



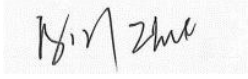
Appendix A

RF Test Data for BLE V5.0 (DTS) (Conducted Measurement)

Product Name: Barcode Scanner

Test Model: NLS-BS50

Environmental Conditions

Temperature:	22.5℃
Relative Humidity:	53.5%
ATM Pressure:	100.0 kPa
Test Engineer:	 Bill Zhu
Supervised by:	 Li Huan



A.1 DTS Bandwidth

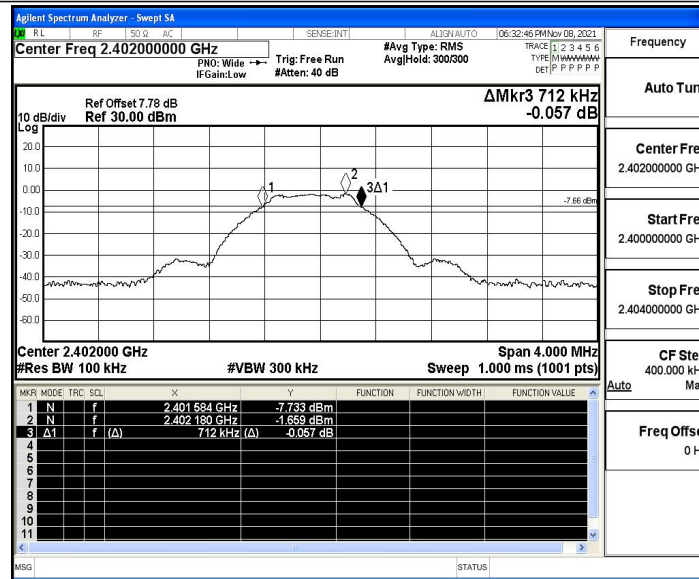
Test Result

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.712	2401.584	2402.296	≥ 0.5	PASS
		2440	0.720	2439.576	2440.296	≥ 0.5	PASS
		2480	0.716	2479.576	2480.292	≥ 0.5	PASS
BLE_2M	Ant1	2402	1.248	2401.292	2402.540	≥ 0.5	PASS
		2440	1.248	2439.288	2440.536	≥ 0.5	PASS
		2480	1.256	2479.288	2480.544	≥ 0.5	PASS

