

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

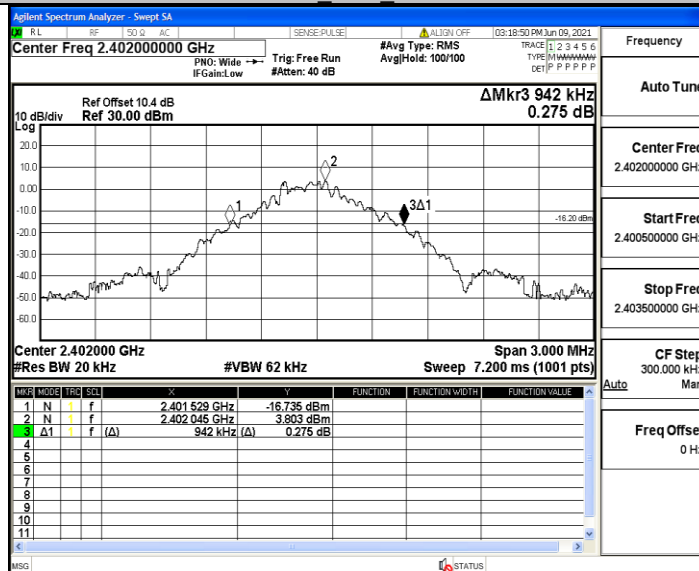
Appendix A: 20dB Emission Bandwidth

Test Result

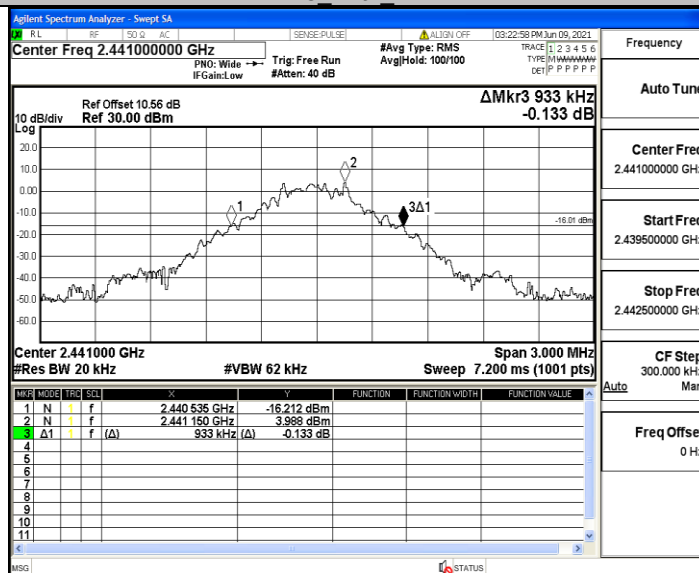
TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.942	2401.529	2402.471	---	PASS
		2441	0.933	2440.535	2441.468	---	PASS
		2480	0.942	2479.526	2480.468	---	PASS
2DH5	Ant1	2402	1.317	2401.328	2402.645	---	PASS
		2441	1.314	2440.331	2441.645	---	PASS
		2480	1.311	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

