



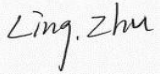
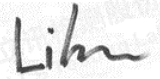
Appendix A

RF Test Data for BT LE (Conducted Measurement)

Product Name: WORKPOINT SENSOR

Test Model: SW9123D

Environmental Conditions

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





A.1 DTS Bandwidth

Test Result

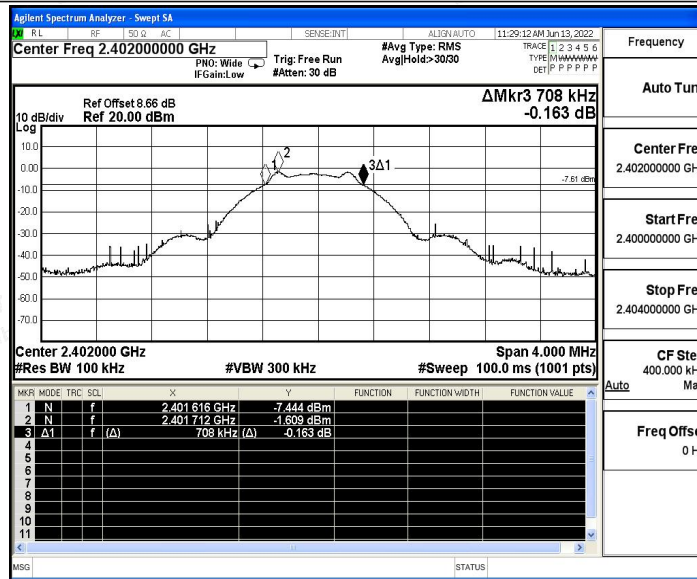
TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.708	2401.616	2402.324	0.5	PASS
		2440	0.704	2439.616	2440.320	0.5	PASS
		2480	0.732	2479.596	2480.328	0.5	PASS



