

Case No. : <u>CTA24061302001</u>	
Ambient Condition: <u>23</u> °C, <u>49</u> %RH	
Test Date: <u>2024.6.5</u>	Test Engineer: <u>Lushan Kong</u>

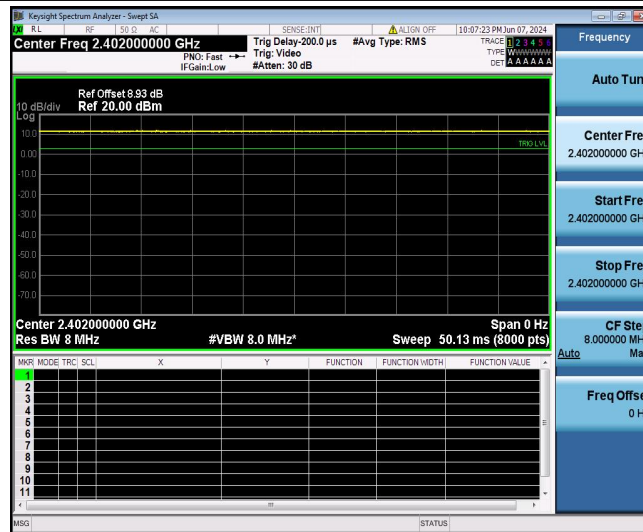
Appendix A.1: Duty Cycle

Test Result

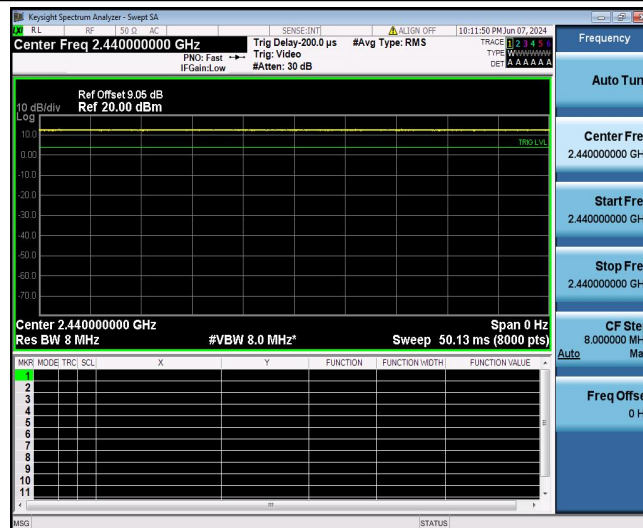
TestMode	Antenna	Freq(MHz)	ON Time [ms]	Period [ms]	X	DC [%]	Duty Cycle Factor[dB]	1/T Factor[KHz]
BLE	Ant1	2402	50.00	50.00	1.0000	100.00	0.00	0.02
		2440	50.00	50.00	1.0000	100.00	0.00	0.02
		2480	50.00	50.00	1.0000	100.00	0.00	0.02