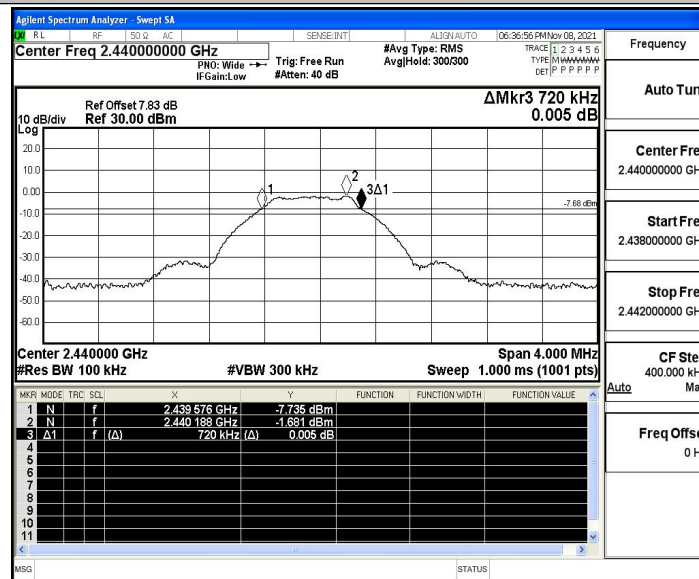


Test Graphs

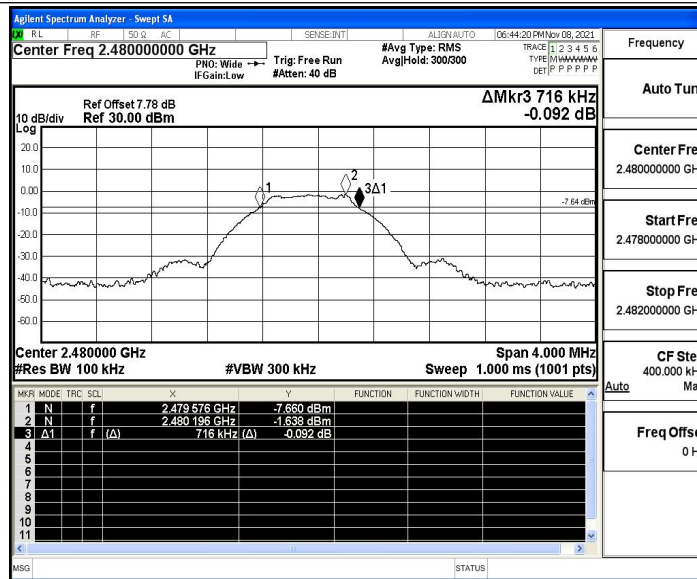
BLE_1M_Ant1_2402



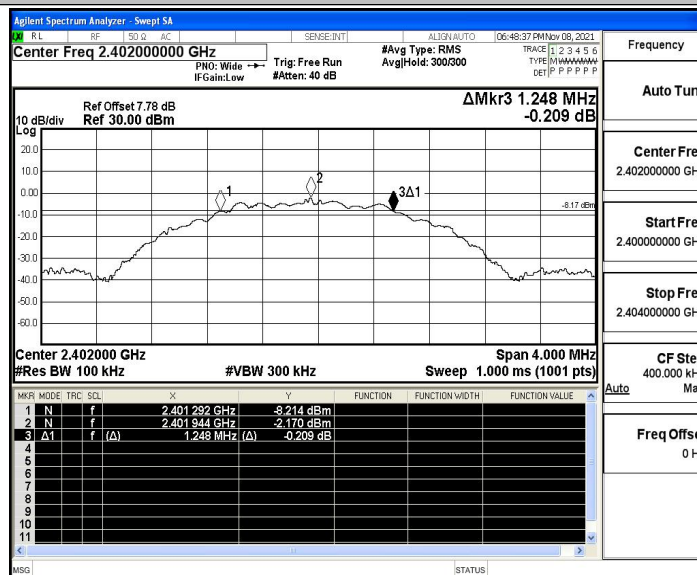
BLE_1M_Ant1_2440



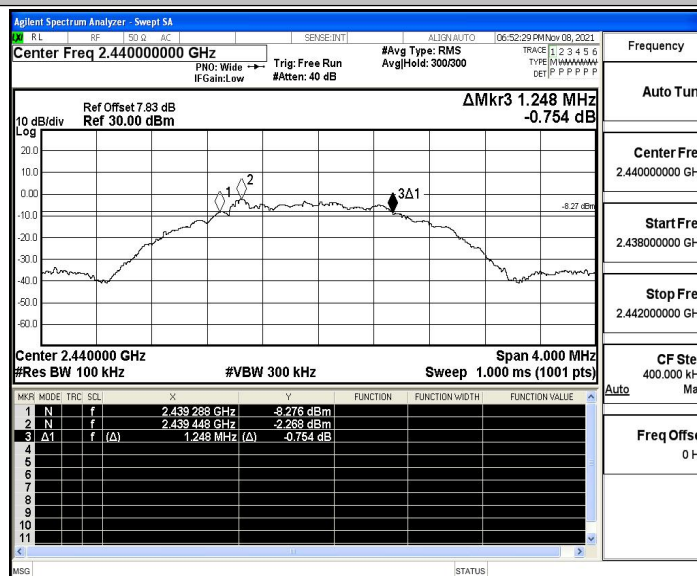
BLE_1M_Ant1_2480



BLE_2M_Ant1_2402

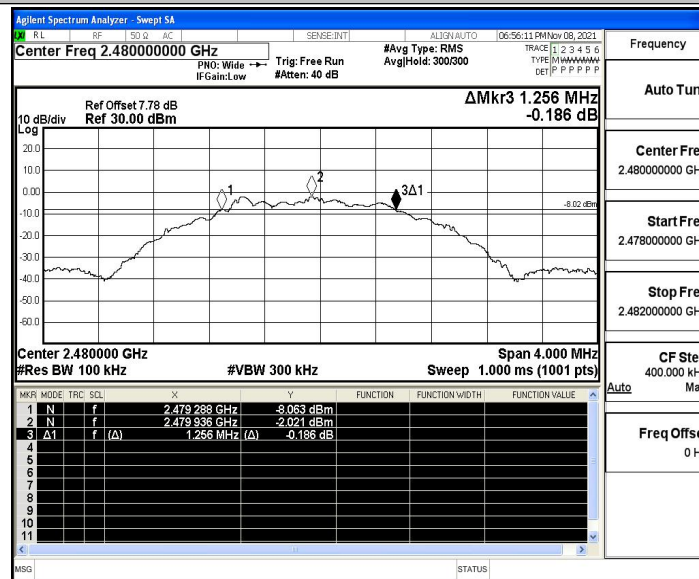


BLE_2M_Ant1_2440





BLE_2M_Ant1_2480





A.2 Maximum peak conducted output power

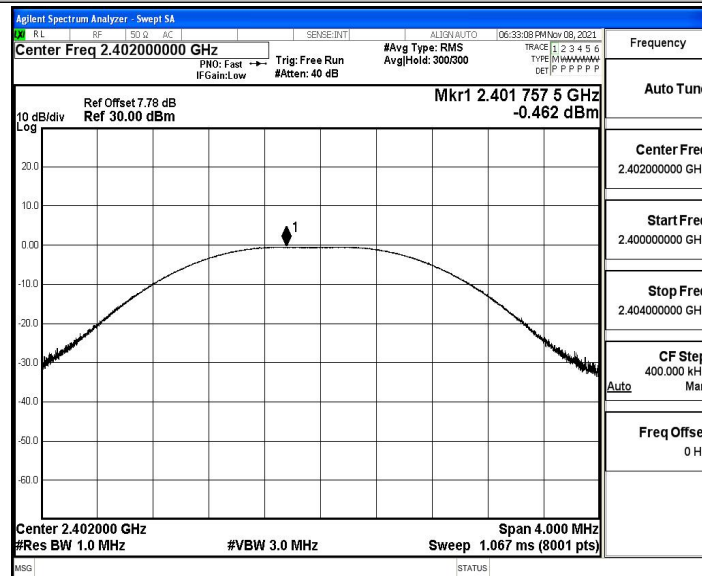
Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	-0.46	≤30	PASS
		2440	-0.49	≤30	PASS
		2480	-0.3	≤30	PASS
BLE_2M	Ant1	2402	-0.72	≤30	PASS
		2440	-0.71	≤30	PASS
		2480	-0.48	≤30	PASS

