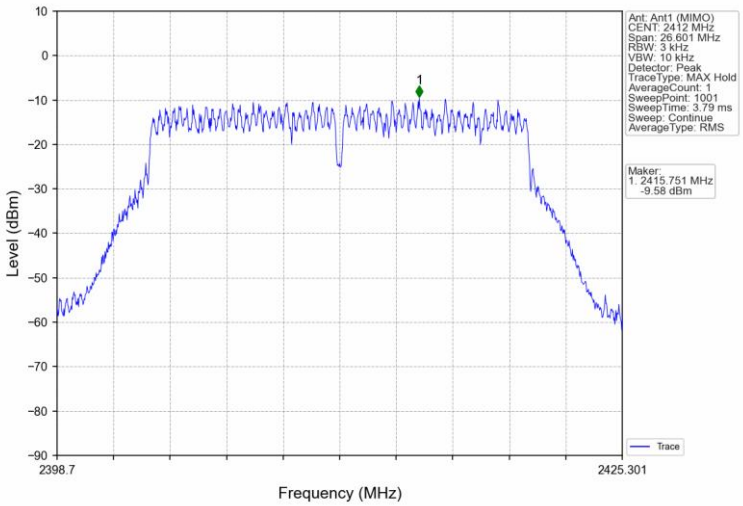
802.11n(HT20)_LCH_2412MHz_Ant1 (MIMO)_NTNV



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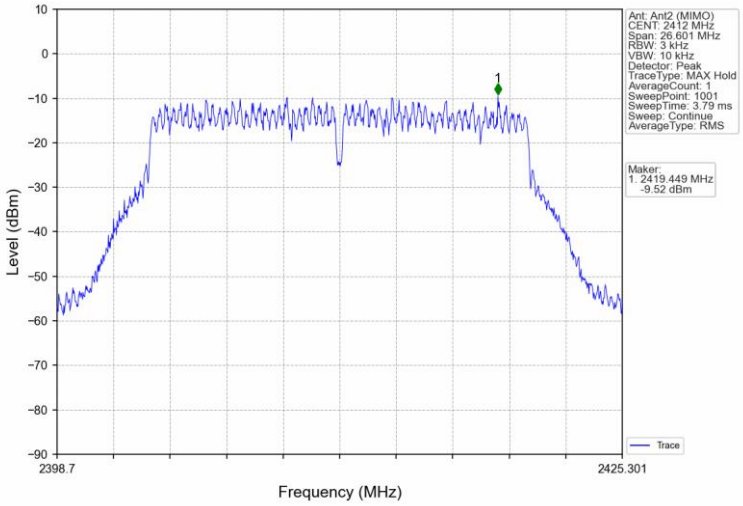
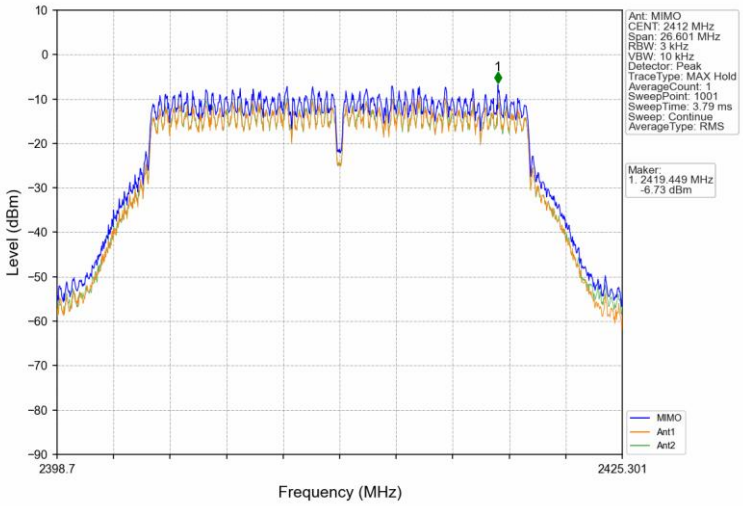


802.11n(HT20)_LCH_2412MHz_MIMO_NTNV



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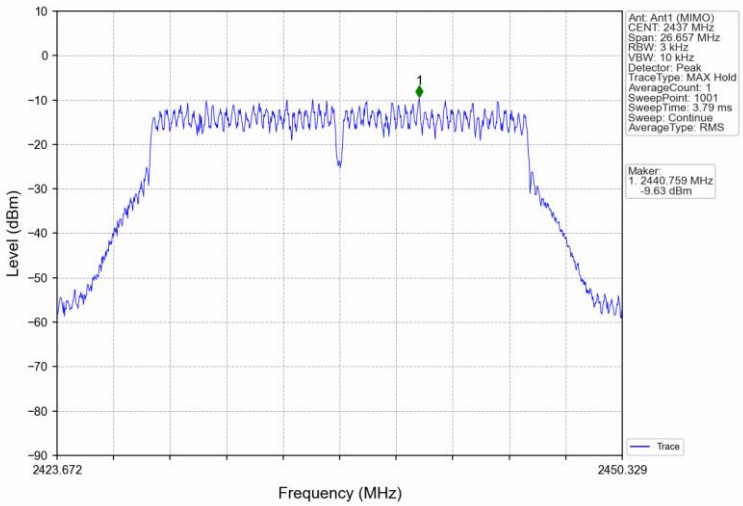
802.11n(HT20)_MCH_2437MHz_Ant1 (MIMO)_NTNV



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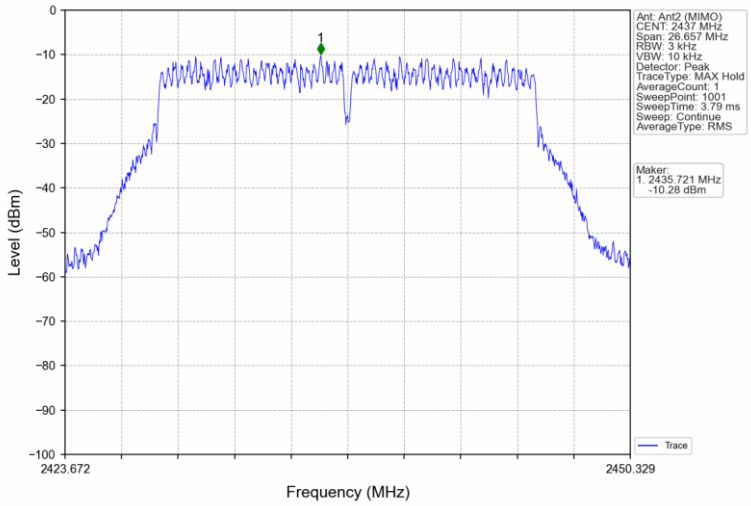

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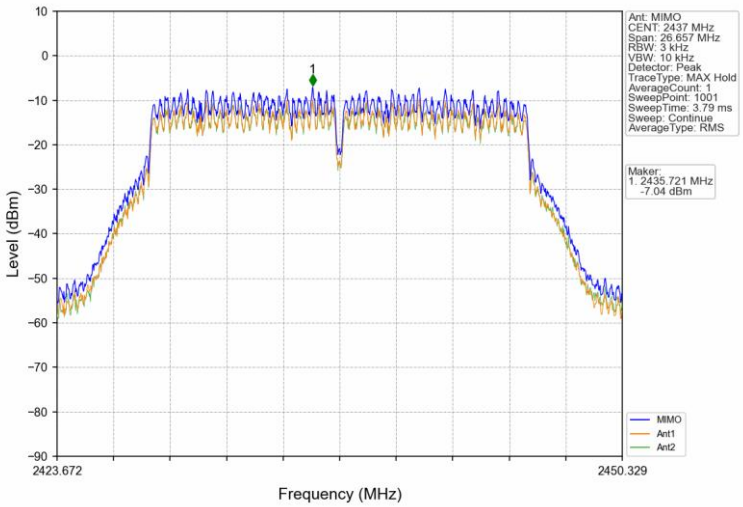

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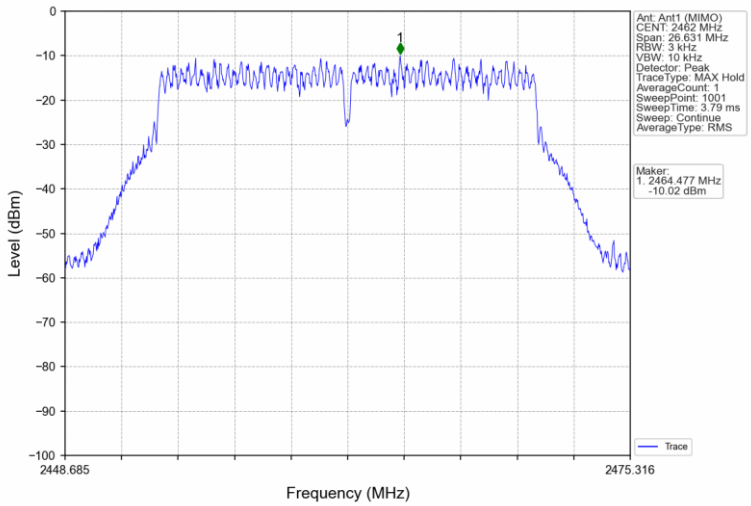
802.11n(HT20)_HCH_2462MHz_Ant1 (MIMO)_NTNV



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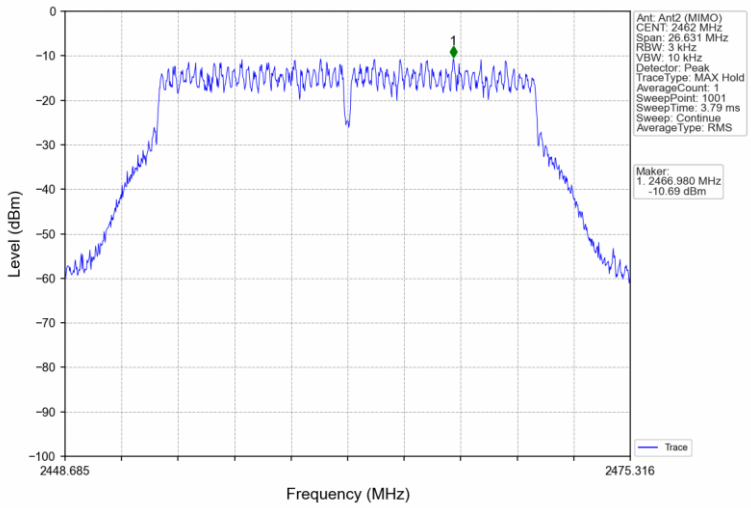
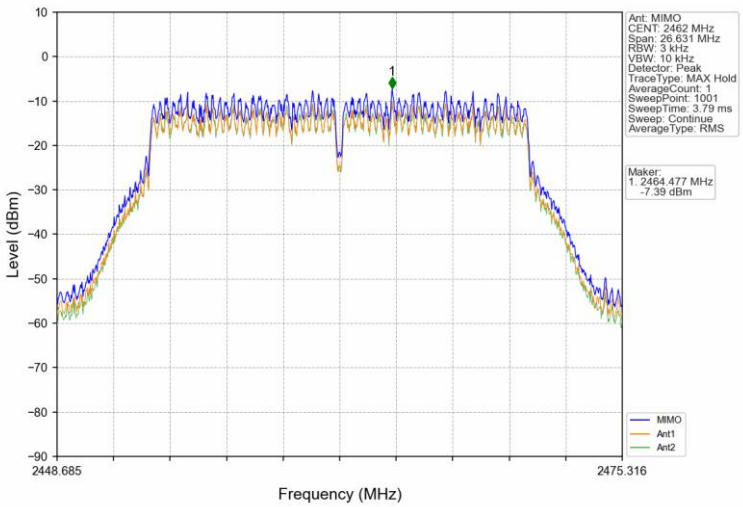


802.11n(HT20)_HCH_2462MHz_MIMO_NTNV



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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

According to §15.247(d), Spurious RF Conducted Emissions limit as below:

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

Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)
802.11b	SISO	2412	1	9.35
			2	8.59
		2437	1	9.51
			2	8.57
		2462	1	9.26
			2	7.92
802.11g	SISO	2412	1	4.82
			2	4.69
		2437	1	4.64
			2	4.59
		2462	1	4.68
			2	4.12
802.11n (HT20)	MIMO	2412	1	3.86
			2	4.22
		2437	1	4.00
			2	4.06
		2462	1	3.69
			2	3.35
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10, the channel contains the maximum PSD level was used to establish the reference level.				

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Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
802.11b	SISO	2412	1	9.51	-10.49	Pass
			2	8.59	-11.41	Pass
		2437	1	9.51	-10.49	Pass
			2	8.59	-11.41	Pass
		2462	1	9.51	-10.49	Pass
			2	8.59	-11.41	Pass
802.11g	SISO	2412	1	4.82	-15.18	Pass
			2	4.69	-15.31	Pass
		2437	1	4.82	-15.18	Pass
			2	4.69	-15.31	Pass
		2462	1	4.82	-15.18	Pass
			2	4.69	-15.31	Pass
802.11n (HT20)	MIMO	2412	1	4.00	-16.00	Pass
			2	4.22	-15.78	Pass
		2437	1	4.00	-16.00	Pass
			2	4.22	-15.78	Pass
		2462	1	4.00	-16.00	Pass
			2	4.22	-15.78	Pass
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10, the channel contains the maximum PSD level was used to establish the reference level.						

