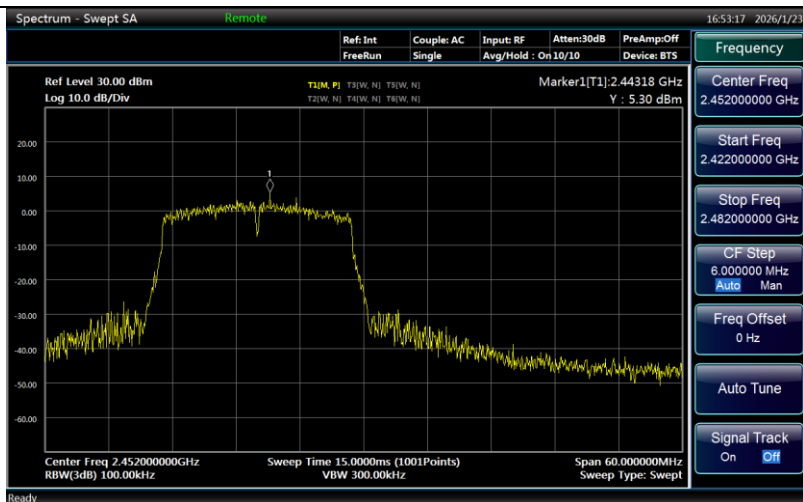
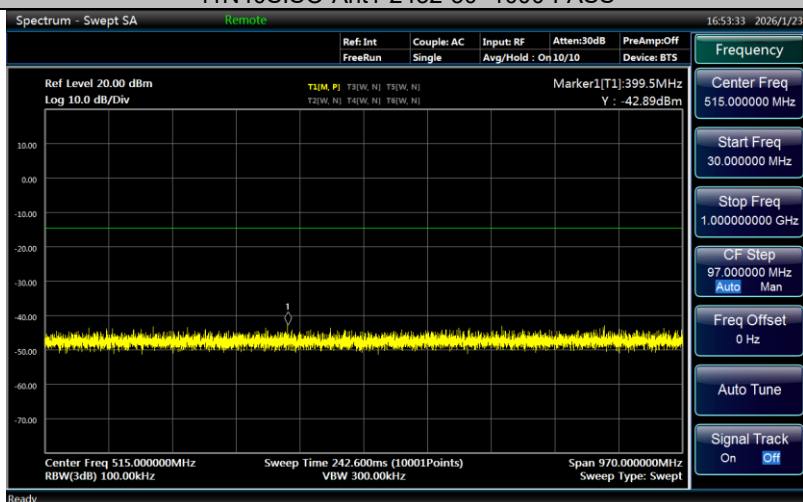
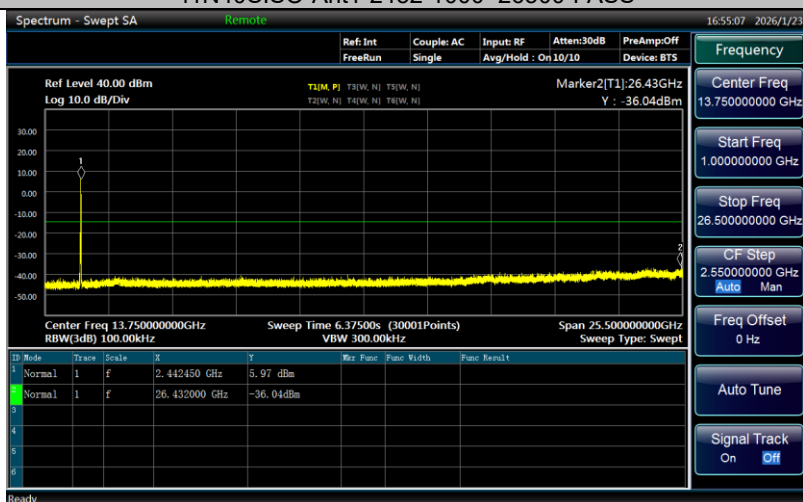




11N40SISO-Ant1-2452-30~1000-PASS

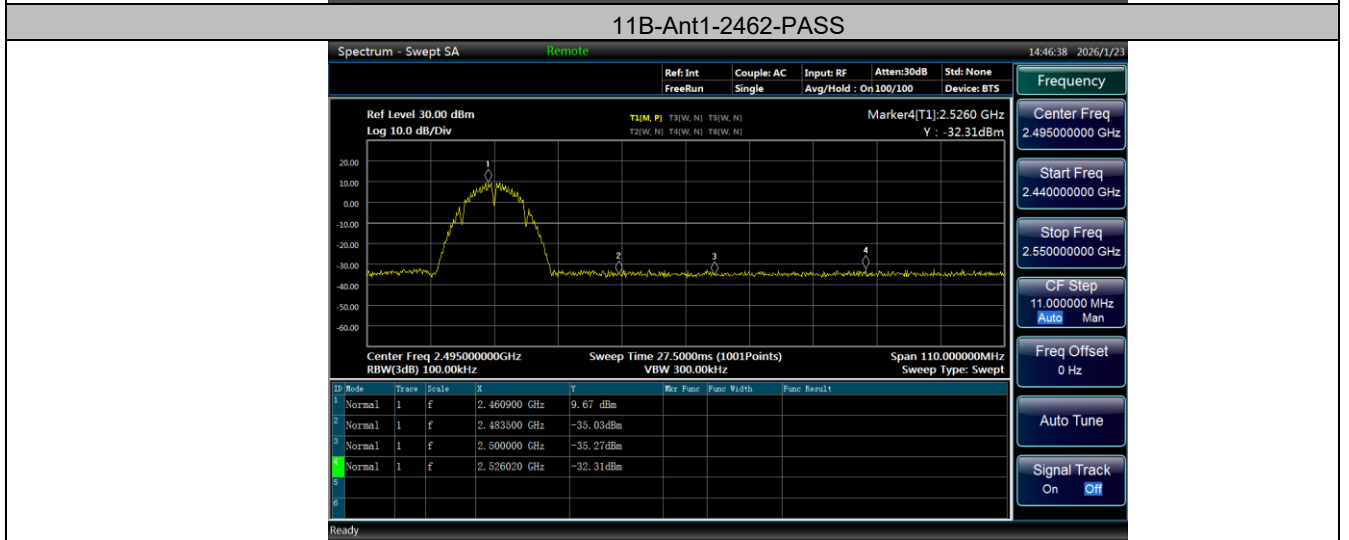
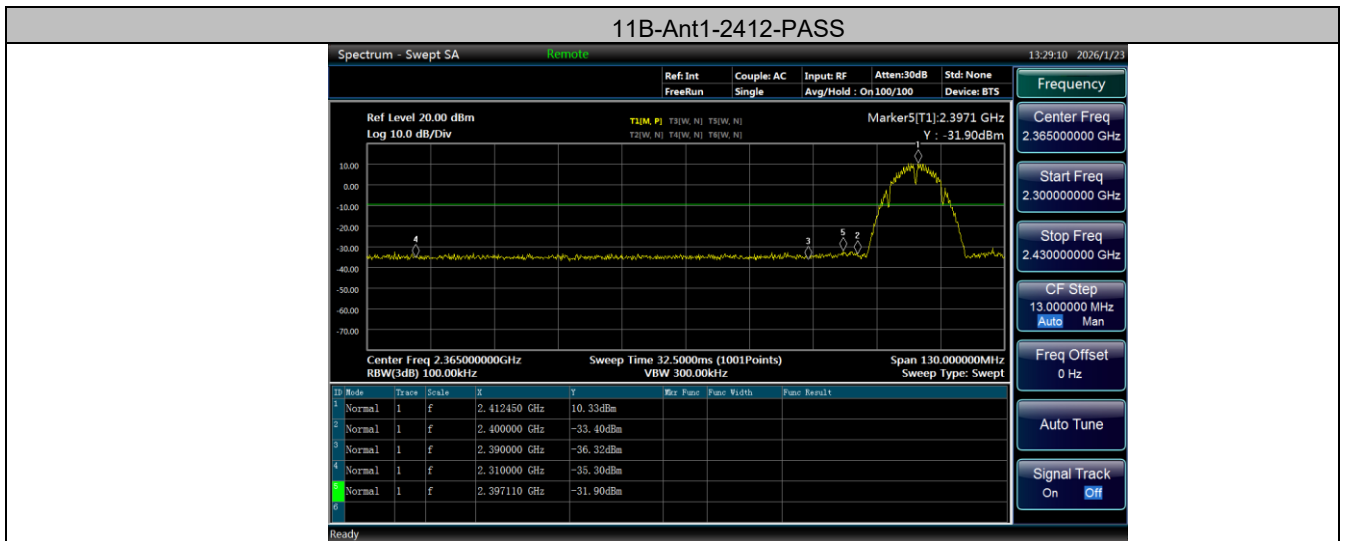


11N40SISO-Ant1-2452-1000~26500-PASS

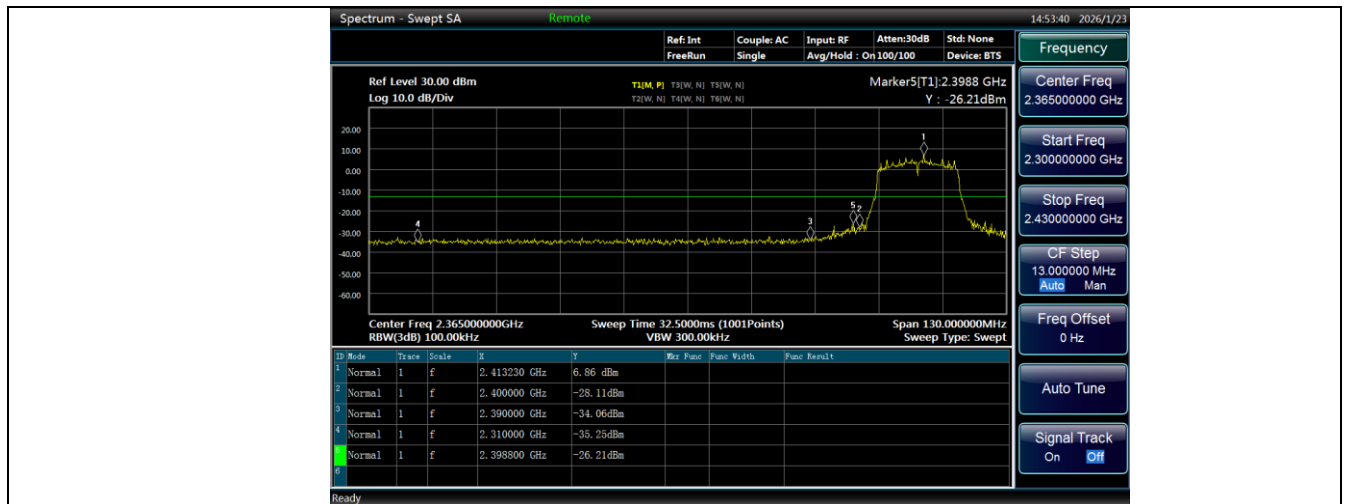


Band Edge

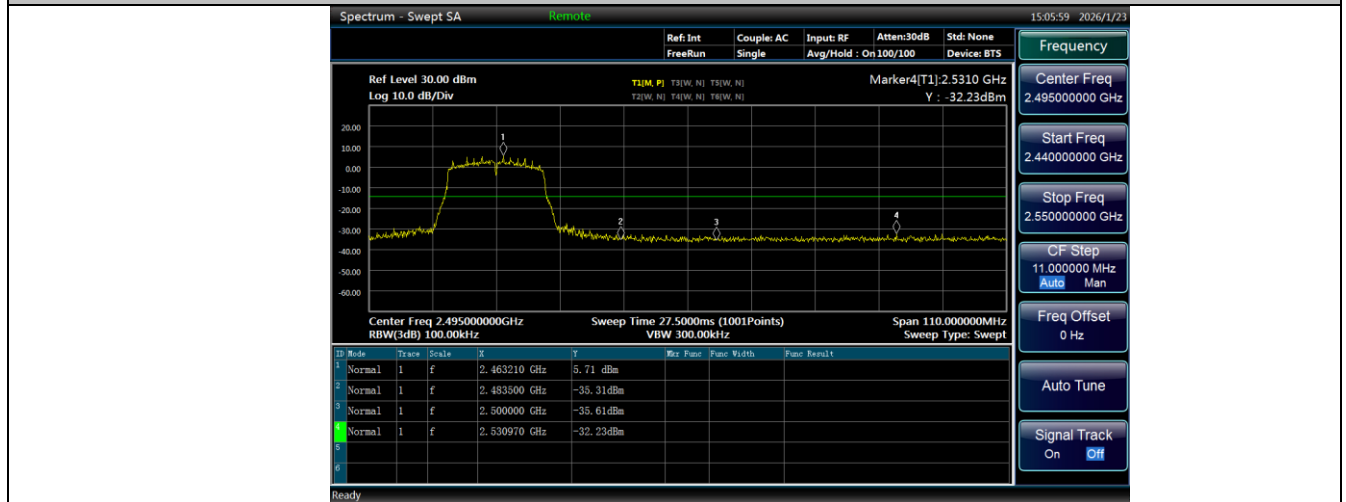
TestMode	Antenna	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	10.33	-31.9	≤-9.67	PASS
11B	Ant1	High	2462	9.67	-32.31	≤-10.33	PASS
11G	Ant1	Low	2412	6.86	-26.21	≤-13.14	PASS
11G	Ant1	High	2462	5.71	-32.23	≤-14.29	PASS
11N20SISO	Ant1	Low	2412	6.40	-27.33	≤-13.6	PASS
11N20SISO	Ant1	High	2462	4.88	-32.63	≤-15.13	PASS
11N40SISO	Ant1	Low	2422	3.74	-29.06	≤-16.26	PASS
11N40SISO	Ant1	High	2452	3.01	-31.54	≤-16.99	PASS



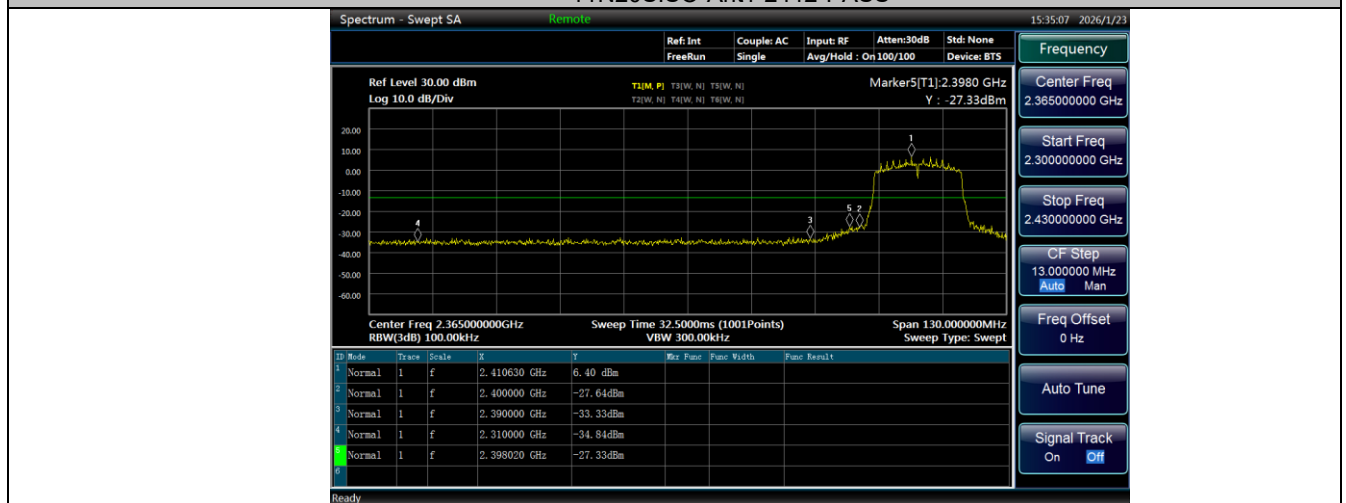
11G-Ant1-2412-PASS



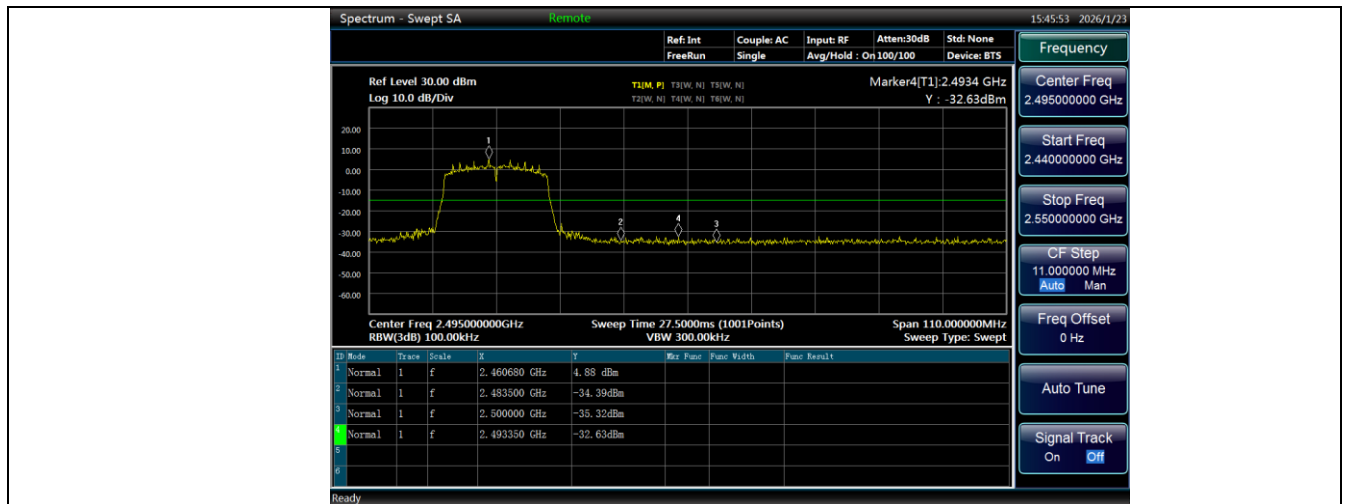
11G-Ant1-2462-PASS



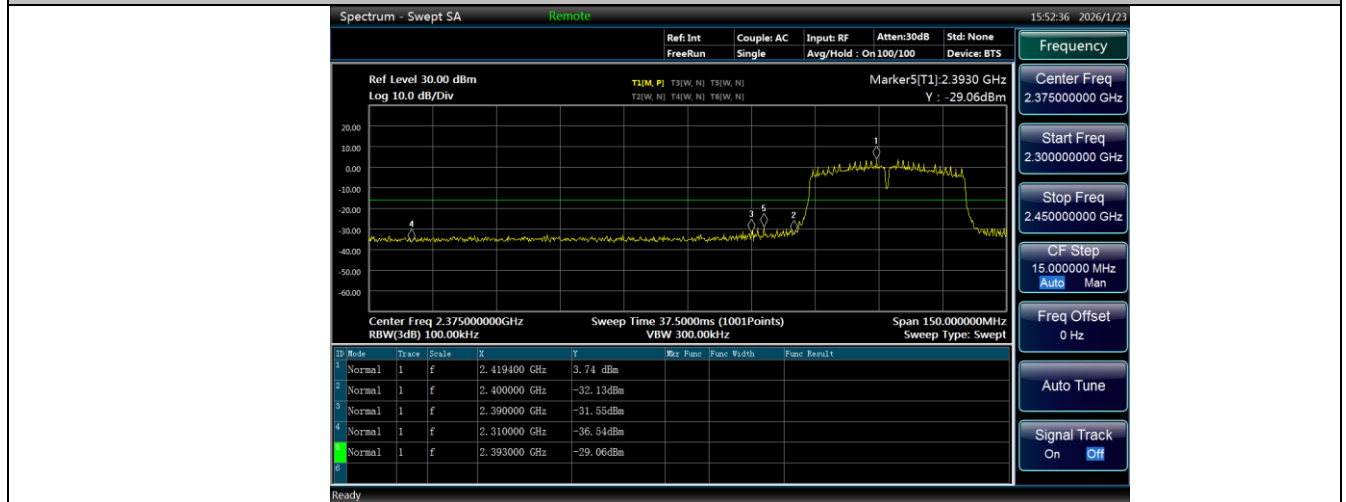
11N20SISO-Ant1-2412-PASS



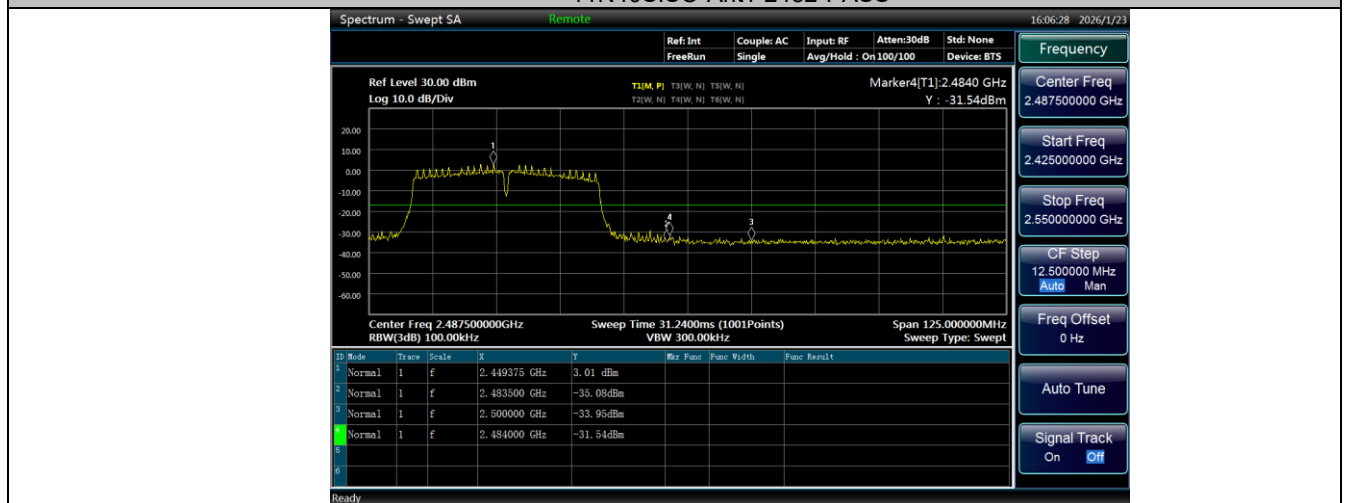
11N20SISO-Ant1-2462-PASS



11N40SISO-Ant1-2422-PASS



11N40SISO-Ant1-2452-PASS



10.99% BANDWIDTH

10.1.LIMITS OF 99% Bandwidth

RSS-GEN Clause 6.7, For reporting purposes only

10.2.TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer.

The transmitter output is connected to a spectrum analyzer.

The RBW is set to $\geq 1\%$ to 5% of the actual occupied.