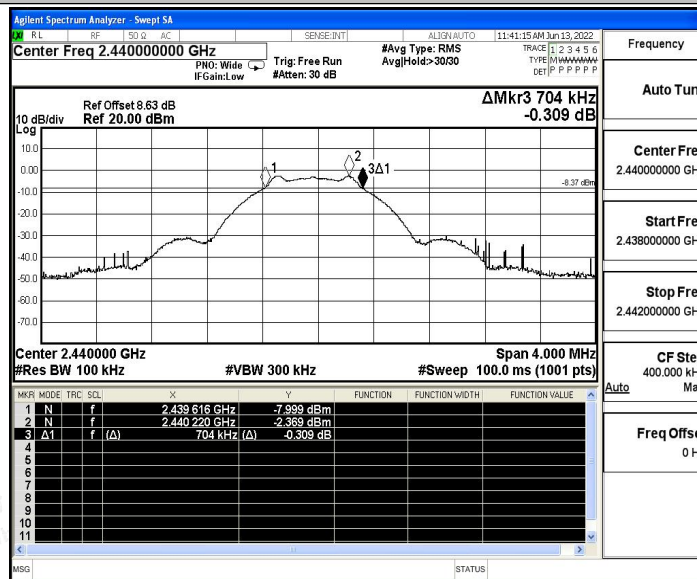


Test Graphs

BLE_1M_Ant1_2402

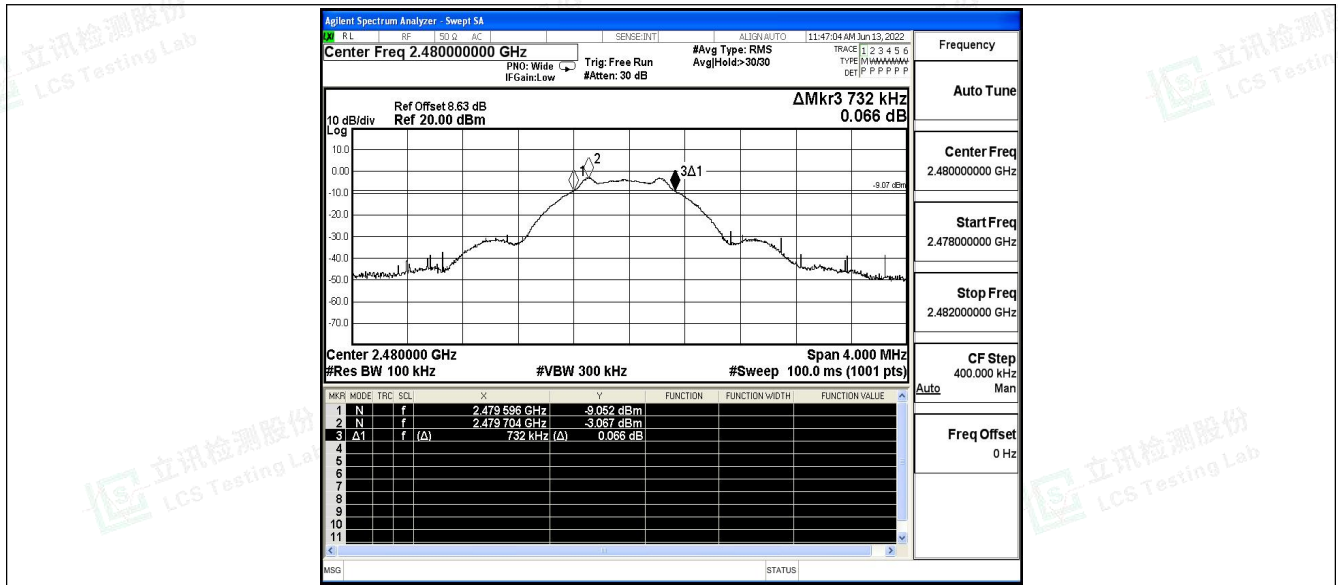


BLE_1M_Ant1_2440



BLE_1M_Ant1_2480







A.2 Occupied Channel Bandwidth

Test Result

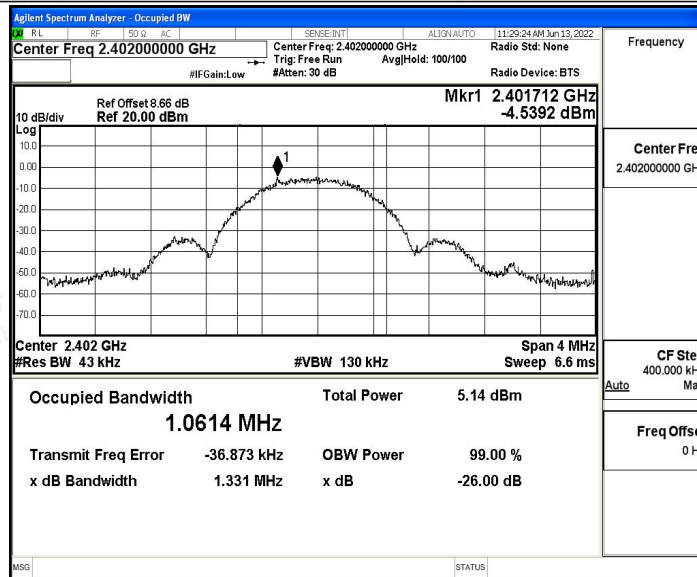
TestMode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.0614	2401.432	2402.494	---	---
		2440	1.0613	2439.433	2440.495	---	---
		2480	1.0718	2479.427	2480.499	---	---



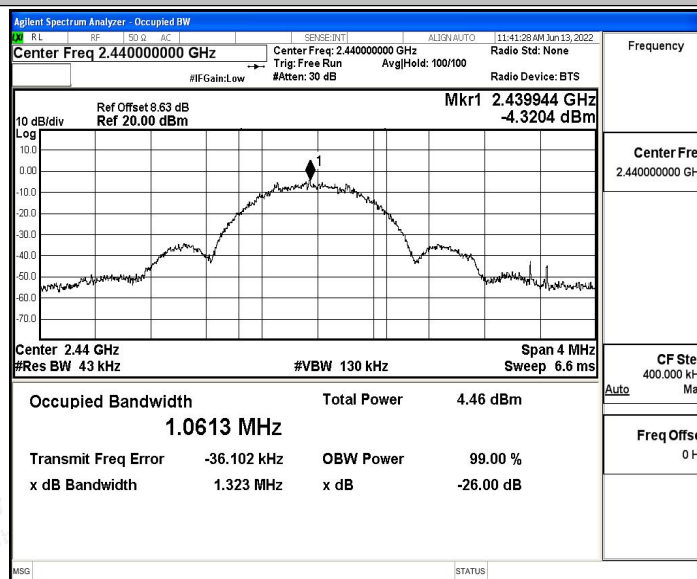


Test Graphs

BLE_1M_Ant1_2402

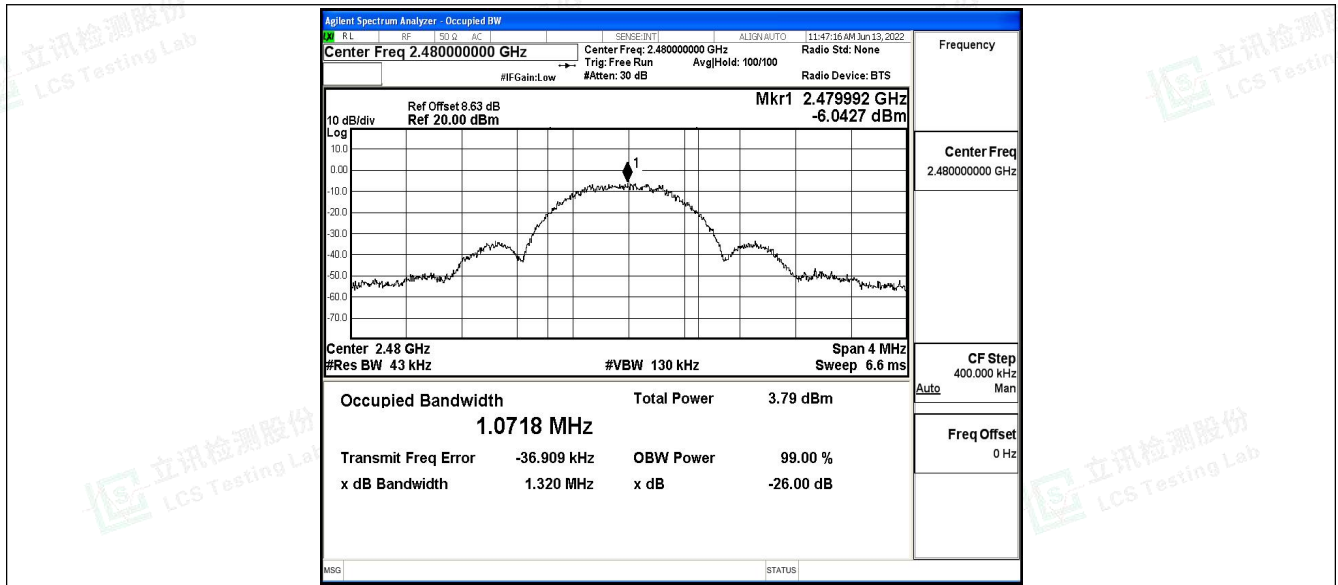


BLE_1M_Ant1_2440



BLE_1M_Ant1_2480







A.3 Maximum peak conducted output power

Test Result

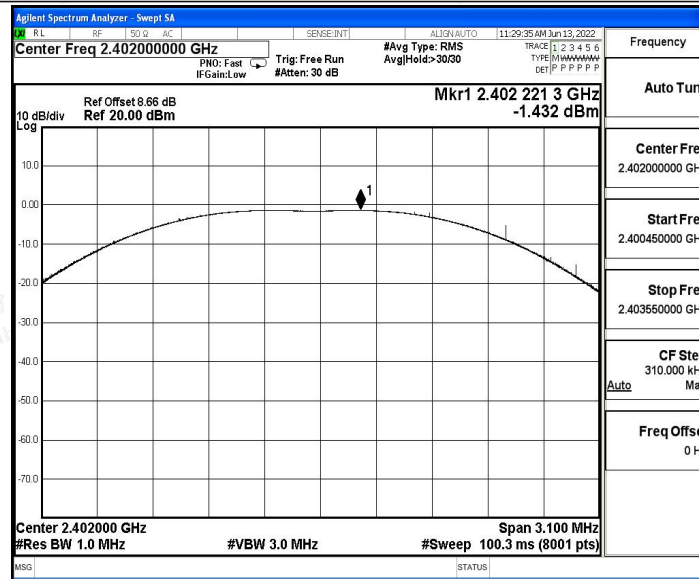
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	-1.43	≤30	PASS
		2440	-2.18	≤30	PASS
		2480	-2.82	≤30	PASS



