



Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: FM Transmitter

Test Model: T77

Environmental Conditions

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





A.1 20dB Emission Bandwidth

Test Result

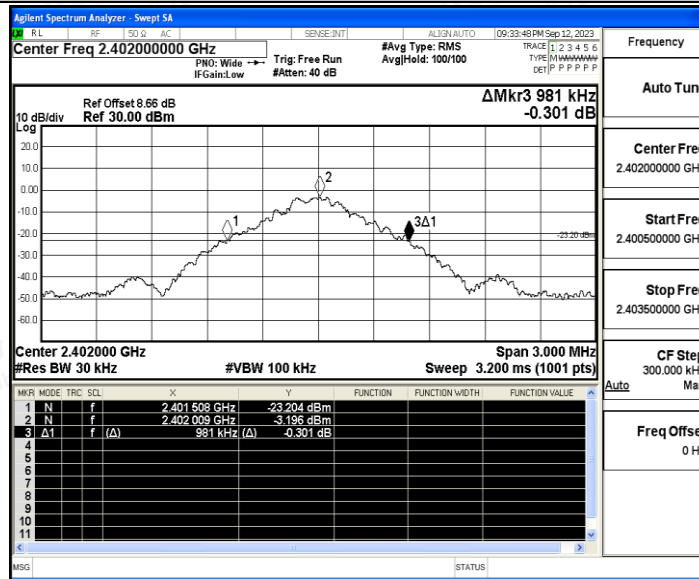
TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Verdict
DH5	Ant1	2402	0.981	2401.508	2402.489	---
		2441	1.014	2440.460	2441.474	---
		2480	1.002	2479.478	2480.480	---
2DH5	Ant1	2402	1.362	2401.307	2402.669	---
		2441	1.320	2440.328	2441.648	---
		2480	1.329	2479.319	2480.648	---
3DH5	Ant1	2402	1.314	2401.334	2402.648	---
		2441	1.278	2440.352	2441.630	---
		2480	1.308	2479.334	2480.642	---



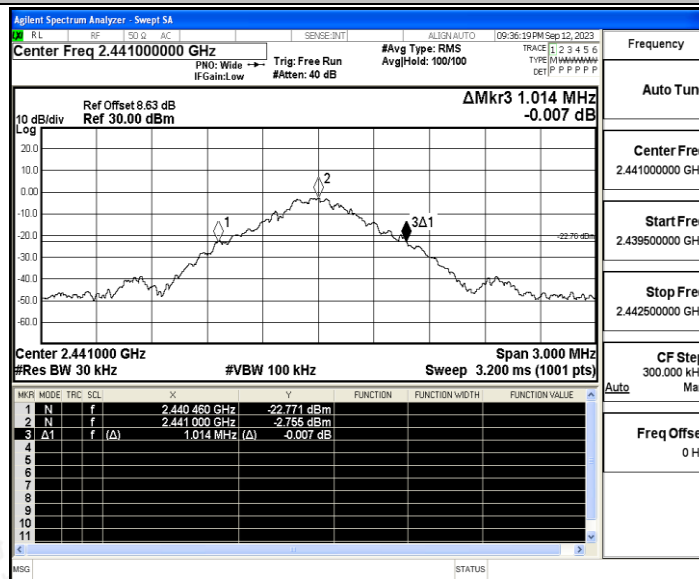


Test Graphs

DH5_Ant1_2402

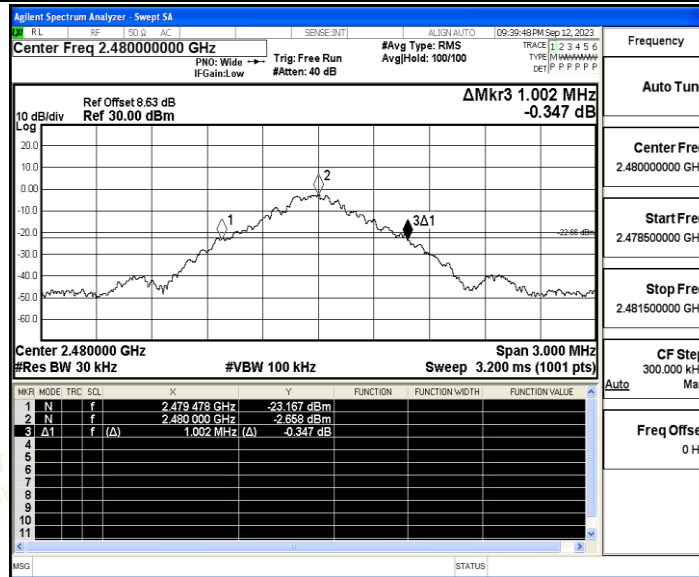


DH5_Ant1_2441

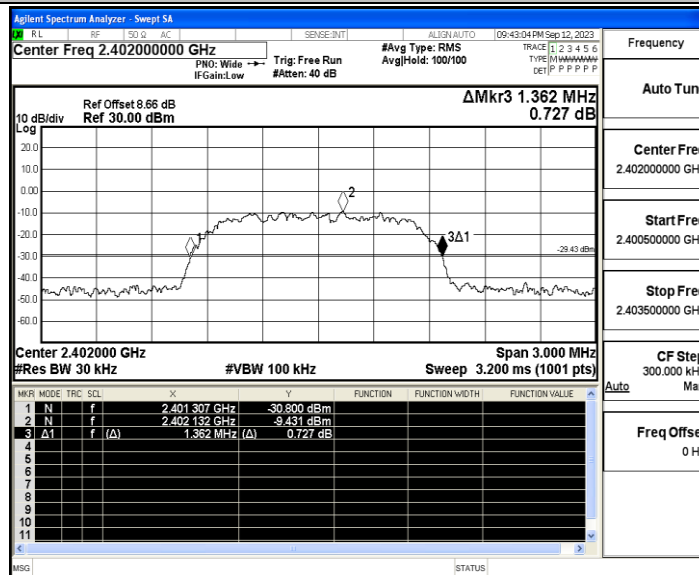


DH5_Ant1_2480

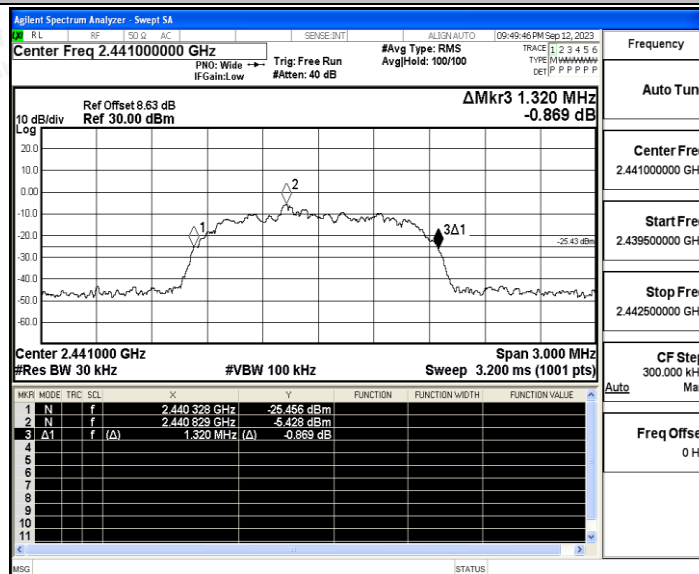




2DH5_Ant1_2402

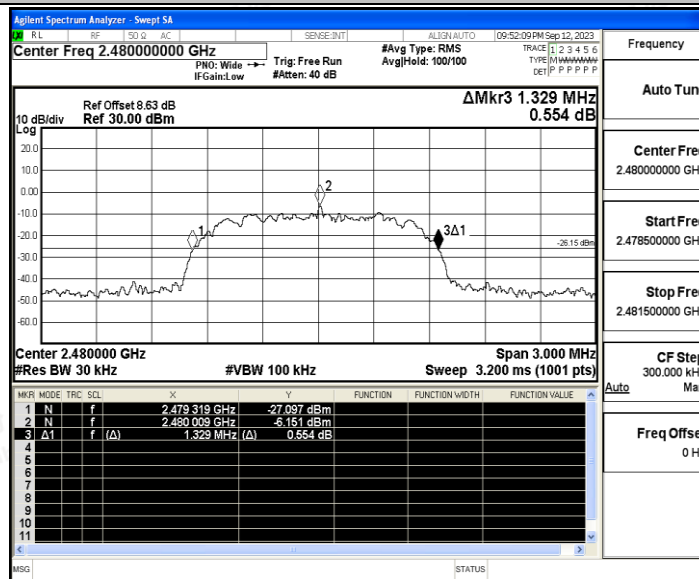


2DH5_Ant1_2441

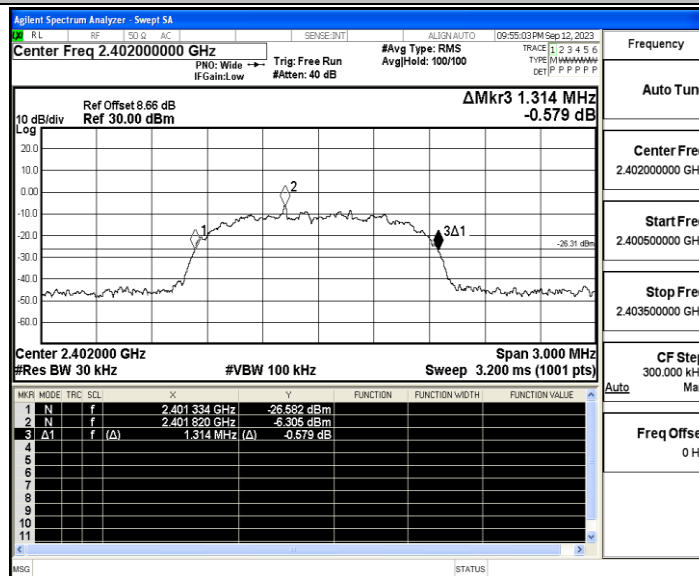




2DH5_Ant1_2480



3DH5_Ant1_2402



3DH5_Ant1_2441

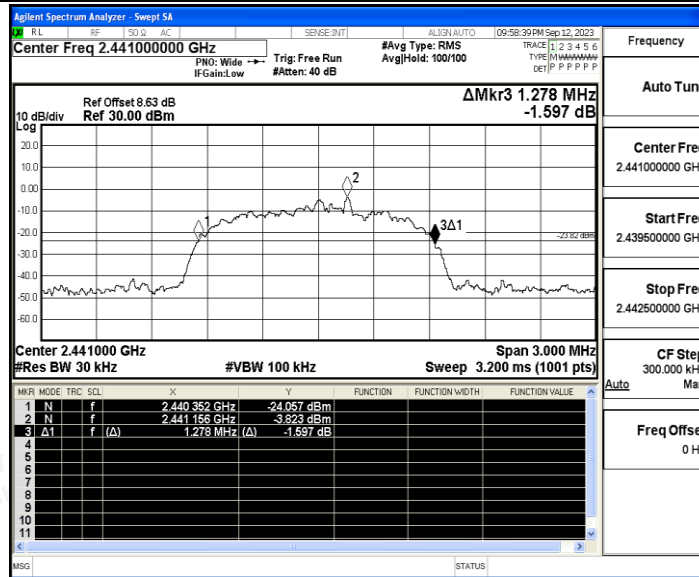


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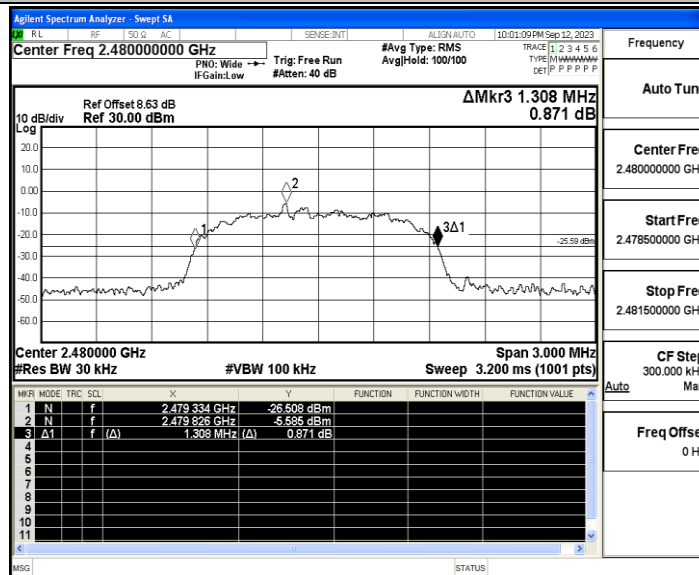
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3DH5_Ant1_2480





