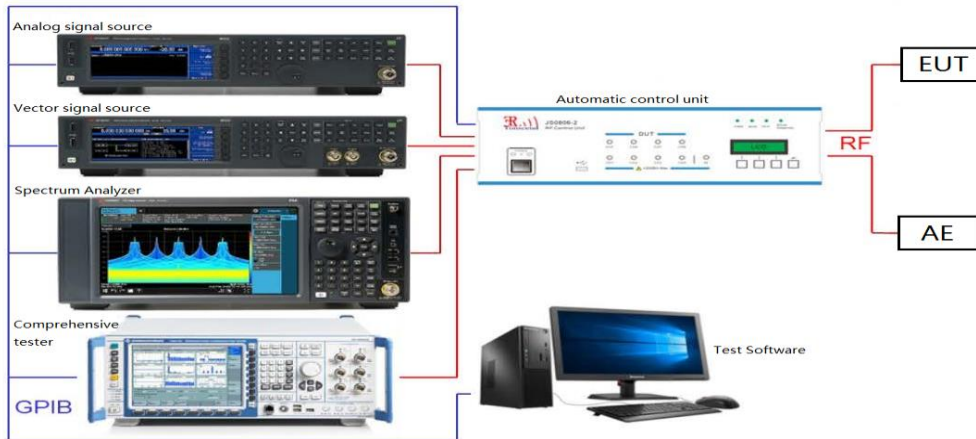


power during the actual transmission times (because the measurement represents an average over both the ON and OFF times of the transmission). For example, add $[10 \log (1/0.25)] = 6 \text{ dB}$ if the duty cycle is 25%.

7.3.4. Test Setup



7.3.5. Test Result of Output Power

Temperature:	22.0~36.0 °C
Relative Humidity:	30~60 %
ATM Pressure:	100.5~101.5 kPa
Test Date:	2025-08-25~2025-12-01
Test Engineer:	Stone Zhang

Test Mode	Channel	Average power [dBm]	Limit[dBm]	Verdict
802.11b	2412	16.81	≤30	PASS
	2437	16.79	≤30	PASS
	2462	16.76	≤30	PASS
802.11g	2412	13.49	≤30	PASS
	2437	15.59	≤30	PASS
	2462	15.55	≤30	PASS
802.11n-HT20	2412	14.17	≤30	PASS
	2437	14.26	≤30	PASS
	2462	13.37	≤30	PASS
802.11n-HT40	2422	12.51	≤30	PASS
	2437	12.43	≤30	PASS
	2452	12.54	≤30	PASS

The Duty Cycle Factor is compensated in the Offset of graph.

