

Appendix A

RF Test Data for BT(BDR/EDR) (Conducted Measurement)

Product Name: Feature phone

Trade Mark: Sunelan

Test Model: S4

FCC ID: 2A2AJ-S4

Environmental Conditions

Temperature:	23.8℃
Relative Humidity:	58%
ATM Pressure:	100.0 kPa
Test Engineer:	Nancy Li
Supervised by:	Hugo Chen

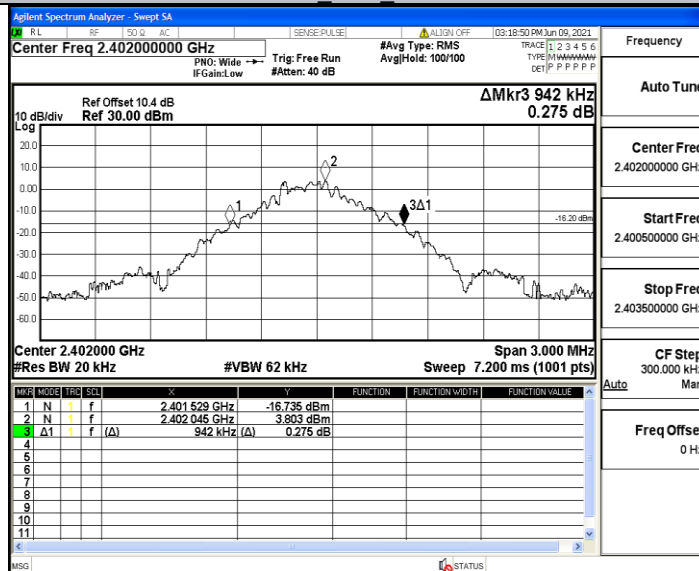
Appendix A: 20dB Emission Bandwidth

Test Result

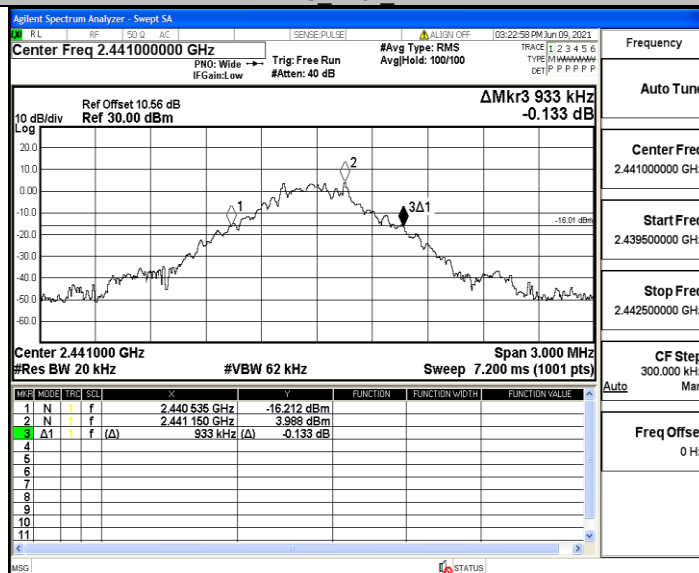
TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.942	2401.529	2402.471	---	PASS
		2441	0.933	2440.535	2441.468	---	PASS
		2480	0.942	2479.526	2480.468	---	PASS
2DH5	Ant1	2402	1.317	2401.328	2402.645	---	PASS
		2441	1.314	2440.331	2441.645	---	PASS
		2480	1.311	2479.331	2480.642	---	PASS
3DH5	Ant1	2402	1.281	2401.340	2402.621	---	PASS
		2441	1.281	2440.340	2441.621	---	PASS
		2480	1.281	2479.337	2480.618	---	PASS

