FCC TEST REPORT

For

Mobile Computer

Model Number: M52 Luna

FCC ID: 2A398-M52

Report Number : WT228000199

Test Laboratory	:	Shenzhen Academy of Metrology and Quality Inspection
Site Location	:	NETC Building, No.4 Tongfa Rd., Xili, Nanshan, Shenzhen, China
Tel	:	0086-755-86928965
Fax	:	0086-755-86009898-31396
Web	:	www.smq.com.cn
E-mail	:	emcrf@smq.com.cn

TEST REPORT DECLARATION

Applicant	:	Suzhou MobyData Smart System Co., Ltd.
Address	:	3f, building E,Yida science Park,No.11 Jinpu Road,SIP,Suzhou,Jiangsu,China.
Manufacturer	:	Suzhou MobyData Smart System Co., Ltd.
Address	:	3f, building E,Yida science Park,No.11 Jinpu Road,SIP,Suzhou,Jiangsu,China.
EUT Description	:	Mobile Computer
Model No.	:	M52 Luna
Trade mark	:	MobyData
Serial Number	:	/
FCC ID	:	2A398-M52

Test Standards:

FCC Part 15 Subpart C 15.247 (2020)

The EUT described above is tested by Shenzhen Academy of Metrology and Quality Inspection EMC Laboratory to determine the maximum emissions from the EUT. Shenzhen Academy of Metrology and Quality Inspection EMC Laboratory is assumed full responsibility for the accuracy of the test results.

The test report is valid for above tested sample only and shall not be reproduced in part without written approval of the laboratory.

Project Engineer:	(Zhou Fangai 周芳媛)	Date:	Mar.09, 2022
Checked by:	(Shi Changda 施昌达)	Date:	Mar.09, 2022
Approved by:	(Lin Yixiang 林奕翔)	Date:	Mar.09, 2022

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1. TEST RESULTS SUMMARY

Table 1 Test Results Summary

Test Items	FCC Rules	Test Results
6dB DTS bandwidth measurement	15.247 (a) (2)	Pass
Maximum Conducted Output Power	15.247 (b) (3)	Pass
Maximum Power Spectral Density Level	15.247 (e)	Pass
Conducted Bandedge and Spurious	15.247 (d)	Pass
Radiated Bandedge and Spurious	15.247 (d) 15.209 15.205	Pass
Conducted emission test for AC power port	15.207	Pass
Antenna Requirement	15.203	Pass

Remark: “N/A” means “Not applicable.”

2. GENERAL INFORMATION

2.1. Report information

This report is not a certificate of quality; it only applies to the sample of the specific product/equipment given at the time of its testing. The results are not used to indicate or imply that they are application to the similar items. In addition, such results must not be used to indicate or imply that SMQ approves recommends or endorses the manufacture, supplier or use of such product/equipment, or that SMQ in any way guarantees the later performance of the product/equipment.

The sample/s mentioned in this report is/are supplied by Applicant, SMQ therefore assumes no responsibility for the accuracy of information on the brand name, model number, origin of manufacture or any information supplied.

Additional copies of the report are available to the Applicant at an additional fee. No third part can obtain a copy of this report through SMQ, unless the applicant has authorized SMQ in writing to do so.

The lab will not be liable for any loss or damage resulting for false, inaccurate, inappropriate or incomplete product information provided by the applicant/manufacturer.

2.2. Laboratory Accreditation and Relationship to Customer

The testing report were performed by the Shenzhen Academy of Metrology and quality Inspection EMC Laboratory (Guangdong EMC compliance testing center), in their facilities located at NETC Building, No.4 Tongfa Rd., Xili, Nanshan, Shenzhen, China. At the time of testing, Laboratory is accredited by the following organizations:

China National Accreditation Service for Conformity Assessment (CNAS) accredits the Laboratory for conformance to FCC standards, EMC international standards and EN standards. The Registration Number is CNAS L0579.

The Laboratory is Accredited Testing Laboratory of FCC with Designation number CN1165 and Site registration number 582918.

The Laboratory is registered to perform emission tests with Innovation, Science and Economic Development (ISED), and the registration number is 11177A.

The Laboratory is registered to perform emission tests with VCCI, and the registration number are C-20048, G20076, R-20077, R-20078 and T-20047.

The Laboratory is Accredited Testing Laboratory of American Association for

Laboratory Accreditation (A2LA) and certificate number is 3292.01.

2.3. Measurement Uncertainty

Conducted Emission
9 kHz~150 kHz U=3.7dB k=2
150 kHz~30MHz U=3.3dB k=2

Radiated Emission
30MHz~1000MHz U=4.3dB k=2
1GHz~6GHz U=4.6 dB k=2
6GHz~40GHz U=5.1dB k=2

3. PRODUCT DESCRIPTION

NOTE: The extreme test conditions for temperature and antenna gain were declared by the manufacturer.

3.1. EUT Description

Description	:	Mobile Computer
Manufacturer	:	Suzhou MobyData Smart System Co., Ltd.
Model Number	:	M52 Luna
Operate Frequency	:	2.412GHz~2.462GHz
Antenna Designation	:	PIFA Antenna: 1dBi
Operating voltage	:	DC3.6V (Low)/DC3.8V (Nominal)/DC4.35V (Max)
Software Version	:	M09.01.03.20220124
Hardware Version	:	H236WO_V02

Remark: --

WLAN:

Table 2 Working Frequency List (802.11b, 802.11g, 802.11n HT20)

Channel	Frequency	Channel	Frequency
1	2412MHz	8	2447MHz
2	2417MHz	9	2452MHz
3	2422MHz	10	2457MHz
4	2427MHz	11	2462MHz
5	2432MHz	---	---
6	2437MHz	---	---
7	2442MHz	---	---

Table 3 Working Frequency List (802.11n HT40)

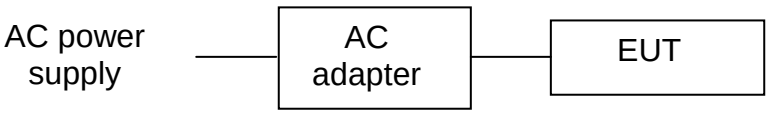
Channel	Frequency	Channel	Frequency
3	2422MHz	8	2447MHz
4	2427MHz	9	2452MHz
5	2432MHz	---	---
6	2437MHz	---	---
7	2442MHz	---	---

3.2. Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for FCC ID: **2A398-M52** filing to comply with

Section 15.207, 15.209, 15.247 of the FCC Part 15, Subpart C Rules.

3.3. Block Diagram of EUT Configuration



Setup of test

3.4. Operating Condition of EUT

The Radiated spurious emission measurements were carried out in semi-anechoic chamber with 3-meter test range, and EUT is rotated on three test planes to find out the worst emission (X plane).
Worst-case mode and channel used for 30-1000 MHz radiated and power line conducted emissions was the mode and channel with the highest output power.
Worst-case data rates as provided by the client were:
802.11b mode: 1 Mbps
802.11g mode: 6 Mbps
802.11n HT20 mode: MCS0
802.11n HT40 mode: MCS0
802.11b and 802.11g operates in SISO mode. For SISO conducted measurements, the modes tested in this report will be considered as a worst case mode.
802.11n operate in SISO mode. For SISO conducted measurements, the modes tested in this report will be considered as a worst case mode.

3.5. Directional Antenna Gain

Directional gain need NOT to be considered.

3.6. Support Equipment List

Table 4 Support Equipment List

Name	Model No.	S/N	Manufacturer
Adapter for EUT	OP92KAUH	---	ShenZhen KunXing Technology Co., Ltd
Rechargeable Li-ion Polymer Battery for EUT	713965PPV	---	ZHONGSHAN TIANMAO BATTERY CO.,LTD
USB Cable for EUT	---	---	---

3.7. Test Conditions

Date of test：Jan.25, 2022- Mar.09, 2022
Date of EUT Receive：Jan.19, 2022
Temperature: 20℃-23℃
Relative Humidity: 46%-55%

3.8. Special Accessories

Not available for this EUT intended for grant.

3.9. Equipment Modifications

Not available for this EUT intended for grant.

4. TEST EQUIPMENT USED

Table 5 Test Equipment

No.	Equipment	Manufacturer	Model No.	Last Cal.	Cal. Interval
SB9058/05	Test Receiver	R&S	ESCI 3	Sep.24,2021	1 Year
SB4357	AMN	R&S	ENN216	Aug.25,2021	1 Year
SB9549	Shielded Room	Albatross	SR	Sep.24,2021	1 Year
SB15044/01	Test Receiver	R&S	ESW8	Sep.14,2021	1 Year
SB12944	Broadband Antenna	R&S	VULB9163	Jan.08,2021	1 Year
SB18844	Semi Anechoic Chamber	Albatross	9×6×6(m)	Mar.23,2021	1 Year
SB13956	Test Receiver	R&S	ESR26	Feb.05,2021	1 Year
SB13956	Test Receiver	R&S	ESR26	Feb.07,2022	1 Year
SB13961	Horn Antenna	R&S	HF907	Mar.23,2021	1 Year
SB8501/09	Test Receiver	R&S	ESU40	Feb.05,2021	1 Year
SB3435	Horn Antenna	R&S	HF906	Dec.03,2021	1 Year
SB9054/08	Broadband Antenna	Schwarzbeck	VULB 9163	Dec.30,2021	1 Year
SB9555/02	Fully Anechoic Chamber	Albatross	10.0×5.2×5.4(m)	Aug.25,2021	1 Year
SB9058/03	Pre-Amplifier	R&S	SCU 18	Jan.20,2022	1 Year
SB8501/10	Horn Antenna	R&S	3160-09	Mar.10,2020	3 Years
SB8501/11	Horn Antenna	R&S	3160-09	Mar.09,2020	3 Years
SB8501/12	Horn Antenna	R&S	3160-10	Mar.17,2020	3 Years
SB8501/13	Horn Antenna	R&S	3160-10	Mar.10,2020	3 Years
SB8501/14	Pre-Amplifier	R&S	SCU-03	Jan.20,2022	1 Year
SB8501/15	Pre-Amplifier	R&S	SCU-03	Jan.20,2022	1 Year
SB8501/16	Pre-Amplifier	R&S	SCU 26	Jan.20,2022	1 Year
SB8501/17	Pre-Amplifier	R&S	SCU-18	Jan.18,2022	1 Year
SB9060	Signal Analyzer	R&S	FSQ40	May.17, 2021	1 Year

Table 6 Test software

Name	Manufacturer	Version
Bluetooth and WiFi Test System	Shenzhen JS tonscend co.,ltd	2.6.88.0330

5. DUTY CYCLE

5.1. LIMITS OF DUTY CYCLE

None; for reporting purposes only

5.2. TEST PROCEDURE

1. Set span = Zero
2. RBW = 10MHz
3. VBW = 10MHz,
4. Detector = Peak

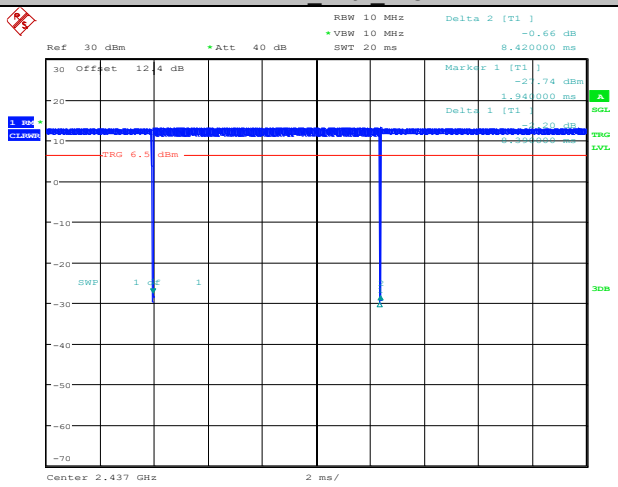
5.3. TEST SETUP

5.4. TEST DATA

Table 7 Duty Cycle Test Data

Test Mode	On Time (ms)	Duty Cycle (%)	Duty Factor	1/T Minimum VBW (kHz)
802.11b	8.39	99.64	0.02	0.01
802.11g	1.39	97.20	0.12	0.01
802.11n HT20	1.33	96.99	0.13	0.01
802.11n HT40	0.63	92.65	0.33	0.01

11B_Ant1_2437



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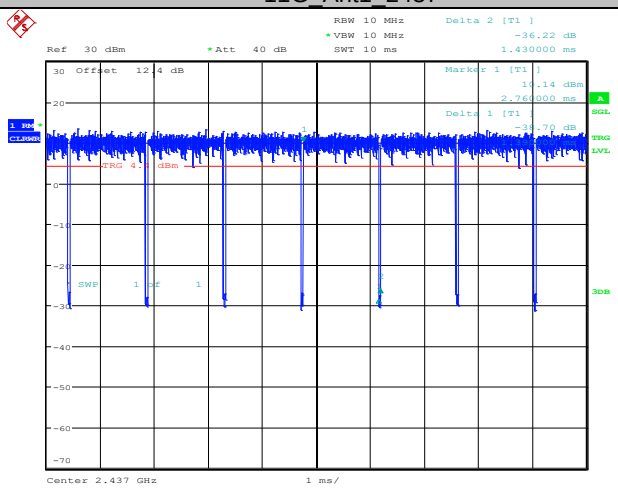

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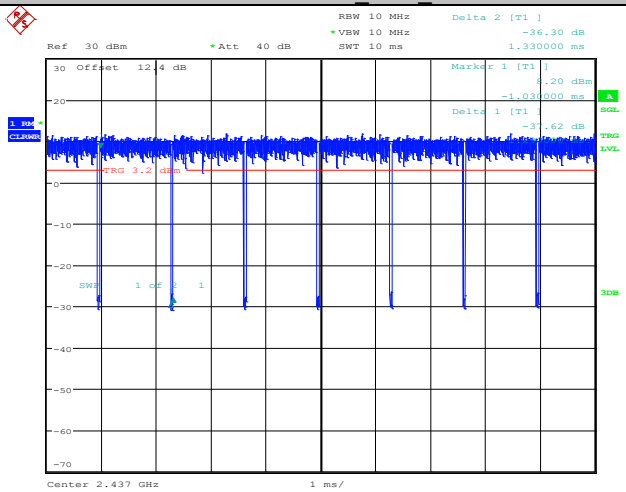

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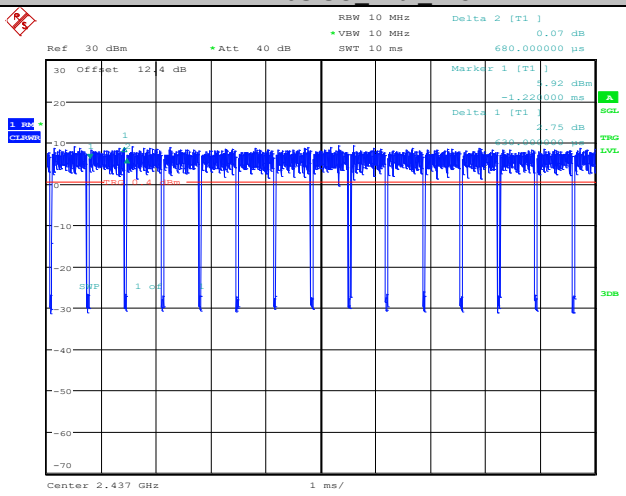


6. 6DB BANDWIDTH MEASUREMENT

6.1. LIMITS OF 6dB BANDWIDTH MEASUREMENT

CFR 47 (FCC) part 15.247 (a) (2)

6.2. TEST PROCEDURE

ANSI C63.10-2020 Clause 11.8
The transmitter output was connected to the spectrum analyzer.
a) Set RBW = 100 kHz.
b) Set the VBW ≥ [3 × RBW].
c)Detector = Peak.
d)Trace mode = max hold.
e)Sweep = auto couple.
f)Allow the trace to stabilize.
g)Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission

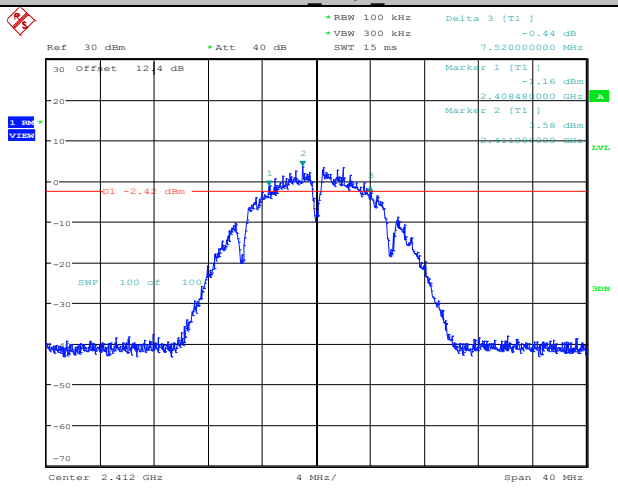
6.3. TEST SETUP

6.4. Test Data

Table 8 6dB Bandwidth Test Data

Test Mode	Channel	6dB Bandwidth [MHz]	Limit[MHz]	Verdict
802.11b	2412	7.52	0.5	PASS
	2437	8.48	0.5	PASS
	2462	7.52	0.5	PASS
802.11g	2412	15.24	0.5	PASS
	2437	16.24	0.5	PASS
	2462	16.28	0.5	PASS
802.11n HT20	2412	17.52	0.5	PASS
	2437	17.52	0.5	PASS
	2462	17.56	0.5	PASS
802.11n HT40	2422	33.84	0.5	PASS
	2437	35.68	0.5	PASS
	2452	35.28	0.5	PASS

11B_Ant1_2412



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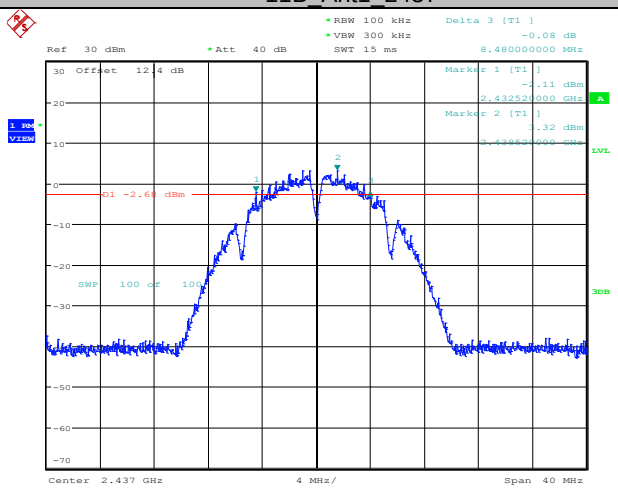

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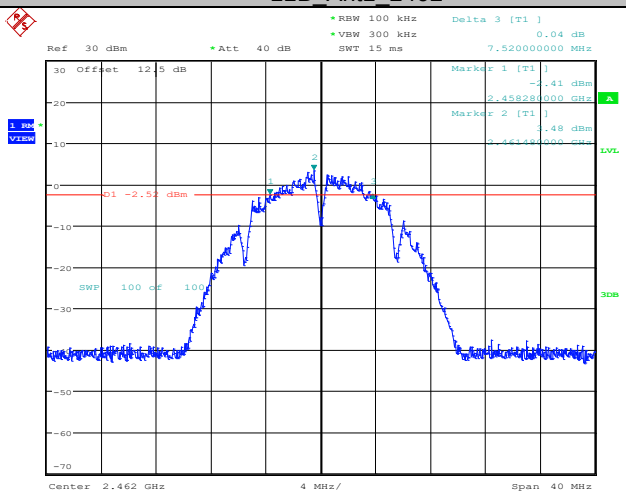

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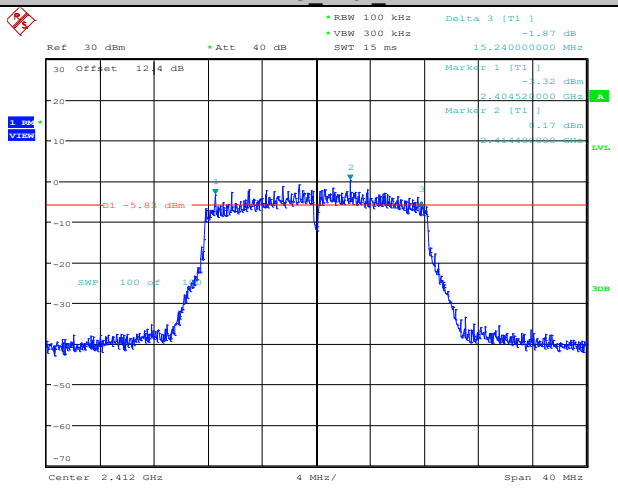

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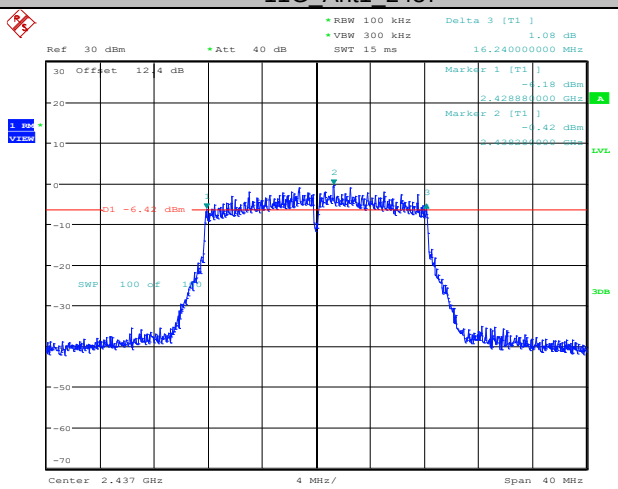

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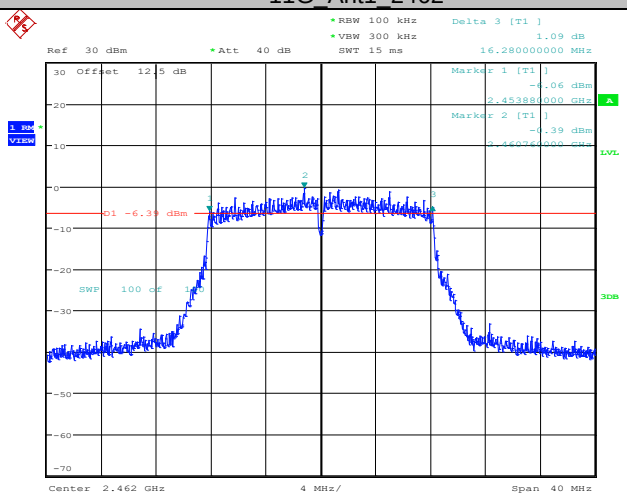

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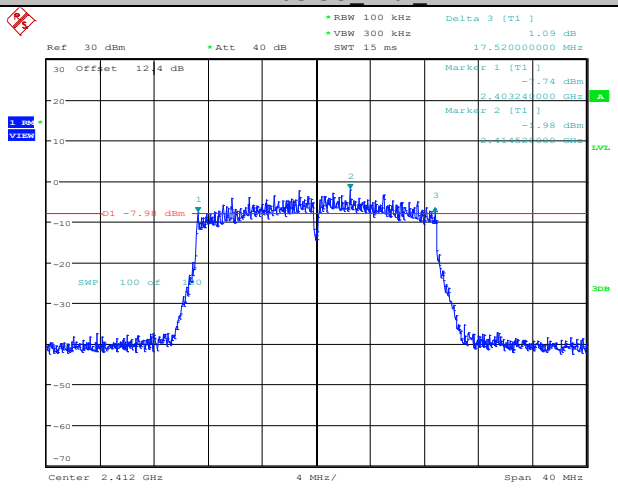

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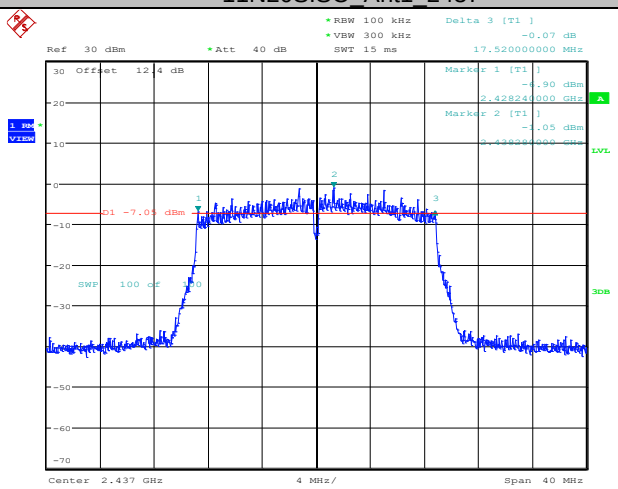

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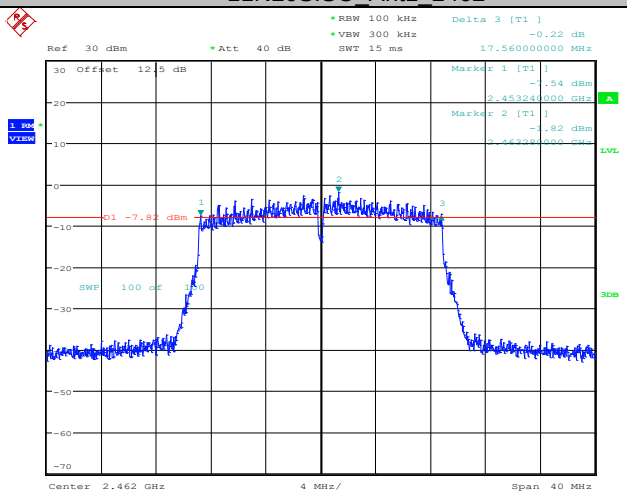

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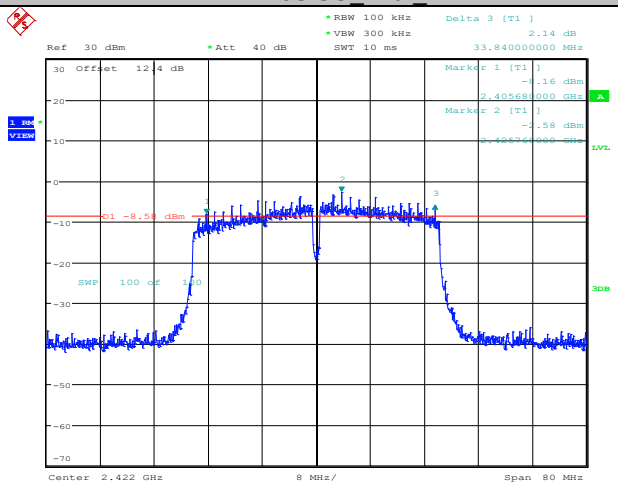

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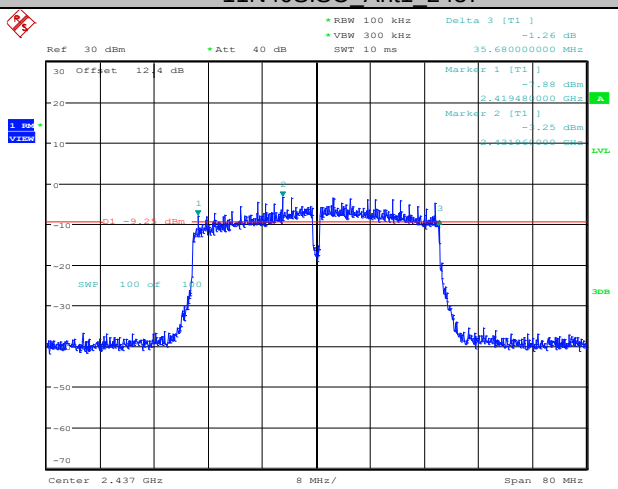

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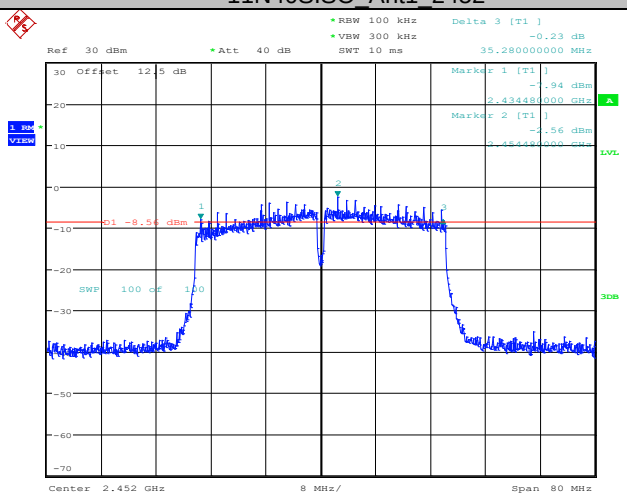

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7. MAXIMUM CONDUCTED OUTPUT POWER MEASUREMENT

7.1. LIMITS OF Maximum Conducted Output Power Measurement

CFR 47 (FCC) part 15.247 (b) (3)

7.2. TEST PROCEDURE

ANSI C63.10-2020 Clause 11.9
The following procedure can be used when the maximum available RBW of the instrument is less than the
DTS bandwidth:
a) Set the RBW = 1 MHz.
b) Set the VBW ≥ [3 × RBW].
c) Set the span ≥ [1.5 × DTS bandwidth].
d) Detector = peak.
e) Sweep time = auto couple.
f) Trace mode = max hold.
g) Allow trace to fully stabilize.
h) Use the instrument's band/channel power measurement function with the band limits set equal to the DTS bandwidth edges (for some instruments, this may require a manual override to select the peak detector). If the instrument does not have a band power function, then sum the spectrum levels (in linear power units) at intervals equal to the RBW extending across the DTS channel bandwidth.

