

9.4. TEST RESULTS

802.11b Mode:

Channel No.	Frequency (MHz)	PSD (dBm/3kHz)	Duty Factor	Total PSD with Duty Factor (dBm/3kHz)	Limit (dBm/3kHz)	Result
1	2412	-7.133	0.00	-7.133	8	Pass
6	2437	-6.577	0.00	-6.577	8	Pass
11	2462	-9.350	0.00	-9.350	8	Pass

802.11g Mode:

Channel No.	Frequency (MHz)	PSD (dBm/3kHz)	Duty Factor	Total PSD with Duty Factor (dBm/3kHz)	Limit (dBm/3kHz)	Result
1	2412	-7.197	0.09	-7.11	8	Pass
6	2437	-7.013	0.09	-6.92	8	Pass
11	2462	-9.705	0.09	-9.62	8	Pass

802.11n HT20 Mode:

Channel No.	Frequency (MHz)	PSD (dBm/3kHz)	Duty Factor	Total PSD with Duty Factor (dBm/3kHz)	Limit (dBm/3kHz)	Result
1	2412	-7.933	0.10	-7.83	8	Pass
6	2437	-7.464	0.10	-7.36	8	Pass
11	2462	-9.759	0.10	-9.66	8	Pass

802.11n HT40 Mode:

Channel No.	Frequency (MHz)	PSD (dBm/3kHz)	Duty Factor	Total PSD with Duty Factor (dBm/3kHz)	Limit (dBm/3kHz)	Result
3	2422	-9.179	0.15	-9.03	8	Pass
6	2437	-10.386	0.15	-10.24	8	Pass
9	2452	-10.163	0.15	-10.01	8	Pass

