



Appendix A

RF Test Data for BT LE (Conducted Measurement)

Product Name: 1-10V wireless dimming controller

Test Model: TPTSWDL1D1LG

Environmental Conditions

Temperature:	23.2℃
Relative Humidity:	53.5%
ATM Pressure:	100.0 kPa
Test Engineer:	<i>Lh Li</i> Lh Li
Supervised by:	<i>Libm</i> Li Huan





A.1 DTS Bandwidth

Test Result

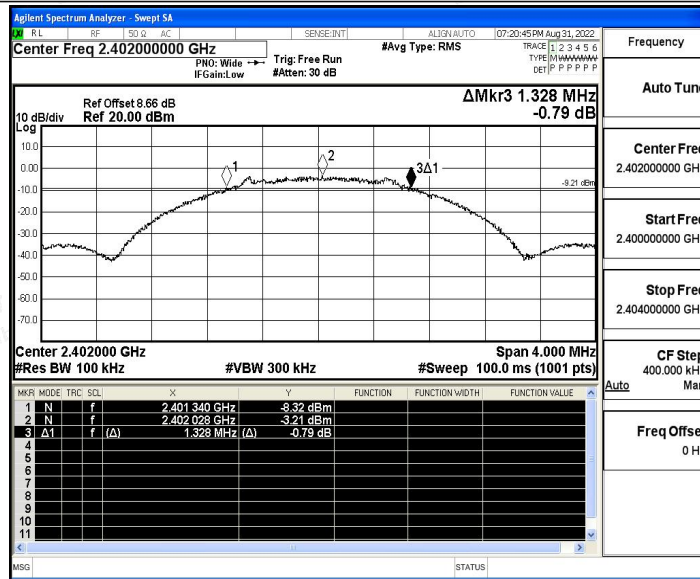
TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_2M	Ant1	2402	1.328	2401.340	2402.668	0.5	PASS
		2440	1.408	2439.304	2440.712	0.5	PASS
		2480	1.340	2479.344	2480.684	0.5	PASS



