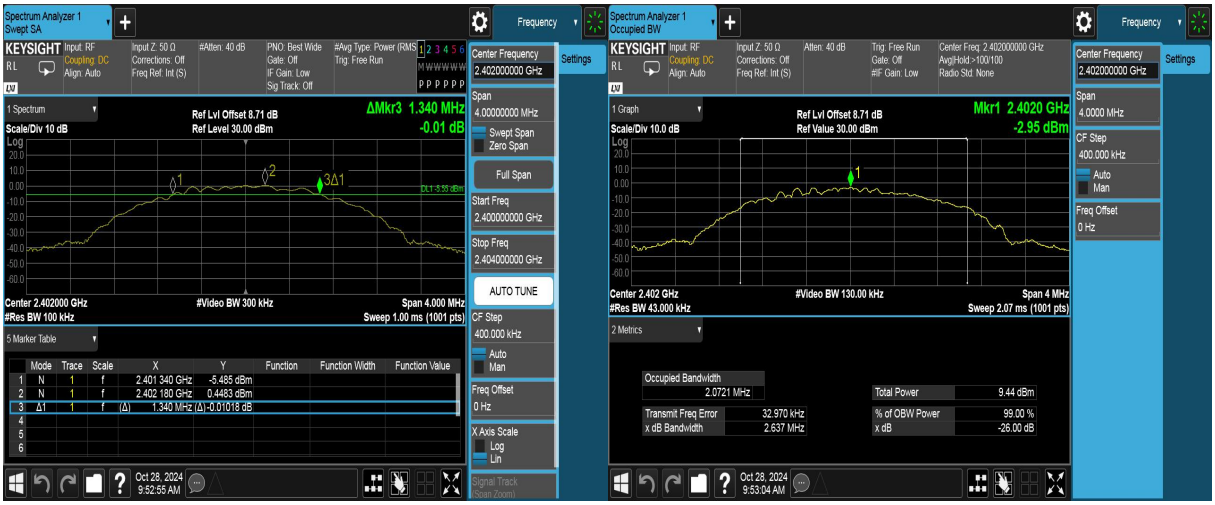
BLE_2M _2402



BLE_2M _2440

BLE_2M _2480

7.3. Output Power Measurement

7.3.1. Test Limit

The maximum permissible conducted output power is 1 Watt (30dBm). And for antenna gain greater than 6dBi the limit shall reduce by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

7.3.2. Test Procedure Used

ANSI C63.10-2013 – Section 11.9.1.1

KDB 558074 D01 v05r02 – Section 8.3.1.2

7.3.3. Test Setting

1.Set the RBW ≥ DTS bandwidth.

2.Set the VBW ≥ [3 × RBW].

3.Set the span ≥ [3 × RBW].

4.Detector = peak.

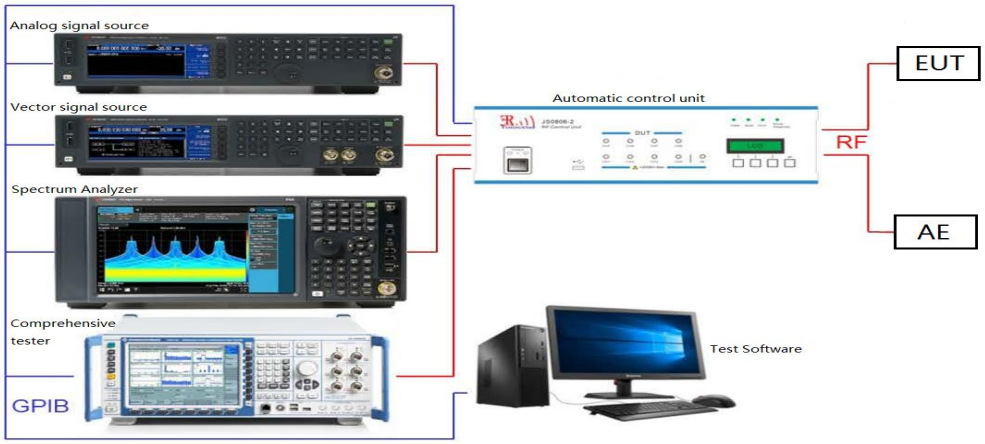
5.Sweep time = auto couple.

6.Trace mode = max hold.

7.Allow trace to fully stabilize.