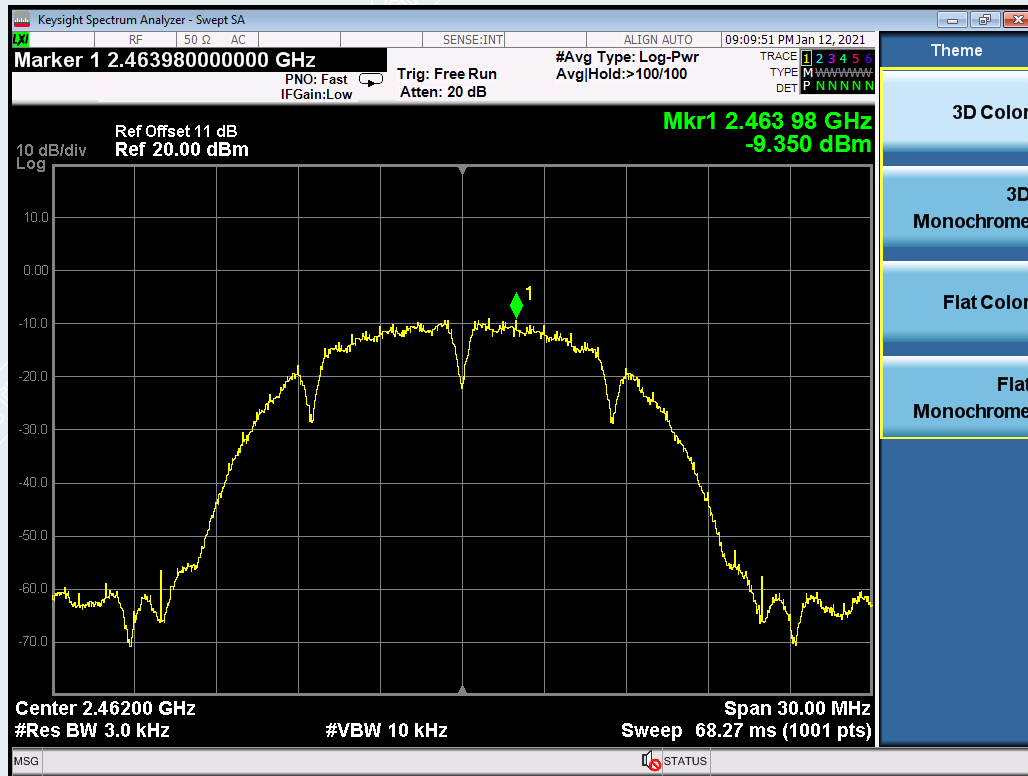
802.11b mode:
Channel 2412MHz



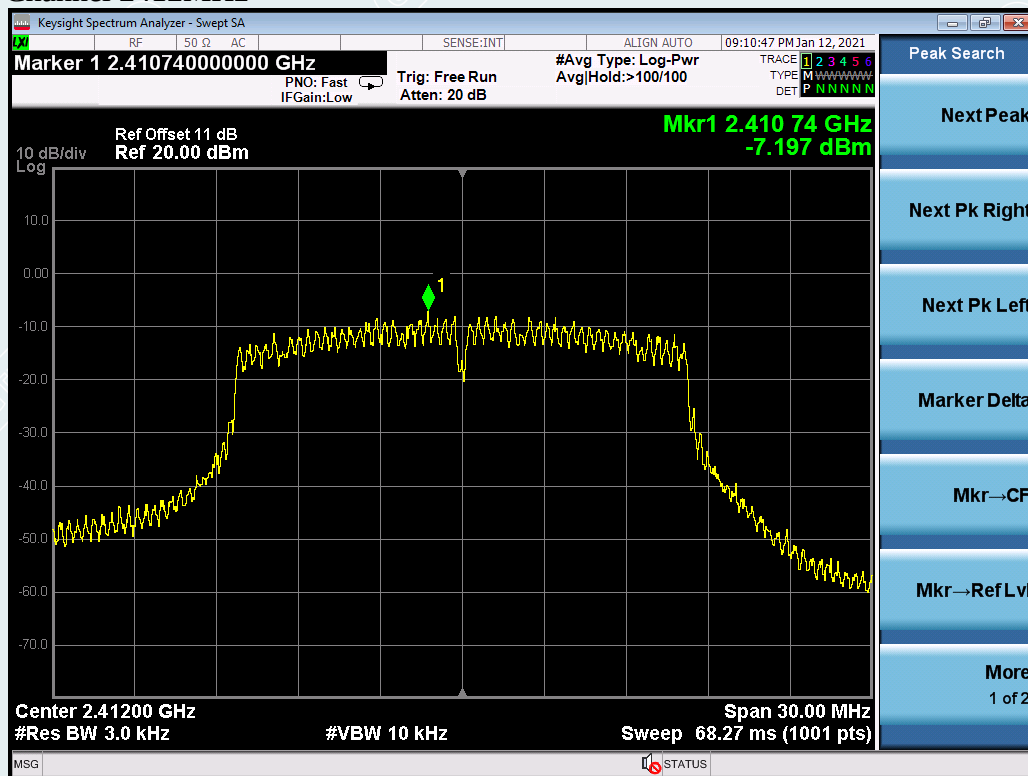
802.11b mode:
Channel 2437MHz



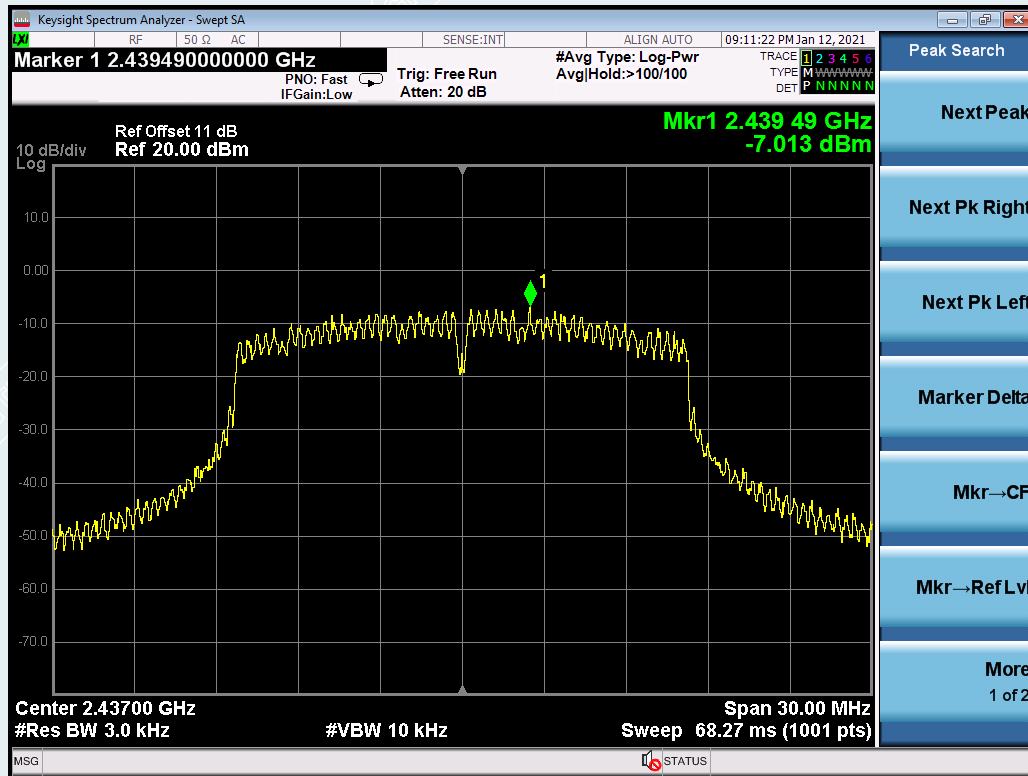
802.11b mode:
Channel 2462MHz



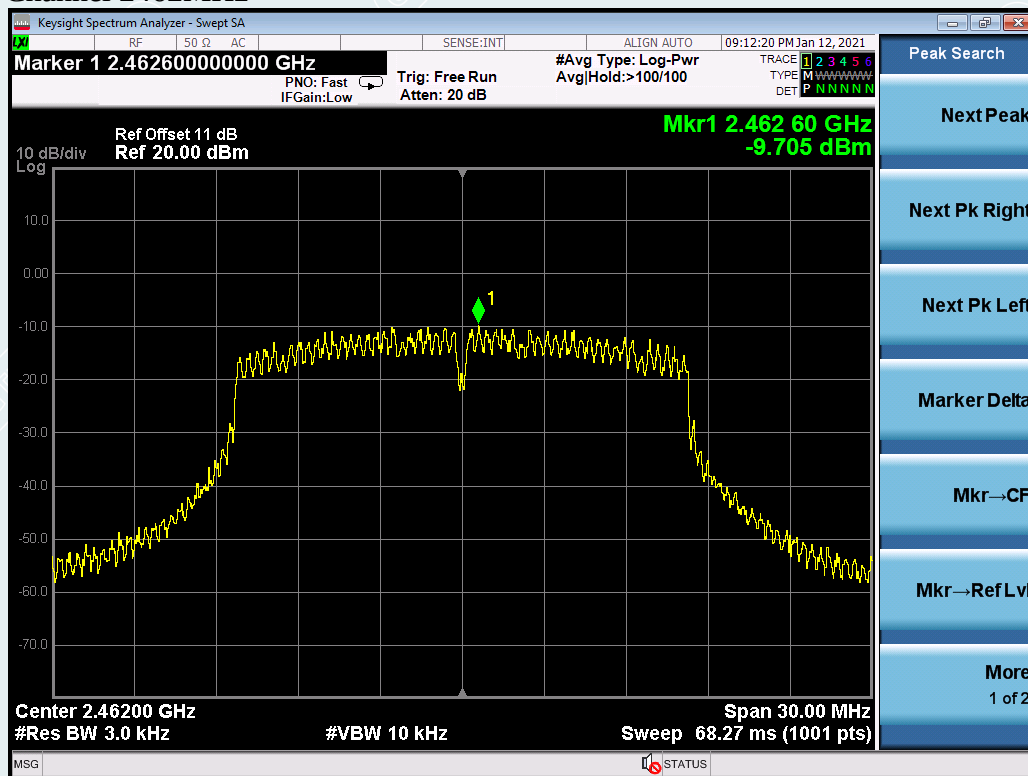
802.11g mode:
Channel 2412MHz



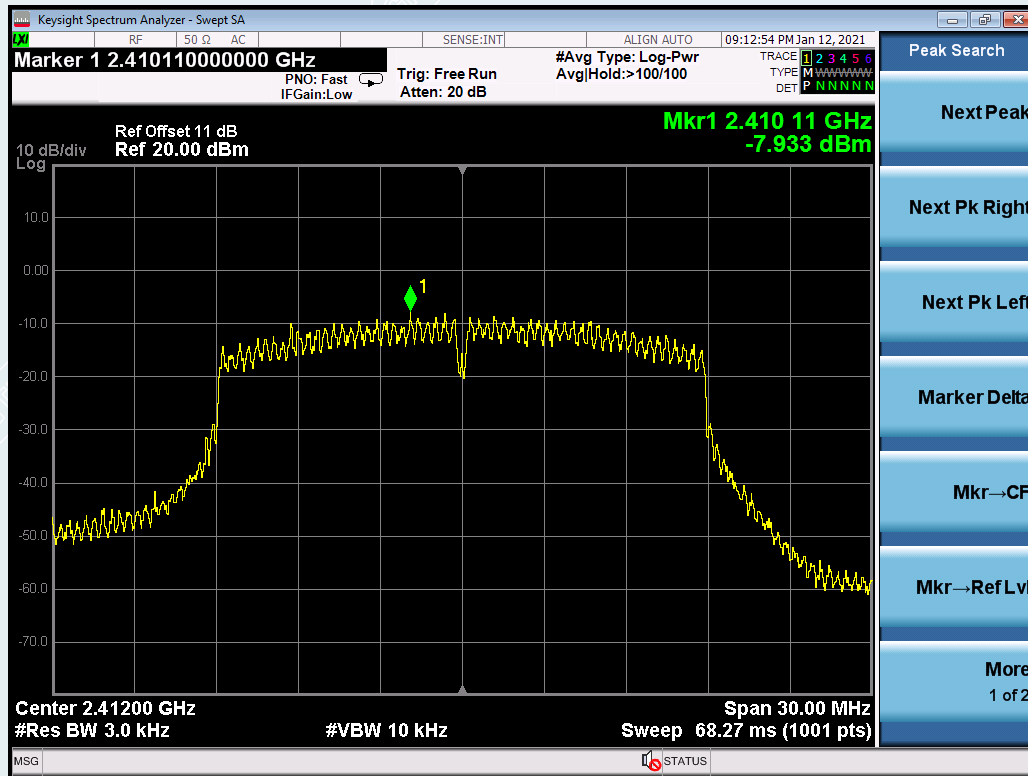
802.11g mode:
Channel 2437MHz



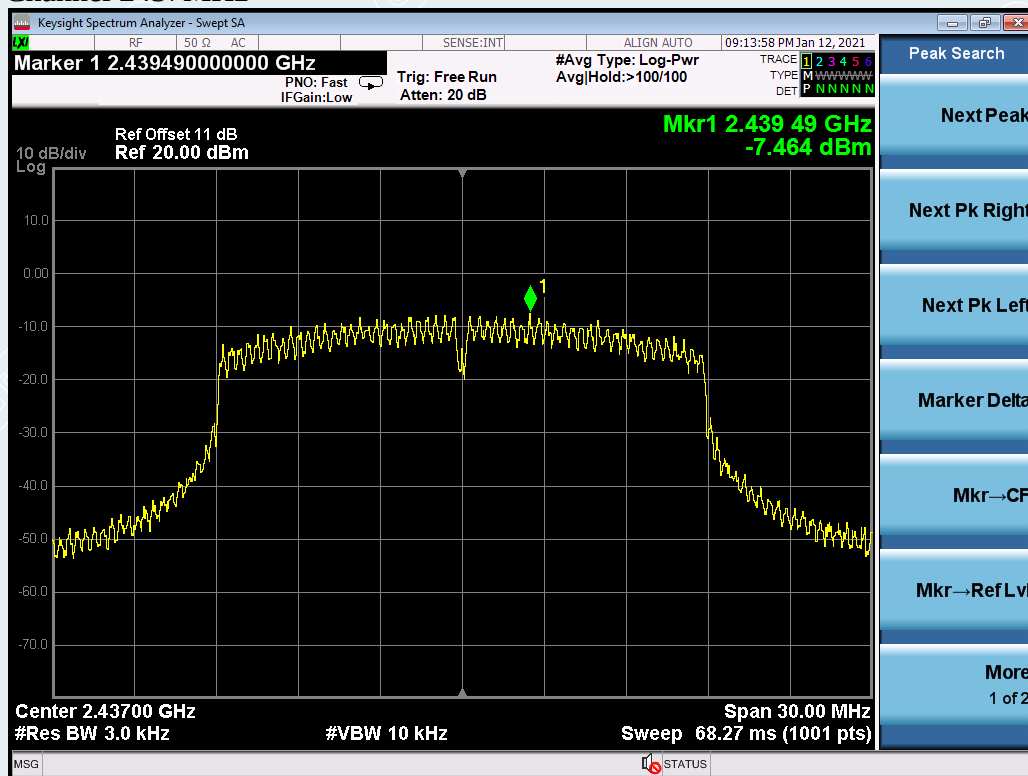
802.11g mode:
Channel 2462MHz

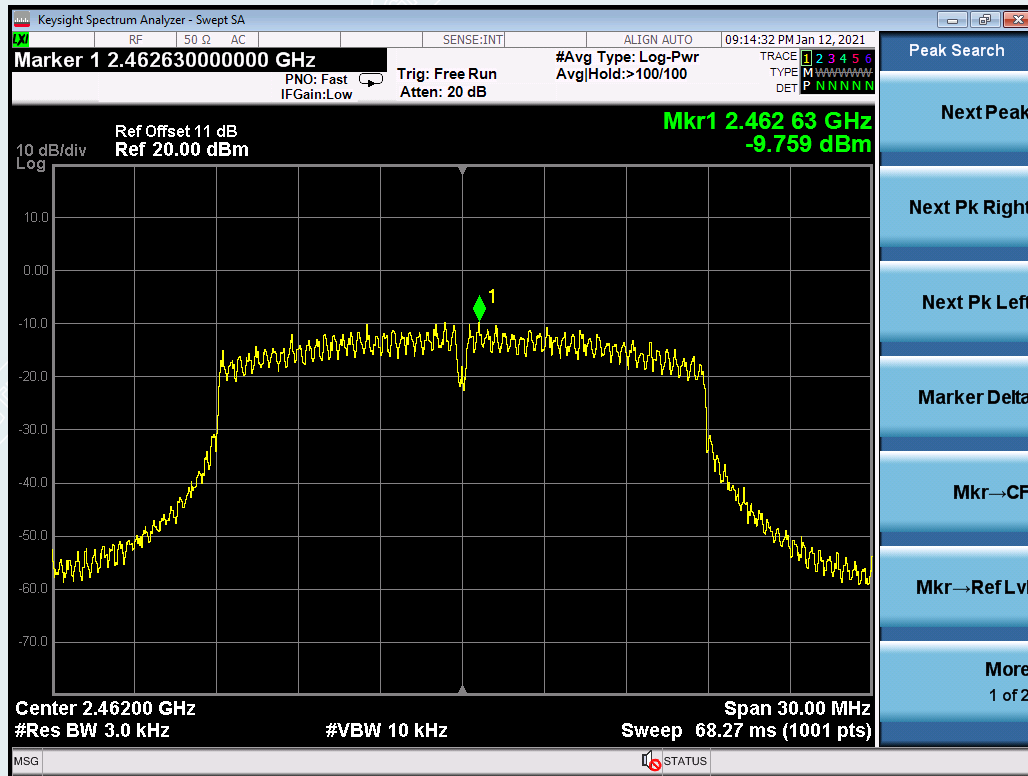
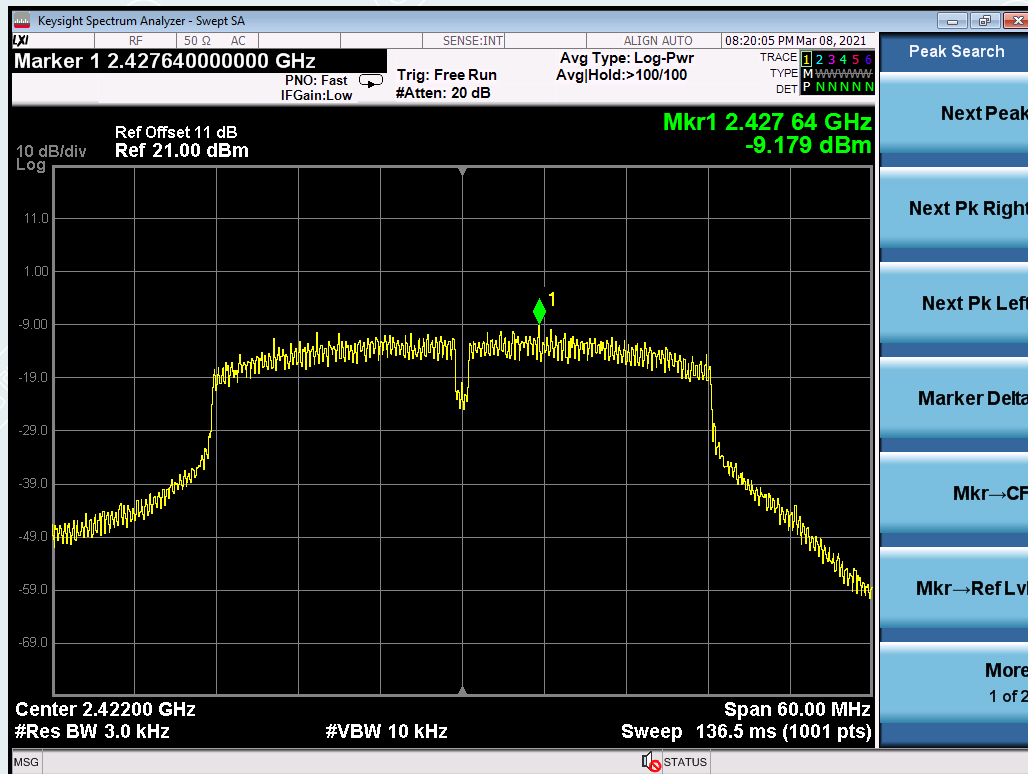


802.11n HT20 mode:
Channel 2412MHz

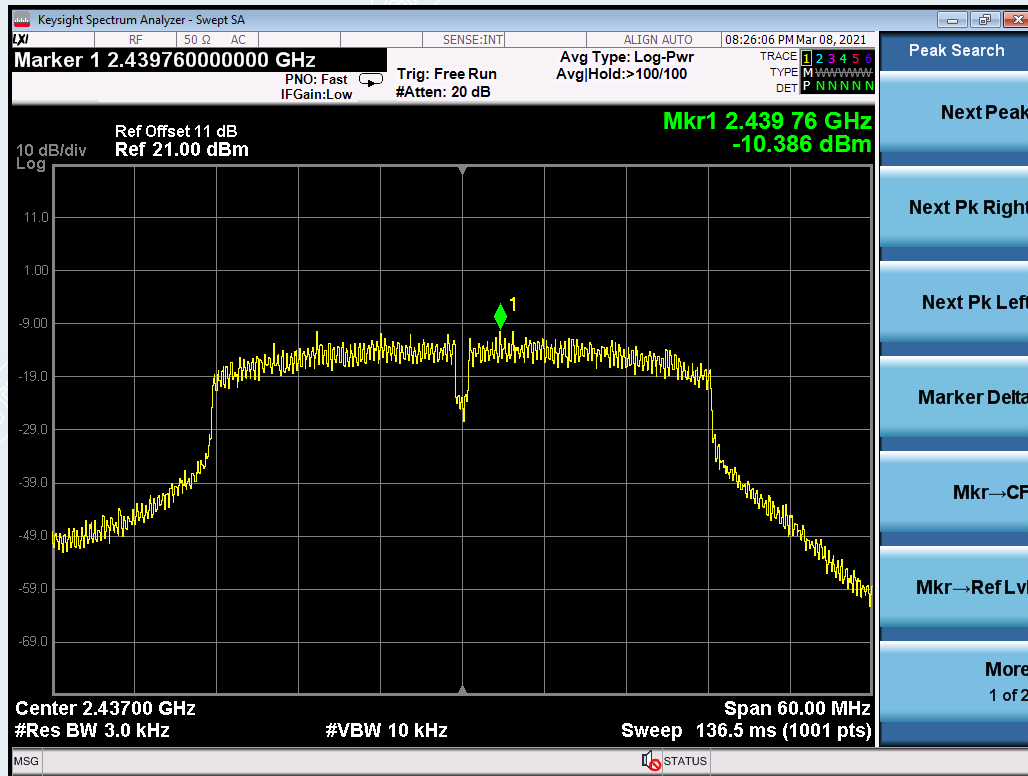


802.11n HT20 mode:
Channel 2437MHz

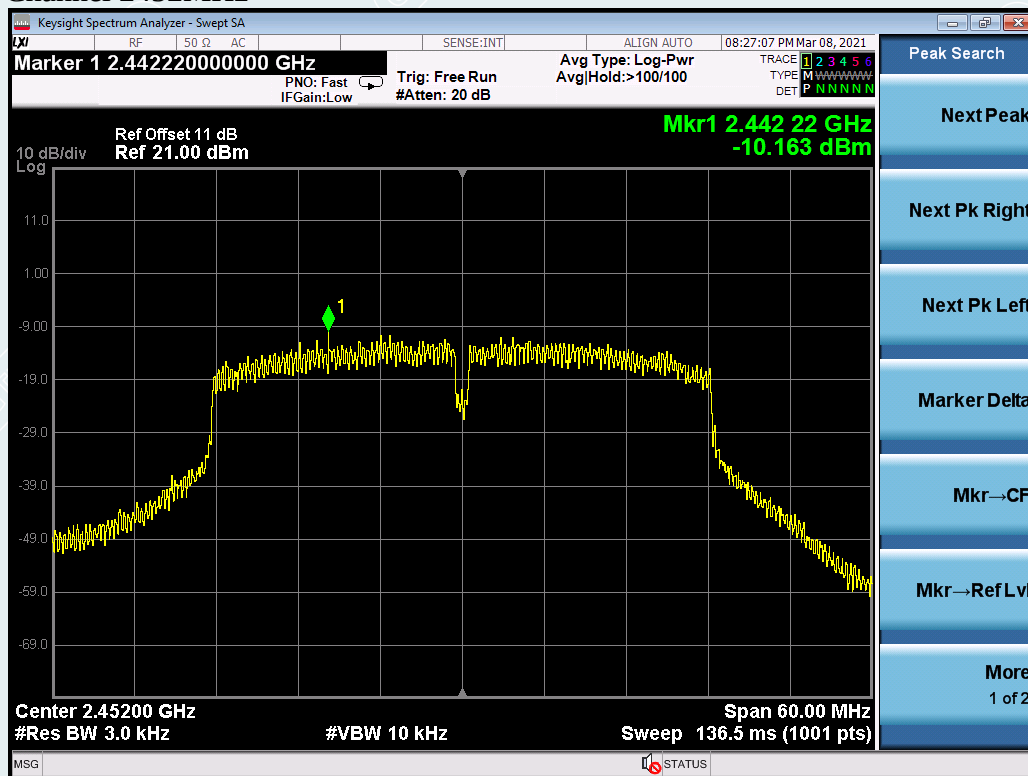


802.11n HT20 mode:
Channel 2462MHz802.11n HT40 mode:
Channel 2422MHz

802.11n HT40 mode:
Channel 2437MHz



802.11n HT40 mode:
Channel 2452MHz



10. CONDUCTED BAND EDGES AND SPURIOUS EMISSIONS

10.1. LIMITS

(d) In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator 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 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 paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

10.2. TEST PROCEDURES

Test procedures follow KDB 558074 D01 DTS Measurement Guidance v03r01.

Remove the antenna from the EUT and then connect a low attenuation cable from the antenna port to the spectrum.

- 1) Remove the antenna from the EUT and then connect a low attenuation cable from the antenna port to the spectrum.
- 2) Set the spectrum analyzer: RBW = 100KHz; VBW = 300KHz, Span = 30MHz to 26.5GHz; Sweep = auto; Detector Function = Peak. Trace = Max, hold.
- 3) Measure and record the results in the test report.
- 4) The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

10.3. TEST SETUP

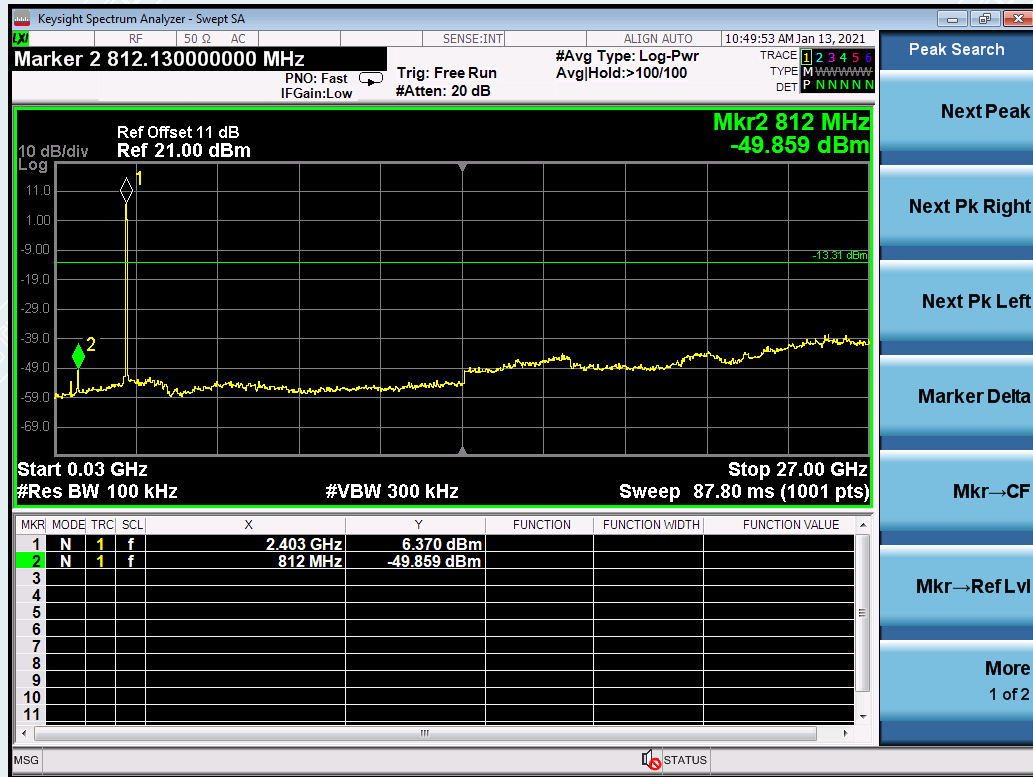


10.4. TEST RESULTS

802.11b mode:

Channel 2412MHz

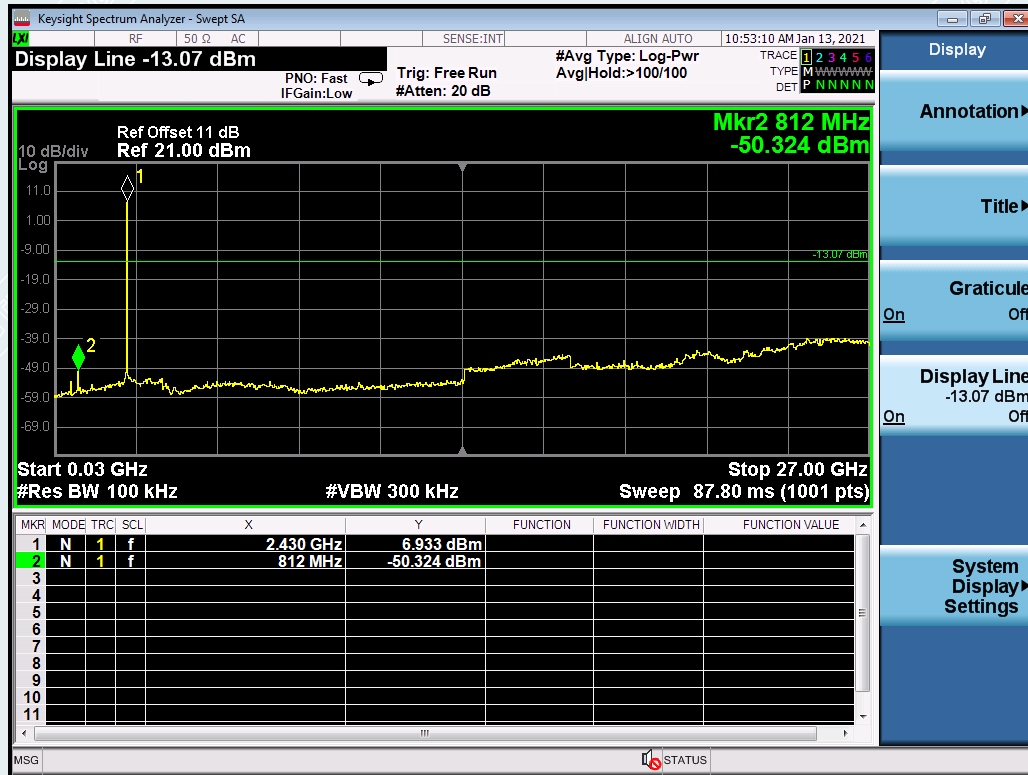
0.03GHz-26.5GHz



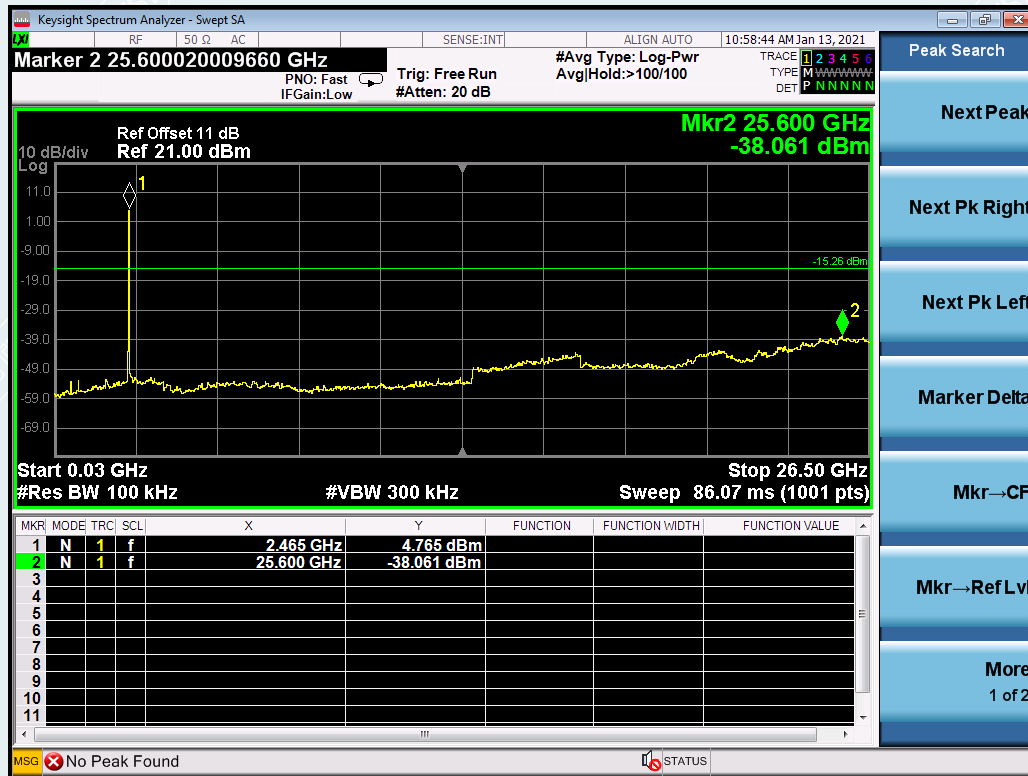
2.31GHz-2.422GHz



802.11b mode:
Channel 2437MHz
0.03GHz-26.5GHz



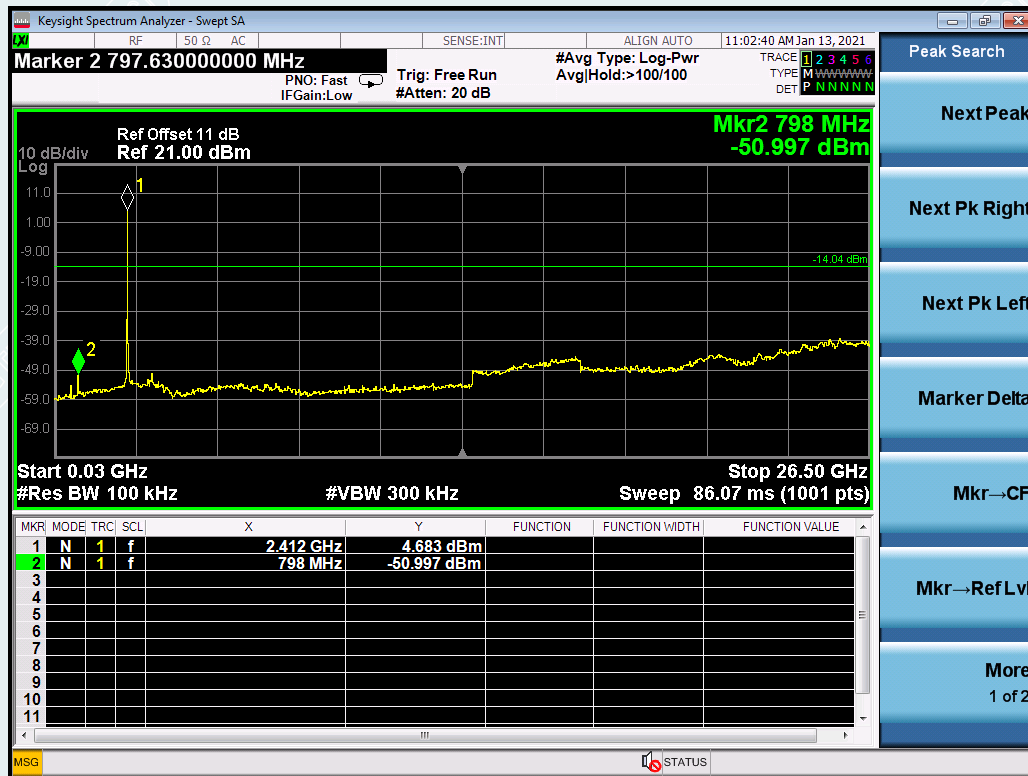
802.11b mode:
Channel 2462MHz
0.03GHz-26.5GHz



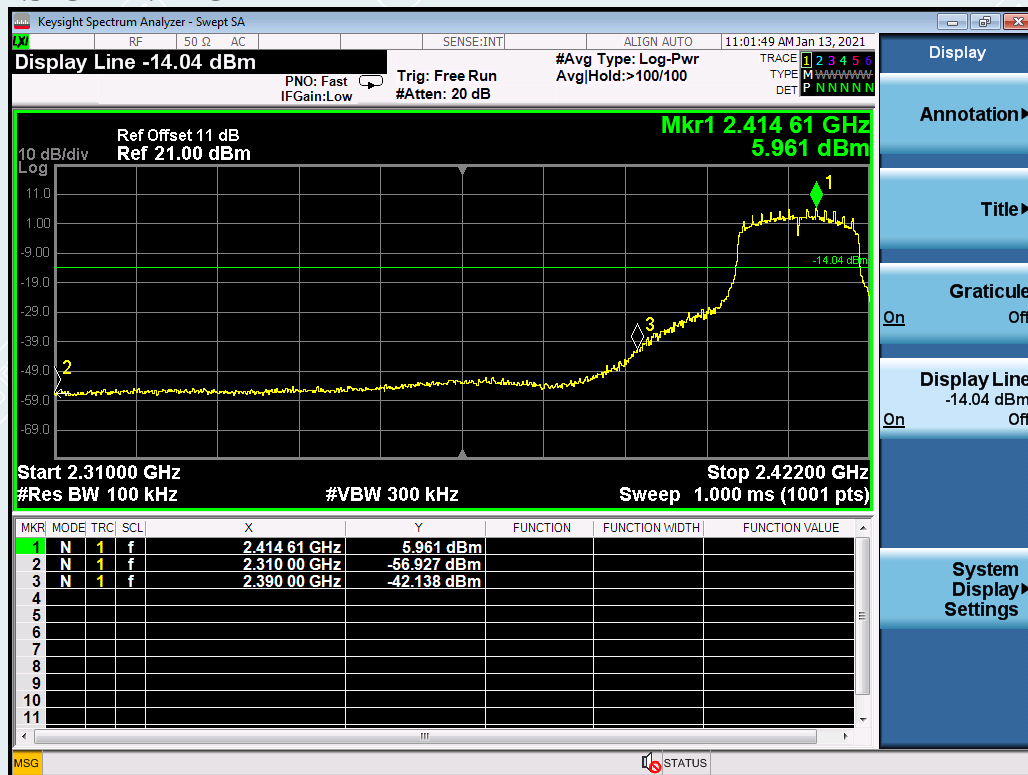
2.452GHz-2.5GHz



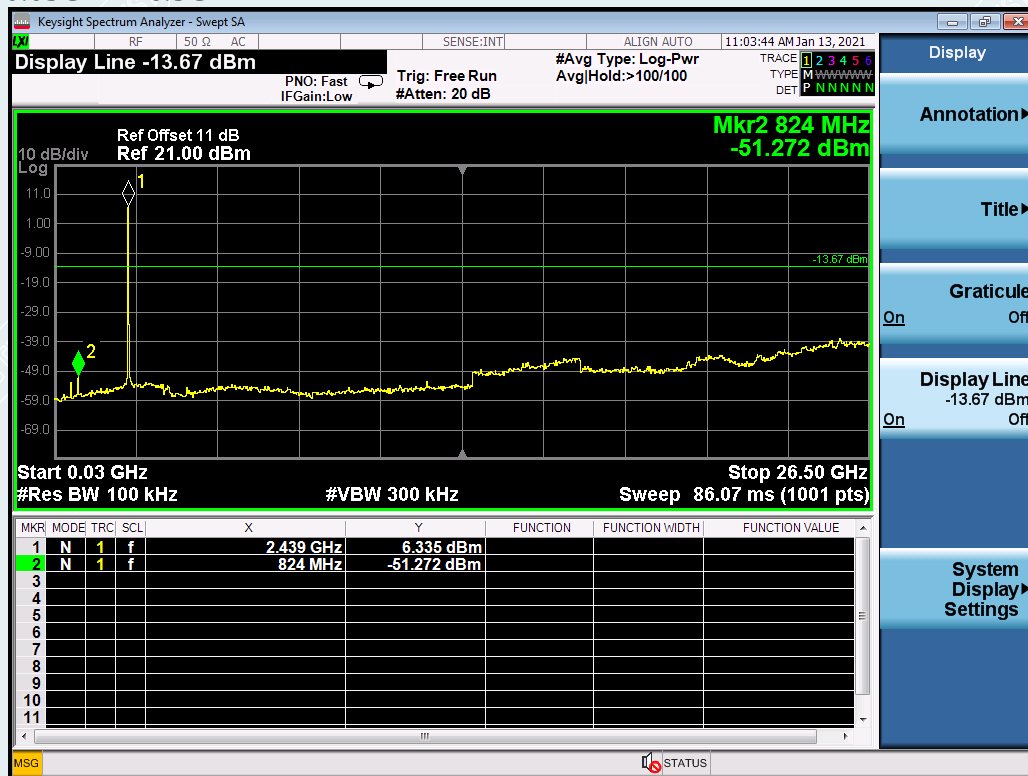
802.11g mode:
Channel 2412MHz
0.03GHz-26.5GHz



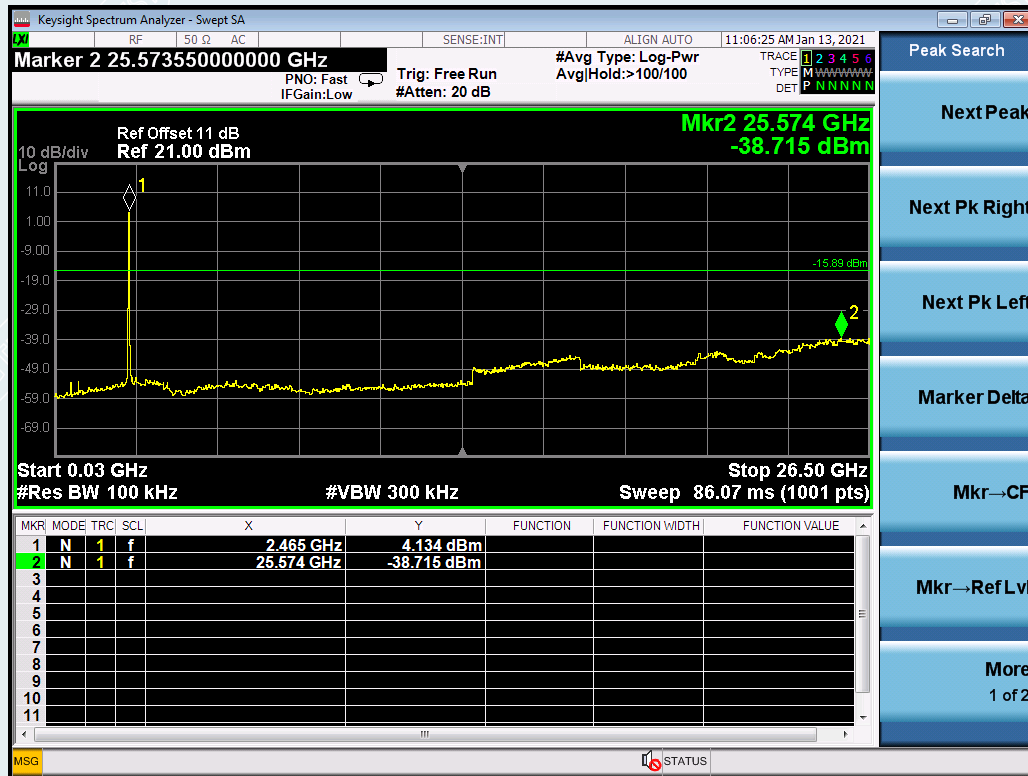
2.31GHz-2.422GHz



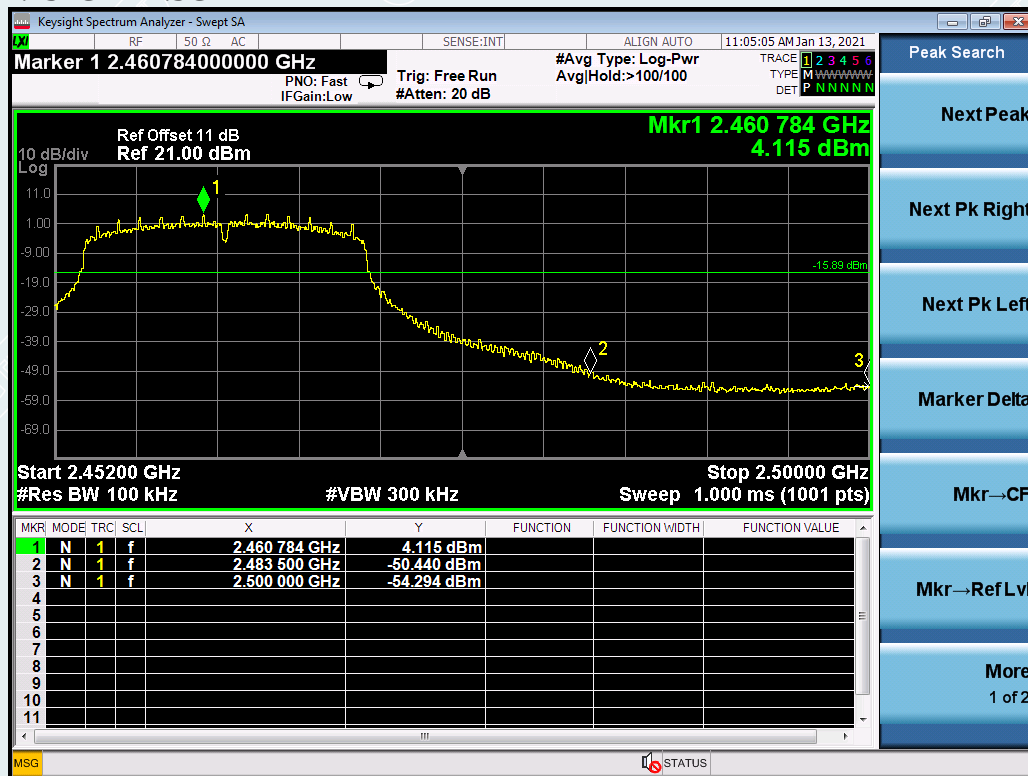
802.11g mode:
Channel 2437MHz
0.03GHz-26.5GHz



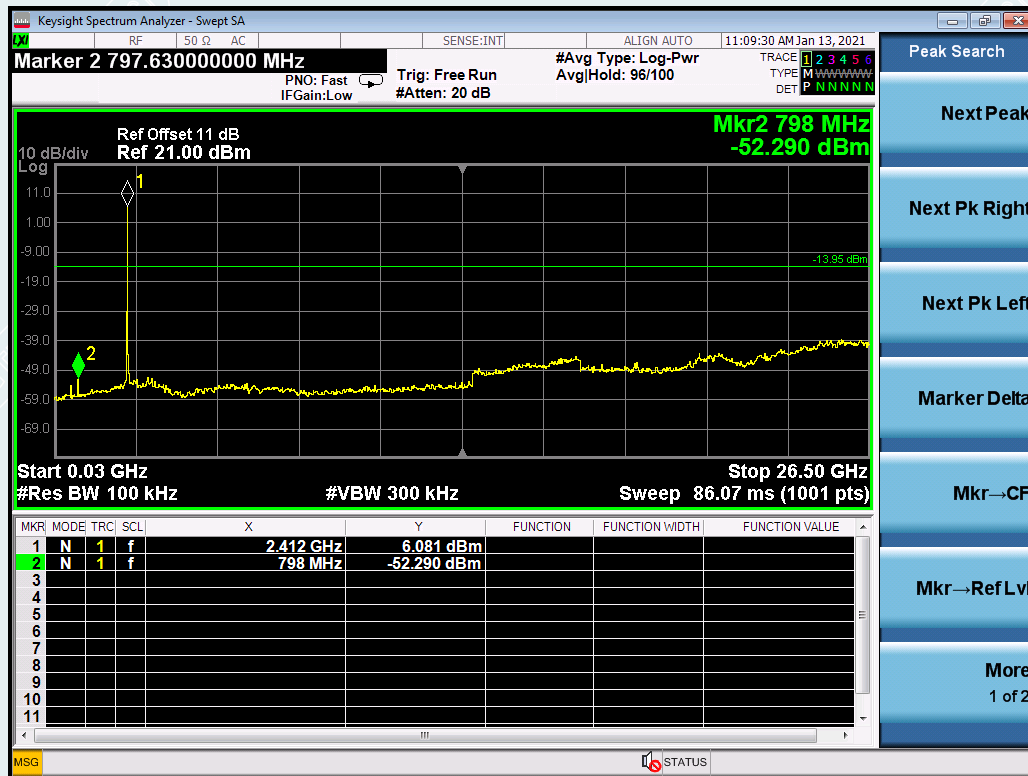
802.11g mode:
Channel 2462MHz
0.03GHz-26.5GHz



