

Appendix A

RF Test Data for 2.4G WIFI (Conducted Measurement)

Product Name: 1080P IOT CAMERA

Trade Mark: Momentum

Test Model: MOCAM-1080-01

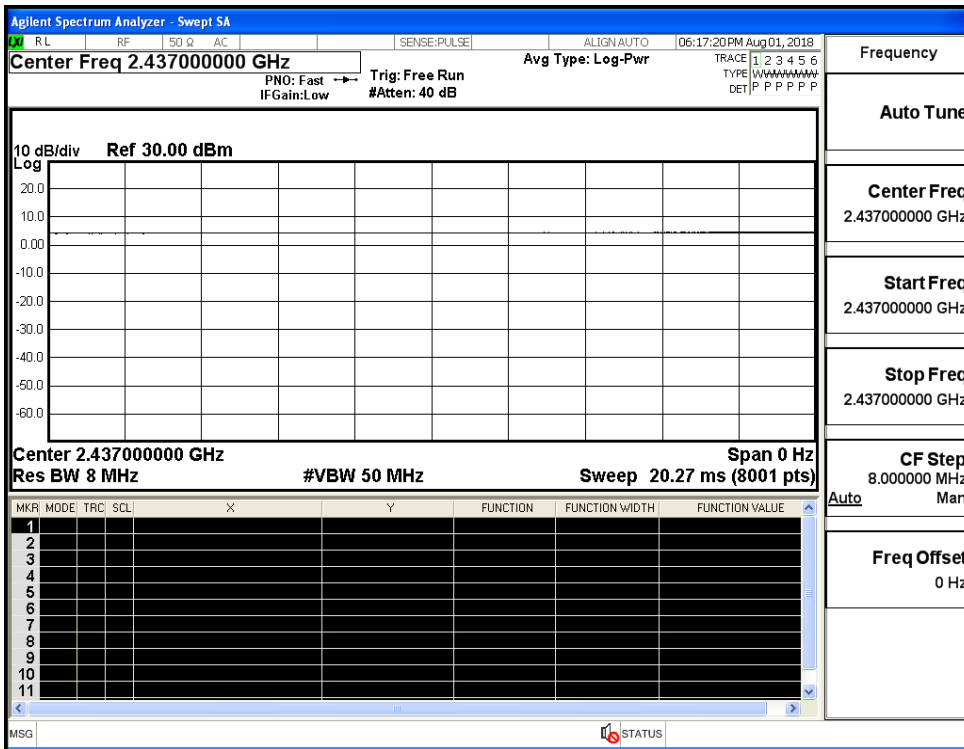
Environmental Conditions

Temperature:	24.2 ° C
Relative Humidity:	53.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Diamond.Lu
Supervised by:	Jayden.Zhuo

