



Appendix A

RF Test Data for BT LE (Conducted Measurement)

Product Name: Axis Centrifugal Pump

Test Model: AX60

Environmental Conditions

Temperature:	23.5℃
Relative Humidity:	52.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Nick Peng
Supervised by:	Ling Zhu



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A.1 DTS Bandwidth

Test Result

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE	Ant	2402	0.712	2401.636	2402.348	0.5	PASS
		2440	0.712	2439.636	2440.348	0.5	PASS
		2480	0.716	2479.636	2480.352	0.5	PASS



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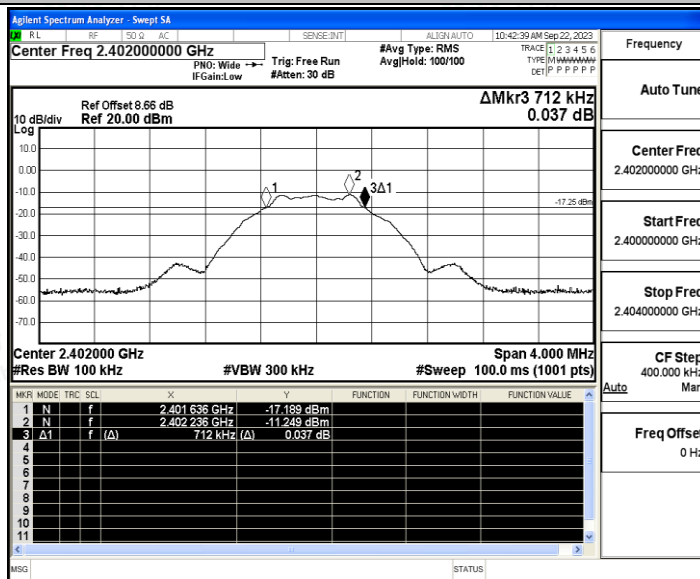
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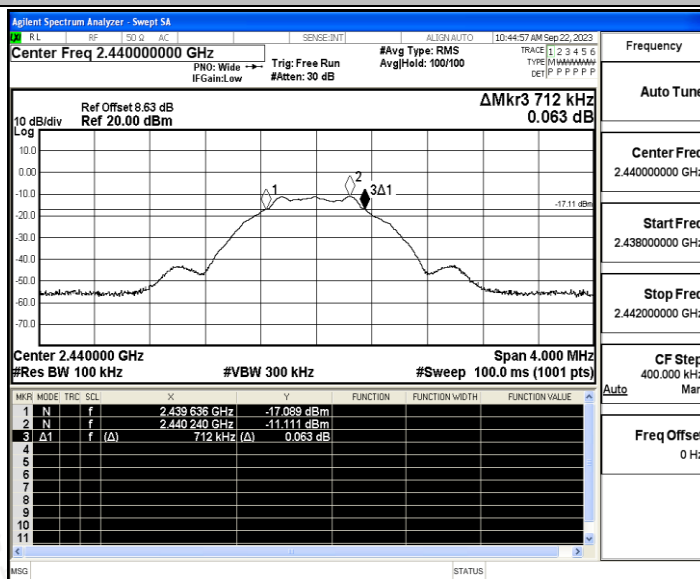


Test Graphs

BLE_Ant_2402



BLE_Ant_2440



BLE_Ant_2480

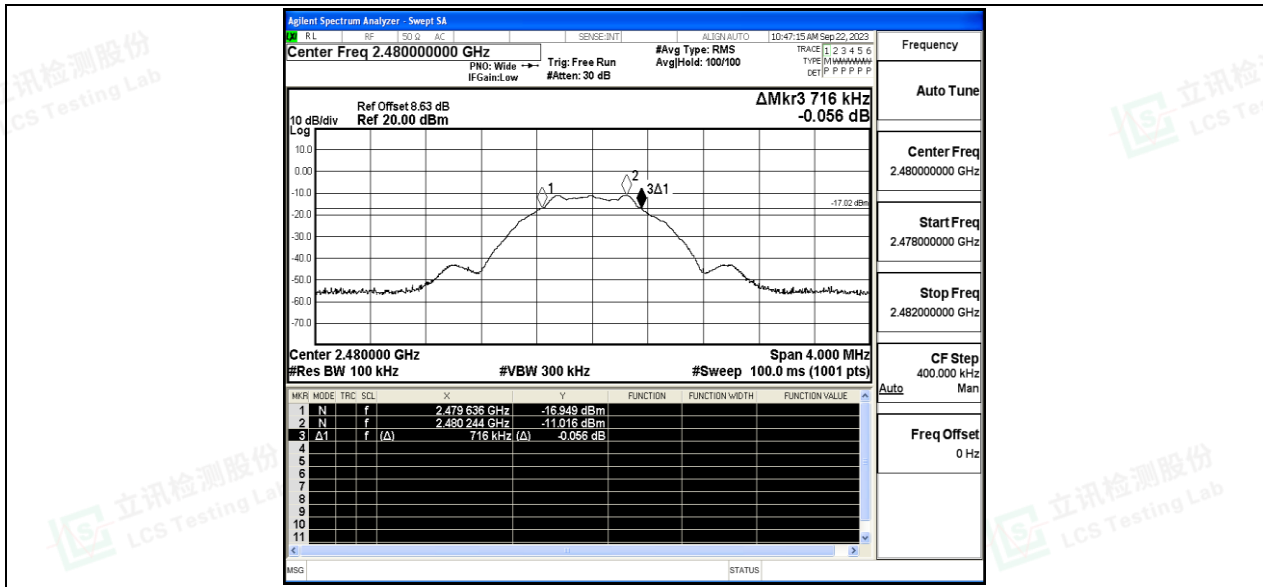


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A.2 Maximum conducted output power

Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE	Ant	2402	-10.27	≤30	PASS
		2440	-10.12	≤30	PASS
		2480	-10.01	≤30	PASS



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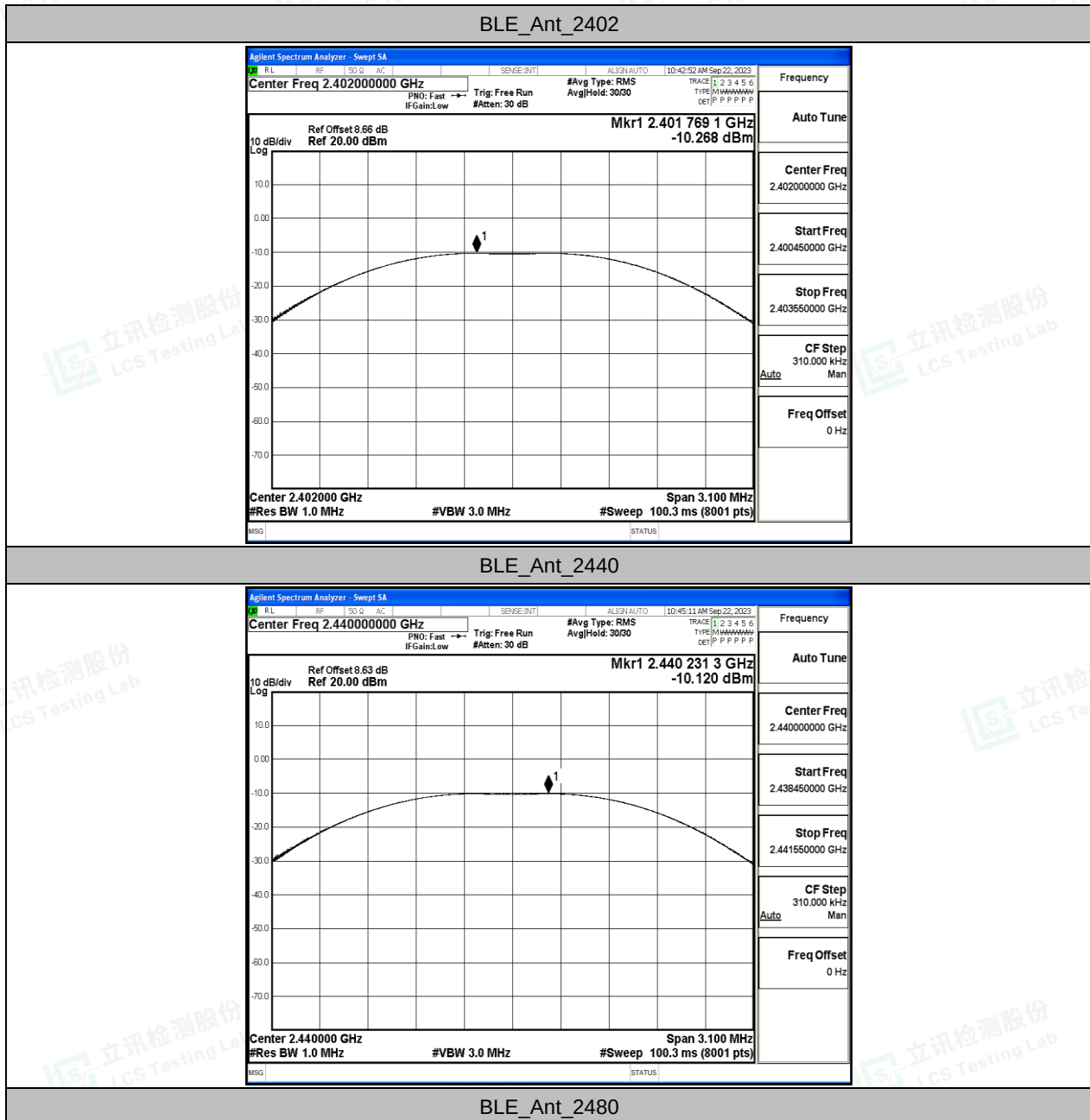
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Test Graphs

