



Appendix A

RF Test Data for 2.4G BT (Conducted Measurement)

Product Name: POS Terminal

Test Model: P1000

Environmental Conditions

Temperature:	23.8° C
Relative Humidity:	52.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Ling Zhu
Supervised by:	Li Huan





A.1 20dB Emission Bandwidth

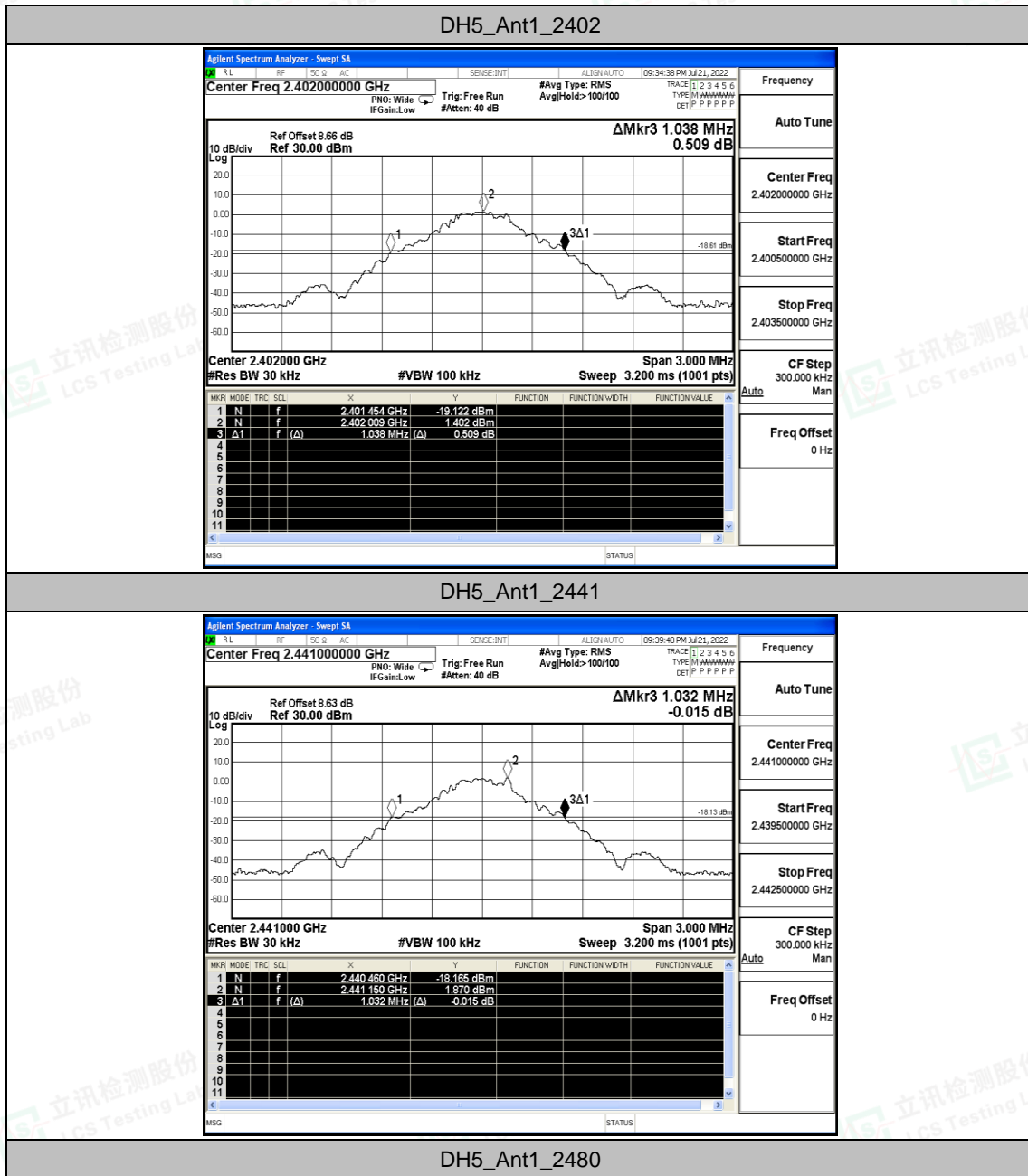
Test Result

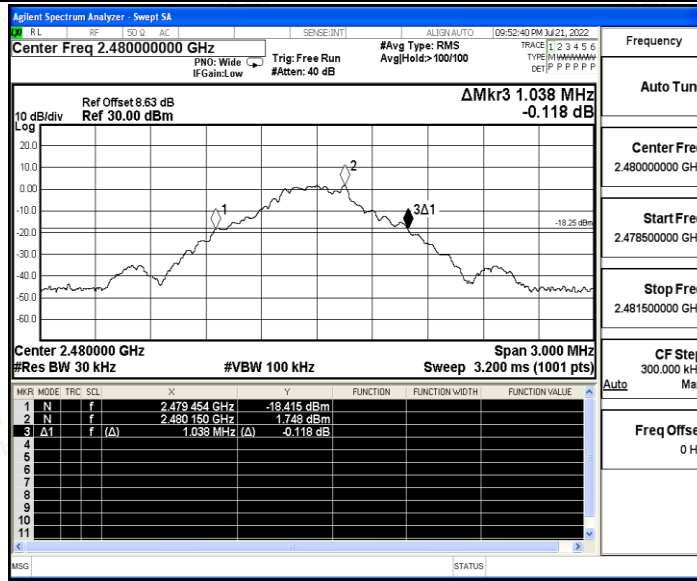
TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Verdict
DH5	Ant1	2402	1.038	2401.454	2402.492	---
		2441	1.032	2440.460	2441.492	---
		2480	1.038	2479.454	2480.492	---
2DH5	Ant1	2402	1.311	2401.331	2402.642	---
		2441	1.287	2440.352	2441.639	---
		2480	1.326	2479.322	2480.648	---
3DH5	Ant1	2402	1.290	2401.340	2402.630	---
		2441	1.287	2440.340	2441.627	---
		2480	1.311	2479.331	2480.642	---



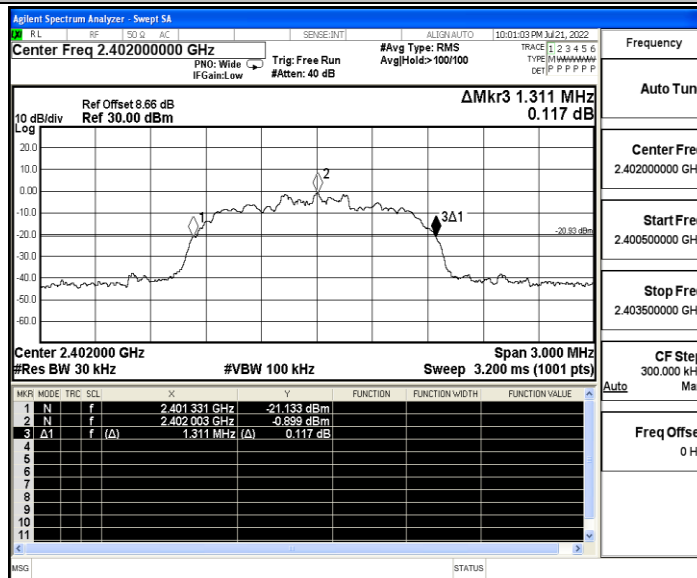


Test Graphs



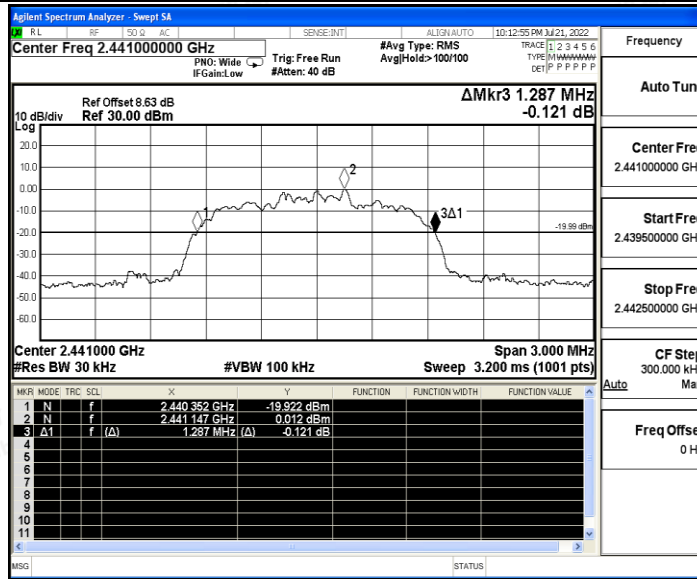


2DH5_Ant1_2402

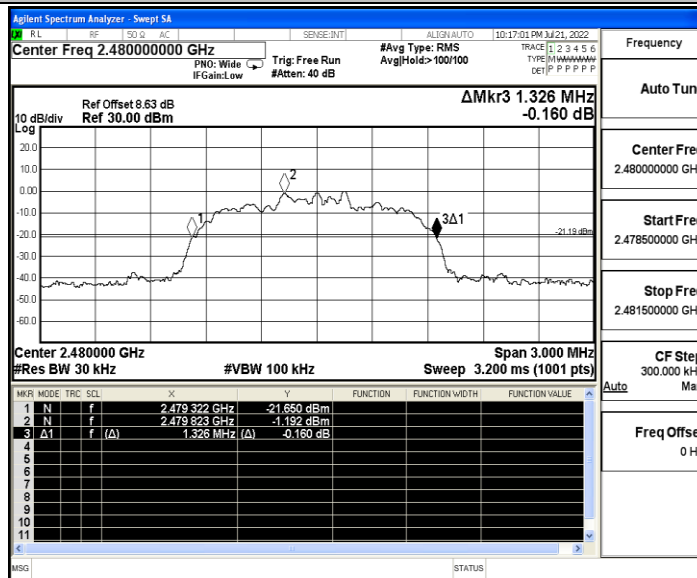


2DH5_Ant1_2441



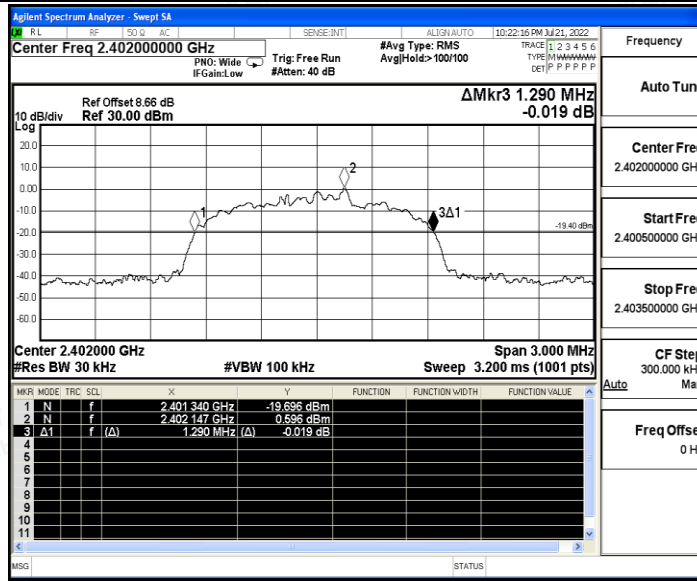


2D H5_Ant1_2480

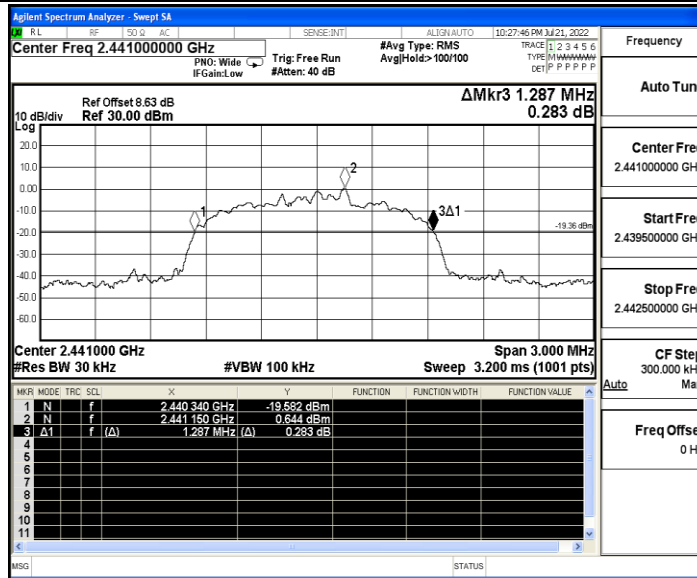


3D H5_Ant1_2402



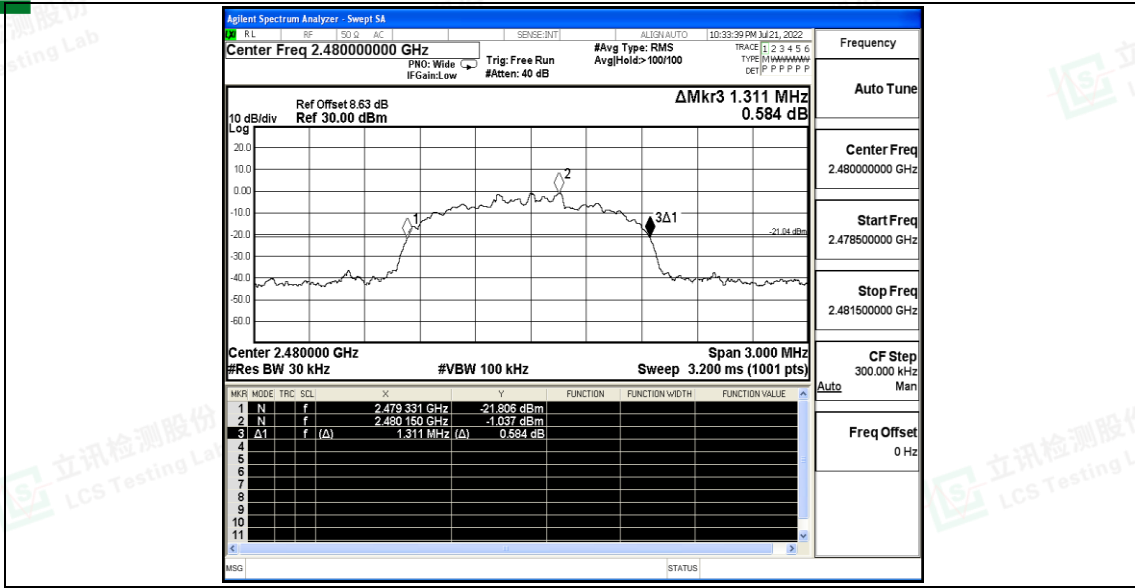


3DH5_Ant1_2441



3DH5_Ant1_2480







A.2 Maximum conducted output power

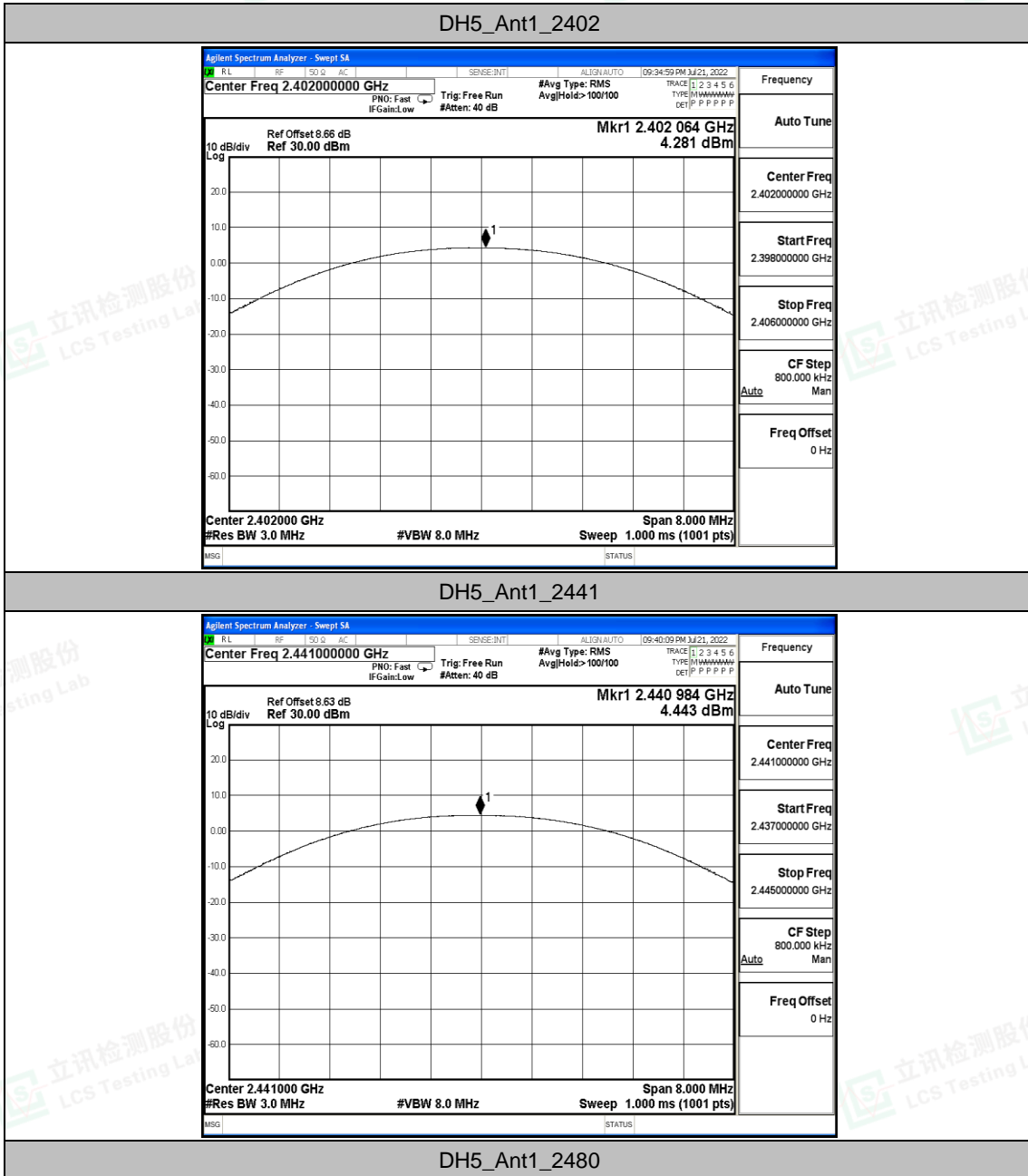
Test Result

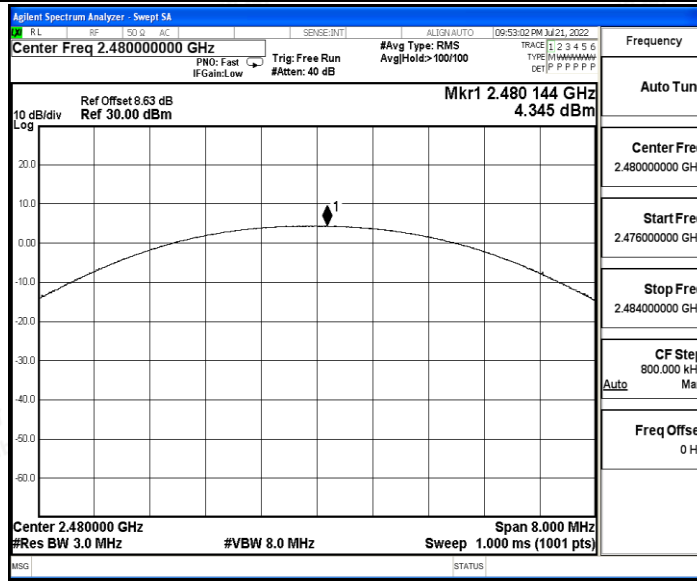
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	4.28	≤20.97	PASS
		2441	4.44	≤20.97	PASS
		2480	4.35	≤20.97	PASS
2DH5	Ant1	2402	3.87	≤20.97	PASS
		2441	4.04	≤20.97	PASS
		2480	4.09	≤20.97	PASS
3DH5	Ant1	2402	3.96	≤20.97	PASS
		2441	4.21	≤20.97	PASS
		2480	4.24	≤20.97	PASS



