



Appendix A

RF Test Data for Zigbee(Conducted Measurement)

Product Name: Zigbee LCD Smart Temperature Humidity Sensor

Test Model: SNZB-02D

Environmental Conditions

Temperature:	23.8° C
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	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
ZIGB	Ant1	2405	1.100	2404.400	2405.500	0.5	PASS
		2440	1.100	2439.400	2440.500	0.5	PASS
		2480	0.800	2479.690	2480.490	0.5	PASS



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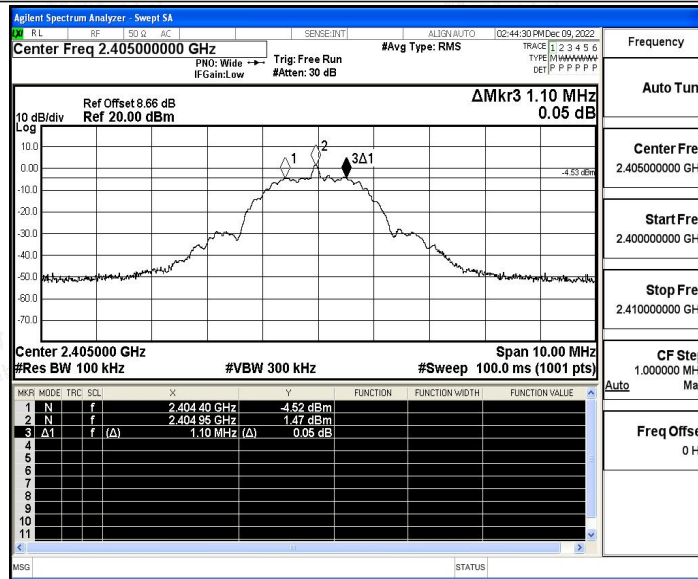
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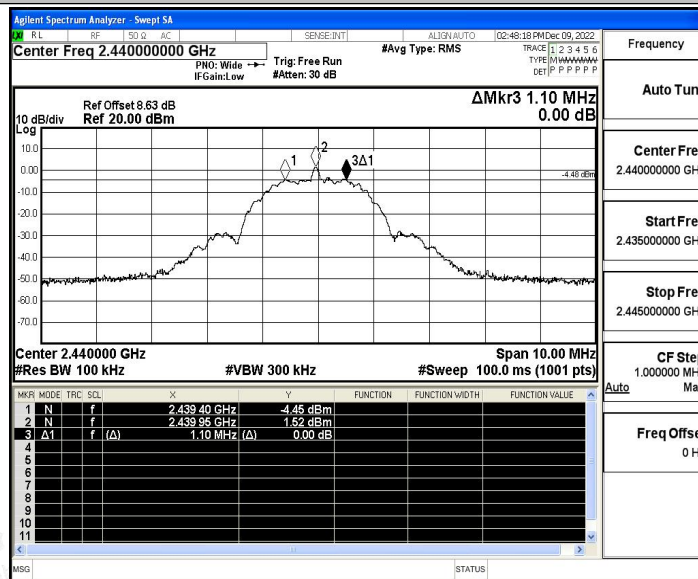


Test Graphs

ZIGB_Ant1_2405



ZIGB_Ant1_2440



ZIGB_Ant1_2480

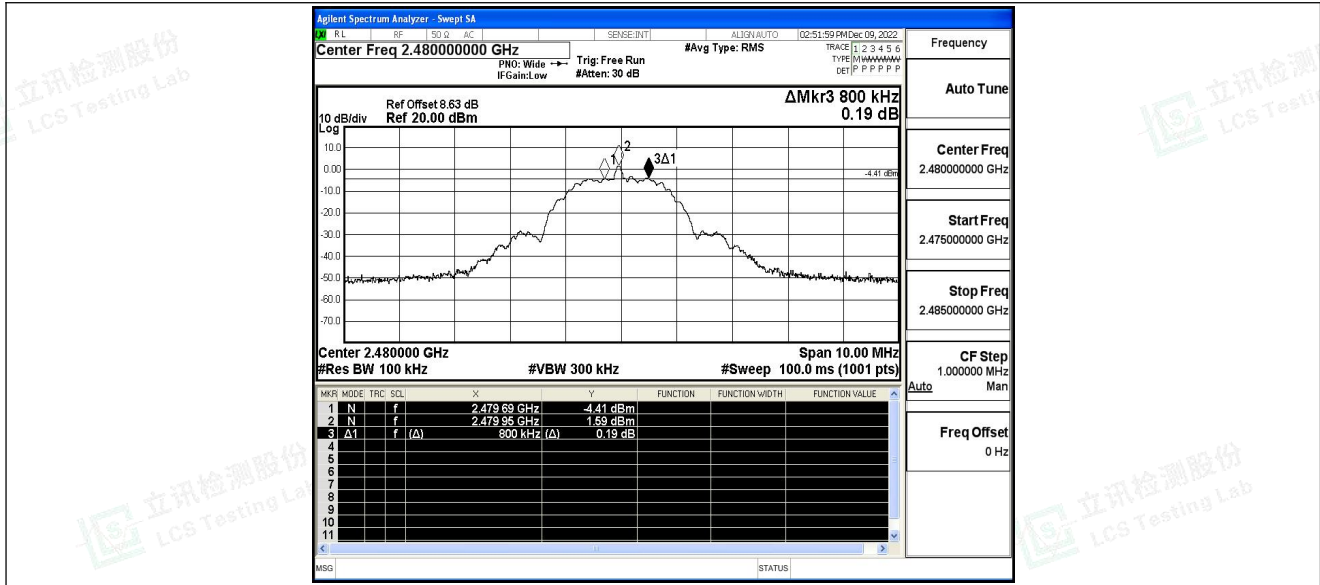


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A.2 Maximum conducted output power

