

TEST REPORT

Report No.: SHE21120049-02AE

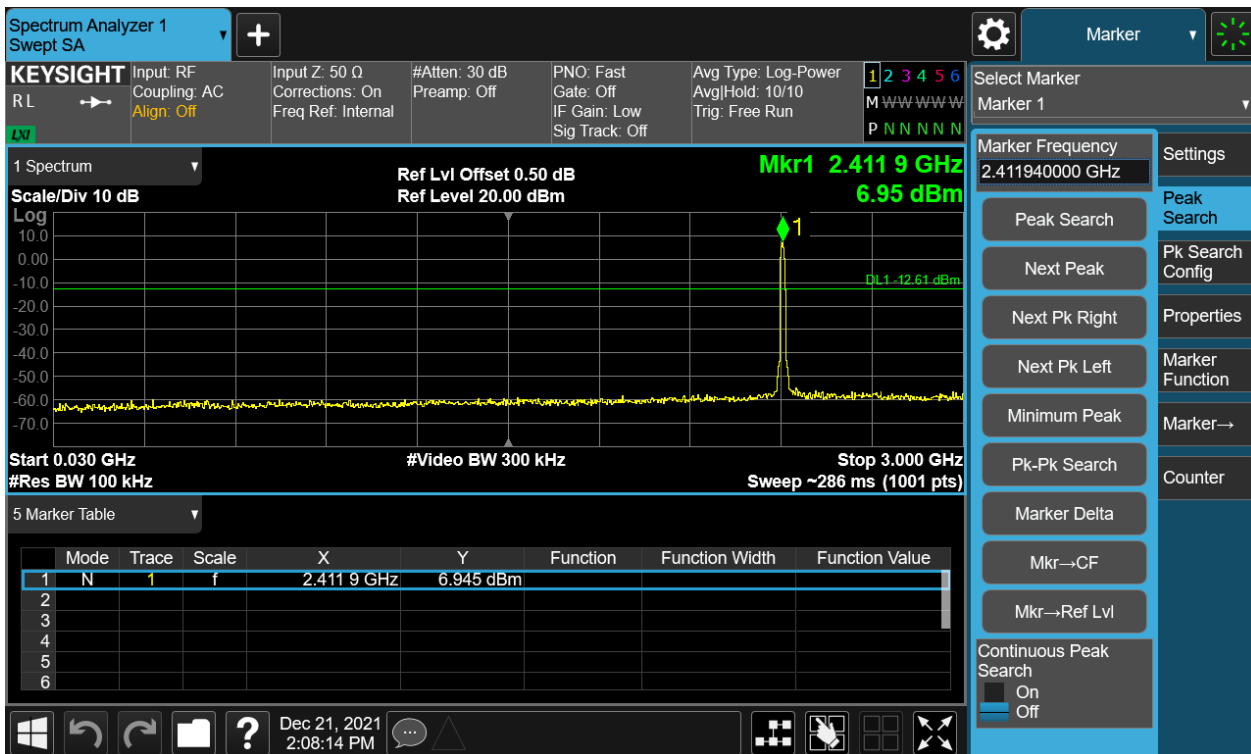
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Band Edge



Conducted spurious emissions 30MHz-25GHz



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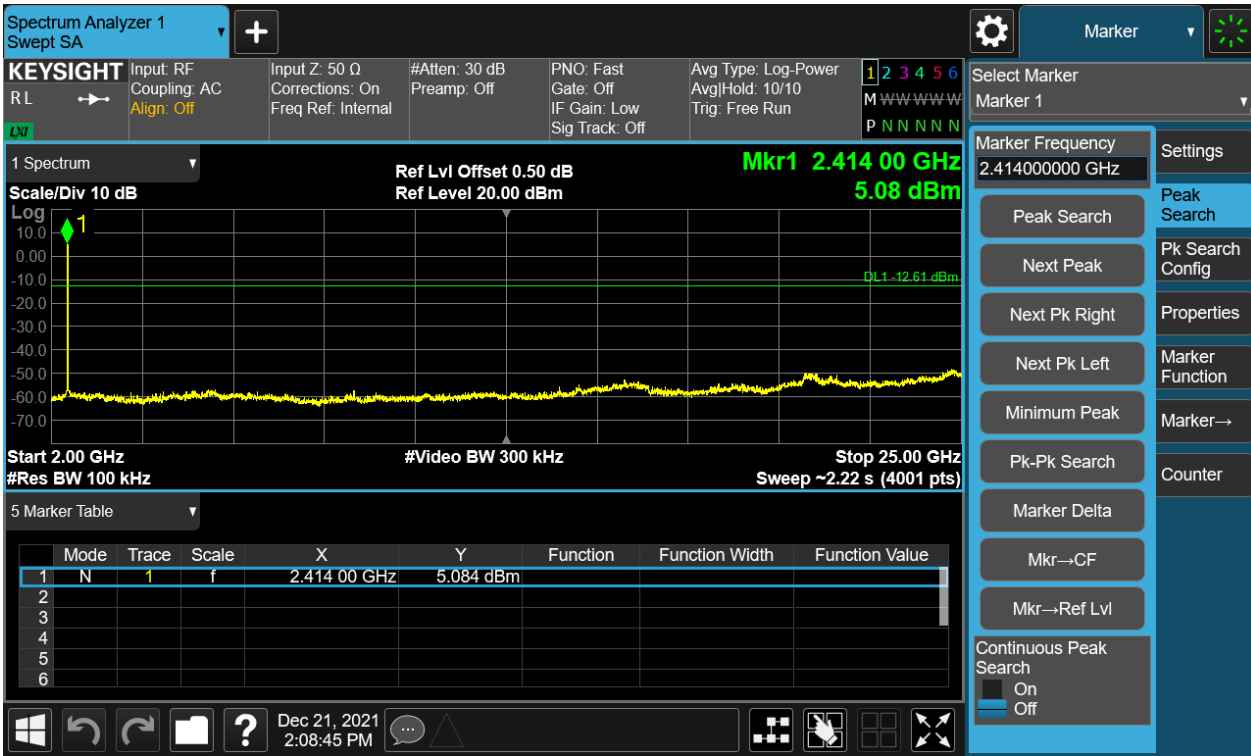
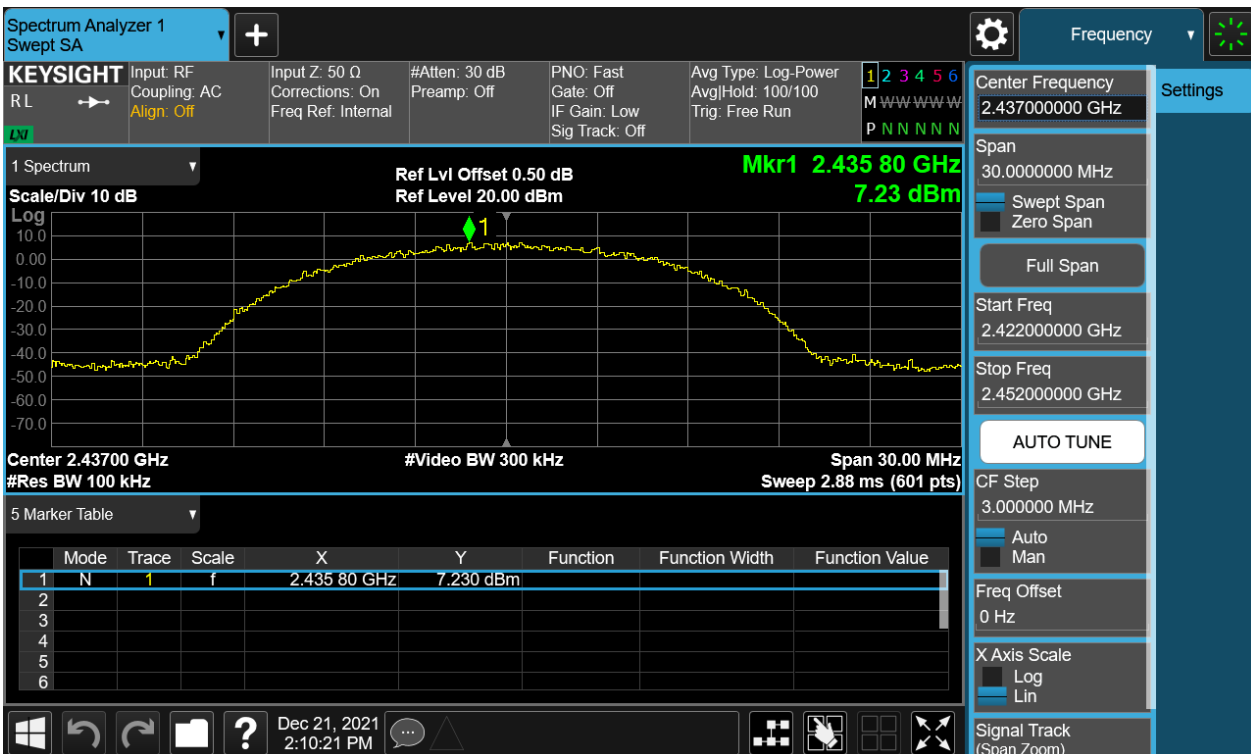


Figure 20: Conducted Spurious Emission & Authorized-band band-edge, 802.11b, 2437MHz Carrier Level



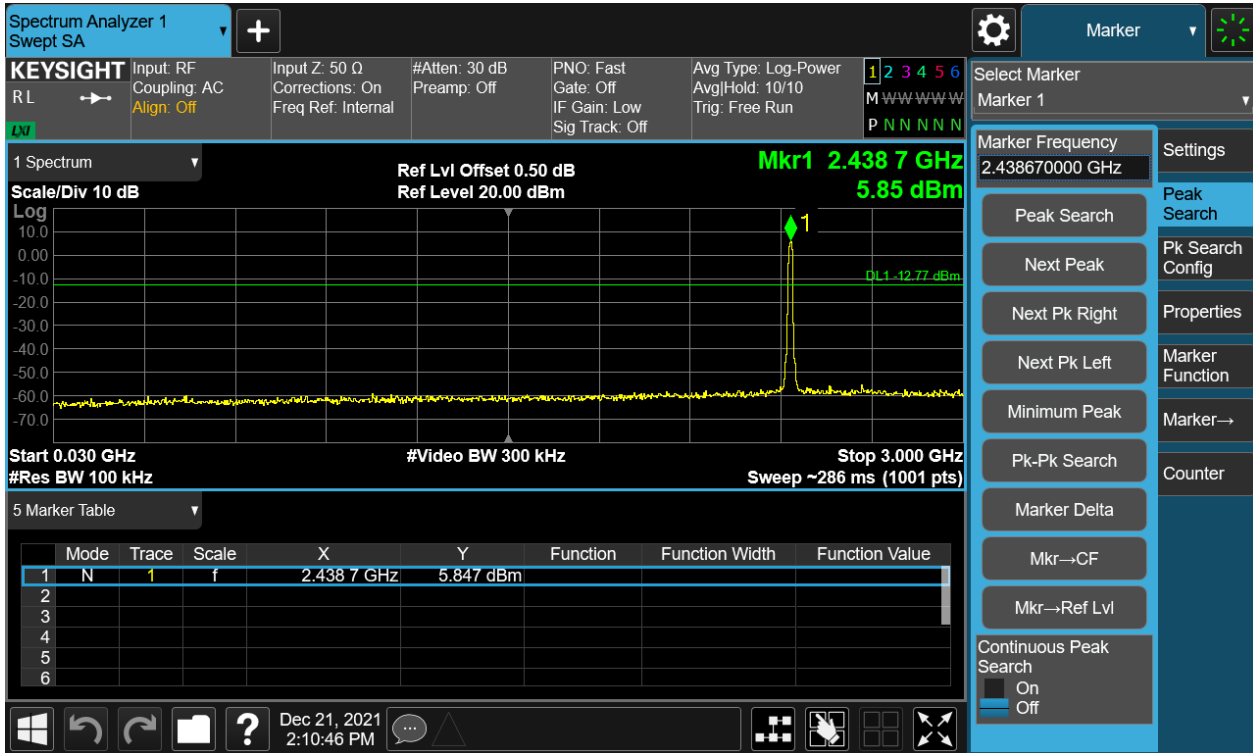
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Conducted spurious emissions 30MHz-25GHz