Test Graphs

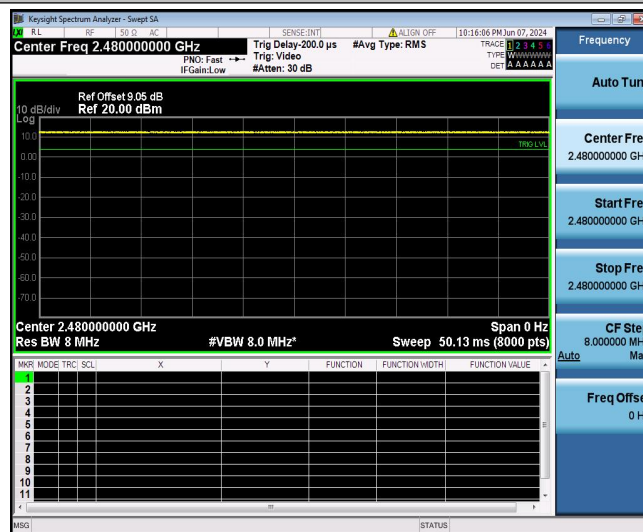
BLE_Ant1_2402



BLE_Ant1_2440



BLE_Ant1_2480



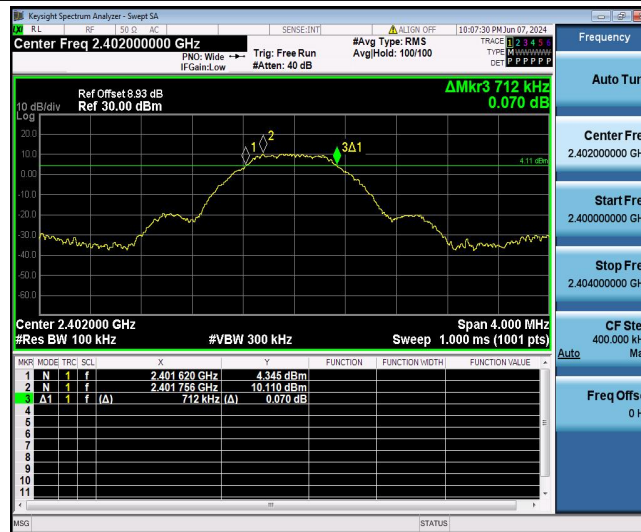
Appendix A.2: DTS Bandwidth

Test Result

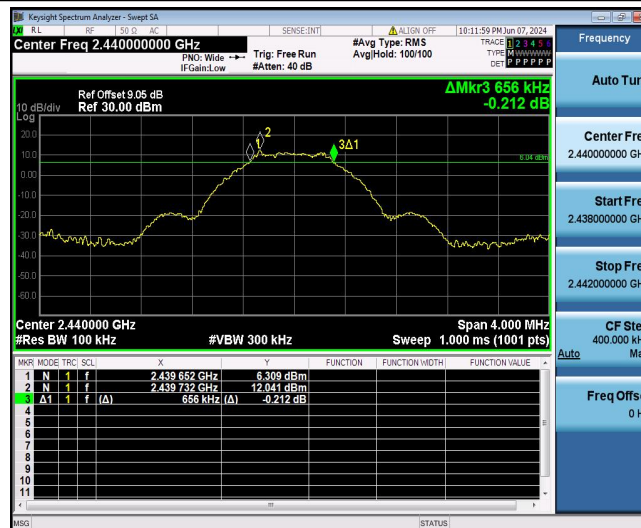
TestMode	Antenna	Freq(MHz)	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE	Ant1	2402	0.712	2401.620	2402.332	0.5	PASS
		2440	0.656	2439.652	2440.308	0.5	PASS
		2480	0.680	2479.640	2480.320	0.5	PASS

Test Graphs

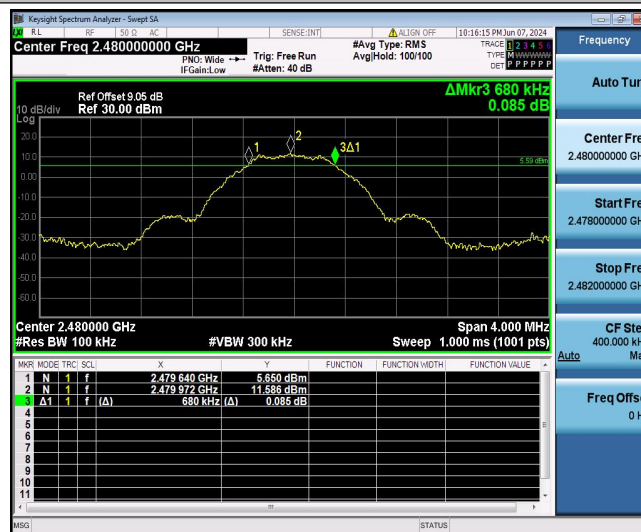
BLE_Ant1_2402



BLE_Ant1_2440



BLE_Ant1_2480



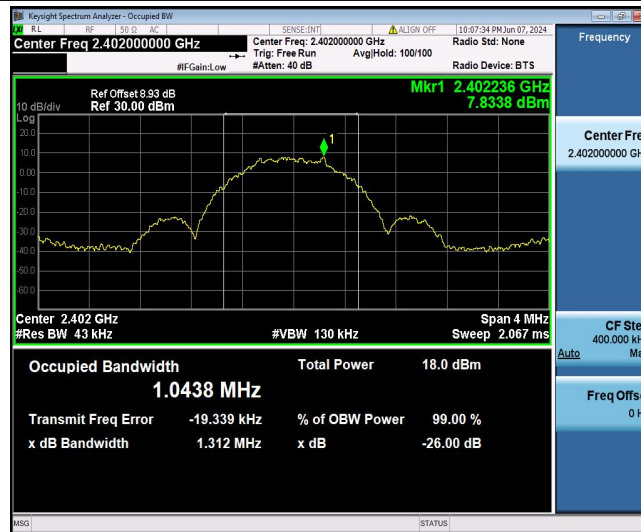
Appendix A.3: Occupied Channel Bandwidth

