

7.4. Power Spectral Density Measurement

7.4.1. Test Limit

The maximum permissible power spectral density is 8dBm in any 3 kHz band. And for antenna gain greater than 6dBi the limit shall reduce by the amount in dB that the directional gain of the antenna exceeds 6dBi.

7.4.2. Test Procedure Used

KDB 558074 D01 v05r02 - Section 8.4

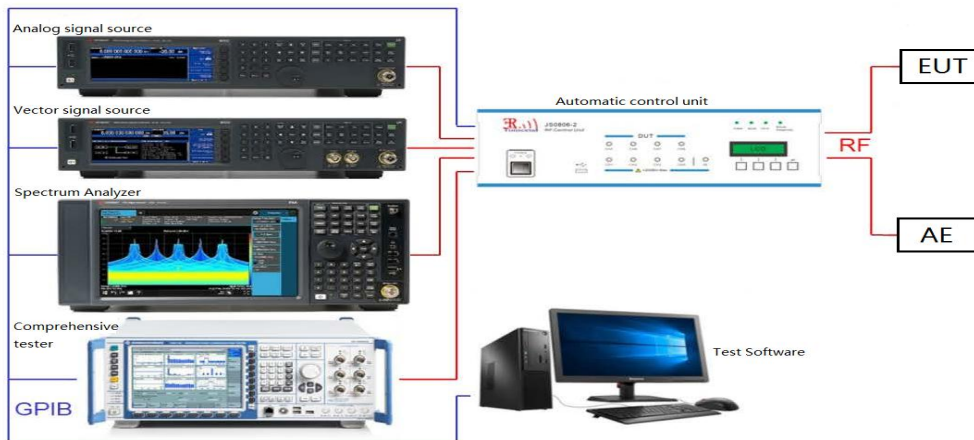
ANSI C63.10 – Section 11.10.5

7.4.3. Test Setting

1. Set analyzer center frequency to DTS channel center frequency.
2. Set the span to 1.5 times the OBW.
3. Set the RBW to $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
4. Set the VBW $\geq [3 \times \text{RBW}]$.
5. Detector = power averaging (rms) or sample detector (when rms not available).
6. Ensure that the number of measurement points in the sweep $\geq [2 \times \text{span} / \text{RBW}]$.
7. Sweep time = auto couple.
8. Do not use sweep triggering; allow sweep to “free run.”
9. Employ trace averaging (rms) mode over a minimum of 100 traces.
10. Use the peak marker function to determine the maximum amplitude level.
11. Add $[10 \log (1 / D)]$, where D is the duty cycle measured in step a), to the measured PSD to

If measured value exceeds requirement specified by regulatory agency, then reduce RBW (but no less than 3 kHz) and repeat (note that this may require zooming in on the emission of interest and reducing the span to meet the minimum measurement point requirement as the RBW is reduced).

7.4.4. Test Setup



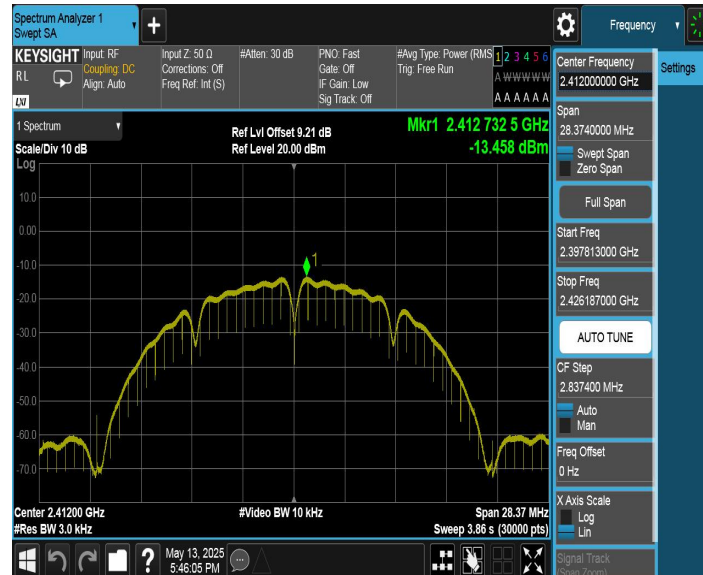
7.4.5. Test Result

Temperature:	25.0~30.0 °C
Relative Humidity:	40~70 %
ATM Pressure:	101.4 kPa
Test Data:	2025-05-13~2025-05-16
Test Engineer:	Stone Zhang

