



Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: SOUNDBAR SPEAKER

Test Model: SM-2126

Environmental Conditions

Temperature:	23.5° C
Relative Humidity:	53.7%
ATM Pressure:	100.0 kPa
Test Engineer:	Bill Zhu
Supervised by:	Li huan



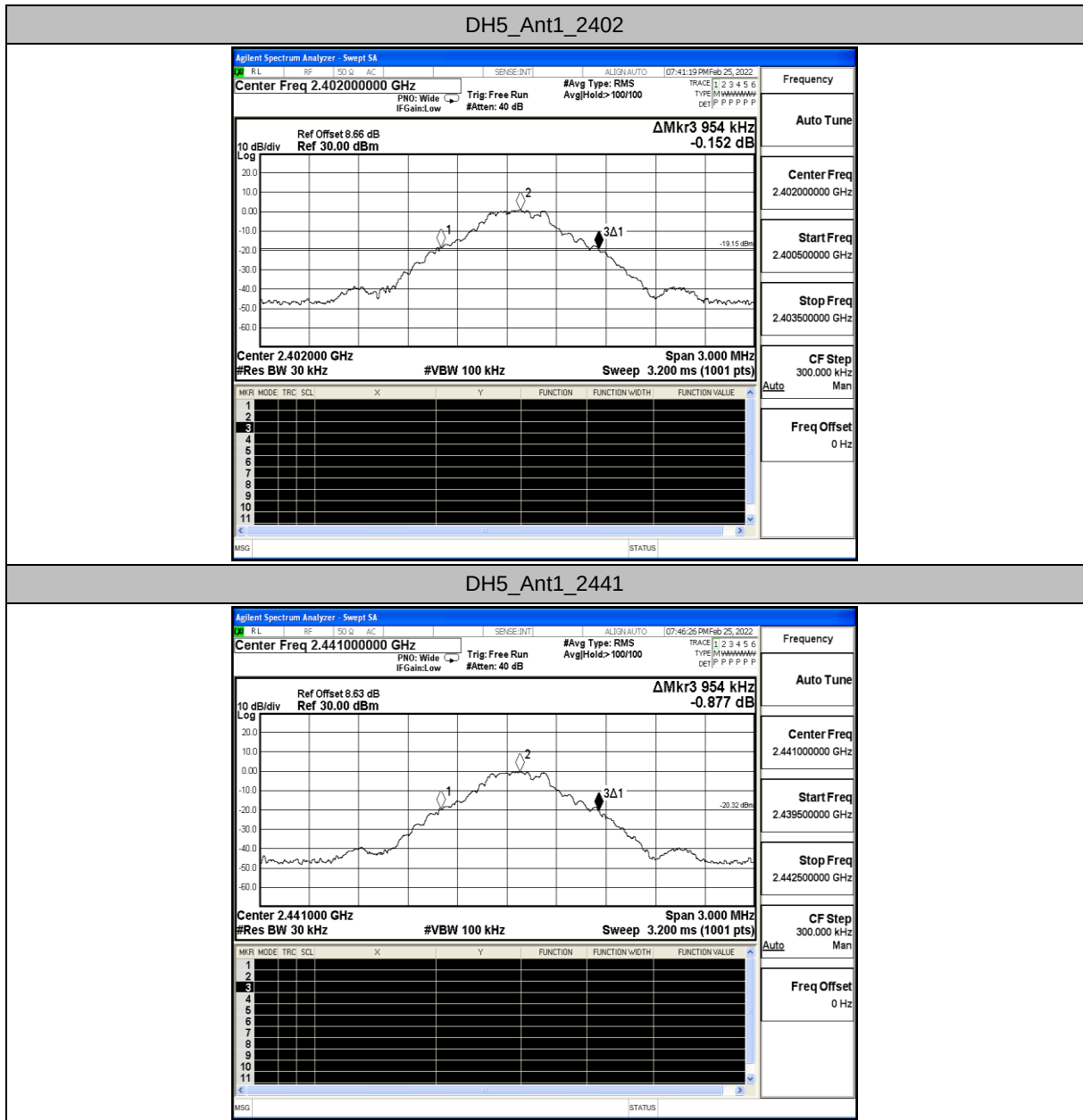
A.1 20dB Emission Bandwidth

Test Result

TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.954	2401.601	2402.555	---	---
		2441	0.954	2440.601	2441.555	---	---
		2480	0.978	2479.577	2480.555	---	---
2DH5	Ant1	2402	1.323	2401.400	2402.723	---	---
		2441	1.338	2440.394	2441.732	---	---
		2480	1.323	2479.403	2480.726	---	---
3DH5	Ant1	2402	1.305	2401.412	2402.717	---	---
		2441	1.308	2440.412	2441.720	---	---
		2480	1.302	2479.415	2480.717	---	---



Test Graphs





Sigent Spectrum Analyzer - Sweep SA

R/L	B/F	D/O G	A/C	SENSE [INT]	ALIAS AUTO	(07-49-49 RM Feb 25, 2022)
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Center Freq 2.480000000 GHz

PNO: Wide IF GainLow Trig: Free Run #Atten: 40 dB

#Avg Type: RMS Avg/BW > 100/100 TYPE: MVMANMAN DET: P P P P P P

Auto Tune

Center Frequency
2.480000000 GHz

Start Frequency
2.478500000 GHz

Stop Frequency
2.481500000 GHz

CFS Step
300.000 kHz

Ref Offset 8.63 dB Ref 30.00 dBm ΔMkr3 978 kHz -0.046 dB

Center 2.480000 GHz Span 3.000 MHz

#Res BW 30 kHz #VBW 100 kHz Sweep 3.200 ms (1001 pts)

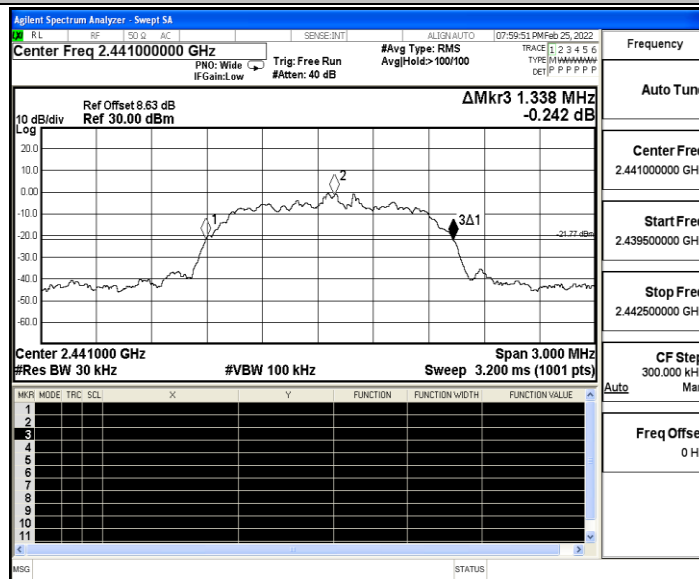
MKR MODE	TFC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							

Freq Offsets:
0 Hz

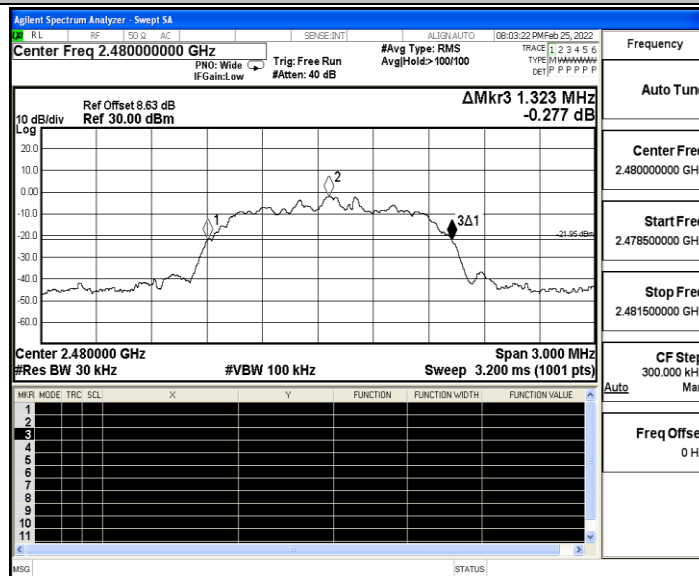
[illegible]



2DH5_Ant1_2441



2DH5_Ant1_2480





Agilent Spectrum Analyzer - Sweep SA

F L RF 50 G AC SENSE:INT ALIS/AUTO 08-07-58 PM Feb 25, 2022

Center Freq 2.402000000 GHz #Avg Type: RMS AvgHold> 100/100 TRAC [1 2 3 4 5 6 TYPE SWANMAN det P P P P P]
PNO: Wide IF Gain Low Trig: Free Run #Atten: 40 dB

Ref Offset 8.66 dB
Ref 30.00 dBm

ΔMkr3 1.305 MHz
0.260 dB

Log 10 dB/div

-18.50 dBm

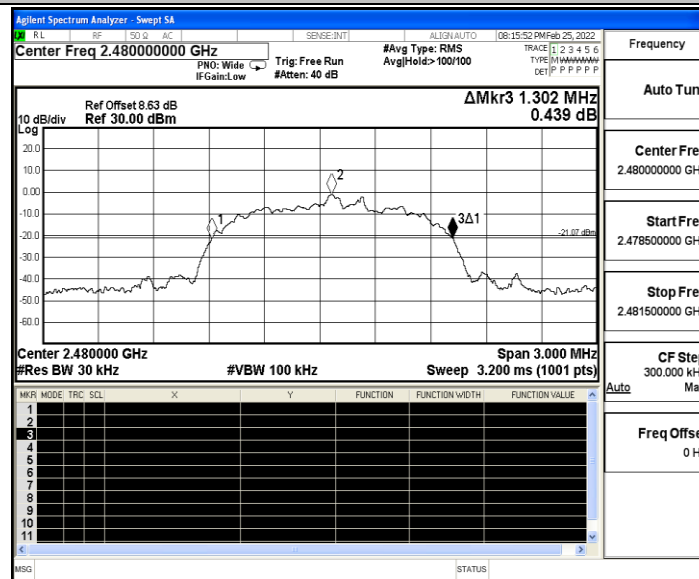
Center 2.402000 GHz Span 3.000 MHz
#Res BW kHz #VBW 100 kHz Sweep 3.200 ms (1001 pts)

MNR MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							

[illegible]



3DH5_Ant1_2480





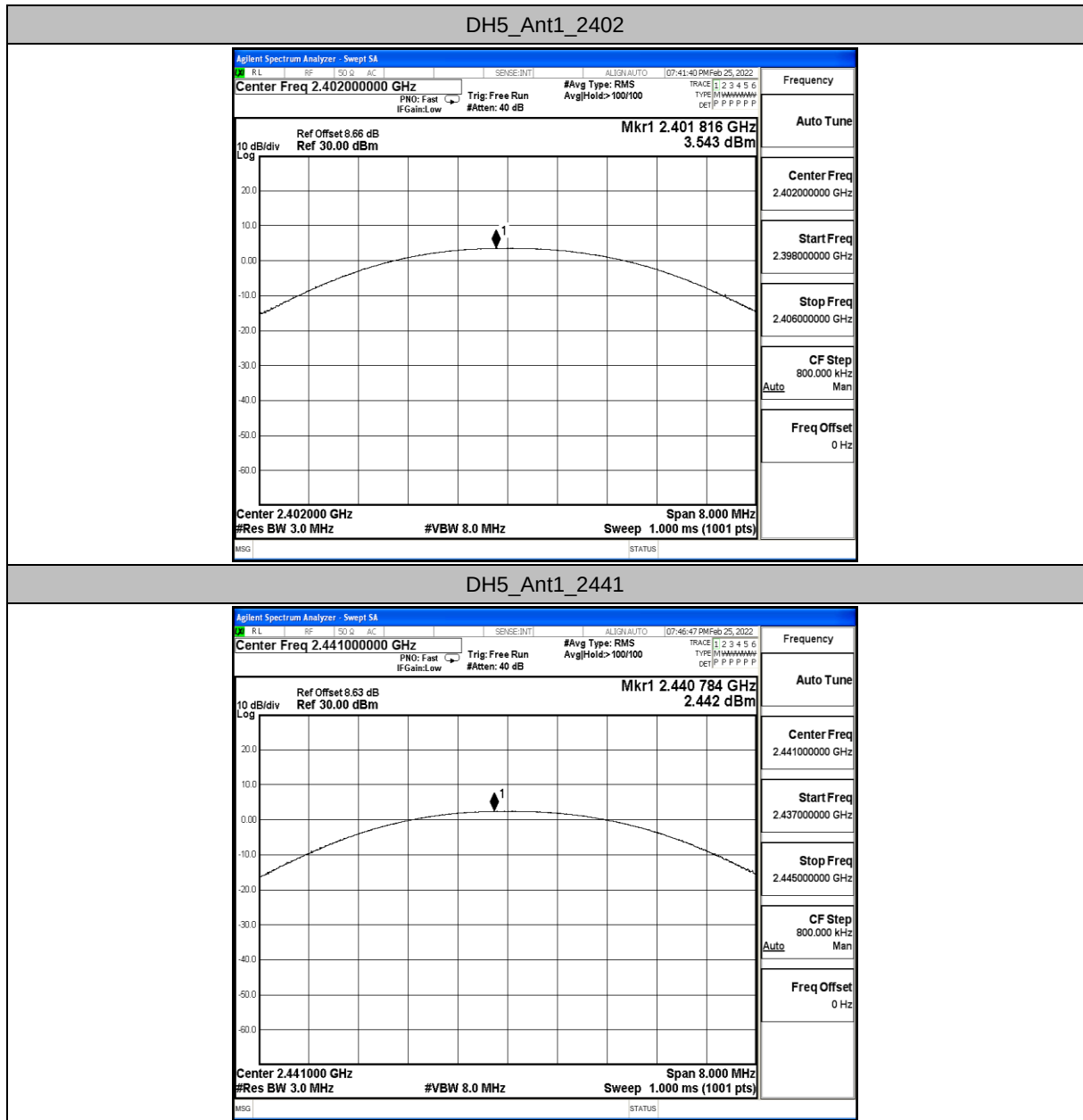
A.2 Maximum conducted output power

Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	3.54	≤20.97	PASS
		2441	2.44	≤20.97	PASS
		2480	1	≤20.97	PASS
2DH5	Ant1	2402	5.74	≤20.97	PASS
		2441	4.63	≤20.97	PASS
		2480	3.11	≤20.97	PASS
3DH5	Ant1	2402	6.22	≤20.97	PASS
		2441	5.12	≤20.97	PASS
		2480	3.58	≤20.97	PASS