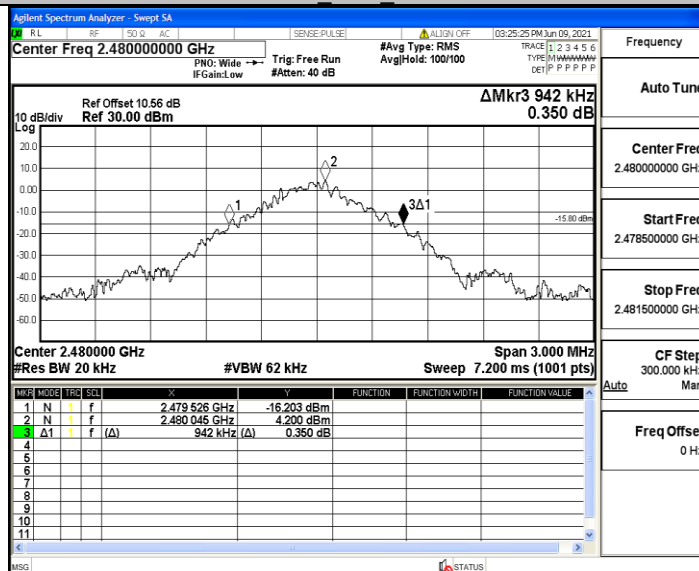
DH5_Ant1_2402



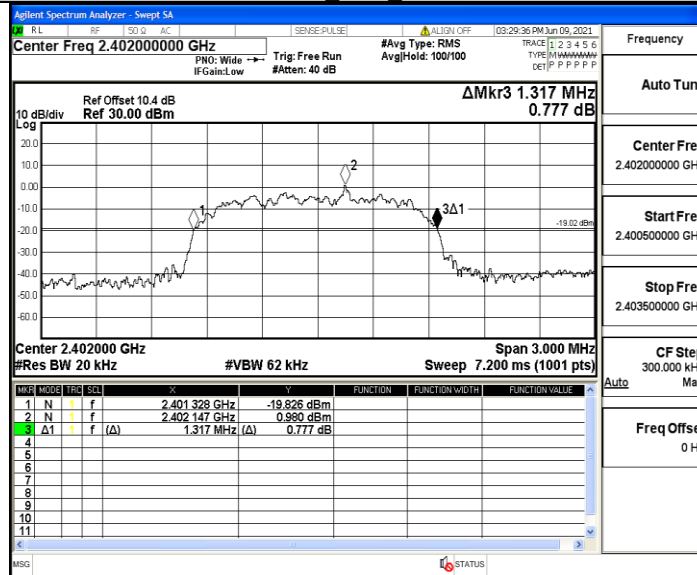
DH5_Ant1_2441



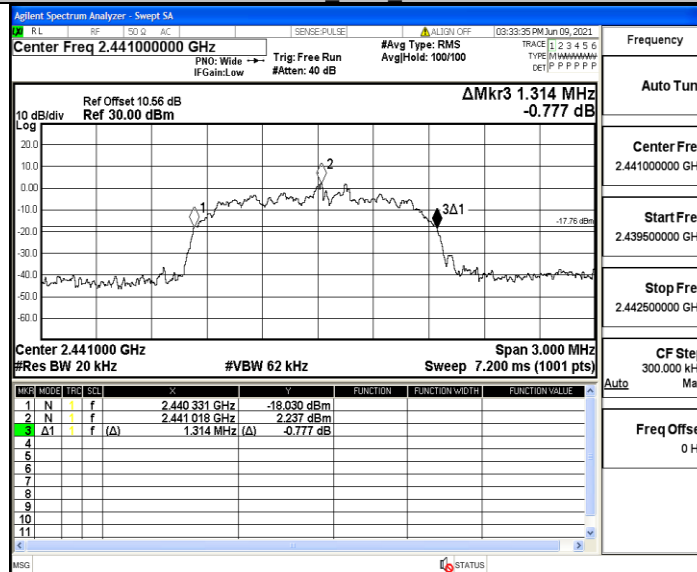
DH5_Ant1_2480



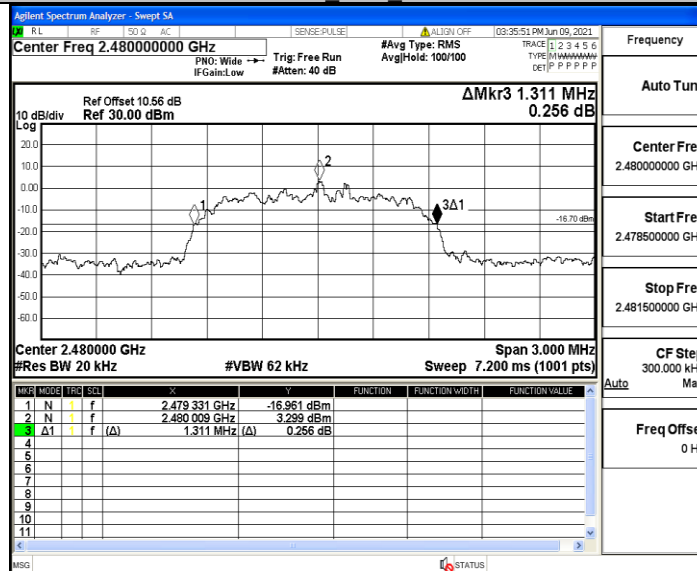
2DH5_Ant1_2402



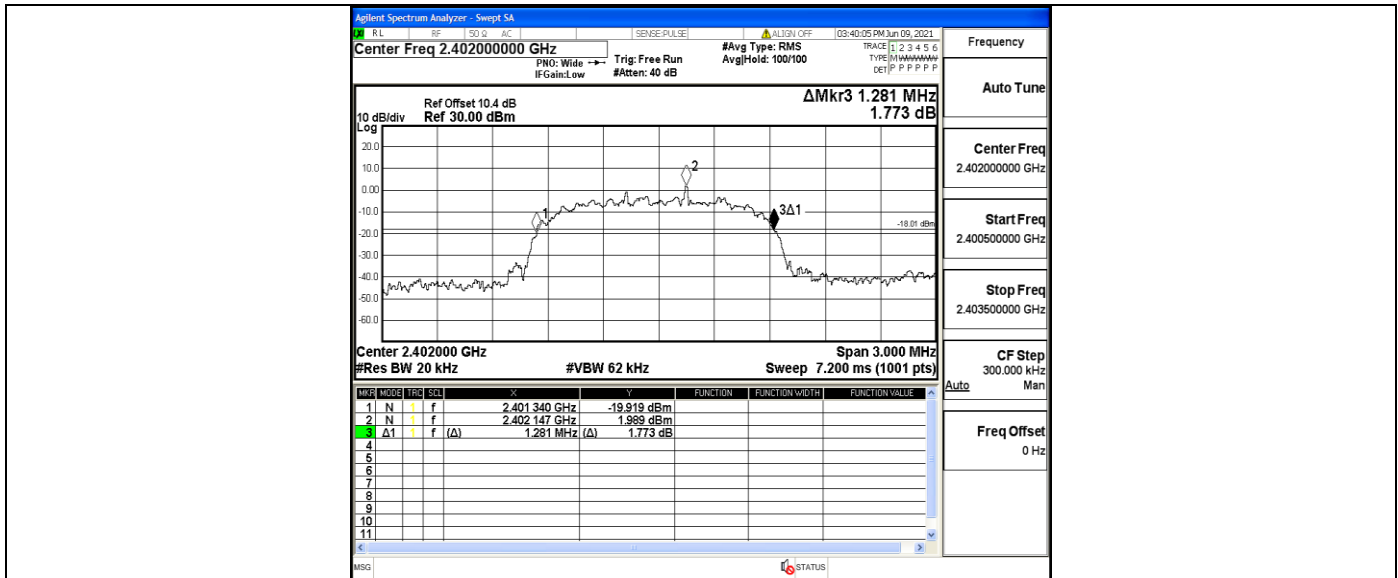
2DH5_Ant1_2441



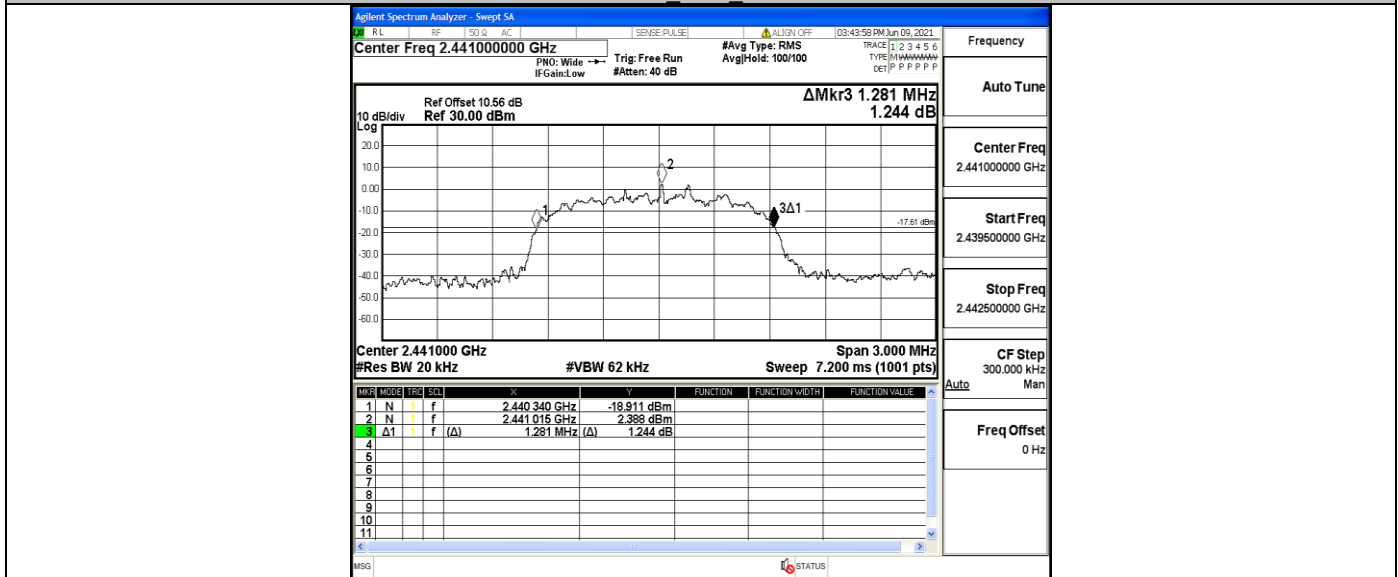
2DH5_Ant1_2480



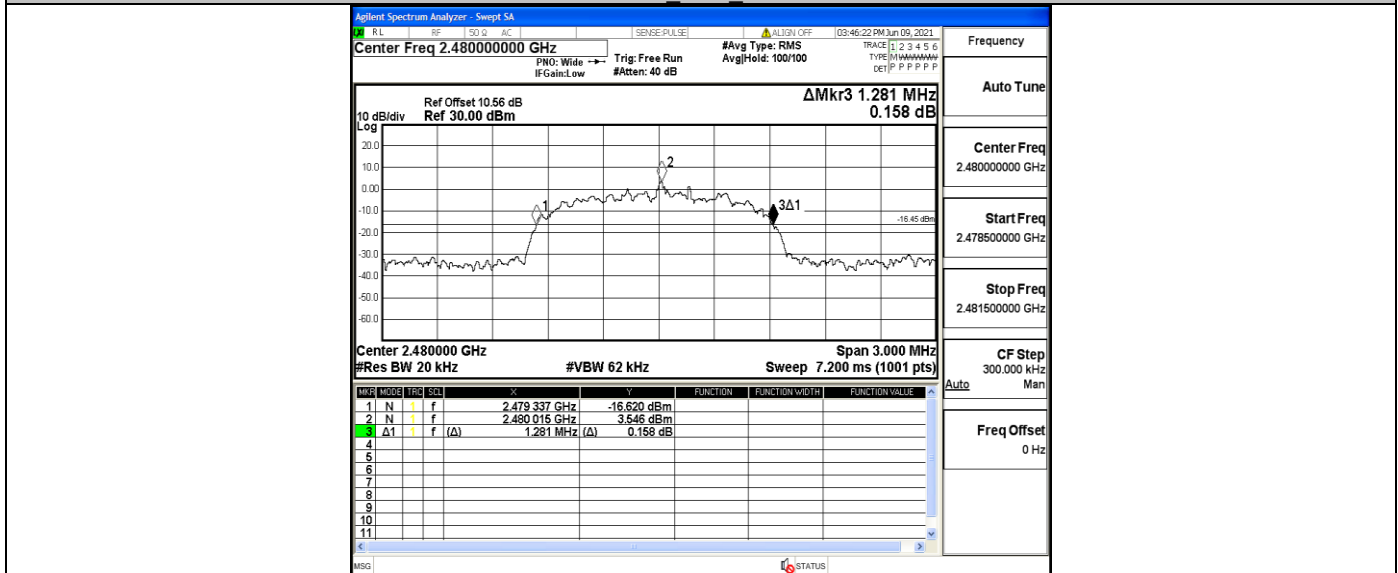
3DH5_Ant1_2402



3DH5 Ant1_2441



3DH5 Ant1_2480



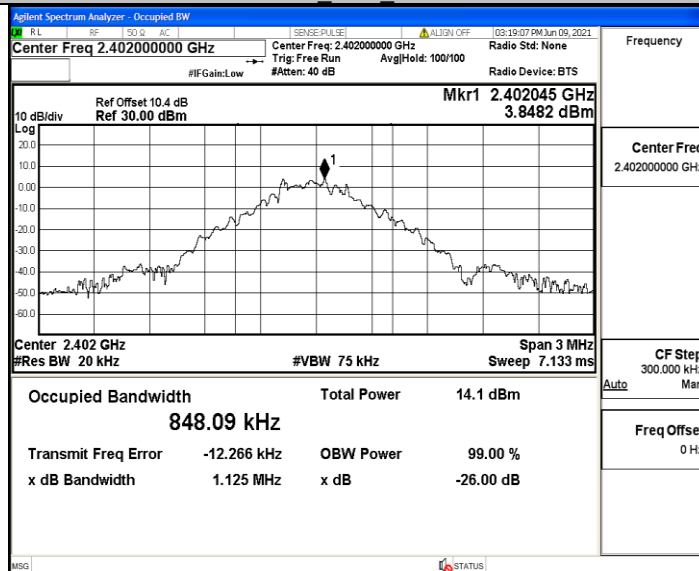
Appendix B: Occupied Channel Bandwidth

Test Result

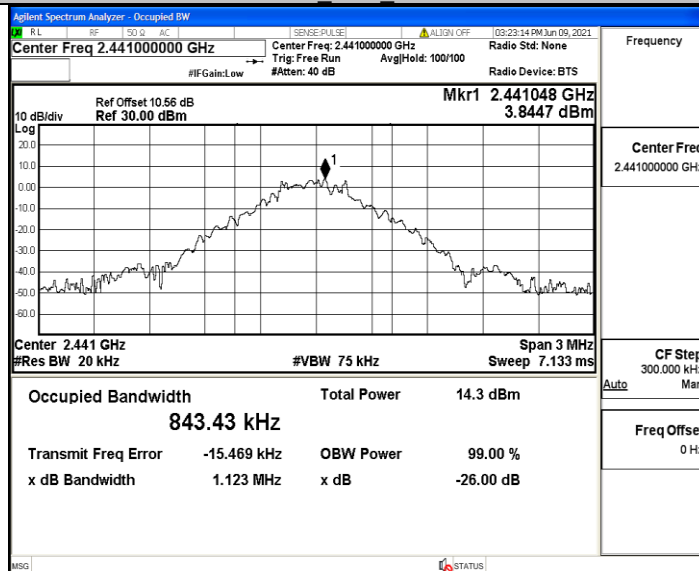
TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.84809	2401.564	2402.412	---	PASS
		2441	0.84343	2440.563	2441.406	---	PASS
		2480	0.85338	2479.554	2480.407	---	PASS
2DH5	Ant1	2402	1.1882	2401.398	2402.586	---	PASS
		2441	1.1887	2440.394	2441.583	---	PASS
		2480	1.1980	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

