

Appendix C

RF Test Data for 2.4G WIFI (Conducted Measurement)

Product Name: Car intelligent Diagnosis

Trade Mark: XTOOL

Test Model: H6 PRO

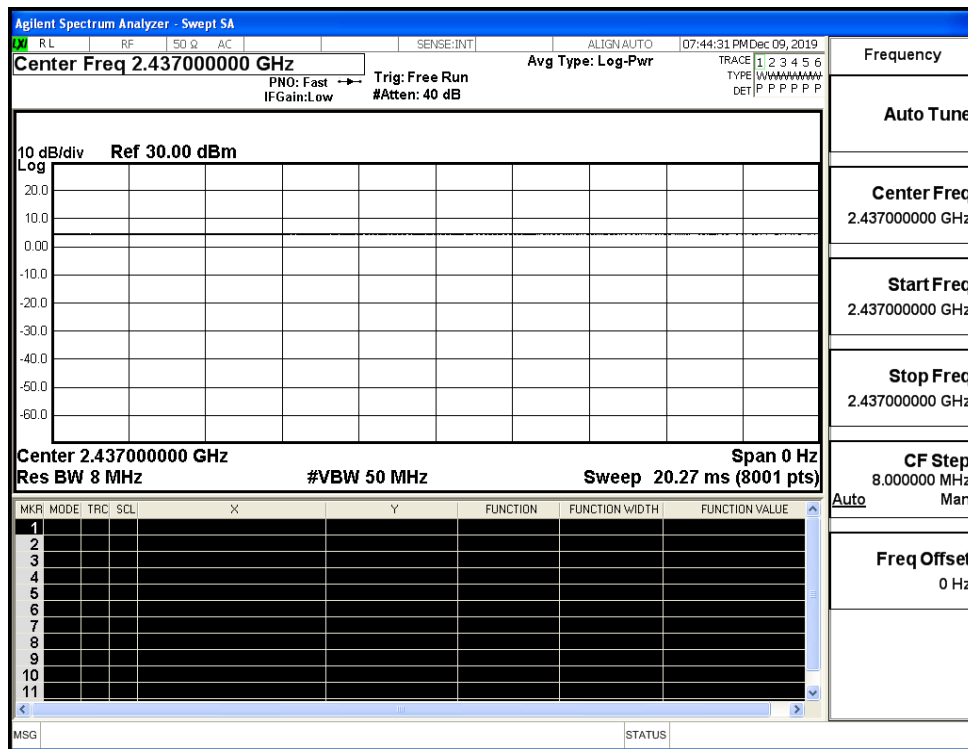
Environmental Conditions

Temperature:	23.5° C
Relative Humidity:	53.1%
ATM Pressure:	100.0 kPa
Test Engineer:	JK Zhou
Supervised by:	Li Huan

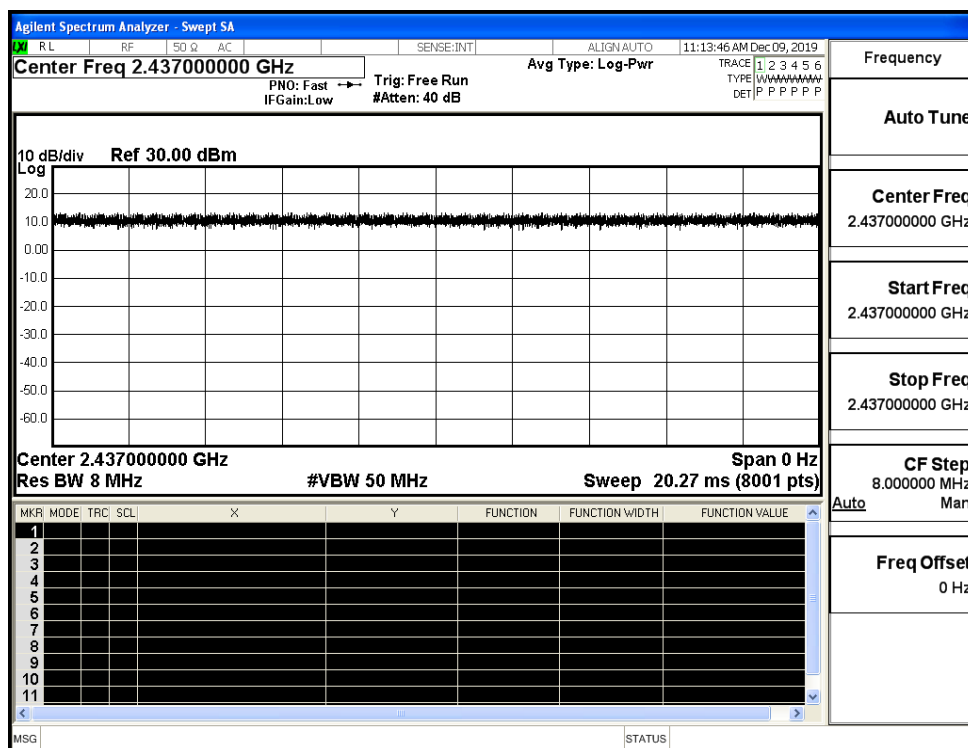
C.1 Duty Cycle

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

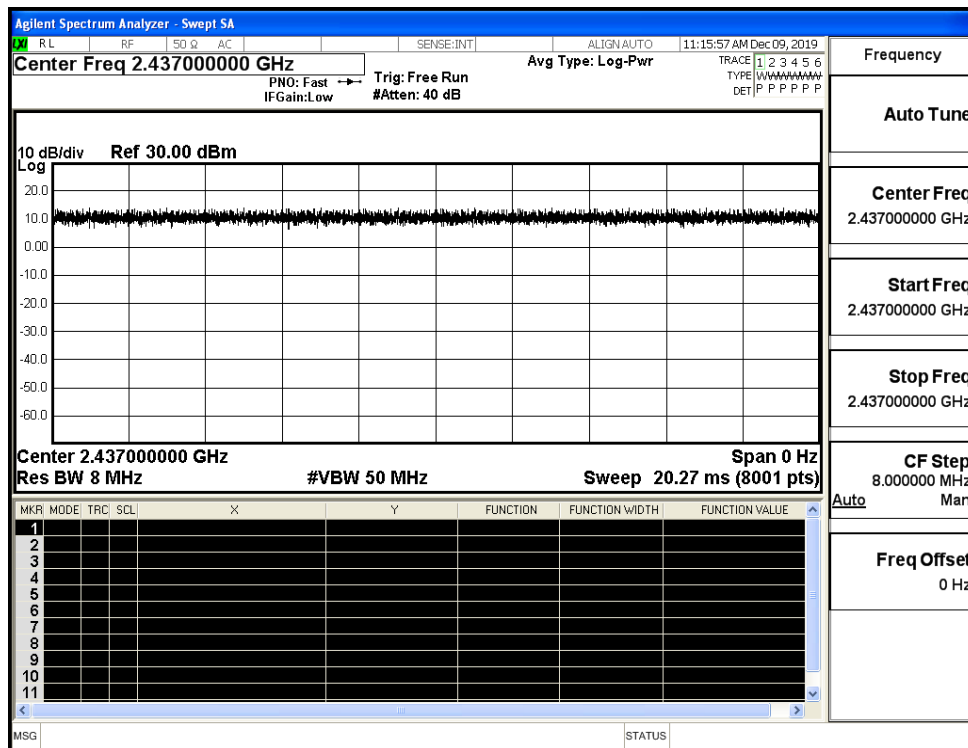
Duty Cycle_11B_2437_Ant1



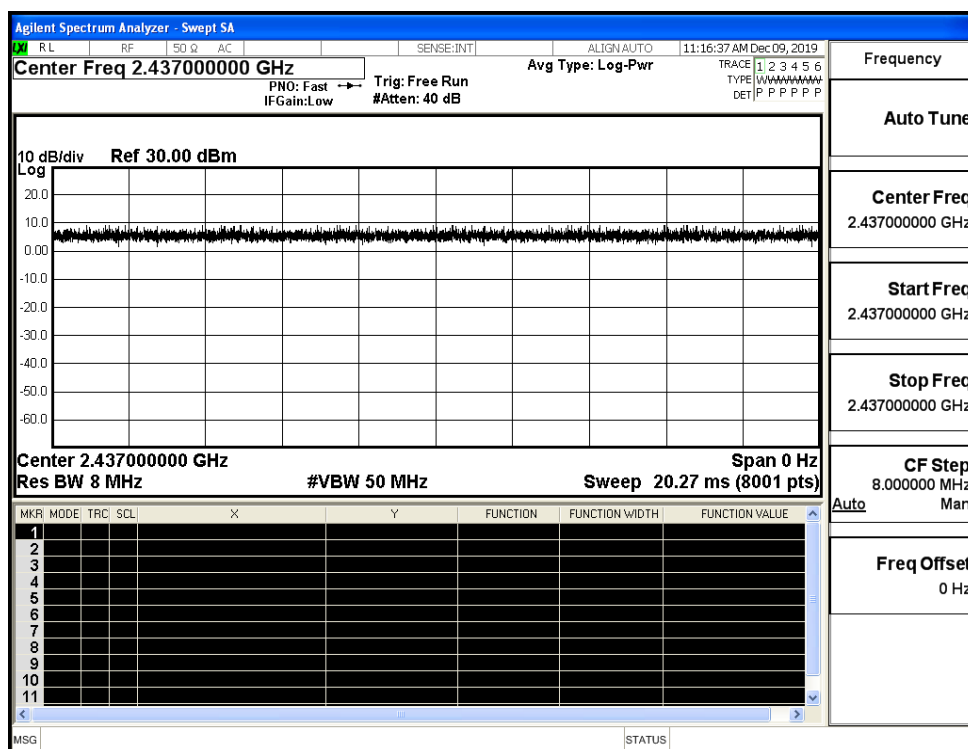
Duty Cycle_11G_2437_Ant1



Duty Cycle_11N20SISO_2437_Ant1



Duty Cycle_11N40SISO_2437_Ant1



C.2 Maximum Conducted Output Power

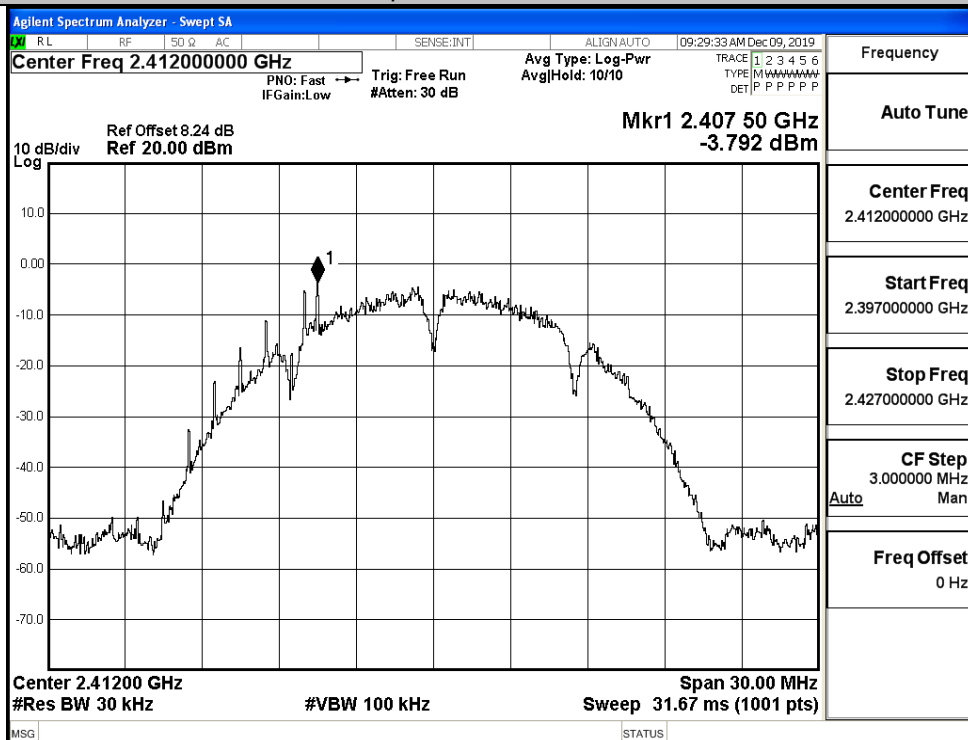
Mode	Channel	Meas.Level [dBm]	Limit [dBm]	Verdict
11B	LCH	8.75	30	PASS
	MCH	8.11	30	PASS
	HCH	7.63	30	PASS
11G	LCH	8.54	30	PASS
	MCH	7.96	30	PASS
	HCH	7.55	30	PASS
11N20SISO	LCH	5.46	30	PASS
	MCH	6.92	30	PASS
	HCH	7.44	30	PASS
11N40SISO	LCH	5.94	30	PASS
	MCH	7.22	30	PASS
	HCH	6.32	30	PASS

C.3 Maximum Power Spectral Density

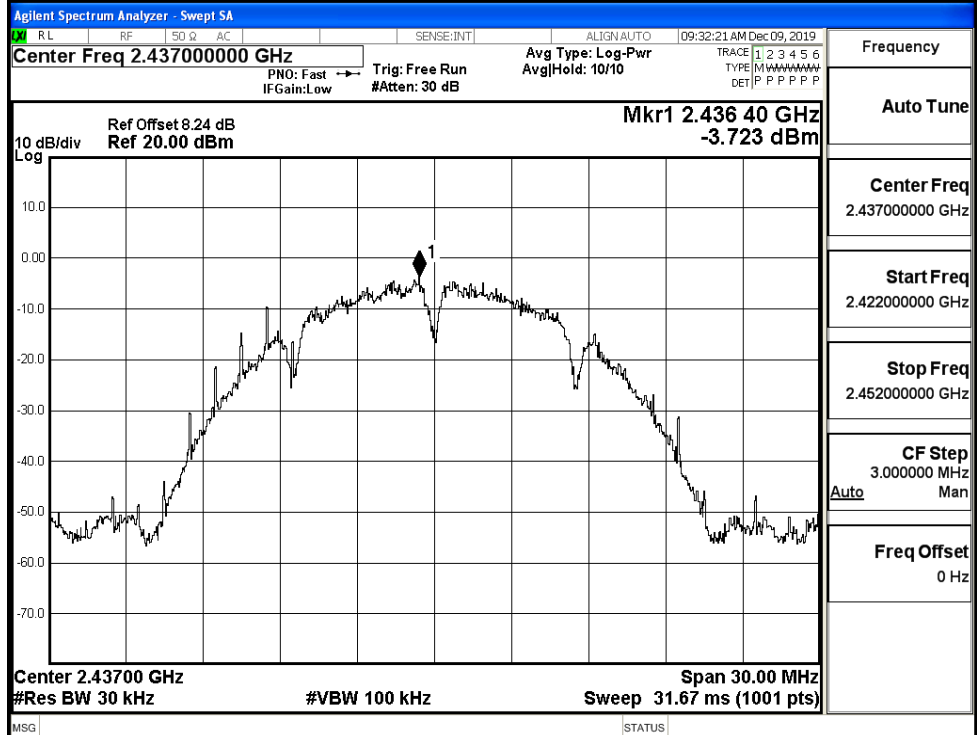
Mode	Channel	Meas.Level [dBm/30KHz]	Meas.Level [dBm/30KHz]	Limit [dBm/30KHz]	Verdict
11B	LCH	-3.792	-13.792	8	PASS
	MCH	-3.723	-13.723	8	PASS
	HCH	2.373	-7.627	8	PASS
11G	LCH	-11.495	-21.495	8	PASS
	MCH	-11.172	-21.172	8	PASS
	HCH	-10.867	-20.867	8	PASS
11N20SISO	LCH	-10.089	-20.089	8	PASS
	MCH	-10.099	-20.099	8	PASS
	HCH	-9.495	-19.495	8	PASS
11N40SISO	LCH	-14.188	-24.188	8	PASS
	MCH	-13.734	-23.734	8	PASS
	HCH	-13.088	-23.088	8	PASS

