

Case No. : <u>CTA24071502001</u>	
Ambient Condition: <u>21</u> °C, <u>54</u> %RH	
According Standard: ■Part15C	
Test Date: <u>2024.6.20-2024.8.13</u>	Test Engineer: <u>Lushan Kong</u>

Appendix A.1: DTS Bandwidth

Test Result

BT LE

TestMode	Antenna	Freq(MHz)	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BT LE	Ant1	2402	0.680	2401.672	2402.352	0.5	PASS
		2440	0.700	2439.656	2440.356	0.5	PASS
		2480	0.696	2479.648	2480.344	0.5	PASS

BT 2LE

TestMode	Antenna	Freq(MHz)	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BT 2LE	Ant1	2402	1.096	2401.456	2402.552	0.5	PASS
		2440	1.144	2439.444	2440.588	0.5	PASS
		2480	1.112	2479.456	2480.568	0.5	PASS

Test Graphs

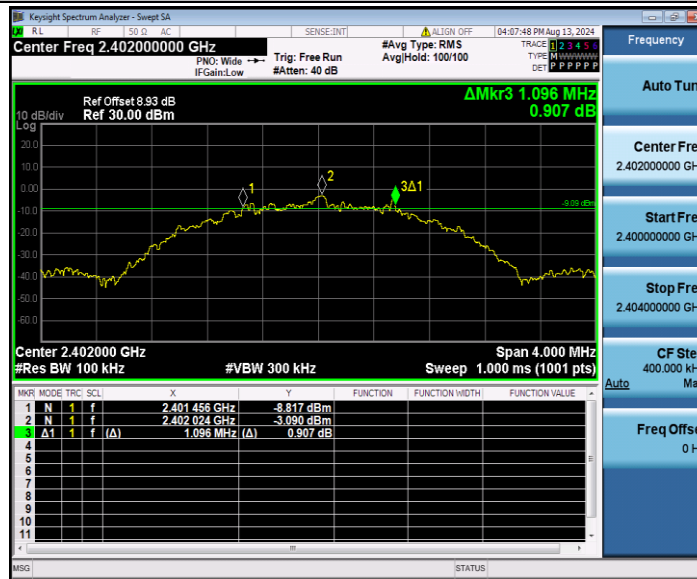
BT LE





BT 2LE

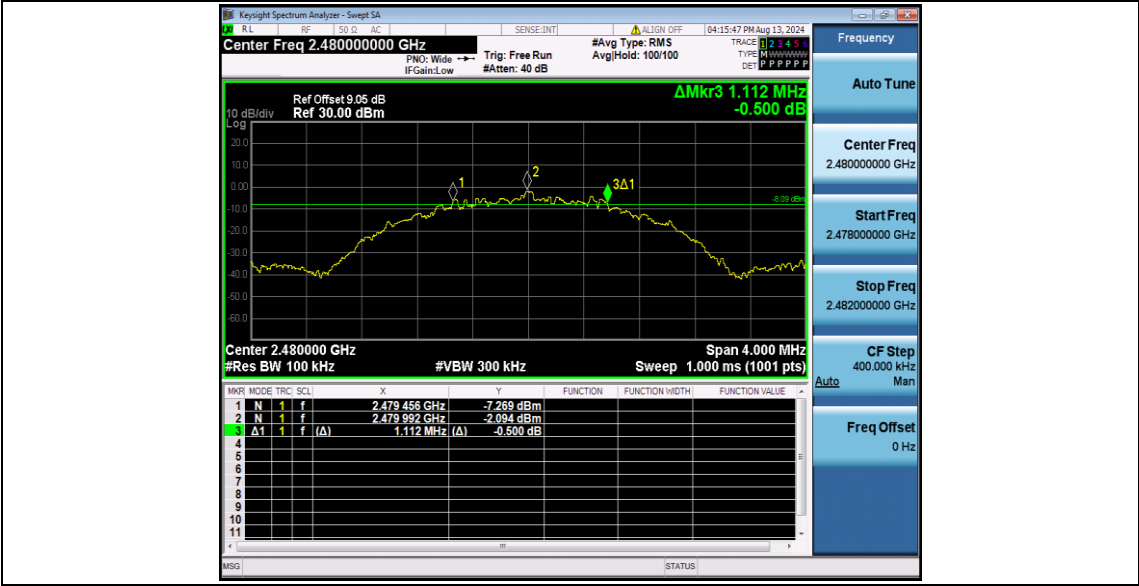
BT 2LE_Ant1_2402



BT 2LE_Ant1_2440



BT 2LE_Ant1_2480



Appendix A.2: Occupied Channel Bandwidth

Test Result

BT LE

TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BT LE	Ant1	2402	1.0430	2401.4945	2402.5375	---	---
		2440	1.0231	2439.5009	2440.5240	---	---
		2480	1.0294	2479.5001	2480.5295	---	---

BT 2LE

TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BT 2LE	Ant1	2402	2.0667	2400.9856	2403.0523	---	---
		2440	2.0645	2438.9968	2441.0613	---	---
		2480	2.0390	2479.0011	2481.0401	---	---