Test Graphs

11B_Ant1_2412



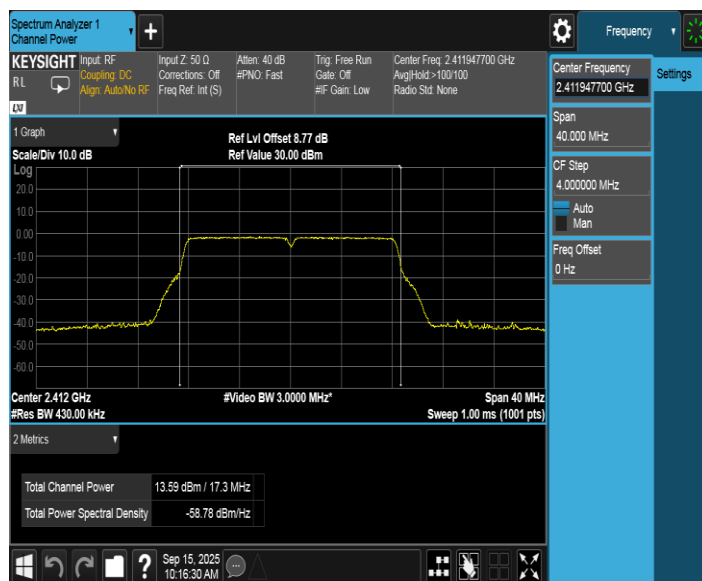
11B_Ant1_2437



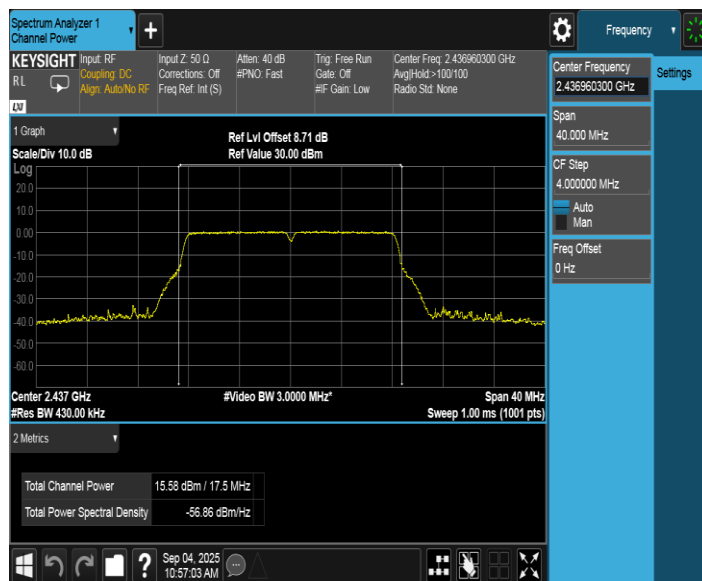
11B_Ant1_2462



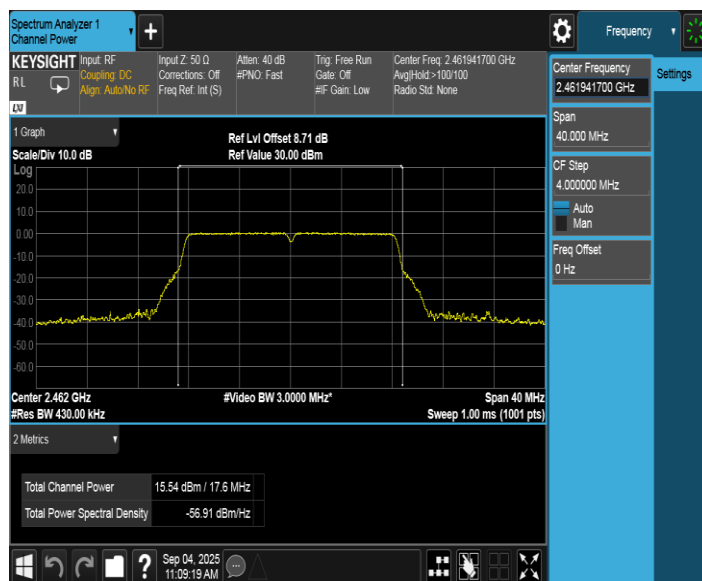
11G_Ant1_2412



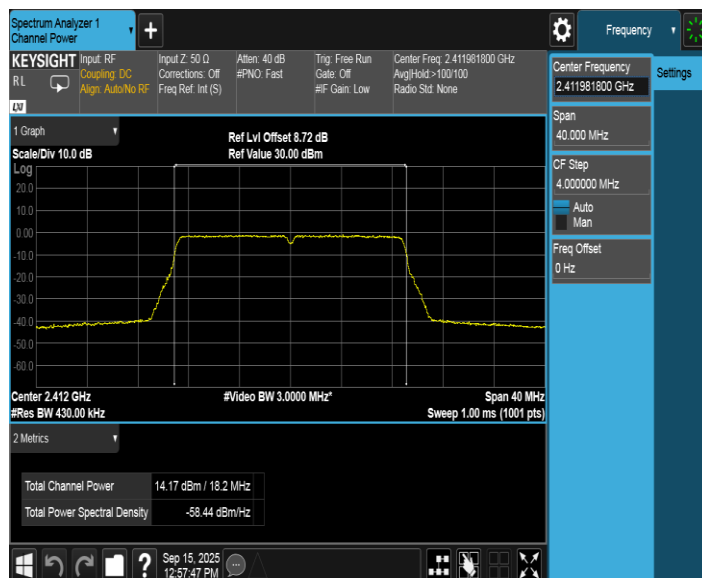
11G_Ant1_2437



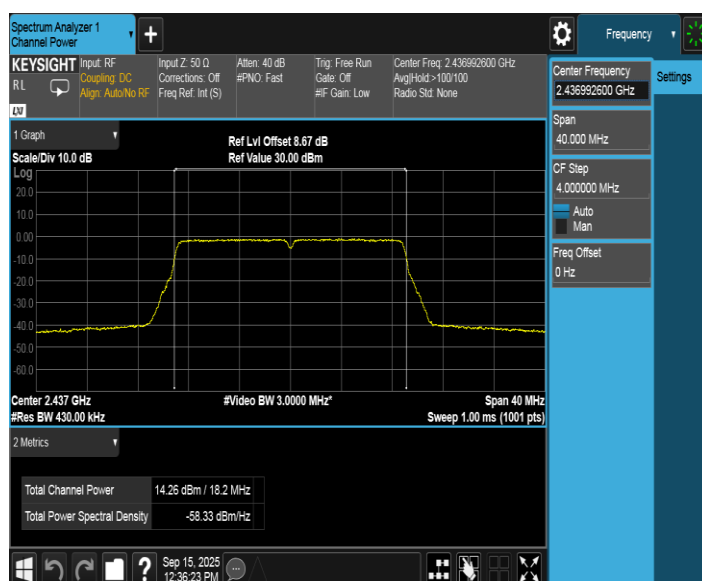
11G_Ant1_2462



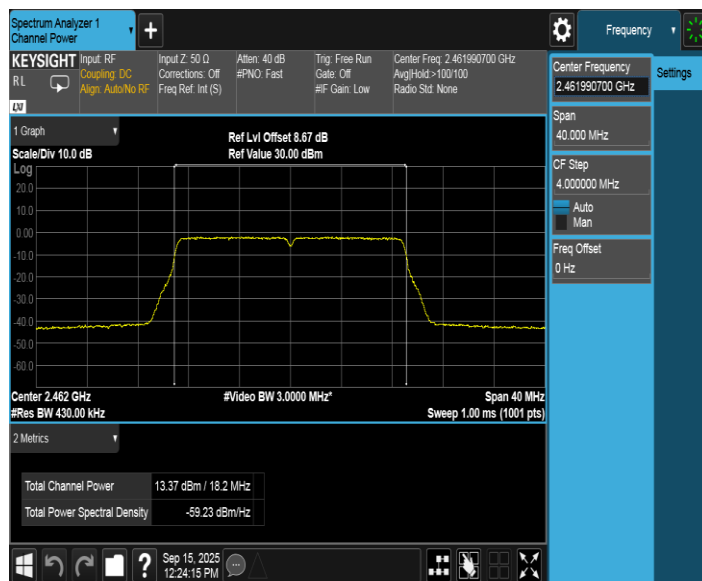
11N20SISO_Ant1_2412



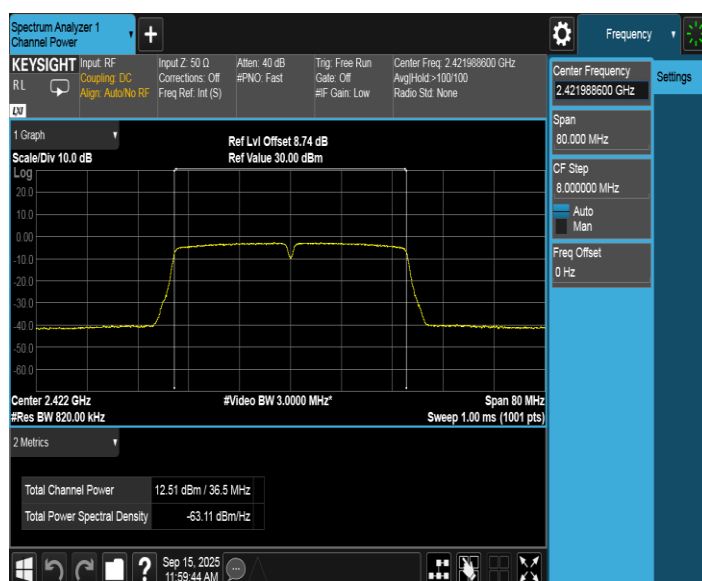
11N20SISO_Ant1_2437



11N20SISO_Ant1_2462



11N40SISO_Ant1_2422



11N40SISO_Ant1_2437



11N40SISO_Ant1_2452



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