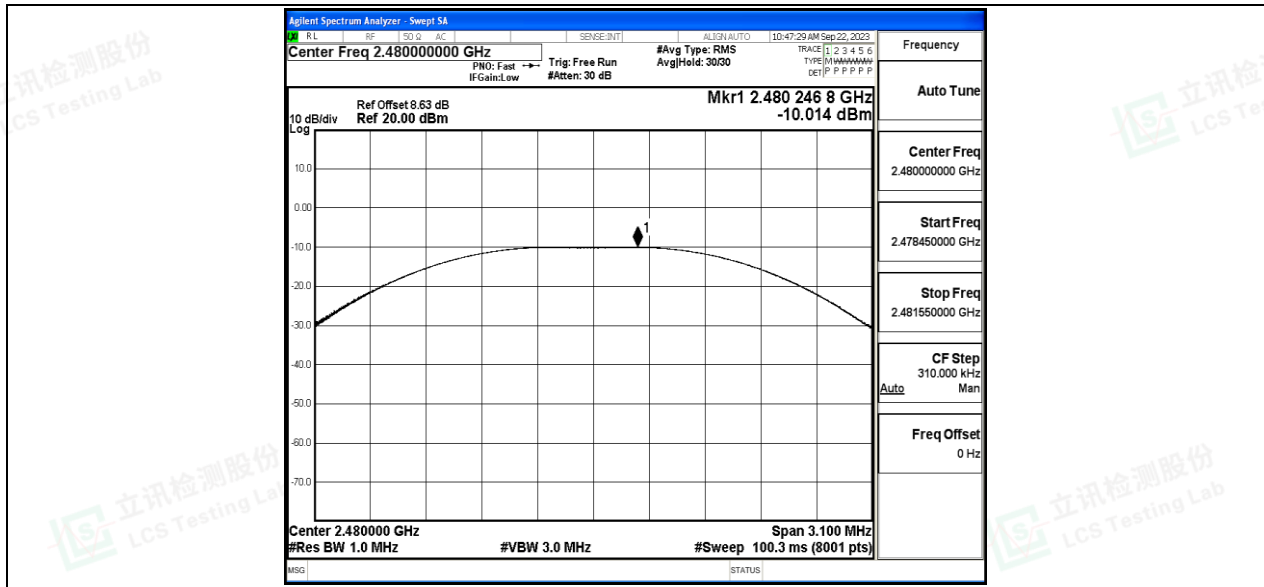


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A.3 Maximum power spectral density

Test Result

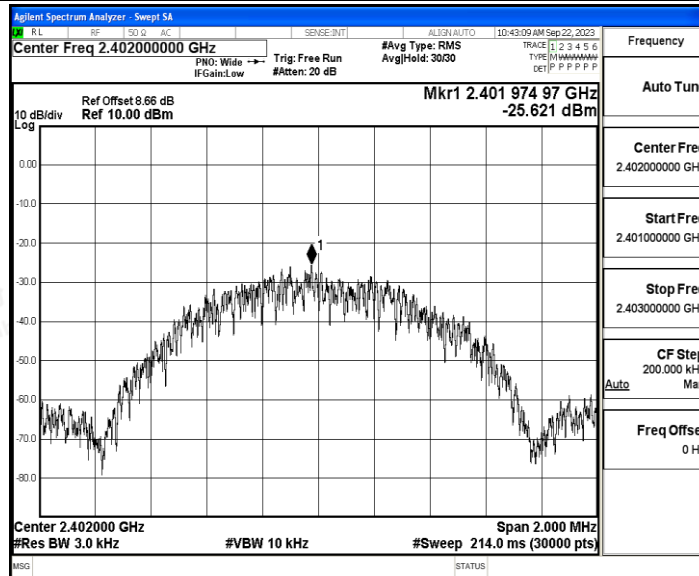
TestMode	Antenna	Channel	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE	Ant	2402	-25.62	≤8.00	PASS
		2440	-25.42	≤8.00	PASS
		2480	-25.41	≤8.00	PASS