A.2 Maximum conducted output power

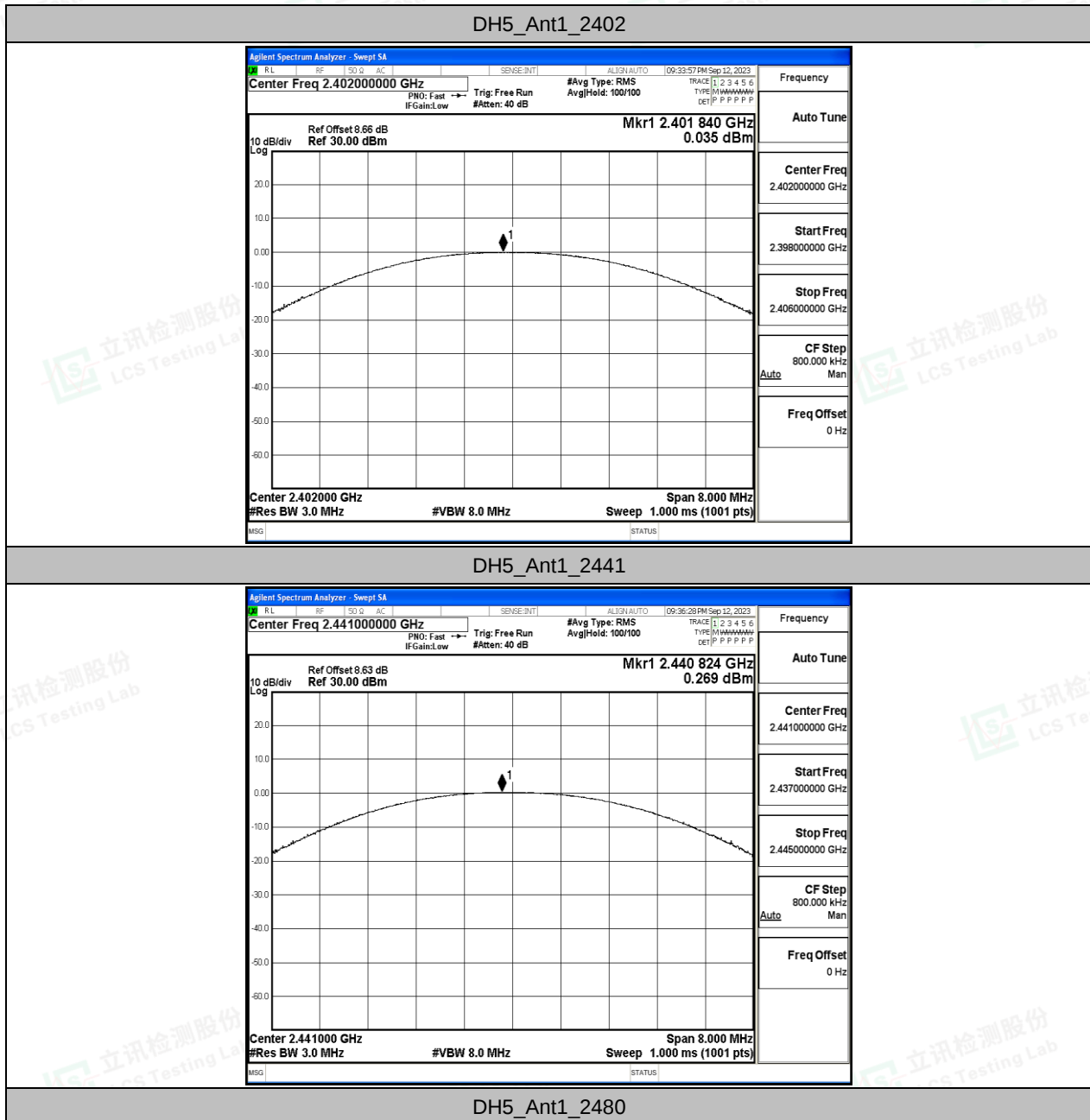
Test Result

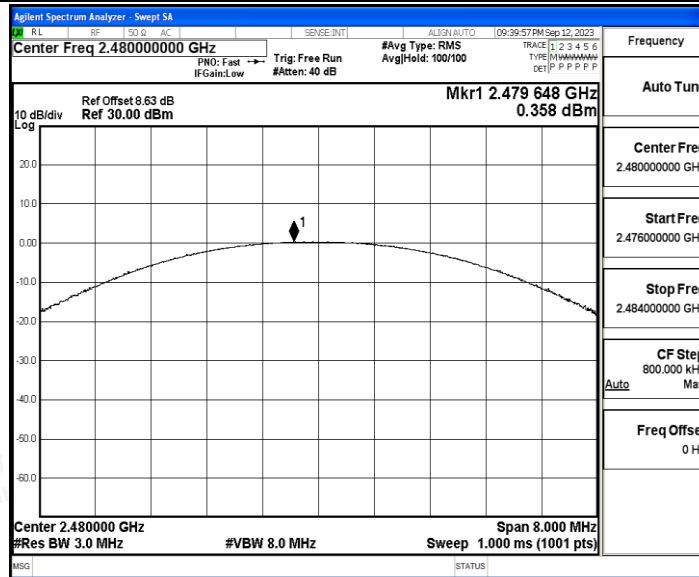
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	0.04	≤ 20.97	PASS
		2441	0.27	≤ 20.97	PASS
		2480	0.36	≤ 20.97	PASS
2DH5	Ant1	2402	-0.31	≤ 20.97	PASS
		2441	-0.02	≤ 20.97	PASS
		2480	0	≤ 20.97	PASS
3DH5	Ant1	2402	-0.13	≤ 20.97	PASS
		2441	0.09	≤ 20.97	PASS
		2480	0.14	≤ 20.97	PASS



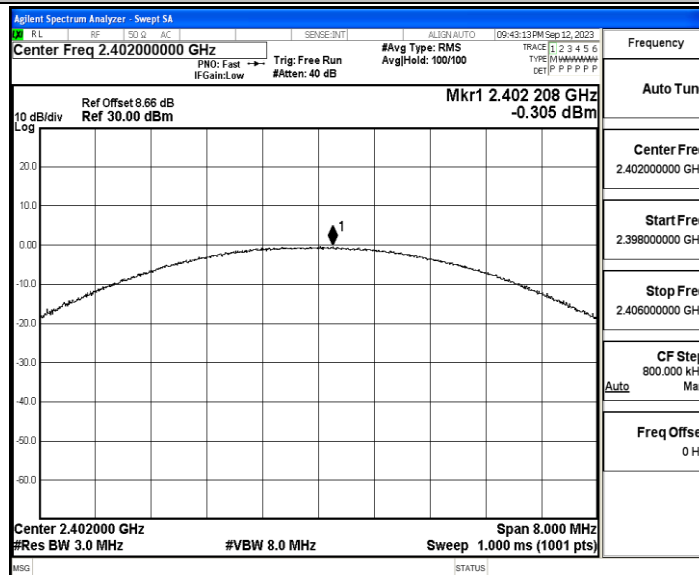


Test Graphs

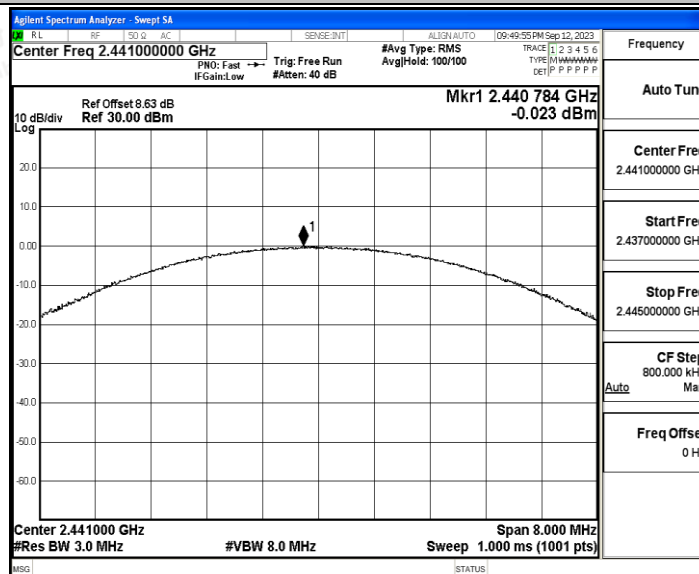




2DH5_Ant1_2402

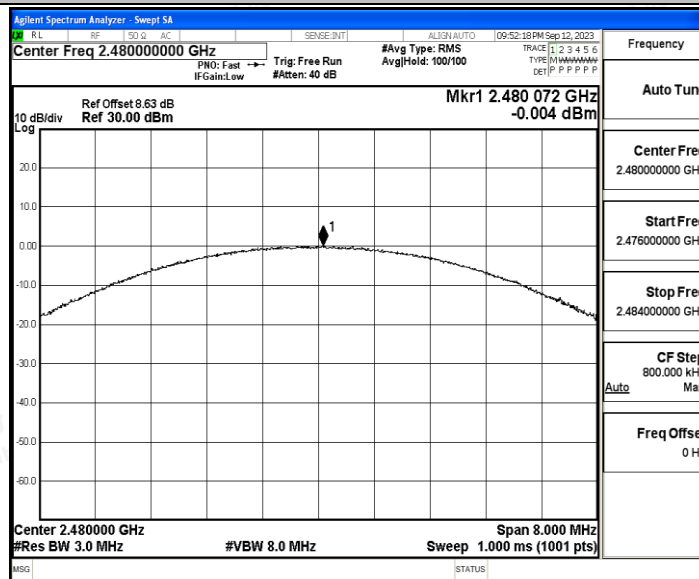


2DH5_Ant1_2441

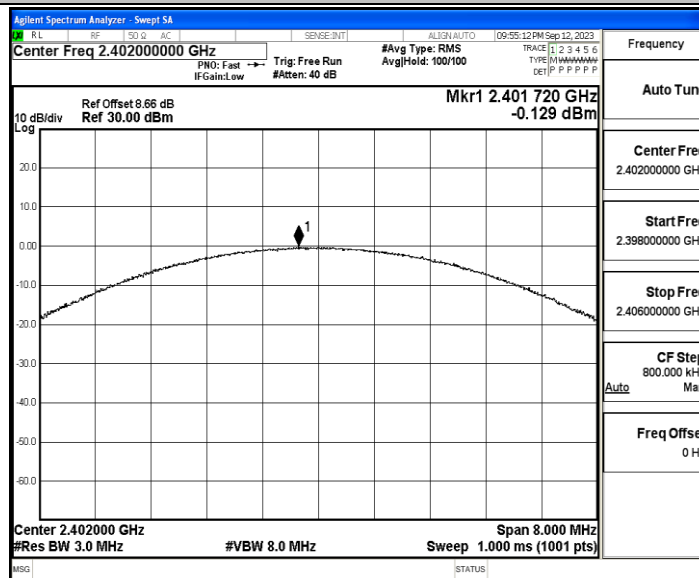




2DH5_Ant1_2480

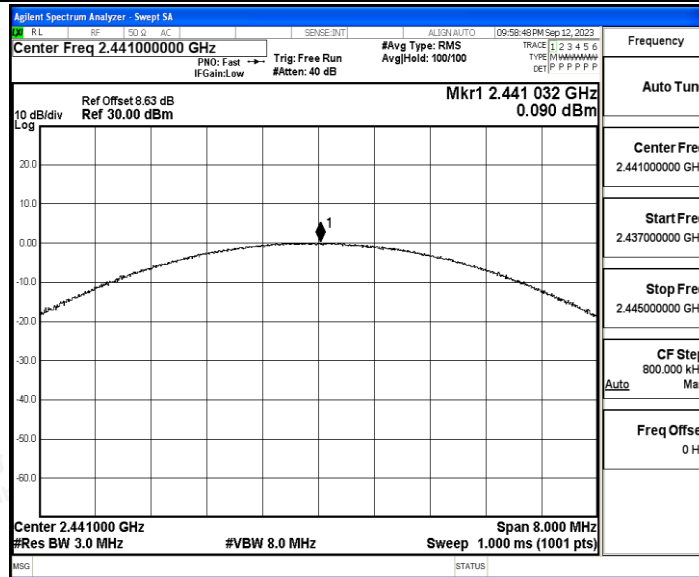


3DH5_Ant1_2402

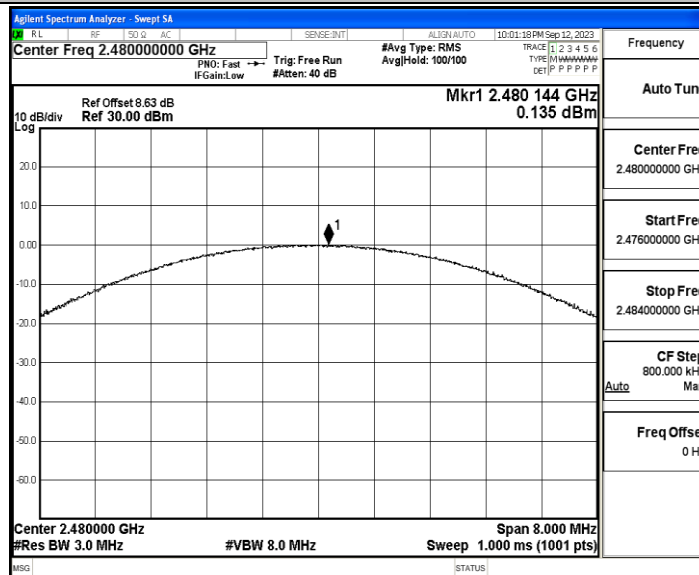


3DH5_Ant1_2441





3DH5_Ant1_2480





A.3 Carrier frequency separation

Test Result

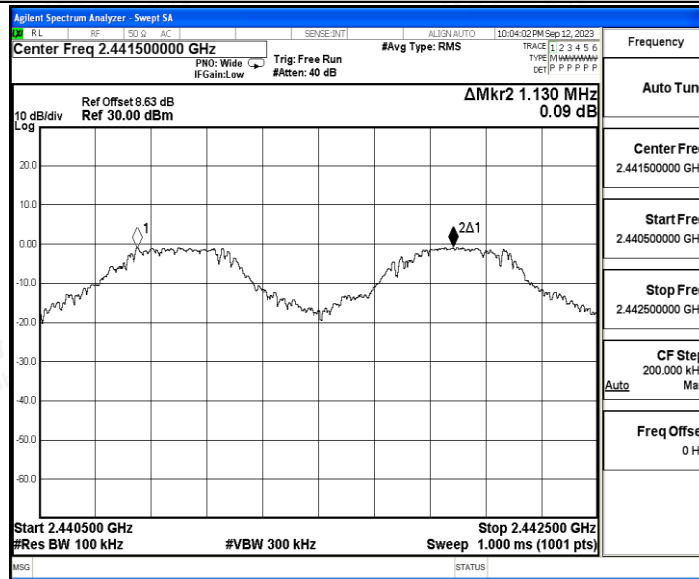
TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	1.13	≥ 0.676	PASS
2DH5	Ant1	Hop	1.342	≥ 0.908	PASS
3DH5	Ant1	Hop	1.242	≥ 0.876	PASS



