



Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: FM Transmitter

Test Model: BC87

Environmental Conditions

Temperature:	23.8℃
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Taylor Hu
Supervised by:	Ling Zhu





A.1 20dB Emission Bandwidth

Test Result

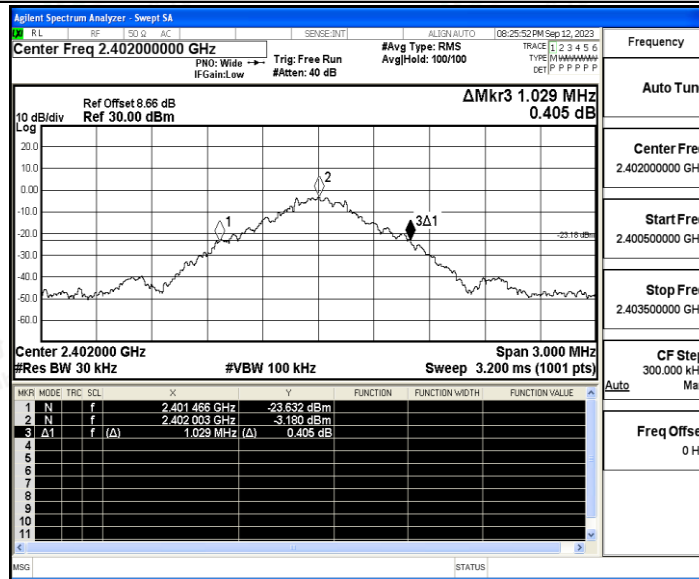
TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Verdict
DH5	Ant1	2402	1.029	2401.466	2402.495	---
		2441	1.011	2440.478	2441.489	---
		2480	1.020	2479.457	2480.477	---
2DH5	Ant1	2402	1.317	2401.328	2402.645	---
		2441	1.296	2440.349	2441.645	---
		2480	1.287	2479.355	2480.642	---
3DH5	Ant1	2402	1.338	2401.322	2402.660	---
		2441	1.317	2440.331	2441.648	---
		2480	1.305	2479.334	2480.639	---