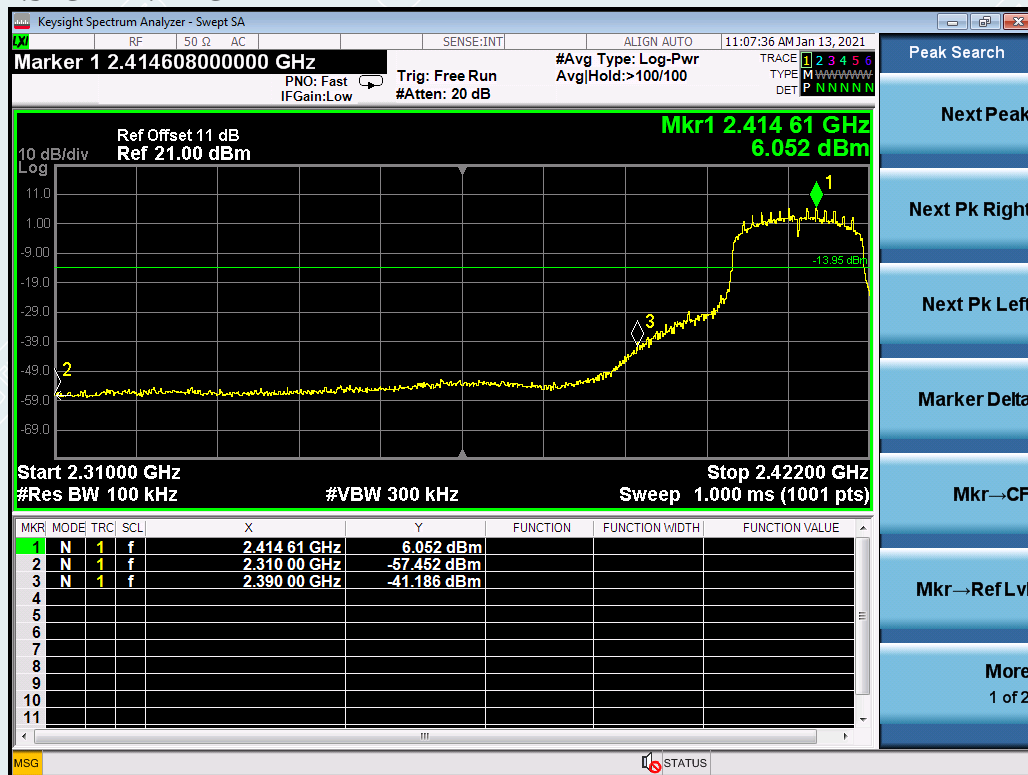
2.452GHz-2.5GHz



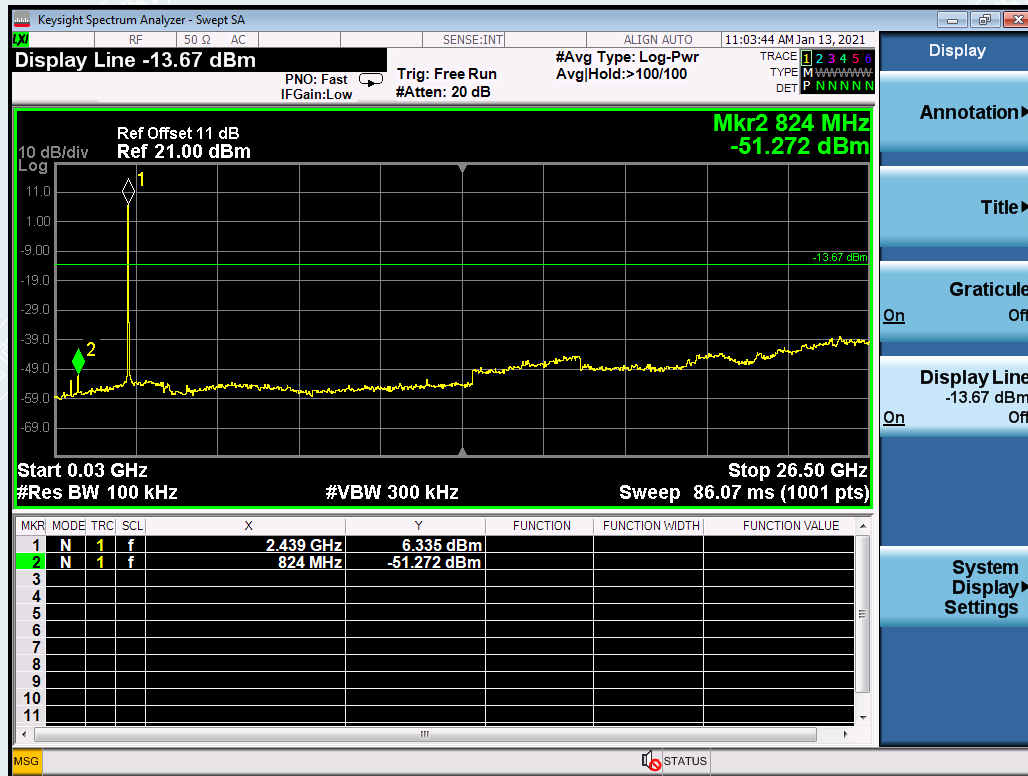
802.11n HT20 mode:
Channel 2412MHz
0.03GHz-26.5GHz



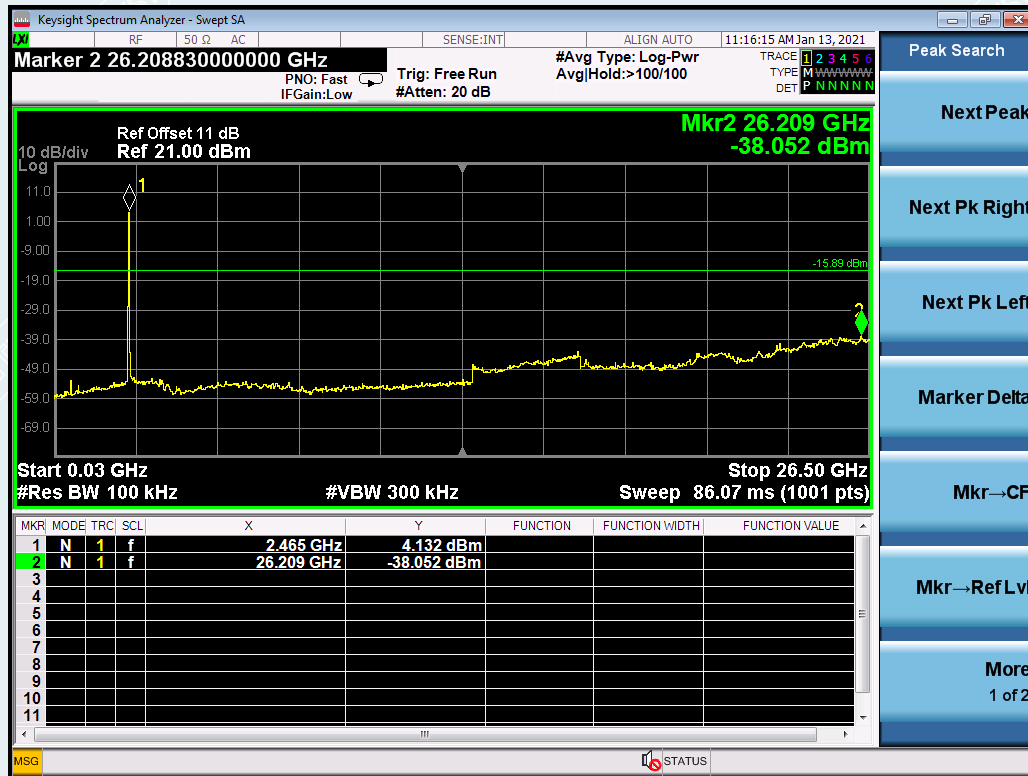
2.31GHz-2.422GHz



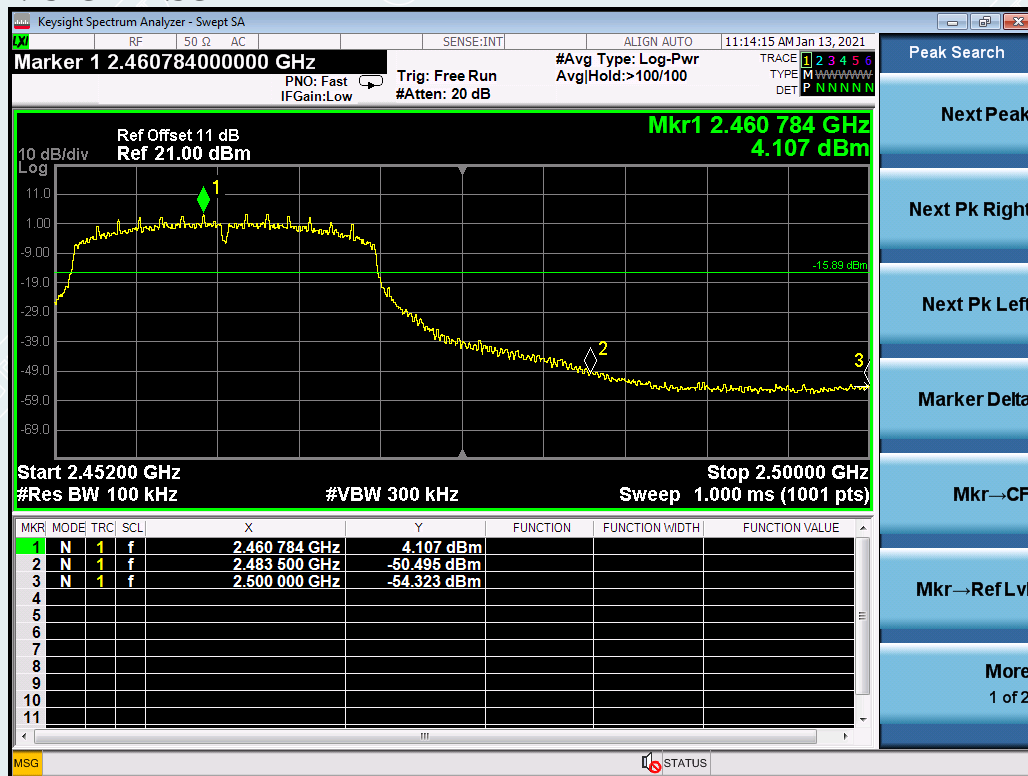
802.11n HT20 mode:
Channel 2437MHz
0.03GHz-26.5GHz



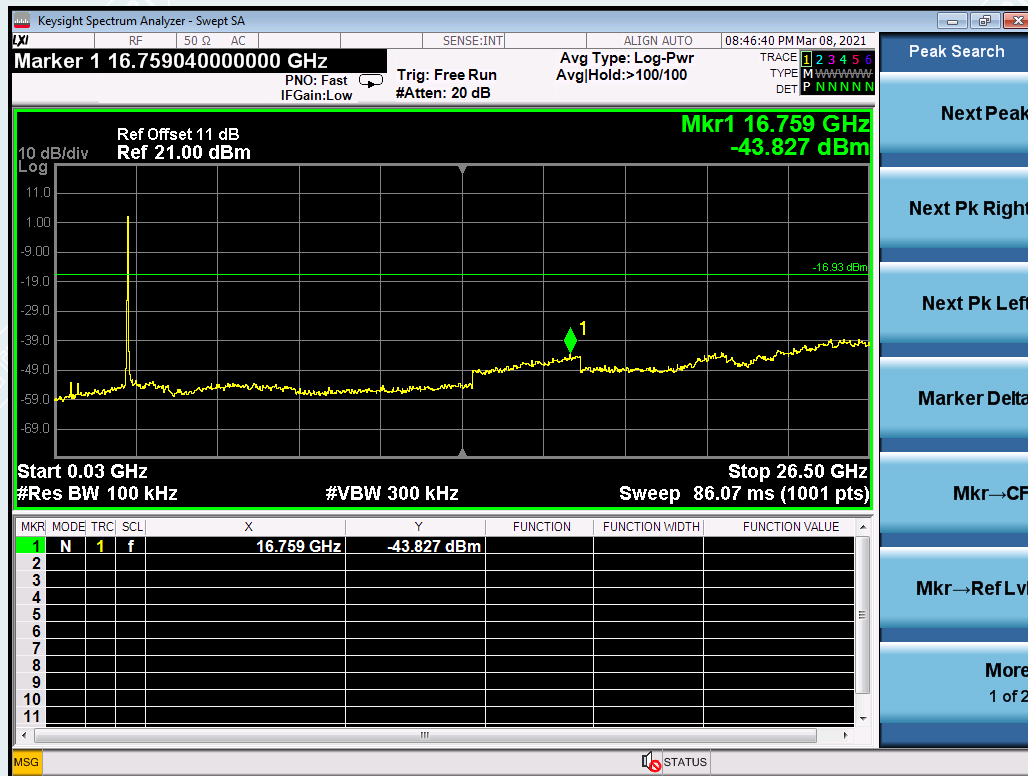
802.11n HT20 mode:
Channel 2462MHz
0.03GHz-26.5GHz



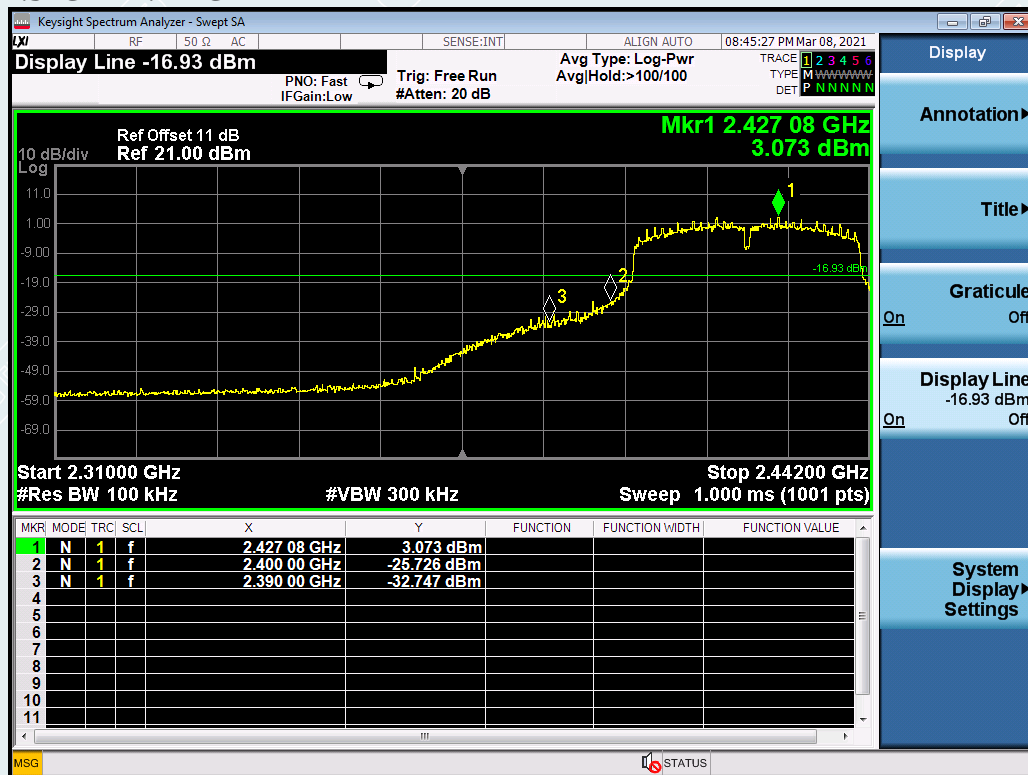
2.452GHz-2.5GHz



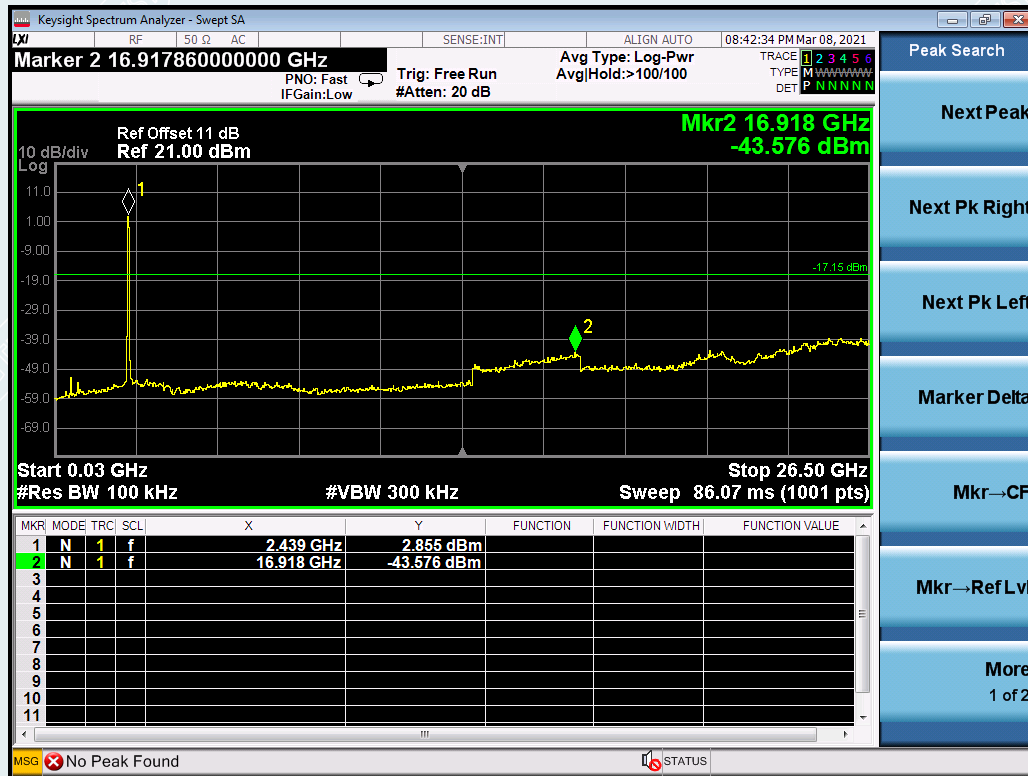
802.11n HT40 mode:
Channel 2422MHz
0.03GHz-26.5GHz