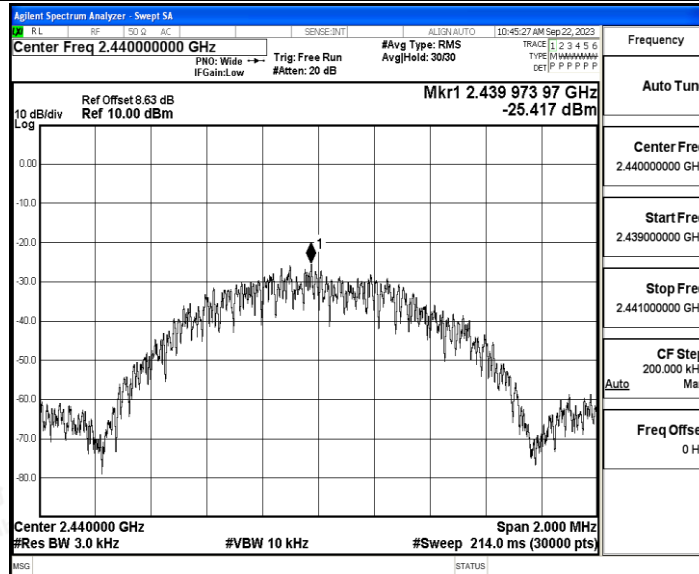


Test Graphs

BLE_Ant_2402



BLE_Ant_2440



BLE_Ant_2480

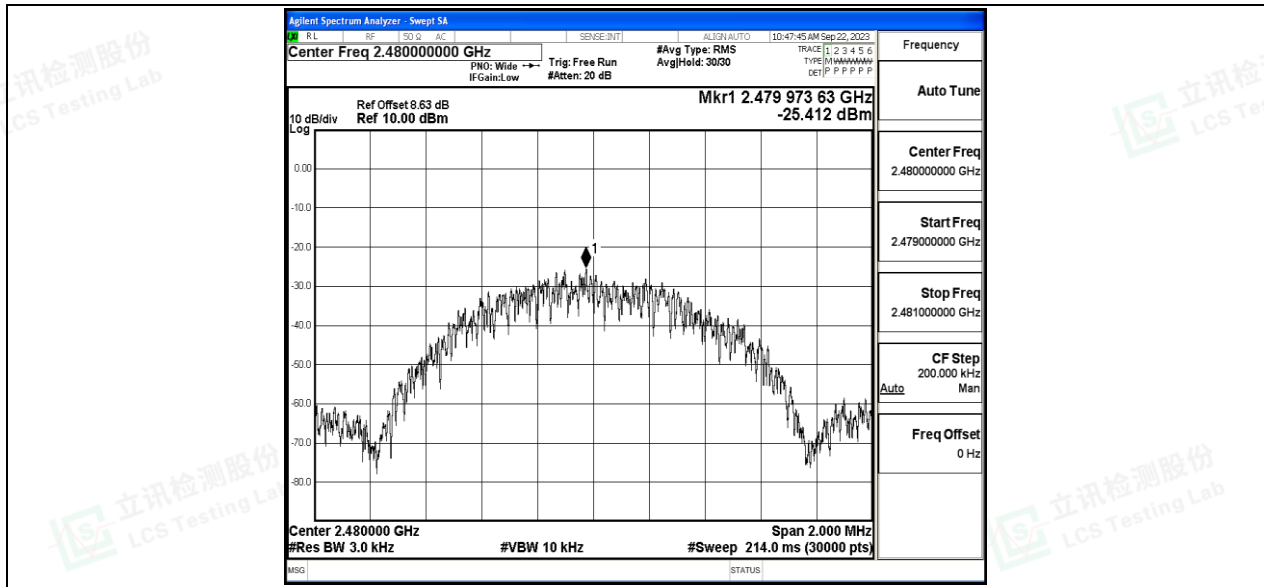


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A.4 Band edge measurements

Test Result

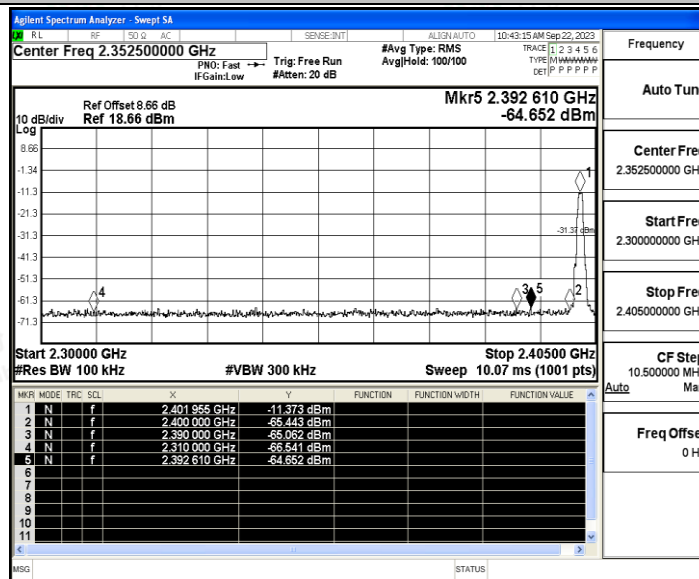
TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE	Ant	Low	2402	-11.37	-64.65	≤-31.37	PASS
		High	2480	-11.19	-63.34	≤-31.19	PASS



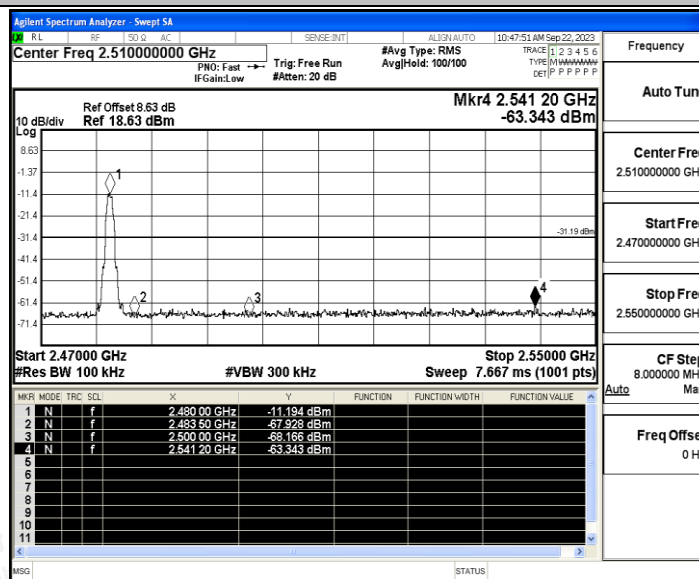


Test Graphs

BLE_Ant_Low_2402



BLE_Ant_High_2480



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A.5 Conducted Spurious Emission

Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE	Ant	2402	Reference	-11.29	-11.29	---	PASS
			30~1000	-11.29	-63.34	≤ -31.29	PASS
			1000~26500	-11.29	-46.14	≤ -31.29	PASS
		2440	Reference	-11.12	-11.12	---	PASS
			30~1000	-11.12	-62.03	≤ -31.12	PASS
			1000~26500	-11.12	-46.6	≤ -31.12	PASS
		2480	Reference	-11.03	-11.03	---	PASS
			30~1000	-11.03	-63.07	≤ -31.03	PASS
			1000~26500	-11.03	-46.82	≤ -31.03	PASS