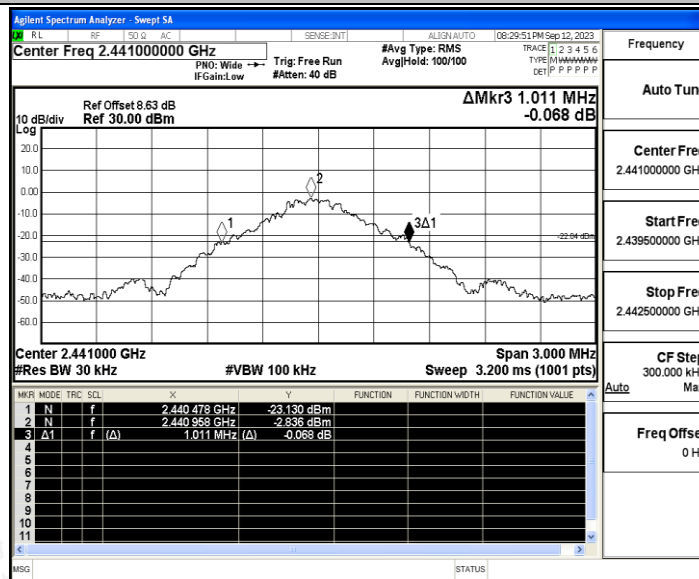


Test Graphs

DH5_Ant1_2402

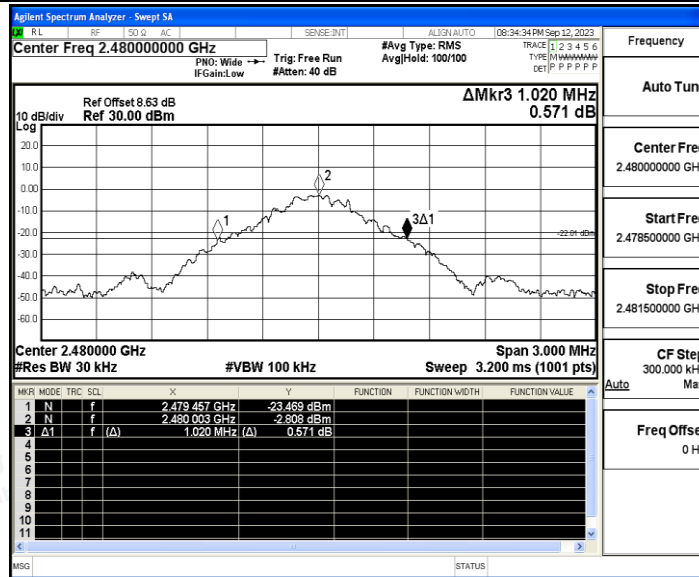


DH5_Ant1_2441

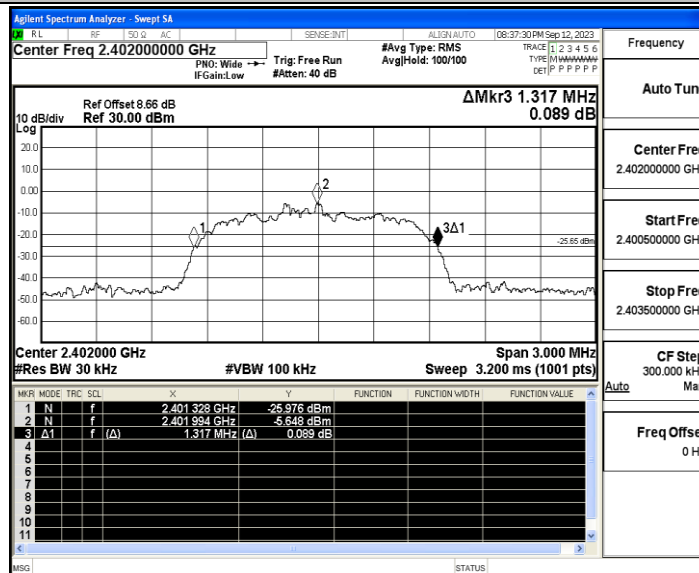


DH5_Ant1_2480

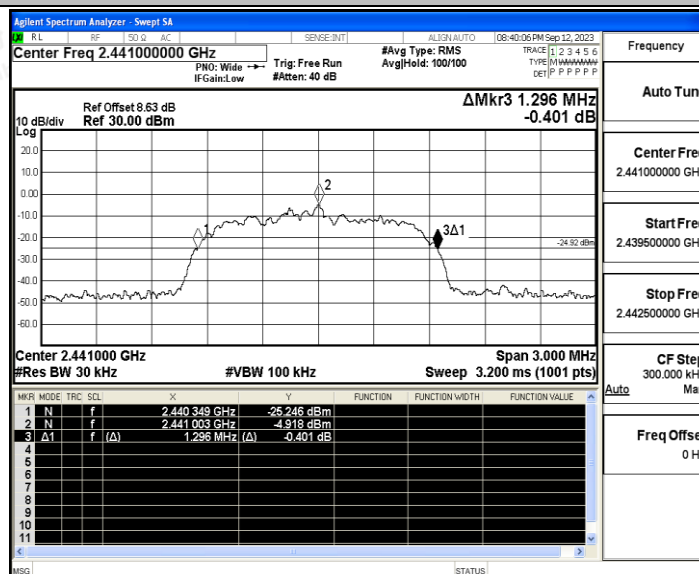




2DH5_Ant1_2402

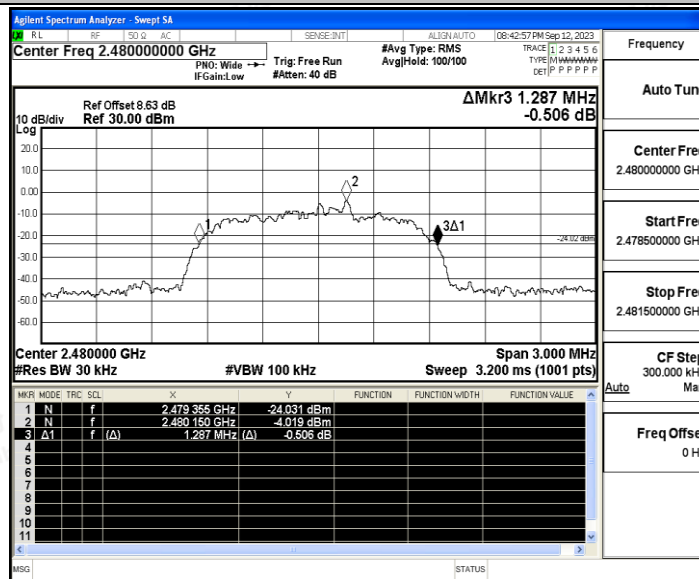


2DH5_Ant1_2441

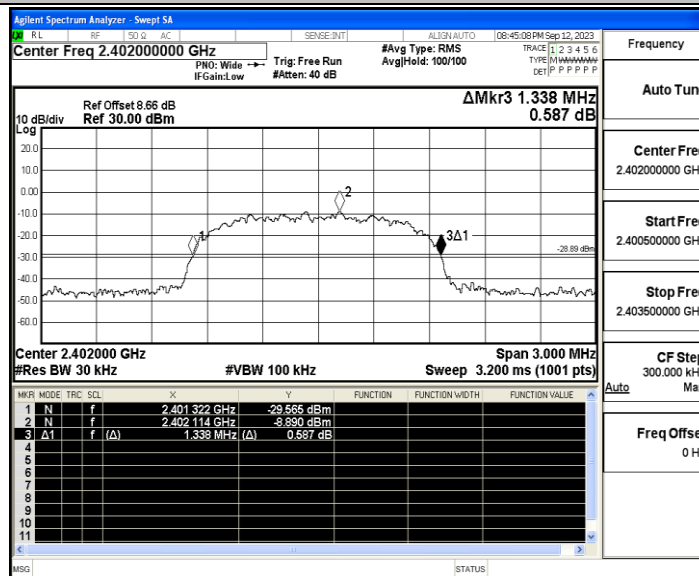




2DH5_Ant1_2480

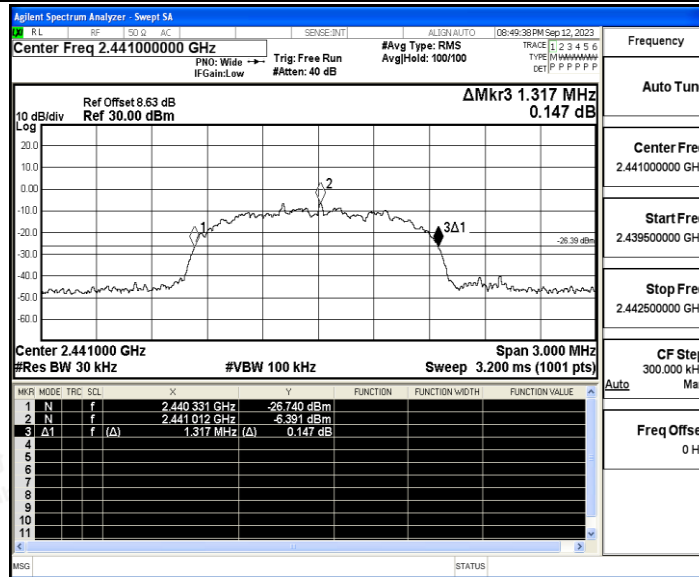


3DH5_Ant1_2402

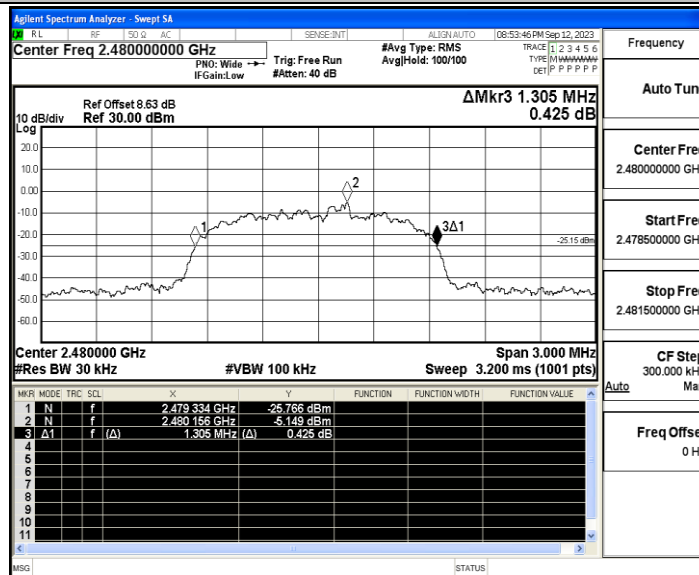


3DH5_Ant1_2441





3DH5_Ant1_2480





A.2 Maximum conducted output power

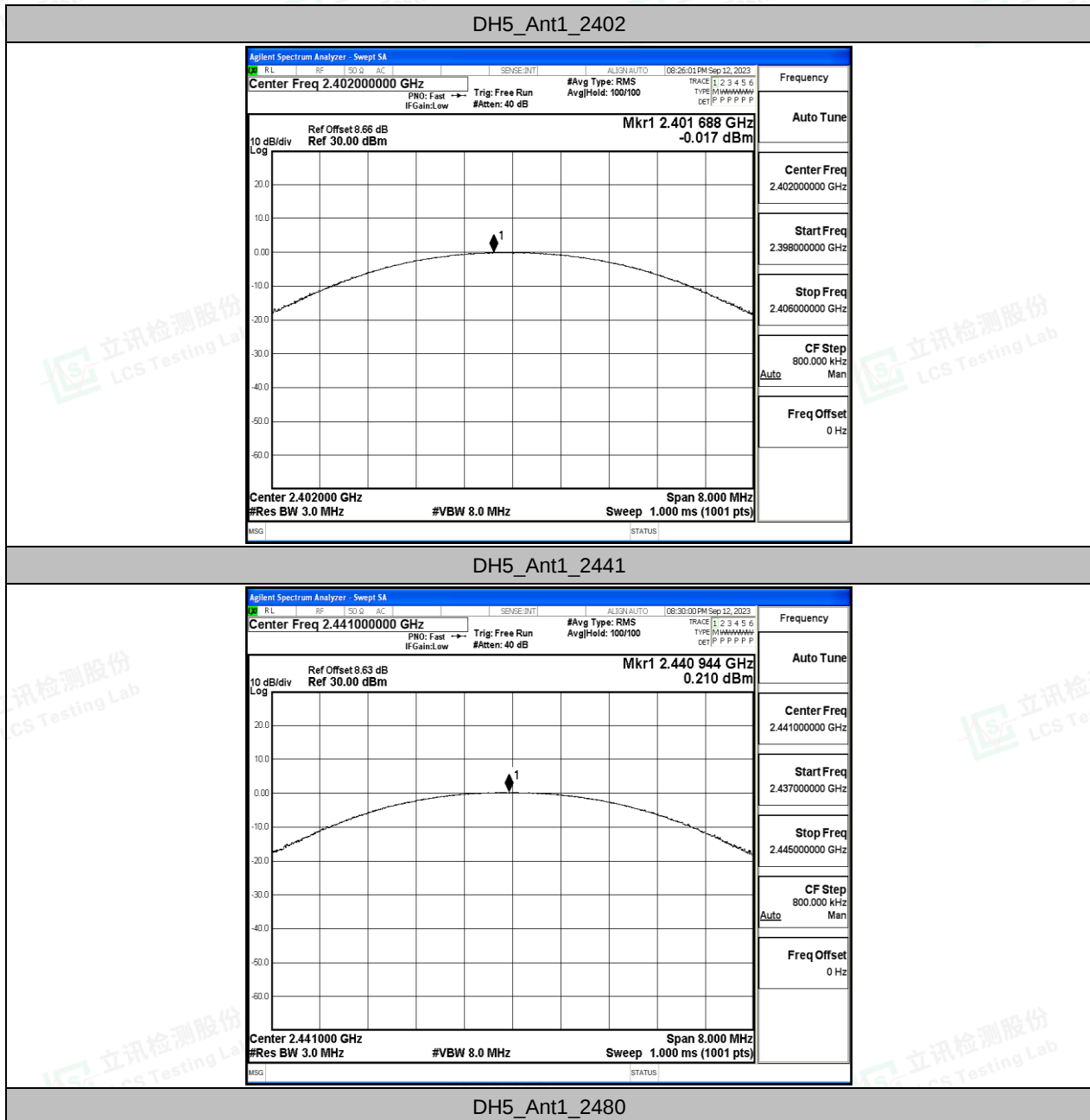
Test Result

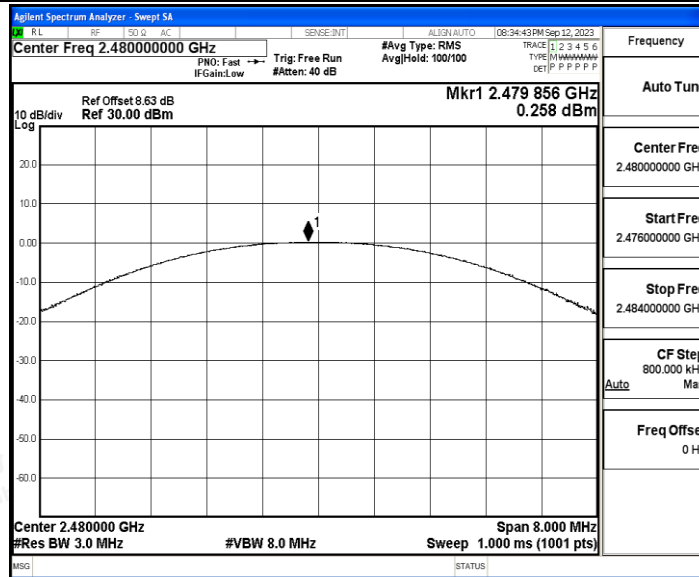
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	-0.02	≤ 20.97	PASS
		2441	0.21	≤ 20.97	PASS
		2480	0.26	≤ 20.97	PASS
2DH5	Ant1	2402	-0.35	≤ 20.97	PASS
		2441	-0.07	≤ 20.97	PASS
		2480	0	≤ 20.97	PASS
3DH5	Ant1	2402	-0.12	≤ 20.97	PASS
		2441	0.05	≤ 20.97	PASS
		2480	0.06	≤ 20.97	PASS



