



Appendix B

RF Test Data for BT LE (Conducted Measurement)

Product Name: Sound Gallery Wall Art Speaker

Test Model: SG2424

Environmental Conditions

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



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B.1 -6dB Bandwidth

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.660	2401.668	2402.328	0.5	PASS
		2440	0.660	2439.664	2440.324	0.5	PASS
		2480	0.660	2479.664	2480.324	0.5	PASS



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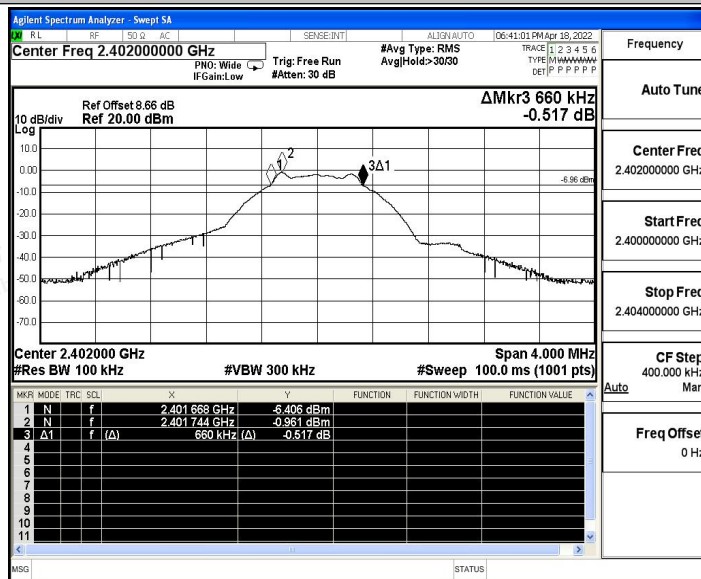
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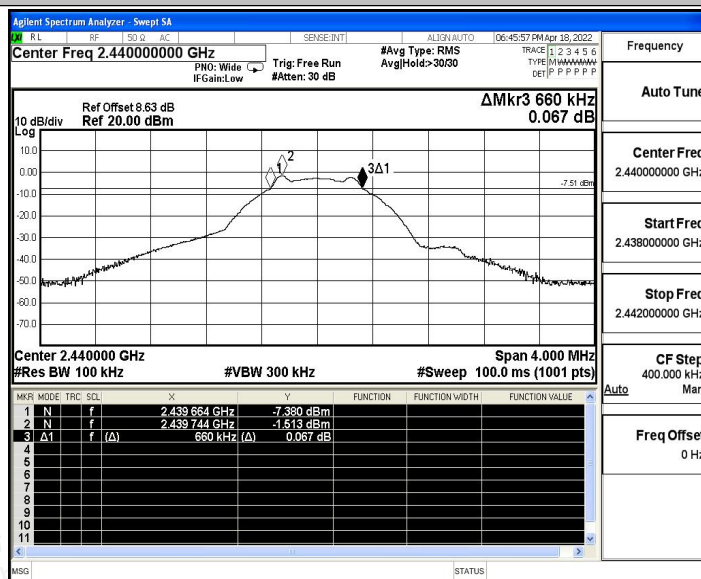


Test Graphs

BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480

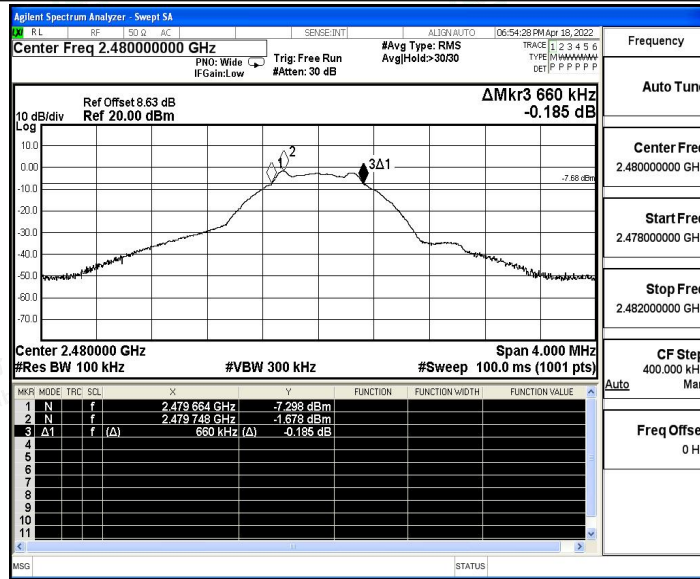


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B.2 Maximum Conducted Output Power

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	-0.62	≤30	PASS
		2440	-1.22	≤30	PASS
		2480	-1.41	≤30	PASS