Test Graphs

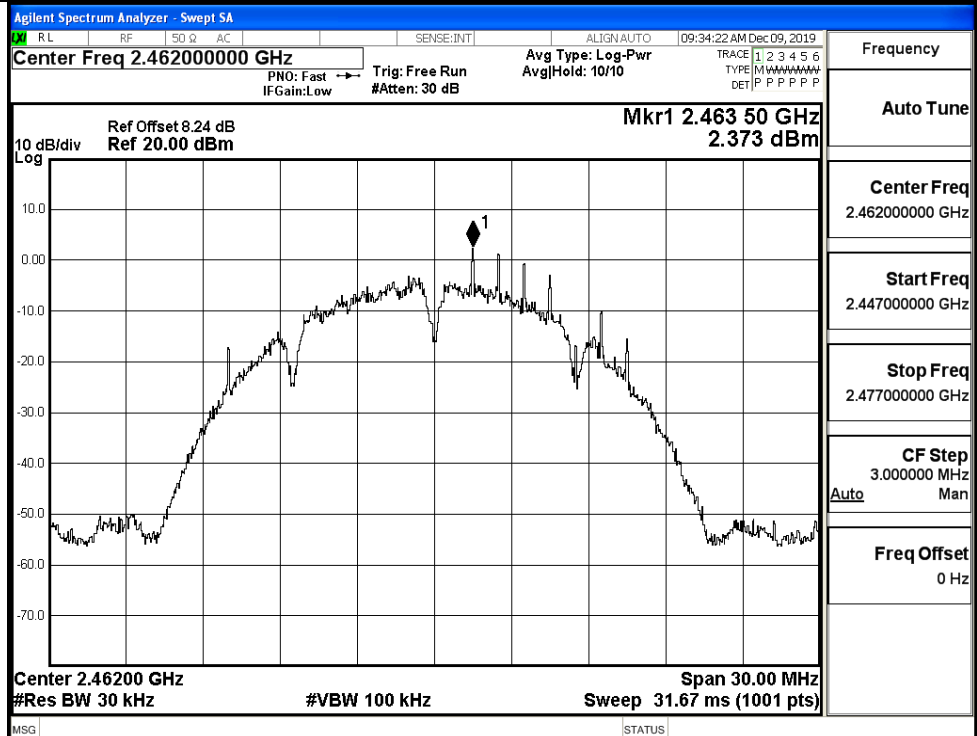
11B/LCH



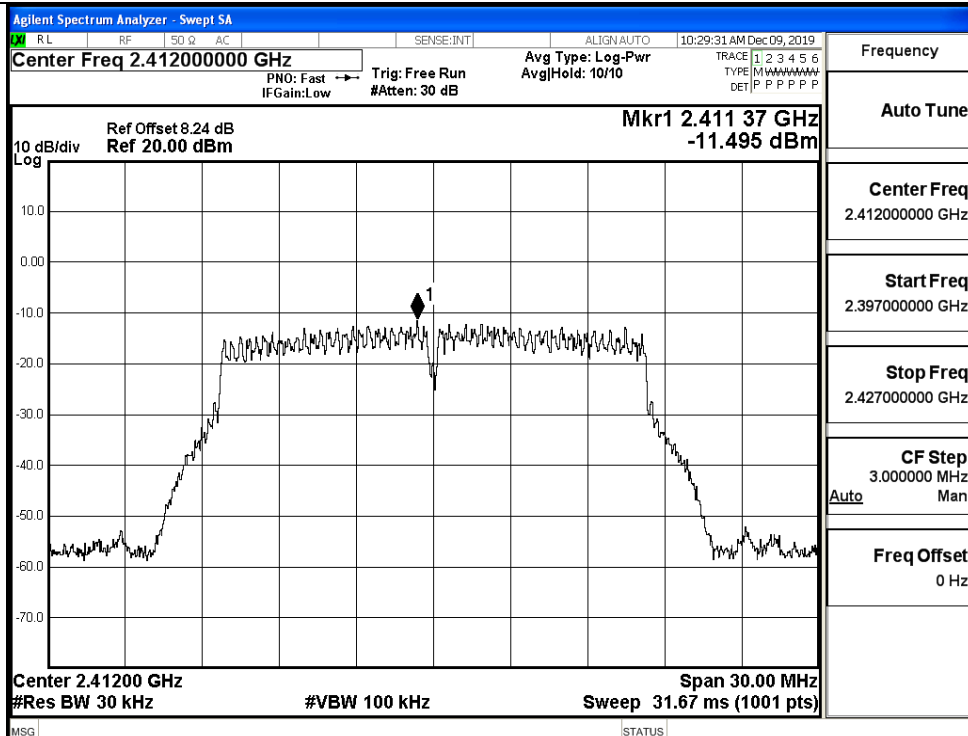
11B/MCH



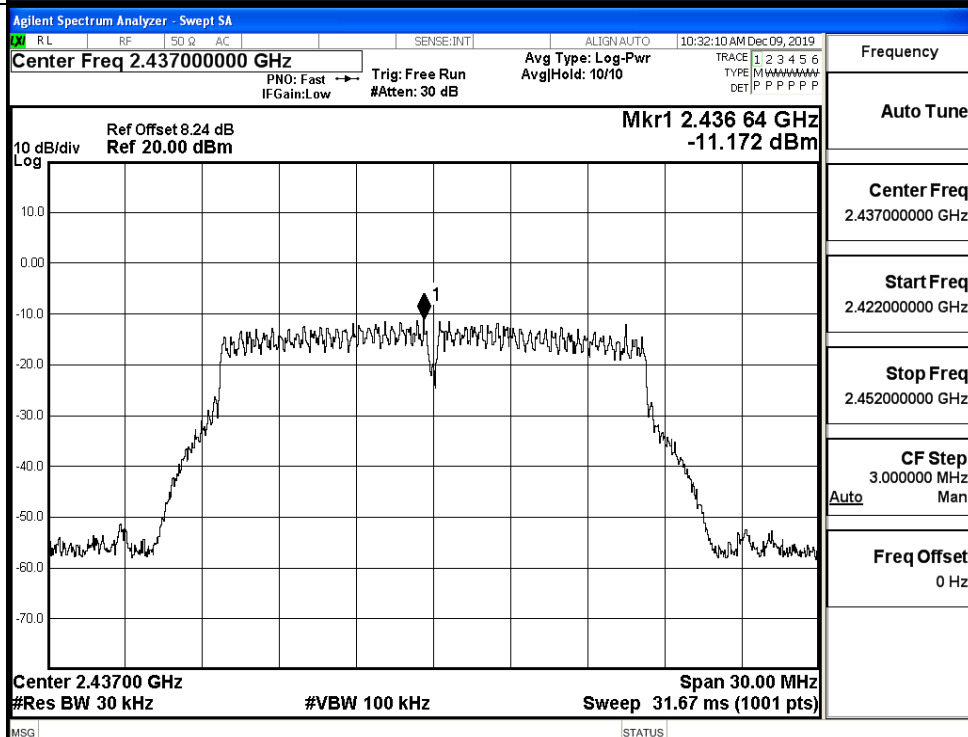
11B/HCH



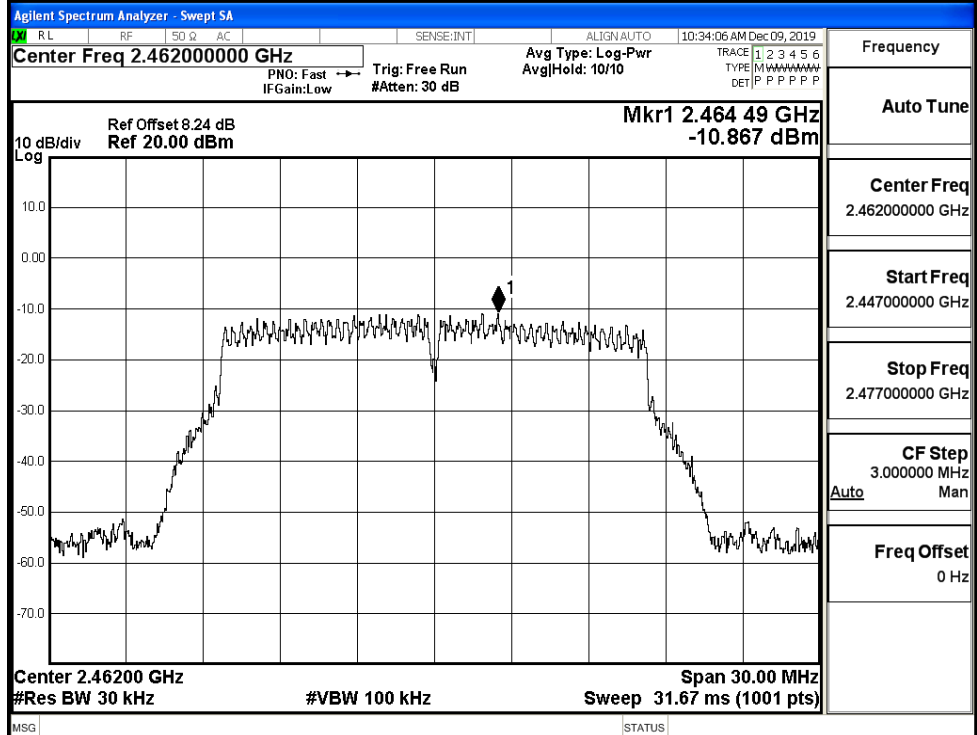
11G/LCH



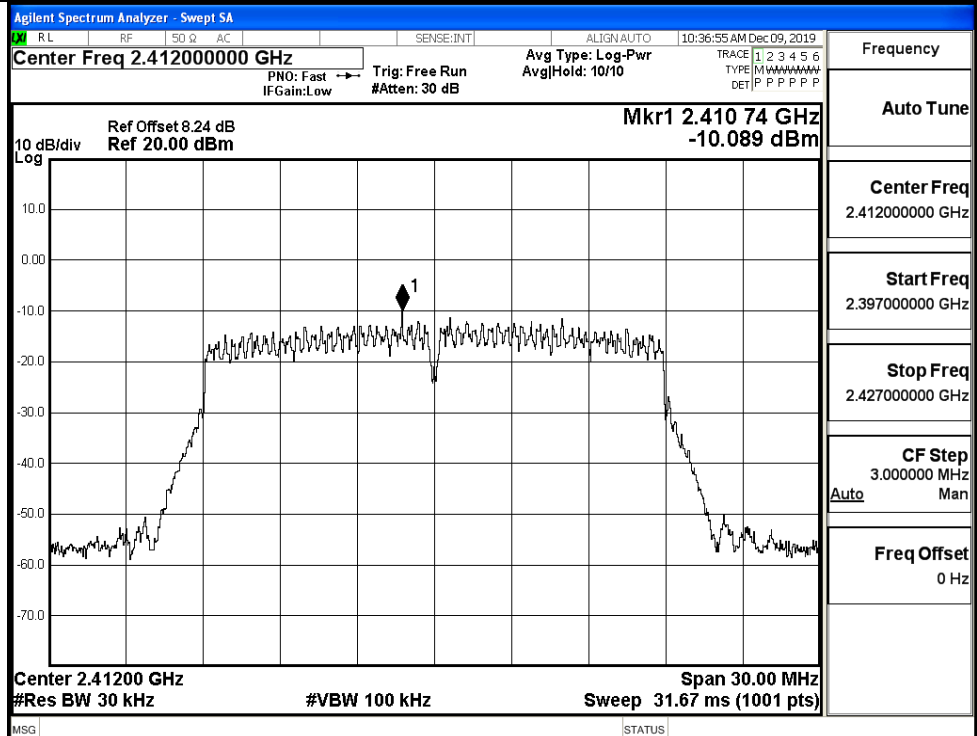
11G/MCH



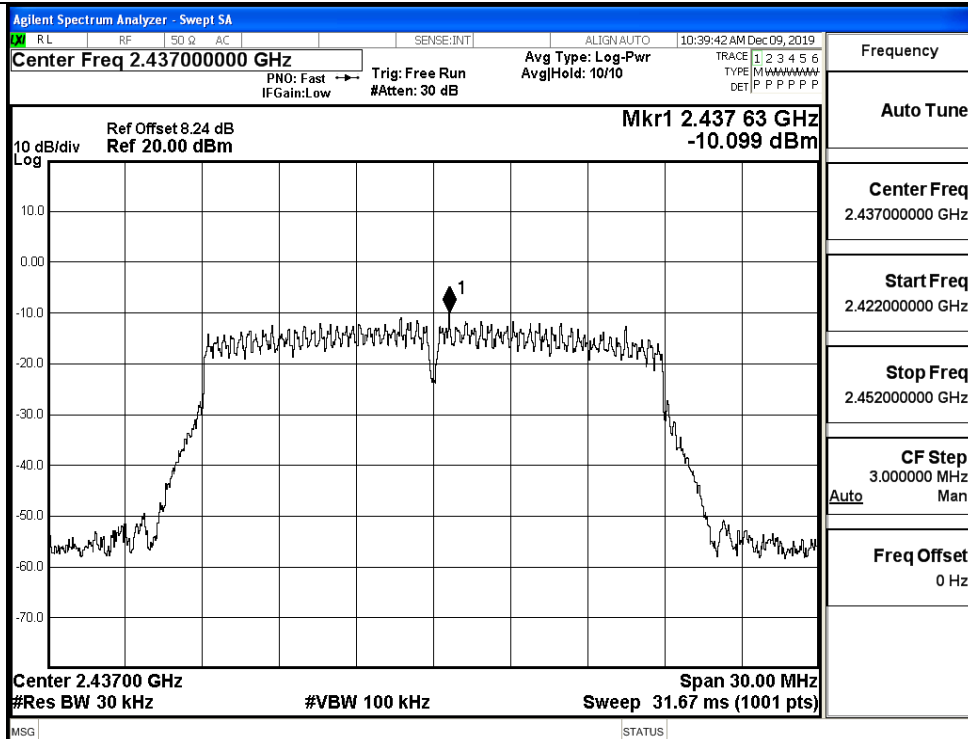
11G/HCH



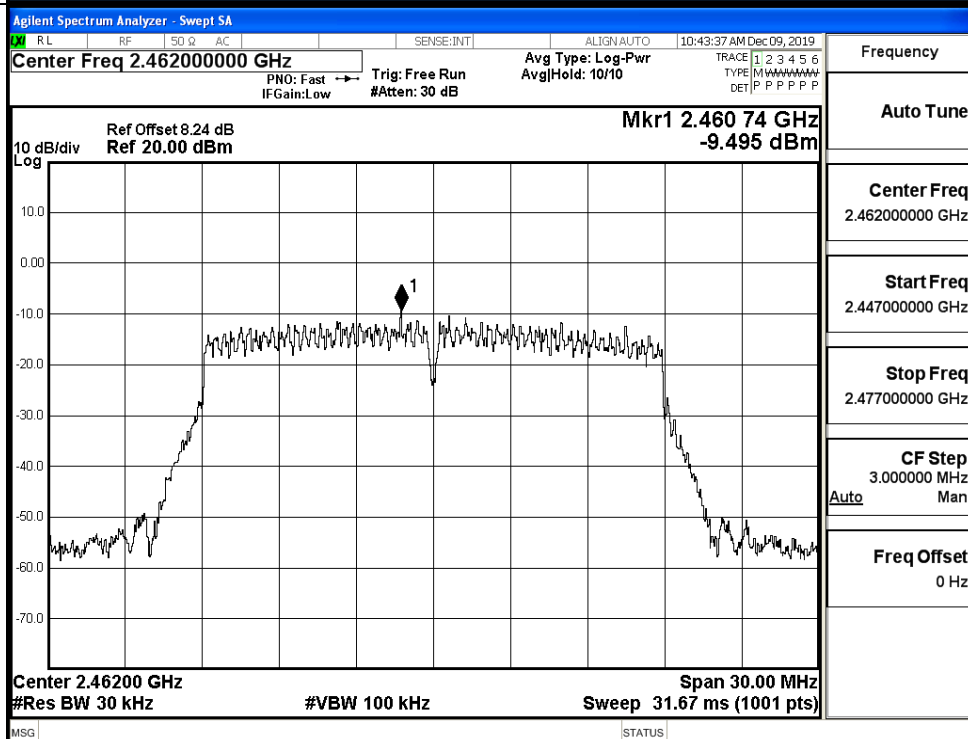
11N20SISO/LCH



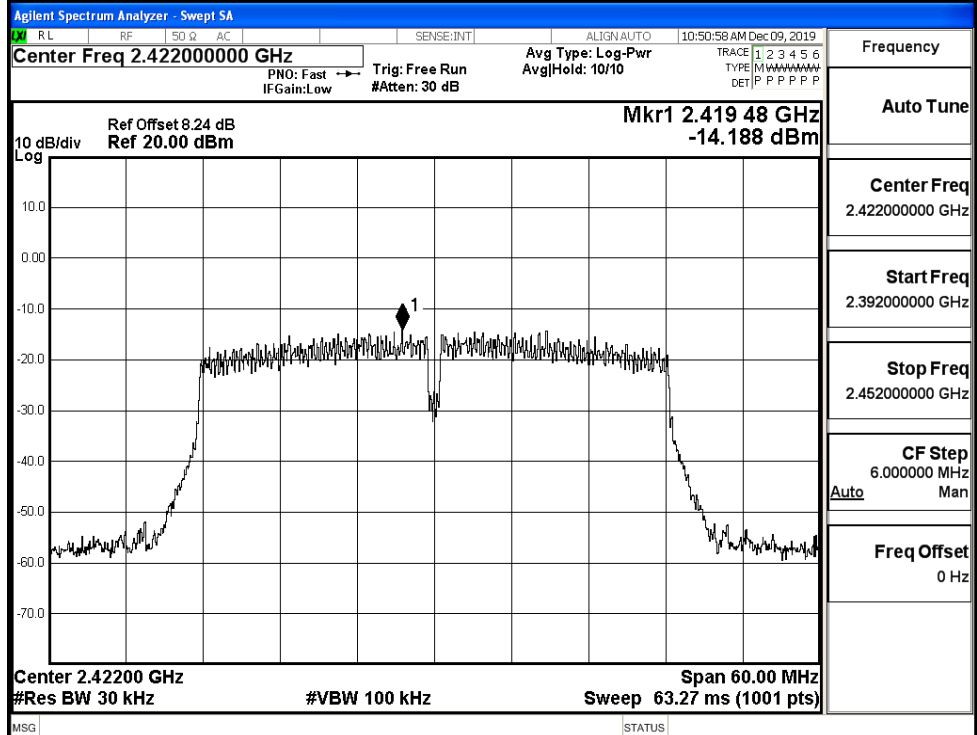
11N20SISO/MCH



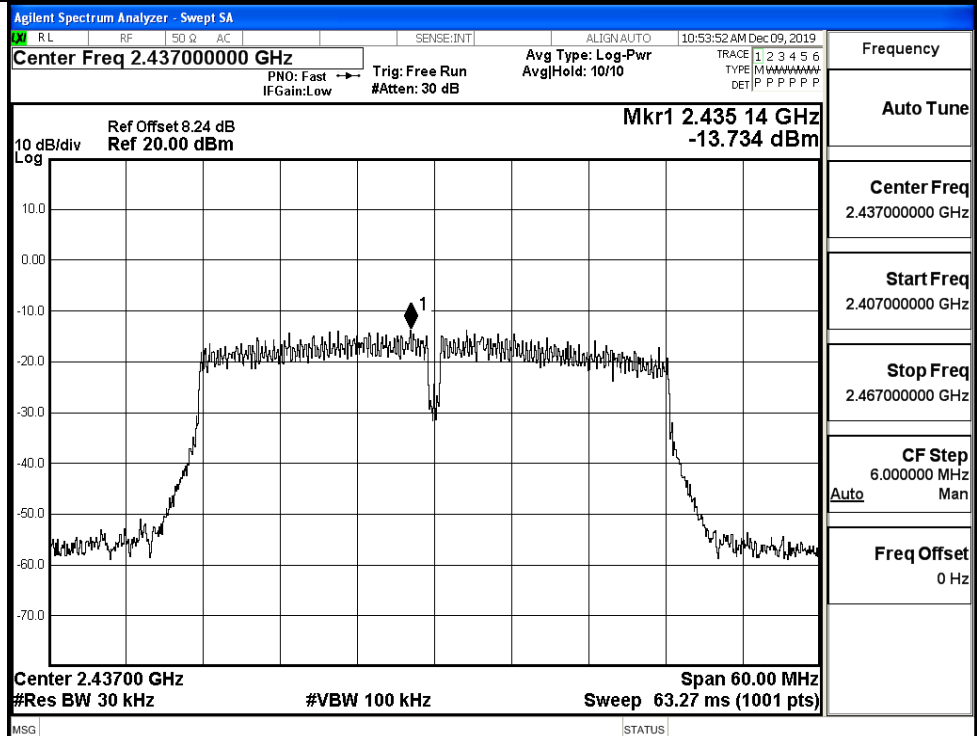
11N20SISO/HCH



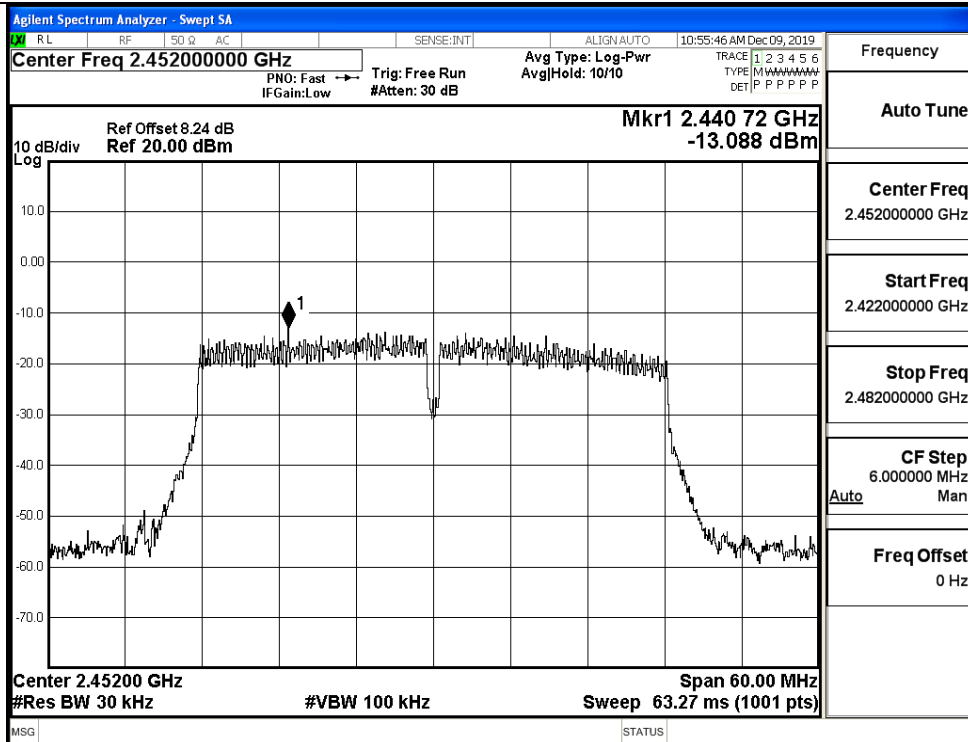
11N40SISO/LCH



11N40SISO/MCH



11N40SISO/HCH

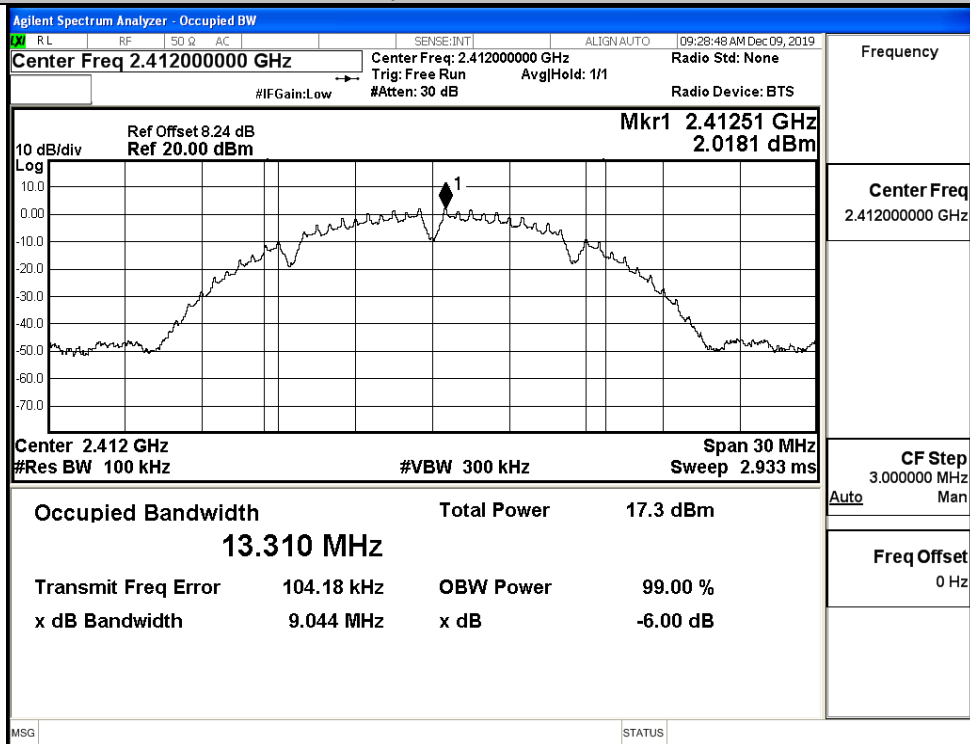


C.4 6dB Bandwidth

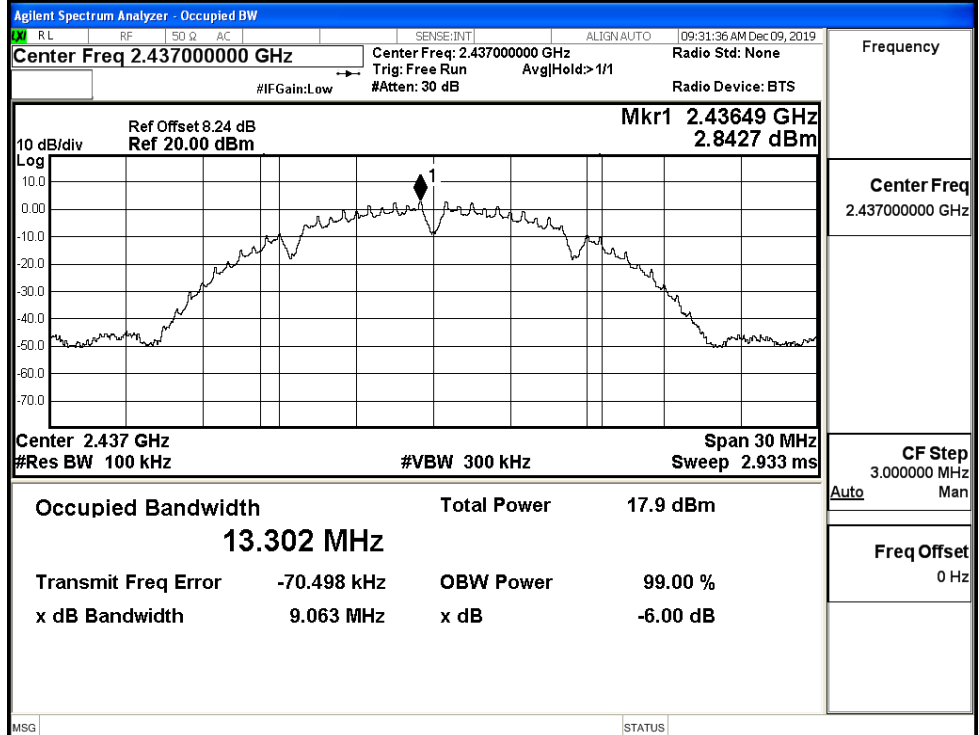
Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
11B	LCH	9.044	≥ 0.5	PASS
	MCH	9.063	≥ 0.5	PASS
	HCH	9.050	≥ 0.5	PASS
11G	LCH	15.46	≥ 0.5	PASS
	MCH	15.44	≥ 0.5	PASS
	HCH	15.50	≥ 0.5	PASS
11N20SISO	LCH	15.96	≥ 0.5	PASS
	MCH	15.48	≥ 0.5	PASS
	HCH	16.79	≥ 0.5	PASS
11N40SISO	LCH	35.18	≥ 0.5	PASS
	MCH	35.19	≥ 0.5	PASS
	HCH	35.48	≥ 0.5	PASS

