



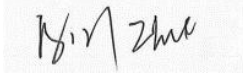

Appendix A

RF Test Data for BT LE (Conducted Measurement)

Product Name: LED Controller

Test Model: SP107E

Environmental Conditions

Temperature:	23.5°C
Relative Humidity:	52.2%
ATM Pressure:	100.0 kPa
Test Engineer:	 Bill Zhu
Supervised by:	 Li Huan



A.1 DTS Bandwidth

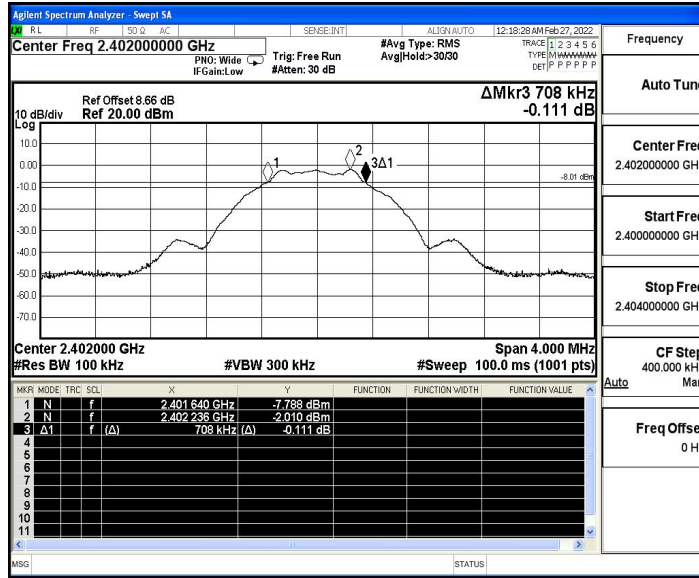
Test Result

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.708	2401.640	2402.348	0.5	PASS
		2440	0.712	2439.636	2440.348	0.5	PASS
		2480	0.712	2479.636	2480.348	0.5	PASS

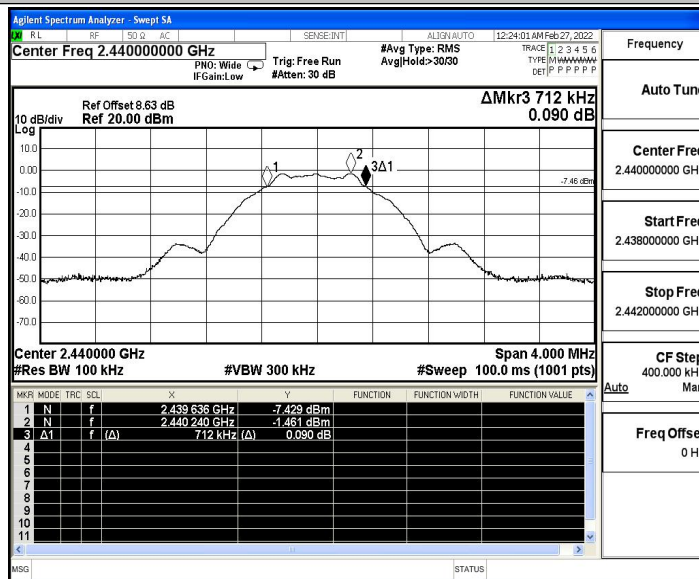


Test Graphs

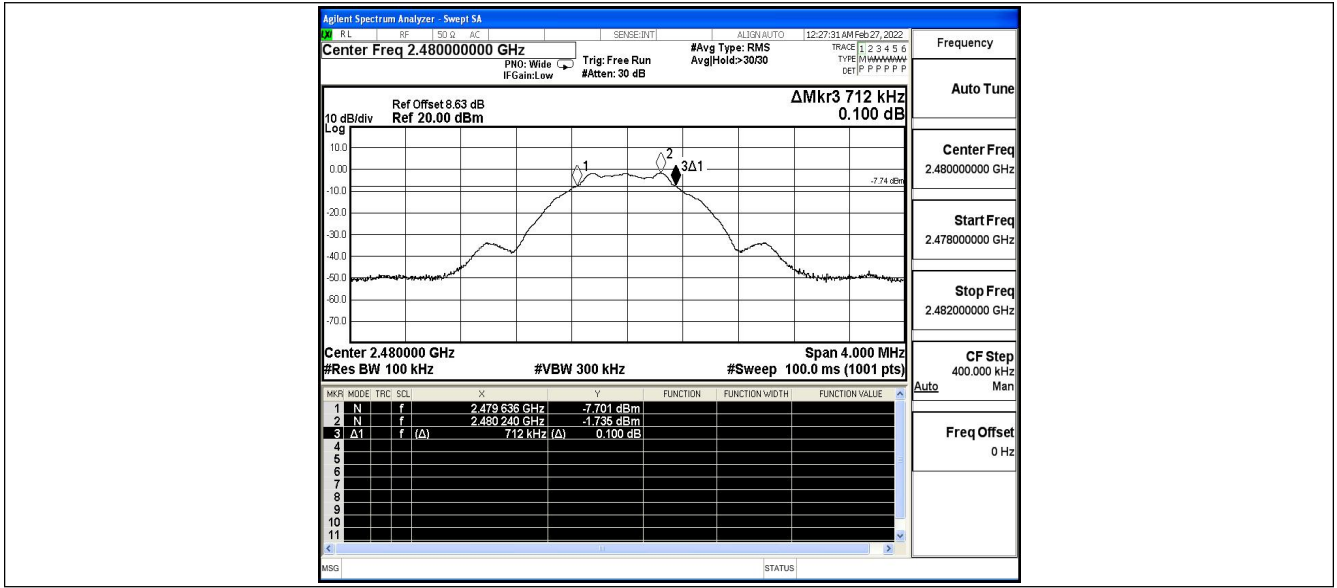
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480





