



Appendix B

RF Test Data for BLE (Conducted Measurement)

Product Name: Acuity Serena

Test Model: AC08

Environmental Conditions

Temperature:	23.5 °C
Relative Humidity:	52.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Ling Zhu
Supervised by:	Kay Hu





B.1 DTS Bandwidth

Test Result

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_2M	Ant1	2402	1.148	2401.424	2402.572	0.5	PASS
		2440	1.152	2439.424	2440.576	0.5	PASS
		2480	1.152	2479.424	2480.576	0.5	PASS



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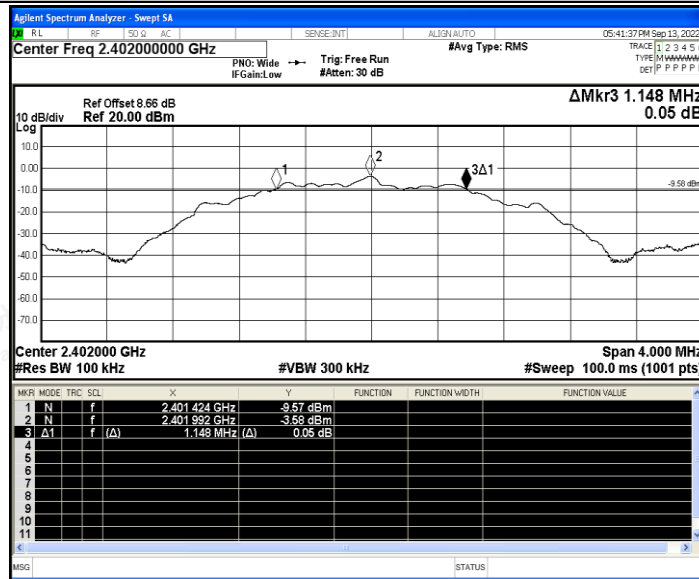
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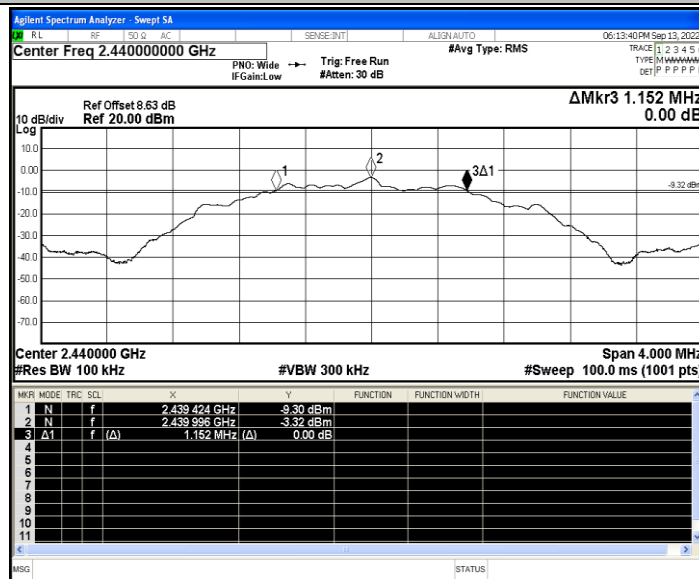


Test Graphs

BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480

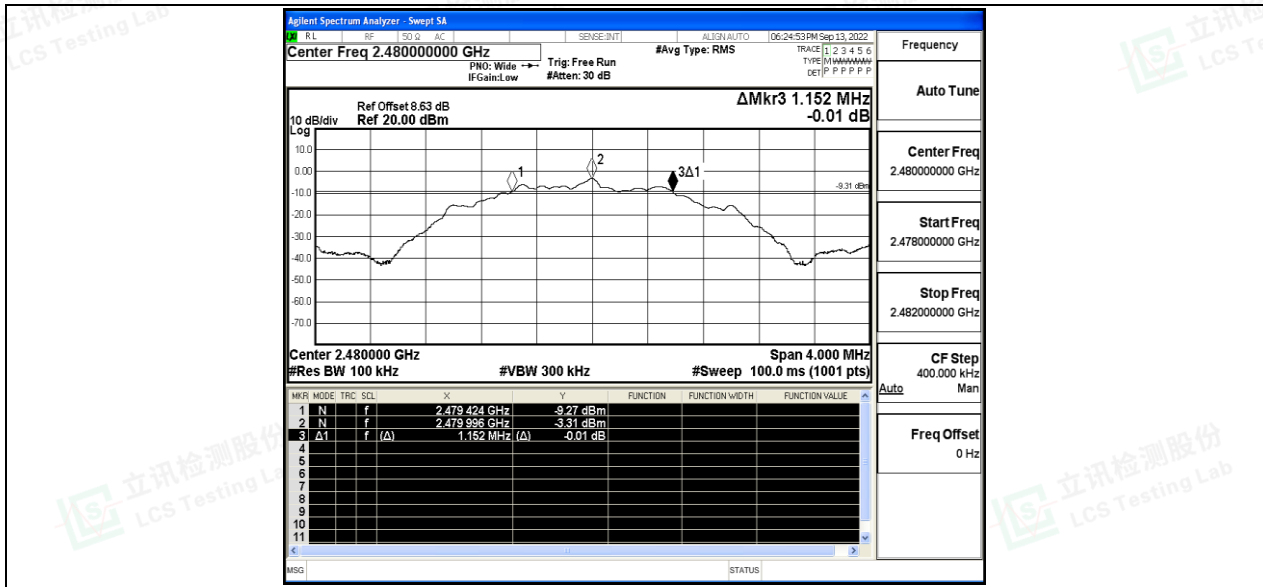


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B.2 Maximum conducted output power

Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_2M	Ant1	2402	-2.86	≤30	PASS
		2440	-2.48	≤30	PASS
		2480	-2.55	≤30	PASS



