

Case No. : <u>CTA24072303402</u>	
Ambient Condition: <u>23</u> °C, <u>52</u> %RH	
According Standard: ■RSS 247	
Test Date: <u>2024.8.9</u>	Test Engineer: <u>Lushan Kong</u>

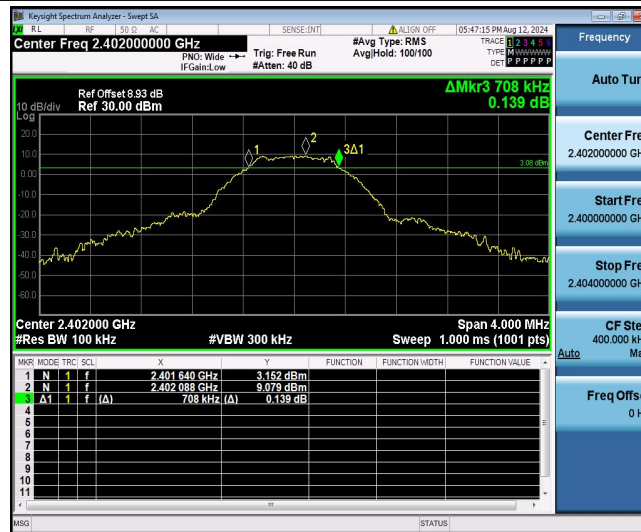
Appendix A.1: DTS Bandwidth

Test Result

TestMode	Antenna	Freq(MHz)	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE	Ant1	2402	0.708	2401.640	2402.348	0.5	PASS
		2440	0.696	2439.640	2440.336	0.5	PASS
		2480	0.712	2479.624	2480.336	0.5	PASS

Test Graphs

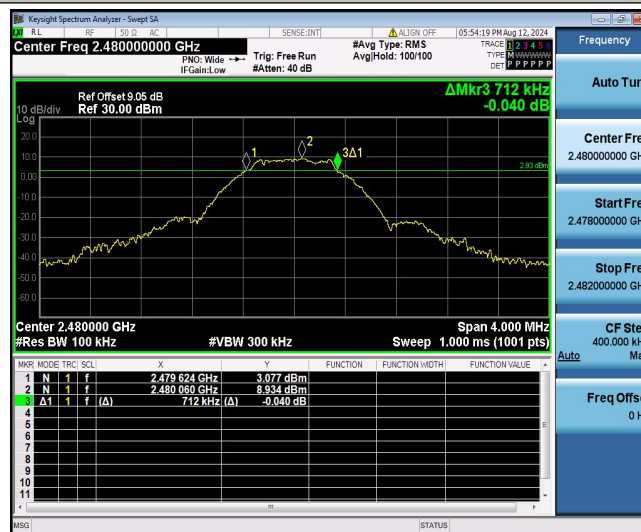
BLE_Ant1_2402



BLE_Ant1_2440



BLE_Ant1_2480



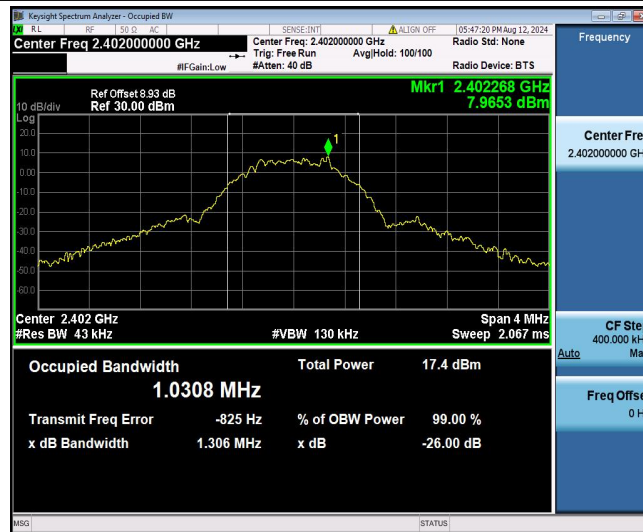
Appendix A.2: Occupied Channel Bandwidth