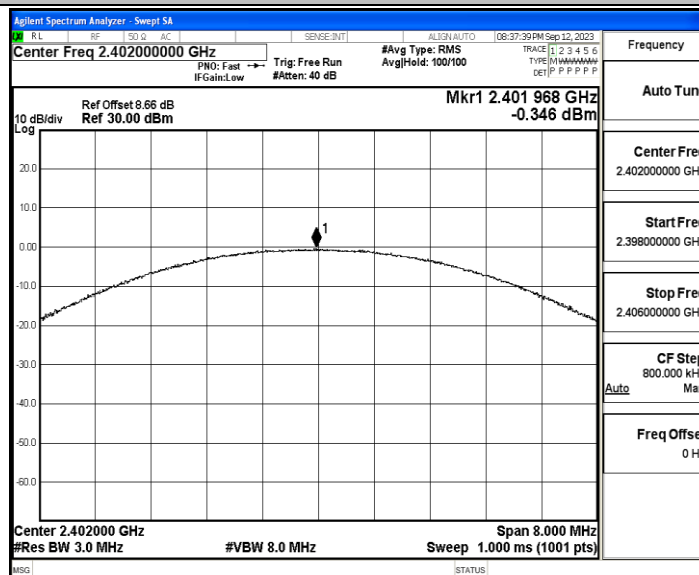


Test Graphs

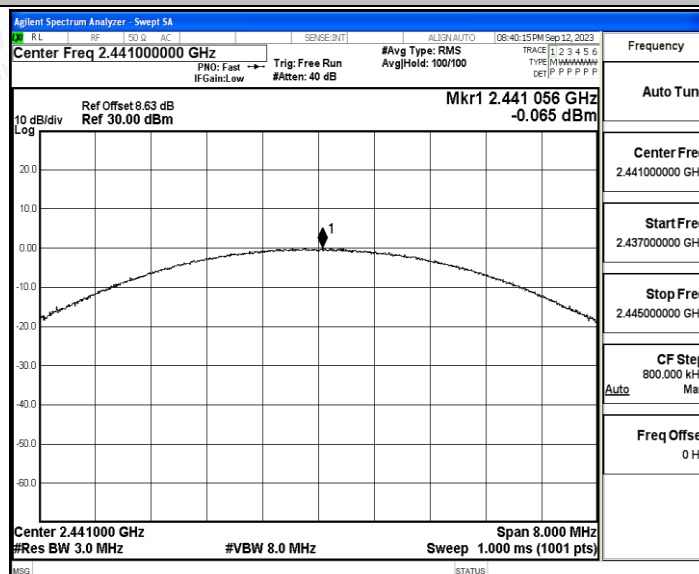




2DH5_Ant1_2402

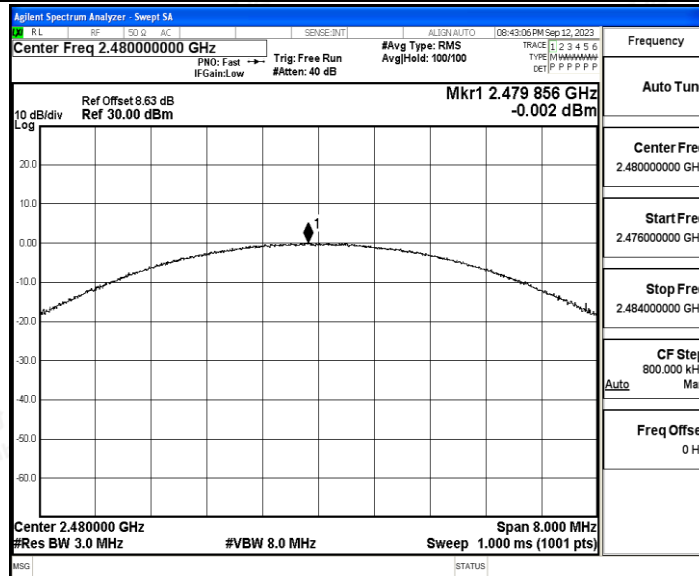


2DH5_Ant1_2441

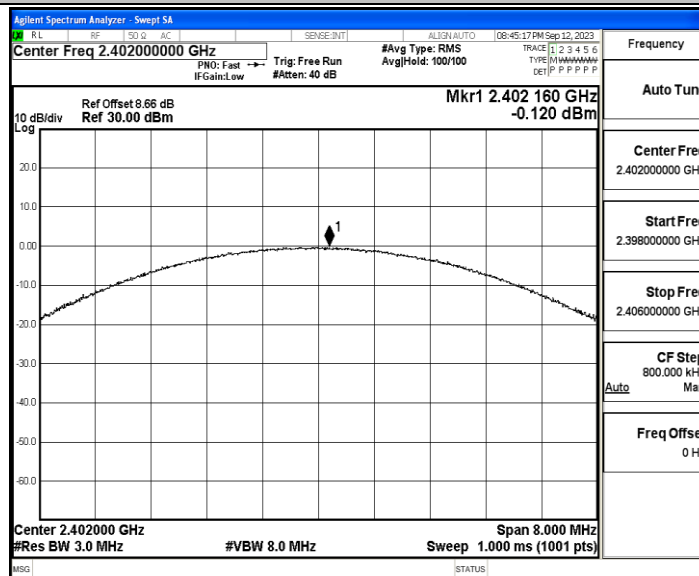




2DH5_Ant1_2480

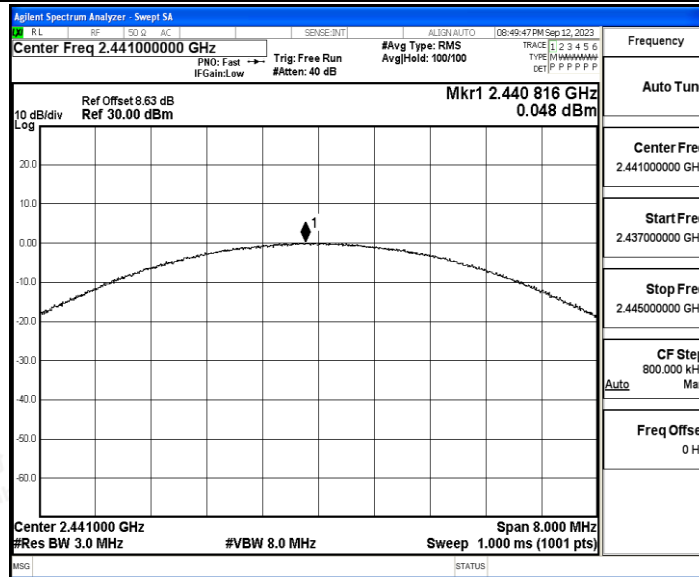


3DH5_Ant1_2402

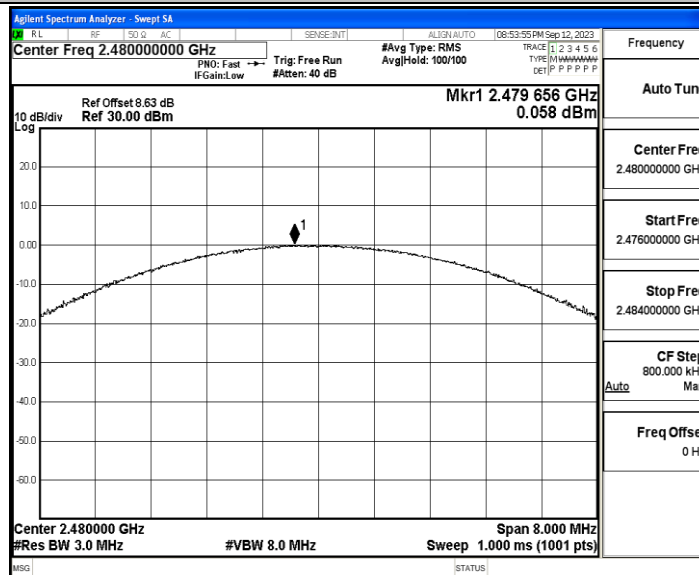


3DH5_Ant1_2441





3DH5_Ant1_2480





A.3 Carrier frequency separation

Test Result

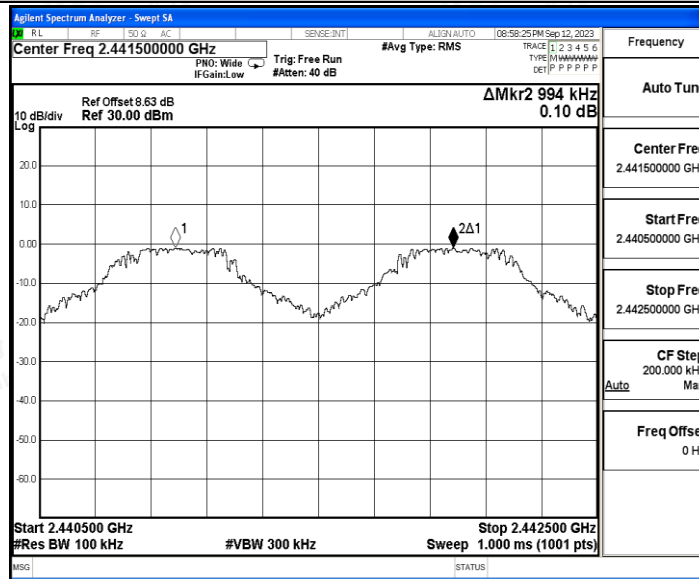
TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	0.994	≥ 0.686	PASS
2DH5	Ant1	Hop	1.008	≥ 0.878	PASS
3DH5	Ant1	Hop	0.974	≥ 0.892	PASS



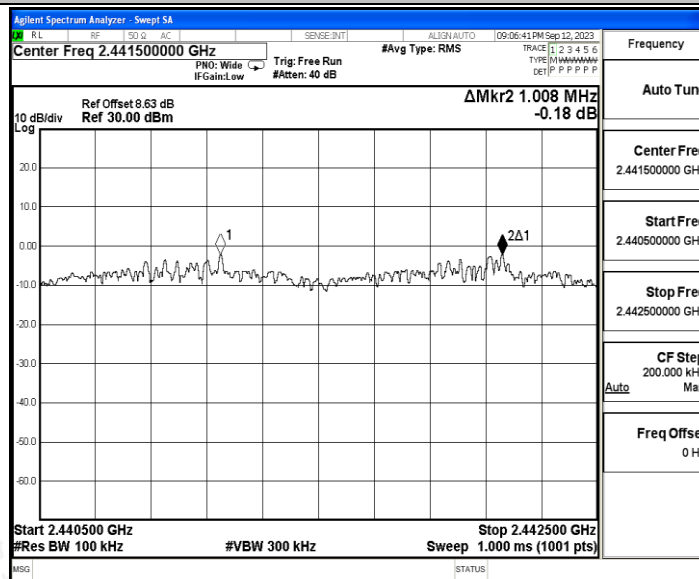


Test Graphs

DH5_Ant1_Hop

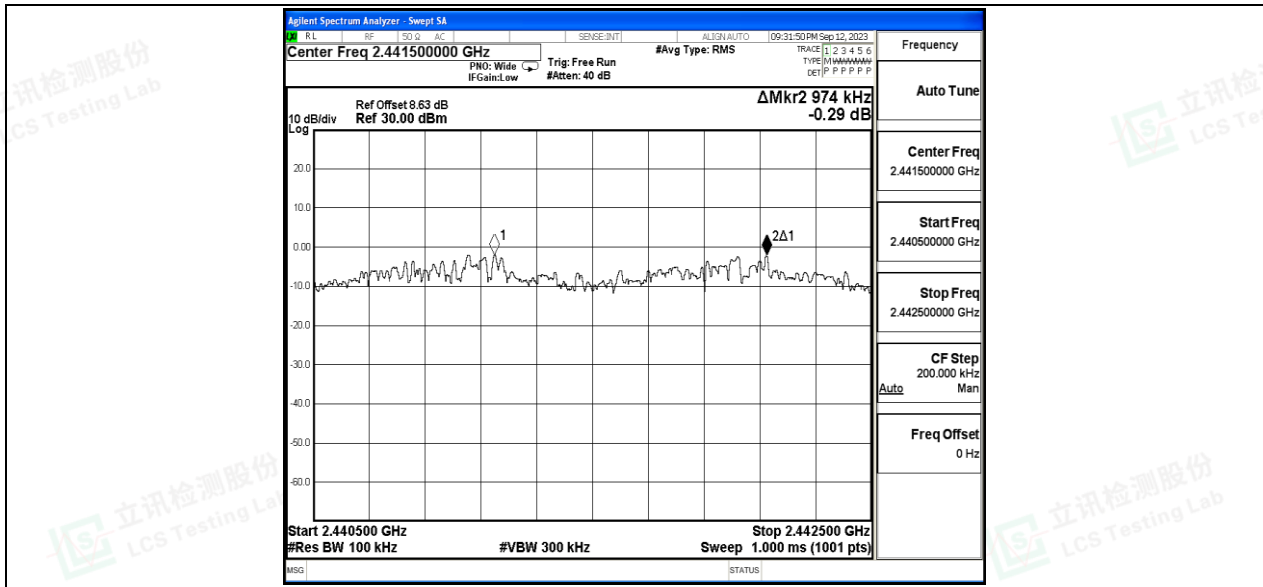


2DH5_Ant1_Hop



3DH5_Ant1_Hop







A.4 Time of occupancy

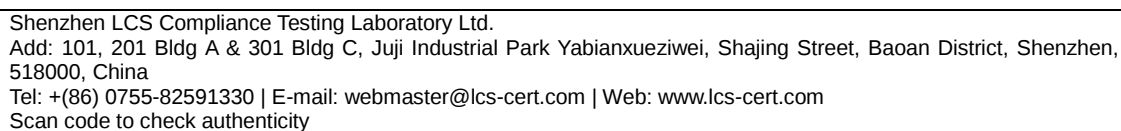
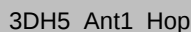
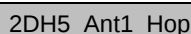
Test Result