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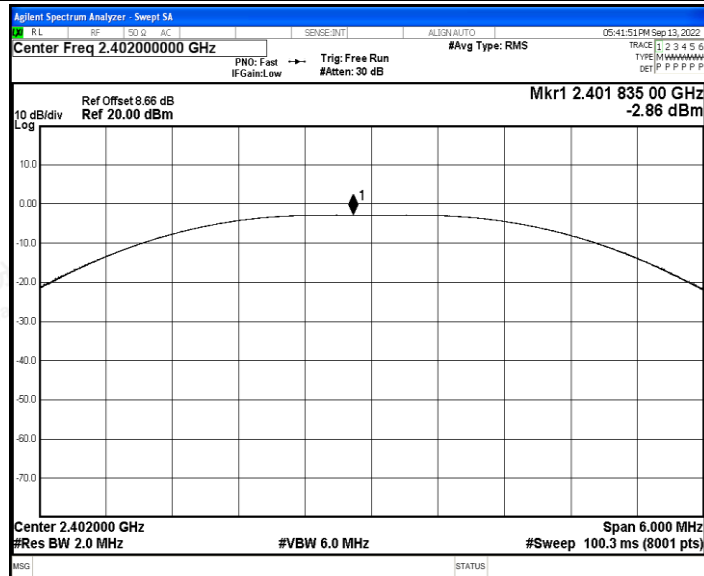
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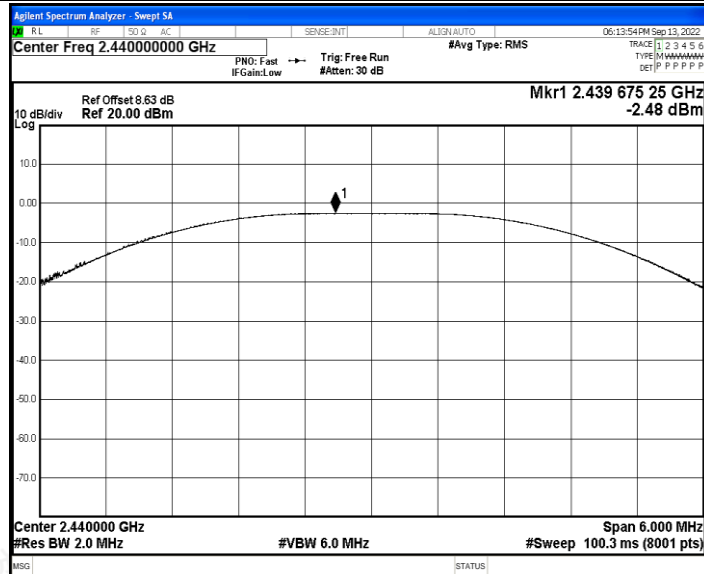


Test Graphs

BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480

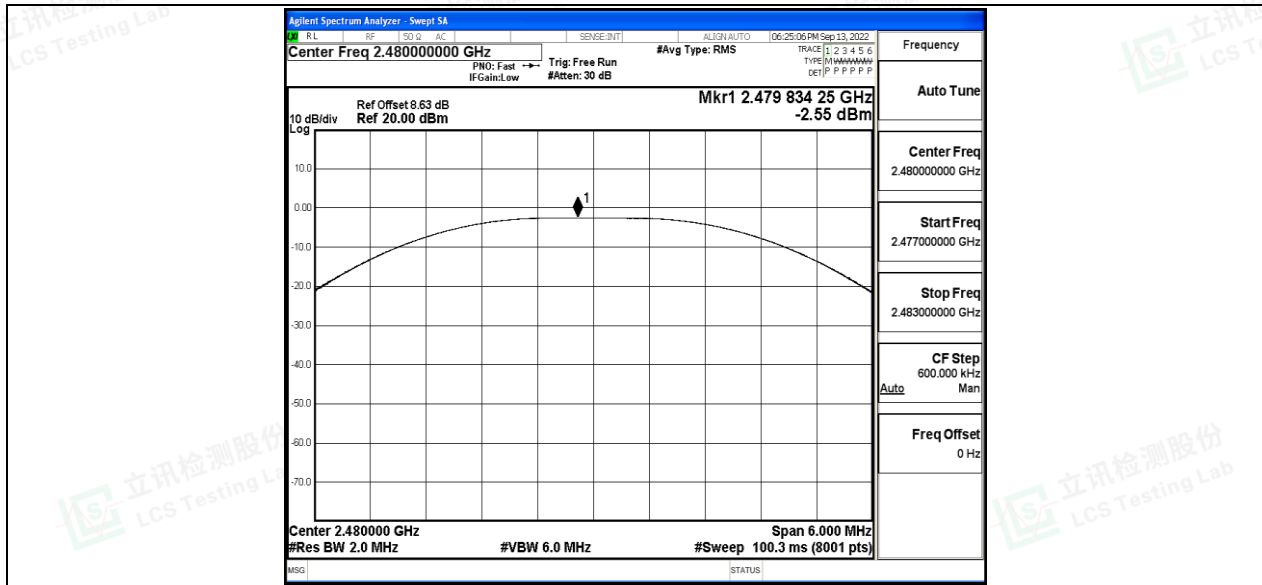


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B.3 Maximum power spectral density

Test Result

TestMode	Antenna	Channel	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_2M	Ant1	2402	-19.76	≤8.00	PASS
		2440	-18.51	≤8.00	PASS
		2480	-18.36	≤8.00	PASS