Test Result

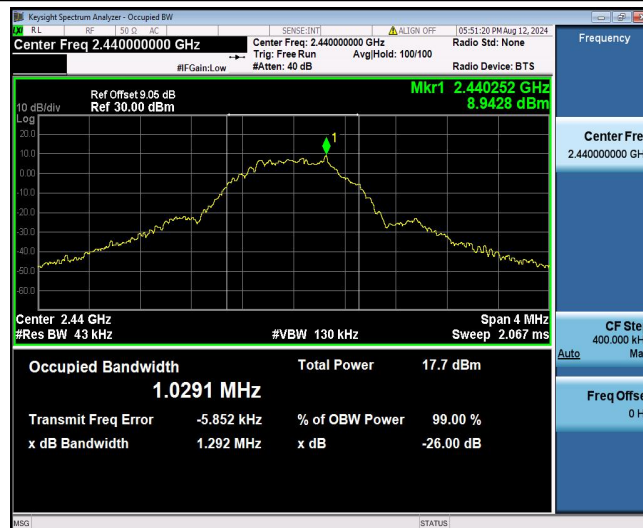
TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE	Ant1	2402	1.0308	2401.4838	2402.5146	---	---
		2440	1.0291	2439.4796	2440.5087	---	---
		2480	1.0299	2479.4751	2480.5050	---	---

Test Graphs

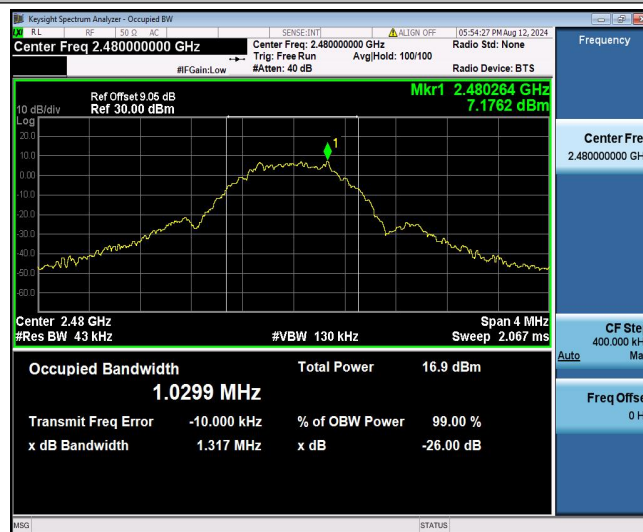
BLE_Ant1_2402



BLE_Ant1_2440



BLE_Ant1_2480



Appendix A.3: Maximum conducted output power

Test Result Peak

TestMode	Antenna	Freq(MHz)	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Gain[dBm]	EIRP[dBm]	EIRP Limit[dBm]	Verdict
BLE	Ant1	2402	10.58	≤30	4.42	15.00	≤36	PASS
		2440	10.92	≤30	4.42	15.34	≤36	PASS
		2480	10.47	≤30	4.42	14.89	≤36	PASS

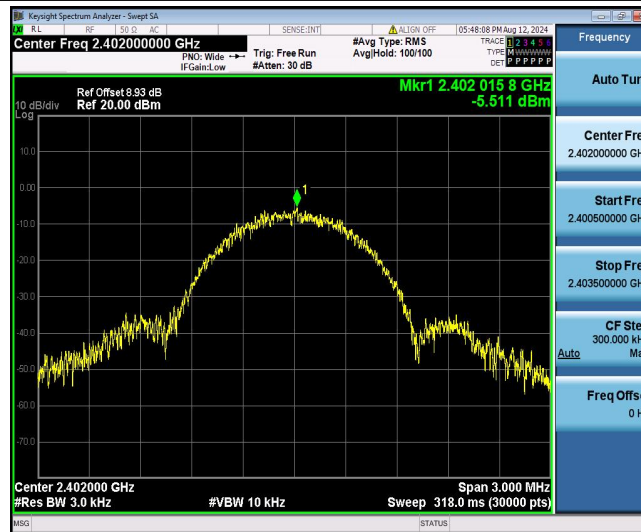
Appendix A.4: Maximum power spectral density