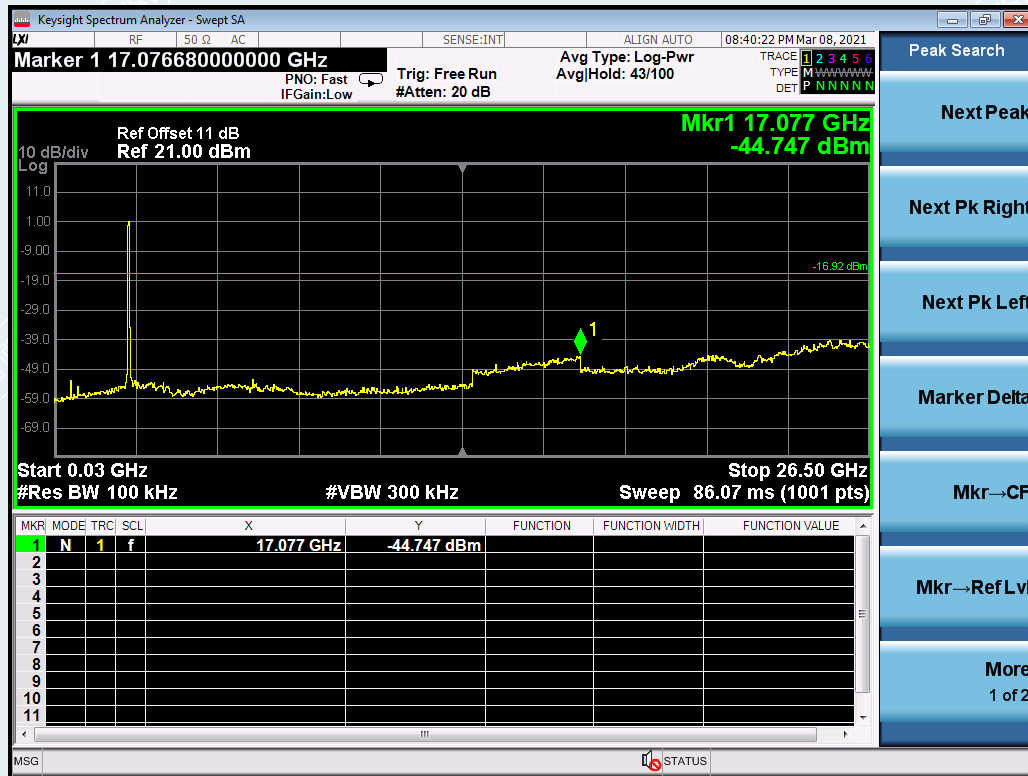
2.31GHz-2.442GHz



802.11n HT40 mode:
Channel 2437MHz
0.03GHz-26.5GHz



802.11n HT40 mode:
Channel 2452MHz
0.03GHz-26.5GHz



2.432GHz-2.5GHz



11. RESTRICTED BANDS OF OPERATION

11.1. LIMITS

Section 15.247(d) 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) (see §15.205(c)).

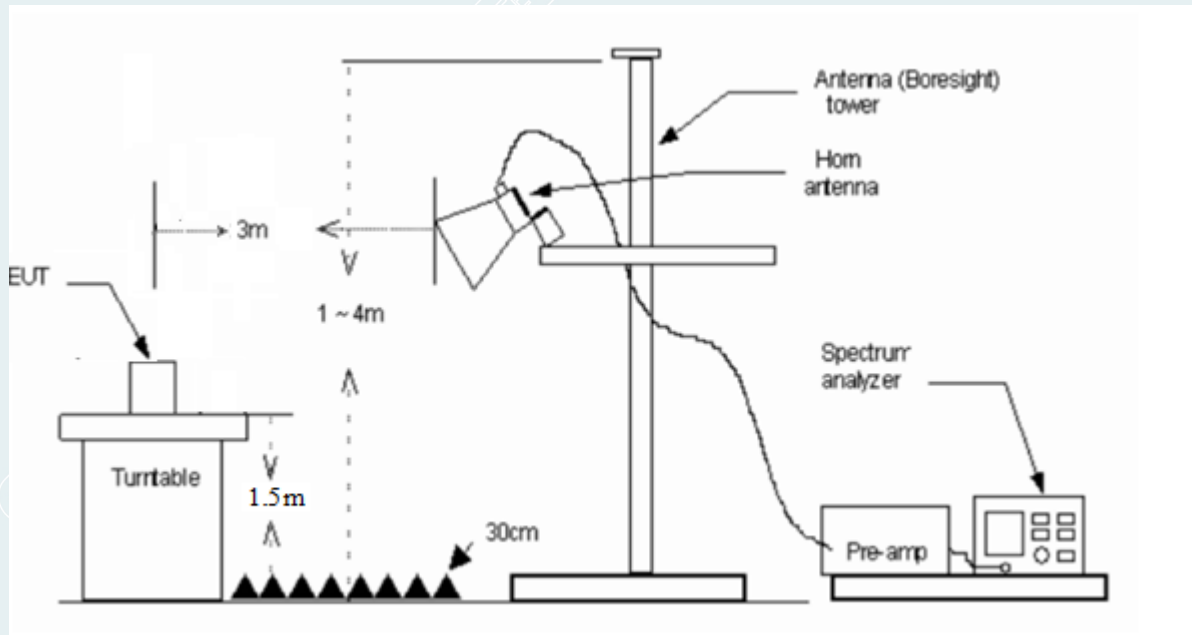
MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
¹ 0.495 - 0.505	16.69475 -	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.69525	960 - 1240	7.25 - 7.75
4.125 - 4.128	16.80425 -	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	16.80475	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	25.5 - 25.67	1645.5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

11.2. TEST PROCEDURES

Test procedures follow KDB 558074 D01 DTS Meas Guidance v03r01.

- 1) The EUT is placed on a turntable, which is 1.5m above the ground plane.
- 2) The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
- 3) EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.
- 4) Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission:
 - a) PEAK: RBW=1MHz / VBW=1MHz / Sweep=AUTO
 - b) AVERAGE: RBW=1MHz / VBW=1/T / Sweep=AUTO
- 5) Repeat the procedures until all the PEAK and AVERAGE versus POLARIZATION are measured.

11.3. TEST SETUP



11.4. TEST RESULTS

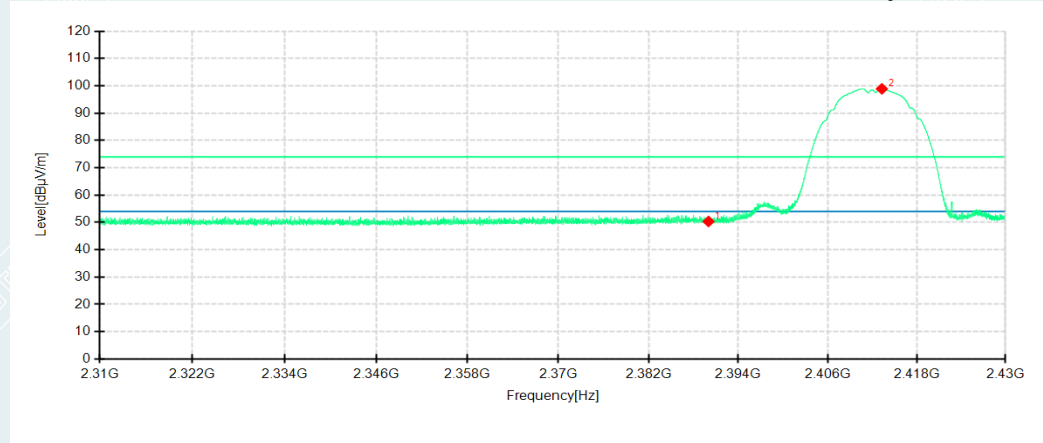
802.11b mode

Lowest Channel

Channel 2412MHz

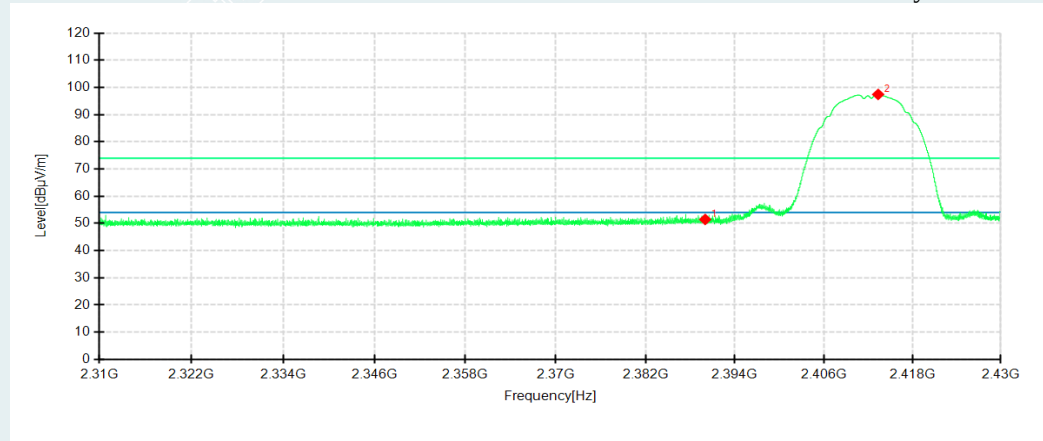
Detector mode: Peak

Polarity: Horizontal



Detector mode: Peak

Polarity: Vertical



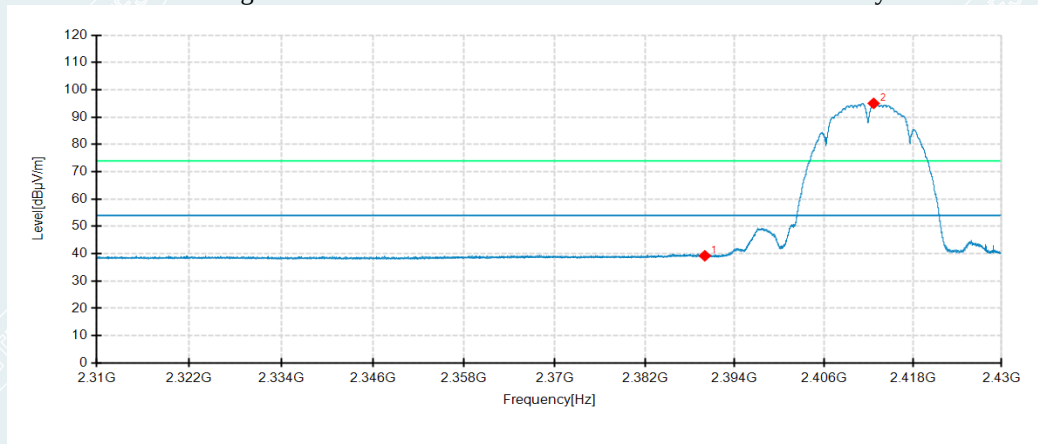
No.	Frequency MHz	Reading dBμV/m	Level dBμV/m	Factor dB	Limit dBuV/m	Margin dB	Height cm	Angle °	Pole	Comment
1	2390.0040	47.14	50.33	3.19	74.00	23.67	150	341	Horizontal	/
2	2413.2840	95.49	98.88	3.39	74.00	-24.88	150	310	Horizontal	No limit
1	2390.0040	48.26	51.45	3.19	74.00	22.55	150	309	Vertical	/
2	2413.3440	94.02	97.41	3.39	74.00	-23.41	150	101	Vertical	No limit

802.11b mode**Lowest Channel**

Channel 2412MHz

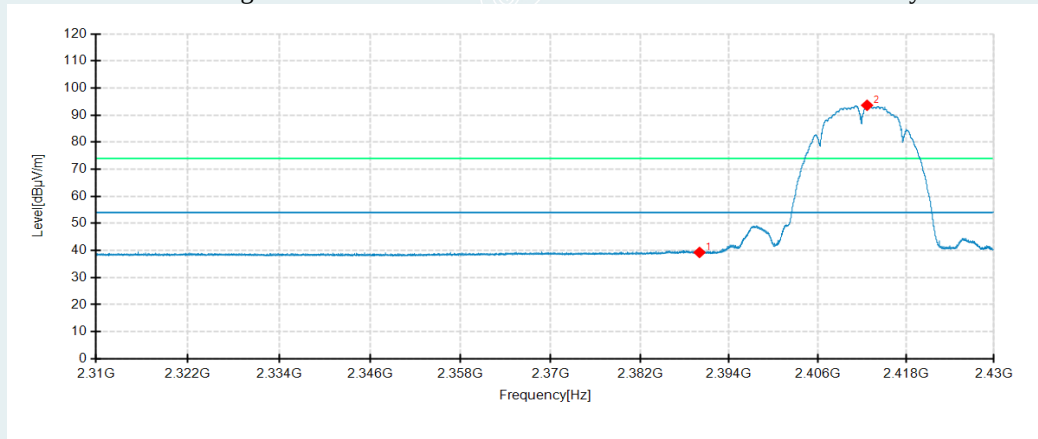
Detector mode: Average

Polarity: Horizontal



Detector mode: Average

Polarity: Vertical



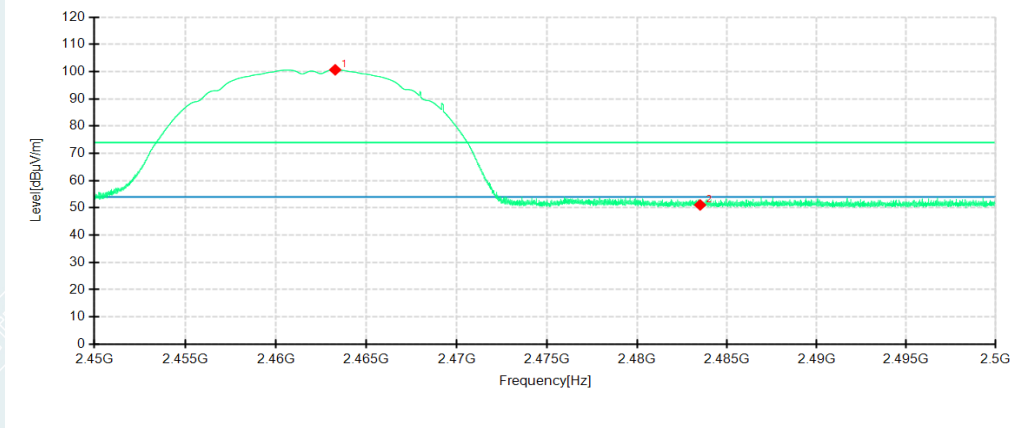
No.	Frequency MHz	Reading dBμV/m	Level dBμV/m	Factor dB	Limit dBμV/m	Margin dB	Height cm	Angle °	Pole	Comment
1	2390.0040	36.05	39.24	3.19	54.00	14.76	150	210	Horizontal	/
2	2412.6960	91.64	95.02	3.38	54.00	-41.02	150	310	Horizontal	No limit
1	2390.0040	36.09	39.28	3.19	54.00	14.72	150	86	Vertical	/
2	2412.6960	90.24	93.62	3.38	54.00	-39.62	150	100	Vertical	No limit