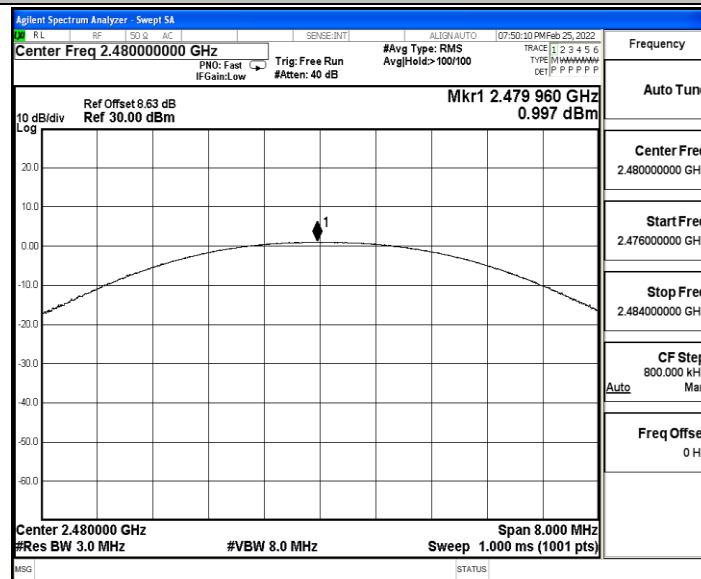


Test Graphs

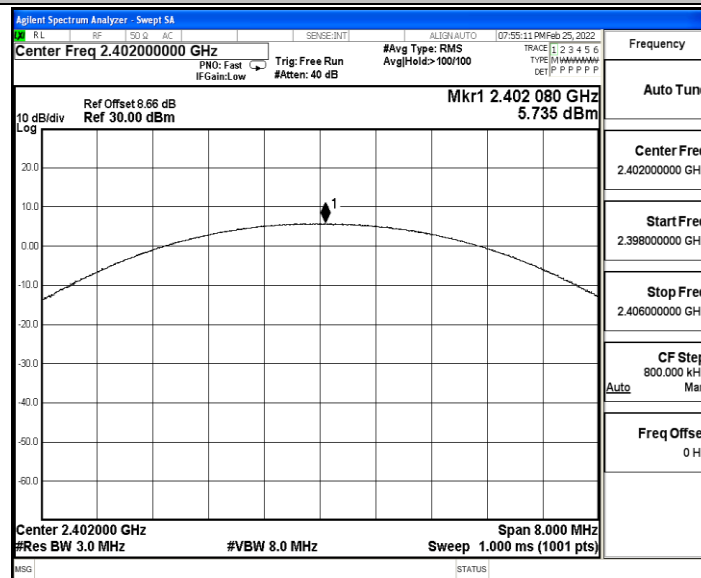




DH5_Ant1_2480

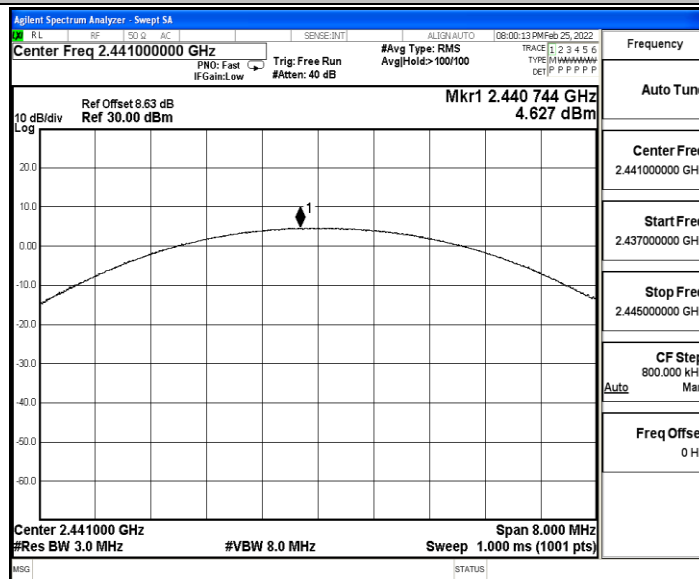


2DH5_Ant1_2402

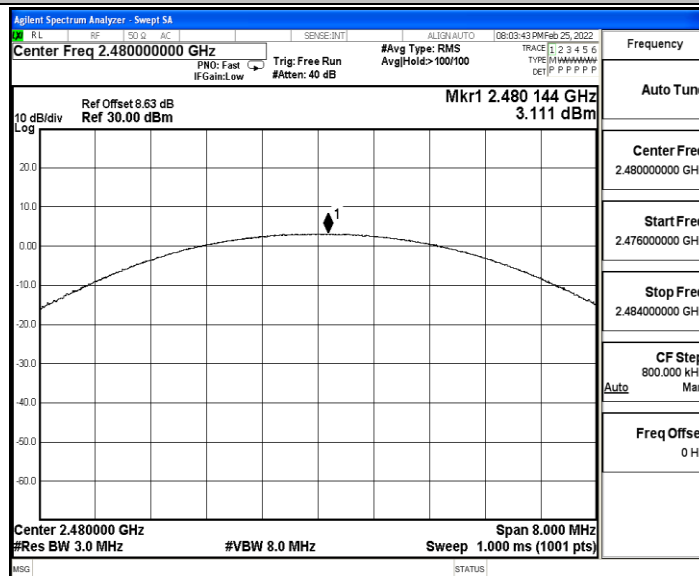




2DH5_Ant1_2441

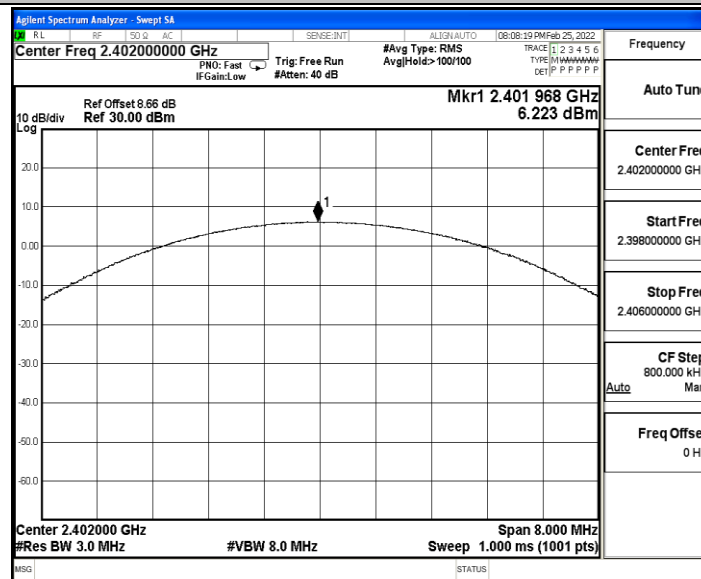


2DH5_Ant1_2480

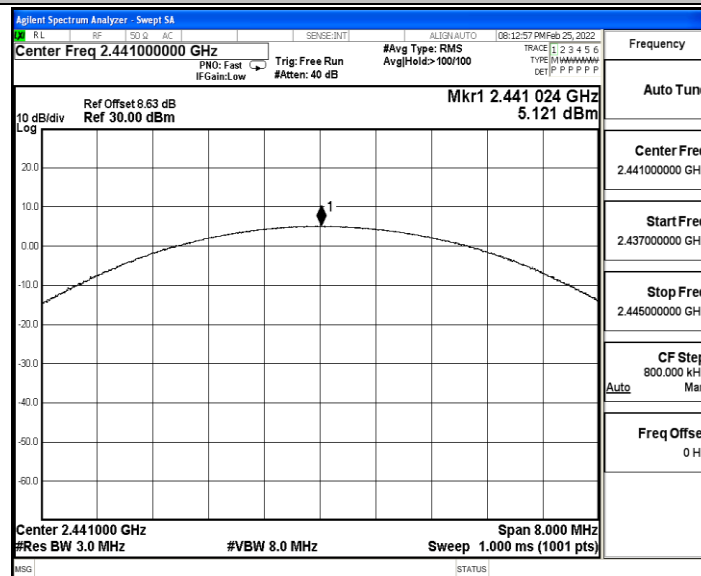




3DH5_Ant1_2402

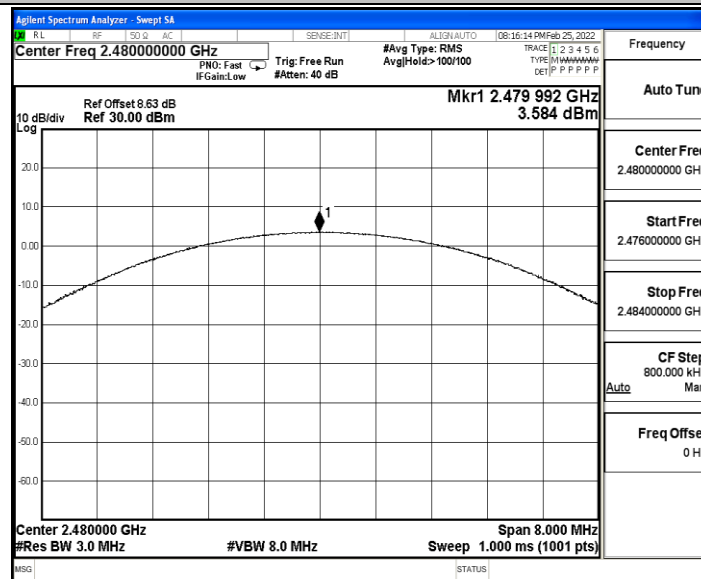


3DH5_Ant1_2441





3DH5_Ant1_2480





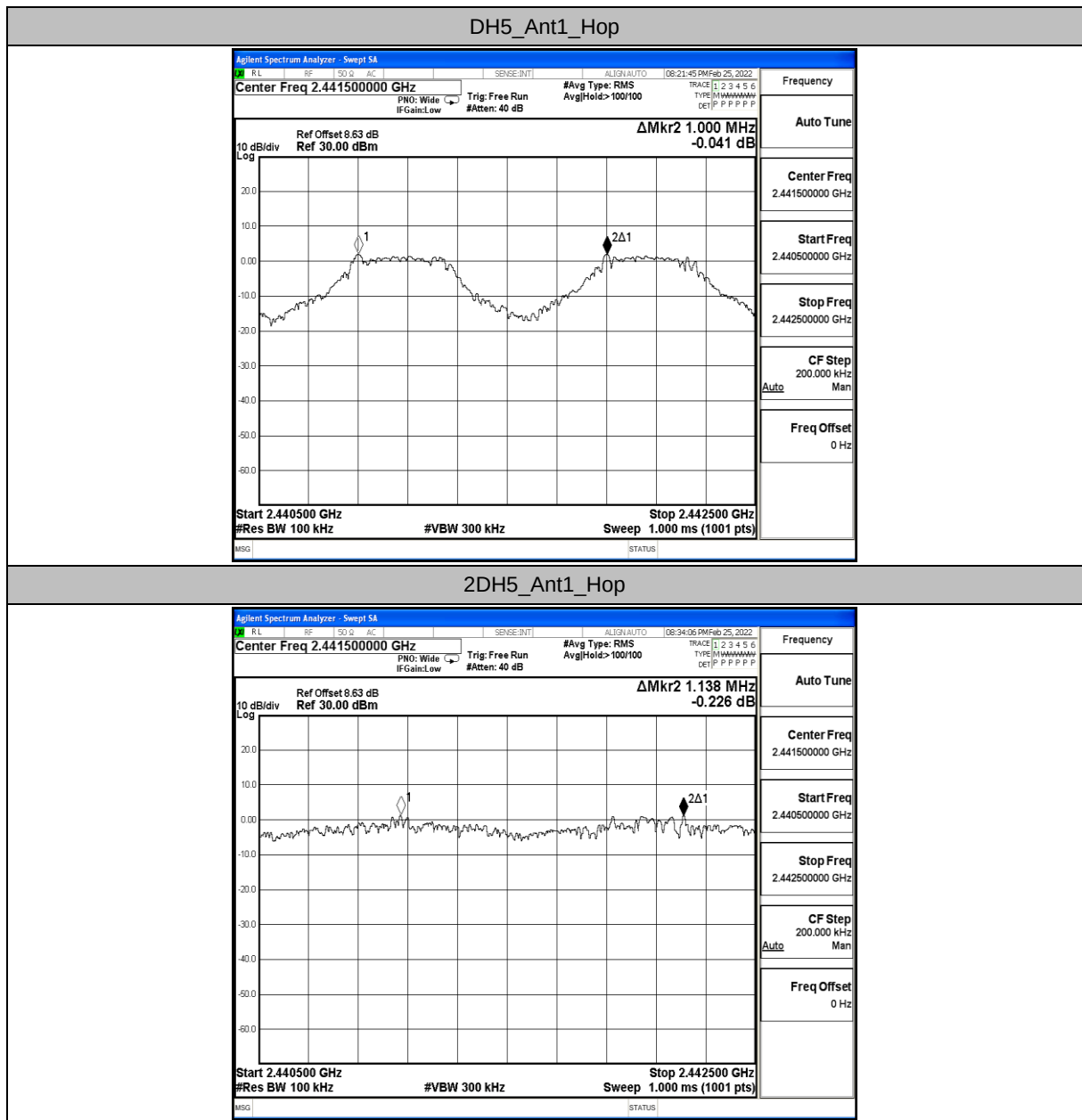
A.3 Carrier frequency separation

Test Result

TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	1	≥ 0.652	PASS
2DH5	Ant1	Hop	1.138	≥ 0.892	PASS
3DH5	Ant1	Hop	0.992	≥ 0.872	PASS