Test Result

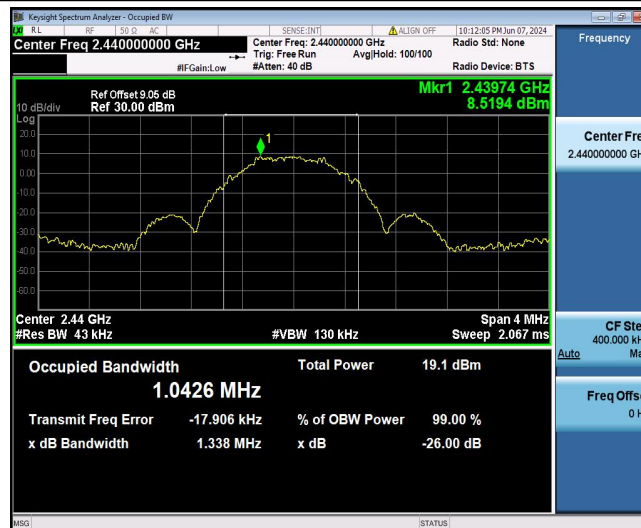
TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]
BLE	Ant1	2402	1.0438	2401.4588	2402.5026
		2440	1.0426	2439.4608	2440.5034
		2480	1.0460	2479.4560	2480.5020

Test Graphs

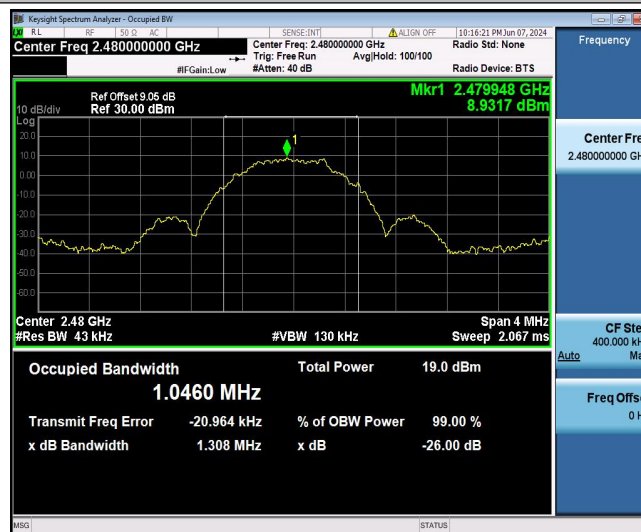
BLE_Ant1_2402



BLE_Ant1_2440



BLE_Ant1_2480



Appendix A.4: Maximum conducted output power

Test Result Peak

TestMode	Antenna	Freq(MHz)	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Antenna Gain (dBi)	EIRP[dBm]	EIRP Limit[dBm]	Verdict
BLE	Ant1	2402	11.93	≤30	2.93	14.86	≤36	PASS
		2440	12.97	≤30	2.93	15.9	≤36	PASS
		2480	12.76	≤30	2.93	15.69	≤36	PASS

Appendix A.5: Maximum power spectral density

Test Result

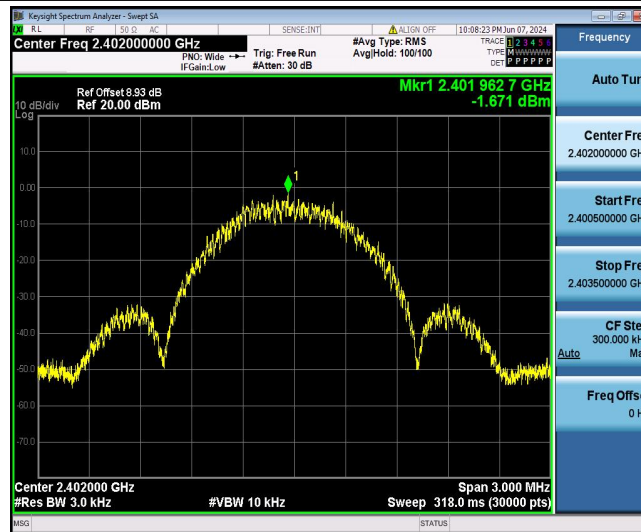
TestMode	Antenna	Freq(MHz)	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE	Ant1	2402	-1.67	≤8.00	PASS
		2440	-0.60	≤8.00	PASS
		2480	-0.75	≤8.00	PASS