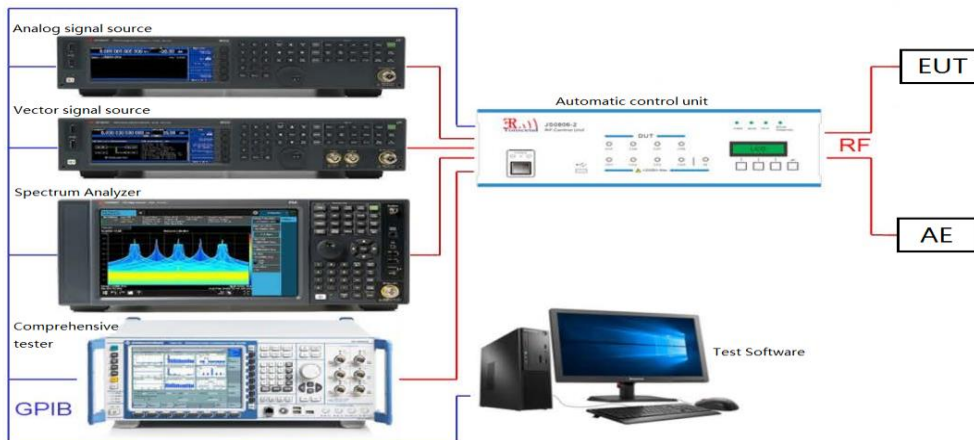
KDB 558074 D01 v05r02 - Section 8.4

ANSI C63.10 – Section 11.10.5

7.4.3. Test Setting

1. Set instrument center frequency to DTS channel center frequency.
2. Set 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 compute the average PSD during the actual transmission time.
12. 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



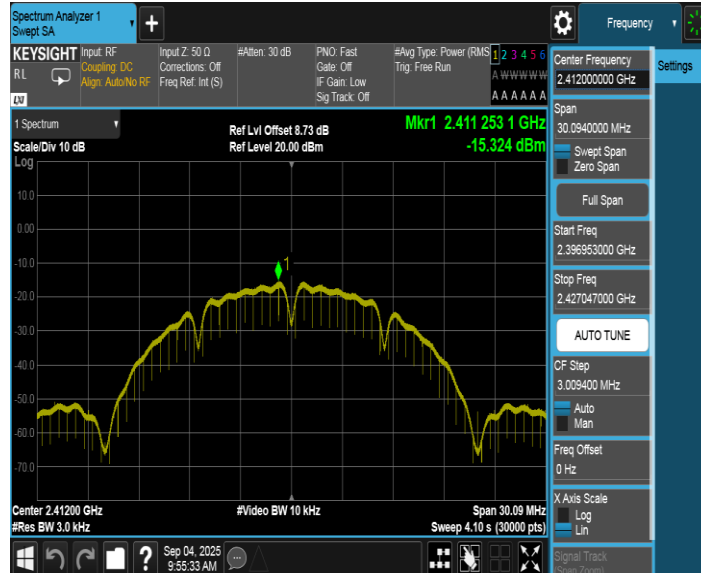
7.4.5. Test Result

Temperature:	22.0~36.0 °C
Relative Humidity:	30~60 %
ATM Pressure:	100.5~101.5 kPa
Test Date:	2025-08-25~2025-12-01
Test Engineer:	Stone Zhang