8. Use peak marker function to determine the peak amplitude level.

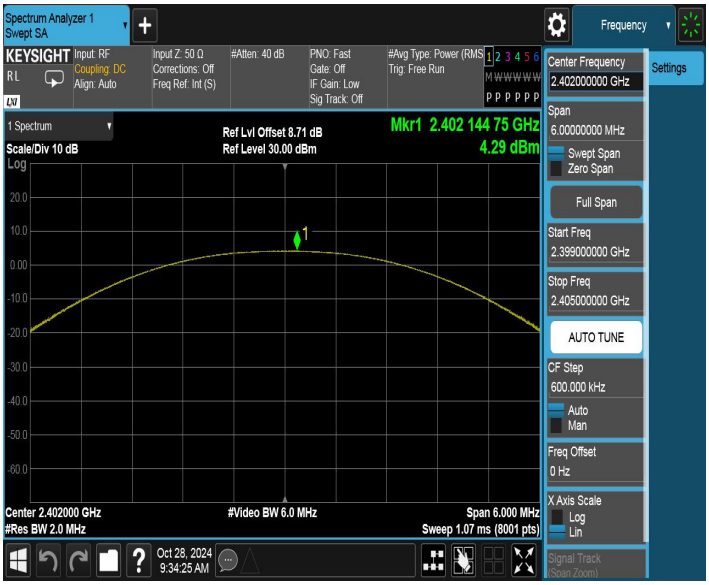
7.3.4. Test Setup



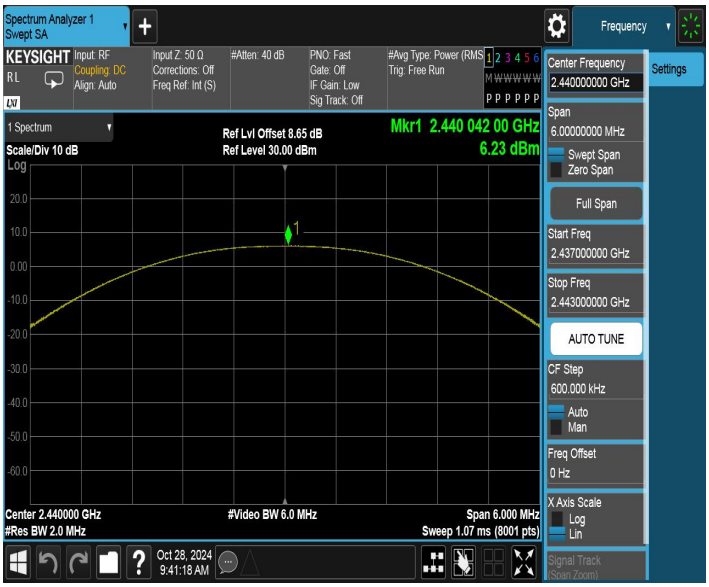
7.3.5. Test Result of Output Power

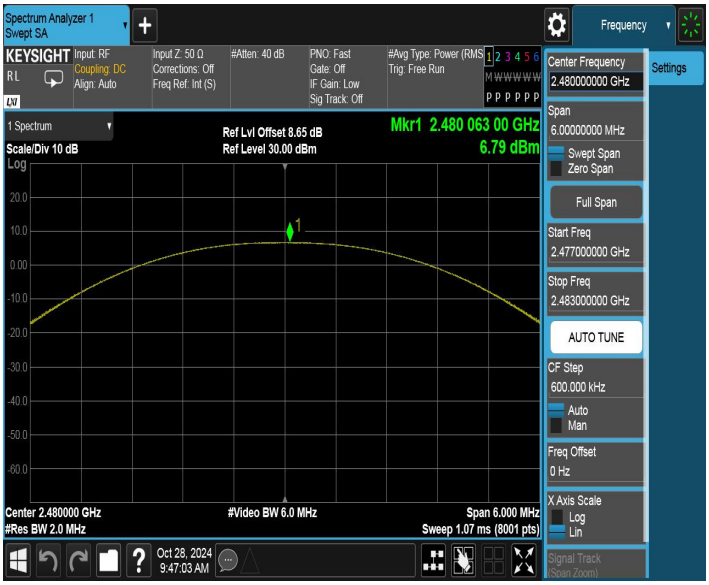
Test Mode	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	2402	4.29	≤30	PASS
	2440	6.23	≤30	PASS
	2480	6.79	≤30	PASS
BLE_2M	2402	3.82	≤30	PASS
	2440	5.90	≤30	PASS
	2480	6.50	≤30	PASS