Test Result

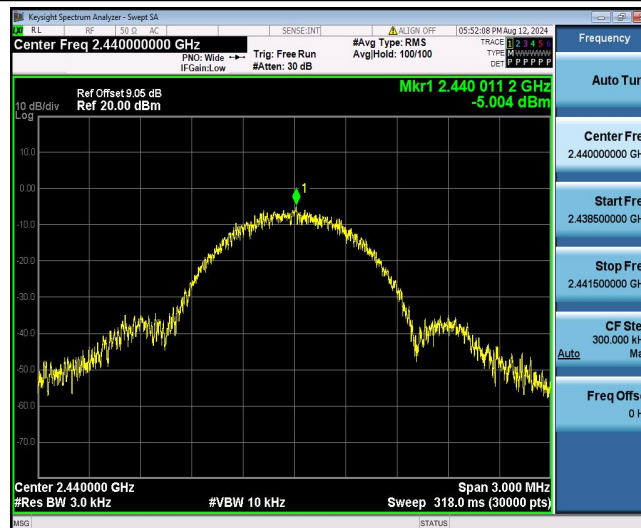
TestMode	Antenna	Freq(MHz)	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE	Ant1	2402	-5.51	≤8.00	PASS
		2440	-5.00	≤8.00	PASS
		2480	-5.43	≤8.00	PASS