Test Result

TestMode	Antenna	Frequency[MHz]	Result[dBm]	Limit[dBm]	Verdict
ZIGB	Ant1	2405	1.88	≤30	PASS
		2440	1.9	≤30	PASS
		2480	1.96	≤30	PASS



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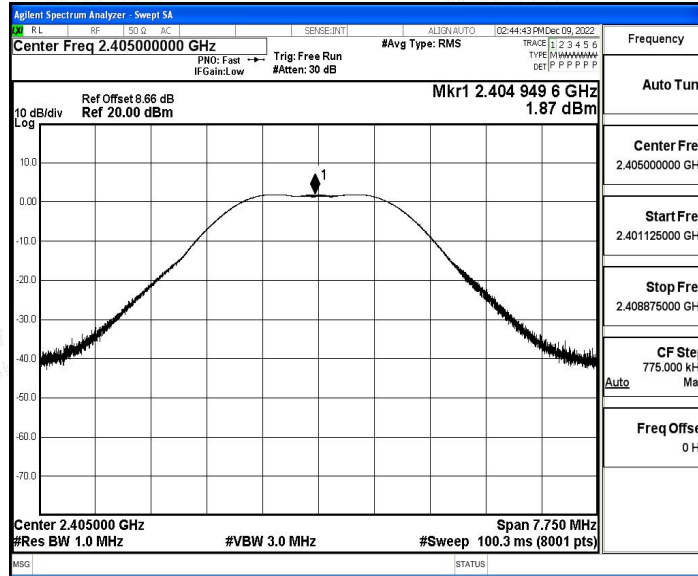
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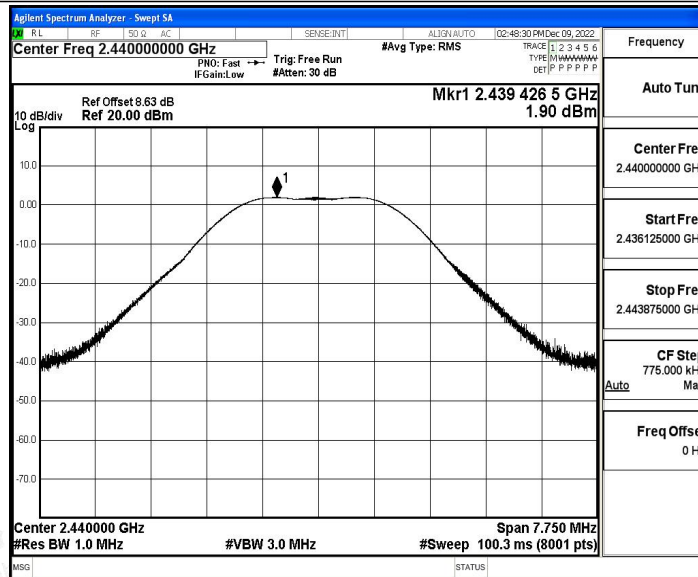


