



Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: PORTABLE SPEAKER WITH BLUETOOTH

Test Model: VAS-3003-BK

Environmental Conditions

Temperature:	23.8 ° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	<i>Nick Peng</i> Nick Peng
Supervised by:	<i>Ling Zhu</i> Ling Zhu





A.1 20dB Emission Bandwidth

Test Result

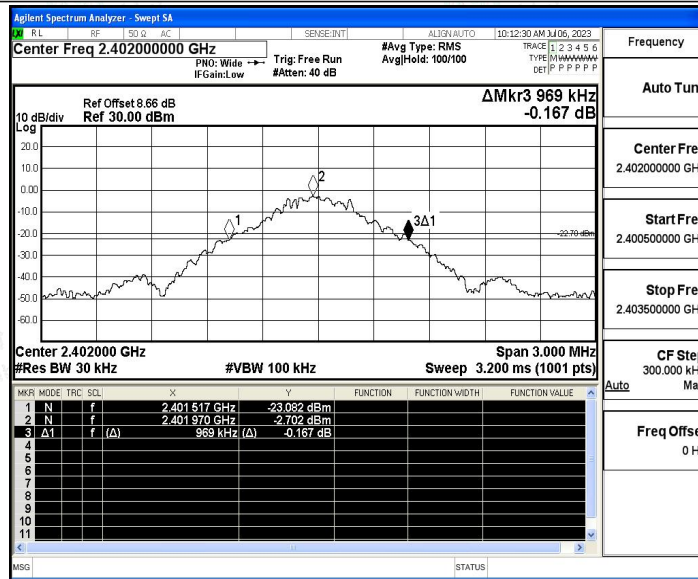
TestMode	Antenna	Frequency[MHz]	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.969	2401.517	2402.486	---	---
		2441	1.032	2440.457	2441.489	---	---
		2480	0.966	2479.526	2480.492	---	---
2DH5	Ant1	2402	1.290	2401.358	2402.648	---	---
		2441	1.293	2440.355	2441.648	---	---
		2480	1.299	2479.355	2480.654	---	---
3DH5	Ant1	2402	1.332	2401.328	2402.660	---	---
		2441	1.296	2440.349	2441.645	---	---
		2480	1.302	2479.346	2480.648	---	---



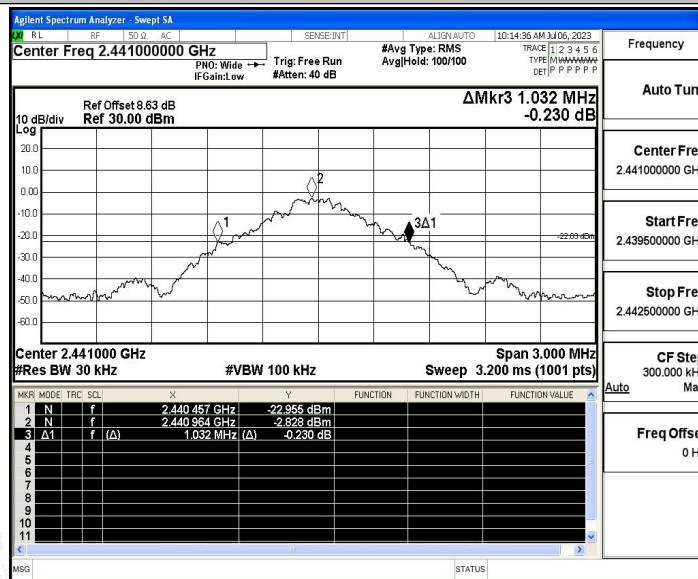


Test Graphs

DH5_Ant1_2402



DH5_Ant1_2441



DH5_Ant1_2480

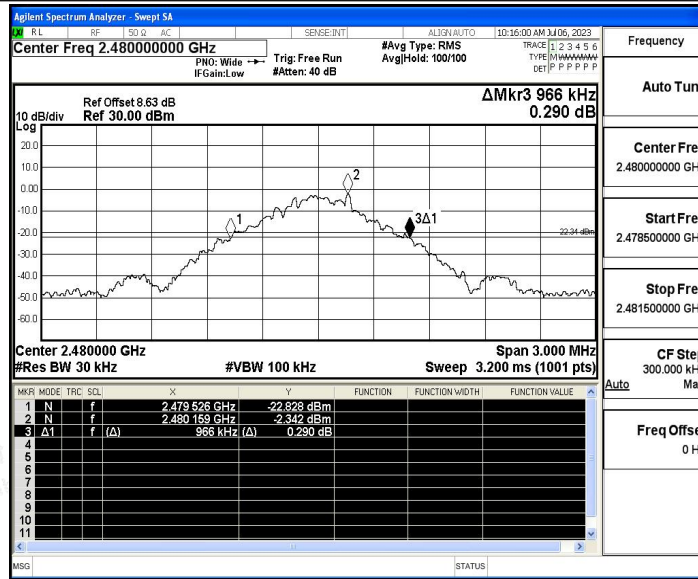


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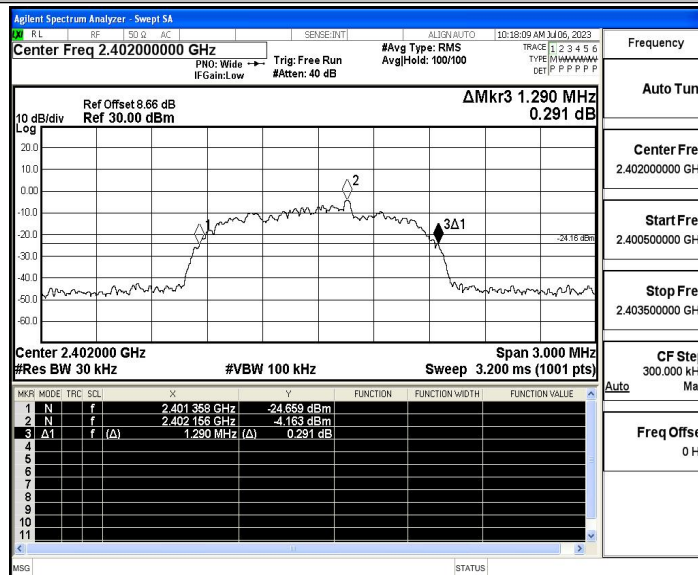
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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2DH5_Ant1_2402



2DH5_Ant1_2441

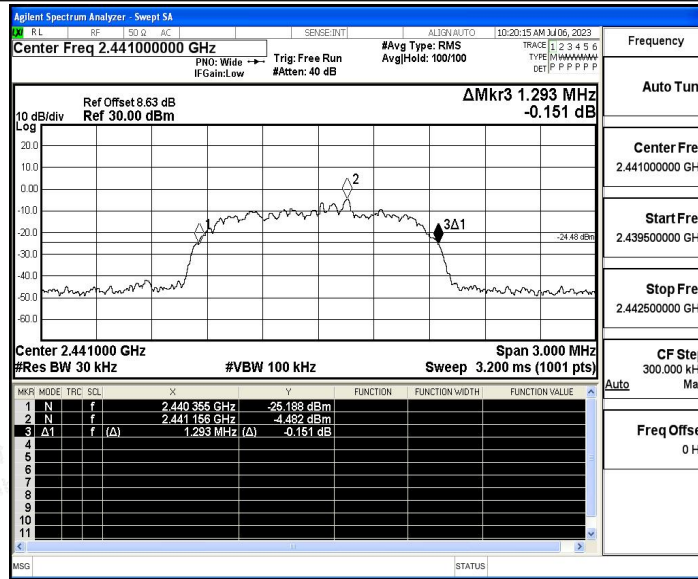


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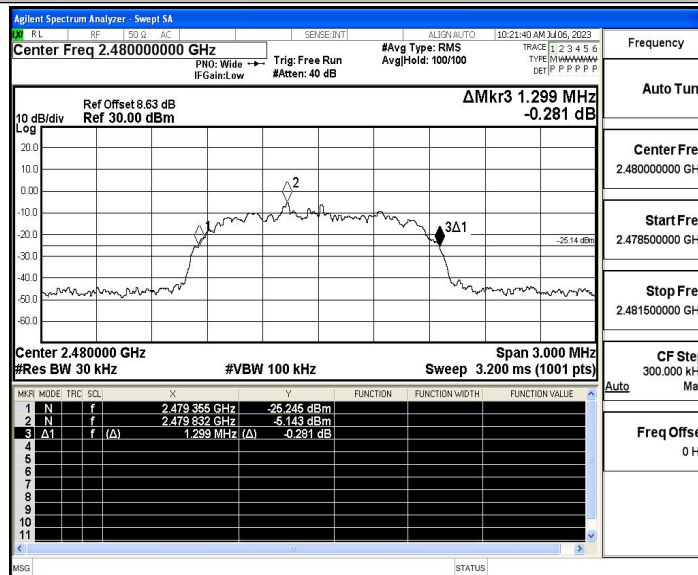
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2DH5_Ant1_2480