Test Graphs

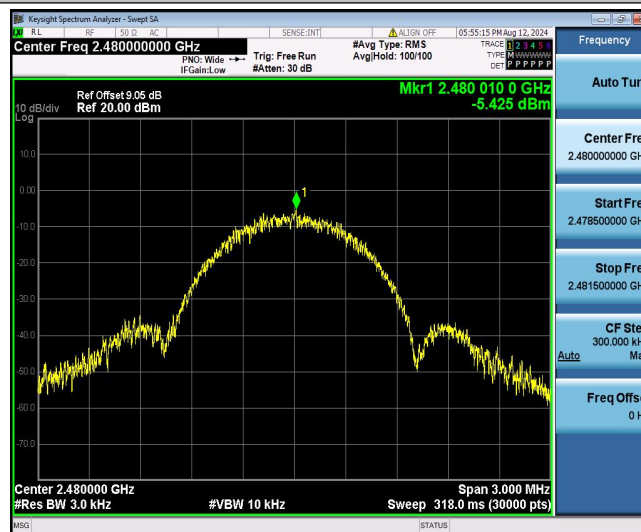
BLE_Ant1_2402



BLE_Ant1_2440



BLE_Ant1_2480

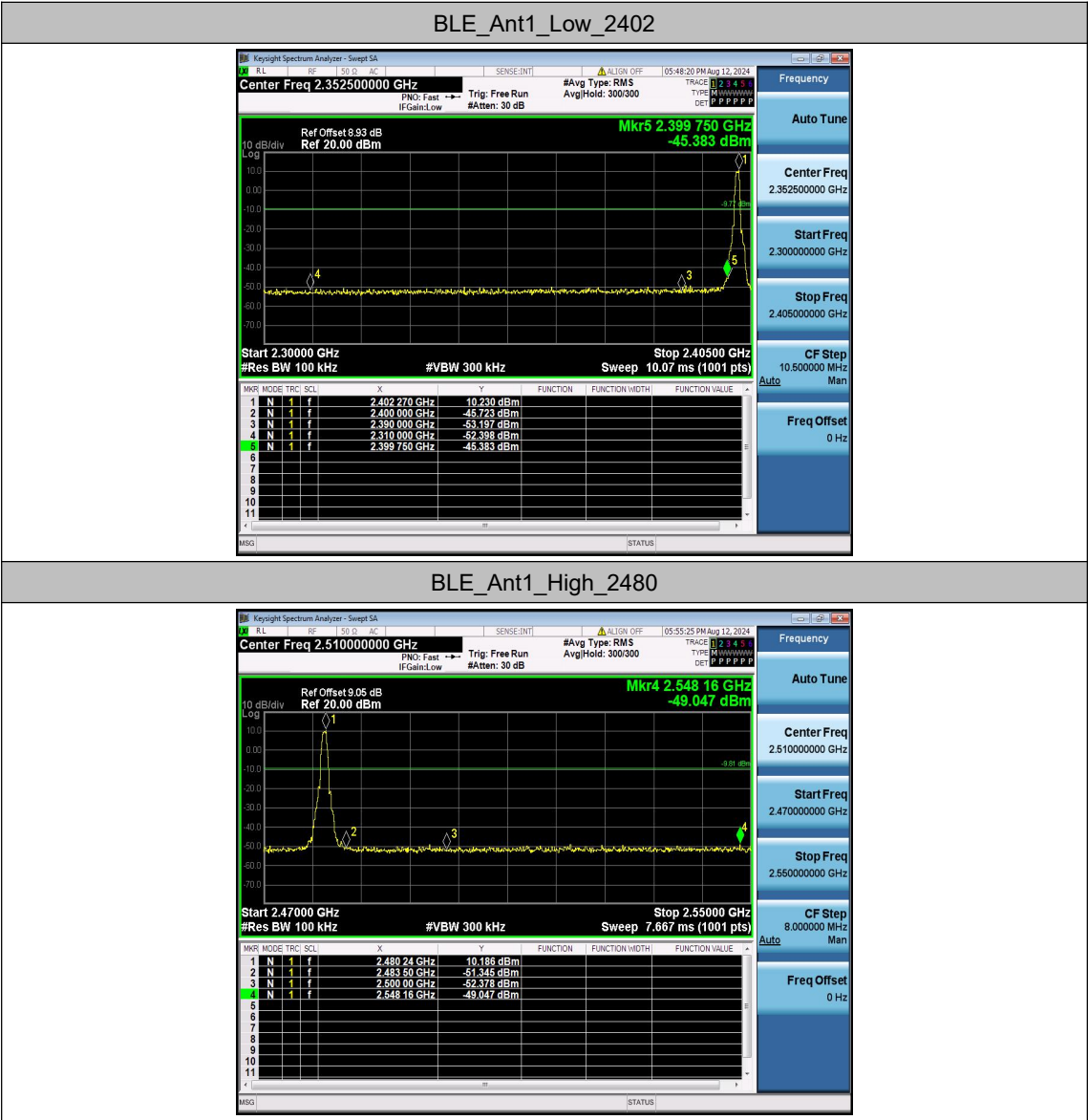


Appendix A.5: Band edge measurements

Test Result

TestMode	Antenna	ChName	Freq(MHz)	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE	Ant1	Low	2402	10.23	-45.38	≤-9.77	PASS