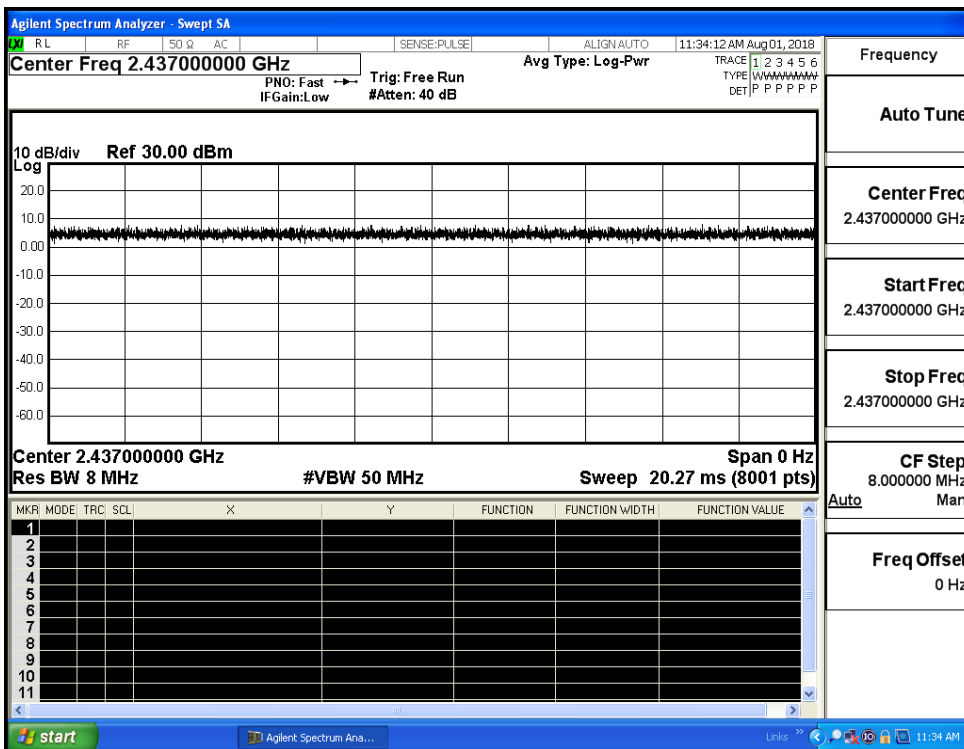
A.1 Duty Cycle

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

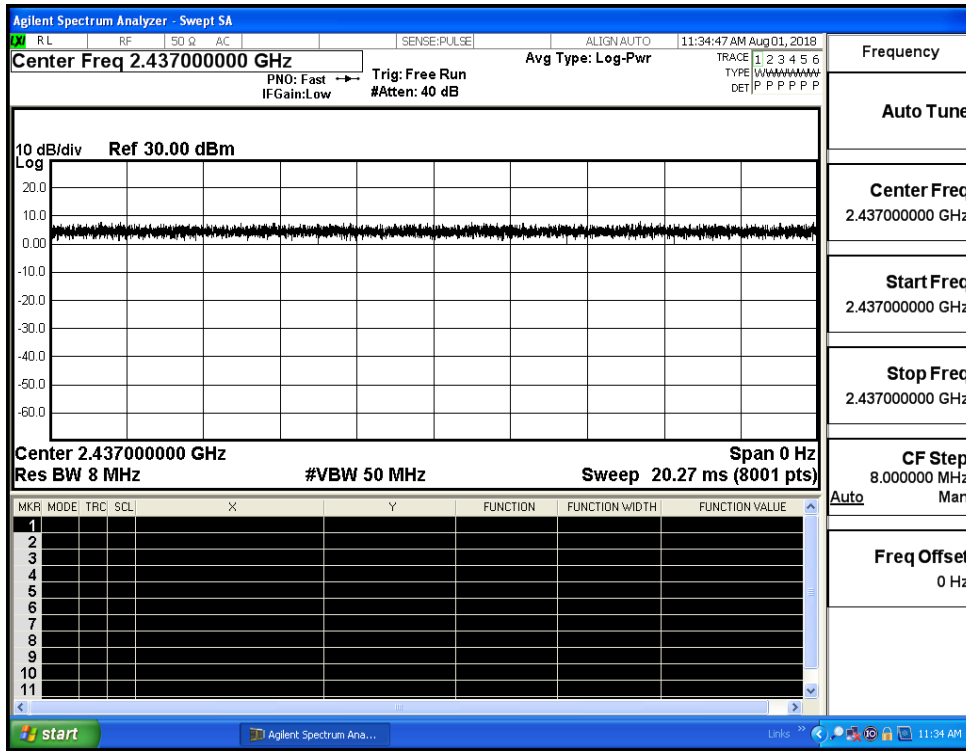
Duty Cycle_11B_2437_Ant1



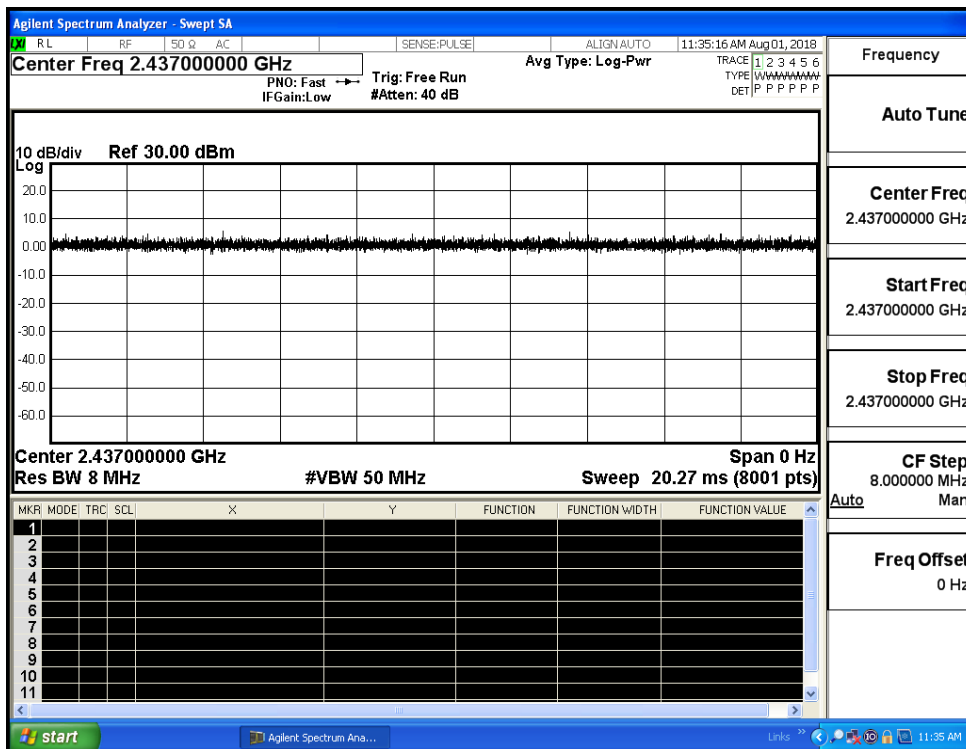
Duty Cycle_11G_2437_Ant1



Duty Cycle_11N20SISO_2437_Ant1



Duty Cycle_11N40SISO_2437_Ant1

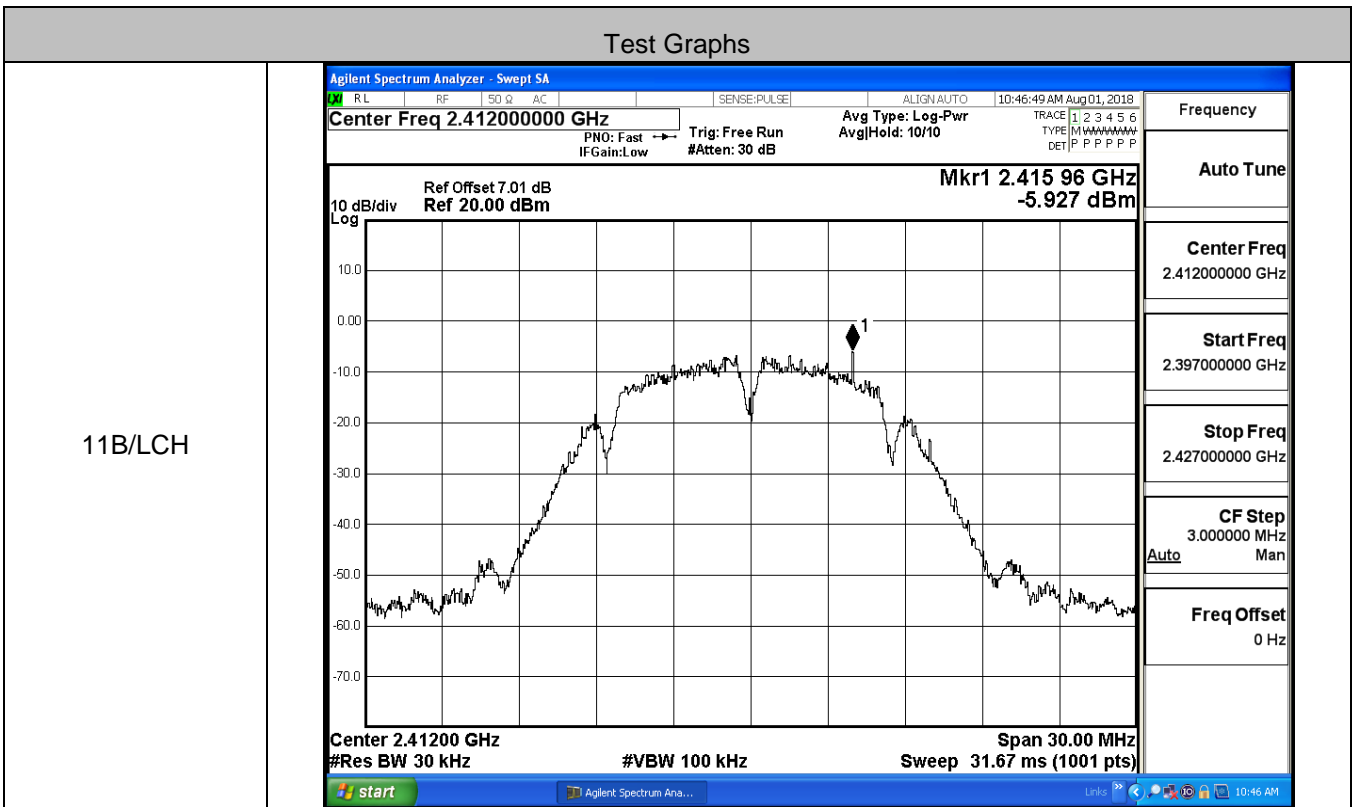


A.2 Maximum Conducted Output Power

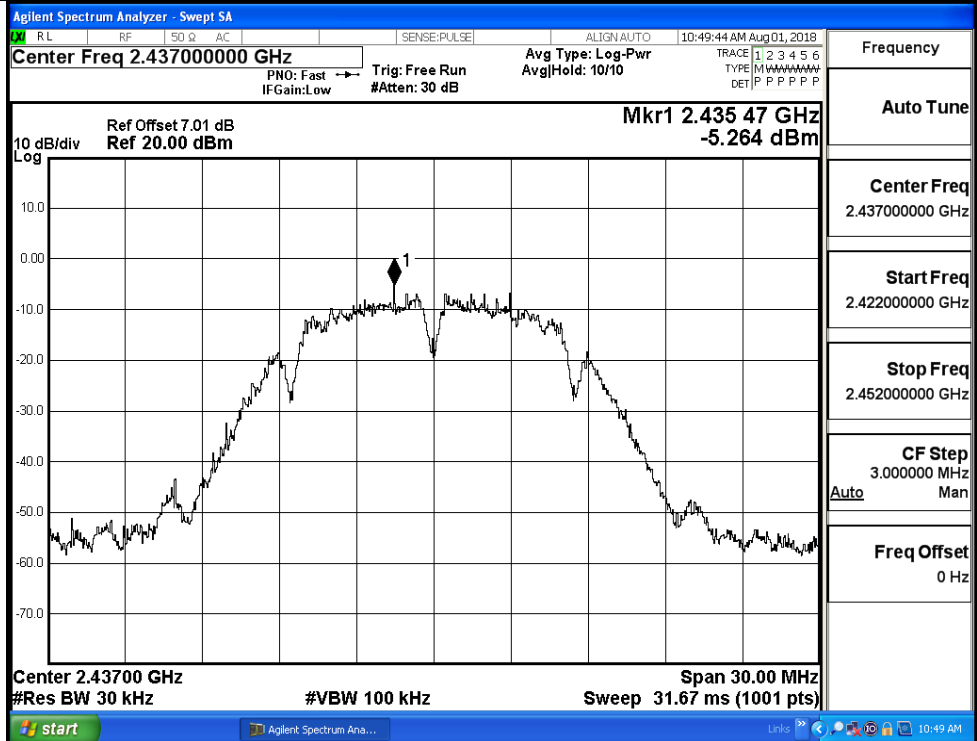
Mode	Channel	Meas.Level [dBm]	Limit [dBm]	Verdict
11B	LCH	11.61	30	PASS
	MCH	11.73	30	PASS
	HCH	10.86	30	PASS
11G	LCH	12.70	30	PASS
	MCH	9.86	30	PASS
	HCH	12.00	30	PASS
11N20SISO	LCH	11.28	30	PASS
	MCH	11.02	30	PASS
	HCH	10.92	30	PASS
11N40SISO	LCH	11.17	30	PASS
	MCH	12.35	30	PASS
	HCH	10.56	30	PASS

A.3 Maximum Power Spectral Density

Mode	Channel	Meas.Level [dBm/30KHz]	Limit [dBm/3KHz]	Verdict
11B	LCH	-5.927	8	PASS
	MCH	-5.264	8	PASS
	HCH	-6.347	8	PASS
11G	LCH	-13.819	8	PASS
	MCH	-13.763	8	PASS
	HCH	-13.615	8	PASS
11N20SISO	LCH	-15.050	8	PASS
	MCH	-13.185	8	PASS
	HCH	-13.427	8	PASS
11N40SISO	LCH	-17.108	8	PASS
	MCH	-17.041	8	PASS
	HCH	-17.166	8	PASS