3DH5_Ant1_2402

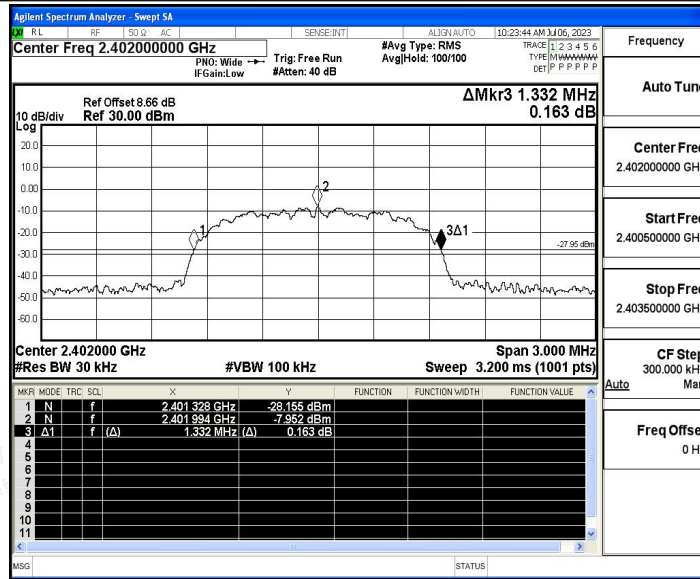


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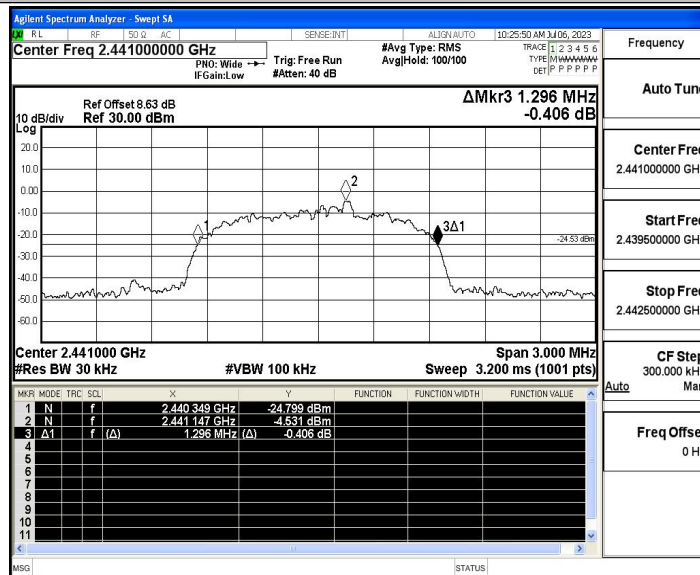
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3DH5_Ant1_2441



3DH5_Ant1_2480

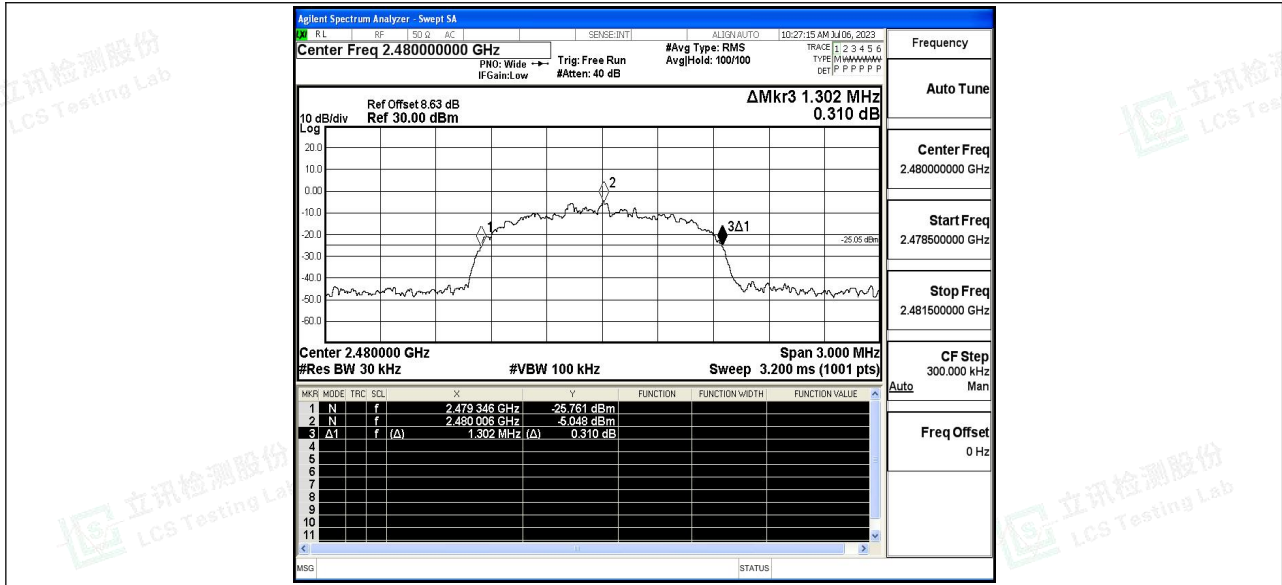


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A.2 Maximum conducted output power

Test Result Peak

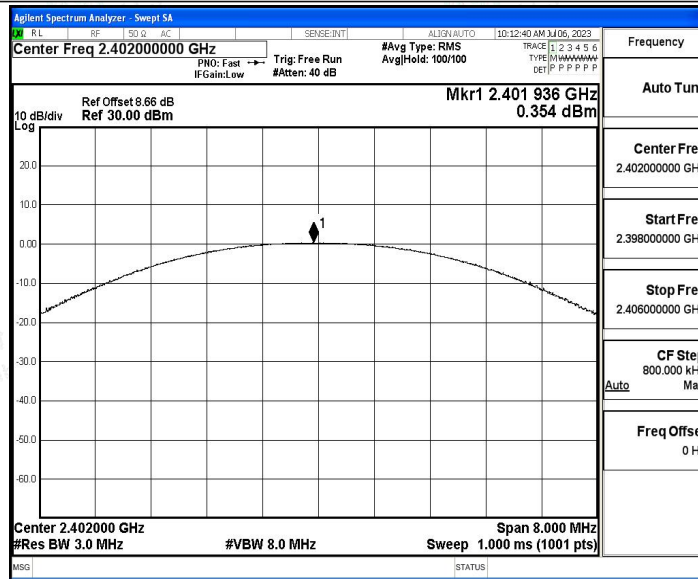
Test Mode	Antenna	Frequency[MHz]	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
DH5	Ant1	2402	0.35	≤20.97	PASS
		2441	0.39	≤20.97	PASS
		2480	0.51	≤20.97	PASS
2DH5	Ant1	2402	0.07	≤20.97	PASS
		2441	0.01	≤20.97	PASS
		2480	0.18	≤20.97	PASS
3DH5	Ant1	2402	0.09	≤20.97	PASS
		2441	0.17	≤20.97	PASS
		2480	0.28	≤20.97	PASS