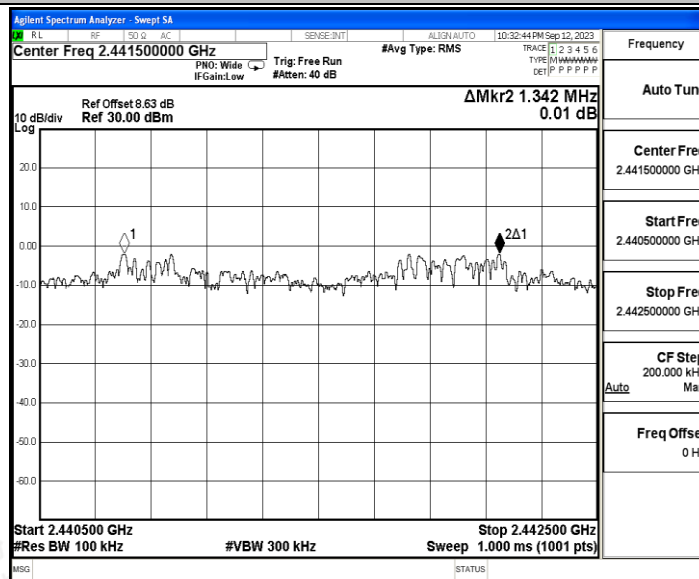


Test Graphs

DH5_Ant1_Hop

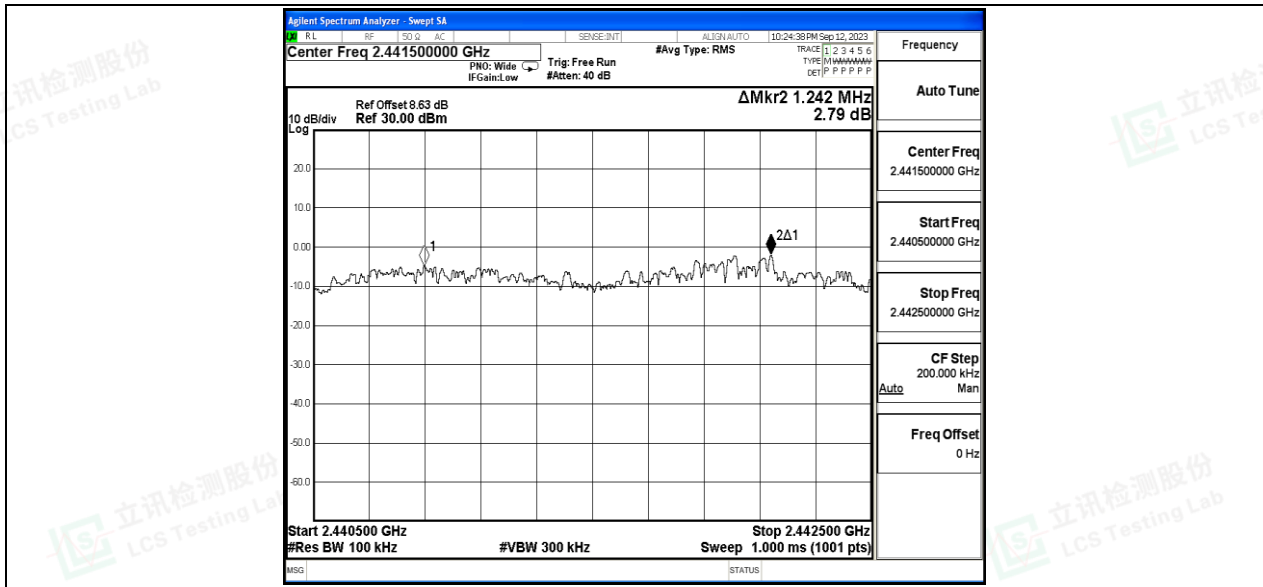


2DH5_Ant1_Hop



3DH5_Ant1_Hop







A.4 Time of occupancy

Test Result

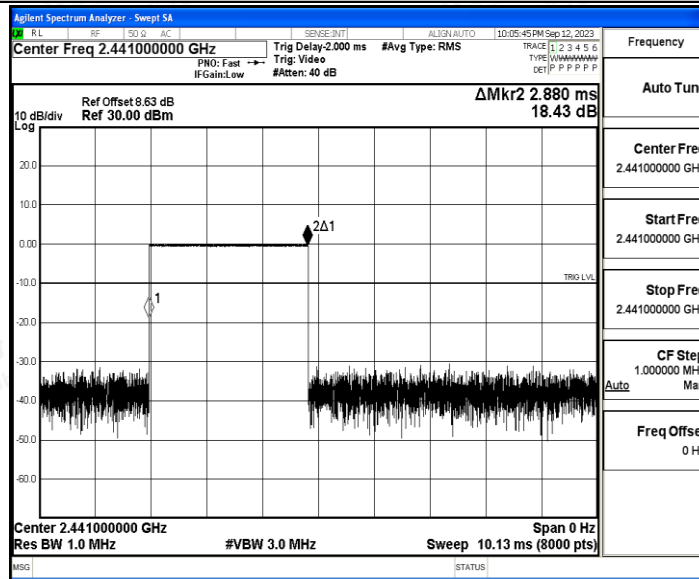
TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.880	106.67	0.307	≤0.4	PASS
2DH5	Ant1	Hop	2.883	106.67	0.308	≤0.4	PASS
3DH5	Ant1	Hop	2.885	106.67	0.308	≤0.4	PASS



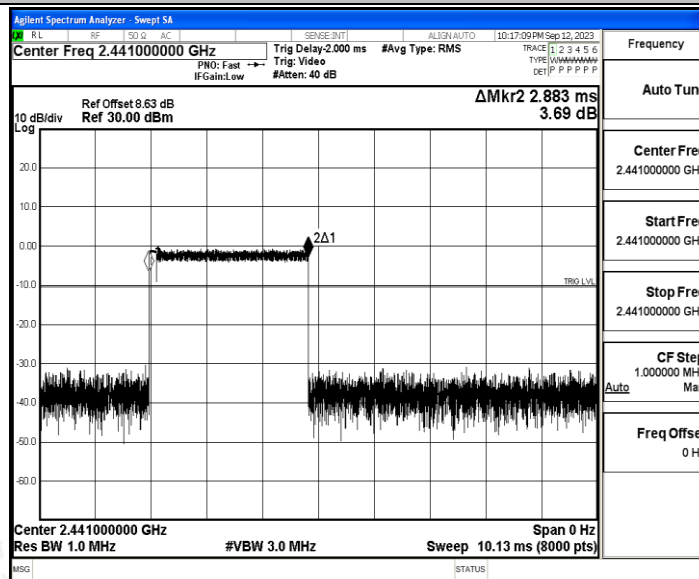


Test Graphs

DH5_Ant1_Hop

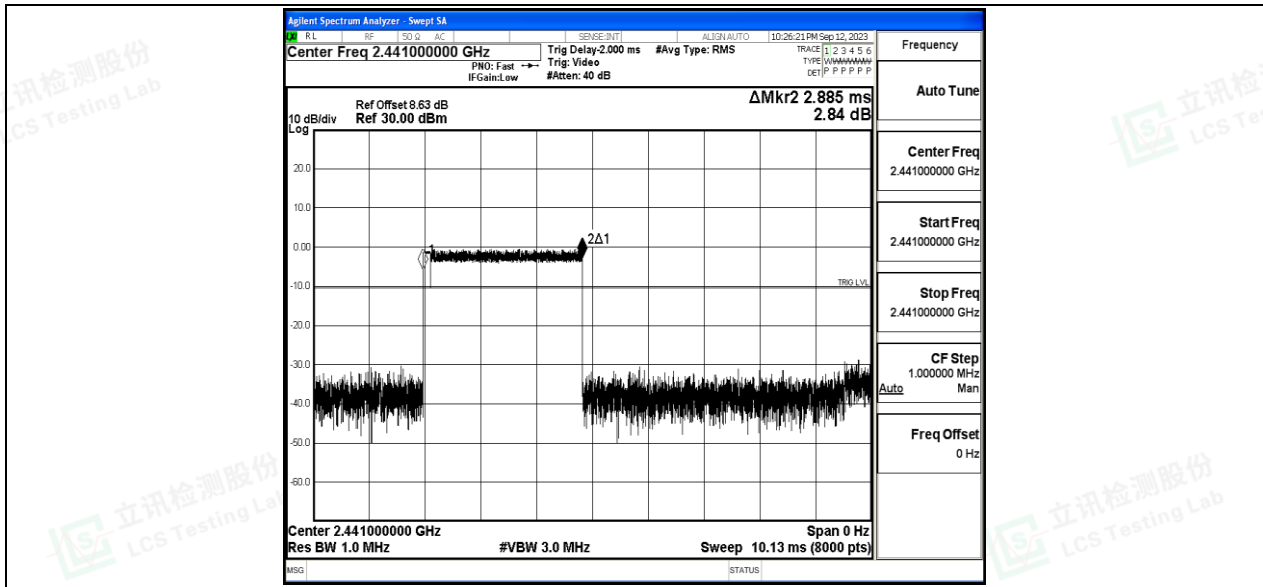


2DH5_Ant1_Hop



3DH5_Ant1_Hop







A.5 Number of hopping channels

Test Result

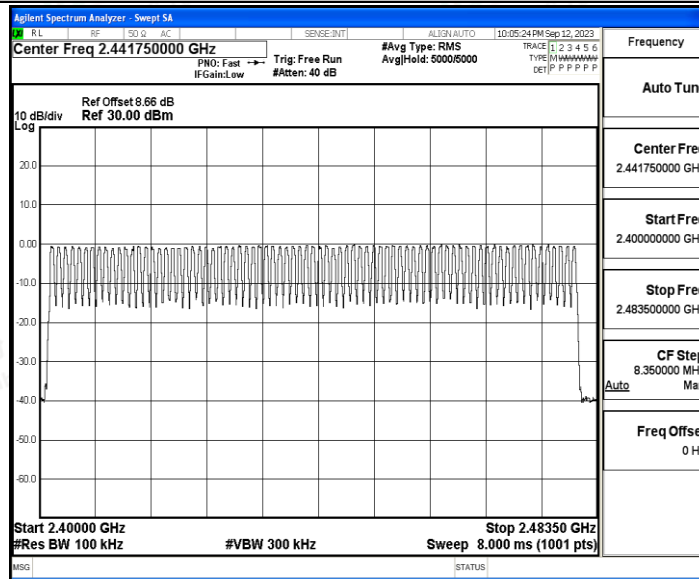
TestMode	Antenna	Channel	Result[Num]	Limit[Num]	Verdict
DH5	Ant1	Hop	79	≥ 15	PASS
2DH5	Ant1	Hop	79	≥ 15	PASS
3DH5	Ant1	Hop	79	≥ 15	PASS



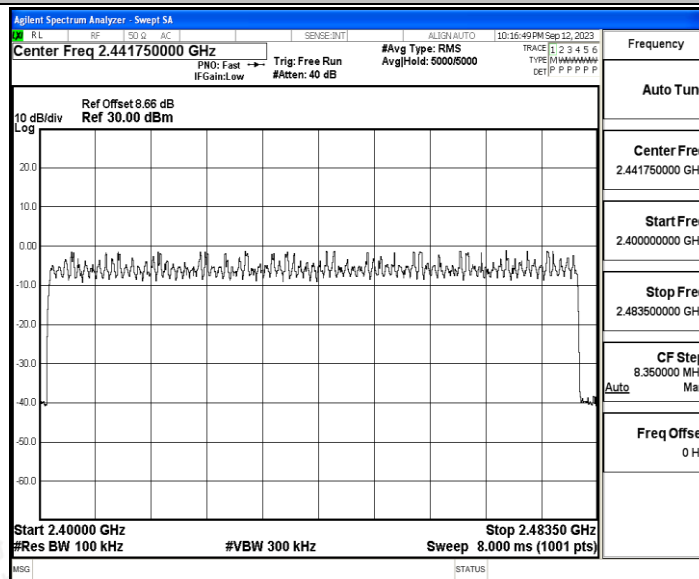


Test Graphs

DH5_Ant1_Hop

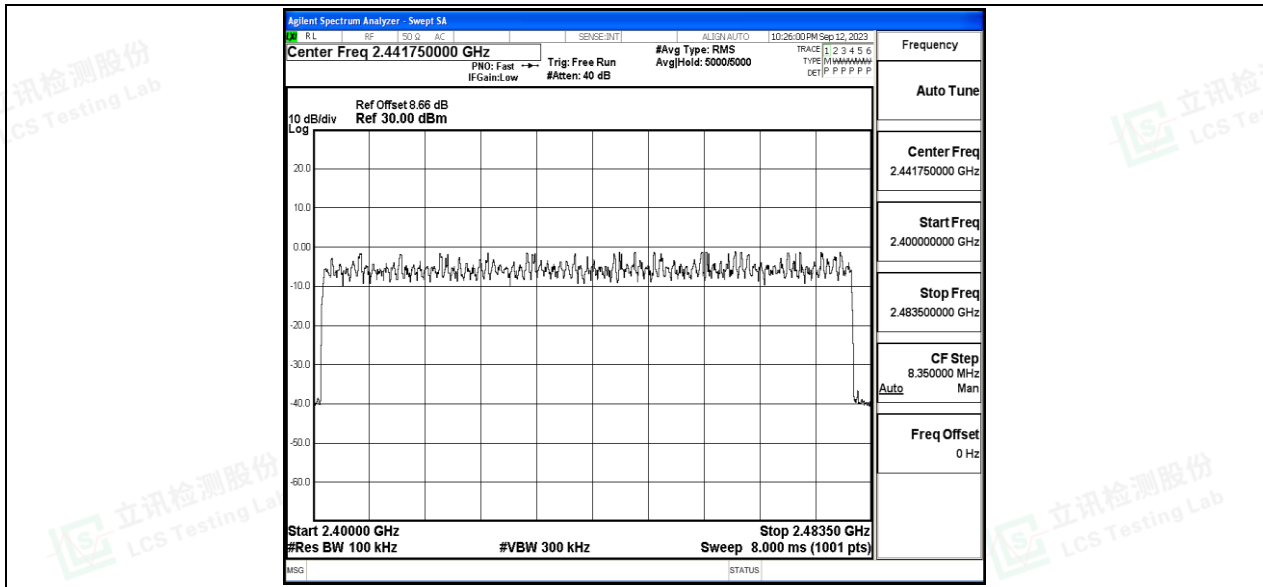


2DH5_Ant1_Hop



3DH5_Ant1_Hop







A.6 Band edge measurements

Test Result

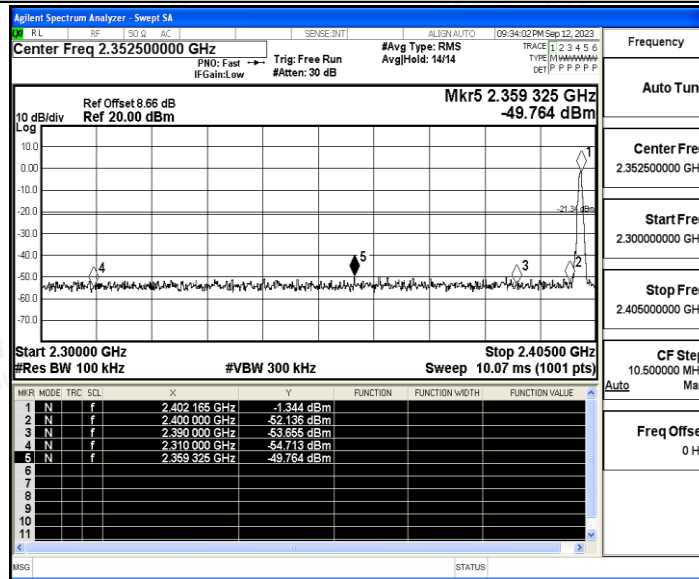
TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-1.34	-49.76	≤ -21.34	PASS
		High	2480	-0.75	-48.53	≤ -20.75	PASS
		Low	Hop_2402	-1.28	-48.96	≤ -21.28	PASS
		High	Hop_2480	-0.53	-47.57	≤ -20.53	PASS
2DH5	Ant1	Low	2402	-1.60	-50	≤ -21.6	PASS
		High	2480	-3.86	-49.4	≤ -23.86	PASS
		Low	Hop_2402	-2.01	-48.57	≤ -22.01	PASS
		High	Hop_2480	-1.26	-47.64	≤ -21.26	PASS
3DH5	Ant1	Low	2402	-5.62	-49.77	≤ -25.62	PASS
		High	2480	-5.16	-48.71	≤ -25.16	PASS
		Low	Hop_2402	-3.51	-48.58	≤ -23.51	PASS
		High	Hop_2480	-2.98	-47.58	≤ -22.98	PASS