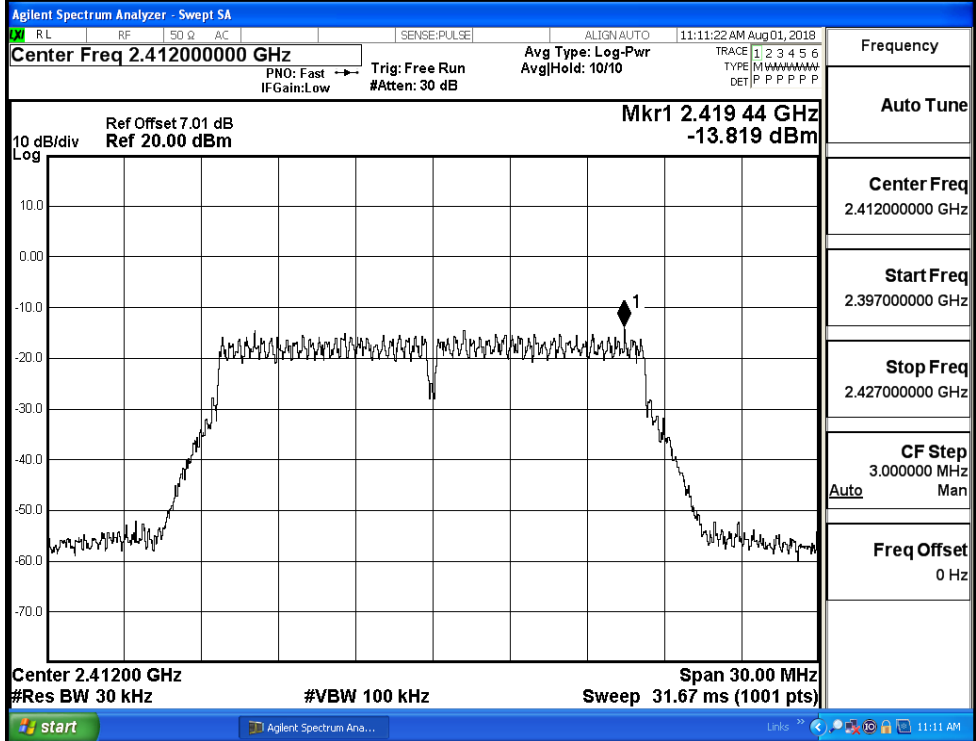
11B/MCH



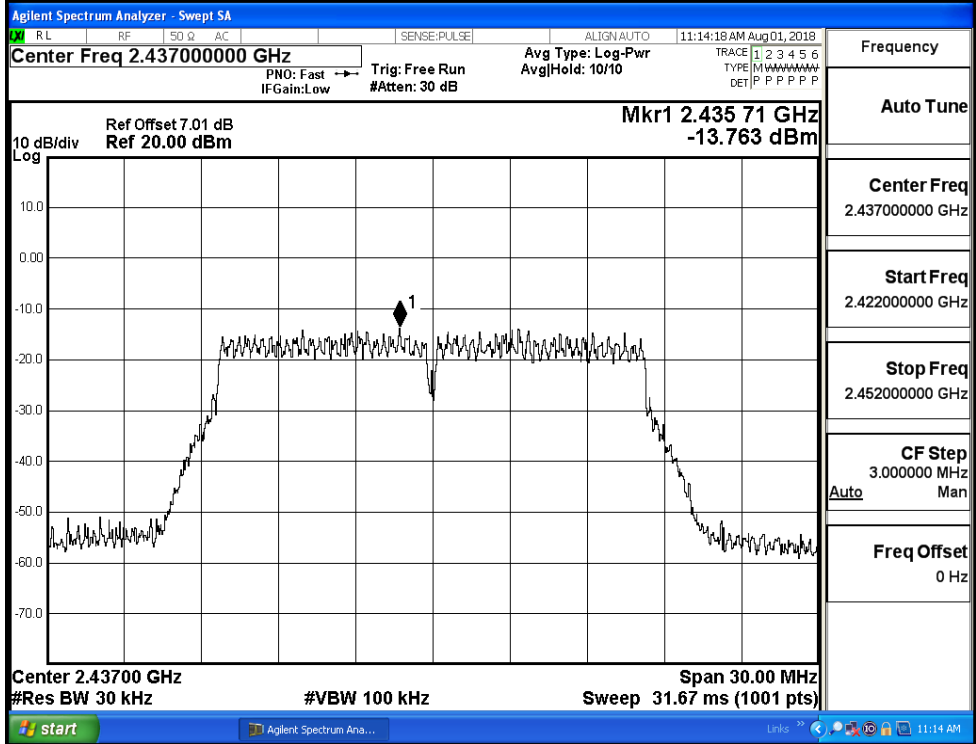
11B/HCH



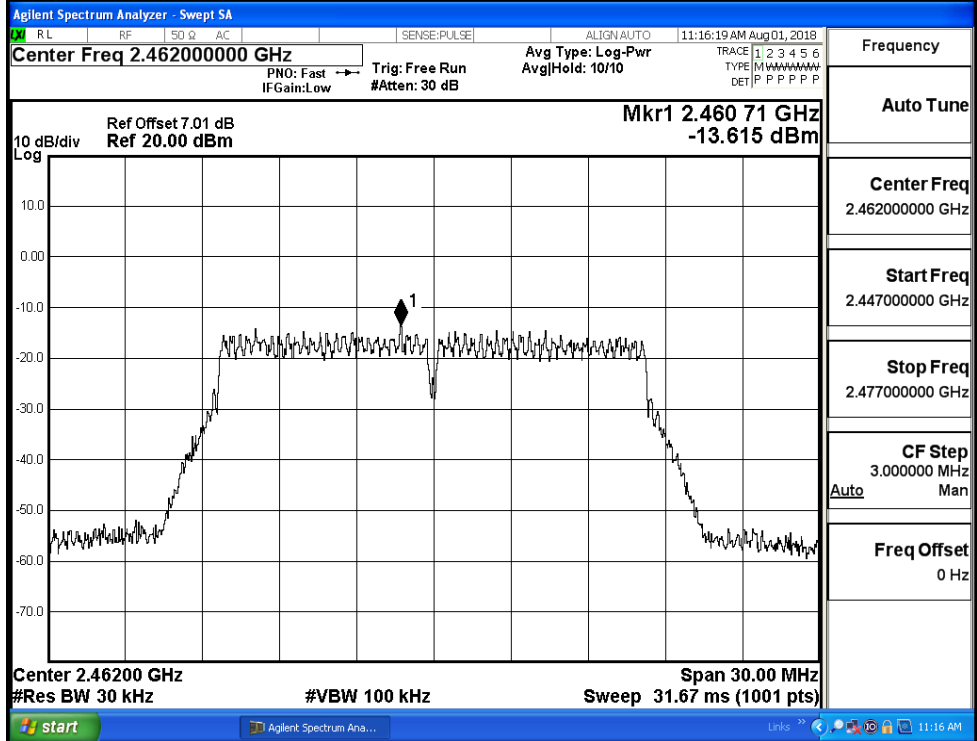
11G/LCH



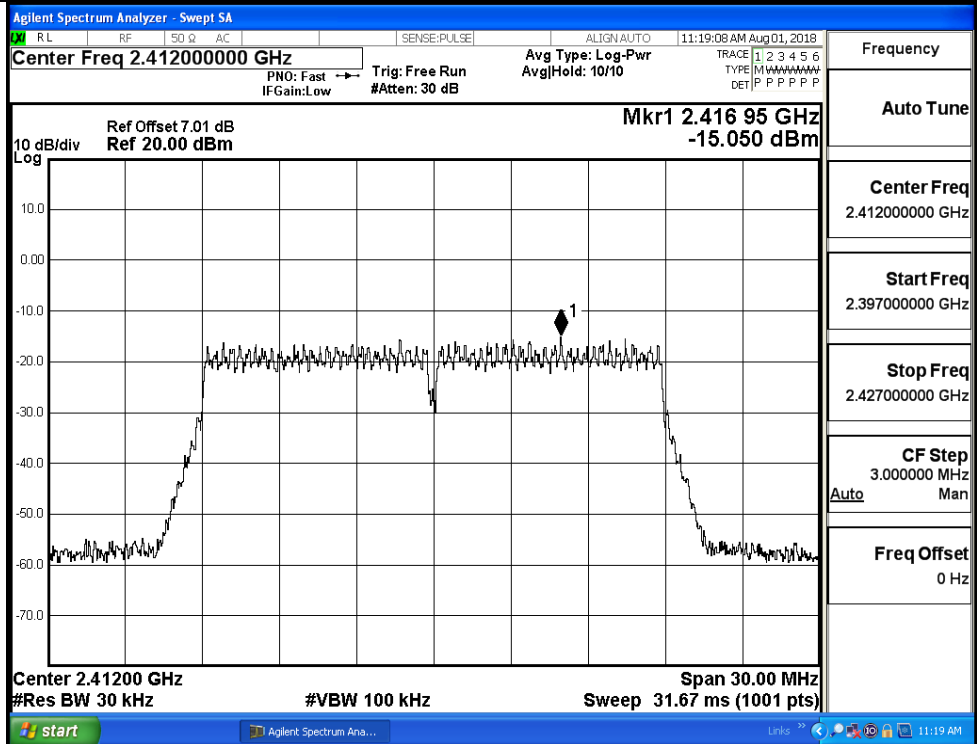
11G/MCH

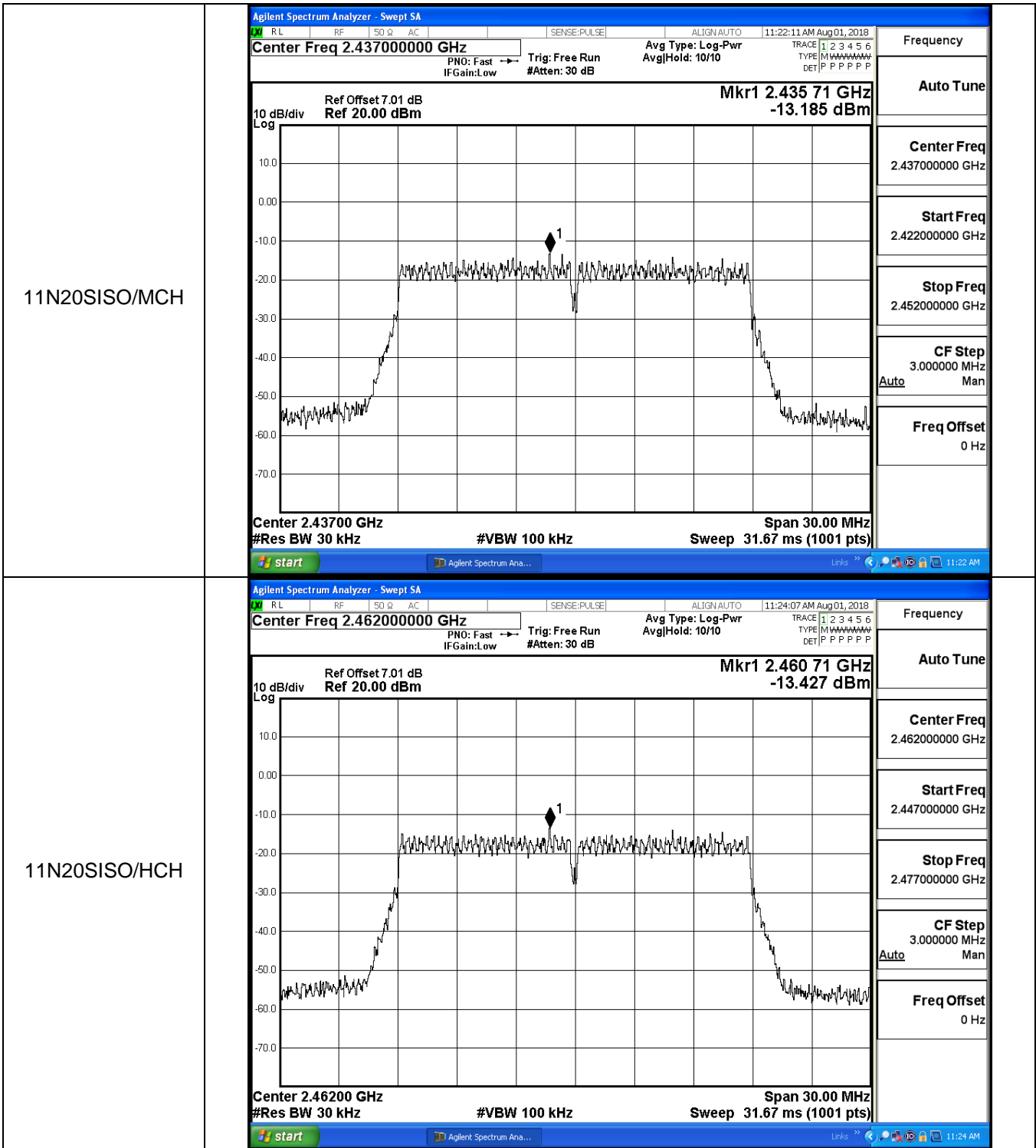


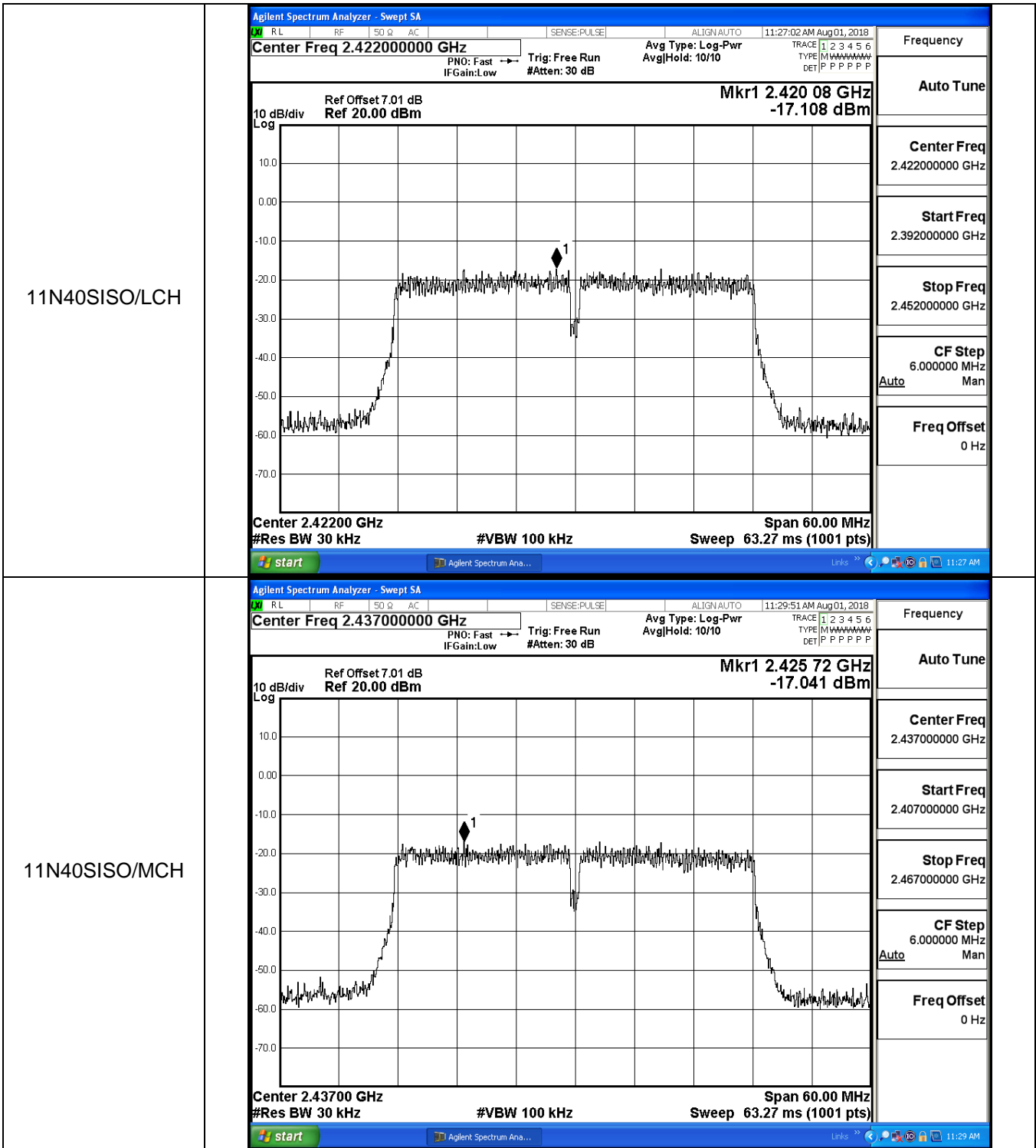
11G/HCH

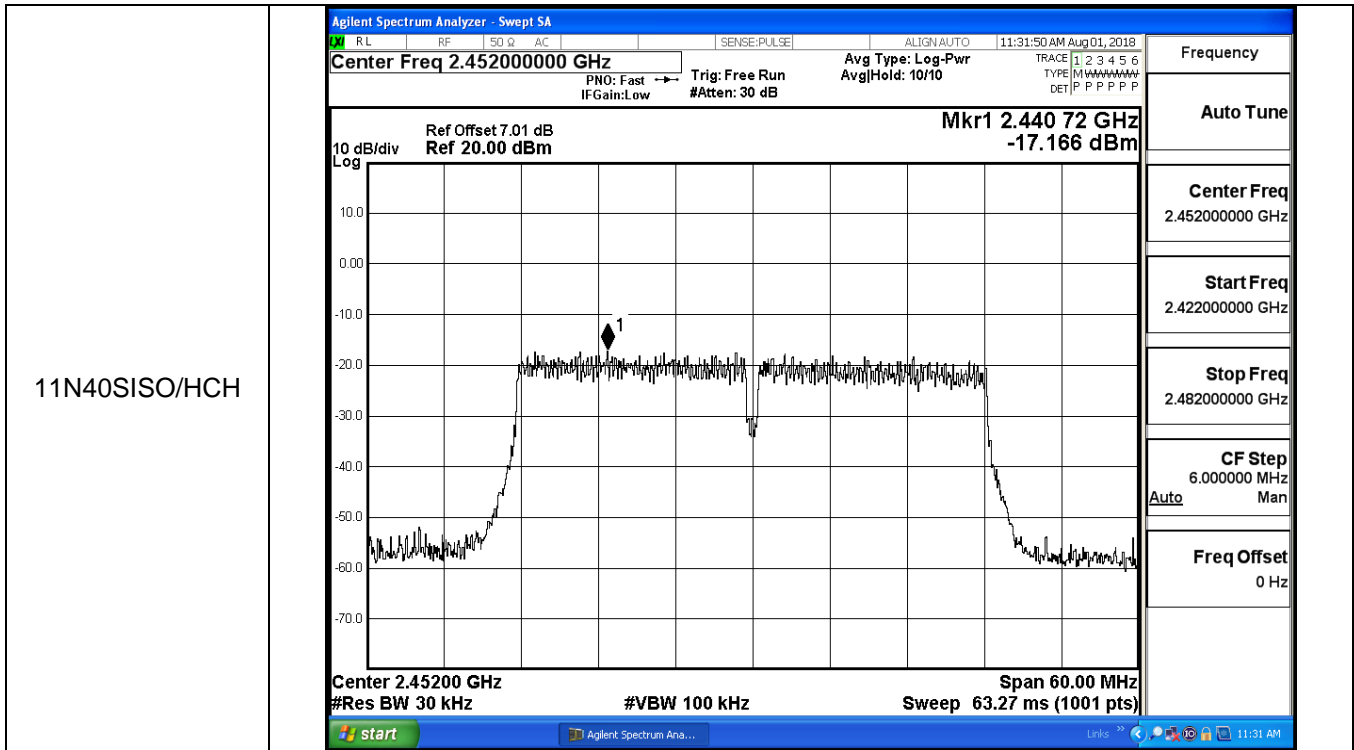


11N20SISO/LCH



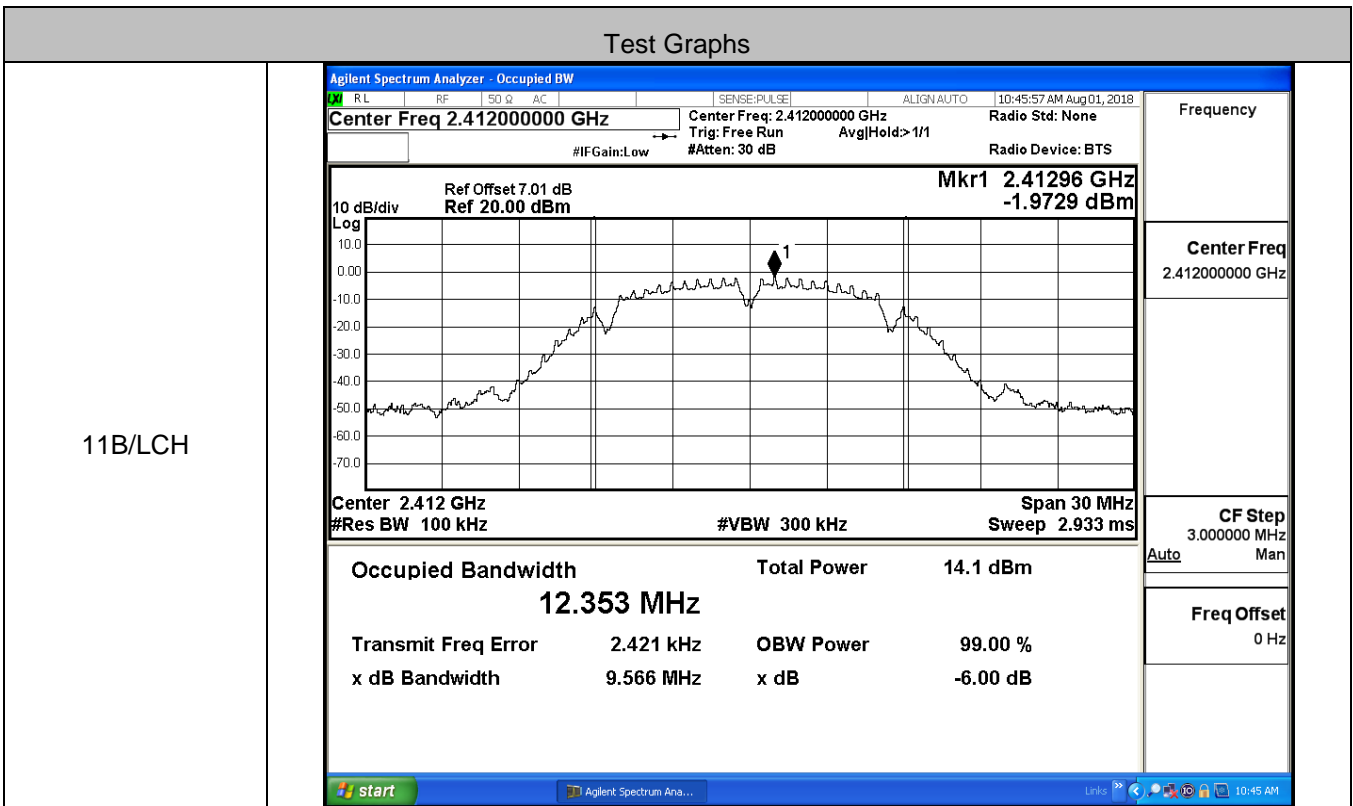