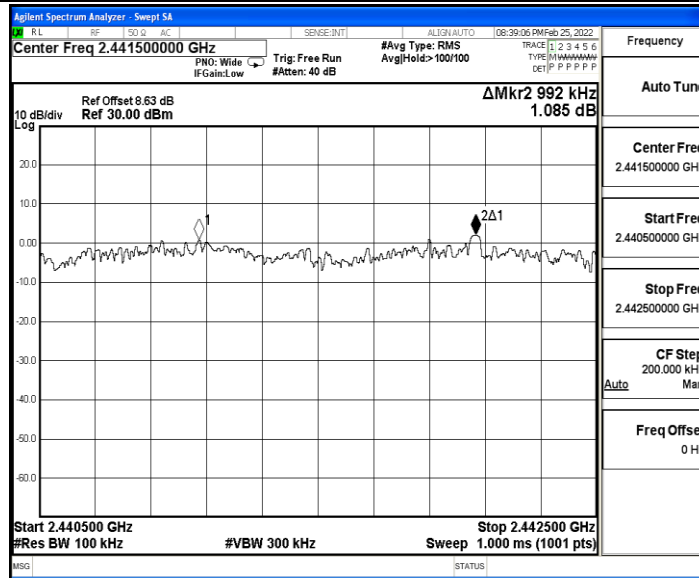


Test Graphs





3DH5_Ant1_Hop





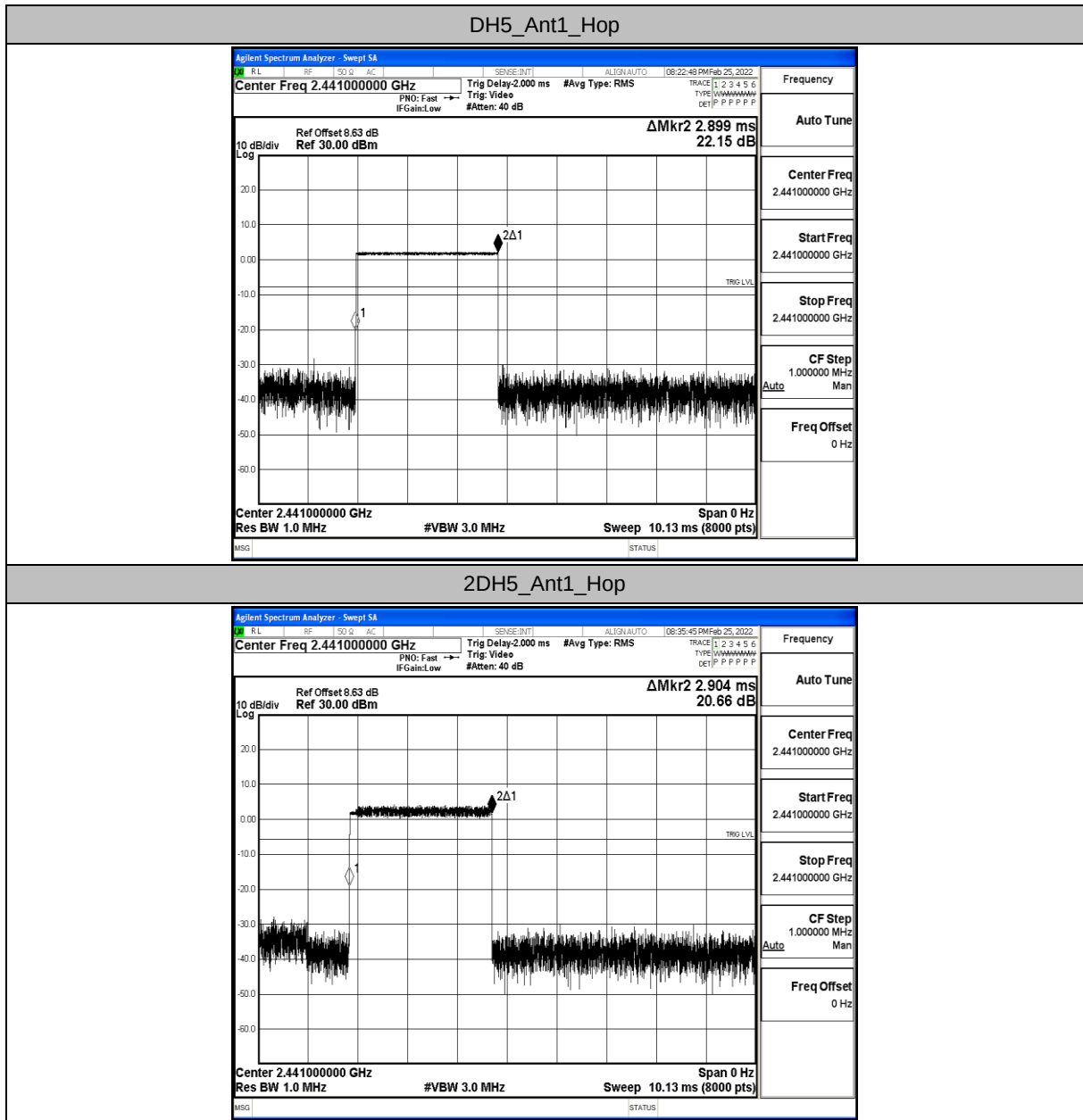
A.4 Time of occupancy

Test Result

TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.90	106.67	0.309	≤0.4	PASS
2DH5	Ant1	Hop	2.90	106.67	0.31	≤0.4	PASS
3DH5	Ant1	Hop	2.91	106.67	0.31	≤0.4	PASS

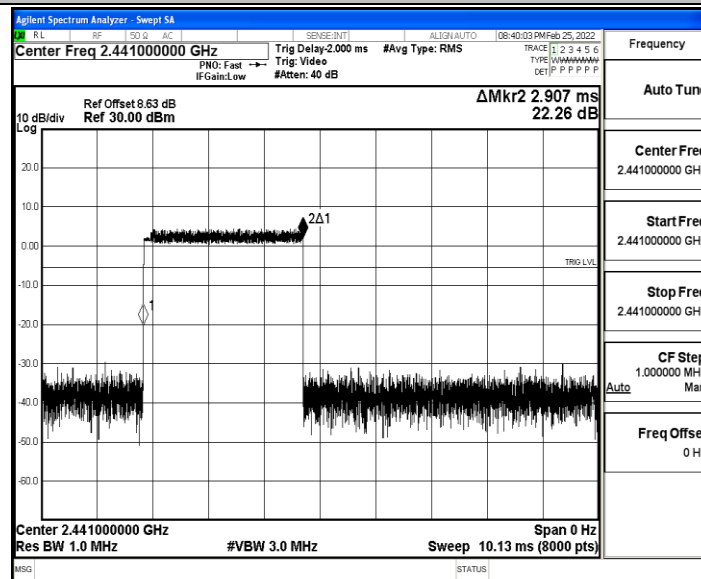


Test Graphs





3DH5_Ant1_Hop





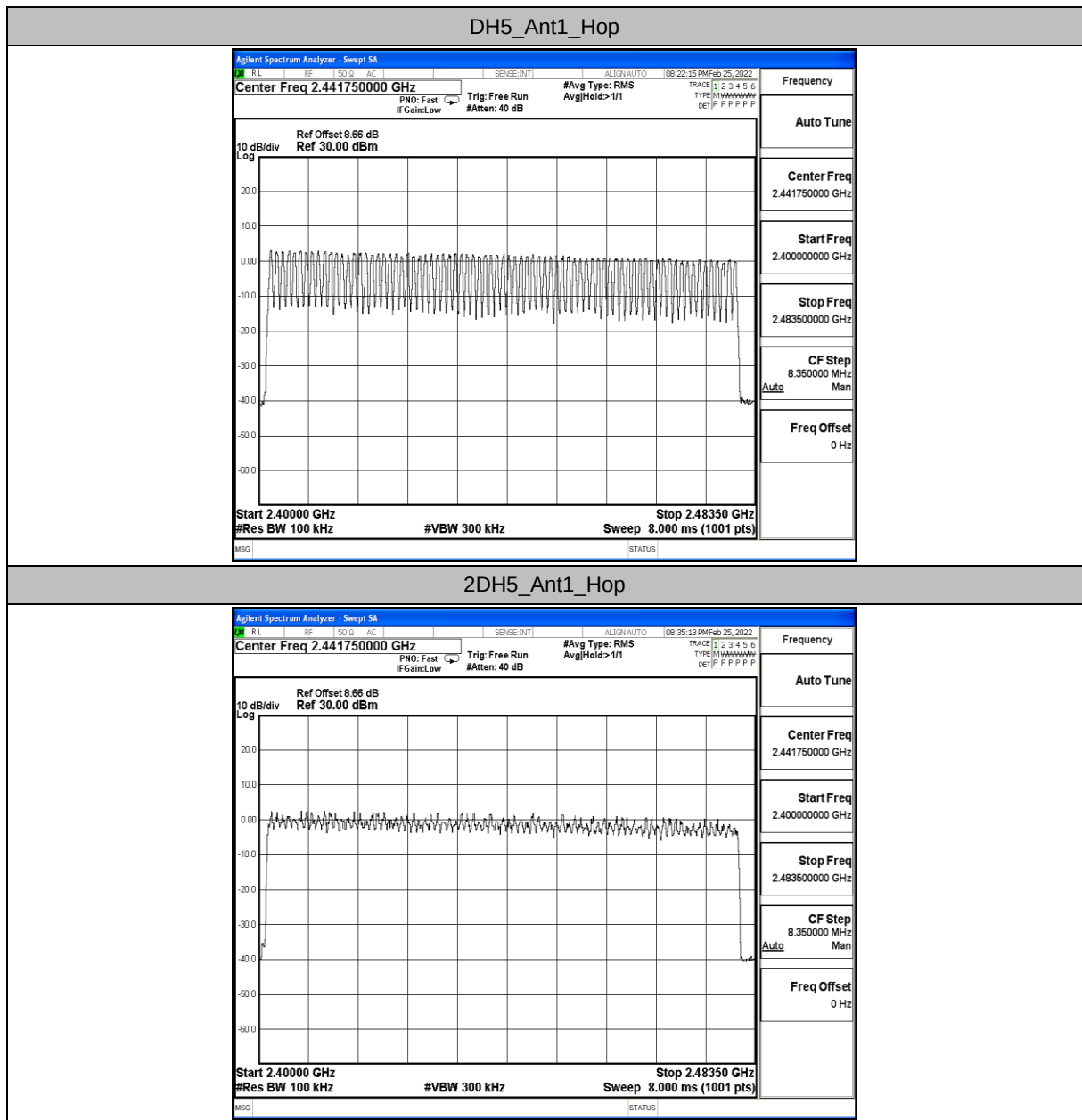
A.5 Number of hopping channels

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

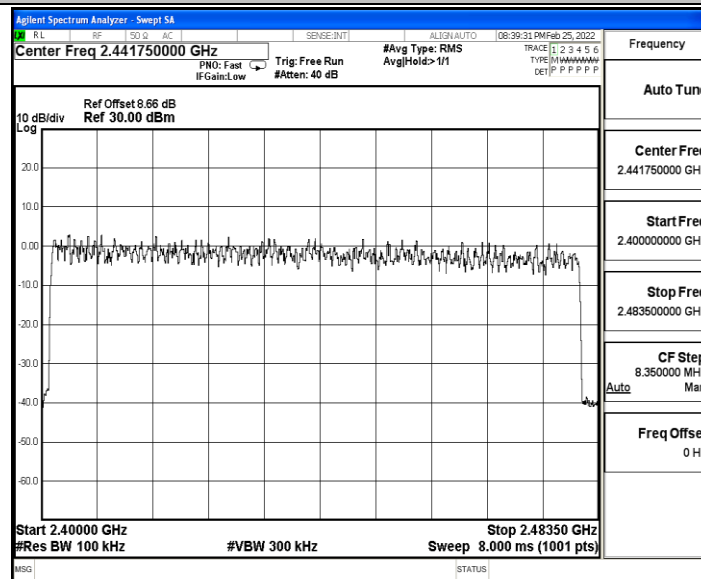


Test Graphs





3DH5_Ant1_Hop





A.6 Band edge measurements

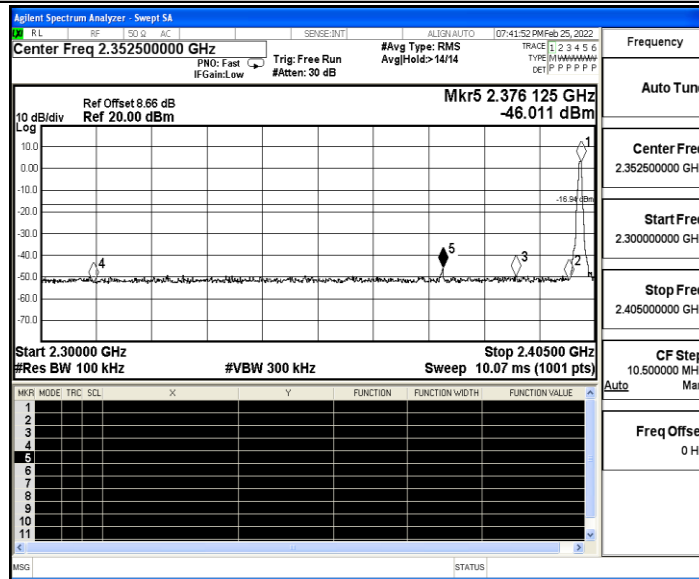
Test Result

TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	3.06	-46.01	≤ -16.94	PASS
		High	2480	0.47	-46.92	≤ -19.53	PASS
		Low	Hop_2402	2.34	-47.07	≤ -17.66	PASS
		High	Hop_2480	0.45	-47.91	≤ -19.55	PASS
2DH5	Ant1	Low	2402	2.90	-46.7	≤ -17.1	PASS
		High	2480	0.38	-47.85	≤ -19.62	PASS
		Low	Hop_2402	-0.01	-49.01	≤ -20.01	PASS
		High	Hop_2480	0.02	-47.58	≤ -19.98	PASS
3DH5	Ant1	Low	2402	3.13	-46.63	≤ -16.87	PASS
		High	2480	0.54	-47.04	≤ -19.46	PASS
		Low	Hop_2402	1.61	-48.27	≤ -18.39	PASS
		High	Hop_2480	0.48	-47.19	≤ -19.52	PASS