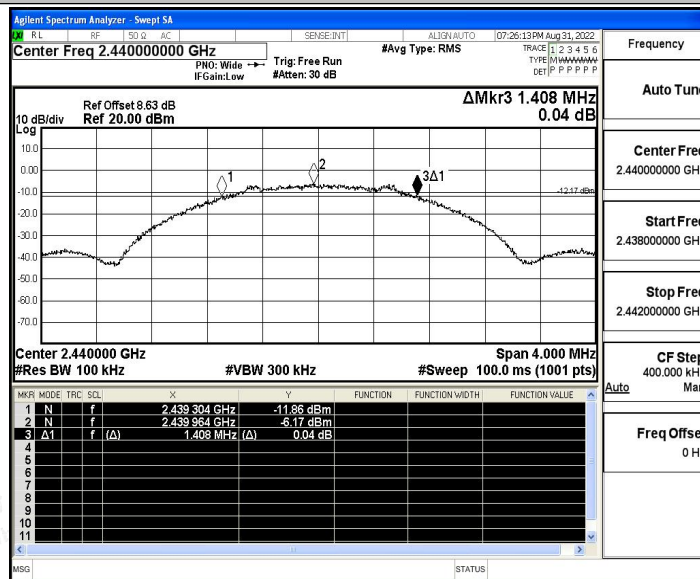


Test Graphs

BLE_2M_Ant1_2402

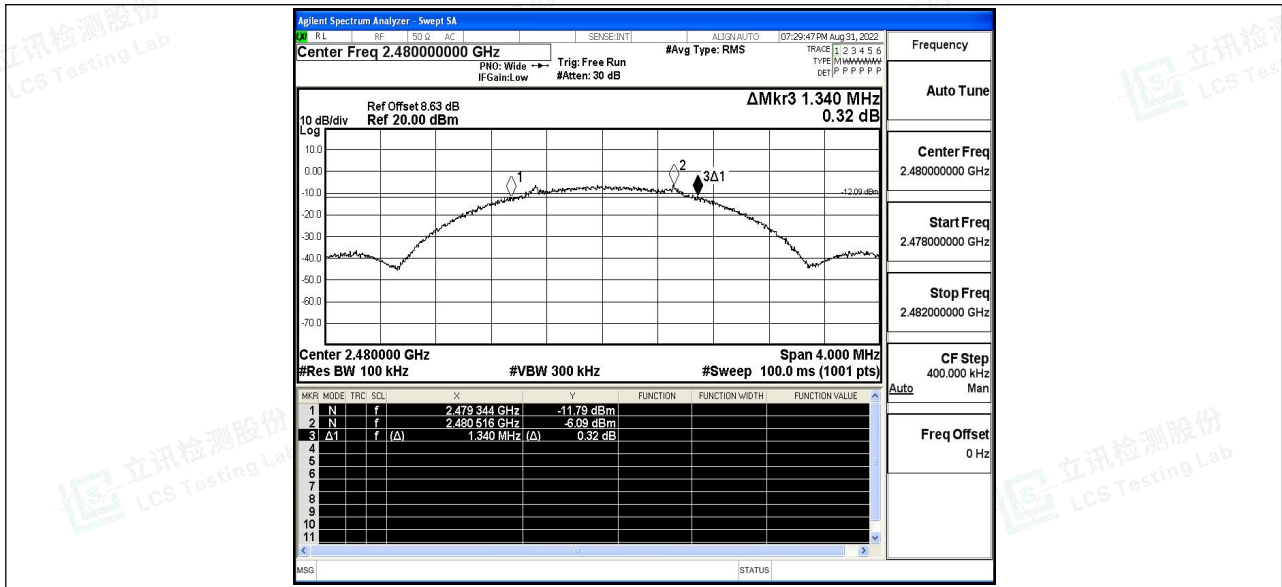


BLE_2M_Ant1_2440



BLE_2M_Ant1_2480







A.2 Maximum conducted output power

Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_2M	Ant1	2402	-1.86	≤30	PASS
		2440	-4.55	≤30	PASS
		2480	-3.98	≤30	PASS

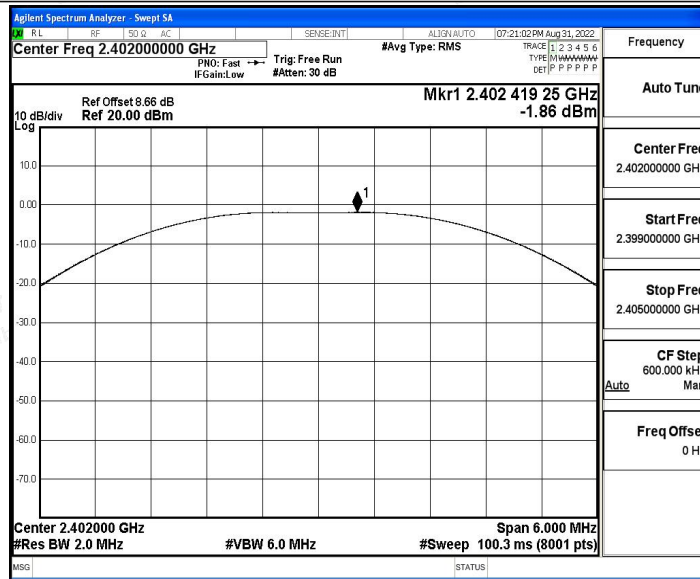


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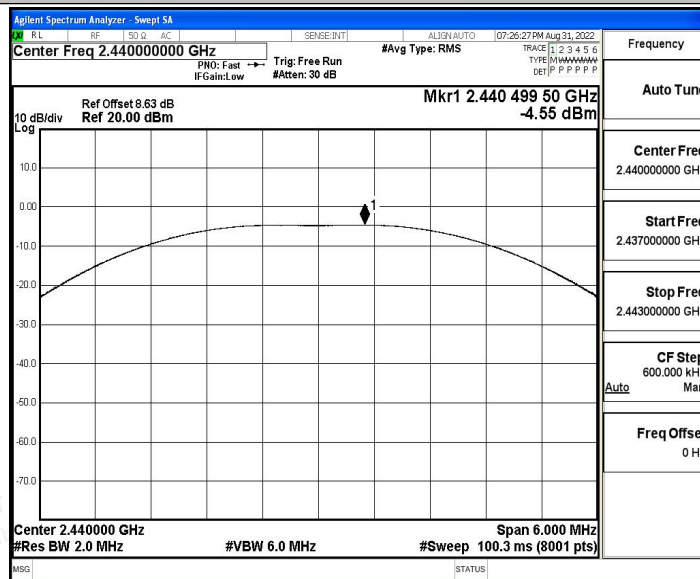