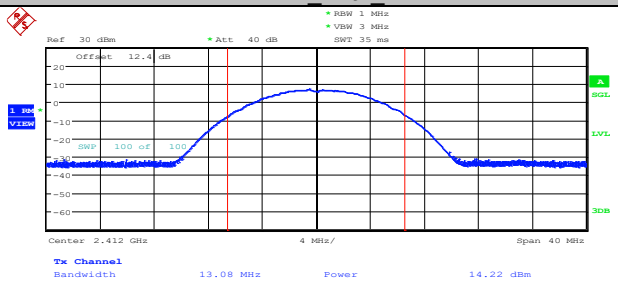
7.3. TEST SETUP

7.4. TEST DATA

Table 9 Maximum Conducted Output Power

Test Mode	Channel [MHz]	Power [dBm]	10log(1/x) Factor [dB]	Power [dBm]	Limit [dBm]	Verdict
802.11b	2412	14.22	0.02	14.24	<=30	PASS
	2437	14.20	0.02	14.22	<=30	PASS
	2462	14.18	0.02	14.20	<=30	PASS
802.11g	2412	14.28	0.12	14.40	<=30	PASS
	2437	14.37	0.12	14.49	<=30	PASS
	2462	14.43	0.12	14.55	<=30	PASS
802.11n HT20	2412	13.12	0.13	13.25	<=30	PASS
	2437	13.32	0.13	13.45	<=30	PASS
	2462	13.56	0.13	13.69	<=30	PASS
802.11n HT40	2422	14.16	0.33	14.49	<=30	PASS
	2437	14.24	0.33	14.57	<=30	PASS
	2452	14.26	0.33	14.59	<=30	PASS

11B_Ant1_2412



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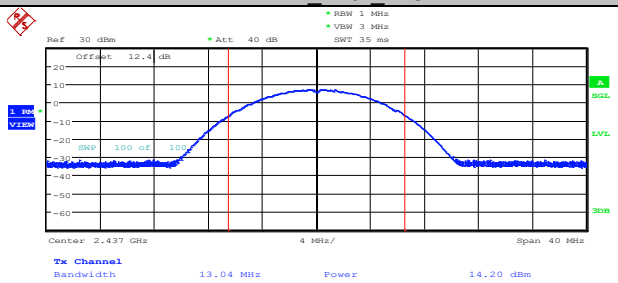

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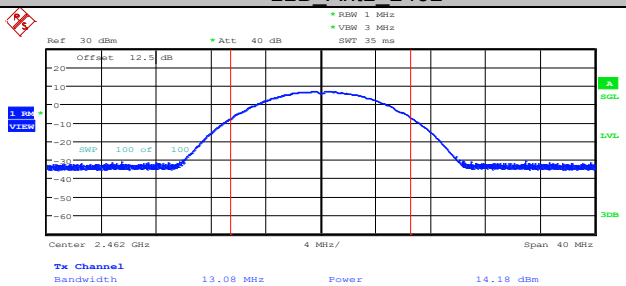

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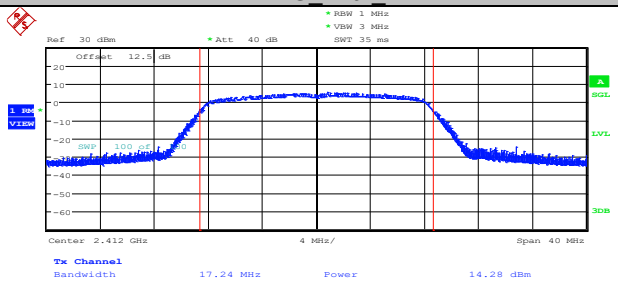

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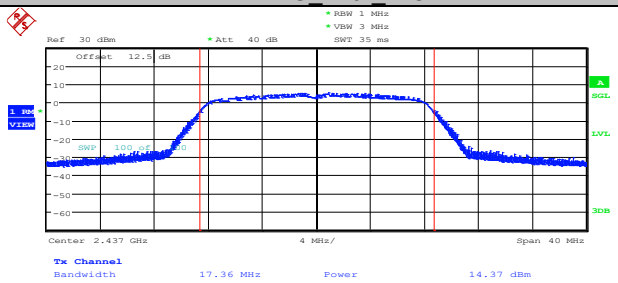

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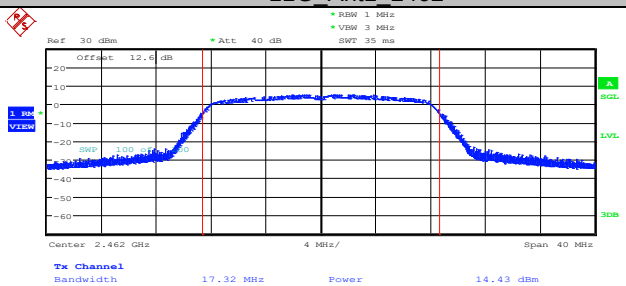

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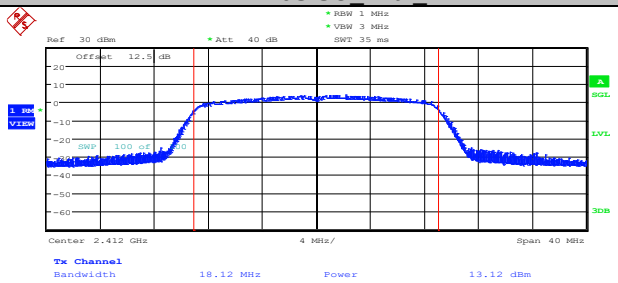

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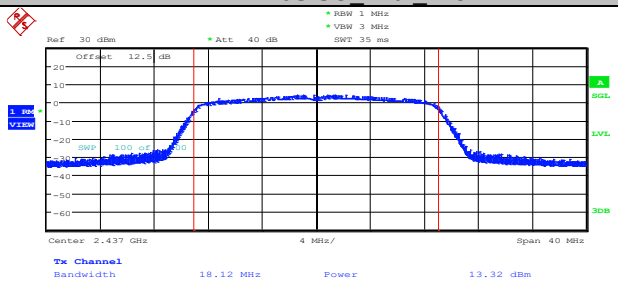

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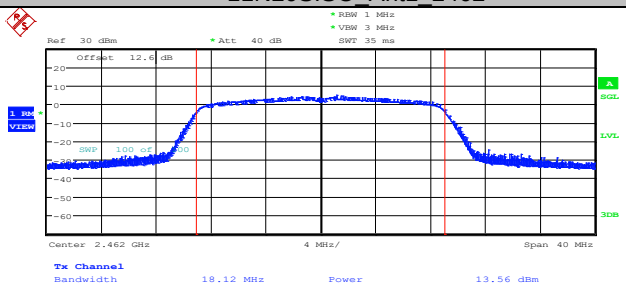

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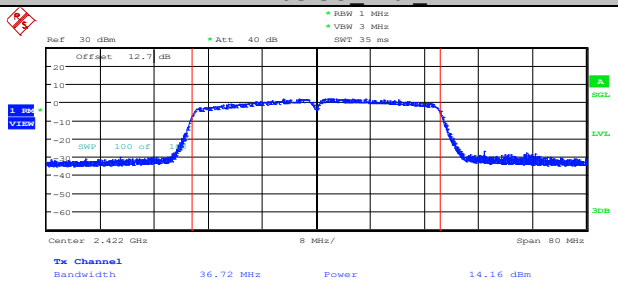

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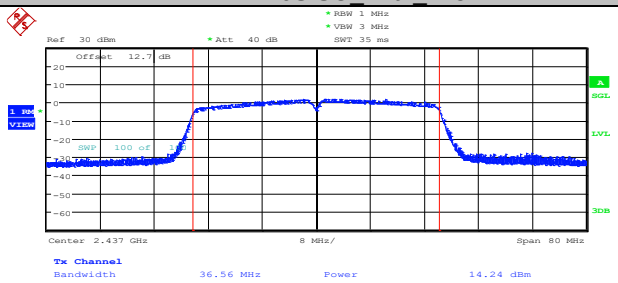

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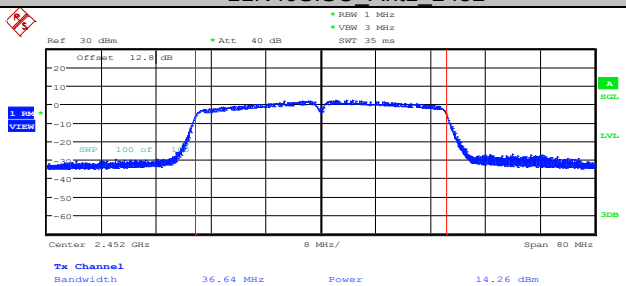


Date: 9.MAR.2022 14:02:38

8. MAXIMUM POWER SPECTRAL DENSITY LEVEL MEASUREMENT

8.1. LIMITS OF Maximum Power Spectral Density Level Measurement

CFR 47 (FCC) part 15.247 (e)

8.2. TEST PROCEDURE

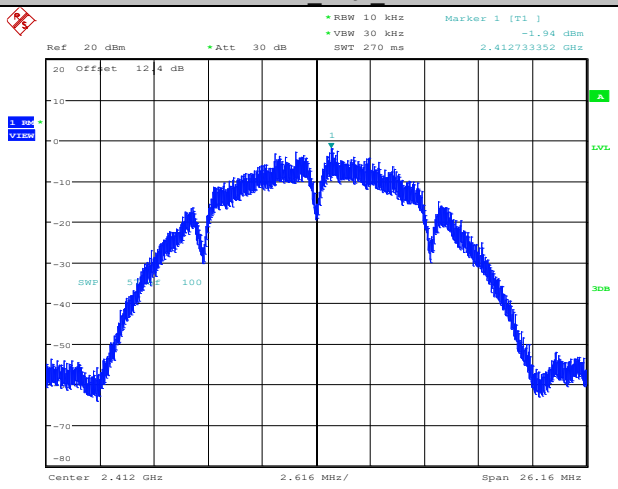
ANSI C63.10-2020 Clause 11.10
The transmitter output was connected to the spectrum analyzer.
a)Set analyzer center frequency to DTS channel center frequency.
b) Set the span to 1.5 times the DTS bandwidth.
c) Set RBW to：3 kHz ≤RBW≤100kHz.
d) Set VBW ≥ 3 x RBW.
e) Detector = peak.
f) Sweep time = auto couple.
g) Trace mode = max hold.
h)Allow trace to fully stabilize.
i)Use the peak marker function to determine the maximum amplitude level within the RBW.
j)If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

8.3. TEST DATA

Table 10 Maximum Power Spectral Density Level

Test Mode	Channel [MHz]	Level [dBm/MHz]	10log(1/x) Factor [dB]	PSD [dBm/MHz]	Limit [dBm/MHz]	Verdict
802.11b	2412	-1.94	0.02	-1.92	<=8	PASS
	2437	-1.67	0.02	-1.65	<=8	PASS
	2462	-2.98	0.02	-2.96	<=8	PASS
802.11g	2412	-5.85	0.12	-5.73	<=8	PASS
	2437	-5.46	0.12	-5.34	<=8	PASS
	2462	-5.78	0.12	-5.66	<=8	PASS
802.11n HT20	2412	-7.81	0.13	-7.68	<=8	PASS
	2437	-6.77	0.13	-6.64	<=8	PASS
	2462	-7.75	0.13	-7.62	<=8	PASS
802.11n HT40	2422	-8.58	0.33	-8.25	<=8	PASS
	2437	-9.76	0.33	-9.43	<=8	PASS
	2452	-9.17	0.33	-8.84	<=8	PASS

11B_Ant1_2412



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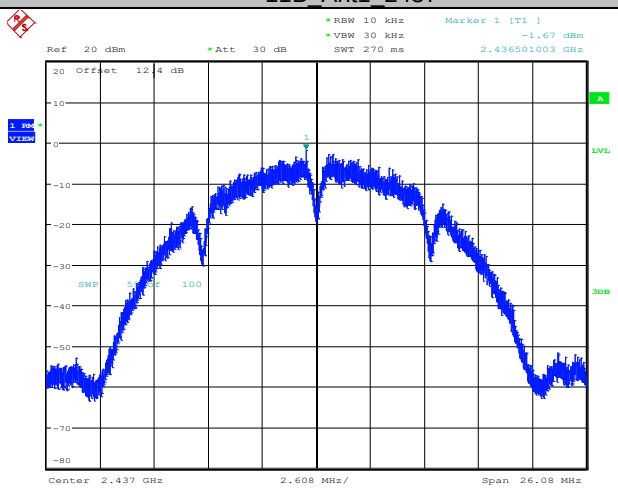

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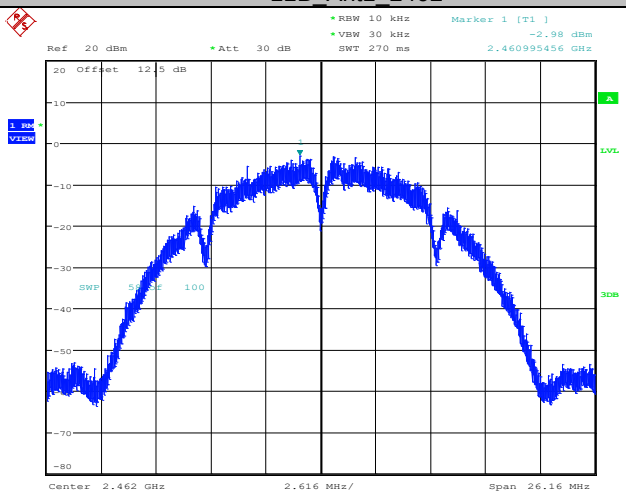

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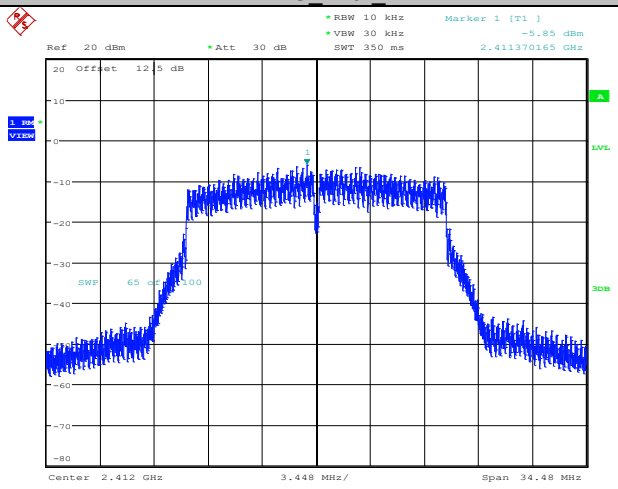

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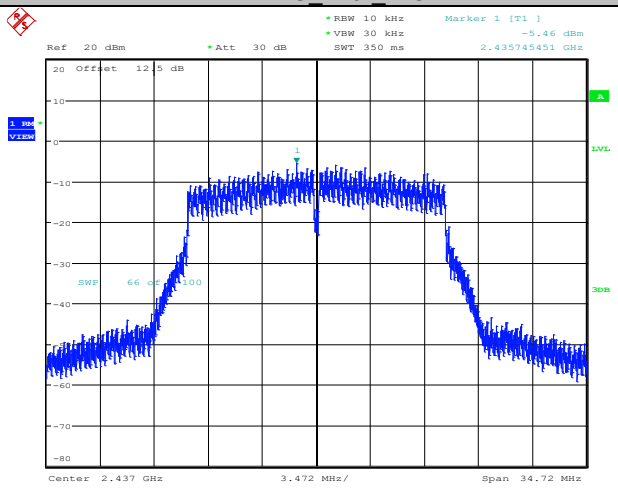

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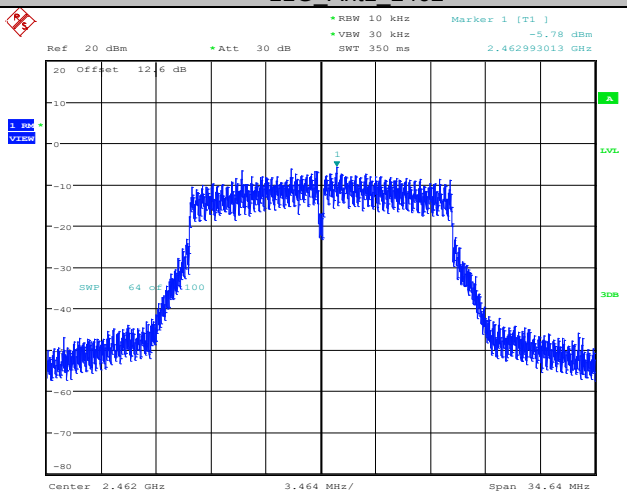

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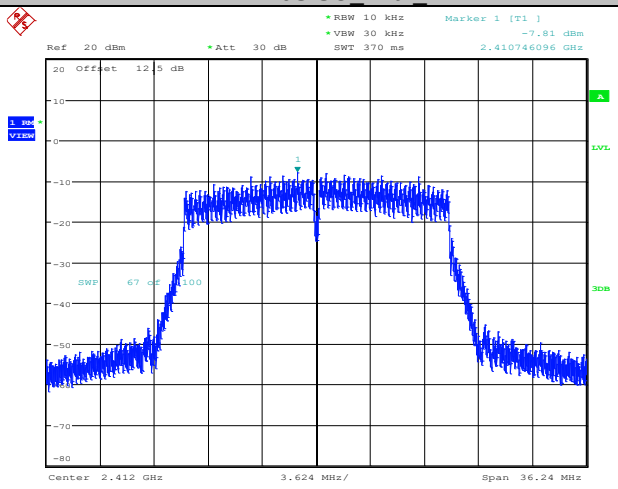

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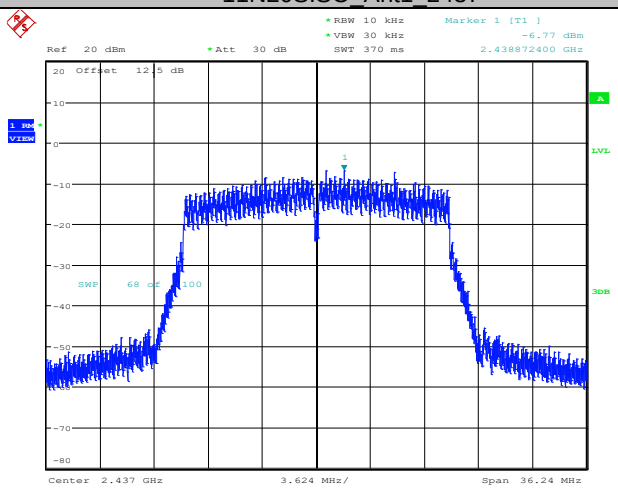

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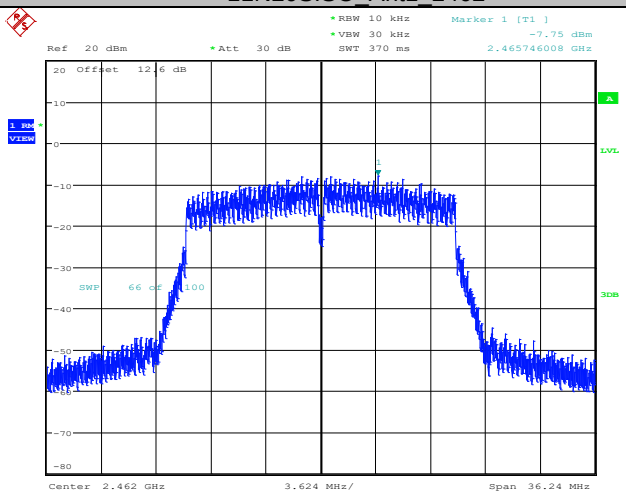

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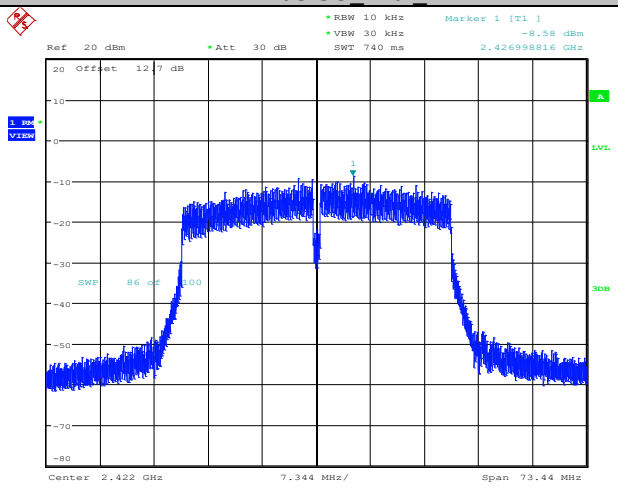

Date: 9.MAR.2022 13:49:59

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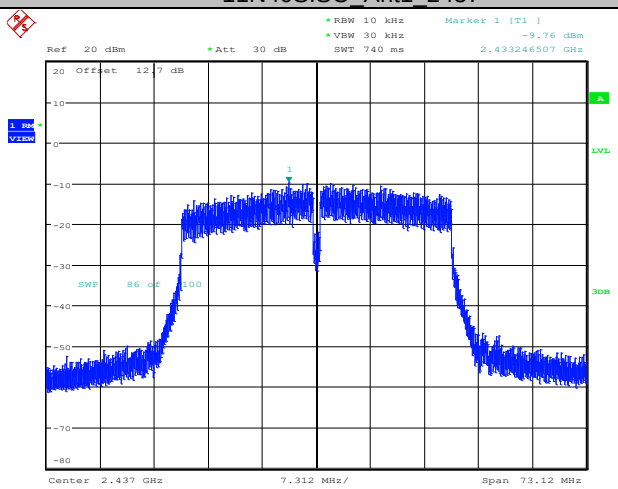

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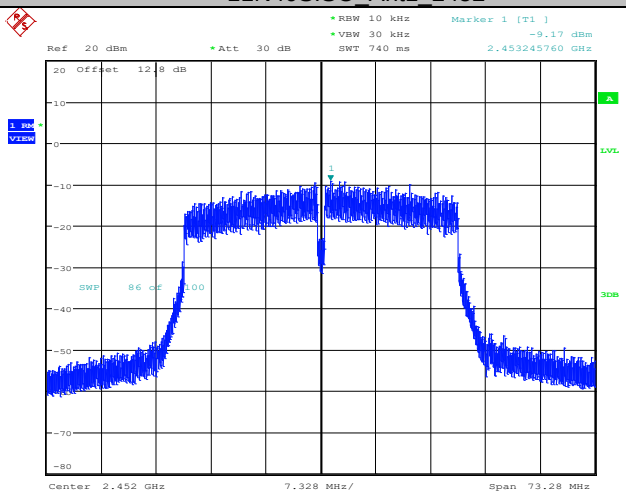

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9. CONDUCTED BANDEDGE AND SPURIOUS MEASURMENT

9.1. LIMITS OF Conducted Bandedge and Spurious Measurement

CFR 47 (FCC) part 15.247 (d)

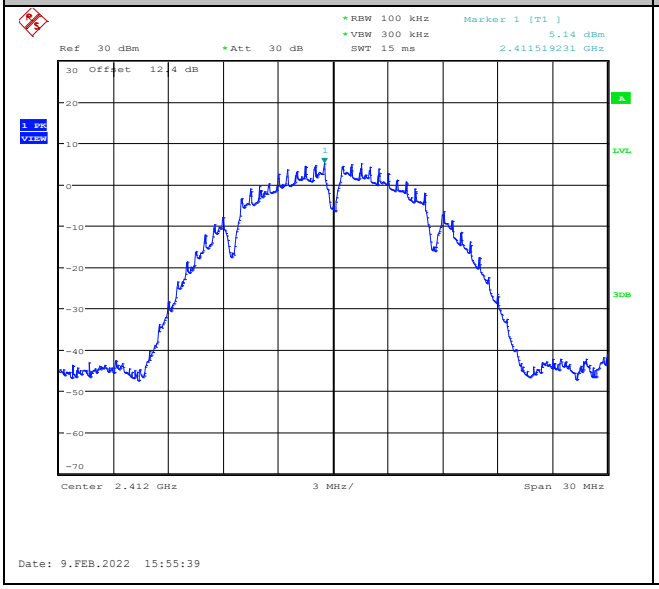
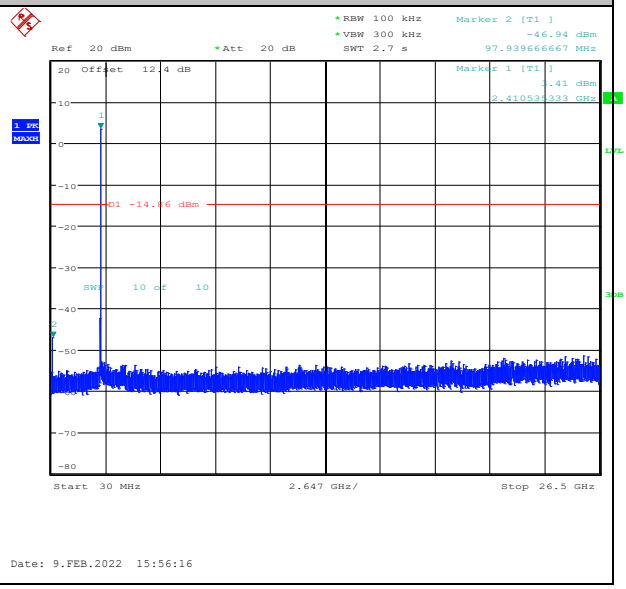
9.2. TEST PROCEDURE

ANSI C63.10-2020 Clause 11.11
The transmitter output was connected to the spectrum analyzer.
Establish a reference level by using the following procedure:
a)Set instrument center frequency to DTS channel center frequency.
b)Set the span to ≥ 1.5 times the DTS bandwidth.
c)Set the RBW = 100 kHz.
d)Set the VBW ≥ 3 x RBW.
e)Detector = peak.
f)Sweep time = auto couple.
g)Trace mode = max hold.
h)Allow trace to fully stabilize.
i)Use the peak marker function to determine the maximum PSD level.
Emission level measurement
a)Set the center frequency and span to encompass frequency range to be measured.
b)Set the RBW = 100 kHz.
c)Set the VBW ≥ 3 x RBW.
d)Detector = peak.
e)Sweep time = auto couple.
f)Trace mode = max hold.
g)Allow trace to fully stabilize.
h)Use the peak marker function to determine the maximum amplitude level.

Test Result ： All emission outside of 2400-2483.5 are lower at least 20dB than fundamental frequency.