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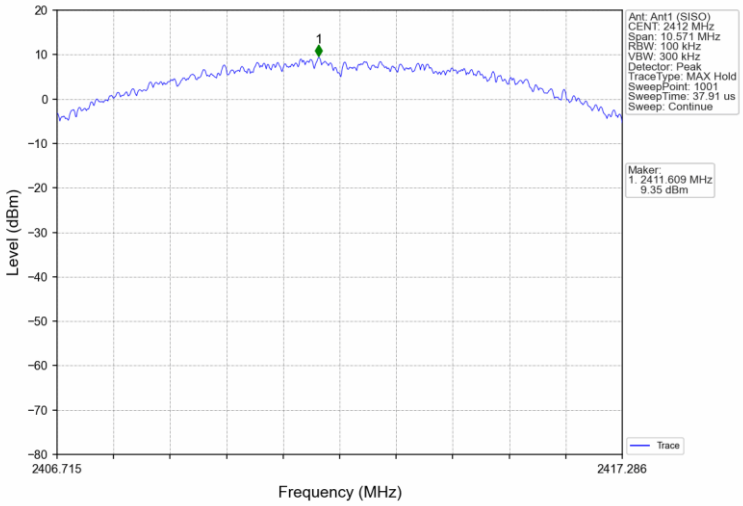
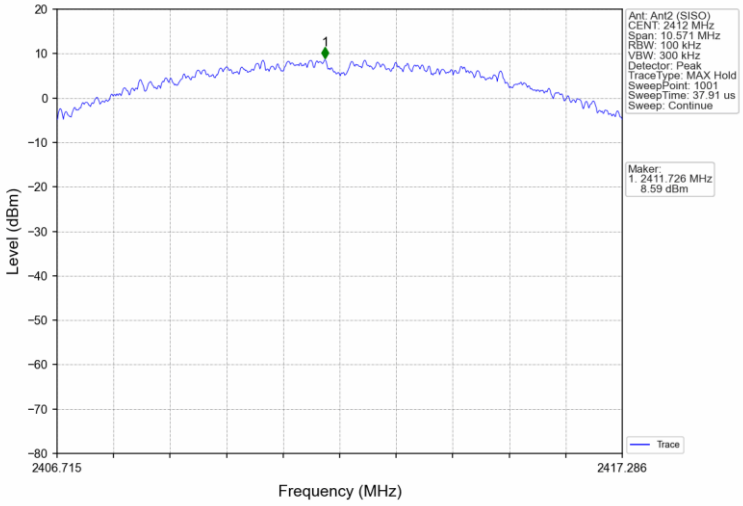
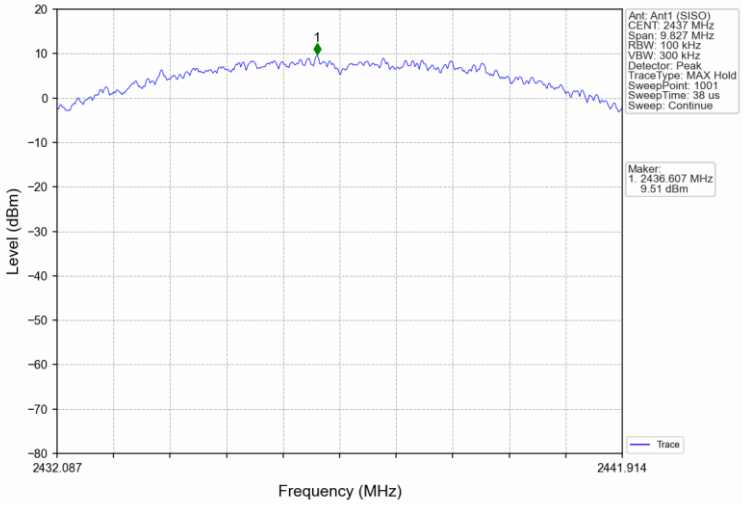
802.11b_LCH_2412MHz_Ant1 (SISO)_NTNV



802.11b_LCH_2412MHz_Ant2 (SISO)_NTNV



802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



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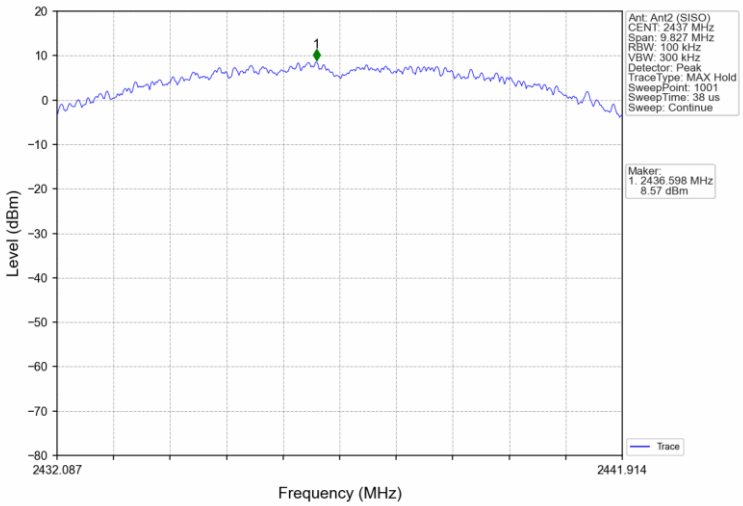
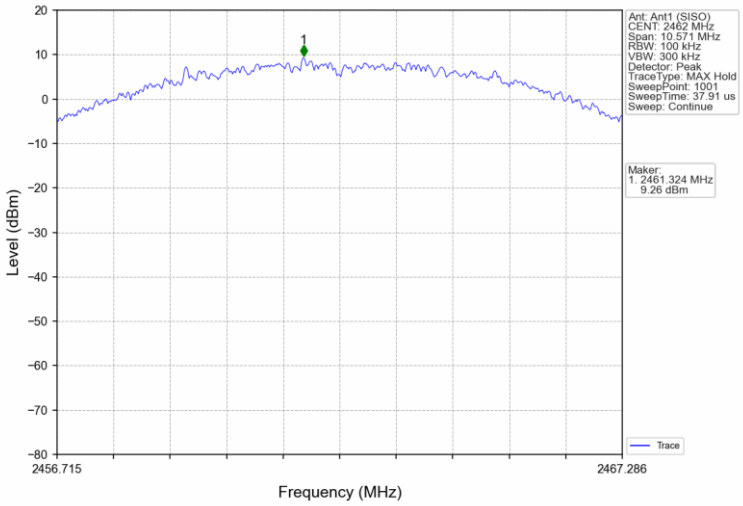
802.11b_MCH_2437MHz_Ant2 (SISO)_NTNV



802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



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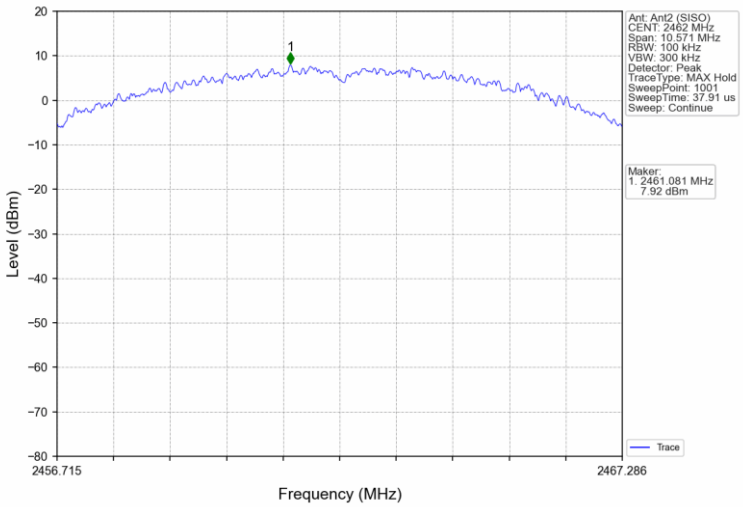

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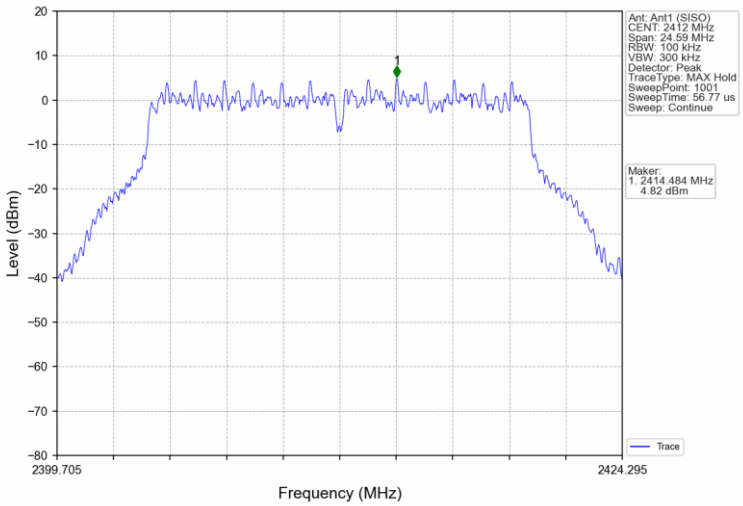
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



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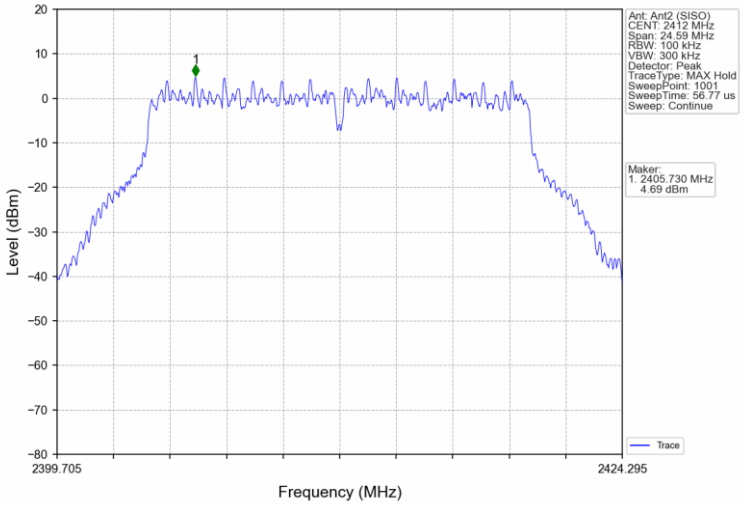

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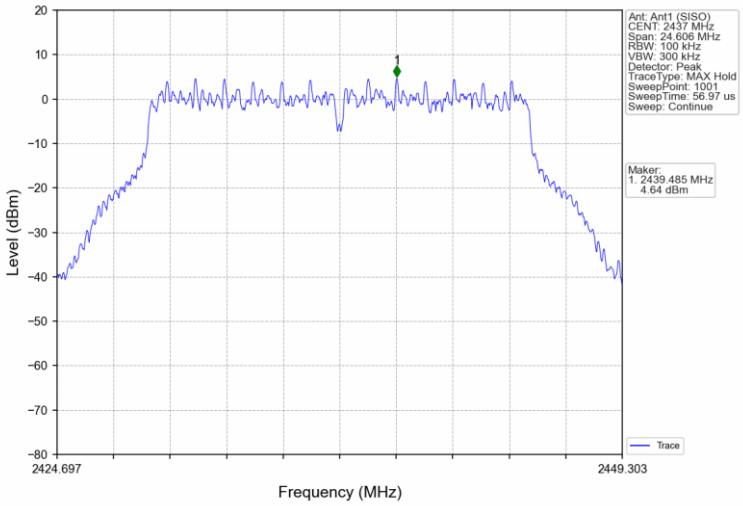

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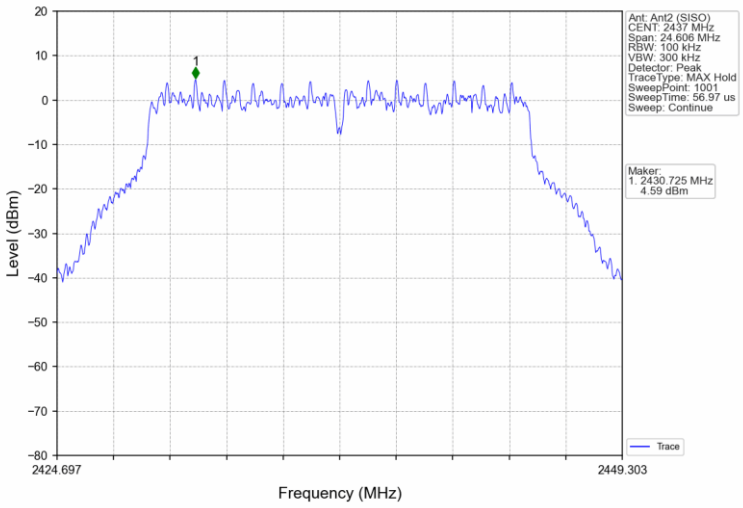
802.11g_MCH_2437MHz_Ant2 (SISO)_NTNV



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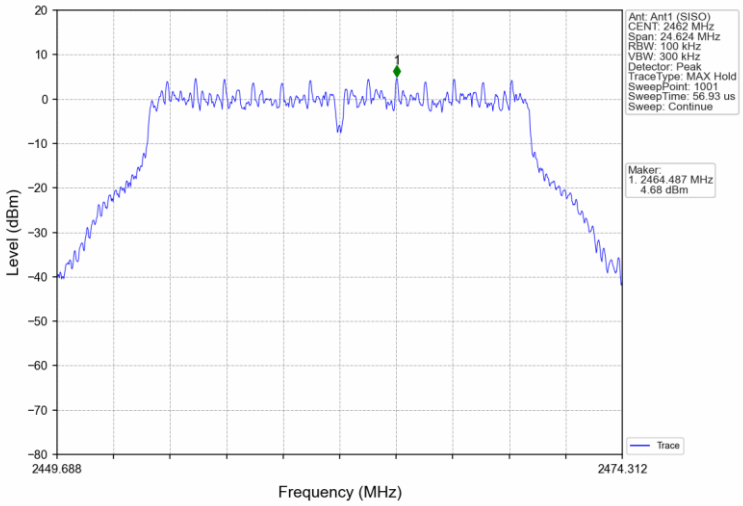

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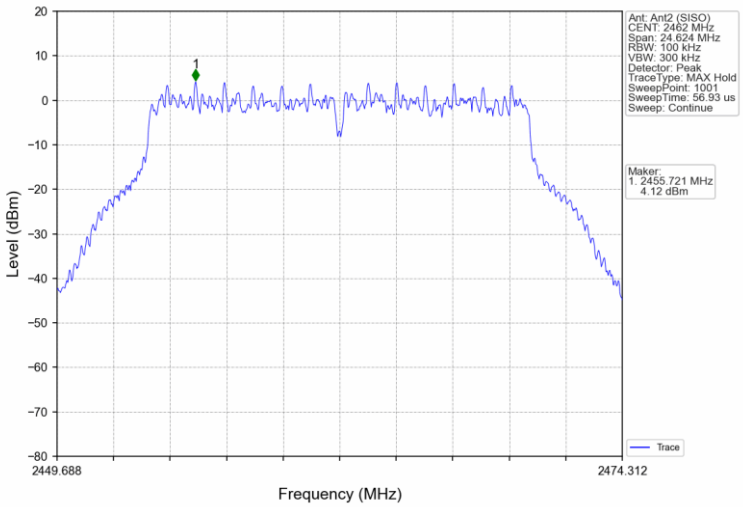