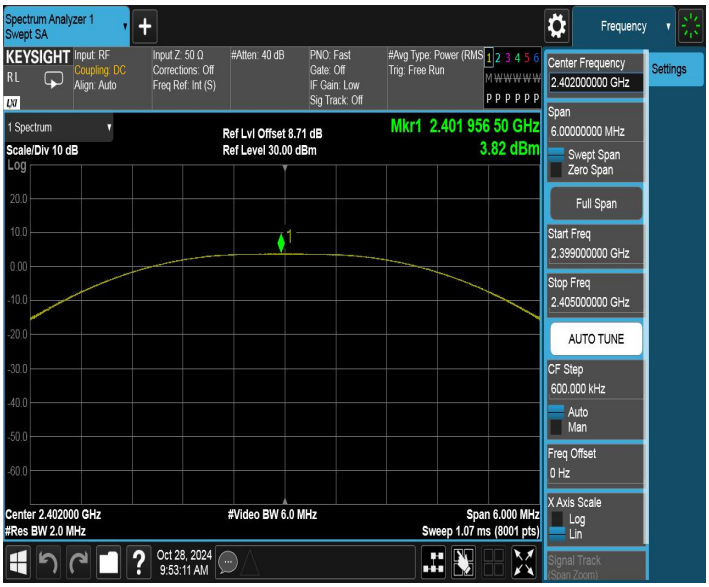
BLE_1M_2402



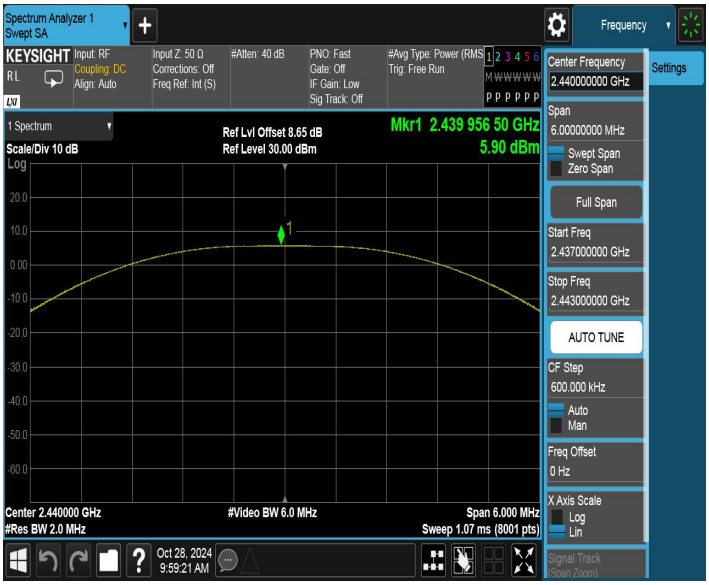
BLE_1M_2440



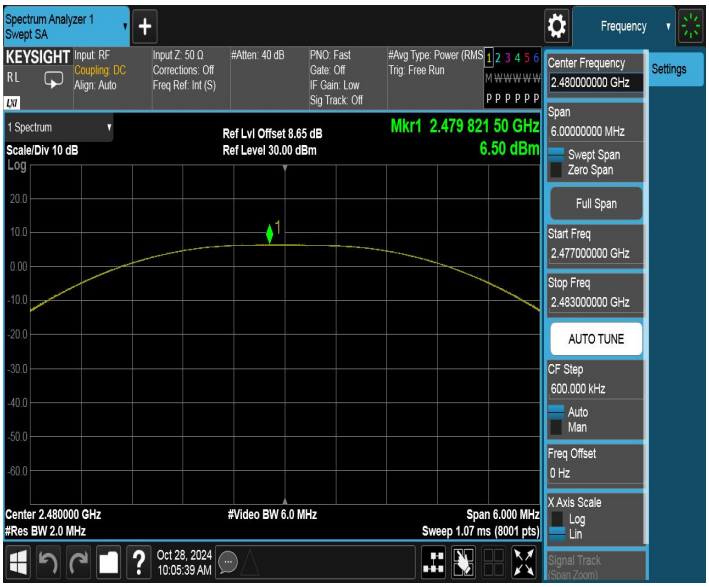
BLE_1M_2480


BLE_2M_2402


BLE_2M_2440



BLE_2M_2480



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 6 dBi.

