FCC - TEST REPORT

Report Number	:	**68.910.24.0022.01**	Date of Issue:	2024-06-25
Model	:	**X960 Pro, X961 Pro, X960, X961, T20, T20s, A10 Plus, A10 Pro Max, X950, X951, A20, A20s, A10 Max, X950 Pro, X951 Pro**		
Product Type	:	Robotic Vacuum Cleaner		
Applicant	:	Zhiyi (Zhongshan) Technology Co., Ltd.		
Address	:	No. 39, Donghui Road, Cuiheng New District, 528400 Zhongshan, Guangdong, PEOPLE'S REPUBLIC OF CHINA		
Manufacturer	:	Zhiyi (Zhongshan) Technology Co., Ltd.		
Address	:	No. 39, Donghui Road, Cuiheng New District, 528400 Zhongshan, Guangdong, PEOPLE'S REPUBLIC OF CHINA		
Test Result	:	■ **Positive** ☐ **Negative**		
Total pages including Appendices	:	**65**		

Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production. For further details, please see testing and certification regulation chapter A-3.4.

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1 Table of Contents

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2 Details about the Test Laboratory

Details about the Test Laboratory
Test Site 1

Company name:	TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch Building 12 & 13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District, Shenzhen, Guangdong, China
Telephone:	86 755 8828 6998
Fax:	86 755 8828 5299
FCC Registration No.:	514049
FCC Designation Number:	CN5009

3 Description of the Equipment under Test

Product:	Robotic Vacuum Cleaner
Model no.:	X960 Pro, X961 Pro, X960, X961, T20, T20s, A10 Plus, A10 Pro Max, X950, X951, A20, A20s, A10 Max, X950 Pro, X951 Pro
FCC ID:	2BD8J-A20S
Ratings:	For X960 Pro, X961 Pro, X960, X961, T20, T20s, A10 Plus and A10 Pro Max: 19V⎓; 1A (for Robotic Vacuum Cleaner); 120V~; 60Hz; 1050W (for Self-empty station); For X950, X951, A20, A20s, A10 Max, X950 Pro and X951 Pro: 19V⎓; 0.6A (for Robotic Vacuum Cleaner); 100-240V~; 50/60Hz; 0.35A (for AC adapter) Battery: 14.76VDC, 4.9Ah
Accessories:	Self-empty station & Docking station & AC adapter
RF Transmission Frequency:	2412MHz-2462MHz
No. of Operated Channel:	11 for 802.11b/g/n20 7 for 802.11n40
Modulation:	802.11b: CCK, DSSS 802.11g/n20/n40: BPSK, QPSK, 16-QAM, 64-QAM
Antenna Type:	FPC antenna
Antenna Gain:	3.1 dBi
Description of the EUT:	The EUT is a Robotic Vacuum Cleaner supports 2.4GHz Wi-Fi function.

NOTE 1: The above EUT's information is declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

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4 Summary of Test Standards

Test Standards	
FCC Part 15 Subpart C 10-1-2023 Edition	PART 15 - RADIO FREQUENCY DEVICES Subpart C - Intentional Radiators

All the test methods were according to KDB 558074 D01 15.247 Meas Guidance v05r02 Measurement Guidance and ANSI C63.10-2020.

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5 Summary of Test Results

Technical Requirements			
FCC Part 15 Subpart C 10-1-2023 Edition			
Test Condition		Test Result	Test Site
§15.207	Conducted emission AC power port	Pass	Site 1
§15.247 (b) (3)	Conducted output power	Pass	Site 1
§15.247(e)	Power spectral density	Pass	Site 1
§15.247(a)(2)	6dB bandwidth	Pass	Site 1
§15.247(a)(1)	20dB Occupied bandwidth	N/A	--
§15.247(a)(1)	Carrier frequency separation	N/A	--
§15.247(a)(1)(iii)	Number of hopping frequencies	N/A	--
§15.247(a)(1)(iii)	Dwell Time	N/A	--
§15.247(d)	Spurious RF conducted emissions	Pass	Site 1
§15.247(d)	Band edge	Pass	Site 1
§15.247(d) & §15.209 & §15.205	Spurious radiated emissions for transmitter	Pass	Site 1
§15.203	Antenna requirement	Pass See note 1	--

Remark 1: N/A – Not Applicable.
Note 1: The EUT uses a FPC antenna, which gain is 3.1dBi. In accordance to §15.203, it is considered sufficiently to comply with the provisions of this section.

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6 General Remarks

Model differences as below:

Model No.	Charging unit	Remark:
X960 Pro, X961 Pro, X960, X961, T20, T20s, A10 Plus and A10 Pro Max	Self-empty station	X960 and other models (X960 Pro, X961 Pro, X961, T20, T20s, A10 Plus and A10 Pro Max) are the same except the model No.
X950, X951, A20, A20s, A10 Max, X950 Pro and X951 Pro	AC adapter	X950 and other models (X951, A20, A20s, A10 Max, X950 Pro and X951 Pro) are the same except the model No.

All models have same schematics, PCB layout and RF module, only the charging accessories is different.
Unless otherwise specified, the model X950 was chosen as representative model to perform all the tests, and the model X960 was performed the conducted emission test to verify the difference of charging method.
The conducted emissions of X950 were tested with AC adapter, and the input voltage is 120VAC/60Hz;
The conducted emissions of X960 were tested with self-empty station, and the input voltage is 120VAC/60Hz;
The RF tests of X950 were tested with battery operation, battey voltage is 14.76VDC.

This submittal(s) (test report) is intended for FCC ID: 2BD8J-A20S, complies with Section 15.207, 15.209, 15.205, 15.247 of the FCC Part 15 Subpart C rules.

SUMMARY:

All tests according to the regulations cited on page 6 were

■ - Performed

☐ - **Not** Performed

The Equipment under Test

■ - **Fulfills** the general approval requirements.

☐ - **Does not** fulfill the general approval requirements.

Sample Received Date: 2024-05-07

Testing Start Date: 2024-05-11

Testing End Date: 2024-05-13

- TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch –

Reviewed by:	Prepared by:	Tested by:
Jessie He	Myron Yu	Carry Cai
Project Manager	Project Engineer	Test Engineer

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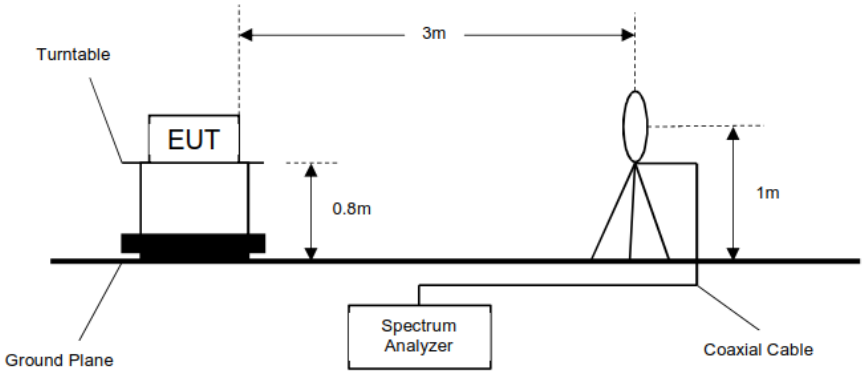
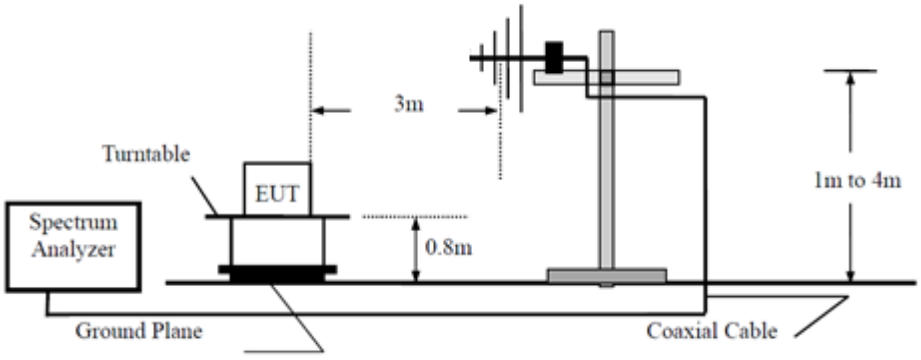
7 Test Setups

7.1 Radiated Test Setups

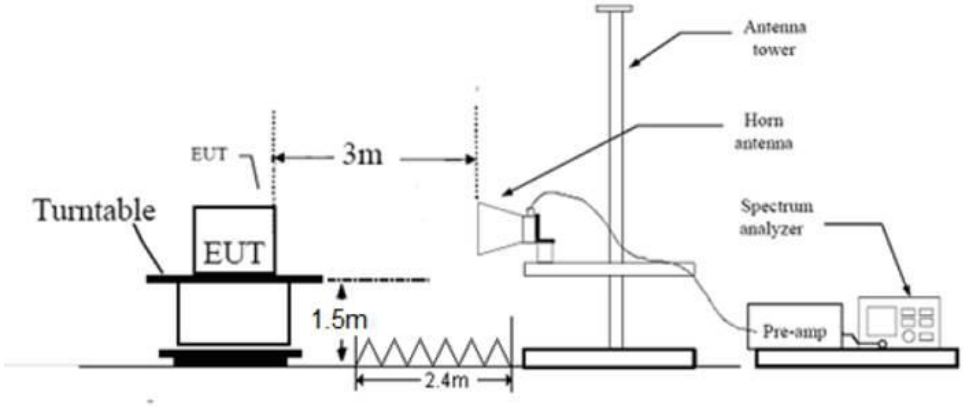
9kHz - 30MHz



Below 1GHz



Above 1GHz



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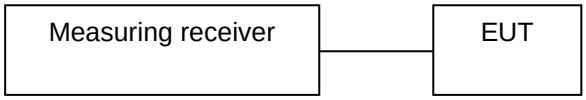
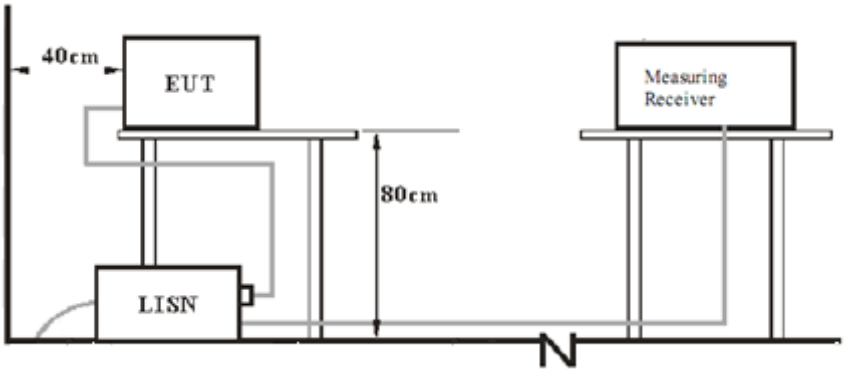
7.2 Conducted RF Test Setups



7.3 AC Power Line Conducted Emission Test Setups



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8 Systems Test Configuration

Auxiliary Equipment Used during Test:

DESCRIPTION	MANUFACTURER	MODEL NO.	S/N
LAPTOP	LENOVO	X240	L34015282

The system was configured to channel 1, 6, and 11 for 802.11b/802.11g/802.11n HT20, and configured to channel 3, 6, and 9 for 802.11n HT40.

Test Software Information:

Test Software Version	Terminal_v1.8_20200426	
Mode	Setting TX Power	Packet Type
802.11b	Power Index: 44	11b 1 Mbps
802.11g	Power Index: 44	11g 6 Mbps
802.11n HT20	Power Index: 44	MCS0 6.5 Mbps
802.11n HT40	Power Index: 44	MCS0 13.5 Mbps

9 Technical Requirement

9.1 Conducted Emission

Test Method

1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. Both sides of AC line were checked for maximum conducted interference.
6. The frequency range from 150 kHz to 30 MHz was searched.
7. Set the test-receiver system to Peak Detect Function and specified bandwidth (IF Bandwidth = 9kHz) with Maximum Hold Mode. Then measurement is also conducted by Average Detector and Quasi-Peak Detector Function respectively.

Limit

According to §15.207, conducted emissions limit as below:

Frequency MHz	QP Limit dBµV	AV Limit dBµV
0.150-0.500	66-56*	56-46*
0.500-5	56	46
5-30	60	50

*Decreasing linearly with logarithm of the frequency

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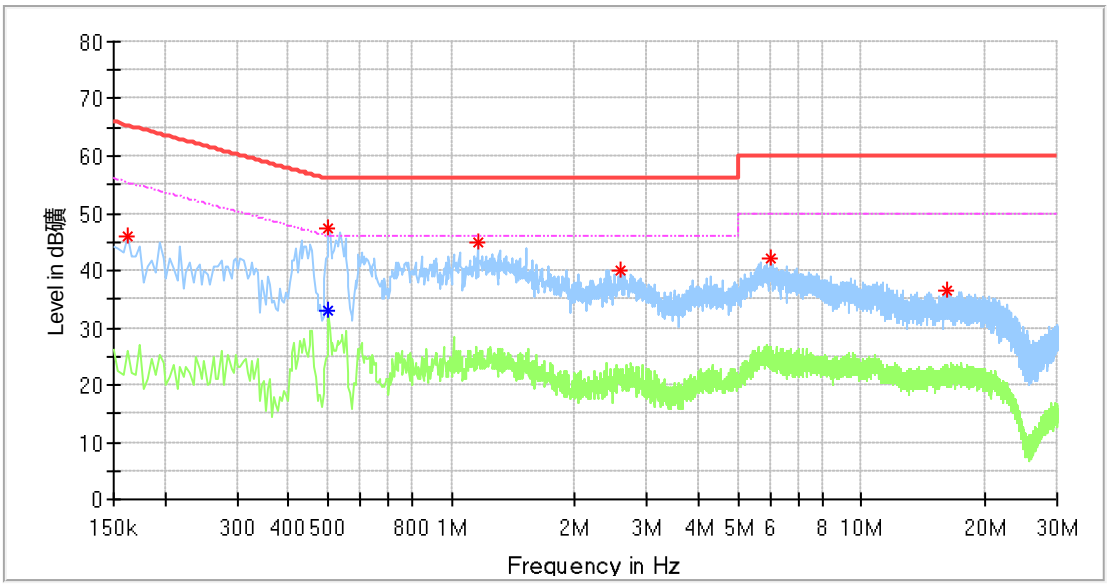
Conducted Emission

Product Type	:	Robotic Vacuum Cleaner
M/N	:	X950
Operating Condition	:	Charging + Wi-Fi transmission
Test Specification	:	Power Line, Live
Comment	:	AC 120V/60Hz



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.162000	46.02	---	65.36	19.34	L1	10.27
0.502000	---	32.90	46.00	13.10	L1	10.30
0.502000	47.36	---	56.00	8.64	L1	10.30
1.158000	44.76	---	56.00	11.24	L1	10.33
2.574000	39.96	---	56.00	16.04	L1	10.40
6.002000	42.10	---	60.00	17.90	L1	10.66
16.158000	36.47	---	60.00	23.53	L1	11.25

Remark:
Level=Reading Level + Correction Factor
Correction Factor=Cable Loss + LISN Factor
(The Reading Level is recorded by software which is not shown in the sheet)

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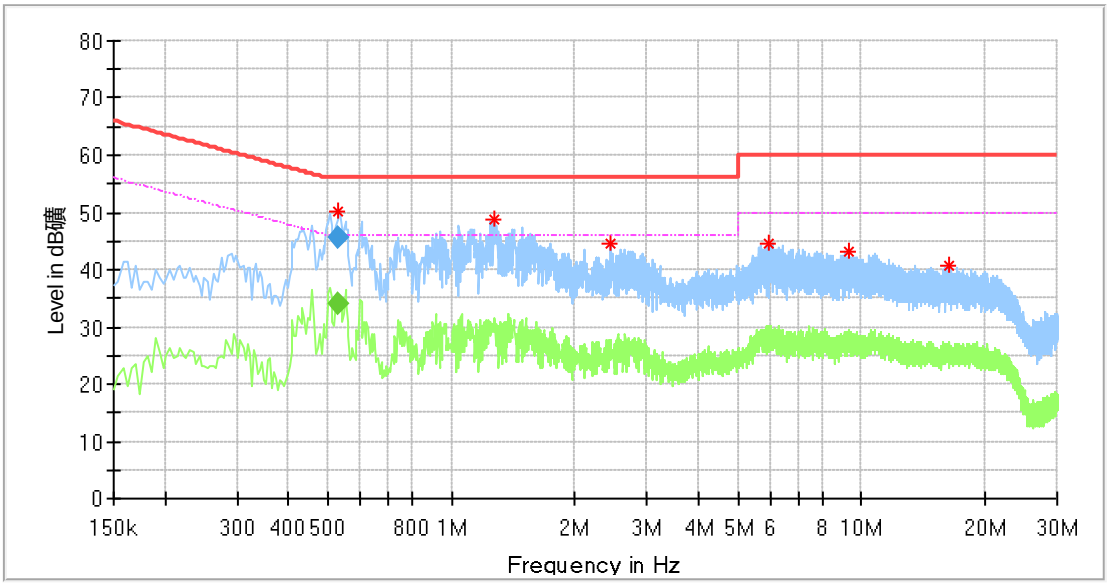
Conducted Emission

Product Type	:	Robotic Vacuum Cleaner
M/N	:	X950
Operating Condition	:	Charging + Wi-Fi transmission
Test Specification	:	Power Line, Neutral
Comment	:	AC 120V/60Hz



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.529500	50.25	---	56.00	5.75	N	10.23
1.278000	48.83	---	56.00	7.17	N	10.23
2.438000	44.41	---	56.00	11.59	N	10.30
5.938000	44.67	---	60.00	15.33	N	10.62
9.350000	43.16	---	60.00	16.84	N	11.17
16.298000	40.68	---	60.00	19.32	N	11.46

Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.529500	---	33.96	46.00	12.04	N	10.23
0.529500	45.48	---	56.00	10.52	N	10.23

Remark:
Level=Reading Level + Correction Factor
Correction Factor=Cable Loss + LISN Factor
(The Reading Level is recorded by software which is not shown in the sheet)

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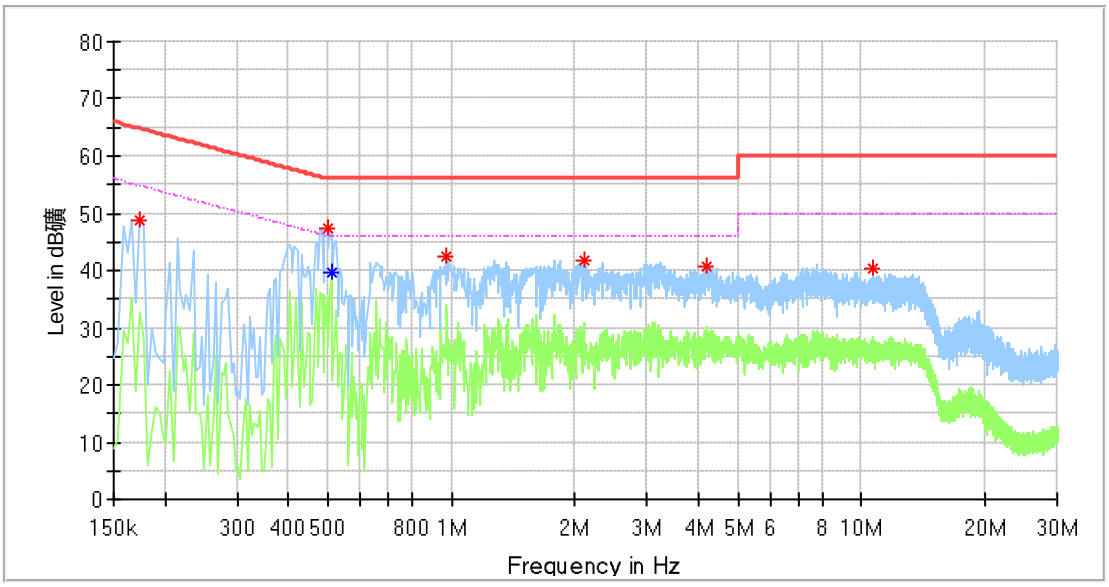
Conducted Emission

Product Type	:	Robotic Vacuum Cleaner
M/N	:	X960
Operating Condition	:	Charging + Wi-Fi transmission
Test Specification	:	Power Line, Live
Comment	:	AC 120V/60Hz



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.174000	48.81	---	64.77	15.96	L1	10.27
0.498000	47.41	---	56.03	8.62	L1	10.30
0.510000	---	39.81	46.00	6.19	L1	10.30
0.974000	42.31	---	56.00	13.69	L1	10.32
2.098000	41.71	---	56.00	14.29	L1	10.37
4.202000	40.64	---	56.00	15.36	L1	10.51
10.666000	40.20	---	60.00	19.80	L1	11.18

Remark:
Level=Reading Level + Correction Factor
Correction Factor=Cable Loss + LISN Factor
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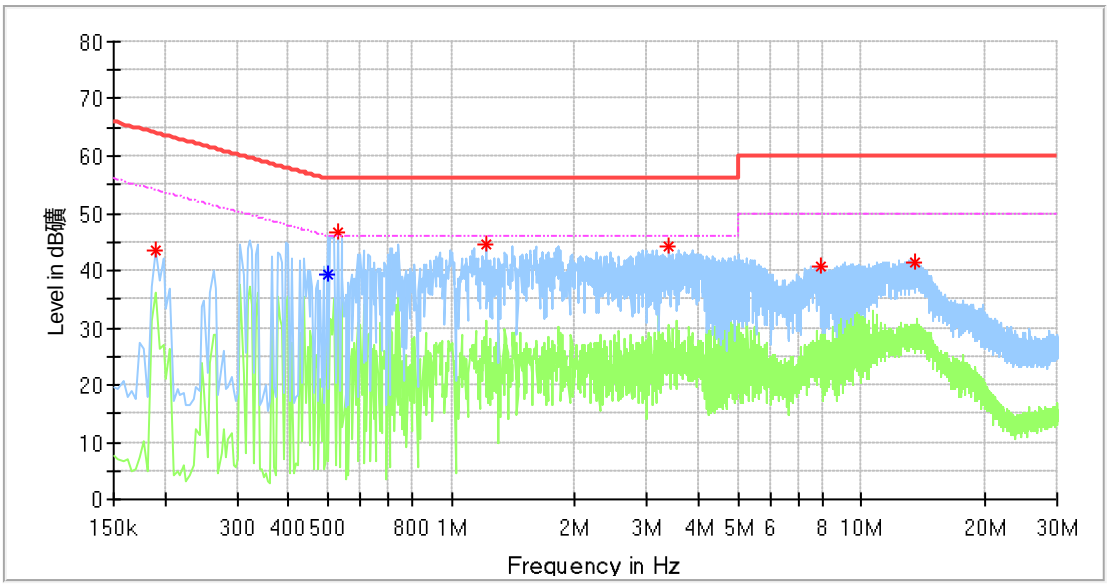
Conducted Emission