The VBW is set to $\geq 3\text{RBW}$. The sweep time is coupled

10.3.TEST SETUP

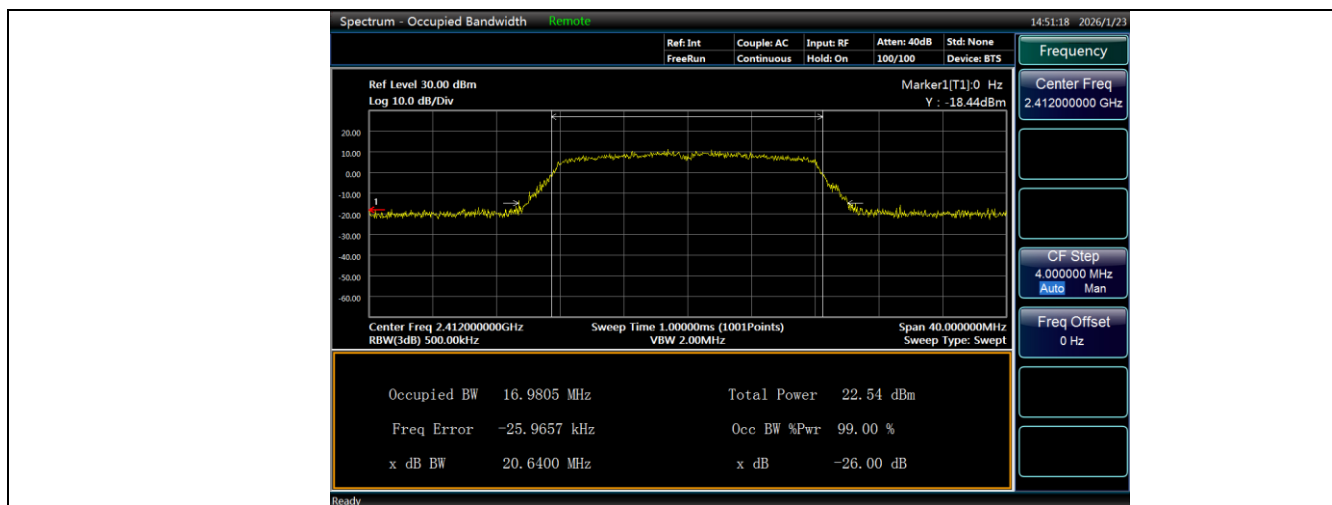


10.4.TEST DATA

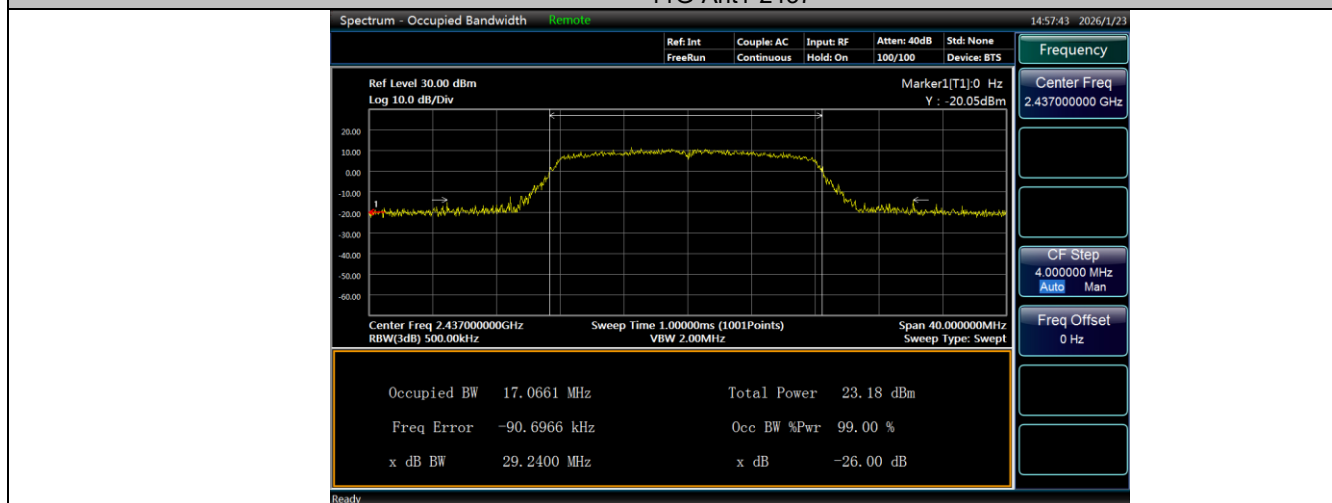
Table 8 99%Occupied Bandwidth Test Data

TestMode	Antenna	Channel Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	13.517	2405.2366	2418.7536	---	---
11B	Ant1	2437	13.543	2430.1284	2443.6714	---	---
11B	Ant1	2462	13.643	2455.0671	2468.7101	---	---
11G	Ant1	2412	16.981	2403.4835	2420.4645	---	---
11G	Ant1	2437	17.066	2428.3763	2445.4423	---	---
11G	Ant1	2462	17.021	2453.3991	2470.4201	---	---
11N20SISO	Ant1	2412	17.950	2402.9682	2420.9182	---	---
11N20SISO	Ant1	2437	18.098	2427.8549	2445.9529	---	---
11N20SISO	Ant1	2462	18.063	2452.8870	2470.9500	---	---
11N40SISO	Ant1	2422	36.707	2403.5891	2440.2961	---	---
11N40SISO	Ant1	2437	36.849	2418.4002	2455.2492	---	---
11N40SISO	Ant1	2452	36.940	2433.3381	2470.2781	---	---

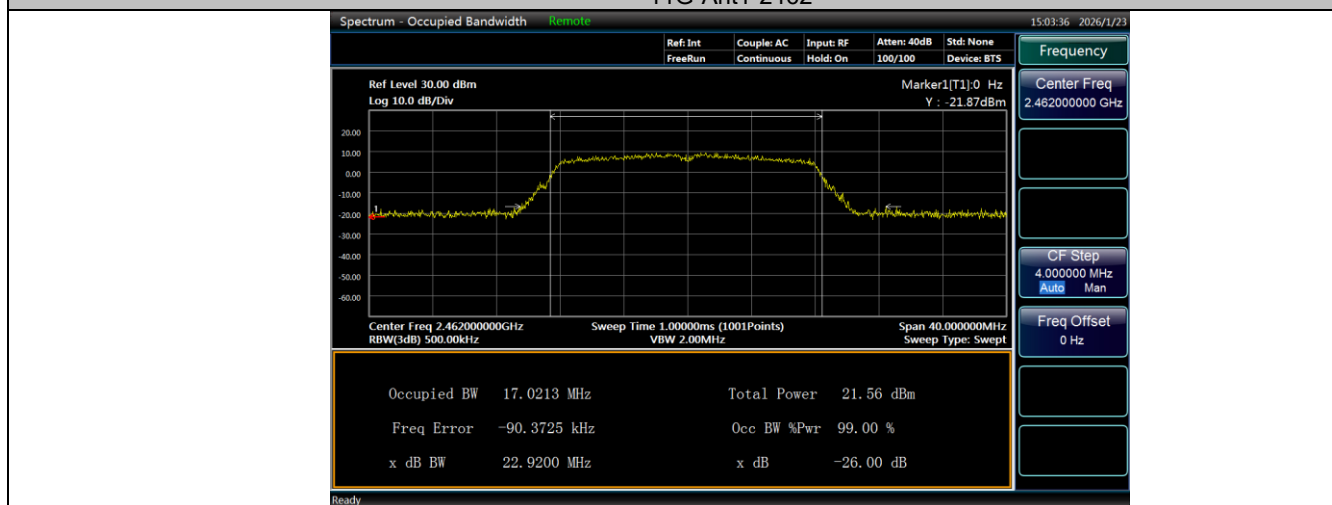




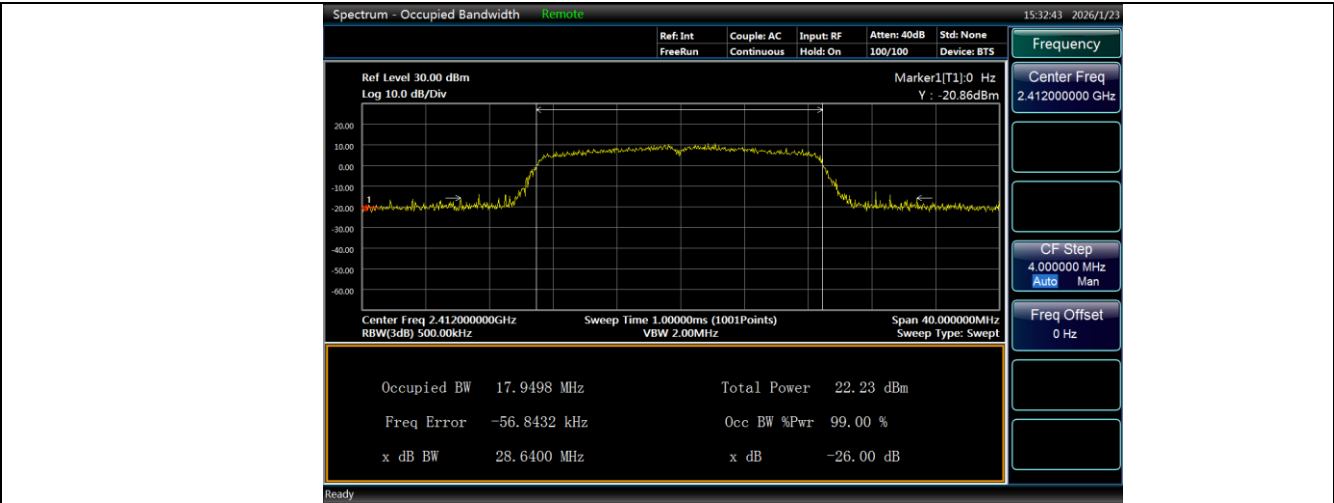
11G-Ant1-2437



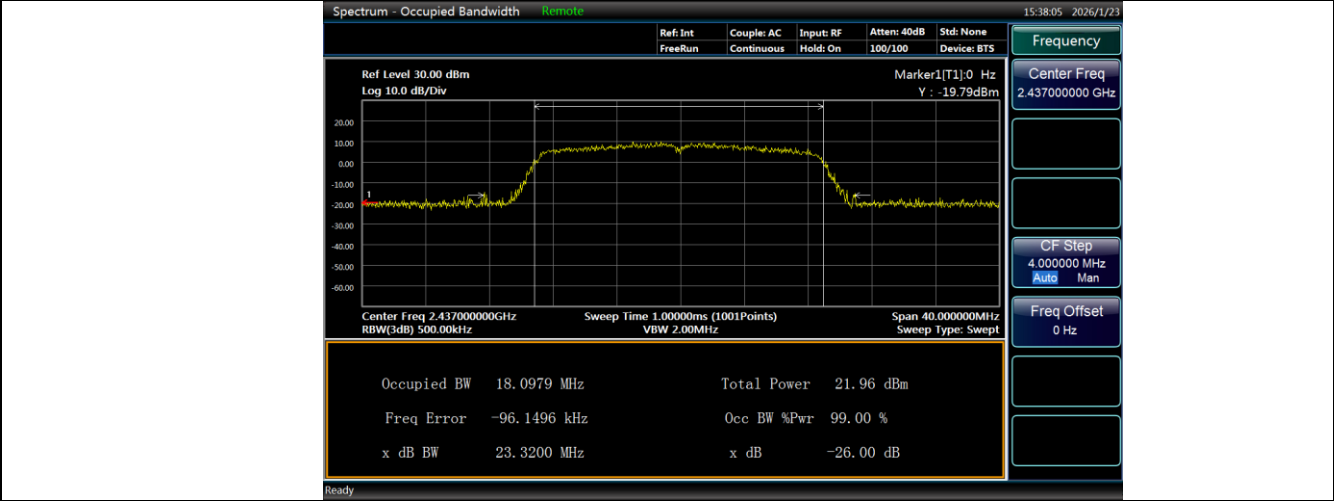
11G-Ant1-2462



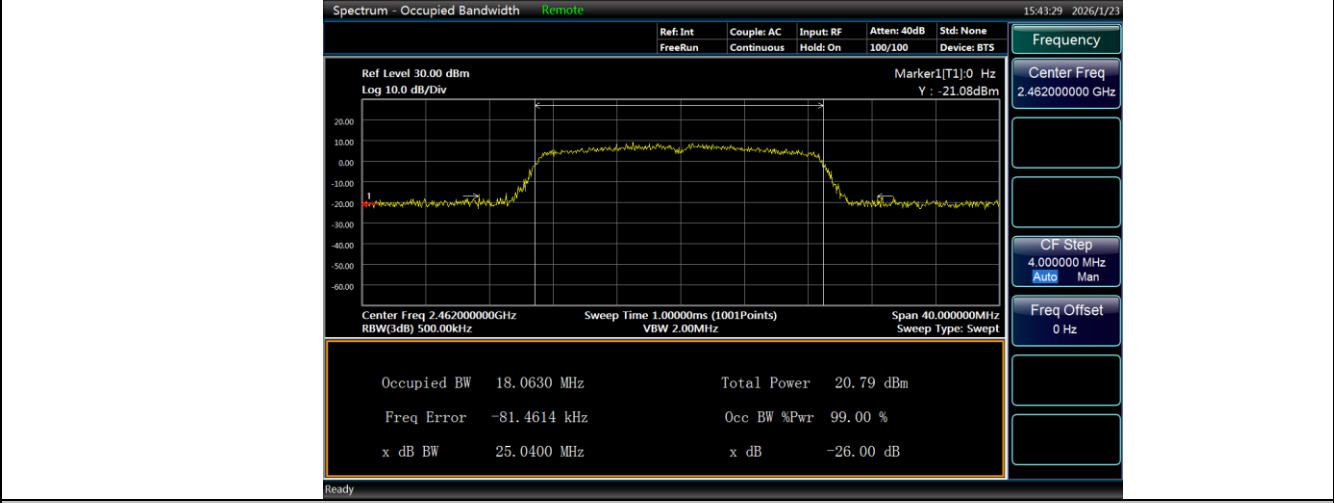
11N20SISO-Ant1-2412



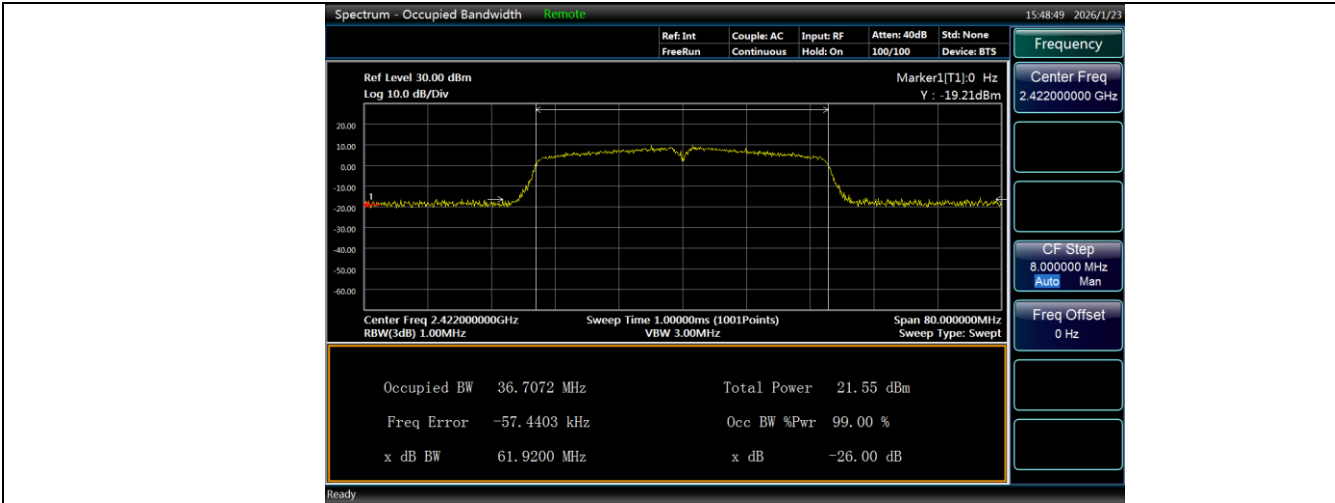
11N20SISO-Ant1-2437



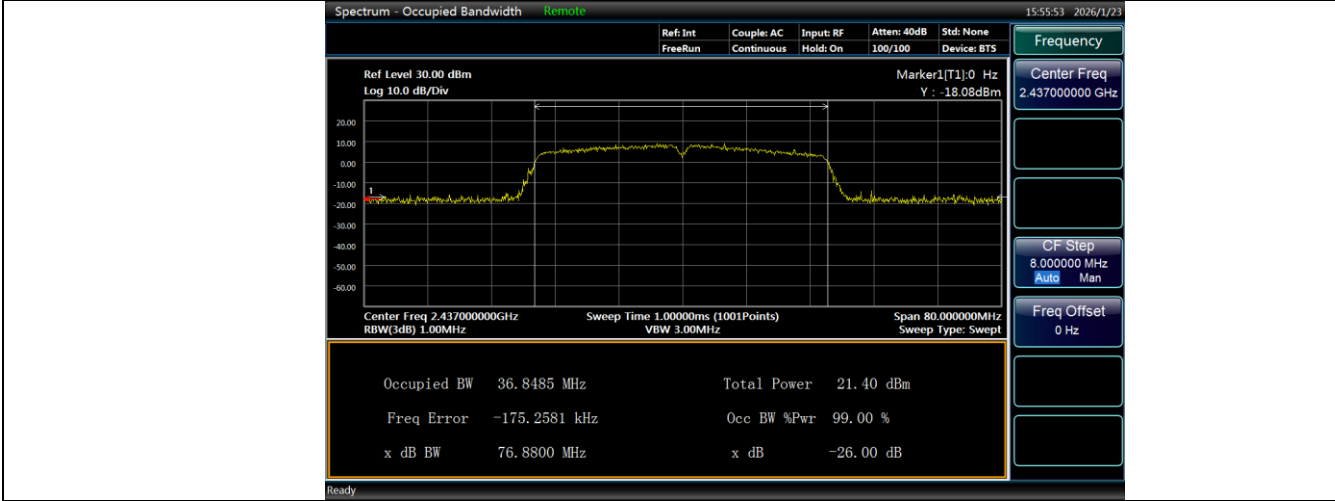
11N20SISO-Ant1-2462



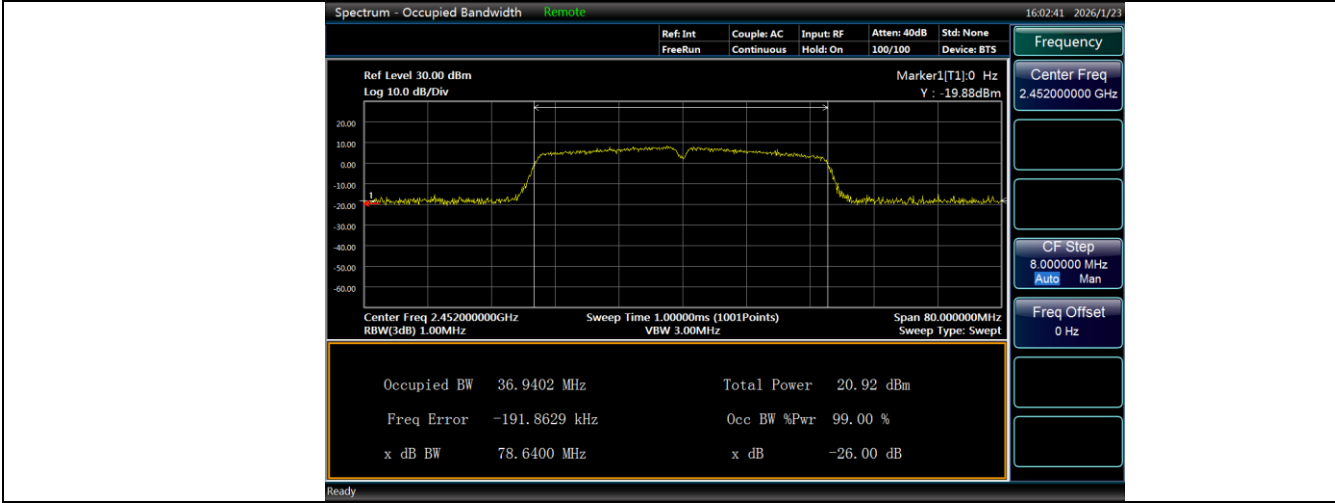
11N40SISO-Ant1-2422



11N40SISO-Ant1-2437



11N40SISO-Ant1-2452



11. RADIATED BANDEDGE AND SPURIOUS MEASUREMENT

11.1. LIMITS OF Radiated Bandedge and Spurious Measurement

CFR 47 (FCC) part 15.247 (d), 15.205, 15.209 and 558074 D01 DTS Meas
Guidance v05r02

RSS-247 Clause 6.6 and RSS GEN Clause 8.9

Table 9 Radiation Emission Test Limit (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 10 Radiation Emission Test Limit (Above 1G)

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

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.

Table 13 Restricted Band Radiated Emission

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
¹ 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6-12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25-13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47-14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35-16.2
8.362 - 8.366	156.52475 -	2483.5 - 2500	17.7-21.4
8.37625 - 8.38675	156.52525	2655 - 2900	22.01-23.12
8.41425 - 8.41475	156.7 - 156.9	3260 - 3267	23.6-24.0
12.29 - 12.293	162.0125 - 167.17	3332 - 3339	31.2-31.8
12.51975 -	167.72 - 173.2	3345.8 - 3358	36.43-36.5
12.52025	240 - 285	3600 - 4400	(²)
12.57675 -	322 - 335.4		
12.57725			
13.36 - 13.41			

¹ Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

² Above 38.6

11.2.TEST PROCEDURE

1. The testing follows the guidelines in ANSI C63.10.
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 $\geq$ 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.

11.3.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 14 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.