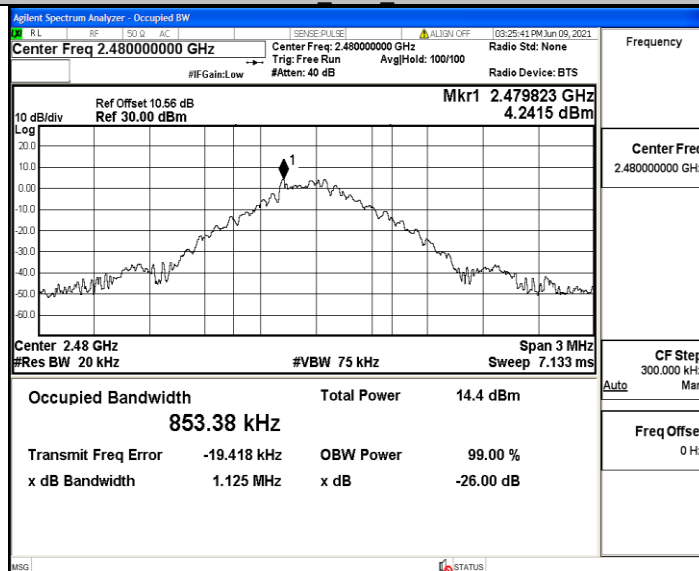
DH5_Ant1_2402



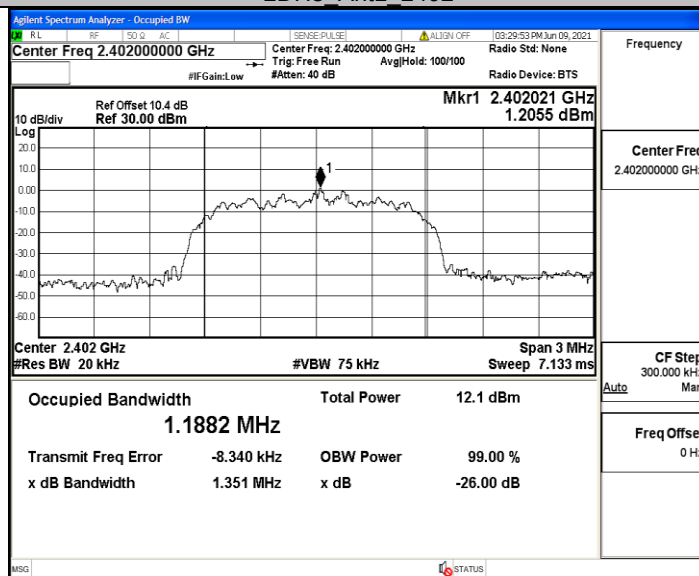
DH5_Ant1_2441



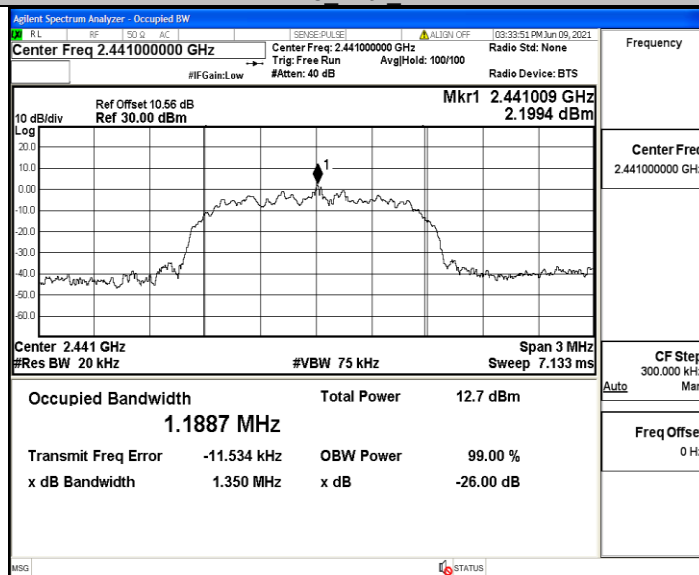
DH5_Ant1_2480



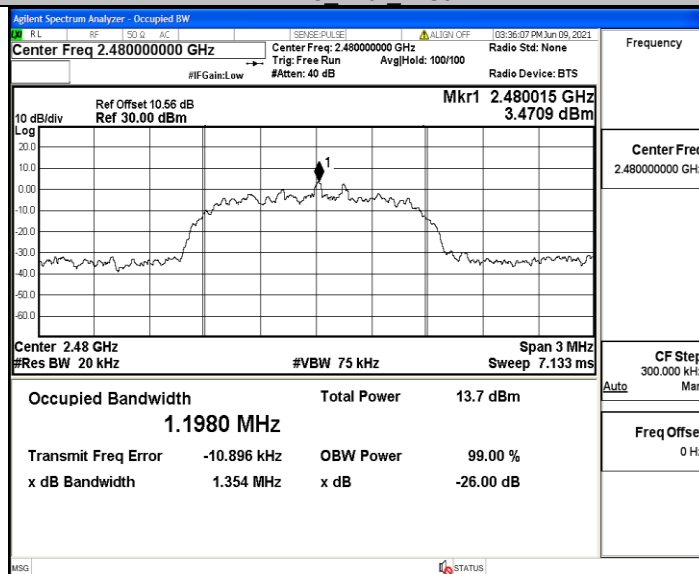
2DH5_Ant1_2402



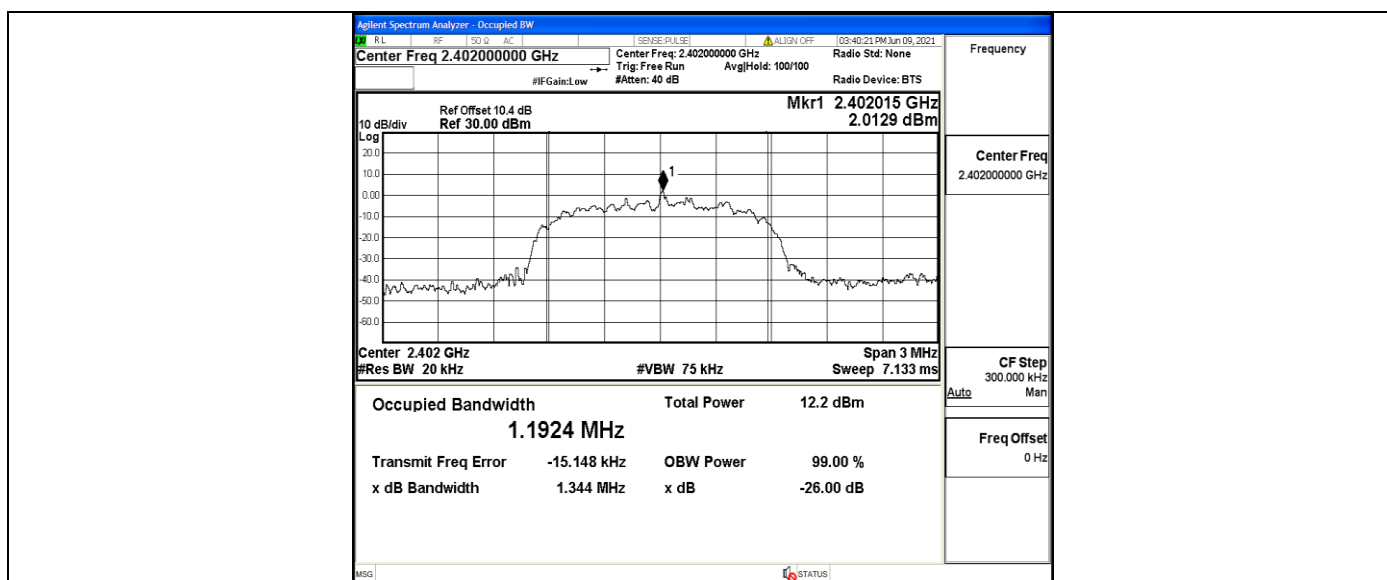
2DH5_Ant1_2441



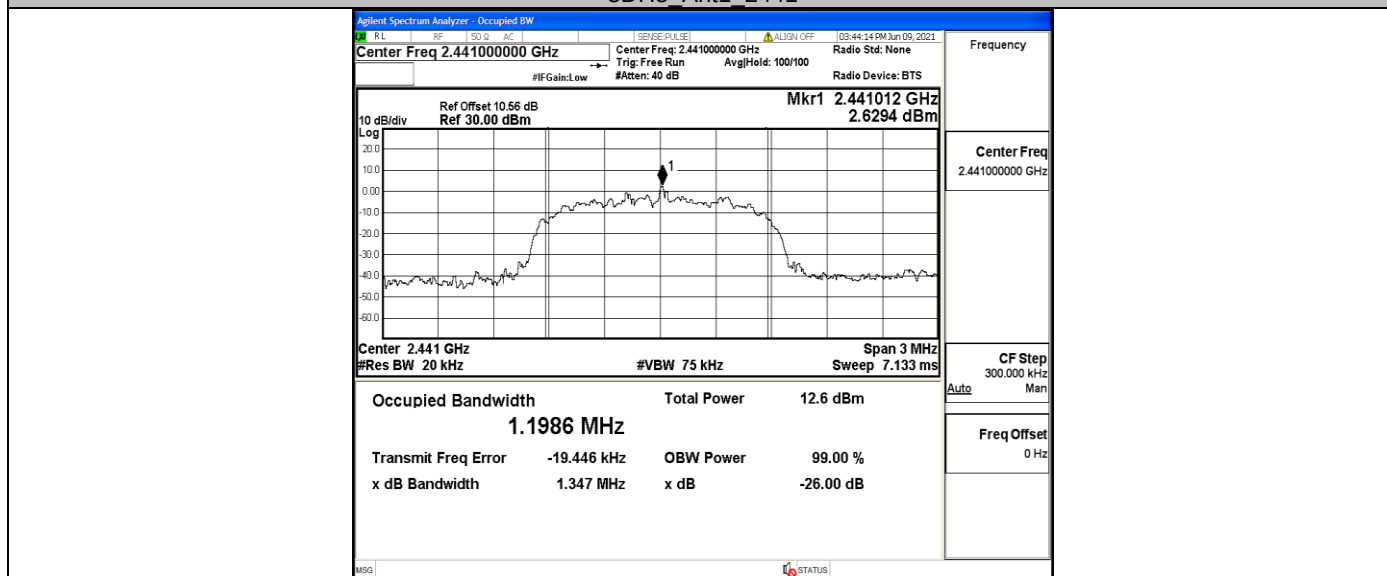
2DH5_Ant1_2480



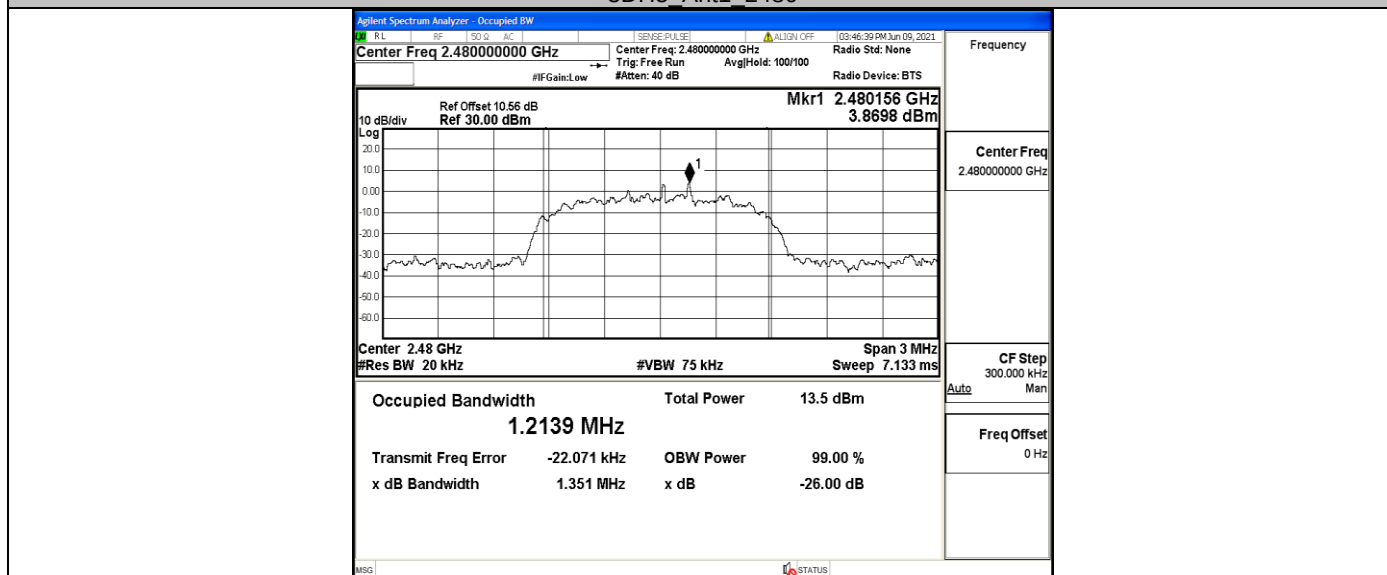
3DH5_Ant1_2402



3DH5 Ant1 2441



3DH5 Ant1 2480

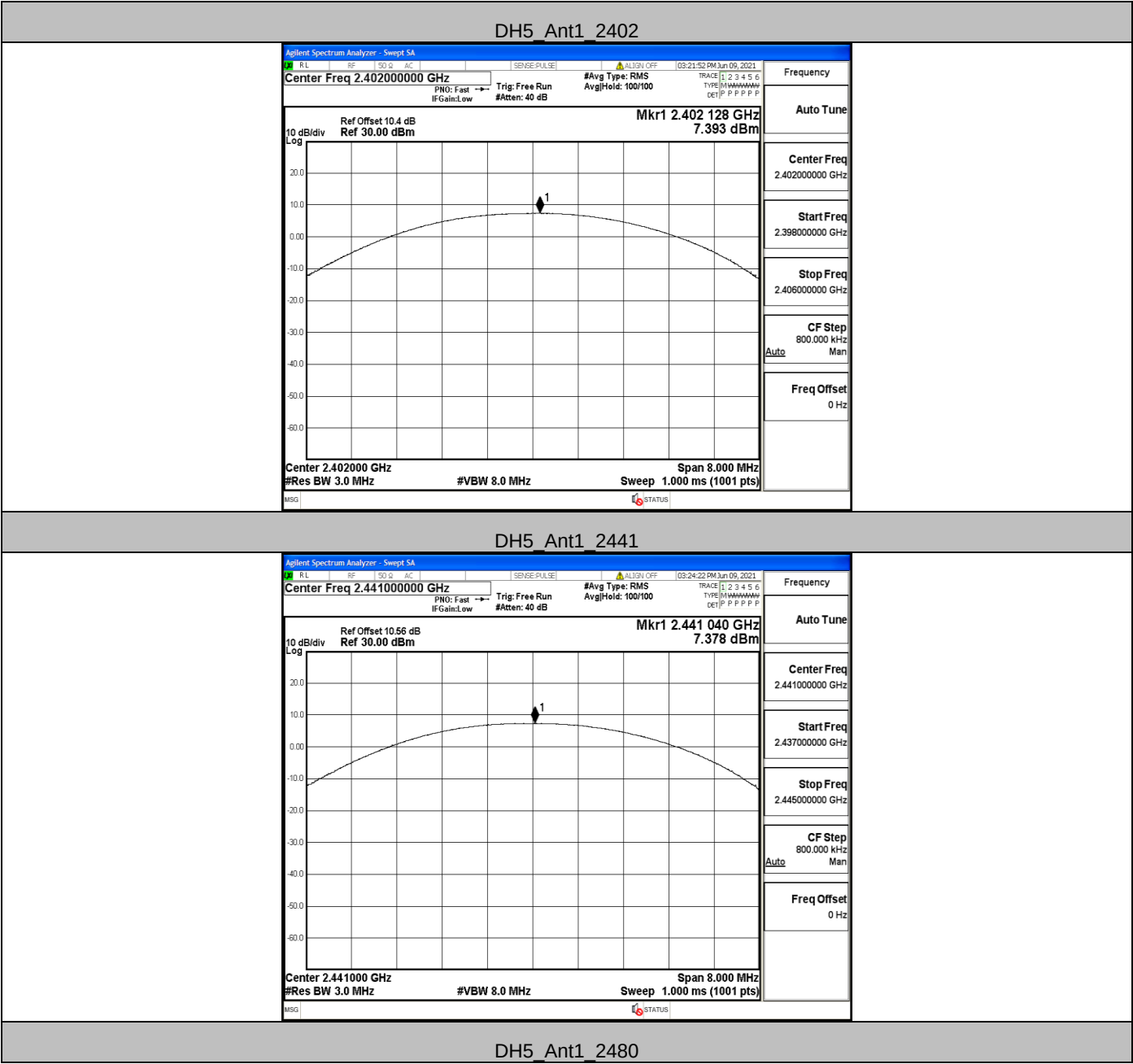


Appendix C: Maximum conducted output power

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

Auto 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

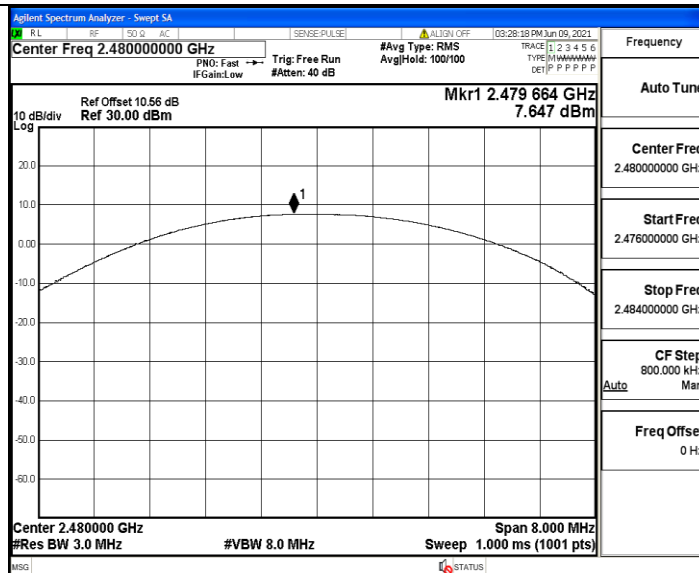
Span 8.000 MHz

Sweep 1.000 ms (1001 pts)