Test Graphs

ZIGB_Ant1_2405



ZIGB_Ant1_2440



ZIGB_Ant1_2480

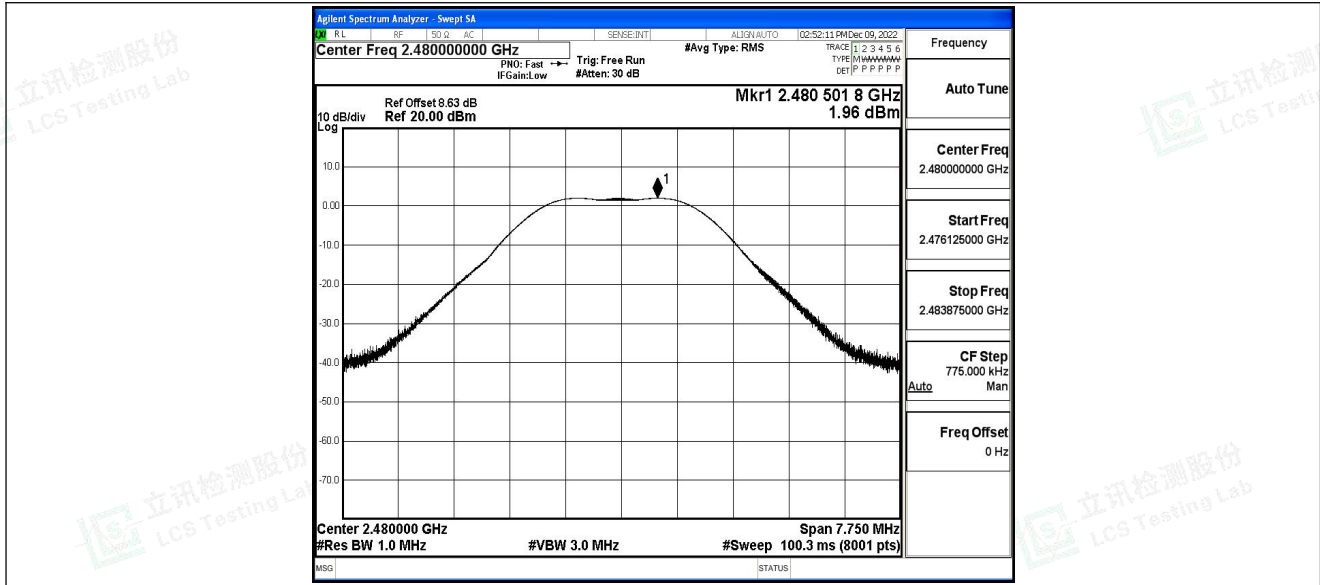


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A.3 Maximum power spectral density

Test Result

TestMode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
ZIGB	Ant1	2405	-11.42	≤8.00	PASS
		2440	-11.3	≤8.00	PASS
		2480	-11.35	≤8.00	PASS



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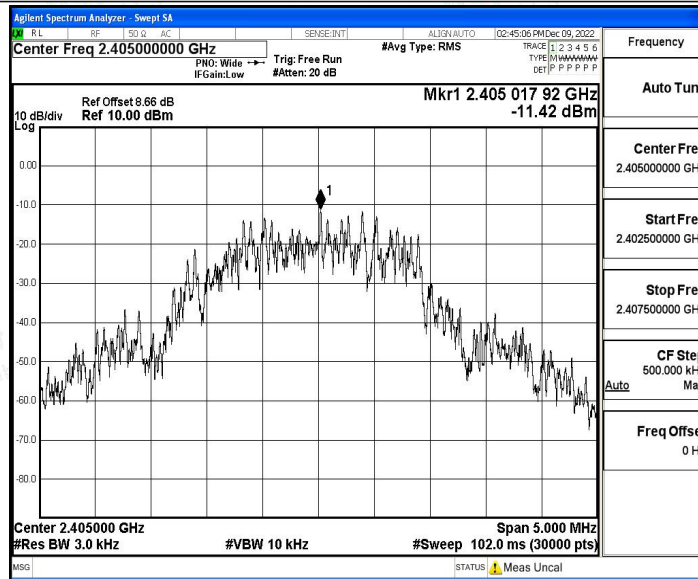
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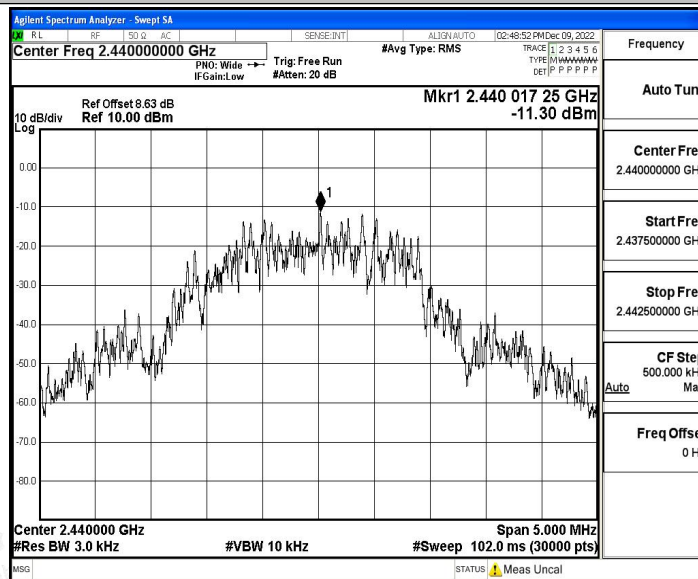