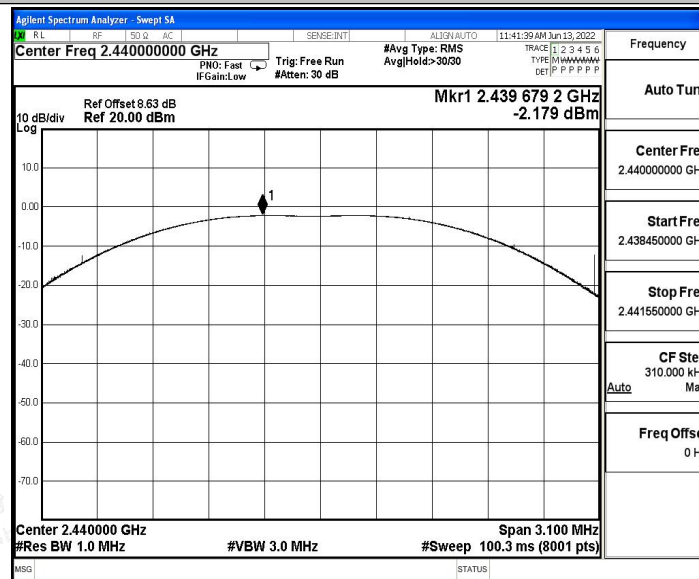


Test Graphs

BLE_1M_Ant1_2402

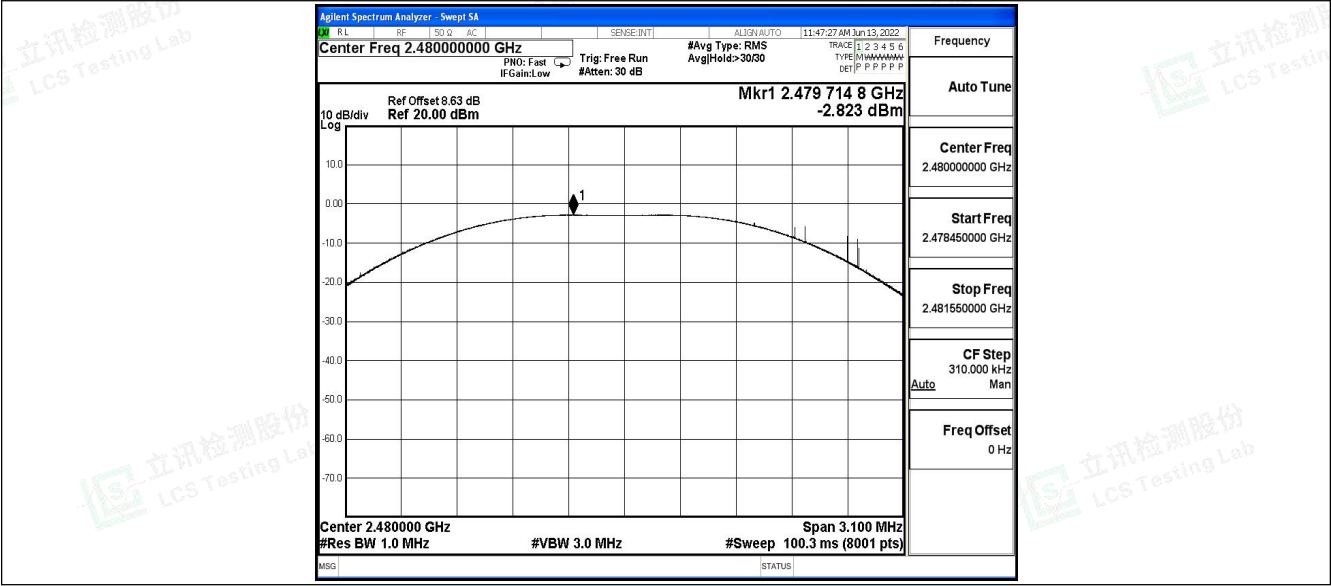


BLE_1M_Ant1_2440



BLE_1M_Ant1_2480





A.4 Maximum power spectral density

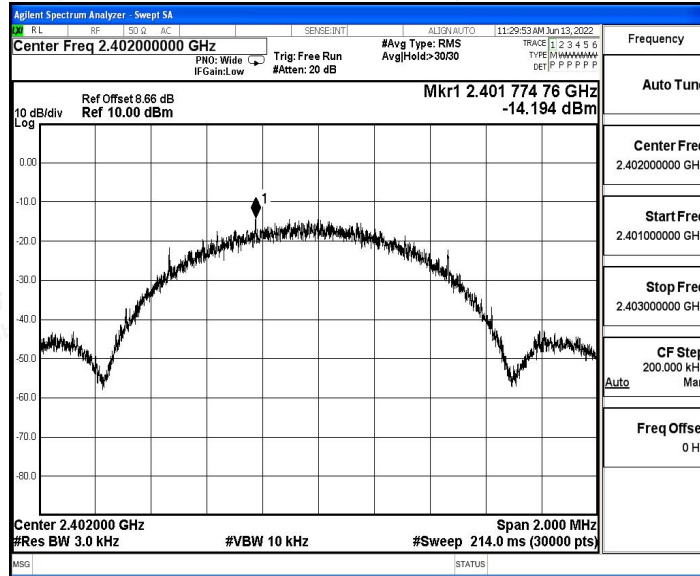
Test Result

TestMode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-14.19	≤8.00	PASS
		2440	-11.62	≤8.00	PASS
		2480	-15.86	≤8.00	PASS