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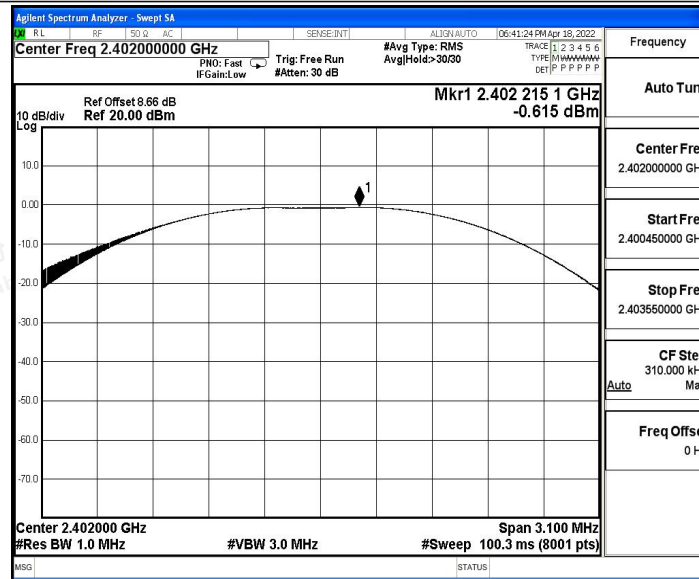
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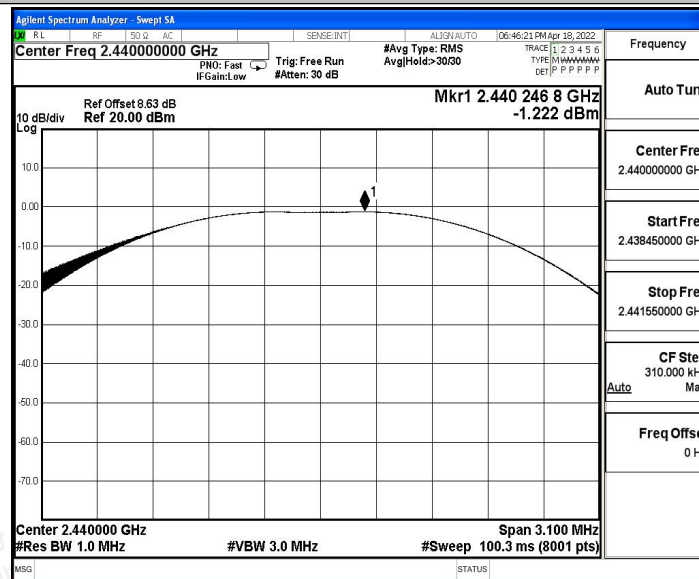


Test Graphs

BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480

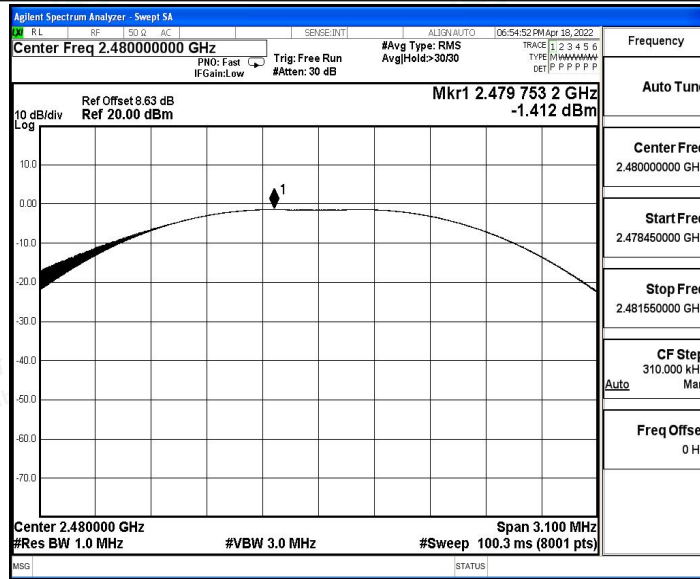


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B.3 Maximum Power Spectral Density Level

TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-16.97	≤8.00	PASS
		2440	-17.55	≤8.00	PASS
		2480	-17.76	≤8.00	PASS



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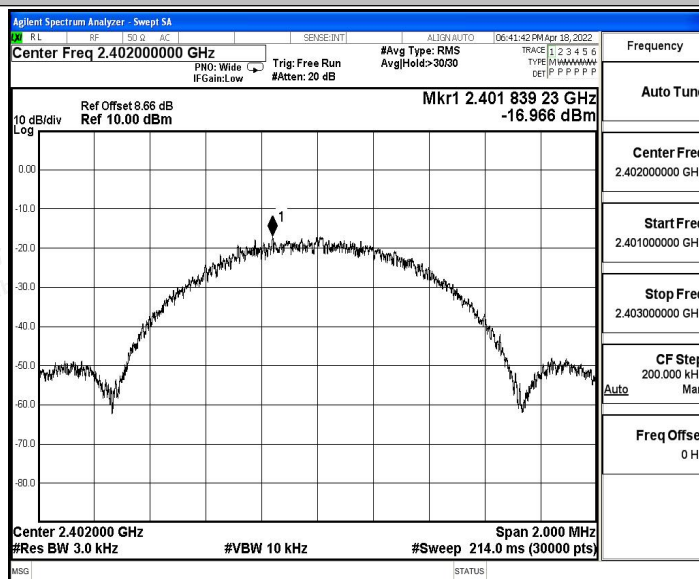
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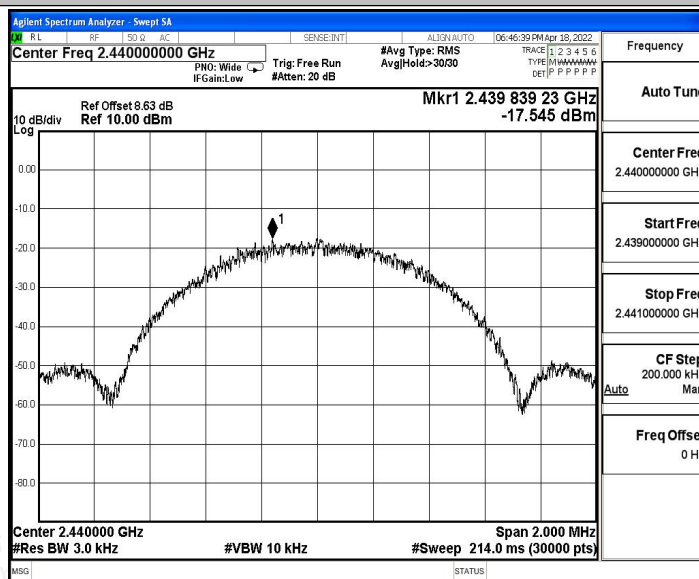