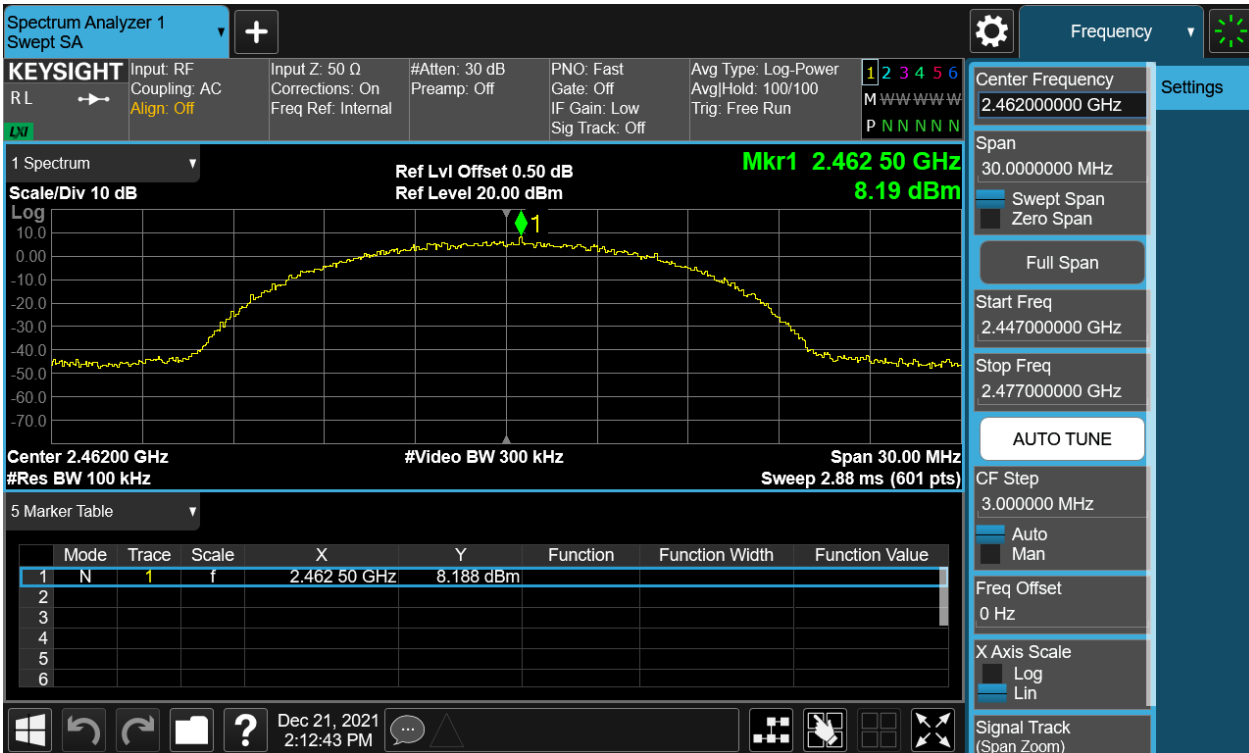
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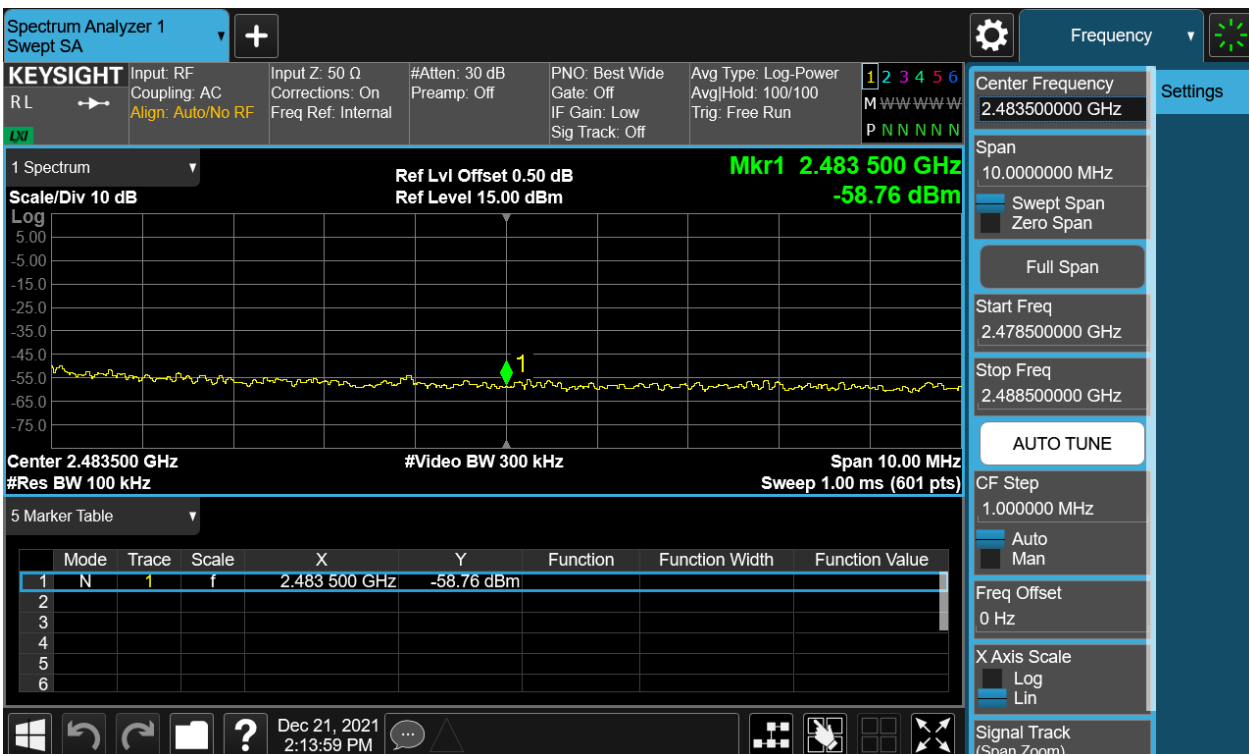
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Figure 21: Conducted Spurious Emission & Authorized-band band-edge, 802.11b, 2462MHz Carrier Level



Band Edge



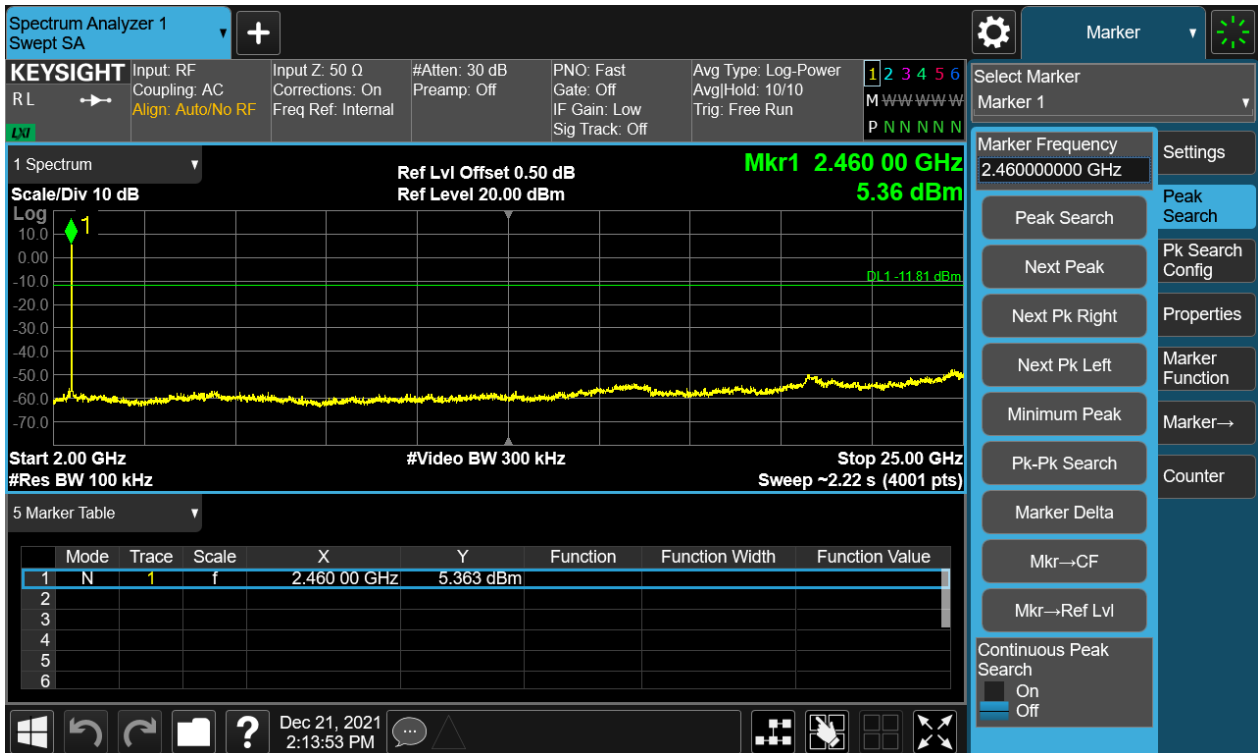
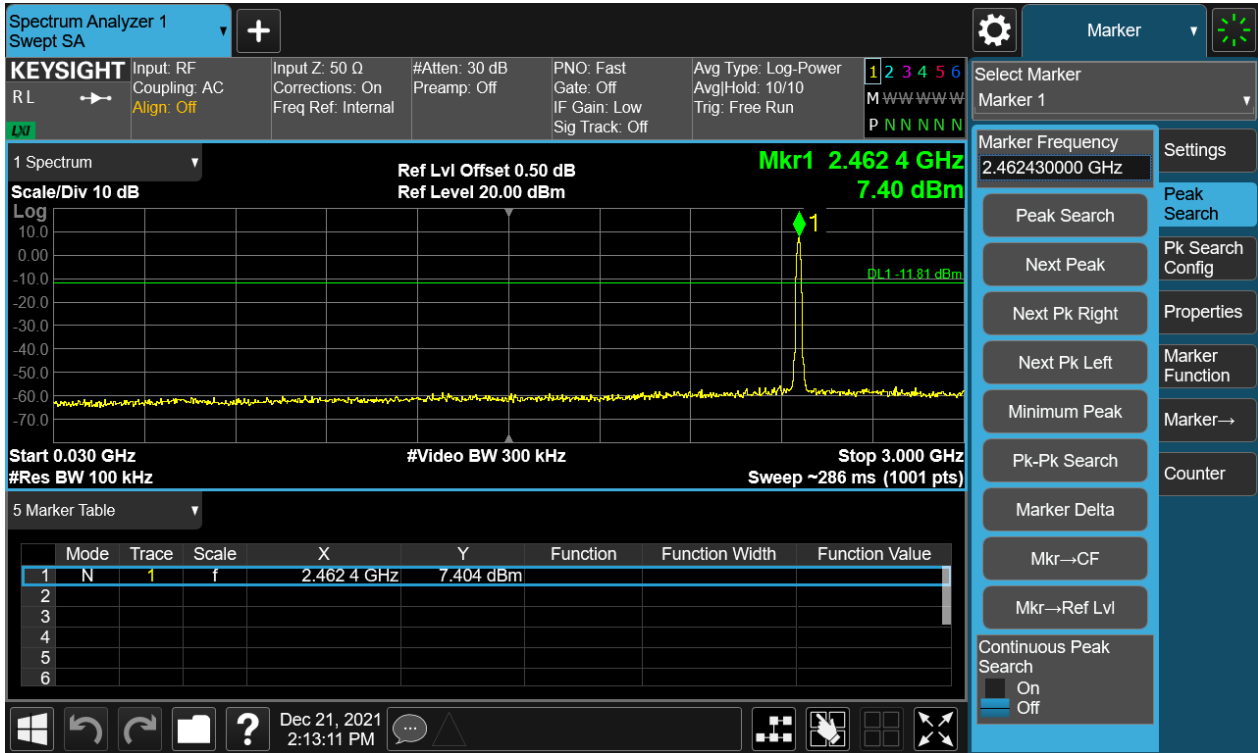
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Conducted spurious emissions 30MHz-25GHz