Test Graphs

11B/LCH



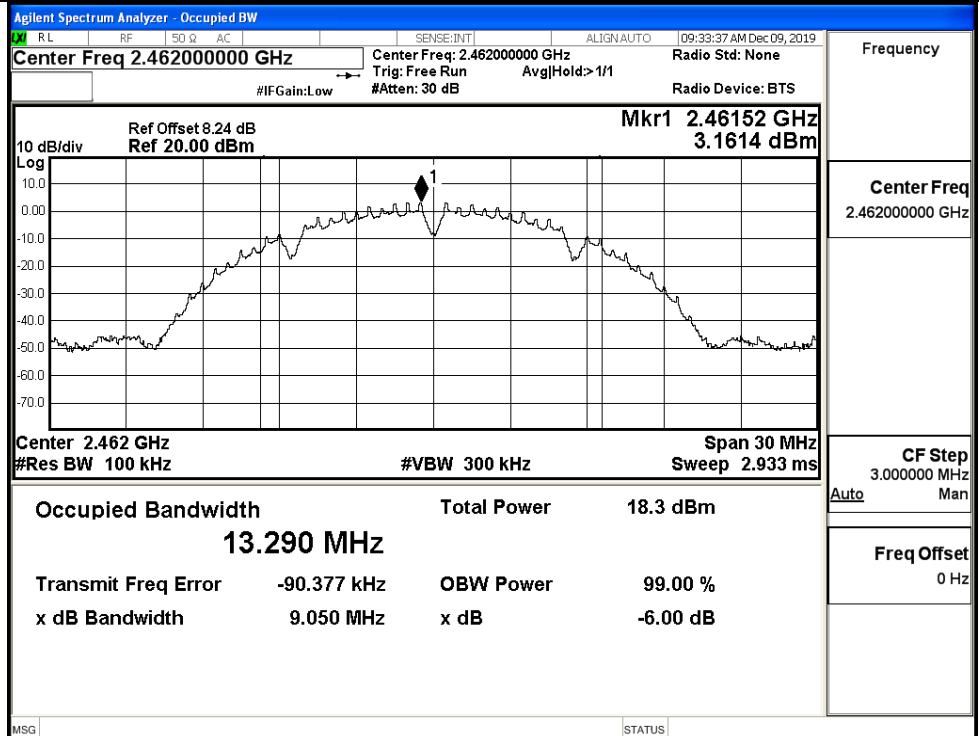
11B/MCH



Frequency

Center Freq
2.437000000 GHzCF Step
3.000000 MHz
Auto ManFreq Offset
0 Hz

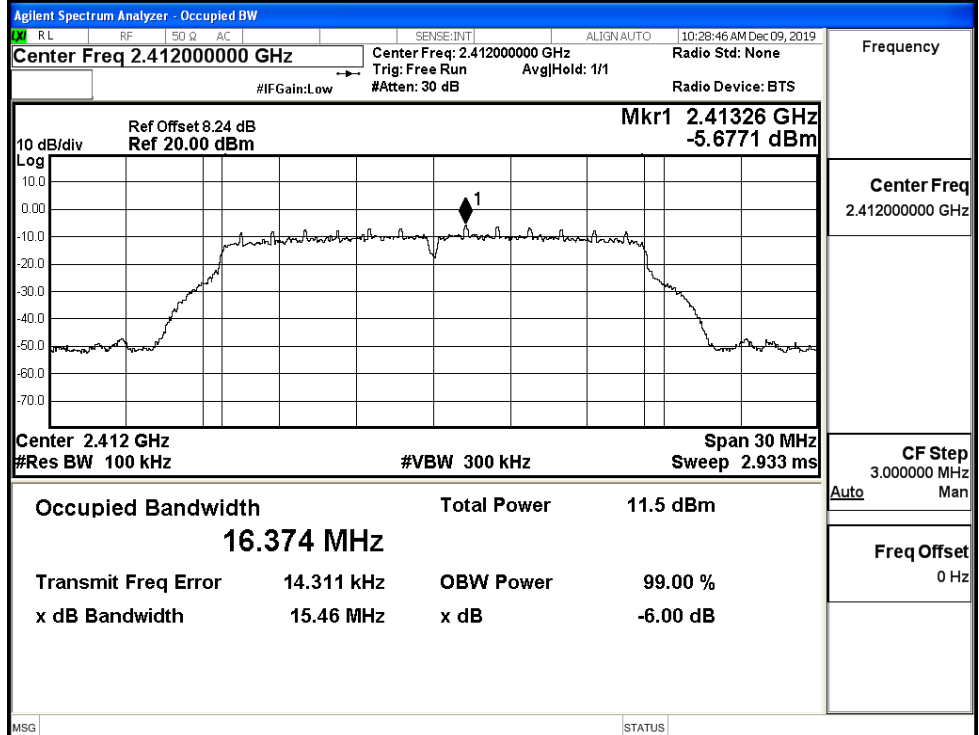
11B/HCH



Frequency

Center Freq
2.462000000 GHzCF Step
3.000000 MHz
Auto ManFreq Offset
0 Hz

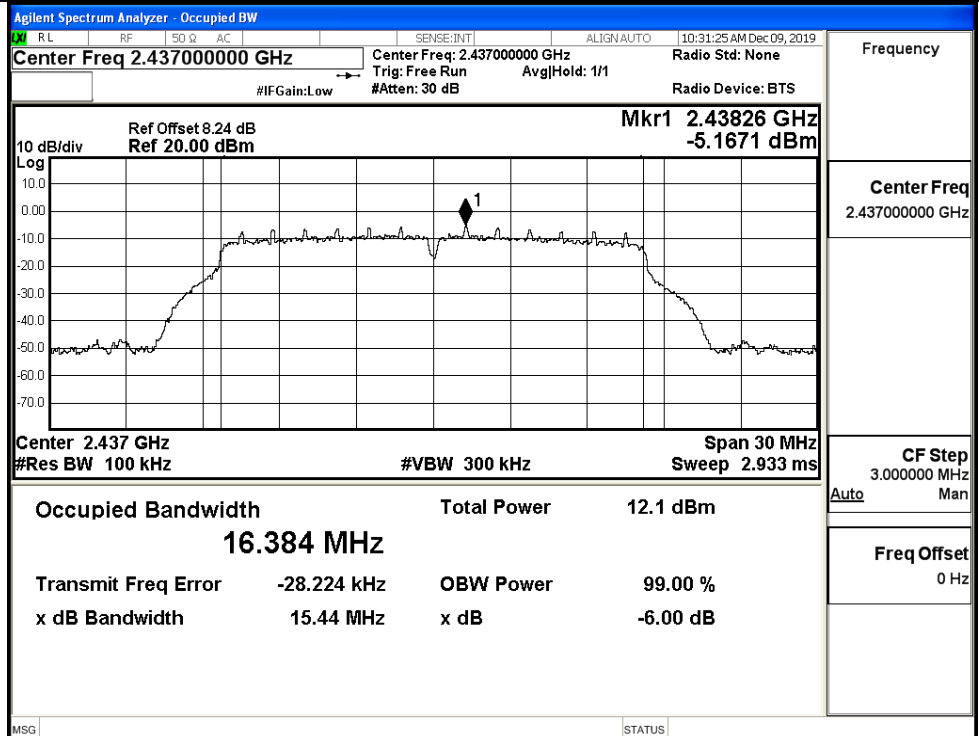
11G/LCH



Frequency

Center Freq
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3.000000 MHz
Auto ManFreq Offset
0 Hz

