

Appendix Test Data for WLAN(2.4G) (Conducted Measurement)

Product Name: OTT+speaker

Trade Mark: /

Test Model: SK410D

FCC ID: 2AOVU-SK410D

Environmental Conditions

Temperature:	24.2℃
Relative Humidity:	56%
ATM Pressure:	100.0 kPa
Test Engineer:	Anna Hu
Supervised by:	Hugo Chen
NOTE	N/A

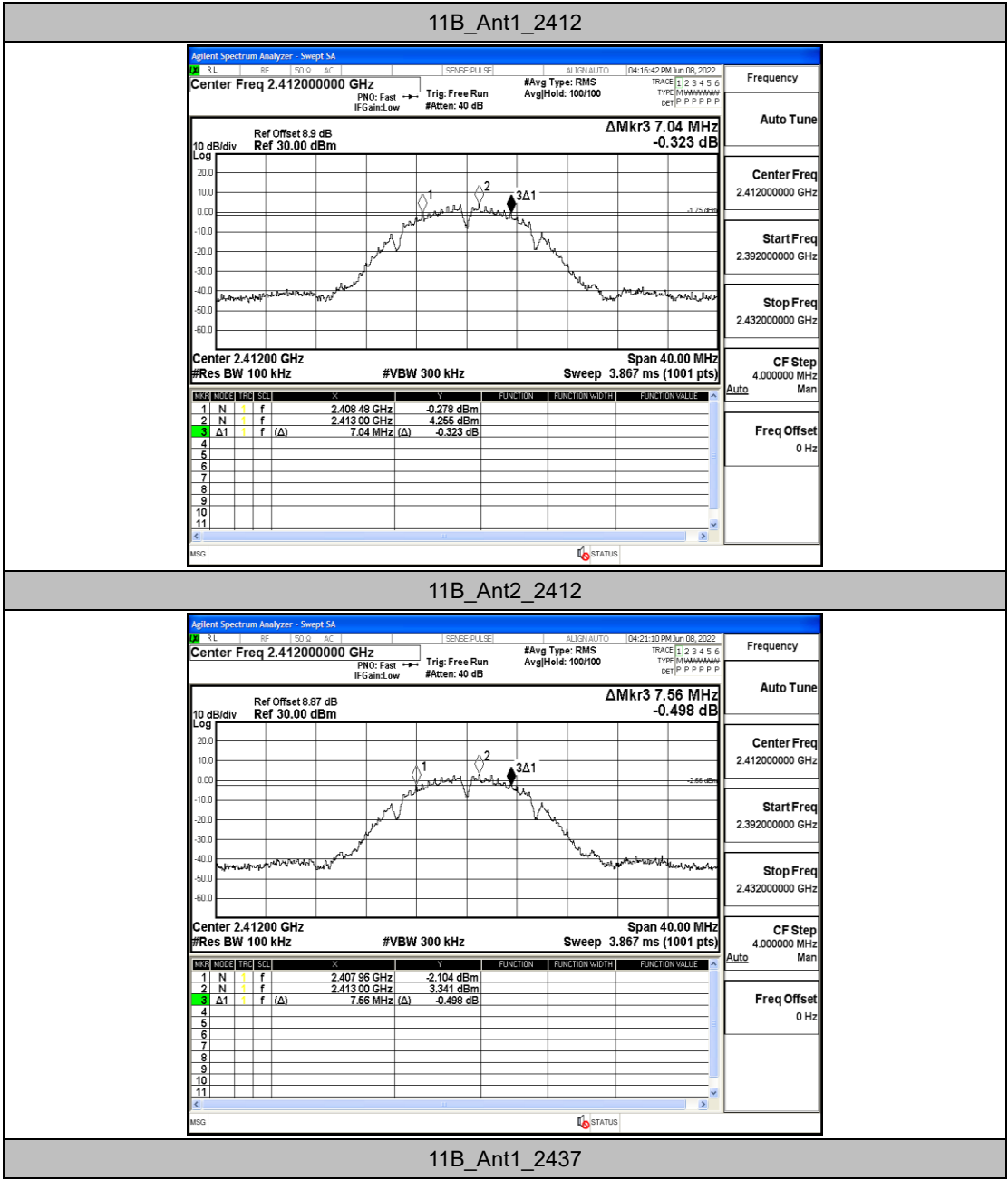
Appendix A: DTS Bandwidth

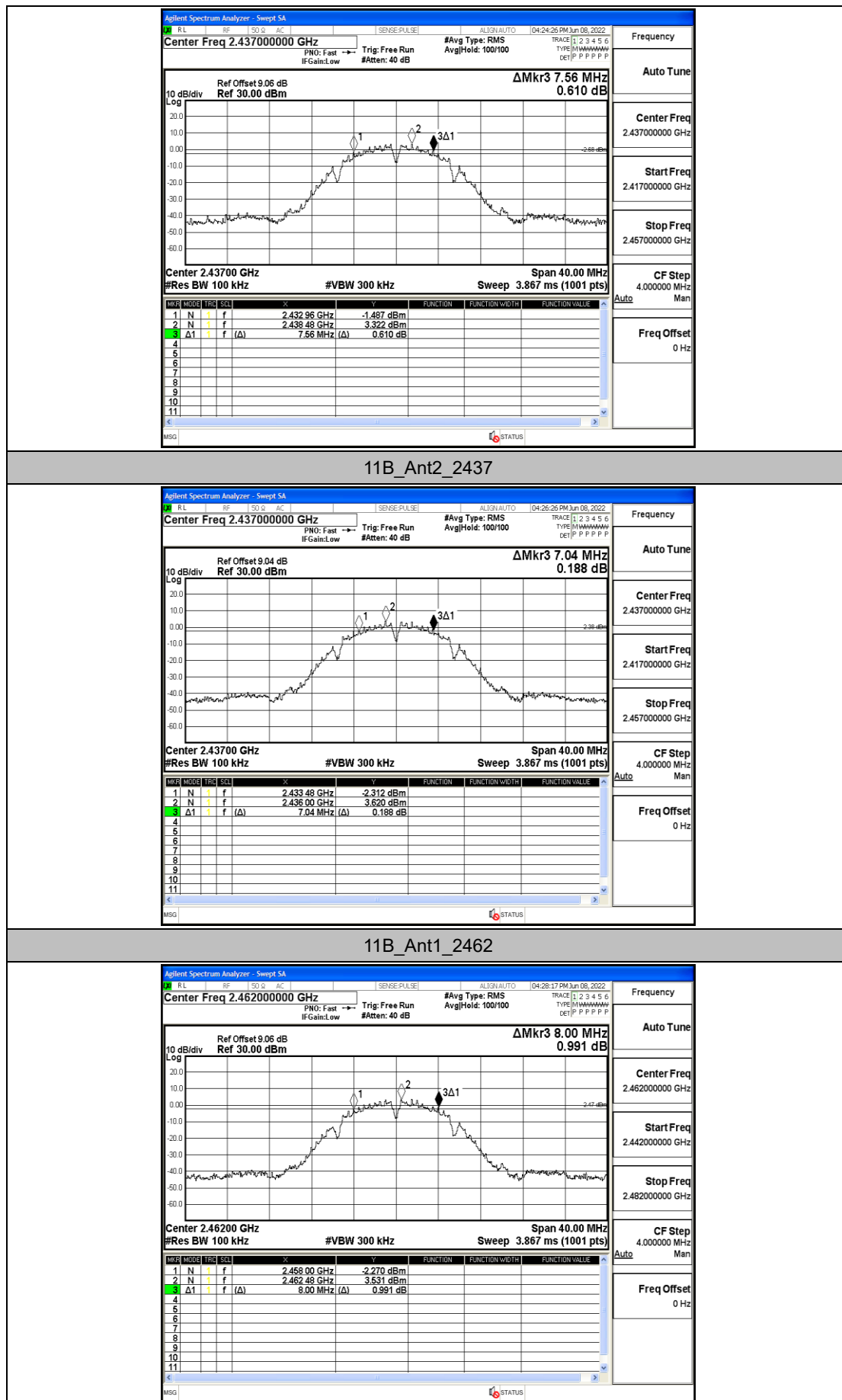
Test Result

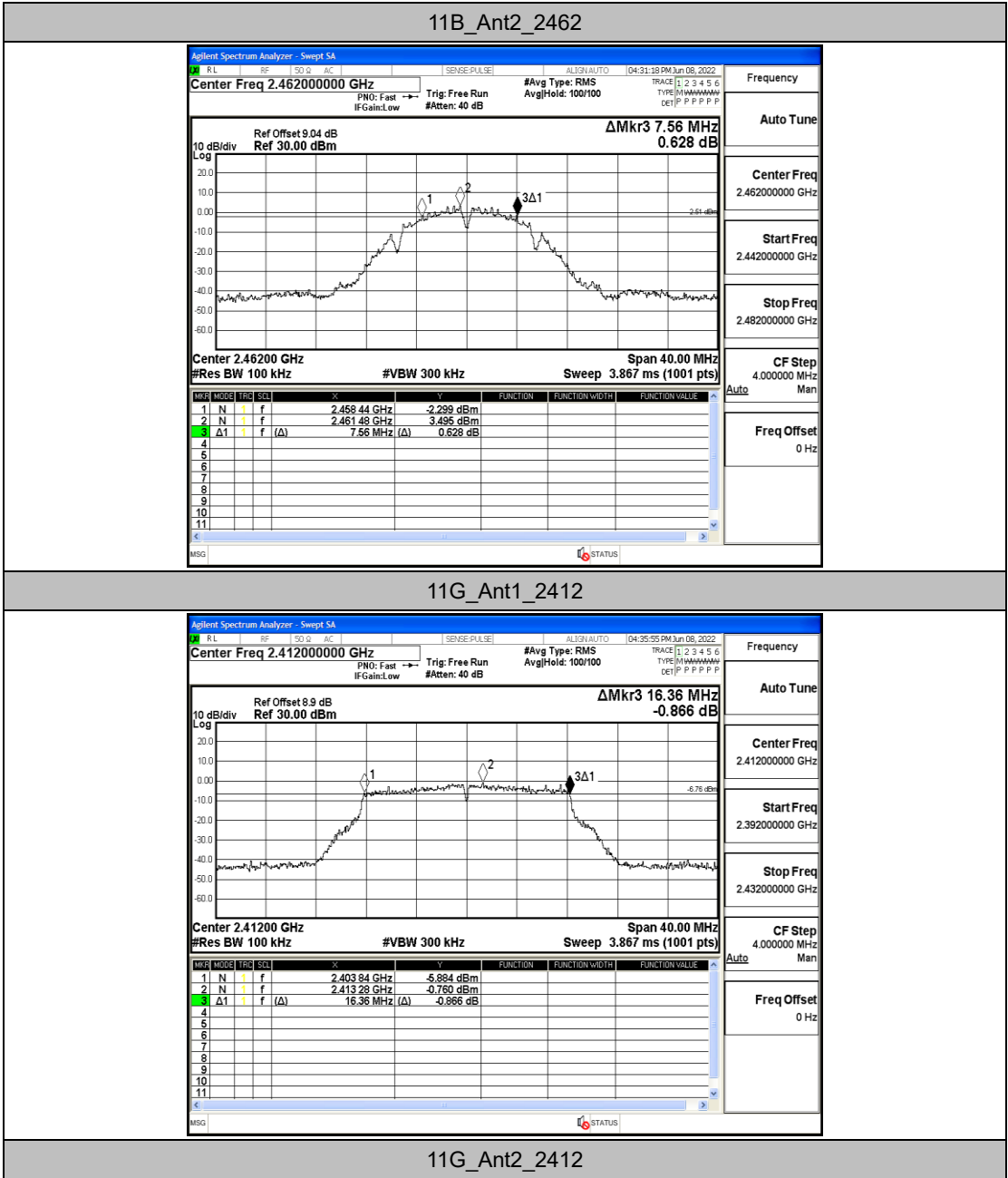
TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	7.040	2408.480	2415.520	0.5	PASS
	Ant2	2412	7.560	2407.960	2415.520	0.5	PASS
	Ant1	2437	7.560	2432.960	2440.520	0.5	PASS
	Ant2	2437	7.040	2433.480	2440.520	0.5	PASS
	Ant1	2462	8.000	2458.000	2466.000	0.5	PASS
	Ant2	2462	7.560	2458.440	2466.000	0.5	PASS
11G	Ant1	2412	16.360	2403.840	2420.200	0.5	PASS
	Ant2	2412	16.320	2403.840	2420.160	0.5	PASS
	Ant1	2437	16.360	2428.800	2445.160	0.5	PASS
	Ant2	2437	16.320	2428.840	2445.160	0.5	PASS
	Ant1	2462	16.360	2453.800	2470.160	0.5	PASS
	Ant2	2462	16.320	2453.840	2470.160	0.5	PASS
11AX20SISO	Ant1	2412	19.080	2402.440	2421.520	0.5	PASS
	Ant2	2412	19.040	2402.480	2421.520	0.5	PASS
	Ant1	2437	18.920	2427.560	2446.480	0.5	PASS
	Ant2	2437	19.080	2427.440	2446.520	0.5	PASS
	Ant1	2462	19.120	2452.440	2471.560	0.5	PASS
	Ant2	2462	18.960	2452.560	2471.520	0.5	PASS
11N20MIMO	Ant1	2412	17.640	2403.200	2420.840	0.5	PASS
	Ant2	2412	17.680	2403.160	2420.840	0.5	PASS
	Ant1	2437	17.720	2428.160	2445.880	0.5	PASS
	Ant2	2437	17.720	2428.160	2445.880	0.5	PASS
	Ant1	2462	17.720	2453.160	2470.880	0.5	PASS

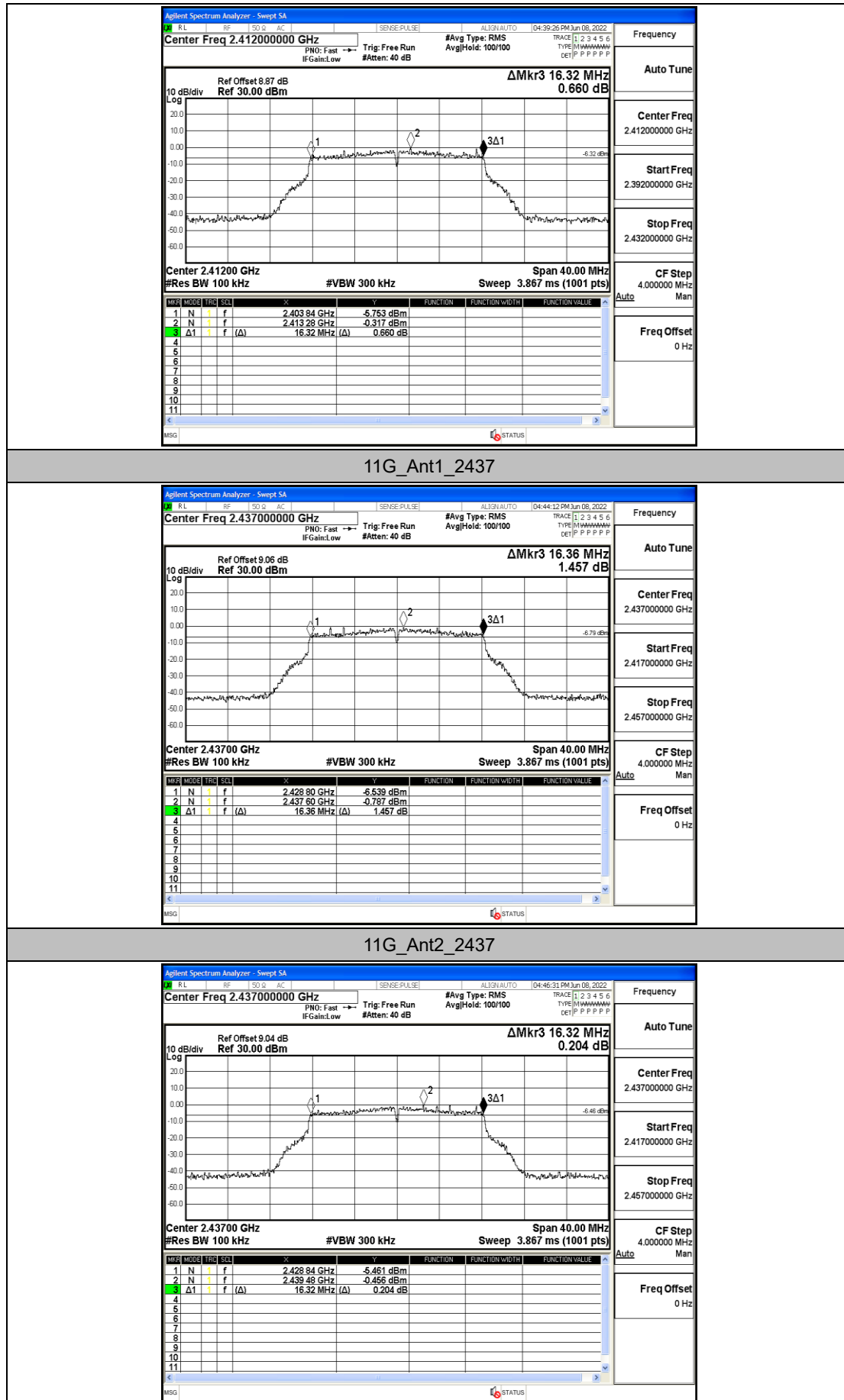
	Ant2	2462	17.760	2453.120	2470.880	0.5	PASS
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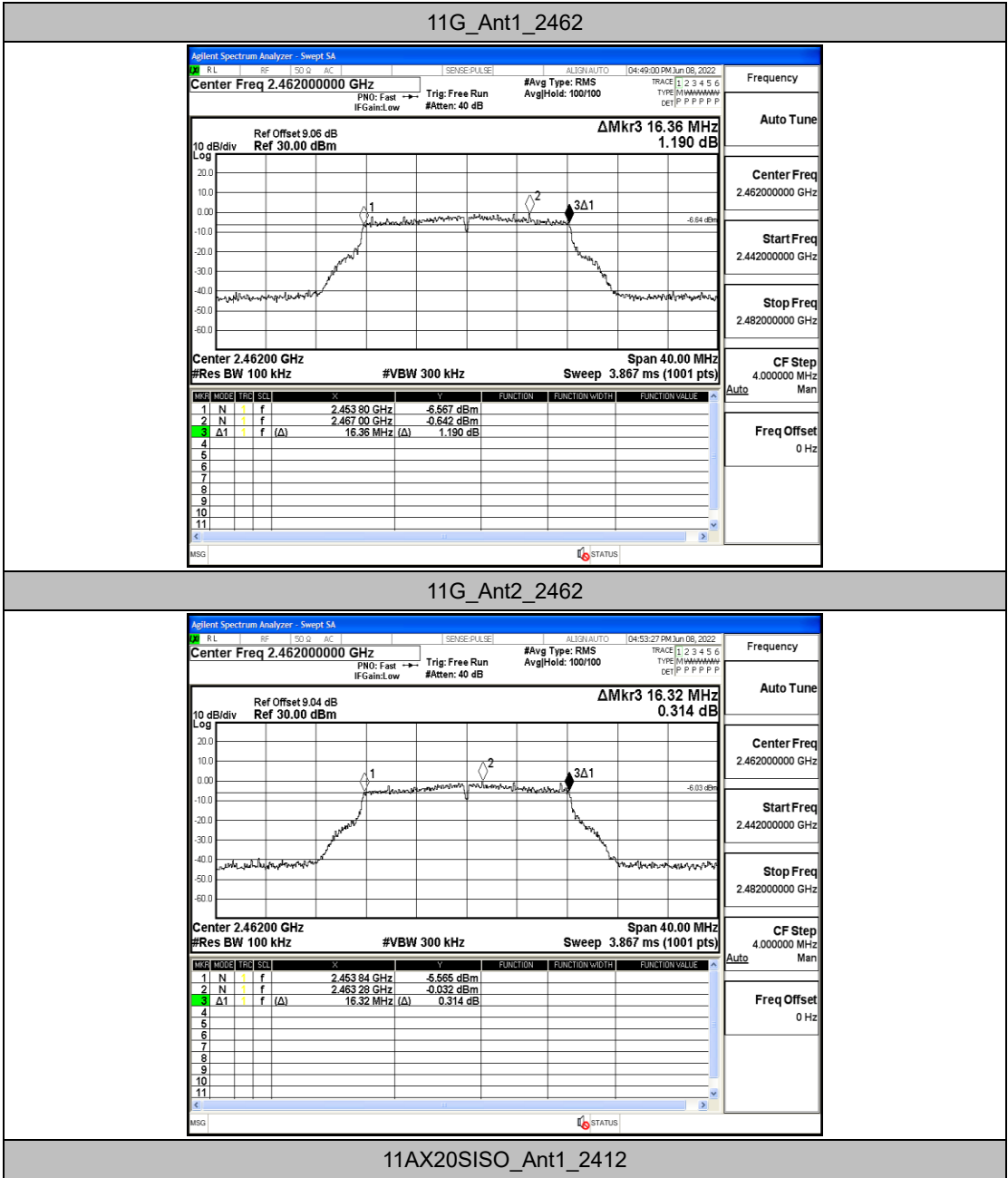
Test Graphs