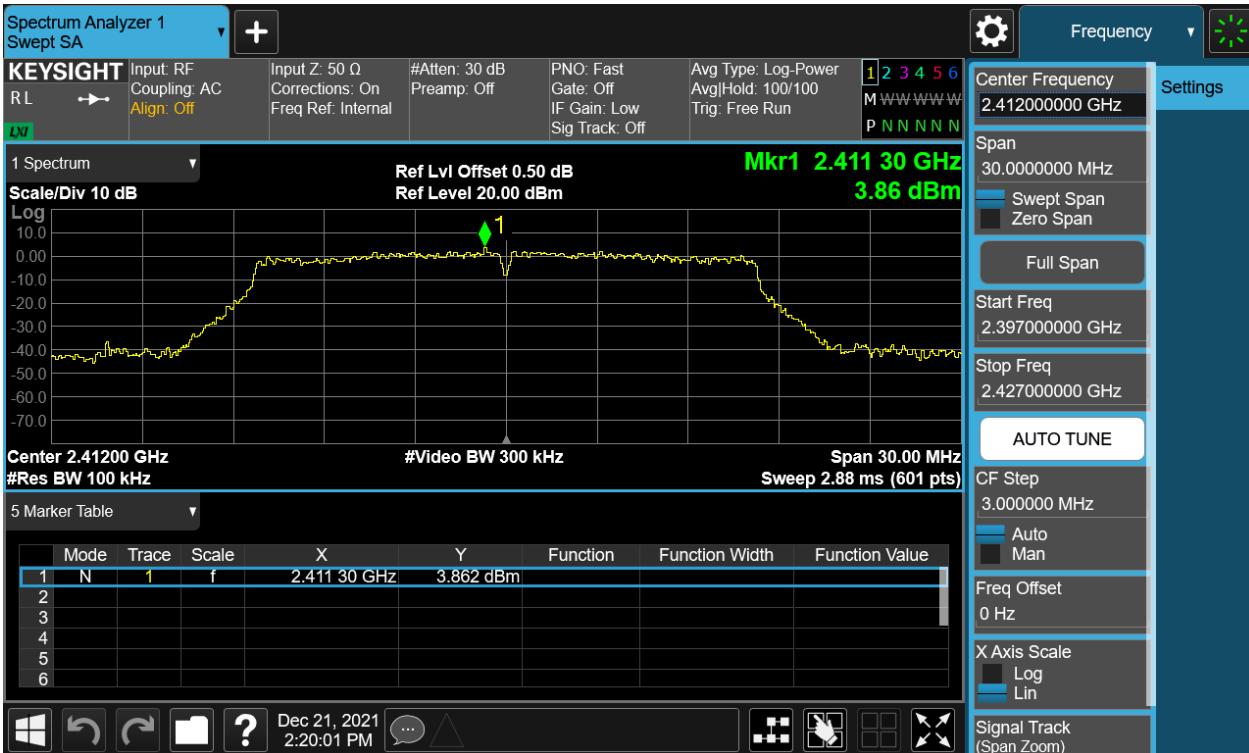
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Figure 22: Conducted Spurious Emission & Authorized-band band-edge, 802.11g, 2412MHz Carrier Level



Band Edge



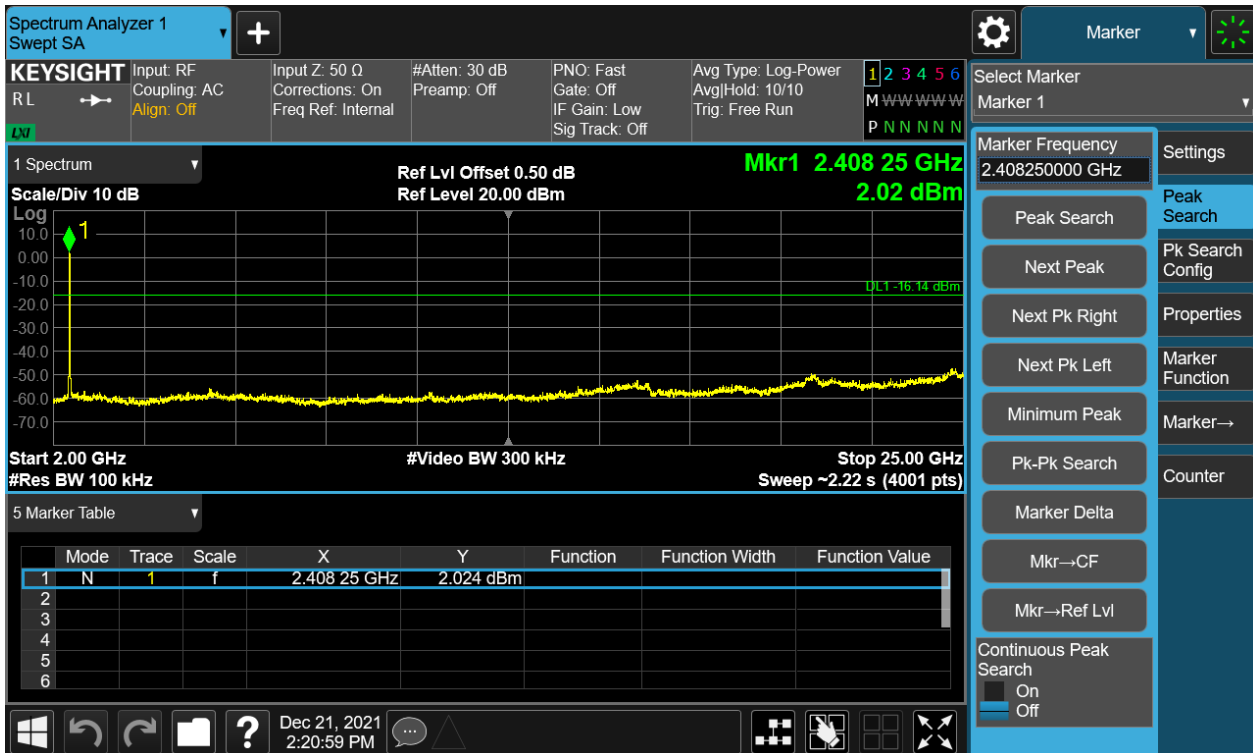
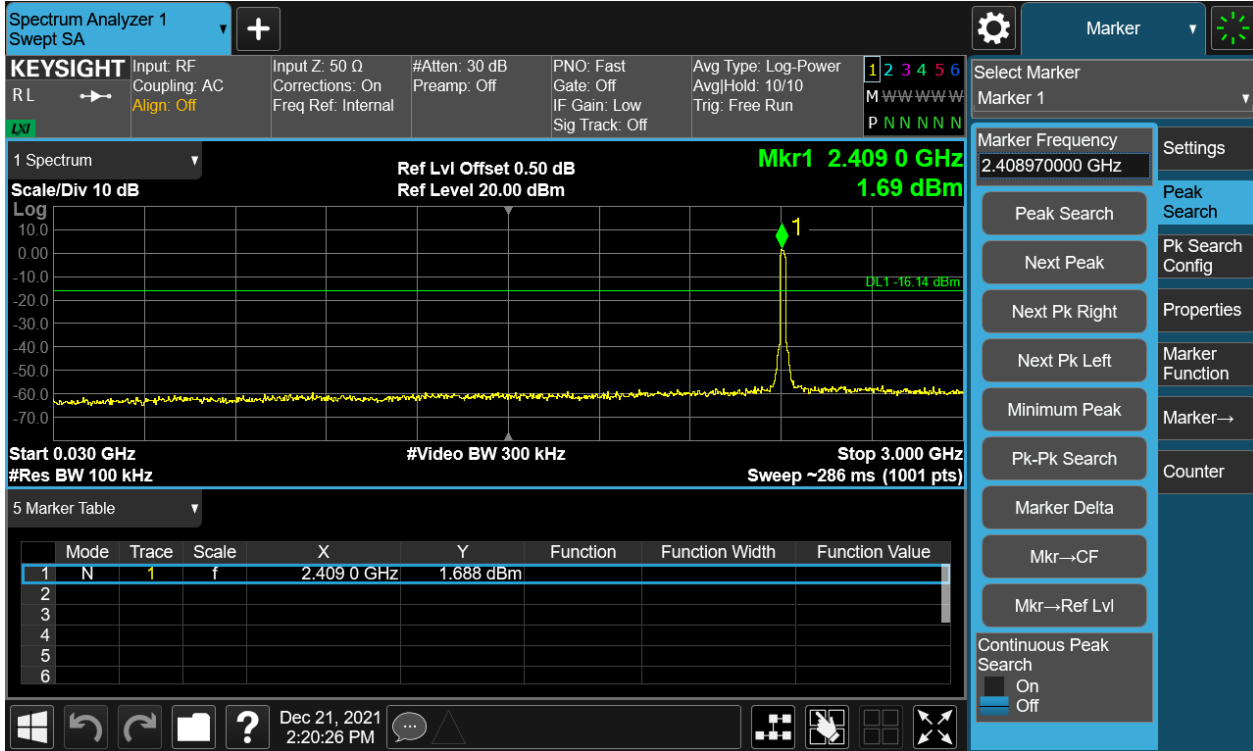
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Conducted spurious emissions 30MHz-25GHz