A.2 Maximum peak conducted output power

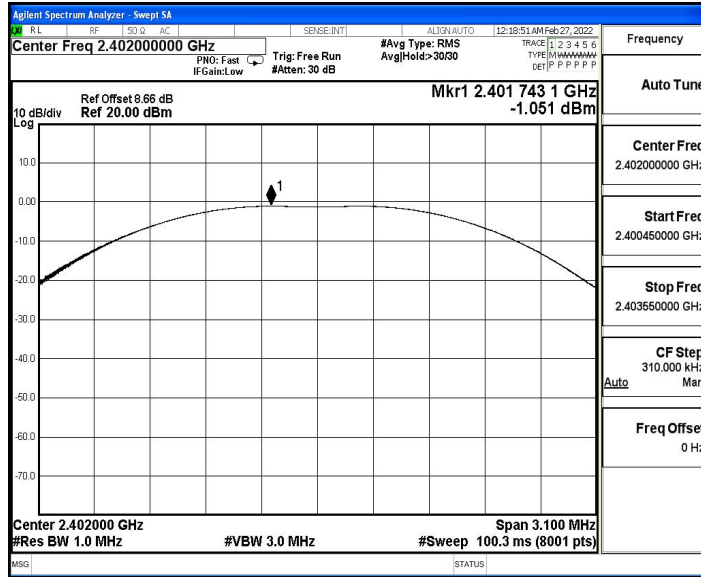
Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	-1.05	≤30	PASS
		2440	-0.5	≤30	PASS
		2480	-0.77	≤30	PASS

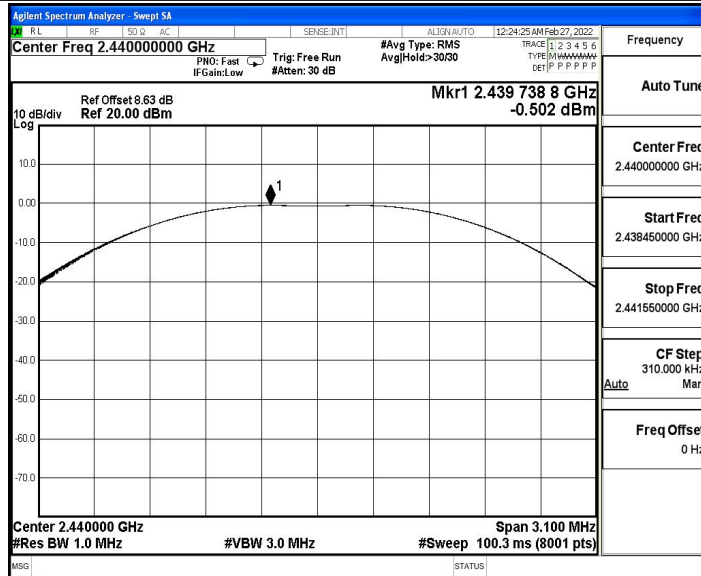


Test Graphs

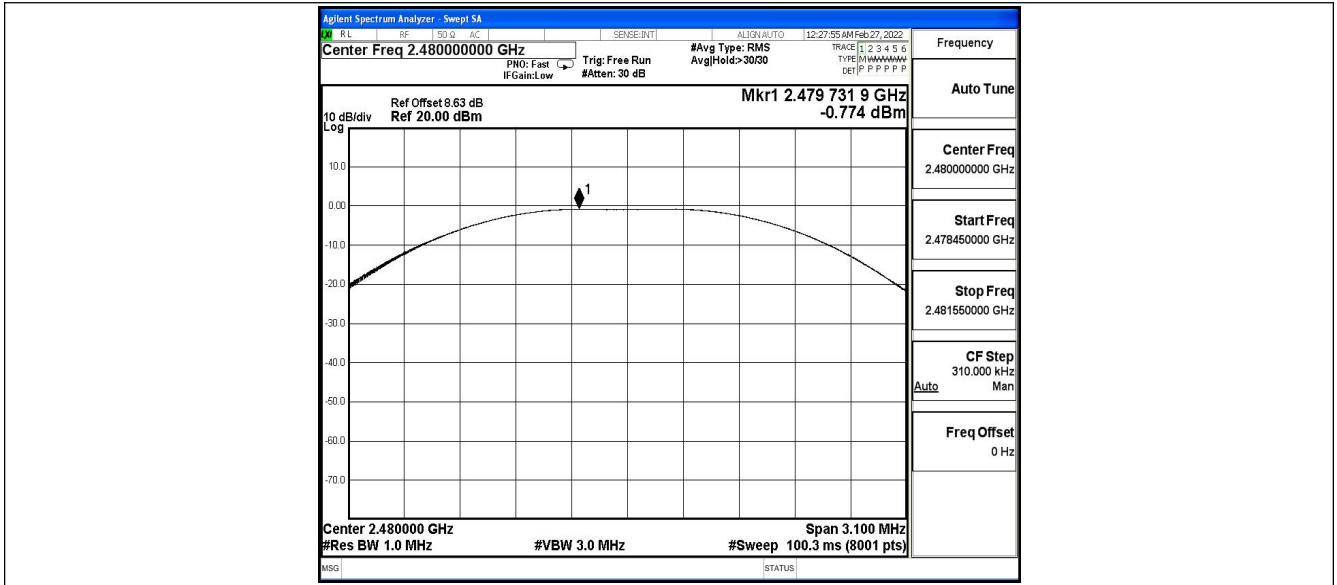
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480





