



Appendix B

RF Test Data for BT LE (Conducted Measurement)

Product Name: ROBOTIC POOL CLEANER

Test Model: OS7010C

Environmental Conditions

Temperature:	23.8 ° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Paddi Chen
Supervised by:	Nick Peng



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B.1 DTS Bandwidth

Test Result

TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.712	2401.624	2402.336	0.5	PASS
		2440	0.708	2439.632	2440.340	0.5	PASS
		2480	0.708	2479.628	2480.336	0.5	PASS

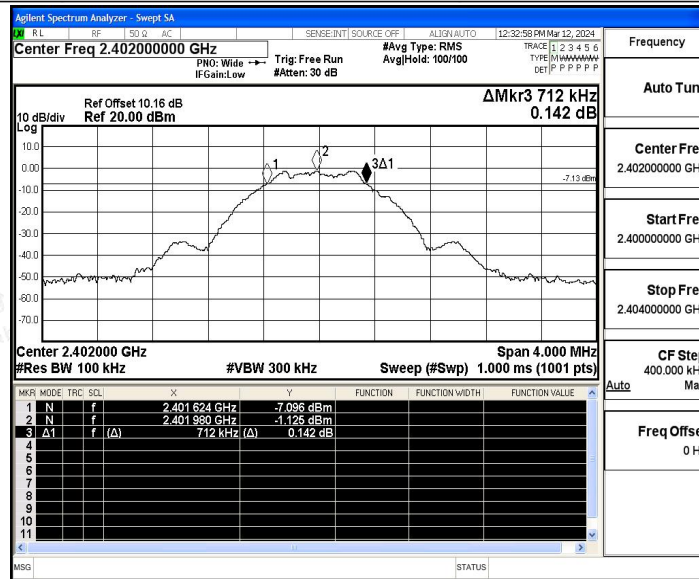


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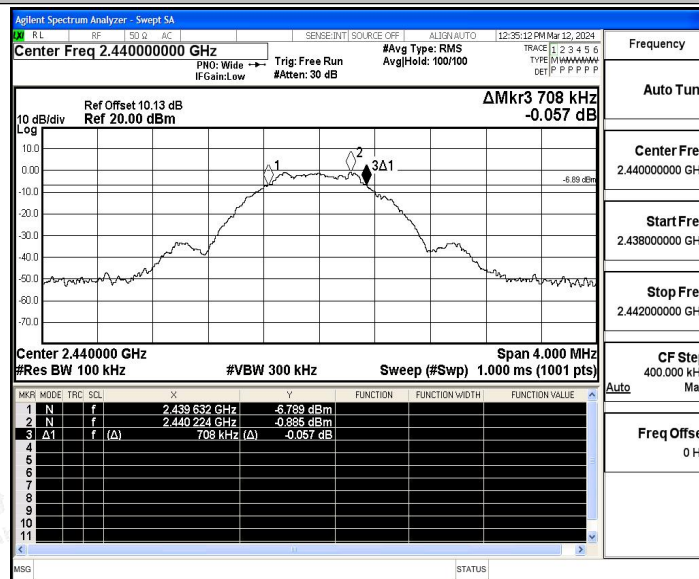


Test Graphs

BLE_1M_Ant1_2402

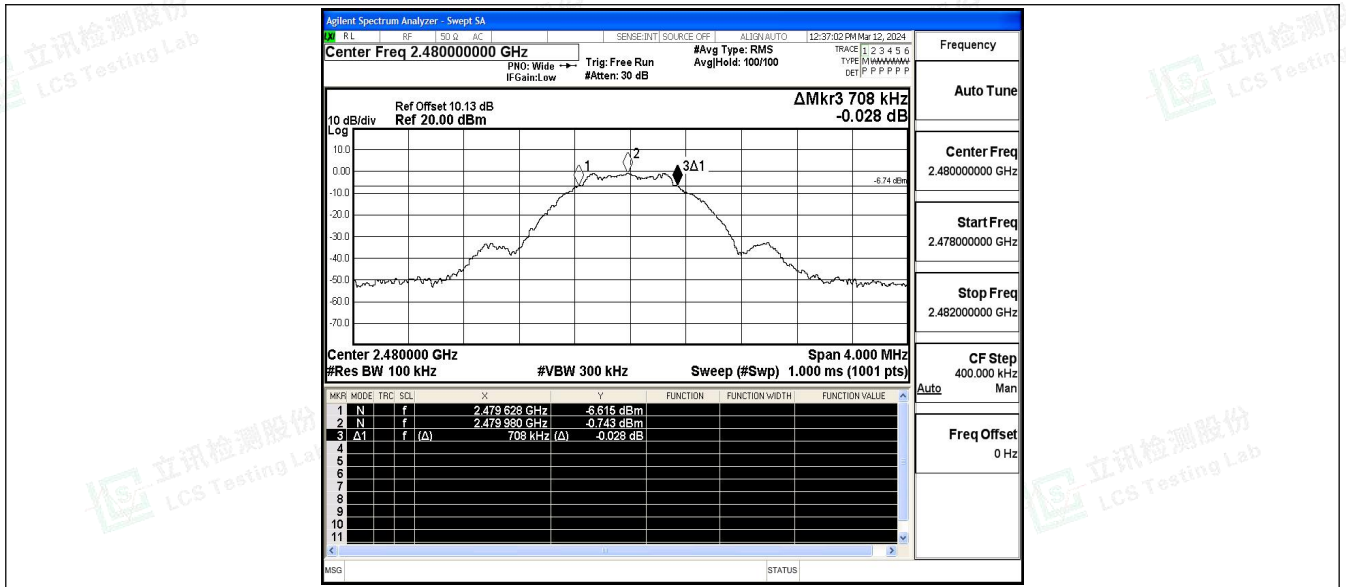


BLE_1M_Ant1_2440



BLE_1M_Ant1_2480





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B.2 Maximum peak conducted output power