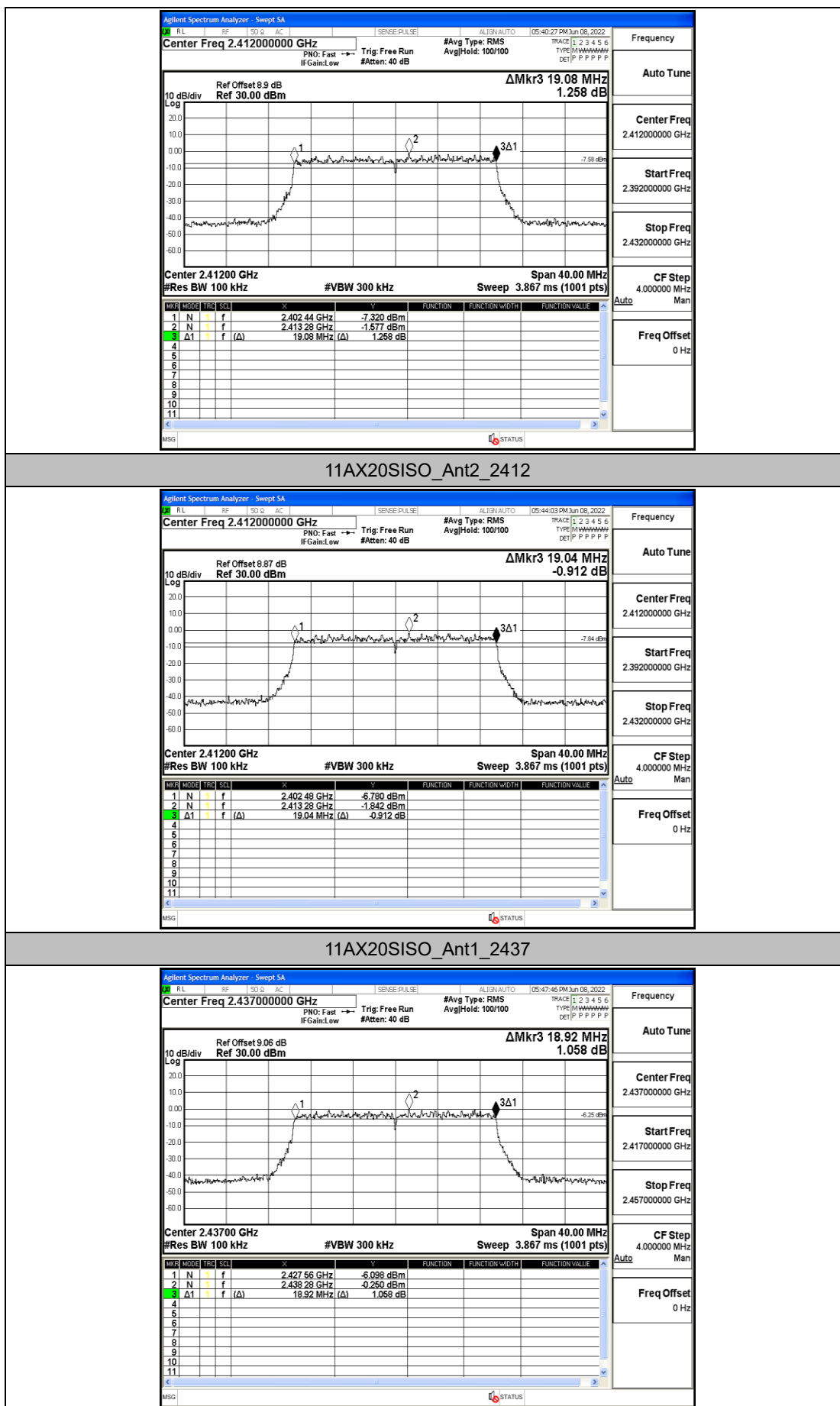


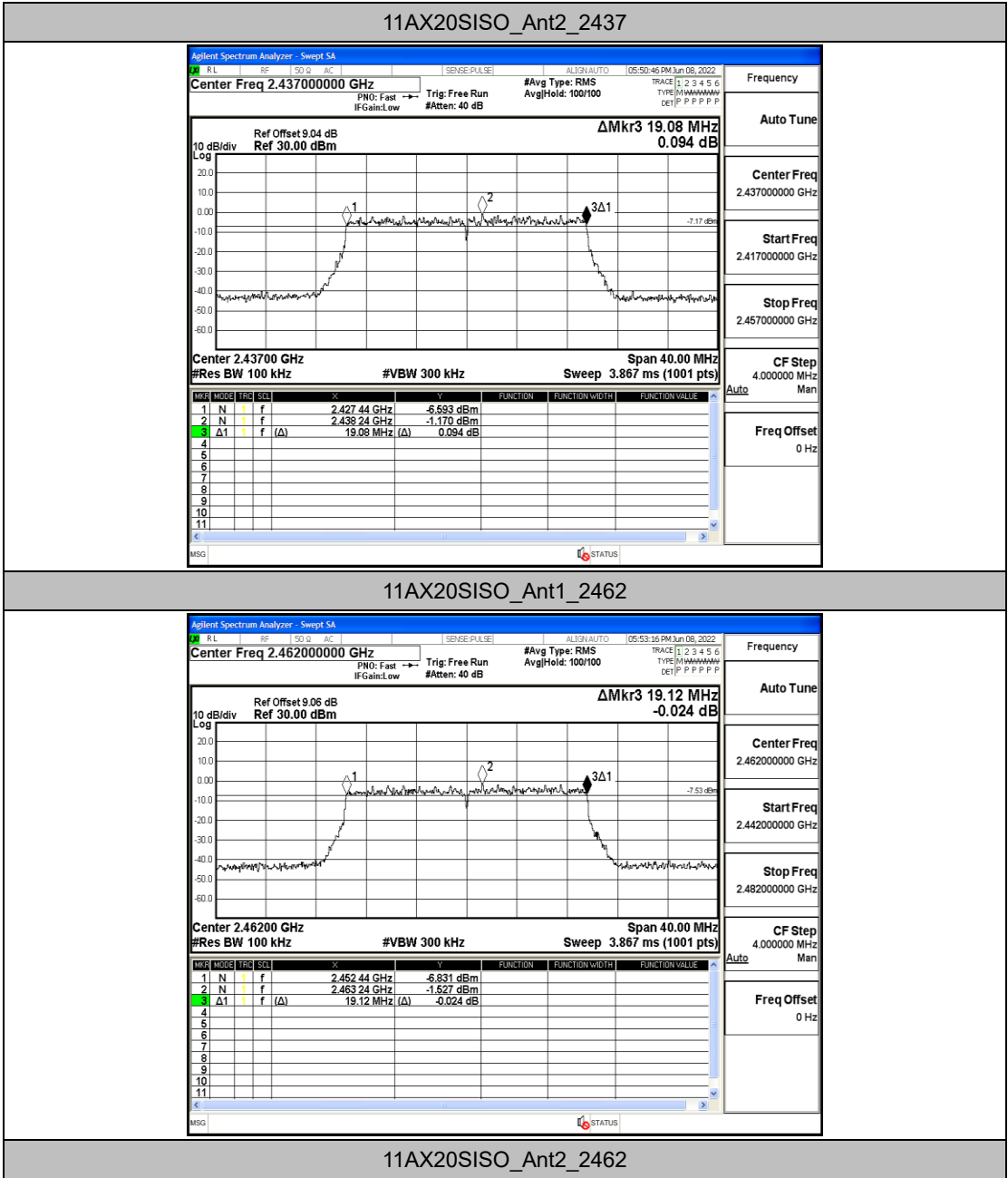


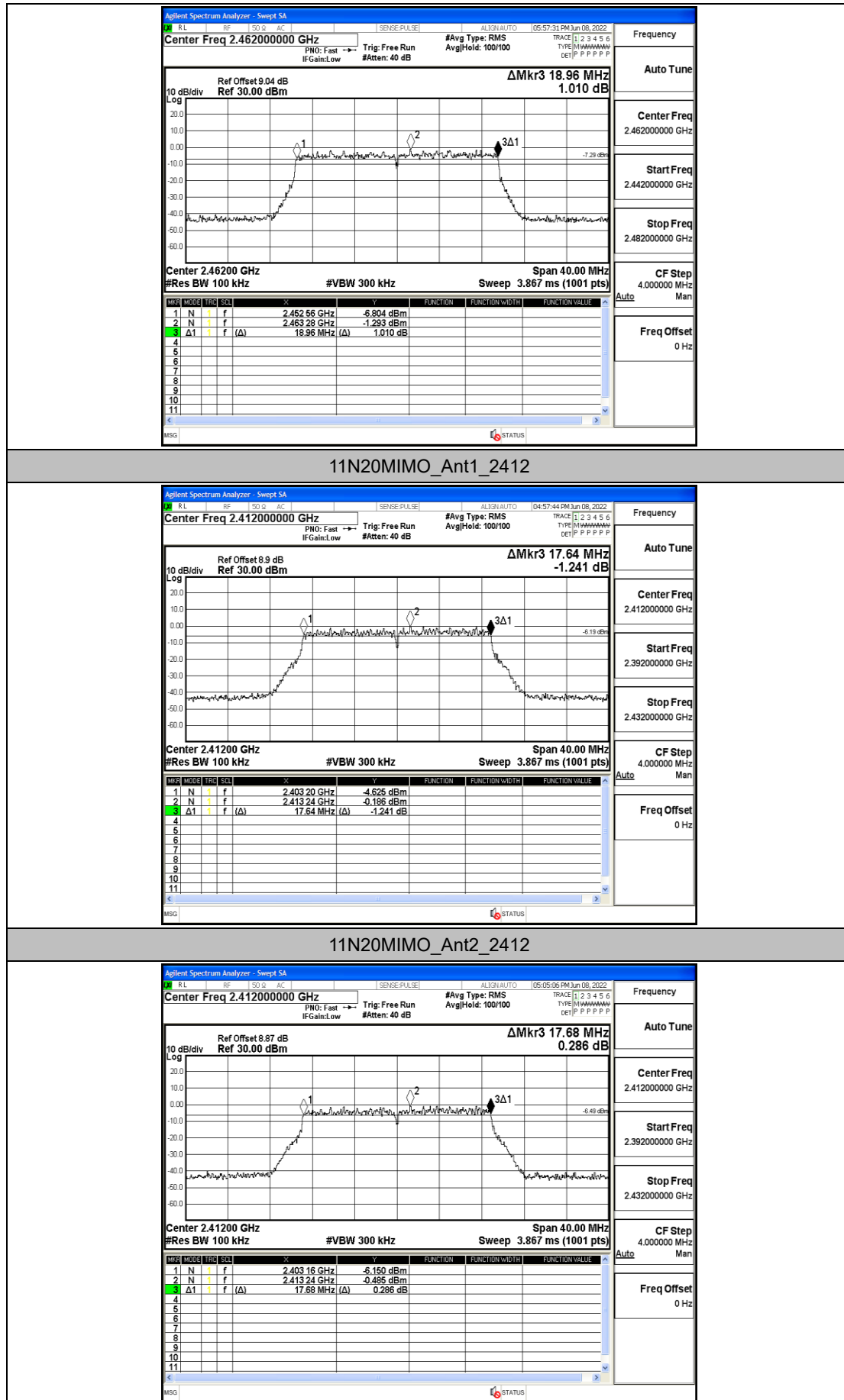


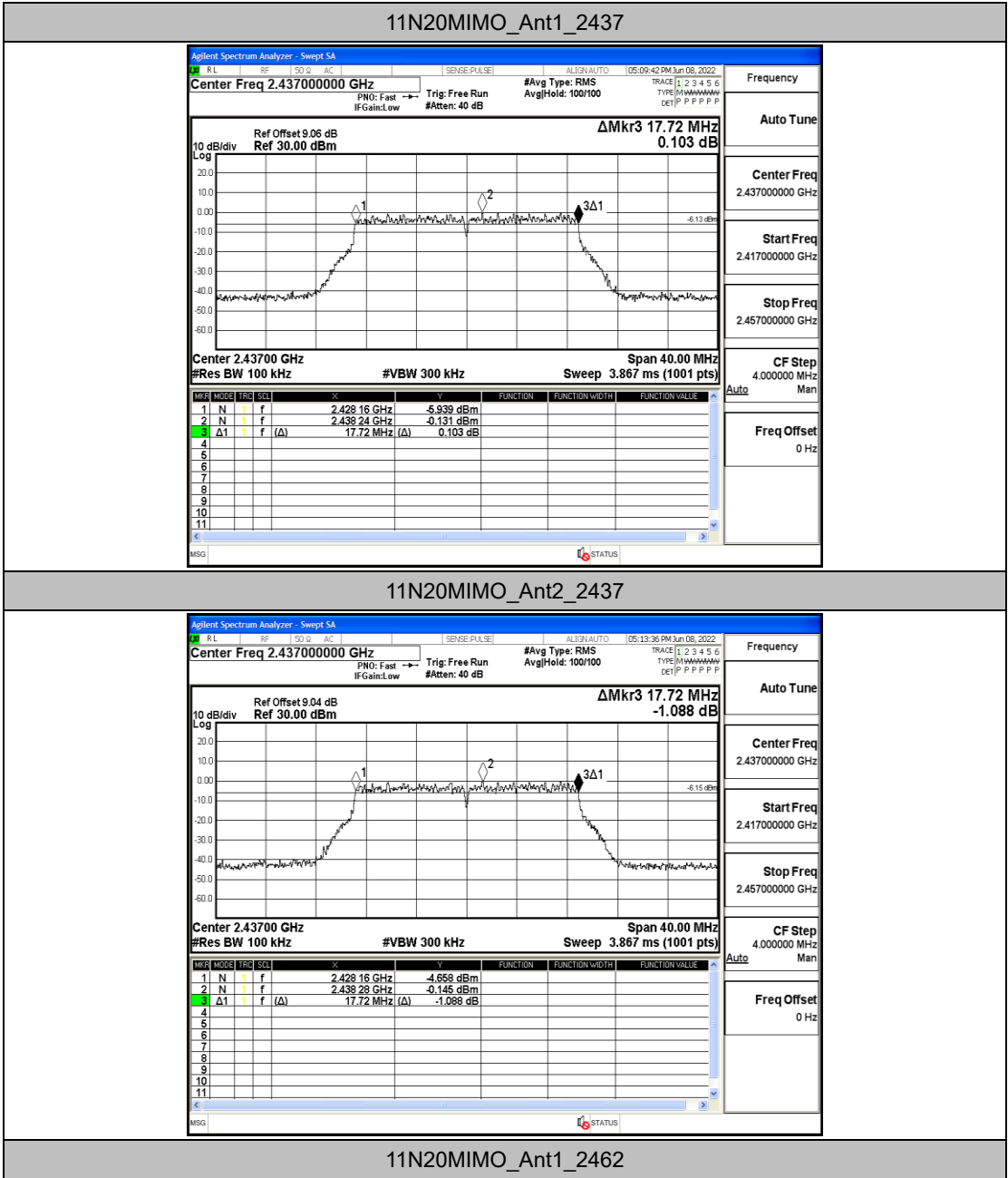


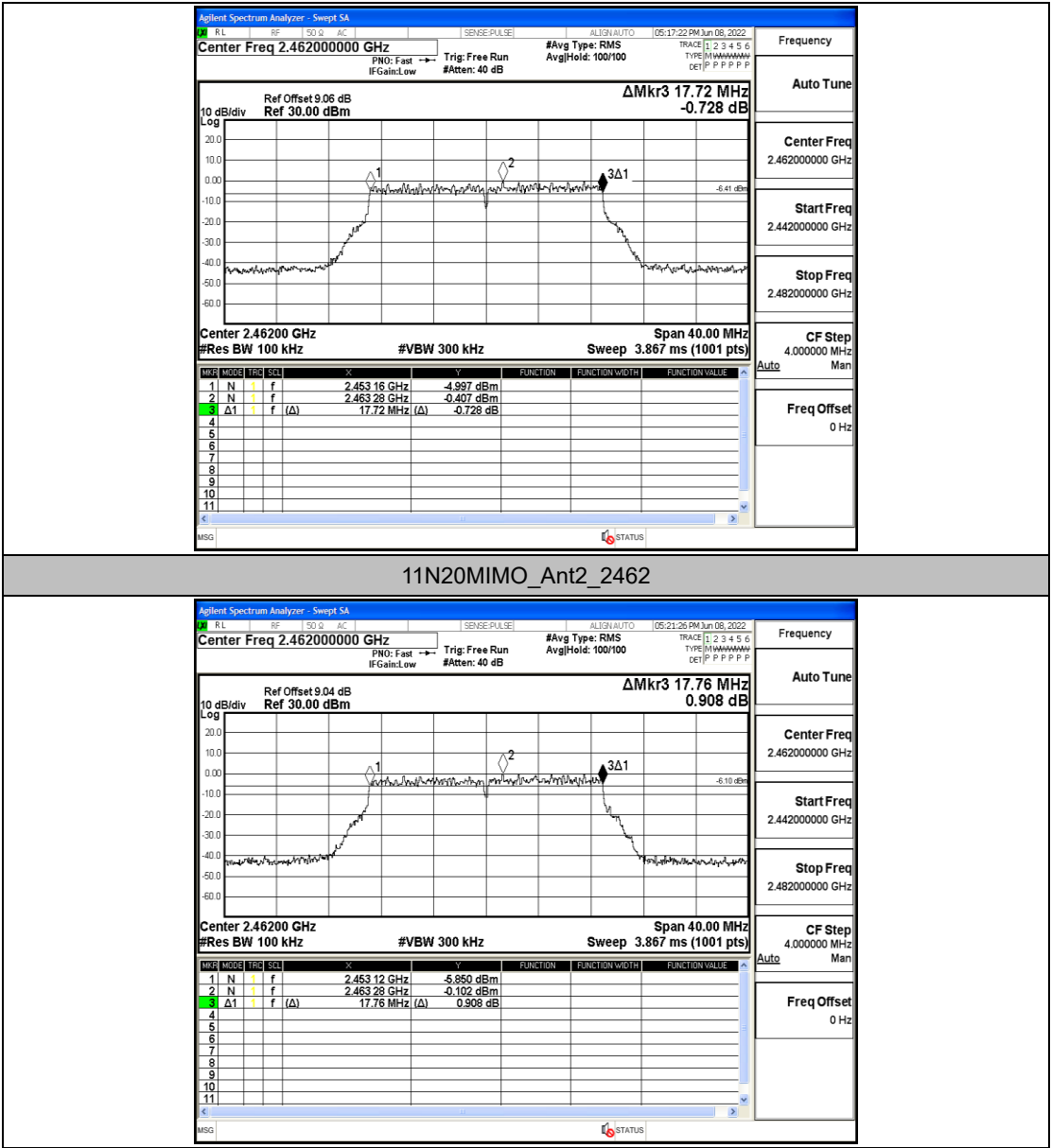










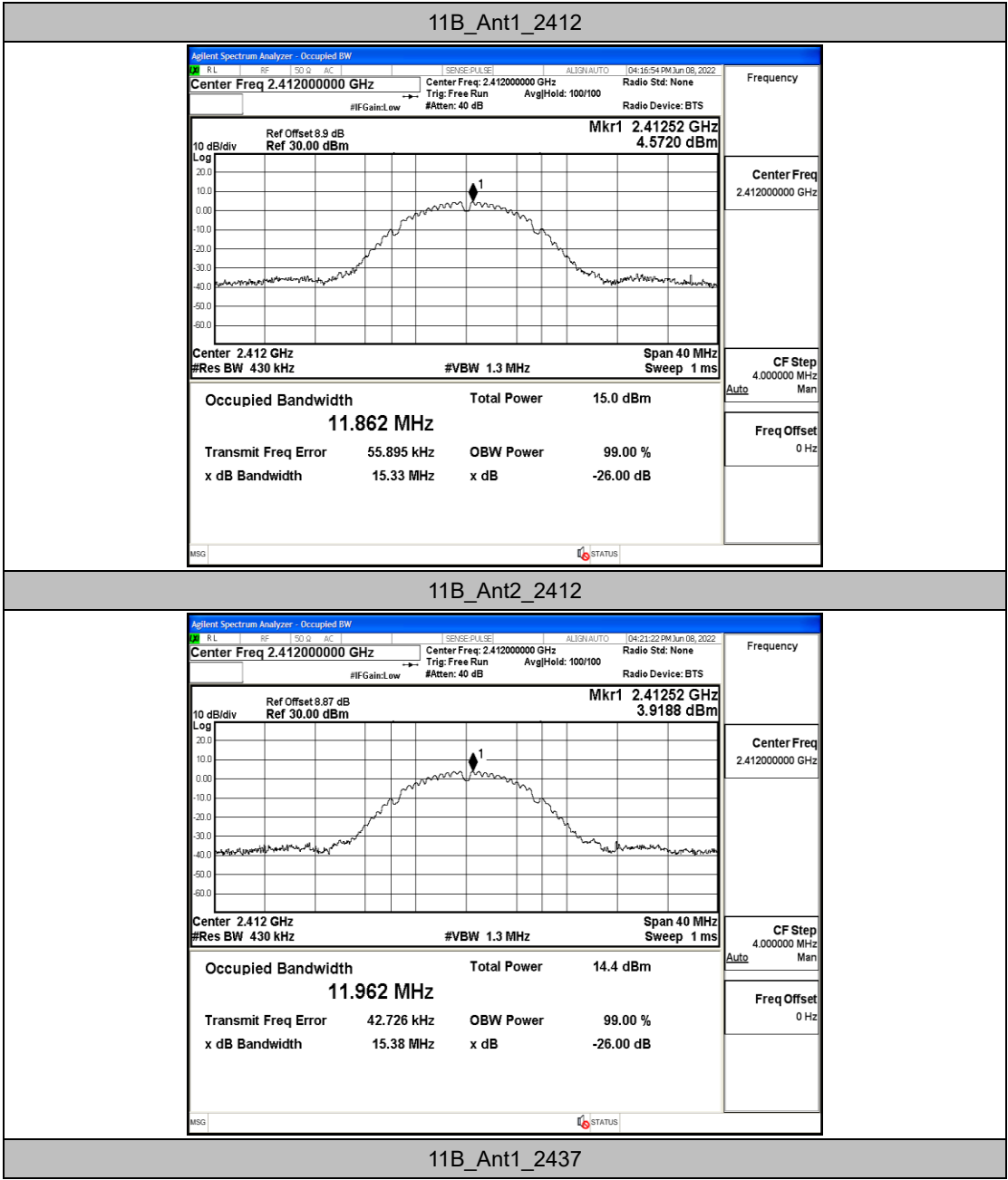


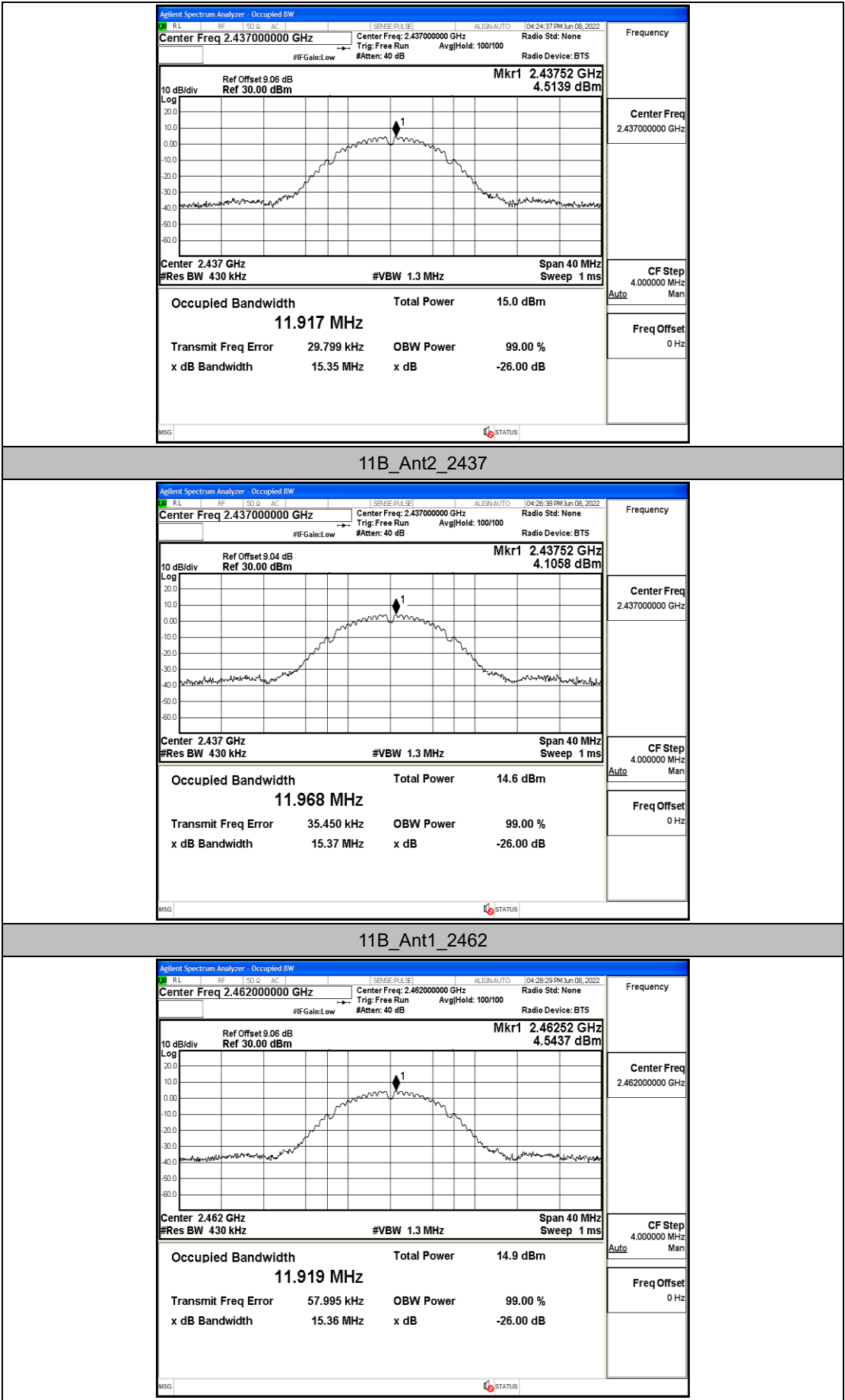
Appendix B: Occupied Channel Bandwidth

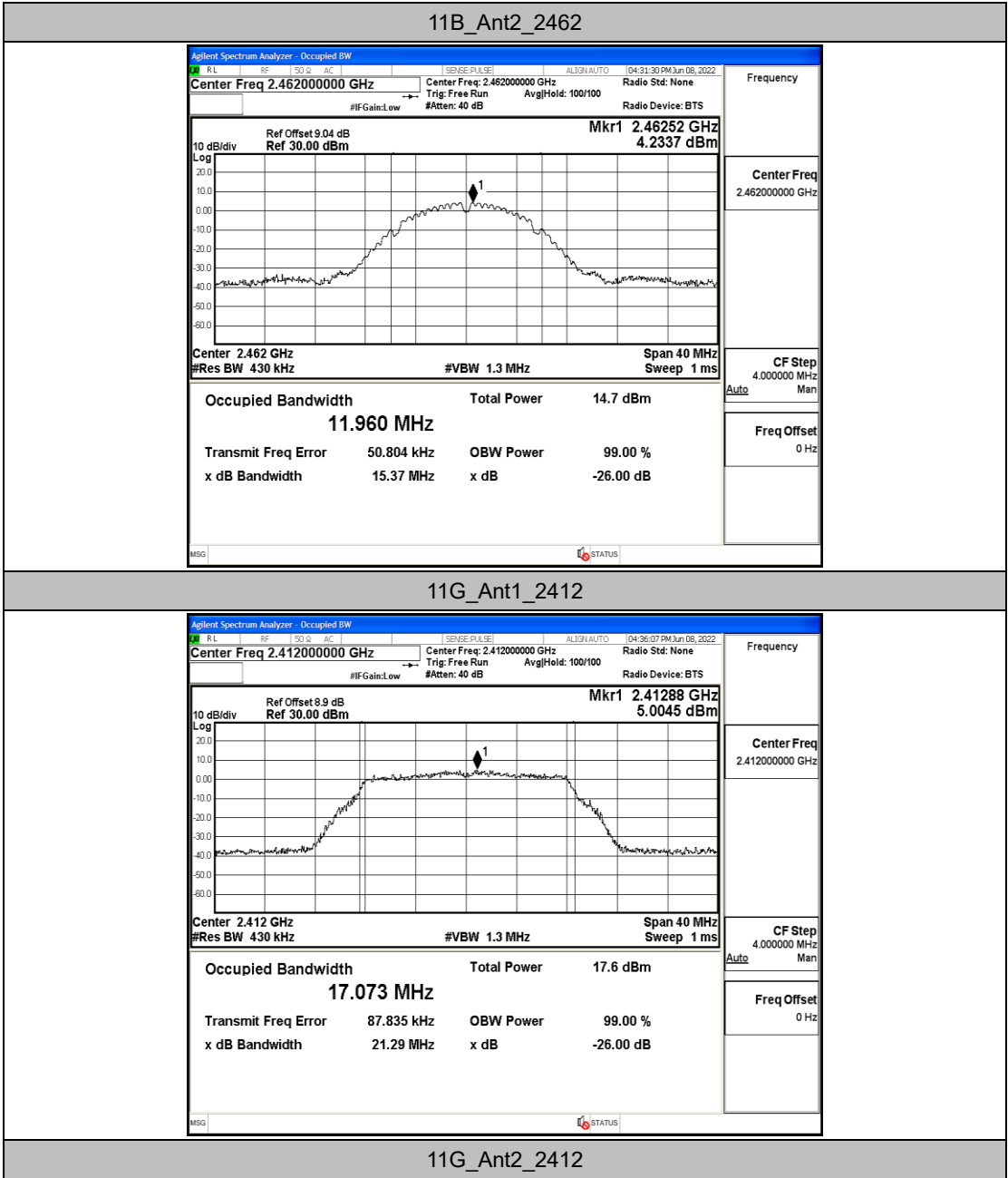
Test Result

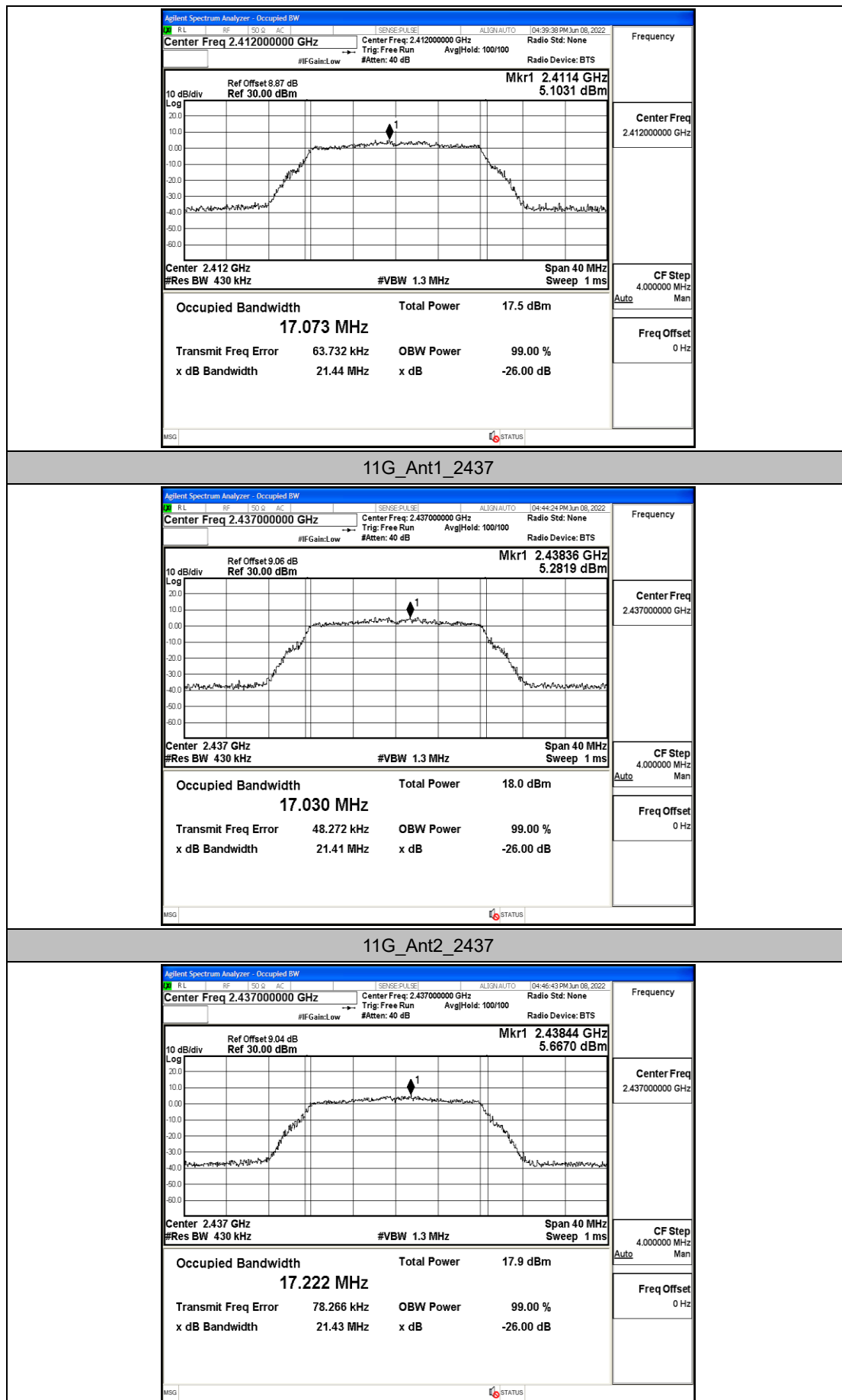
TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	11.862	2406.125	2417.987	---	---
	Ant2	2412	11.962	2406.062	2418.024	---	---
	Ant1	2437	11.917	2431.071	2442.988	---	---
	Ant2	2437	11.968	2431.051	2443.019	---	---
	Ant1	2462	11.919	2456.098	2468.017	---	---
	Ant2	2462	11.960	2456.071	2468.031	---	---
11G	Ant1	2412	17.073	2403.551	2420.624	---	---
	Ant2	2412	17.073	2403.527	2420.600	---	---
	Ant1	2437	17.030	2428.533	2445.563	---	---
	Ant2	2437	17.222	2428.467	2445.689	---	---
	Ant1	2462	17.205	2453.497	2470.702	---	---
	Ant2	2462	17.099	2453.532	2470.631	---	---
11AX20SISO	Ant1	2412	19.101	2402.470	2421.571	---	---
	Ant2	2412	19.117	2402.450	2421.567	---	---
	Ant1	2437	19.083	2427.509	2446.592	---	---
	Ant2	2437	19.166	2427.447	2446.613	---	---
	Ant1	2462	19.116	2452.468	2471.584	---	---
	Ant2	2462	19.150	2452.415	2471.565	---	---
11N20MIMO	Ant1	2412	18.150	2403.000	2421.150	---	---
	Ant2	2412	18.102	2403.031	2421.133	---	---
	Ant1	2437	18.184	2427.957	2446.141	---	---
	Ant2	2437	18.073	2428.024	2446.097	---	---
	Ant1	2462	18.121	2453.005	2471.126	---	---
	Ant2	2462	18.132	2453.006	2471.138	---	---