9.3. TEST DATA

802.11b
Low Channel

Pref.	30 MHz-26500 MHz
	

802.11b
Mid Channel

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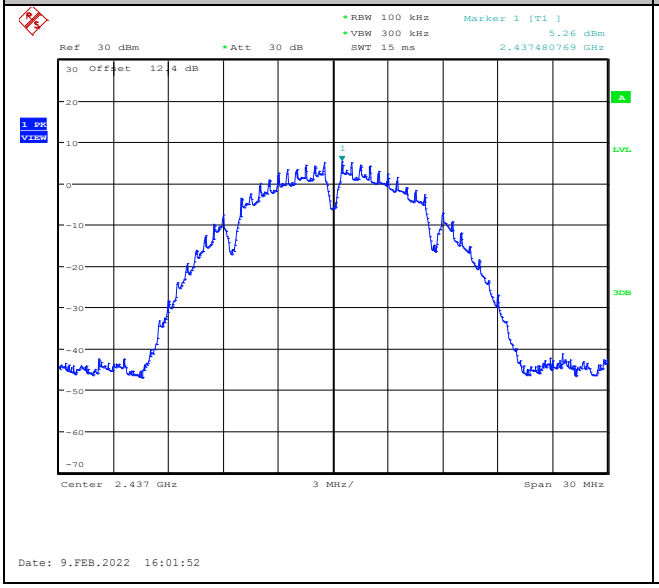	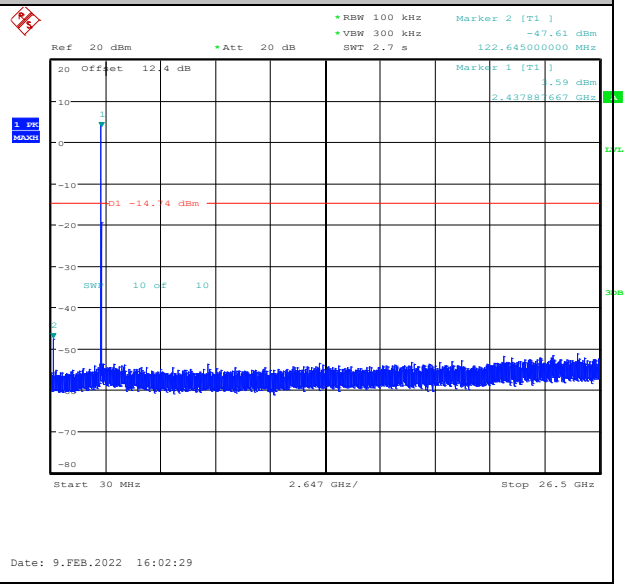

802.11b
High Channel

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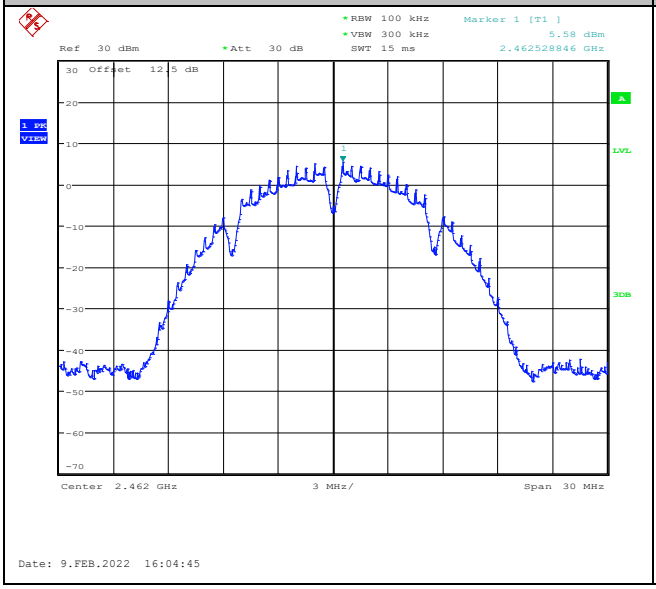	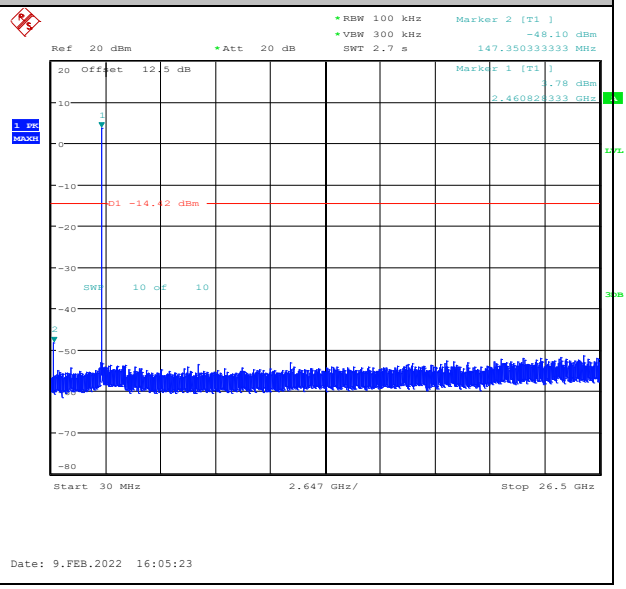

802.11g
Low Channel

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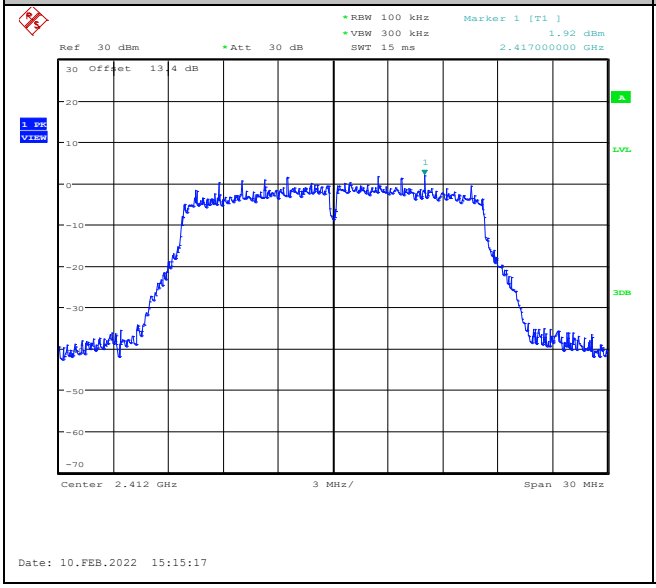	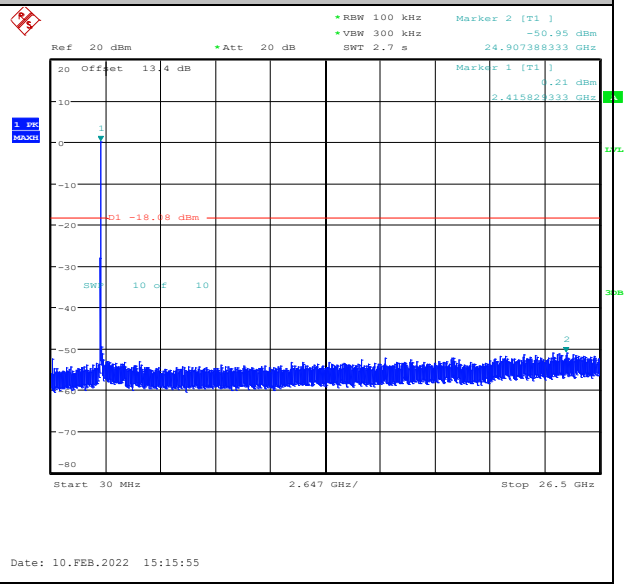

802.11g
Mid Channel

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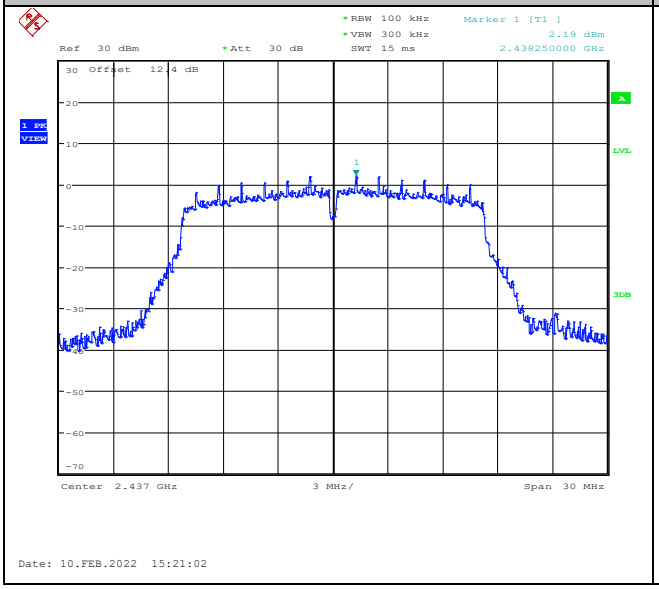	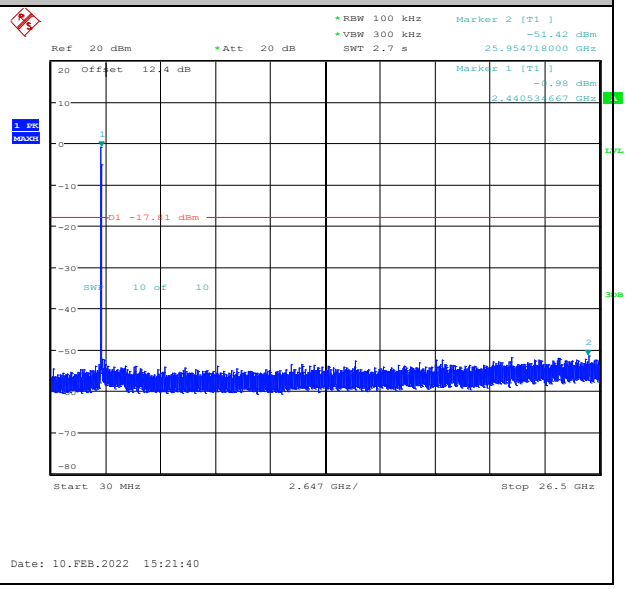

802.11g
High Channel

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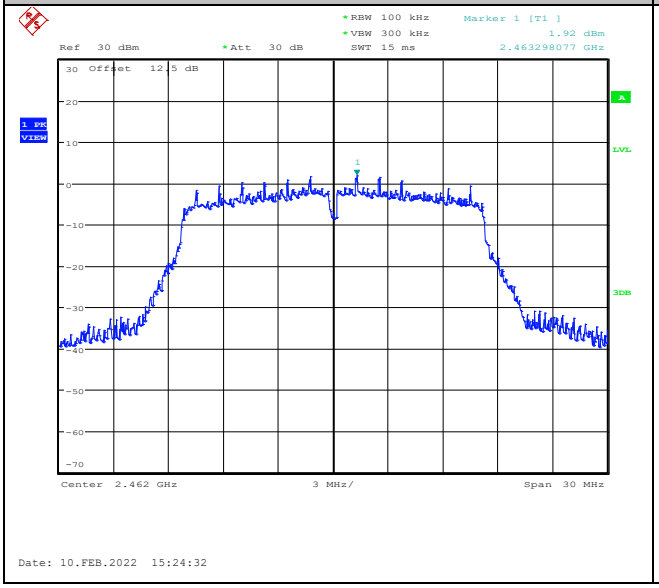	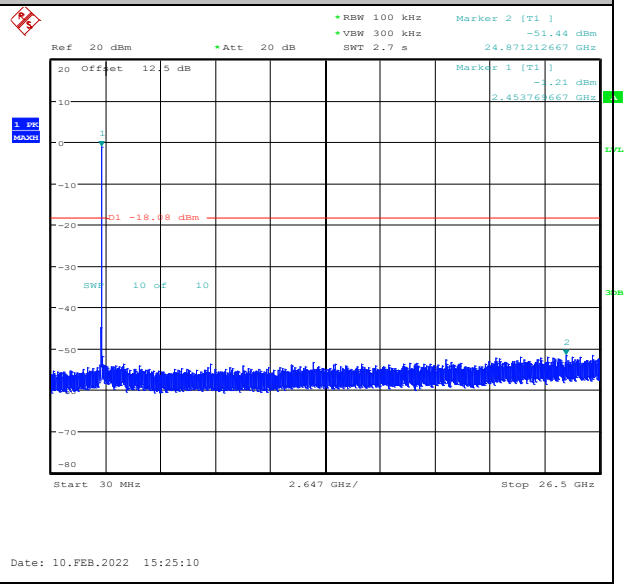

802.11n-HT20
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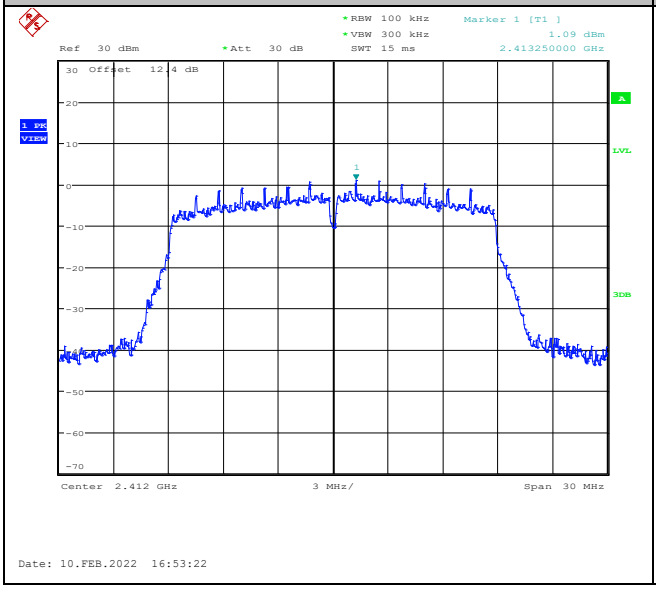	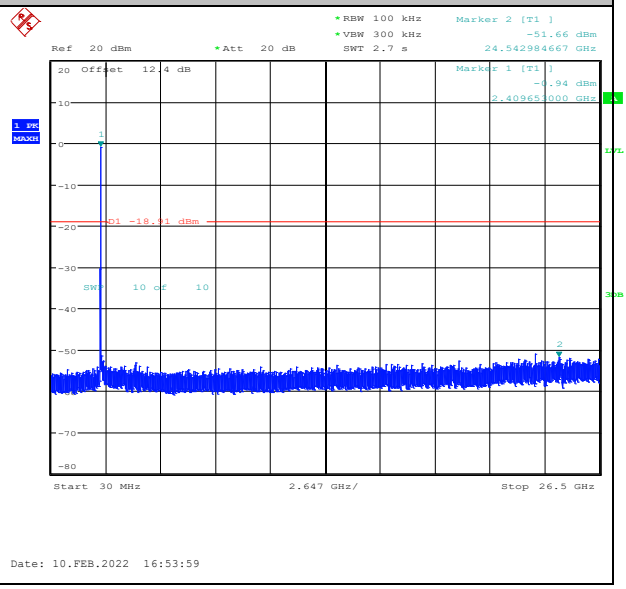

802.11n-HT20
Mid Channel

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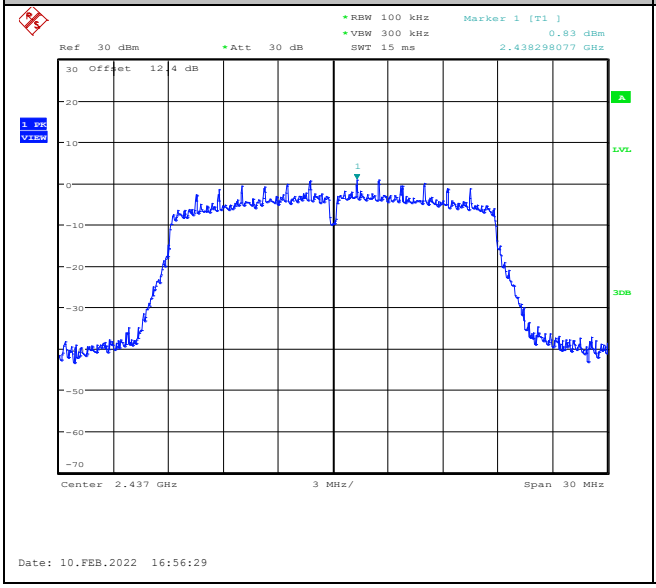	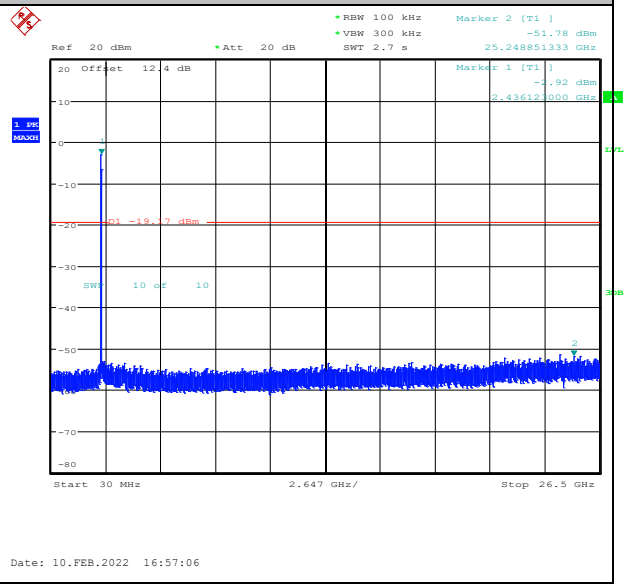

802.11n-HT20
High Channel

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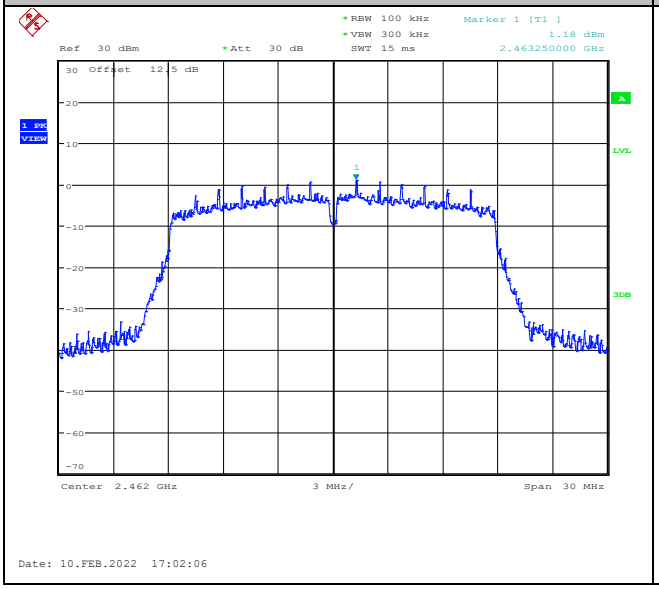	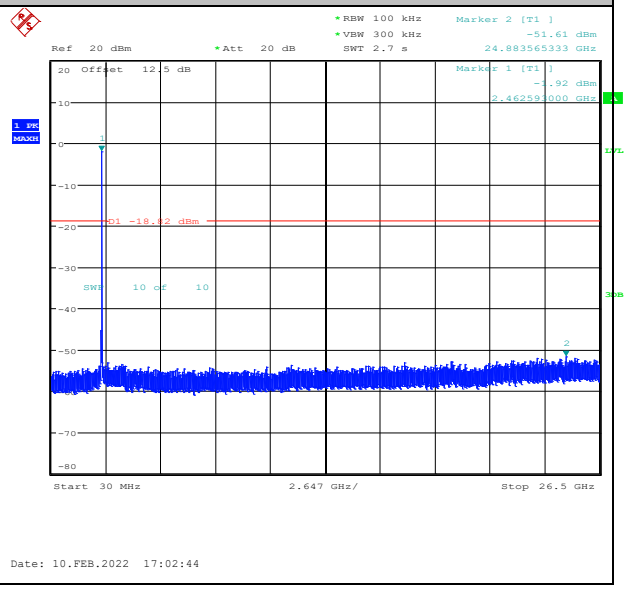

802.11n-HT40
Low Channel

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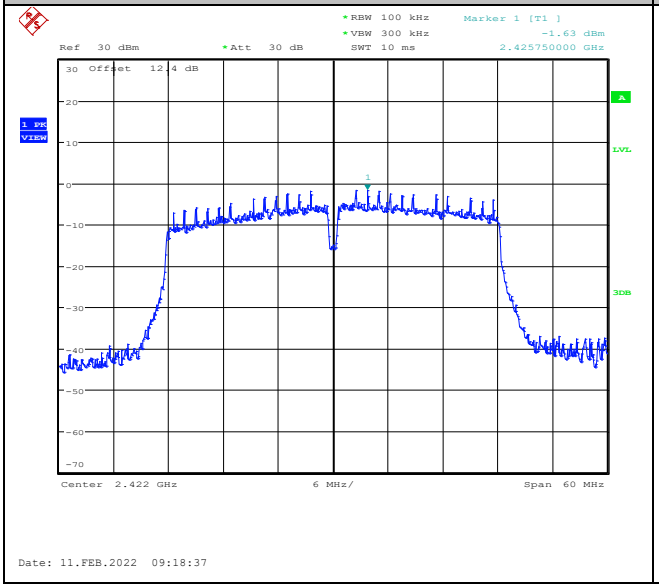	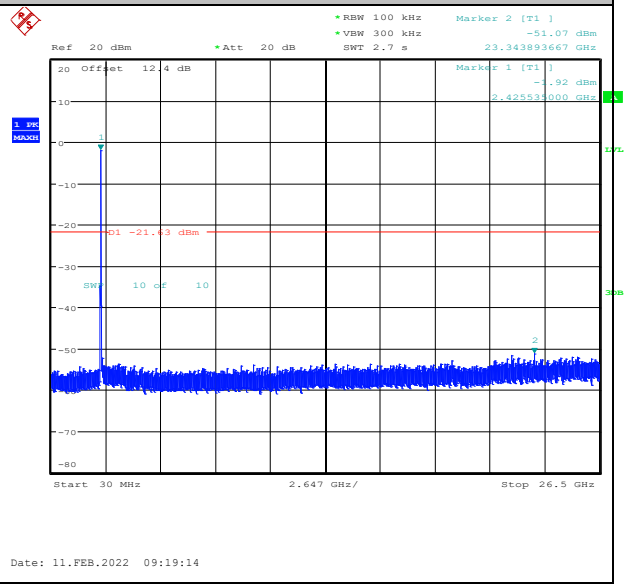

802.11n-HT40
Mid Channel

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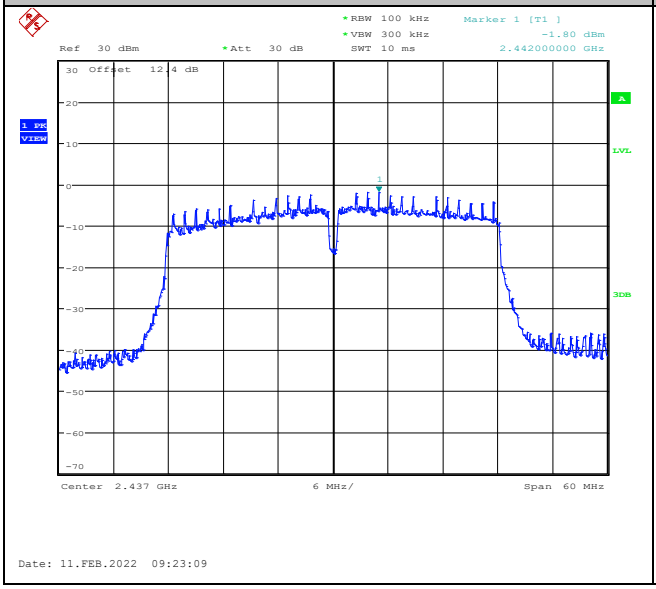	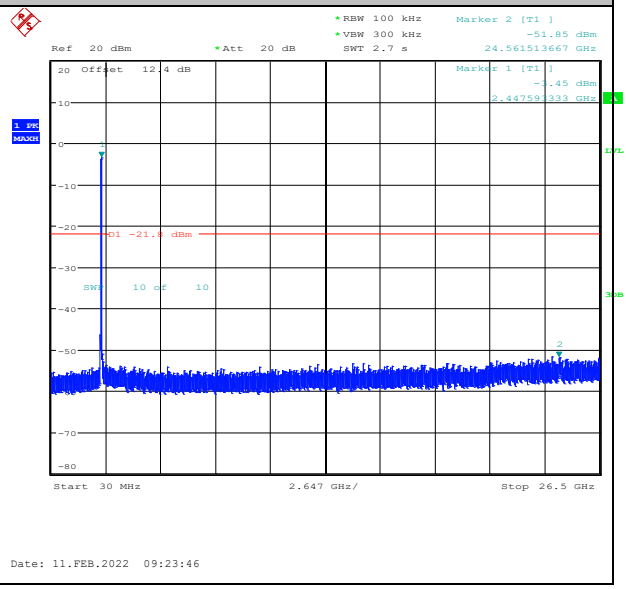

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High Channel

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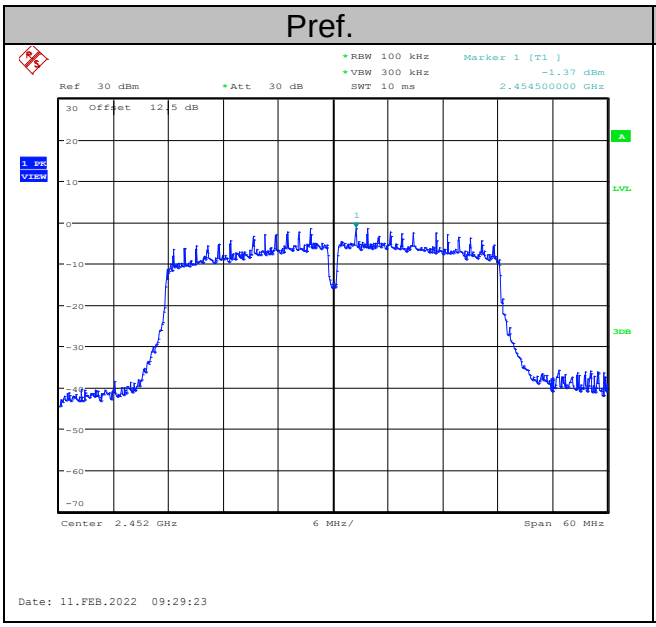
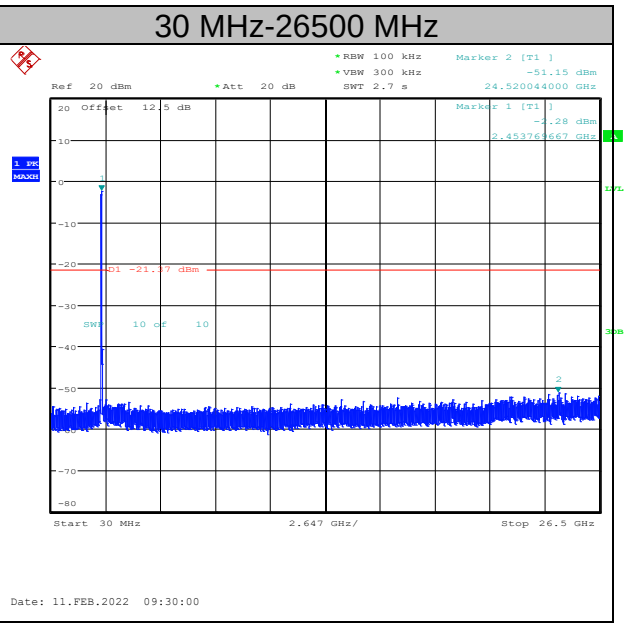
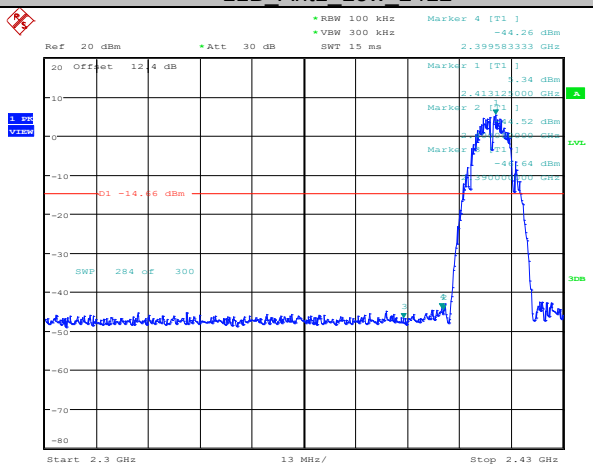
	

Band Edge

11B_Ant1_Low_2412



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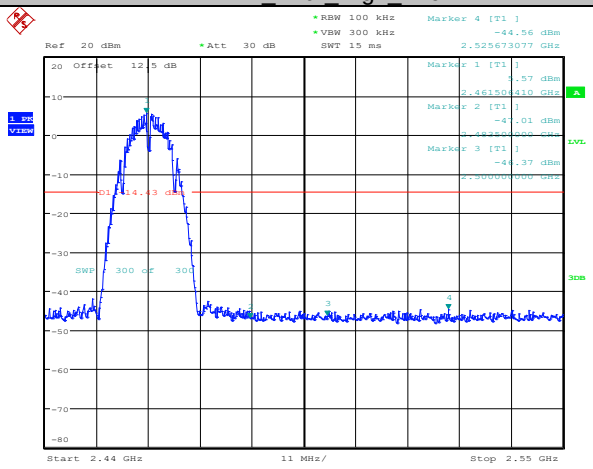

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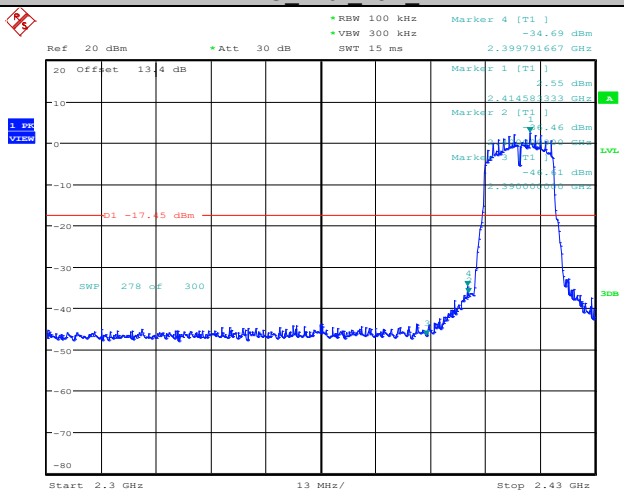

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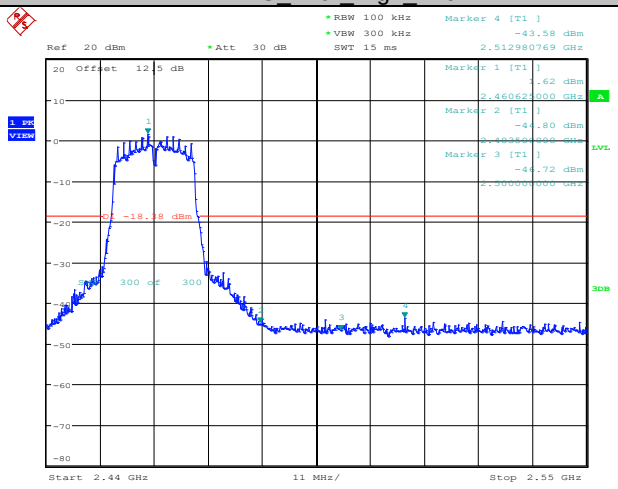

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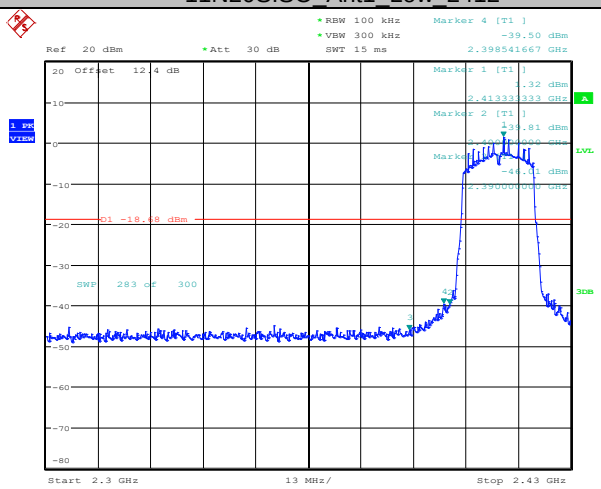

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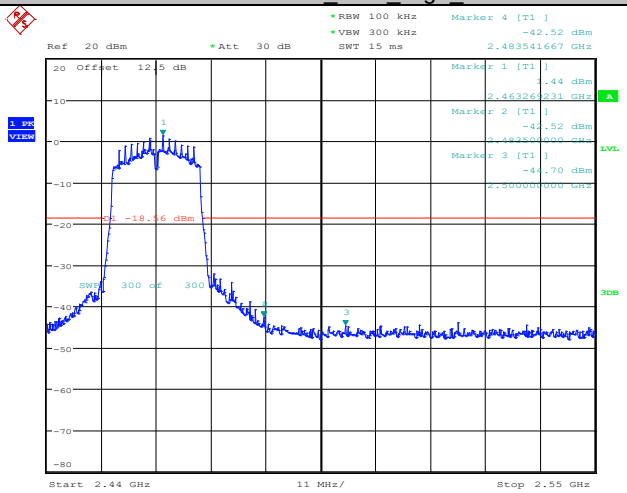

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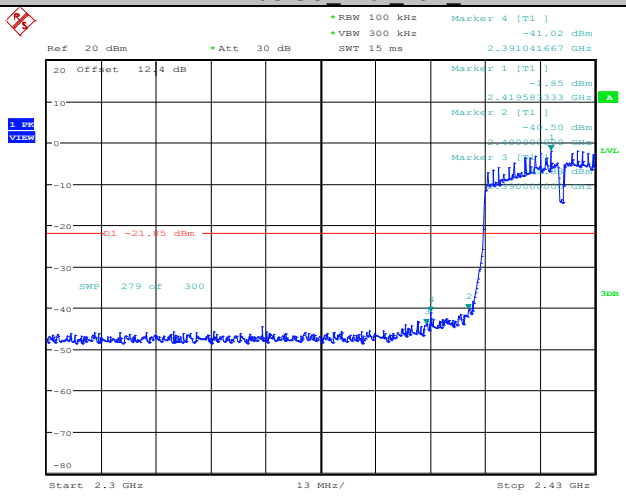
11N40SISO_Ant1_Low_2422



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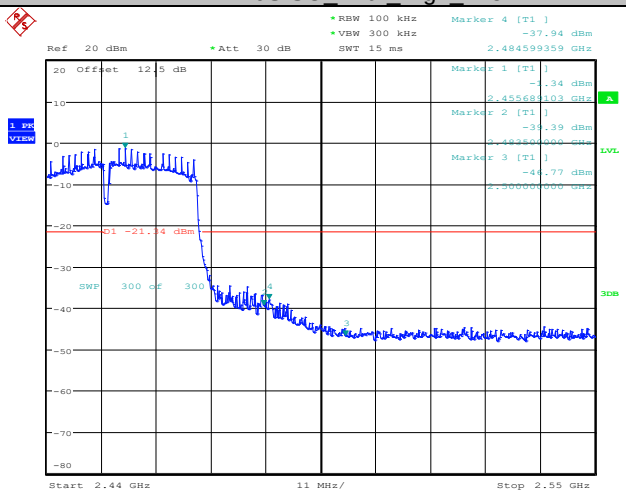


Date: 11.FEB.2022 09:29:12

10. RADIATED BANDEDGE AND SPURIOUS MEASUREMENT

10.1. LIMITS OF Radiated Bandedge and Spurious Measurement

Table 11 Radiation Emission Test Limit for FCC (9KHz-1GHz)

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

Table 12 Radiation Emission Test Limit for FCC (Above 1G)

Frequency (MHz)	(dBuV/m) (at 3 meters)	
	PEAK	AVERAGE
Above 1000	74	54

* The lower limit shall apply at the transition frequency.
* The test distance is 3m.

