



Appendix B

RF Test Data for BT LE (Conducted Measurement)

Product Name: Laser Projection TV

Test Model: MaxAngel M1

Environmental Conditions

Temperature:	22.7°C
Relative Humidity:	53.8%
ATM Pressure:	100.0 kPa
Test Engineer:	 Bill Zhu
Supervised by:	 Li Huan



B.1 DTS Bandwidth

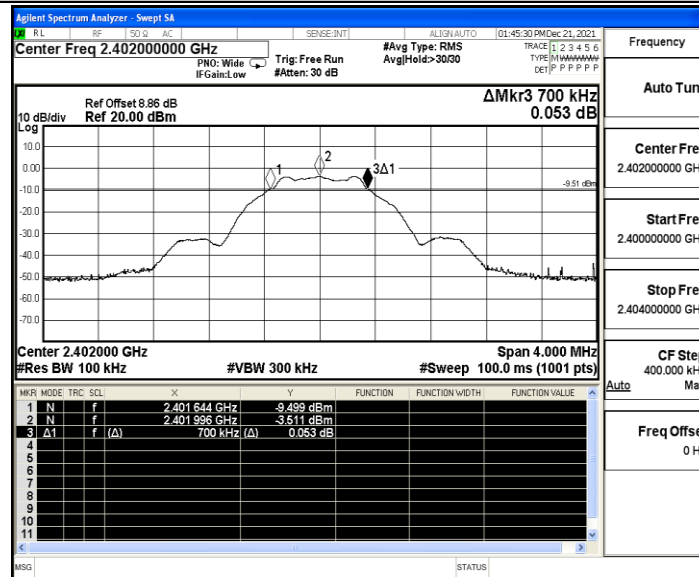
Test Result

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	BT ANT	2402	0.700	2401.644	2402.344	0.5	PASS
		2440	0.684	2439.656	2440.340	0.5	PASS
		2480	0.688	2479.656	2480.344	0.5	PASS