Test Result

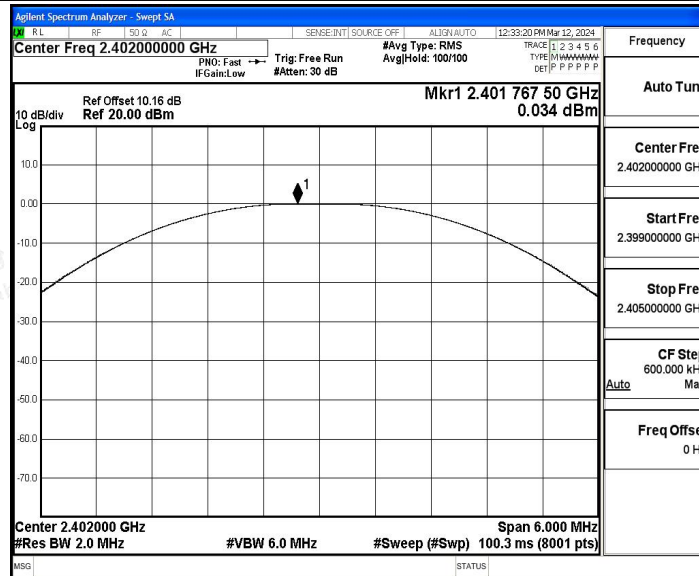
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	0.03	≤30	PASS
		2440	0.24	≤30	PASS
		2480	0.39	≤30	PASS



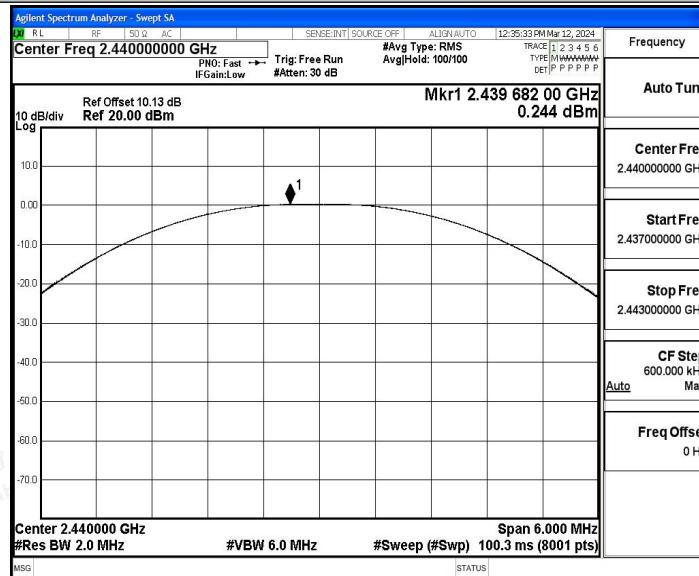


Test Graphs

BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480

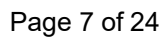


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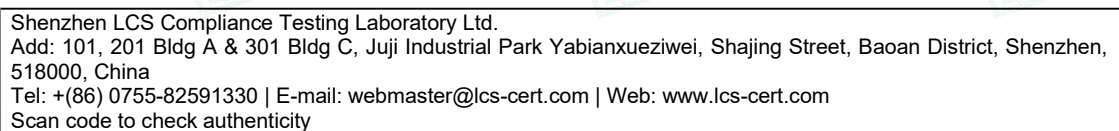
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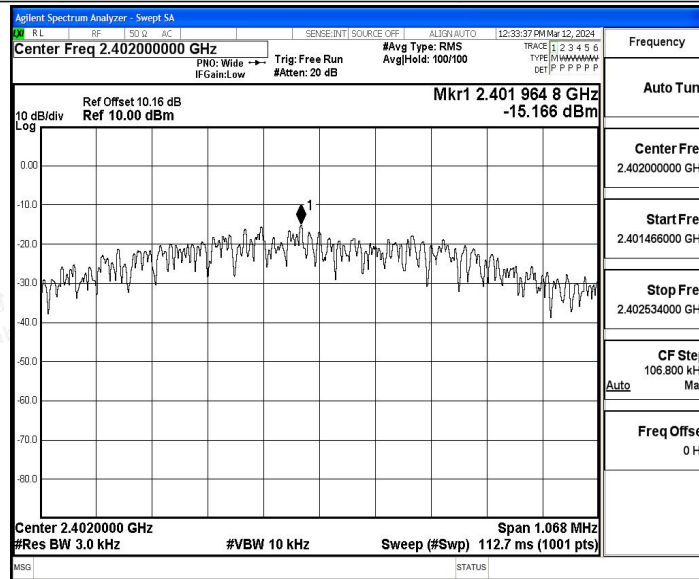
TestMode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-15.17	≤8.00	PASS
		2440	-14.90	≤8.00	PASS
		2480	-14.80	≤8.00	PASS



