Case No. : GTS20250225018-2-07	
Ambient Condition: 22 ℃, 53 %RH	
According Standard: ■Part15C	
Test Date: 2025.4.21	**Test Engineer:** Evan ouyang

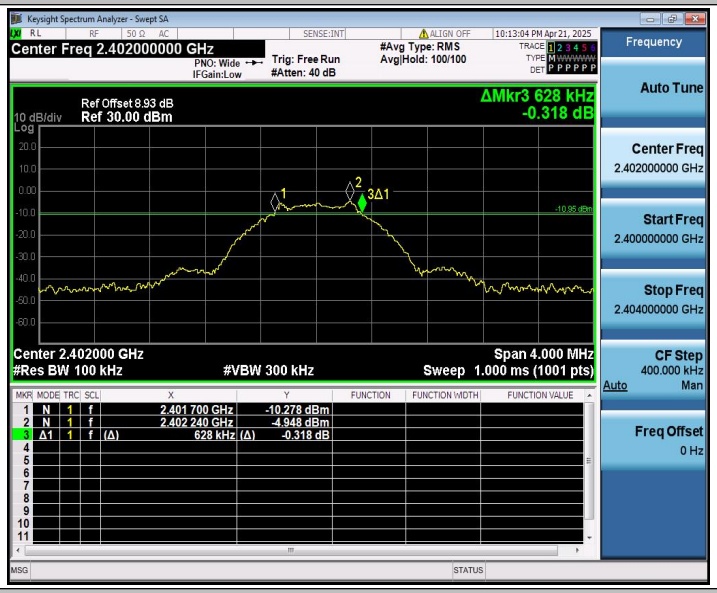
Appendix B.1: DTS Bandwidth

Test Result

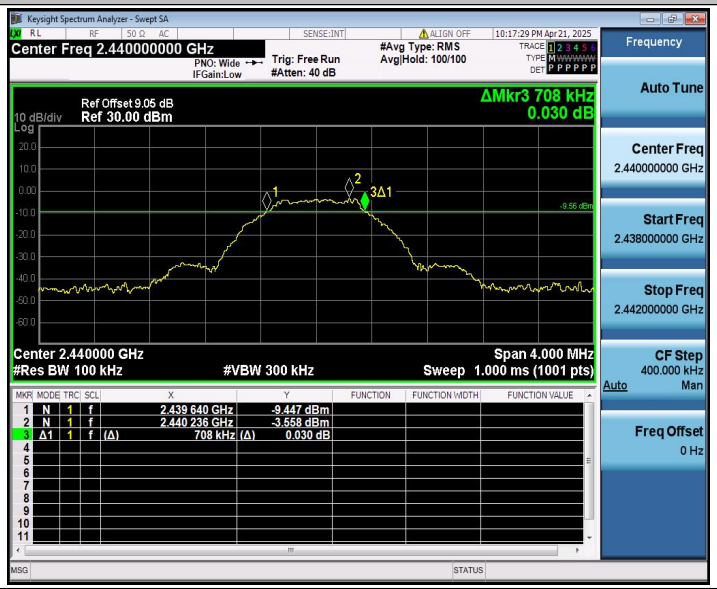
TestMode	Antenna	Freq(MHz)	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_BT4.0	Ant1	2402	0.628	2401.700	2402.328	0.5	PASS
		2440	0.708	2439.640	2440.348	0.5	PASS
		2480	0.640	2479.688	2480.328	0.5	PASS