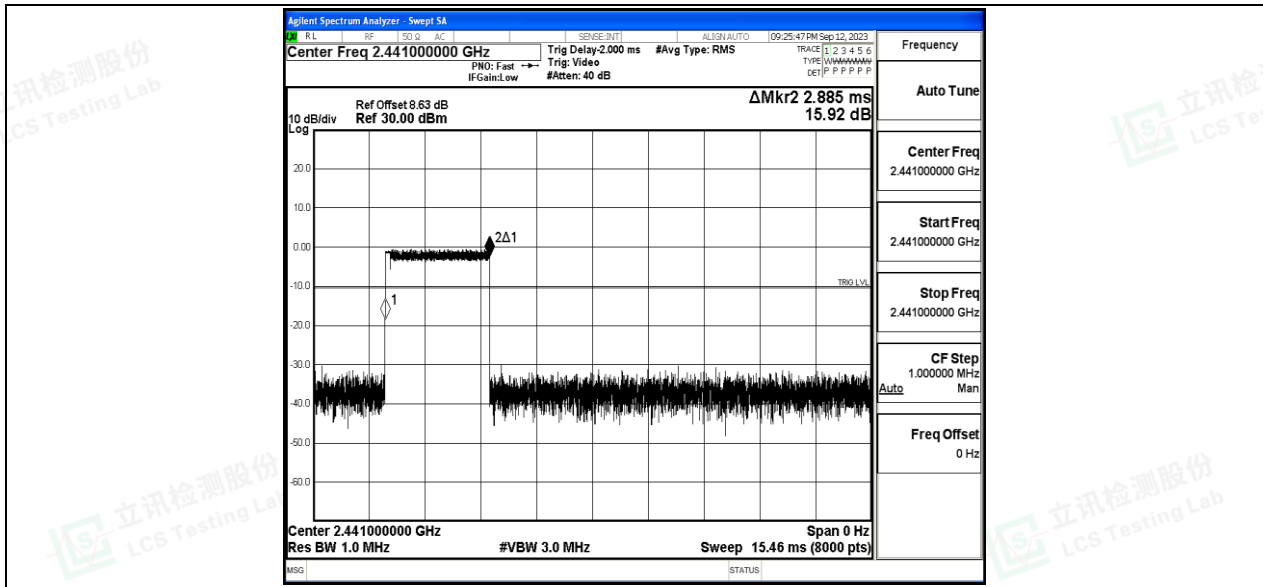
TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.880	106.67	0.307	≤0.4	PASS
2DH5	Ant1	Hop	2.883	106.67	0.308	≤0.4	PASS
3DH5	Ant1	Hop	2.885	106.67	0.308	≤0.4	PASS





DH5	Ant1	Hop
0.98	0.97	0.96
0.97	0.96	0.95
0.96	0.95	0.94
0.95	0.94	0.93
0.94	0.93	0.92
0.93	0.92	0.91
0.92	0.91	0.90
0.91	0.90	0.89
0.90	0.89	0.88
0.89	0.88	0.87
0.88	0.87	0.86
0.87	0.86	0.85
0.86	0.85	0.84
0.85	0.84	0.83
0.84	0.83	0.82
0.83	0.82	0.81
0.82	0.81	0.80
0.81	0.80	0.79
0.80	0.79	0.78
0.79	0.78	0.77
0.78	0.77	0.76
0.77	0.76	0.75
0.76	0.75	0.74
0.75	0.74	0.73
0.74	0.73	0.72
0.73	0.72	0.71
0.72	0.71	0.70
0.71	0.70	0.69
0.70	0.69	0.68
0.69	0.68	0.67
0.68	0.67	0.66
0.67	0.66	0.65
0.66	0.65	0.64
0.65	0.64	0.63
0.64	0.63	0.62
0.63	0.62	0.61
0.62	0.61	0.60
0.61	0.60	0.59
0.60	0.59	0.58
0.59	0.58	0.57
0.58	0.57	0.56
0.57	0.56	0.55
0.56	0.55	0.54
0.55	0.54	0.53
0.54	0.53	0.52
0.53	0.52	0.51
0.52	0.51	0.50
0.51	0.50	0.49
0.50	0.49	0.48
0.49	0.48	0.47
0.48	0.47	0.46
0.47	0.46	0.45
0.46	0.45	0.44
0.45	0.44	0.43
0.44	0.43	0.42
0.43	0.42	0.41
0.42	0.41	0.40
0.41	0.40	0.39
0.40	0.39	0.38
0.39	0.38	0.37
0.38	0.37	0.36
0.37	0.36	0.35
0.36	0.35	0.34
0.35	0.34	0.33
0.34	0.33	0.32
0.33	0.32	0.31
0.32	0.31	0.30
0.31	0.30	0.29
0.30	0.29	0.28
0.29	0.28	0.27
0.28	0.27	0.26
0.27	0.26	0.25
0.26	0.25	0.24
0.25	0.24	0.23
0.24	0.23	0.22
0.23	0.22	0.21
0.22	0.21	0.20
0.21	0.20	0.19
0.20	0.19	0.18
0.19	0.18	0.17
0.18	0.17	0.16
0.17	0.16	0.15
0.16	0.15	0.14
0.15	0.14	0.13
0.14	0.13	0.12
0.13	0.12	0.11
0.12	0.11	0.10
0.11	0.10	0.09
0.10	0.09	0.08
0.09	0.08	0.07
0.08	0.07	0.06
0.07	0.06	0.05
0.06	0.05	0.04
0.05	0.04	0.03
0.04	0.03	0.02
0.03	0.02	0.01
0.02	0.01	0.00
0.01	0.00	0.00







A.5 Number of hopping channels

Test Result

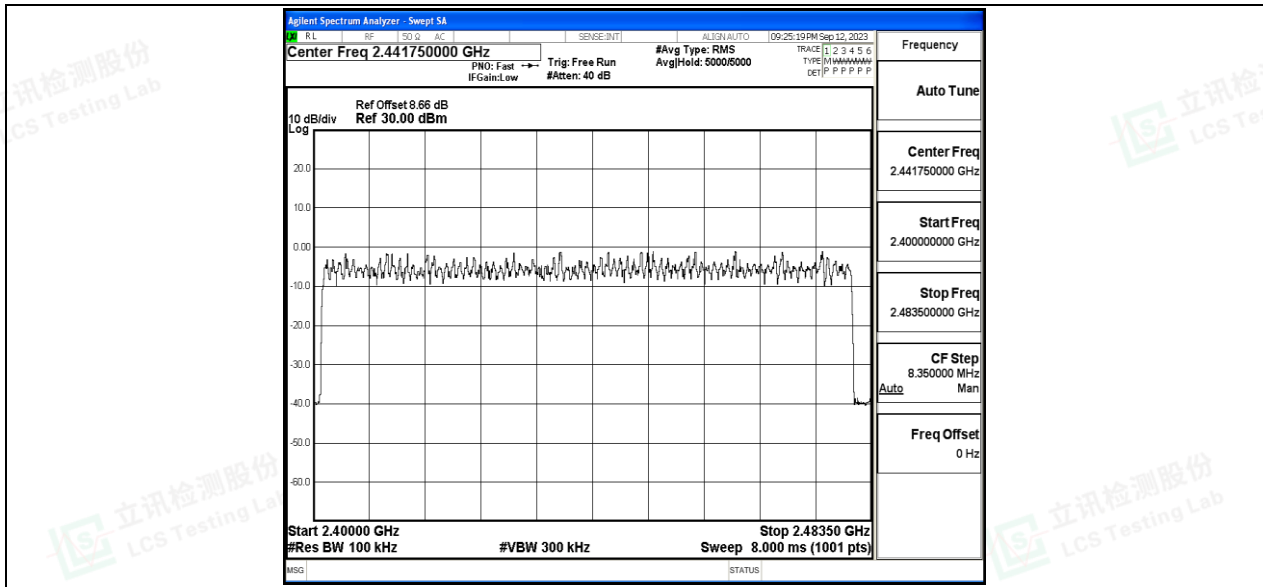
TestMode	Antenna	Channel	Result[Num]	Limit[Num]	Verdict
DH5	Ant1	Hop	79	≥ 15	PASS
2DH5	Ant1	Hop	79	≥ 15	PASS
3DH5	Ant1	Hop	79	≥ 15	PASS





Test Graphs







A.6 Band edge measurements

Test Result

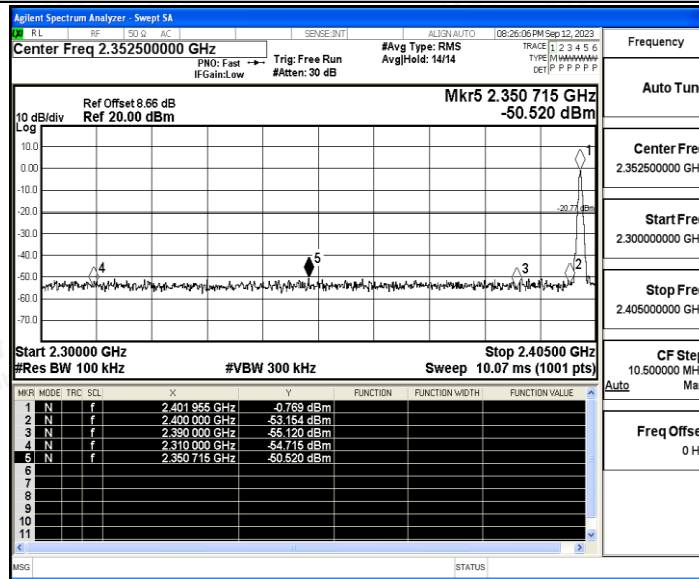
TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-0.77	-50.52	≤ -20.77	PASS
		High	2480	-0.79	-48.93	≤ -20.79	PASS
		Low	Hop_2402	-1.34	-49.7	≤ -21.34	PASS
		High	Hop_2480	-0.55	-47.65	≤ -20.55	PASS
2DH5	Ant1	Low	2402	-5.35	-50.11	≤ -25.35	PASS
		High	2480	-5.08	-49.34	≤ -25.08	PASS
		Low	Hop_2402	-6.66	-49.15	≤ -26.66	PASS
		High	Hop_2480	-1.45	-47.53	≤ -21.45	PASS
3DH5	Ant1	Low	2402	-5.45	-49.46	≤ -25.45	PASS
		High	2480	-4.08	-49.21	≤ -24.08	PASS
		Low	Hop_2402	-4.02	-48.83	≤ -24.02	PASS
		High	Hop_2480	-2.23	-47.3	≤ -22.23	PASS