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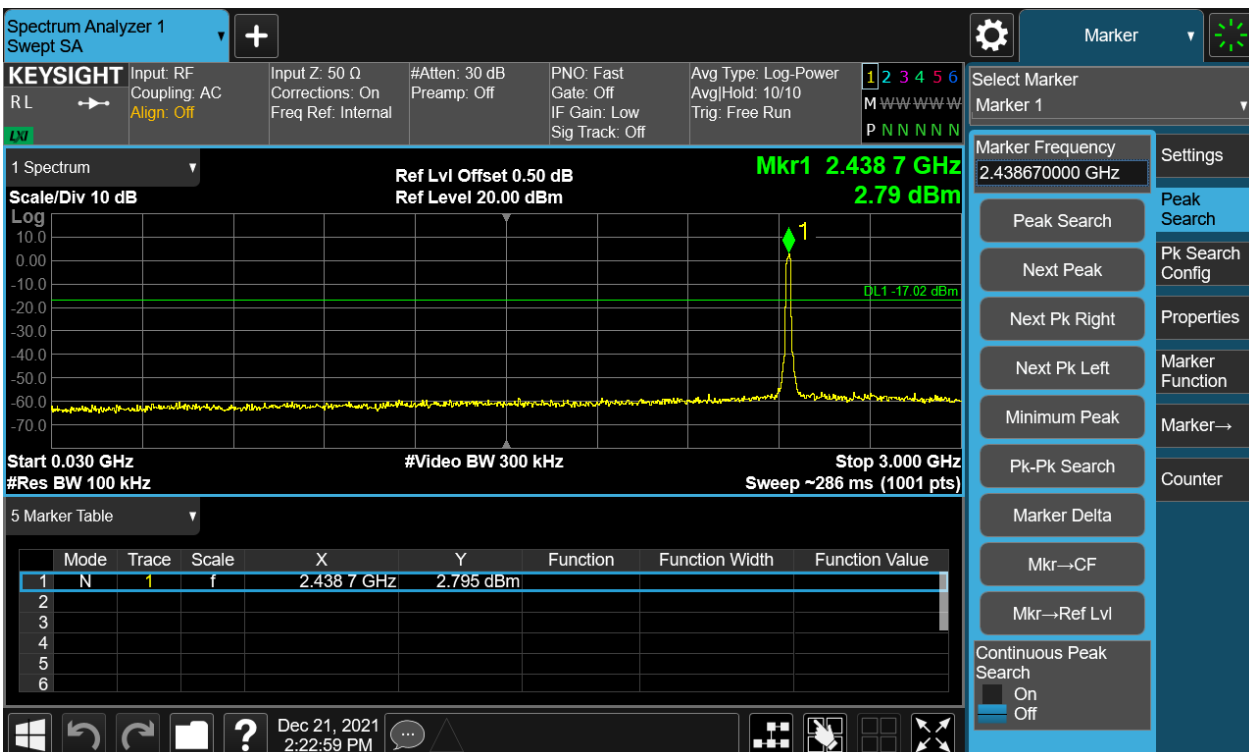
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Figure 23: Conducted Spurious Emission & Authorized-band band-edge, 802.11g, 2437MHz Carrier Level



Conducted spurious emissions 30MHz-25GHz



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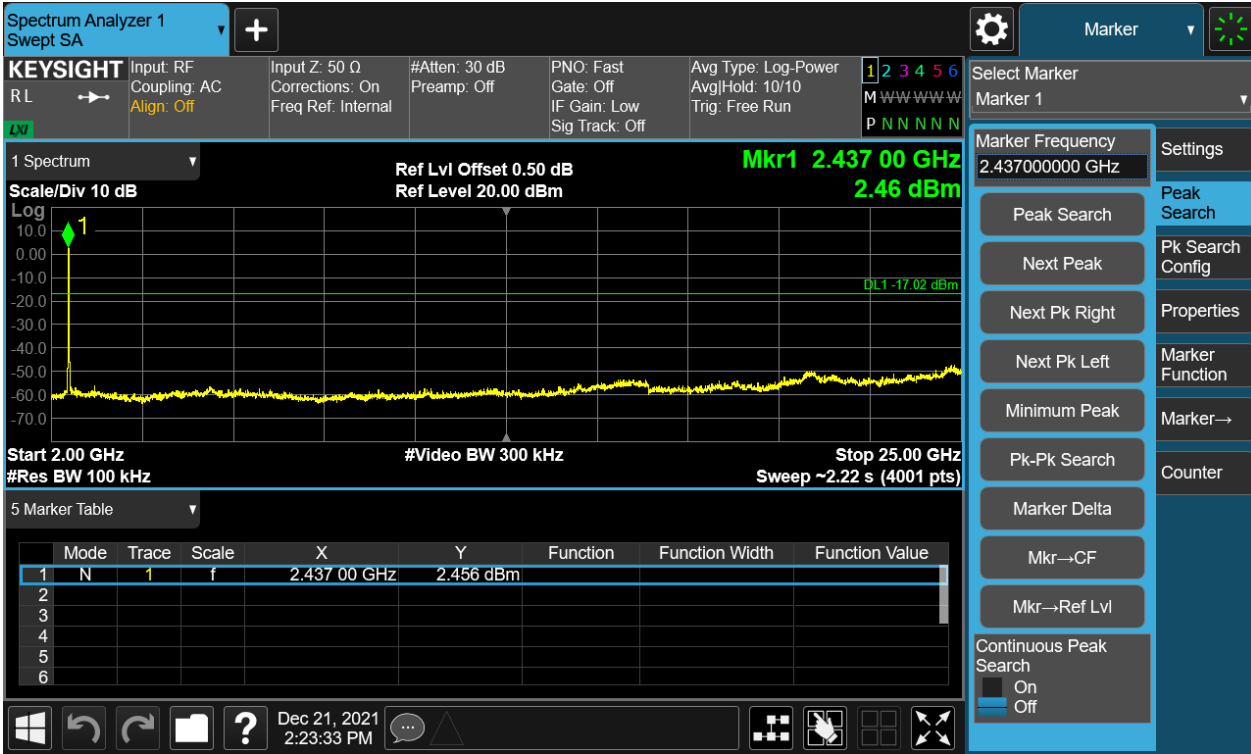
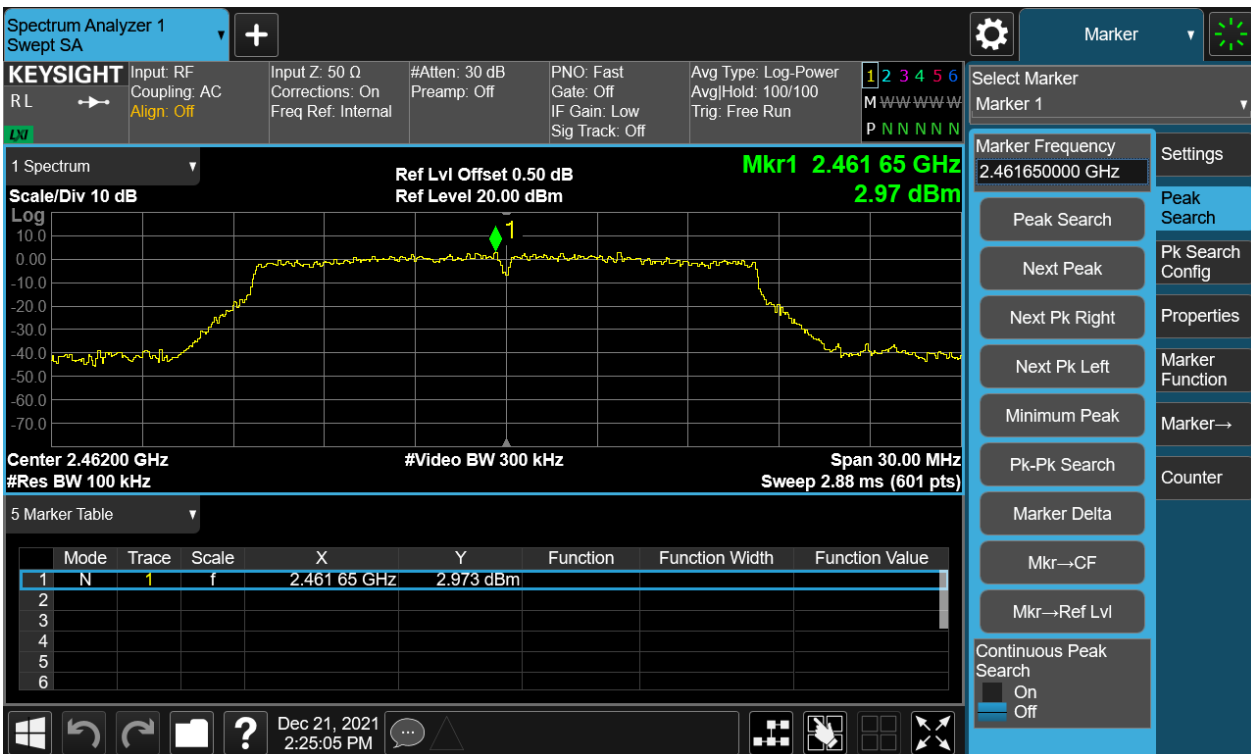


Figure 24: Conducted Spurious Emission & Authorized-band band-edge, 802.11g, 2462MHz Carrier Level



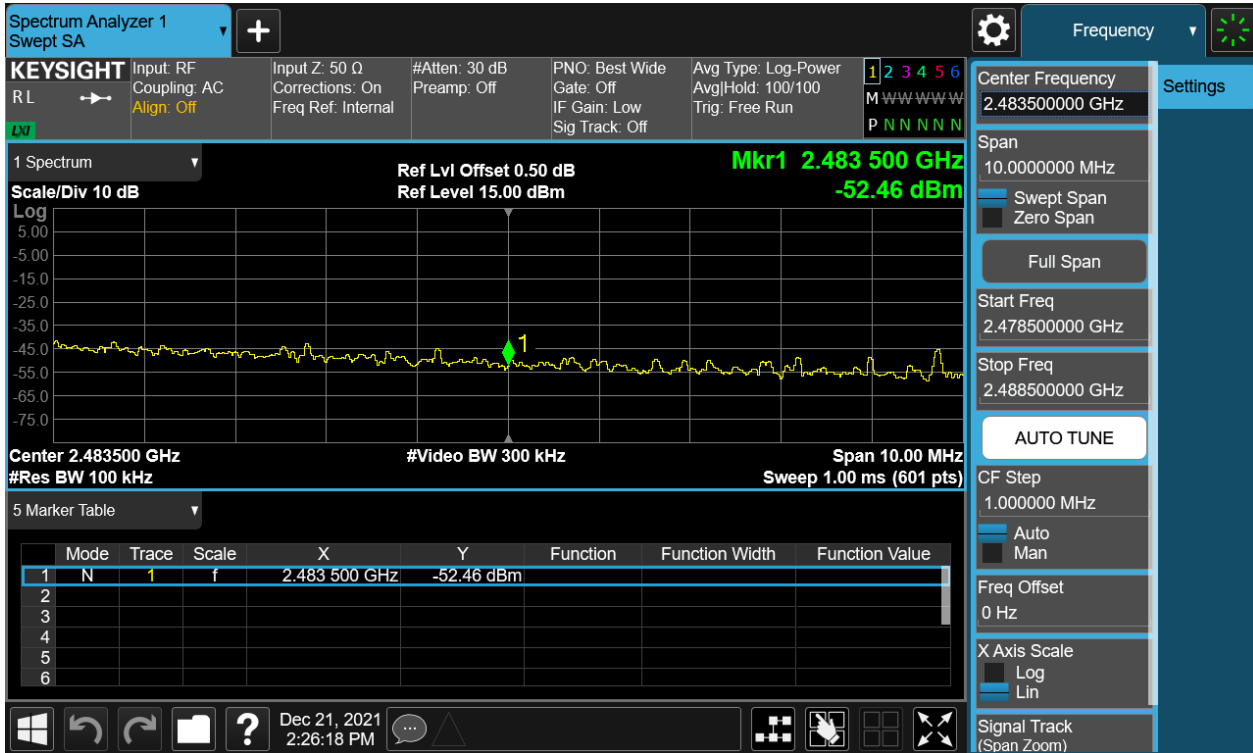
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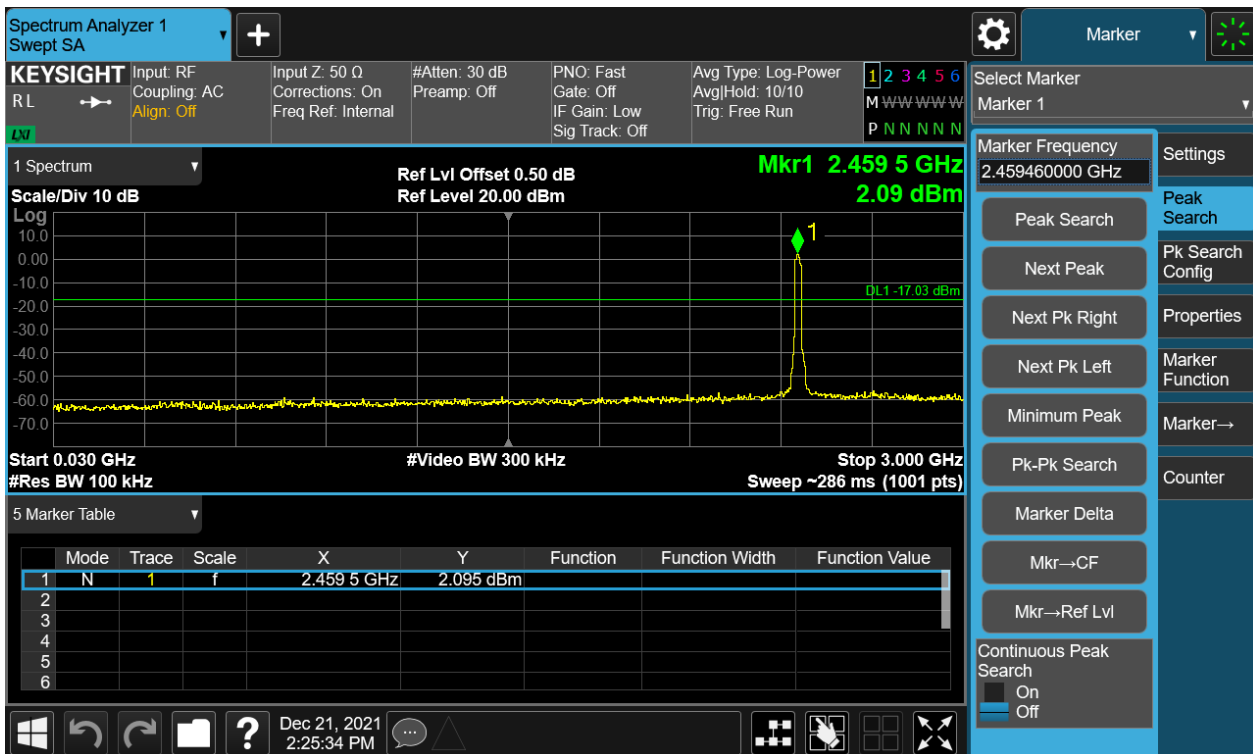
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Band Edge



