

TEST REPORT

Report No.: SHE22030040-02GE

Date: 2022-12-27

Page 41 of 69

Figure 51: The plots of Conducted Spurious Emission & Authorized-band band-edge, 802.11b, 2412MHz
Conducted spurious emissions 30MHz-3GHz

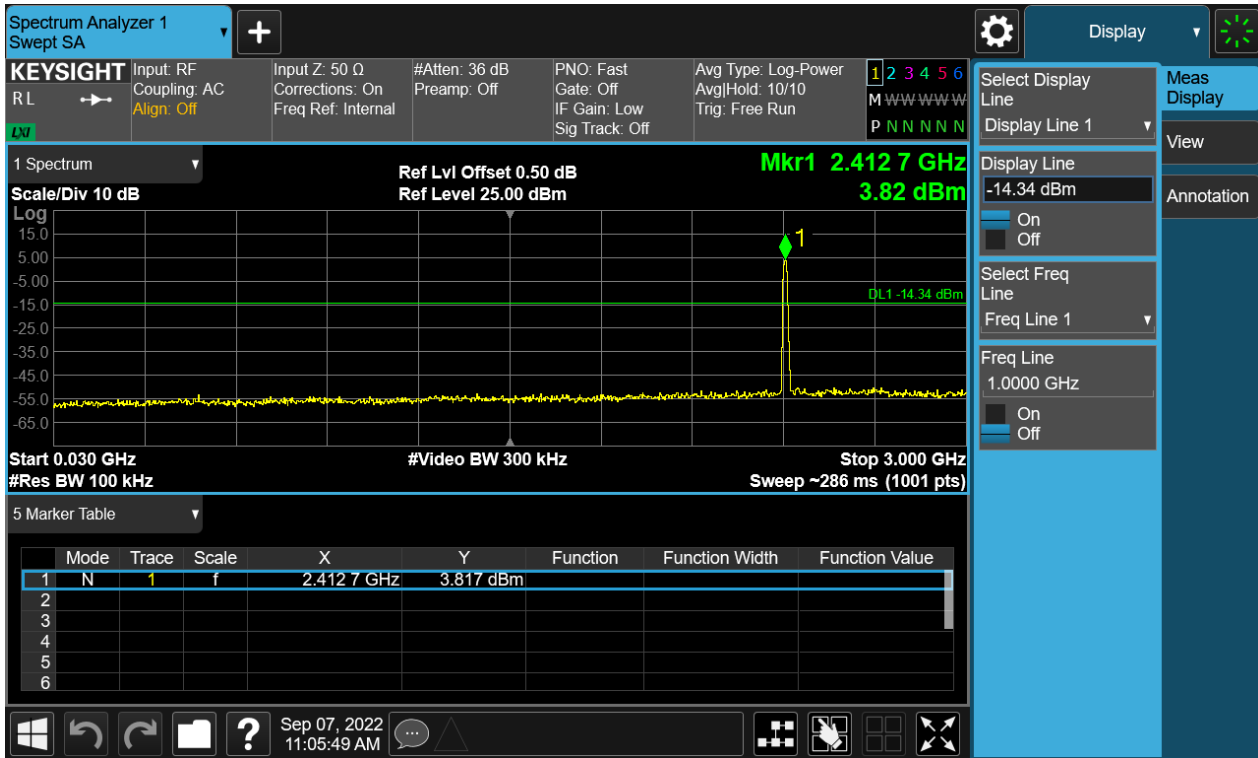


Figure 52: The plots of Conducted Spurious Emission & Authorized-band band-edge, 802.11b, 2412MHz
Conducted spurious emissions 2GHz-25GHz



TEST REPORT

Report No.: SHE22030040-02GE

Date: 2022-12-27

Page 42 of 69

Figure 53: The plots of Conducted Spurious Emission & Authorized-band band-edge, 802.11b, 2437MHz Carrier Level

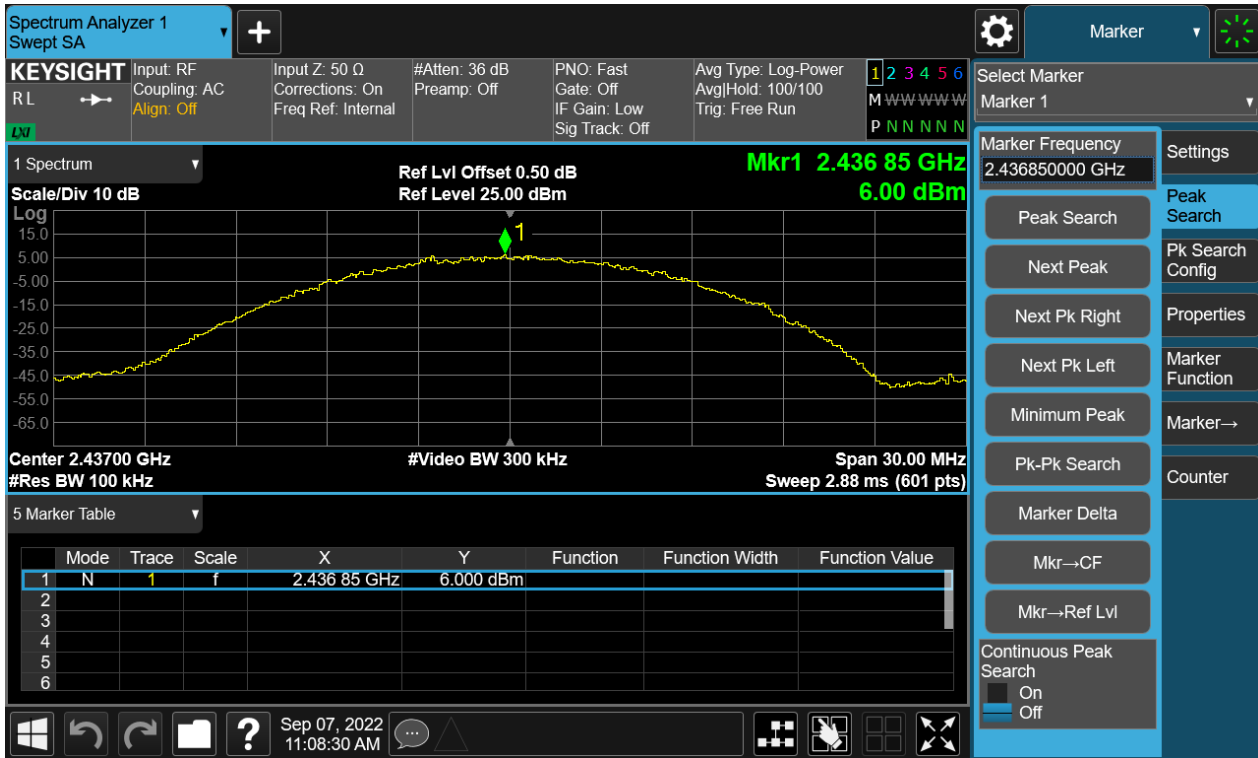
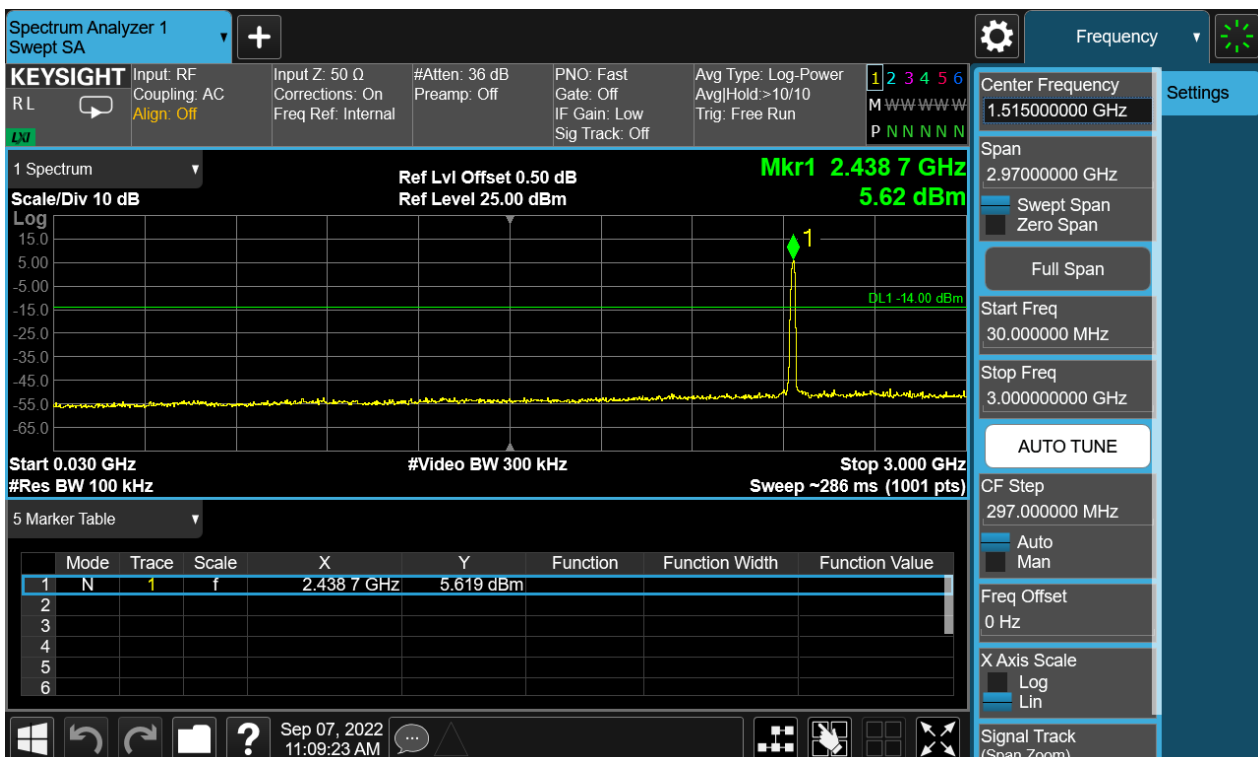


Figure 54: The plots of Conducted Spurious Emission & Authorized-band band-edge, 802.11b, 2437MHz Conducted spurious emissions 30MHz-3GHz



TEST REPORT

Report No.: SHE22030040-02GE

Date: 2022-12-27

Page 43 of 69

Figure 55: The plots of Conducted Spurious Emission & Authorized-band band-edge, 802.11b, 2437MHz
Conducted spurious emissions 2GHz-25GHz

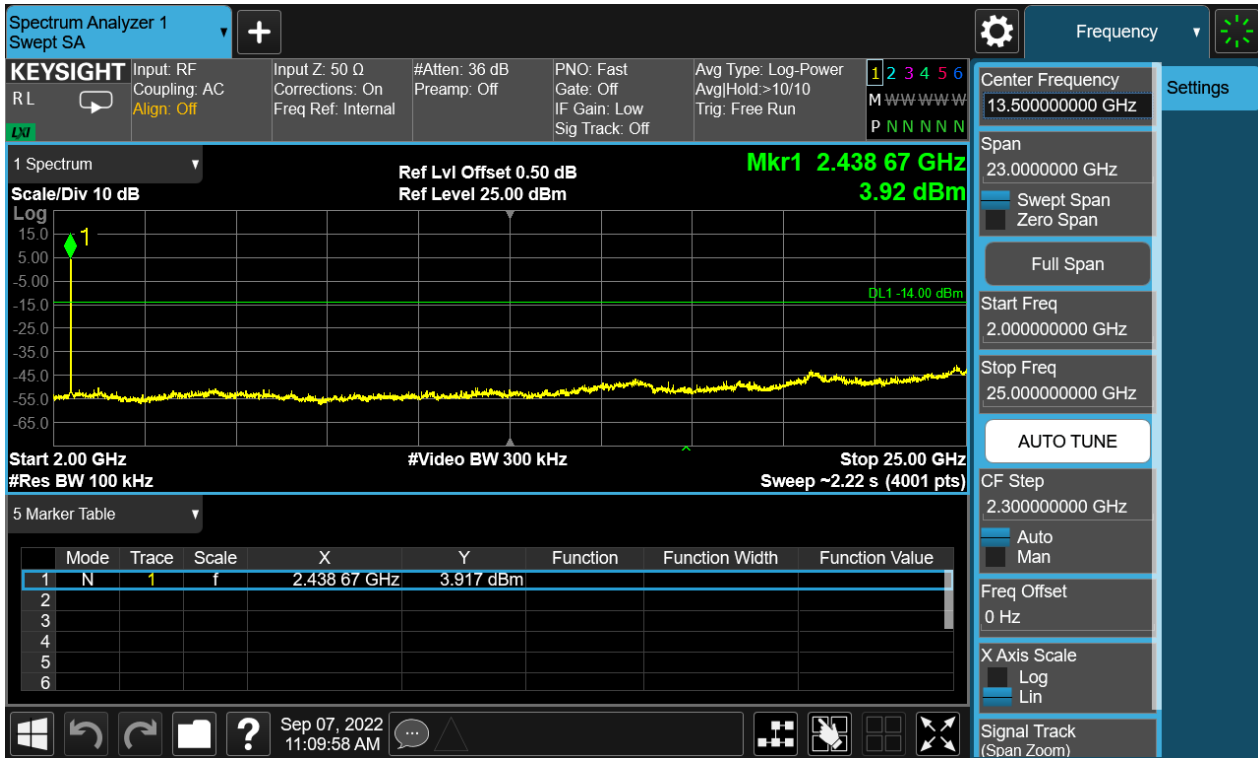


Figure 56: The plots of Conducted Spurious Emission & Authorized-band band-edge, 802.11b, 2462MHz
Carrier Level



TEST REPORT

Report No.: SHE22030040-02GE

Date: 2022-12-27

Page 44 of 69

Figure 57: The plots of Conducted Spurious Emission & Authorized-band band-edge, 802.11b, 2462MHz Band Edge