Test Graphs

BT LE

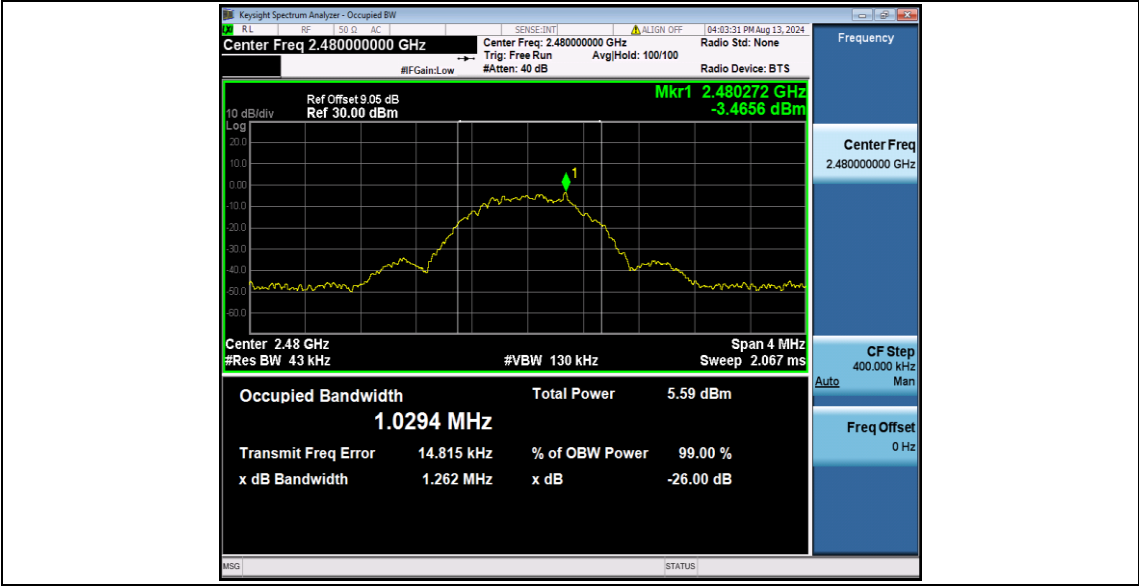
BT LE_Ant1_2402



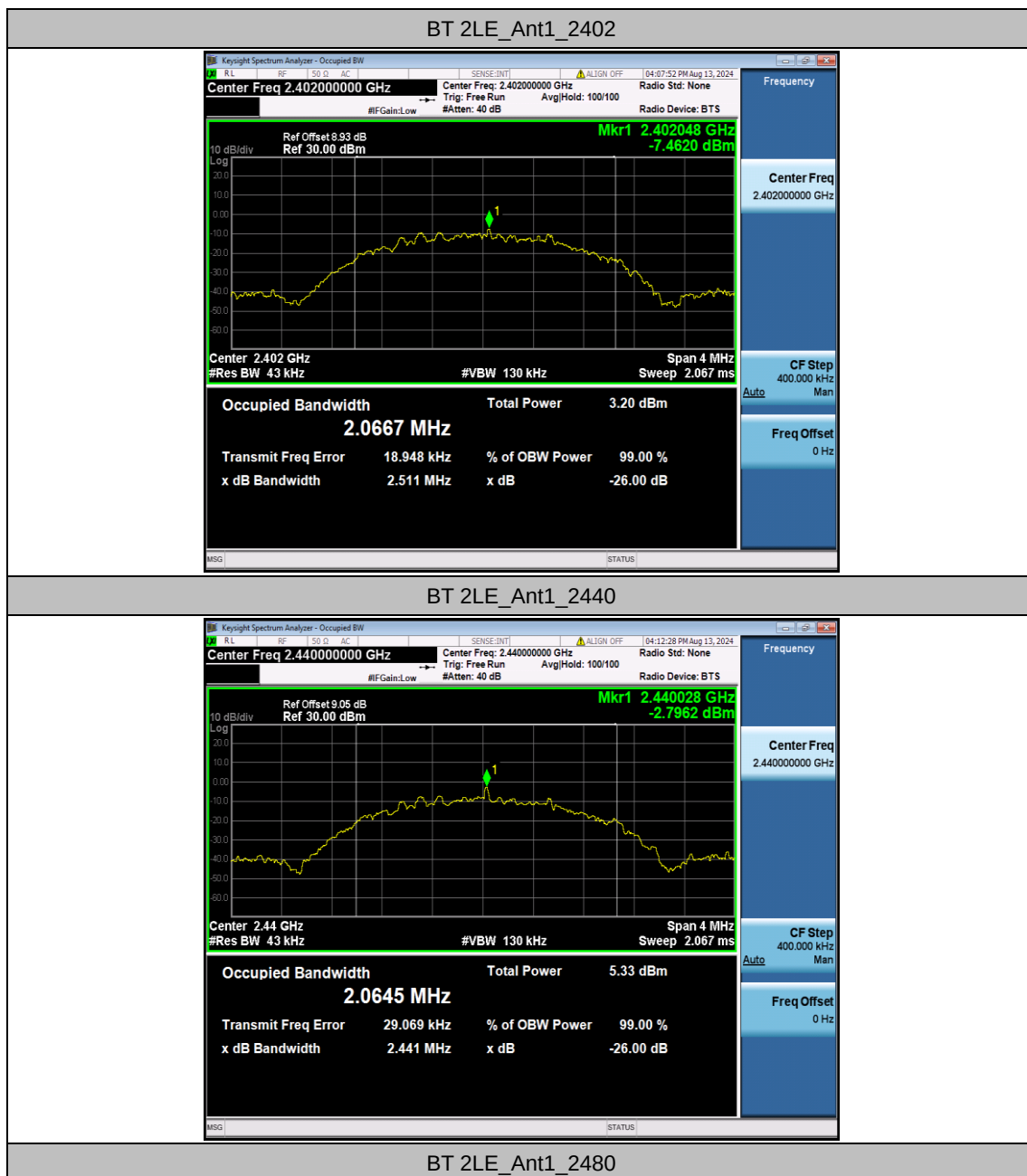
BT LE_Ant1_2440



BT LE_Ant1_2480



BT 2LE





Appendix A.3: Maximum conducted output power

Test Result Peak

BT LE

TestMode	Antenna	Freq(MHz)	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
BT LE	Ant1	2402	-1.50	≤30	PASS
		2440	0.76	≤30	PASS
		2480	-0.02	≤30	PASS

BT 2LE

TestMode	Antenna	Freq(MHz)	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
BT 2LE	Ant1	2402	-1.67	≤30	PASS
		2440	0.86	≤30	PASS
		2480	-0.03	≤30	PASS

Appendix A.4: Maximum power spectral density

Test Result

BT LE

TestMode	Antenna	Freq(MHz)	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BT LE	Ant1	2402	-18.91	≤8.00	PASS
		2440	-17.05	≤8.00	PASS
		2480	-17.22	≤8.00	PASS

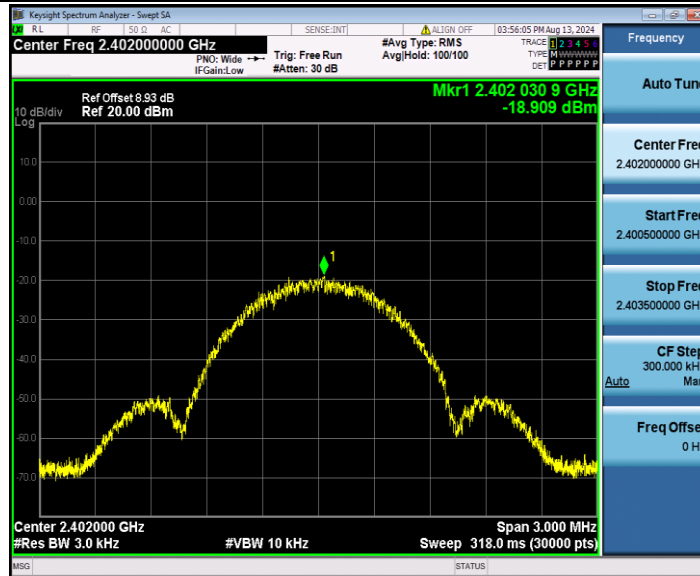
BT 2LE

TestMode	Antenna	Freq(MHz)	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BT 2LE	Ant1	2402	-20.78	≤8.00	PASS
		2440	-18.82	≤8.00	PASS
		2480	-18.98	≤8.00	PASS

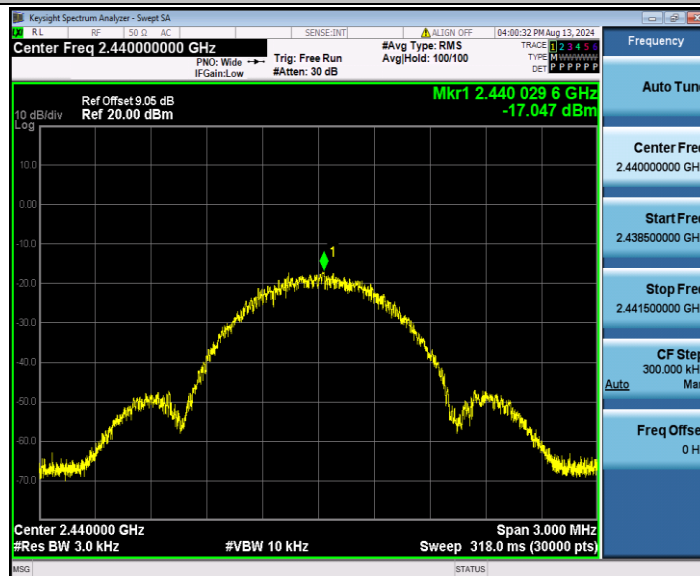
Test Graphs

BT LE

BT LE_Ant1_2402



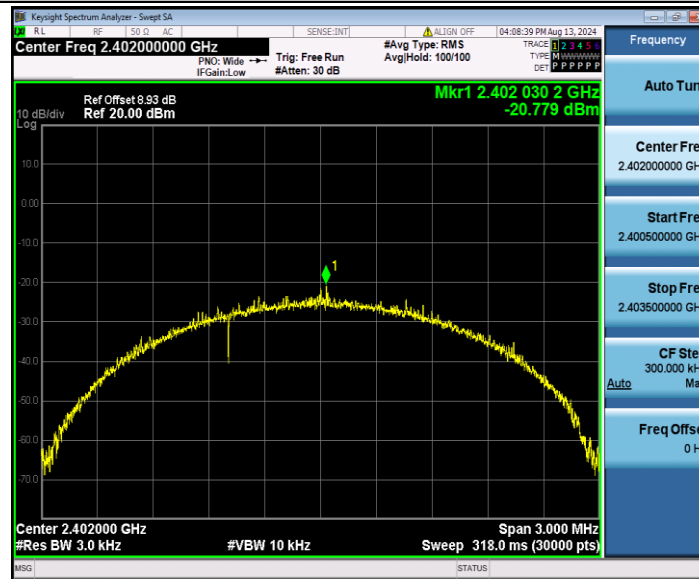
BT LE_Ant1_2440



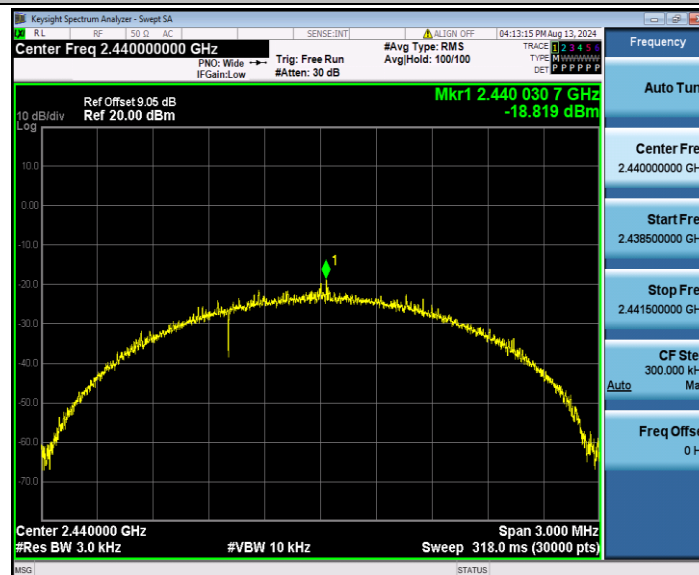
BT LE_Ant1_2480

BT 2LE

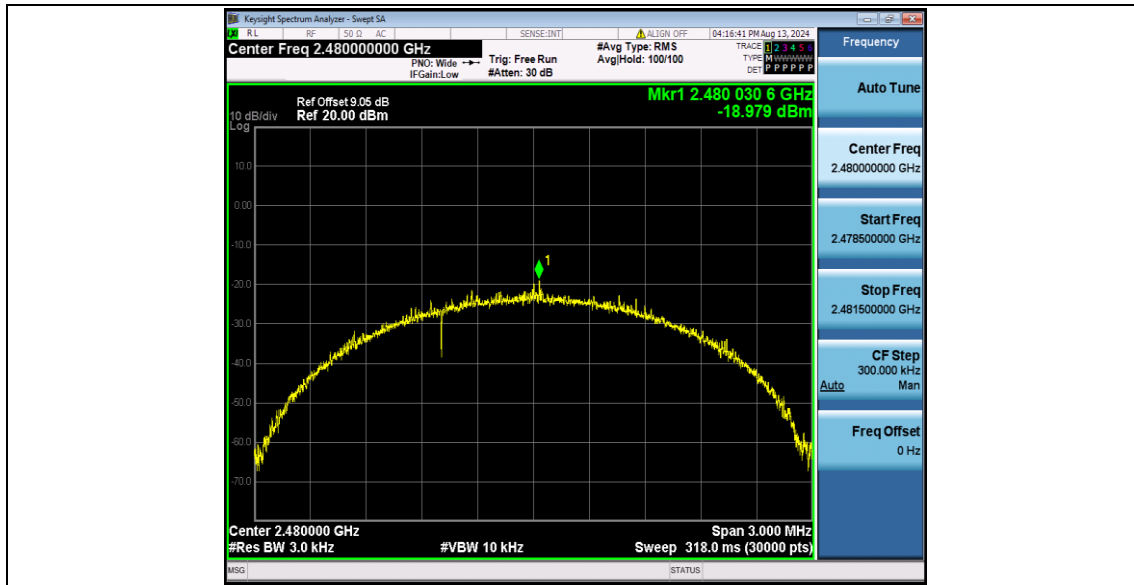
BT 2LE_Ant1_2402



BT 2LE_Ant1_2440



BT 2LE_Ant1_2480



Appendix A.5: Band edge measurements

Test Result

BT LE

TestMode	Antenna	ChName	Freq(MHz)	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BT LE	Ant1	Low	2402	-3.22	-49.53	≤ -23.22	PASS
		High	2480	-2.09	-48.68	≤ -22.09	PASS