7.4.2. Test Procedure Used

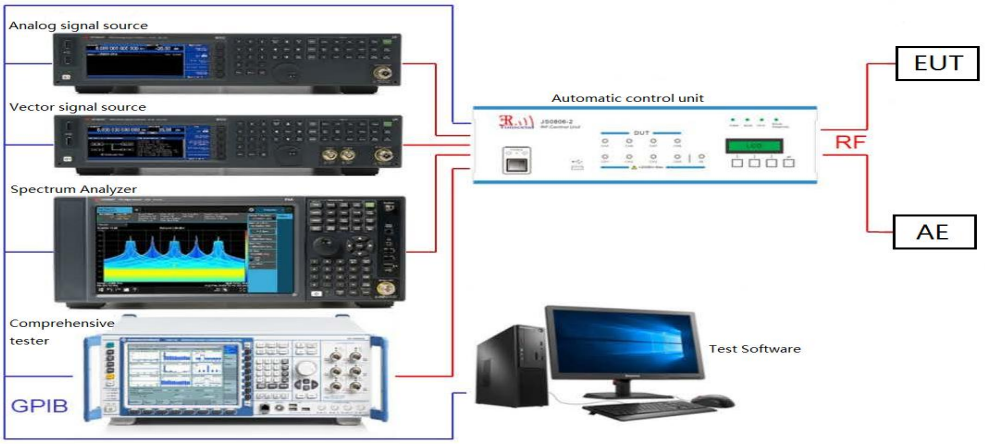
KDB 558074 D01 v05r02 - Section 8.4

ANSI C63.10 – Section 11.10.2

7.4.3. Test Setting

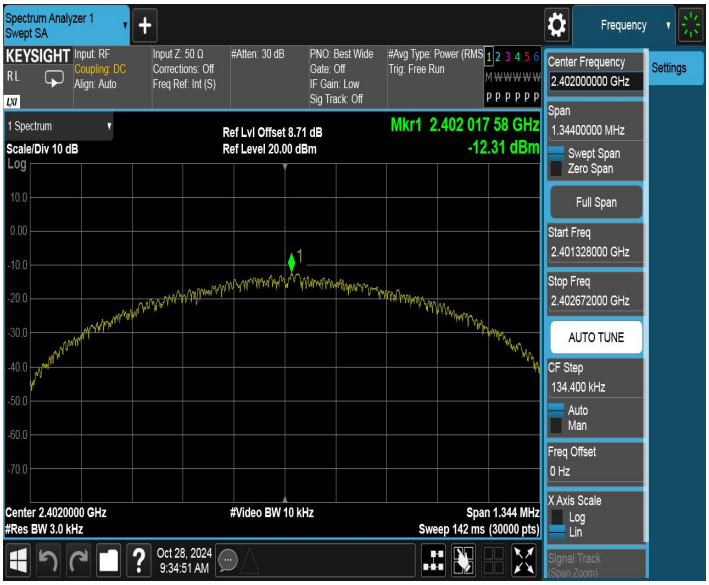
1. Set analyzer center frequency to DTS channel center frequency.
2. Set the span to 1.5 times the DTS bandwidth.
3. Set the RBW to 3 kHz ≤ RBW ≤ 100 kHz.
4. Set the VBW ≥ [3 × RBW].
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.

7.4.4. Test Setup



7.4.5. Test Result

Test Mode	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	2402	-12.31	≤8.00	PASS
	2440	-9.37	≤8.00	PASS
	2480	-9.01	≤8.00	PASS
BLE_2M	2402	-17.66	≤8.00	PASS
	2440	-14.31	≤8.00	PASS
	2480	-13.70	≤8.00	PASS