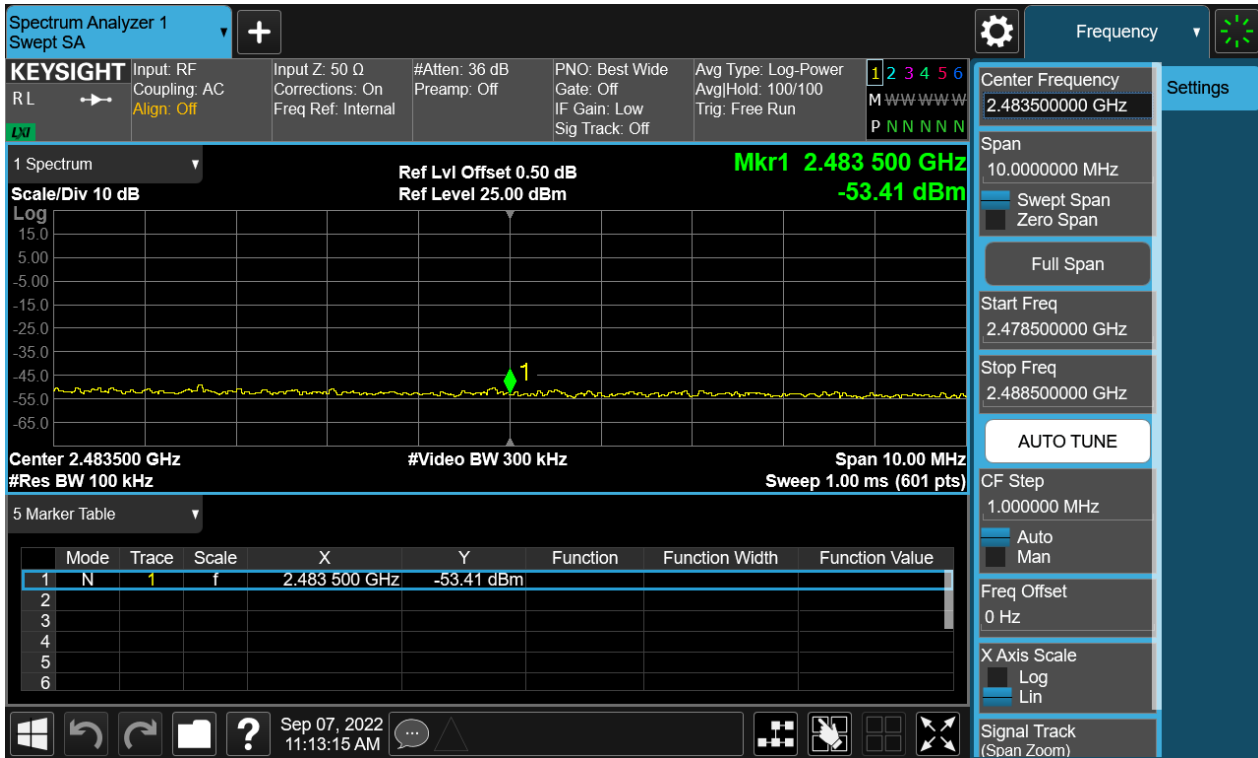
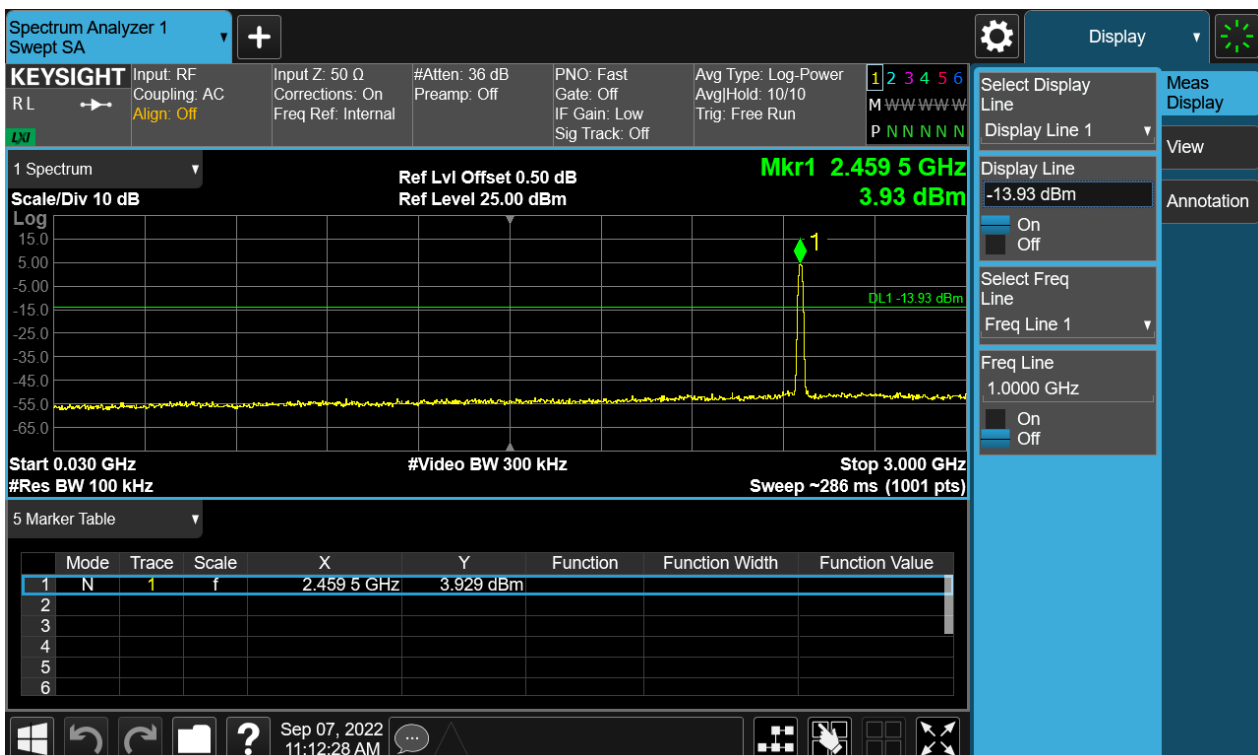


Figure 58: The plots of Conducted Spurious Emission & Authorized-band band-edge, 802.11b, 2462MHz Conducted spurious emissions 30MHz-3GHz



TEST REPORT

Report No.: SHE22030040-02GE

Date: 2022-12-27

Page 45 of 69

Figure 59: The plots of Conducted Spurious Emission & Authorized-band band-edge, 802.11b, 2462MHz
Conducted spurious emissions 2GHz-25GHz

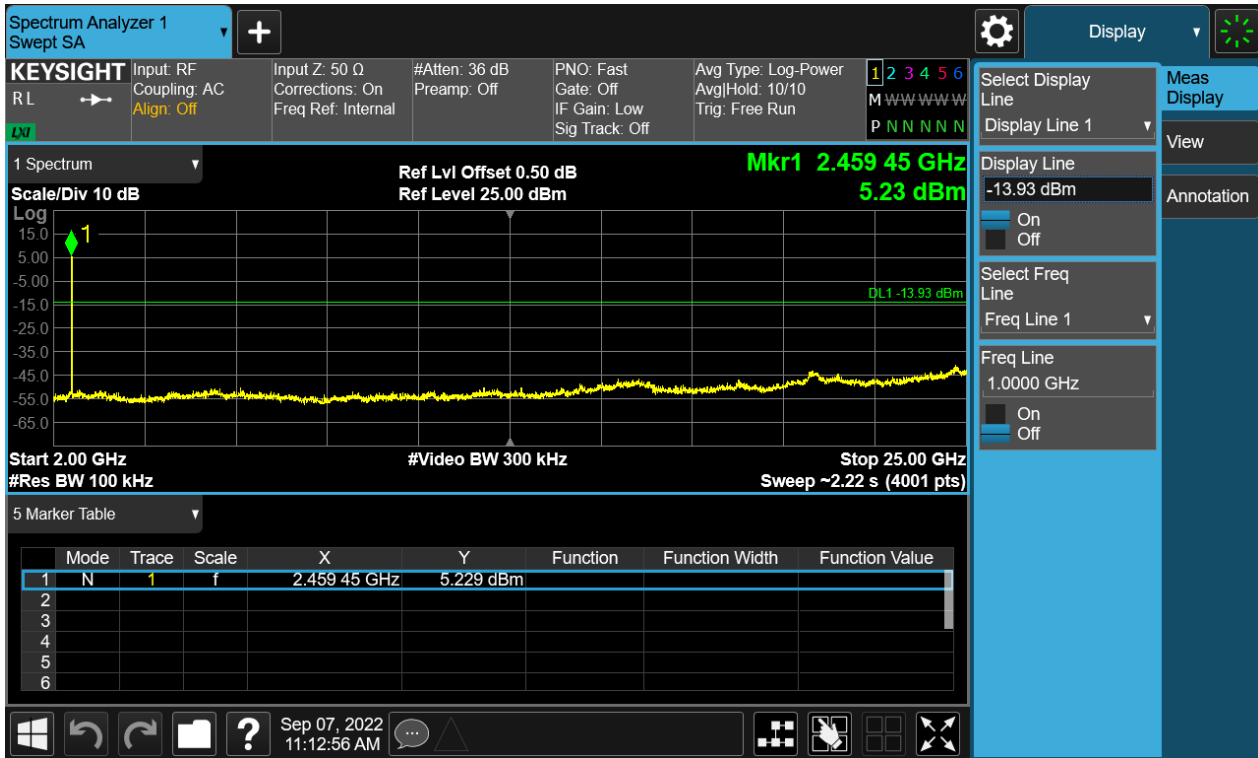
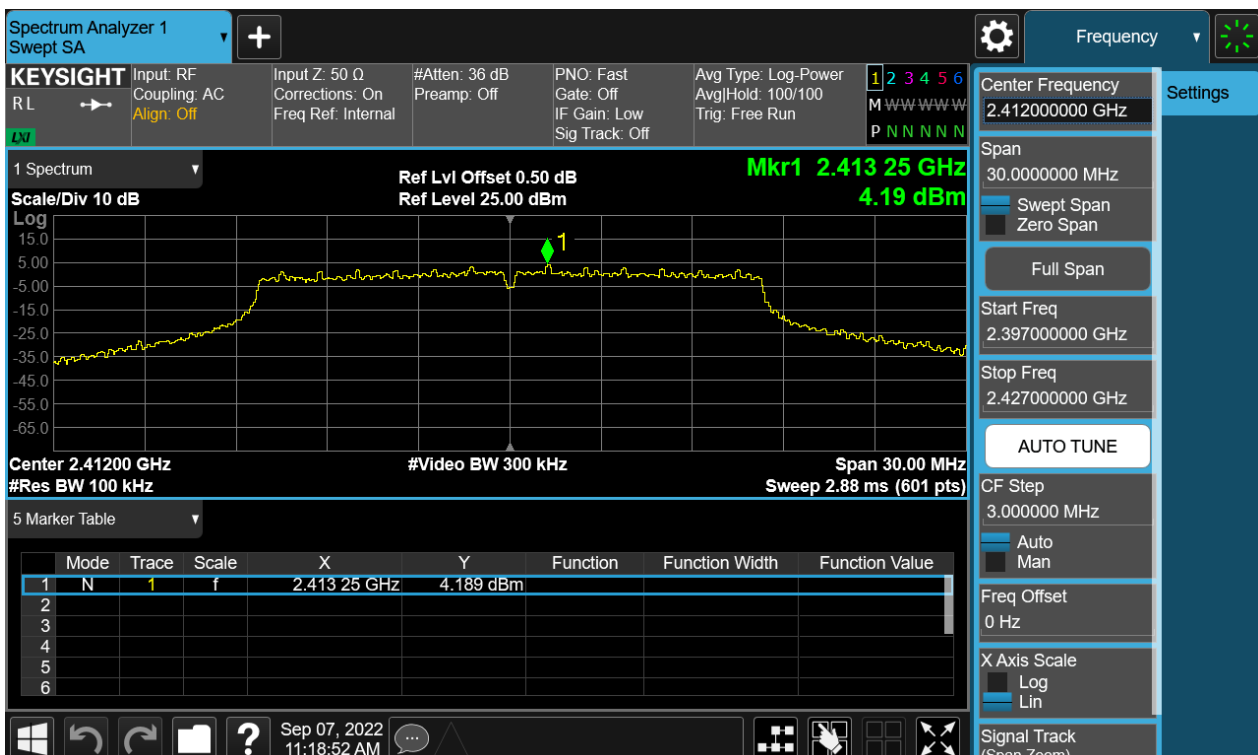


Figure 60: The plots of Conducted Spurious Emission & Authorized-band band-edge, 802.11g, 2412MHz
Carrier Level