Note:

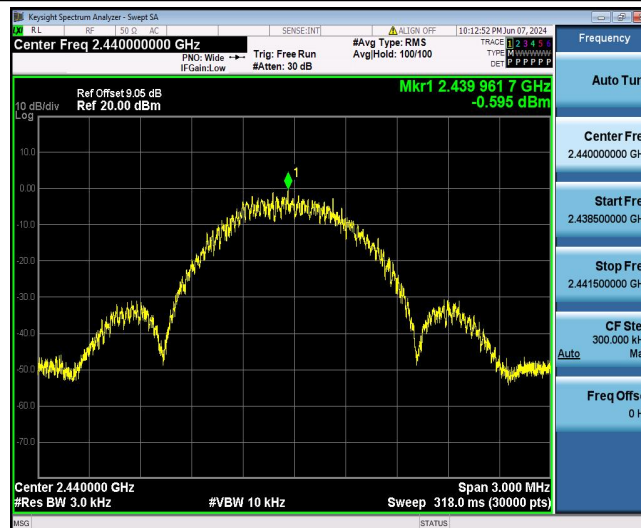
1. The Duty Cycle Factor and RBW Factor is compensated in the graph.

Test Graphs

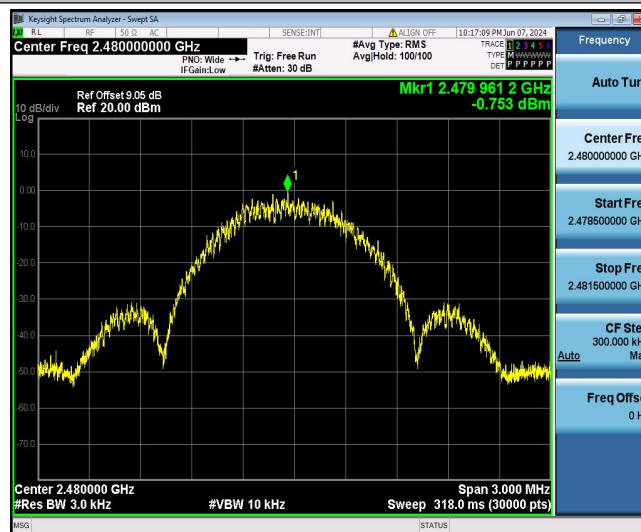
BLE_Ant1_2402



BLE_Ant1_2440



BLE_Ant1_2480