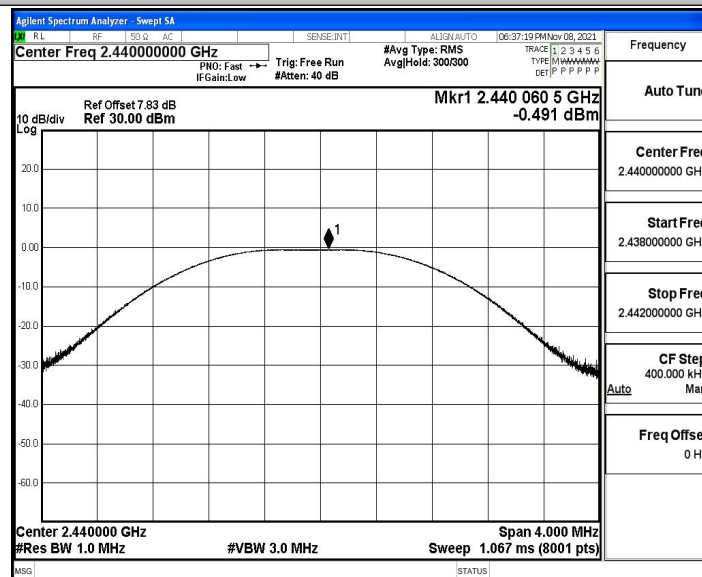


Test Graphs

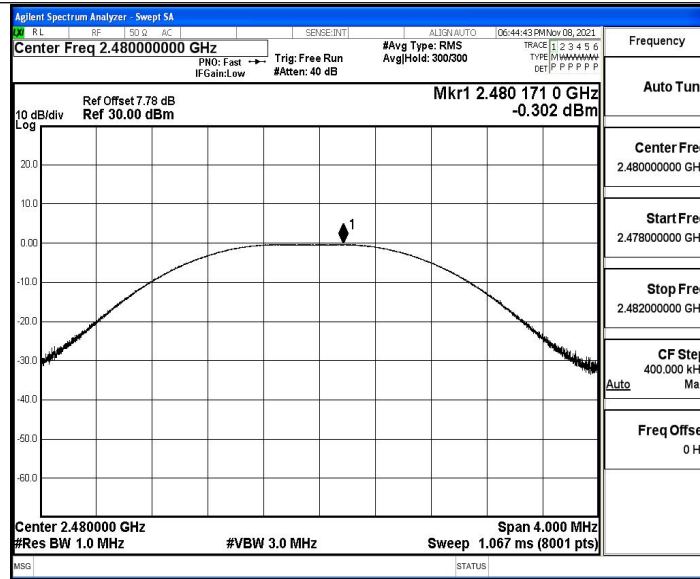
BLE_1M_Ant1_2402



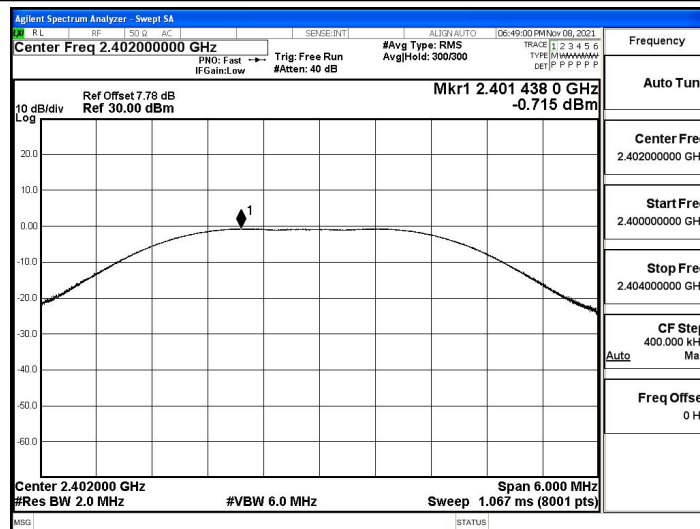
BLE_1M_Ant1_2440



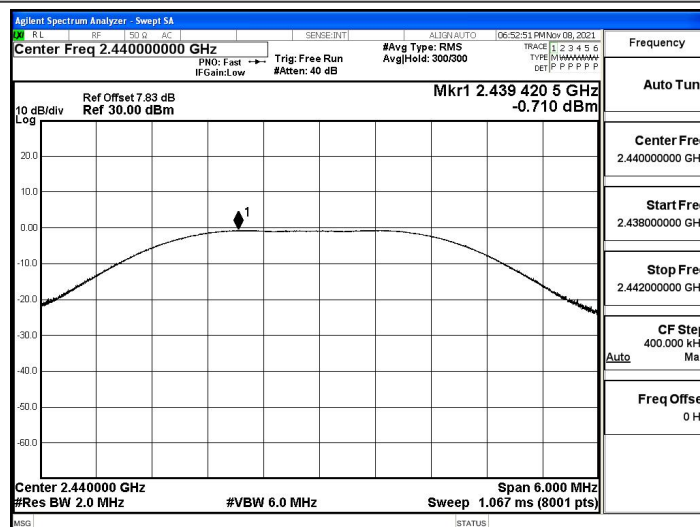
BLE_1M_Ant1_2480



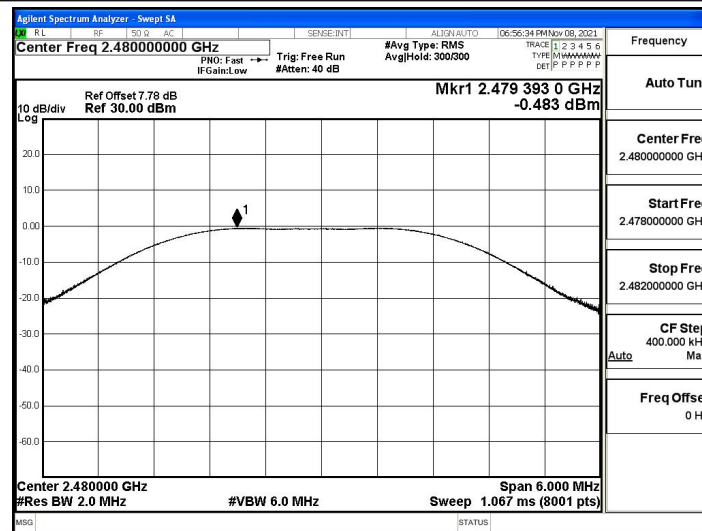
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480