Test Graphs

BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480

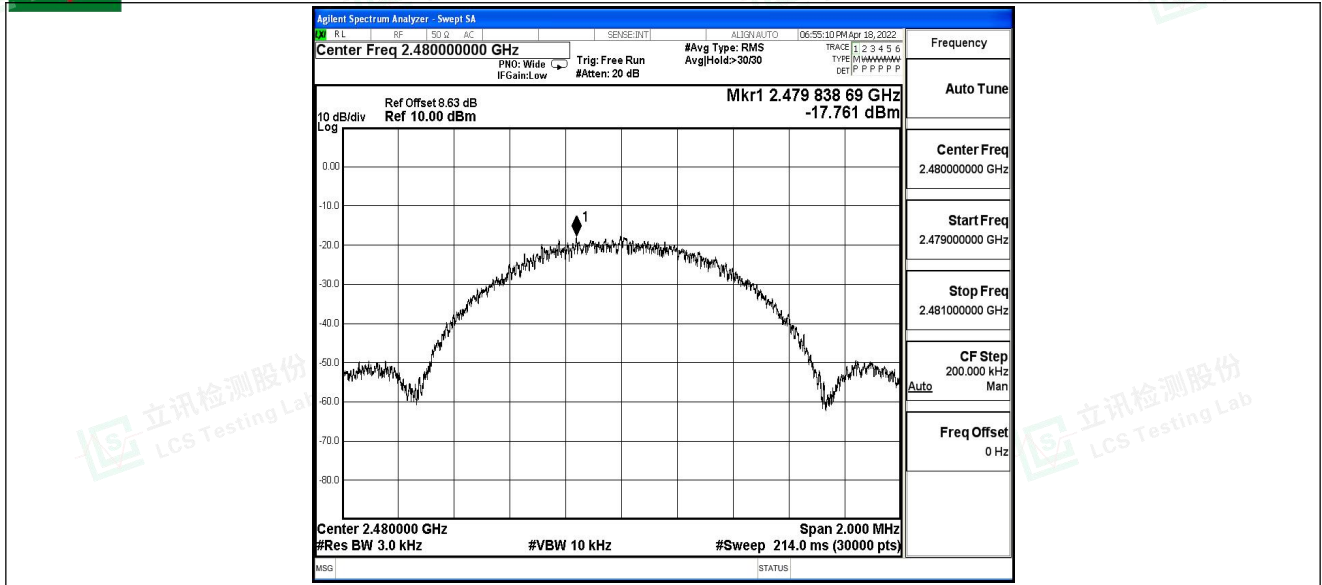


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B.4 Band Edge

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-0.94	-48.89	≤-20.94	PASS
		High	2480	-1.63	-47.59	≤-21.63	PASS



