

Annex for FCC BLE

Test Report No. : CTL2104135021-WF02

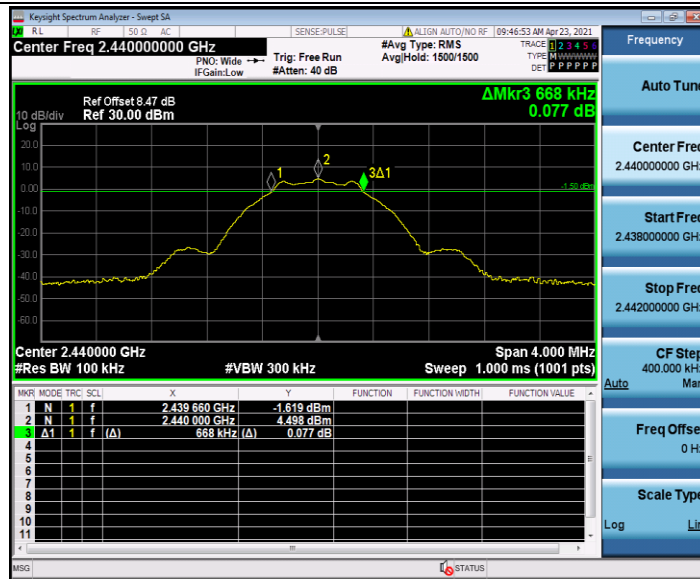
Appendix A: DTS Bandwidth

Test Result

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_BT4.0	Ant1	2402	0.668	2401.664	2402.332	0.5	PASS
		2440	0.668	2439.660	2440.328	0.5	PASS
		2480	0.676	2479.660	2480.336	0.5	PASS
BLE_BT5.0	Ant1	2402	1.136	2401.440	2402.576	0.5	PASS
		2440	1.140	2439.432	2440.572	0.5	PASS
		2480	1.144	2479.440	2480.584	0.5	PASS