Test Graphs

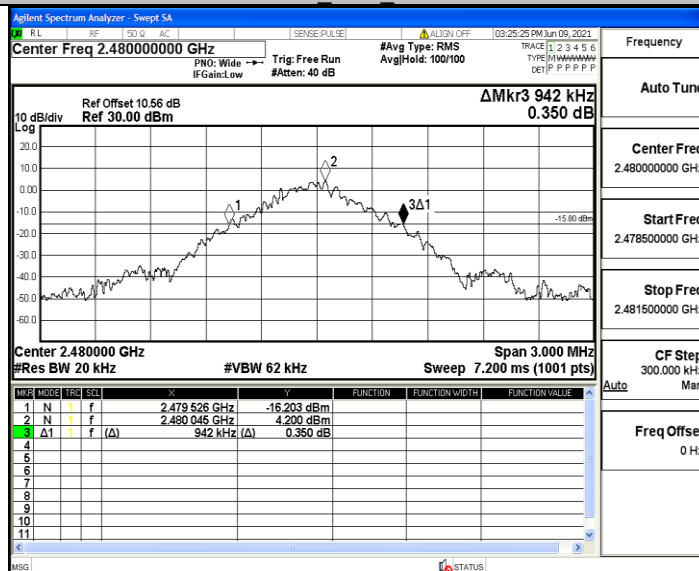
DH5_Ant1_2402



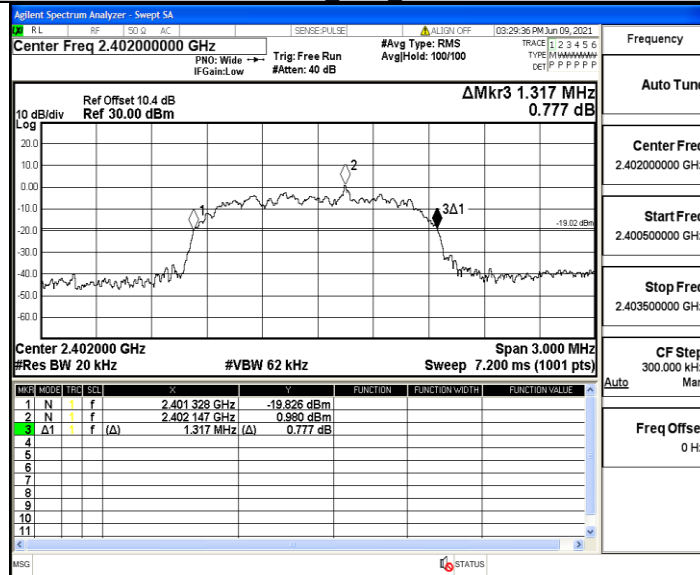
DH5_Ant1_2441



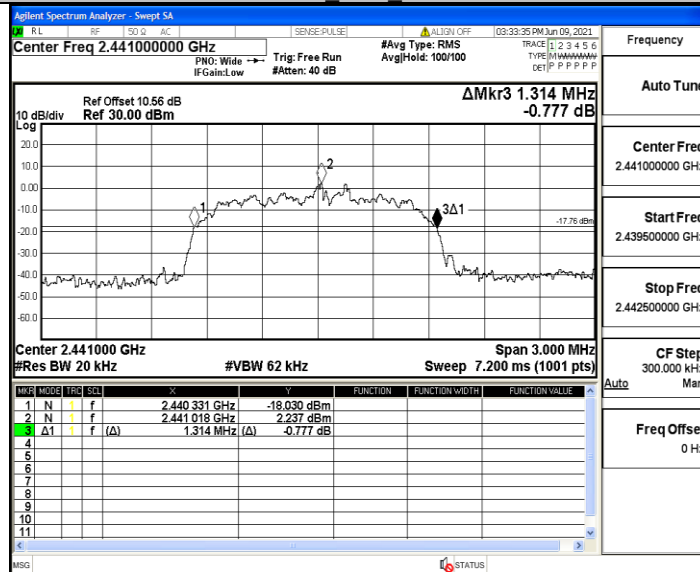
DH5_Ant1_2480



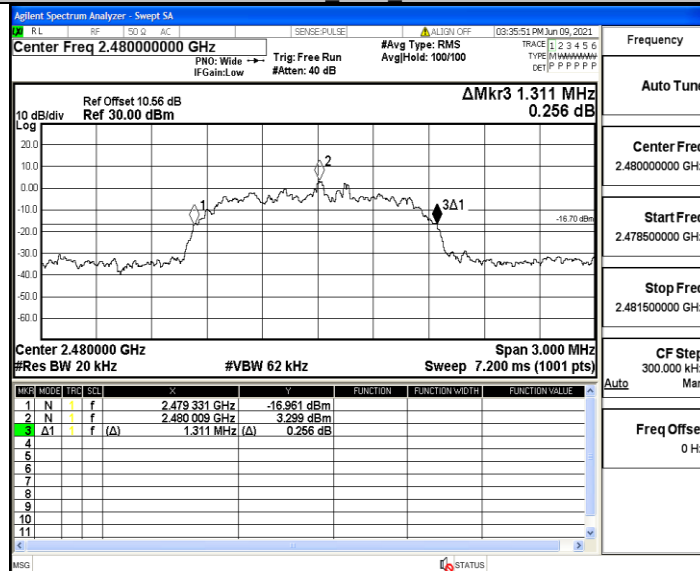
2DH5_Ant1_2402



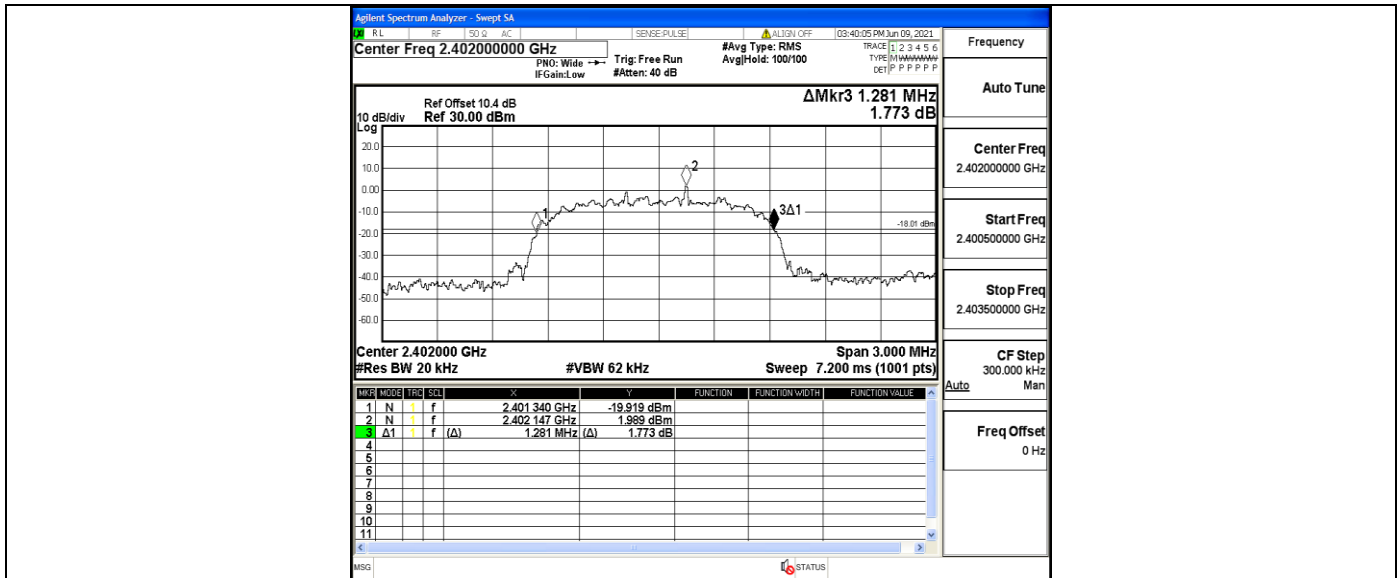
2DH5_Ant1_2441



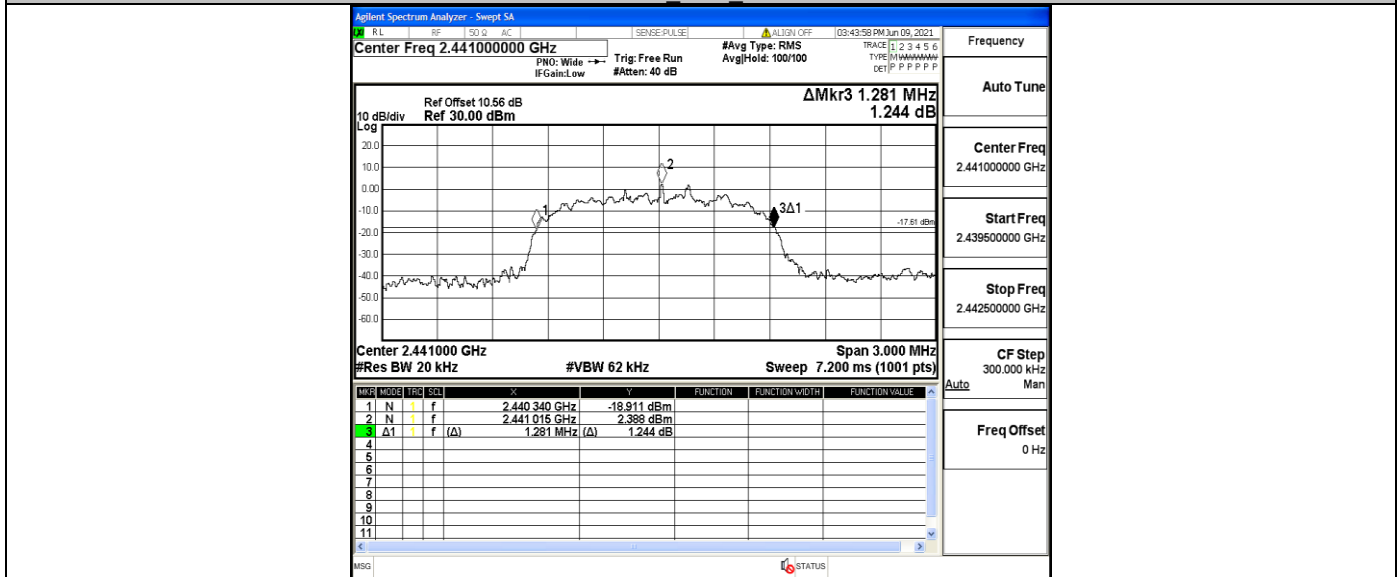
2DH5_Ant1_2480



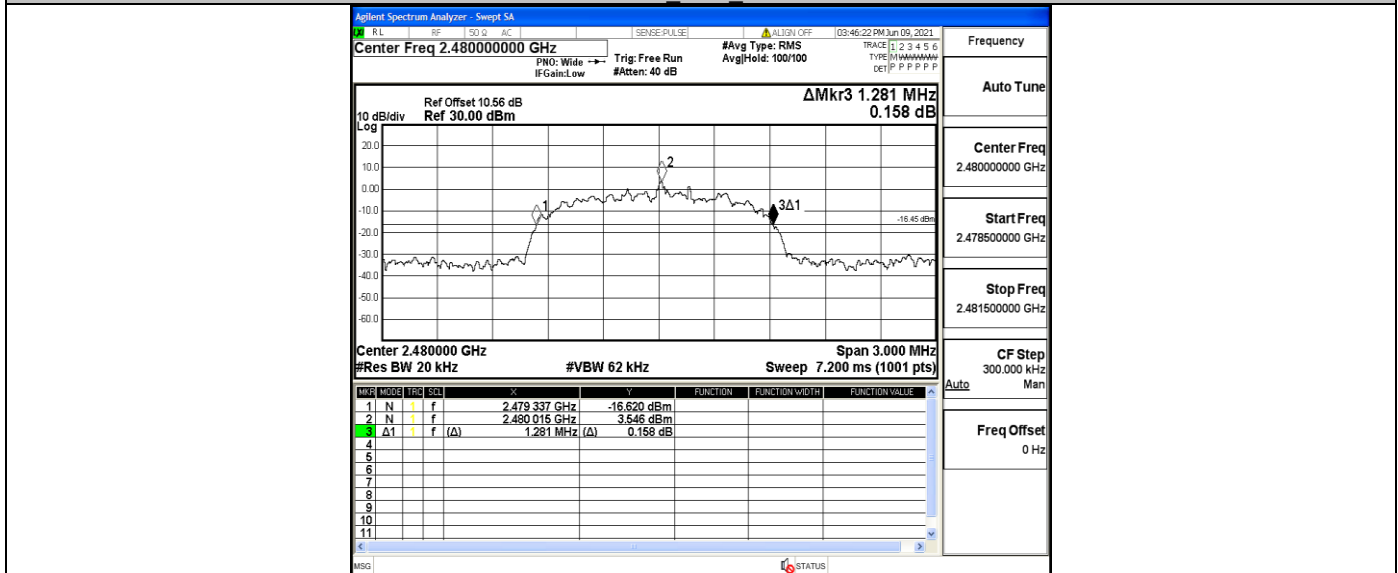
3DH5_Ant1_2402



3DH5 Ant1 2441



3DH5 Ant1 2480



Appendix B: Occupied Channel Bandwidth

Test Result

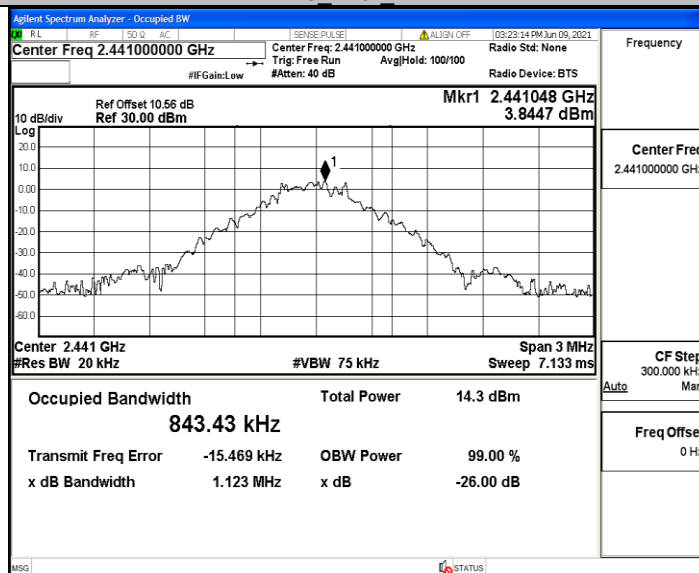
TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.84809	2401.564	2402.412	---	PASS
		2441	0.84343	2440.563	2441.406	---	PASS
		2480	0.85338	2479.554	2480.407	---	PASS
2DH5	Ant1	2402	1.1882	2401.398	2402.586	---	PASS
		2441	1.1887	2440.394	2441.583	---	PASS
		2480	1.1980	2479.390	2480.588	---	PASS
3DH5	Ant1	2402	1.1924	2401.389	2402.581	---	PASS
		2441	1.1986	2440.381	2441.580	---	PASS
		2480	1.2139	2479.371	2480.585	---	PASS