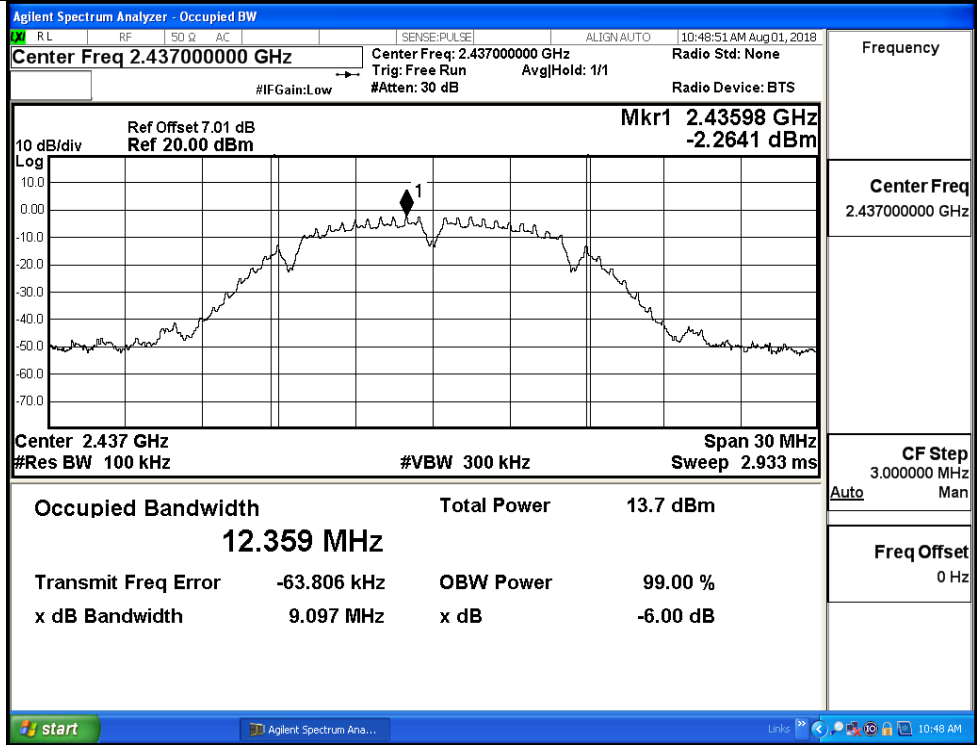


A.4 6dB Bandwidth

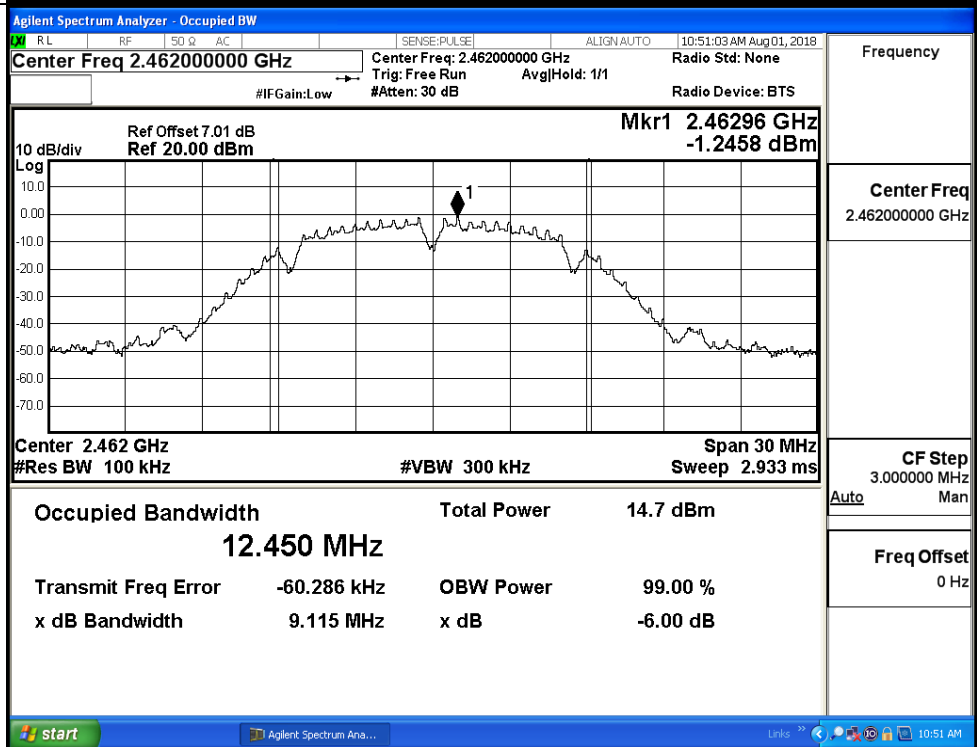
Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
11B	LCH	9.566	≥0.5	PASS
	MCH	9.097	≥0.5	PASS
	HCH	9.115	≥0.5	PASS
11G	LCH	16.37	≥0.5	PASS
	MCH	16.40	≥0.5	PASS
	HCH	16.39	≥0.5	PASS
11N20SISO	LCH	17.61	≥0.5	PASS
	MCH	17.61	≥0.5	PASS
	HCH	17.62	≥0.5	PASS
11N40SISO	LCH	35.79	≥0.5	PASS
	MCH	35.97	≥0.5	PASS
	HCH	35.96	≥0.5	PASS