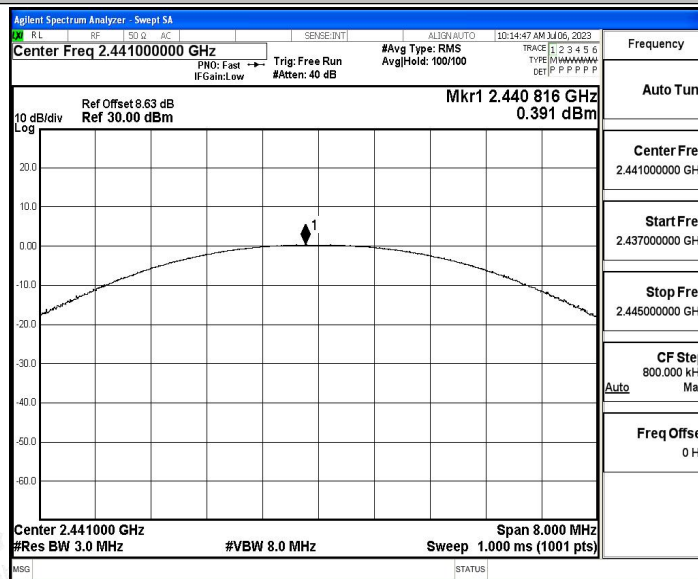


Test Graphs

DH5_Ant1_2402



DH5_Ant1_2441



DH5_Ant1_2480

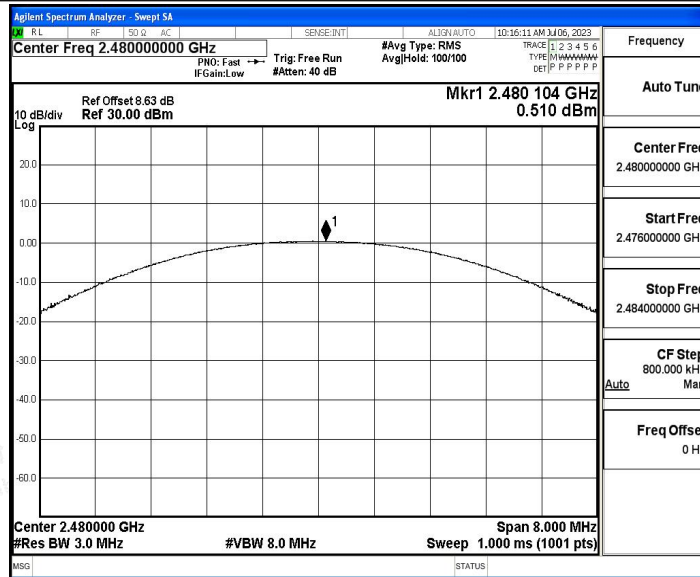


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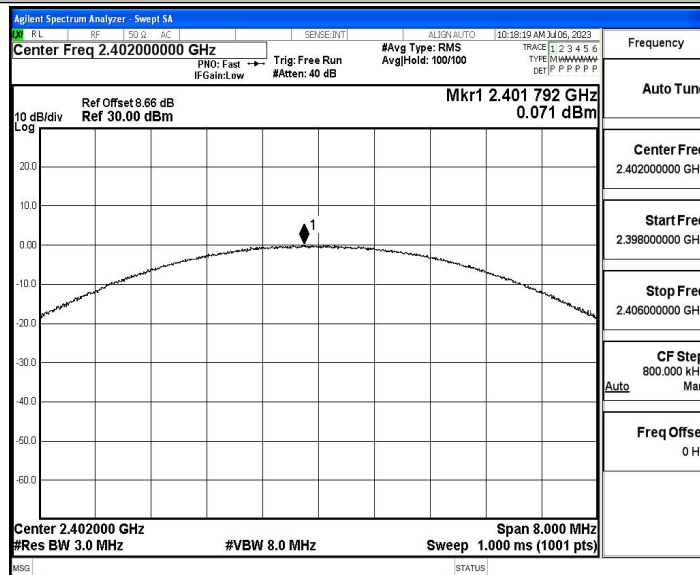
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2DH5_Ant1_2402



2DH5_Ant1_2441

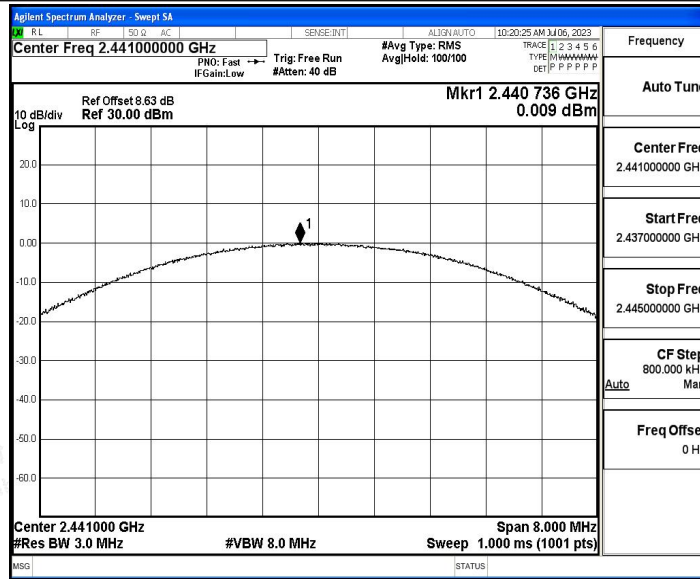


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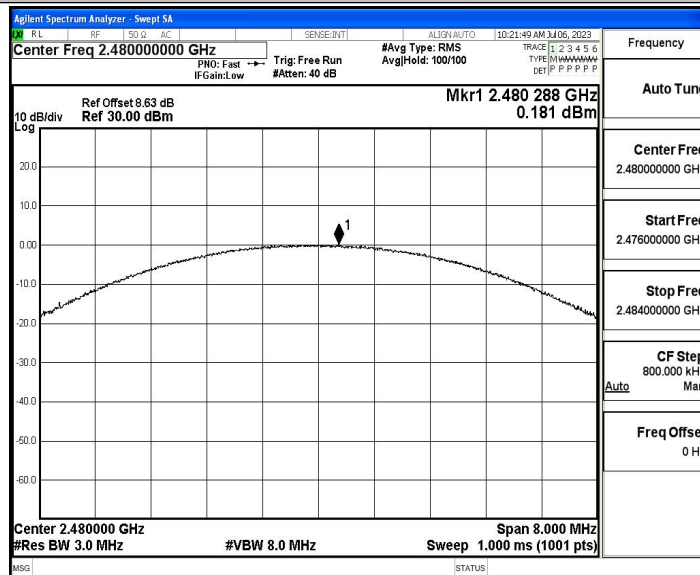
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2DH5_Ant1_2480