A.3 Maximum power spectral density

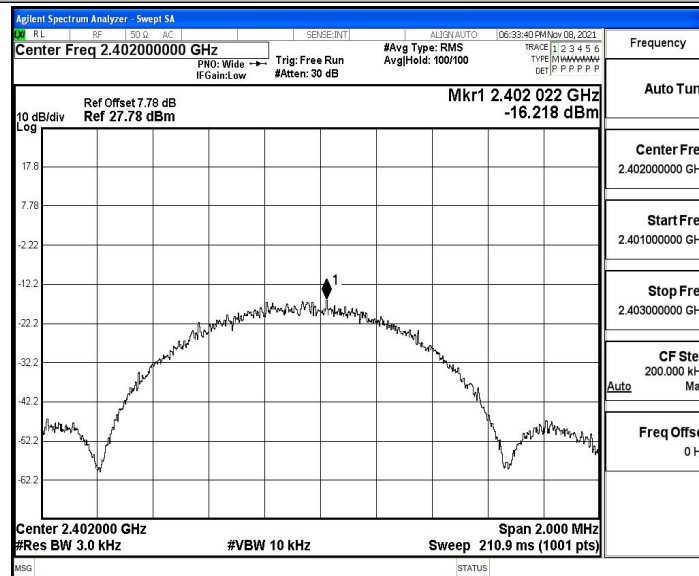
Test Result

TestMode	Antenna	Channel	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-16.22	≤8	PASS
		2440	-16.17	≤8	PASS
		2480	-16.28	≤8	PASS
BLE_2M	Ant1	2402	-19.31	≤8	PASS
		2440	-19.43	≤8	PASS
		2480	-18.97	≤8	PASS