10.2. TEST PROCEDURE

ANSI C63.10-2020 Clause 11.12
1. The testing follows the guidelines in ANSI C63.10-2020.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
3. For measurement below 1GHz, the EUT was placed on a turntable with 0.8 meter, above ground. For measurement above 1 GHz, test at FAR, the EUT is placed on a non-conductive table, which is 1.5 meter above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
6. For measurement below 1GHz, If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
7. Use the following spectrum analyzer settings:
(1) Span shall wide enough to fully capture the emission being measured;
(2) Set RBW=100 kHz for f < 1 GHz; VBW >= RBW; Sweep = auto; Detector function = peak; Trace = max hold;

(3) Set RBW = 1 MHz, VBW= 3MHz for f > 1 GHz for peak measurement.
Set RBW = 1 MHz, and VBW= 1/T (on time) for average measurement.

10.3.TEST DATA

9 kHz-30MHz

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.

Table 13 Radiated Emission Test Data 9k Hz-30MHz

Frequency (MHz)	Cable Loss +preamp (dB)	Antenna Factor (dB)	Reading (dBμV/m)	Level (dBμV/m)	Polarity (H/V)	Limit (dBμV/m)	Margin (dB)	Note
--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--

30MHz-1GHz

Worst case is shown below for 30MHz-1GHz only.

The emissions don't show in following result tables are more than 20dB below the limits.

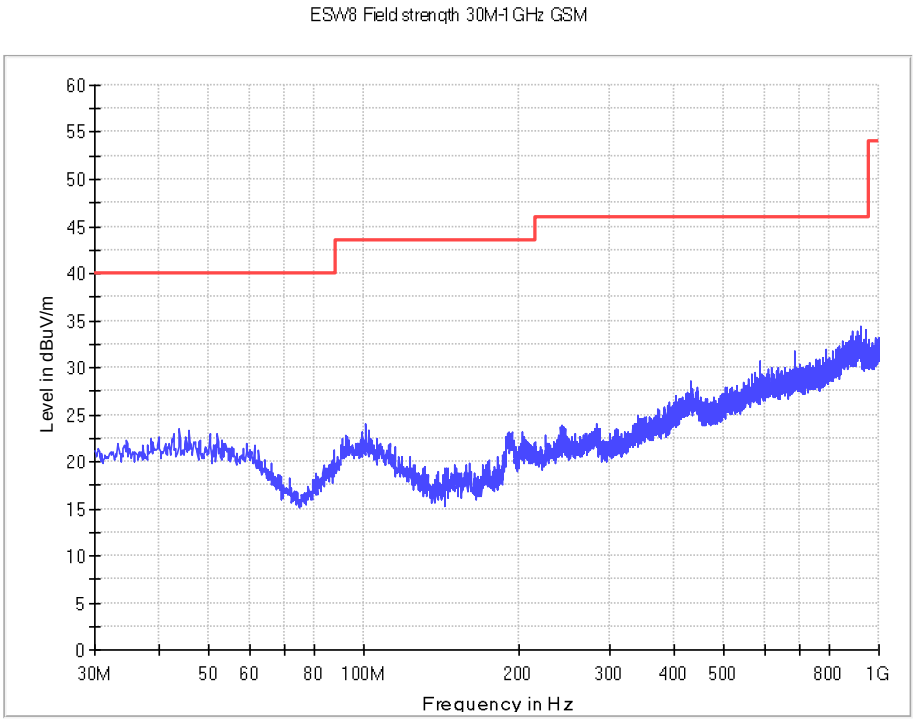
Table 14 Radiated Emission Test Data 30MHz-1GHz

Frequency (MHz)	Cable Loss +preamp (dB)	Antenna Factor (dB)	Reading (dBμV/m)	Level (dBμV/m)	Polarity (Horizontal/ Vertical)	Limit (dBμV/m)	Margin (dB)	Note
43.822	0.7	13.6	9.2	23.5	Horizontal	40	16.5	QP
100.931	1.1	13.2	9.8	24.1	Horizontal	43.5	19.4	QP
190.656	1.6	10.6	11.0	23.2	Horizontal	43.5	20.3	QP
432.550	2.5	15.5	10.6	28.6	Horizontal	46	17.4	QP
684.143	3.2	18.5	10.1	31.8	Horizontal	46	14.2	QP
920.823	3.9	21.1	9.3	34.3	Horizontal	46	11.7	QP
58.615	0.8	13.0	14.7	28.5	Vertical	40	11.5	QP
132.578	1.3	10.5	15.8	27.6	Vertical	43.5	15.9	QP
193.323	1.7	10.6	15.6	27.9	Vertical	43.5	15.6	QP
283.291	2.0	12.7	10.0	24.7	Vertical	46	21.3	QP
597.328	3.0	16.6	10.2	29.8	Vertical	46	16.2	QP
922.400	3.9	21.1	9.1	34.1	Vertical	46	11.9	QP

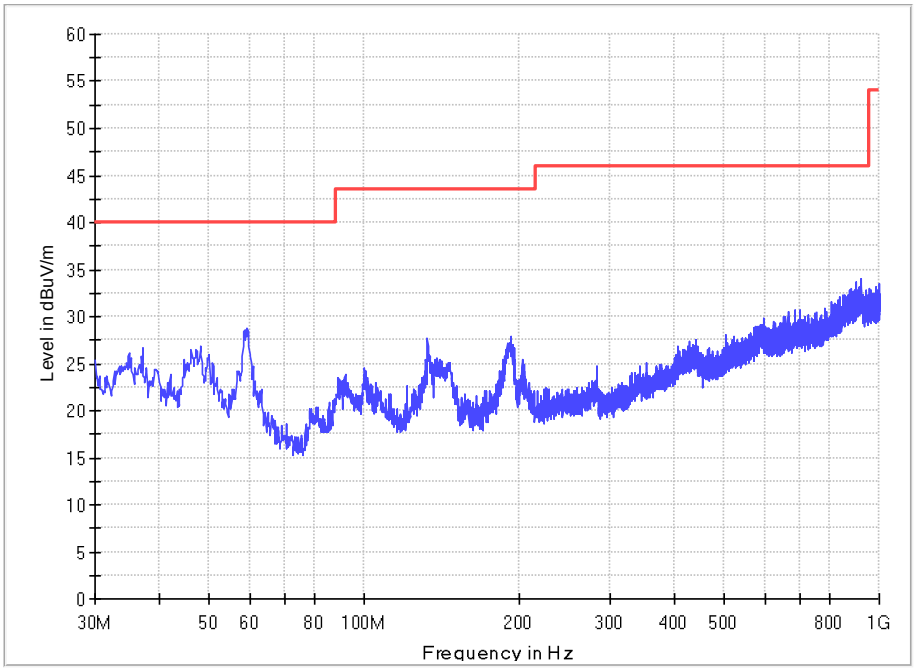
Remark: Emission level (dBuV)=Read Value(dBuV/m) + Antenna Factor(dB)+ Cable Loss +preamp(dB)

30MHz-1GHz

Horizontal



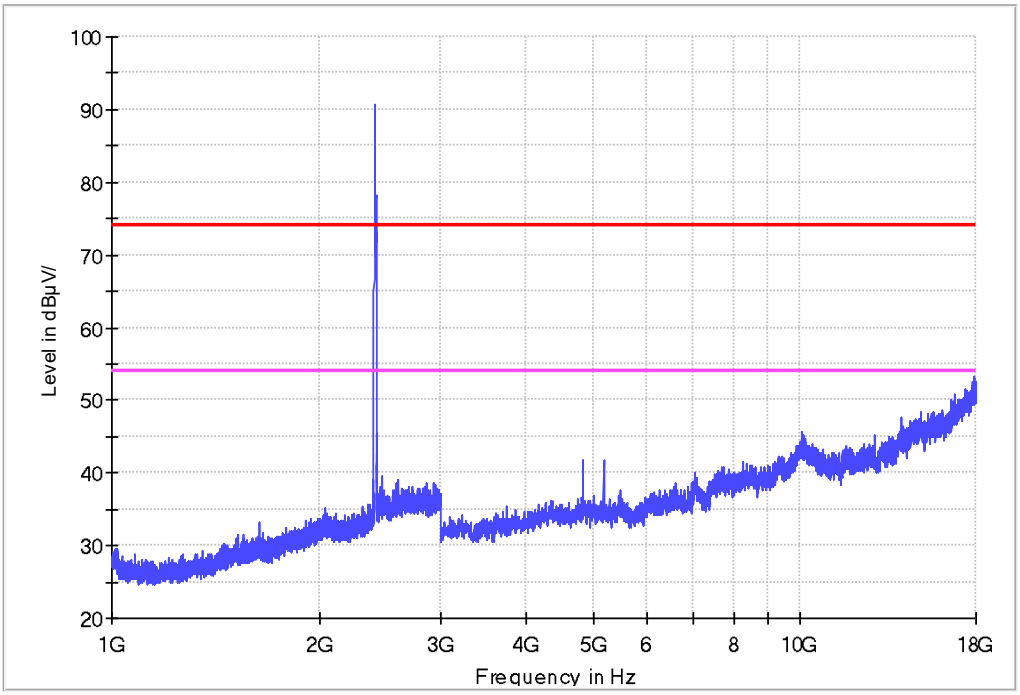
Vertical



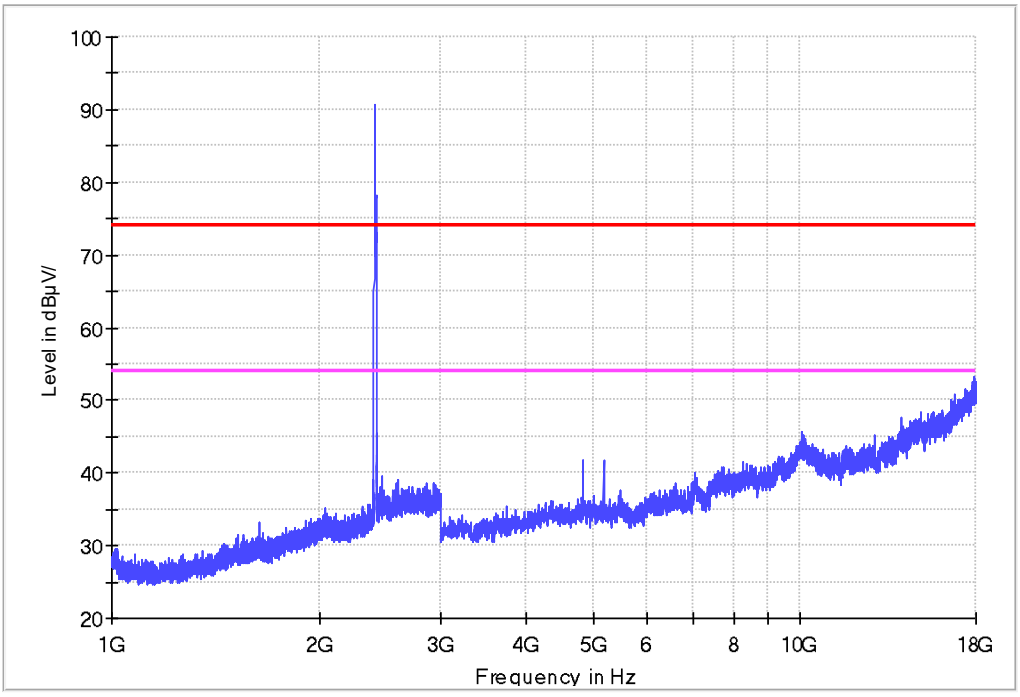
1-18G

802.11b CH1

Horizontal



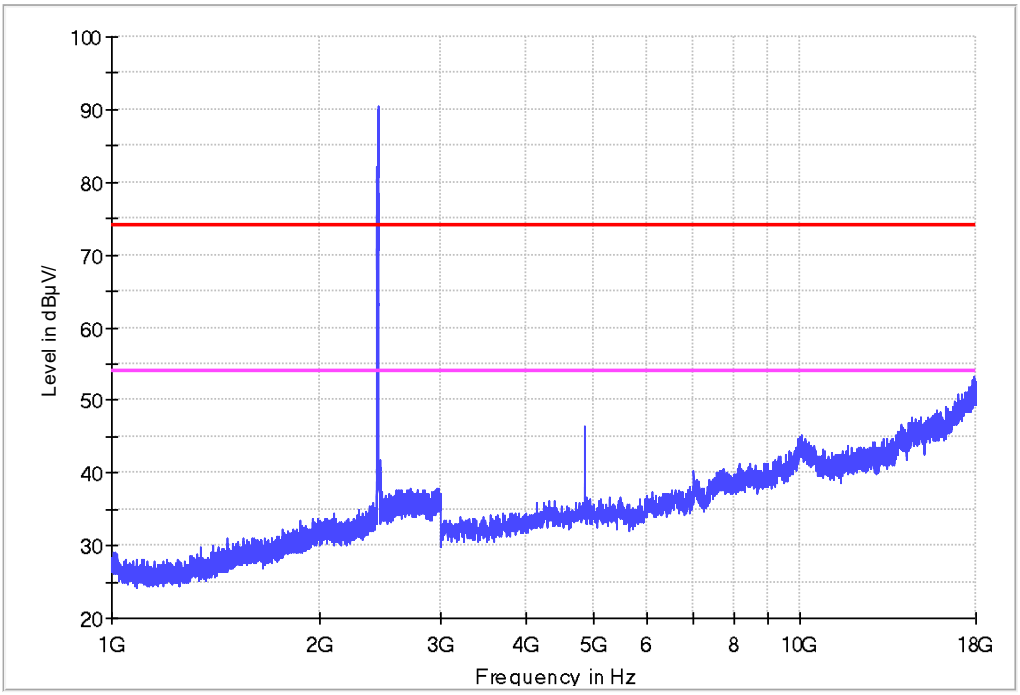
Vertical



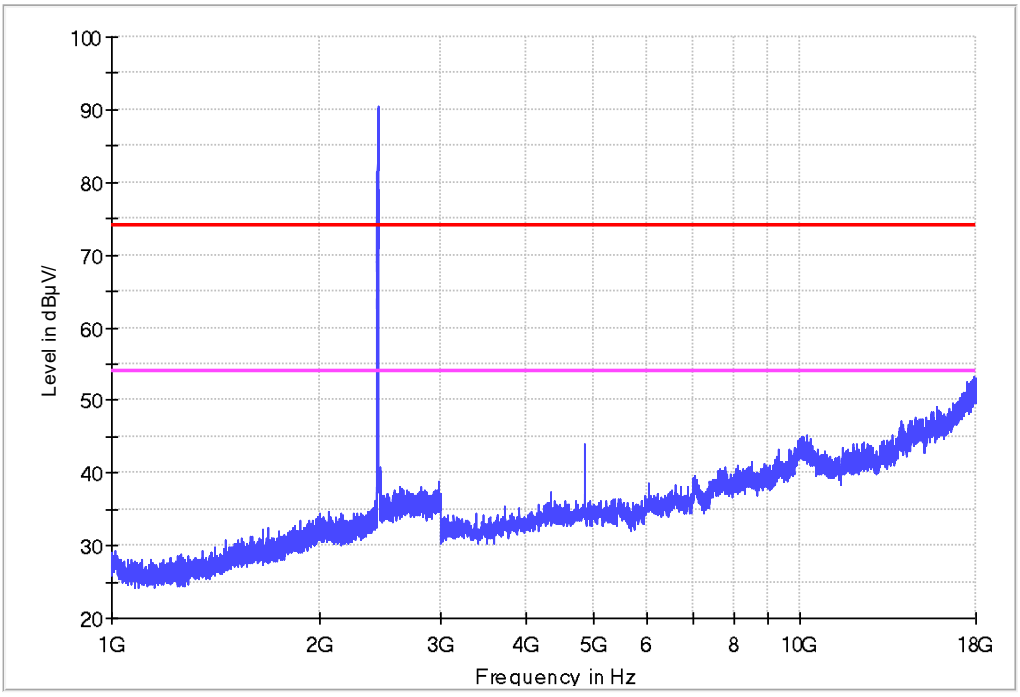
1-18G

802.11b CH6

Horizontal



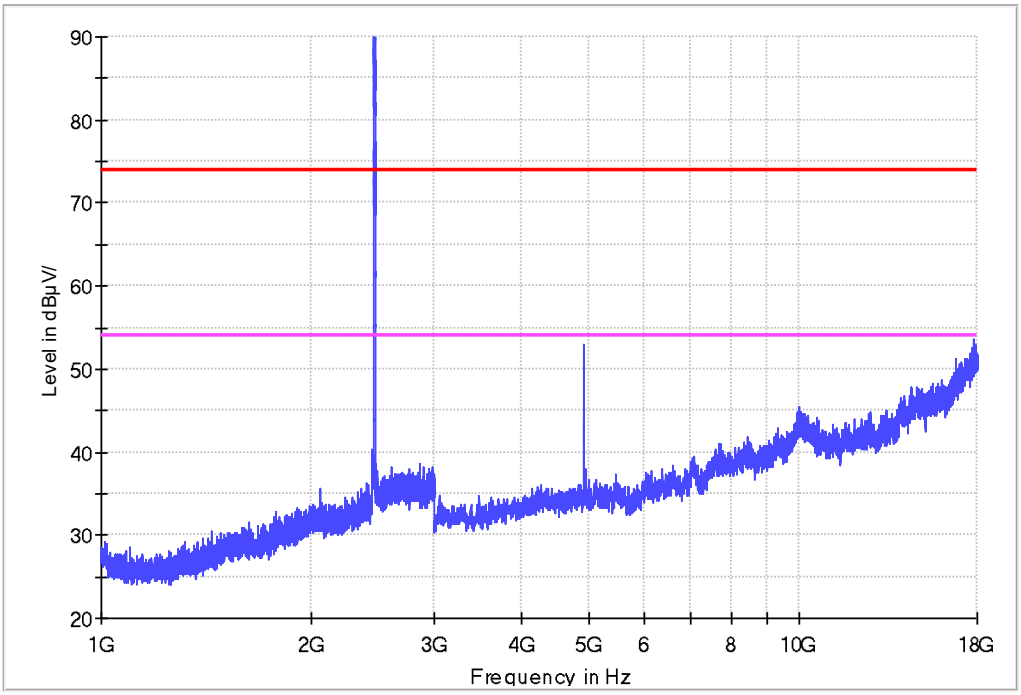
Vertical



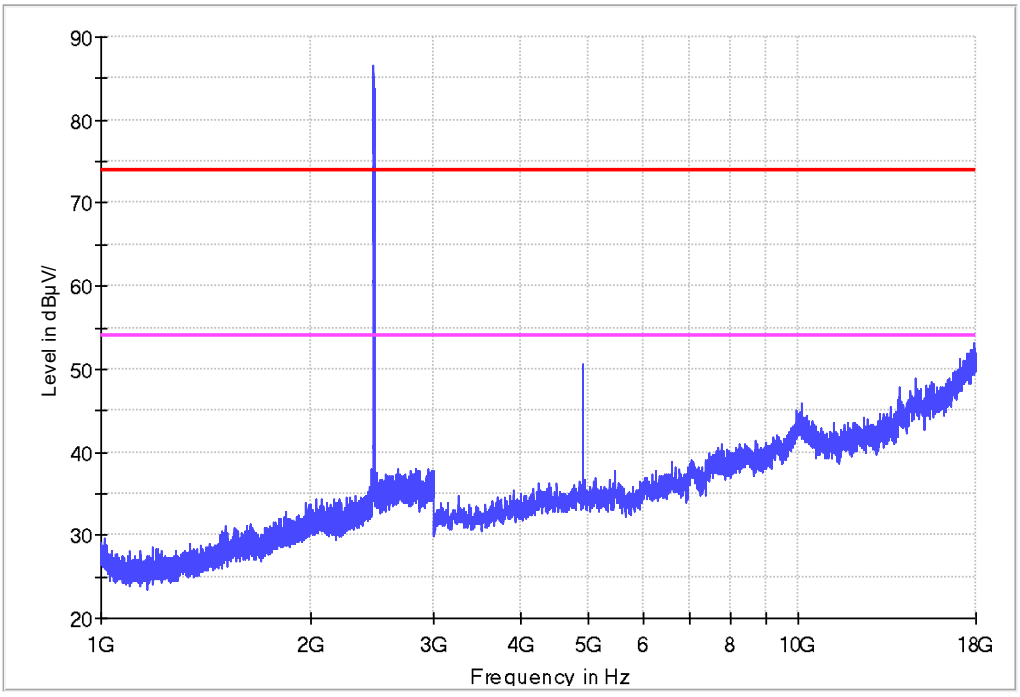
1-18G

802.11b CH11

Horizontal



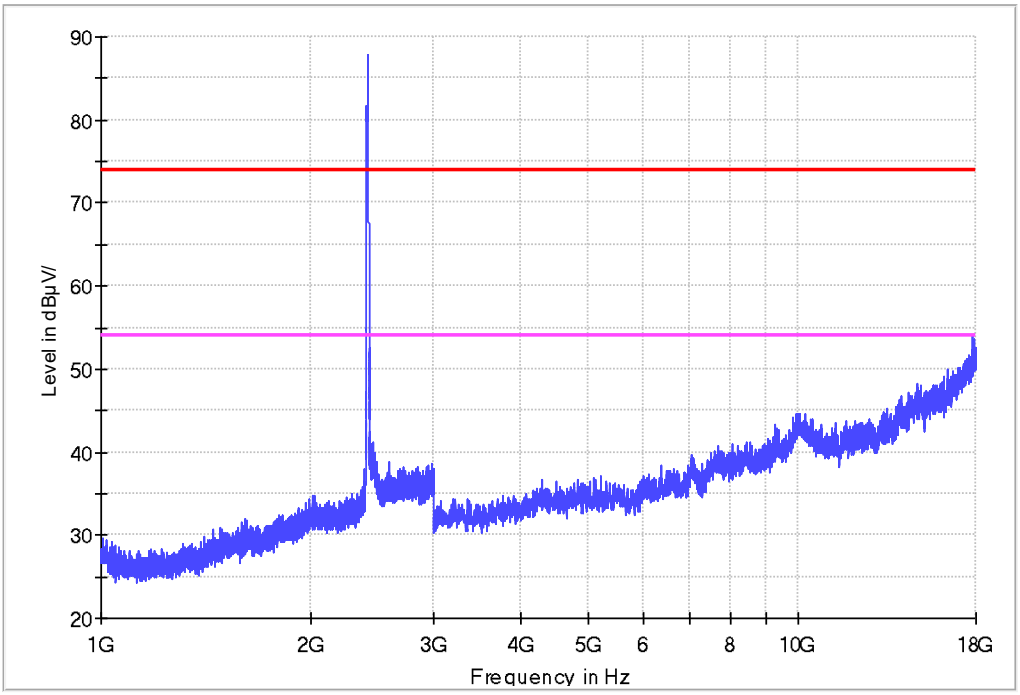
Vertical



1-18G

802.11g CH1

Horizontal



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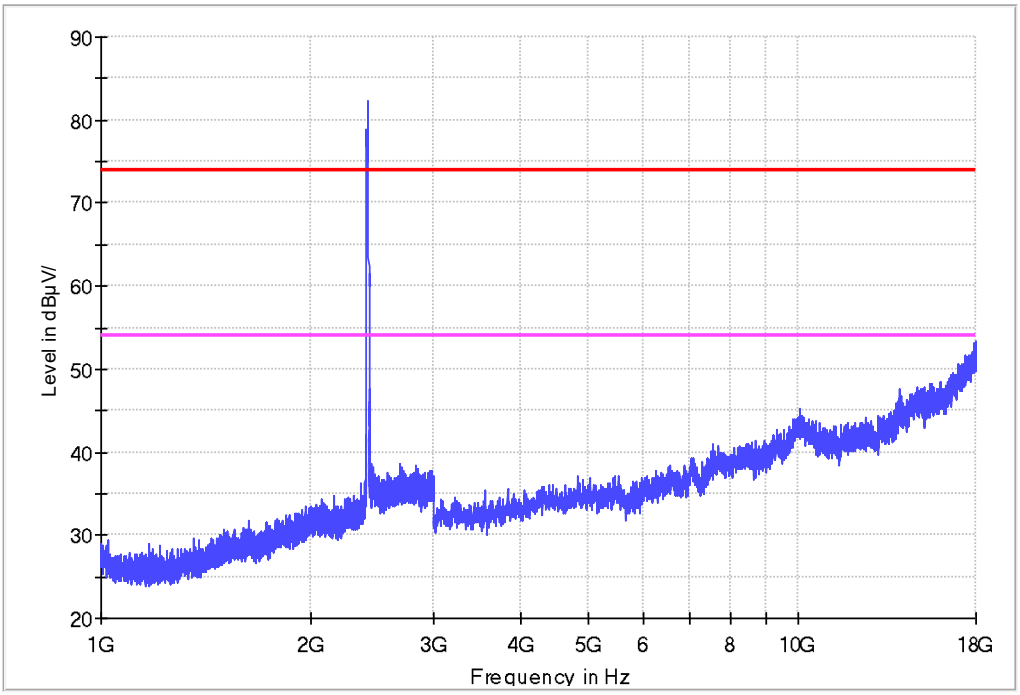
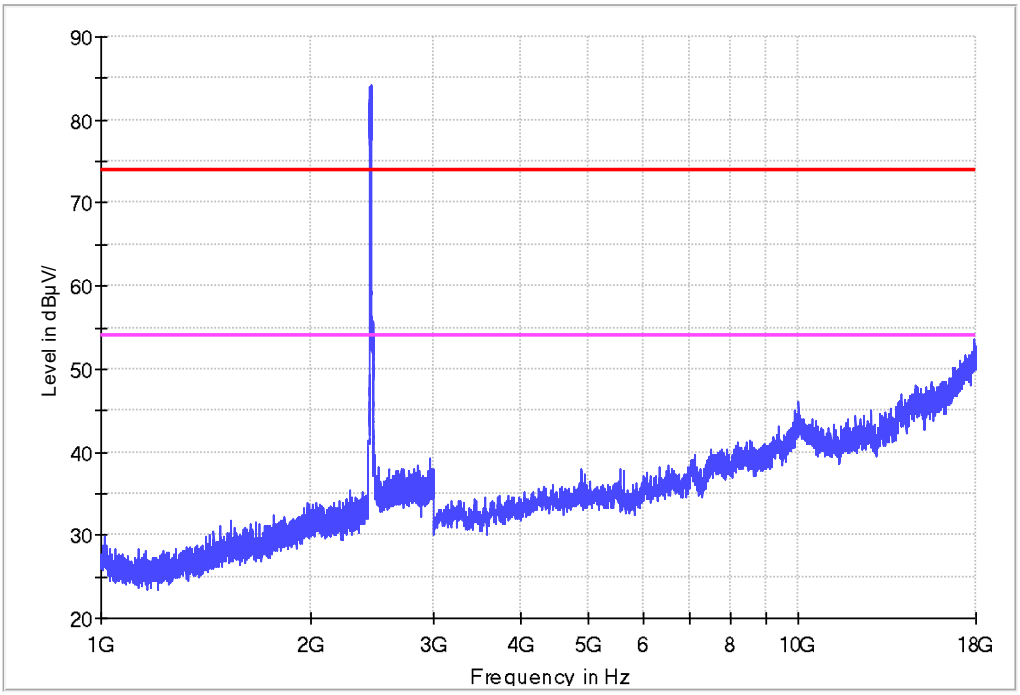