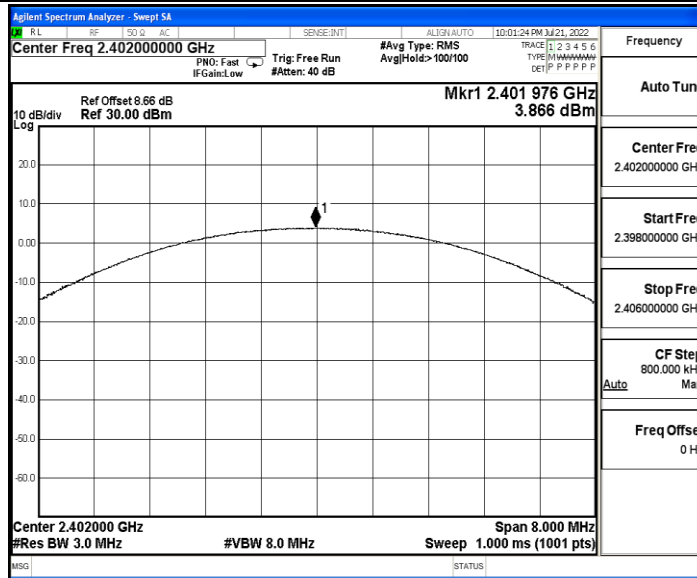


Test Graphs



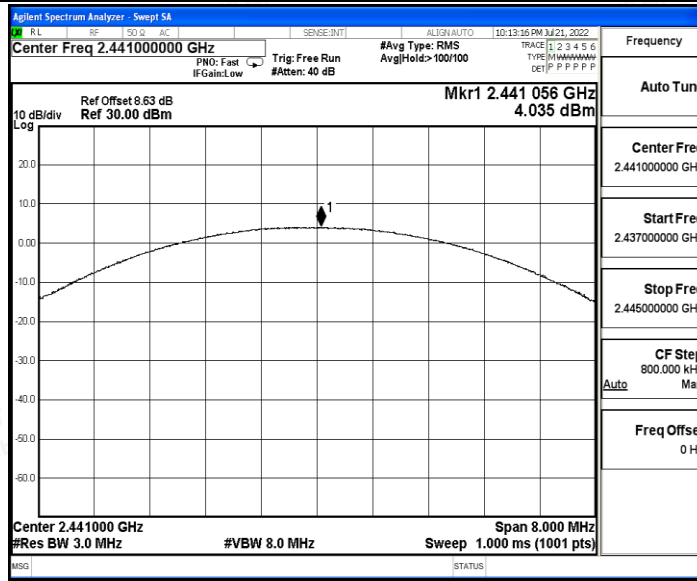


2DH5_Ant1_2402

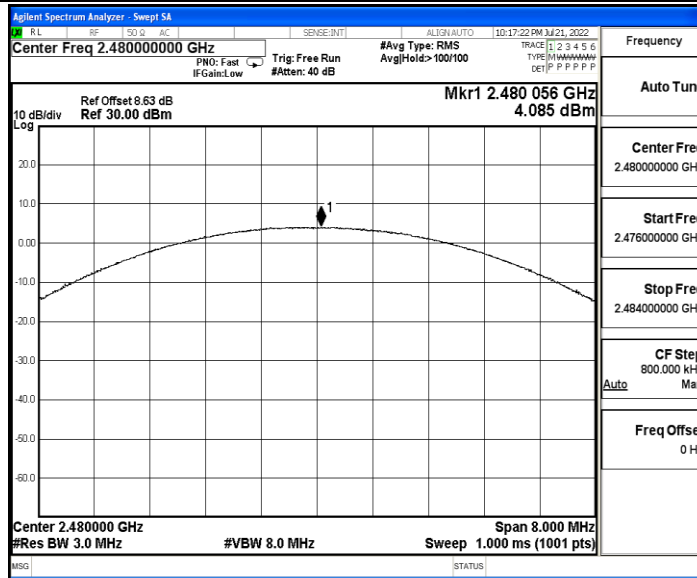


2DH5_Ant1_2441



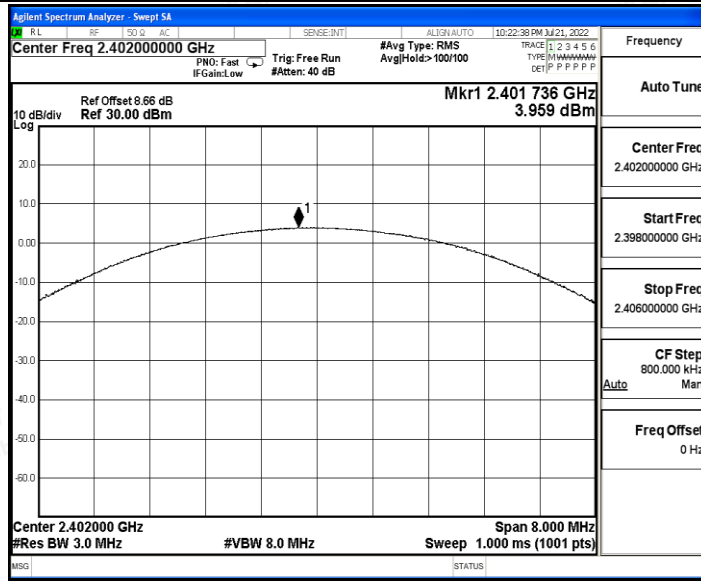


2DH5_Ant1_2480

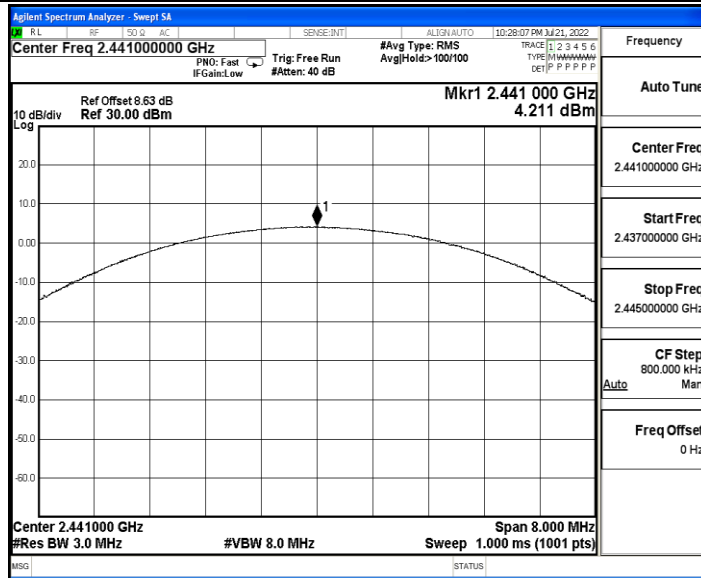


3DH5_Ant1_2402



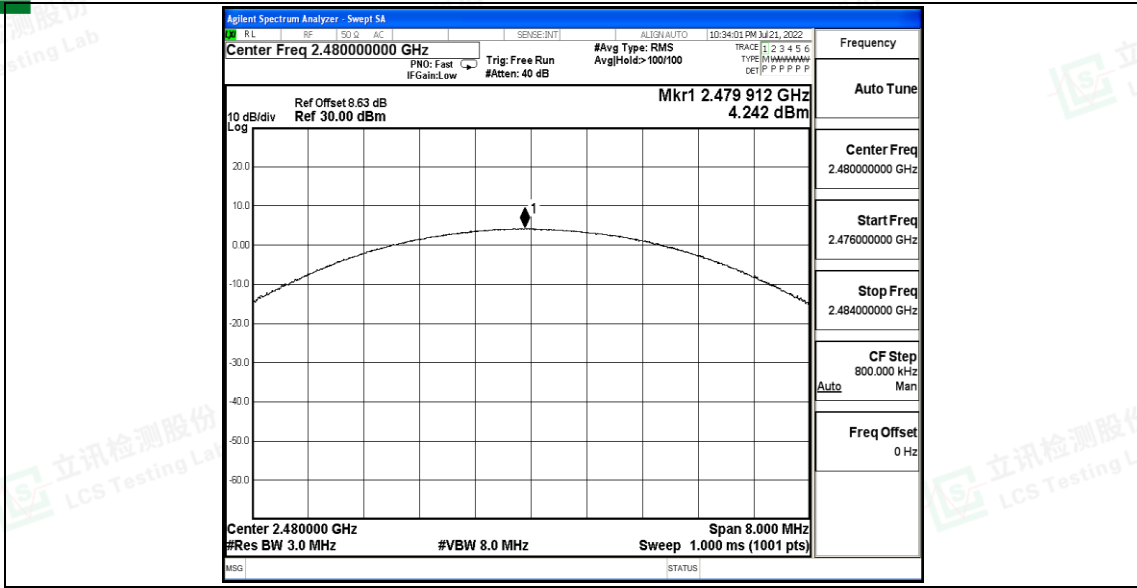


3DH5_Ant1_2441



3DH5_Ant1_2480







A.3 Carrier frequency separation

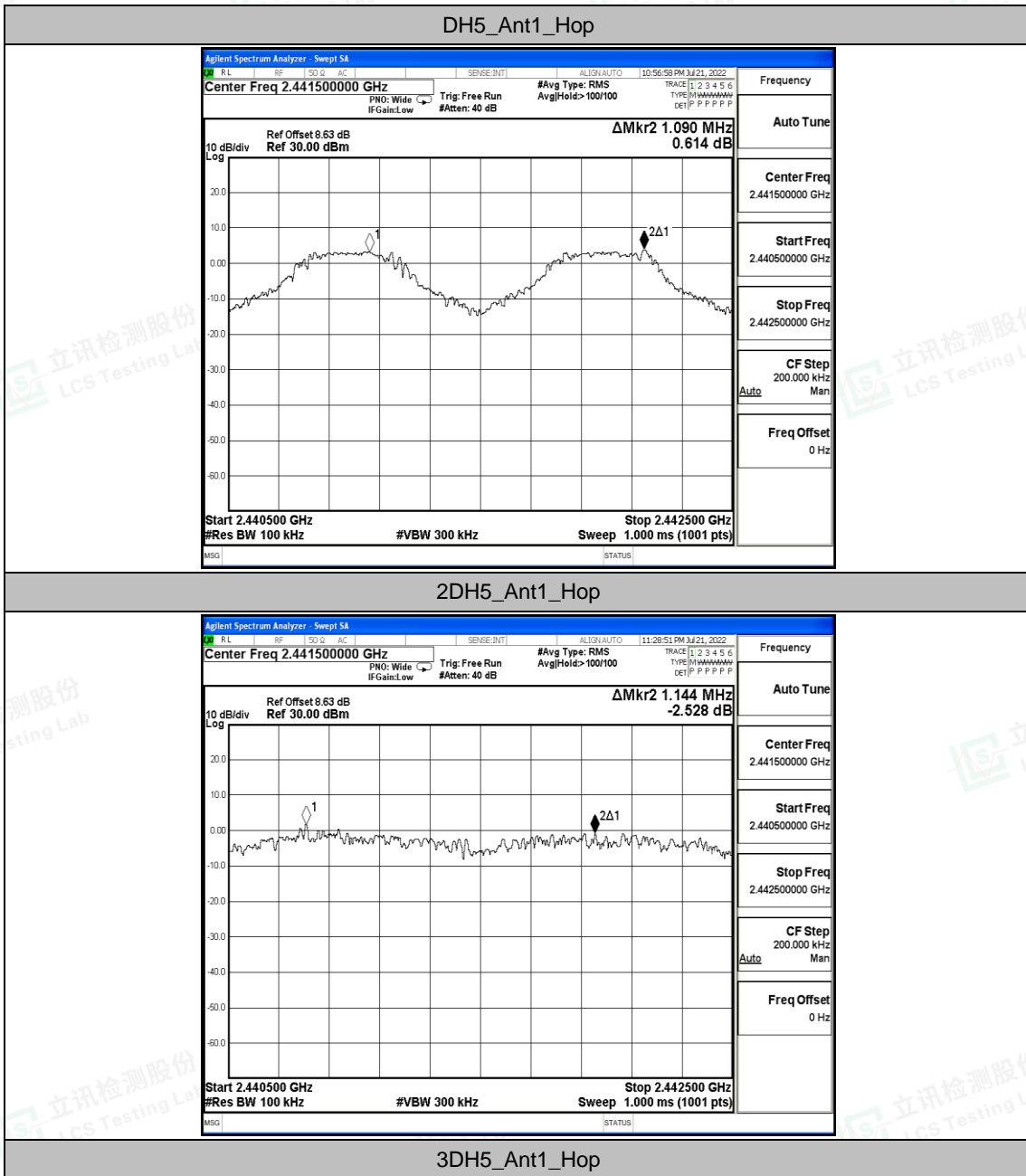
Test Result

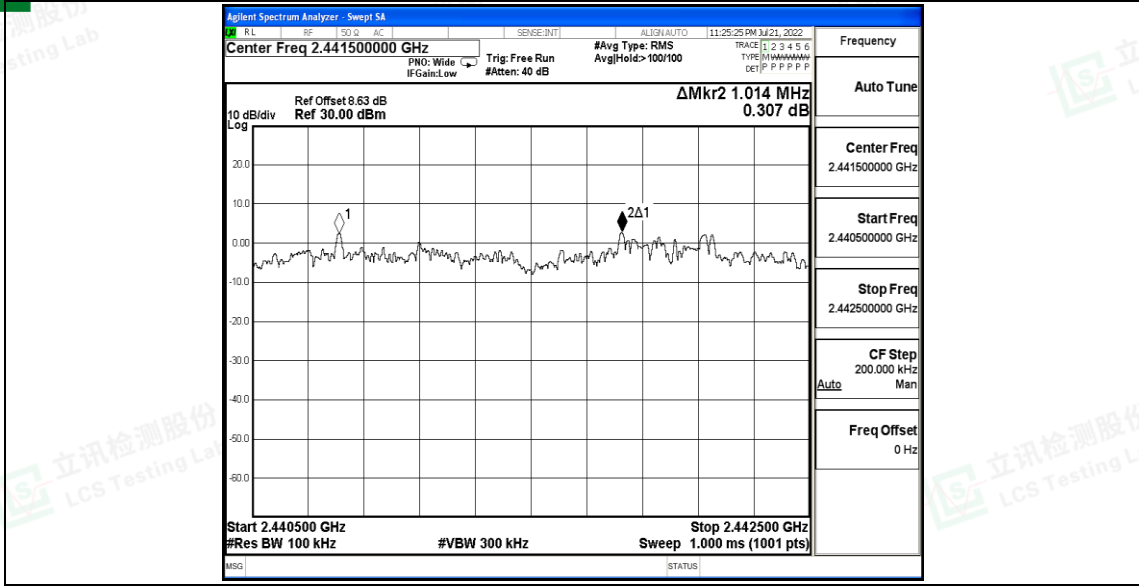
TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	1.09	≥1.038	PASS
2DH5	Ant1	Hop	1.144	≥0.884	PASS
3DH5	Ant1	Hop	1.014	≥0.874	PASS