Test Graphs

ZIGB_Ant1_2405



ZIGB_Ant1_2440



ZIGB_Ant1_2480

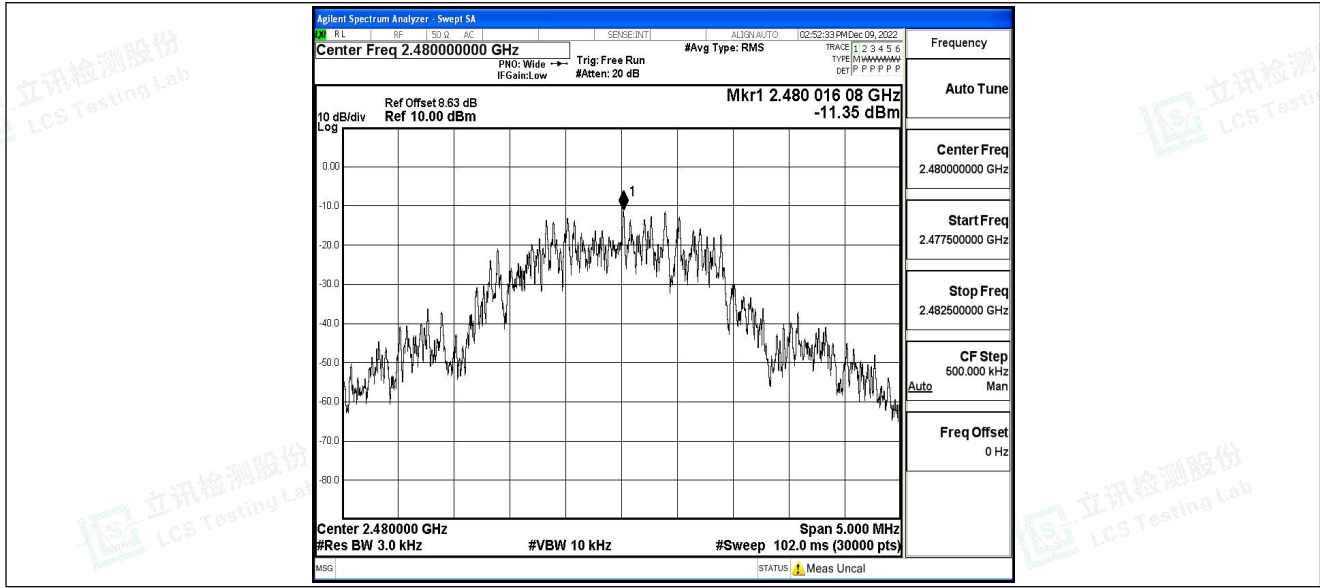


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A.4 Band edge measurements

Test Result

TestMode	Antenna	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
ZIGB	Ant1	Low	2405	1.21	-48.72	≤-18.79	PASS
		High	2480	0.96	-48.07	≤-19.05	PASS



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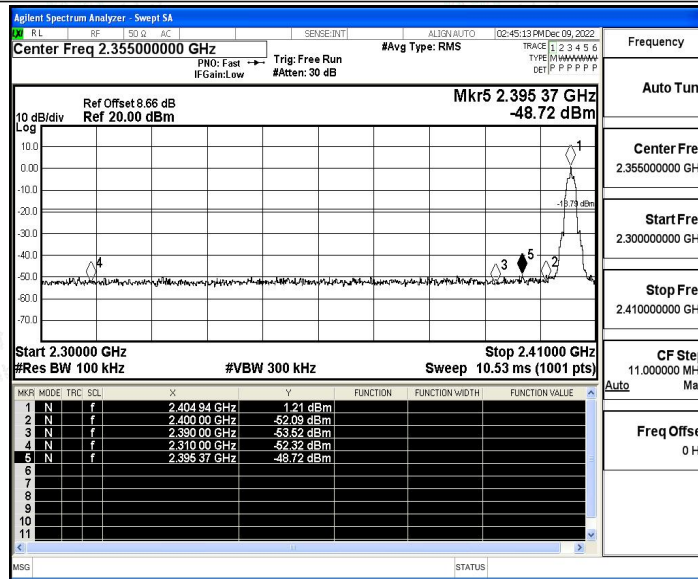
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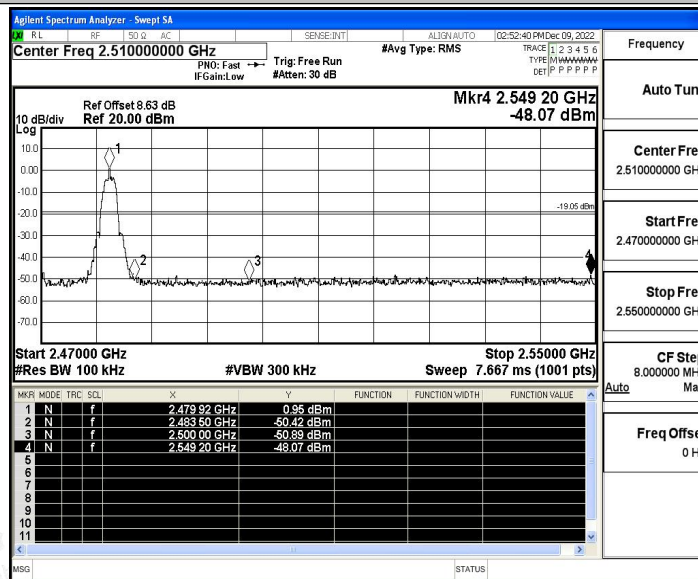


Test Graphs

ZIGB_Ant1_Low_2405



ZIGB_Ant1_High_2480



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A.5 Conducted Spurious Emission

Test Result

TestMode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
ZIGB	Ant1	2405	Reference	-3.71	-3.71	---	PASS
			30~1000	-3.71	-61.01	≤-23.71	PASS
			1000~26500	-3.71	-45.59	≤-23.71	PASS
		2440	Reference	-0.23	-0.23	---	PASS
			30~1000	-0.23	-59.89	≤-20.23	PASS
			1000~26500	-0.23	-46.26	≤-20.23	PASS
		2480	Reference	-0.75	-0.75	---	PASS
			30~1000	-0.75	-60.86	≤-20.75	PASS
			1000~26500	-0.75	-46.06	≤-20.75	PASS