Product Type	:	Robotic Vacuum Cleaner
M/N	:	X960
Operating Condition	:	Charging + Wi-Fi transmission
Test Specification	:	Power Line, Neutral
Comment	:	AC 120V/60Hz



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.190000	43.63	---	64.04	20.41	N	10.22
0.498000	---	39.14	46.03	6.89	N	10.25
0.530000	46.50	---	56.00	9.50	N	10.23
1.218000	44.47	---	56.00	11.53	N	10.22
3.402000	44.22	---	56.00	11.78	N	10.38
7.986000	40.70	---	60.00	19.30	N	10.92
13.518000	41.33	---	60.00	18.67	N	11.30

Remark:
Level=Reading Level + Correction Factor
Correction Factor=Cable Loss + LISN Factor
(The Reading Level is recorded by software which is not shown in the sheet)

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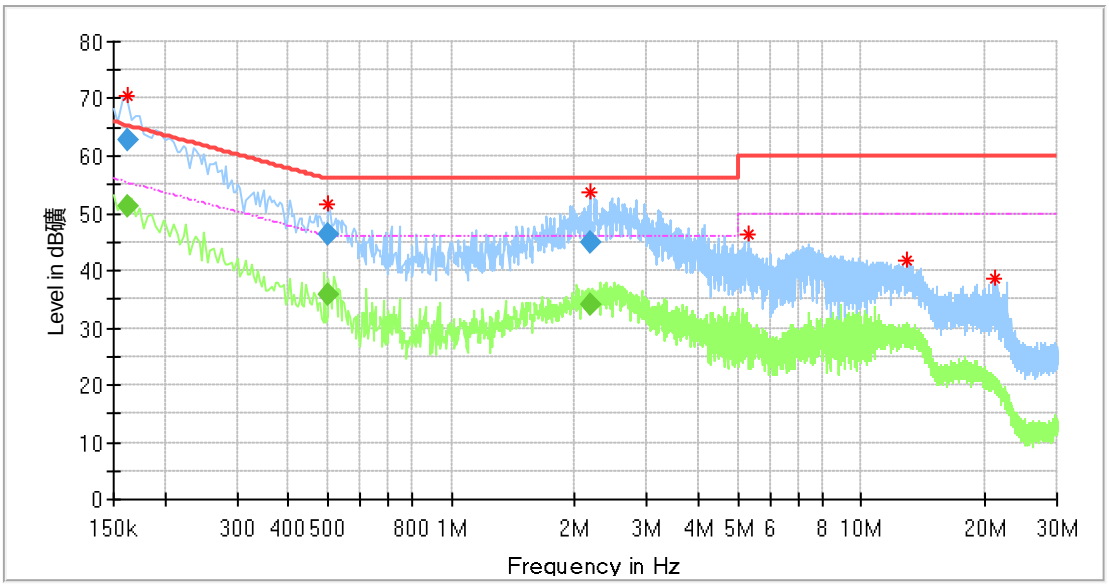
Conducted Emission

Product Type	:	Robotic Vacuum Cleaner
M/N	:	X960
Operating Condition	:	Dust collecting + Wi-Fi transmission
Test Specification	:	Power Line, Live
Comment	:	AC 120V/60Hz



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.161500	70.46	---	65.57	-4.89	L1	10.27
0.497500	51.44	---	56.00	4.56	L1	10.30
2.185500	53.72	---	56.00	2.28	L1	10.37
5.310000	46.38	---	60.00	13.62	L1	10.60
12.850000	41.78	---	60.00	18.22	L1	11.14
21.114000	38.52	---	60.00	21.48	L1	11.68

Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.161500	---	51.13	55.39	4.26	L1	10.27
0.161500	62.69	---	65.39	2.70	L1	10.27
0.497500	---	35.92	46.04	10.12	L1	10.30
0.497500	46.47	---	56.04	9.57	L1	10.30
2.185500	---	34.15	46.00	11.85	L1	10.37
2.185500	45.02	---	56.00	10.98	L1	10.37

Remark:
Level=Reading Level + Correction Factor
Correction Factor=Cable Loss + LISN Factor
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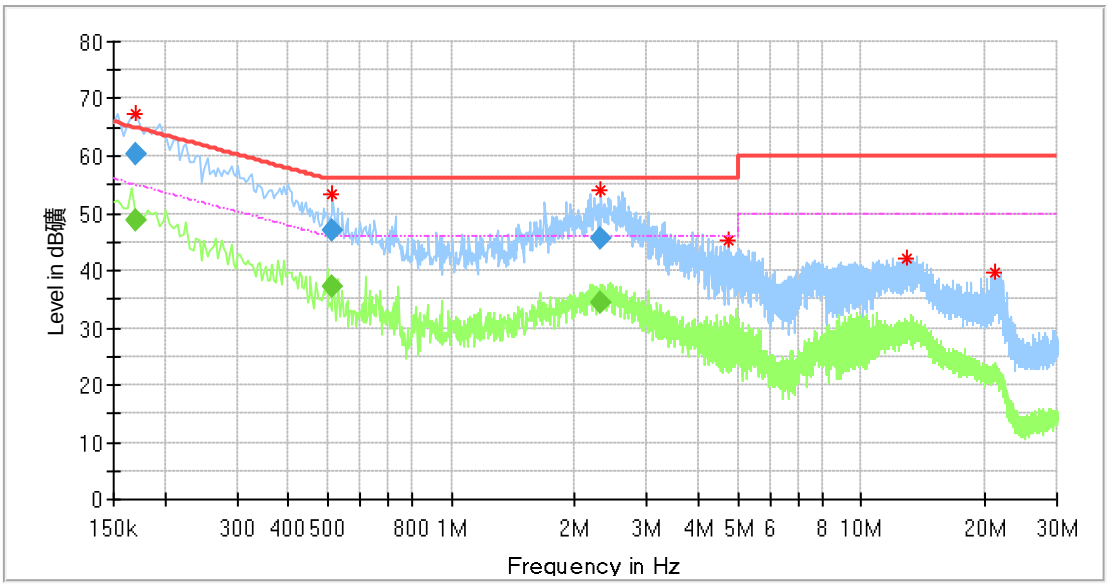
Conducted Emission

Product Type	:	Robotic Vacuum Cleaner
M/N	:	X960
Operating Condition	:	Dust collecting + Wi-Fi transmission
Test Specification	:	Power Line, Neutral
Comment	:	AC 120V/60Hz



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.169500	67.27	---	64.96	-2.31	N	10.21
0.513500	53.45	---	56.00	2.55	N	10.24
2.317500	53.89	---	56.00	2.11	N	10.29
4.738000	45.31	---	56.00	10.69	N	10.50
12.858000	42.24	---	60.00	17.76	N	11.29
21.122000	39.63	---	60.00	20.37	N	11.91

Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.169500	---	48.68	54.98	6.30	N	10.21
0.169500	60.37	---	64.98	4.61	N	10.21
0.513500	---	37.04	46.00	8.96	N	10.24
0.513500	47.04	---	56.00	8.96	N	10.24
2.317500	---	34.54	46.00	11.46	N	10.29
2.317500	45.71	---	56.00	10.29	N	10.29

Remark:
Level=Reading Level + Correction Factor
Correction Factor=Cable Loss + LISN Factor
(The Reading Level is recorded by software which is not shown in the sheet)

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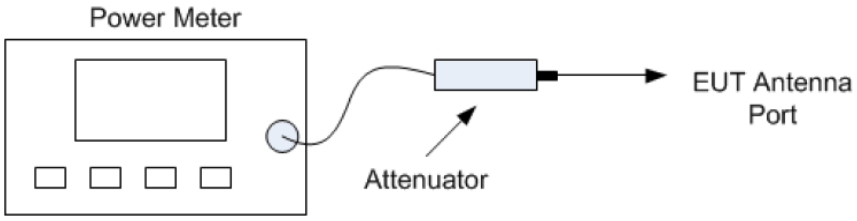
9.2 Conducted Output Power

Test Method

1) The EUT is configured to transmit continuously, or to transmit with a constant duty cycle.
2) At all times when the EUT is transmitting, it shall be transmitting at its maximum power control level.
3) The integration period of the power meter exceeds the repetition period of the transmitted signal by at least a factor of five.

4) Measure the peak power of the transmitter. This measurement is a peak over both the ON and OFF periods of the transmitter.



Power meter conducted test setup

Limits

According to §15.247 (b) (3), conducted output power limit as below:

Frequency Range MHz	Limit W	Limit dBm
2400-2483.5	≤1	≤30

Test results

Mode	TX Type	Frequency (MHz)	Maximum Peak Conducted Output Power (dBm)		Verdict
			Results	Limit	
802.11b	SISO	2412	17.77	<=30	Pass
		2437	18.62	<=30	Pass
		2462	19.22	<=30	Pass
802.11g	SISO	2412	17.52	<=30	Pass
		2437	18.61	<=30	Pass
		2462	19.30	<=30	Pass
802.11n (HT20)	SISO	2412	17.83	<=30	Pass
		2437	18.91	<=30	Pass
		2462	19.55	<=30	Pass
802.11n (HT40)	SISO	2422	18.23	<=30	Pass
		2437	18.90	<=30	Pass
		2452	19.40	<=30	Pass

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9.3 6dB Bandwidth

Test Method

1. The RF output of EUT was connected to the spectrum analyzer. The path loss was compensated to the results for each measurement.
2. Set to the maximum power setting, the instrument center frequency is set to the nominal EUT channel center frequency enable the EUT transmit continuously.
3. Use the following spectrum analyzer settings:
   RBW=1% to 5% of the occupied bandwidth but not less than 100kHz, VBW≥3RBW, Sweep = auto, Detector function = peak, Trace = max hold
4. Use the automatic bandwidth measurement capability of an instrument, use the X dB bandwidth mode with X set to 6 dB.
5. Allow the trace to stabilize, record the 6 dB Bandwidth value.

Limit

Limit [kHz]
≥500

Test results

Mode	TX Type	Frequency (MHz)	6dB Bandwidth (MHz)		Verdict
			Result	Limit	
802.11b	SISO	2412	9.282	>=0.5	Pass
		2437	9.257	>=0.5	Pass
		2462	9.262	>=0.5	Pass
802.11g	SISO	2412	16.704	>=0.5	Pass
		2437	16.714	>=0.5	Pass
		2462	16.929	>=0.5	Pass
802.11n (HT20)	SISO	2412	17.780	>=0.5	Pass
		2437	17.832	>=0.5	Pass
		2462	17.796	>=0.5	Pass
802.11n (HT40)	SISO	2422	36.620	>=0.5	Pass
		2437	36.599	>=0.5	Pass
		2452	36.622	>=0.5	Pass

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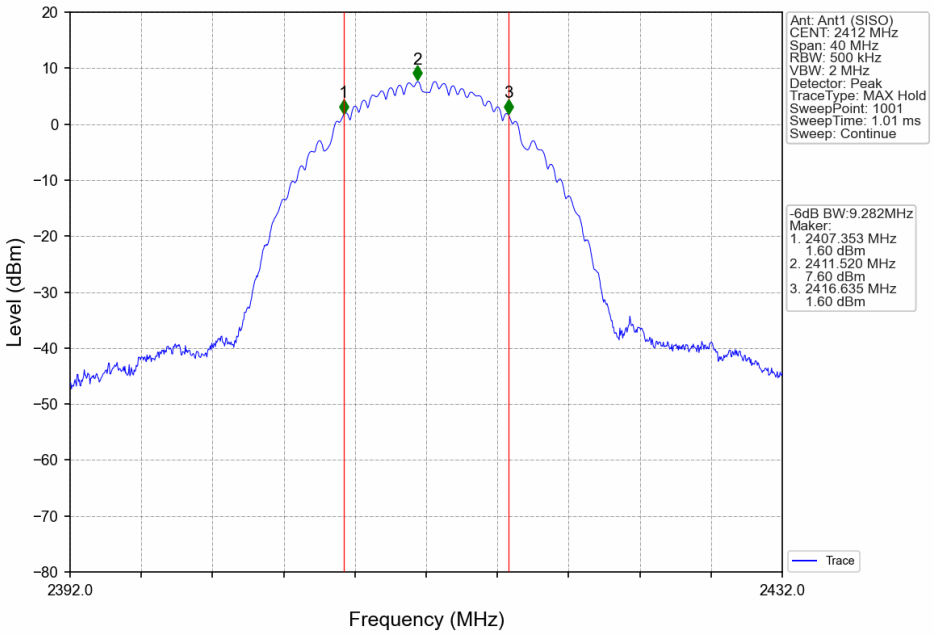
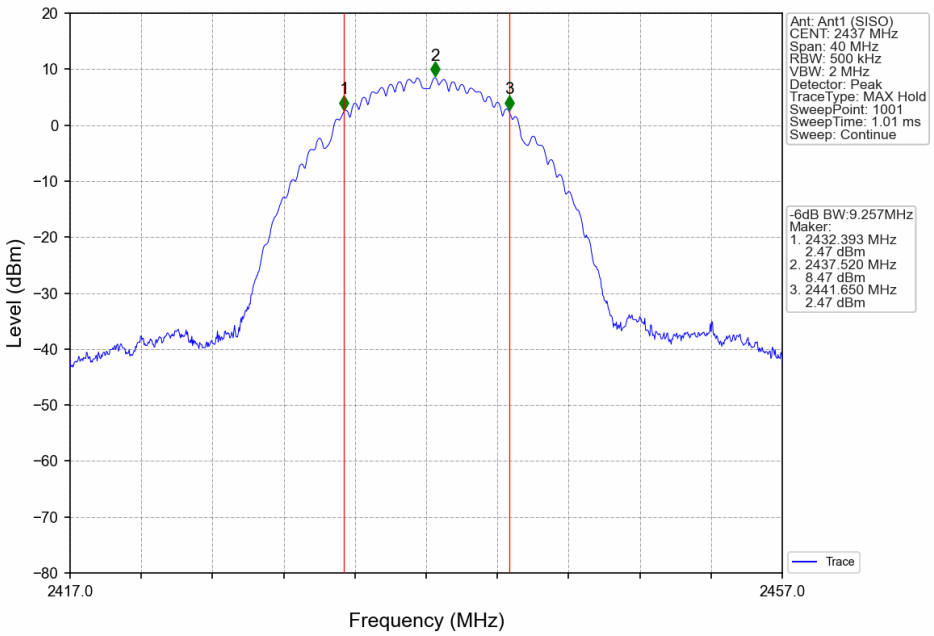
Test Graphs

802.11b_LCH_2412MHz_Ant1 (SISO)_NTNV



802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



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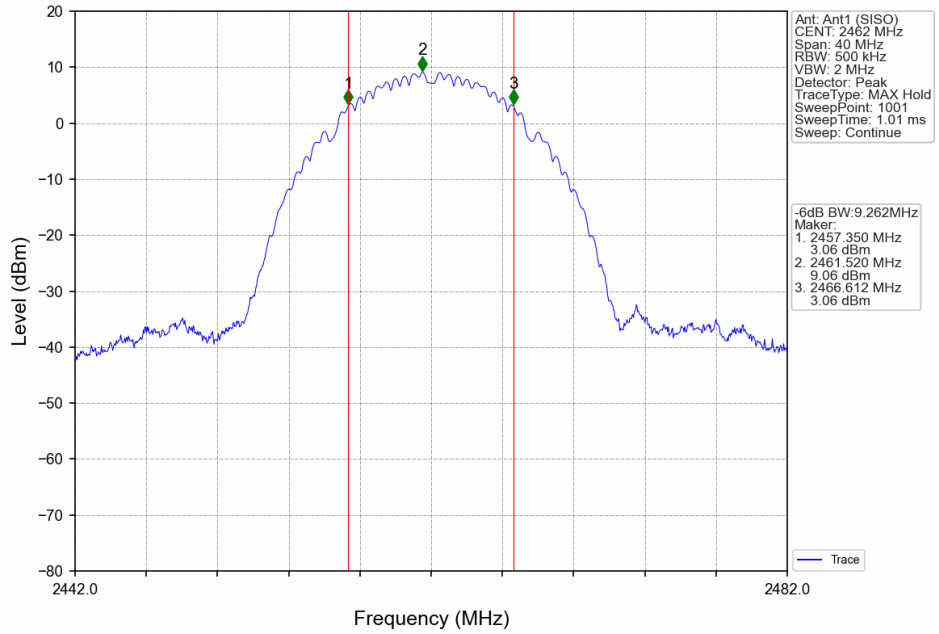
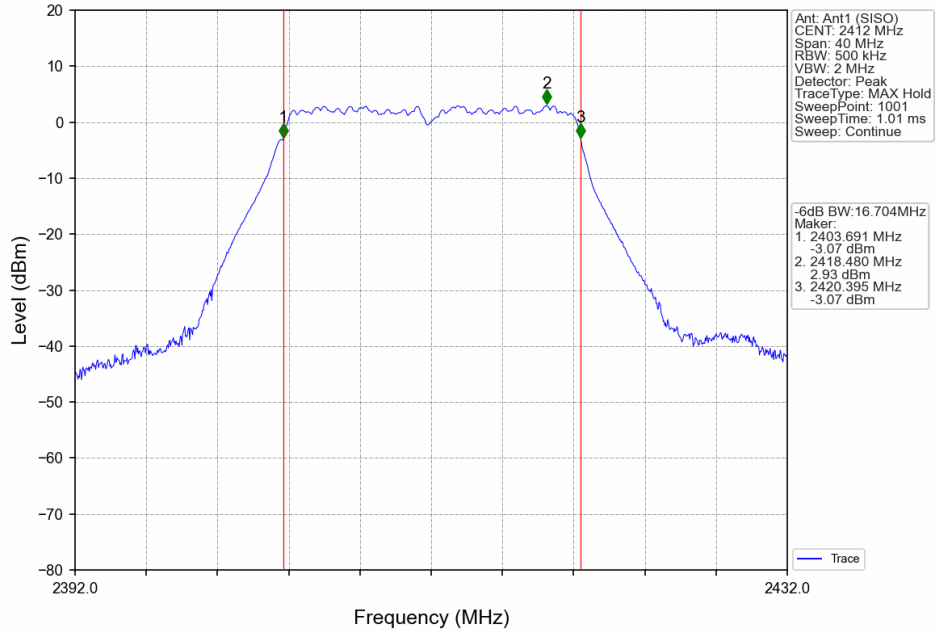
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



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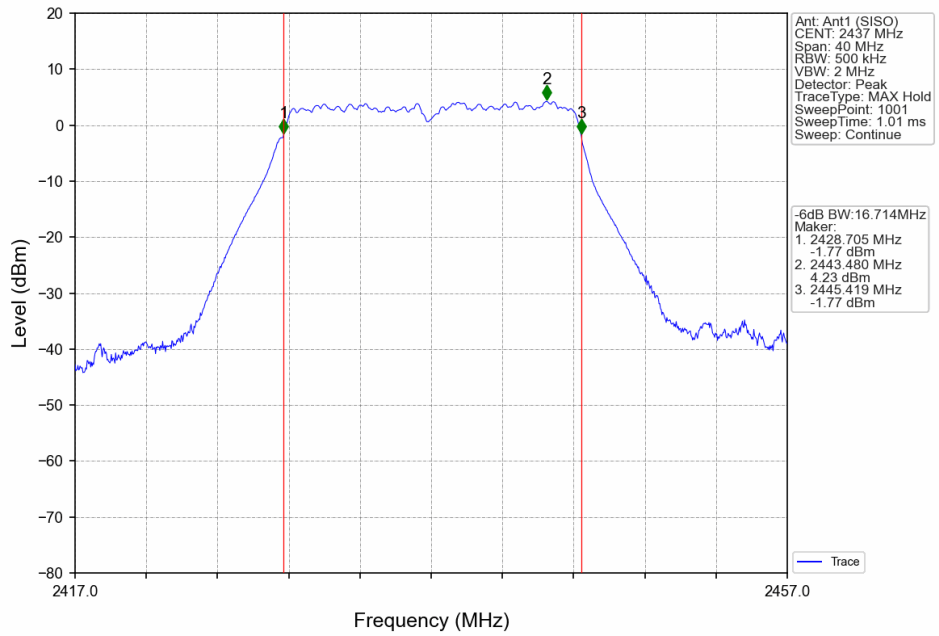
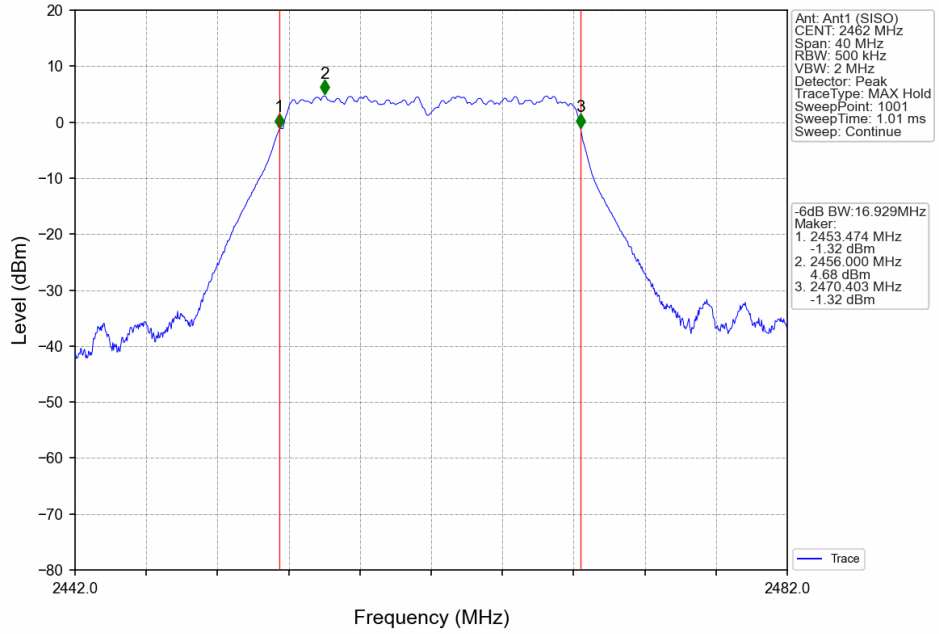
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