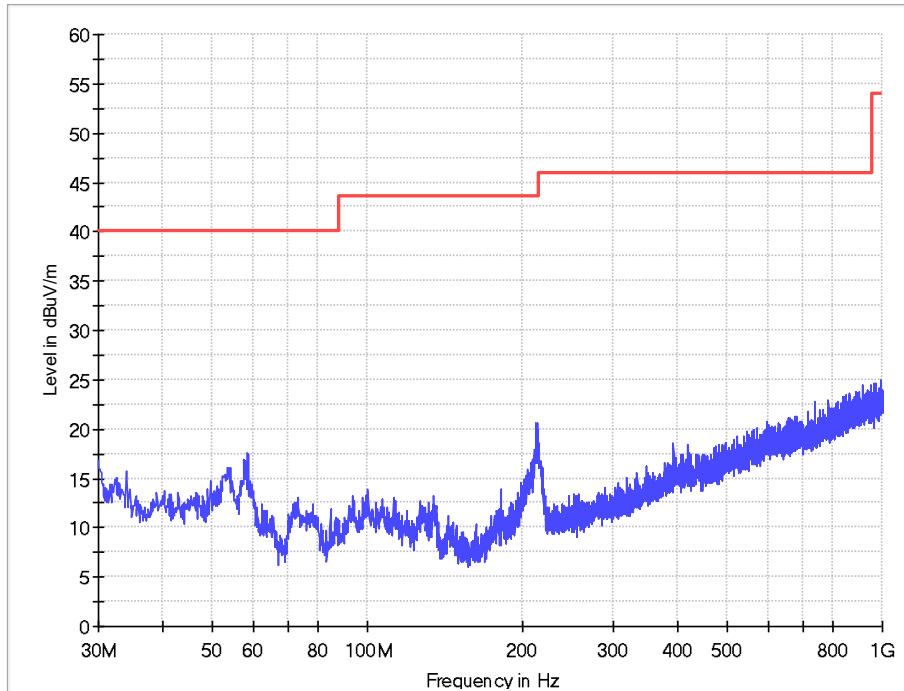
Table 15 Radiated Emission Test Data 30MHz-1GHz

Frequency (MHz)	Cable Loss +preamp (dB)	Antenna Factor (dB)	Reading (dBμV/m)	Level (dBμV/m)	Polarity (Horizontal/ Vertical)	Limit (dBμV/m)	Margin (dB)	Note
58.421	0.8	13.0	1.4	15.2	Horizontal	40.0	24.8	QP
100.228	1.1	13.2	1.1	15.4	Horizontal	43.5	28.1	QP
181.417	1.6	9.7	3.2	14.5	Horizontal	43.5	29.0	QP
212.263	1.8	10.6	5.1	17.5	Horizontal	43.5	26.0	QP
392.974	2.4	14.6	0.8	17.8	Horizontal	46.0	28.2	QP
739.846	3.4	18.8	-3.6	18.6	Horizontal	46.0	27.4	QP
30.291	0.6	12.3	9.6	22.5	Vertical	40	17.5	QP
53.474	0.7	13.3	8.4	22.4	Vertical	40	17.6	QP
57.936	0.8	13.0	8.7	22.5	Vertical	40	17.5	QP
71.613	0.9	8.7	11.2	20.8	Vertical	40	19.2	QP
143.102	1.3	8.2	12.4	21.9	Vertical	43.5	21.6	QP
982.540	4.0	21.1	-4.9	20.2	Vertical	54	33.8	QP

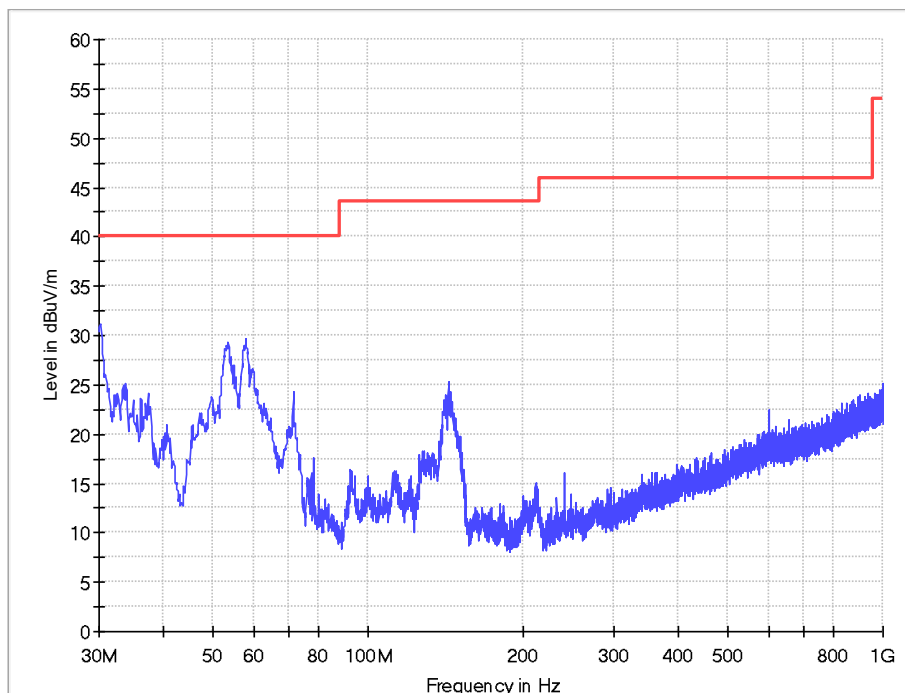
Remark: Emission level (dBuV)=Read Value(dBuV/m) + Antenna Factor(dB)+ Cable Loss +preamp(dB)