Test Graphs







A.4 Time of occupancy

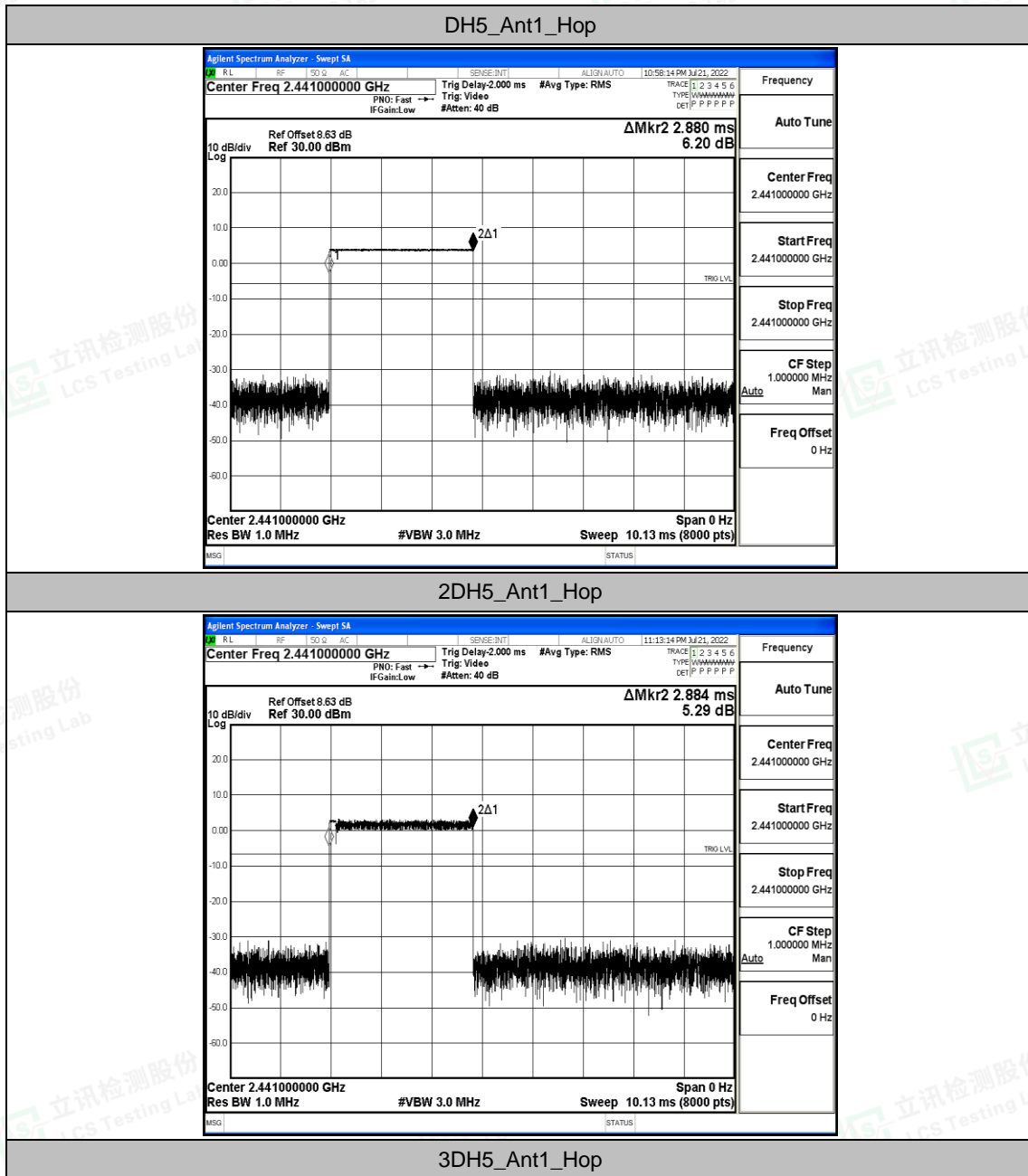
Test Result

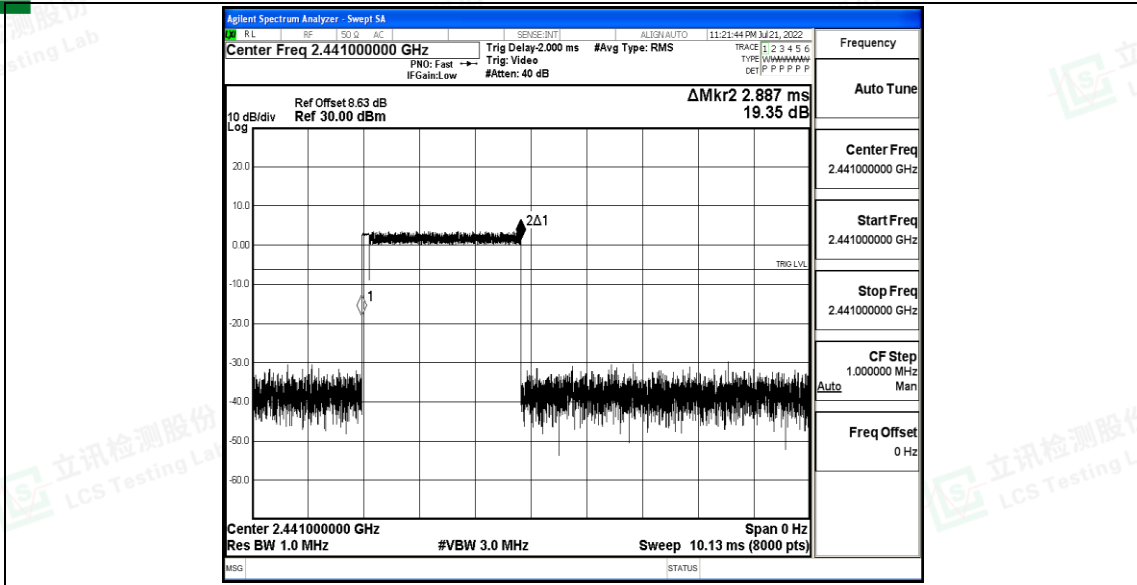
TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.88	106.67	0.307	≤0.4	PASS
2DH5	Ant1	Hop	2.88	106.67	0.308	≤0.4	PASS
3DH5	Ant1	Hop	2.89	106.67	0.308	≤0.4	PASS





Test Graphs







A.5 Number of hopping channels

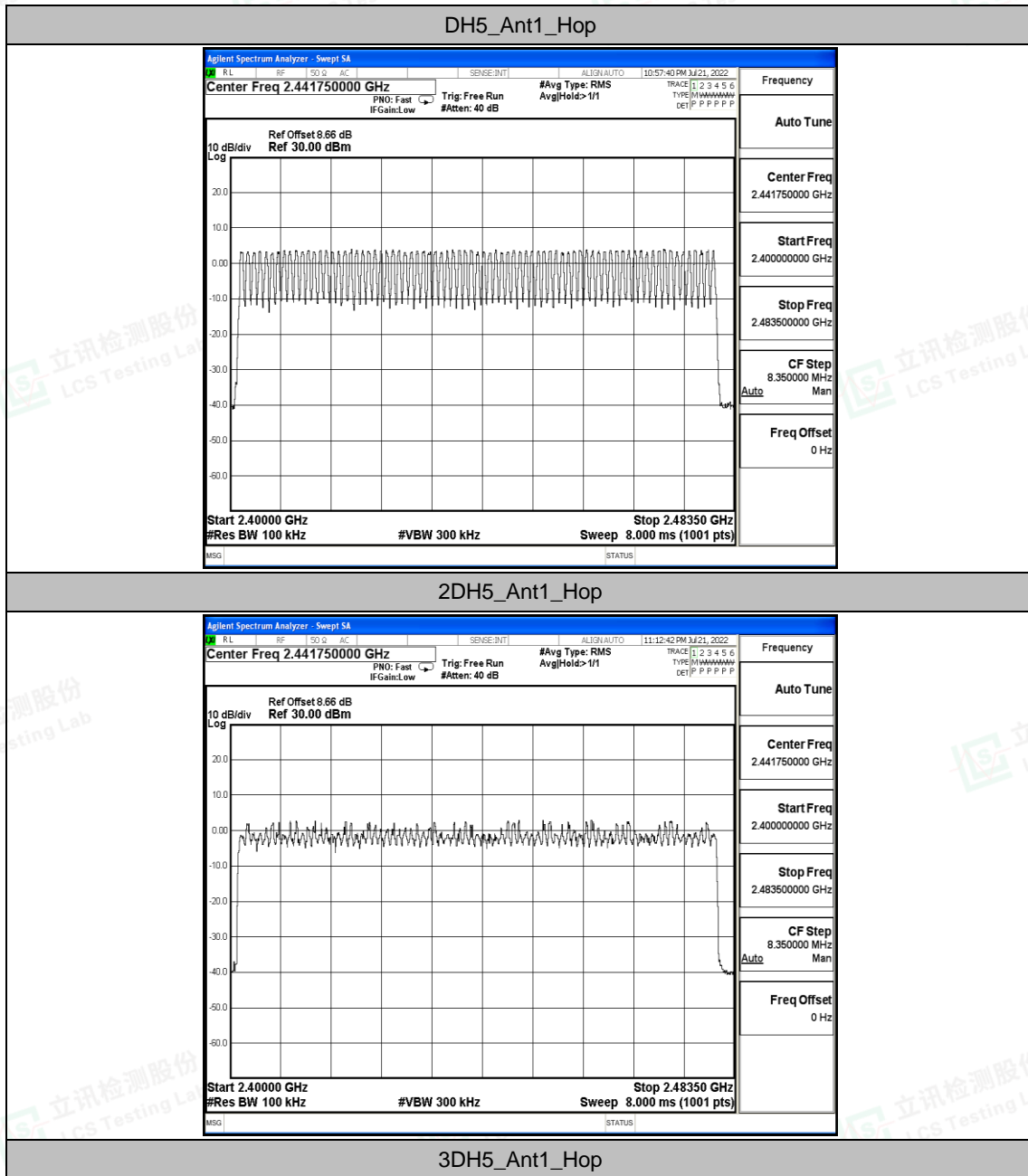
Test Result

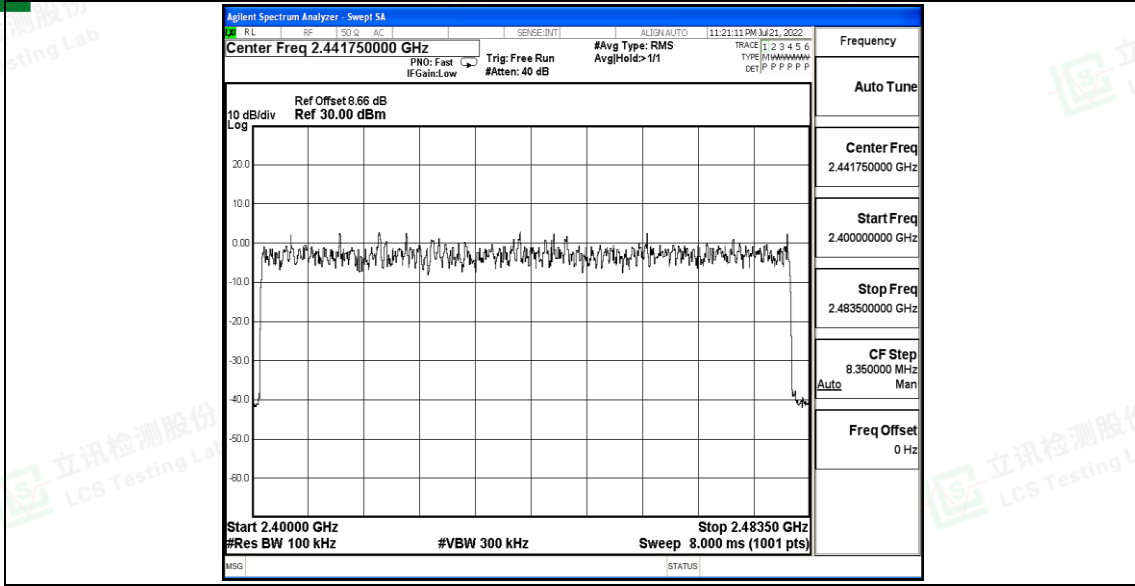
TestMode	Antenna	Channel	Result[Num]	Limit[Num]	Verdict
DH5	Ant1	Hop	79	≥15	PASS
2DH5	Ant1	Hop	79	≥15	PASS
3DH5	Ant1	Hop	79	≥15	PASS





Test Graphs







A.6 Band edge measurements

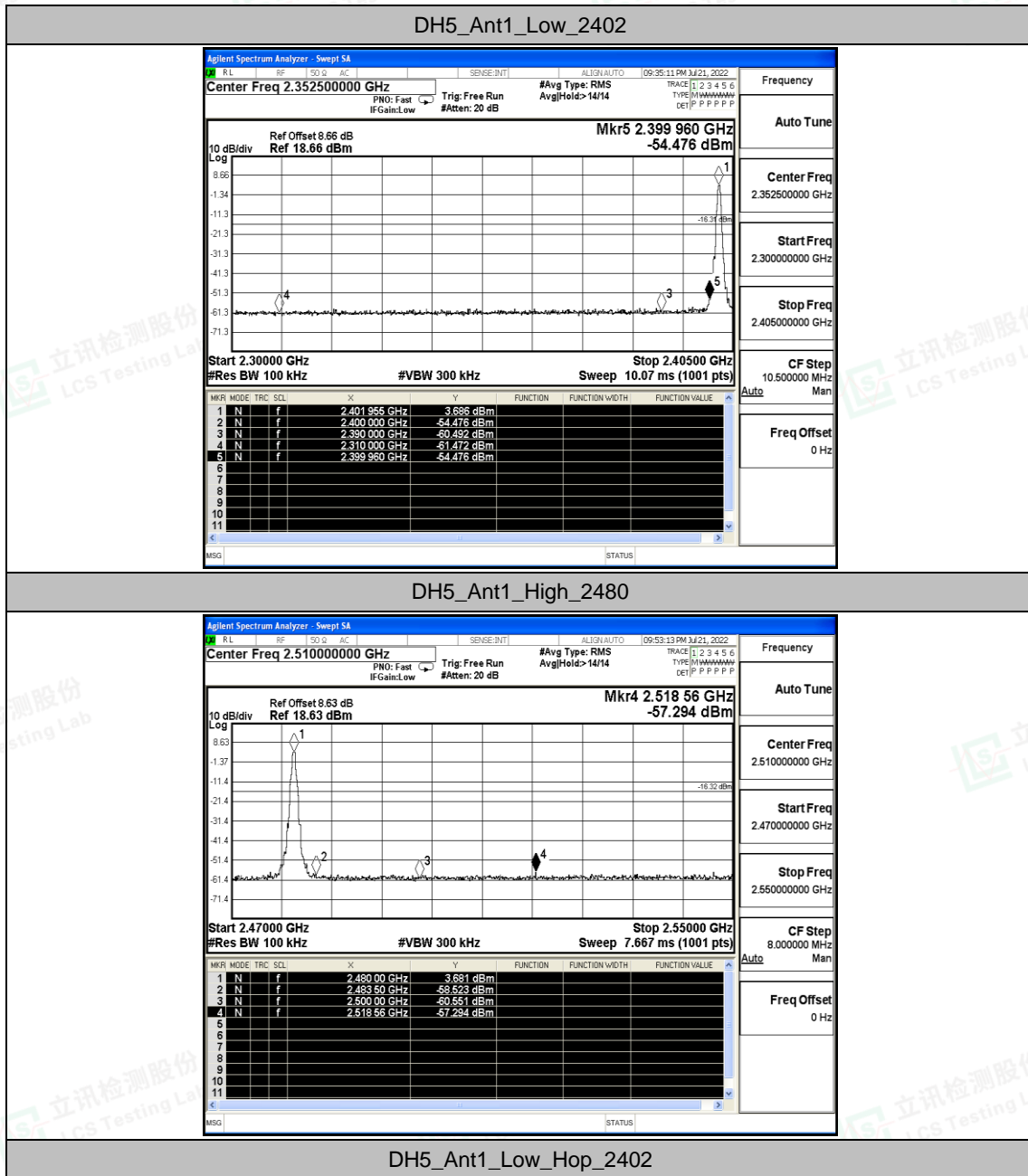
Test Result

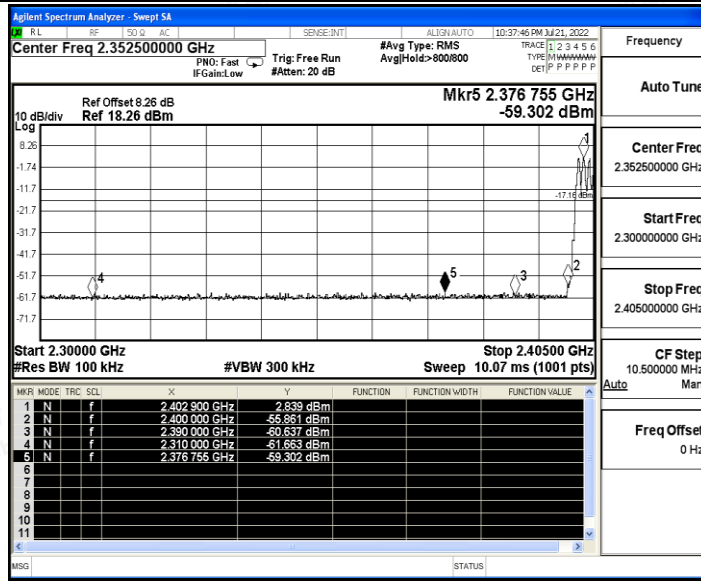
TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	3.69	-54.77	≤-16.31	PASS
		High	2480	3.68	-57.29	≤-16.32	PASS
		Low	Hop_2402	2.84	-59.3	≤-17.16	PASS
		High	Hop_2480	3.86	-57.23	≤-16.14	PASS
2DH5	Ant1	Low	2402	1.28	-53.07	≤-18.72	PASS
		High	2480	2.82	-57.36	≤-17.18	PASS
		Low	Hop_2402	-0.75	-59.06	≤-20.75	PASS
		High	Hop_2480	-0.91	-57.58	≤-20.91	PASS
3DH5	Ant1	Low	2402	2.70	-53.69	≤-17.3	PASS
		High	2480	2.70	-58.08	≤-17.3	PASS
		Low	Hop_2402	-1.65	-59.08	≤-21.65	PASS
		High	Hop_2480	1.91	-57.46	≤-18.09	PASS