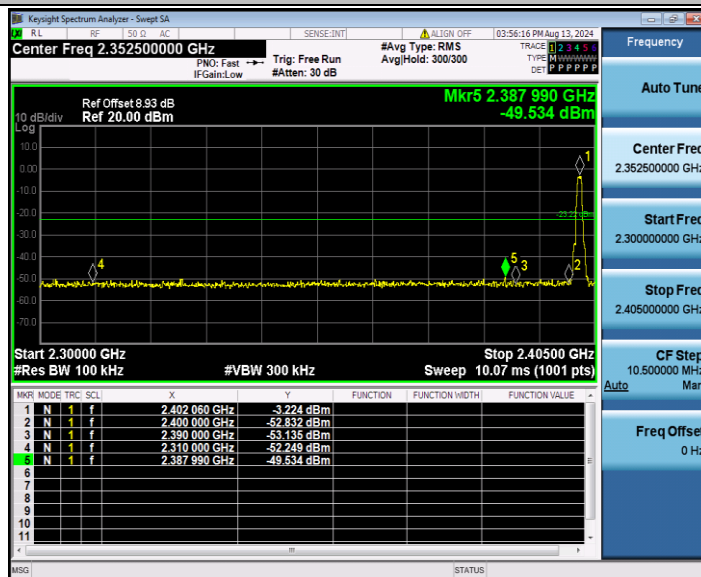
BT 2LE

TestMode	Antenna	ChName	Freq(MHz)	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BT 2LE	Ant1	Low	2402	-4.78	-36.49	≤ -24.78	PASS
		High	2480	-1.22	-49.27	≤ -21.22	PASS

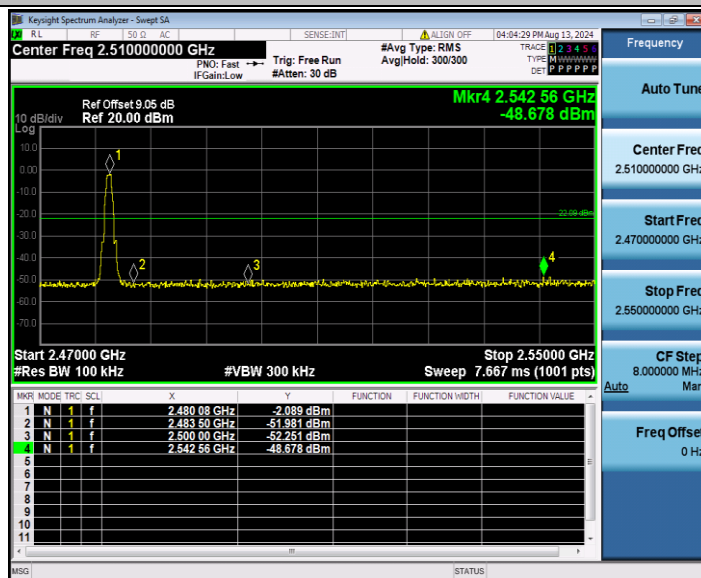
Test Graphs

BT LE

BT LE_Ant1_Low_2402

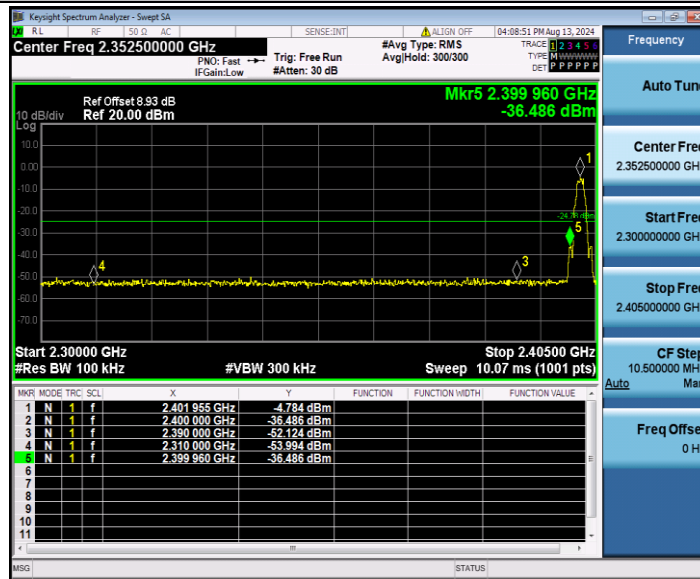


BT LE_Ant1_High_2480

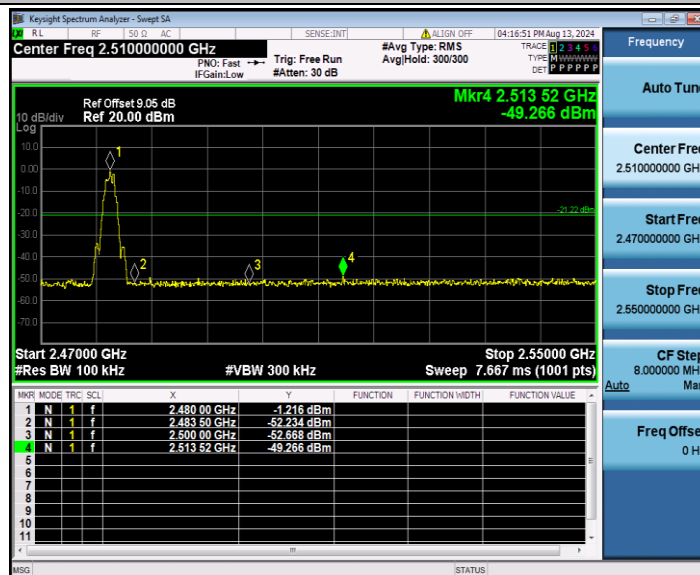


BT 2LE

BT 2LE_Ant1_Low_2402



BT 2LE_Ant1_High_2480



Appendix A.6: Conducted Spurious Emission

Test Result

BT LE

TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BT LE	Ant1	2402	Reference	-3.83	-3.83	---	PASS
			30~1000	-3.83	-60.12	≤ -23.83	PASS
			1000~26500	-3.83	-47.81	≤ -23.83	PASS
		2440	Reference	-1.61	-1.61	---	PASS
			30~1000	-1.61	-60.8	≤ -21.61	PASS
			1000~26500	-1.61	-47.56	≤ -21.61	PASS
		2480	Reference	-1.76	-1.76	---	PASS
			30~1000	-1.76	-60.47	≤ -21.76	PASS
			1000~26500	-1.76	-47.83	≤ -21.76	PASS

BT 2LE

TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BT 2LE	Ant1	2402	Reference	-5.23	-5.23	---	PASS
			30~1000	-5.23	-61.04	≤ -25.23	PASS
			1000~26500	-5.23	-47.42	≤ -25.23	PASS
		2440	Reference	-3.63	-3.63	---	PASS
			30~1000	-3.63	-60.45	≤ -23.63	PASS
			1000~26500	-3.63	-46.88	≤ -23.63	PASS
		2480	Reference	-3.34	-3.34	---	PASS
			30~1000	-3.34	-60.21	≤ -23.34	PASS
			1000~26500	-3.34	-48.18	≤ -23.34	PASS