Test Mode	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
802.11b	2412	-13.46	≤8.00	PASS
	2437	-13.03	≤8.00	PASS
	2462	-12.78	≤8.00	PASS
802.11g	2412	-17.03	≤8.00	PASS
	2437	-16.34	≤8.00	PASS
	2462	-16.44	≤8.00	PASS
802.11n-HT20	2412	-17.68	≤8.00	PASS
	2437	-17.02	≤8.00	PASS
	2462	-17.33	≤8.00	PASS

Test Graphs

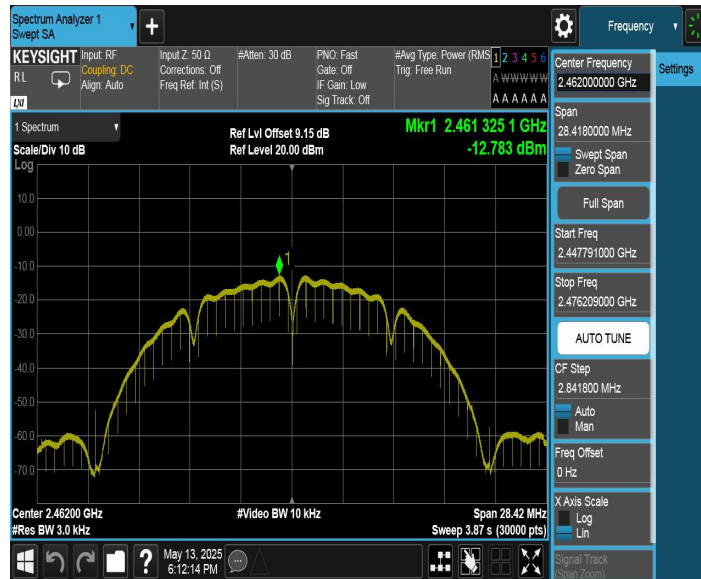
11B_Ant1_2412



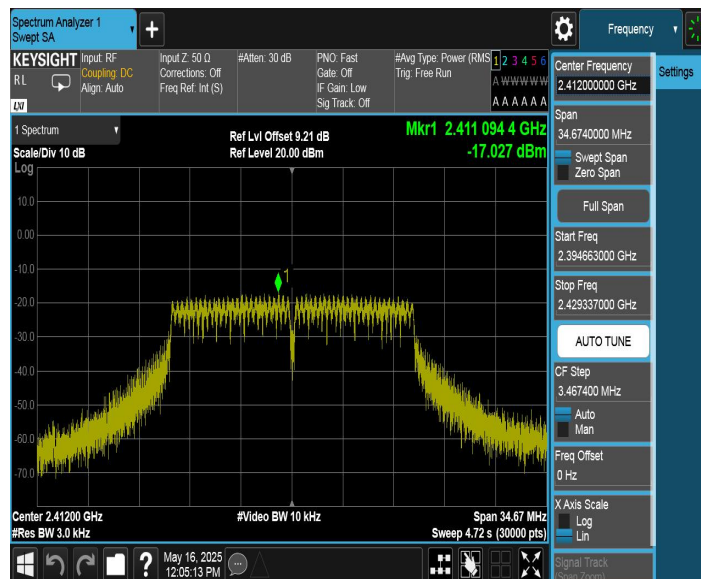