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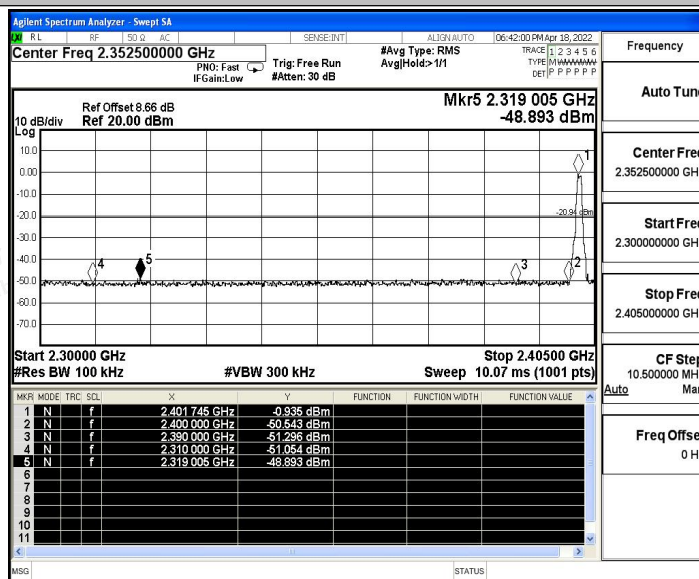
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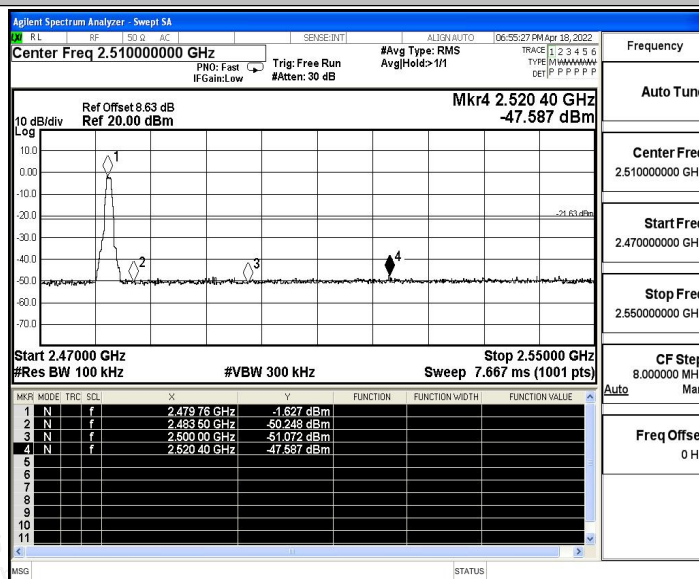


Test Graphs

BLE_1M_Ant1_Low_2402



BLE_1M_Ant1_High_2480



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B.5 Conducted RF Spurious Emission

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	-0.99	-0.99	---	PASS
			30~1000	-0.99	-54.55	≤-20.99	PASS
			1000~26500	-0.99	-46.08	≤-20.99	PASS
		2440	Reference	-1.52	-1.52	---	PASS
			30~1000	-1.52	-56.13	≤-21.52	PASS
			1000~26500	-1.52	-45.89	≤-21.52	PASS
		2480	Reference	-1.72	-1.72	---	PASS
			30~1000	-1.72	-56.56	≤-21.72	PASS
			1000~26500	-1.72	-46.39	≤-21.72	PASS



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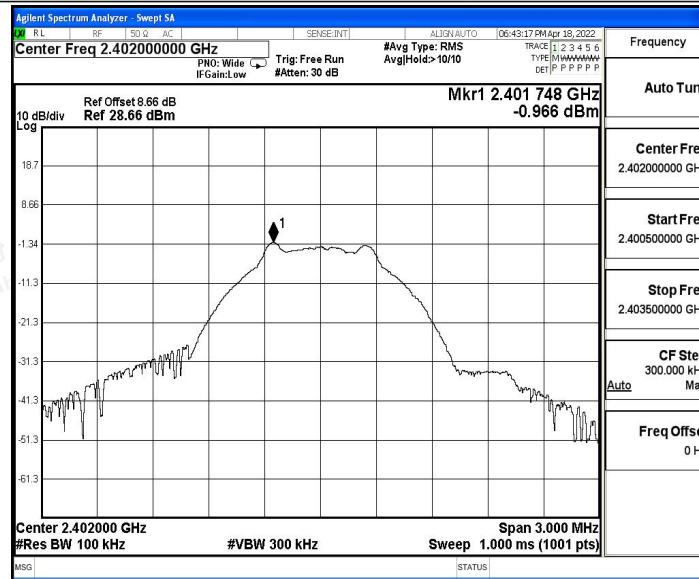
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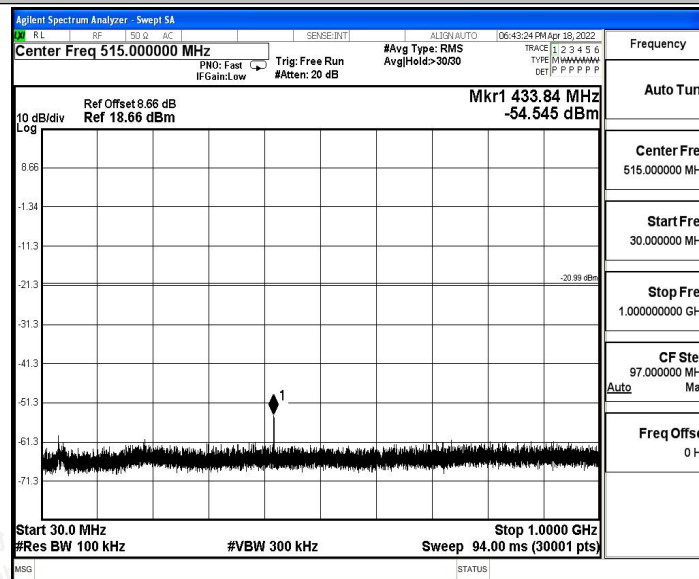