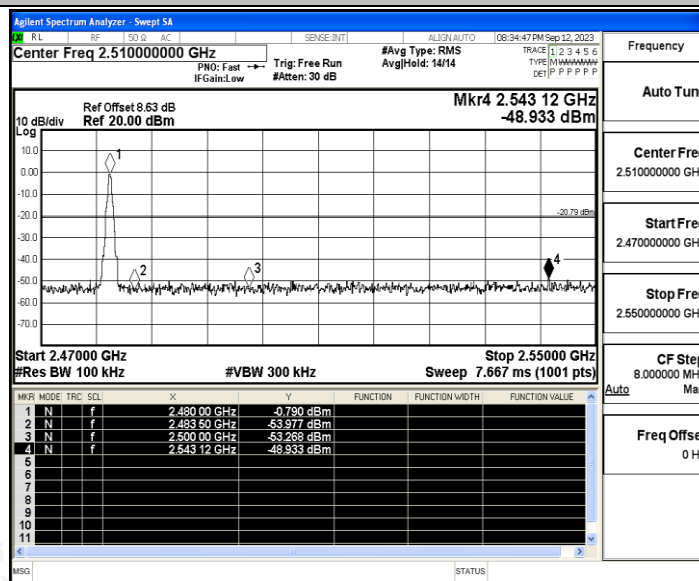


Test Graphs

DH5_Ant1_Low_2402

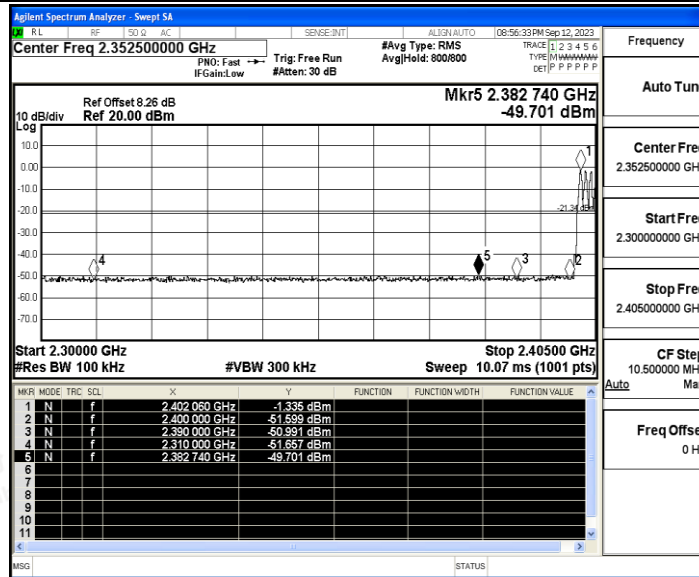


DH5_Ant1_High_2480

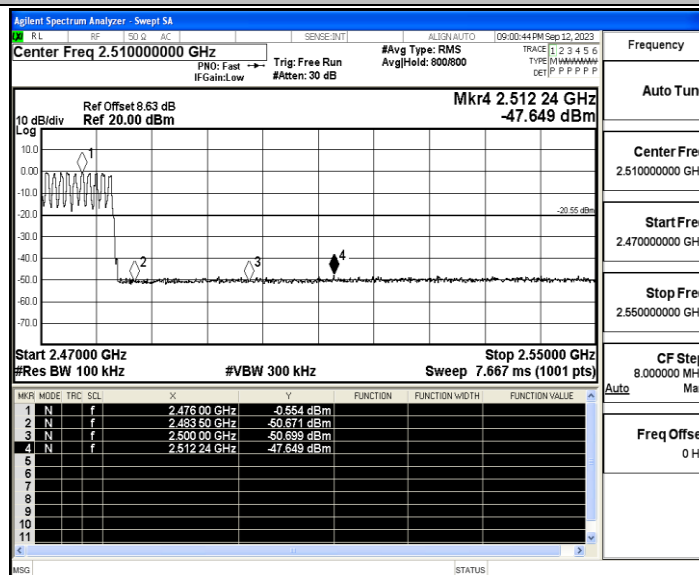


DH5_Ant1_Low_Hop_2402

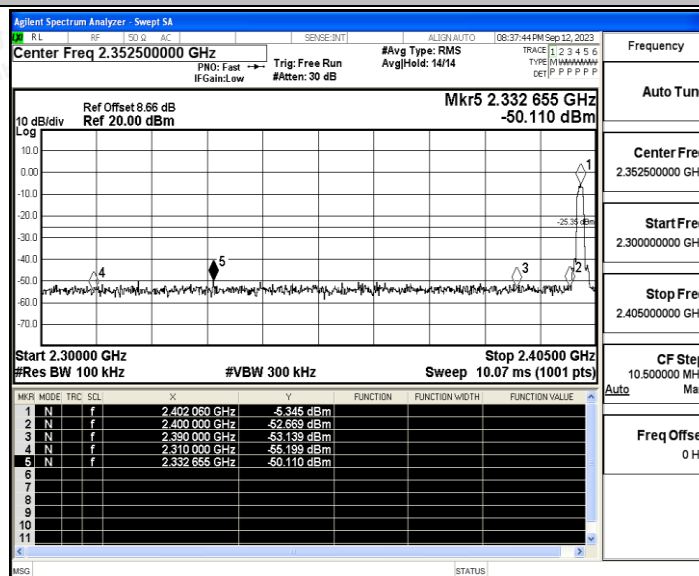




DH5_Ant1_High_Hop_2480

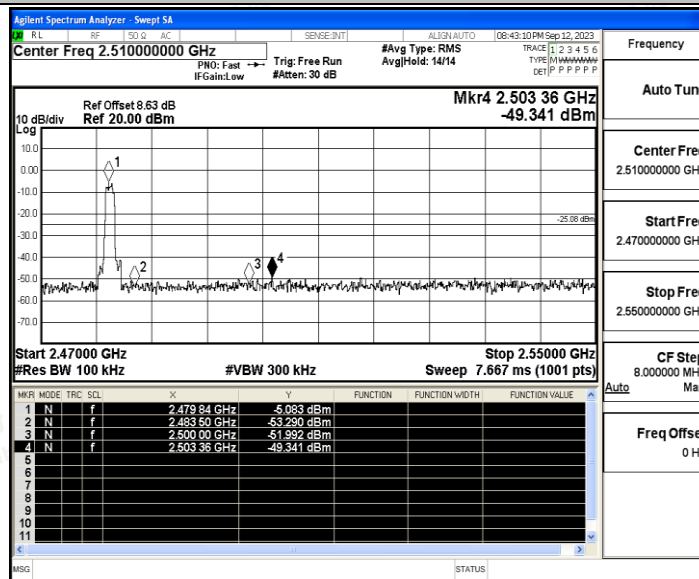


2DH5_Ant1_Low_2402

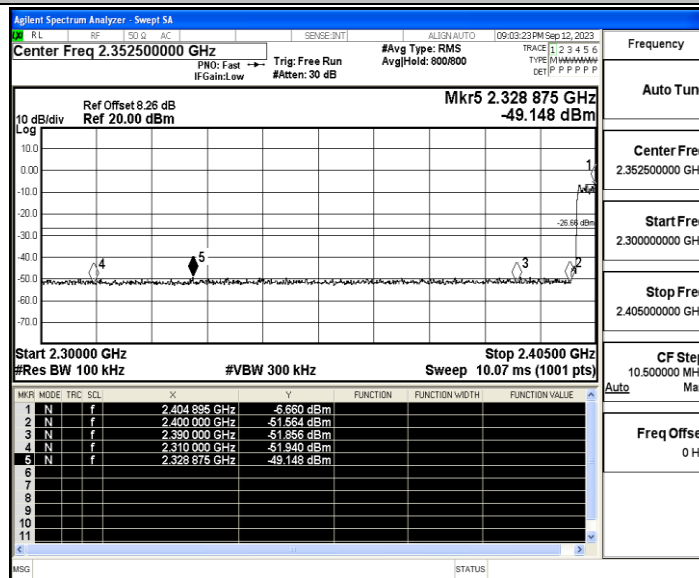




2DH5_Ant1_High_2480

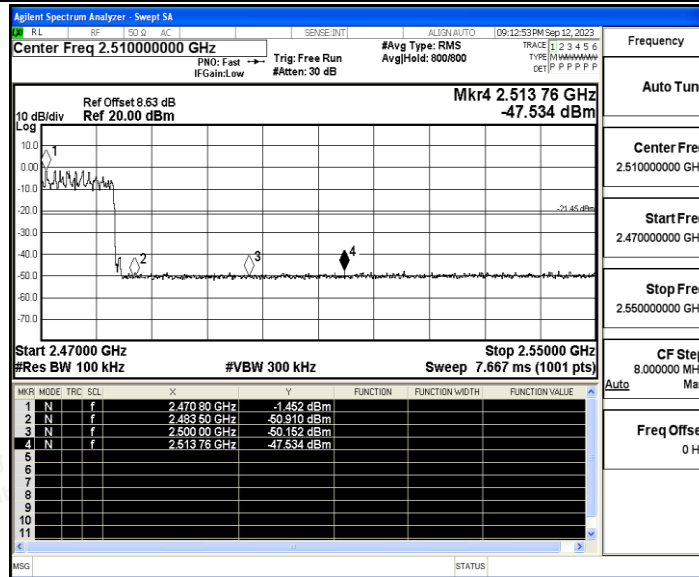


2DH5_Ant1_Low_Hop_2402

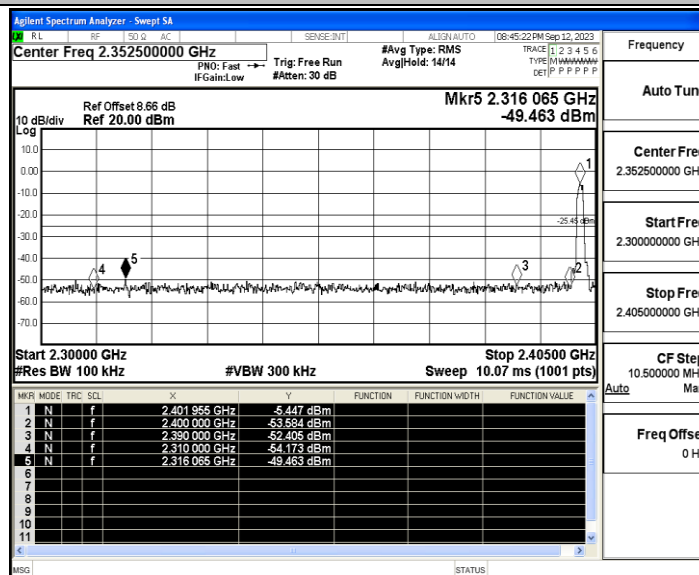


2DH5_Ant1_High_Hop_2480

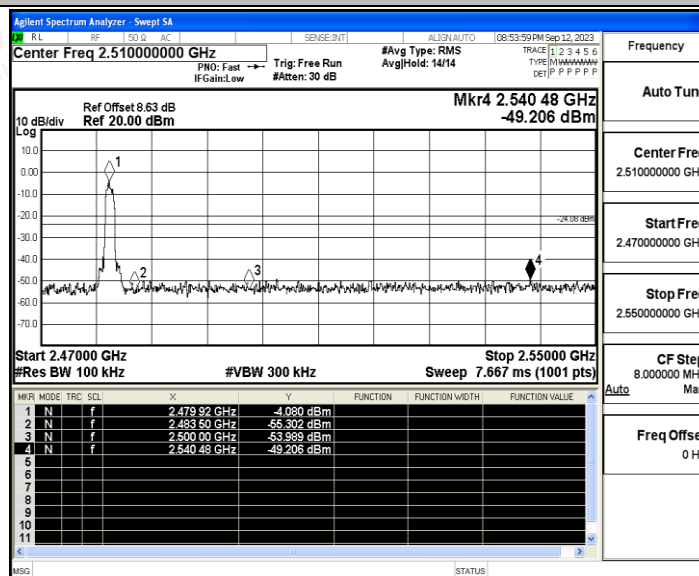




3DH5_Ant1_Low_2402

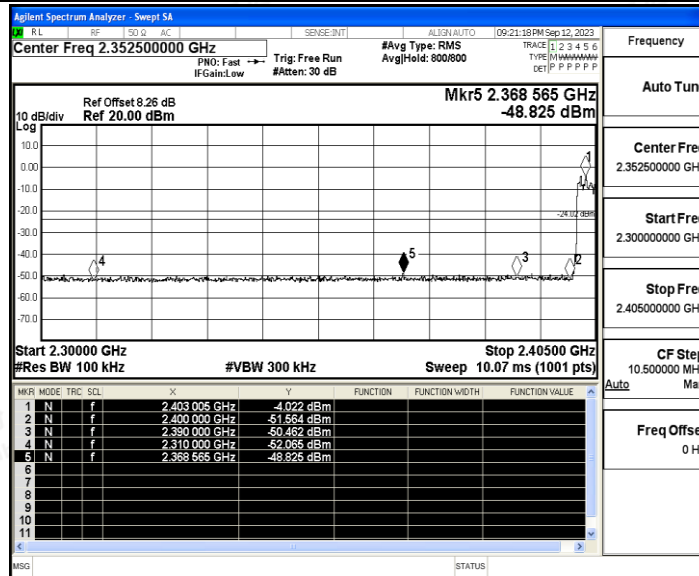


3DH5_Ant1_High_2480

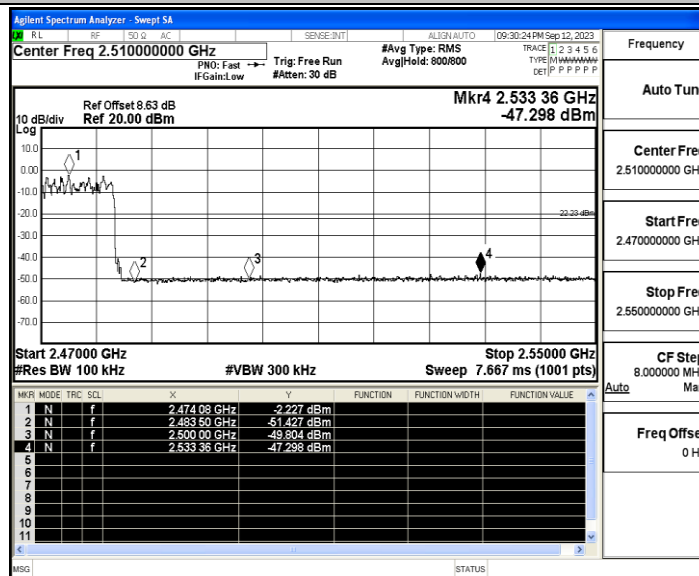




3DH5_Ant1_Low_Hop_2402



3DH5_Ant1_High_Hop_2480





A.7 Conducted Spurious Emission

Test Result

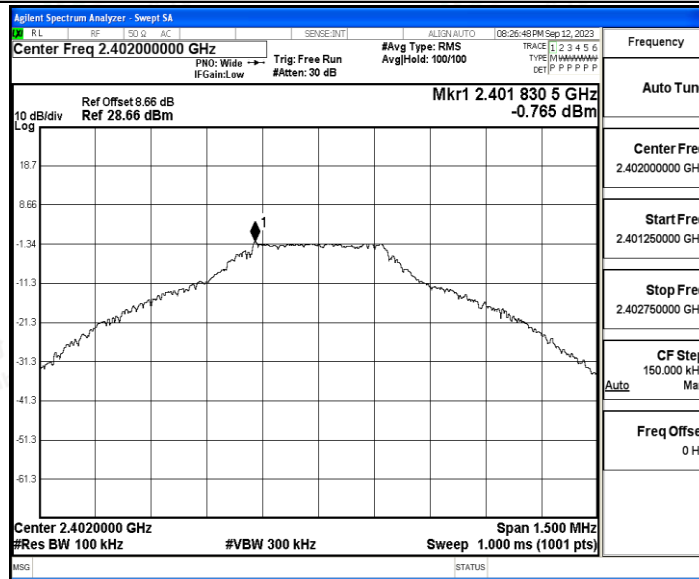
TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	-0.77	-0.77	---	PASS
			30~1000	-0.77	-60.96	≤ -20.77	PASS
			1000~26500	-0.77	-46.59	≤ -20.77	PASS
		2441	Reference	-0.49	-0.49	---	PASS
			30~1000	-0.49	-60.47	≤ -20.49	PASS
			1000~26500	-0.49	-46.73	≤ -20.49	PASS
		2480	Reference	-0.41	-0.41	---	PASS
			30~1000	-0.41	-60.18	≤ -20.41	PASS
			1000~26500	-0.41	-46.36	≤ -20.41	PASS
2DH5	Ant1	2402	Reference	-2.36	-2.36	---	PASS
			30~1000	-2.36	-61.45	≤ -22.36	PASS
			1000~26500	-2.36	-46.3	≤ -22.36	PASS
		2441	Reference	-1.54	-1.54	---	PASS
			30~1000	-1.54	-60.86	≤ -21.54	PASS
			1000~26500	-1.54	-45.56	≤ -21.54	PASS
		2480	Reference	-1.41	-1.41	---	PASS
			30~1000	-1.41	-61.14	≤ -21.41	PASS
			1000~26500	-1.41	-46.93	≤ -21.41	PASS
3DH5	Ant1	2402	Reference	-1.99	-1.99	---	PASS
			30~1000	-1.99	-61.02	≤ -21.99	PASS
			1000~26500	-1.99	-46.22	≤ -21.99	PASS
		2441	Reference	-2.04	-2.04	---	PASS
			30~1000	-2.04	-61.2	≤ -22.04	PASS
			1000~26500	-2.04	-46.87	≤ -22.04	PASS
		2480	Reference	-1.24	-1.24	---	PASS
			30~1000	-1.24	-61.11	≤ -21.24	PASS
			1000~26500	-1.24	-46.26	≤ -21.24	PASS



