.11b, 6 Mbps for IEEE 802.11g, 6.5 Mbps for HT20.

2.4 Modifications of EUT

- None

2.5 Reason of Additional Model Name

- 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 (Average) 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
§15.207	Power Line Conducted Emission	☒	PASS
§15.203	Antenna Requirement	☒	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 4.17 **dB i**.



4. Used equipment on test

	Description	Model Name	Serial Number	Manufacturer	Next Cal. (cycle)
☒	Spectrum analyzer	FSV40	101455	R&S	2022. 06. 16 (1Y)
☒	Signal Generator	SMB100A	180607	R&S	2022. 03. 03 (1Y)
☒	Open Switch and Control Platform	OSP150	101000	R&S	2022. 03. 04 (1Y)
☒	DC Power Supply	XDL 35-5P	J00385373	Sorensen	2022. 03. 03 (1Y)
☒	Loop Antenna	HFH2-Z2	100506	Rohde & Schwarz	2023. 07. 05 (2Y)
☒	TRILOG BROADBAND ANTENNA	VULB9162	120	SCHWARZBECK	2022. 12. 15 (2Y)
☒	RF Pre Amplifier	SCU08	100747	Rohde & Schwarz	2022. 04. 14 (1Y)
☒	DOUBLE-RIDGE WAVEGUIDE HORN ANTENNA	HF907	102556	Rohde & Schwarz	2022. 08. 18 (1Y)
☒	RF Pre Amplifier	SCU18	102342	Rohde & Schwarz	2022. 04. 14 (1Y)
☒	Horn Antenna	LB-42-10-C-KF	J202024625	AINFO Inc.	2022. 03. 04 (1Y)
☒	RF Pre Amplifier	AMF-4F-18265-35-8P-1	771846	MITEQ	2022 .03. 04 (1Y)
☒	Horn Antenna	LB-28-10-C-KF	J202024627	AINFO Inc.	2022. 03. 04 (1Y)
☒	RF Pre Amplifier	AMF-4D-260400-45-6P	779919	MITEQ	2022 .03. 04 (1Y)
☒	EMI Test Receiver	ESR26	101461	Rohde & Schwarz	2022. 04. 14 (1Y)
☒	EMI Test Receiver	ESR26	101462	Rohde & Schwarz	2022. 04. 14 (1Y)
☒	LISN	ENV216	102194	Rohde & Schwarz	2022. 04. 15 (1Y)
☒	EMI Test Receiver	ESR3	102119	Rohde & Schwarz	2022. 04. 14 (1Y)
☒	ATTENUATOR	WA76-20-1313	1633	WEINSCHEL	2022. 03. 14 (1Y)

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



5. 6 dB Bandwidth

5.1 Operating environment

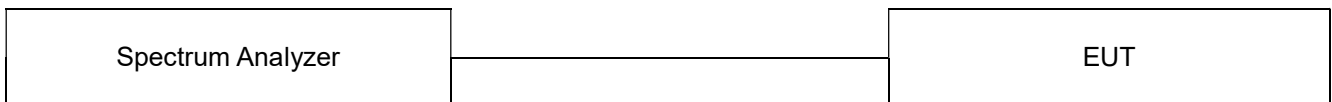
Temperature : 25 °C
Relative humidity : 46 %

5.2 Measurement method

Standard : §15.247 (a) (2)

5.3 Test setup

The antenna output of the EUT was connected to the spectrum analyzer. The resolution bandwidth is set to 100 kHz, and peak detection was used. The 6 dB bandwidth is defined as the total spectrum over which the power is higher than the peak power minus 6 dB.





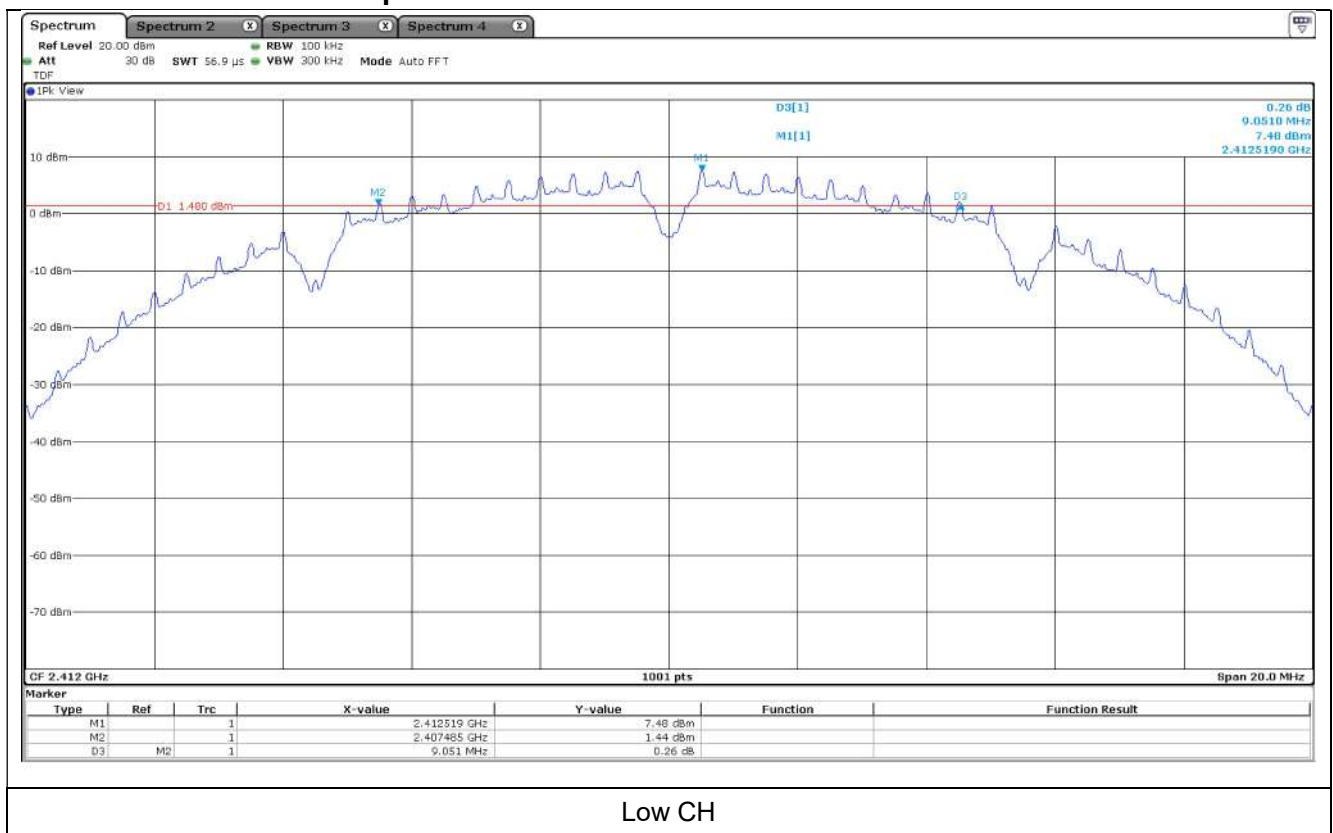
5.4 Test data

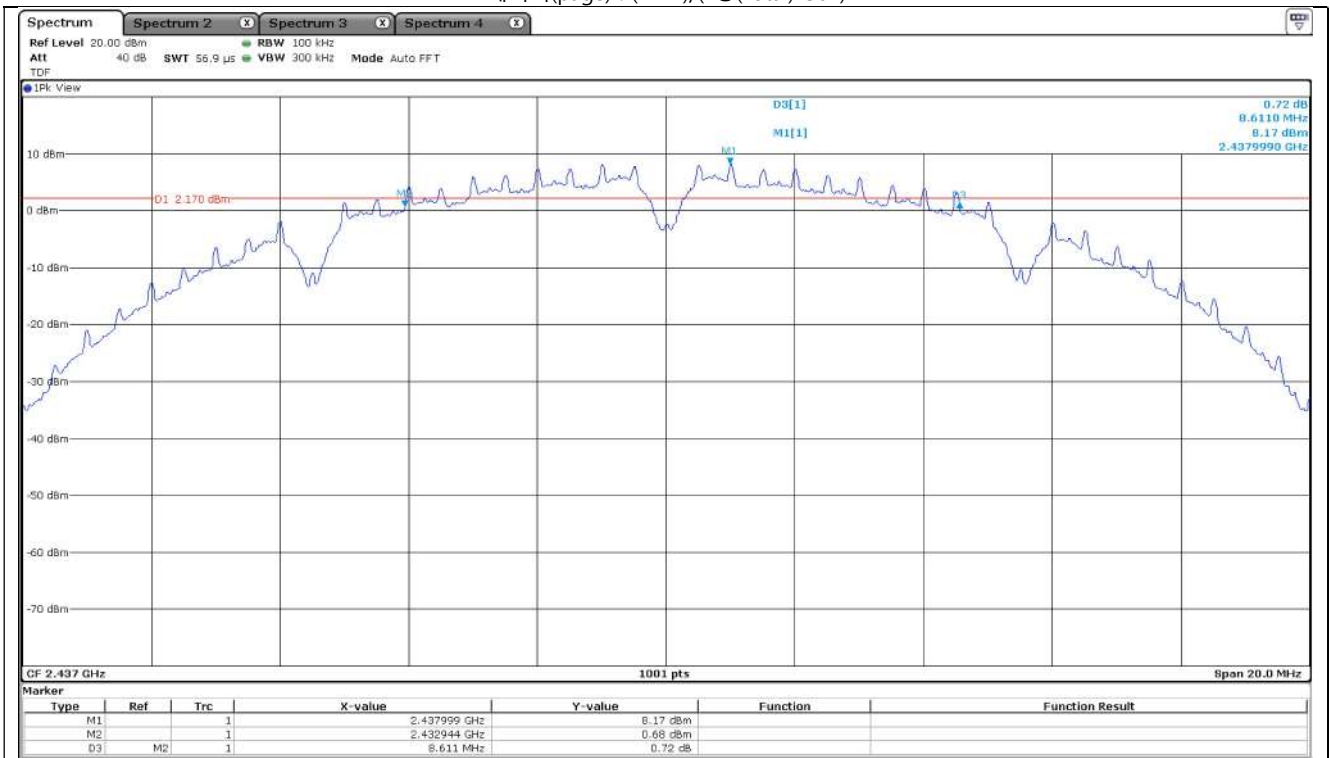
Test date : 15. Nov. 2021 ~ 16. Nov. 2021
 Operating mode : Transmit mode
 Test Result : Pass

5.4.1 Measured Results

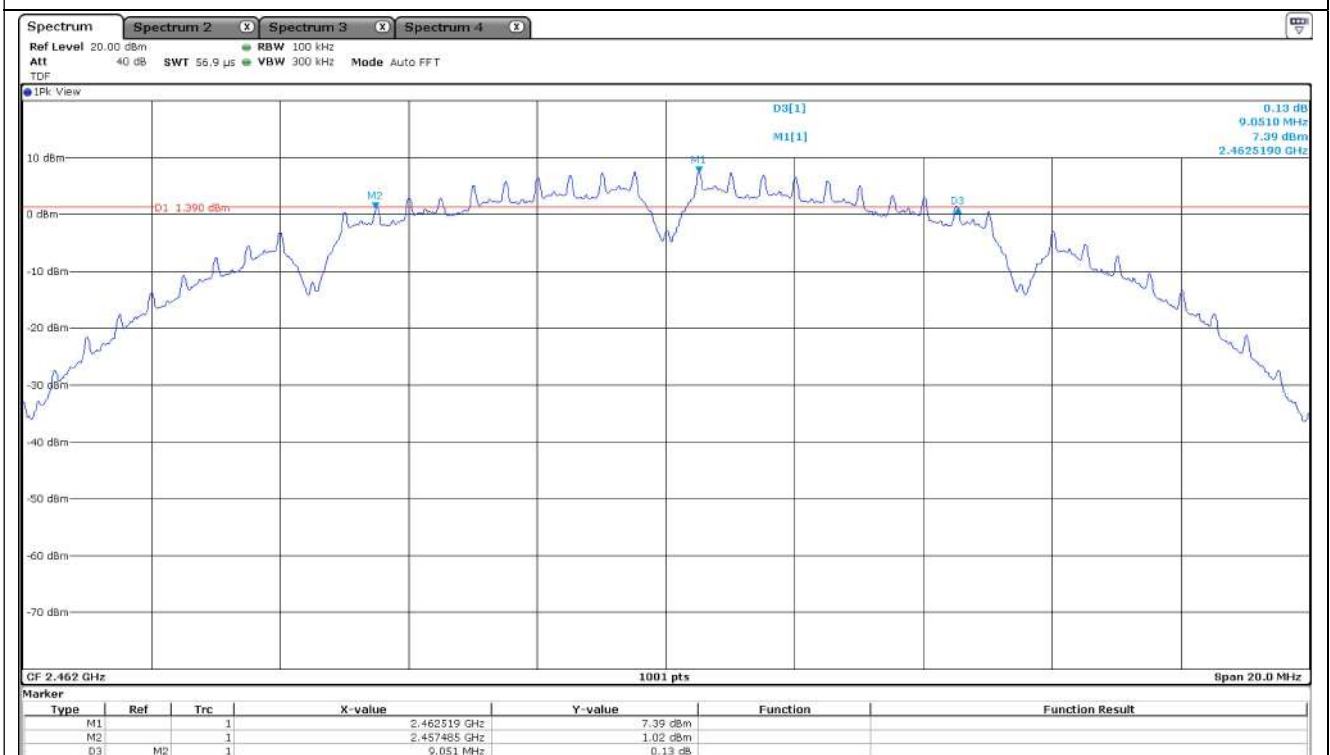
Modulation Type	Channel (Frequency)	Measured Value (MHz)	Limit (kHz)
802.11b	1 (2 412 MHz)	9.051	at least 500
	6 (2 437 MHz)	8.611	
	11 (2 462 MHz)	9.051	
802.11g	1 (2 412 MHz)	16.364	
	6 (2 437 MHz)	16.424	
	11 (2 462 MHz)	16.344	
802.11n(HT20)	1 (2 412 MHz)	17.542	
	6 (2 437 MHz)	17.582	
	11 (2 462 MHz)	17.582	