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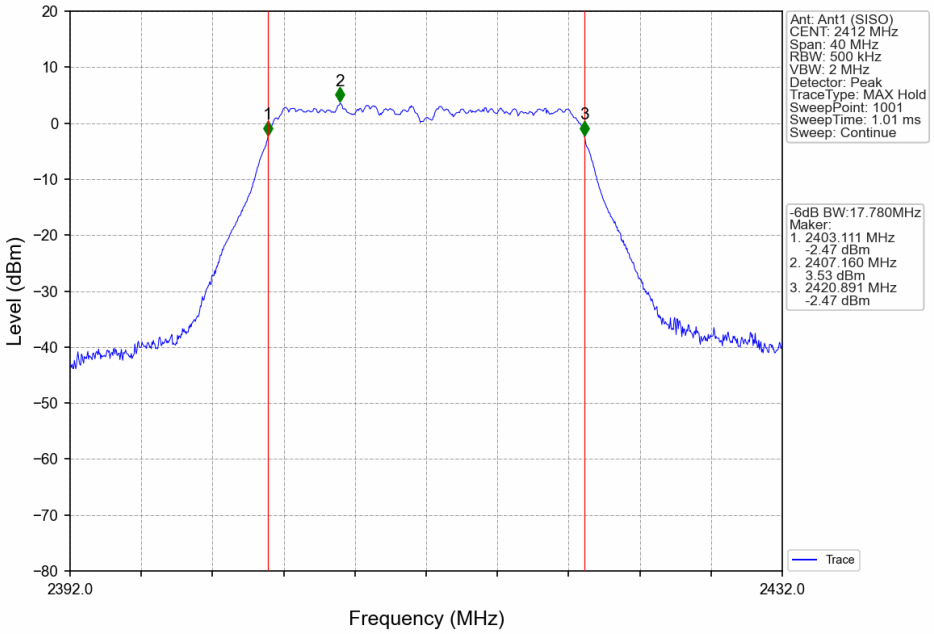
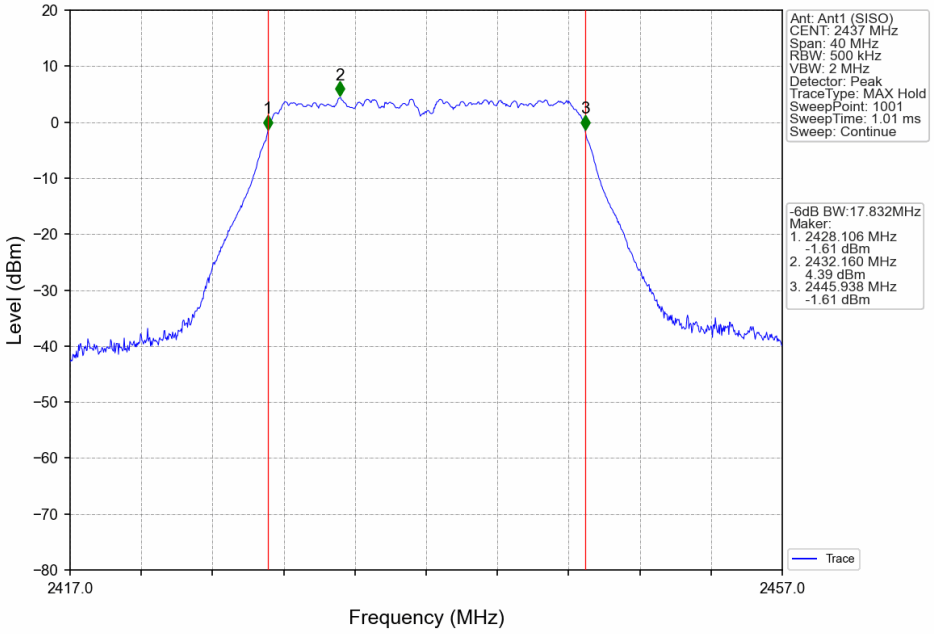
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



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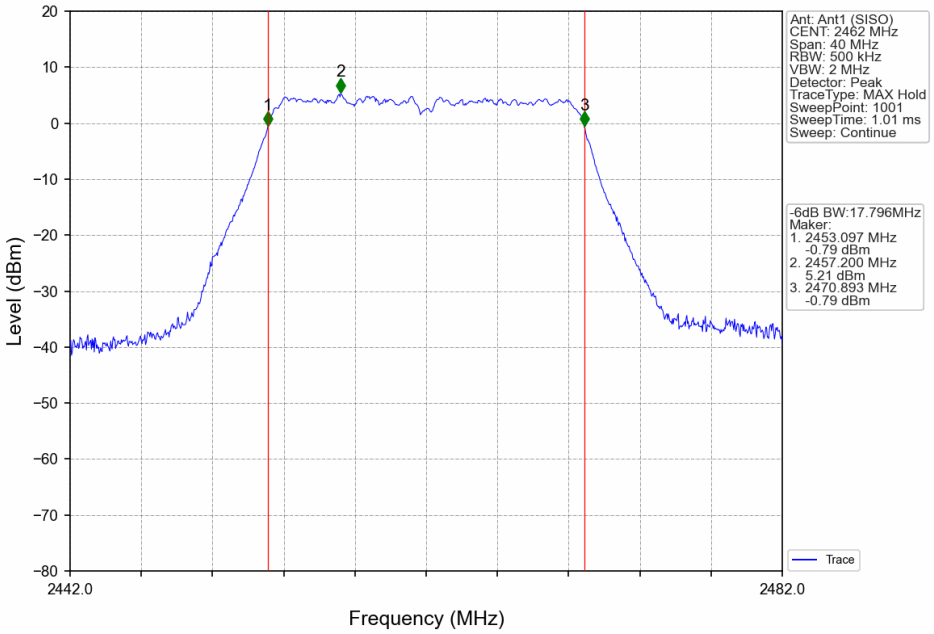
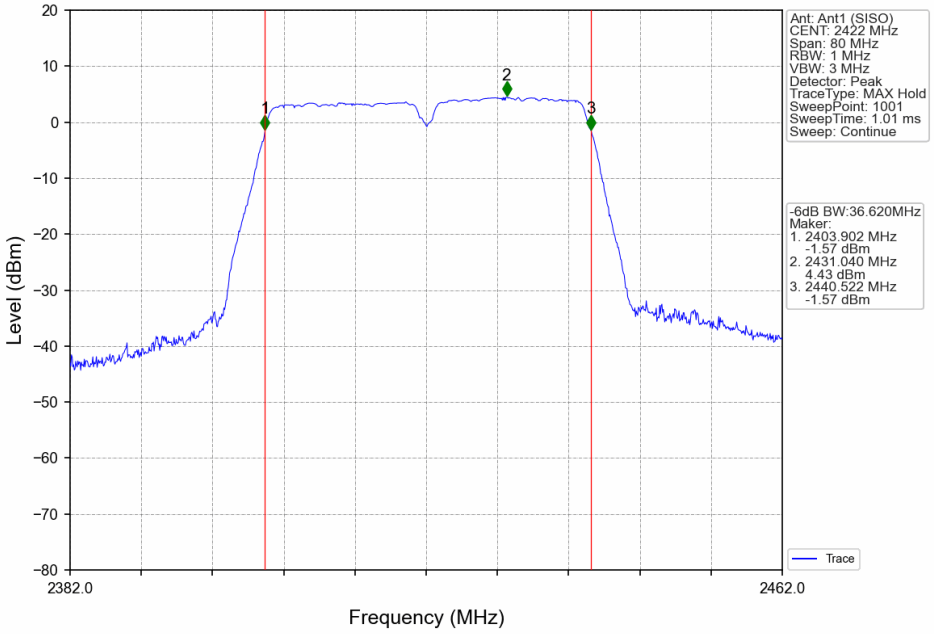
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



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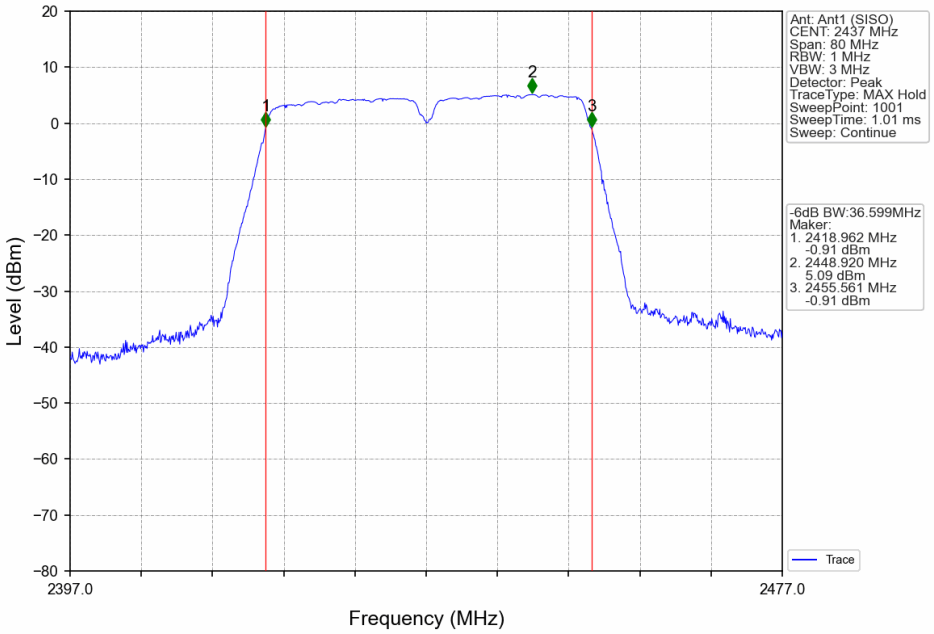
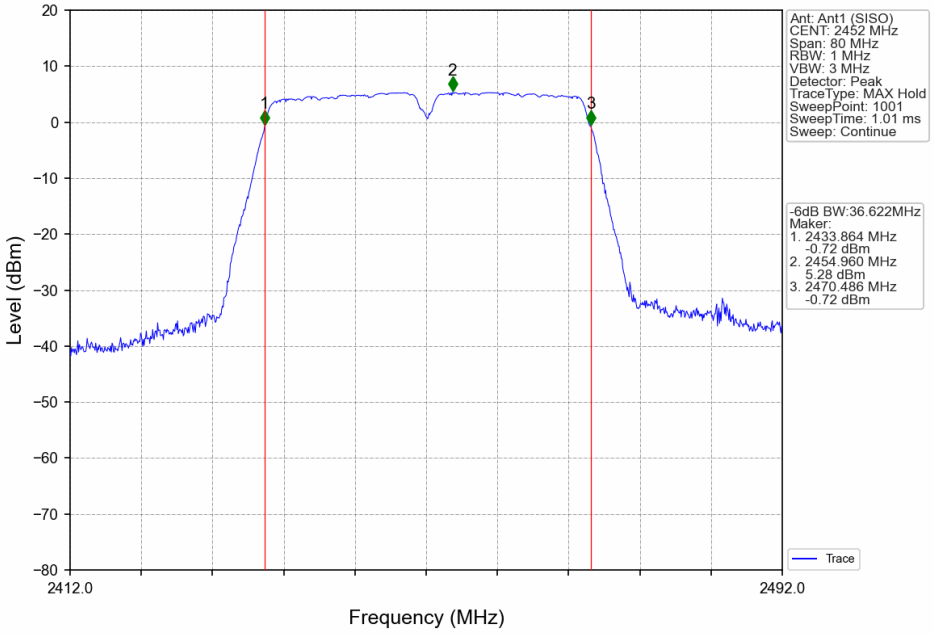
802.11n(HT40)_MCH_2437MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV



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9.4 Power Spectral Density

Test Method

This procedure shall be used if maximum peak conducted output power was used to demonstrate compliance:

1. The RF output of EUT was connected to the spectrum analyzer. The path loss was compensated to the results for each measurement.
2. Set to the maximum power setting, the instrument center frequency is set to the nominal EUT channel center frequency enable the EUT transmit continuously.
3. Use the following spectrum analyzer settings:
4. Set analyzer center frequency to DTS channel center frequency. RBW=3kHz, VBW≥3RBW, Span=1.5 times DTS bandwidth, Detector=Peak, Sweep=auto, Trace= max hold.
5. Allow trace to fully stabilize, use the peak marker function to determine the maximum amplitude level within the RBW.
6. Repeat above procedures until other frequencies measured were completed.

Limit

Limit [dBm/3kHz]
≤8

Test Results

Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/3kHz)		Verdict
			Result	Limit	
802.11b	SISO	2412	-14.38	<=8	Pass
		2437	-13.52	<=8	Pass
		2462	-12.95	<=8	Pass
802.11g	SISO	2412	-18.56	<=8	Pass
		2437	-17.65	<=8	Pass
		2462	-17.08	<=8	Pass
802.11n (HT20)	SISO	2412	-18.09	<=8	Pass
		2437	-17.21	<=8	Pass
		2462	-16.19	<=8	Pass
802.11n (HT40)	SISO	2422	-19.84	<=8	Pass
		2437	-18.35	<=8	Pass
		2452	-18.79	<=8	Pass

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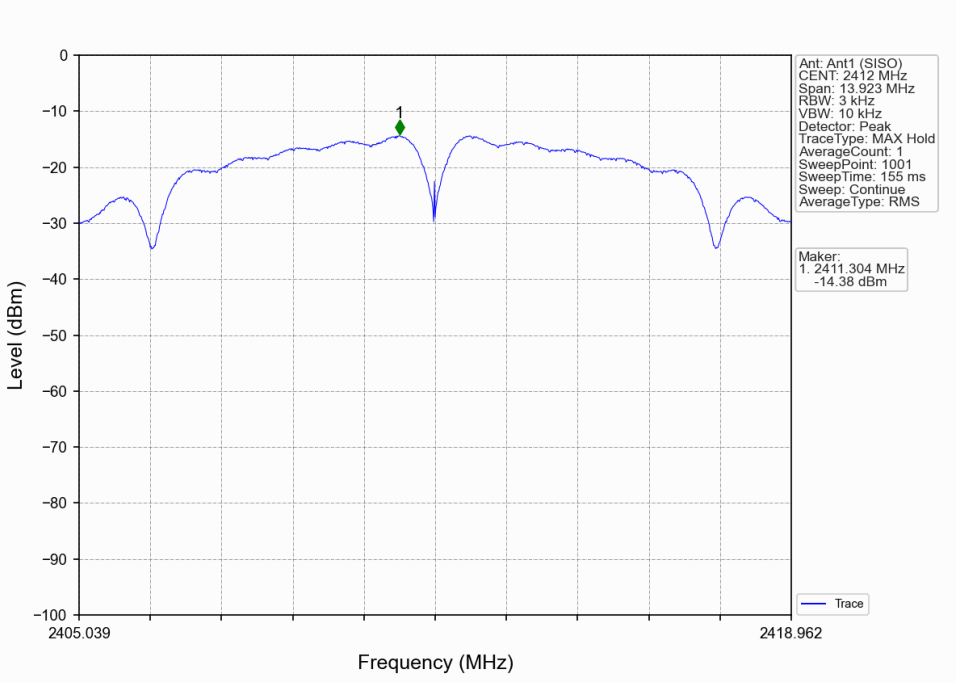
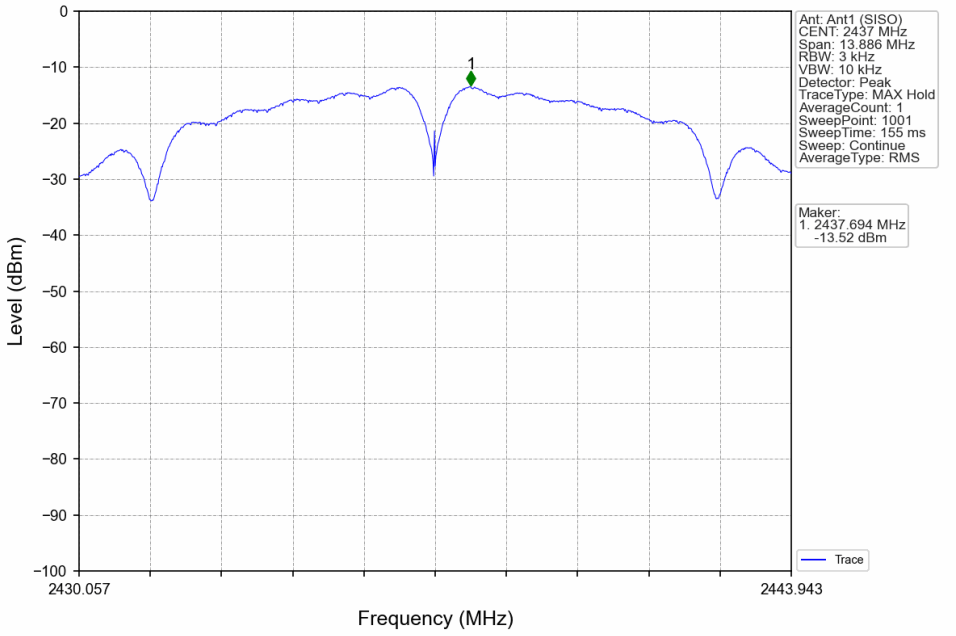
Test Graphs

802.11b_LCH_2412MHz_Ant1 (SISO)_NTNV



802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



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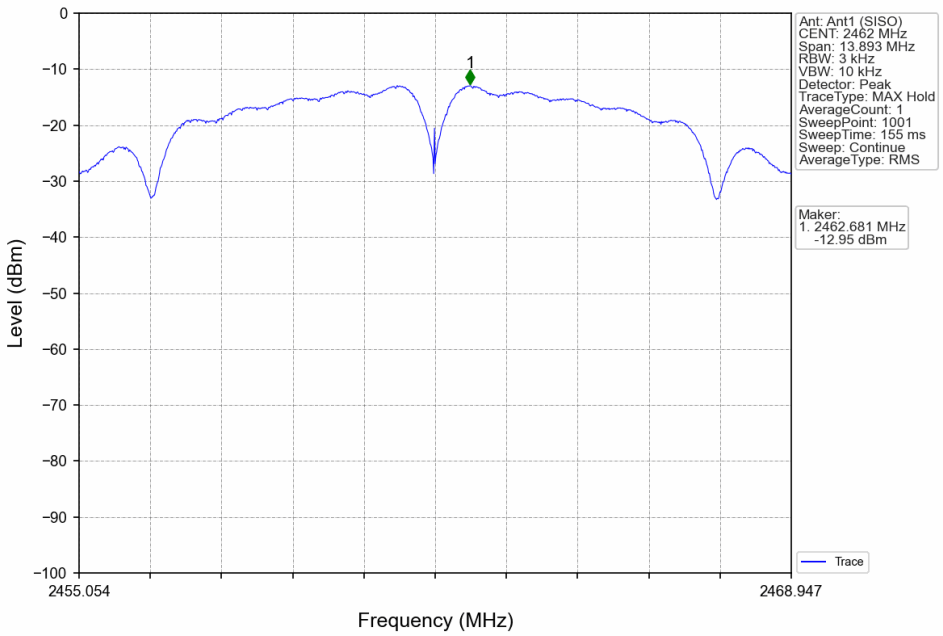
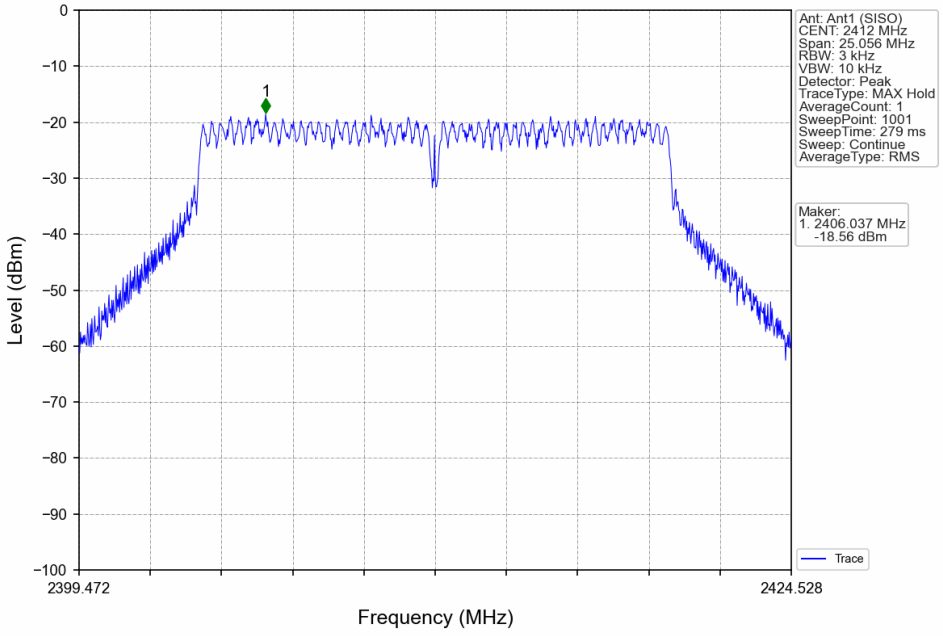
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



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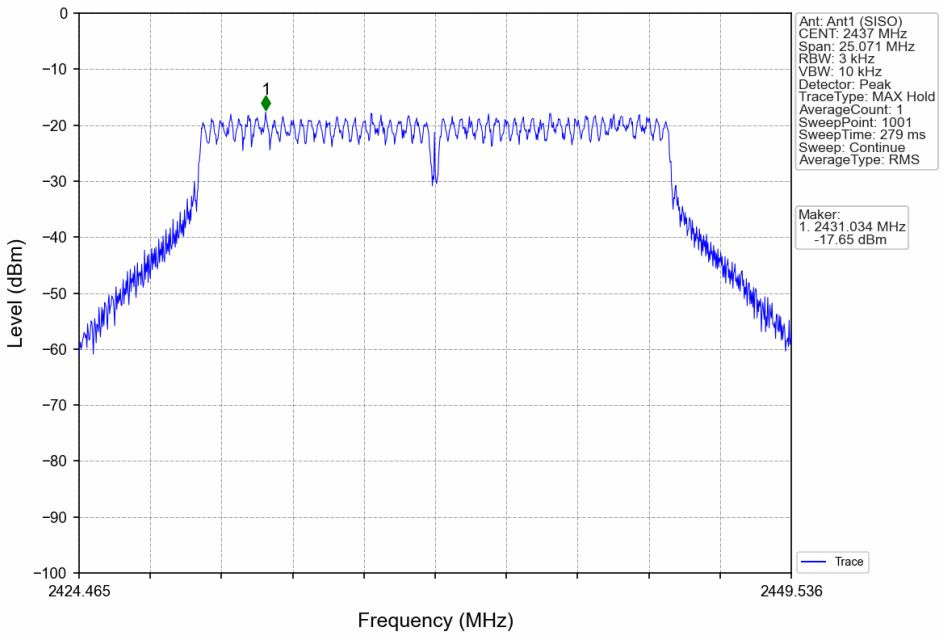
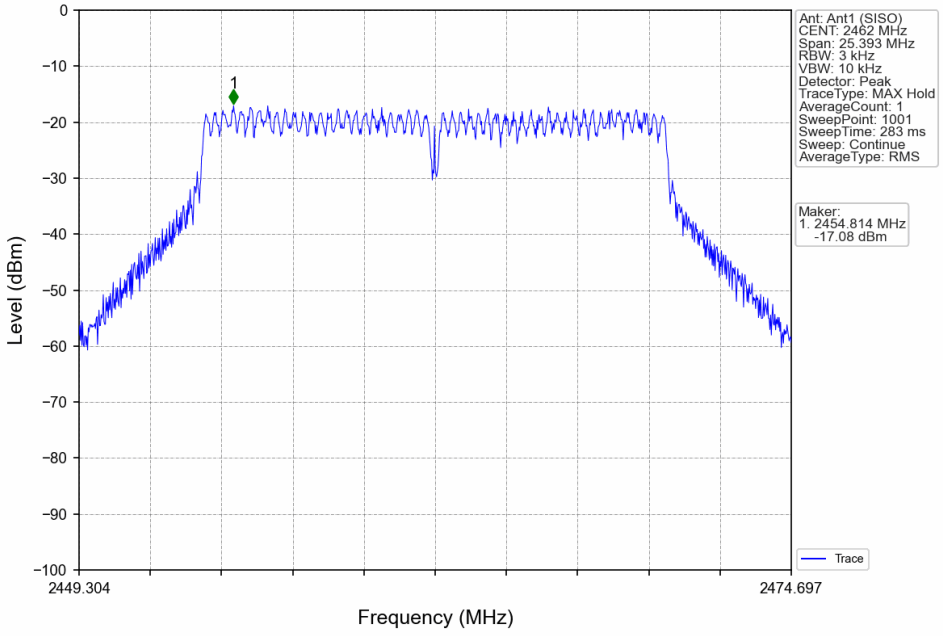
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