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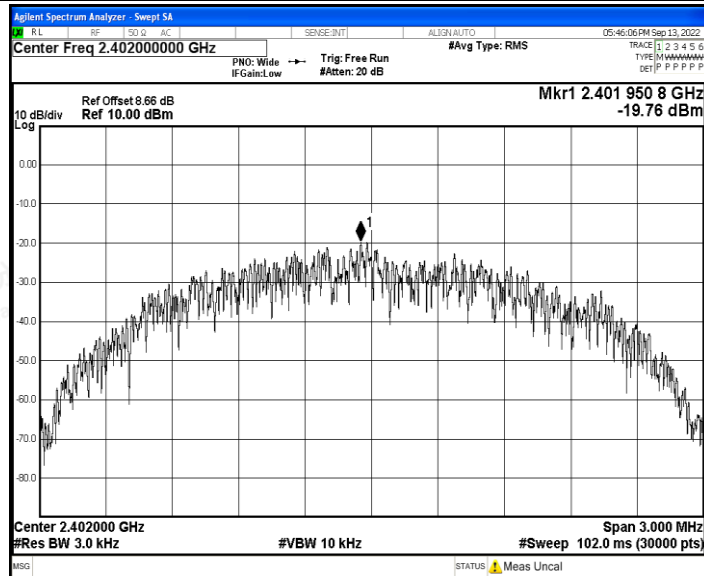
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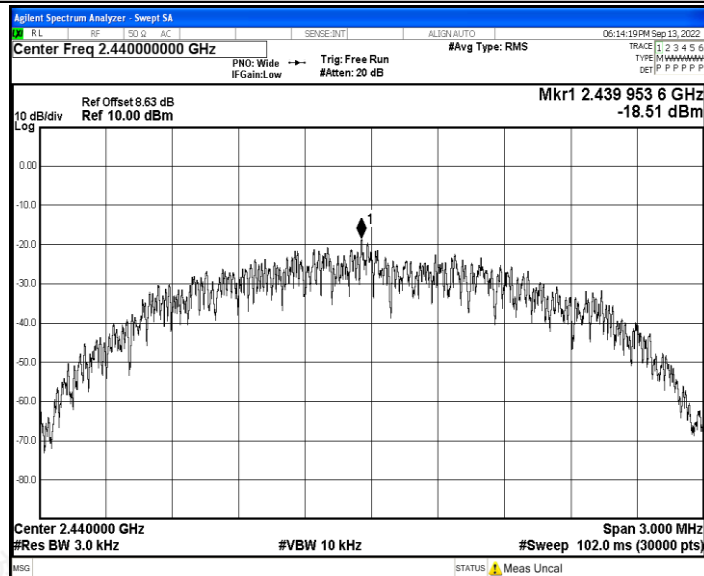


Test Graphs

BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480

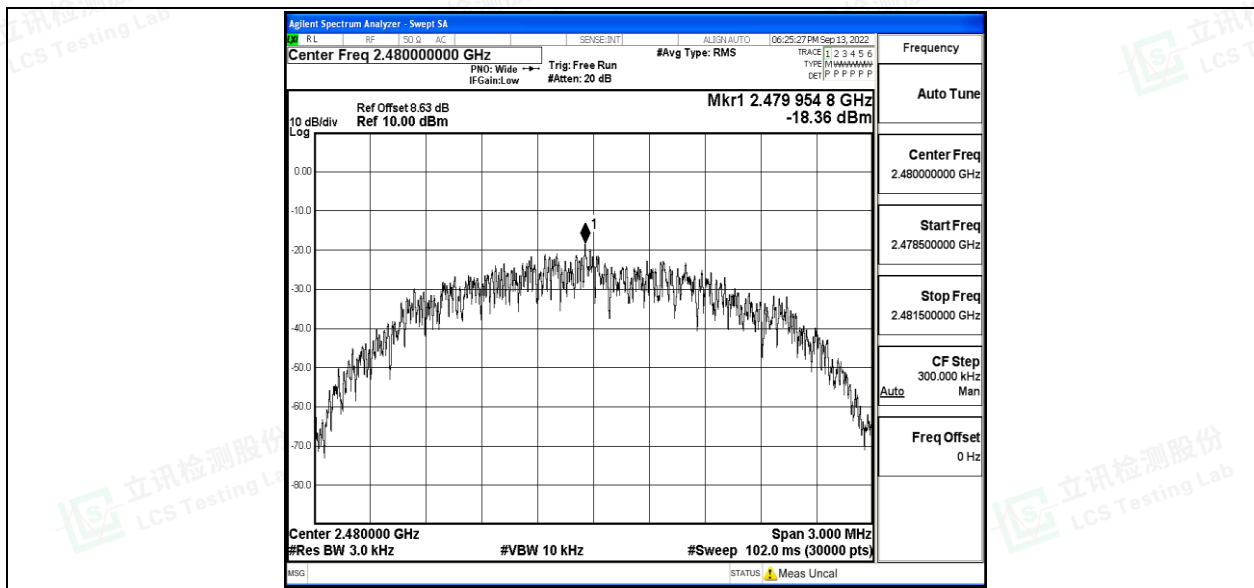


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B.4 Band edge measurements

Test Result

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_2M	Ant1	Low	2402	-3.66	-37.11	≤-23.66	PASS
		High	2480	-3.29	-48.11	≤-23.29	PASS