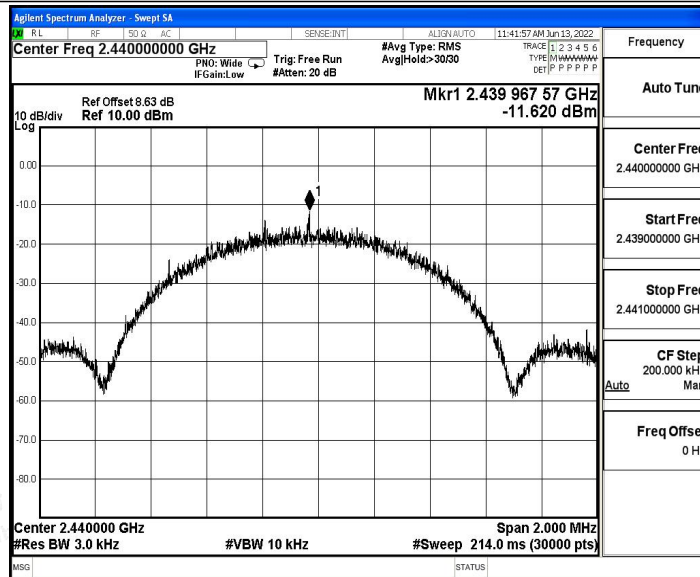


Test Graphs

BLE_1M_Ant1_2402



BLE_1M_Ant1_2440

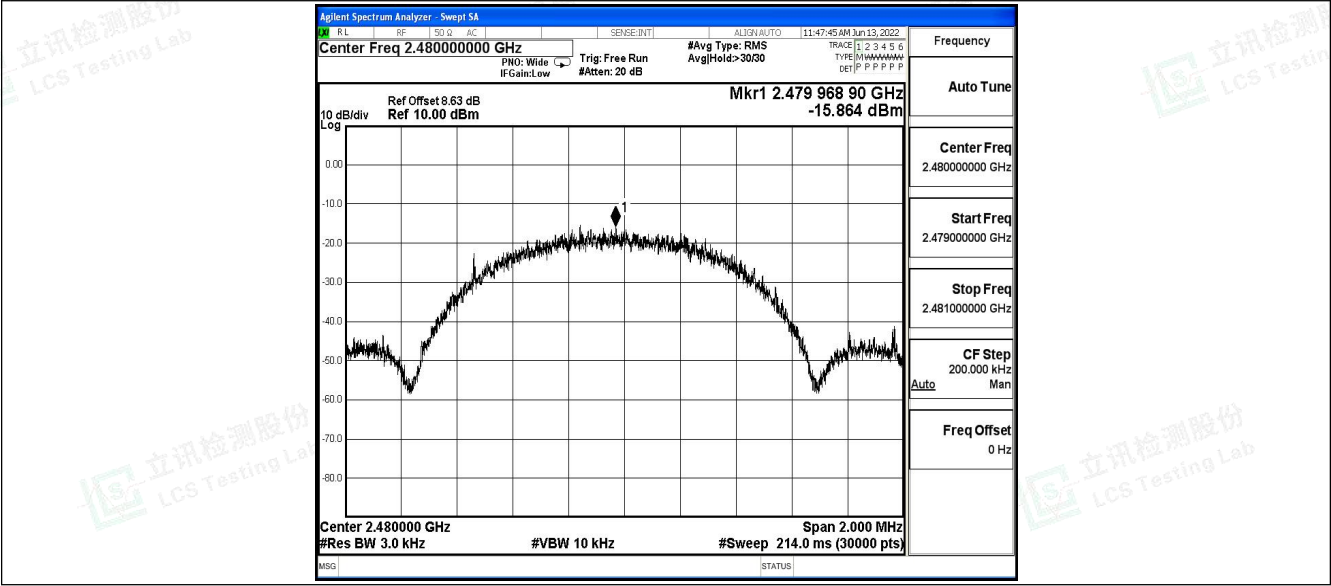


BLE_1M_Ant1_2480





2/ WIRELESS/9123



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A.5 Band edge measurements

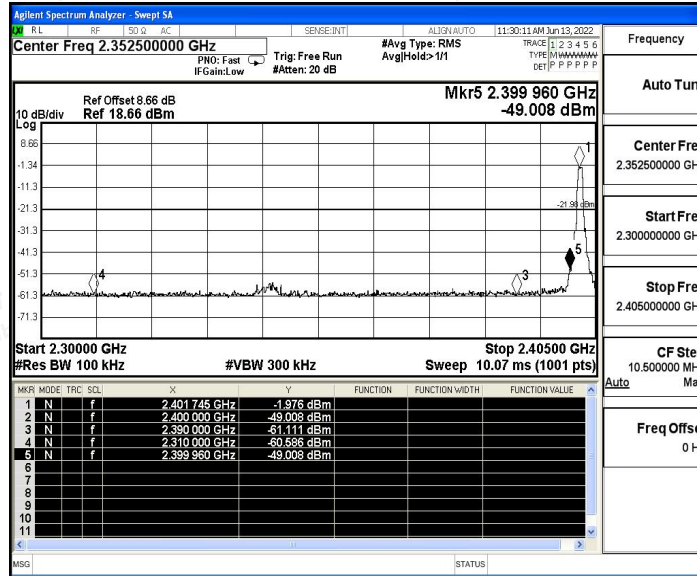
Test Result

TestMode	Antenna	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-1.98	-49.01	≤-21.98	PASS
		High	2480	-3.02	-53.13	≤-23.02	PASS

