



Appendix A

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

Product Name: smart bulb

Trade Mark: N/A

Test Model: BR30 CCT 2-A

Environmental Conditions

Temperature:	21.1 ° C
Relative Humidity:	52.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Monkey Li
Supervised by:	Li Huan



A.1 DTS Bandwidth

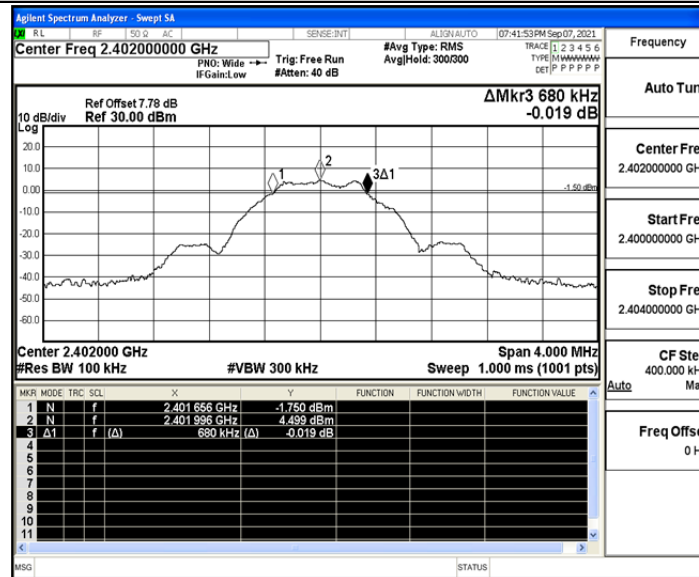
Test Result

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.680	2401.656	2402.336	≥0.5	PASS
		2440	0.668	2439.668	2440.336	≥0.5	PASS
		2480	0.684	2479.660	2480.344	≥0.5	PASS

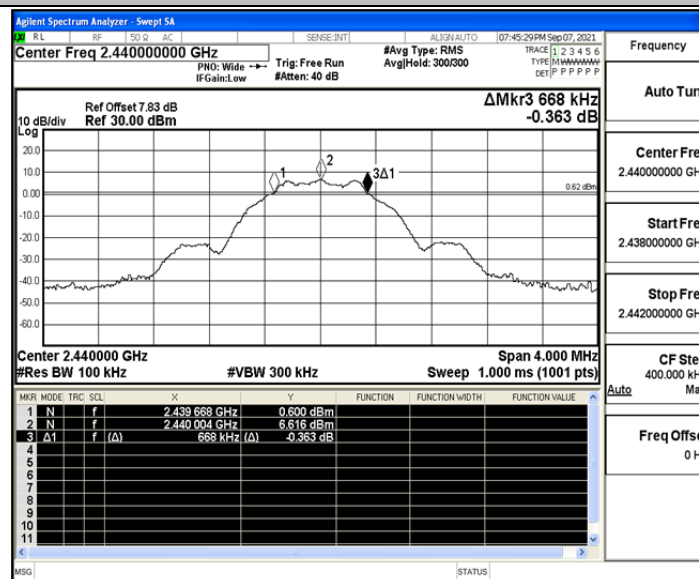


Test Graphs

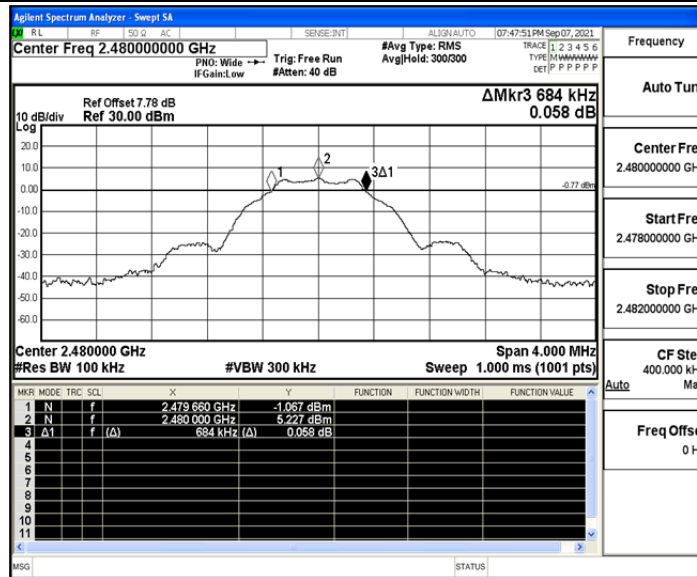
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480