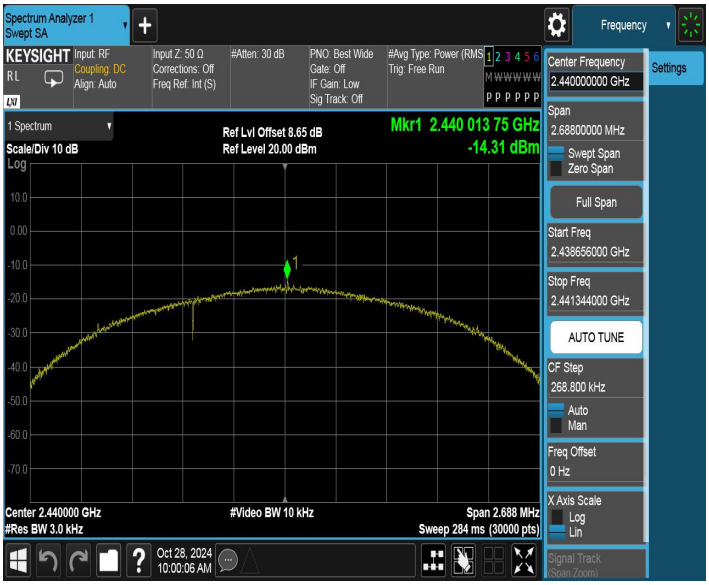
BLE_1M_2402


BLE_1M_2440


BLE_1M_2480


BLE_2M_2402


BLE_2M_2440



BLE_2M_2480

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 20dB 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 Settitng

(a) Set the center frequency and span to encompass frequency range to be measured