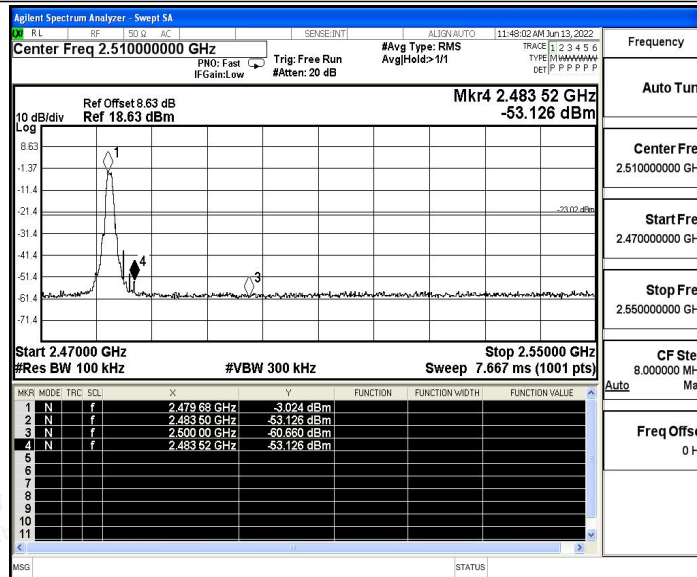


Test Graphs

BLE_1M_Ant1_Low_2402



BLE_1M_Ant1_High_2480



A.6 Conducted Spurious Emission

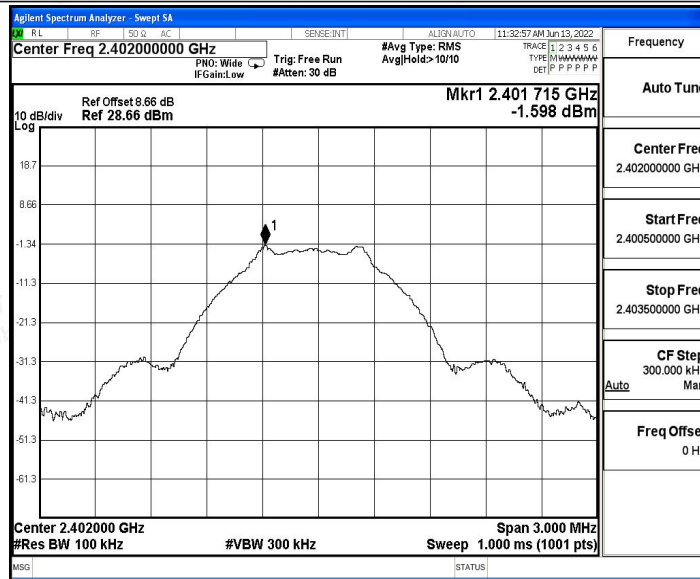
Test Result

TestMode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	-1.60	-1.60	---	PASS
			30~1000	-1.60	-54.11	≤-21.6	PASS
			1000~26500	-1.60	-44.57	≤-21.6	PASS
		2440	Reference	-2.80	-2.80	---	PASS
			30~1000	-2.80	-53.68	≤-22.8	PASS
			1000~26500	-2.80	-46.19	≤-22.8	PASS
		2480	Reference	-3.16	-3.16	---	PASS
			30~1000	-3.16	-54.27	≤-23.16	PASS
			1000~26500	-3.16	-45.13	≤-23.16	PASS