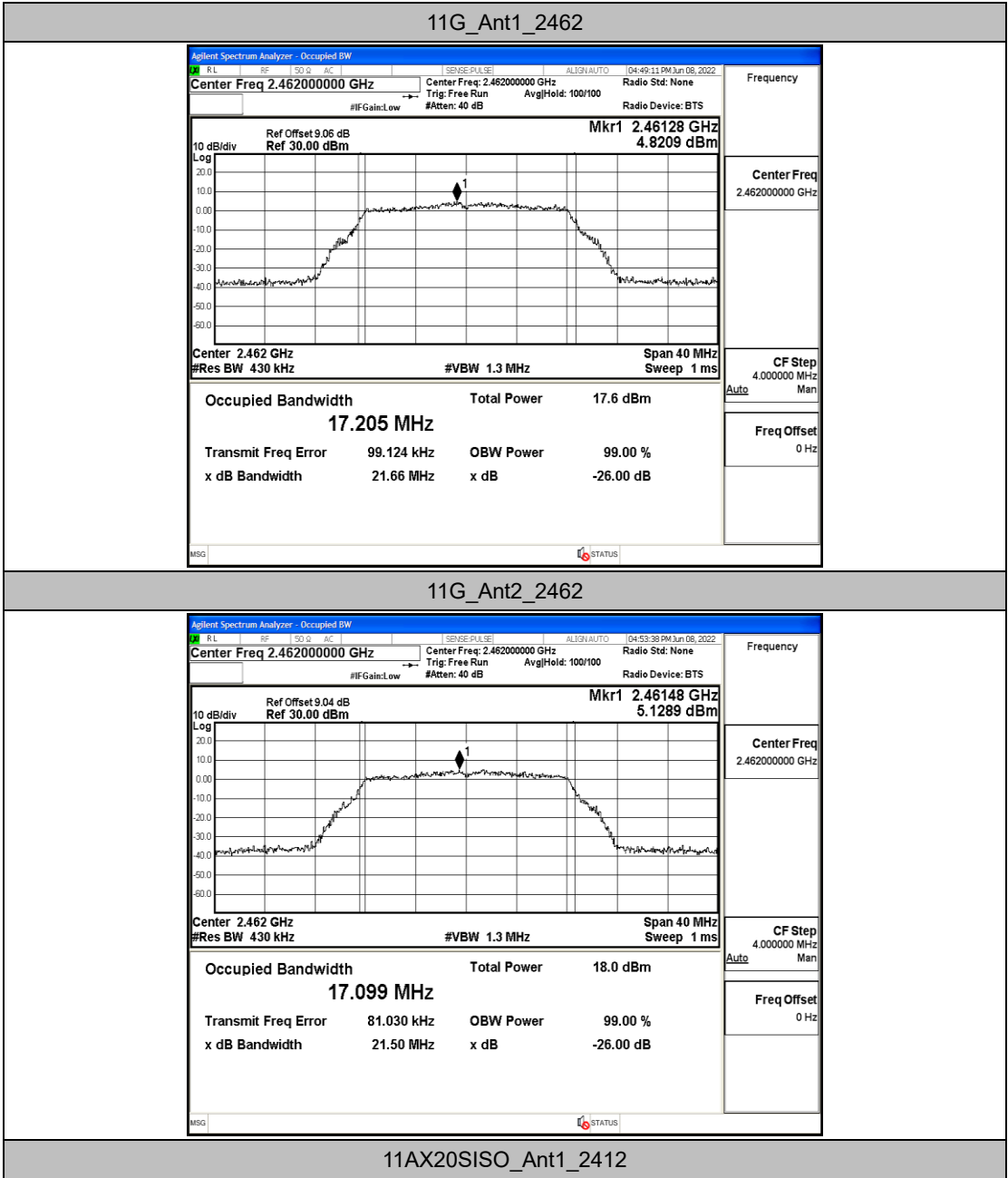
Test Graphs

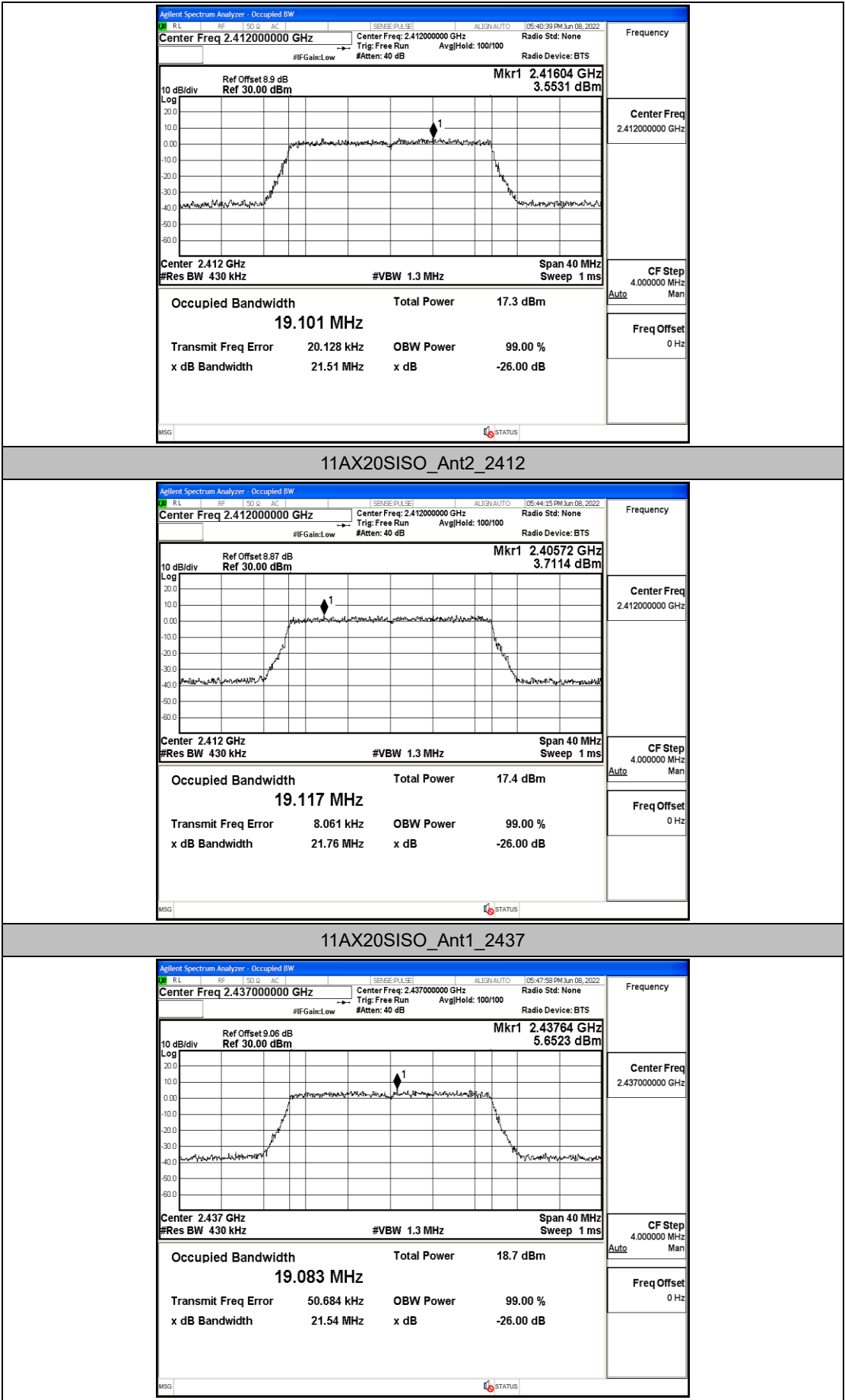


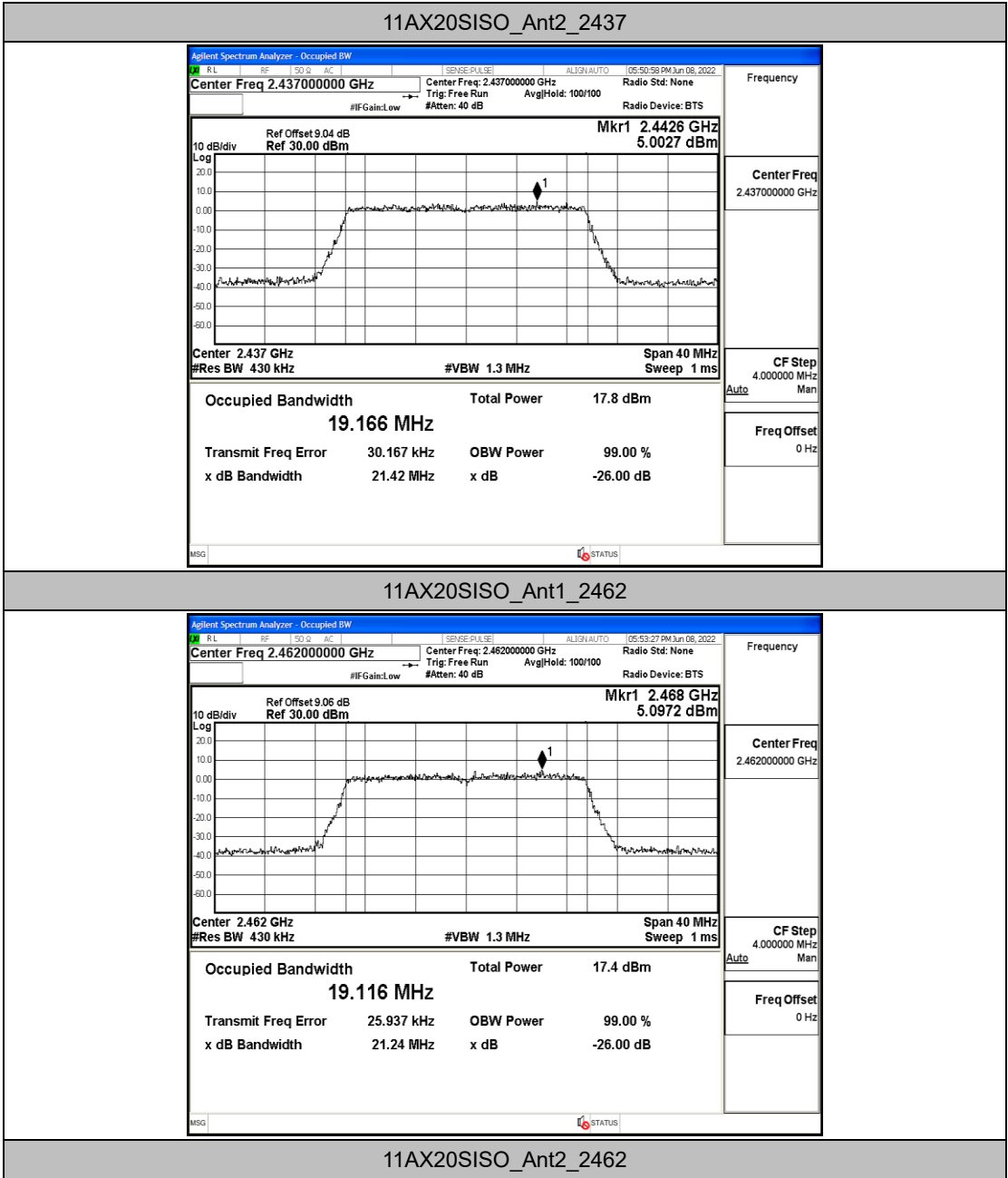












11AX20SISO_Ant1_2462

Agilent Spectrum Analyzer - Occupied BW

RL

RF

50 Ω

AC

SENSE: PULSE

ALIGN: AUTO

05:53:27 PM Jun 08, 2022

Center Freq 2.462000000 GHz

Center Freq: 2.462000000 GHz

Radio Std: None

#IF Gain: Low

Trig: Free Run

Avg/Hold: 100/100

Radio Device: BTS

#Atten: 40 dB

10 dB/div

Ref Offset 9.05 dB

Ref 30.00 dBm

Mkr1 2.468 GHz

5.0972 dBm

Log

20.0

10.0

0.00

-10.0

-20.0

-30.0

-40.0

-50.0

-60.0

Center 2.462 GHz

#Res BW 430 kHz

#VBW 1.3 MHz

Span 40 MHz

Sweep 1 ms

Occupied Bandwidth

19.116 MHz

Total Power

17.4 dBm

Transmit Freq Error

25.937 kHz

OBW Power

99.00 %

x dB Bandwidth

21.24 MHz

x dB

-26.00 dB

MSG

STATUS

Frequency

Center Freq

2.462000000 GHz

CF Step

4.000000 MHz

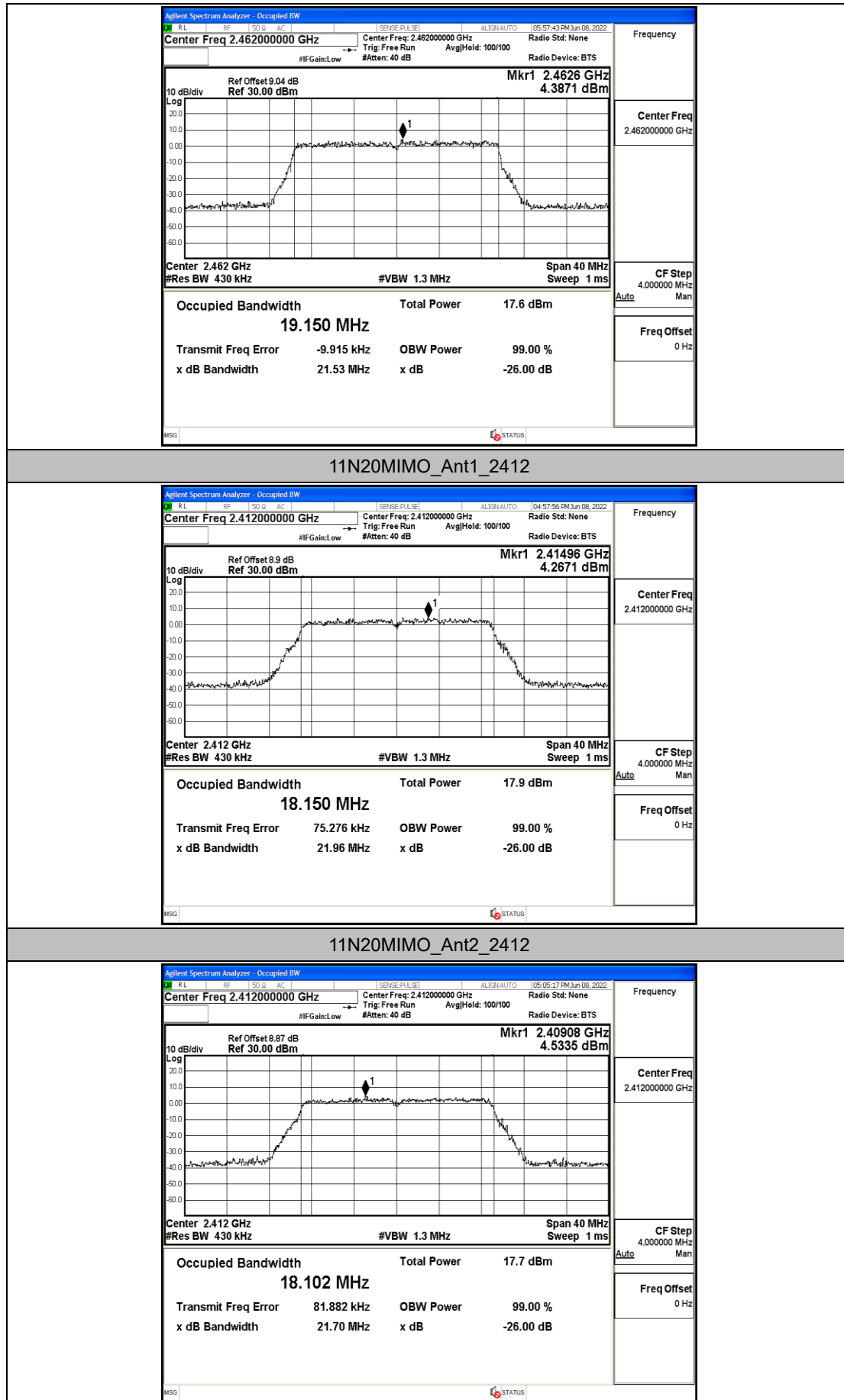
Man

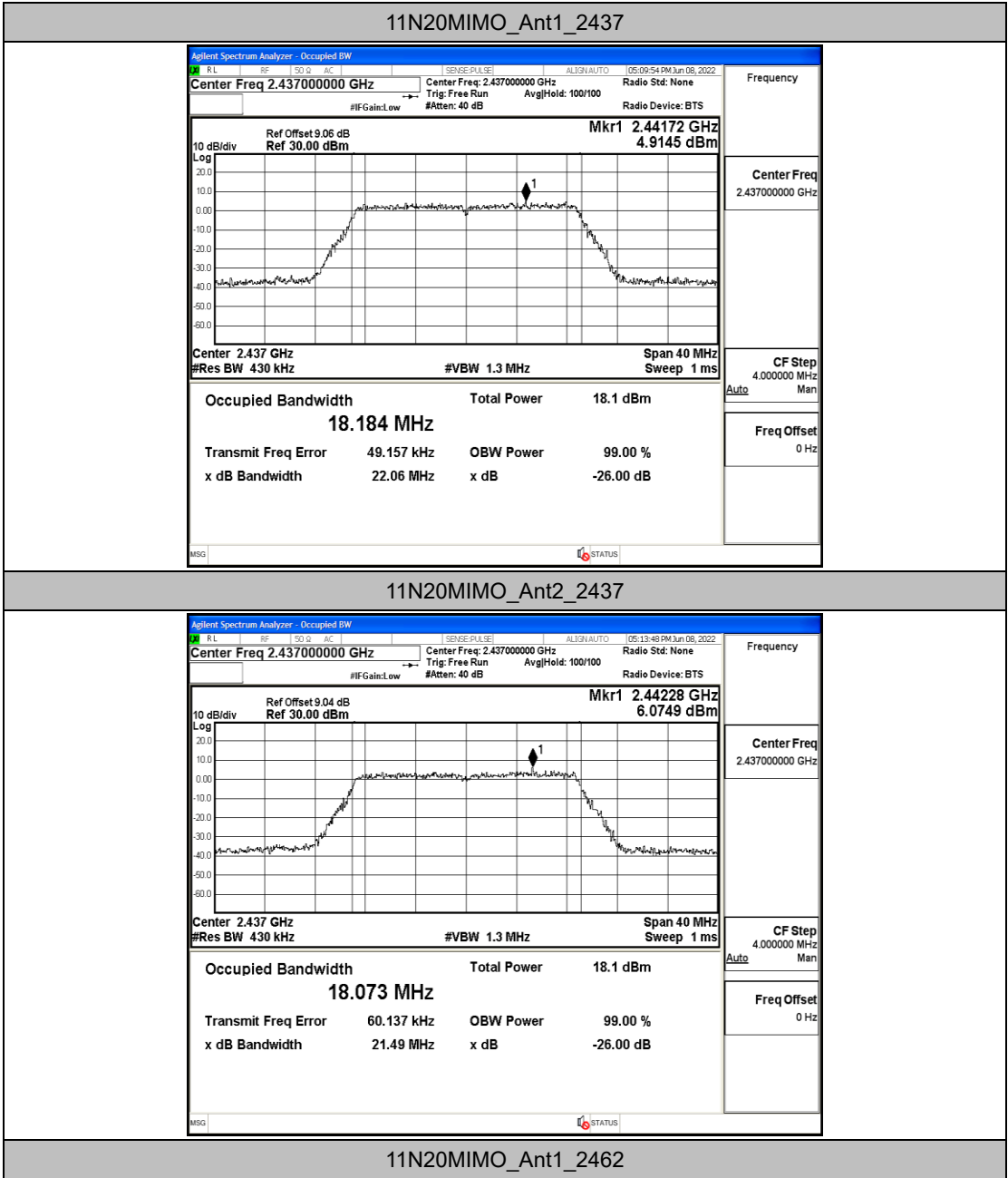
Auto

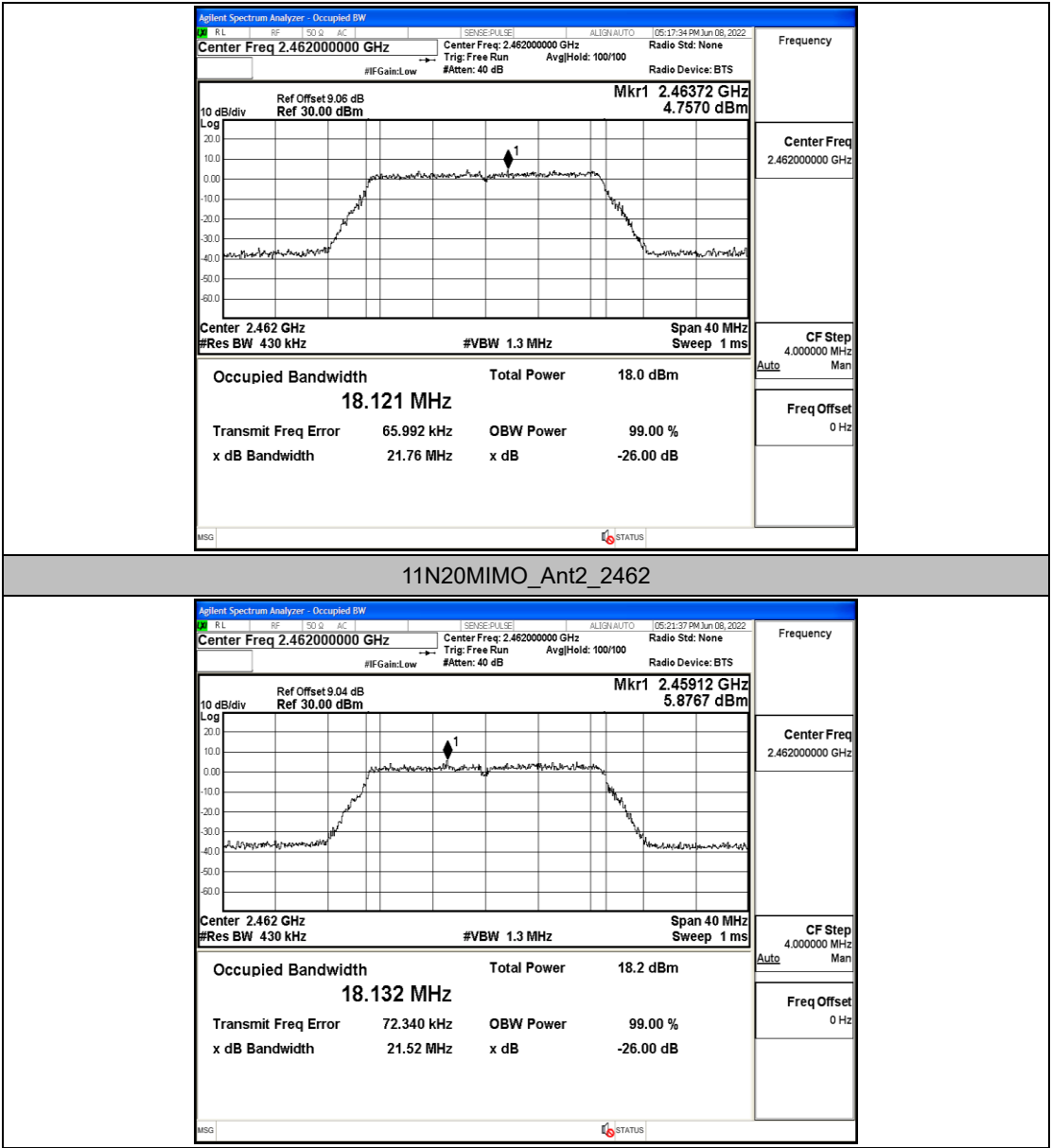
Freq Offset

0 Hz

11AX20SISO_Ant2_2462







Appendix C: Maximum conducted output power

Test Result

TestMode	Antenna	Channel	Power [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	11.92	≤30.00	PASS
	Ant2	2412	11.36	≤30.00	PASS
	Ant1	2437	12.00	≤30.00	PASS
	Ant2	2437	11.56	≤30.00	PASS
	Ant1	2462	11.94	≤30.00	PASS
	Ant2	2462	11.45	≤30.00	PASS
11G	Ant1	2412	11.66	≤30.00	PASS
	Ant2	2412	11.60	≤30.00	PASS
	Ant1	2437	11.79	≤30.00	PASS
	Ant2	2437	11.88	≤30.00	PASS
	Ant1	2462	11.76	≤30.00	PASS
	Ant2	2462	11.89	≤30.00	PASS
11AX20SISO	Ant1	2412	10.51	≤30.00	PASS
	Ant2	2412	10.54	≤30.00	PASS
	total	2412	13.54	≤30.00	PASS