802.11b mode**Highest Channel**

Channel 2462MHz

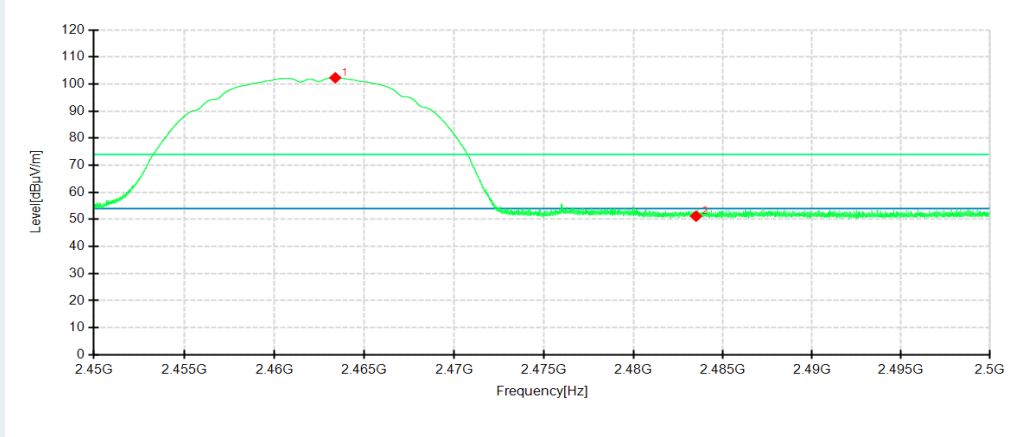
Detector mode: Peak

Polarity: Horizontal



Detector mode: Peak

Polarity: Vertical



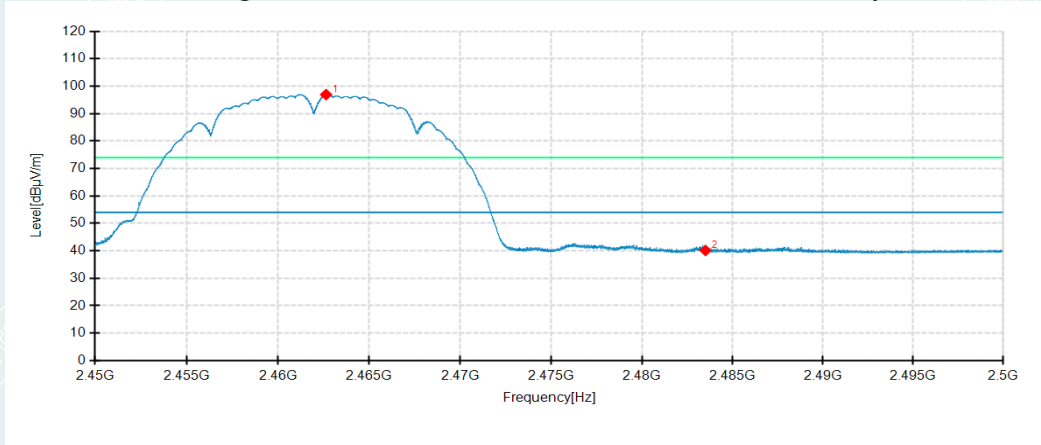
No.	Frequency MHz	Reading dBμV/m	Level dBμV/m	Factor dB	Limit dBμV/m	Margin dB	Height cm	Angle °	Pole	Comment
1	2463.2700	97.11	100.64	3.53	74.00	-26.64	150	109	Horizontal	No limit
2	2483.5000	47.52	51.08	3.56	74.00	22.92	150	323	Horizontal	/
1	2463.3800	98.78	102.31	3.53	74.00	-28.31	150	131	Vertical	No limit
2	2483.5000	47.62	51.18	3.56	74.00	22.82	150	114	Vertical	/

802.11b mode**Highest Channel**

Channel 2462MHz

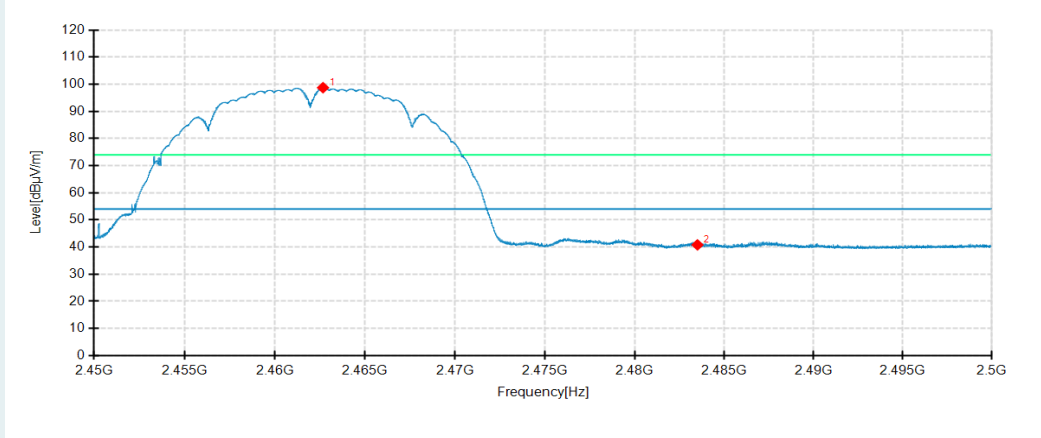
Detector mode: Average

Polarity: Horizontal



Detector mode: Average

Polarity: Vertical



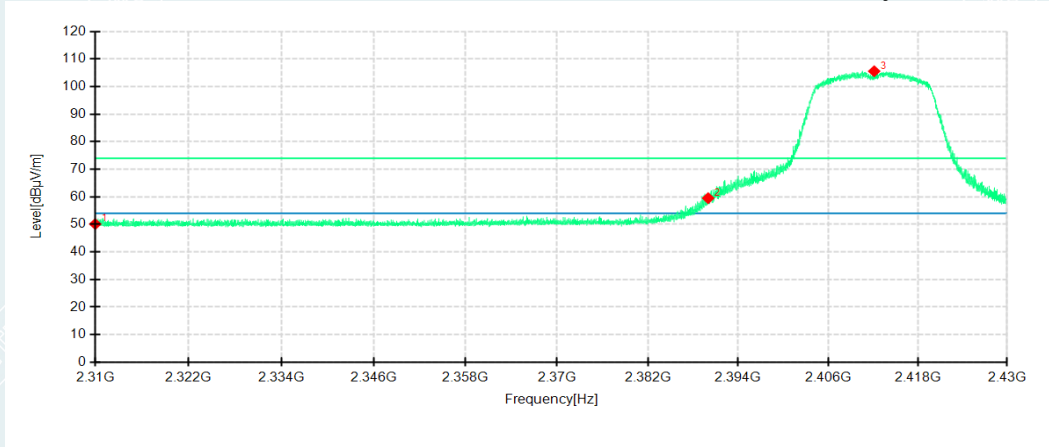
No.	Frequency MHz	Reading dBμV/m	Level dBμV/ m	Factor dB	Limit dBμV/m	Margin dB	Height cm	Angle °	Pole	Comment
1	2462.6300	93.39	96.92	3.53	54.00	-42.92	150	111	Horizontal	No limit
2	2483.5000	36.57	40.13	3.56	54.00	13.87	150	130	Horizontal	/
1	2462.6650	95.18	98.71	3.53	54.00	-44.71	150	132	Vertical	No limit
2	2483.5000	37.24	40.80	3.56	54.00	13.20	150	132	Vertical	/

802.11g mode**Lowest Channel**

Channel 2412MHz

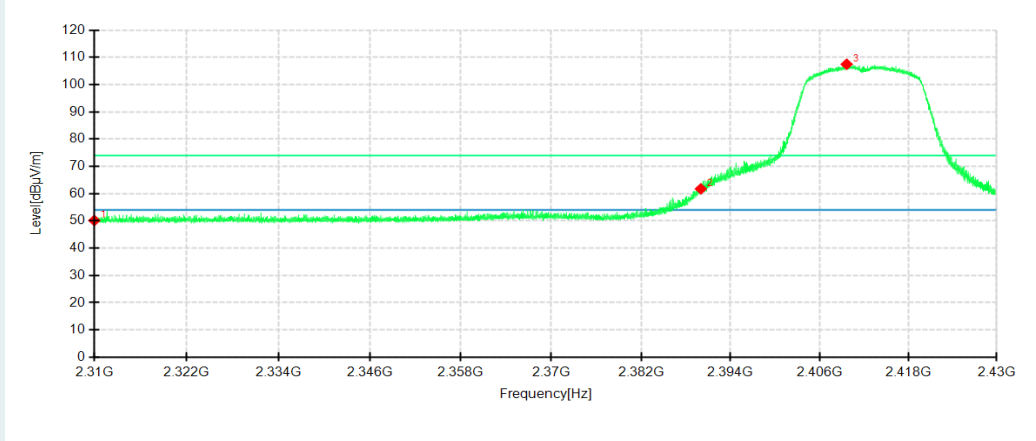
Detector mode: Peak

Polarity: Horizontal



Detector mode: Peak

Polarity: Vertical



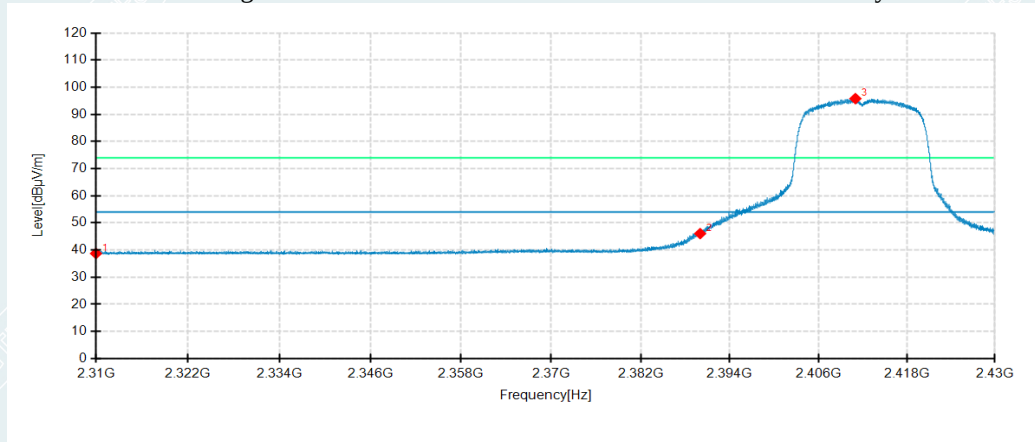
No.	Frequency MHz	Reading dBμV/m	Level dBμV/m	Factor dB	Limit dBμV/m	Margin dB	Height cm	Angle °	Pole	Comment
1	2310.0000	47.13	50.12	2.99	74.00	23.88	100	86	Horizontal	/
2	2390.0000	56.32	59.51	3.19	74.00	14.49	200	95	Horizontal	/
3	2412.1440	102.17	105.55	3.38	74.00	-31.55	100	146	Horizontal	No limit
1	2310.0000	47.16	50.15	2.99	74.00	23.85	200	282	Vertical	/
2	2390.0000	58.57	61.76	3.19	74.00	12.24	200	147	Vertical	/
3	2409.6480	104.10	107.47	3.37	74.00	-33.47	200	118	Vertical	No limit

802.11g mode**Lowest Channel**

Channel 2412MHz

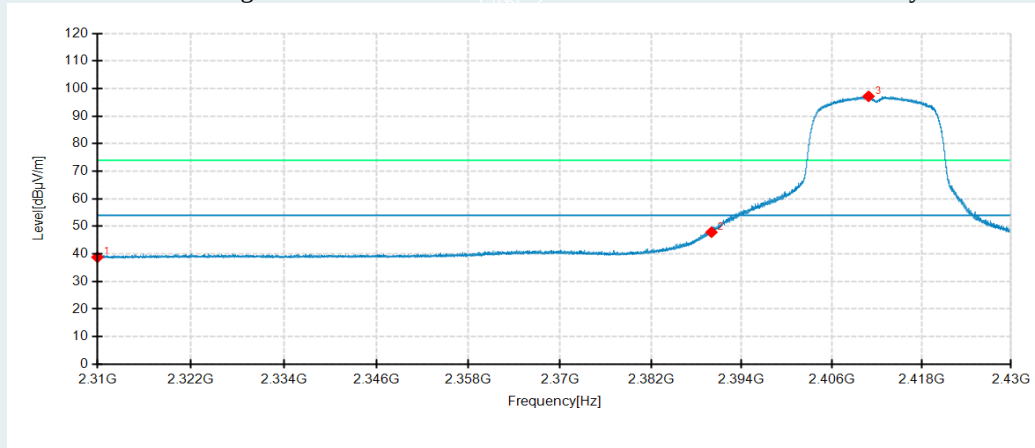
Detector mode: Average

Polarity: Horizontal



Detector mode: Average

Polarity: Vertical



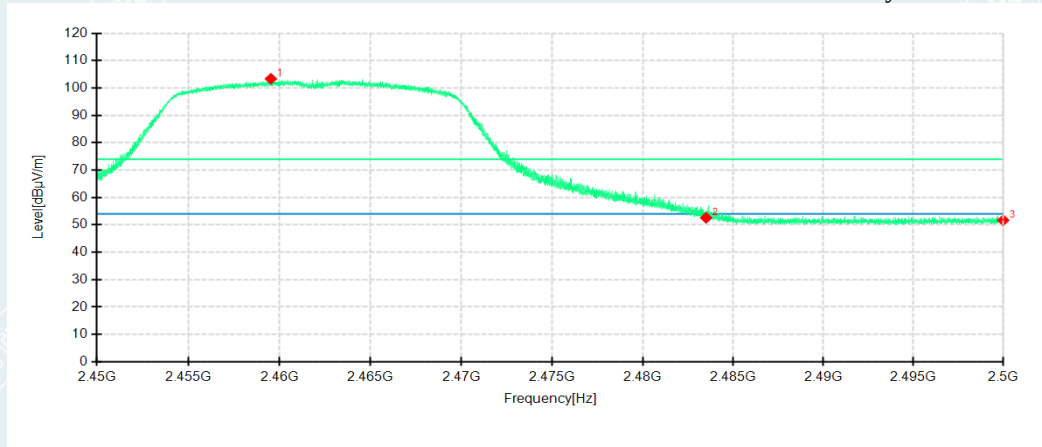
No.	Frequency MHz	Reading dBμV/m	Level dBμV/m	Factor dB	Limit dBuV/m	Margin dB	Height cm	Angle °	Pole	Comment
1	2310.0000	35.74	38.73	2.99	54.00	15.27	100	26	Horizontal	/
2	2390.0000	42.88	46.07	3.19	54.00	7.93	100	136	Horizontal	/
3	2411.0040	92.41	95.79	3.38	54.00	-41.79	100	136	Horizontal	No limit
1	2310.0000	35.82	38.81	2.99	54.00	15.19	100	153	Vertical	/
2	2390.0000	44.68	47.87	3.19	54.00	6.13	200	207	Vertical	/
3	2410.9080	93.79	97.17	3.38	54.00	-43.17	200	185	Vertical	No limit

802.11g mode**Highest Channel**

Channel 2462MHz

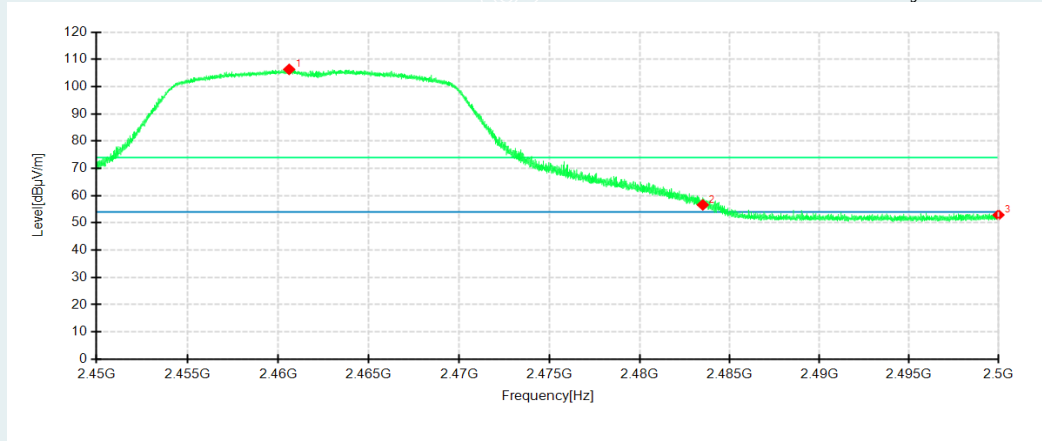
Detector mode: Peak

Polarity: Horizontal



Detector mode: Peak

Polarity: Vertical



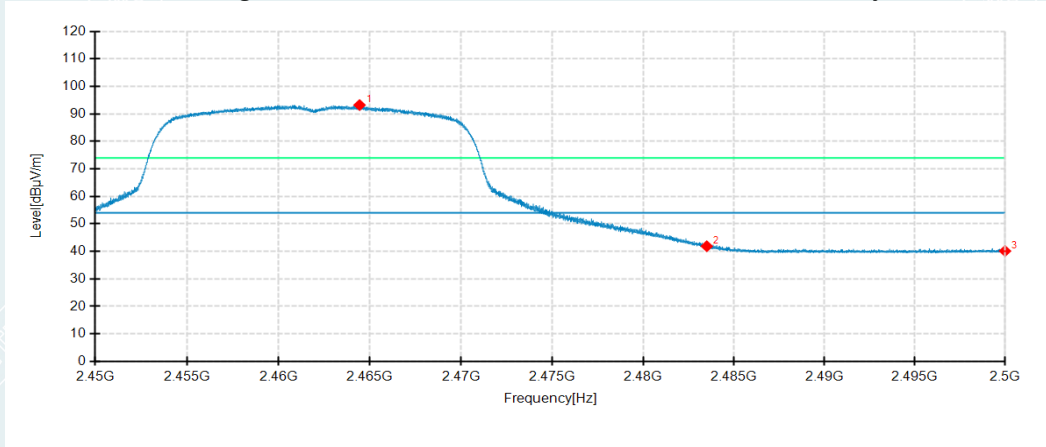
No.	Frequency MHz	Reading dBμV/m	Level dBμV/m	Factor dB	Limit dBuV/m	Margin dB	Height cm	Angle °	Pole	Comment
1	2459.5250	99.82	103.34	3.52	74.00	-29.34	200	133	Horizontal	No limit
2	2483.5000	49.02	52.58	3.56	74.00	21.42	100	138	Horizontal	/
3	2500.0000	48.12	51.70	3.58	74.00	22.30	200	81	Horizontal	/
1	2460.6050	102.80	106.32	3.52	74.00	-32.32	100	108	Vertical	No limit
2	2483.5000	53.04	56.60	3.56	74.00	17.40	100	78	Vertical	/
3	2500.0000	49.34	52.92	3.58	74.00	21.08	100	12	Vertical	/