A.3 Maximum power spectral density

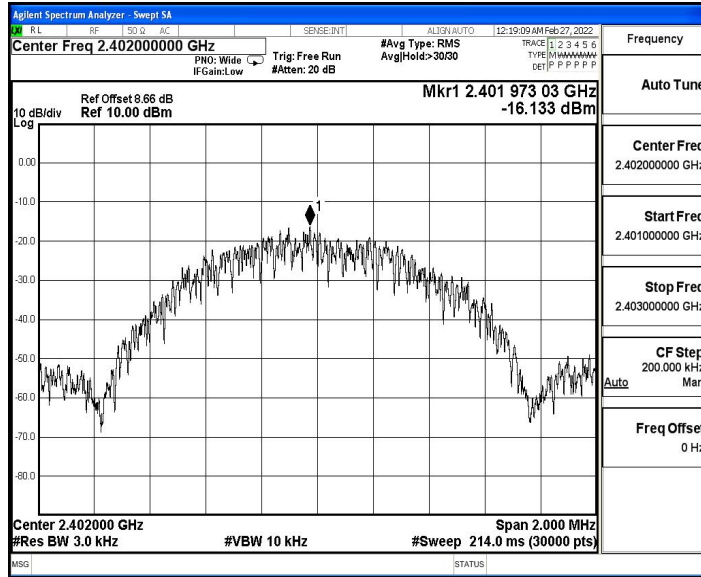
Test Result

TestMode	Antenna	Channel	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-16.13	≤8.00	PASS
		2440	-15.61	≤8.00	PASS
		2480	-15.89	≤8.00	PASS

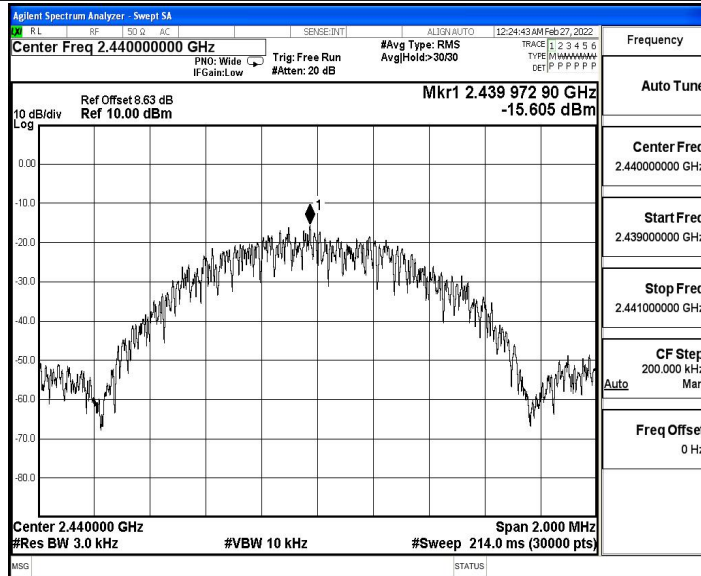


Test Graphs

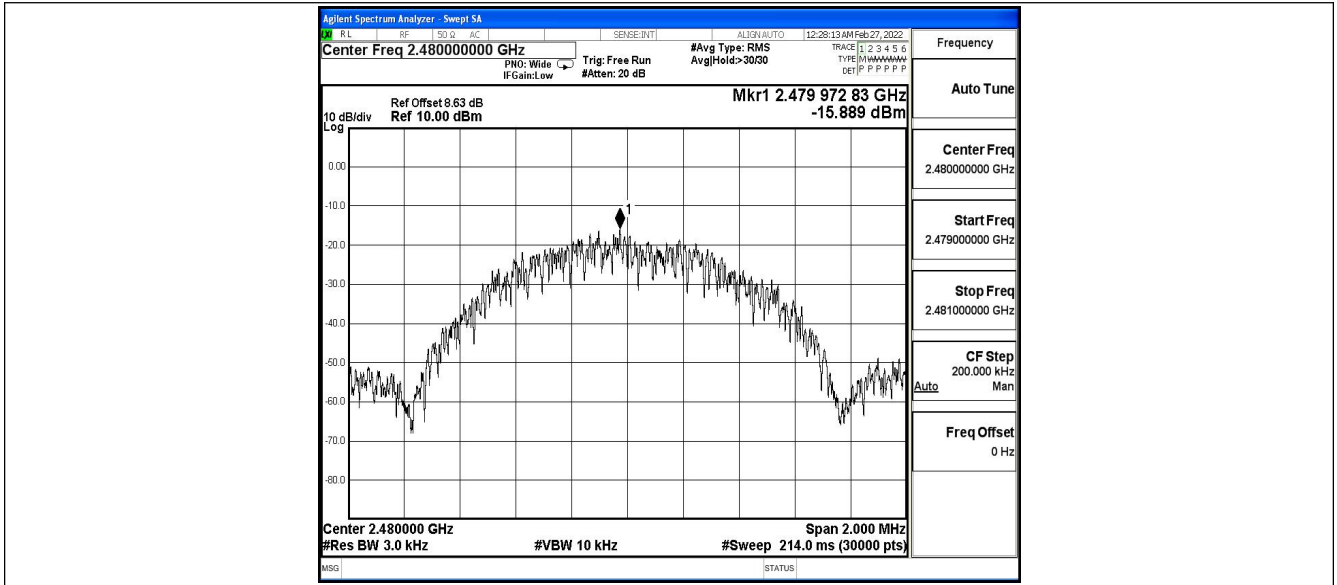
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480