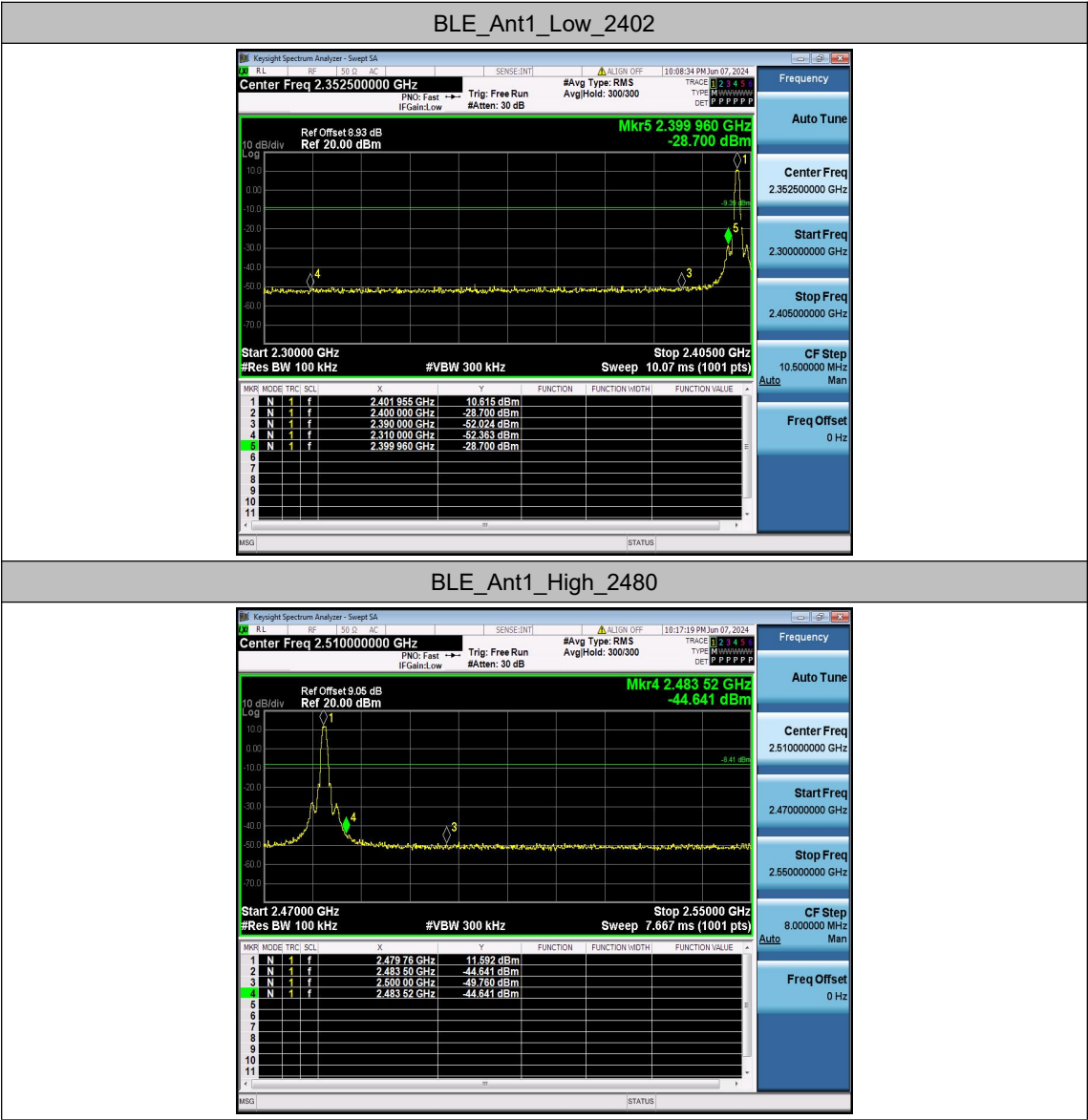


Appendix A.6: Band edge measurements

Test Result

TestMode	Antenna	ChName	Freq(MHz)	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE	Ant1	Low	2402	10.62	-28.7	≤-9.39	PASS
		High	2480	11.59	-44.64	≤-8.41	PASS