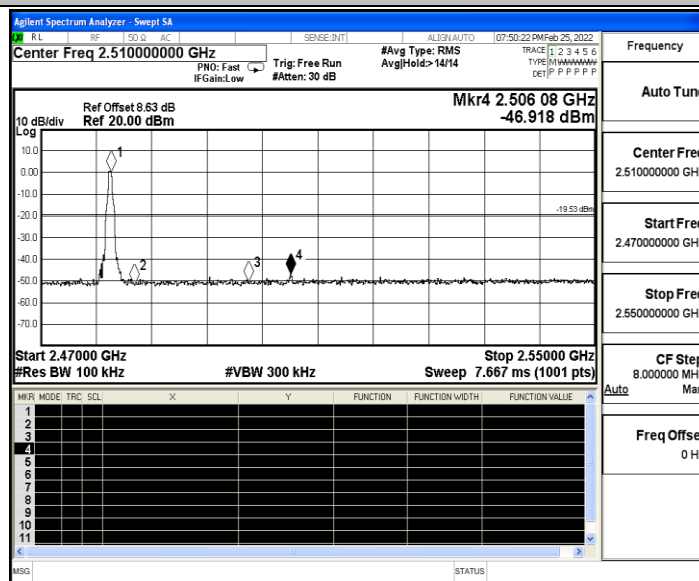


Test Graphs

DH5_Ant1_Low_2402

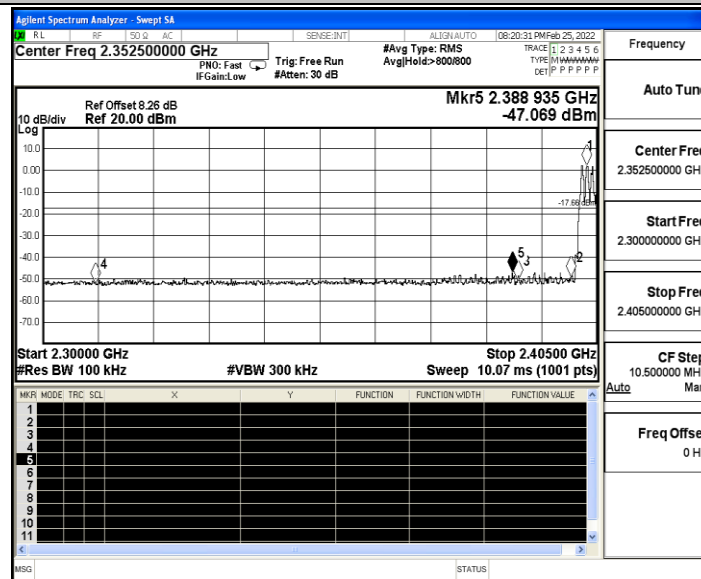


DH5_Ant1_High_2480

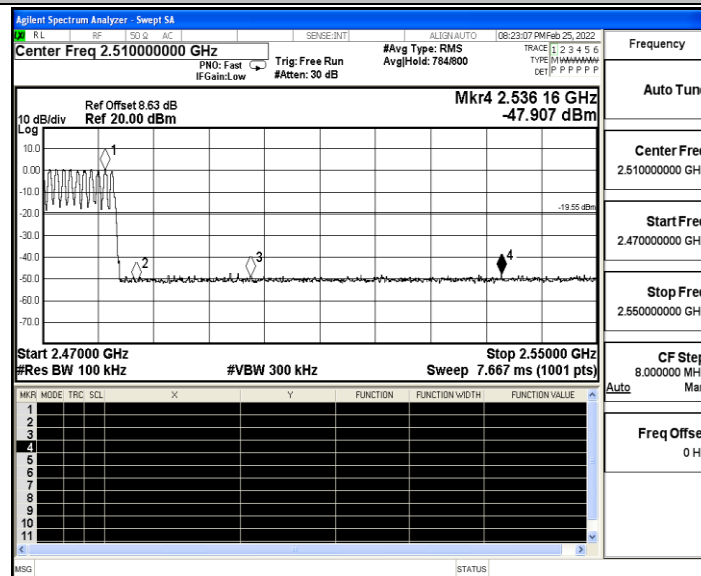




DH5_Ant1_Low_Hop_2402

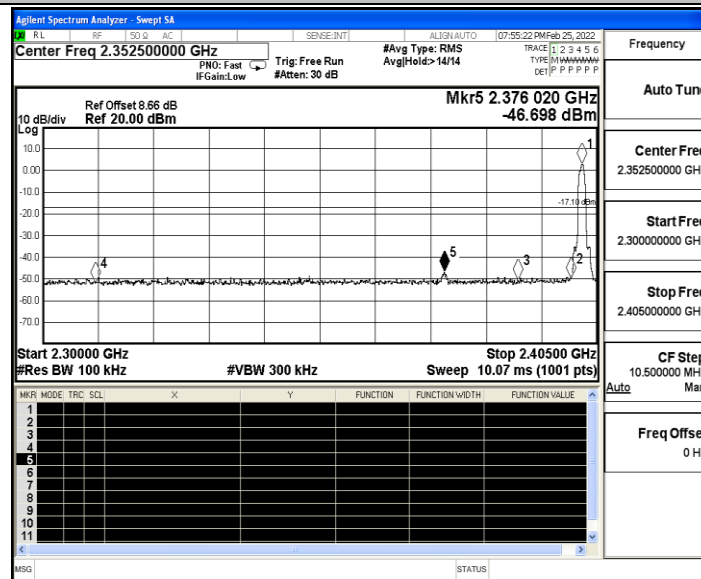


DH5_Ant1_High_Hop_2480

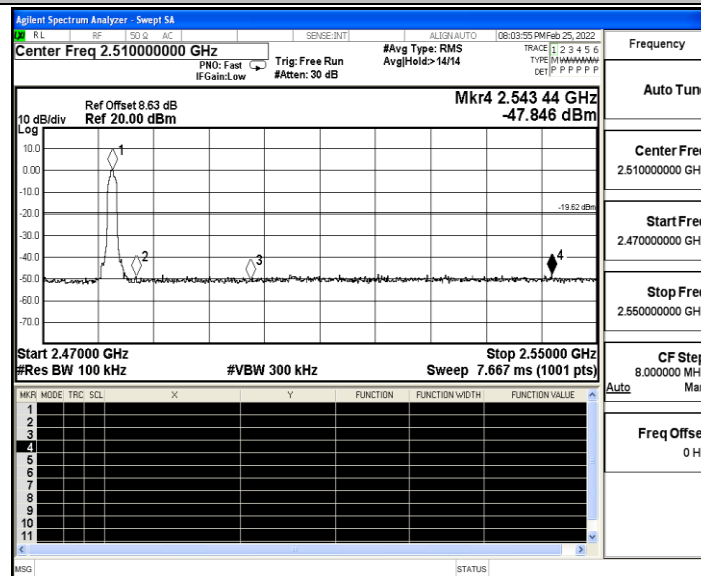




2DH5_Ant1_Low_2402

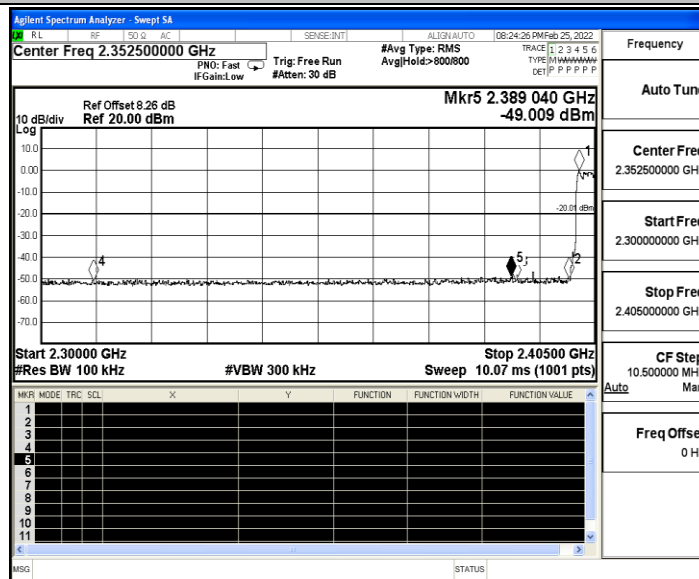


2DH5_Ant1_High_2480

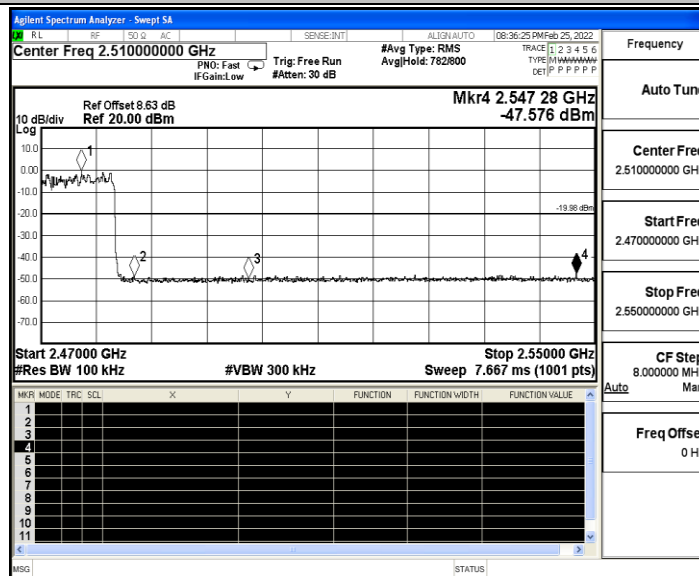




2DH5_Ant1_Low_Hop_2402

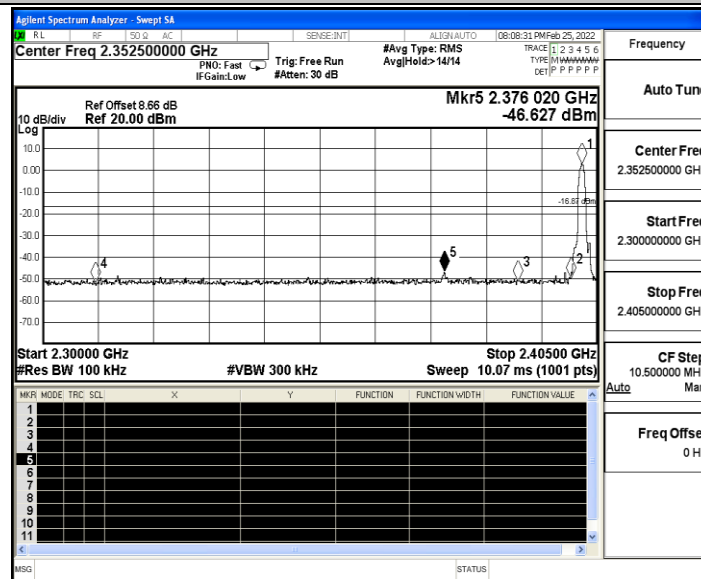


2DH5_Ant1_High_Hop_2480

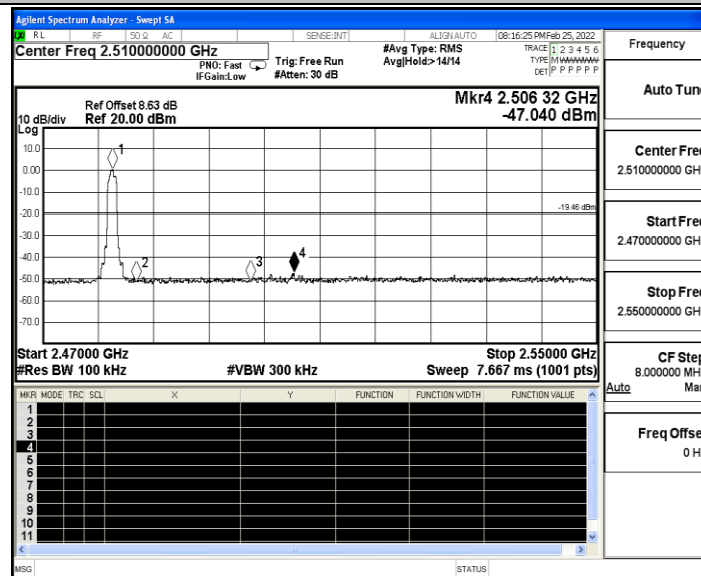




3DH5_Ant1_Low_2402

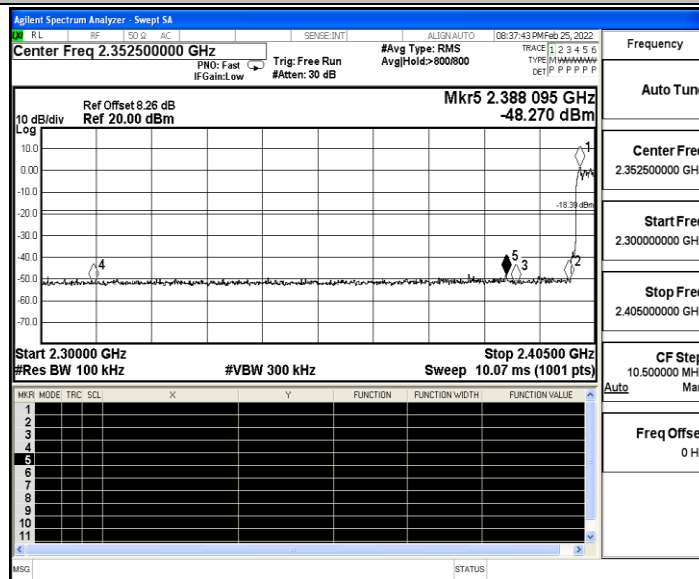


3DH5_Ant1_High_2480

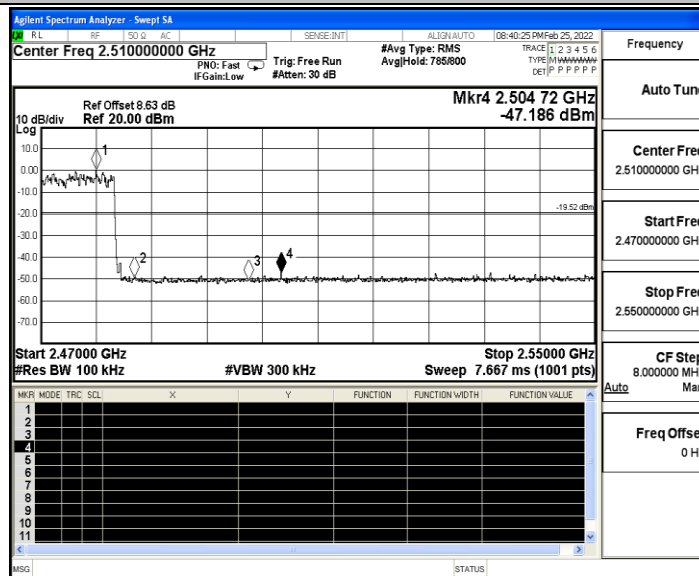




3DH5_Ant1_Low_Hop_2402



3DH5_Ant1_High_Hop_2480





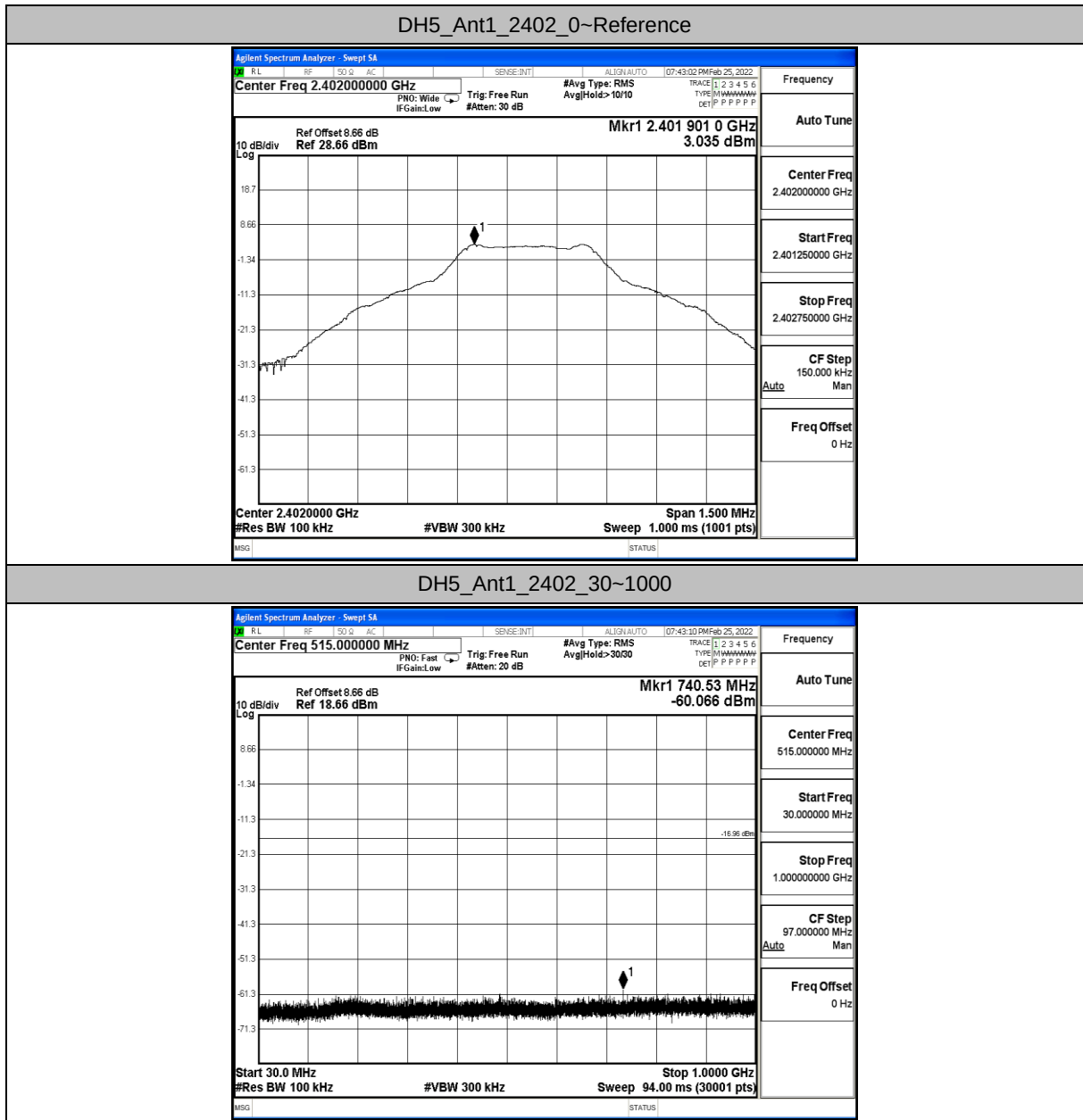
A.7 Conducted Spurious Emission

Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	3.04	3.04	---	PASS
			30~1000	3.04	-60.07	≤-16.96	PASS
			1000~26500	3.04	-44.69	≤-16.96	PASS
		2441	Reference	1.91	1.91	---	PASS
			30~1000	1.91	-60.57	≤-18.09	PASS
			1000~26500	1.91	-42.3	≤-18.09	PASS
		2480	Reference	0.42	0.42	---	PASS
			30~1000	0.42	-60.69	≤-19.58	PASS
			1000~26500	0.42	-46.39	≤-19.58	PASS
2DH5	Ant1	2402	Reference	2.85	2.85	---	PASS
			30~1000	2.85	-60.86	≤-17.15	PASS
			1000~26500	2.85	-46.37	≤-17.15	PASS
		2441	Reference	1.70	1.70	---	PASS
			30~1000	1.70	-60.9	≤-18.3	PASS
			1000~26500	1.70	-45.71	≤-18.3	PASS
		2480	Reference	0.08	0.08	---	PASS
			30~1000	0.08	-60.12	≤-19.92	PASS
			1000~26500	0.08	-46.59	≤-19.92	PASS
3DH5	Ant1	2402	Reference	3.07	3.07	---	PASS
			30~1000	3.07	-60.88	≤-16.93	PASS
			1000~26500	3.07	-45.8	≤-16.93	PASS
		2441	Reference	1.90	1.90	---	PASS
			30~1000	1.90	-60.45	≤-18.1	PASS
			1000~26500	1.90	-45.3	≤-18.1	PASS
		2480	Reference	0.46	0.46	---	PASS
			30~1000	0.46	-60.64	≤-19.54	PASS
			1000~26500	0.46	-45.46	≤-19.54	PASS