A.4 Band edge measurements

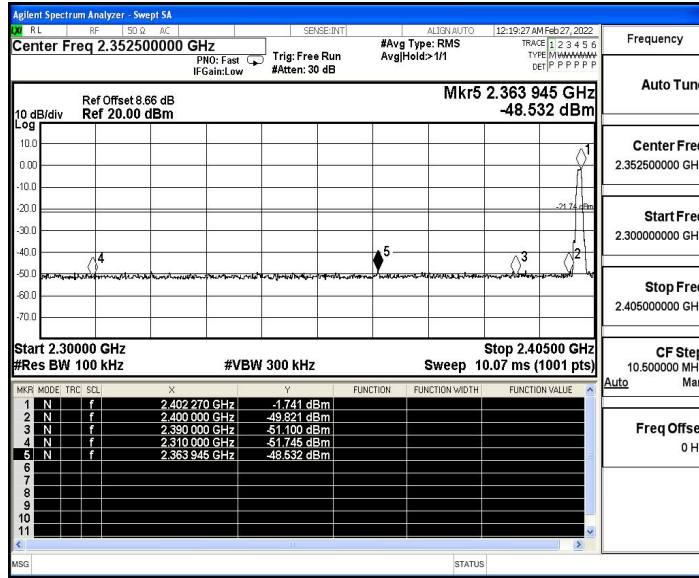
Test Result

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-1.74	-48.53	≤-21.74	PASS
		High	2480	-1.47	-48.03	≤-21.47	PASS

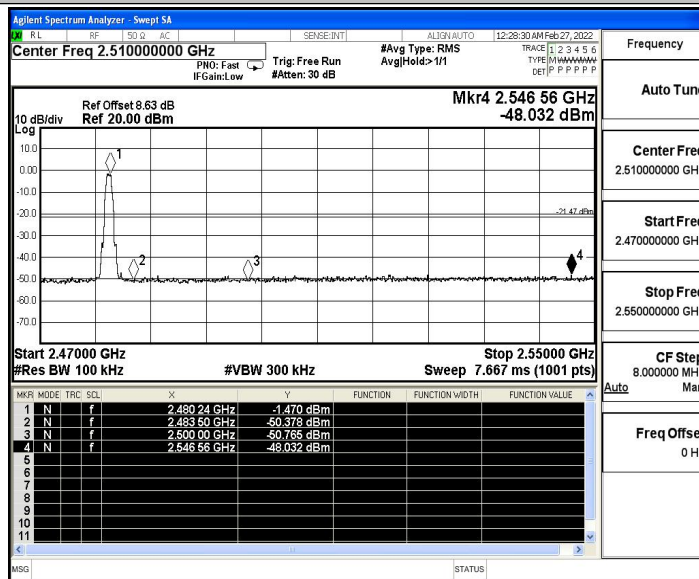


Test Graphs

BLE_1M_Ant1_Low_2402



BLE_1M_Ant1_High_2480





A.5 Conducted Spurious Emission

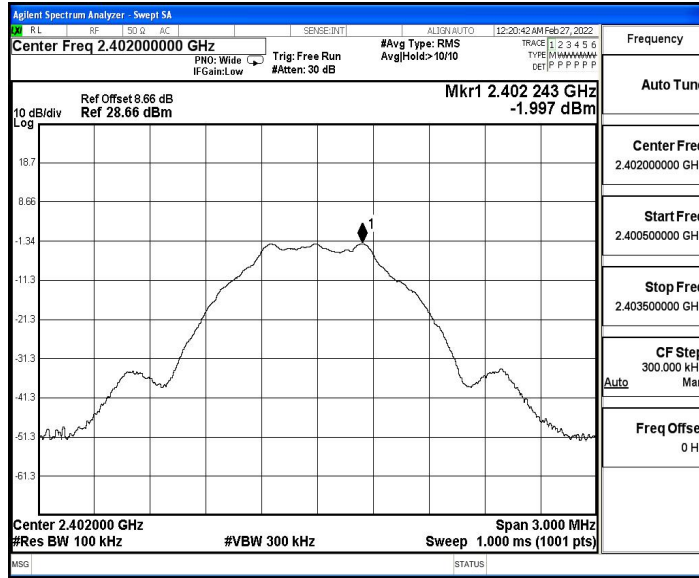
Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	-2.00	-2.00	---	PASS
			30~1000	-2.00	-59.11	≤-22	PASS
			1000~26500	-2.00	-46.31	≤-22	PASS
		2440	Reference	-1.44	-1.44	---	PASS
			30~1000	-1.44	-60.08	≤-21.44	PASS
			1000~26500	-1.44	-45.55	≤-21.44	PASS
		2480	Reference	-1.74	-1.74	---	PASS
			30~1000	-1.74	-59.85	≤-21.74	PASS
			1000~26500	-1.74	-46.08	≤-21.74	PASS