A.2 Maximum peak conducted output power

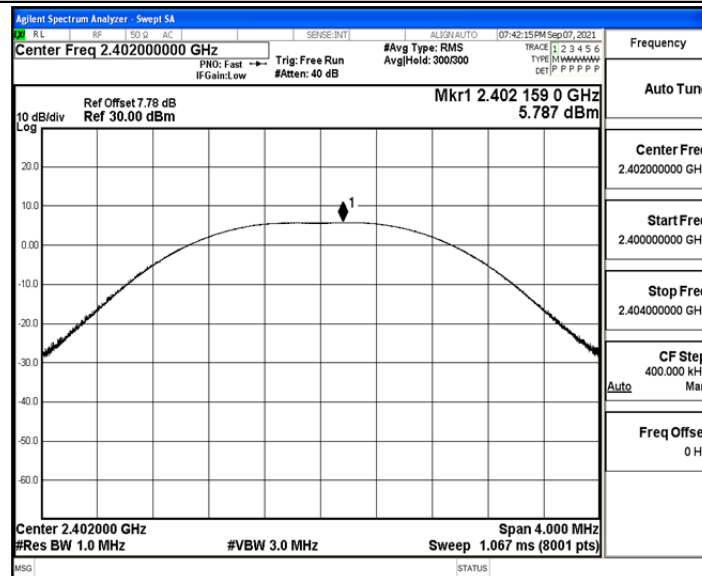
Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	5.79	≤30	PASS
		2440	7.15	≤30	PASS
		2480	5.76	≤30	PASS

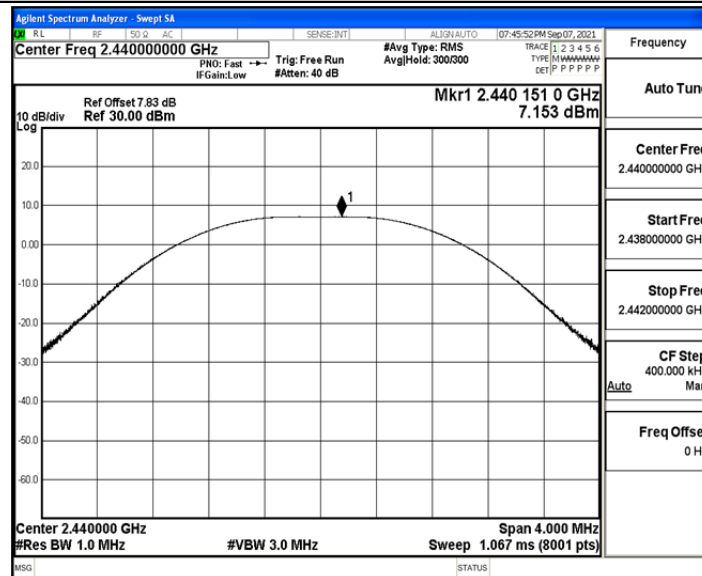


Test Graphs

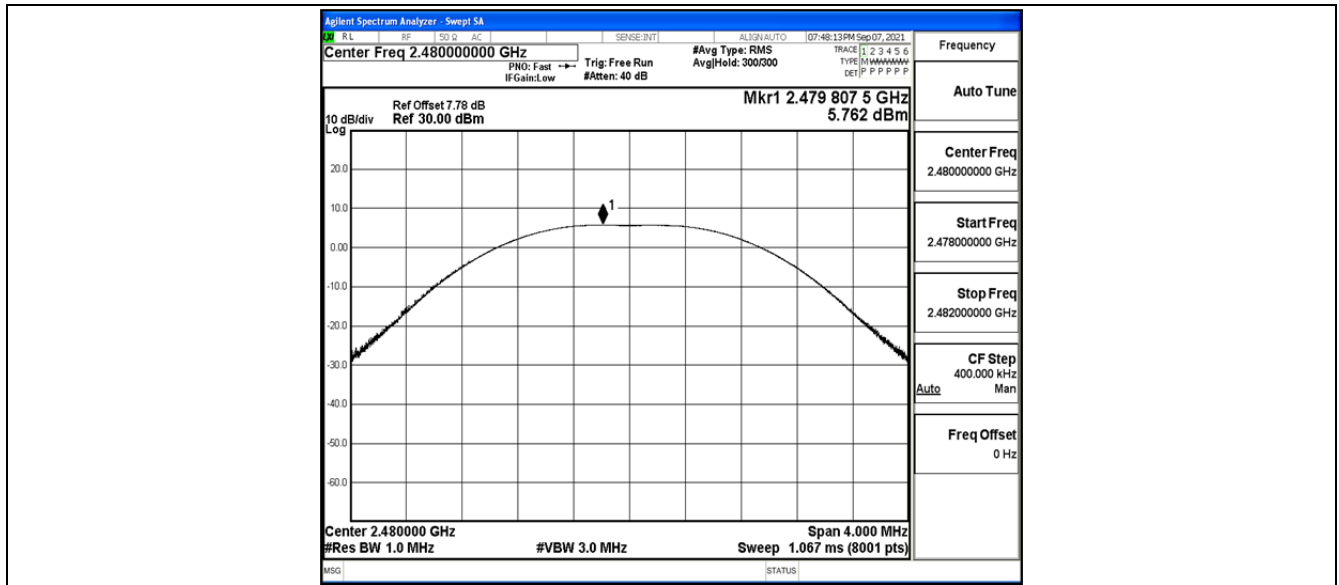
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480