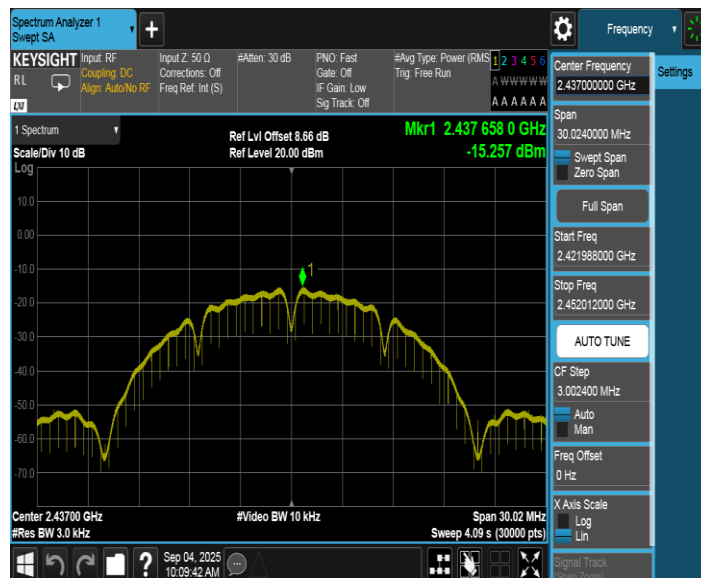
Test Mode	Channel	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
802.11b	2412	-15.32	≤8.00	PASS
	2437	-15.26	≤8.00	PASS
	2462	-15.49	≤8.00	PASS
802.11g	2412	-18.59	≤8.00	PASS
	2437	-17.35	≤8.00	PASS
	2462	-17.44	≤8.00	PASS
802.11n-HT20	2412	-19.33	≤8.00	PASS
	2437	-19.13	≤8.00	PASS
	2462	-20.06	≤8.00	PASS
802.11n-HT40	2422	-22.85	≤8.00	PASS
	2437	-22.57	≤8.00	PASS
	2452	-22.55	≤8.00	PASS