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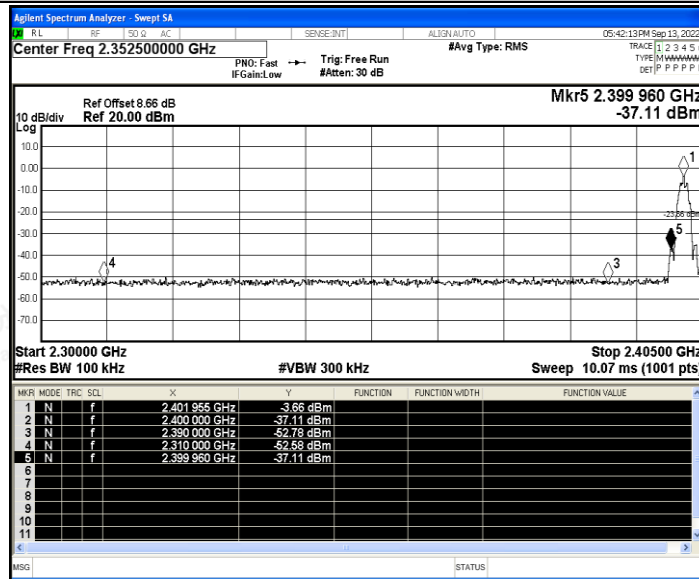
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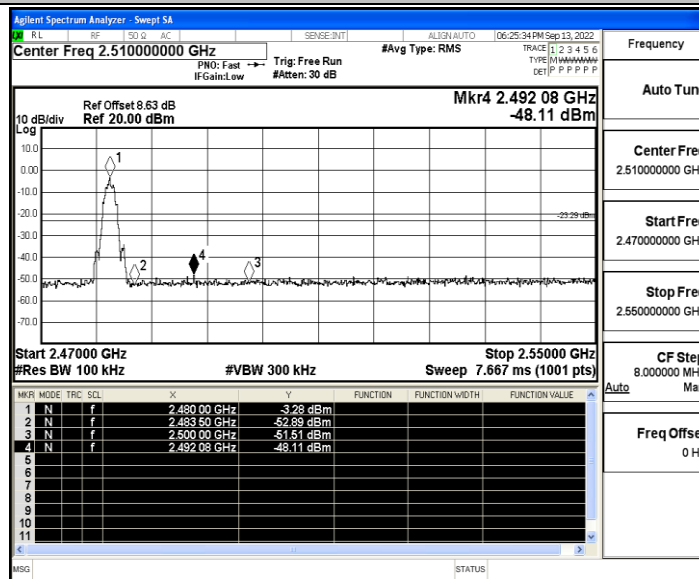


Test Graphs

BLE_2M_Ant1_Low_2402



BLE_2M_Ant1_High_2480



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B.5 Conducted Spurious Emission

Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_2M	Ant1	2402	Reference	-6.45	-6.45	---	PASS
			30~1000	-6.45	-60.31	≤ -26.45	PASS
			1000~26500	-6.45	-44.96	≤ -26.45	PASS
		2440	Reference	-4.33	-4.33	---	PASS
			30~1000	-4.33	-41.94	≤ -24.33	PASS
			1000~26500	-4.33	-46.56	≤ -24.33	PASS
		2480	Reference	-5.30	-5.30	---	PASS
			30~1000	-5.30	-60.26	≤ -25.3	PASS
			1000~26500	-5.30	-45.94	≤ -25.3	PASS



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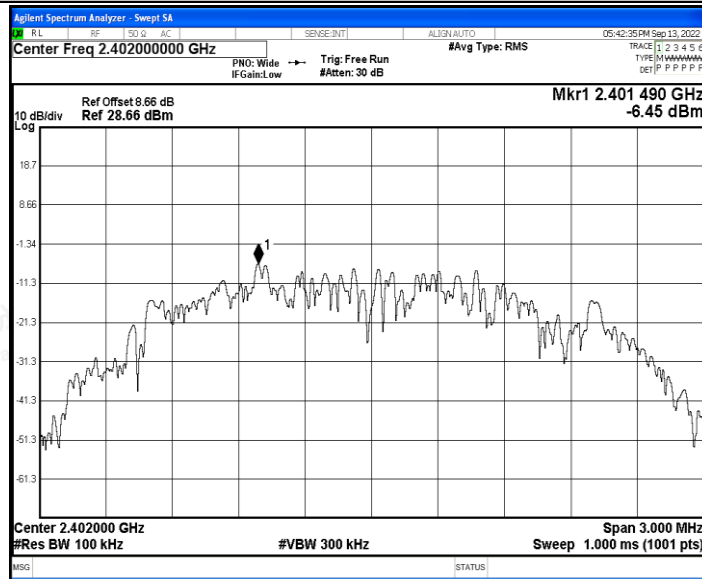
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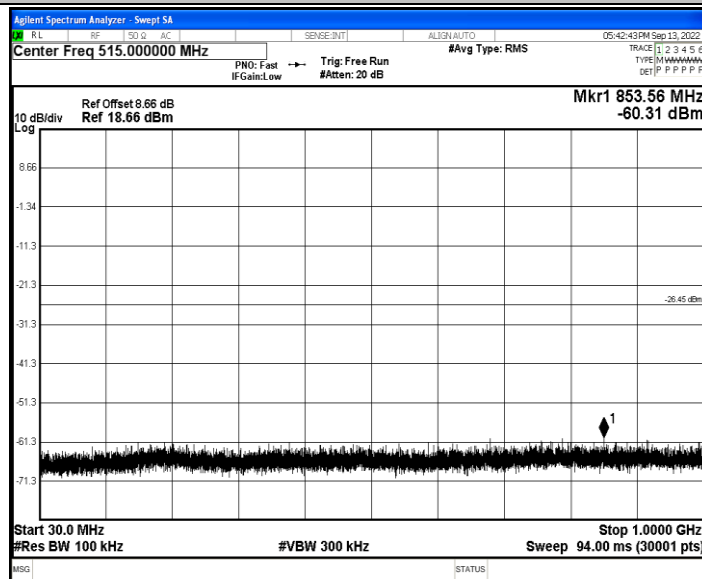