30MHz-1GHz

Horizontal



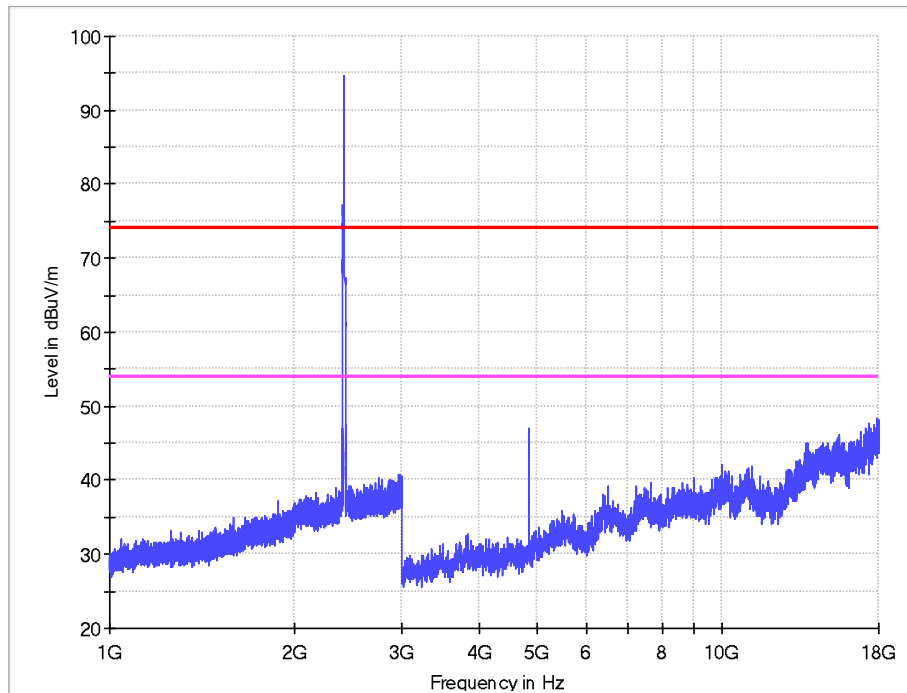
Vertical



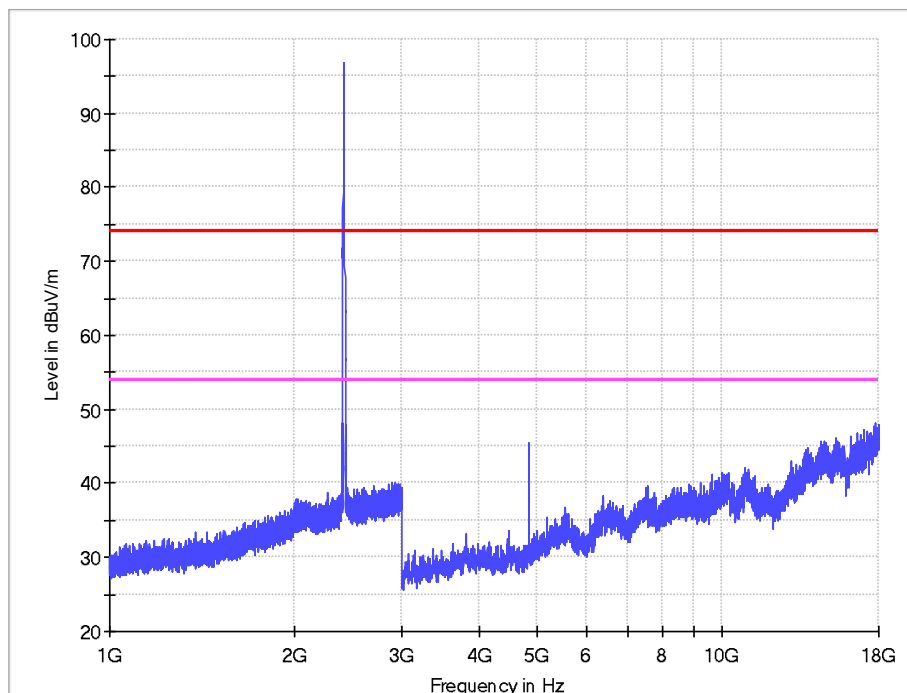
1-18G

802.11b CH1

Horizontal



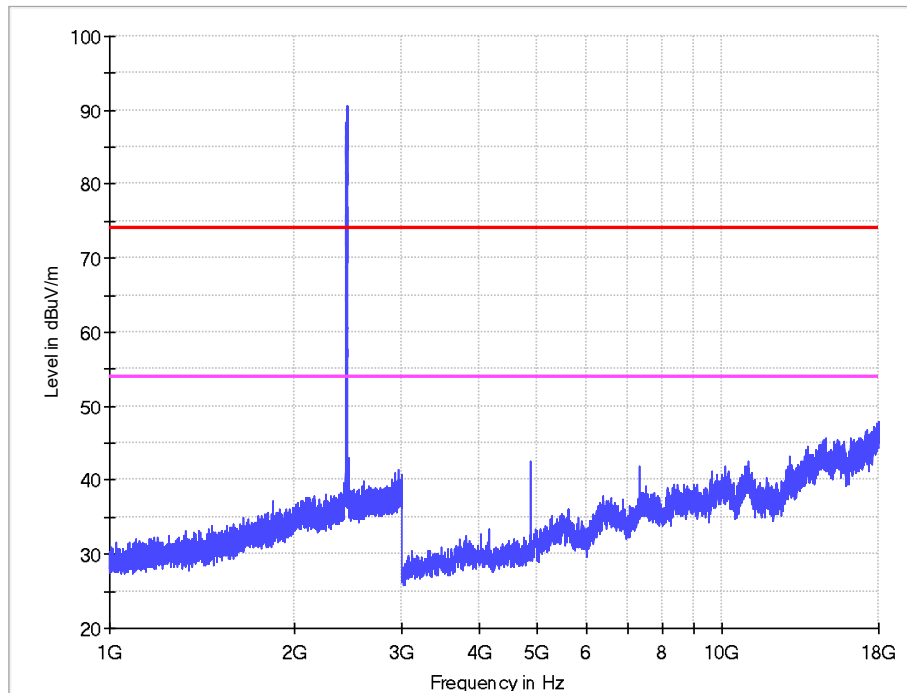
Vertical



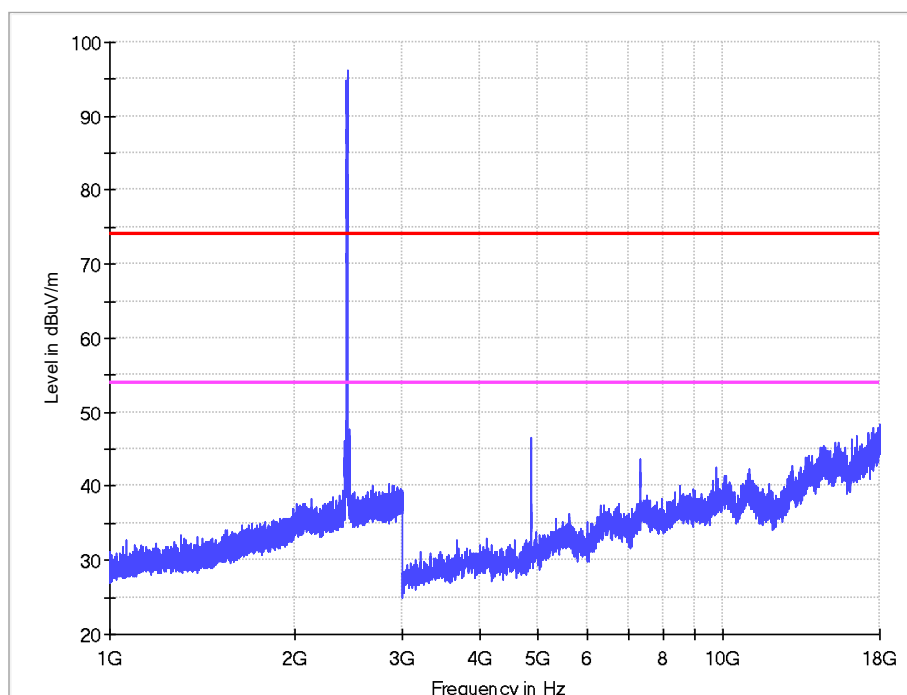
1-18G

802.11b CH6

Horizontal



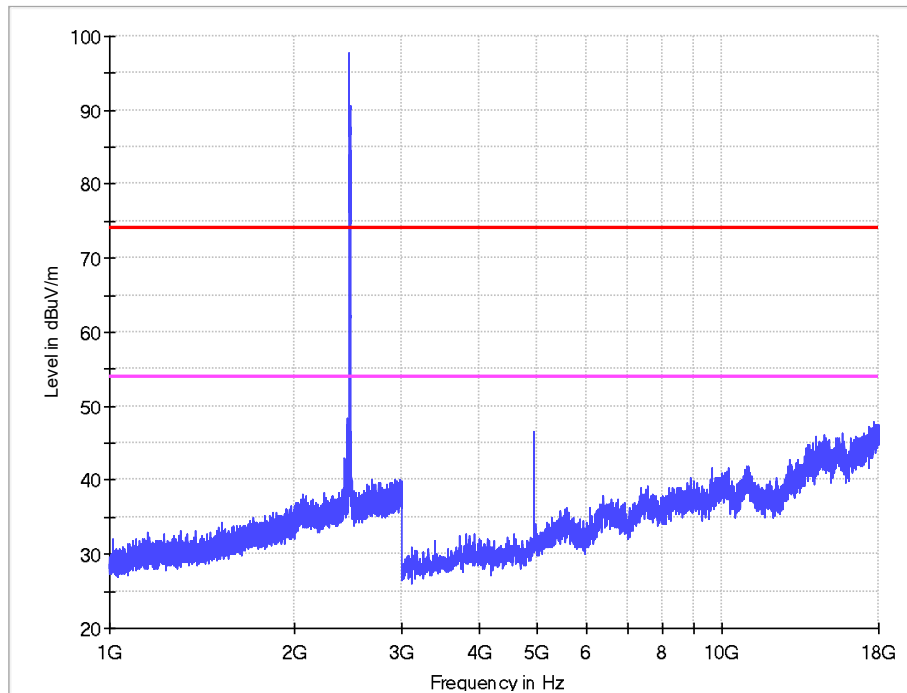
Vertical



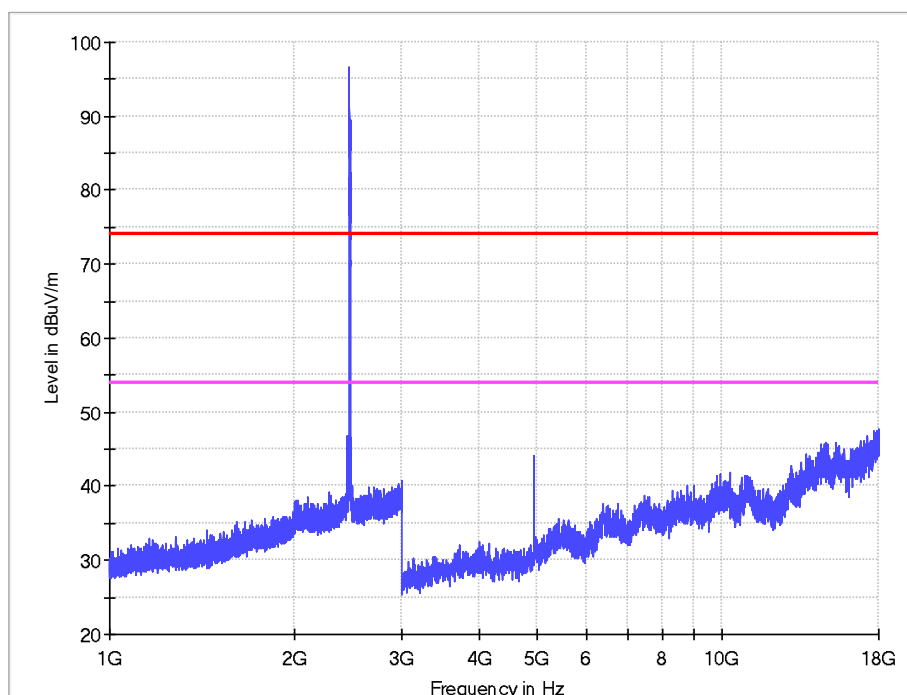
1-18G

802.11b CH11

Horizontal



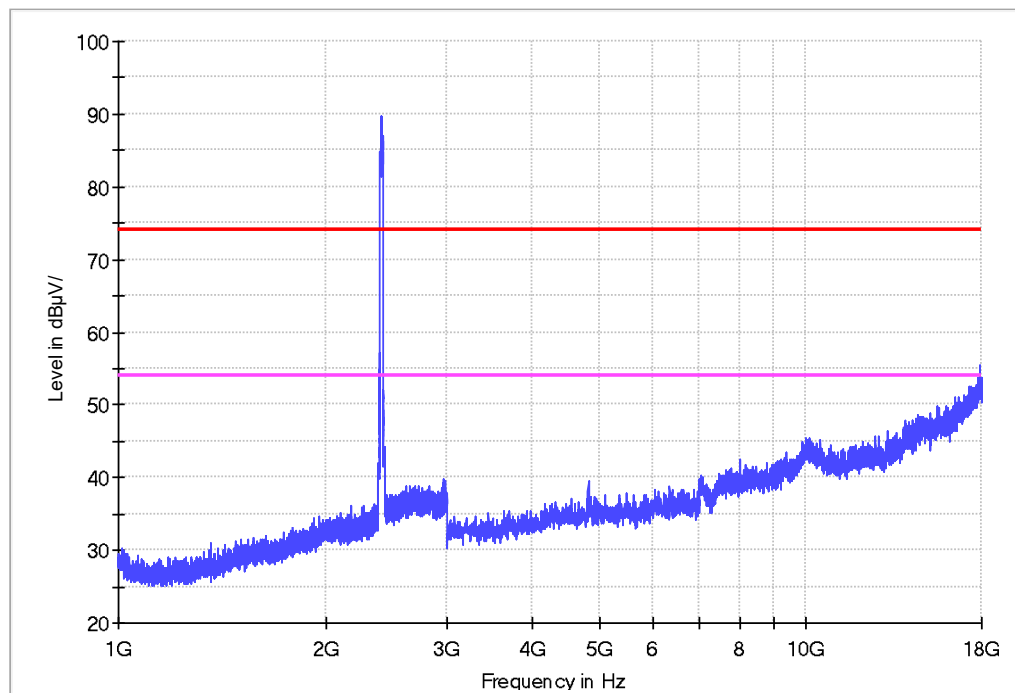
Vertical



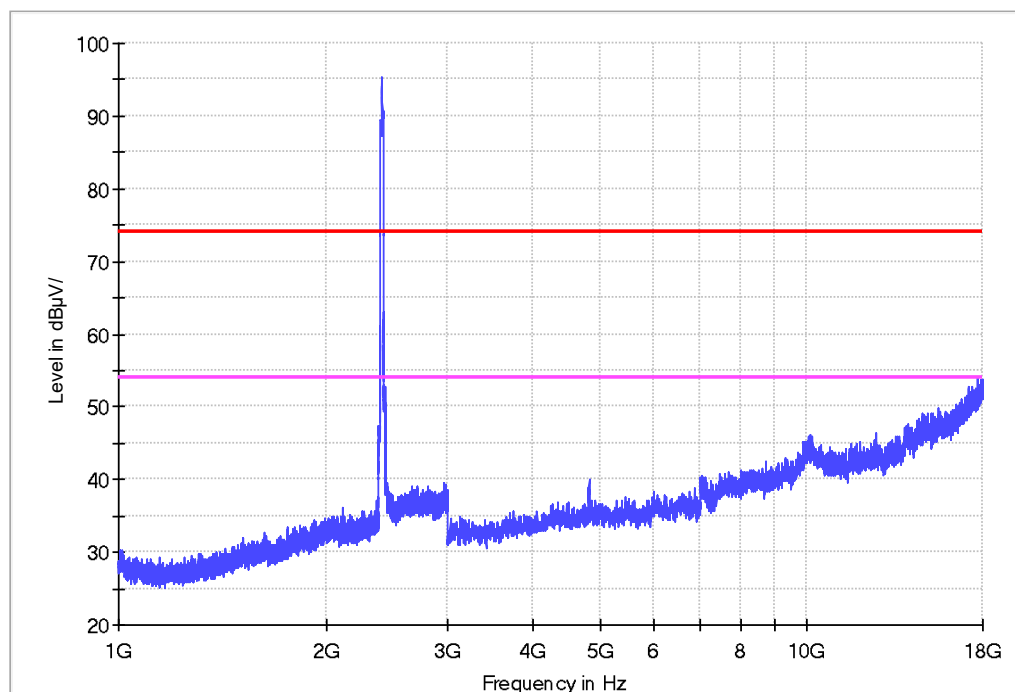
1-18G

802.11g CH1

Horizontal



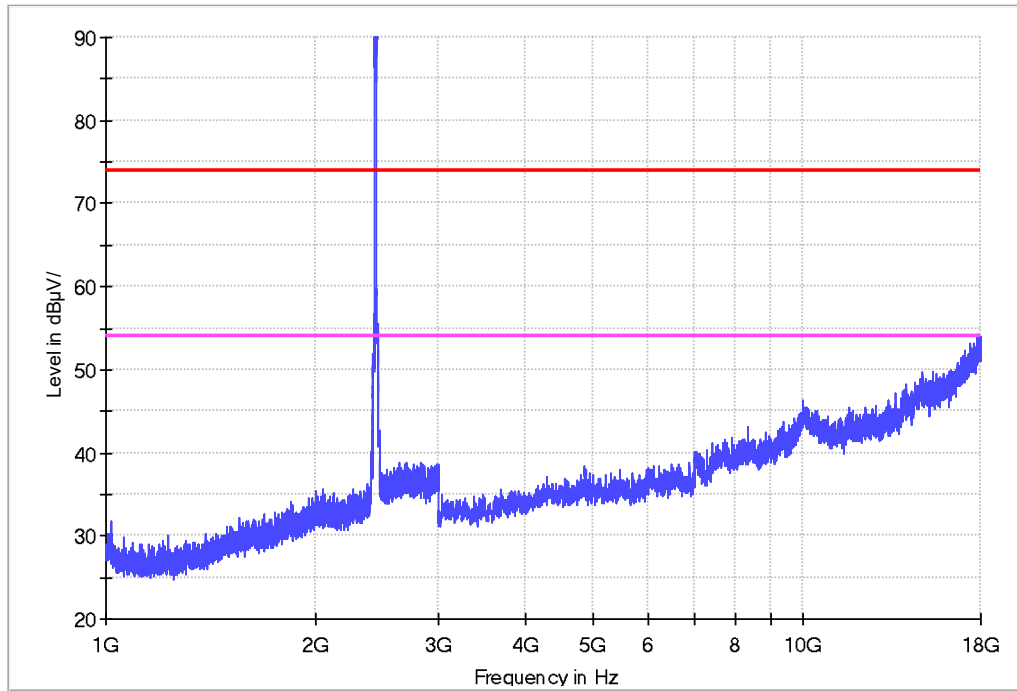
Vertical



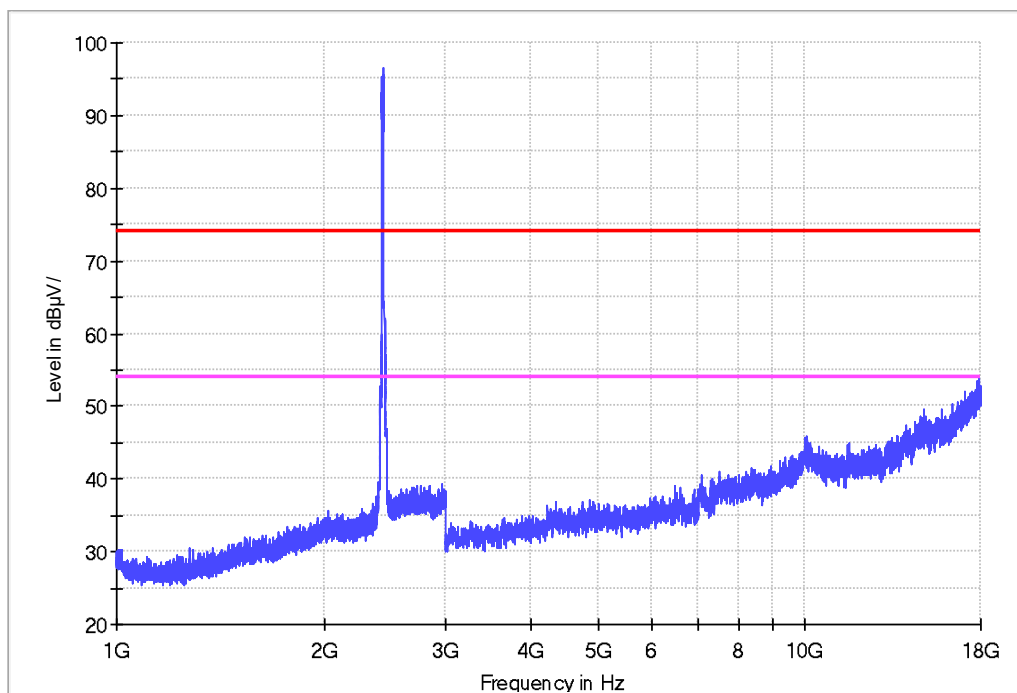
1-18G

802.11g CH6

Horizontal



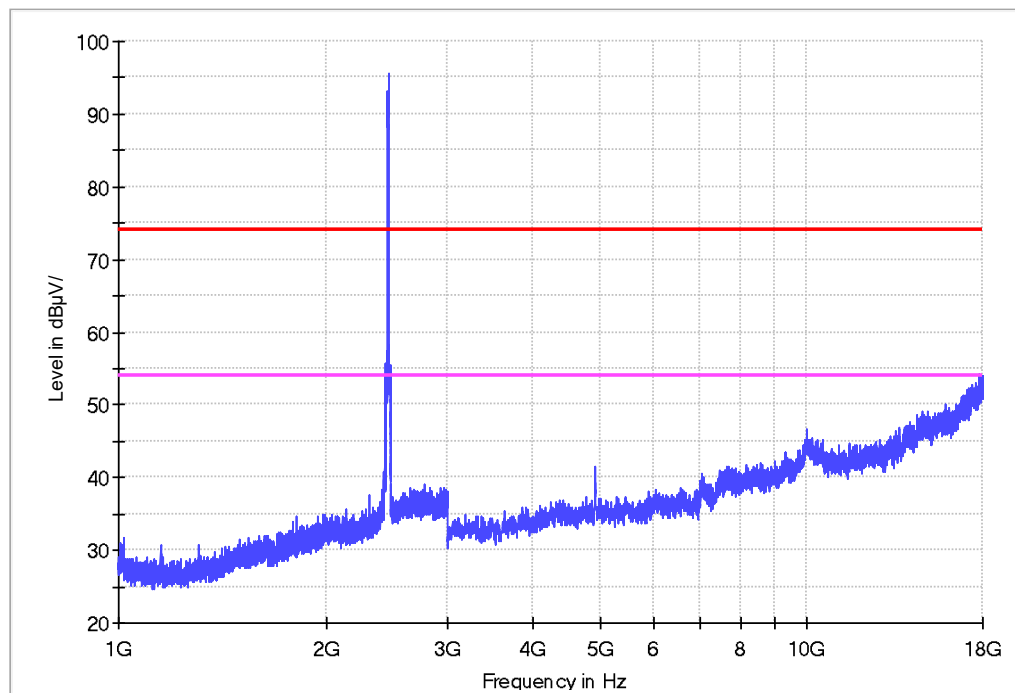
Vertical



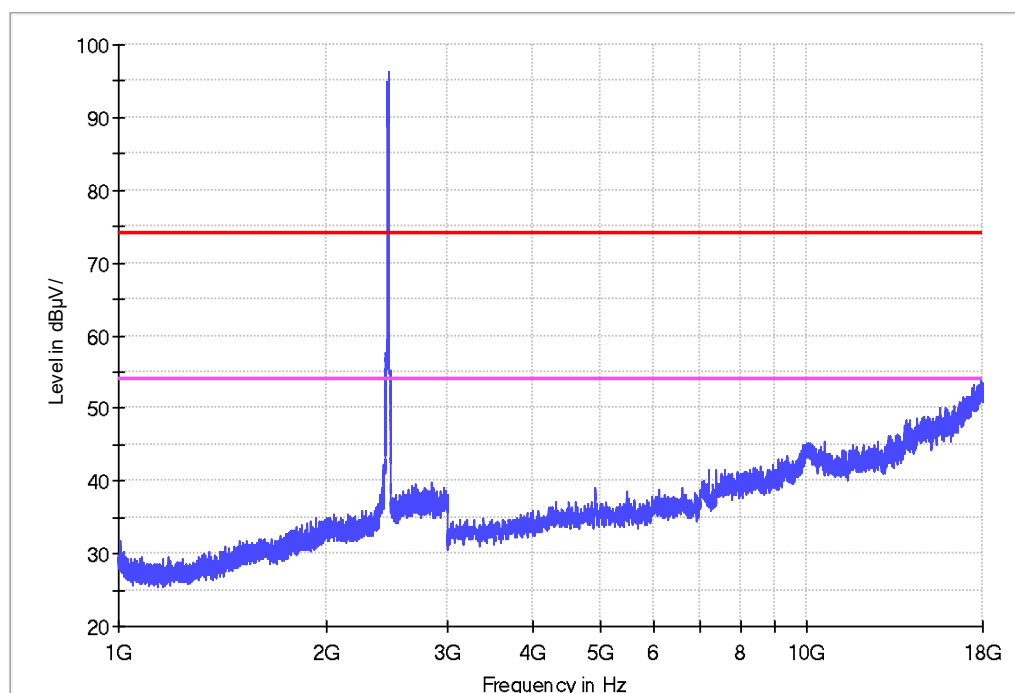
1-18G

802.11g CH11

Horizontal



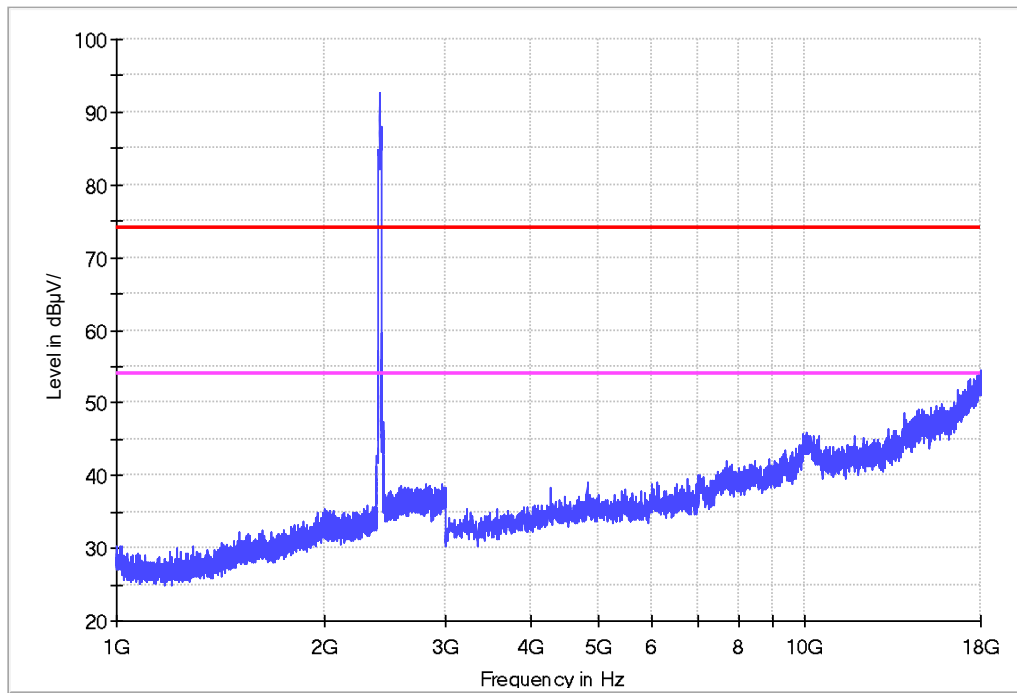
Vertical



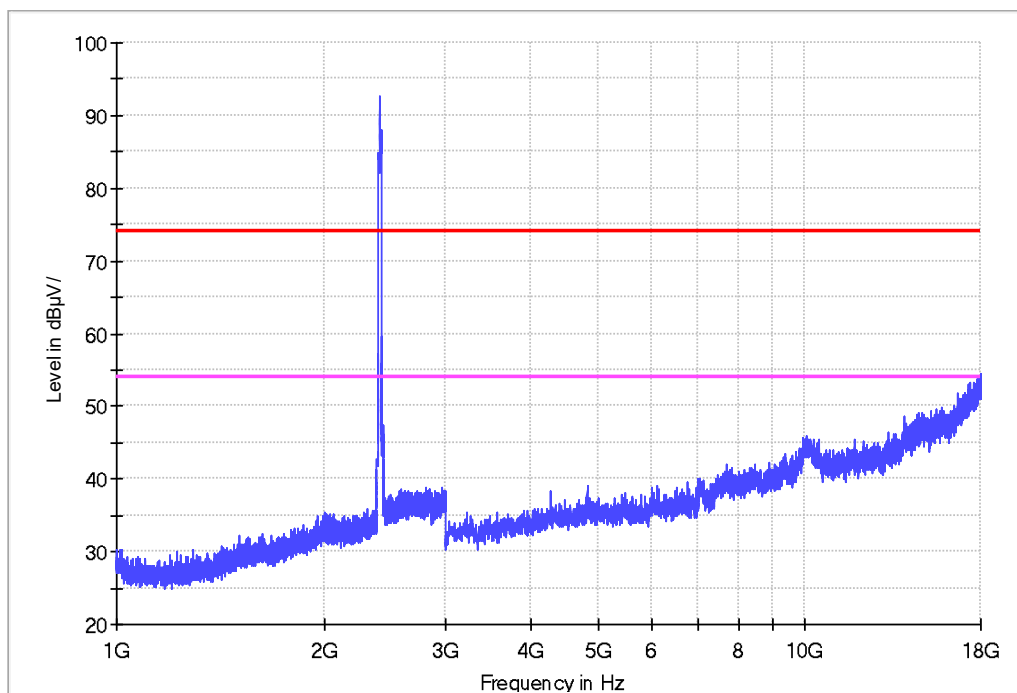
1-18G

802.11n-HT20 CH1

Horizontal



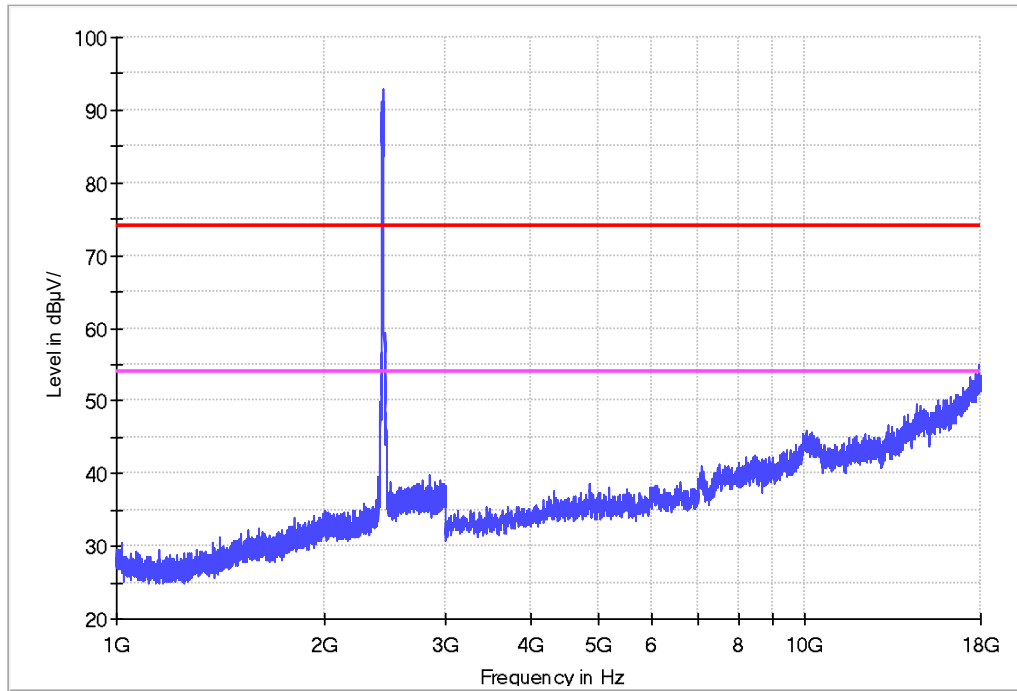
Vertical