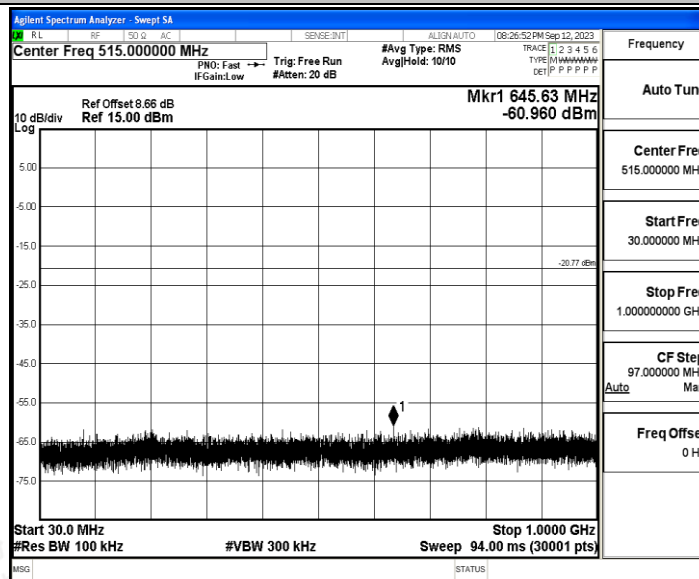


Test Graphs

DH5_Ant1_2402_0~Reference

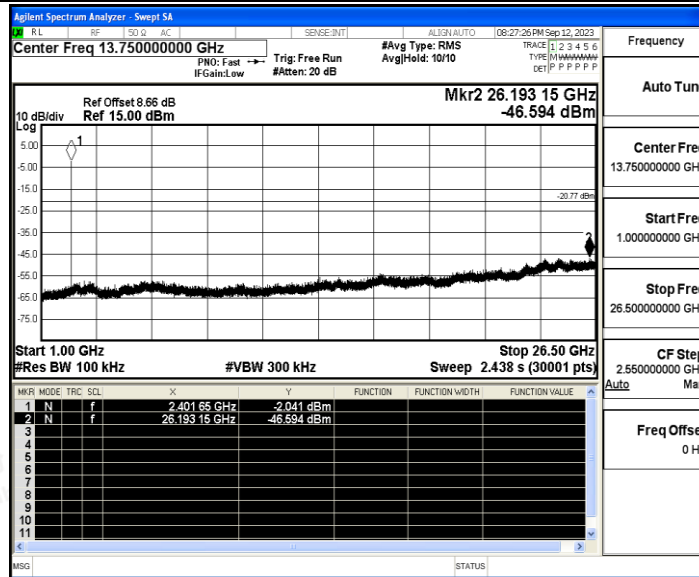


DH5_Ant1_2402_30~1000

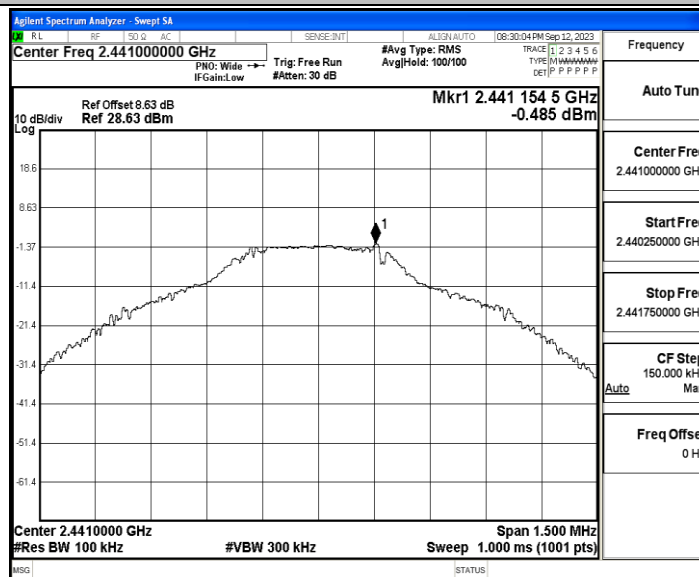


DH5_Ant1_2402_1000~26500

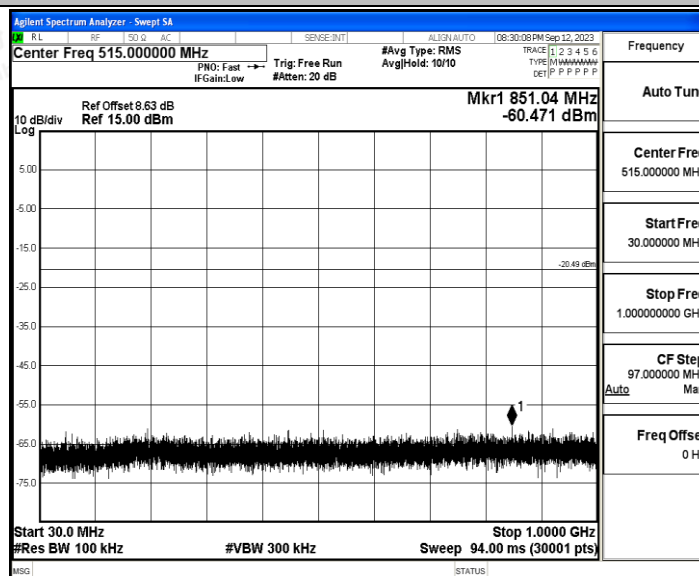




DH5_Ant1_2441_0~Reference

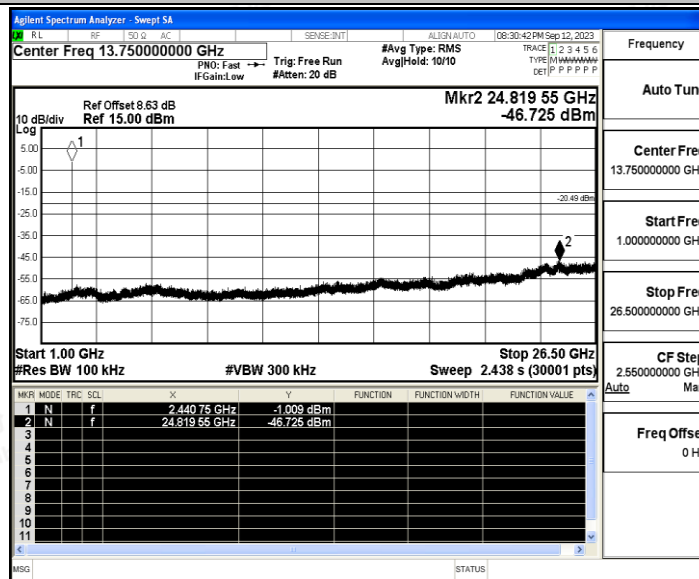


DH5_Ant1_2441_30~1000

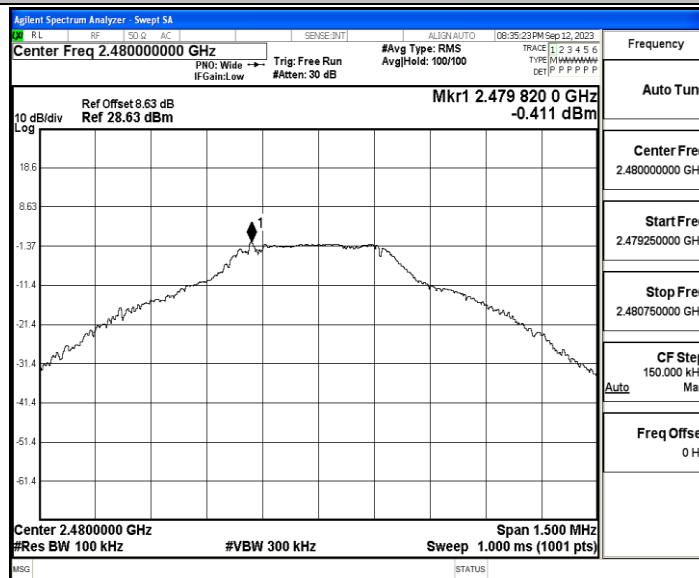




DH5_Ant1_2441_1000~26500

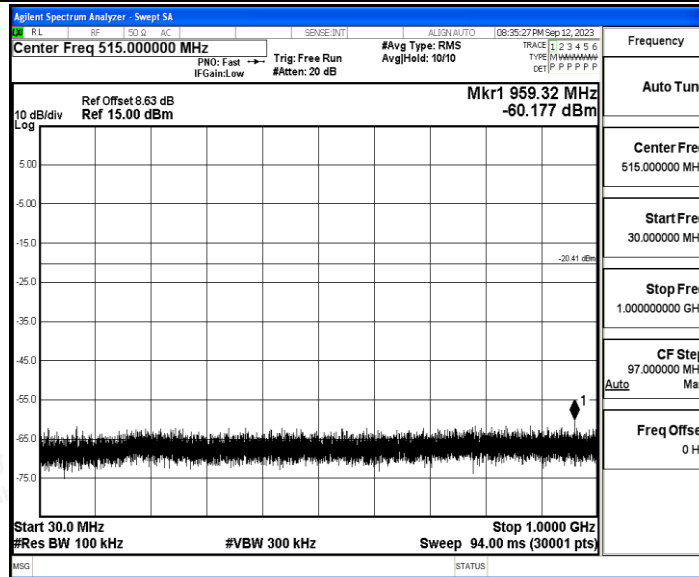


DH5_Ant1_2480_0~Reference

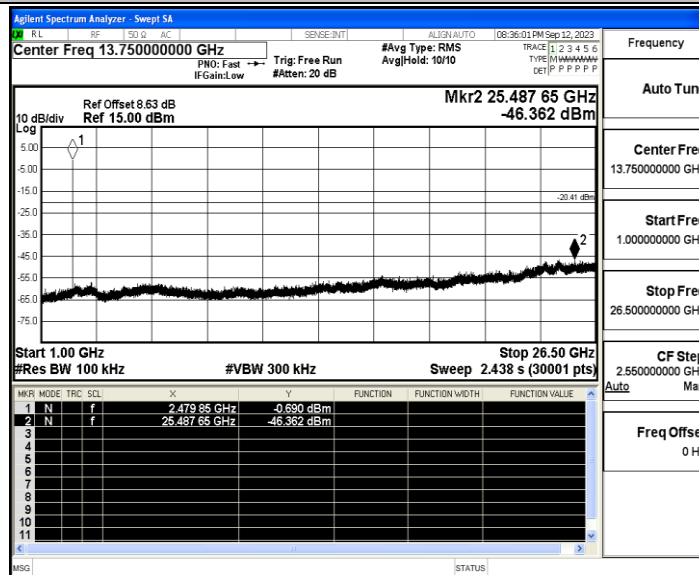


DH5_Ant1_2480_30~1000

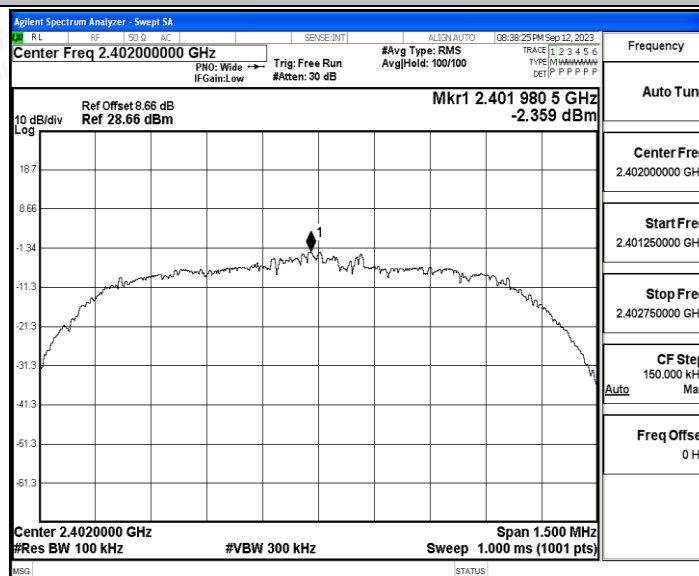




DH5_Ant1_2480_1000~26500

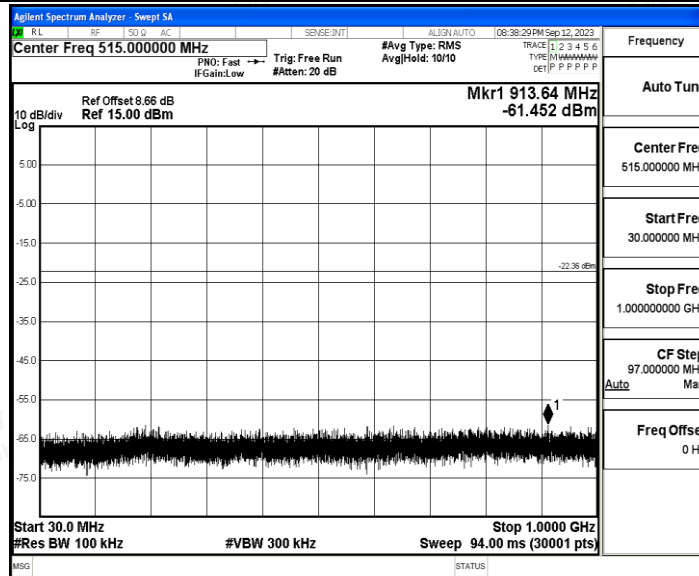


2DH5_Ant1_2402_0-Reference

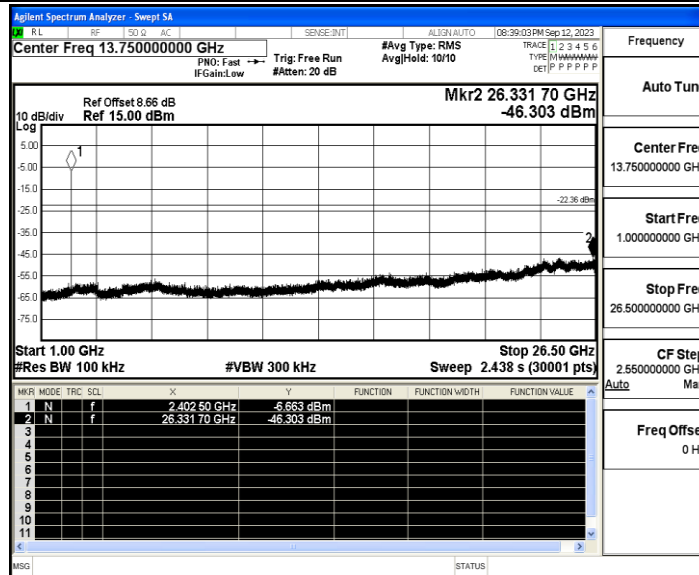




2DH5_Ant1_2402_30~1000



2DH5_Ant1_2402_1000~26500



2DH5_Ant1_2441_0~Reference

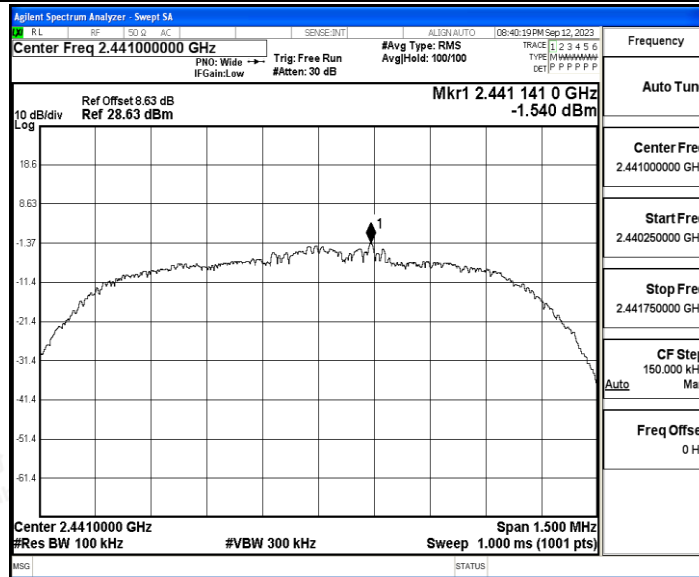


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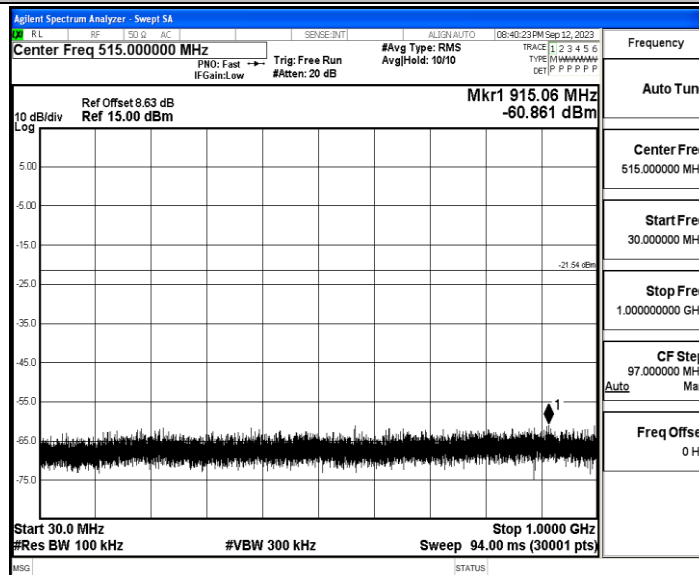
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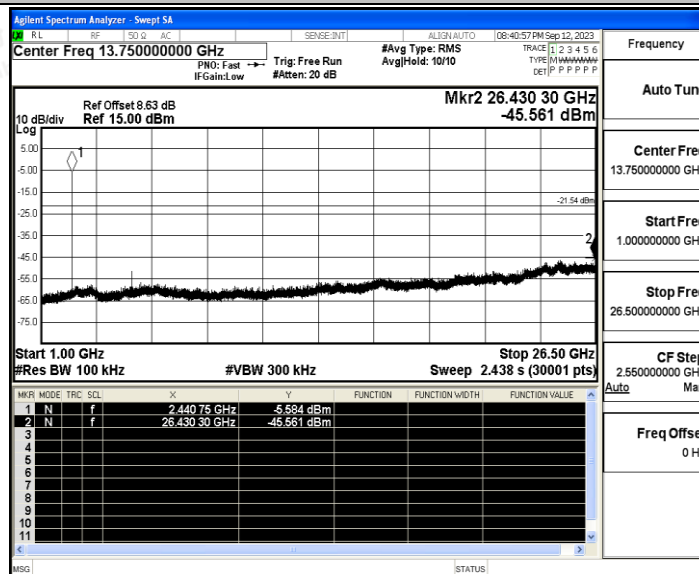
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2DH5_Ant1_2441_30~1000



2DH5_Ant1_2441_1000~26500



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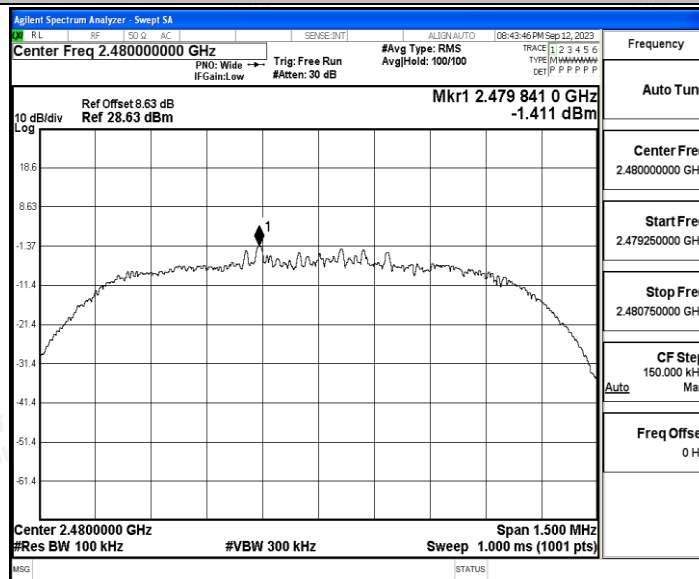
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Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