A.3 Maximum power spectral density

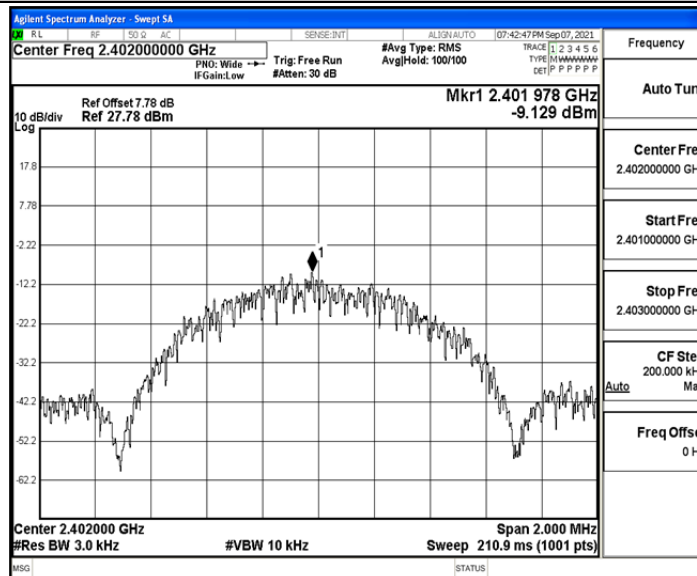
Test Result

TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-9.13	≤8	PASS
		2440	-7.61	≤8	PASS
		2480	-9.03	≤8	PASS

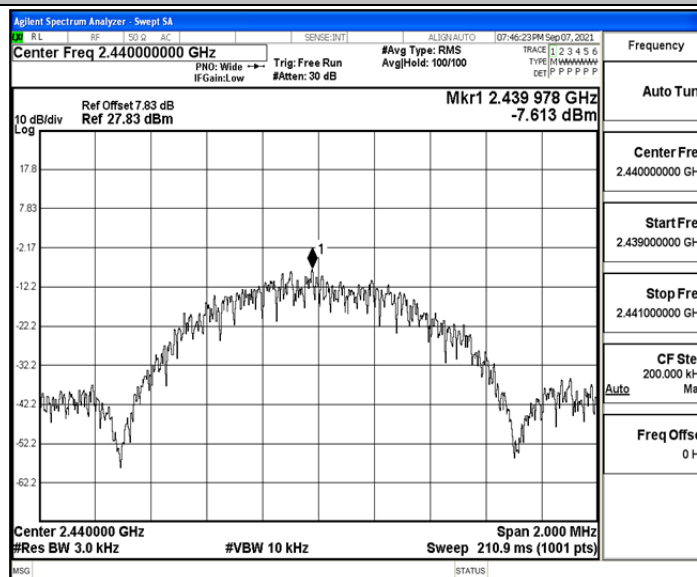


Test Graphs

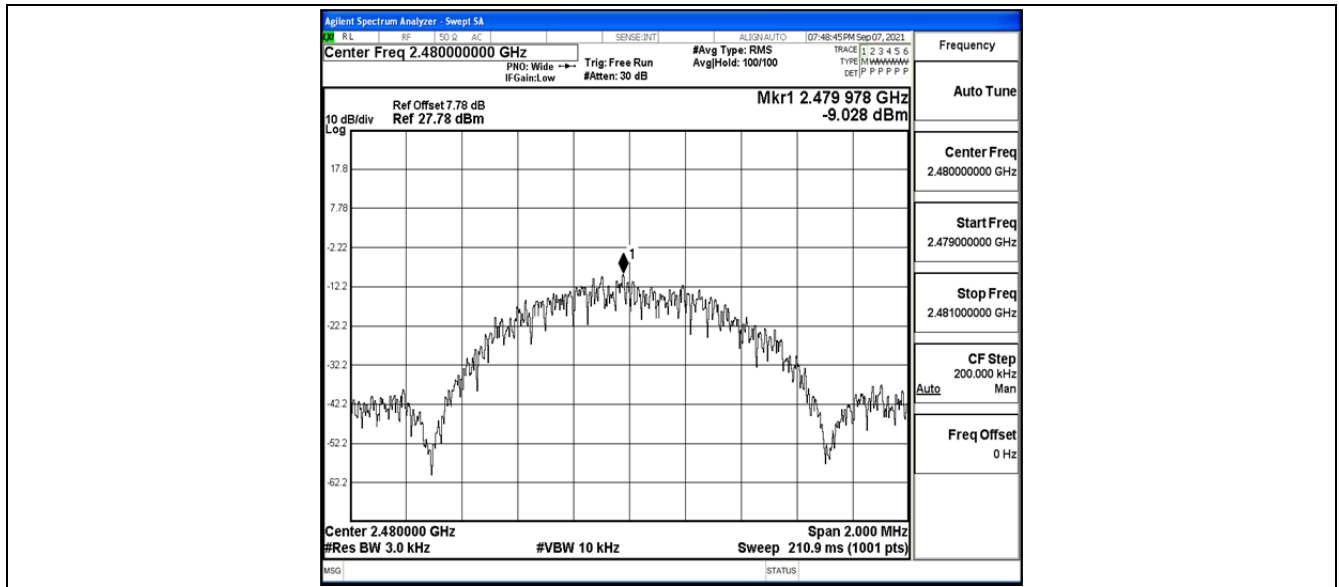
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480