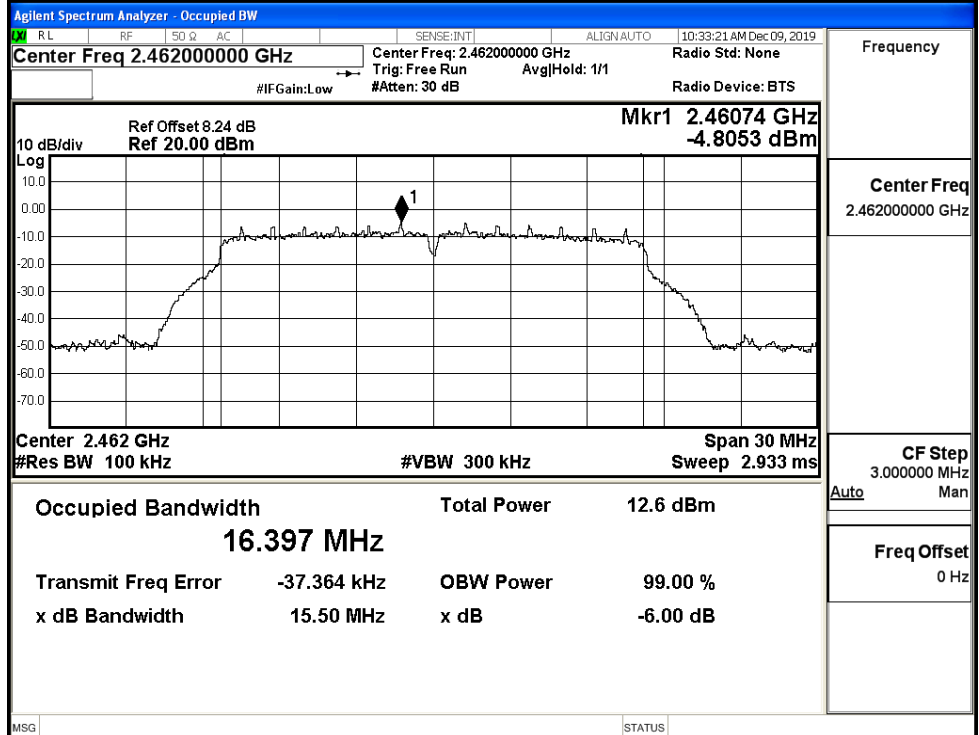
11G/MCH



Frequency

Center Freq
2.437000000 GHzCF Step
3.000000 MHz
Auto ManFreq Offset
0 Hz

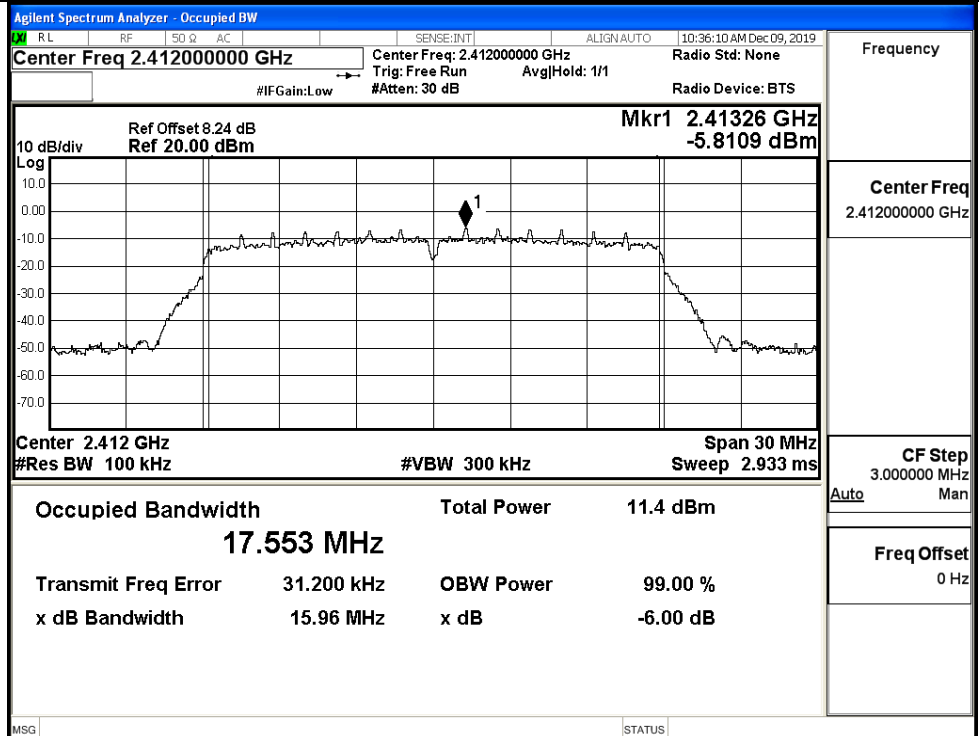
11G/HCH



Frequency

Center Freq
2.462000000 GHzCF Step
3.000000 MHz
Auto ManFreq Offset
0 Hz

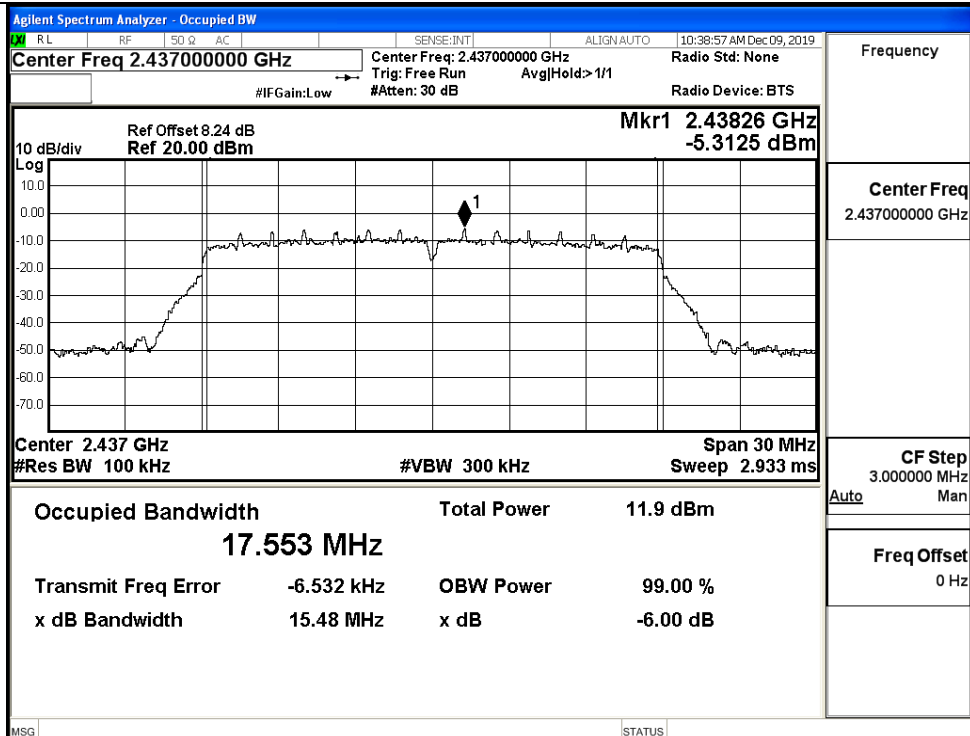
11N20SISO/LCH



Frequency

Center Freq
2.412000000 GHzCF Step
3.000000 MHz
Auto ManFreq Offset
0 Hz

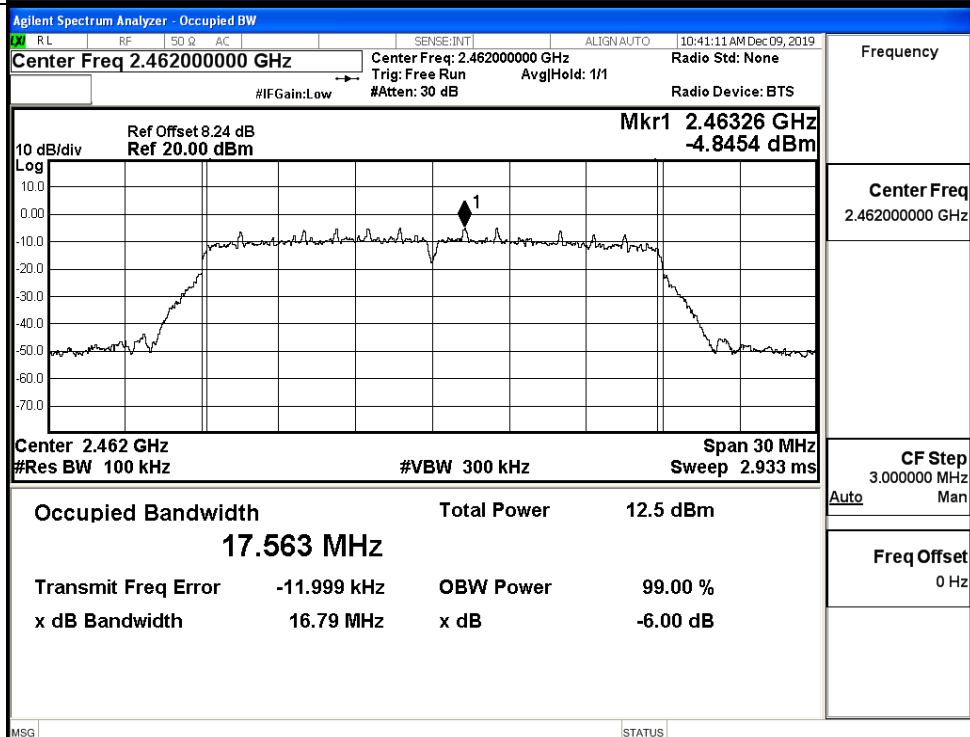
11N20SISO/MCH



Frequency

Center Freq
2.437000000 GHzCF Step
3.000000 MHz
Auto ManFreq Offset
0 Hz

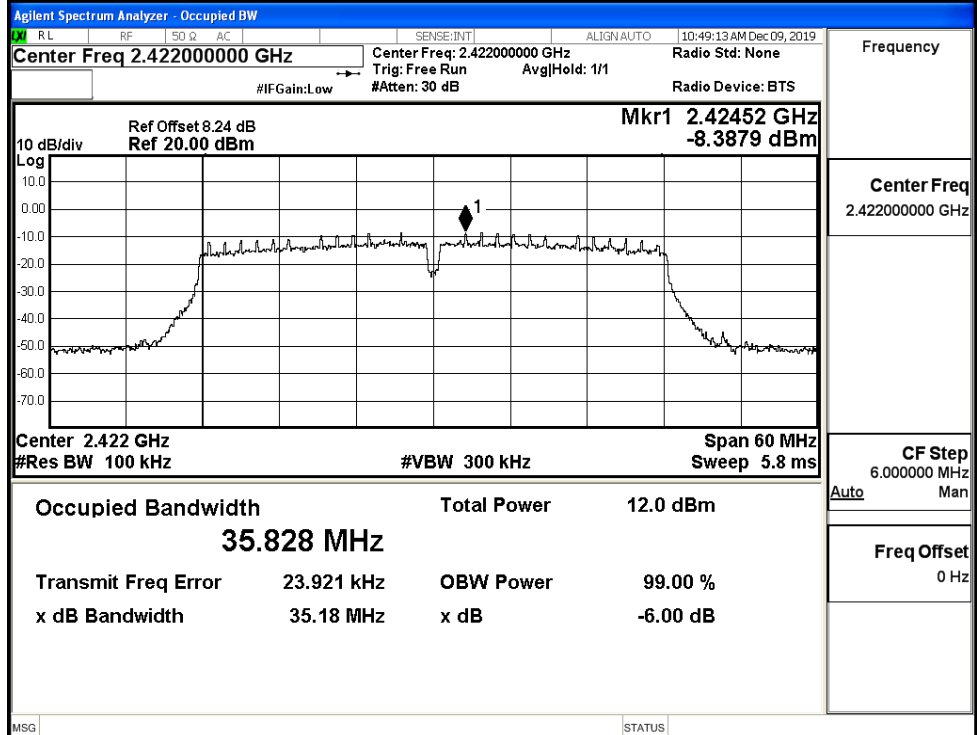
11N20SISO/HCH



Frequency

Center Freq
2.462000000 GHzCF Step
3.000000 MHz
Auto ManFreq Offset
0 Hz

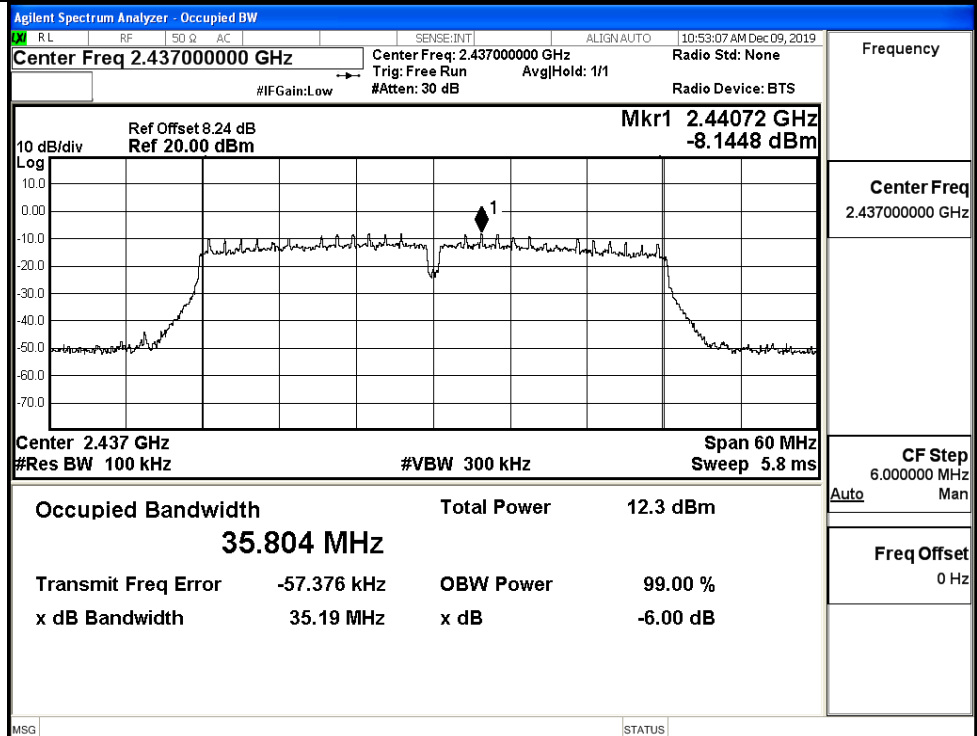
11N40SISO/LCH



Frequency

Center Freq
2.422000000 GHzCF Step
6.000000 MHz
Auto ManFreq Offset
0 Hz

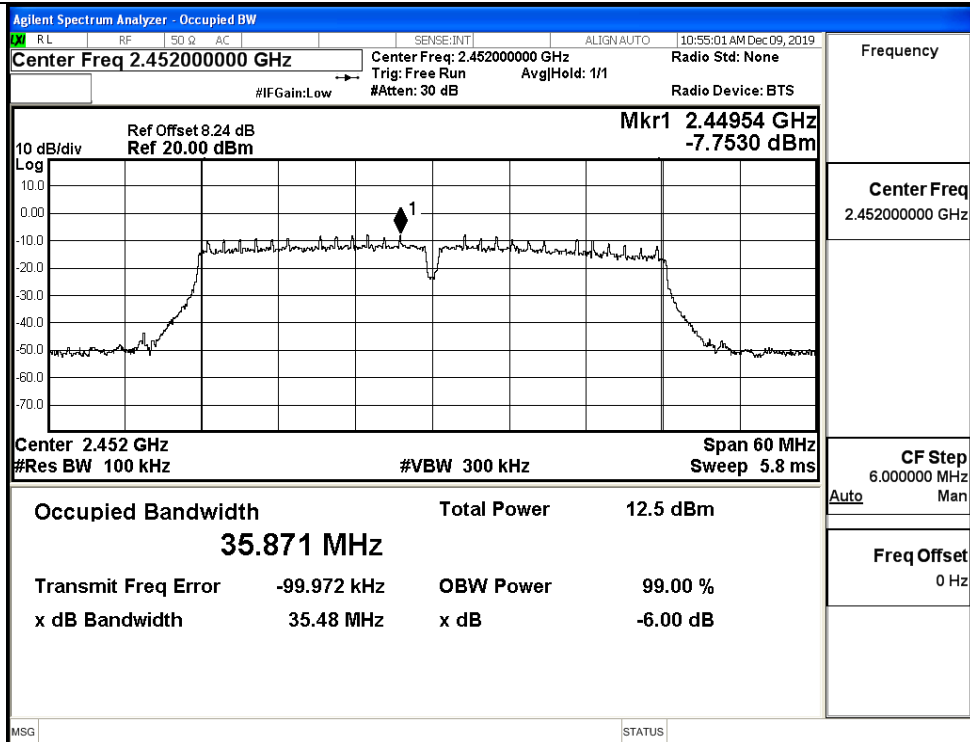
11N40SISO/MCH



Frequency

Center Freq
2.437000000 GHzCF Step
6.000000 MHz
Auto ManFreq Offset
0 Hz

11N40SISO/HCH

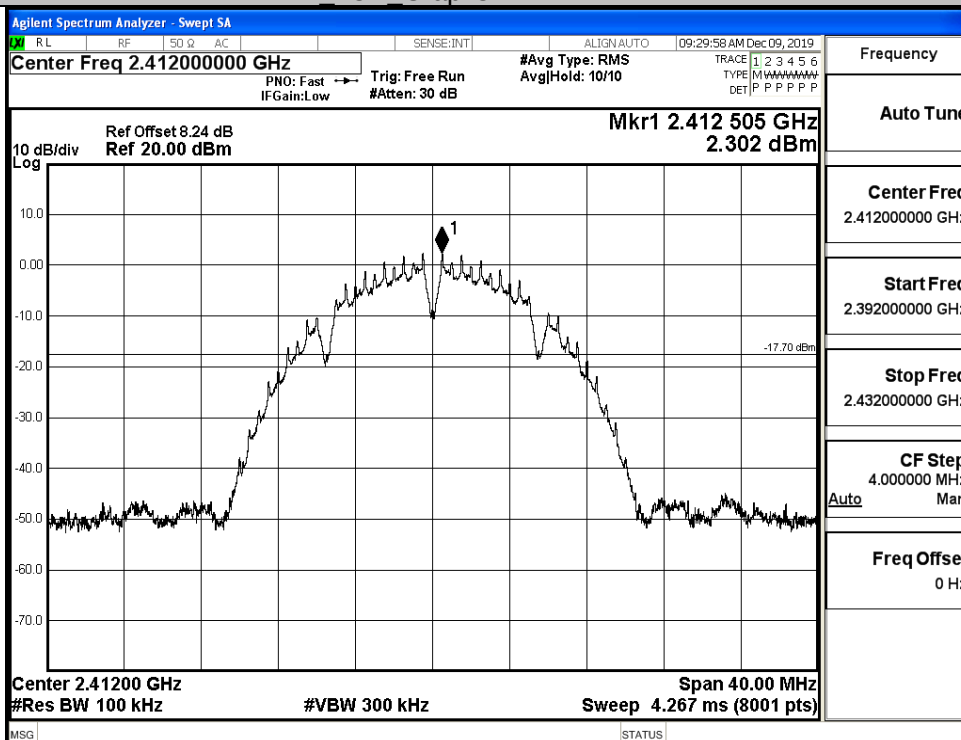


C.5 RF Conducted Spurious Emissions

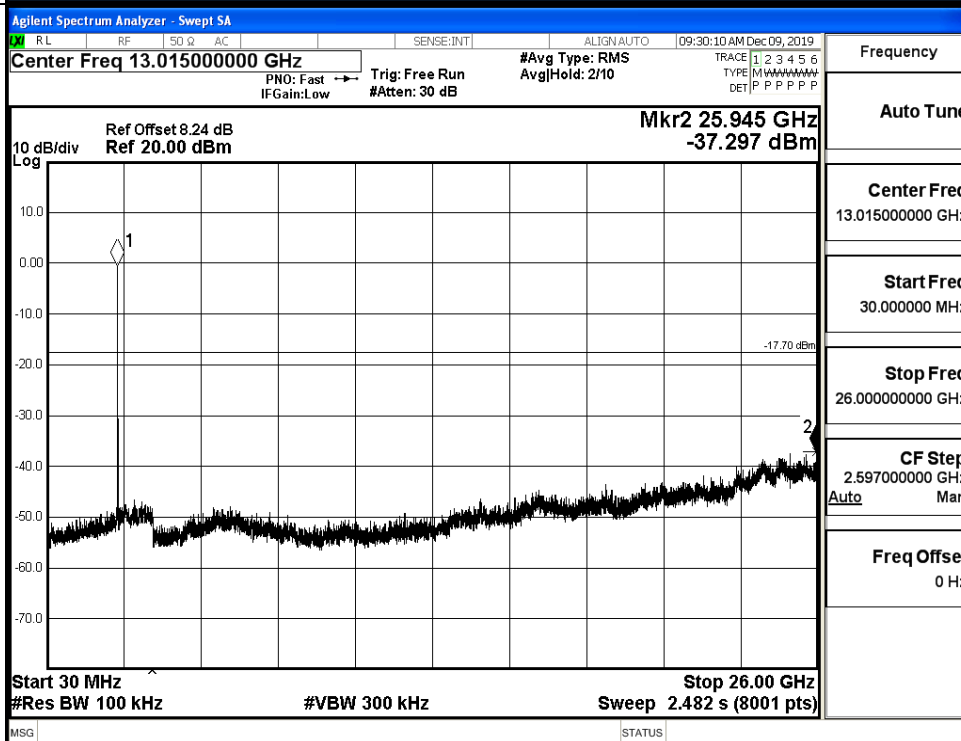
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
11B	LCH	2.302	-37.297	-17.698	PASS
	MCH	2.556	-37.982	-17.444	PASS
	HCH	3.201	-37.807	-16.799	PASS
11G	LCH	-5.829	-37.242	-25.829	PASS
	MCH	-5.365	-37.990	-25.365	PASS
	HCH	-5.435	-37.881	-25.435	PASS
11N20 SISO	LCH	-5.497	-37.793	-25.497	PASS
	MCH	-5.67	-38.151	-25.670	PASS
	HCH	-4.758	-37.813	-24.758	PASS
11N40 SISO	LCH	-8.438	-37.957	-28.438	PASS
	MCH	-8.006	-37.020	-28.006	PASS
	HCH	-7.659	-38.086	-27.659	PASS