802.11g mode**Highest Channel**

Channel 2462MHz

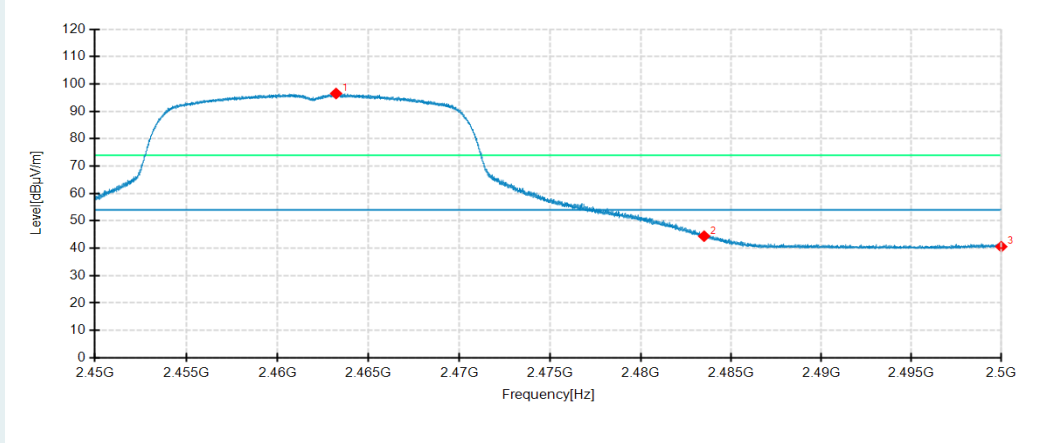
Detector mode: Average

Polarity: Horizontal



Detector mode: Average

Polarity: Vertical



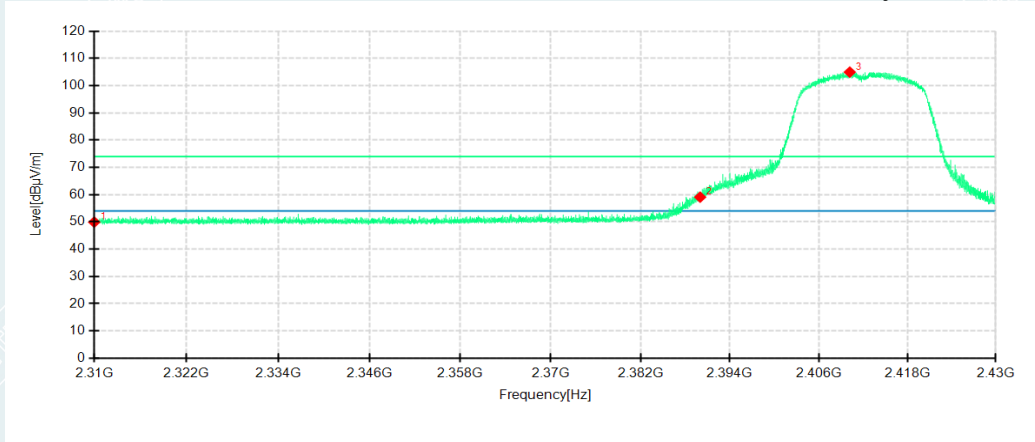
No.	Frequency MHz	Reading dBμV/m	Level dBμV/m	Factor dB	Limit dBμV/m	Margin dB	Height cm	Angle °	Pole	Comment
1	2464.4300	89.67	93.20	3.53	54.00	-39.20	200	131	Horizontal	No limit
2	2483.5000	38.32	41.88	3.56	54.00	12.12	200	131	Horizontal	/
3	2500.0000	36.55	40.13	3.58	54.00	13.87	200	94	Horizontal	/
1	2463.2150	92.98	96.51	3.53	54.00	-42.51	100	115	Vertical	No limit
2	2483.5000	40.86	44.42	3.56	54.00	9.58	100	85	Vertical	/
3	2500.0000	37.01	40.59	3.58	54.00	13.41	100	341	Vertical	/

802.11n HT20 mode**Lowest Channel**

Channel 2412MHz

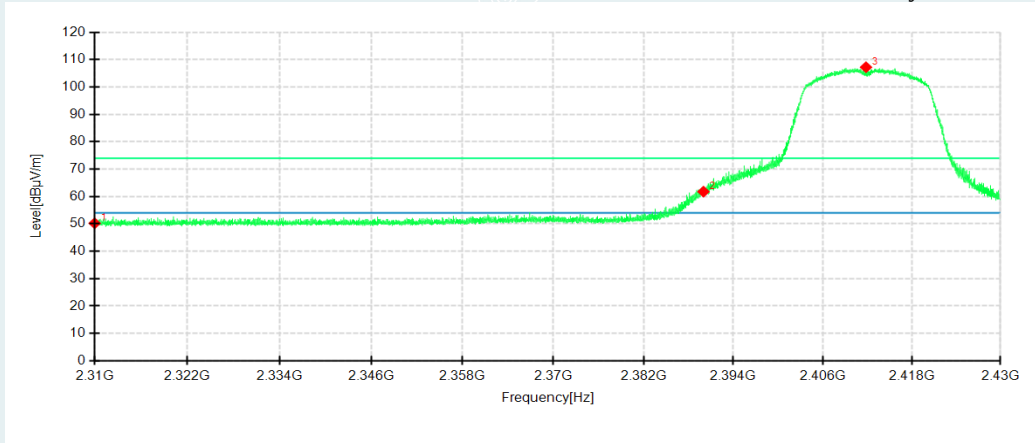
Detector mode: Peak

Polarity: Horizontal



Detector mode: Peak

Polarity: Vertical



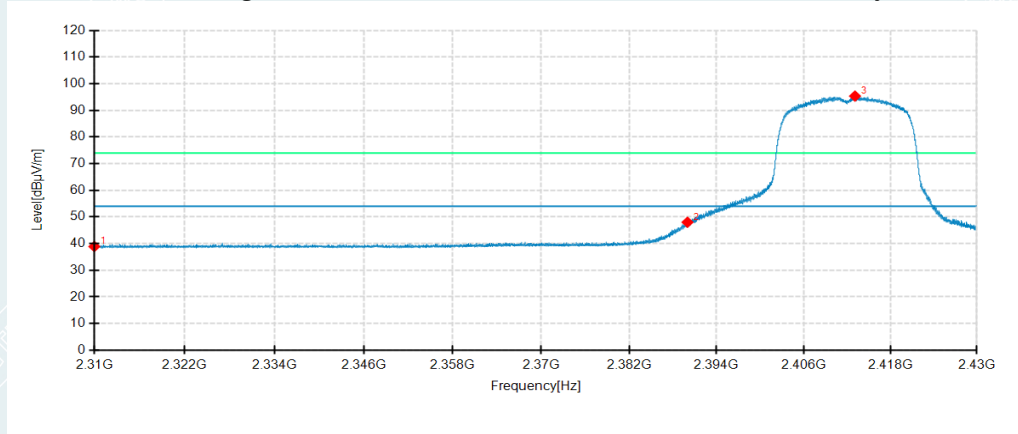
No.	Frequency MHz	Reading dBμV/m	Level dBμV/m	Factor dB	Limit dBμV/m	Margin dB	Height cm	Angle °	Pole	Comment
1	2310.0000	46.92	49.91	2.99	74.00	24.09	200	297	Horizontal	/
2	2390.0000	55.89	59.08	3.19	74.00	14.92	200	97	Horizontal	/
3	2410.1760	101.57	104.94	3.37	74.00	-30.94	100	145	Horizontal	No limit
1	2310.0000	47.24	50.23	2.99	74.00	23.77	200	57	Vertical	/
2	2390.0000	58.58	61.77	3.19	74.00	12.23	100	130	Vertical	/
3	2411.8200	103.82	107.20	3.38	74.00	-33.20	200	147	Vertical	No limit

802.11n HT20 mode**Lowest Channel**

Channel 2412MHz

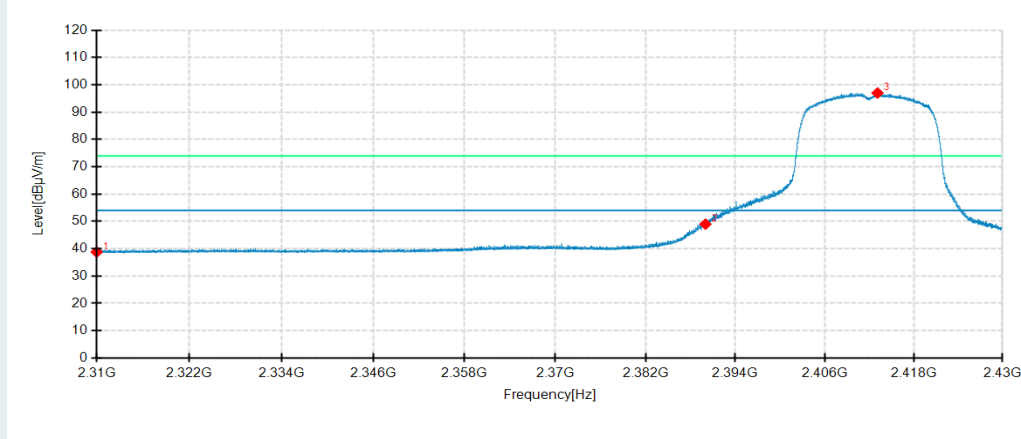
Detector mode: Average

Polarity: Horizontal



Detector mode: Average

Polarity: Vertical



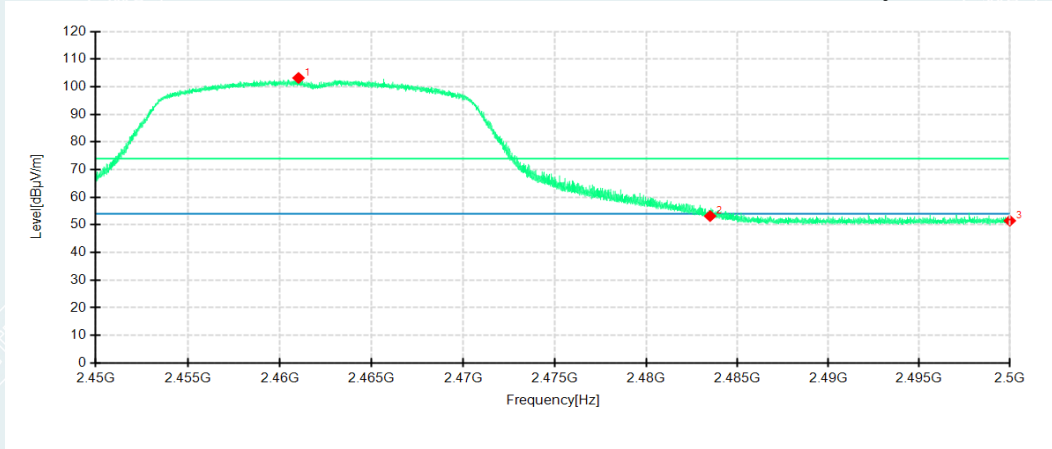
No.	Frequency MHz	Reading dBμV/m	Level dBμV/m	Factor dB	Limit dBμV/m	Margin dB	Height cm	Angle °	Pole	Comment
1	2310.0000	35.90	38.89	2.99	54.00	15.11	100	290	Horizontal	/
2	2390.0000	44.81	48.00	3.19	54.00	6.00	100	145	Horizontal	/
3	2413.0920	91.96	95.34	3.38	54.00	-41.34	100	138	Horizontal	No limit
1	2310.0000	35.78	38.77	2.99	54.00	15.23	200	147	Vertical	/
2	2390.0000	45.80	48.99	3.19	54.00	5.01	200	178	Vertical	/
3	2413.1040	93.60	96.98	3.38	54.00	-42.98	200	125	Vertical	No limit

802.11n HT20 mode**Highest Channel**

Channel 2462MHz

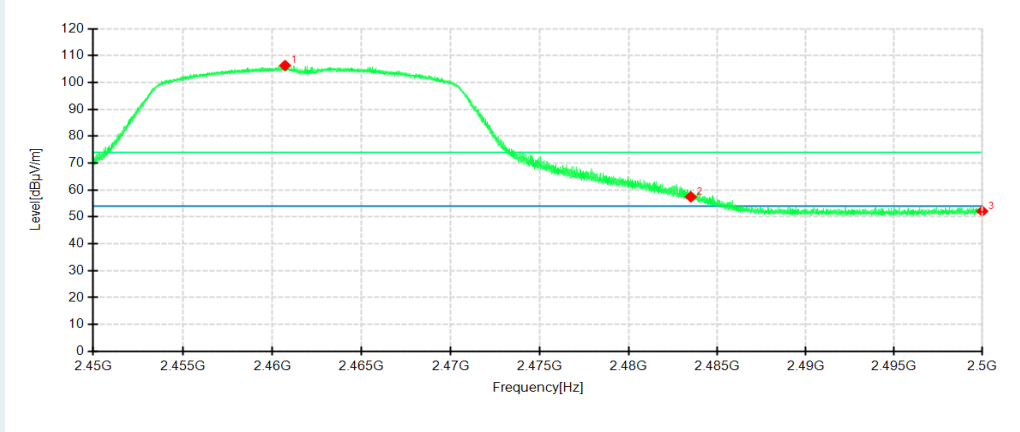
Detector mode: Peak

Polarity: Horizontal



Detector mode: Peak

Polarity: Vertical



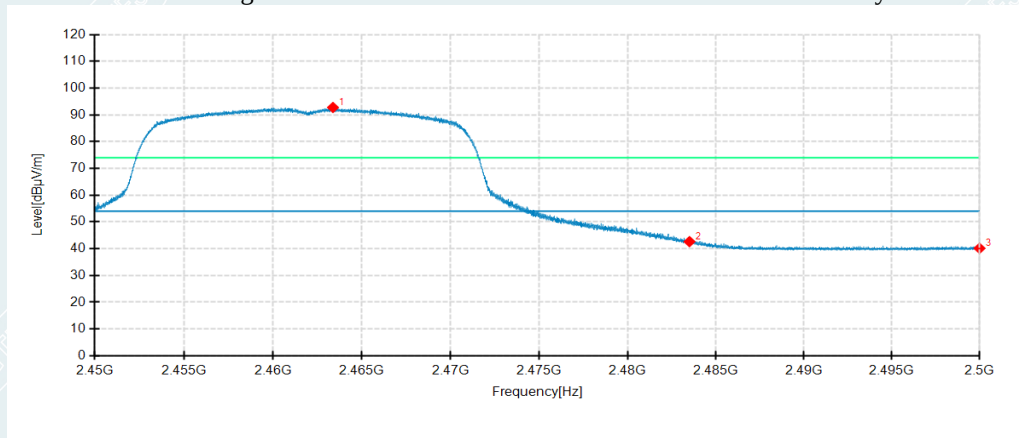
No.	Frequency MHz	Reading dBμV/m	Level dBμV/m	Factor dB	Limit dBμV/m	Margin dB	Height cm	Angle °	Pole	Comment
1	2461.0150	99.64	103.17	3.53	74.00	-29.17	200	133	Horizontal	No limit
2	2483.5000	49.61	53.17	3.56	74.00	20.83	100	79	Horizontal	/
3	2500.0000	47.92	51.50	3.58	74.00	22.50	100	233	Horizontal	/
1	2460.7150	102.76	106.29	3.53	74.00	-32.29	100	116	Vertical	No limit
2	2483.5000	53.90	57.46	3.56	74.00	16.54	100	78	Vertical	/
3	2500.0000	48.55	52.13	3.58	74.00	21.87	200	320	Vertical	/