Test Graphs





BLE_BT4.0_Ant1_2480



BLE_BT5.0_Ant1_2402



BLE_BT5.0_Ant1_2440



BLE_BT5.0_Ant1_2480

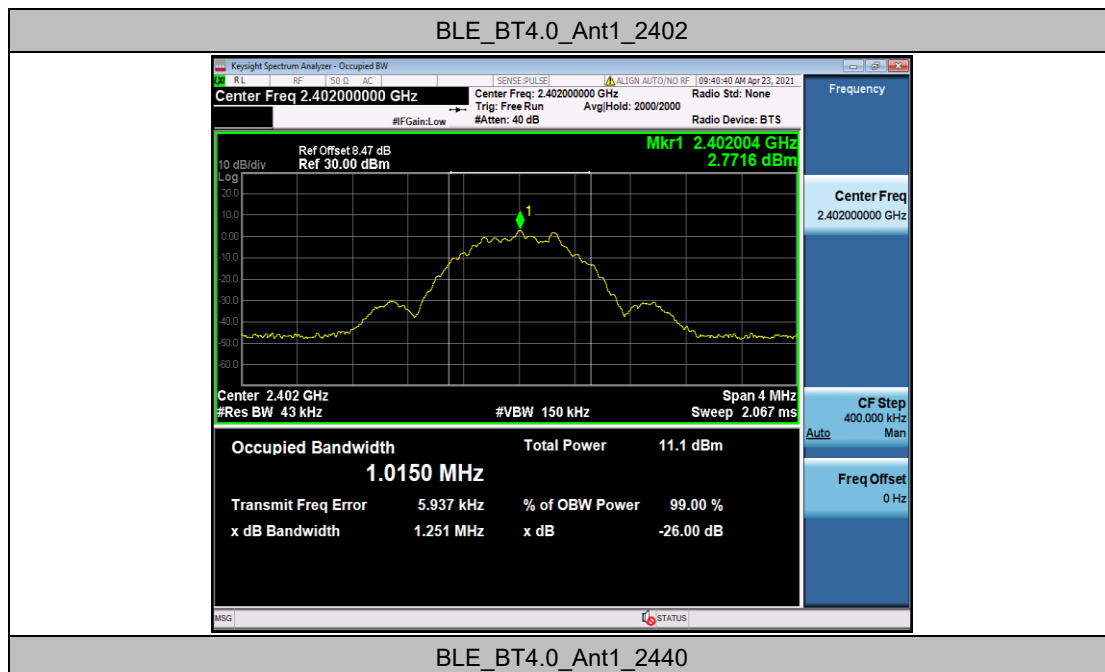


Appendix B: Occupied Channel Bandwidth

Test Result

TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_BT4.0	Ant1	2402	1.0150	2401.498	2402.513	---	PASS
		2440	1.0255	2439.493	2440.519	---	PASS
		2480	1.0259	2479.492	2480.518	---	PASS
BLE_BT5.0	Ant1	2402	2.0680	2400.987	2403.055	---	PASS
		2440	2.0667	2438.986	2441.052	---	PASS
		2480	2.0620	2478.987	2481.049	---	PASS

Test Graphs





BLE_BT4.0_Ant1_2480



BLE_BT5.0_Ant1_2402



BLE_BT5.0_Ant1_2440



BLE_BT5.0_Ant1_2480



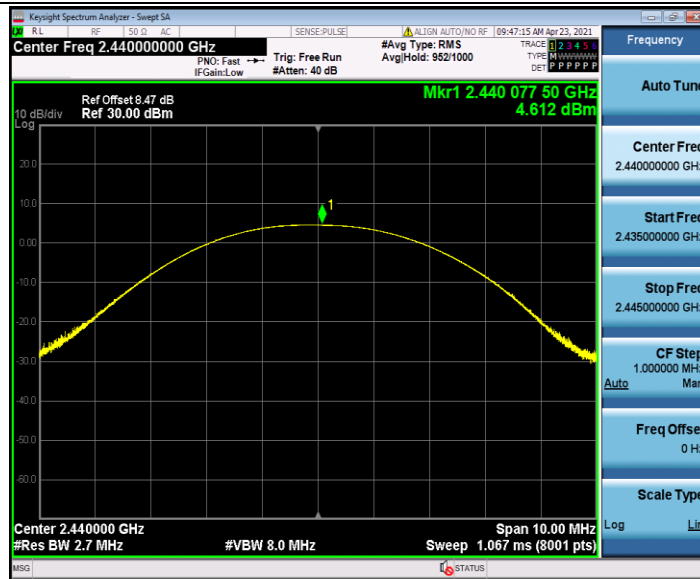
Appendix C: Maximum conducted output power

Test Result

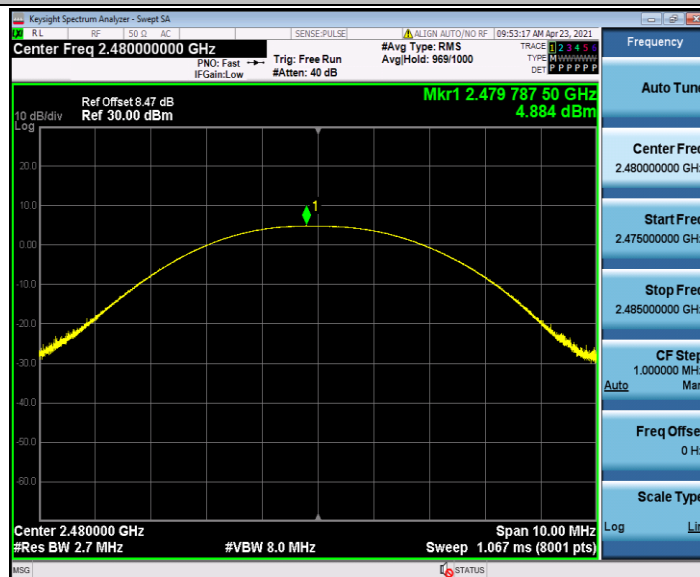
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_BT4.0	Ant1	2402	3.54	<=30	PASS
		2440	4.61	<=30	PASS
		2480	4.88	<=30	PASS
BLE_BT5.0	Ant1	2402	3.56	<=30	PASS
		2440	4.89	<=30	PASS
		2480	5.04	<=30	PASS