Test Graphs

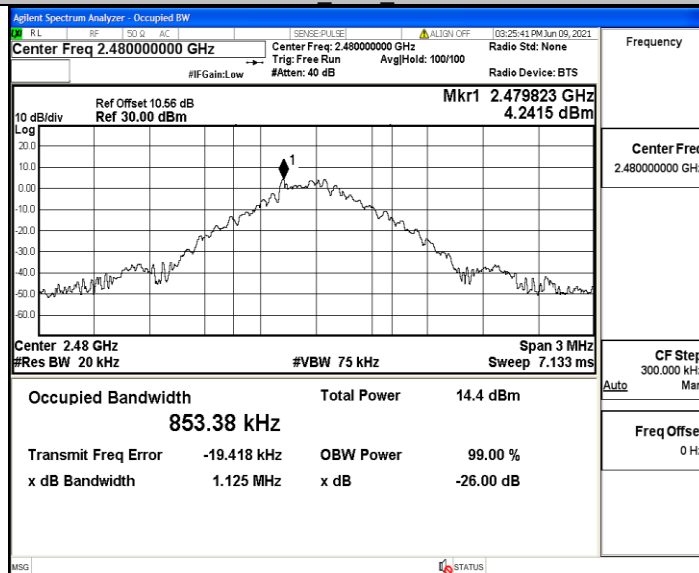
DH5_Ant1_2402



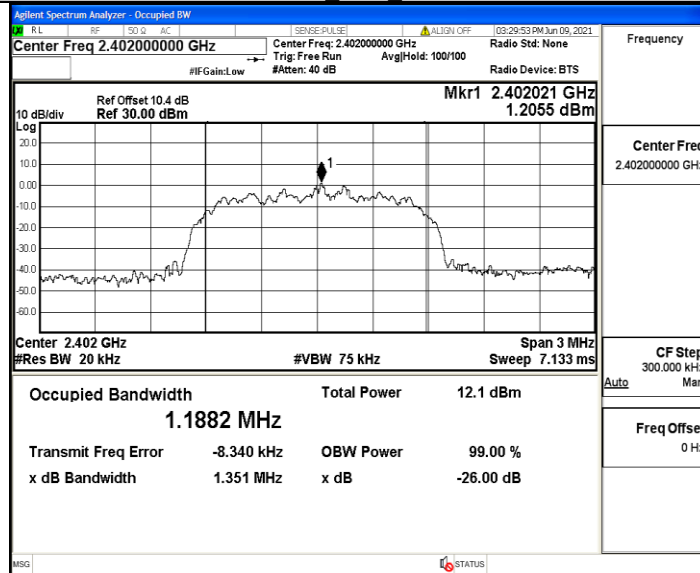
DH5_Ant1_2441



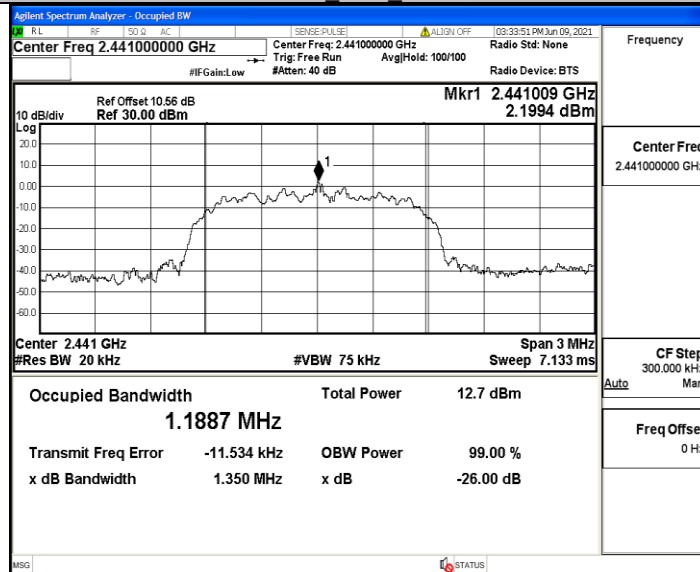
DH5_Ant1_2480



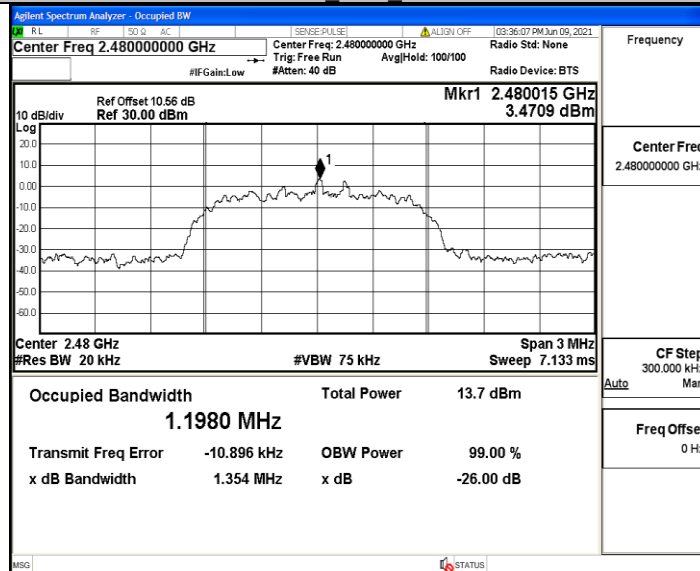
2DH5_Ant1_2402



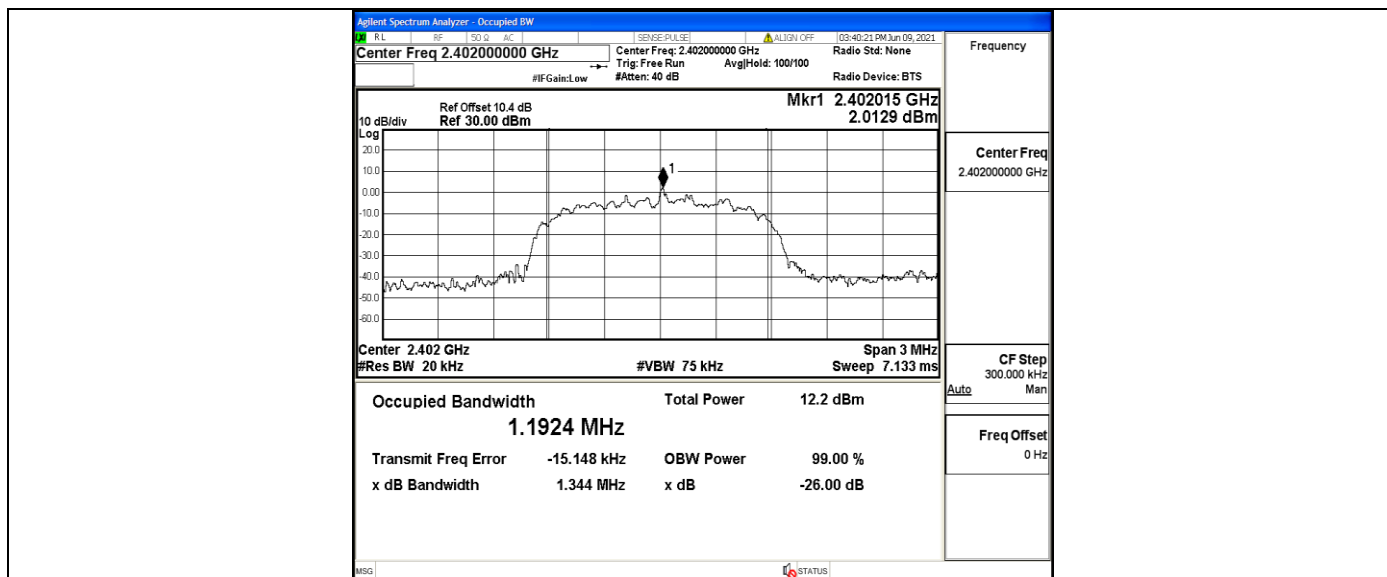
2DH5_Ant1_2441



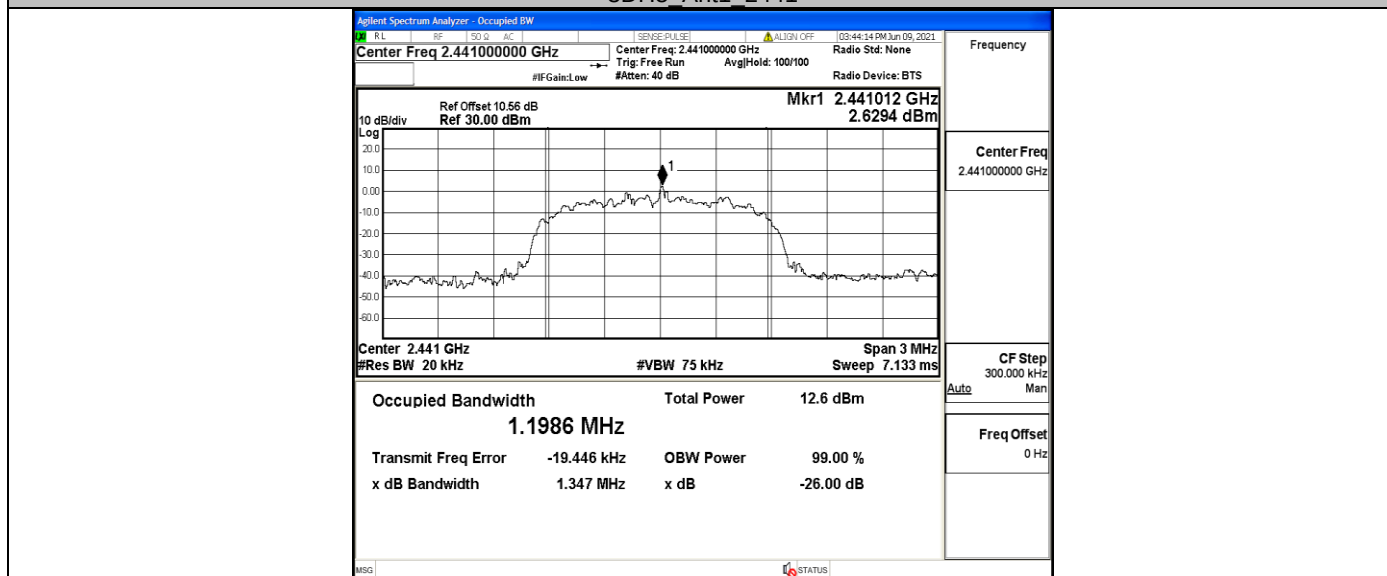
2DH5_Ant1_2480



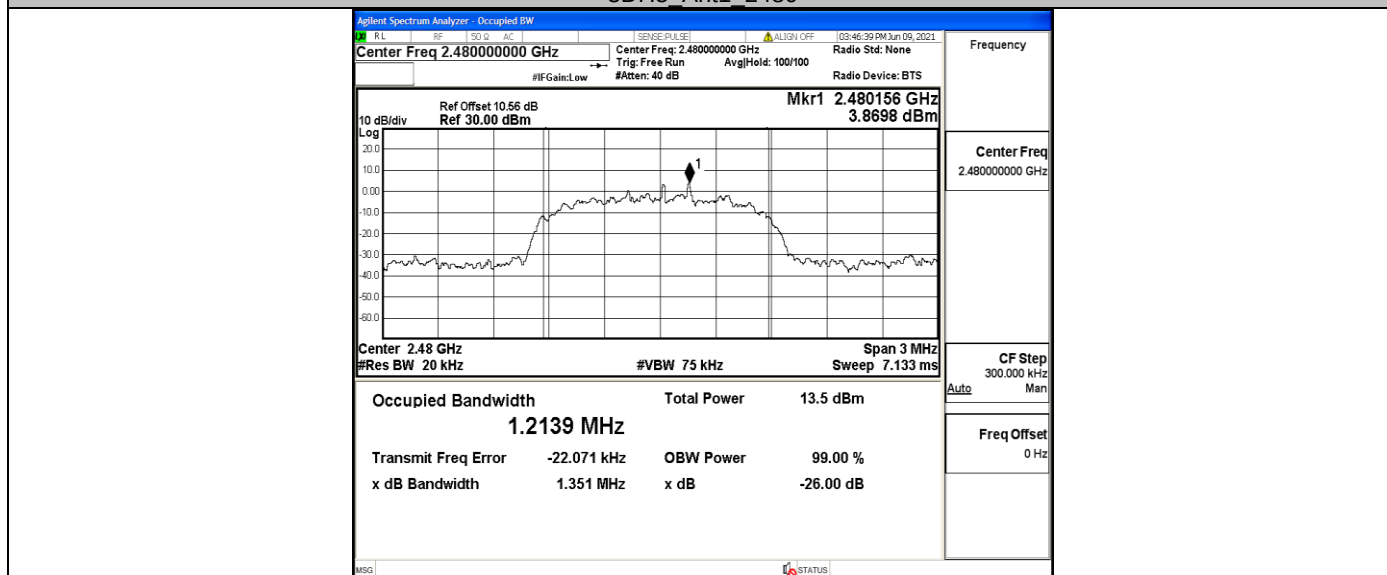
3DH5_Ant1_2402



3DH5 Ant1 2441



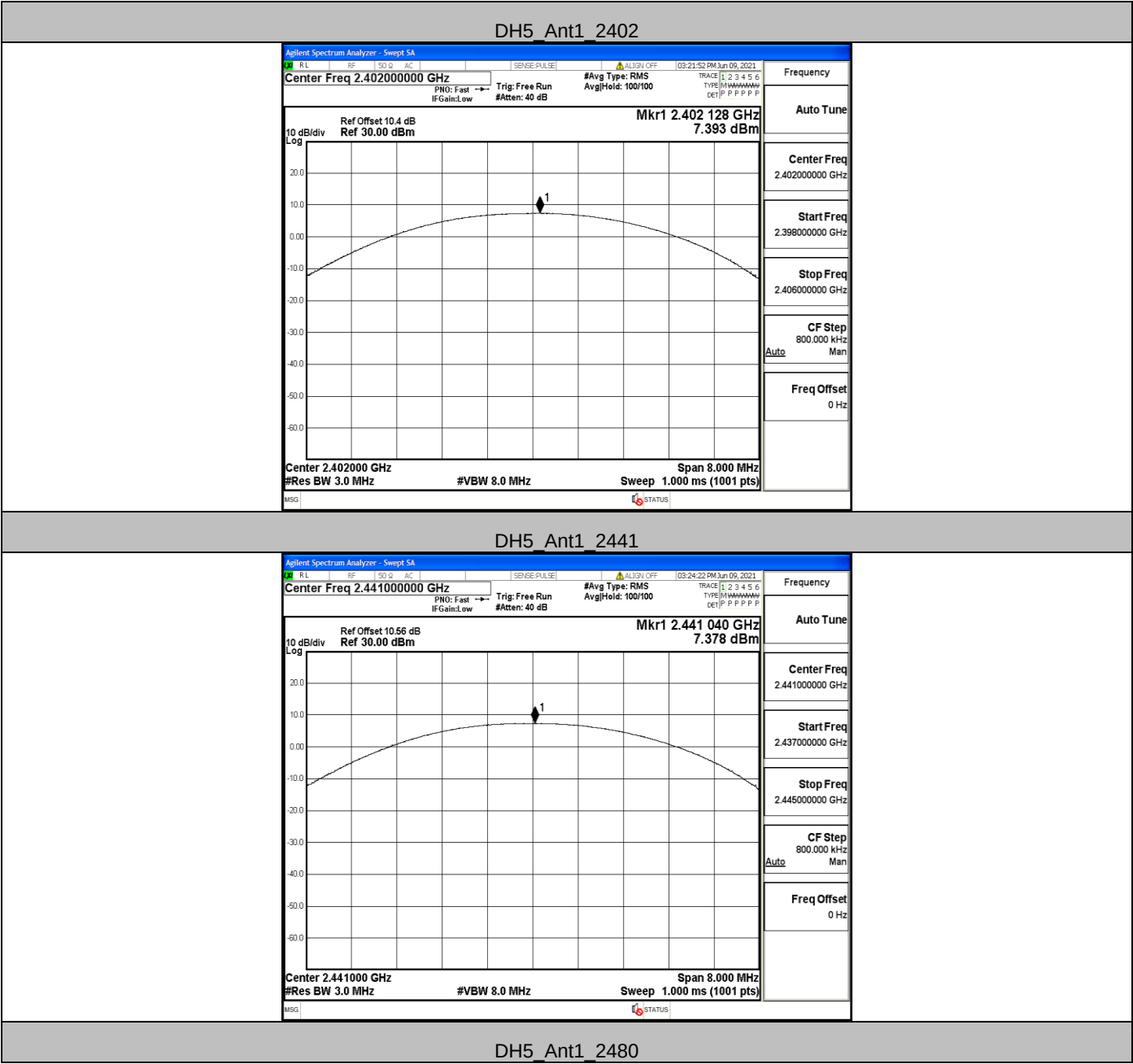
3DH5 Ant1 2480



Appendix C: Maximum conducted output power Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	7.39	<=20.97	PASS
		2441	7.38	<=20.97	PASS
		2480	7.65	<=20.97	PASS
2DH5	Ant1	2402	7.65	<=20.97	PASS
		2441	8.31	<=20.97	PASS
		2480	8.73	<=20.97	PASS
3DH5	Ant1	2402	7.92	<=20.97	PASS