Test Graphs

BLE_2M_Ant1_2402

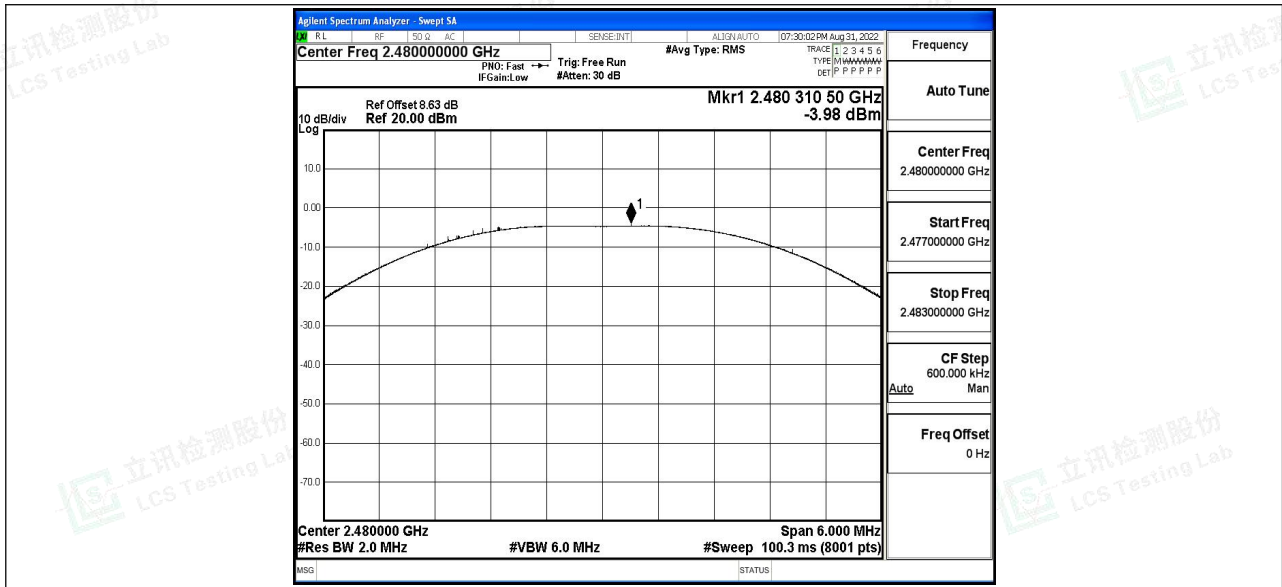


BLE_2M_Ant1_2440



BLE_2M_Ant1_2480







A.3 Maximum power spectral density

Test Result

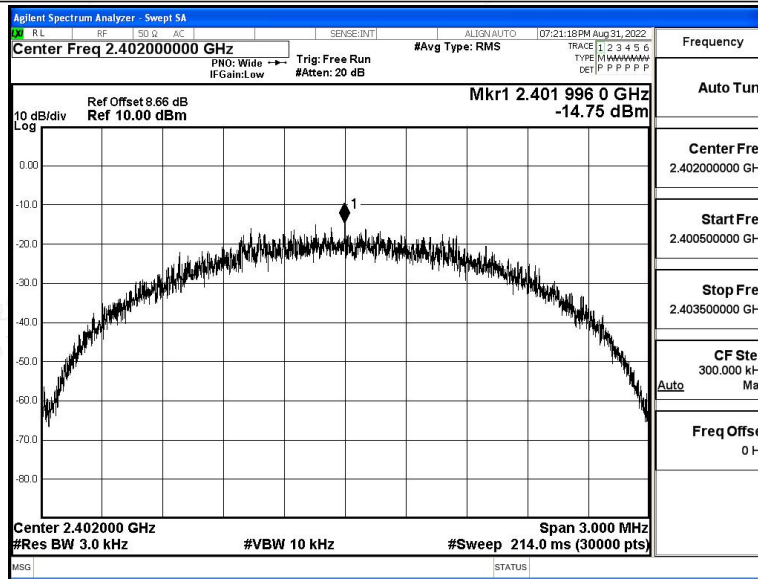
TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
BLE_2M	Ant1	2402	-14.75	≤8.00	PASS
		2440	-16.5	≤8.00	PASS
		2480	-17.21	≤8.00	PASS