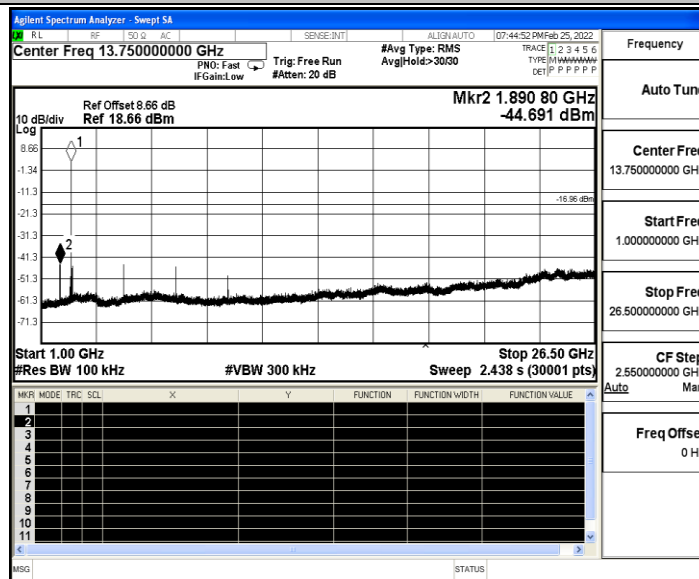


Test Graphs

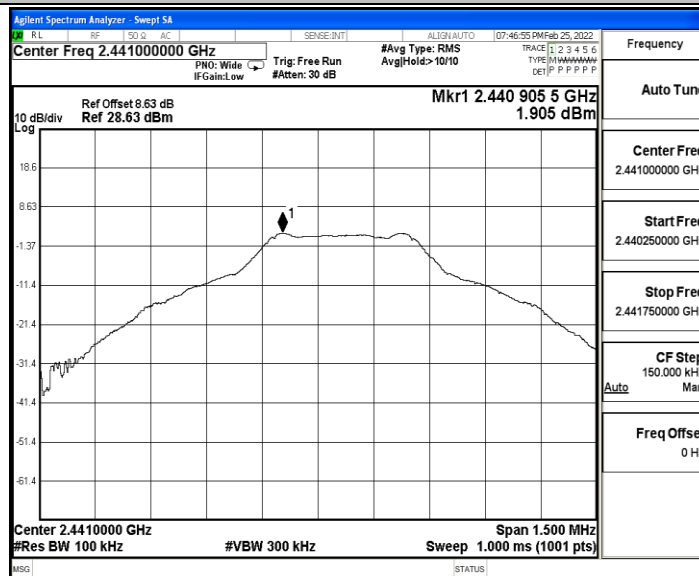




DH5_Ant1_2402_1000~26500

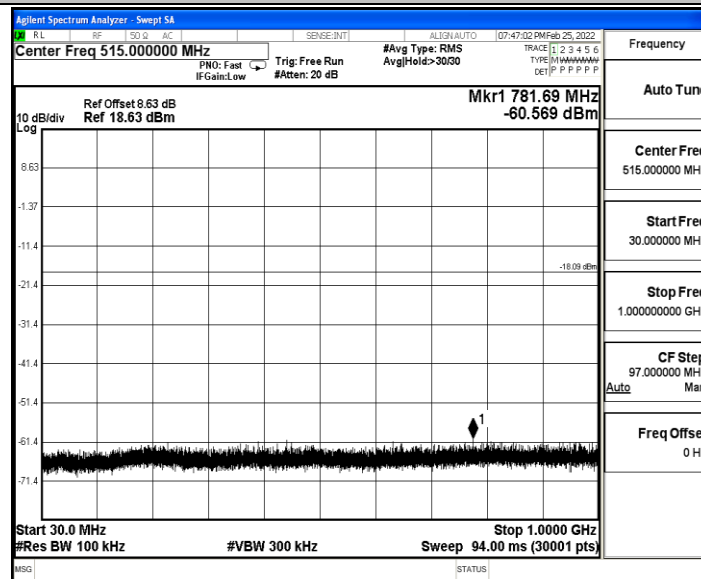


DH5_Ant1_2441_0~Reference

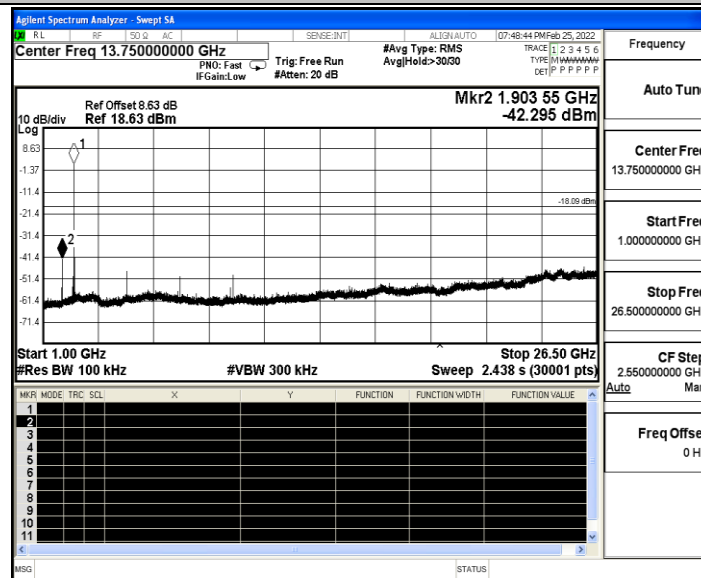




DH5_Ant1_2441_30~1000

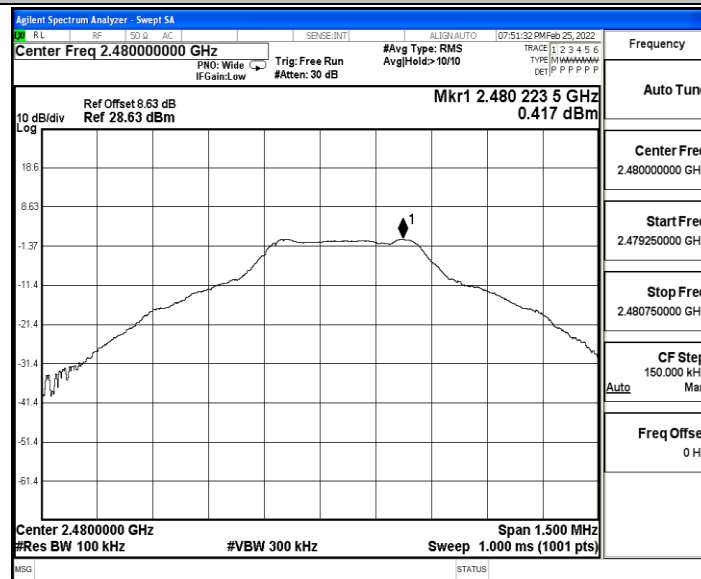


DH5_Ant1_2441_1000~26500

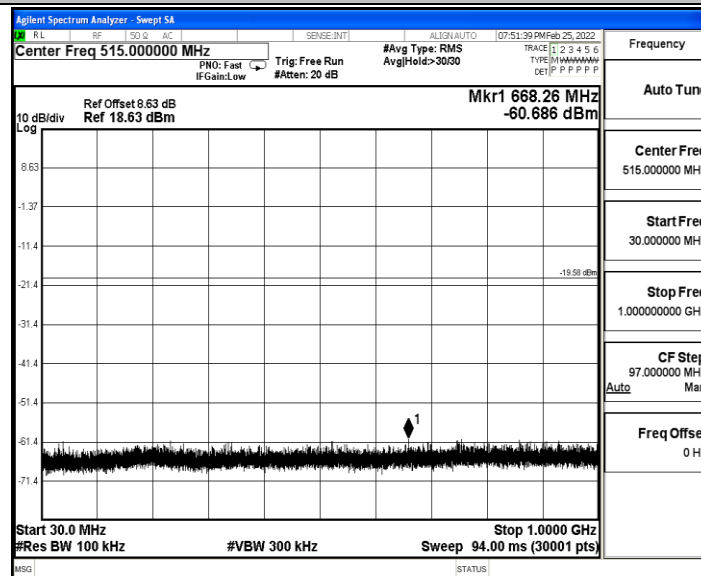




DH5_Ant1_2480_0~Reference

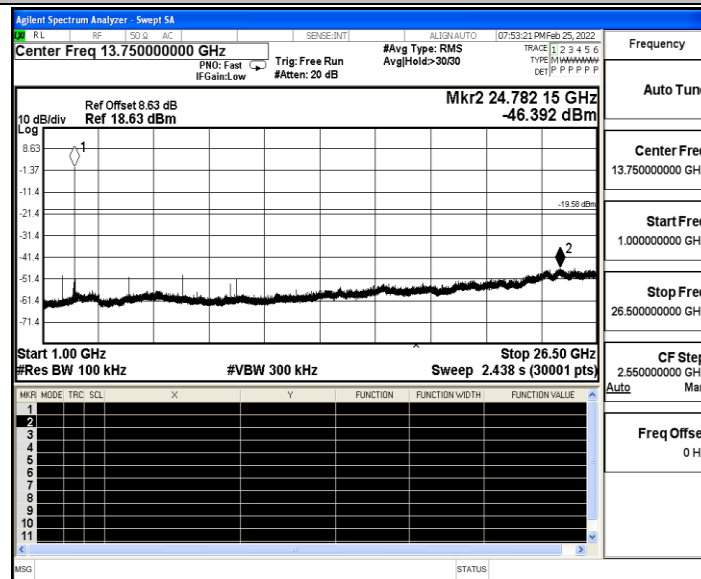


DH5_Ant1_2480_30~1000

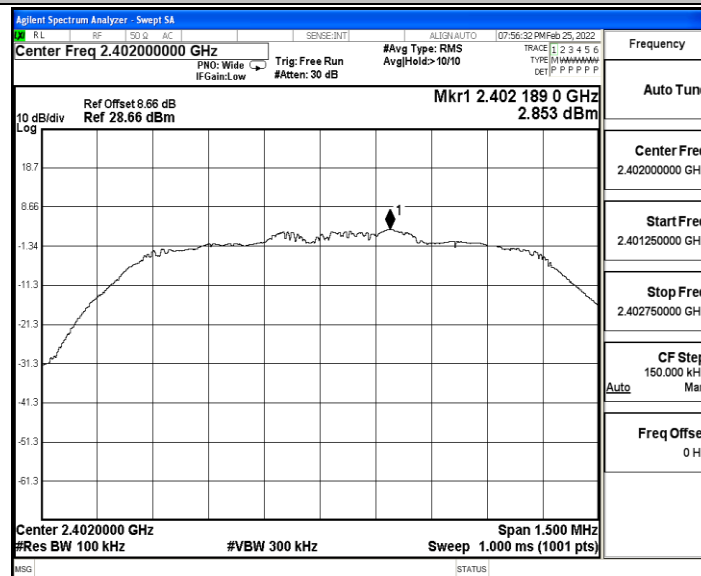




DH5_Ant1_2480_1000~26500

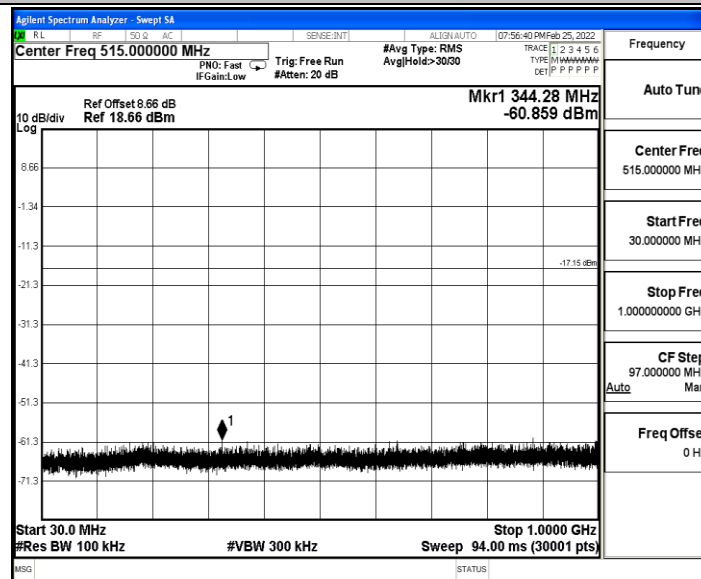


2DH5_Ant1_2402_0~Reference

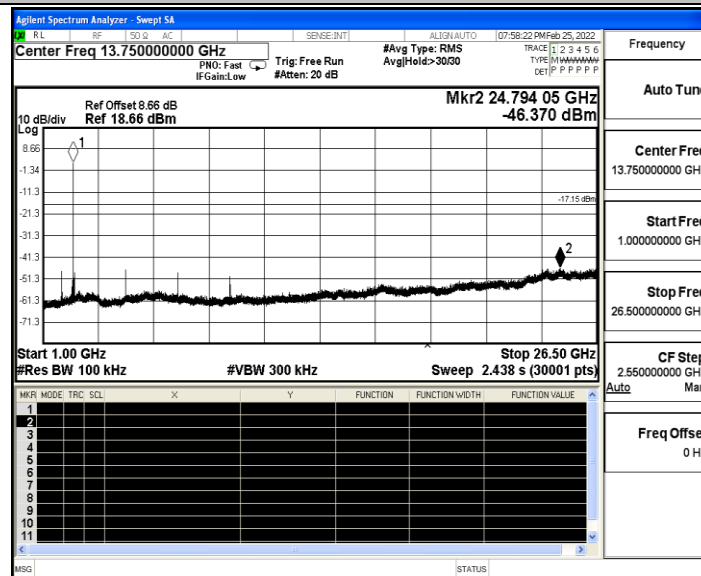




2DH5_Ant1_2402_30~1000

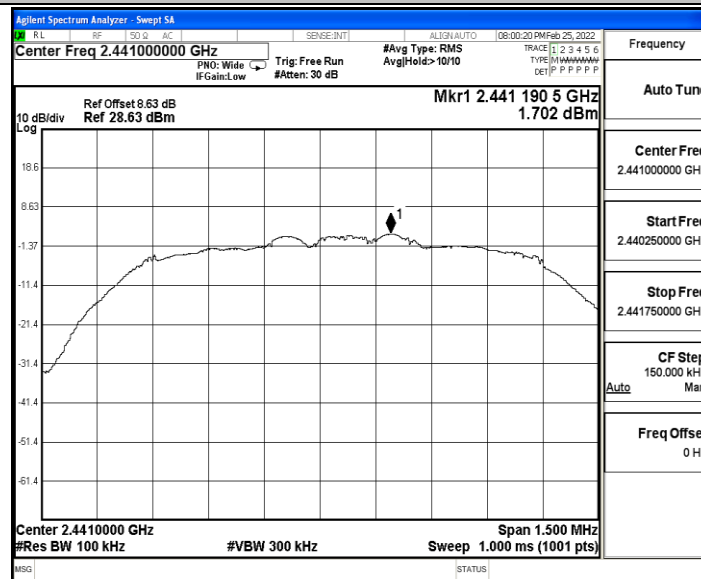


2DH5_Ant1_2402_1000~26500

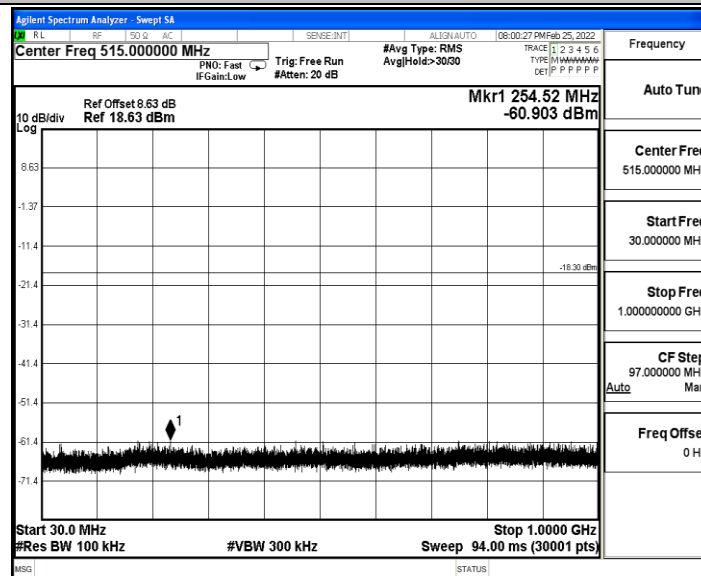




2DH5_Ant1_2441_0~Reference

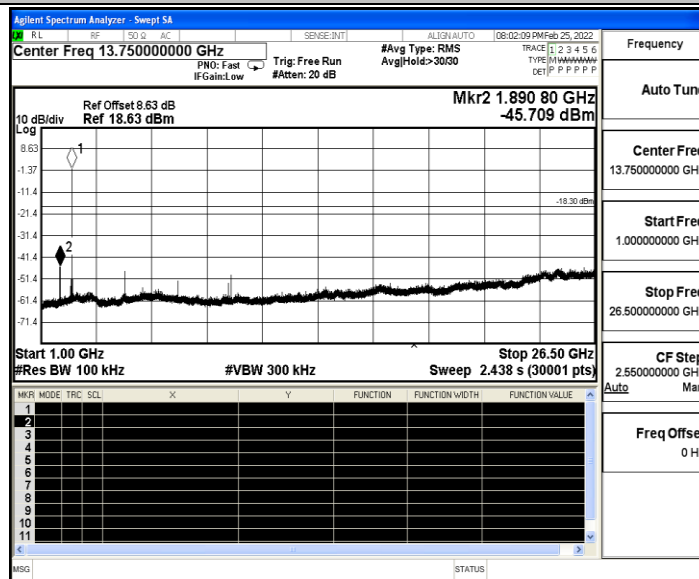


2DH5_Ant1_2441_30~1000

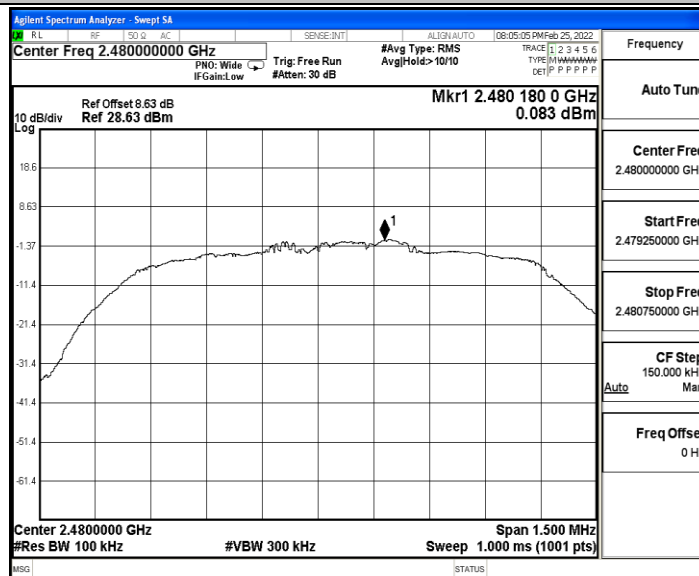




2DH5_Ant1_2441_1000~26500

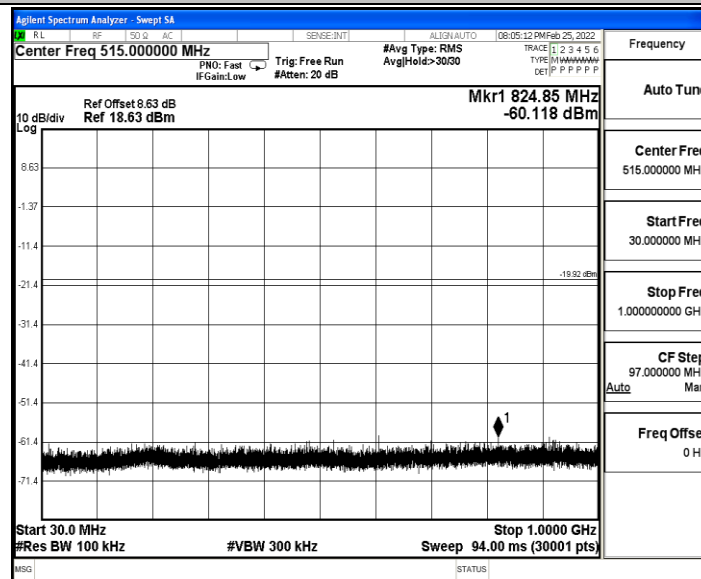


2DH5_Ant1_2480_0~Reference

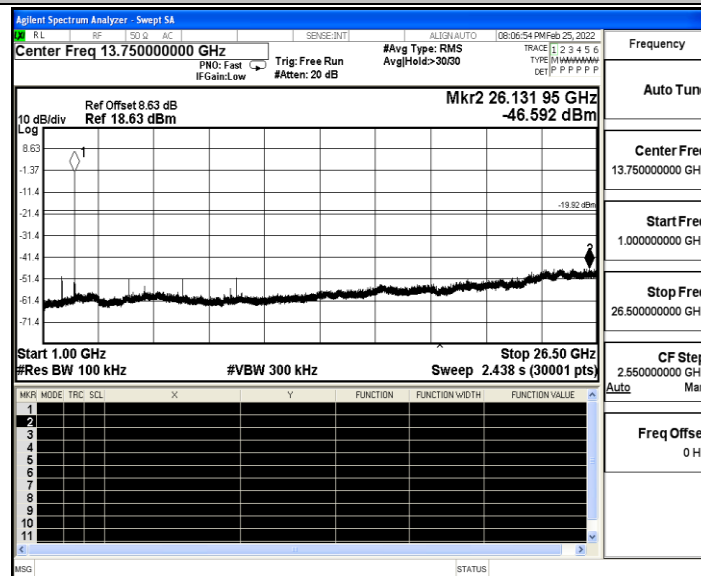




2DH5_Ant1_2480_30~1000

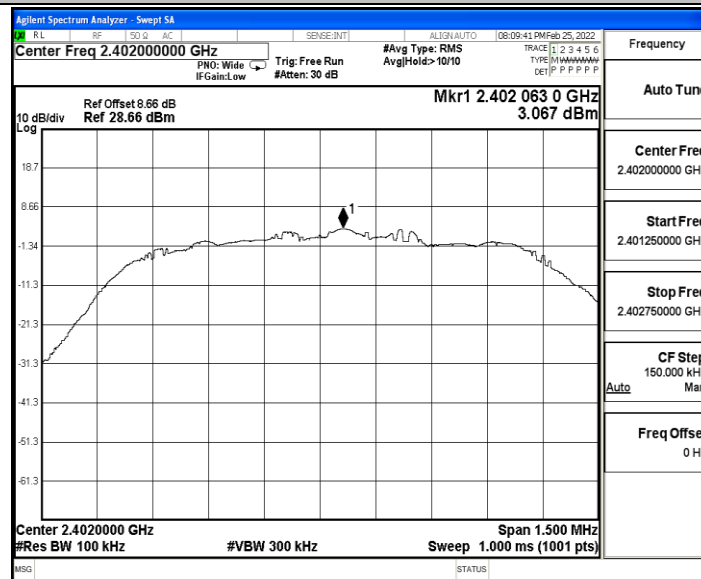


2DH5_Ant1_2480_1000~26500

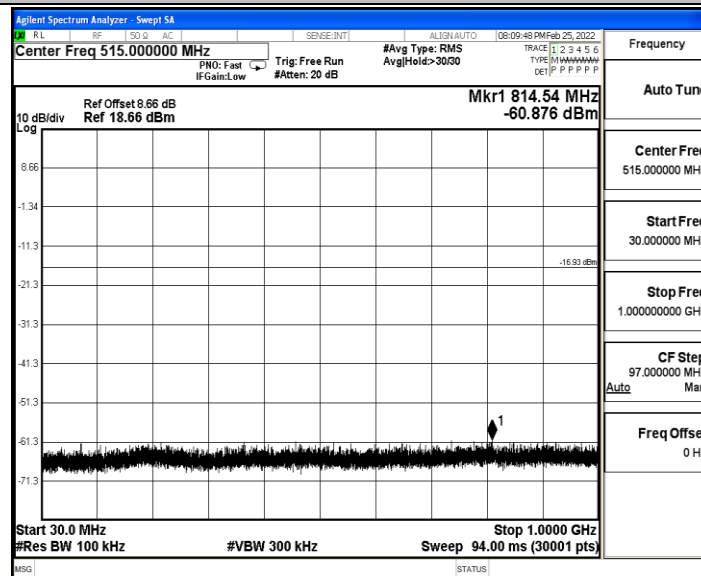




3DH5_Ant1_2402_0~Reference

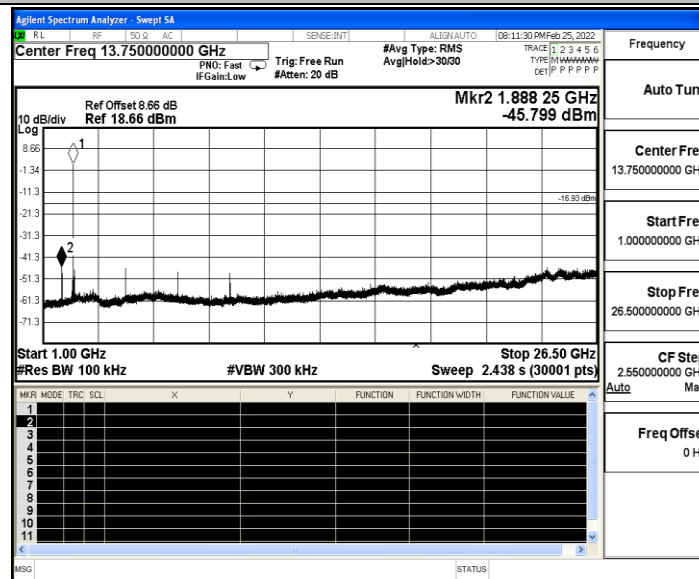


3DH5_Ant1_2402_30~1000

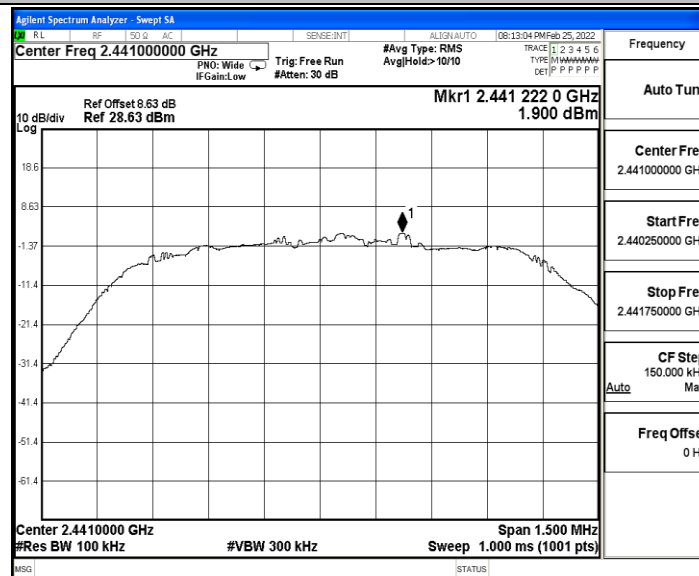




3DH5_Ant1_2402_1000~26500

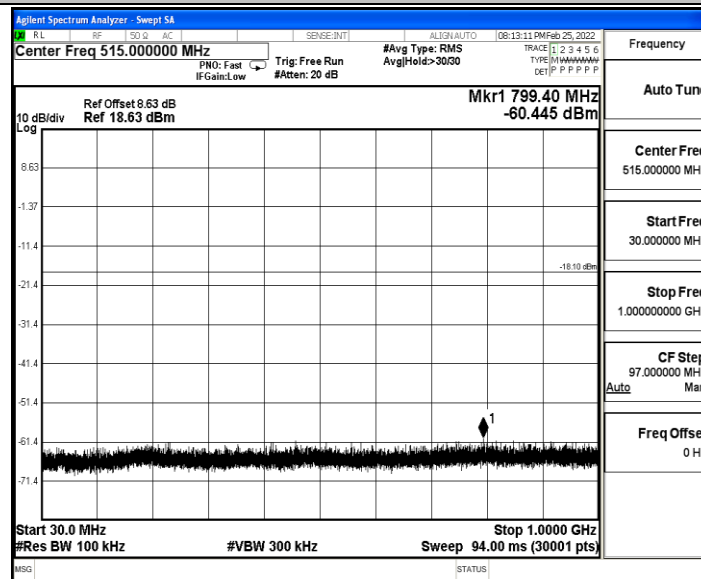


3DH5_Ant1_2441_0~Reference

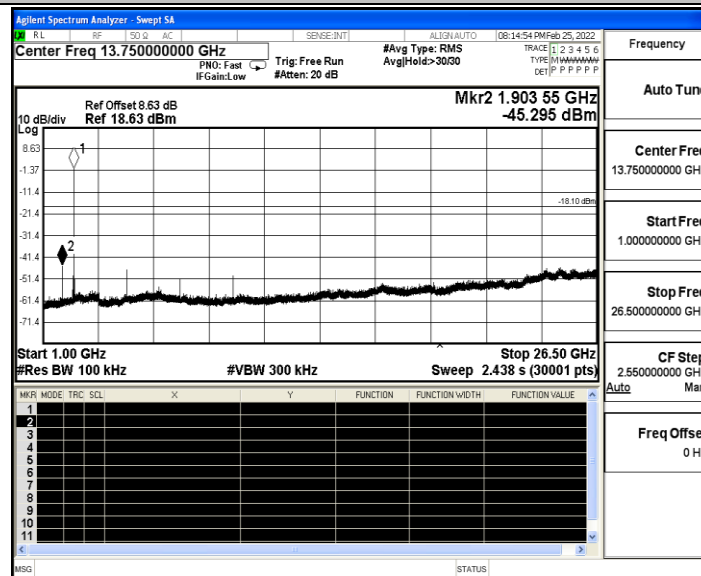




3DH5_Ant1_2441_30~1000

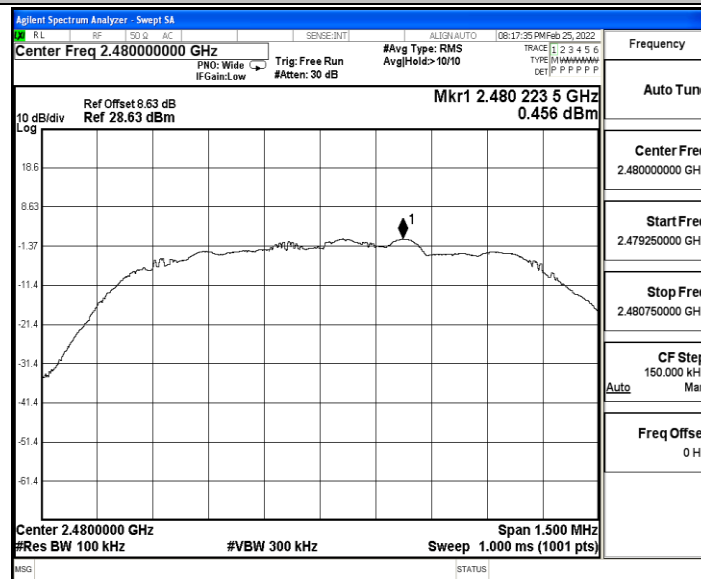


3DH5_Ant1_2441_1000~26500

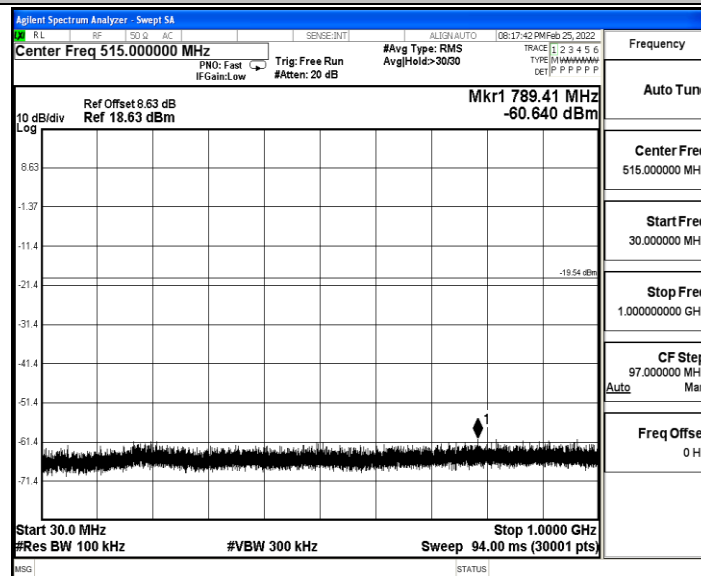




3DH5_Ant1_2480_0~Reference