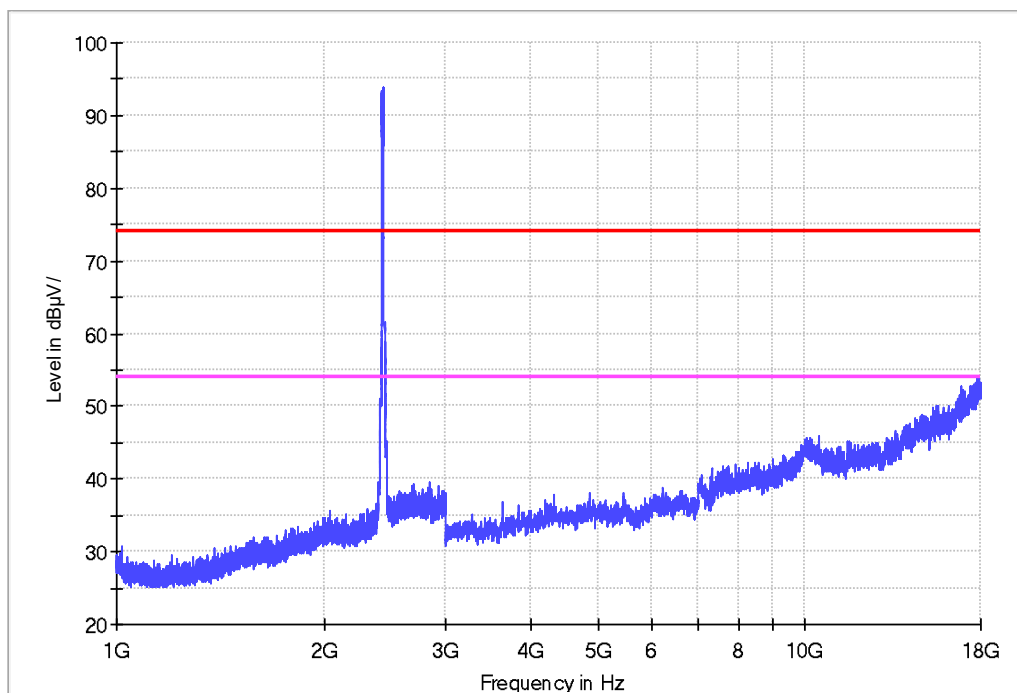
1-18G

802.11n-HT20 CH6

Horizontal



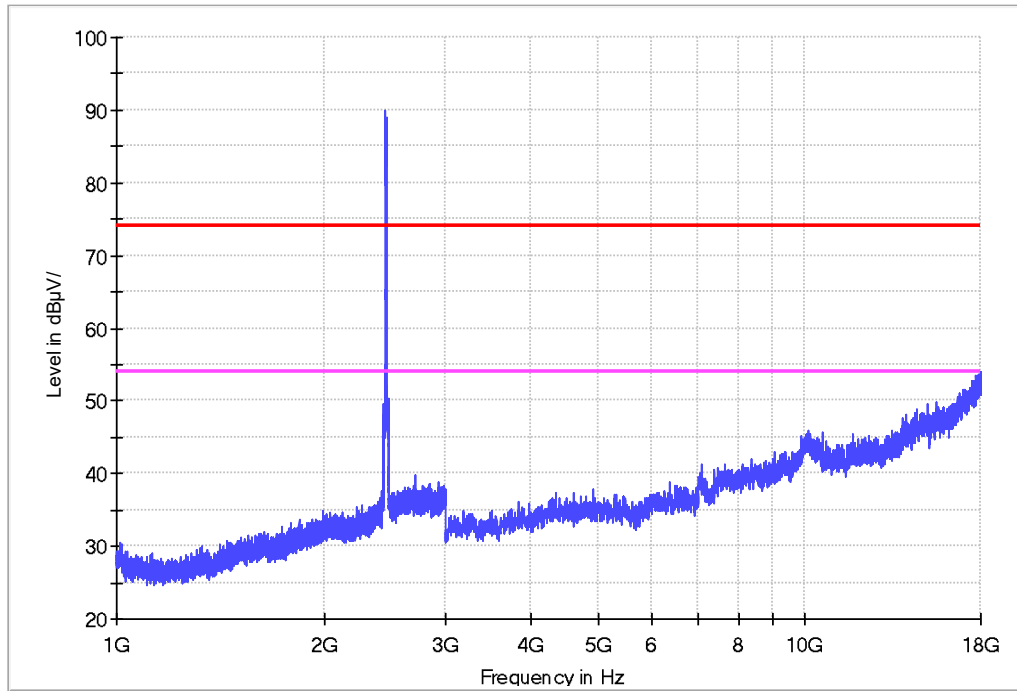
Vertical



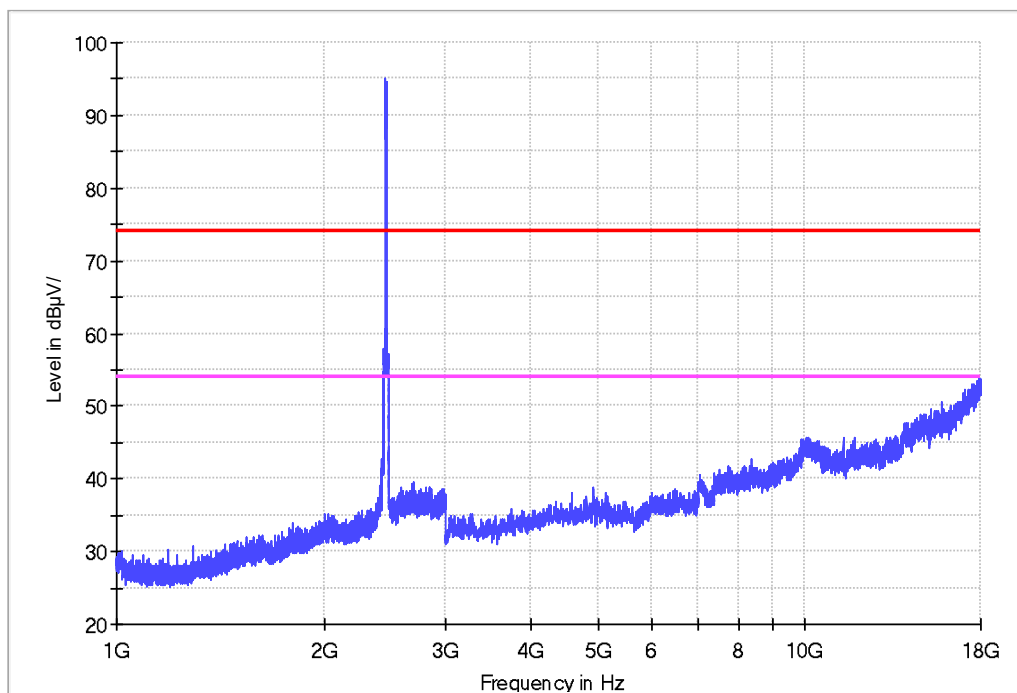
1-18G

802.11n-HT20 CH11

Horizontal



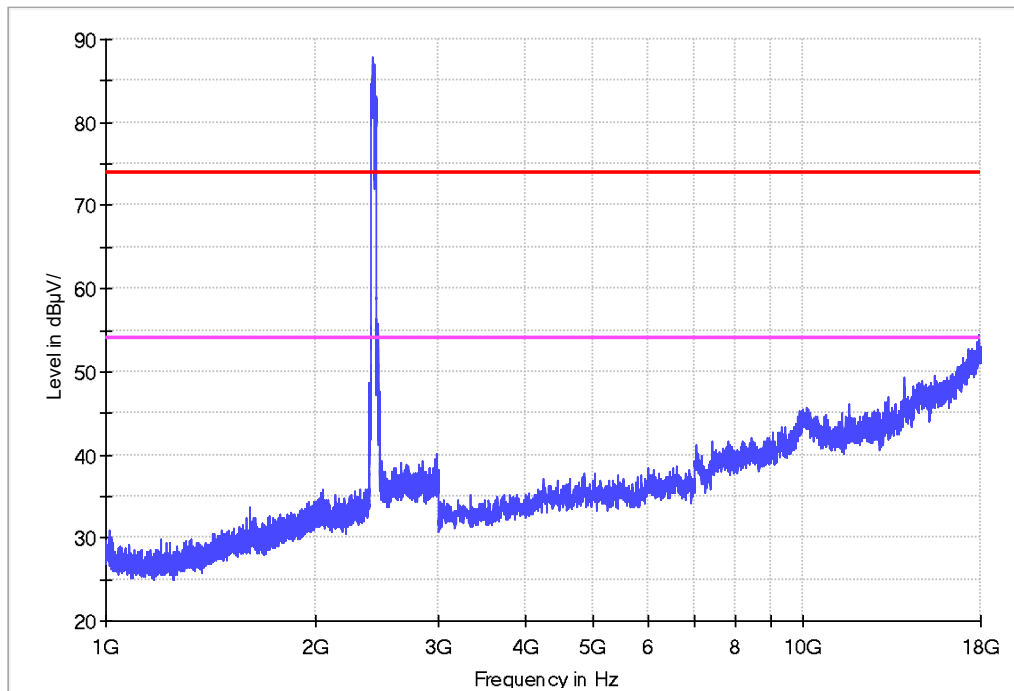
Vertical



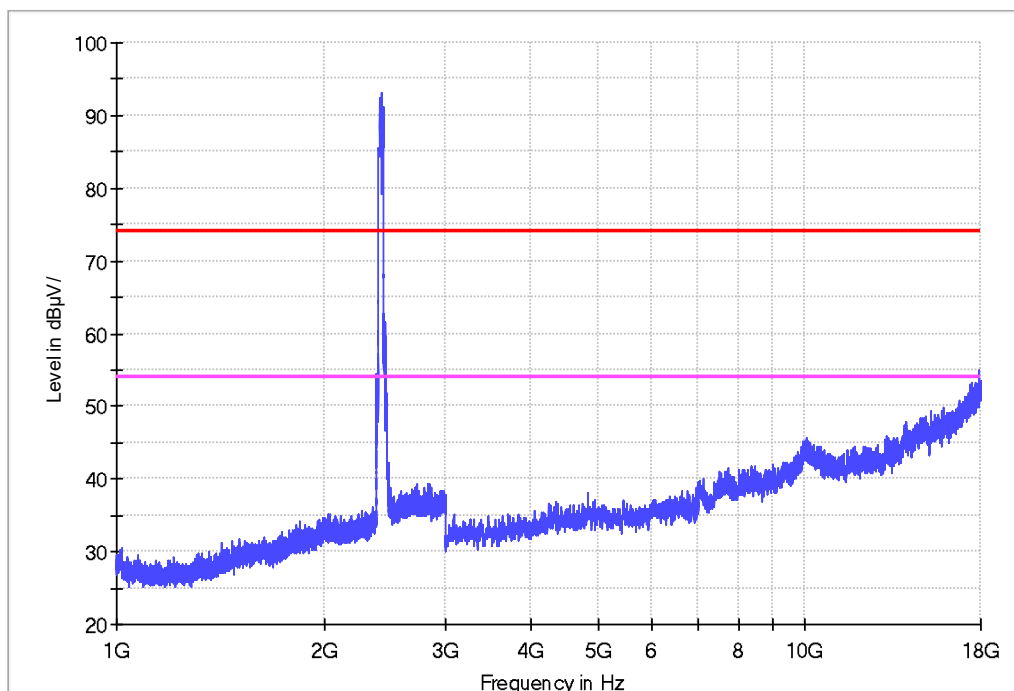
1-18G

802.11n-HT40 CH3

Horizontal



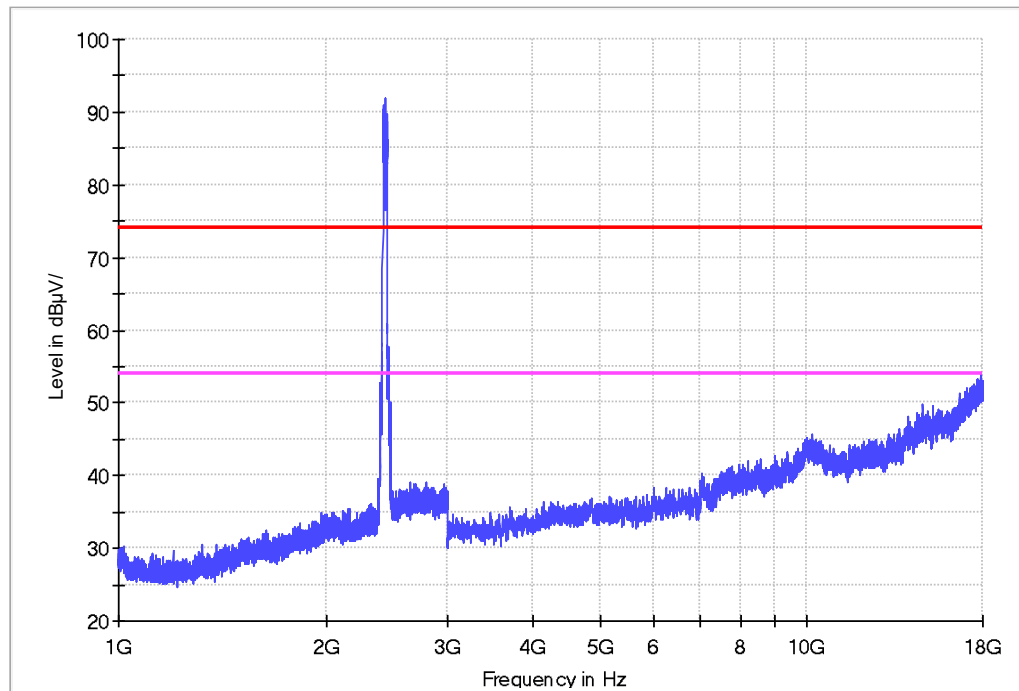
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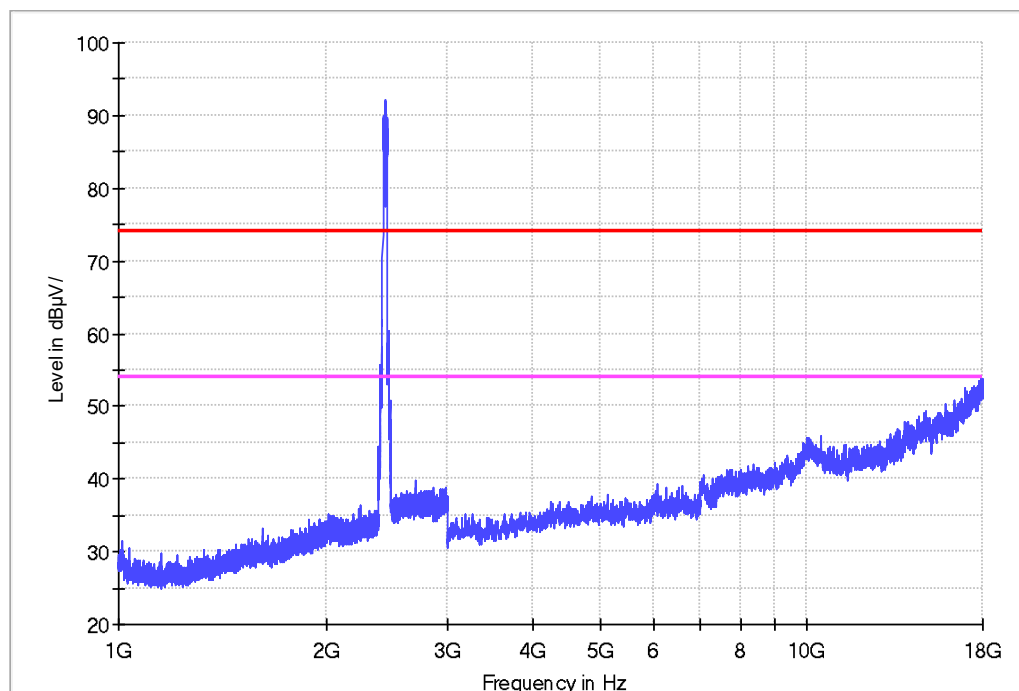
1-18G

802.11n-HT40 CH6

Horizontal



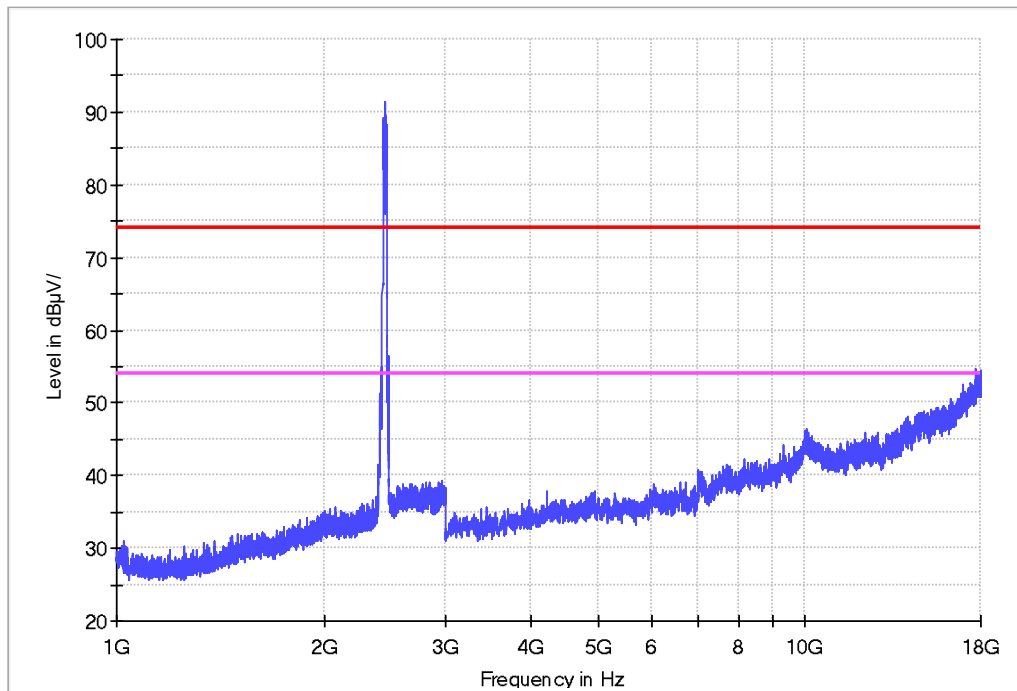
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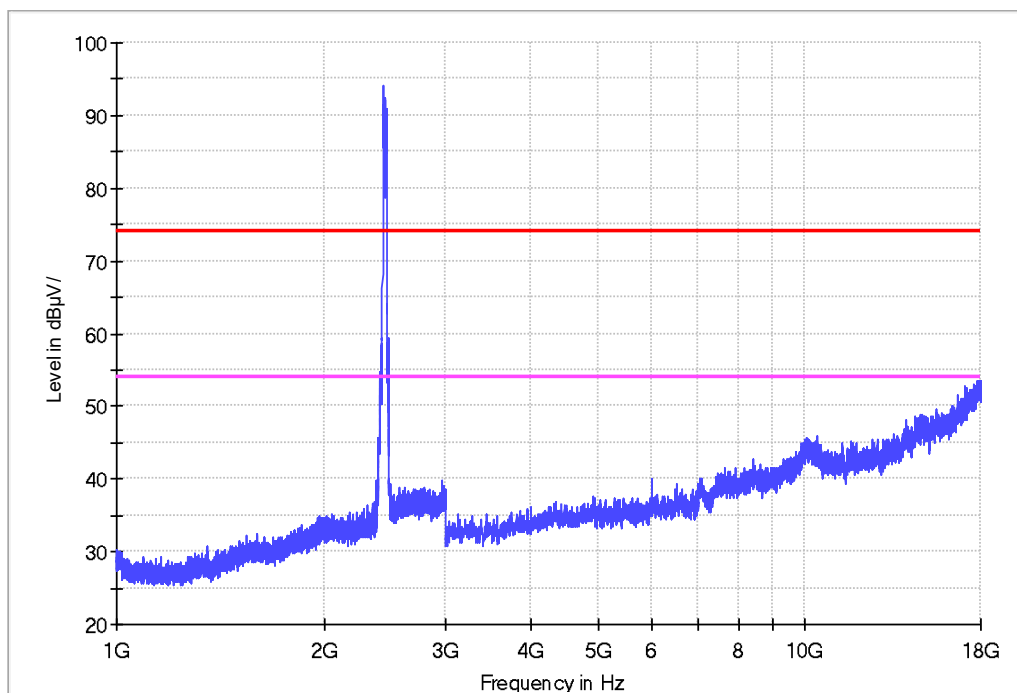
1-18G

802.11n-HT40 CH9

Horizontal

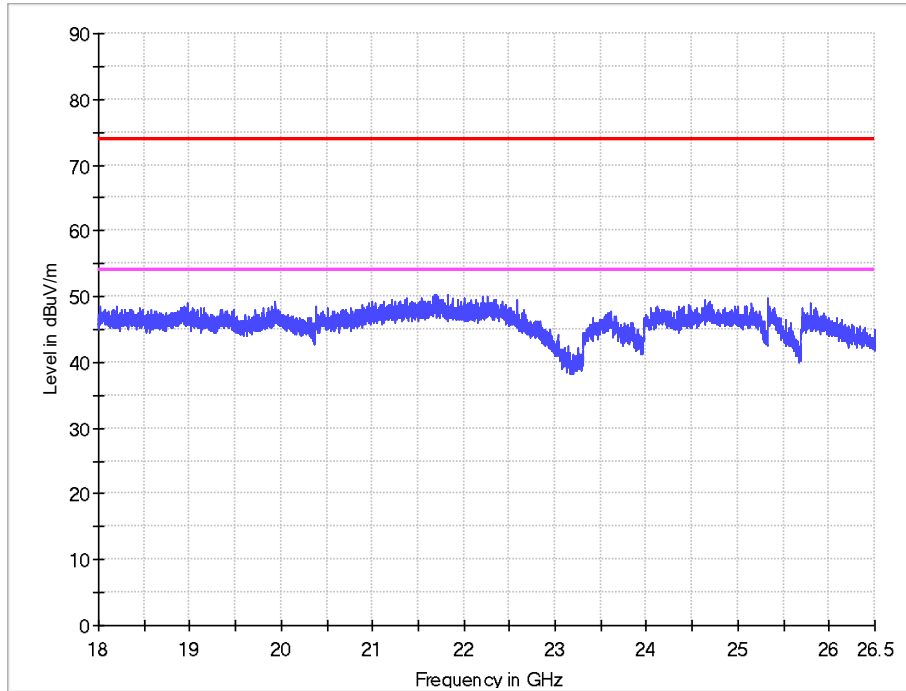


Vertical

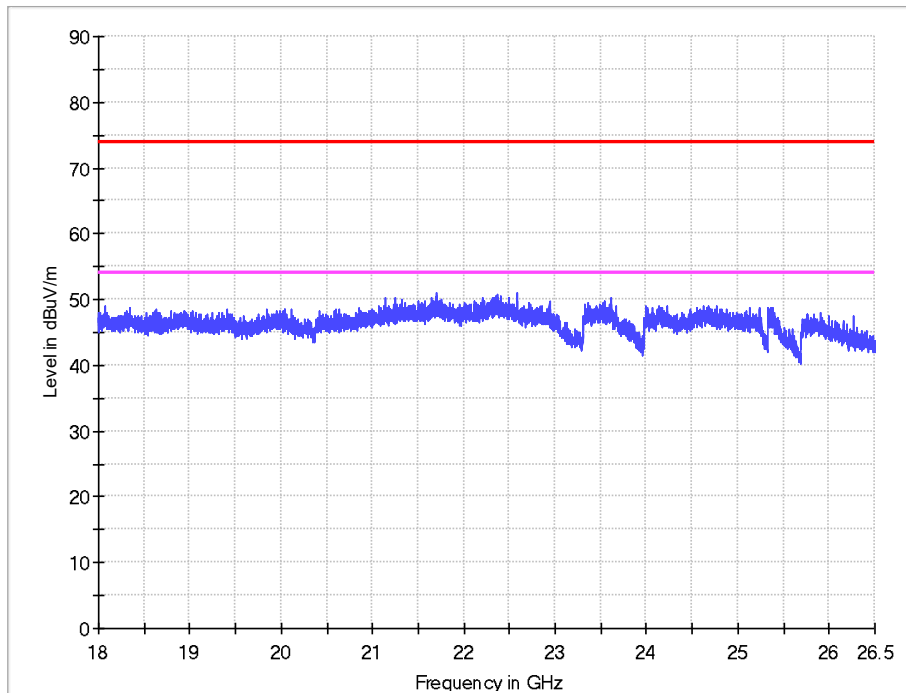


18-26.5G

(Worst Case)
Horizontal



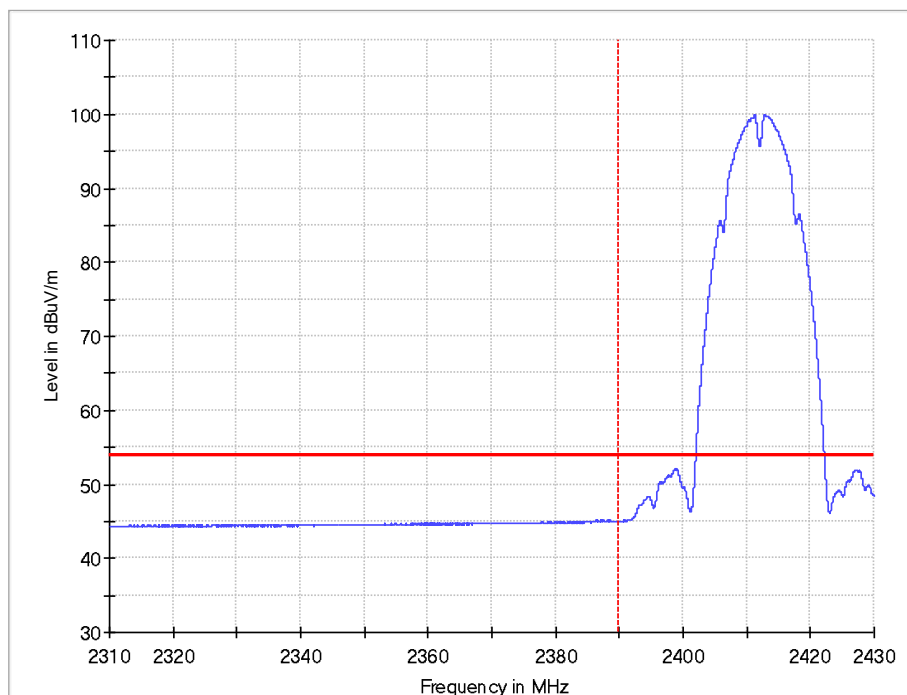
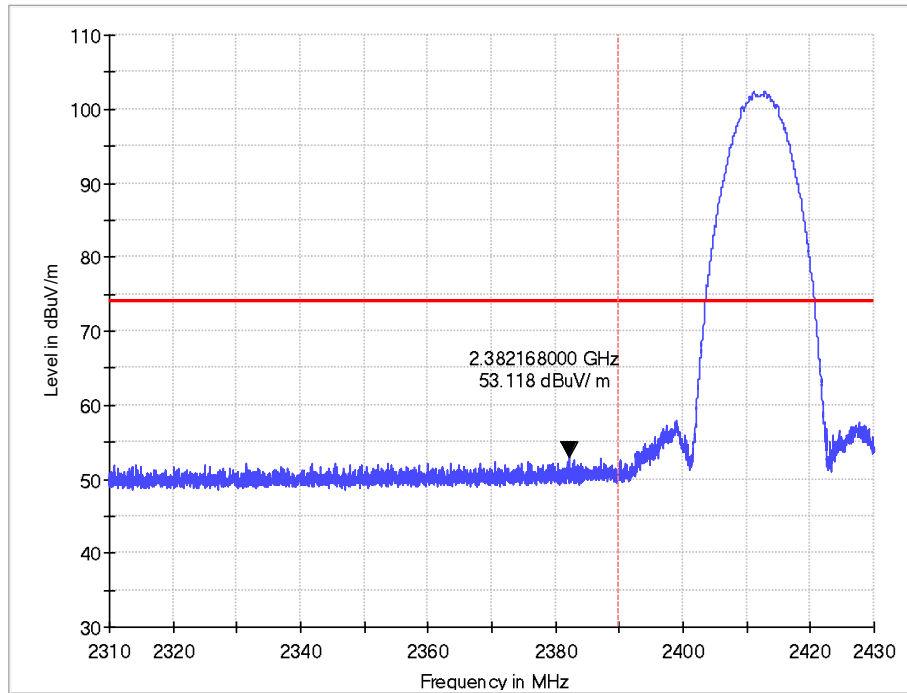
Vertical



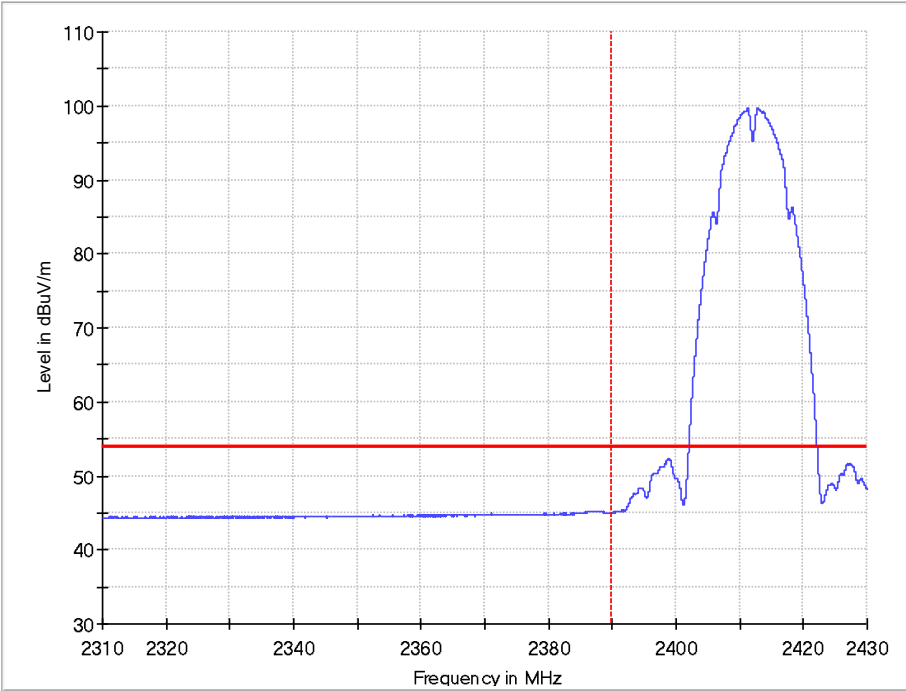
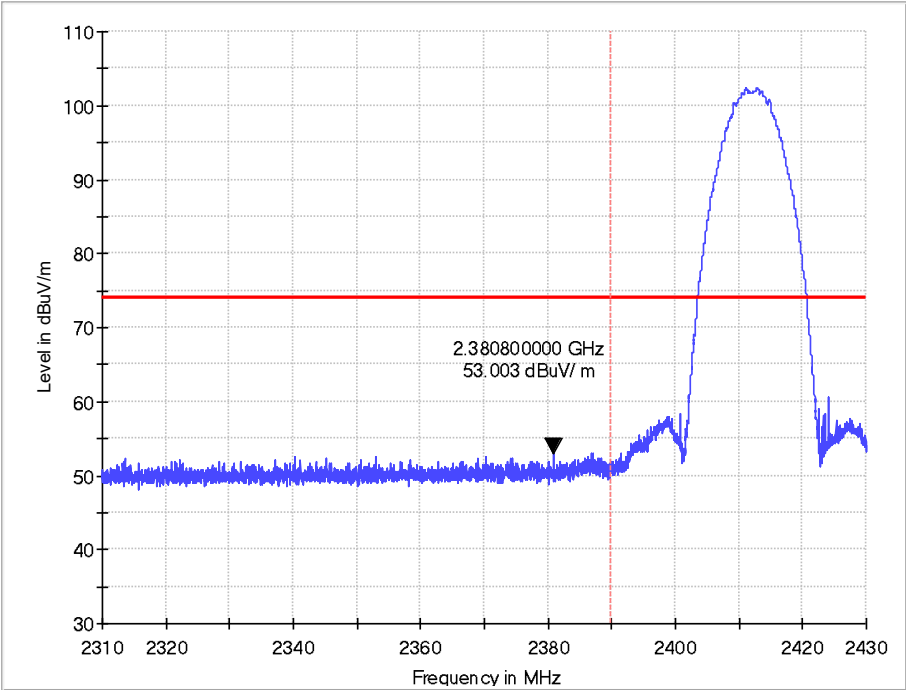
Band edge