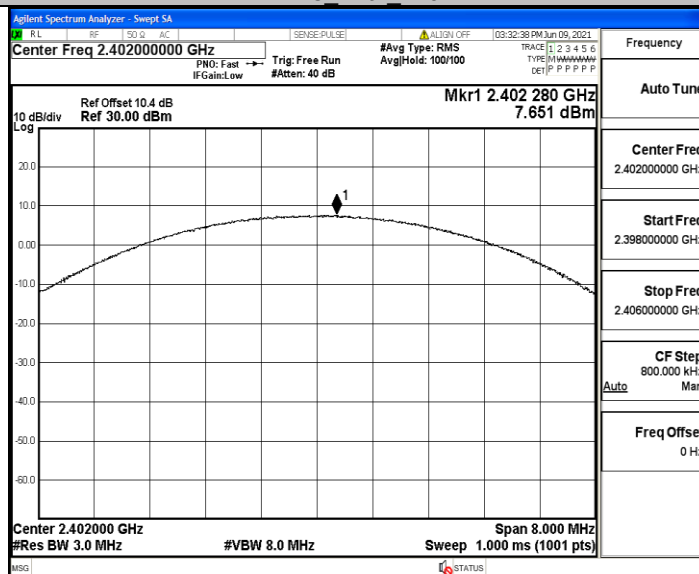
MSG

STATUS

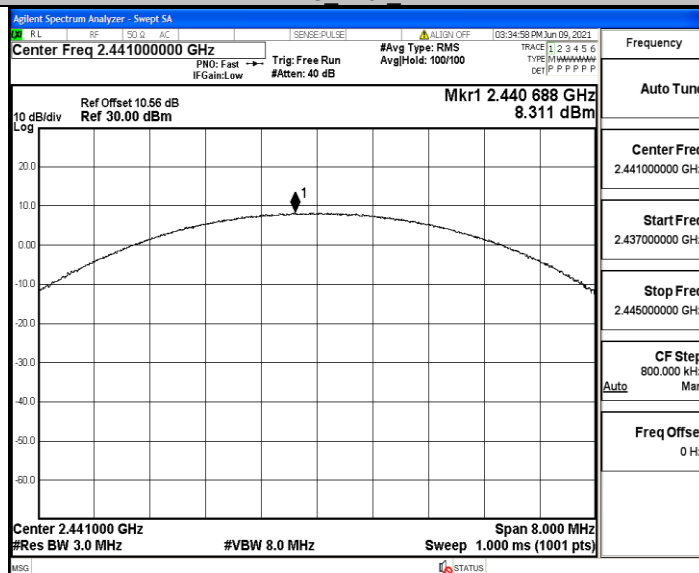
DH5_Ant1_2480



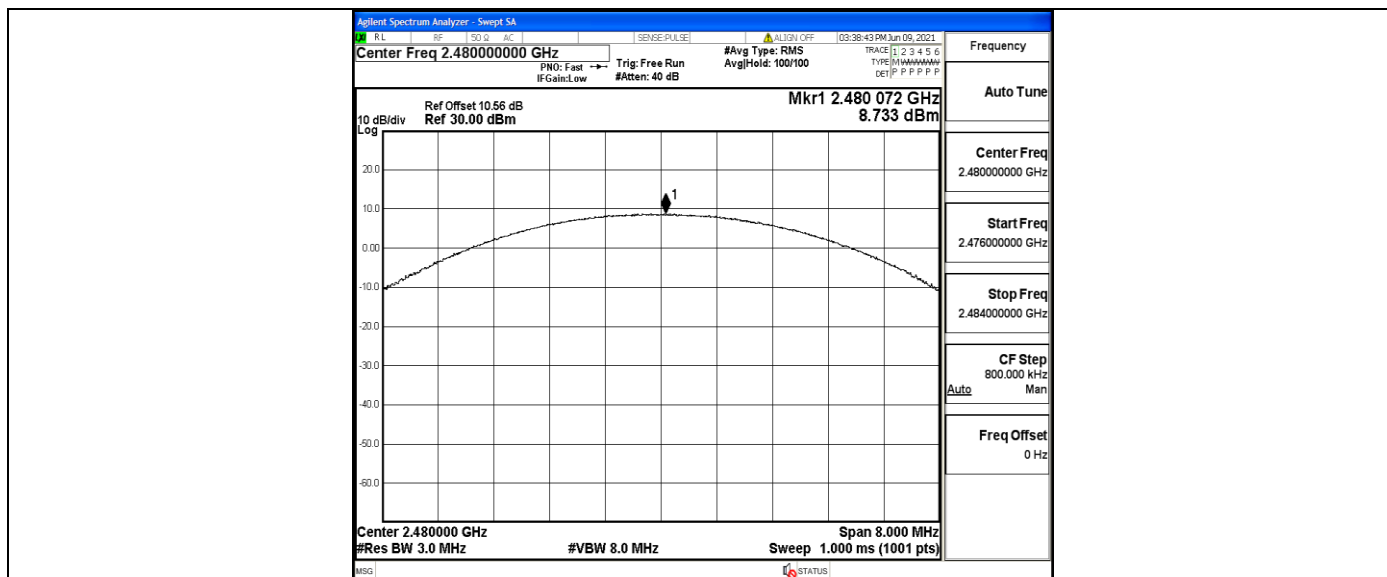
2DH5_Ant1_2402



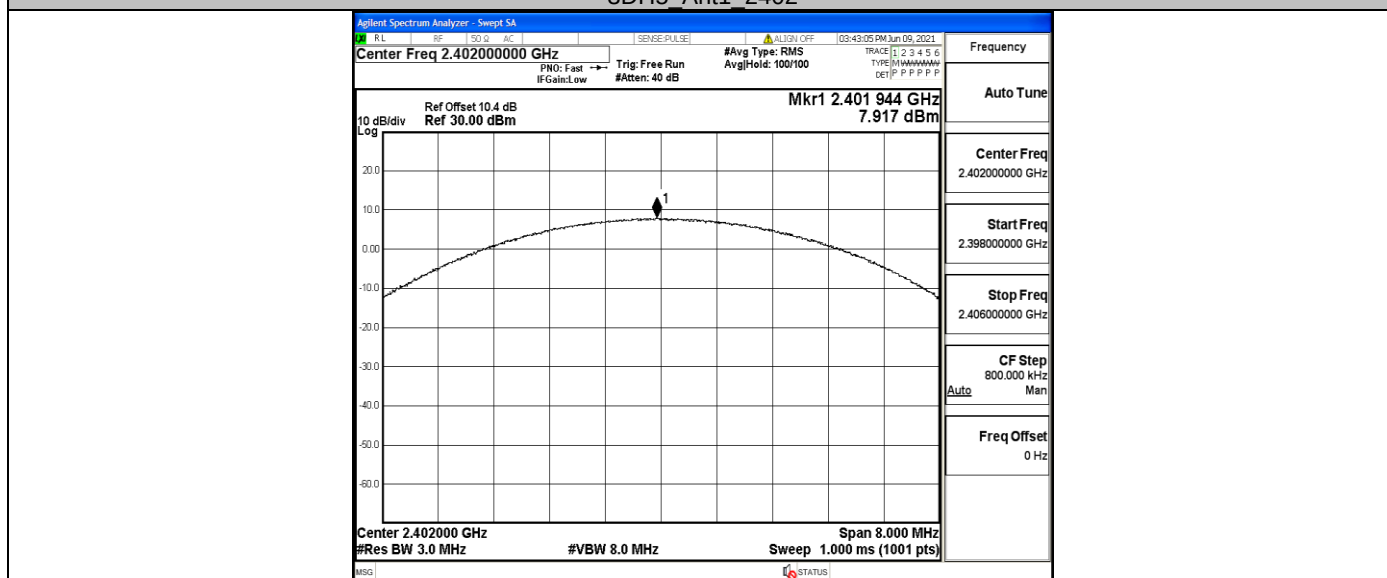
2DH5_Ant1_2441



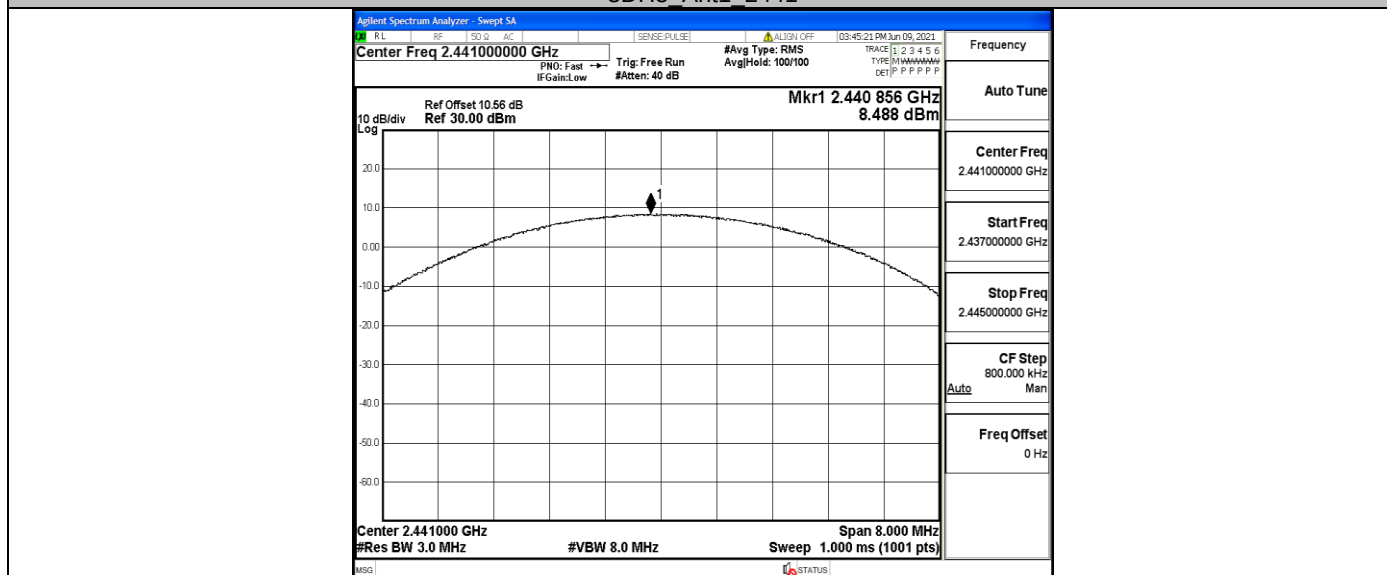
2DH5_Ant1_2480



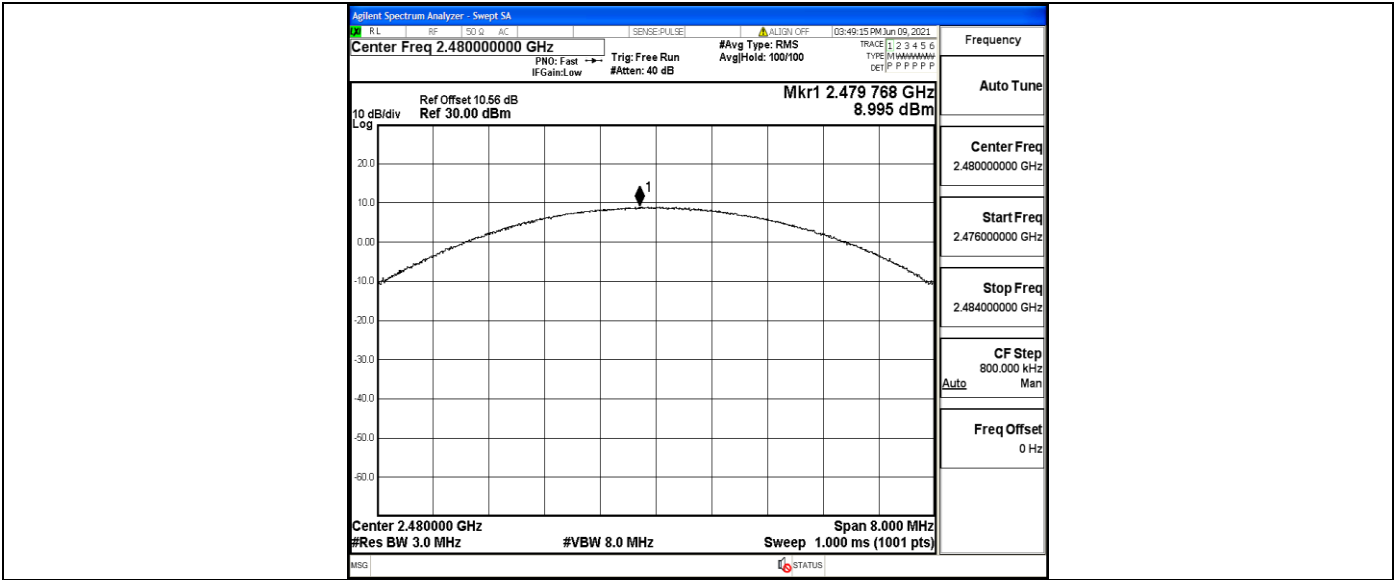
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480

