



Appendix A

RF Test Data for 2.4G WIFI (Conducted Measurement)

Product Name: Interactive smart board

Trade Mark: HBONY

Test Model: HBY-H550P

Environmental Conditions

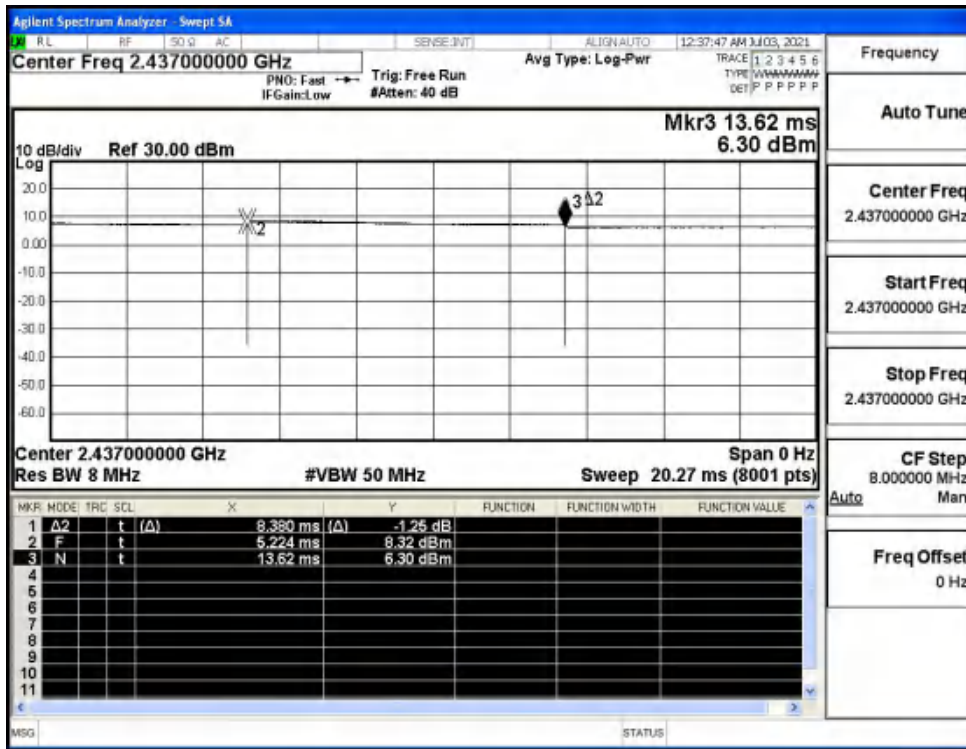
Temperature:	25 ° C
Relative Humidity:	50%
ATM Pressure:	100.0 kPa
Test Engineer:	Jay Li
Supervised by:	Li Huan

A.1 Duty Cycle

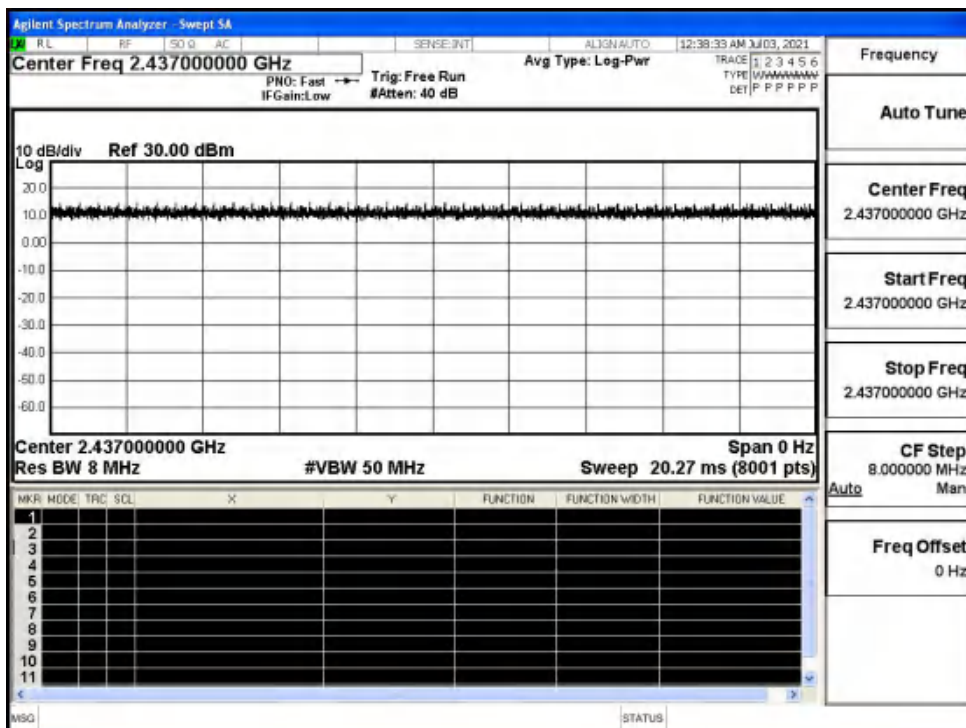
Test Mode	Test Channel	Ant	Duty Cycle[%]	Verdict
11B	2437	Ant1	99.79	PASS
11G	2437	Ant1	98.56	PASS
11N20SISO	2437	Ant1	98.65	PASS
11N40SISO	2437	Ant1	98.07	PASS



Duty Cycle_11B_2437_Ant1

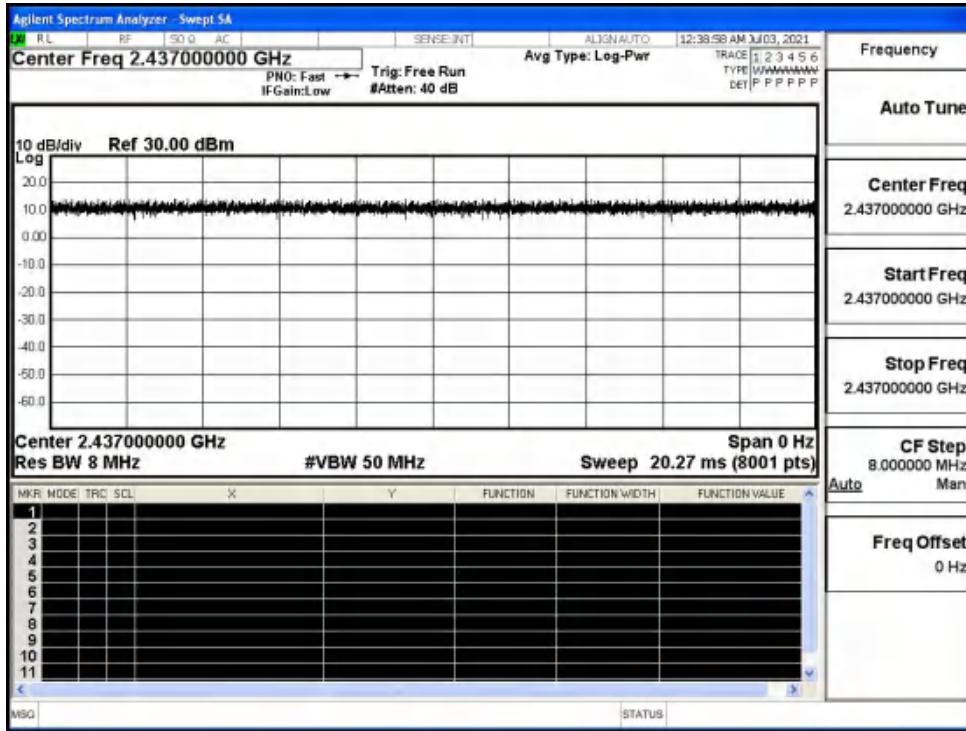


Duty Cycle_11G_2437_Ant1

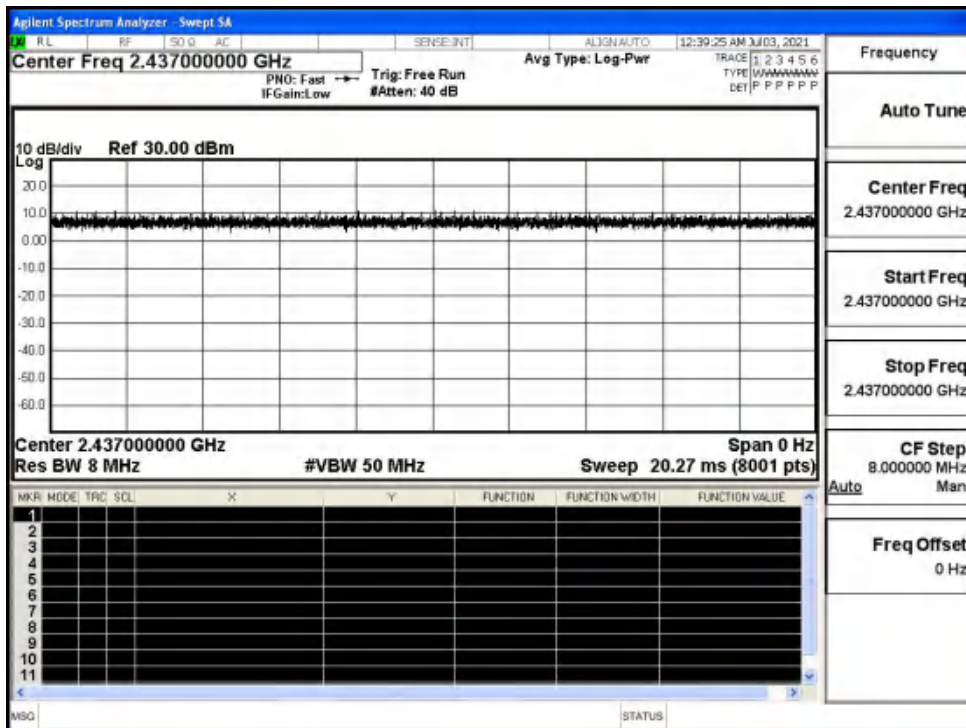




Duty Cycle_11N20SISO_2437_Ant1



Duty Cycle_11N40SISO_2437_Ant1





A.2 Maximum Conducted Output Power

Mode	Channel	Meas.Level [dBm]	Limit [dBm]	Verdict
11B	LCH	13.37	30	PASS
	MCH	14.44	30	PASS
	HCH	15.09	30	PASS
11G	LCH	13.57	30	PASS
	MCH	14.23	30	PASS
	HCH	15.87	30	PASS
11N20SISO	LCH	13.03	30	PASS
	MCH	14.49	30	PASS
	HCH	15.17	30	PASS
11N40SISO	LCH	14.11	30	PASS
	MCH	14.87	30	PASS
	HCH	15.5	30	PASS

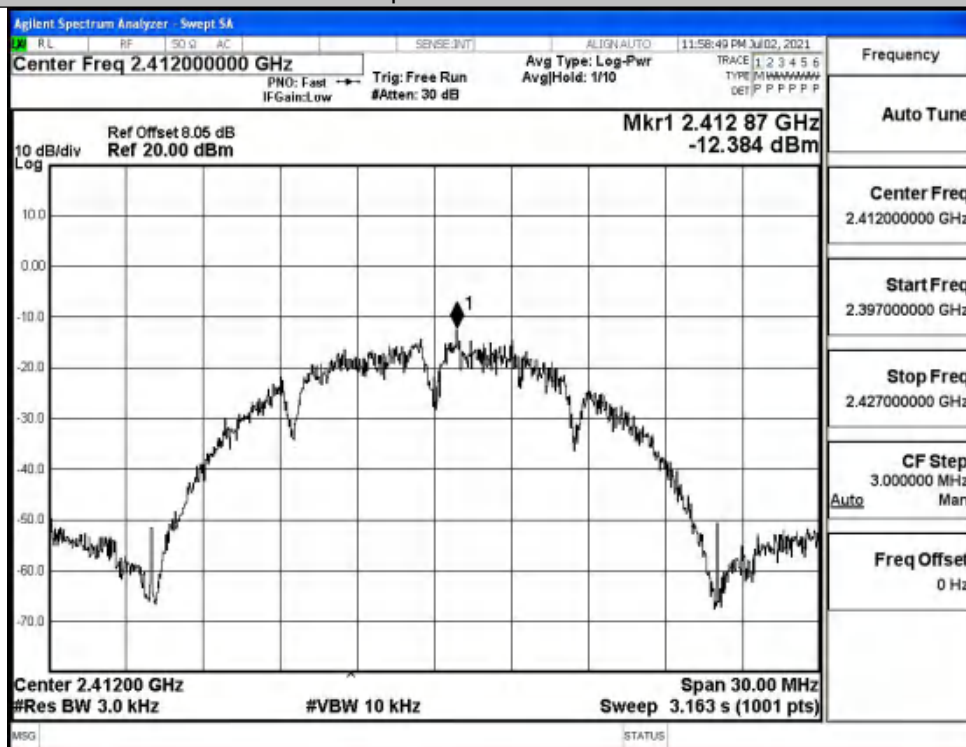


A.3 Maximum Power Spectral Density

Mode	Channel	Meas.Level [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
11B	LCH	-12.384	8	PASS
	MCH	-13.311	8	PASS
	HCH	-12.575	8	PASS
11G	LCH	-19.501	8	PASS
	MCH	-18.072	8	PASS
	HCH	-17.226	8	PASS
11N20SISO	LCH	-18.264	8	PASS
	MCH	-17.232	8	PASS
	HCH	-15.968	8	PASS
11N40SISO	LCH	-21.685	8	PASS
	MCH	-20.408	8	PASS
	HCH	-19.593	8	PASS