11B LCH Graphs

Pref/11B/LCH

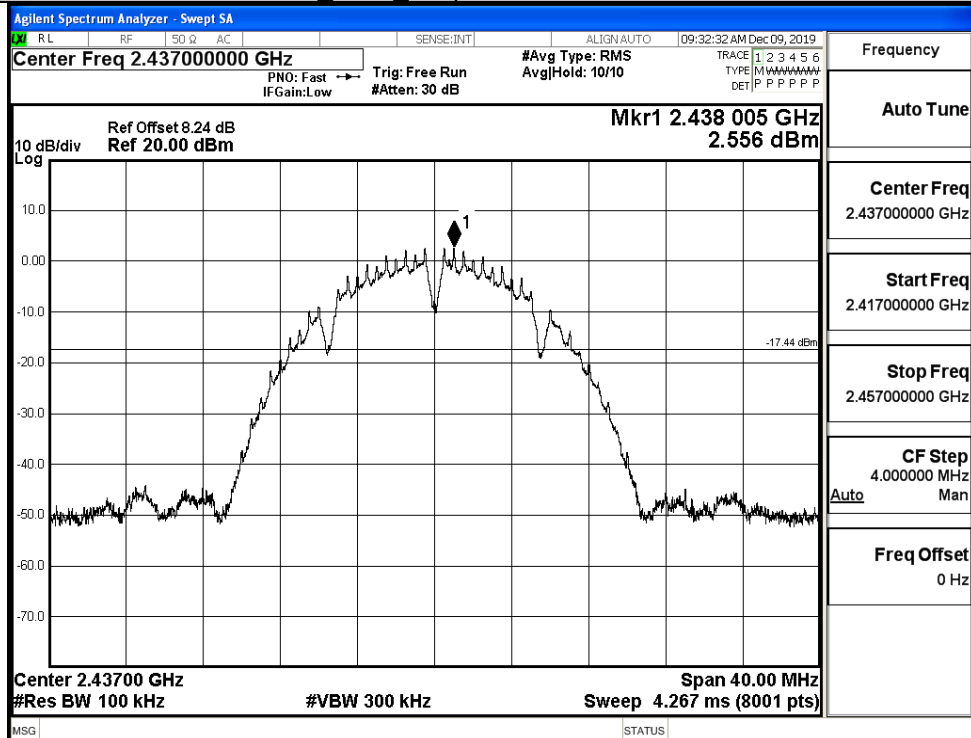


Puw/11B/LCH

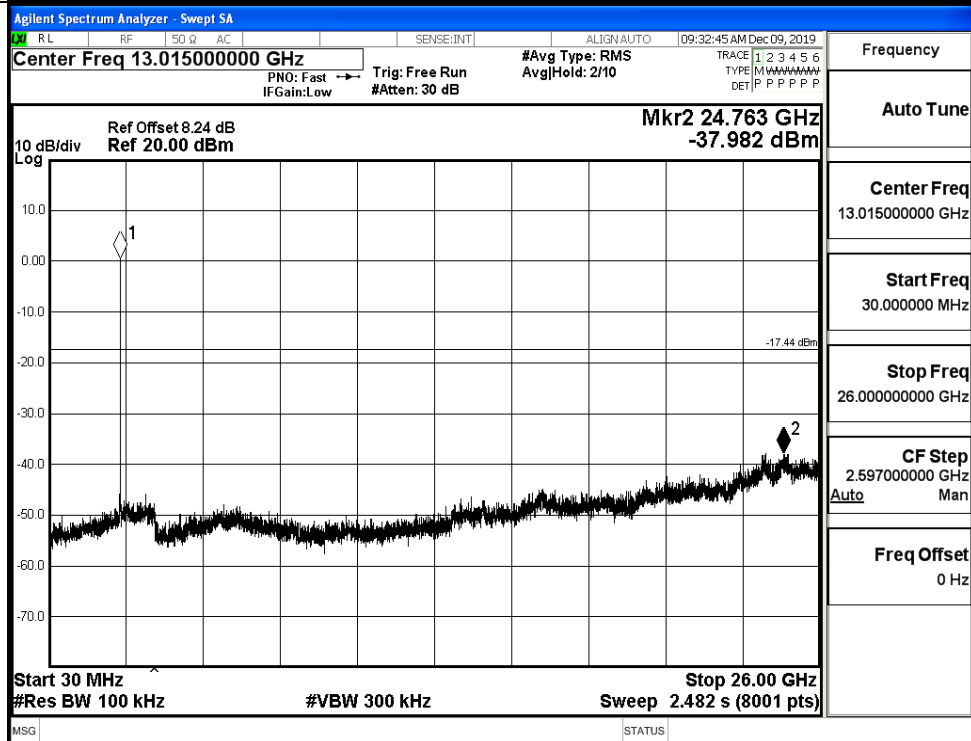


11B MCH Graphs

Pref/11B/MCH

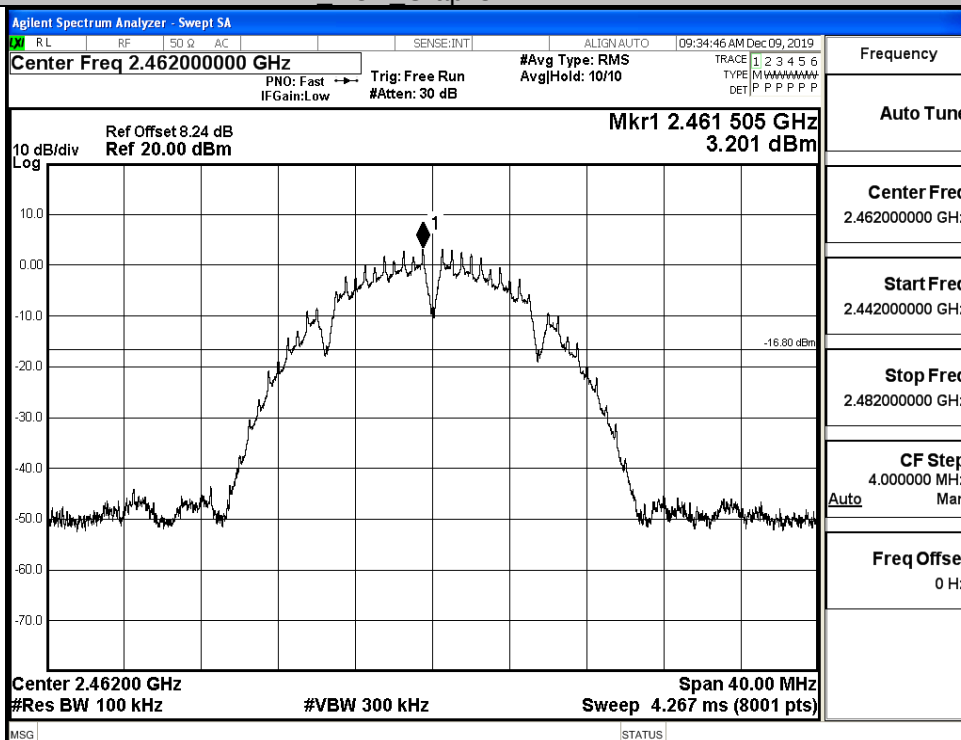


Puw/11B/MCH

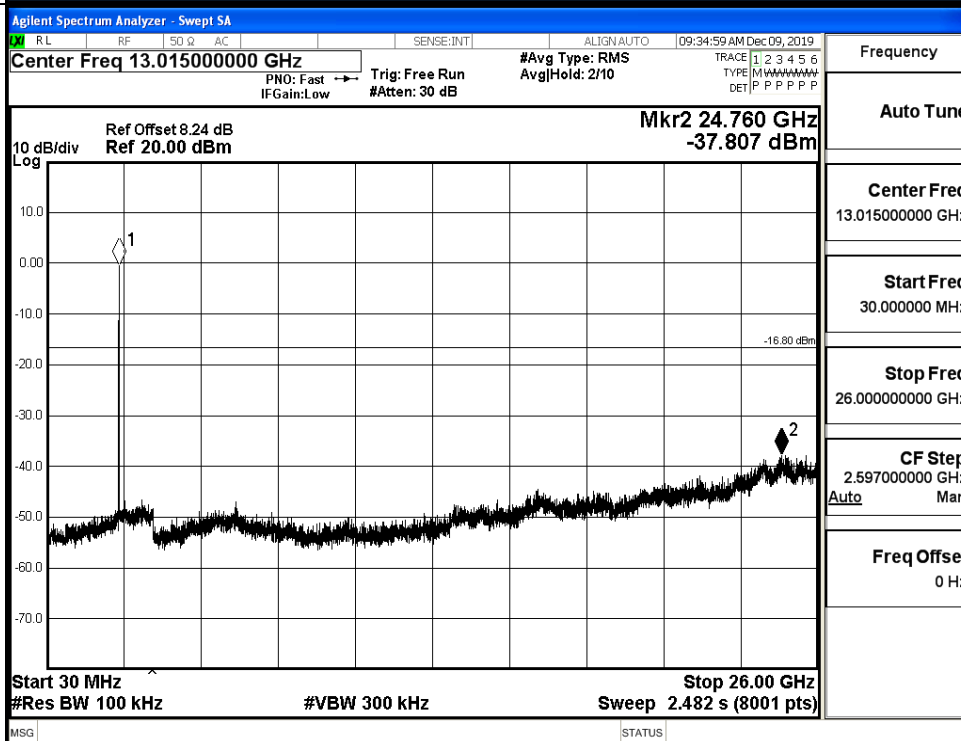


11B HCH Graphs

Pref/11B/HCH

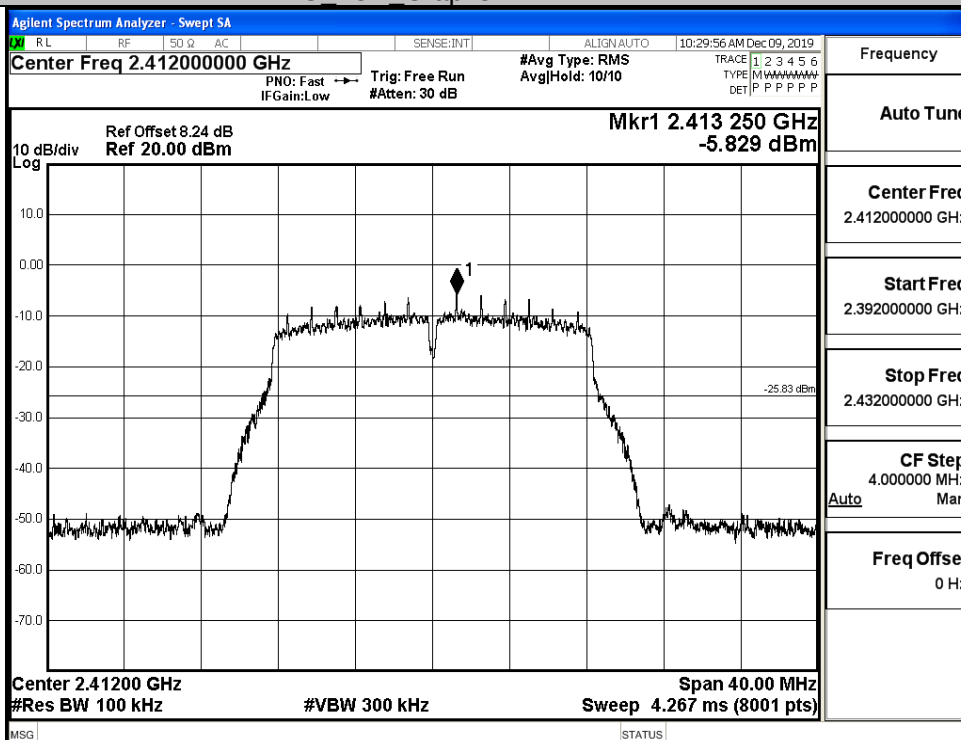


Puw/11B/HCH

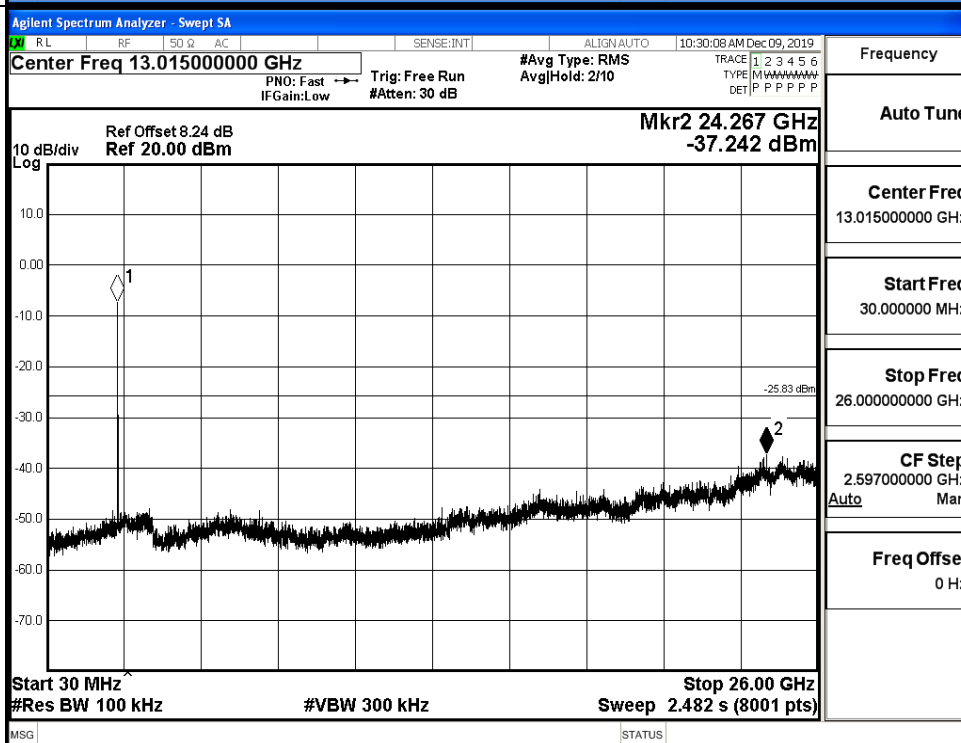


11G LCH Graphs

Pref/11G/LCH

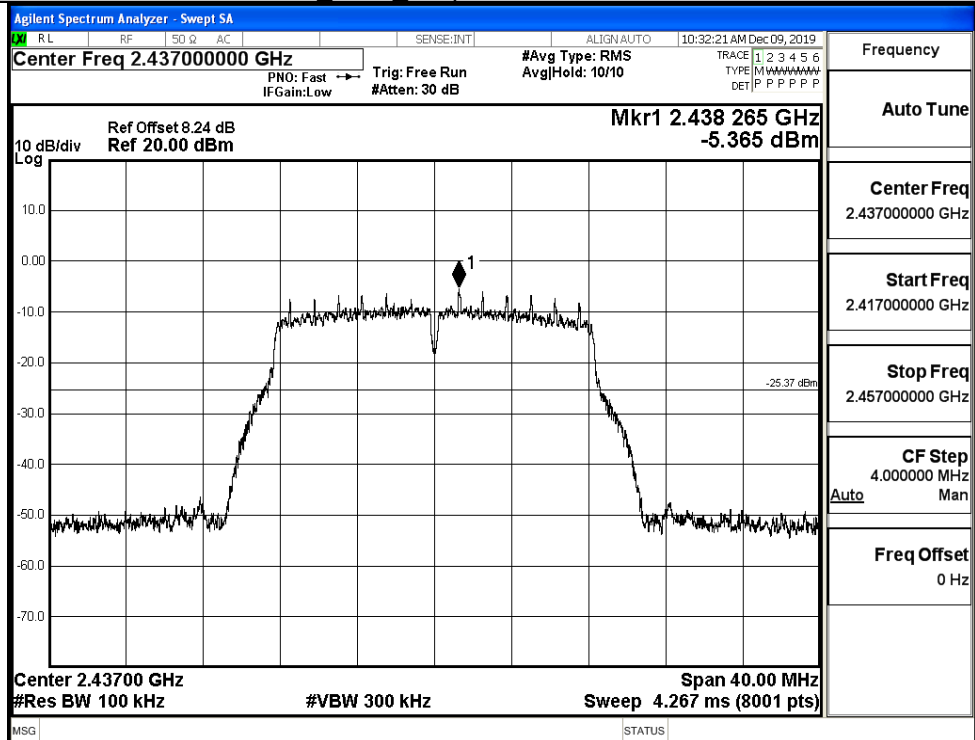


Puw/11G/LCH

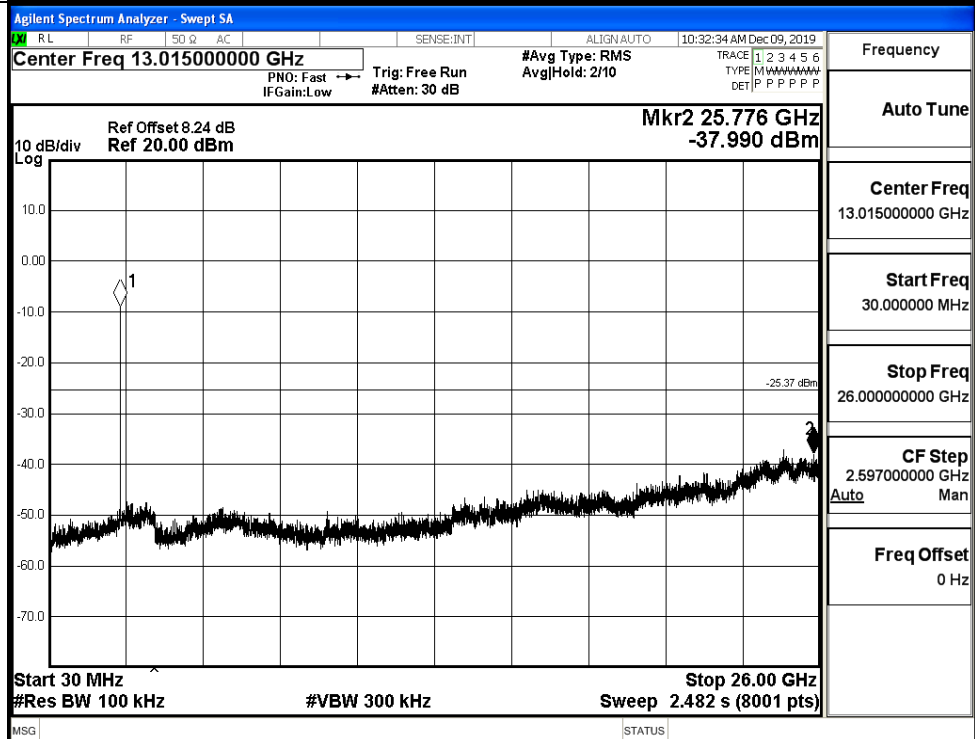


11G MCH Graphs

Pref/11G/MCH

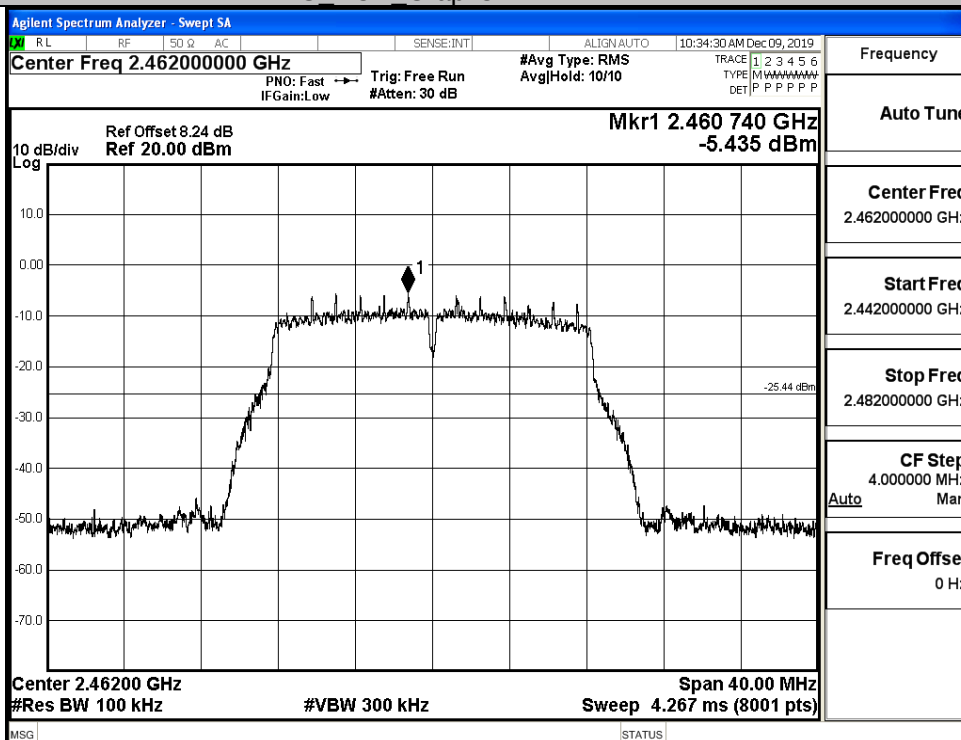


Puw/11G/MCH

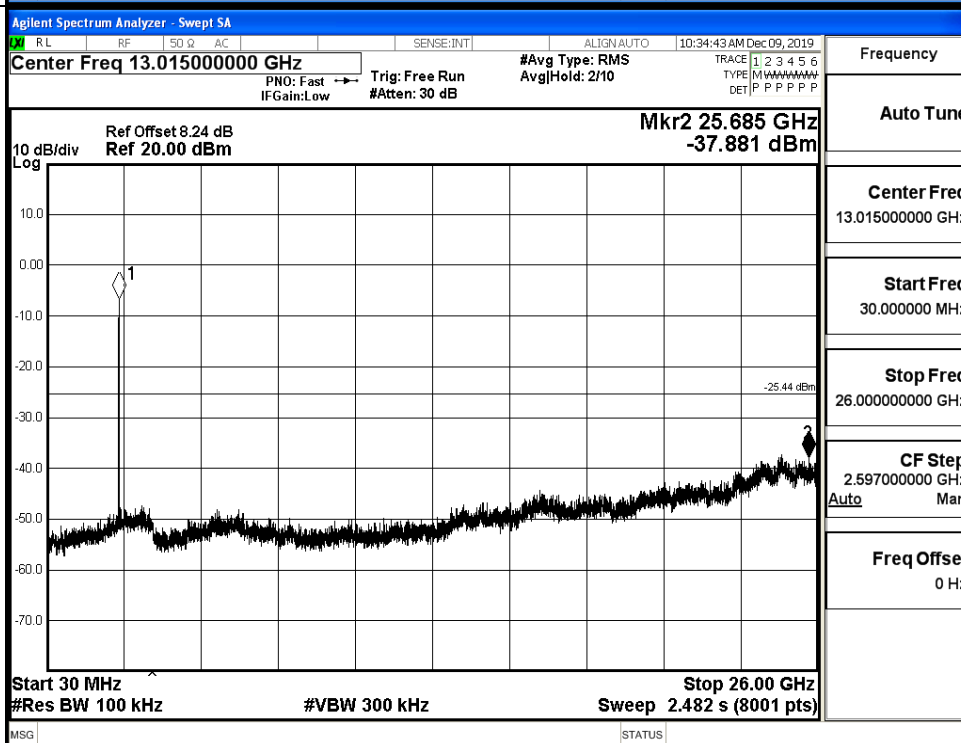


11G HCH Graphs

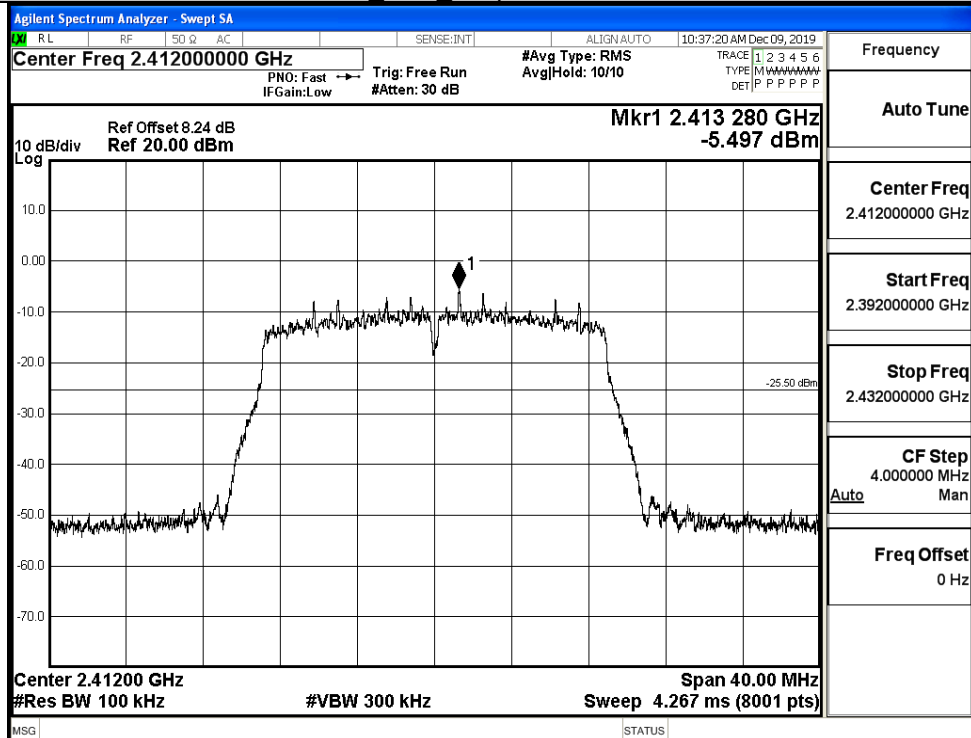
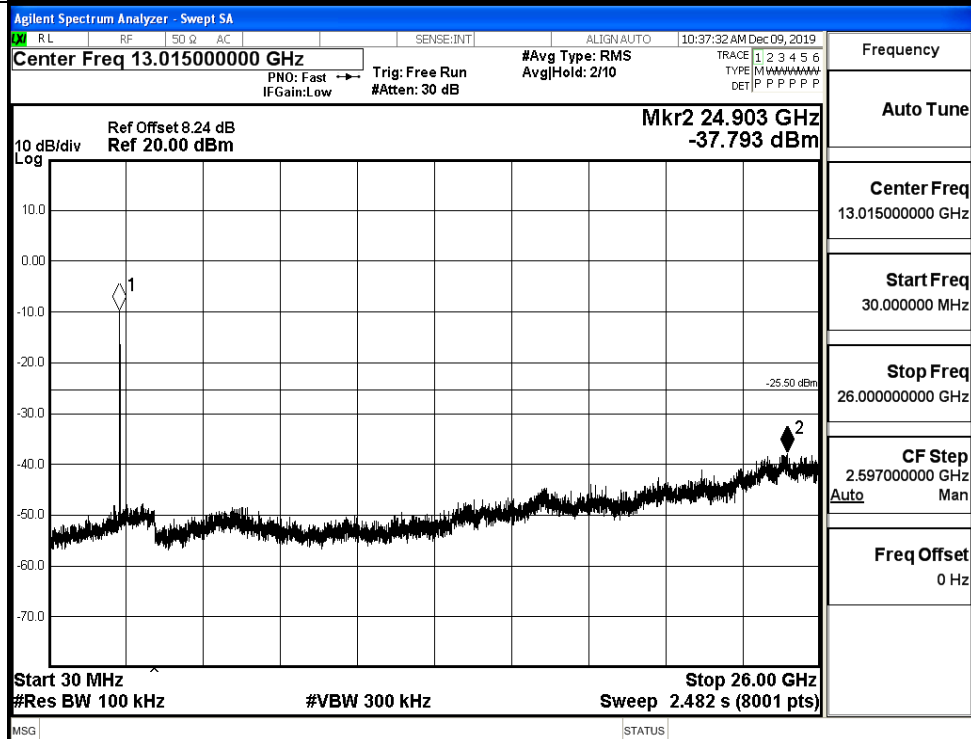
Pref/11G/HCH



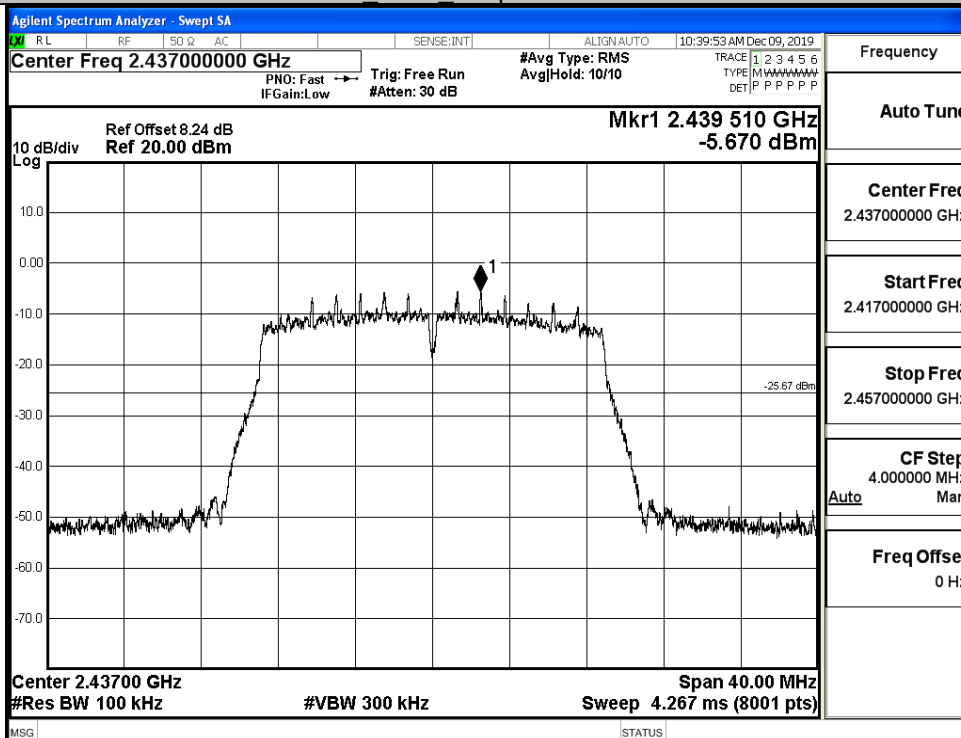
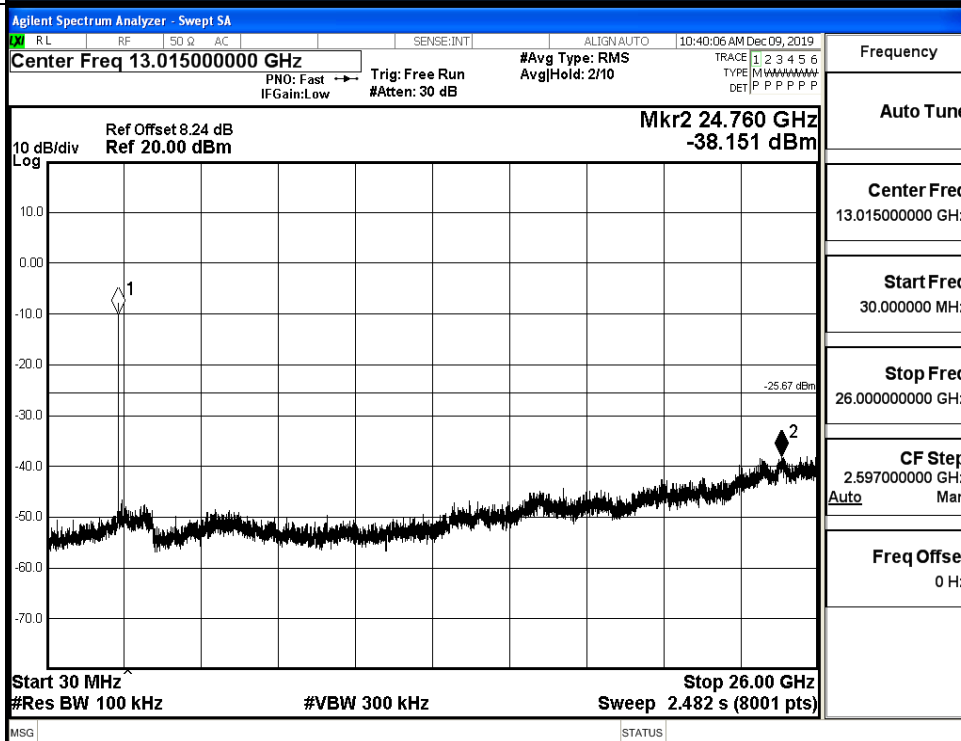
Puw/11G/HCH



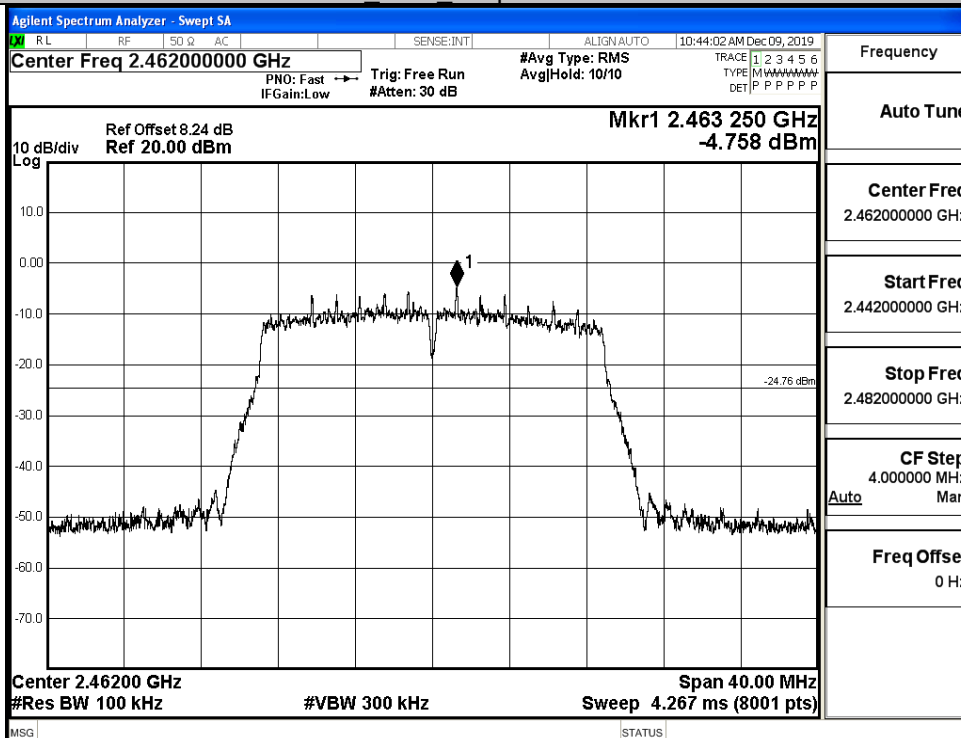
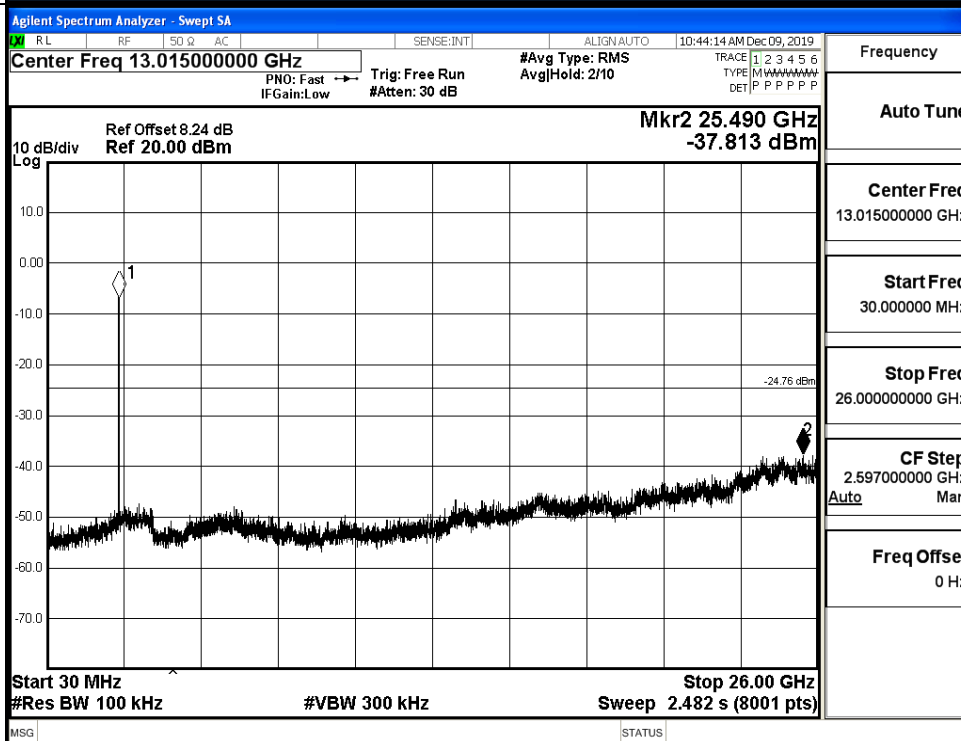
11N20SISO LCH Graphs

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

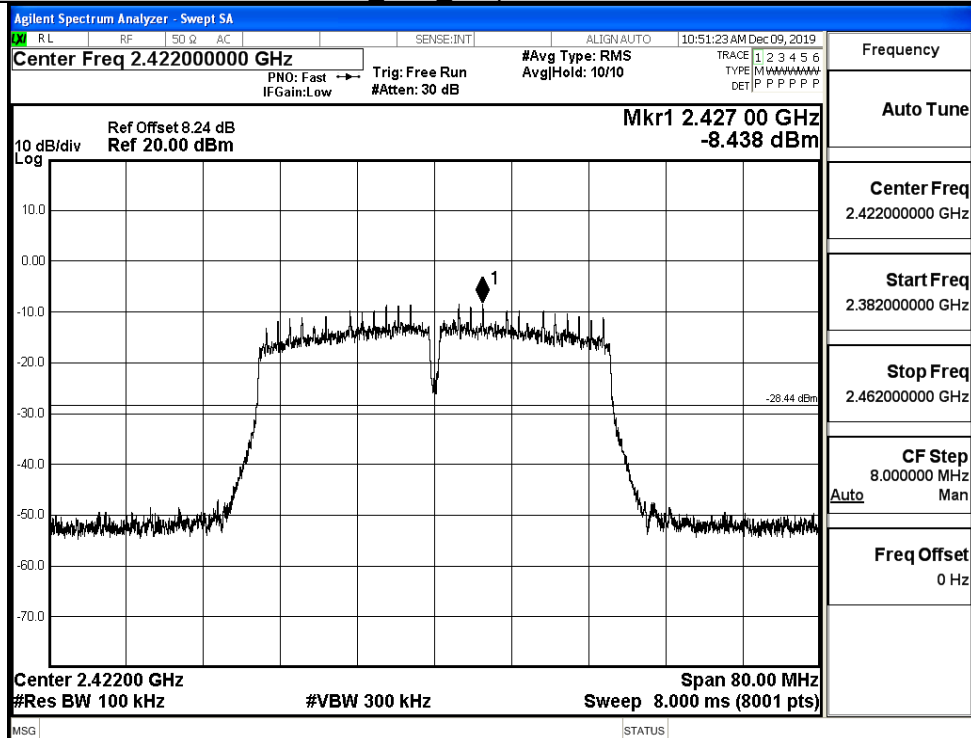
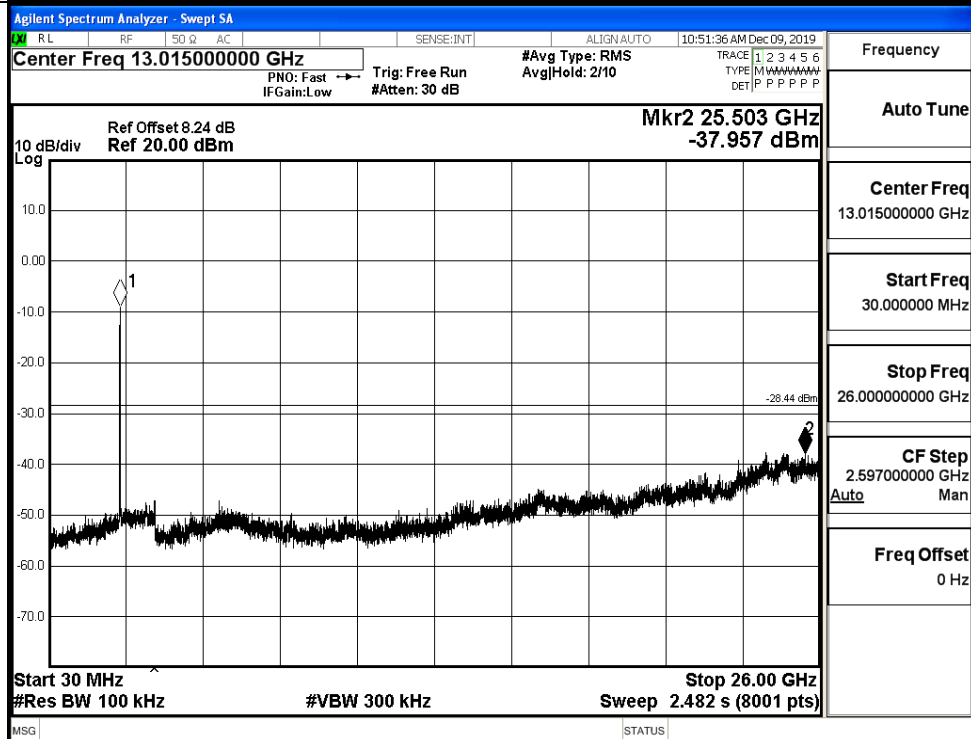
11N20SISO MCH Graphs