		High	2480	10.19	-49.05	≤-9.81	PASS

Test Graphs



BLE_Ant1_High_2480

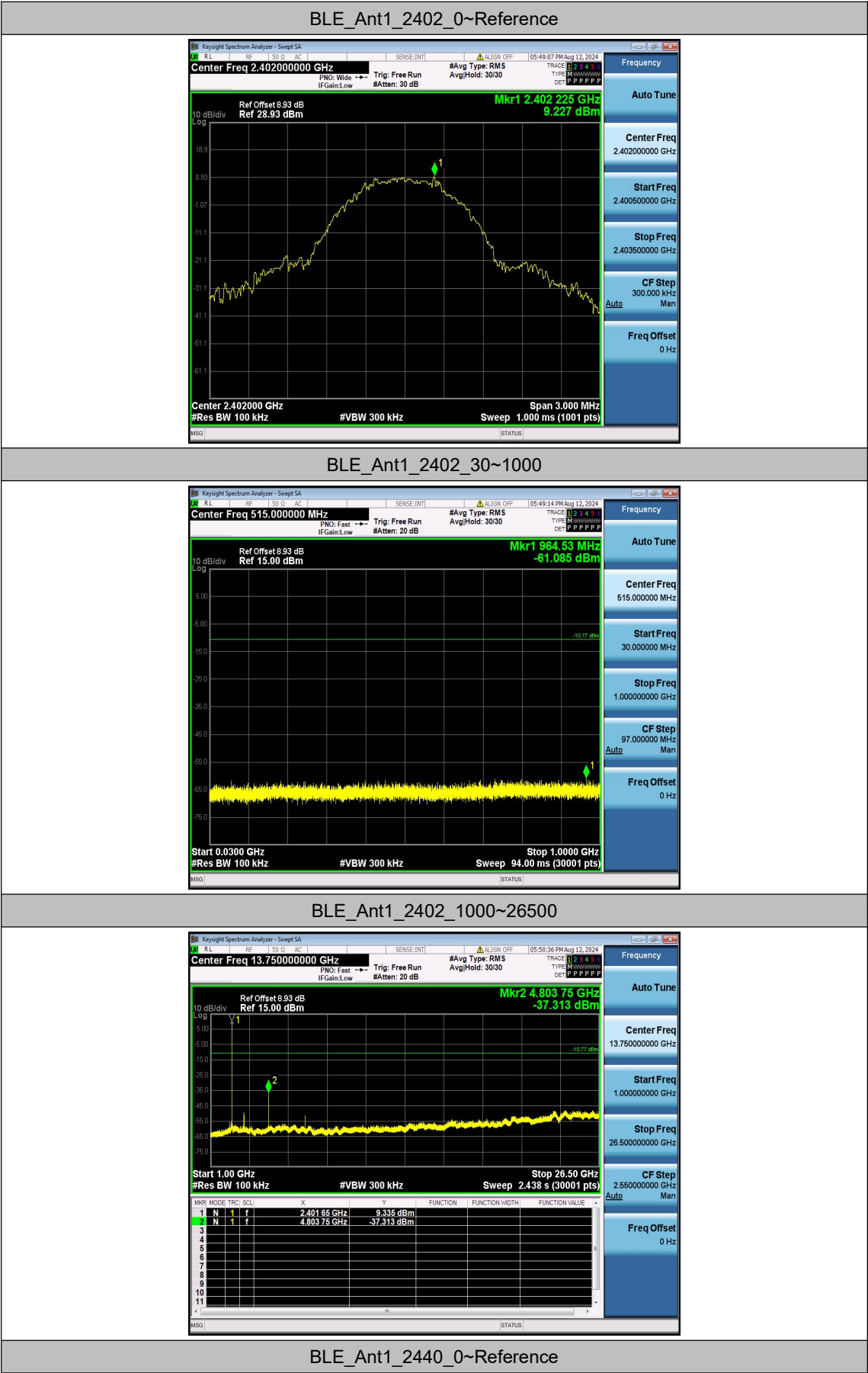
Frequency
Auto Tune
Center Freq 2.510000000 GHz
Start Freq 2.470000000 GHz
Stop Freq 2.550000000 GHz
CF Step 8.000000 MHz
Auto
Freq Offset 0 Hz