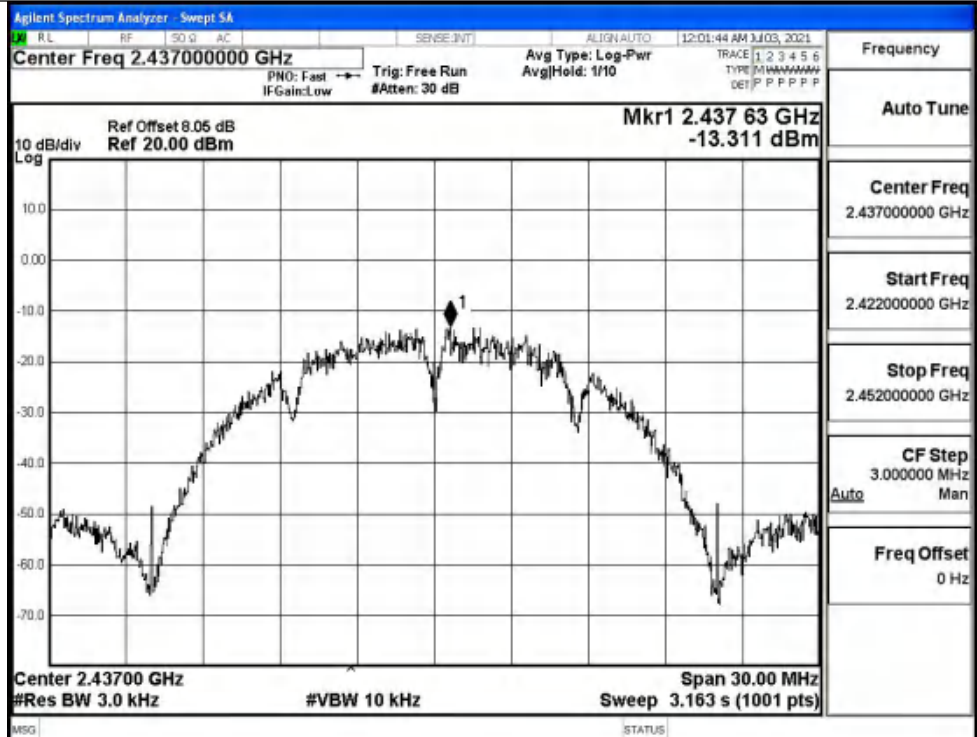
Test Graphs

11B/LCH

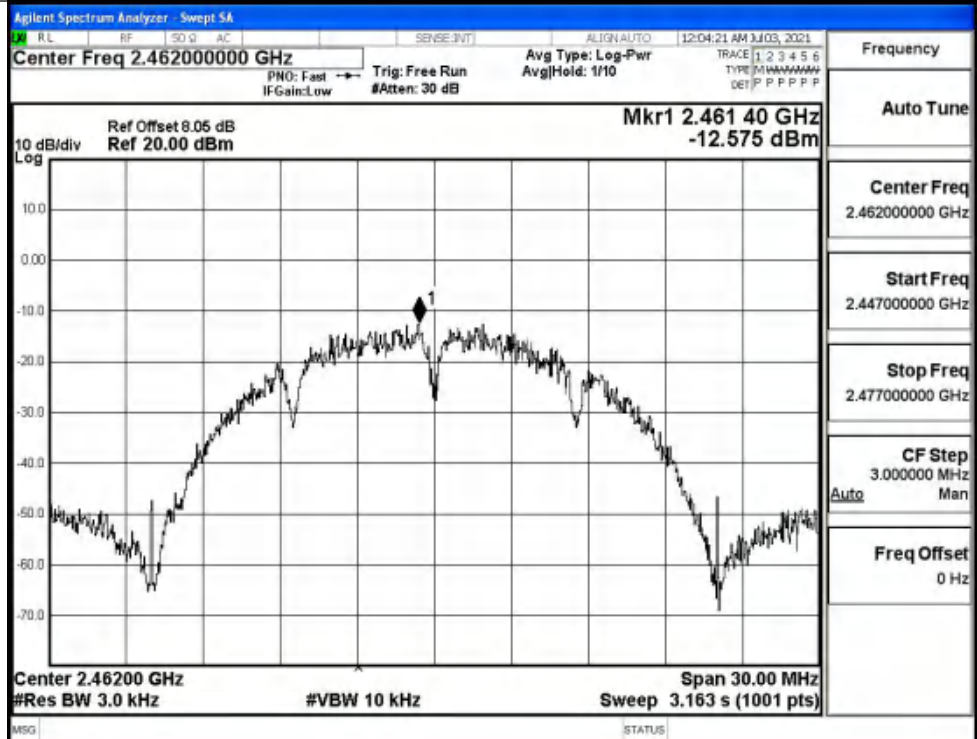




11B/MCH

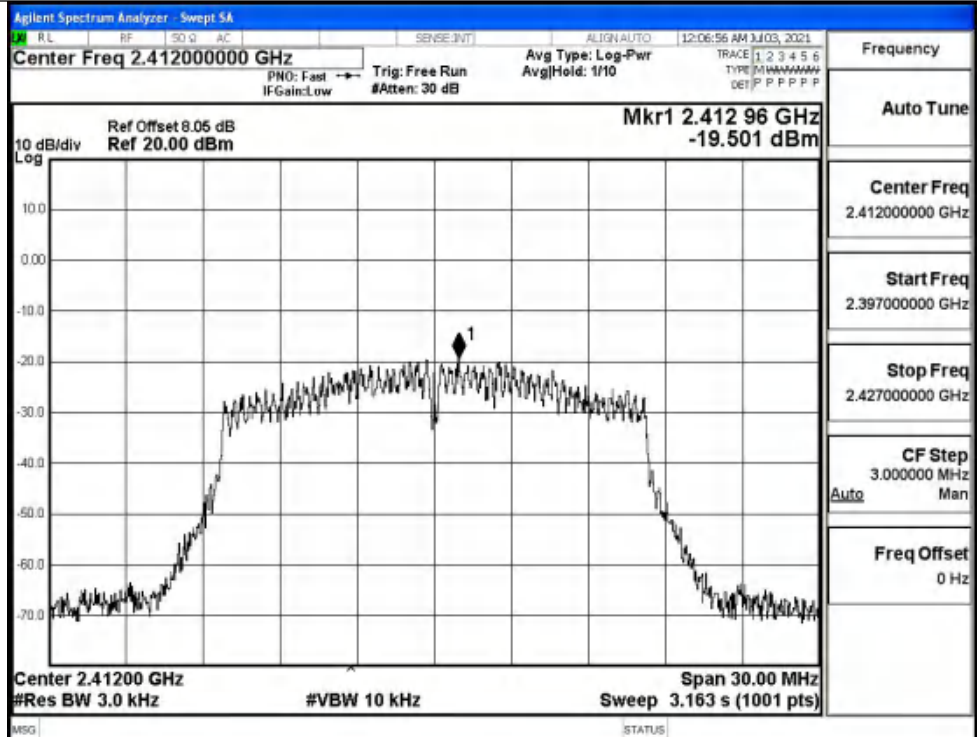


11B/HCH

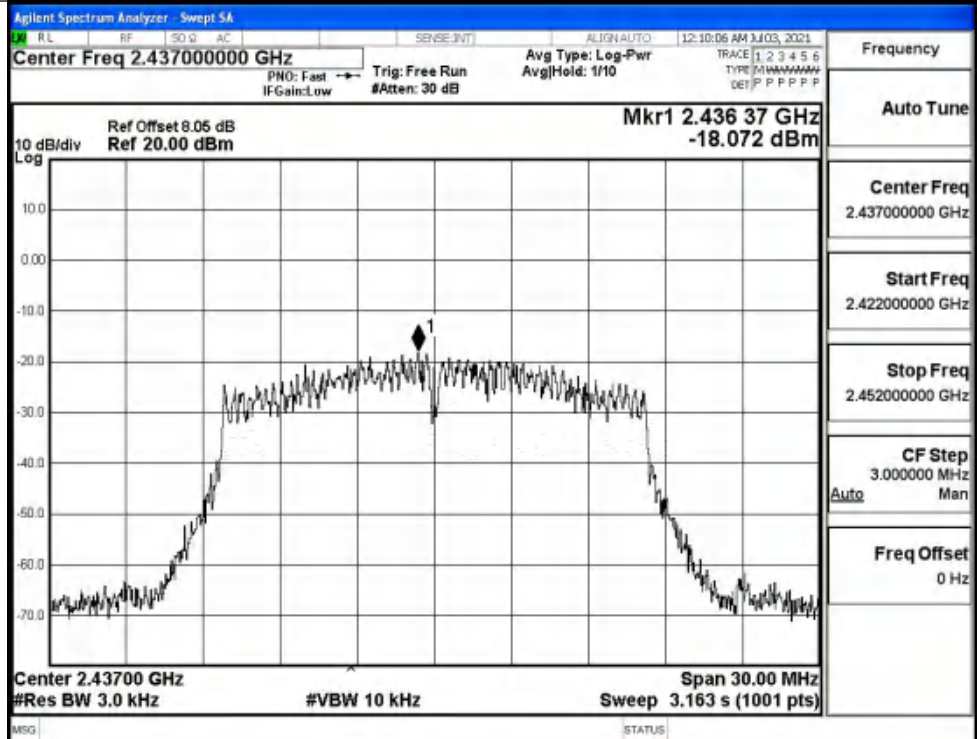




11G/LCH

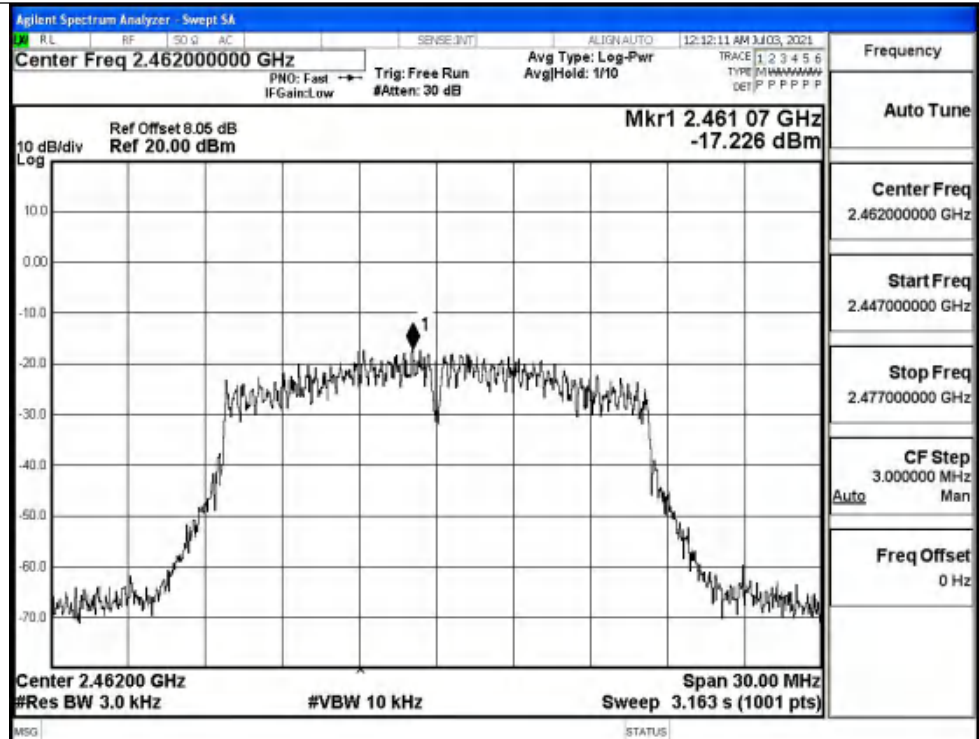


11G/MCH

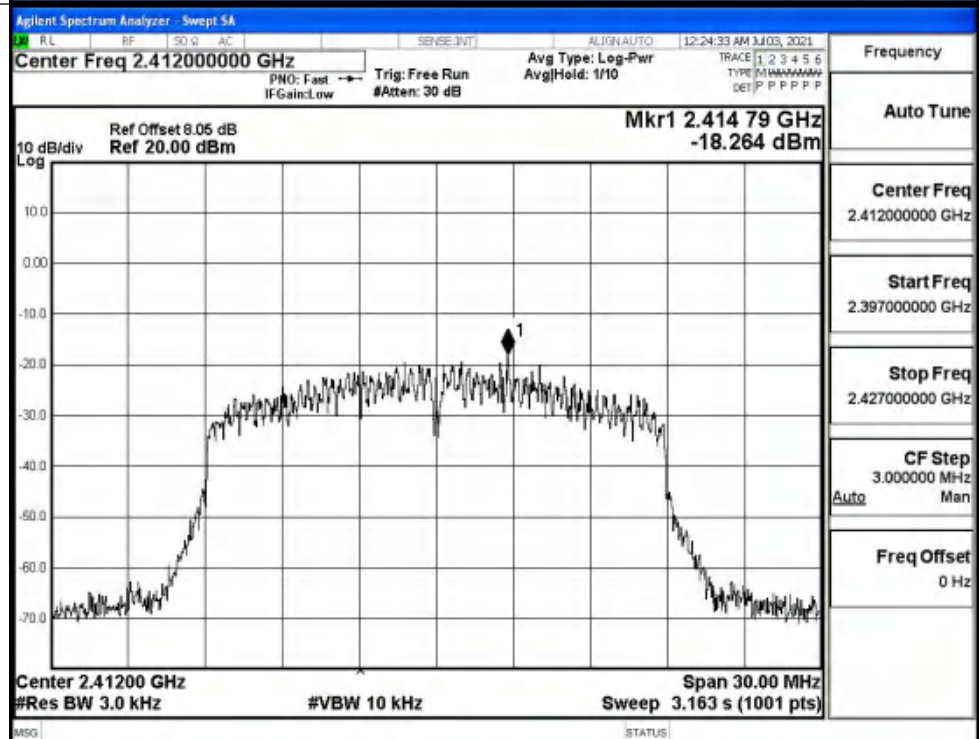




11G/HCH



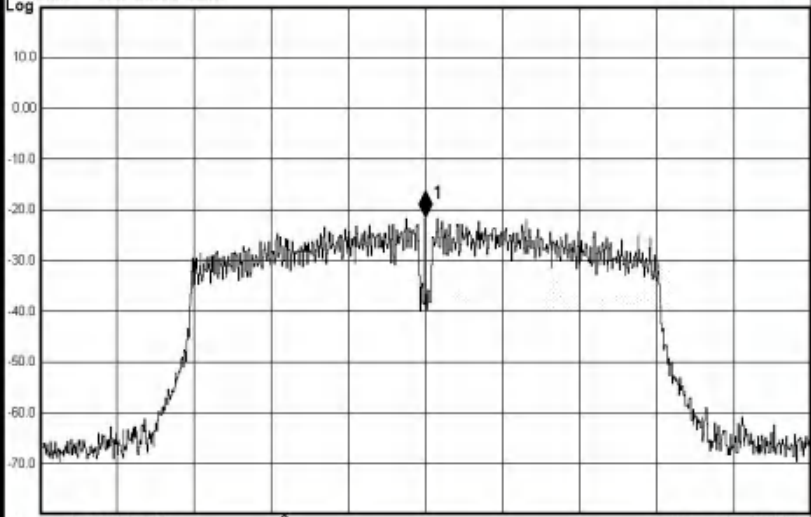
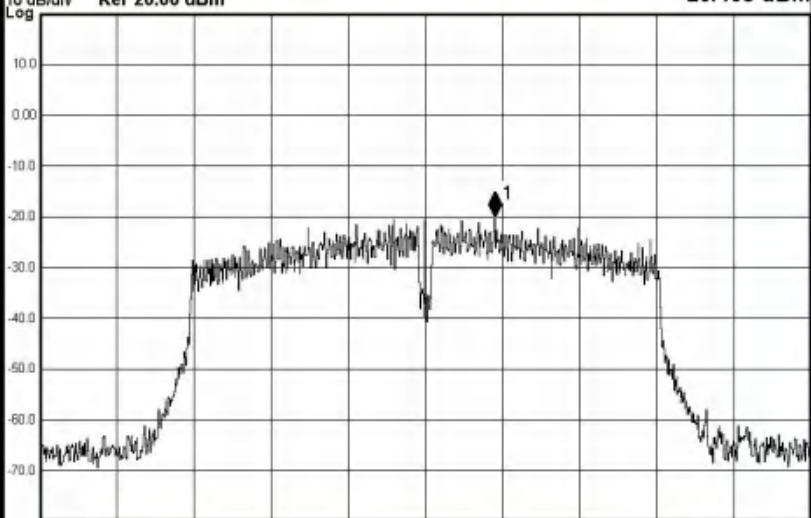
11N20SISO/LCH





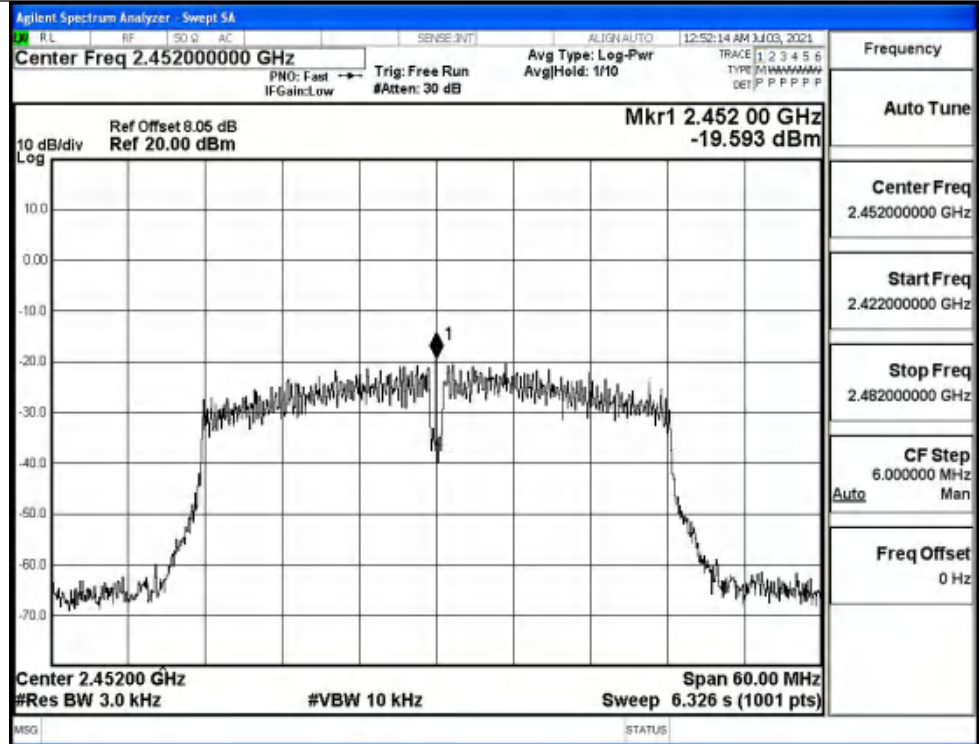
11N20SISO/MCH	Agilent Spectrum Analyzer - Swept SA RL RF SO Q AC SENSE INT ALIGN AUTO 12:26:59 AM JUN 03, 2021 Center Freq 2.437000000 GHz PNO: Fast IF Gain: Low Trig: Free Run #Atten: 30 dB Avg Type: Log-Pwr Avg/Hold: 1/10 TRACE 1 2 3 4 5 6 TYPE M W W W W W W W DET P P P P P P P Ref Offset 8.05 dB Ref 20.00 dBm Mkr1 2.439 79 GHz -17.232 dBm Center 2.43700 GHz #Res BW 3.0 kHz #VBW 10 kHz Span 30.00 MHz Sweep 3.163 s (1001 pts) MSG STATUS Frequency Auto Tune Center Freq 2.437000000 GHz Start Freq 2.422000000 GHz Stop Freq 2.452000000 GHz CF Step 3.000000 MHz Auto Man Freq Offset 0 Hz
11N20SISO/HCH	Agilent Spectrum Analyzer - Swept SA RL RF SO Q AC SENSE INT ALIGN AUTO 12:28:39 AM JUN 03, 2021 Center Freq 2.462000000 GHz PNO: Fast IF Gain: Low Trig: Free Run #Atten: 30 dB Avg Type: Log-Pwr Avg/Hold: 1/10 TRACE 1 2 3 4 5 6 TYPE M W W W W W W W DET P P P P P P P Ref Offset 8.05 dB Ref 20.00 dBm Mkr1 2.464 79 GHz -15.968 dBm Center 2.46200 GHz #Res BW 3.0 kHz #VBW 10 kHz Span 30.00 MHz Sweep 3.163 s (1001 pts) MSG STATUS Frequency Auto Tune Center Freq 2.462000000 GHz Start Freq 2.447000000 GHz Stop Freq 2.477000000 GHz CF Step 3.000000 MHz Auto Man Freq Offset 0 Hz



11N40SISO/LCH	Agilent Spectrum Analyzer - Swept SA RL RF 50 Ω AC SENSE INT ALIGN AUTO 12:51:24 AM JUN 03, 2021 Center Freq 2.422000000 GHz PNO: Fast IF Gain: Low Trig: Free Run #Atten: 30 dB Avg Type: Log-Pwr Avg/Hold: 1/10 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 Ref Offset 8.05 dB Ref 20.00 dBm Mkr1 2.422 00 GHz -21.685 dBm  Center 2.42200 GHz #Res BW 3.0 kHz #VBW 10 kHz Span 60.00 MHz Sweep 6.326 s (1001 pts) MSG STATUS Frequency Auto Tune Center Freq 2.422000000 GHz Start Freq 2.392000000 GHz Stop Freq 2.452000000 GHz CF Step 6.000000 MHz Auto Man Freq Offset 0 Hz
11N40SISO/MCH	Agilent Spectrum Analyzer - Swept SA RL RF 50 Ω AC SENSE INT ALIGN AUTO 12:51:50 AM JUN 03, 2021 Center Freq 2.437000000 GHz PNO: Fast IF Gain: Low Trig: Free Run #Atten: 30 dB Avg Type: Log-Pwr Avg/Hold: 1/10 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 Ref Offset 8.05 dB Ref 20.00 dBm Mkr1 2.442 40 GHz -20.408 dBm  Center 2.43700 GHz #Res BW 3.0 kHz #VBW 10 kHz Span 60.00 MHz Sweep 6.326 s (1001 pts) MSG STATUS Frequency Auto Tune Center Freq 2.437000000 GHz Start Freq 2.407000000 GHz Stop Freq 2.467000000 GHz CF Step 6.000000 MHz Auto Man Freq Offset 0 Hz



11N40SISO/HCH



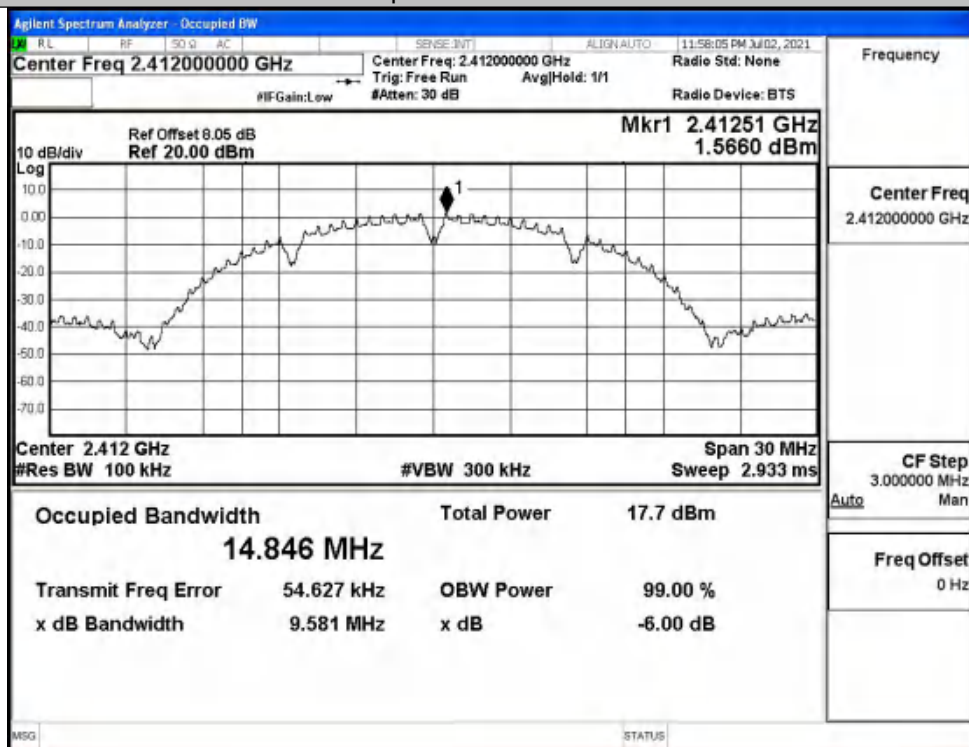


A.4 6dB Bandwidth

Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
11B	LCH	9.581	≥ 0.5	PASS
	MCH	10.06	≥ 0.5	PASS
	HCH	9.581	≥ 0.5	PASS
11G	LCH	13.80	≥ 0.5	PASS
	MCH	10.13	≥ 0.5	PASS
	HCH	13.81	≥ 0.5	PASS
11N20SISO	LCH	13.78	≥ 0.5	PASS
	MCH	15.04	≥ 0.5	PASS
	HCH	12.56	≥ 0.5	PASS
11N40SISO	LCH	33.84	≥ 0.5	PASS
	MCH	33.85	≥ 0.5	PASS
	HCH	33.85	≥ 0.5	PASS