Test Graphs

BLE_2M_Ant1_2402_0~Reference



BLE_2M_Ant1_2402_30~1000



BLE_2M_Ant1_2402_1000~26500

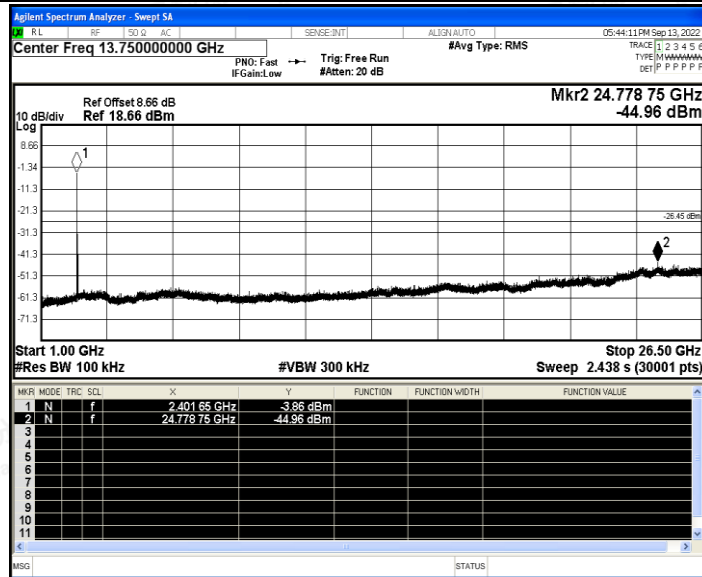


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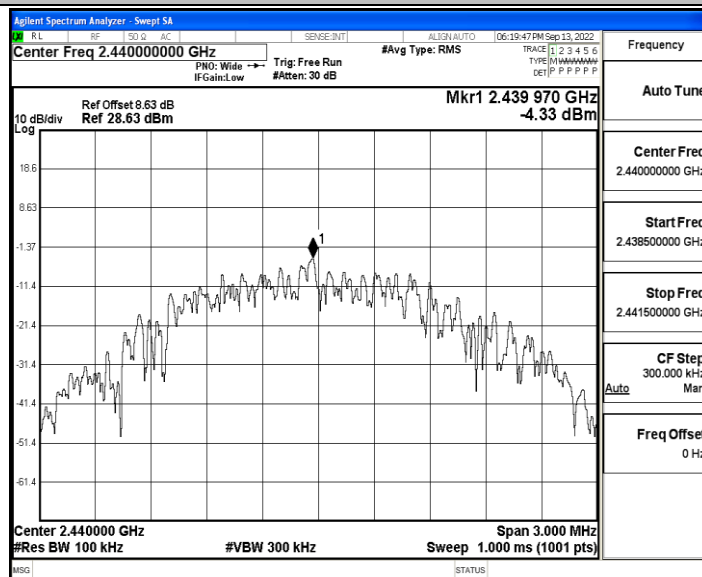
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BLE_2M_Ant1_2440_0~Reference



BLE_2M_Ant1_2440_30~1000

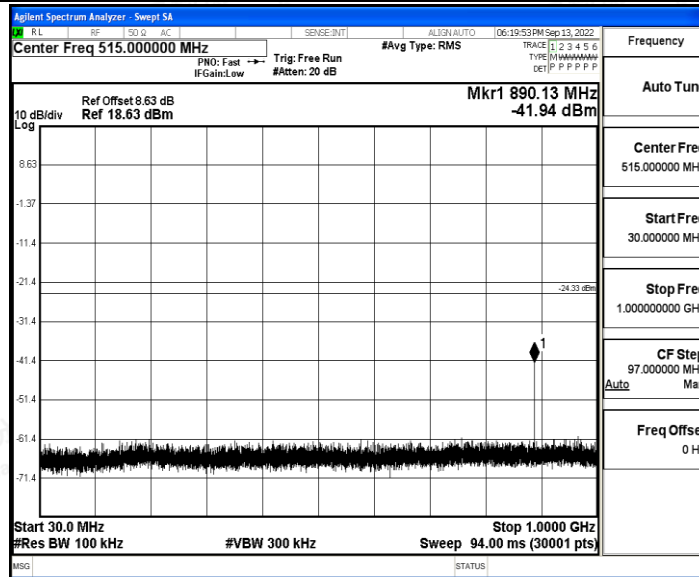


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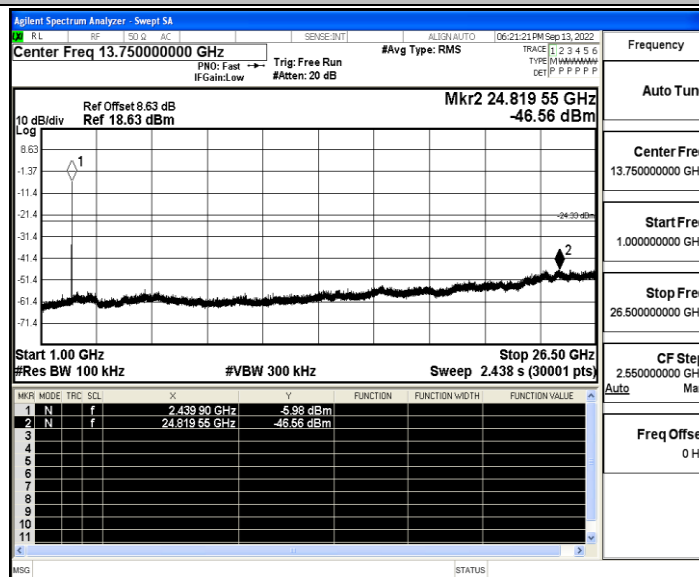
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BLE_2M_Ant1_2440_1000~26500