TEST REPORT

Report No.: SHE22030040-02GE

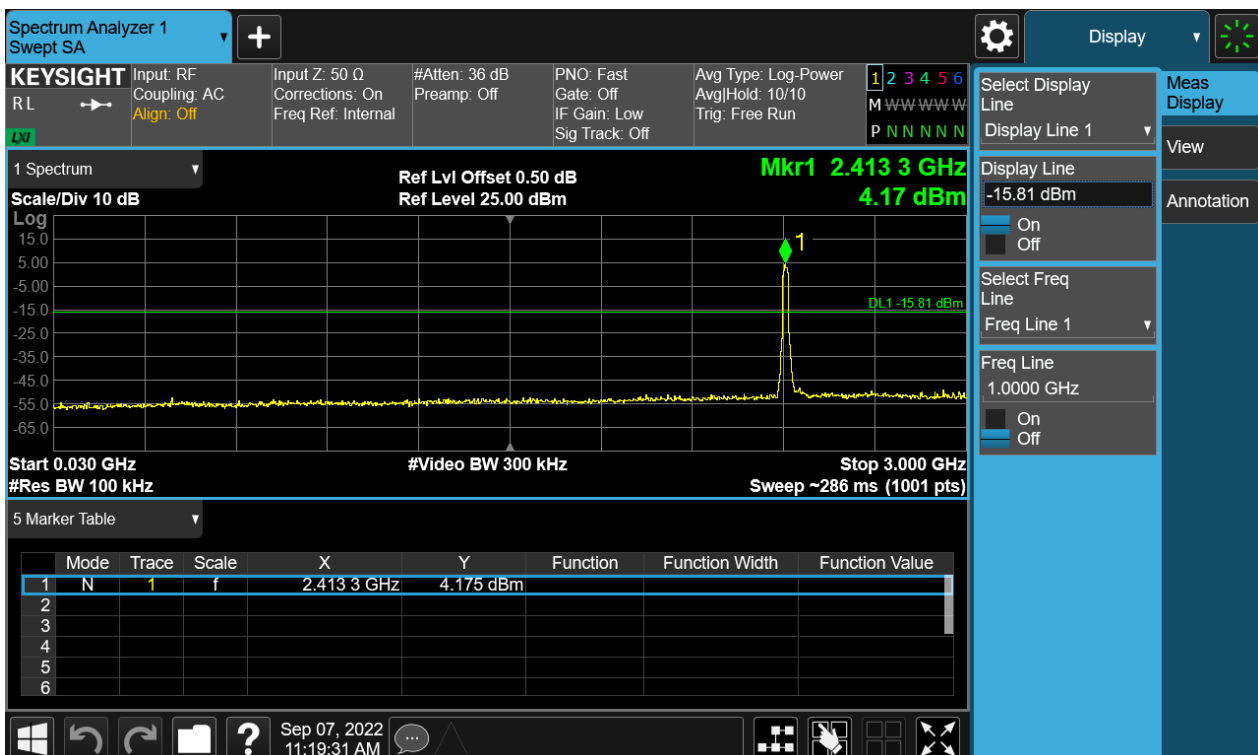
Date: 2022-12-27

Page 46 of 69

Figure 61: The plots of Conducted Spurious Emission & Authorized-band band-edge, 802.11g, 2412MHz Band Edge



Figure 62: The plots of Conducted Spurious Emission & Authorized-band band-edge, 802.11g, 2412MHz Conducted spurious emissions 30MHz-3GHz



TEST REPORT

Report No.: SHE22030040-02GE

Date: 2022-12-27

Page 47 of 69

Figure 63: The plots of Conducted Spurious Emission & Authorized-band band-edge, 802.11g, 2412MHz
Conducted spurious emissions 2GHz-25GHz

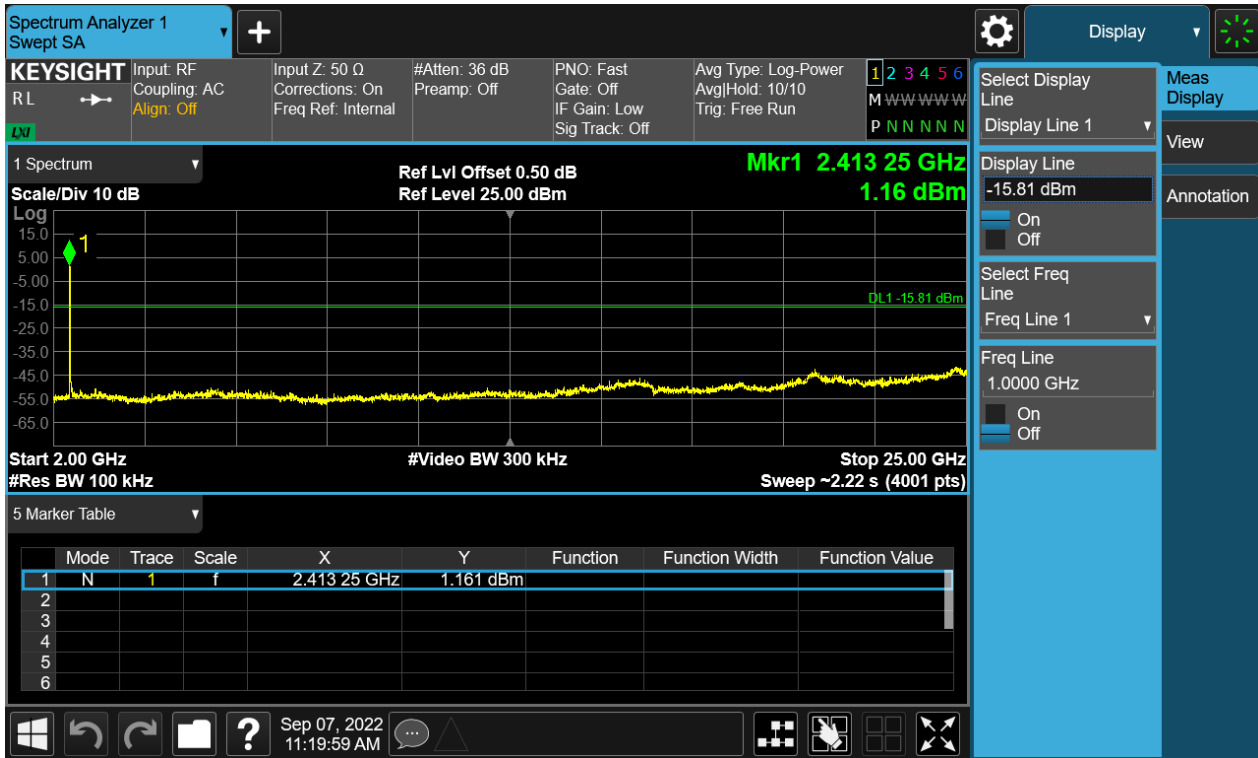
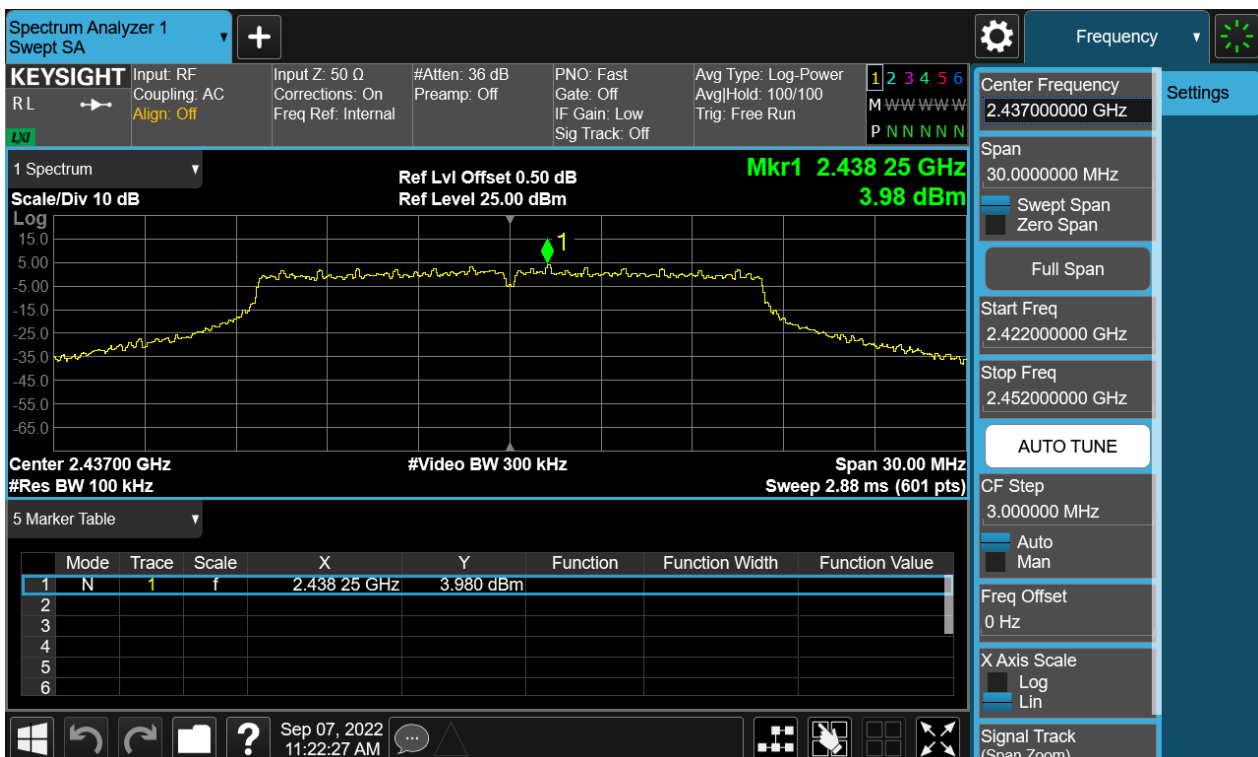


Figure 64: The plots of Conducted Spurious Emission & Authorized-band band-edge, 802.11g, 2437MHz
Carrier Level



TEST REPORT

Report No.: SHE22030040-02GE

Date: 2022-12-27

Page 48 of 69

Figure 65: The plots of Conducted Spurious Emission & Authorized-band band-edge, 802.11g, 2437MHz
Conducted spurious emissions 30MHz-3GHz

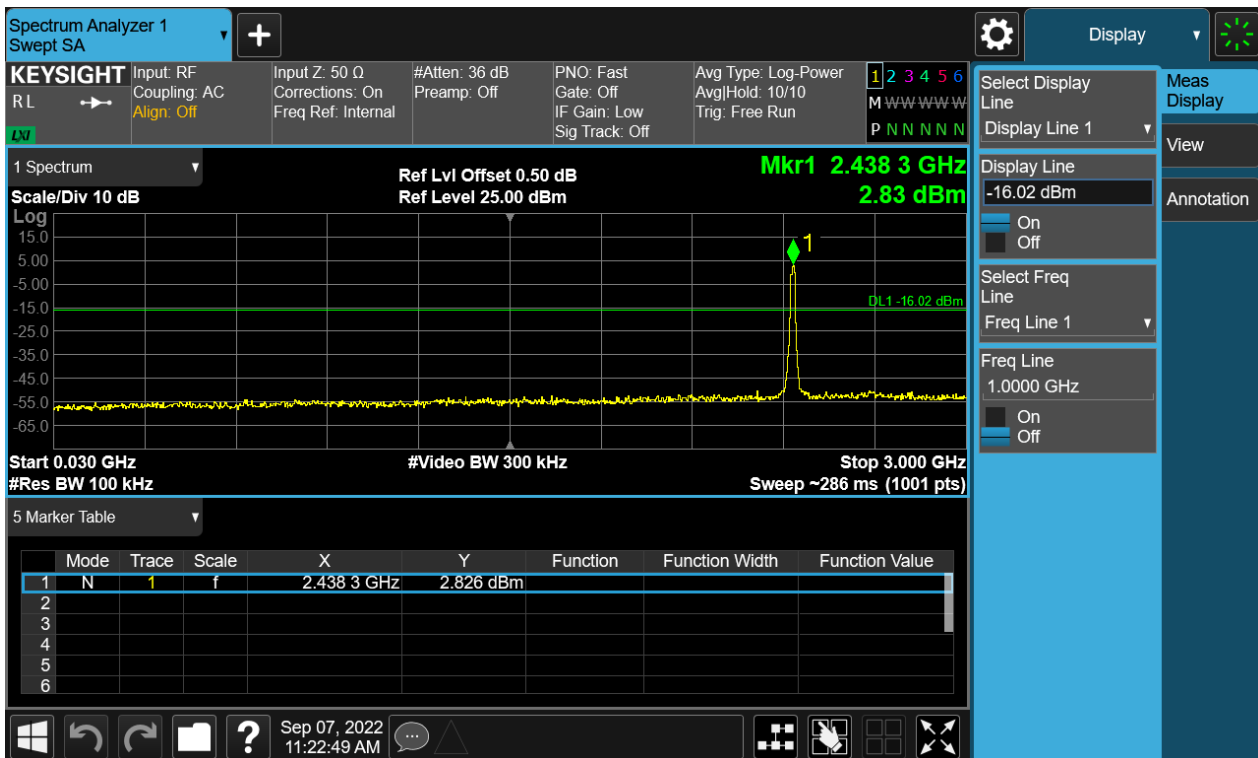


Figure 66: The plots of Conducted Spurious Emission & Authorized-band band-edge, 802.11g, 2437MHz
Conducted spurious emissions 2GHz-25GHz



TEST REPORT

Report No.: SHE22030040-02GE

Date: 2022-12-27

Page 49 of 69

Figure 67: The plots of Conducted Spurious Emission & Authorized-band band-edge, 802.11g, 2462MHz Carrier Level