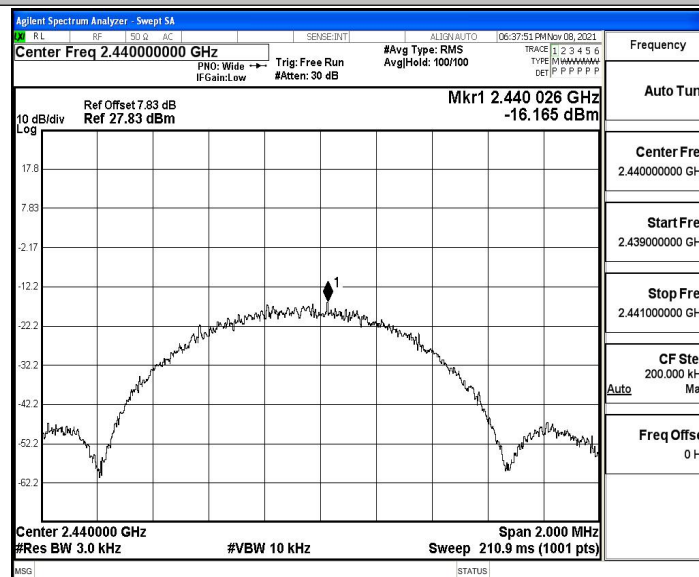


Test Graphs

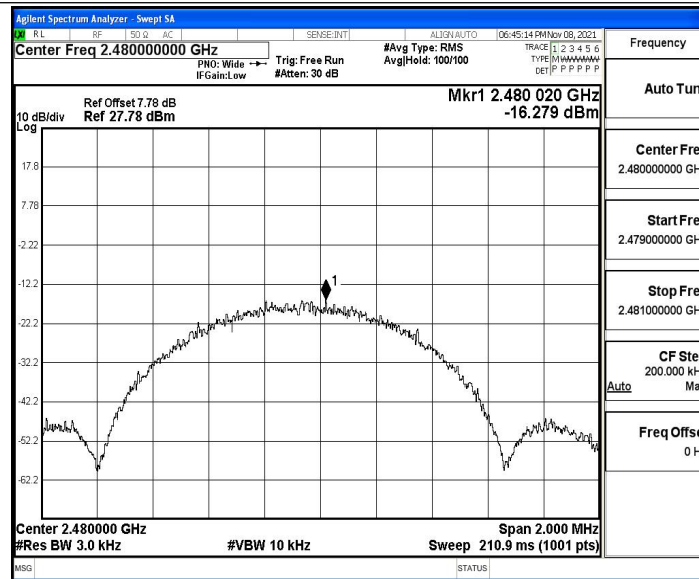
BLE_1M_Ant1_2402



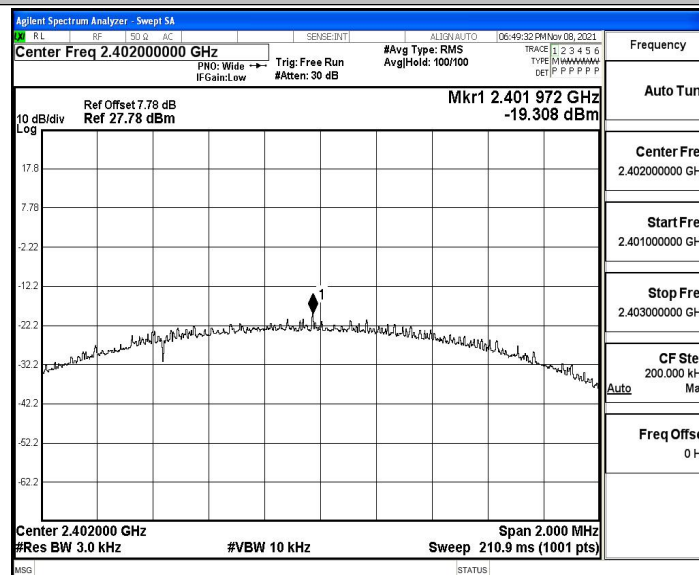
BLE_1M_Ant1_2440



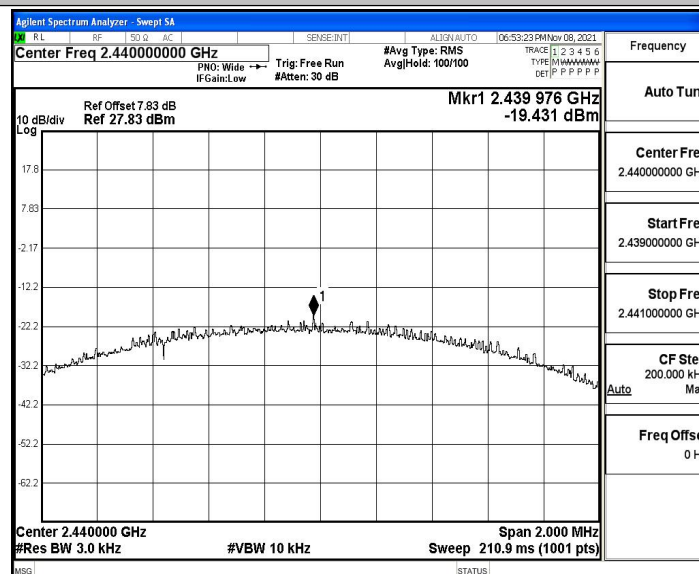
BLE_1M_Ant1_2480



BLE_2M_Ant1_2402

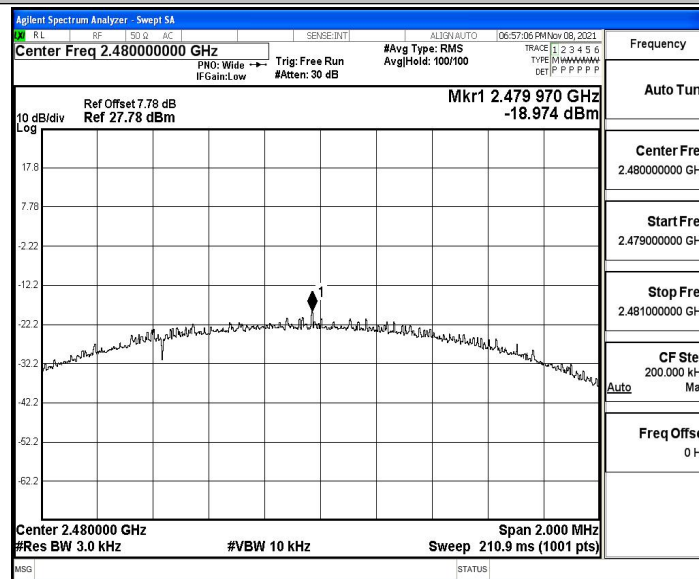


BLE_2M_Ant1_2440





BLE_2M_Ant1_2480





A.4 Band edge measurements

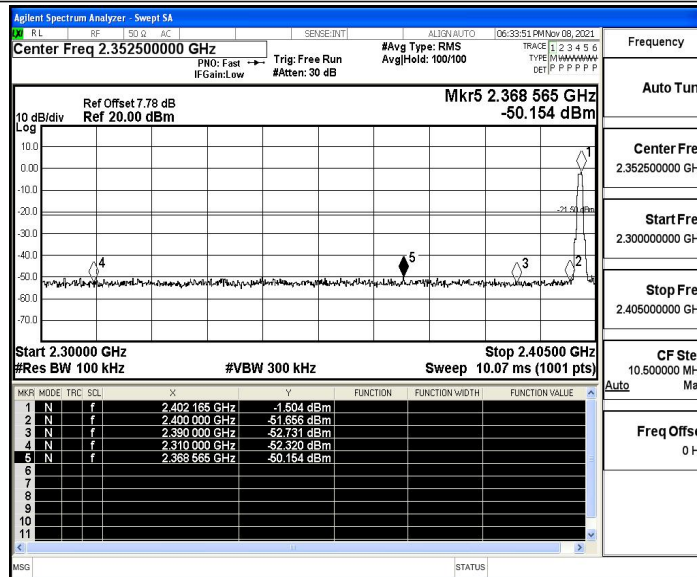
Test Result

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-1.50	-50.15	≤ -21.5	PASS
		High	2480	-1.36	-49.48	≤ -21.36	PASS
BLE_2M	Ant1	Low	2402	-1.97	-35.52	≤ -21.97	PASS
		High	2480	-1.46	-49.33	≤ -21.46	PASS