3DH5_Ant1_2402

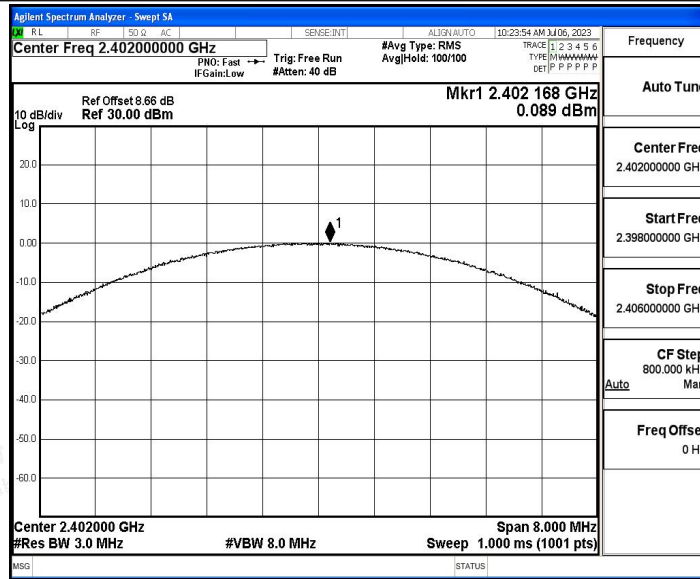


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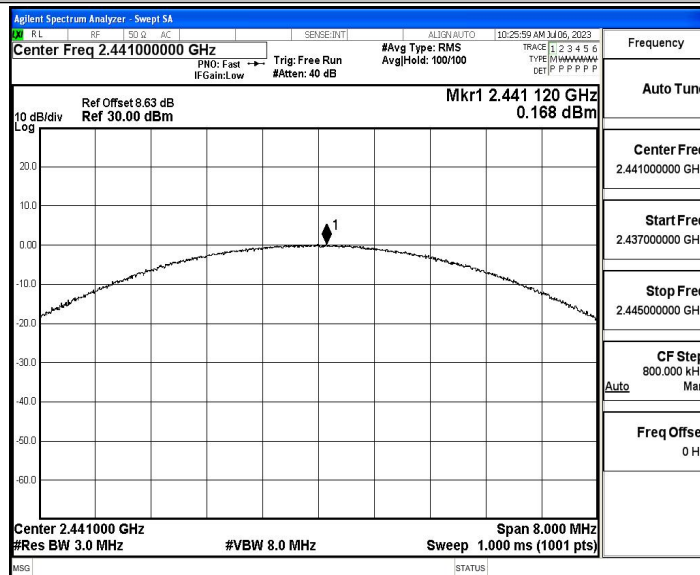
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3DH5_Ant1_2441



3DH5_Ant1_2480

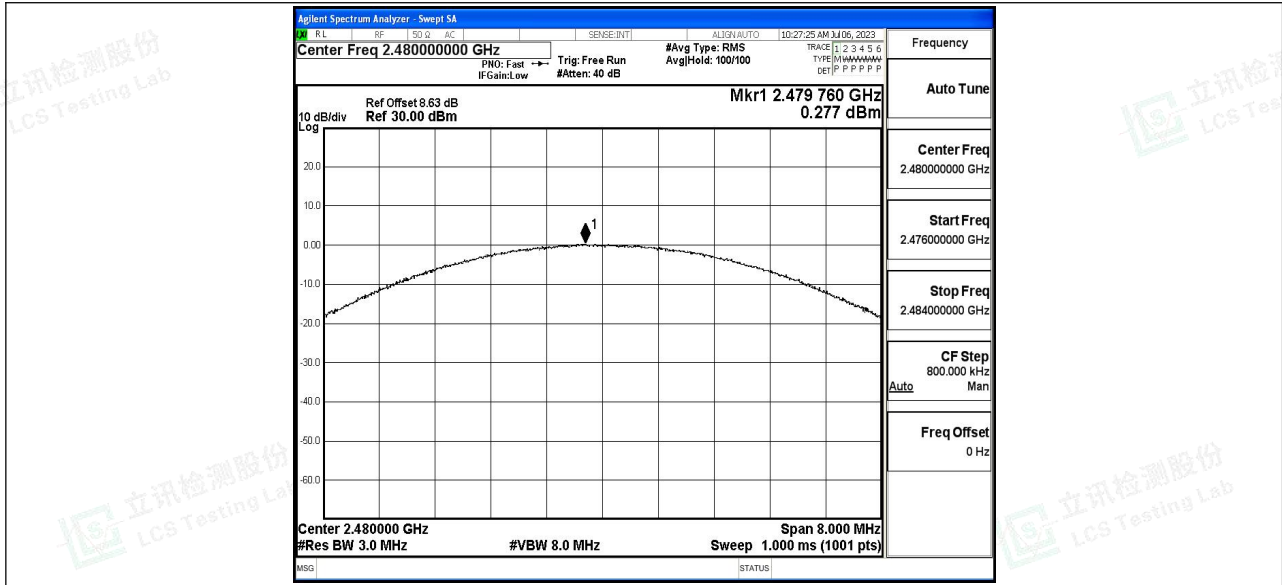


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A.3 Carrier frequency separation

Test Result

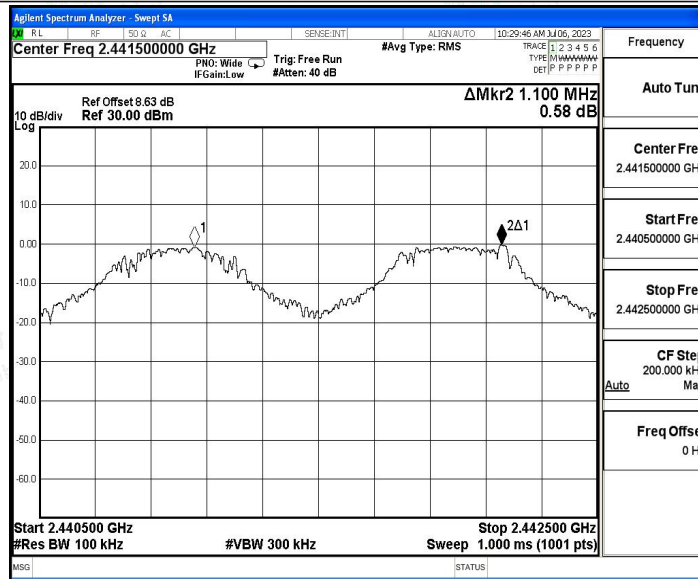
TestMode	Antenna	Frequency[MHz]	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	1.1	≥ 0.688	PASS
2DH5	Ant1	Hop	0.872	≥ 0.866	PASS
3DH5	Ant1	Hop	1.288	≥ 0.888	PASS