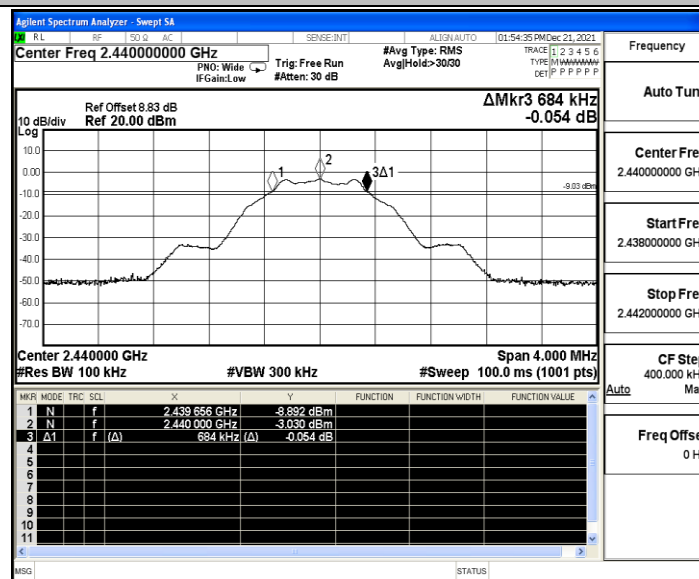


Test Graphs

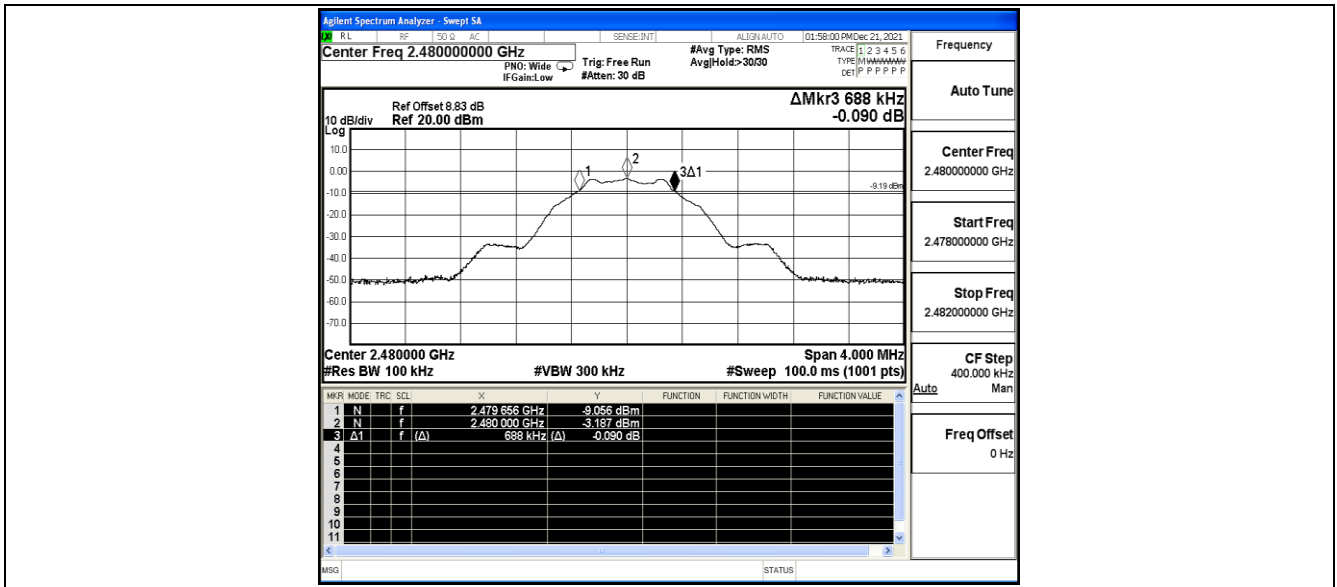
BLE_1M_BT ANT_2402



BLE_1M_BT ANT_2440



BLE_1M_BT ANT_2480





B.2 Maximum peak conducted output power

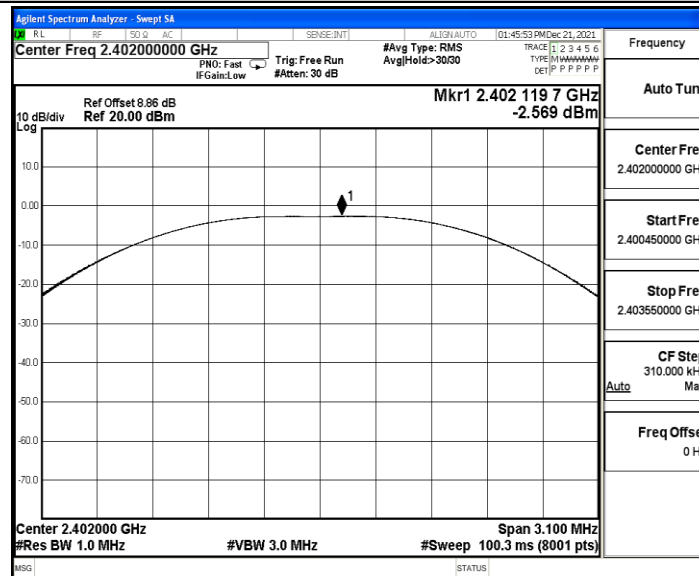
Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	BT ANT	2402	-2.57	≤30	PASS
		2440	-2.38	≤30	PASS
		2480	-2.55	≤30	PASS