BLE_2M_Ant1_2480_0~Reference

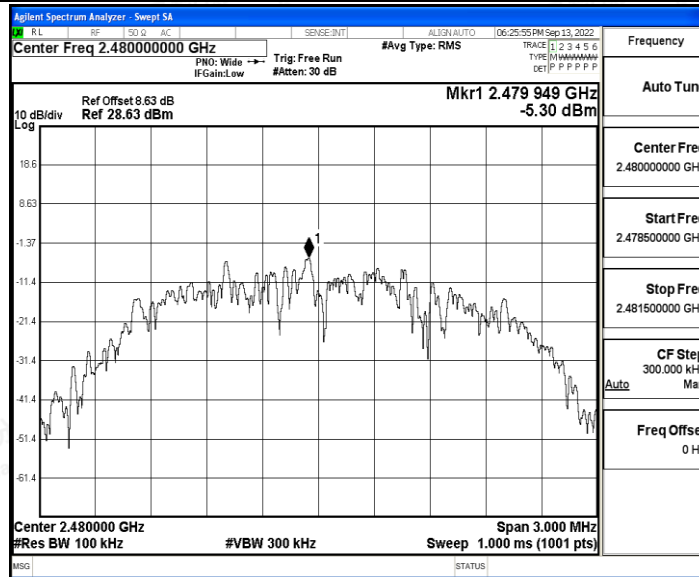


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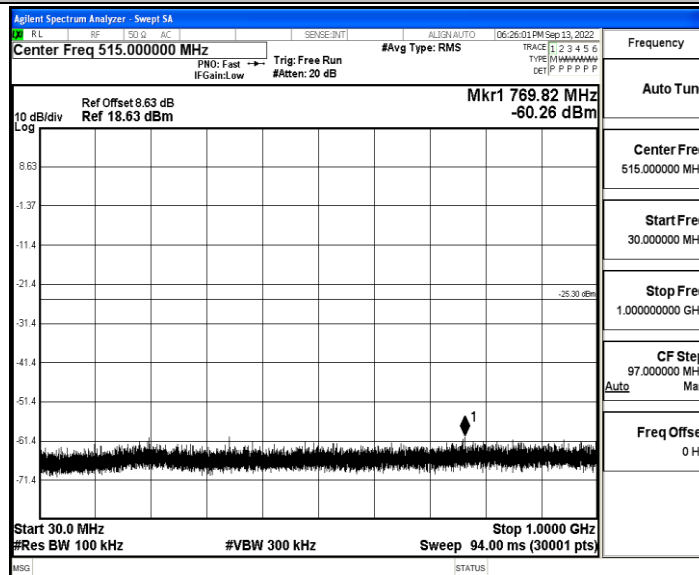
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BLE_2M_Ant1_2480_30~1000