Test Graphs

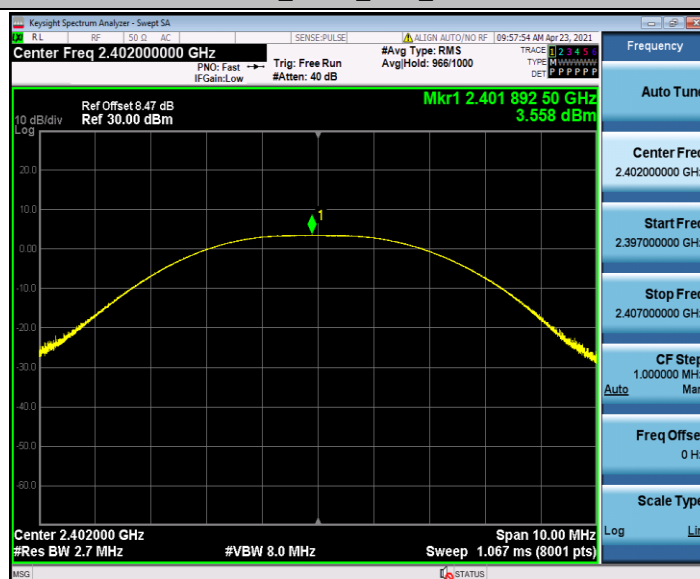




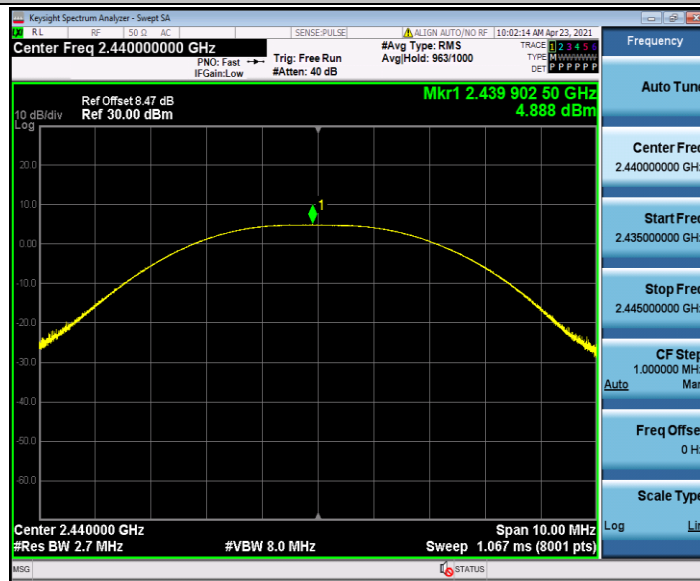
BLE_BT4.0_Ant1_2480



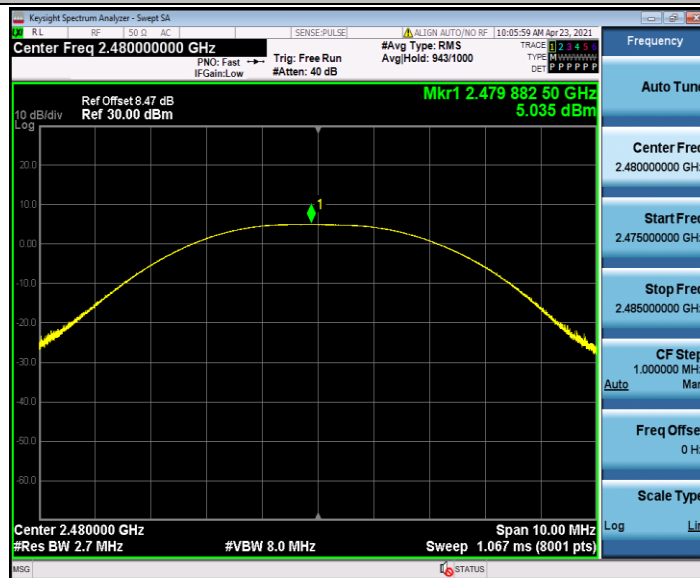
BLE_BT5.0_Ant1_2402