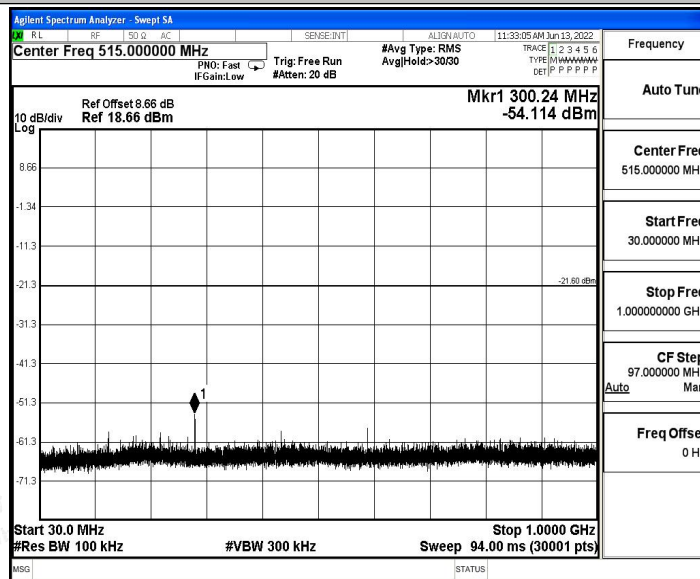


Test Graphs

BLE_1M_Ant1_2402_0~Reference

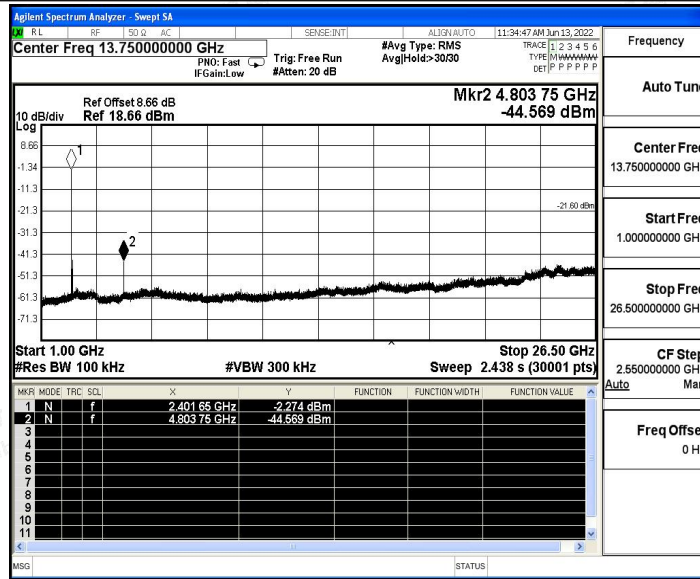


BLE_1M_Ant1_2402_30~1000

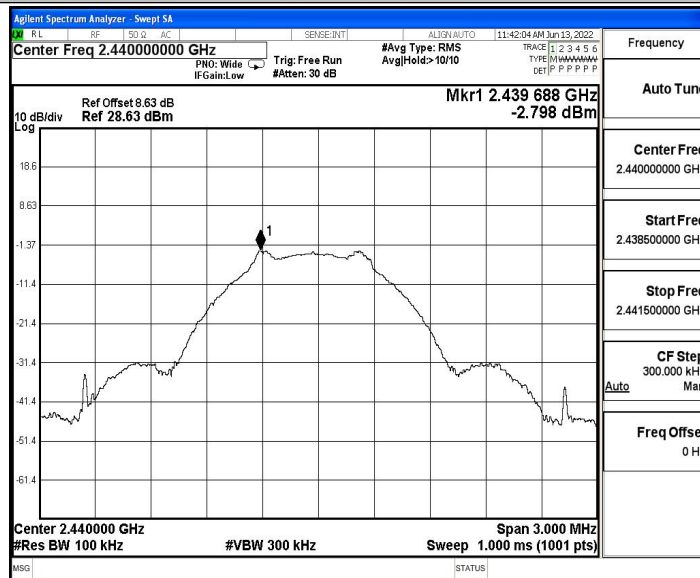


BLE_1M_Ant1_2402_1000~26500



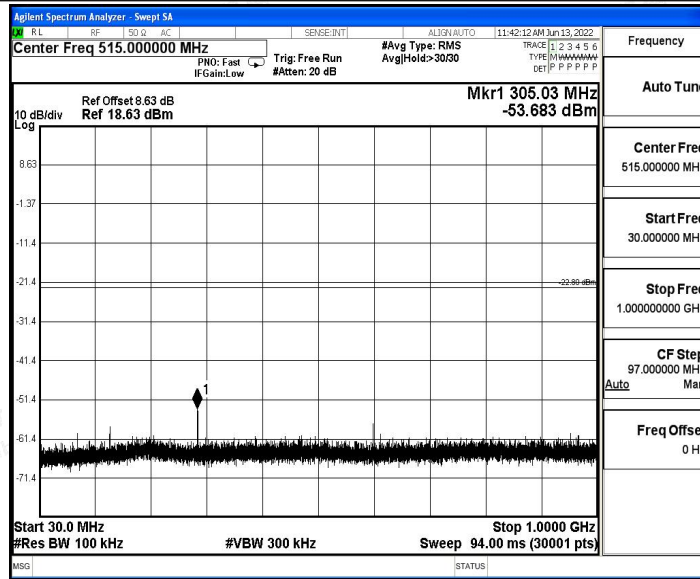


BLE_1M_Ant1_2440_0~Reference

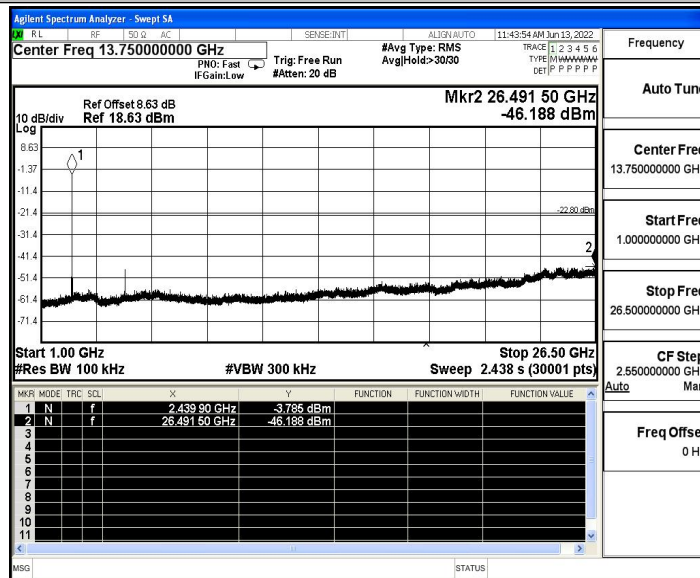


BLE_1M_Ant1_2440_30~1000



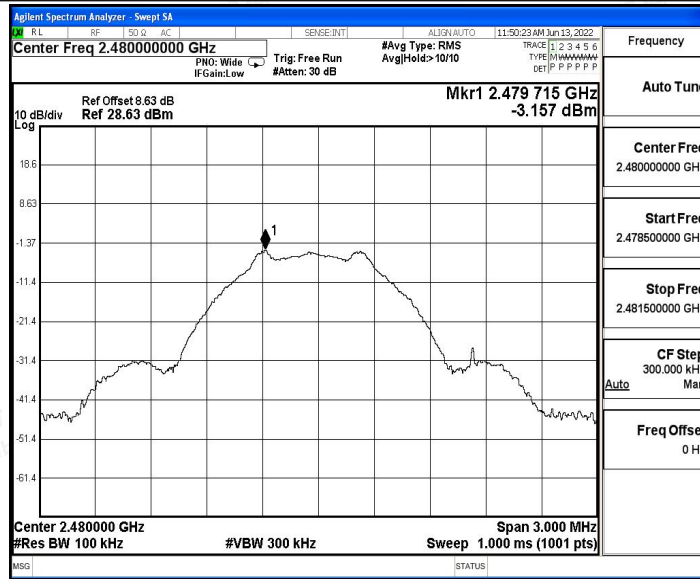


BLE_1M_Ant1_2440_1000~26500

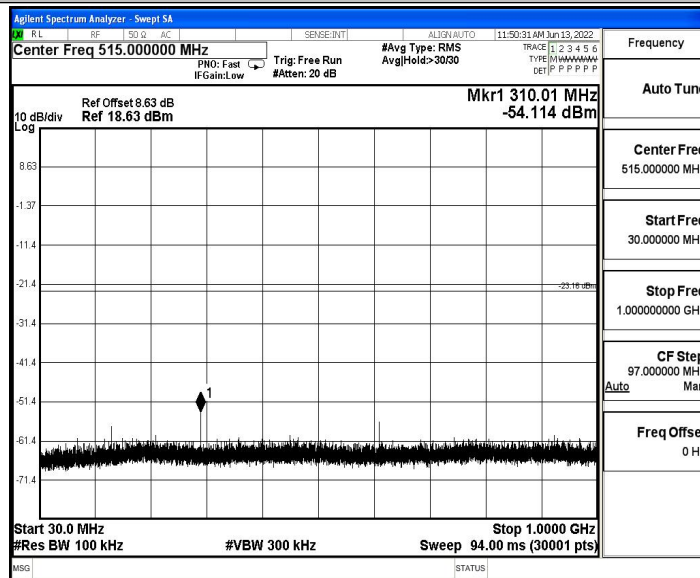