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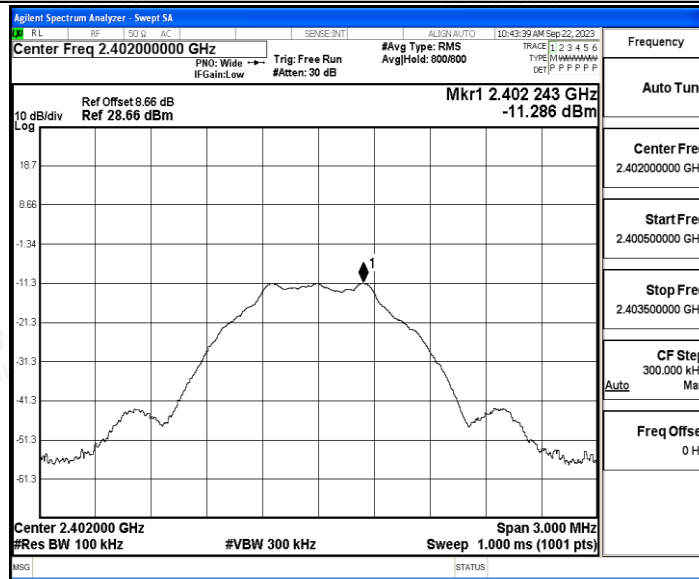
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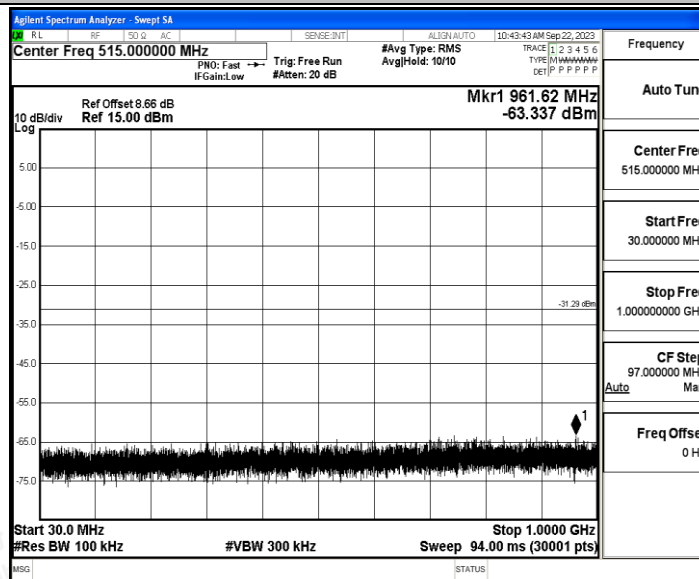


Test Graphs

BLE_Ant_2402_0~Reference



BLE_Ant_2402_30~1000



BLE_Ant_2402_1000~26500

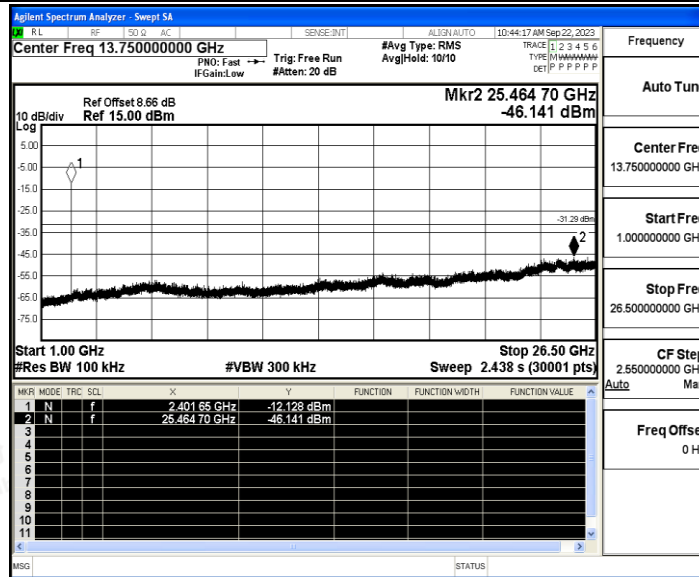


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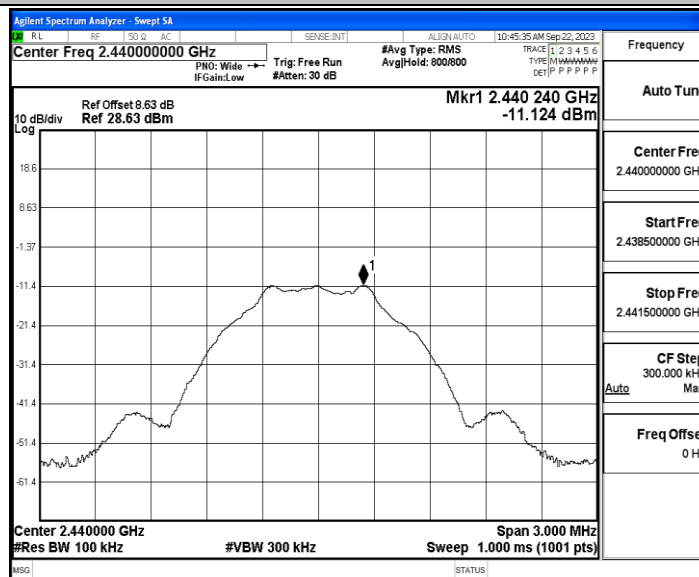
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BLE_Ant_2440_0~Reference