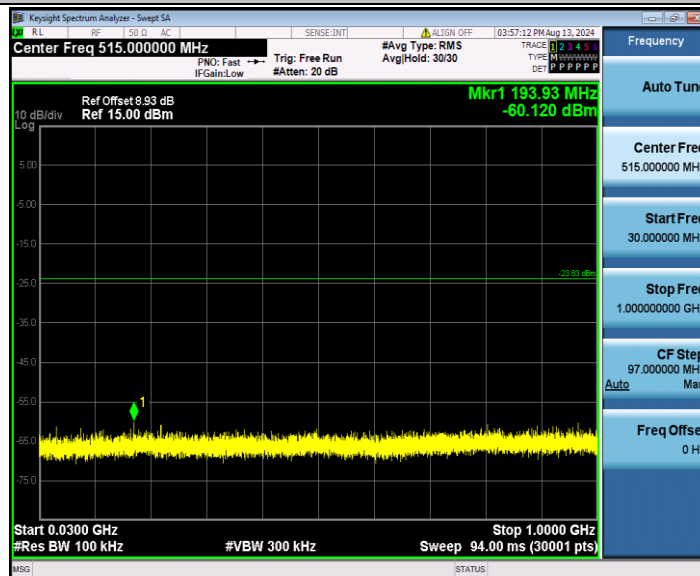
Test Graphs

BT LE

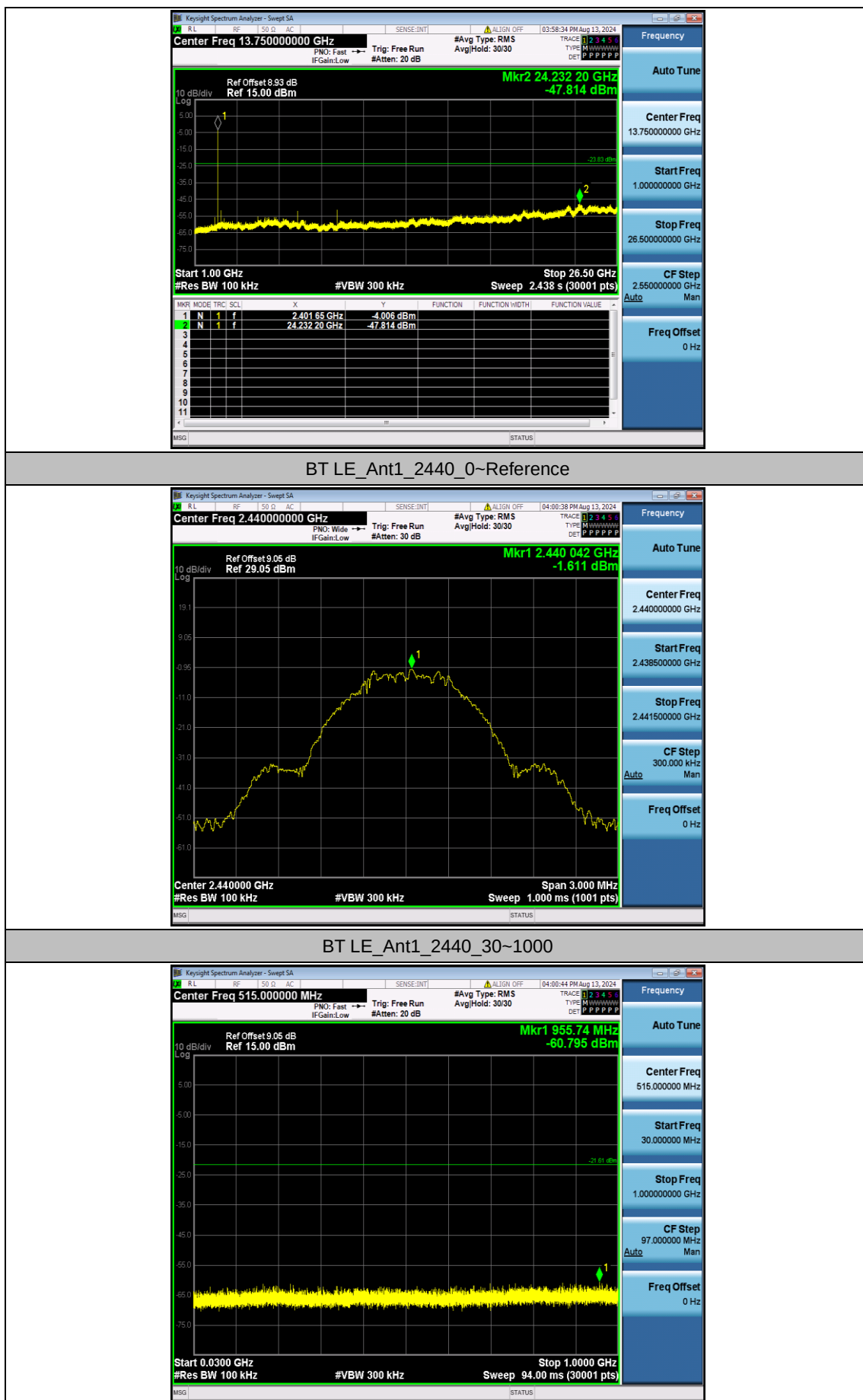
BT LE_Ant1_2402_0~Reference



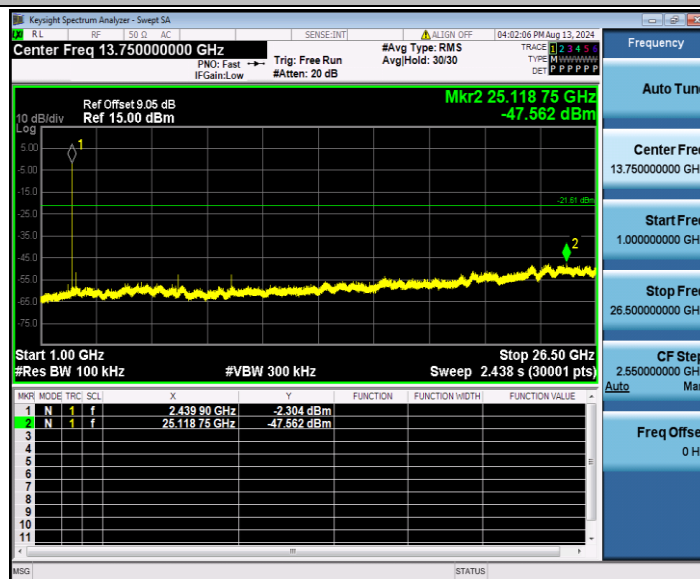
BT LE_Ant1_2402_30~1000



BT LE_Ant1_2402_1000~26500



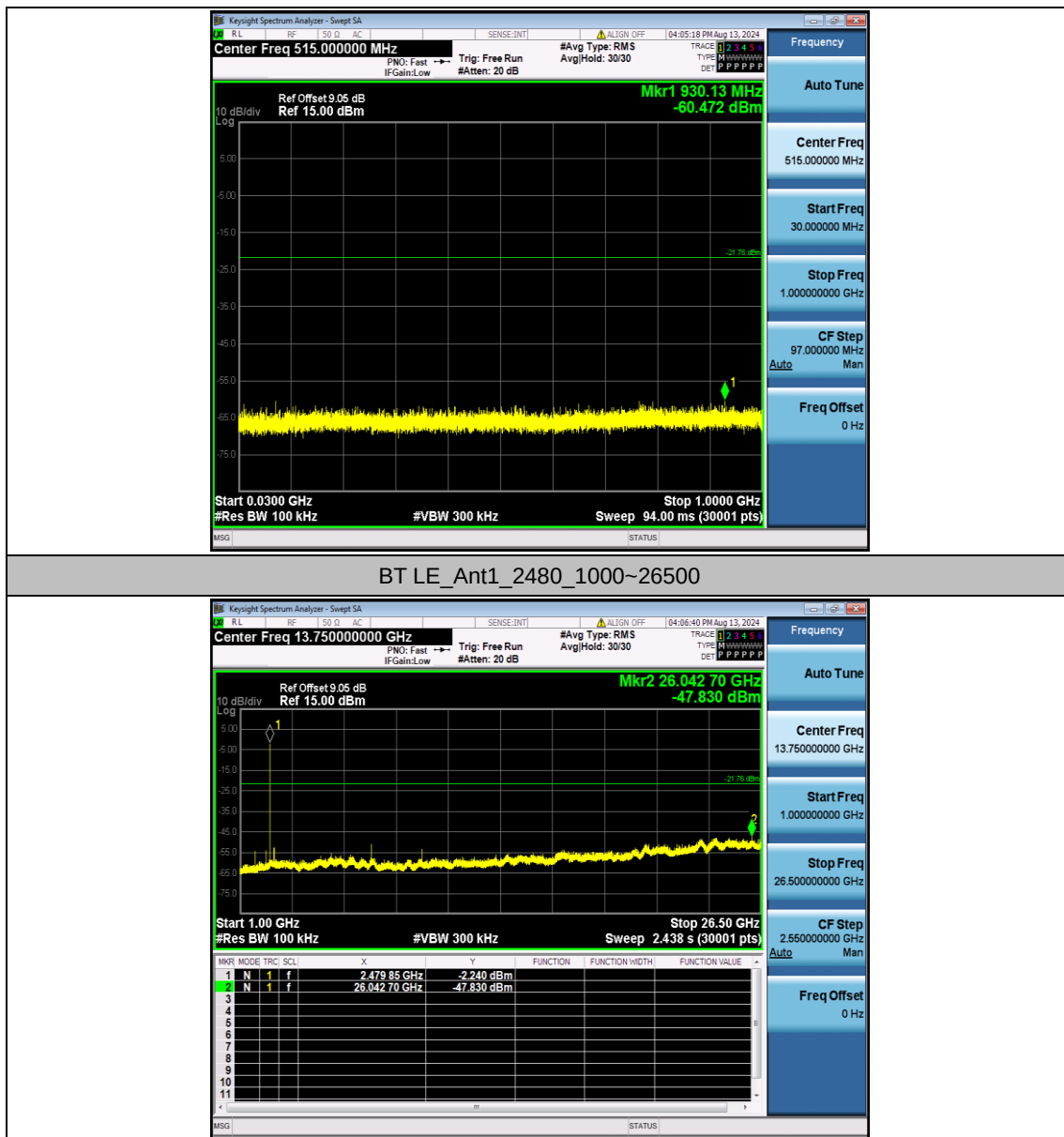
BT LE_Ant1_2440_1000~26500



BT LE_Ant1_2480_0~Reference



BT LE_Ant1_2480_30~1000

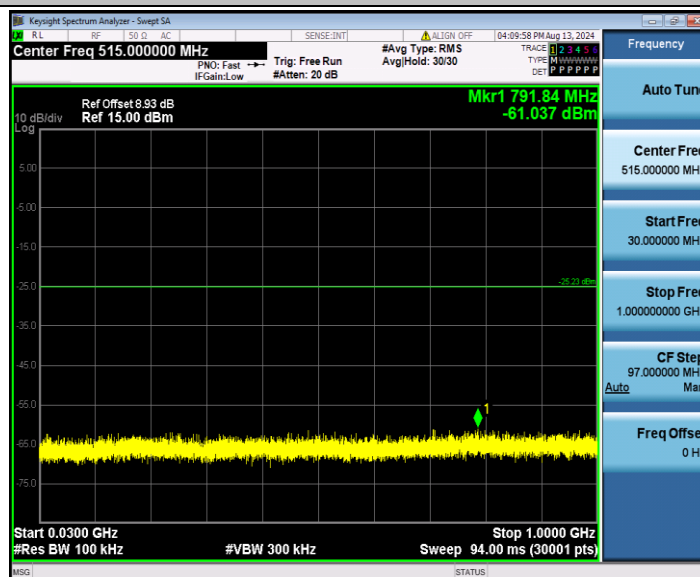


BT 2LE

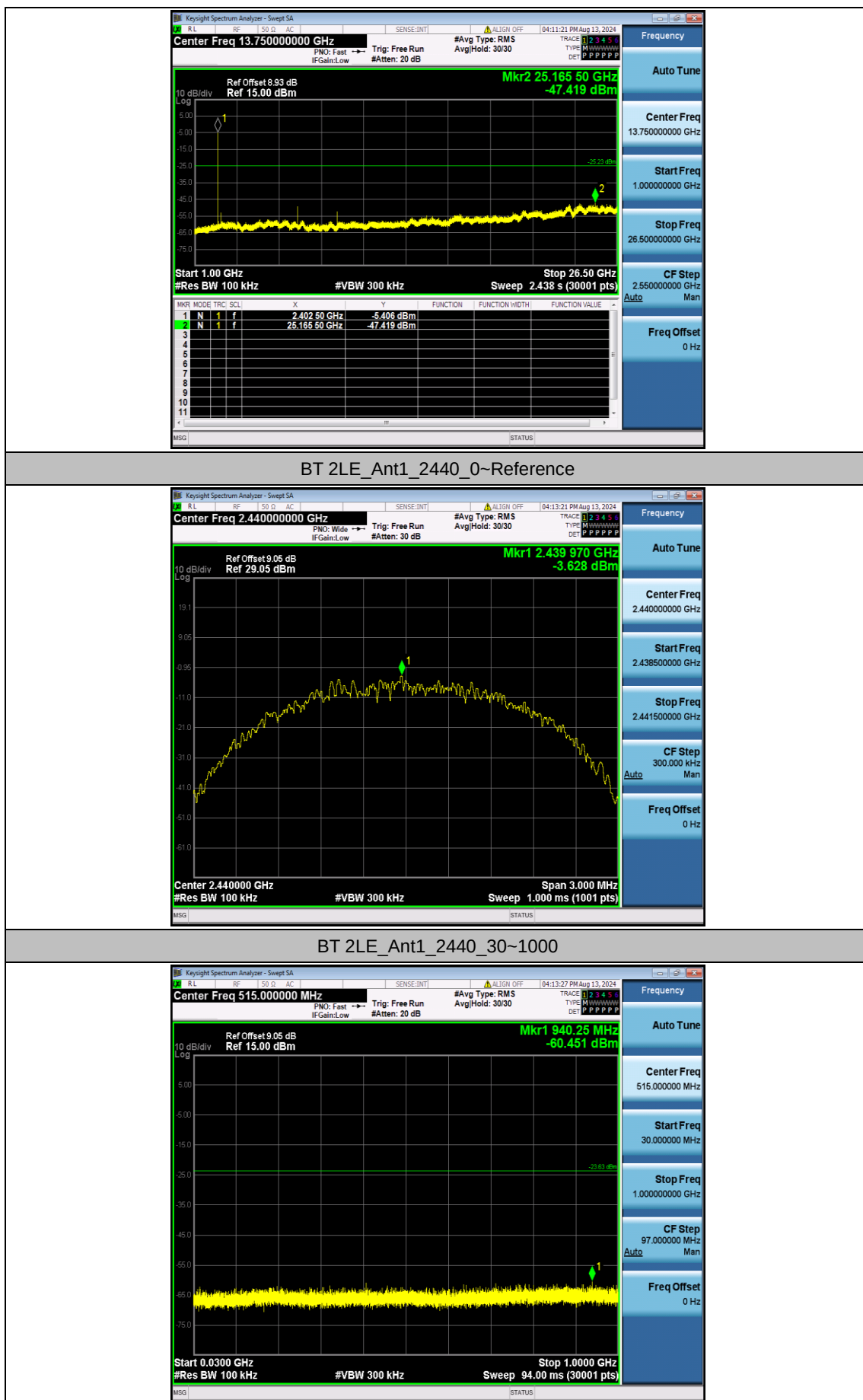
BT 2LE_Ant1_2402_0~Reference



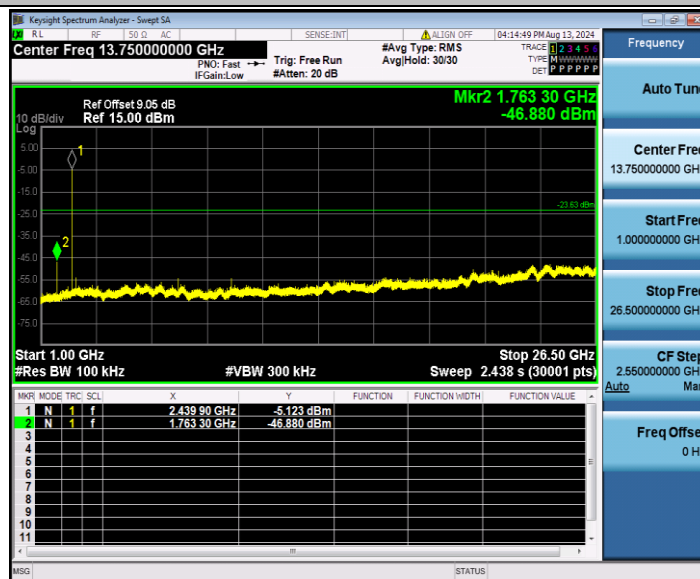
BT 2LE_Ant1_2402_30~1000



BT 2LE_Ant1_2402_1000~26500



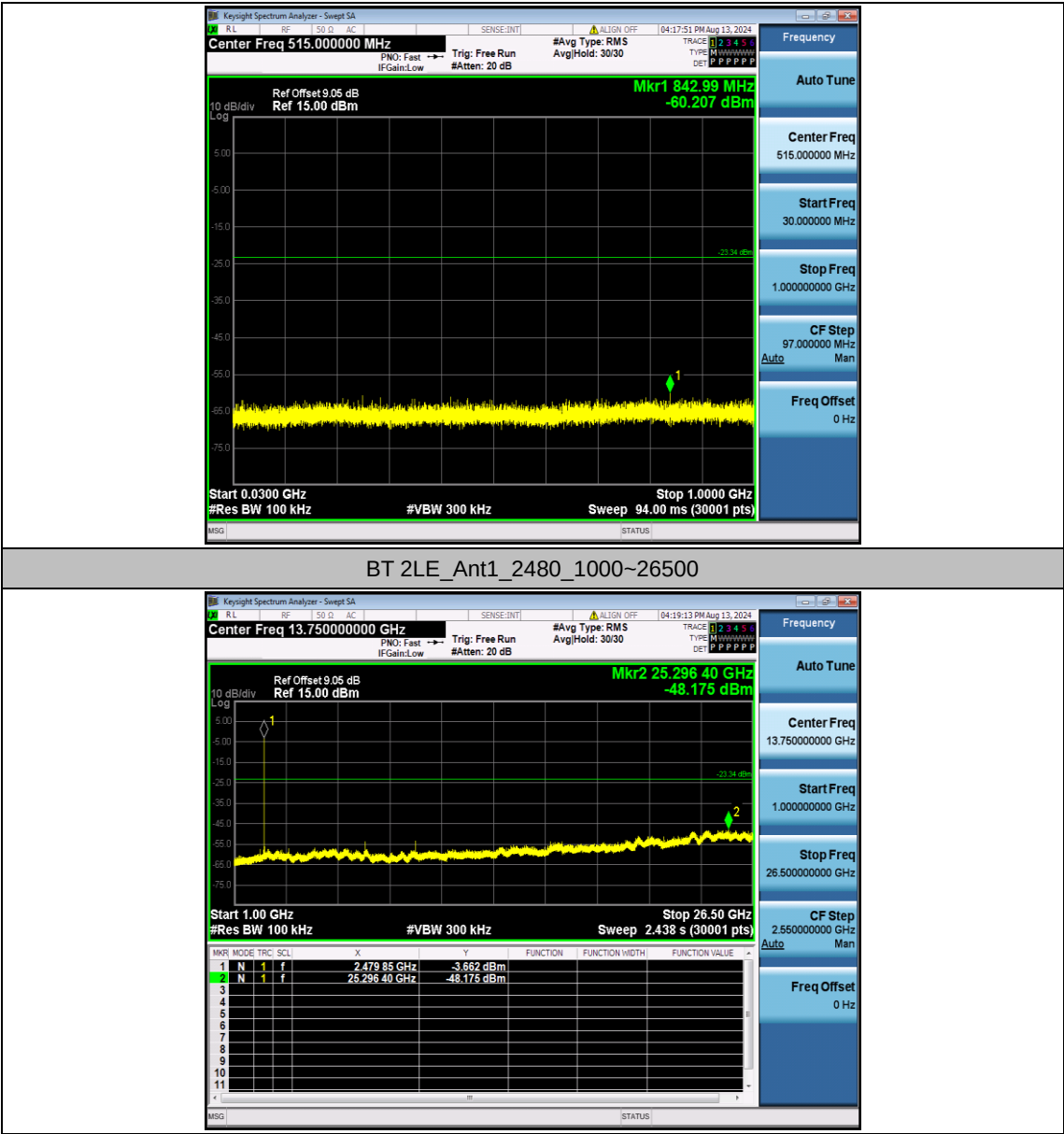
BT 2LE_Ant1_2440_1000~26500



BT 2LE_Ant1_2480_0~Reference



BT 2LE_Ant1_2480_30~1000



Appendix A.7: Emissions in Restricted Bands

Test Result

BT LE