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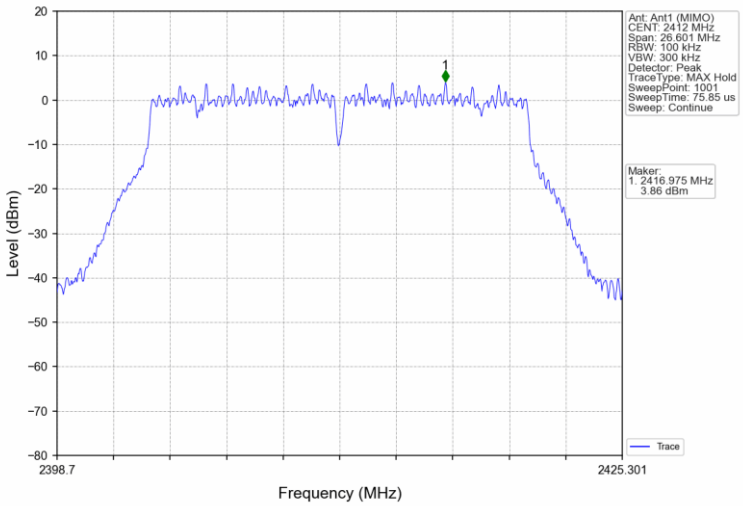
802.11n(HT20)_LCH_2412MHz_Ant1 (MIMO)_NTNV



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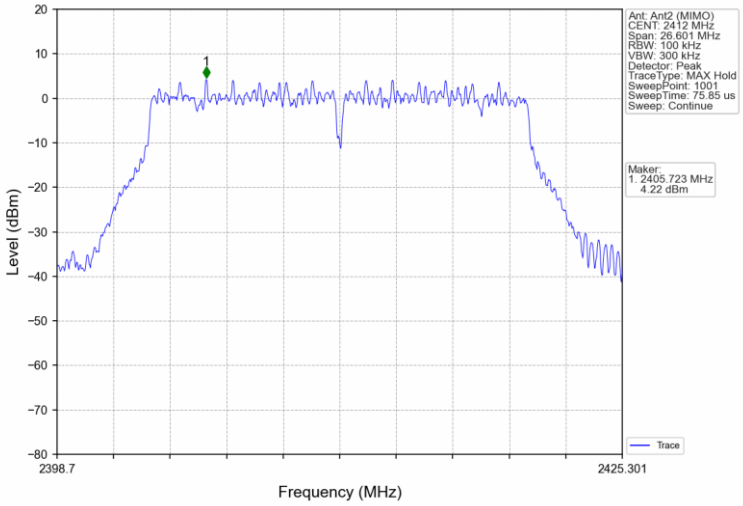

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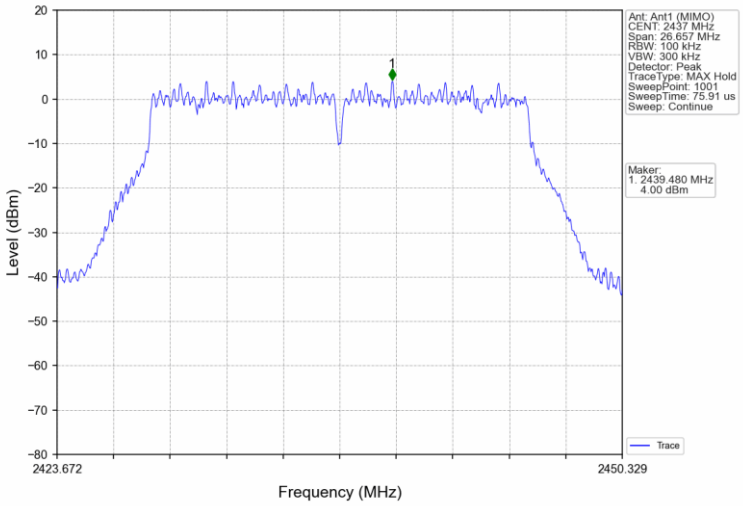

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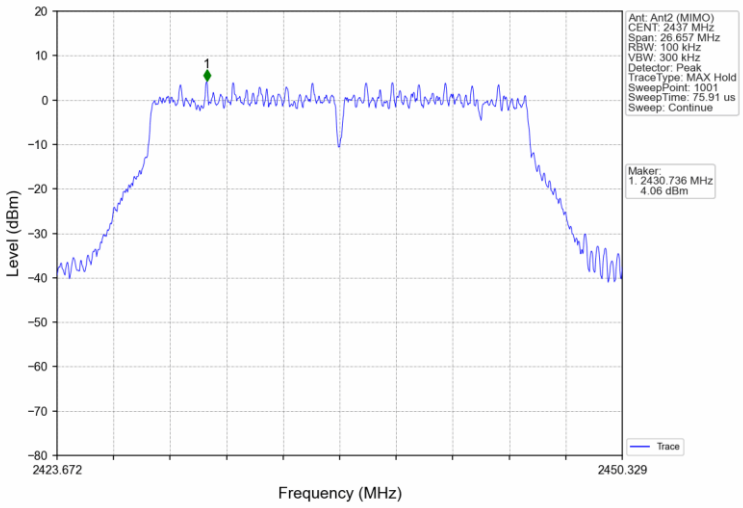
802.11n(HT20)_MCH_2437MHz_Ant2 (MIMO)_NTNV



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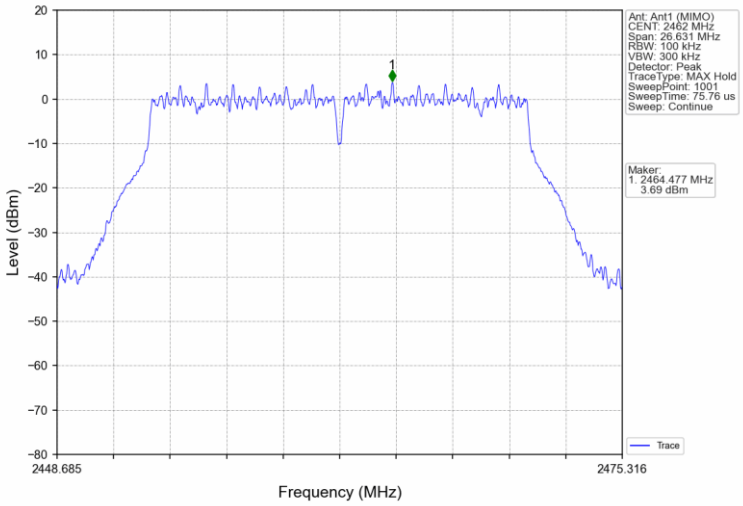

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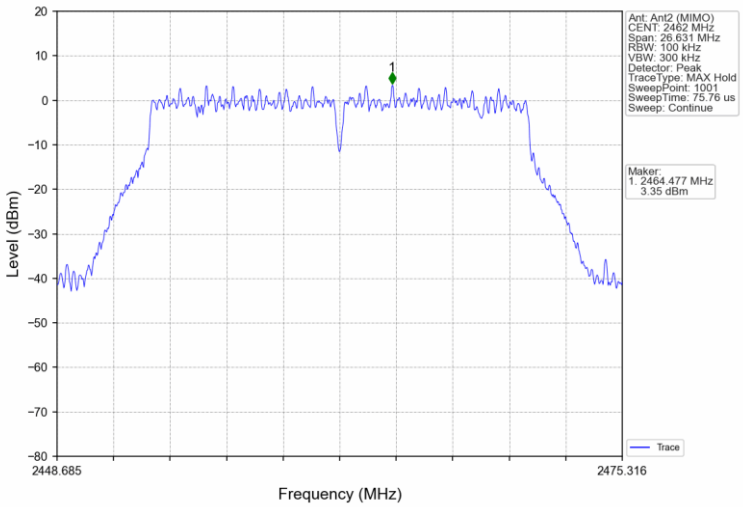

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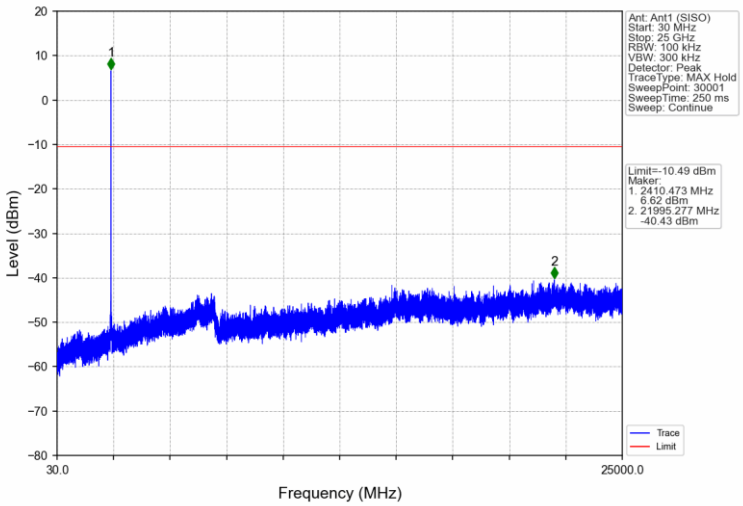
802.11b_LCH_2412MHz_Ant1 (SISO)_NTNV



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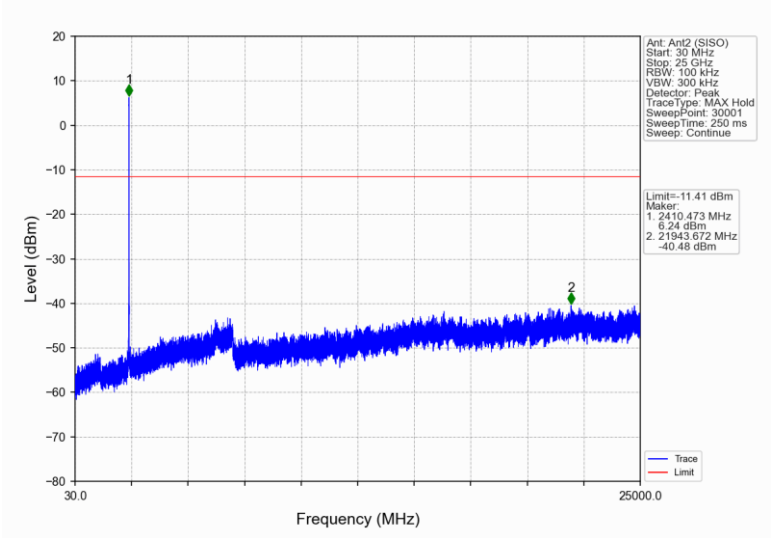
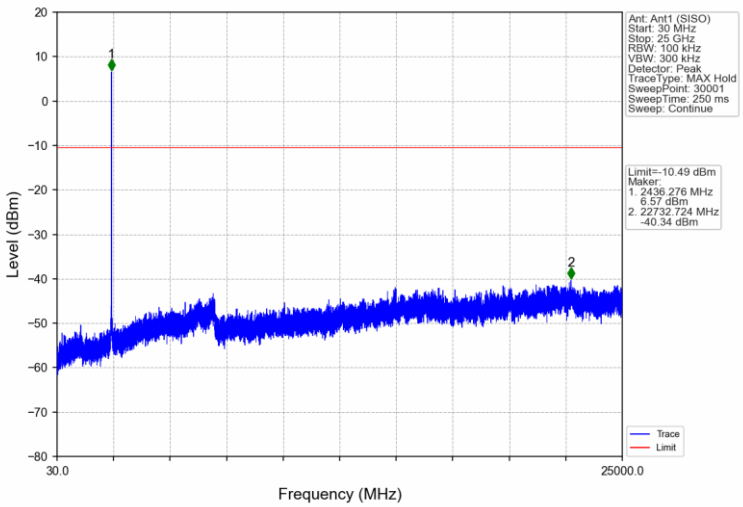