BLE_1M_Ant1_2480_0~Reference





BLE_1M_Ant1_2480_30~1000

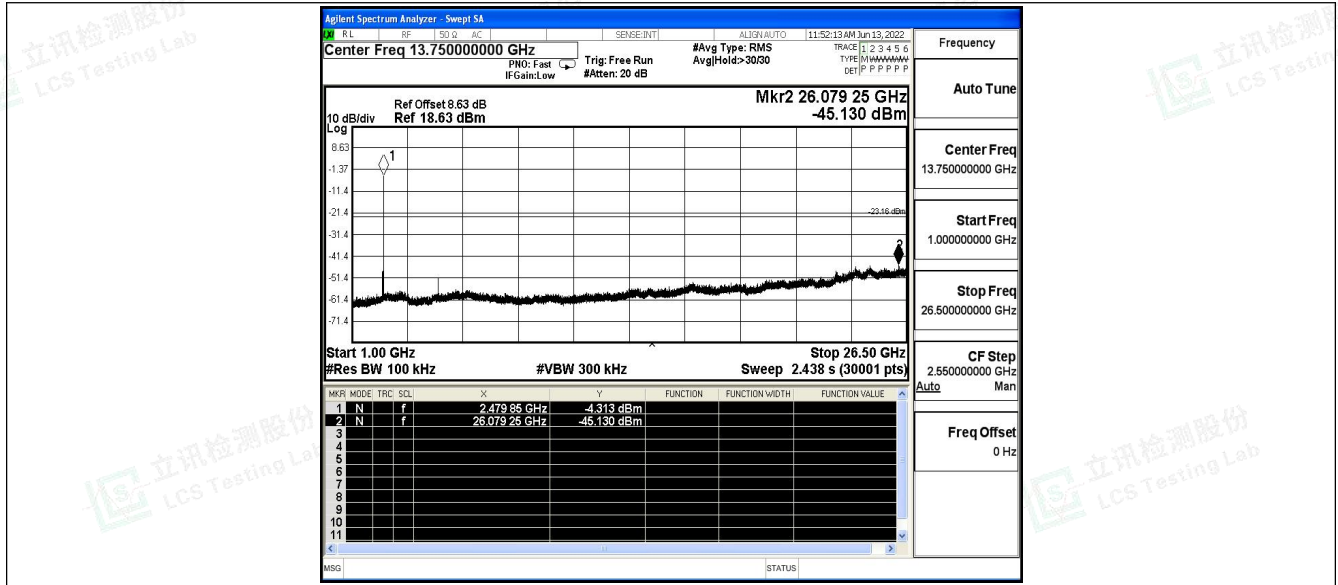


BLE_1M_Ant1_2480_1000~26500





2/ WRCV SW/9123



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2/ WPCV SW/9123

A.7 Duty Cycle

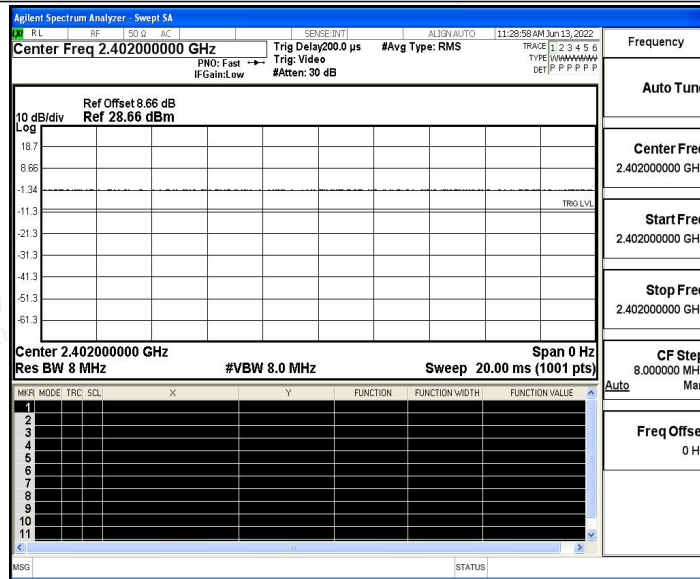
Test Result

TestMode	Antenna	Channel	ON Time [ms]	Period [ms]	X	DC [%]	xFactor	1/T
BLE_1M	Ant1	2402	20.00	20.00	1.0000	100.00	0.00	0.05
		2440	20.00	20.00	1.0000	100.00	0.00	0.05
		2480	20.00	20.00	1.0000	100.00	0.00	0.05