5.4.2 Measured Graph for 802.11b





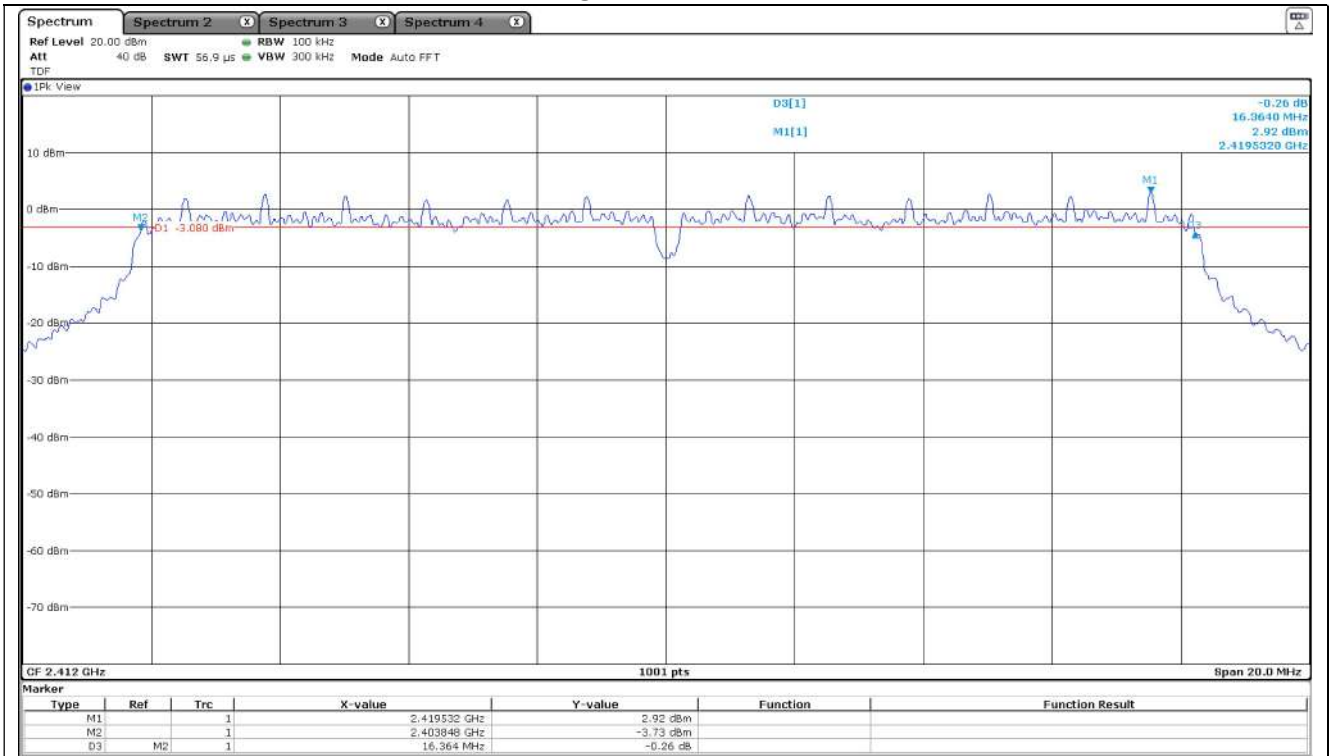
Mid CH



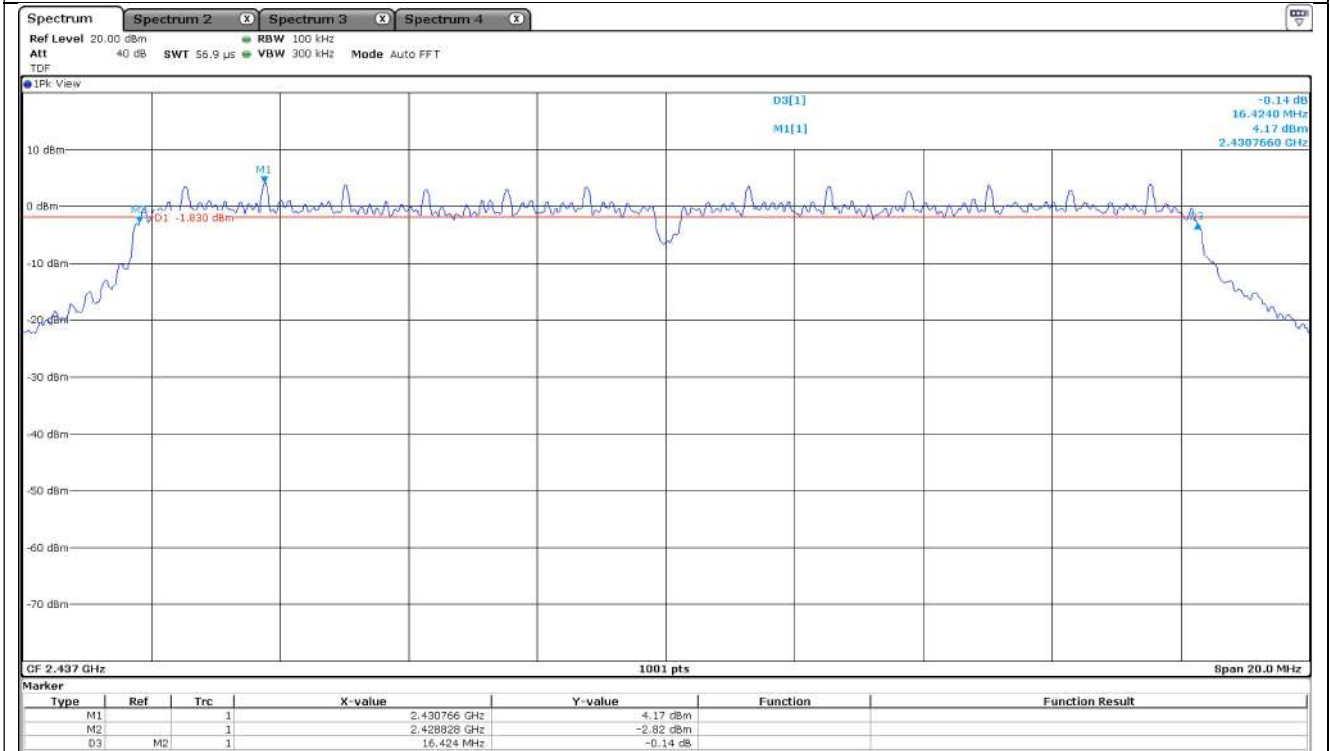
High CH



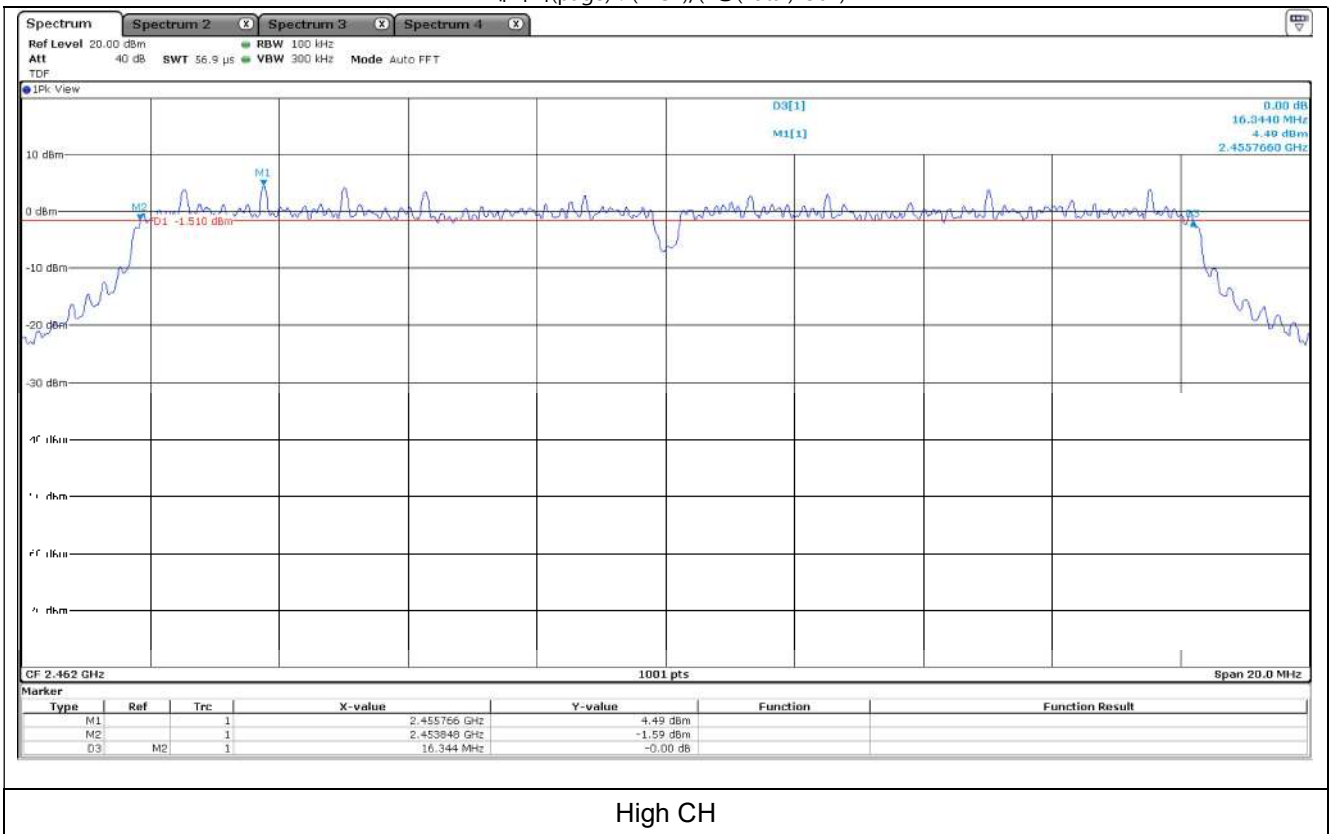
5.4.3 Measured Graph for 802.11g



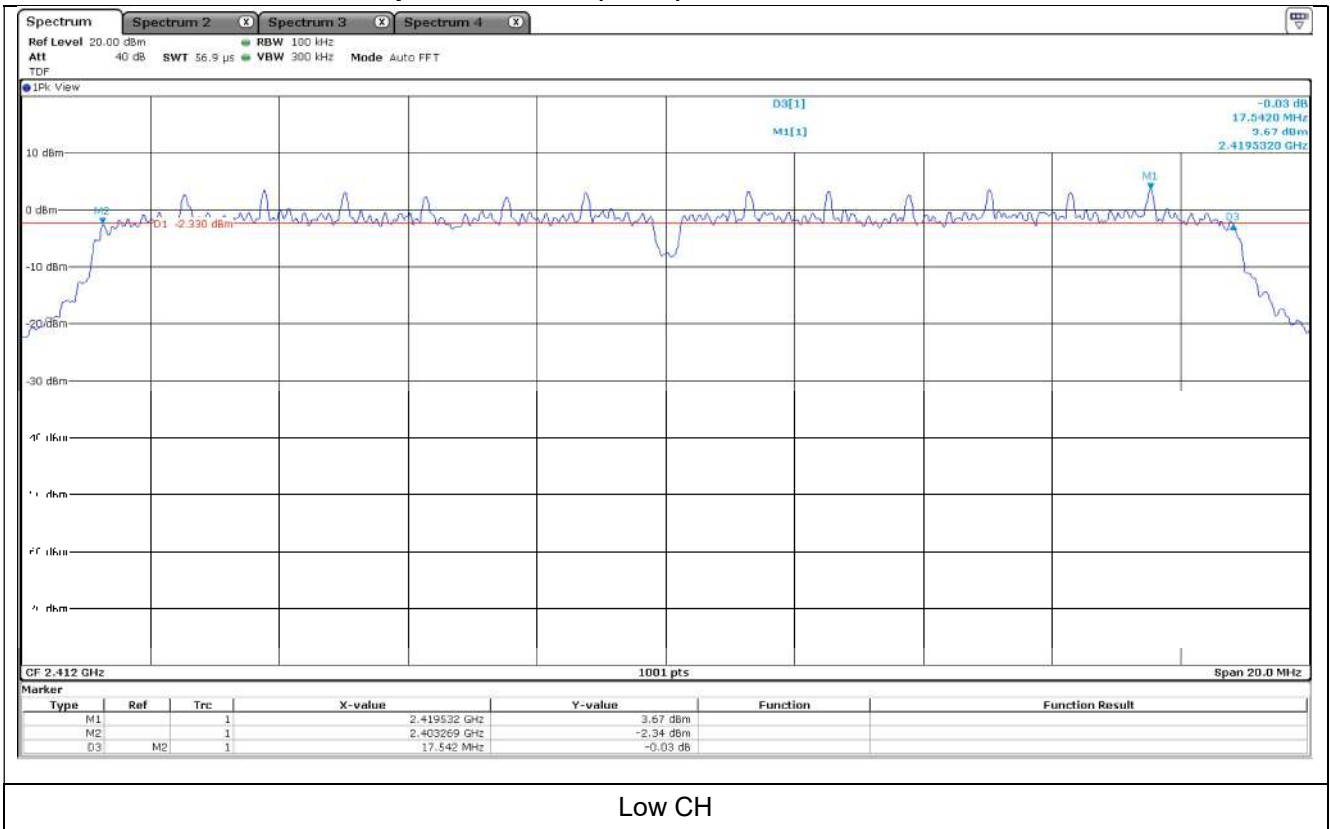
Low CH

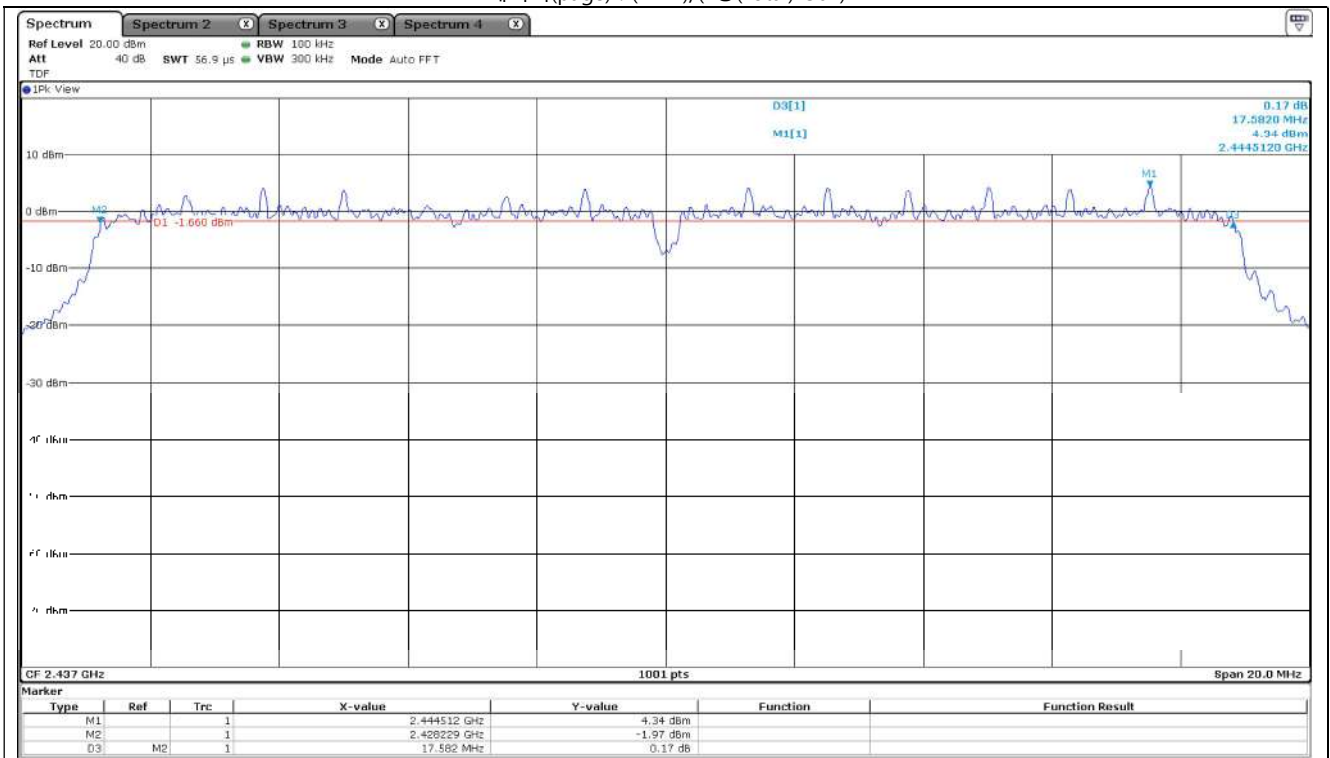


Mid CH

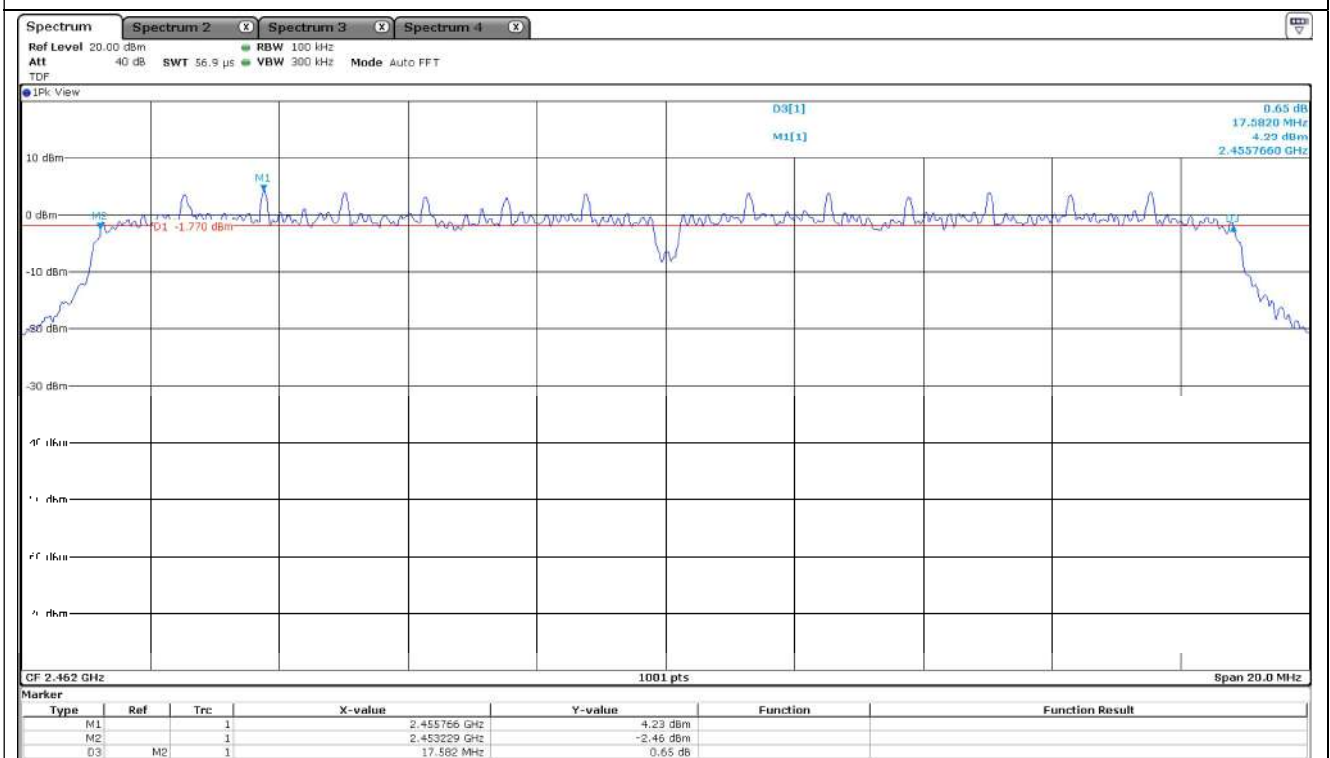


5.4.4 Measured Graph for 802.11n(HT20)





Mid CH



High CH



6. Maximum Conducted (Average) Output Power

6.1 Operating environment

Temperature : 25 °C
Relative humidity : 46 %

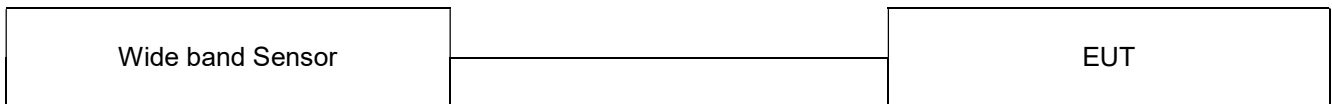
6.2 Measurement method

Standard : §15.247 (b) (3)

6.3 Test setup

The maximum peak output power was measured with the wide band sensor connected to the antenna output power of the EUT. The Wide Band Sensor is measured when the EUT is transmitting at the appropriate center frequency its maximum power control level as described in Section 8.3(558074 D01 15.247 Meas Guidance v05r02).

Since this measurement is made only during the ON time of the transmitter, no duty cycle correction is required.





6.4 Test data

Test date : 15. Nov. 2021 ~ 16. Nov. 2021

Operating mode : Transmit mode

Test Result : Pass

6.4.1 Measured Results

Modulation Type	Channel (Frequency)	Measured Value (dBm)	Limit (dBm)
802.11b	1 (2 412 MHz)	14.37	30 (1 Watt)
	6 (2 437 MHz)	14.24	
	11 (2 462 MHz)	14.43	
802.11g	1 (2 412 MHz)	15.39	
	6 (2 437 MHz)	15.28	
	11 (2 462 MHz)	15.52	
802.11n(HT20)	1 (2 412 MHz)	15.27	
	6 (2 437 MHz)	15.26	
	11 (2 462 MHz)	15.47	



7. Power Spectral Density

7.1 Operating environment

Temperature : 25 °C

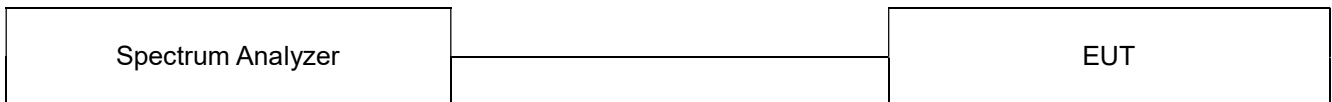
Relative humidity : 46 %

7.2 Measurement method

Standard : §15.247 (e)

7.3 Test setup

The antenna output of the EUT was connected to the spectrum analyzer. The resolution bandwidth is set to 3 kHz, the video bandwidth is set to 3 times the resolution bandwidth.





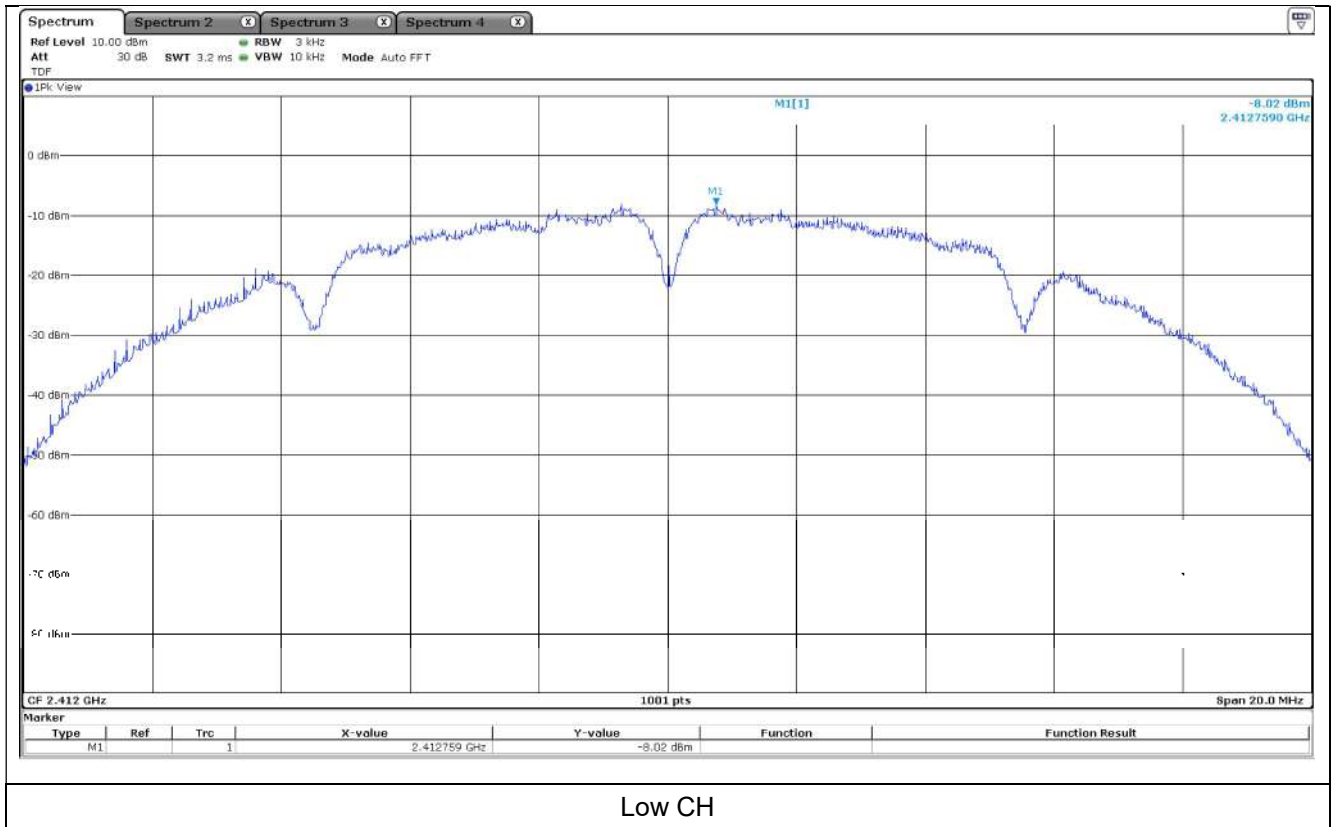
7.4 Test data

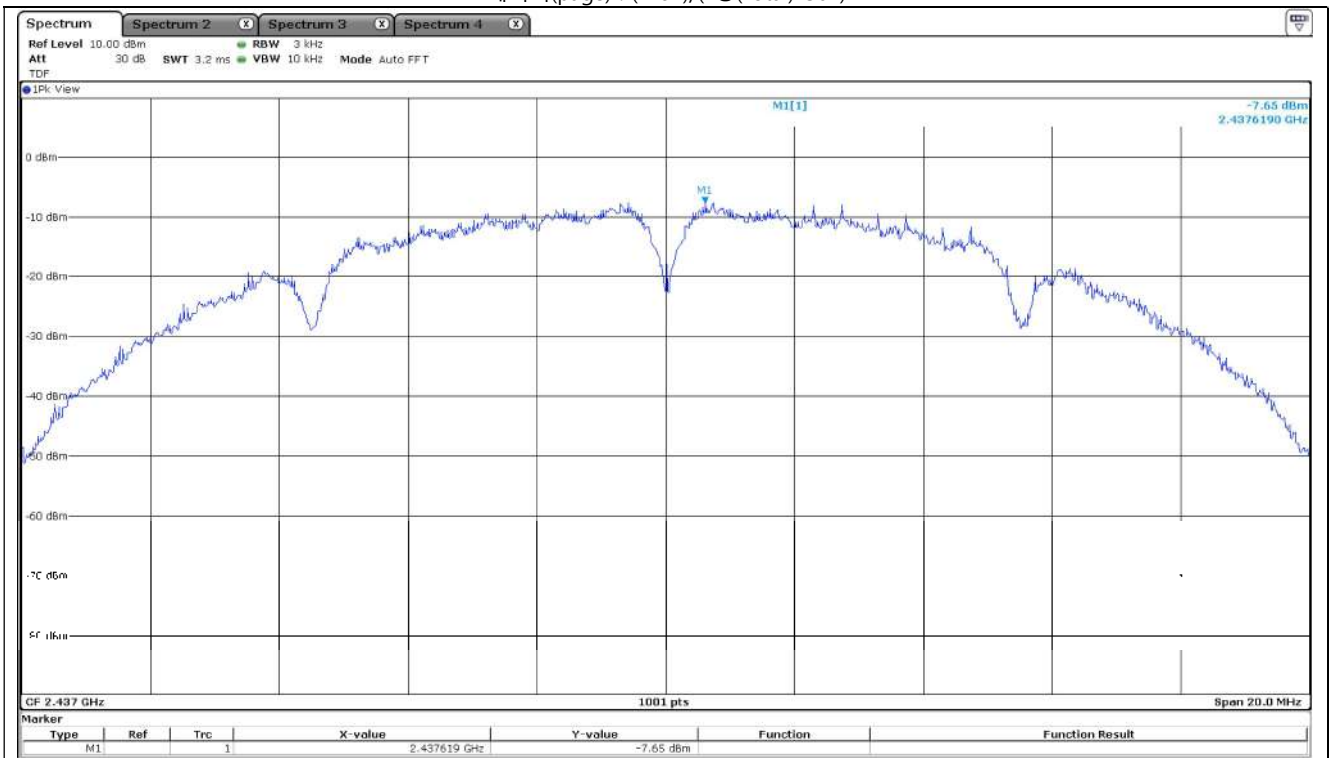
Test date : 15. Nov. 2021 ~ 16. Nov. 2021
 Operating mode : Transmit mode
 Test Result : Pass

7.4.1 Measured Results

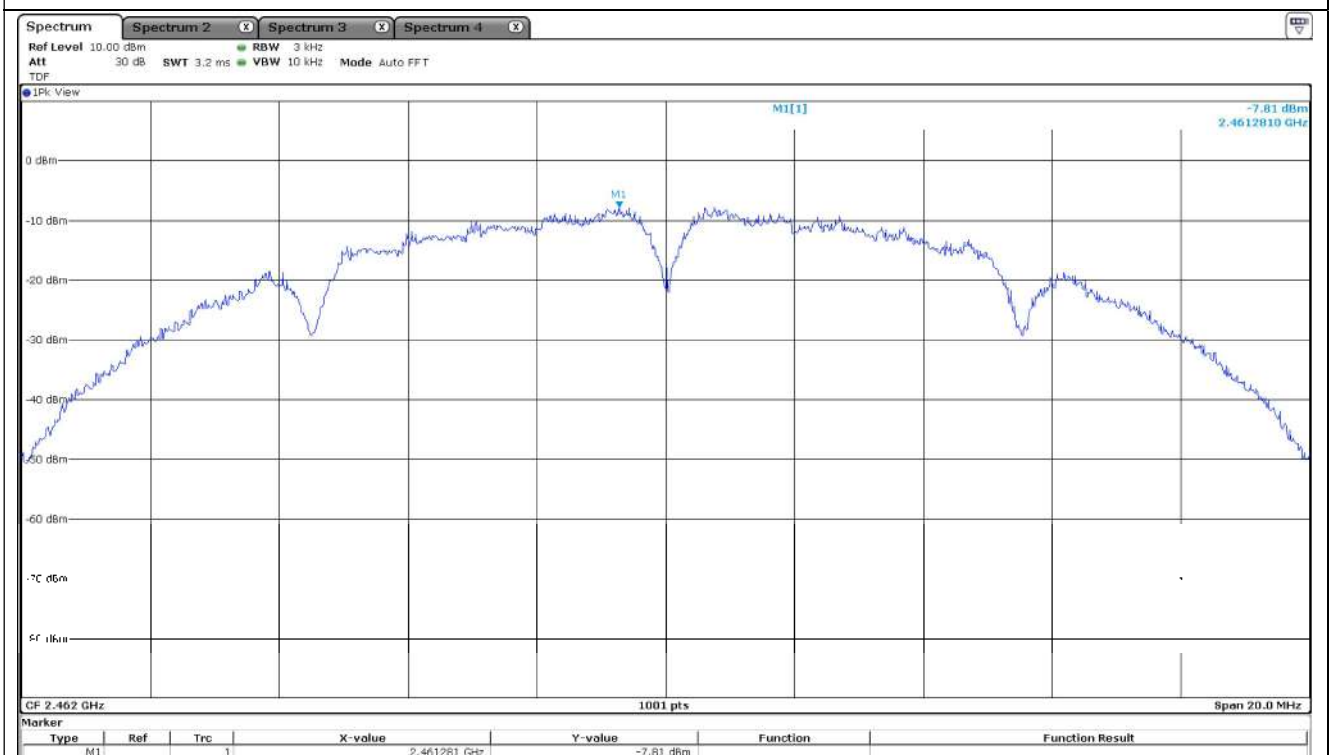
Modulation Type	Channel (Frequency)	Highest signal level (dBm)	Limit (dBm/3kHz)
802.11b	1 (2 412 MHz)	-8.02	8
	6 (2 437 MHz)	-7.65	
	11 (2 462 MHz)	-7.81	
802.11g	1 (2 412 MHz)	-10.54	
	6 (2 437 MHz)	-10.43	
	11 (2 462 MHz)	-9.74	
802.11n(HT20)	1 (2 412 MHz)	-9.73	
	6 (2 437 MHz)	-10.76	
	11 (2 462 MHz)	-9.16	