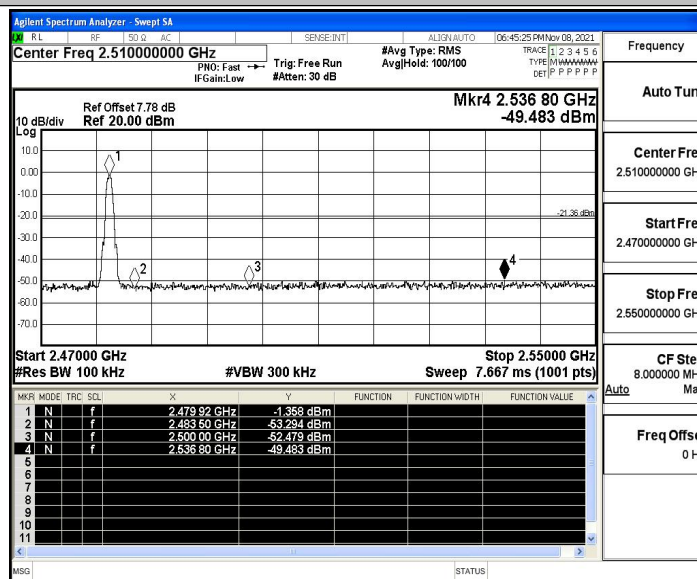


Test Graphs

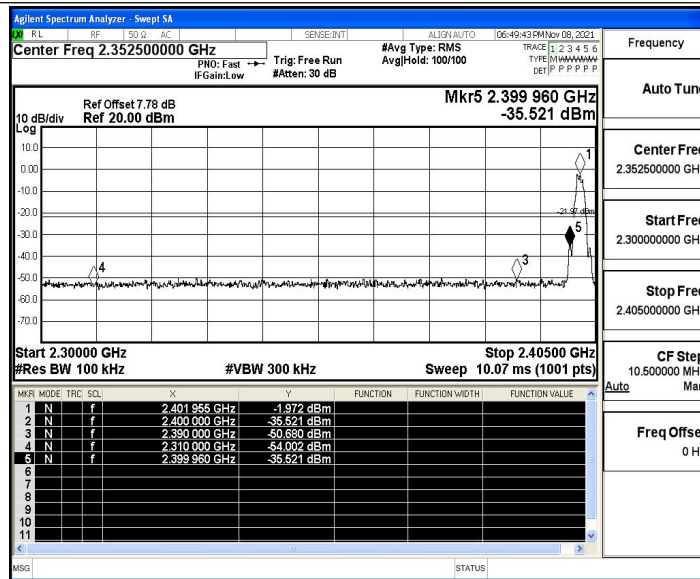
BLE_1M_Ant1_Low_2402



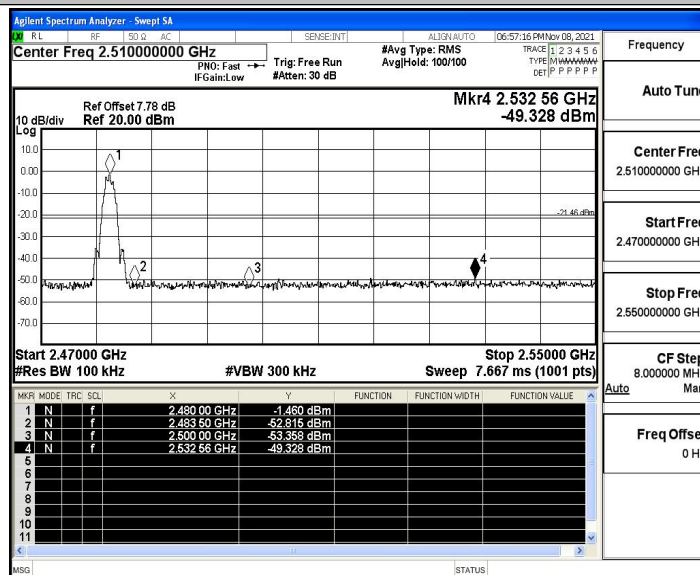
BLE_1M_Ant1_High_2480



BLE_2M_Ant1_Low_2402



BLE_2M_Ant1_High_2480





A.5 Conducted Spurious Emission

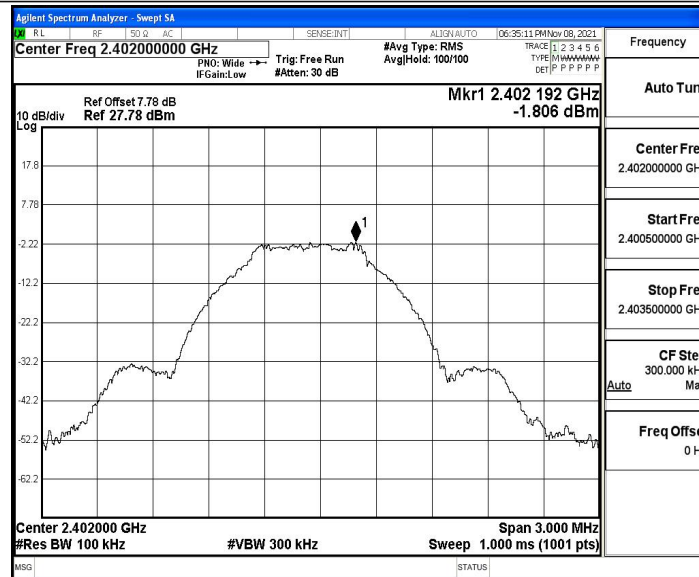
Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	-1.81	-1.81	---	PASS
			30~1000	-1.81	-61.83	≤ -21.81	PASS
			1000~26500	-1.81	-47.9	≤ -21.81	PASS
		2440	Reference	-1.76	-1.76	---	PASS
			30~1000	-1.76	-52.32	≤ -21.76	PASS
			1000~26500	-1.76	-47.5	≤ -21.76	PASS
		2480	Reference	-1.76	-1.76	---	PASS
			30~1000	-1.76	-62.15	≤ -21.76	PASS
			1000~26500	-1.76	-47.43	≤ -21.76	PASS
BLE_2M	Ant1	2402	Reference	-2.35	-2.35	---	PASS
			30~1000	-2.35	-61.82	≤ -22.35	PASS
			1000~26500	-2.35	-47.69	≤ -22.35	PASS
		2440	Reference	-2.98	-2.98	---	PASS
			30~1000	-2.98	-61.81	≤ -22.98	PASS
			1000~26500	-2.98	-46.65	≤ -22.98	PASS
		2480	Reference	-2.15	-2.15	---	PASS
			30~1000	-2.15	-61.32	≤ -22.15	PASS
			1000~26500	-2.15	-47.11	≤ -22.15	PASS