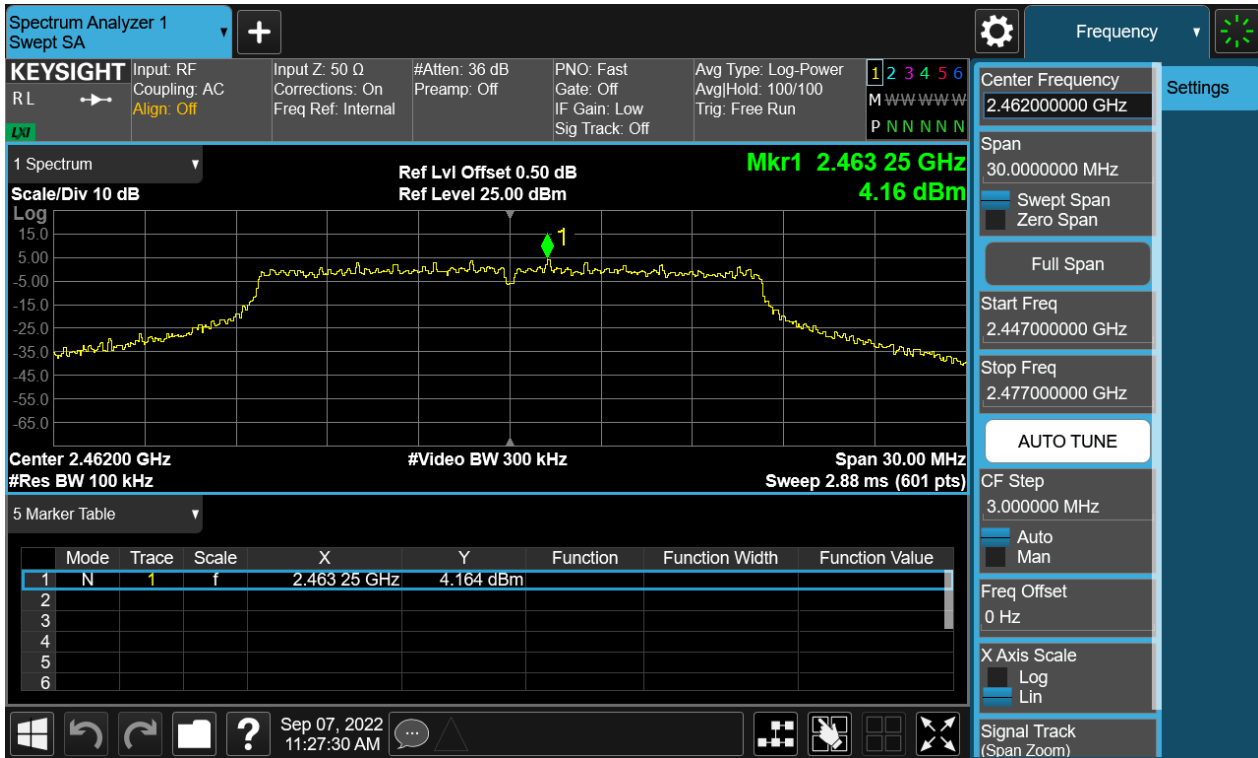


Figure 68: The plots of Conducted Spurious Emission & Authorized-band band-edge, 802.11g, 2462MHz Band Edge



TEST REPORT

Report No.: SHE22030040-02GE

Date: 2022-12-27

Page 50 of 69

Figure 69: The plots of Conducted Spurious Emission & Authorized-band band-edge, 802.11g, 2462MHz
Conducted spurious emissions 30MHz-3GHz

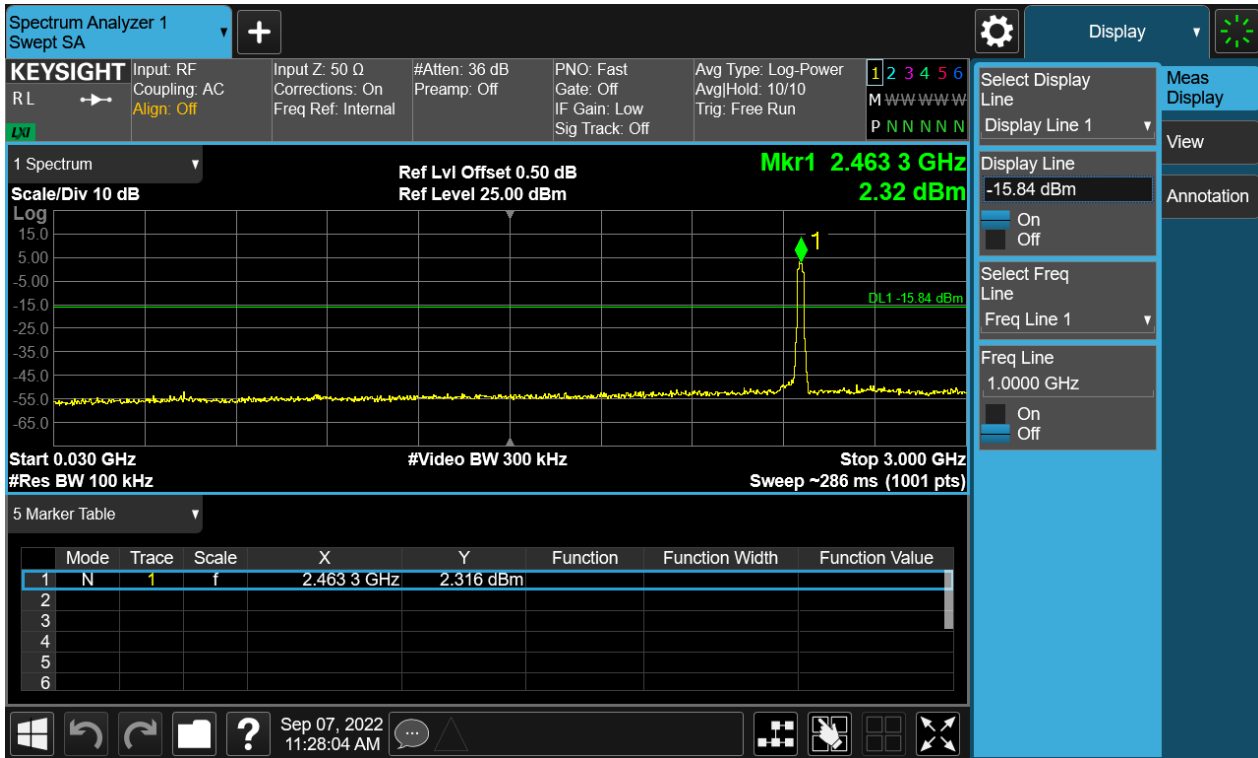
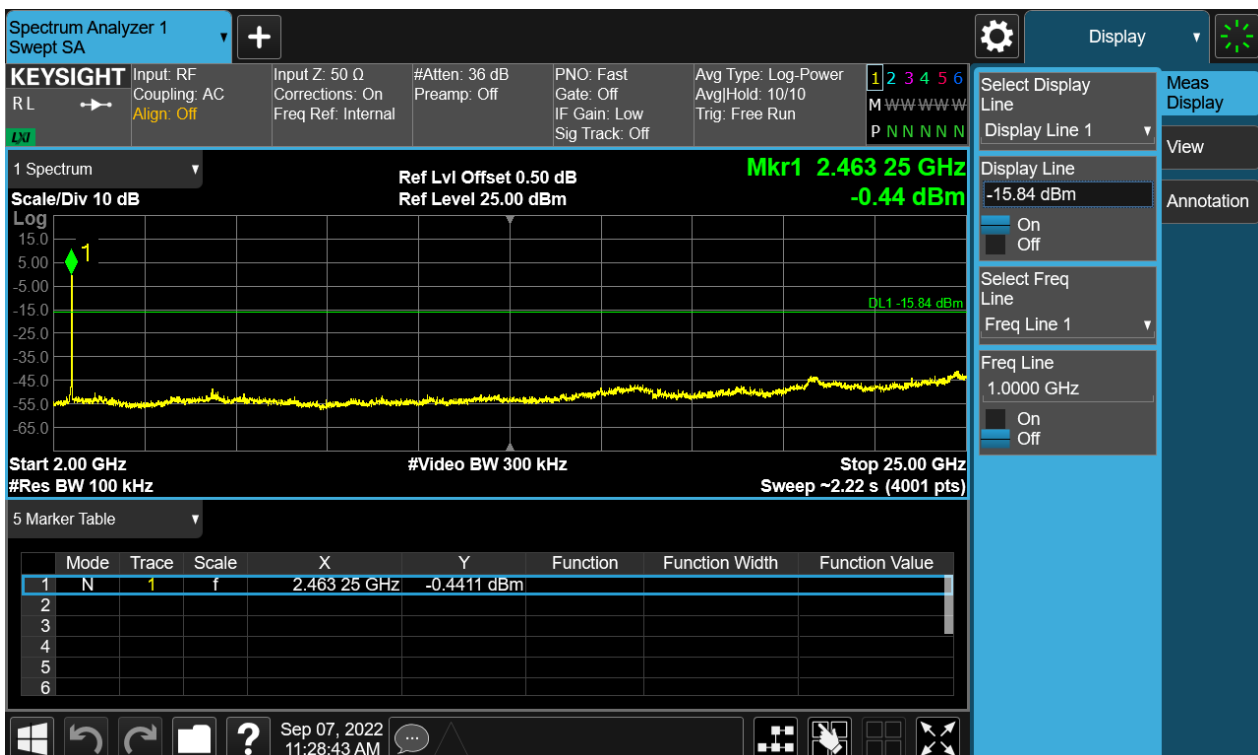


Figure 70: The plots of Conducted Spurious Emission & Authorized-band band-edge, 802.11g, 2462MHz
Conducted spurious emissions 2GHz-25GHz



TEST REPORT

Report No.: SHE22030040-02GE

Date: 2022-12-27

Page 51 of 69

Figure 12: The plots of Conducted Spurious Emission & Authorized-band band-edge, 802.11n(HT20), 2412MHz Carrier Level

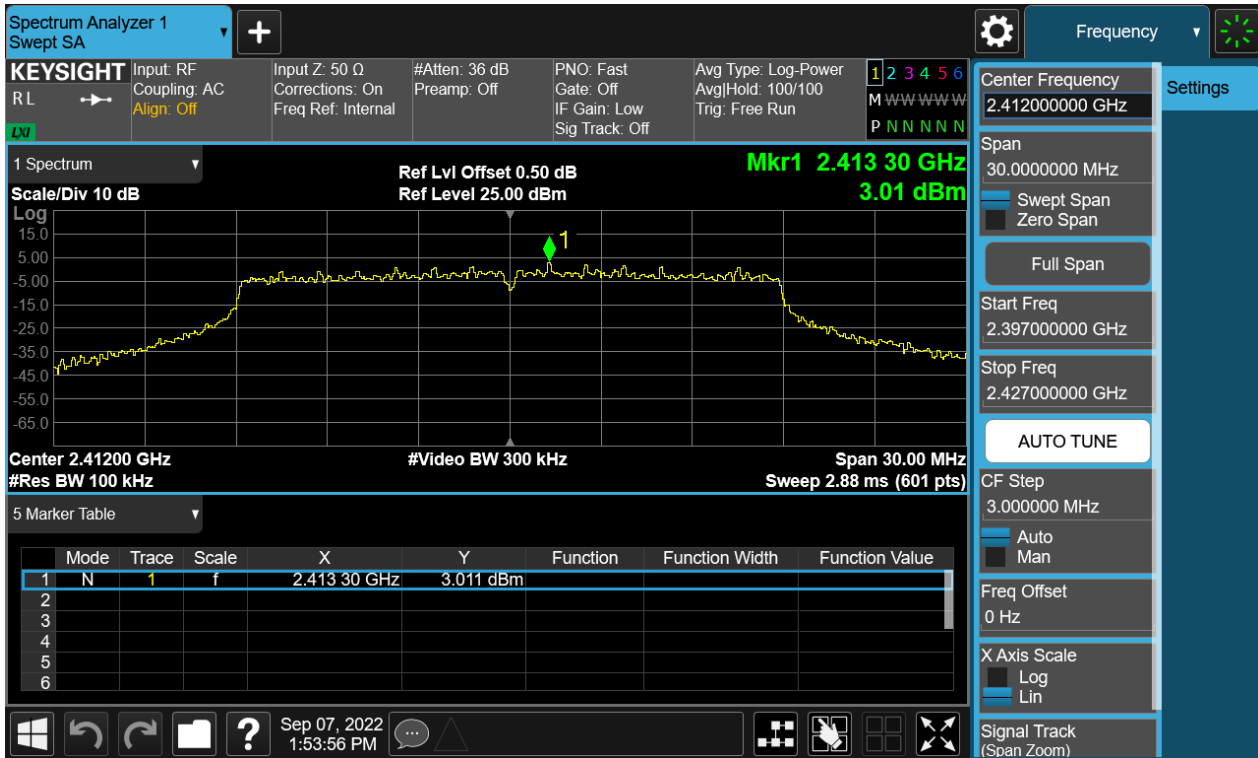


Figure 13: The plots of Conducted Spurious Emission & Authorized-band band-edge, 802.11n(HT20), 2412MHz Band Edge



TEST REPORT

Report No.: SHE22030040-02GE

Date: 2022-12-27

Page 52 of 69

Figure 14: The plots of Conducted Spurious Emission & Authorized-band band-edge, 802.11n(HT20), 2412MHz
Conducted spurious emissions 30MHz-3GHz

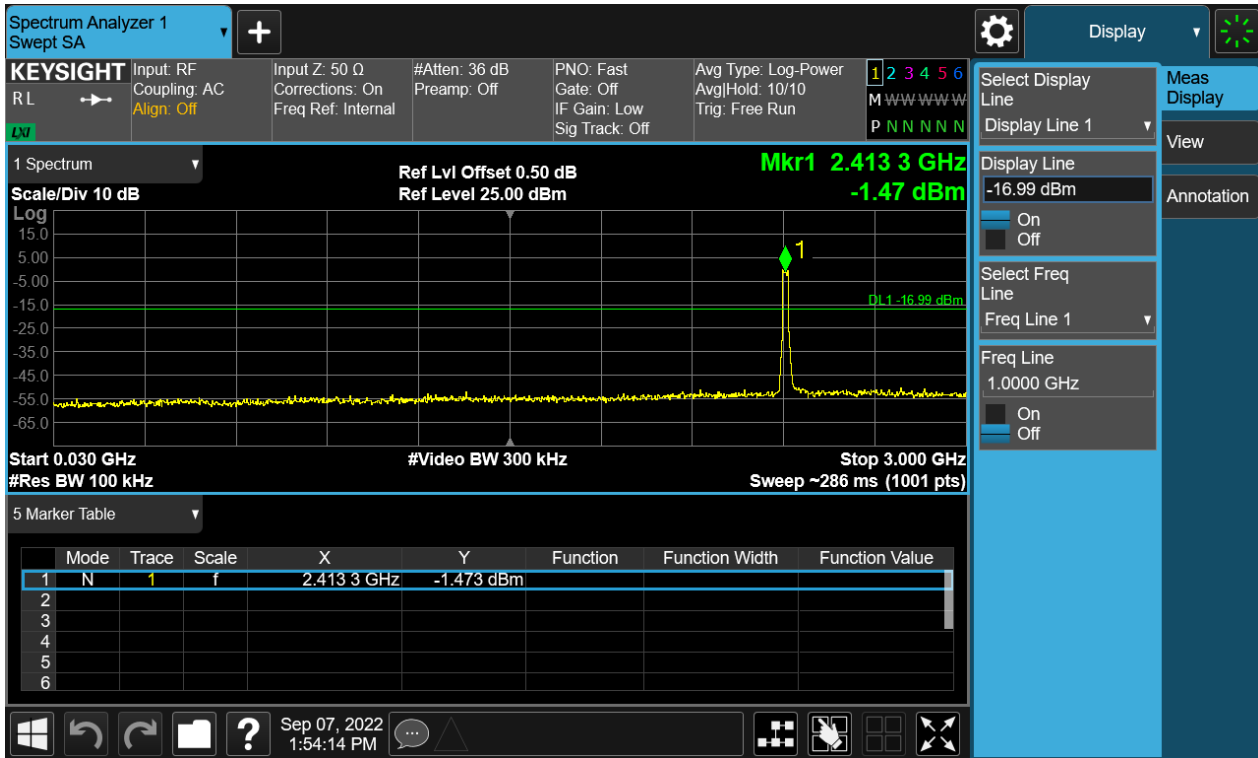


Figure 15: The plots of Conducted Spurious Emission & Authorized-band band-edge, 802.11n(HT20), 2412MHz
Conducted spurious emissions 2GHz-25GHz