A.4 Band edge measurements

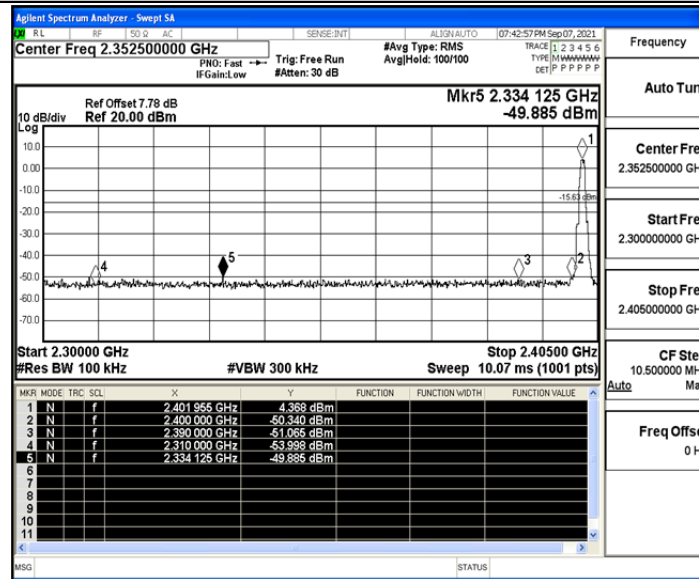
Test Result

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	4.37	-49.89	≤ -15.63	PASS
		High	2480	5.09	-48.69	≤ -14.91	PASS

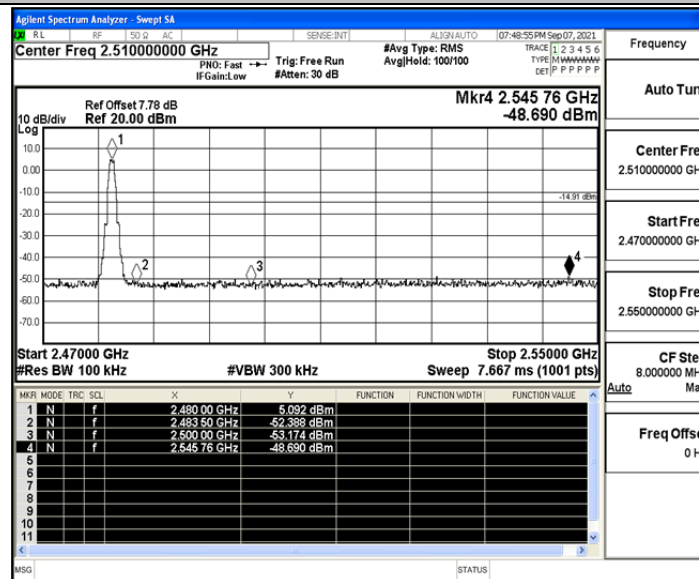


Test Graphs

BLE_1M_Ant1_Low_2402



BLE_1M_Ant1_High_2480





A.5 Conducted Spurious Emission

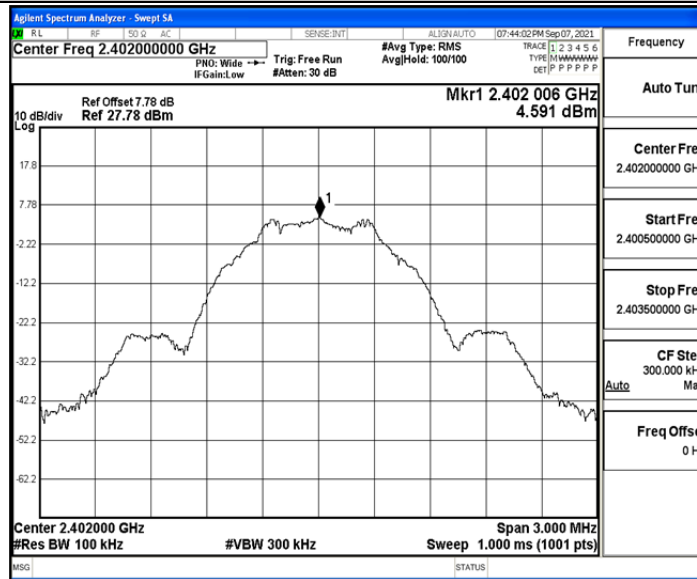
Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	4.59	4.59	---	PASS
			30~1000	4.59	-60.93	≤ -15.41	PASS
			1000~26500	4.59	-47.77	≤ -15.41	PASS
		2440	Reference	6.53	6.53	---	PASS
			30~1000	6.53	-61.69	≤ -13.48	PASS
			1000~26500	6.53	-47.37	≤ -13.48	PASS
		2480	Reference	4.88	4.88	---	PASS
			30~1000	4.88	-61.58	≤ -15.13	PASS
			1000~26500	4.88	-47.29	≤ -15.13	PASS