7.4.2 Measured Graph for 802.11b





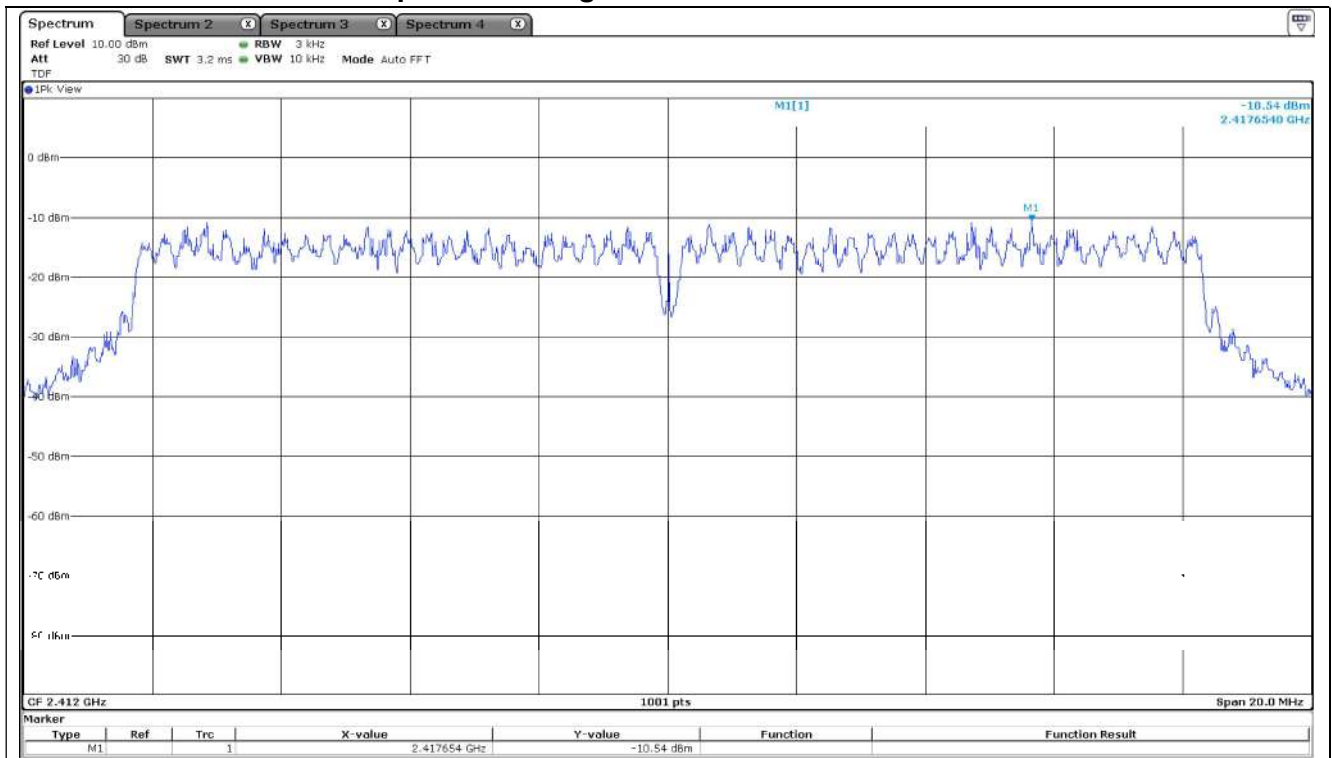
Mid CH



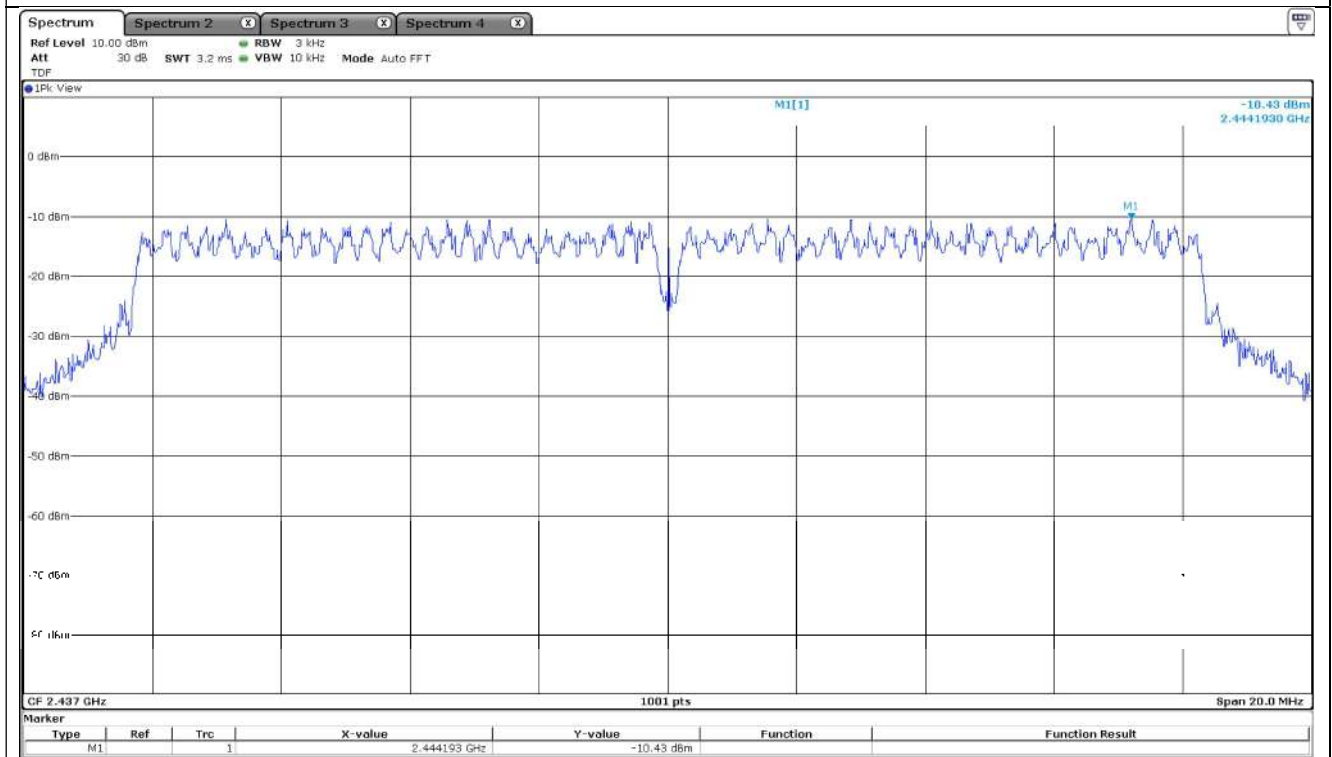
High CH



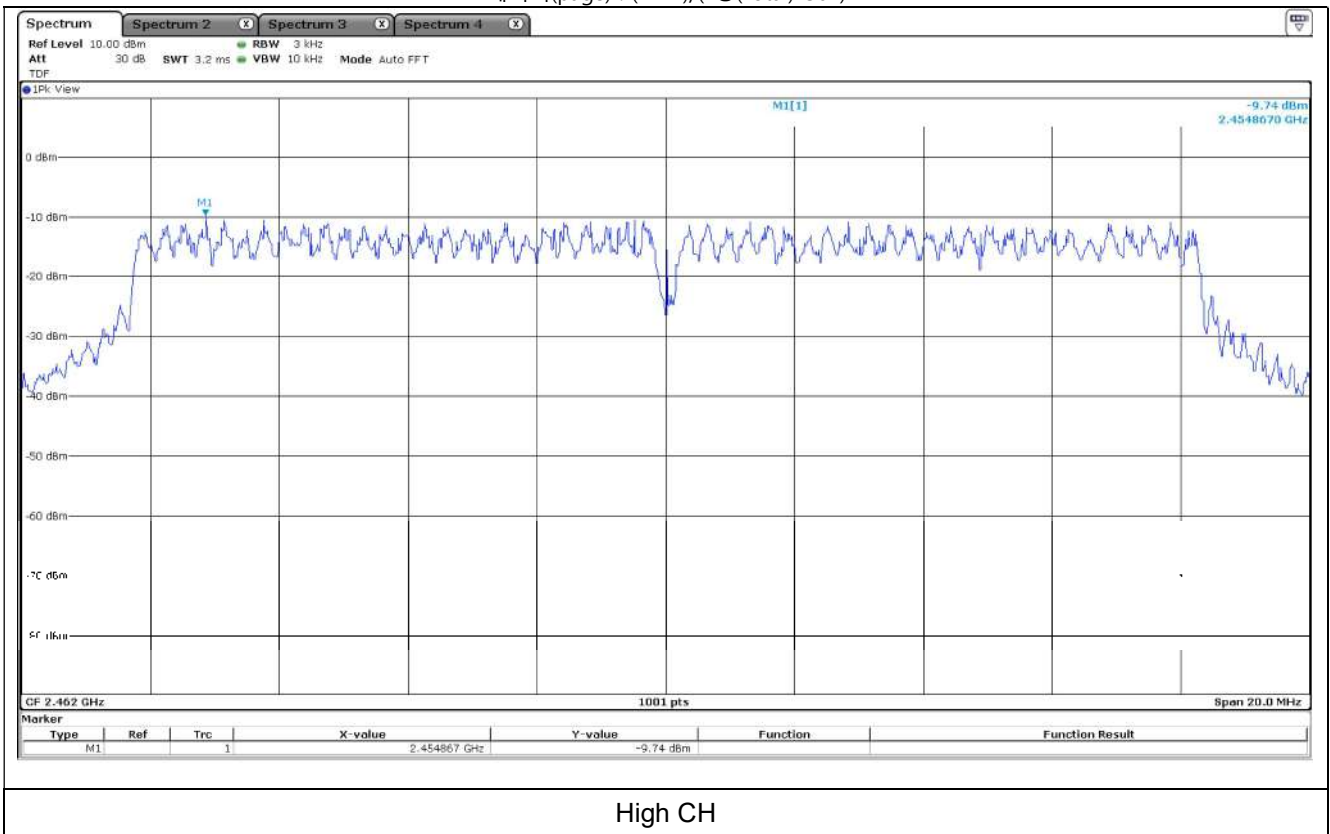
7.4.3 Measured Graph for 802.11g



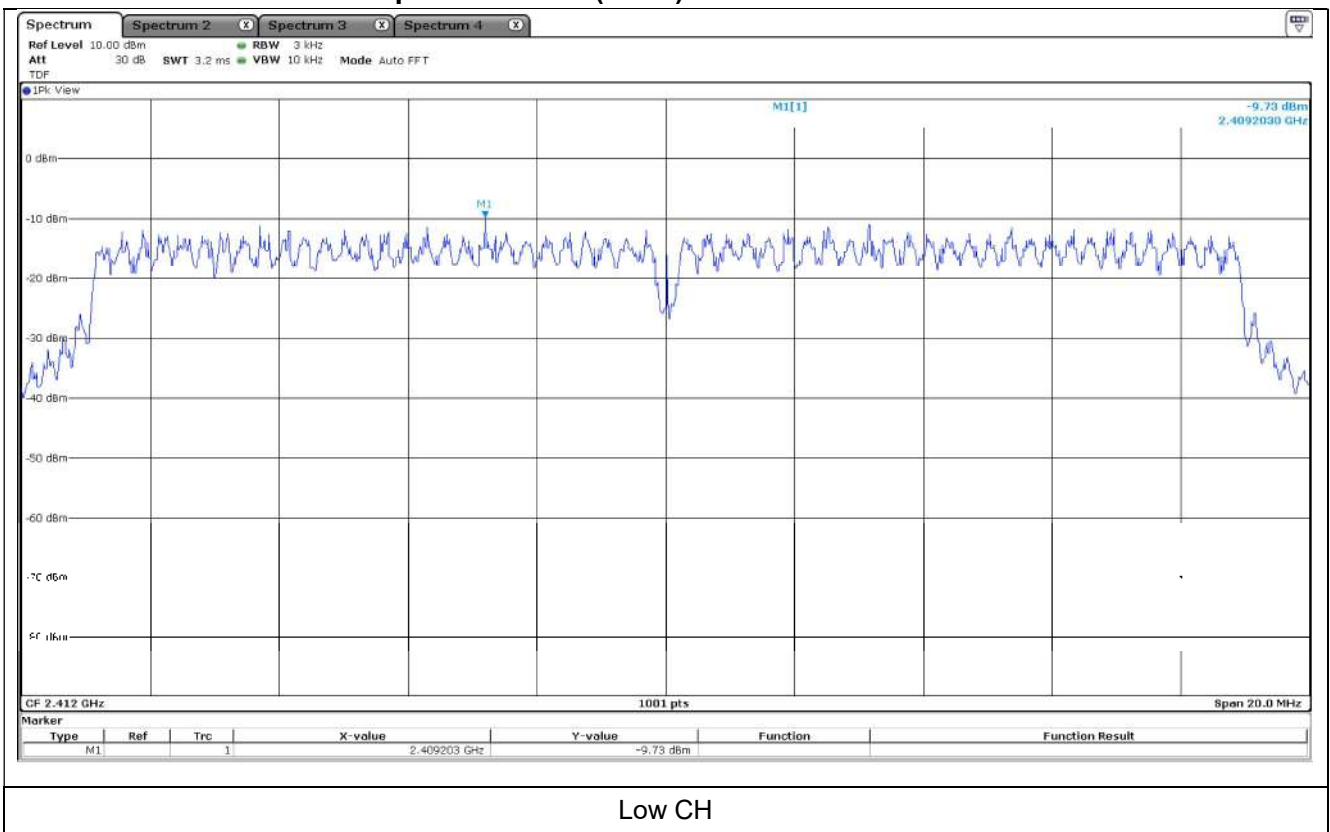
Low CH

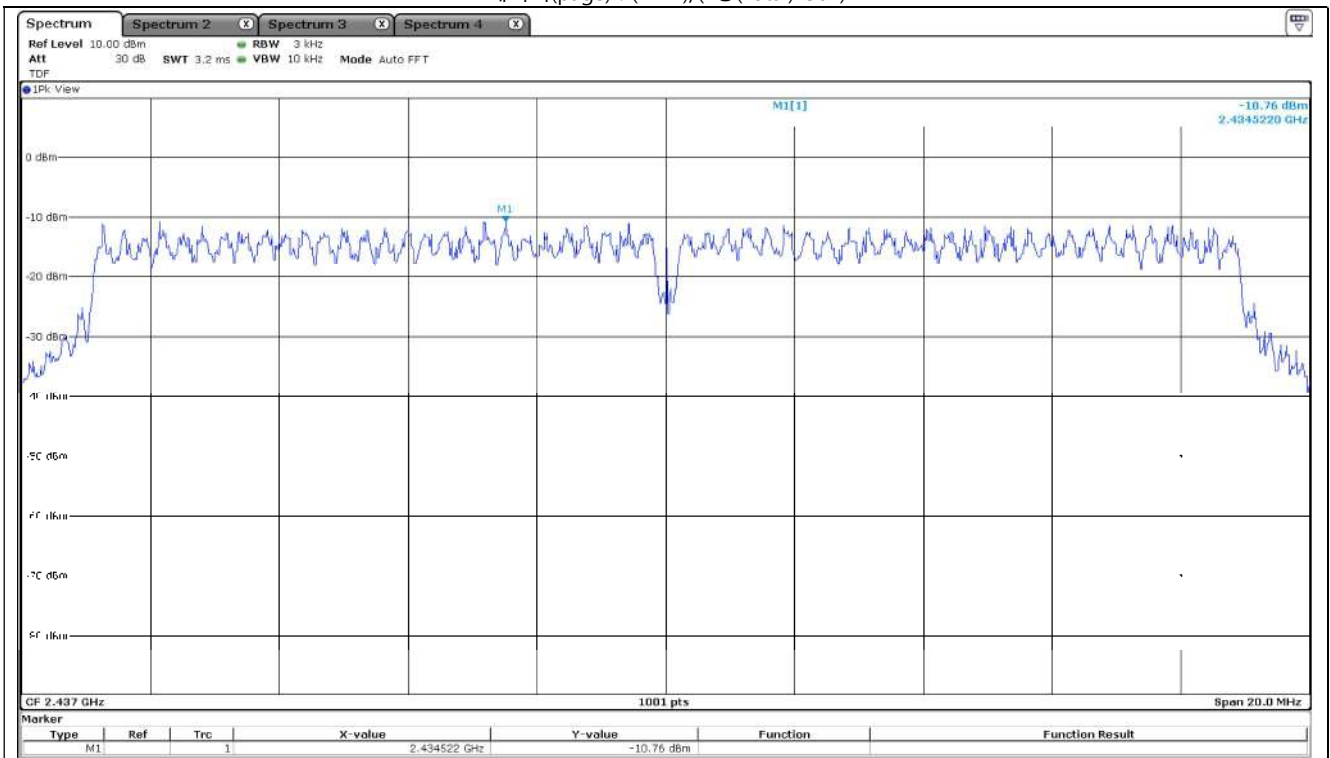


Mid CH

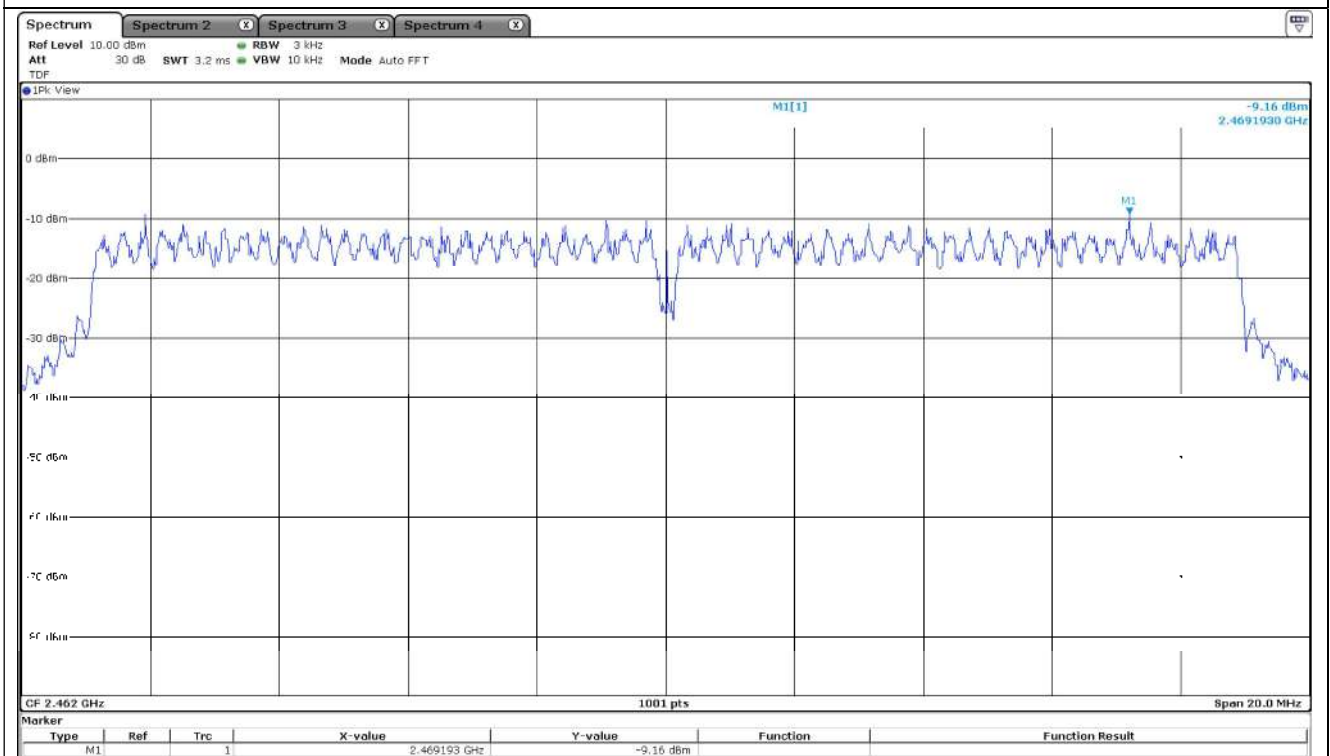


7.4.4 Measured Graph for 802.11n(HT20)





Mid CH



High CH



8. Conducted Spurious Emission

8.1 Operating environment

Temperature : 25 °C

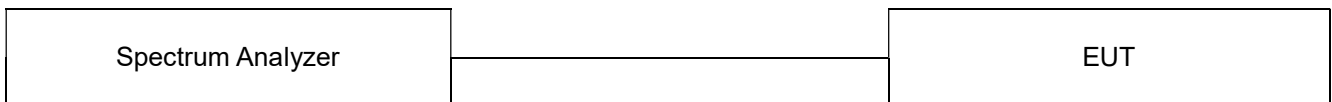
Relative humidity : 46 %

8.2 Measurement method

Standard : §15.247 (d)

8.3 Test setup

The antenna output of the EUT was connected to the spectrum analyzer. The resolution and video bandwidth is set to 100 kHz, and peak detection was used.



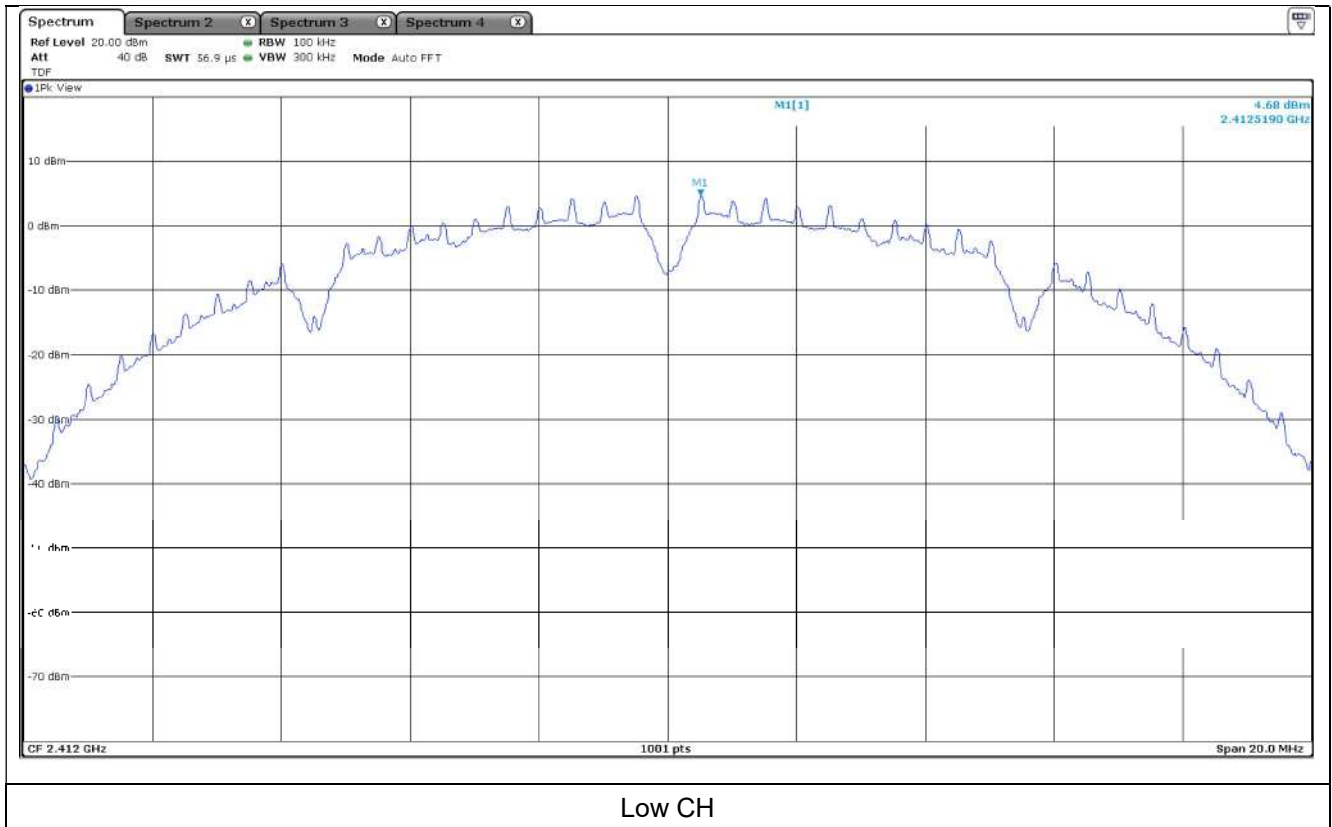


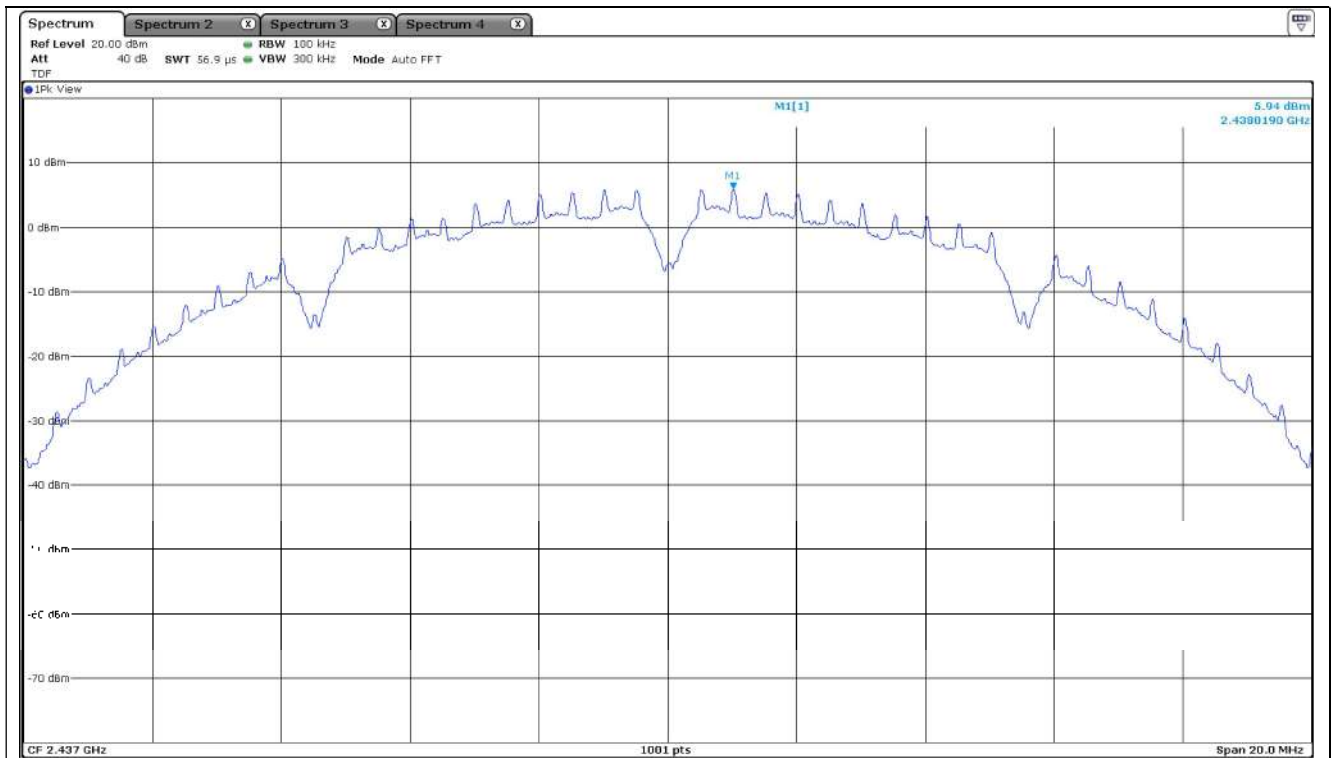
8.4 Test data

Test date : 15. Nov. 2021 ~ 16. Nov. 2021
Operating mode : Transmit mode
Test Result : Pass

