

Appendix B

RF Test Data for 2.4G WIFI (Conducted Measurement)

Product Name: Projector

Trade Mark: N/A

Test Model: F-402

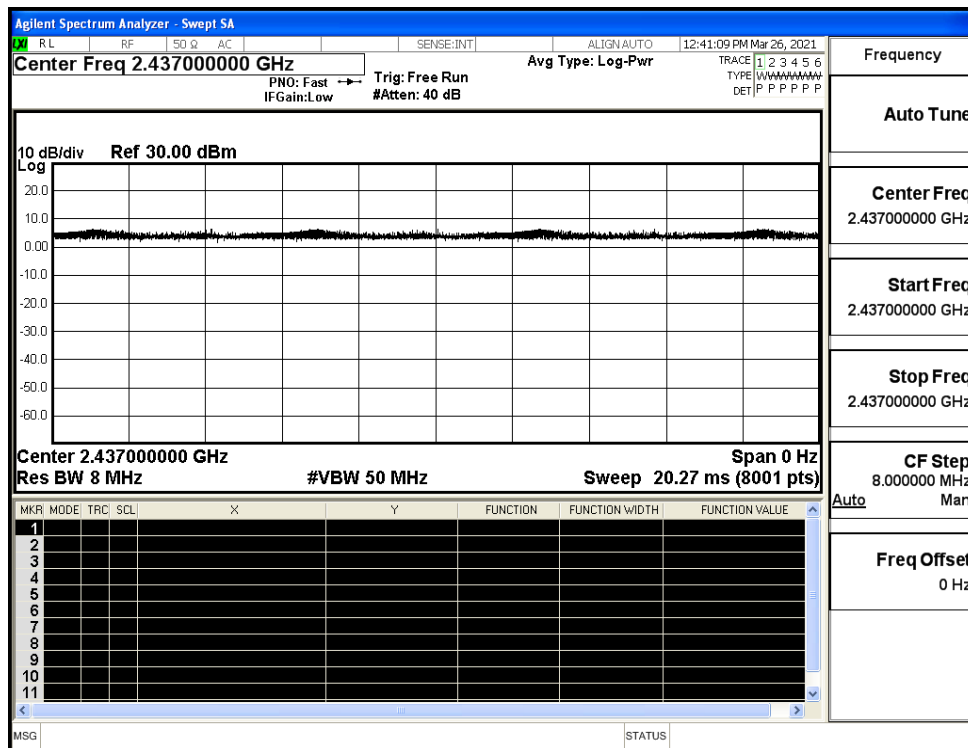
Environmental Conditions

Temperature:	24.6° C
Relative Humidity:	54.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Diamond Lu
Supervised by:	Li Huan

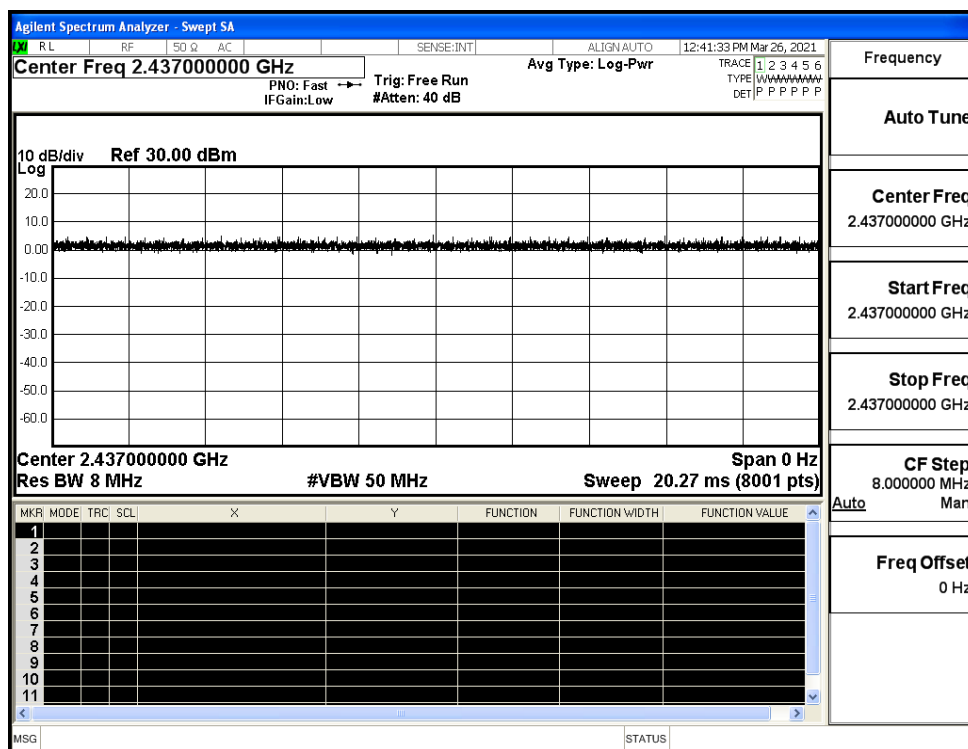
B.1 Duty Cycle

Test Mode	Test Channel	Ant	Duty Cycle[%]	Verdict
11B	2437	Ant1	100	PASS
11G	2437	Ant1	100	PASS
11N20SISO	2437	Ant1	100	PASS
11N40SISO	2437	Ant1	100	PASS

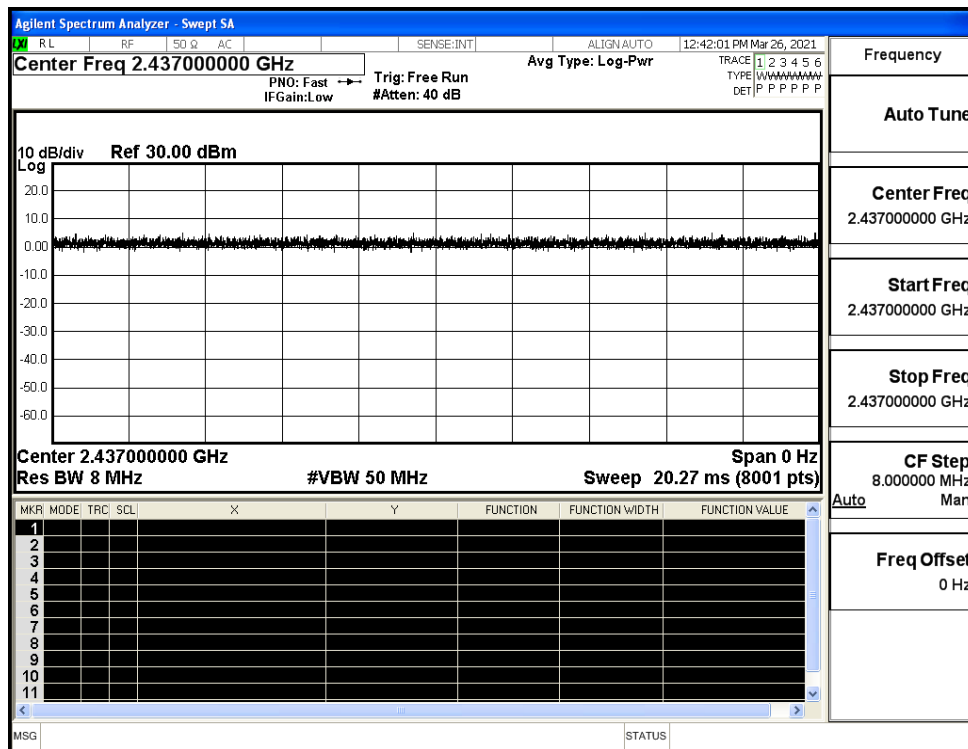
Duty Cycle_11B_2437_Ant1



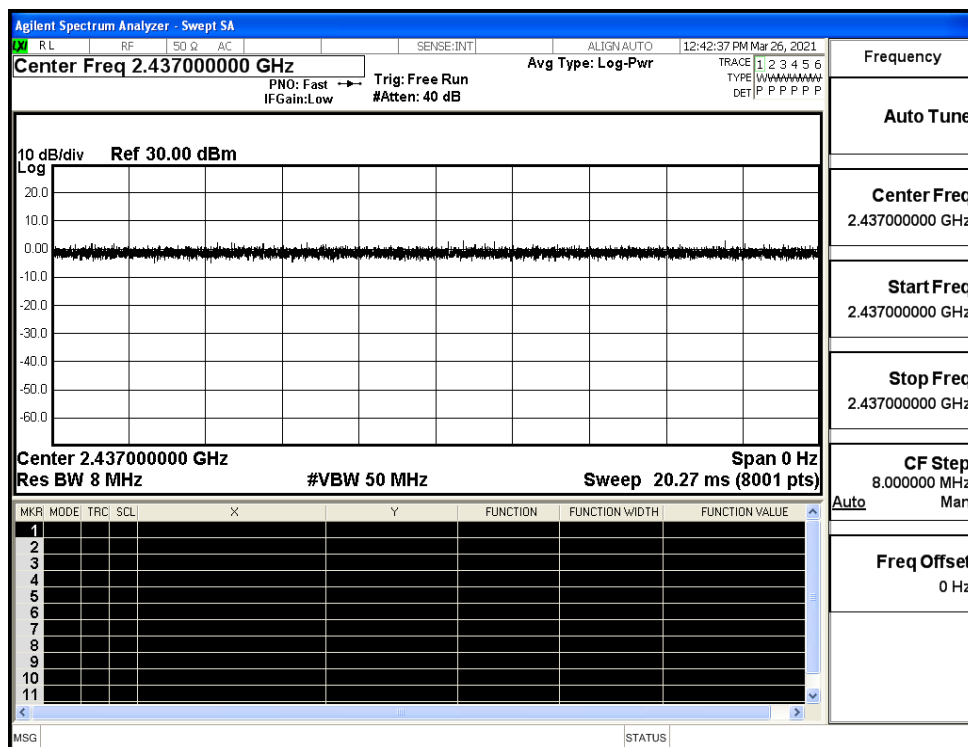
Duty Cycle_11G_2437_Ant1



Duty Cycle_11N20SISO_2437_Ant1



Duty Cycle_11N40SISO_2437_Ant1



B.2 Maximum Conducted Output Power

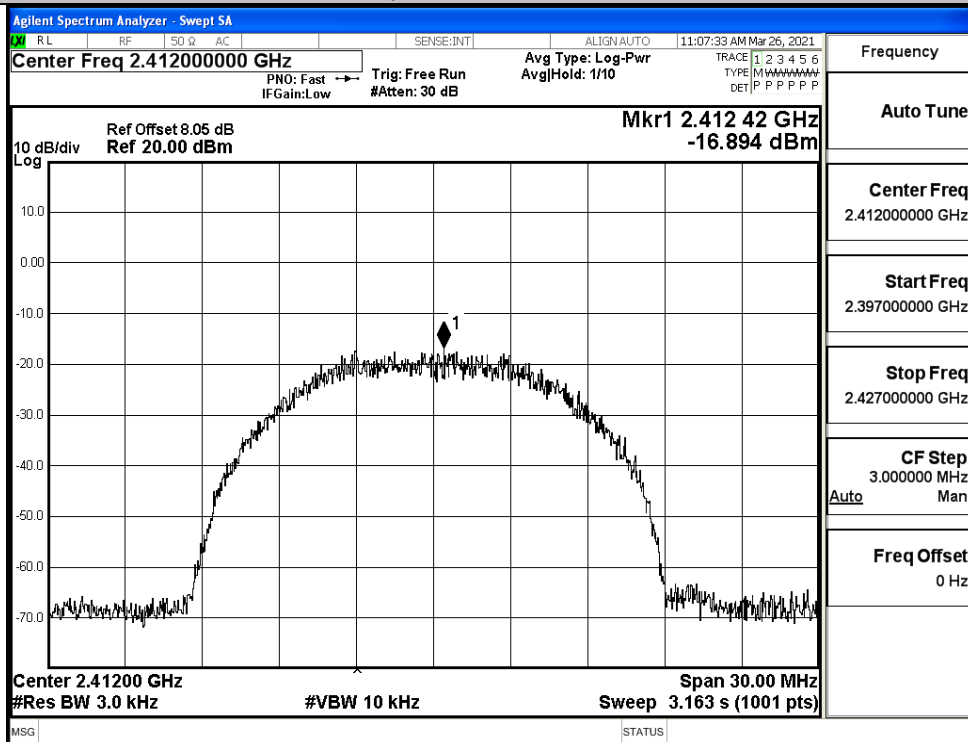
Mode	Channel	Meas.Level [dBm]	Limit [dBm]	Verdict
11B	LCH	15.08	30	PASS
	MCH	15.06	30	PASS
	HCH	15.55	30	PASS
11G	LCH	15.51	30	PASS
	MCH	15.66	30	PASS
	HCH	16.15	30	PASS
11N20SISO	LCH	15.77	30	PASS
	MCH	15.75	30	PASS
	HCH	16.27	30	PASS
11N40SISO	LCH	16.5	30	PASS
	MCH	16.16	30	PASS
	HCH	16.7	30	PASS

B.3 Maximum Power Spectral Density

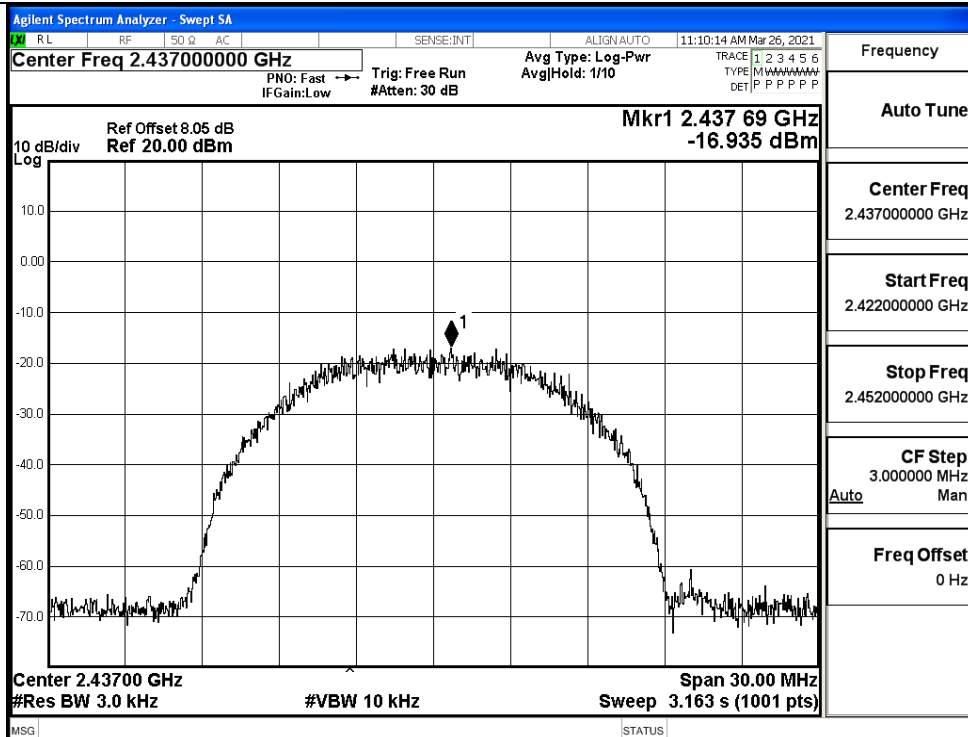
Mode	Channel	Meas.Level [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
11B	LCH	-16.894	8	PASS
	MCH	-16.935	8	PASS
	HCH	-16.433	8	PASS
11G	LCH	-20.703	8	PASS
	MCH	-20.686	8	PASS
	HCH	-19.777	8	PASS
11N20SISO	LCH	-20.169	8	PASS
	MCH	-20.805	8	PASS
	HCH	-20.005	8	PASS
11N40SISO	LCH	-22.037	8	PASS
	MCH	-22.543	8	PASS
	HCH	-22.372	8	PASS