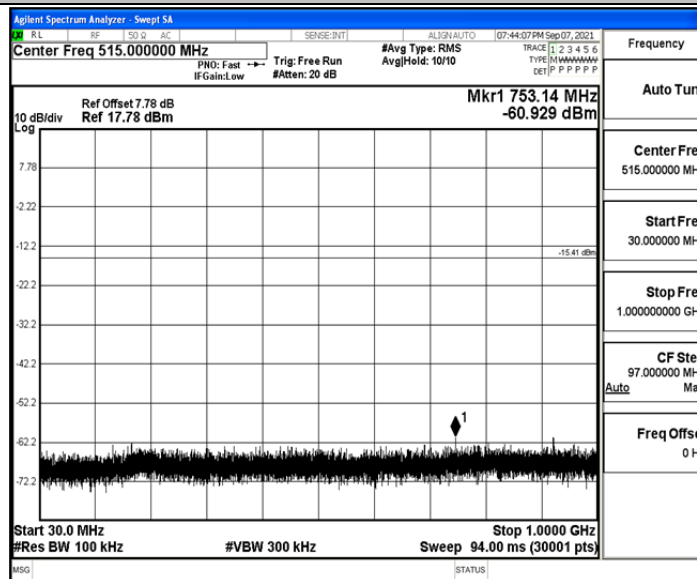


Test Graphs

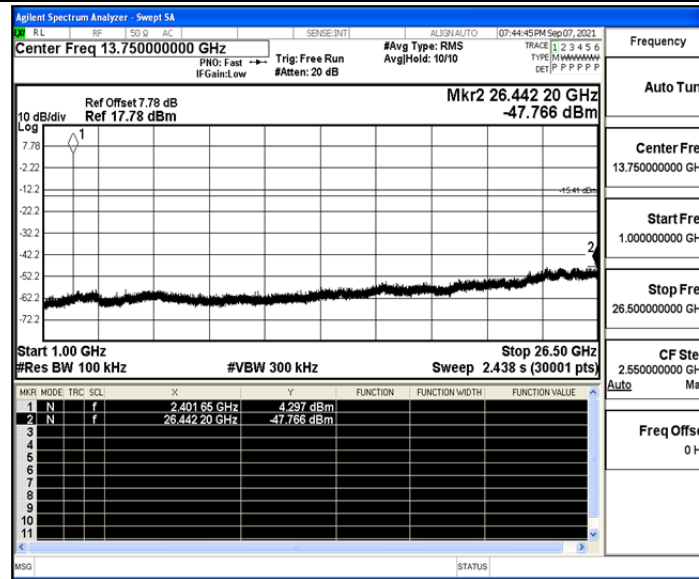
BLE_1M_Ant1_2402_0~Reference



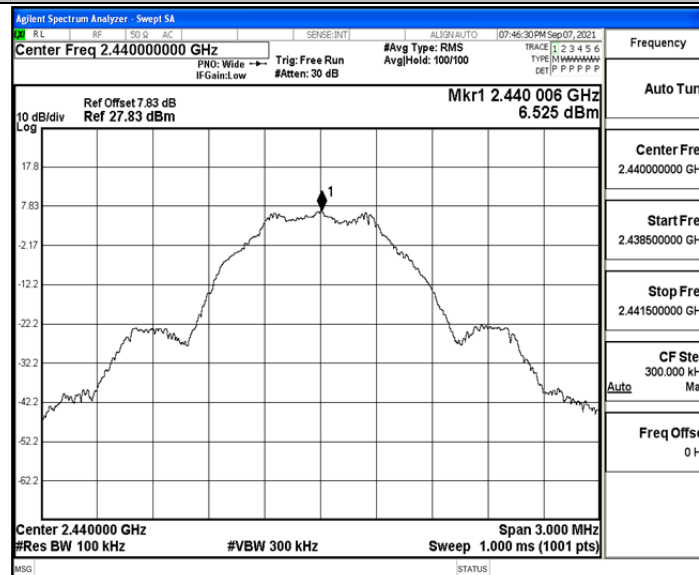
BLE_1M_Ant1_2402_30~1000



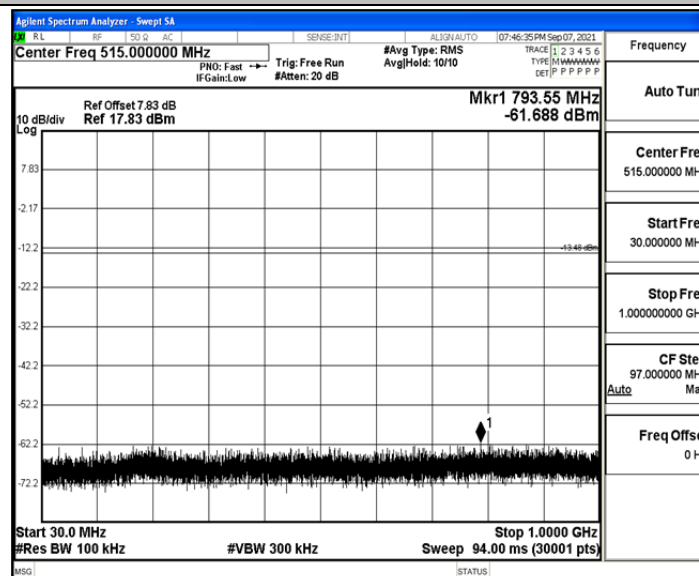
BLE_1M_Ant1_2402_1000~26500



BLE_1M_Ant1_2440_0~Reference

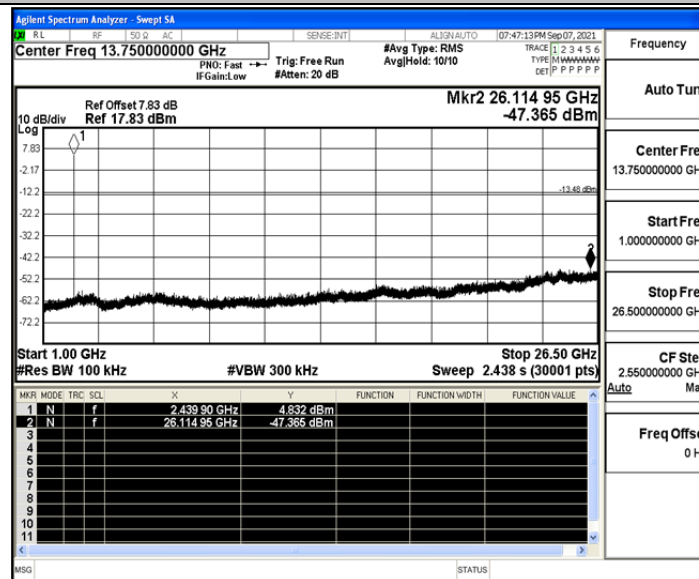


BLE_1M_Ant1_2440_30~1000

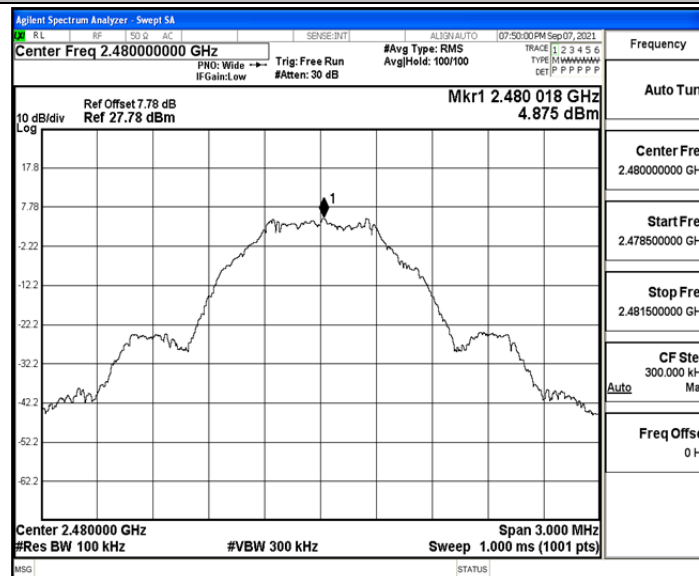




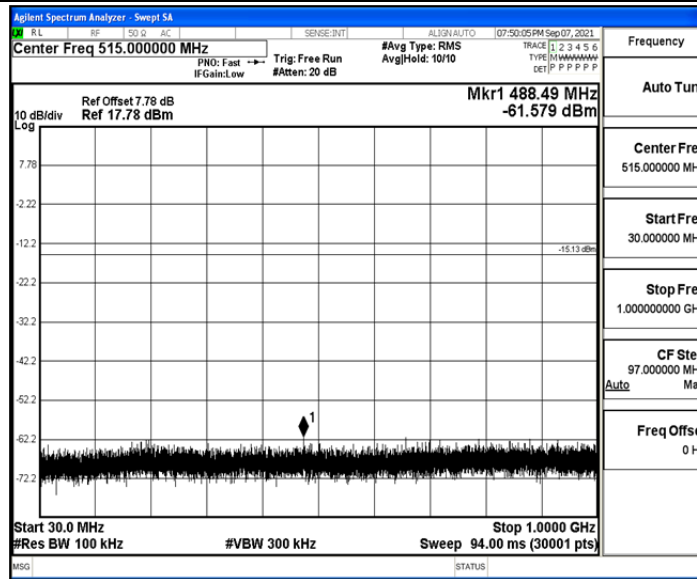