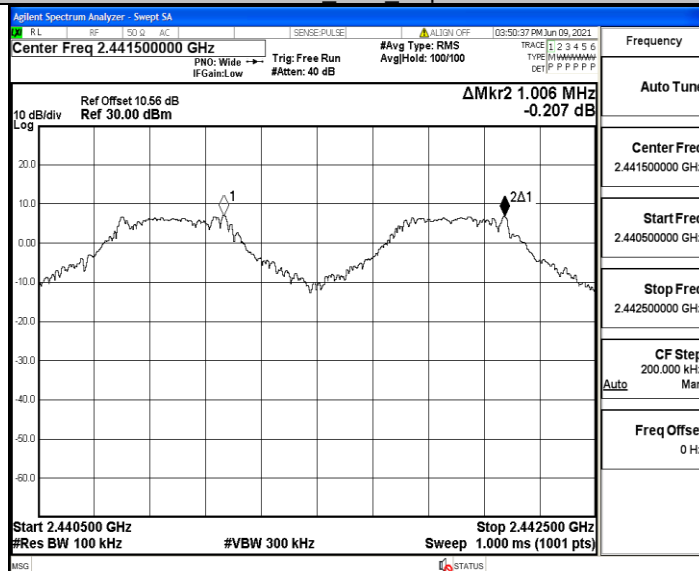


Appendix D: Carrier frequency separation**Test Result**

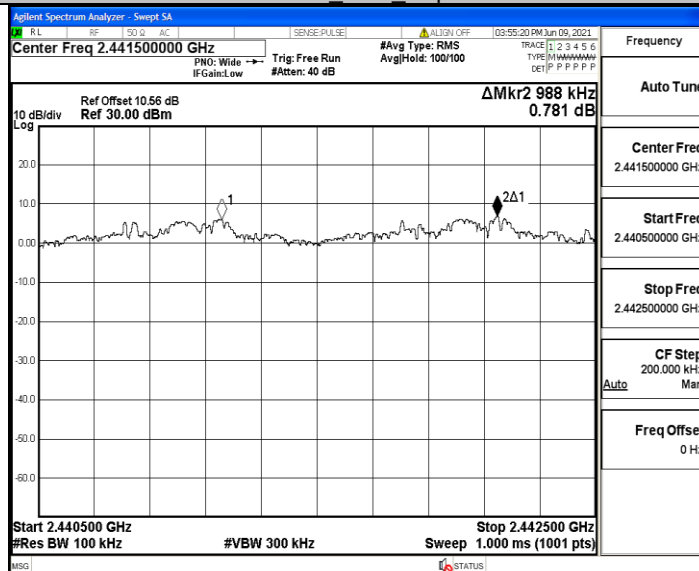
TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	1.006	≥ 0.942	PASS
2DH5	Ant1	Hop	0.988	≥ 0.878	PASS
3DH5	Ant1	Hop	0.99	≥ 0.854	PASS