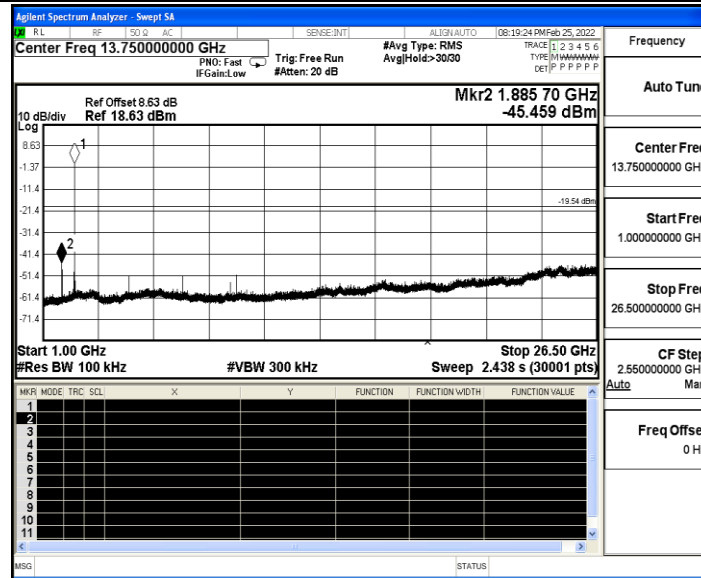


3DH5_Ant1_2480_30~1000





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	-48.38	≤-41.20	46.82	≤54	PASS
				AV	2376.125	-45.13	≤-41.20	50.07	≤54	PASS
				AV	2390.000	-47.95	≤-41.20	47.25	≤54	PASS
				Peak	2310.000	-39.36	≤-21.20	55.84	≤74	PASS
				Peak	2376.545	-36.41	≤-21.20	58.79	≤74	PASS
				Peak	2390.000	-38.17	≤-21.20	57.03	≤74	PASS
		High	2480	AV	2483.500	-47.12	≤-41.20	48.08	≤54	PASS
				AV	2483.520	-47.12	≤-41.20	48.08	≤54	PASS
				AV	2500.000	-47.37	≤-41.20	47.83	≤54	PASS
				Peak	2483.500	-37.68	≤-21.20	57.52	≤74	PASS
				Peak	2484.800	-36.7	≤-21.20	58.50	≤74	PASS
				Peak	2500.000	-38.42	≤-21.20	56.78	≤74	PASS
		Low	Hop_2402	Peak	2310.000	-38.74	≤-21.20	56.46	≤74	PASS
				Peak	2386.835	-37.07	≤-21.20	58.13	≤74	PASS
				Peak	2390.000	-38.51	≤-21.20	56.69	≤74	PASS
		High	Hop_2480	Peak	2483.500	-38.6	≤-21.20	56.60	≤74	PASS
				Peak	2497.440	-36.59	≤-21.20	58.61	≤74	PASS
				Peak	2500.000	-36.75	≤-21.20	58.45	≤74	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-48.45	≤-41.20	46.75	≤54	PASS
				AV	2376.020	-45.47	≤-41.20	49.73	≤54	PASS
				AV	2390.000	-48	≤-41.20	47.20	≤54	PASS
				Peak	2310.000	-38.92	≤-21.20	56.28	≤74	PASS
				Peak	2376.650	-36.05	≤-21.20	59.15	≤74	PASS
				Peak	2390.000	-38.34	≤-21.20	56.86	≤74	PASS
		High	2480	AV	2483.500	-46.94	≤-41.20	48.26	≤54	PASS
				AV	2483.520	-47.04	≤-41.20	48.16	≤54	PASS
				AV	2500.000	-47.41	≤-41.20	47.79	≤54	PASS
				Peak	2483.500	-37.08	≤-21.20	58.12	≤74	PASS
				Peak	2489.760	-36.18	≤-21.20	59.02	≤74	PASS
				Peak	2500.000	-38.46	≤-21.20	56.74	≤74	PASS
		Low	Hop_2402	Peak	2310.000	-38.71	≤-21.20	56.49	≤74	PASS