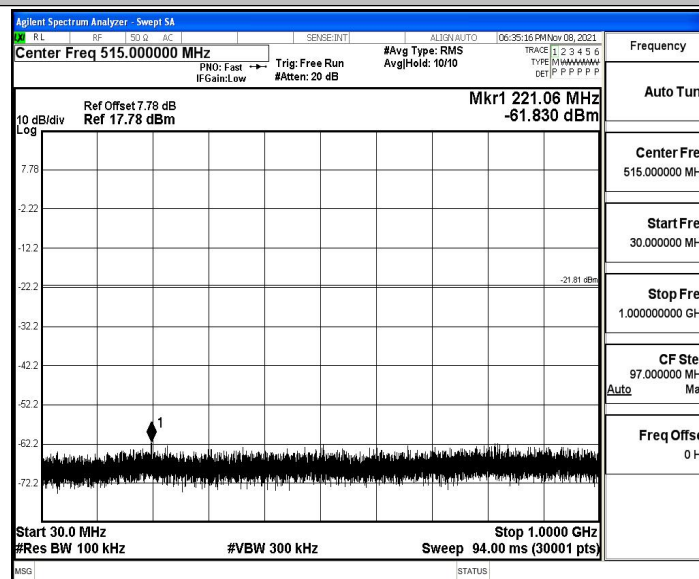


Test Graphs

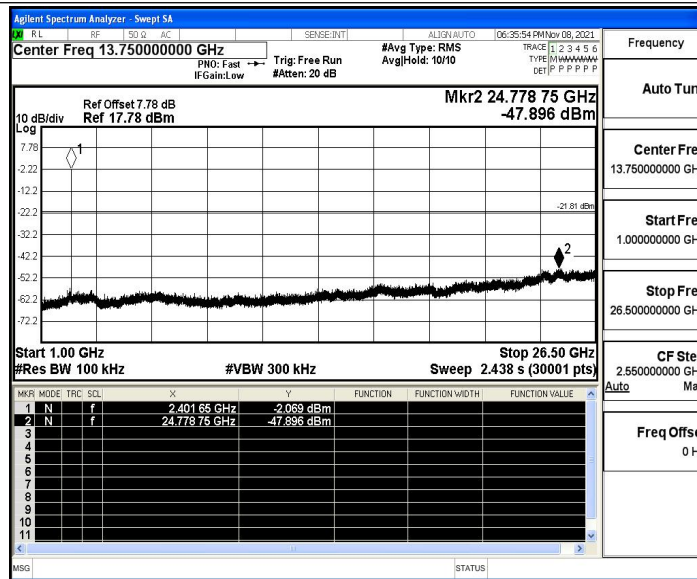
BLE_1M_Ant1_2402_0~Reference



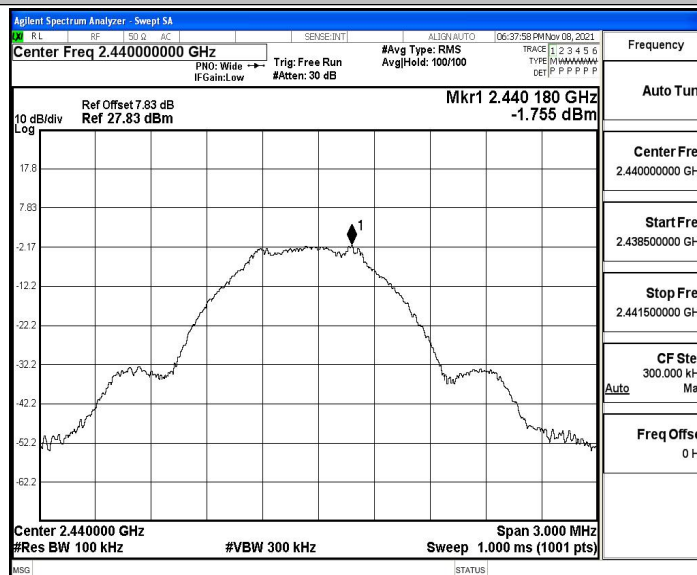
BLE_1M_Ant1_2402_30~1000



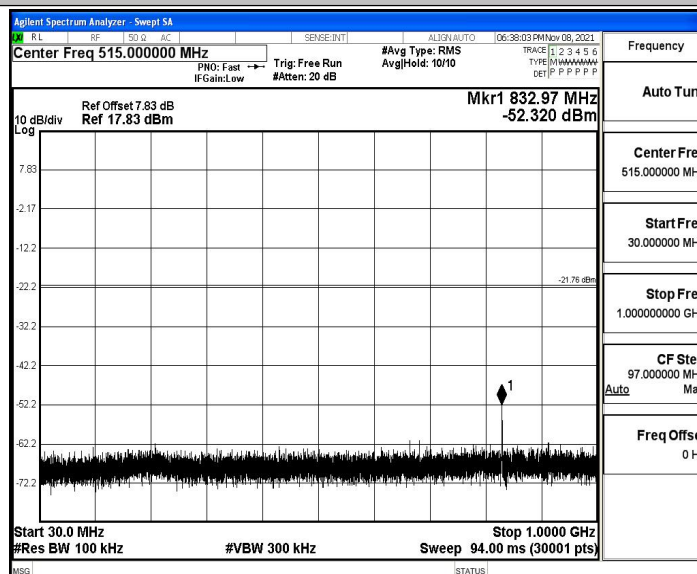
BLE_1M_Ant1_2402_1000~26500



BLE_1M_Ant1_2440_0~Reference

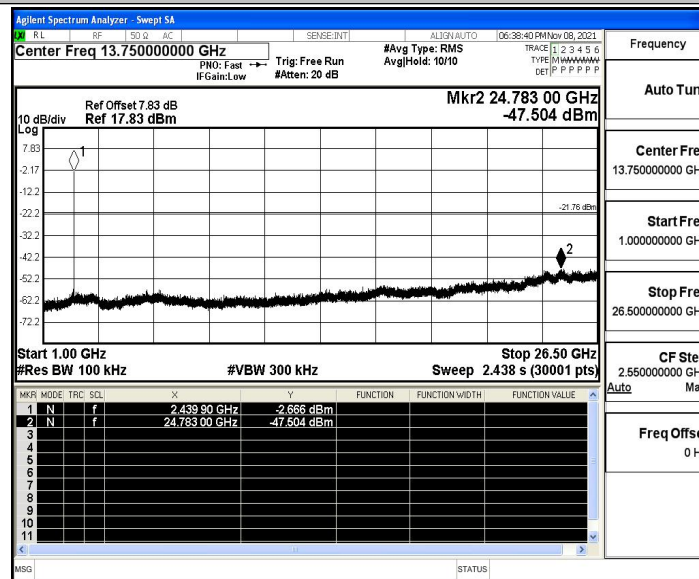