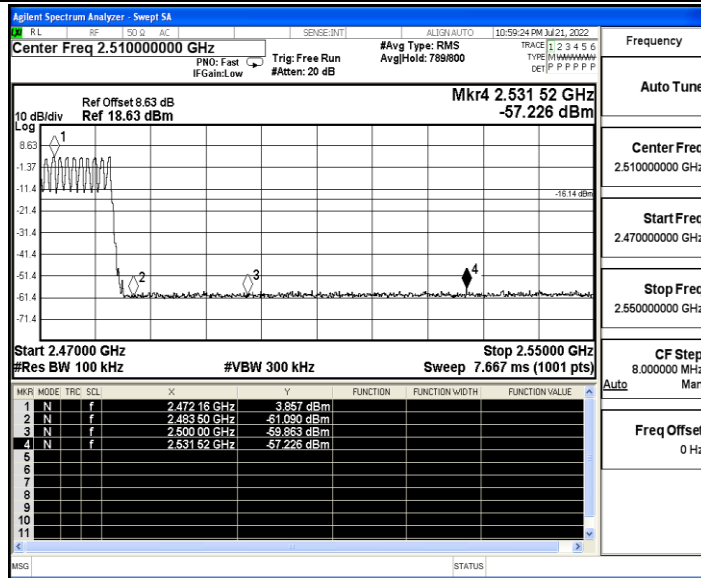


Test Graphs



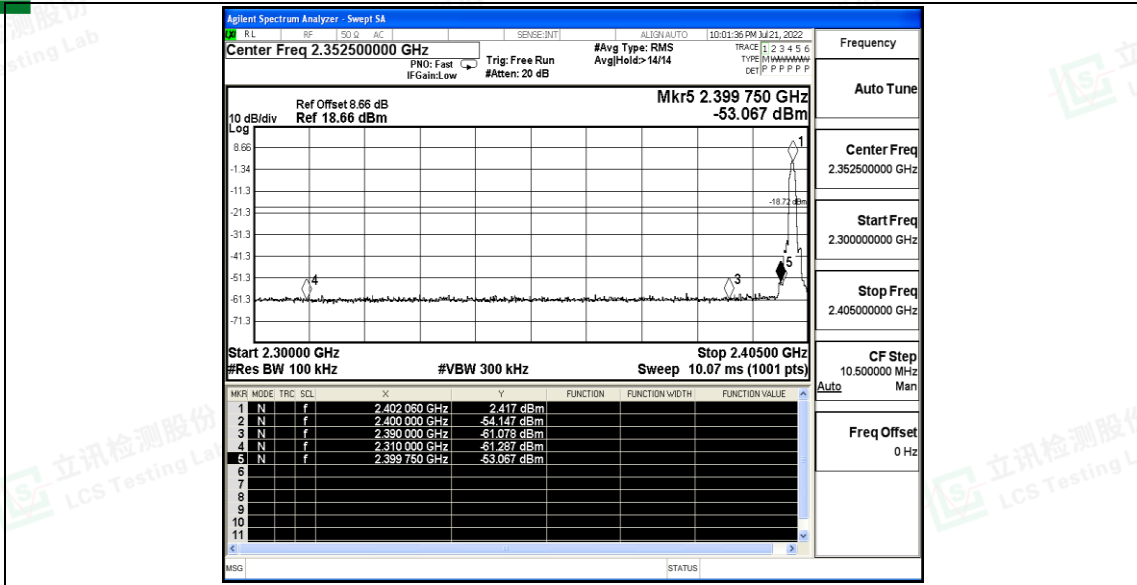


DH5_Ant1_High_Hop_2480

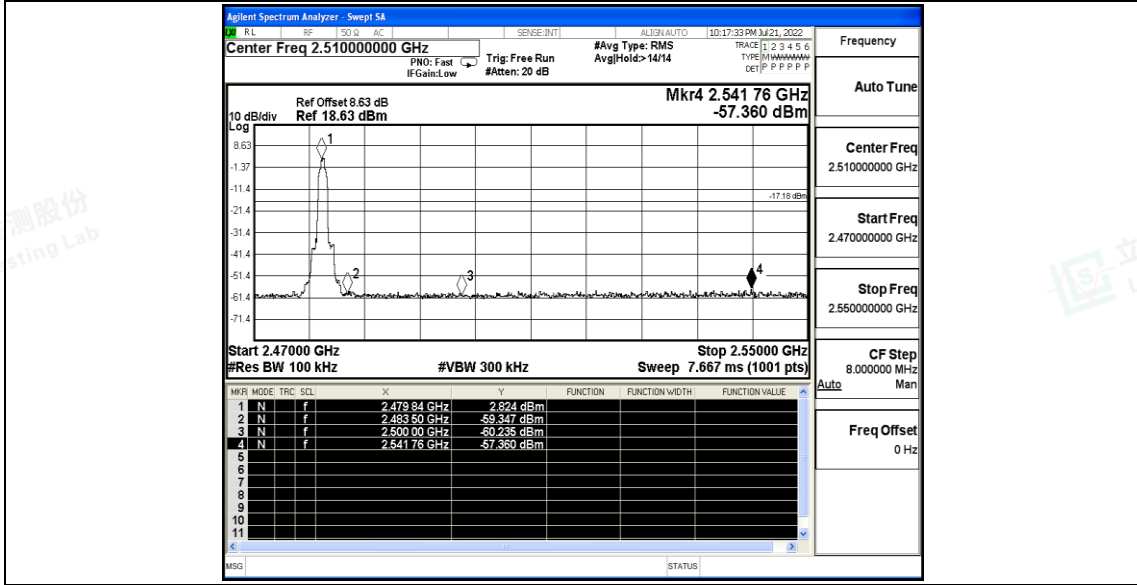


2DH5_Ant1_Low_2402



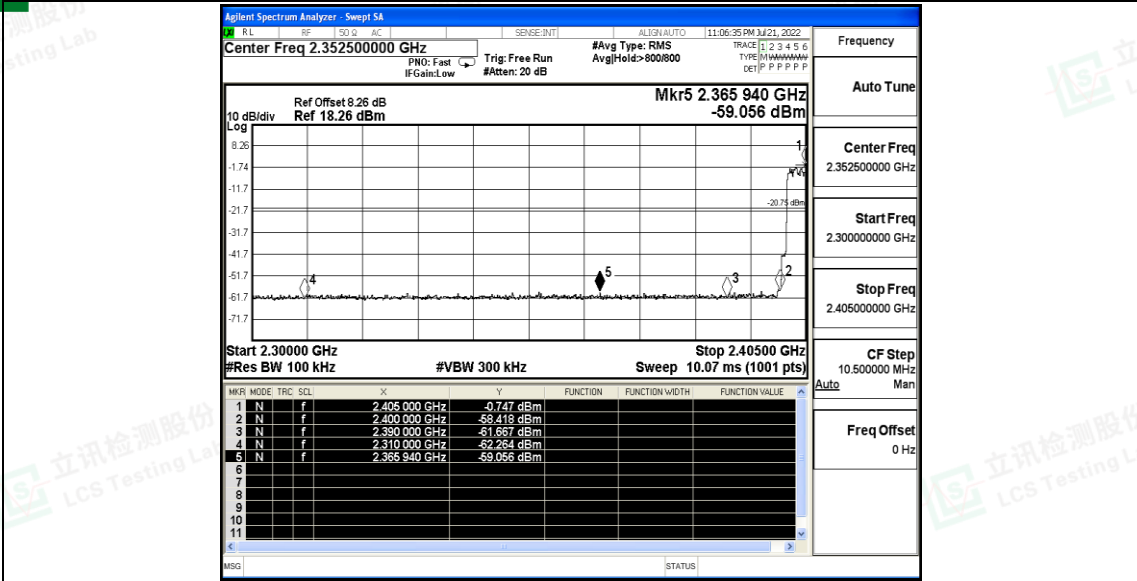


2DH5_Ant1_High_2480

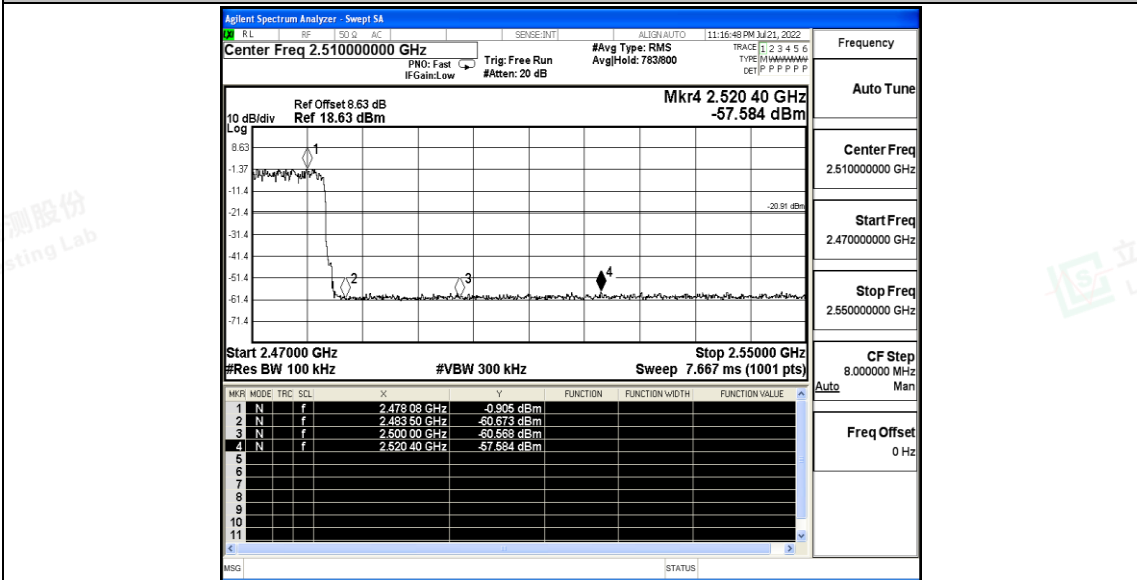


2DH5_Ant1_Low_Hop_2402



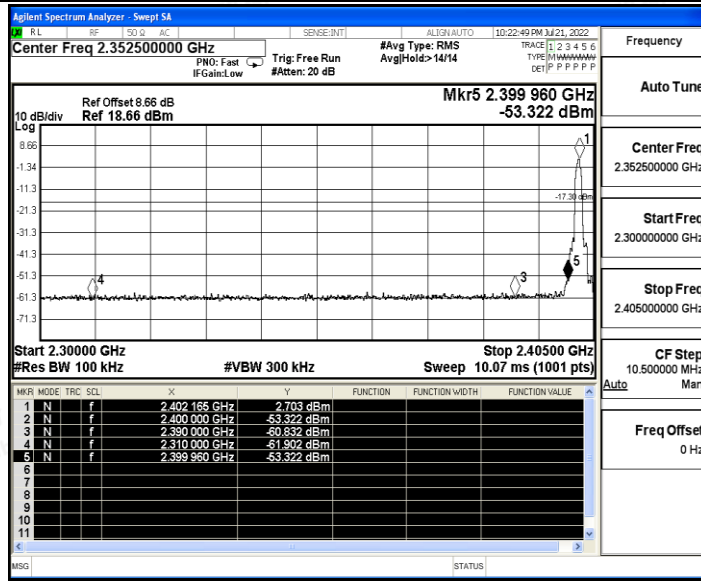


2DH5_Ant1_High_Hop_2480

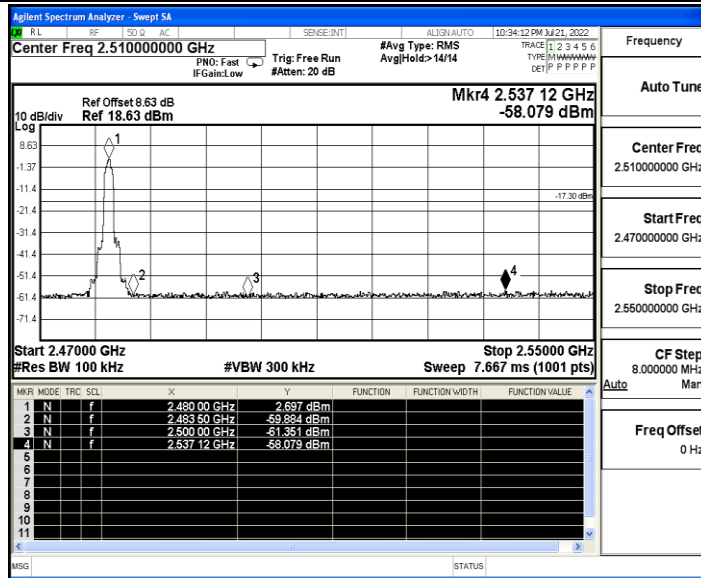


3DH5_Ant1_Low_2402



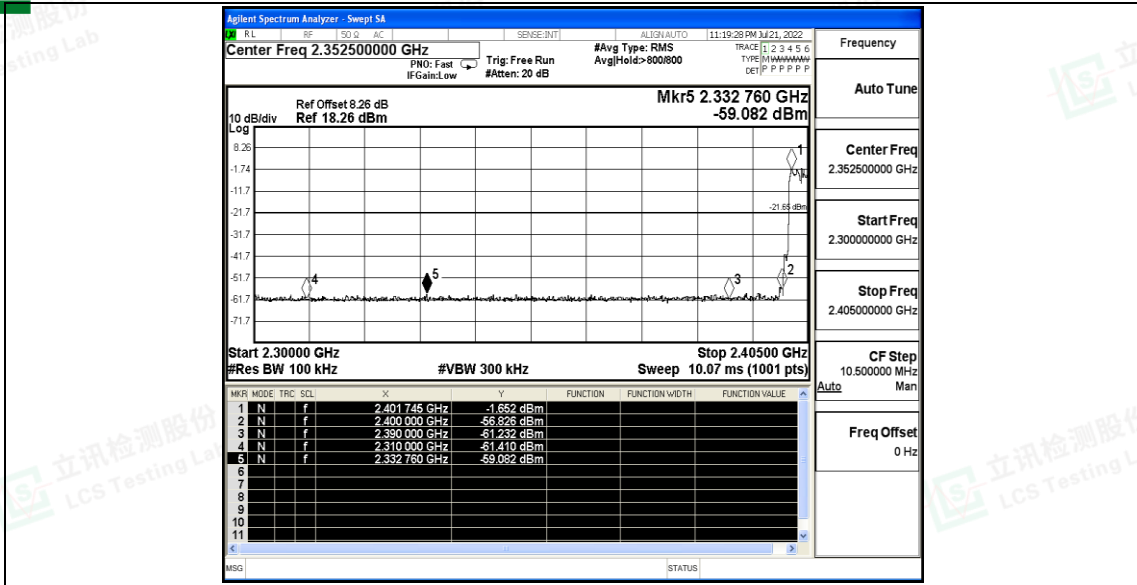


3DH5_Ant1_High_2480

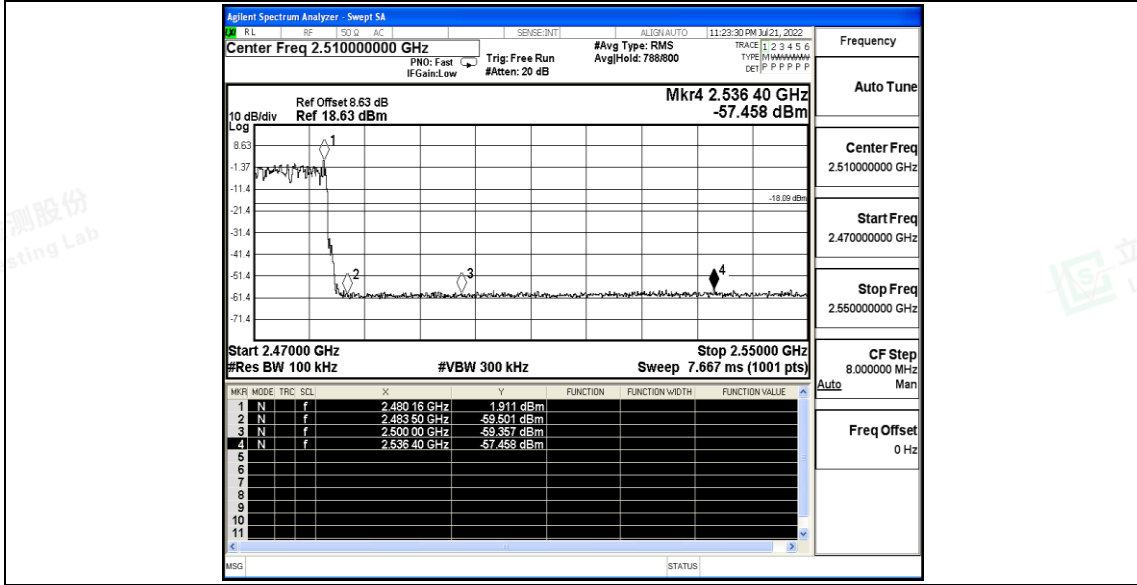


3DH5_Ant1_Low_Hop_2402





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	3.81	3.81	---	PASS
			30~1000	3.81	-60.84	≤-16.19	PASS
			1000~26500	3.81	-46.32	≤-16.19	PASS
		2441	Reference	3.85	3.85	---	PASS
			30~1000	3.85	-60.79	≤-16.15	PASS
			1000~26500	3.85	-45.69	≤-16.15	PASS
		2480	Reference	3.87	3.87	---	PASS
			30~1000	3.87	-61.03	≤-16.13	PASS
			1000~26500	3.87	-45.89	≤-16.13	PASS
2DH5	Ant1	2402	Reference	2.61	2.61	---	PASS
			30~1000	2.61	-36.4	≤-17.39	PASS
			1000~26500	2.61	-45.99	≤-17.39	PASS
		2441	Reference	2.43	2.43	---	PASS
			30~1000	2.43	-60.58	≤-17.57	PASS
			1000~26500	2.43	-45.54	≤-17.57	PASS
		2480	Reference	2.86	2.86	---	PASS
			30~1000	2.86	-59.74	≤-17.14	PASS
			1000~26500	2.86	-46.21	≤-17.14	PASS
3DH5	Ant1	2402	Reference	2.51	2.51	---	PASS
			30~1000	2.51	-60.36	≤-17.49	PASS
			1000~26500	2.51	-46.24	≤-17.49	PASS
		2441	Reference	2.76	2.76	---	PASS
			30~1000	2.76	-60.57	≤-17.24	PASS
			1000~26500	2.76	-46.46	≤-17.24	PASS
		2480	Reference	2.85	2.85	---	PASS
			30~1000	2.85	-50.92	≤-17.15	PASS
			1000~26500	2.85	-46.23	≤-17.15	PASS



Shenzhen LCS Compliance Testing Laboratory Ltd.