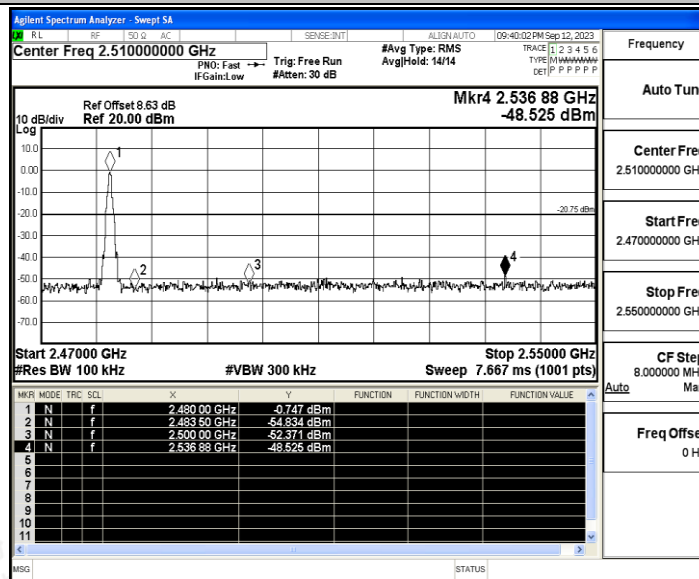


Test Graphs

DH5_Ant1_Low_2402

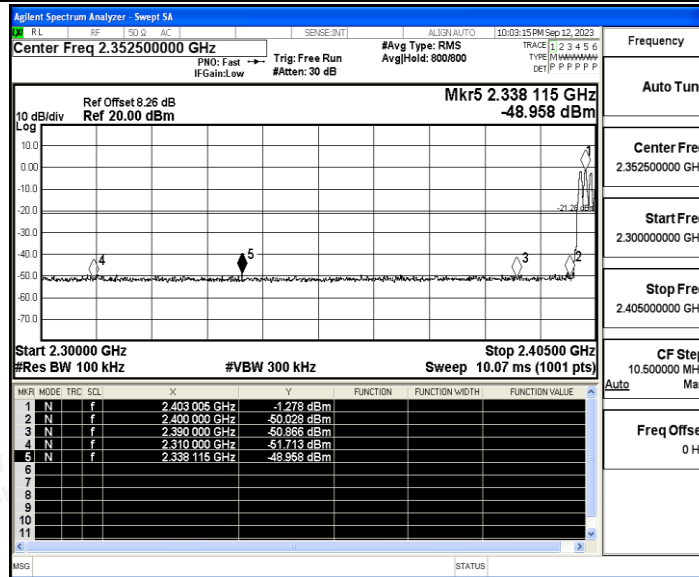


DH5_Ant1_High_2480

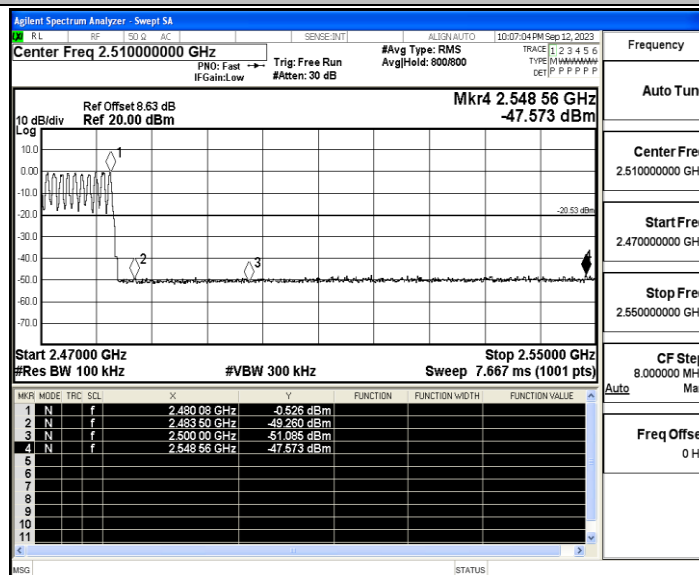


DH5_Ant1_Low_Hop_2402

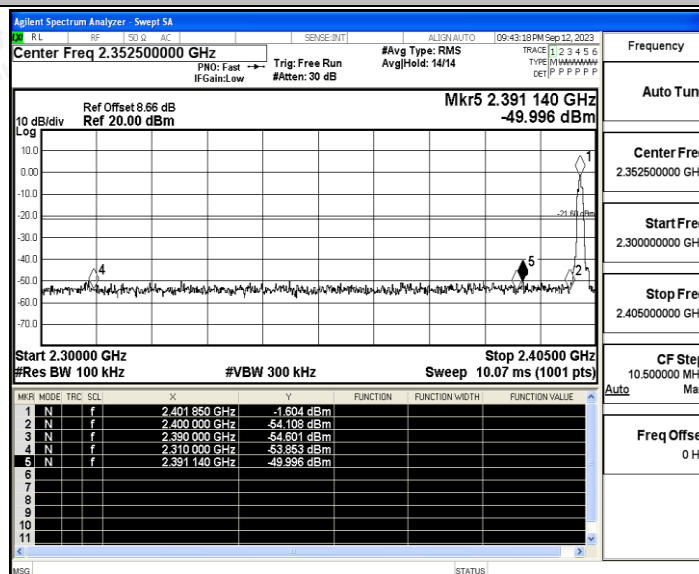




DH5_Ant1_High_Hop_2480



2DH5_Ant1_Low_2402



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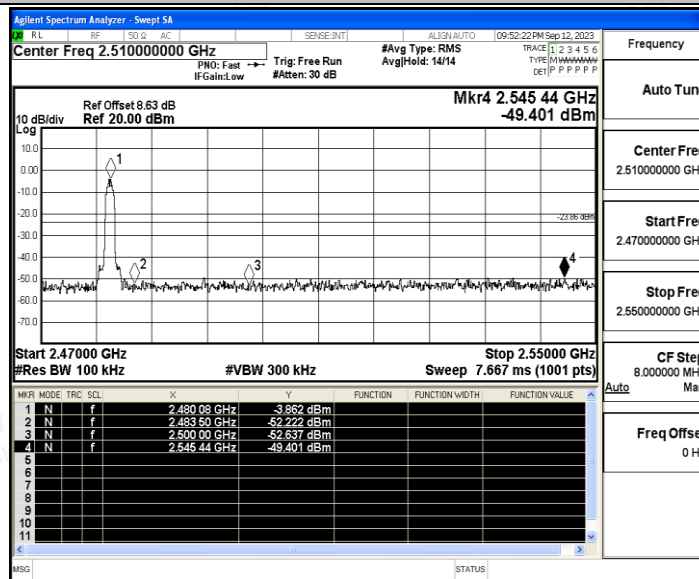
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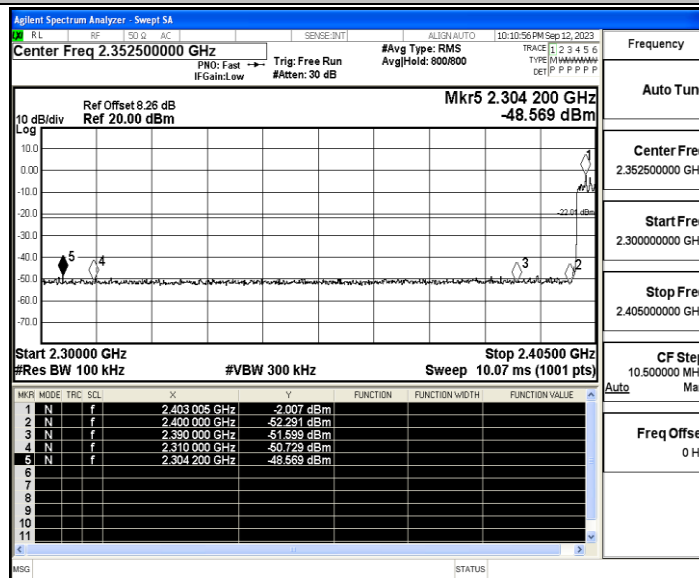
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2DH5_Ant1_High_2480



2DH5_Ant1_Low_Hop_2402



2DH5_Ant1_High_Hop_2480

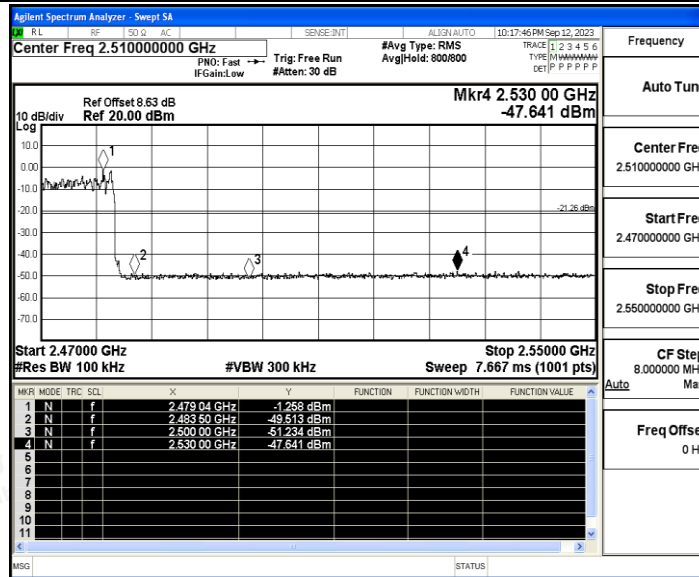


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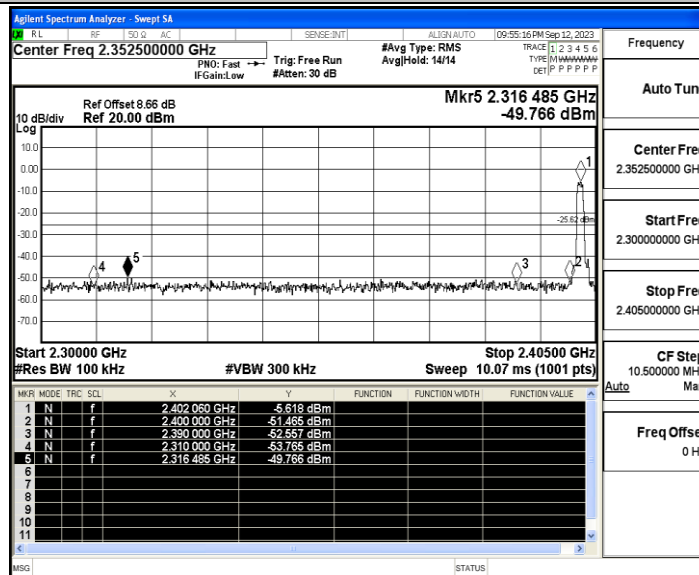
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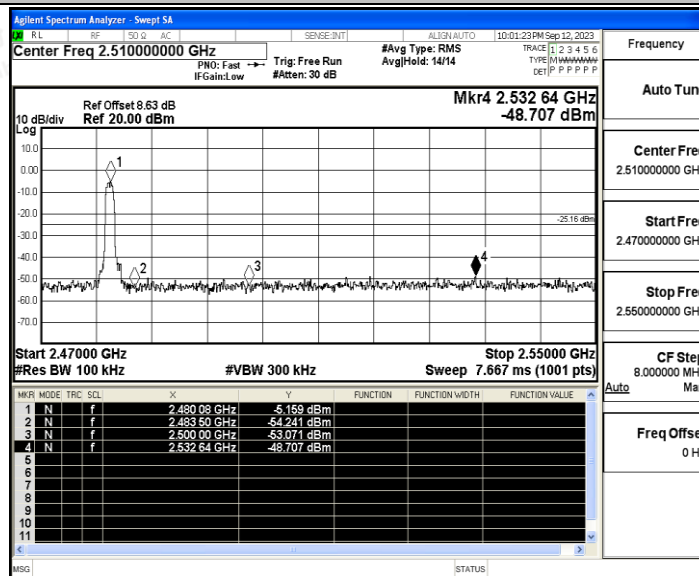
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3DH5_Ant1_Low_2402



3DH5_Ant1_High_2480



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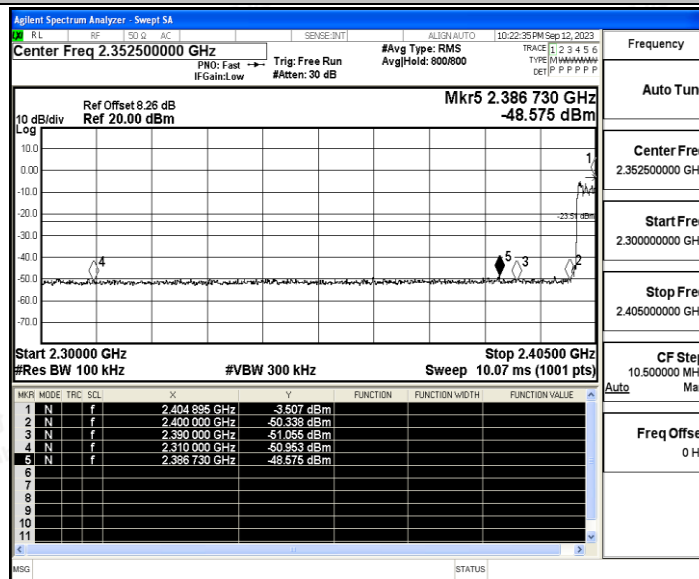
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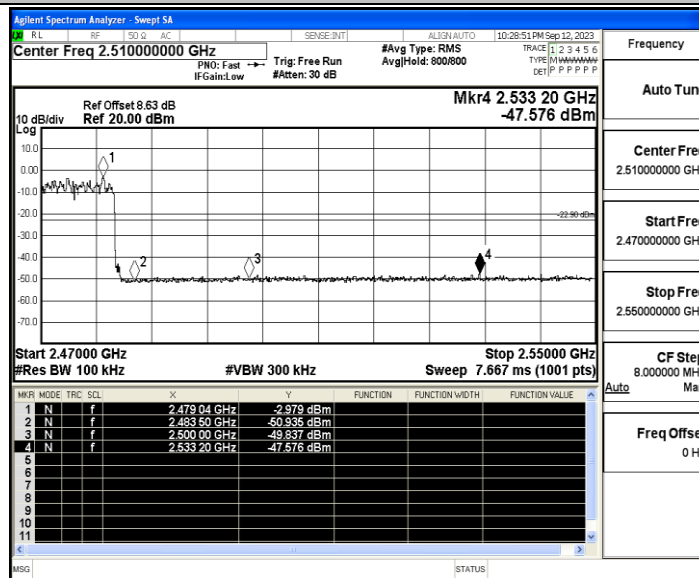
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3DH5_Ant1_Low_Hop_2402



3DH5_Ant1_High_Hop_2480



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A.7 Conducted Spurious Emission

Test Result

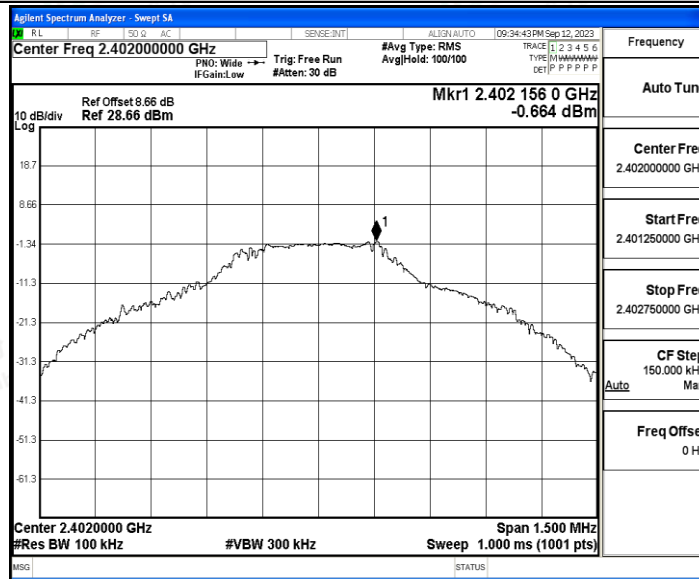
TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	-0.66	-0.66	---	PASS
			30~1000	-0.66	-60.98	≤ -20.66	PASS
			1000~26500	-0.66	-46.16	≤ -20.66	PASS
		2441	Reference	-0.84	-0.84	---	PASS
			30~1000	-0.84	-61.23	≤ -20.84	PASS
			1000~26500	-0.84	-46.66	≤ -20.84	PASS
		2480	Reference	-0.33	-0.33	---	PASS
			30~1000	-0.33	-60.88	≤ -20.33	PASS
			1000~26500	-0.33	-45.46	≤ -20.33	PASS
2DH5	Ant1	2402	Reference	-1.75	-1.75	---	PASS
			30~1000	-1.75	-60.67	≤ -21.75	PASS
			1000~26500	-1.75	-46.67	≤ -21.75	PASS
		2441	Reference	-2.07	-2.07	---	PASS
			30~1000	-2.07	-60.98	≤ -22.07	PASS
			1000~26500	-2.07	-45.81	≤ -22.07	PASS
		2480	Reference	-2.26	-2.26	---	PASS
			30~1000	-2.26	-60.54	≤ -22.26	PASS
			1000~26500	-2.26	-46.39	≤ -22.26	PASS
3DH5	Ant1	2402	Reference	-2.03	-2.03	---	PASS
			30~1000	-2.03	-59.78	≤ -22.03	PASS
			1000~26500	-2.03	-46.22	≤ -22.03	PASS
		2441	Reference	-1.99	-1.99	---	PASS
			30~1000	-1.99	-60.87	≤ -21.99	PASS
			1000~26500	-1.99	-46.58	≤ -21.99	PASS
		2480	Reference	-1.35	-1.35	---	PASS
			30~1000	-1.35	-60.86	≤ -21.35	PASS
			1000~26500	-1.35	-46.31	≤ -21.35	PASS