TEST REPORT

Report No.: SHE22030040-02GE

Date: 2022-12-27

Page 53 of 69

Figure 75: The plots of Conducted Spurious Emission & Authorized-band band-edge, 802.11n(HT20), 2437MHz Carrier Level

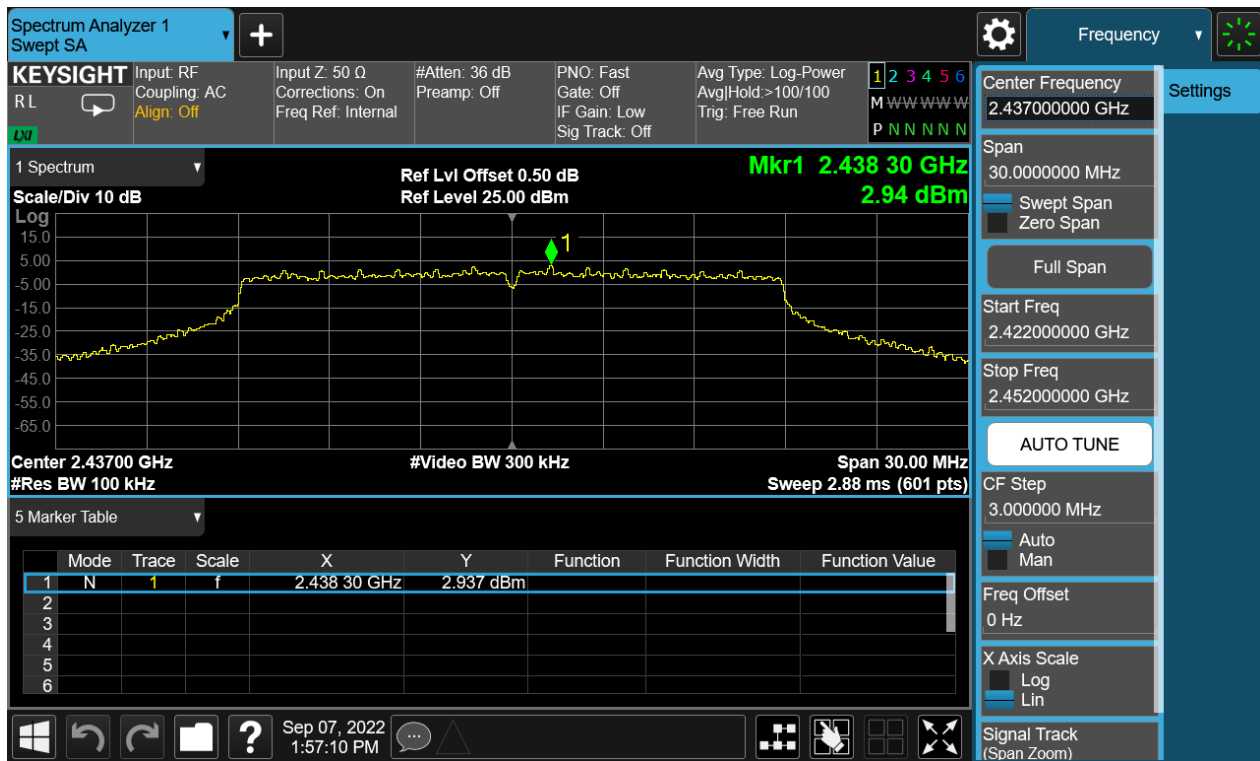
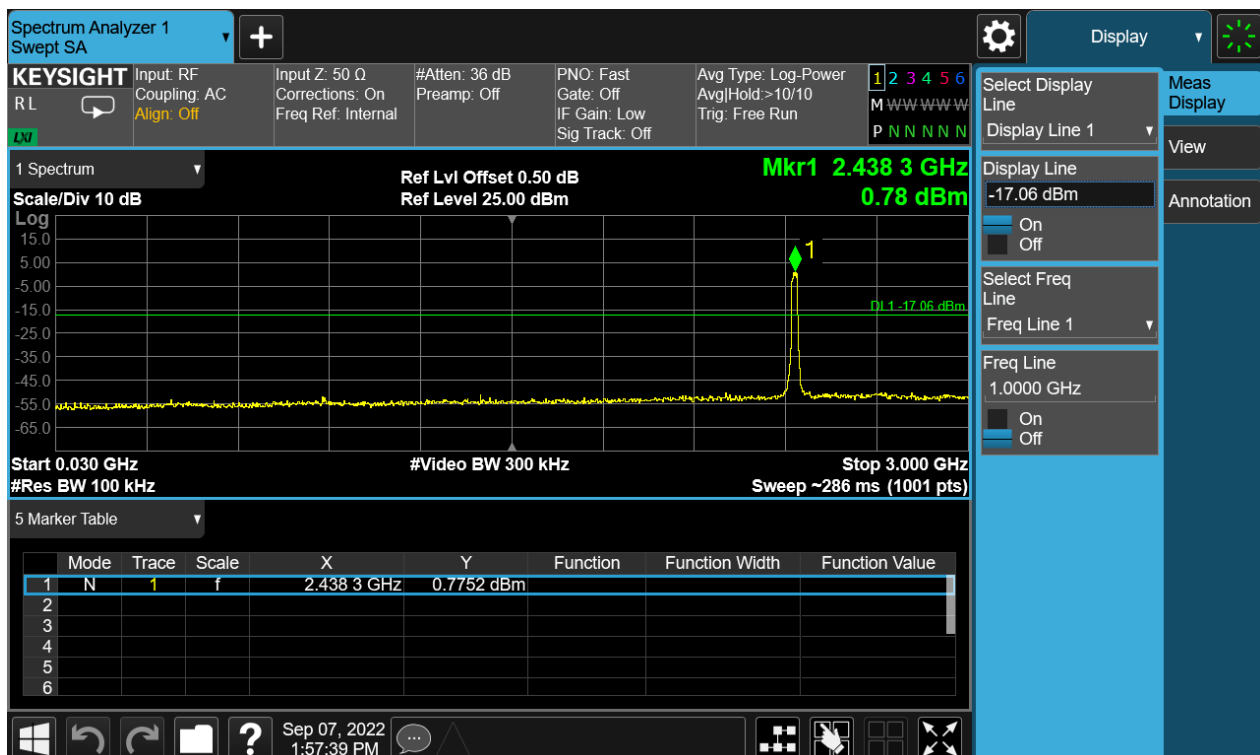


Figure 76: The plots of Conducted Spurious Emission & Authorized-band band-edge, 802.11n(HT20), 2437MHz Conducted spurious emissions 30MHz-3GHz



TEST REPORT

Report No.: SHE22030040-02GE

Date: 2022-12-27

Page 54 of 69

Figure 77: The plots of Conducted Spurious Emission & Authorized-band band-edge, 802.11n(HT20), 2437MHz
Conducted spurious emissions 2GHz-25GHz



Figure 78: The plots of Conducted Spurious Emission & Authorized-band band-edge, 802.11n(HT20), 2462MHz
Carrier Level



TEST REPORT

Report No.: SHE22030040-02GE

Date: 2022-12-27

Page 55 of 69

Figure 79: The plots of Conducted Spurious Emission & Authorized-band band-edge, 802.11n(HT20), 2462MHz Band Edge

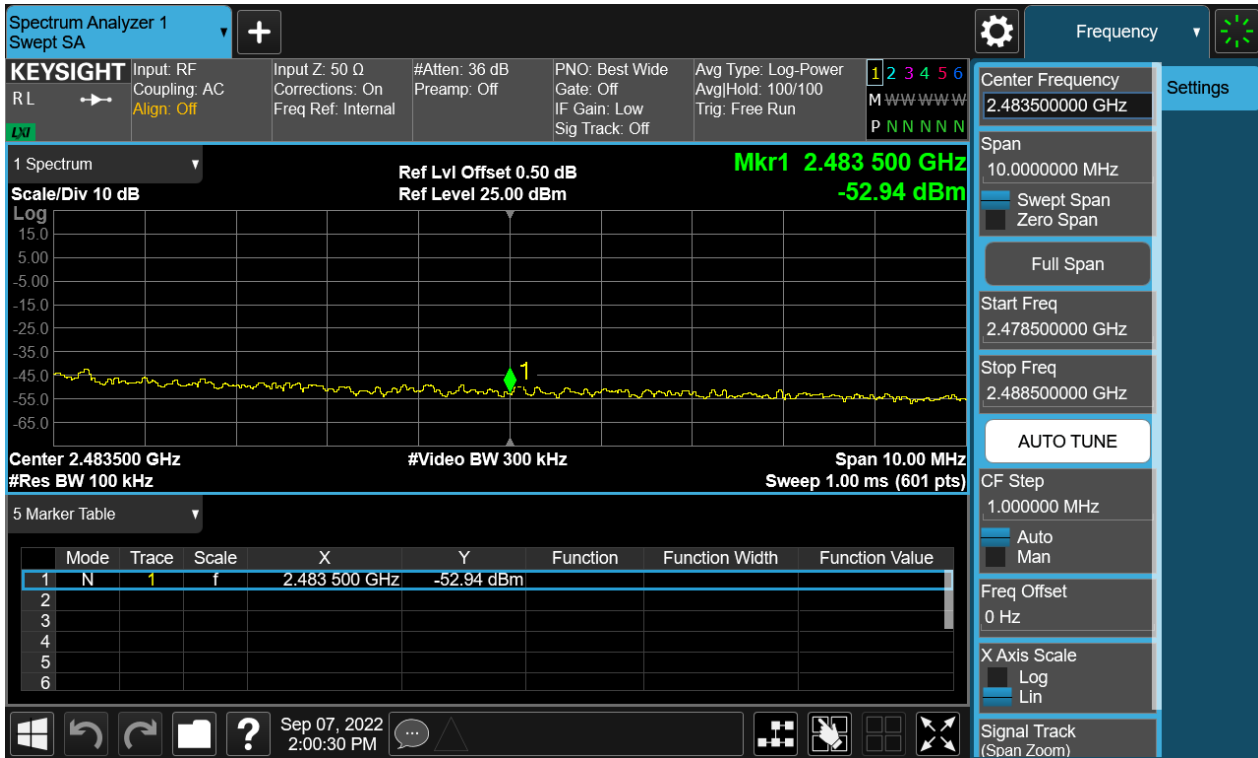
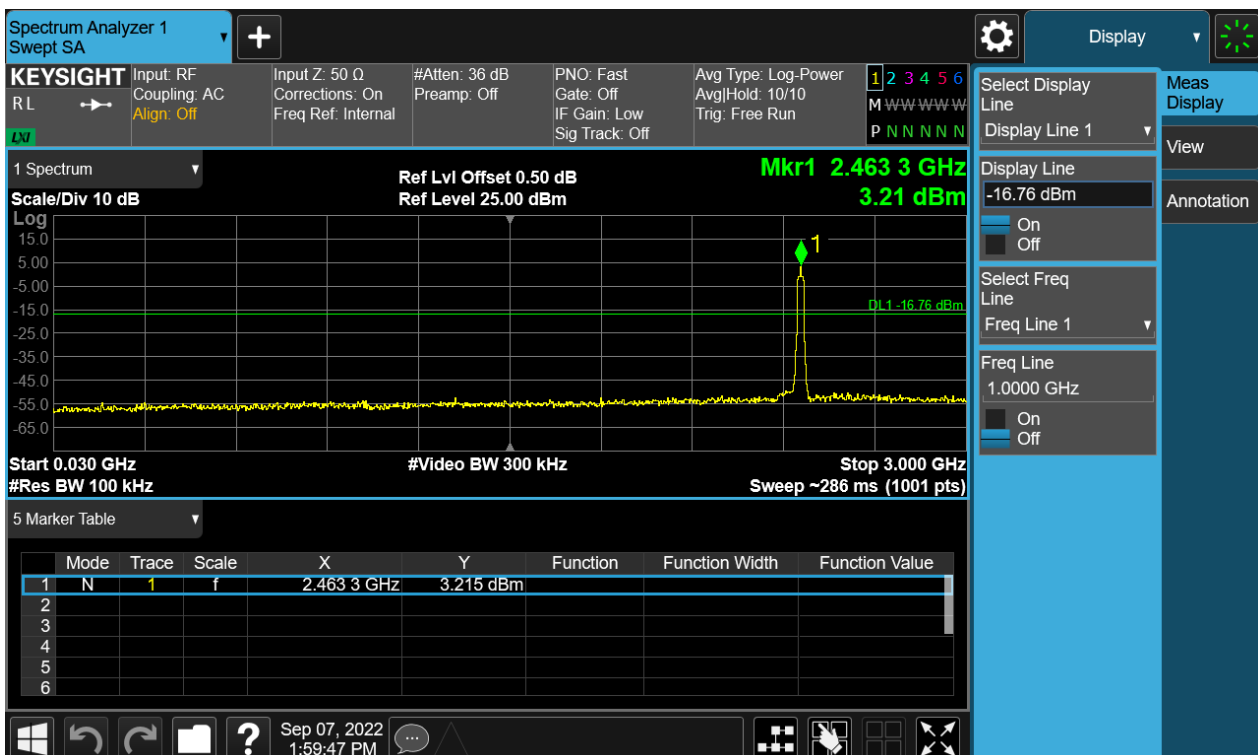