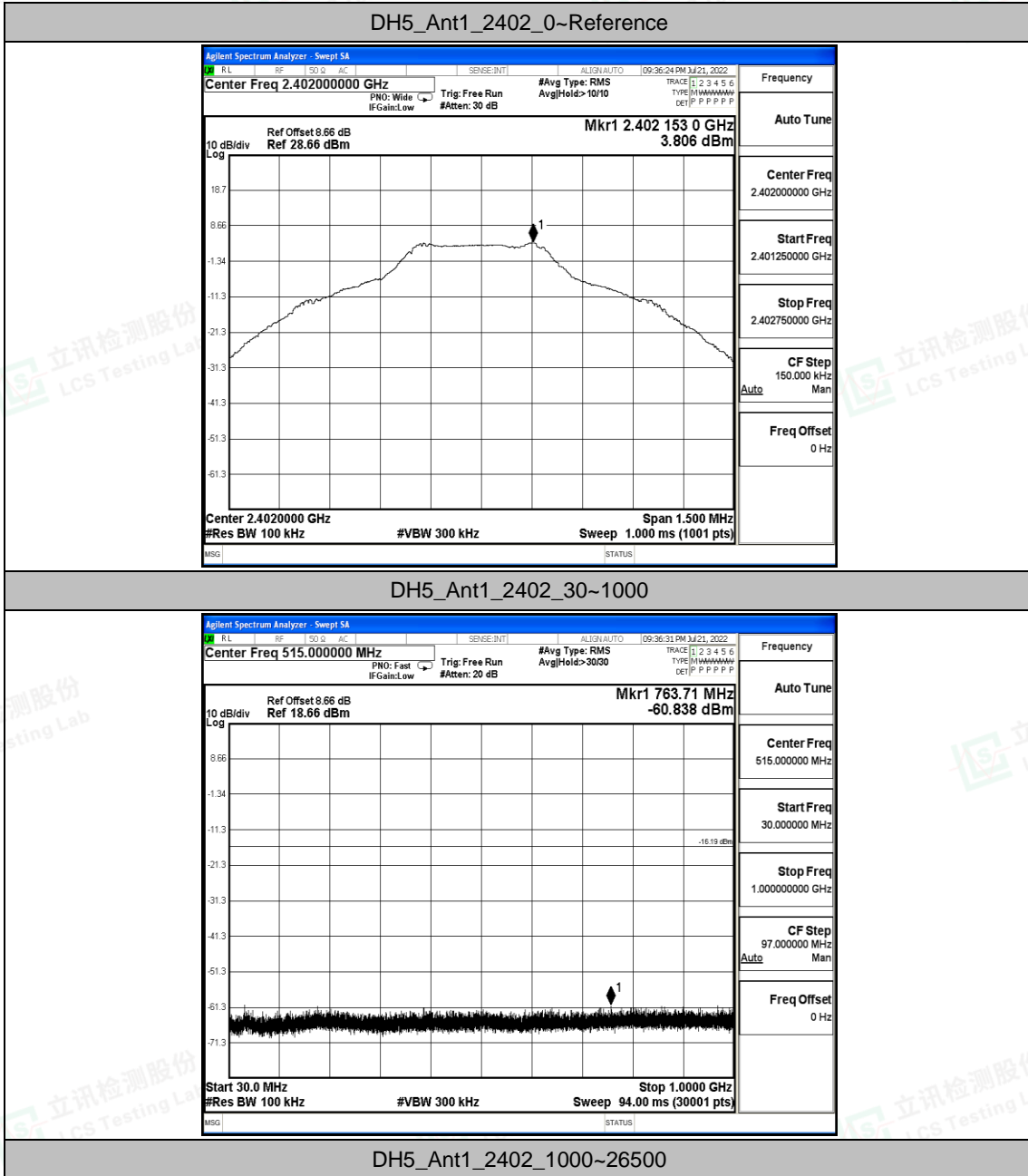
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

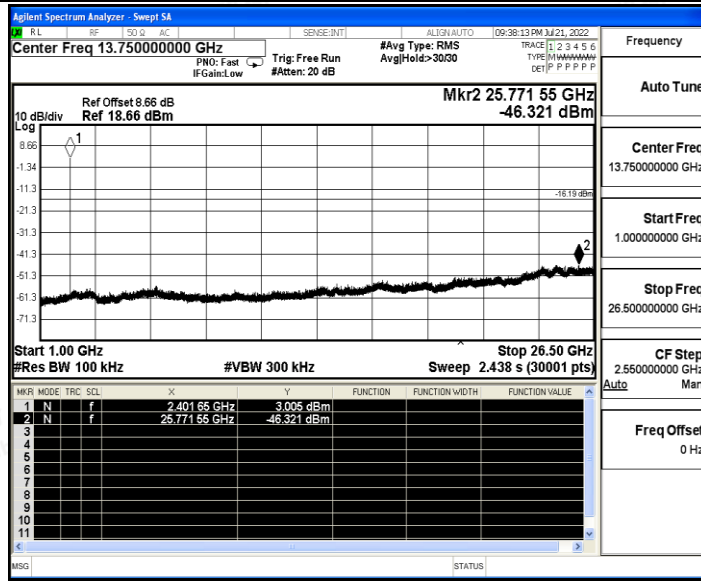
Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