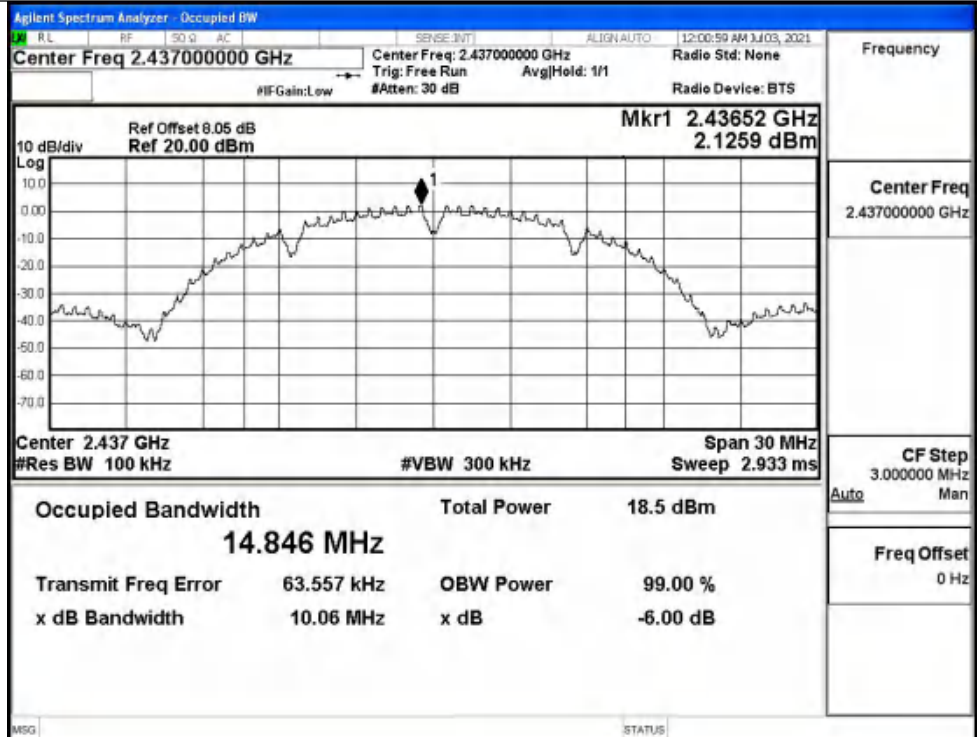
Test Graphs

11B/LCH

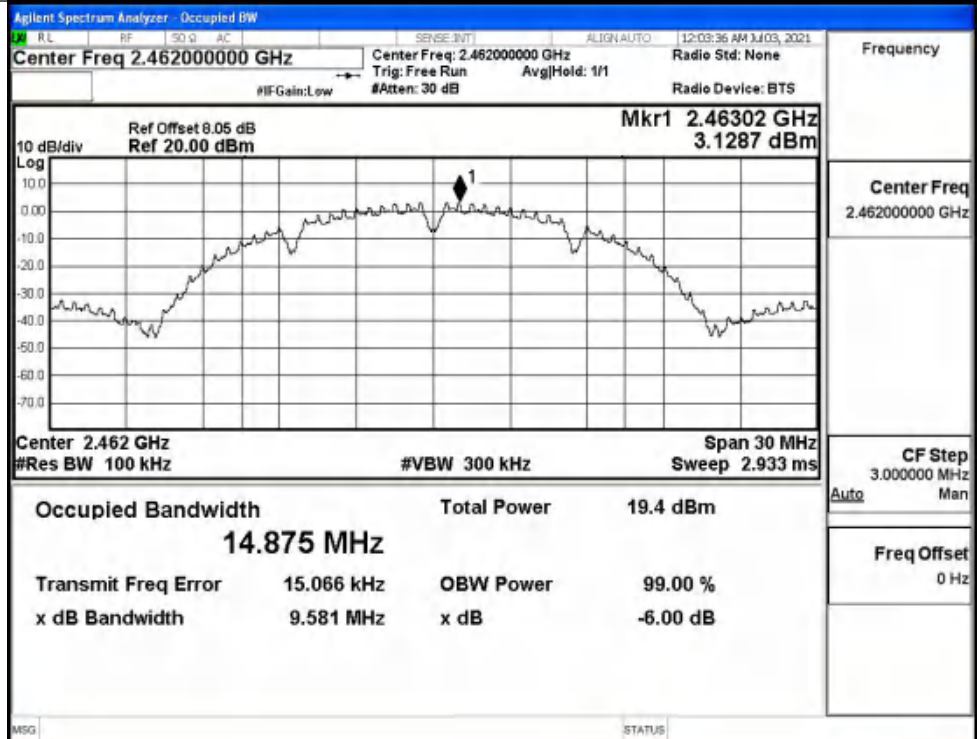




11B/MCH

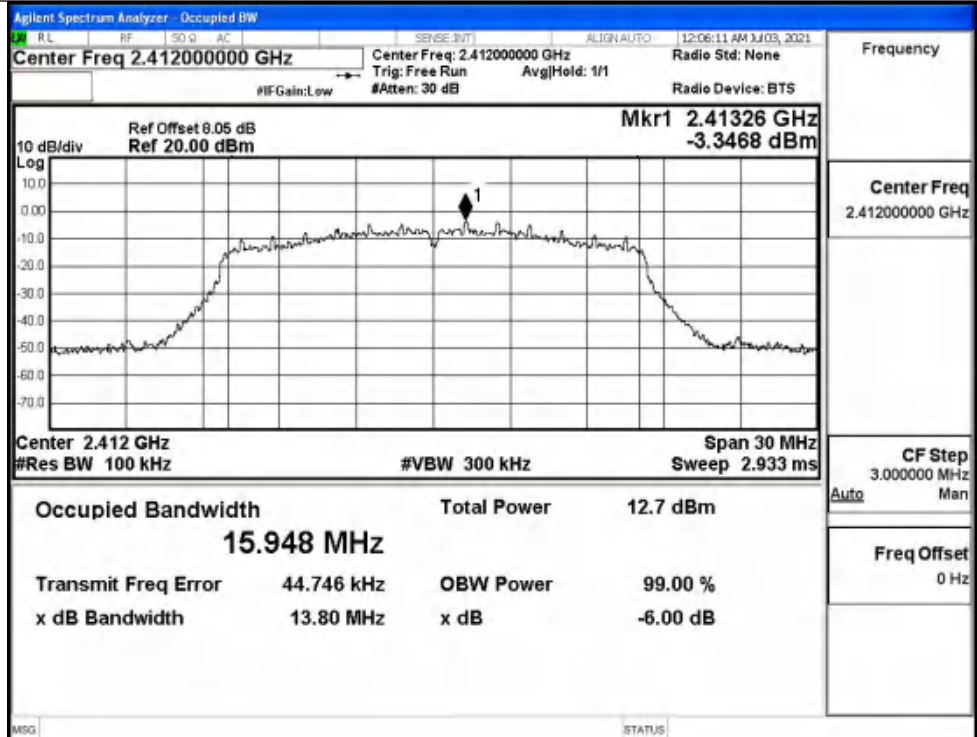


11B/HCH

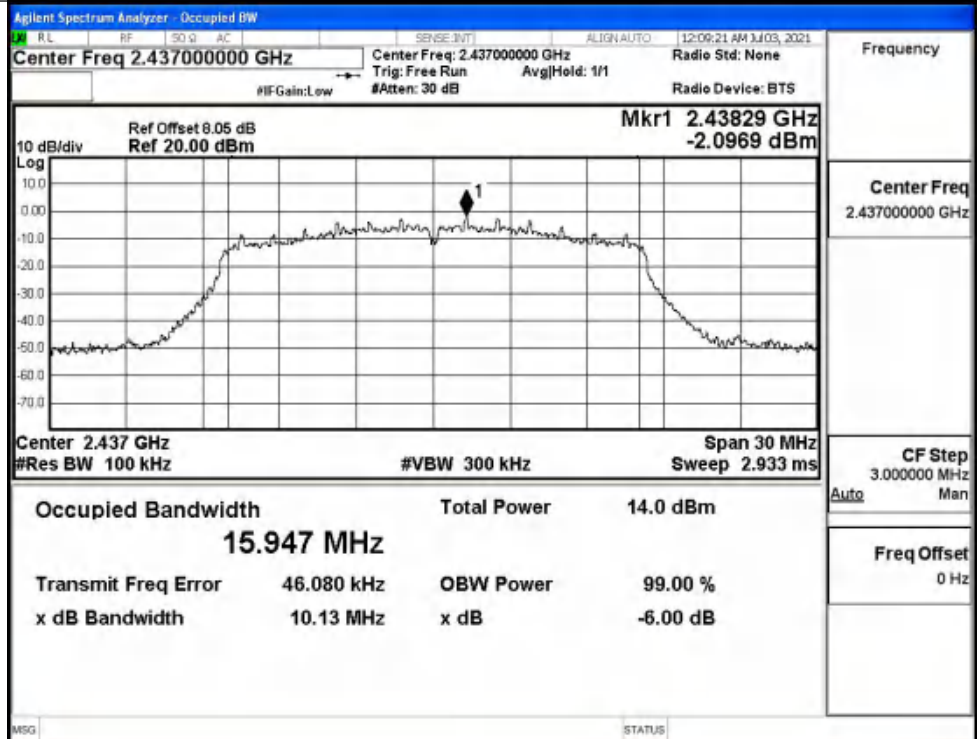




11G/LCH

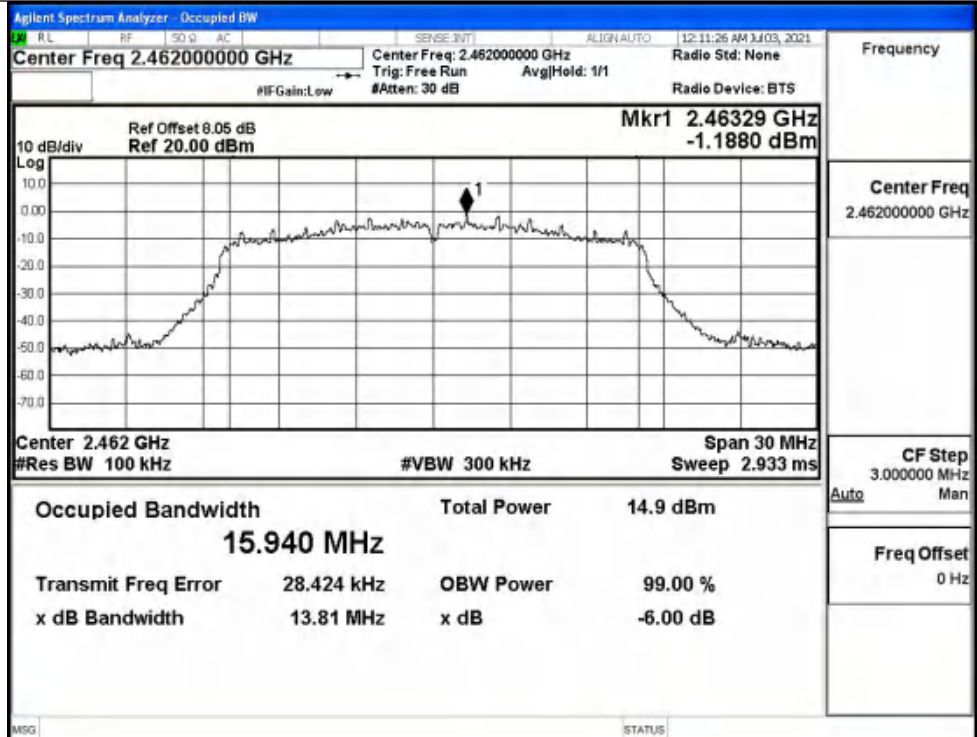


11G/MCH

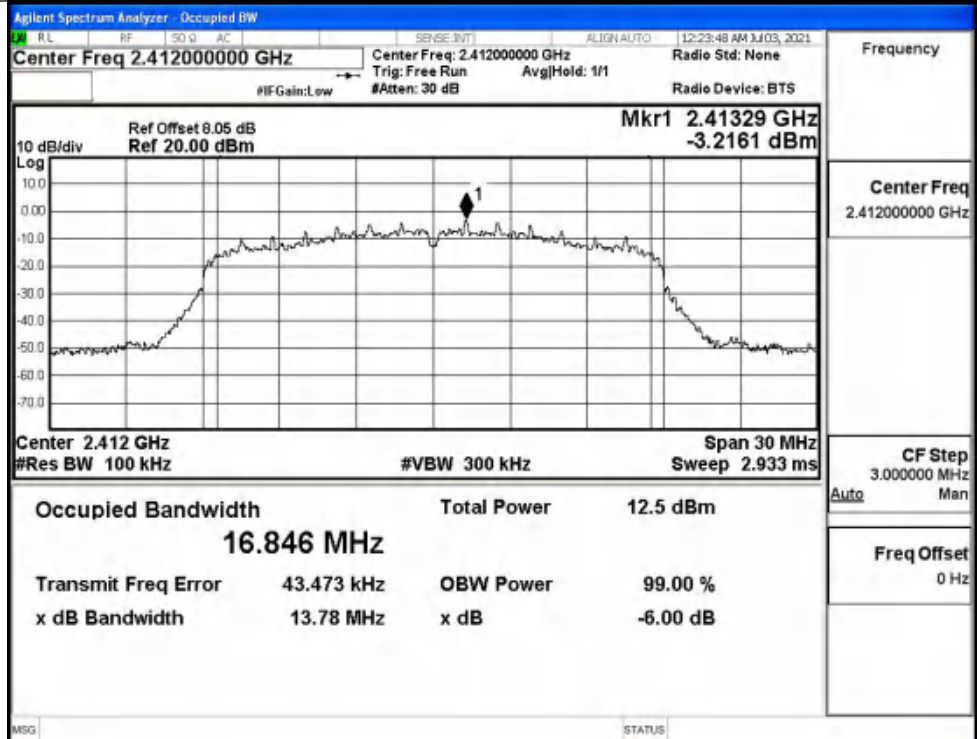




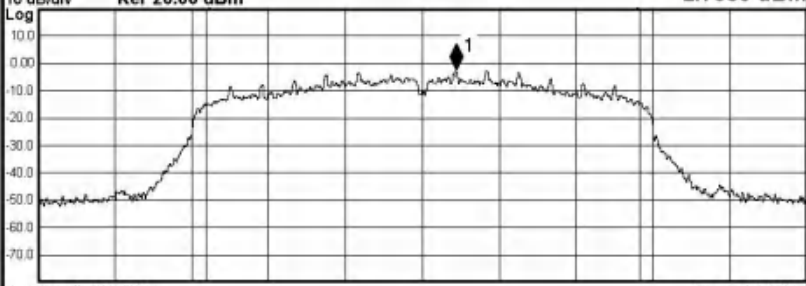
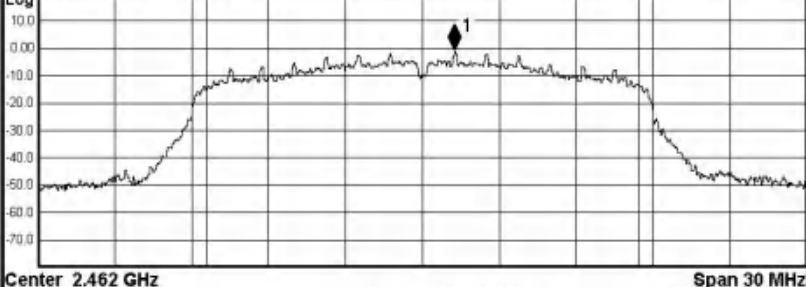
11G/HCH



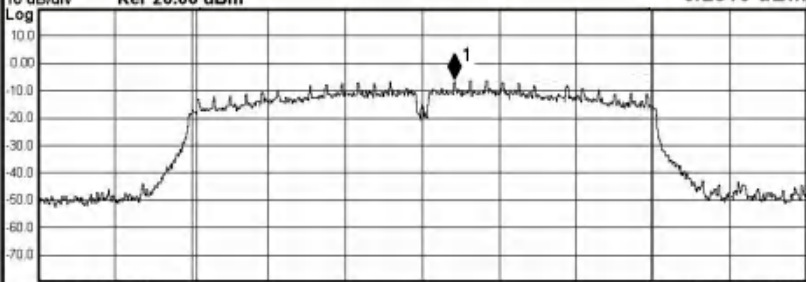
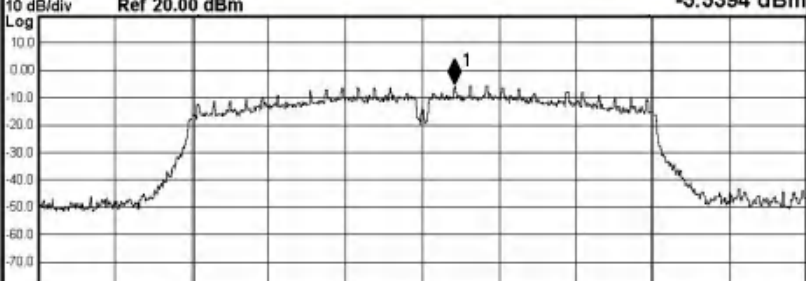
11N20SISO/LCH





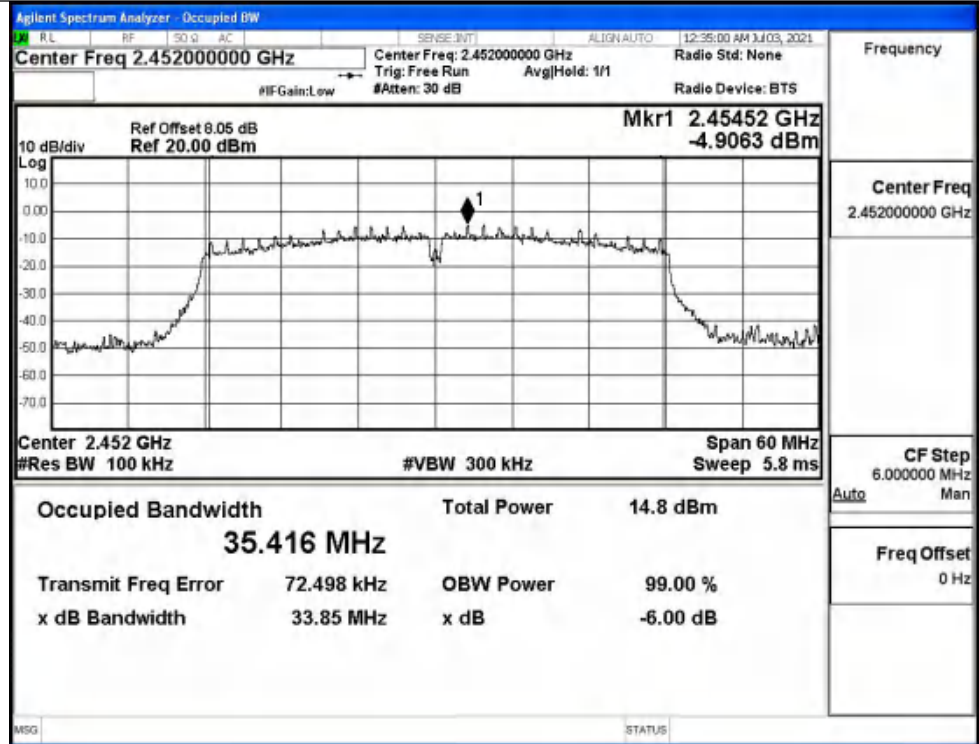
11N20SISO/MCH	Agilent Spectrum Analyzer - Occupied BW Center Freq 2.437000000 GHz Center Freq: 2.437000000 GHz Trig: Free Run #Atten: 30 dB Align: AUTO Radio Std: None Avg/Hold: 1/1 Radio Device: BTS 12:26:14 AM 3/10/2021 Ref Offset 8.05 dB Ref 20.00 dBm Mkr1 2.43832 GHz -2.7985 dBm 10 dB/div Log  Center 2.437 GHz #Res BW 100 kHz Span 30 MHz Sweep 2.933 ms #VBW 300 kHz Occupied Bandwidth 16.839 MHz Total Power 13.8 dBm Transmit Freq Error 37.229 kHz OBW Power 99.00 % x dB Bandwidth 15.04 MHz x dB -6.00 dB MSG STATUS Frequency Center Freq 2.437000000 GHz CF Step 3.000000 MHz Auto Man Freq Offset 0 Hz
11N20SISO/HCH	Agilent Spectrum Analyzer - Occupied BW Center Freq 2.462000000 GHz Center Freq: 2.462000000 GHz Trig: Free Run #Atten: 30 dB Align: AUTO Radio Std: None Avg/Hold: 1/1 Radio Device: BTS 12:27:54 AM 3/10/2021 Ref Offset 8.05 dB Ref 20.00 dBm Mkr1 2.46326 GHz -0.99962 dBm 10 dB/div Log  Center 2.462 GHz #Res BW 100 kHz Span 30 MHz Sweep 2.933 ms #VBW 300 kHz Occupied Bandwidth 16.819 MHz Total Power 14.8 dBm Transmit Freq Error 20.773 kHz OBW Power 99.00 % x dB Bandwidth 12.56 MHz x dB -6.00 dB MSG STATUS Frequency Center Freq 2.462000000 GHz CF Step 3.000000 MHz Auto Man Freq Offset 0 Hz



11N40SISO/LCH	Agilent Spectrum Analyzer - Occupied BW Center Freq 2.422000000 GHz Center Freq: 2.422000000 GHz Trig: Free Run #Atten: 30 dB Radio Std: None Avg/Hold: 1/1 Radio Device: BTS Ref Offset 8.05 dB Ref 20.00 dBm Mkr1 2.42452 GHz -6.2813 dBm 10 dB/div Log  Center 2.422 GHz #Res BW 100 kHz #VBW 300 kHz Span 60 MHz Sweep 5.8 ms Occupied Bandwidth 35.409 MHz Total Power 13.5 dBm Transmit Freq Error 110.39 kHz OBW Power 99.00 % x dB Bandwidth 33.84 MHz x dB -6.00 dB MSG STATUS	Frequency Center Freq 2.422000000 GHz CF Step 6.000000 MHz Auto Man Freq Offset 0 Hz
11N40SISO/MCH	Agilent Spectrum Analyzer - Occupied BW Center Freq 2.437000000 GHz Center Freq: 2.437000000 GHz Trig: Free Run #Atten: 30 dB Radio Std: None Avg/Hold: 1/1 Radio Device: BTS Ref Offset 8.05 dB Ref 20.00 dBm Mkr1 2.43952 GHz -5.5394 dBm 10 dB/div Log  Center 2.437 GHz #Res BW 100 kHz #VBW 300 kHz Span 60 MHz Sweep 5.8 ms Occupied Bandwidth 35.404 MHz Total Power 14.2 dBm Transmit Freq Error 100.94 kHz OBW Power 99.00 % x dB Bandwidth 33.85 MHz x dB -6.00 dB MSG STATUS	Frequency Center Freq 2.437000000 GHz CF Step 6.000000 MHz Auto Man Freq Offset 0 Hz



11N40SISO/HCH





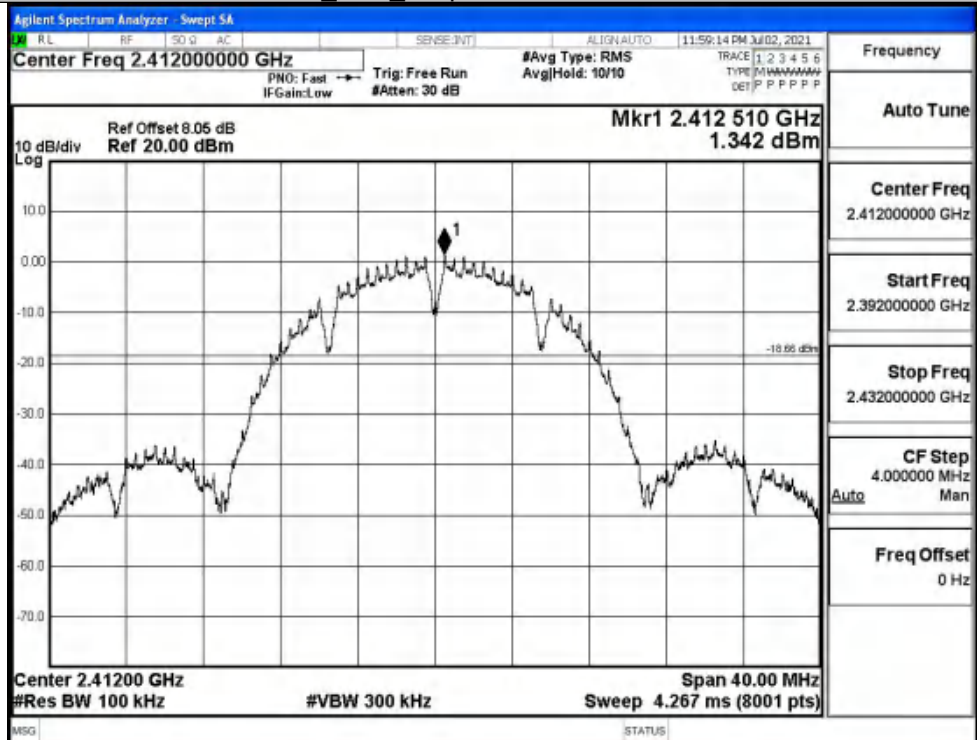
A.5 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
11B	LCH	1.342	-37.867	-18.658	PASS
	MCH	2.151	-37.892	-17.849	PASS
	HCH	2.997	-36.804	-17.003	PASS
11G	LCH	-3.264	-37.556	-23.264	PASS
	MCH	-2.289	-37.664	-22.289	PASS
	HCH	-1.02	-37.800	-21.020	PASS
11N20 SISO	LCH	-3.824	-37.939	-23.824	PASS
	MCH	-2.657	-38.077	-22.657	PASS
	HCH	-1.077	-38.145	-21.077	PASS
11N40 SISO	LCH	-6.373	-37.262	-26.373	PASS
	MCH	-5.858	-37.756	-25.858	PASS
	HCH	-5.299	-37.871	-25.299	PASS