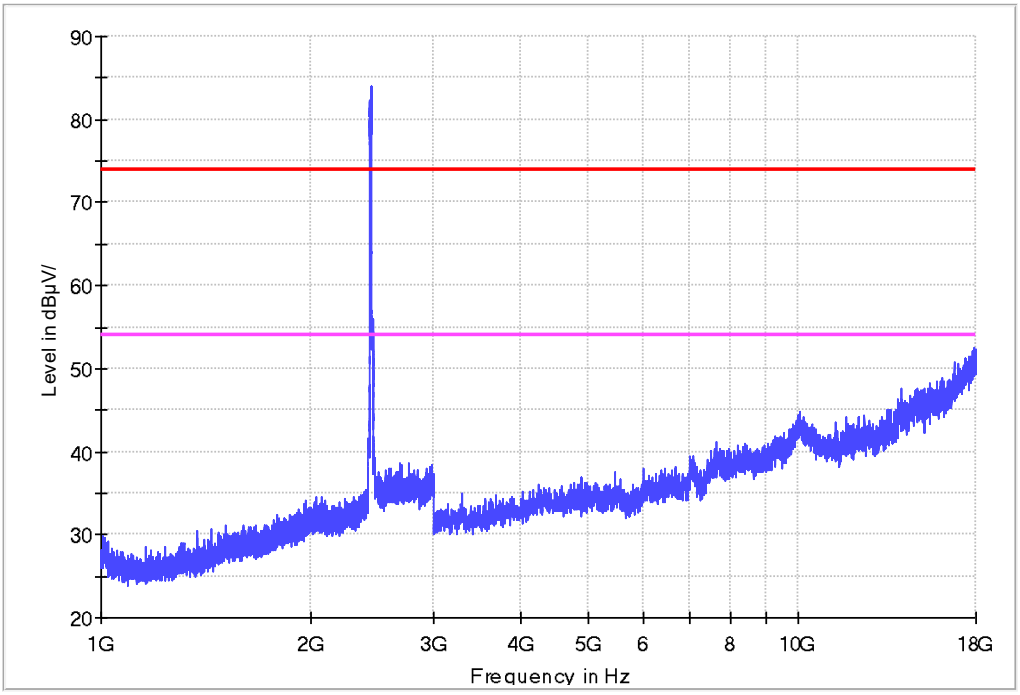
1-18G

802.11g CH6

Horizontal



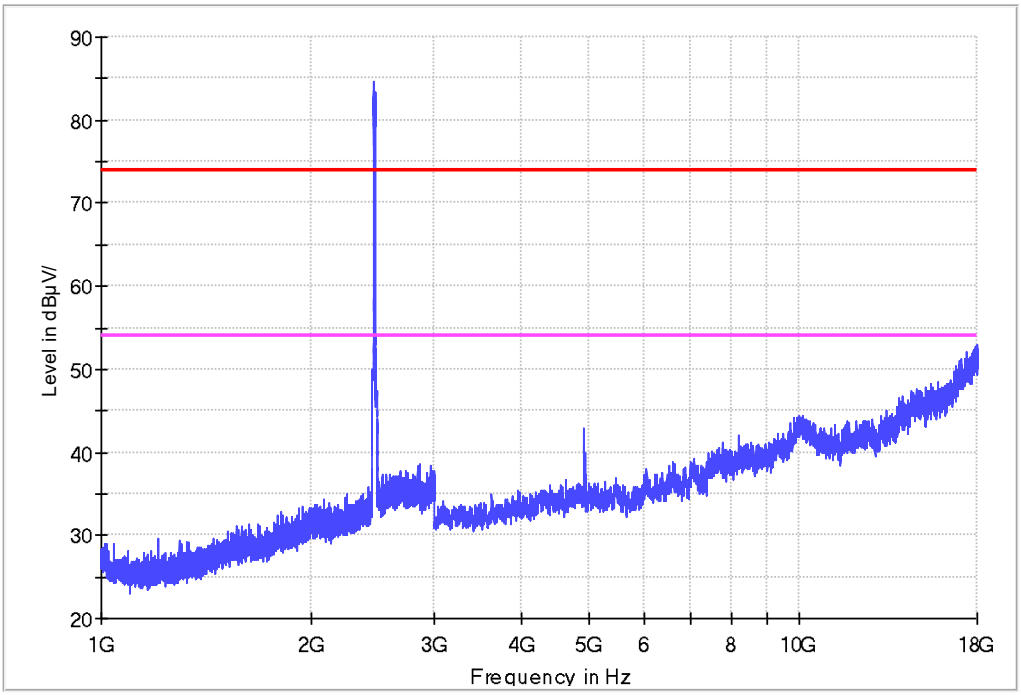
Vertical



1-18G

802.11g CH11

Horizontal



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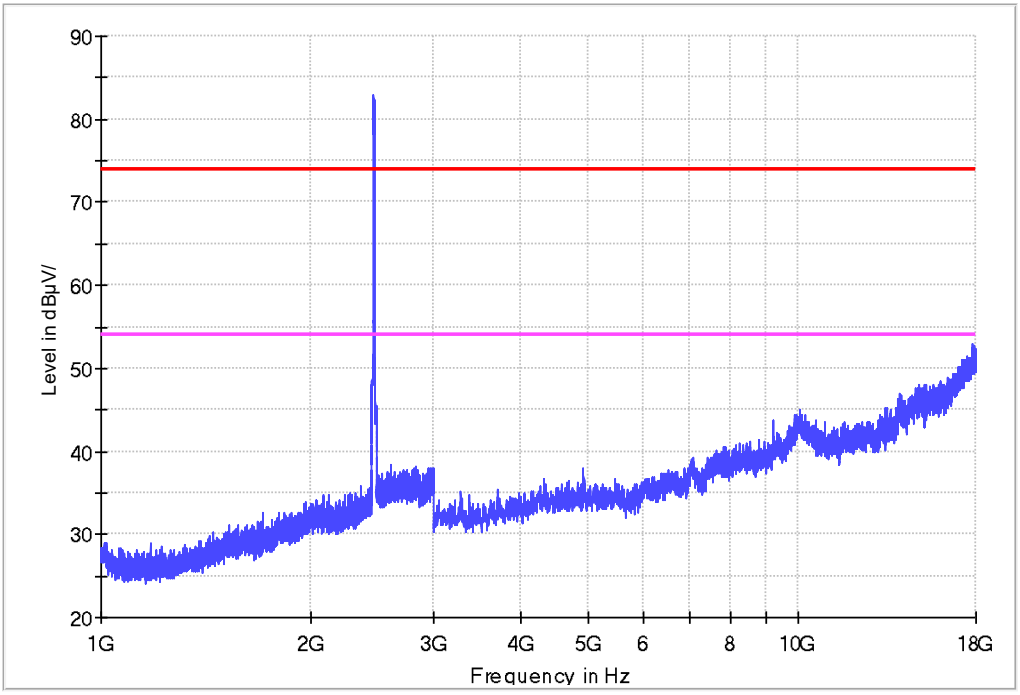
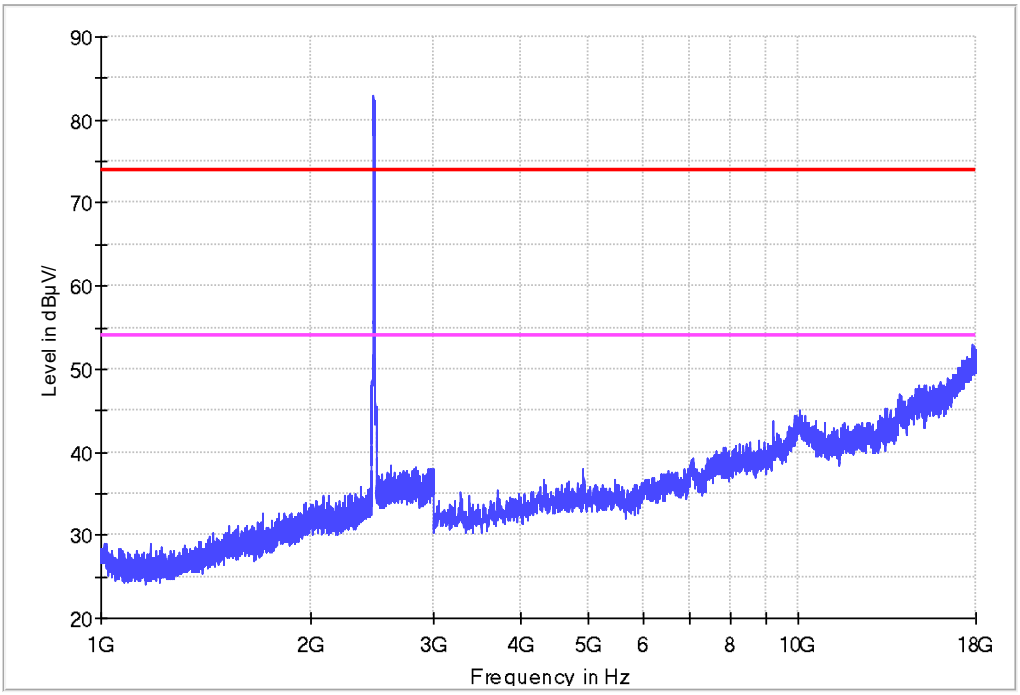


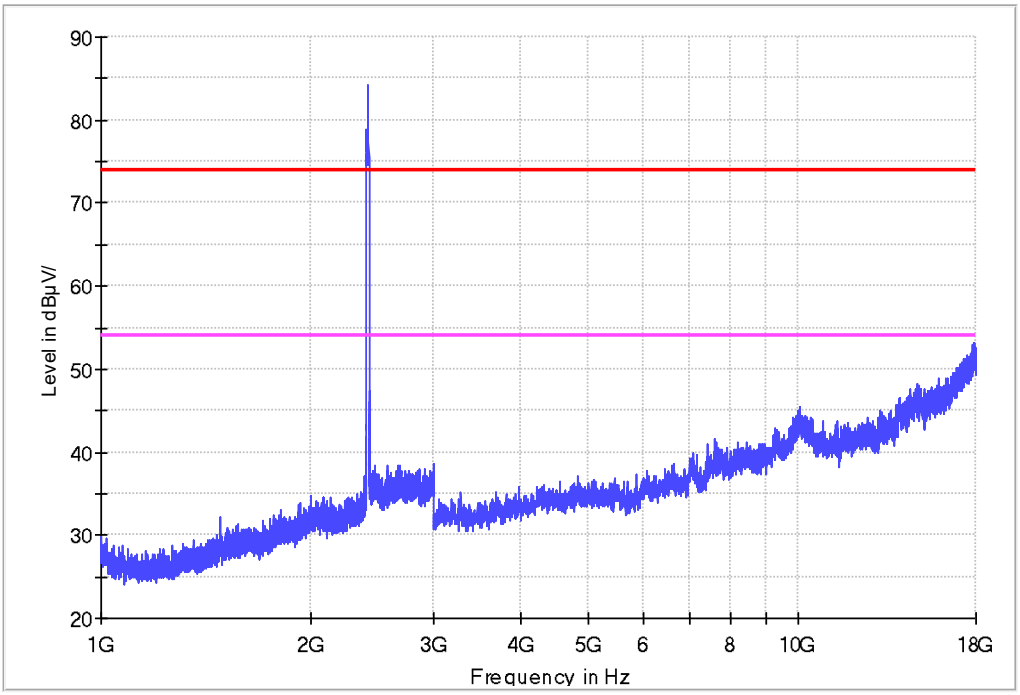
1-18G

802.11n-HT20 CH1

Horizontal



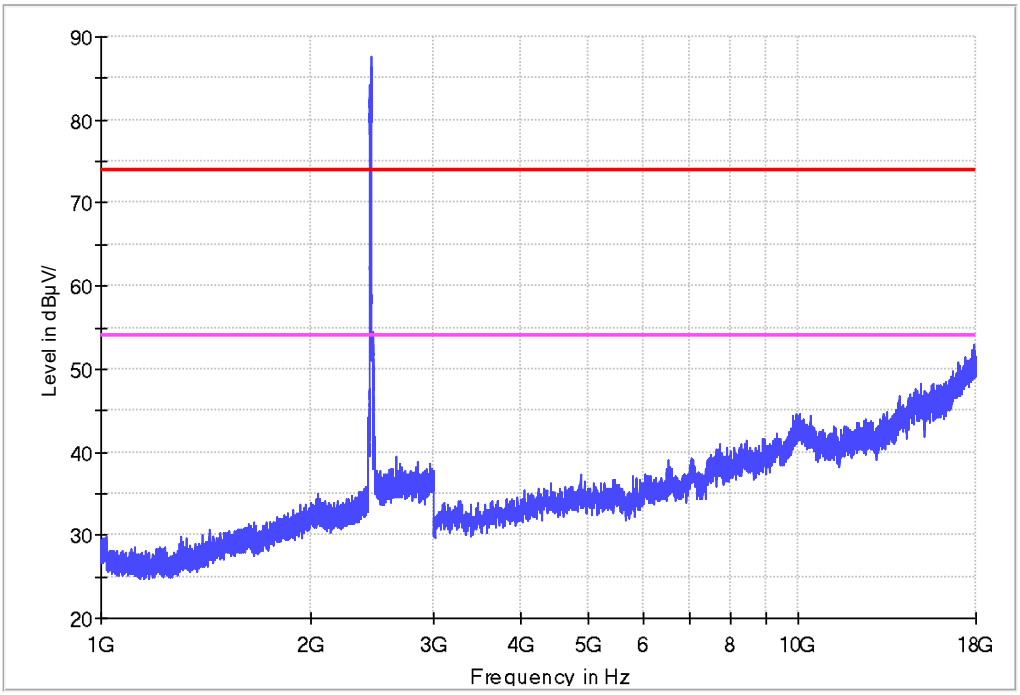
Vertical



1-18G

802.11n-HT20 CH6

Horizontal



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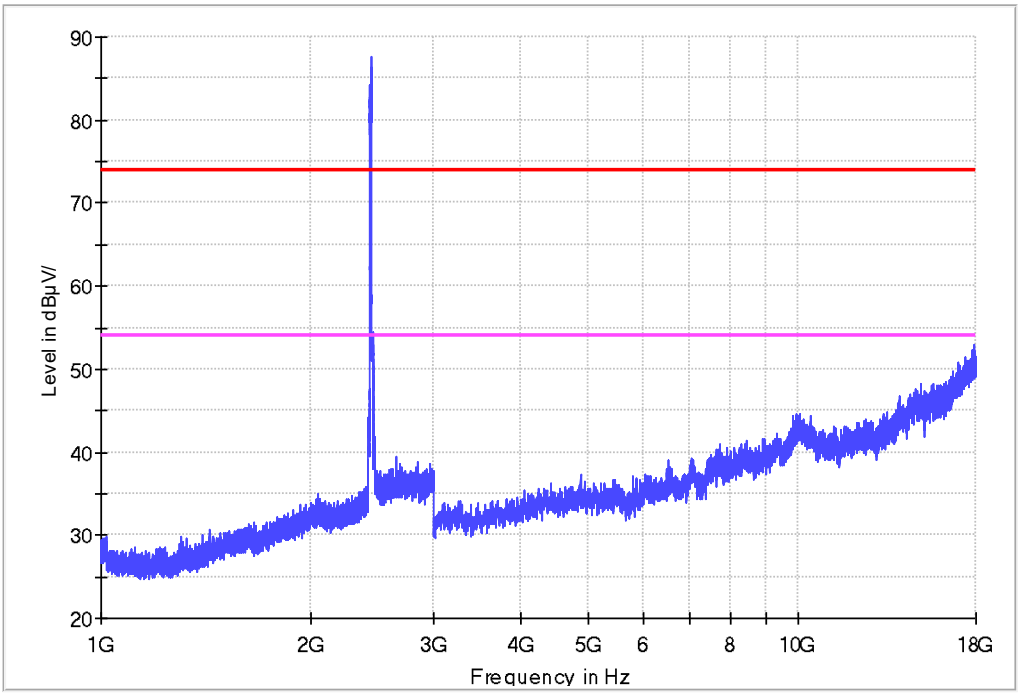
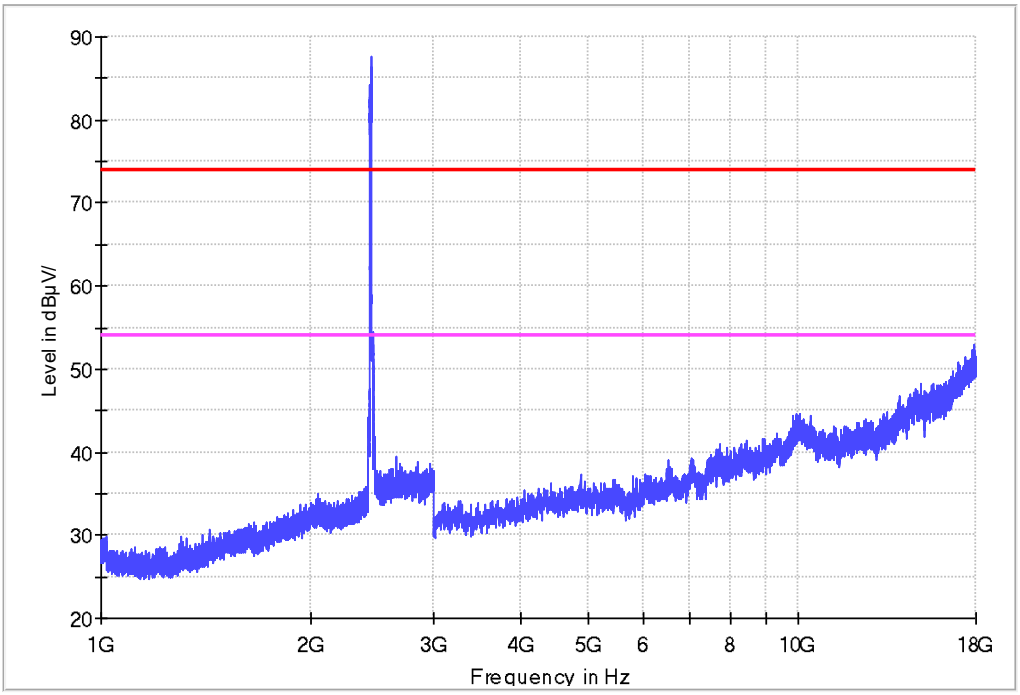


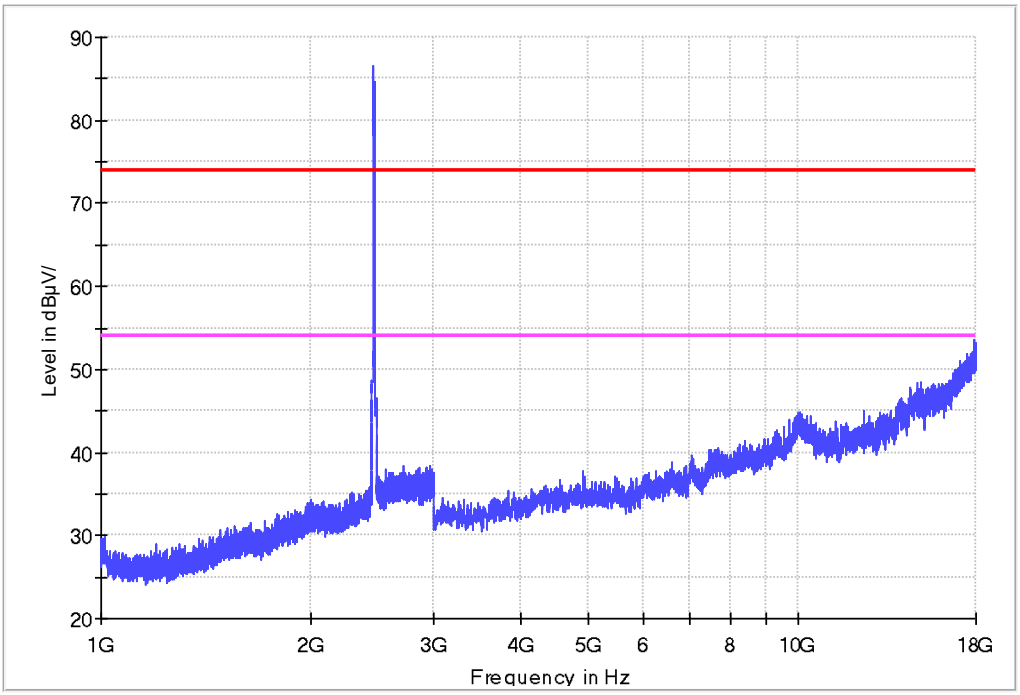
1-18G

802.11n-HT20 CH11

Horizontal



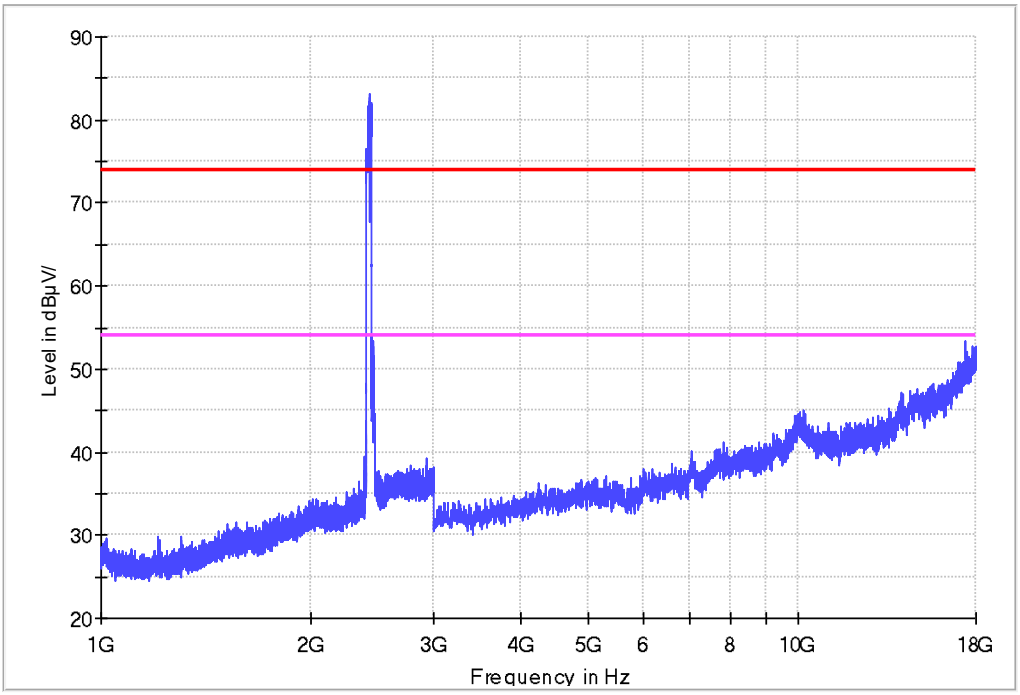
Vertical



1-18G

802.11n-HT40 CH3

Horizontal



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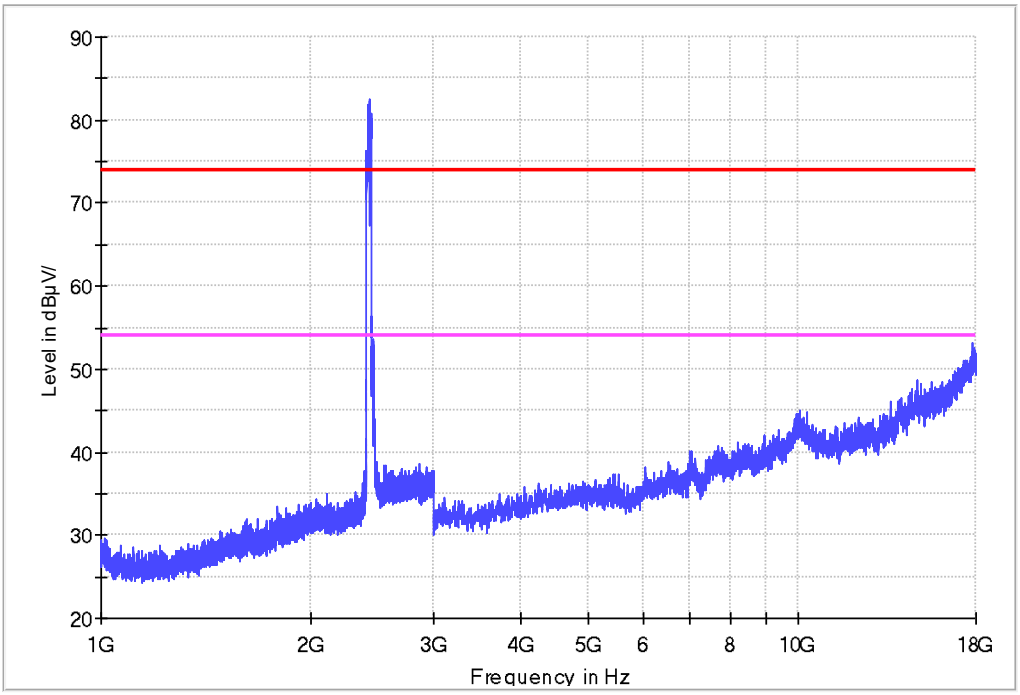
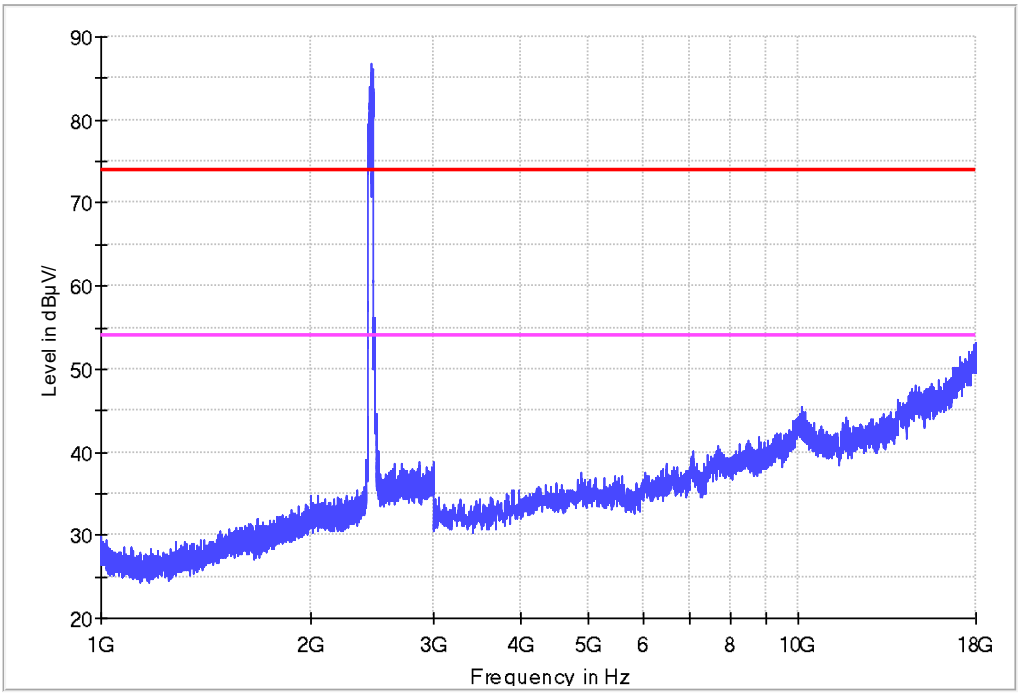