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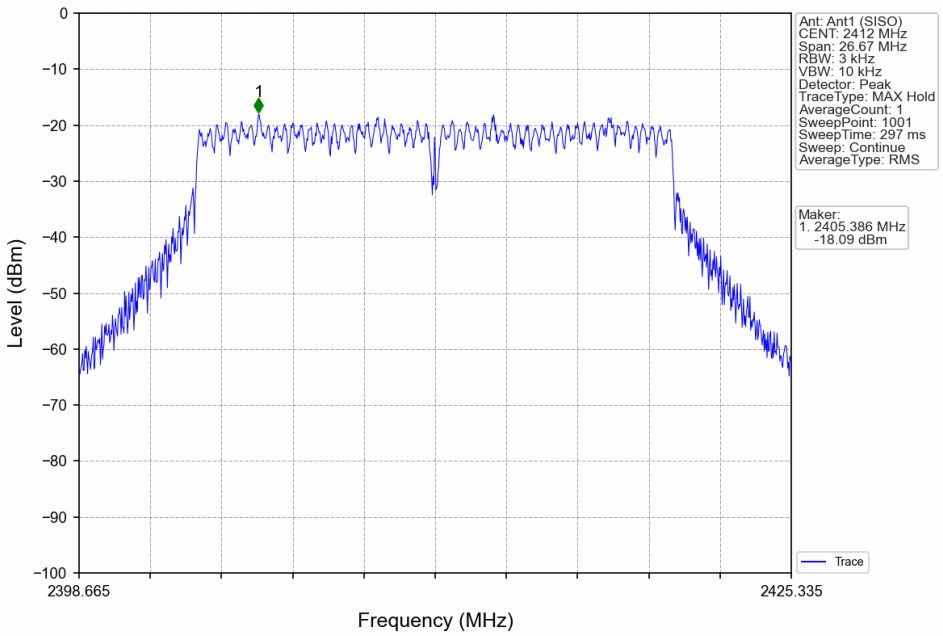
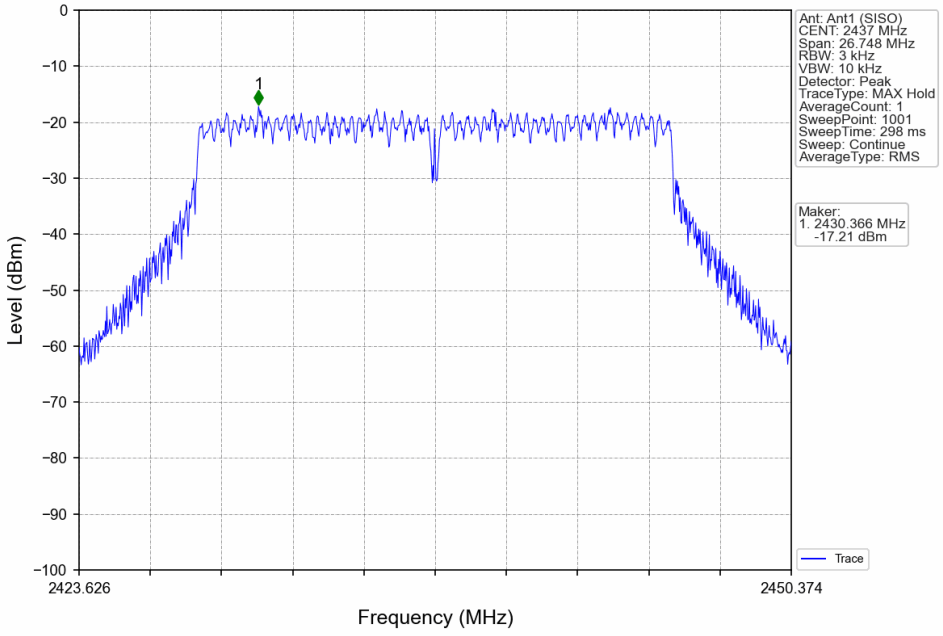
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



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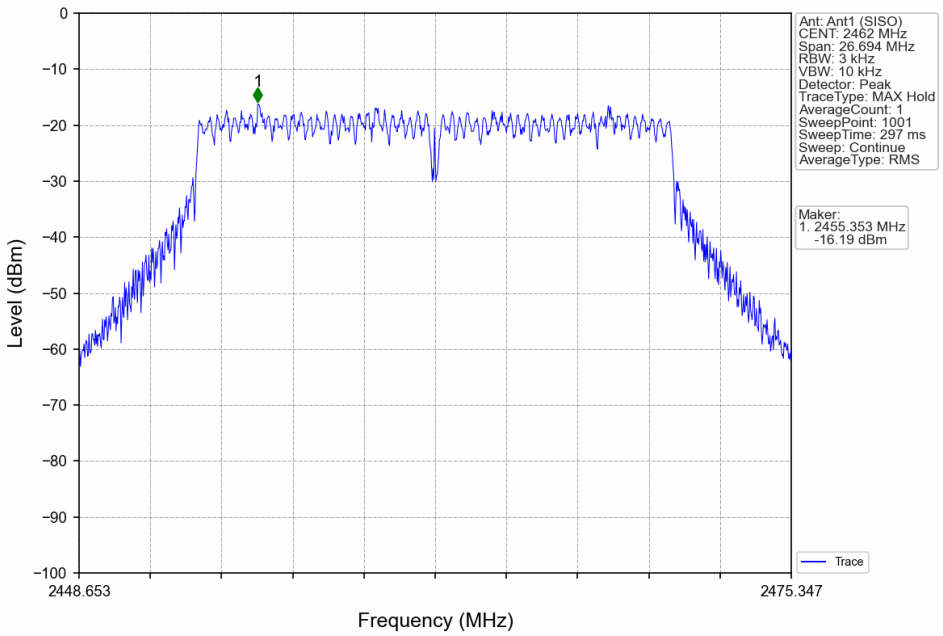
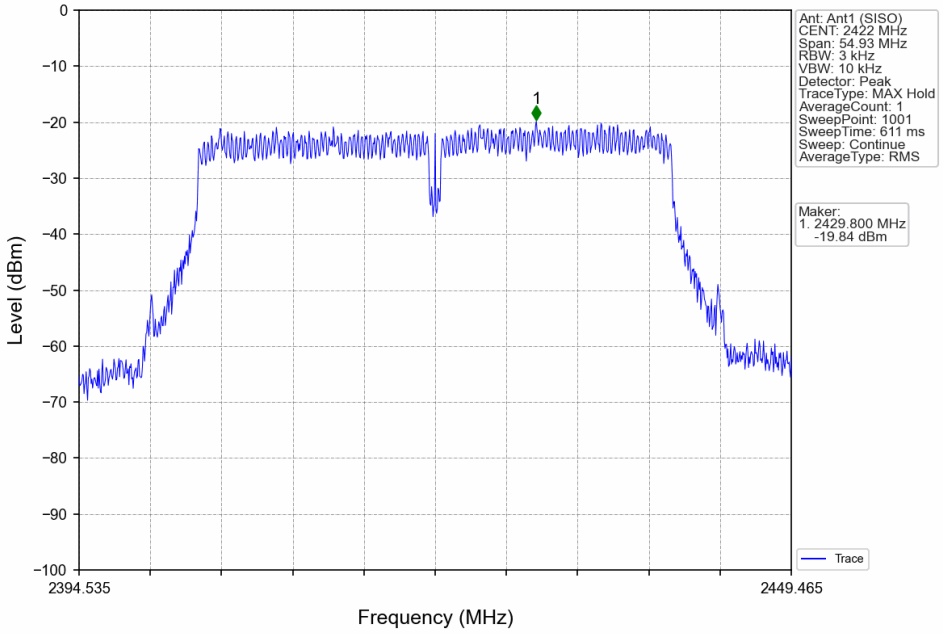
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



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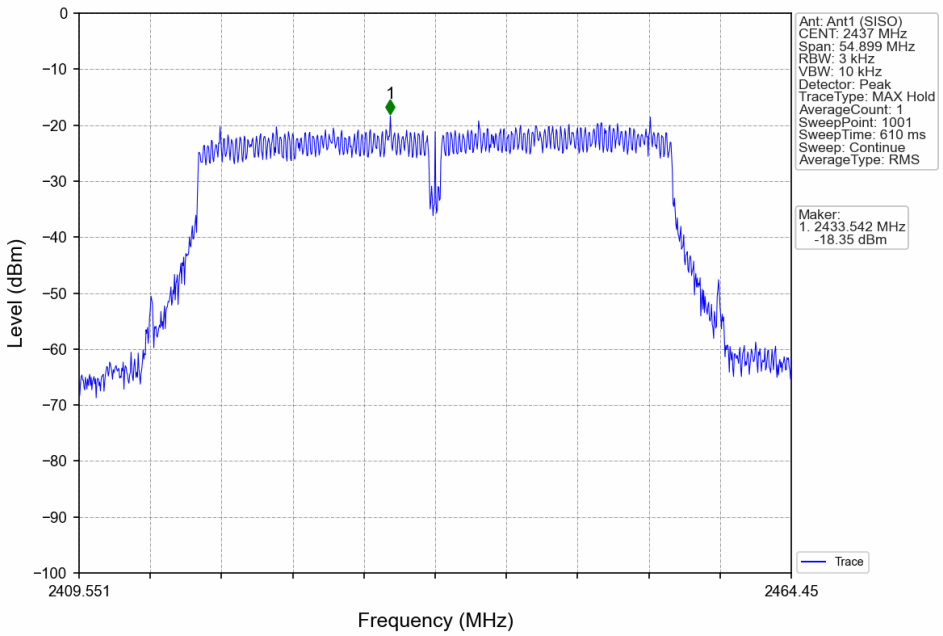
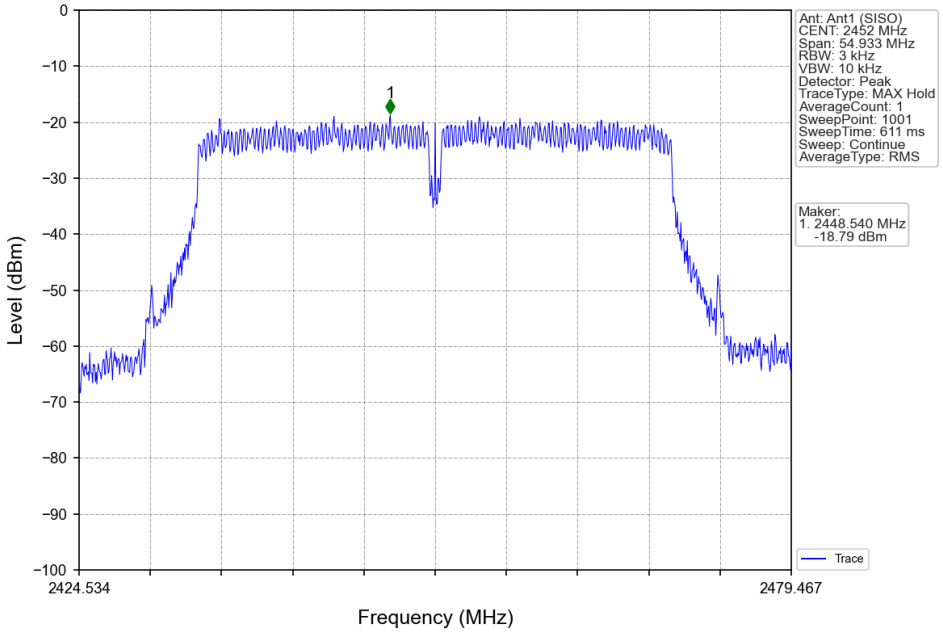
802.11n(HT40)_MCH_2437MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV



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9.5 Spurious RF Conducted Emissions

Test Method

1. The RF output of EUT was connected to the spectrum analyzer by RF cable. The path loss was compensated to the results for each measurement.
2. Set to the maximum power setting, the instrument center frequency is set to the nominal EUT channel center frequency enable the EUT transmit continuously.
3. Use the following spectrum analyzer settings:
   Span = wide enough to capture the peak level of the in-band emission and all spurious emissions (e.g., harmonics) from the lowest frequency generated in the EUT up through the 10th harmonic. Typically, several plots are required to cover this entire span.
   RBW = 100 kHz, VBW≥3RBW, Sweep = auto, Detector function = peak, Trace = max hold
4. Allow the trace to stabilize. Set the marker on the peak of any spurious emission recorded.
5. The level displayed must comply with the limit specified in this Section. Submit these plots.
6. Repeat above procedures until all frequencies measured were complete.

Limit

Frequency Range MHz	Limit (dBc)
30-25000	-20

Test results

Mode	TX Type	Frequency (MHz)	Level of Reference (dBm)	Limit (dBm)	Verdict
802.11b	SISO	2412	5.77	-14.23	Pass
		2437	6.67	-13.33	Pass
		2462	7.22	-12.78	Pass
802.11g	SISO	2412	-4.27	-24.27	Pass
		2437	-3.06	-23.06	Pass
		2462	-2.62	-22.62	Pass
802.11n (HT20)	SISO	2412	-3.94	-23.94	Pass
		2437	-2.86	-22.86	Pass
		2462	-2.26	-22.26	Pass
802.11n (HT40)	SISO	2422	-6.52	-26.52	Pass
		2437	-5.77	-25.77	Pass
		2452	-5.35	-25.35	Pass
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2020, the channel contains the maximum PSD level was used to establish the reference level.					

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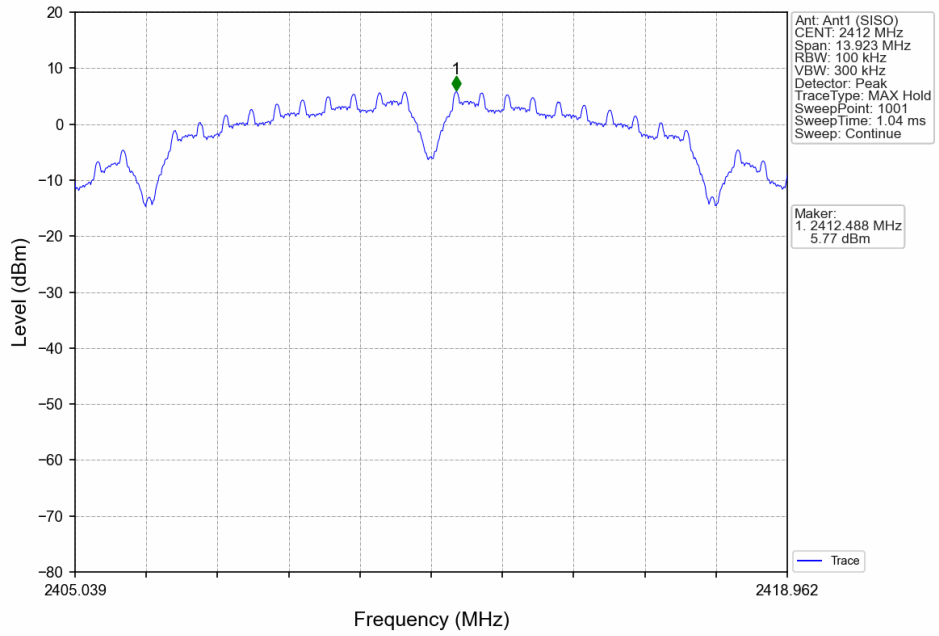
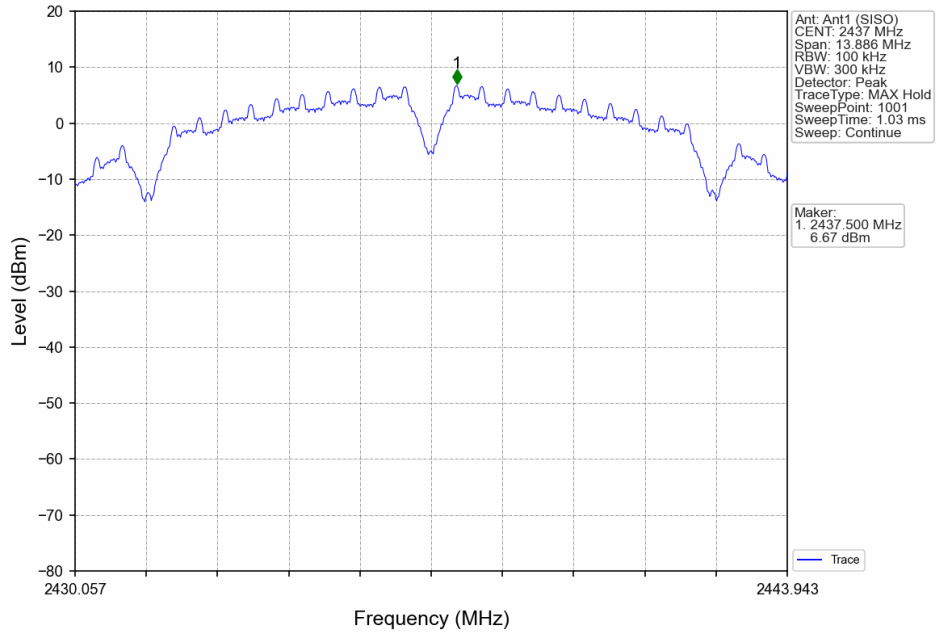
Test Graphs

Reference level

802.11b_LCH_2412MHz_Ant1 (SISO)_NTNV



802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



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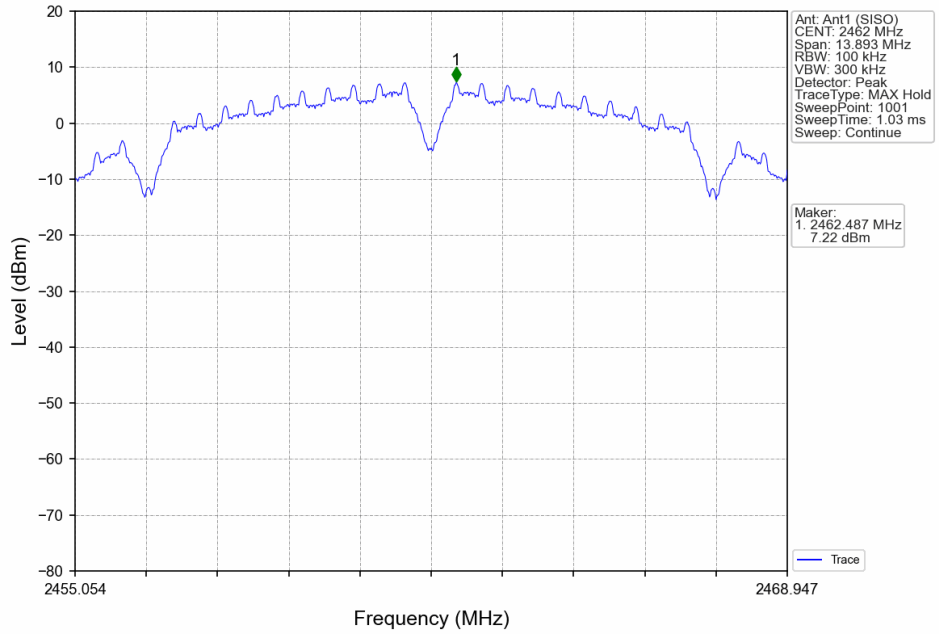
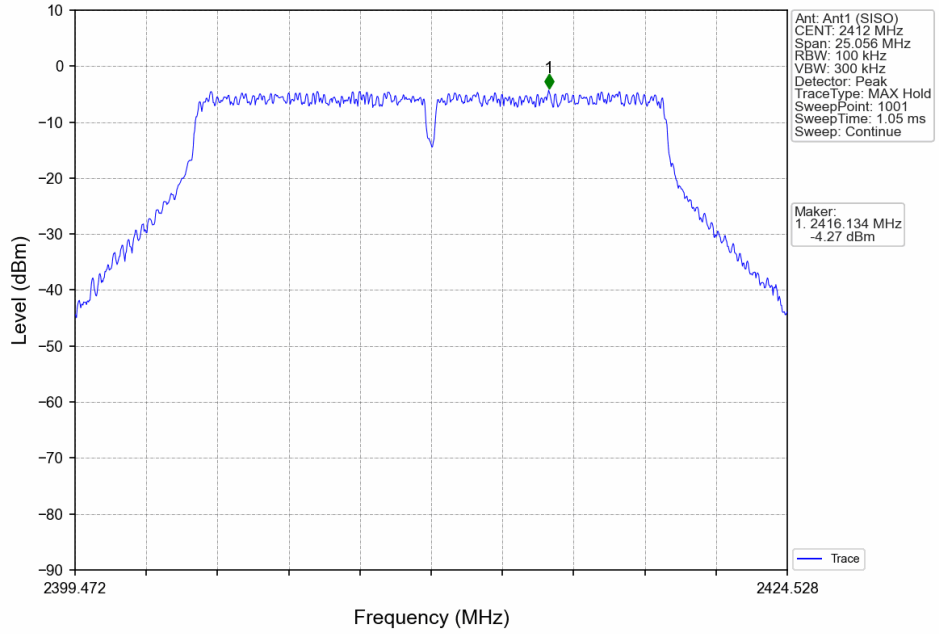
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