	Ant1	2437	10.96	≤30.00	PASS
	Ant2	2437	11.20	≤30.00	PASS
	total	2412	14.09	≤28.73	PASS
	Ant1	2462	10.62	≤30.00	PASS
	Ant2	2462	10.75	≤30.00	PASS
	total	2462	13.7	≤28.73	PASS
11N20MIMO	Ant1	2412	11.48	≤30.00	PASS
	Ant2	2412	11.58	≤30.00	PASS
	total	2412	14.54	≤28.73	PASS
	Ant1	2437	11.83	≤30.00	PASS
	Ant2	2437	12.00	≤30.00	PASS
	total	2437	14.93	≤28.73	PASS
	Ant1	2462	10.58	≤30.00	PASS
	Ant2	2462	10.99	≤30.00	PASS
	total	2462	13.80	≤28.73	PASS

Note: The Duty Cycle Factor is compensated in the test result.

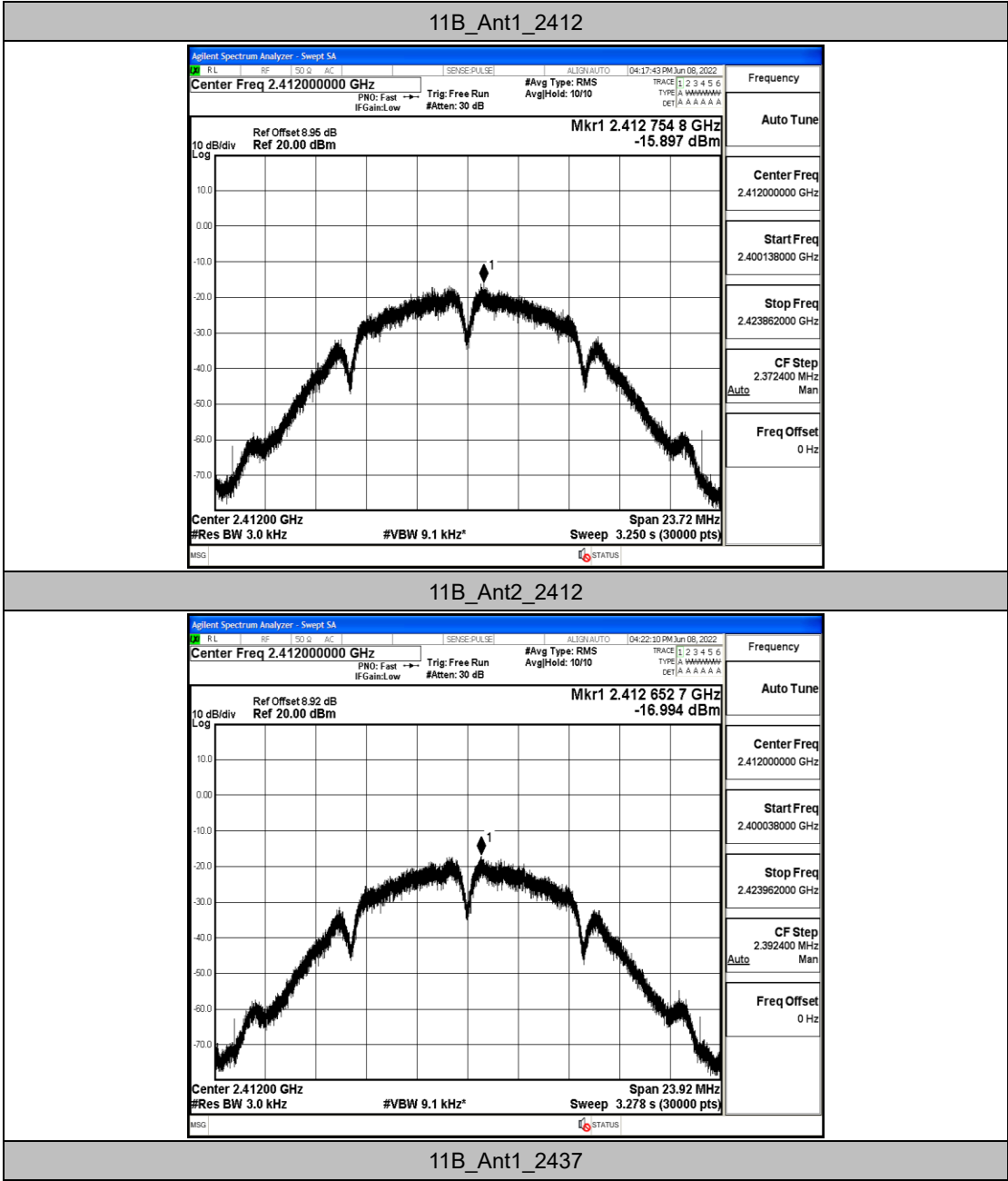
Appendix D: Maximum power spectral density

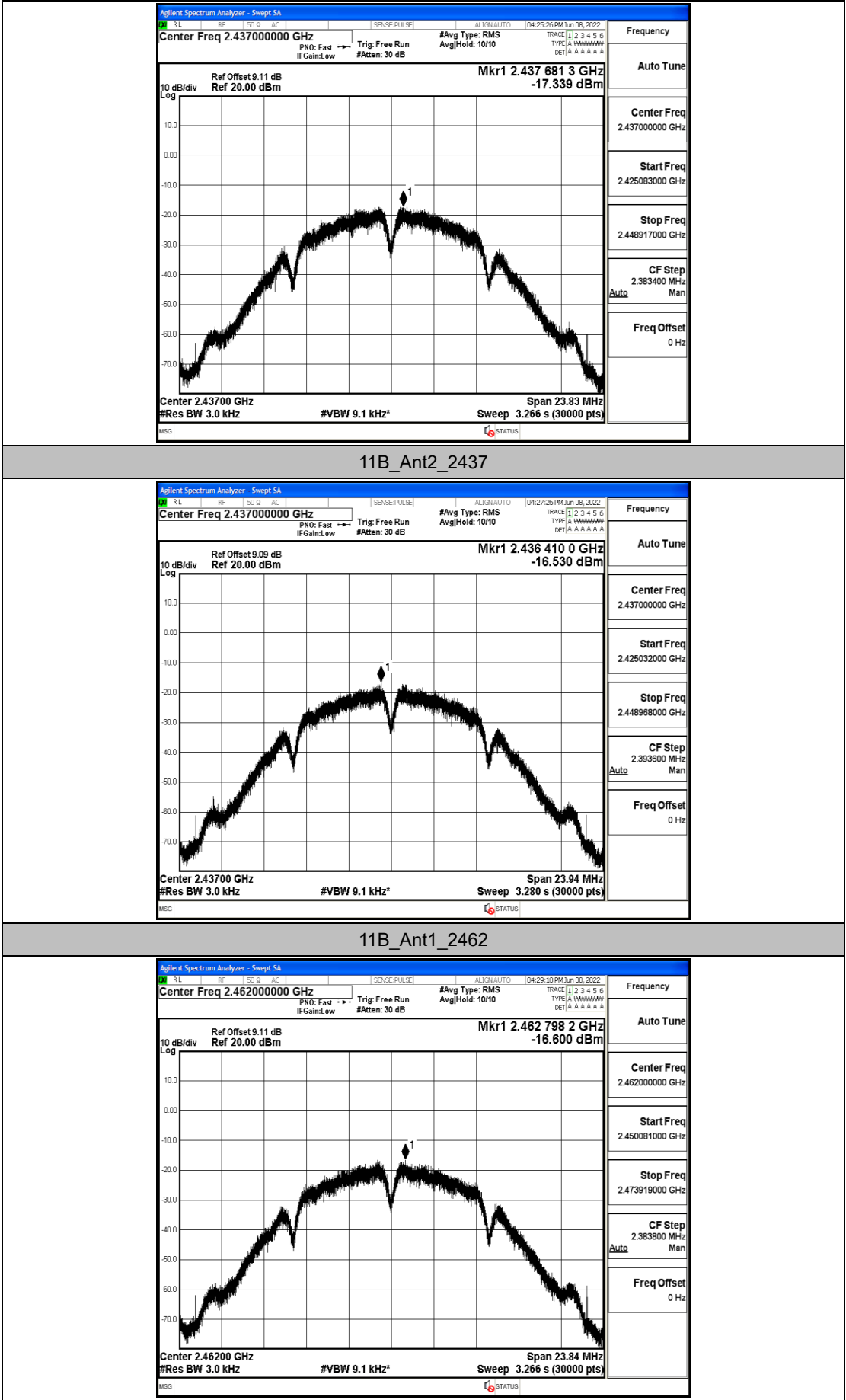
Test Result

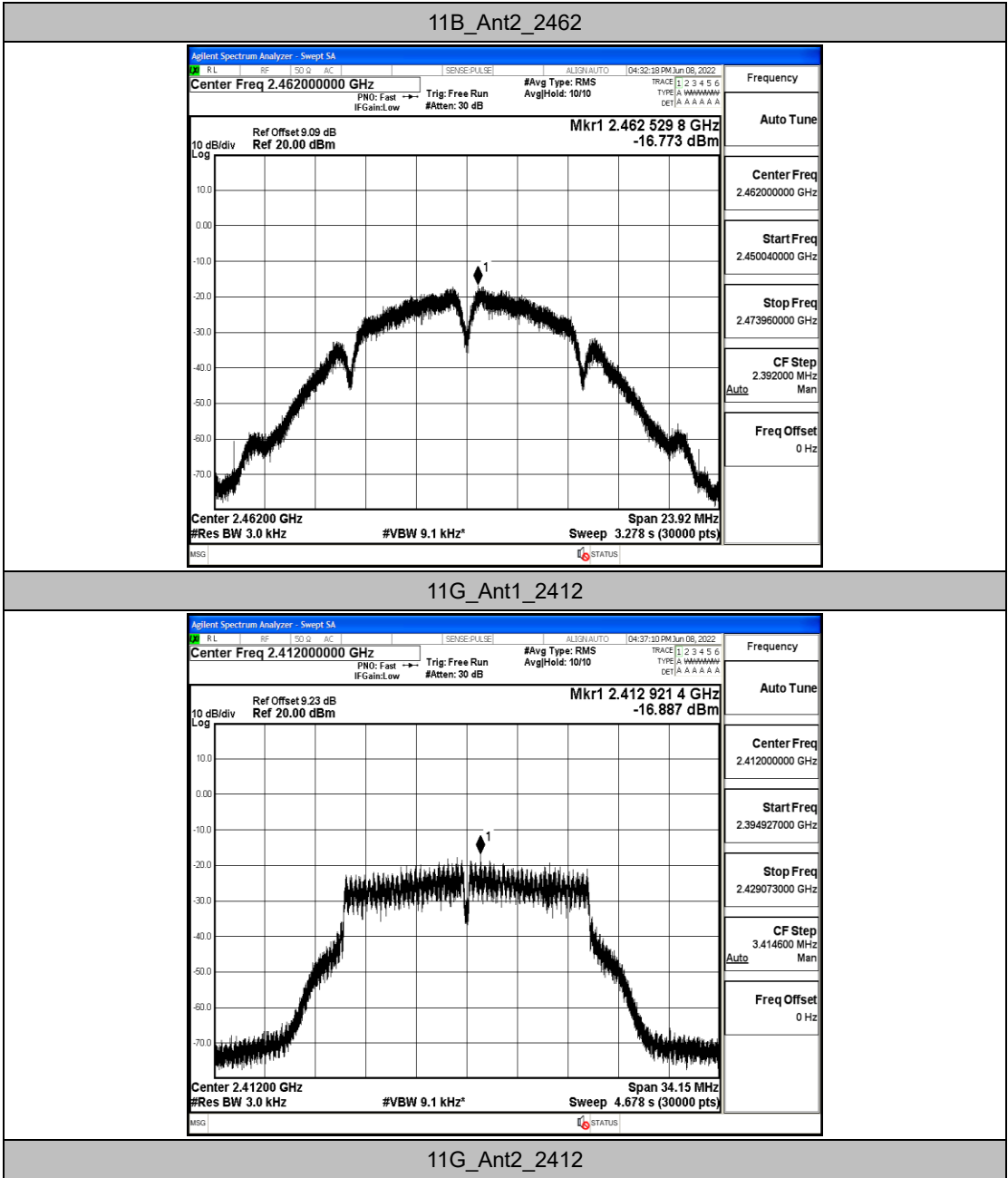
TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-15.9	≤8.00	PASS
	Ant2	2412	-16.99	≤8.00	PASS
	Ant1	2437	-17.34	≤8.00	PASS
	Ant2	2437	-16.53	≤8.00	PASS
	Ant1	2462	-16.6	≤8.00	PASS
	Ant2	2462	-16.77	≤8.00	PASS
11G	Ant1	2412	-16.89	≤8.00	PASS
	Ant2	2412	-17.88	≤8.00	PASS
	Ant1	2437	-17.27	≤8.00	PASS
	Ant2	2437	-18.08	≤8.00	PASS
	Ant1	2462	-17.42	≤8.00	PASS
	Ant2	2462	-17.73	≤8.00	PASS
11AX20SISO	Ant1	2412	-17.16	≤8.00	PASS
	Ant2	2412	-17.52	≤8.00	PASS
	total	2412	-14.33	≤6.73	PASS
	Ant1	2437	-16.37	≤8.00	PASS
	Ant2	2437	-16.01	≤8.00	PASS
	total	2437	-13.18	≤6.73	PASS
	Ant1	2462	-16.98	≤8.00	PASS
	Ant2	2462	-16.92	≤8.00	PASS
	total	2462	-13.94	≤6.73	PASS
11N20MIMO	Ant1	2412	-18.37	≤8.00	PASS
	Ant2	2412	-17.92	≤8.00	PASS
	total	2412	-15.13	≤8.00	PASS
	Ant1	2437	-17.98	≤8.00	PASS
	Ant2	2437	-17.86	≤8.00	PASS
	total	2437	-14.91	≤8.00	PASS
	Ant1	2462	-19.06	≤8.00	PASS
	Ant2	2462	-18.36	≤8.00	PASS
	total	2462	-15.69	≤8.00	PASS