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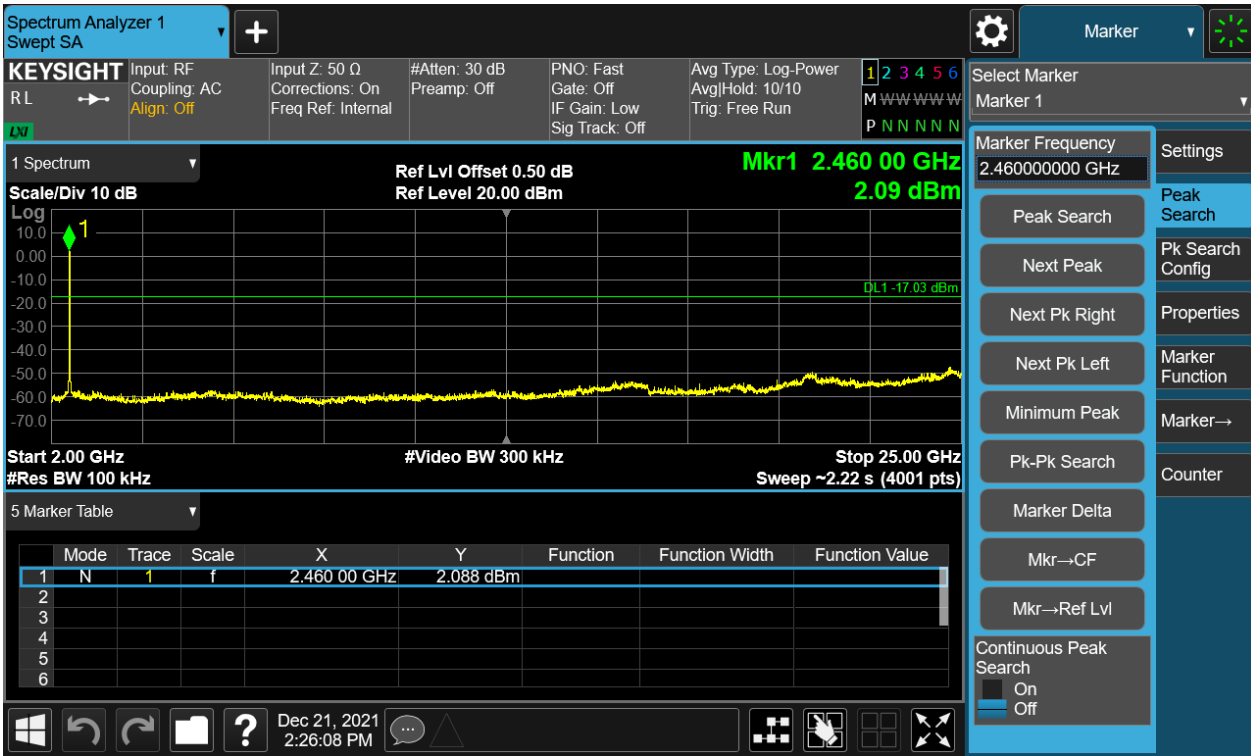
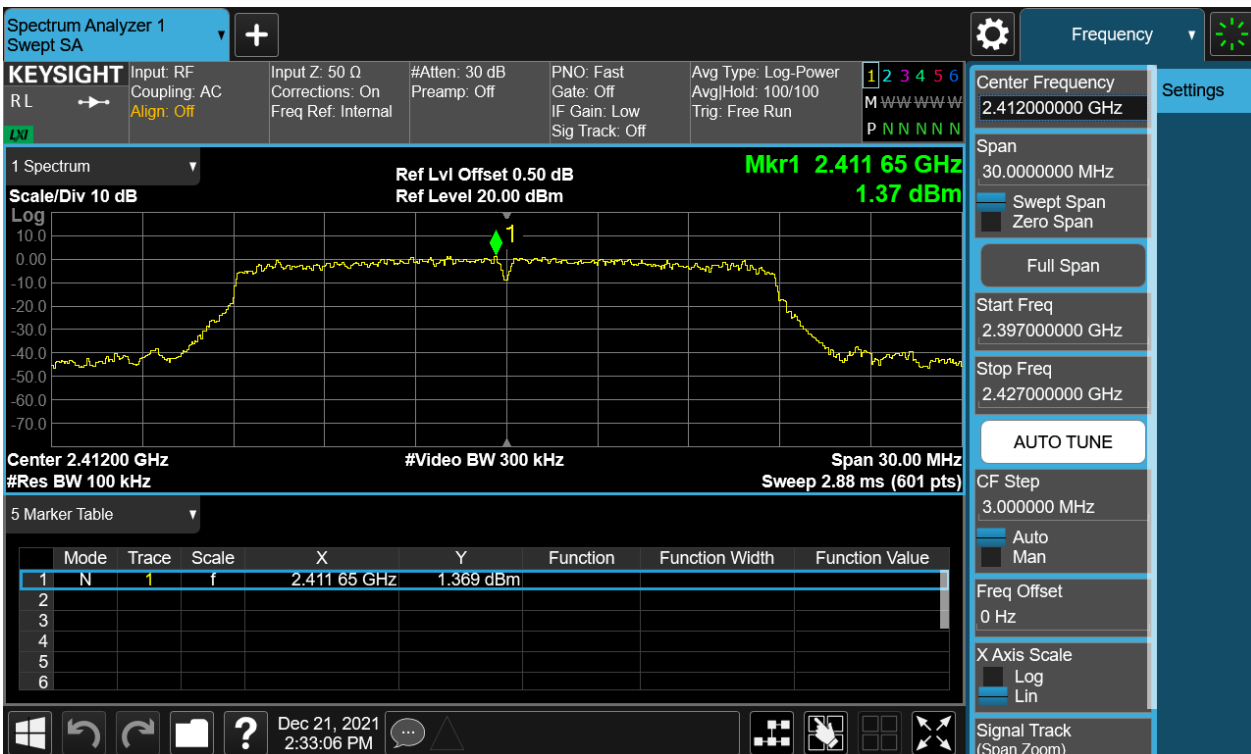


Figure 25: Conducted Spurious Emission & Authorized-band band-edge, 802.11n(HT20), 2412MHz Carrier Level



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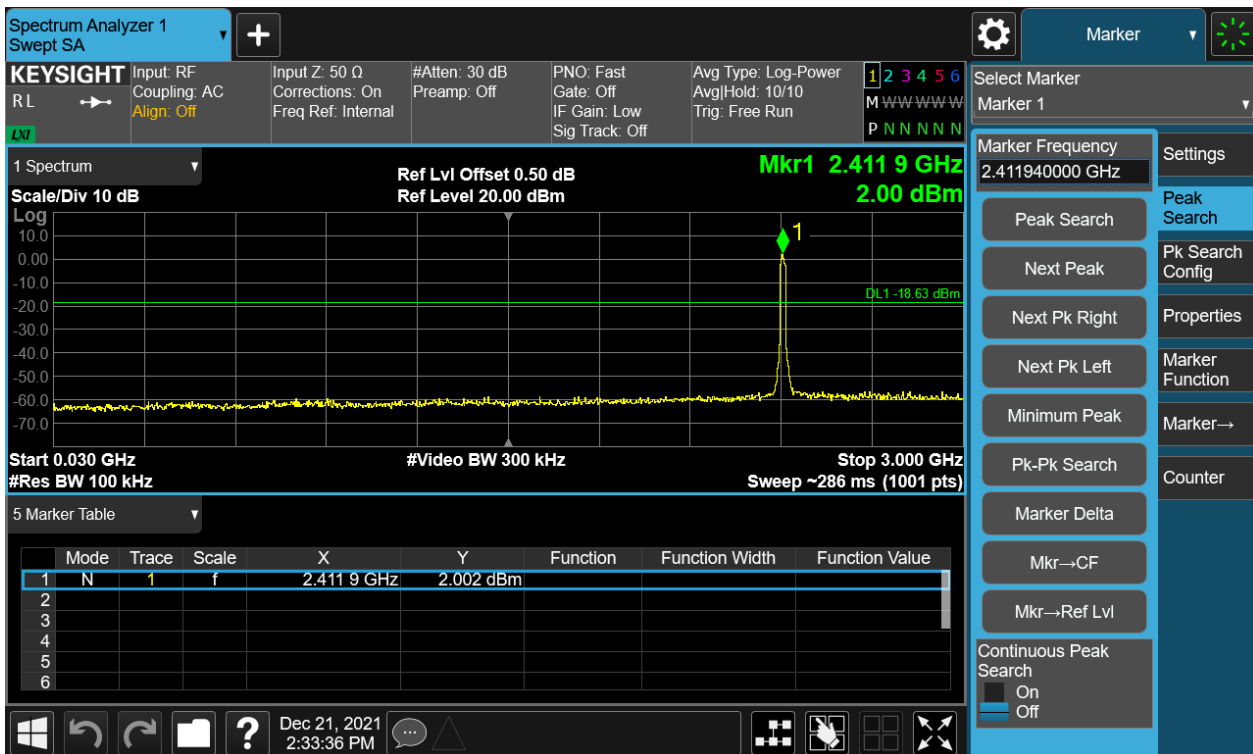
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Band Edge