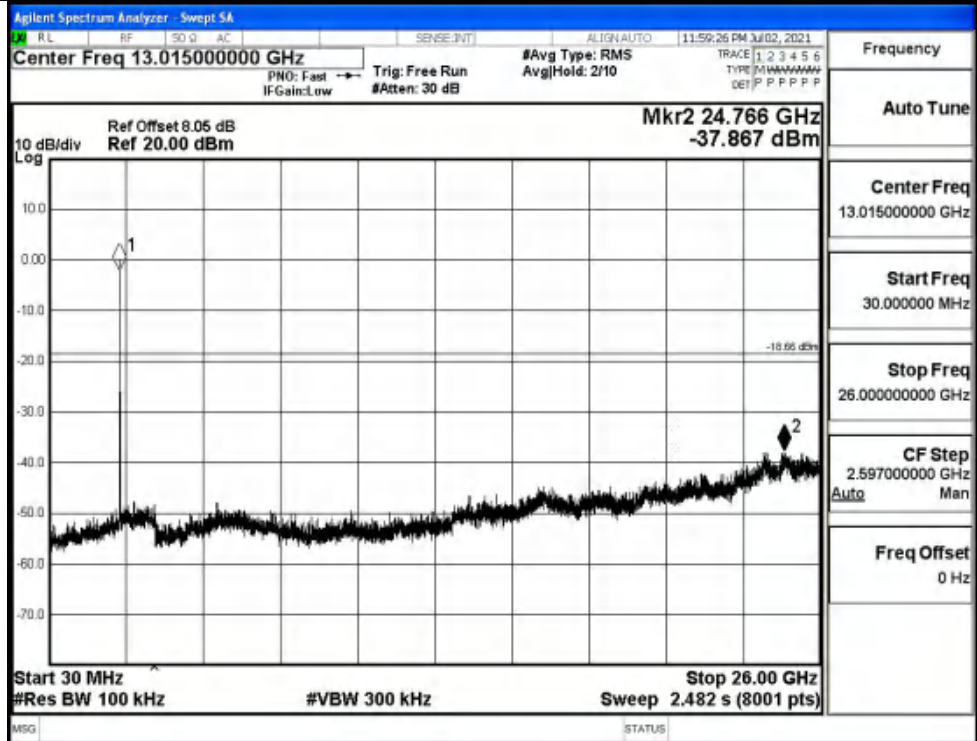


11B_LCH_Graphs

Pref/11B/LCH



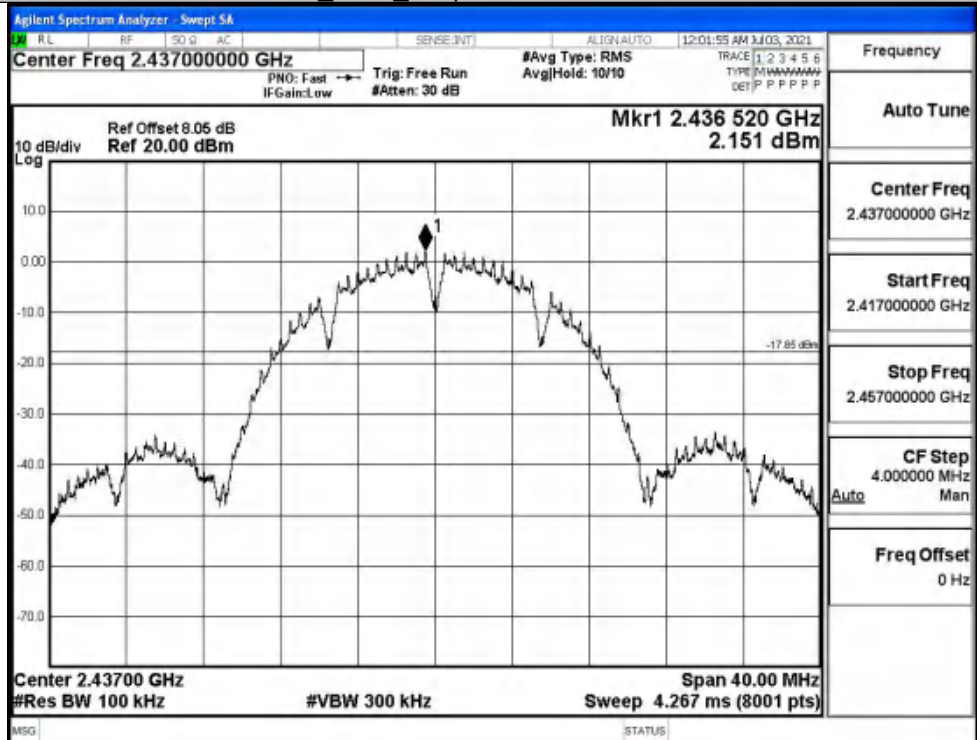
Puw/11B/LCH



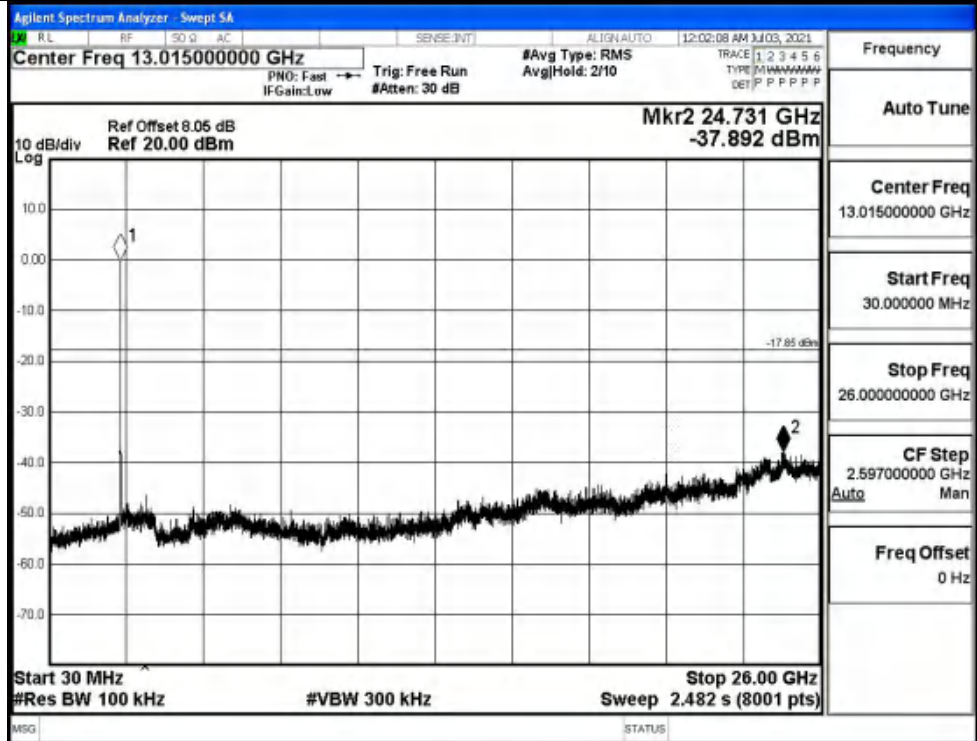


11B_MCH_Graphs

Pref/11B/MCH



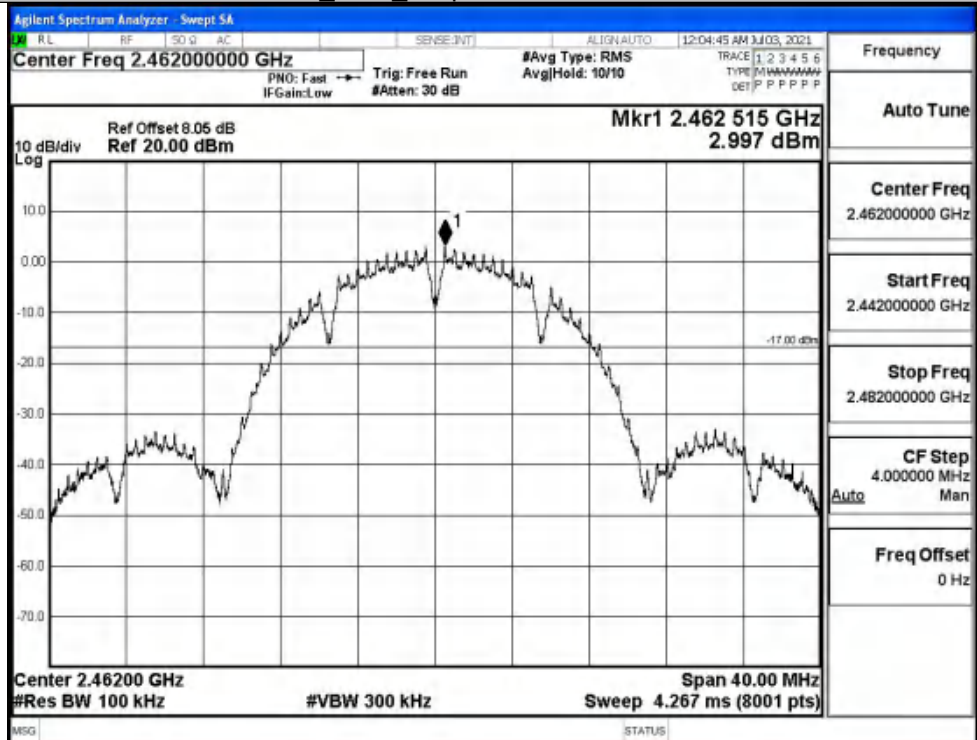
Puw/11B/MCH



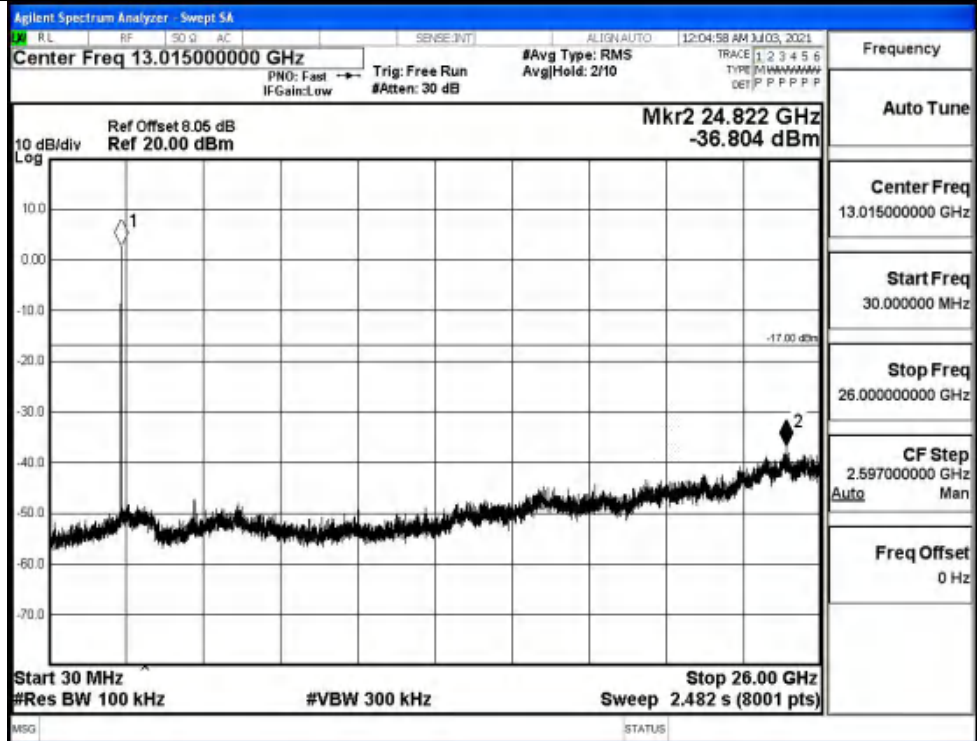


11B_HCH_Graphs

Pref/11B/HCH



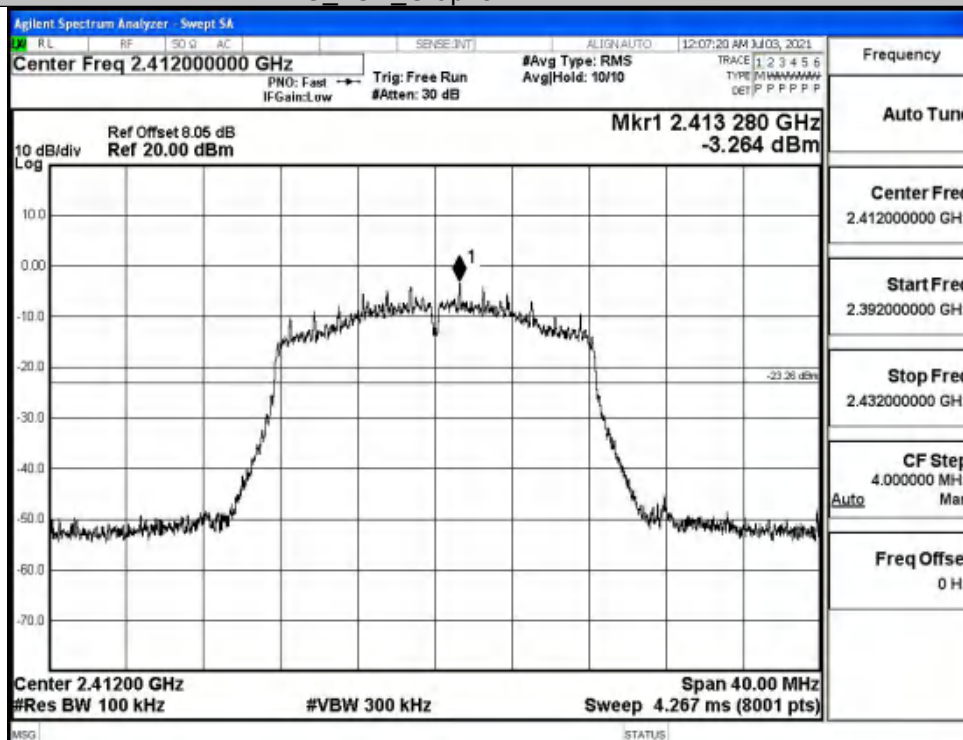
Puw/11B/HCH



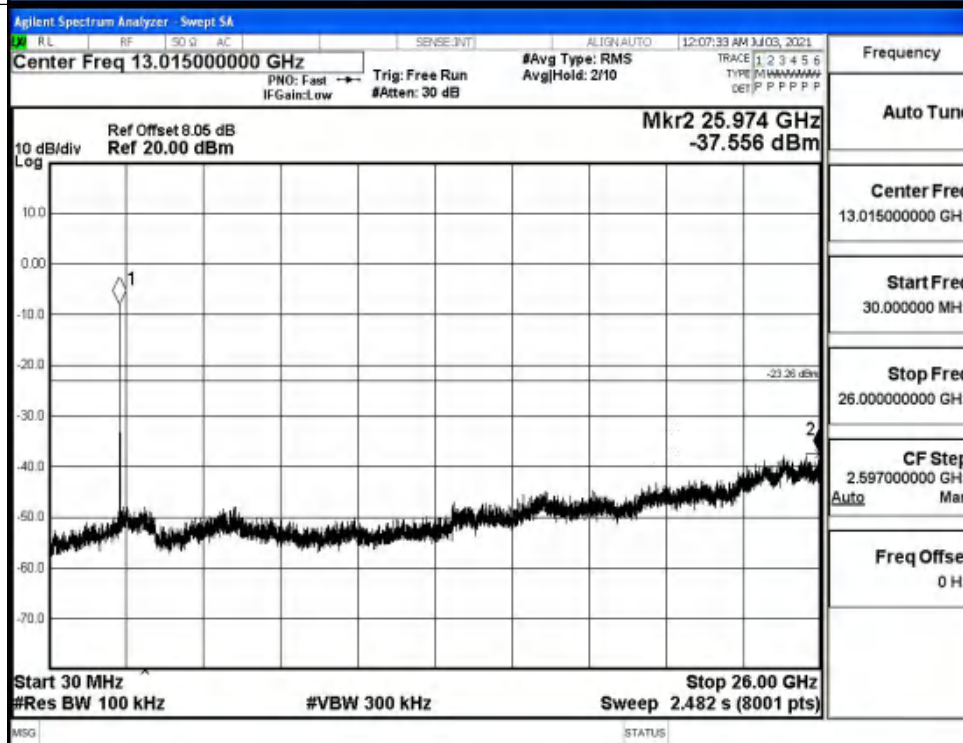


11G_LCH_Graphs

Pref/11G/LCH



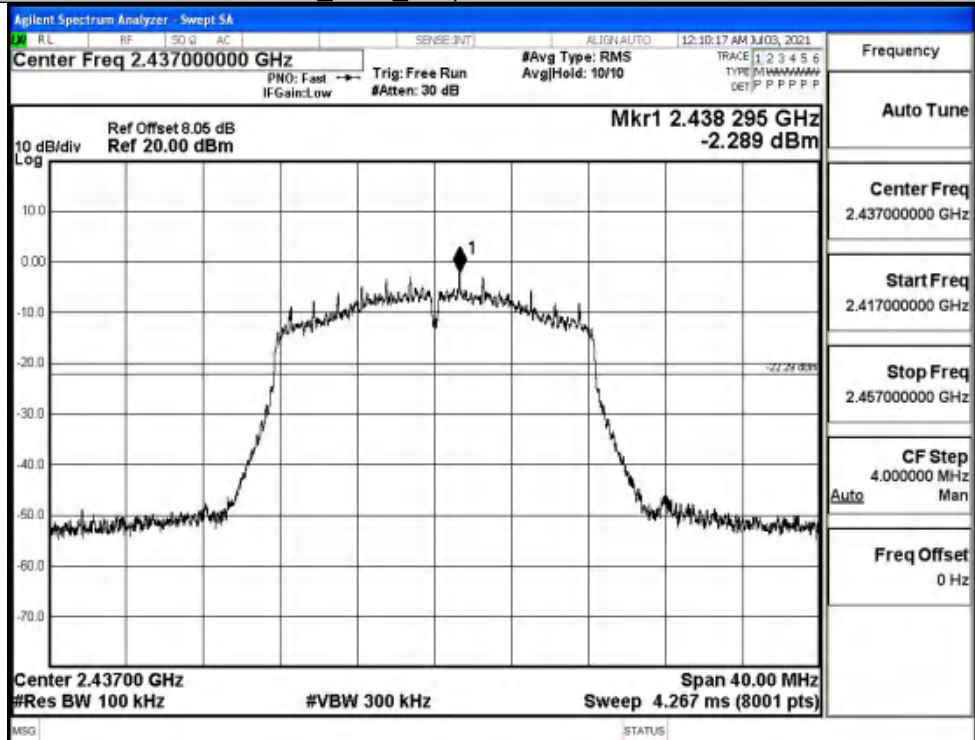
Puw/11G/LCH



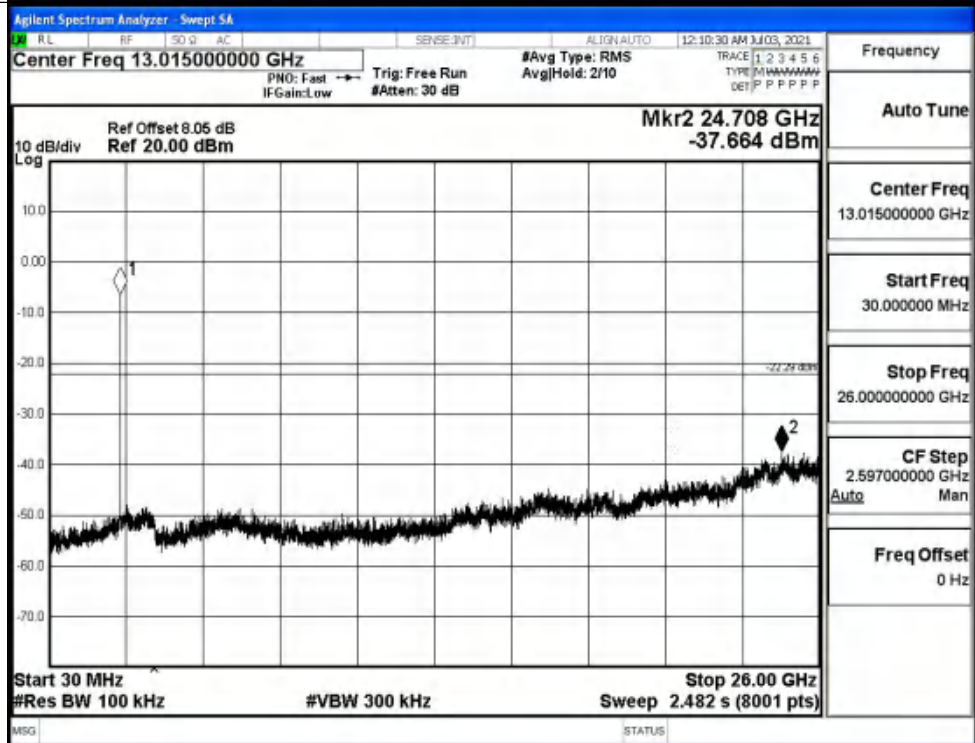


11G_MCH_Graphs

Pref/11G/MCH



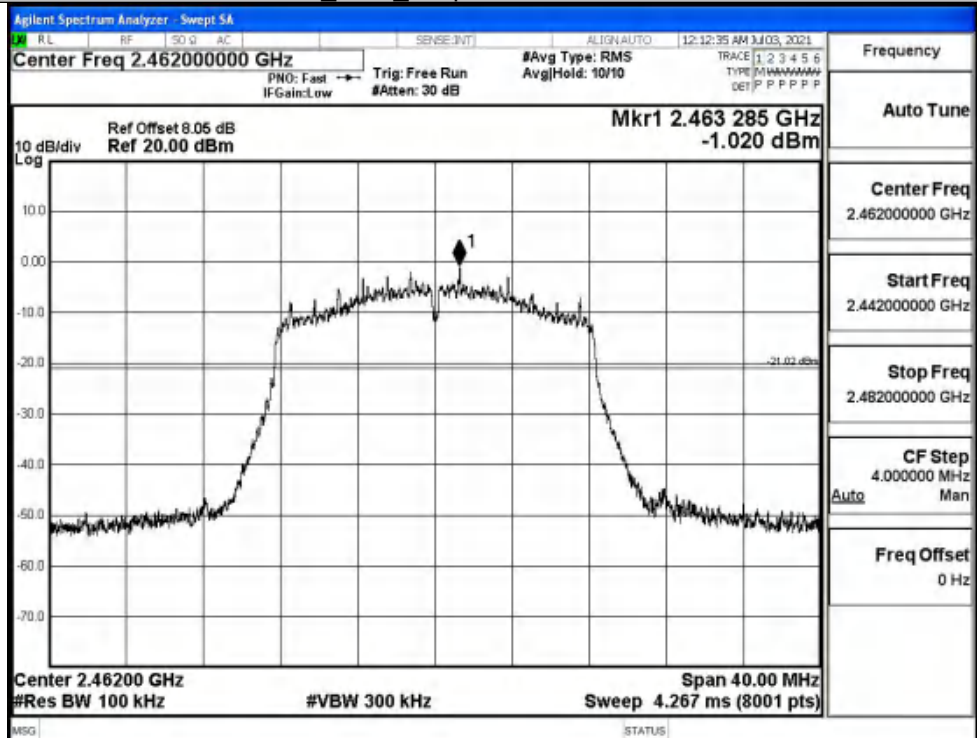
Puw/11G/MCH



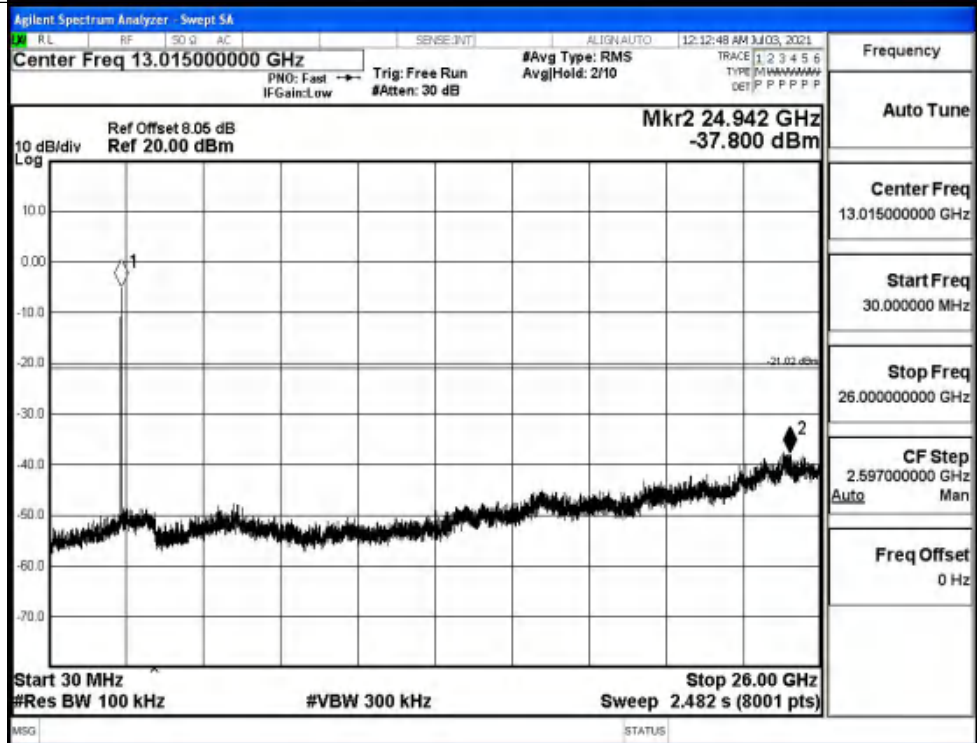


11G_HCH_Graphs

Pref/11G/HCH



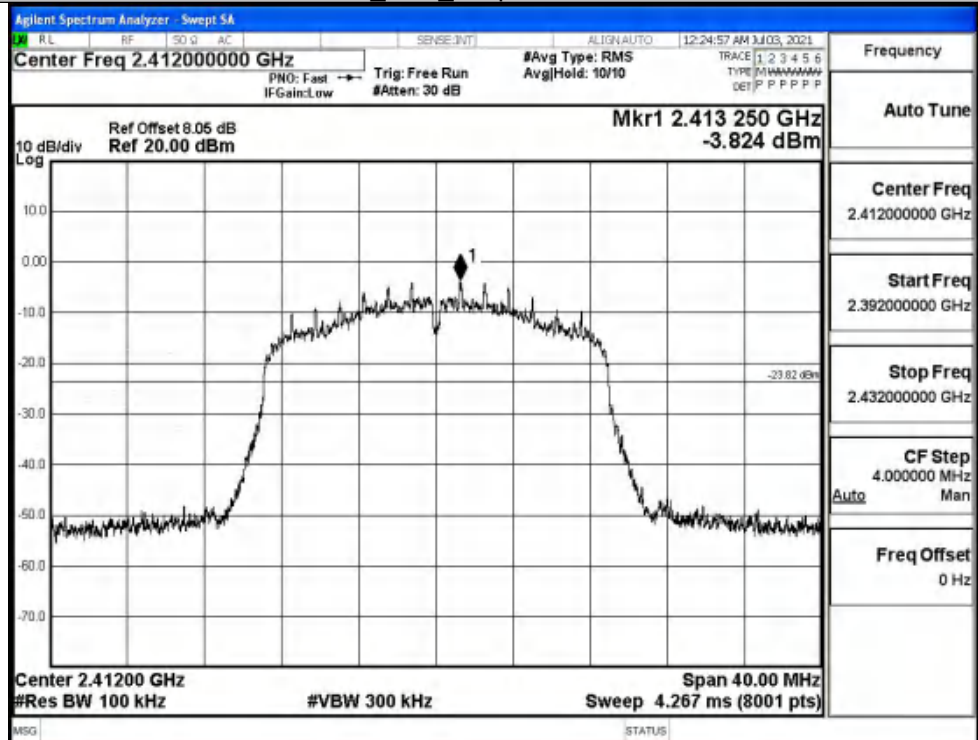
Puw/11G/HCH



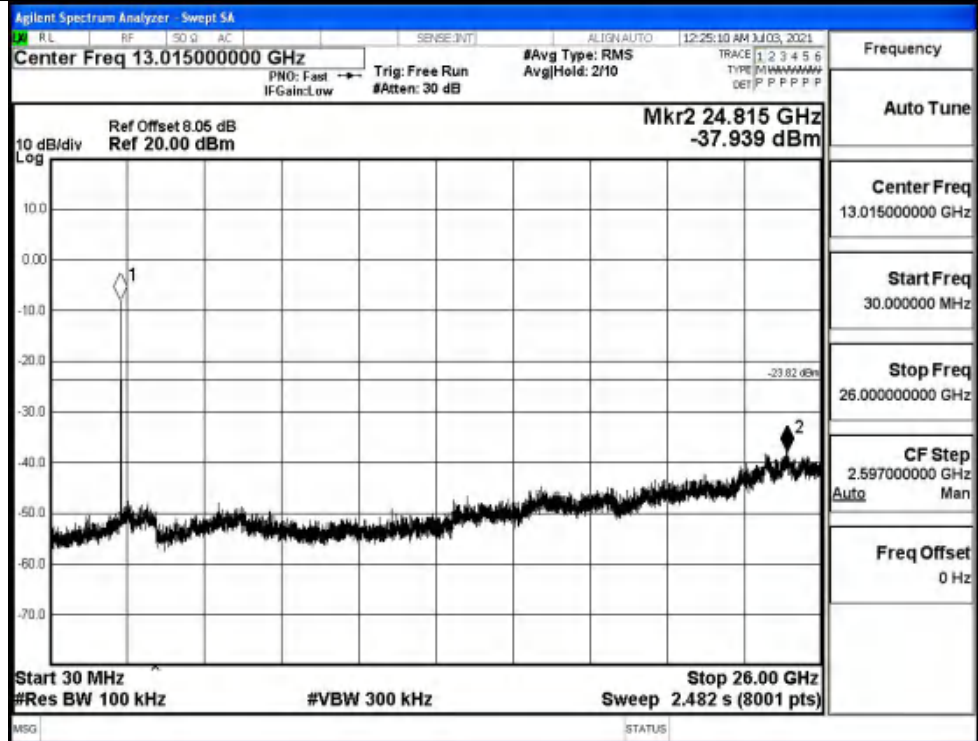


11N20SISO_LCH_Graphs

Pref/11N20SIS
O/LCH



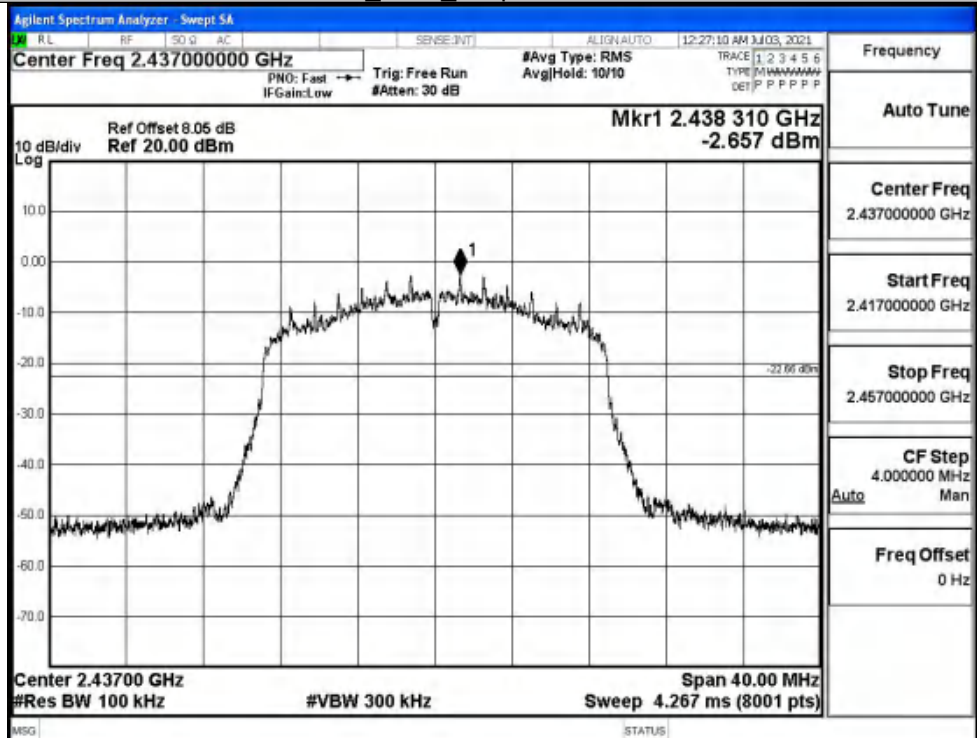
Puw/11N20
SISO/LCH





11N20SISO_MCH_Graphs

Pref/11N20
SISO/MCH