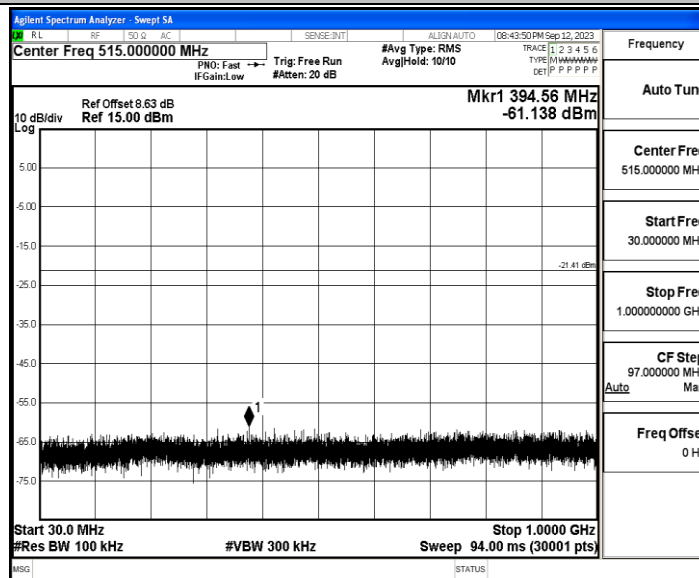
Scan code to check authenticity



2DH5_Ant1_2480_0~Reference

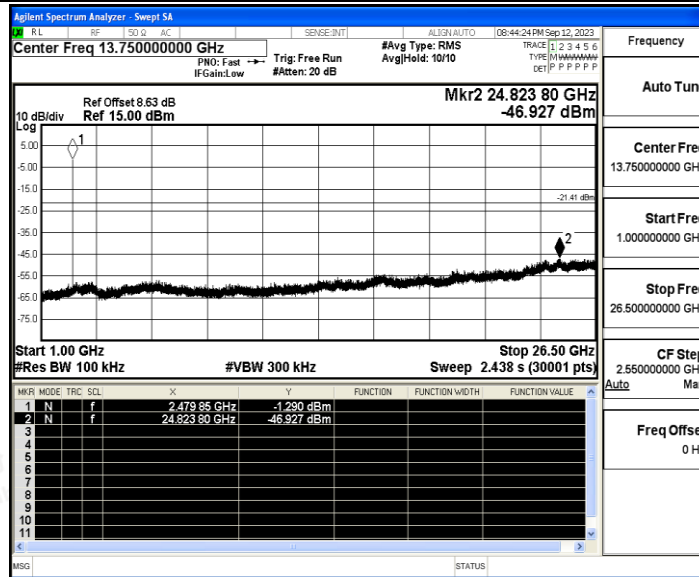


2DH5_Ant1_2480_30~1000

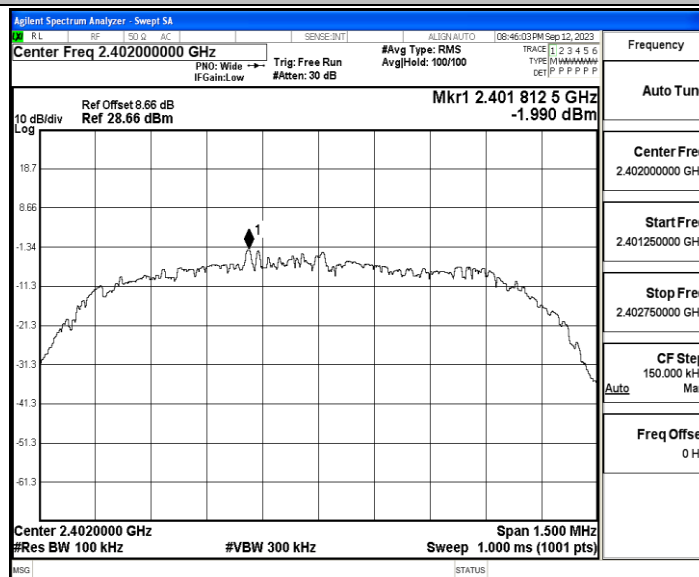


2DH5_Ant1_2480_1000~26500

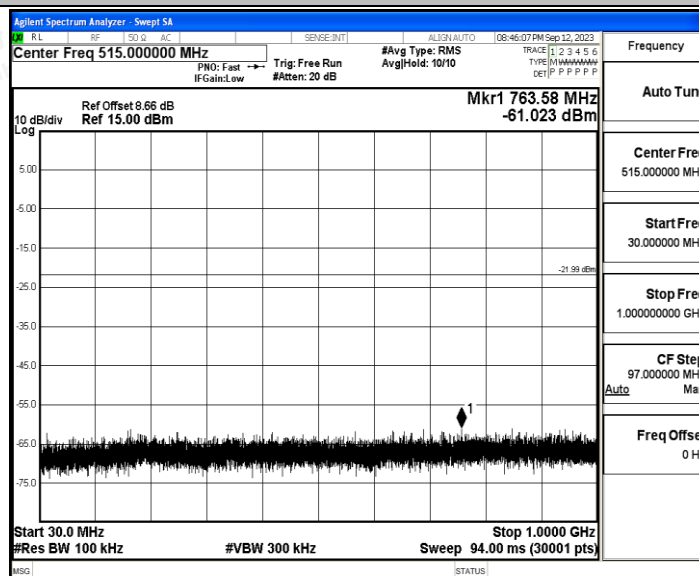




3DH5_Ant1_2402_0~Reference

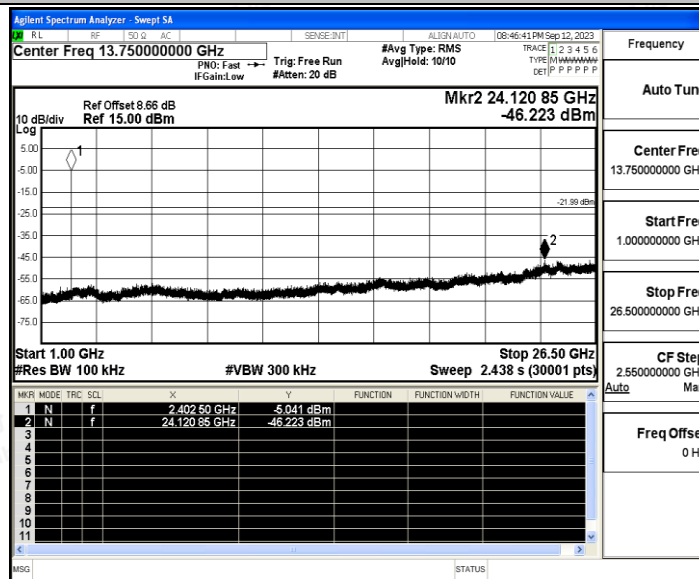


3DH5_Ant1_2402_30~1000

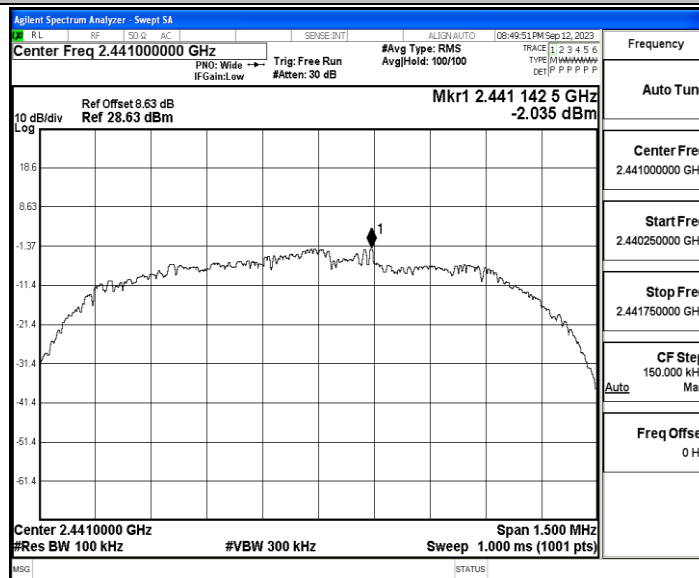




3DH5_Ant1_2402_1000~26500

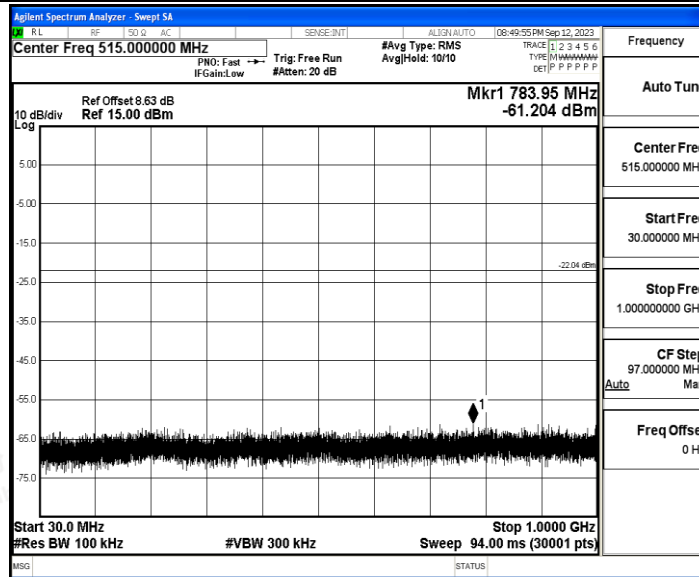


3DH5_Ant1_2441_0~Reference

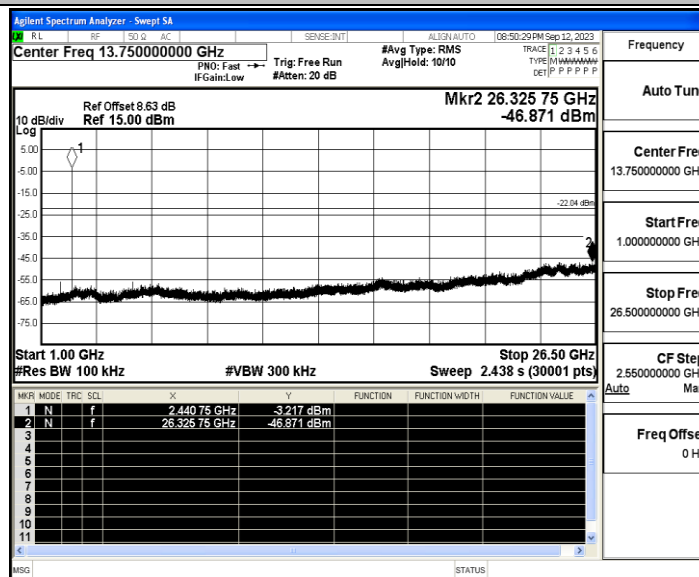


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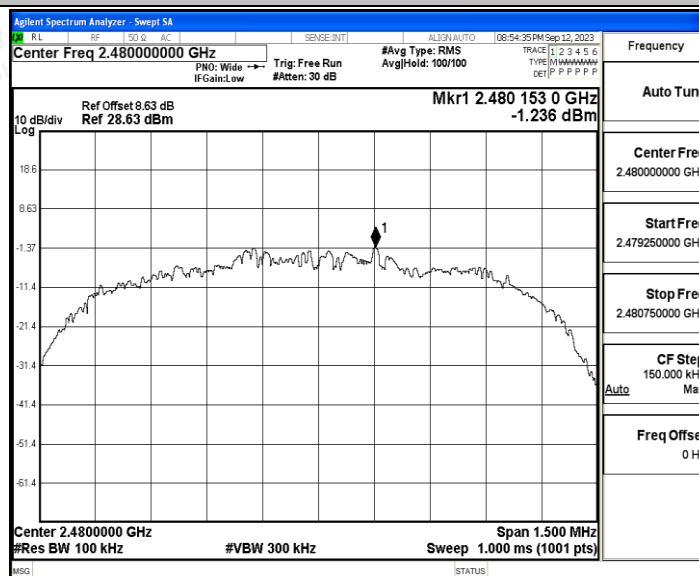




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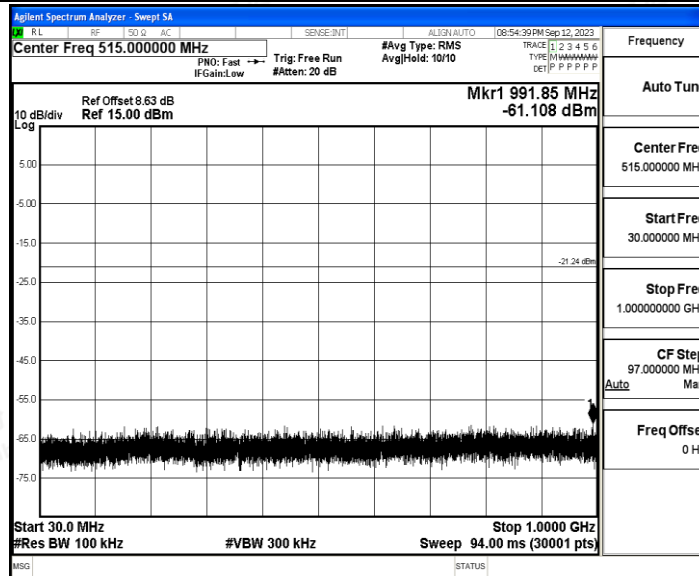


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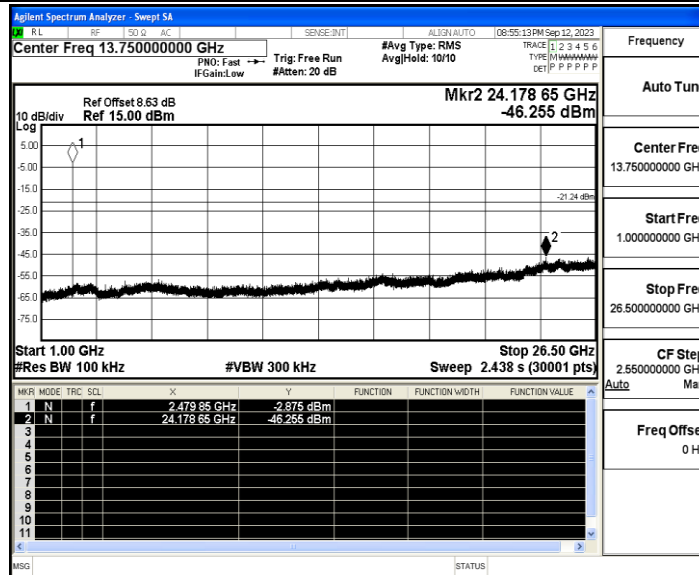




3DH5_Ant1_2480_30~1000



3DH5_Ant1_2480_1000~26500





A.8 Emissions in Restricted Bands

Test Result

TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
DH5	Ant1	Low	2402	AV	2310.000	-48.15	≤-41.20	47.05	≤54	PASS
				AV	2384.945	-47.58	≤-41.20	47.62	≤54	PASS
				AV	2390.000	-47.78	≤-41.20	47.42	≤54	PASS
				Peak	2310.000	-44	≤-21.20	51.20	≤74	PASS
				Peak	2352.185	-38.51	≤-21.20	56.69	≤74	PASS
				Peak	2390.000	-42.24	≤-21.20	52.96	≤74	PASS
		High	2480	AV	2483.500	-47.16	≤-41.20	48.04	≤54	PASS
				AV	2497.680	-47.07	≤-41.20	48.13	≤54	PASS
				AV	2500.000	-47.18	≤-41.20	48.02	≤54	PASS
				Peak	2483.500	-42.26	≤-21.20	52.94	≤74	PASS
				Peak	2490.800	-38.41	≤-21.20	56.79	≤74	PASS
				Peak	2500.000	-40.86	≤-21.20	54.34	≤74	PASS
		Low	Hop_24 02	Peak	2310.000	-39.91	≤-21.20	55.29	≤74	PASS
				Peak	2360.480	-37.52	≤-21.20	57.68	≤74	PASS
				Peak	2390.000	-40.55	≤-21.20	54.65	≤74	PASS
		High	Hop_24 80	Peak	2483.500	-39.56	≤-21.20	55.64	≤74	PASS
				Peak	2496.080	-36.85	≤-21.20	58.35	≤74	PASS
				Peak	2500.000	-38.85	≤-21.20	56.35	≤74	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-48.15	≤-41.20	47.05	≤54	PASS
				AV	2385.890	-47.52	≤-41.20	47.68	≤54	PASS
				AV	2390.000	-47.81	≤-41.20	47.39	≤54	PASS
				Peak	2310.000	-41	≤-21.20	54.20	≤74	PASS
				Peak	2334.440	-38.16	≤-21.20	57.04	≤74	PASS
				Peak	2390.000	-39.3	≤-21.20	55.90	≤74	PASS
		High	2480	AV	2483.500	-47.14	≤-41.20	48.06	≤54	PASS
				AV	2494.720	-47.06	≤-41.20	48.14	≤54	PASS
				AV	2500.000	-47.11	≤-41.20	48.09	≤54	PASS
				Peak	2483.500	-41.25	≤-21.20	53.95	≤74	PASS
				Peak	2496.080	-38.39	≤-21.20	56.81	≤74	PASS
				Peak	2500.000	-43.53	≤-21.20	51.67	≤74	PASS
		Low	Hop_24 02	Peak	2310.000	-40.09	≤-21.20	55.11	≤74	PASS
				Peak	2310.500	-37.91	≤-21.20	57.29	≤74	PASS
				Peak	2390.000	-40.06	≤-21.20	55.14	≤74	PASS
		High	Hop_24 80	Peak	2483.500	-38.17	≤-21.20	57.03	≤74	PASS
				Peak	2496.080	-36.61	≤-21.20	58.59	≤74	PASS
				Peak	2500.000	-38.7	≤-21.20	56.50	≤74	PASS



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3DH5	Ant1	Low	2402	AV	2310.000	-48.04	≤ -41.20	47.16	≤ 54	PASS
				AV	2376.965	-47.61	≤ -41.20	47.59	≤ 54	PASS
				AV	2390.000	-47.73	≤ -41.20	47.47	≤ 54	PASS
				Peak	2310.000	-40.76	≤ -21.20	54.44	≤ 74	PASS
				Peak	2348.720	-37.19	≤ -21.20	58.01	≤ 74	PASS
				Peak	2390.000	-42.37	≤ -21.20	52.83	≤ 74	PASS
		High	2480	AV	2483.500	-47.14	≤ -41.20	48.06	≤ 54	PASS
				AV	2498.800	-47.1	≤ -41.20	48.10	≤ 54	PASS
				AV	2500.000	-47.21	≤ -41.20	47.99	≤ 54	PASS
				Peak	2483.500	-41.3	≤ -21.20	53.90	≤ 74	PASS
				Peak	2490.800	-39.21	≤ -21.20	55.99	≤ 74	PASS
				Peak	2500.000	-41.53	≤ -21.20	53.67	≤ 74	PASS
		Low	Hop_24 02	Peak	2310.000	-40.31	≤ -21.20	54.89	≤ 74	PASS
				Peak	2382.530	-37.18	≤ -21.20	58.02	≤ 74	PASS
				Peak	2390.000	-39.42	≤ -21.20	55.78	≤ 74	PASS
		High	Hop_24 80	Peak	2483.500	-39.51	≤ -21.20	55.69	≤ 74	PASS
				Peak	2499.600	-36.43	≤ -21.20	58.77	≤ 74	PASS
				Peak	2500.000	-38.72	≤ -21.20	56.48	≤ 74	PASS

Note:

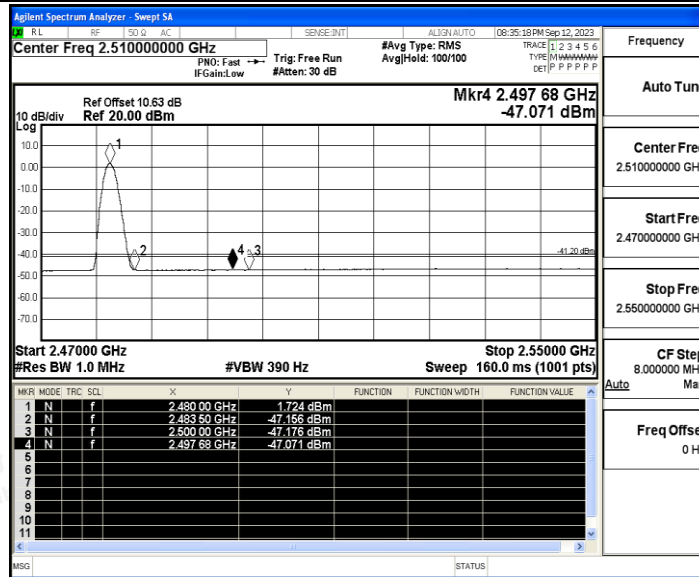
1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.