Test Graphs

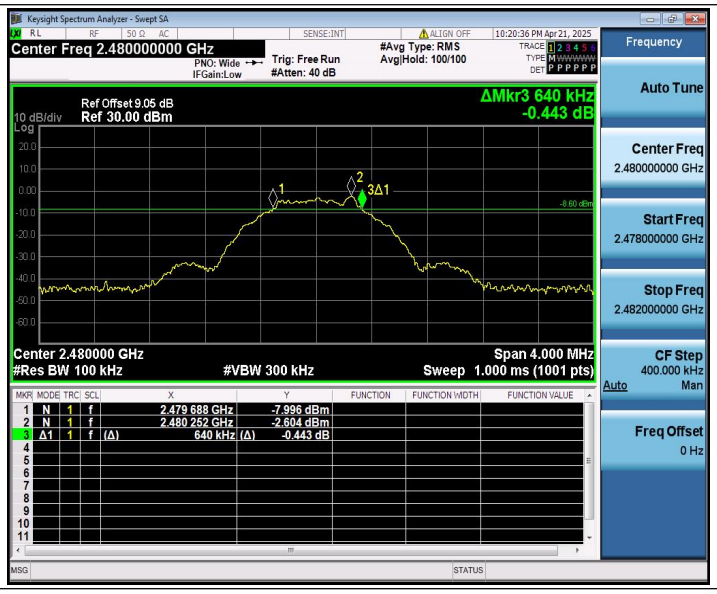
BLE_BT4.0_Ant1_2402



BLE_BT4.0_Ant1_2440



BLE_BT4.0_Ant1_2480


Keysight Spectrum Analyzer - Swept SA
Center Freq 2.480000000 GHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 40 dB
#Avg Type: RMS
Avg|Hold: 100/100
10:20:36 PM Apr 21, 2025
Frequency
Auto Tune
Center Freq
2.480000000 GHz
Start Freq
2.478000000 GHz
Stop Freq
2.482000000 GHz
CF Step
400.000 kHz
Auto
Man
Freq Offset
0 Hz
Ref Offset 9.05 dB
10 dB/div
Ref 30.00 dBm
ΔMkr3 640 kHz
-0.443 dB
-8.60 dBm
Center 2.480000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 4.000 MHz
Sweep 1.000 ms (1001 pts)
1 N 1 f 2.479 688 GHz -7.996 dBm
2 N 1 f 2.480 252 GHz -2.604 dBm
3 Δ1 1 f (Δ) 640 kHz (Δ) -0.443 dB

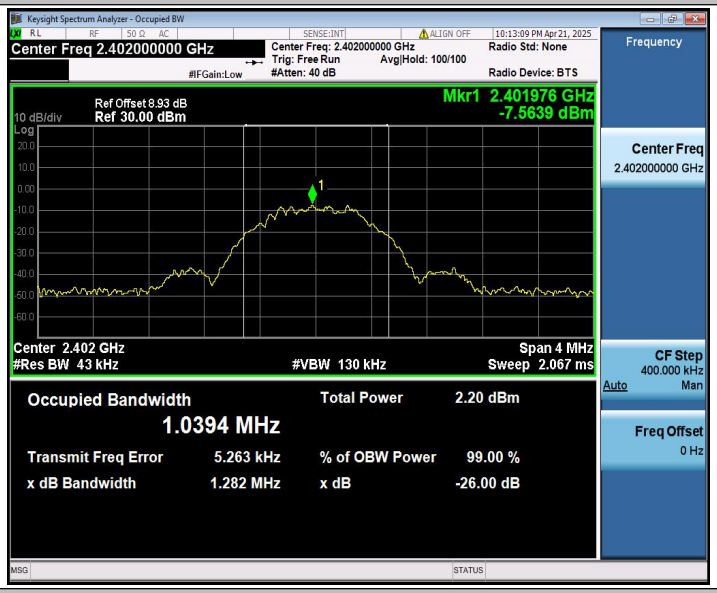
Appendix B.2: Occupied Channel Bandwidth

Test Result

TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_BT4.0	Ant1	2402	1.0394	2401.4856	2402.5250	---	---
		2440	1.0413	2439.4827	2440.5240	---	---
		2480	1.0379	2479.4863	2480.5242	---	---

Test Graphs

BLE_BT4.0_Ant1_2402



BLE_BT4.0_Ant1_2440

BLE_BT4.0_Ant1_2480

Keysight Spectrum Analyzer - Occupied BW
RL
RF
50 Ω AC
SENSE:INT
ALIGN OFF
10:20:46 PM Apr 21, 2025
Center Freq 2.480000000 GHz
Center Freq: 2.480000000 GHz
Trig: Free Run
Avg|Hold: 100/100
#Atten: 40 dB
#IFGain:Low
Radio Std: None
Radio Device: BTS
Frequency
Ref Offset 9.05 dB
10 dB/div
Ref 30.00 dBm
Log
Mkr1 2.480088 GHz
-5.8064 dBm
Center Freq
2.480000000 GHz
Center 2.48 GHz
#Res BW 43 kHz
#VBW 130 kHz
Span 4 MHz
Sweep 2.067 ms
CF Step
400.000 kHz
Auto
Man
Occupied Bandwidth
1.0379 MHz
Total Power
4.24 dBm
Transmit Freq Error
5.293 kHz
% of OBW Power
99.00 %
x dB Bandwidth
1.282 MHz
x dB
-26.00 dB
Freq Offset
0 Hz
MSG
STATUS