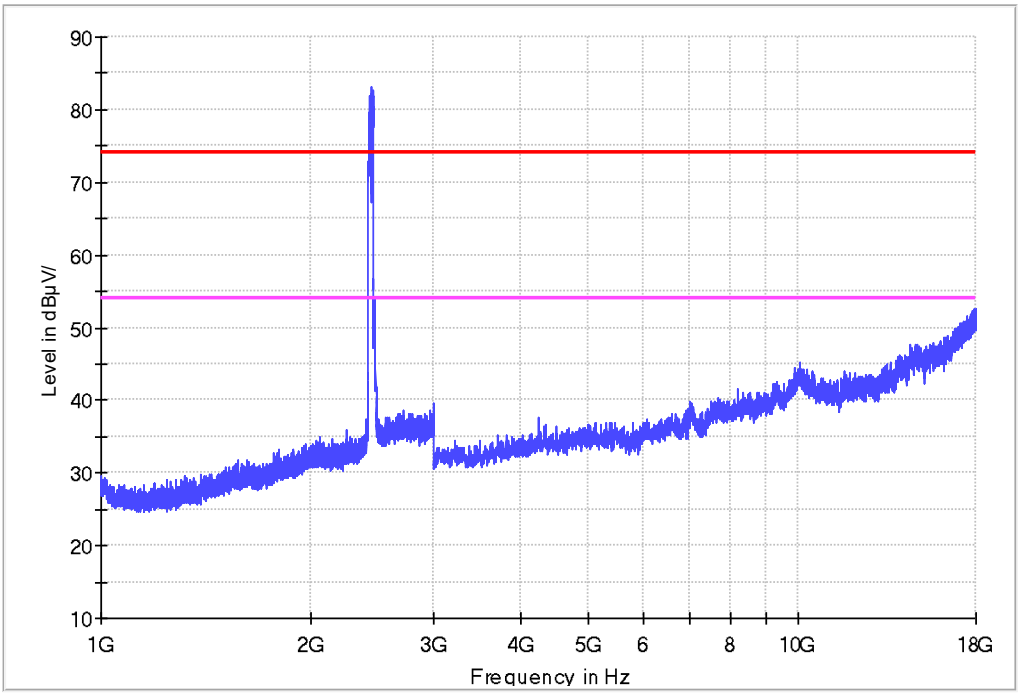
1-18G

802.11n-HT40 CH6

Horizontal



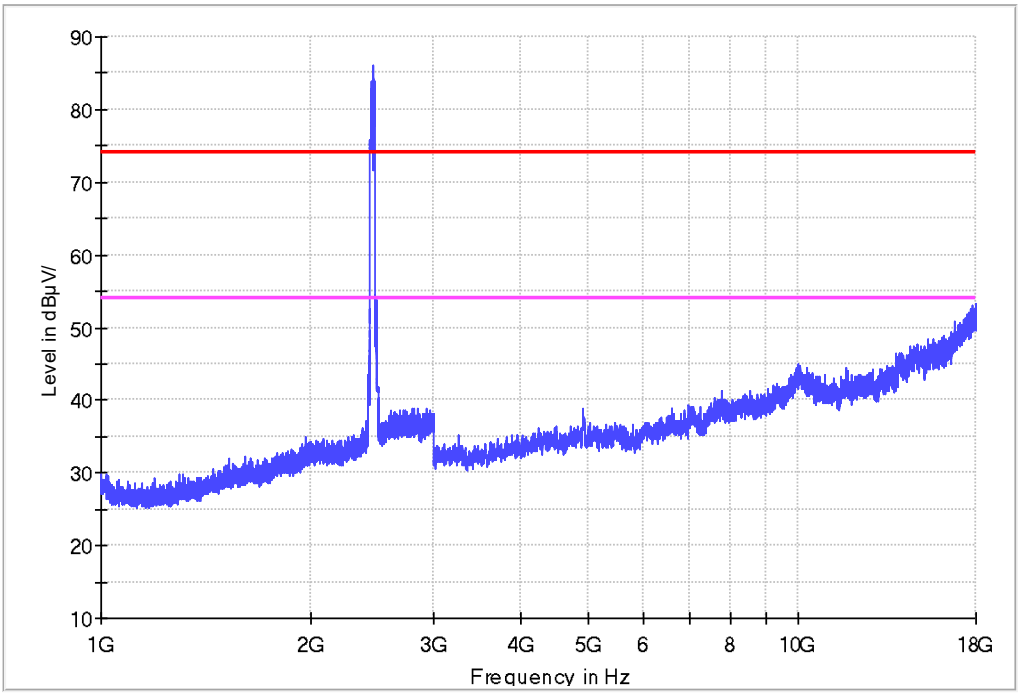
Vertical



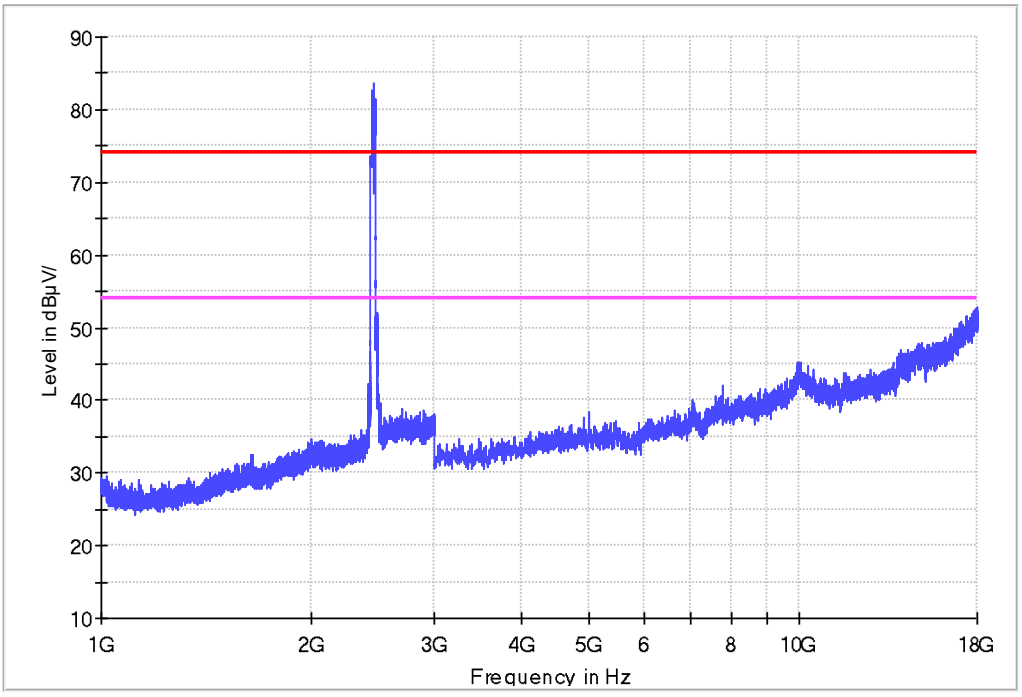
1-18G

802.11n-HT40 CH9

Horizontal

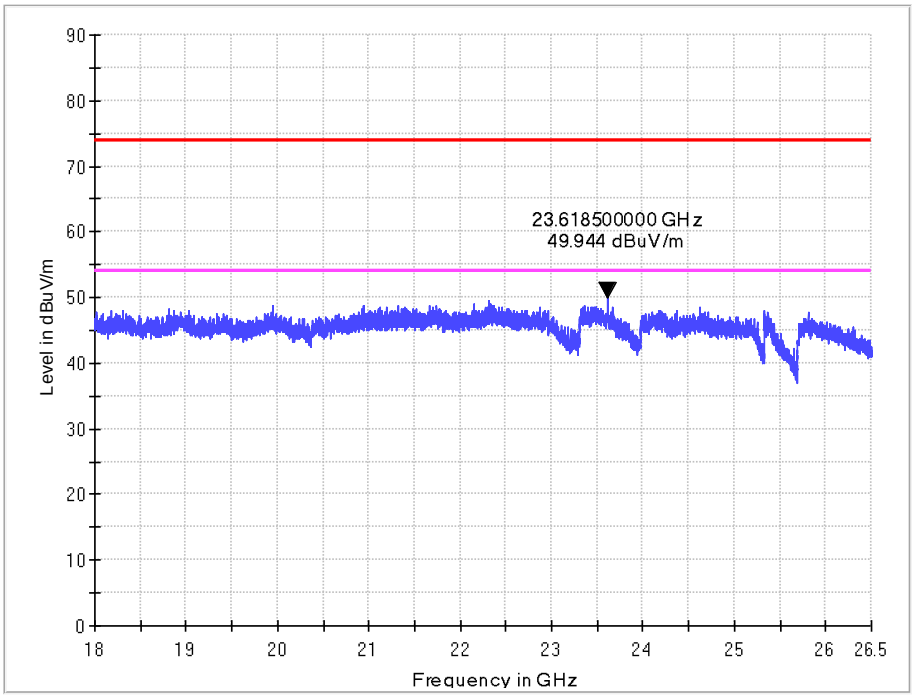


Vertical

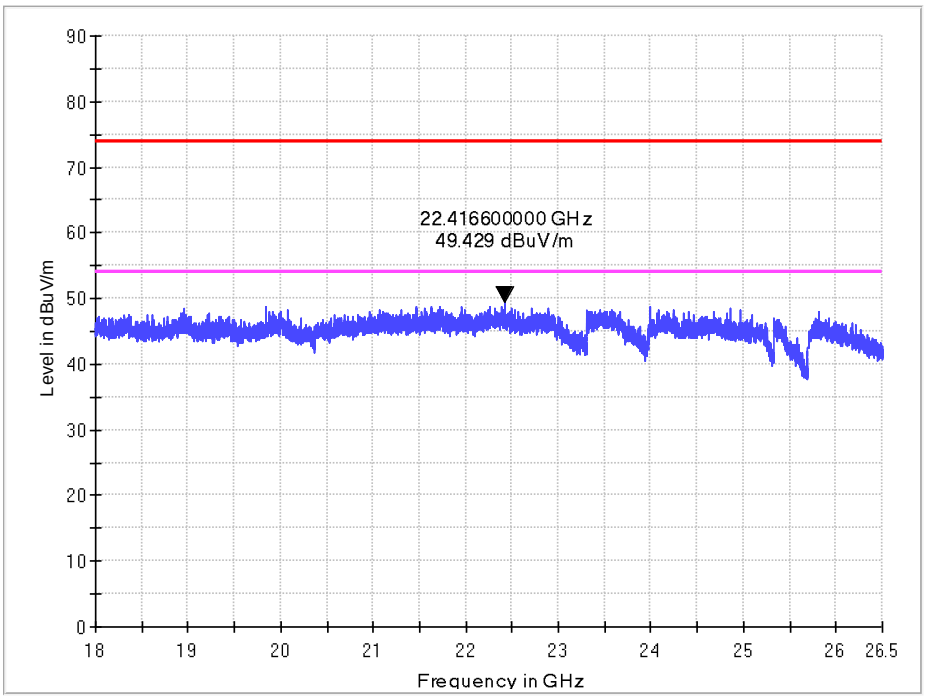


18-26.5G

(Worst Case)
Horizontal

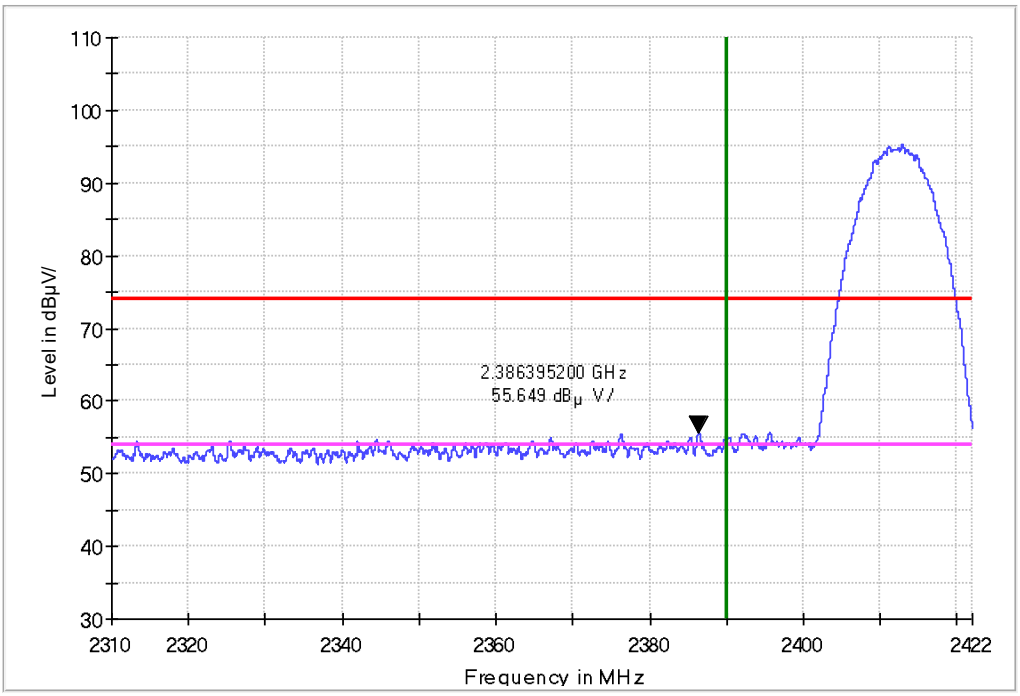


Vertical

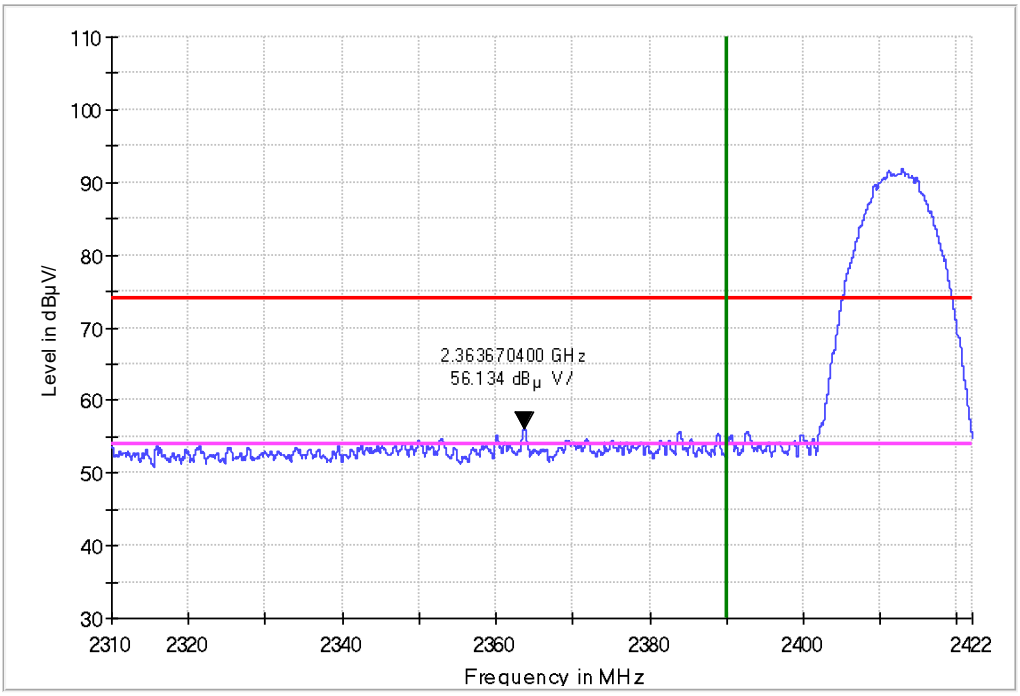


Band edge

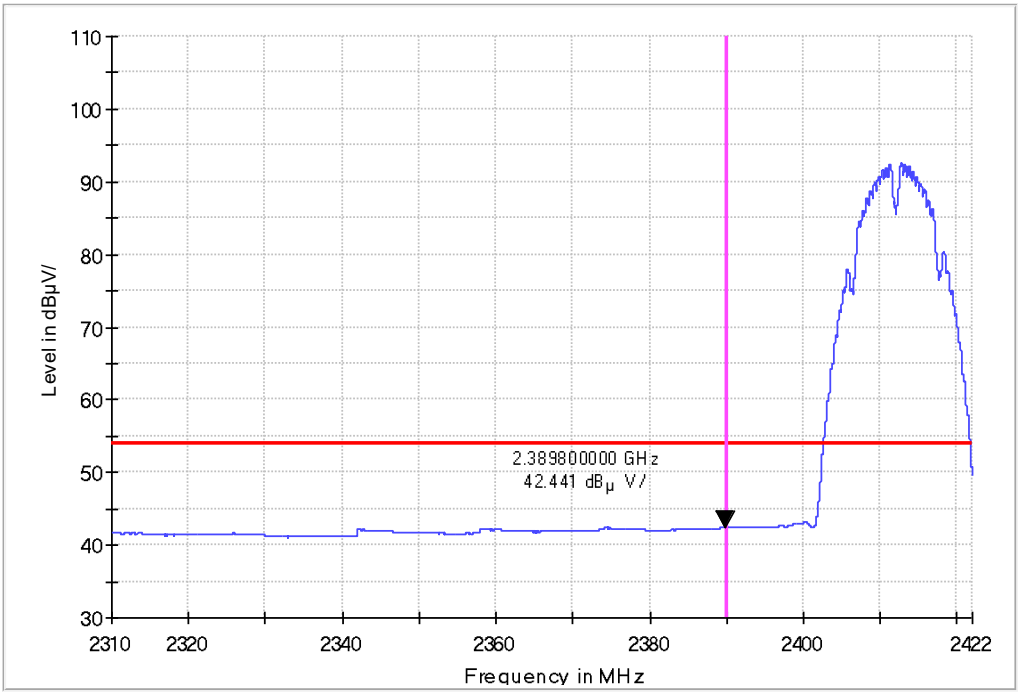
11b
CH1
PK
Horizontal



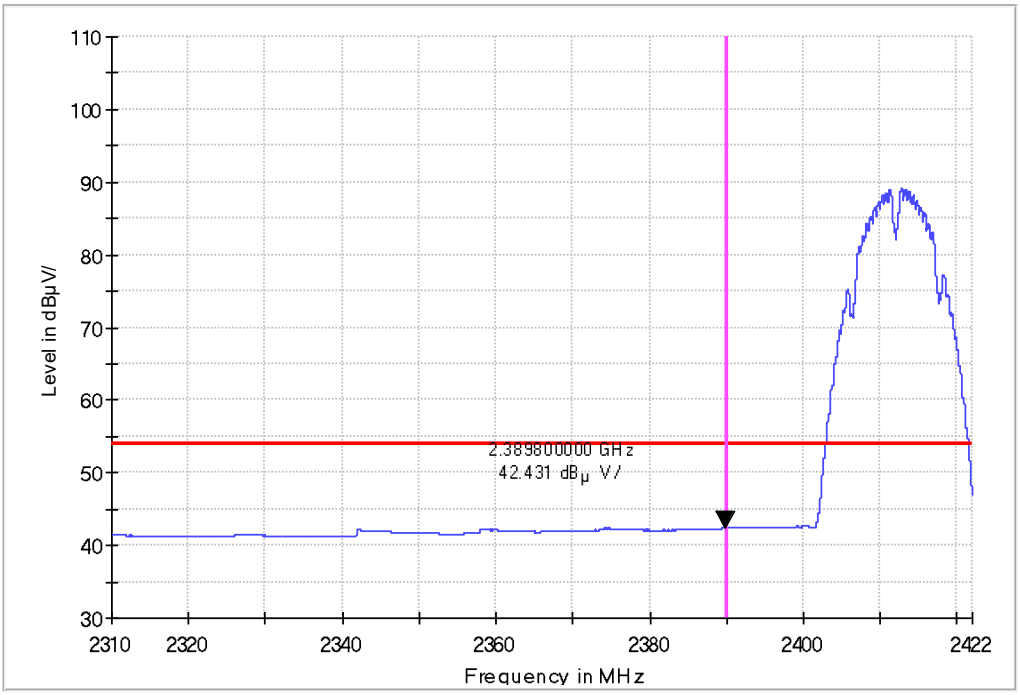
Vertical



AV
Horizontal

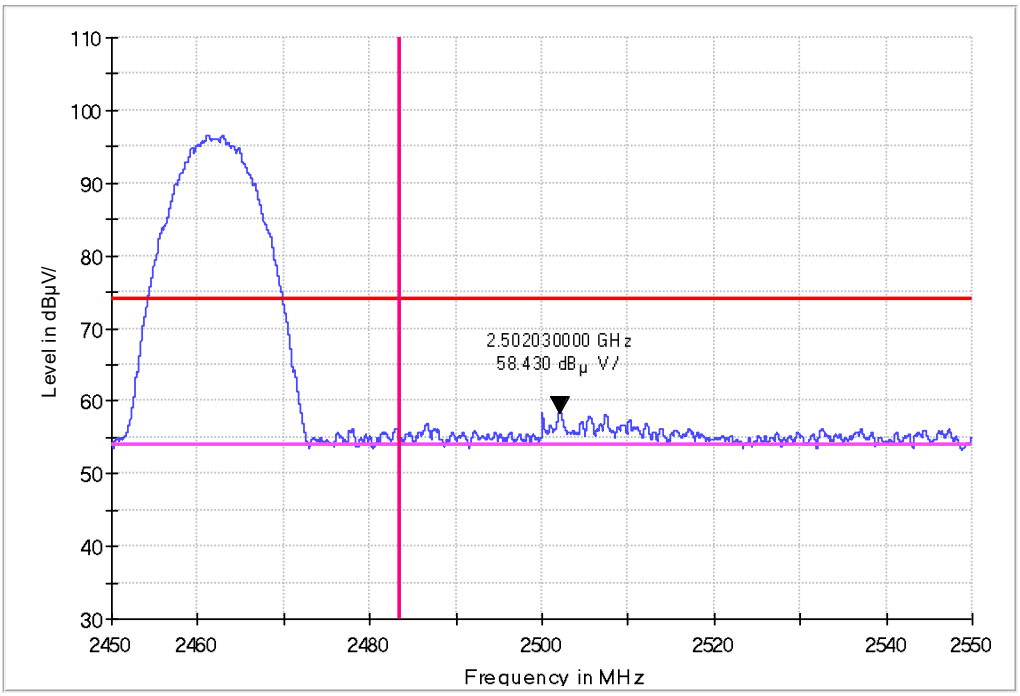


Vertical



Band edge

11b
CH11
PK
Horizontal



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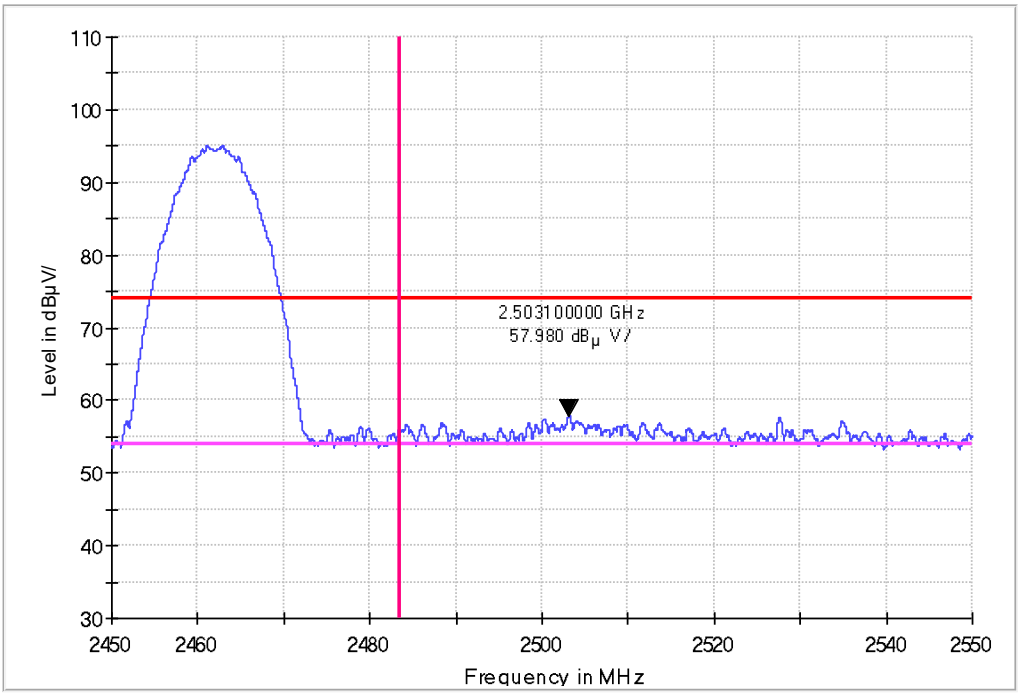
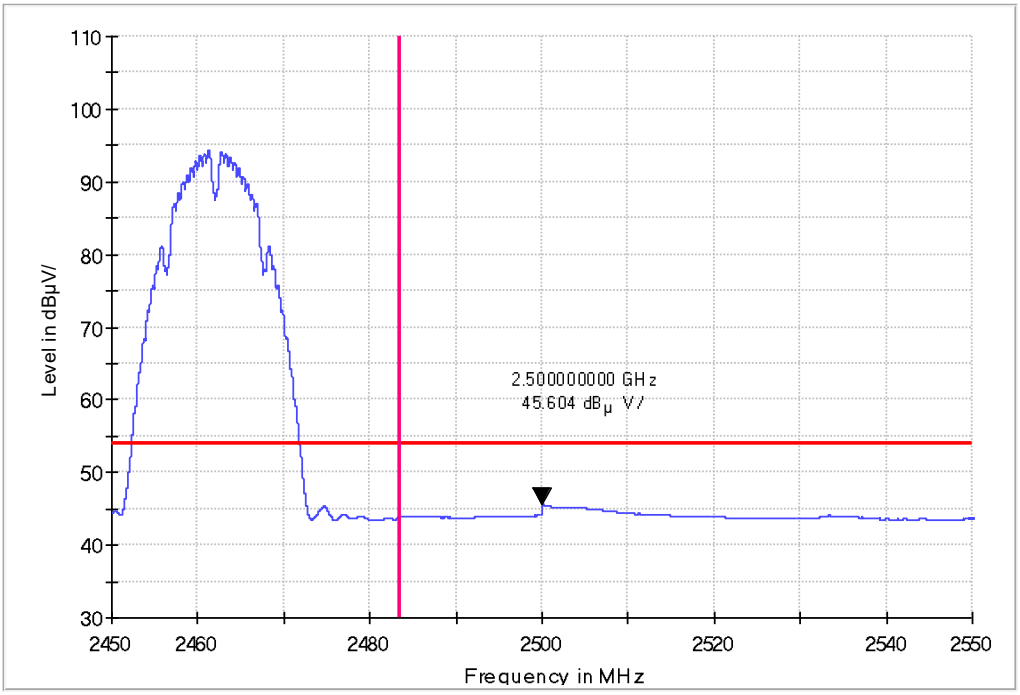
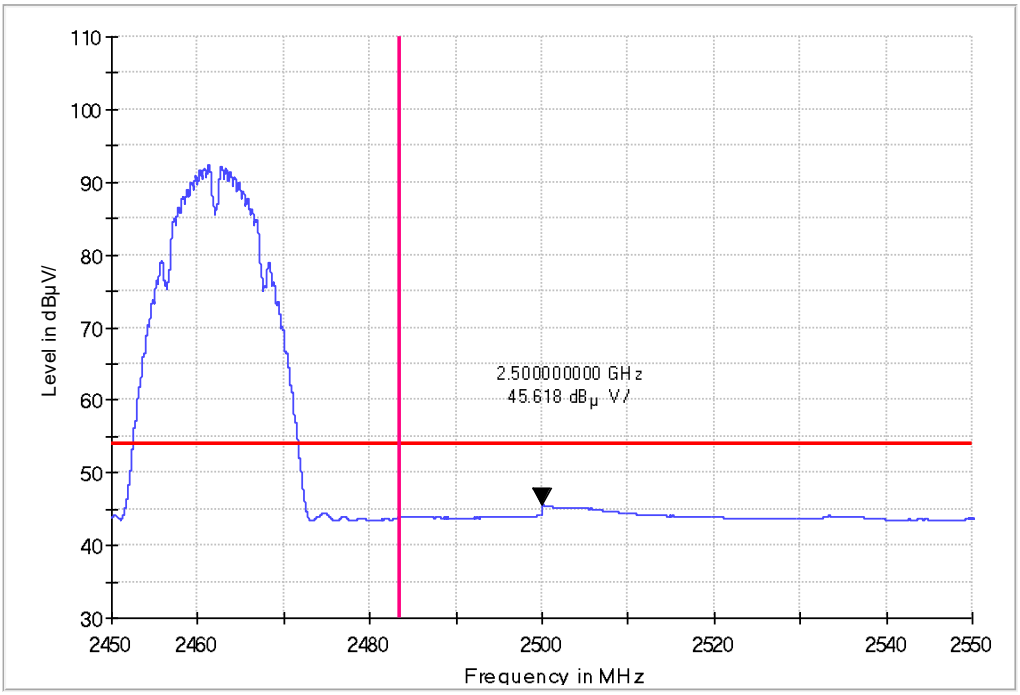