BLE_BT5.0_Ant1_2440



BLE_BT5.0_Ant1_2480

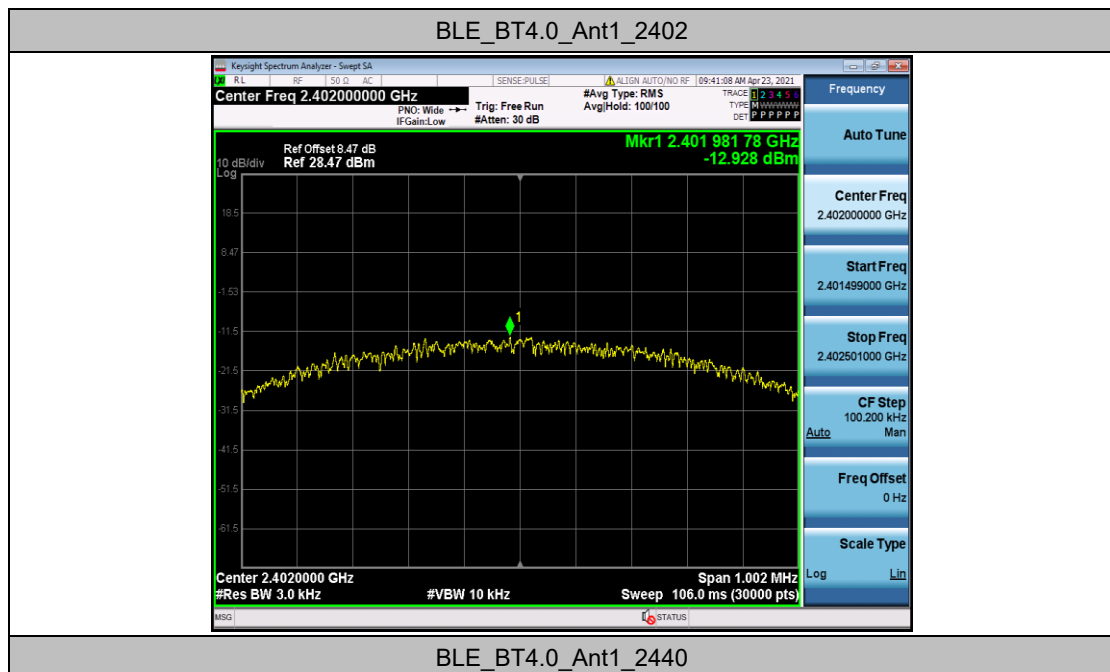


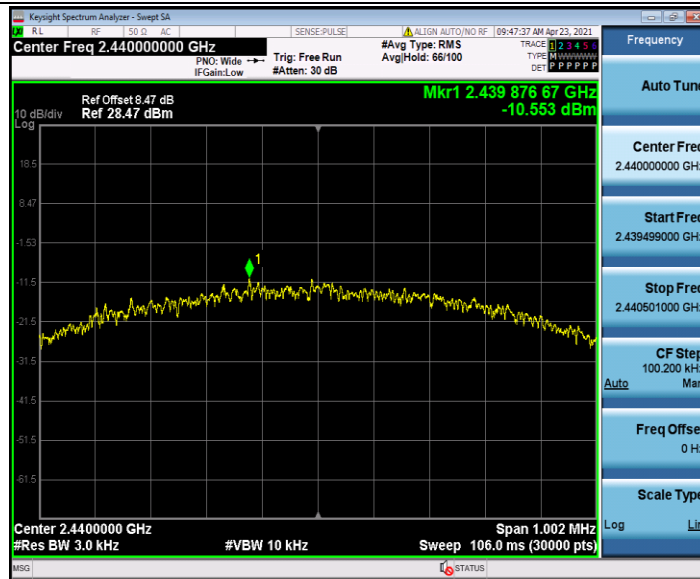
Appendix D: Maximum power spectral density