TestMode	Antenna	ChName	Freq(MHz)	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
BT LE	Ant1	Low	2402	AV	2310.000	-49.24	≤-41.20	45.96	≤54	PASS
				AV	2385.050	-48.71	≤-41.20	46.49	≤54	PASS
				AV	2390.000	-48.87	≤-41.20	46.33	≤54	PASS
				Peak	2310.000	-43.25	≤-21.20	51.95	≤74	PASS
				Peak	2372.975	-38.47	≤-21.20	56.73	≤74	PASS
				Peak	2390.000	-39.9	≤-21.20	55.30	≤74	PASS
		High	2480	AV	2483.500	-48.17	≤-41.20	47.03	≤54	PASS
				AV	2483.520	-48.16	≤-41.20	47.04	≤54	PASS
				AV	2500.000	-48.51	≤-41.20	46.69	≤54	PASS
				Peak	2483.500	-41.79	≤-21.20	53.41	≤74	PASS
				Peak	2489.280	-38.91	≤-21.20	56.29	≤74	PASS
				Peak	2500.000	-40.4	≤-21.20	54.80	≤74	PASS

BT 2LE

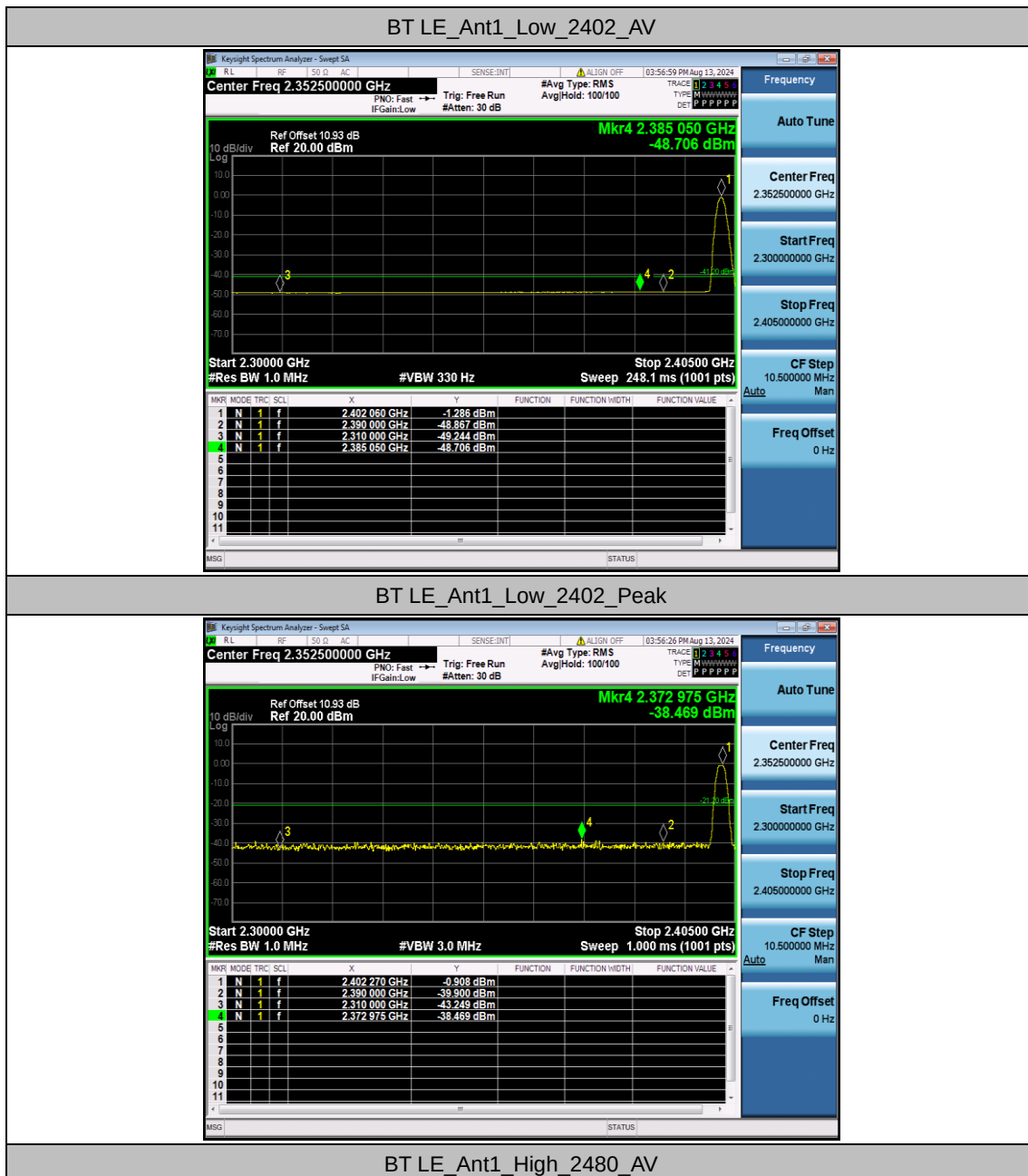
TestMode	Antenna	ChName	Freq(MHz)	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