11b
CH1

Horizontal



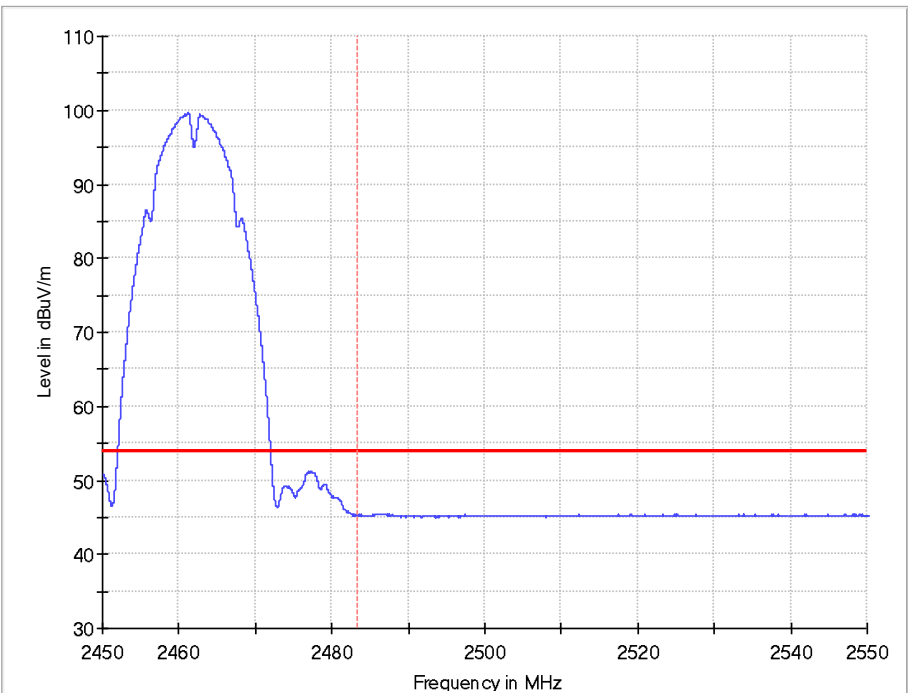
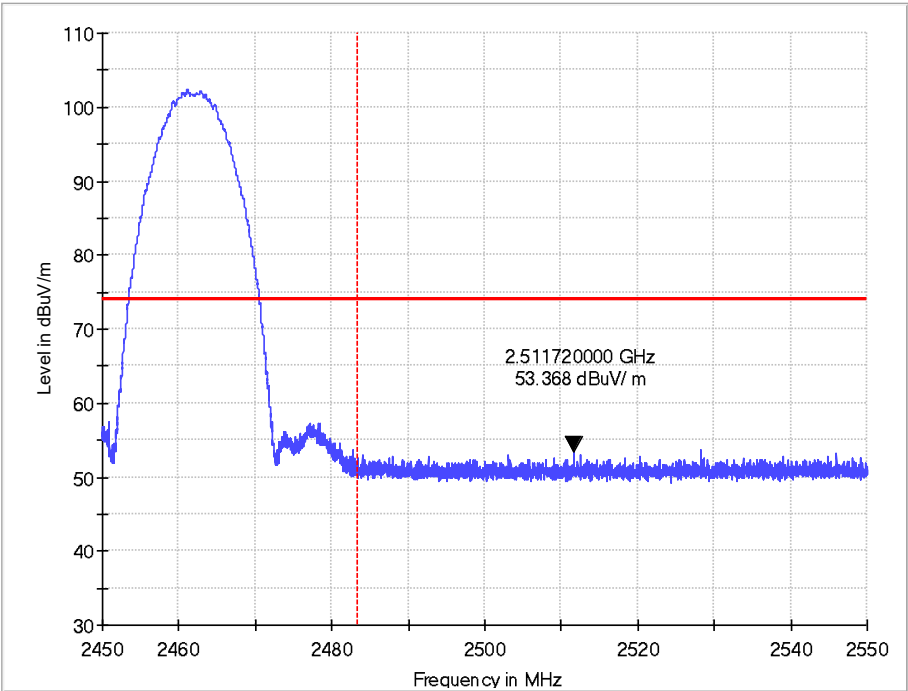
Vertical



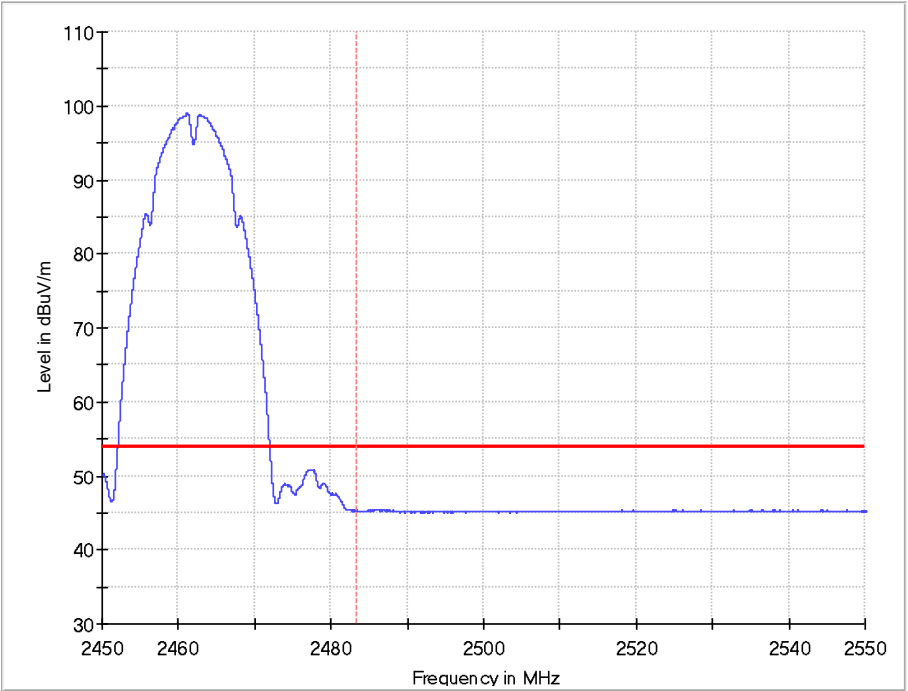
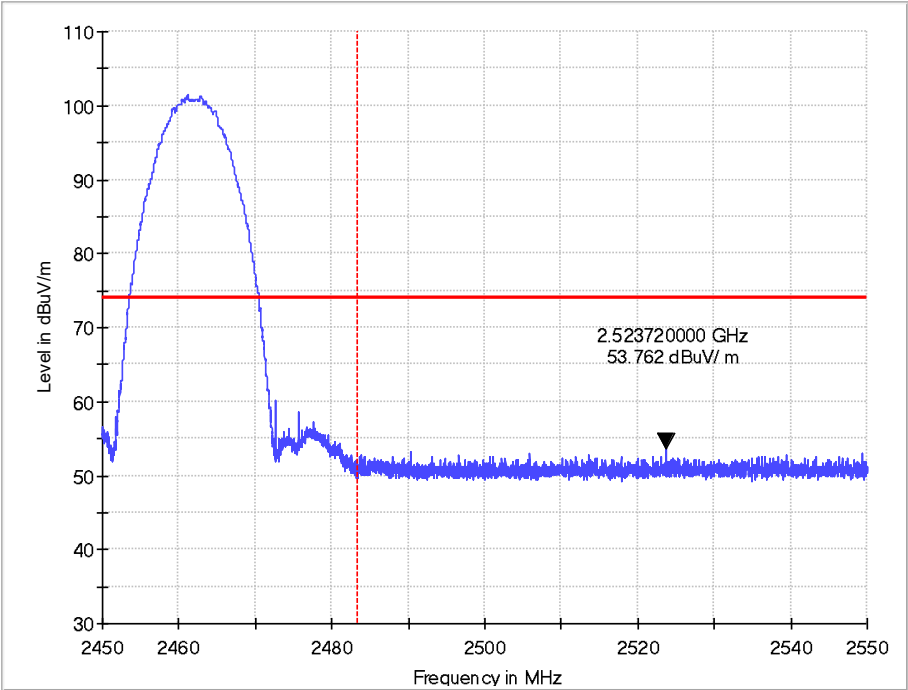
Band edge

11b
CH11

Horizontal



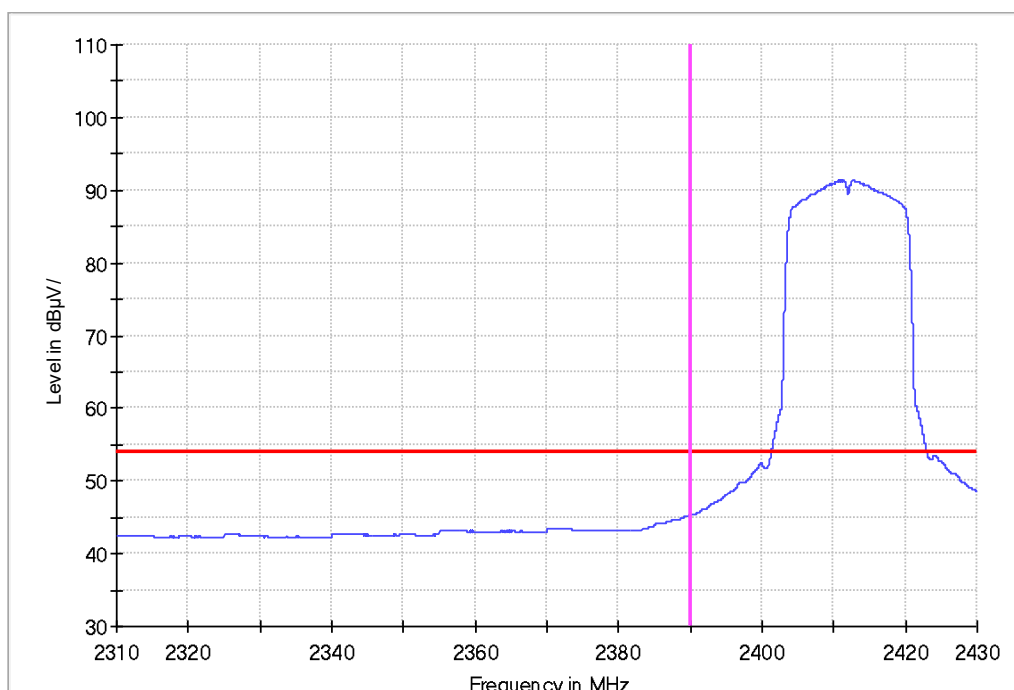
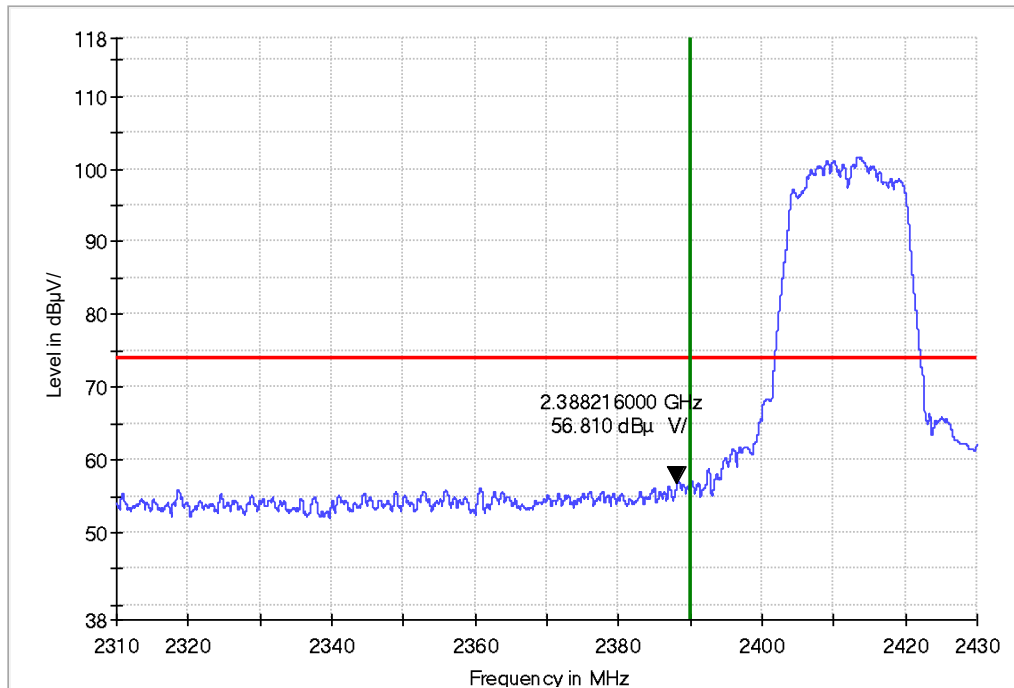
Vertical



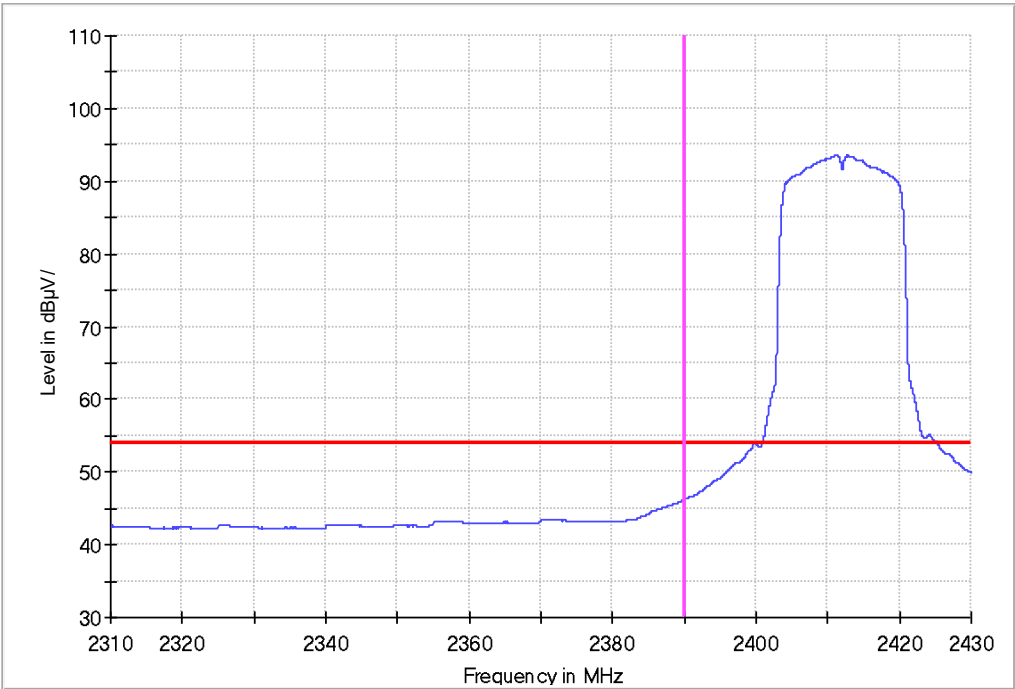
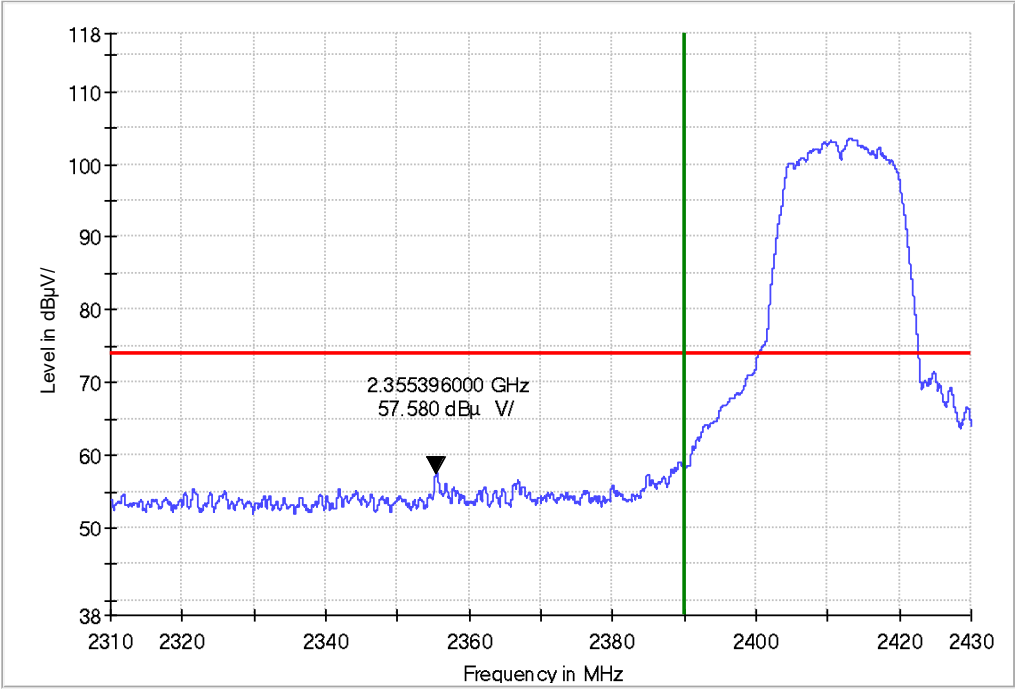
Band edge

11g
CH1

Horizontal



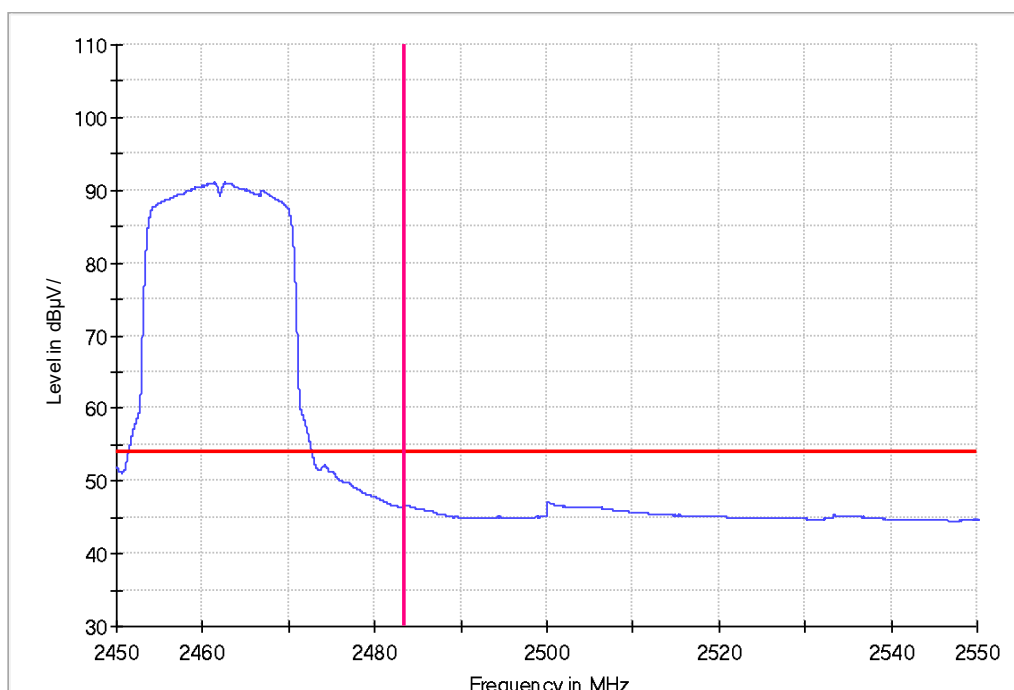
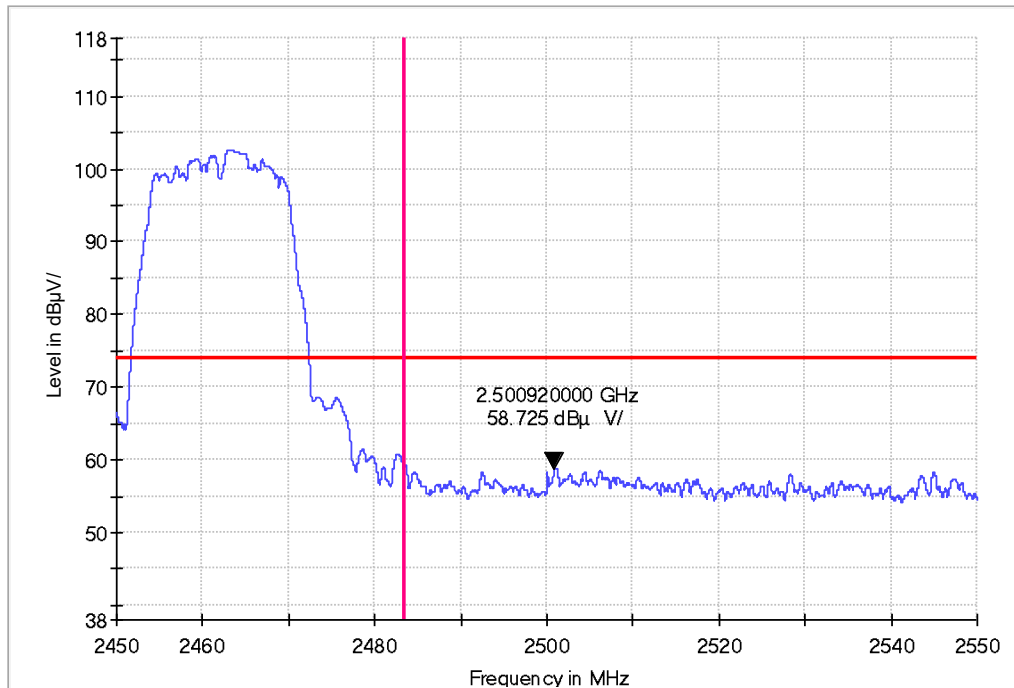
Vertical