Test Graphs

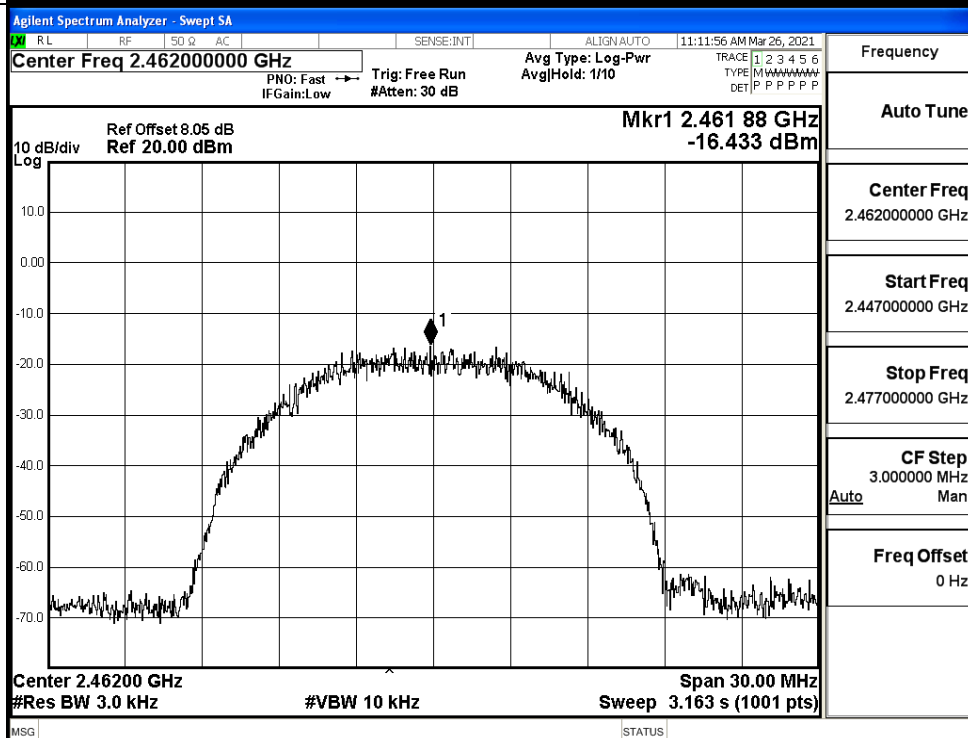
11B/LCH



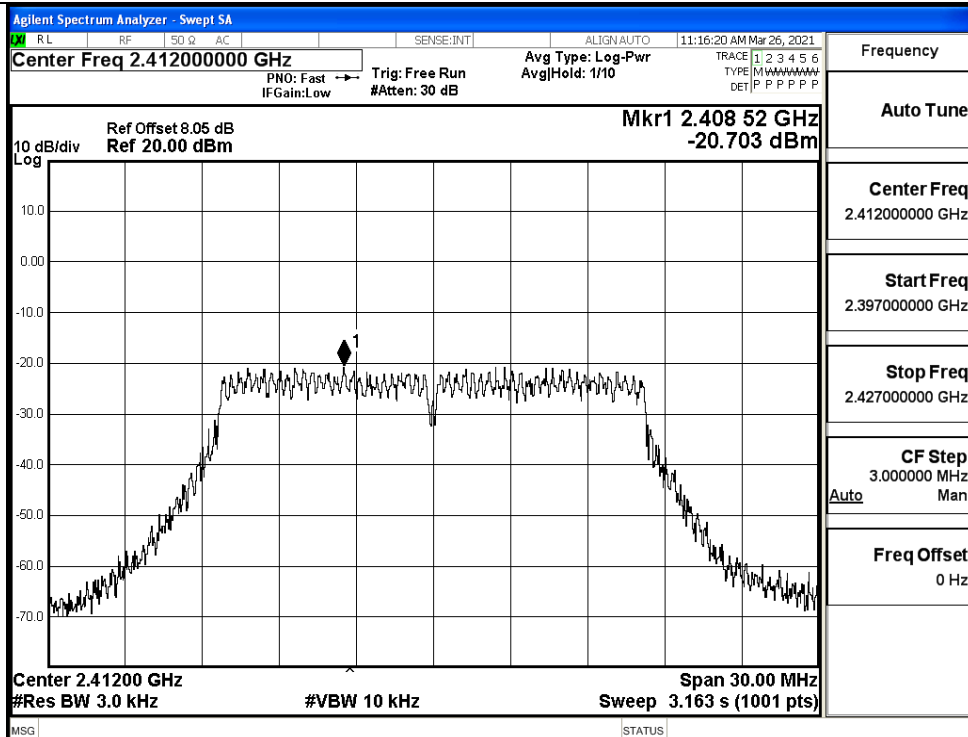
11B/MCH



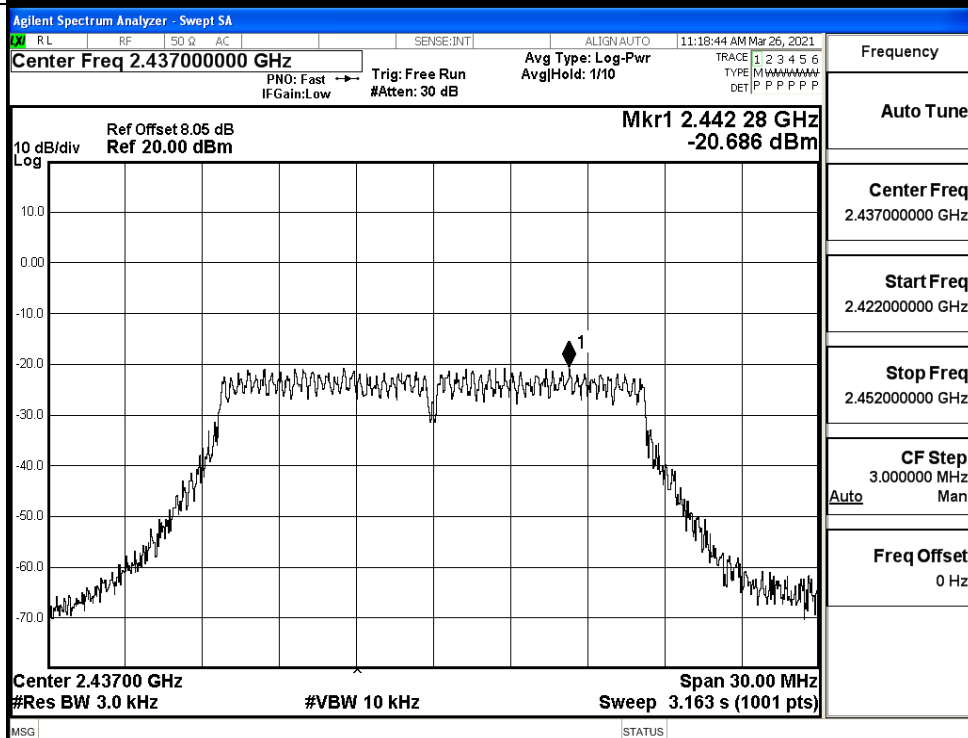
11B/HCH



11G/LCH

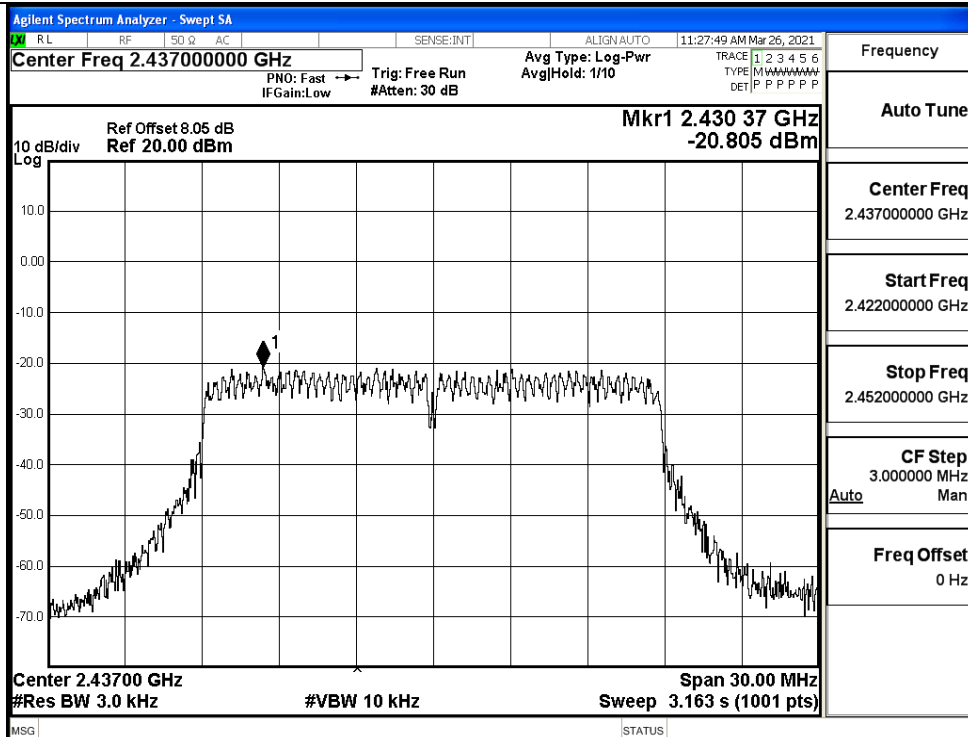


11G/MCH

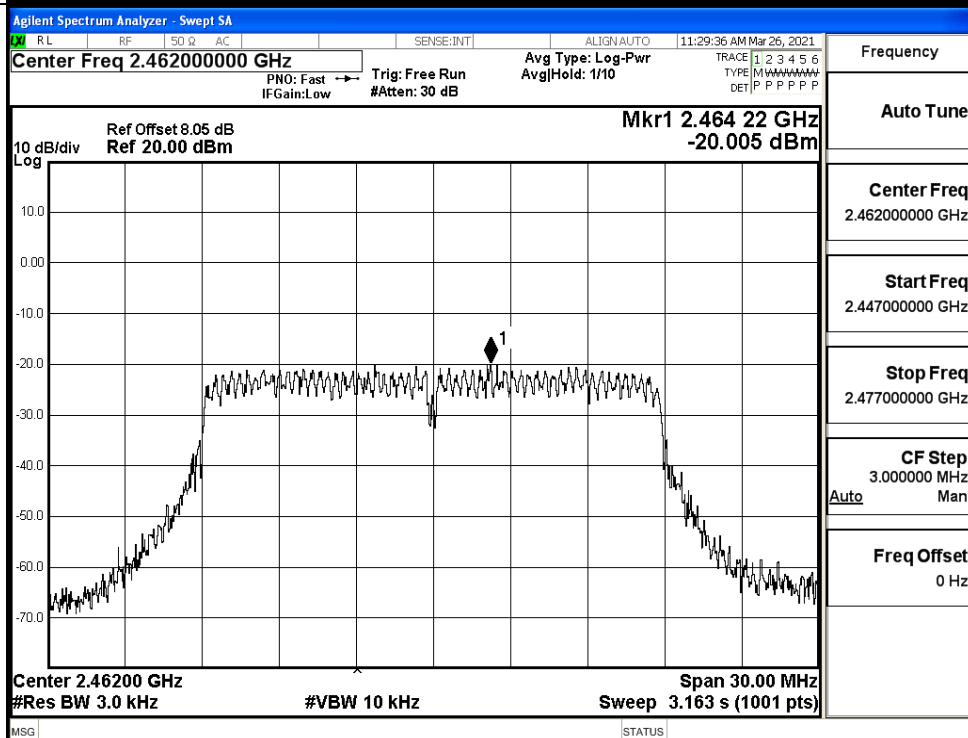


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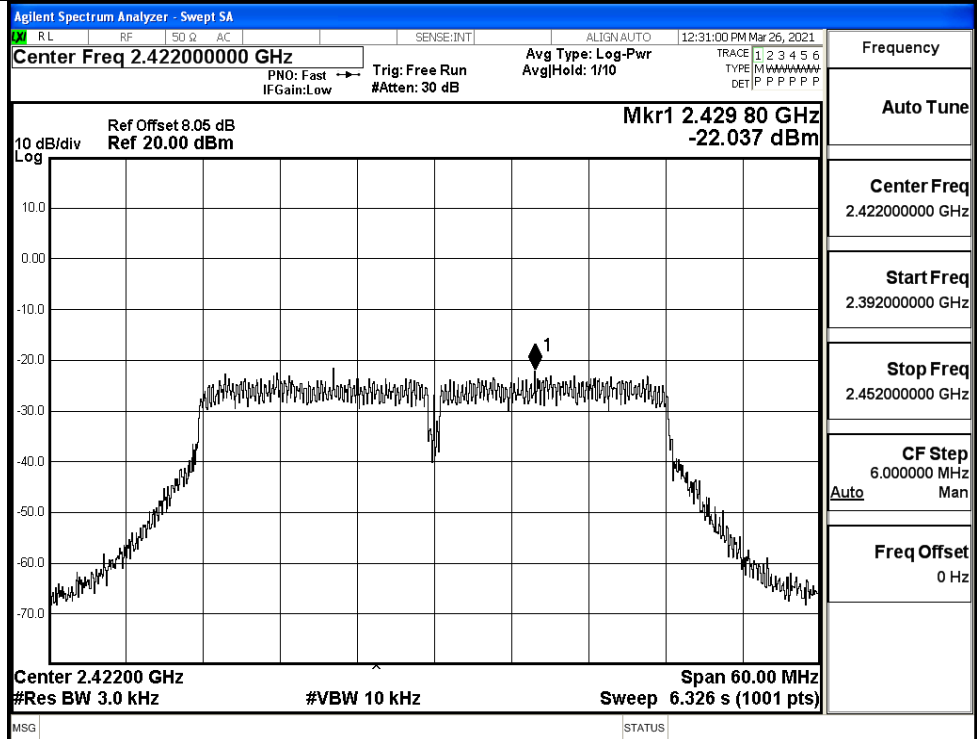
11N20SISO/MCH



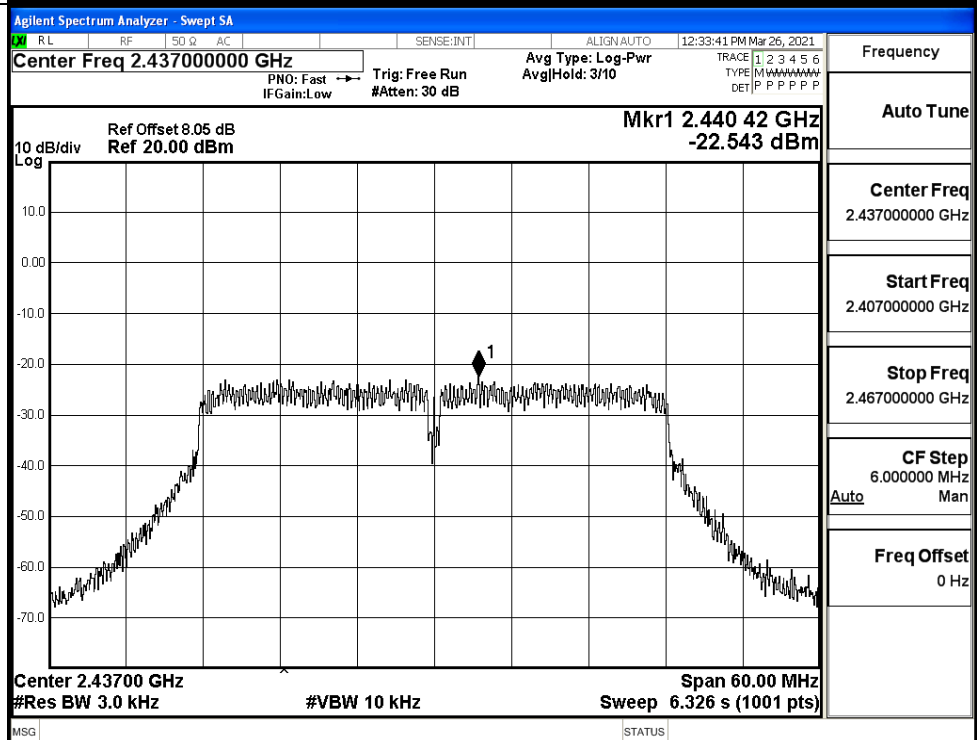
11N20SISO/HCH



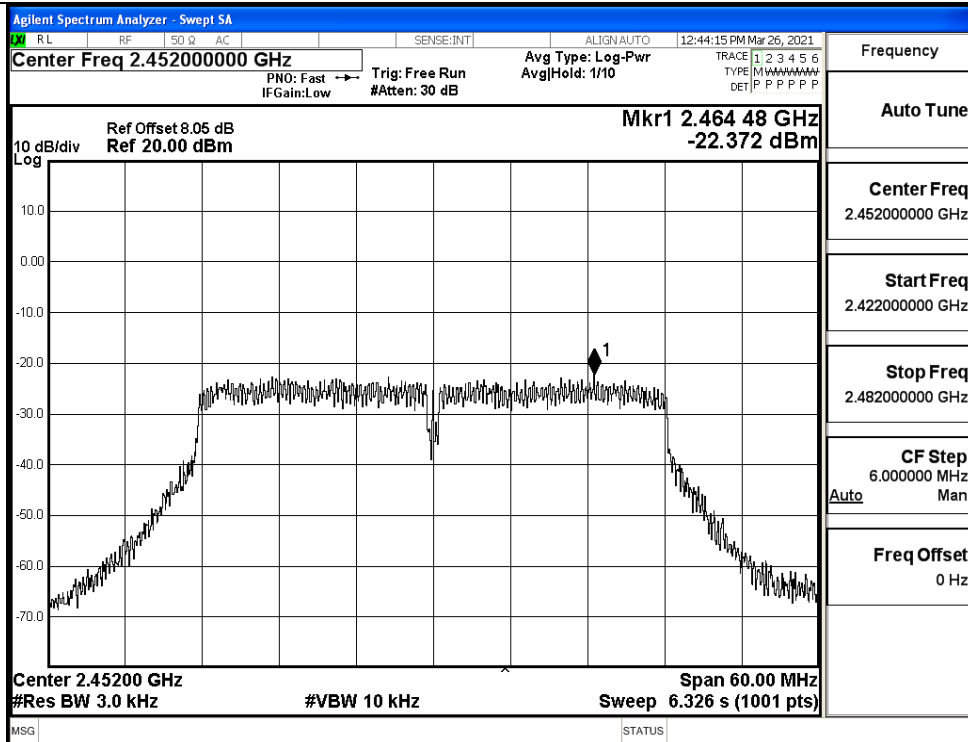
11N40SISO/LCH



11N40SISO/MCH



11N40SISO/HCH

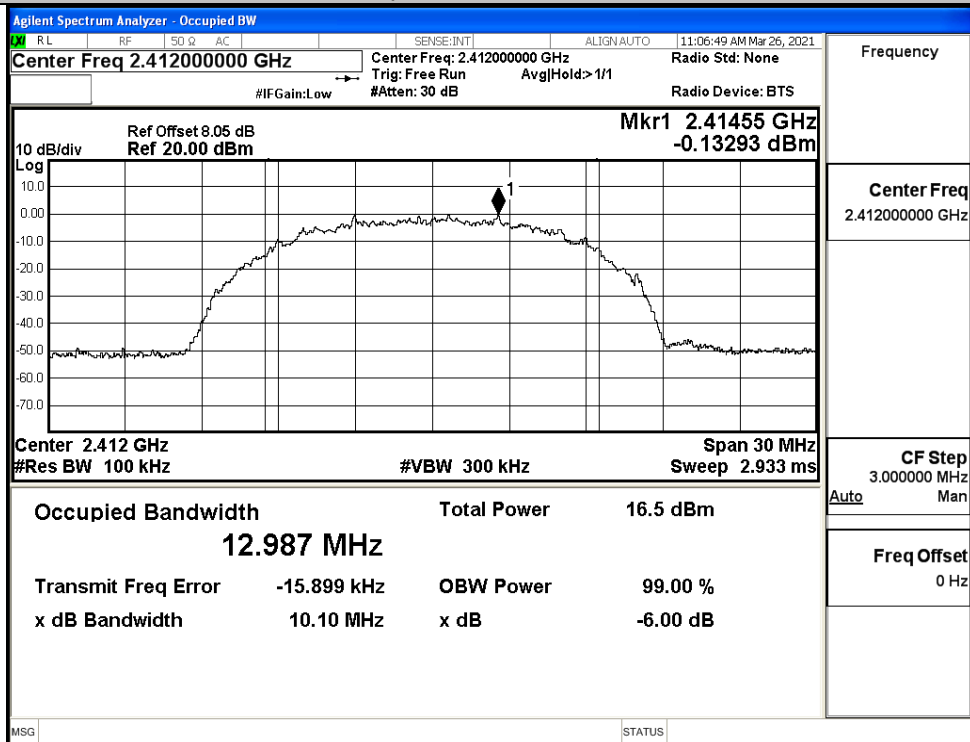


B.4 6dB Bandwidth

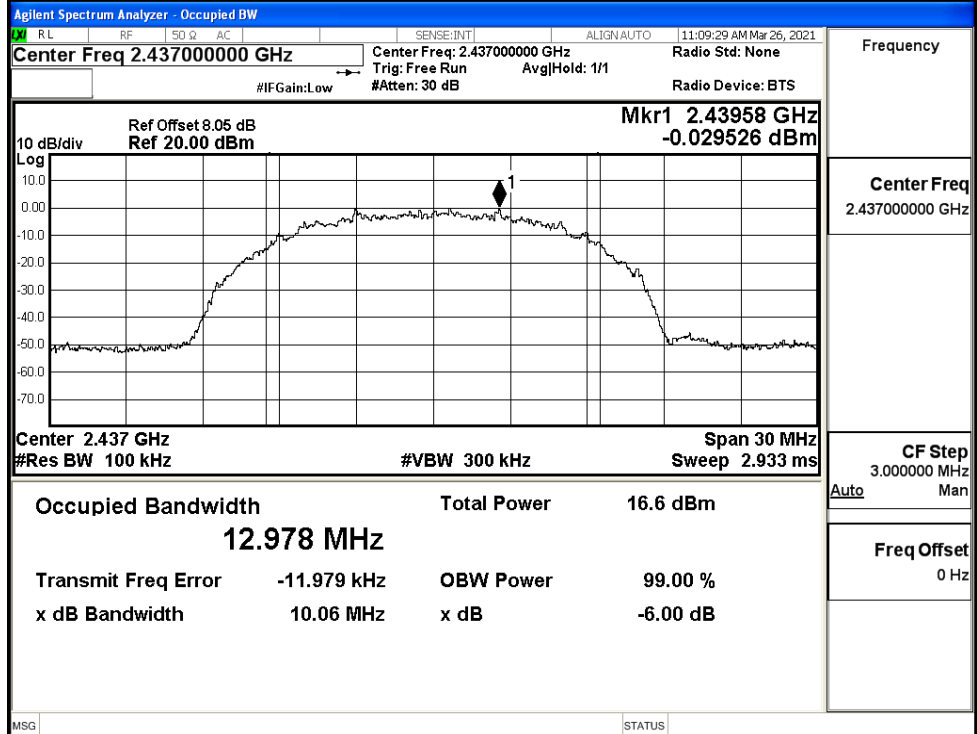
Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
11B	LCH	10.10	≥ 0.5	PASS
	MCH	10.06	≥ 0.5	PASS
	HCH	9.792	≥ 0.5	PASS
11G	LCH	16.48	≥ 0.5	PASS
	MCH	16.48	≥ 0.5	PASS
	HCH	16.47	≥ 0.5	PASS
11N20SISO	LCH	17.63	≥ 0.5	PASS
	MCH	17.62	≥ 0.5	PASS
	HCH	17.63	≥ 0.5	PASS
11N40SISO	LCH	36.47	≥ 0.5	PASS
	MCH	36.50	≥ 0.5	PASS
	HCH	36.52	≥ 0.5	PASS