11B_Ant1_2437



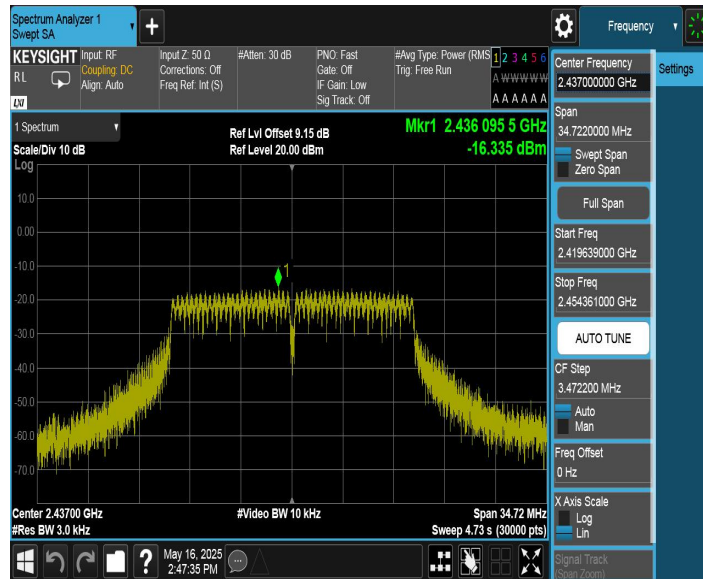
11B_Ant1_2462



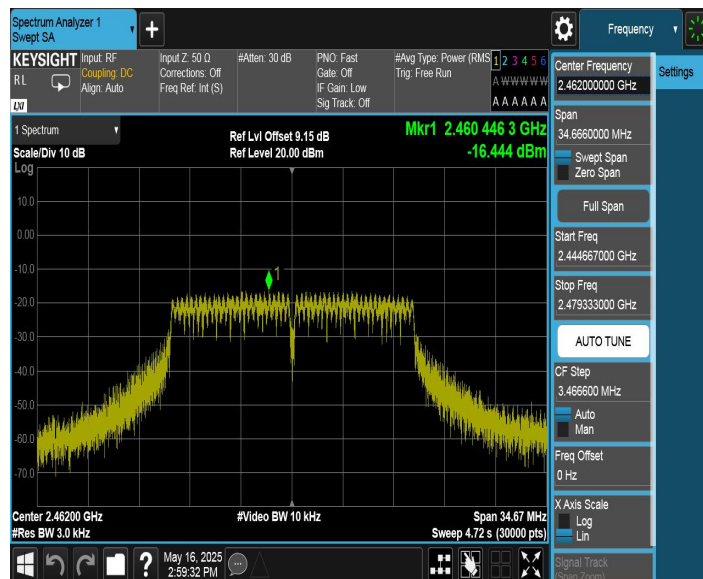
11G_Ant1_2412



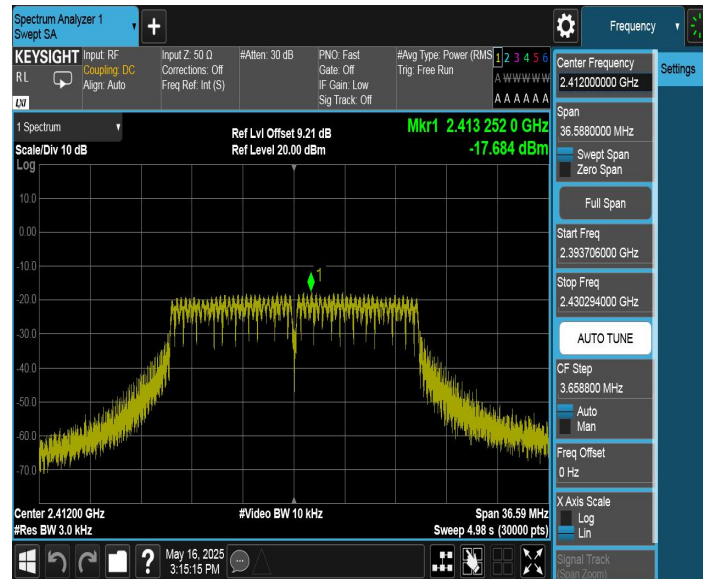
11G_Ant1_2437



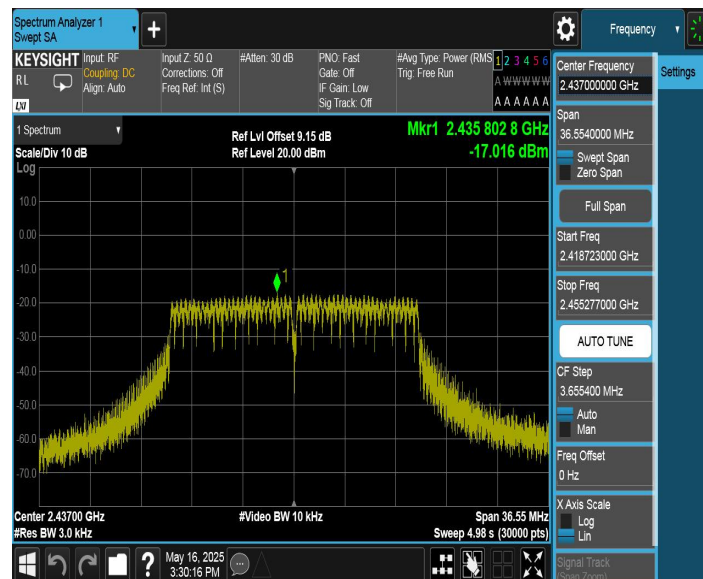
11G_Ant1_2462



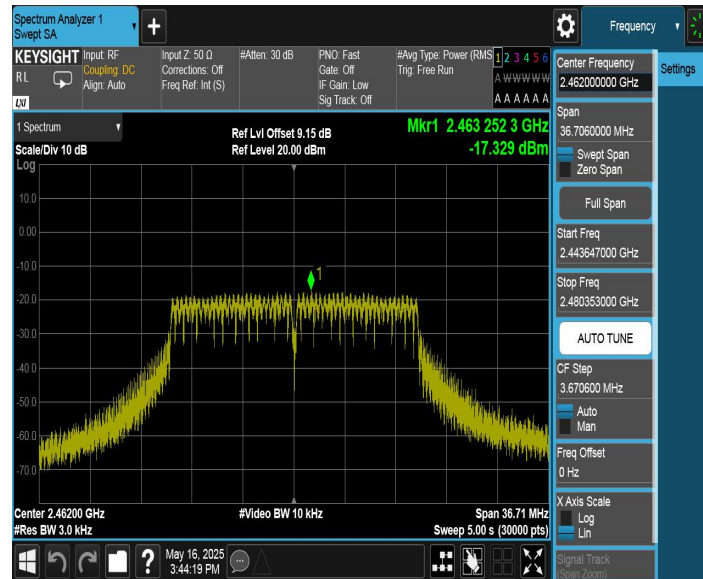
11N20SISO_Ant1_2412



11N20SISO_Ant1_2437



11N20SISO_Ant1_2462