		2441	8.49	<=20.97	PASS
		2480	9.00	<=20.97	PASS

Test Graphs



DH5_Ant1_2441

Agilent Spectrum Analyzer - Swept SA

RL

RF

50 Ω

AC

SENSE-PULSE

ALIGN OFF

09:24:22 PM Jun 09, 2021

Center Freq 2.441000000 GHz

PNO: Fast

IF Gain: Low

Trig: Free Run

#Atten: 40 dB

#Avg Type: RMS

Avg/Hold: 100/100

TRACE 1 2 3 4 5 6

TYPE [M] W W W W W W W W

DET [P] P P P P P P

Frequency

Auto Tune

Center Freq
2.441000000 GHz

Start Freq
2.437000000 GHz

Stop Freq
2.445000000 GHz

CF Step
800.000 kHz
Man

Freq Offset
0 Hz

Ref Offset 10.66 dB

Ref 30.00 dBm

Mkr1 2.441 040 GHz

7.378 dBm

10 dB/div

Log

20.0

10.0

0.00

-10.0

-20.0

-30.0

-40.0

-50.0

-60.0

Center 2.441000 GHz

#Res BW 3.0 MHz

#VBW 8.0 MHz

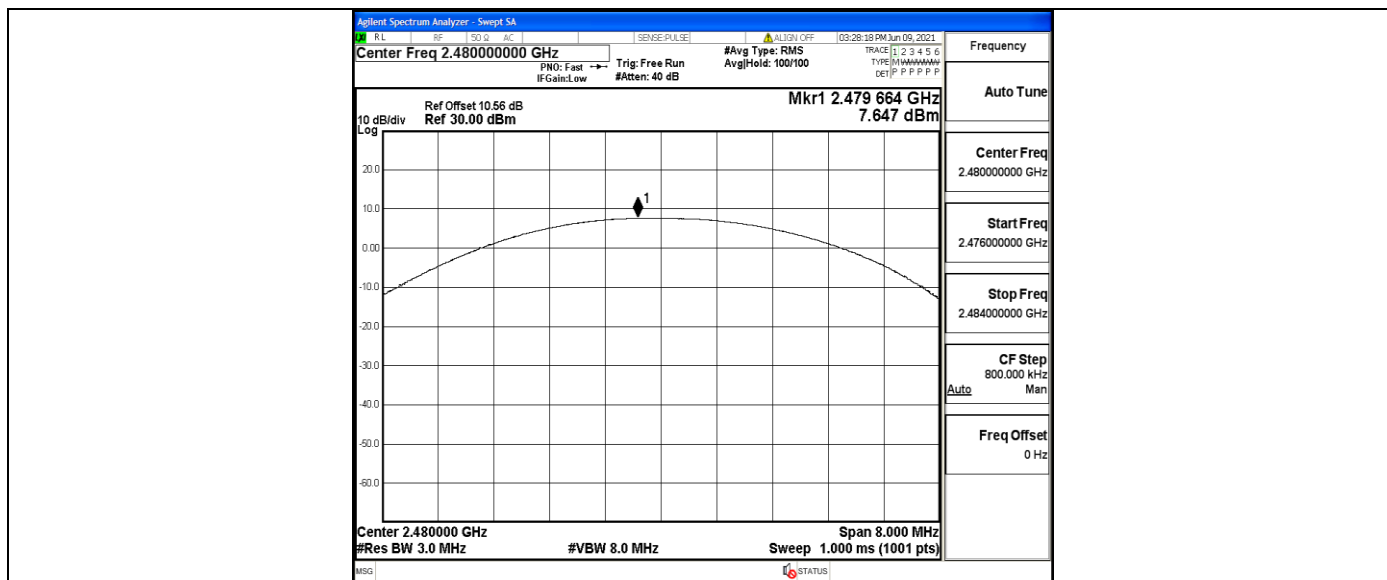
Span 8.000 MHz

Sweep 1.000 ms (1001 pts)