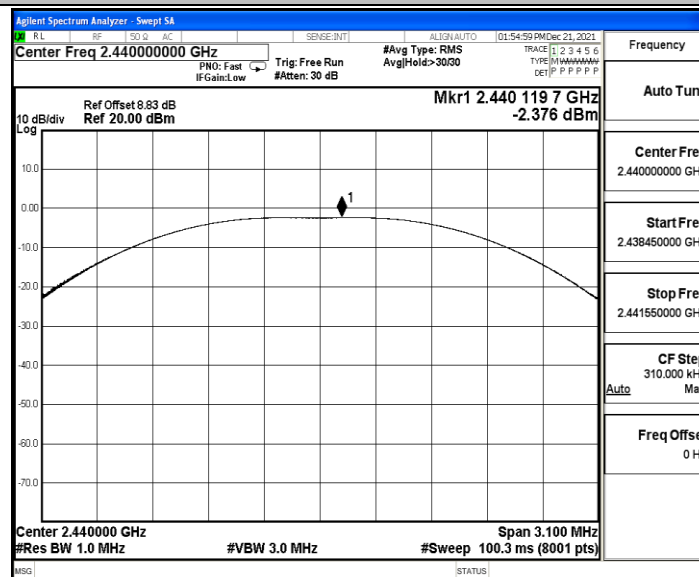


Test Graphs

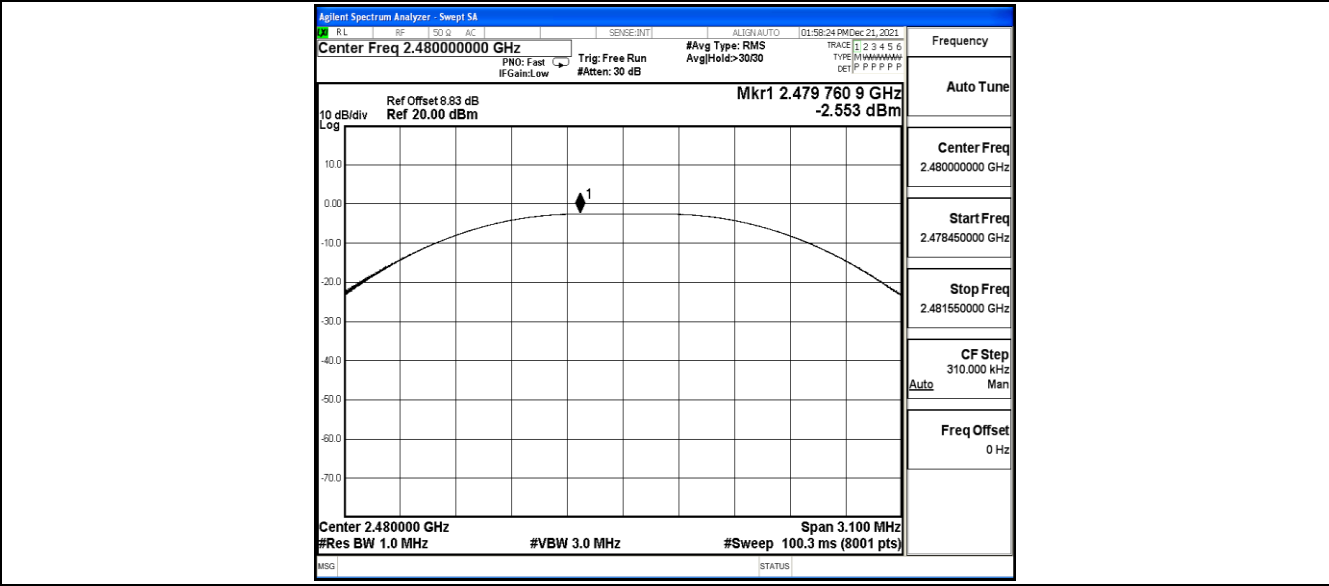
BLE_1M_BT ANT_2402



BLE_1M_BT ANT_2440



BLE_1M_BT ANT_2480





B.3 Maximum power spectral density

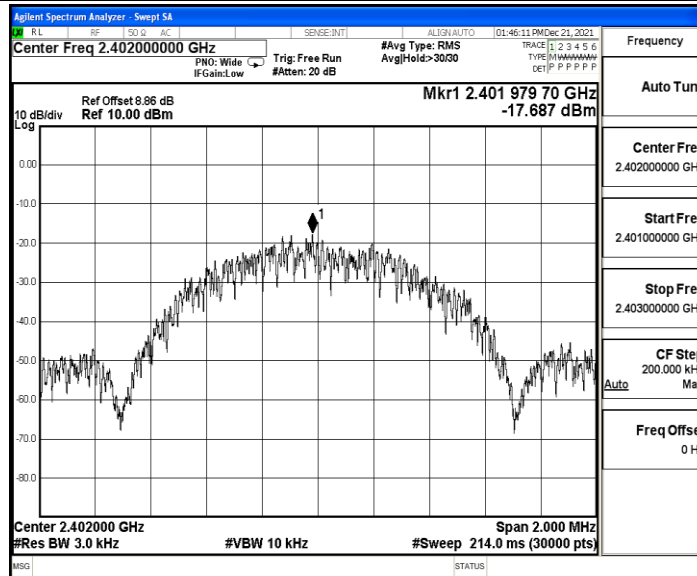
Test Result

TestMode	Antenna	Channel	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	BT ANT	2402	-17.69	≤8.00	PASS
		2440	-18.29	≤8.00	PASS
		2480	-18.48	≤8.00	PASS