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

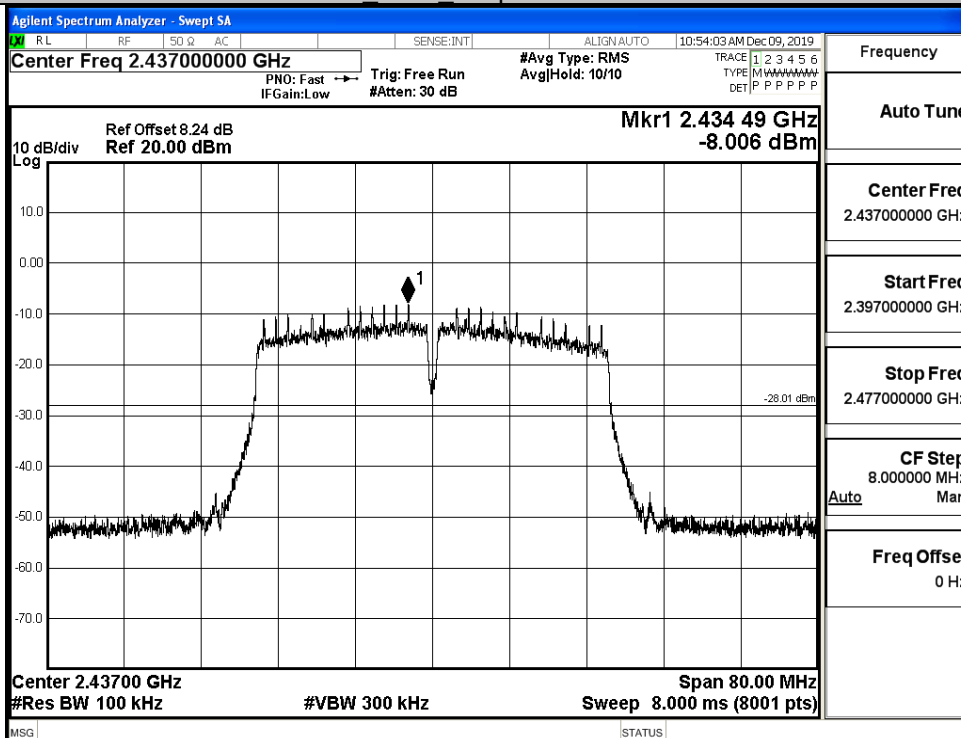
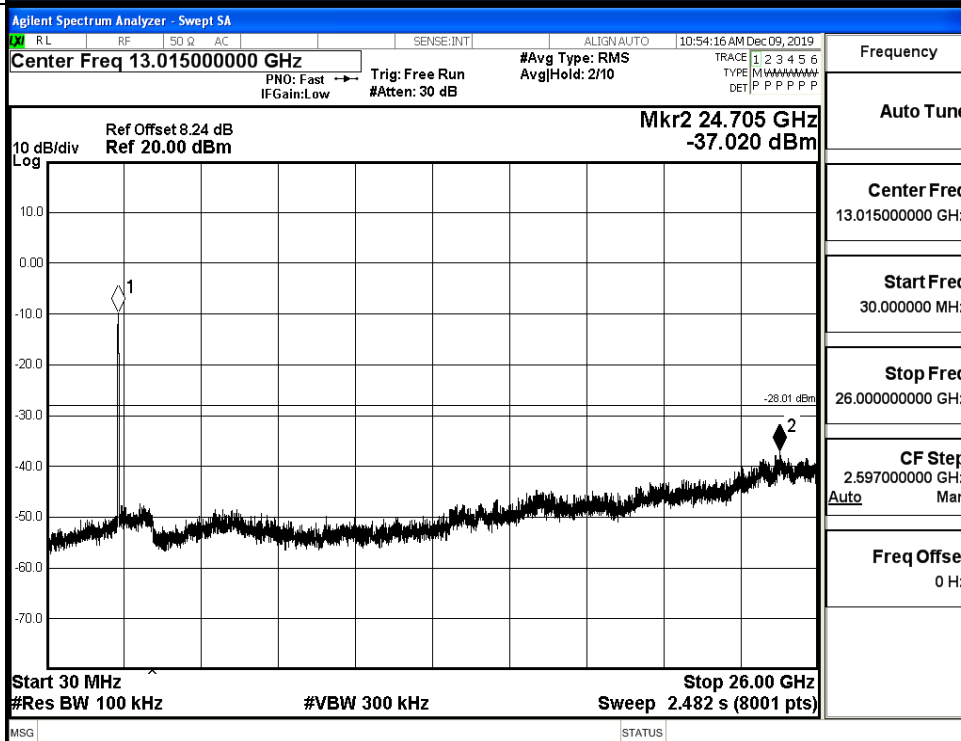
11N20SISO HCH Graphs

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

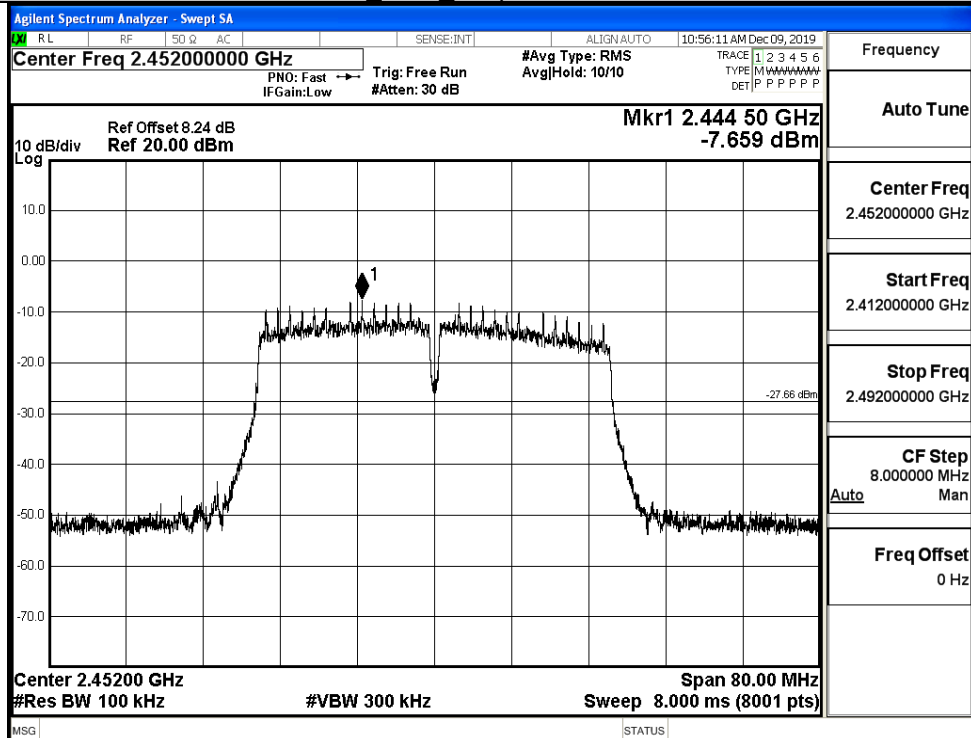
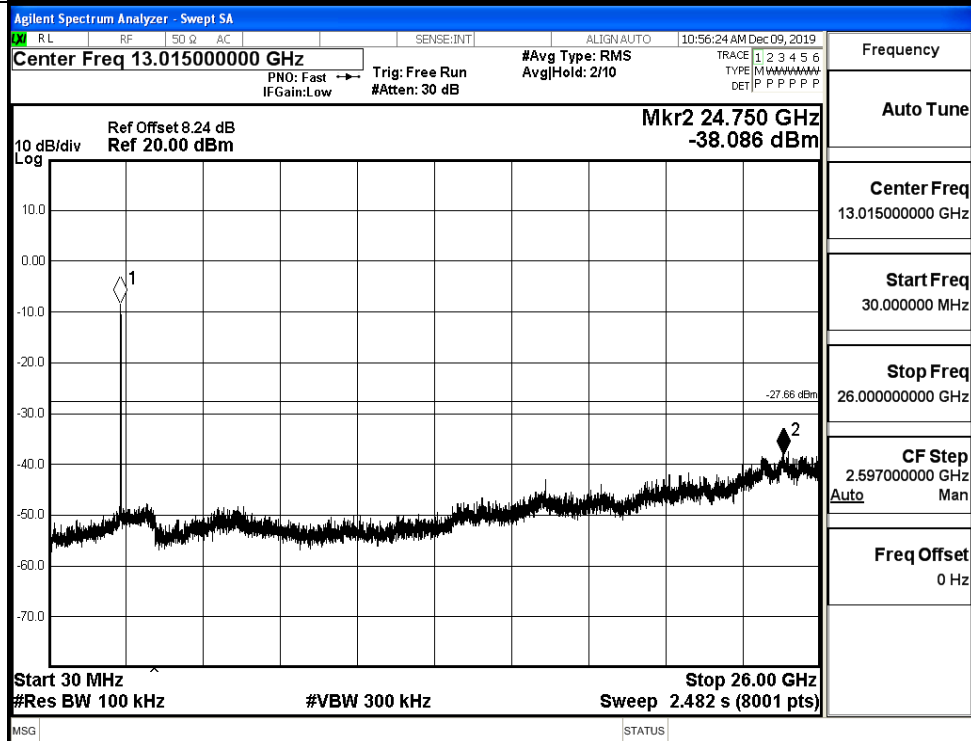
11N40SISO LCH Graphs

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

11N40SISO MCH Graphs

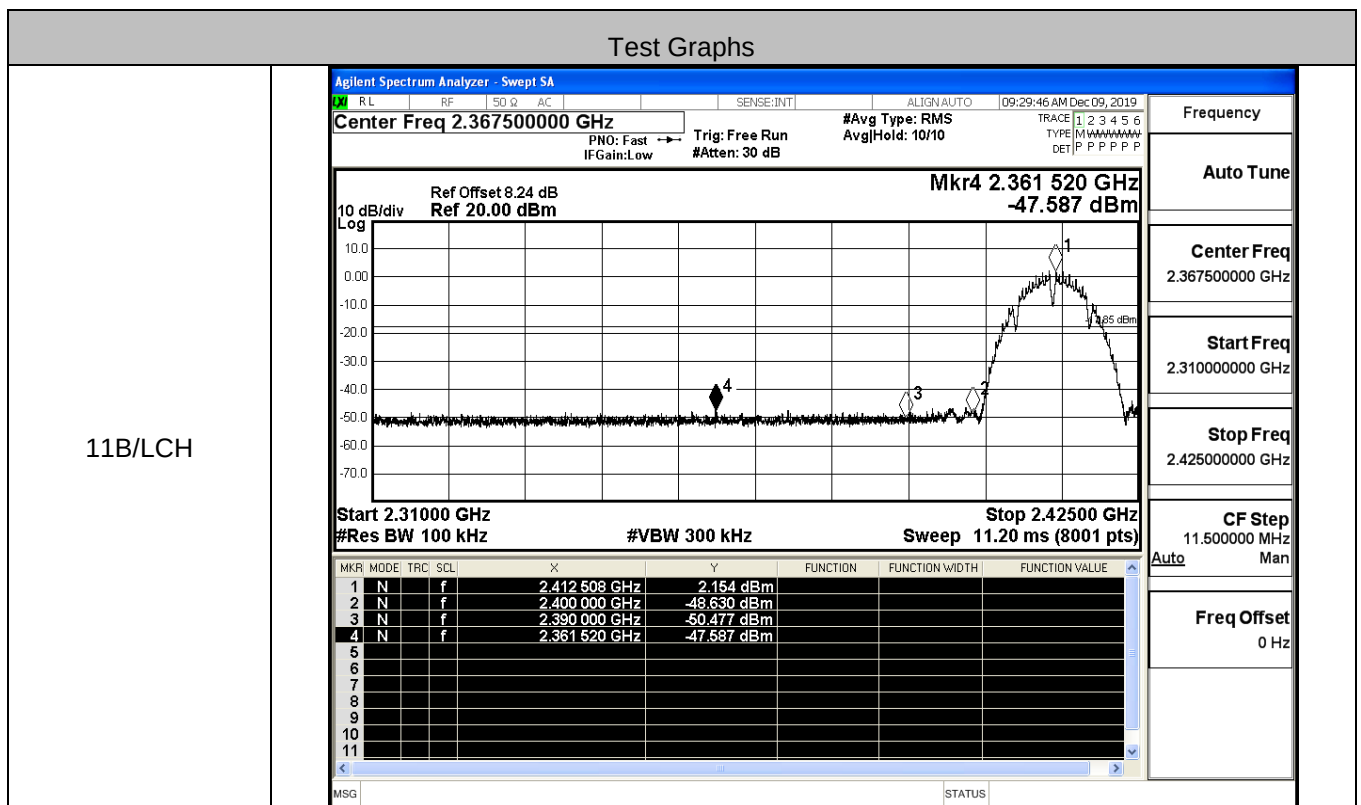
Pref/11N40
SISO/MCHPuw/11N40
SISO/MCH

11N40SISO HCH Graphs

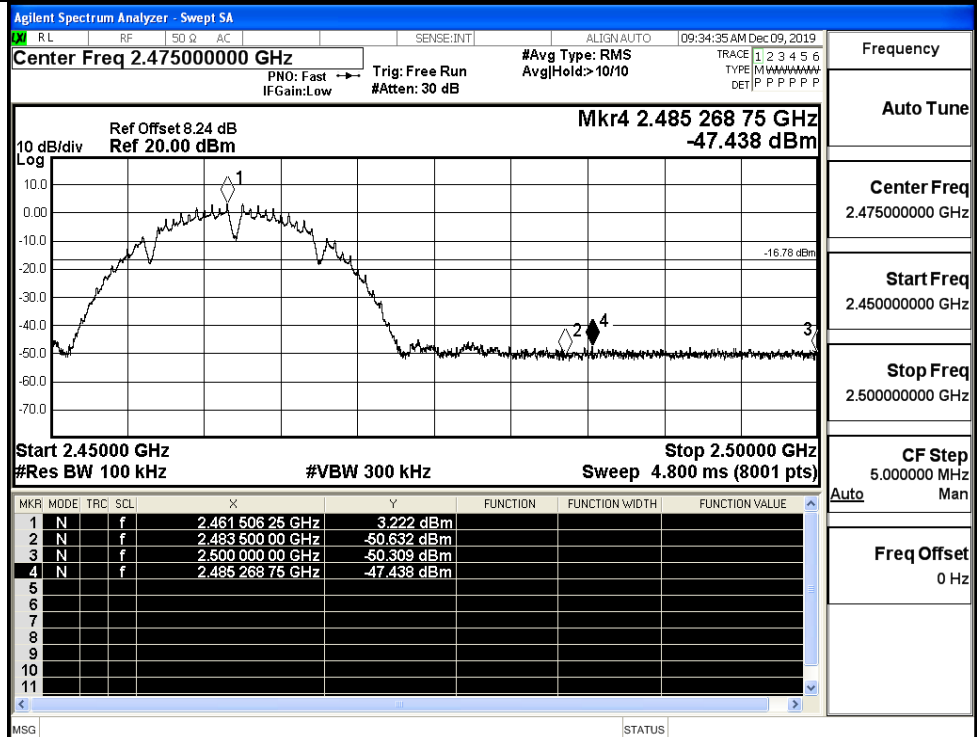
Pref/11N40
SISO/HCHPuw/11N40
SISO/HCH

C.6 Band-edge for RF Conducted Emissions

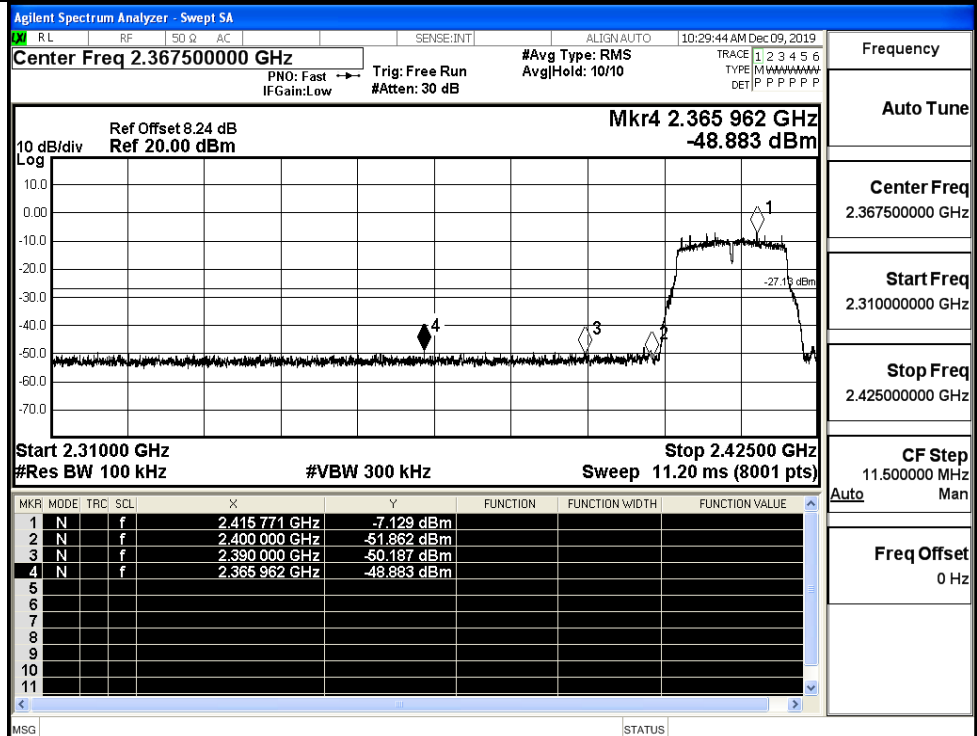
Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
11B	LCH	2.154	-47.587	-17.85	PASS
	HCH	3.222	-47.438	-16.78	PASS
11G	LCH	-7.129	-48.883	-27.13	PASS
	HCH	-4.966	-48.936	-24.97	PASS
11N20SISO	LCH	-5.968	-49.039	-25.97	PASS
	HCH	-5.063	-48.444	-25.06	PASS
11N40SISO	LCH	-8.448	-49.195	-28.45	PASS
	HCH	-8.189	-48.903	-28.19	PASS



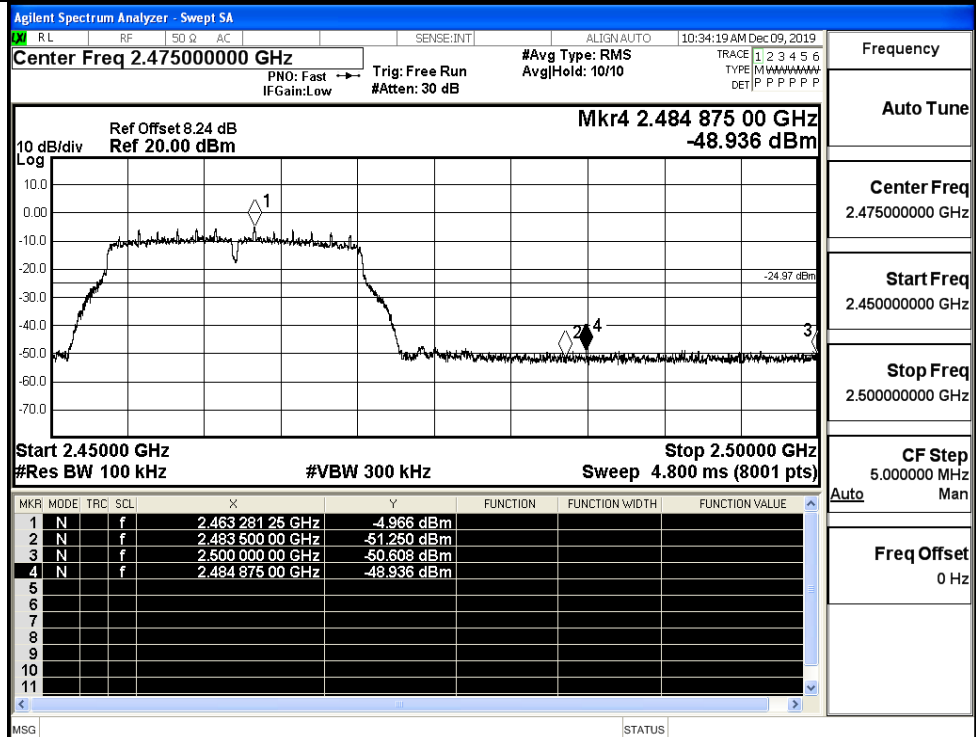
11B/HCH



11G/LCH



11G/HCH

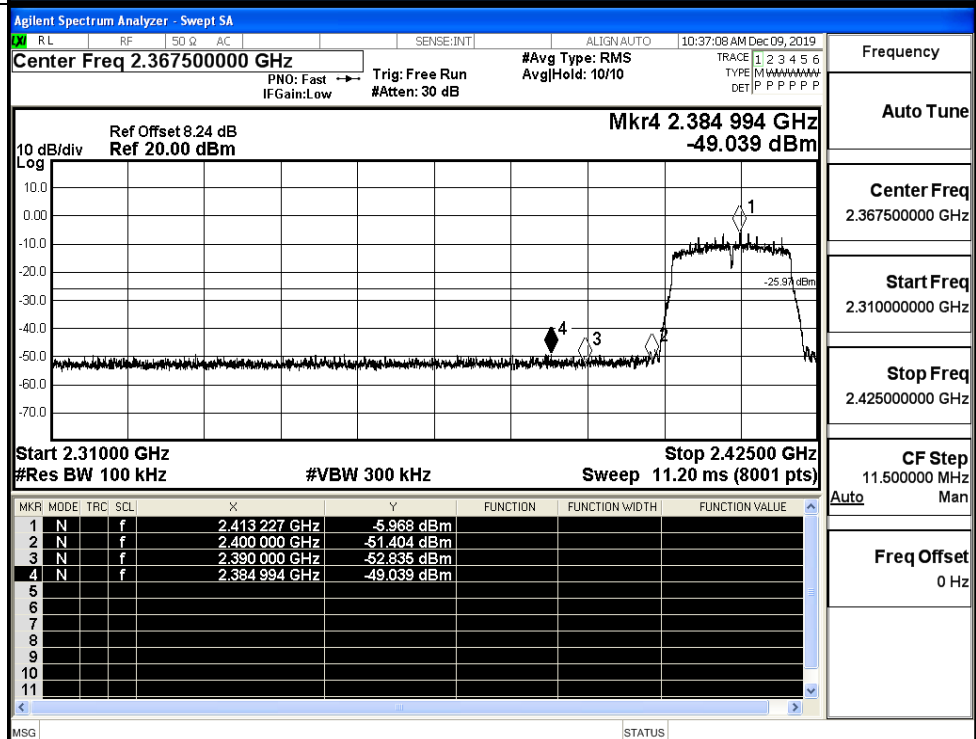


Frequency

Auto Tune

Center Freq
2.475000000 GHzStart Freq
2.450000000 GHzStop Freq
2.500000000 GHzCF Step
5.000000 MHz
Auto ManFreq Offset
0 Hz