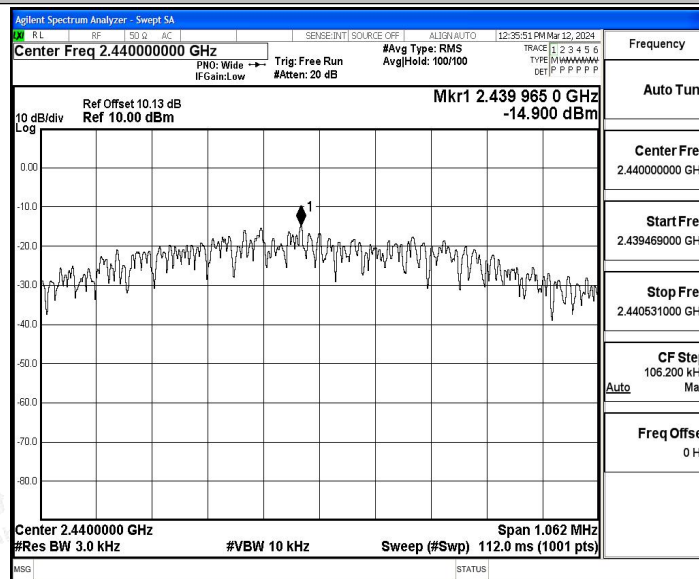


Test Graphs

BLE_1M_Ant1_2402

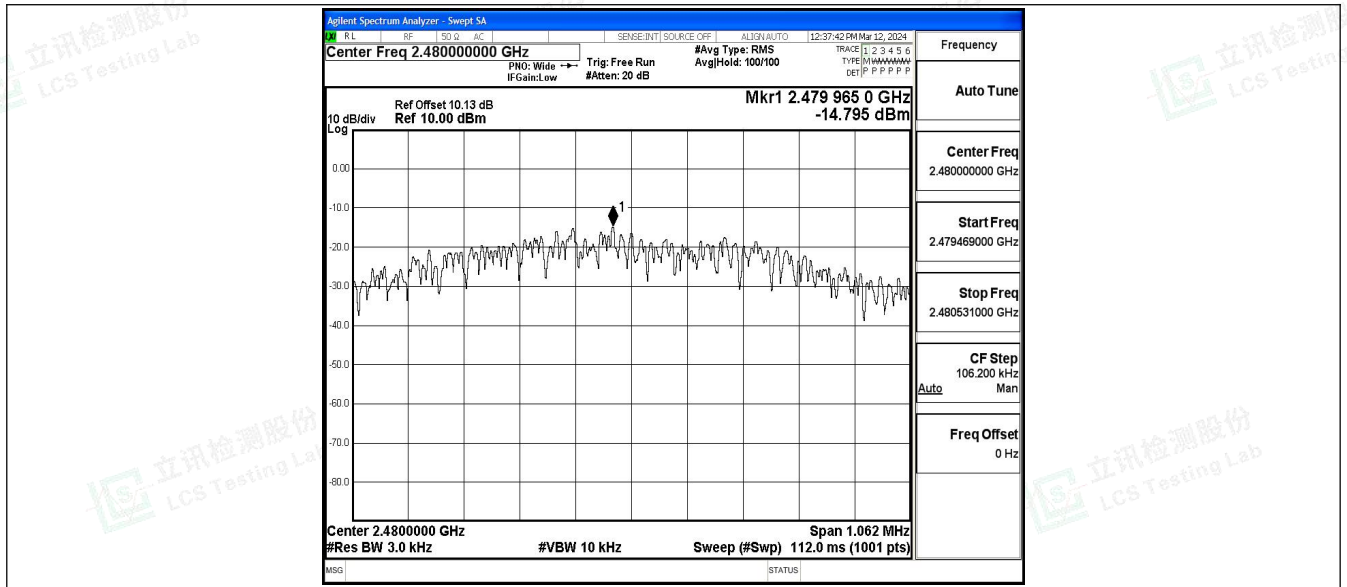


BLE_1M_Ant1_2440



BLE_1M_Ant1_2480







B.4 Band edge measurements

Test Result

TestMode	Antenna	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-1.05	-48.25	≤-21.05	PASS
		High	2480	-0.71	-47.76	≤-20.71	PASS