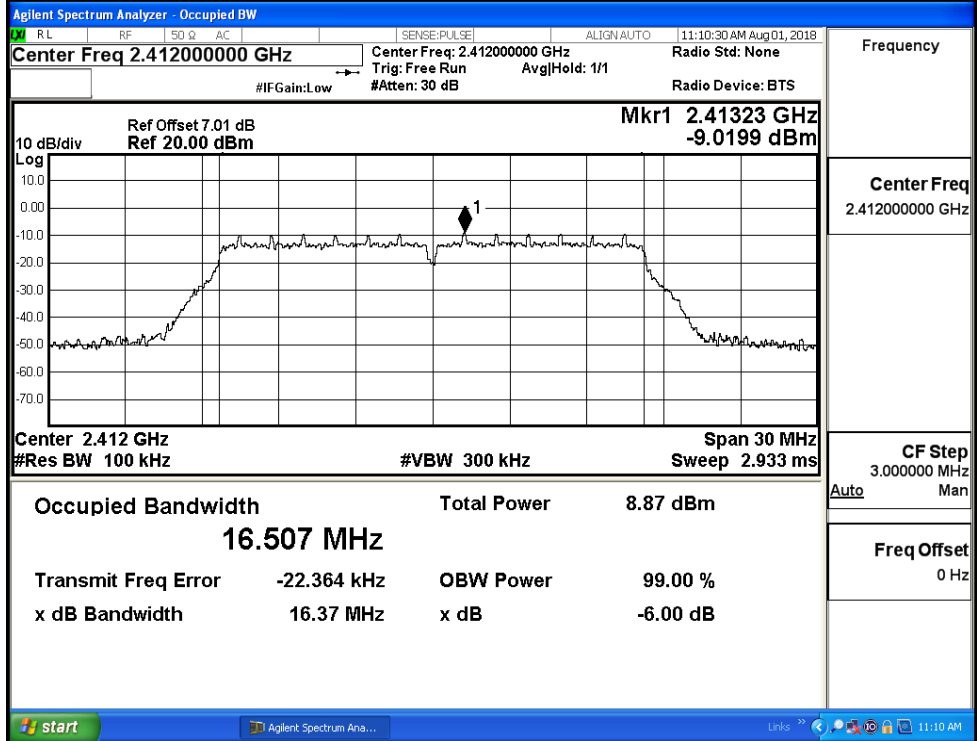
11B/MCH



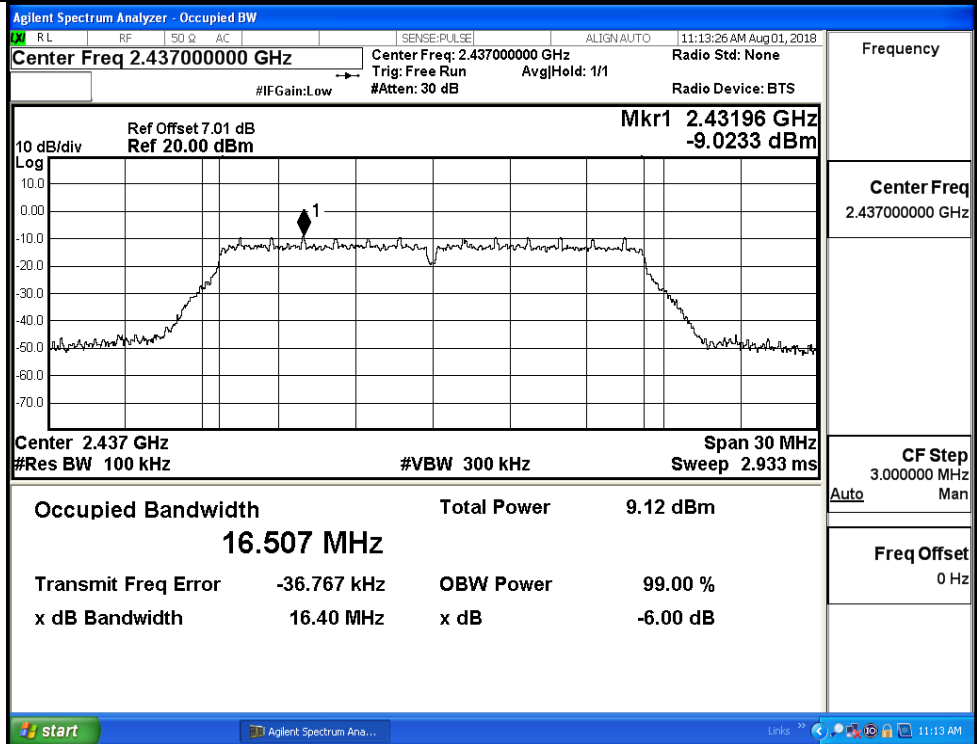
11B/HCH



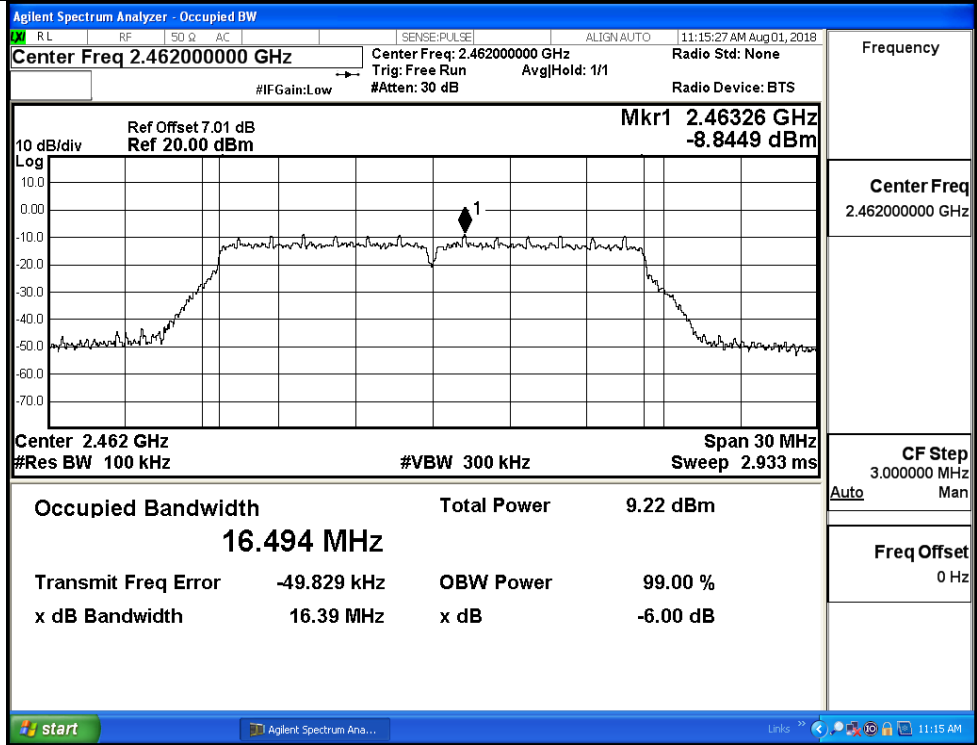
11G/LCH



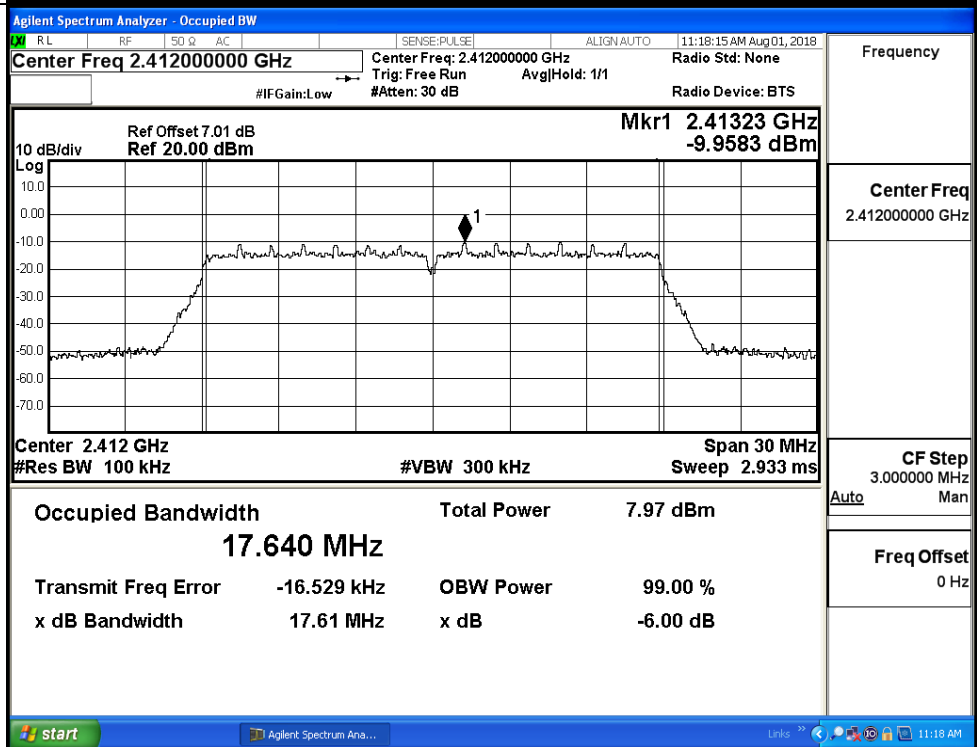
11G/MCH



11G/HCH



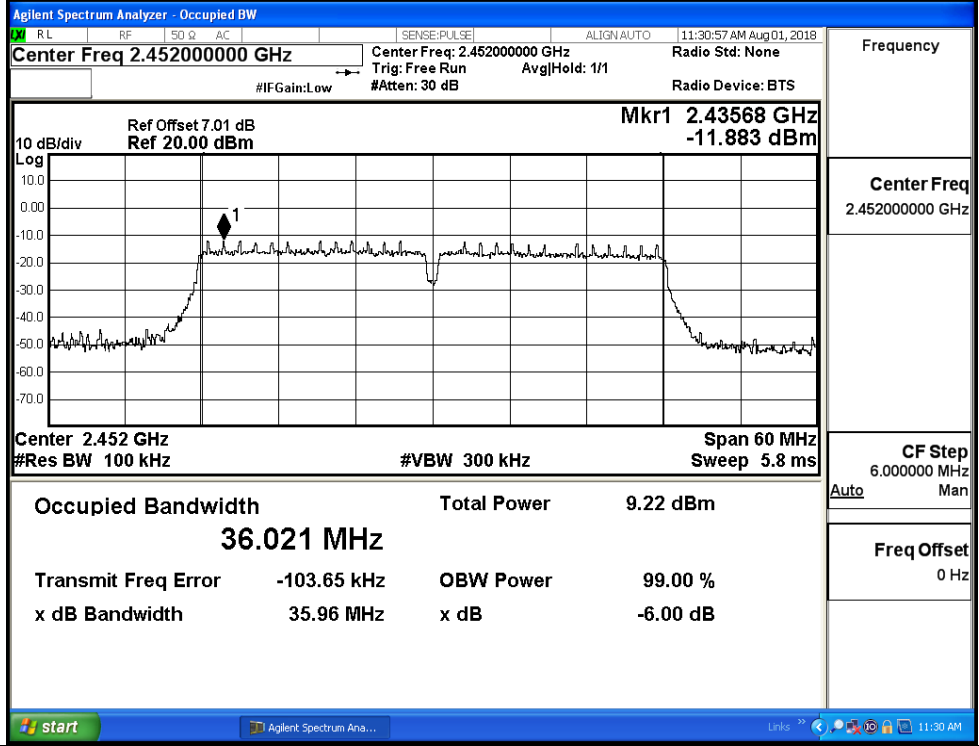
11N20SISO/LCH



<p>11N20SISO/MCH</p>		<p>Frequency 2.43700000 GHz</p> <p>Center Freq 2.43700000 GHz</p> <p>CF Step 3.000000 MHz Auto Man</p> <p>Freq Offset 0 Hz</p>
<p>11N20SISO/HCH</p>		<p>Frequency 2.46200000 GHz</p> <p>Center Freq 2.46200000 GHz</p> <p>CF Step 3.000000 MHz Auto Man</p> <p>Freq Offset 0 Hz</p>

<p>11N40SISO/LCH</p>	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.42200000 GHz</p> <p>Center Freq: 2.42200000 GHz</p> <p>Trig: Free Run</p> <p>Avg/Hold: 1/1</p> <p>Radio Std: None</p> <p>Radio Device: BTS</p> <p>10 dB/div</p> <p>Ref Offset 7.01 dB</p> <p>Ref 20.00 dBm</p> <p>Mkr1 2.41948 GHz</p> <p>-12.255 dBm</p> <p>Center 2.422 GHz</p> <p>#Res BW 100 kHz</p> <p>#VBW 300 kHz</p> <p>Span 60 MHz</p> <p>Sweep 5.8 ms</p> <p>Occupied Bandwidth 36.003 MHz</p> <p>Total Power 8.98 dBm</p> <p>Transmit Freq Error -23.276 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 35.79 MHz</p> <p>x dB -6.00 dB</p> <p>Frequency 2.42200000 GHz</p> <p>CF Step 6.000000 MHz</p> <p>Freq Offset 0 Hz</p>
<p>11N40SISO/MCH</p>	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.43700000 GHz</p> <p>Center Freq: 2.437000000 GHz</p> <p>Trig: Free Run</p> <p>Avg/Hold: 1/1</p> <p>Radio Std: None</p> <p>Radio Device: BTS</p> <p>10 dB/div</p> <p>Ref Offset 7.01 dB</p> <p>Ref 20.00 