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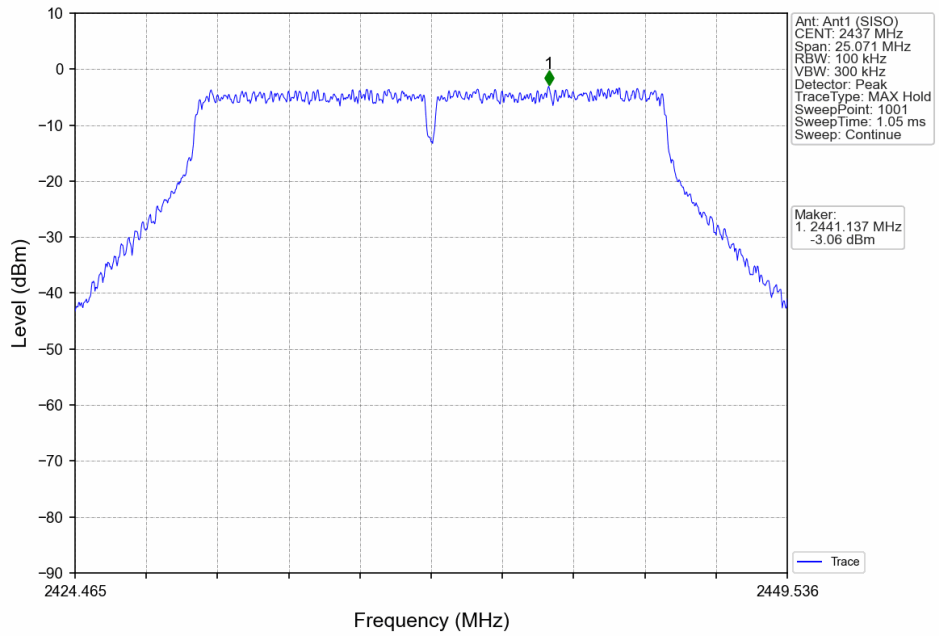
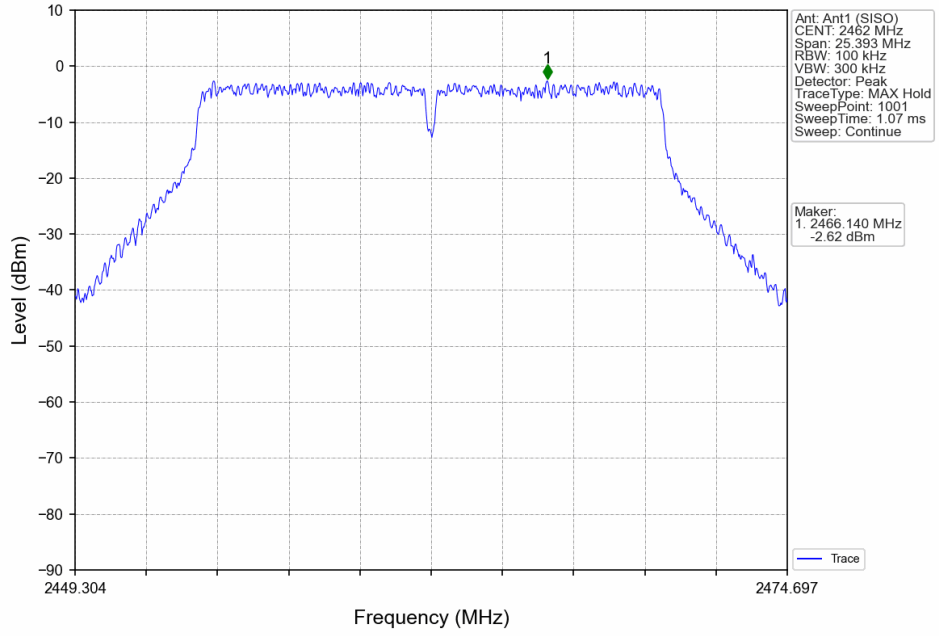
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



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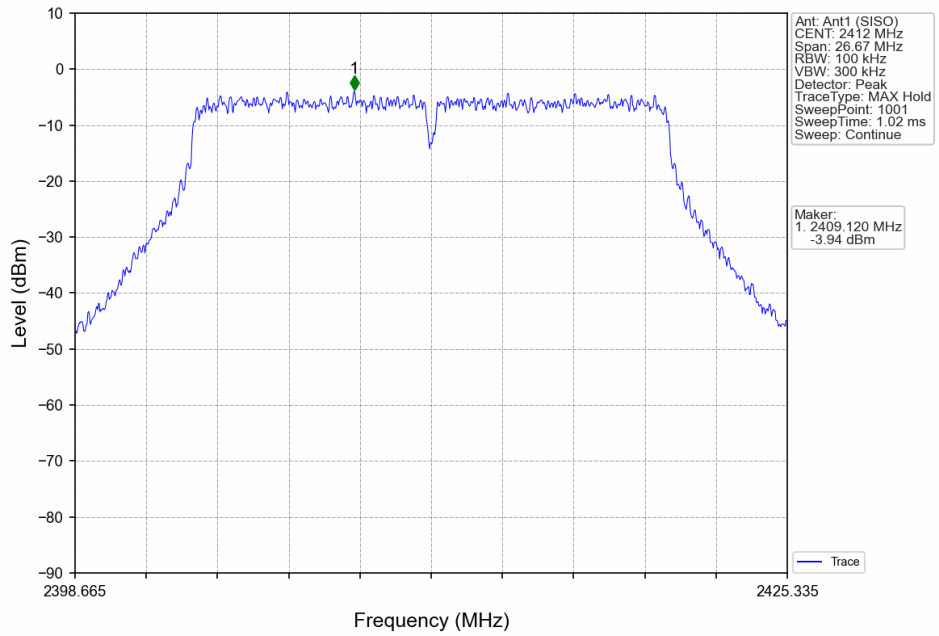
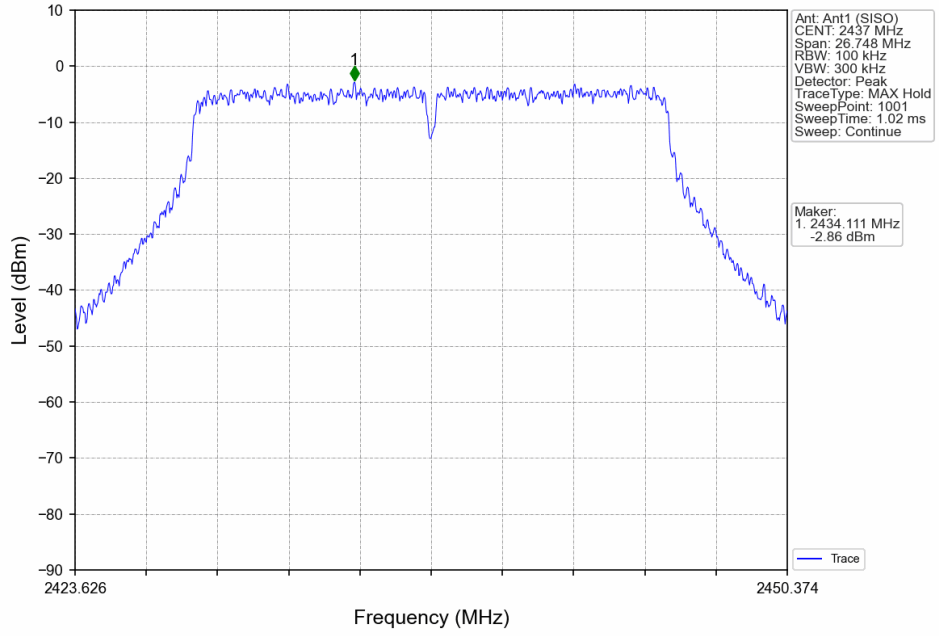
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



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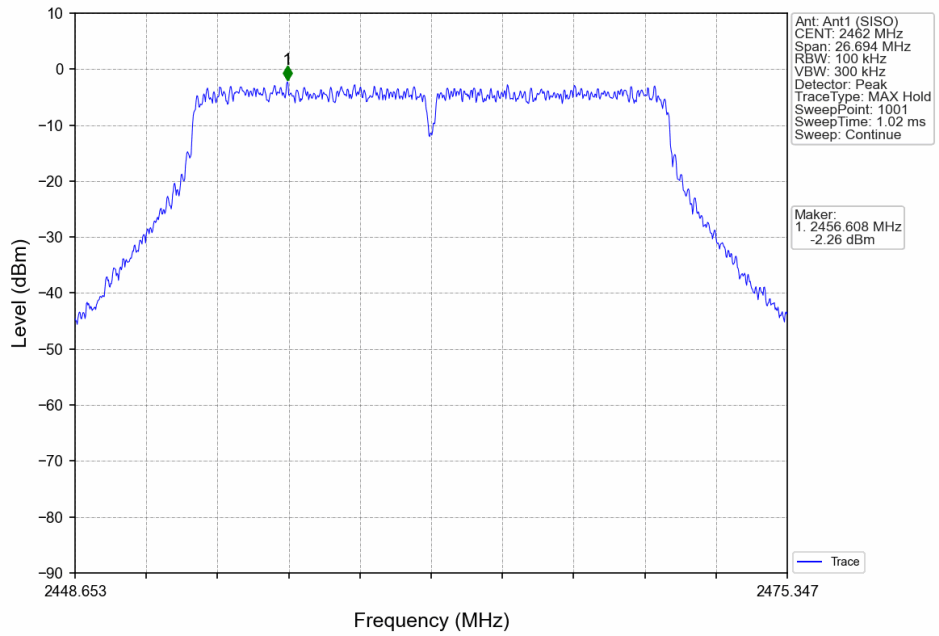
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



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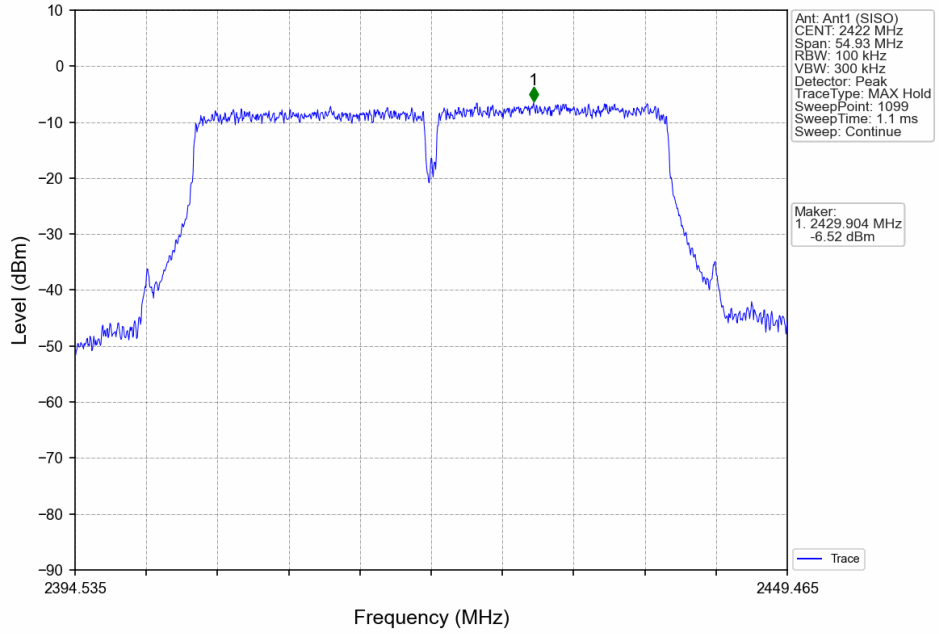

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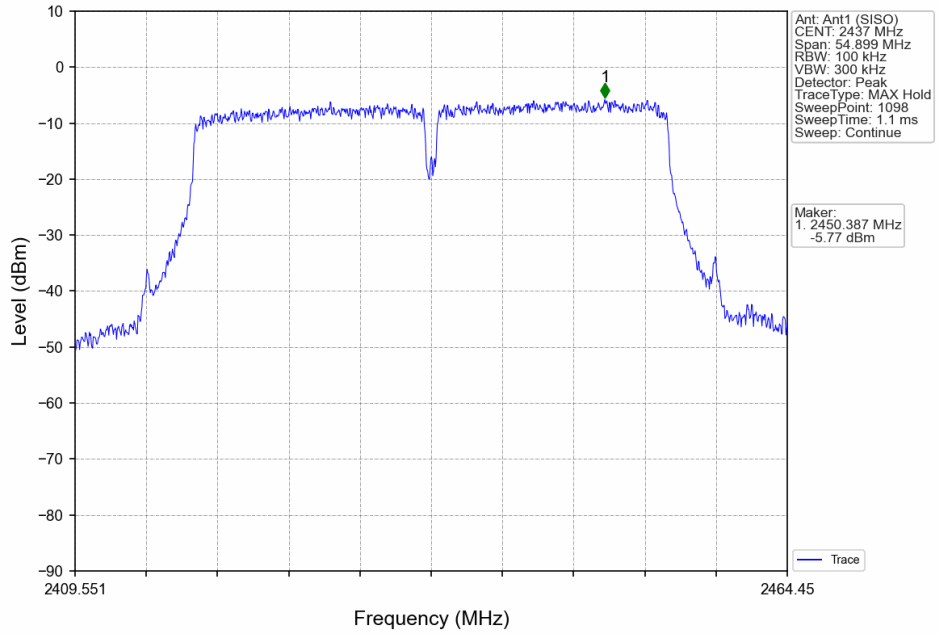
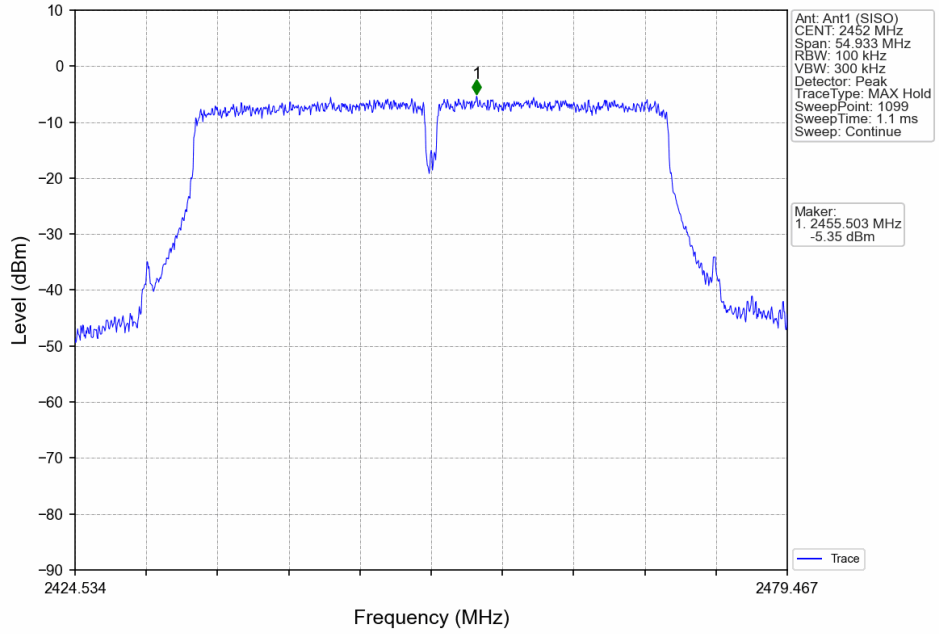
802.11n(HT40)_MCH_2437MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV



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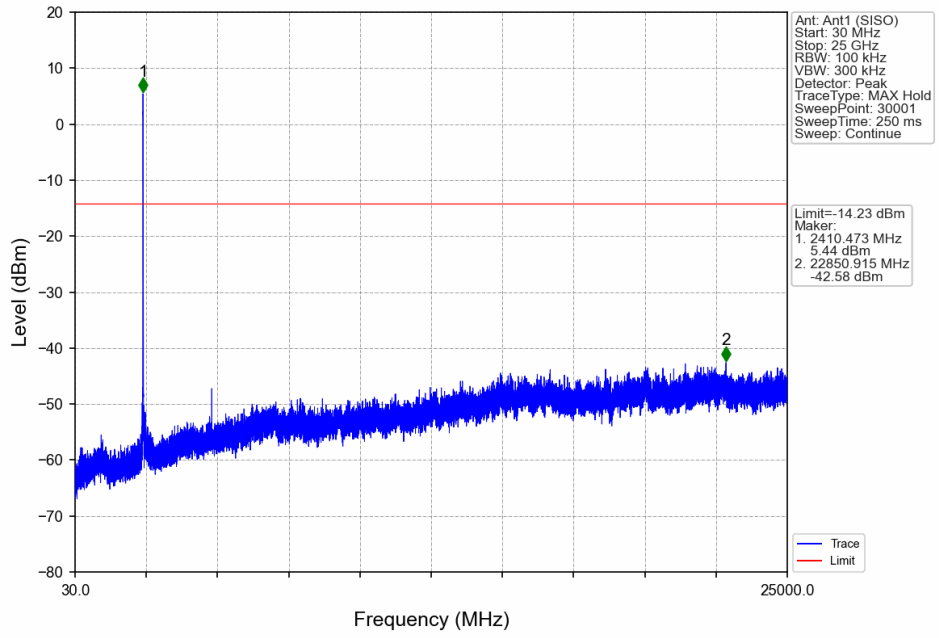
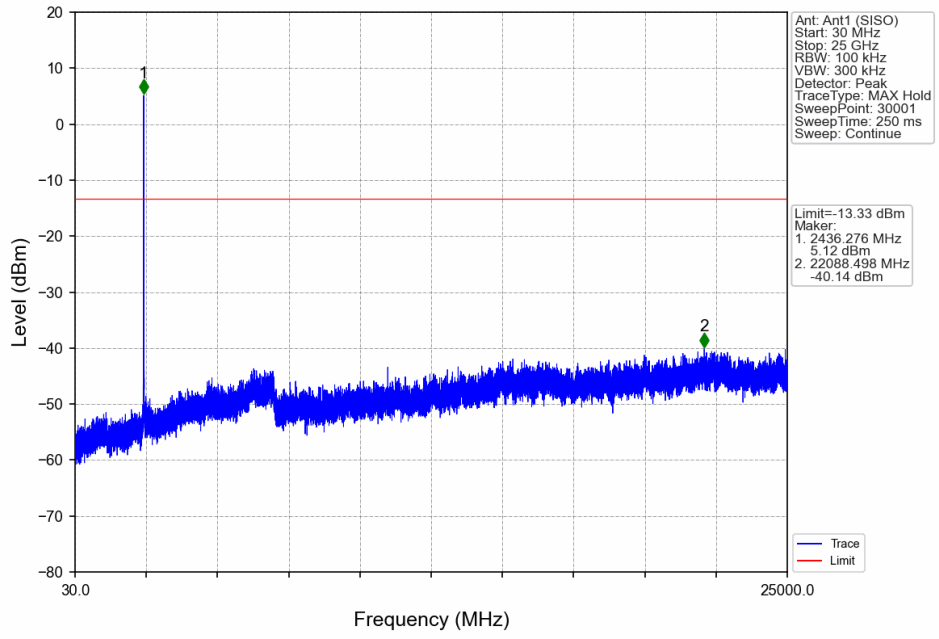
Conducted spurious emissions

802.11b_LCH_2412MHz_Ant1 (SISO)_NTNV



802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



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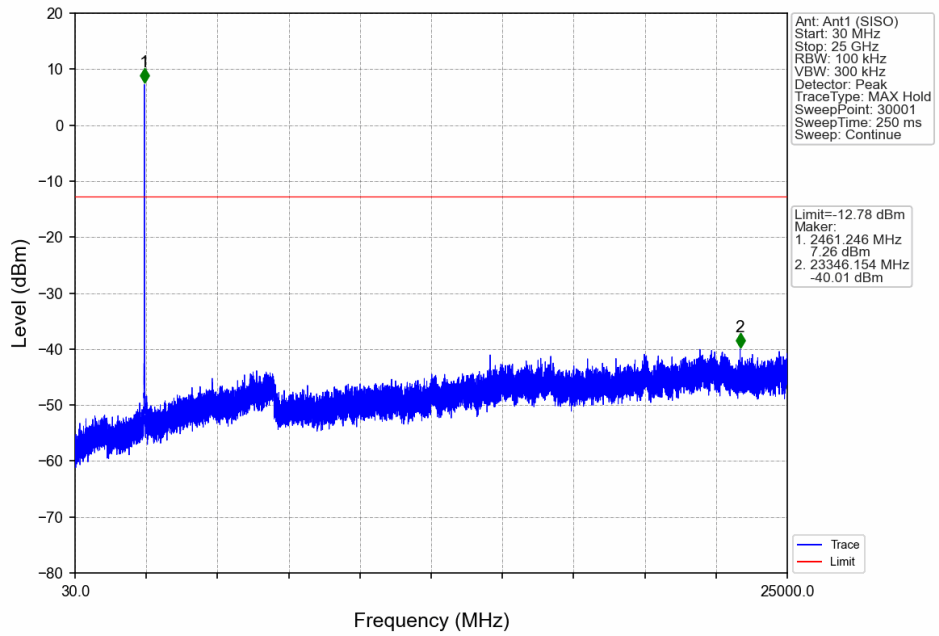
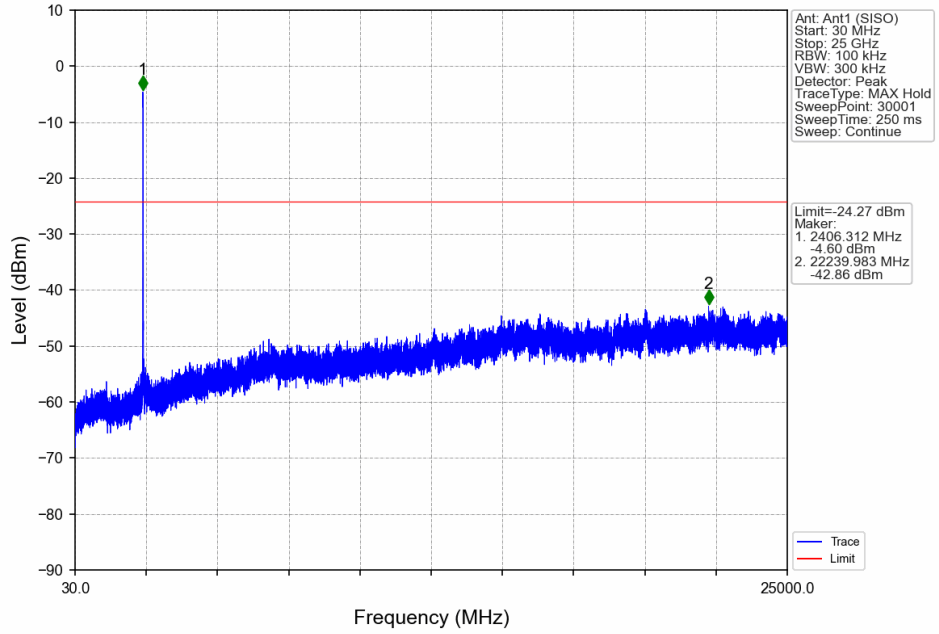
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