BLE_Ant_2440_30~1000

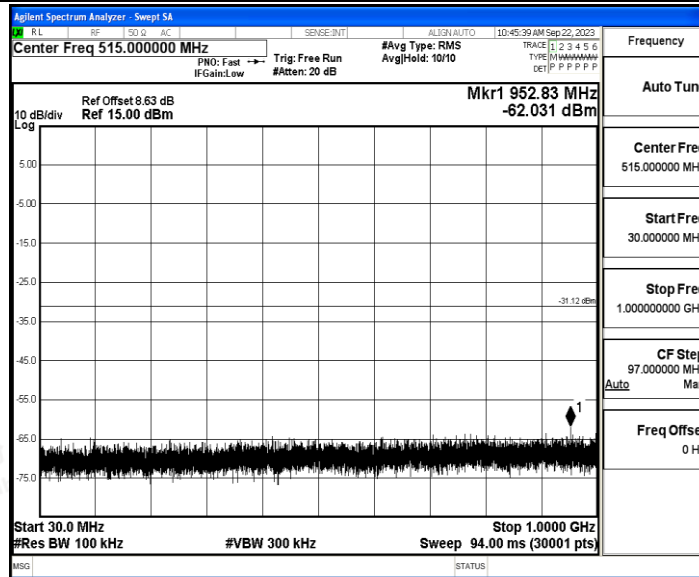


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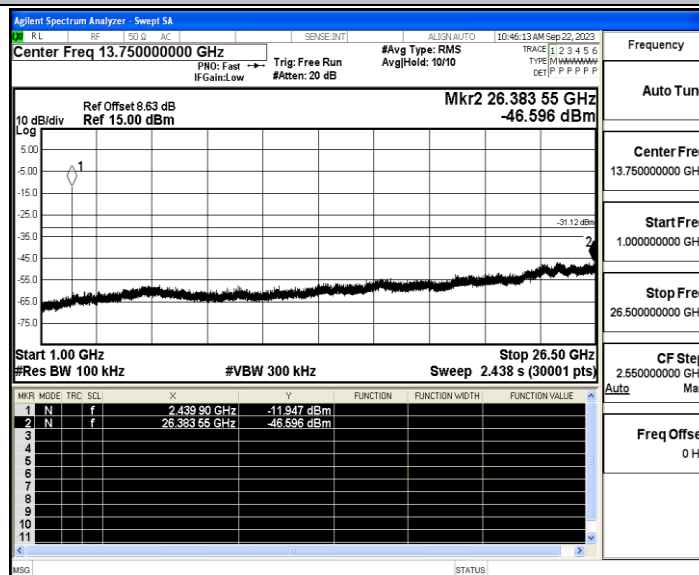
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BLE_Ant_2440_1000~26500



BLE_Ant_2480_0-Reference

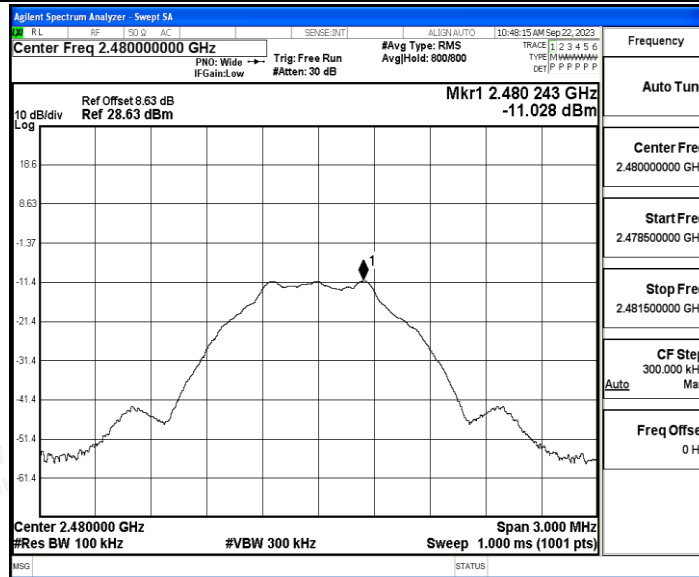


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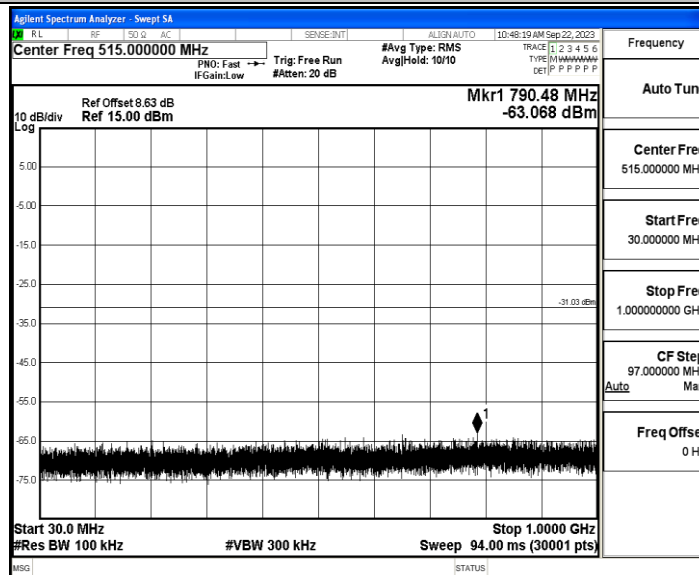
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BLE_Ant_2480_30~1000