Test Graphs

BLE_1M_Ant1_2402_0~Reference



BLE_1M_Ant1_2402_30~1000



BLE_1M_Ant1_2402_1000~26500

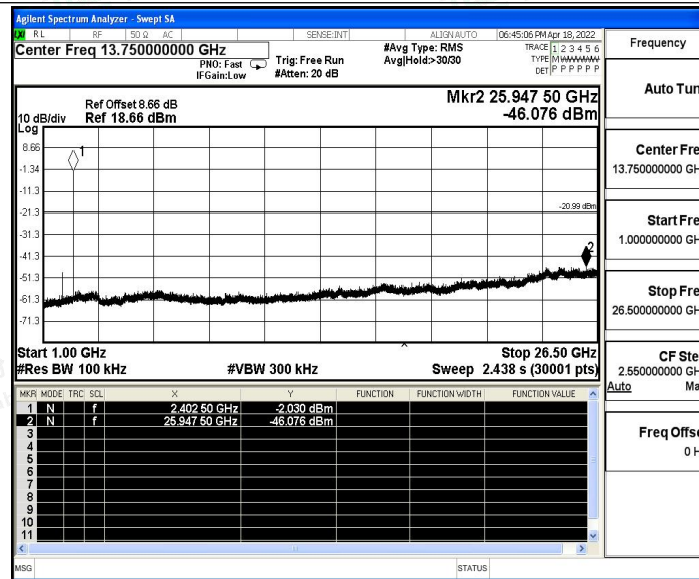


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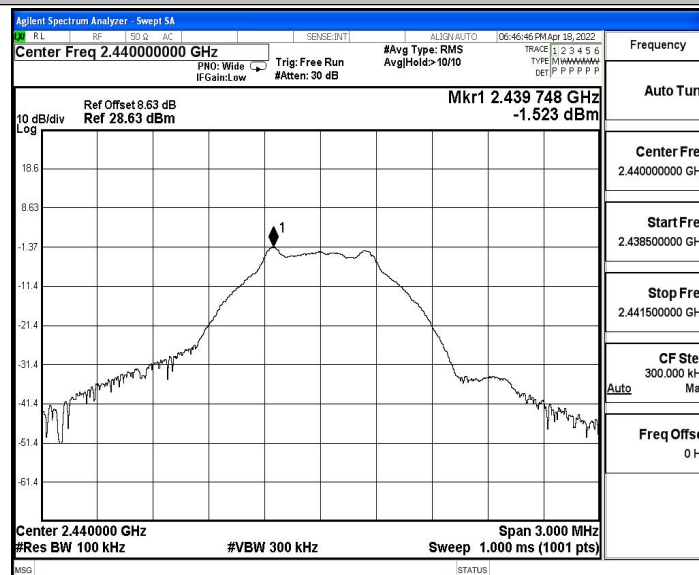
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BLE_1M_Ant1_2440_0~Reference



BLE_1M_Ant1_2440_30~1000

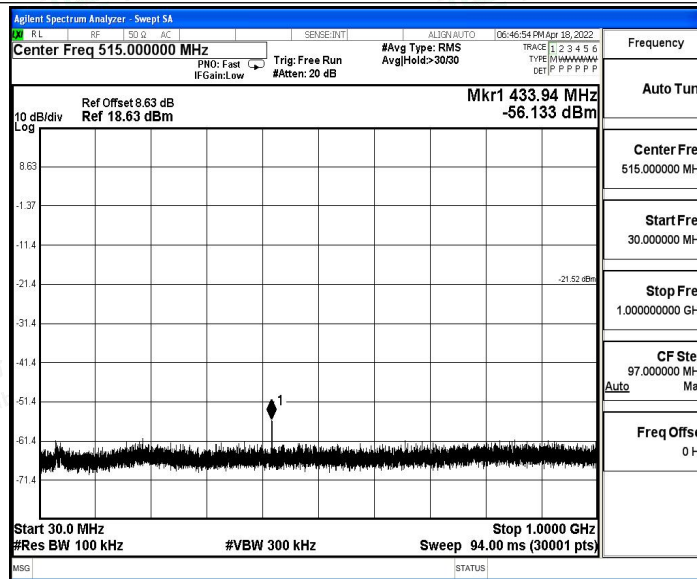


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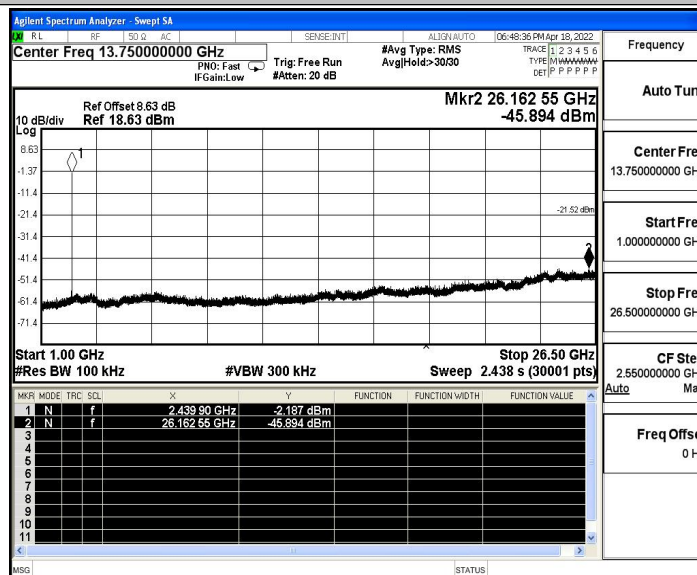
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BLE_1M_Ant1_2440_1000~26500