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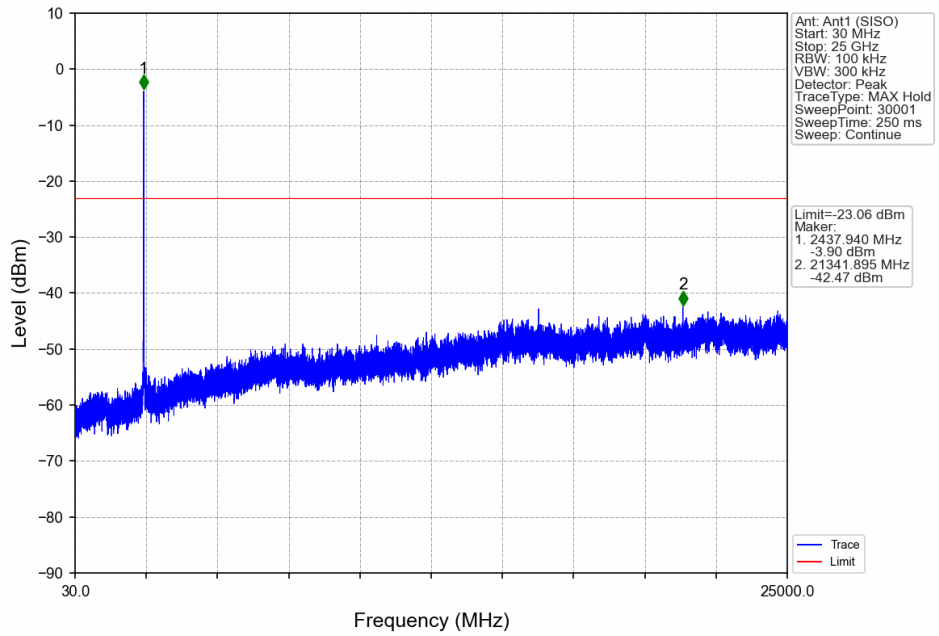
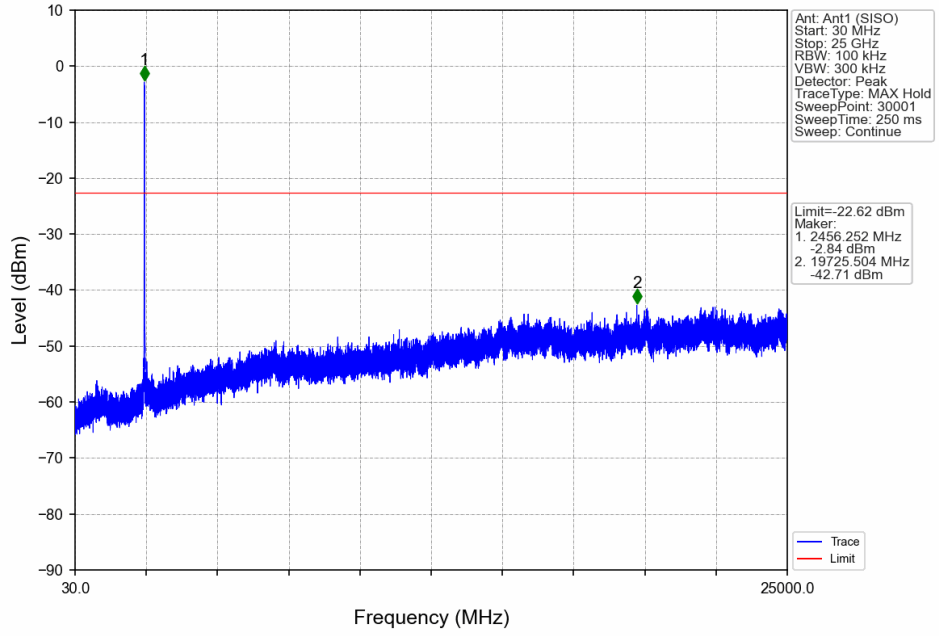
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



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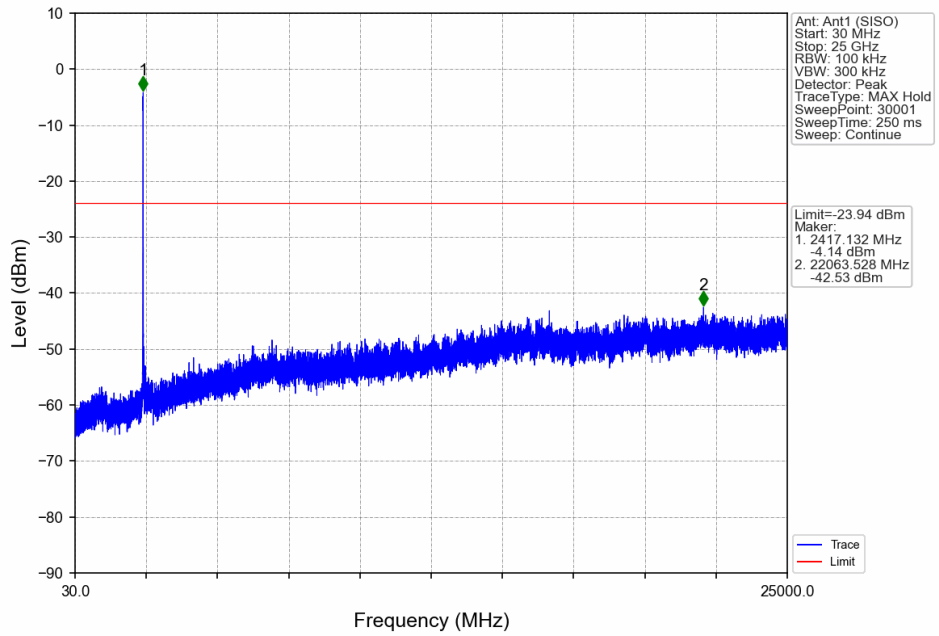
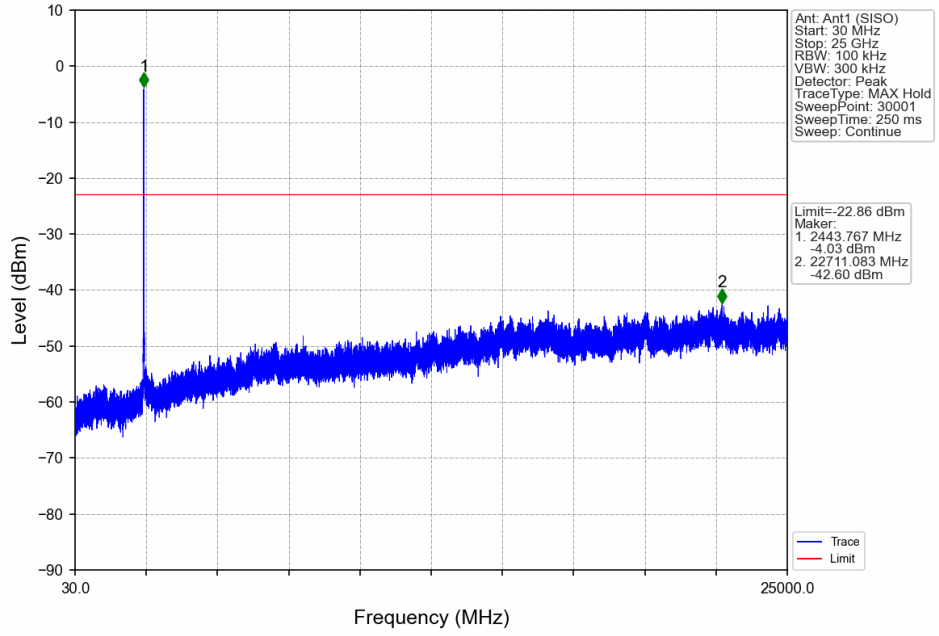
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



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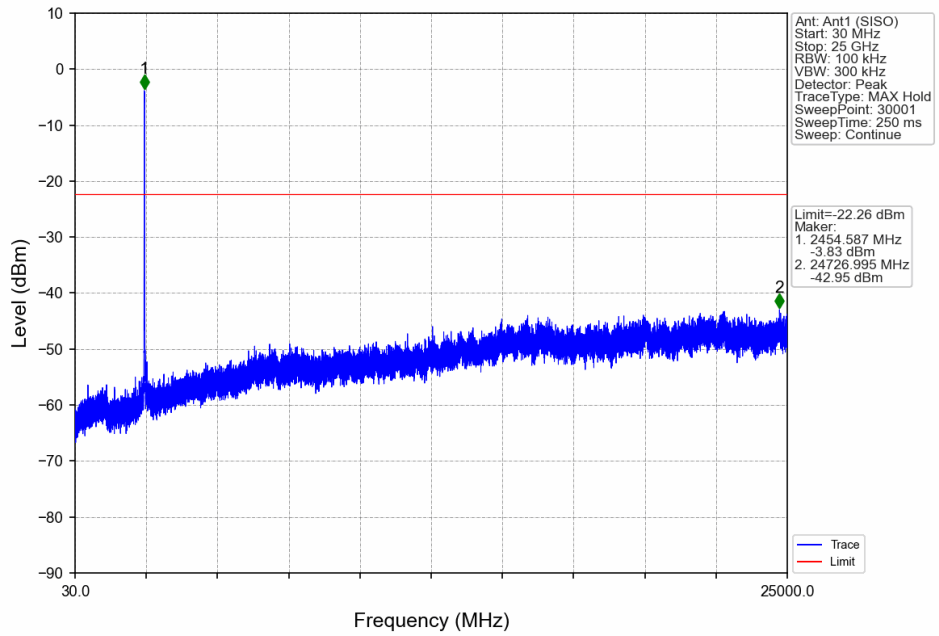
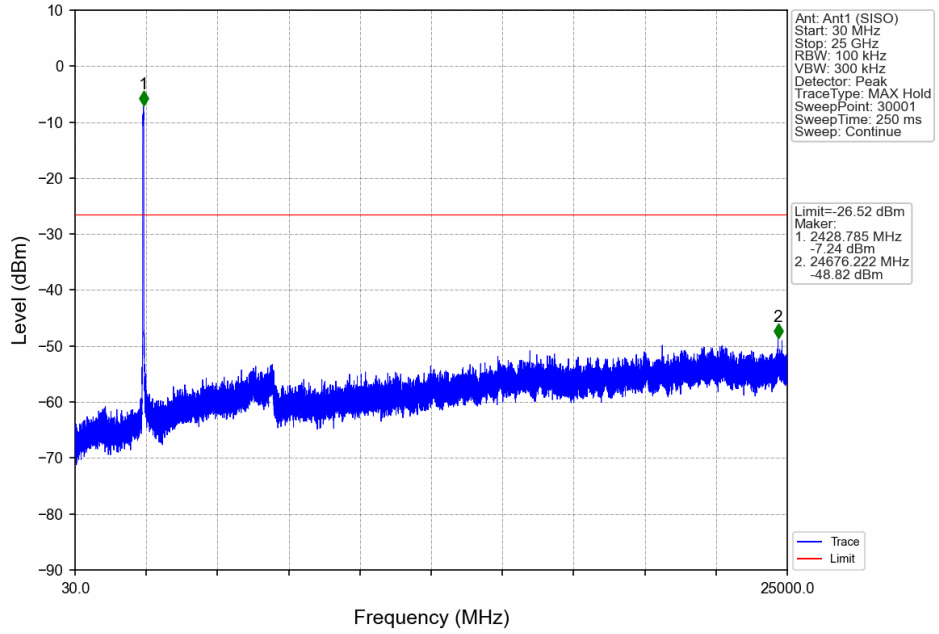
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



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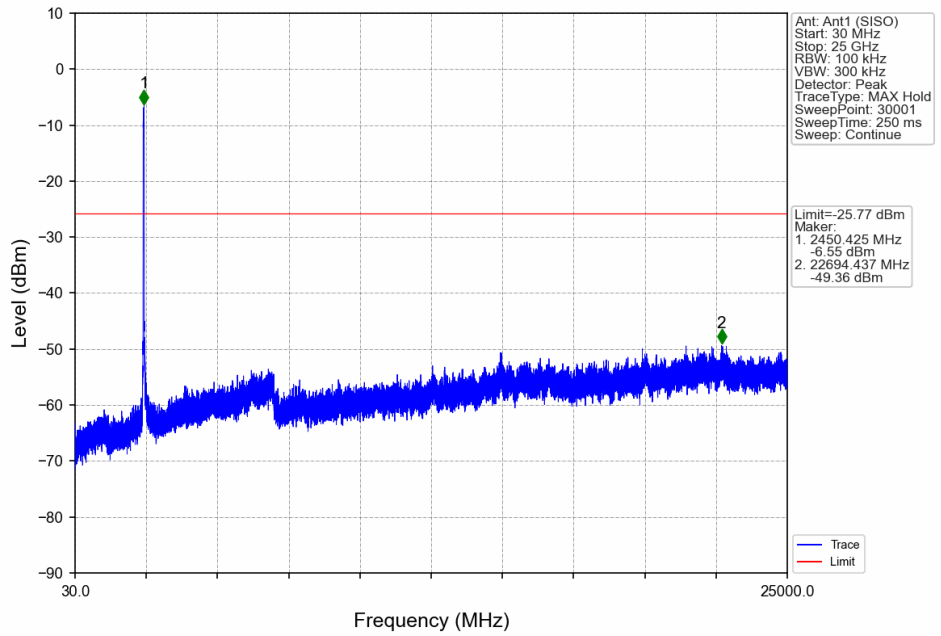
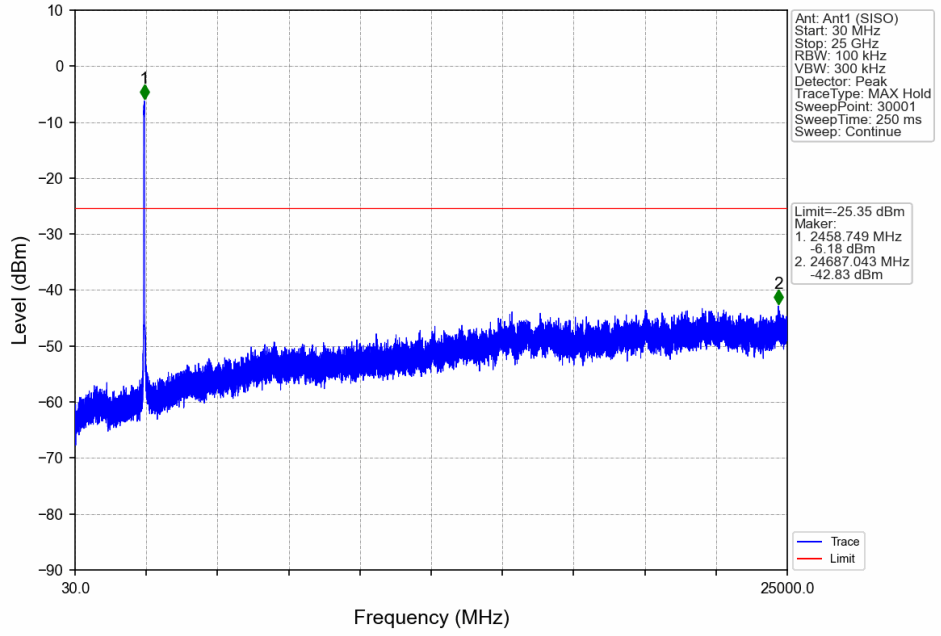
802.11n(HT40)_MCH_2437MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV



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9.6 Band Edge

Test Method

1. The RF output of EUT was connected to the spectrum analyzer by RF cable. The path loss was compensated to the results for each measurement.
2. Set to the maximum power setting, the instrument center frequency is set to the nominal EUT channel center frequency enable the EUT transmit continuously.
3. Use the following spectrum analyzer settings:
   Span = wide enough to capture the peak level of the in-band emission and all spurious
   RBW = 100 kHz, VBW≥3RBW, Sweep = auto, Detector function = peak, Trace = max hold
4. Allow the trace to stabilize, use the peak and delta measurement to record the result.
5. The level displayed must comply with the limit specified in this Section.
6. Repeat above procedures until all frequencies measured were complete and submit all the plots.

Limit:

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided that the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under § 15.247(b)(3) and RSS-247 section 5.4(d), the attenuation required shall be 30 dB instead of 20 dB.

Frequency Range MHz	Limit (dBc)
30-25000	-20

Test results

Mode	TX Type	Frequency (MHz)	Level of Reference (dBm)	Limit (dBm)	Verdict
802.11b	SISO	2412	5.77	-14.23	Pass
		2462	7.22	-12.78	Pass
802.11g	SISO	2412	-4.27	-24.27	Pass
		2462	-2.62	-22.62	Pass
802.11n (HT20)	SISO	2412	-3.94	-23.94	Pass
		2462	-2.26	-22.26	Pass
802.11n (HT40)	SISO	2422	-6.52	-26.52	Pass
		2452	-5.35	-25.35	Pass

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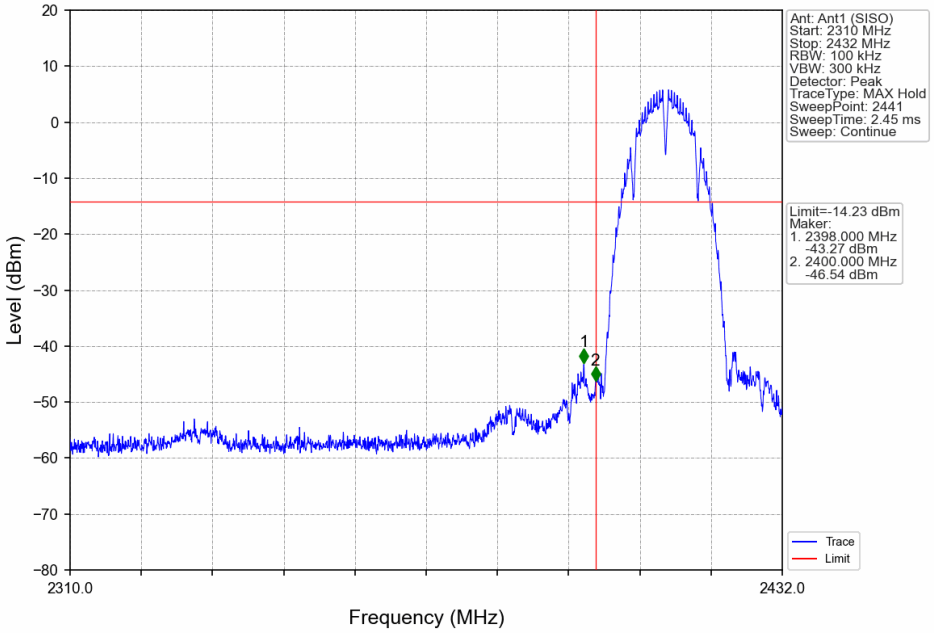
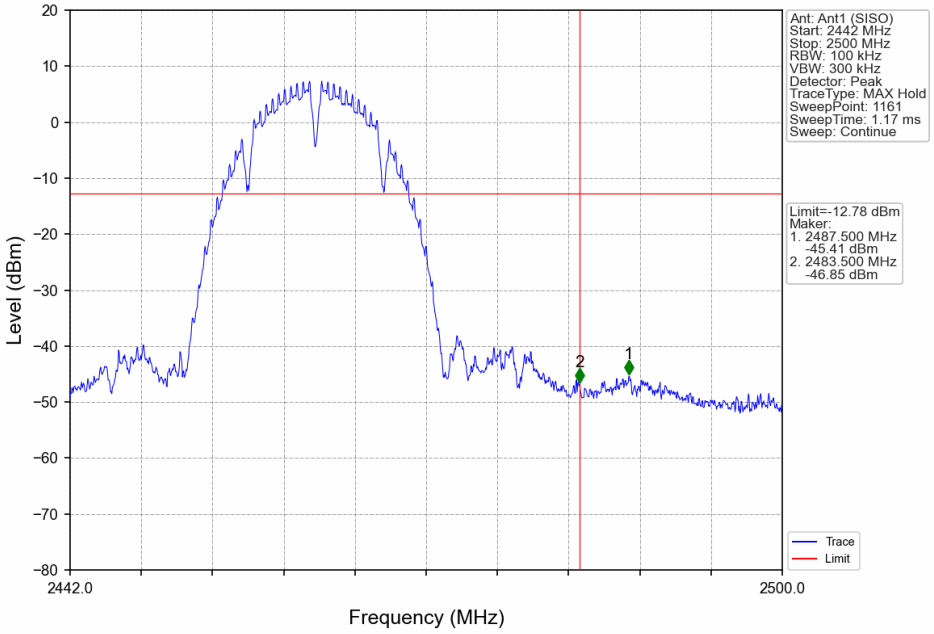
Test Graphs

802.11b_LCH_2412MHz_Ant1 (SISO)_NTNV



802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



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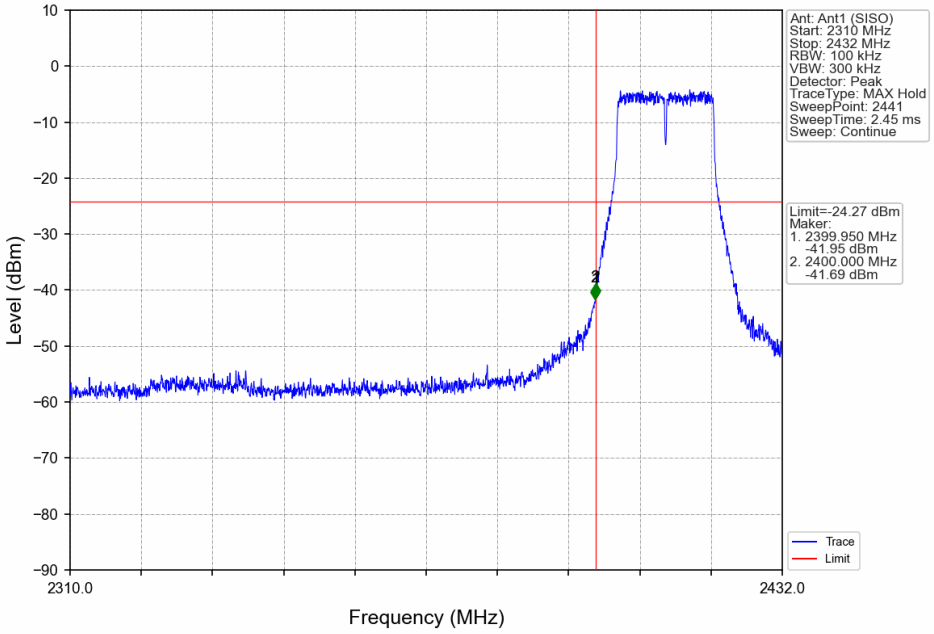
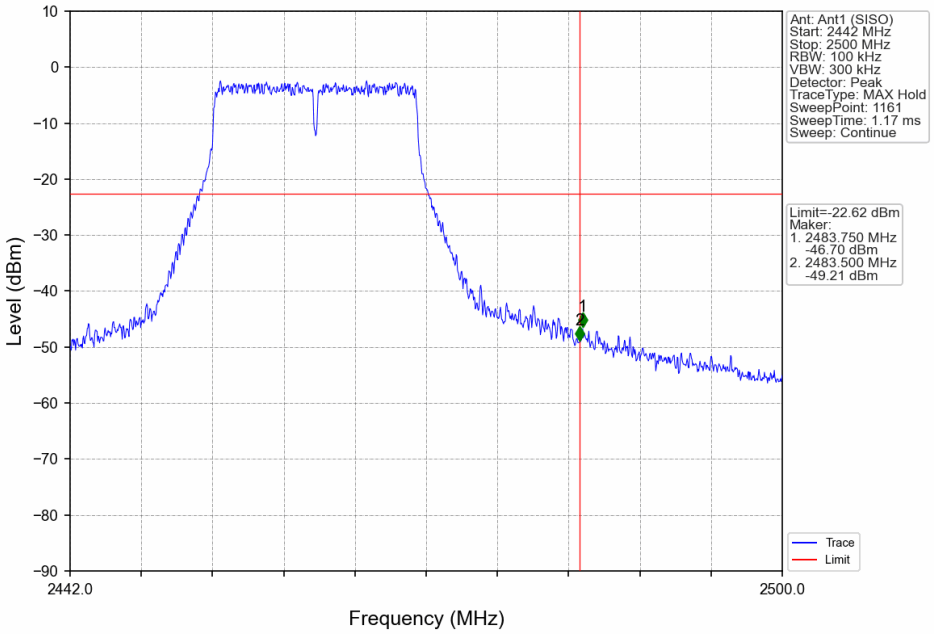
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