7.5. Conducted Band Edge and Out-of-Band Emissions

7.5.1. Test Limit

The limit for out-of-band spurious emissions at the band edge is 30dB below the fundamental emission level, as determined from the in-band power measurement of the DTS channel performed in a 100 kHz bandwidth per the PSD procedure.

7.5.2. Test Procedure Used

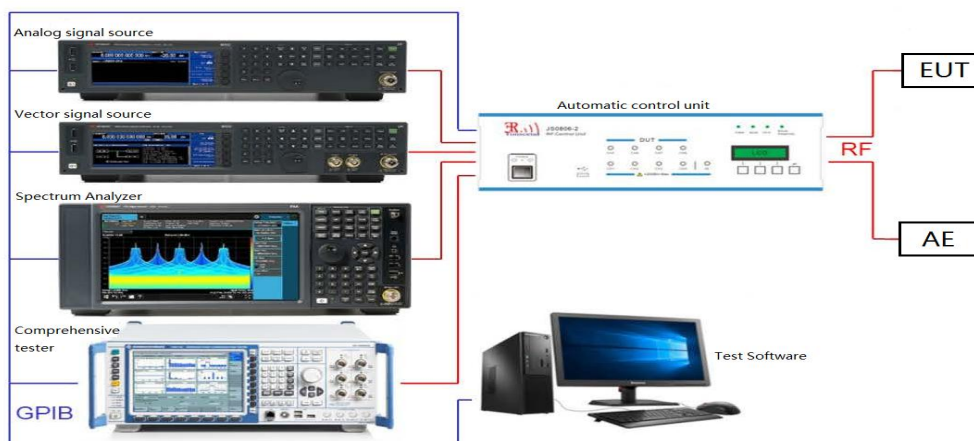
KDB 558074 D01 v05r02 - Section 8.5 & Section 8.6