BLE_1M_Ant1_2480_0~Reference

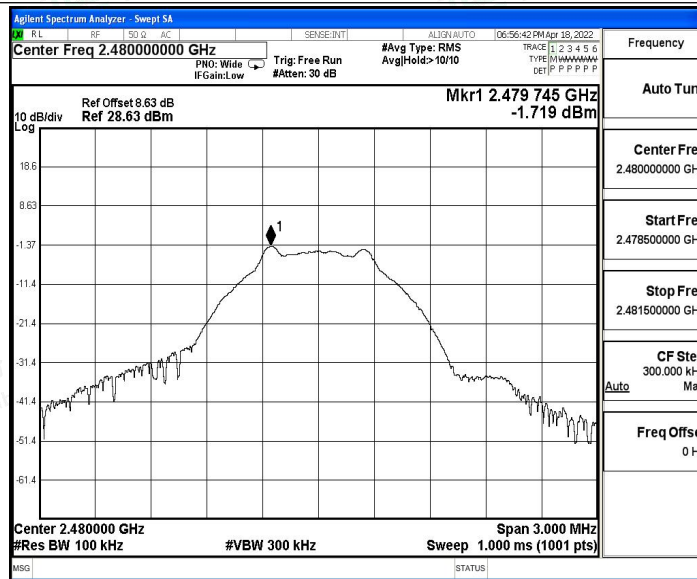


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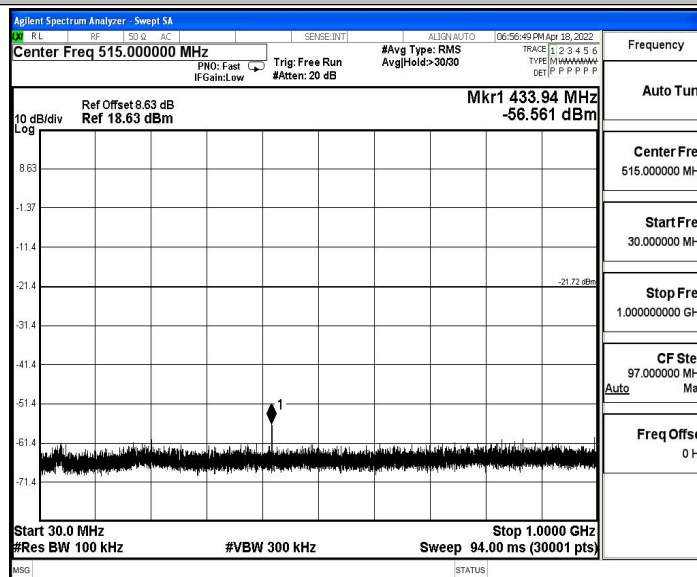
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BLE_1M_Ant1_2480_30~1000



BLE_1M_Ant1_2480_1000~26500

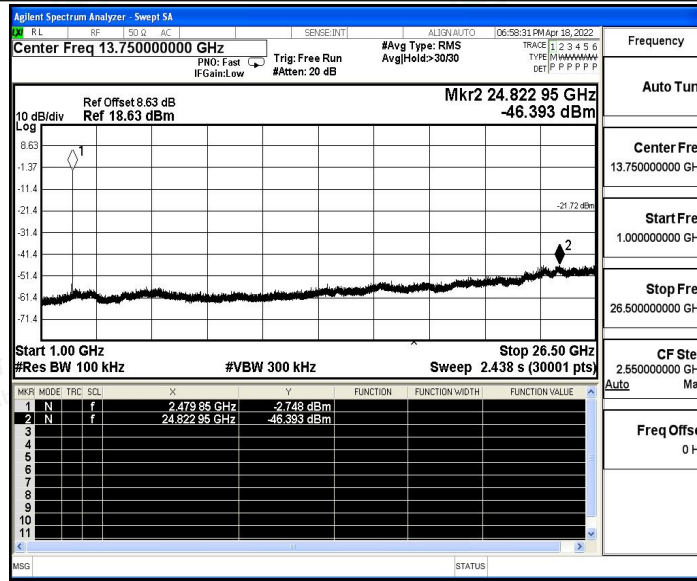


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B.6 Duty Cycle

TestMode	Antenna	Channel	ON Time [ms]	Period [ms]	X	DC [%]	xFactor	1/T (kHz)	Limit	Verdict
BLE_1M	Ant1	2402	1.64	1.88	0.8723	87.23	0.59	0.61	---	---
		2440	1.64	1.88	0.8723	87.23	0.59	0.61	---	---
		2480	1.64	1.88	0.8723	87.23	0.59	0.61	---	---