(b) RBW = 100kHz

(c) VBW = 300kHz

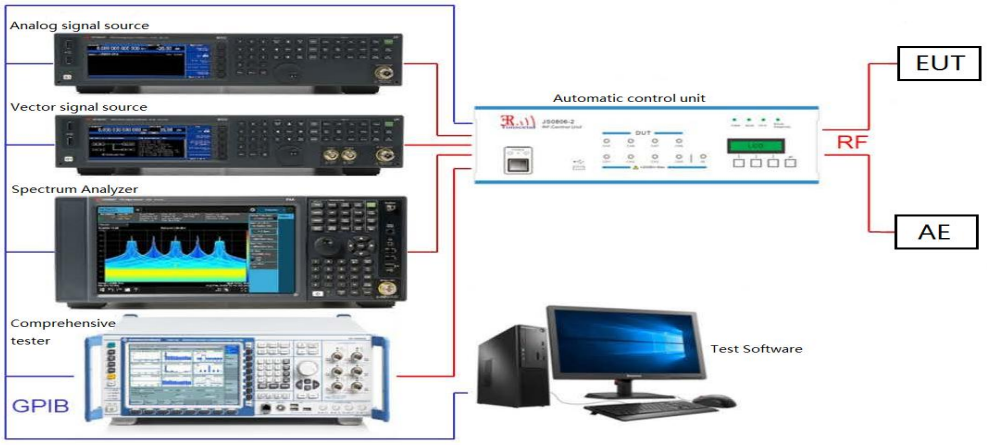
(d) Detector = Peak

(e) Trace mode = max hold

(f) Sweep time = auto couple

(g) The trace was allowed to stabilize

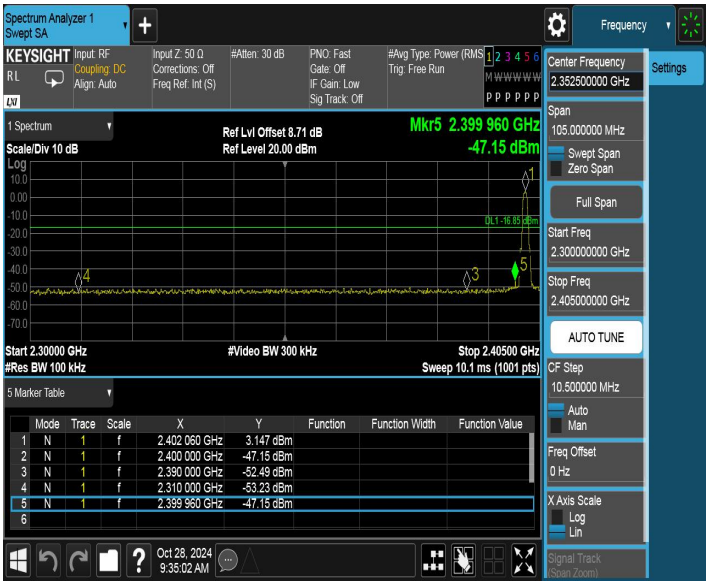
7.5.4. Test Setup

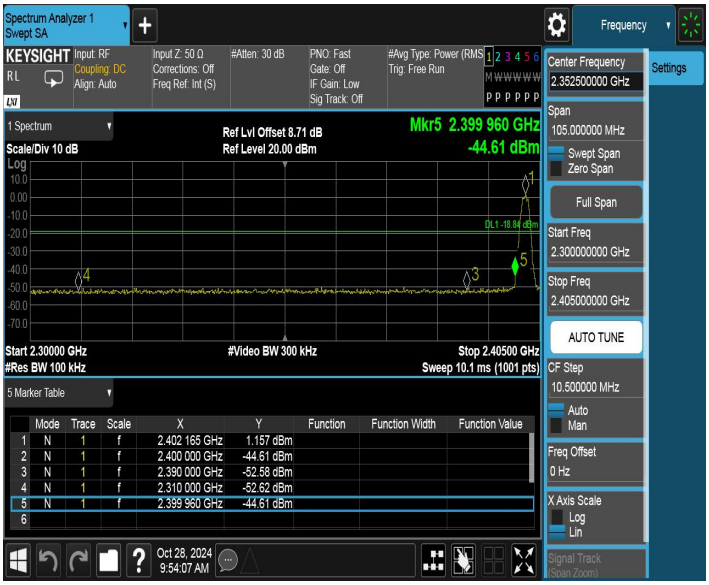
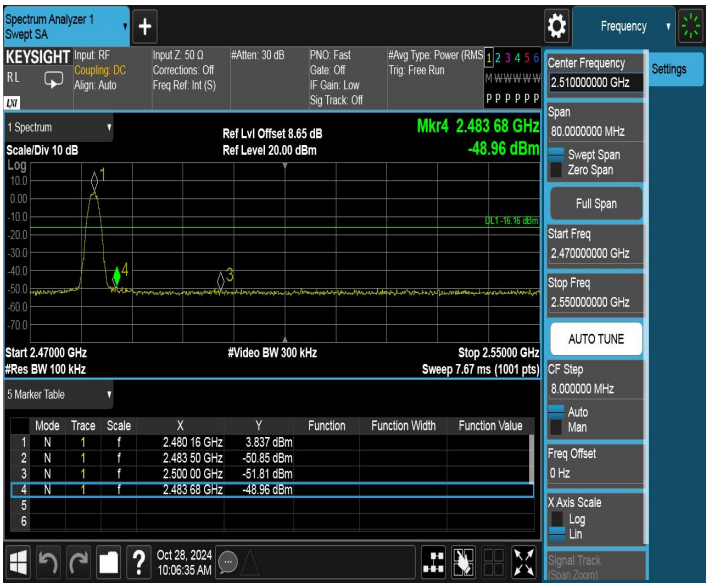


7.5.5. Test Result

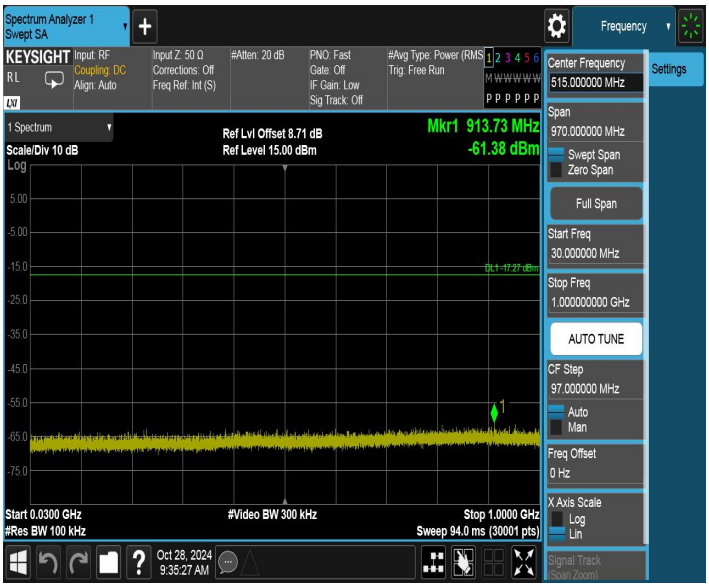
Test Mode	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Low	2402	3.15	-47.15	≤-16.85	PASS
	High	2480	5.48	-49.6	≤-14.52	PASS
BLE_2M	Low	2402	1.16	-44.61	≤-18.84	PASS
	High	2480	3.84	-48.96	≤-16.16	PASS