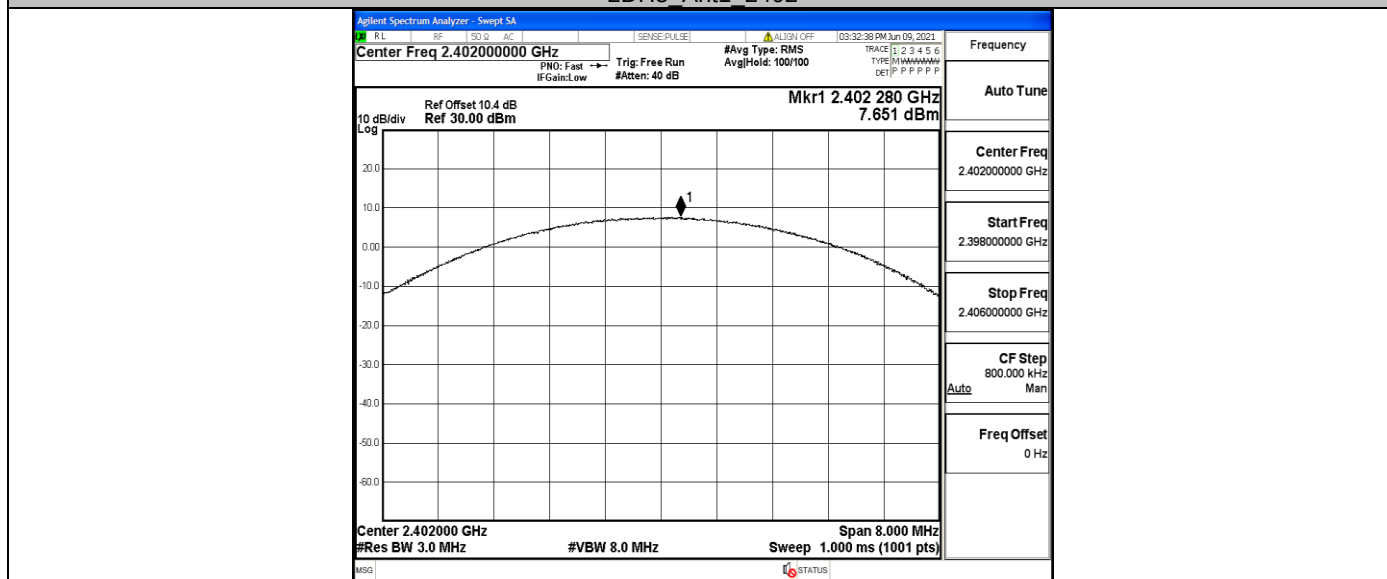
MSG

STATUS

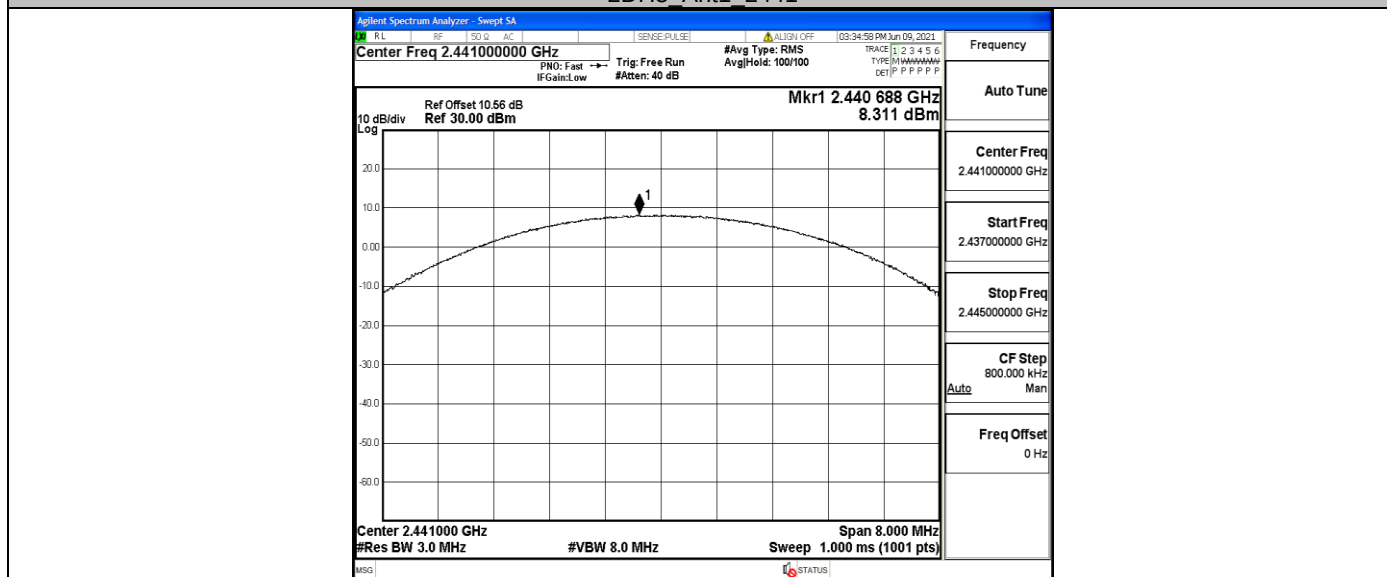
DH5_Ant1_2480



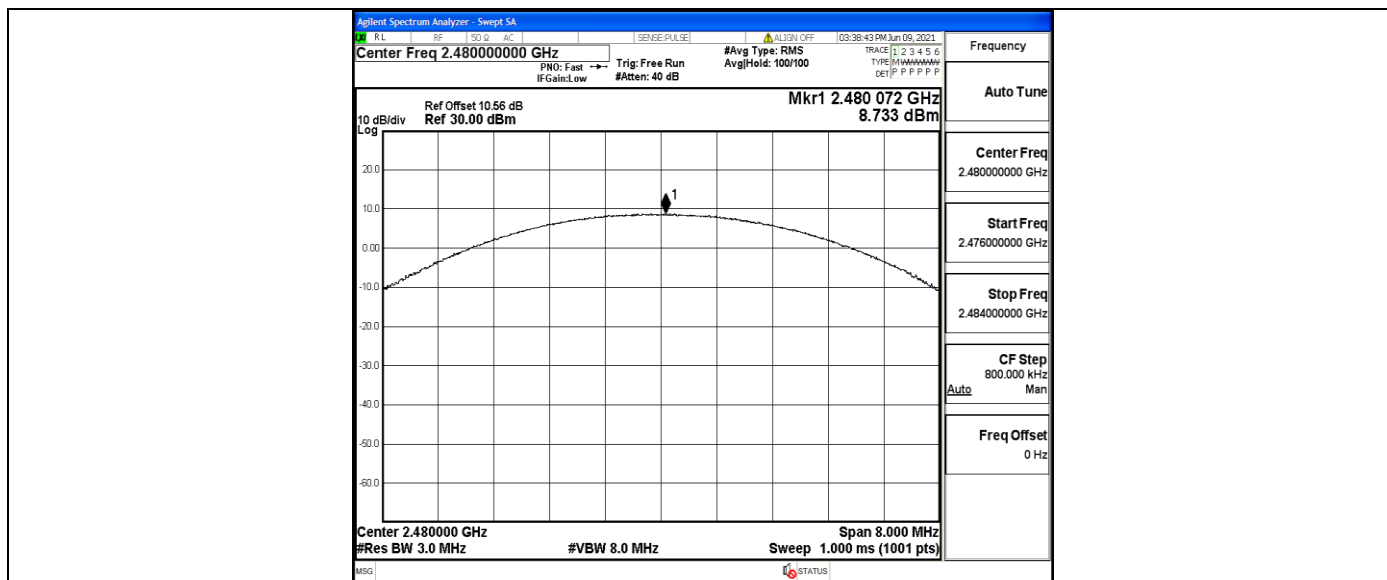
2DH5_Ant1_2402



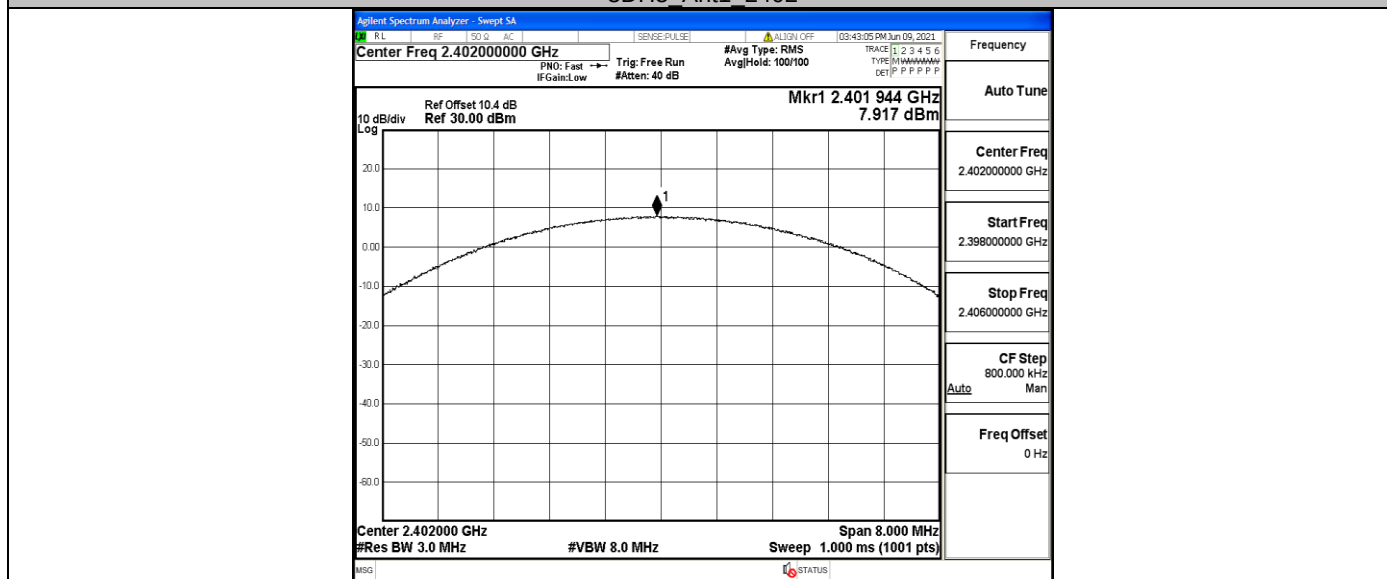
2DH5_Ant1_2441



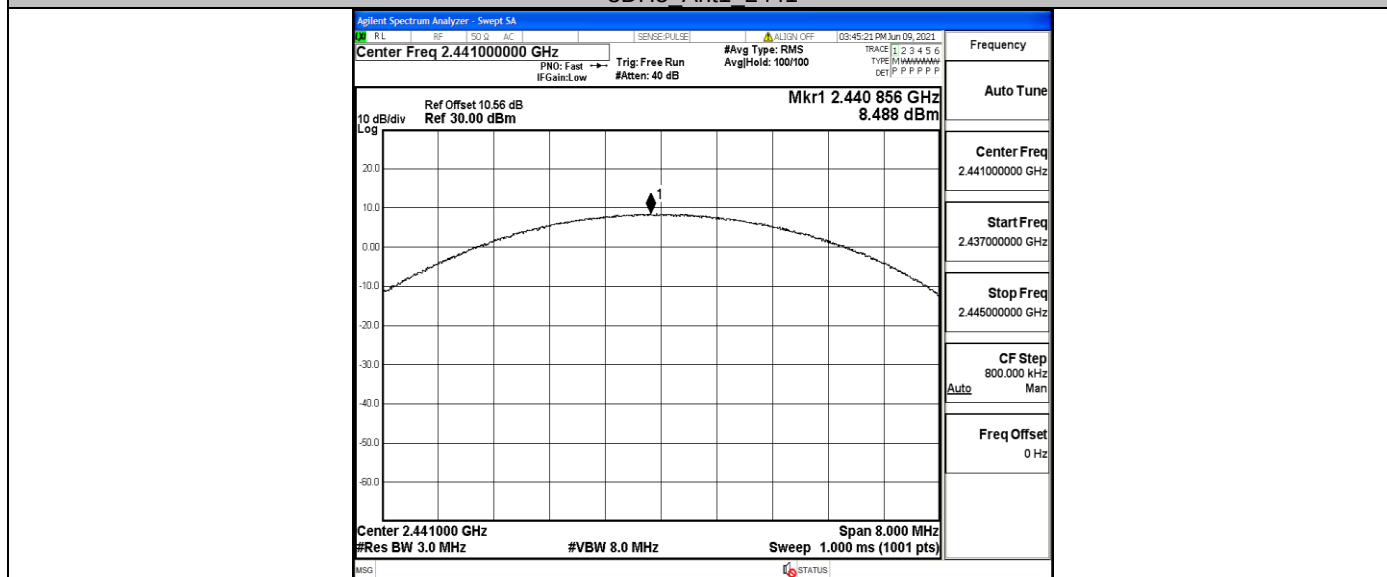
2DH5_Ant1_2480



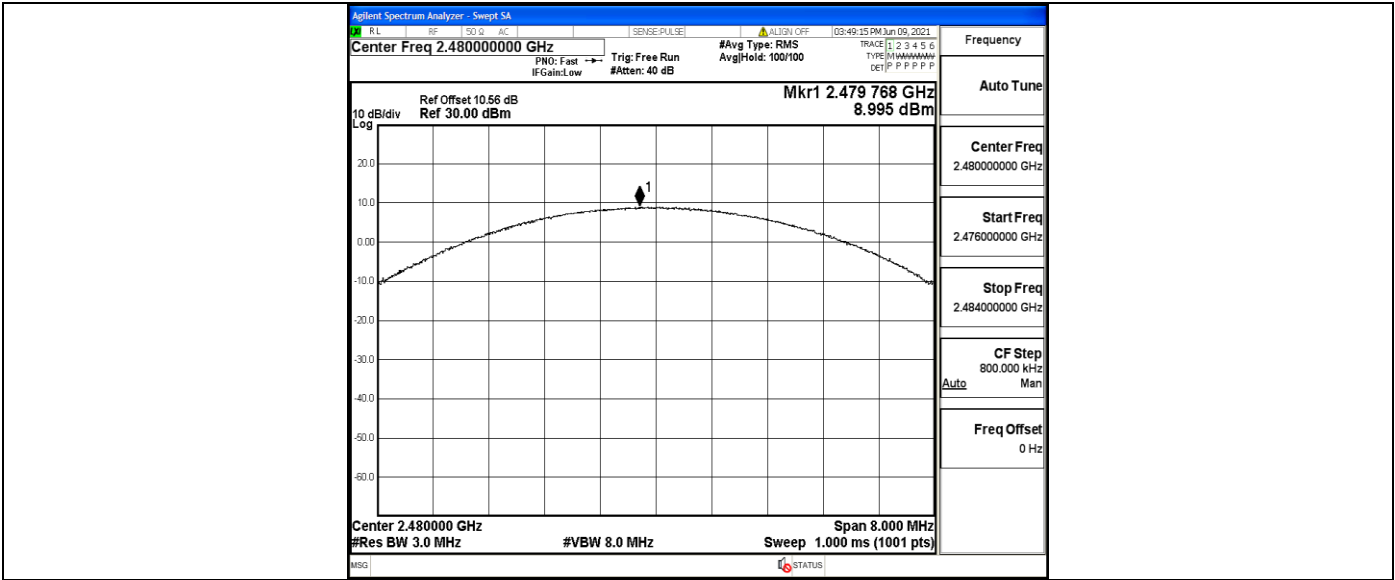
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480

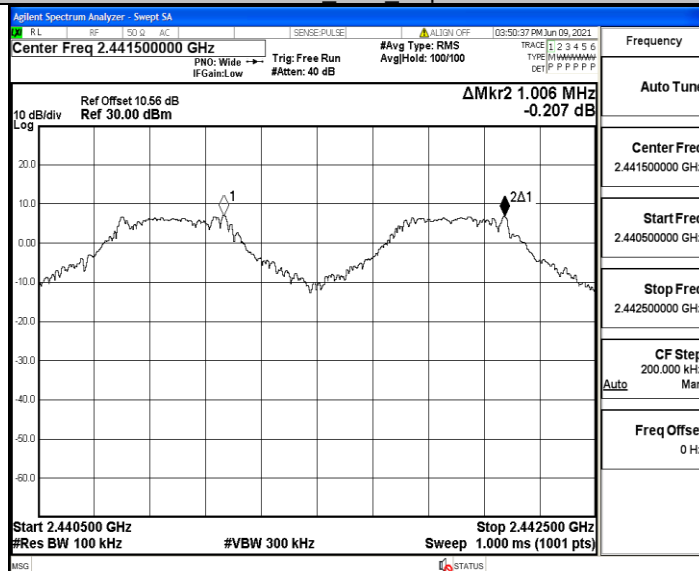


Appendix D: Carrier frequency separation**Test Result**

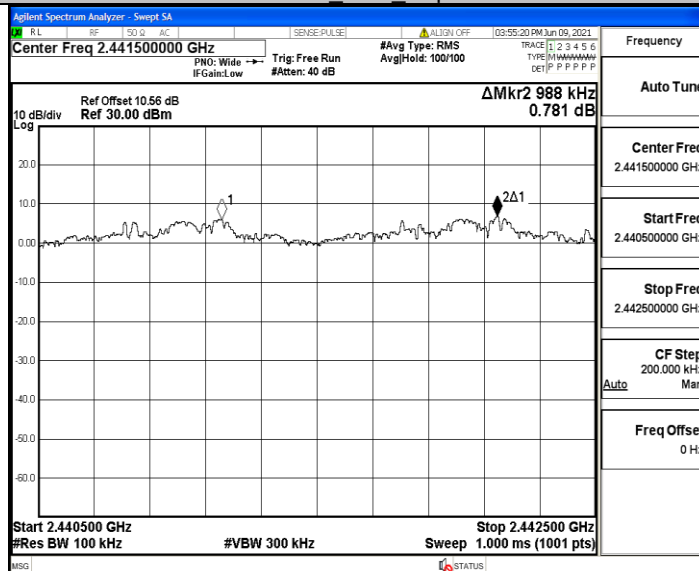
TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	1.006	≥ 0.942	PASS
2DH5	Ant1	Hop	0.988	≥ 0.878	PASS
3DH5	Ant1	Hop	0.99	≥ 0.854	PASS