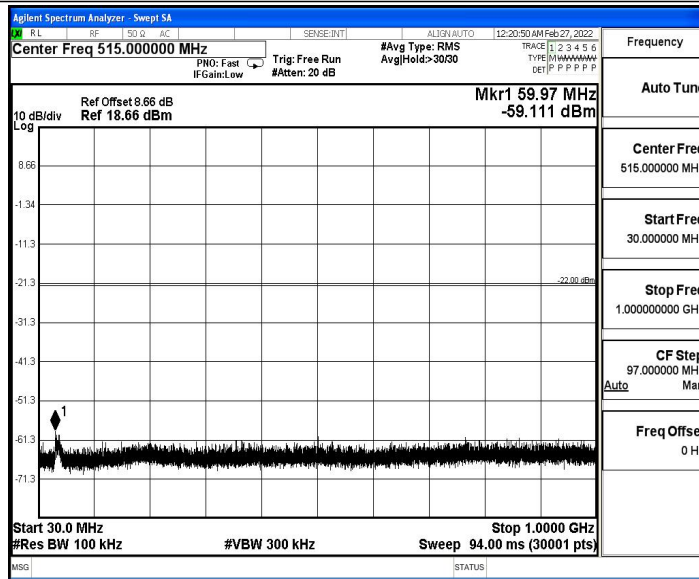


Test Graphs

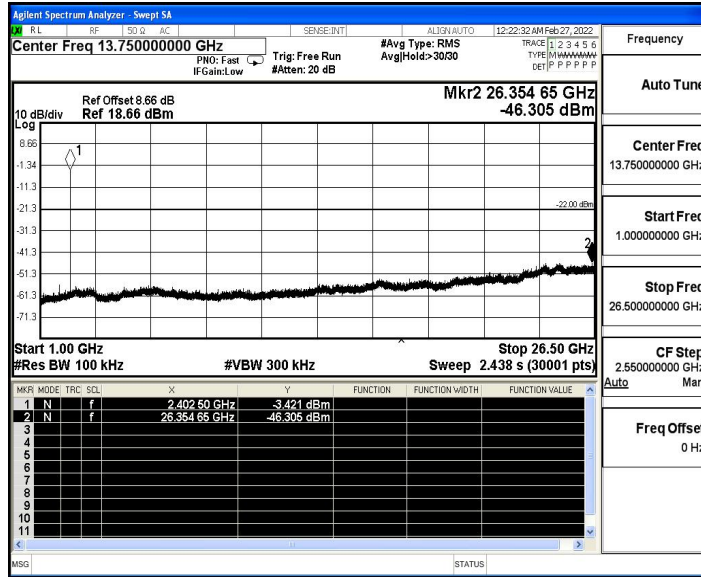
BLE_1M_Ant1_2402_0~Reference



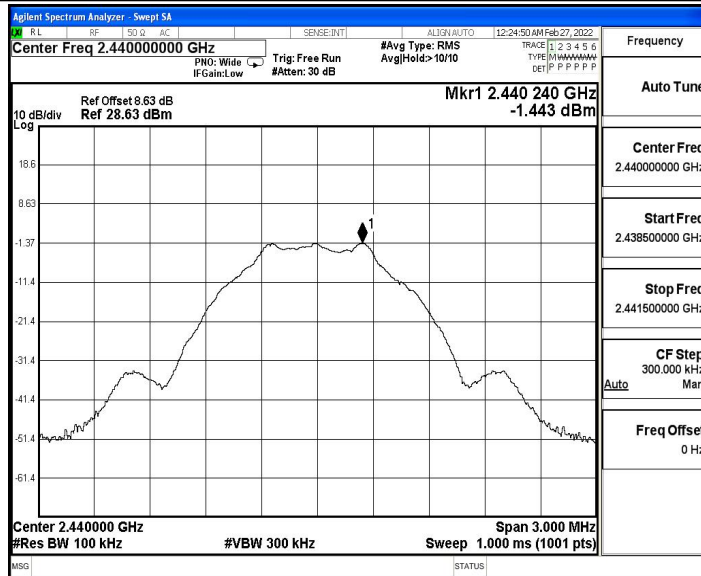
BLE_1M_Ant1_2402_30~1000



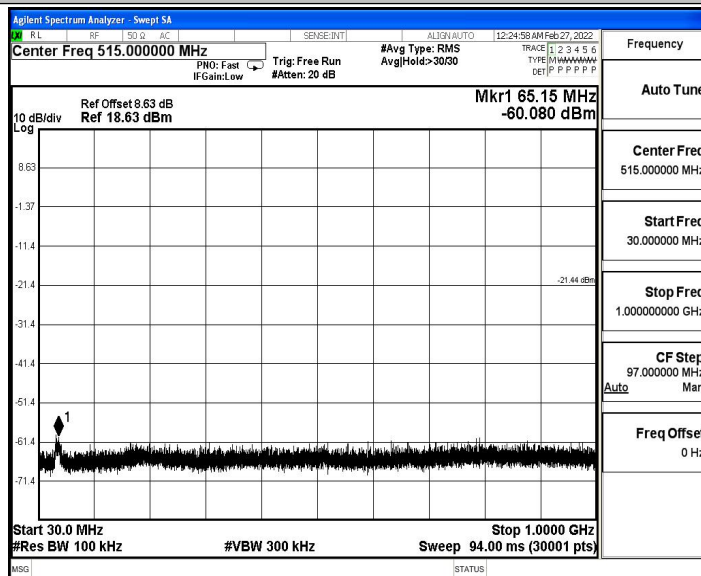
BLE_1M_Ant1_2402_1000~26500



BLE_1M_Ant1_2440_0~Reference

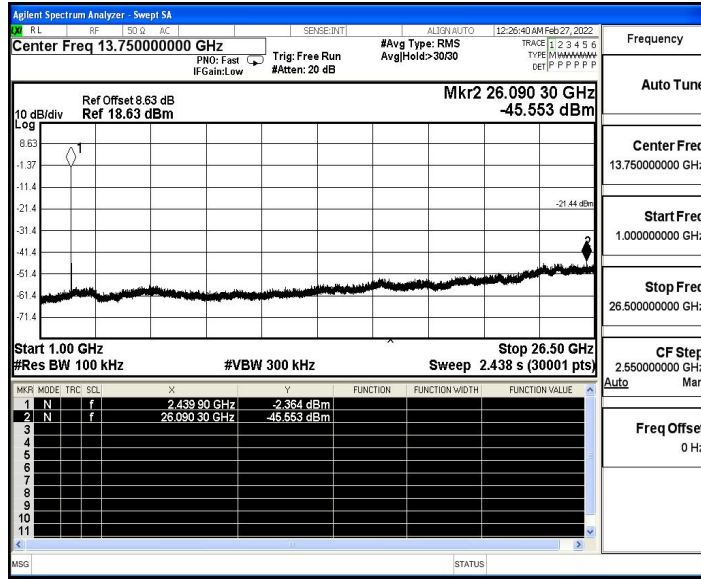