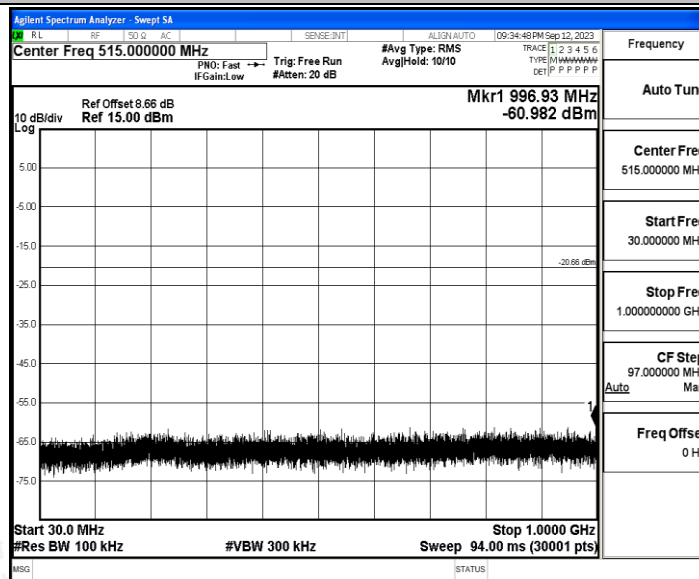


Test Graphs

DH5_Ant1_2402_0~Reference

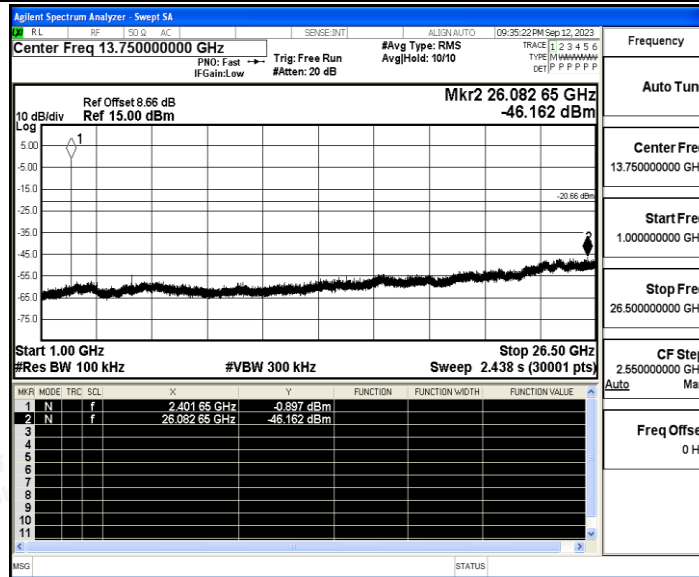


DH5_Ant1_2402_30~1000

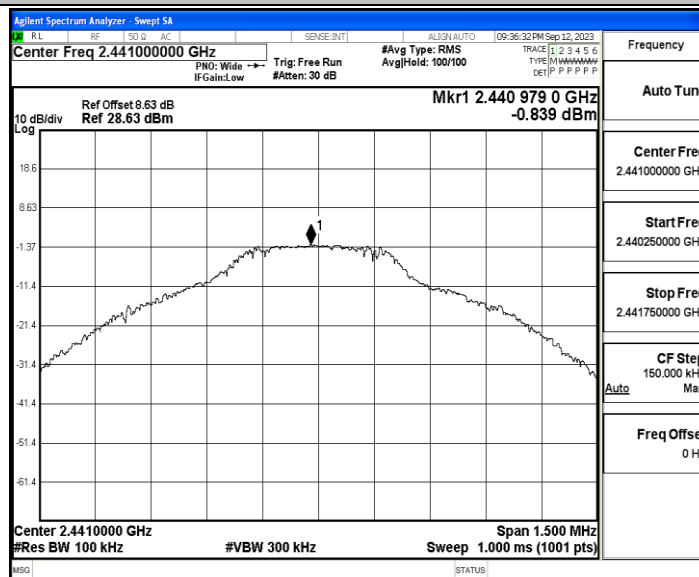


DH5_Ant1_2402_1000~26500

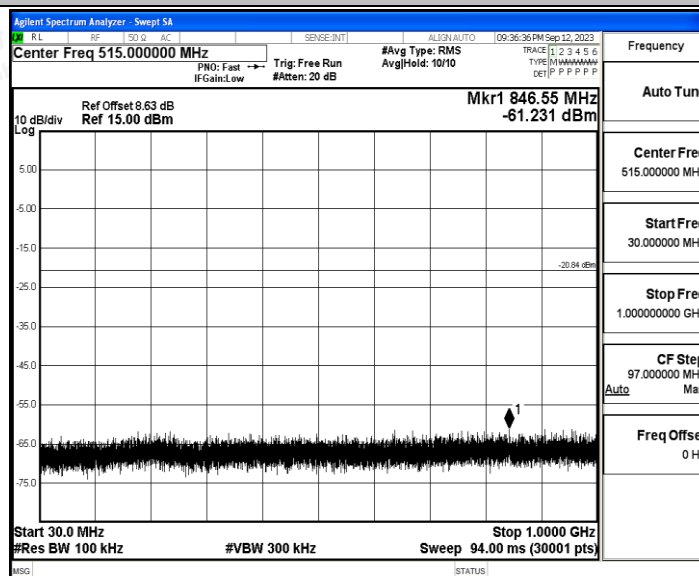




DH5_Ant1_2441_0~Reference



DH5_Ant1_2441_30~1000



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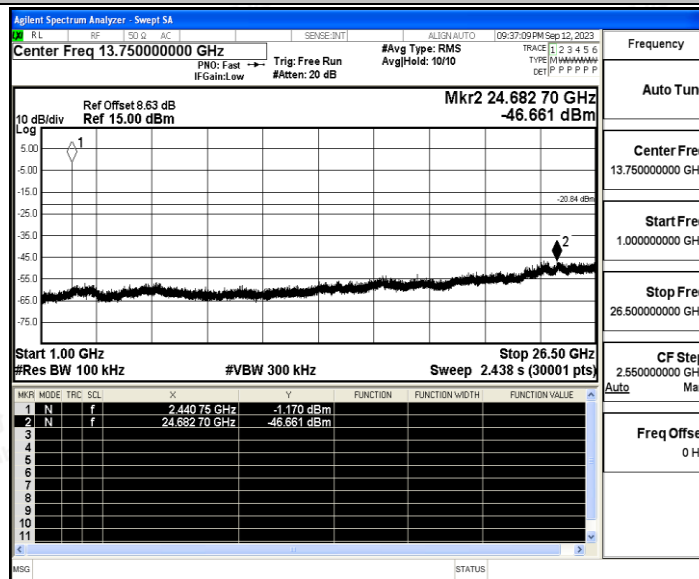
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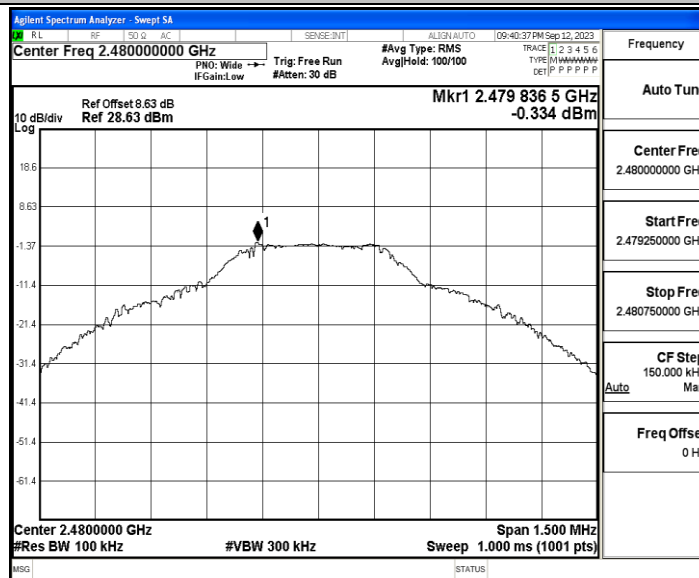
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DH5_Ant1_2441_1000~26500



DH5_Ant1_2480_0~Reference



DH5_Ant1_2480_30~1000

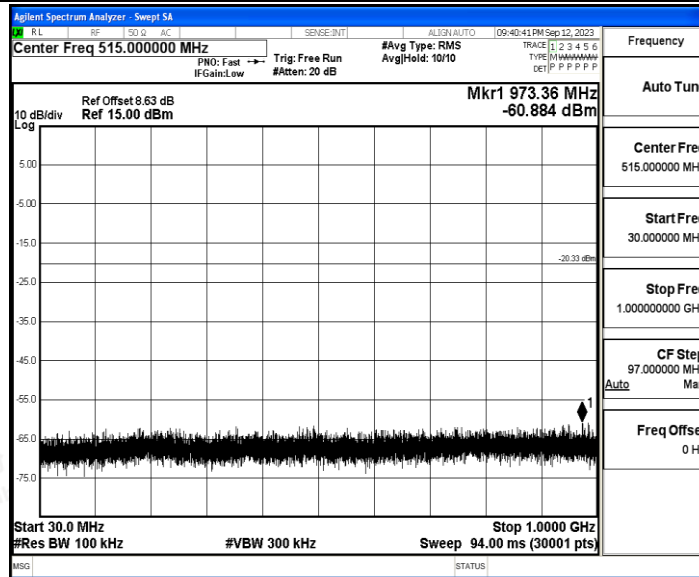


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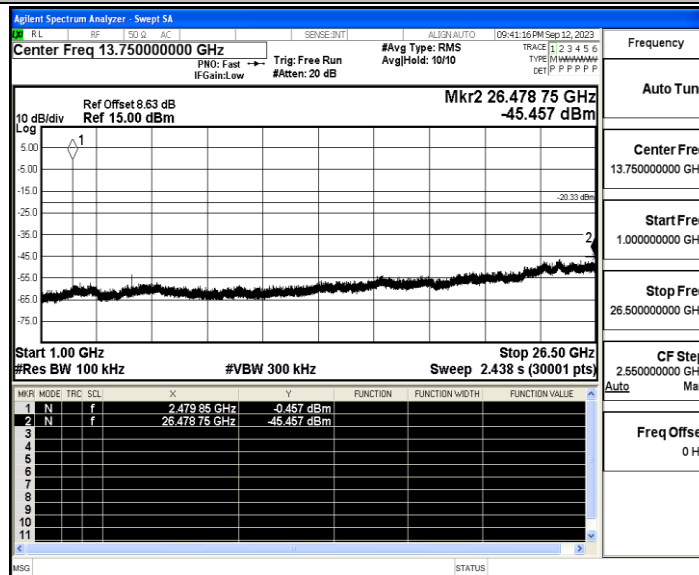
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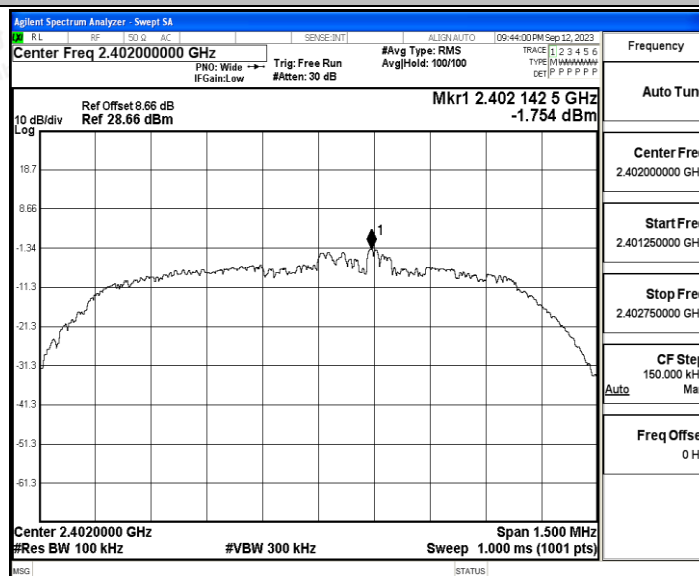
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DH5_Ant1_2480_1000~26500



2DH5_Ant1_2402_0-Reference



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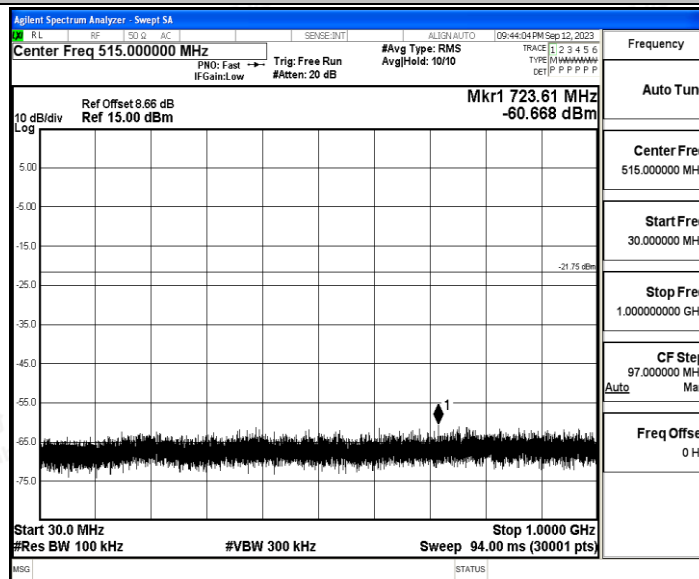
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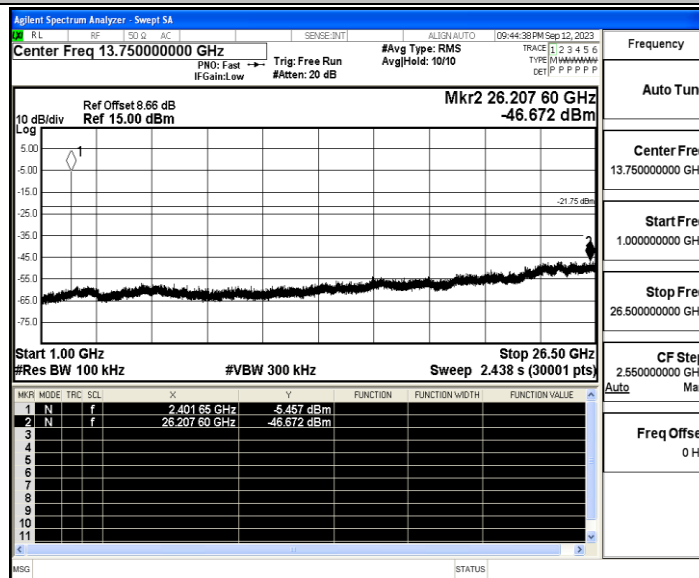
Scan code to check authenticity