Figure 80: The plots of Conducted Spurious Emission & Authorized-band band-edge, 802.11n(HT20), 2462MHz Conducted spurious emissions 30MHz-3GHz



TEST REPORT

Report No.: SHE22030040-02GE

Date: 2022-12-27

Page 56 of 69

Figure 81: The plots of Conducted Spurious Emission & Authorized-band band-edge, 802.11n(HT20), 2462MHz
Conducted spurious emissions 2GHz-25GHz

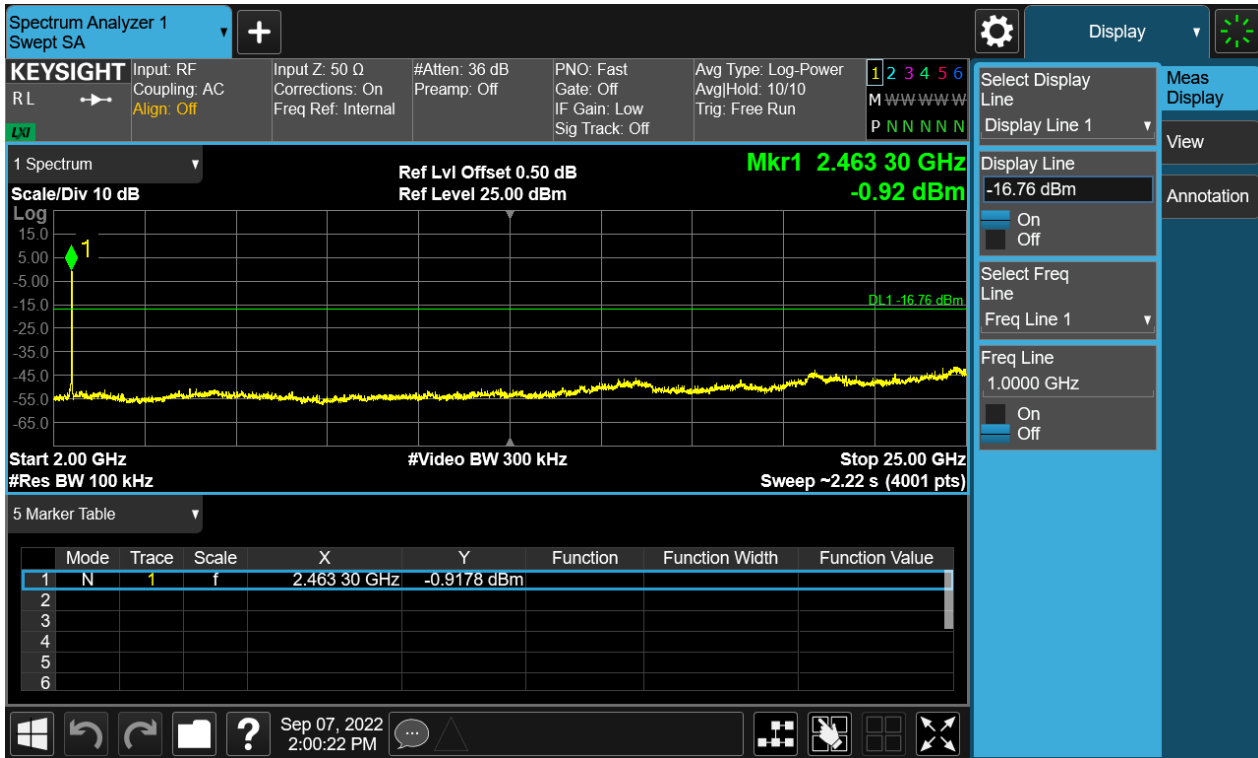


Figure 82: The plots of Conducted Spurious Emission & Authorized-band band-edge, 802.11n(HT40), 2422MHz
Carrier Level



TEST REPORT

Report No.: SHE22030040-02GE

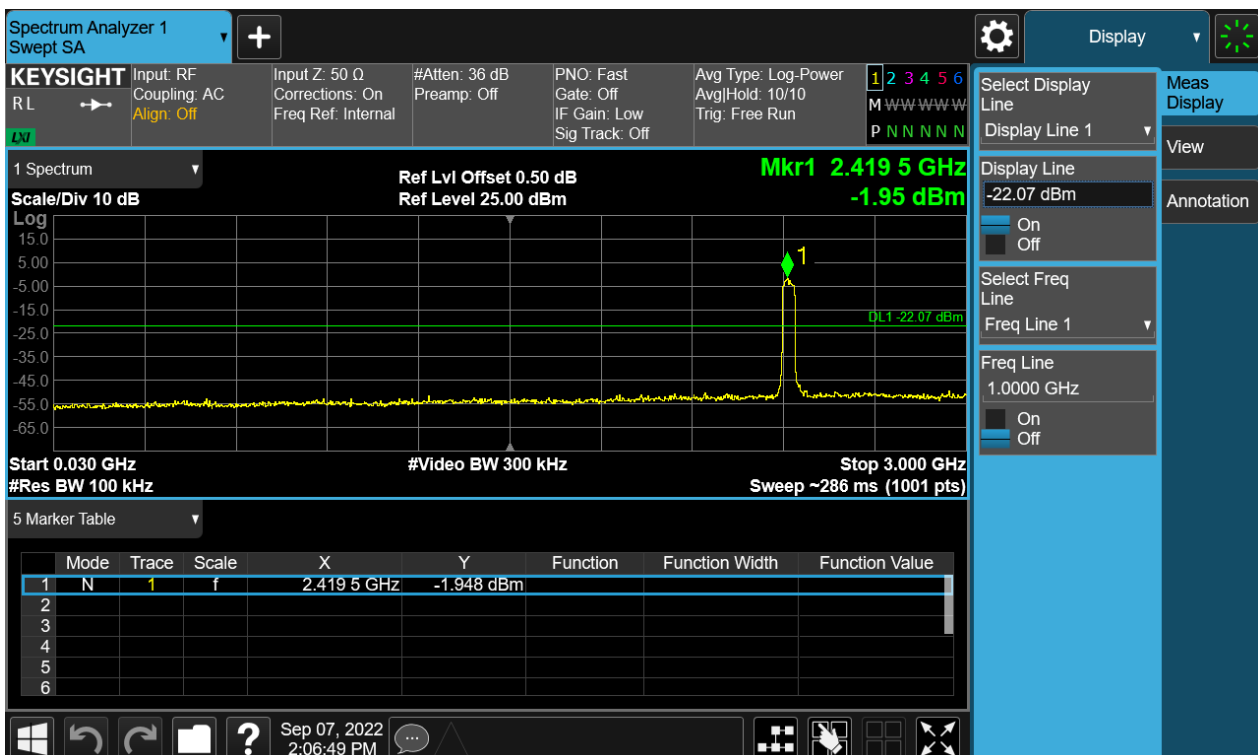
Date: 2022-12-27

Page 57 of 69

Figure 83: The plots of Conducted Spurious Emission & Authorized-band band-edge, 802.11n(HT40), 2422MHz Band Edge



Figure 84: The plots of Conducted Spurious Emission & Authorized-band band-edge, 802.11n(HT40), 2422MHz Conducted spurious emissions 30MHz-3GHz



TEST REPORT

Report No.: SHE22030040-02GE

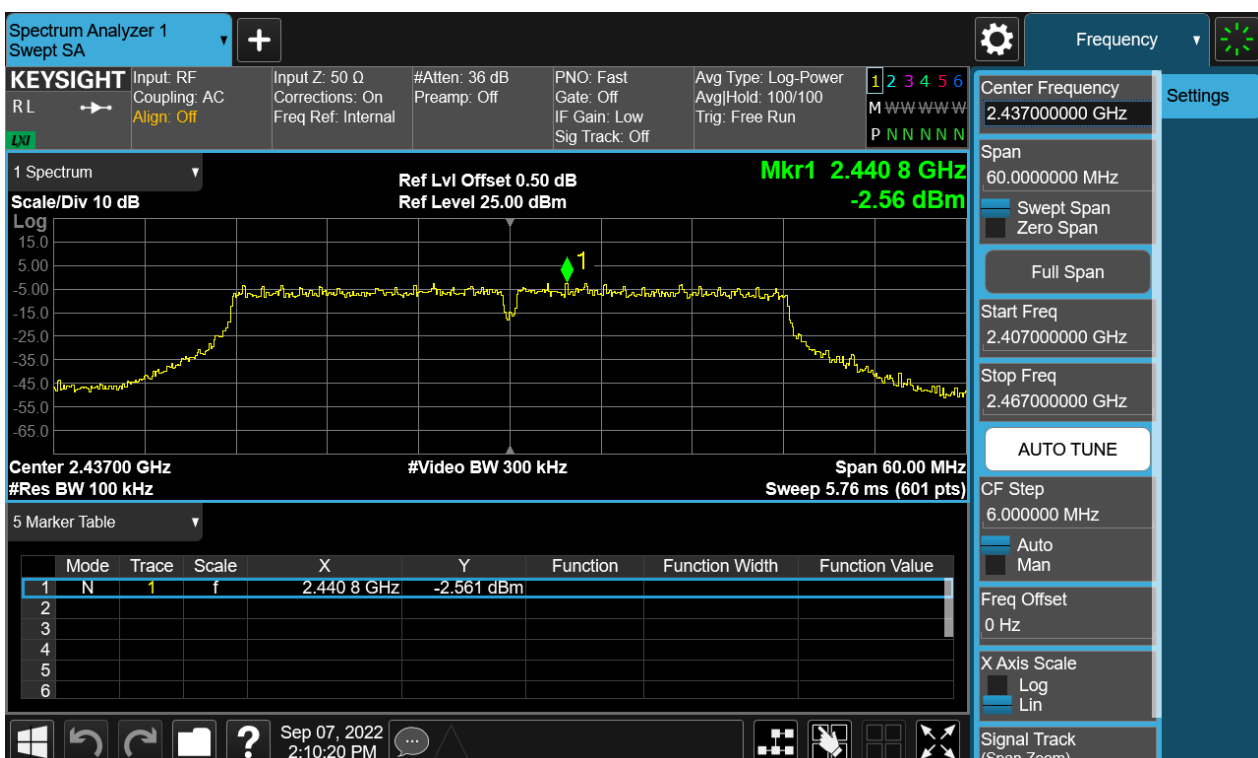
Date: 2022-12-27

Page 58 of 69

Figure 85: The plots of Conducted Spurious Emission & Authorized-band band-edge, 802.11n(HT40), 2422MHz
Conducted spurious emissions 2GHz-25GHz



Figure 86: The plots of Conducted Spurious Emission & Authorized-band band-edge, 802.11n(HT40), 2437MHz
Carrier Level



TEST REPORT

Report No.: SHE22030040-02GE

Date: 2022-12-27

Page 59 of 69

Figure 87: The plots of Conducted Spurious Emission & Authorized-band band-edge, 802.11n(HT40), 2437MHz
Conducted spurious emissions 30MHz-3GHz