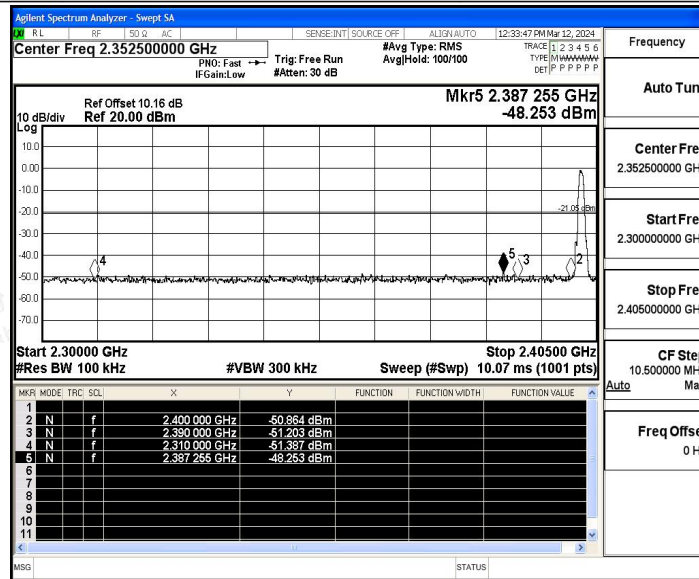


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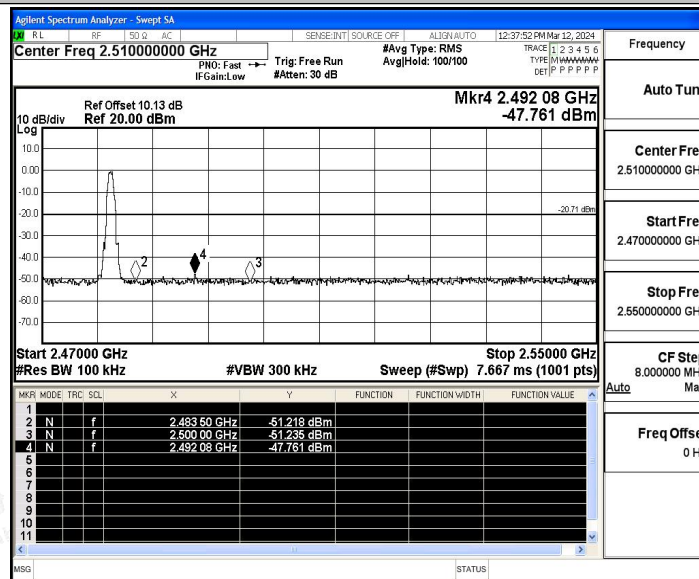


Test Graphs

BLE_1M_Ant1_Low_2402



BLE_1M_Ant1_High_2480



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B.5 Conducted Spurious Emission

Test Result

TestMode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	30~1000	-1.05	-59.23	≤ -21.05	PASS
			1000~26500	-1.05	-47.16	≤ -21.05	PASS
		2440	30~1000	-0.85	-59.67	≤ -20.85	PASS
			1000~26500	-0.85	-47.17	≤ -20.85	PASS
		2480	30~1000	-0.71	-60.07	≤ -20.71	PASS
			1000~26500	-0.71	-46.96	≤ -20.71	PASS

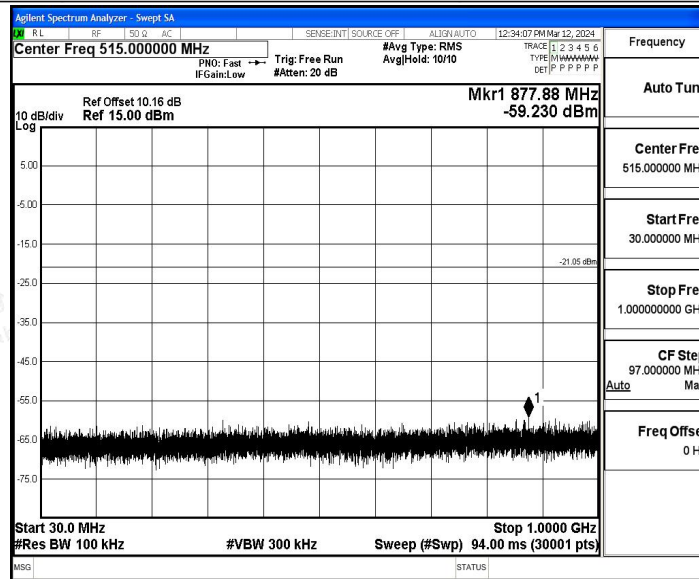


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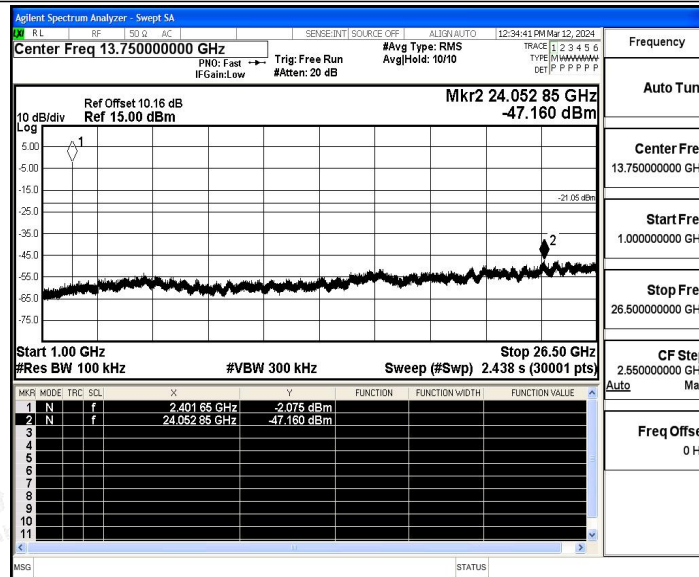