dBm</p> <p>Mkr1 2.43448 GHz</p> <p>-11.656 dBm</p> <p>Center 2.437 GHz</p> <p>#Res BW 100 kHz</p> <p>#VBW 300 kHz</p> <p>Span 60 MHz</p> <p>Sweep 5.8 ms</p> <p>Occupied Bandwidth 36.012 MHz</p> <p>Total Power 9.58 dBm</p> <p>Transmit Freq Error -80.750 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 35.97 MHz</p> <p>x dB -6.00 dB</p> <p>Frequency 2.43700000 GHz</p> <p>CF Step 6.000000 MHz</p> <p>Freq Offset 0 Hz</p>

11N40SISO/HCH



A.5 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
11B	LCH	-2.472	-43.713	-22.472	PASS
	MCH	-1.385	-44.812	-22.267	PASS
	HCH	-1.283	-43.575	-21.283	PASS
11G	LCH	-9.241	-44.960	-29.241	PASS
	MCH	-9.009	-42.857	-29.009	PASS
	HCH	-9.042	-44.607	-29.042	PASS
11N20 SISO	LCH	-10.363	-44.560	-30.363	PASS
	MCH	-8.841	-44.281	-28.841	PASS
	HCH	-9.263	-44.501	-29.263	PASS
11N40 SISO	LCH	-12.235	-45.260	-32.235	PASS
	MCH	-11.705	-44.237	-31.705	PASS
	HCH	-11.911	-45.093	-31.911	PASS

11B_LCH_Graphs

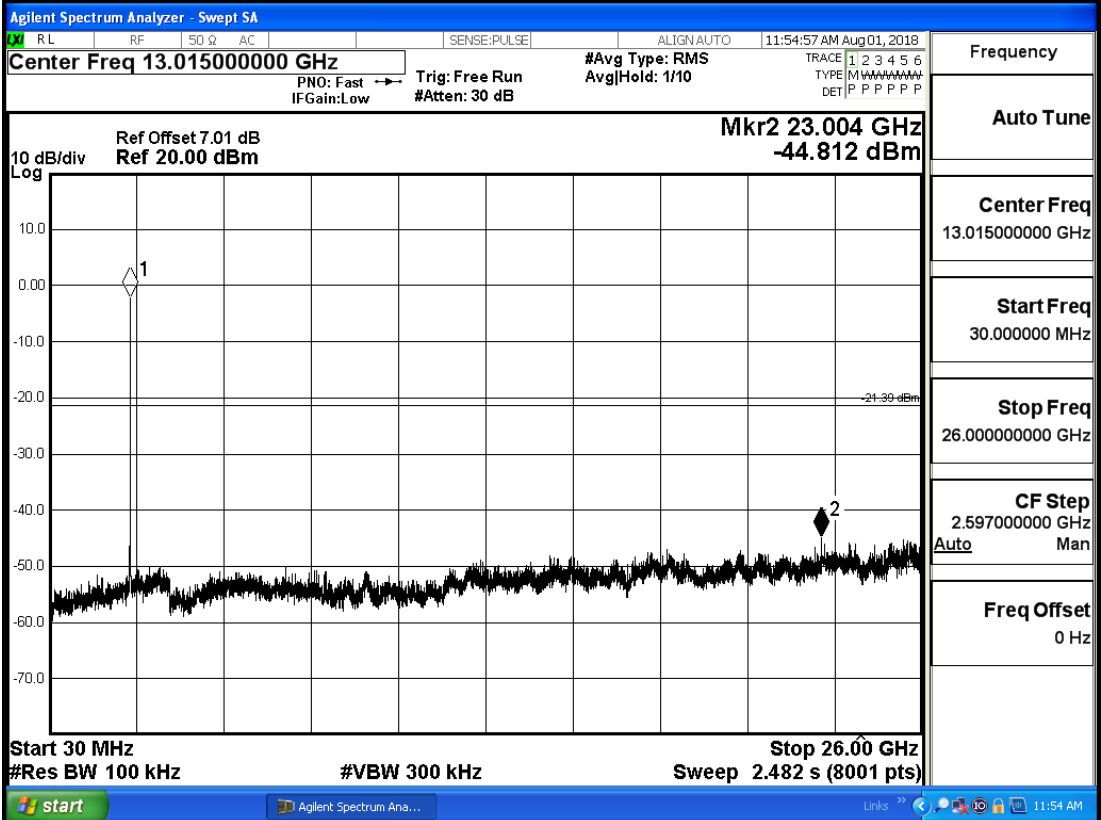
<p>Pref/11B/LCH</p>	<p>Agilent Spectrum Analyzer - Swept SA</p> <p>Center Freq 2.41200000 GHz</p> <p>Mkr1 2.412 475 GHz -2.472 dBm</p> <p>10 dB/div Log</p> <p>Ref Offset 7.01 dB Ref 20.00 dBm</p> <p>Center 2.41200 GHz #Res BW 100 kHz #VBW 300 kHz Span 40.00 MHz Sweep 4.267 ms (8001 pts)</p>
<p>Puw/11B/LCH</p>	<p>Agilent Spectrum Analyzer - Swept SA</p> <p>Center Freq 13.01500000 GHz</p> <p>Mkr2 25.646 GHz -43.713 dBm</p> <p>10 dB/div Log</p> <p>Ref Offset 7.01 dB Ref 20.00 dBm</p> <p>Start 30 MHz #Res BW 100 kHz #VBW 300 kHz Stop 26.00 GHz Sweep 2.482 s (8001 pts)</p>