Appendix B.3: Maximum conducted output power

TestMode	Antenna	Freq(MHz)	Conducted Peak Powert[dBm]	Conducted Limit[dBm]	Verdict
BLE_BT4.0	Ant1	2402	-4.31	≤30	PASS
		2440	-2.22	≤30	PASS
		2480	-2.18	≤30	PASS

Appendix B.4: Maximum power spectral density

Test Result

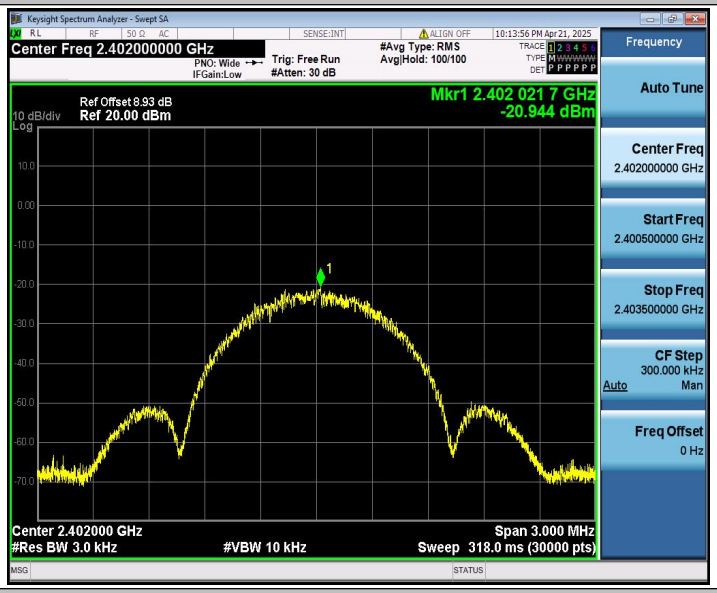
TestMode	Antenna	Freq(MHz)	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_BT4.0	Ant1	2402	-20.94	≤8.00	PASS
		2440	-18.67	≤8.00	PASS
		2480	-18.69	≤8.00	PASS

Note：

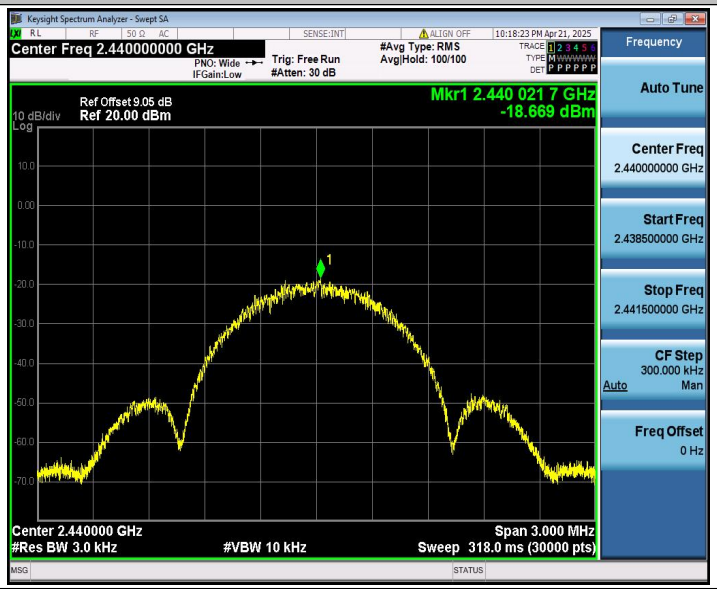
1. The Duty Cycle Factor and RBW Factor is compensated in the graph.