Test Graphs

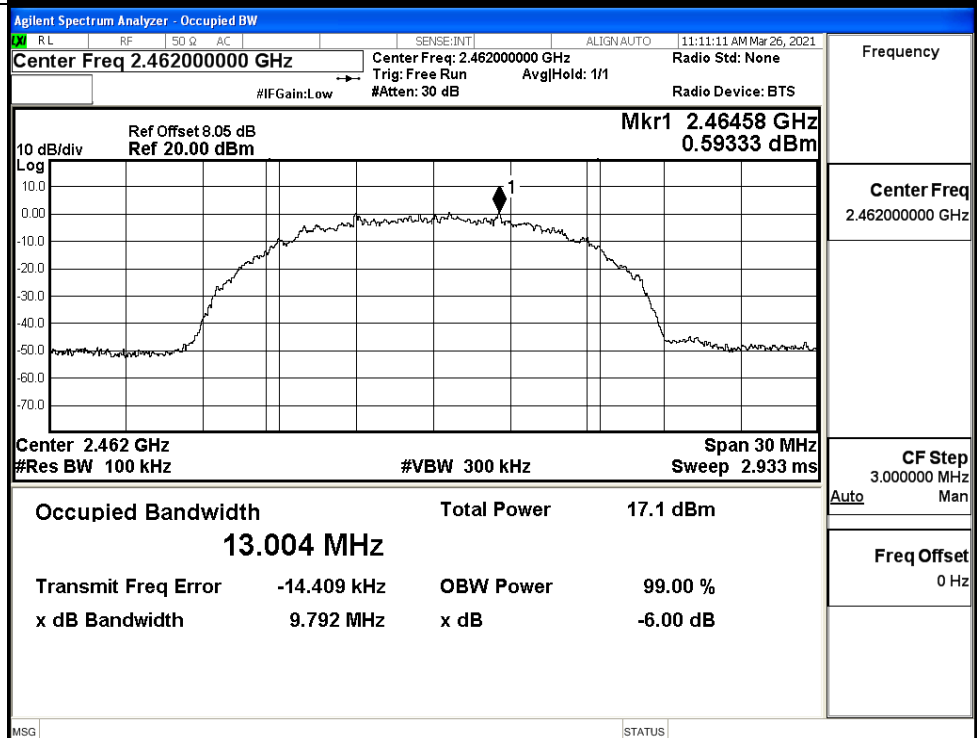
11B/LCH



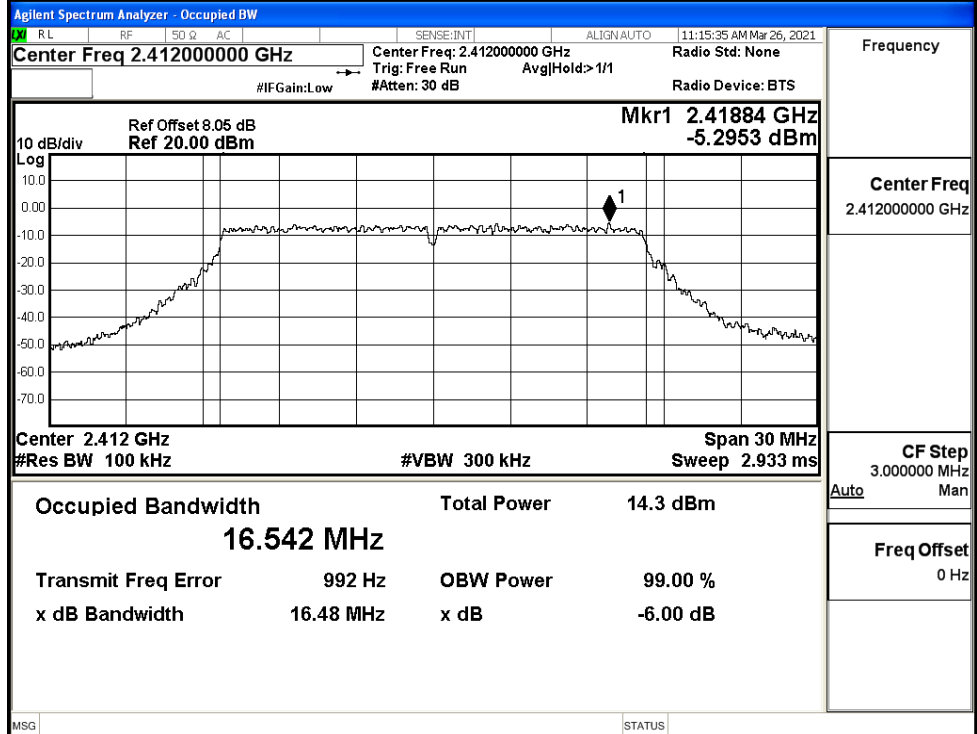
11B/MCH



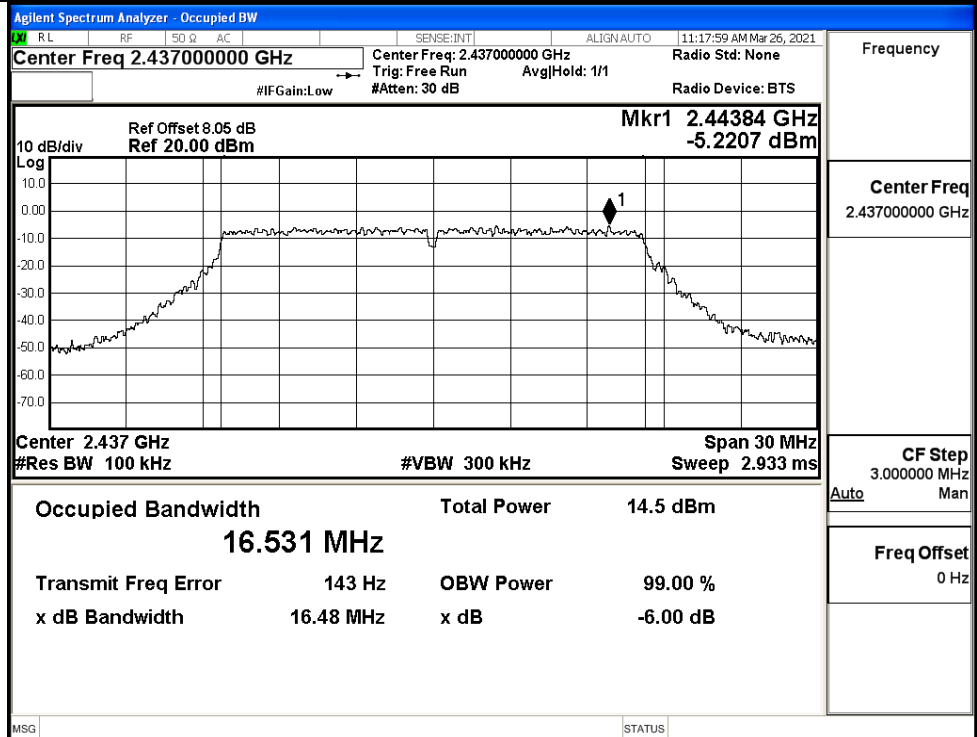
11B/HCH



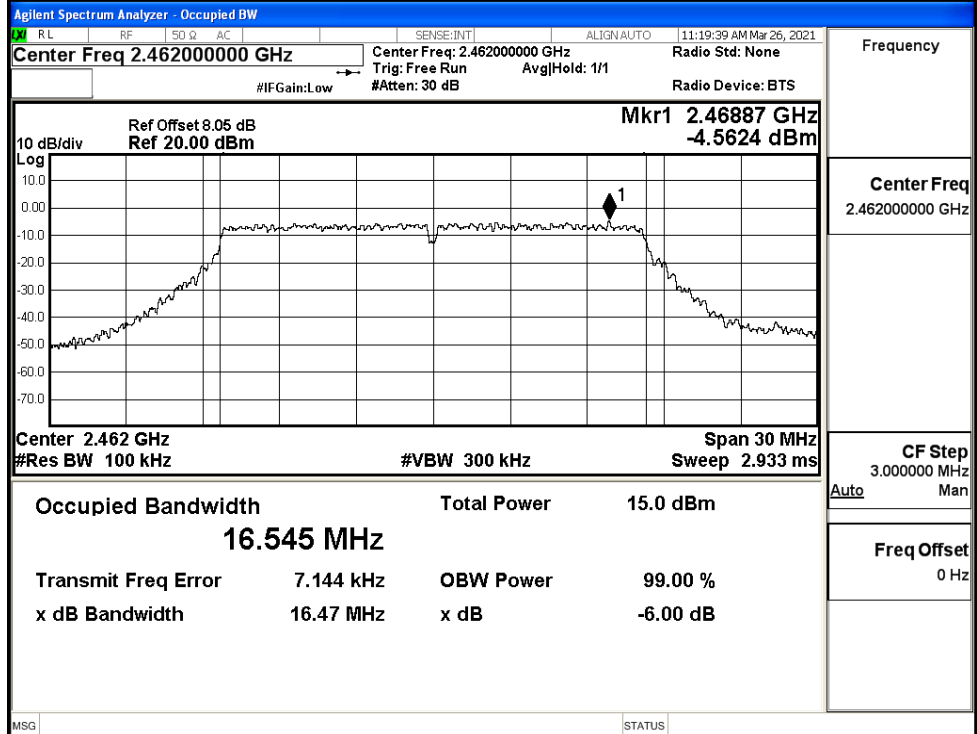
11G/LCH



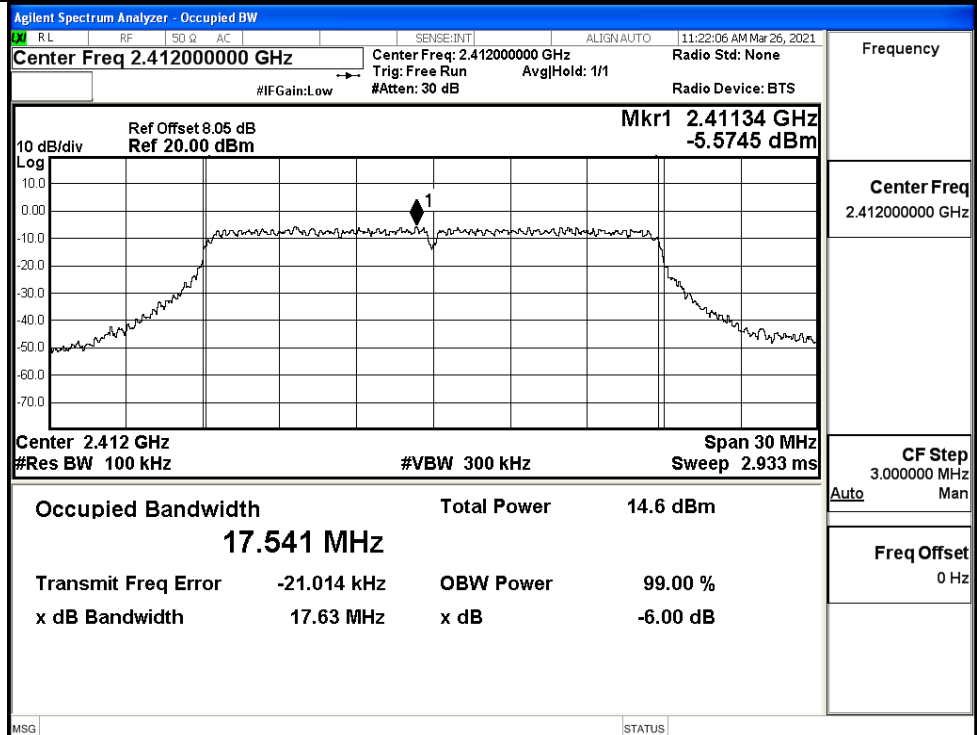
11G/MCH



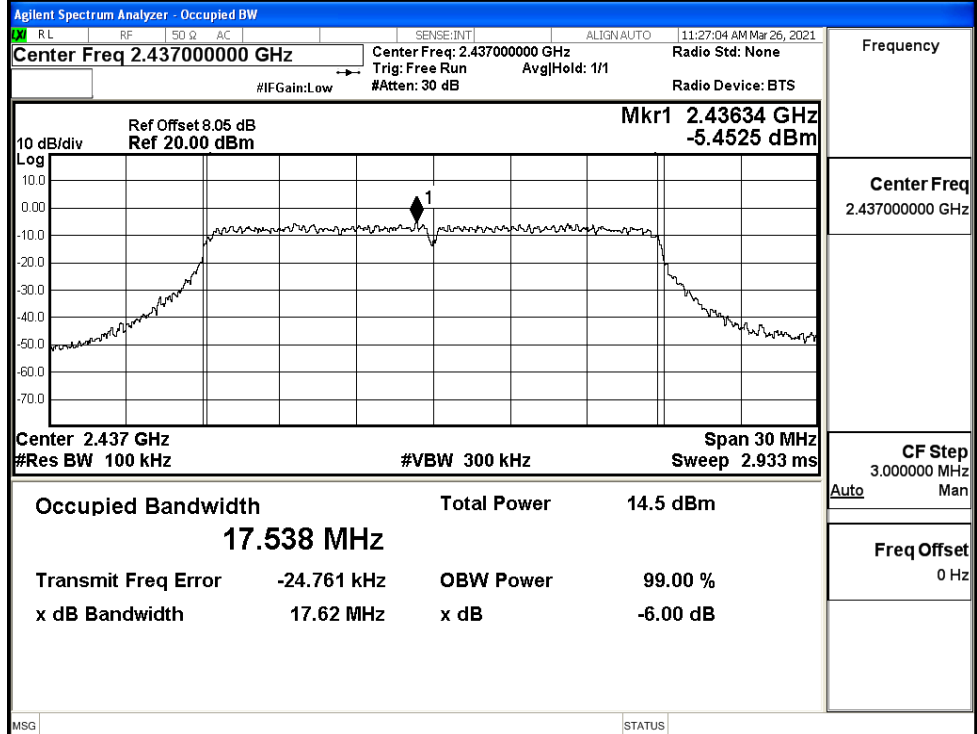
11G/HCH



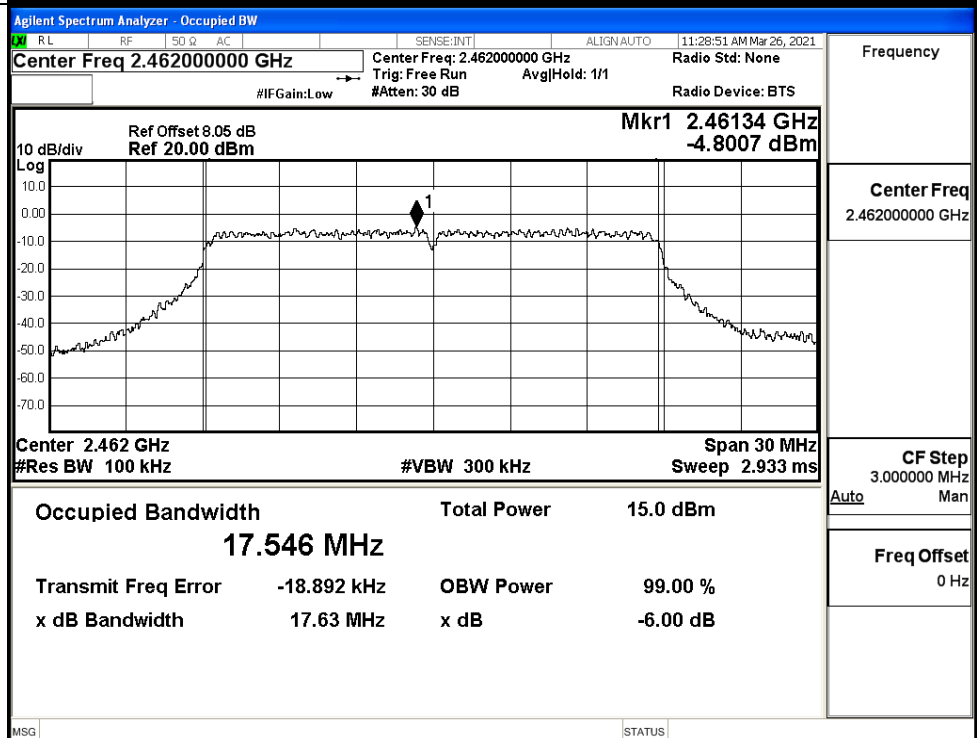
11N20SISO/LCH



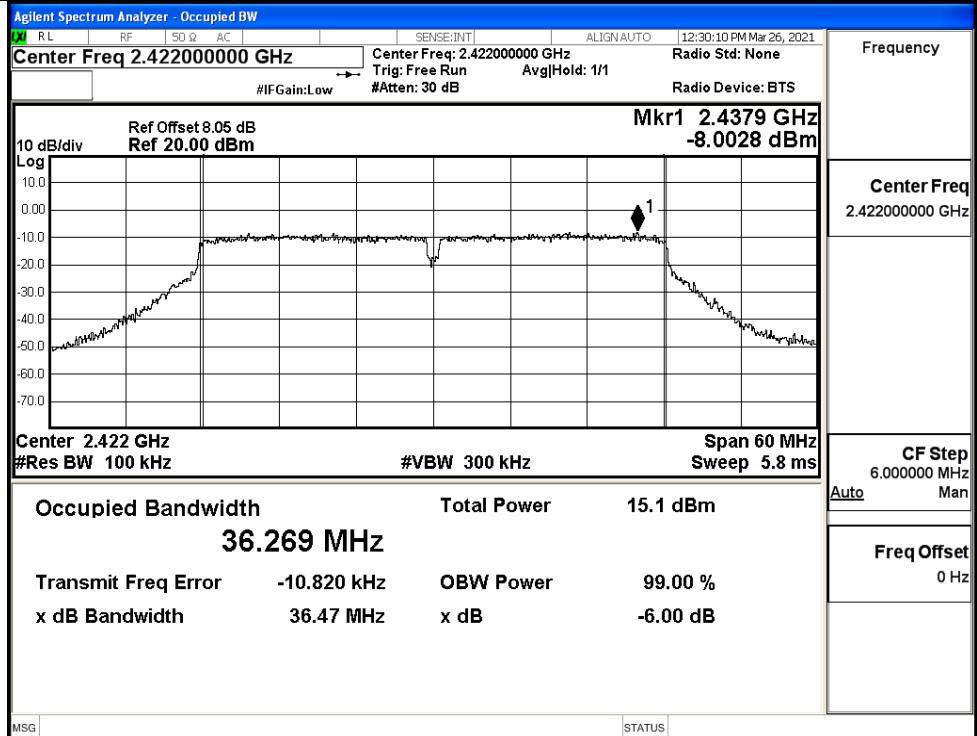
11N20SISO/MCH



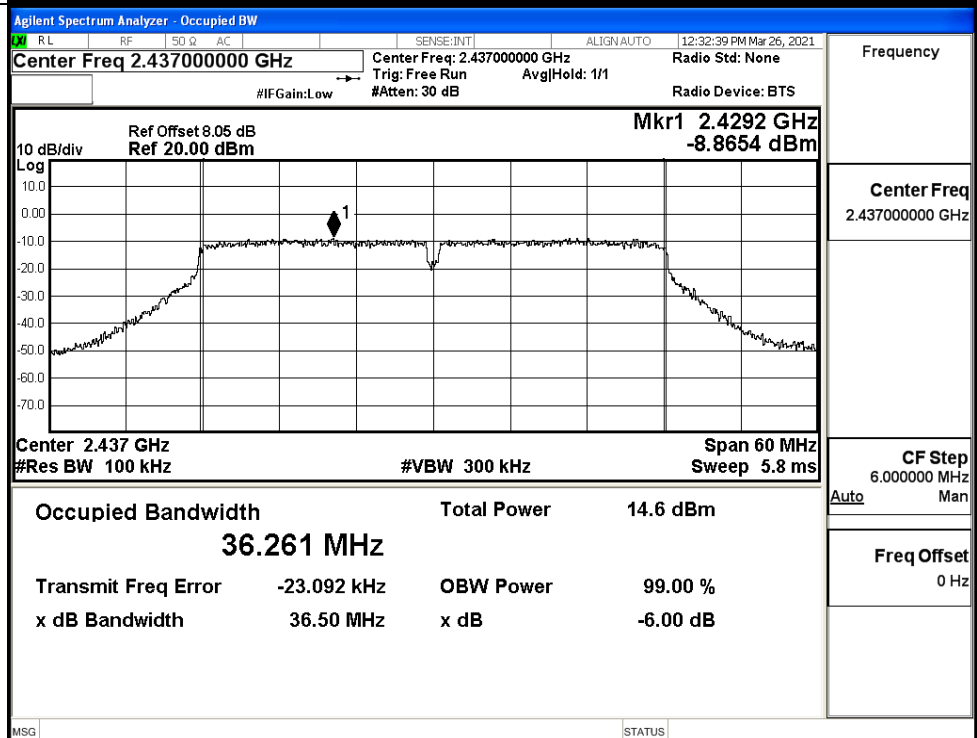
11N20SISO/HCH



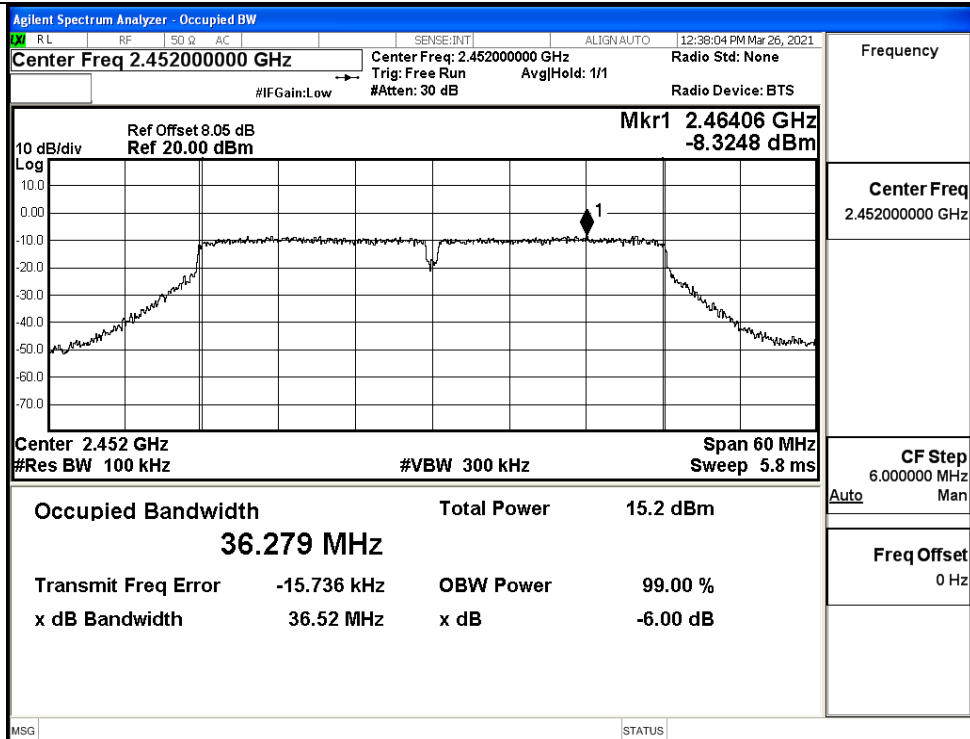
11N40SISO/LCH



11N40SISO/MCH



11N40SISO/HCH

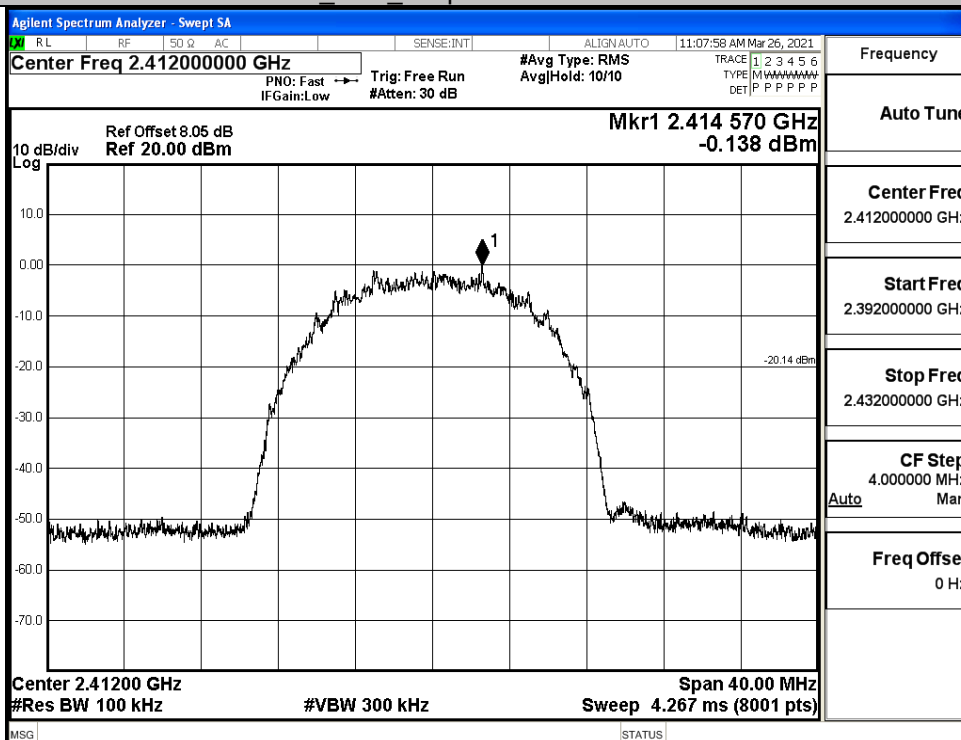


B.5 RF Conducted Spurious Emissions

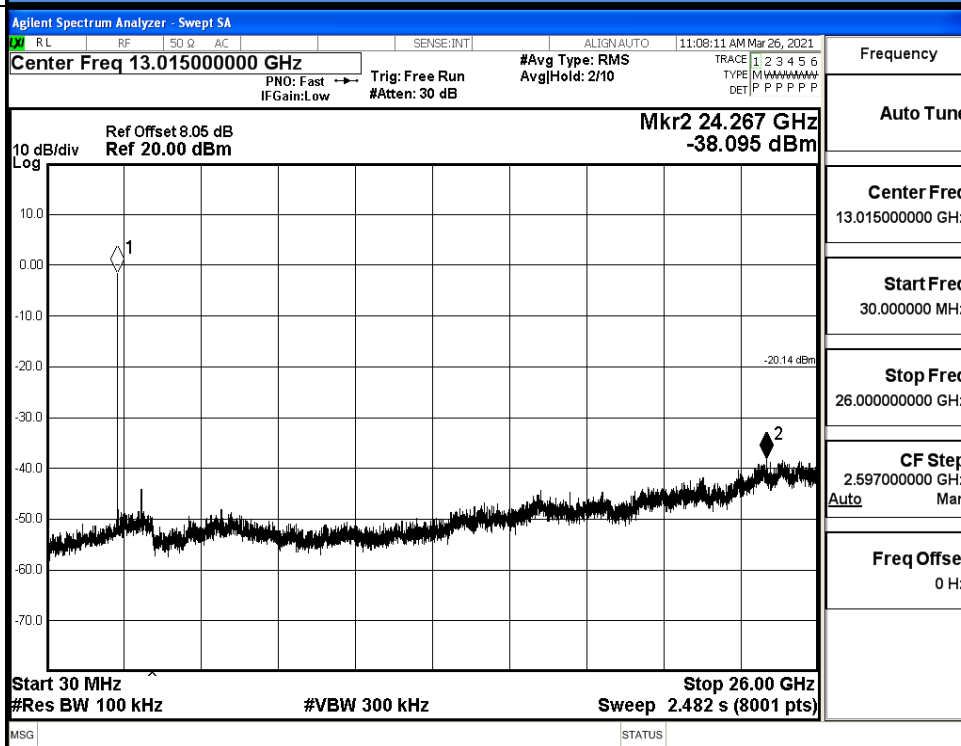
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
11B	LCH	-0.138	-38.095	-20.138	PASS
	MCH	-0.146	-37.924	-20.146	PASS
	HCH	0.146	-38.387	-19.854	PASS
11G	LCH	-5.413	-36.939	-25.413	PASS
	MCH	-5.319	-38.166	-25.319	PASS
	HCH	-4.79	-37.951	-24.790	PASS
11N20 SISO	LCH	-5.469	-37.843	-25.469	PASS
	MCH	-5.62	-38.325	-25.620	PASS
	HCH	-5.018	-37.960	-25.018	PASS
11N40 SISO	LCH	-8.861	-37.222	-28.861	PASS
	MCH	-9.045	-36.138	-29.045	PASS
	HCH	-8.515	-37.273	-28.515	PASS