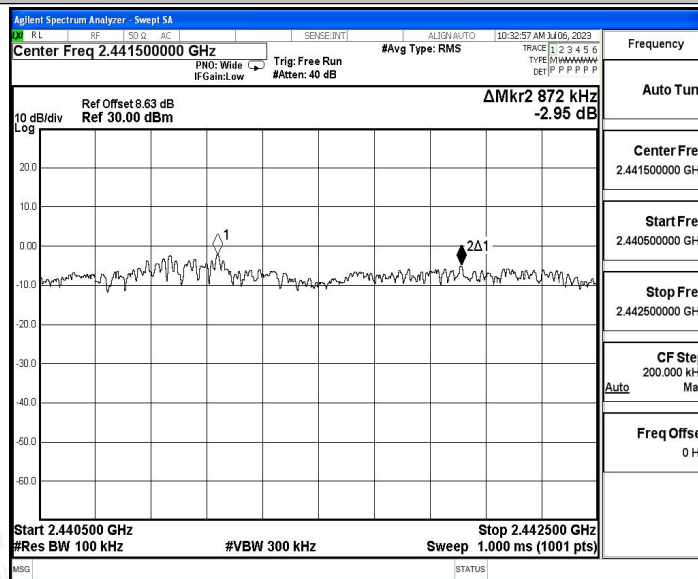


Test Graphs

DH5_Ant1_Hop



2DH5_Ant1_Hop



3DH5_Ant1_Hop

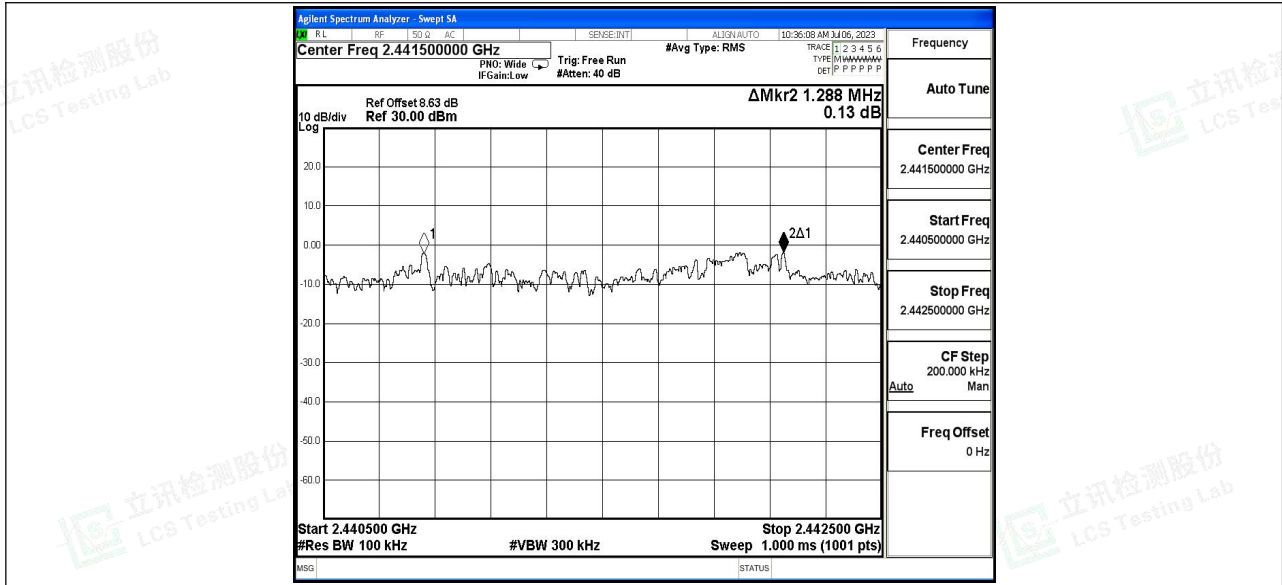


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A.4 Time of occupancy

Test Result

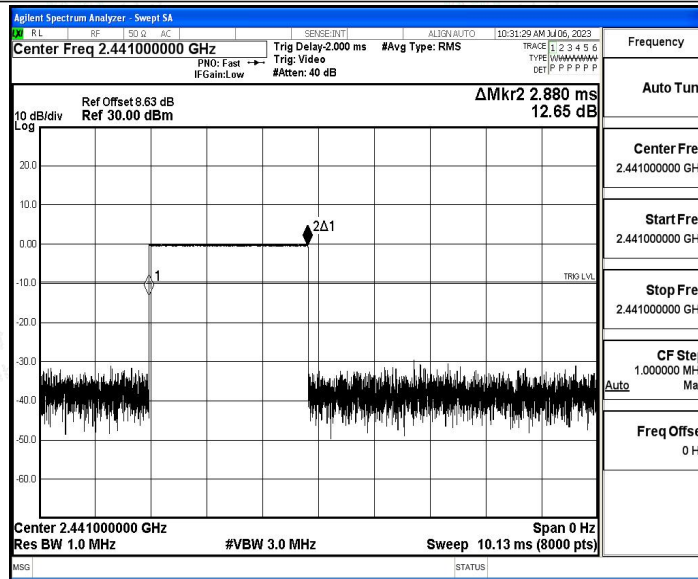
TestMode	Antenna	Frequency[MHz]	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.880	106.67	0.307	≤0.4	PASS
2DH5	Ant1	Hop	2.884	106.67	0.308	≤0.4	PASS
3DH5	Ant1	Hop	2.885	106.67	0.308	≤0.4	PASS



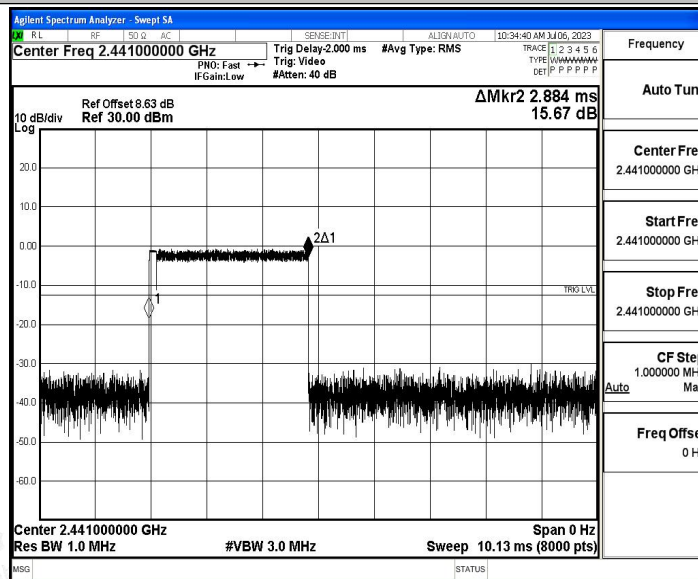


Test Graphs

DH5_Ant1_Hop



2DH5_Ant1_Hop



3DH5_Ant1_Hop

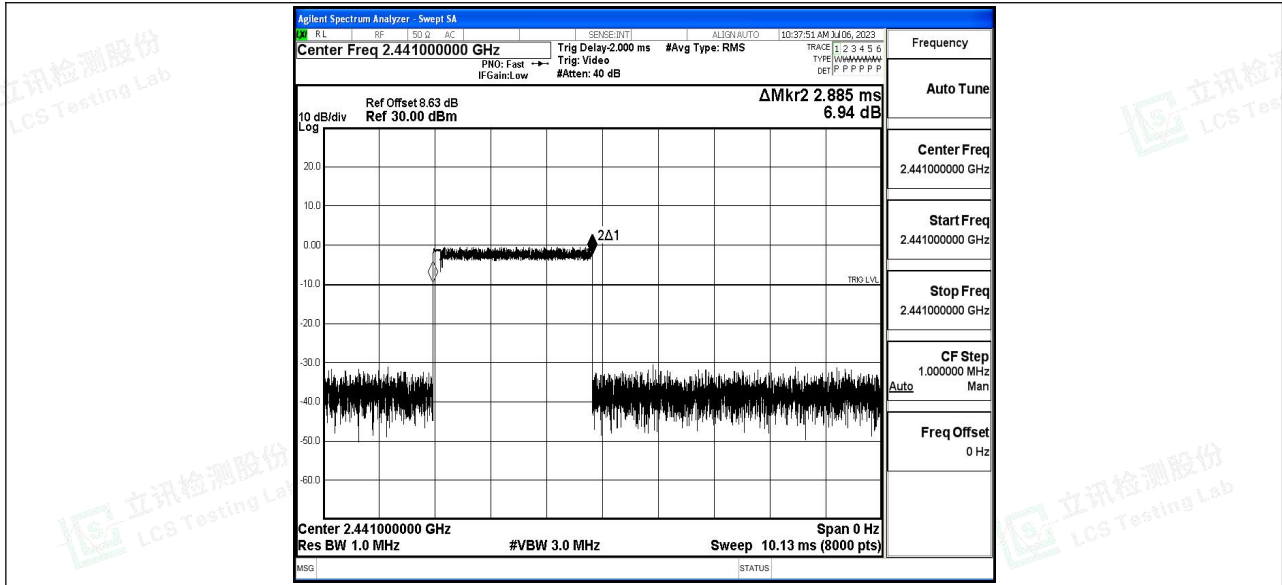


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A.5 Number of hopping channels

Test Result

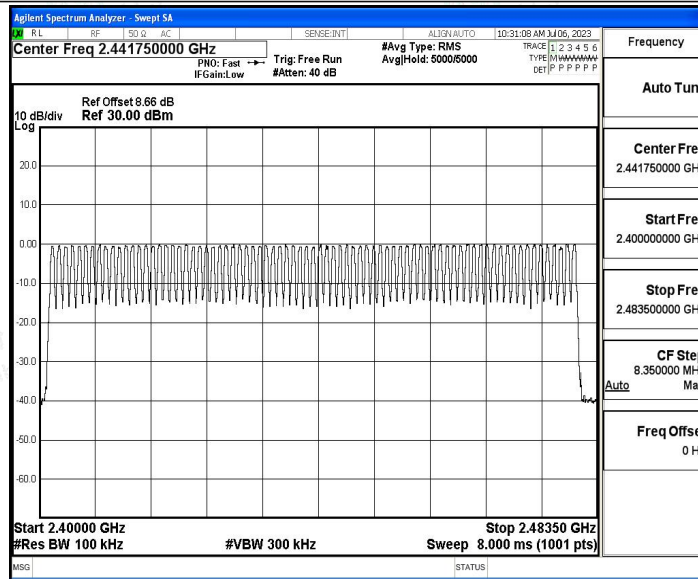
TestMode	Antenna	Frequency[MHz]	Result[Num]	Limit[Num]	Verdict
DH5	Ant1	Hop	79	≥15	PASS
2DH5	Ant1	Hop	79	≥15	PASS
3DH5	Ant1	Hop	79	≥15	PASS