ANSI C63.10 – Section 11.11&11.12

7.5.3. Test Settintg

- (a) Set the center frequency and span to encompass frequency range to be measured
- (b) RBW = 100kHz
- (c) VBW = 300kHz
- (d) Detector = Peak
- (e) Trace mode = max hold
- (f) Sweep time = auto couple
- (g) The trace was allowed to stabilize

7.5.4. Test Setup



7.5.5. Test Result

Temperature:	25.0~30.0 °C
Relative Humidity:	40~70 %
ATM Pressure:	101.4 kPa
Test Data:	2025-05-13~2025-05-16
Test Engineer:	Stone Zhang

Test Mode	Channel	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
802.11b	Low	2412	8.91	-36.83	≤-21.09	PASS
	High	2462	9.56	-46.13	≤-20.44	PASS
802.11g	Low	2412	1.25	-28.82	≤-28.75	PASS
	High	2462	2.02	-39.6	≤-27.98	PASS
802.11n-HT20	Low	2412	1.43	-28.96	≤-28.57	PASS
	High	2462	1.88	-38.44	≤-28.13	PASS

Test Mode	Channel	Frequency Range [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
802.11b	2412	Reference	8.91	8.91	---	PASS
		30~1000	8.91	-60.99	≤-21.09	PASS
		1000~26500	8.91	-46.29	≤-21.09	PASS
	2437	Reference	9.23	9.23	---	PASS
		30~1000	9.23	-60.74	≤-20.77	PASS
		1000~26500	9.23	-44.88	≤-20.77	PASS
	2462	Reference	9.55	9.55	---	PASS
		30~1000	9.55	-61.03	≤-20.45	PASS
		1000~26500	9.55	-43.36	≤-20.45	PASS
802.11g	2412	Reference	1.25	1.25	---	PASS
		30~1000	1.25	-59.43	≤-28.75	PASS
		1000~26500	1.25	-51.21	≤-28.75	PASS
	2437	Reference	1.82	1.82	---	PASS
		30~1000	1.82	-60.01	≤-28.18	PASS
		1000~26500	1.82	-43.65	≤-28.18	PASS

	2462	Reference	2.03	2.03	---	PASS
		30~1000	2.03	-60.01	≤ -27.97	PASS
		1000~26500	2.03	-51.52	≤ -27.97	PASS
802.11n-HT20	2412	Reference	1.41	1.41	---	PASS
		30~1000	1.41	-59.92	≤ -28.59	PASS
		1000~26500	1.41	-49.57	≤ -28.59	PASS
	2437	Reference	2.06	2.06	---	PASS
		30~1000	2.06	-60.65	≤ -27.94	PASS
		1000~26500	2.06	-46.6	≤ -27.94	PASS
	2462	Reference	1.86	1.86	---	PASS
		30~1000	1.86	-60.6	≤ -28.14	PASS
		1000~26500	1.86	-49.05	≤ -28.14	PASS