BLE_1M_Ant1_2440_30~1000

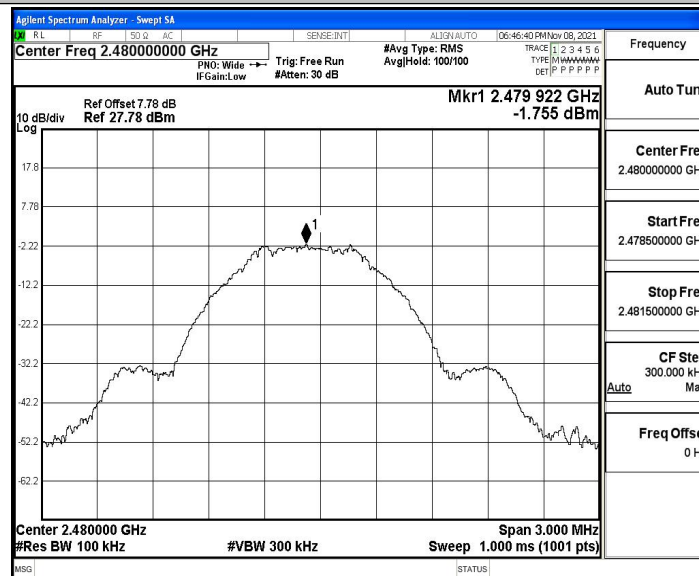




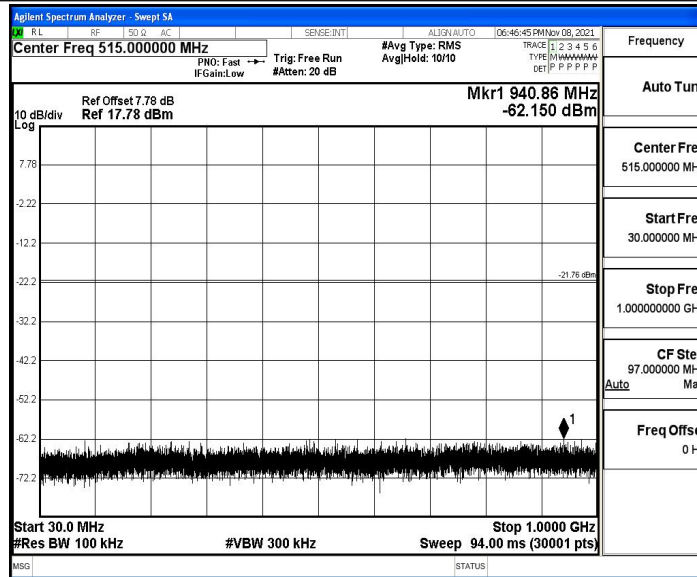
BLE_1M_Ant1_2440_1000~26500



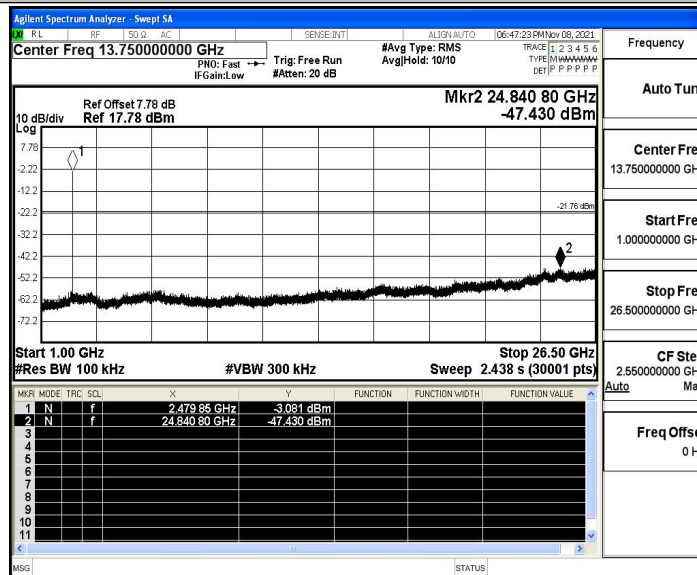
BLE_1M_Ant1_2480_0~Reference



BLE_1M_Ant1_2480_30~1000



BLE_1M_Ant1_2480_1000~26500



BLE_2M_Ant1_2402_0~Reference