Test Graphs

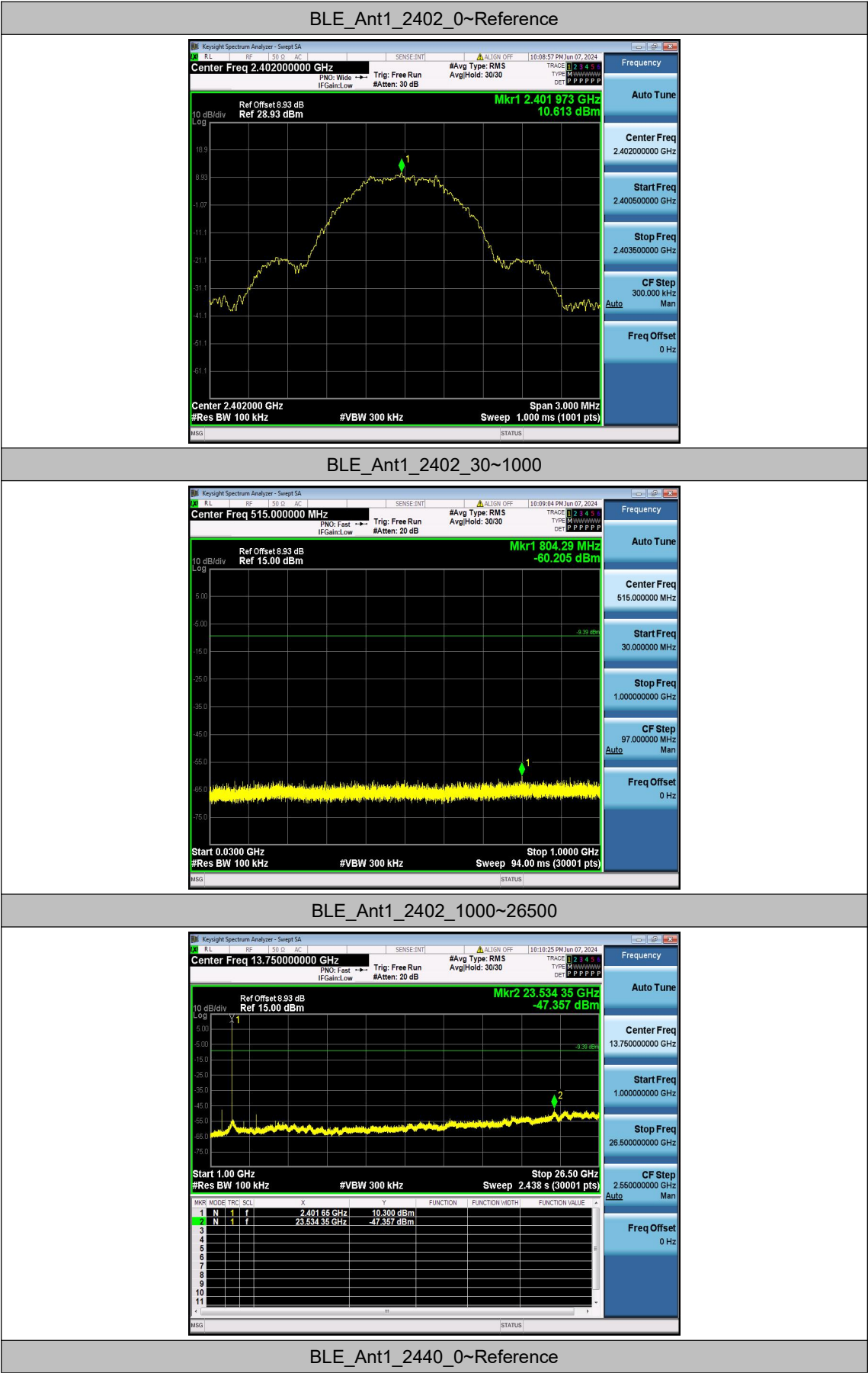


Appendix A.7: Conducted Spurious Emission

Test Result

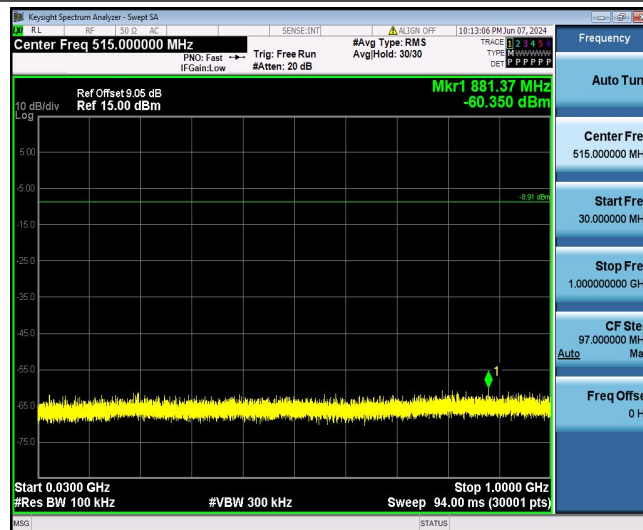
TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE	Ant1	2402	Reference	10.61	10.61	---	PASS
			30~1000	10.61	-60.21	≤ -9.39	PASS
			1000~26500	10.61	-47.36	≤ -9.39	PASS
		2440	Reference	11.09	11.09	---	PASS
			30~1000	11.09	-60.35	≤ -8.91	PASS
			1000~26500	11.09	-46.99	≤ -8.91	PASS
		2480	Reference	11.35	11.35	---	PASS
			30~1000	11.35	-60.87	≤ -8.65	PASS
			1000~26500	11.35	-47.79	≤ -8.65	PASS