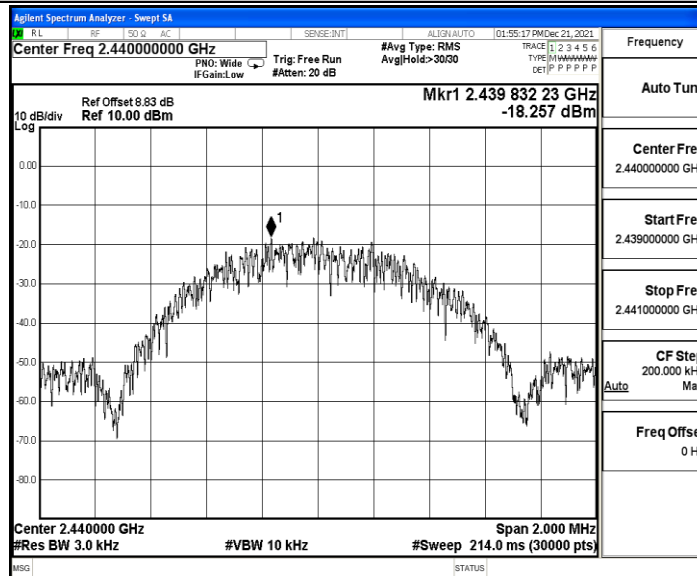


Test Graphs

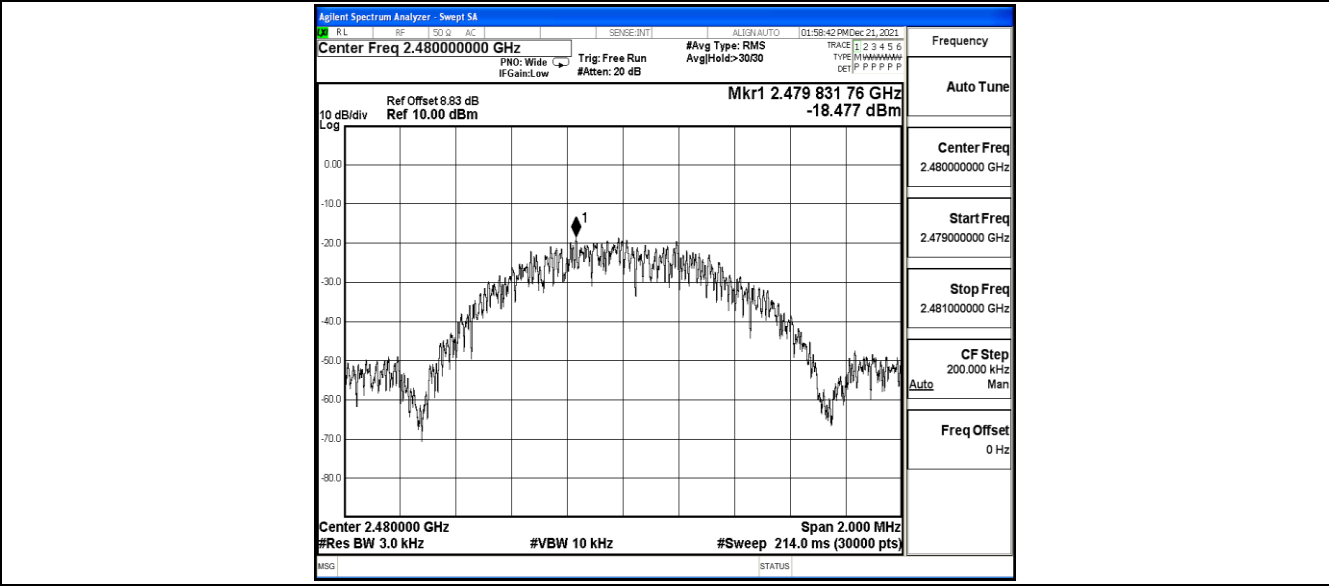
BLE_1M_BT ANT_2402



BLE_1M_BT ANT_2440



BLE_1M_BT ANT_2480





B.4 Band edge measurements

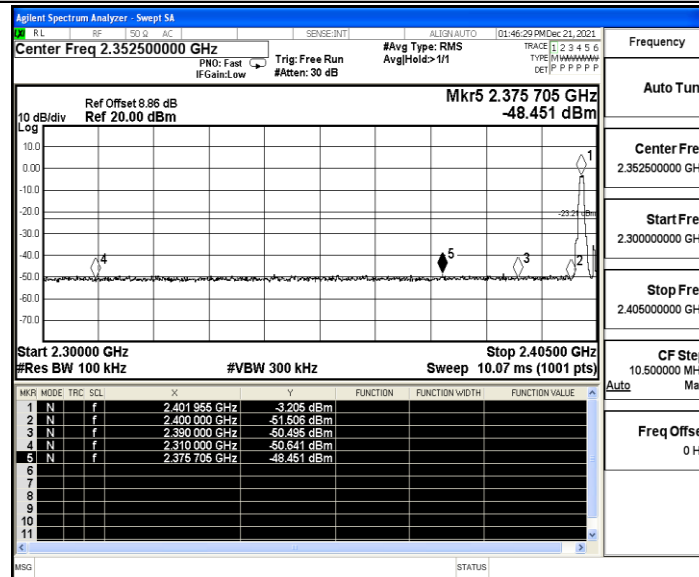
Test Result

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	BT ANT	Low	2402	-3.21	-48.45	≤ -23.21	PASS
		High	2480	-3.13	-46.23	≤ -23.13	PASS

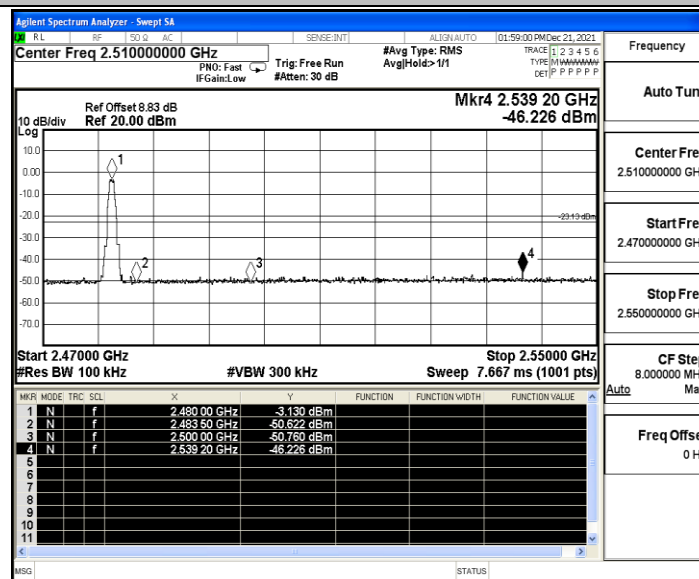


Test Graphs

BLE_1M_BT ANT_Low_2402



BLE_1M_BT ANT_High_2480





B.5 Conducted Spurious Emission

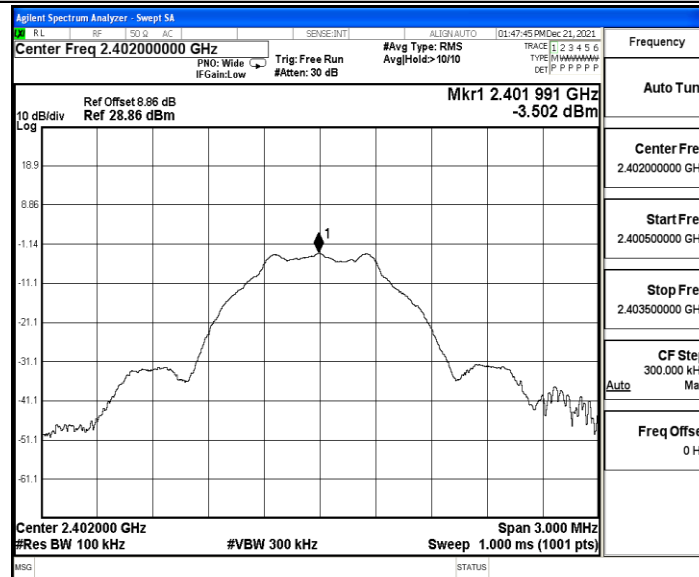
Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	BT ANT	2402	Reference	-3.50	-3.50	---	PASS
			30~1000	-3.50	-60.41	≤ -23.5	PASS
			1000~26500	-3.50	-45.37	≤ -23.5	PASS
		2440	Reference	-3.01	-3.01	---	PASS
			30~1000	-3.01	-51.6	≤ -23.01	PASS
			1000~26500	-3.01	-44.93	≤ -23.01	PASS
		2480	Reference	-3.20	-3.20	---	PASS
			30~1000	-3.20	-60.63	≤ -23.2	PASS
			1000~26500	-3.20	-45.6	≤ -23.2	PASS