BLE_1M_Ant1_2440_1000~26500



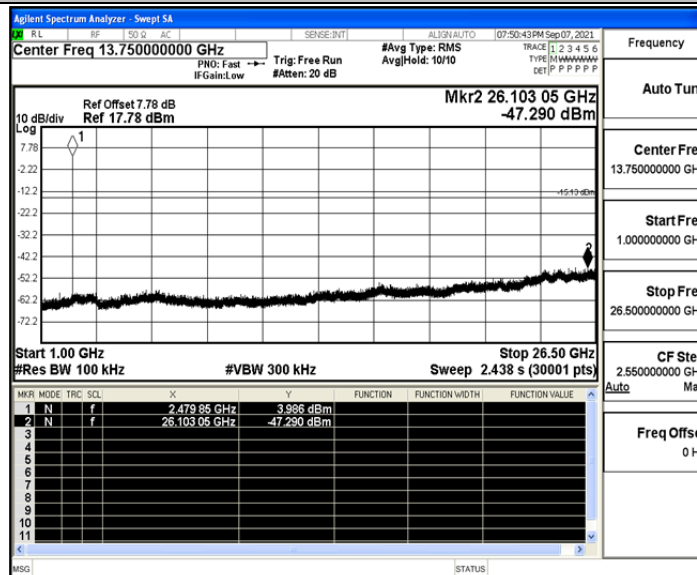
BLE_1M_Ant1_2480_0~Reference



BLE_1M_Ant1_2480_30~1000



BLE_1M_Ant1_2480_1000~26500





A.6 Duty Cycle

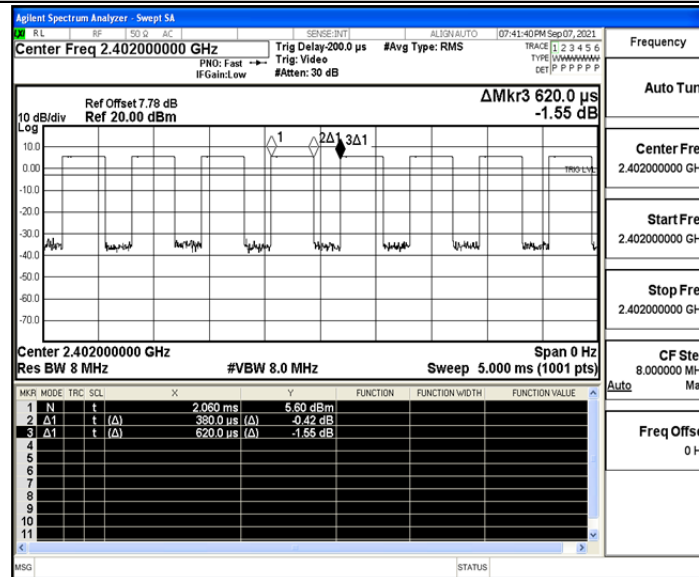
Test Result

TestMode	Antenna	Channel	ON Time [ms]	Period [ms]	X	DC [%]	xFactor	Limit	Verdict
BLE_1M	Ant1	2402	0.38	0.62	0.6129	61.29	2.13	---	PASS
		2440	0.38	0.62	0.6129	61.29	2.13	---	PASS
		2480	0.39	0.63	0.6190	61.90	2.08	---	PASS