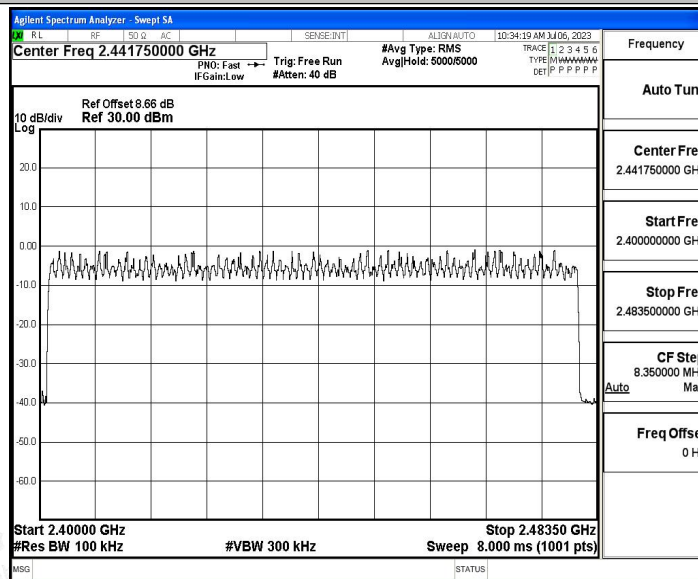


Test Graphs

DH5_Ant1_Hop



2DH5_Ant1_Hop



3DH5_Ant1_Hop

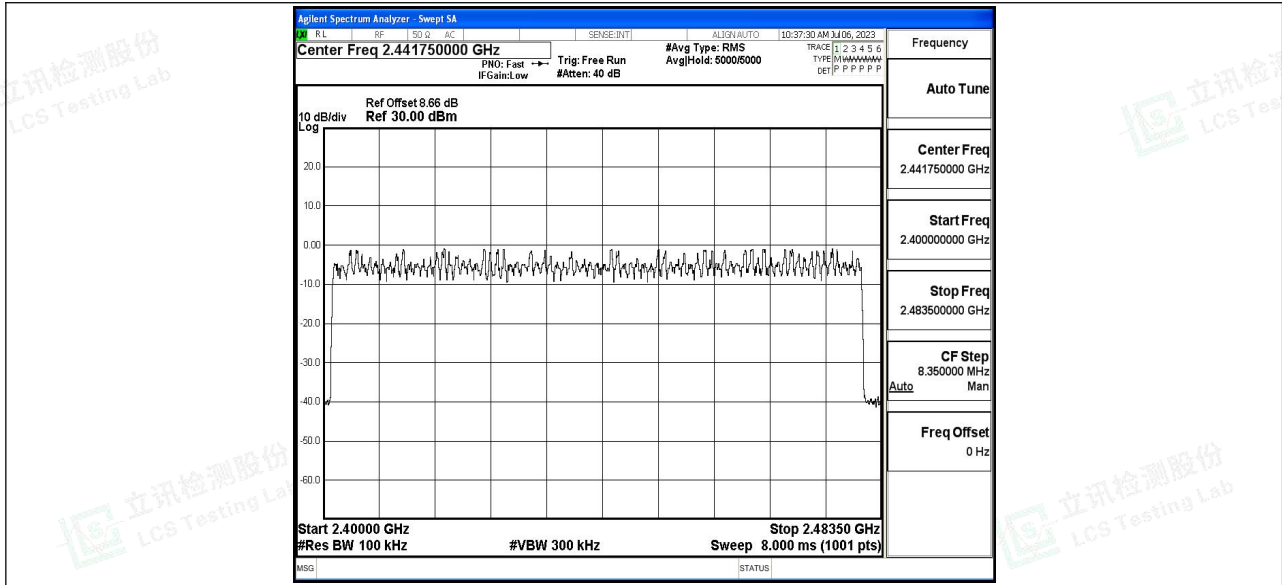


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A.6 Band edge measurements

Test Result

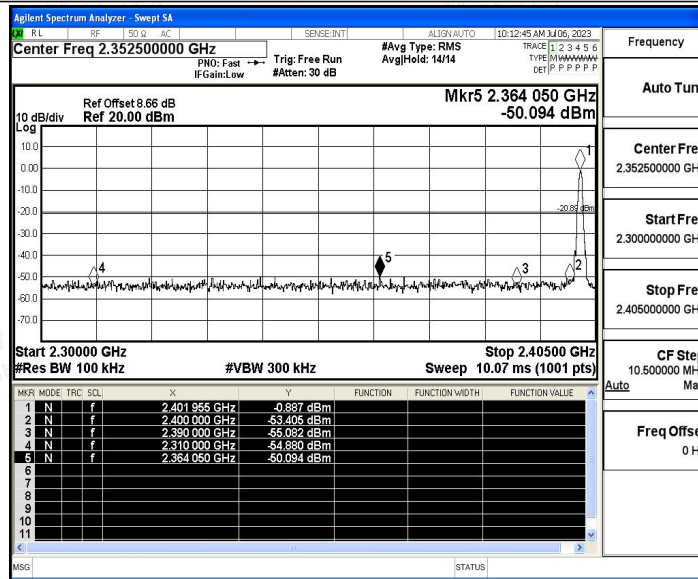
TestMode	Antenna	ChName	Frequency[MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-0.89	-50.09	≤ -20.89	PASS
		High	2480	-0.97	-49.43	≤ -20.97	PASS
		Low	Hop_2402	-0.98	-49.26	≤ -20.98	PASS
		High	Hop_2480	-0.18	-47.76	≤ -20.18	PASS
2DH5	Ant1	Low	2402	-3.26	-49.97	≤ -23.26	PASS
		High	2480	-5.32	-49.24	≤ -25.32	PASS
		Low	Hop_2402	-5.26	-49.06	≤ -25.26	PASS
		High	Hop_2480	-1.04	-47.69	≤ -21.04	PASS
3DH5	Ant1	Low	2402	-1.27	-50.26	≤ -21.27	PASS
		High	2480	-2.81	-49.33	≤ -22.81	PASS
		Low	Hop_2402	-3.24	-48.32	≤ -23.24	PASS
		High	Hop_2480	-1.49	-48.46	≤ -21.49	PASS