AV
Horizontal

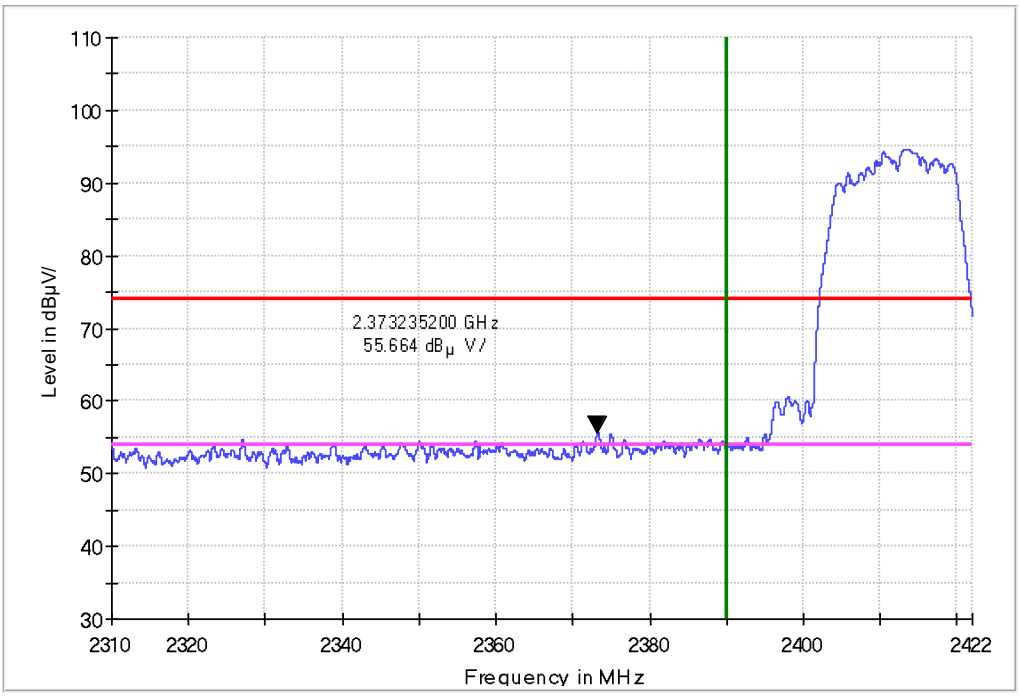


Vertical



Band edge

11g
CH11
PK
Horizontal



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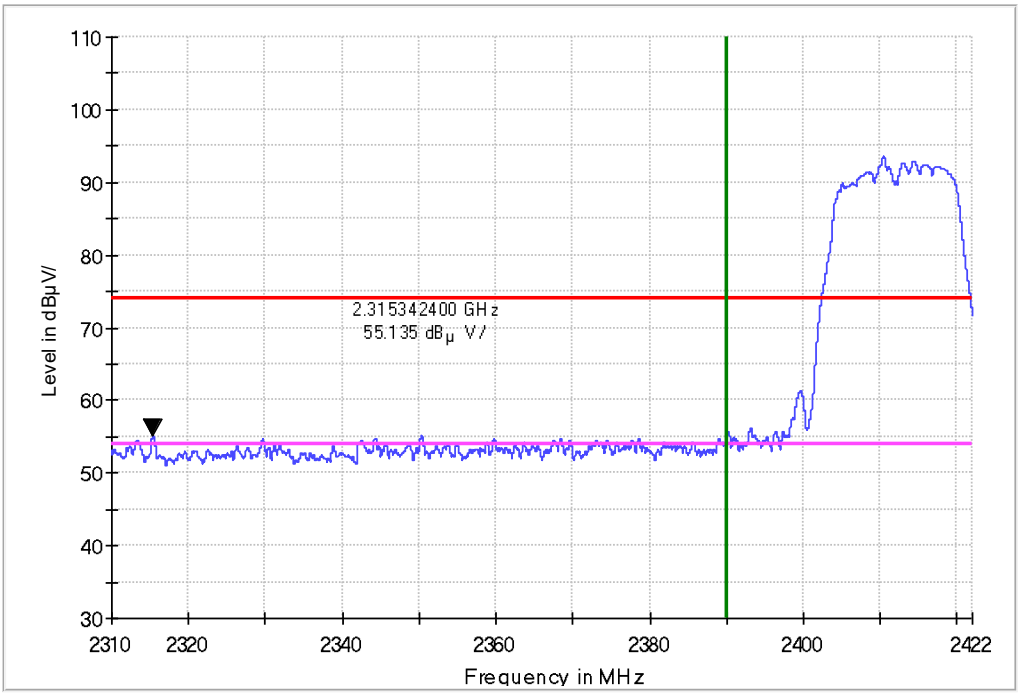
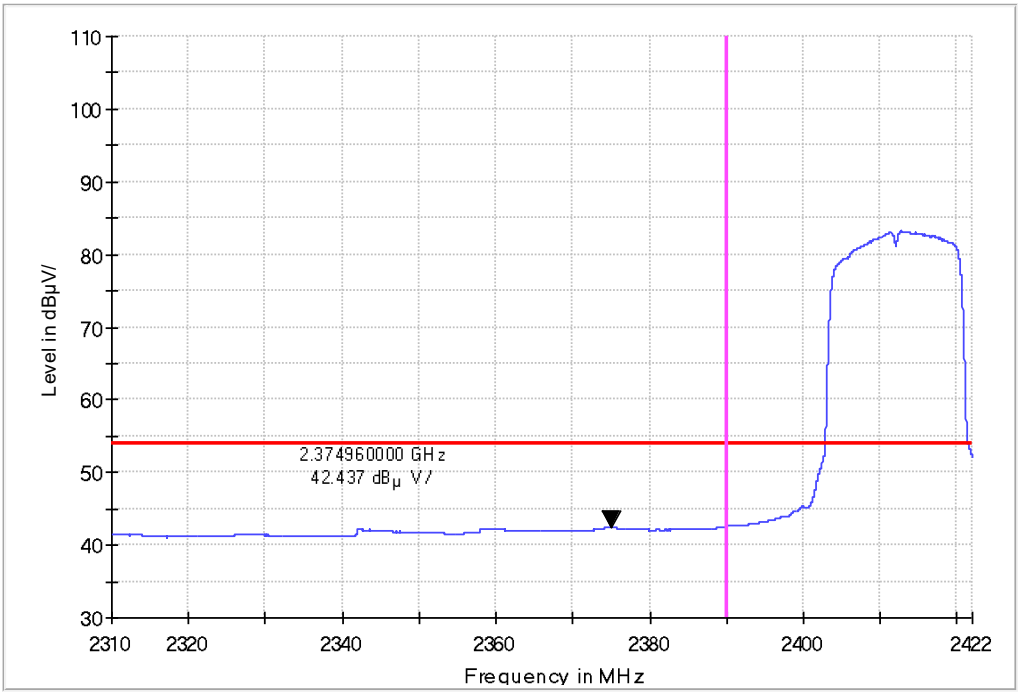
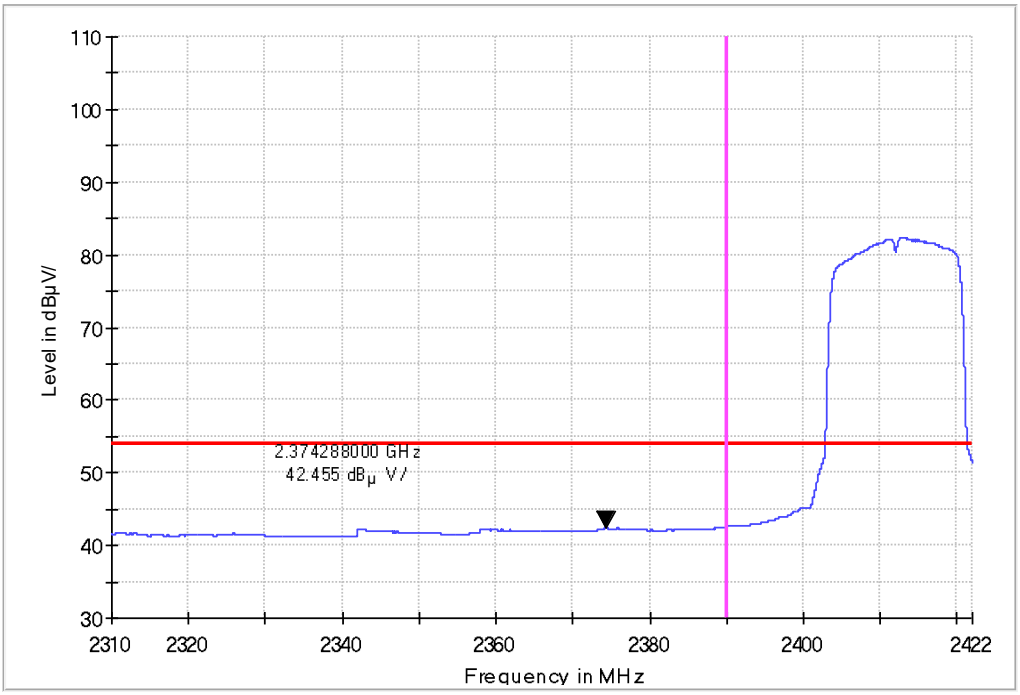