Test Graphs

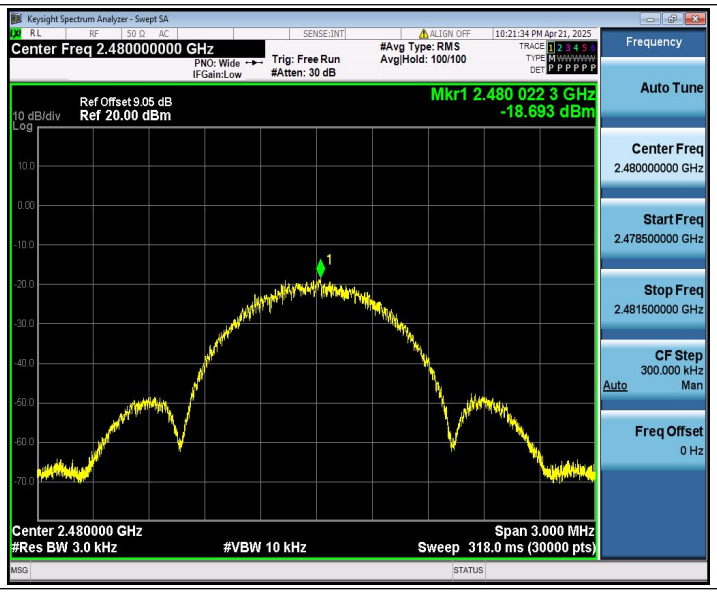
BLE_BT4.0_Ant1_2402



BLE_BT4.0_Ant1_2440



BLE_BT4.0_Ant1_2480


Keysight Spectrum Analyzer - Swept SA
RL
RF
50 Ω AC
SENSE:INT
ALIGN OFF
10:21:34 PM Apr 21, 2025
Center Freq 2.480000000 GHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: RMS
Avg|Hold: 100/100
TRACE 1 2 3 4 5 6
TYPE M WWWWWW
DET P P P P P P
Frequency
Auto Tune
Center Freq
2.480000000 GHz
Start Freq
2.478500000 GHz
Stop Freq
2.481500000 GHz
CF Step
300.000 kHz
Auto
Man
Freq Offset
0 Hz
Ref Offset 9.05 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 2.480 022 3 GHz
-18.693 dBm
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
1
Center 2.480000 GHz
#Res BW 3.0 kHz
#VBW 10 kHz
Span 3.000 MHz
Sweep 318.0 ms (30000 pts)
MSG
STATUS

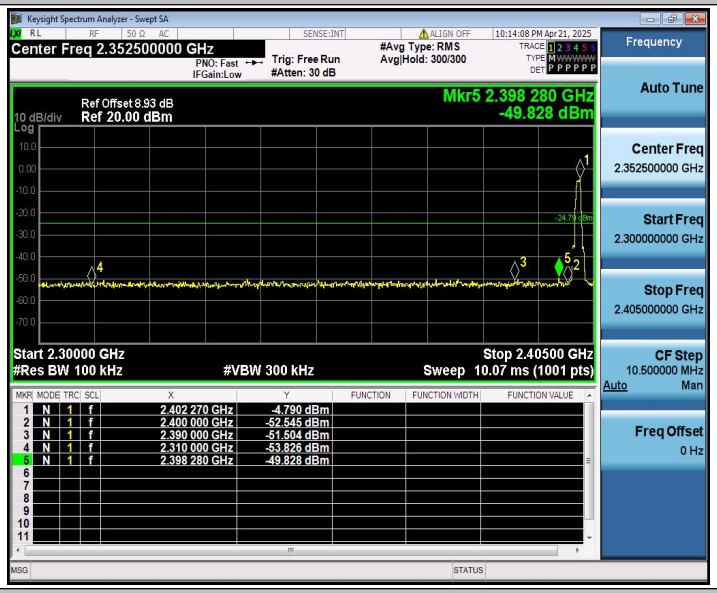
Appendix B.5: Band edge measurements

Test Result

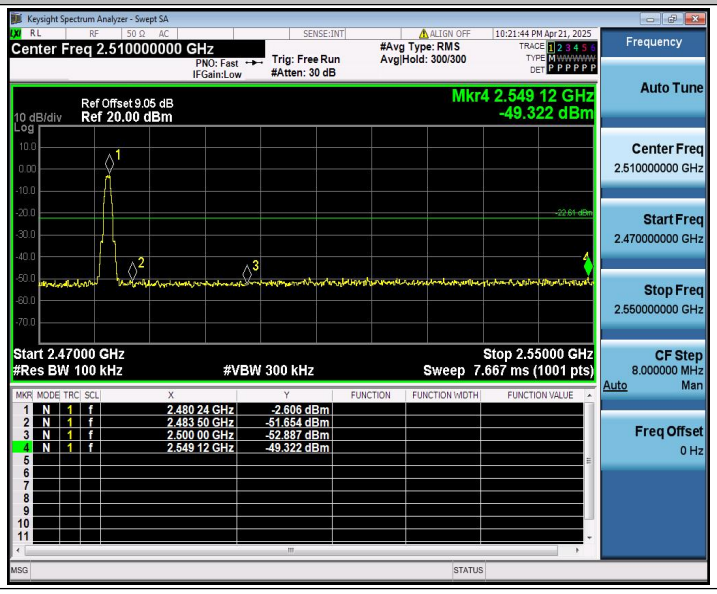
TestMode	Antenna	ChName	Freq(MHz)	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_BT4.0	Ant1	Low	2402	-4.79	-49.83	≤-24.79	PASS
		High	2480	-2.61	-49.32	≤-22.61	PASS