2DH5_Ant1_2402_30~1000



2DH5_Ant1_2402_1000~26500



2DH5_Ant1_2441_0~Reference

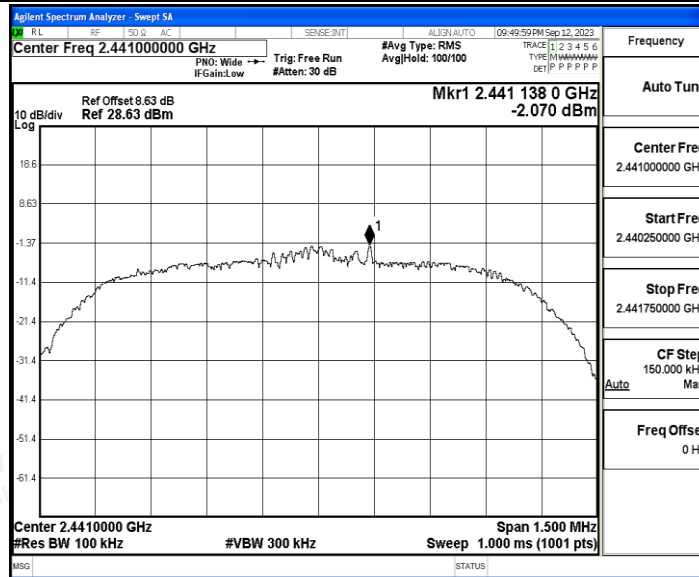


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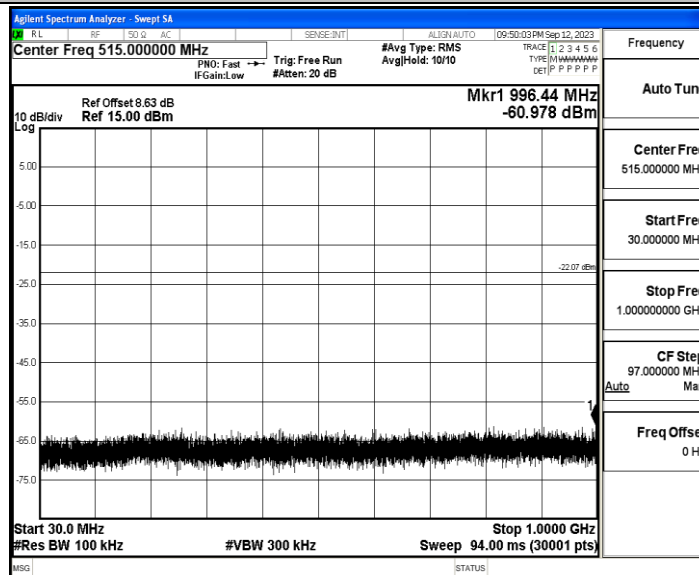
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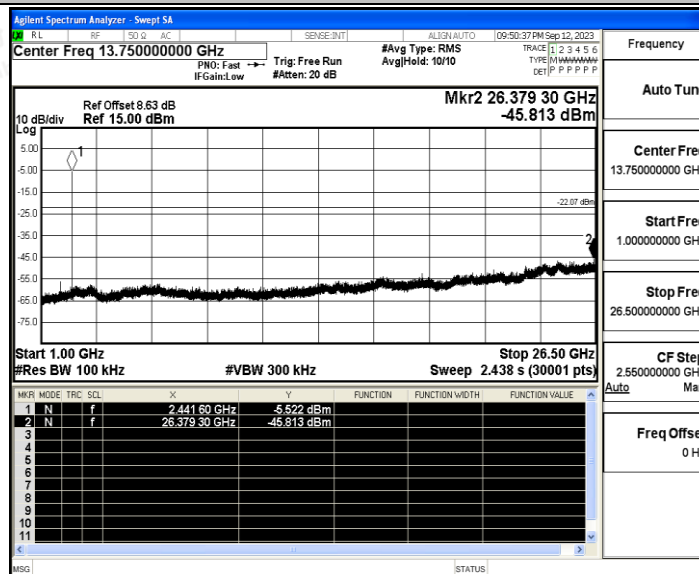
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2DH5_Ant1_2441_30~1000

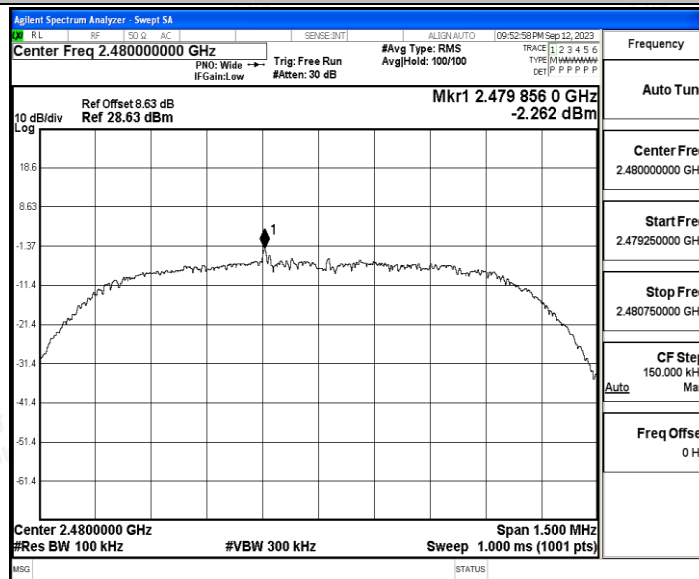


2DH5_Ant1_2441_1000~26500

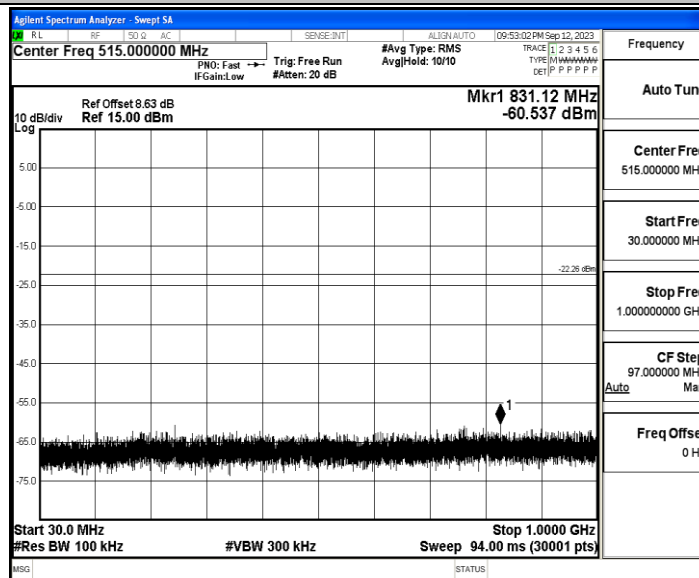




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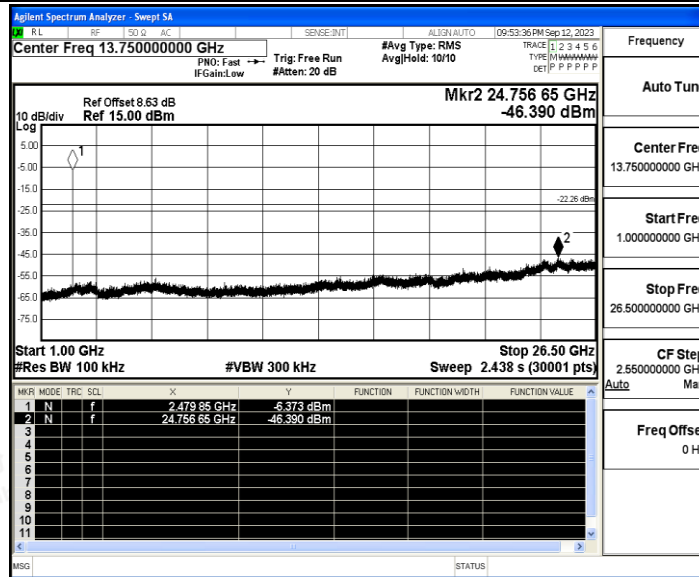


2DH5_Ant1_2480_30~1000

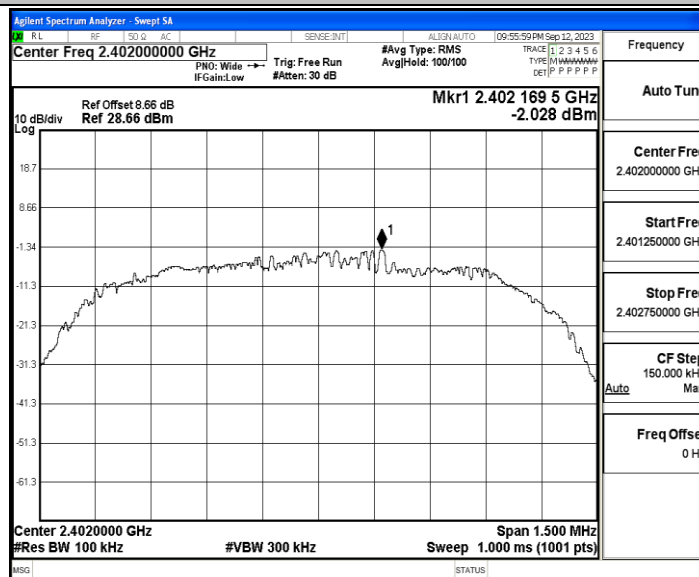


2DH5_Ant1_2480_1000~26500

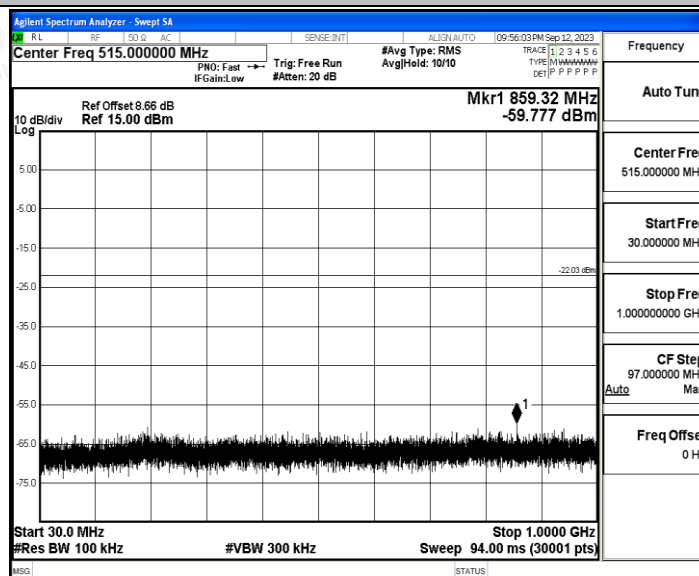




3DH5_Ant1_2402_0~Reference



3DH5_Ant1_2402_30~1000



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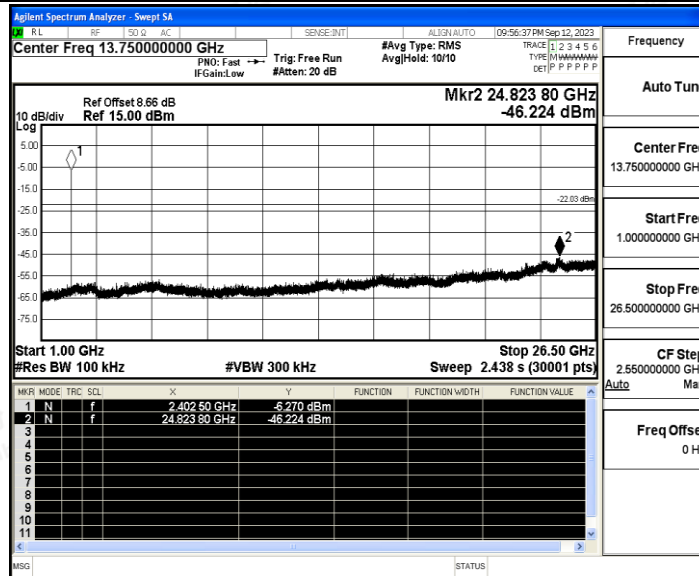
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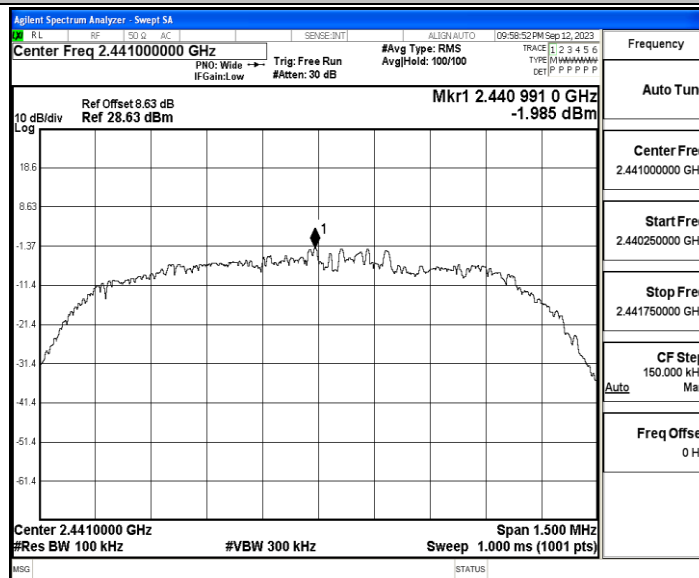
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3DH5_Ant1_2402_1000~26500