Test Graphs

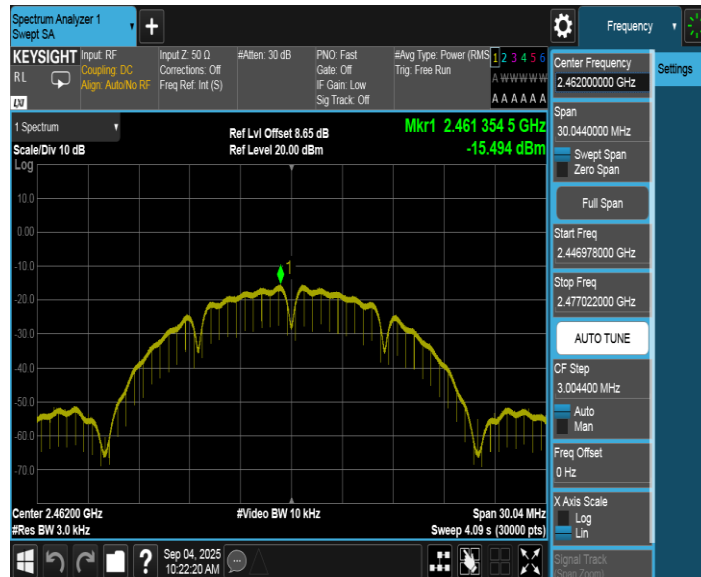
11B_Ant1_2412



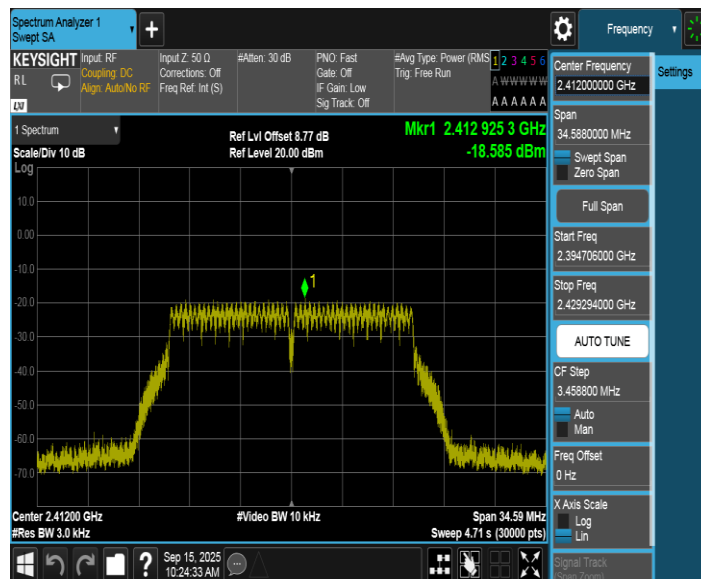
11B_Ant1_2437



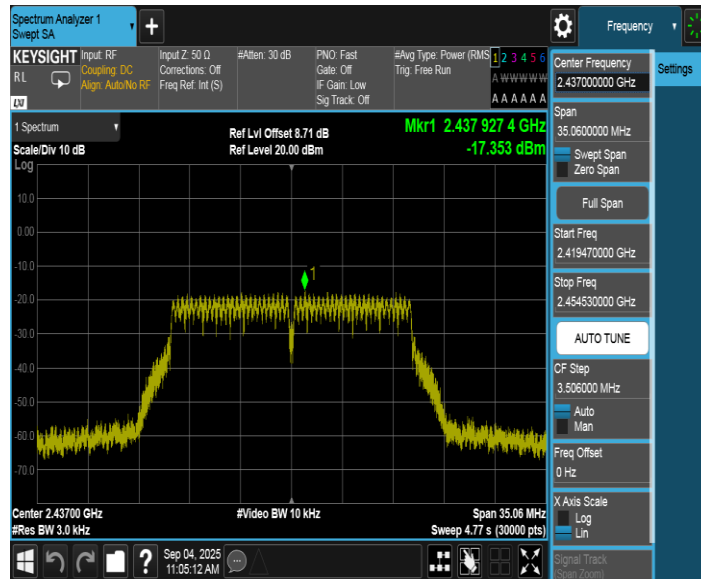
11B_Ant1_2462



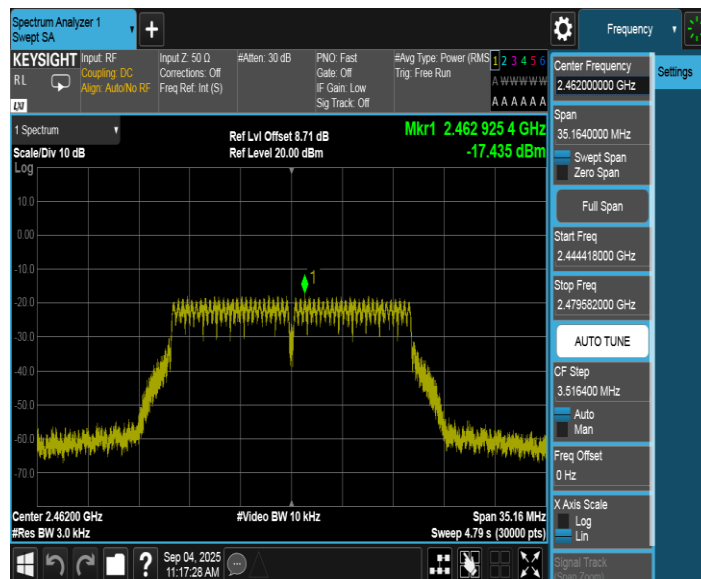
11G_Ant1_2412



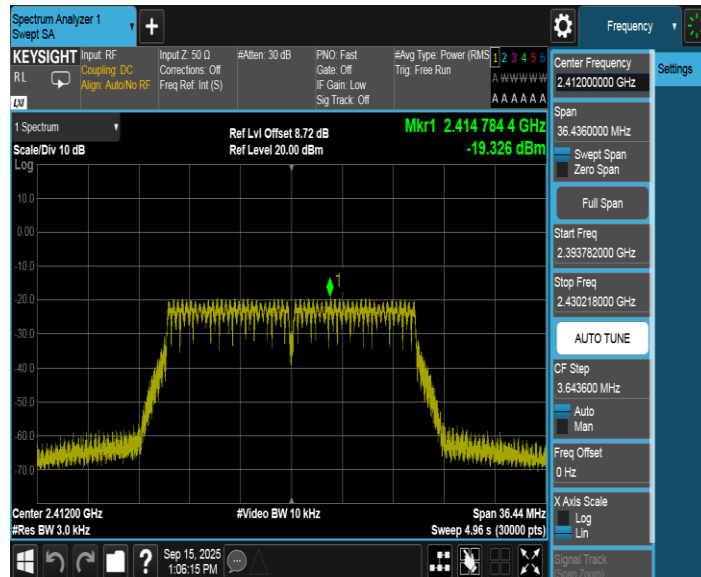
11G_Ant1_2437



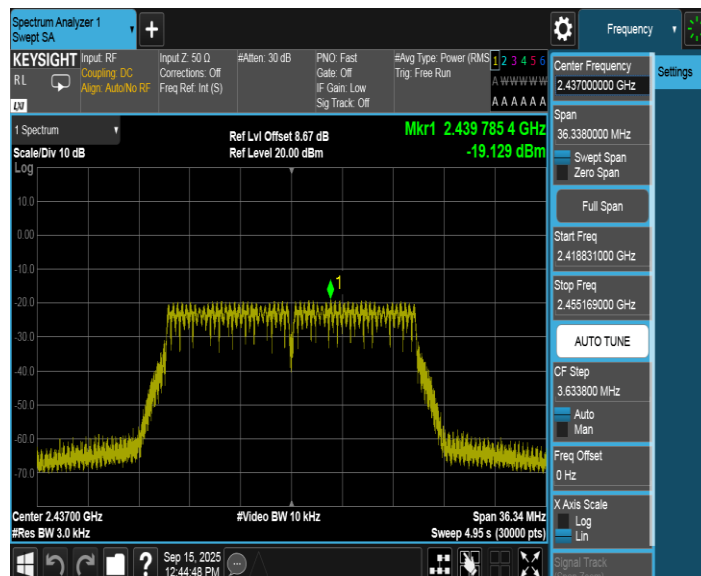
11G_Ant1_2462



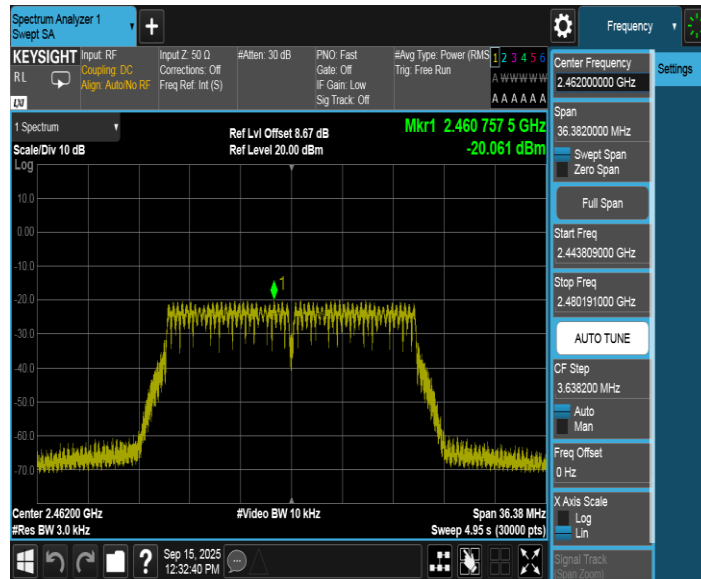
11N20SISO_Ant1_2412



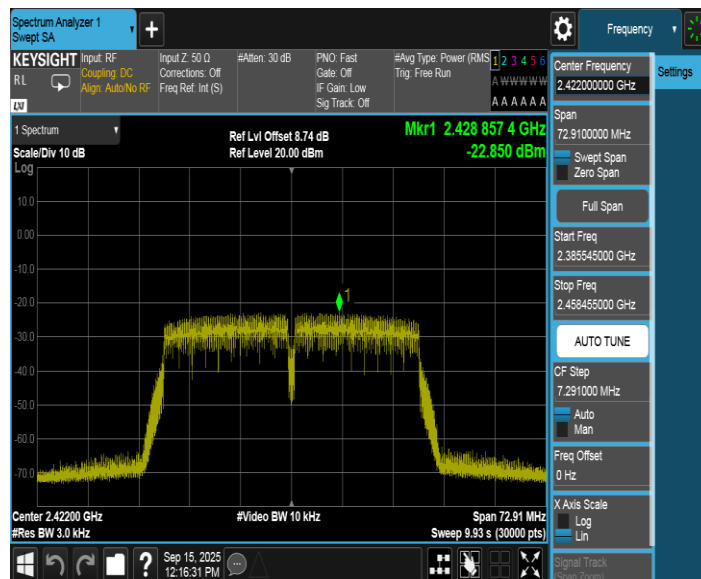
11N20SISO_Ant1_2437



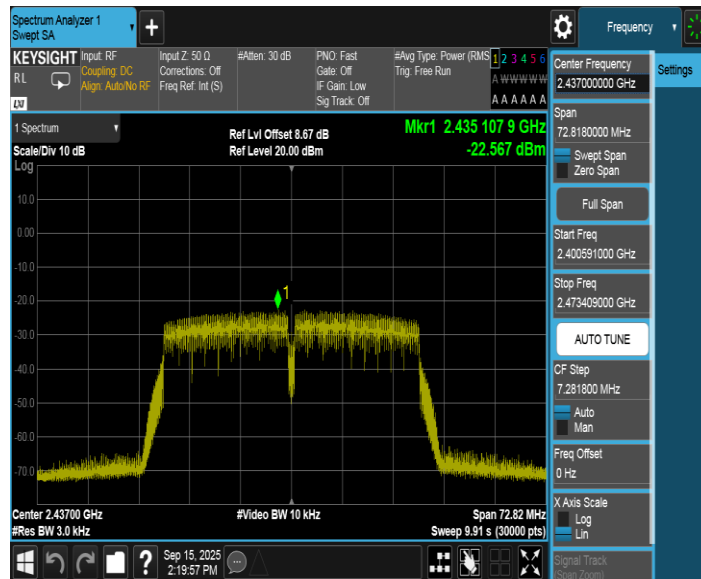
11N20SISO_Ant1_2462



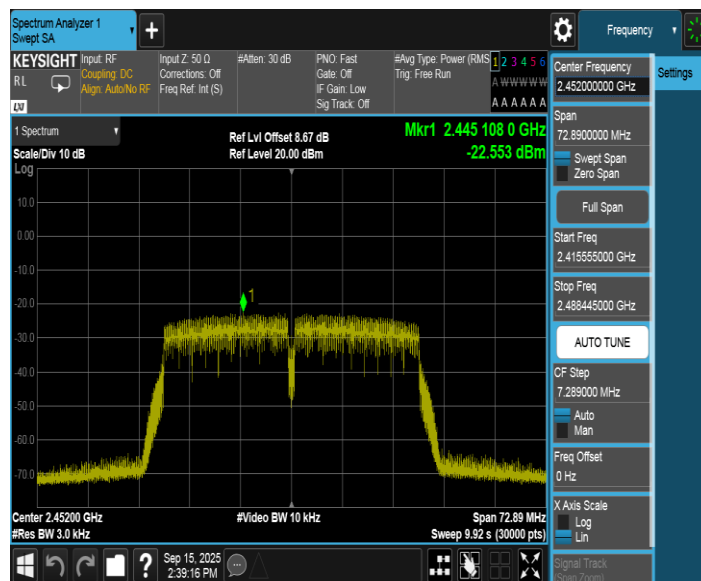
11N40SISO_Ant1_2422



11N40SISO_Ant1_2437



11N40SISO_Ant1_2452



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 Setting

Reference level measurement:

Establish a reference level by using the following procedure:

- (a) Set instrument center frequency to DTS channel center frequency.
- (b) Set the span to ≥ 1.5 times the DTS bandwidth.
- (c) Set the RBW = 100 kHz.
- (d) Set the VBW $\geq [3 \times \text{RBW}]$.
- (e) Detector = peak.
- (f) Sweep time = No faster than coupled (auto) time.
- (g) Trace mode = max-hold.
- (h) Allow trace to fully stabilize.
- (i) Use the peak marker function to determine the maximum PSD level.