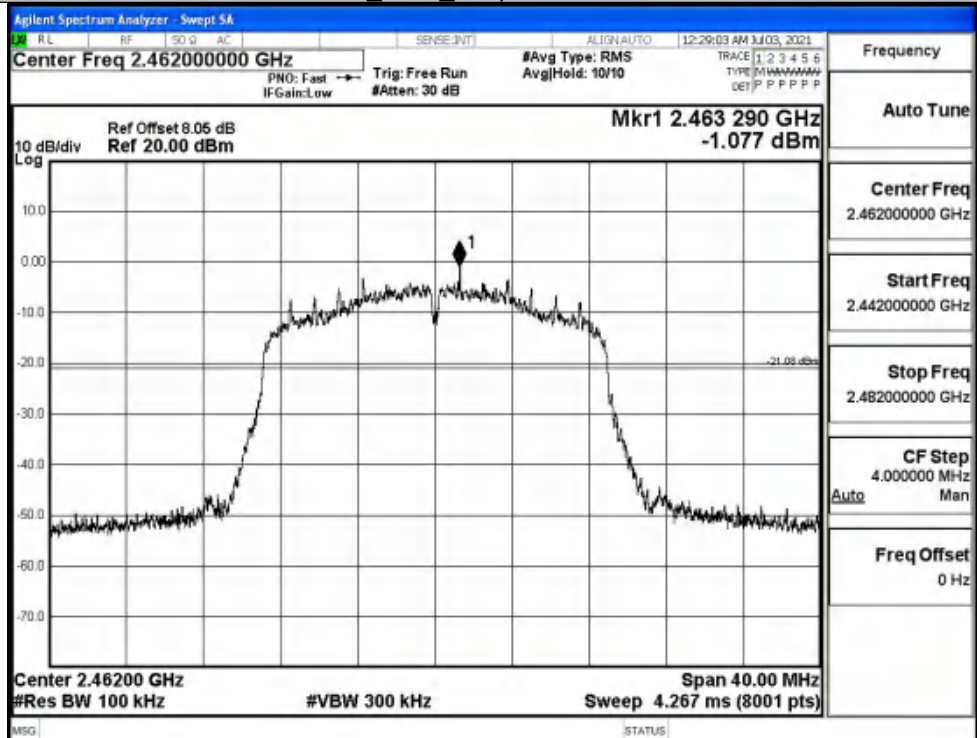
Puw/11N20
SISO/MCH



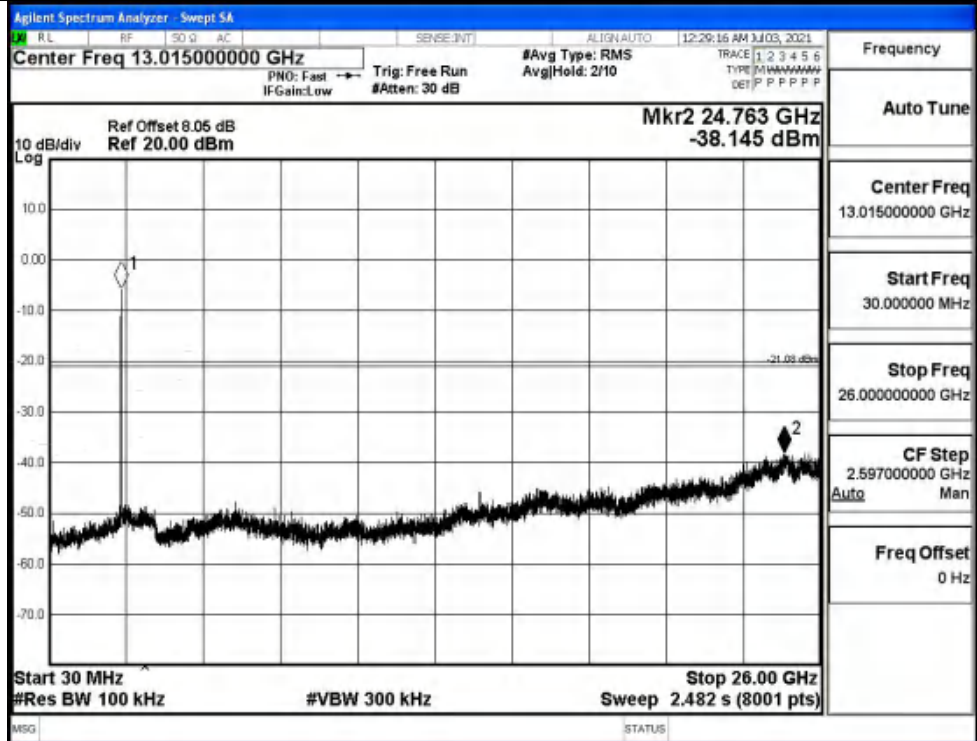


11N20SISO_HCH_Graphs

Pref/11N20
SISO/HCH



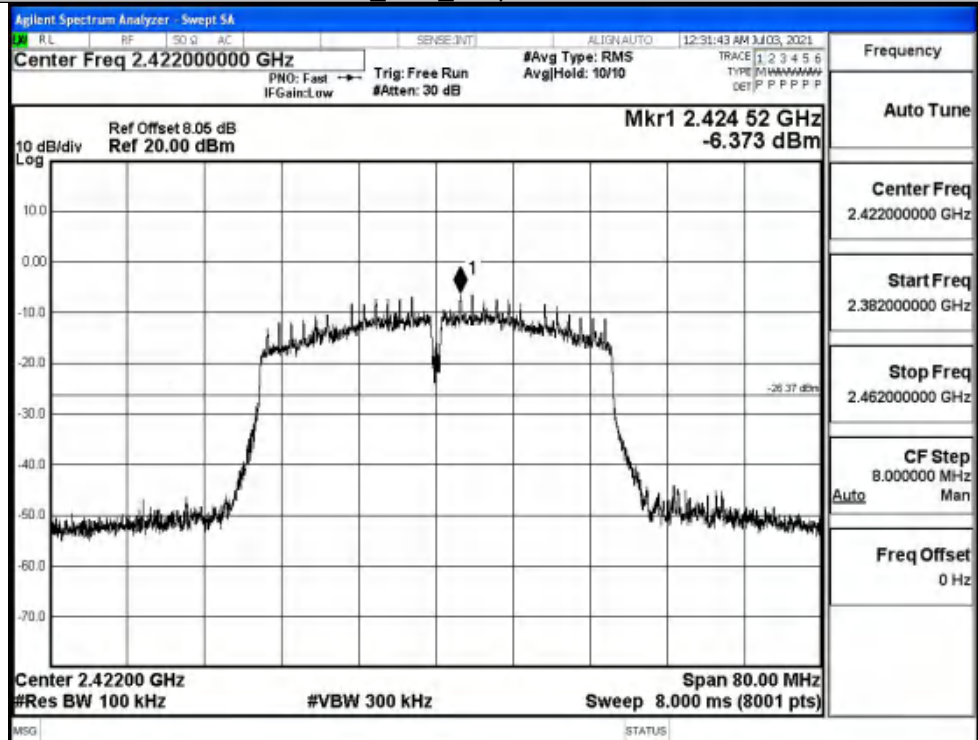
Puw/11N20
SISO/HCH



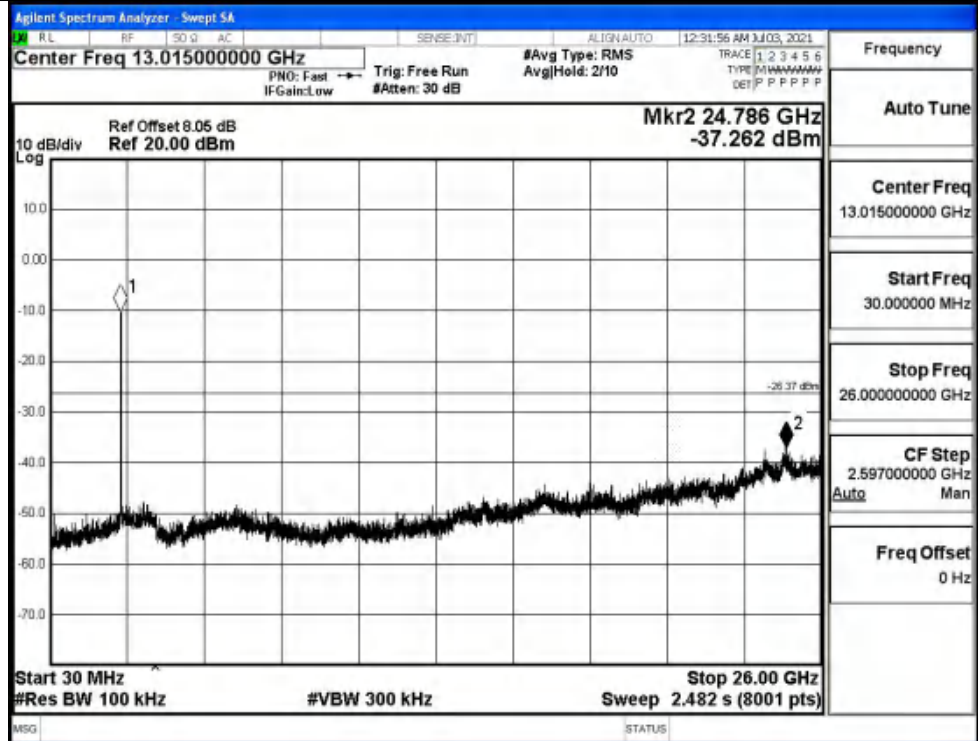


11N40SISO_LCH_Graphs

Pref/11N40
SISO/LCH



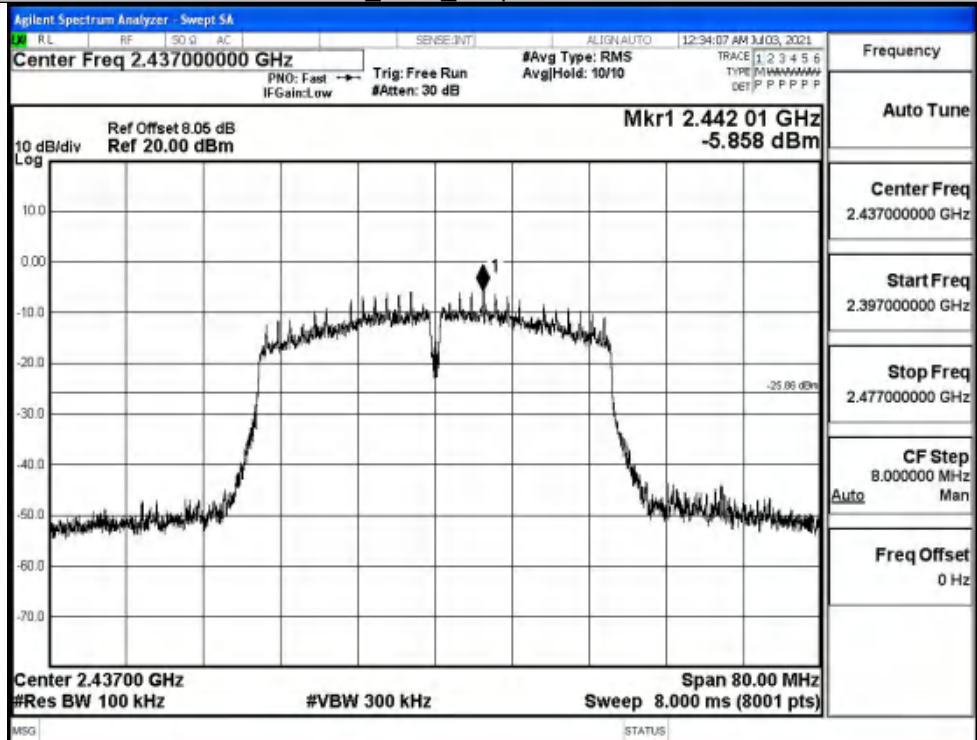
Puw/11N40
SISO/LCH





11N40SISO_MCH_Graphs

Pref/11N40
SISO/MCH



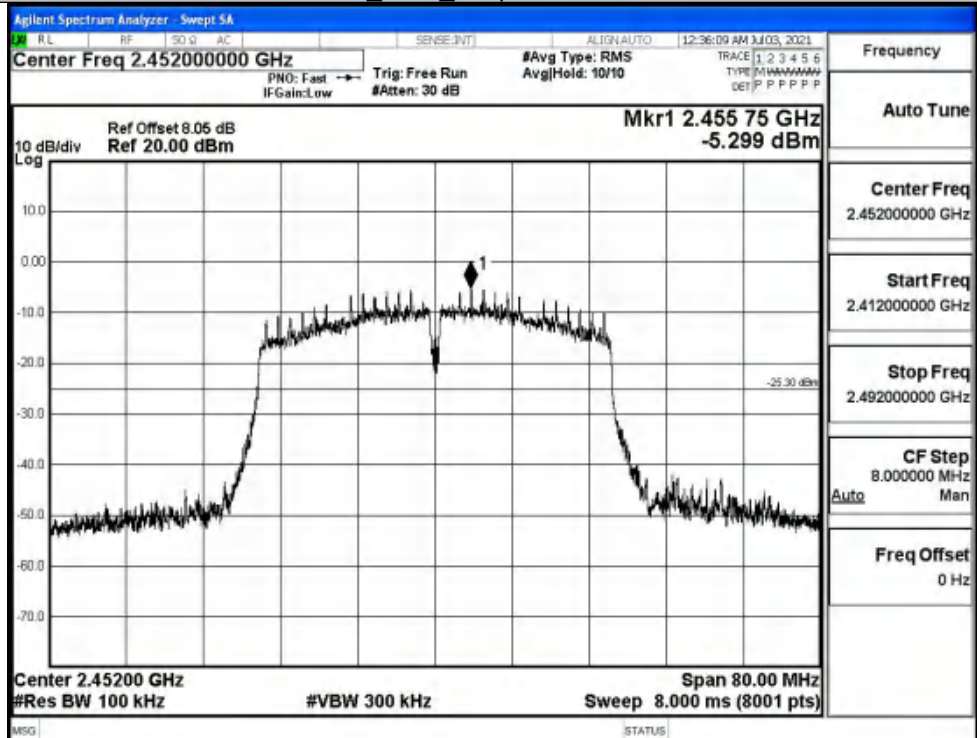
Puw/11N40
SISO/MCH



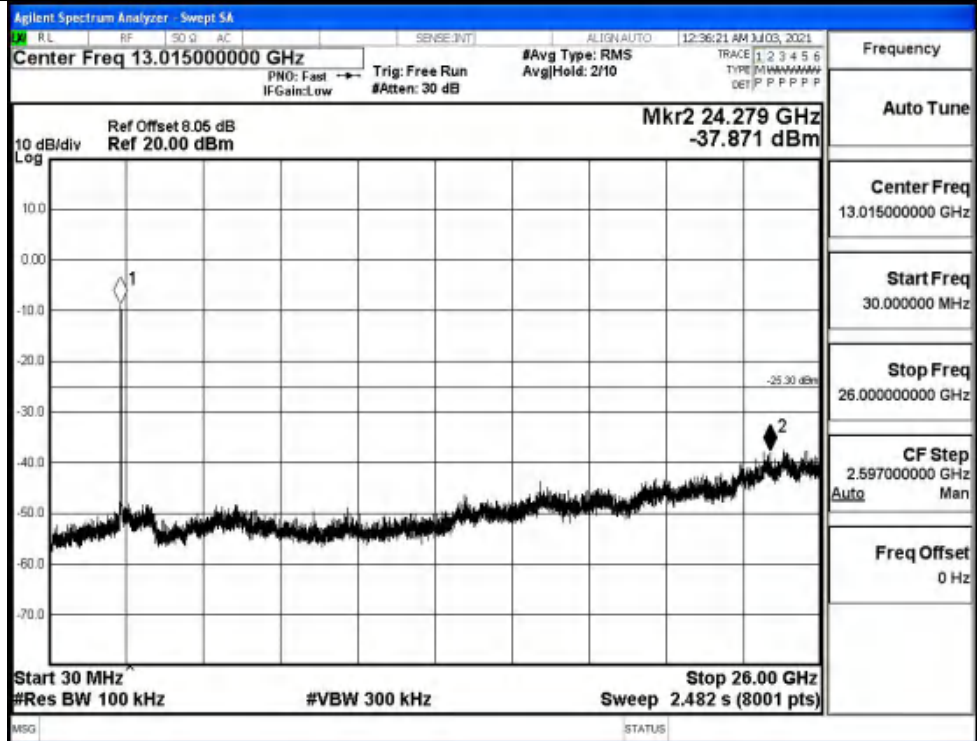


11N40SISO_HCH_Graphs

Pref/11N40
SISO/HCH



Puw/11N40
SISO/HCH



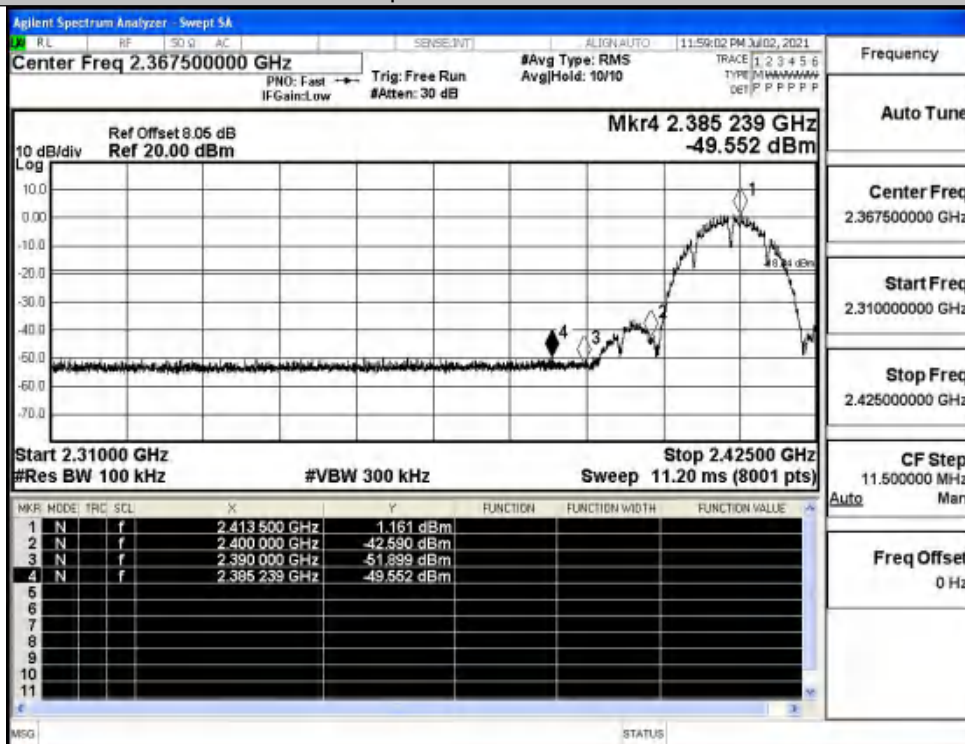


A.6 Band-edge for RF Conducted Emissions

Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
11B	LCH	1.161	-49.552	-18.84	PASS
	HCH	2.742	-47.711	-17.26	PASS
11G	LCH	-4.193	-49.033	-24.19	PASS
	HCH	-1.439	-48.691	-21.44	PASS
11N20SISO	LCH	-3.286	-49.160	-23.29	PASS
	HCH	-1.871	-49.145	-21.87	PASS
11N40SISO	LCH	-6.384	-47.739	-26.38	PASS
	HCH	-4.976	-44.646	-24.98	PASS