BLE_Ant_2480_1000~26500

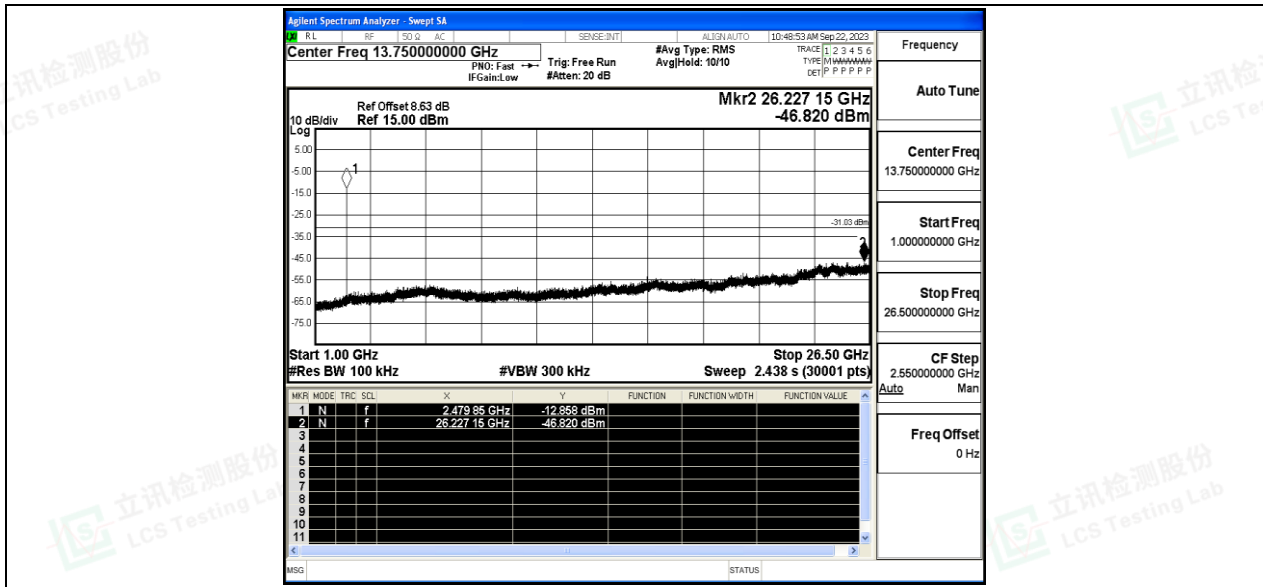


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A.6 Duty Cycle

Test Result

TestMode	Antenna	Channel	ON Time [ms]	Period [ms]	X	DC [%]	xFactor	1/T	Limit	Verdict
BLE	Ant	2402	0.38	0.62	0.6129	61.29	2.13	2.63	---	---
		2440	0.38	0.62	0.6129	61.29	2.13	2.63	---	---
		2480	0.39	0.63	0.6190	61.90	2.08	2.56	---	---





Test Graphs

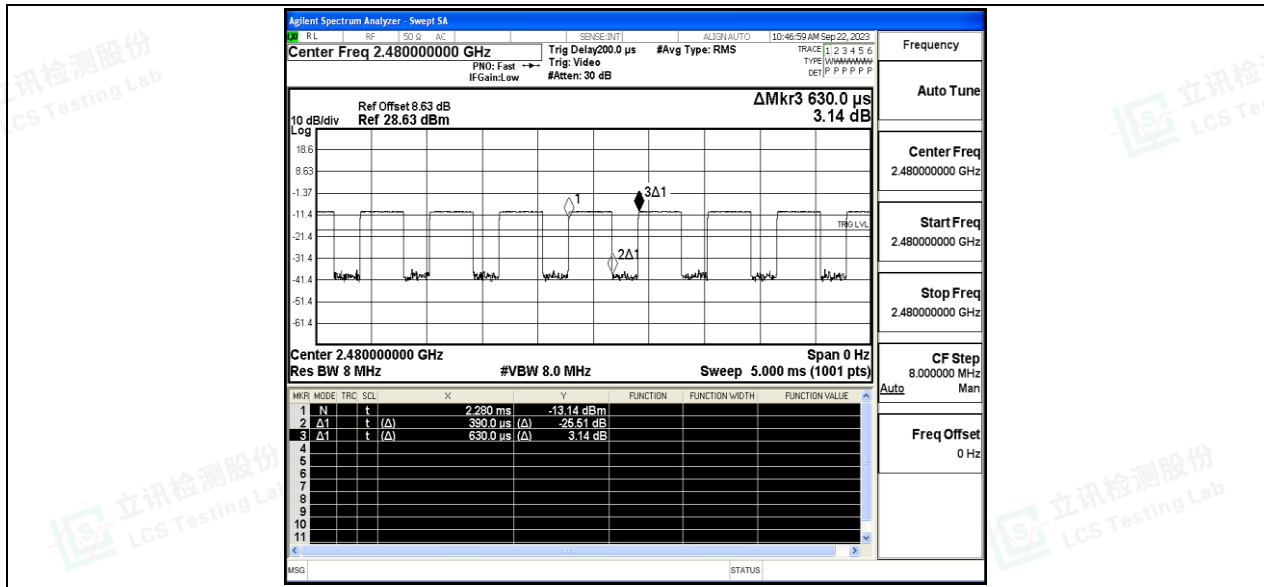


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A.7 Emissions in Restricted Bands

Test Result

TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
BLE	Ant	Low	2402	AV	2310.000	-62.13	≤-41.20	33.07	≤54	PASS
				AV	2381.585	-61.78	≤-41.20	33.42	≤54	PASS
				AV	2390.000	-62.22	≤-41.20	32.98	≤54	PASS
				Peak	2310.000	-56.33	≤-21.20	38.87	≤74	PASS
				Peak	2379.275	-52.27	≤-21.20	42.93	≤74	PASS
				Peak	2390.000	-54.44	≤-21.20	40.76	≤74	PASS
		High	2480	AV	2483.500	-60.44	≤-41.20	34.76	≤54	PASS
				AV	2483.520	-60.44	≤-41.20	34.76	≤54	PASS
				AV	2500.000	-61.53	≤-41.20	33.67	≤54	PASS
				Peak	2483.500	-54.84	≤-21.20	40.36	≤74	PASS
				Peak	2491.760	-52.37	≤-21.20	42.83	≤74	PASS
				Peak	2500.000	-56.19	≤-21.20	39.01	≤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.