Test Graphs

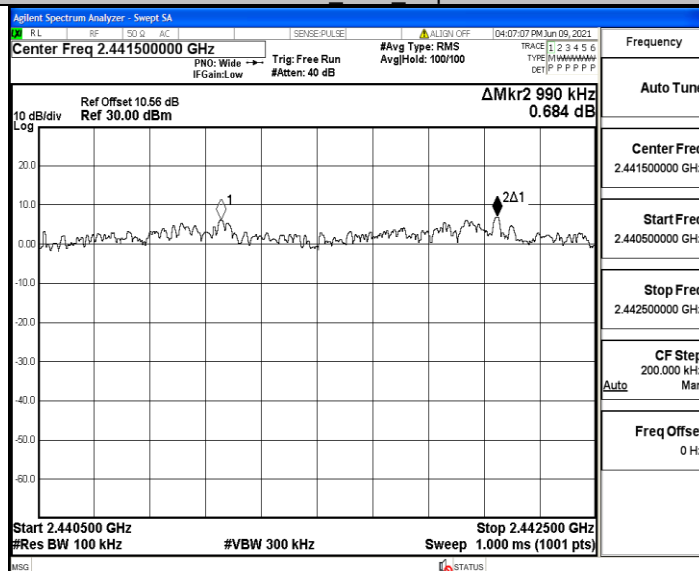
DH5_Ant1_Hop



2DH5_Ant1_Hop



3DH5_Ant1_Hop

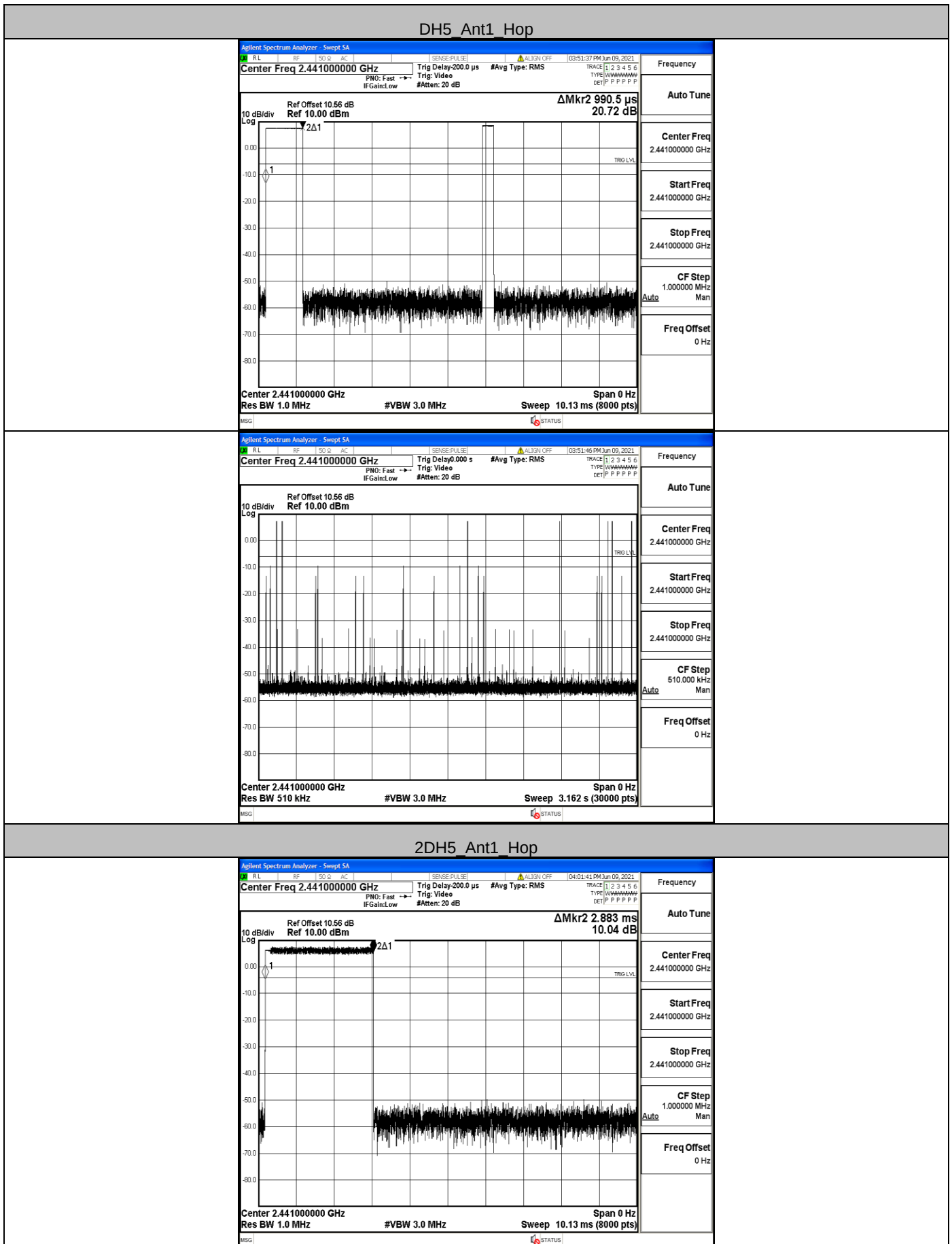


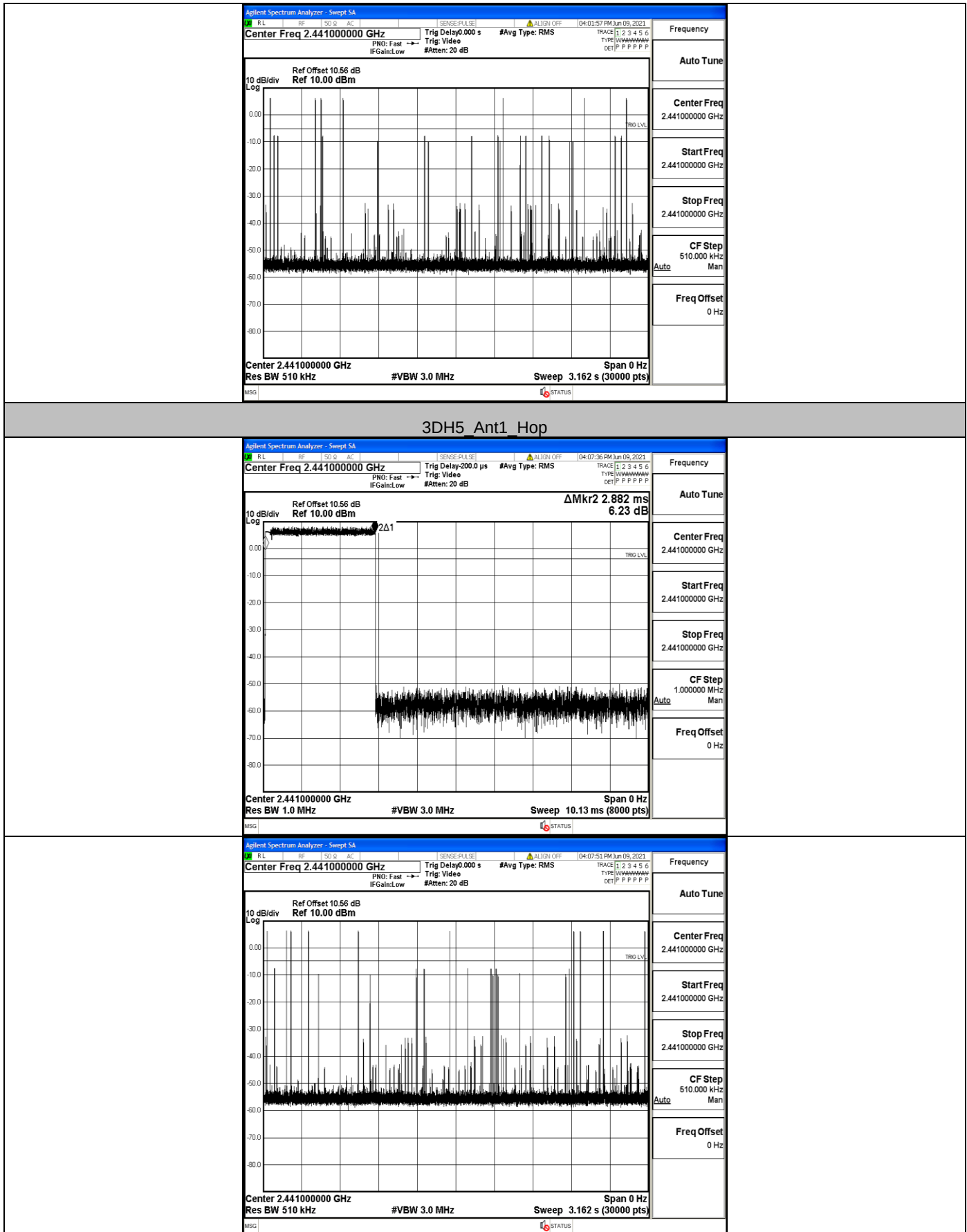
Appendix E: Time of occupancy

Test Result

TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	0.99	80	0.079	≤ 0.4	PASS
2DH5	Ant1	Hop	2.88	80	0.231	≤ 0.4	PASS
3DH5	Ant1	Hop	2.88	110	0.317	≤ 0.4	PASS

Test Graphs



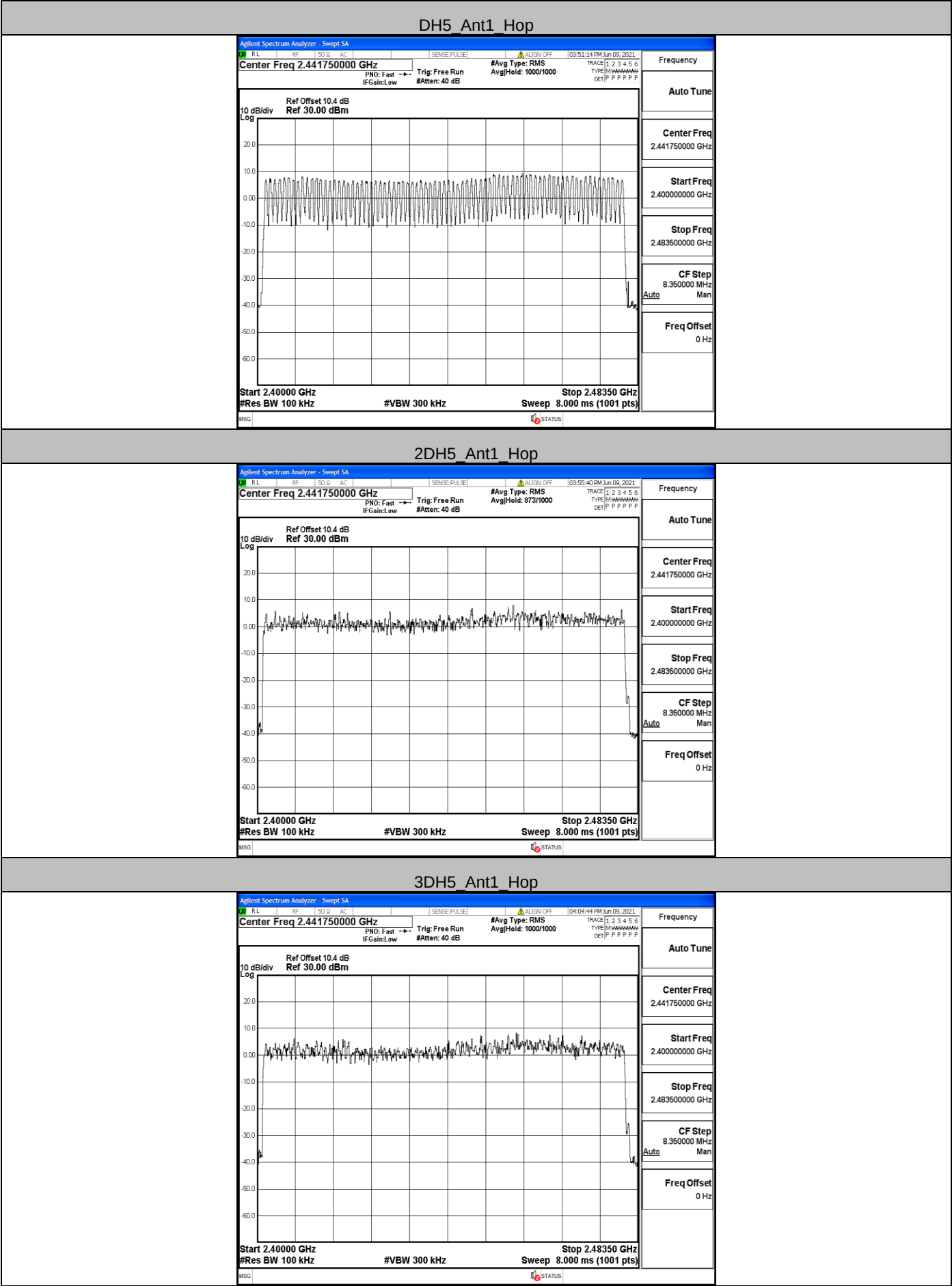


Appendix F: Number of hopping channels

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



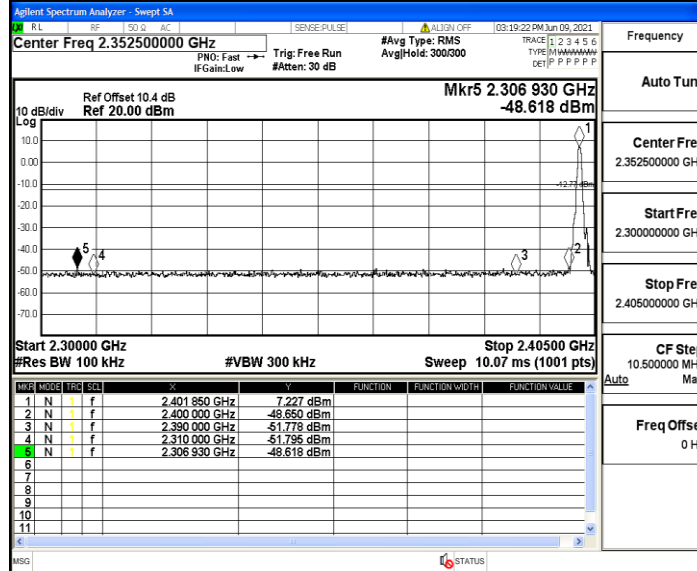
Appendix G: Band edge measurements

Test Result

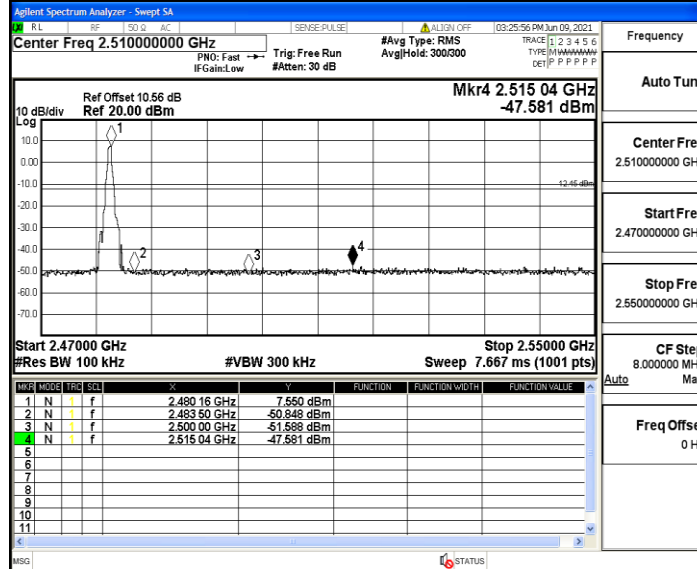
TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	7.23	-48.62	<=-12.77	PASS
		High	2480	7.55	-47.58	<=-12.45	PASS
		Low	Hop_2402	6.91	-48.92	<=-13.09	PASS
		High	Hop_2480	8.21	-47.98	<=-11.79	PASS
2DH5	Ant1	Low	2402	5.16	-46.17	<=-14.84	PASS
		High	2480	7.02	-47.53	<=-12.98	PASS
		Low	Hop_2402	2.68	-47.59	<=-17.33	PASS
		High	Hop_2480	5.58	-47.66	<=-14.42	PASS
3DH5	Ant1	Low	2402	5.64	-43.7	<=-14.36	PASS
		High	2480	7.16	-47.49	<=-12.84	PASS
		Low	Hop_2402	2.02	-49.33	<=-17.98	PASS
		High	Hop_2480	5.03	-47.01	<=-14.98	PASS