Conducted spurious emissions 30MHz-25GHz



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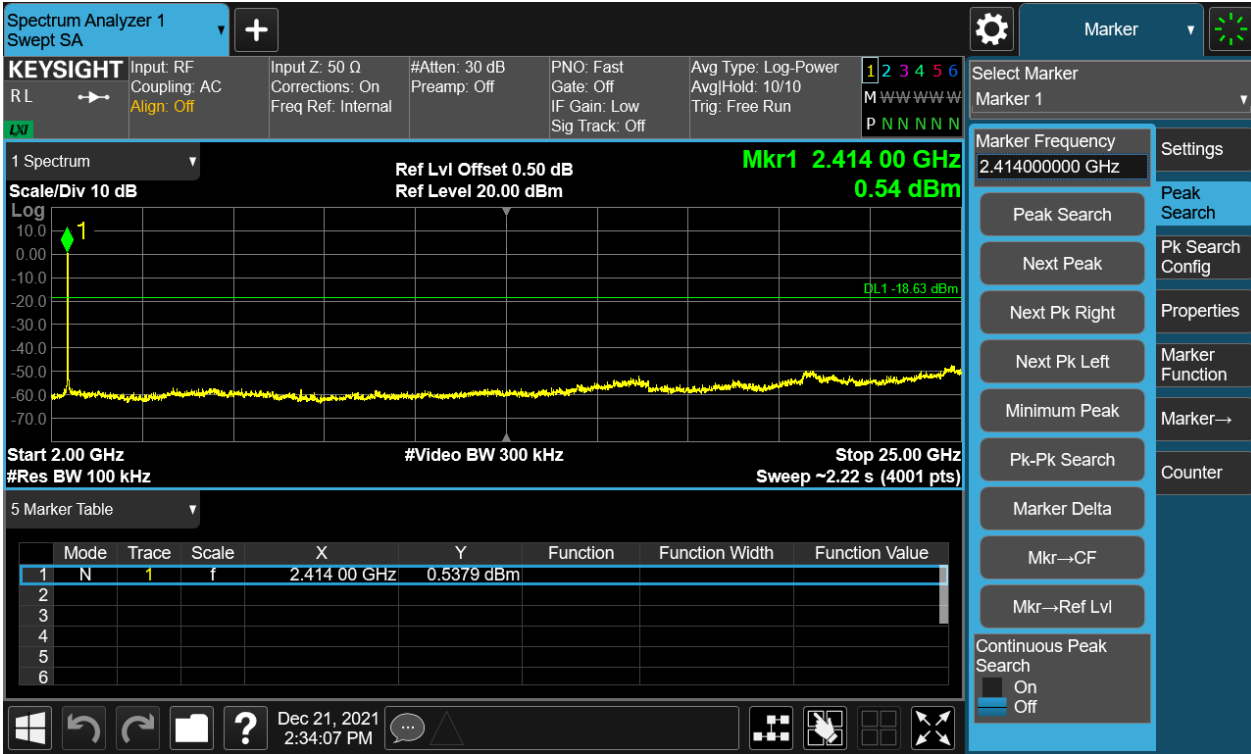
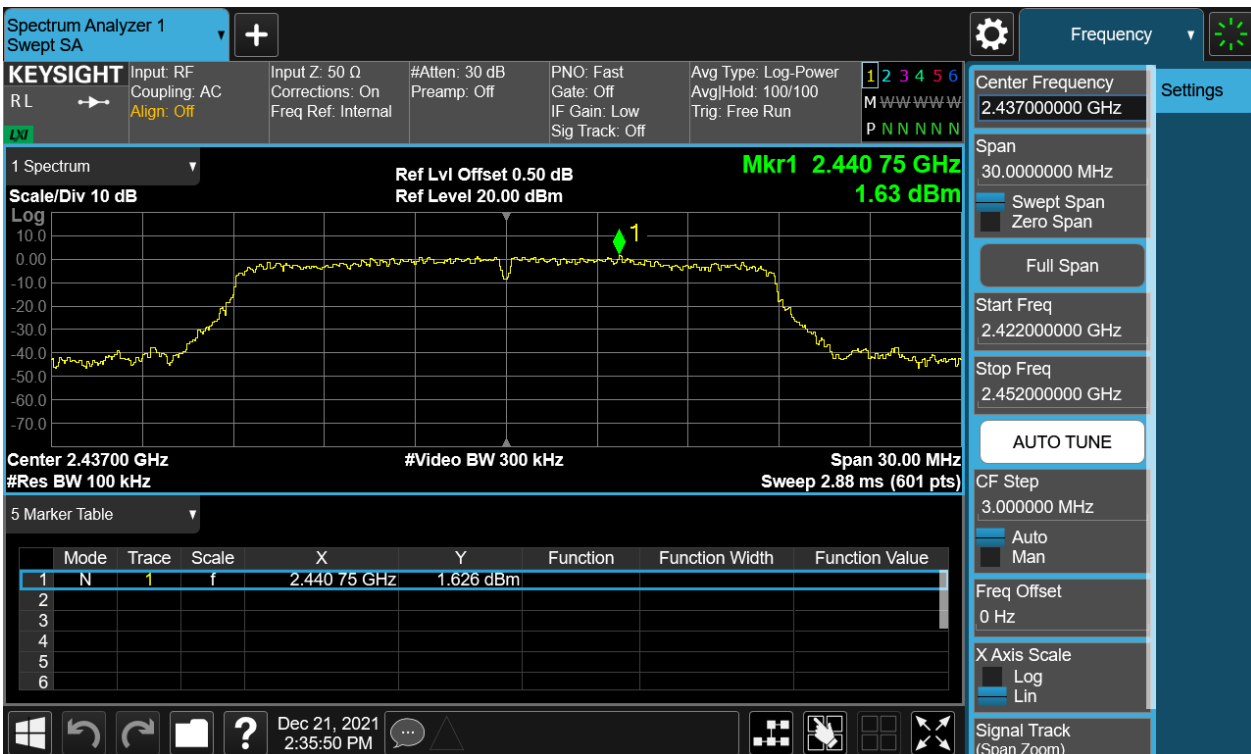


Figure 26: Conducted Spurious Emission & Authorized-band band-edge, 802.11n(HT20), 2437MHz Carrier Level



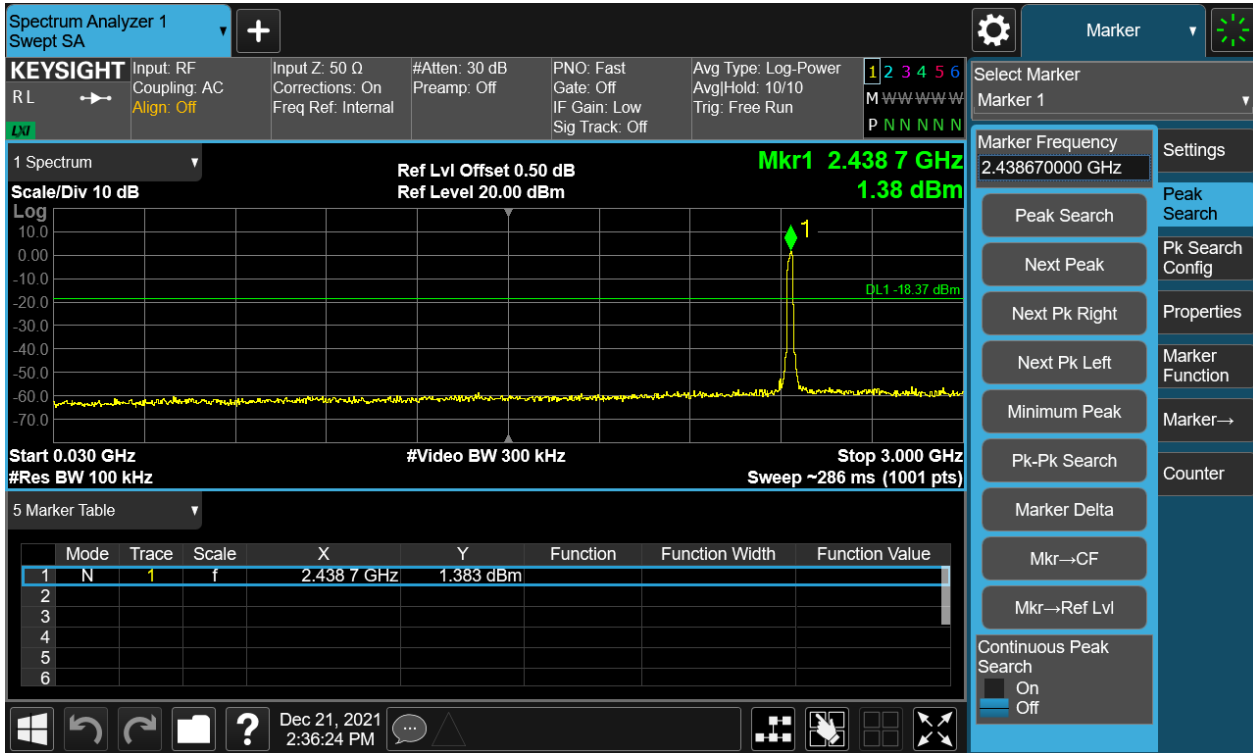
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Conducted spurious emissions 30MHz-25GHz



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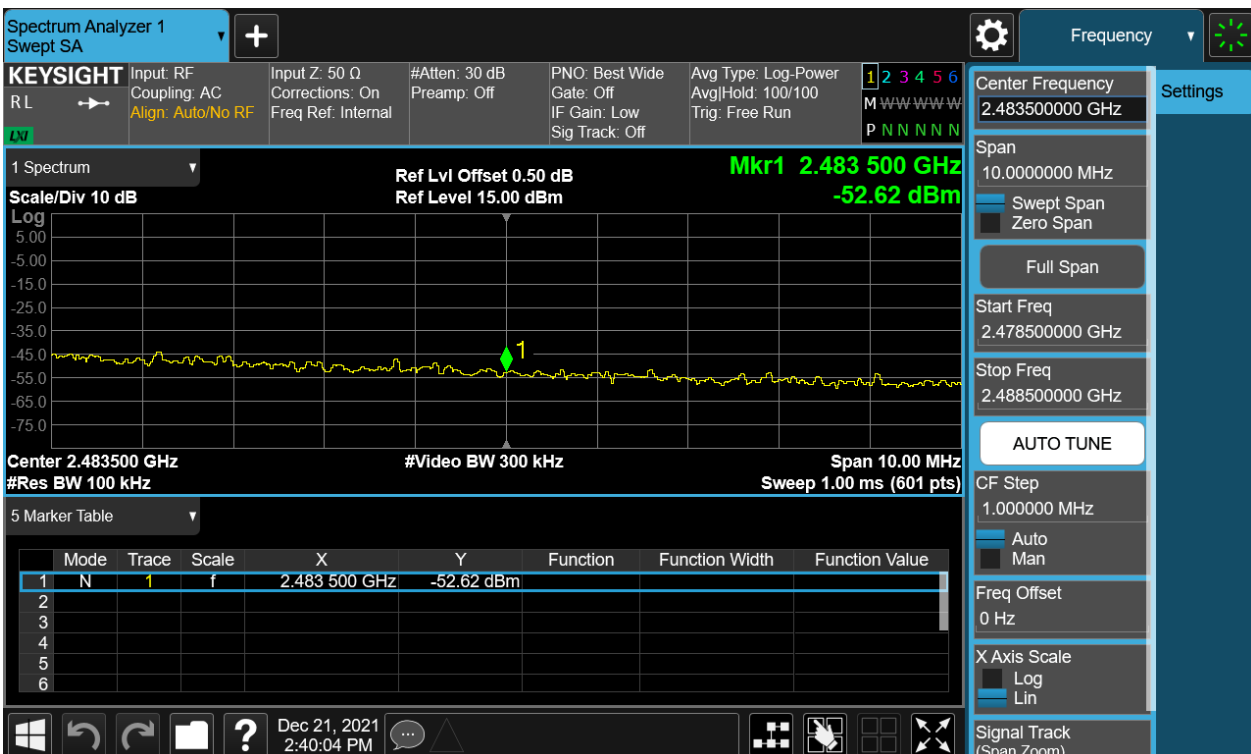
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Figure 27: Conducted Spurious Emission & Authorized-band band-edge, 802.11n(HT20), 2462MHz Carrier Level