Scan code to check authenticity

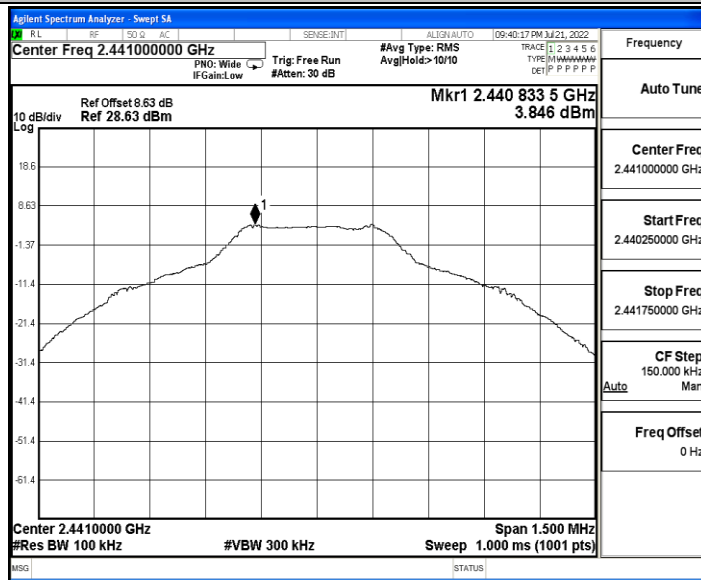


Test Graphs



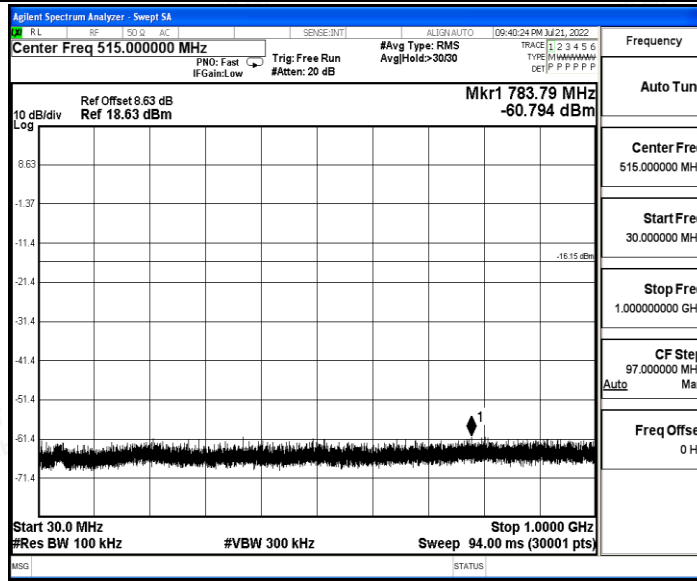


DH5_Ant1_2441_0-Reference

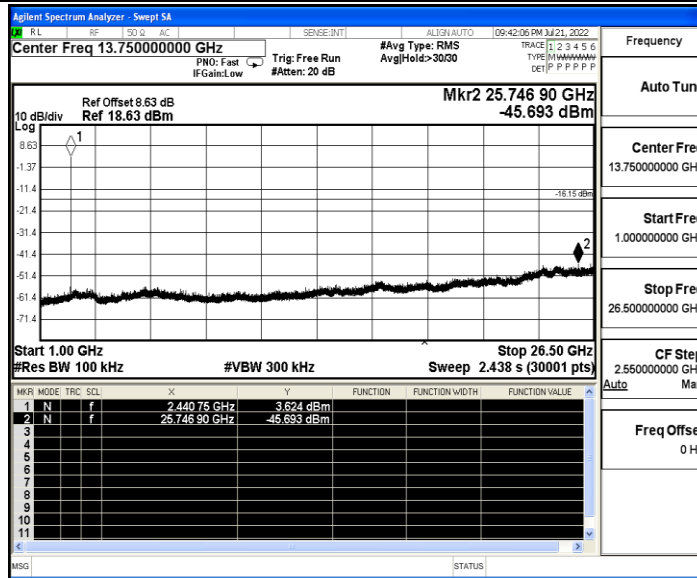


DH5_Ant1_2441_30~1000



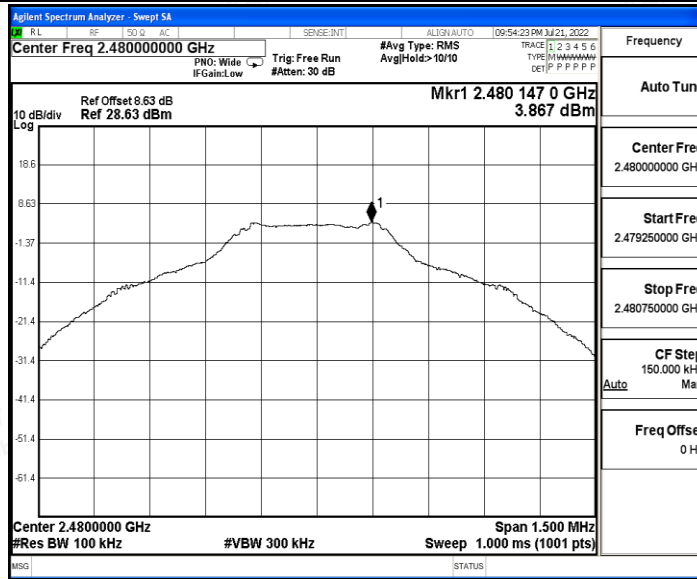


DH5_Ant1_2441_1000~26500

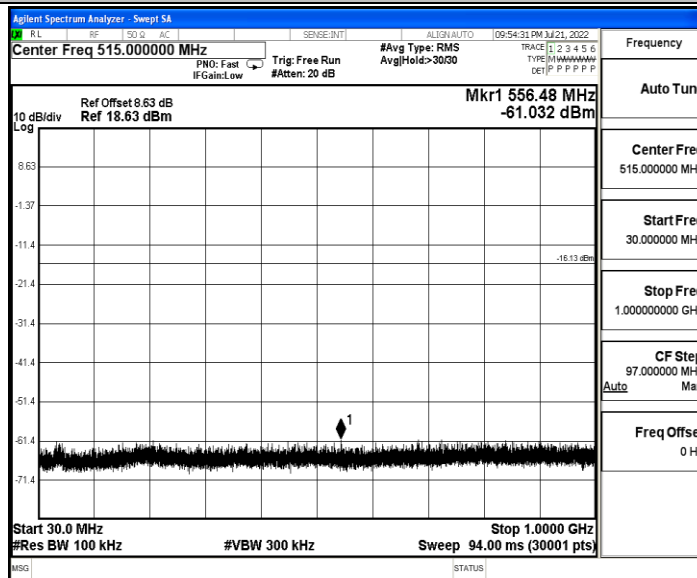


DH5_Ant1_2480_0-Reference



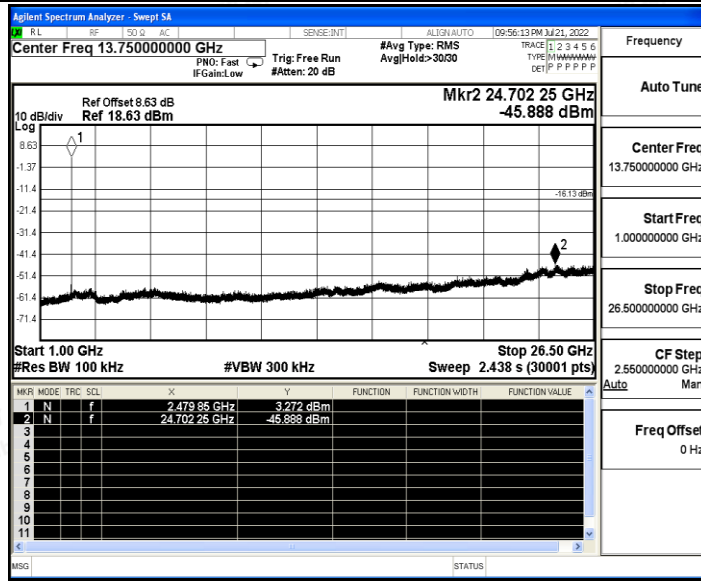


DH5_Ant1_2480_30~1000

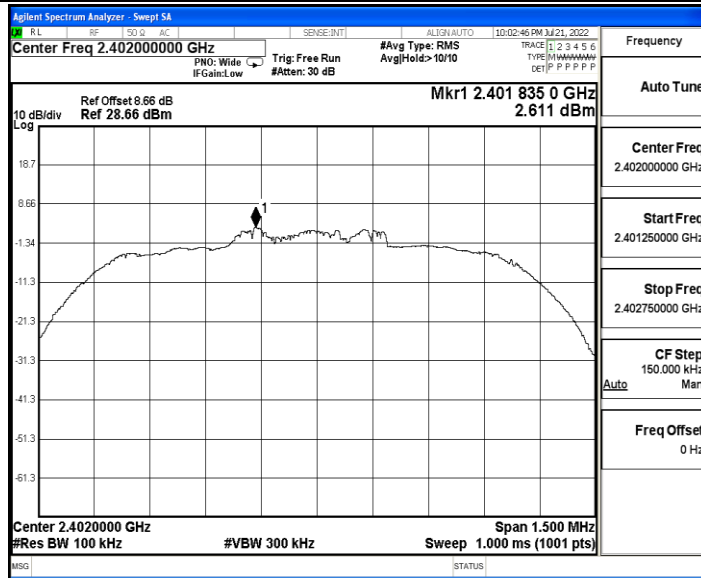


DH5_Ant1_2480_1000~26500



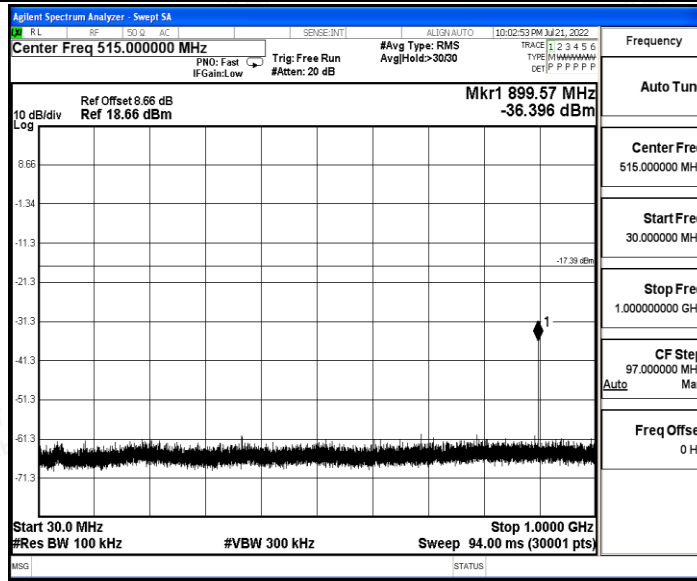


2DH5_Ant1_2402_0~Reference

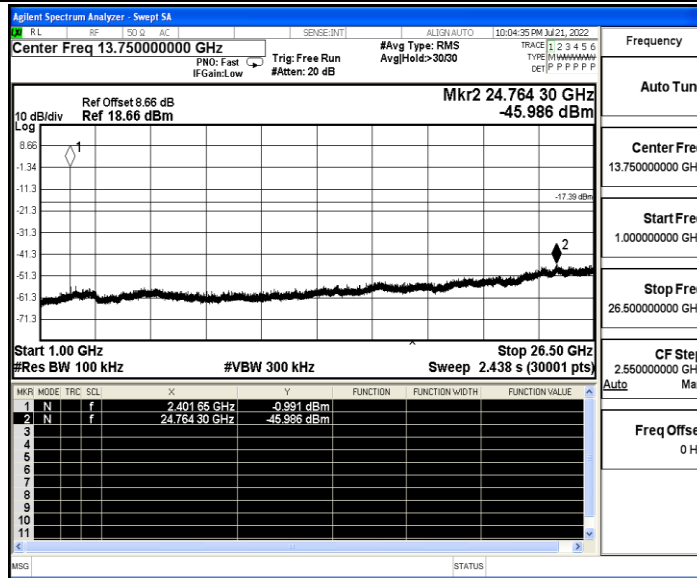


2DH5_Ant1_2402_30~1000



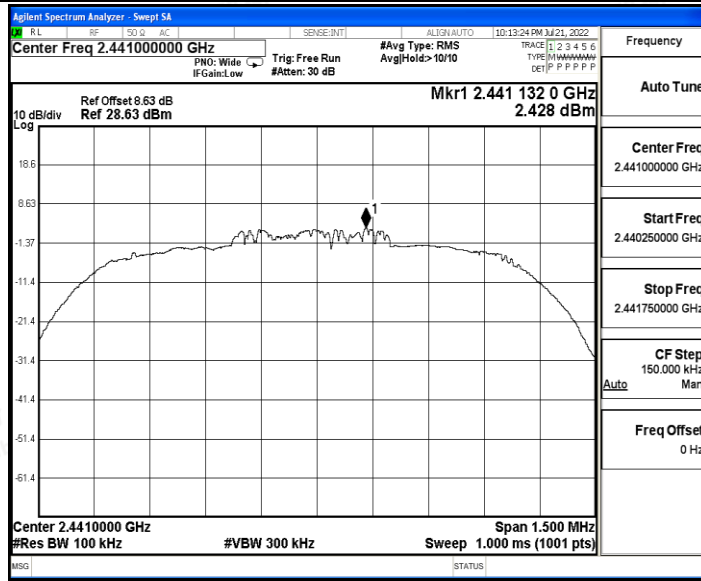


2DH5_Ant1_2402_1000~26500

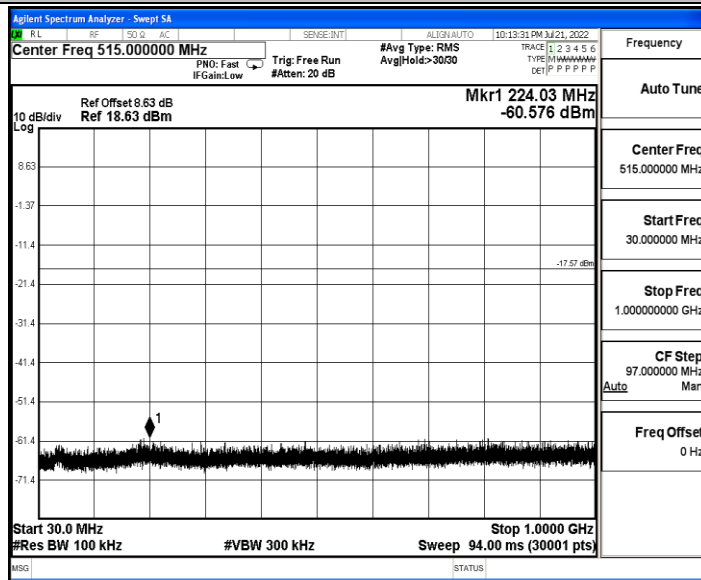


2DH5_Ant1_2441_0~Reference



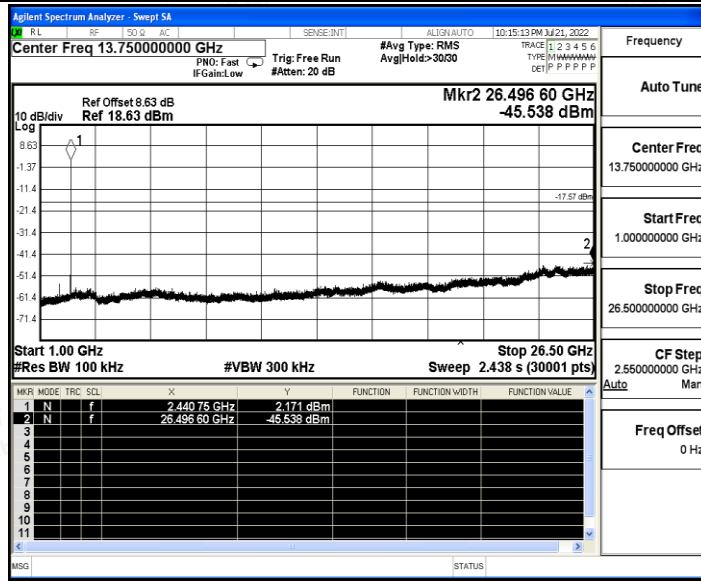


2DH5_Ant1_2441_30~1000

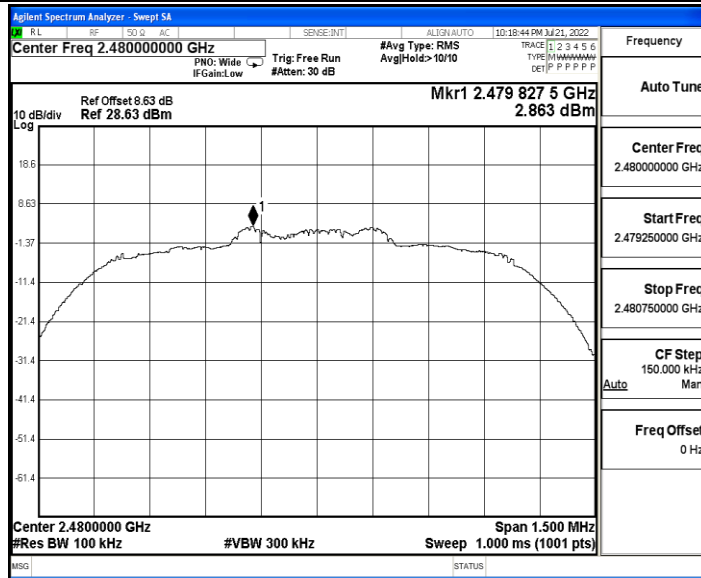


2DH5_Ant1_2441_1000~26500



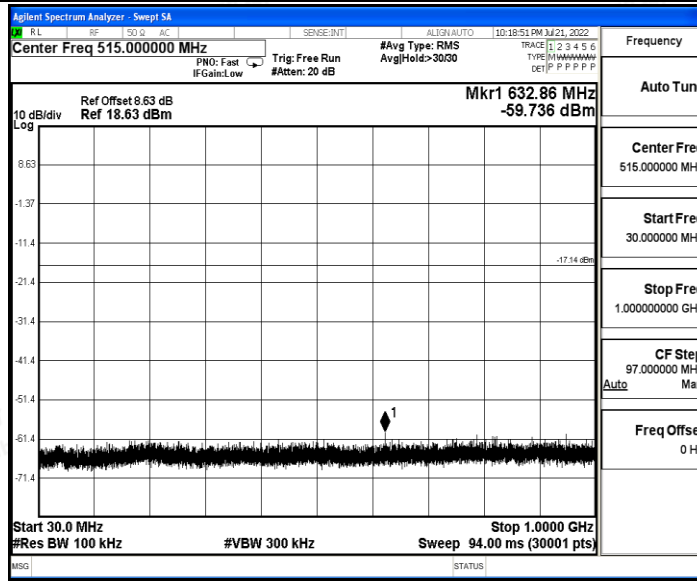


2DH5_Ant1_2480_0~Reference

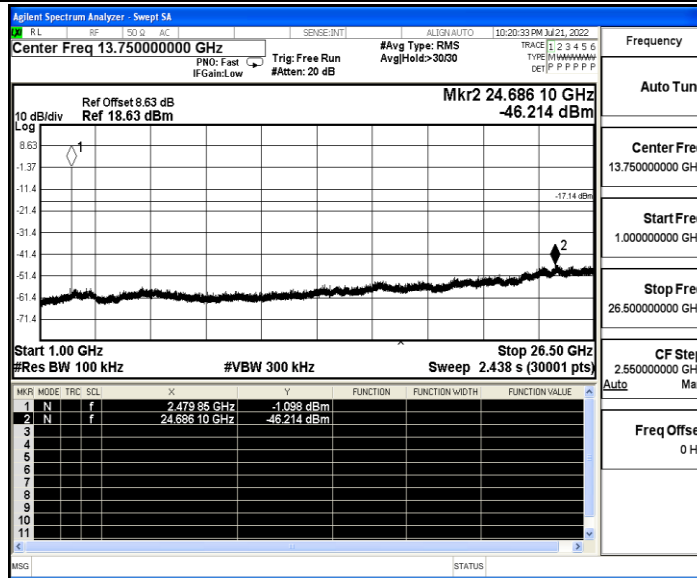


2DH5_Ant1_2480_30~1000



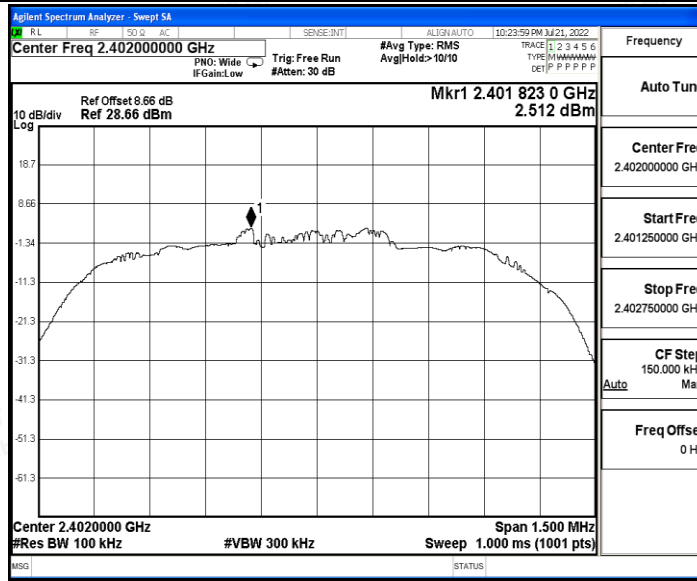


2DH5_Ant1_2480_1000~26500

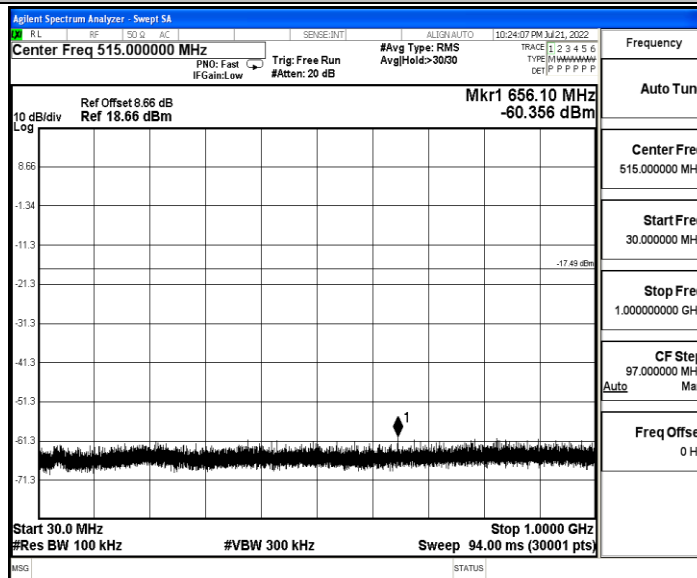


3DH5_Ant1_2402_0~Reference



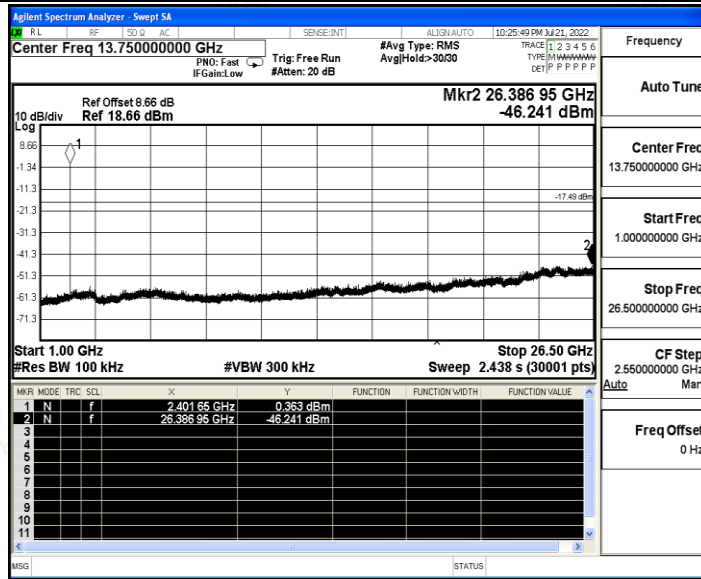


3DH5_Ant1_2402_30~1000

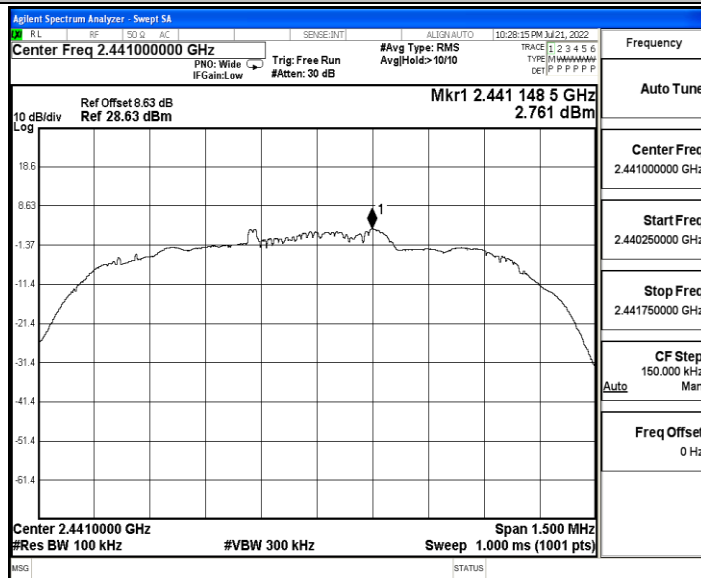


3DH5_Ant1_2402_1000~26500



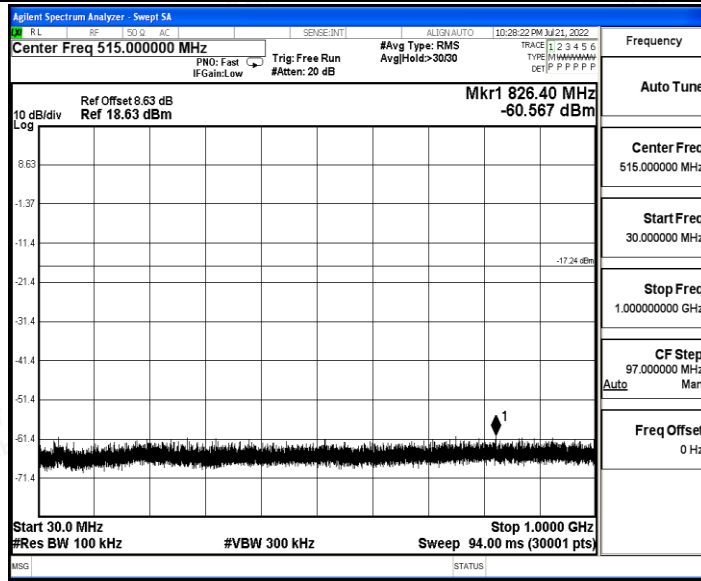


3DH5_Ant1_2441_0~Reference

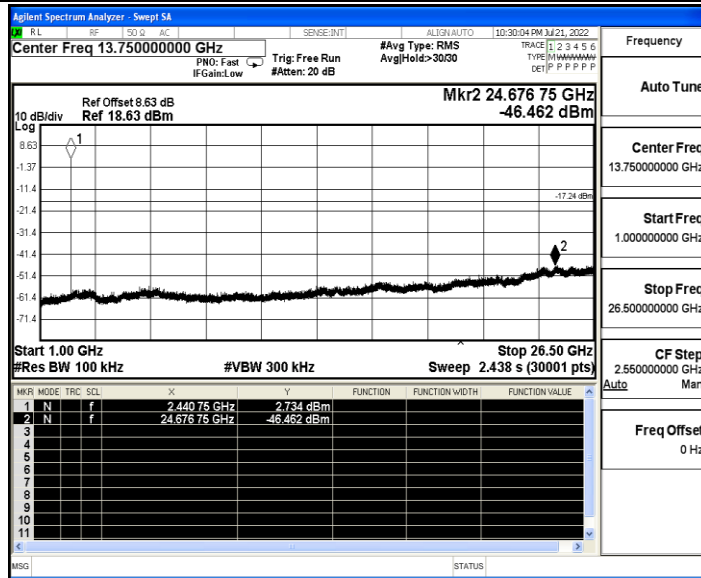


3DH5_Ant1_2441_30~1000



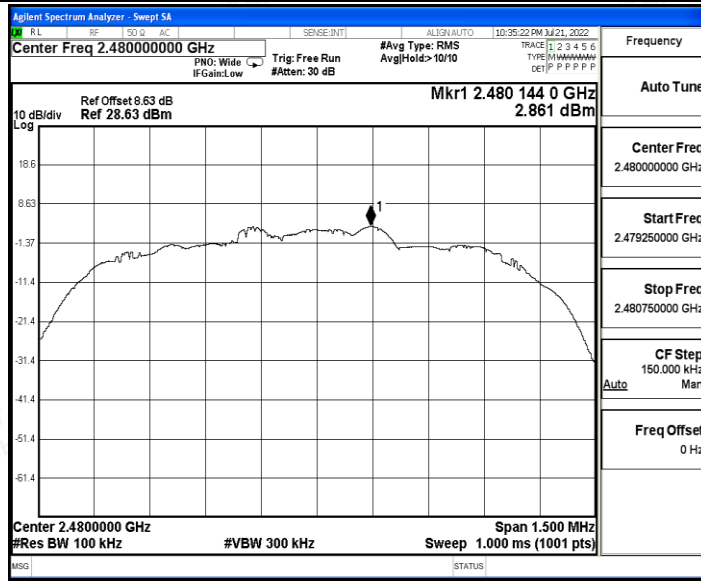


3DH5_Ant1_2441_1000-26500

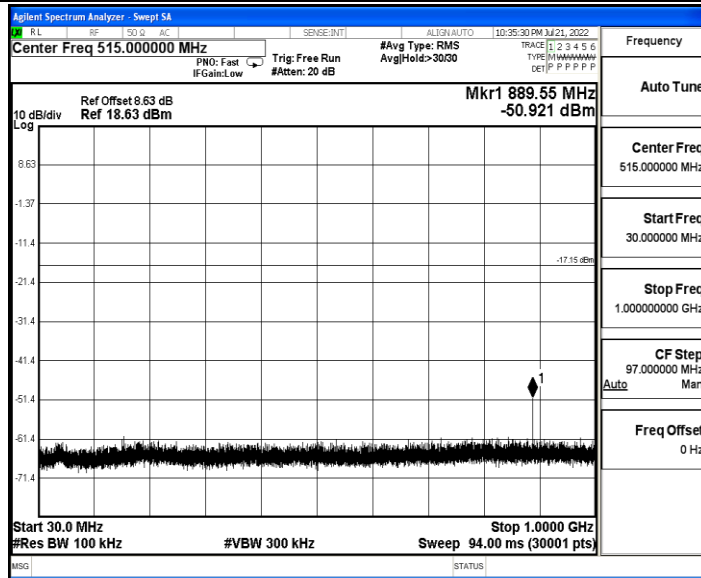


3DH5_Ant1_2480_0-Reference



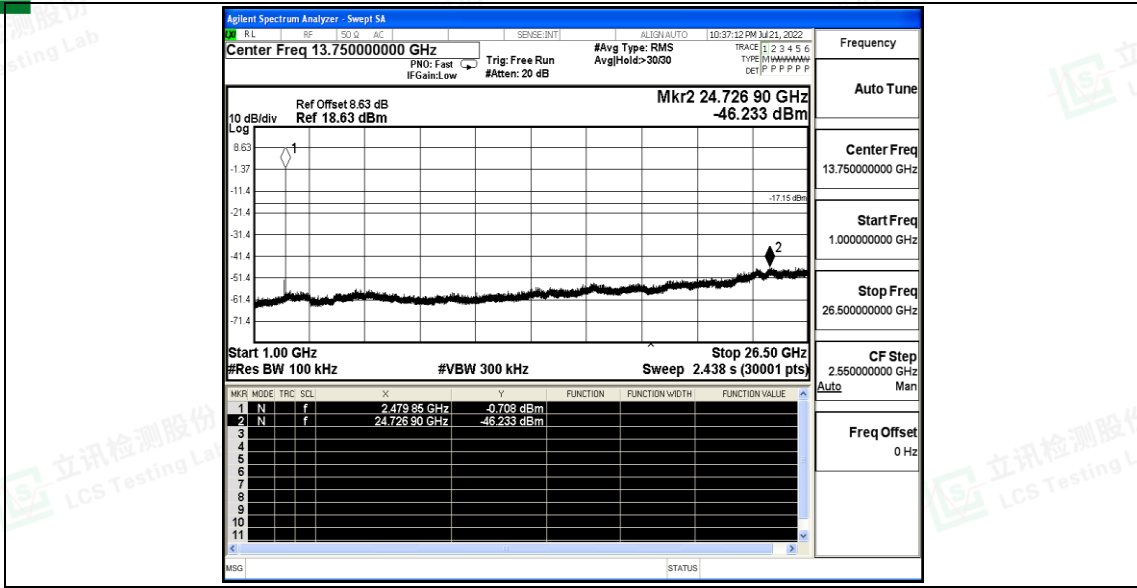


3DH5_Ant1_2480_30~1000



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	-58.21	≤-41.20	36.99	≤54	PASS
				AV	2387.255	-57.54	≤-41.20	37.66	≤54	PASS
				AV	2390.000	-57.55	≤-41.20	37.65	≤54	PASS
				Peak	2310.000	-48.16	≤-21.20	47.04	≤74	PASS
				Peak	2345.360	-46.69	≤-21.20	48.51	≤74	PASS
				Peak	2390.000	-48.32	≤-21.20	46.88	≤74	PASS
		High	2480	AV	2483.500	-53.31	≤-41.20	41.89	≤54	PASS
				AV	2483.520	-53.51	≤-41.20	41.69	≤54	PASS
				AV	2500.000	-57.2	≤-41.20	38.00	≤54	PASS
				Peak	2483.500	-46.75	≤-21.20	48.45	≤74	PASS
				Peak	2485.440	-45.37	≤-21.20	49.83	≤74	PASS
				Peak	2500.000	-47.45	≤-21.20	47.75	≤74	PASS