Test Graphs

BLE_BT4.0_Ant1_Low_2402



BLE_BT4.0_Ant1_High_2480



Appendix B.6: Conducted Spurious Emission

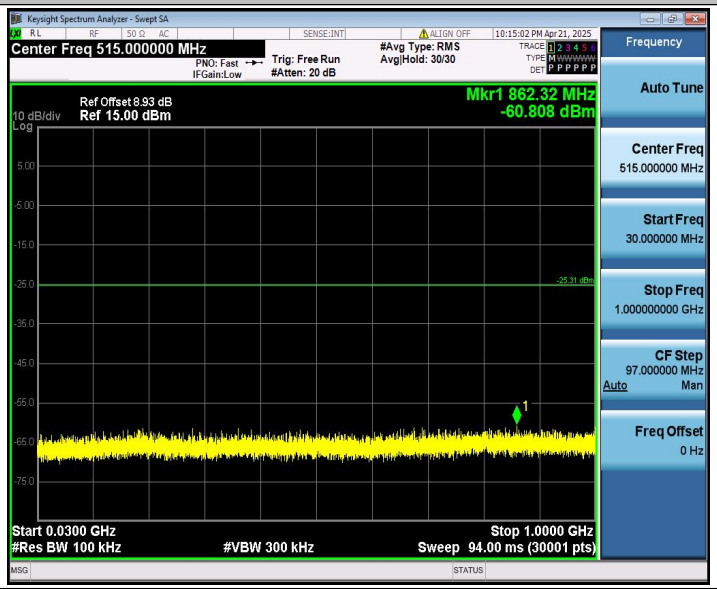
Test Result

TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_BT4.0	Ant1	2402	Reference	-5.31	-5.31	---	PASS
			30~1000	-5.31	-60.81	≤-25.31	PASS
			1000~26500	-5.31	-47.42	≤-25.31	PASS
		2440	Reference	-3.98	-3.98	---	PASS
			30~1000	-3.98	-60.74	≤-23.98	PASS
			1000~26500	-3.98	-47.21	≤-23.98	PASS
		2480	Reference	-3.11	-3.11	---	PASS
			30~1000	-3.11	-60.34	≤-23.11	PASS
			1000~26500	-3.11	-47.84	≤-23.11	PASS