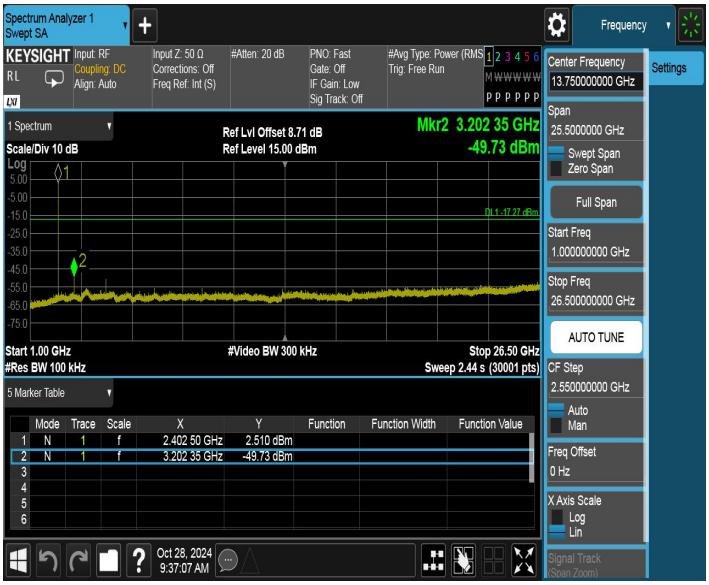
Test Mode	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	2402	Reference	2.73	2.73	---	PASS
		30~1000	2.73	-61.38	≤-17.27	PASS
		1000~26500	2.73	-49.73	≤-17.27	PASS
	2440	Reference	4.72	4.72	---	PASS
		30~1000	4.72	-61.26	≤-15.28	PASS
		1000~26500	4.72	-48.37	≤-15.28	PASS
	2480	Reference	5.31	5.31	---	PASS
		30~1000	5.31	-61.72	≤-14.69	PASS
		1000~26500	5.31	-47.43	≤-14.69	PASS
BLE_2M	2402	Reference	0.41	0.41	---	PASS
		30~1000	0.41	-61.57	≤-19.59	PASS
		1000~26500	0.41	-49.93	≤-19.59	PASS
	2440	Reference	2.60	2.60	---	PASS
		30~1000	2.60	-61.6	≤-17.4	PASS
		1000~26500	2.60	-48.43	≤-17.4	PASS
	2480	Reference	3.20	3.20	---	PASS
		30~1000	3.20	-61.35	≤-16.8	PASS
		1000~26500	3.20	-49.96	≤-16.8	PASS