Test Graphs

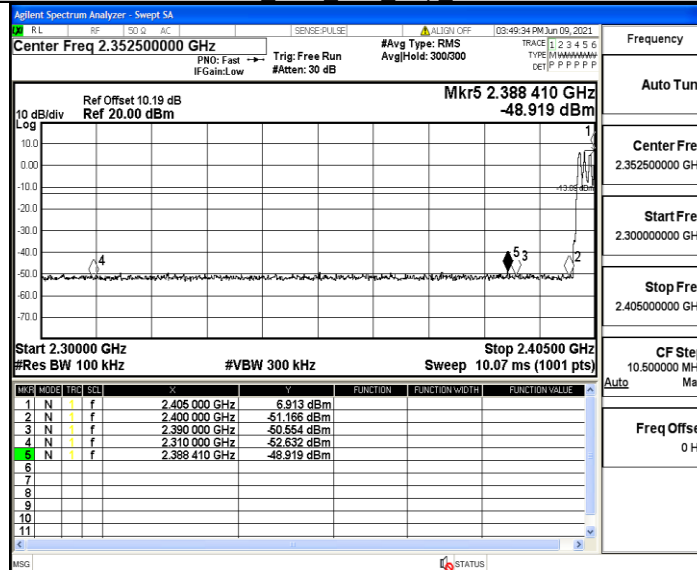
DH5_Ant1_Low_2402



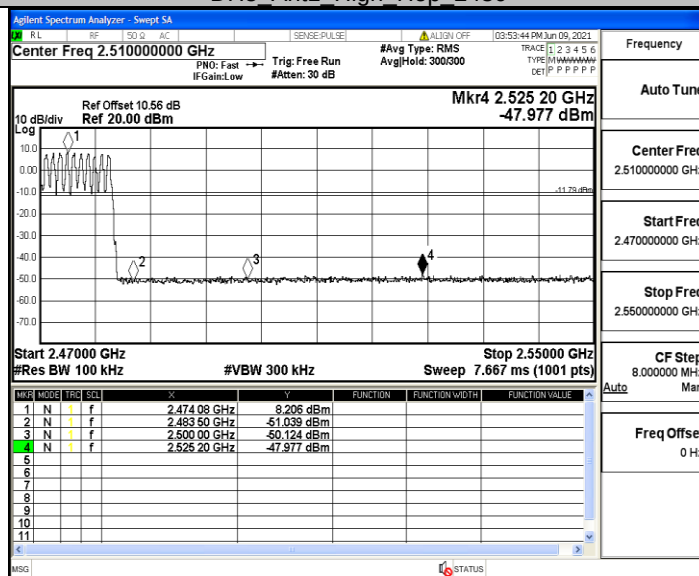
DH5_Ant1_High_2480



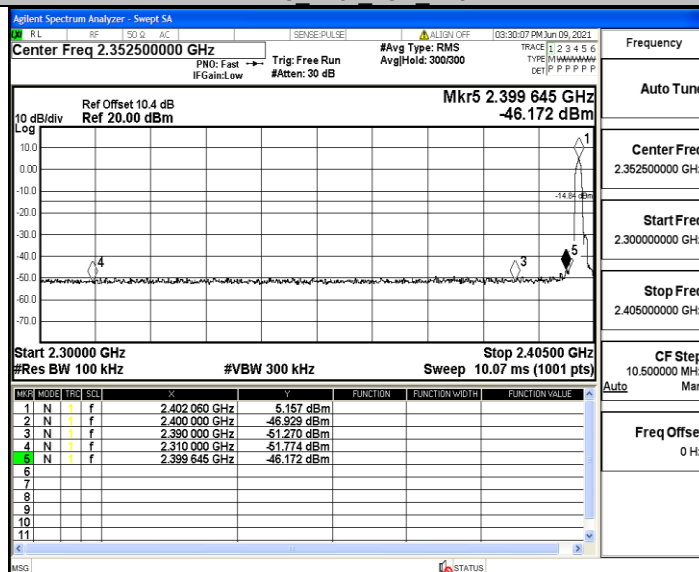
DH5_Ant1_Low_Hop_2402



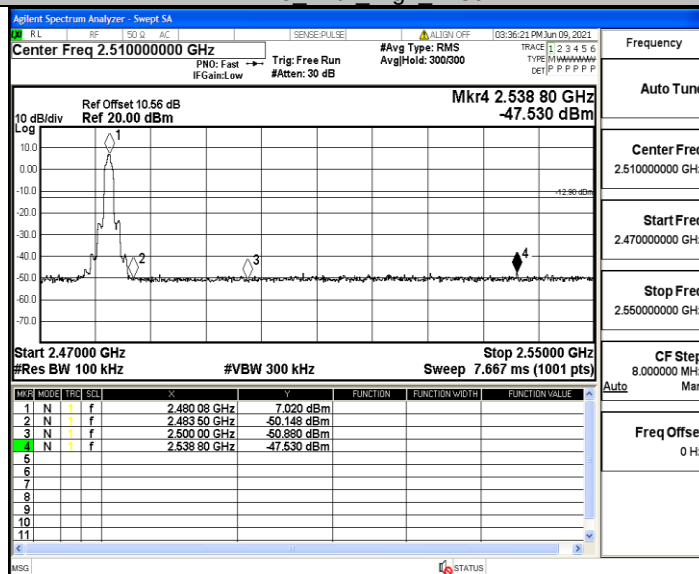
DH5_Ant1_High_Hop_2480



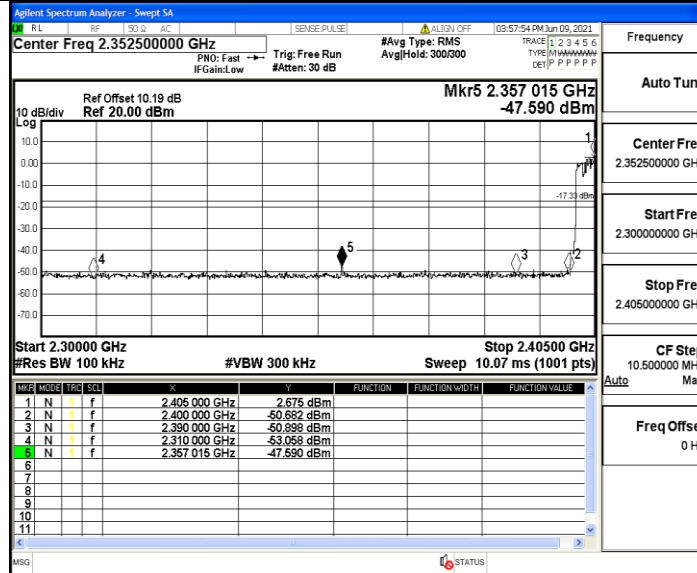
2DH5_Ant1_Low_2402



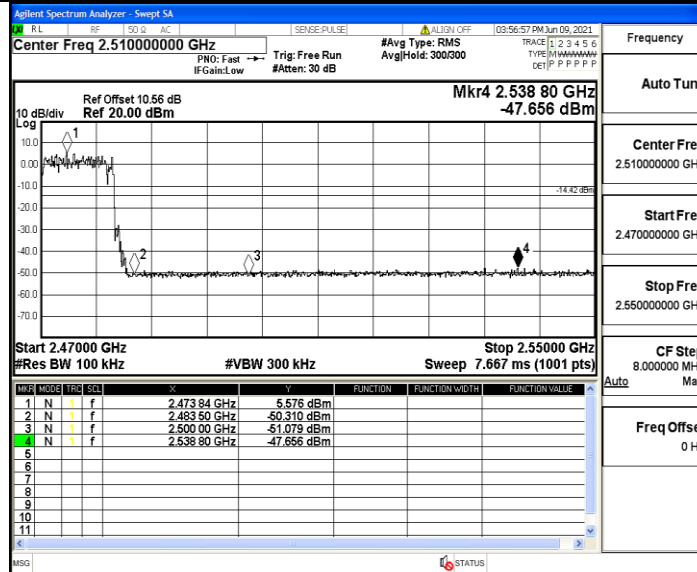
2DH5_Ant1_High_2480



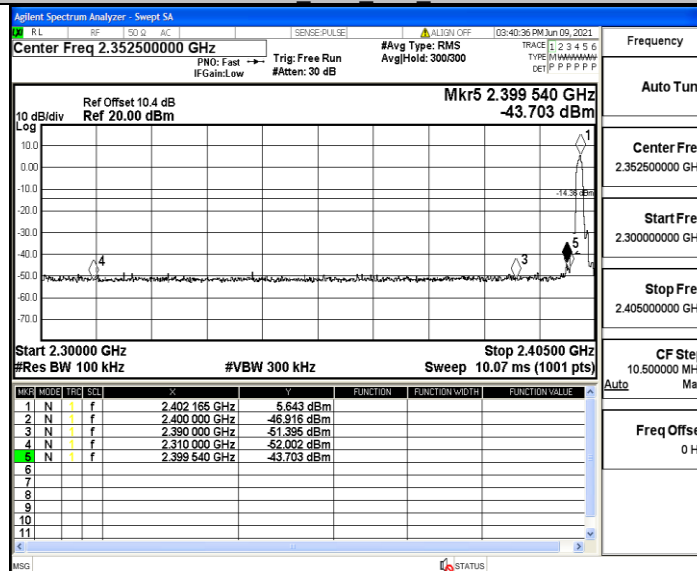
2DH5_Ant1_Low_Hop_2402



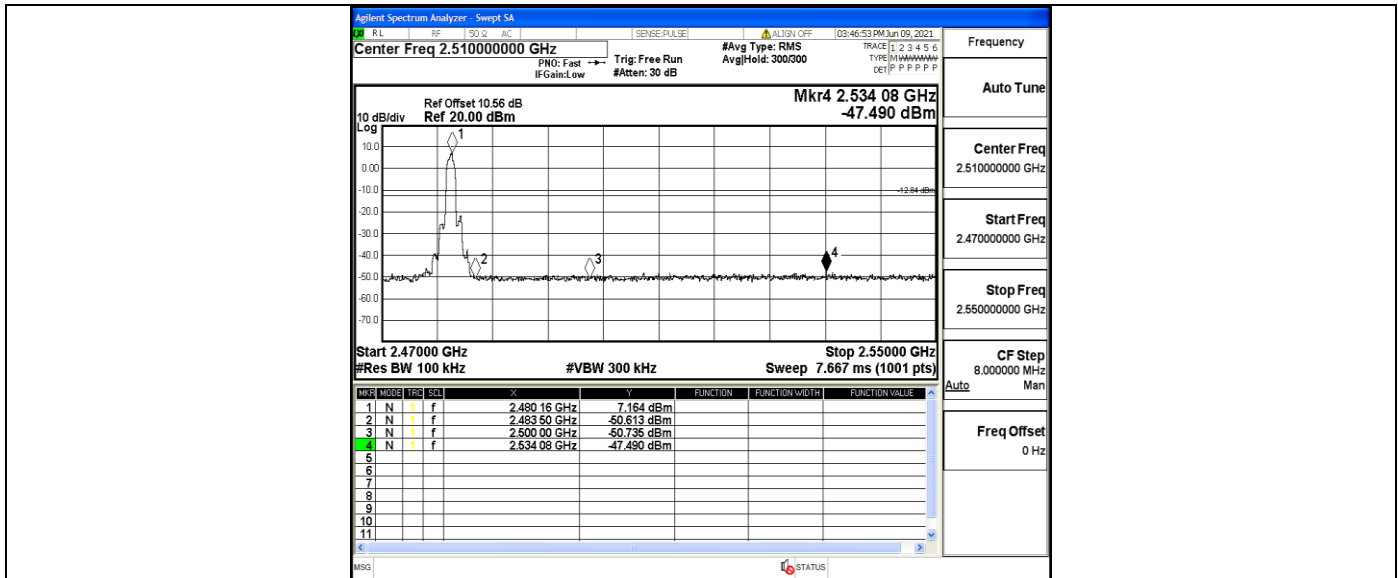
2DH5 Ant1 High Hop 2480



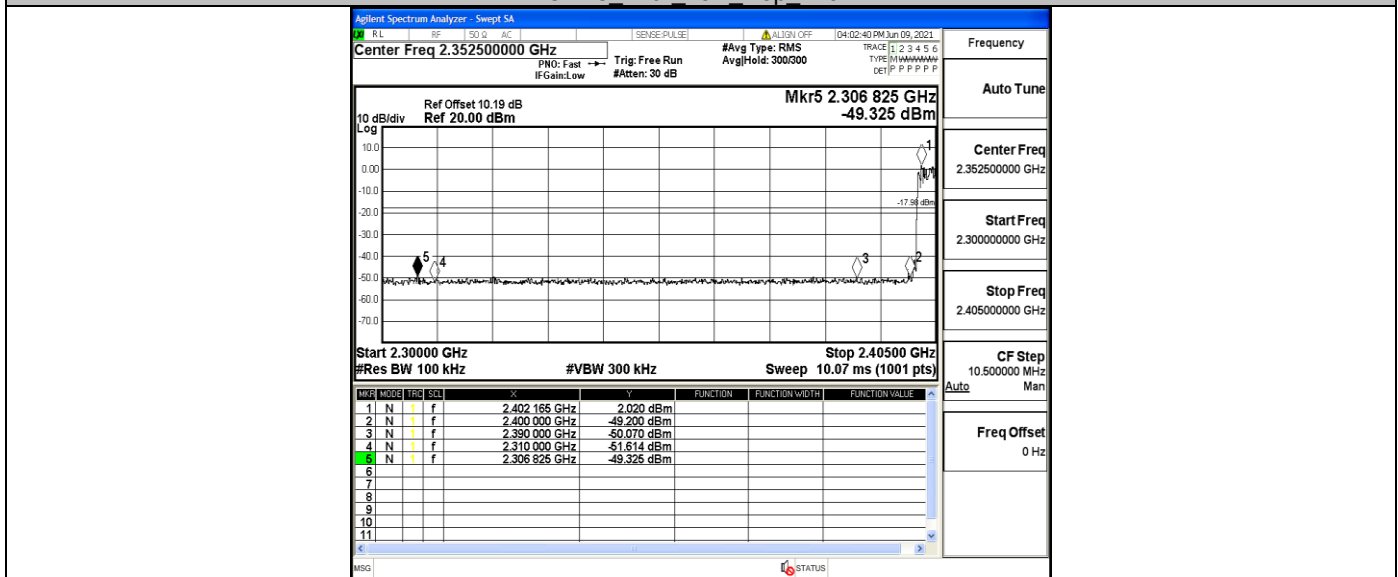
3DH5 Ant1 Low 2402



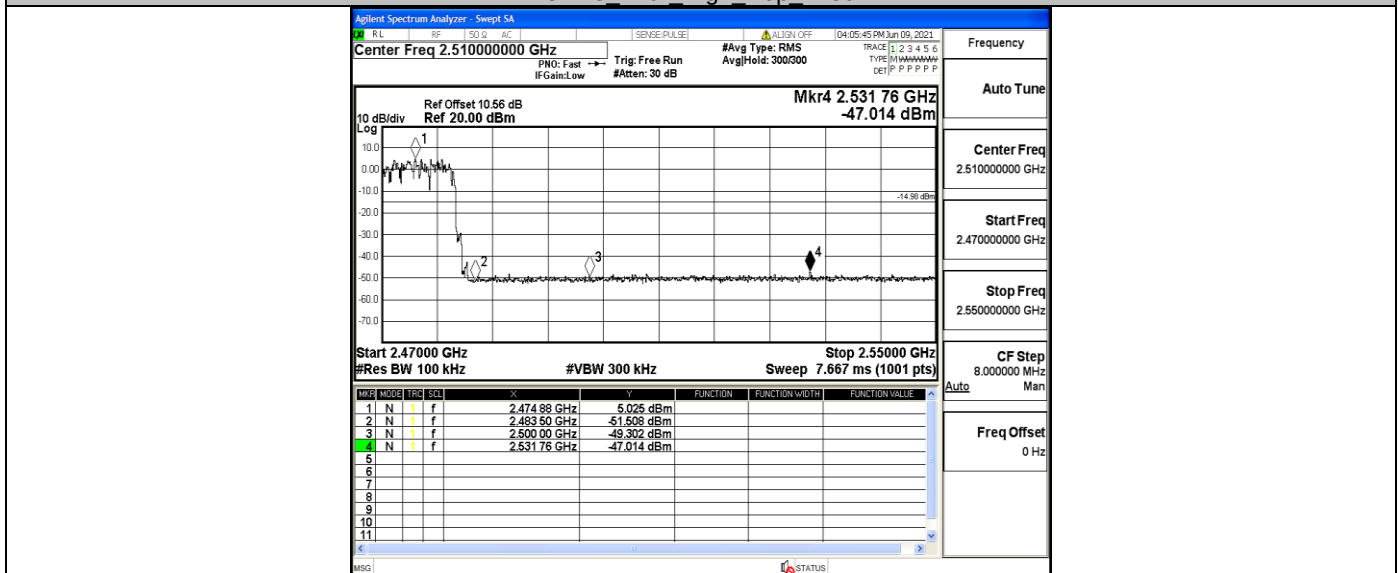
3DH5 Ant1 High 2480



3DH5 Ant1 Low Hop 2402



3DH5 Ant1 High Hop 2480

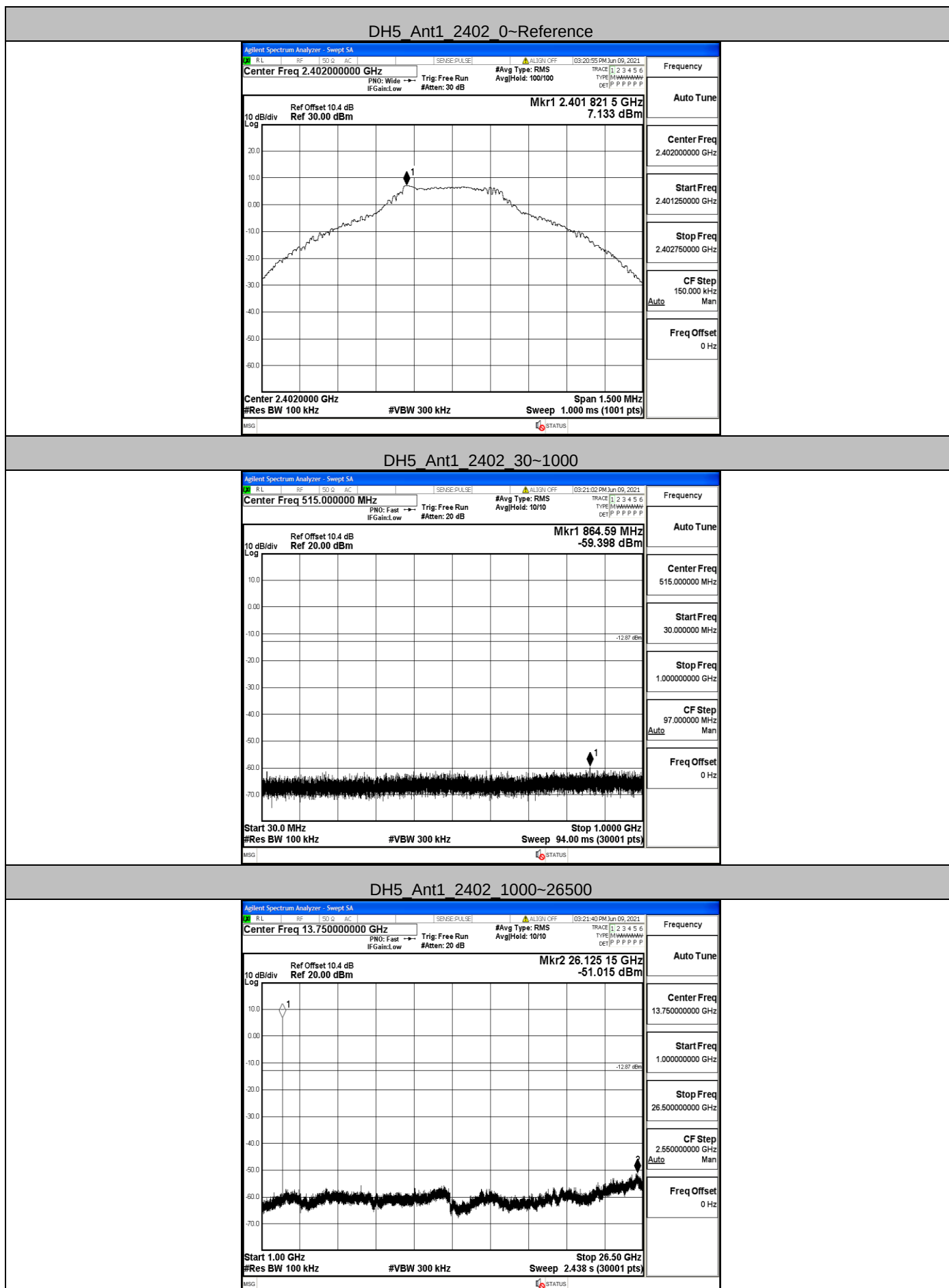


Appendix H: Conducted Spurious Emission

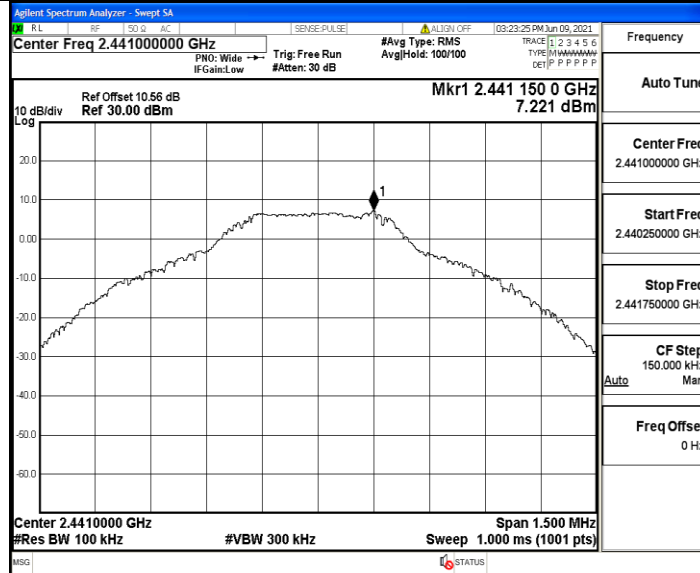
Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	7.13	7.13	---	PASS
			30~1000	7.13	-59.4	<=-12.87	PASS
			1000~26500	7.13	-51.02	<=-12.87	PASS
		2441	Reference	7.22	7.22	---	PASS
			30~1000	7.22	-59.91	<=-12.78	PASS