802.11n HT20 mode**Highest Channel**

Channel 2462MHz

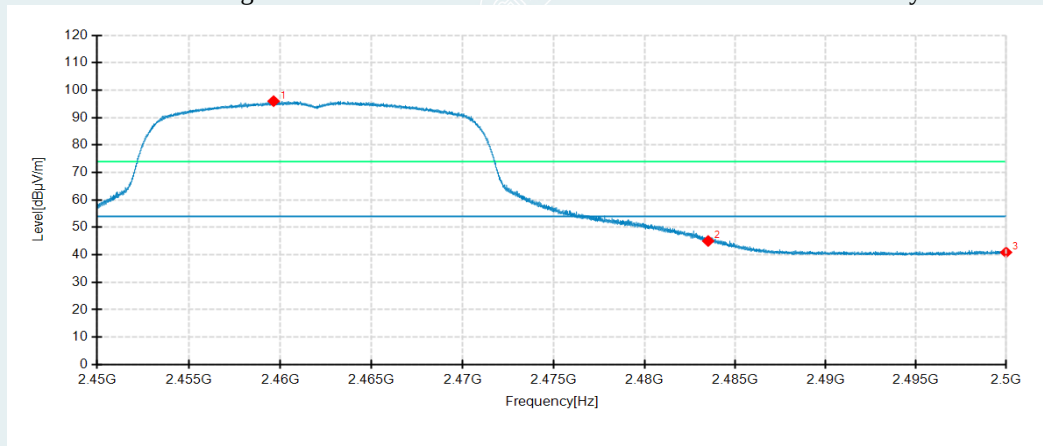
Detector mode: Average

Polarity: Horizontal



Detector mode: Average

Polarity: Vertical



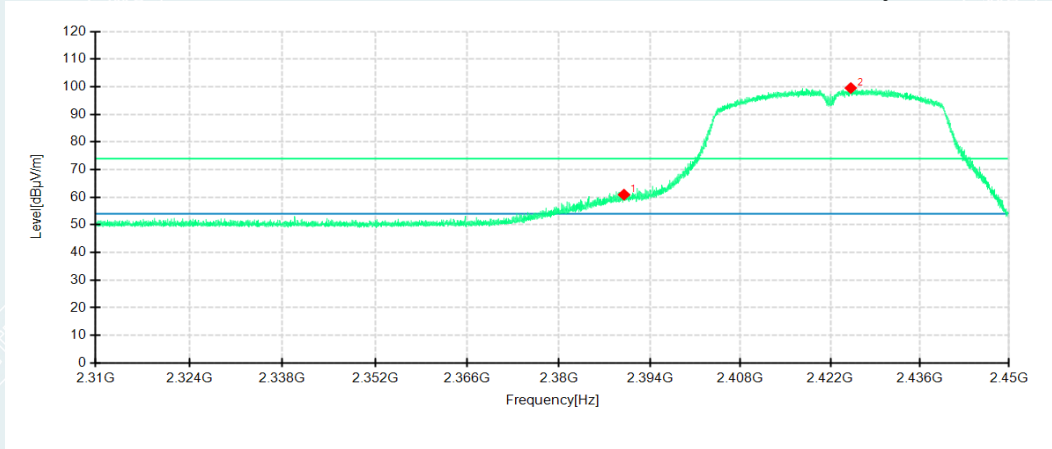
No.	Frequency MHz	Reading dBμV/m	Level dBμV/m	Factor dB	Limit dBμV/m	Margin dB	Height cm	Angle °	Pole	Comment
1	2463.3700	89.22	92.75	3.53	54.00	-38.75	100	137	Horizontal	No limit
2	2483.5000	39.08	42.64	3.56	54.00	11.36	200	137	Horizontal	/
3	2500.0000	36.57	40.15	3.58	54.00	13.85	100	272	Horizontal	/
1	2459.6350	92.48	96.00	3.52	54.00	-42.00	200	114	Vertical	No limit
2	2483.5000	41.48	45.04	3.56	54.00	8.96	100	56	Vertical	/
3	2500.0000	37.32	40.90	3.58	54.00	13.10	100	317	Vertical	/

802.11n HT40 mode**Lowest Channel**

Channel 2422MHz

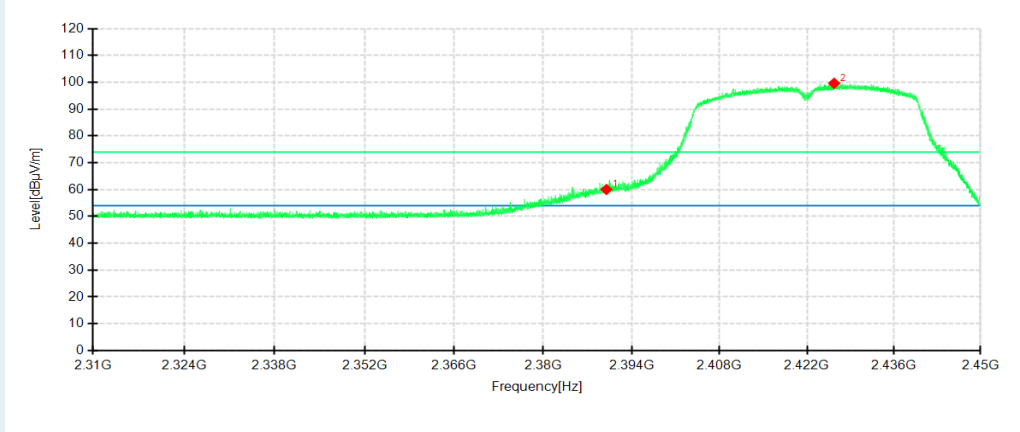
Detector mode: Peak

Polarity: Horizontal



Detector mode: Peak

Polarity: Vertical



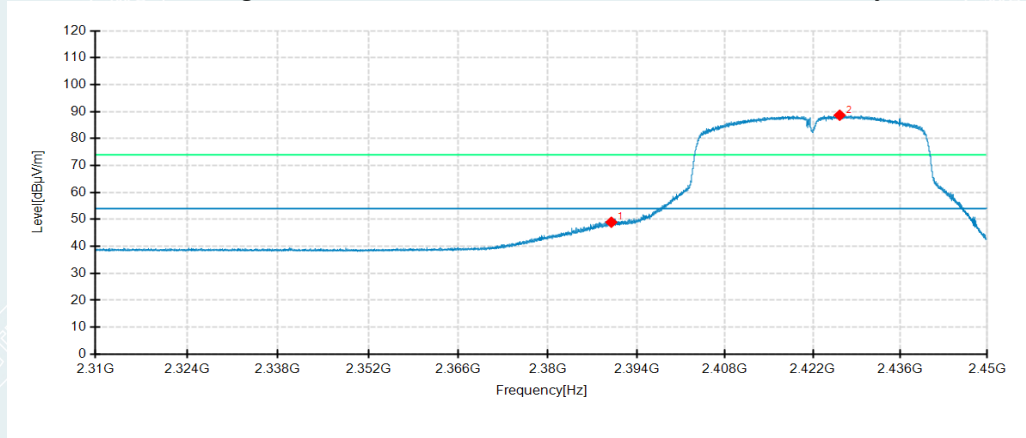
No.	Frequency MHz	Reading dBμV/m	Level dBμV/m	Factor dB	Limit dBμV/m	Margin dB	Height cm	Angle °	Pole	Comment
1	2390.0100	57.74	60.93	3.19	74.00	13.07	150	153	Horizontal	/
2	2425.1780	96.09	99.52	3.43	74.00	-25.52	150	296	Horizontal	No limit
1	2390.0100	56.83	60.02	3.19	74.00	13.98	100	170	Vertical	/
2	2426.3680	96.18	99.61	3.43	74.00	-25.61	150	138	Vertical	No limit

802.11n HT40 mode**Lowest Channel**

Channel 2422MHz

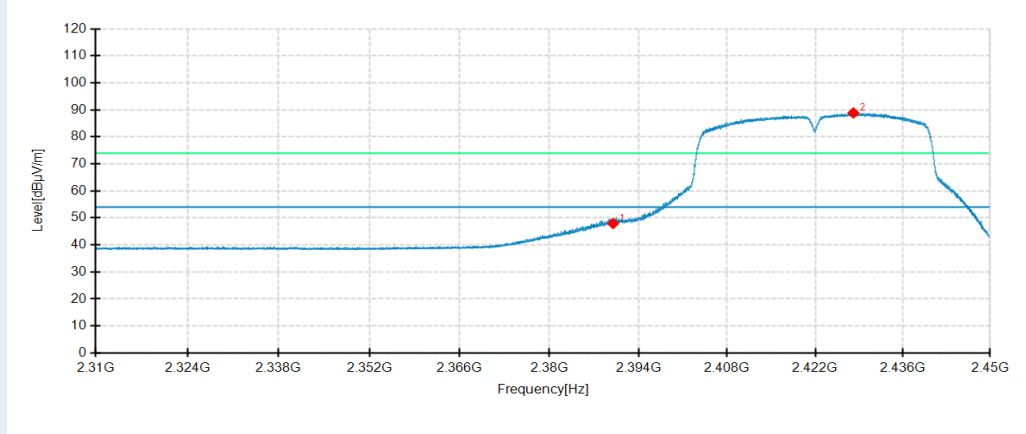
Detector mode: Average

Polarity: Horizontal



Detector mode: Average

Polarity: Vertical



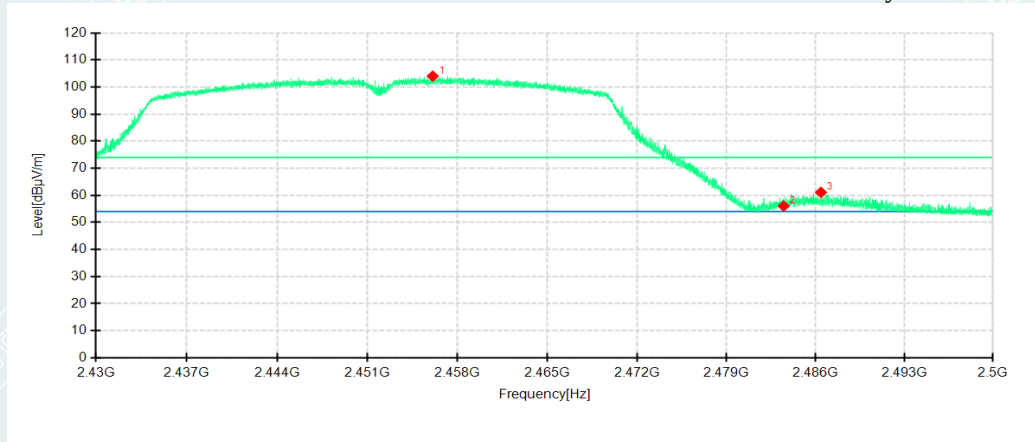
No.	Frequency MHz	Reading dBμV/m	Level dBμV/m	Factor dB	Limit dBμV/m	Margin dB	Height cm	Angle °	Pole	Comment
1	2390.0100	45.76	48.95	3.19	54.00	5.05	100	115	Horizontal	/
2	2426.2840	85.22	88.65	3.43	54.00	-34.65	150	114	Horizontal	No limit
1	2390.0100	44.72	47.91	3.19	54.00	6.09	150	53	Vertical	/
2	2428.0900	85.39	88.83	3.44	54.00	-34.83	150	101	Vertical	No limit

802.11n HT40 mode**Highest Channel**

Channel 2452MHz

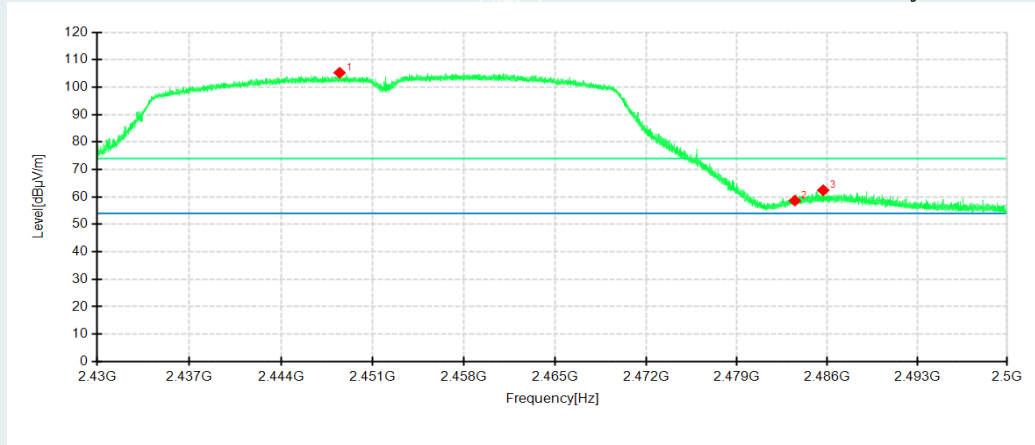
Detector mode: Peak

Polarity: Horizontal



Detector mode: Peak

Polarity: Vertical



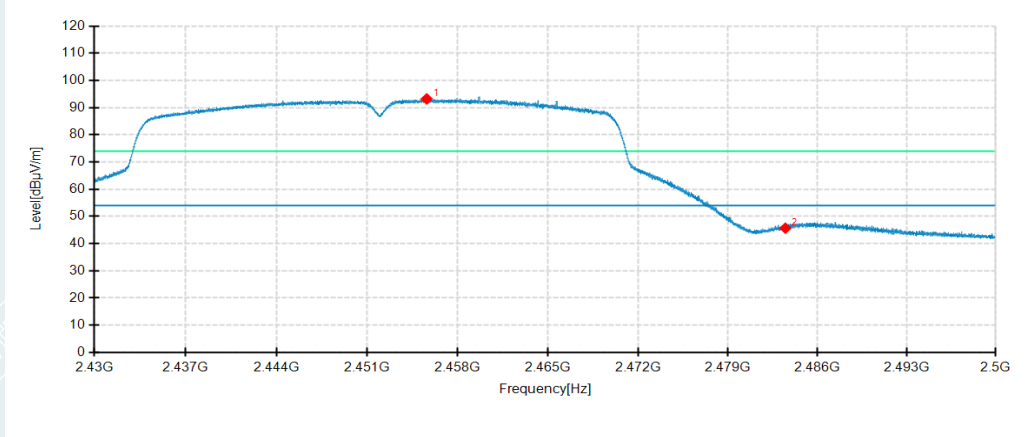
No.	Frequency MHz	Reading dBμV/m	Level dBμV/m	Factor dB	Limit dBμV/m	Margin dB	Height cm	Angle °	Pole	Comment
1	2456.0610	100.48	104.00	3.52	74.00	-30.00	150	116	Horizontal	No limit
2	2483.5010	52.49	56.05	3.56	74.00	17.95	150	116	Horizontal	/
3	2486.4340	57.53	61.09	3.56	74.00	12.91	150	116	Horizontal	/
1	2448.4660	101.76	105.26	3.50	74.00	-31.26	150	126	Vertical	No limit
2	2483.5010	55.09	58.65	3.56	74.00	15.35	150	119	Vertical	/
3	2485.6990	58.88	62.44	3.56	74.00	11.56	100	56	Vertical	/

802.11n HT40 mode**Highest Channel**

Channel 2452MHz

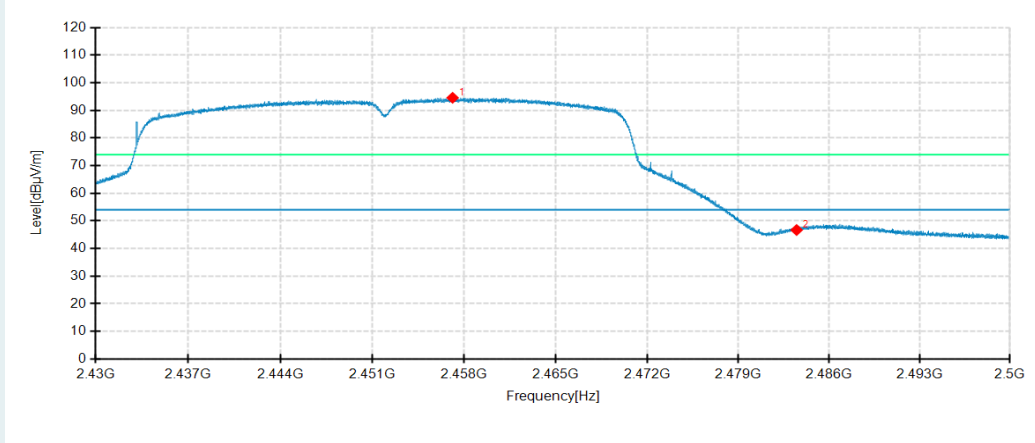
Detector mode: Average

Polarity: Horizontal



Detector mode: Average

Polarity: Vertical



No.	Frequency MHz	Reading dBμV/m	Level dBμV/m	Factor dB	Limit dBuV/m	Margin dB	Height cm	Angle °	Pole	Comment
1	2455.920	89.67	93.19	3.52	54.00	-39.19	150	114	Horizontal	No limit
2	2483.5010	42.11	45.67	3.56	54.00	8.33	150	109	Horizontal	/
1	2457.1040	91.03	94.55	3.52	54.00	-40.55	150	126	Vertical	No limit
2	2483.5010	43.13	46.69	3.56	54.00	7.31	150	120	Vertical	

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