Test Graphs

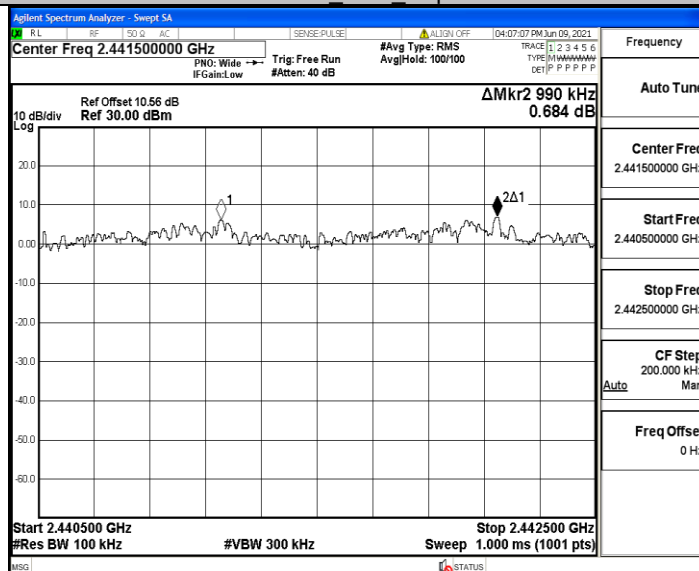
DH5_Ant1_Hop



2DH5_Ant1_Hop



3DH5_Ant1_Hop

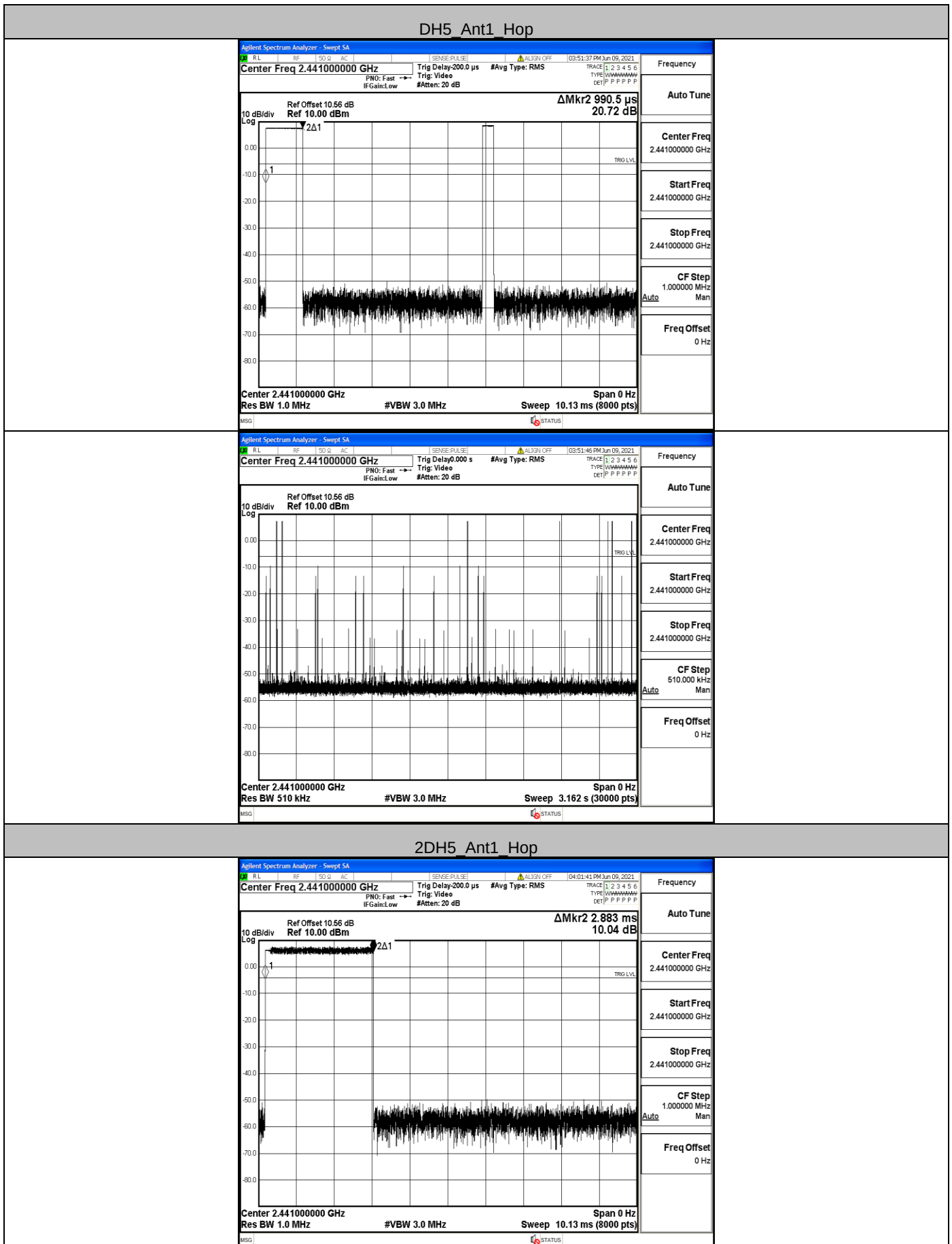


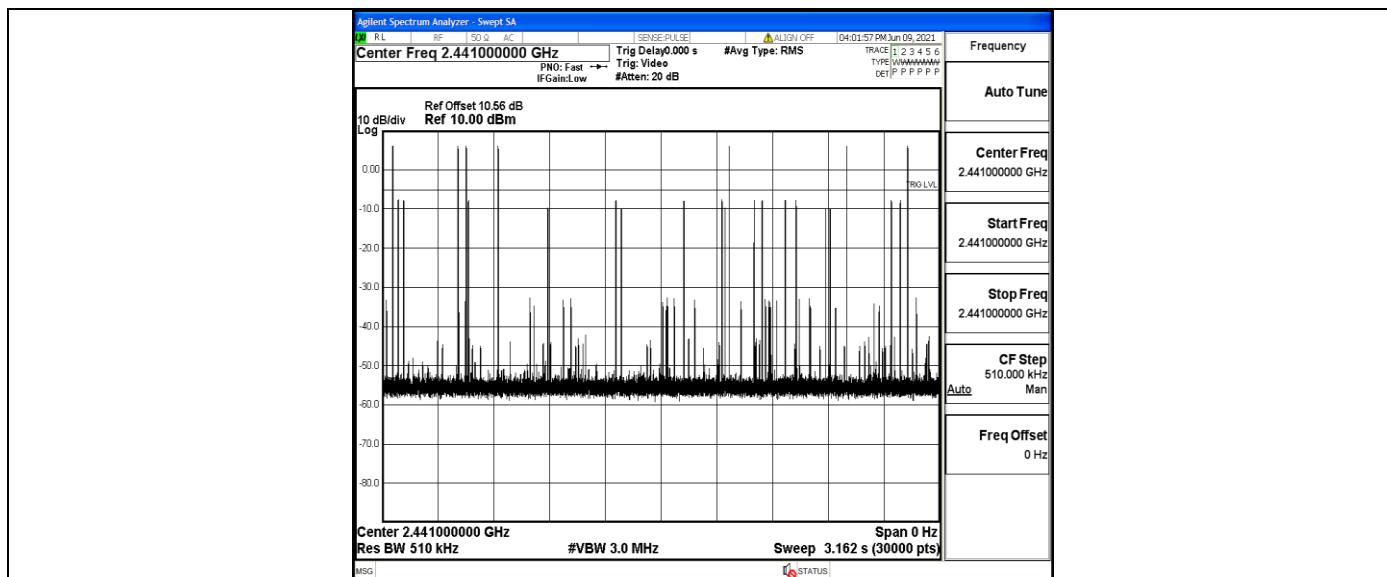
Appendix E: Time of occupancy

Test Result

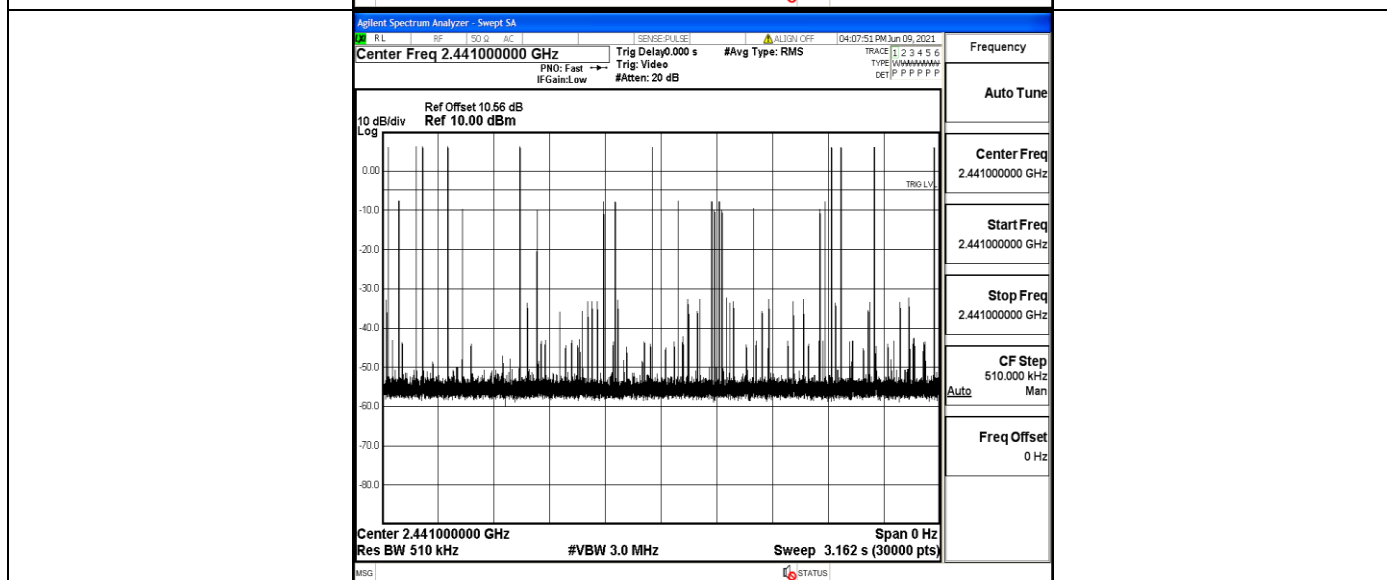
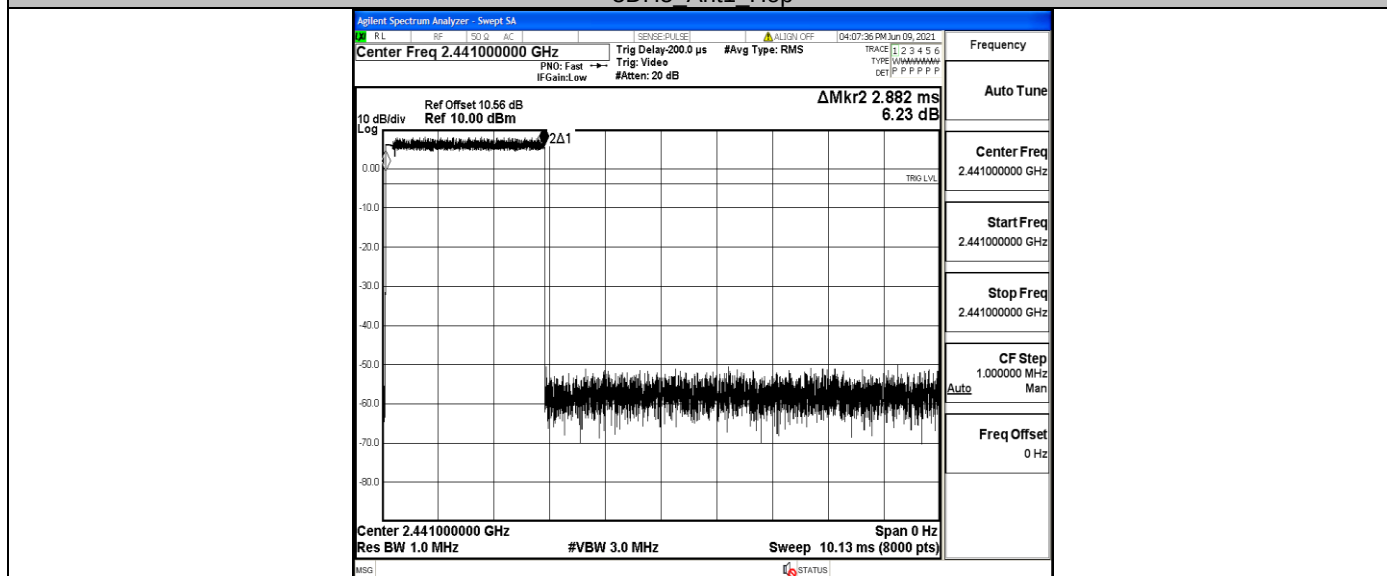
TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	0.99	80	0.079	≤ 0.4	PASS
2DH5	Ant1	Hop	2.88	80	0.231	≤ 0.4	PASS
3DH5	Ant1	Hop	2.88	110	0.317	≤ 0.4	PASS

Test Graphs





3DH5_Ant1_Hop

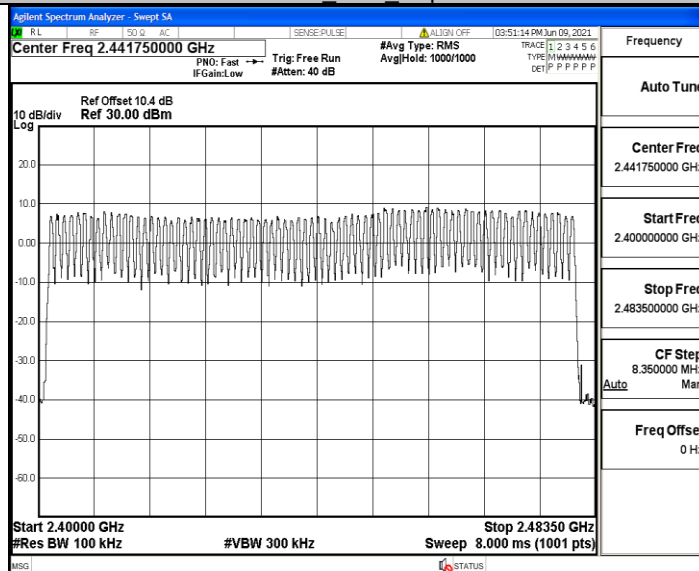


Appendix F: Number of hopping channels**Test Result**

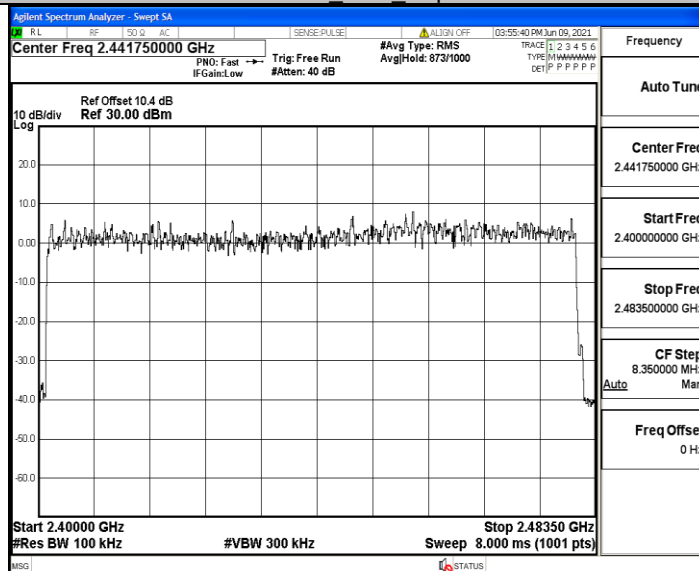
TestMode	Antenna	Channel	Result[Num]	Limit[Num]	Verdict
DH5	Ant1	Hop	79	>=15	PASS
2DH5	Ant1	Hop	79	>=15	PASS
3DH5	Ant1	Hop	79	>=15	PASS

Test Graphs

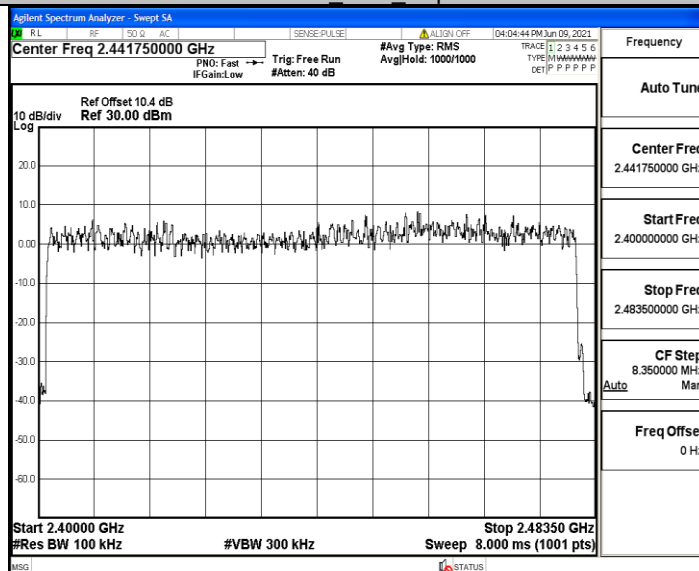
DH5_Ant1_Hop



2DH5_Ant1_Hop



3DH5_Ant1_Hop



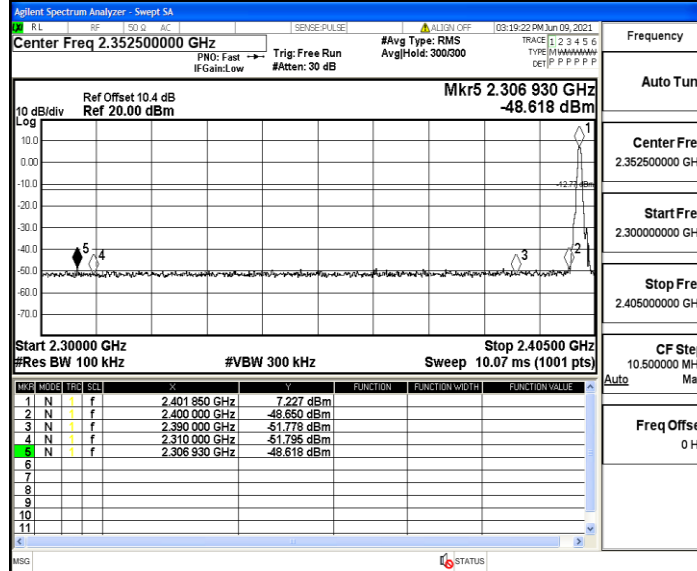
Appendix G: Band edge measurements

Test Result

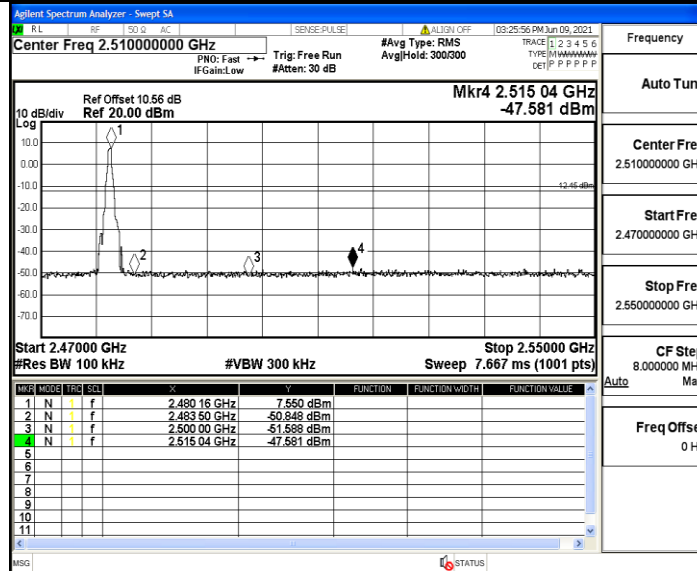
TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	7.23	-48.62	<=-12.77	PASS
		High	2480	7.55	-47.58	<=-12.45	PASS
		Low	Hop_2402	6.91	-48.92	<=-13.09	PASS
		High	Hop_2480	8.21	-47.98	<=-11.79	PASS
2DH5	Ant1	Low	2402	5.16	-46.17	<=-14.84	PASS
		High	2480	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