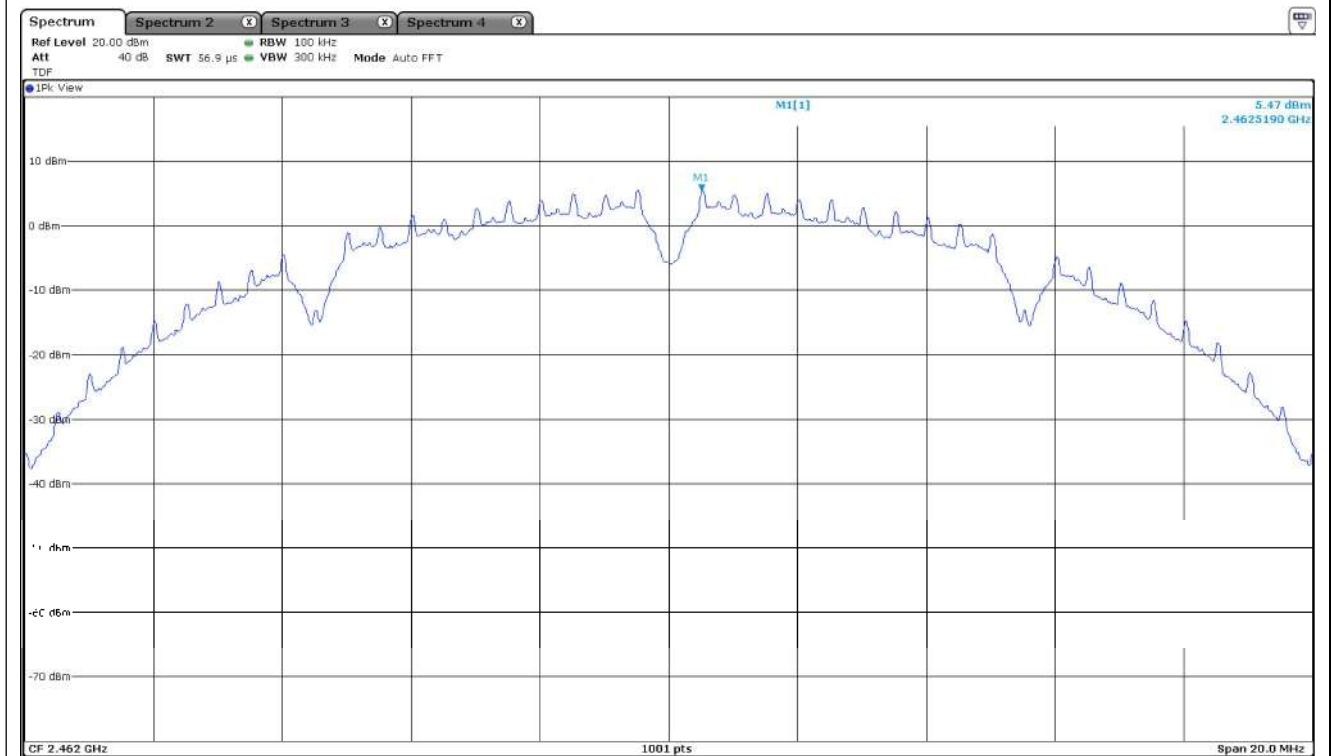
8.4.1 Measured Results

8.4.1.1 Signal level (dB m) for 802.11b





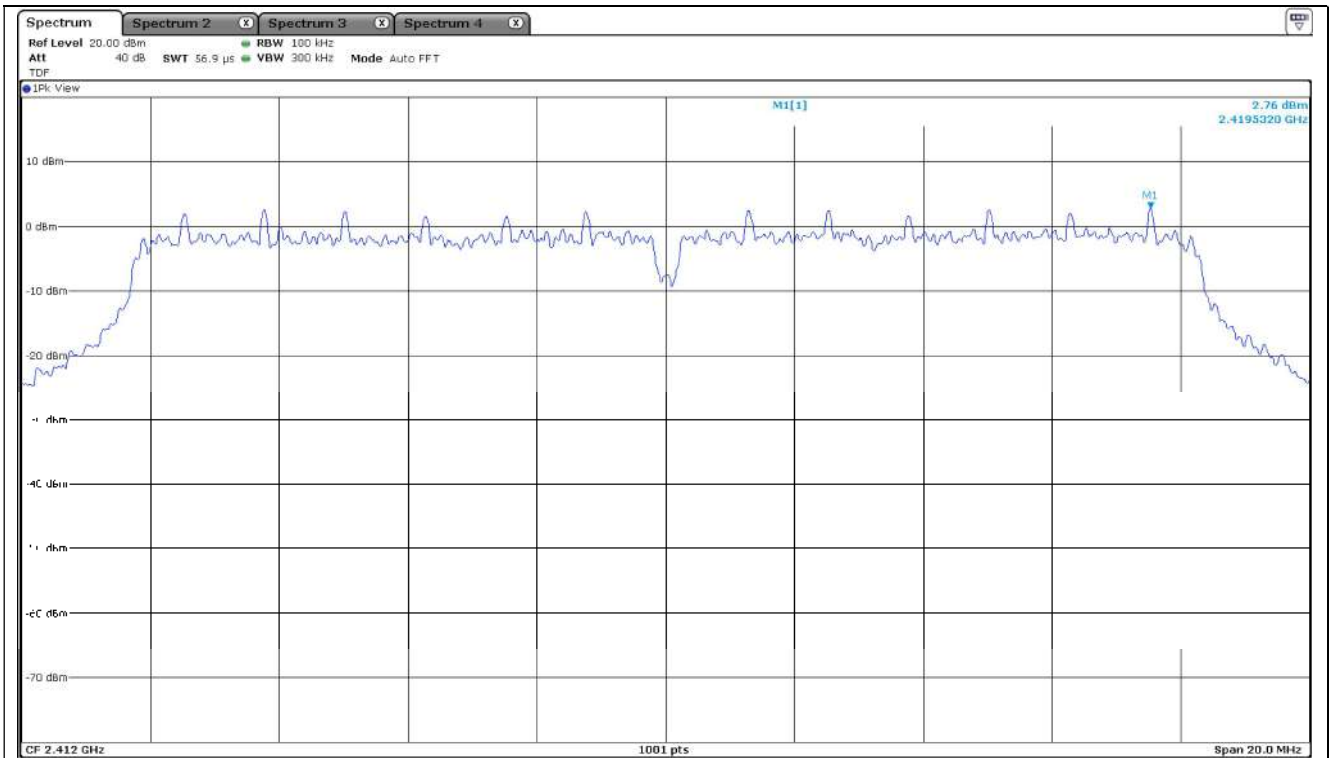
Mid CH



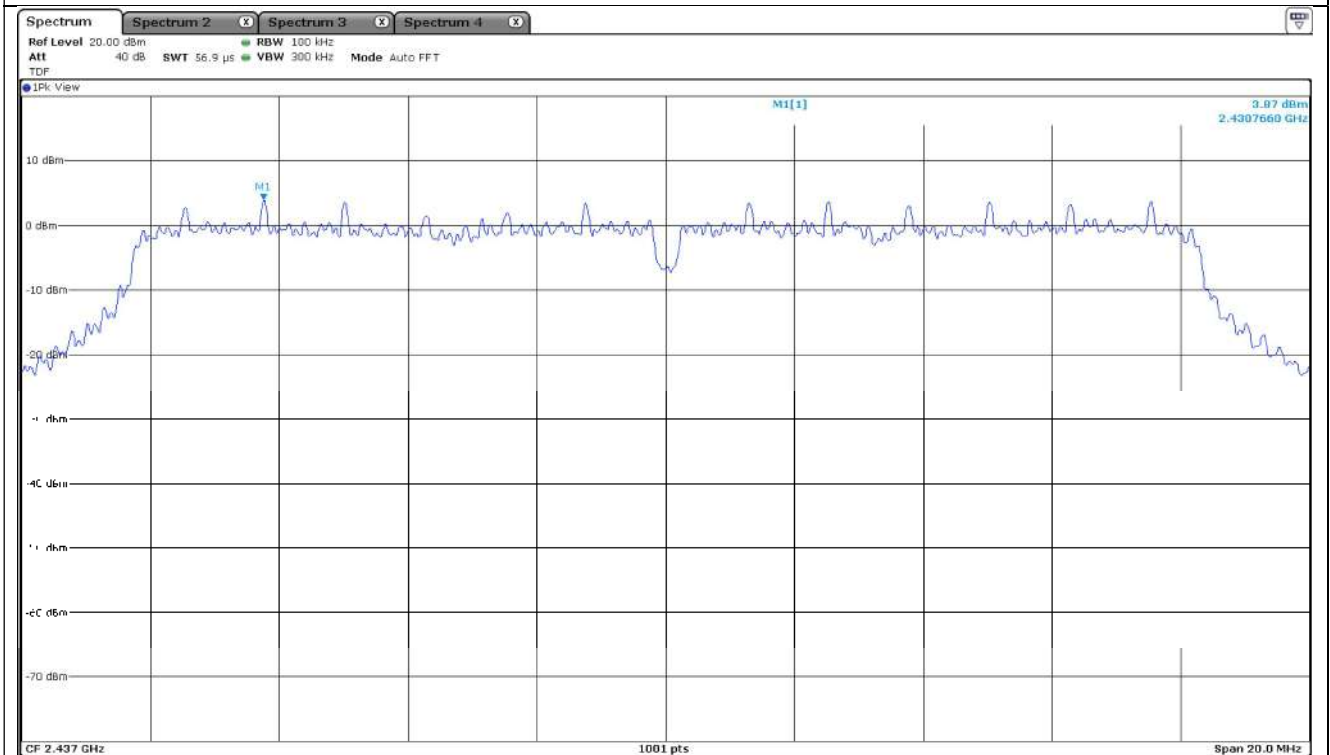
High CH



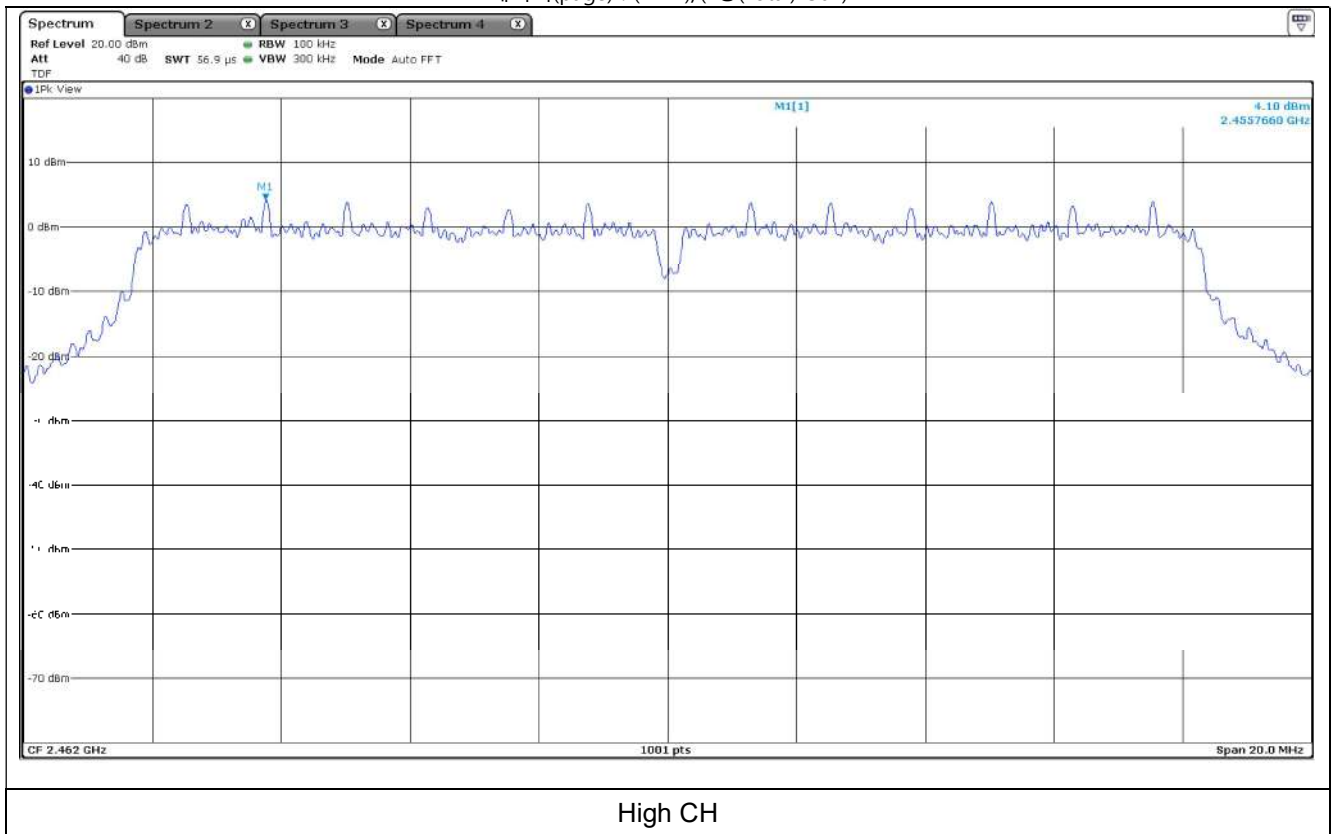
8.4.1.2 Signal level (dB m) for 802.11g



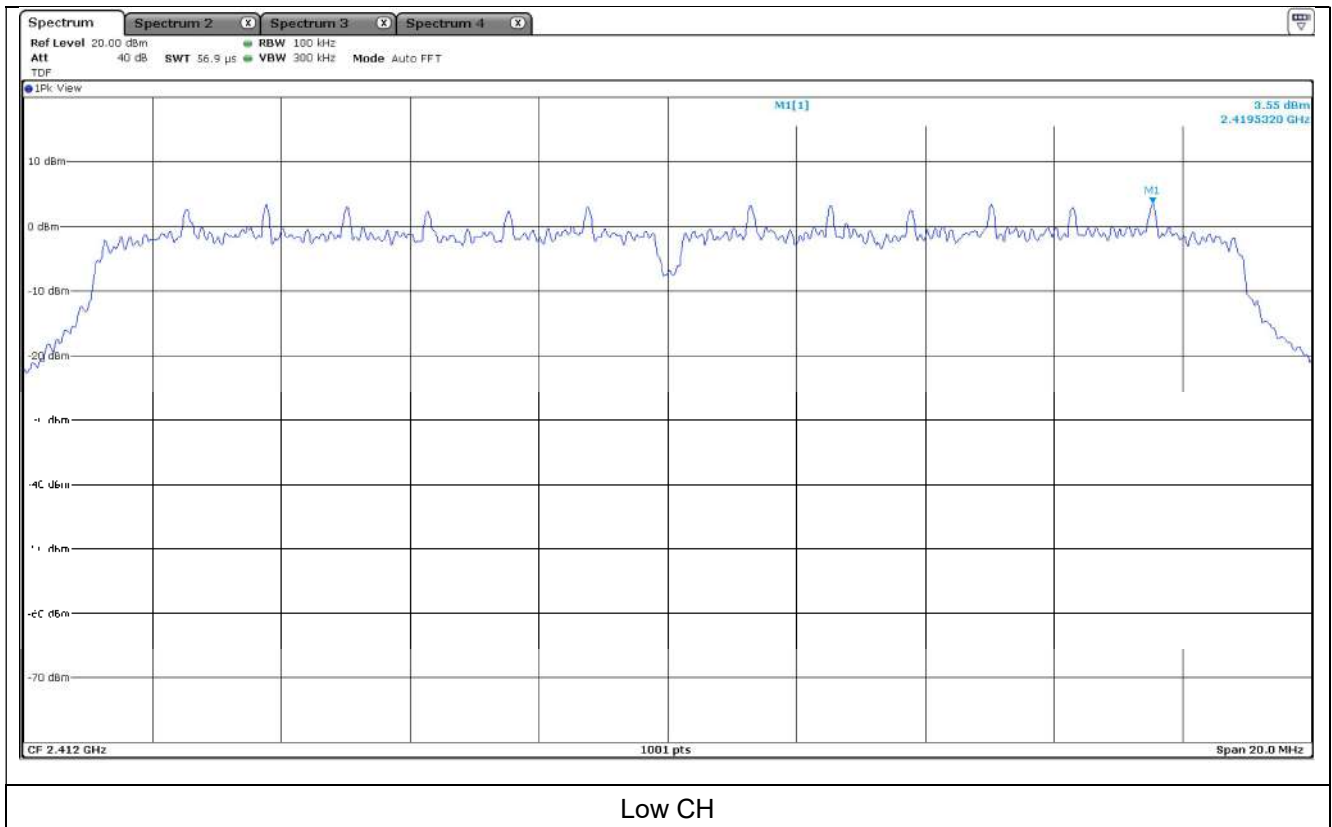
Low CH

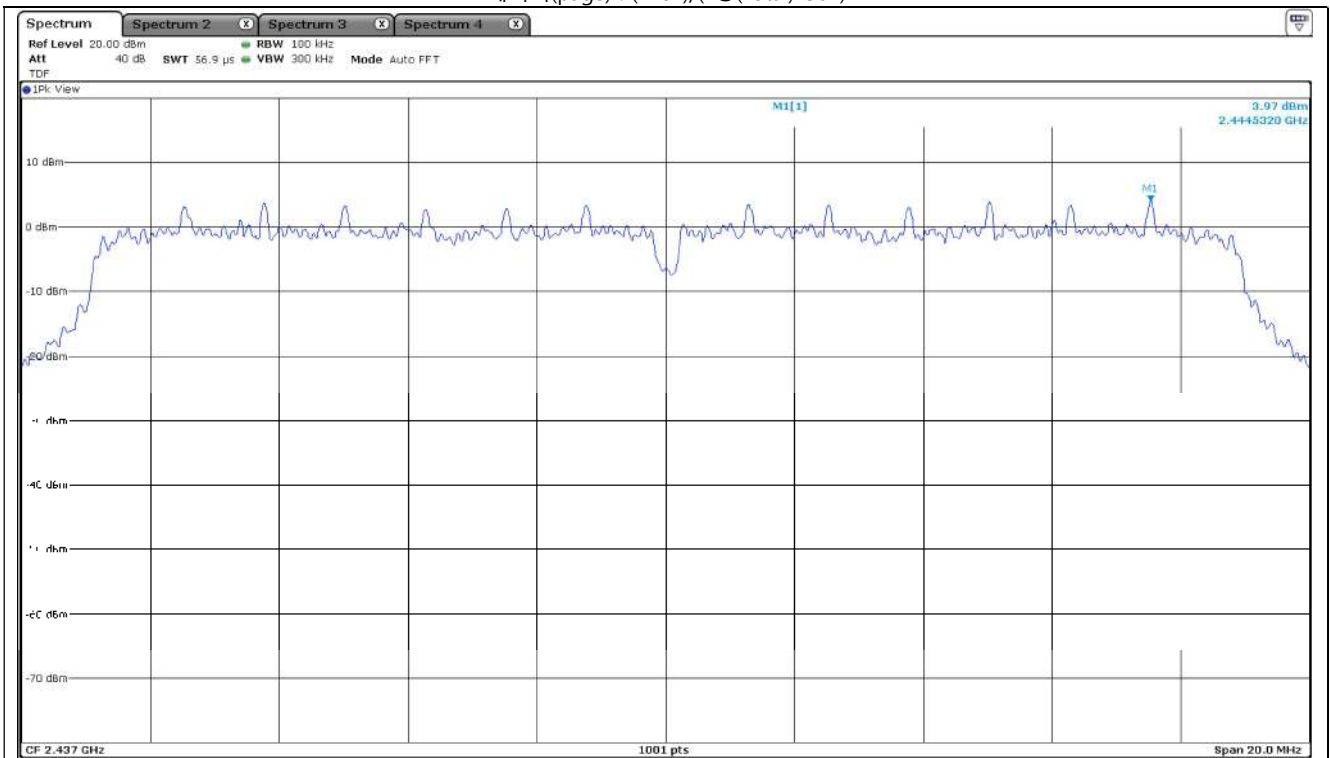


Mid CH

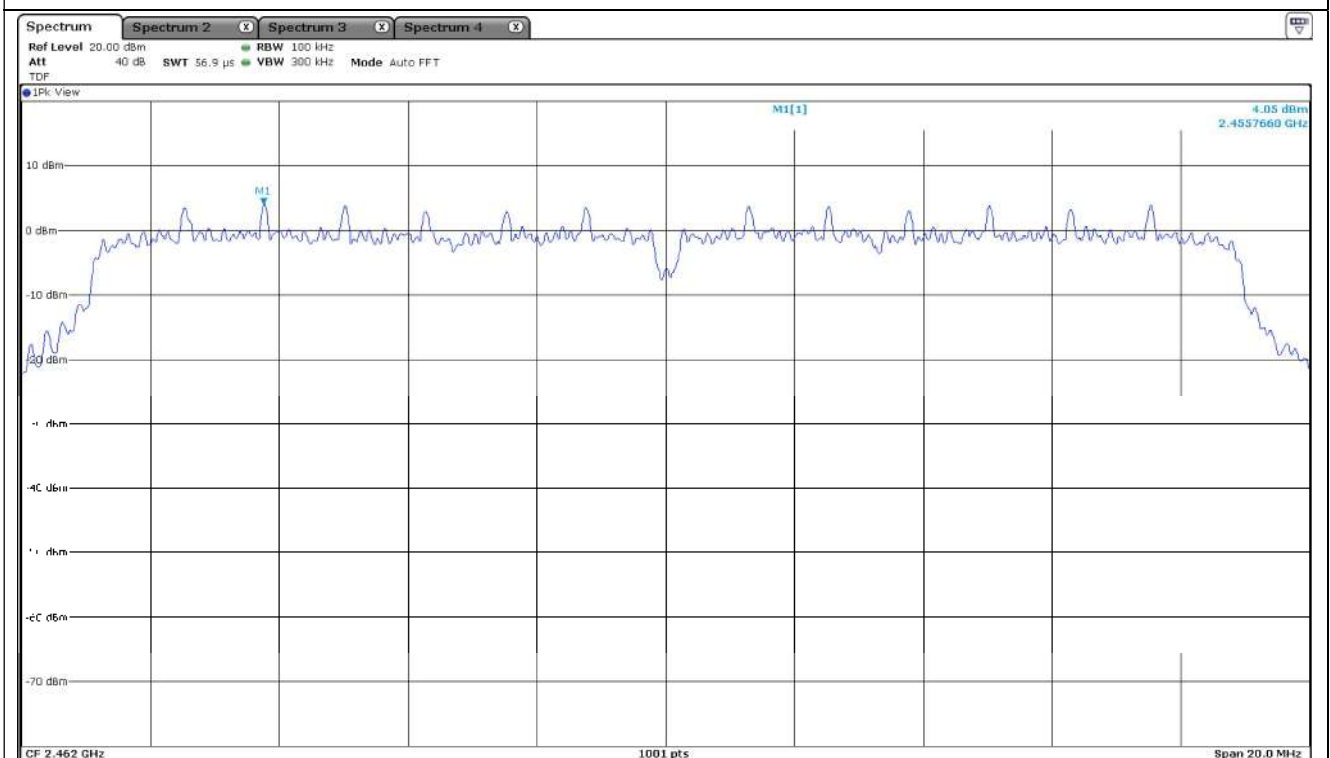


8.4.1.3 Signal level (dB m) for 802.11n(HT20)





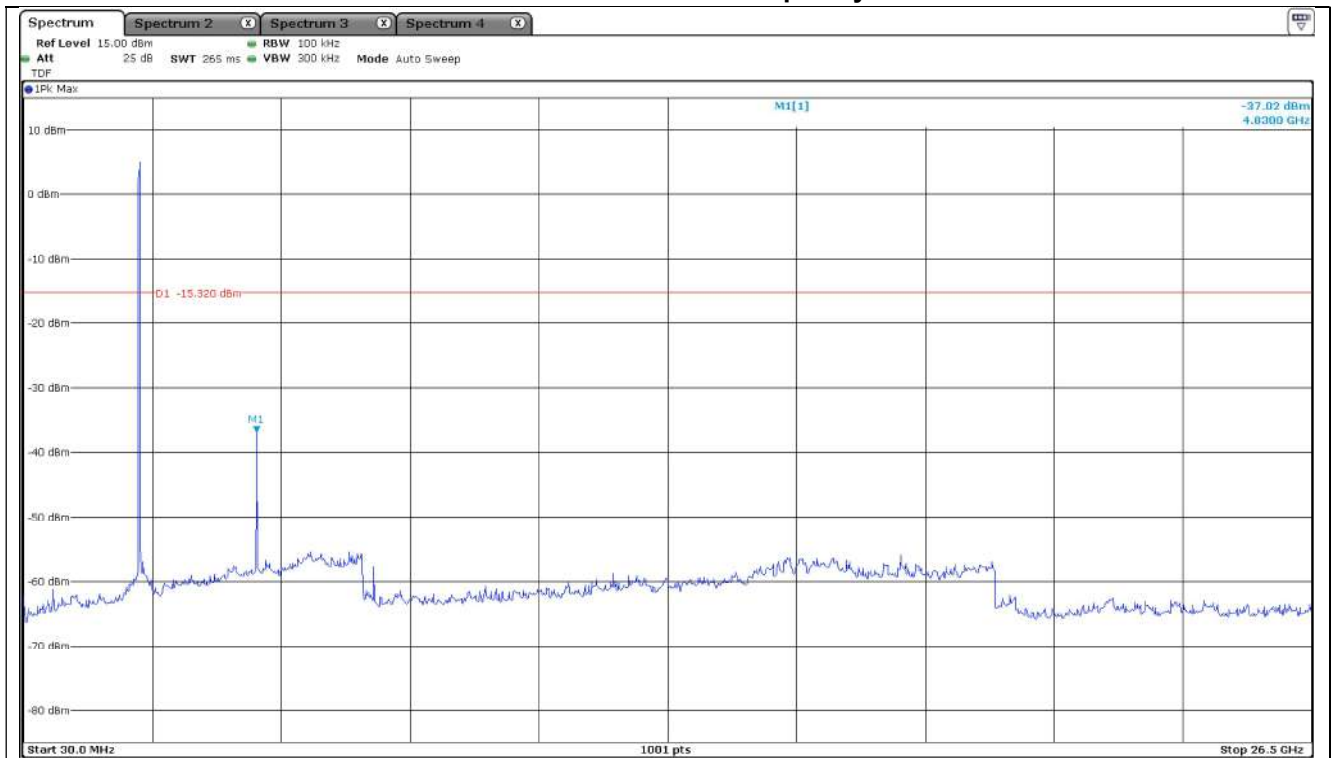
Mid CH



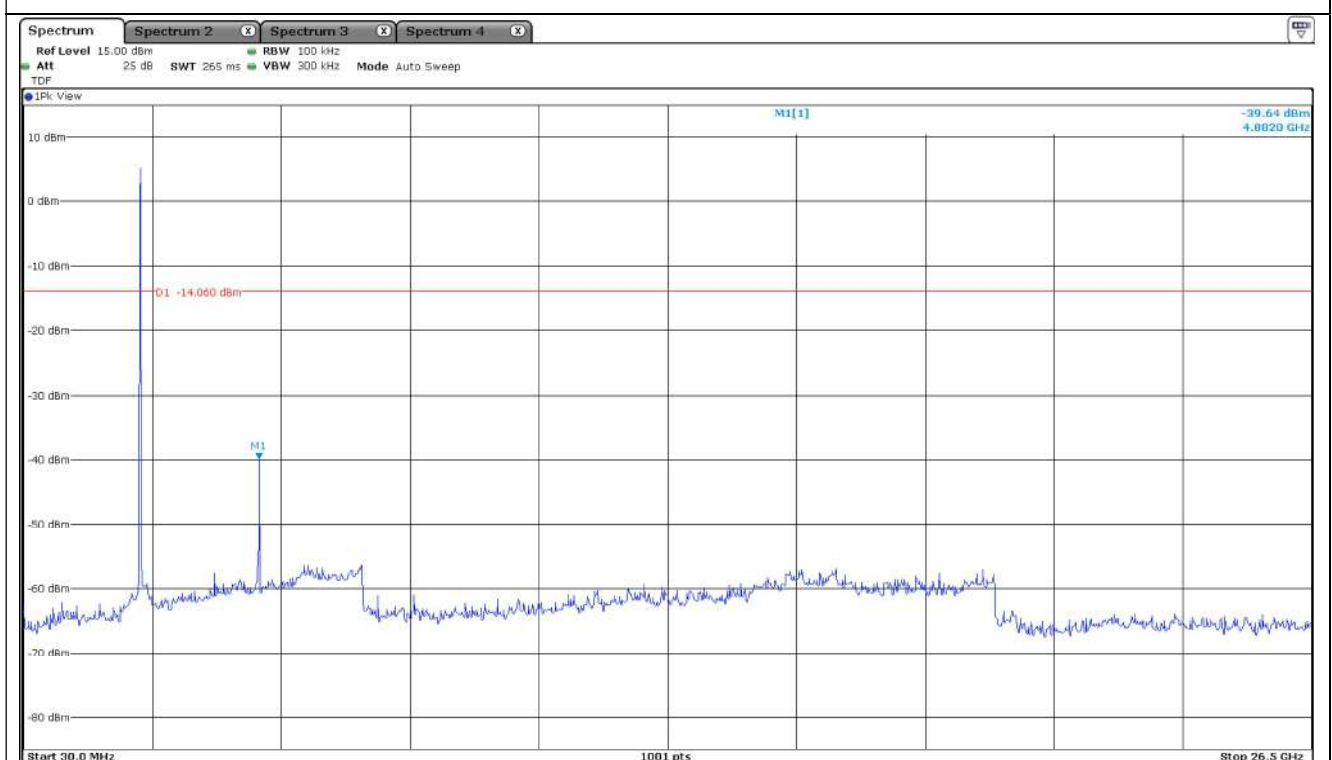
High CH



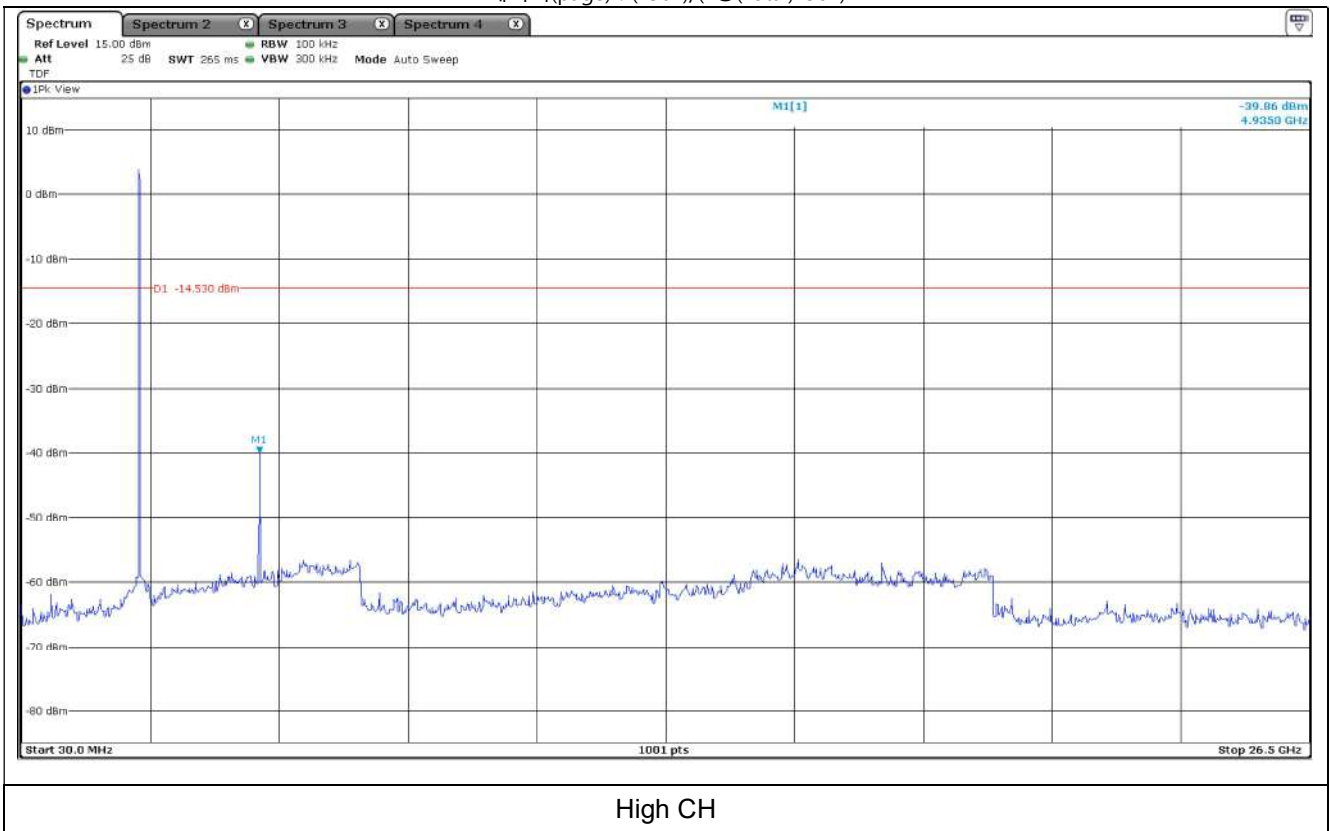
8.4.1.4 Unwanted Emissions In Non-Restricted Frequency Bands for 802.11b