BLE_2M_Ant1_2480_1000~26500

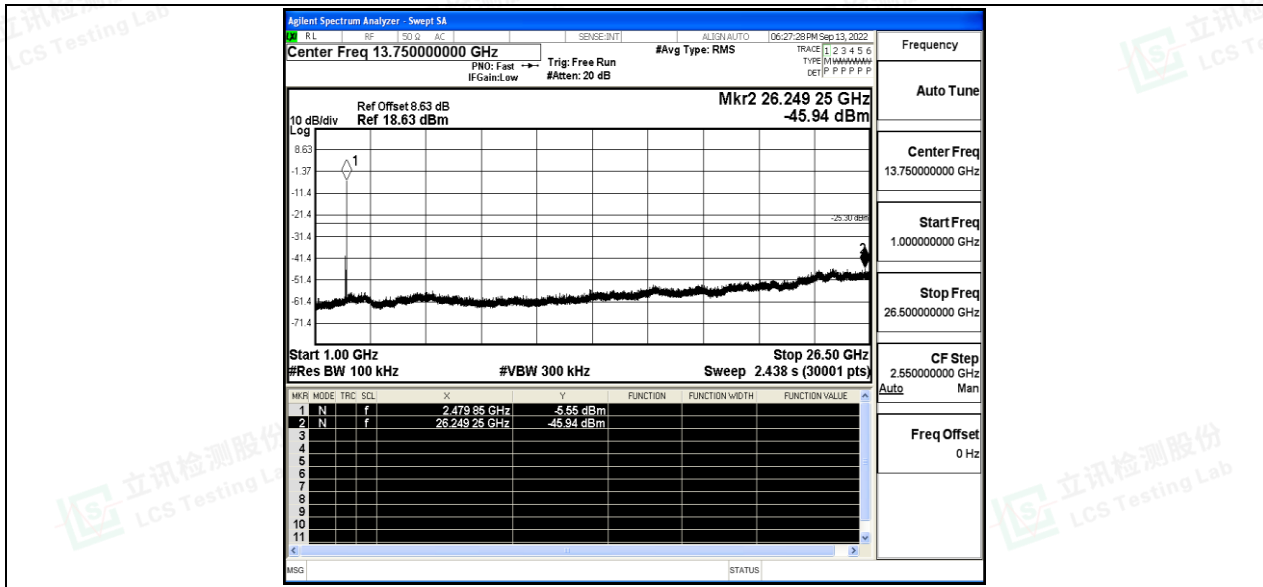


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B.6 Duty Cycle

Test Result

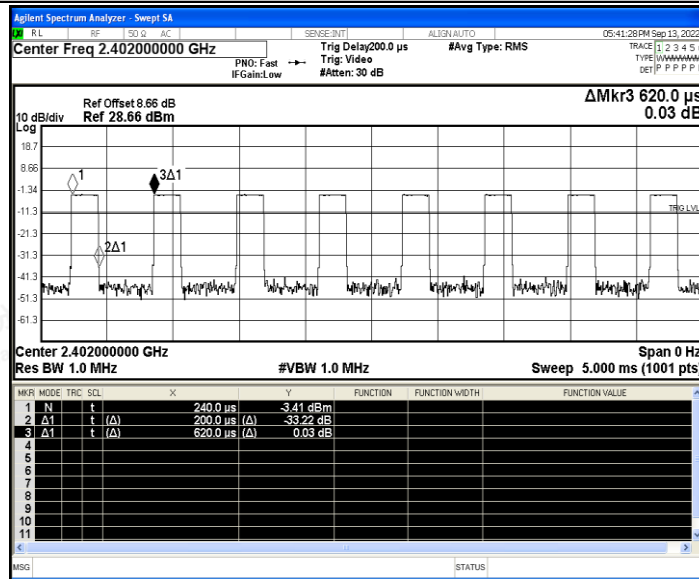
TestMode	Antenna	Channel	ON Time [ms]	Period [ms]	X	DC [%]	xFactor	1/T	Limit	Verdict
BLE_2M	Ant1	2402	0.20	0.62	0.3226	32.26	4.91	5.00	---	---
		2440	0.20	0.62	0.3226	32.26	4.91	5.00	---	---
		2480	0.20	0.62	0.3226	32.26	4.91	5.00	---	---



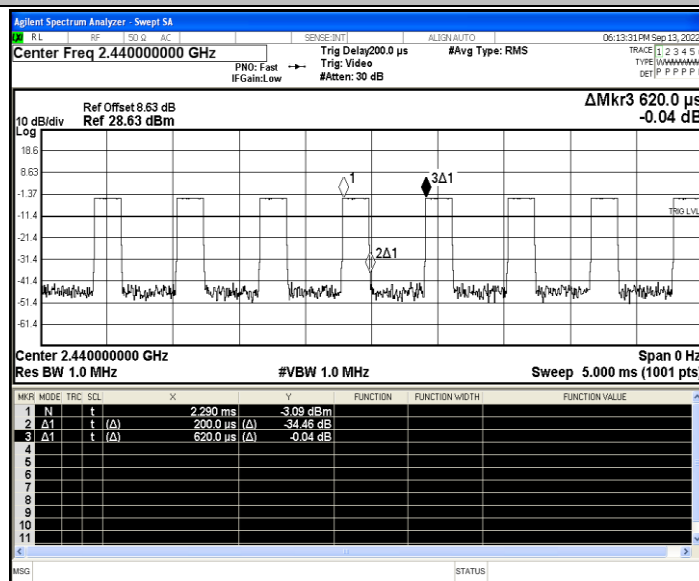


Test Graphs

BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480

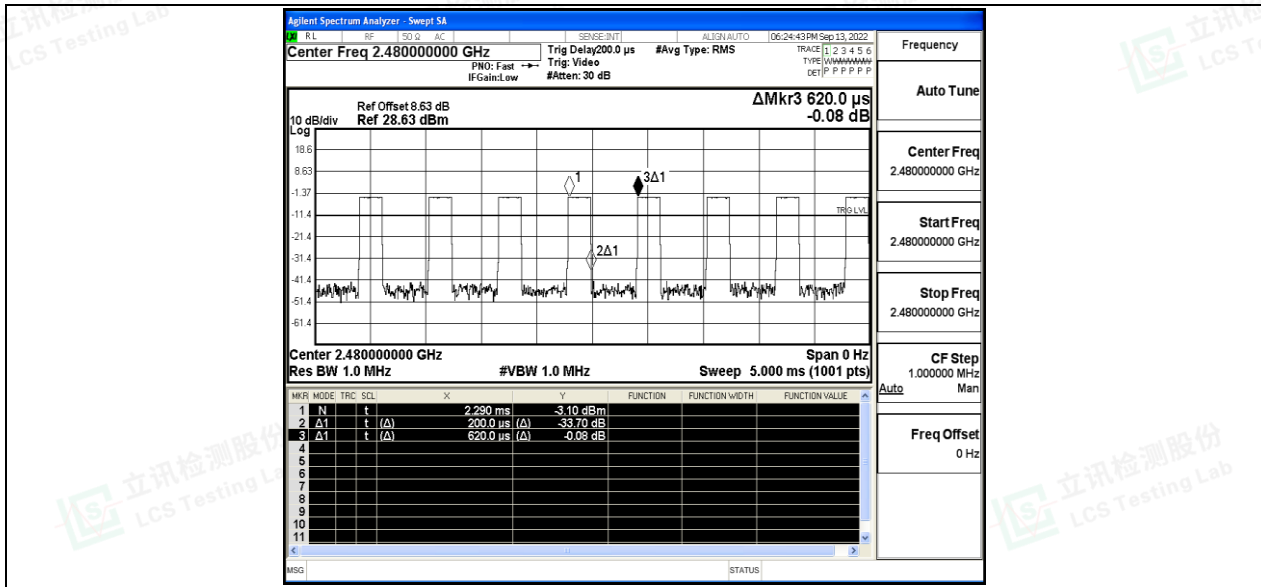


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B.7 Emissions in Restricted Bands