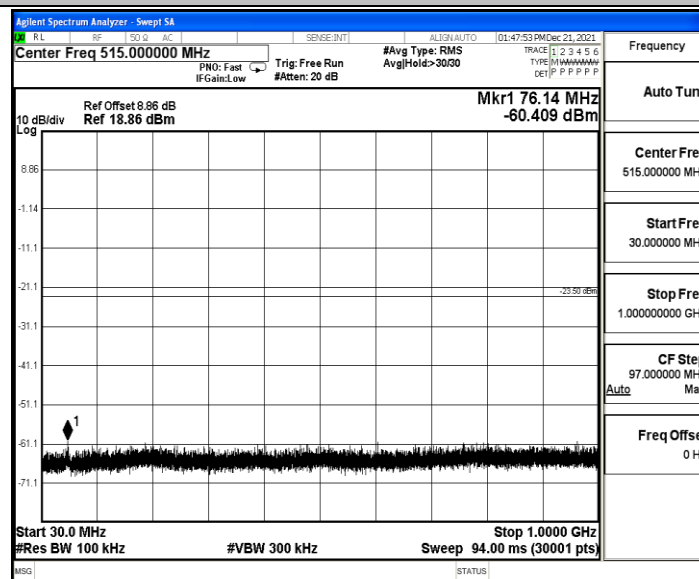


Test Graphs

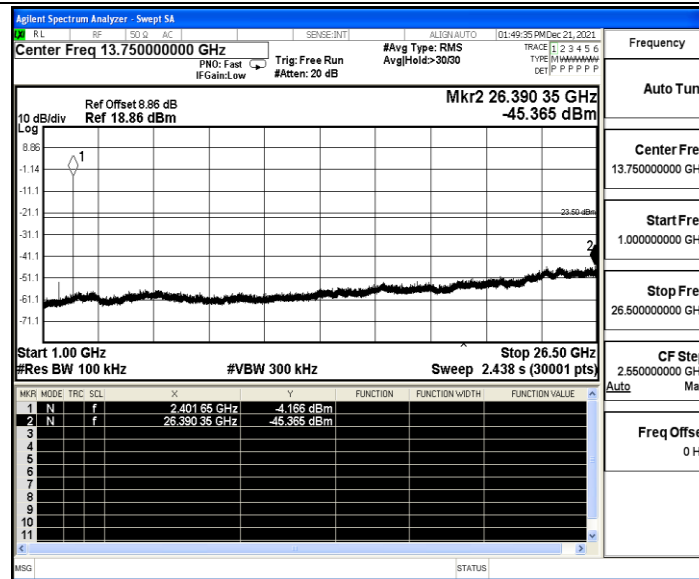
BLE_1M_BT ANT_2402_0~Reference



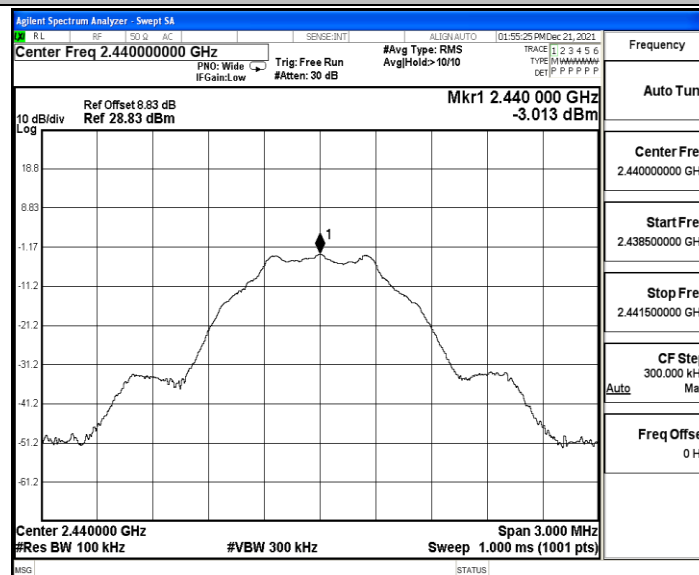
BLE_1M_BT ANT_2402_30~1000



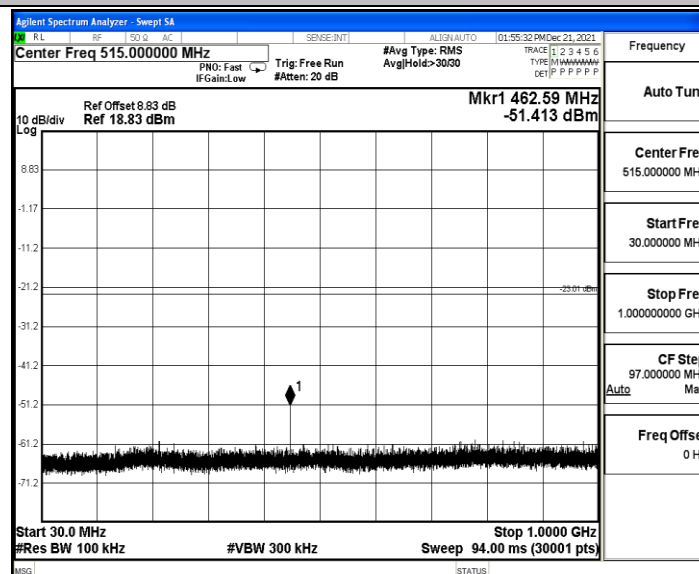
BLE_1M_BT ANT_2402_1000~26500



BLE_1M_BT ANT_2440_0-Reference

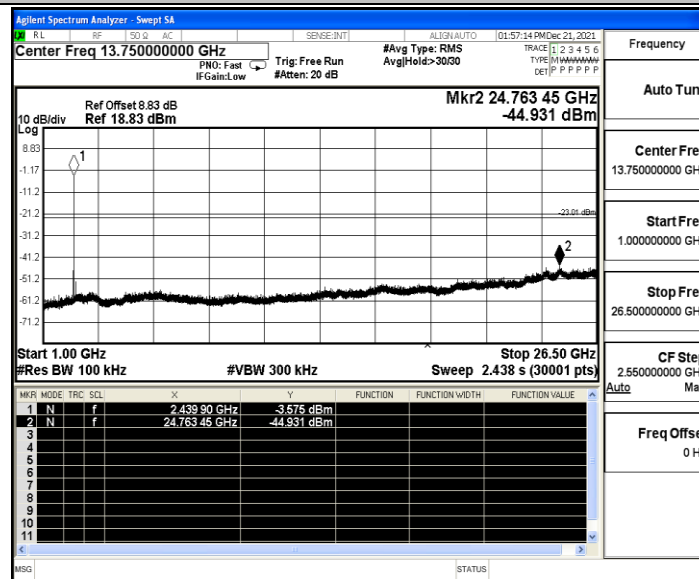


BLE_1M_BT ANT_2440_30-1000

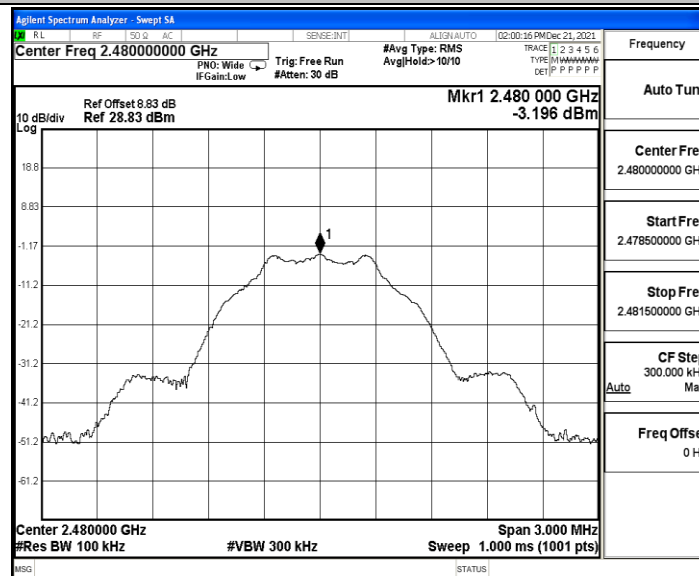




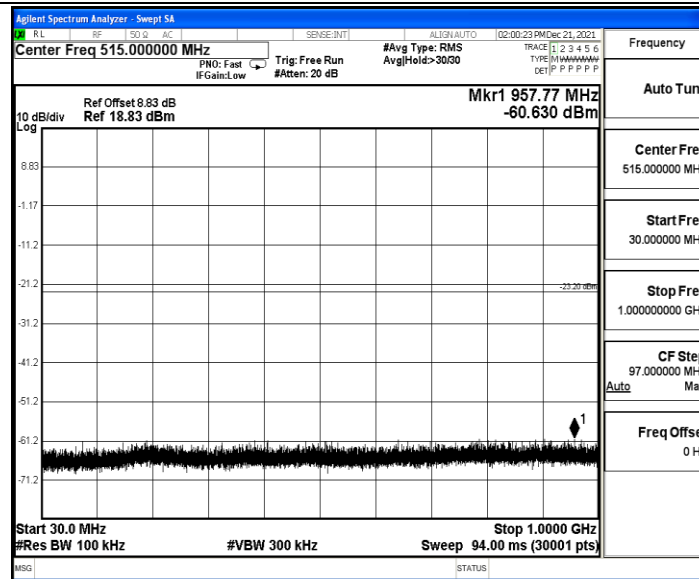