802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



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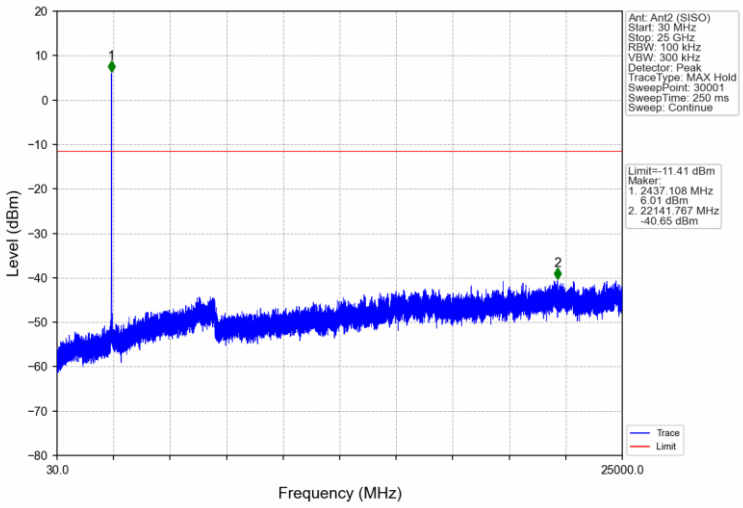
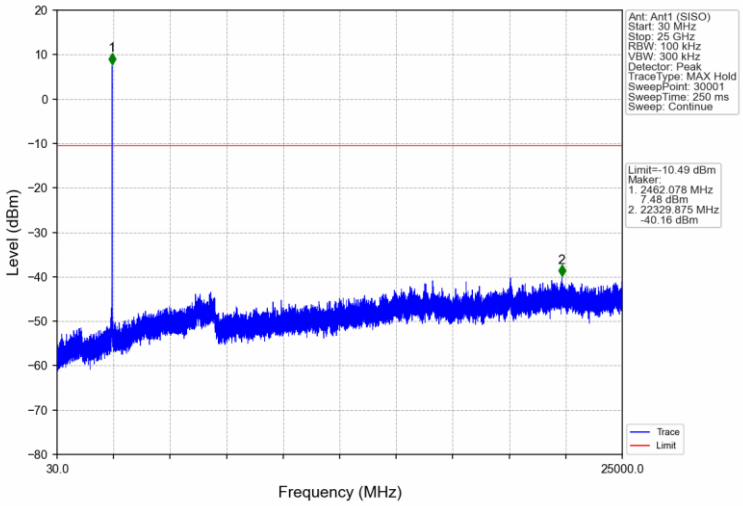
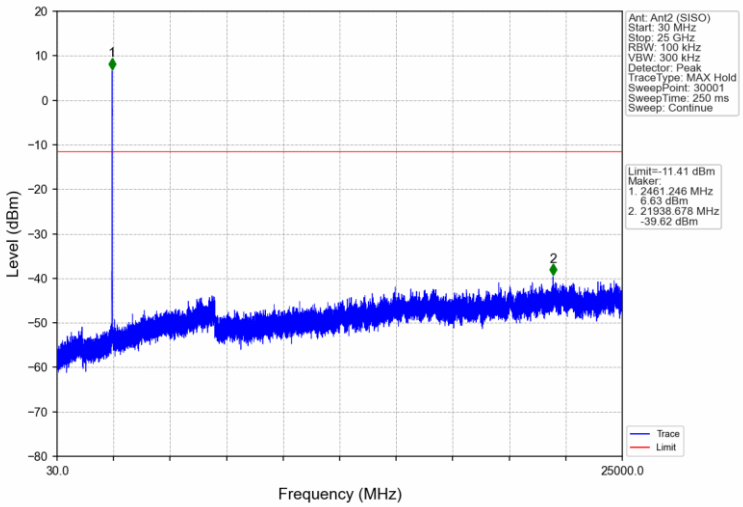
802.11b_MCH_2437MHz_Ant2 (SISO)_NTNV



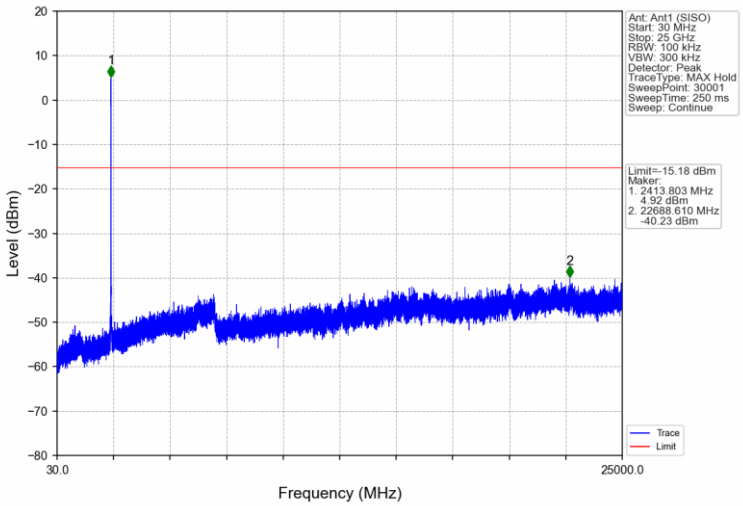
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



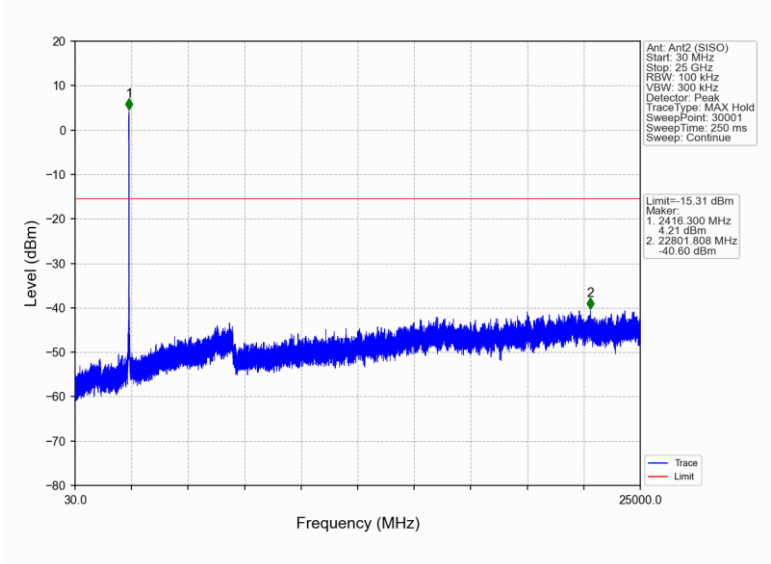
802.11b_HCH_2462MHz_Ant2 (SISO)_NTNV



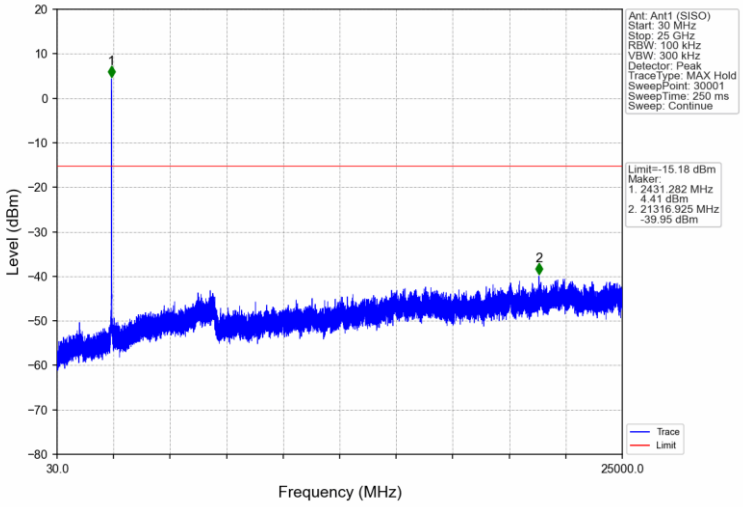
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



802.11g_LCH_2412MHz_Ant2 (SISO)_NTNV



802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



802.11g_MCH_2437MHz_Ant2 (SISO)_NTNV

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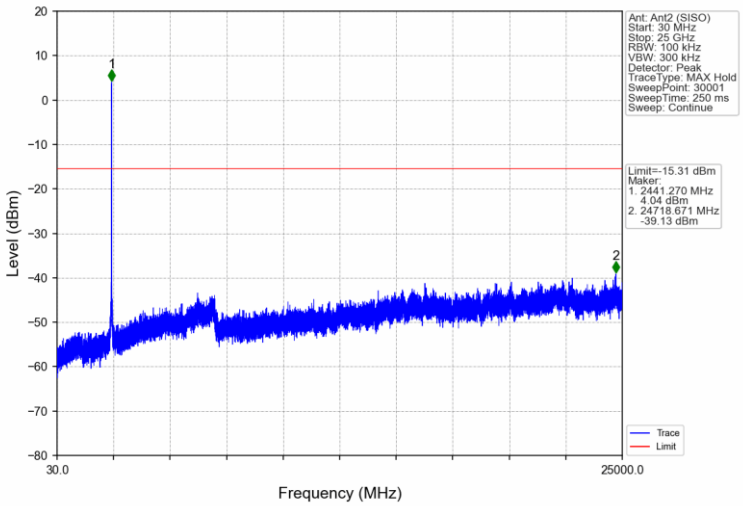
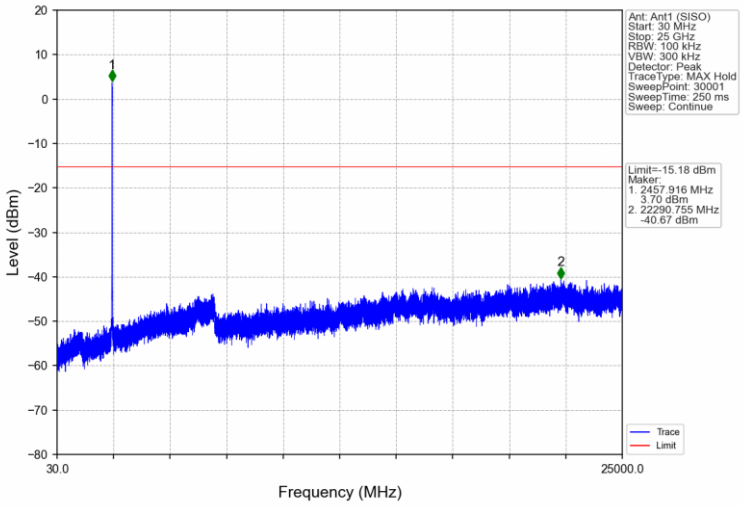


802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



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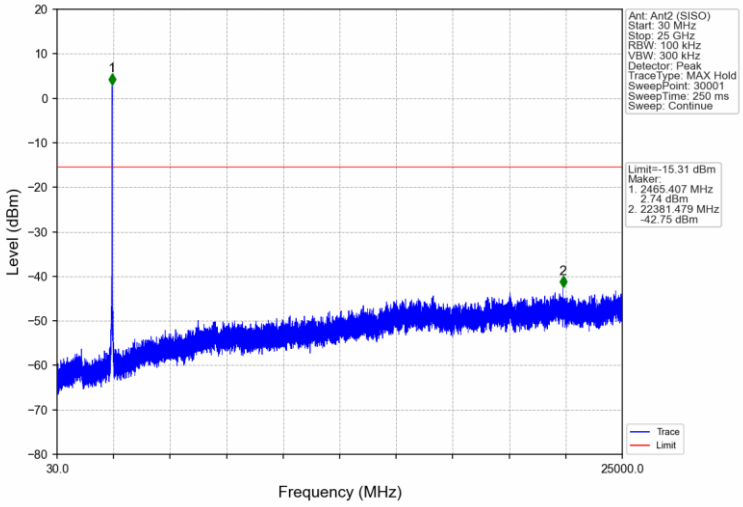

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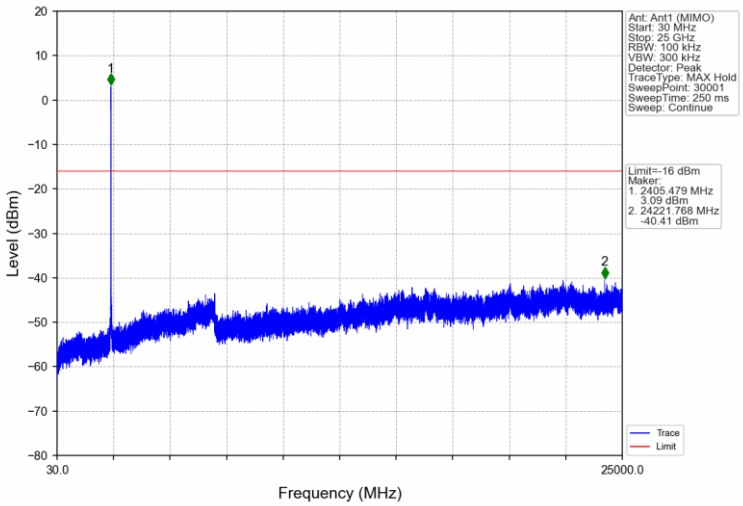
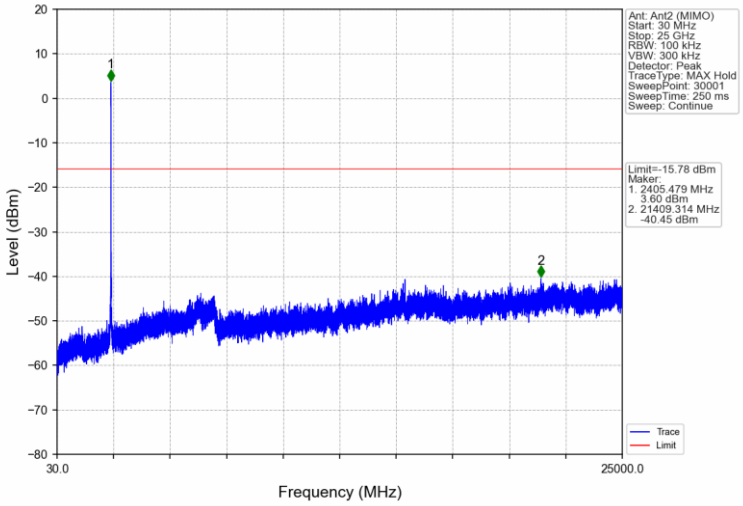
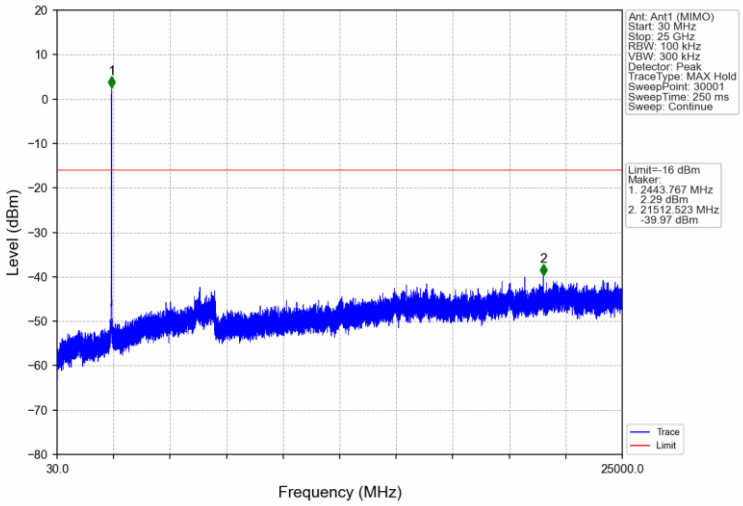
802.11n(HT20)_LCH_2412MHz_Ant1 (MIMO)_NTNV