Appendix A.6: Conducted Spurious Emission

Test Result

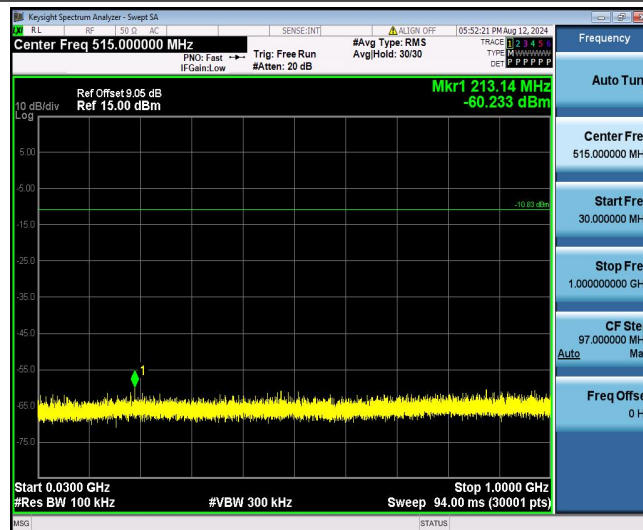
TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE	Ant1	2402	Reference	9.23	9.23	---	PASS
			30~1000	9.23	-61.09	≤ -10.77	PASS
			1000~26500	9.23	-37.31	≤ -10.77	PASS
		2440	Reference	9.17	9.17	---	PASS
			30~1000	9.17	-60.23	≤ -10.83	PASS
			1000~26500	9.17	-37.85	≤ -10.83	PASS
		2480	Reference	8.99	8.99	---	PASS
			30~1000	8.99	-60.1	≤ -11.01	PASS
			1000~26500	8.99	-40	≤ -11.01	PASS