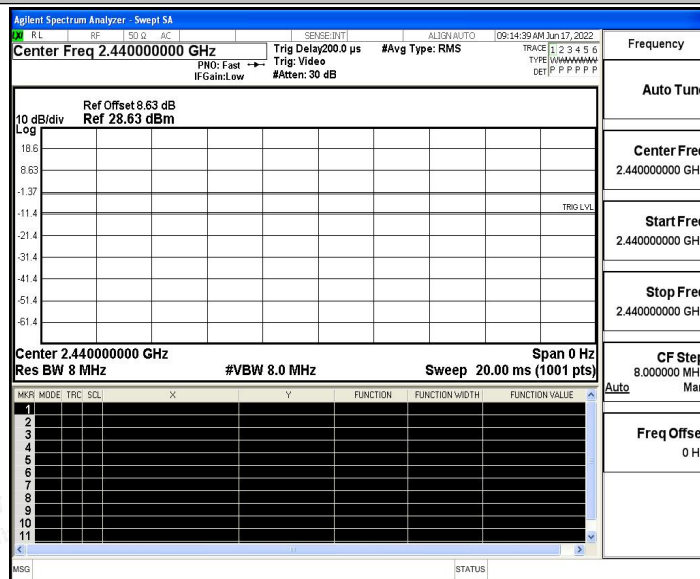


Test Graphs

BLE_1M_Ant1_2402



BLE_1M_Ant1_2440

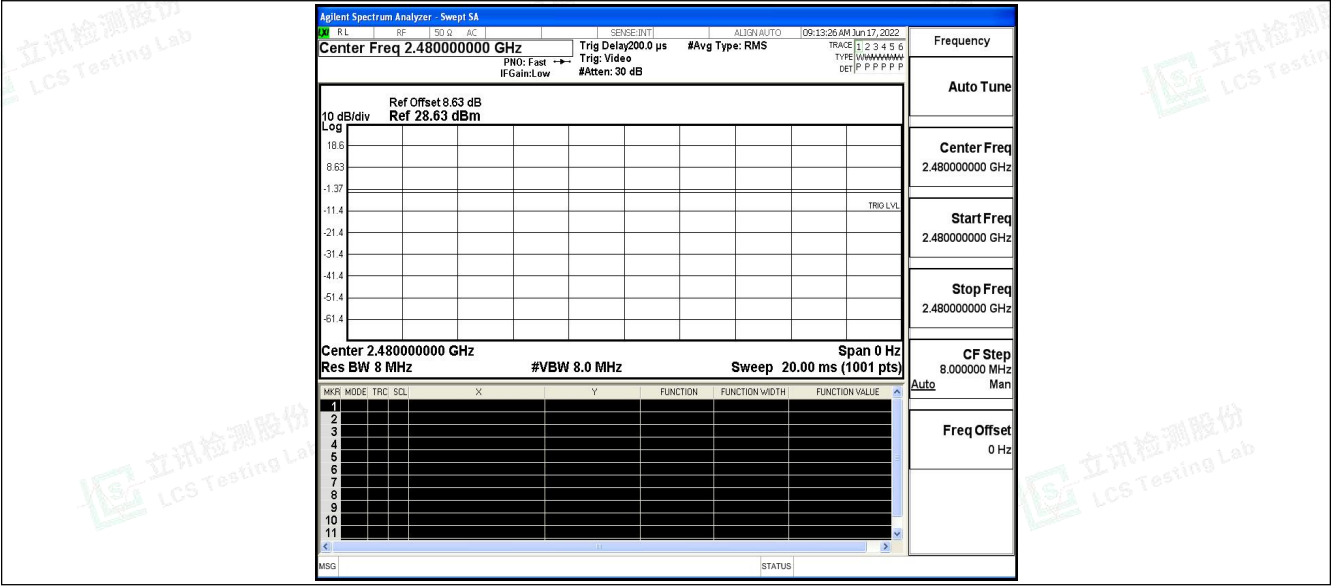


BLE_1M_Ant1_2480





2/ WPCV SW/9123



A.8 Emissions in Restricted Bands

Test Result

TestMode	Antenna	ChName	Frequenc y[MHz]	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-58.21	≤-41.20	36.99	≤54	PASS
				AV	2344.205	-56.64	≤-41.20	38.56	≤54	PASS
				AV	2390.000	-57.69	≤-41.20	37.51	≤54	PASS
				Peak	2310.000	-48.77	≤-21.20	46.43	≤74	PASS
				Peak	2343.470	-46.02	≤-21.20	49.18	≤74	PASS
				Peak	2390.000	-48.13	≤-21.20	47.07	≤74	PASS
		High	2480	AV	2483.500	-54.72	≤-41.20	40.48	≤54	PASS
				AV	2483.520	-54.72	≤-41.20	40.48	≤54	PASS
				AV	2500.000	-57.16	≤-41.20	38.04	≤54	PASS
				Peak	2483.500	-46.23	≤-21.20	48.97	≤74	PASS
				Peak	2483.680	-31.59	≤-21.20	63.61	≤74	PASS
				Peak	2500.000	-47.62	≤-21.20	47.58	≤74	PASS

Note:

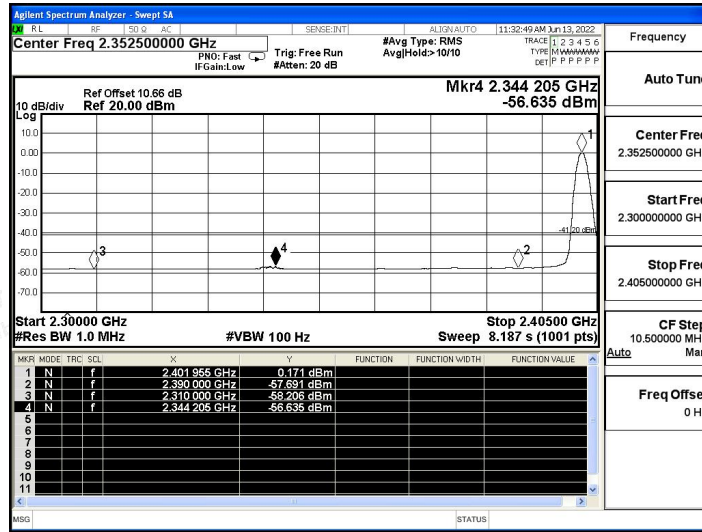
1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.



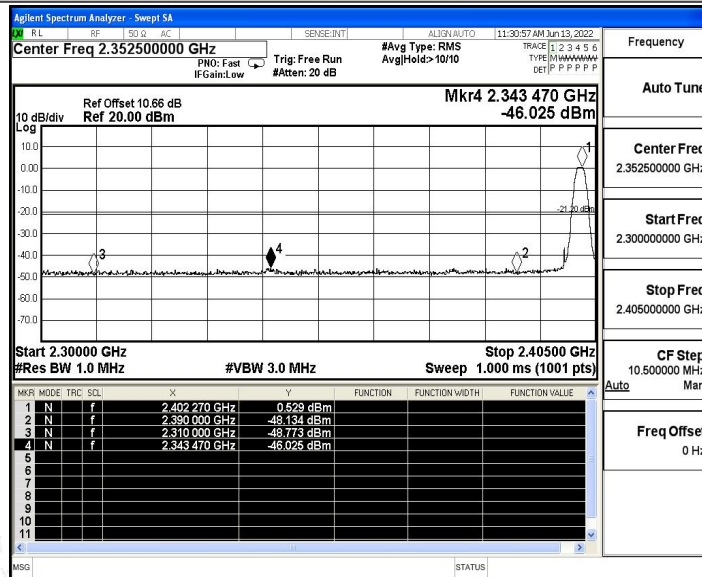
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Test Graphs

BLE_1M_Ant1_Low_2402_AV

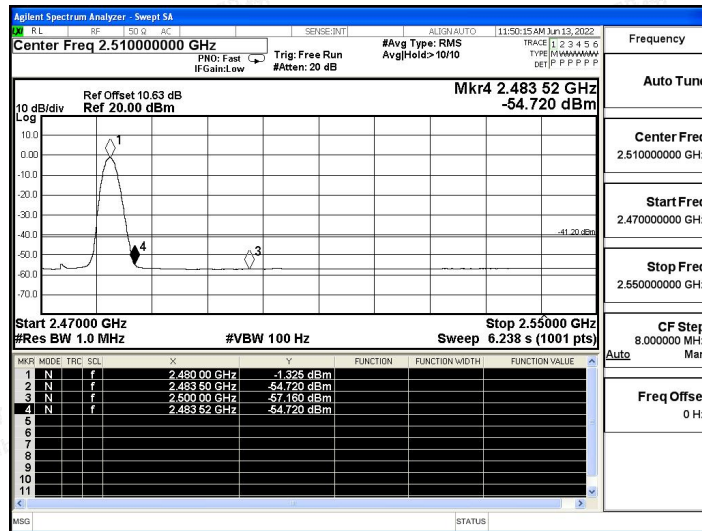


BLE_1M_Ant1_Low_2402_Peak



BLE_1M_Ant1_High_2480_AV





BLE_1M_Ant1_High_2480_Peak