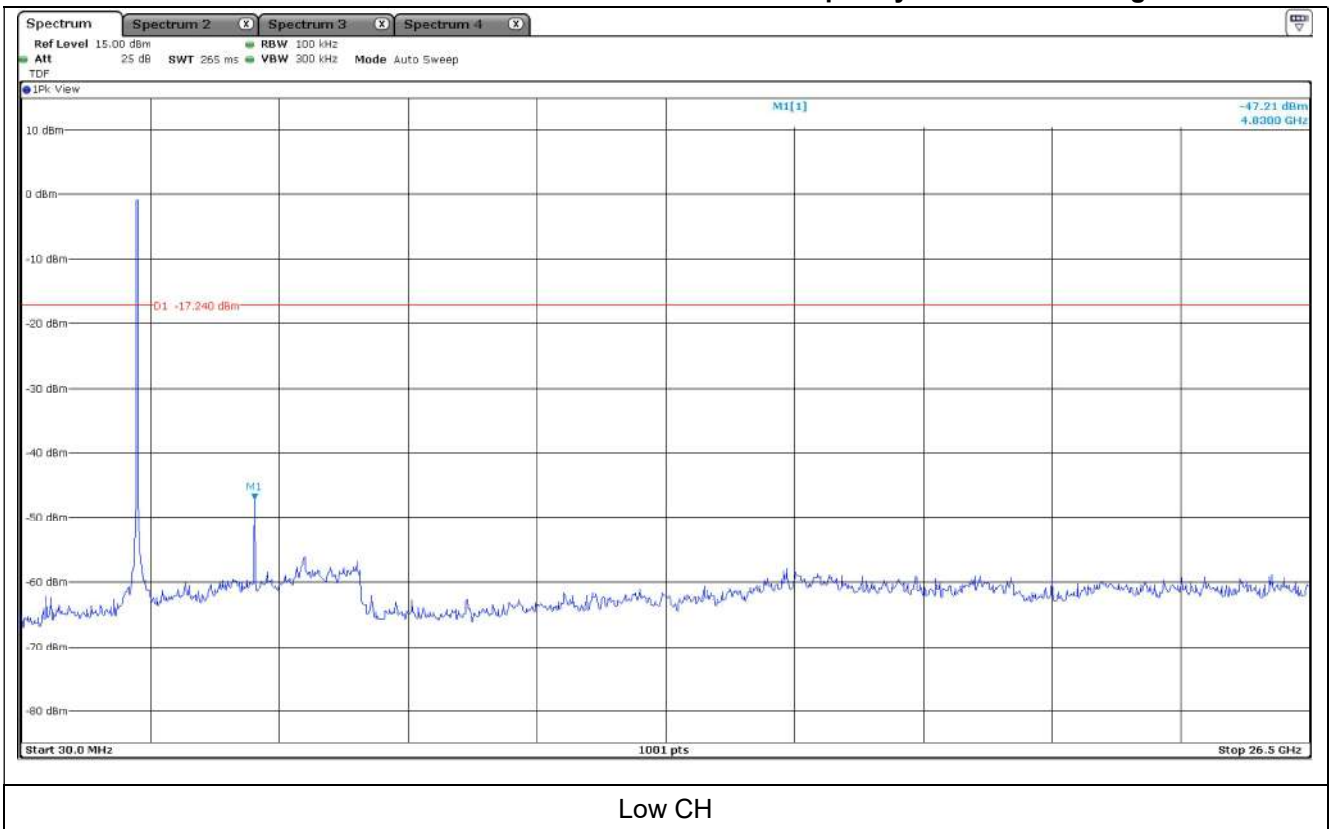
Low CH

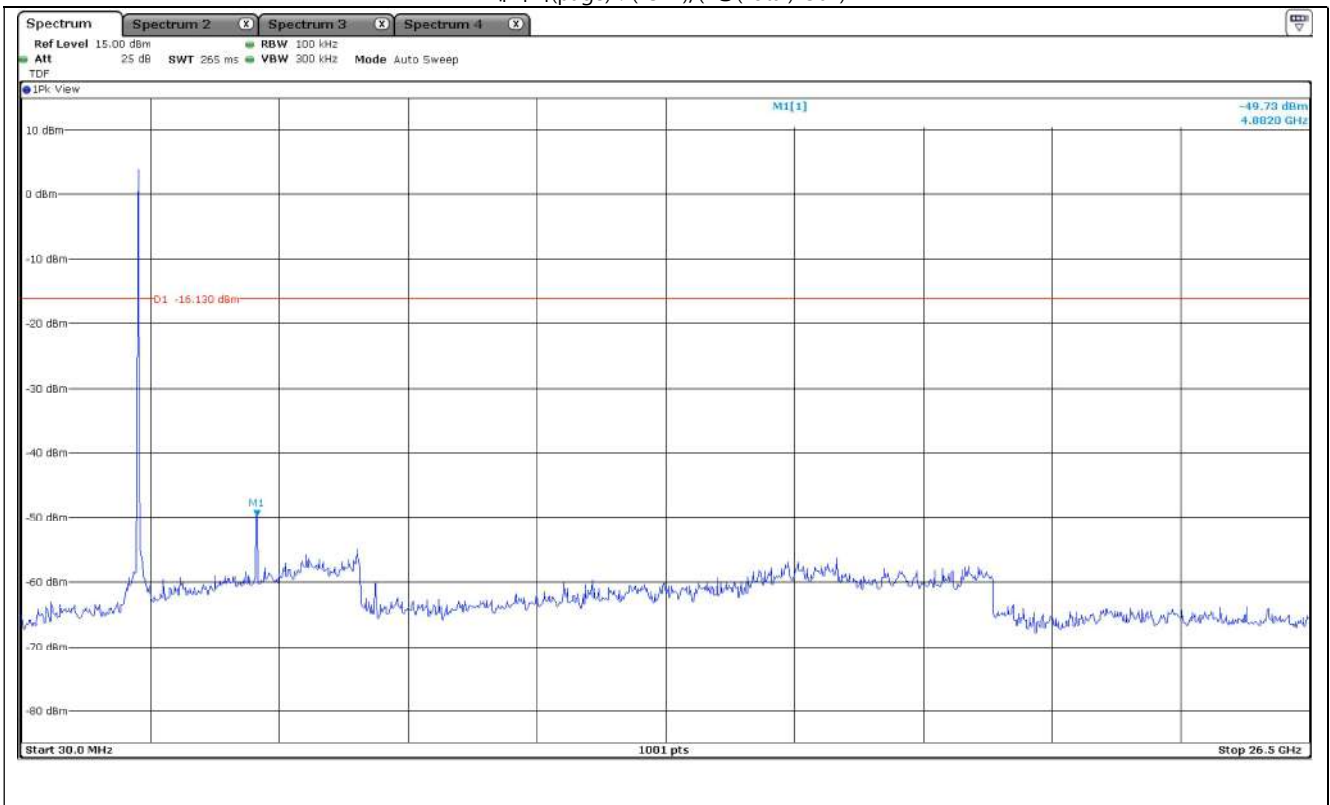


Mid CH

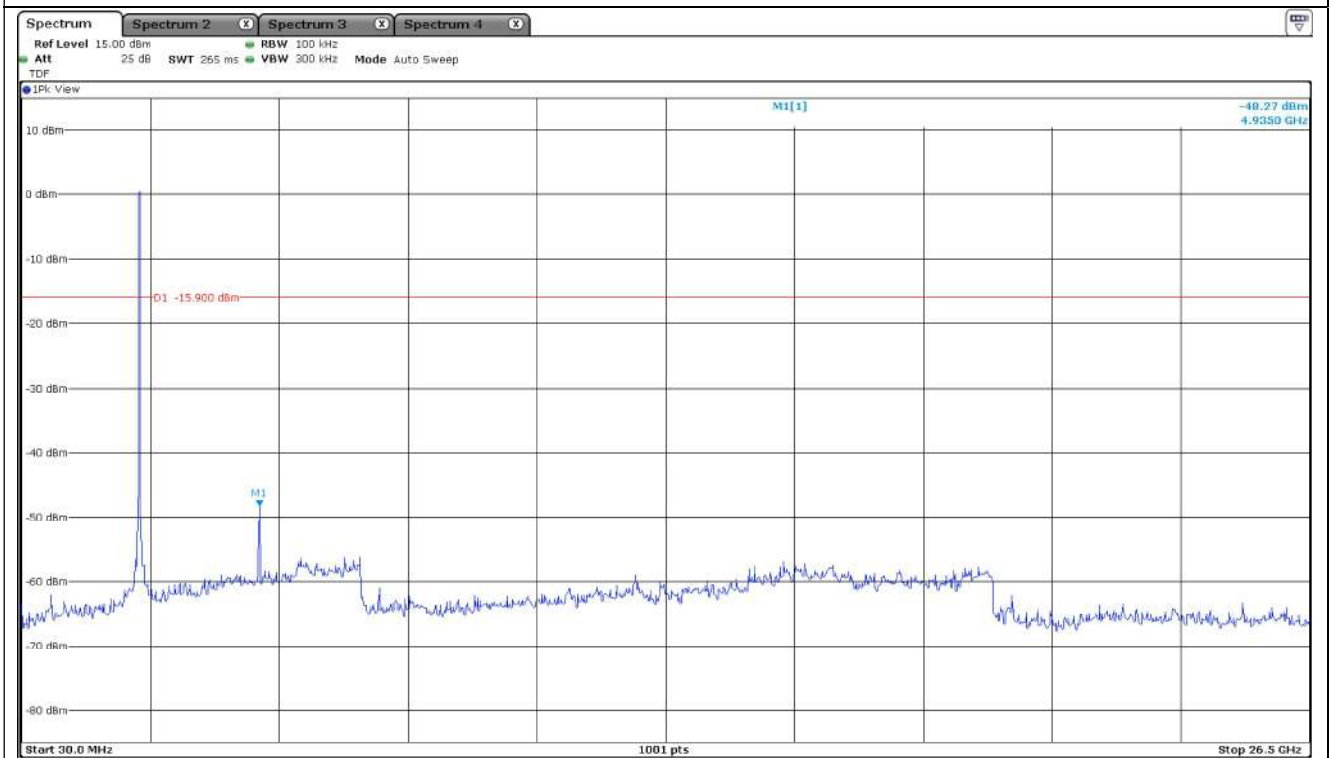


8.4.1.5 Unwanted Emissions In Non-Restricted Frequency Bands for 802.11g





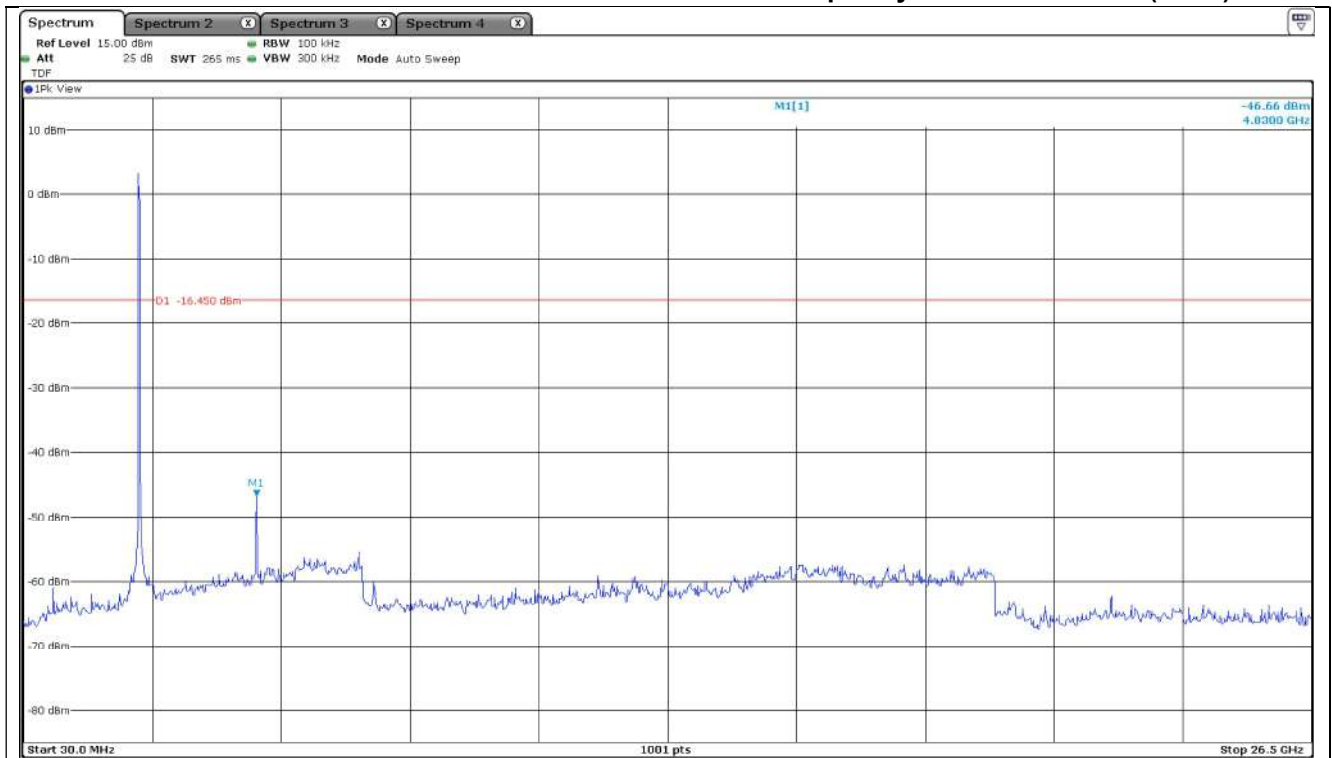
Mid CH



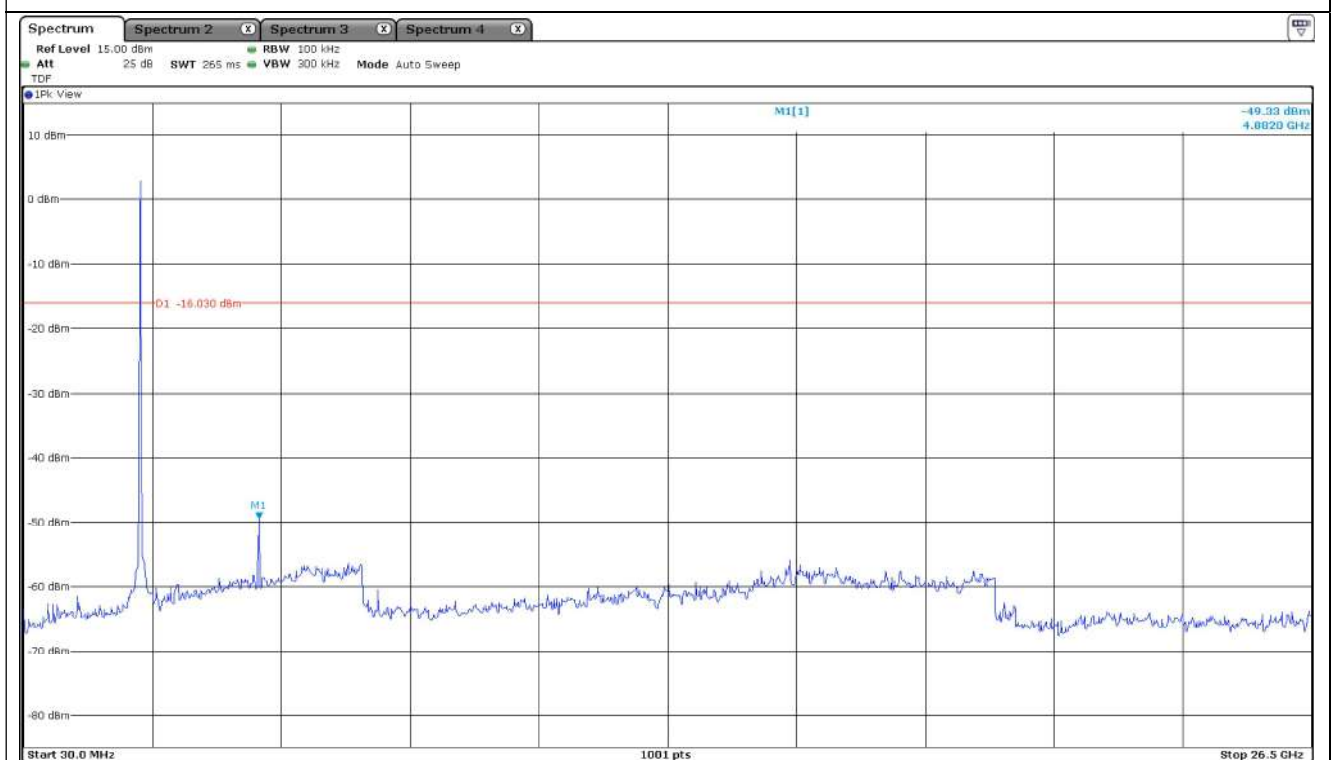
High CH



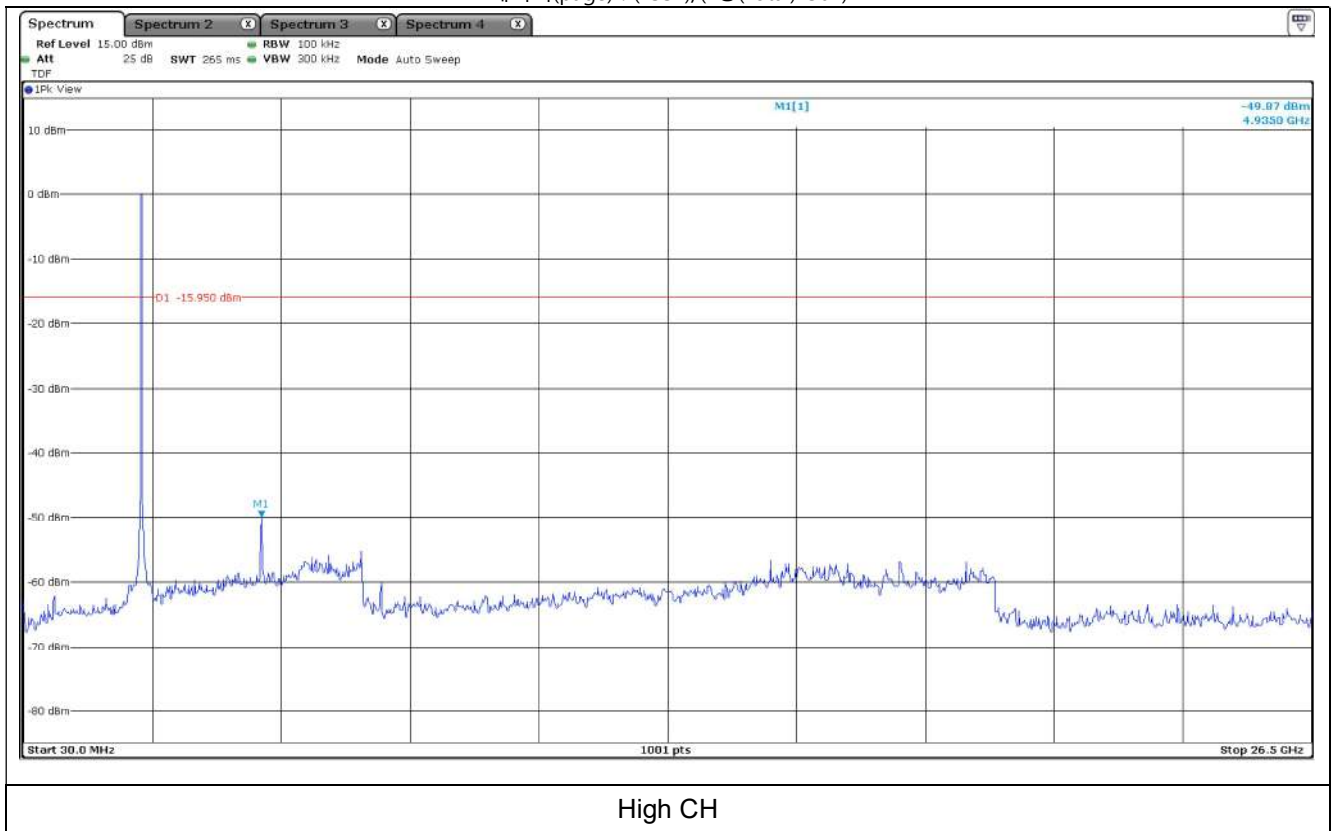
8.4.1.6 Unwanted Emissions In Non-Restricted Frequency Bands for 802.11n(HT20)



Low CH

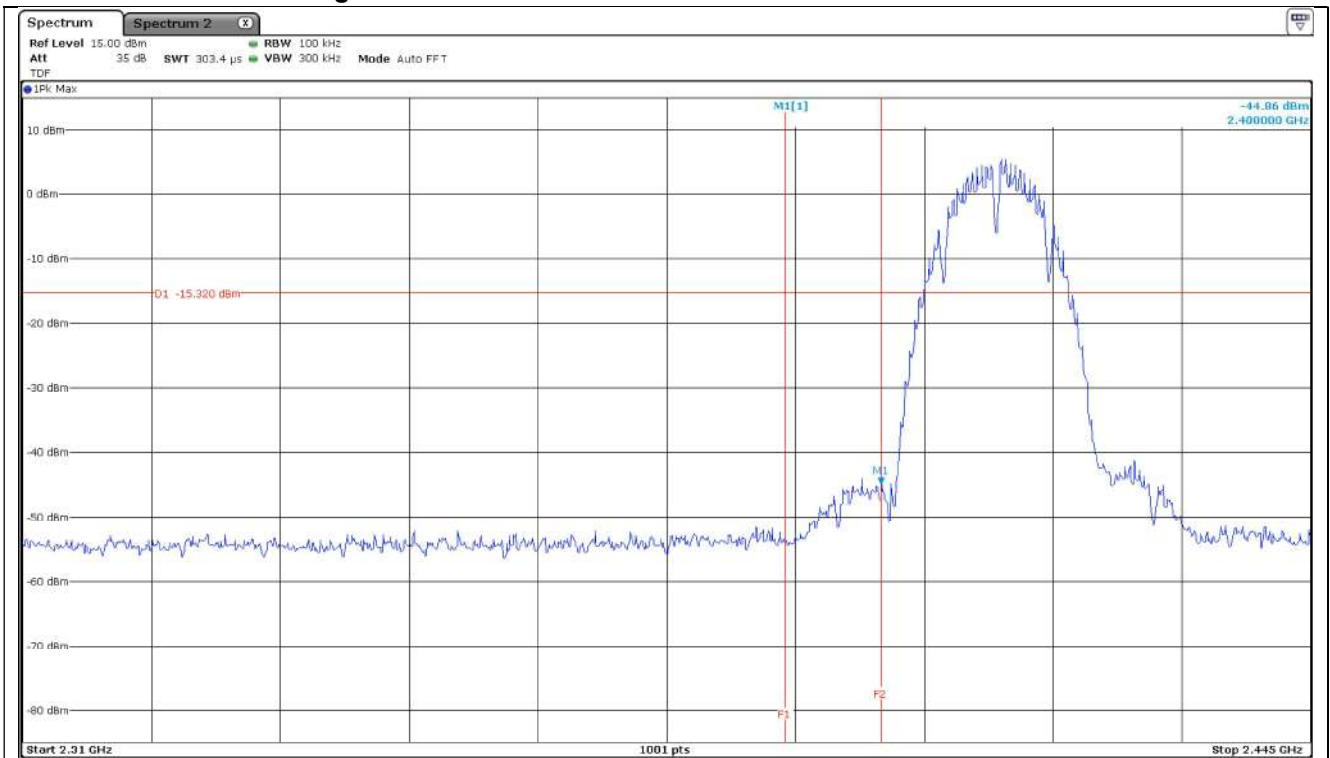


Mid CH

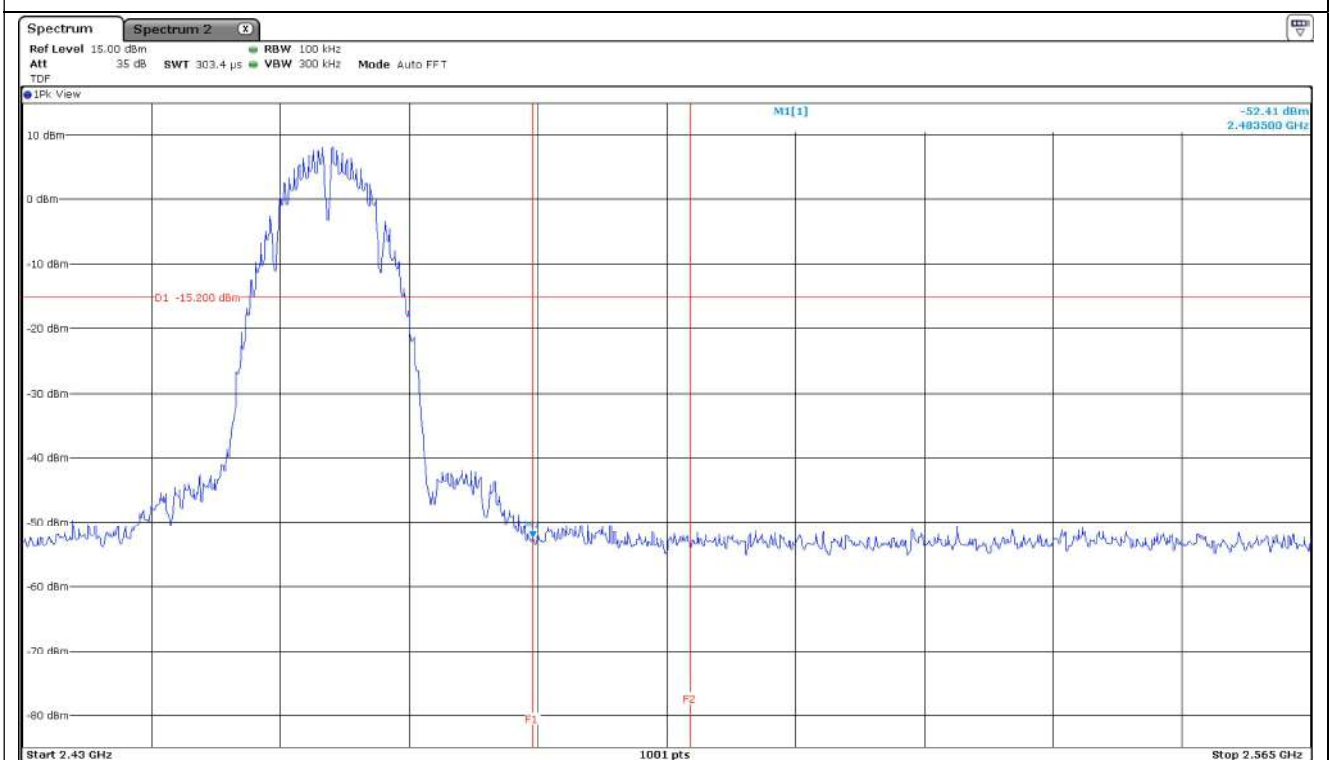