Test Graphs

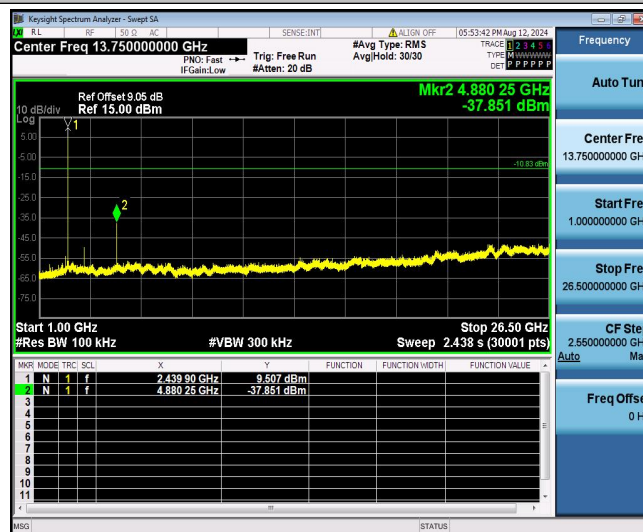




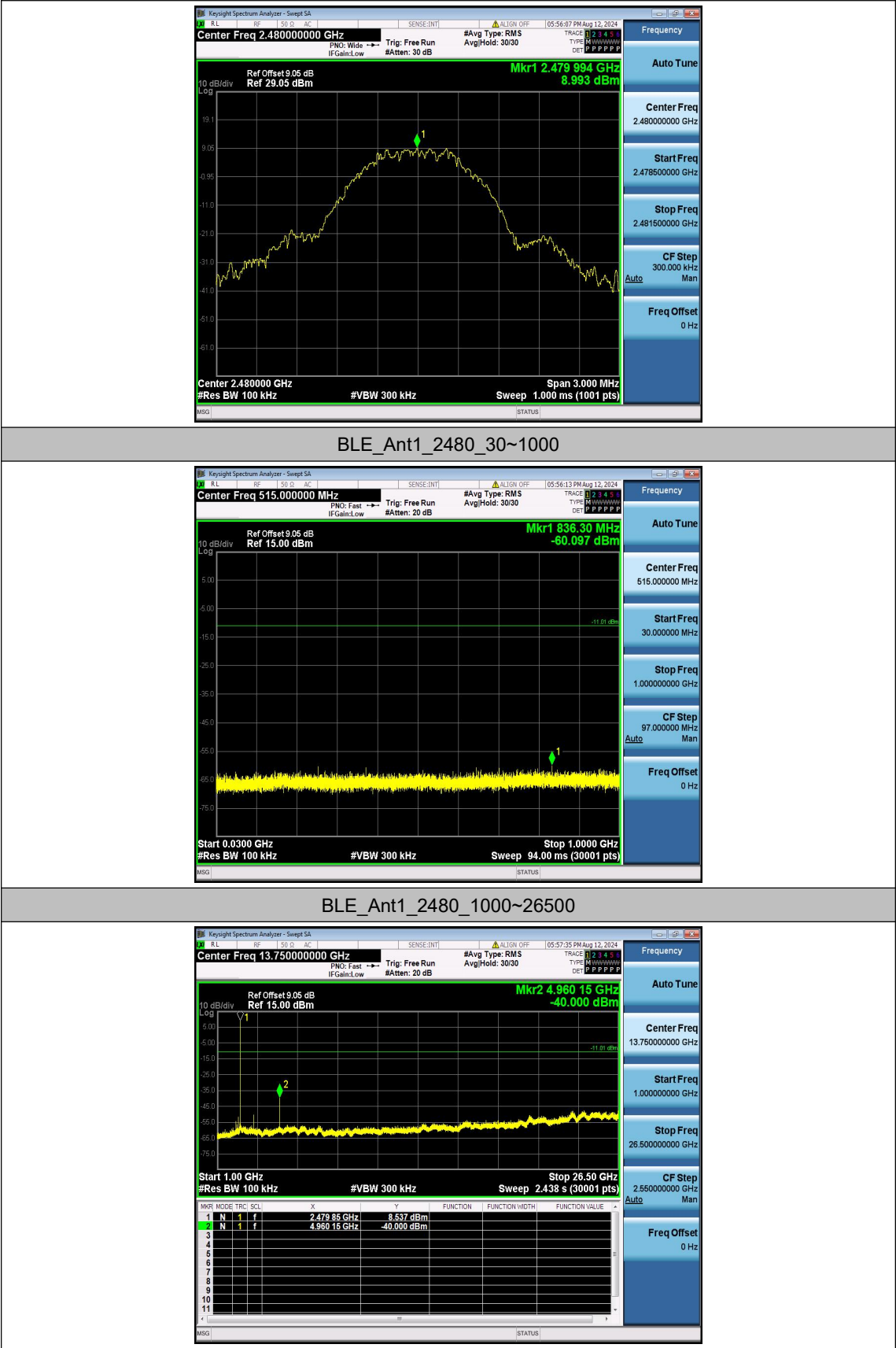
BLE_Ant1_2440_30~1000



BLE_Ant1_2440_1000~26500



BLE_Ant1_2480_0~Reference



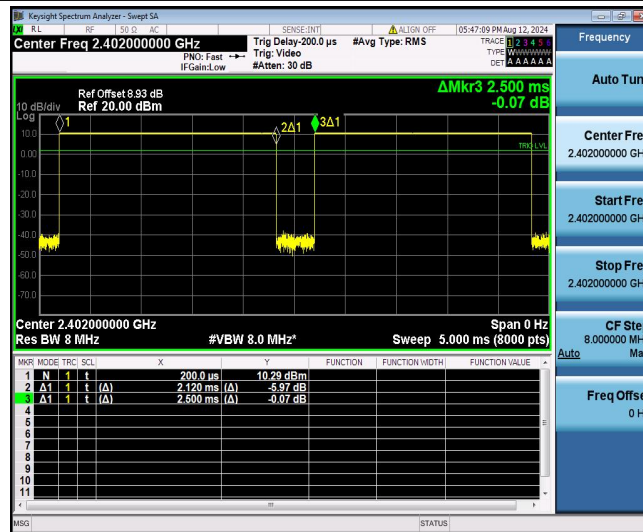
Appendix A.7: Duty Cycle

Test Result

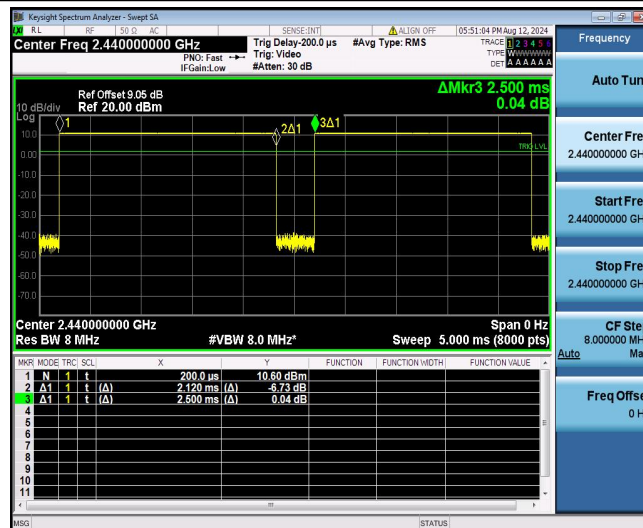
TestMode	Antenna	Freq(MHz)	ON Time [ms]	Period [ms]	X	DC [%]	Duty Cycle Factor[dB]	1/T Factor[KHz]
BLE	Ant1	2402	2.12	2.50	0.8480	84.80	0.72	0.47
		2440	2.12	2.50	0.8480	84.80	0.72	0.47
		2480	2.13	2.50	0.8520	85.20	0.70	0.47