Emission level measurement:

Establish an emission level by using the following procedure:

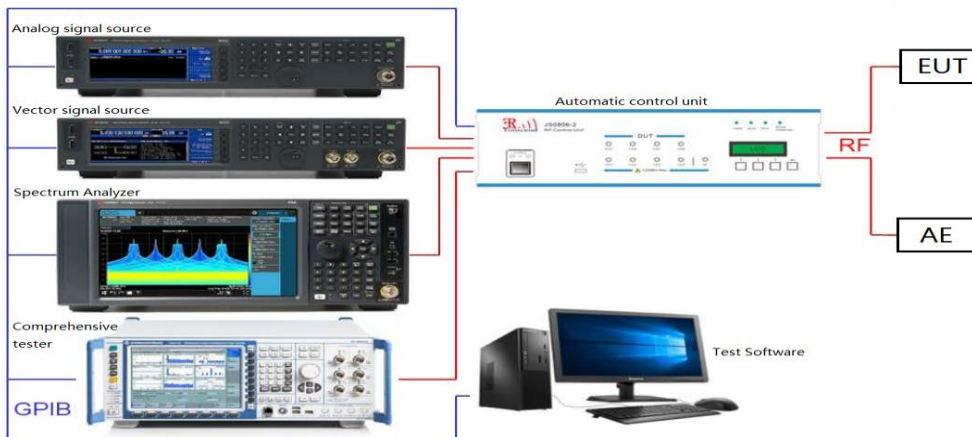
- (a) Set the center frequency and span to encompass frequency range to be measured. Note that the frequency range might need to be divided into multiple frequency ranges to retain frequency resolution.

NOTE—the number of points can also be increased for large spans to retain frequency resolution

- (b) Set the RBW = 100 kHz.
- (c) Set the VBW $\geq [3 \times \text{RBW}]$.
- (d) Detector = peak.
- (e) Sweep time = No faster than coupled (auto) time.
- (f) Trace mode = max-hold.
- (g) Allow trace to fully stabilize.
- (h) Use the peak marker function to determine the maximum amplitude level.

Ensure that the amplitude of all unwanted emissions outside of the authorized frequency band (excluding restricted frequency bands) is attenuated by at least the minimum requirements specified in 11.11. Report the three highest emissions relative to the limit.

7.5.4. Test Setup



7.5.5. Test Result

Temperature:	22.0~36.0 °C
Relative Humidity:	30~60 %
ATM Pressure:	100.5~101.5 kPa
Test Date:	2025-08-25~2025-12-01
Test Engineer:	Stone Zhang

Test Mode	Channel	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
802.11b	Low	2412	6.73	-28.46	≤-23.27	PASS
	High	2462	6.73	-43.29	≤-23.27	PASS
802.11g	Low	2412	2.43	-31.44	≤-27.57	PASS
	High	2462	3.63	-37.75	≤-26.37	PASS
802.11n-HT20	Low	2412	2.82	-36.62	≤-27.18	PASS
	High	2462	2.29	-44.23	≤-27.71	PASS
802.11n-HT40	Low	2422	-1.60	-39.07	≤-31.60	PASS
	High	2452	-1.53	-42.23	≤-31.53	PASS

Test Mode	Channel	Frequency Range [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
802.11b	2412	Reference	6.73	6.73	---	PASS
		30~1000	6.73	-41.22	≤-23.27	PASS
		1000~26500	6.73	-31.3	≤-23.27	PASS
	2437	Reference	6.80	6.80	---	PASS
		30~1000	6.80	-41	≤-23.20	PASS
		1000~26500	6.80	-28.56	≤-23.20	PASS
	2462	Reference	6.64	6.64	---	PASS
		30~1000	6.64	-40.75	≤-23.36	PASS
		1000~26500	6.64	-32.3	≤-23.36	PASS
802.11g	2412	Reference	1.97	1.97	---	PASS
		30~1000	1.97	-40.44	≤-28.03	PASS
		1000~26500	1.97	-29.37	≤-28.03	PASS
	2437	Reference	3.98	3.98	---	PASS
		30~1000	3.98	-40.18	≤-26.02	PASS

	2462	1000~26500	3.98	-32.34	≤ -26.02	PASS
		Reference	3.60	3.60	---	PASS
		30~1000	3.60	-41.13	≤ -26.40	PASS
		1000~26500	3.60	-32.44	≤ -26.40	PASS
802.11n-HT20	2412	Reference	2.73	2.73	---	PASS
		30~1000	2.73	-40.48	≤ -27.27	PASS
		1000~26500	2.73	-32.01	≤ -27.27	PASS
	2437	Reference	2.96	2.96	---	PASS
		30~1000	2.96	-39.99	≤ -27.04	PASS
		1000~26500	2.96	-31.83	≤ -27.04	PASS
	2462	Reference	3.05	3.05	---	PASS
		30~1000	3.05	-41.26	≤ -26.95	PASS
		1000~26500	3.05	-32.47	≤ -26.95	PASS
802.11n-HT40	2422	Reference	3.82	3.82	---	PASS
		30~1000	3.82	-40.77	≤ -26.18	PASS
		1000~26500	3.82	-32.34	≤ -26.18	PASS
	2437	Reference	-1.34	-1.34	---	PASS
		30~1000	-1.34	-41.05	≤ -31.34	PASS
		1000~26500	-1.34	-32.59	≤ -31.34	PASS
	2452	Reference	-1.43	-1.43	---	PASS
		30~1000	-1.43	-40.84	≤ -31.43	PASS
		1000~26500	-1.43	-32.03	≤ -31.43	PASS