11B_MCH_Graphs

Pref/11B/MCH

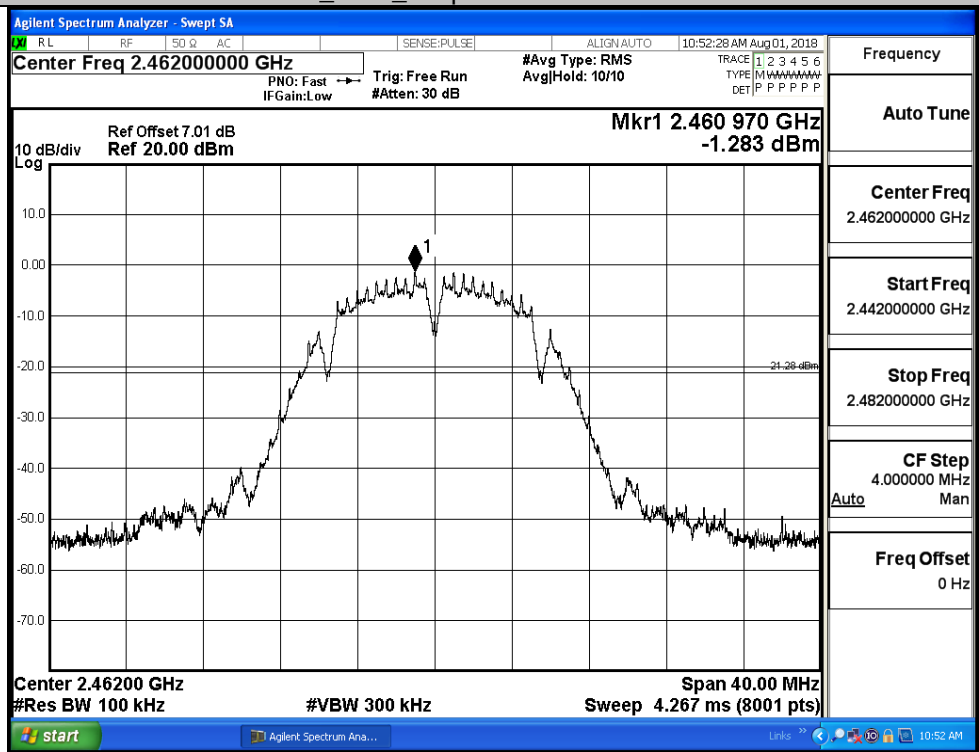


Puw/11B/MCH

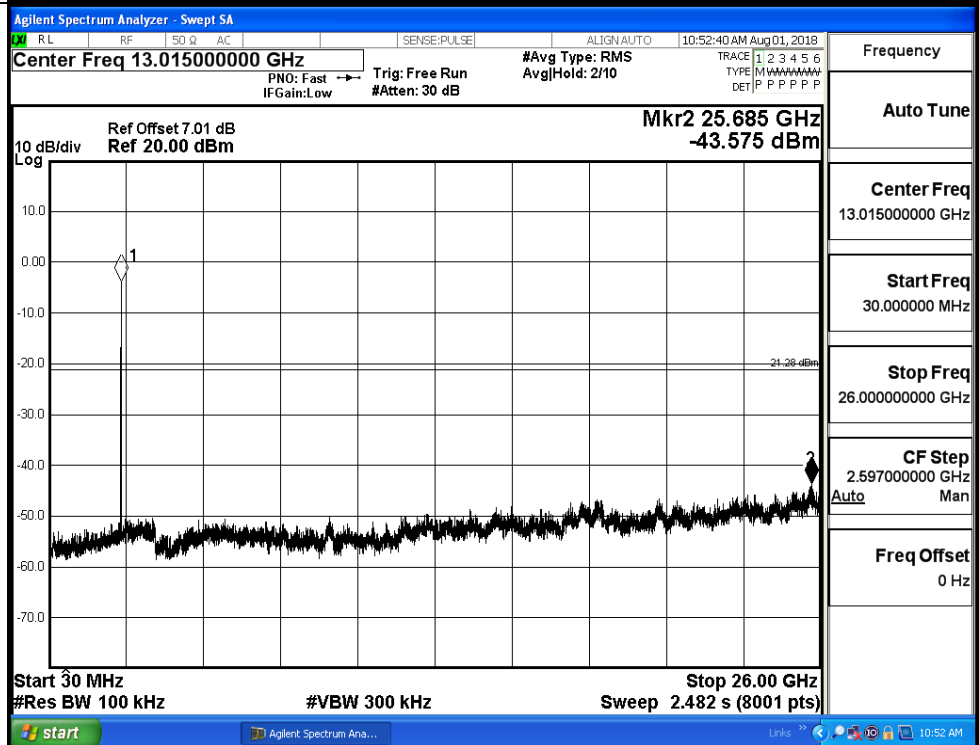


11B_HCH_Graphs

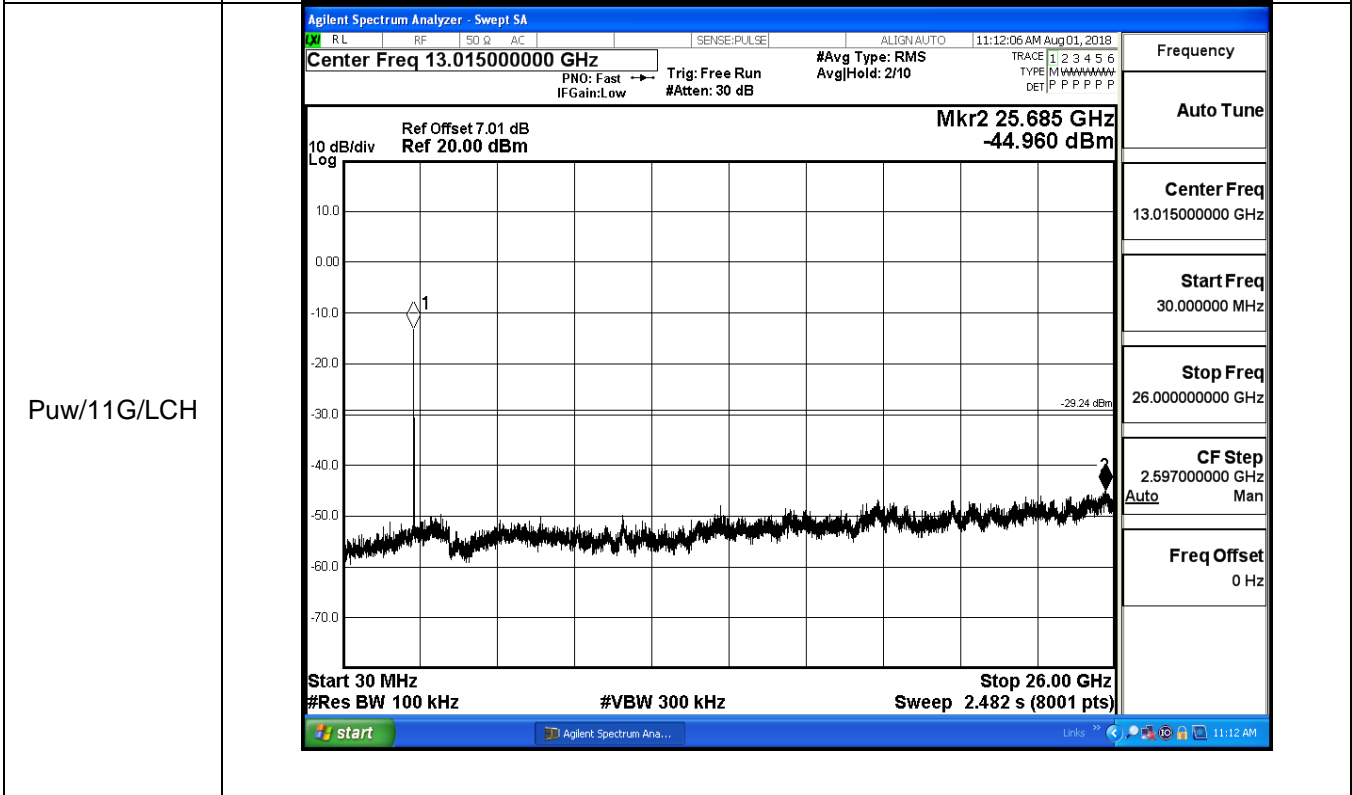
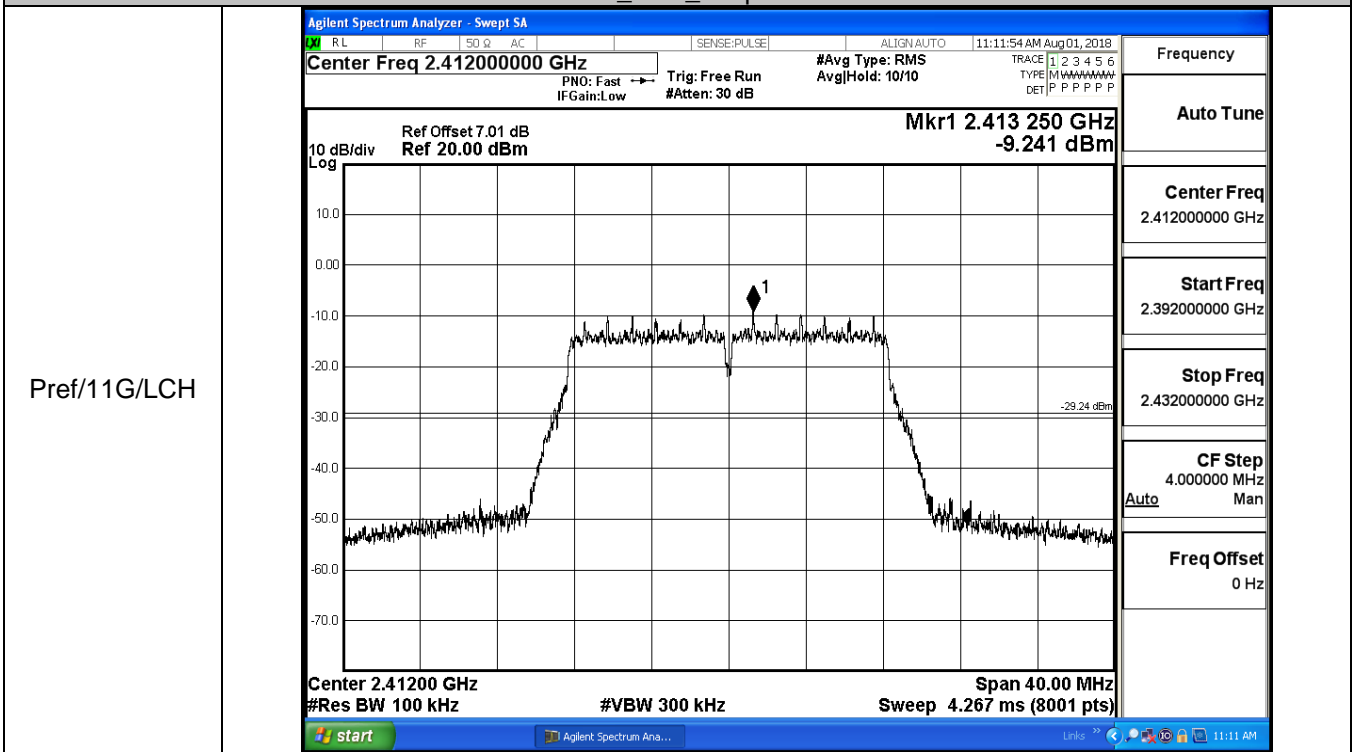
Pref/11B/HCH