The BandedgeTest Graphs

11B_Ant1_Low_2412



11B_Ant1_High_2462



11G_Ant1_Low_2412



11G_Ant1_High_2462



11N20SISO_Ant1_Low_2412



11N20SISO_Ant1_High_2462

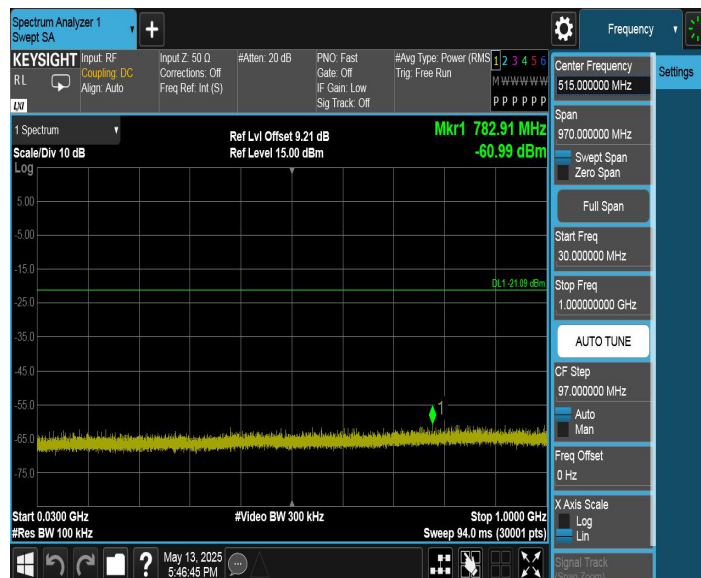


The Conducted Spurious Emission Test Graphs

11B_Ant1_2412_0~Reference



11B_Ant1_2412_30~1000



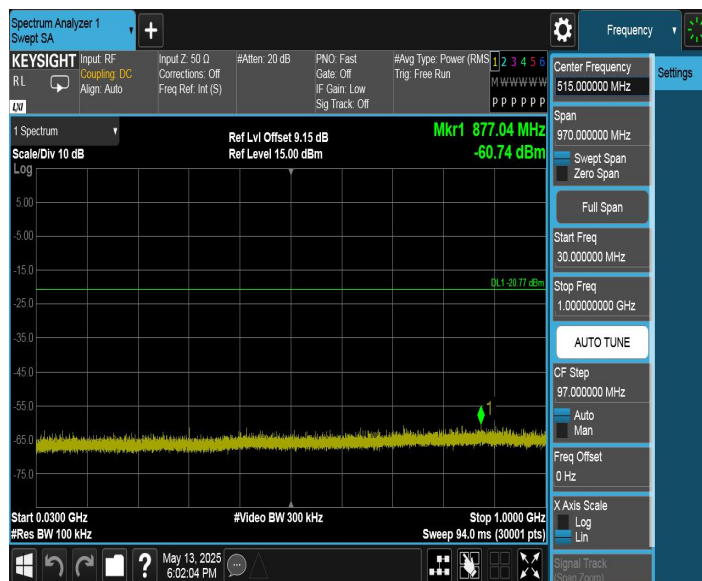
11B_Ant1_2412_1000~26500



11B_Ant1_2437_0~Reference



11B_Ant1_2437_30~1000



11B_Ant1_2437_1000~26500



11B_Ant1_2462_0~Reference



11B_Ant1_2462_30~1000



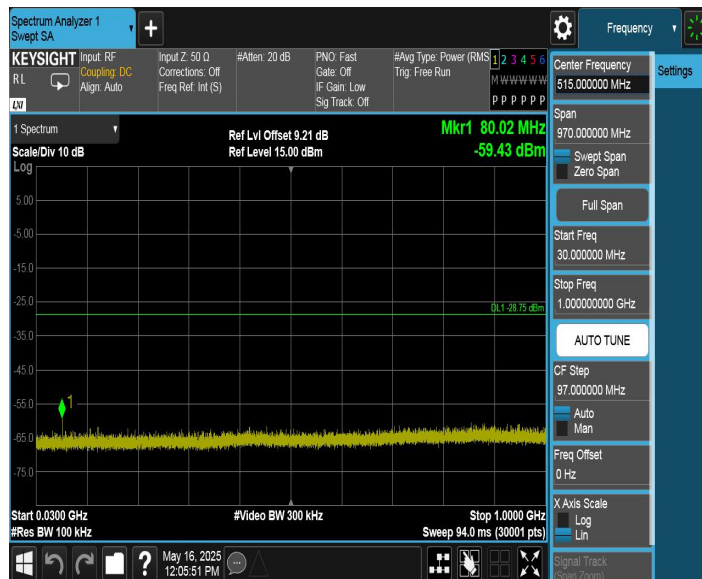