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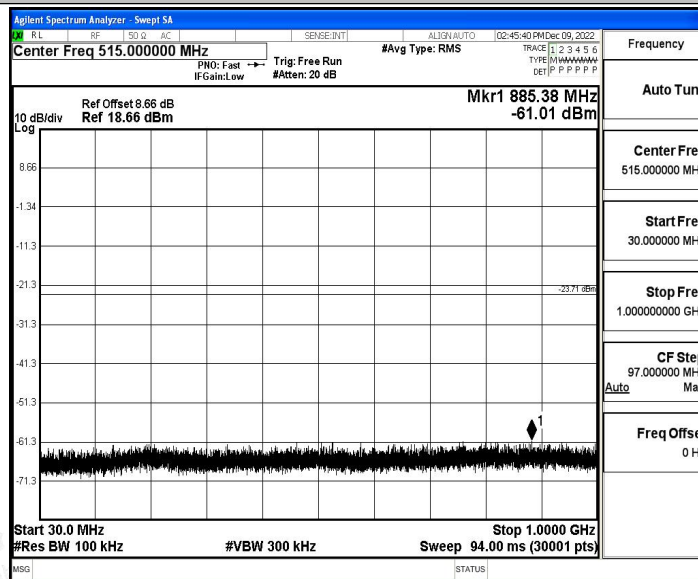


Test Graphs

ZIGB_Ant1_2405_0~Reference



ZIGB_Ant1_2405_30~1000



ZIGB_Ant1_2405_1000~26500

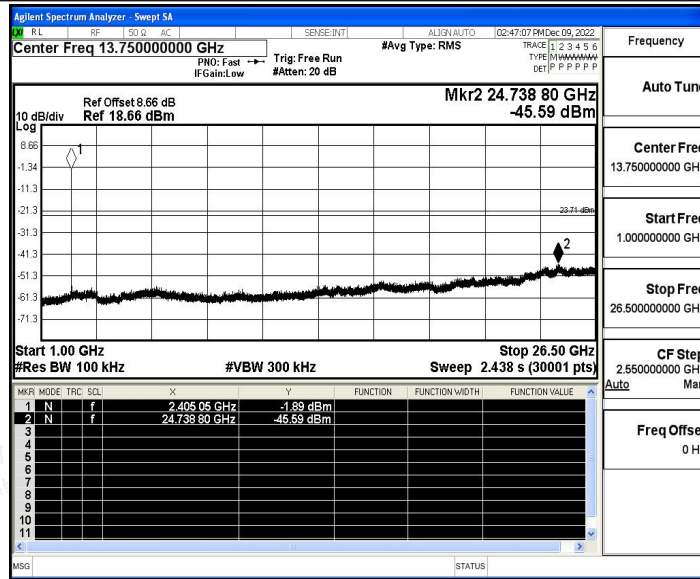


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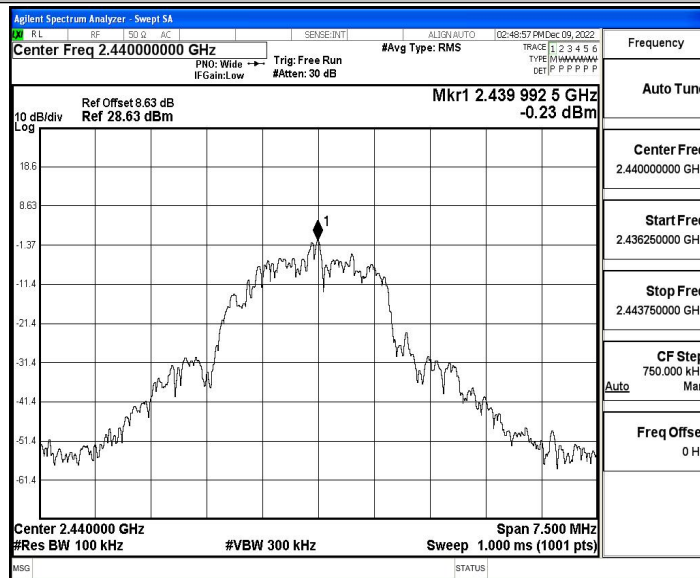
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ZIGB_Ant1_2440_0~Reference