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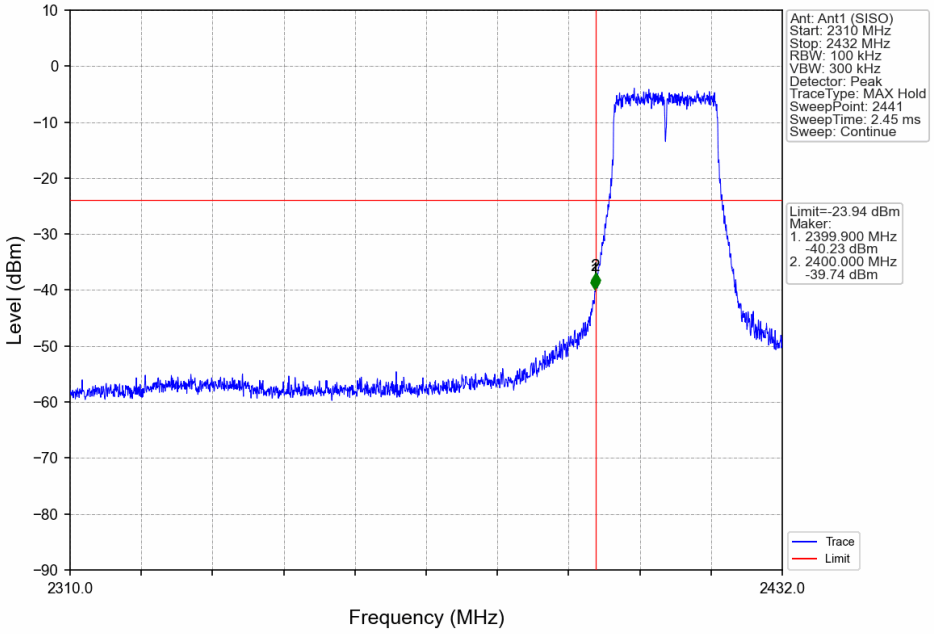
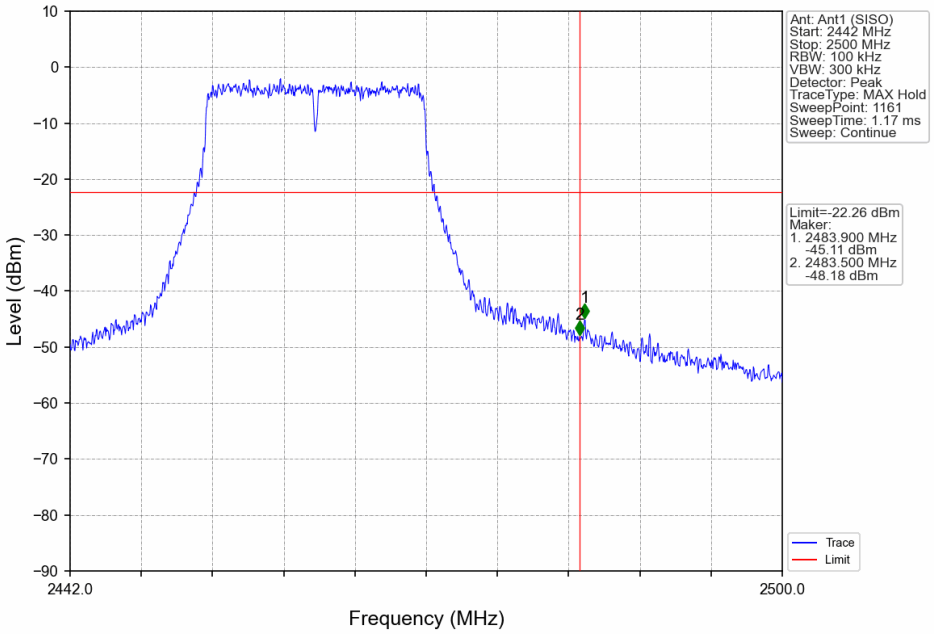
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



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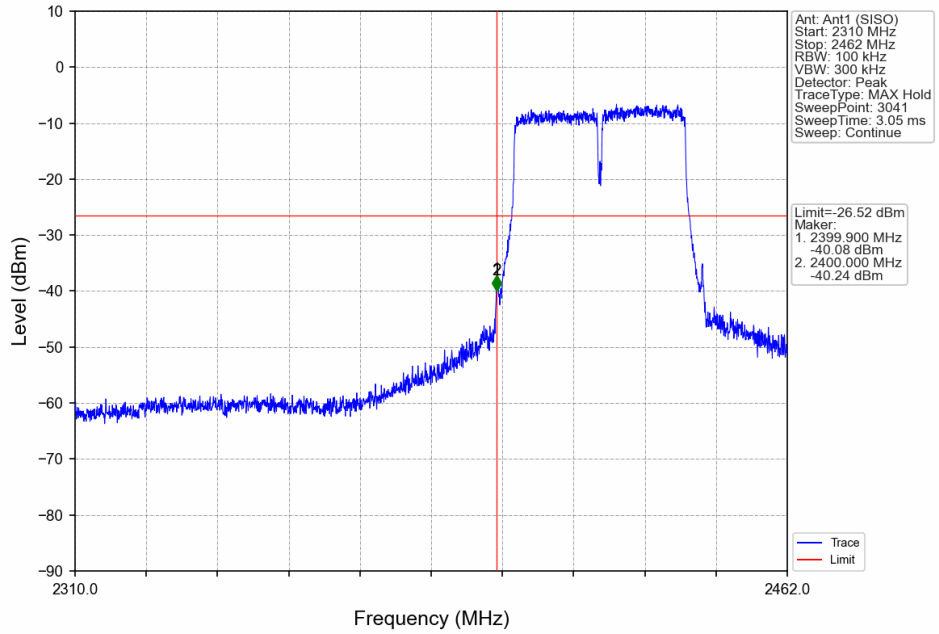
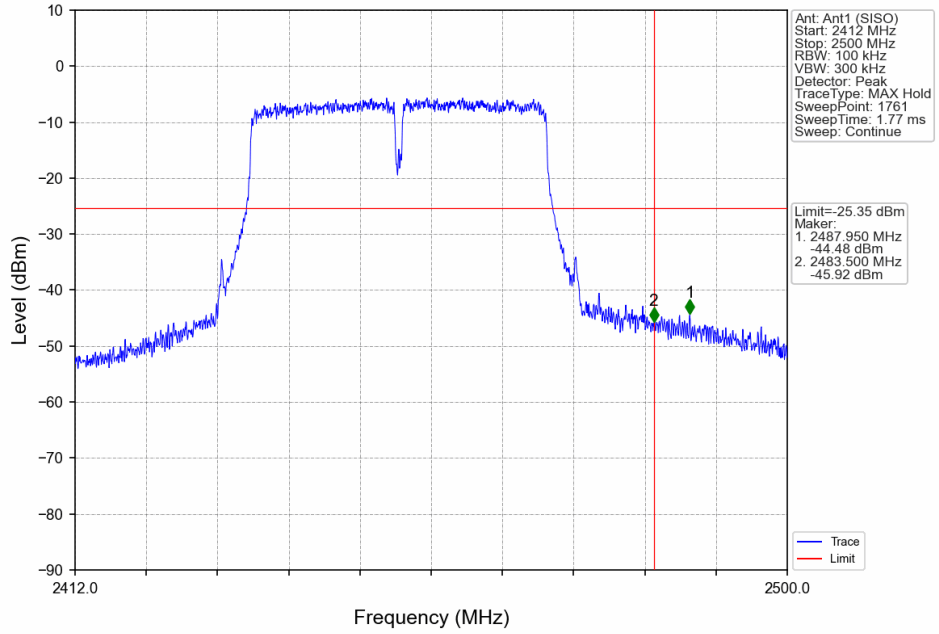
802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV



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9.7 Spurious Radiated Emissions for Transmitter

Test Method

1. The EUT was place on a turn table which is 1.5m above ground plane for above 1GHz and 0.8m above ground for below 1GHz at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
2. The EUT was set 3 meters away from the interference – receiving antenna, which was mounted on the top of a variable – height antenna tower.
3. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
5. Use the following spectrum analyzer settings According to C63.10:

1) Procedure for Unwanted Emissions Measurements Below 1000 MHz
Span = wide enough to capture the peak level of the in-band emission and all spurious
RBW = 100 KHz to 120KHz, VBW≥RBW for peak measurement, Sweep = auto, Detector function = peak, Trace = max hold.

2) For Peak unwanted emissions Above 1GHz:
Span = wide enough to capture the peak level of the in-band emission and all spurious
RBW = 1MHz, VBW≥RBW for peak measurement, Sweep = auto, Detector function = peak, Trace = max hold.

3) Procedures for average unwanted emissions measurements above 1000 MHz
a) RBW = 1MHz.
b) VBW \ [3 × RBW].
c) Detector = RMS (power averaging), if [span / (# of points in sweep)] \ RBW / 2. Satisfying this condition can require increasing the number of points in the sweep or reducing the span. If the condition is not satisfied, then the detector mode shall be set to peak.
d) Averaging type = power (i.e., rms) (As an alternative, the detector and averaging type may be set for linear voltage averaging. Some instruments require linear display mode to use linear voltage averaging. Log or dB averaging shall not be used.)
e) Sweep time = auto.
f) Perform a trace average of at least 100 traces if the transmission is continuous. If the transmission is not continuous, then the number of traces shall be increased by a factor of 1 / D, where D is the duty cycle. For example, with 50% duty cycle, at least 200 traces shall be averaged. (If a specific emission is demonstrated to be continuous—i.e., 100% duty cycle—then rather than turning ON and OFF with the transmit cycle, at least 100 traces shall be averaged.)
g) If tests are performed with the EUT transmitting at a duty cycle less than 98%, then a correction factor shall be added to the measurement results prior to comparing with the emission limit, to compute the emission level that would have been measured had the test been performed at 100% duty cycle. The correction factor is computed as follows:
1) If power averaging (rms) mode was used in the preceding step e), then the correction

factor is [10 log (1 / D)], where D is the duty cycle. For example, if the transmit duty cycle was 50%, then 3 dB shall be added to the measured emission levels.
2) If linear voltage averaging mode was used in the preceding step e), then the correction factor is [20 log (1 / D)], where D is the duty cycle. For example, if the transmit duty cycle was 50%, then 6 dB shall be added to the measured emission levels.
3) If a specific emission is demonstrated to be continuous (100% duty cycle) rather than turning ON and OFF with the transmit cycle, then no duty cycle correction is required for that emission(AV) at frequency above 1GHz.

Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided that the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under § 15.247(b)(3), the attenuation required shall be 30 dB instead of 20 dB. Attenuation below the general field strength limits specified in § 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in§ 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a).

Frequency MHz	Field Strength μV/m	Field Strength dBμV/m	Detector	Measurement distance meters
0.009-0.490	2400/F(kHz)	48.5-13.8	AV	300
0.490-1.705	24000/F(kHz)	33.8-23.0	QP	30
1.705-30	30	29.5	QP	30
30-88	100	40	QP	3
88-216	150	43.5	QP	3
216-960	200	46	QP	3
960-1000	500	54	QP	3
Above 1000	500	54	AV	3
Above 1000	5000	74	PK	3

Note 1: Limit 3m(dBμV/m)=Limit 300m(dBμV/m)+40Log(300m/3m) (Below 30MHz)
Note 2: Limit 3m(dBμV/m)=Limit 30m(dBμV/m)+40Log(30m/3m) (Below 30MHz)

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Spurious radiated emissions for transmitter

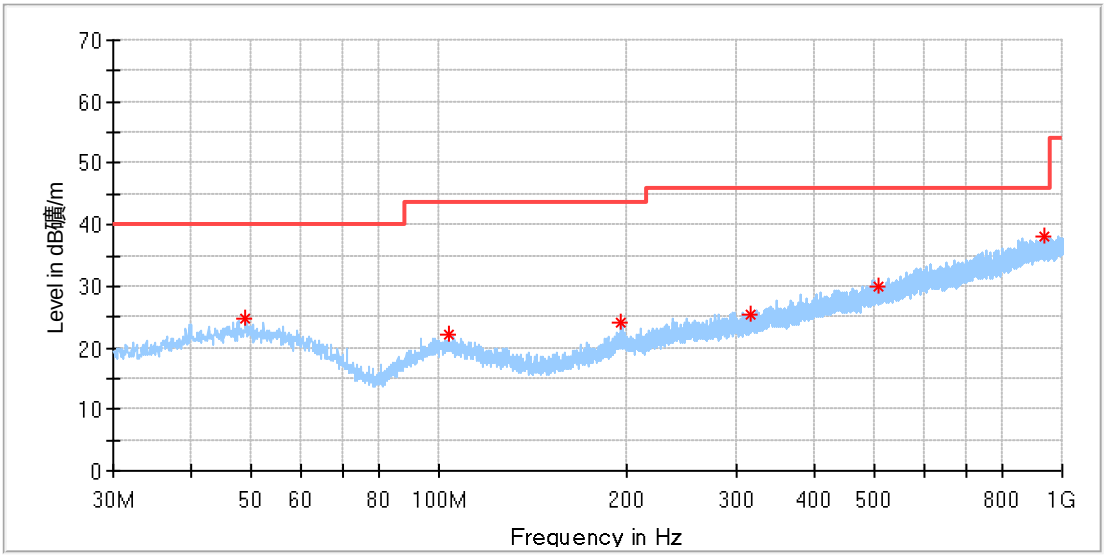
According to C63.10, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement, so AV emission value did not show in below table if the peak value complies with average limit.

Only the worst case (802.11n HT40) test result is listed in the report.

Transmitting spurious emission test result as below:

For 30-1000MHz:

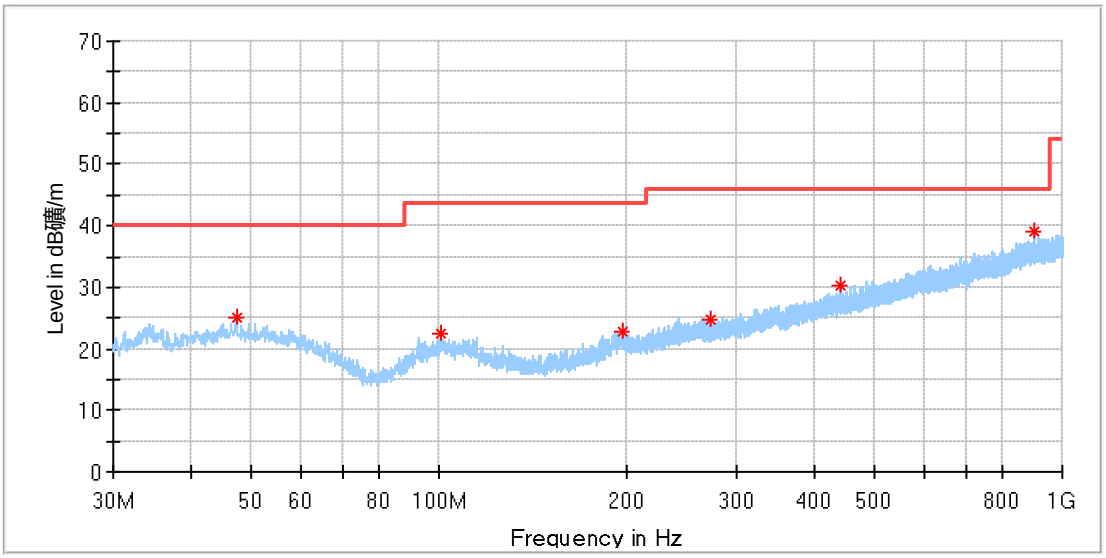
802.11n HT40 SISO 2422MHz - Horizontal



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
48.854375	24.63	40.00	15.37	200.0	H	296.0	20.96
103.659375	22.02	43.50	21.48	200.0	H	313.0	18.74
195.324375	24.15	43.50	19.35	200.0	H	44.0	18.98
315.483125	25.27	46.00	20.73	200.0	H	279.0	21.60
508.513125	30.11	46.00	15.89	200.0	H	330.0	25.85
937.131875	38.01	46.00	7.99	200.0	H	0.0	32.38

802.11n HT40 SISO 2422MHz - Vertical



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
47.278125	24.99	40.00	15.01	100.0	V	98.0	21.10
100.628125	22.53	43.50	20.97	100.0	V	0.0	18.72
196.900625	22.82	43.50	20.68	100.0	V	0.0	19.00
272.681875*	24.85	46.00	21.15	100.0	V	124.0	20.46
440.673750	30.26	46.00	15.74	100.0	V	0.0	24.63
904.455000	39.02	46.00	6.98	100.0	V	124.0	32.27

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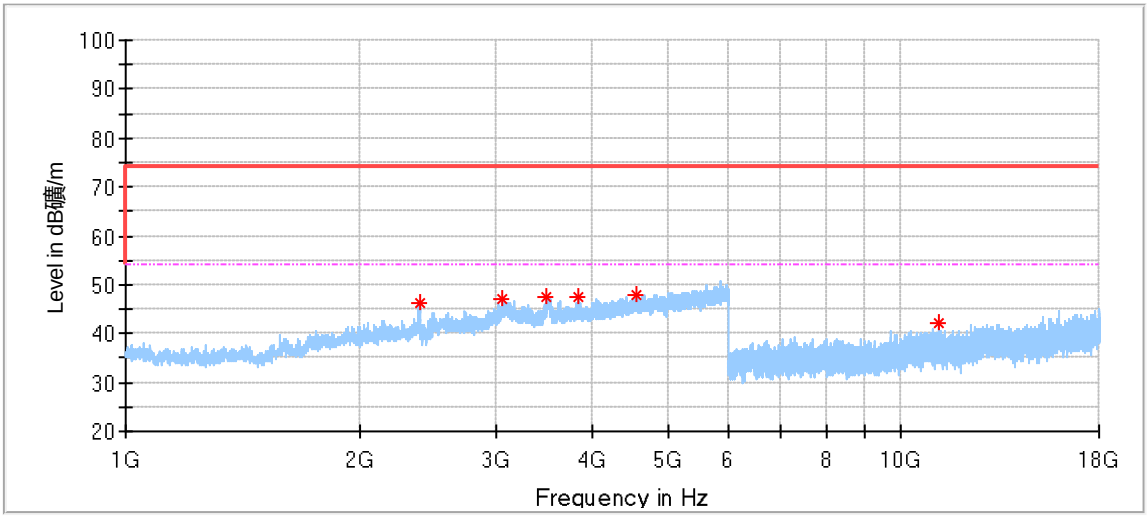
For 1000-18000MHz:

802.11n HT40 SISO 2422MHz - Horizontal



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2392.000000	46.43	74.00	27.57	150.0	H	140.0	-2.78
3061.500000	47.12	74.00	26.89	150.0	H	185.0	1.35
3484.000000	47.57	74.00	26.43	150.0	H	8.0	2.61
3826.500000*	47.54	74.00	26.46	150.0	H	347.0	1.45
4550.500000*	48.09	74.00	25.91	150.0	H	198.0	3.61
11180.500000*	41.96	74.00	32.04	150.0	H	168.0	10.32

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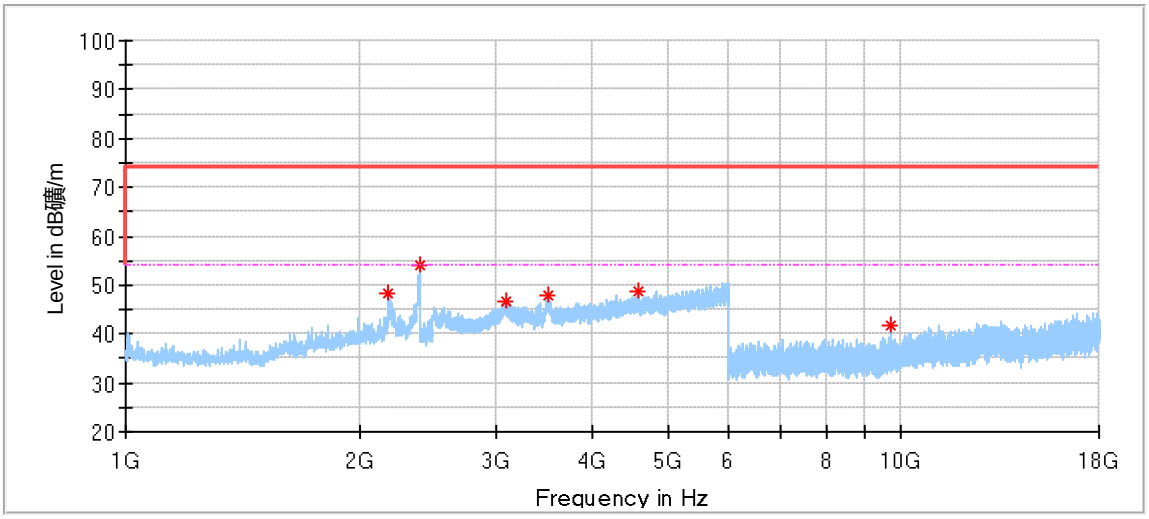
802.11n HT40 SISO 2412MHz - Vertical



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2185.000000	48.34	74.00	25.66	150.0	V	185.0	-3.89
2393.000000	54.13	74.00	19.87	150.0	V	280.0	-2.77
3103.000000	46.81	74.00	27.19	150.0	V	89.0	1.47
3500.500000	47.75	74.00	26.25	150.0	V	116.0	3.73
4583.000000*	48.81	74.00	25.19	150.0	V	34.0	3.72
9688.000000	41.57	74.00	32.43	150.0	V	349.0	8.02