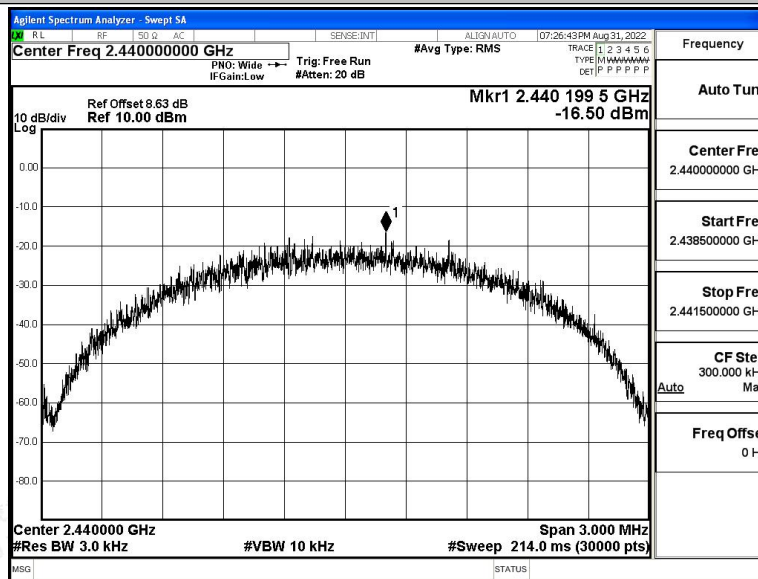


Test Graphs

BLE_2M_Ant1_2402

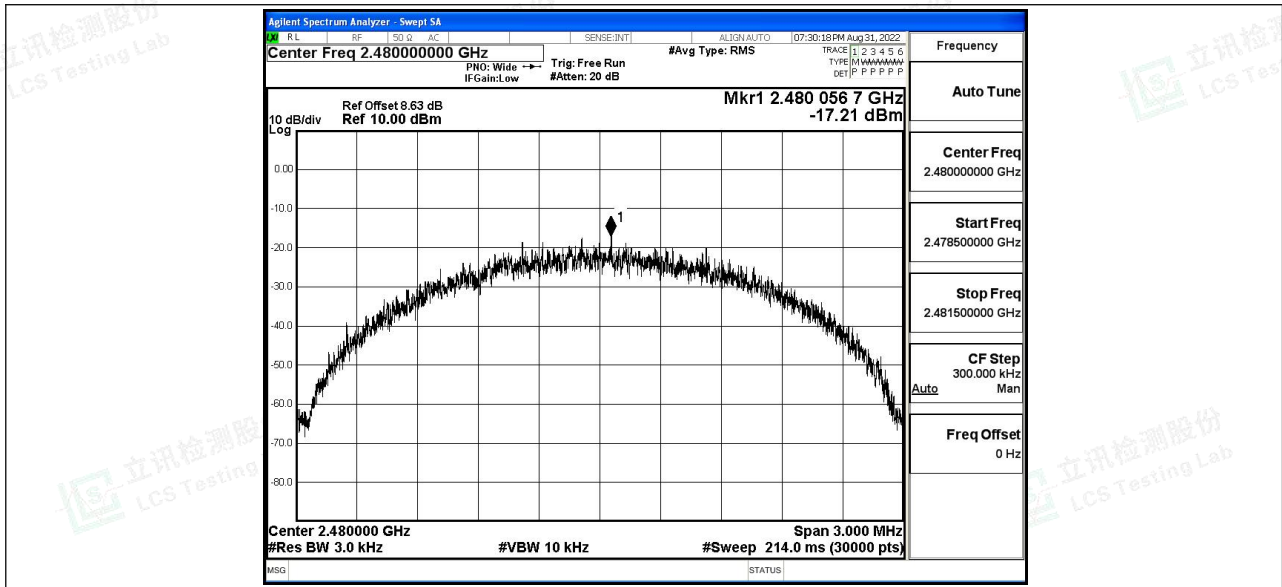


BLE_2M_Ant1_2440



BLE_2M_Ant1_2480







A.4 Band edge measurements

Test Result

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_2M	Ant1	Low	2402	-3.74	-37.33	≤-23.74	PASS
		High	2480	-7.26	-58.51	≤-27.26	PASS

Test Graphs





A.5 Conducted Spurious Emission

Test Result

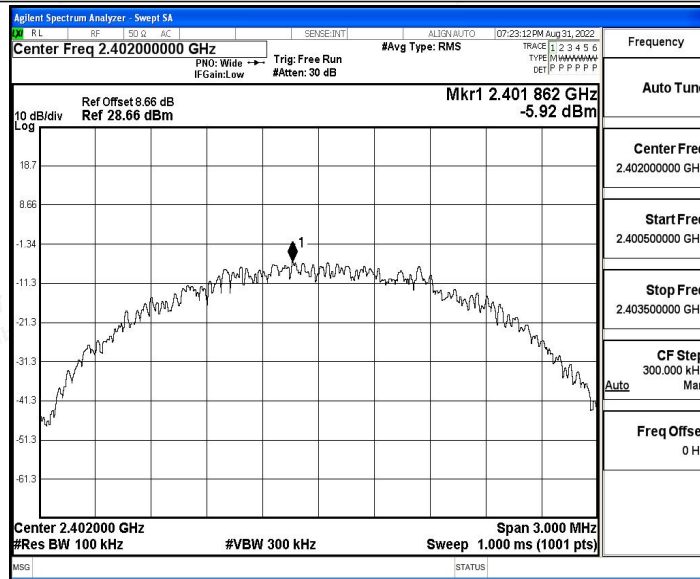
TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_2M	Ant1	2402	Reference	-5.92	-5.92	---	PASS
			30~1000	-5.92	-60.58	≤-25.92	PASS
			1000~26500	-5.92	-36.93	≤-25.92	PASS
		2440	Reference	-7.95	-7.95	---	PASS
			30~1000	-7.95	-60.99	≤-27.95	PASS
			1000~26500	-7.95	-37.4	≤-27.95	PASS
		2480	Reference	-7.51	-7.51	---	PASS
			30~1000	-7.51	-60.57	≤-27.51	PASS
			1000~26500	-7.51	-40.23	≤-27.51	PASS