802.11n(HT20)_LCH_2412MHz_Ant2 (MIMO)_NTNV



802.11n(HT20)_MCH_2437MHz_Ant1 (MIMO)_NTNV



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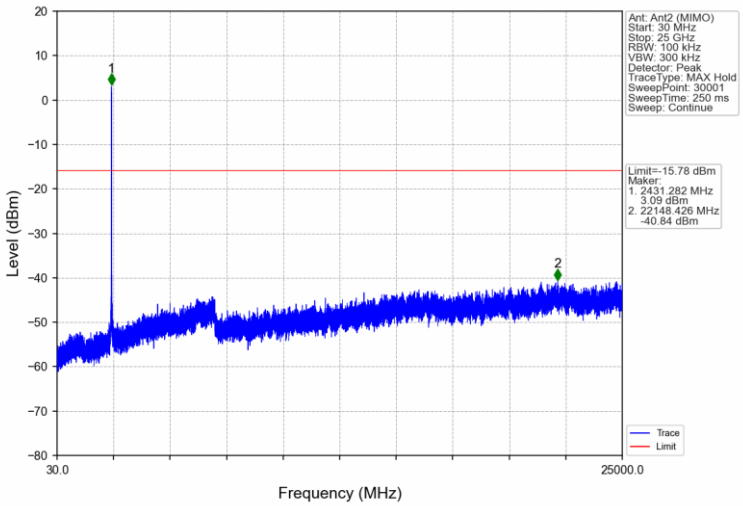
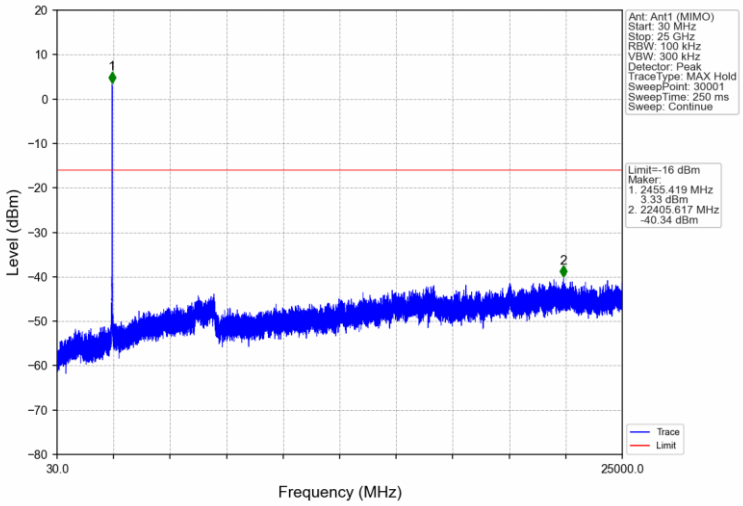
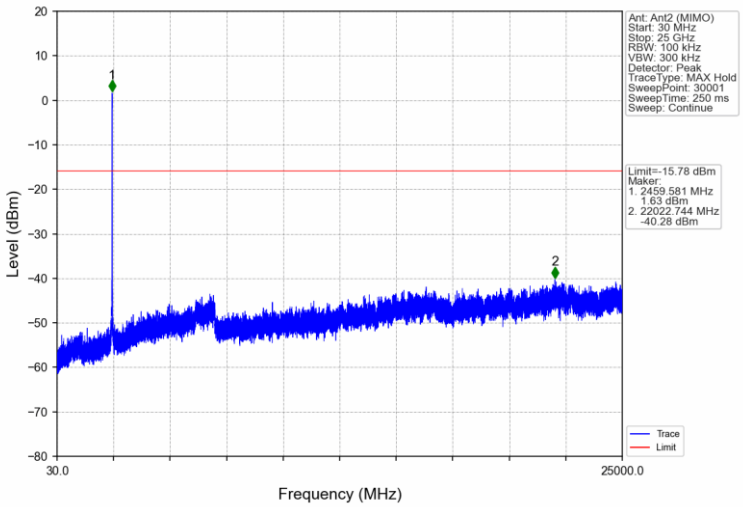
802.11n(HT20)_MCH_2437MHz_Ant2 (MIMO)_NTNV



802.11n(HT20)_HCH_2462MHz_Ant1 (MIMO)_NTNV



802.11n(HT20)_HCH_2462MHz_Ant2 (MIMO)_NTNV



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:
According to §15.247(d), Band Edge limit as below:

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.

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

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Band edge testing

Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
802.11b	SISO	2412	1	9.51	-10.49	Pass
			2	8.59	-11.41	Pass
		2462	1	9.51	-10.49	Pass
			2	8.59	-11.41	Pass
802.11g	SISO	2412	1	4.82	-15.18	Pass
			2	4.69	-15.31	Pass
		2462	1	4.82	-15.18	Pass
			2	4.69	-15.31	Pass
802.11n (HT20)	MIMO	2412	1	4.00	-16.00	Pass
			2	4.22	-15.78	Pass
		2462	1	4.00	-16.00	Pass
			2	4.22	-15.78	Pass
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10, the channel contains the maximum PSD level was used to establish the reference level.						

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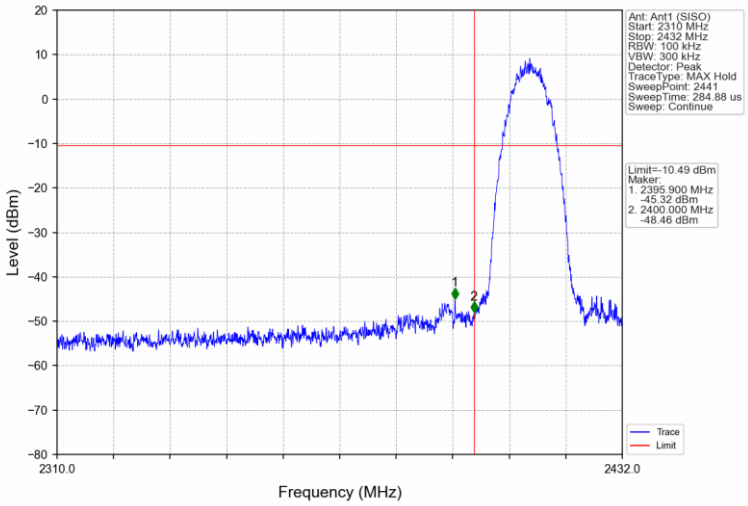
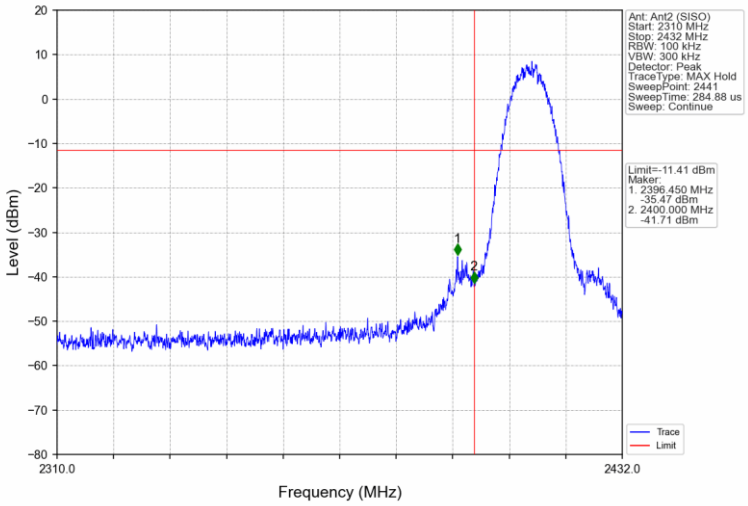
802.11b_LCH_2412MHz_Ant1 (SISO)_NTNV



802.11b_LCH_2412MHz_Ant2 (SISO)_NTNV



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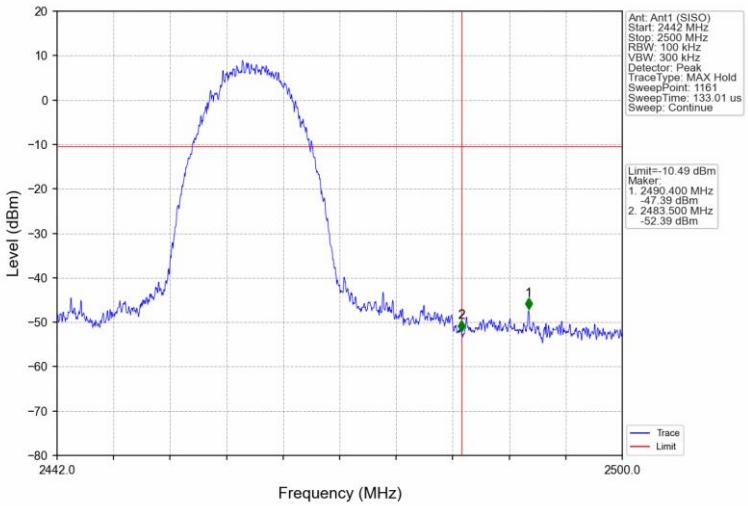
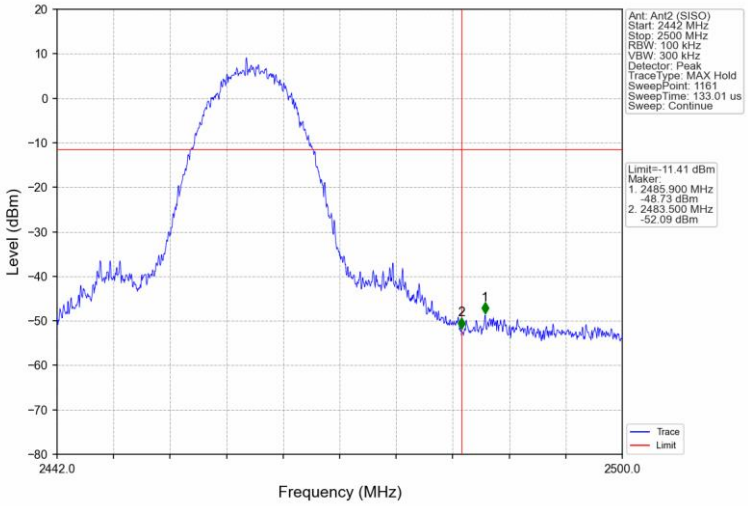
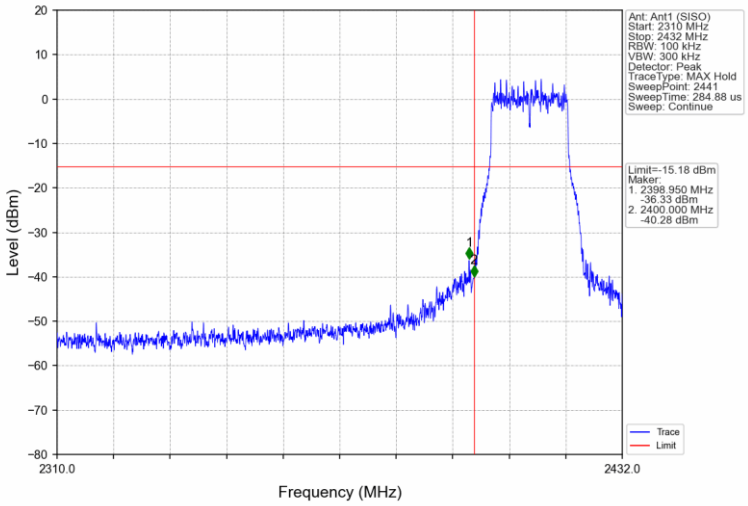
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



802.11b_HCH_2462MHz_Ant2 (SISO)_NTNV



802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



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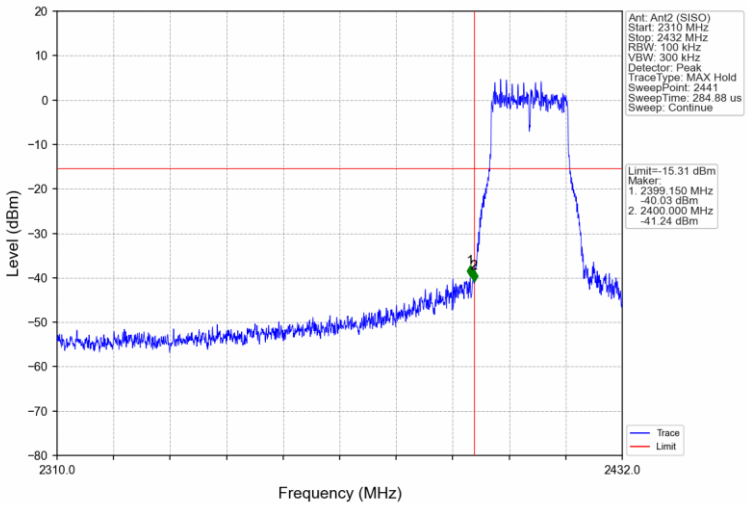
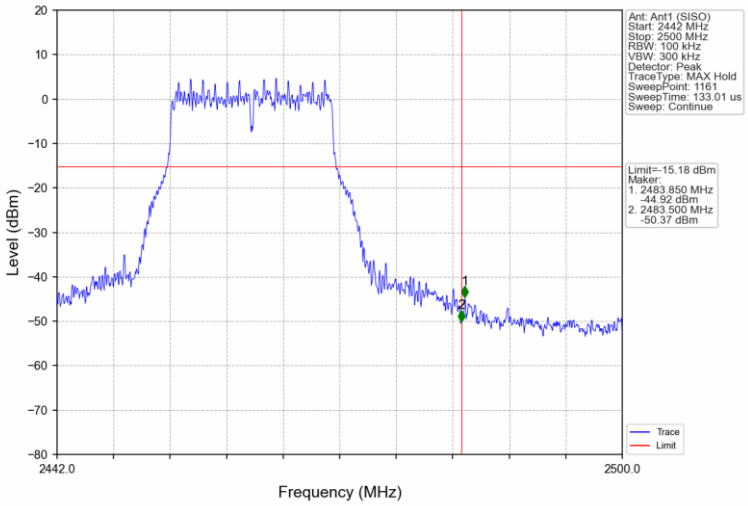
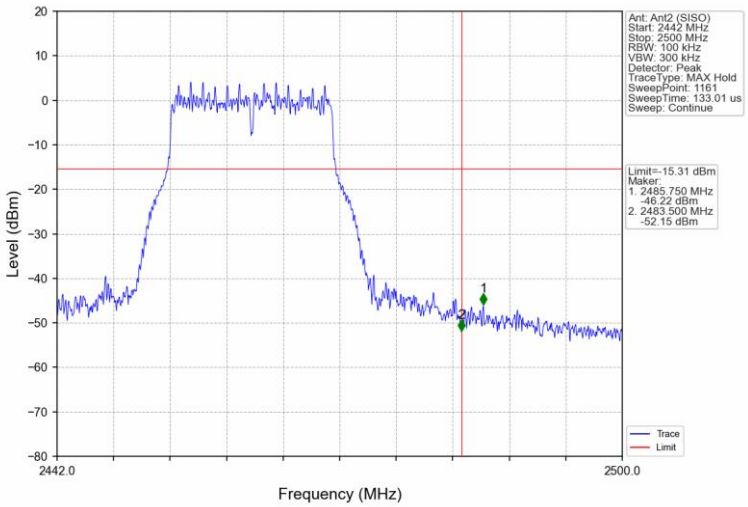
802.11g_LCH_2412MHz_Ant2 (SISO)_NTNV