ZIGB_Ant1_2440_30~1000

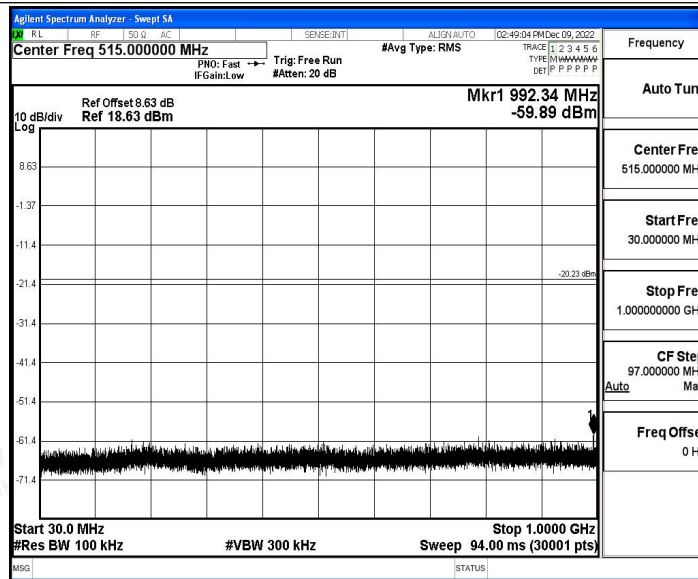


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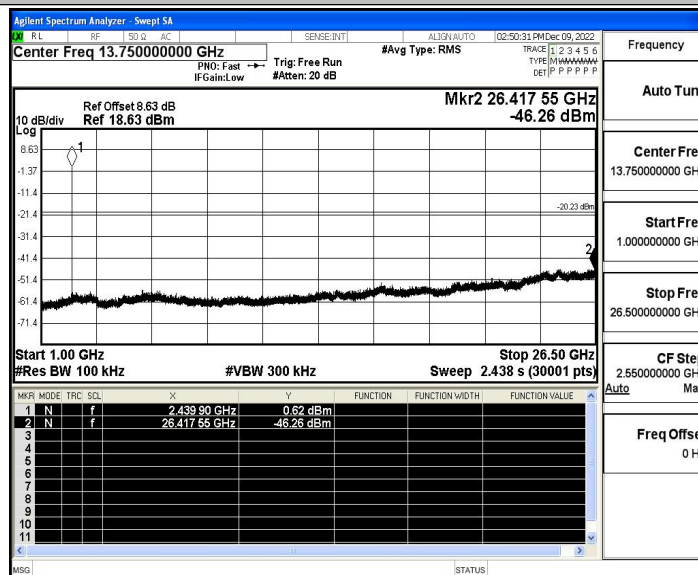
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ZIGB_Ant1_2440_1000~26500



ZIGB_Ant1_2480_0~Reference



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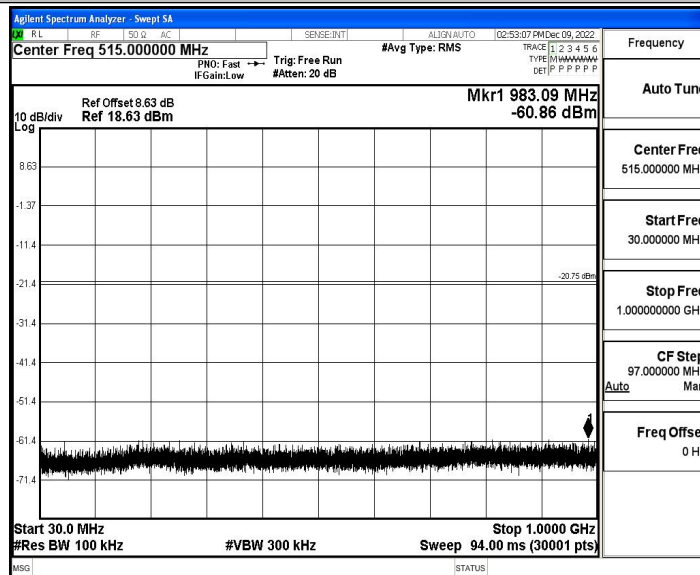
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ZIGB_Ant1_2480_30~1000