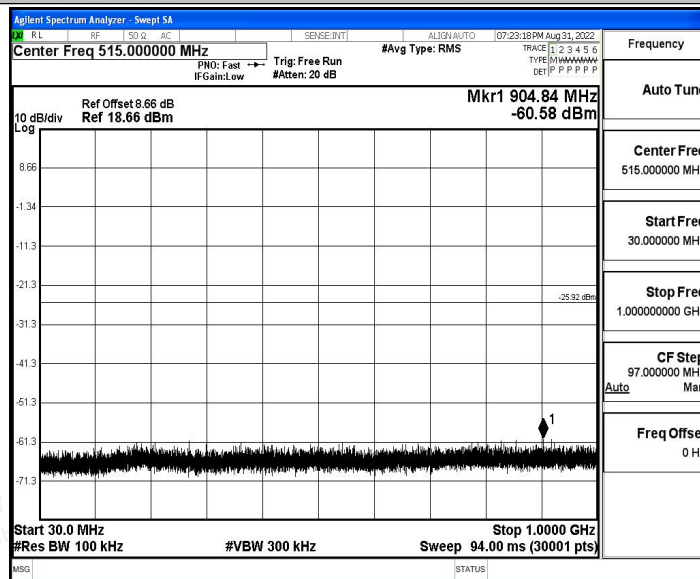


Test Graphs

BLE_2M_Ant1_2402_0~Reference

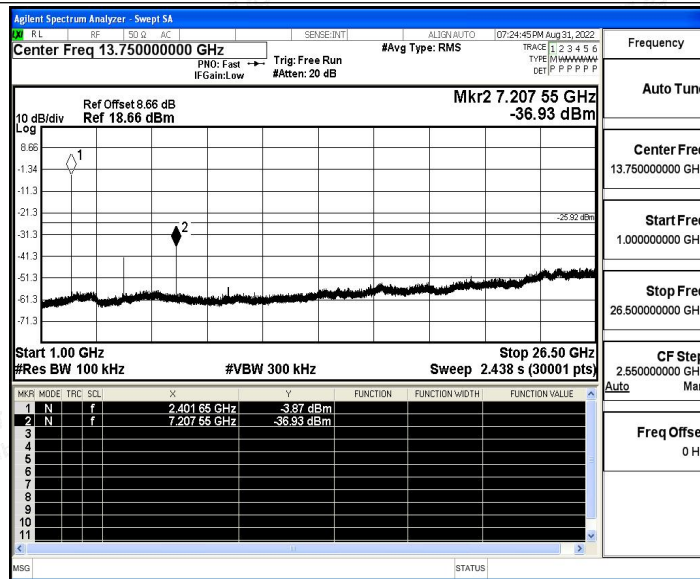


BLE_2M_Ant1_2402_30~1000

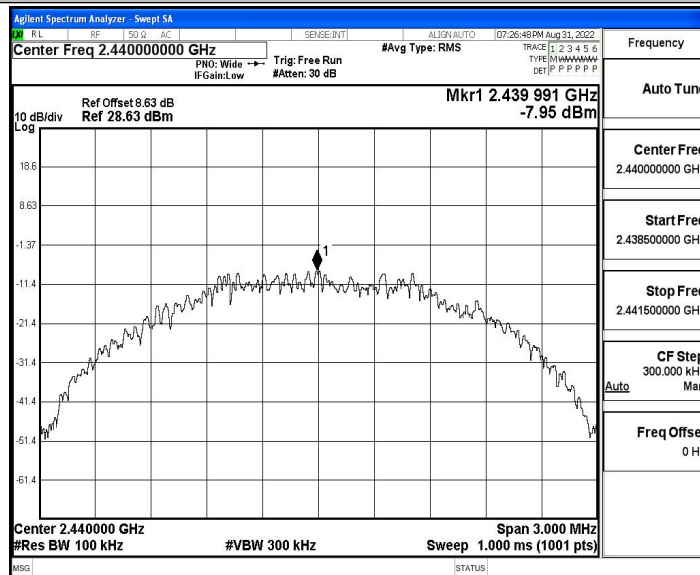


BLE_2M_Ant1_2402_1000~26500



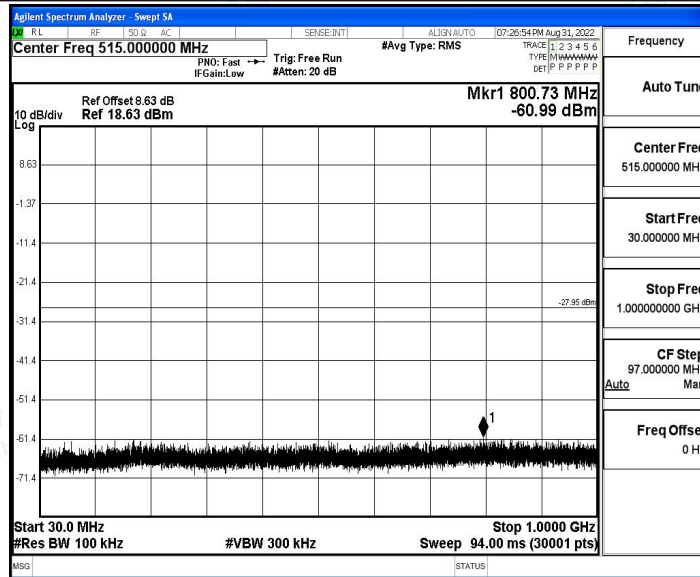


BLE_2M_Ant1_2440_0~Reference