11B LCH Graphs

Pref/11B/LCH

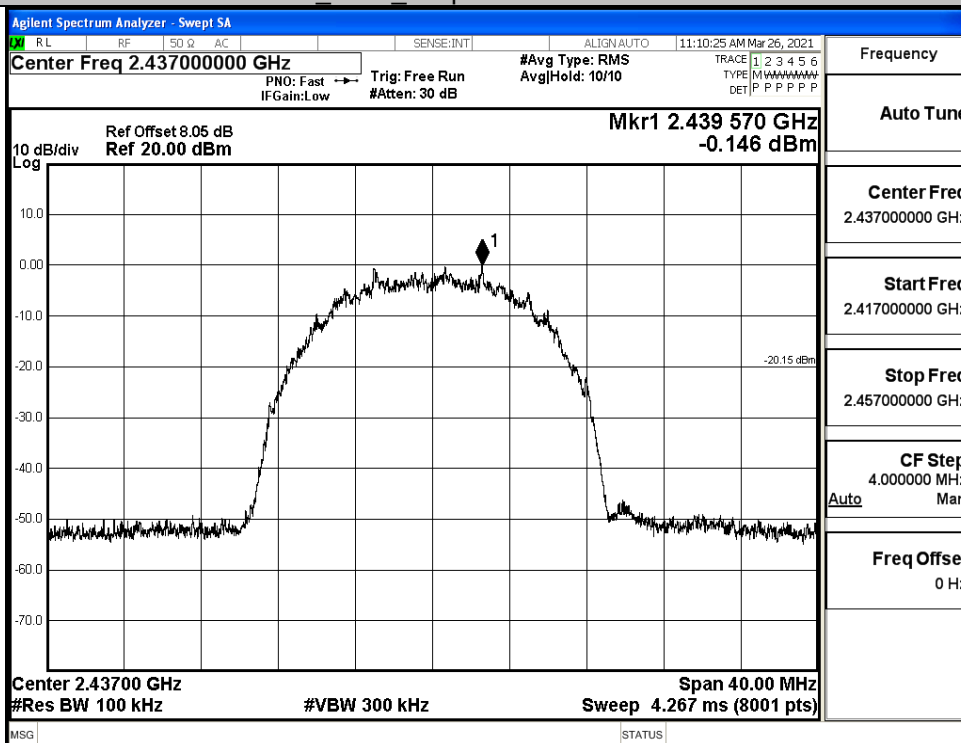


Puw/11B/LCH

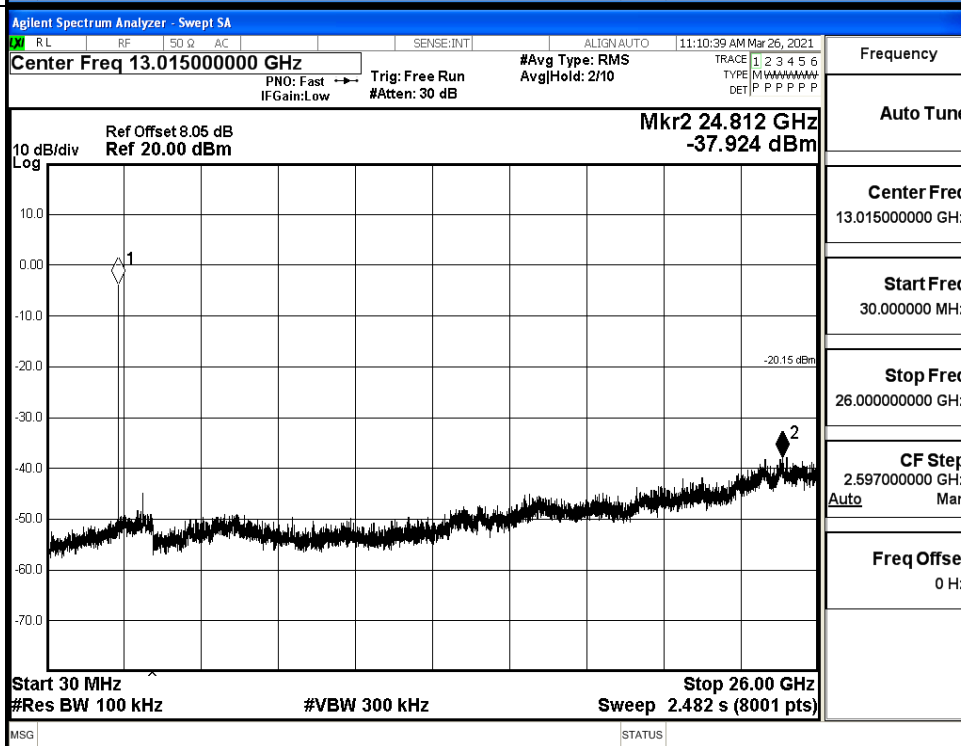


11B MCH Graphs

Pref/11B/MCH

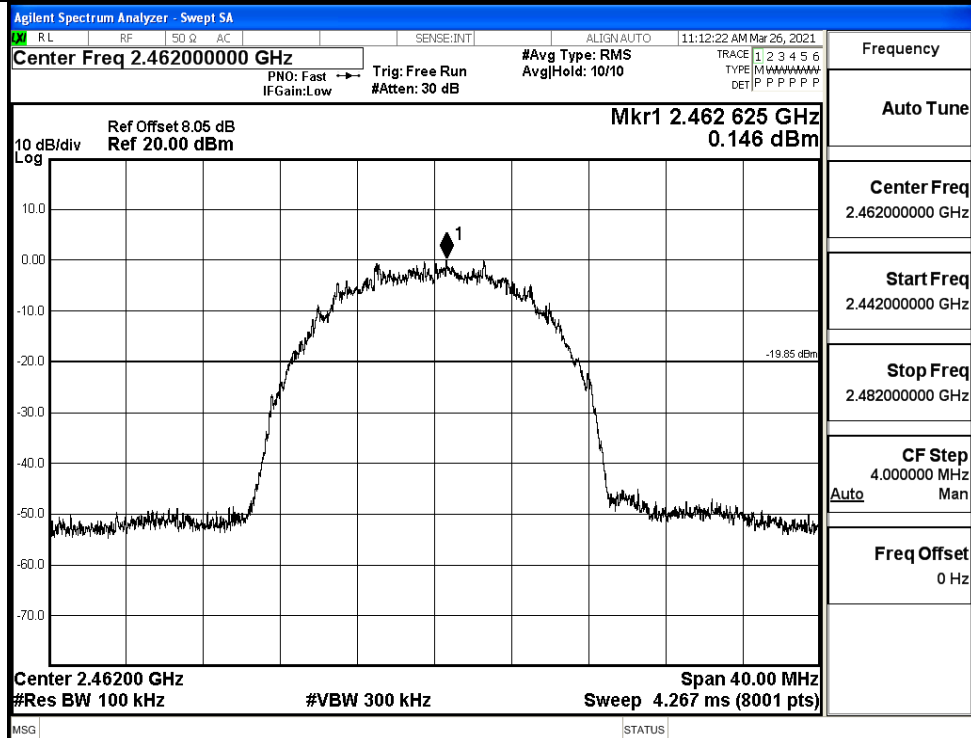


Puw/11B/MCH

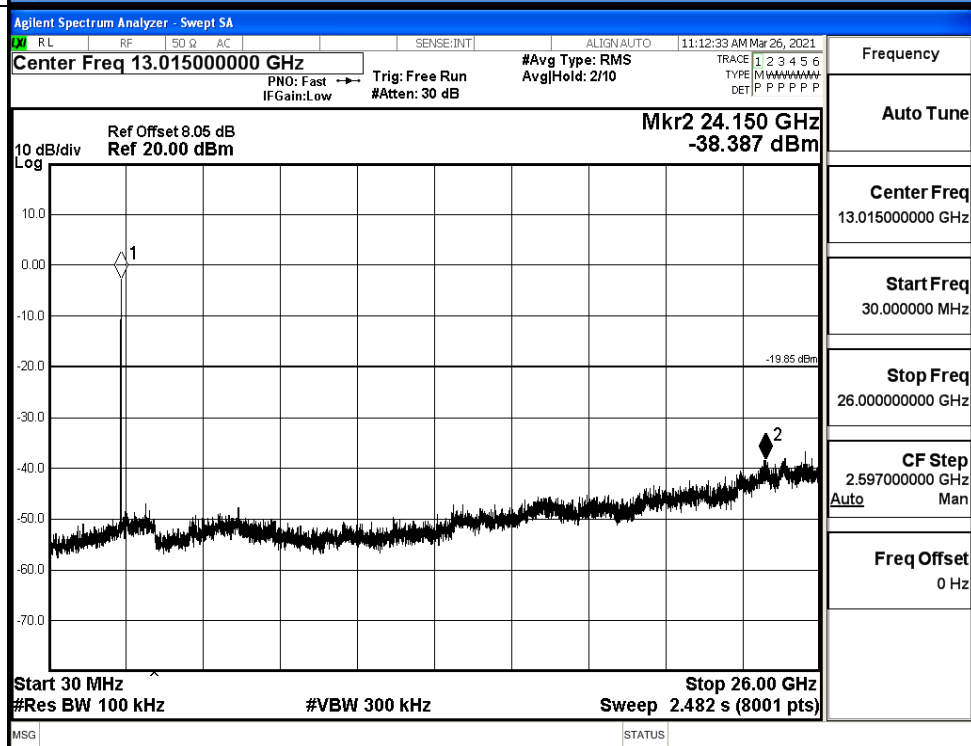


11B HCH Graphs

Pref/11B/HCH

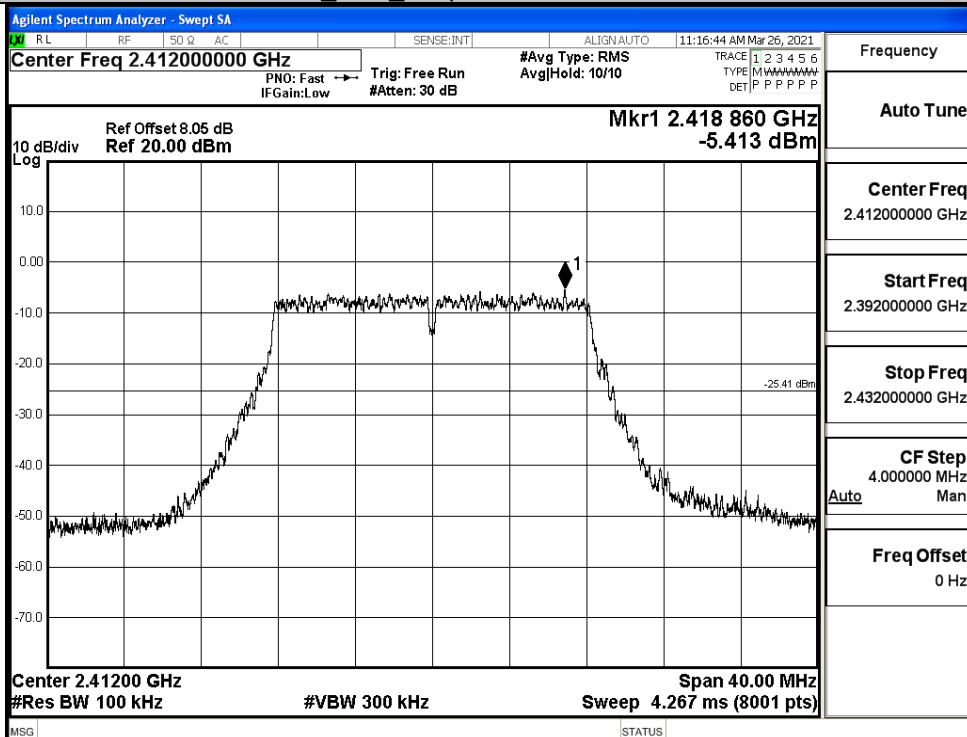


Puw/11B/HCH

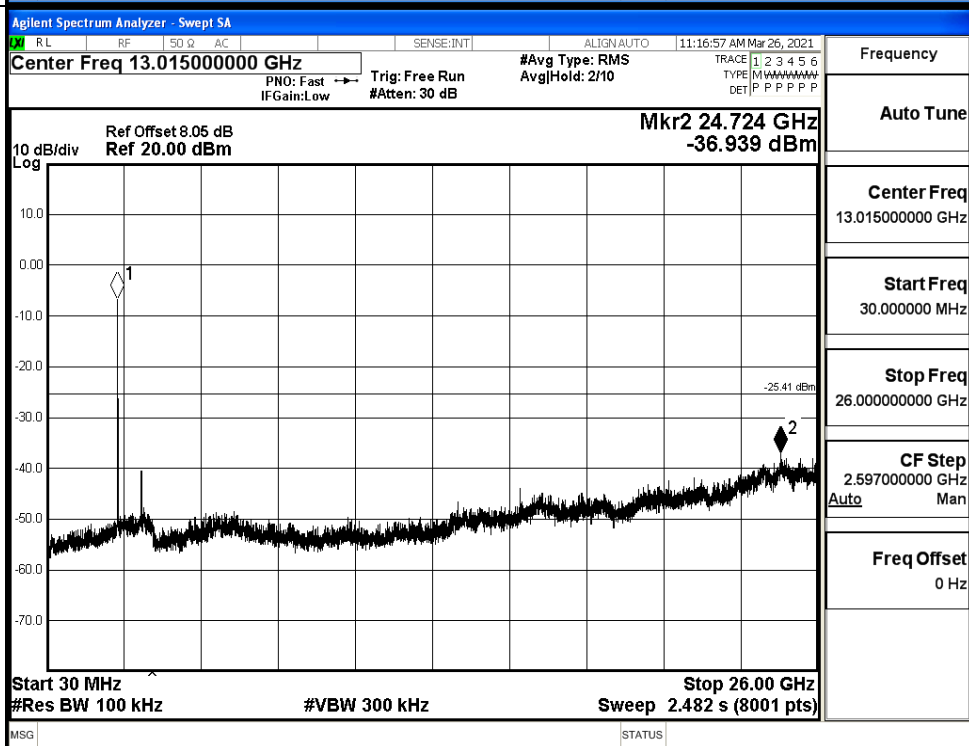


11G LCH Graphs

Pref/11G/LCH

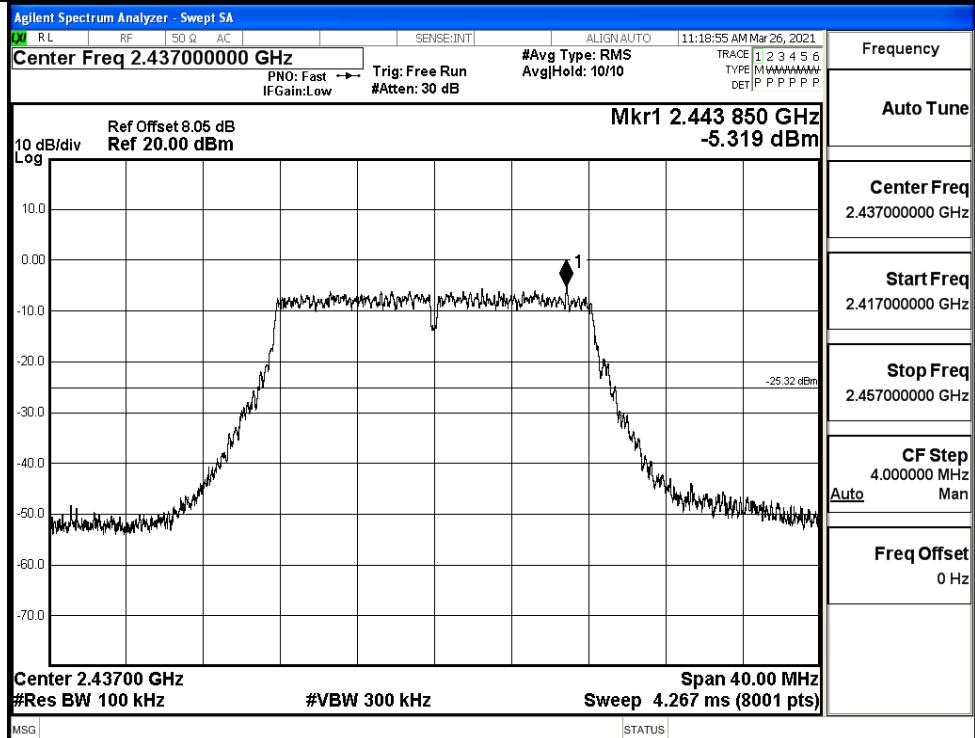


Puw/11G/LCH