11B_Ant1_2462_1000~26500



11G_Ant1_2412_0~Reference



11G_Ant1_2412_30~1000



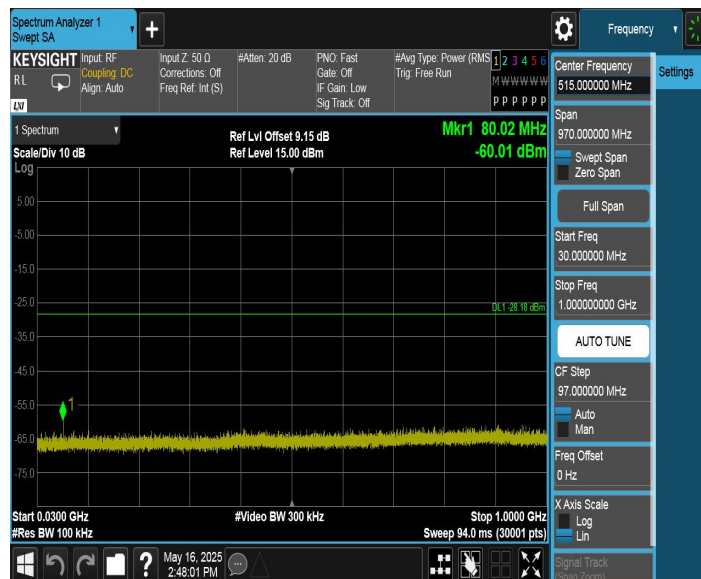
11G_Ant1_2412_1000~26500



11G_Ant1_2437_0~Reference



11G_Ant1_2437_30~1000



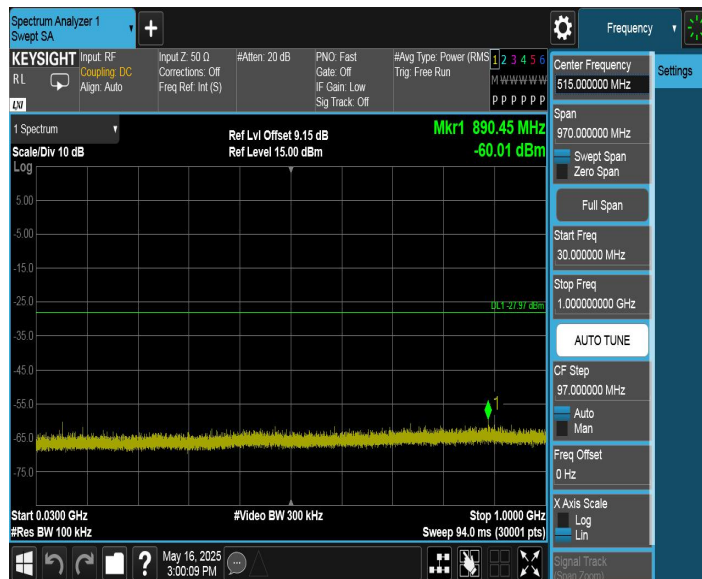
11G_Ant1_2437_1000~26500



11G_Ant1_2462_0~Reference



11G_Ant1_2462_30~1000



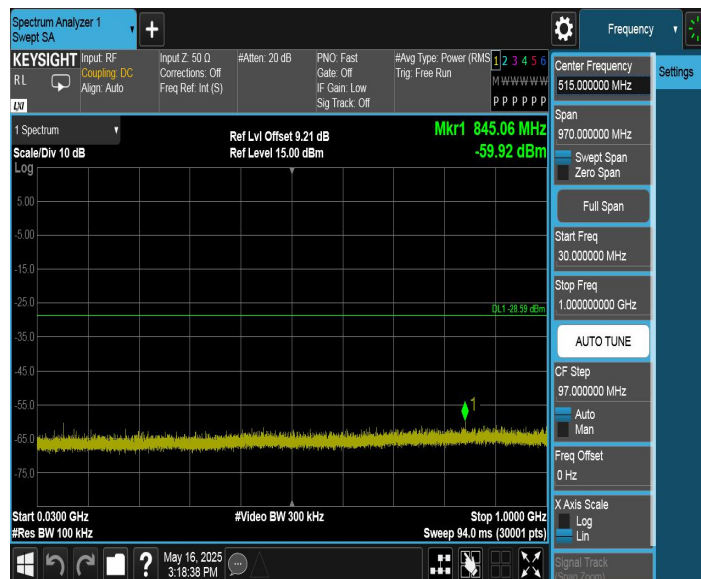
11G_Ant1_2462_1000~26500



11N20SISO_Ant1_2412_0~Reference



11N20SISO_Ant1_2412_30~1000



11N20SISO_Ant1_2412_1000~26500



11N20SISO_Ant1_2437_0~Reference