ZIGB_Ant1_2480_1000~26500

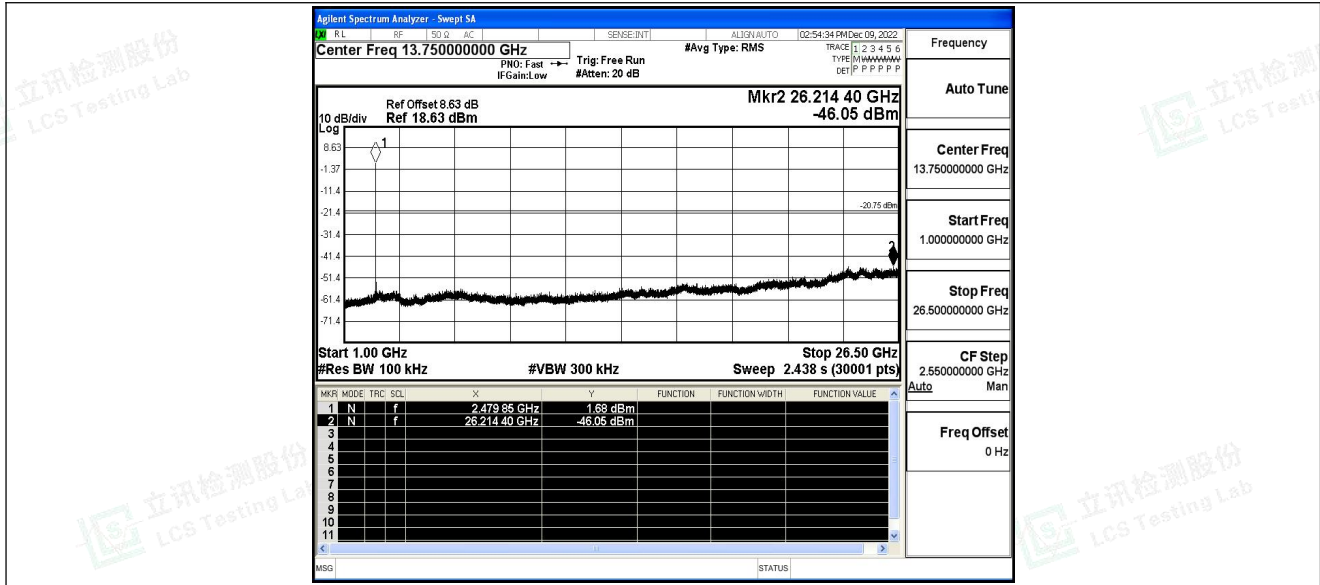


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A.6 Duty Cycle

TestMode	Antenna	Frequency[MHz]	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Factor	Limit	Verdict
ZIGB	Ant1	2405	0.37	0.65	56.92	2.45	---	---
		2440	0.37	0.65	56.92	2.45	---	---
		2480	0.37	0.65	56.92	2.45	---	---

Test Graphs

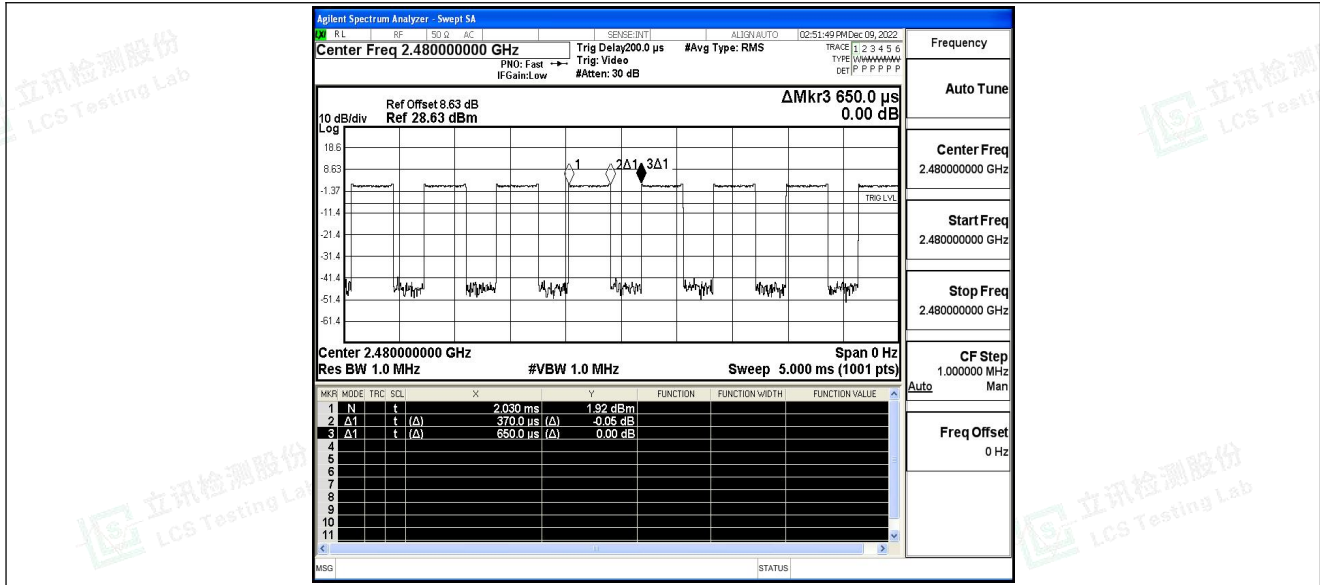


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A.7 Emissions in Restricted Bands