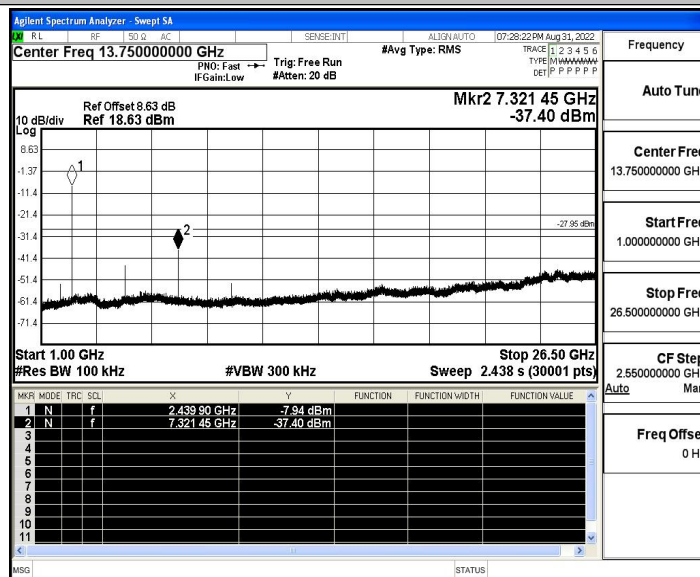


BLE_2M_Ant1_2440_30~1000



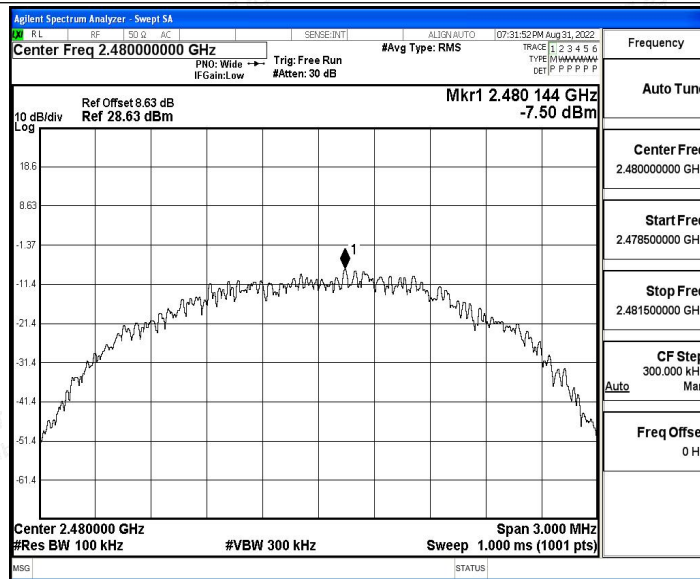


BLE_2M_Ant1_2440_1000~26500

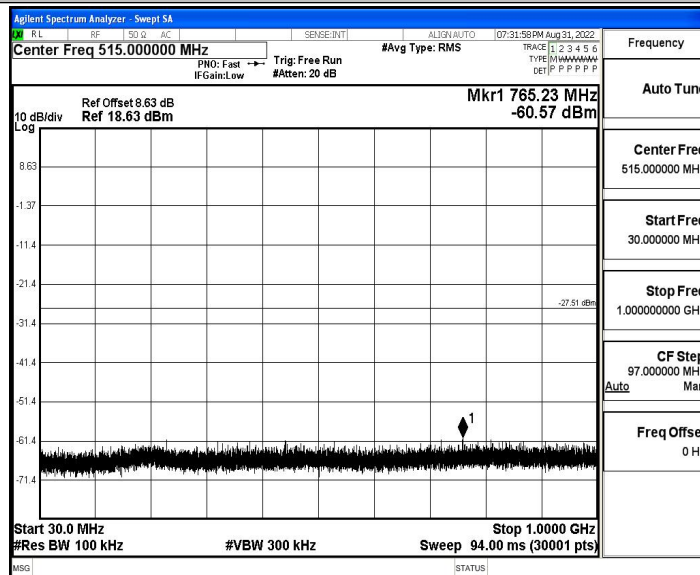


BLE_2M_Ant1_2480_0~Reference



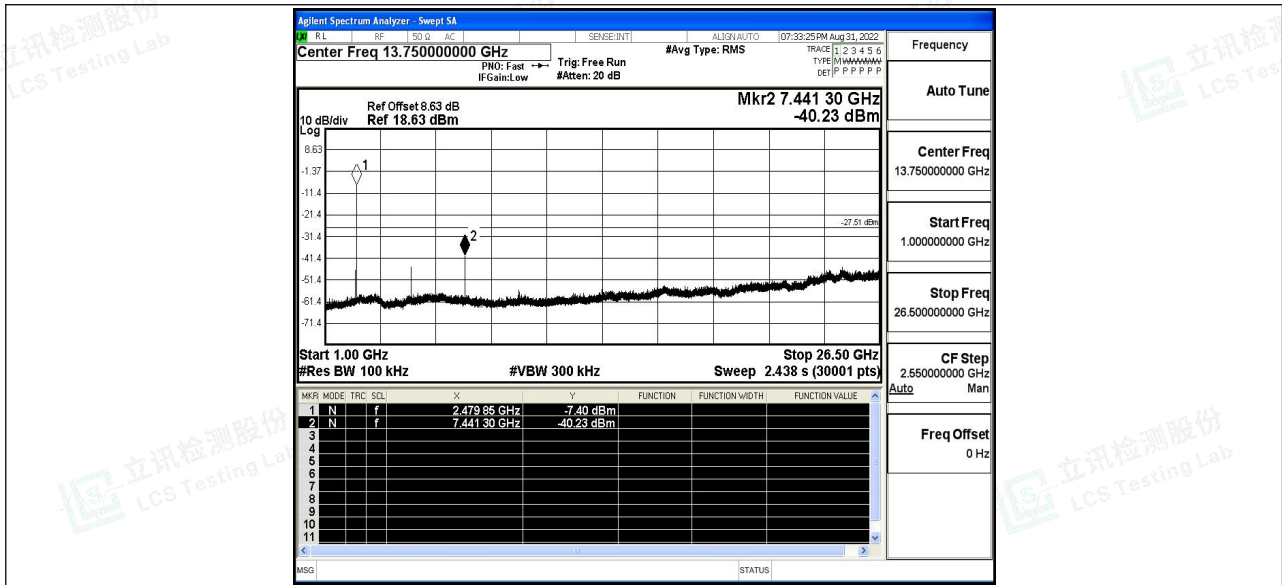


BLE_2M_Ant1_2480_30~1000