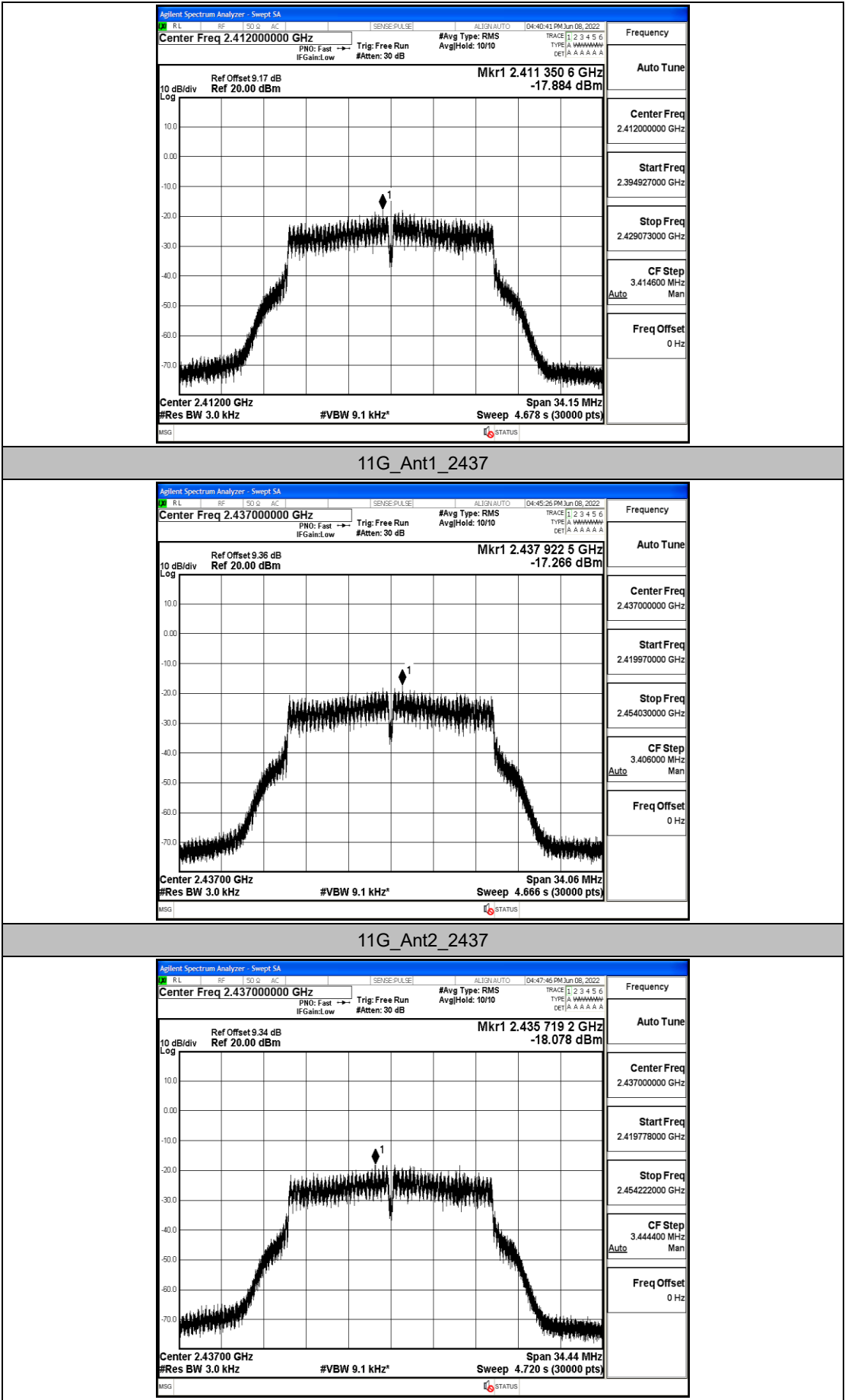
Note: The Duty Cycle Factor is compensated in the test result.