Test Result

TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
BLE_2M	Ant1	Low	2402	AV	2310.000	-46.91	≤-41.20	48.29	≤54	PASS
				AV	2386.730	-45.95	≤-41.20	49.25	≤54	PASS
				AV	2390.000	-46.75	≤-41.20	48.45	≤54	PASS
				Peak	2310.000	-41.27	≤-21.20	53.93	≤74	PASS
				Peak	2323.100	-37.62	≤-21.20	57.58	≤74	PASS
				Peak	2390.000	-38.09	≤-21.20	57.11	≤74	PASS
		High	2480	AV	2483.500	-46.05	≤-41.20	49.15	≤54	PASS
				AV	2499.200	-45.78	≤-41.20	49.42	≤54	PASS
				AV	2500.000	-46.04	≤-41.20	49.16	≤54	PASS
				Peak	2483.500	-41.44	≤-21.20	53.76	≤74	PASS
				Peak	2496.000	-36.81	≤-21.20	58.39	≤74	PASS
				Peak	2500.000	-39.98	≤-21.20	55.22	≤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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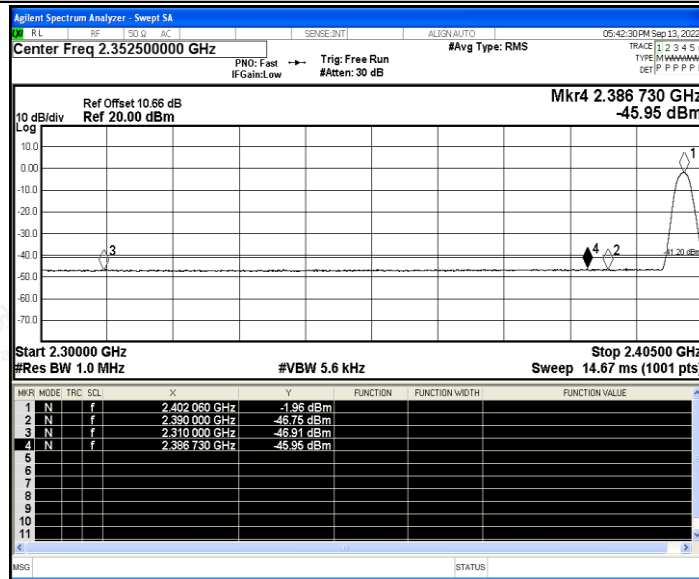
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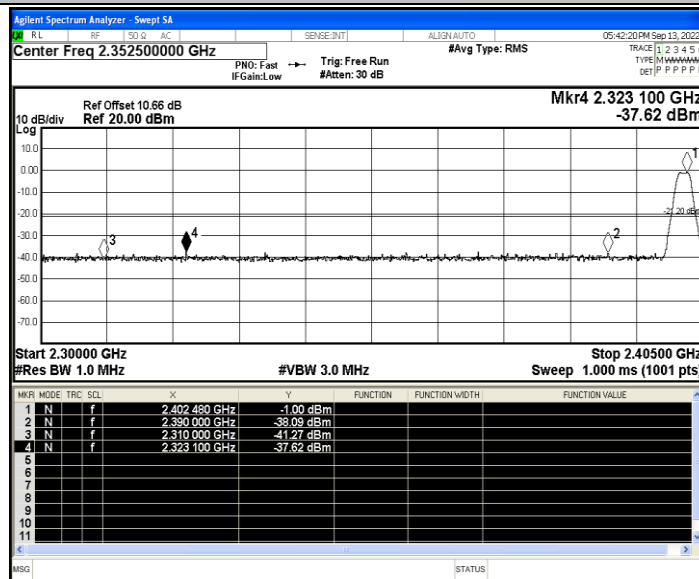


Test Graphs

BLE_2M_Ant1_Low_2402_AV



BLE_2M_Ant1_Low_2402_Peak



BLE_2M_Ant1_High_2480_AV

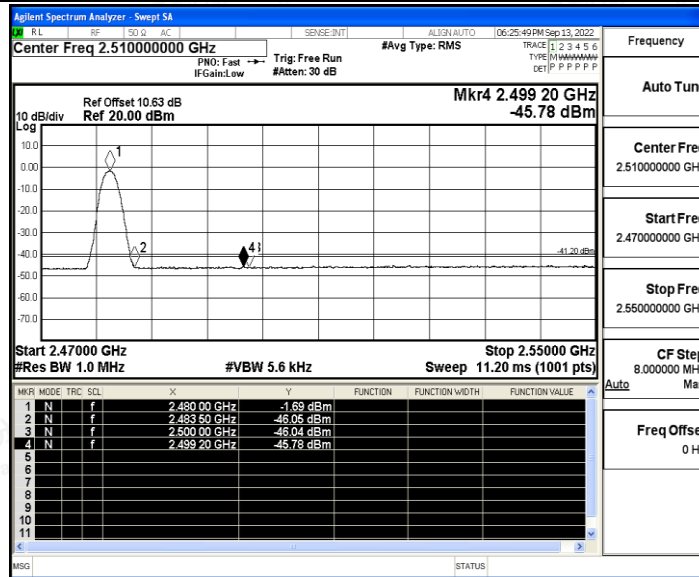


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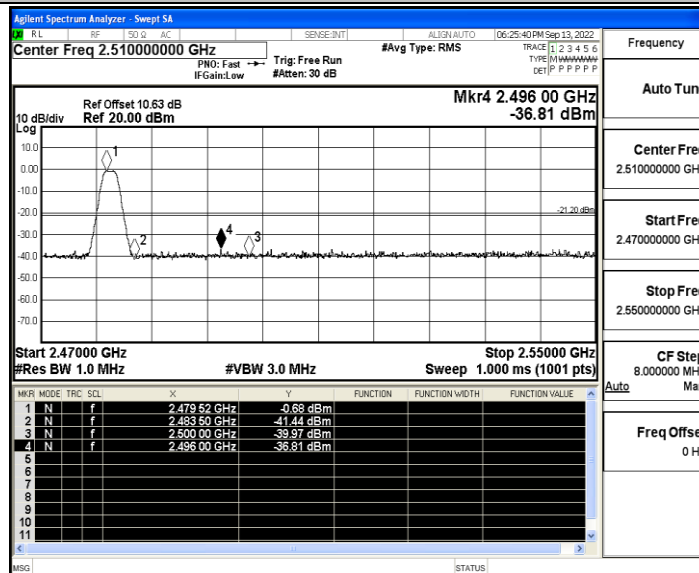
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BLE_2M_Ant1_High_2480_Peak



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