BLE_2M_Ant1_2480_1000~26500







A.6 Duty Cycle

Test Result

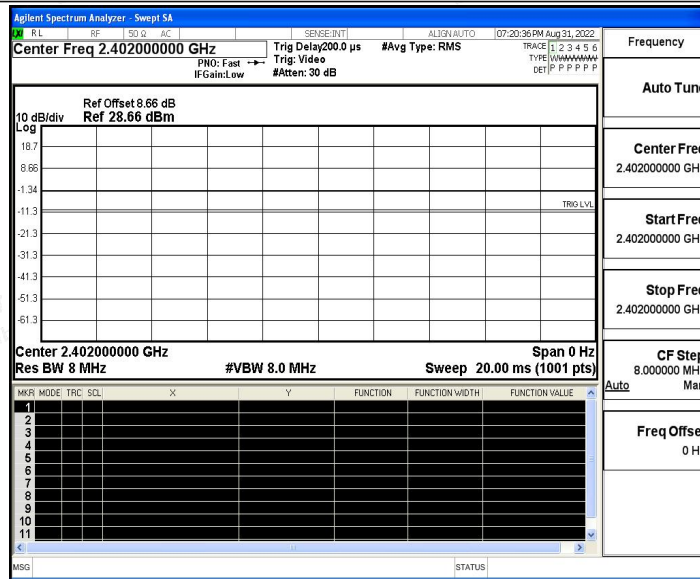
TestMode	Antenna	Channel	ON Time [ms]	Period [ms]	X	DC [%]	xFactor	1/T
BLE_2M	Ant1	2402	20.00	20.00	1.0000	100.00	0.00	0.01
		2440	20.00	20.00	1.0000	100.00	0.00	0.01
		2480	20.00	20.00	1.0000	100.00	0.00	0.01