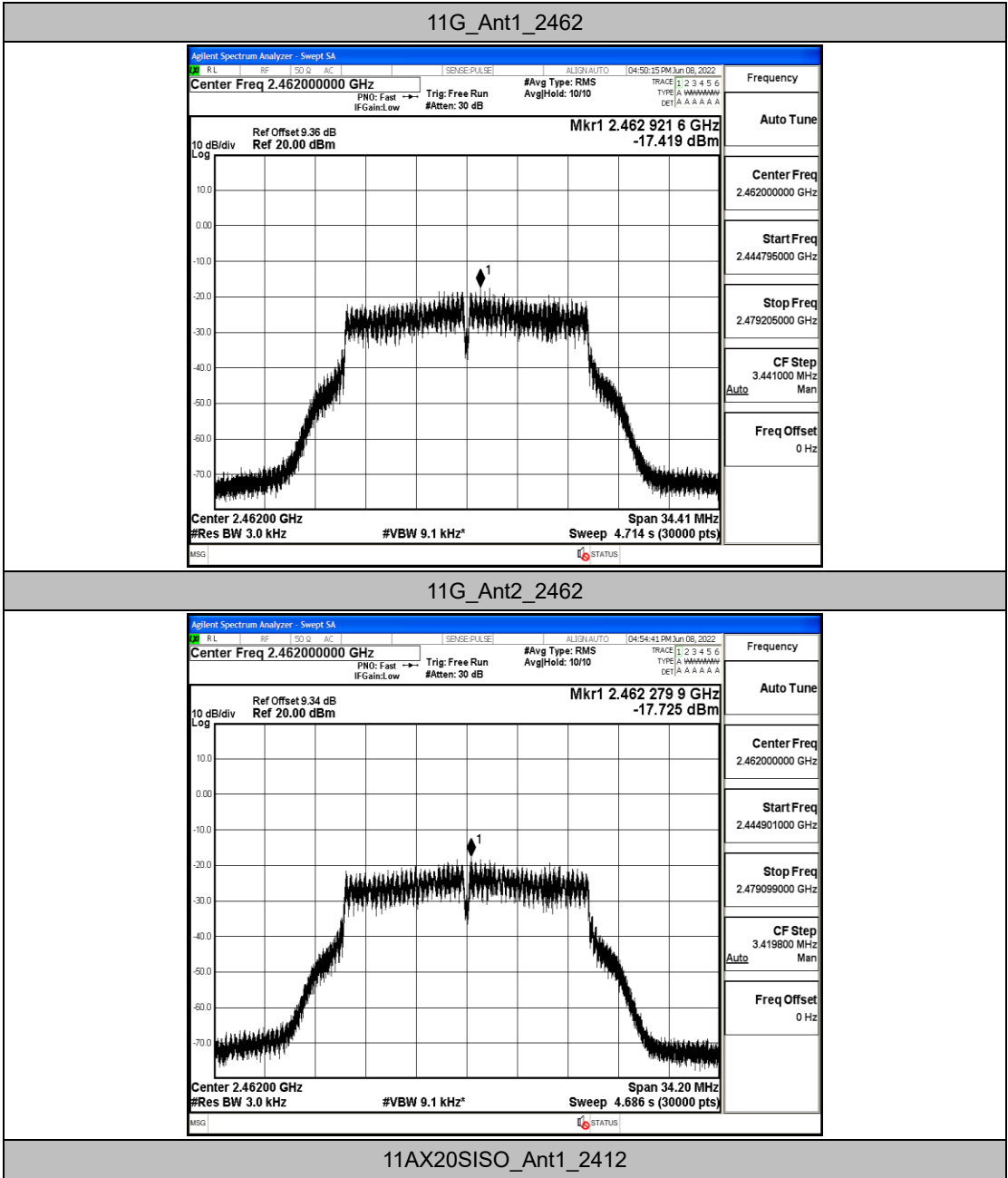
Test Graphs

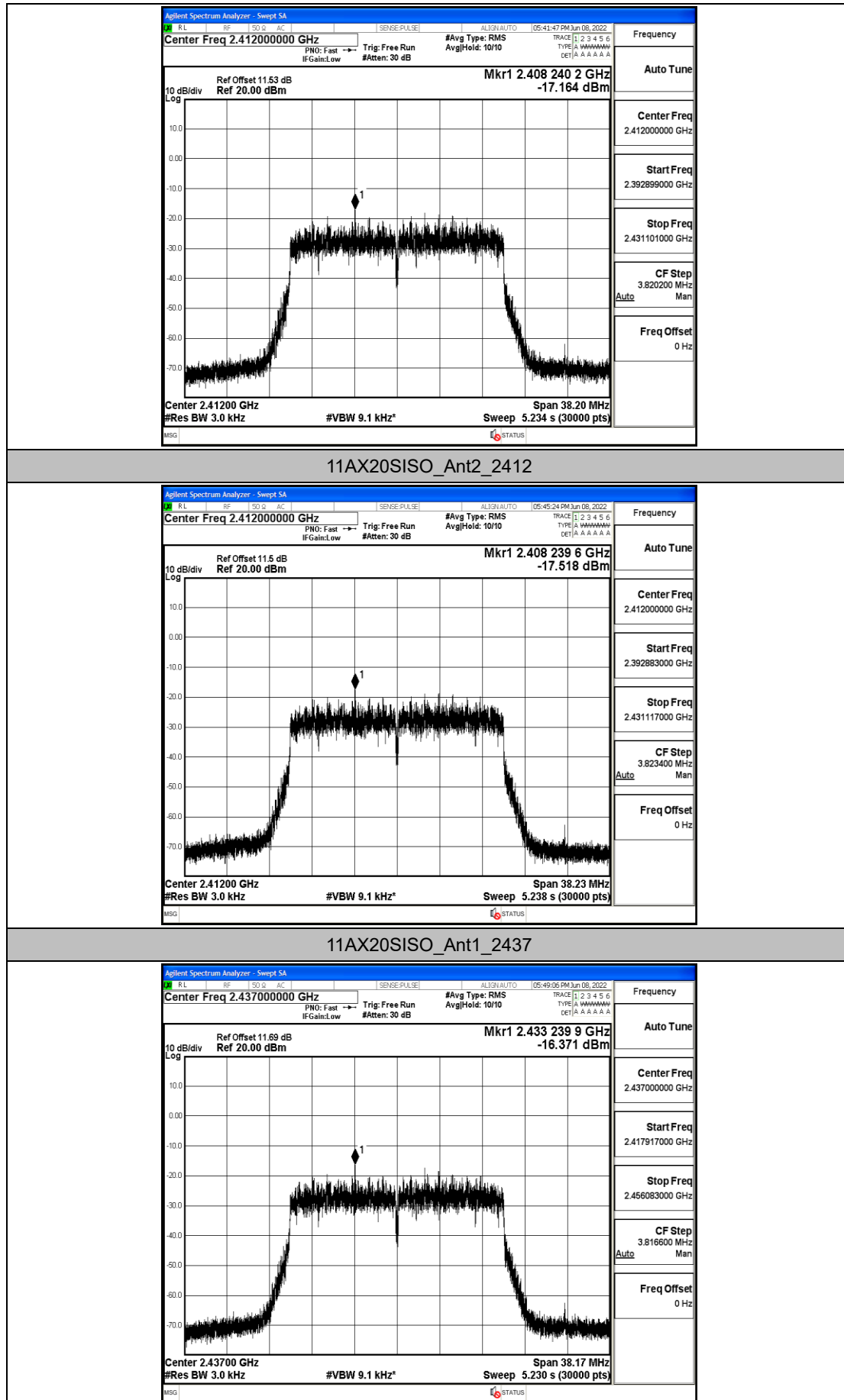


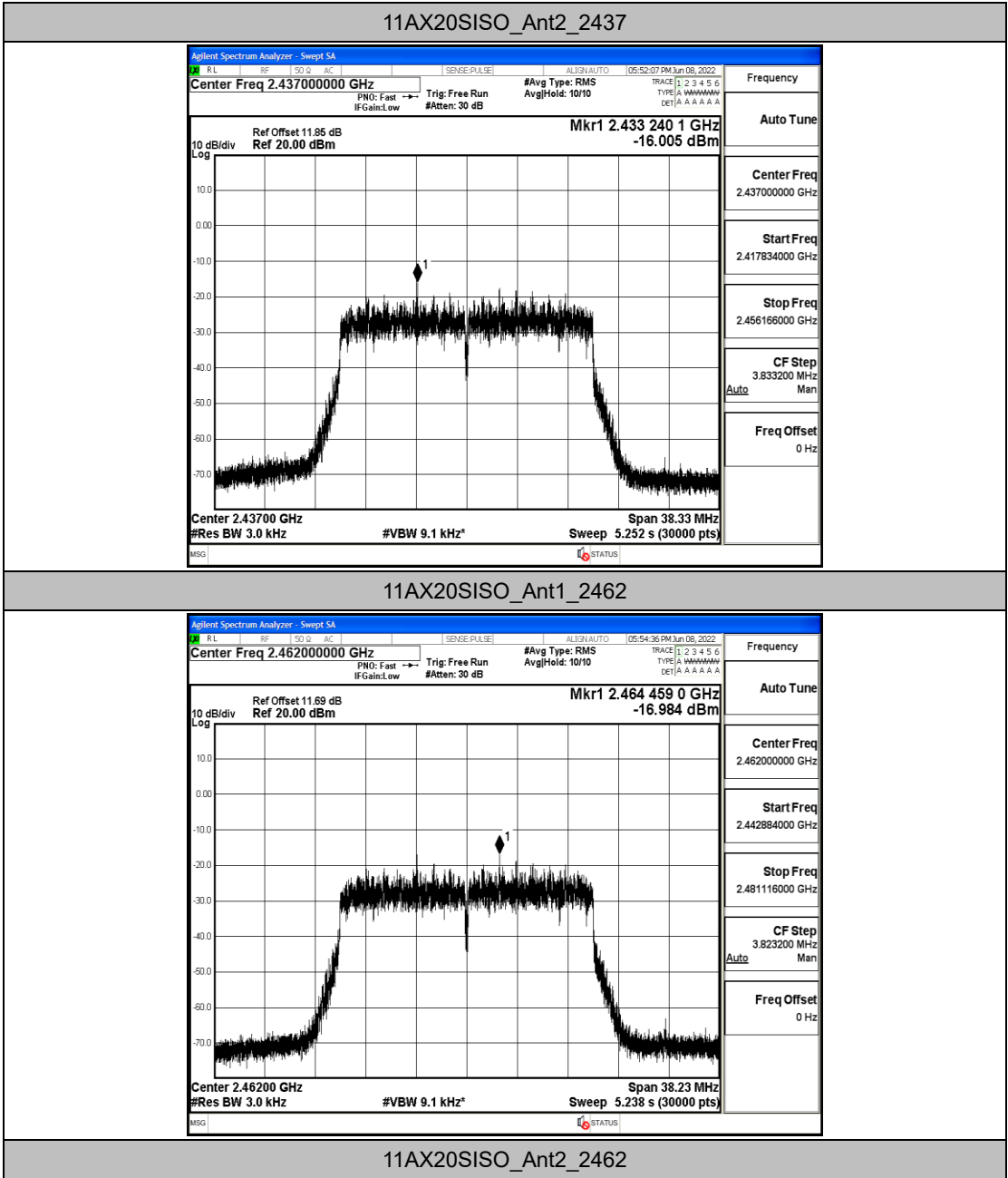


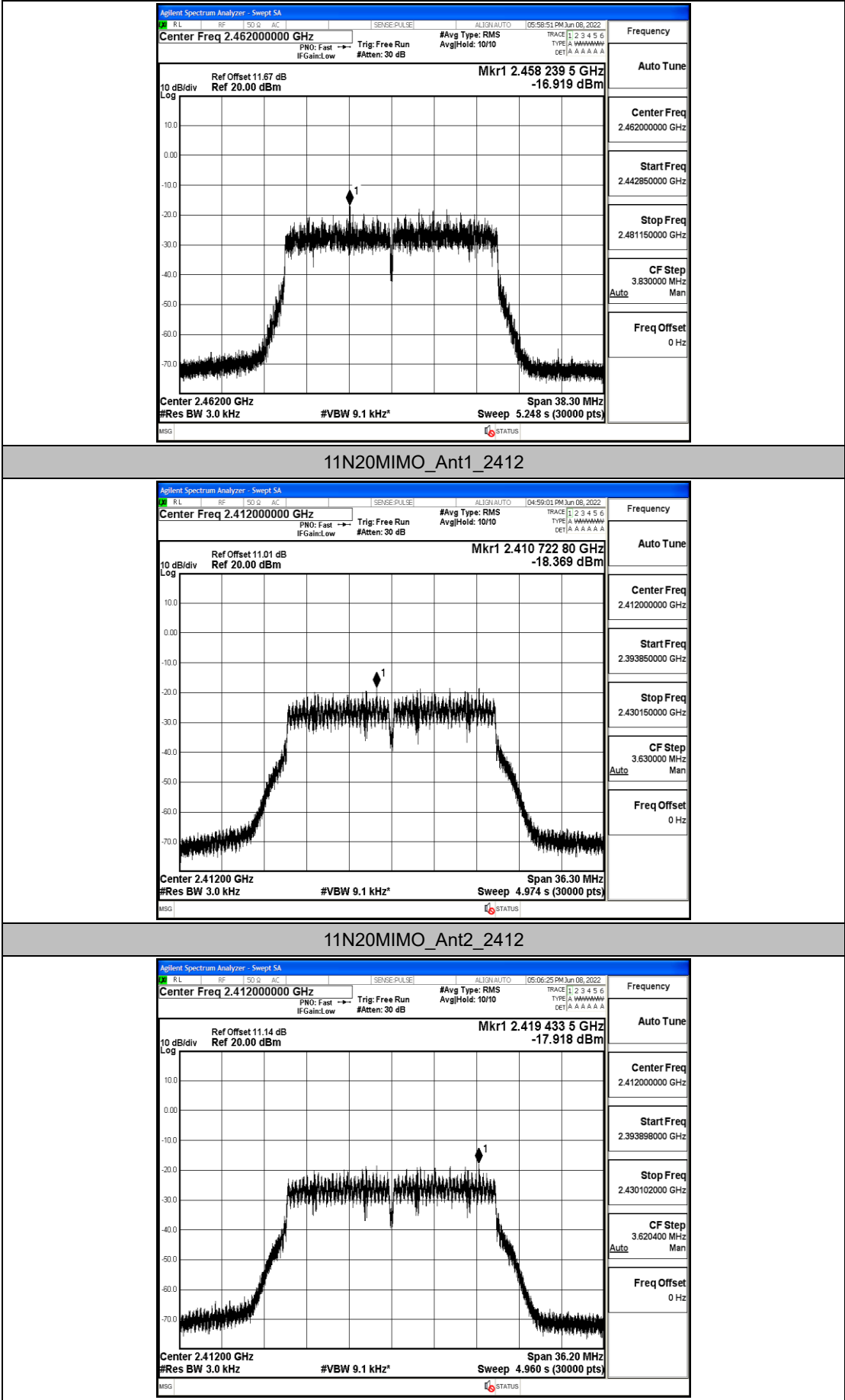


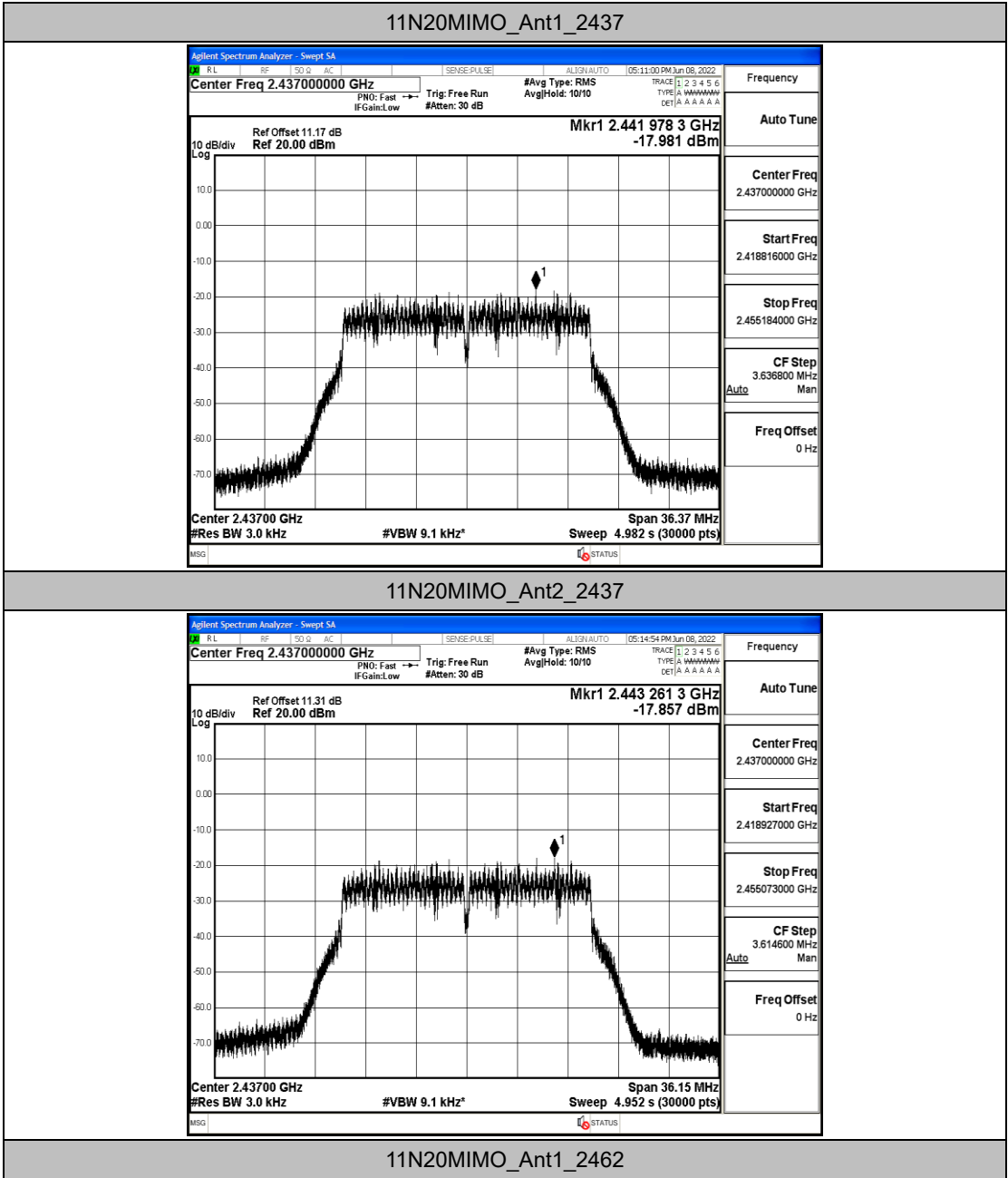


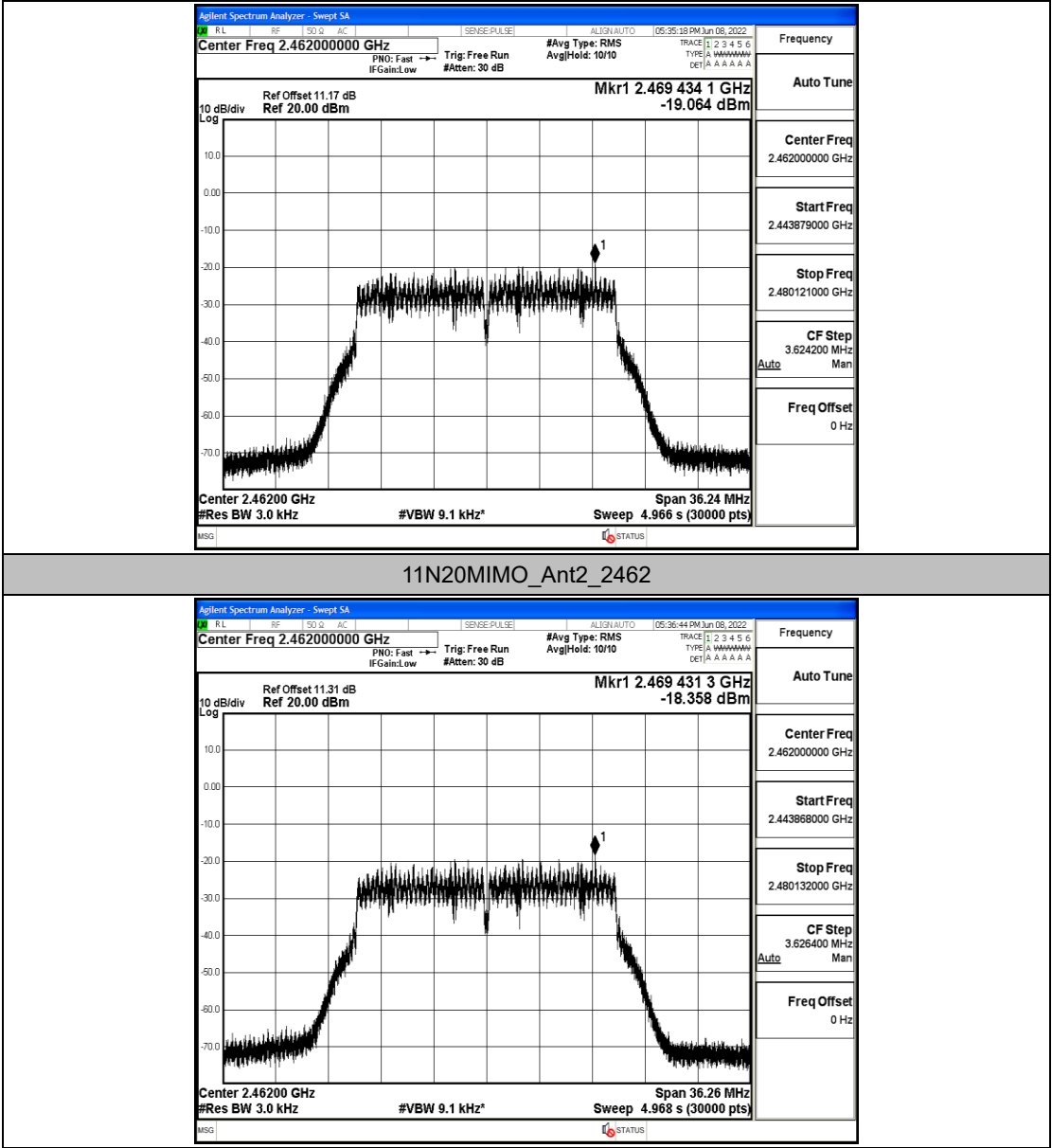










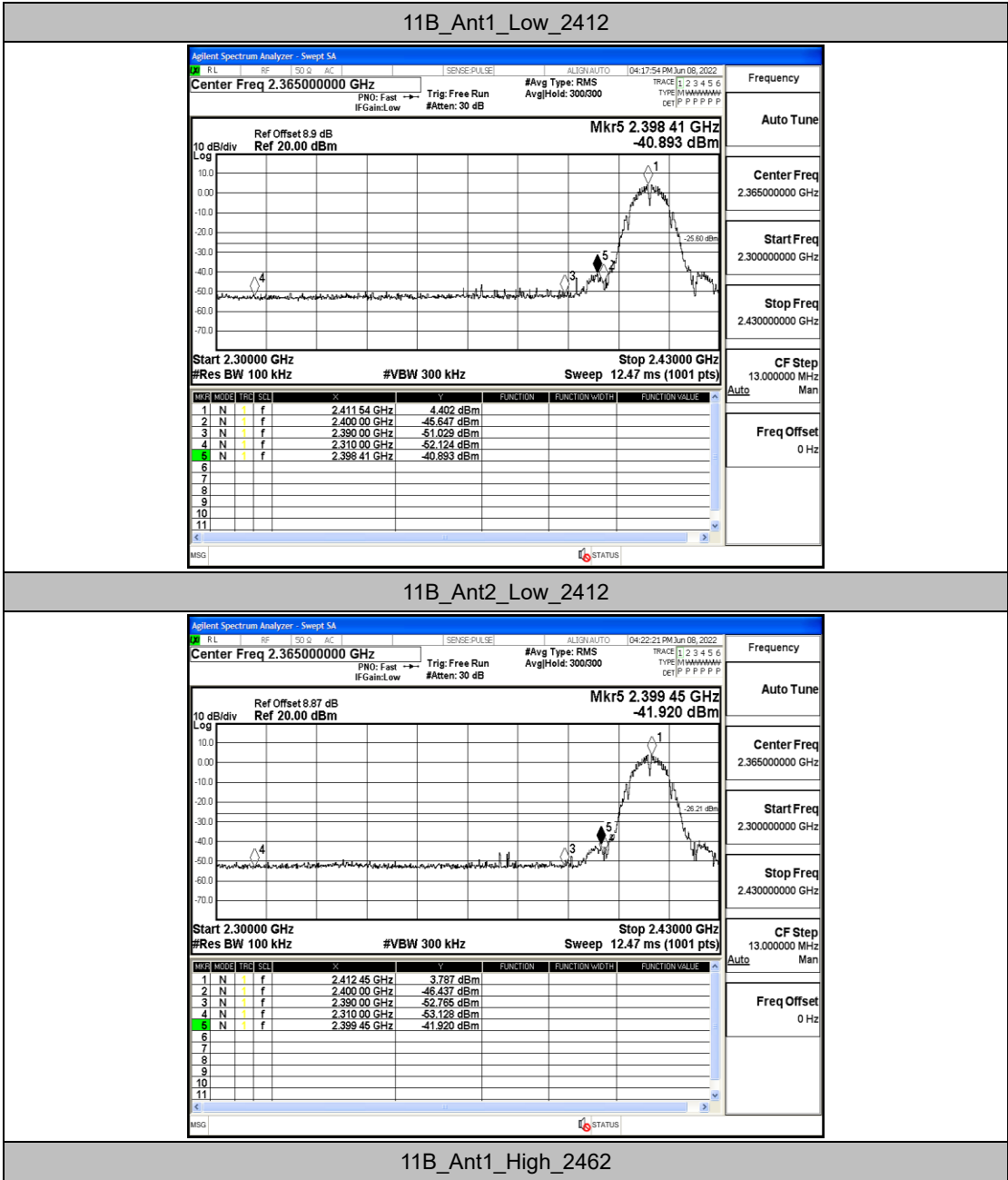


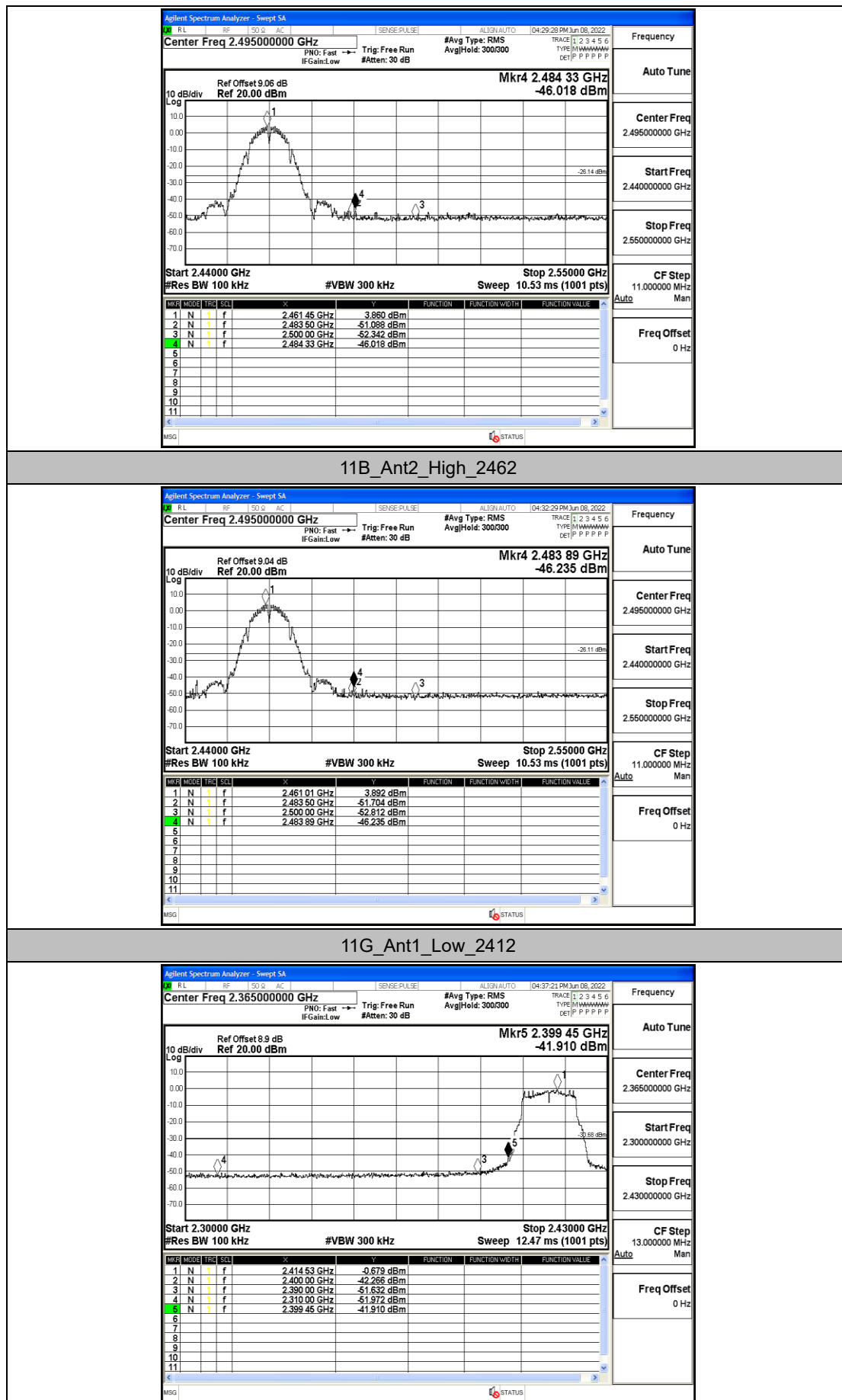
Appendix E: Band edge measurements

Test Result

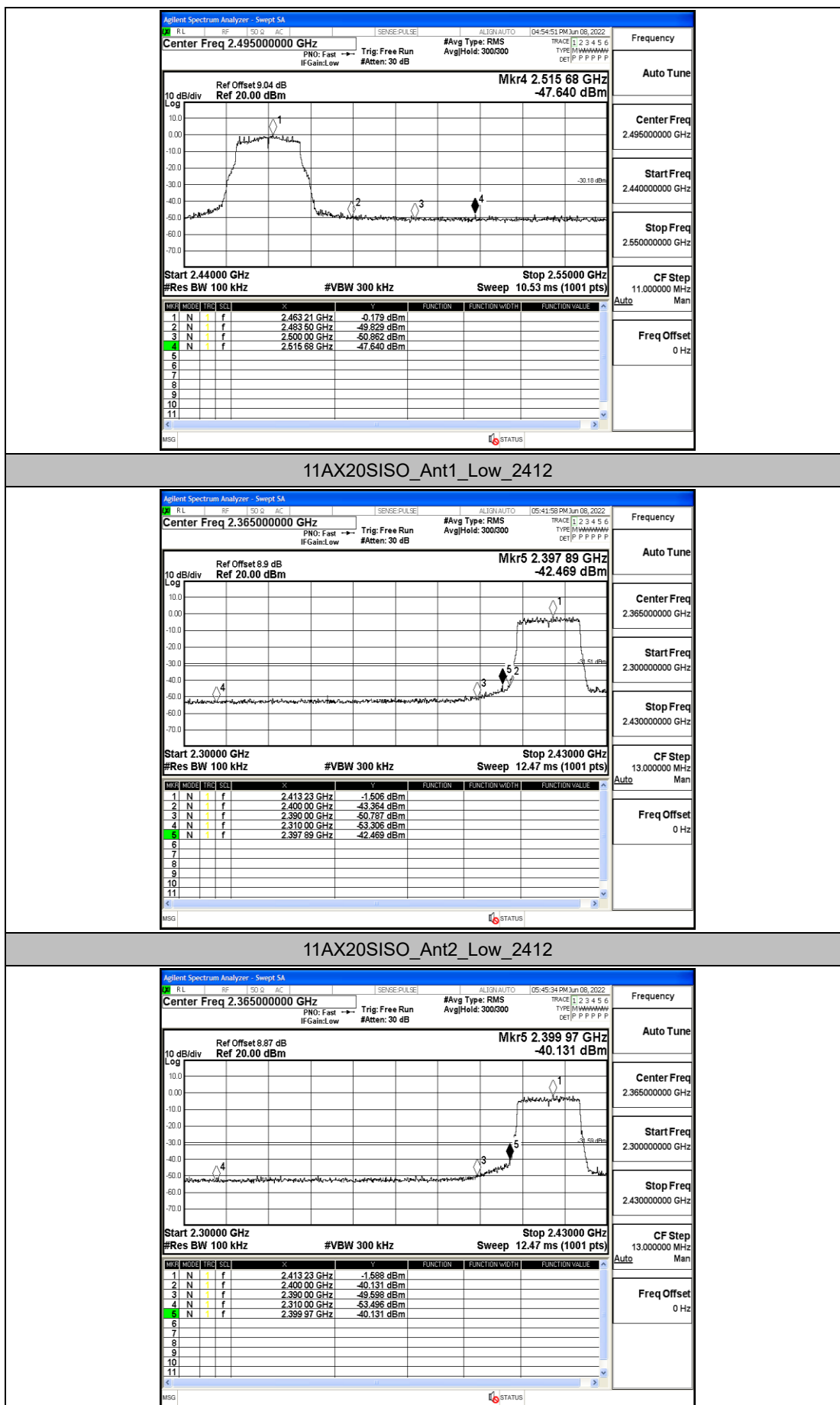
TestMode	Antenna	Channel	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	4.40	-40.89	≤-25.6	PASS
	Ant2	Low	2412	3.79	-41.92	≤-26.21	PASS
	Ant1	High	2462	3.86	-46.02	≤-26.14	PASS
	Ant2	High	2462	3.89	-46.24	≤-26.11	PASS
11G	Ant1	Low	2412	-0.68	-41.91	≤-30.68	PASS
	Ant2	Low	2412	-0.26	-42.52	≤-30.26	PASS
	Ant1	High	2462	-0.07	-47.04	≤-30.07	PASS
	Ant2	High	2462	-0.18	-47.64	≤-30.18	PASS
11AX20SISO	Ant1	Low	2412	-1.51	-42.47	≤-31.51	PASS
	Ant2	Low	2412	-1.59	-40.13	≤-31.59	PASS
	Ant1	High	2462	-1.46	-47.87	≤-31.46	PASS
	Ant2	High	2462	-1.26	-48.7	≤-31.26	PASS
11N20MIMO	Ant1	Low	2412	-0.41	-41.05	≤-30.41	PASS
	Ant2	Low	2412	-0.20	-40.99	≤-30.2	PASS
	Ant1	High	2462	-0.23	-48.12	≤-30.23	PASS
	Ant2	High	2462	0.09	-47.31	≤-29.91	PASS

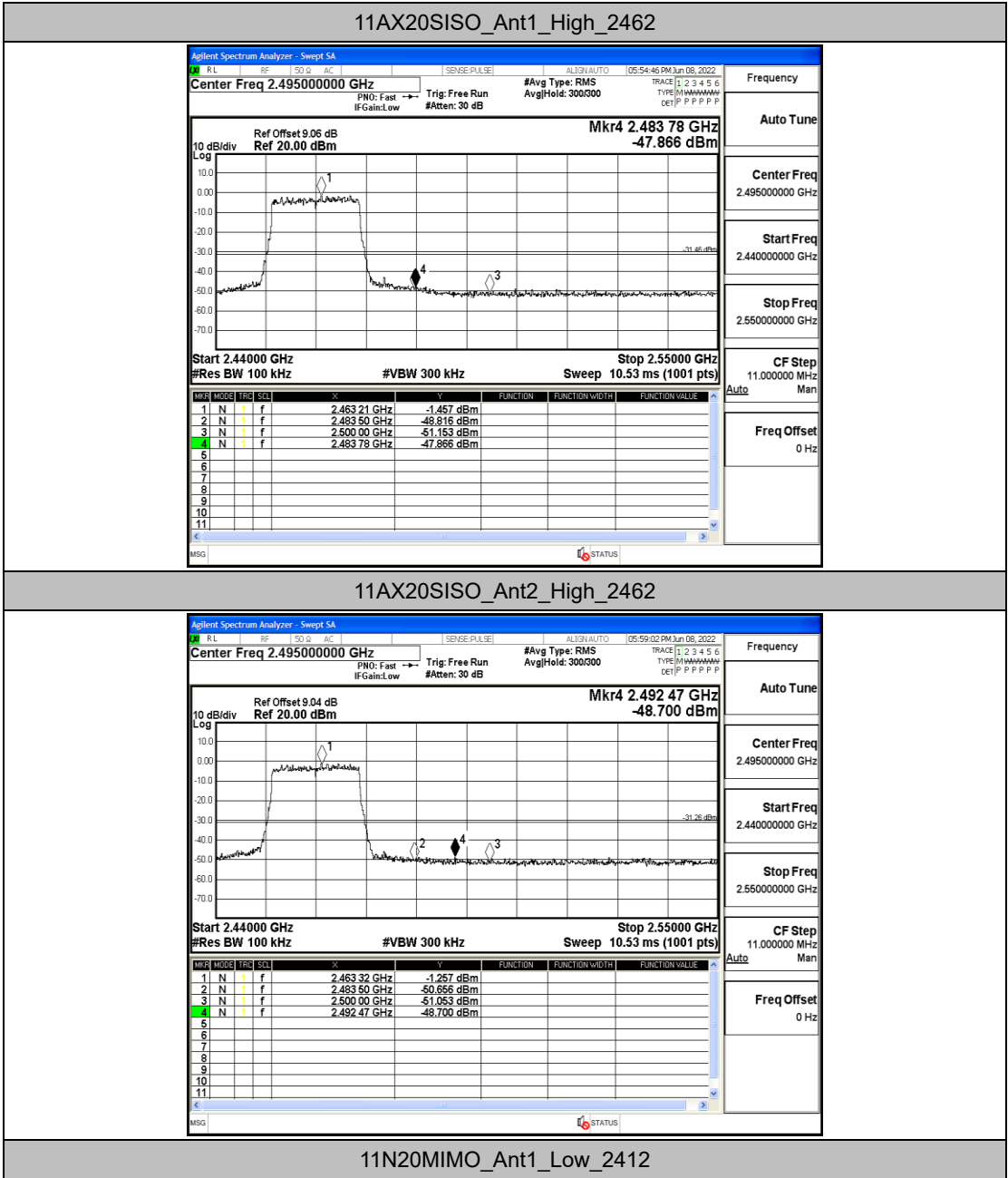
Test Graphs

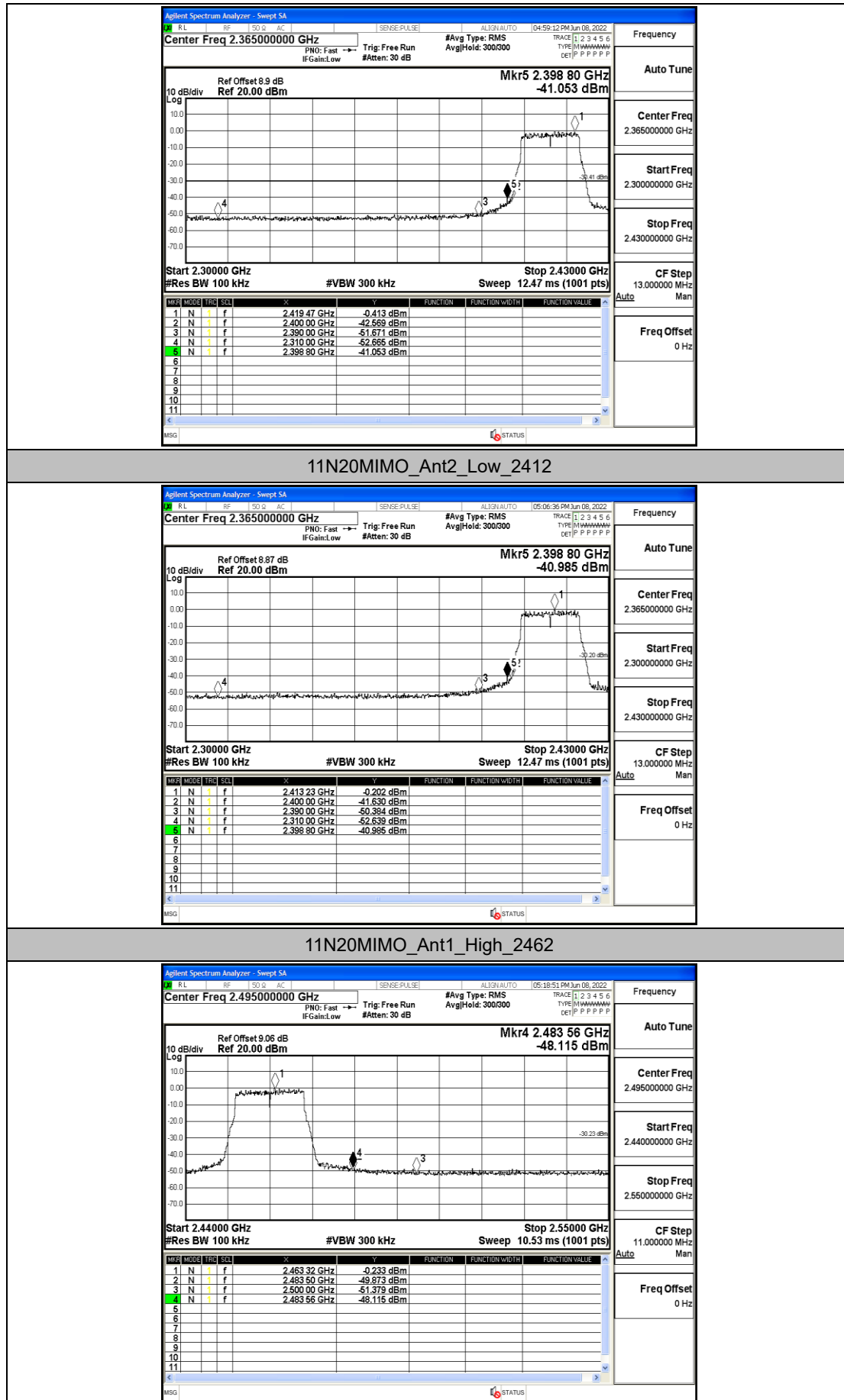


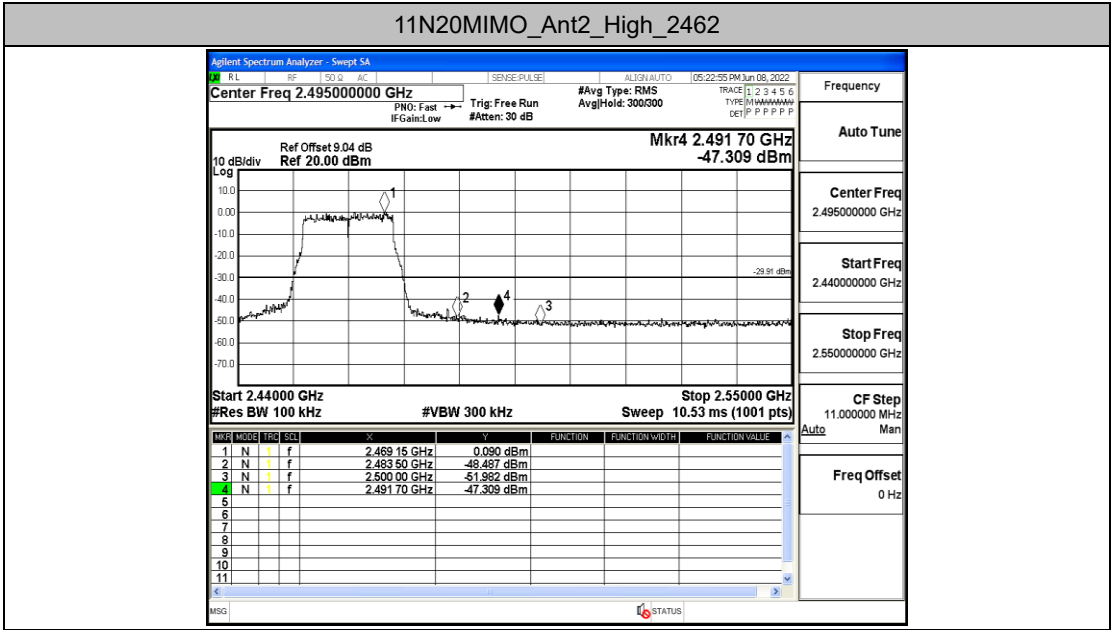












Appendix F: Conducted Spurious Emission

Test Result

TestMode	Antenna	Channel	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	Reference	3.02	3.02	---	PASS
			30~1000	3.02	-62.17	≤-26.98	PASS
			1000~26500	3.02	-51.82	≤-26.98	PASS
	Ant2	2412	Reference	1.37	1.37	---	PASS
			30~1000	1.37	-61.85	≤-28.63	PASS
			1000~26500	1.37	-51.87	≤-28.63	PASS
	Ant1	2437	Reference	3.27	3.27	---	PASS
			30~1000	3.27	-60.84	≤-26.73	PASS
			1000~26500	3.27	-50.04	≤-26.73	PASS
	Ant2	2437	Reference	2.90	2.90	---	PASS
			30~1000	2.90	-61.88	≤-27.1	PASS
			1000~26500	2.90	-50.96	≤-27.1	PASS
	Ant1	2462	Reference	2.95	2.95	---	PASS
			30~1000	2.95	-61.76	≤-27.05	PASS
			1000~26500	2.95	-51.49	≤-27.05	PASS
	Ant2	2462	Reference	2.48	2.48	---	PASS
			30~1000	2.48	-61.45	≤-27.52	PASS
			1000~26500	2.48	-51.44	≤-27.52	PASS
11G	Ant1	2412	Reference	-1.84	-1.84	---	PASS