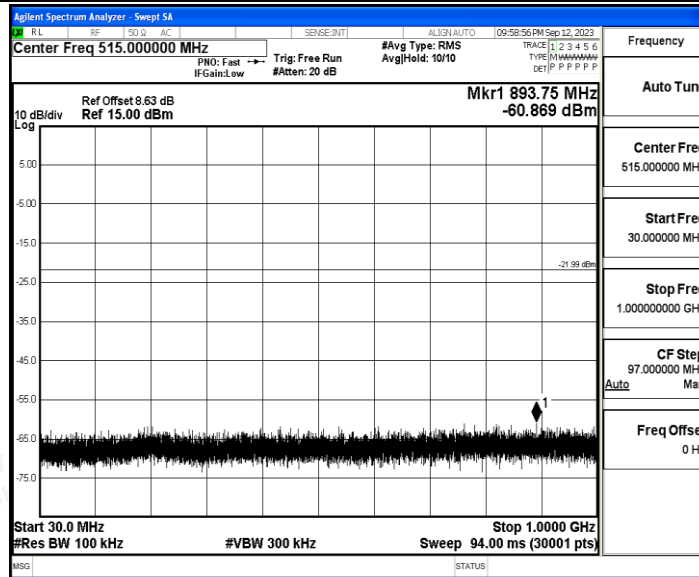


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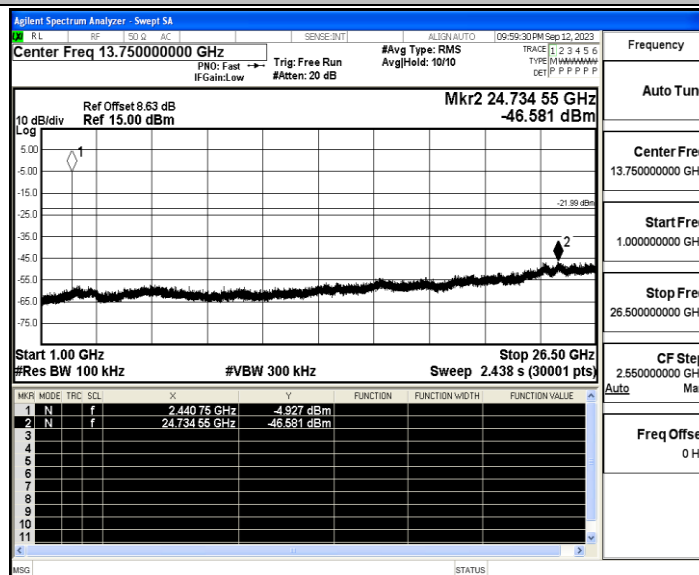


3DH5_Ant1_2441_30~1000

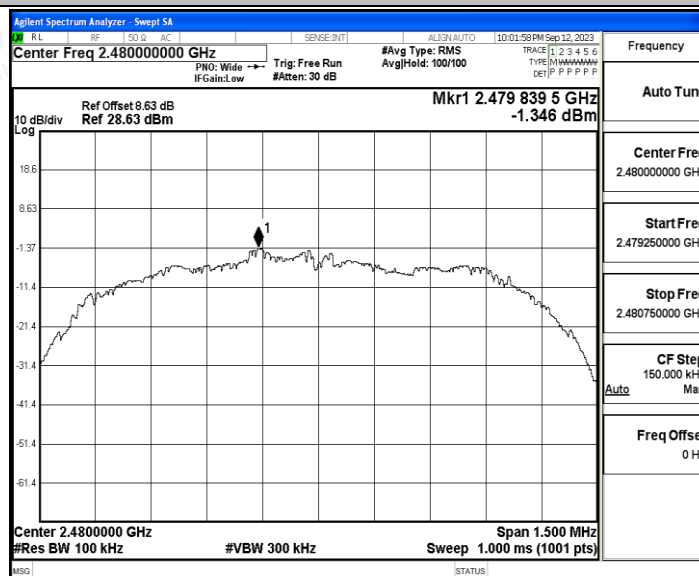




3DH5_Ant1_2441_1000~26500

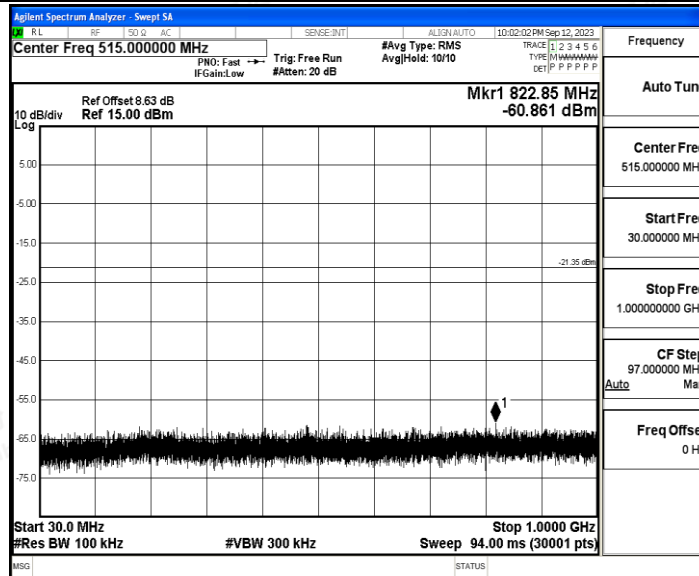


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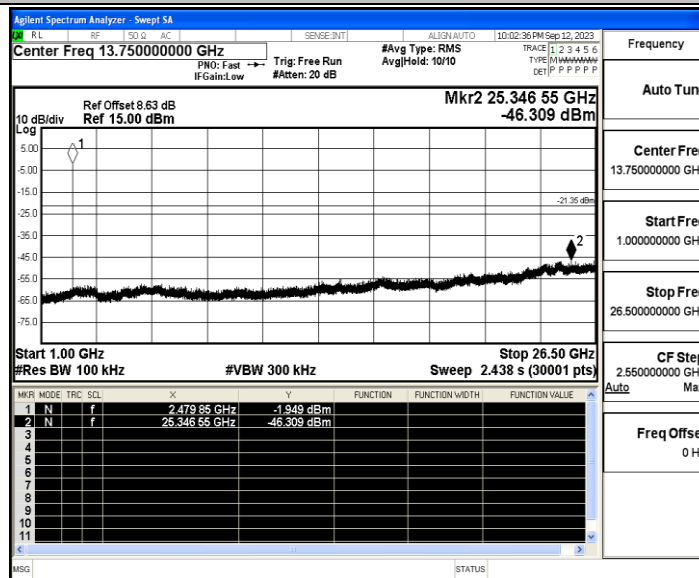




3DH5_Ant1_2480_30~1000



3DH5_Ant1_2480_1000~26500



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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	-47.87	≤-41.20	47.33	≤54	PASS
				AV	2387.675	-47.57	≤-41.20	47.63	≤54	PASS
				AV	2390.000	-47.7	≤-41.20	47.50	≤54	PASS
				Peak	2310.000	-38.41	≤-21.20	56.79	≤74	PASS
				Peak	2327.300	-37.7	≤-21.20	57.50	≤74	PASS
				Peak	2390.000	-43.18	≤-21.20	52.02	≤74	PASS
		High	2480	AV	2483.500	-47.16	≤-41.20	48.04	≤54	PASS
				AV	2499.440	-46.96	≤-41.20	48.24	≤54	PASS
				AV	2500.000	-47.09	≤-41.20	48.11	≤54	PASS
				Peak	2483.500	-39.5	≤-21.20	55.70	≤74	PASS
				Peak	2485.280	-38.24	≤-21.20	56.96	≤74	PASS
				Peak	2500.000	-41.17	≤-21.20	54.03	≤74	PASS
		Low	Hop_24 02	Peak	2310.000	-40.09	≤-21.20	55.11	≤74	PASS
				Peak	2389.775	-37.63	≤-21.20	57.57	≤74	PASS
				Peak	2390.000	-39.52	≤-21.20	55.68	≤74	PASS
		High	Hop_24 80	Peak	2483.500	-37.41	≤-21.20	57.79	≤74	PASS
				Peak	2490.480	-36.47	≤-21.20	58.73	≤74	PASS
				Peak	2500.000	-38.29	≤-21.20	56.91	≤74	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-48.13	≤-41.20	47.07	≤54	PASS
				AV	2385.575	-47.61	≤-41.20	47.59	≤54	PASS
				AV	2390.000	-47.71	≤-41.20	47.49	≤54	PASS
				Peak	2310.000	-43.85	≤-21.20	51.35	≤74	PASS
				Peak	2388.095	-38.5	≤-21.20	56.70	≤74	PASS
				Peak	2390.000	-41.86	≤-21.20	53.34	≤74	PASS
		High	2480	AV	2483.500	-47.12	≤-41.20	48.08	≤54	PASS
				AV	2499.840	-47.06	≤-41.20	48.14	≤54	PASS
				AV	2500.000	-47.11	≤-41.20	48.09	≤54	PASS
				Peak	2483.500	-41.29	≤-21.20	53.91	≤74	PASS
				Peak	2490.560	-38.5	≤-21.20	56.70	≤74	PASS
				Peak	2500.000	-44.48	≤-21.20	50.72	≤74	PASS
		Low	Hop_24 02	Peak	2310.000	-40.1	≤-21.20	55.10	≤74	PASS
				Peak	2375.705	-36.86	≤-21.20	58.34	≤74	PASS
				Peak	2390.000	-40.17	≤-21.20	55.03	≤74	PASS
		High	Hop_24 80	Peak	2483.500	-39.32	≤-21.20	55.88	≤74	PASS
				Peak	2494.320	-37.25	≤-21.20	57.95	≤74	PASS
				Peak	2500.000	-39.08	≤-21.20	56.12	≤74	PASS





3DH5	Ant1	Low	2402	AV	2310.000	-48.18	≤ -41.20	47.02	≤ 54	PASS
				AV	2388.725	-47.64	≤ -41.20	47.56	≤ 54	PASS
				AV	2390.000	-47.78	≤ -41.20	47.42	≤ 54	PASS
				Peak	2310.000	-40.49	≤ -21.20	54.71	≤ 74	PASS
				Peak	2381.165	-38.31	≤ -21.20	56.89	≤ 74	PASS
				Peak	2390.000	-42.95	≤ -21.20	52.25	≤ 74	PASS
		High	2480	AV	2483.500	-47.09	≤ -41.20	48.11	≤ 54	PASS
				AV	2499.440	-47.06	≤ -41.20	48.14	≤ 54	PASS
				AV	2500.000	-47.06	≤ -41.20	48.14	≤ 54	PASS
				Peak	2483.500	-43.7	≤ -21.20	51.50	≤ 74	PASS
				Peak	2493.120	-38.24	≤ -21.20	56.96	≤ 74	PASS
				Peak	2500.000	-41.75	≤ -21.20	53.45	≤ 74	PASS
		Low	Hop_24 02	Peak	2310.000	-40.26	≤ -21.20	54.94	≤ 74	PASS
				Peak	2328.350	-38.06	≤ -21.20	57.14	≤ 74	PASS
				Peak	2390.000	-40.14	≤ -21.20	55.06	≤ 74	PASS
		High	Hop_24 80	Peak	2483.500	-39.31	≤ -21.20	55.89	≤ 74	PASS
				Peak	2492.480	-36.81	≤ -21.20	58.39	≤ 74	PASS
				Peak	2500.000	-38.63	≤ -21.20	56.57	≤ 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

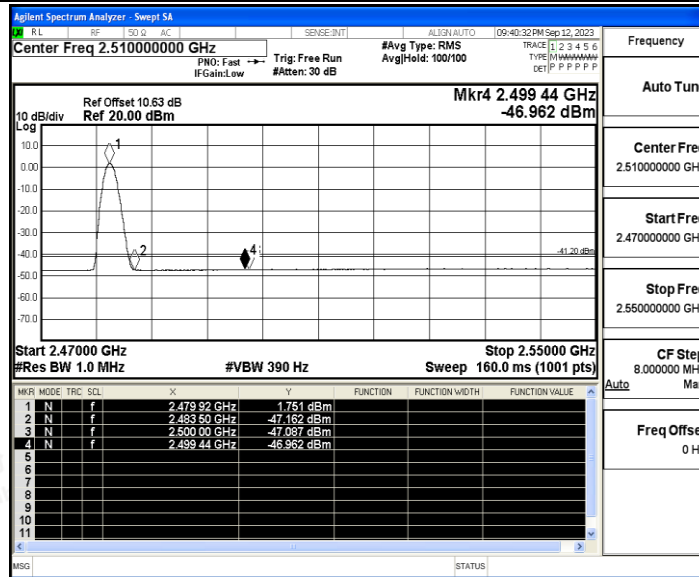


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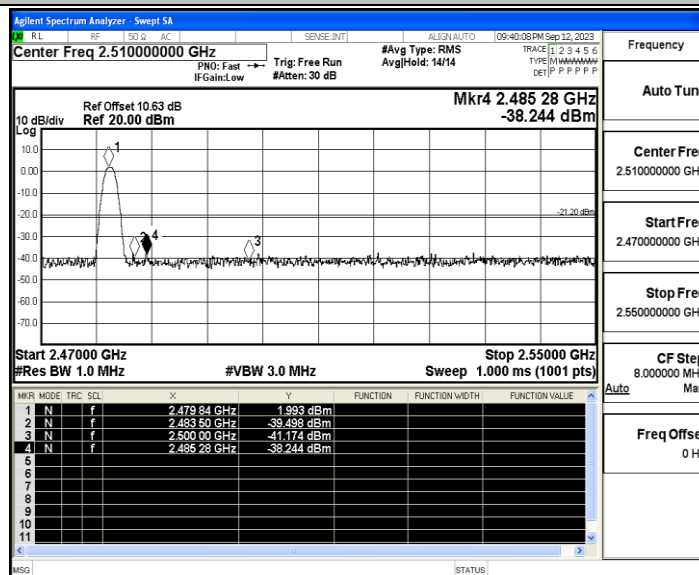
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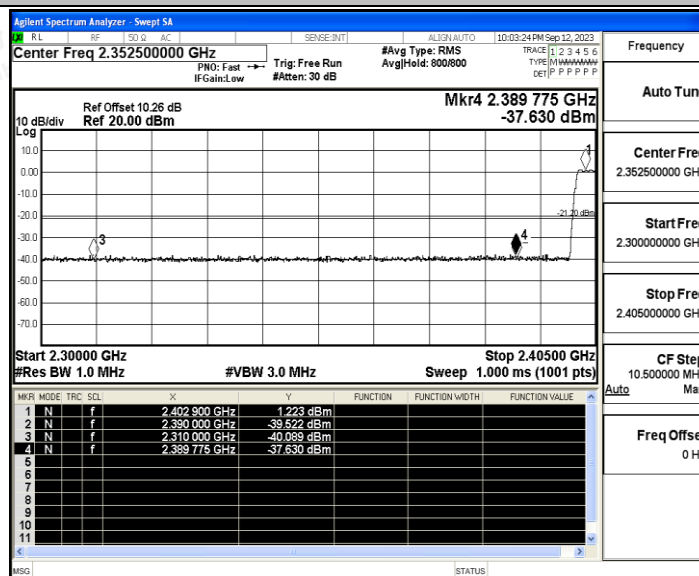
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DH5_Ant1_High_2480_Peak