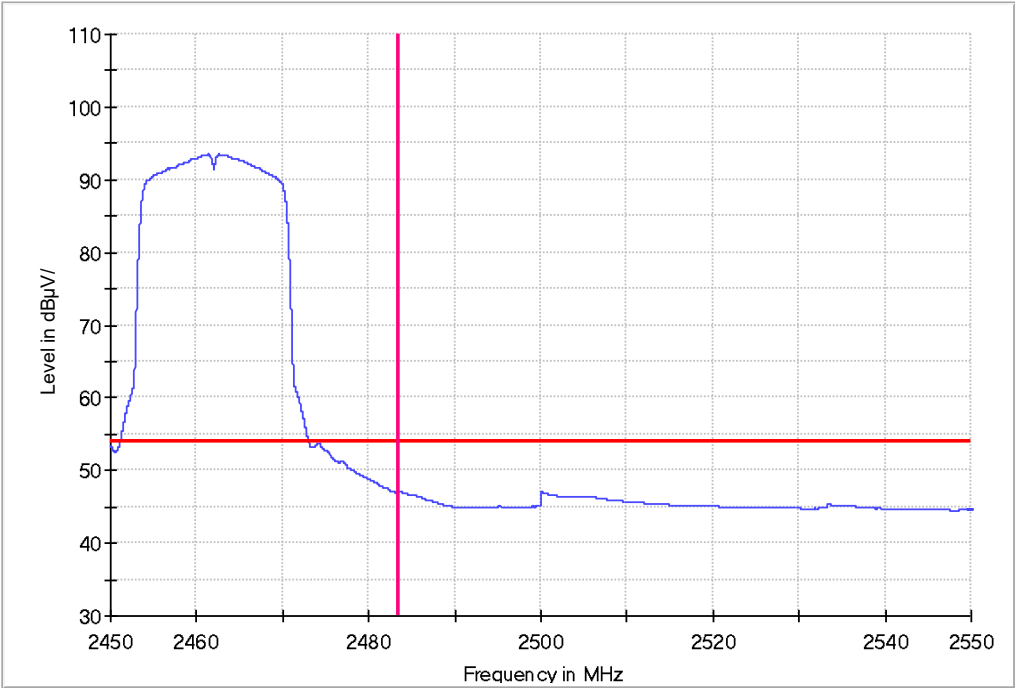
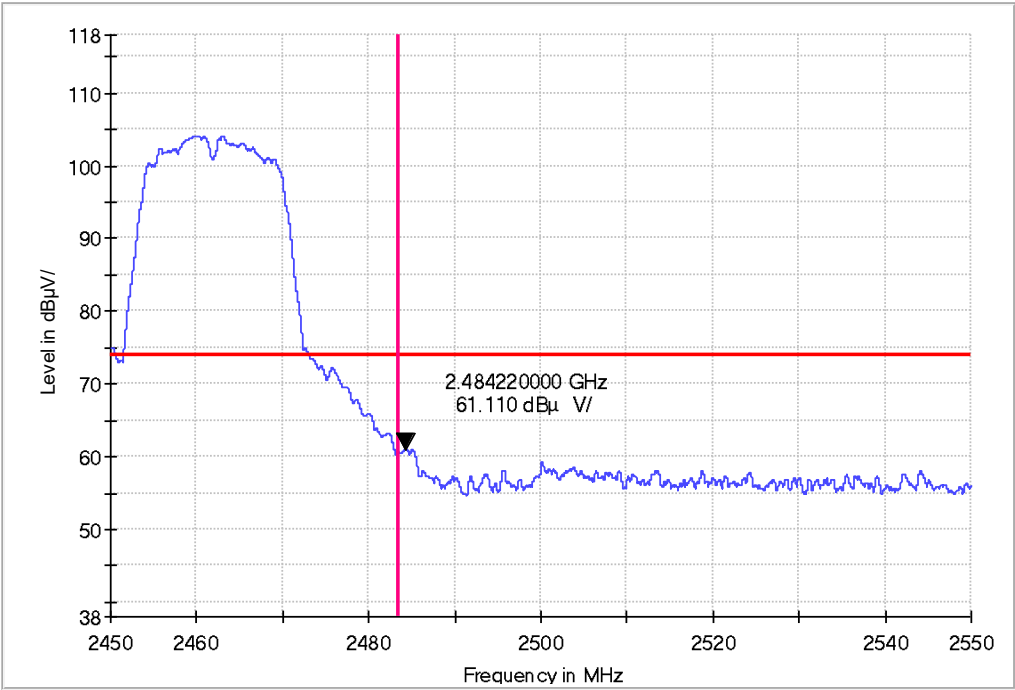
Band edge

11g
CH11

Horizontal



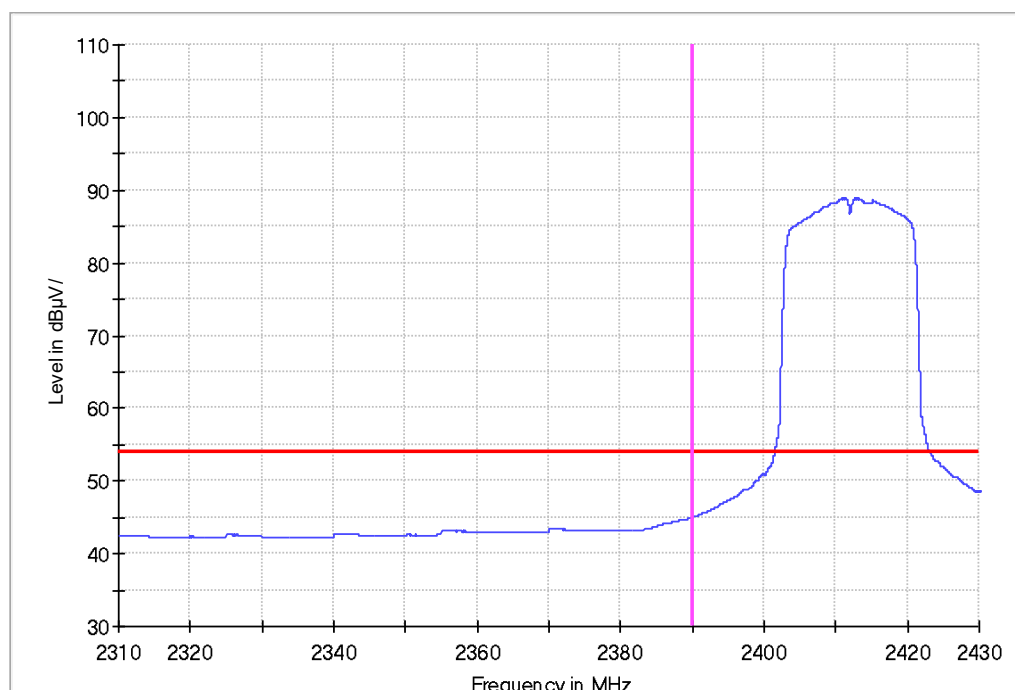
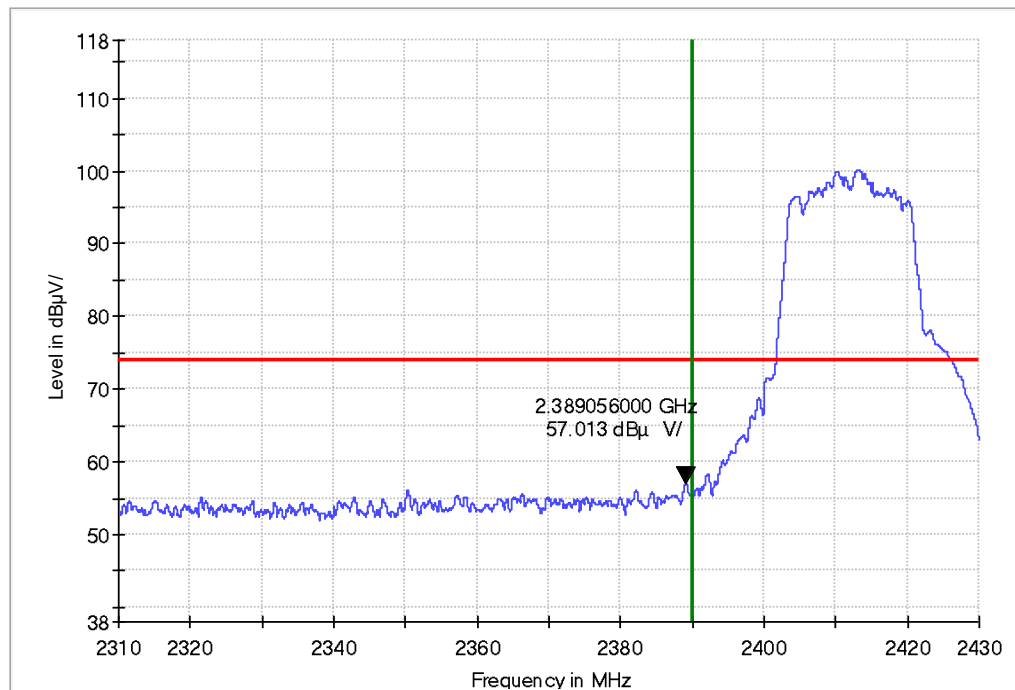
Vertical



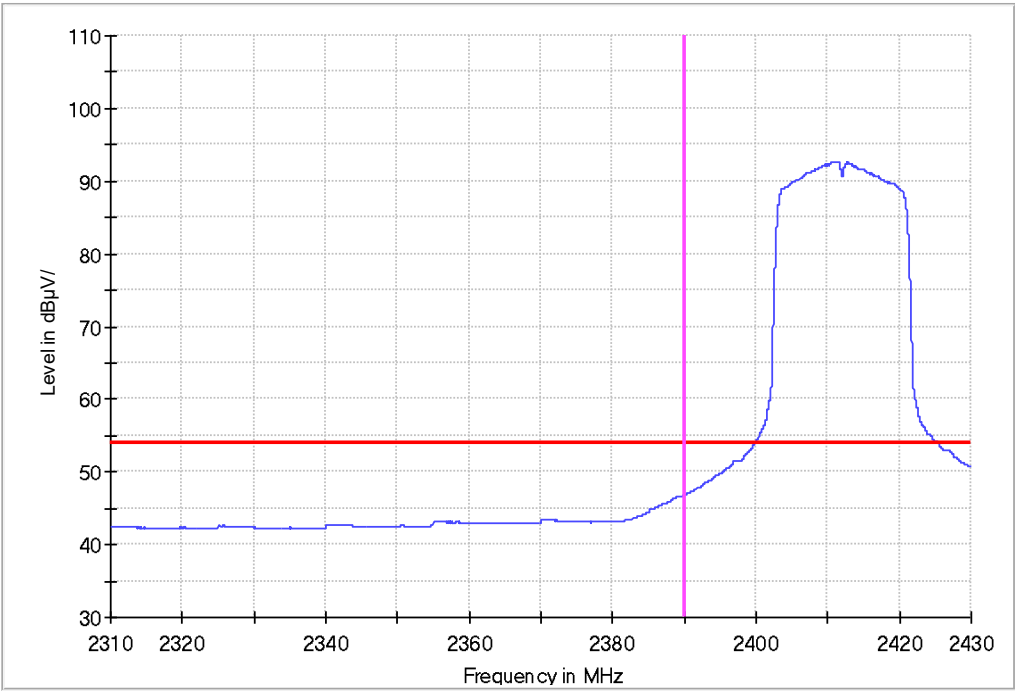
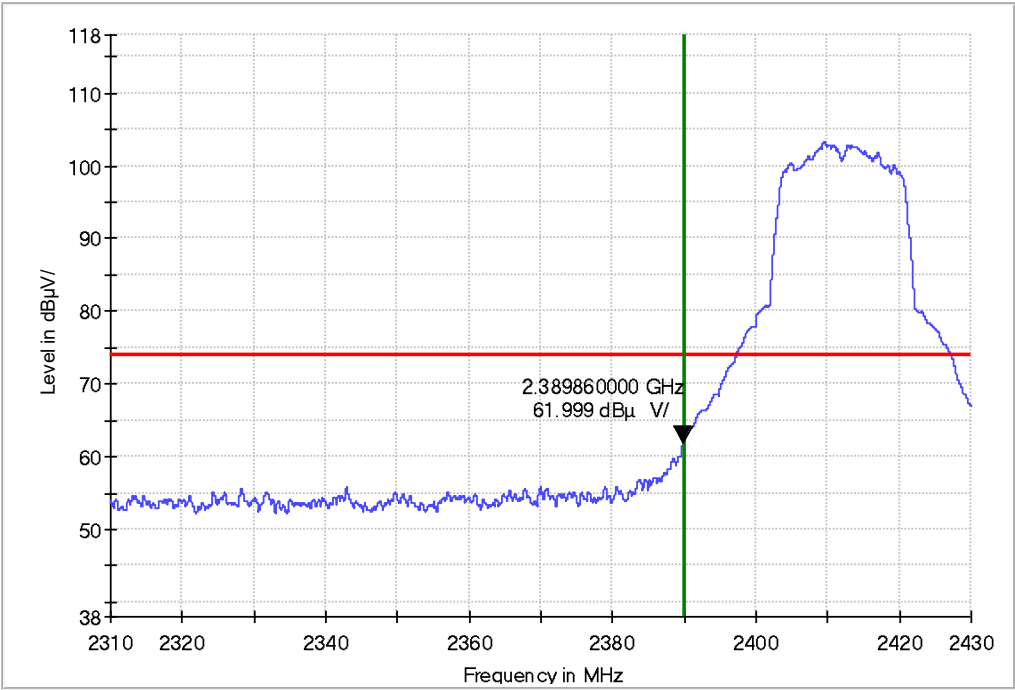
Band edge

11n-HT20
CH1

Horizontal



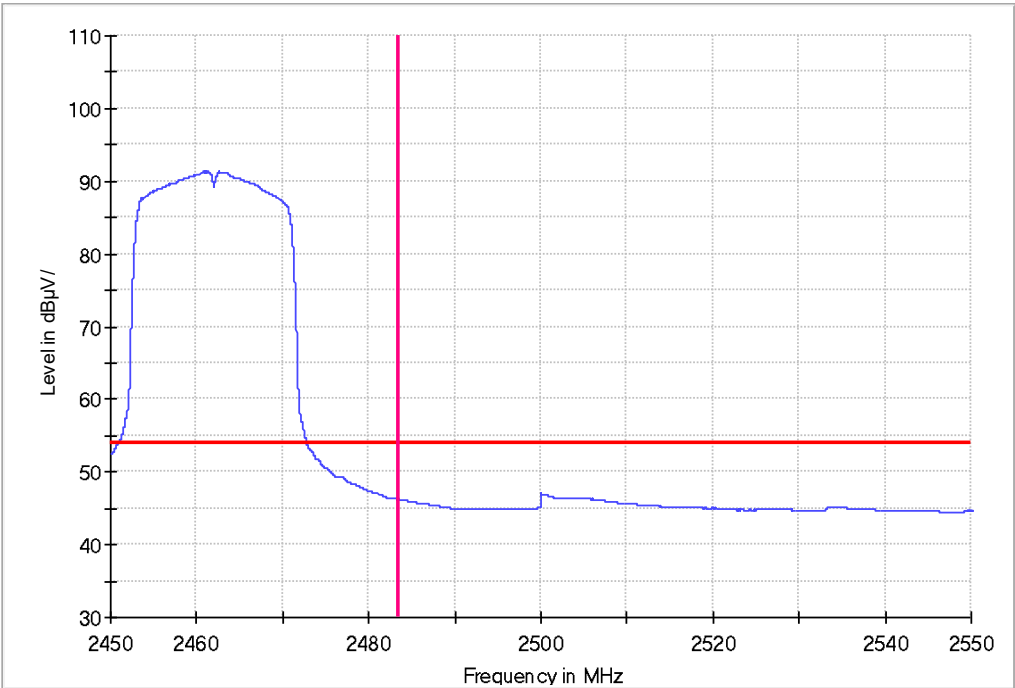
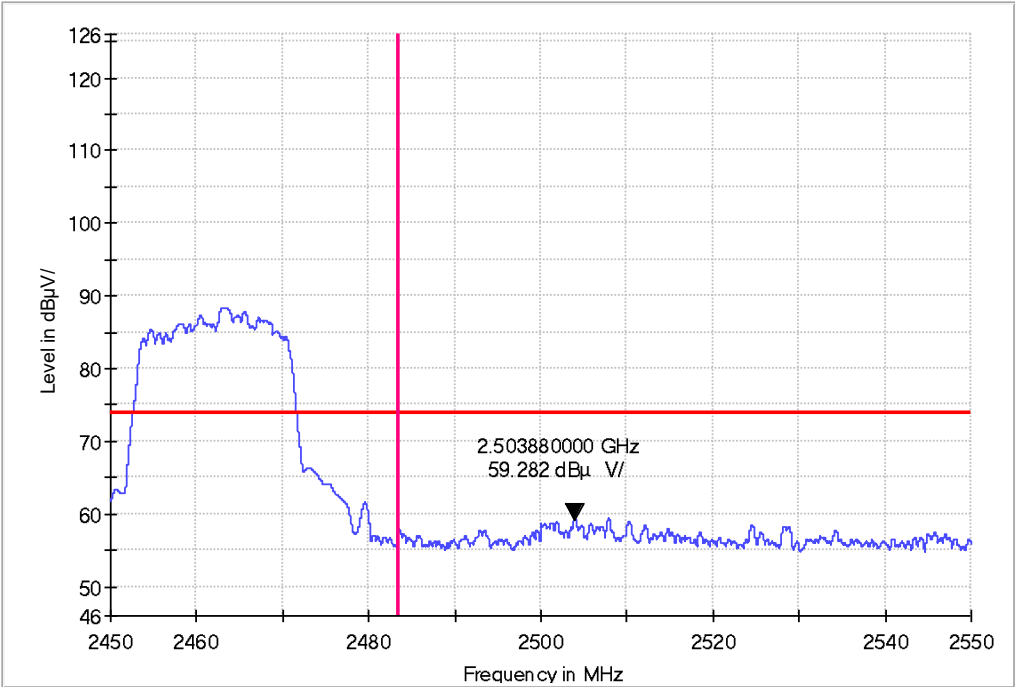
Vertical



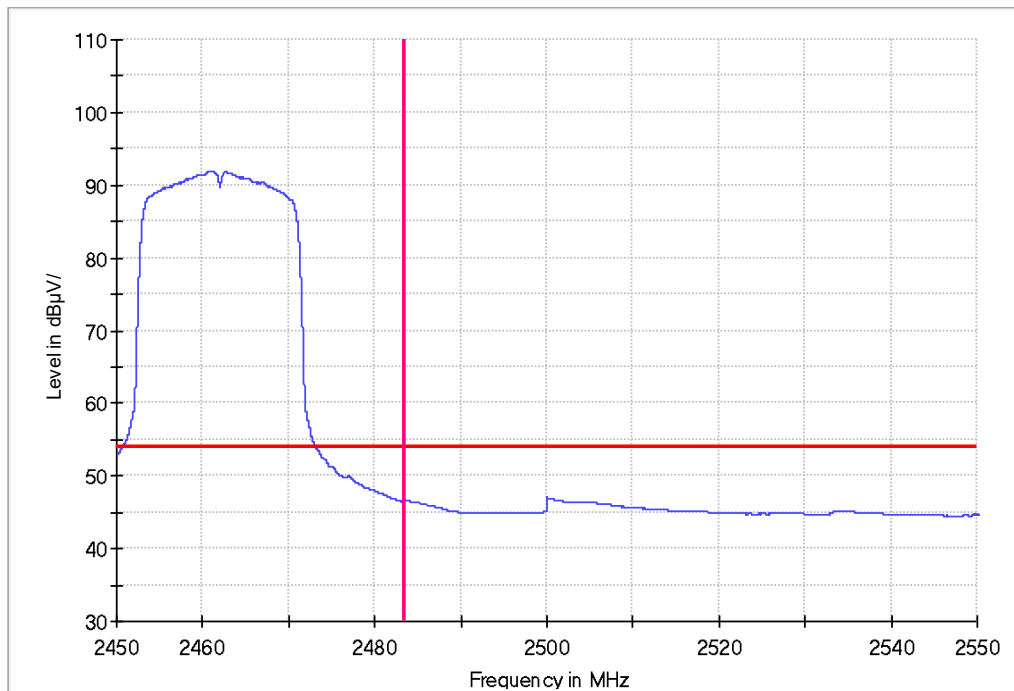
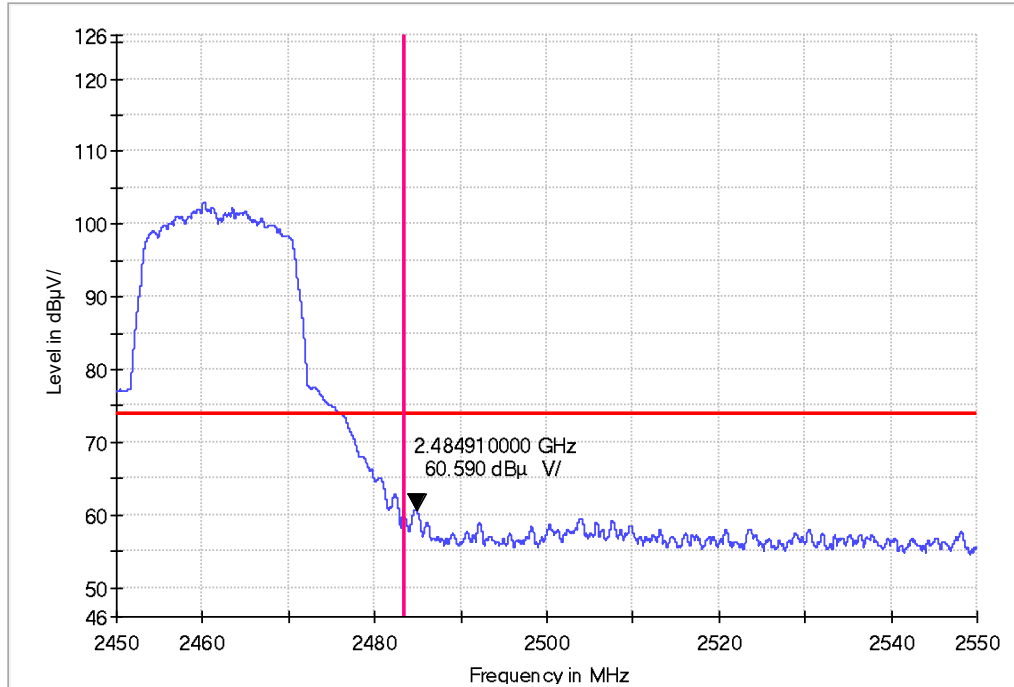
Band edge