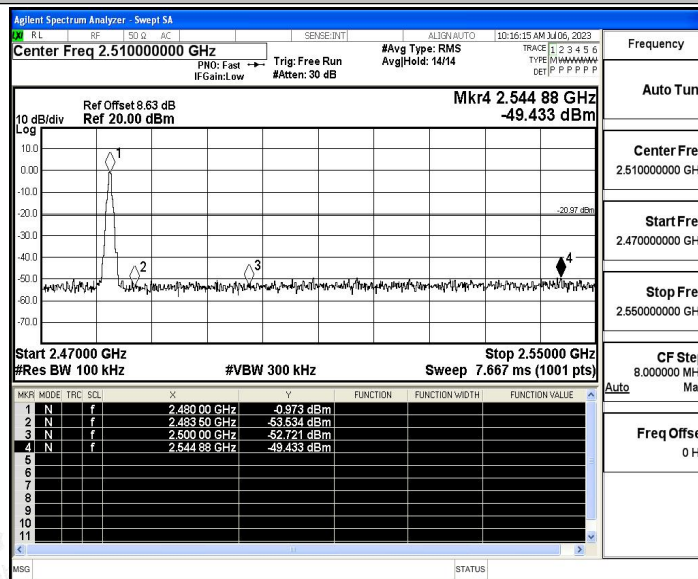


Test Graphs

DH5_Ant1_Low_2402



DH5_Ant1_High_2480



DH5_Ant1_Low_Hop_2402

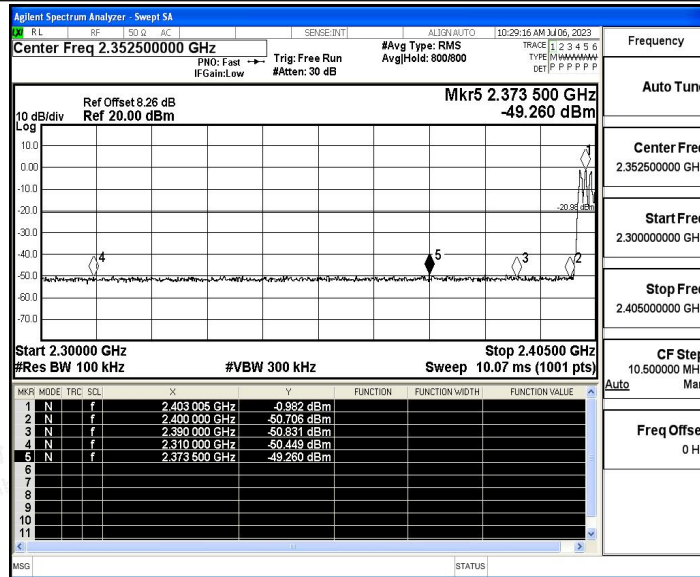


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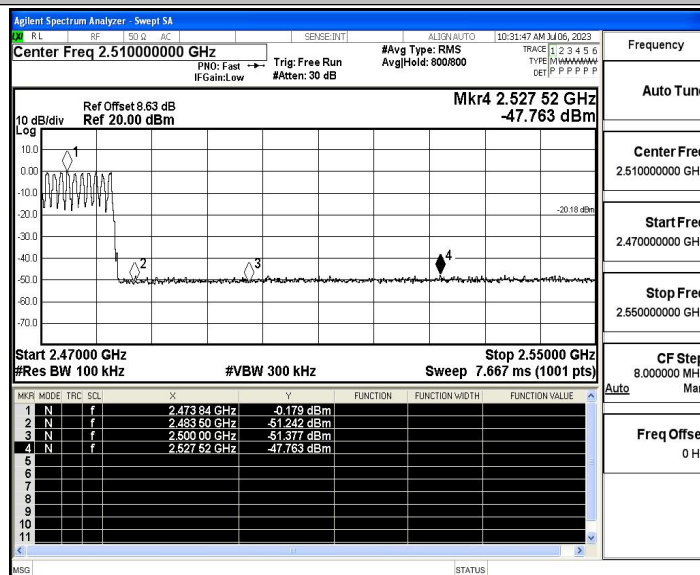
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DH5_Ant1_High_Hop_2480



2DH5_Ant1_Low_2402

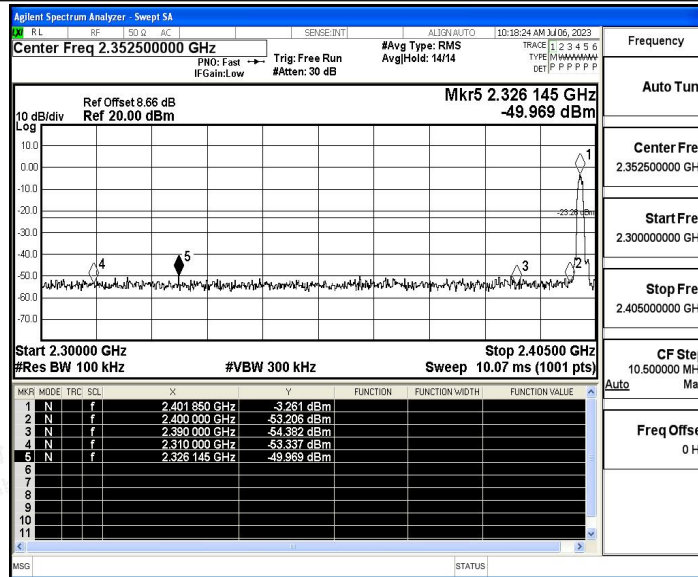


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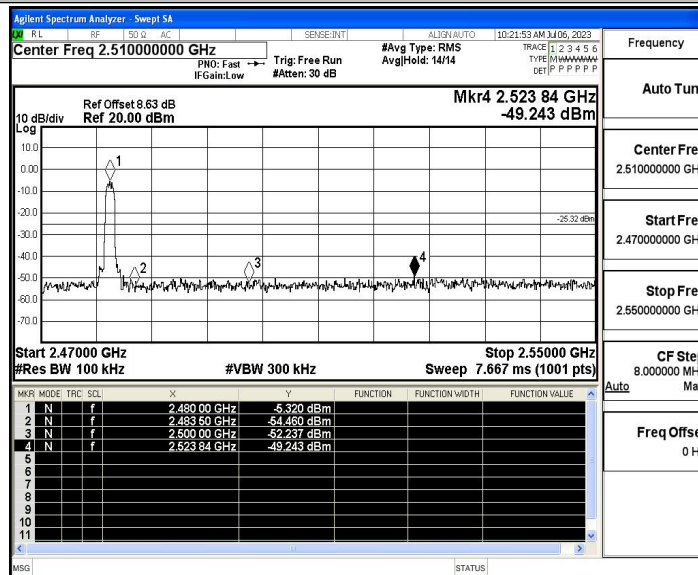
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2DH5_Ant1_High_2480



2DH5_Ant1_Low_Hop_2402

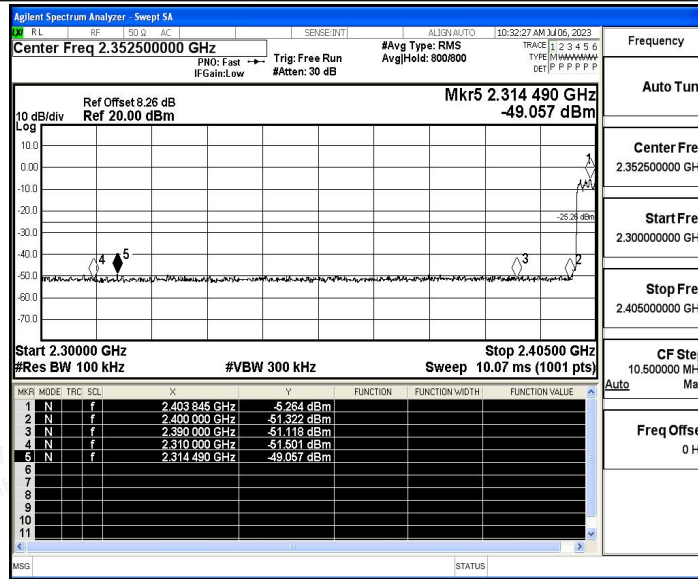


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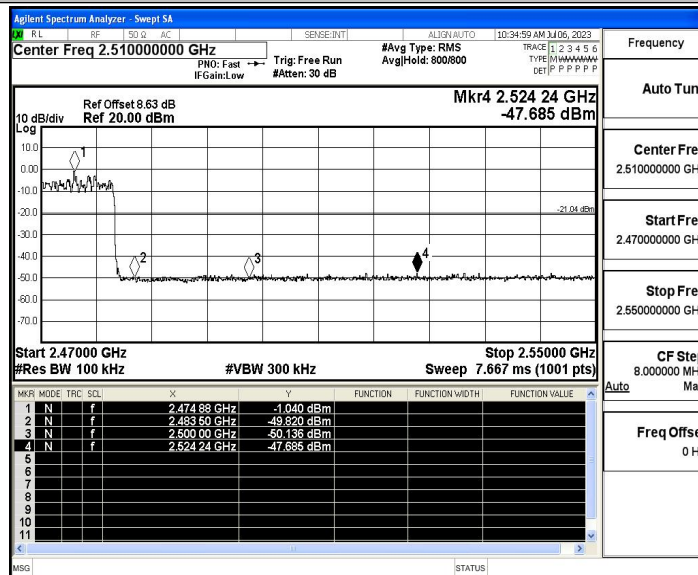
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2DH5_Ant1_High_Hop_2480