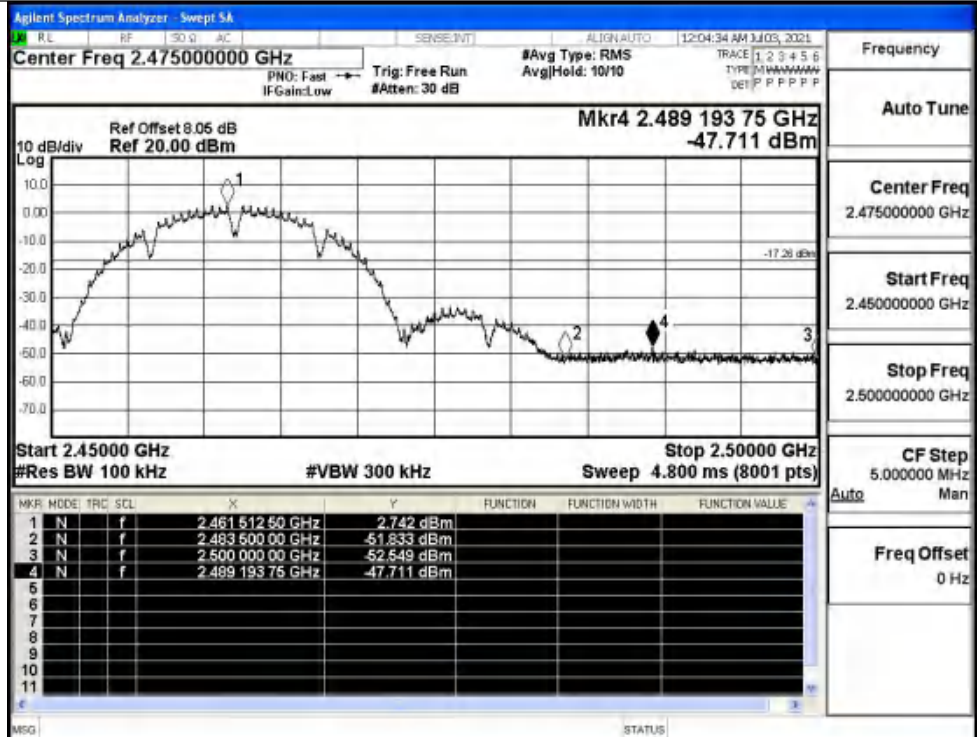
Test Graphs

11B/LCH

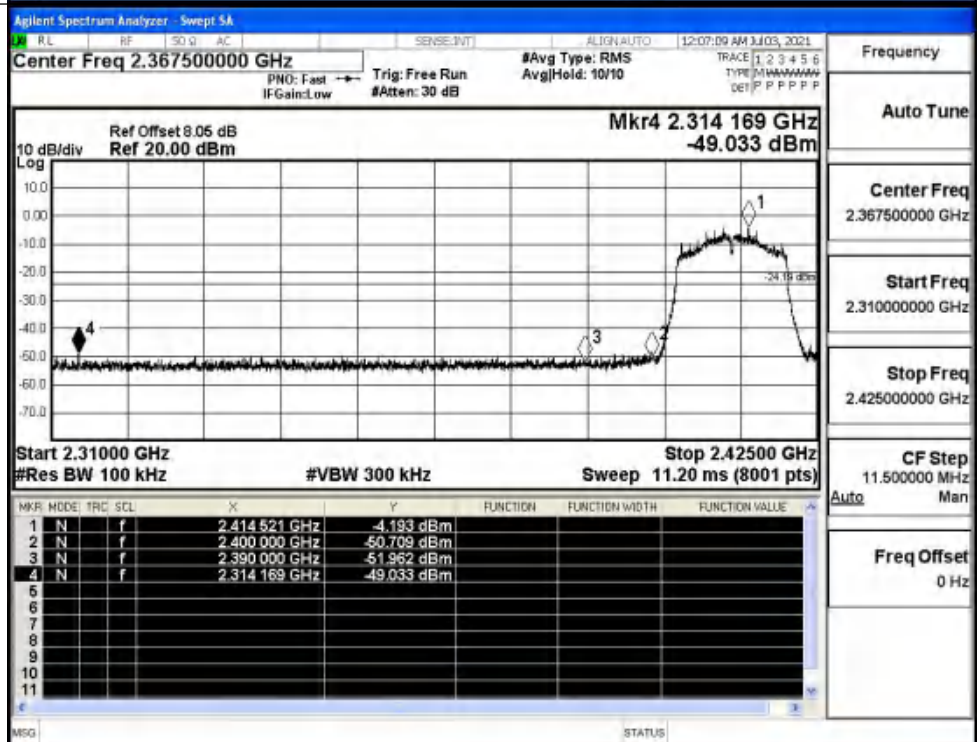




11B/HCH

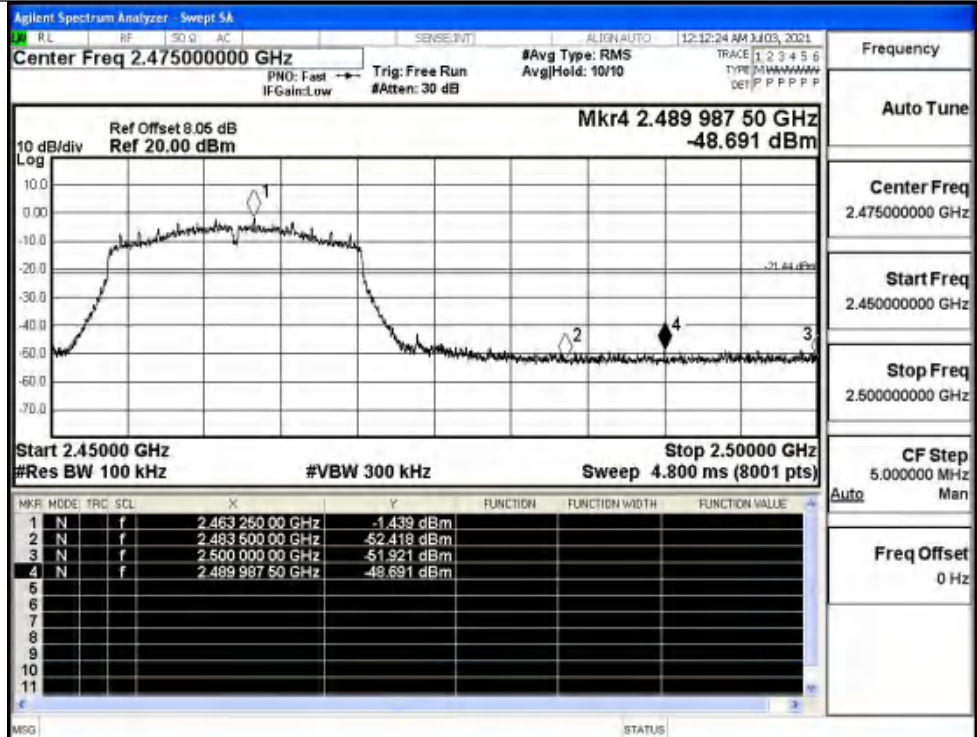


11G/LCH

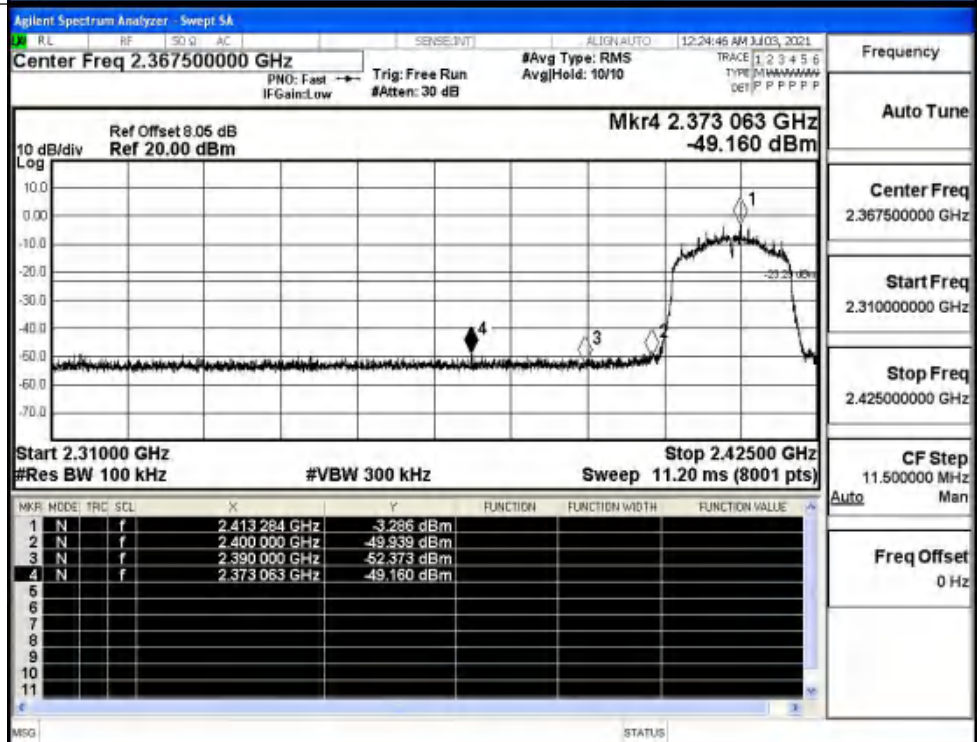




11G/HCH

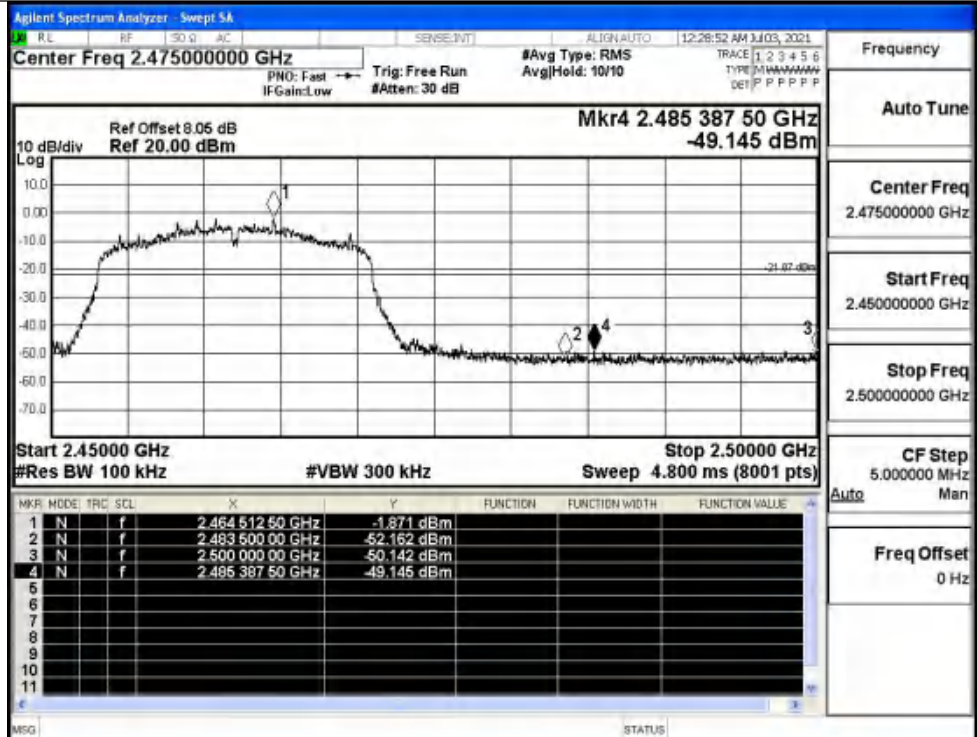


11N20SISO/LCH

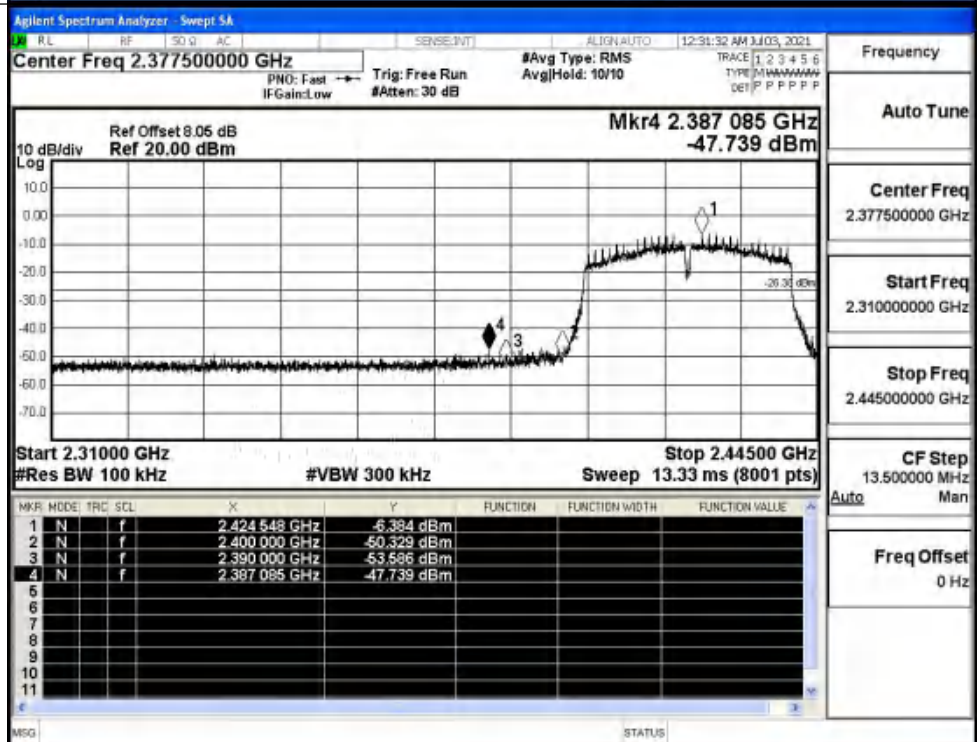




11N20SISO/HCH

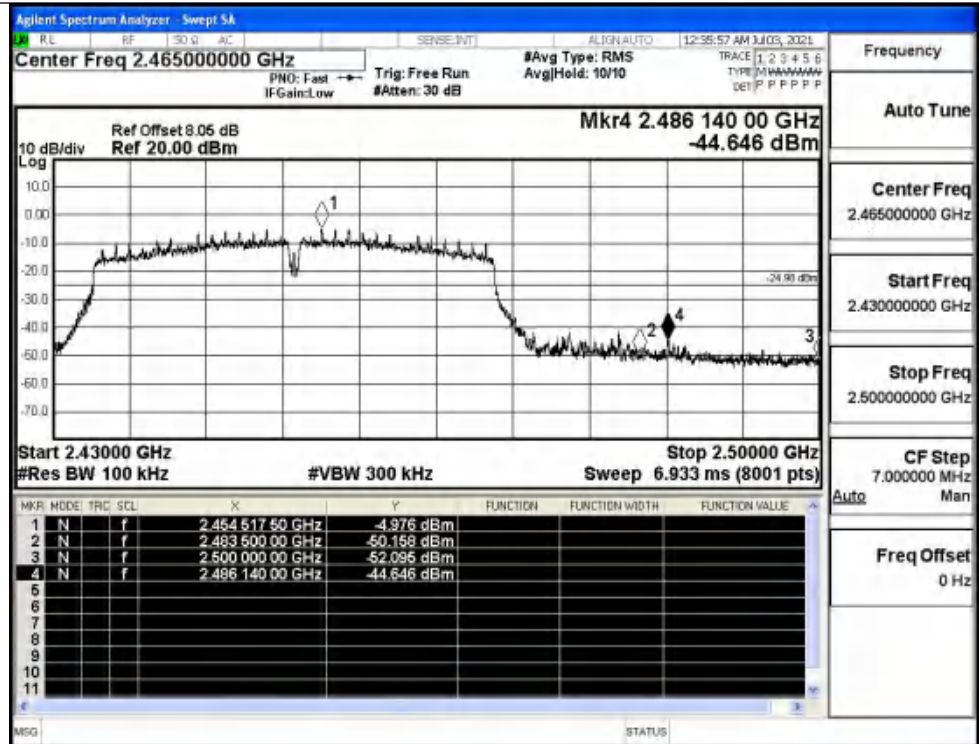


11N40SISO/LCH





11N40SISO/HCH





A.7 Restrict-band band-edge measurements

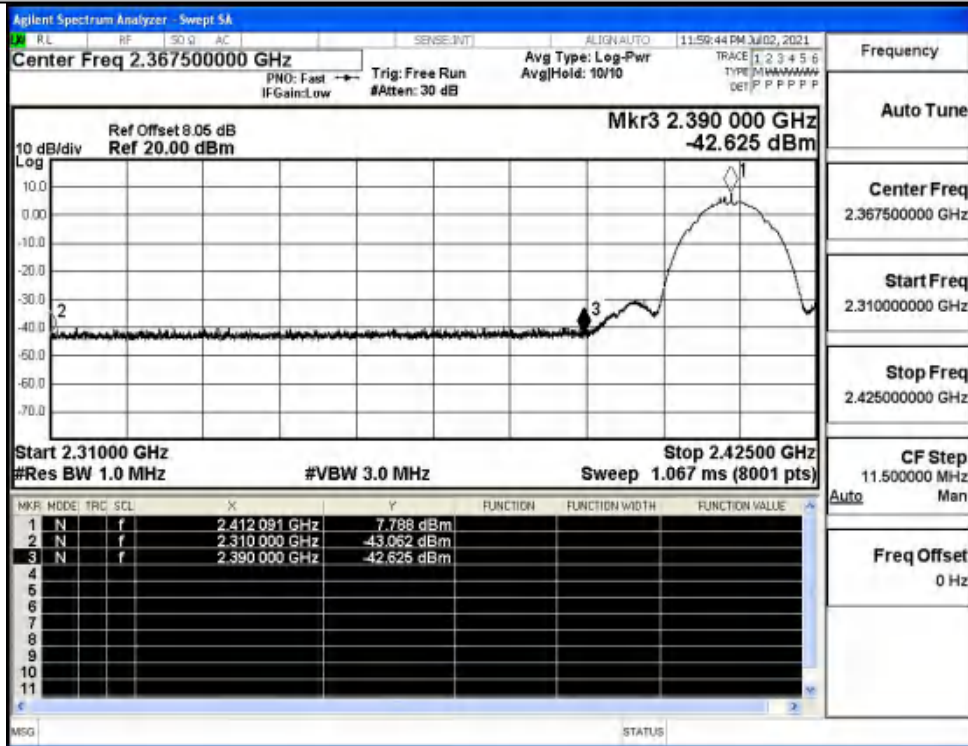
Test Mode	Test Channel	Ant	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
11B	2412	Ant1	2310.0	-43.06	2.0	0	54.17	PEAK	74	PASS
	2412	Ant1	2310.0	-53.54	2.0	0	43.69	AV	54	PASS
	2412	Ant1	2390.0	-42.63	2.0	0	54.60	PEAK	74	PASS
	2412	Ant1	2390.0	-52.79	2.0	0	44.44	AV	54	PASS
	2462	Ant1	2483.5	-41.73	2.0	0	55.50	PEAK	74	PASS
	2462	Ant1	2483.5	-52.07	2.0	0	45.16	AV	54	PASS
	2462	Ant1	2500.0	-42.31	2.0	0	54.92	PEAK	74	PASS
	2462	Ant1	2500.0	-52.12	2.0	0	45.11	AV	54	PASS
11G	2412	Ant1	2310.0	-43.74	2.0	0	53.49	PEAK	74	PASS
	2412	Ant1	2310.0	-53.52	2.0	0	43.71	AV	54	PASS
	2412	Ant1	2390.0	-42.30	2.0	0	54.93	PEAK	74	PASS
	2412	Ant1	2390.0	-53.04	2.0	0	44.19	AV	54	PASS
	2462	Ant1	2483.5	-41.15	2.0	0	56.08	PEAK	74	PASS
	2462	Ant1	2483.5	-52.35	2.0	0	44.88	AV	54	PASS
	2462	Ant1	2500.0	-42.11	2.0	0	55.12	PEAK	74	PASS