BLE_1M_BT ANT_2440_1000~26500



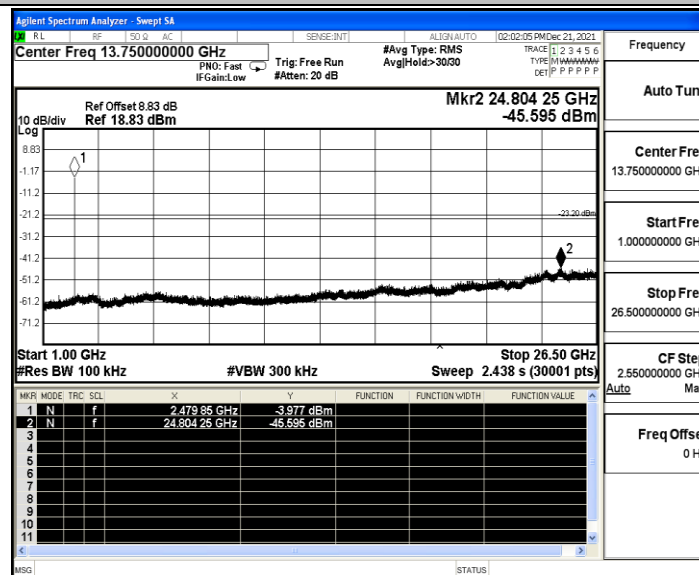
BLE_1M_BT ANT_2480_0~Reference



BLE_1M_BT ANT_2480_30~1000



BLE_1M_BT ANT_2480_1000~26500





B.6 Duty Cycle

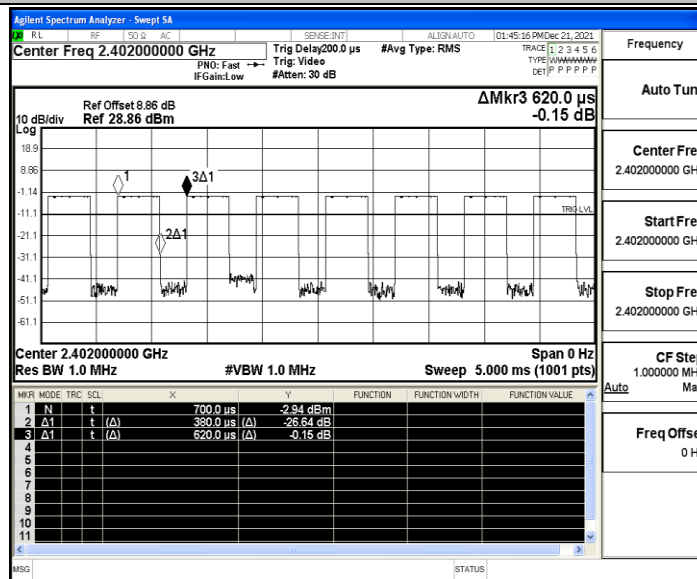
Test Result

TestMode	Antenna	Channel	ON Time [ms]	Period [ms]	X	DC [%]	xFactor	Limit	Verdict
BLE_1M	BT ANT	2402	0.38	0.62	0.6129	61.29	2.13	---	---
		2440	0.38	0.62	0.6129	61.29	2.13	---	---
		2480	0.40	1.25	0.3200	32.00	4.95	---	---