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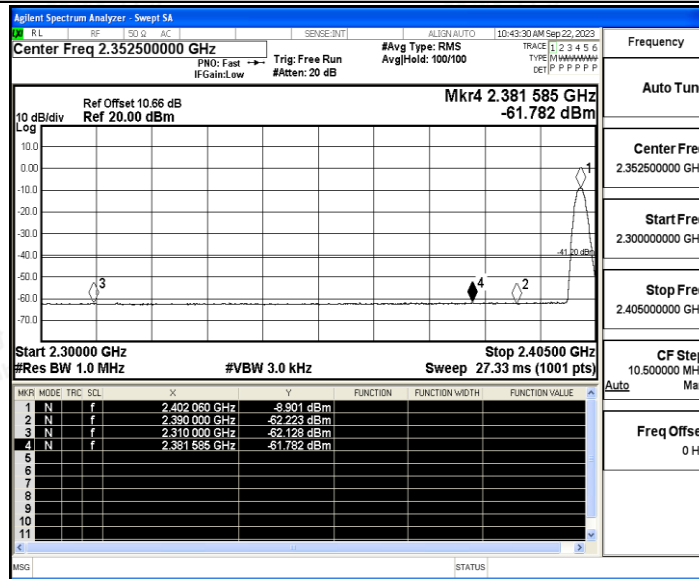
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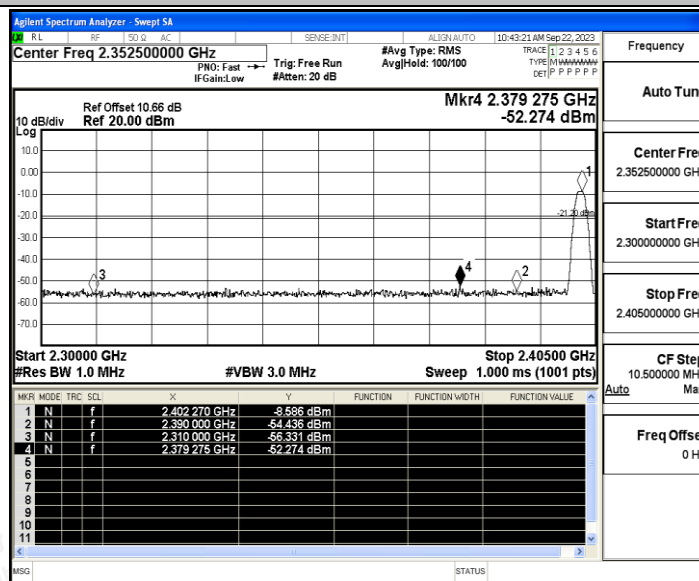


Test Graphs

BLE_Ant_Low_2402_AV



BLE_Ant_Low_2402_Peak



BLE_Ant_High_2480_AV

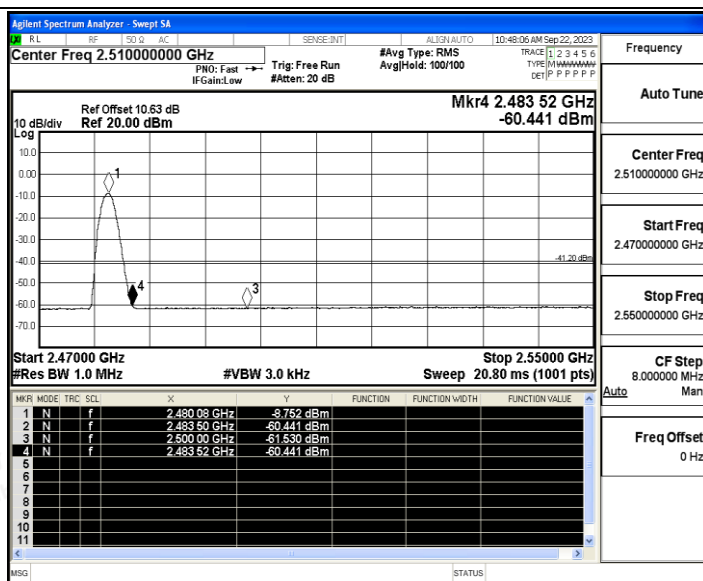


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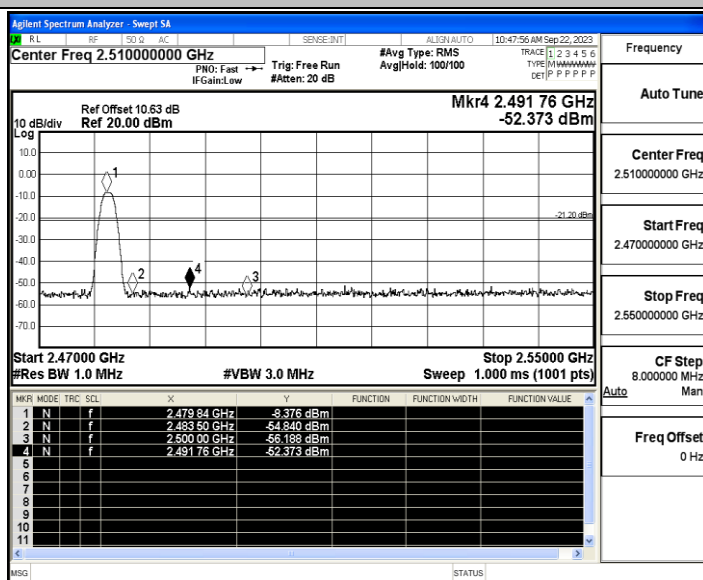
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BLE_Ant_High_2480_Peak



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