		Low	Hop_24 02	Peak	2310.000	-49.1	≤-21.20	46.10	≤74	PASS
				Peak	2334.650	-46.5	≤-21.20	48.70	≤74	PASS
				Peak	2390.000	-48.39	≤-21.20	46.81	≤74	PASS
		High	Hop_24 80	Peak	2483.500	-48.84	≤-21.20	46.36	≤74	PASS
				Peak	2498.160	-45.94	≤-21.20	49.26	≤74	PASS
				Peak	2500.000	-47.47	≤-21.20	47.73	≤74	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-58.15	≤-41.20	37.05	≤54	PASS
				AV	2389.985	-57.49	≤-41.20	37.71	≤54	PASS
				AV	2390.000	-57.49	≤-41.20	37.71	≤54	PASS
				Peak	2310.000	-48.34	≤-21.20	46.86	≤74	PASS
				Peak	2333.180	-46.68	≤-21.20	48.52	≤74	PASS
				Peak	2390.000	-48.13	≤-21.20	47.07	≤74	PASS
		High	2480	AV	2483.500	-53.04	≤-41.20	42.16	≤54	PASS
				AV	2483.520	-53.04	≤-41.20	42.16	≤54	PASS
				AV	2500.000	-57.22	≤-41.20	37.98	≤54	PASS
				Peak	2483.500	-46.9	≤-21.20	48.30	≤74	PASS
				Peak	2483.760	-45.89	≤-21.20	49.31	≤74	PASS
				Peak	2500.000	-48.1	≤-21.20	47.10	≤74	PASS
		Low	Hop_24 02	Peak	2310.000	-48.77	≤-21.20	46.43	≤74	PASS
				Peak	2385.365	-47.02	≤-21.20	48.18	≤74	PASS
				Peak	2390.000	-48.89	≤-21.20	46.31	≤74	PASS
		High	Hop_24 80	Peak	2483.500	-47.97	≤-21.20	47.23	≤74	PASS
				Peak	2496.960	-46.16	≤-21.20	49.04	≤74	PASS



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Scan code to check authenticity



3DH5	Ant1	Low	2402	Peak	2500.000	-47.56	≤-21.20	47.64	≤74	PASS
				AV	2310.000	-58.21	≤-41.20	36.99	≤54	PASS
				AV	2387.990	-57.52	≤-41.20	37.68	≤54	PASS
				AV	2390.000	-57.67	≤-41.20	37.53	≤54	PASS
				Peak	2310.000	-48.41	≤-21.20	46.79	≤74	PASS
				Peak	2388.935	-46.14	≤-21.20	49.06	≤74	PASS
		High	2480	AV	2483.500	-52.97	≤-41.20	42.23	≤54	PASS
				AV	2483.520	-52.97	≤-41.20	42.23	≤54	PASS
				AV	2500.000	-57.07	≤-41.20	38.13	≤54	PASS
				Peak	2483.500	-47.14	≤-21.20	48.06	≤74	PASS
				Peak	2494.160	-46.03	≤-21.20	49.17	≤74	PASS
				Peak	2500.000	-47.75	≤-21.20	47.45	≤74	PASS
	Low	Hop_24 02	Peak	2310.000	-48.18	≤-21.20	47.02	≤74	PASS	
			Peak	2377.595	-47.23	≤-21.20	47.97	≤74	PASS	
			Peak	2390.000	-48.66	≤-21.20	46.54	≤74	PASS	
	High	Hop_24 80	Peak	2483.500	-47.45	≤-21.20	47.75	≤74	PASS	
			Peak	2484.480	-45.77	≤-21.20	49.43	≤74	PASS	
			Peak	2500.000	-47.12	≤-21.20	48.08	≤74	PASS	

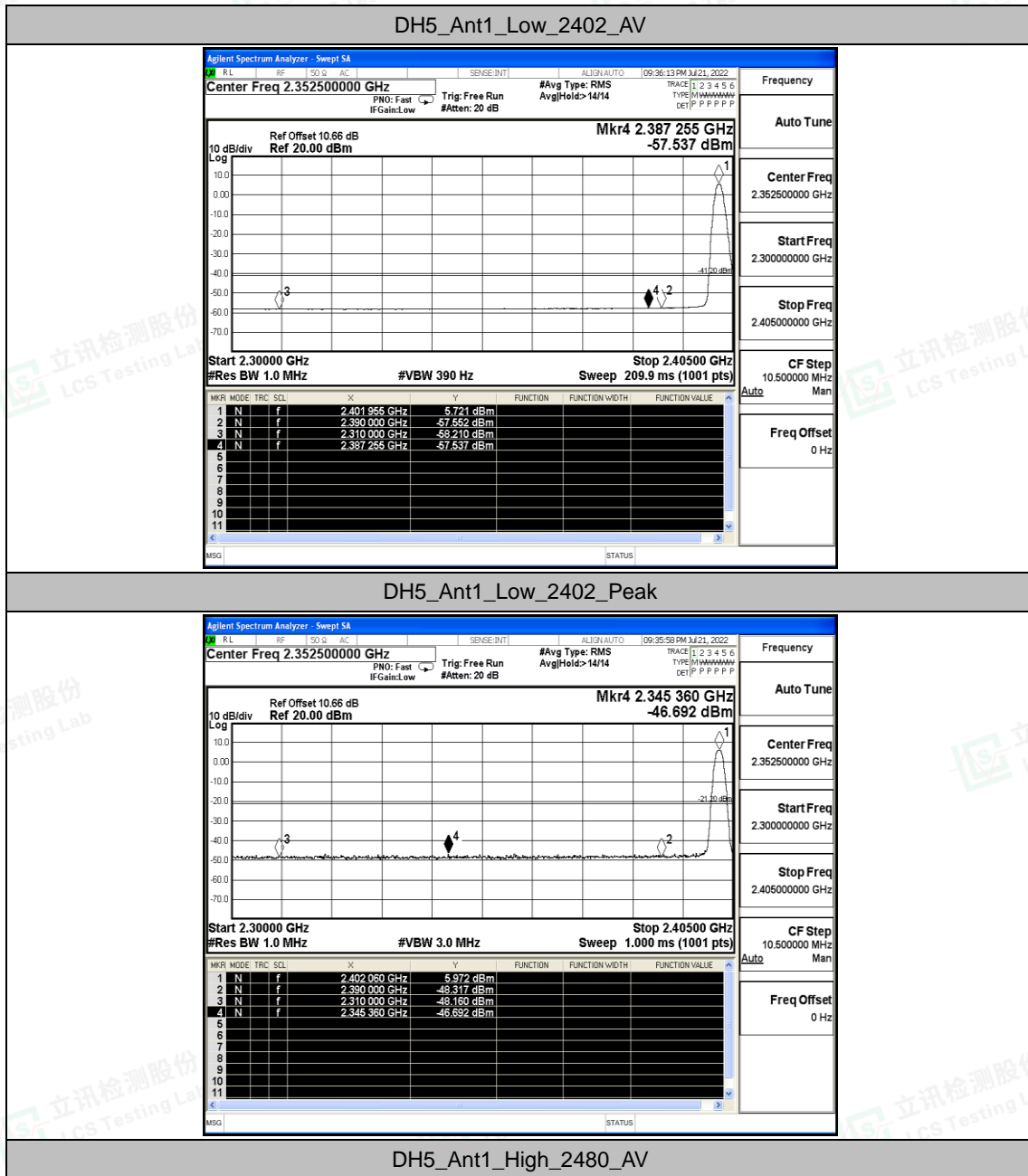
Note:

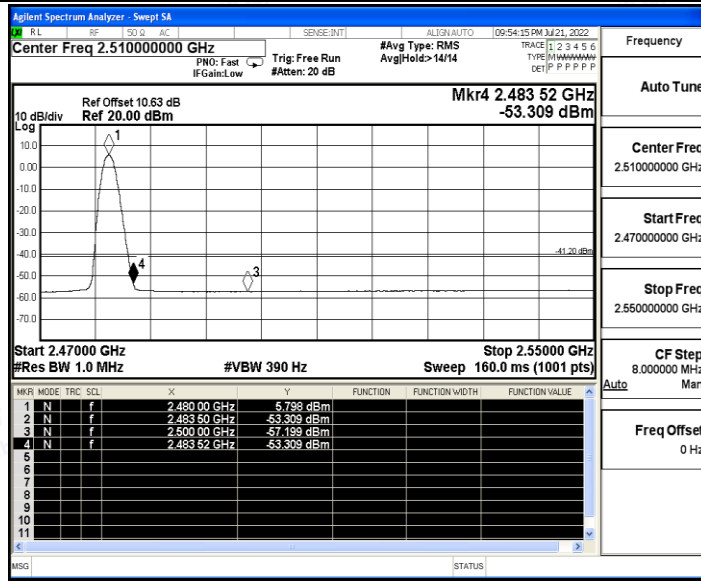
1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.