				Peak	2370.140	-36.14	≤-21.20	59.06	≤74	PASS
				Peak	2390.000	-39.14	≤-21.20	56.06	≤74	PASS
		High	Hop_2480	Peak	2483.500	-37.12	≤-21.20	58.08	≤74	PASS
				Peak	2498.960	-36.05	≤-21.20	59.15	≤74	PASS
				Peak	2500.000	-38.04	≤-21.20	57.16	≤74	PASS
3DH5	Ant1	Low	2402	AV	2310.000	-48.39	≤-41.20	46.81	≤54	PASS



				AV	2375.915	-45.49	≤-41.20	49.71	≤54	PASS
				AV	2390.000	-48.08	≤-41.20	47.12	≤54	PASS
				Peak	2310.000	-38.87	≤-21.20	56.33	≤74	PASS
				Peak	2376.335	-35.82	≤-21.20	59.38	≤74	PASS
				Peak	2390.000	-39.14	≤-21.20	56.06	≤74	PASS
		High	2480	AV	2483.500	-46.88	≤-41.20	48.32	≤54	PASS
				AV	2483.520	-46.88	≤-41.20	48.32	≤54	PASS
				AV	2500.000	-47.51	≤-41.20	47.69	≤54	PASS
				Peak	2483.500	-36.92	≤-21.20	58.28	≤74	PASS
				Peak	2485.280	-36.47	≤-21.20	58.73	≤74	PASS
				Peak	2500.000	-37.88	≤-21.20	57.32	≤74	PASS
		Low	Hop_2402	Peak	2310.000	-39.19	≤-21.20	56.01	≤74	PASS
				Peak	2386.835	-36.68	≤-21.20	58.52	≤74	PASS
				Peak	2390.000	-38.78	≤-21.20	56.42	≤74	PASS
		High	Hop_2480	Peak	2483.500	-38.19	≤-21.20	57.01	≤74	PASS
				Peak	2499.760	-35.9	≤-21.20	59.30	≤74	PASS
				Peak	2500.000	-37.97	≤-21.20	57.23	≤74	PASS

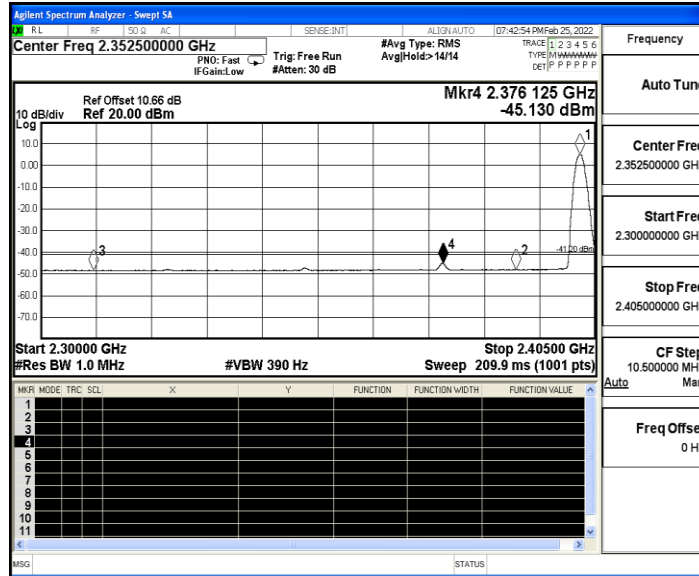
Note:

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.

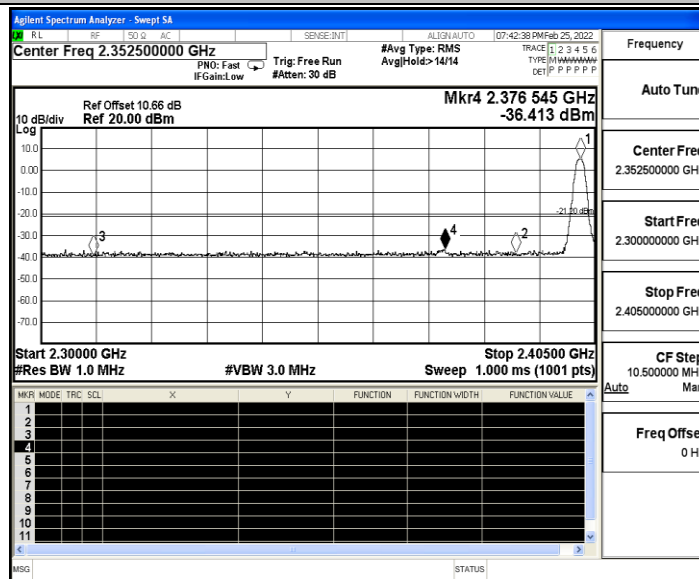


Test Graphs

DH5_Ant1_Low_2402_AV

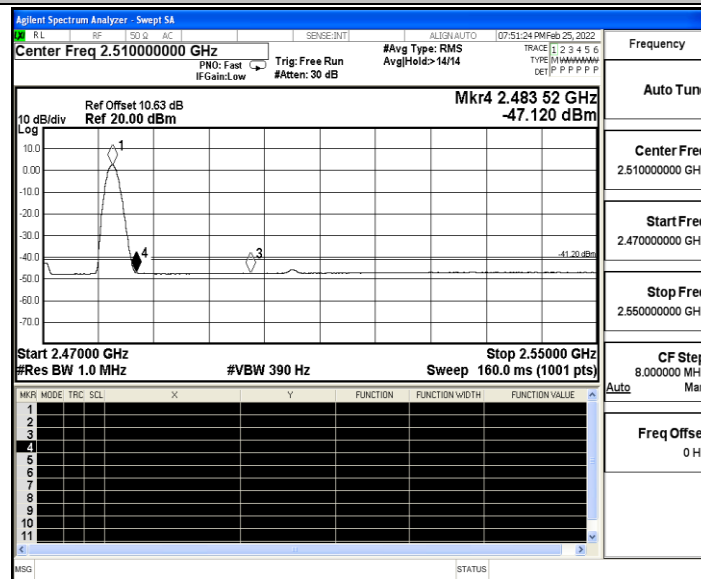


DH5_Ant1_Low_2402_Peak

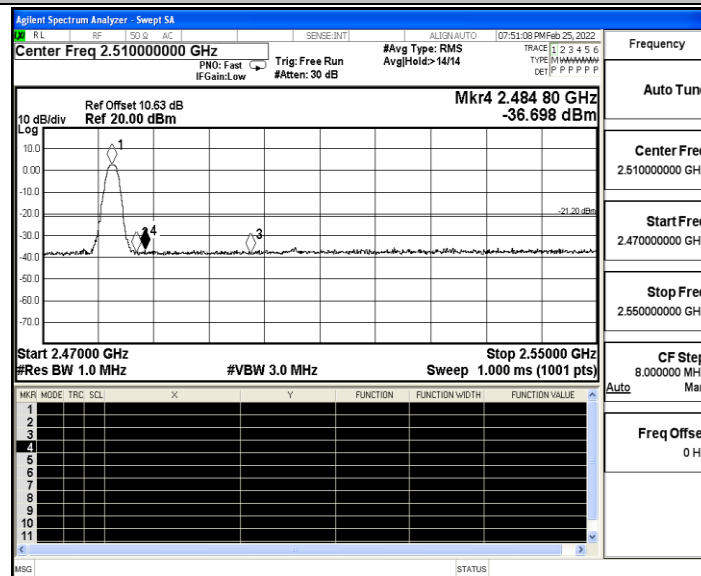




DH5_Ant1_High_2480_AV

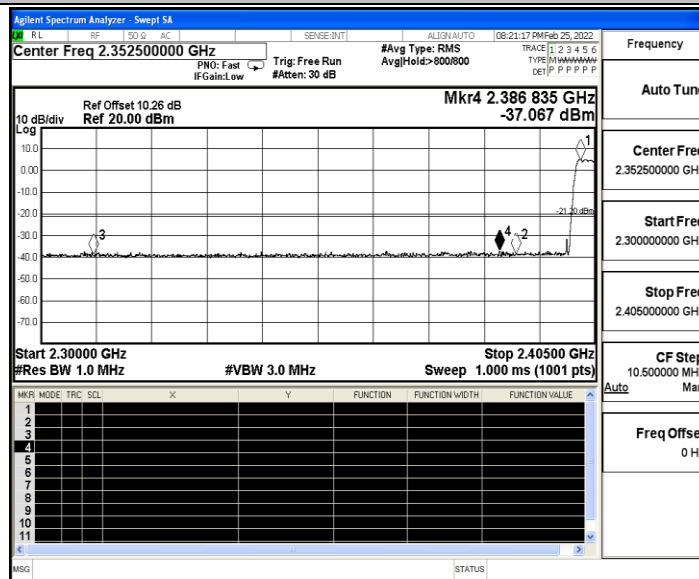


DH5_Ant1_High_2480_Peak

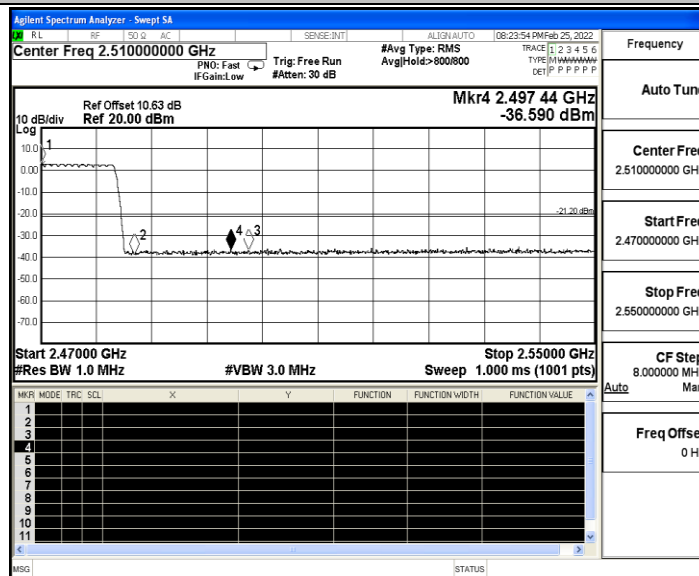




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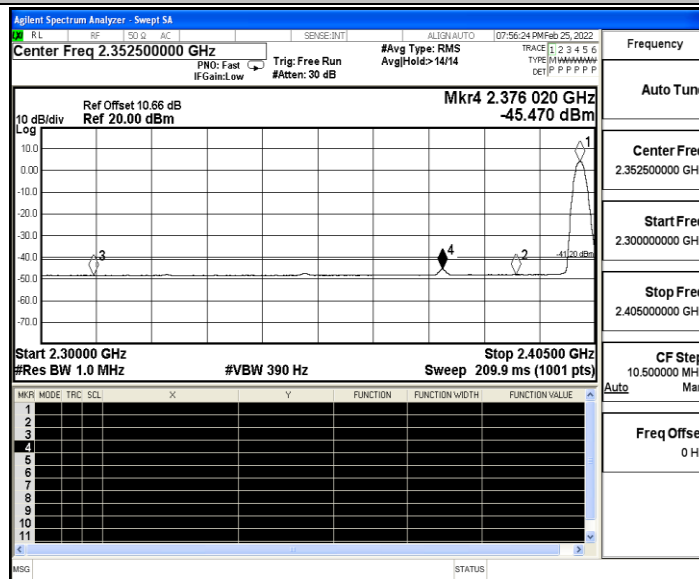