BLE_1M_Ant1_2440_30~1000

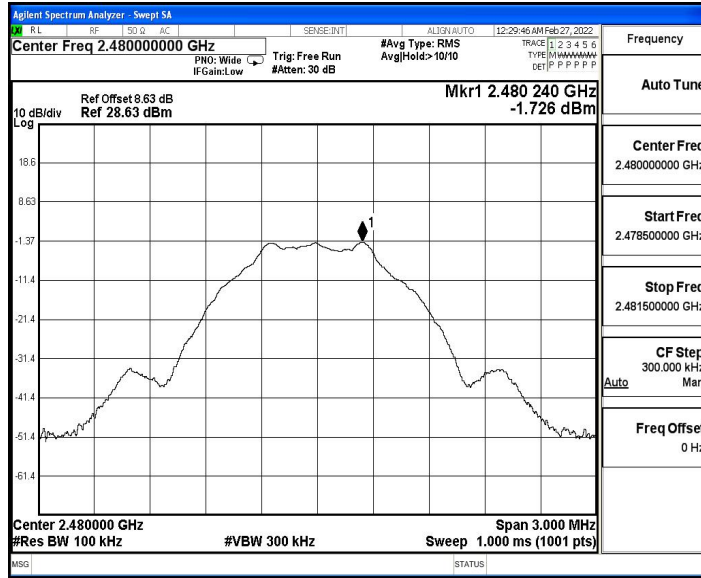




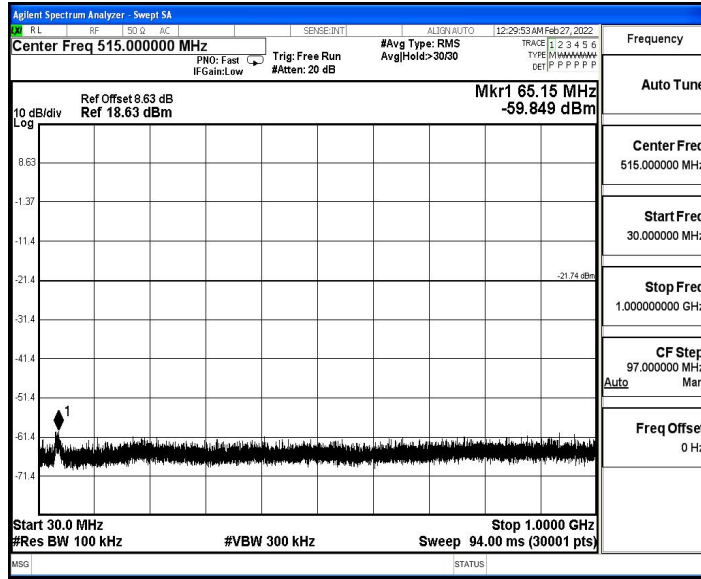
BLE_1M_Ant1_2440_1000~26500



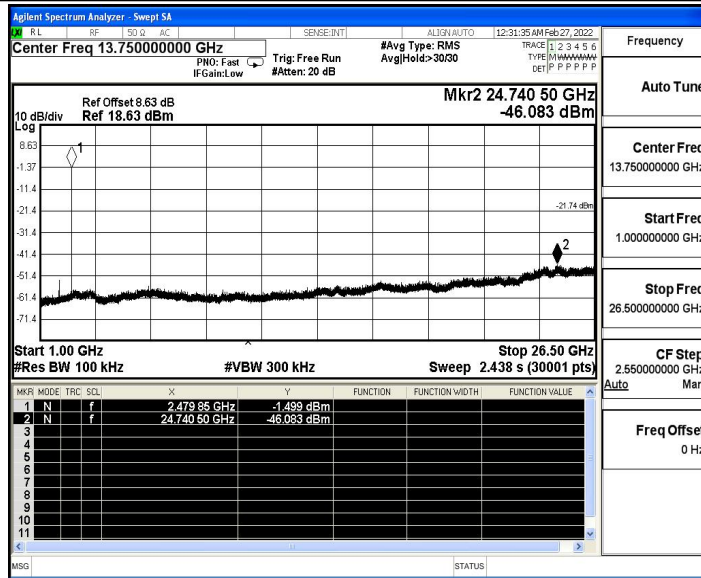
BLE_1M_Ant1_2480_0~Reference



BLE_1M_Ant1_2480_30~1000



BLE_1M_Ant1_2480_1000~26500





A.6 Duty Cycle

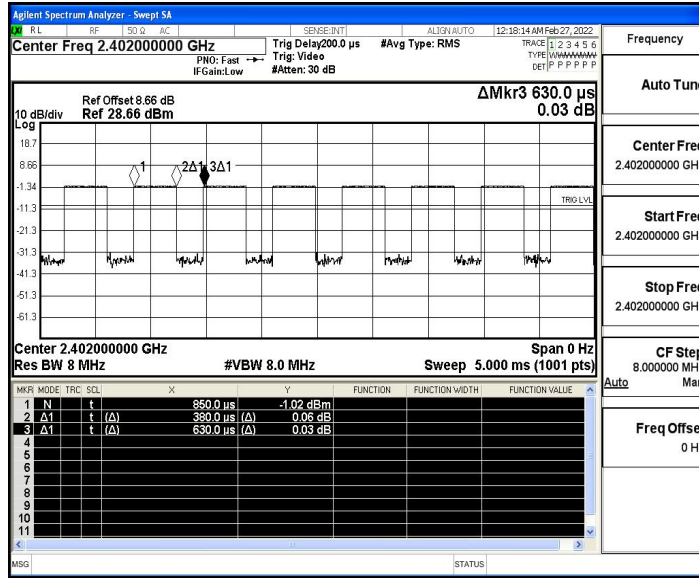
Test Result