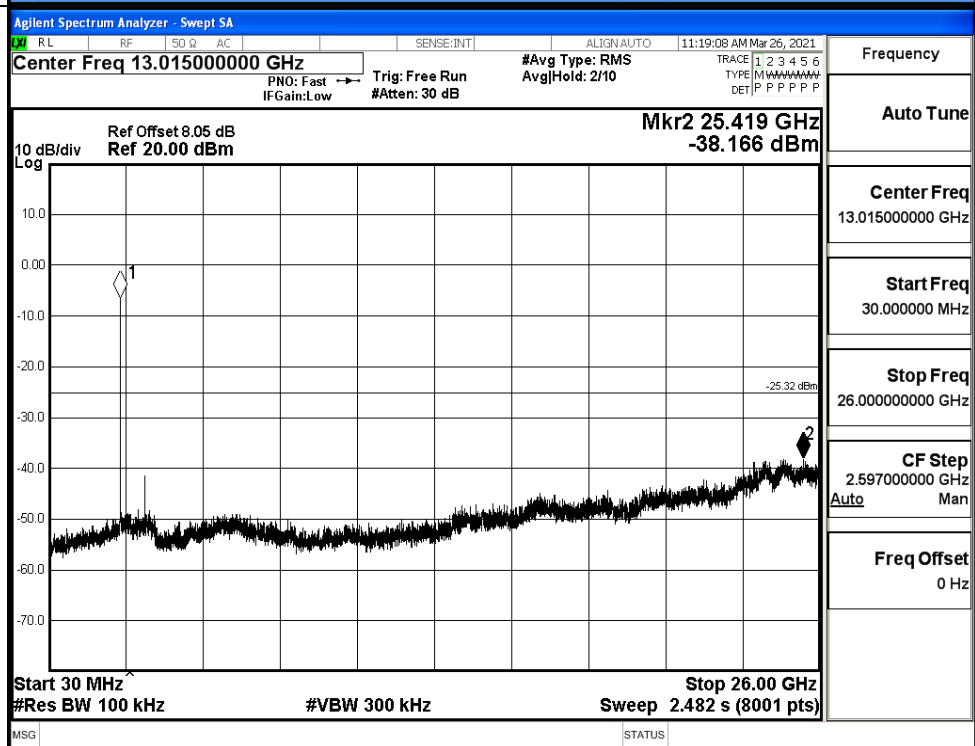


11G MCH Graphs

Pref/11G/MCH

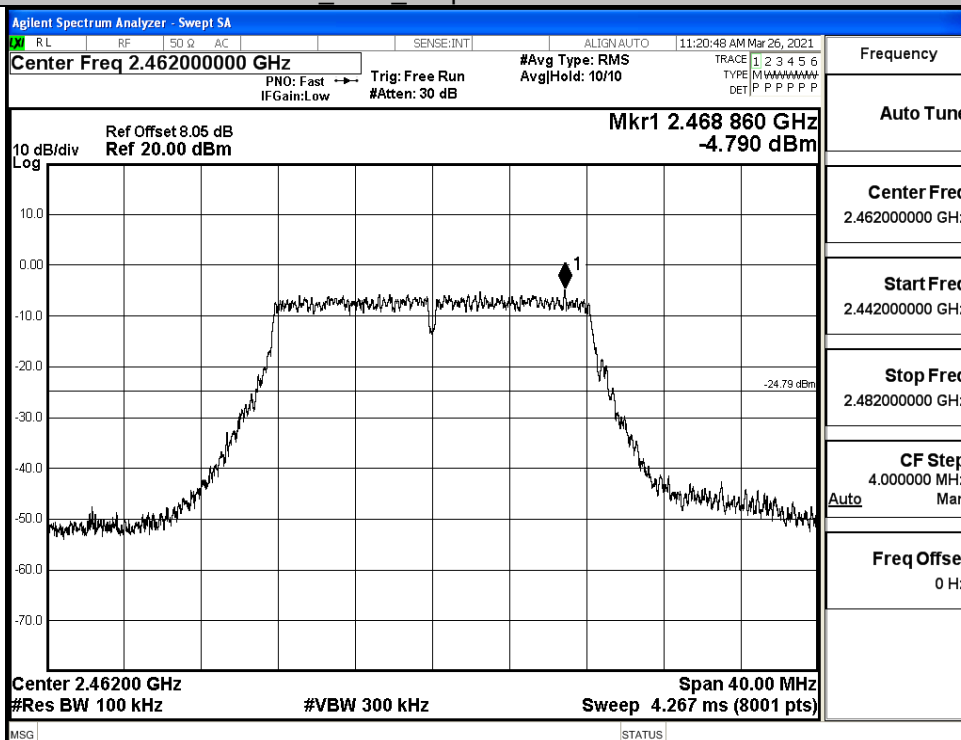


Puw/11G/MCH

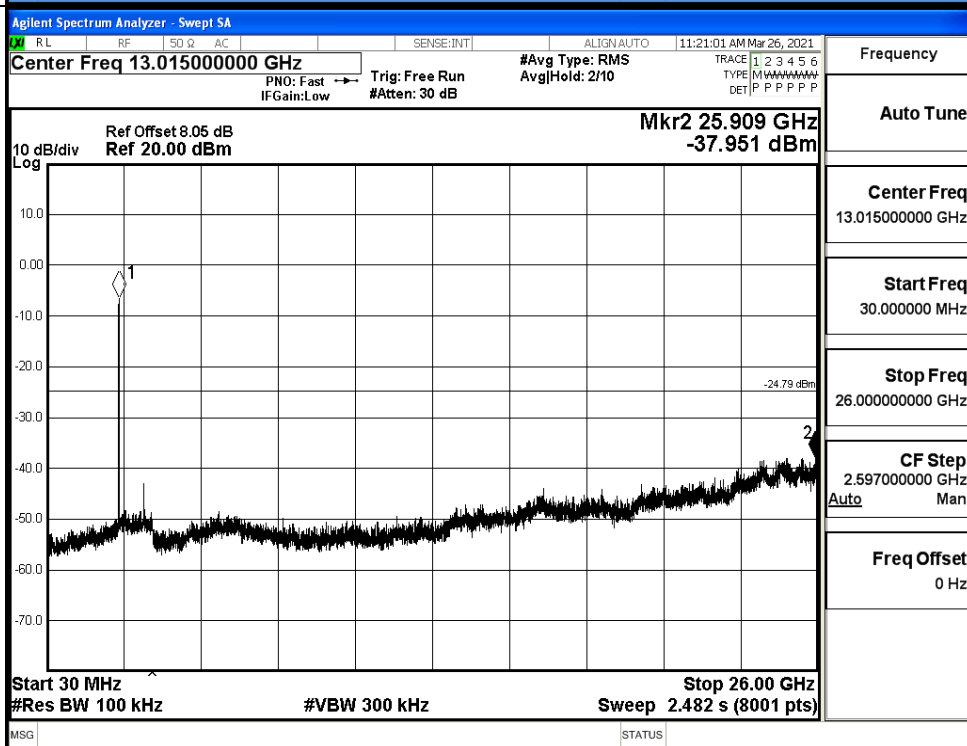


11G HCH Graphs

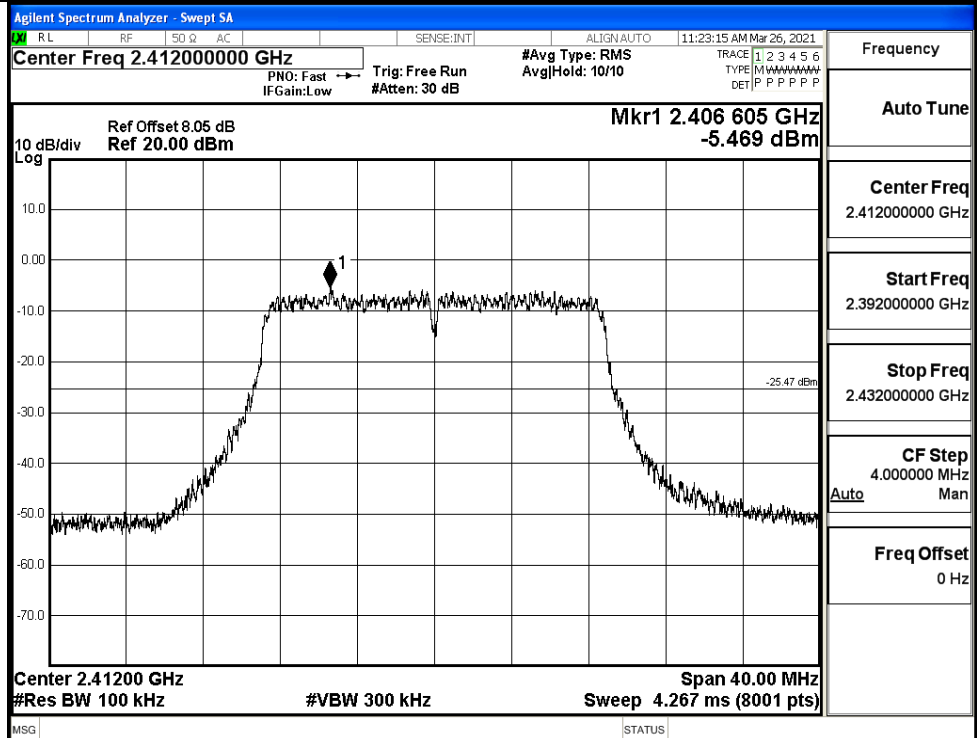
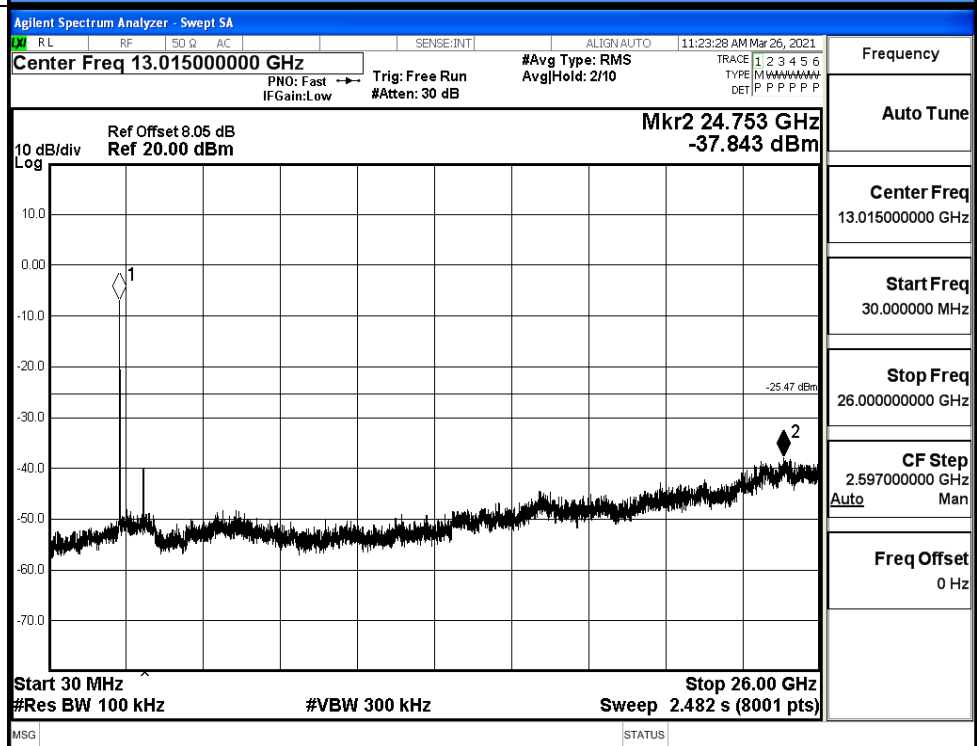
Pref/11G/HCH



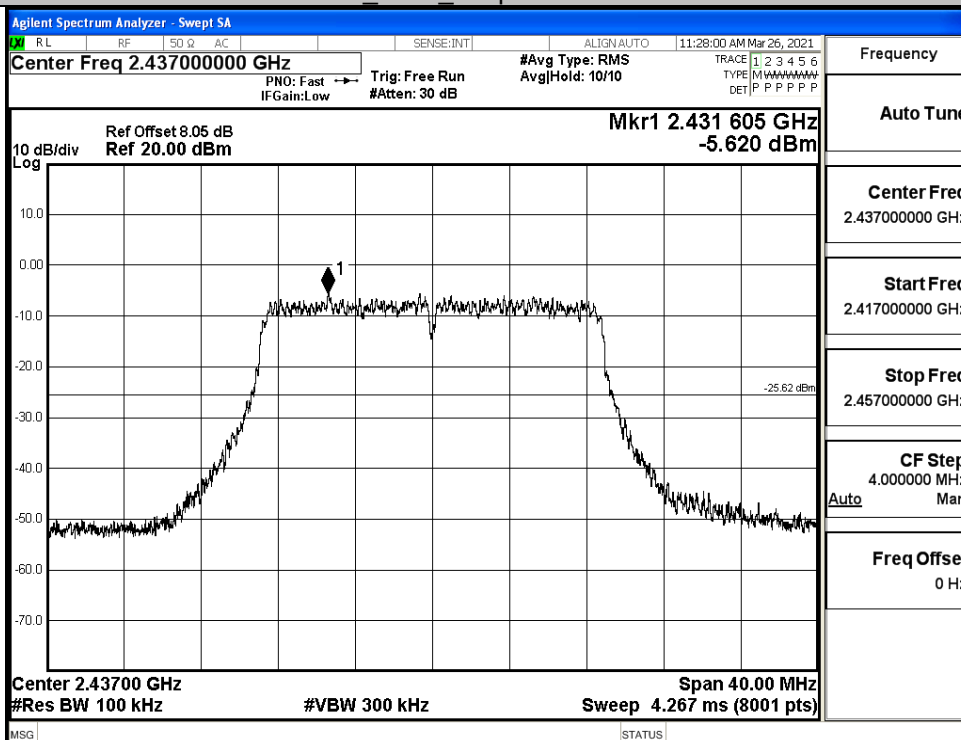
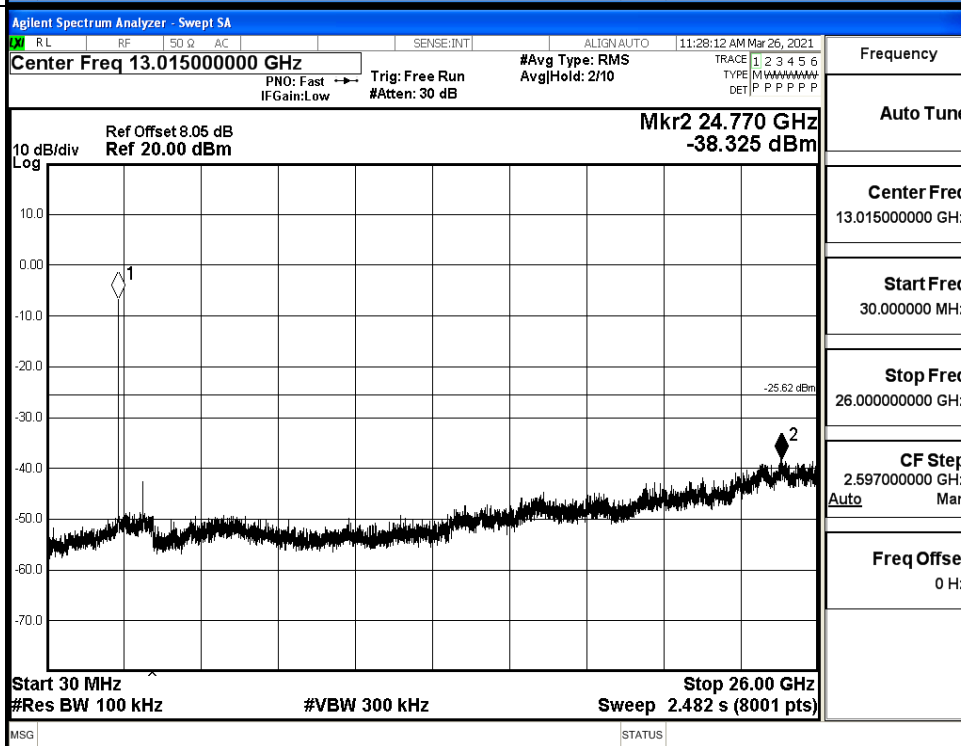
Puw/11G/HCH



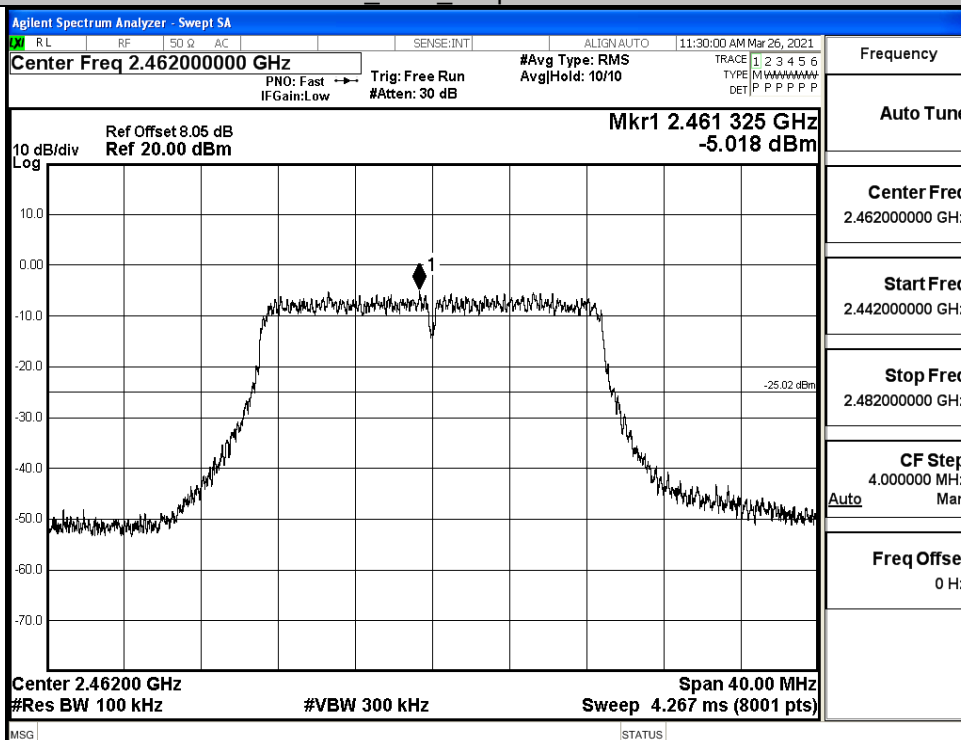
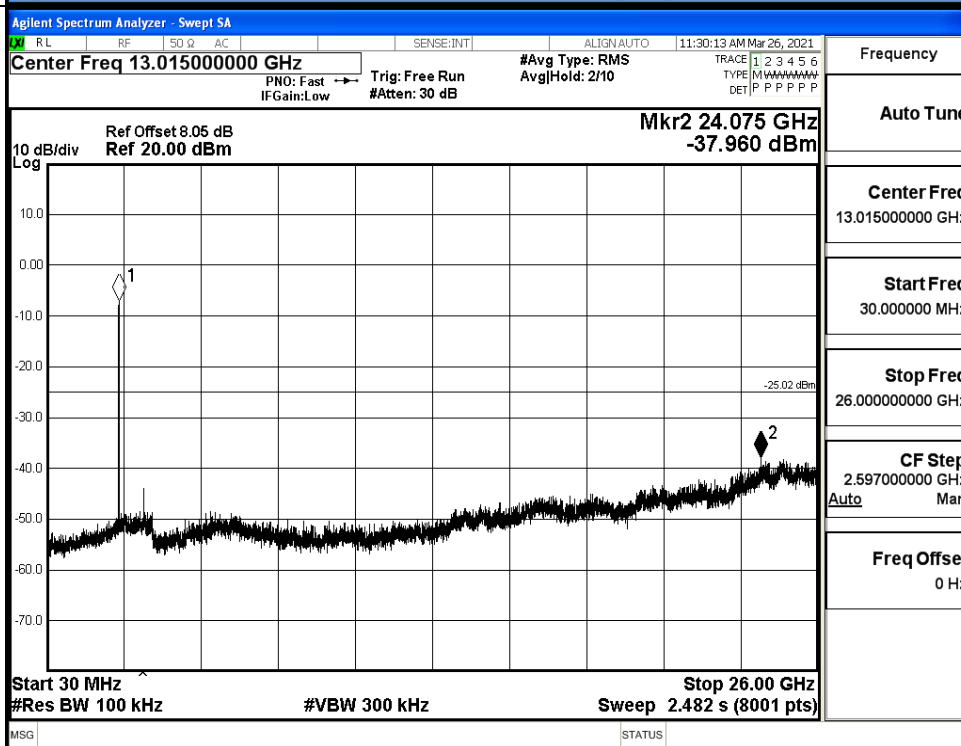
11N20SISO LCH Graphs