Band Edge



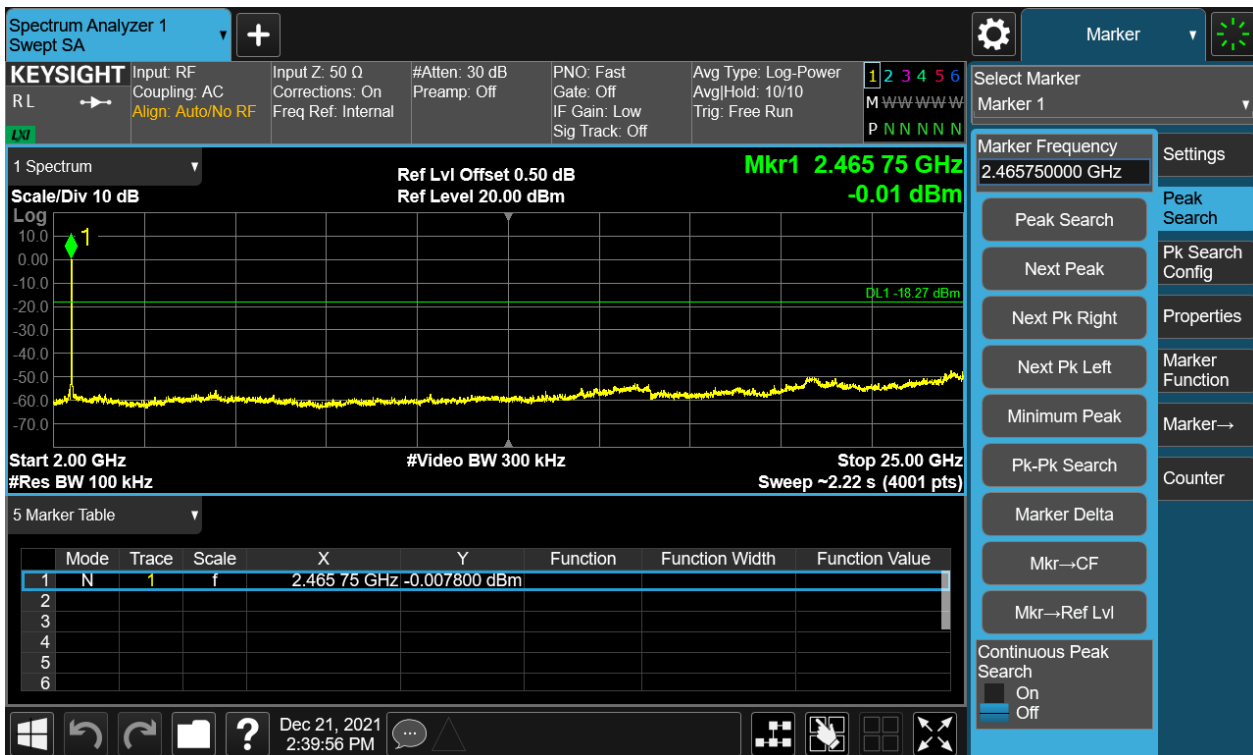
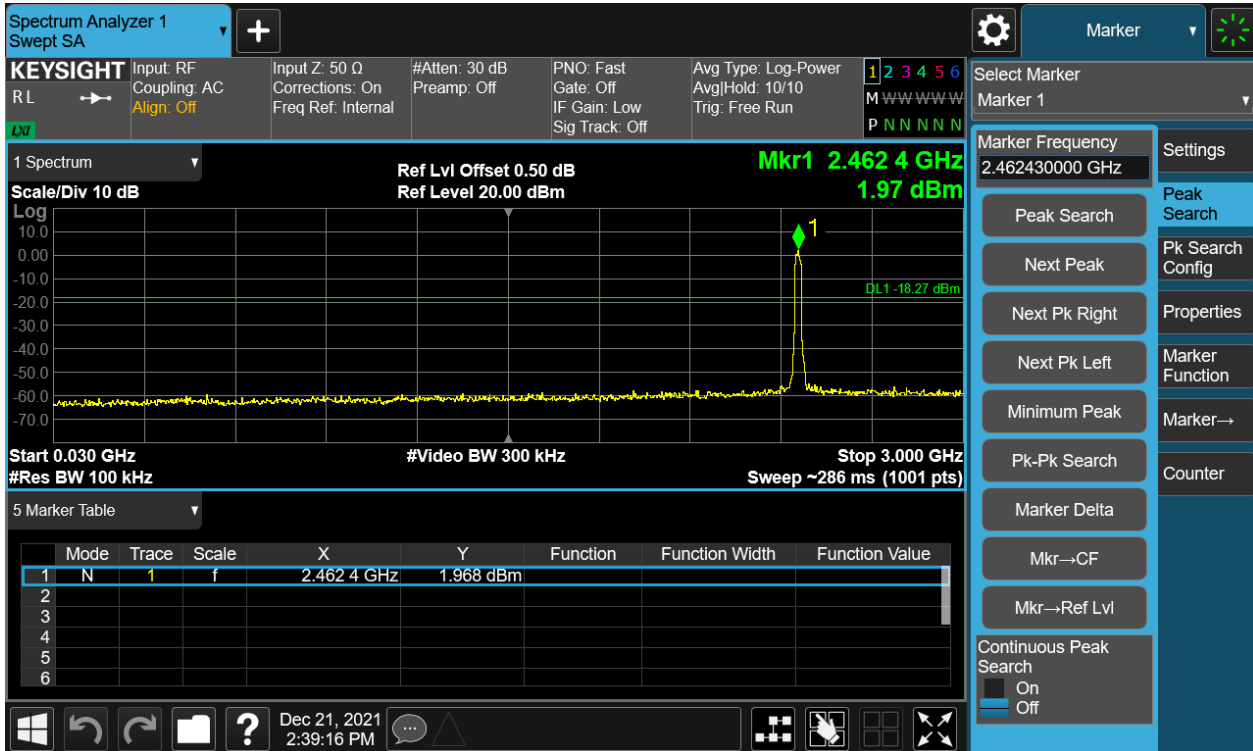
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Conducted spurious emissions 30MHz-25GHz



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4.1.6 Radiated Spurious Emission

RESULT:

PASS

Test standard : FCC Part 15.247(d), 15.205, 15.209
Requirement : ANSI C63.10-2013, KDB 558074
Kind of test site : 3m Semi-Anechoic Chamber

Test setup

Test Channel : Low/Middle/High
Operation Mode : A
Ambient temperature : 16.8°C
Relative humidity : 42%

Notes

Test plots please refer to the annex document "SHE21120049-02AE DATA WIFI 2.4GHz-TX EXHIBIT A".

- 1. For 9 kHz ~ 30 MHz, the amplitude of spurious emissions that are attenuated by more than 20dB below the permissible. The value has no need to be reported.*
- 2. The spurious above 18GHz is noise only and 20dB below the limit. The value has no need to be reported.*
- 3. The EUT is working in the Normal link mode below 1 GHz.*
- 4. The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement -X, Y, and Z-plane. The X-plane results were found as the worst case and were shown in this report.*

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4.1.7 Band Edge (Restricted-band band-edge)

RESULT:

PASS

Test standard : FCC Part 15.247(d), 15.205, 15.209
Requirement : ANSI C63.10-2013, KDB 558074
Kind of test site : 3m Semi-Anechoic Chamber

Test setup

Test Channel : Low/Middle/High
Operation Mode : A.1
Ambient temperature : 16.3°C
Relative humidity : 49%

Notes:

1. Test plots please refer to the annex document "SHE21120049-02AE DATA WIFI 2.4GHz-TX EXHIBIT A".
2. The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement –X, Y, and Z-plane. The X-plane results were found as the worst case and were shown in this report.

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4.2 Mains Emissions

4.2.1 Conducted Emission on AC Mains

RESULT:

PASS

Test standard : FCC Part 15.207(a)
Requirement : ANSI C63.10-2013
Kind of test site : Shielded room

Test setup

Input Voltage : DC 5V by pc (which received AC 120V, 60Hz power)
Operation Mode : A
Earthing : Not Connected
Ambient temperature : 25°C
Relative humidity : 52%

For details refer to following test plot.

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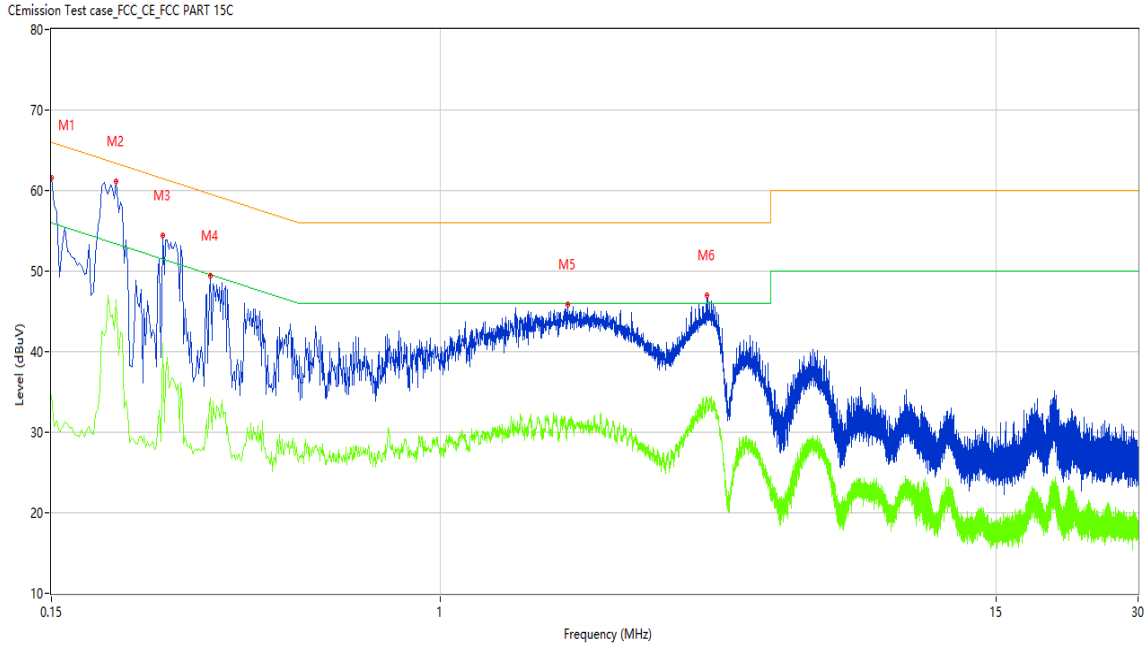
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Note: The all configurations were tested respectively, but only the worst configuration shown here.