			30~1000	-1.84	-61.71	≤-31.84	PASS
			1000~26500	-1.84	-51.54	≤-31.84	PASS
	Ant2	2412	Reference	-1.50	-1.50	---	PASS
			30~1000	-1.50	-61.36	≤-31.5	PASS
			1000~26500	-1.50	-51.53	≤-31.5	PASS
	Ant1	2437	Reference	-1.75	-1.75	---	PASS
			30~1000	-1.75	-60.98	≤-31.75	PASS
			1000~26500	-1.75	-50.74	≤-31.75	PASS
	Ant2	2437	Reference	-2.44	-2.44	---	PASS
			30~1000	-2.44	-61.08	≤-32.44	PASS
			1000~26500	-2.44	-51.4	≤-32.44	PASS
	Ant1	2462	Reference	-1.35	-1.35	---	PASS
			30~1000	-1.35	-61.29	≤-31.35	PASS
			1000~26500	-1.35	-51.93	≤-31.35	PASS
	Ant2	2462	Reference	-1.62	-1.62	---	PASS
			30~1000	-1.62	-61.82	≤-31.62	PASS
			1000~26500	-1.62	-52.52	≤-31.62	PASS
11AX20SISO	Ant1	2412	Reference	-1.56	-1.56	---	PASS

			30~1000	-1.56	-61.39	≤ -31.56	PASS
			1000~26500	-1.56	-50.77	≤ -31.56	PASS
			Reference	-3.03	-3.03	---	PASS
	Ant2	2412	30~1000	-3.03	-61.39	≤ -33.03	PASS
			1000~26500	-3.03	-50.86	≤ -33.03	PASS
			Reference	-1.37	-1.37	---	PASS
	Ant1	2437	30~1000	-1.37	-61.64	≤ -31.37	PASS
			1000~26500	-1.37	-51.28	≤ -31.37	PASS
			Reference	-1.64	-1.64	---	PASS
	Ant2	2437	30~1000	-1.64	-60.3	≤ -31.64	PASS
			1000~26500	-1.64	-50.97	≤ -31.64	PASS
			Reference	-2.54	-2.54	---	PASS
	Ant1	2462	30~1000	-2.54	-61.09	≤ -32.54	PASS
			1000~26500	-2.54	-50.68	≤ -32.54	PASS
			Reference	-1.97	-1.97	---	PASS
	Ant2	2462	30~1000	-1.97	-60.53	≤ -31.97	PASS
			1000~26500	-1.97	-50.18	≤ -31.97	PASS
			Reference	-0.41	-0.41	---	PASS
11N20MIMO	Ant1	2412	30~1000	-0.41	-61.53	≤ -30.41	PASS
			1000~26500	-0.41	-52.94	≤ -30.41	PASS
			Reference	-0.60	-0.60	---	PASS
	Ant2	2412	30~1000	-0.60	-61.71	≤ -30.6	PASS
			1000~26500	-0.60	-51.68	≤ -30.6	PASS
			Reference	-0.13	-0.13	---	PASS
	Ant1	2437	30~1000	-0.13	-61.57	≤ -30.13	PASS
			1000~26500	-0.13	-51.34	≤ -30.13	PASS
			Reference	-0.19	-0.19	---	PASS
	Ant2	2437	30~1000	-0.19	-61.57	≤ -30.19	PASS
			1000~26500	-0.19	-51.77	≤ -30.19	PASS
			Reference	-0.62	-0.62	---	PASS
	Ant1	2462	30~1000	-0.62	-61.18	≤ -30.62	PASS
			1000~26500	-0.62	-51.7	≤ -30.62	PASS
			Reference	-0.40	-0.40	---	PASS
	Ant2	2462	30~1000	-0.40	-61.8	≤ -30.4	PASS
			1000~26500	-0.40	-52.03	≤ -30.4	PASS
			Reference	-0.40	-0.40	---	PASS

Test Graphs