Pref/11N20SIS
O/LCHPuw/11N20
SISO/LCH

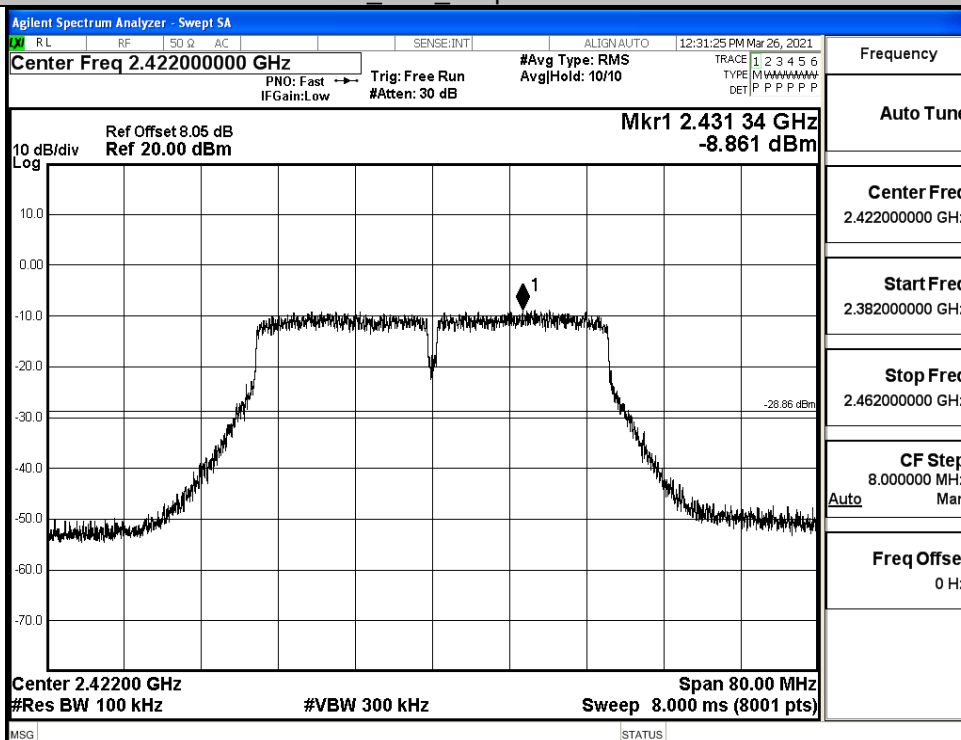
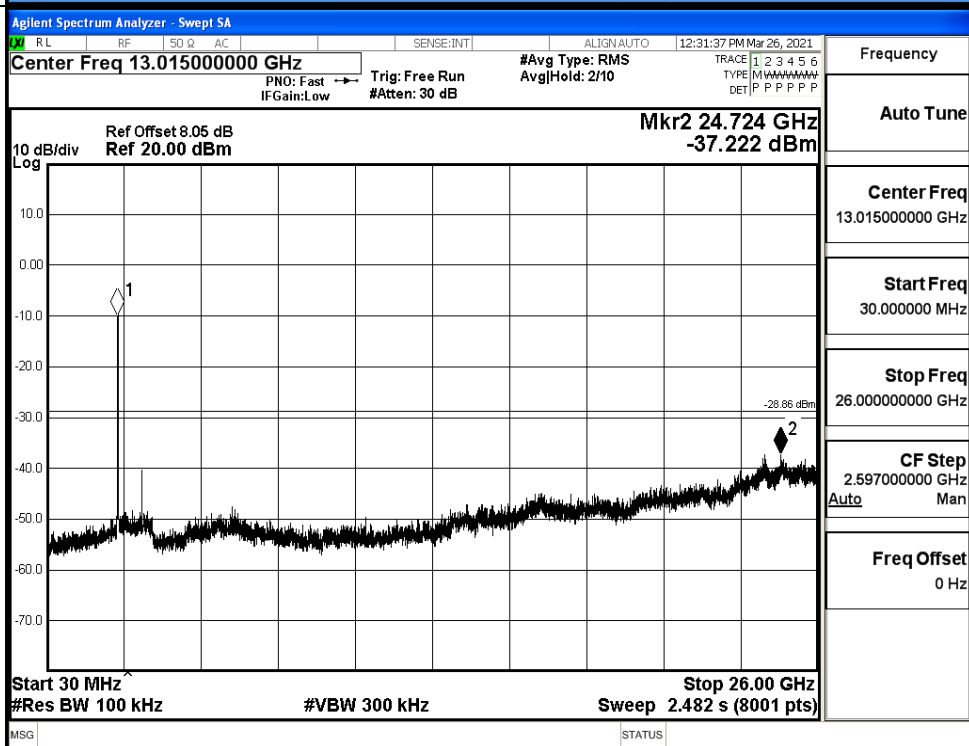
11N20SISO_MCH_Graphs

Pref/11N20
SISO/MCHPuw/11N20
SISO/MCH

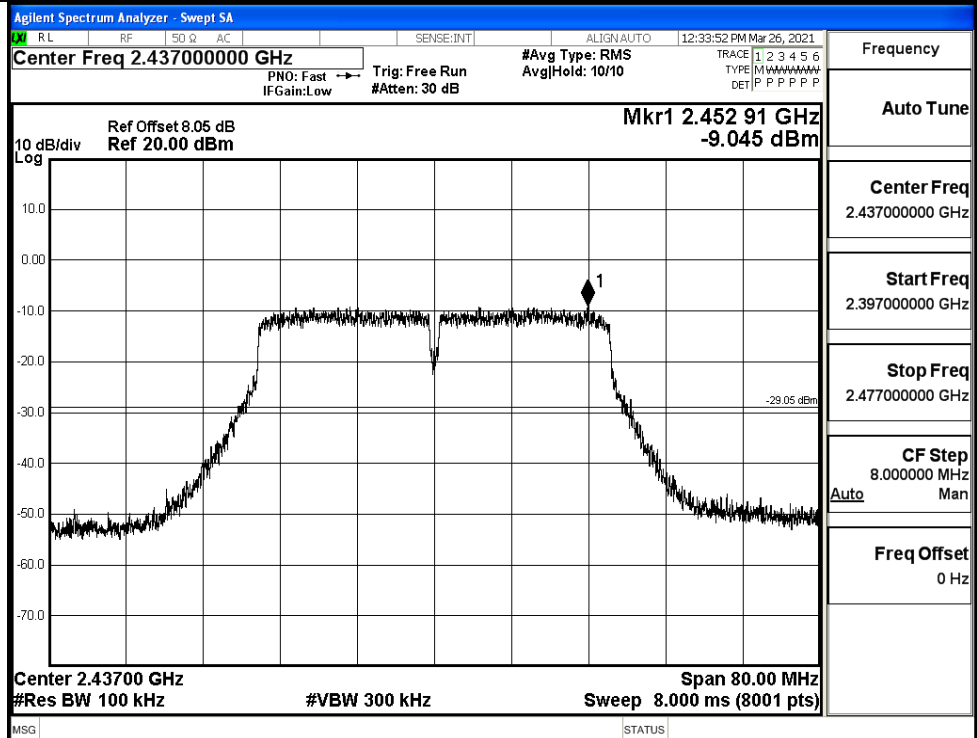
11N20SISO HCH Graphs

Pref/11N20
SISO/HCHPuw/11N20
SISO/HCH

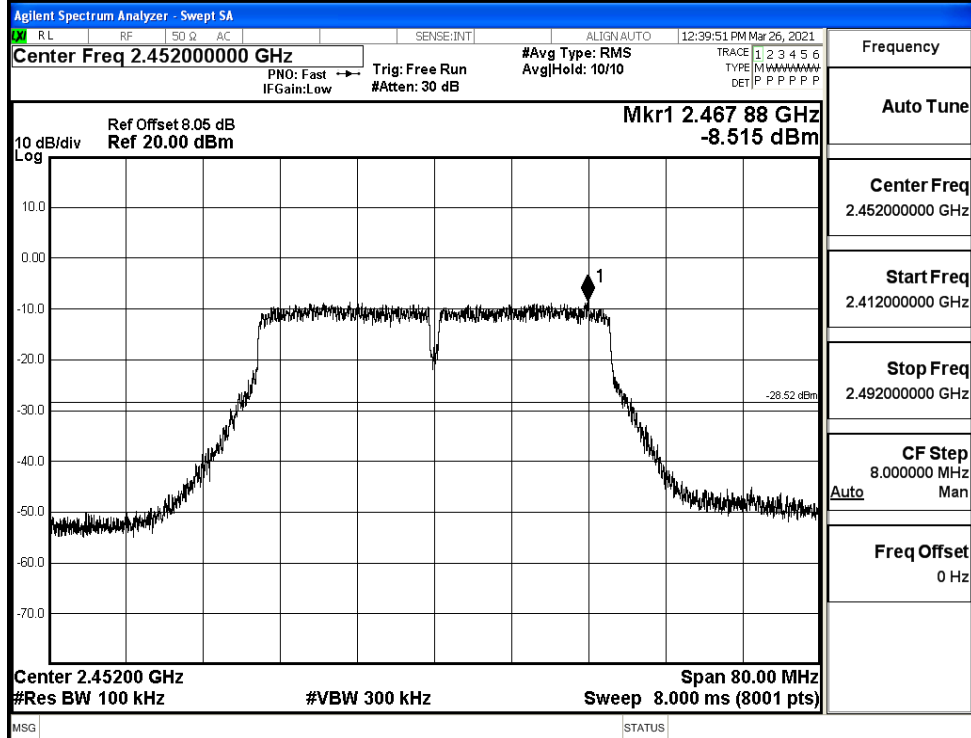
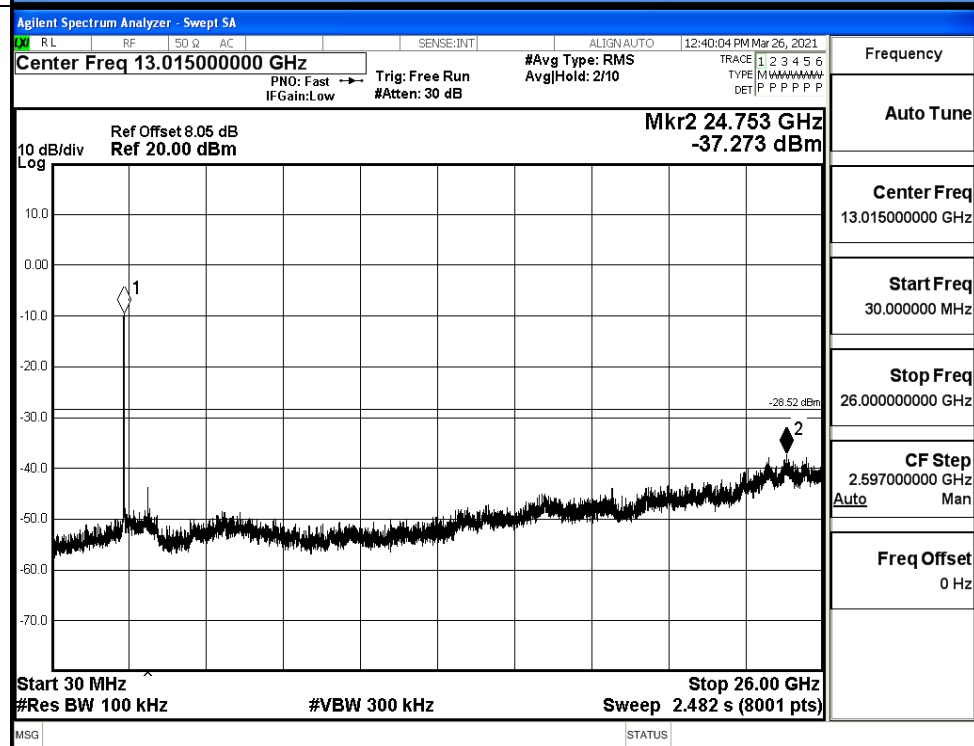
11N40SISO LCH Graphs

Pref/11N40
SISO/LCHPuw/11N40
SISO/LCH

11N40SISO_MCH_Graphs

Pref/11N40
SISO/MCHPuw/11N40
SISO/MCH

11N40SISO HCH Graphs

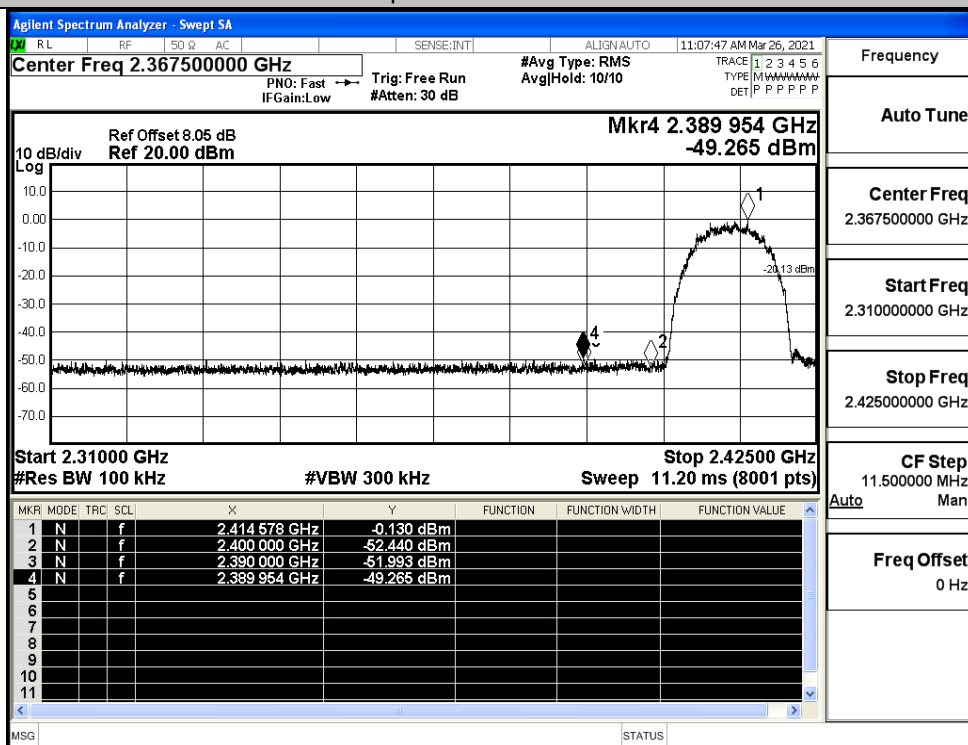
Pref/11N40
SISO/HCHPuw/11N40
SISO/HCH

B.6 Band-edge for RF Conducted Emissions

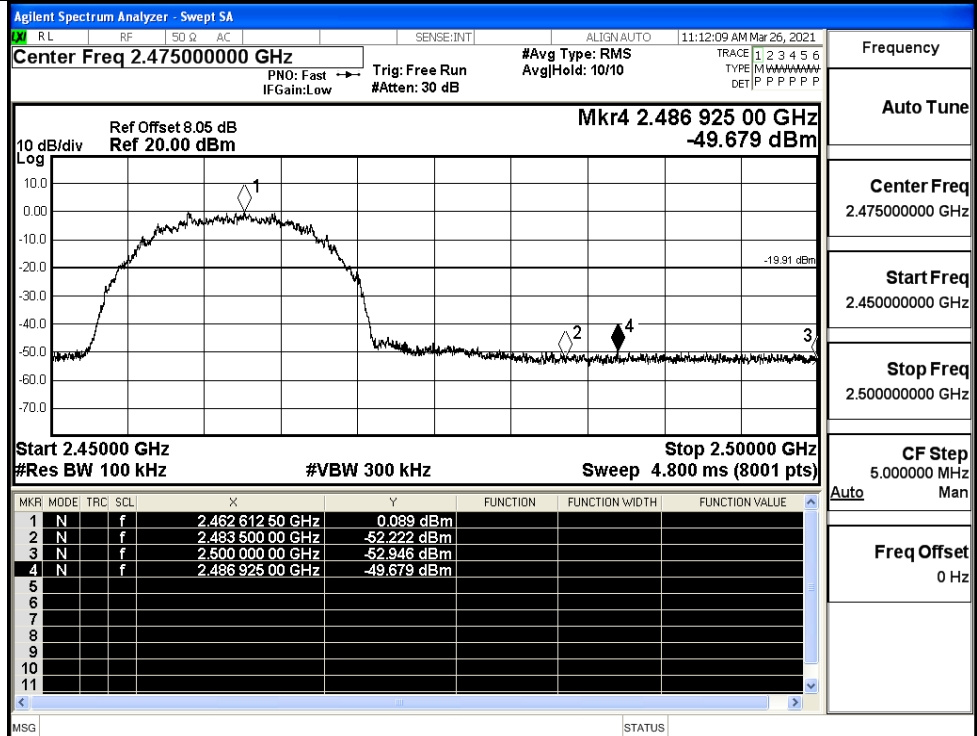
Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
11B	LCH	-0.130	-49.265	-20.13	PASS
	HCH	0.089	-49.679	-19.91	PASS
11G	LCH	-5.287	-49.439	-25.29	PASS
	HCH	-4.633	-48.617	-24.63	PASS
11N20SISO	LCH	-5.807	-49.668	-25.81	PASS
	HCH	-5.372	-48.809	-25.37	PASS
11N40SISO	LCH	-8.420	-49.439	-28.42	PASS
	HCH	-8.520	-44.903	-28.52	PASS

Test Graphs

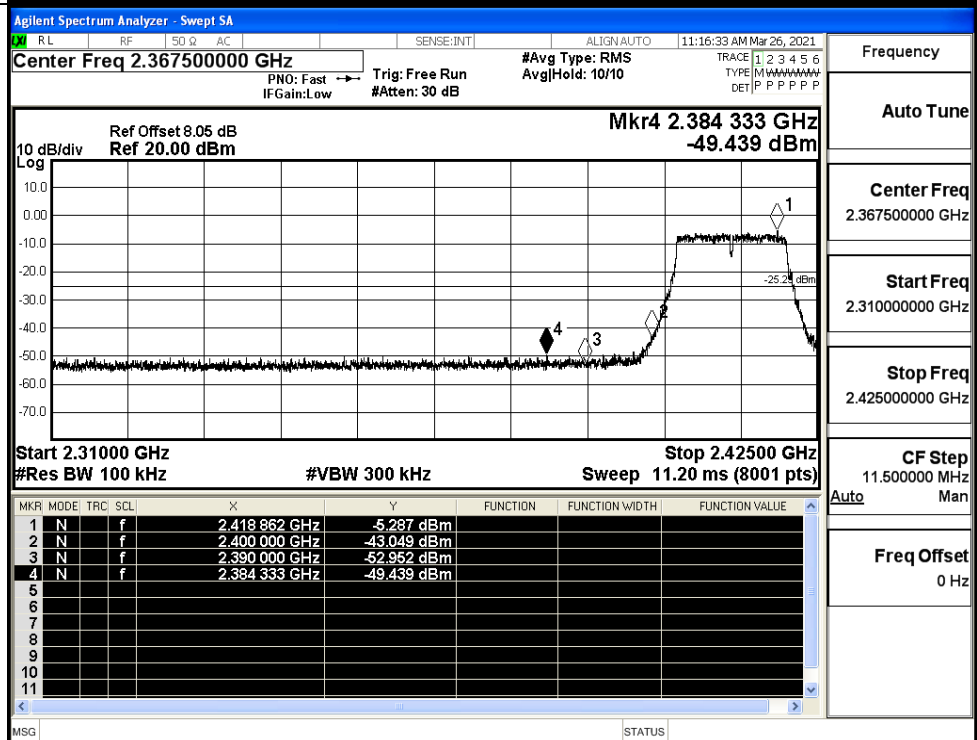
11B/LCH



11B/HCH



11G/LCH



Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN:AUTO 11:20:37 AM Mar 26, 2021

Center Freq 2.475000000 GHz #Avg Type: RMS Avg/Hold: 10/10
PNO: Fast IF Gain: Low Trig: Free Run #Atten: 30 dB

TRACE 1 2 3 4 5 6 TYPE M W U I D L P DET P P P P P P

Mkr 4 2.485 250 00 GHz -48.617 dBm

Ref Offset 8.05 dB Ref 20.00 dBm

10 dB/div Log

MKR	MODE	TFC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N		f	2.468 850 00 GHz	-4.633 dBm			
2	N		f	2.483 500 00 GHz	-50.529 dBm			
3	N		f	2.500 000 00 GHz	-52.355 dBm			
4	N		f	2.485 250 00 GHz	-48.617 dBm			
5								
6								
7								
8								
9								
10								
11								

Start 2.45000 GHz Stop 2.50000 GHz
#Res BW 100 kHz #VBW 300 kHz Sweep 4.800 ms (8001 pts)

Auto

MSG STATUS

Agilent Spectrum Analyzer - Swept

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 11:23:04 AM Mar 26, 2021

Center Freq 2.367500000 GHz PNO: Fast Trig: Free Run
IF Gain: Low #Atten: 30 dB

#Avg Type: RMS Avg/Hold: 10/10 TRACE 1 2 3 4 5 6
TYPE M W I A V H L
DET P P P P P P P

Frequency Auto Tune

Center Freq 2.367500000 GHz

Start Freq 2.310000000 GHz

Stop Freq 2.425000000 GHz

CF Step 11.500000 MHz

Mkr 2.339 311 GHz -49.668 dBm

Ref Offset 8.05 dB Ref 20.00 dBm

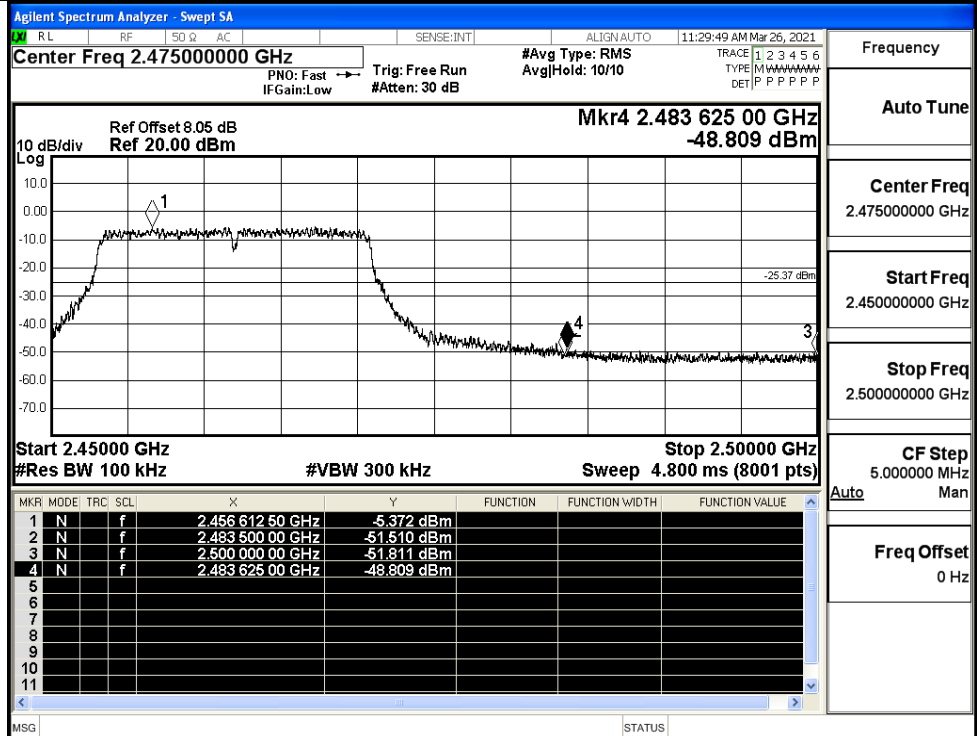
10 dB/div Log

Start 2.31000 GHz Stop 2.42500 GHz
#Res BW 100 kHz #VBW 300 kHz Sweep 11.20 ms (8001 pts)