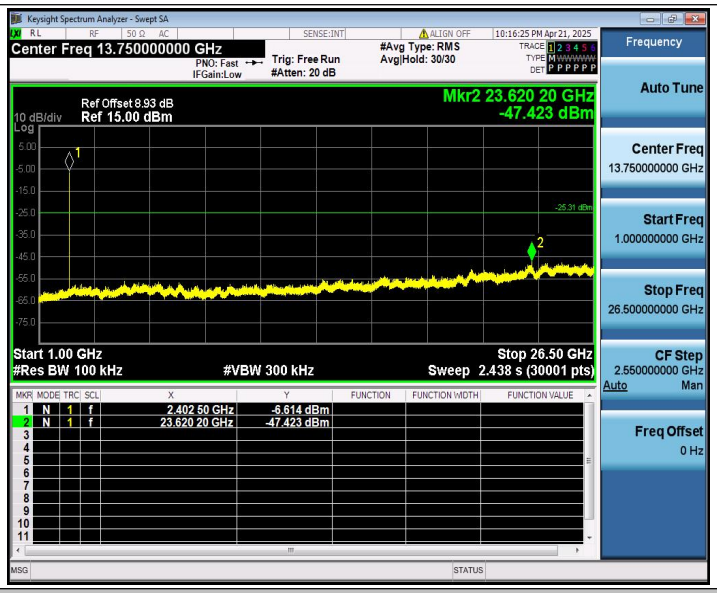
Test Graphs

BLE_BT4.0_Ant1_2402_0~Reference

BLE_BT4.0_Ant1_2402_30~1000

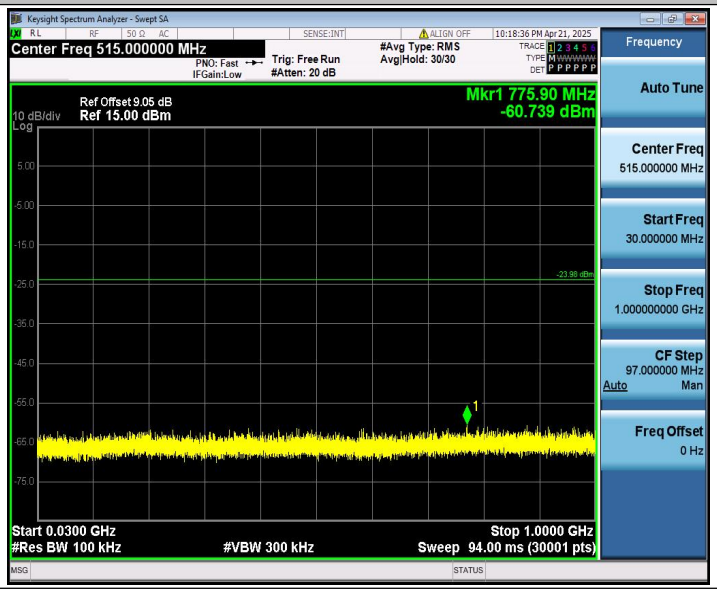


BLE_BT4.0_Ant1_2402_1000~26500

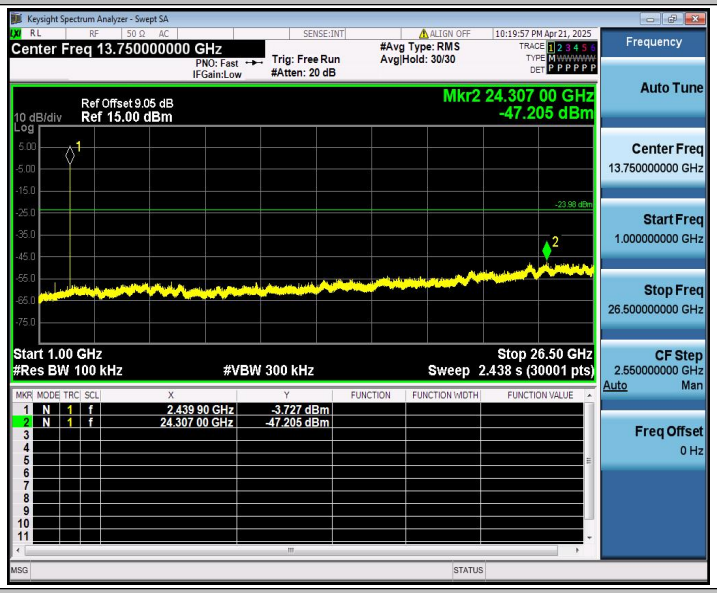


BLE_BT4.0_Ant1_2440_0~Reference

BLE_BT4.0_Ant1_2440_30~1000

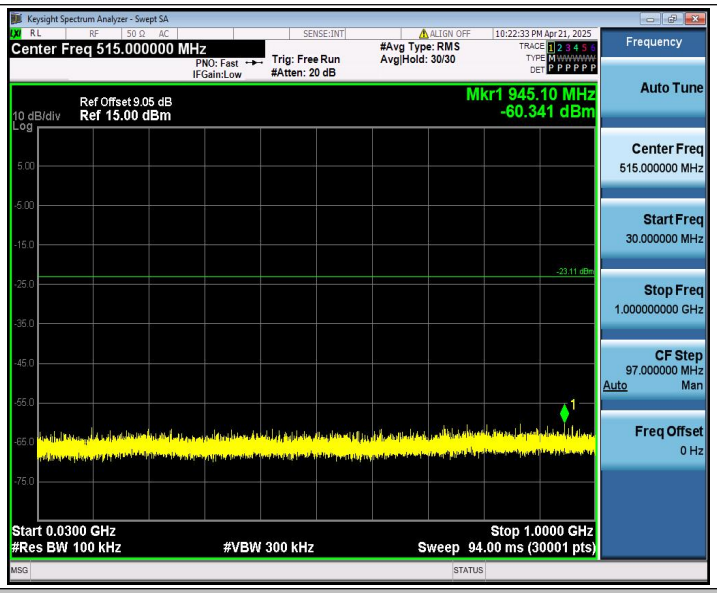


BLE_BT4.0_Ant1_2440_1000~26500

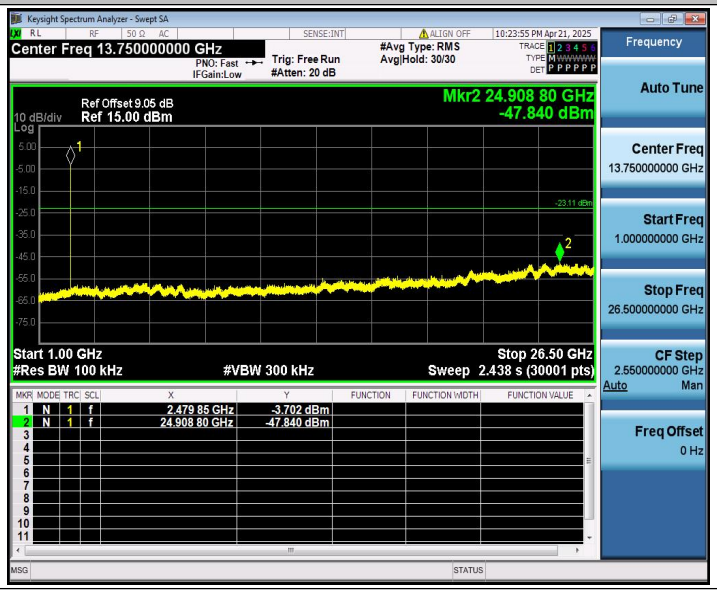


BLE_BT4.0_Ant1_2480_0~Reference

BLE_BT4.0_Ant1_2480_30~1000



BLE_BT4.0_Ant1_2480_1000~26500



Appendix B.7: Emissions in Restricted Bands

Test Result

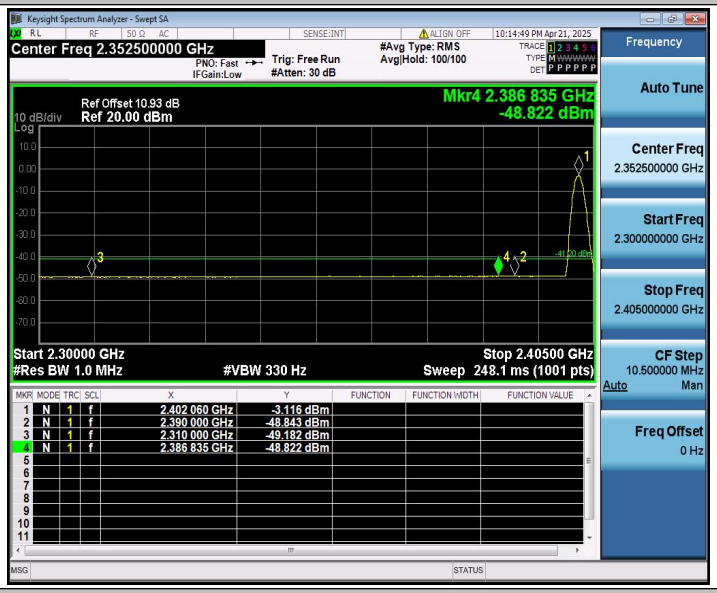
TestMode	Antenna	ChName	Freq(MHz)	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
BLE_BT4.0	Ant1	Low	2402	AV	2310.000	-49.18	≤-41.20	46.02	≤54	PASS
				AV	2386.835	-48.82	≤-41.20	46.38	≤54	PASS
				AV	2390.000	-48.84	≤-41.20	46.36	≤54	PASS
				Peak	2310.000	-42.1	≤-21.20	53.10	≤74	PASS
				Peak	2374.025	-38.85	≤-21.20	56.35	≤74	PASS
				Peak	2390.000	-42.01	≤-21.20	53.19	≤74	PASS
		High	2480	AV	2483.500	-48.51	≤-41.20	46.69	≤54	PASS
				AV	2495.760	-48.51	≤-41.20	46.69	≤54	PASS
				AV	2500.000	-48.64	≤-41.20	46.56	≤54	PASS
				Peak	2483.500	-39.96	≤-21.20	55.24	≤74	PASS
				Peak	2489.360	-38.66	≤-21.20	56.54	≤74	PASS
				Peak	2500.000	-40.69	≤-21.20	54.51	≤74	PASS