	2462	Ant1	2500.0	-52.02	2.0	0	45.21	AV	54	PASS
11N20 SISO	2412	Ant1	2310.0	-42.98	2.0	0	54.25	PEAK	74	PASS
	2412	Ant1	2310.0	-53.51	2.0	0	43.72	AV	54	PASS
	2412	Ant1	2390.0	-42.90	2.0	0	54.33	PEAK	74	PASS
	2412	Ant1	2390.0	-53.04	2.0	0	44.19	AV	54	PASS
	2462	Ant1	2483.5	-41.03	2.0	0	56.20	PEAK	74	PASS
	2462	Ant1	2483.5	-52.33	2.0	0	44.90	AV	54	PASS
	2462	Ant1	2500.0	-40.86	2.0	0	56.37	PEAK	74	PASS
	2462	Ant1	2500.0	-52.01	2.0	0	45.22	AV	54	PASS
11N40 SISO	2422	Ant1	2310.0	-43.38	2.0	0	53.85	PEAK	74	PASS
	2422	Ant1	2310.0	-53.52	2.0	0	43.71	AV	54	PASS



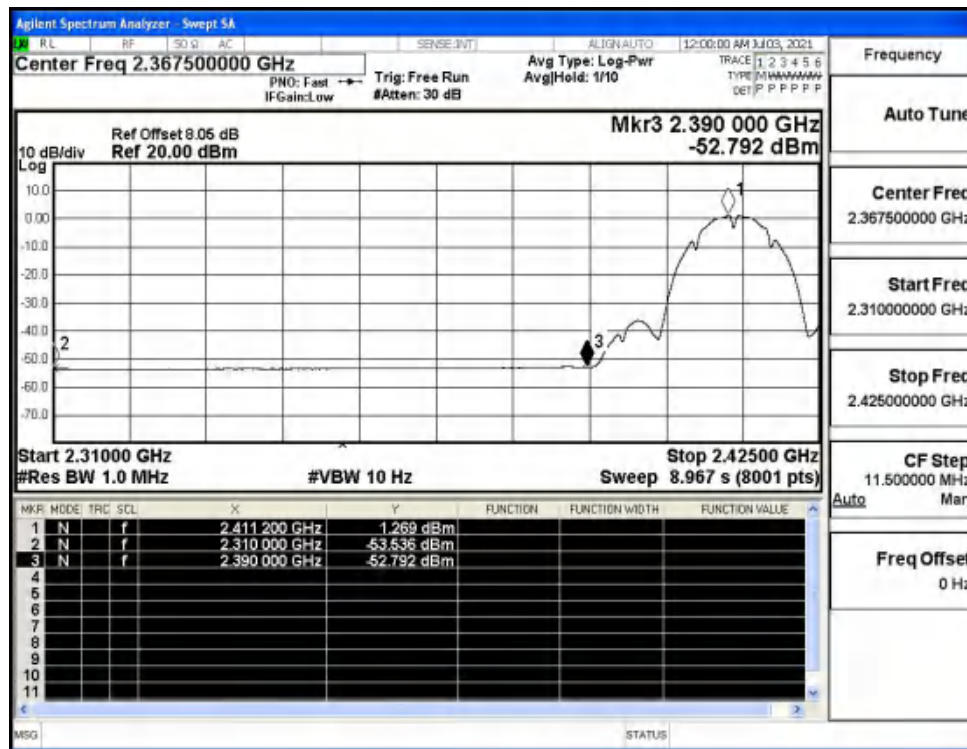
	2422	Ant1	2390.0	-41.23	2.0	0	56.00	PEAK	74	PASS
	2422	Ant1	2390.0	-52.02	2.0	0	45.21	AV	54	PASS
	2452	Ant1	2483.5	-34.02	2.0	0	63.21	PEAK	74	PASS
	2452	Ant1	2483.5	-50.07	2.0	0	47.16	AV	54	PASS
	2452	Ant1	2500.0	-41.72	2.0	0	55.51	PEAK	74	PASS
	2452	Ant1	2500.0	-51.99	2.0	0	45.24	AV	54	PASS



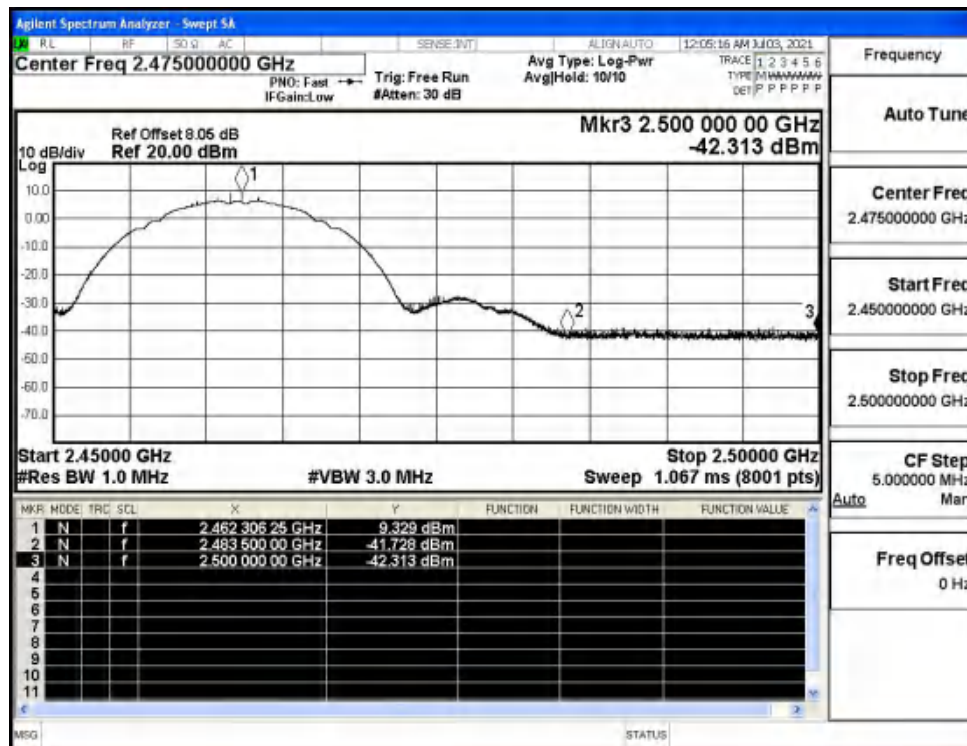
Restrict-band band-edge measurements_11B_2412_Ant1_PEAK



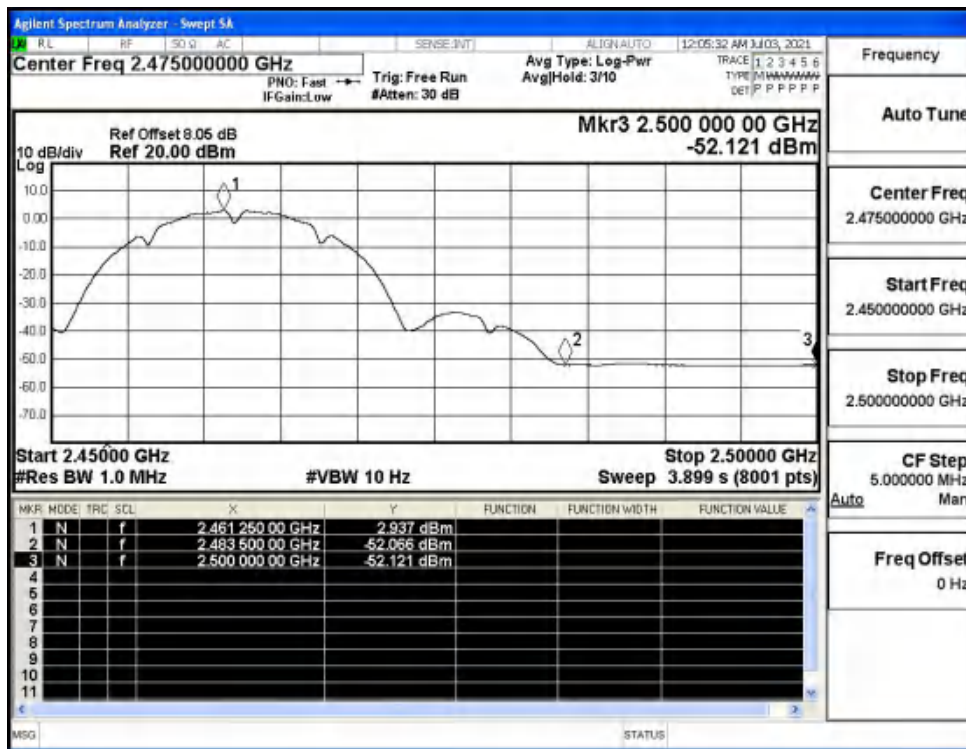
Restrict-band band-edge measurements_11B_2412_Ant1_AV



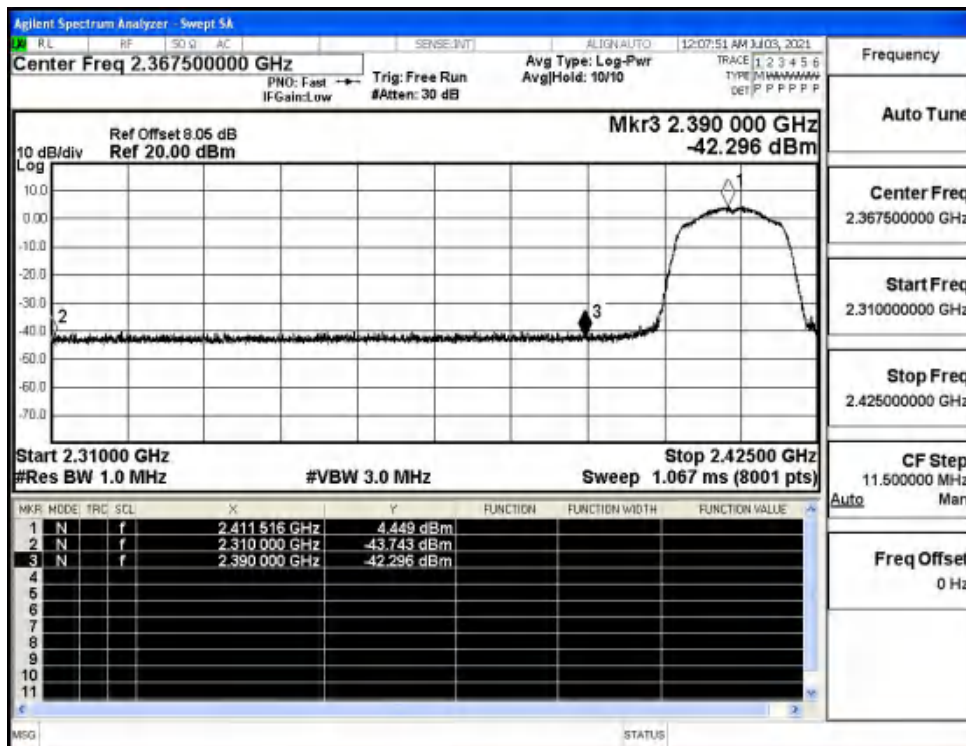
Restrict-band band-edge measurements_11B_2462_Ant1_PEAK



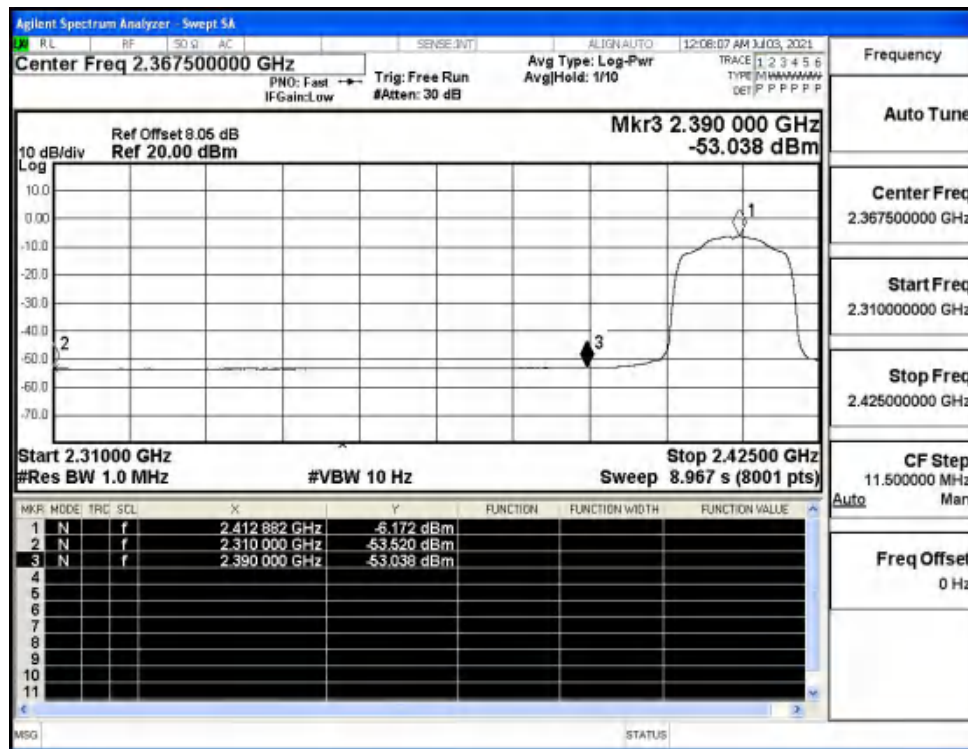
Restrict-band band-edge measurements_11B_2462_Ant1_AV