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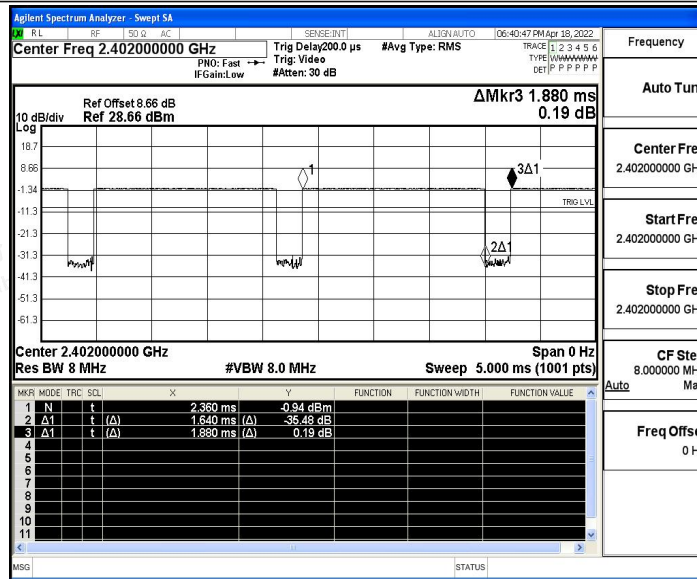
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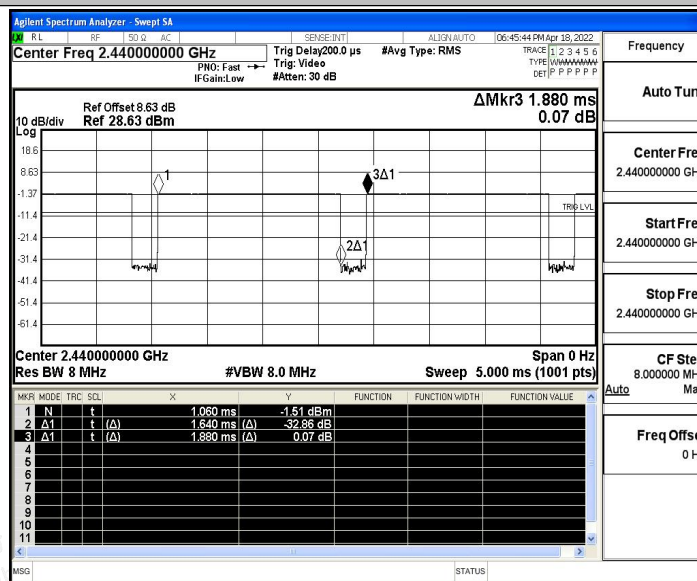


Test Graphs

BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480

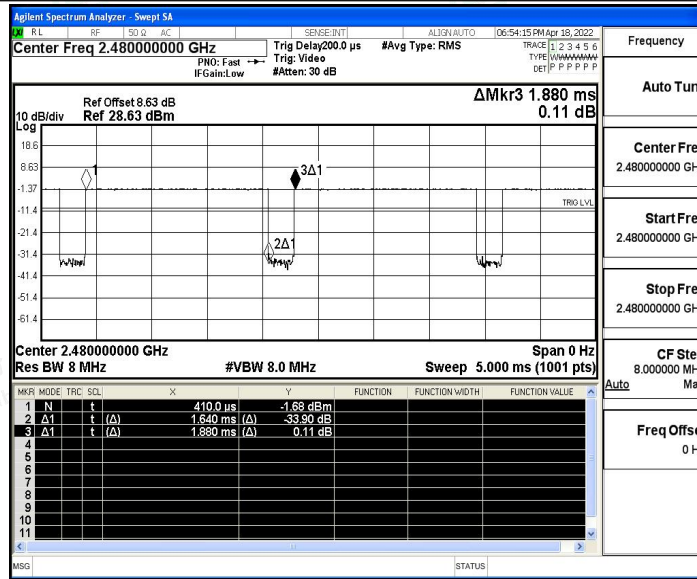


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B.7 Restrict Band

TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	V
BLE_1M	Ant1	Low	2402	AV	2310.000	-48.2	≤-41.20	47.00	≤54	F
				AV	2376.020	-47.67	≤-41.20	47.53	≤54	F
				AV	2390.000	-47.84	≤-41.20	47.36	≤54	F
				Peak	2310.000	-38.92	≤-21.20	56.28	≤74	F
				Peak	2331.815	-36.94	≤-21.20	58.26	≤74	F
				Peak	2390.000	-38.92	≤-21.20	56.28	≤74	F
		High	2480	AV	2483.500	-47.06	≤-41.20	48.14	≤54	F
				AV	2498.640	-47.05	≤-41.20	48.15	≤54	F
				AV	2500.000	-47.25	≤-41.20	47.95	≤54	F
				Peak	2483.500	-37.81	≤-21.20	57.39	≤74	F
				Peak	2494.320	-35.89	≤-21.20	59.31	≤74	F
				Peak	2500.000	-37.94	≤-21.20	57.26	≤74	F