Test Graphs

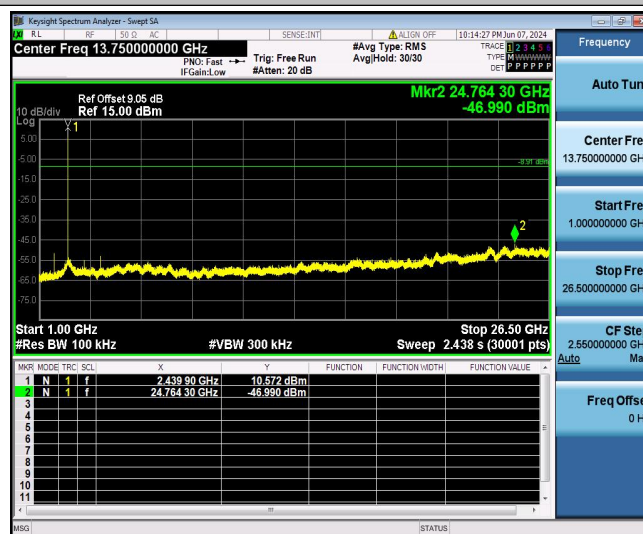




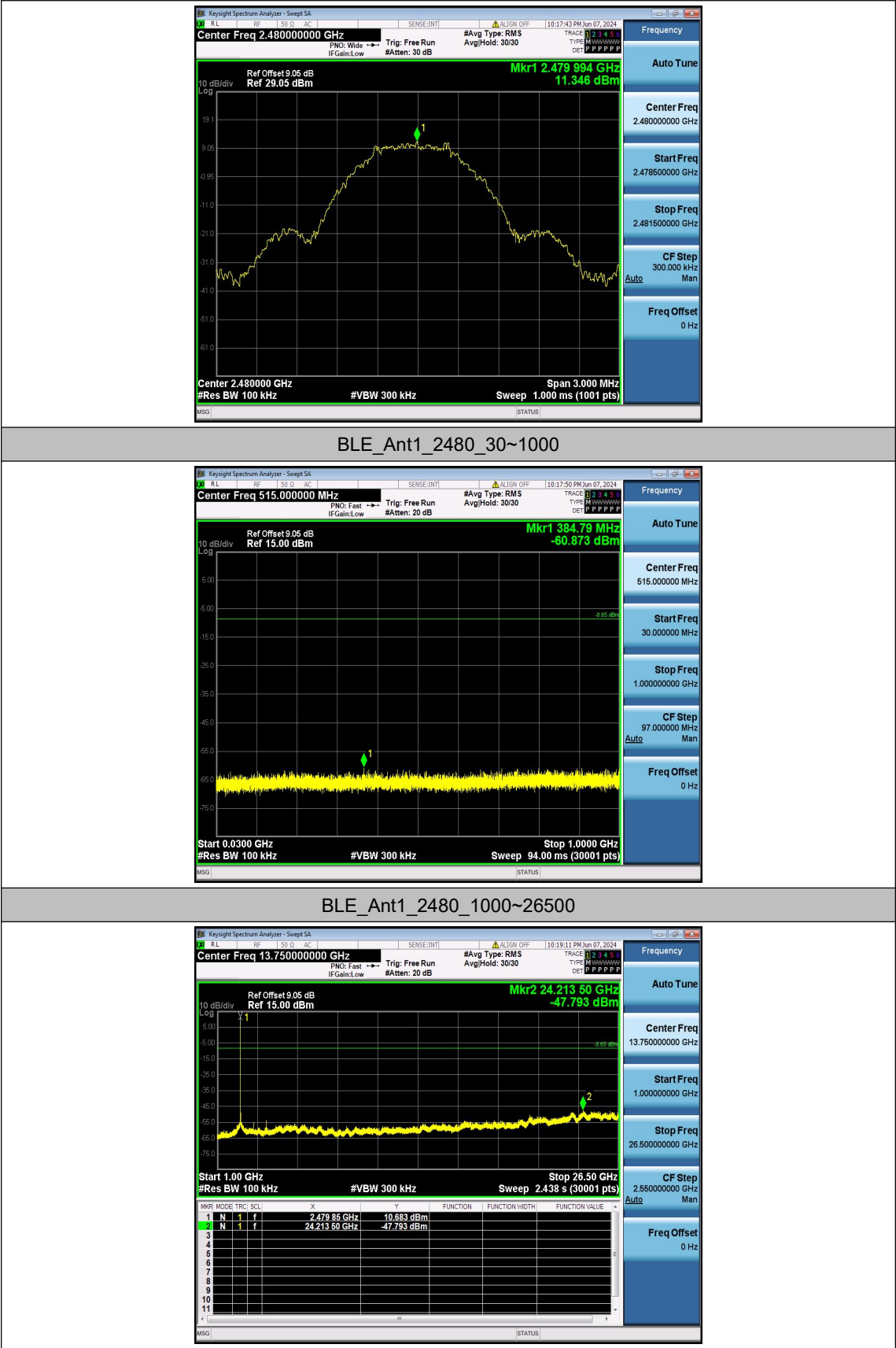
BLE_Ant1_2440_30~1000



BLE_Ant1_2440_1000~26500



BLE_Ant1_2480_0~Reference



Appendix A.8: Emissions in Restricted Bands

Test Result

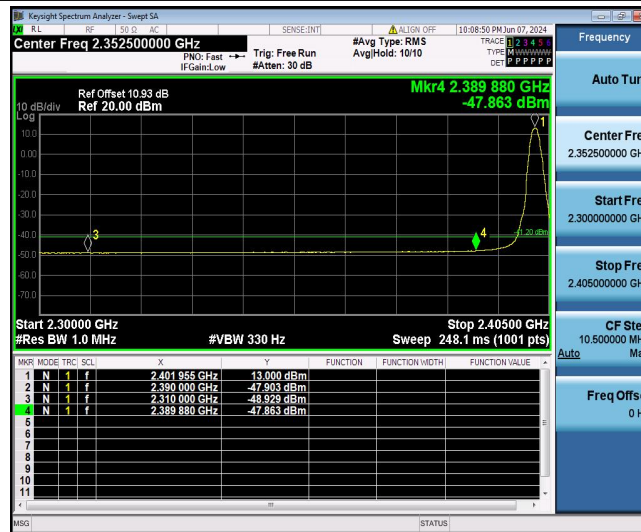
TestMode	Antenna	ChName	Freq(MHz)	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
BLE	Ant1	Low	2402	AV	2310.000	-48.93	≤-41.20	46.27	≤54	PASS
				AV	2389.880	-47.86	≤-41.20	47.34	≤54	PASS
				AV	2390.000	-47.9	≤-41.20	47.30	≤54	PASS
				Peak	2310.000	-45.51	≤-21.20	49.69	≤74	PASS
				Peak	2363.735	-39.13	≤-21.20	56.07	≤74	PASS