Test Graphs

BLE_1M_Ant1_2402_30~1000



BLE_1M_Ant1_2402_1000~26500



BLE_1M_Ant1_2440_30~1000

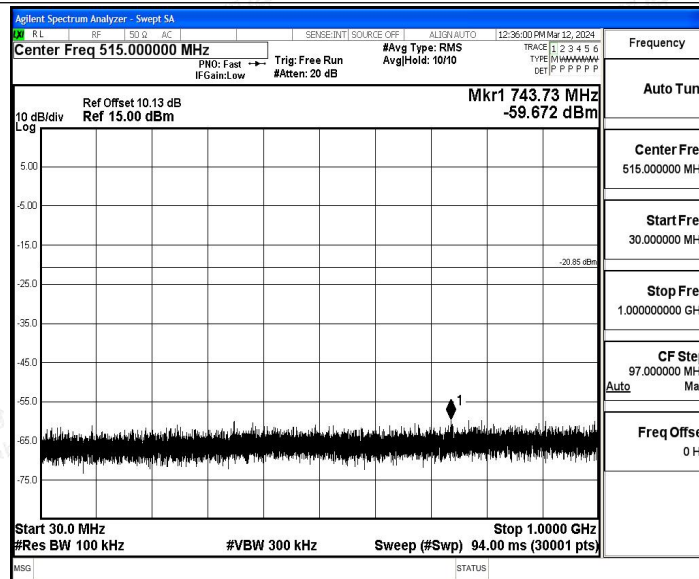


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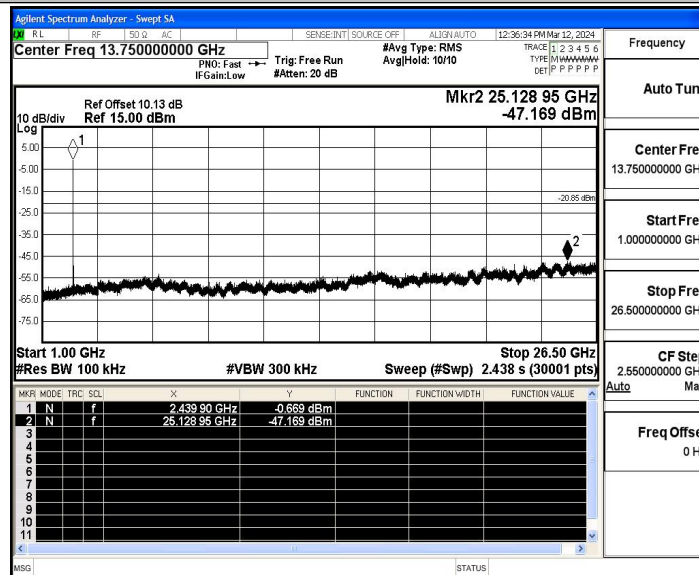
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BLE_1M_Ant1_2440_1000~26500