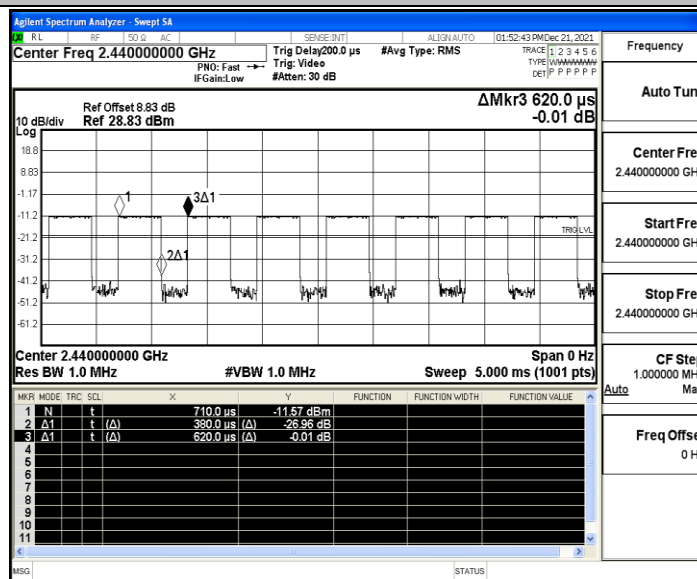


Test Graphs

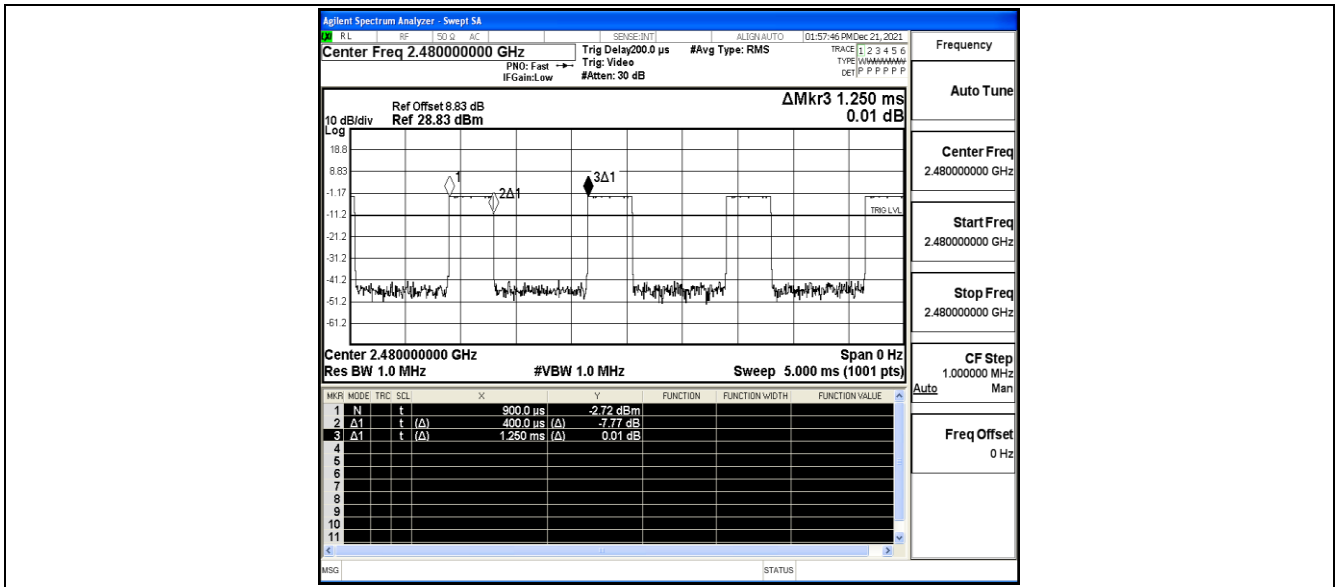
BLE_1M_BT ANT_2402



BLE_1M_BT ANT_2440



BLE_1M_BT ANT_2480





B.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	BT ANT	Low	2402	AV	2310.000	-47.33	≤-41.20	47.87	≤54	PASS
				AV	2387.990	-46.48	≤-41.20	48.72	≤54	PASS
				AV	2390.000	-46.97	≤-41.20	48.23	≤54	PASS
				Peak	2310.000	-37.45	≤-21.20	57.75	≤74	PASS
				Peak	2353.025	-36.2	≤-21.20	59.00	≤74	PASS
				Peak	2390.000	-37.6	≤-21.20	57.60	≤74	PASS
		High	2480	AV	2483.500	-46.43	≤-41.20	48.77	≤54	PASS