802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



802.11g_HCH_2462MHz_Ant2 (SISO)_NTNV



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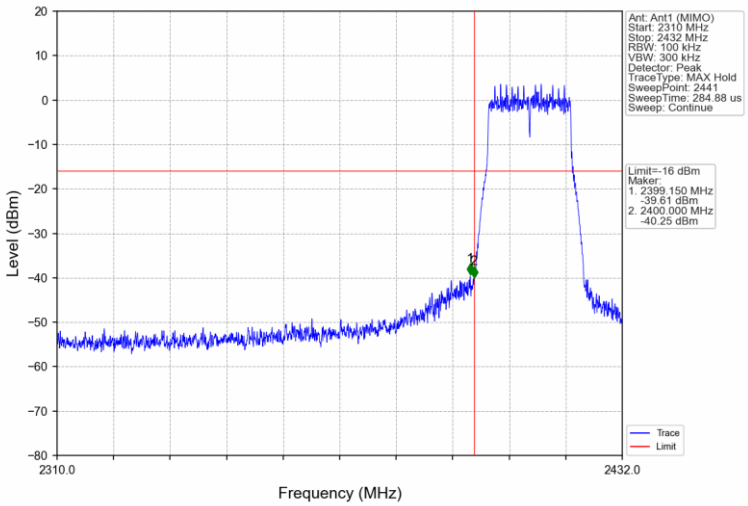
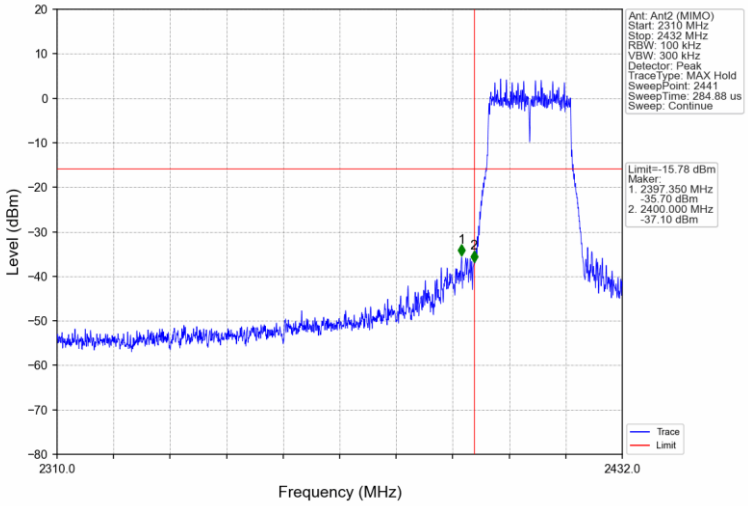
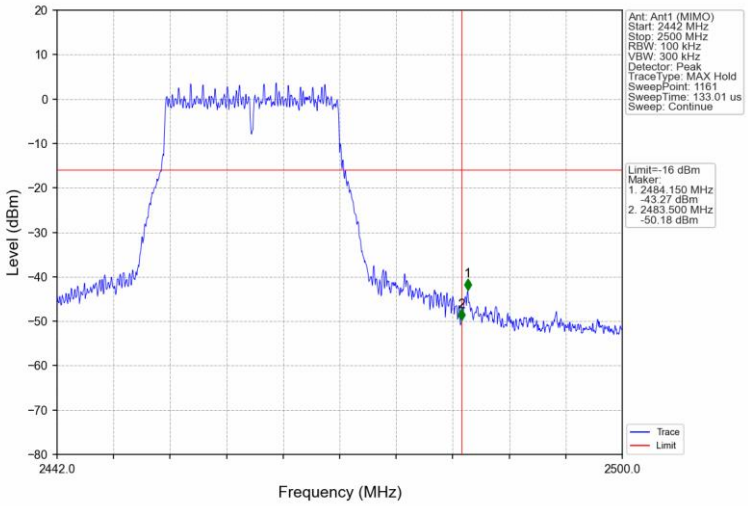
802.11n(HT20)_LCH_2412MHz_Ant1 (MIMO)_NTNV



802.11n(HT20)_LCH_2412MHz_Ant2 (MIMO)_NTNV



802.11n(HT20)_HCH_2462MHz_Ant1 (MIMO)_NTNV



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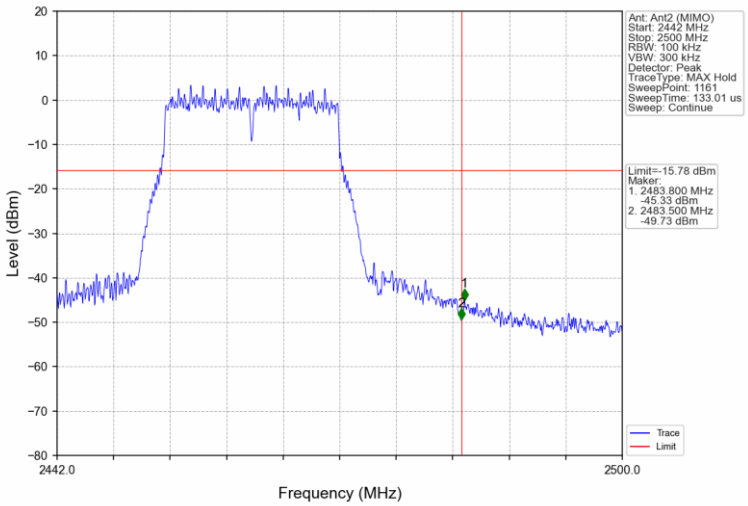
802.11n(HT20)_HCH_2462MHz_Ant2 (MIMO)_NTNV



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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.

   Procedures for average unwanted emissions measurements above 1GHz

   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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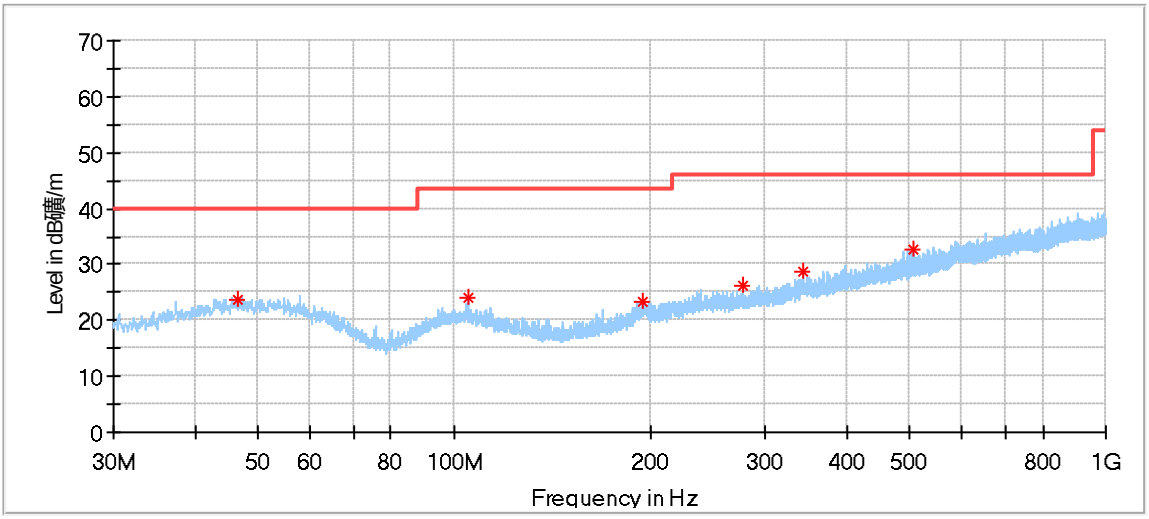
Spurious Radiated Emissions for Transmitter

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.
The only worse case (which is subject to the maximum power, 11n20 MIMO mode) test result is listed in the report.

Transmitting spurious emission test result as below:
30MHz – 1000MHz:



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Corr. (dB)
46.651667	23.79	40.00	16.21	200.0	H	209.0	18.45	---
104.797778	23.93	43.50	19.57	100.0	H	19.0	16.02	---
195.277222	23.45	43.50	20.05	100.0	H	305.0	16.35	---
277.026667	26.08	46.00	19.92	100.0	H	252.0	17.94	---
342.016667	28.73	46.00	17.27	100.0	H	89.0	19.89	---
506.701111	32.82	46.00	13.18	200.0	H	174.0	23.13	---

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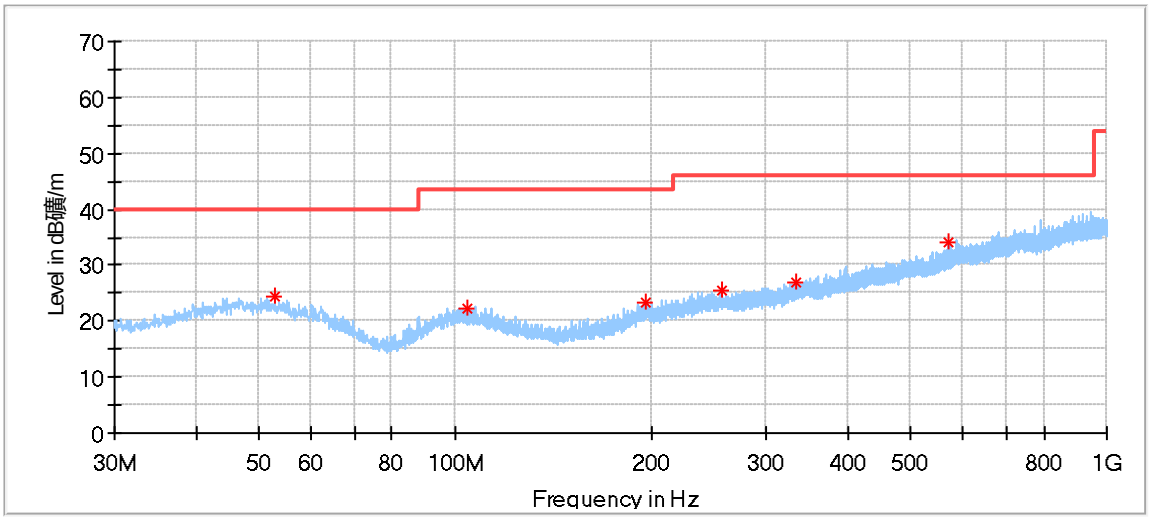

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Corr. (dB)
52.848889	24.50	40.00	15.50	200.0	V	42.0	18.15	---
104.043333	22.42	43.50	21.08	200.0	V	303.0	16.10	---
196.516667	23.16	43.50	20.34	200.0	V	227.0	16.36	---
256.279444	25.43	46.00	20.57	200.0	V	270.0	18.01	---
333.448333	26.97	46.00	19.03	200.0	V	42.0	19.52	---
572.553333	34.10	46.00	11.90	200.0	V	347.0	24.17	---

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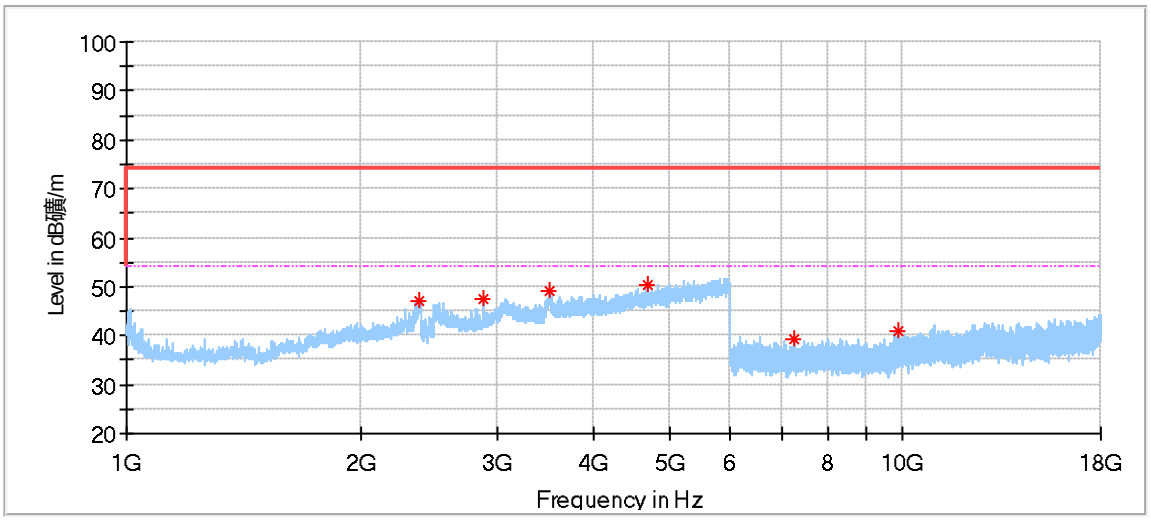
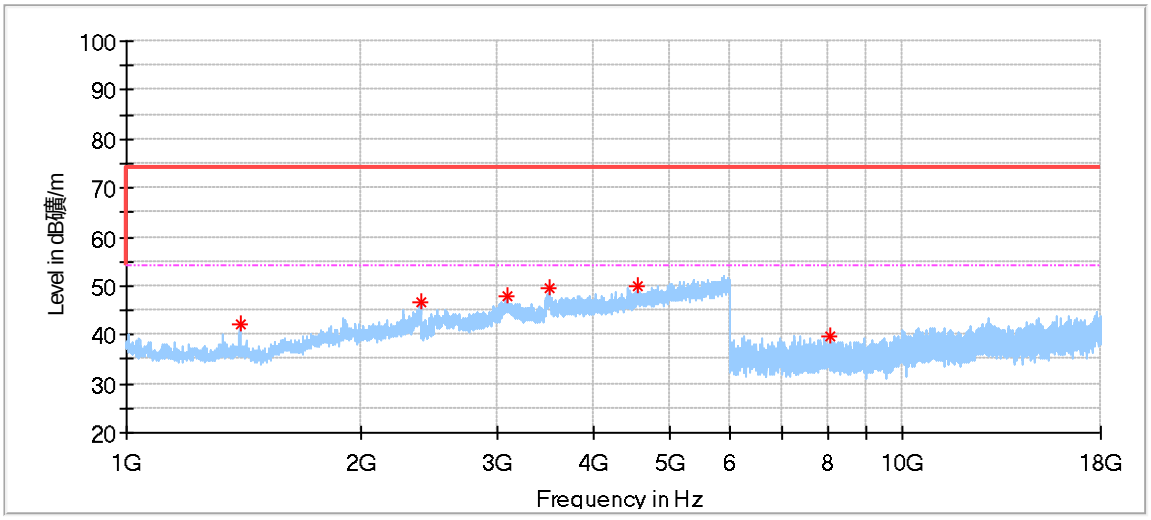
1GHz -18GHz:

11n20_2412MHz_Ant1+Ant2:

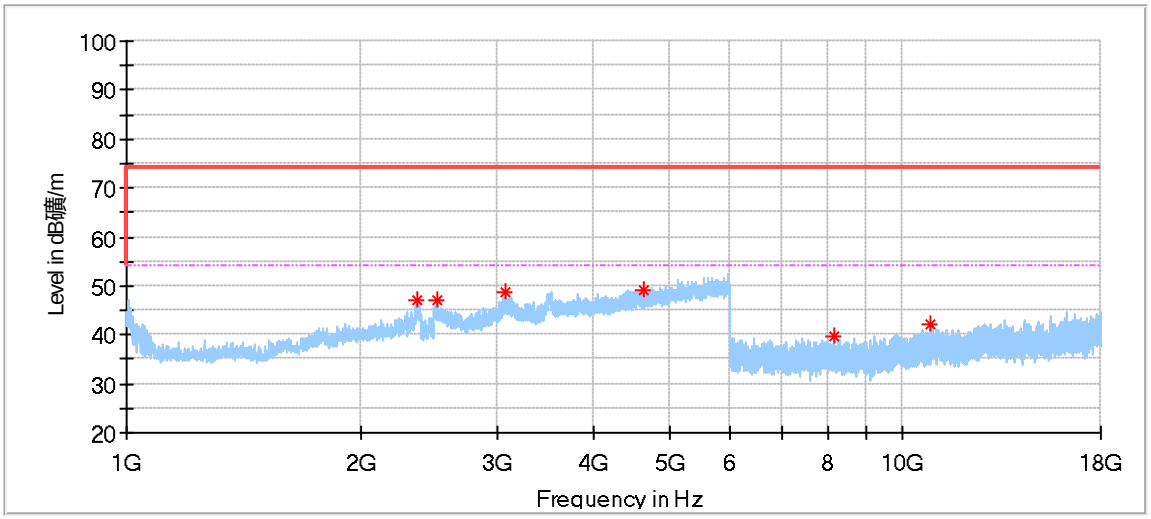


Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2386.500000	47.25	74.00	26.75	150.0	H	296.0	-2.48
2885.500000	47.36	74.00	26.64	150.0	H	265.0	-0.95
3508.500000	49.32	74.00	24.68	150.0	H	101.0	4.06
4687.500000	50.38	74.00	23.62	150.0	H	152.0	4.48
7227.500000	39.29	74.00	34.71	150.0	H	28.0	6.40
9862.000000	40.84	74.00	33.16	150.0	H	51.0	9.36

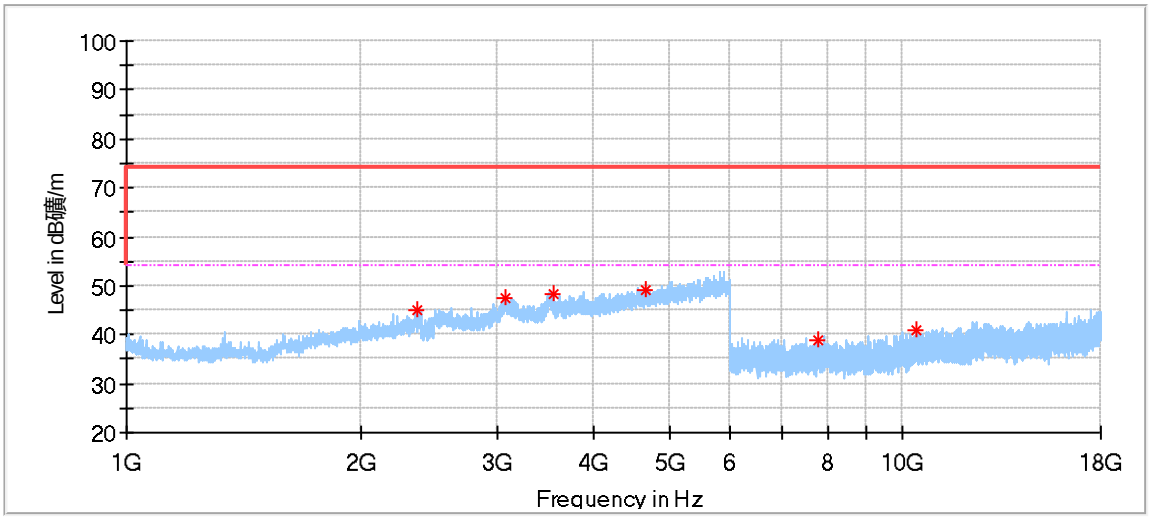


Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1399.500000	42.14	74.00	31.86	150.0	V	101.0	-7.98
2392.000000	46.47	74.00	27.53	150.0	V	265.0	-2.43
3088.500000	47.80	74.00	26.20	150.0	V	70.0	1.58
3502.500000	49.42	74.00	24.58	150.0	V	0.0	4.36
4553.000000	50.10	74.00	23.90	150.0	V	27.0	4.30
8078.500000	39.60	74.00	34.40	150.0	V	4.0	7.50

11n20_2437MHz_Ant1+Ant2:



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2370.500000	47.23	74.00	26.78	150.0	H	306.0	-2.62
2513.000000	47.19	74.00	26.81	150.0	H	296.0	-1.76
3071.000000	48.69	74.00	25.31	150.0	H	152.0	1.55
4650.000000	49.13	74.00	24.87	150.0	H	173.0	4.44
8171.000000	39.76	74.00	34.24	150.0	H	219.0	7.35
10883.000000	42.36	74.00	31.64	150.0	H	324.0	10.83



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2369.000000	45.15	74.00	28.85	150.0	V	255.0	-2.64
3078.000000	47.35	74.00	26.65	150.0	V	88.0	1.52
3544.000000	48.27	74.00	25.73	150.0	V	119.0	2.22
4661.000000	49.19	74.00	24.81	150.0	V	326.0	4.44
7762.500000	38.75	74.00	35.25	150.0	V	136.0	7.10
10444.000000	41.07	74.00	32.93	150.0	V	28.0	10.13

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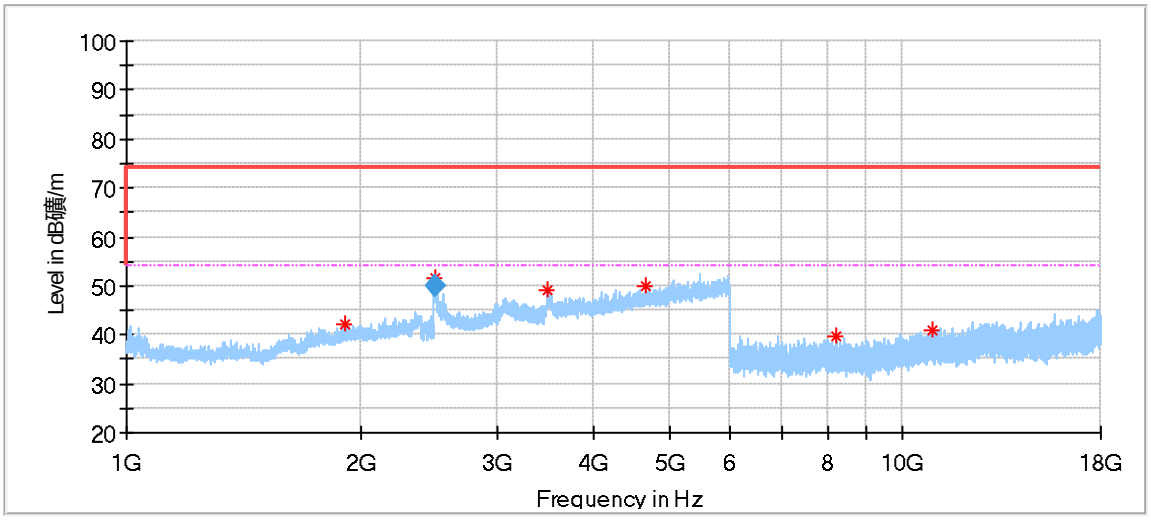
11n20_2462MHz_Ant1+Ant2:

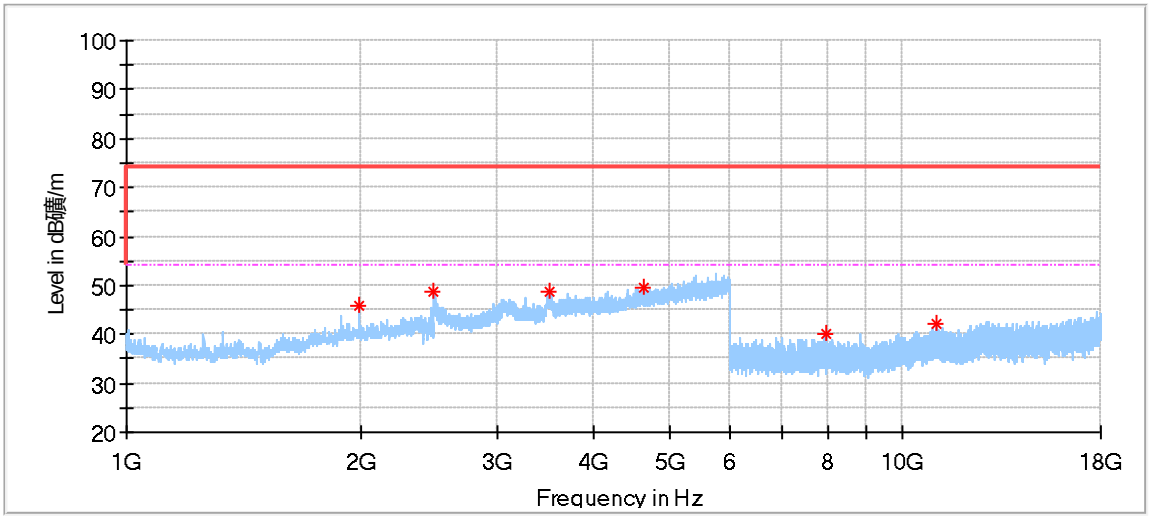


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1911.000000	42.11	74.00	31.89	150.0	H	304.0	-4.63
2492.000000	51.63	74.00	22.37	150.0	H	304.0	-1.84
3491.500000	48.94	74.00	25.06	150.0	H	140.0	3.84
4671.500000	49.99	74.00	24.01	150.0	H	263.0	4.44
8218.000000	39.68	74.00	34.32	150.0	H	28.0	7.40
10916.000000	40.93	74.00	33.07	150.0	H	347.0	10.85

Final_Result

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2492.000000	48.96	54.00	5.04	150.0	H	304.0	-1.84



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1992.500000	45.97	74.00	28.03	150.0	V	3.0	-4.12
2491.000000	48.56	74.00	25.44	150.0	V	244.0	-1.83
3499.500000	48.70	74.00	25.30	150.0	V	132.0	4.44
4631.500000	49.35	74.00	24.65	150.0	V	173.0	4.43
7980.000000	40.02	74.00	33.98	150.0	V	180.0	7.40
11059.500000	42.15	74.00	31.85	150.0	V	347.0	10.90