TestMode	Antenna	Channel	ON Time [ms]	Period [ms]	X	DC [%]	xFactor	1/T[kHz]
BLE_1M	Ant1	2402	0.38	0.63	0.6032	60.32	2.20	2.63
		2440	0.38	0.63	0.6032	60.32	2.20	2.63
		2480	0.38	0.63	0.6032	60.32	2.20	2.63

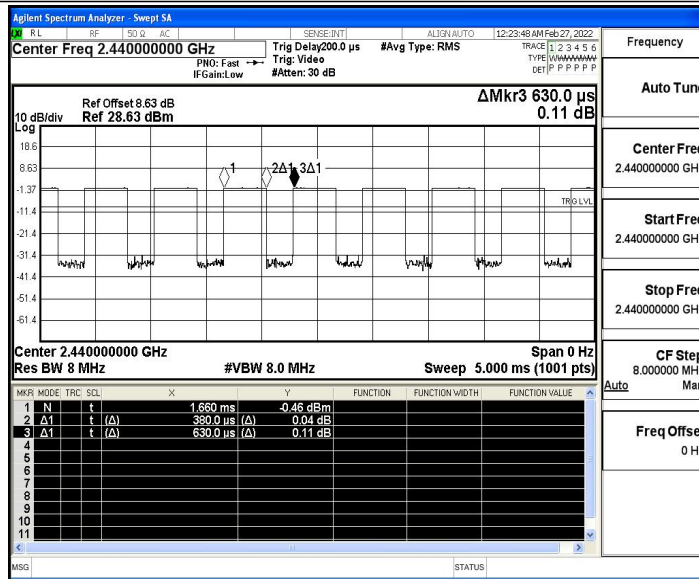


Test Graphs

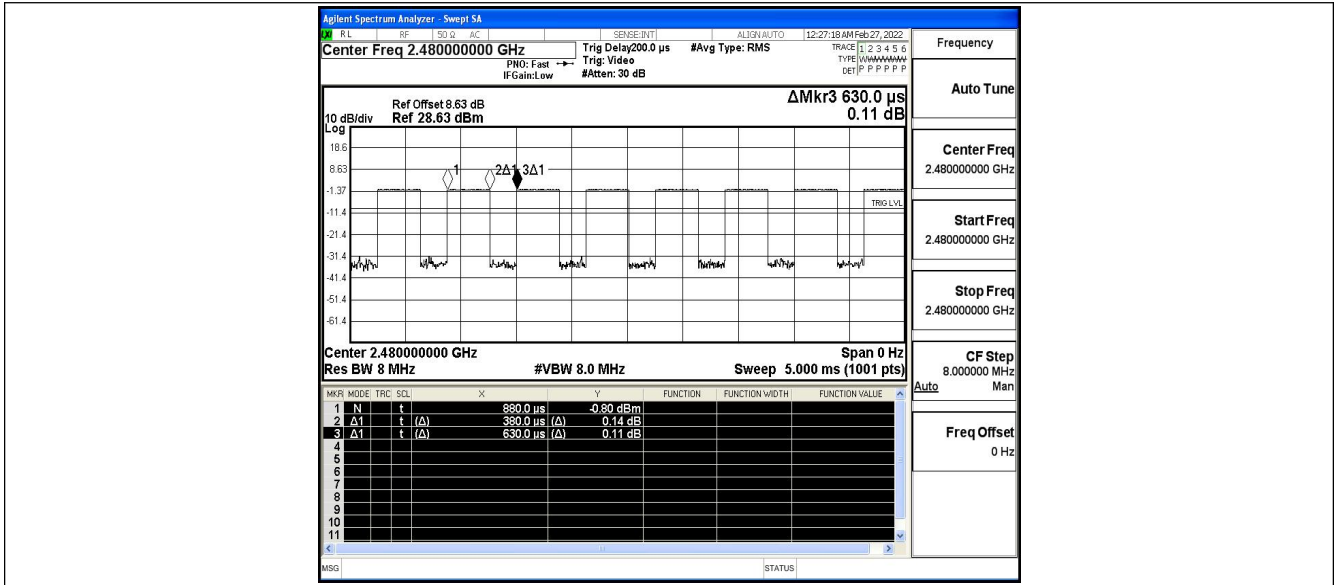
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480