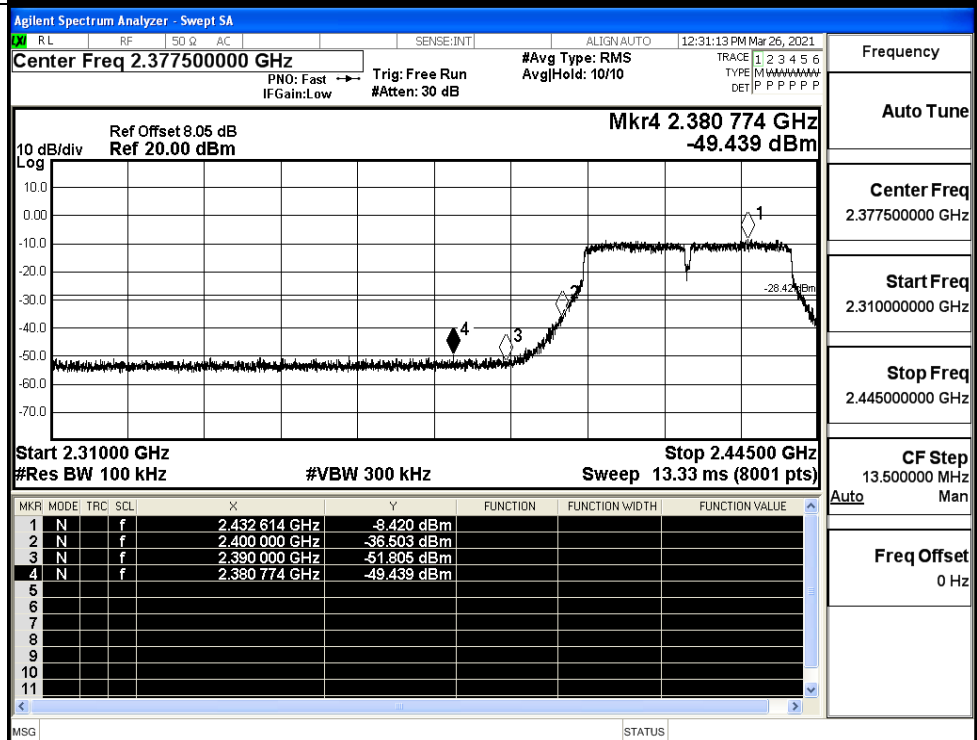
MKR MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	f	2.411 344 GHz	-5.807 dBm			
2	N	f	2.400 000 GHz	-43.441 dBm			
3	N	f	2.390 000 GHz	-52.017 dBm			
4	N	f	2.339 311 GHz	-49.668 dBm			
5							
6							
7							
8							
9							
10							
11							

Freq Offset 0 Hz

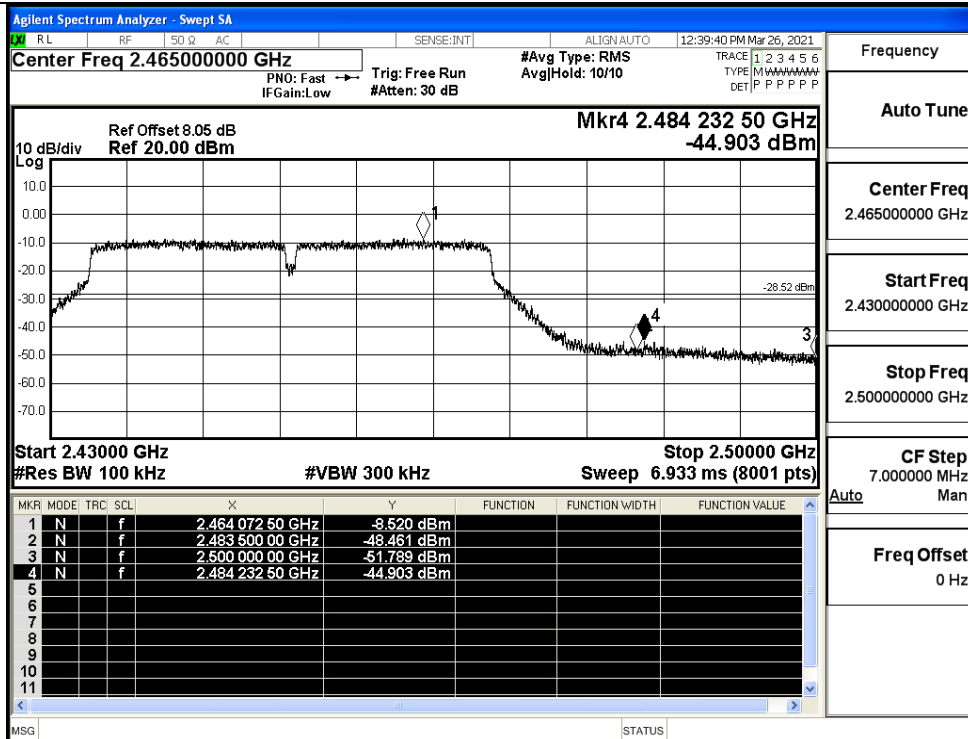
11N20SISO/HCH



11N40SISO/LCH



11N40SISO/HCH

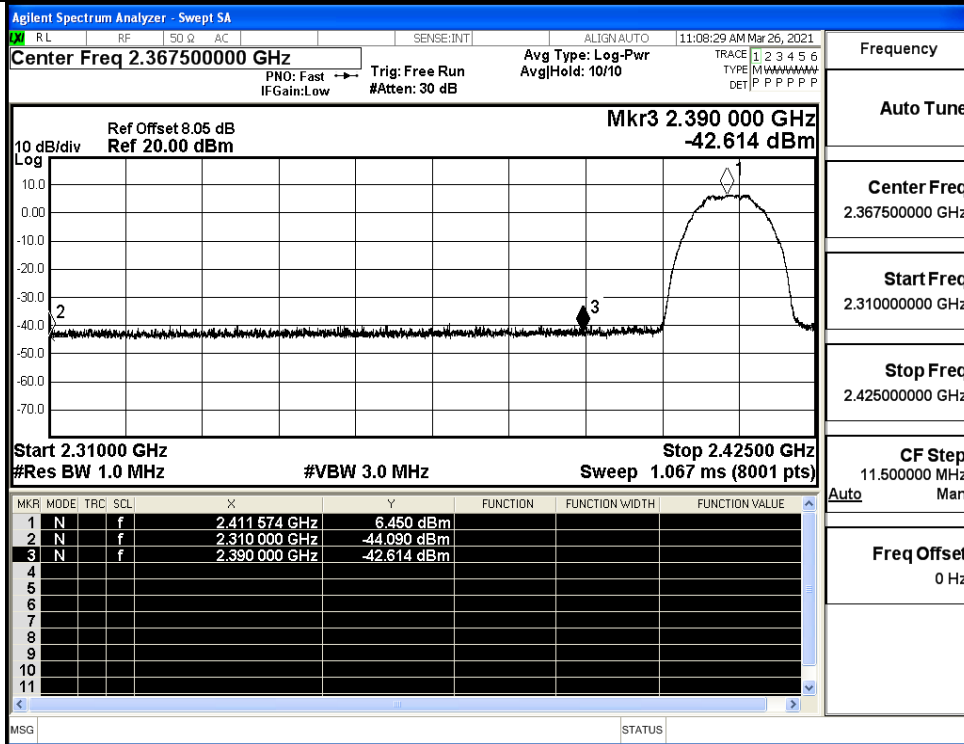


B.7 Restrict-band band-edge measurements

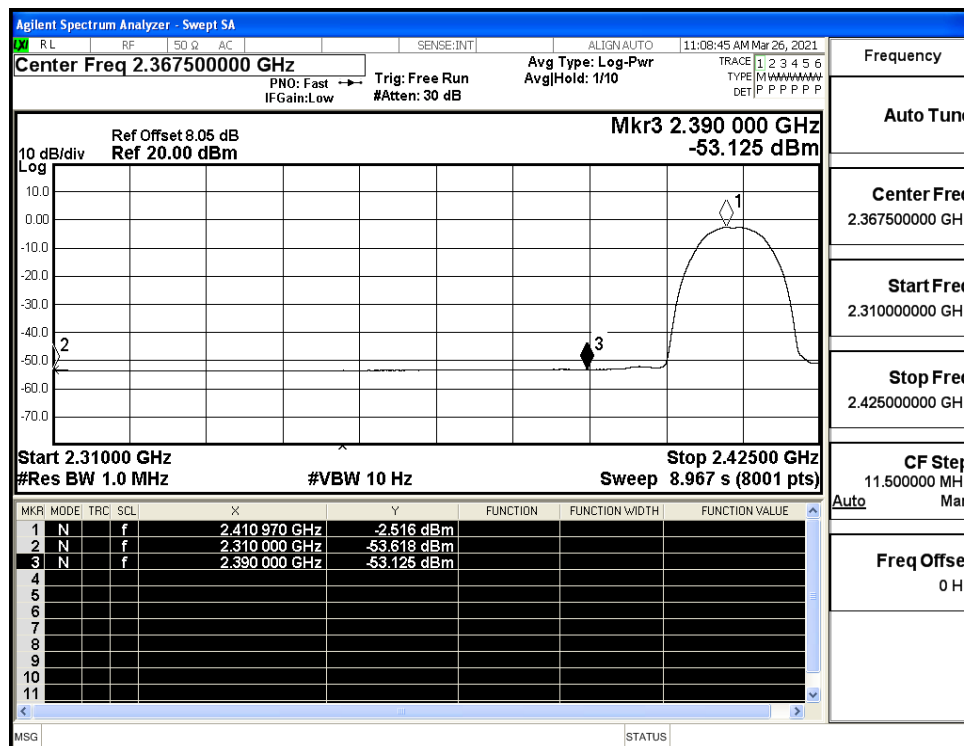
Test Mode	Test Channel	Ant	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
11B	2412	Ant1	2310.0	-44.09	2.0	0	53.17	PEAK	74	PASS
	2412	Ant1	2310.0	-53.62	2.0	0	43.64	AV	54	PASS
	2412	Ant1	2390.0	-42.61	2.0	0	54.65	PEAK	74	PASS
	2412	Ant1	2390.0	-53.13	2.0	0	44.13	AV	54	PASS
	2462	Ant1	2483.5	-41.64	2.0	0	55.62	PEAK	74	PASS
	2462	Ant1	2483.5	-52.76	2.0	0	44.5	AV	54	PASS
	2462	Ant1	2500.0	-42.04	2.0	0	55.22	PEAK	74	PASS
	2462	Ant1	2500.0	-52.53	2.0	0	44.73	AV	54	PASS
11G	2412	Ant1	2310.0	-42.96	2.0	0	54.3	PEAK	74	PASS
	2412	Ant1	2310.0	-53.51	2.0	0	43.75	AV	54	PASS
	2412	Ant1	2390.0	-41.83	2.0	0	55.43	PEAK	74	PASS
	2412	Ant1	2390.0	-52.84	2.0	0	44.42	AV	54	PASS
	2462	Ant1	2483.5	-39.33	2.0	0	57.93	PEAK	74	PASS
	2462	Ant1	2483.5	-51.25	2.0	0	46.01	AV	54	PASS
	2462	Ant1	2500.0	-41.97	2.0	0	55.29	PEAK	74	PASS
	2462	Ant1	2500.0	-52.42	2.0	0	44.84	AV	54	PASS
11N20 SISO	2412	Ant1	2310.0	-42.38	2.0	0	54.88	PEAK	74	PASS
	2412	Ant1	2310.0	-53.57	2.0	0	43.69	AV	54	PASS
	2412	Ant1	2390.0	-40.91	2.0	0	56.35	PEAK	74	PASS
	2412	Ant1	2390.0	-52.70	2.0	0	44.56	AV	54	PASS
	2462	Ant1	2483.5	-39.81	2.0	0	57.45	PEAK	74	PASS
	2462	Ant1	2483.5	-50.68	2.0	0	46.58	AV	54	PASS
	2462	Ant1	2500.0	-40.30	2.0	0	56.96	PEAK	74	PASS
	2462	Ant1	2500.0	-52.42	2.0	0	44.84	AV	54	PASS
11N40 SISO	2422	Ant1	2310.0	-42.26	2.0	0	55	PEAK	74	PASS
	2422	Ant1	2310.0	-53.63	2.0	0	43.63	AV	54	PASS

	2422	Ant1	2390.0	-42.46	2.0	0	54.8	PEAK	74	PASS
	2422	Ant1	2390.0	-52.64	2.0	0	44.62	AV	54	PASS
	2452	Ant1	2483.5	-36.80	2.0	0	60.46	PEAK	74	PASS
	2452	Ant1	2483.5	-48.41	2.0	0	48.85	AV	54	PASS
	2452	Ant1	2500.0	-40.11	2.0	0	57.15	PEAK	74	PASS
	2452	Ant1	2500.0	-51.62	2.0	0	45.64	AV	54	PASS