			1000~26500	7.22	-51.13	<=-12.78	PASS
		2480	Reference	7.62	7.62	---	PASS
			30~1000	7.62	-59.8	<=-12.38	PASS
			1000~26500	7.62	-51.25	<=-12.38	PASS
2DH5	Ant1	2402	Reference	4.75	4.75	---	PASS
			30~1000	4.75	-60.17	<=-15.26	PASS
			1000~26500	4.75	-51.01	<=-15.26	PASS
		2441	Reference	5.58	5.58	---	PASS
			30~1000	5.58	-60.31	<=-14.42	PASS
			1000~26500	5.58	-50.84	<=-14.42	PASS
		2480	Reference	6.90	6.90	---	PASS
			30~1000	6.90	-60.08	<=-13.1	PASS
			1000~26500	6.90	-50.79	<=-13.1	PASS
3DH5	Ant1	2402	Reference	5.72	5.72	---	PASS
			30~1000	5.72	-59.34	<=-14.28	PASS
			1000~26500	5.72	-51.34	<=-14.28	PASS
		2441	Reference	4.56	4.56	---	PASS
			30~1000	4.56	-59.38	<=-15.44	PASS
			1000~26500	4.56	-50.82	<=-15.44	PASS
		2480	Reference	4.88	4.88	---	PASS
			30~1000	4.88	-60.16	<=-15.12	PASS
			1000~26500	4.88	-50.27	<=-15.12	PASS

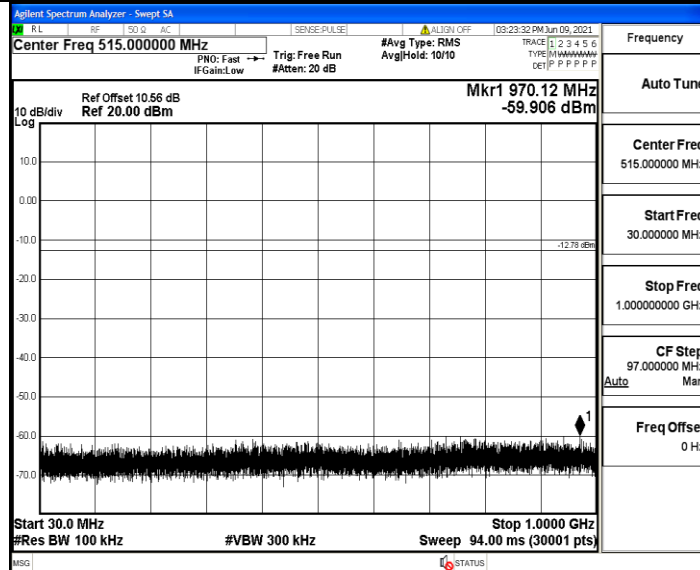
Test Graphs



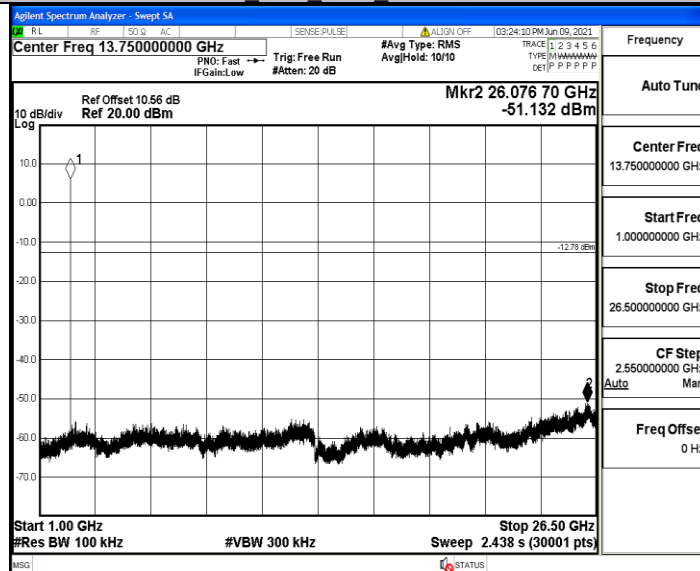
DH5_Ant1_2441_0~Reference



DH5_Ant1_2441_30~1000



DH5_Ant1_2441_1000~26500



DH5_Ant1_2480_0~Reference