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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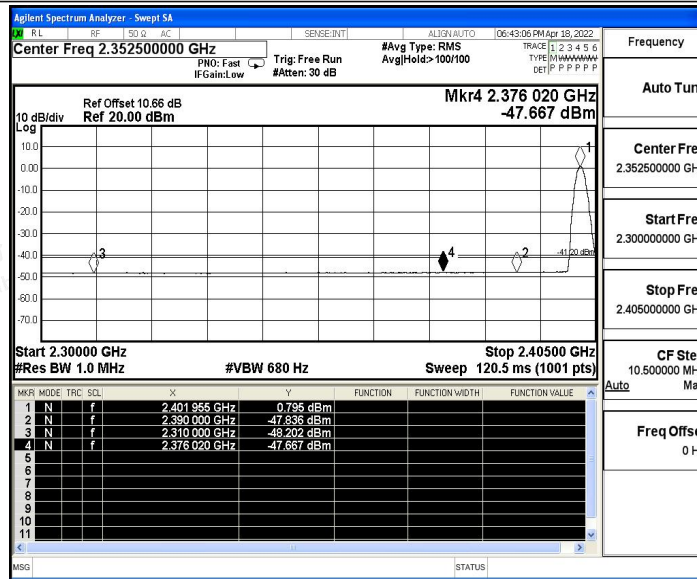
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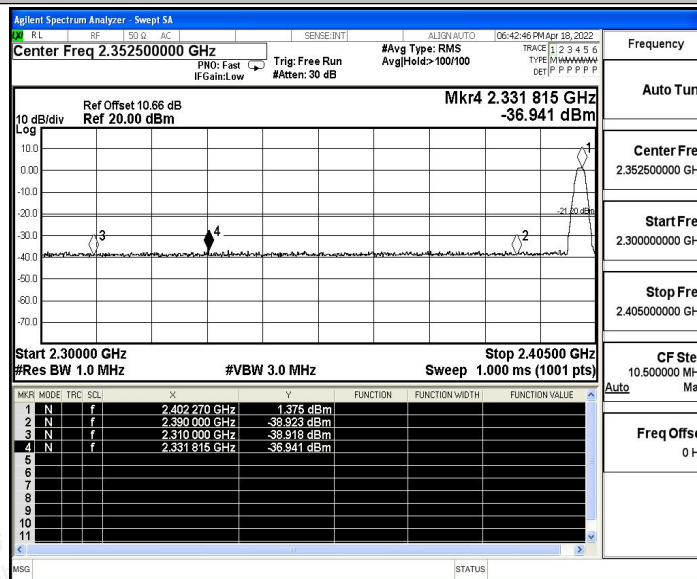


Test Graphs

BLE_1M_Ant1_Low_2402_AV



BLE_1M_Ant1_Low_2402_Peak



BLE_1M_Ant1_High_2480_AV

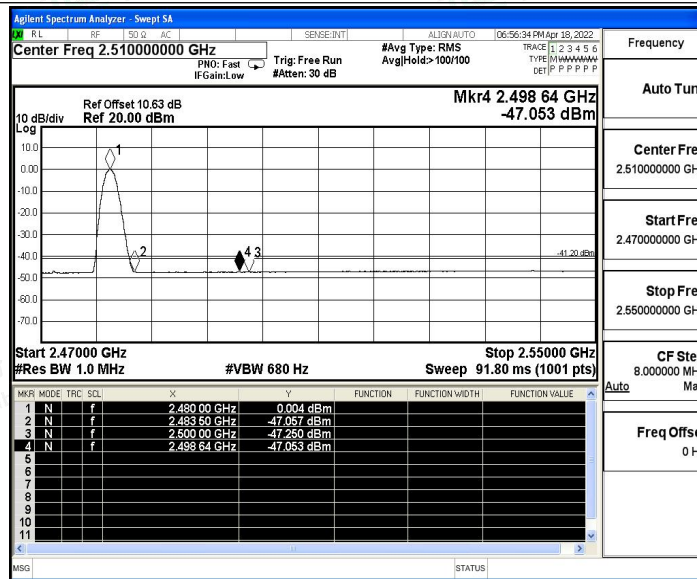


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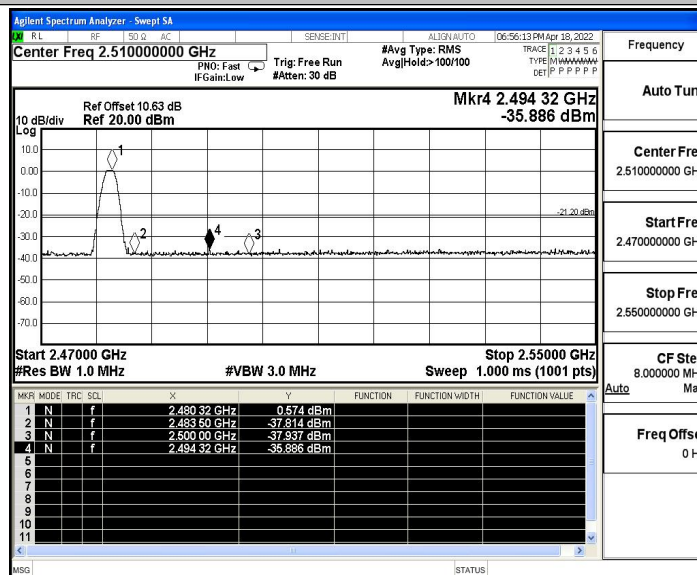
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BLE_1M_Ant1_High_2480_Peak



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