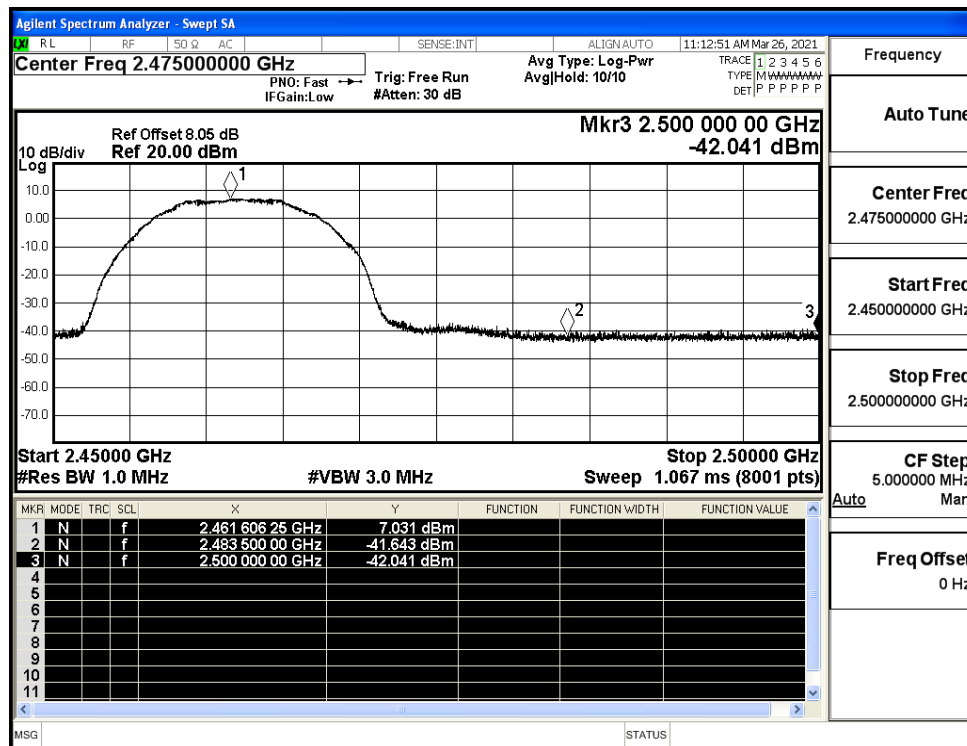
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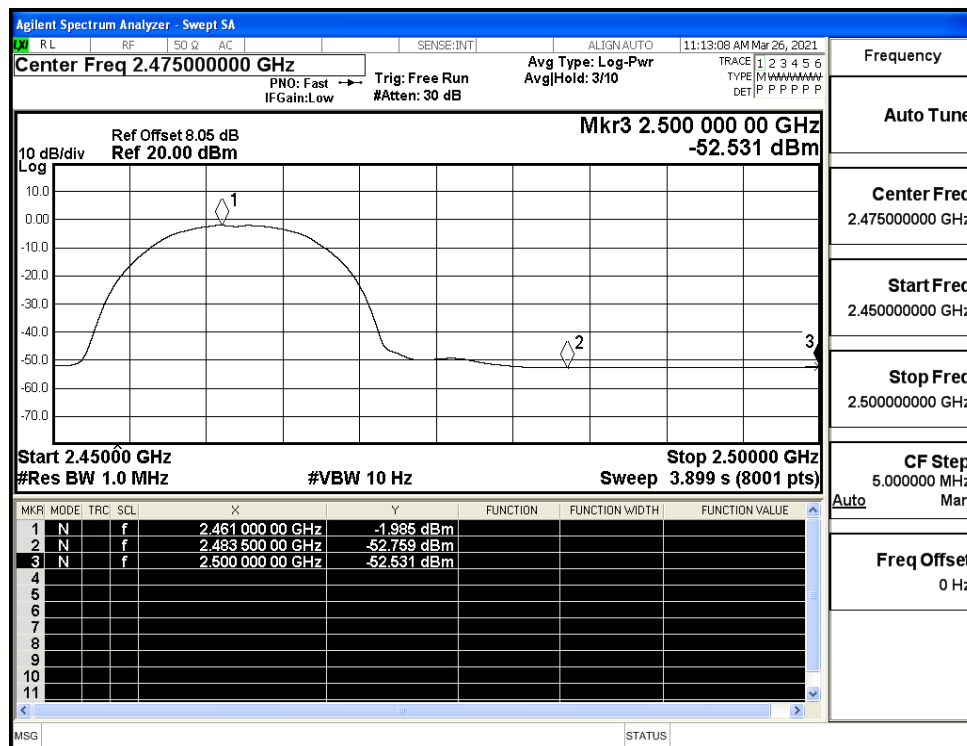
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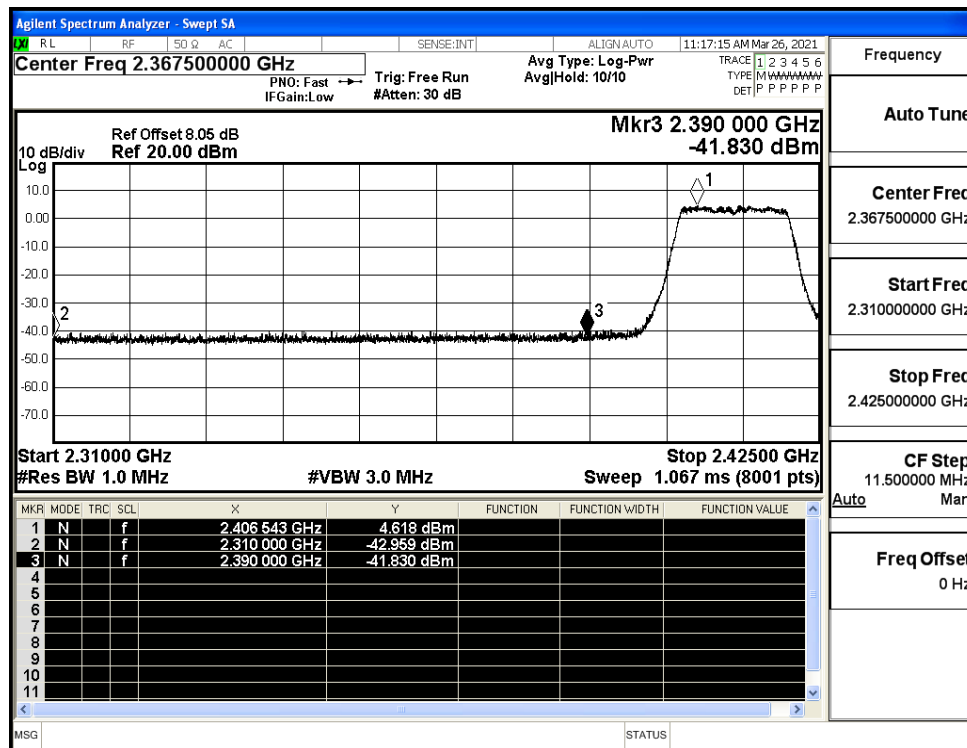
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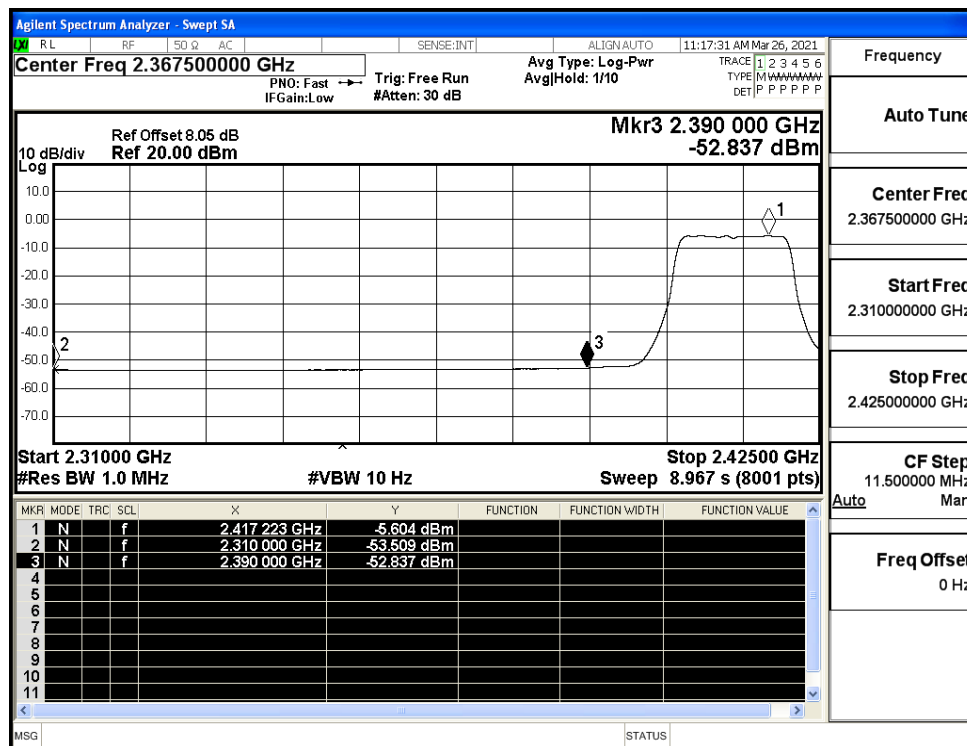
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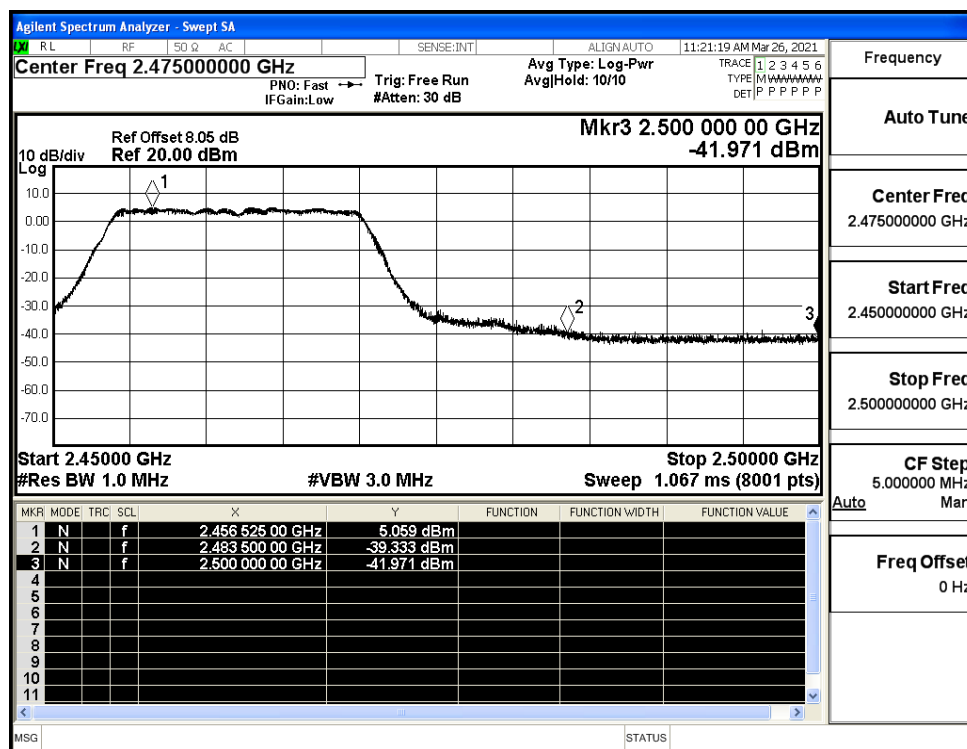
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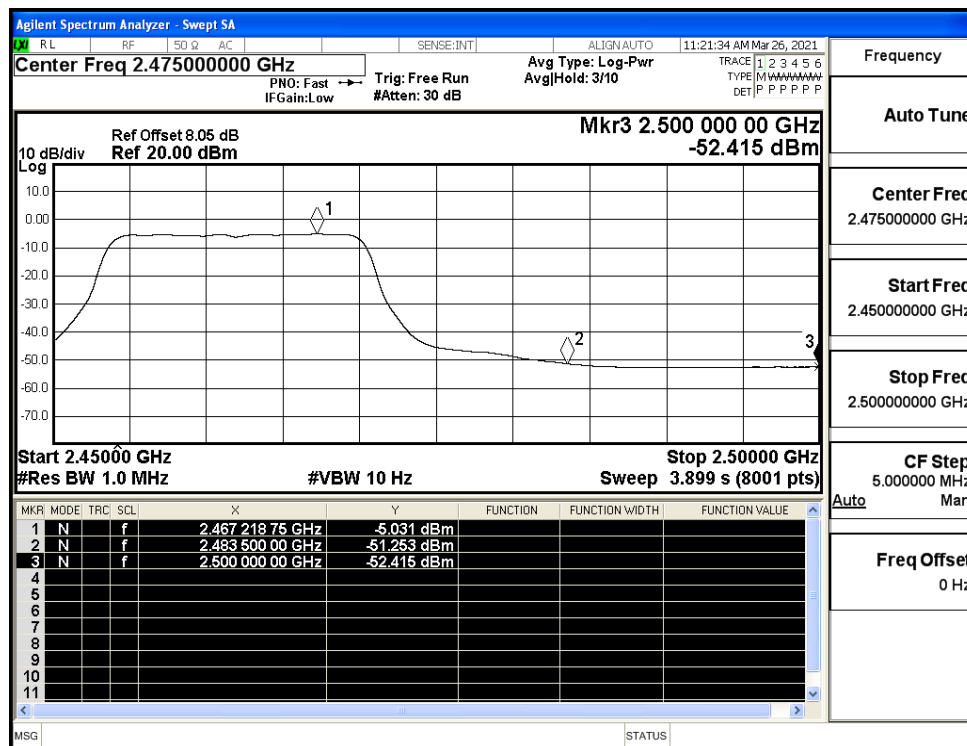
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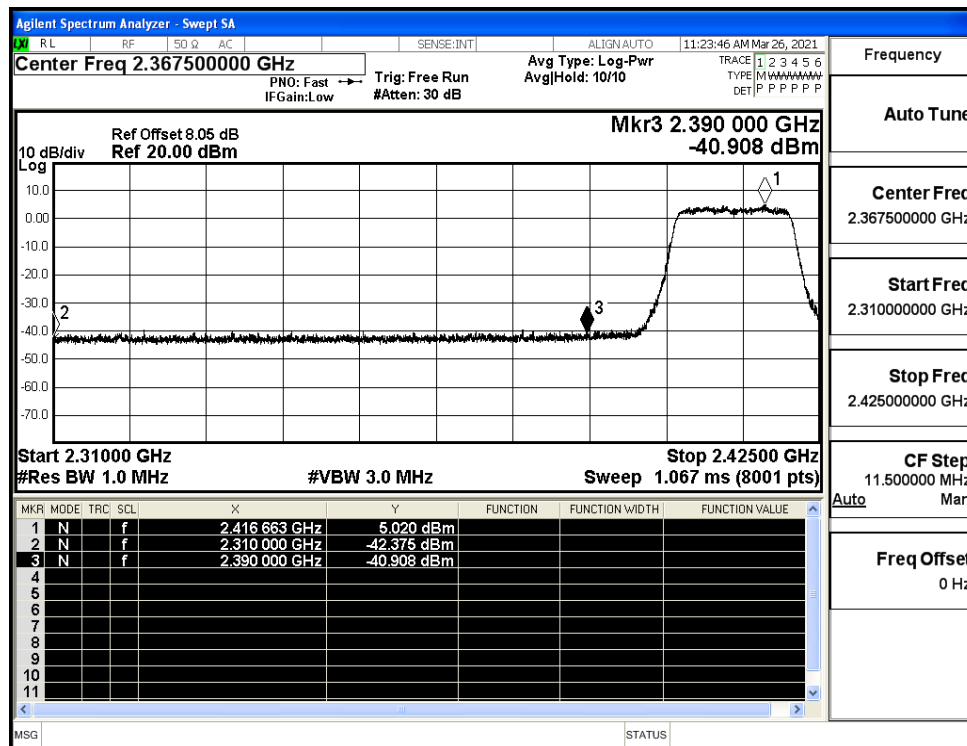
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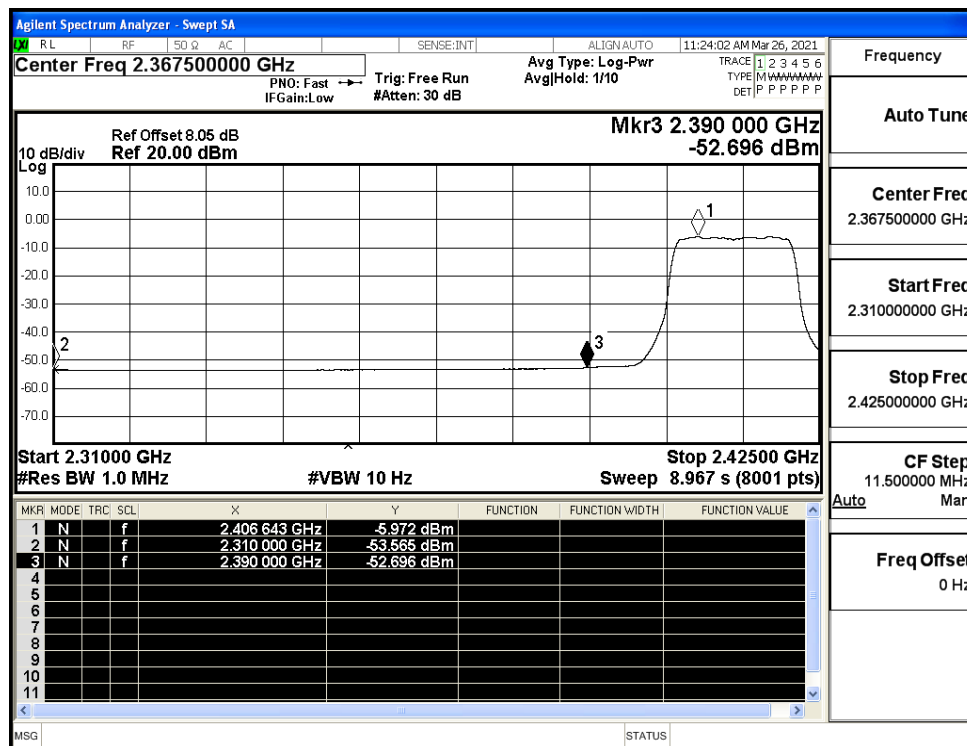
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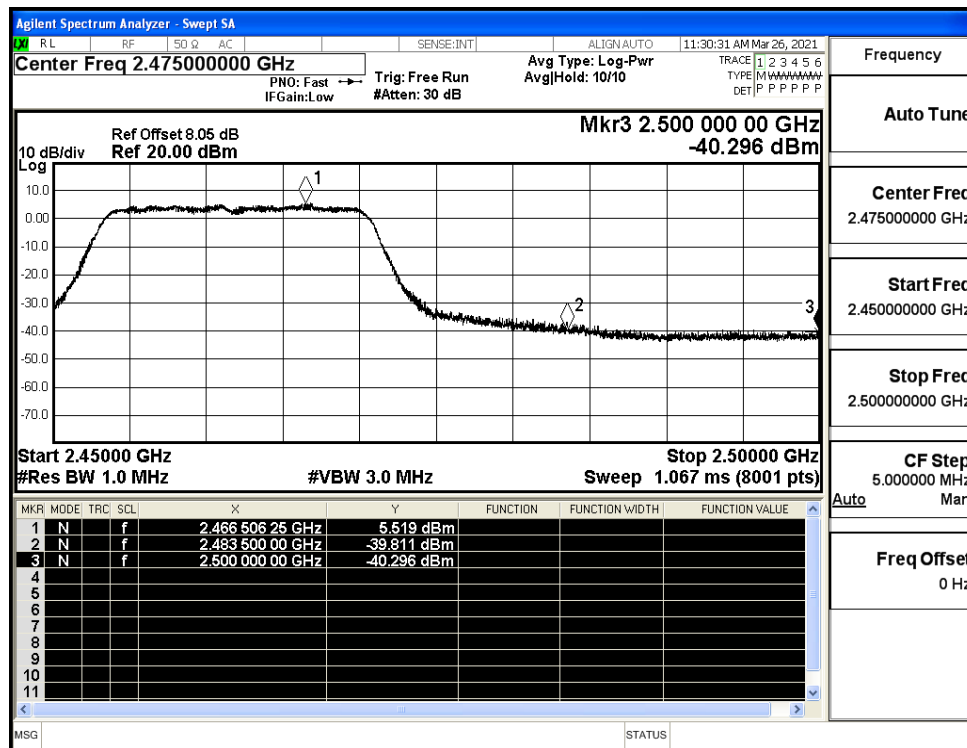
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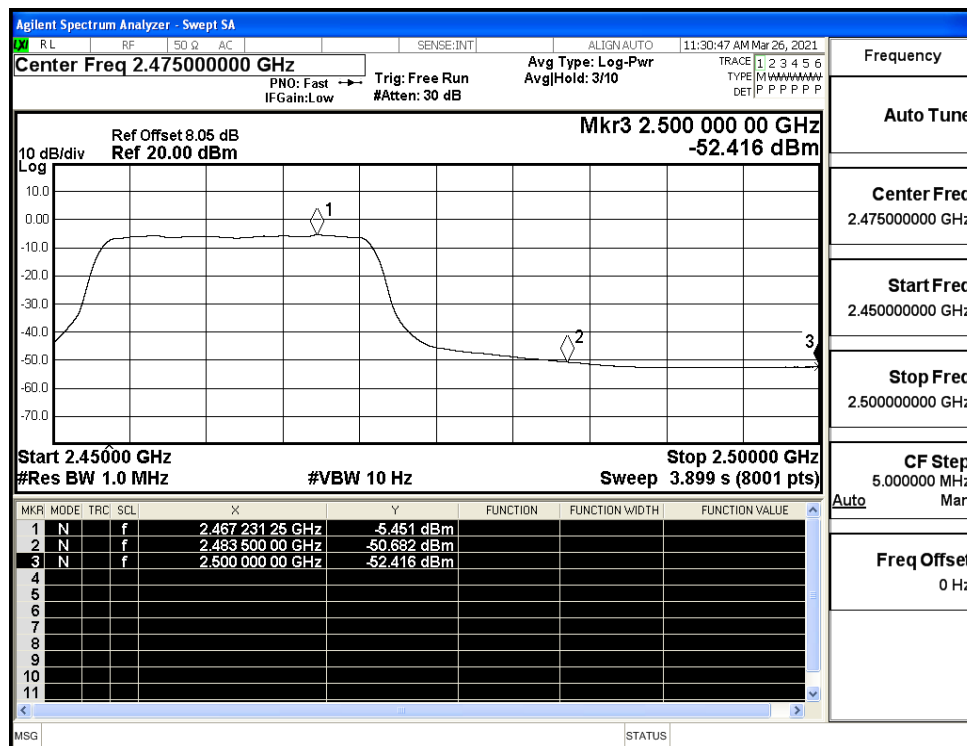
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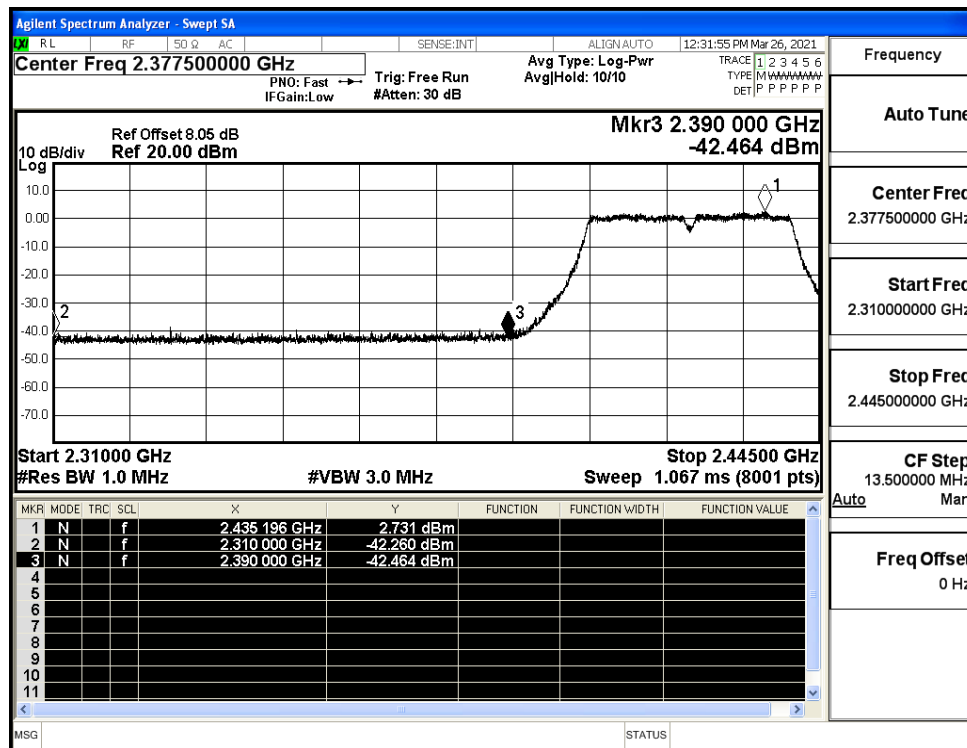
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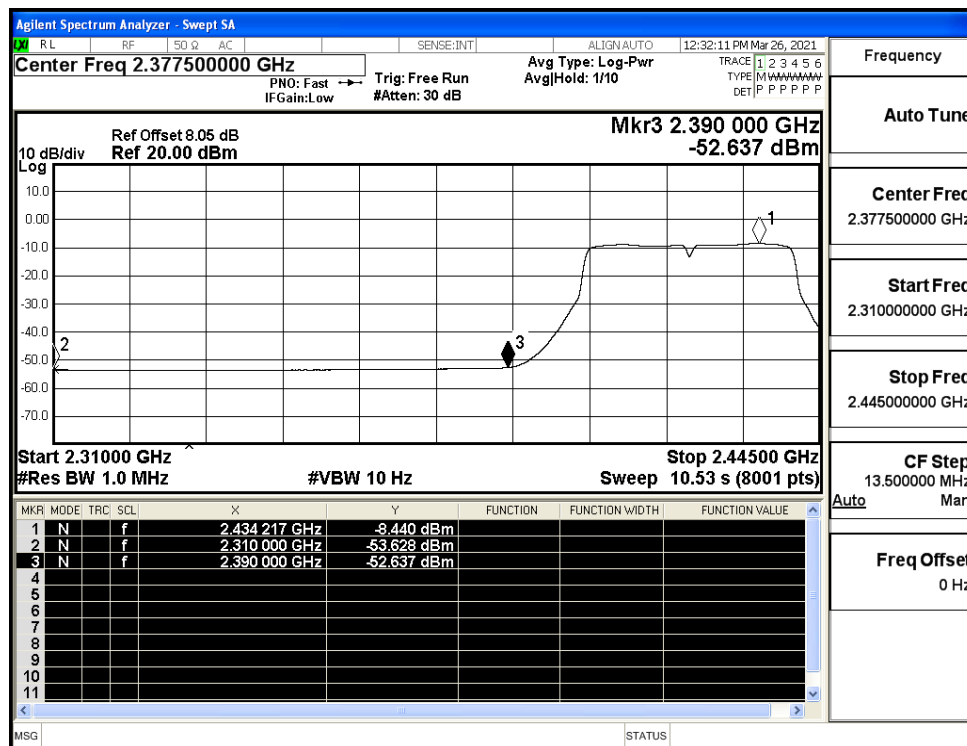
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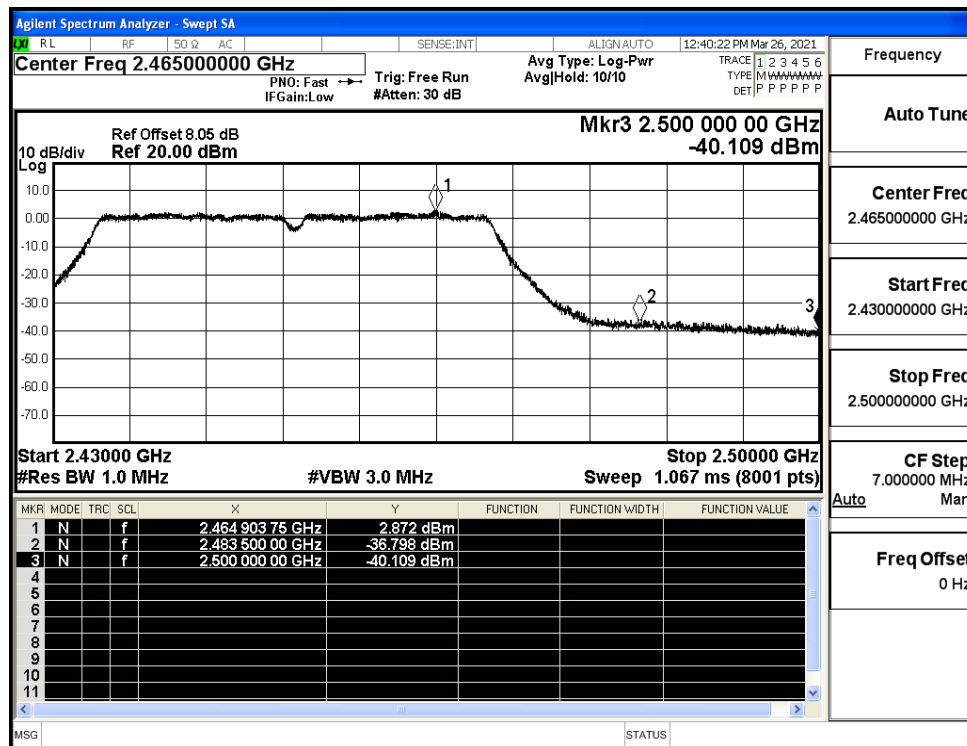
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Restrict-band band-edge measurements_11N40SISO_2422_Ant1_AV



Restrict-band band-edge measurements_11N40SISO_2452_Ant1_PEAK



Restrict-band band-edge measurements_11N40SISO_2452_Ant1_AV