The BandedgeTest Graphs

11B_Ant1_Low_2412



11B_Ant1_High_2462



11G_Ant1_Low_2412



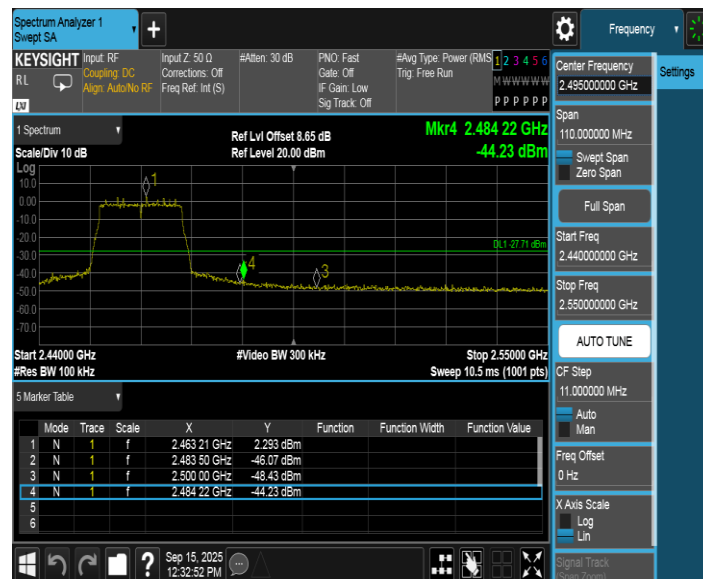
11G_Ant1_High_2462



11N20SISO_Ant1_Low_2412



11N20SISO_Ant1_High_2462



11N40SISO_Ant1_Low_2422

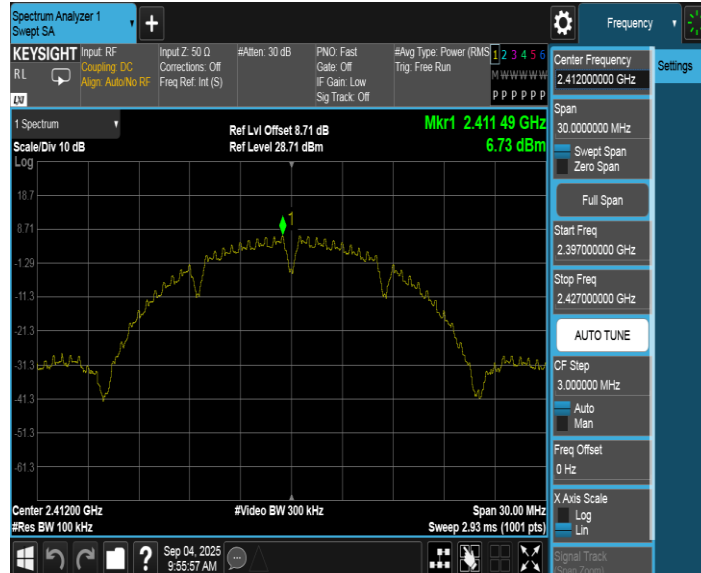


11N40SISO_Ant1_High_2452

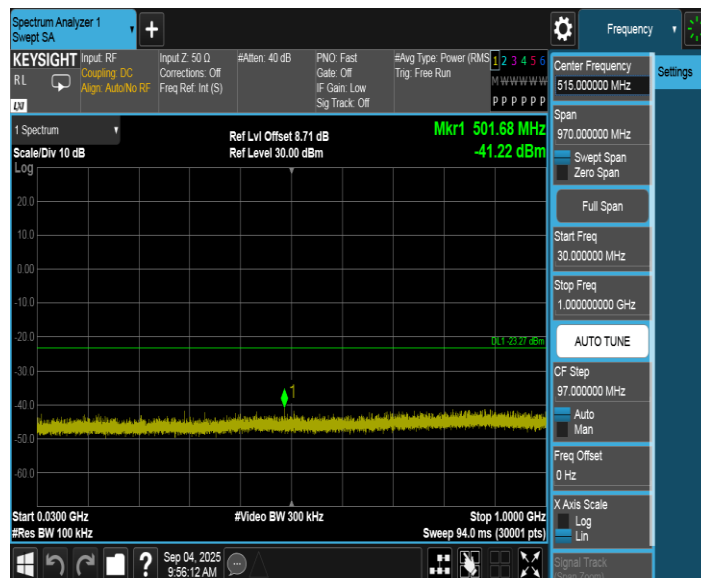


The Conducted Emissions Test Graphs

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



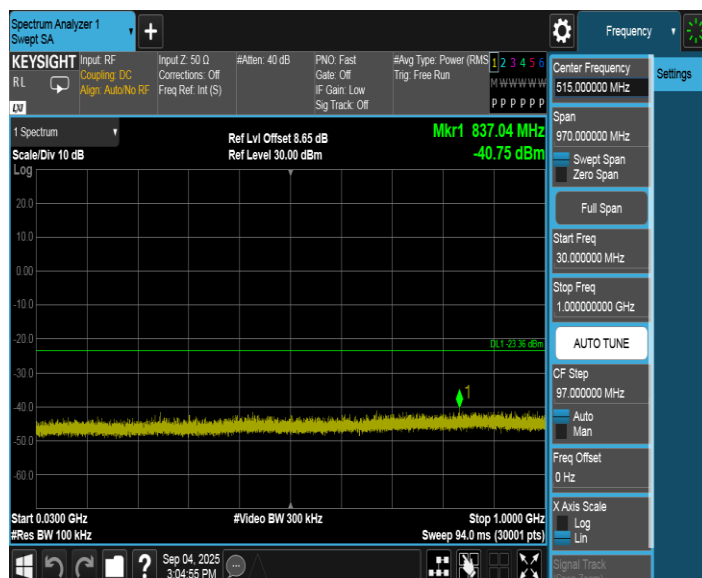
11B_Ant1_2437_1000~26500



11B_Ant1_2462_0~Reference



11B_Ant1_2462_30~1000



11B_Ant1_2462_1000~26500



11G_Ant1_2412_0~Reference