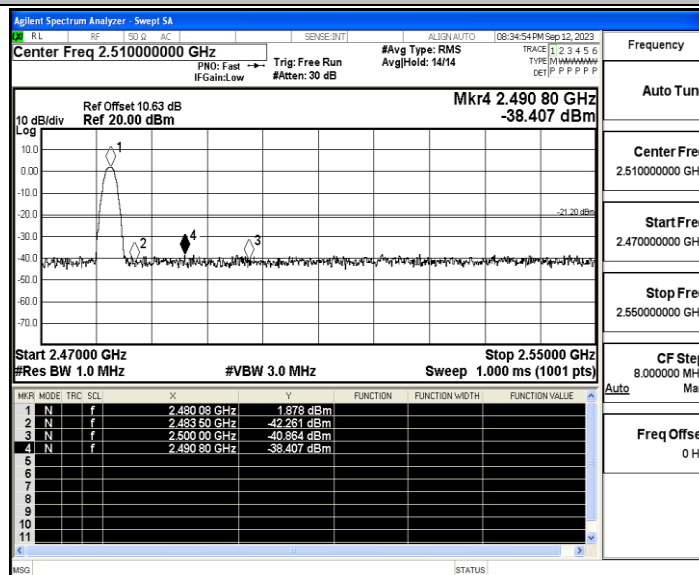


Test Graphs

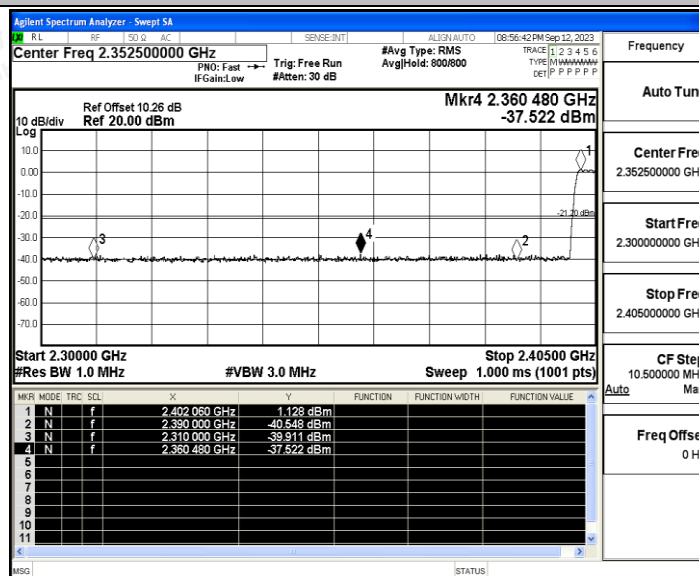




DH5_Ant1_High_2480_Peak

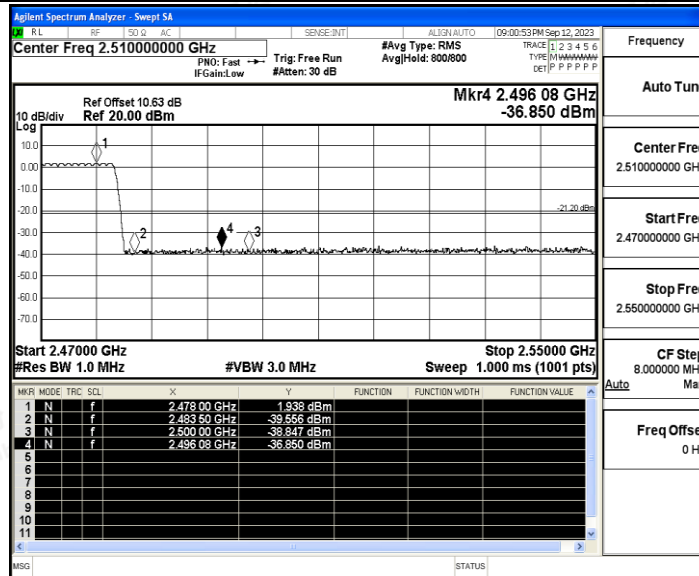


DH5_Ant1_Low_Hop_2402_Peak

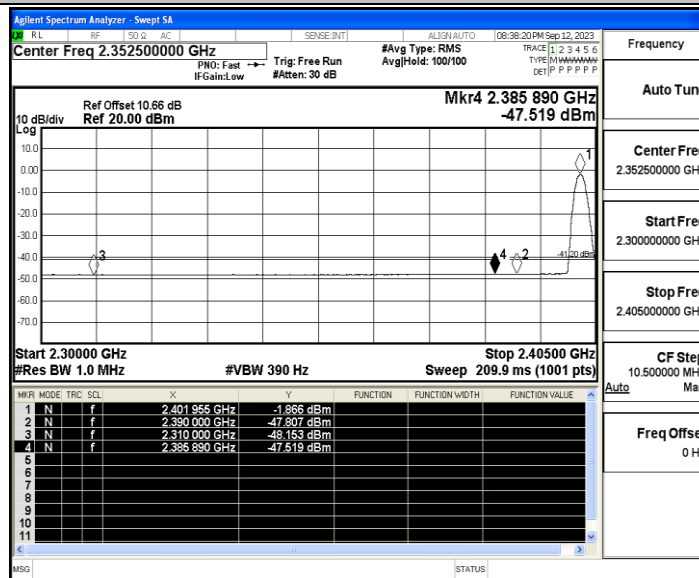




DH5_Ant1_High_Hop_2480_Peak



2DH5_Ant1_Low_2402_AV



2DH5_Ant1_Low_2402_Peak

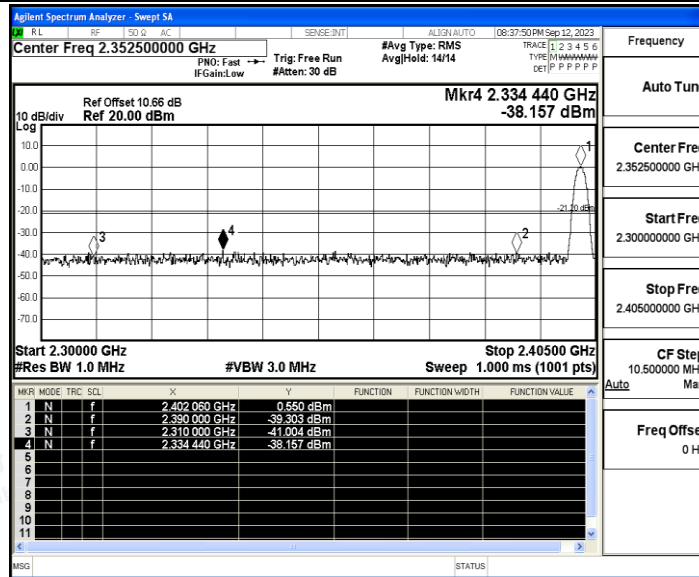


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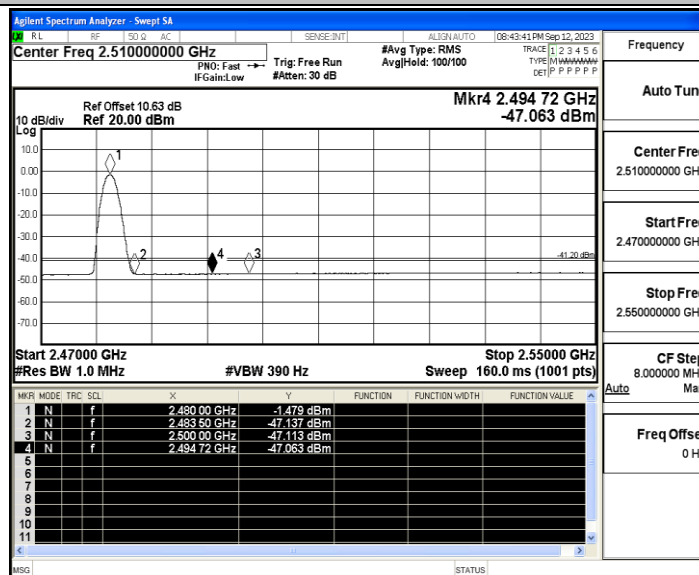
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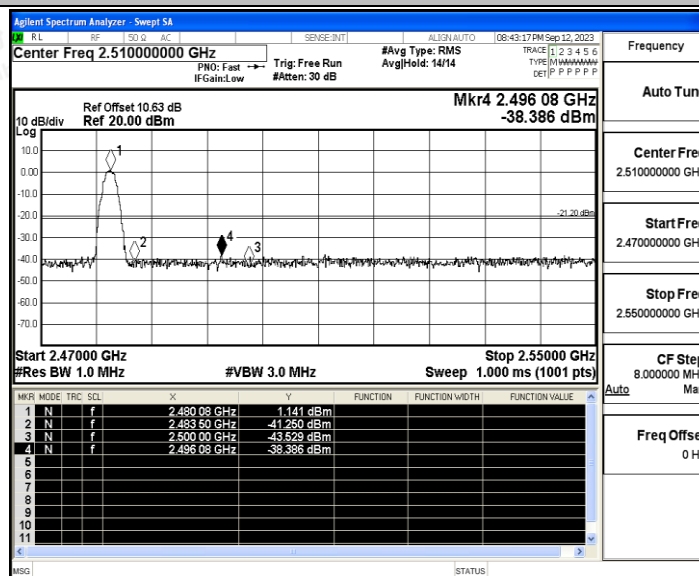
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2DH5_Ant1_High_2480_AV

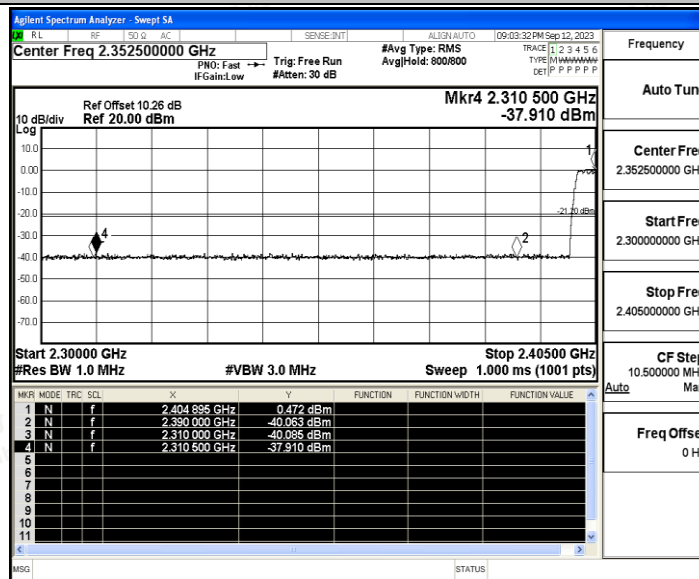


2DH5_Ant1_High_2480_Peak

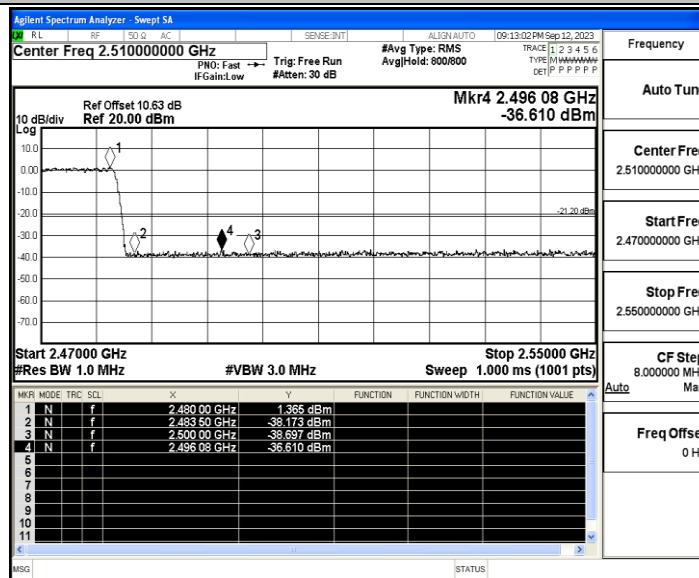




2DH5_Ant1_Low_Hop_2402_Peak



2DH5_Ant1_High_Hop_2480_Peak



3DH5_Ant1_Low_2402_AV

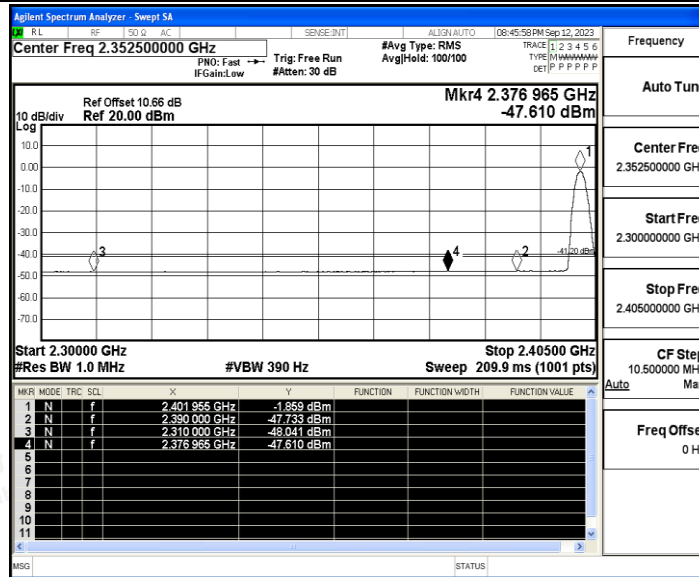


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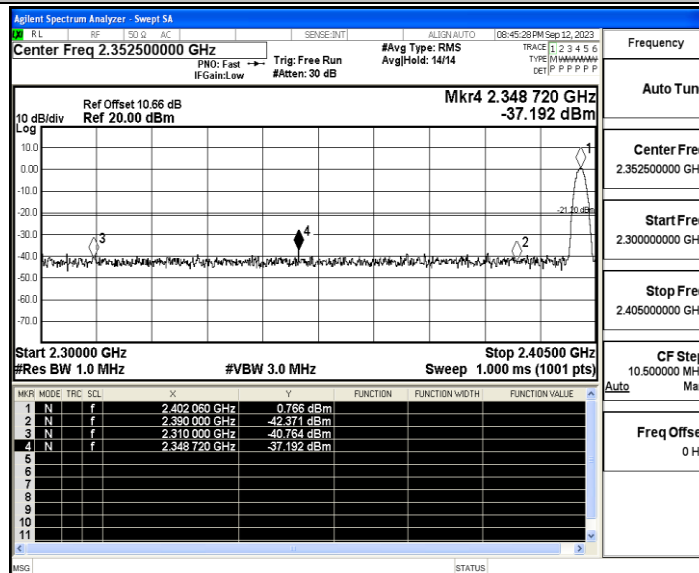
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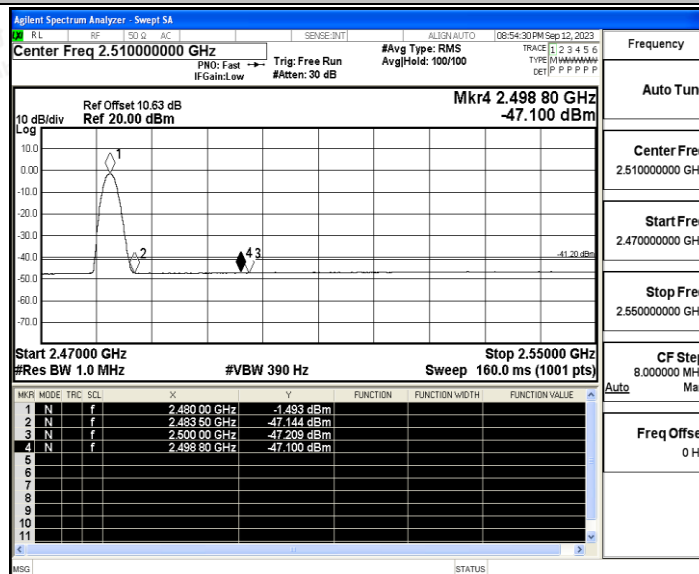
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3DH5_Ant1_Low_2402_Peak



3DH5_Ant1_High_2480_AV



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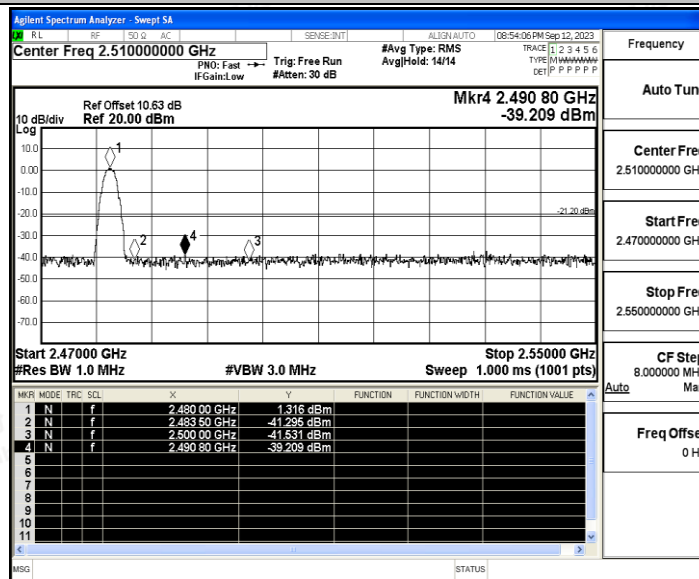
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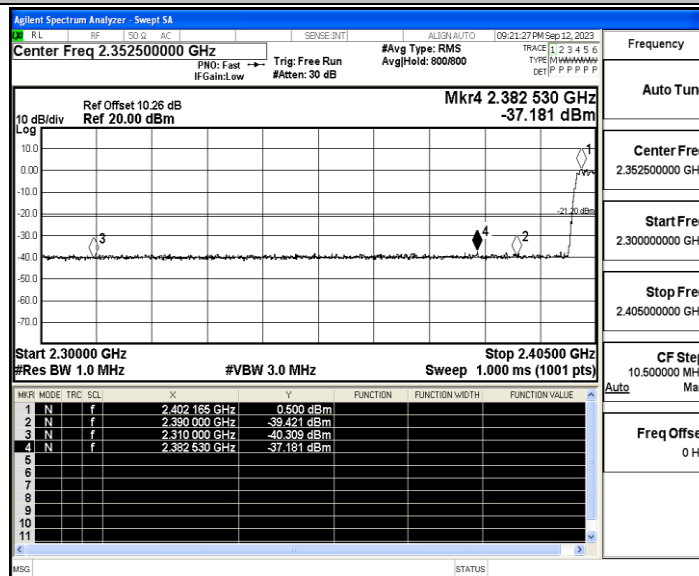
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3DH5_Ant1_High_2480_Peak



3DH5_Ant1_Low_Hop_2402_Peak



3DH5_Ant1_High_Hop_2480_Peak