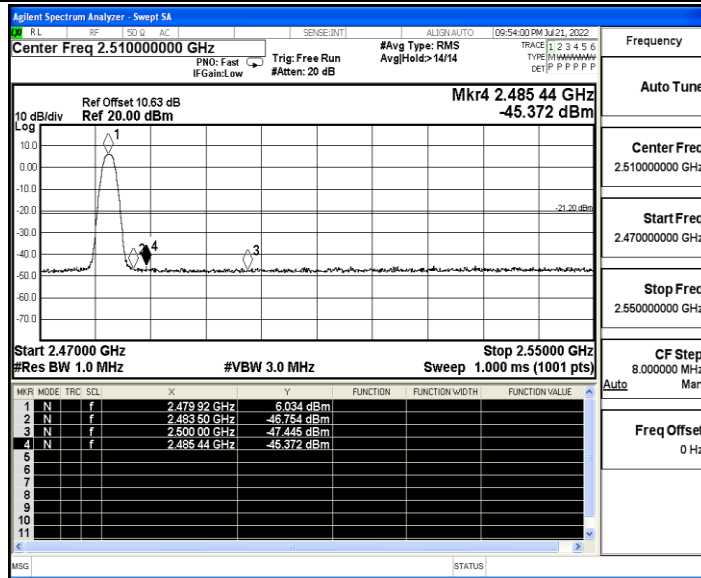


Test Graphs



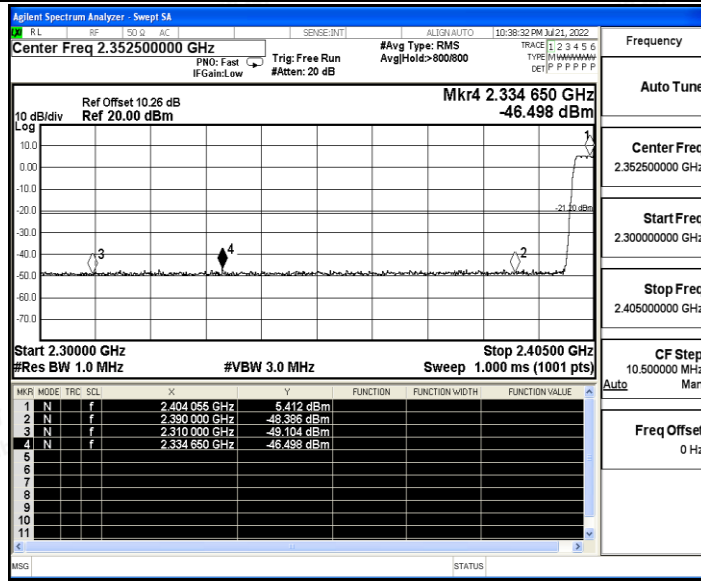


DH5_Ant1_High_2480_Peak

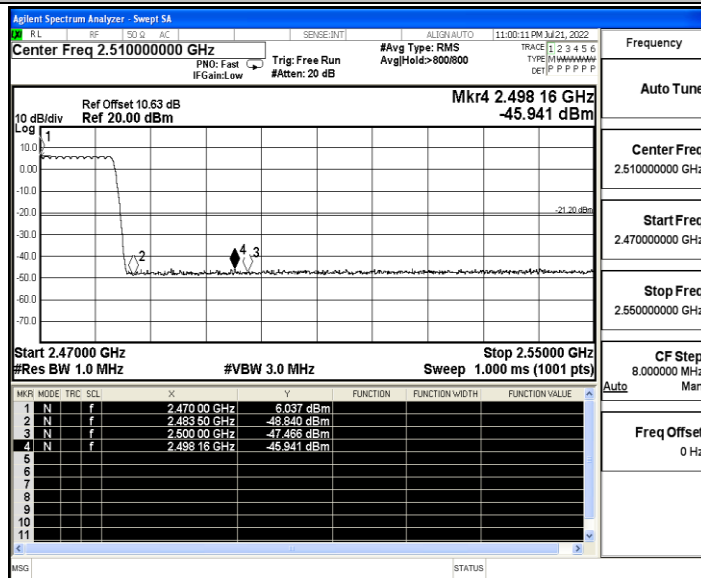


DH5_Ant1_Low_Hop_2402_Peak



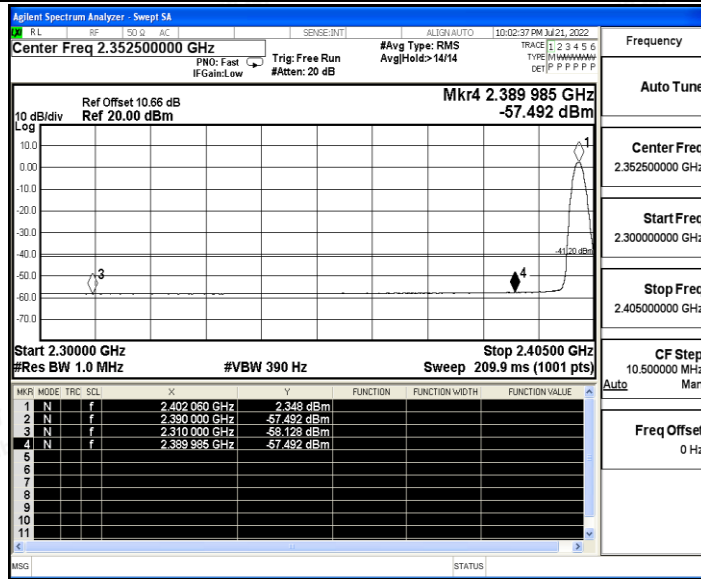


DH5_Ant1_High_Hop_2480_Peak

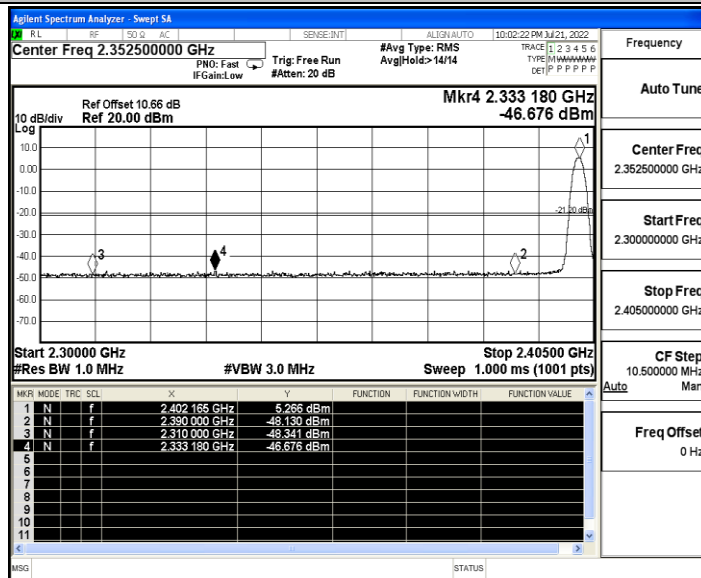


2DH5_Ant1_Low_2402_AV



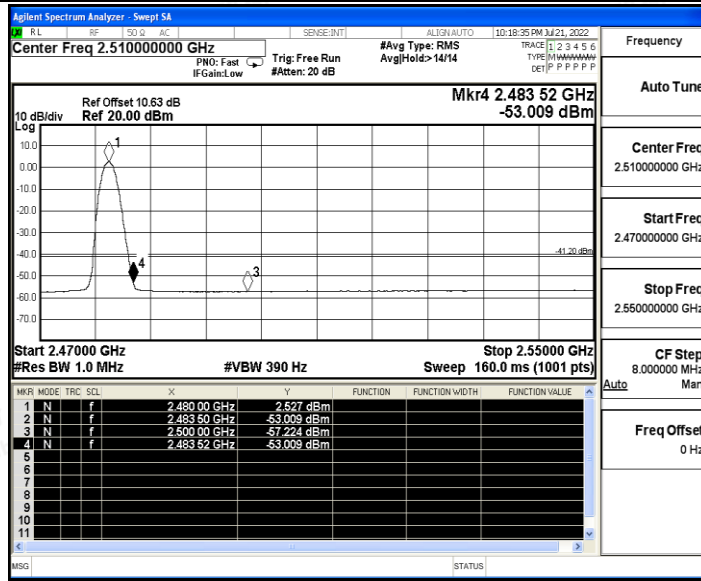


2DH5_Ant1_Low_2402_Peak

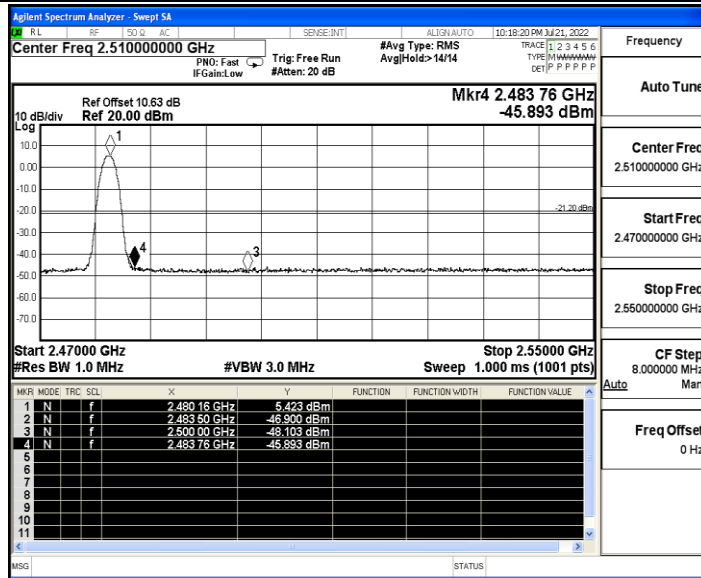


2DH5_Ant1_High_2480_AV



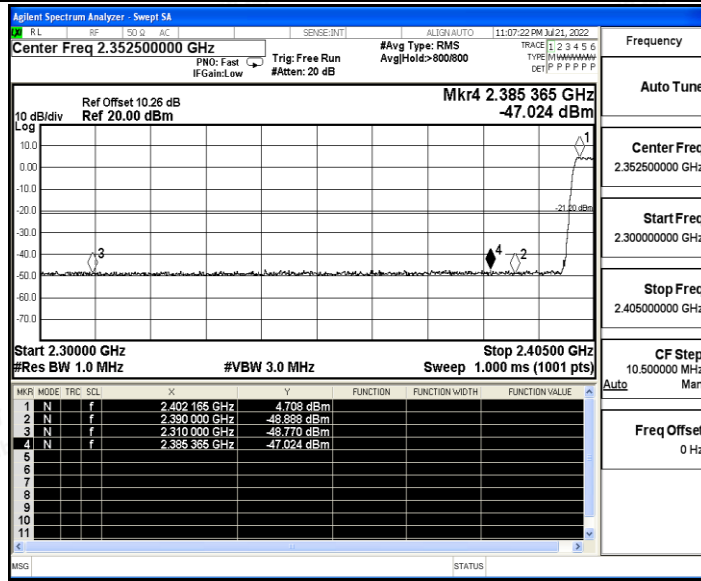


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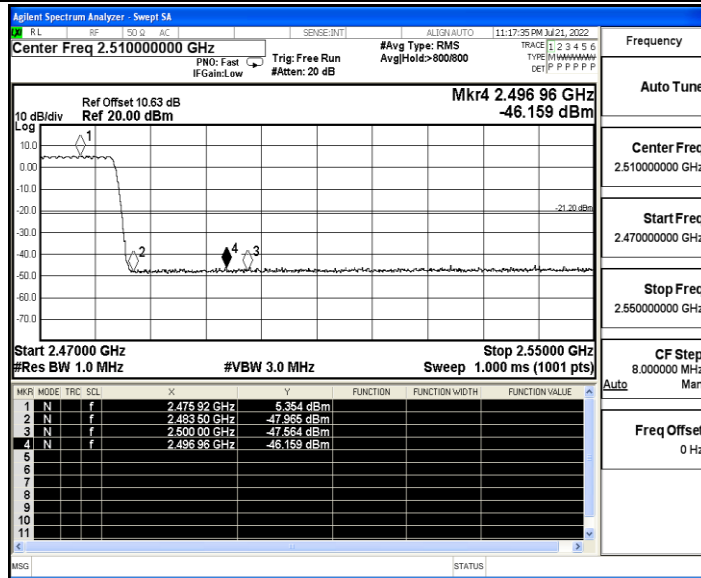


2DH5_Ant1_Low_Hop_2402_Peak



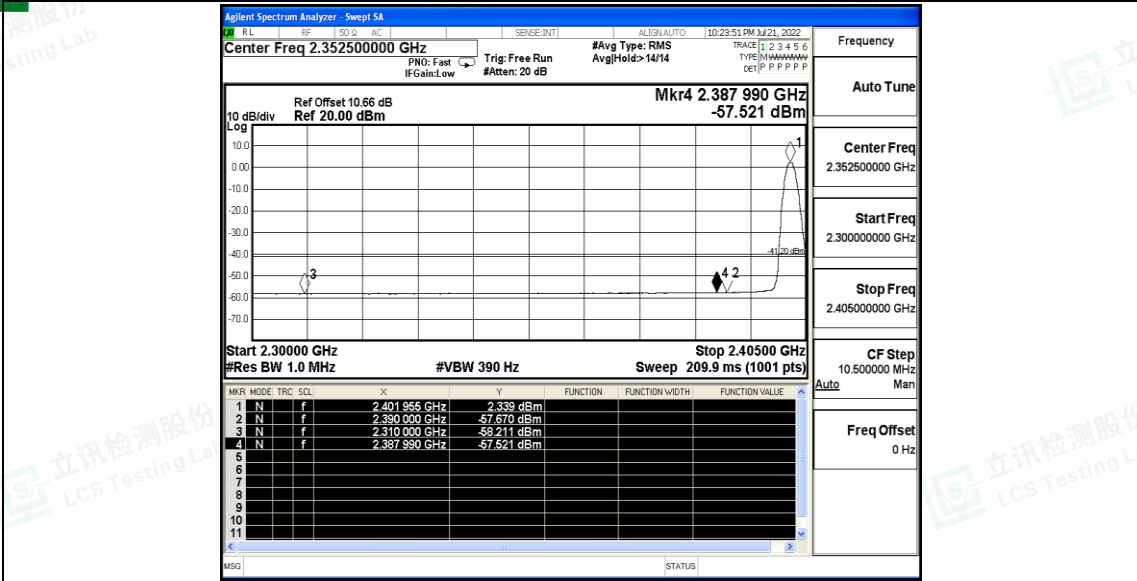


2DH5_Ant1_High_Hop_2480_Peak

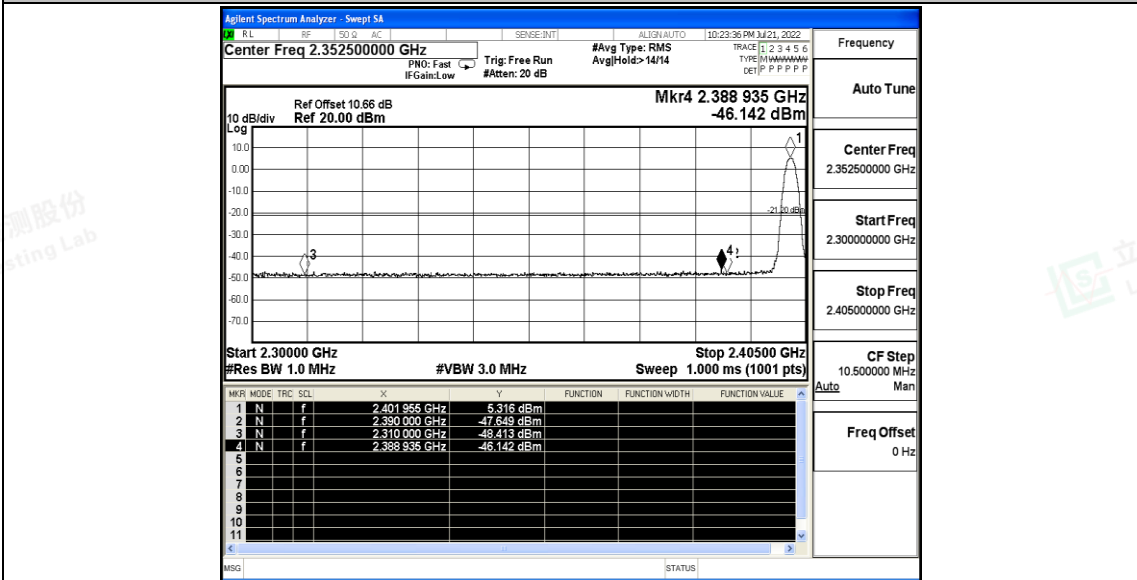


3DH5_Ant1_Low_2402_AV



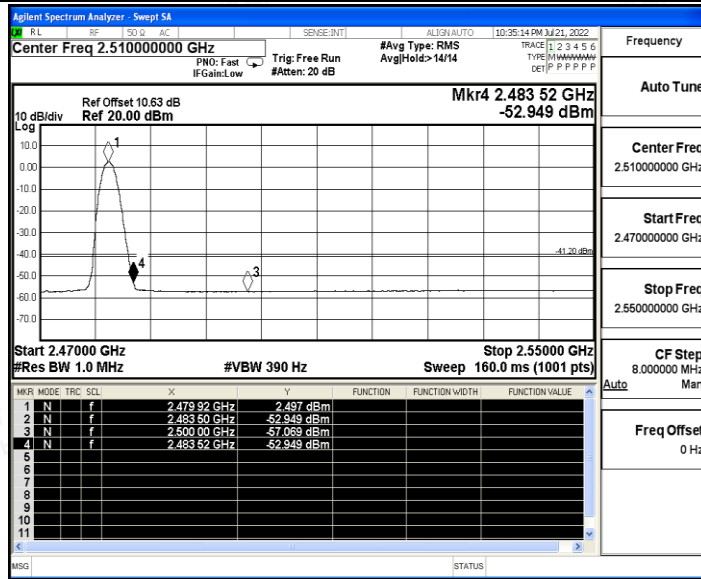


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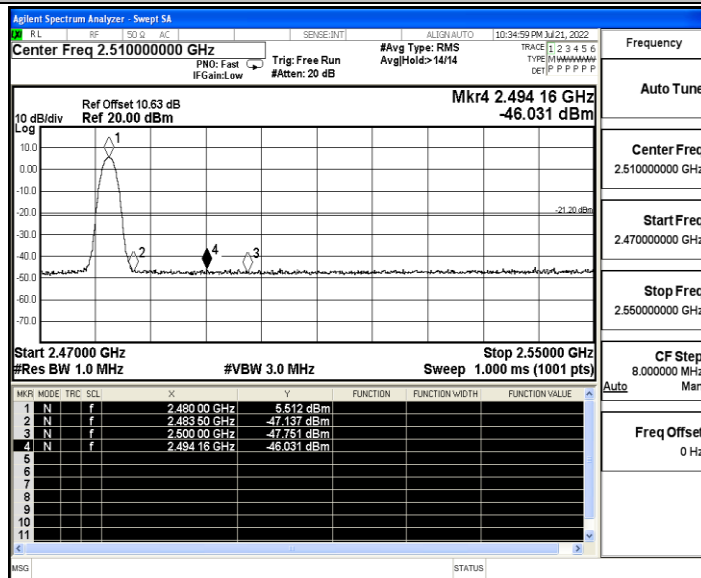


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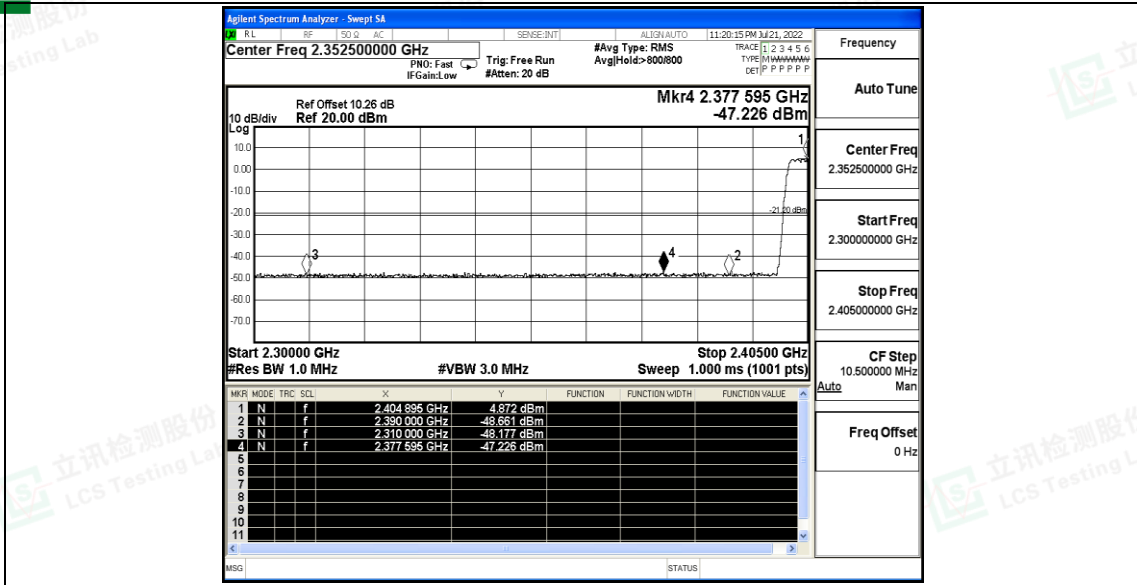


3DH5_Ant1_High_2480_Peak



3DH5_Ant1_Low_Hop_2402_Peak





3DH5_Ant1_High_Hop_2480_Peak