Test Graphs

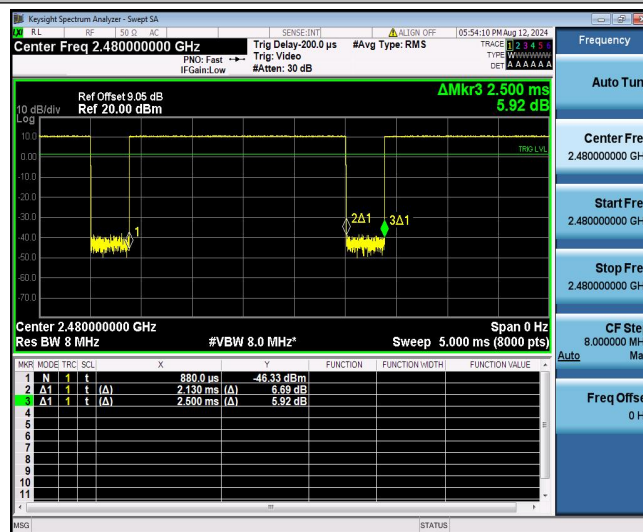
BLE_Ant1_2402



BLE_Ant1_2440



BLE_Ant1_2480



Appendix A.8: Emissions in Restricted Bands

Test Result

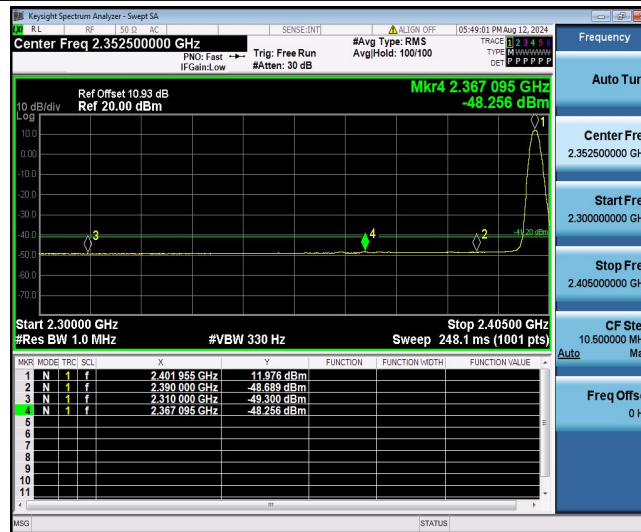
TestMode	Antenna	ChName	Freq(MHz)	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
BLE	Ant1	Low	2402	AV	2310.000	-49.3	≤-41.20	45.90	≤54	PASS
				AV	2367.095	-48.26	≤-41.20	46.94	≤54	PASS
				AV	2390.000	-48.69	≤-41.20	46.51	≤54	PASS
				Peak	2310.000	-42.2	≤-21.20	53.00	≤74	PASS
				Peak	2372.345	-38.11	≤-21.20	57.09	≤74	PASS
				Peak	2390.000	-41.13	≤-21.20	54.07	≤74	PASS
		High	2480	AV	2483.500	-44.1	≤-41.20	51.10	≤54	PASS
				AV	2483.520	-44.1	≤-41.20	51.10	≤54	PASS
				AV	2500.000	-48.06	≤-41.20	47.14	≤54	PASS
				Peak	2483.500	-39.28	≤-21.20	55.92	≤74	PASS
				Peak	2497.920	-38.15	≤-21.20	57.05	≤74	PASS
				Peak	2500.000	-40.05	≤-21.20	55.15	≤74	PASS

Note:

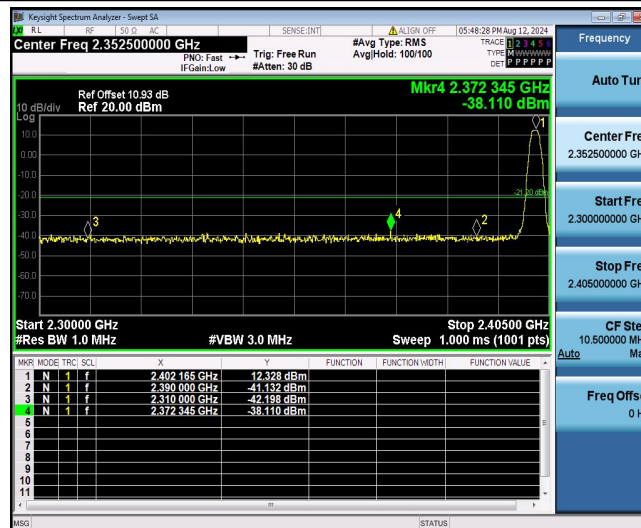
1. The Antenna Gain is compensated in the graph.
2. The Duty Cycle Factor and RBW Factor is compensated in the graph.
3. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

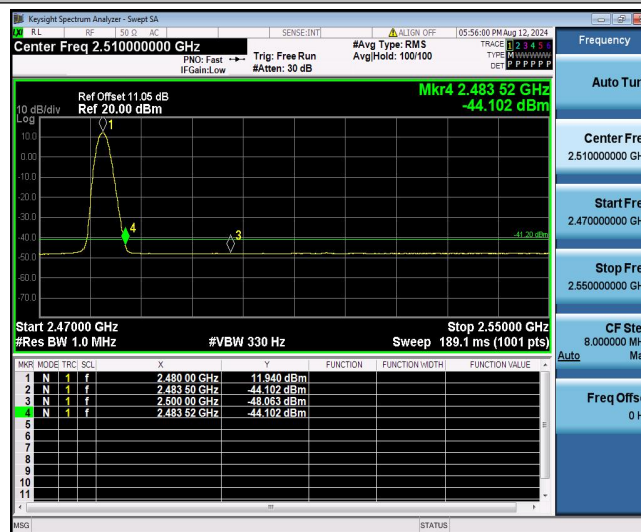
BLE_Ant1_Low_2402_AV



BLE_Ant1_Low_2402_Peak



BLE_Ant1_High_2480_AV



BLE_Ant1_High_2480_Peak