3DH5_Ant1_Low_2402

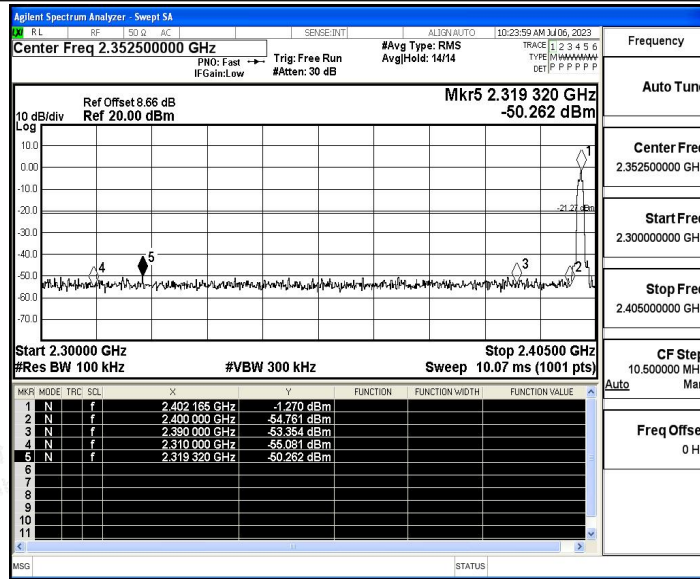


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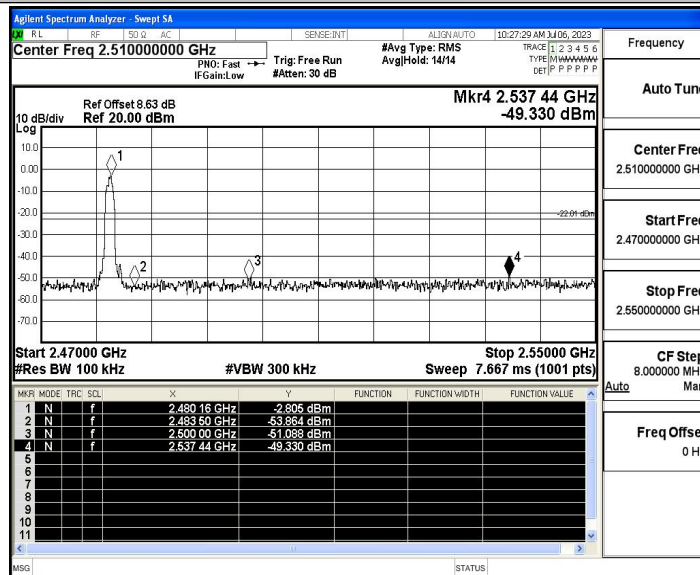
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3DH5_Ant1_High_2480



3DH5_Ant1_Low_Hop_2402

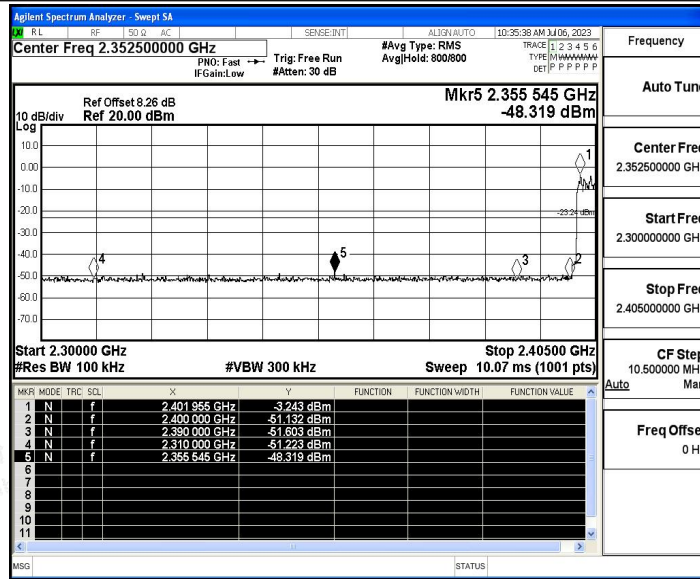


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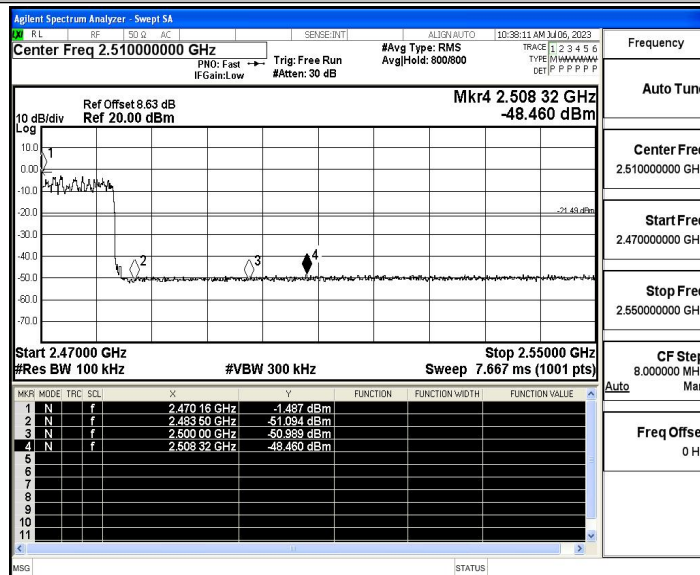
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3DH5_Ant1_High_Hop_2480



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A.7 Conducted Spurious Emission

Test Result

TestMode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	-0.85	-0.85	---	PASS
			30~1000	-0.85	-60.6	≤-20.85	PASS
			1000~26500	-0.85	-46.74	≤-20.85	PASS
		2441	Reference	-0.92	-0.92	---	PASS
			30~1000	-0.92	-61.16	≤-20.92	PASS
			1000~26500	-0.92	-45.97	≤-20.92	PASS
		2480	Reference	-0.75	-0.75	---	PASS
			30~1000	-0.75	-60.92	≤-20.75	PASS
			1000~26500	-0.75	-47.25	≤-20.75	PASS
2DH5	Ant1	2402	Reference	-5.81	-5.81	---	PASS
			30~1000	-5.81	-60.38	≤-25.81	PASS
			1000~26500	-5.81	-46.28	≤-25.81	PASS
		2441	Reference	-4.81	-4.81	---	PASS
			30~1000	-4.81	-61.06	≤-24.81	PASS
			1000~26500	-4.81	-46.82	≤-24.81	PASS
		2480	Reference	-4.52	-4.52	---	PASS
			30~1000	-4.52	-60.95	≤-24.52	PASS
			1000~26500	-4.52	-46.21	≤-24.52	PASS
3DH5	Ant1	2402	Reference	-1.26	-1.26	---	PASS
			30~1000	-1.26	-60.01	≤-21.26	PASS
			1000~26500	-1.26	-46.75	≤-21.26	PASS
		2441	Reference	-4.35	-4.35	---	PASS
			30~1000	-4.35	-60.41	≤-24.35	PASS
			1000~26500	-4.35	-46.14	≤-24.35	PASS
		2480	Reference	-1.85	-1.85	---	PASS
			30~1000	-1.85	-60.55	≤-21.85	PASS
			1000~26500	-1.85	-46.88	≤-21.85	PASS