8.4.1.7 Band Edge for 802.11b



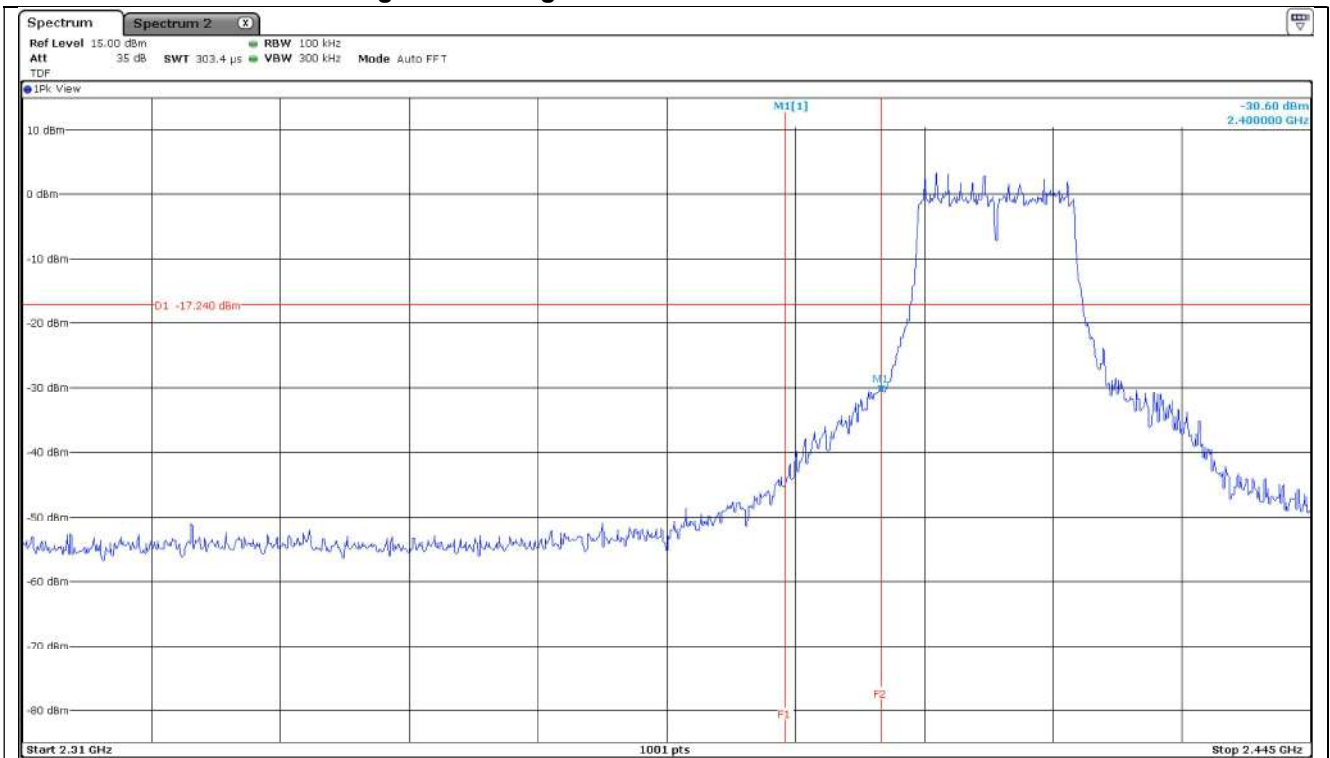
Low CH



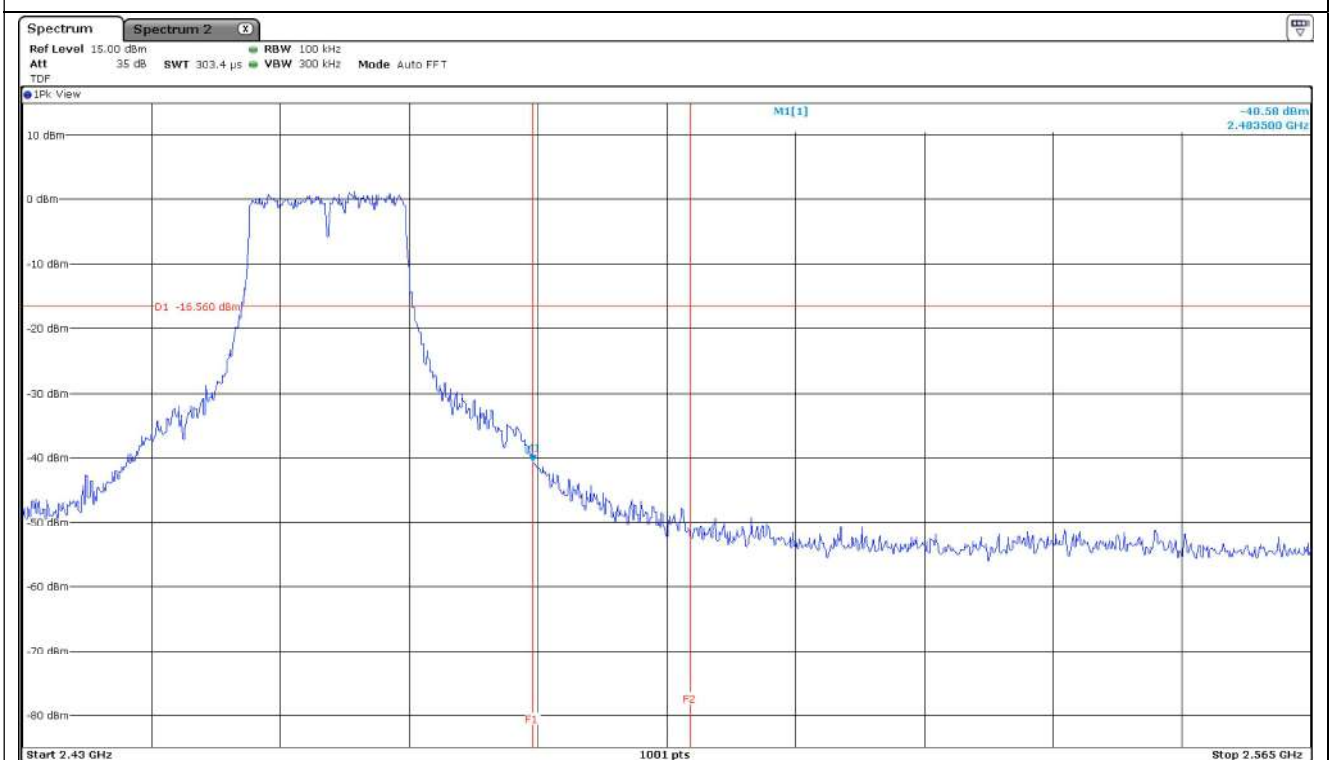
High CH



8.4.1.8 Band Edge for 802.11g



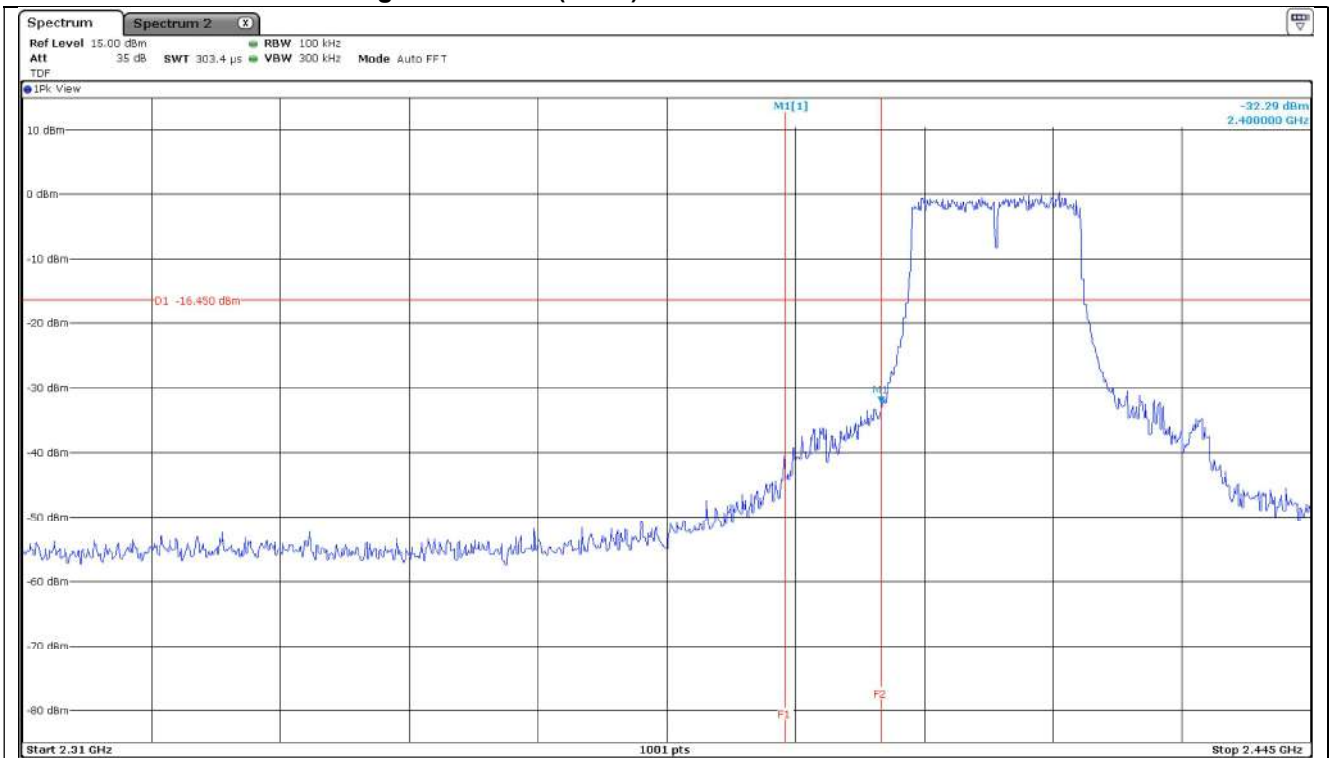
Low CH



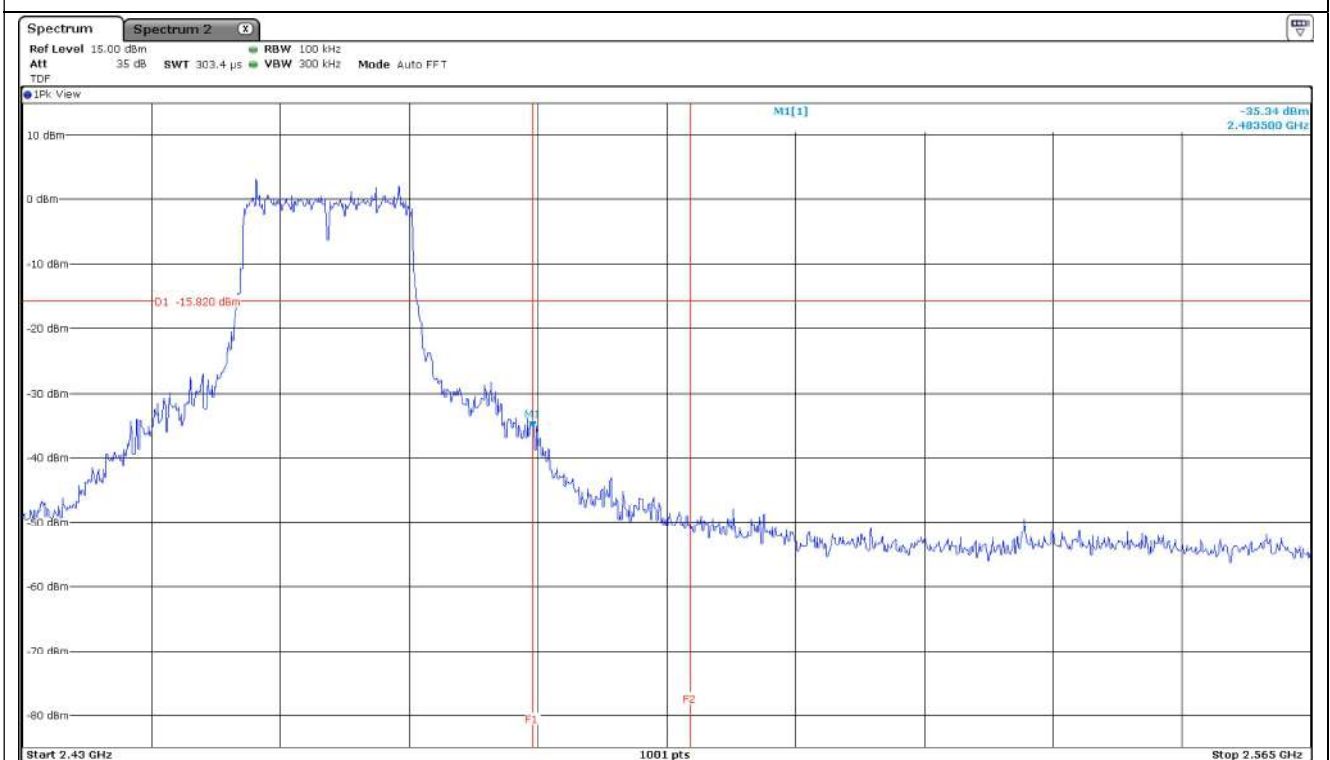
High CH



8.4.1.9 Band Edge for 802.11n(HT20)



Low CH



High CH

9. Radiated Spurious Emission

9.1 Operating environment

Temperature : 24 °C

Relative humidity : 45 %

9.2 Measurement method

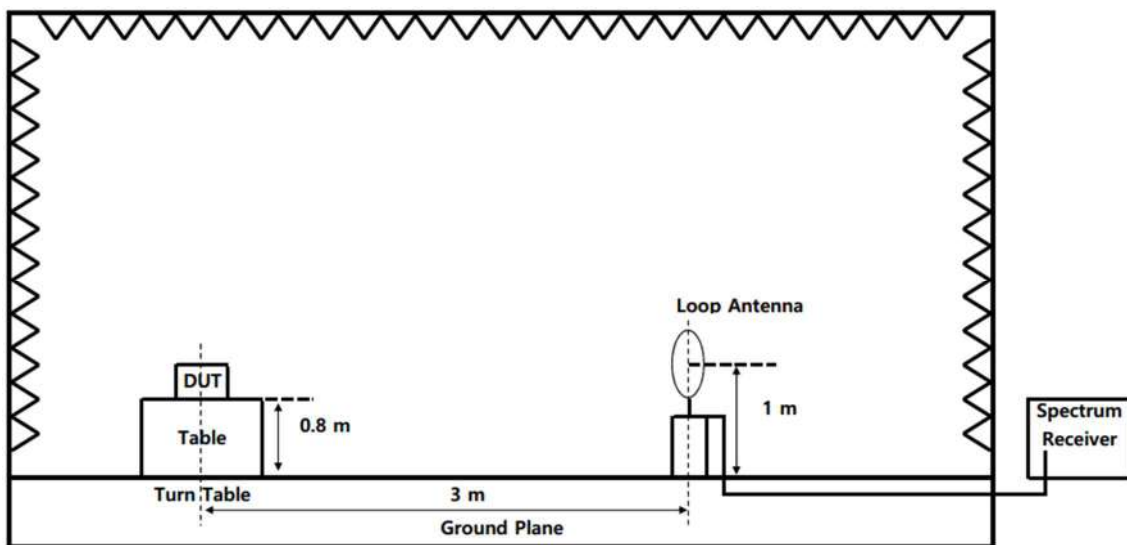
Standard : §15.247 (d), §15.209, §15.205