11N20SISO/LCH

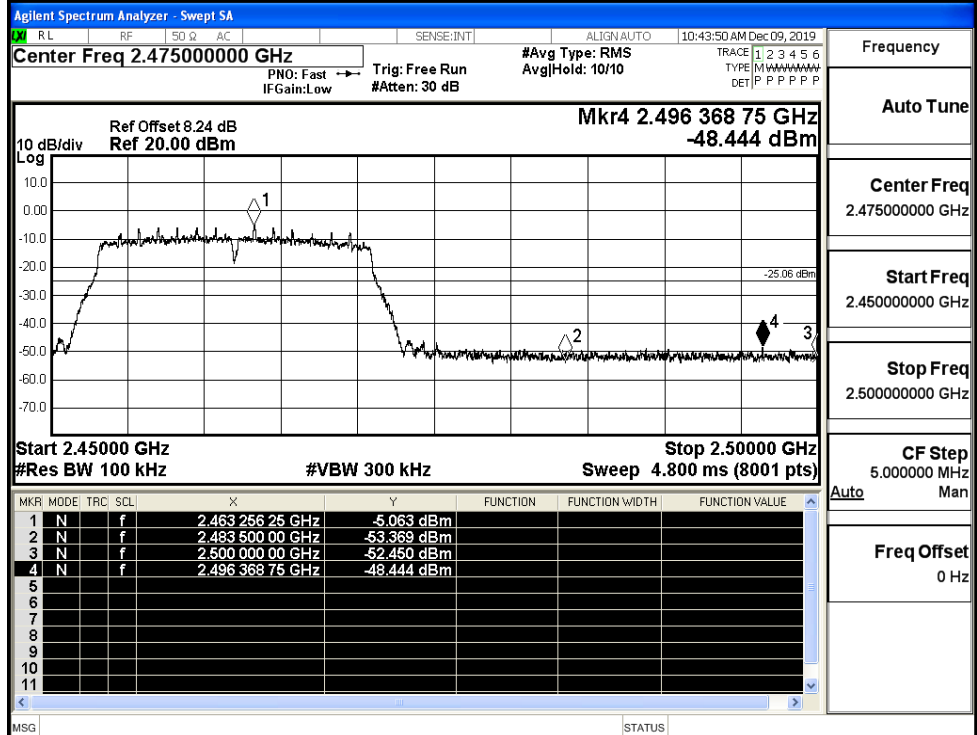


Frequency

Auto Tune

Center Freq
2.367500000 GHzStart Freq
2.310000000 GHzStop Freq
2.425000000 GHzCF Step
11.500000 MHz
Auto ManFreq Offset
0 Hz

11N20SISO/HCH

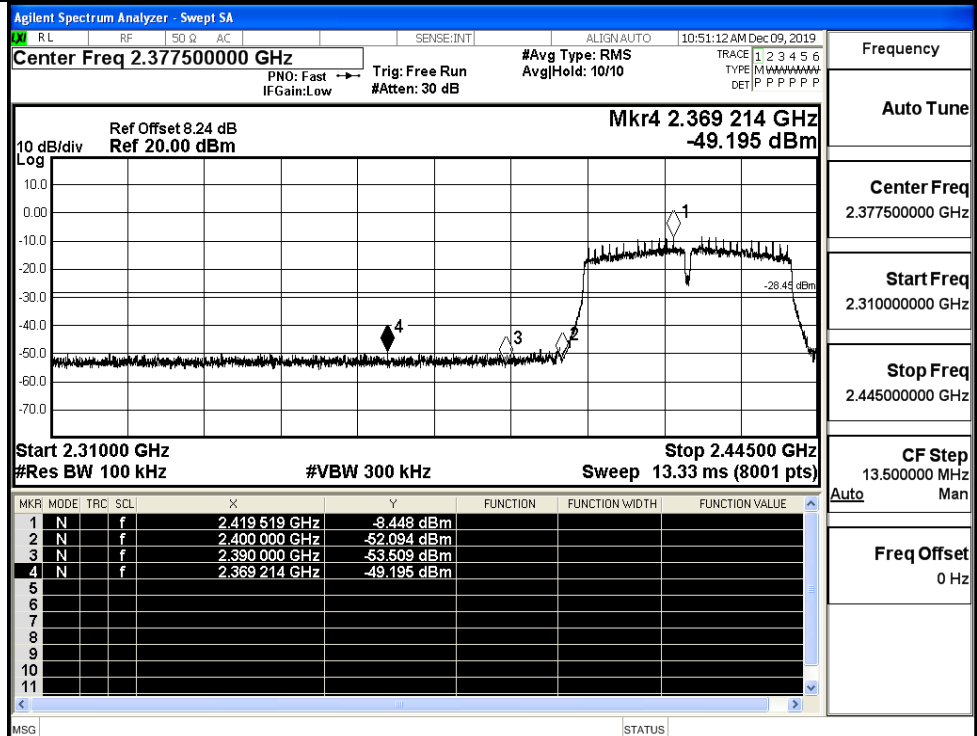


Frequency

Auto Tune

Center Freq
2.475000000 GHzStart Freq
2.450000000 GHzStop Freq
2.500000000 GHzCF Step
5.000000 MHz
Auto ManFreq Offset
0 Hz

11N40SISO/LCH



Frequency

Auto Tune

Center Freq
2.377500000 GHzStart Freq
2.310000000 GHzStop Freq
2.445000000 GHzCF Step
13.500000 MHz
Auto ManFreq Offset
0 Hz

Agilent Spectrum Analyzer - Sweep SA

RL RF 50 Ω AC SENSE:INT ALIGN:AUTO 10:59:59 AM Dec 09, 2019

Center Freq 2.465000000 GHz #Avg Type: RMS Avg/Hold: 10/10 TRACE 1 2 3 4 5 6
 PNO: Fast IF Gain: Low Trig: Free Run #Atten: 30 dB TYPE: MAAAAA DET: P P P P P P

Mkr4 2.489 823 75 GHz -48.903 dBm

Ref Offset 8.24 dB Ref 20.00 dBm

10 dB/div Log

-28.19 dBm

Start 2.43000 GHz #Res BW 100 kHz #VBW 300 kHz Stop 2.50000 GHz Sweep 6.933 ms (8001 pts)

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	f		2.445 758 75 GHz	-8.189 dBm			
2	N	f		2.483 500 00 GHz	-50.668 dBm			
3	N	f		2.500 000 00 GHz	-52.843 dBm			
4	N	f		2.489 823 75 GHz	-48.903 dBm			
5								
6								
7								
8								
9								
10								
11								

Frequency

Auto Tune

Center Freq
2.465000000 GHz

Start Freq
2.430000000 GHz

Stop Freq
2.500000000 GHz

CF Step
7.000000 MHz Man

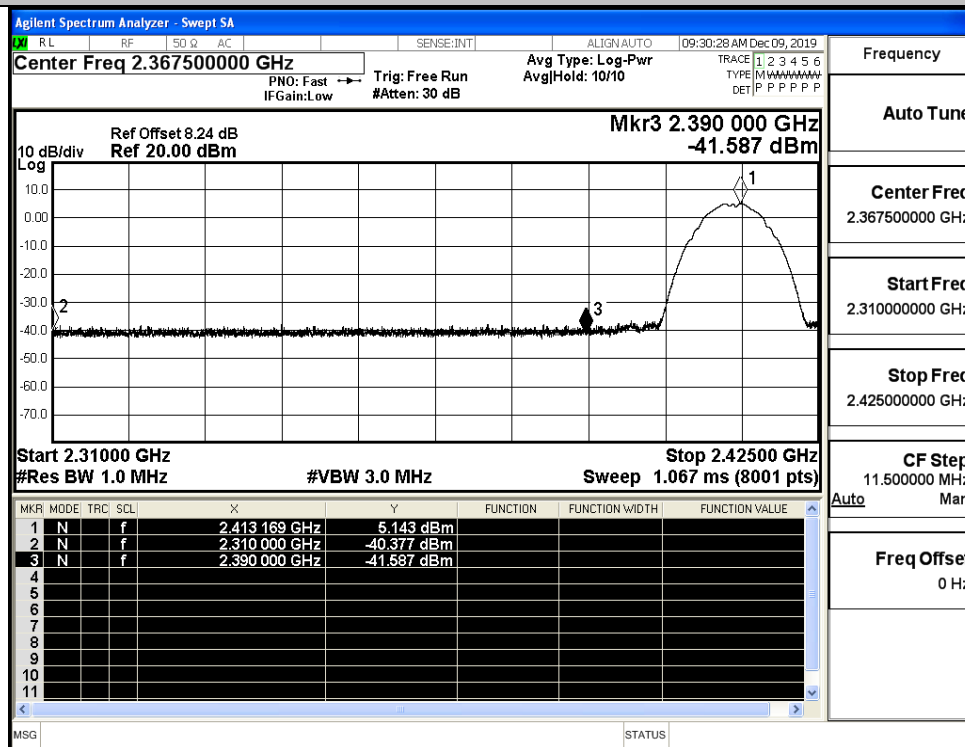
Freq Offset
0 Hz

C.7 Restrict-band band-edge measurements

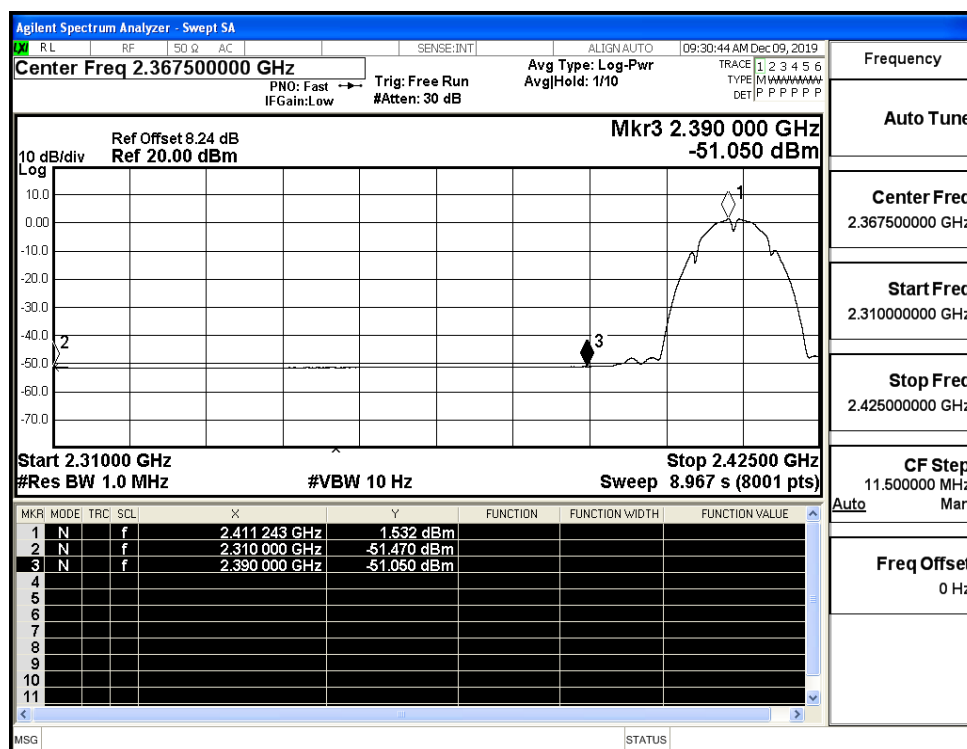
Test Mode	Test Channel	Ant	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
11B	2412	Ant1	2310.0	-40.38	2.0	0	56.88	PEAK	74	PASS
	2412	Ant1	2310.0	-51.47	2.0	0	45.79	AV	54	PASS
	2412	Ant1	2390.0	-41.59	2.0	0	55.67	PEAK	74	PASS
	2412	Ant1	2390.0	-51.05	2.0	0	46.21	AV	54	PASS
	2462	Ant1	2483.5	-40.06	2.0	0	57.20	PEAK	74	PASS
	2462	Ant1	2483.5	-50.59	2.0	0	46.67	AV	54	PASS
	2462	Ant1	2500.0	-40.46	2.0	0	56.80	PEAK	74	PASS
	2462	Ant1	2500.0	-50.44	2.0	0	46.82	AV	54	PASS
11G	2412	Ant1	2310.0	-40.24	2.0	0	57.02	PEAK	74	PASS
	2412	Ant1	2310.0	-53.06	2.0	0	44.20	AV	54	PASS
	2412	Ant1	2390.0	-41.57	2.0	0	55.69	PEAK	74	PASS
	2412	Ant1	2390.0	-52.56	2.0	0	44.70	AV	54	PASS
	2462	Ant1	2483.5	-40.04	2.0	0	57.22	PEAK	74	PASS
	2462	Ant1	2483.5	-52.12	2.0	0	45.14	AV	54	PASS
	2462	Ant1	2500.0	-40.12	2.0	0	57.14	PEAK	74	PASS
	2462	Ant1	2500.0	-51.99	2.0	0	45.27	AV	54	PASS
11N20 SISO	2412	Ant1	2310.0	-42.35	2.0	0	54.91	PEAK	74	PASS
	2412	Ant1	2310.0	-53.02	2.0	0	44.24	AV	54	PASS
	2412	Ant1	2390.0	-42.11	2.0	0	55.15	PEAK	74	PASS
	2412	Ant1	2390.0	-52.55	2.0	0	44.71	AV	54	PASS
	2462	Ant1	2483.5	-41.78	2.0	0	55.48	PEAK	74	PASS
	2462	Ant1	2483.5	-52.11	2.0	0	45.15	AV	54	PASS
	2462	Ant1	2500.0	-42.32	2.0	0	54.94	PEAK	74	PASS
	2462	Ant1	2500.0	-52.00	2.0	0	45.26	AV	54	PASS
11N40 SISO	2422	Ant1	2310.0	-43.02	2.0	0	54.24	PEAK	74	PASS
	2422	Ant1	2310.0	-53.00	2.0	0	44.26	AV	54	PASS

	2422	Ant1	2390.0	-41.32	2.0	0	55.94	PEAK	74	PASS
	2422	Ant1	2390.0	-52.41	2.0	0	44.85	AV	54	PASS
	2452	Ant1	2483.5	-40.80	2.0	0	56.46	PEAK	74	PASS
	2452	Ant1	2483.5	-52.03	2.0	0	45.23	AV	54	PASS
	2452	Ant1	2500.0	-41.71	2.0	0	55.55	PEAK	74	PASS
	2452	Ant1	2500.0	-51.98	2.0	0	45.28	AV	54	PASS

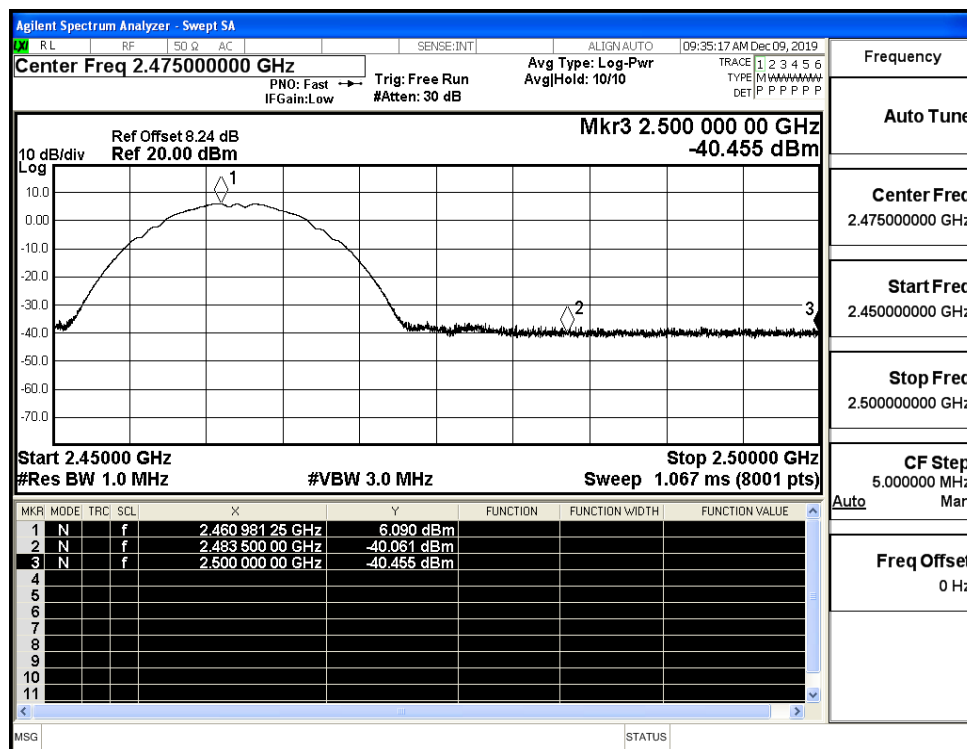
Restrict-band band-edge measurements_11B_2412_Ant1_PEAK



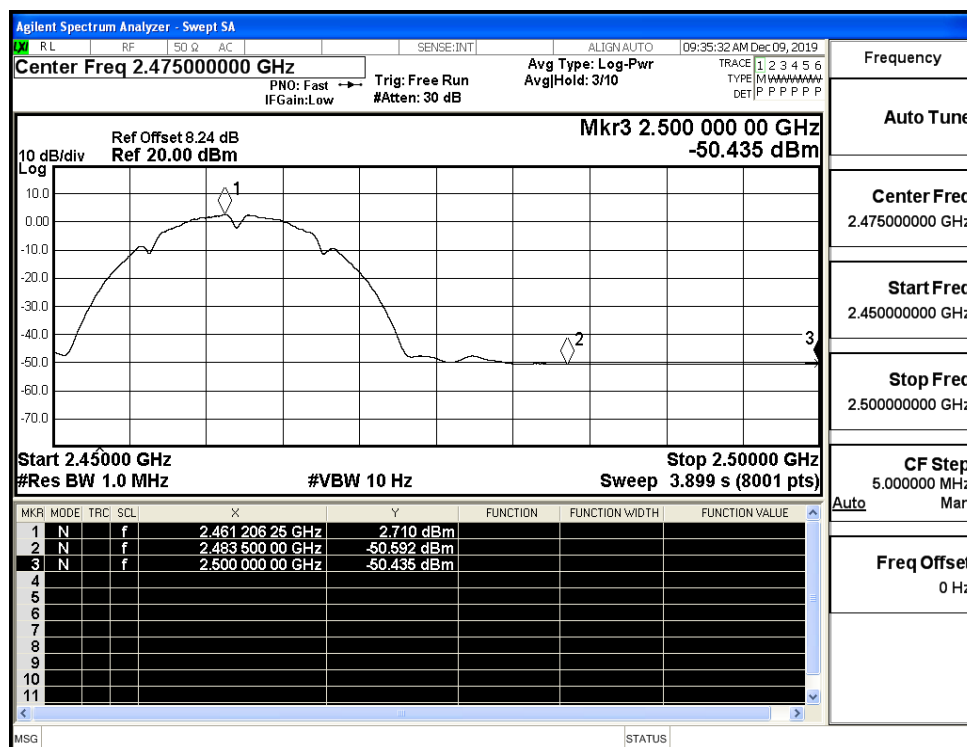
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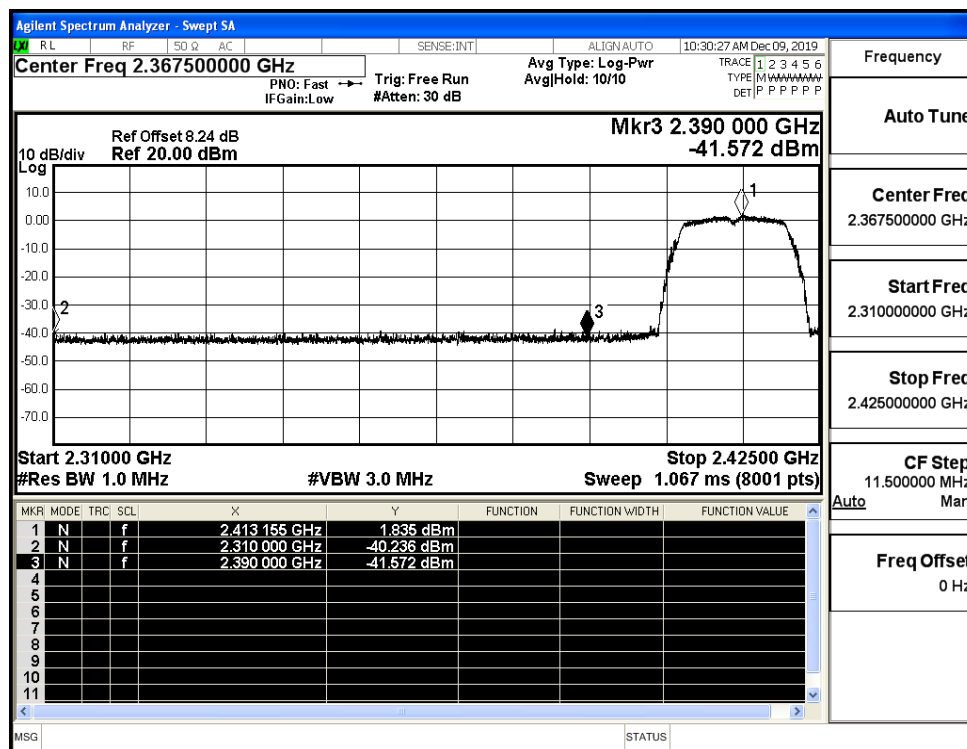
Restrict-band band-edge measurements_11B_2462_Ant1_PEAK