DH5_Ant1_Low_Hop_2402_Peak



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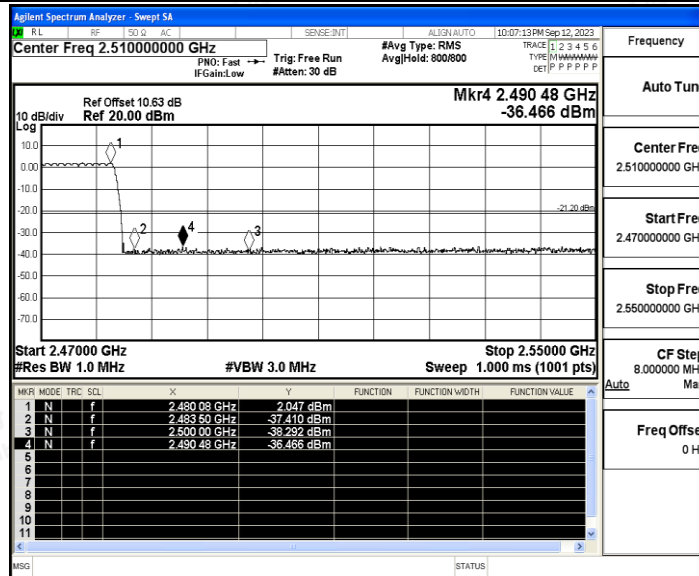
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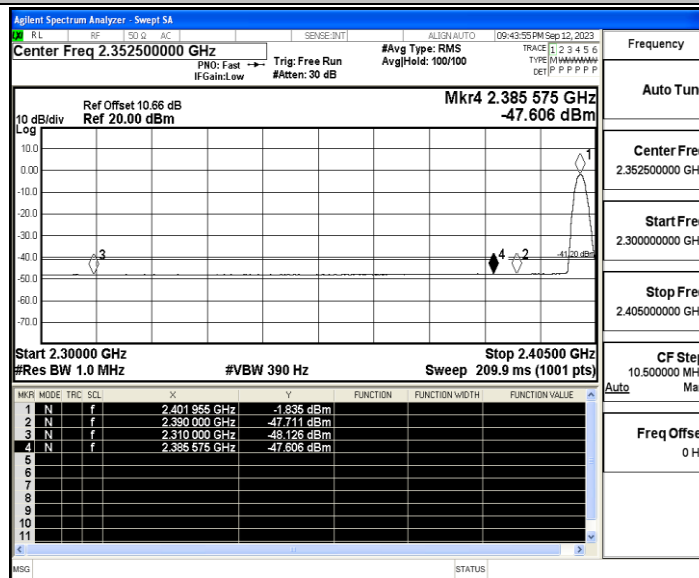
Scan code to check authenticity



DH5_Ant1_High_Hop_2480_Peak



2DH5_Ant1_Low_2402_AV



2DH5_Ant1_Low_2402_Peak

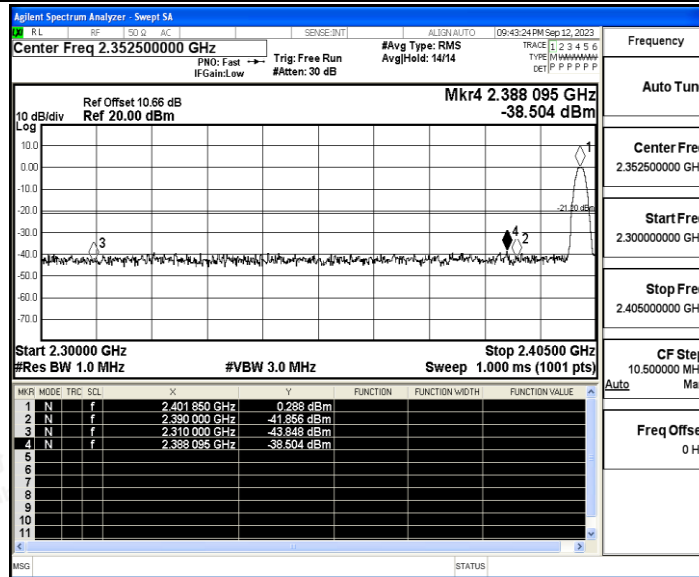


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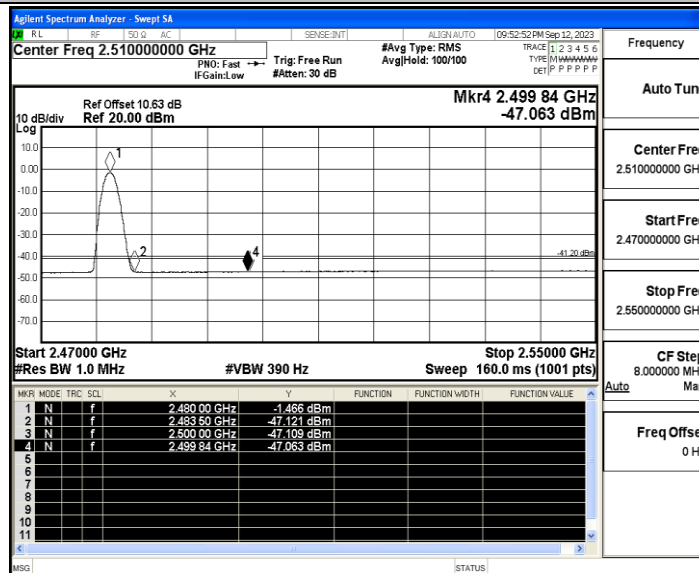
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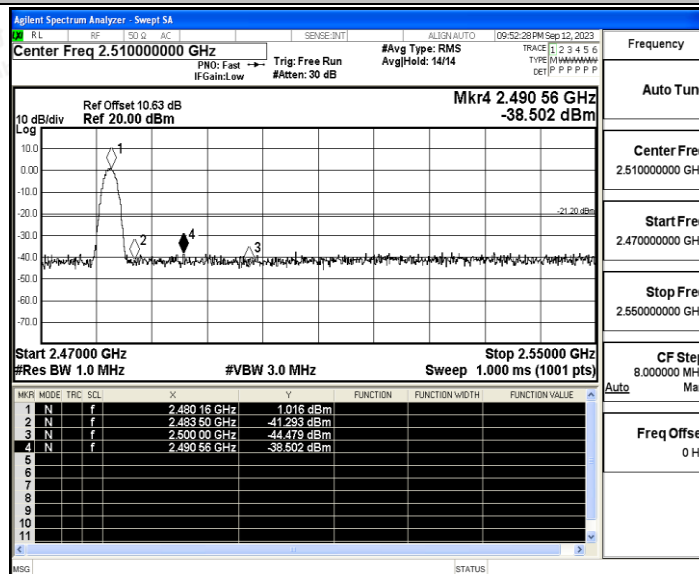
Scan code to check authenticity



2DH5_Ant1_High_2480_AV



2DH5_Ant1_High_2480_Peak



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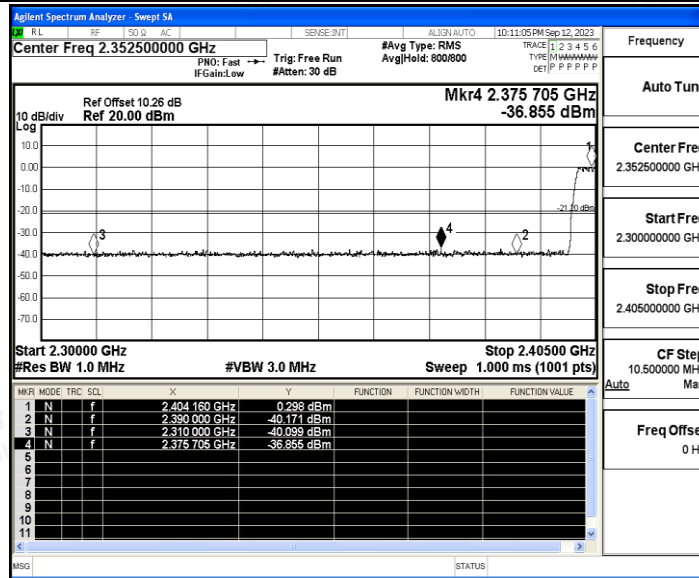
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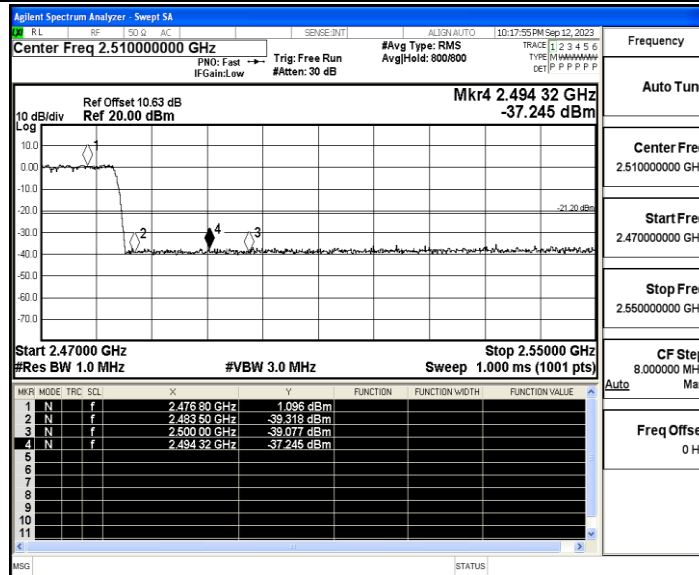
Scan code to check authenticity



2DH5_Ant1_Low_Hop_2402_Peak



2DH5_Ant1_High_Hop_2480_Peak



3DH5_Ant1_Low_2402_AV

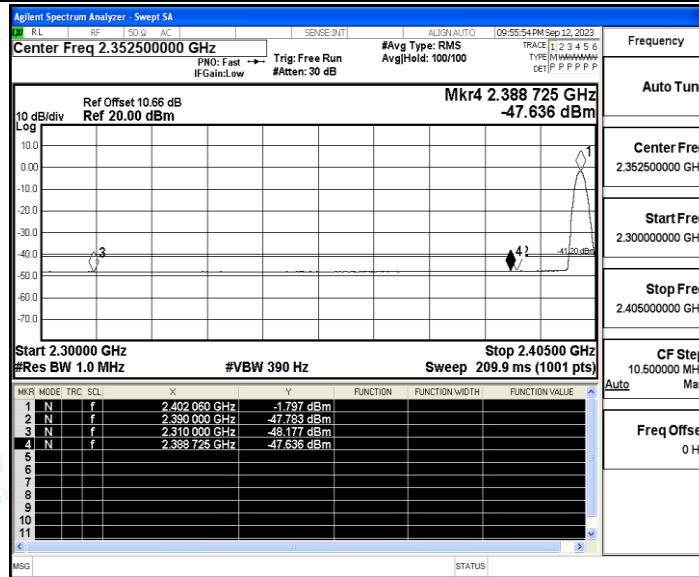


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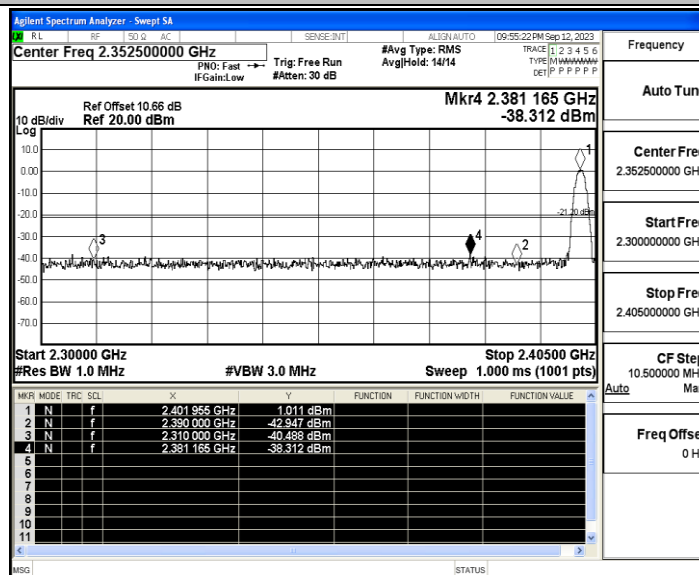
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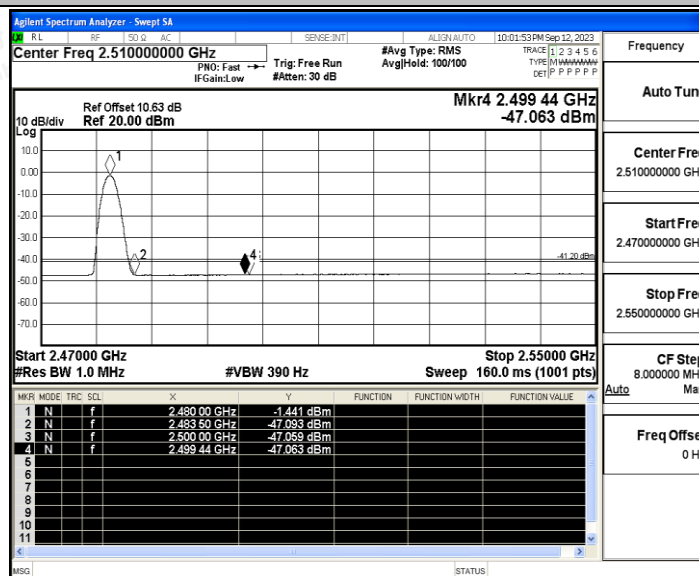
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3DH5_Ant1_Low_2402_Peak



3DH5_Ant1_High_2480_AV



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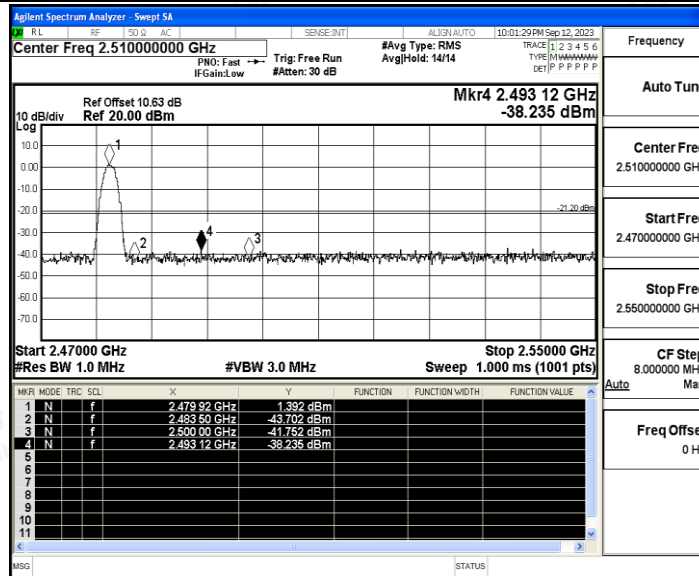
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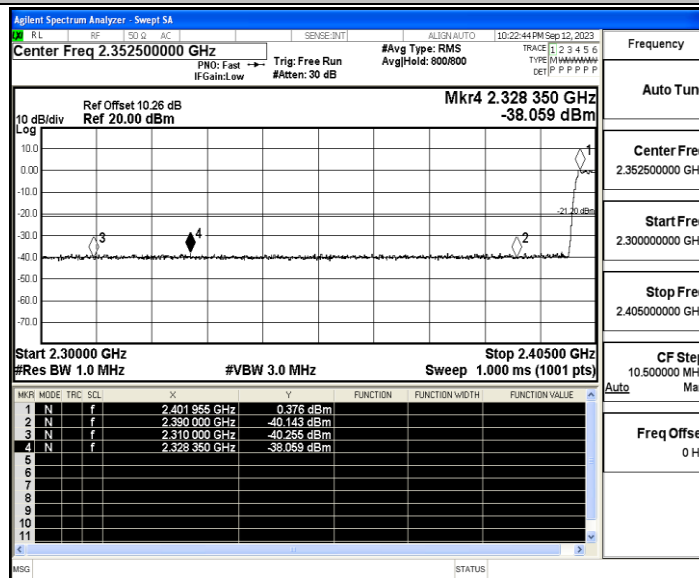
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3DH5_Ant1_High_2480_Peak



3DH5_Ant1_Low_Hop_2402_Peak



3DH5_Ant1_High_Hop_2480_Peak



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