Test Result

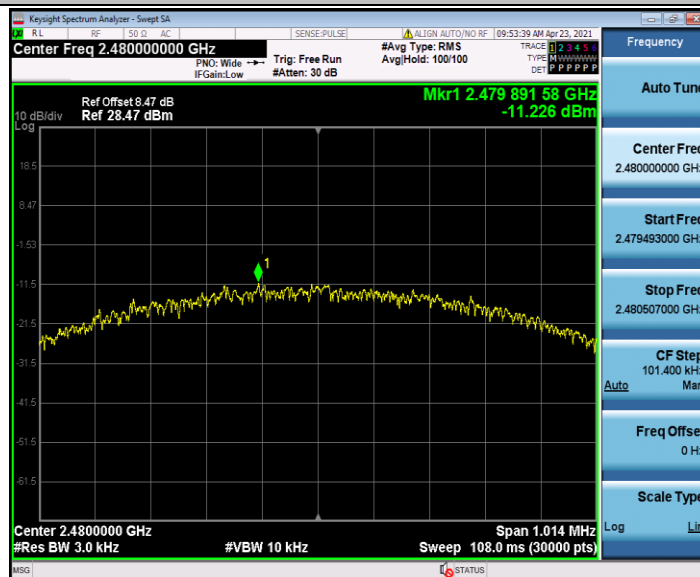
TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
BLE_BT4.0	Ant1	2402	-12.93	<=8	PASS
		2440	-10.55	<=8	PASS
		2480	-11.23	<=8	PASS
BLE_BT5.0	Ant1	2402	-14.7	<=8	PASS
		2440	-12.24	<=8	PASS
		2480	-12.44	<=8	PASS