BLE_1M_Low_2402

BLE_1M_High_2480

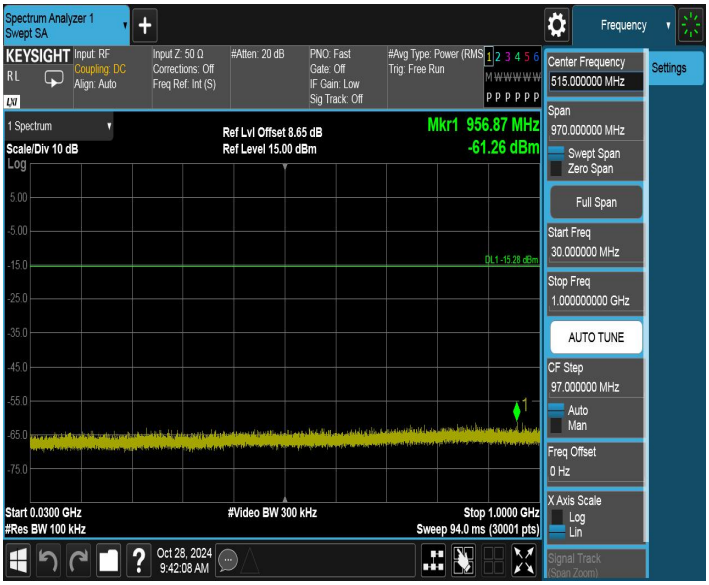

BLE_2M_Low_2402

BLE_2M_High_2480


BLE_1M_2402_0~Reference

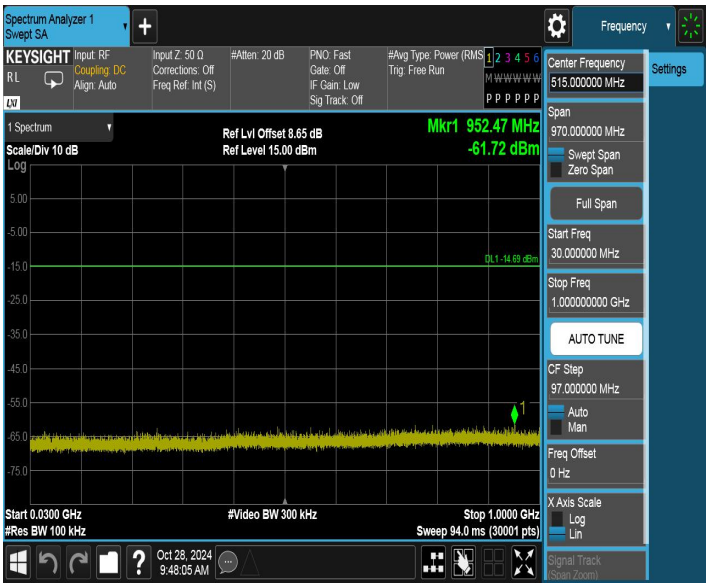
BLE_1M_2402_30~1000


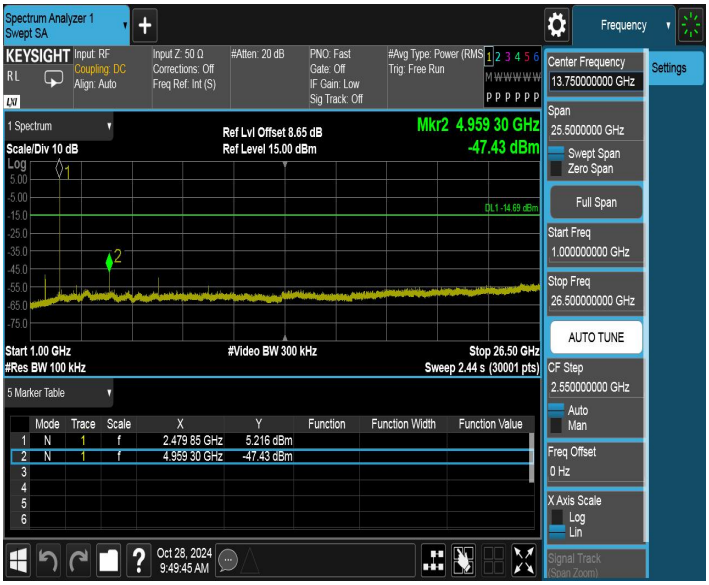
BLE_1M_2402_1000~26500


BLE_1M_2440_0~Reference

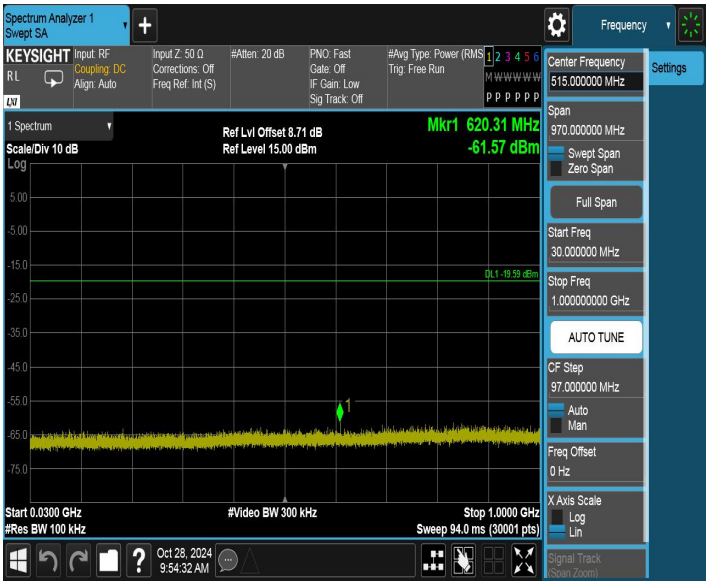

BLE_1M_2440_30~1000

BLE_1M_2440_1000~26500


BLE_1M_2480_0~Reference


BLE_1M_2480_30~1000


BLE_1M_2480_1000~26500


BLE_2M_2402_0~Reference


BLE_2M_2402_30~1000

BLE_2M_2402_1000~26500


BLE_2M_2440_0~Reference

BLE_2M_2440_30~1000