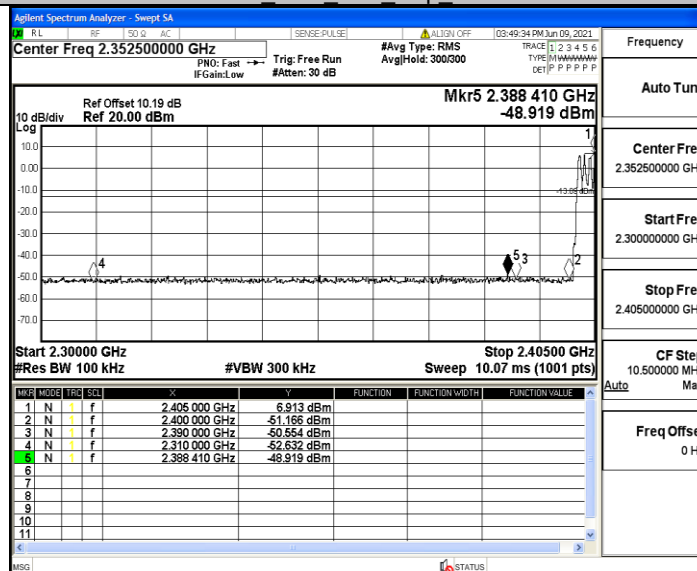
DH5_Ant1_Low_2402



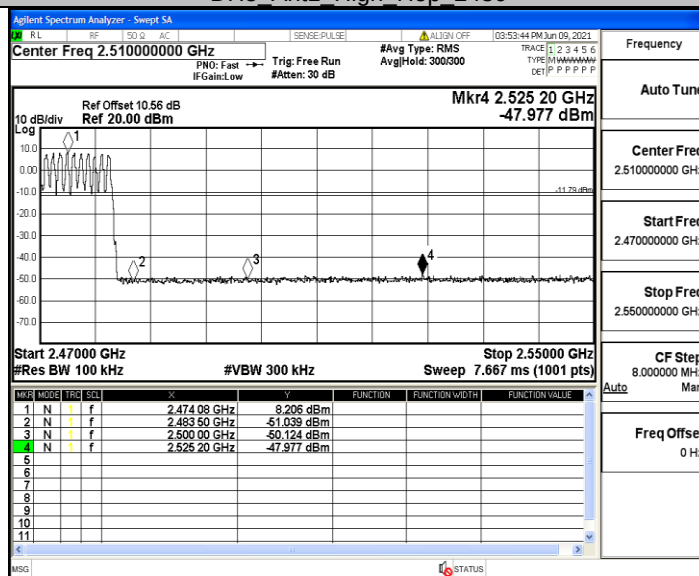
DH5_Ant1_High_2480



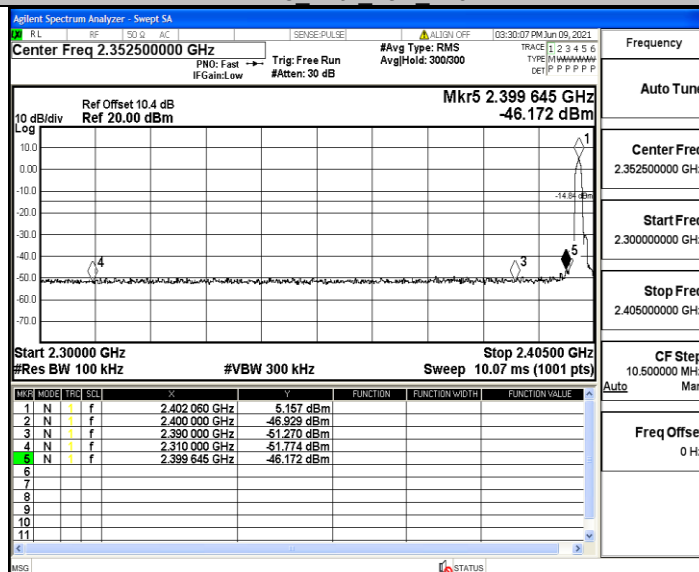
DH5_Ant1_Low_Hop_2402



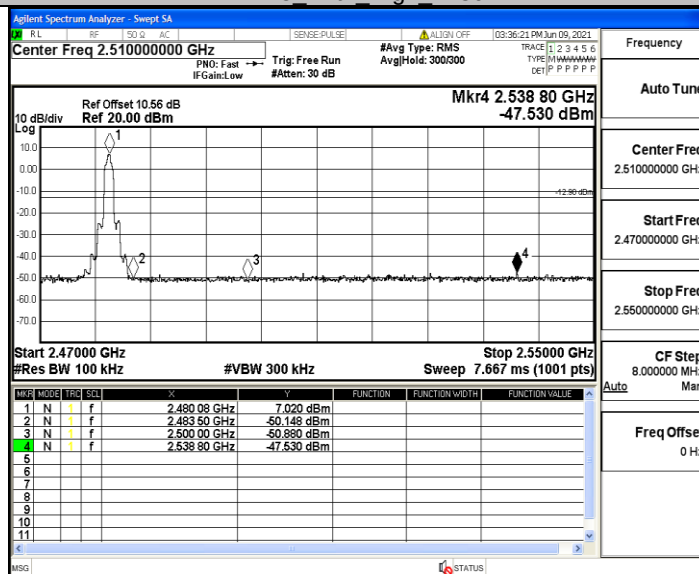
DH5 Ant1 High Hop 2480



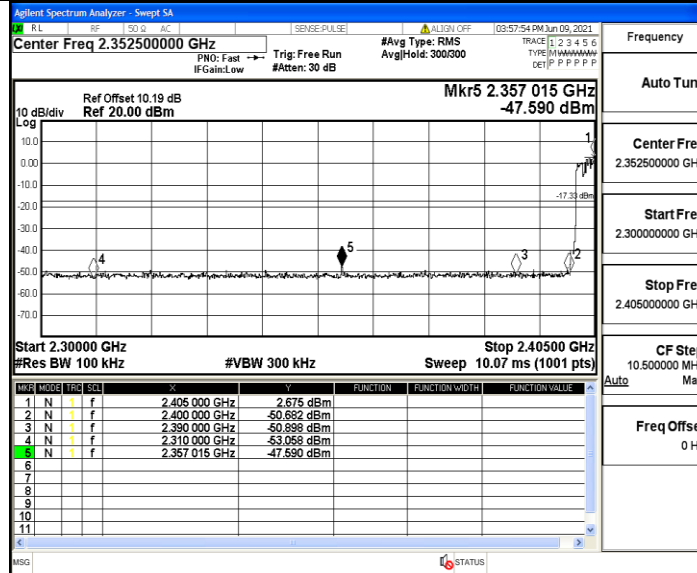
2DH5 Ant1 Low 2402



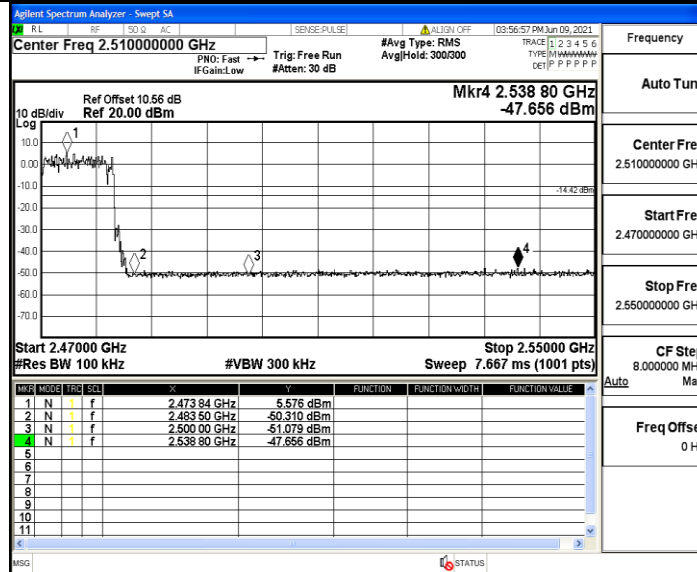
2DH5 Ant1 High 2480



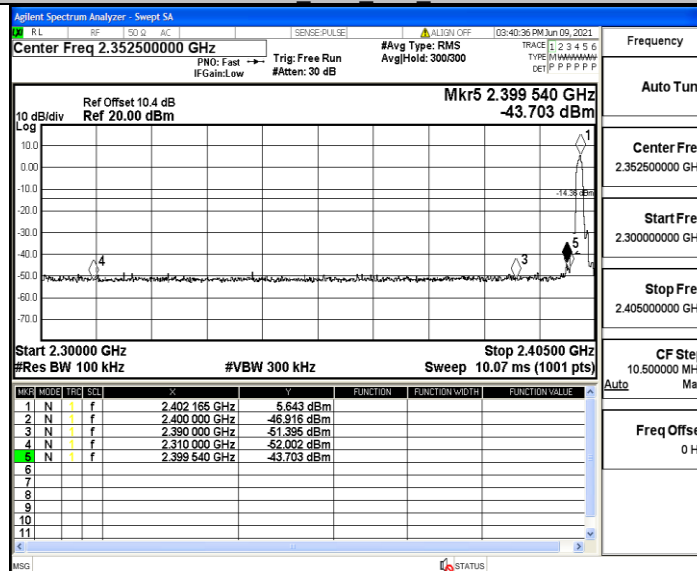
2DH5 Ant1 Low Hop 2402



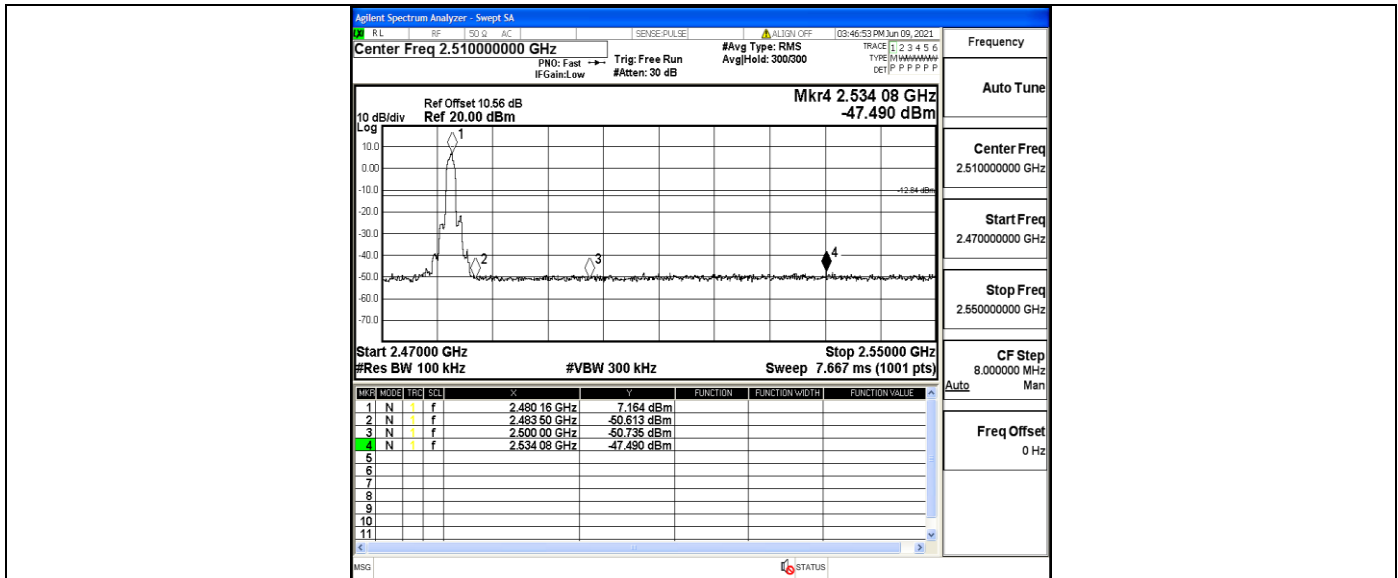
2DH5 Ant1 High Hop 2480



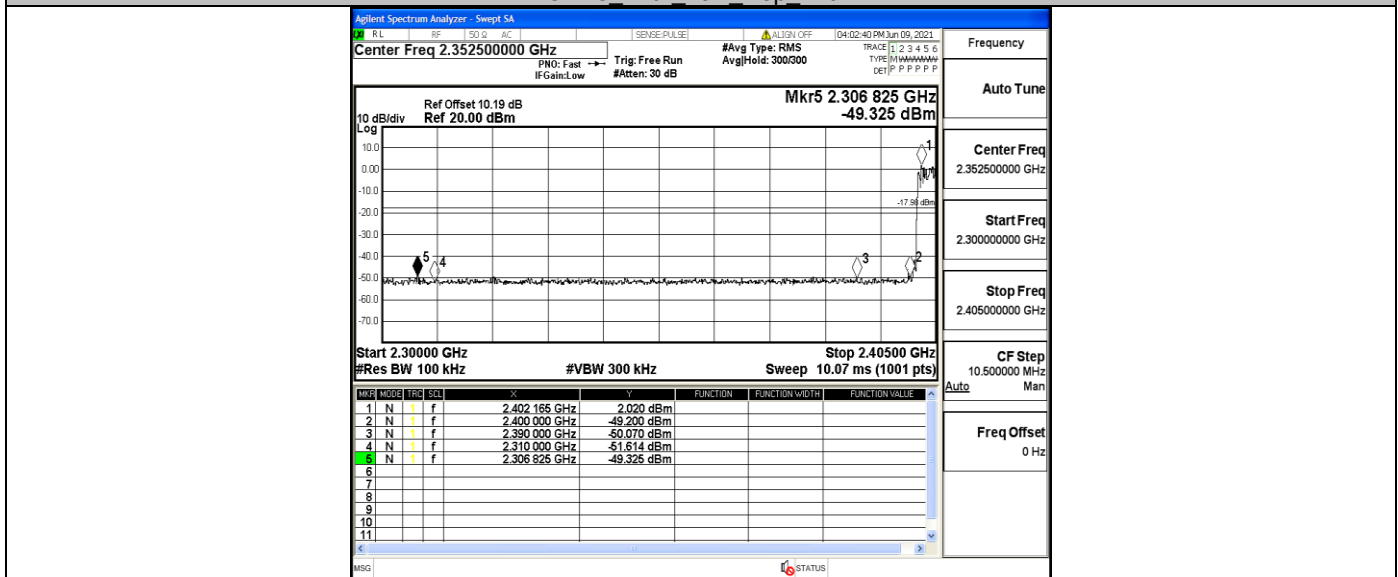