9.3 Test setup

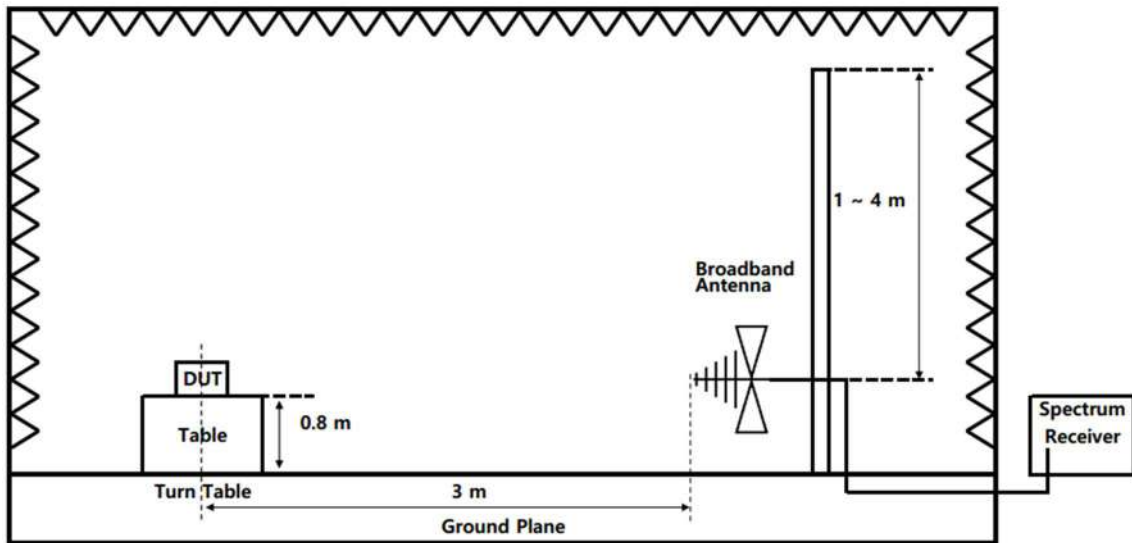
The radiated emissions measurements were performed on the 3 m, Semi-Anechoic Chamber. The EUT was placed on a non-conductive turntable above the ground plane.

The frequency spectrum from 9 kHz to 26.5 GHz 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.

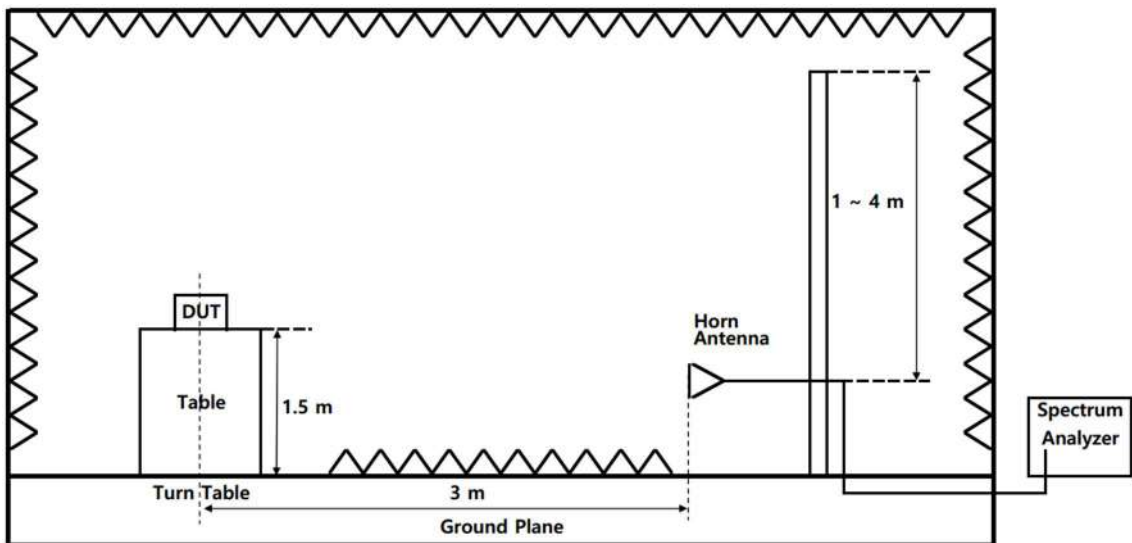
9.3.1 Below 30 MHz



9.3.2 30 MHz to 1 GHz



9.3.3 Above 1 GHz





9.4 Test data

Test date : 12. Nov. 2021
 Operating mode : Transmit mode
 Test Result : Pass

9.4.1 Test data for Restricted band

9.4.1.1 802.11b

Frequency (MHz)	Reading (dBμV)	Detector	Ant. Pol. (H/V)	Corr. Factor (dB)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Low CH							
2 398.11	75.60	Peak	V	-13.10	62.50	73.98	11.48
	65.28	Average	V		52.18	53.98	1.80
High CH							
2 486.55	84.42	Peak	V	-12.70	71.72	73.98	2.26
	63.50	Average	V		50.80	53.98	3.18

9.4.1.2 802.11g

Frequency (MHz)	Reading (dBμV)	Detector	Ant. Pol. (H/V)	Corr. Factor (dB)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Low CH							
2 389.81	84.61	Peak	V	-13.10	71.51	73.98	2.47
	64.12	Average	V		51.02	53.98	2.96
High CH							
2 485.59	82.90	Peak	V	-12.70	70.20	73.98	3.78
	63.76	Average	V		51.06	53.98	2.92



9.4.1.3 802.11n(HT20)

Frequency (MHz)	Reading (dBμV)	Detector	Ant. Pol. (H/V)	Corr. Factor (dB)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Low CH							
2 388.81	69.62	Peak	V	-13.10	56.52	73.98	17.46
	47.56	Average	V		34.46	53.98	19.52
High CH							
2 384.0	84.17	Peak	V	-12.80	71.37	73.98	2.61
	48.41	Average	V		35.61	53.98	18.37

※ Ant. Pol. : Antenna Polarization

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

※ Result = Reading + Corr. Factor

※ Margin = Limit – Result



9.4.2 Test data for Spurious & Harmonic

9.4.2.1 Measurement Results for below 30 MHz

9.4.2.1.1 802.11b

Frequency (MHz)	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.							

9.4.2.1.2 802.11g

Frequency (MHz)	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.							



9.4.2.1.3 802.11n(HT20)

Frequency (MHz)	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

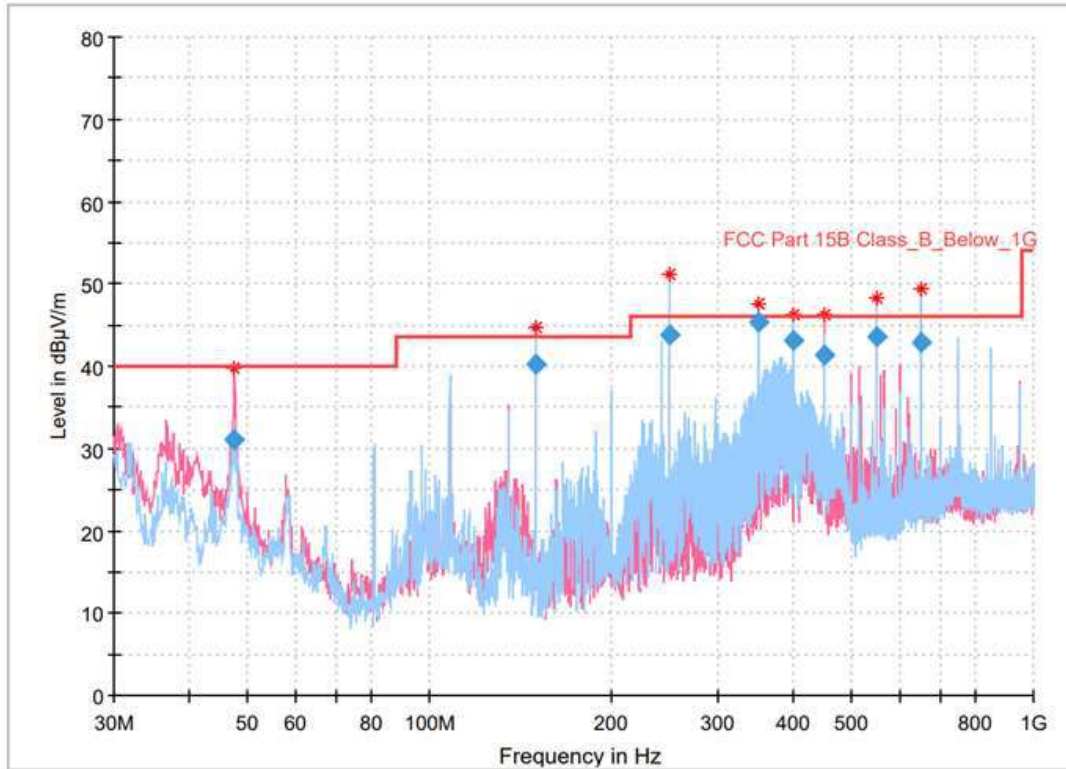
※ Result = Reading + Corr. Factor

※ Margin = Limit – Result



9.4.2.2 Measurement Results for below 1 GHz

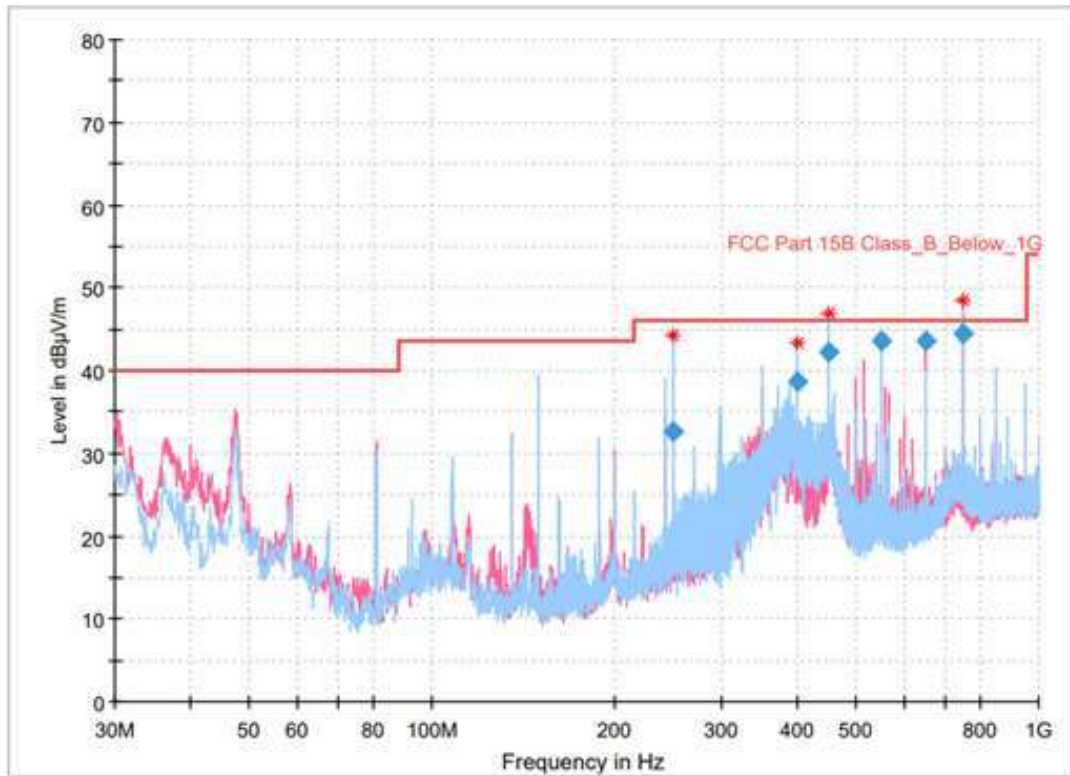
9.4.2.2.1 802.11b



Final Result

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
47.557000	30.99	40.00	9.01	1000.0	120.000	99.9	V	336.0	-19.0
149.989000	40.13	43.50	3.37	1000.0	120.000	200.0	H	169.0	-24.3
249.996000	43.88	46.00	2.12	1000.0	120.000	99.9	H	245.0	-19.1
350.003000	45.35	46.00	0.65	1000.0	120.000	99.9	H	0.0	-16.3
400.055000	43.19	46.00	2.81	1000.0	120.000	99.9	H	137.0	-15.2
450.010000	41.38	46.00	4.62	1000.0	120.000	99.9	V	174.0	-14.5
550.017000	43.62	46.00	2.38	1000.0	120.000	200.0	H	290.0	-12.4
650.024000	42.92	46.00	3.08	1000.0	120.000	99.9	H	310.0	-11.0

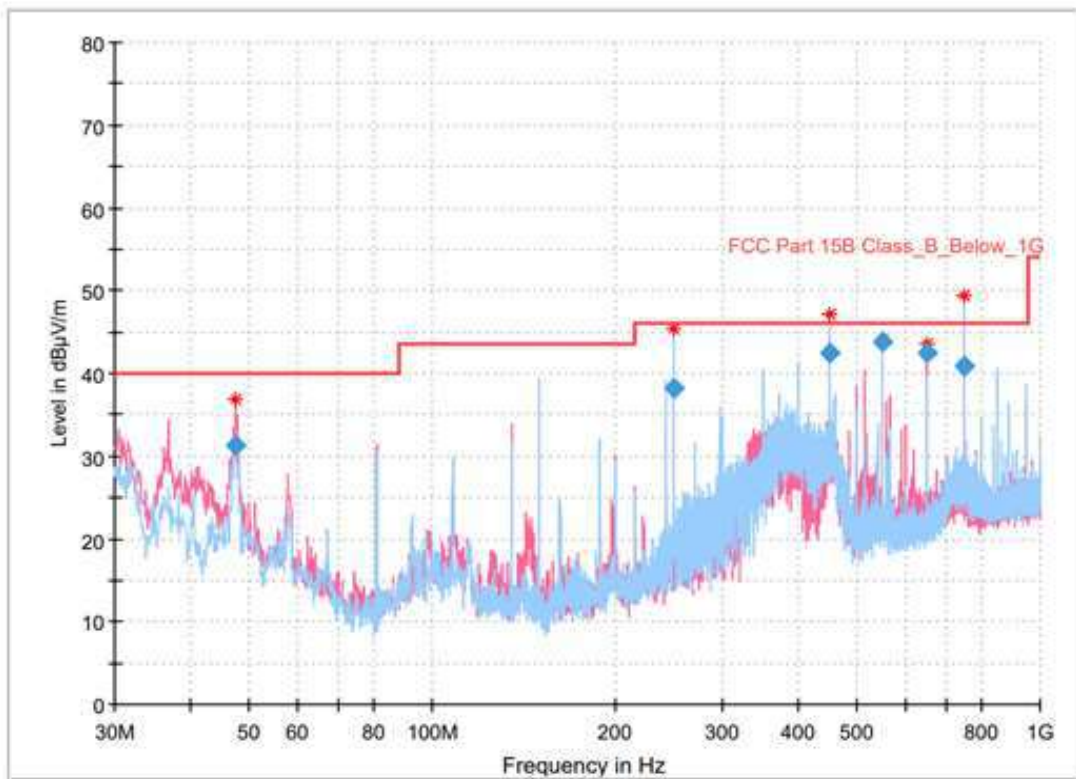
Low CH



Final Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
250.093000	32.65	46.00	13.35	1000.0	120.000	100.1	H	231.0	-19.1
400.055000	38.62	46.00	7.38	1000.0	120.000	100.1	H	0.0	-15.2
450.010000	42.30	46.00	3.70	1000.0	120.000	100.1	H	0.0	-14.5
550.017000	43.60	46.00	2.40	1000.0	120.000	200.0	H	5.0	-12.4
650.024000	43.65	46.00	2.35	1000.0	120.000	100.1	V	330.0	-11.0
750.031000	44.37	46.00	1.63	1000.0	120.000	200.0	V	201.0	-9.0

Mid CH



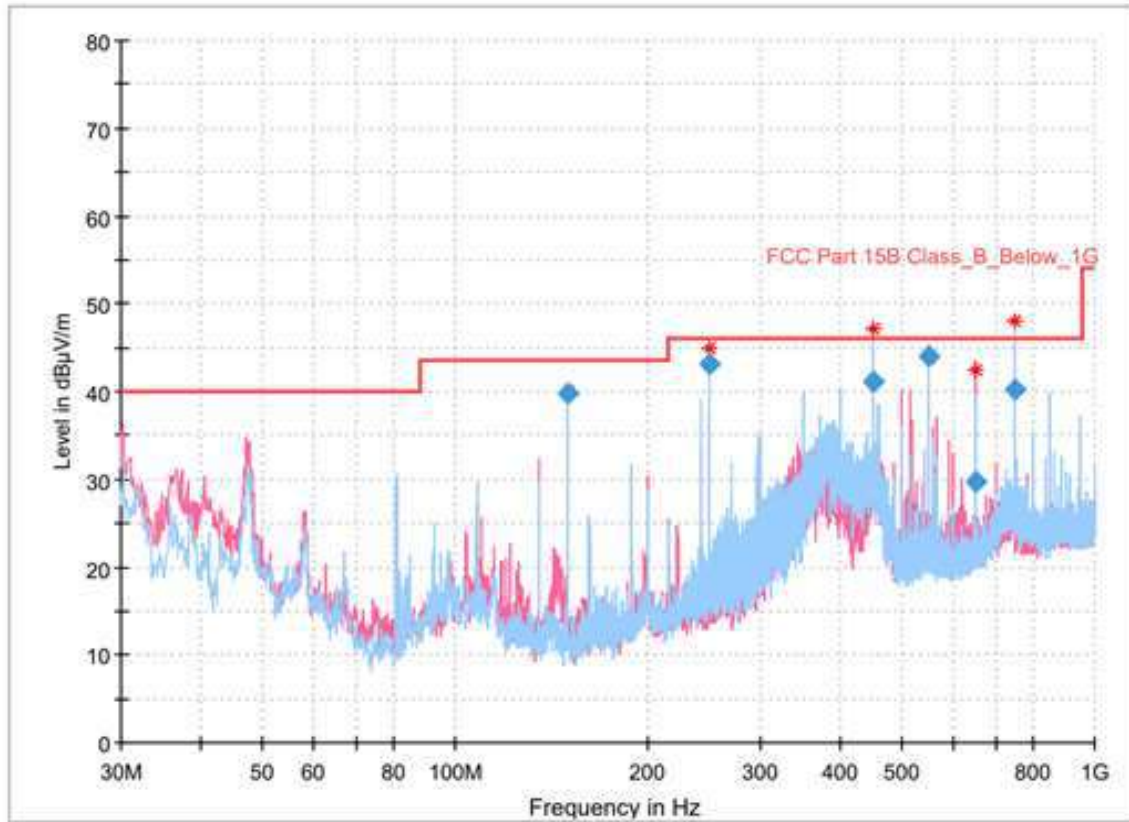
Final Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
47.460000	31.28	40.00	8.72	1000.0	120.000	100.0	V	288.0	-19.0
249.996000	38.17	46.00	7.83	1000.0	120.000	100.0	H	234.0	-19.1
450.010000	42.37	46.00	3.63	1000.0	120.000	100.0	H	0.0	-14.5
550.017000	43.83	46.00	2.17	1000.0	120.000	200.1	H	0.0	-12.4
650.024000	42.53	46.00	3.47	1000.0	120.000	100.0	V	0.0	-11.0
750.031000	40.79	46.00	5.21	1000.0	120.000	200.1	V	208.0	-9.0

High CH



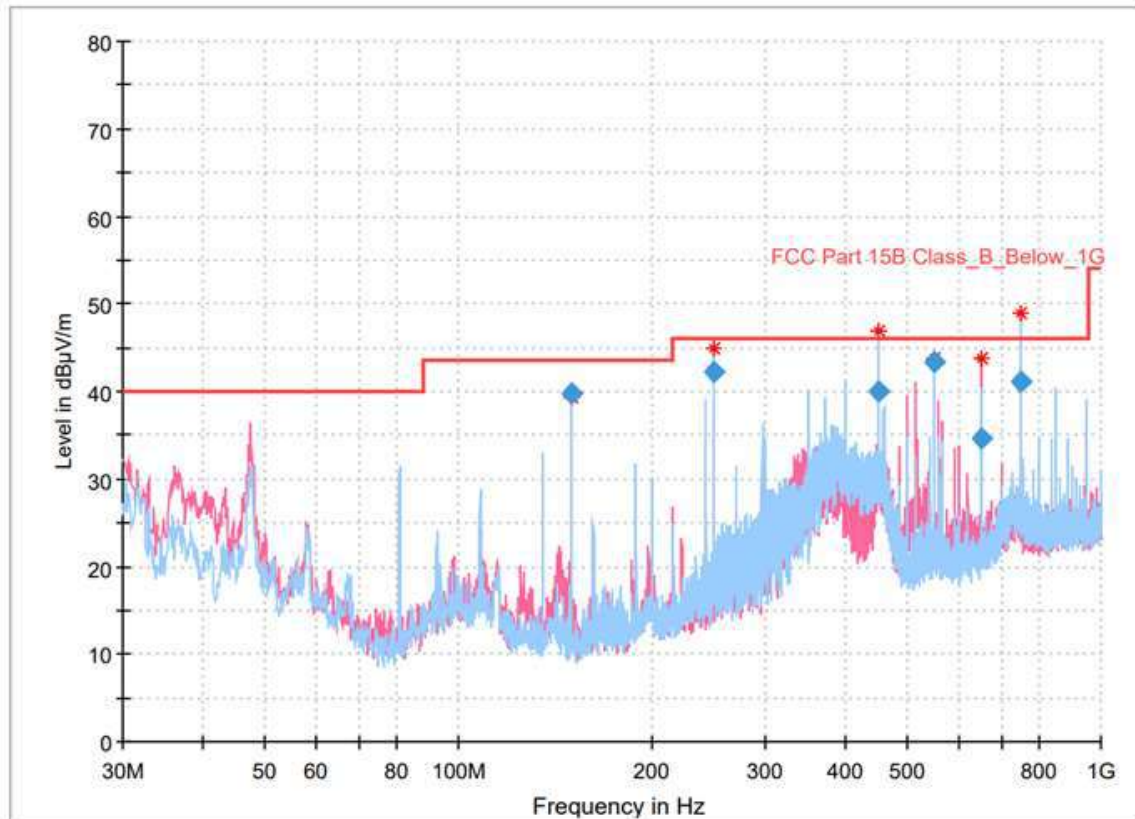
9.4.2.2.2 802.11g



Final Result

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
149.989000	39.68	43.50	3.82	1000.0	120.000	200.0	H	215.0	-24.3
249.996000	43.18	46.00	2.82	1000.0	120.000	99.9	H	236.0	-19.1
450.010000	41.21	46.00	4.79	1000.0	120.000	99.9	H	0.0	-14.5
550.017000	43.97	46.00	2.03	1000.0	120.000	200.0	H	0.0	-12.4
650.121000	29.73	46.00	16.27	1000.0	120.000	99.9	V	222.0	-11.0
750.031000	40.23	46.00	5.77	1000.0	120.000	200.0	V	211.0	-9.0