Figure 28: Conducted Emission on AC Mains, L Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.150	61.32	10.26	66.00	-4.68	Peak	L	Pass
1*	0.150	49.84	10.26	66.00	-16.16	QP	L	Pass
1**	0.150	34.62	10.26	56.00	-21.38	AV	L	Pass
2	0.206	59.47	10.23	63.37	-3.90	Peak	L	Pass
2*	0.206	56.27	10.23	63.37	-7.10	QP	L	Pass
2**	0.206	46.44	10.23	53.37	-6.93	AV	L	Pass
3	0.258	53.40	10.24	61.50	-8.10	Peak	L	Pass
3*	0.258	50.89	10.24	61.50	-10.61	QP	L	Pass
3**	0.258	40.97	10.24	51.50	-10.53	AV	L	Pass
4	0.326	48.80	10.23	59.55	-10.75	Peak	L	Pass
4*	0.326	44.59	10.23	59.55	-14.96	QP	L	Pass
4**	0.326	34.34	10.23	49.55	-15.21	AV	L	Pass
5	1.860	44.52	10.17	56.00	-11.48	Peak	L	Pass
5*	1.860	41.45	10.17	56.00	-14.55	QP	L	Pass
5**	1.860	30.66	10.17	46.00	-15.34	AV	L	Pass
6	3.674	46.89	10.19	56.00	-9.11	Peak	L	Pass
6*	3.674	42.35	10.19	56.00	-13.65	QP	L	Pass
6**	3.674	34.26	10.19	46.00	-11.74	AV	L	Pass

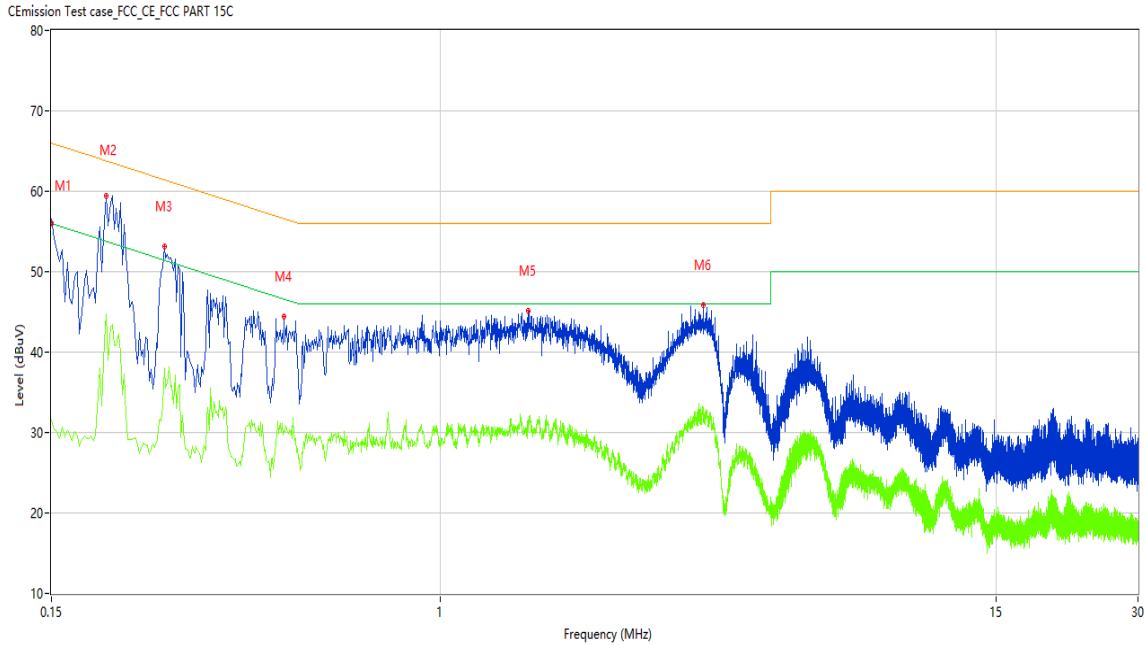
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Figure 29: Conducted Emission on AC Mains, N Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.150	58.96	10.26	66.00	-7.04	Peak	N	Pass
1*	0.150	47.61	10.26	66.00	-18.39	QP	N	Pass
1**	0.150	31.52	10.26	56.00	-24.48	AV	N	Pass
2	0.196	59.15	10.23	63.78	-4.63	Peak	N	Pass
2*	0.196	55.89	10.23	63.78	-7.89	QP	N	Pass
2**	0.196	44.74	10.23	53.78	-9.04	AV	N	Pass
3	0.260	51.99	10.24	61.43	-9.44	Peak	N	Pass
3*	0.260	49.18	10.24	61.43	-12.25	QP	N	Pass
3**	0.260	38.01	10.24	51.43	-13.42	AV	N	Pass
4	0.466	42.93	10.27	56.58	-13.65	Peak	N	Pass
4*	0.466	39.08	10.27	56.58	-17.50	QP	N	Pass
4**	0.466	30.21	10.27	46.58	-16.37	AV	N	Pass
5	1.534	43.97	10.18	56.00	-12.03	Peak	N	Pass
5*	1.534	39.48	10.18	56.00	-16.52	QP	N	Pass
5**	1.534	31.52	10.18	46.00	-14.48	AV	N	Pass
6	3.602	46.59	10.18	56.00	-9.41	Peak	N	Pass
6*	3.602	41.20	10.18	56.00	-14.80	QP	N	Pass
6**	3.602	32.90	10.18	46.00	-13.10	AV	N	Pass

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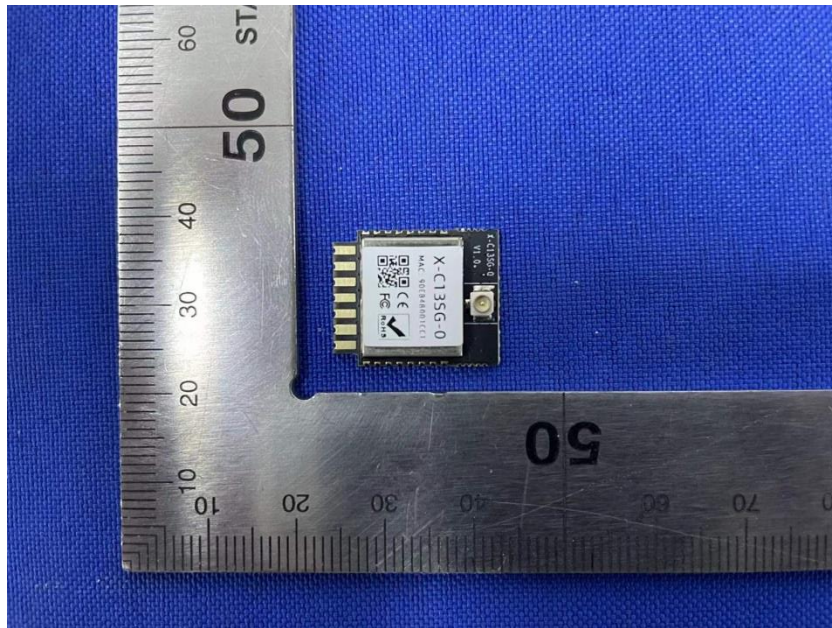
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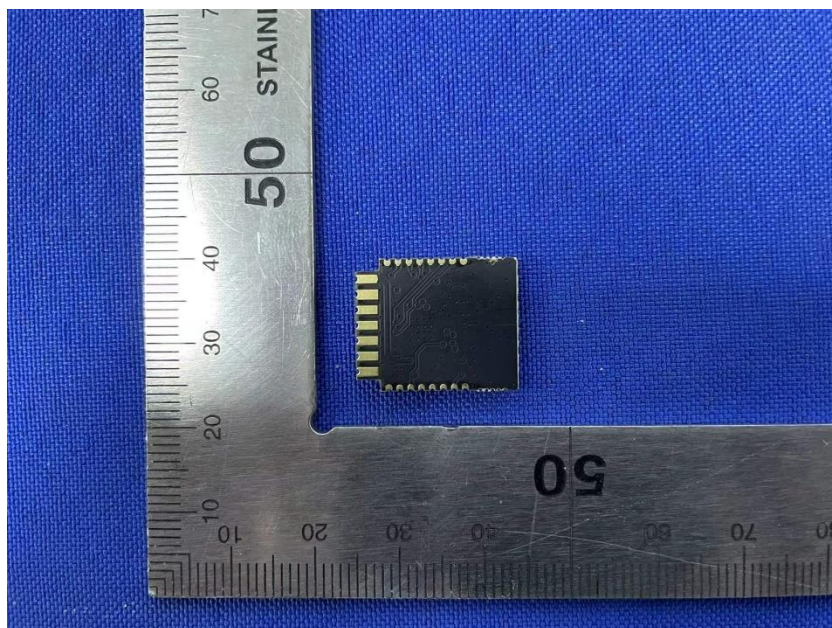
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5 Appendixes

5.1 Photographs of the Sample



Front of the sample



Back of the sample

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5.2 Set-up for Conducted Emissions



5.3 Set-up for Conducted RF test at Antenna Port



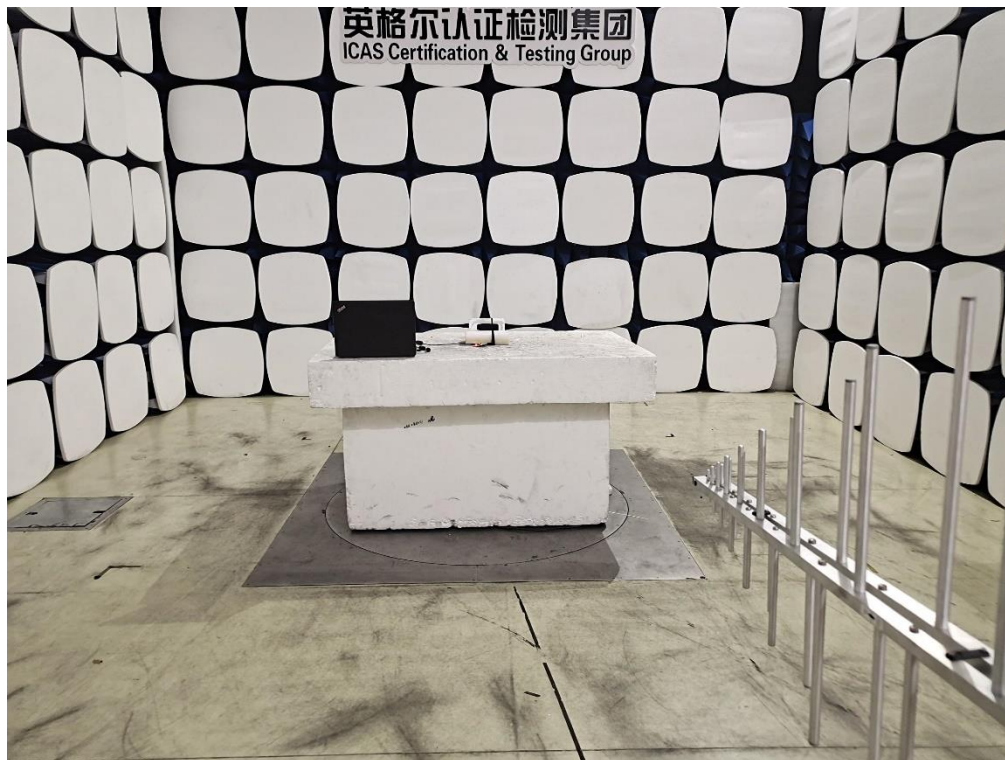
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5.4 Set-up for Spurious Emissions below 1GHz



5.5 Set-up for Spurious Emissions above 1GHz



End of the report