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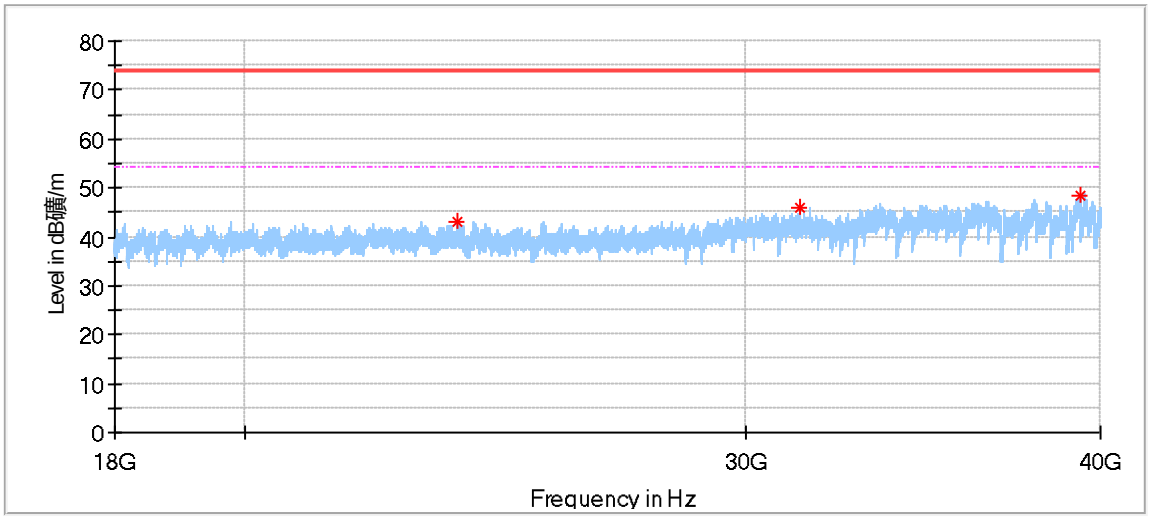
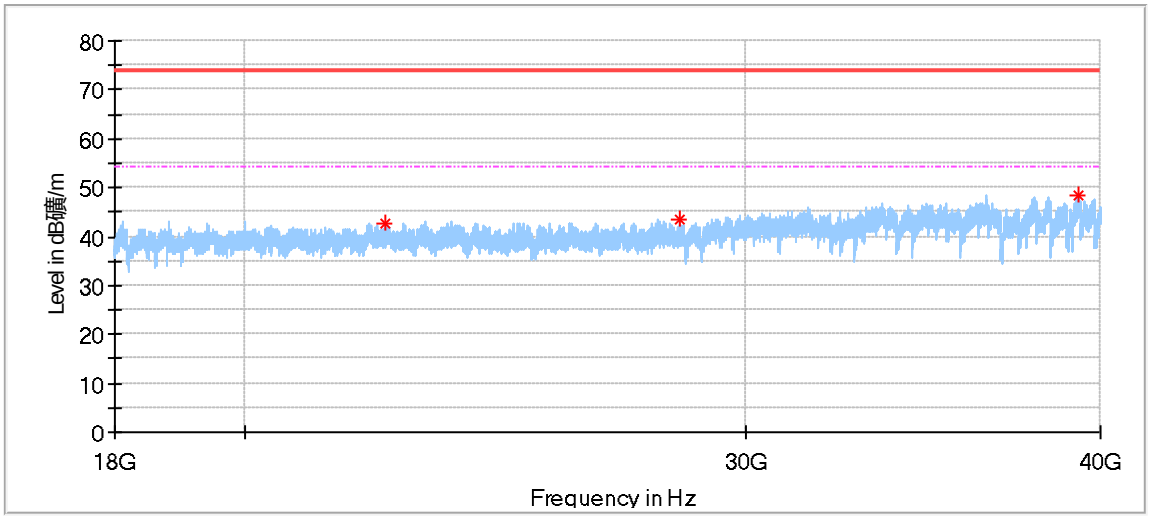
18GHz -40GHz:

11n20_2412MHz_Ant1+Ant2:



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
23762.625000	43.10	74.00	30.90	150.0	H	10.0	1.91
31355.375000	45.87	74.00	28.13	150.0	H	2.0	2.92
39328.312500	48.49	74.00	25.51	150.0	H	261.0	6.80



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
22398.625000	42.78	74.00	31.22	150.0	V	28.0	1.69
28442.437500	43.42	74.00	30.58	150.0	V	226.0	2.27
39307.000000	48.61	74.00	25.39	150.0	V	15.0	6.73

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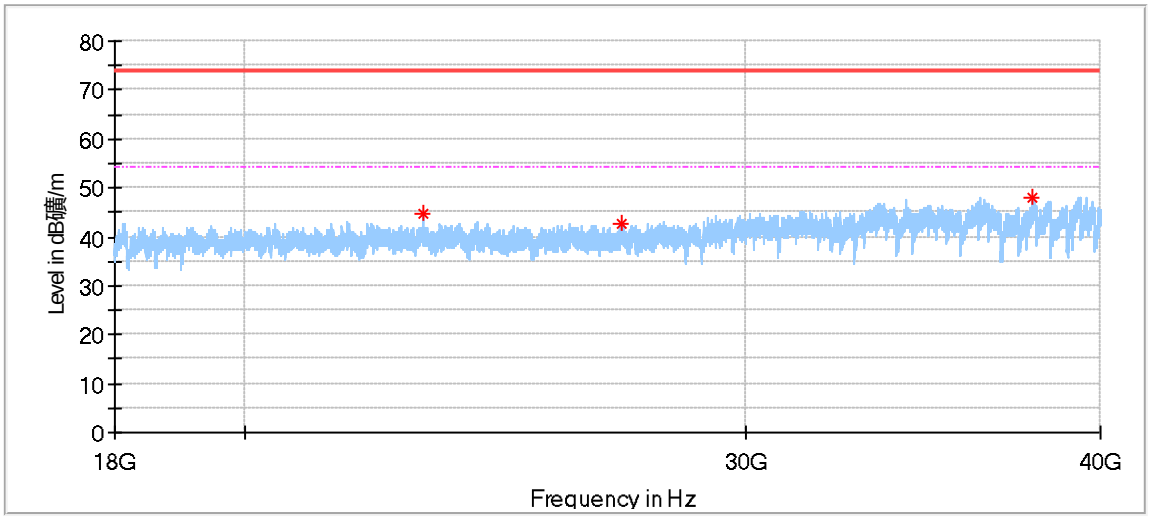
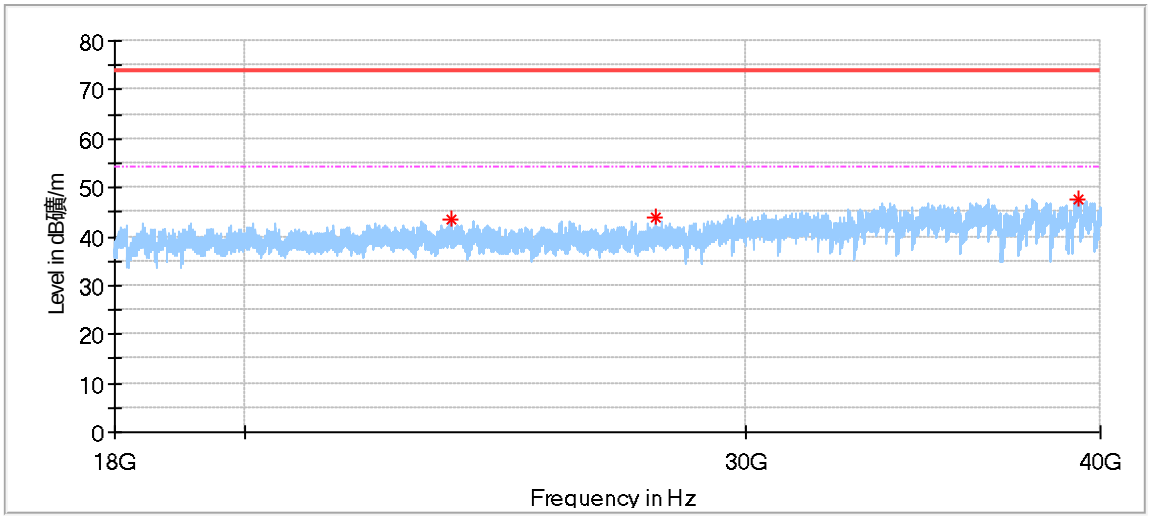
11n20_2437MHz_Ant1+Ant2:



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
23106.750000	44.59	74.00	29.41	150.0	H	342.0	1.84
27154.062500	42.75	74.00	31.25	150.0	H	284.0	2.74
37881.125000	47.91	74.00	26.09	150.0	H	271.0	5.19



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
23634.750000	43.53	74.00	30.47	150.0	V	259.0	1.82
27885.562500	44.07	74.00	29.93	150.0	V	133.0	2.35
39318.687500	47.78	74.00	26.22	150.0	V	190.0	6.77

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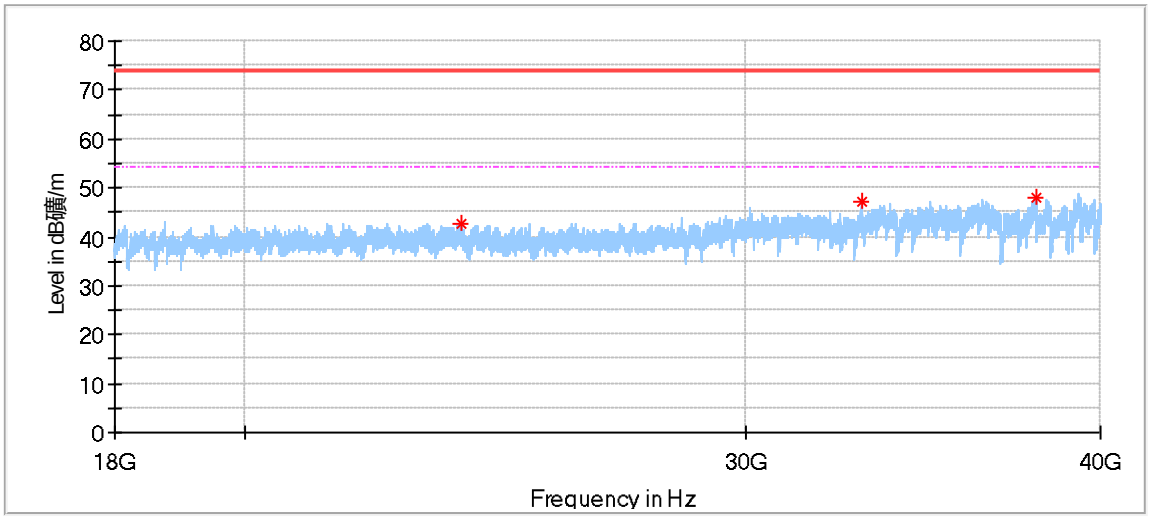
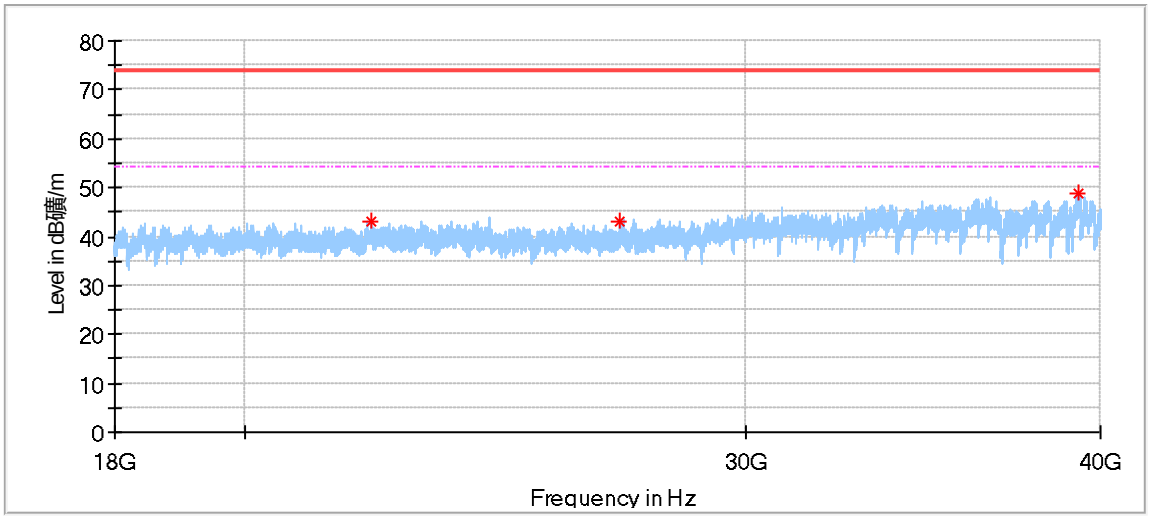
11n20_2462MHz_Ant1+Ant2:



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
23846.500000	42.64	74.00	31.36	150.0	H	261.0	1.99
32948.312500	47.16	74.00	26.84	150.0	H	332.0	3.62
37965.000000	47.80	74.00	26.20	150.0	H	192.0	5.34



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
22158.687500	43.11	74.00	30.89	150.0	V	4.0	1.35
27088.750000	43.19	74.00	30.81	150.0	V	191.0	2.71
39299.437500	48.91	74.00	25.09	150.0	V	53.0	6.70

Remark:

(1) Data of measurement within frequency range 9kHz-30MHz 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.

(2) Corrected Amplitude = Read level + Corrector factor
Above 1GHz: Corrector factor = Antenna Factor + Cable Loss- Amplifier Gain
Below 1GHz: Corrector factor = Antenna Factor + Cable Loss

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10 Test Equipment List

Conducted Emission 2# 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	Version10.35.02	N/A	N/A
Shielding Room	TDK	CSR #2	68-4-90-19-005	----	3	2025-10-15

Radiated Emission Test 1# Test

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
3m Semi-anechoic chamber	TDK	SAC-3 #1	68-4-90-14-001	----	3	2024-5-28
Test software	Rohde & Schwarz	EMC32	68-4-90-14-001-A10	Version10.35.02	N/A	N/A

Radiated Emission 2# Test

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	2024-3-5
Wave Guide Antenna	ETS	3117	68-4-80-19-001	00218954	1	2024-4-26
Pre-amplifier	Rohde & Schwarz	SCU 18F	68-4-29-19-001	100745	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
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
RF Switch Module	Rohde & Schwarz	OSP120/OSP-B157W	68-4-93-14-003	101226/100929	1	2024-5-20
Power Splitter	Weinschel	1580	68-4-85-14-001	SC319	1	2024-5-20
10dB Attenuator	R&S	DNF	68-4-81-14-004	DNF-001	1	2024-5-19
Test software	TST PASS	System for BT/WIFI	68-4-93-23-001-A03	Version 2.0	N/A	N/A
Shielding Room	TDK	TS8997	68-4-90-19-003	----	3	2025-10-15

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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)	3.15dB
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: 4.63dB; Vertical: 4.78dB;
Uncertainty for Radiated Emission in new 3m chamber (68-4-90-19-006) 1000MHz-18000MHz	Horizontal: 5.38dB; Vertical: 5.38dB;
Uncertainty for Radiated Emission in new 3m chamber (68-4-90-19-006) 18GHz-40GHz	Horizontal: 5.29dB; Vertical: 5.29dB;
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.

---THE END OF REPORT---

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