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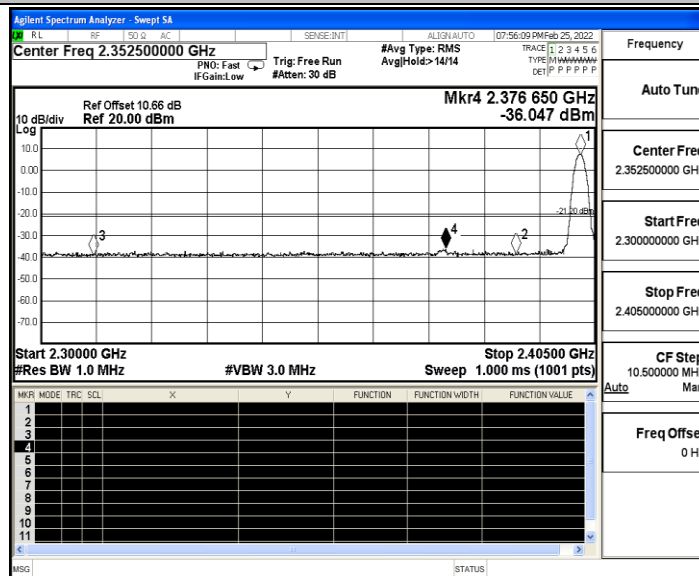




2DH5_Ant1_Low_2402_AV

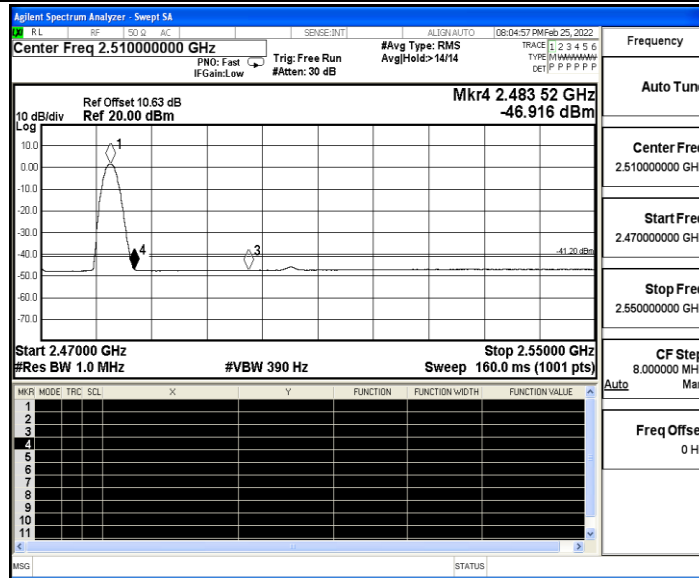


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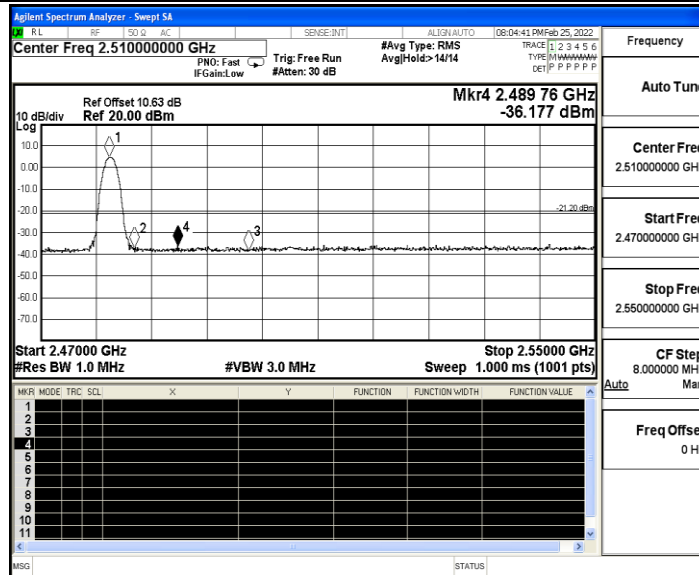




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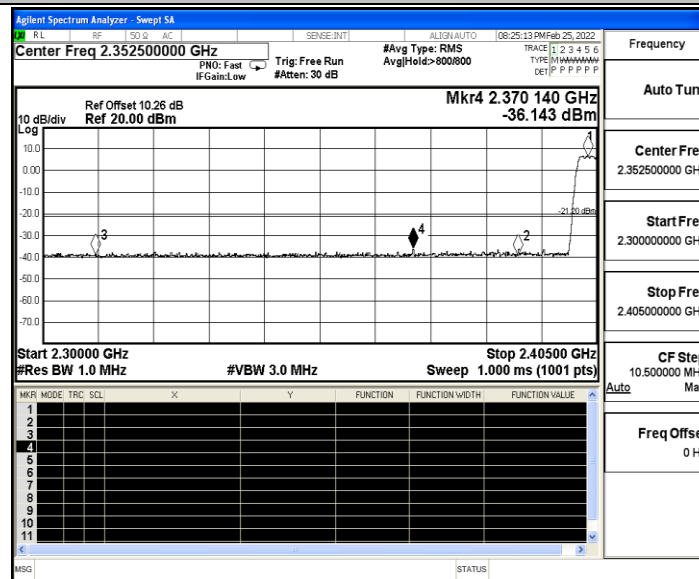


2DH5_Ant1_High_2480_Peak

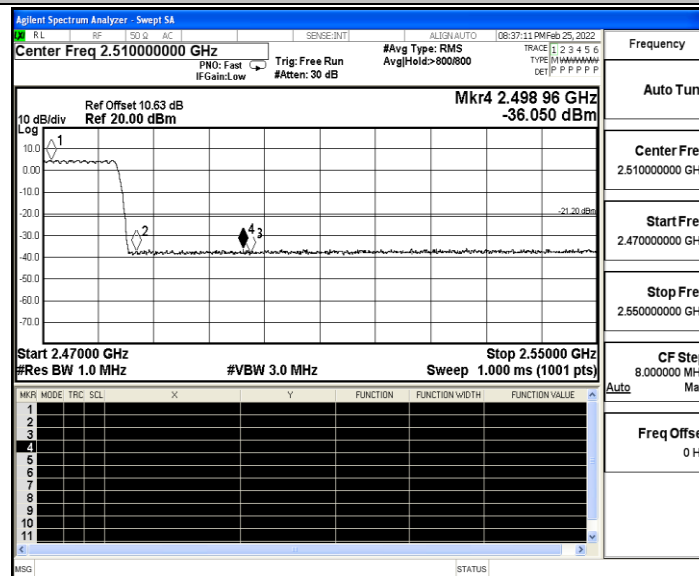




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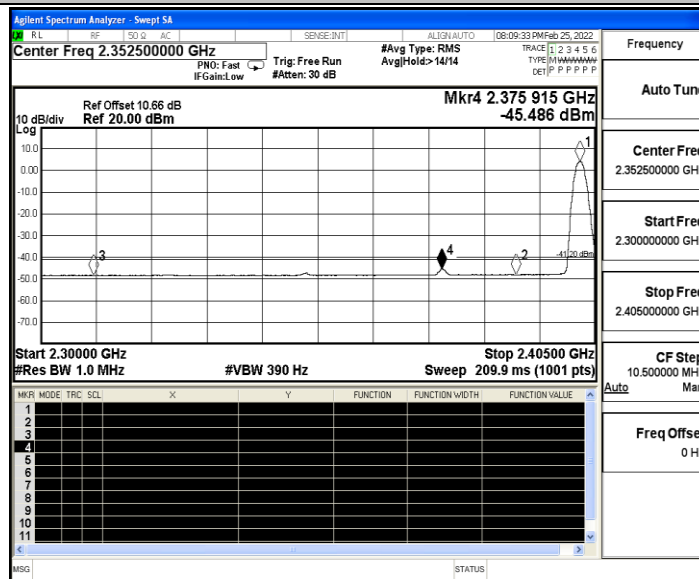


2DH5_Ant1_High_Hop_2480_Peak

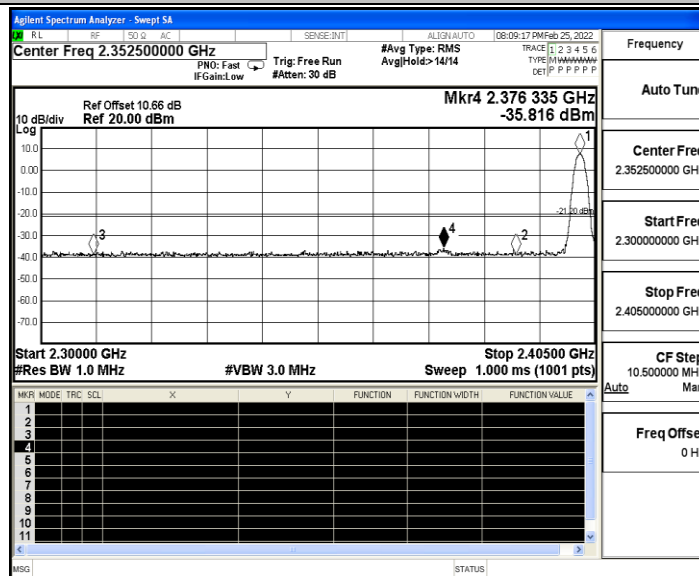




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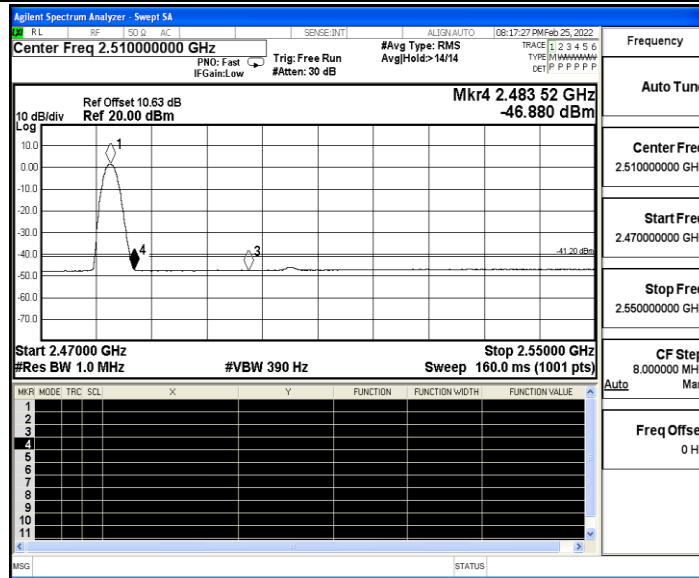


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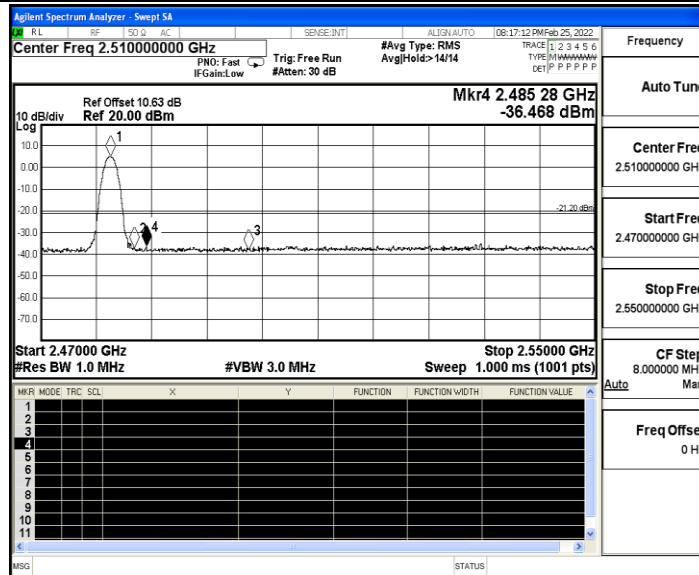




3DH5_Ant1_High_2480_AV

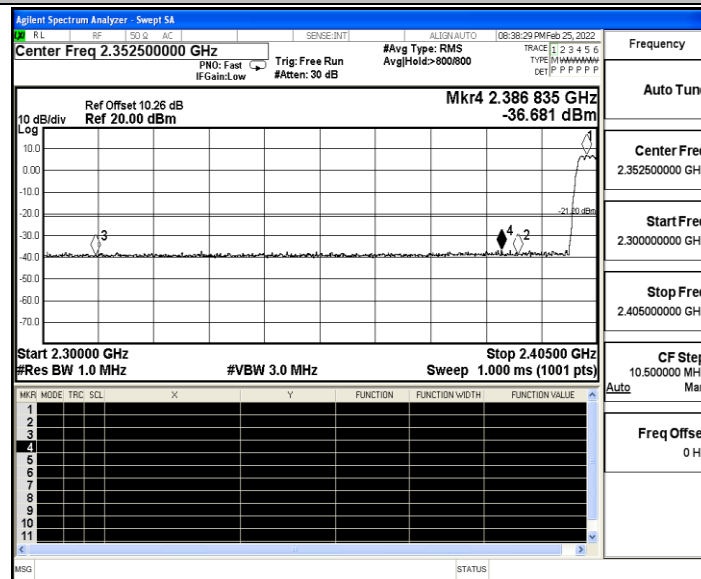


3DH5_Ant1_High_2480_Peak





3DH5_Ant1_Low_Hop_2402_Peak



3DH5_Ant1_High_Hop_2480_Peak