Test Result

TestMode	Antenna	ChName	Frequency[MHz]	Detector	Freq.[MHz]	Result[dBm]	Limit[dBm]	Verdict
ZIGB	Ant1	Low	2405	AV	2310.000	-47.68	≤-41.20	PASS
				AV	2385.580	-46.88	≤-41.20	PASS
				AV	2390.000	-47.07	≤-41.20	PASS
				Peak	2310.000	-39.33	≤-21.20	PASS
				Peak	2382.720	-37.72	≤-21.20	PASS
				Peak	2390.000	-39.92	≤-21.20	PASS
		High	2480	AV	2483.500	-42.26	≤-41.20	PASS
				AV	2483.520	-42.26	≤-41.20	PASS
				AV	2500.000	-46.39	≤-41.20	PASS
				Peak	2483.500	-37.58	≤-21.20	PASS
				Peak	2489.520	-36.34	≤-21.20	PASS
				Peak	2500.000	-39.57	≤-21.20	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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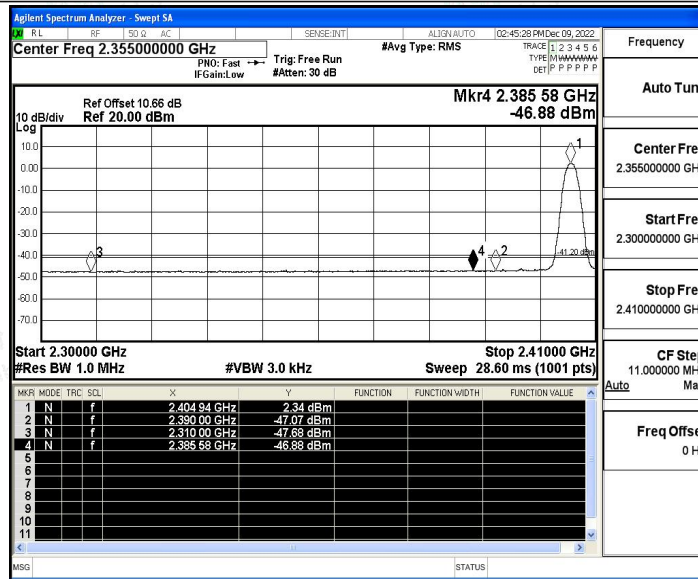
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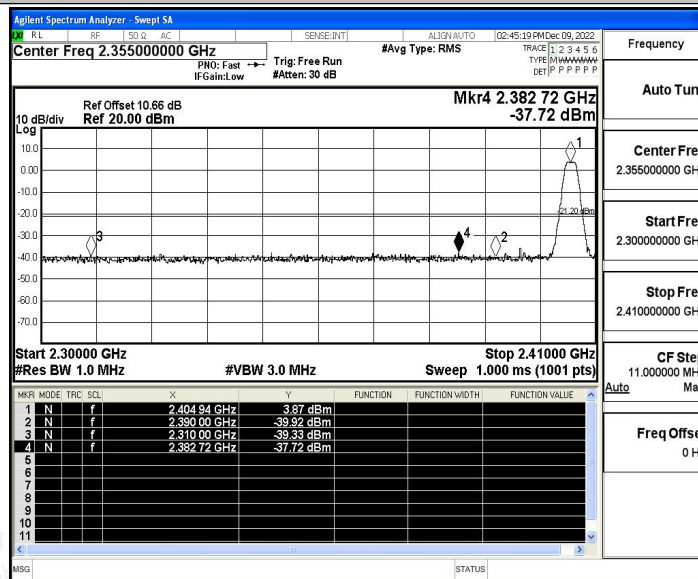


Test Graphs

ZIGB_Ant1_Low_2405_AV



ZIGB_Ant1_Low_2405_Peak



ZIGB_Ant1_High_2480_AV

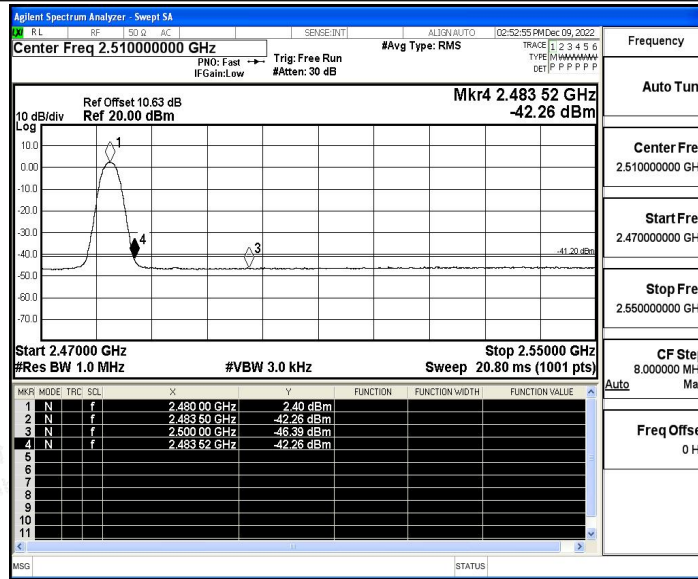


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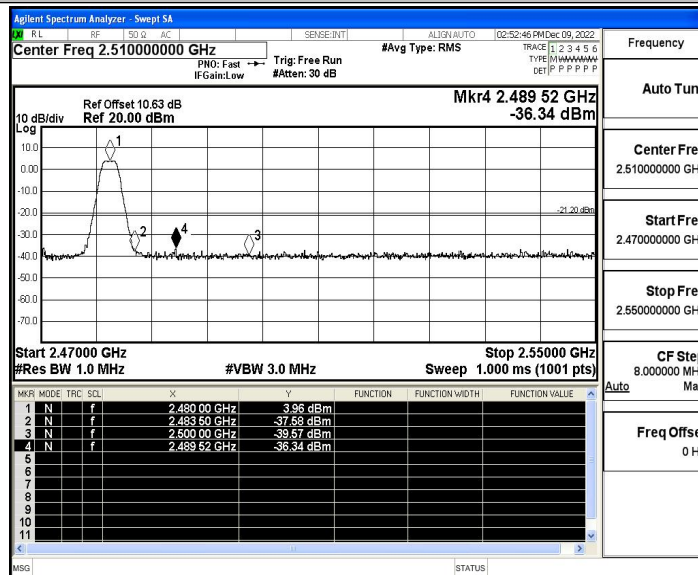
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ZIGB_Ant1_High_2480_Peak



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