				AV	2496.080	-45.8	≤-41.20	49.40	≤54	PASS
				AV	2500.000	-46.02	≤-41.20	49.18	≤54	PASS
				Peak	2483.500	-37.9	≤-21.20	57.30	≤74	PASS
				Peak	2490.960	-36.11	≤-21.20	59.09	≤74	PASS
				Peak	2500.000	-36.19	≤-21.20	59.01	≤74	PASS

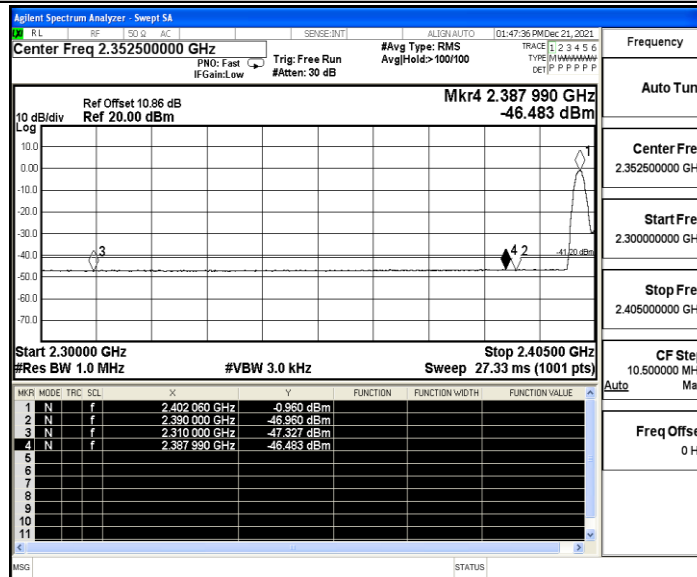
Note:

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.

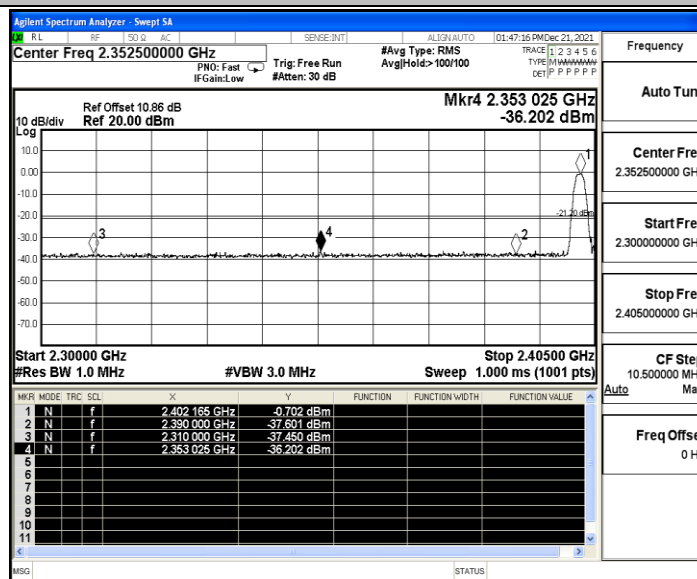


Test Graphs

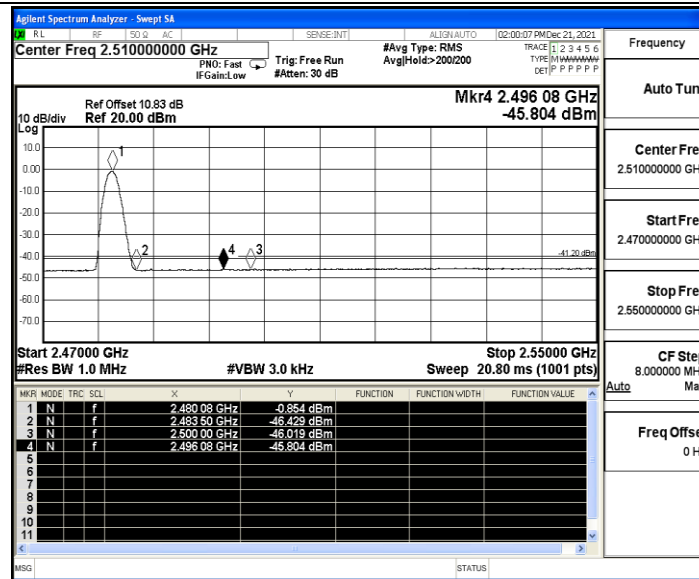
BLE_1M_BT ANT_Low_2402_AV



BLE_1M_BT ANT_Low_2402_Peak



BLE_1M_BT ANT_High_2480_AV



BLE_1M_BT ANT_High_2480_Peak