11n-HT20
CH11

Horizontal



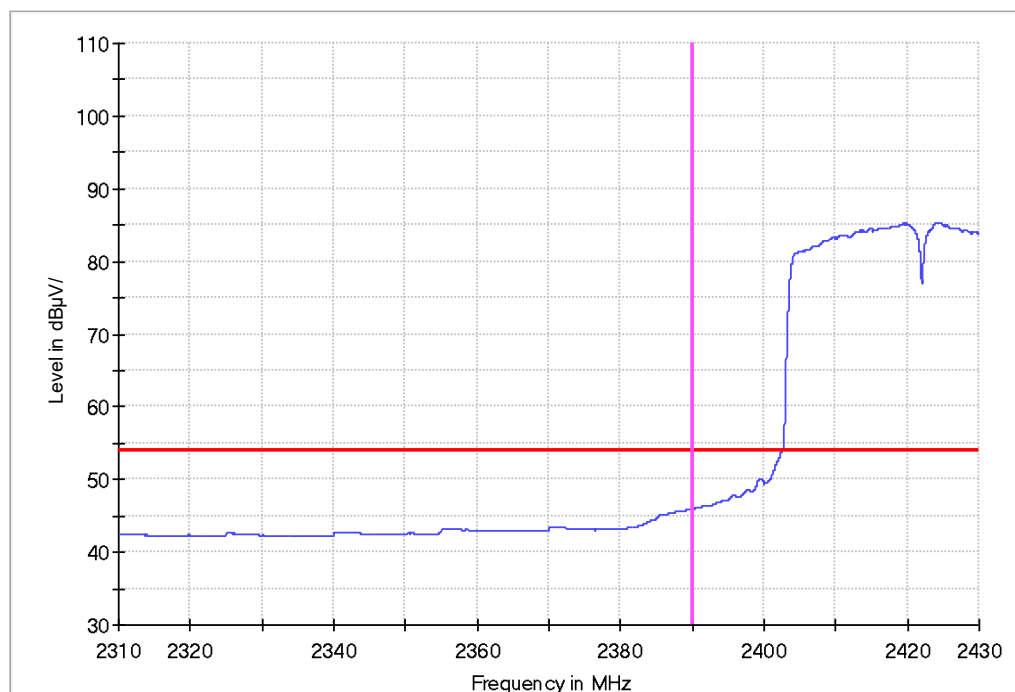
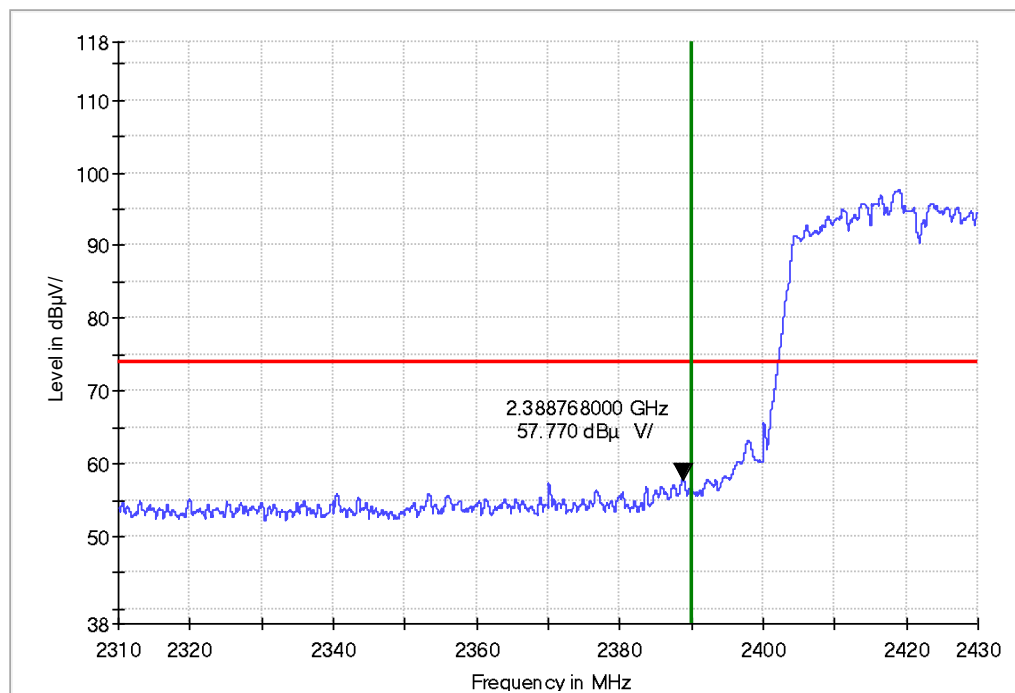
Vertical



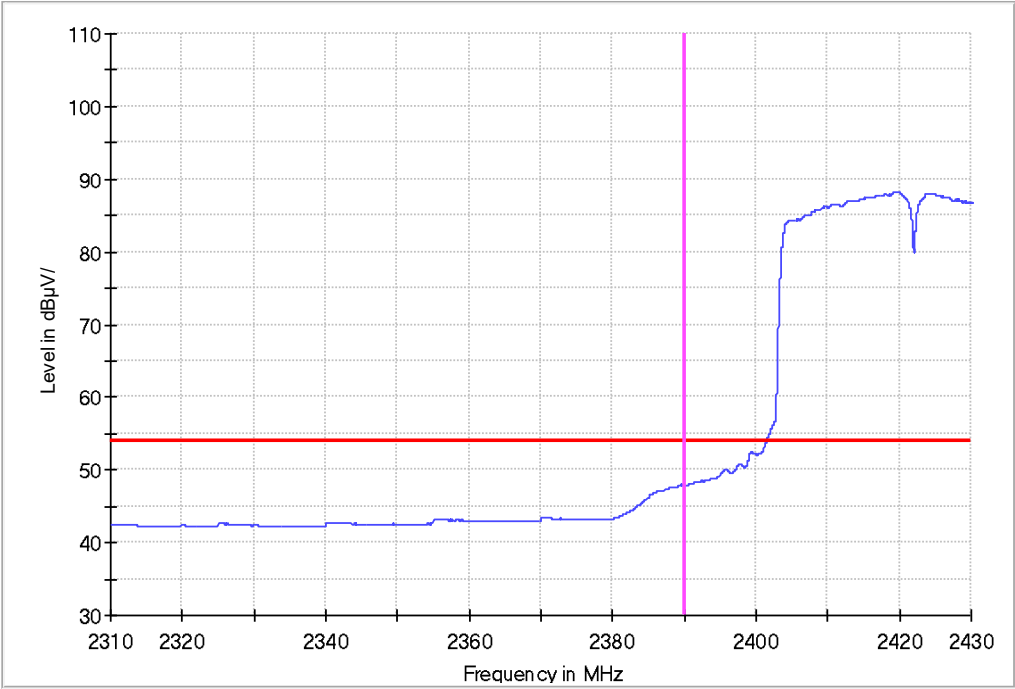
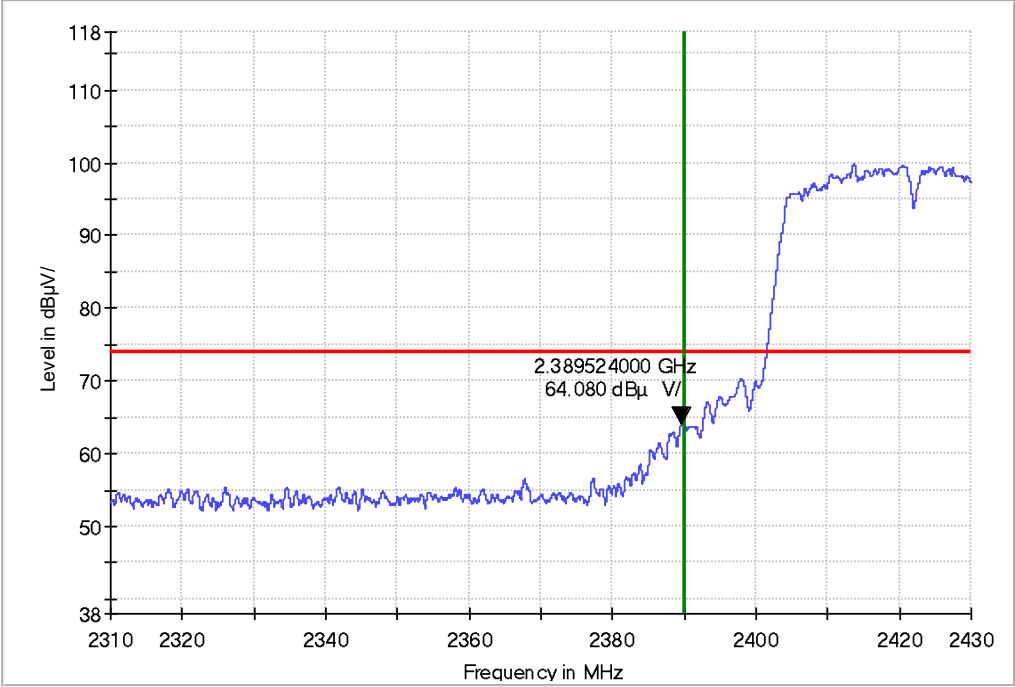
Band edge

11n-HT40
CH3

Horizontal



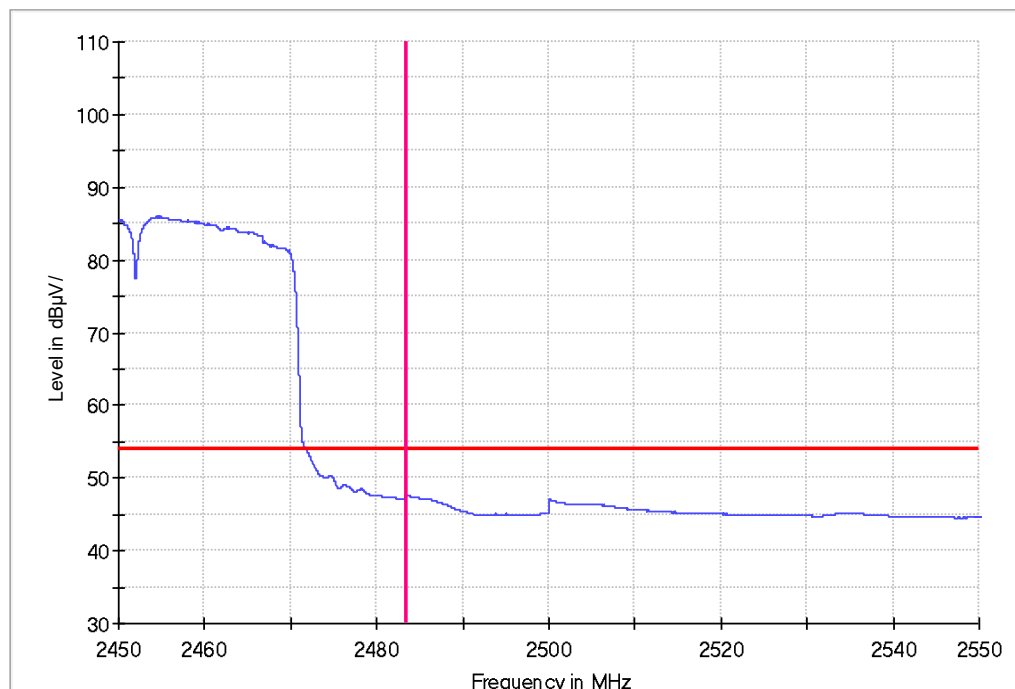
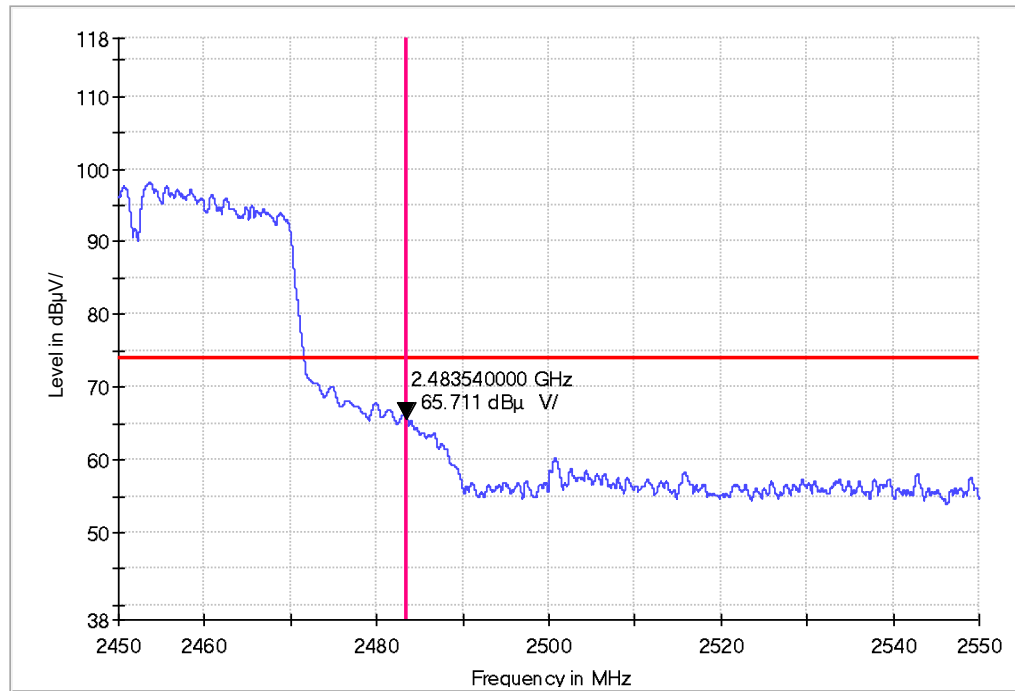
Vertical



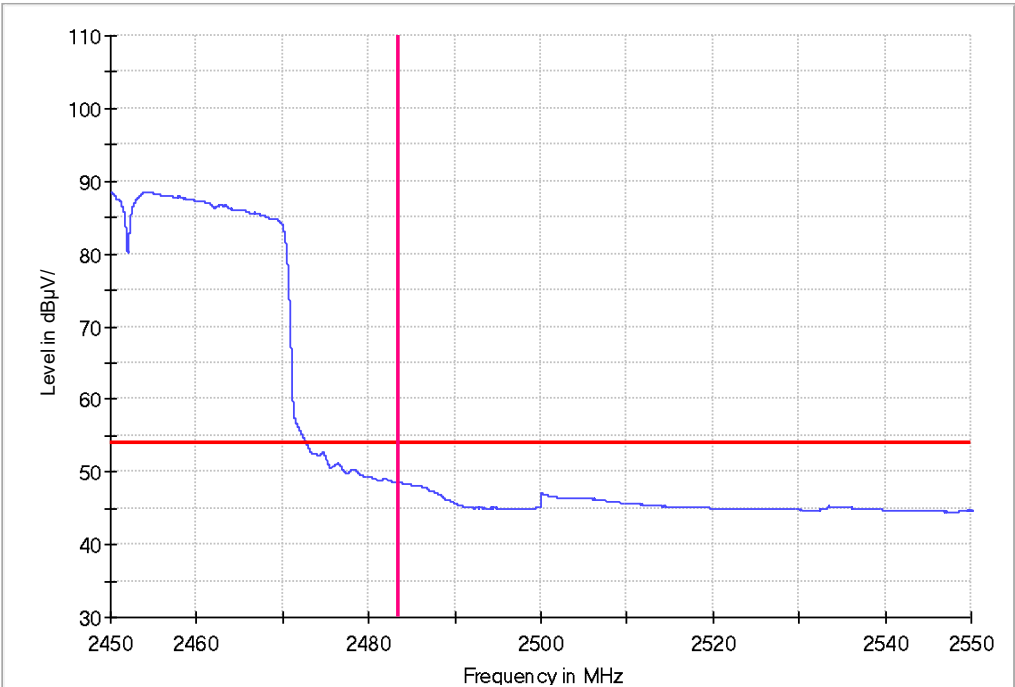
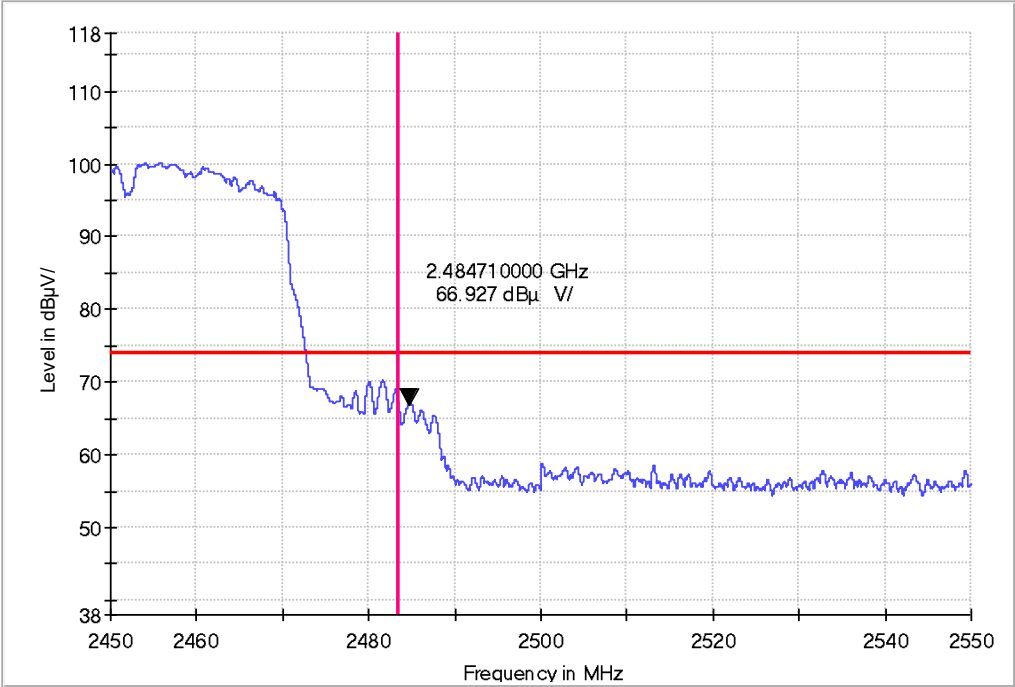
Band edge

11n-HT40
CH9

Horizontal



Vertical



12. CONDUCTED EMISSION TEST FOR AC POWER PORT MEASUREMENT

12.1. Test Standard and Limit

12.1.1. Test Standard

FCC Part 15 15.207
RSS-Gen Clause 8.8

12.1.2. Test Limit

Table 16 Conducted Disturbance Test Limit

Frequency	Maximum RF Line Voltage (dB μ V)	
	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.

12.2. 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 C63.10-2013. 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.

12.3. 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.

12.4. Test Data

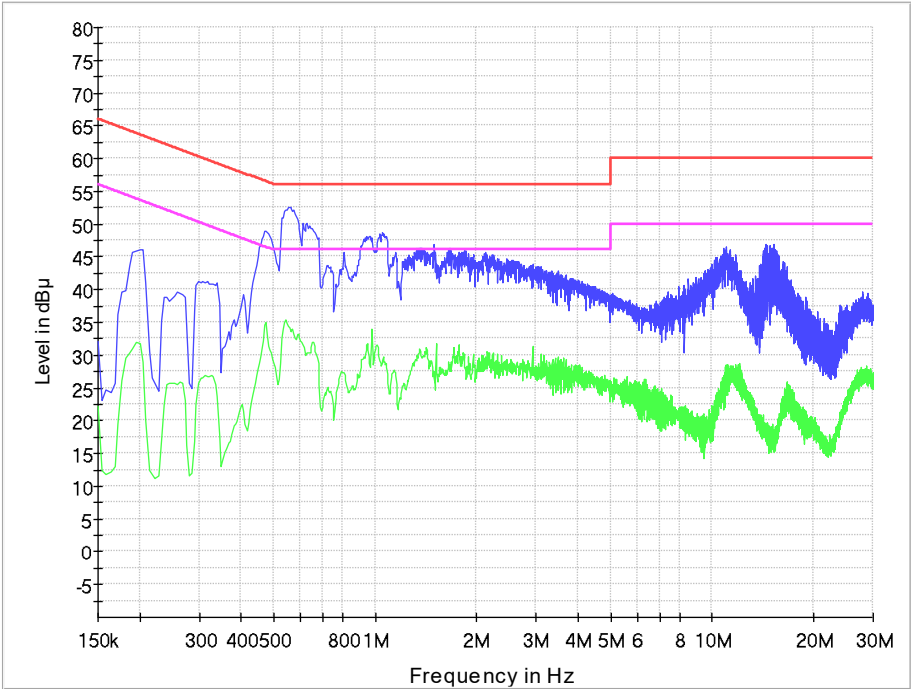
The emissions don't show in below are too low against the limits. Refer to the test curves.

Table 17 Conducted Emission Test Data

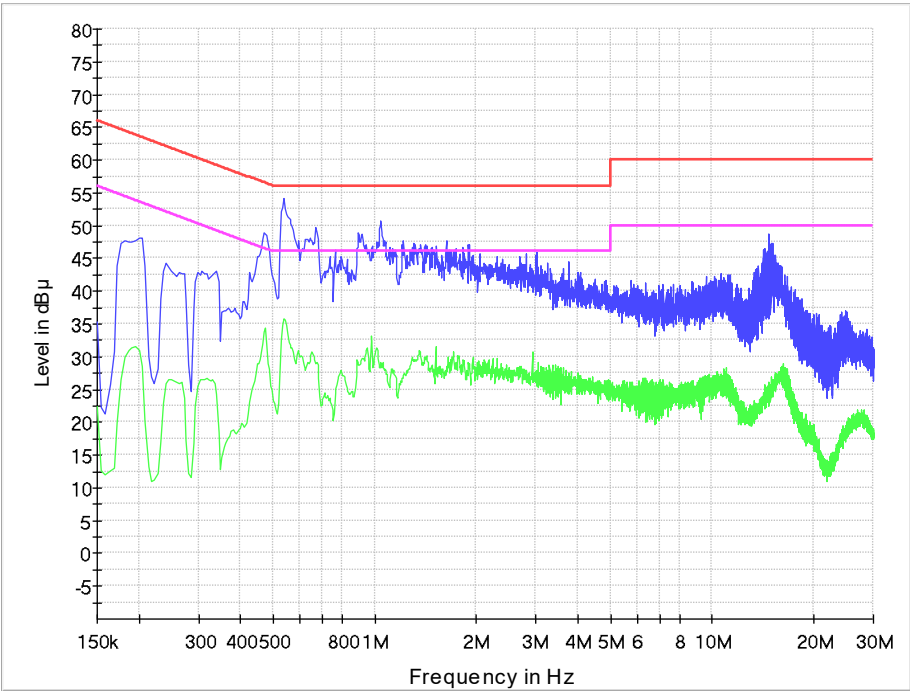
Test mode: Charging and Transmitting								
	Frequency (MHz)	Correction Factor (dB)	Quasi-Peak			Average		
			Reading (dB μ V)	Emission Level (dB μ V)	Limit (dB μ V)	Reading (dB μ V)	Emission Level (dB μ V)	Limit (dB μ V)
Line	0.474	9.7	38.0	47.7	56.4	35.4	25.7	46.4
	0.555	9.8	40.4	50.2	56	34.0	24.2	46
	0.627	9.8	37.1	46.9	56	30.6	20.8	46
	0.945	9.8	35.6	45.4	56	31.9	22.1	46
	1.050	9.8	36.6	46.4	56	31.1	21.3	46
	1.495	9.8	33.1	42.9	56	28.2	18.4	46
Neutral	0.469	9.7	36.7	46.4	56.5	34.0	24.3	46.5
	0.537	9.8	39.4	49.2	56	35.8	26.0	46
	0.667	9.8	34.6	44.4	56	29.9	20.1	46
	0.892	9.8	33.3	43.1	56	29.7	19.9	46
	1.041	9.8	34.9	44.7	56	29.2	19.4	46
	1.891	9.8	30.4	40.2	56	29.4	19.6	46

REMARKS: 1. Emission level (dB μ V) = Read Value (dB μ V) + 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



13. 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.

According to RSS-GEN Section 6.8, 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.

13.1. Antenna Connector

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

13.2. Antenna Gain

The antenna gain of EUT is less than 6 dBi.

END OF REPORT