BLE_1M_Ant1_2480_30~1000

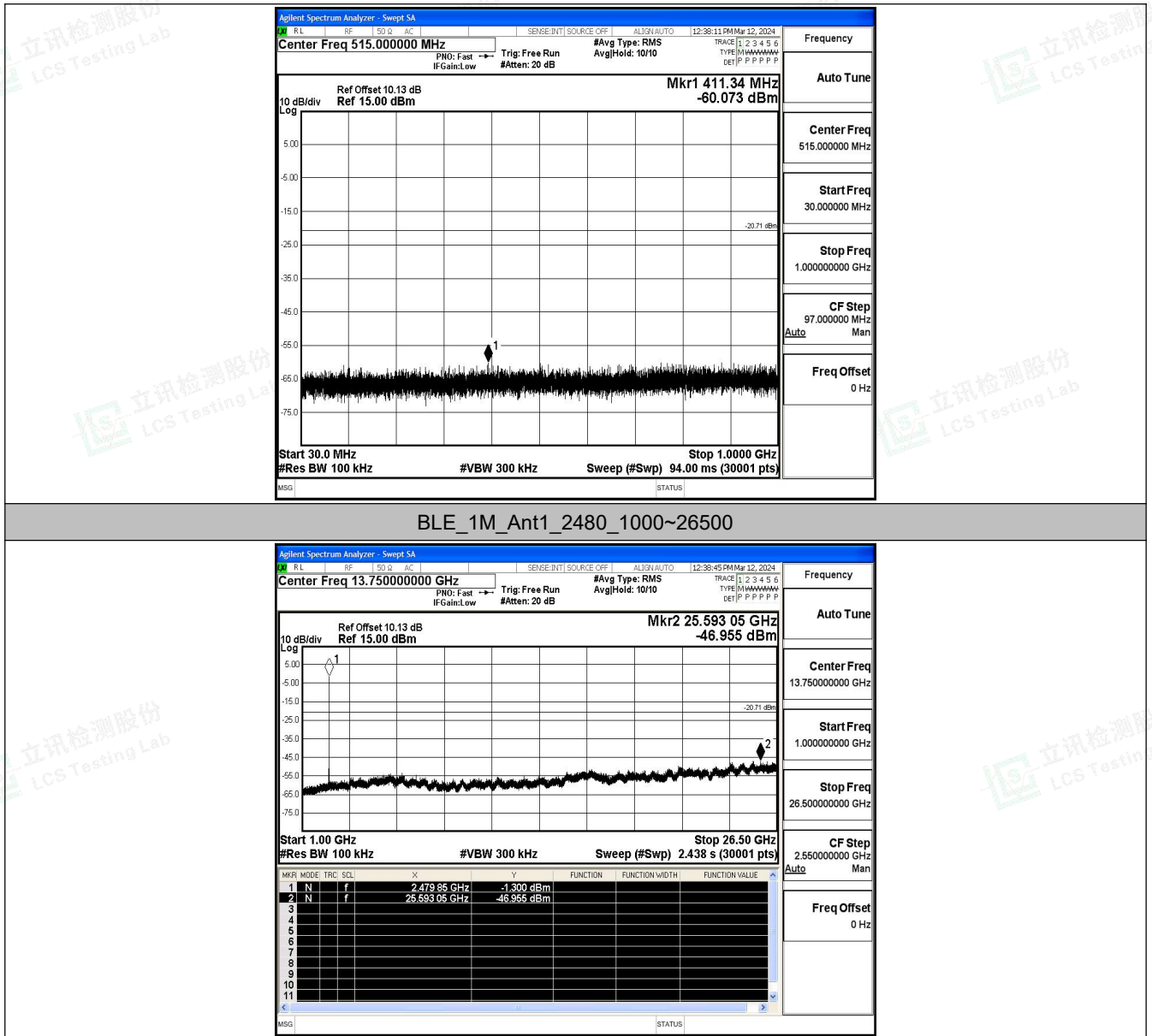


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Reference level measurement

Test Result

TestMode	Antenna	Freq(MHz)	Max.Point[MHz]	Result[dBm]
BLE_1M	Ant1	2402	2402.24	-1.05
		2440	2440.23	-0.85
		2480	2480.23	-0.71

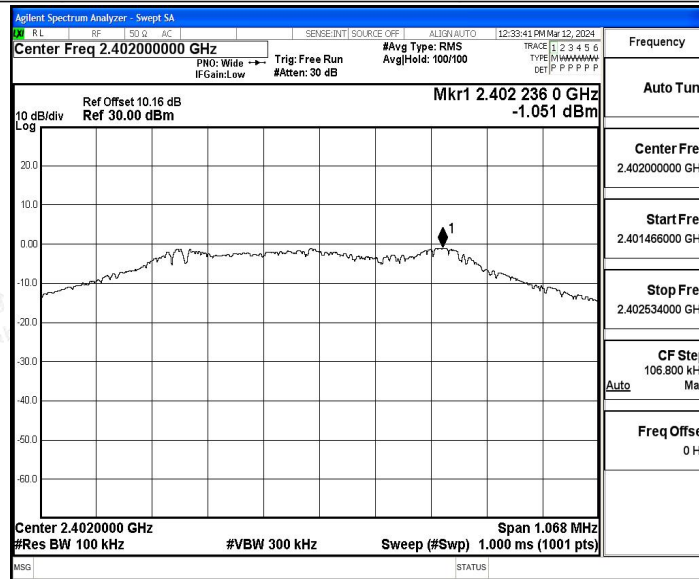


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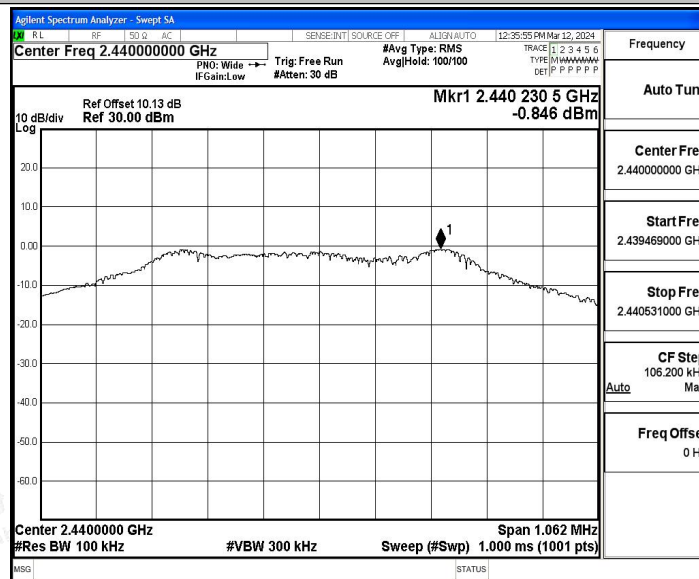