A.7 Emissions in Restricted Bands

Test Result

TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-47.67	≤-41.20	47.53	≤54	PASS
				AV	2385.785	-46.82	≤-41.20	48.38	≤54	PASS
				AV	2390.000	-47.24	≤-41.20	47.96	≤54	PASS
				Peak	2310.000	-38.62	≤-21.20	56.58	≤74	PASS
				Peak	2356.910	-36.79	≤-21.20	58.41	≤74	PASS
				Peak	2390.000	-38.52	≤-21.20	56.68	≤74	PASS
		High	2480	AV	2483.500	-46.52	≤-41.20	48.68	≤54	PASS
				AV	2489.280	-46.4	≤-41.20	48.80	≤54	PASS
				AV	2500.000	-46.59	≤-41.20	48.61	≤54	PASS
				Peak	2483.500	-38.2	≤-21.20	57.00	≤74	PASS
				Peak	2492.480	-35.95	≤-21.20	59.25	≤74	PASS
				Peak	2500.000	-37.64	≤-21.20	57.56	≤74	PASS

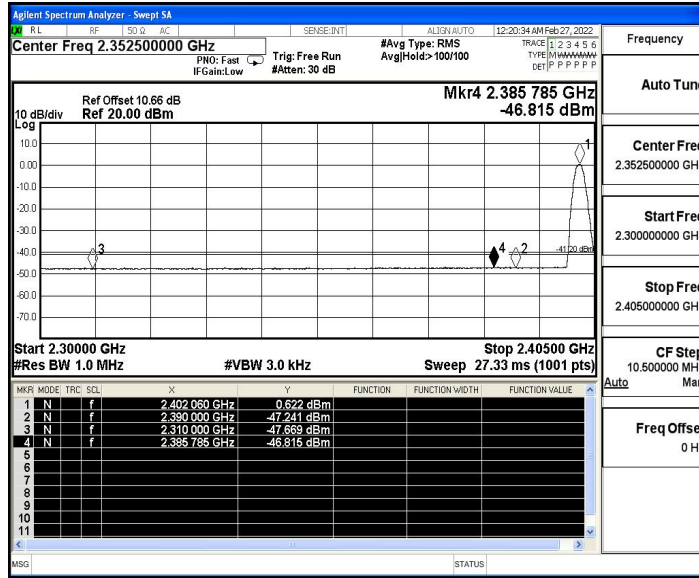
Note:

1. The Antenna Gain is compensated in the graph.
2. 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.

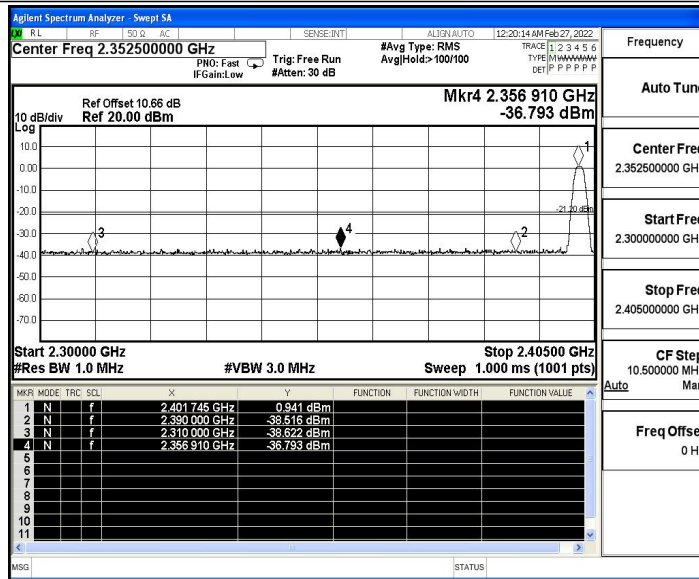


Test Graphs

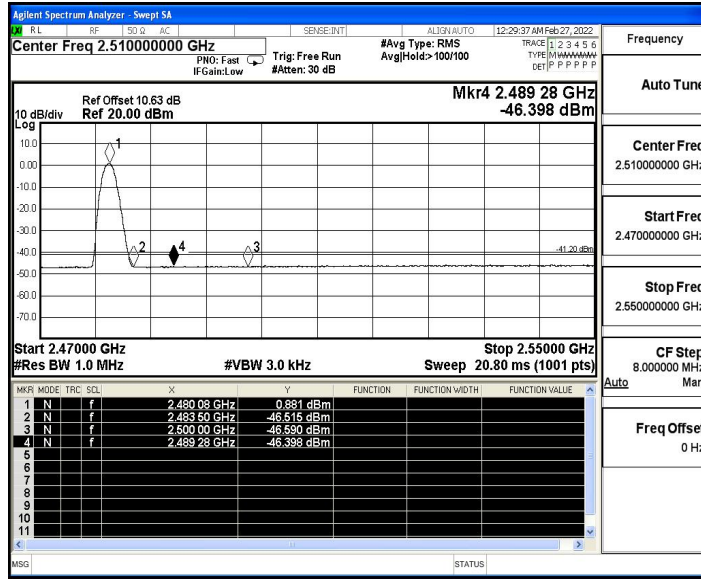
BLE_1M_Ant1_Low_2402_AV



BLE_1M_Ant1_Low_2402_Peak



BLE_1M_Ant1_High_2480_AV



BLE_1M_Ant1_High_2480_Peak