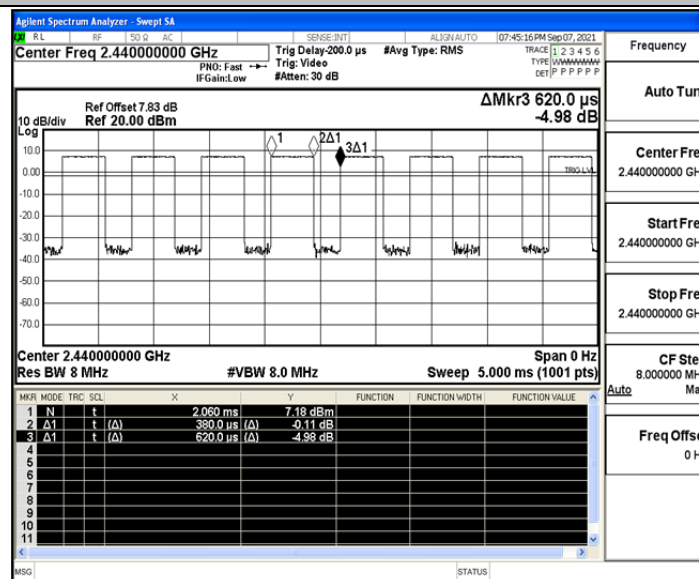


Test Graphs

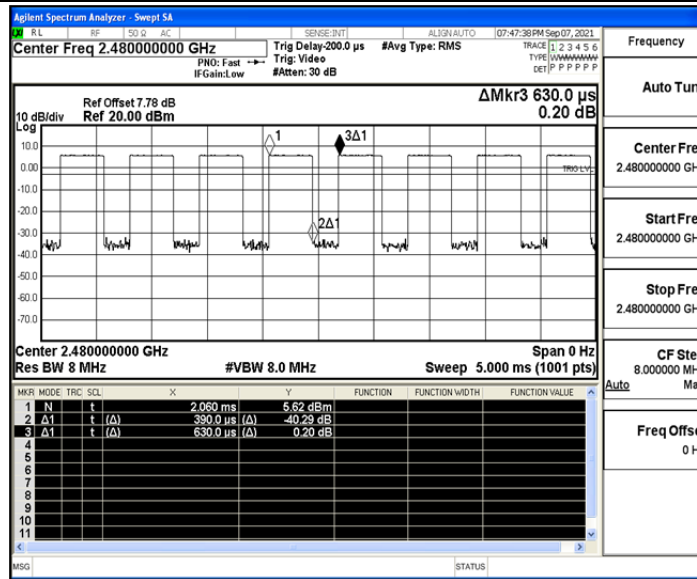
BLE_1M_Ant1_2402



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	-48.56	≤-41.20	46.64	≤54	PASS
				AV	2378.435	-47.61	≤-41.20	47.59	≤54	PASS
				AV	2390.000	-48.2	≤-41.20	47.00	≤54	PASS
				Peak	2310.000	-41.84	≤-21.20	53.36	≤74	PASS
				Peak	2332.550	-38.84	≤-21.20	56.36	≤74	PASS
				Peak	2390.000	-41.72	≤-21.20	53.48	≤74	PASS
		High	2480	AV	2483.500	-45.99	≤-41.20	49.21	≤54	PASS
				AV	2483.520	-45.99	≤-41.20	49.21	≤54	PASS