Test Graphs

BLE_1M_Ant1_2402

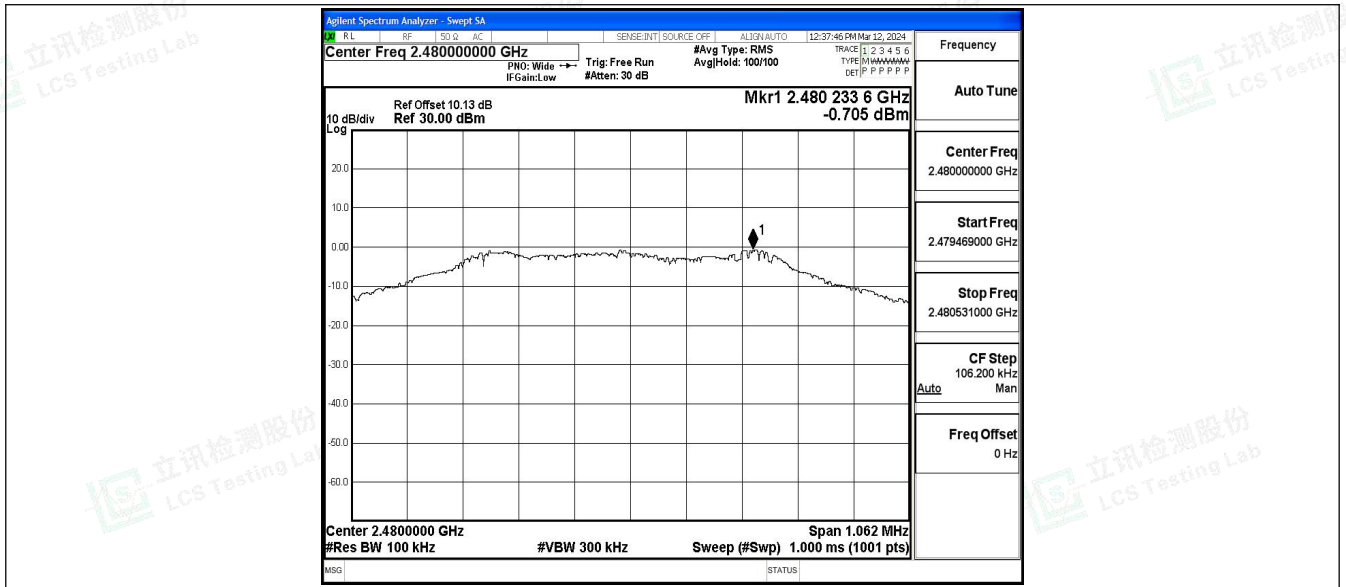


BLE_1M_Ant1_2440



BLE_1M_Ant1_2480







B.6 Duty Cycle

Test Result

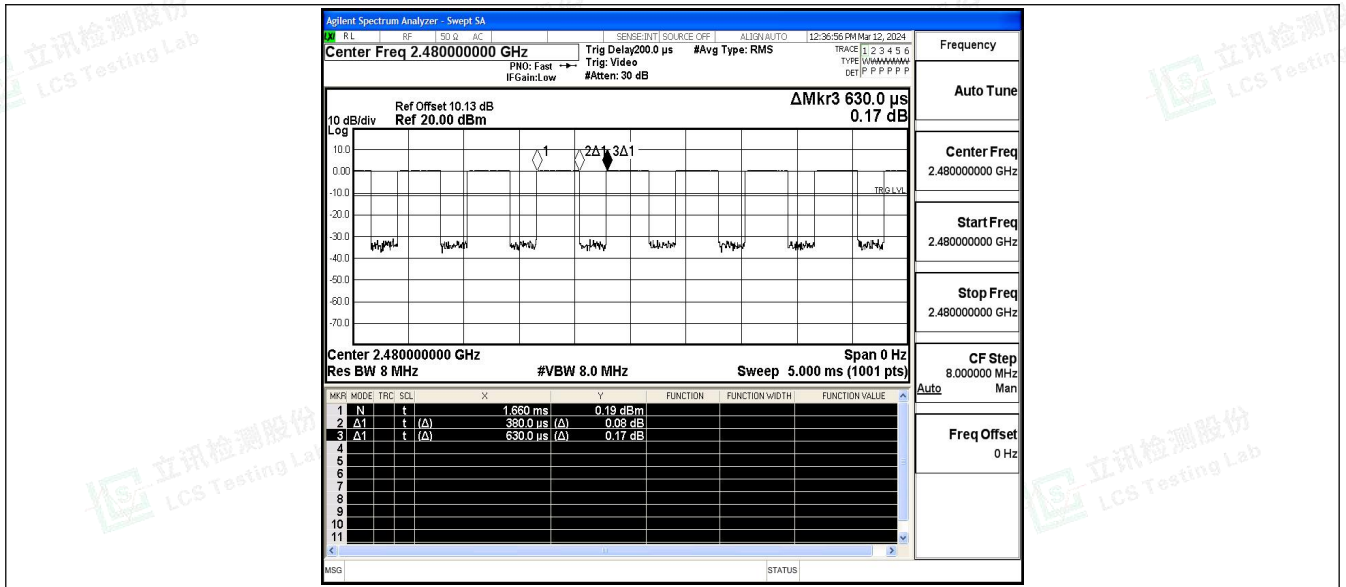
TestMode	Antenna	Frequency[MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor[dB]	1/T Factor[dB]
BLE_1M	Ant1	2402	0.38	0.63	60.32	2.20	2.63
		2440	0.38	0.63	60.32	2.20	2.63
		2480	0.38	0.63	60.32	2.20	2.63



Test Graphs



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B.7 Emissions in Restricted Bands

Test Result

TestMode	Antenna	ChName	Frequency[MHz]	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-46.21	≤-41.20	48.99	≤54	PASS
				AV	2376.335	-44.71	≤-41.20	50.49	≤54	PASS
				AV	2390.000	-45.83	≤-41.20	49.37	≤54	PASS
				Peak	2310.000	-40.68	≤-21.20	54.52	≤74	PASS
				Peak	2335.595	-37.1	≤-21.20	58.10	≤74	PASS
				Peak	2390.000	-38.44	≤-21.20	56.76	≤74	PASS
		High	2480	AV	2483.500	-45.6	≤-41.20	49.60	≤54	PASS
				AV	2489.520	-44.62	≤-41.20	50.58	≤54	PASS
				AV	2500.000	-45.28	≤-41.20	49.92	≤54	PASS
				Peak	2483.500	-38.36	≤-21.20	56.84	≤74	PASS
				Peak	2484.000	-36.43	≤-21.20	58.77	≤74	PASS
				Peak	2500.000	-39.35	≤-21.20	55.85	≤74	PASS

Note:

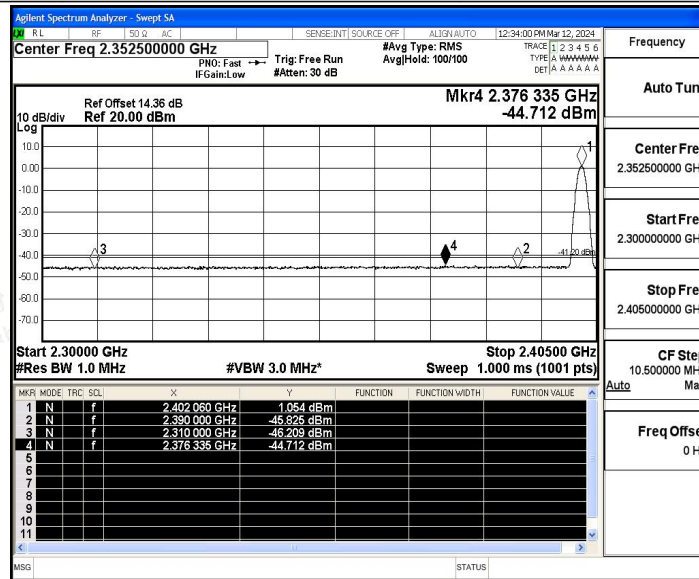
1. The Antenna Gain is compensated in the graph. The Correction Factor is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.



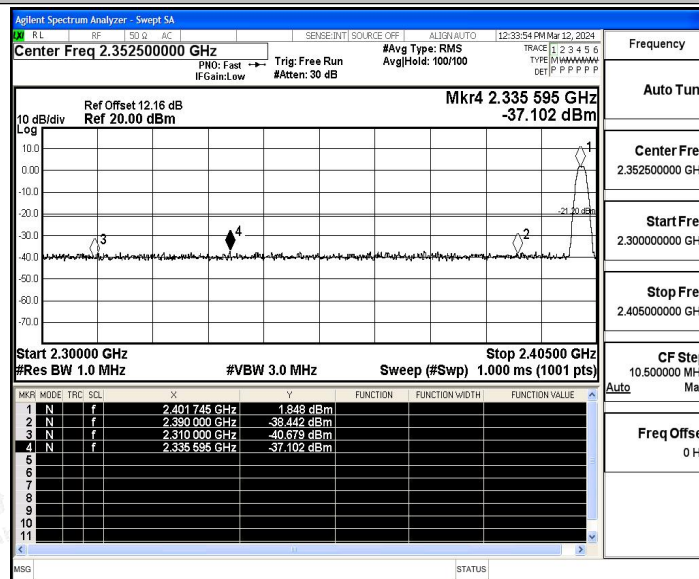


Test Graphs

BLE_1M_Ant1_Low_2402_AV

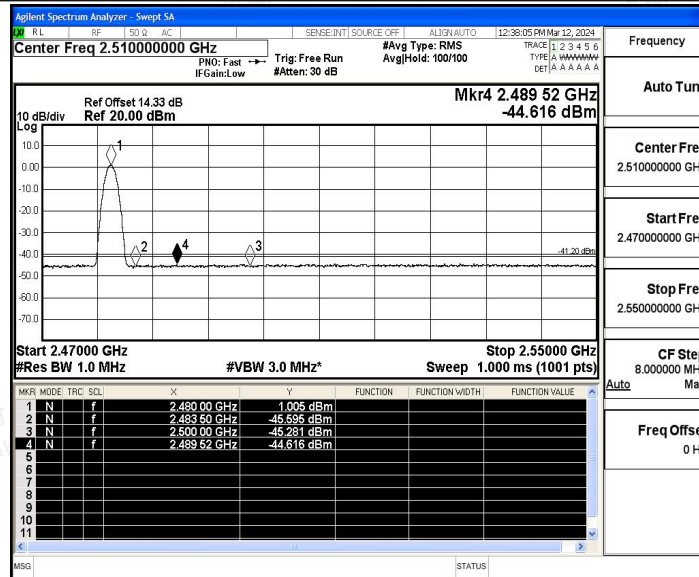


BLE_1M_Ant1_Low_2402_Peak

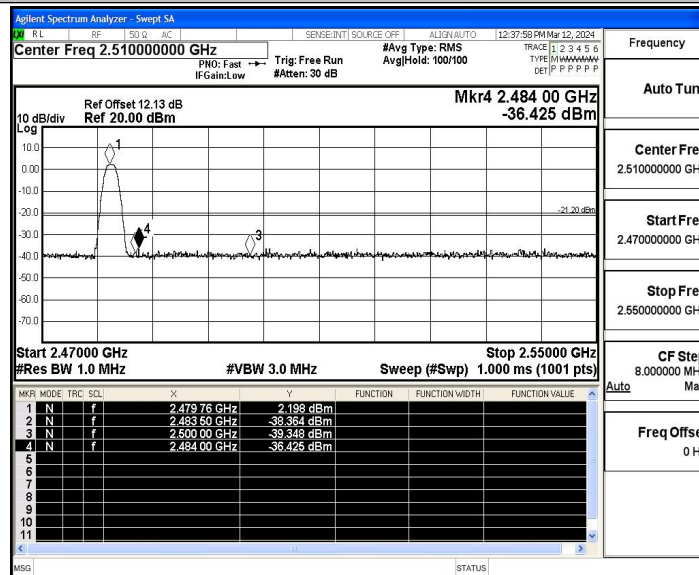


BLE_1M_Ant1_High_2480_AV





BLE_1M_Ant1_High_2480_Peak



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