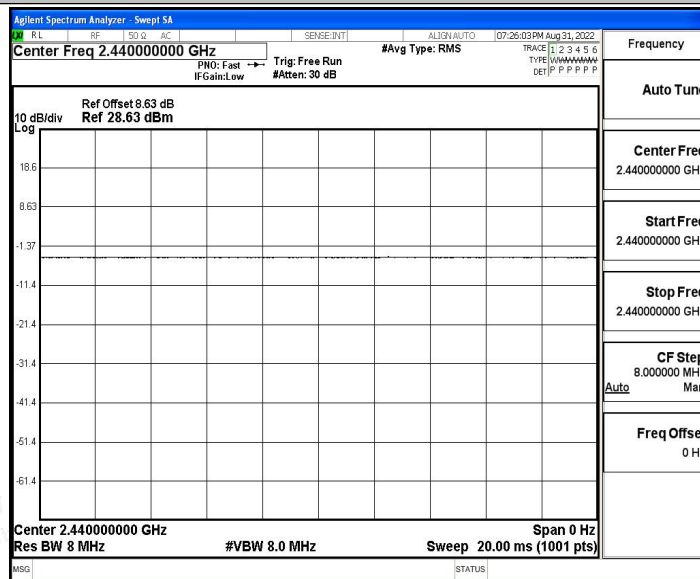


Test Graphs

BLE_2M_Ant1_2402

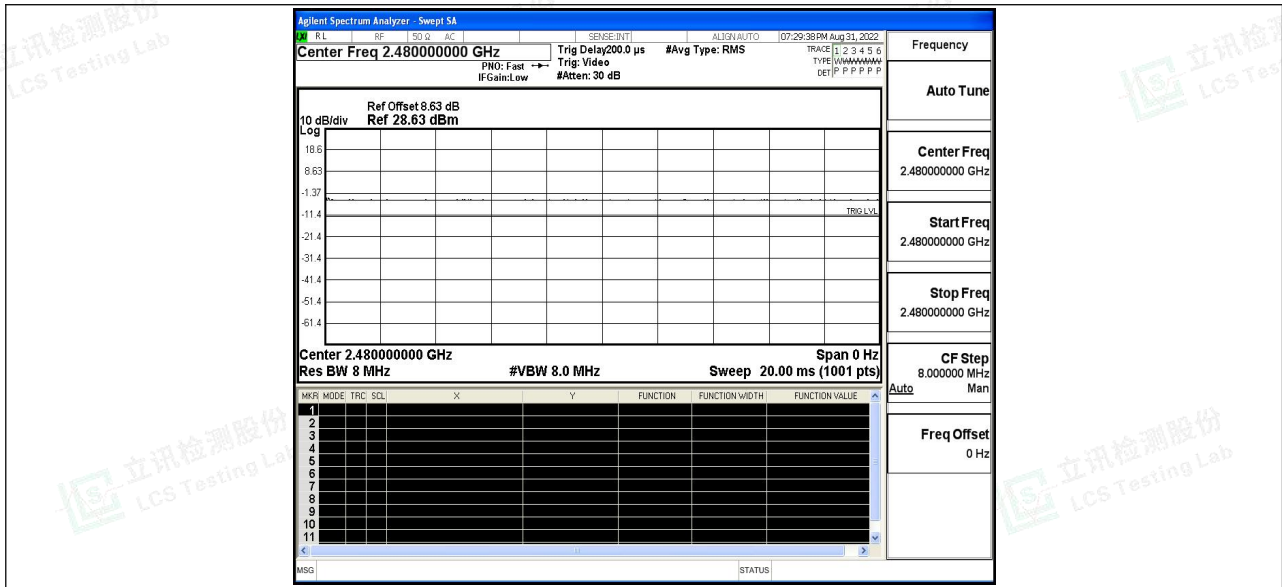


BLE_2M_Ant1_2440



BLE_2M_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_2M	Ant1	Low	2402	AV	2310.000	-58.5	≤-41.20	36.70	≤54	PASS
				AV	2389.565	-58.08	≤-41.20	37.12	≤54	PASS
				AV	2390.000	-58.08	≤-41.20	37.12	≤54	PASS
				Peak	2310.000	-53.57	≤-21.20	41.63	≤74	PASS
				Peak	2366.360	-48.77	≤-21.20	46.43	≤74	PASS
				Peak	2390.000	-51.09	≤-21.20	44.11	≤74	PASS
		High	2480	AV	2483.500	-51.84	≤-41.20	43.36	≤54	PASS
				AV	2483.520	-51.84	≤-41.20	43.36	≤54	PASS
				AV	2500.000	-57.53	≤-41.20	37.67	≤54	PASS
				Peak	2483.500	-50.81	≤-21.20	44.39	≤74	PASS
				Peak	2490.400	-48.35	≤-21.20	46.85	≤74	PASS
				Peak	2500.000	-51.83	≤-21.20	43.37	≤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.

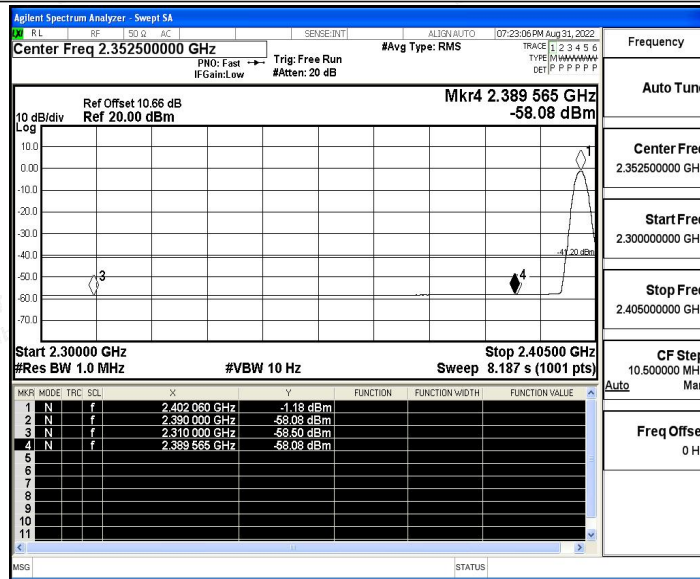


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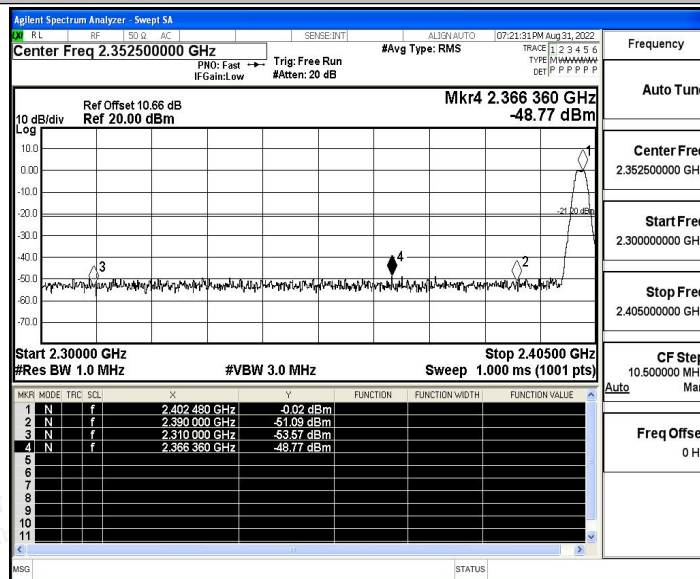


Test Graphs

BLE_2M_Ant1_Low_2402_AV



BLE_2M_Ant1_Low_2402_Peak



BLE_2M_Ant1_High_2480_AV