BT 2LE	Ant1	Low	2402	AV	2310.000	-49.57	≤-41.20	45.63	≤54	PASS
				AV	2388.515	-49.04	≤-41.20	46.16	≤54	PASS
				AV	2390.000	-49.15	≤-41.20	46.05	≤54	PASS
				Peak	2310.000	-40.83	≤-21.20	54.37	≤74	PASS
				Peak	2354.180	-38.96	≤-21.20	56.24	≤74	PASS
				Peak	2390.000	-42.61	≤-21.20	52.59	≤74	PASS
		High	2480	AV	2483.500	-47.28	≤-41.20	47.92	≤54	PASS
				AV	2483.520	-47.28	≤-41.20	47.92	≤54	PASS
				AV	2500.000	-48.56	≤-41.20	46.64	≤54	PASS
				Peak	2483.500	-40.51	≤-21.20	54.69	≤74	PASS
				Peak	2486.160	-37.7	≤-21.20	57.50	≤74	PASS
				Peak	2500.000	-42.12	≤-21.20	53.08	≤74	PASS

Note:

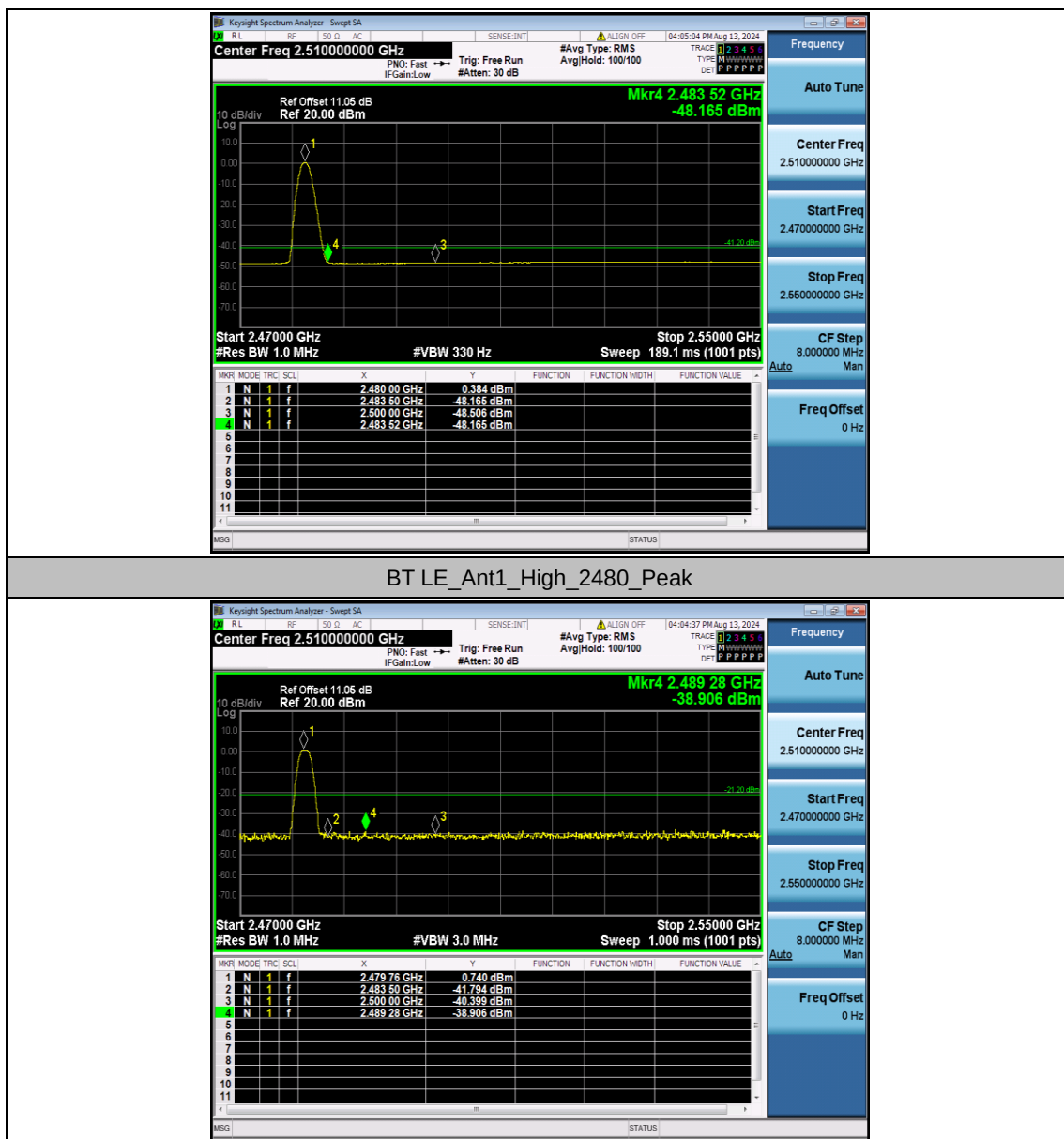
1. The Antenna Gain is compensated in the graph.
2. The Duty Cycle Factor and RBW Factor is compensated in the graph.
3. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