				Peak	2390.000	-42.33	≤-21.20	52.87	≤74	PASS
		High	2480	AV	2483.500	-44.99	≤-41.20	50.21	≤54	PASS
				AV	2483.520	-44.99	≤-41.20	50.21	≤54	PASS
				AV	2500.000	-48.47	≤-41.20	46.73	≤54	PASS
				Peak	2483.500	-40.62	≤-21.20	54.58	≤74	PASS
				Peak	2497.120	-40.27	≤-21.20	54.93	≤74	PASS
				Peak	2500.000	-44.04	≤-21.20	51.16	≤74	PASS

Note:

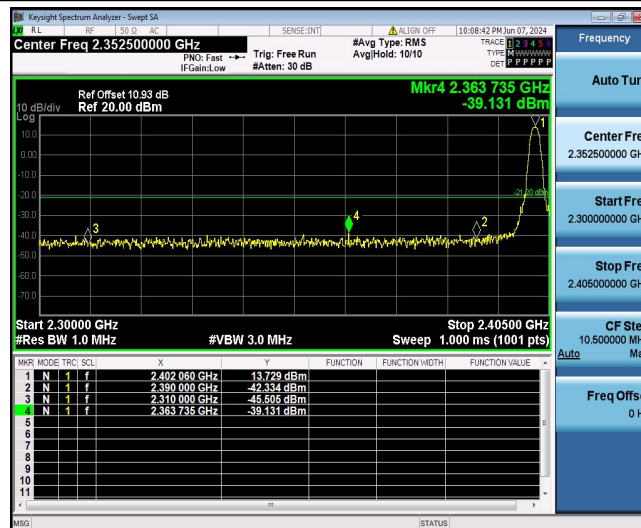
1. The Antenna Gain is compensated in the graph.
2. The Duty Cycle Factor and RBW Factor is compensated in the graph.
3. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

BLE_Ant1_Low_2402_AV



BLE_Ant1_Low_2402_Peak



BLE_Ant1_High_2480_AV