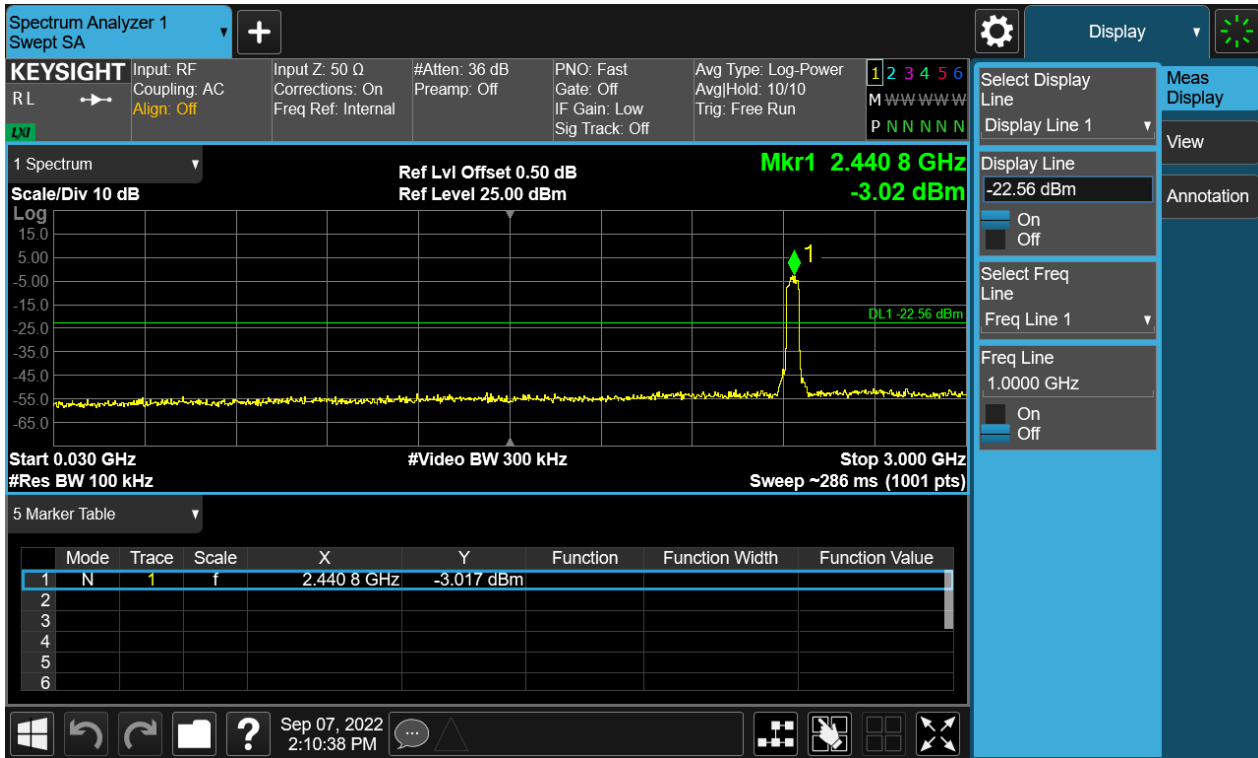
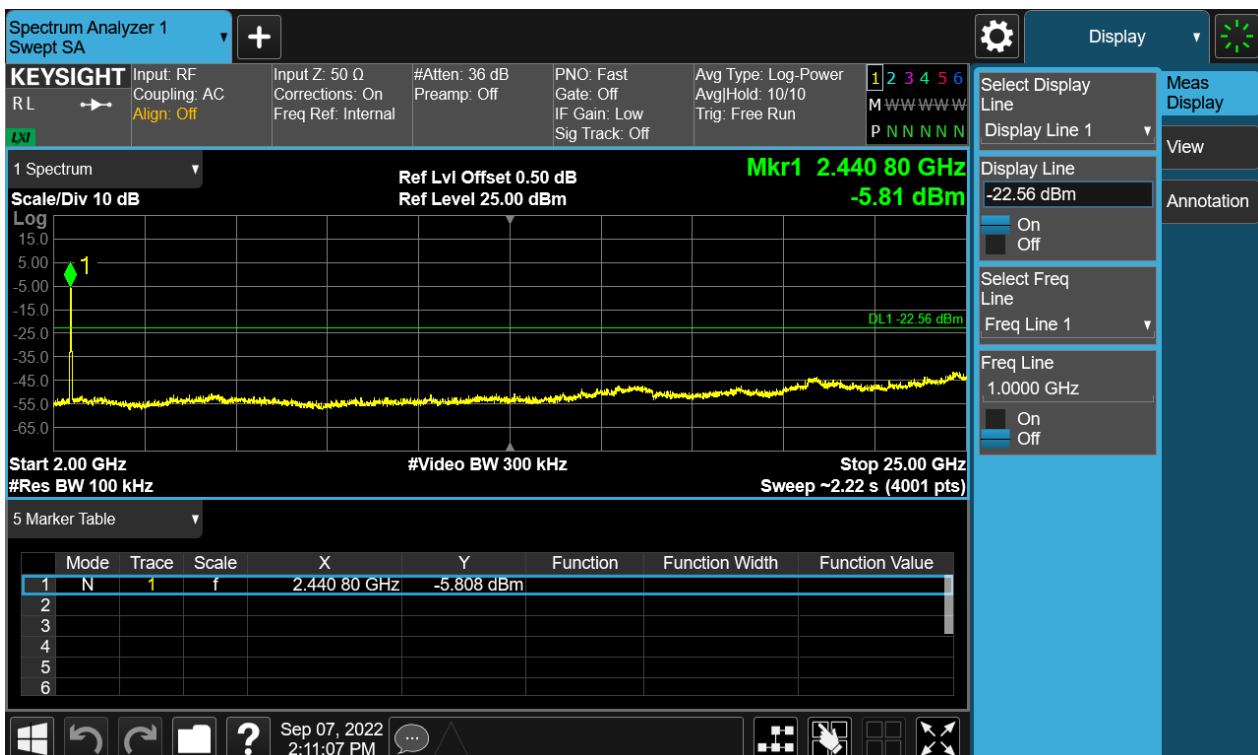


Figure 88: The plots of Conducted Spurious Emission & Authorized-band band-edge, 802.11n(HT40), 2437MHz
Conducted spurious emissions 2GHz-25GHz



TEST REPORT

Report No.: SHE22030040-02GE

Date: 2022-12-27

Page 60 of 69

Figure 89: The plots of Conducted Spurious Emission & Authorized-band band-edge, 802.11n(HT40), 2452MHz Carrier Level



Figure 90: The plots of Conducted Spurious Emission & Authorized-band band-edge, 802.11n(HT40), 2452MHz Band Edge



TEST REPORT

Report No.: SHE22030040-02GE

Date: 2022-12-27

Page 61 of 69

Figure 91: The plots of Conducted Spurious Emission & Authorized-band band-edge, 802.11n(HT40), 2452MHz
Conducted spurious emissions 30MHz-3GHz

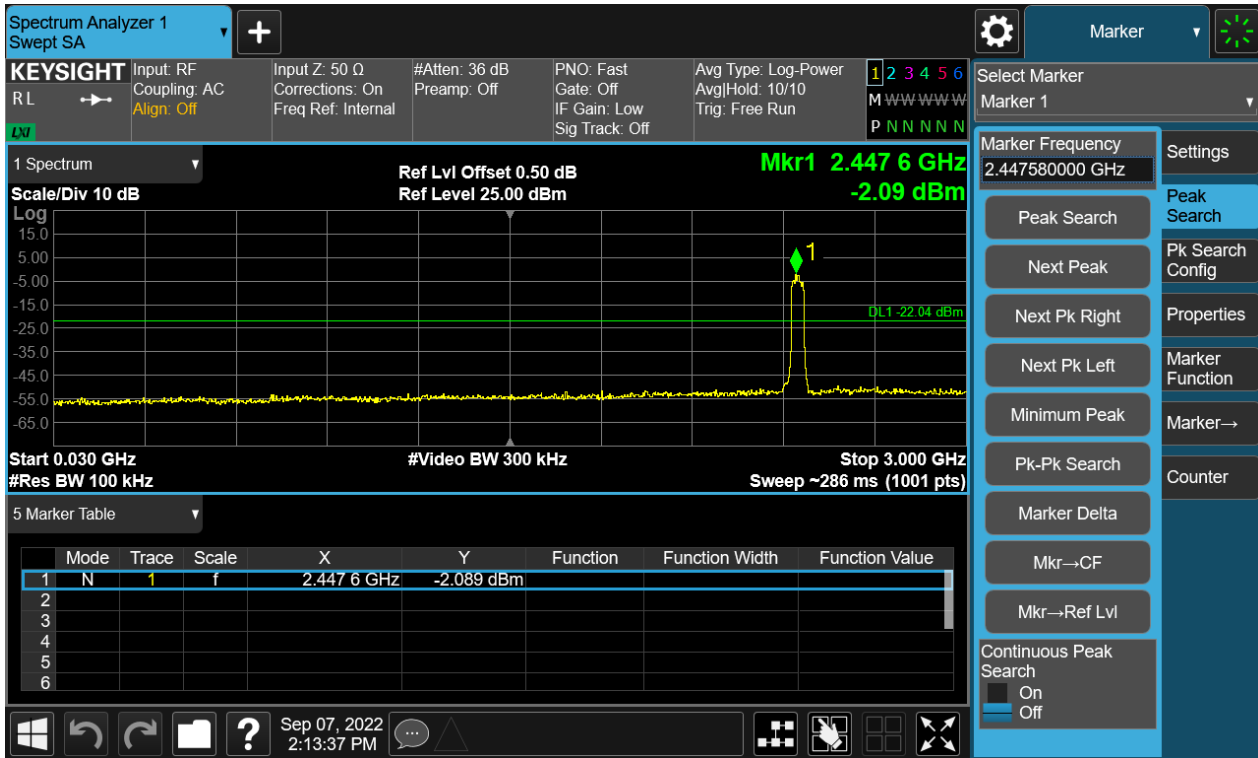
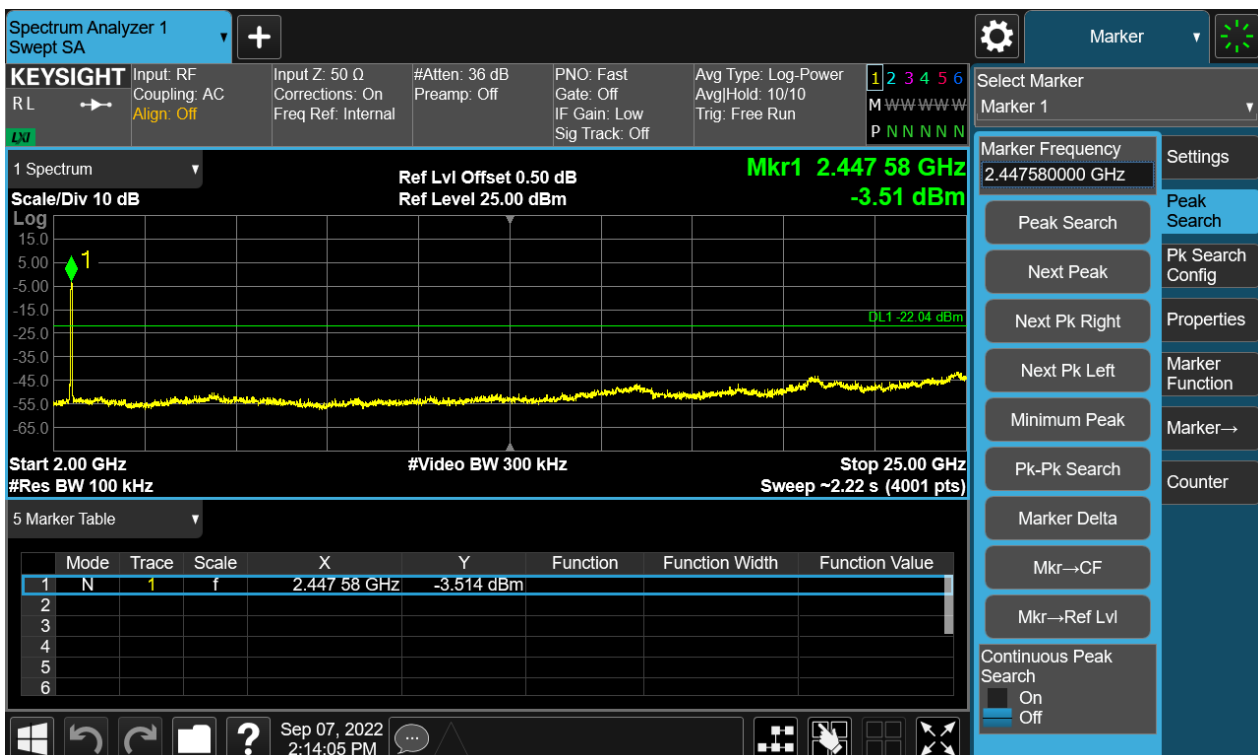


Figure 92: The plots of Conducted Spurious Emission & Authorized-band band-edge, 802.11n(HT40), 2452MHz
Conducted spurious emissions 2GHz-25GHz



TEST REPORT

Report No.: SHE22030040-02GE

Date: 2022-12-27

Page 62 of 69

4.1.6 Radiated Emission

RESULT:

PASS

Test standard	: FCC Part 15.247(d), 15.205, 15.209 RSS-GEN 8.9
Requirement	: ANSI C63.10-2013 clause 11.12, KDB 558074 clause 8.6
Kind of test site	: 3m Semi-Anechoic Chamber

Test setup

Test Channel	: Low/Middle/High
Operation Mode	: A.1.a
Ambient temperature	: 24°C
Relative humidity	: 50%

Notes

Test plots please refer to the annex document "SHE22030040-02GE 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 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.
4. All antenna (antenna 2 and 3) had been tested, The 802.11b/g of antenna 2 and the 802.11n of MIMO mode are the worst case and record in the test report.
5. Factor = Antenna Factor + Cable loss - Amplifier gain, Over Limit= Results-Limit.

TEST REPORT

Report No.: SHE22030040-02GE

Date: 2022-12-27

Page 63 of 69

4.1.7 Band Edge (Restricted-band band-edge)

RESULT:

PASS

Test standard	: FCC Part 15.247(d), 15.205, 15.209 RSS-GEN 8.10
Requirement	: ANSI C63.10-2013 clause 11.13, KDB 558074 clause 8.7
Kind of test site	: 3m Semi-Anechoic Chamber

Test setup

Test Channel	: Low/High
Operation Mode	: A.1.a
Ambient temperature	: 24°C
Relative humidity	: 52%

Notes:

Test plots please refer to the annex document "SHE22030040-02GE DATA WIFI 2.4GHz-TX EXHIBIT A".

TEST REPORT

Report No.: SHE22030040-02GE

Date: 2022-12-27

Page 64 of 69

4.2 Mains Emissions

4.2.1 Conducted Emission on AC Mains

RESULT:

PASS

Test standard	: FCC Part 15.207(a), RSS-Gen 8.8
Requirement	: ANSI C63.10-2013 clause 6.2
Kind of test site	: Shielded room

Test setup

Input Voltage	: AC 120V, 60Hz
Operation Mode	: A.1.a
Earthing	: Not Connected
Ambient temperature	: 23.5°C
Relative humidity	: 41%

For details refer to following test plot.