Test Graphs

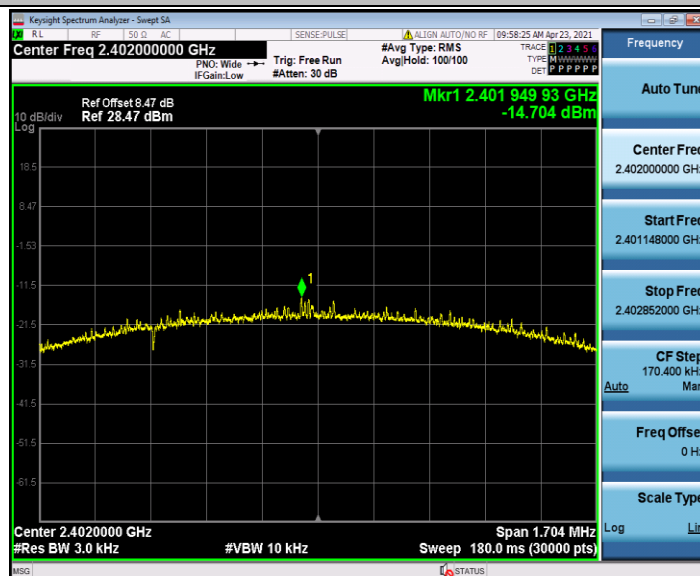




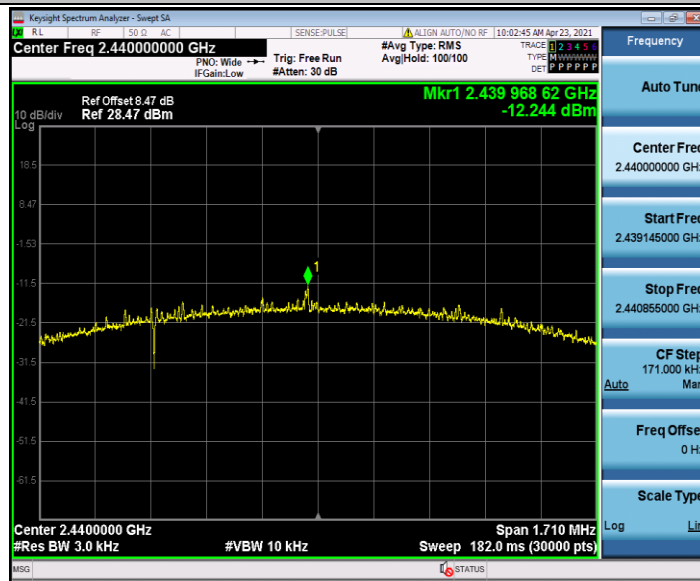
BLE_BT4.0_Ant1_2480



BLE_BT5.0_Ant1_2402



BLE_BT5.0_Ant1_2440



BLE_BT5.0_Ant1_2480



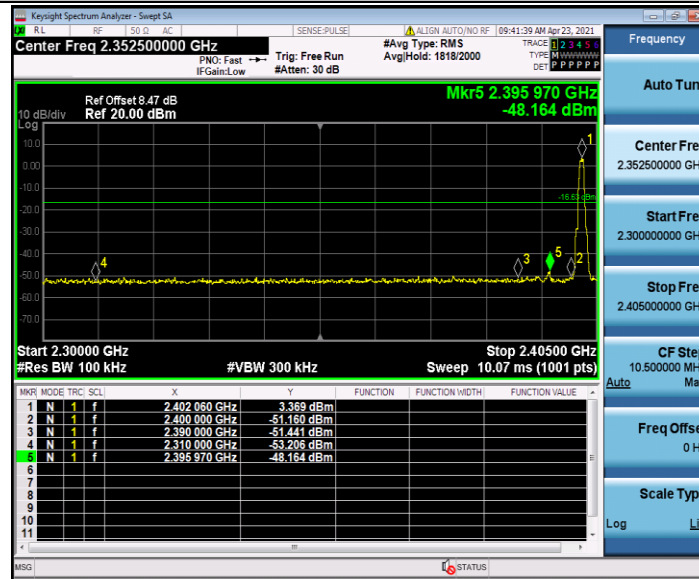
Appendix E: Band edge measurements

Test Result

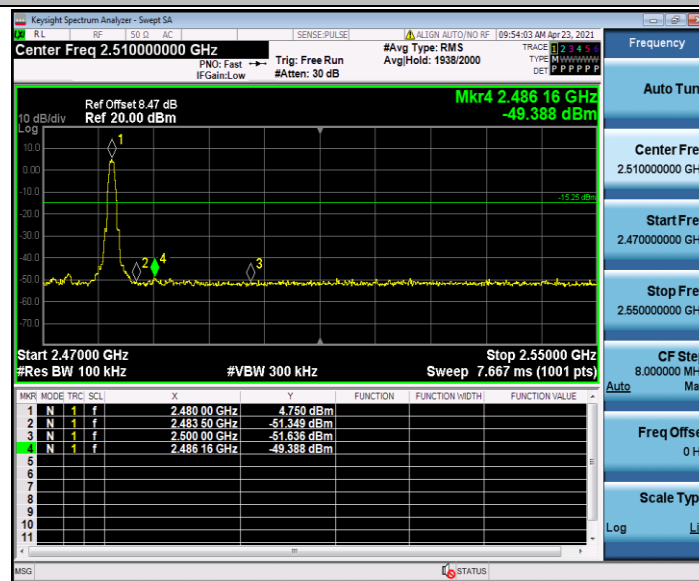
TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_BT4.0	Ant1	Low	2402	3.37	-48.16	<=-16.63	PASS
		High	2480	4.75	-49.39	<=-15.25	PASS
BLE_BT5.0	Ant1	Low	2402	3.69	-28.87	<=-16.32	PASS
		High	2480	4.78	-48.21	<=-15.22	PASS