BT LE

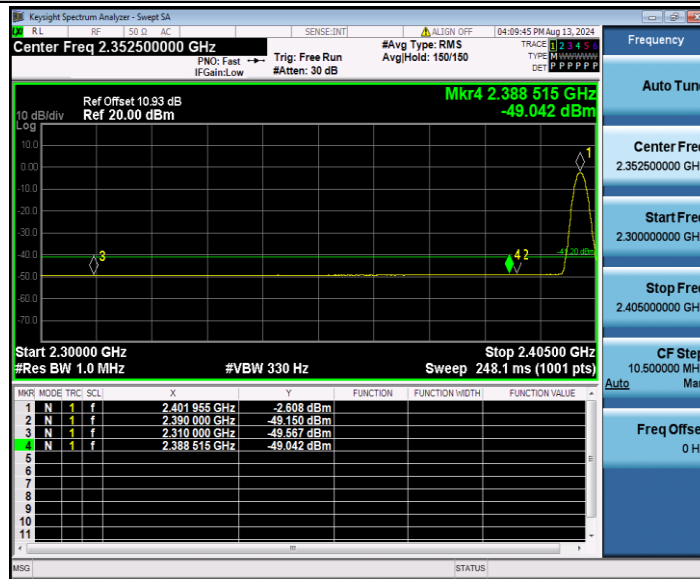


BT LE_Ant1_High_2480_AV

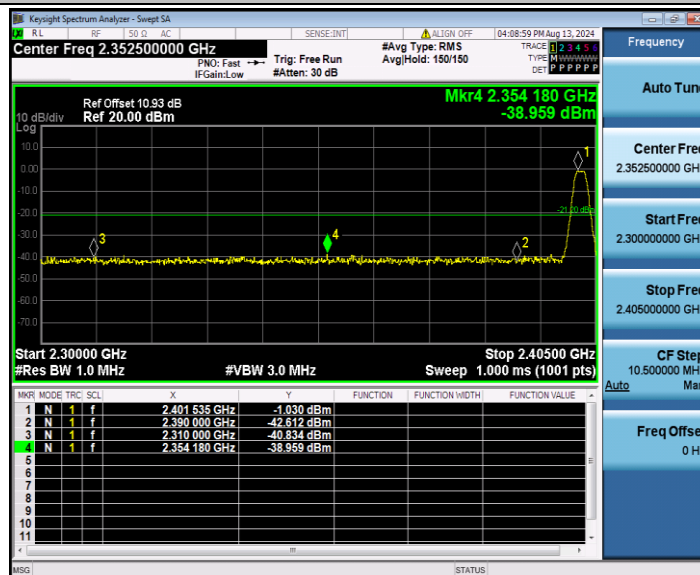


BT 2LE

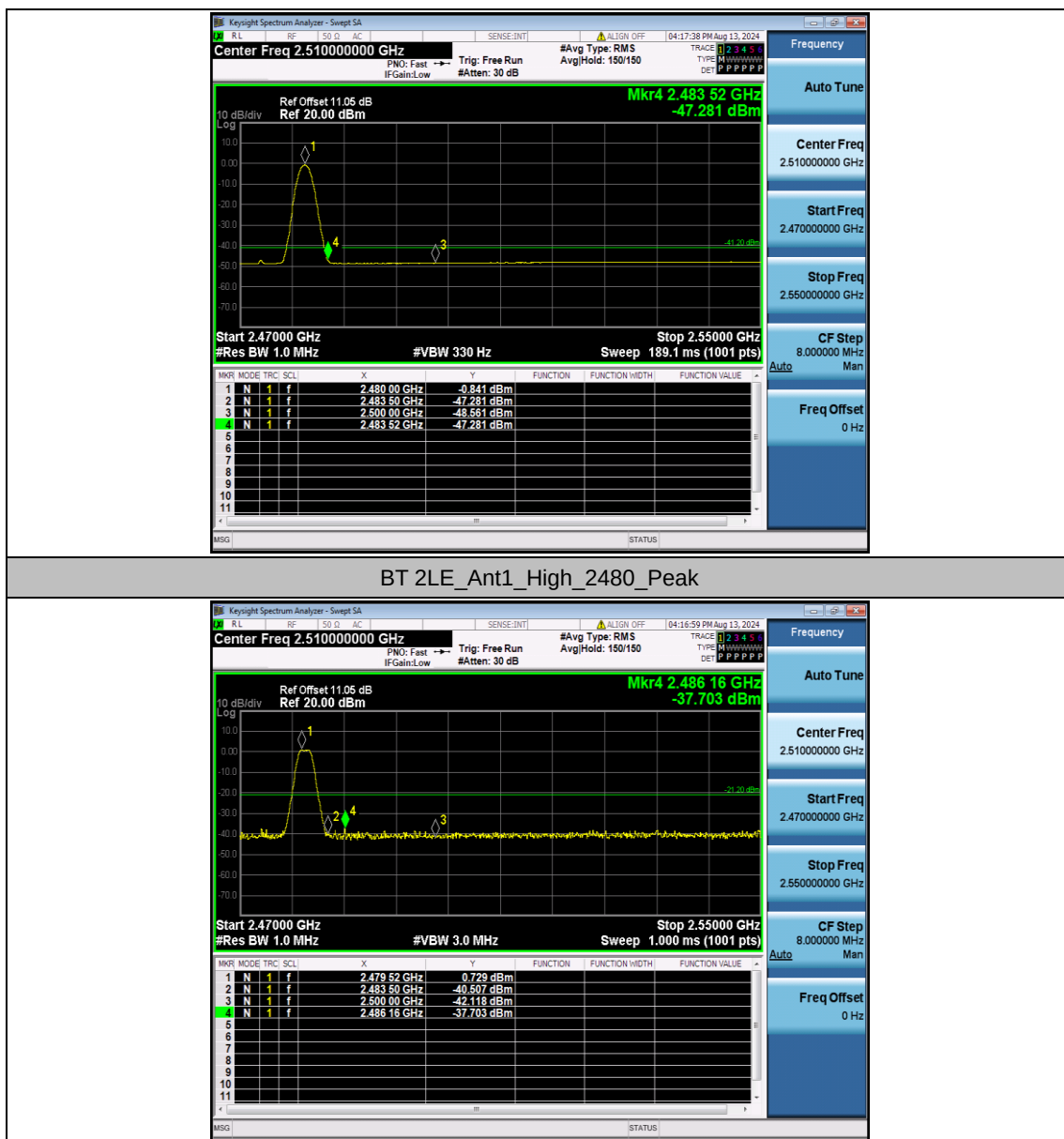
BT 2LE_Ant1_Low_2402_AV



BT 2LE_Ant1_Low_2402_Peak



BT 2LE_Ant1_High_2480_AV



Appendix A.8: Duty Cycle

Test Result

BT LE:

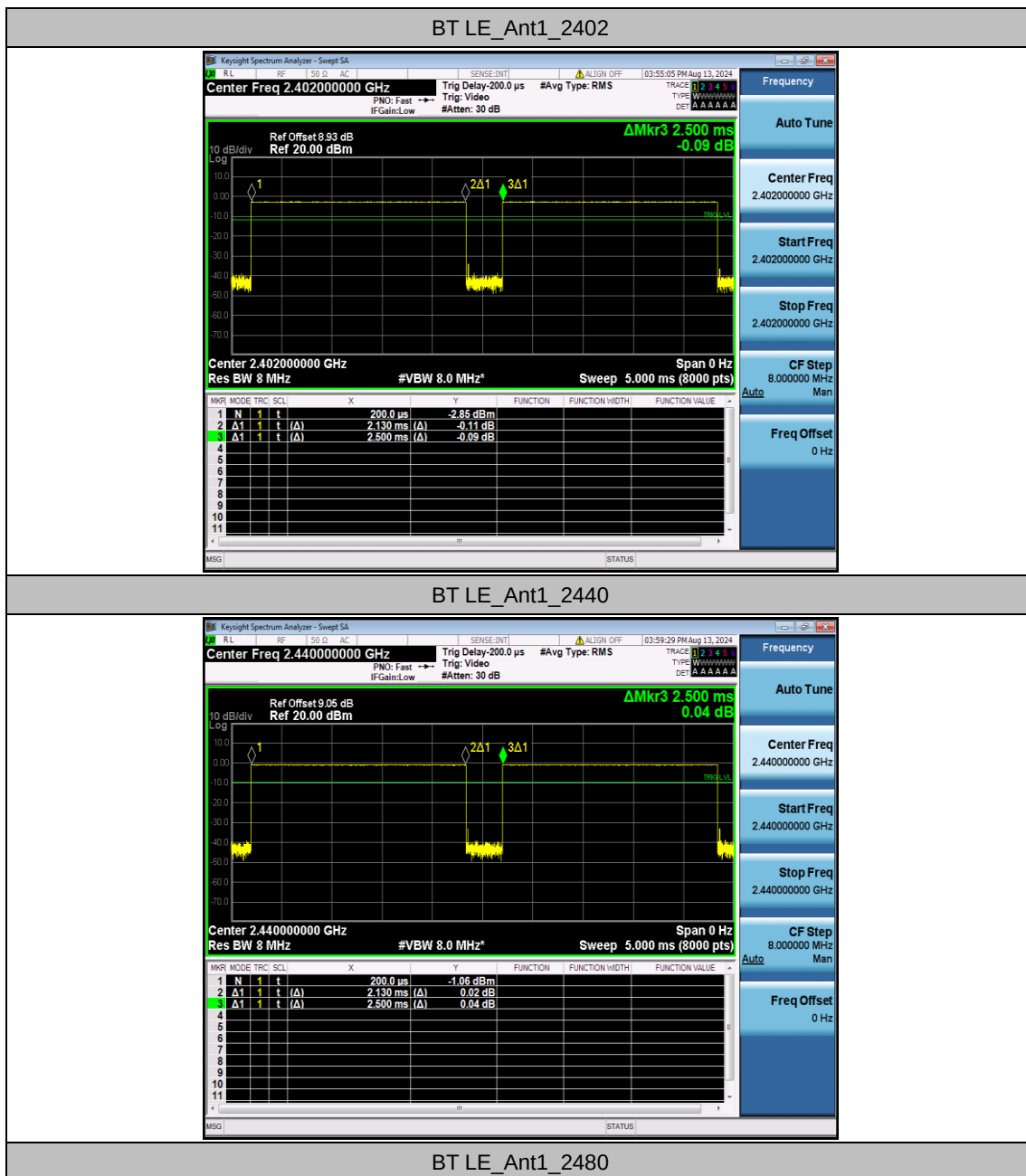
TestMode	Antenna	Freq(MHz)	ON Time [ms]	Period [ms]	X	DC [%]	Duty Cycle Factor[dB]	1/T Factor[KHz]
BT LE	Ant1	2402	2.13	2.50	0.8520	85.20	0.70	0.47
		2440	2.13	2.50	0.8520	85.20	0.70	0.47
		2480	2.13	2.50	0.8520	85.20	0.70	0.47

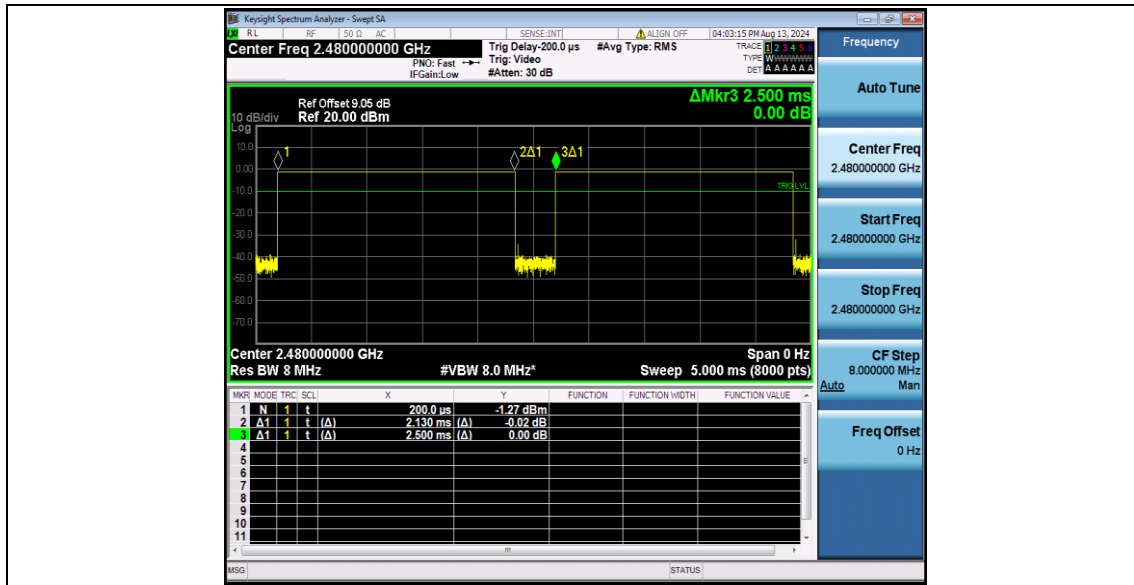
BT 2LE:

TestMode	Antenna	Freq(MHz)	ON Time [ms]	Period [ms]	X	DC [%]	Duty Cycle Factor[dB]	1/T Factor[KHz]
BT 2LE	Ant1	2402	1.08	2.50	0.4320	43.20	3.65	0.93
		2440	1.08	2.50	0.4320	43.20	3.65	0.93
		2480	1.08	2.50	0.4320	43.20	3.65	0.93

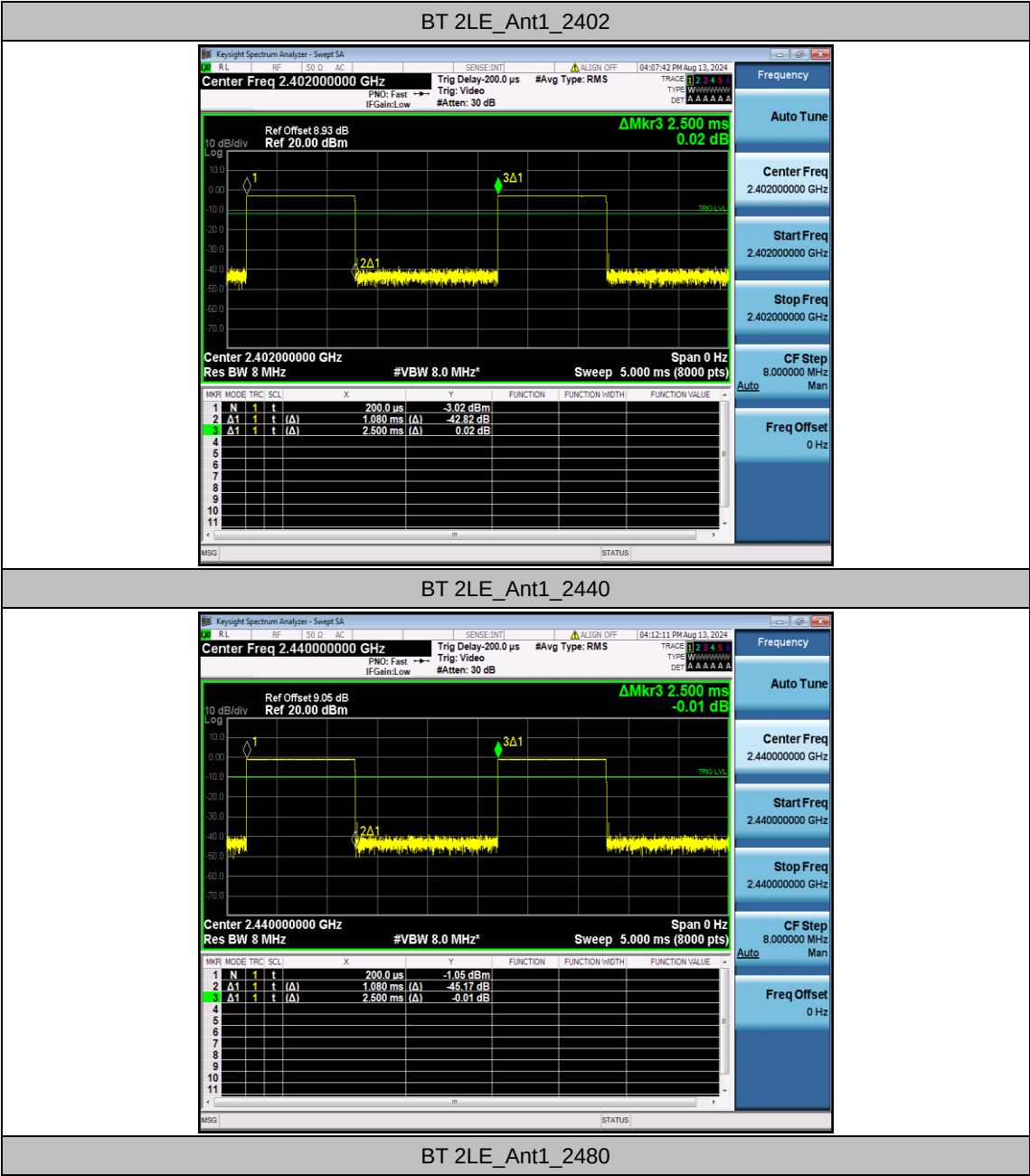
Test Graphs

BT LE:





BT 2LE:



BT 2LE_Ant1_2440

Frequency
Auto Tune
Center Freq 2.440000000 GHz
Start Freq 2.440000000 GHz
Stop Freq 2.440000000 GHz
CF Step 8.000000 MHz
Auto Man
Freq Offset 0 Hz

BT 2LE_Ant1_2480