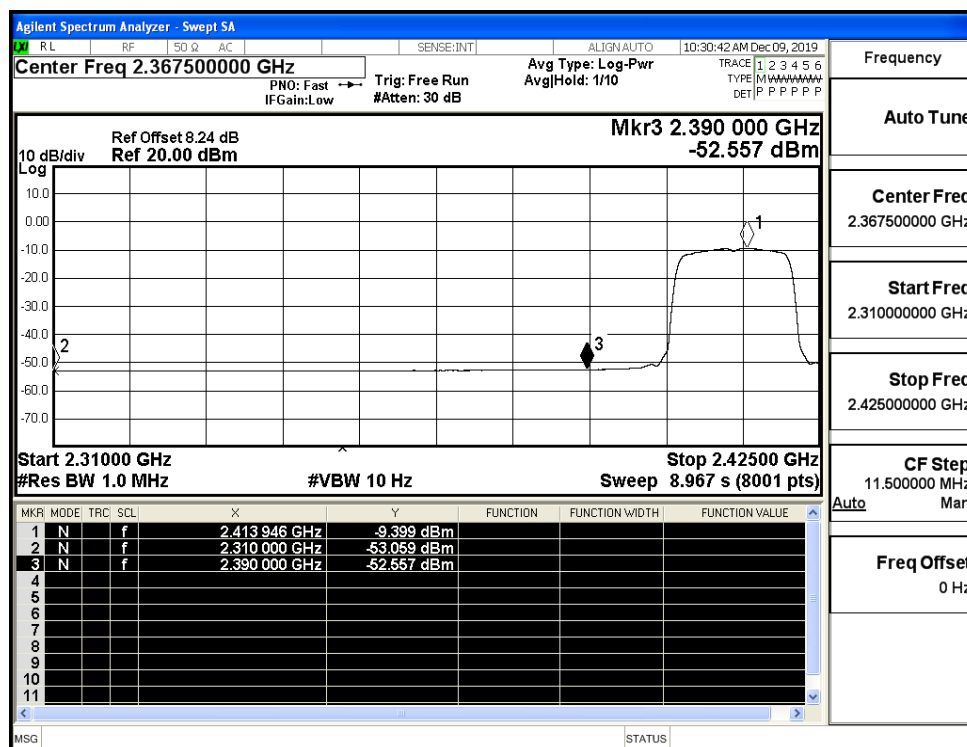
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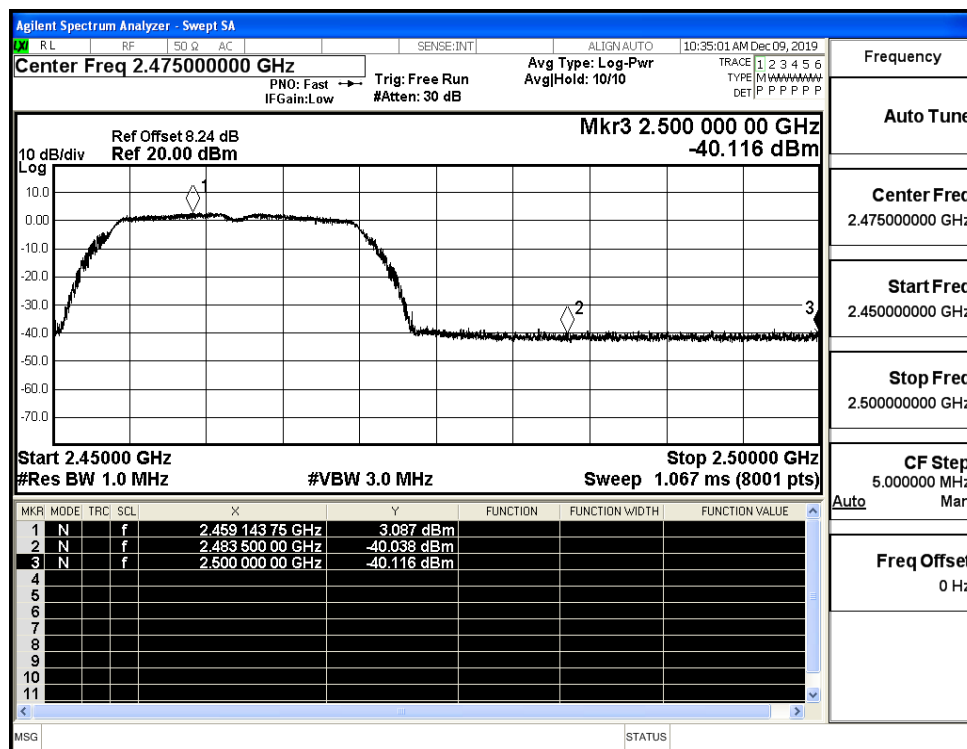
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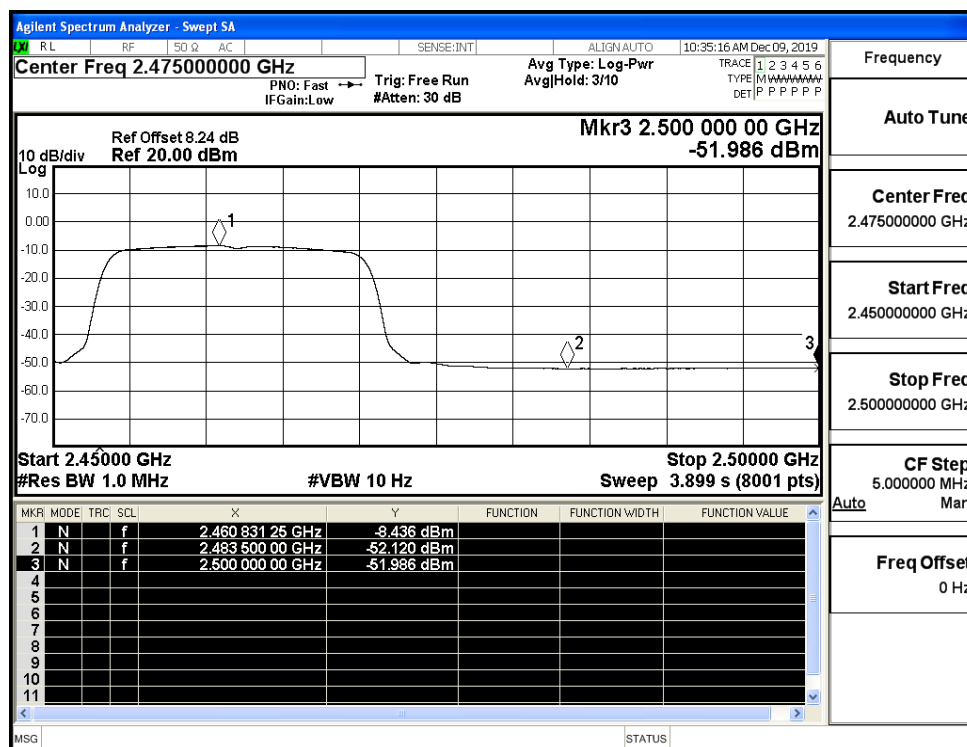
Restrict-band band-edge measurements_11G_2412_Ant1_AV



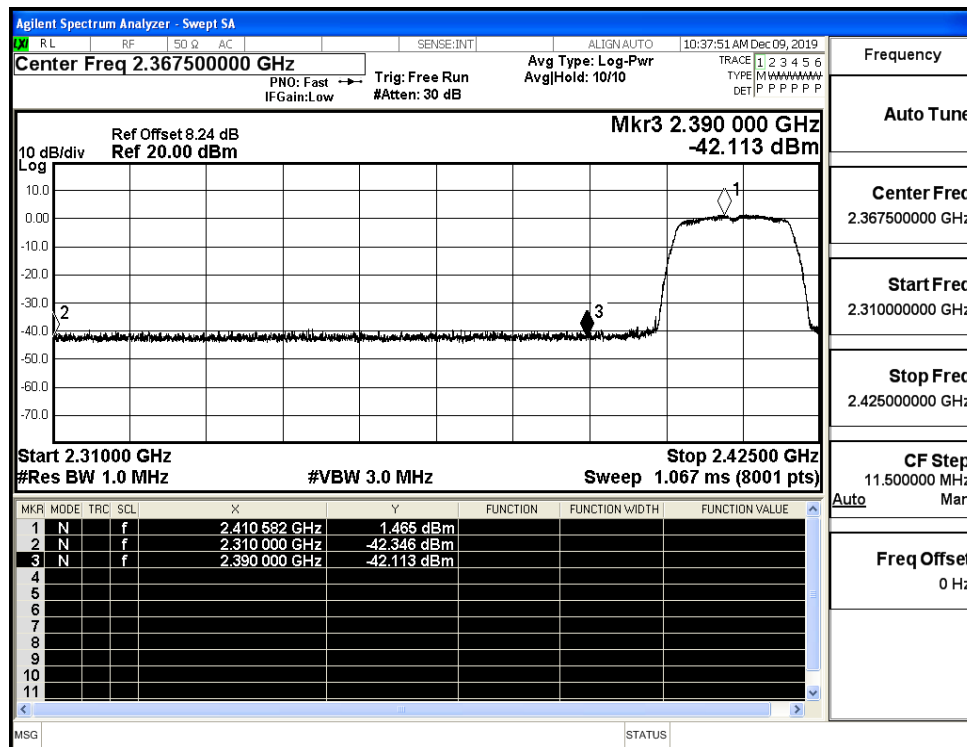
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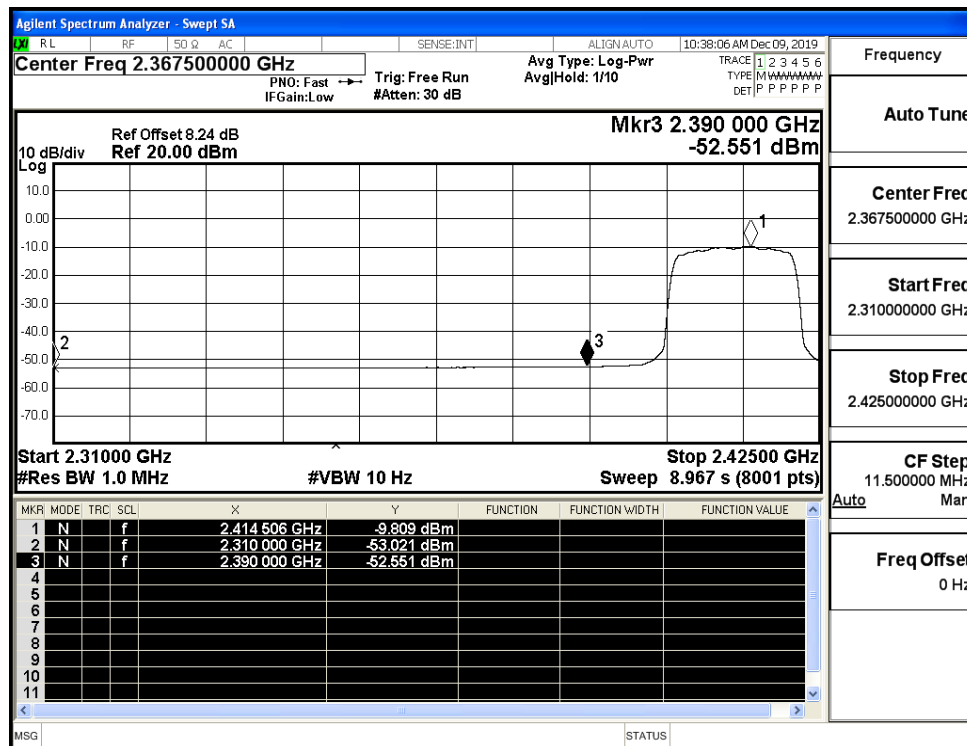
Restrict-band band-edge measurements_11G_2462_Ant1_AV



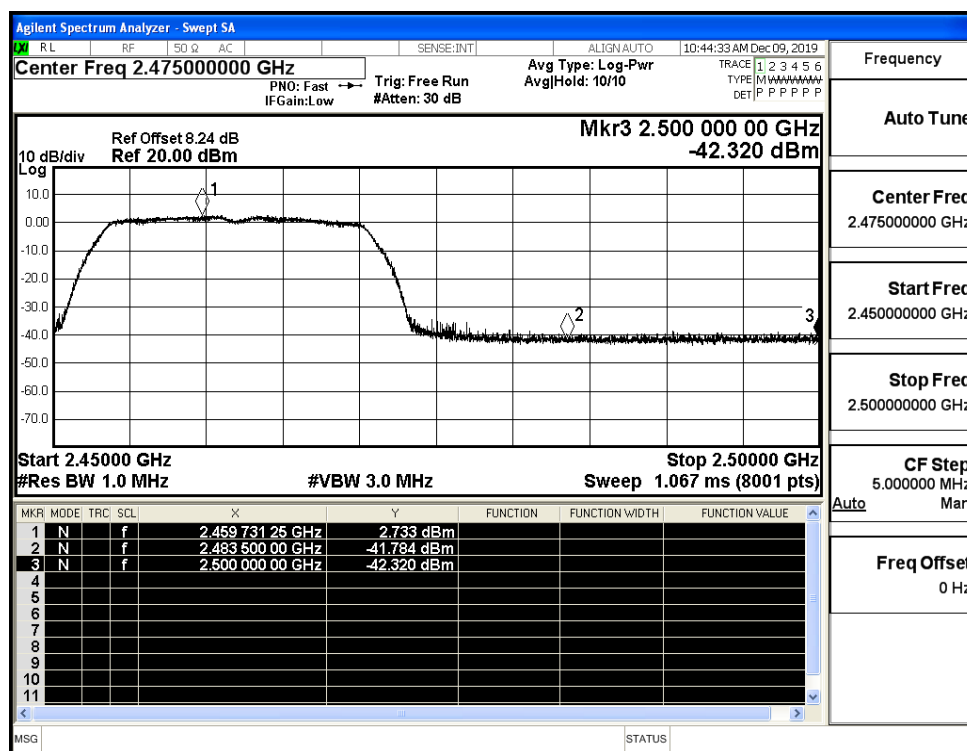
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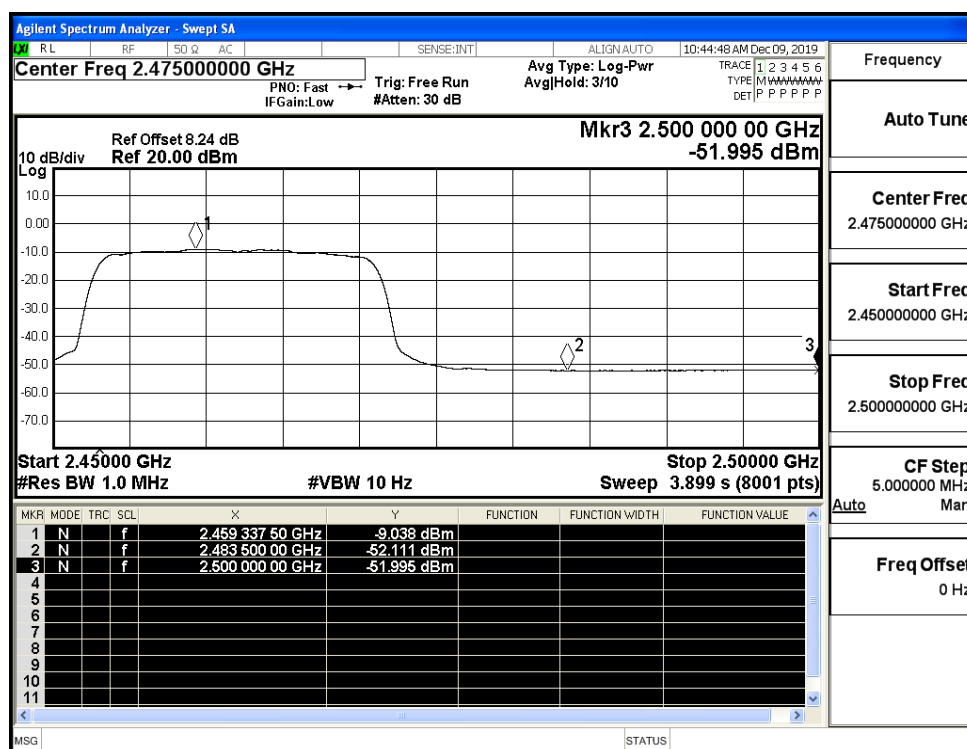
Restrict-band band-edge measurements_11N20SISO_2412_Ant1_AV



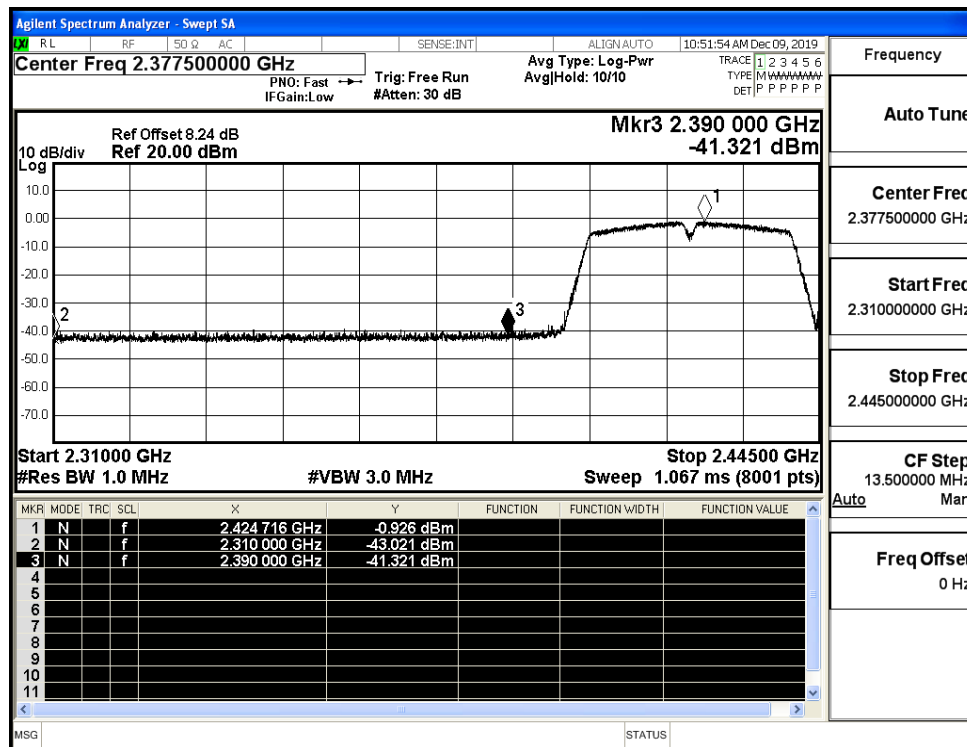
Restrict-band band-edge measurements_11N20SISO_2462_Ant1_PEAK



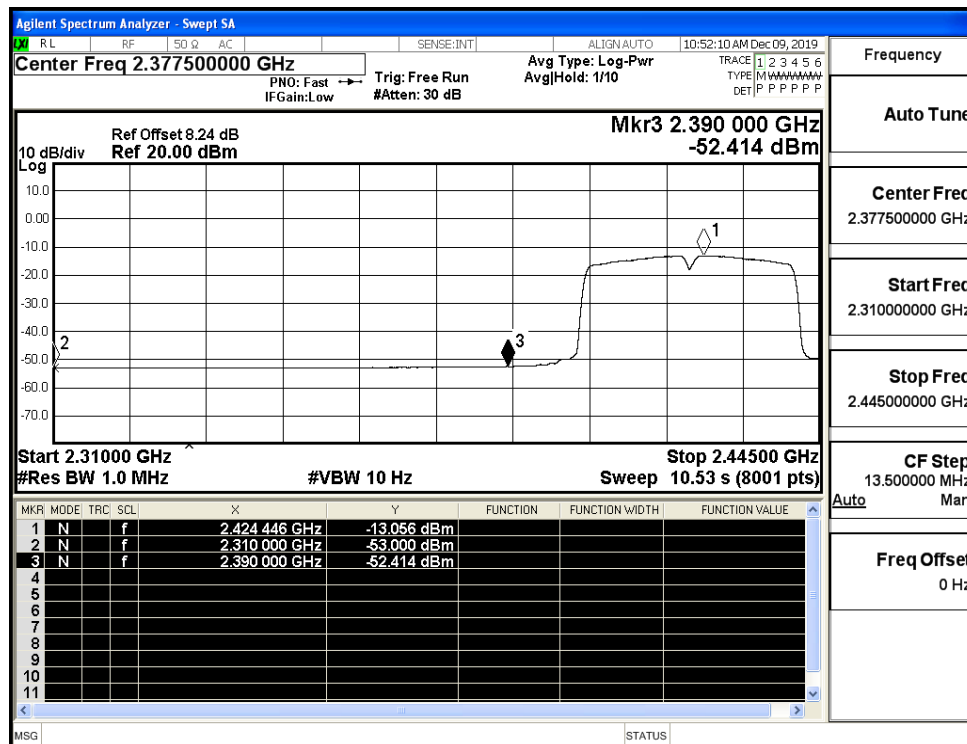
Restrict-band band-edge measurements_11N20SISO_2462_Ant1_AV



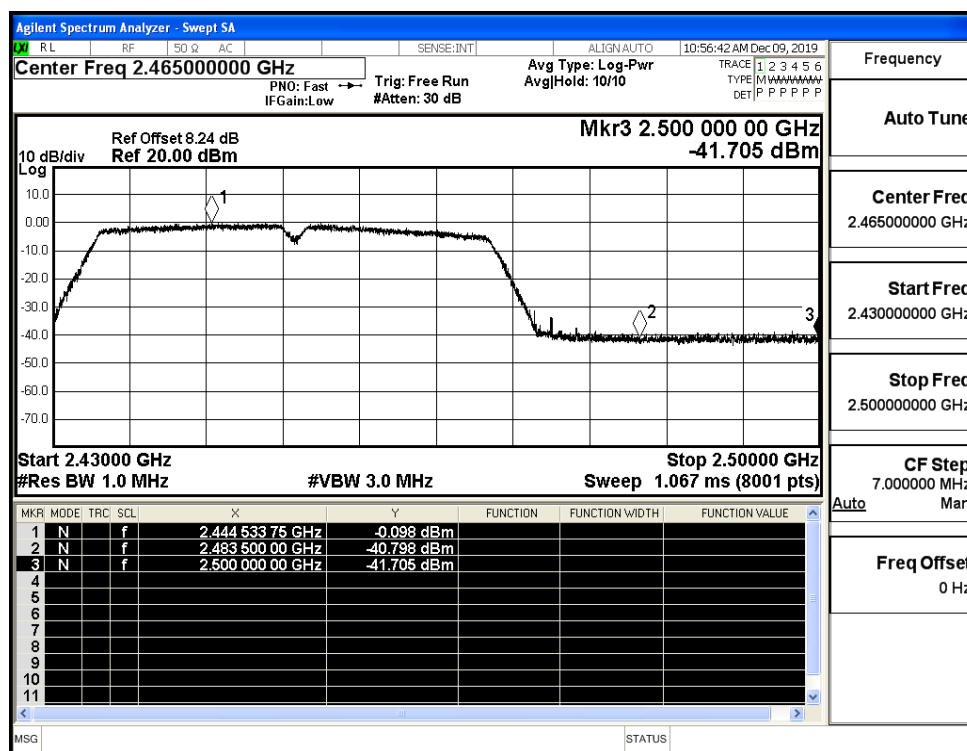
Restrict-band band-edge measurements_11N40SISO_2422_Ant1_PEAK



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