Test Graphs

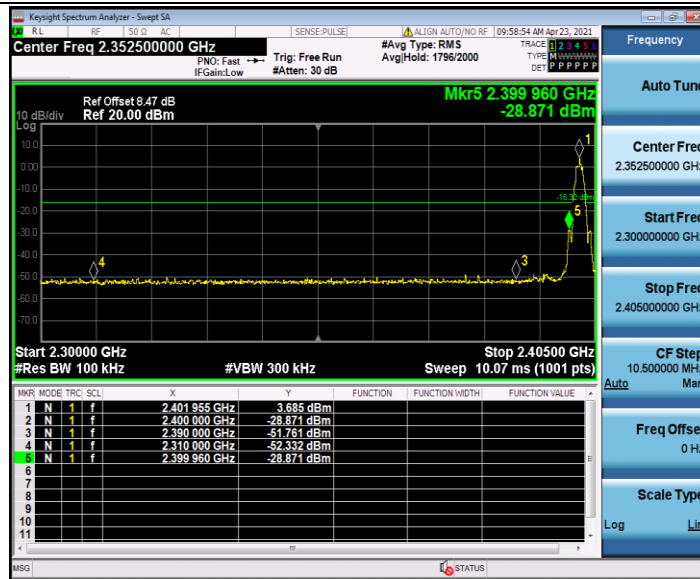
BLE_BT4.0_Ant1_Low_2402



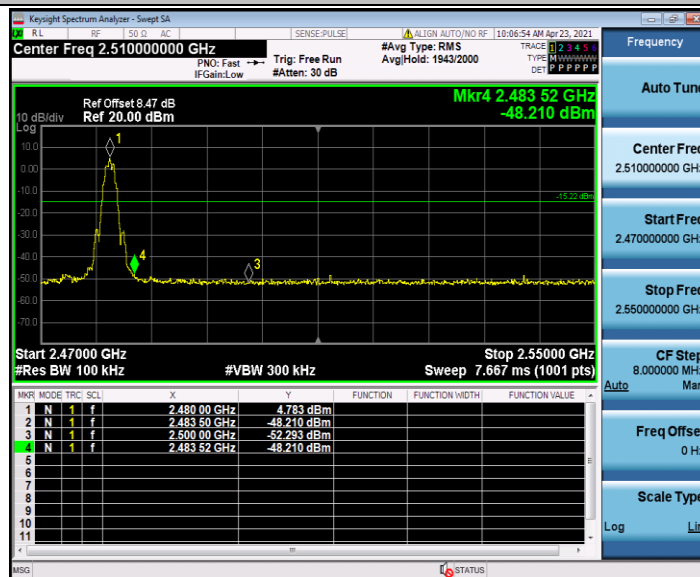
BLE_BT4.0_Ant1_High_2480



BLE_BT5.0_Ant1_Low_2402



BLE_BT5.0_Ant1_High_2480

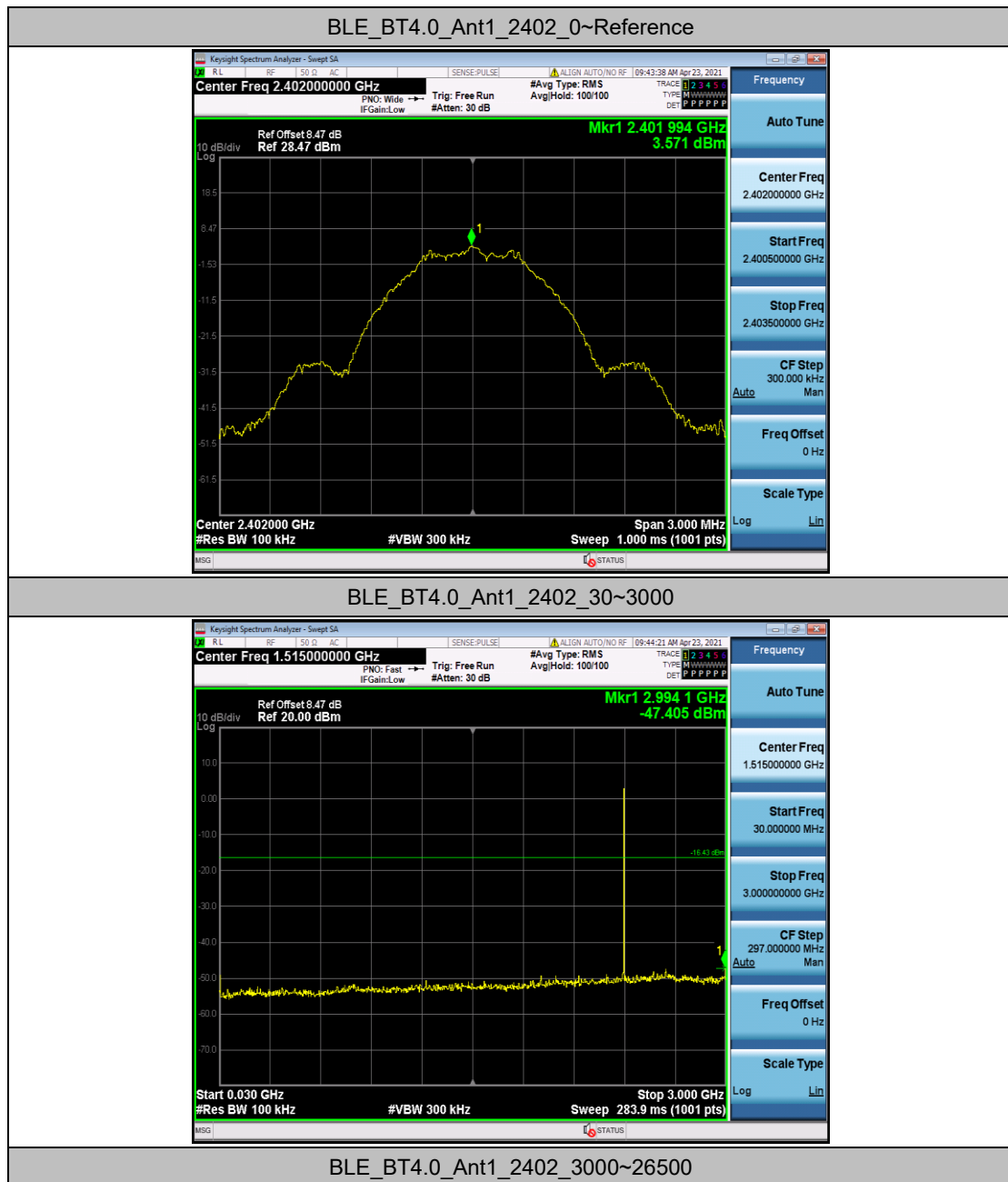


Appendix F: Conducted Spurious Emission

Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_BT4.0	Ant1	2402	Reference	3.57	3.57	---	PASS
			30~3000	30~3000	-47.405	<=-16.429	PASS
			3000~26500	3000~26500	-37.934	<=-16.429	PASS
		2440	Reference	4.29	4.29	---	PASS
			30~3000	30~3000	-47.553	<=-15.71	PASS
			3000~26500	3000~26500	-36.936	<=-15.71	PASS
		2480	Reference	4.63	4.63	---	PASS
			30~3000	30~3000	-47.867	<=-15.37	PASS
			3000~26500	3000~26500	-36.425	<=-15.37	PASS
BLE_BT5.0	Ant1	2402	Reference	2.87	2.87	---	PASS
			30~3000	30~3000	-47.979	<=-17.134	PASS