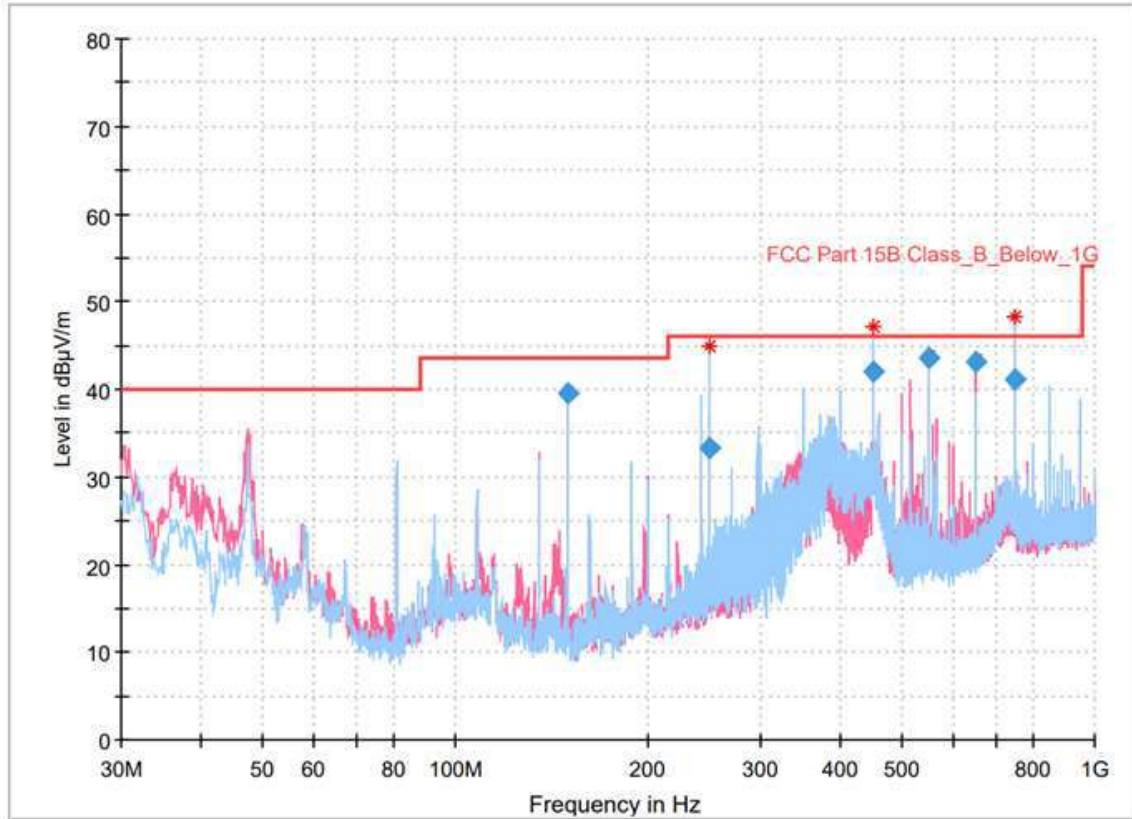
Low CH



Final Result

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
149.989000	39.71	43.50	3.79	1000.0	120.000	200.0	H	212.0	-24.3
249.996000	42.17	46.00	3.83	1000.0	120.000	100.1	H	244.0	-19.1
450.010000	40.06	46.00	5.94	1000.0	120.000	100.1	H	0.0	-14.5
550.017000	43.45	46.00	2.55	1000.0	120.000	200.0	H	2.0	-12.4
650.024000	34.54	46.00	11.46	1000.0	120.000	100.1	V	333.0	-11.0
750.031000	41.19	46.00	4.81	1000.0	120.000	200.0	V	212.0	-9.0

Mid CH



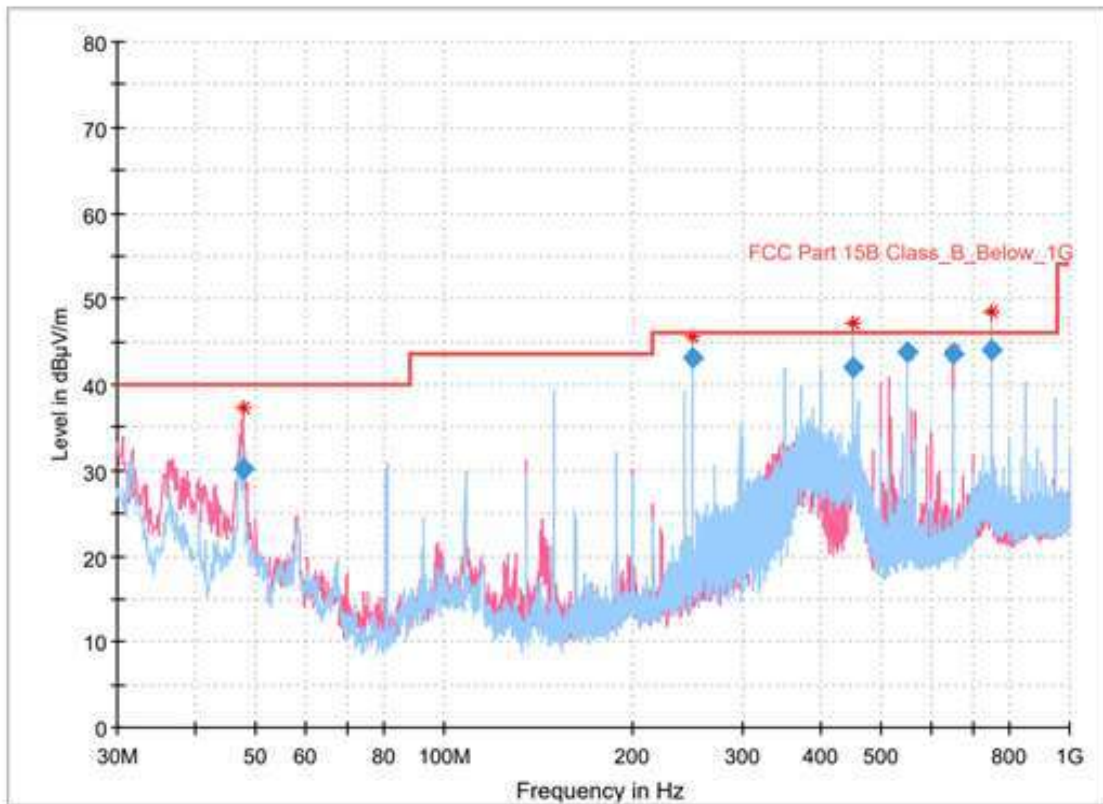
Final Result

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
149.989000	39.60	43.50	3.90	1000.0	120.000	200.1	H	217.0	-24.3
250.093000	33.24	46.00	12.76	1000.0	120.000	100.1	H	240.0	-19.1
450.010000	42.08	46.00	3.92	1000.0	120.000	100.1	H	0.0	-14.5
550.017000	43.67	46.00	2.33	1000.0	120.000	200.1	H	0.0	-12.4
650.024000	43.21	46.00	2.79	1000.0	120.000	100.1	V	323.0	-11.0
750.031000	41.04	46.00	4.96	1000.0	120.000	200.1	V	210.0	-9.0

High CH



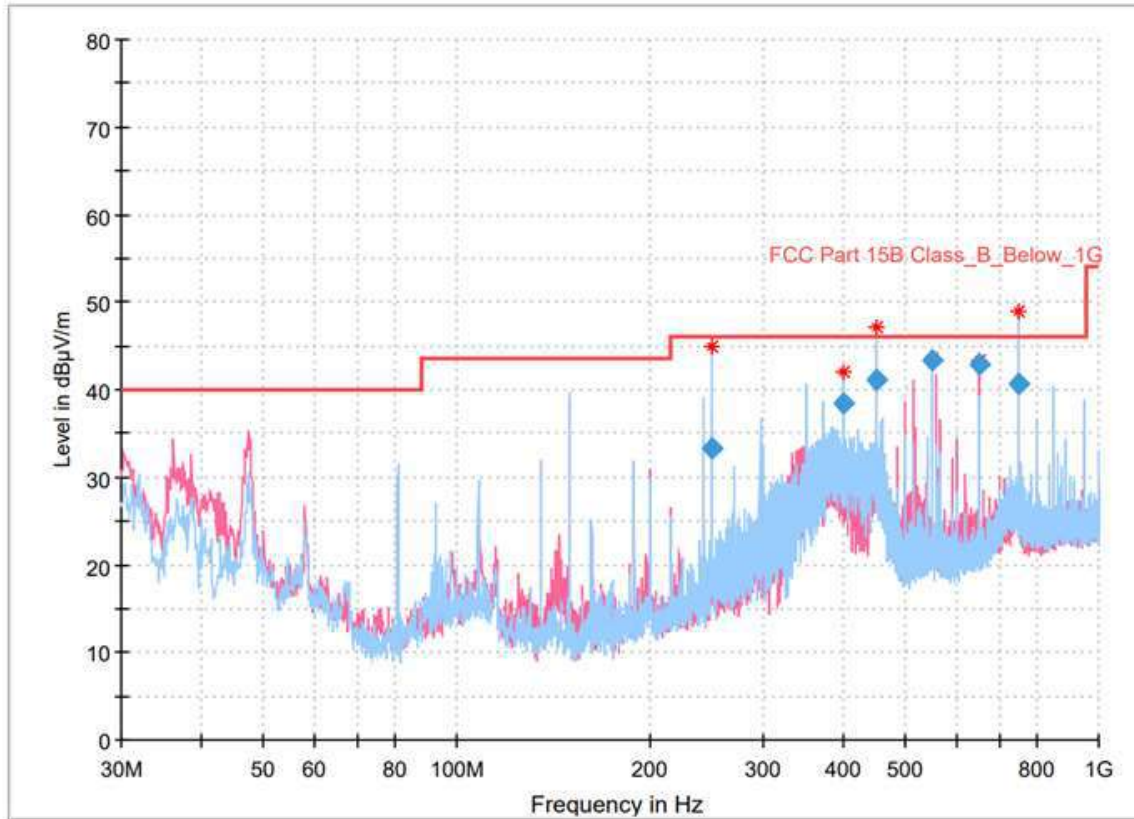
9.4.2.2.3 802.11n(HT20)



Final Result

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
47.654000	30.08	40.00	9.92	1000.0	120.000	100.1	V	44.0	-19.0
249.996000	43.19	46.00	2.81	1000.0	120.000	100.1	H	236.0	-19.1
450.010000	42.08	46.00	3.92	1000.0	120.000	100.1	H	0.0	-14.5
550.017000	43.70	46.00	2.30	1000.0	120.000	200.0	H	2.0	-12.4
650.024000	43.56	46.00	2.44	1000.0	120.000	100.1	V	333.0	-11.0
750.031000	43.99	46.00	2.01	1000.0	120.000	200.0	V	210.0	-9.0

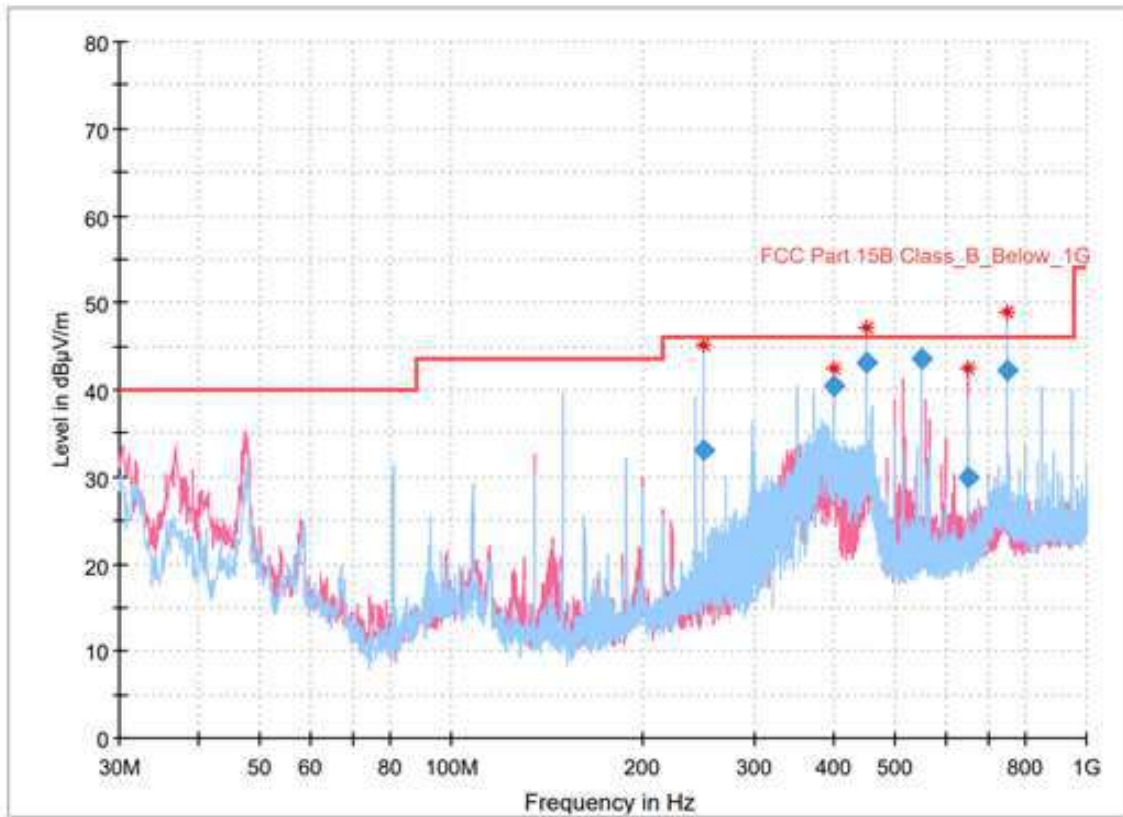
Low CH



Final Result

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
250.093000	33.36	46.00	12.64	1000.0	120.000	100.1	H	237.0	-19.1
400.055000	38.41	46.00	7.59	1000.0	120.000	100.1	H	356.0	-15.2
450.010000	41.14	46.00	4.86	1000.0	120.000	100.1	H	0.0	-14.5
550.017000	43.29	46.00	2.71	1000.0	120.000	200.1	H	7.0	-12.4
650.024000	42.97	46.00	3.03	1000.0	120.000	100.1	V	312.0	-11.0
750.031000	40.74	46.00	5.26	1000.0	120.000	200.1	V	208.0	-9.0

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)
250.093000	33.18	46.00	12.82	1000.0	120.000	100.1	H	237.0	-19.1
399.958000	40.47	46.00	5.53	1000.0	120.000	100.1	H	0.0	-15.2
450.010000	43.18	46.00	2.82	1000.0	120.000	100.1	H	0.0	-14.5
550.017000	43.57	46.00	2.43	1000.0	120.000	200.0	H	2.0	-12.4
650.121000	29.88	46.00	16.12	1000.0	120.000	100.1	V	219.0	-11.0
750.031000	42.27	46.00	3.73	1000.0	120.000	200.0	V	212.0	-9.0

High CH



9.4.2.3 Measurement Results for Above 1 GHz

9.4.2.3.1 802.11b

Frequency (MHz)	Reading (dBμV)	Detector	Ant. Pol. (H/V)	Corr. Factor (dB)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Low CH							
4 824.05	58.92	Peak	V	-4.80	54.12	73.98	19.86
	53.70	Average	V		48.90	53.98	5.08
7 237.57	48.60	Peak	H	-1.90	46.70	73.98	27.28
	38.53	Average	H		36.63	53.98	17.35
Mid CH							
4 883.82	51.78	Peak	H	-4.60	47.18	73.98	26.80
	47.55	Average	H		42.95	53.98	11.03
7 325.04	50.41	Peak	H	-1.70	48.71	73.98	25.27
	41.05	Average	H		39.35	53.98	14.63
High CH							
4 944.13	57.62	Peak	V	-4.50	53.12	73.98	20.86
	55.24	Average	V		50.74	53.98	3.24

9.4.2.3.2 802.11g

Frequency (MHz)	Reading (dBμV)	Detector	Ant. Pol. (H/V)	Corr. Factor (dB)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Low CH							
4 823.93	54.43	Peak	V	-4.80	49.63	73.98	24.35
	40.61	Average	V		35.81	53.98	18.17
Mid CH							
4 884.70	54.07	Peak	V	-4.60	49.47	73.98	24.51
	44.73	Average	V		40.13	53.98	13.85
High CH							
4 944.49	55.60	Peak	V	-4.50	51.10	73.98	22.88
	46.95	Average	V		42.45	53.98	11.53



9.4.2.3.3 802.11n(HT20)

Frequency (MHz)	Reading (dBμV)	Detector	Ant. Pol. (H/V)	Corr. Factor (dB)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Low CH							
4 824.65	56.83	Peak	V	-4.80	52.03	73.98	21.95
	42.54	Average	V		37.74	53.98	16.24
Mid CH							
4 883.15	55.18	Peak	V	-4.60	50.58	73.98	23.40
	44.81	Average	V		40.21	53.98	13.77
High CH							
4 950.10	55.59	Peak	V	-4.50	51.09	73.98	22.89
	45.01	Average	V		40.51	53.98	13.47

※ Ant. Pol. : Antenna Polarization

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

※ Result = Reading + Corr. Factor

※ Margin = Limit – Result



10. Power Line Conducted Emission

10.1 Operating environment

Temperature : 24 °C

Relative humidity : 44 %

10.2 Measurement method

Standard : §15.207

10.3 Test setup

The EUT was placed on a wooden table, 0.8 m height above the floor. Power was fed to the EUT through a 50 Ω / 50 μ H + 5 Ω Artificial Mains Network (AMN). The ground plane was electrically bonded to the reference ground system and all power lines were filtered from ambient.

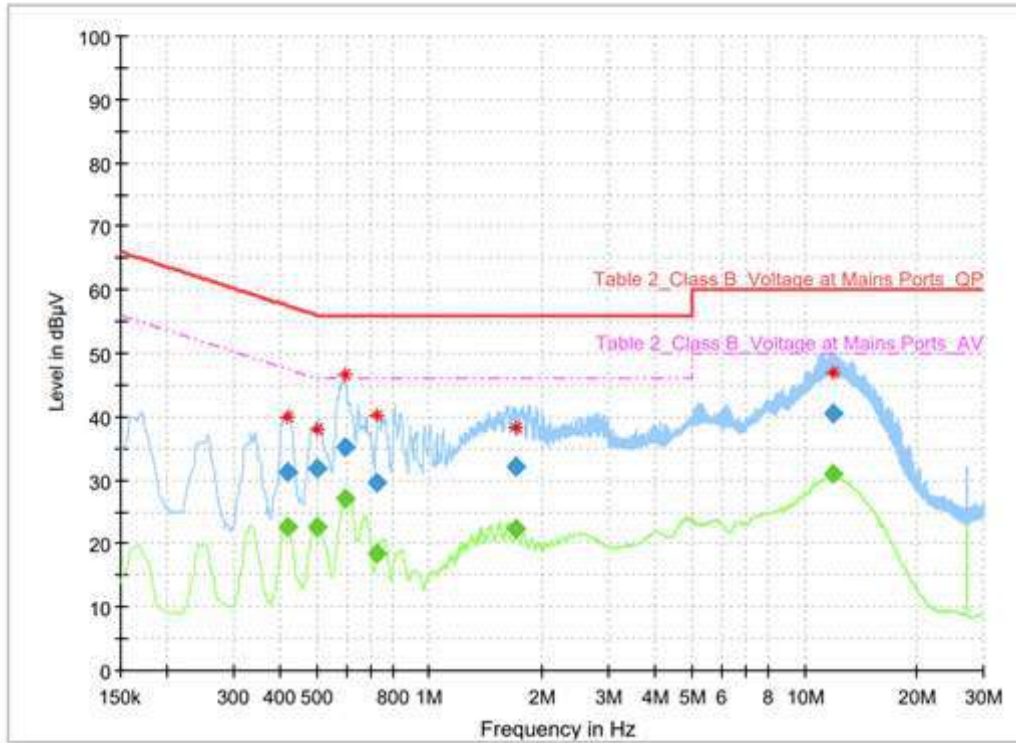




10.4 Test data

Test date : 16. Nov. 2021
 Operating mode : Transmit mode
 Test Result : Pass

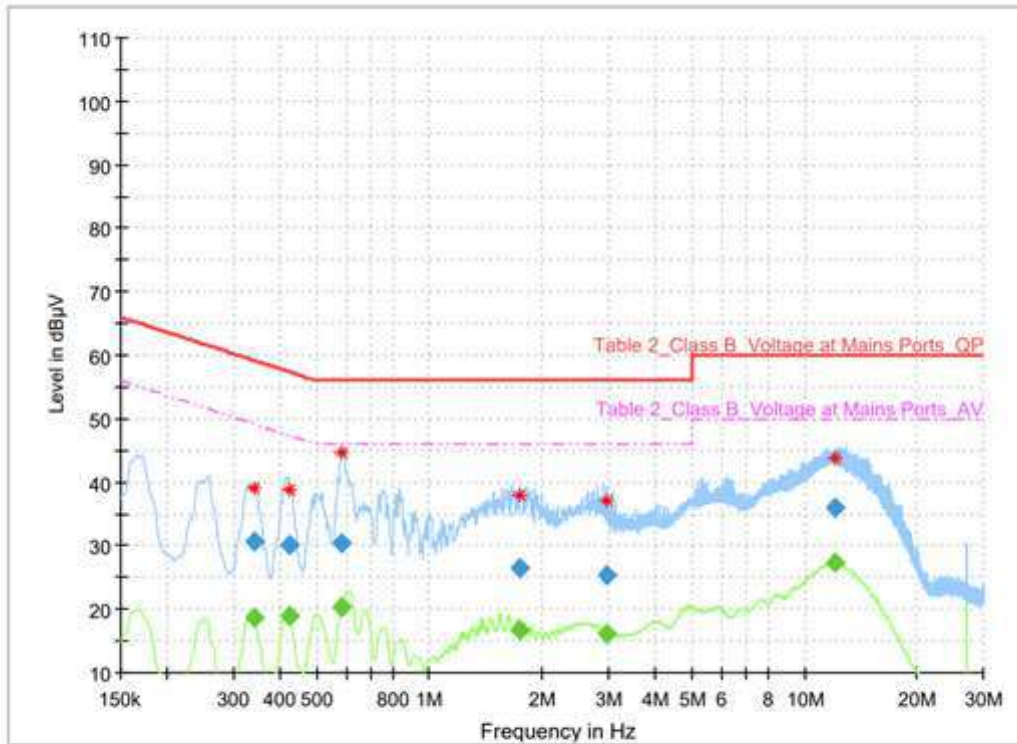
10.4.1 Measured Results & Graph



Final Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.420000	---	22.53	47.45	24.91	5000.0	9.000	L1	ON	9.6
0.420000	31.28	---	57.45	26.17	5000.0	9.000	L1	ON	9.6
0.503250	---	22.75	46.00	23.25	5000.0	9.000	L1	ON	9.6
0.503250	31.83	---	56.00	24.17	5000.0	9.000	L1	ON	9.6
0.597750	---	27.22	46.00	18.78	5000.0	9.000	L1	ON	9.6
0.597750	35.33	---	56.00	20.67	5000.0	9.000	L1	ON	9.6
0.726000	---	18.32	46.00	27.68	5000.0	9.000	L1	ON	9.6
0.726000	29.66	---	56.00	26.34	5000.0	9.000	L1	ON	9.6
1.695750	---	22.28	46.00	23.72	5000.0	9.000	L1	ON	9.6
1.695750	32.12	---	56.00	23.88	5000.0	9.000	L1	ON	9.6
11.863500	---	30.88	50.00	19.12	5000.0	9.000	L1	ON	9.8
11.863500	40.43	---	60.00	19.57	5000.0	9.000	L1	ON	9.8

Live line



Final Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.341250	---	18.55	49.17	30.62	5000.0	9.000	N	ON	9.6
0.341250	30.61	---	59.17	28.56	5000.0	9.000	N	ON	9.6
0.422250	---	18.89	47.40	28.51	5000.0	9.000	N	ON	9.6
0.422250	30.15	---	57.40	27.25	5000.0	9.000	N	ON	9.6
0.582000	---	20.38	46.00	25.62	5000.0	9.000	N	ON	9.6
0.582000	30.35	---	56.00	25.65	5000.0	9.000	N	ON	9.6
1.736250	---	16.60	46.00	29.40	5000.0	9.000	N	ON	9.6
1.736250	26.50	---	56.00	29.50	5000.0	9.000	N	ON	9.6
2.980500	---	16.25	46.00	29.75	5000.0	9.000	N	ON	9.6
2.980500	25.25	---	56.00	30.75	5000.0	9.000	N	ON	9.6
12.032250	---	27.31	50.00	22.69	5000.0	9.000	N	ON	9.8
12.032250	35.98	---	60.00	24.02	5000.0	9.000	N	ON	9.8

Neutral line

- END OF REPORT.