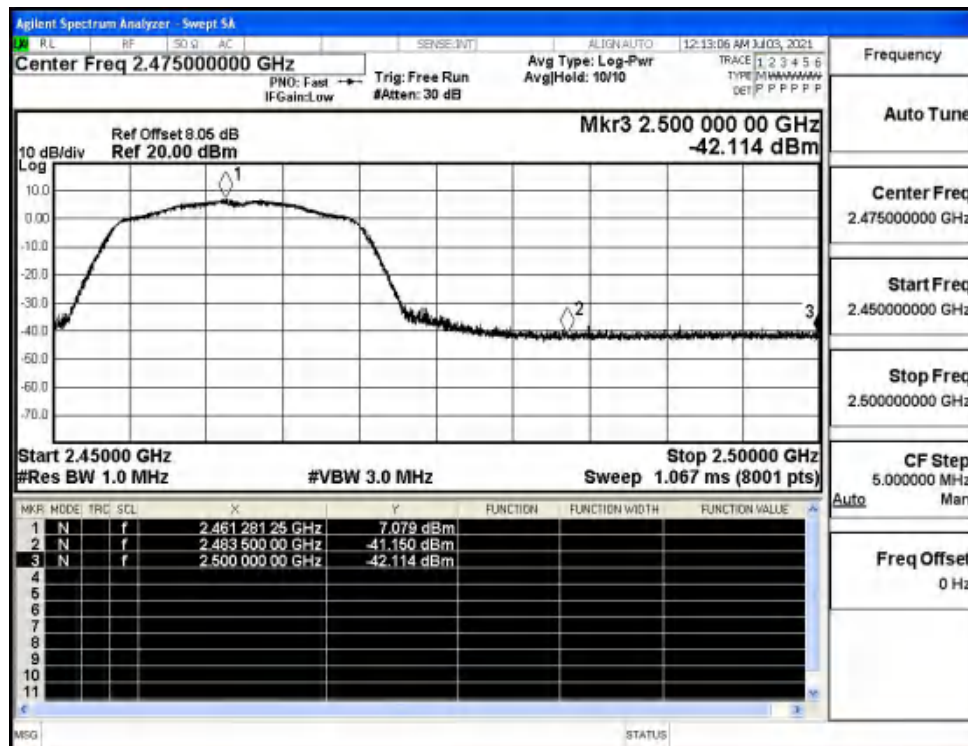
Restrict-band band-edge measurements_11G_2412_Ant1_PEAK



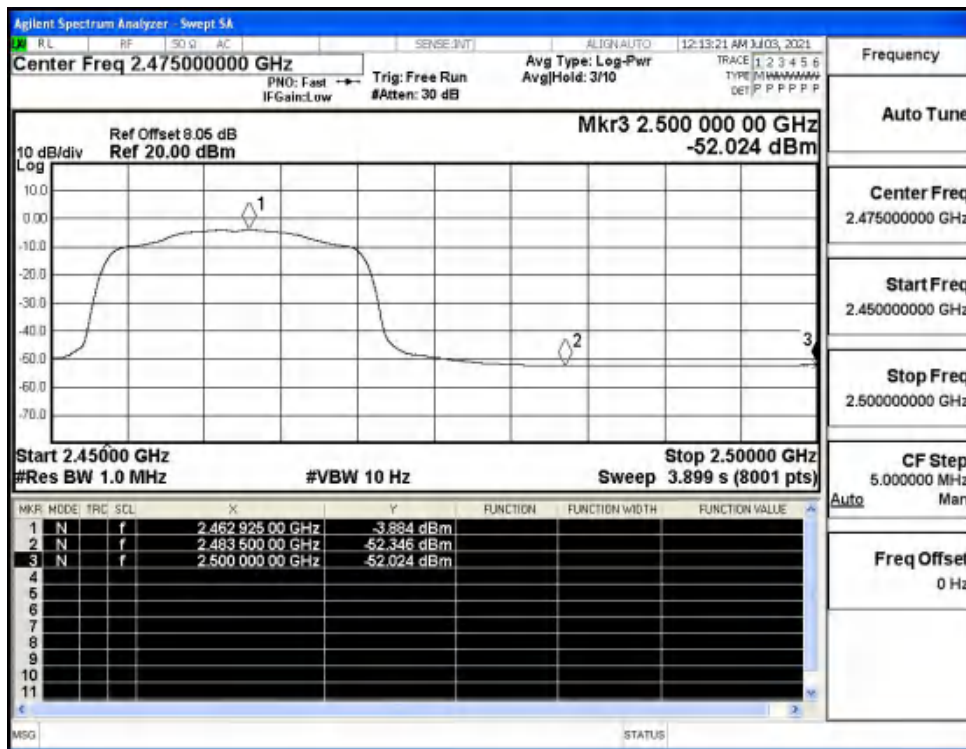
Restrict-band band-edge measurements_11G_2412_Ant1_AV



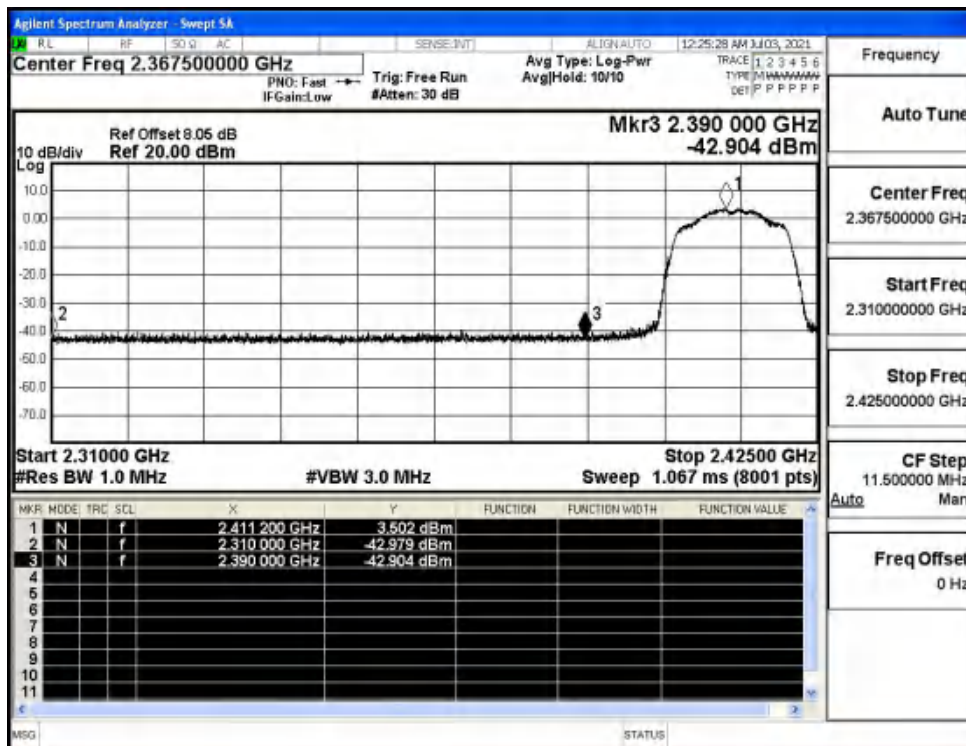
Restrict-band band-edge measurements_11G_2462_Ant1_PEAK



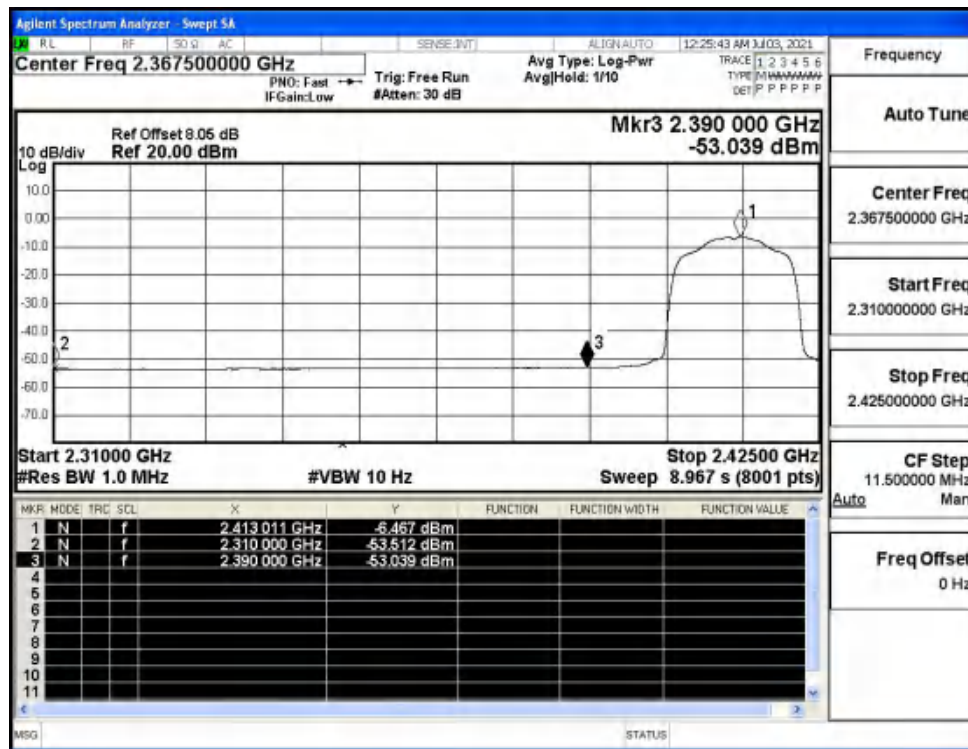
Restrict-band band-edge measurements_11G_2462_Ant1_AV



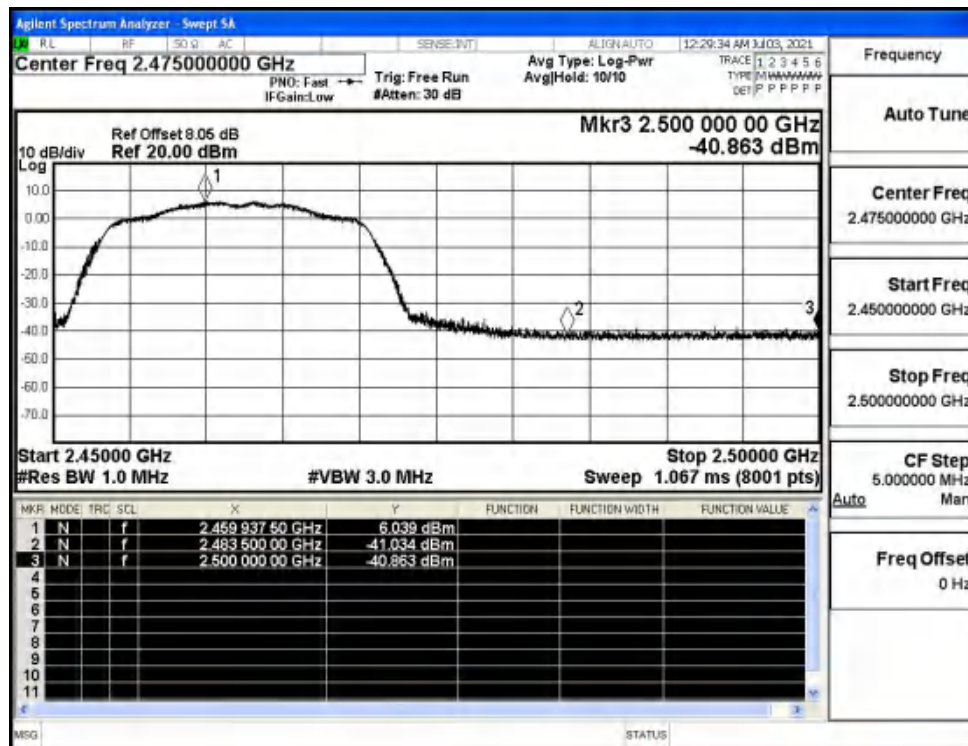
Restrict-band band-edge measurements_11N20SISO_2412_Ant1_PEAK



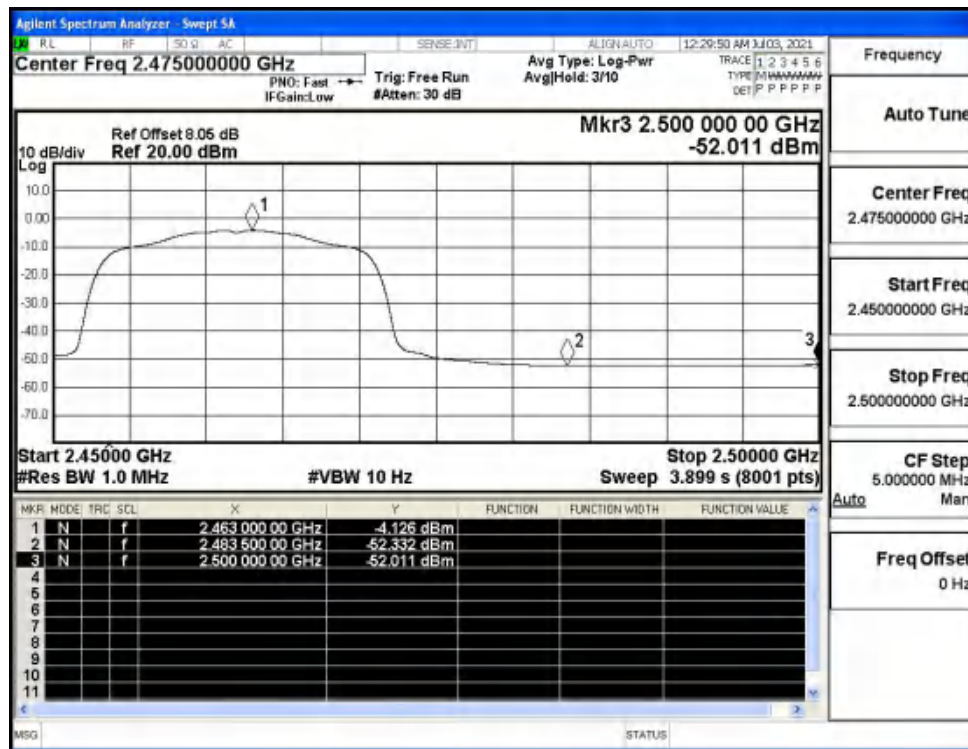
Restrict-band band-edge measurements_11N20SISO_2412_Ant1_AV



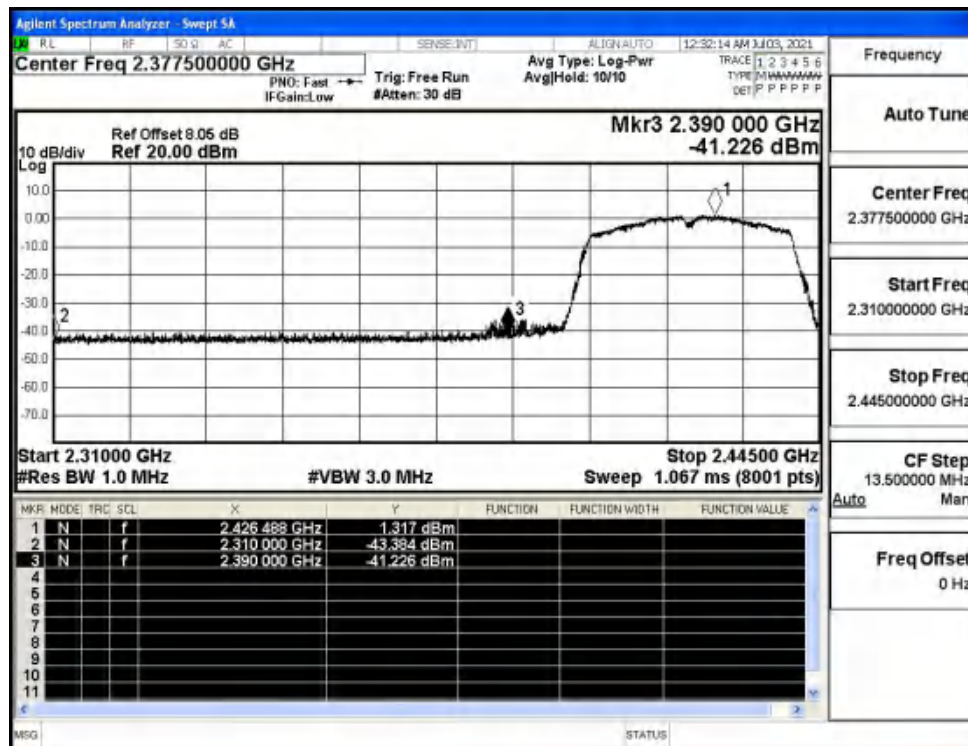
Restrict-band band-edge measurements_11N20SISO_2462_Ant1_PEAK



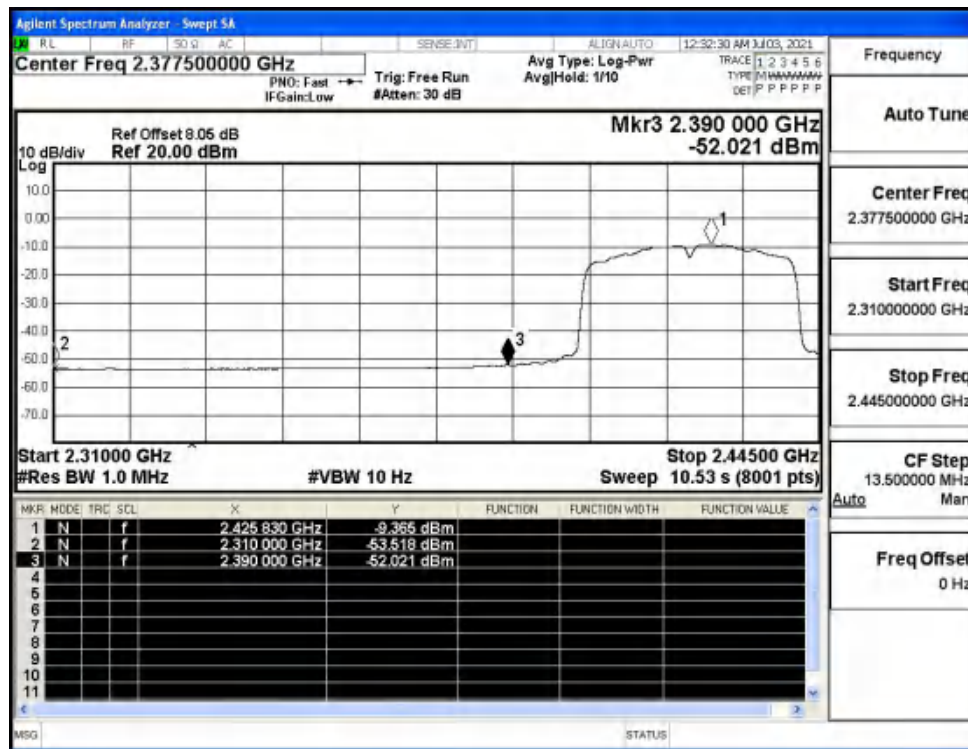
Restrict-band band-edge measurements_11N20SISO_2462_Ant1_AV



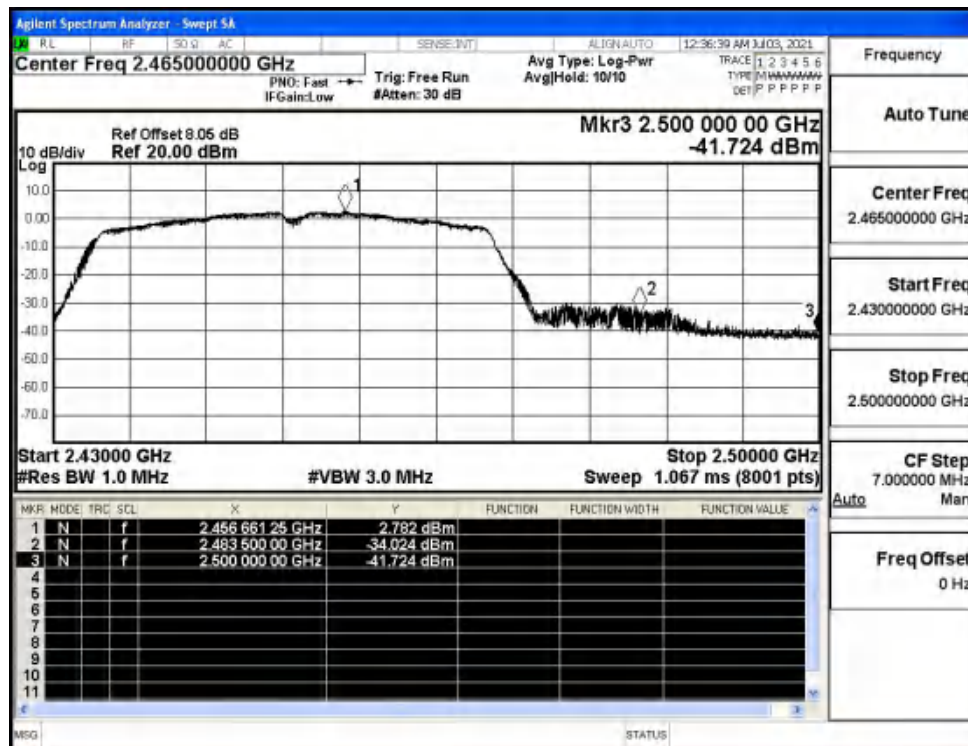
Restrict-band band-edge measurements_11N40SISO_2422_Ant1_PEAK



Restrict-band band-edge measurements_11N40SISO_2422_Ant1_AV



Restrict-band band-edge measurements_11N40SISO_2452_Ant1_PEAK



Restrict-band band-edge measurements_11N40SISO_2452_Ant1_AV