TEST REPORT

Report No.: SHE22030040-02GE

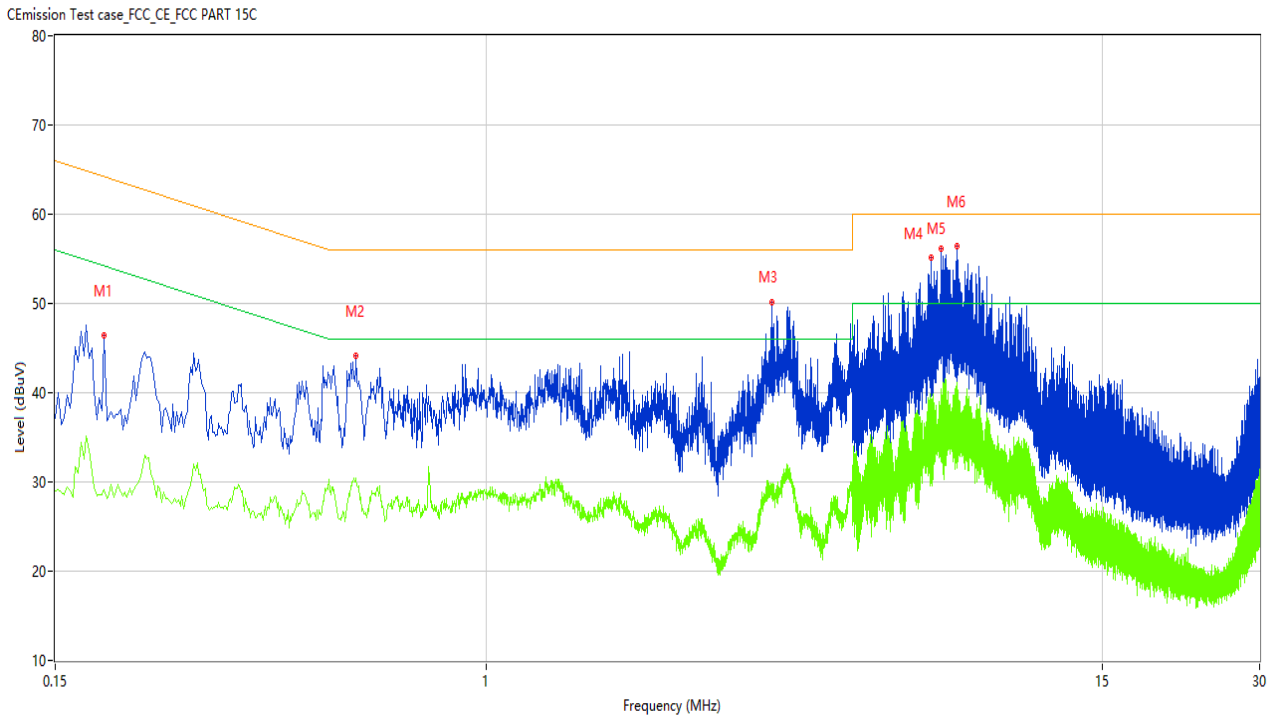
Date: 2022-12-27

Page 65 of 69

Note:

The all configurations were tested respectively, but only the worst configuration(802.11n20, 2412MHz) shown here.

Figure 93: Conducted Emission on AC Mains, L Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.186	51.36	10.27	64.21	-12.85	Peak	L	Pass
1*	0.186	35.49	10.27	64.21	-28.72	QP	L	Pass
1**	0.186	29.19	10.27	54.21	-25.02	AV	L	Pass
2	0.564	44.09	10.33	56.00	-11.91	Peak	L	Pass
2*	0.564	38.69	10.33	56.00	-17.31	QP	L	Pass
2**	0.564	30.39	10.33	46.00	-15.61	AV	L	Pass
3	3.508	50.70	10.20	56.00	-5.30	Peak	L	Pass
3*	3.508	39.74	10.20	56.00	-16.26	QP	L	Pass
3**	3.508	29.72	10.20	46.00	-16.28	AV	L	Pass
4	7.074	57.41	10.35	60.00	-2.59	Peak	L	Pass
4*	7.074	46.52	10.35	60.00	-13.48	QP	L	Pass
4**	7.074	39.30	10.35	50.00	-10.70	AV	L	Pass
5	7.390	56.74	10.36	60.00	-3.26	Peak	L	Pass
5*	7.390	46.22	10.36	60.00	-13.78	QP	L	Pass
5**	7.390	37.33	10.36	50.00	-12.67	AV	L	Pass
6	7.942	58.63	10.37	60.00	-1.37	Peak	L	Pass
6*	7.942	47.61	10.37	60.00	-12.39	QP	L	Pass
6**	7.942	38.53	10.37	50.00	-11.47	AV	L	Pass

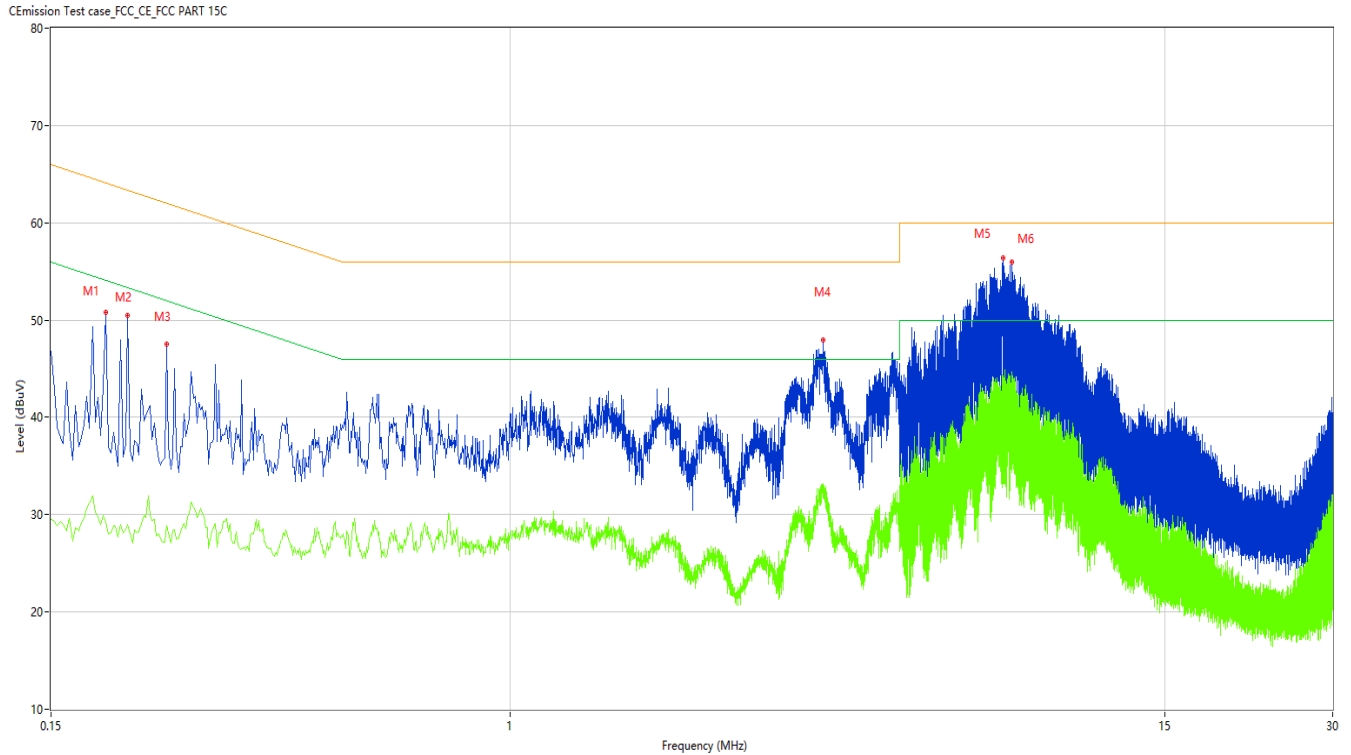
TEST REPORT

Report No.: SHE22030040-02GE

Date: 2022-12-27

Page 66 of 69

Figure 94: Conducted Emission on AC Mains, N Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.188	45.61	10.18	64.12	-18.51	Peak	N	Pass
1*	0.188	35.40	10.18	64.12	-28.72	QP	N	Pass
1**	0.188	29.18	10.18	54.12	-24.94	AV	N	Pass
2	0.206	39.25	10.19	63.37	-24.12	Peak	N	Pass
2*	0.206	28.68	10.19	63.37	-34.69	QP	N	Pass
2**	0.206	29.02	10.19	53.37	-24.35	AV	N	Pass
3	0.242	38.29	10.21	62.03	-23.74	Peak	N	Pass
3*	0.242	31.79	10.21	62.03	-30.24	QP	N	Pass
3**	0.242	28.89	10.21	52.03	-23.14	AV	N	Pass
4	3.648	48.26	10.26	56.00	-7.74	Peak	N	Pass
4*	3.648	42.82	10.26	56.00	-13.18	QP	N	Pass
4**	3.648	32.26	10.26	46.00	-13.74	AV	N	Pass
5	7.670	56.31	10.46	60.00	-3.69	Peak	N	Pass
5*	7.670	49.31	10.46	60.00	-10.69	QP	N	Pass
5**	7.670	41.54	10.46	50.00	-8.46	AV	N	Pass
6	7.972	56.75	10.47	60.00	-3.25	Peak	N	Pass
6*	7.972	50.31	10.47	60.00	-9.69	QP	N	Pass
6**	7.972	42.07	10.47	50.00	-7.93	AV	N	Pass

TEST REPORT

Report No.: SHE22030040-02GE

Date: 2022-12-27

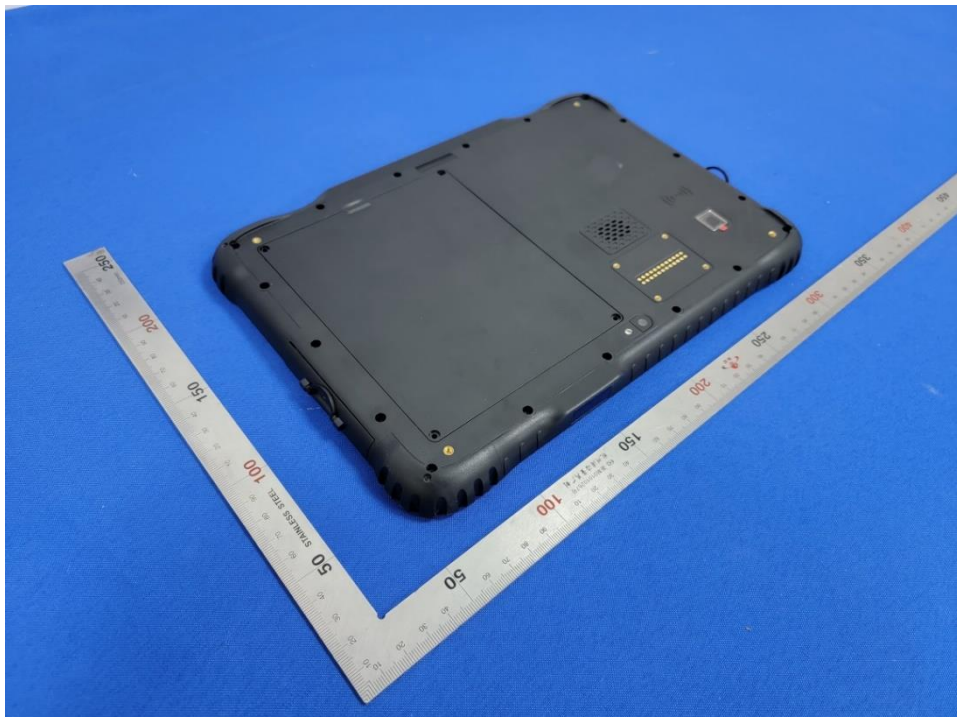
Page 67 of 69

5 Appendixes

5.1 Photographs of the Sample



Front of the sample



Rear of the sample

TEST REPORT

Report No.: SHE22030040-02GE

Date: 2022-12-27

Page 68 of 69

5.2 Set-up for Conducted Emissions



5.3 Set-up for Conducted RF test at Antenna Port



TEST REPORT

Report No.: SHE22030040-02GE

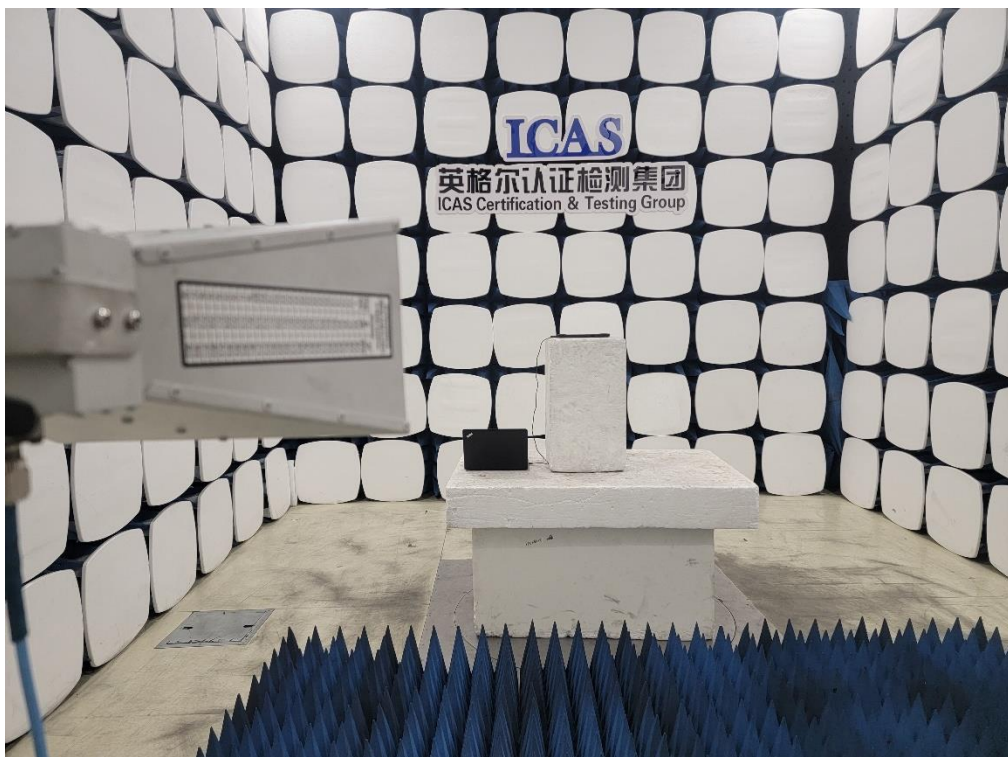
Date: 2022-12-27

Page 69 of 69

5.4 Set-up for Spurious Emissions below 1GHz



5.5 Set-up for Spurious Emissions above 1GHz



End of the report