3DH5 Ant1 Low 2402



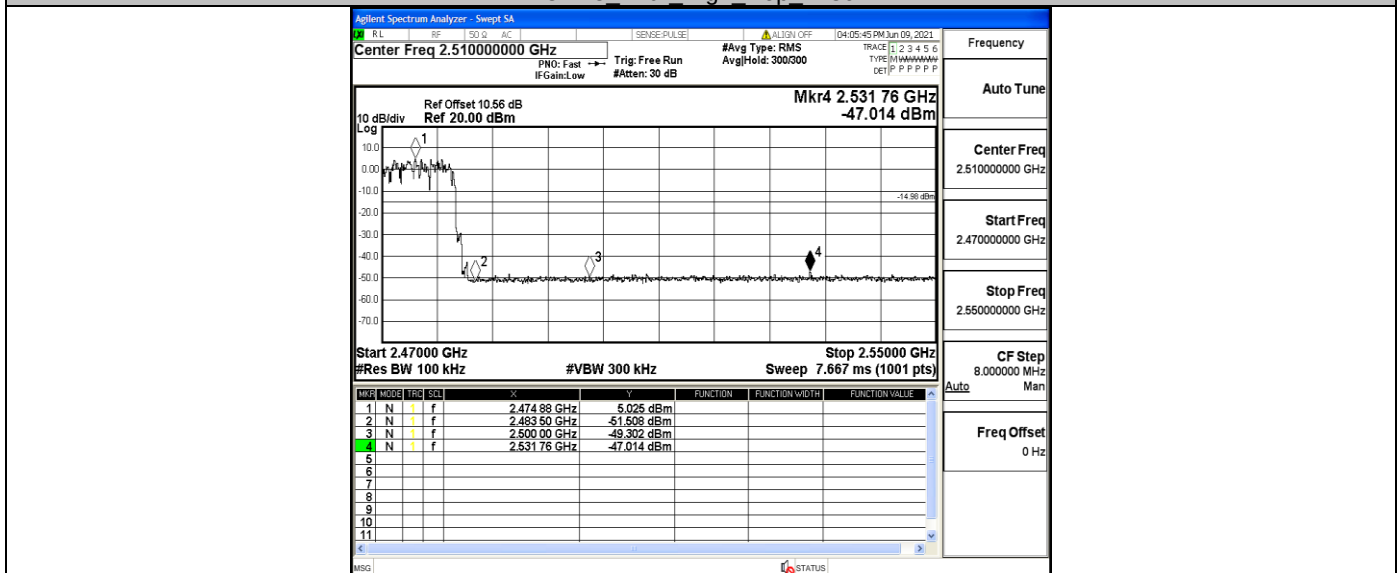
3DH5 Ant1 High 2480



3DH5 Ant1 Low Hop 2402



3DH5 Ant1 High Hop 2480

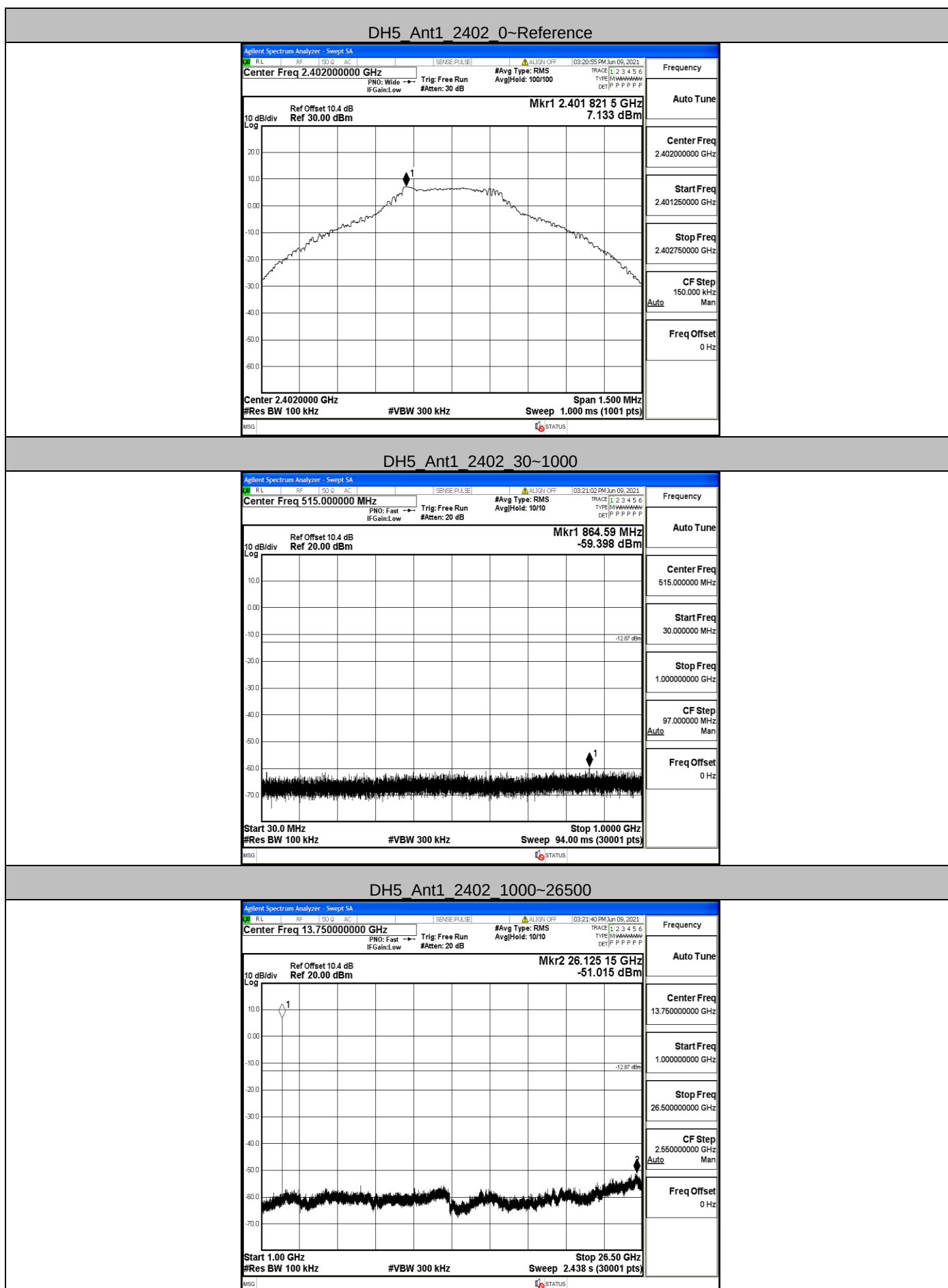


Appendix H: Conducted Spurious Emission

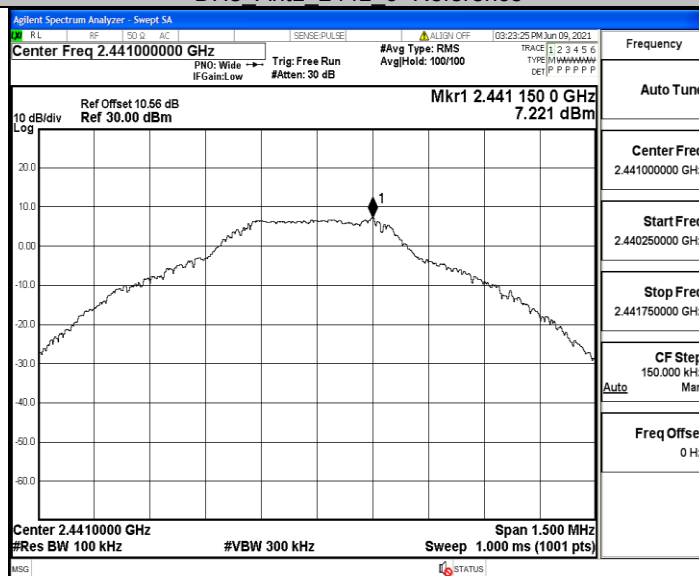
Test Result

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

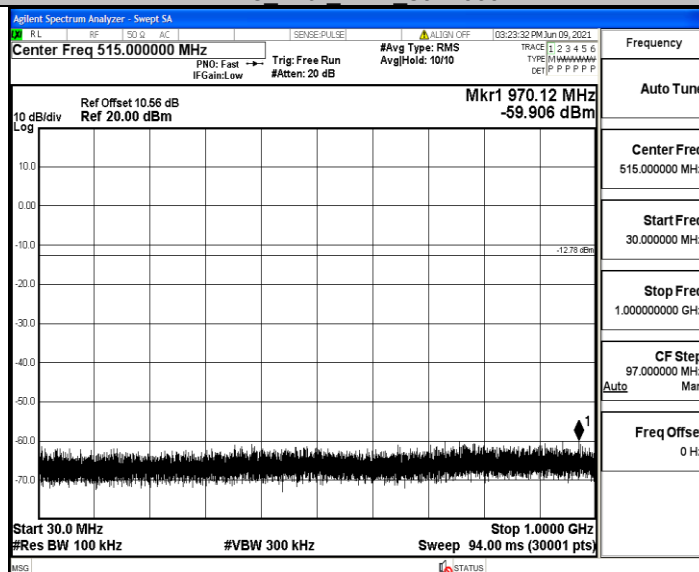
Test Graphs



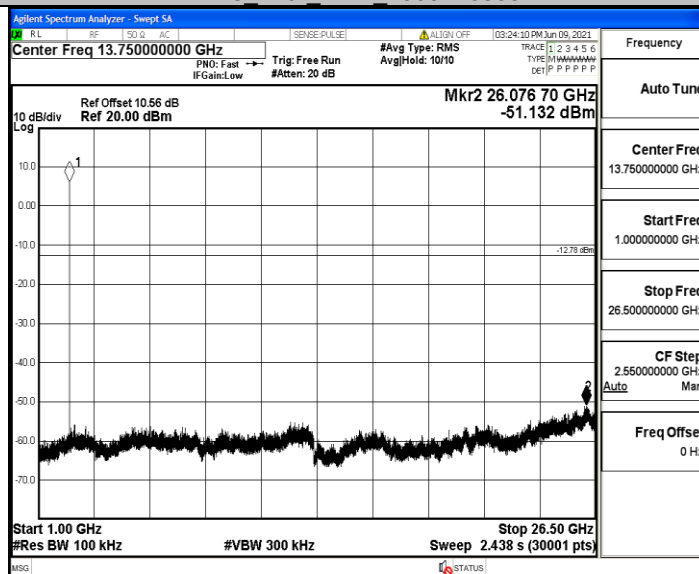
DH5_Ant1_2441_0-Reference



DH5_Ant1_2441_30~1000



DH5_Ant1_2441_1000~26500



DH5_Ant1_2480_0-Reference