				AV	2500.000	-47.66	≤-41.20	47.54	≤54	PASS
				Peak	2483.500	-40.14	≤-21.20	55.06	≤74	PASS
				Peak	2490.720	-38.11	≤-21.20	57.09	≤74	PASS
				Peak	2500.000	-40.32	≤-21.20	54.88	≤74	PASS

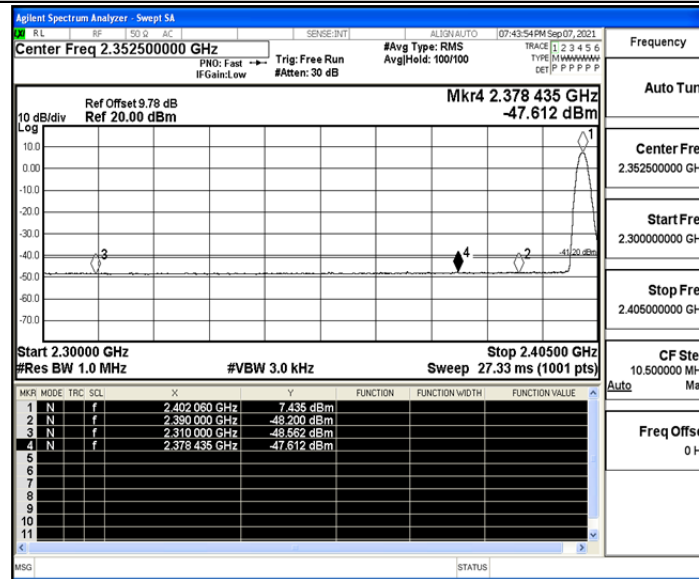
Note:

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.

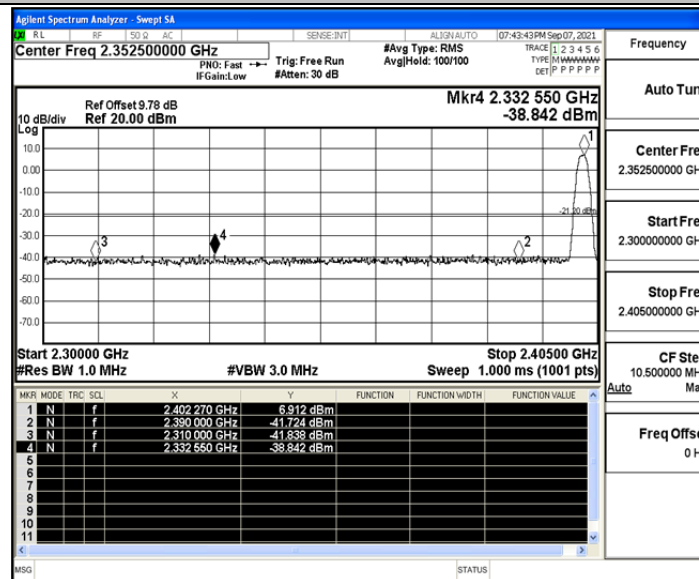


Test Graphs

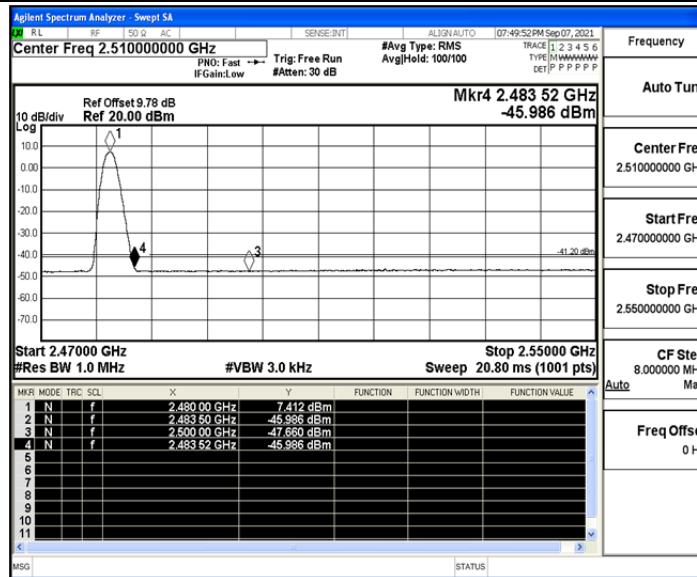
BLE_1M_Ant1_Low_2402_AV



BLE_1M_Ant1_Low_2402_Peak



BLE_1M_Ant1_High_2480_AV



BLE_1M_Ant1_High_2480_Peak