AV
Horizontal

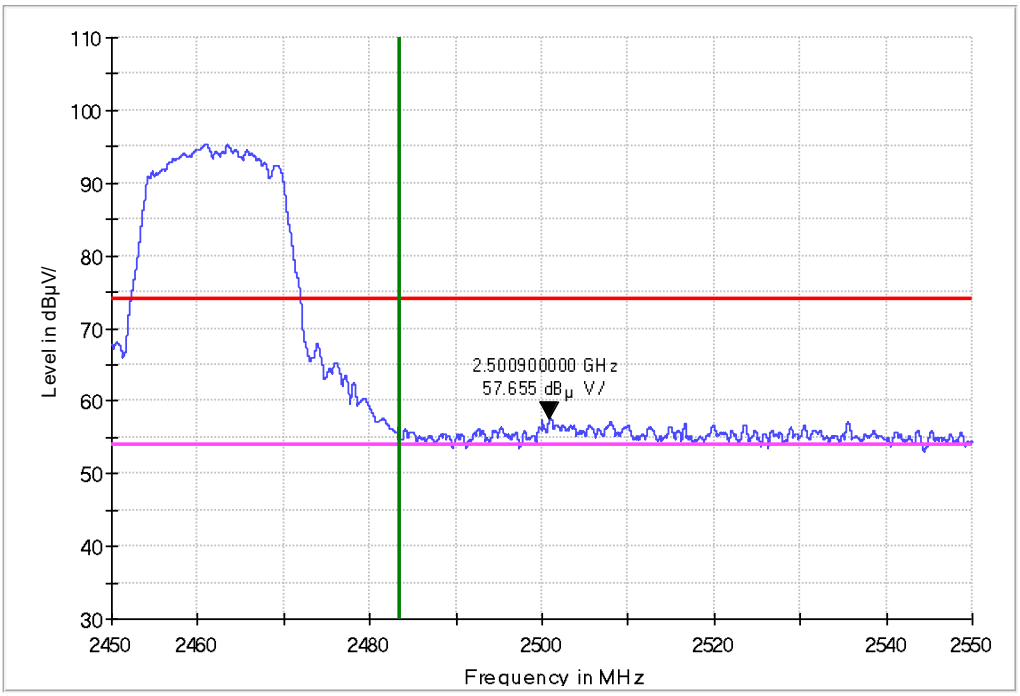


Vertical

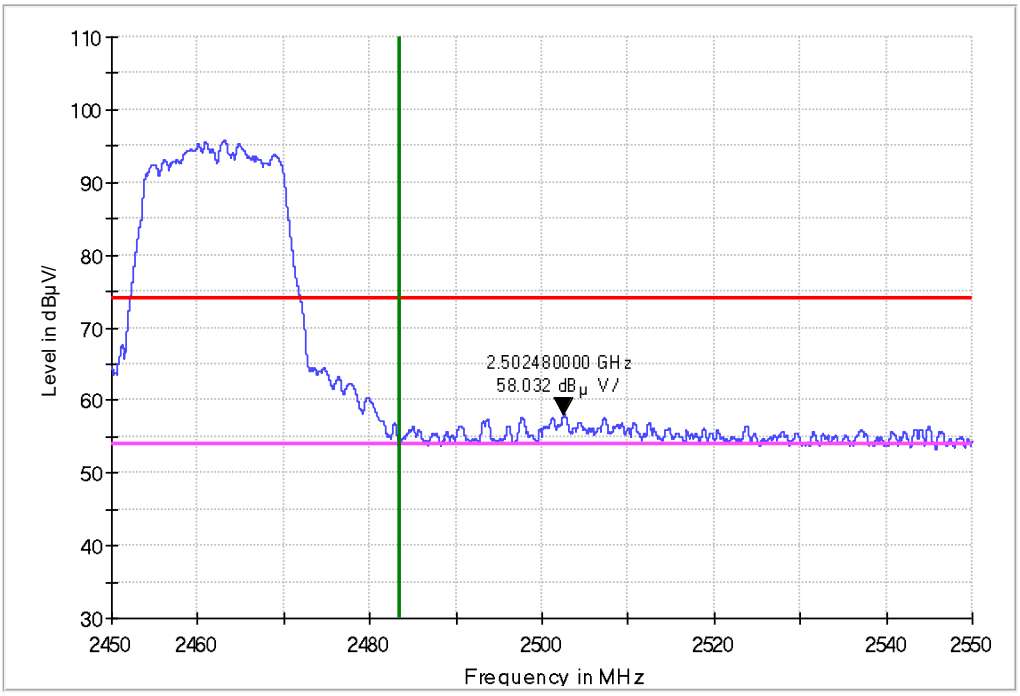


Band edge

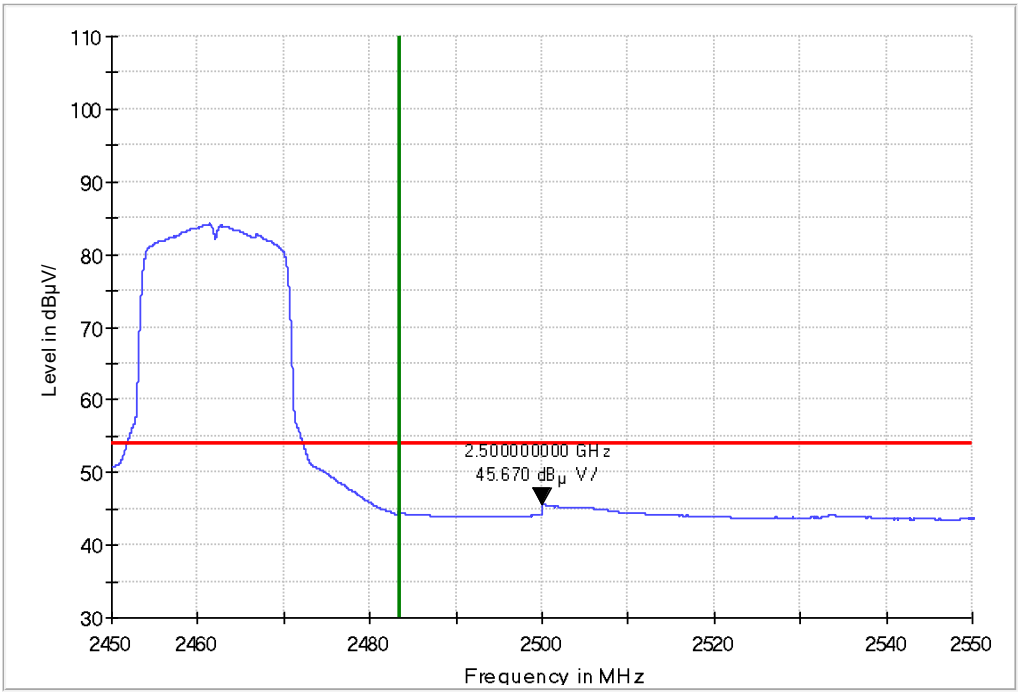
11g
CH11
PK
Horizontal



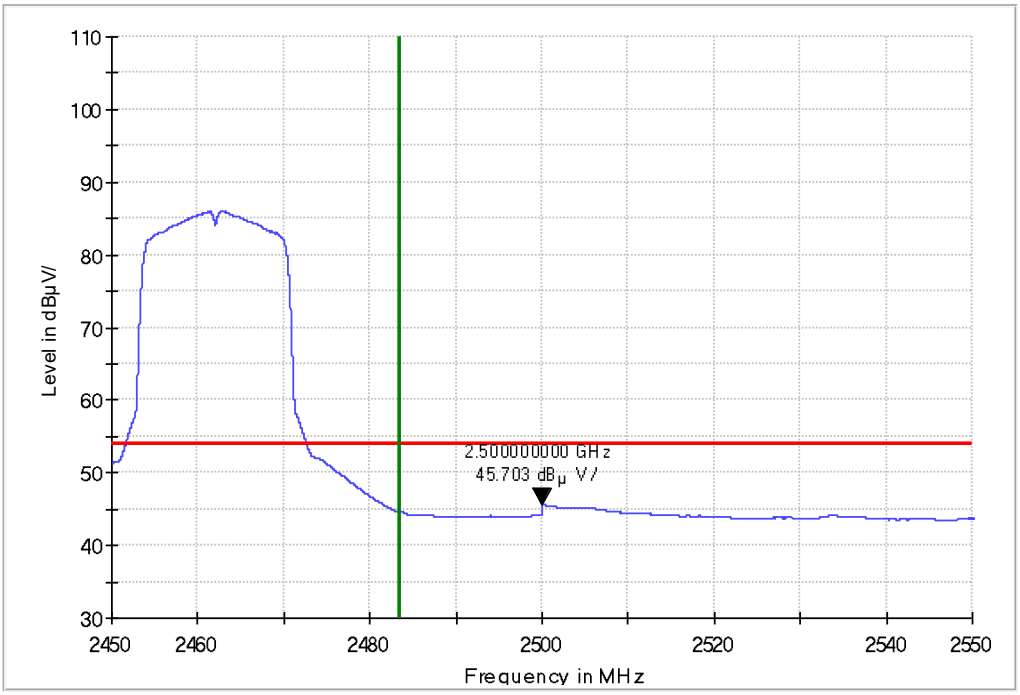
Vertical



AV
Horizontal

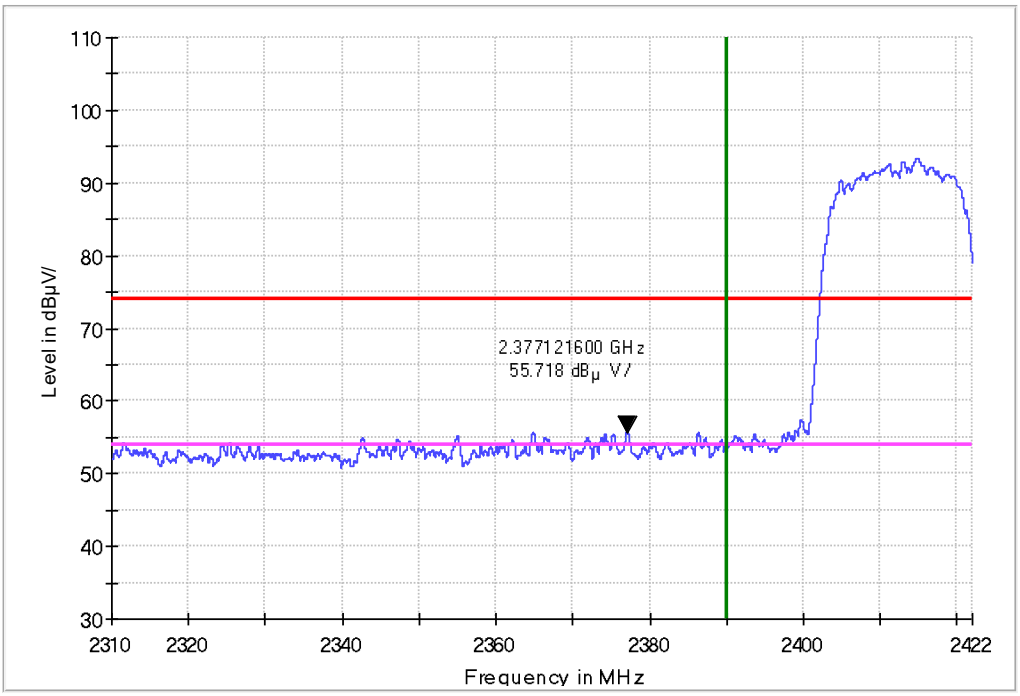


Vertical

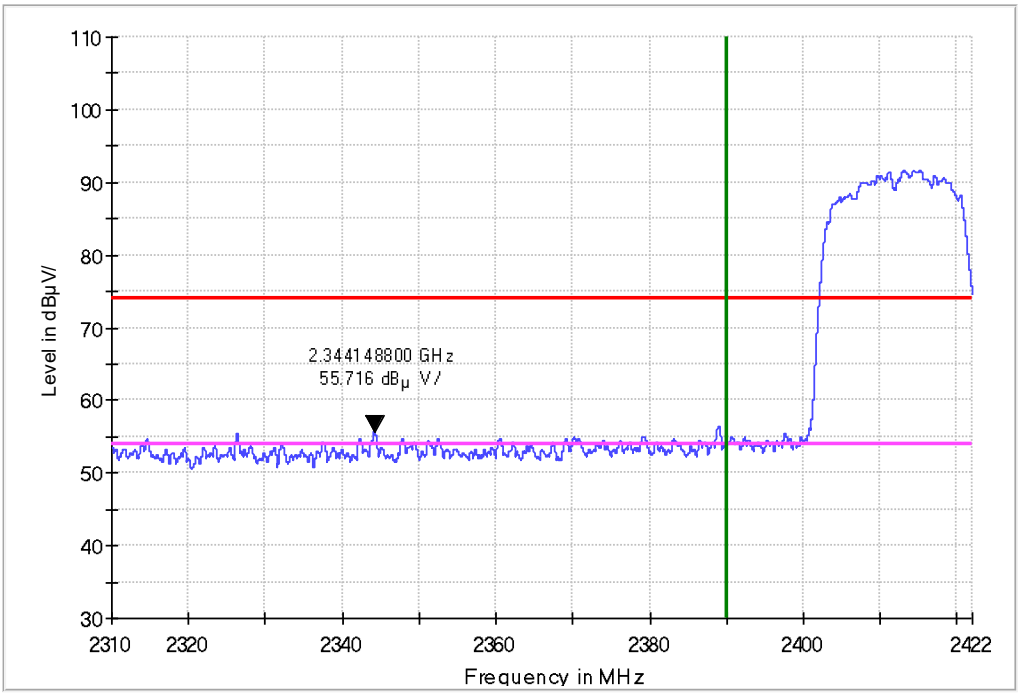


Band edge

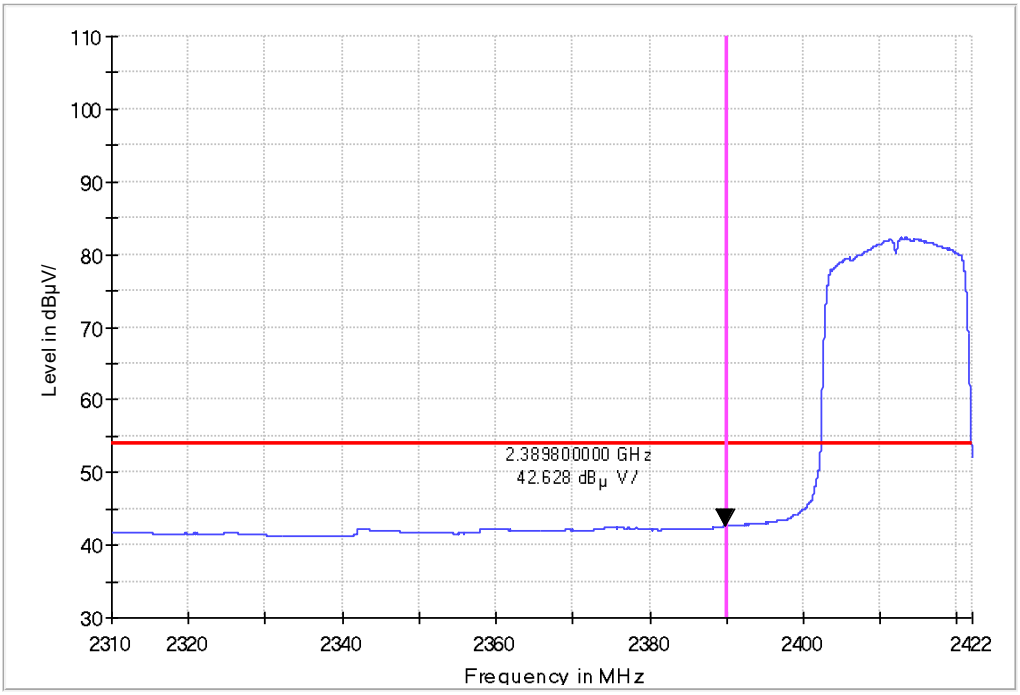
11n-HT20
CH1
PK
Horizontal



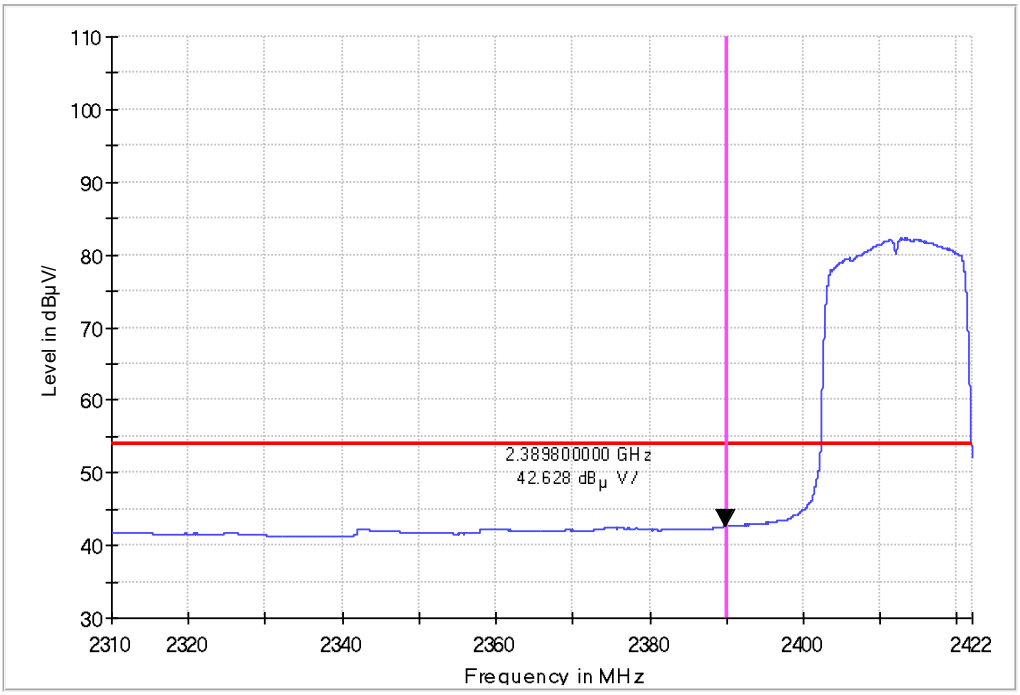
Vertical



AV
Horizontal

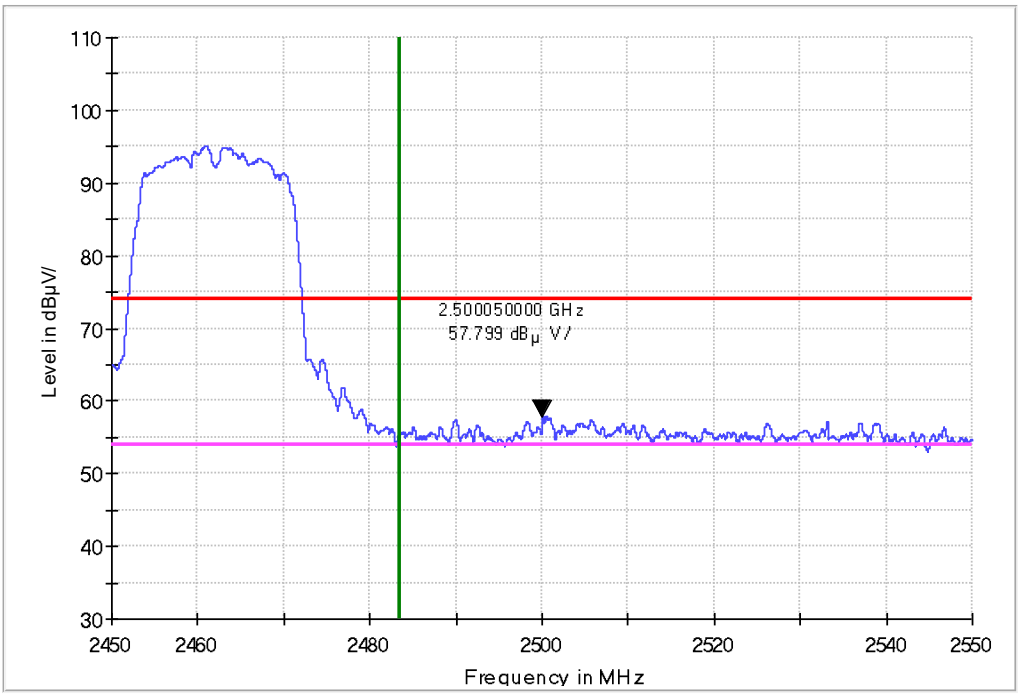


Vertical

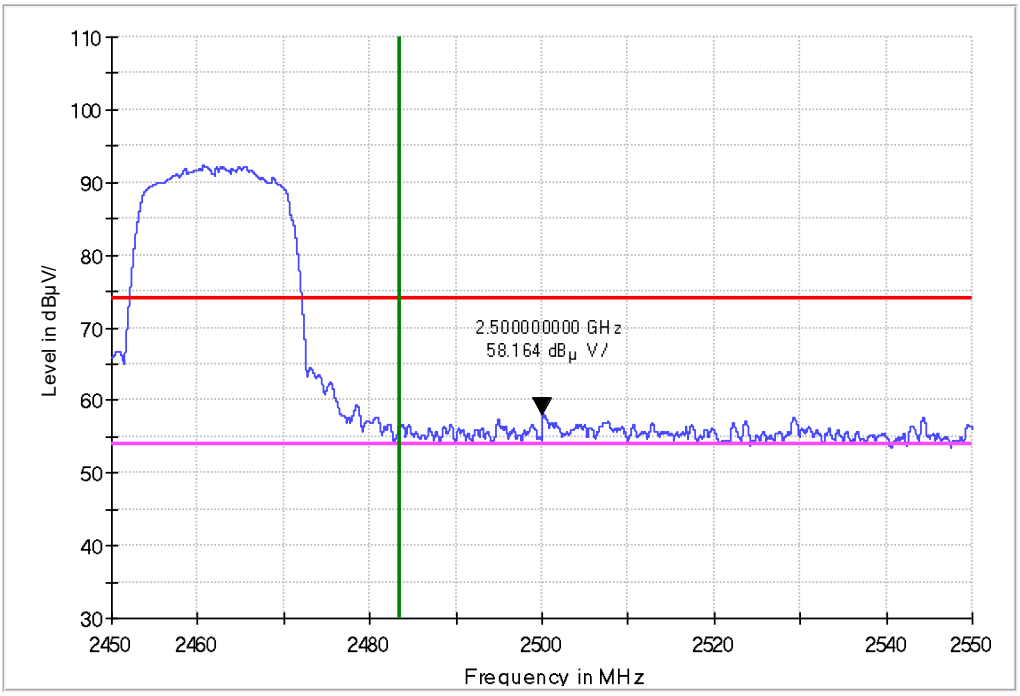


Band edge

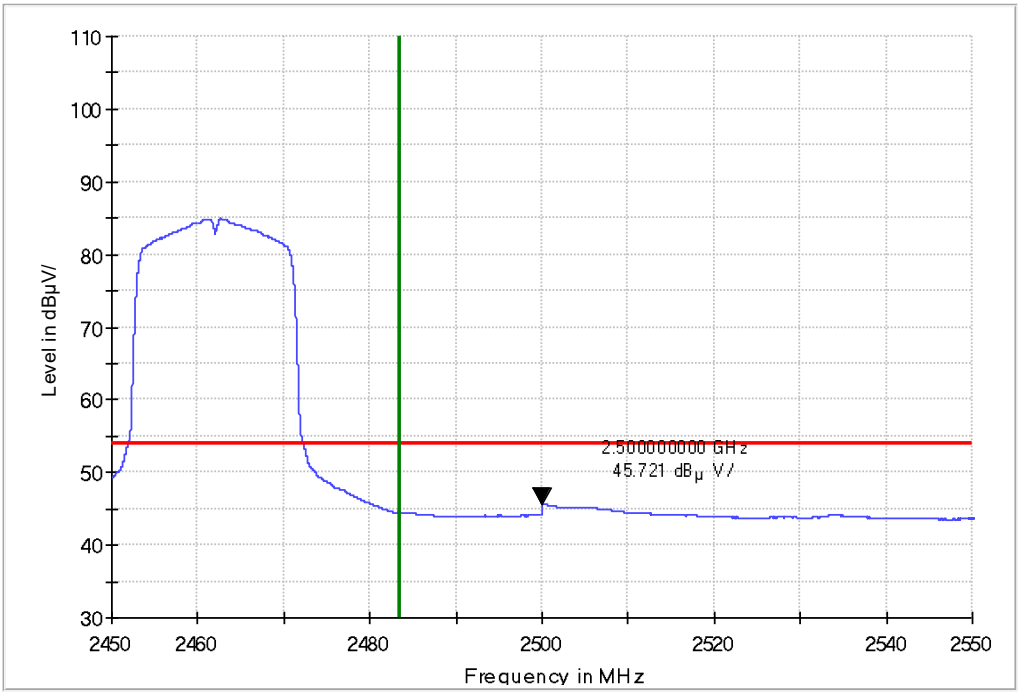
11n-HT20
CH11
PK
Horizontal



Vertical



AV
Horizontal



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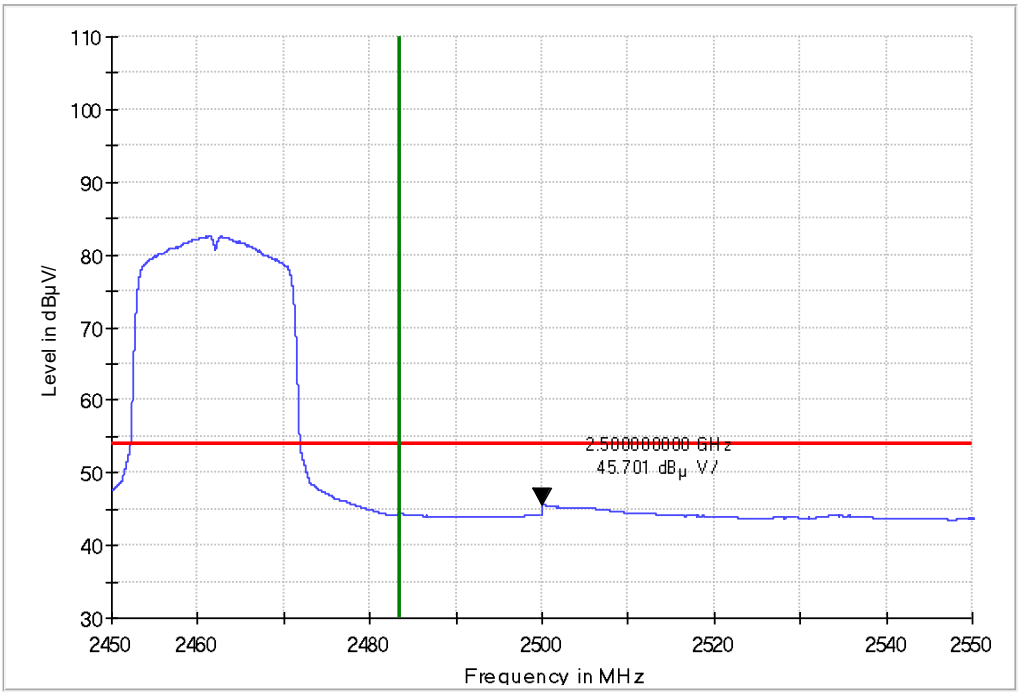
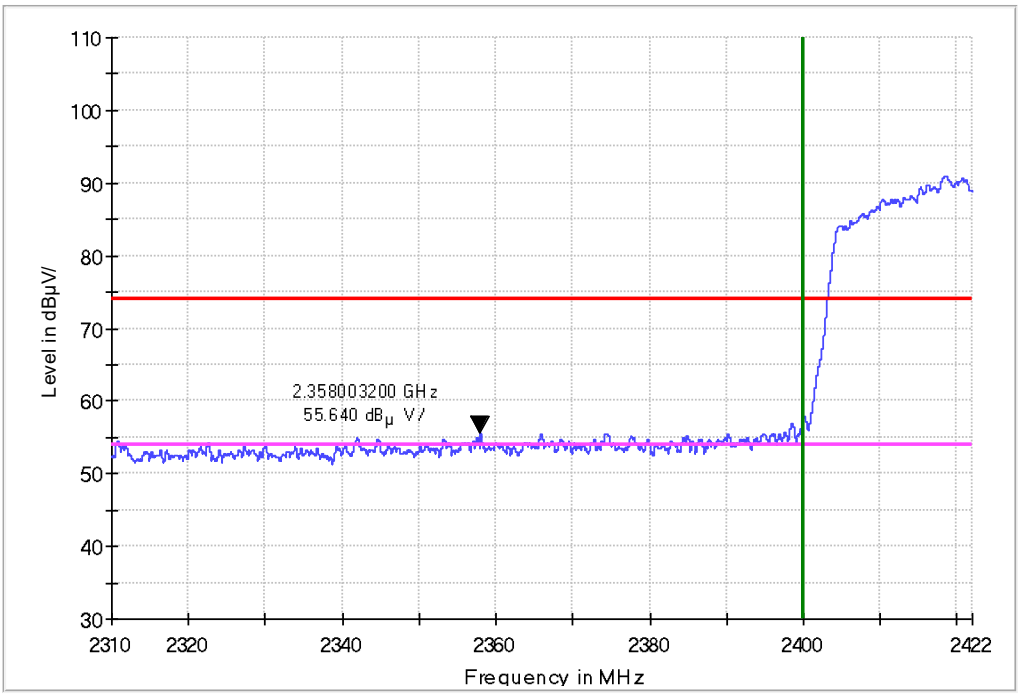


Band edge

11n-HT40
CH3
PK
Horizontal



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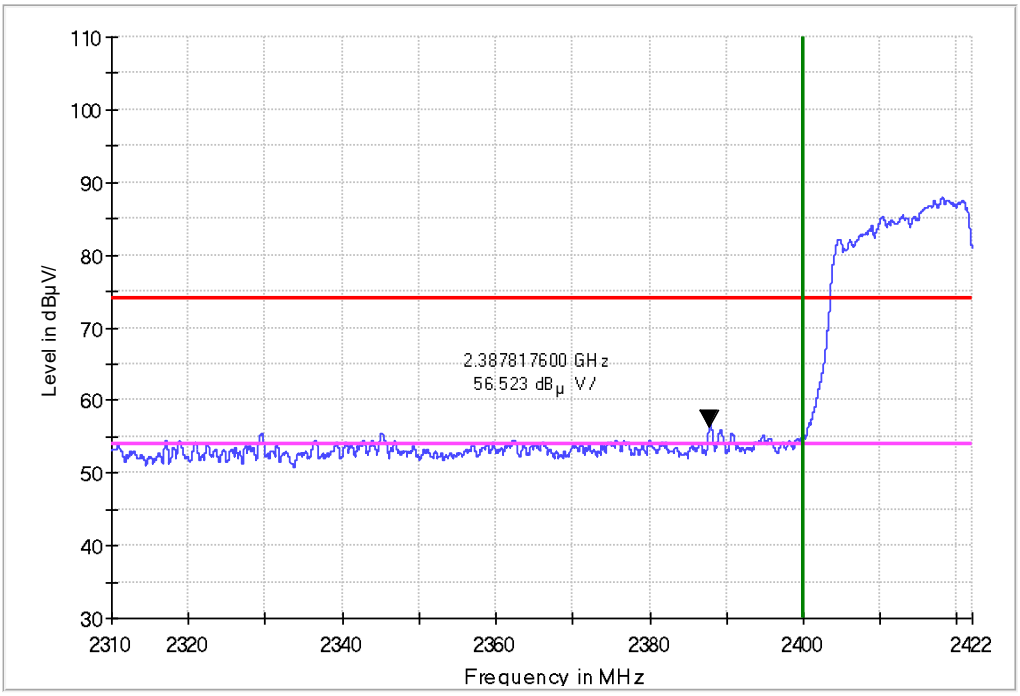

AV
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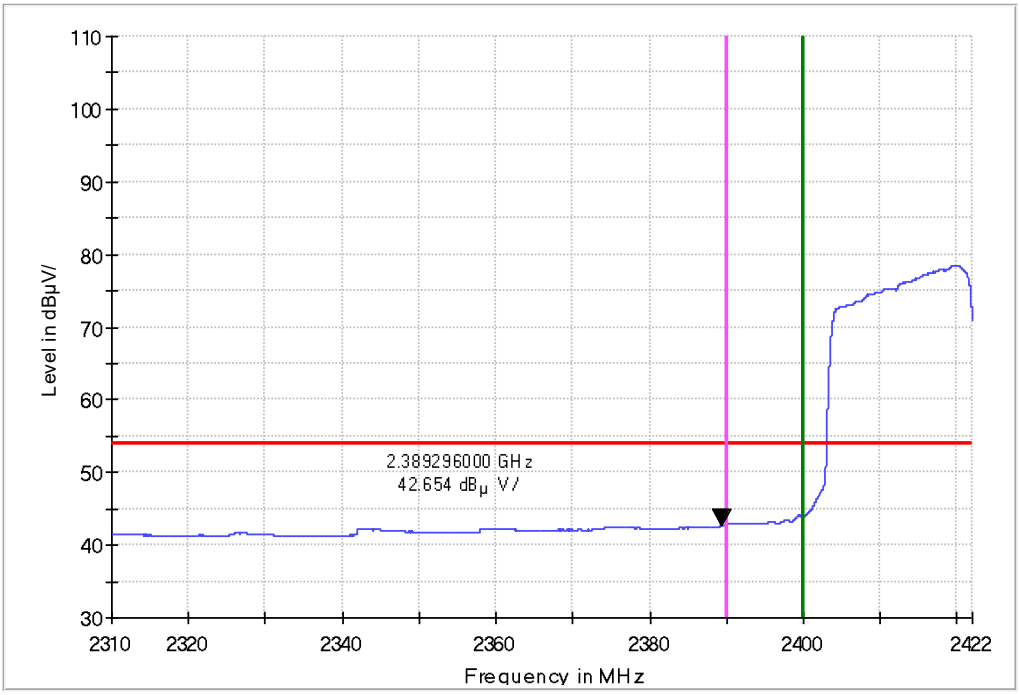

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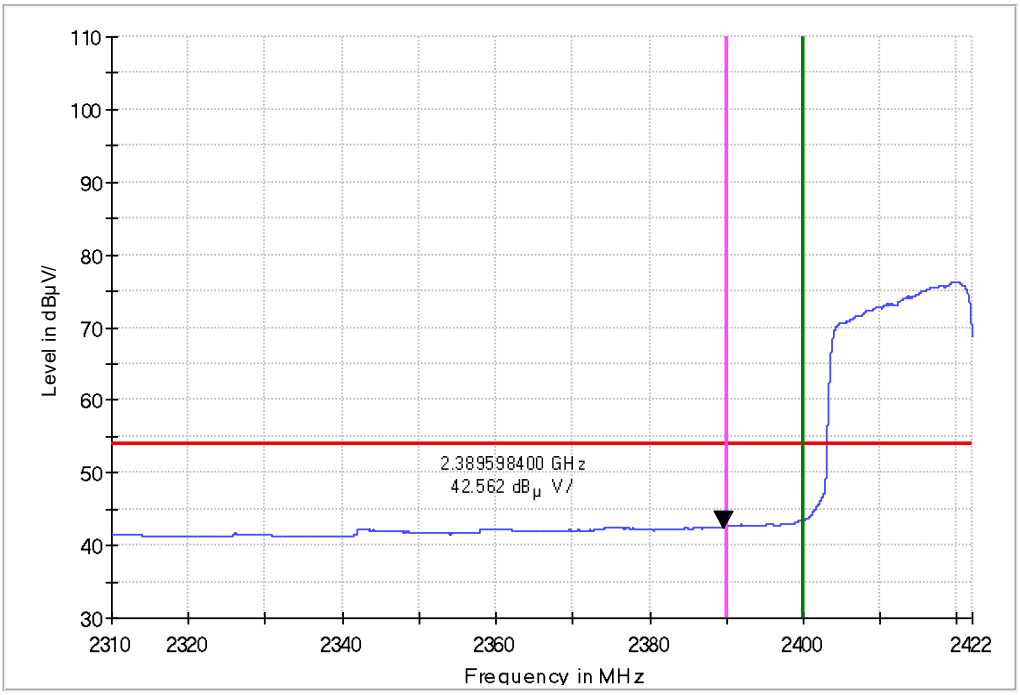
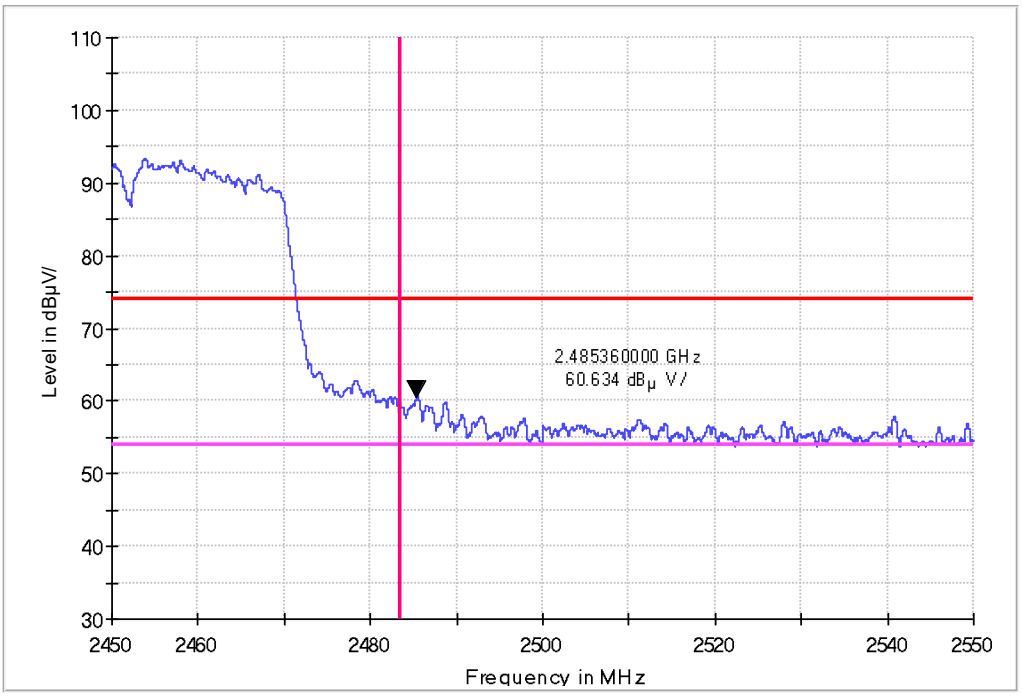


Band edge

11n-HT40
CH9
PK
Horizontal



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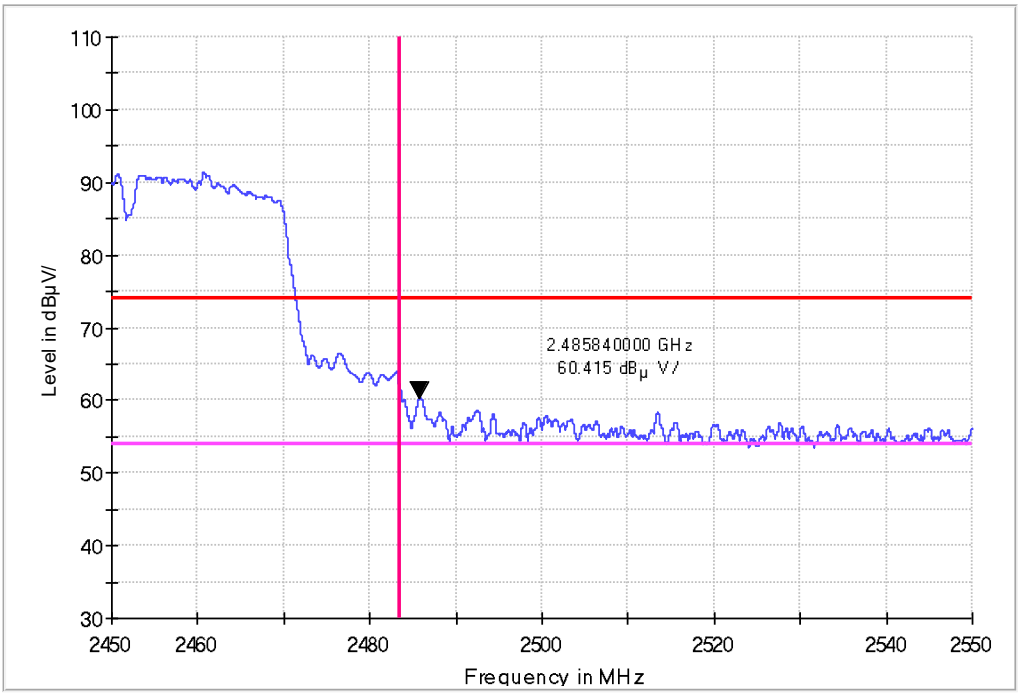
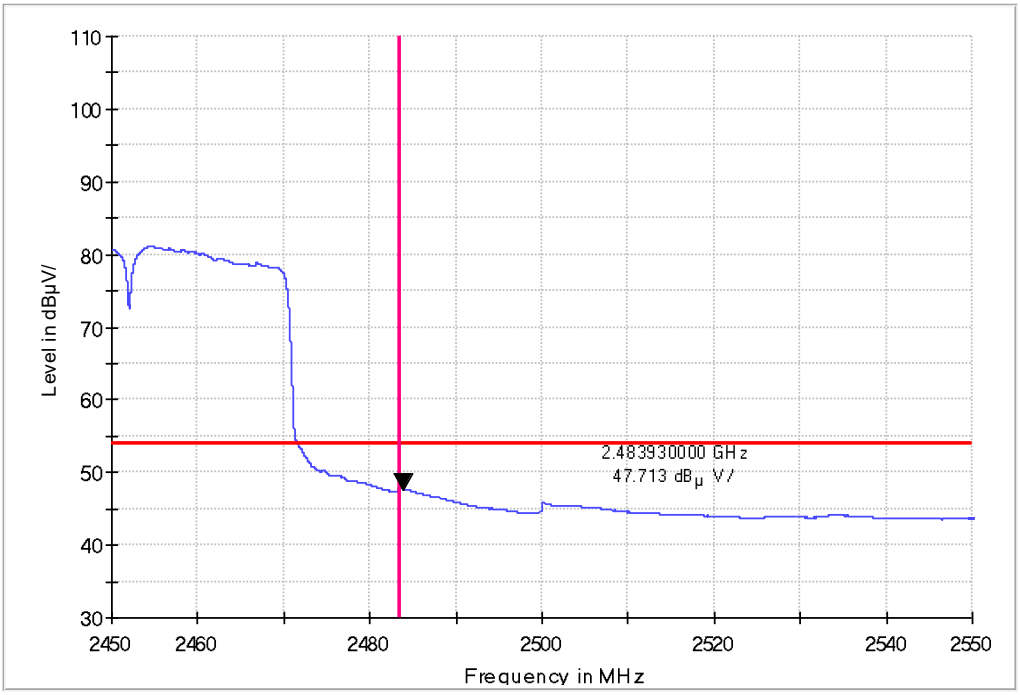


AV
Horizontal



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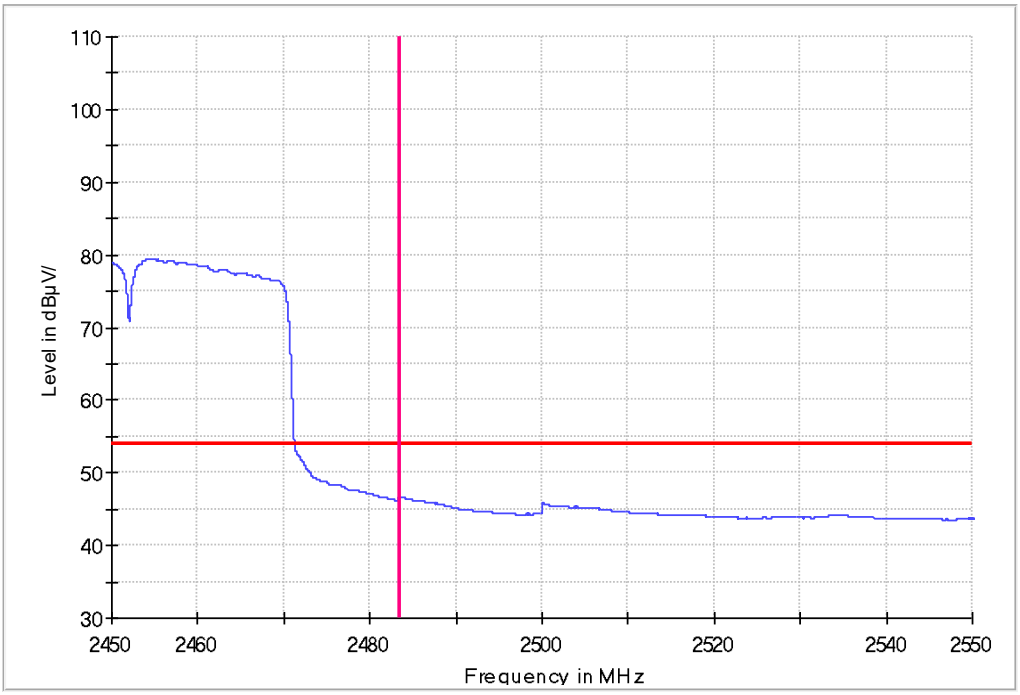


11. CONDUCTED EMISSION TEST FOR AC POWER PORT MEASUREMENT

11.1. Test Standard and Limit

11.1.1. Test Standard

FCC Part 15 15.207

11.1.2. Test Limit

Table 15 Conducted Disturbance Test Limit

Frequency	Maximum RF Line Voltage (dBμV)	
	Quasi-peak Level	Average Level
150kHz~500kHz	66 ~ 56 *	56 ~ 46 *
500kHz~5MHz	56	46
5MHz~30MHz	60	50

* Decreasing linearly with logarithm of the frequency
* The lower limit shall apply at the transition frequency.

11.2. Test Procedure

The EUT is put on a table of non-conducting material that is 80cm high. The vertical conducting wall of shielding is located 40cm to the rear of the EUT. The power line of the EUT is connected to the AC mains through a Artificial Mains Network (A.M.N.). A EMI test receiver is used to test the emissions from both sides of AC line. According to the requirements of ANSI C63.10-2020.Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-Peak and average detector mode.
The bandwidth of EMI test receiver is set at 9 kHz.

11.3. Test Arrangement

The arrangement of the equipment is installed to meet the standards and operating in a manner, which tends to maximize its emission characteristics in a normal application. The detailed information refers to test picture.

11.4. Test Data

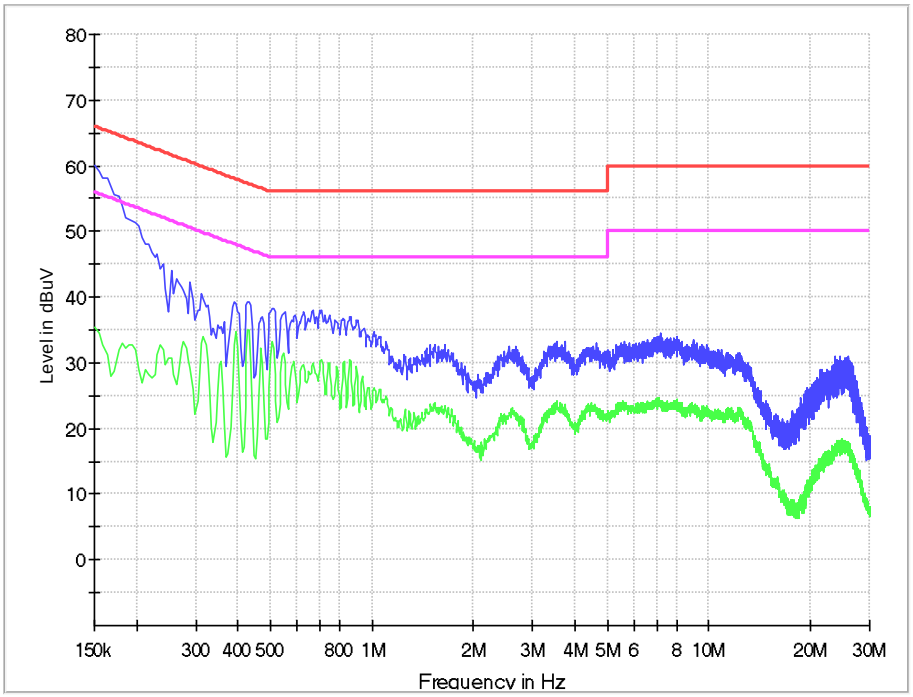
The emissions don’t show in below are too low against the limits. Refer to the test curves.

Table 16 Conducted Emission Test Data

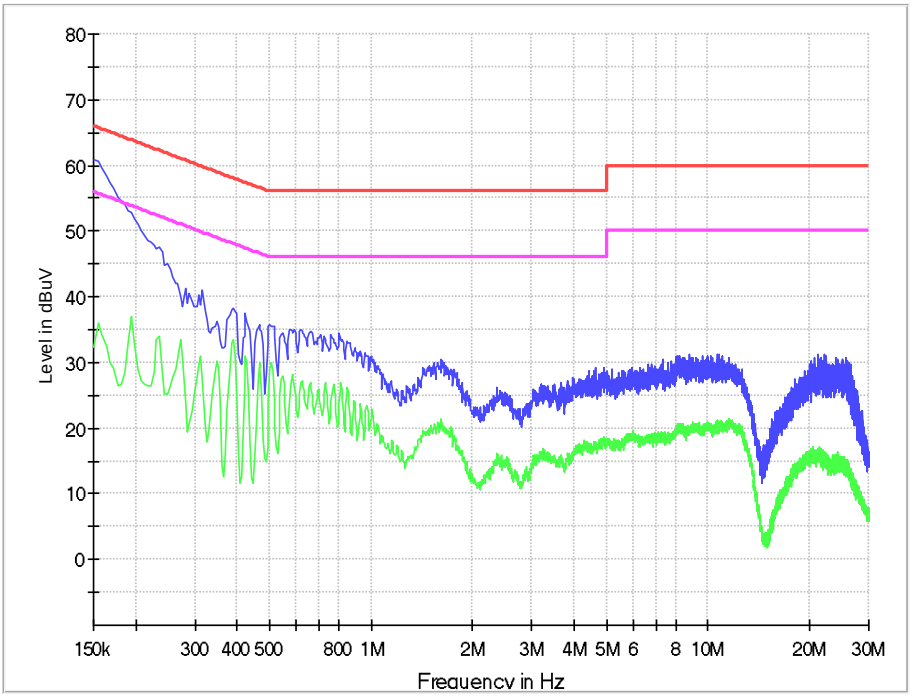
Test mode: Charging and Transmitting								
	Frequency (MHz)	Correction Factor (dB)	Quasi-Peak			Average		
			Reading (dBμV)	Emission Level (dBμV)	Limit (dBμV)	Reading (dBμV)	Emission Level (dBμV)	Limit (dBμV)
Line	0.150	9.7	42.6	52.3	66	25.4	35.1	56
	0.316	9.7	26.9	36.6	59.8	22.5	32.2	49.8
	0.393	9.7	28.0	37.7	58.0	24.6	34.3	48.0
	0.433	9.7	28.6	38.3	57.2	25.6	35.3	47.2
	0.708	9.8	23.2	33.0	56	16.3	26.1	46
	3.538	9.9	18.6	28.5	56	13.2	23.1	46
Neutral	0.150	9.7	43.1	52.8	66	22.7	32.4	56
	0.388	9.7	27.4	37.1	58.1	23.8	33.5	48.1
	0.424	9.7	23.1	32.8	57.4	17.7	27.4	47.4
	0.501	9.8	24.2	34.0	56	17.9	27.7	46
	0.811	9.8	21.8	31.6	56	13.6	23.4	46
	1.617	9.8	17.2	27.0	56	9.8	19.6	46

REMARKS: 1. Emission level (dBuV) =Read Value (dBuV) + Correction Factor (dB)
2. Correction Factor (dB) =LISN Factor (dB) + Cable Factor (dB) +Limiter Factor (dB)
3. The other emission levels were very low against the limit.

Line



Neutral



12. ANTENNA REQUIREMENTS

15.203 requirements:
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.
15.247(b) (4) requirements:
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.

12.1. Antenna Connector

Antenna Connector is on the PCB within enclosure and not accessible to user.

12.2. Antenna Gain

The antenna gain of EUT is less than 6 dBi.

----------End of Report----------