Note：

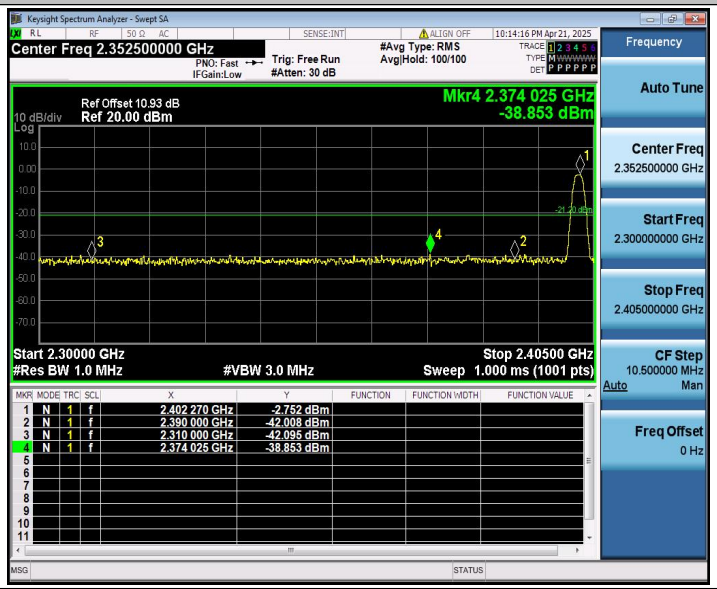
1. The Antenna Gain is compensated in the graph.
2. The Duty Cycle Factor and RBW Factor is compensated in the graph.
3. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

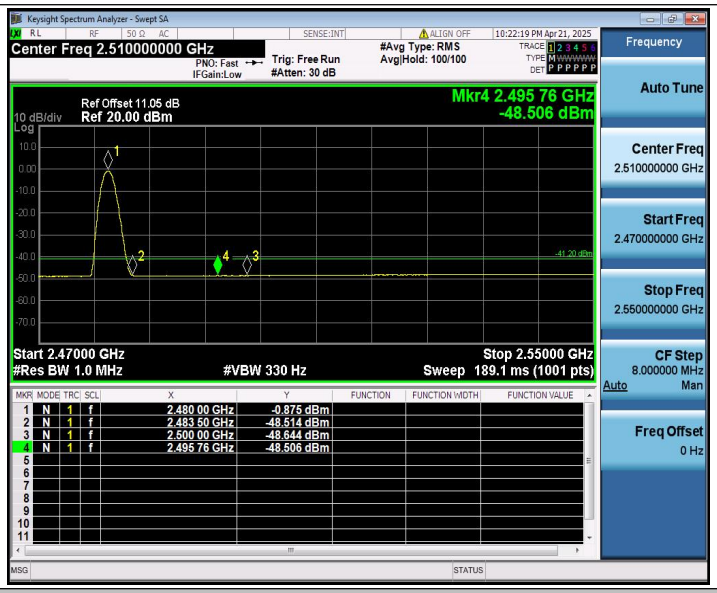
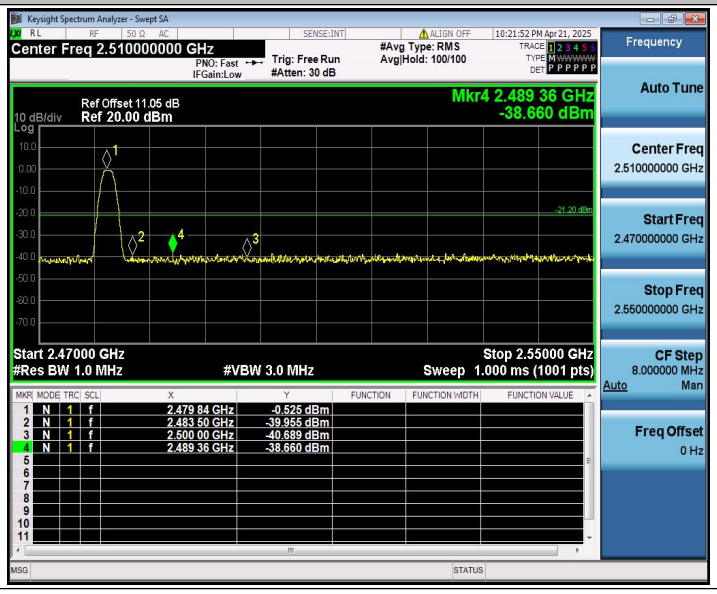
BLE_BT4.0_Ant1_Low_2402_AV



BLE_BT4.0_Ant1_Low_2402_Peak



BLE_BT4.0_Ant1_High_2480_AV



BLE_BT4.0_Ant1_High_2480_Peak