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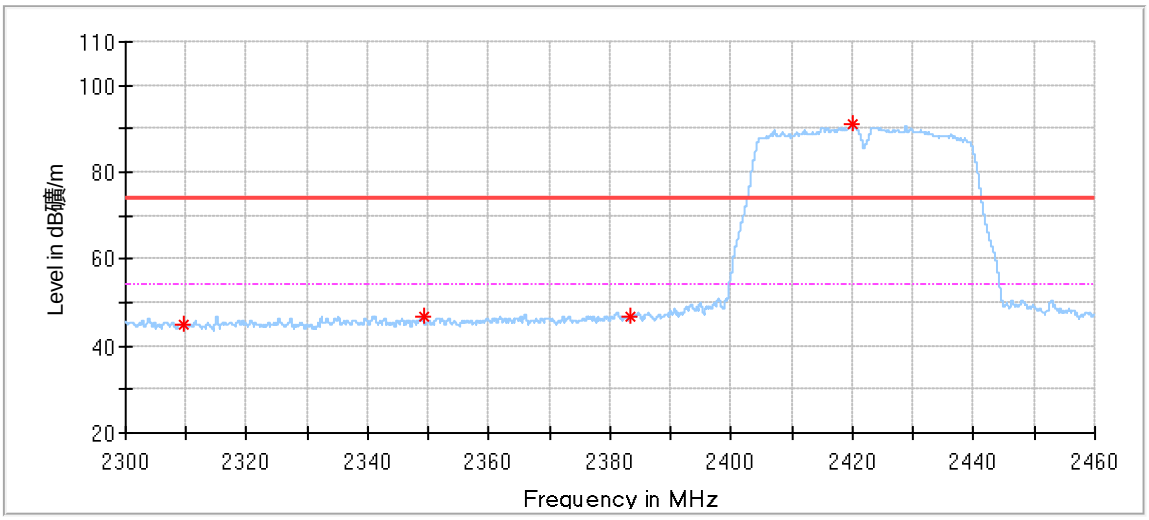
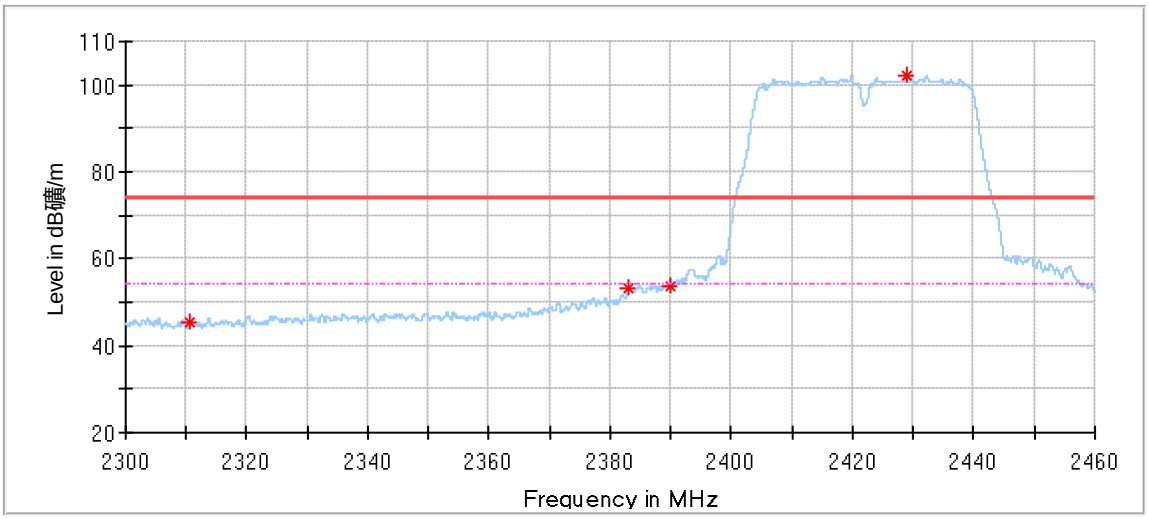
802.11n HT40 SISO 2422MHz – Band Edge



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2309.664000	45.14	74.00	28.86	150.0	H	269.0	-4.05
2349.120000*	46.56	74.00	27.44	150.0	H	177.0	-3.82
2383.424000*	46.55	74.00	27.45	150.0	H	148.0	-3.38
2419.840000	90.97	74.00	-16.97	150.0	H	148.0	-3.11



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2310.695000*	45.17	74.00	28.83	150.0	V	36.0	-4.05
2383.030000*	53.16	74.00	20.84	150.0	V	354.0	-3.38
2390.068000	53.61	74.00	20.39	150.0	V	82.0	-3.36
2428.777000	102.13	74.00	-28.13	150.0	V	192.0	-3.02

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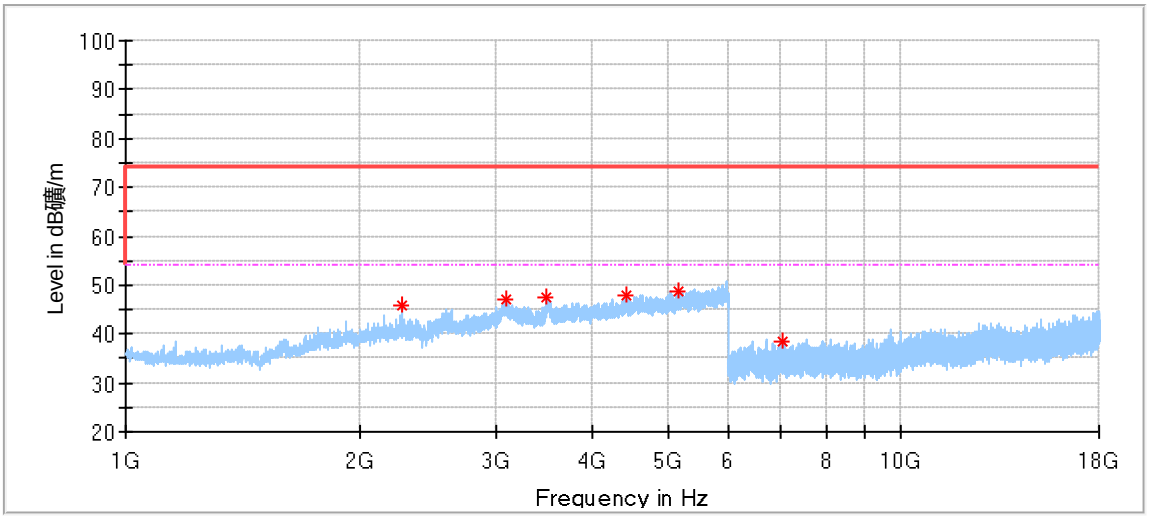
802.11n HT40 SISO 2437MHz - Horizontal



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2268.500000*	45.70	74.00	28.30	150.0	H	308.0	-3.49
3102.000000	47.10	74.00	26.90	150.0	H	239.0	1.48
3493.500000	47.31	74.00	26.69	150.0	H	130.0	3.29
4414.000000	47.77	74.00	26.23	150.0	H	308.0	3.05
5157.000000	48.83	74.00	25.17	150.0	H	130.0	4.81
7039.500000	38.35	74.00	35.65	150.0	H	331.0	5.66

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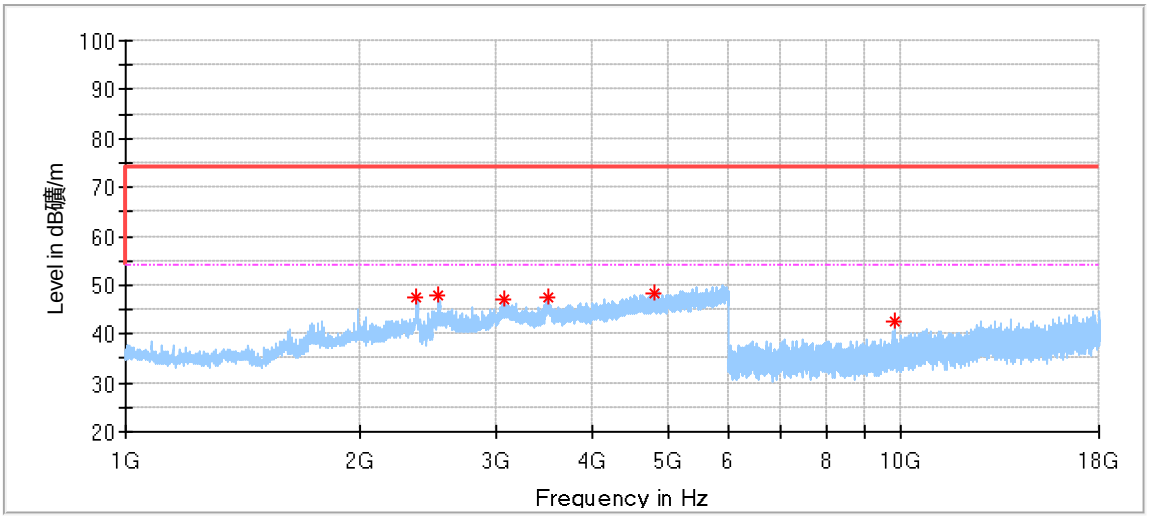
802.11n HT40 SISO 2437MHz - Vertical



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2373.000000*	47.36	74.00	26.64	150.0	V	321.0	-2.96
2533.500000	47.75	74.00	26.25	150.0	V	62.0	-1.78
3069.000000	47.27	74.00	26.73	150.0	V	157.0	1.35
3502.500000	47.61	74.00	26.39	150.0	V	130.0	3.63
4819.500000*	48.23	74.00	25.77	150.0	V	89.0	4.06
9808.000000	42.60	74.00	31.40	150.0	V	352.0	8.23

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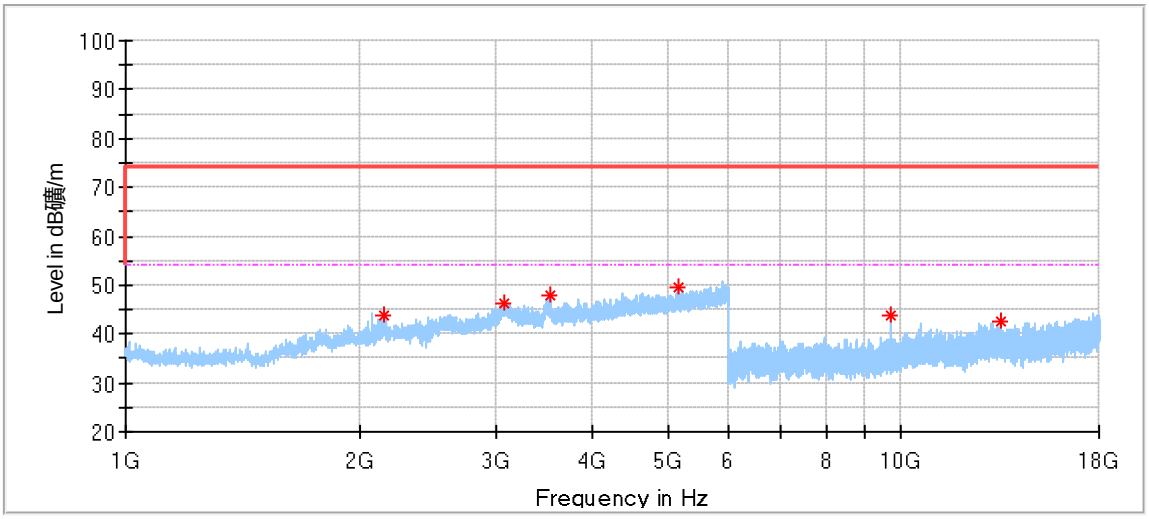
802.11n HT40 SISO 2452MHz - Horizontal



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2160.000000	43.90	74.00	30.10	150.0	H	31.0	-3.94
3076.500000	46.19	74.00	27.81	150.0	H	140.0	1.35
3519.500000	47.94	74.00	26.06	150.0	H	154.0	2.64
5170.500000	49.48	74.00	24.52	150.0	H	212.0	4.84
9706.500000	43.89	74.00	30.11	150.0	H	246.0	8.06
13438.000000	42.51	74.00	31.49	150.0	H	193.0	11.60

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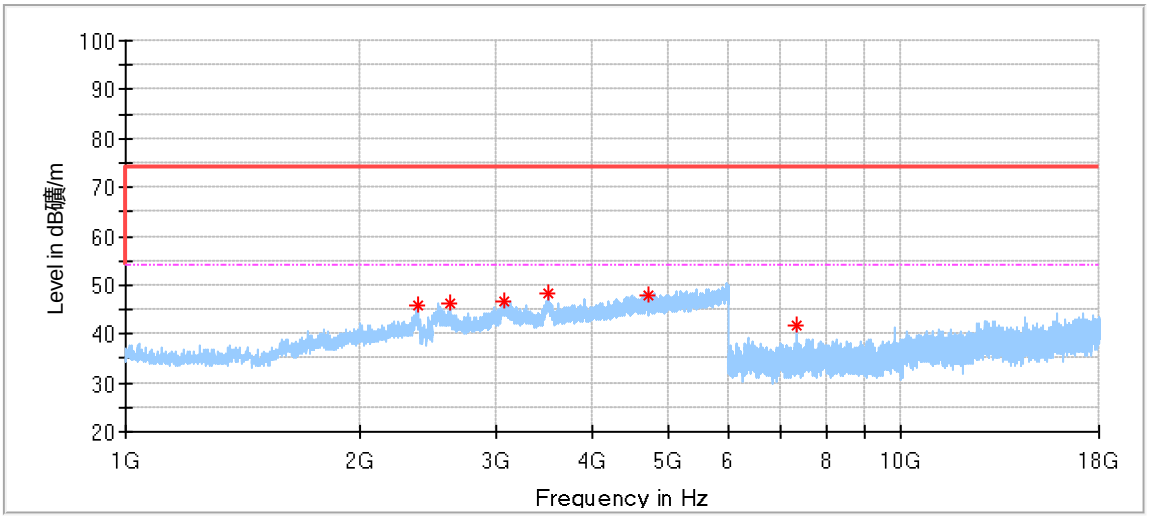
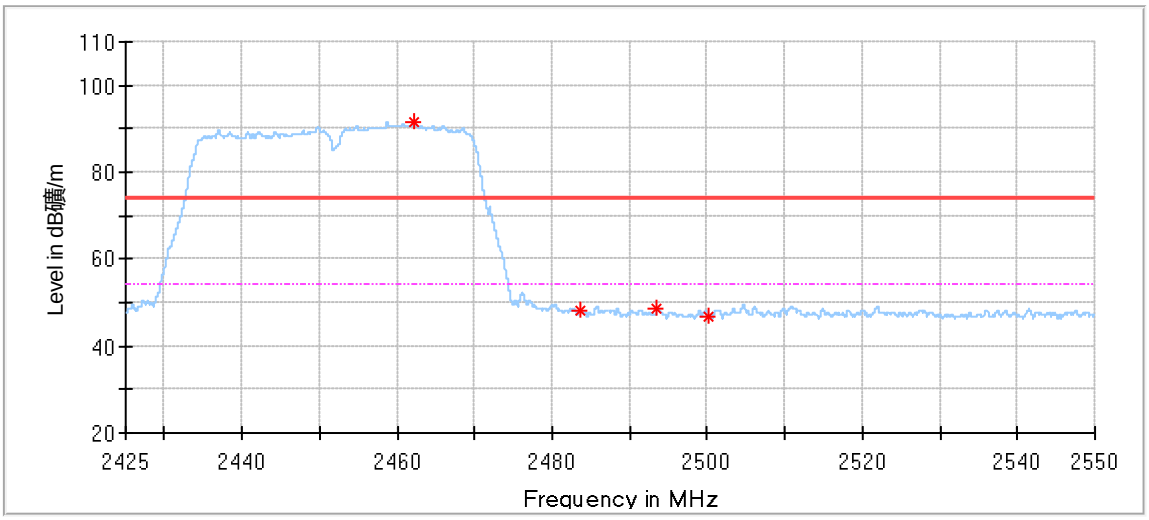
802.11n HT40 SISO 2452MHz - Vertical



Critical_Freqs

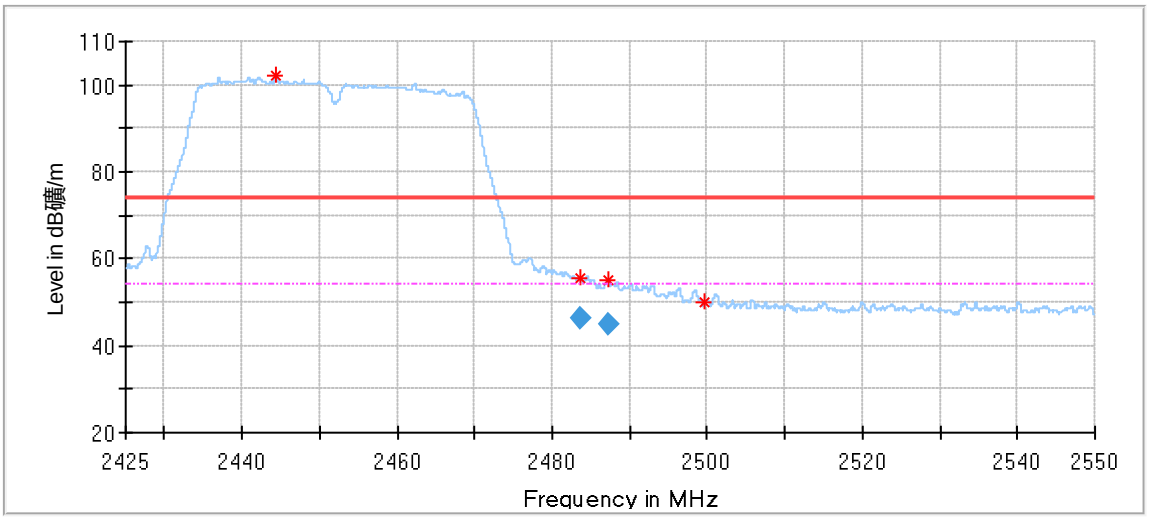
Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2380.500000*	45.97	74.00	28.03	150.0	V	309.0	-2.90
2621.500000	46.17	74.00	27.83	150.0	V	49.0	-1.43
3086.000000	46.79	74.00	27.21	150.0	V	214.0	1.40
3498.000000	48.26	74.00	25.74	150.0	V	90.0	3.62
4708.000000*	47.86	74.00	26.14	150.0	V	63.0	3.78
7351.500000*	41.56	74.00	32.44	150.0	V	351.0	5.90

802.11n HT40 SISO 2452MHz – Band Edge



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2462.212500	91.76	74.00	-17.76	150.0	H	144.0	-2.76
2483.500000*	48.22	74.00	25.78	150.0	H	123.0	-2.68
2493.537500*	48.71	74.00	25.29	150.0	H	218.0	-2.66
2500.237500	46.87	74.00	27.13	150.0	H	281.0	-2.64



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2444.425000	101.99	74.00	-27.99	150.0	V	186.0	-2.88
2483.512500*	55.41	74.00	18.59	150.0	V	79.0	-2.68
2487.200000*	54.86	74.00	19.14	150.0	V	79.0	-2.67
2499.725000*	49.90	74.00	24.10	150.0	V	337.0	-2.64

Final_Result

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2483.512500*	46.35	54.00	7.65	150.0	V	79.0	-2.68
2487.200000*	44.78	54.00	9.22	150.0	V	79.0	-2.67

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Remark:

(1) "*" means the emission(s) appear within the restrict bands shall follow the requirement of § 15.205.
(2) Data of measurement within frequency ranges 9kHz-30MHz and 18-26GHz are the noise floor or attenuated more than 20dB below the permissible limits or the field strength is too small to be measured, so test data does not present in this report,
(3) Level= Reading Level + Correction Factor
(4) Above 1GHz: Corrector factor = Antenna Factor + Cable Loss- Amplifier Gain
Below 1GHz: Corrector factor = Antenna Factor + Cable Loss
(The Reading Level is recorded by software which is not shown in the sheet)

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10 Test Equipment List

Conducted Emission Test

Description	Manufacturer	Model no.	Equipment ID	Serial no.	Cal interval (year)	Cal. due date
EMI Test Receiver	Rohde & Schwarz	ESR 3	68-4-74-19-002	102590	1	2024-5-19
LISN	Rohde & Schwarz	ENV216	68-4-87-19-001	102472	1	2024-5-20
Attenuator	Shanghai Huaxiang	TS2-26-3	68-4-81-16-003	080928189	1	2024-5-19
Test software	Rohde & Schwarz	EMC32	68-4-90-19-005-A01	Version 10.35.02	N/A	N/A
Cable	OUQIAO	RG142	68-4-90-19-005-A20	----	----	----
Shielding Room	TDK	CSR #2	68-4-90-19-005	----	3	2025-10-15

Radiated Emission Test, SAC-3 #1

Description	Manufacturer	Model no.	Equipment ID	Serial no.	Cal interval (year)	Cal. due date
EMI Test Receiver	Rohde & Schwarz	ESR 7	68-4-74-19-001	102176	1	2024-5-20
Loop Antenna	Rohde & Schwarz	HFH2-Z2	68-4-80-14-006	100398	1	2024-8-7
Pre-amplifier	Rohde & Schwarz	SCU 18	68-4-29-14-001	102230	1	2024-5-19
Attenuator	Mini-circuits	UNAT-6+	68-4-81-21-001	15542	1	2024-5-19
3m Semi-anechoic chamber	TDK	SAC-3 #1	68-4-90-14-001	----	3	2024-5-28
Cable	HUBER-SUHNER	RG214	68-4-90-14-001-A20	----	----	----
Test software	Rohde & Schwarz	EMC32	68-4-90-14-001-A10	Version10.35.02	N/A	N/A

Radiated Emission Test, SAC-3 #2

Description	Manufacturer	Model no.	Equipment ID	Serial no.	Cal interval (year)	Cal. due date
EMI Test Receiver	Rohde & Schwarz	ESR 26	68-4-74-14-002	101269	1	2024-5-20
Trilog Super Broadband Test Antenna	Schwarzbeck	VULB 9162	68-4-80-19-003	284	1	2025-2-22
Wave Guide Antenna	ETS	3117	68-4-80-19-001	00218954	1	2025-4-10
Pre-amplifier	Rohde & Schwarz	SCU 18F	68-4-29-19-001	100745	1	2024-5-19
Pre-amplifier	Rohde & Schwarz	SCU 18F	68-4-29-19-002	100746	1	2024-5-19
Sideband Horn Antenna	Q-PAR	QWH-SL-18-40-K-SG	68-4-80-14-008	12827	1	2024-7-11
Pre-amplifier	Rohde & Schwarz	SCU 40A	68-4-29-14-002	100432	1	2024-8-1
Attenuator	Mini-circuits	UNAT-6+	68-4-81-21-002	15542	1	2024-5-19
3m Semi-anechoic chamber	TDK	SAC-3 #2	68-4-90-19-006	----	2	2024-5-28
Cable	JUNFLON	MWX221	68-4-90-19-006-A20	----	----	----
Test software	Rohde & Schwarz	EMC32	68-4-90-19-006-A01	Version10.35.02	N/A	N/A

RF Conducted Test

Description	Manufacturer	Model no.	Equipment ID	Serial no.	Cal interval (year)	Cal. due date
Signal Analyzer	Rohde & Schwarz	FSV40	68-4-74-14-004	101030	1	2024-5-19
Test software	Tonscend	System for BT/Wi-Fi	68-4-74-14-006-A13	Version 2.6.77.0518	N/A	N/A

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11 System Measurement Uncertainty

For a 95% confidence level, the measurement expanded uncertainties for defined systems, in accordance with the recommendations of ISO 17025 were:

System Measurement Uncertainty	
Test Items	Extended Uncertainty
Uncertainty for Conducted Emission in new shielding room (68-4-90-19-005) 150kHz-30MHz (for test using AMN ENV216)	3.33dB
Uncertainty for Radiated Emission in 3m chamber (68-4-90-14-001) 9kHz-30MHz	4.70dB
Uncertainty for Radiated Emission in new 3m chamber (68-4-90-19-006) 30MHz-1000MHz	Horizontal: 4.59dB; Vertical: 4.75dB
Uncertainty for Radiated Emission in new 3m chamber (68-4-90-19-006) 1000MHz-18000MHz	Horizontal: 5.08dB; Vertical: 5.09dB
Uncertainty for Radiated Emission in new 3m chamber (68-4-90-19-006) above 18000MHz	Horizontal: 3.14dB; Vertical: 3.12dB
Uncertainty for Conducted RF test with TS 8997	RF Power Conducted: 1.31dB Frequency test involved: 0.6×10^{-8} or 1%

Measurement Uncertainty Decision Rule:
Determination of conformity with the specification limits is based on the decision rule according to IEC Guide 115:2021, clause 4.4.3 and 4.5.1.

---END OF REPORT---

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