			3000~26500	3000~26500	-37.26	<=-17.134	PASS
		2440	Reference	3.72	3.72	---	PASS
			30~3000	30~3000	-45.172	<=-16.282	PASS
			3000~26500	3000~26500	-36.673	<=-16.282	PASS
		2480	Reference	4.18	4.18	---	PASS
			30~3000	30~3000	-44.532	<=-15.824	PASS
			3000~26500	3000~26500	-37.789	<=-15.824	PASS

Test Graphs





BLE_BT4.0_Ant1_2440_0~Reference



BLE_BT4.0_Ant1_2440_30~3000



BLE_BT4.0_Ant1_2440_3000~26500



BLE_BT4.0_Ant1_2480_0~Reference



BLE_BT4.0_Ant1_2480_30~3000



BLE_BT4.0_Ant1_2480_3000~26500



BLE_BT5.0_Ant1_2402_0~Reference



BLE_BT5.0_Ant1_2402_30~3000



BLE_BT5.0_Ant1_2402_3000~26500



BLE_BT5.0_Ant1_2440_0~Reference



BLE_BT5.0_Ant1_2440_30~3000



BLE_BT5.0_Ant1_2440_3000~26500



BLE_BT5.0_Ant1_2480_0~Reference



BLE_BT5.0_Ant1_2480_30~3000



BLE_BT5.0_Ant1_2480_3000~26500