Puw/11B/HCH

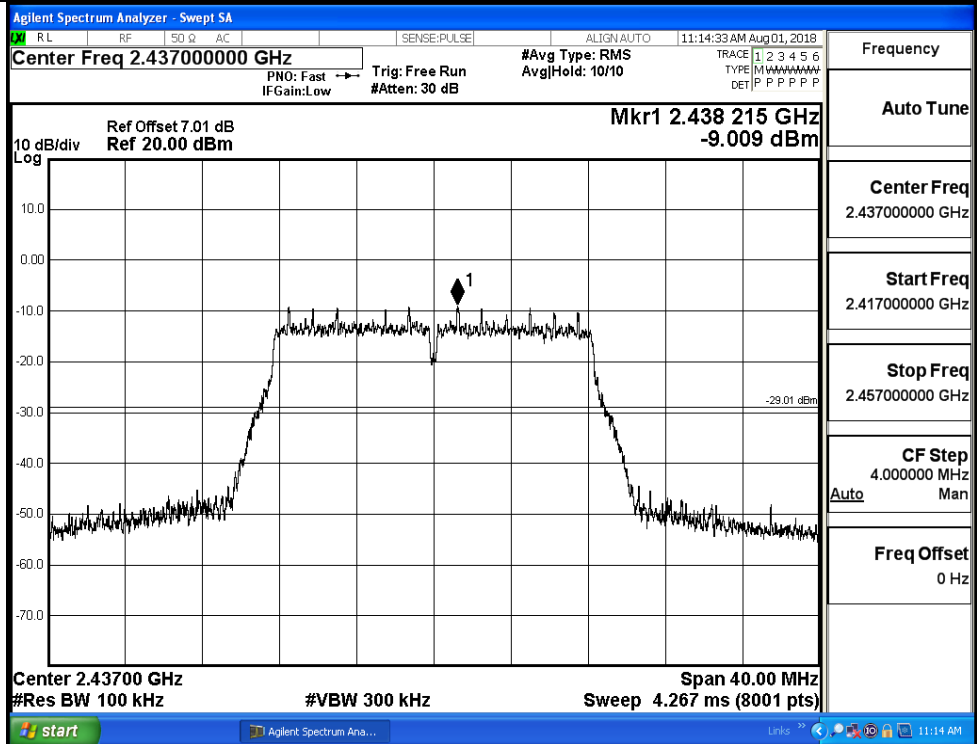


11G_LCH_Graphs

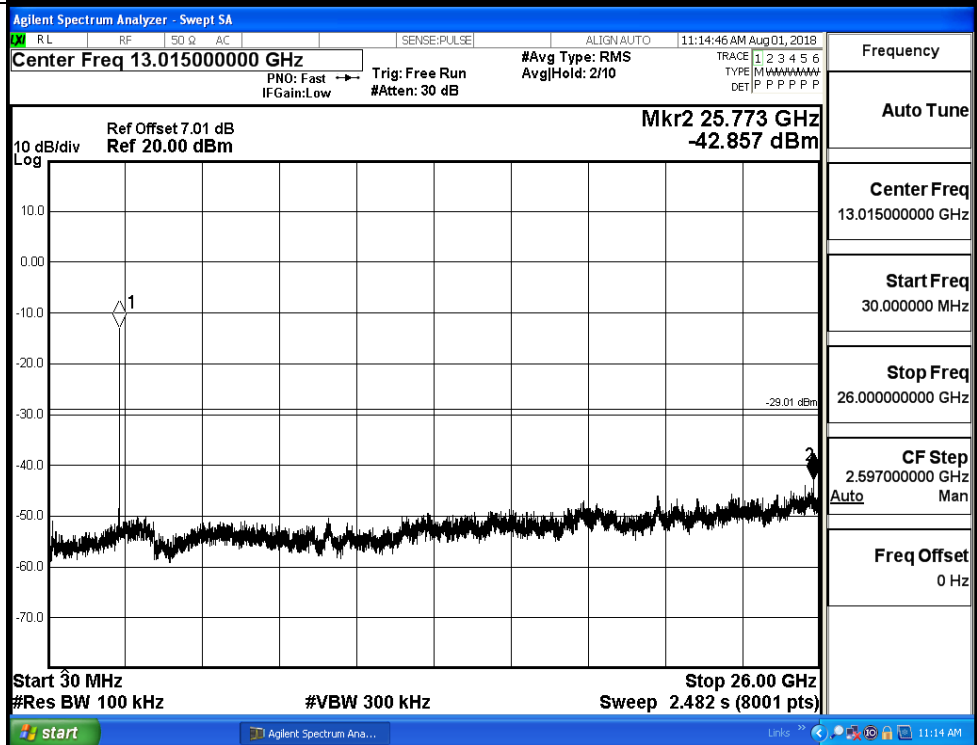


11G_MCH_Graphs

Pref/11G/MCH



Puw/11G/MCH

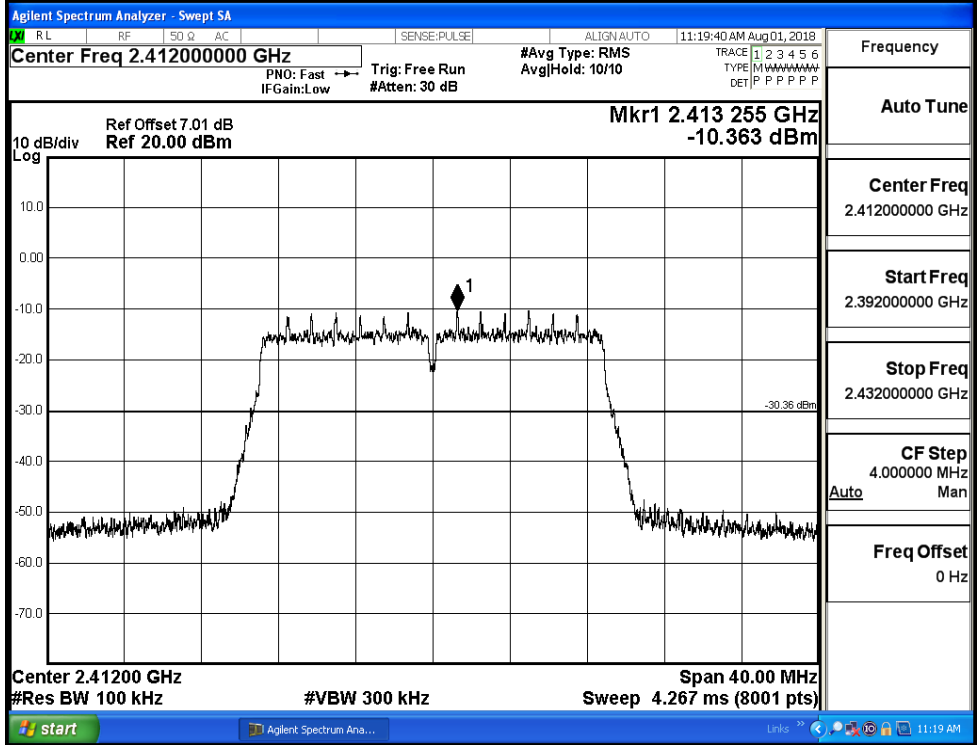


11G_HCH_Graphs

<p>Pref/11G/HCH</p>	<p>Agilent Spectrum Analyzer - Swept SA Center Freq 2.46200000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 4.267 ms (8001 pts) Mkr1 2.456 960 GHz -9.042 dBm Ref Offset 7.01 dB Ref 20.00 dBm</p>	<p>Frequency Auto Tune Center Freq 2.462000000 GHz Start Freq 2.442000000 GHz Stop Freq 2.482000000 GHz CF Step 4.000000 MHz Freq Offset 0 Hz</p>
<p>Puw/11G/HCH</p>	<p>Agilent Spectrum Analyzer - Swept SA Center Freq 13.01500000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 2.482 s (8001 pts) Mkr2 25.111 GHz -44.607 dBm Ref Offset 7.01 dB Ref 20.00 dBm</p>	<p>Frequency Auto Tune Center Freq 13.015000000 GHz Start Freq 30.0000000 MHz Stop Freq 26.000000000 GHz CF Step 2.597000000 GHz Freq Offset 0 Hz</p>

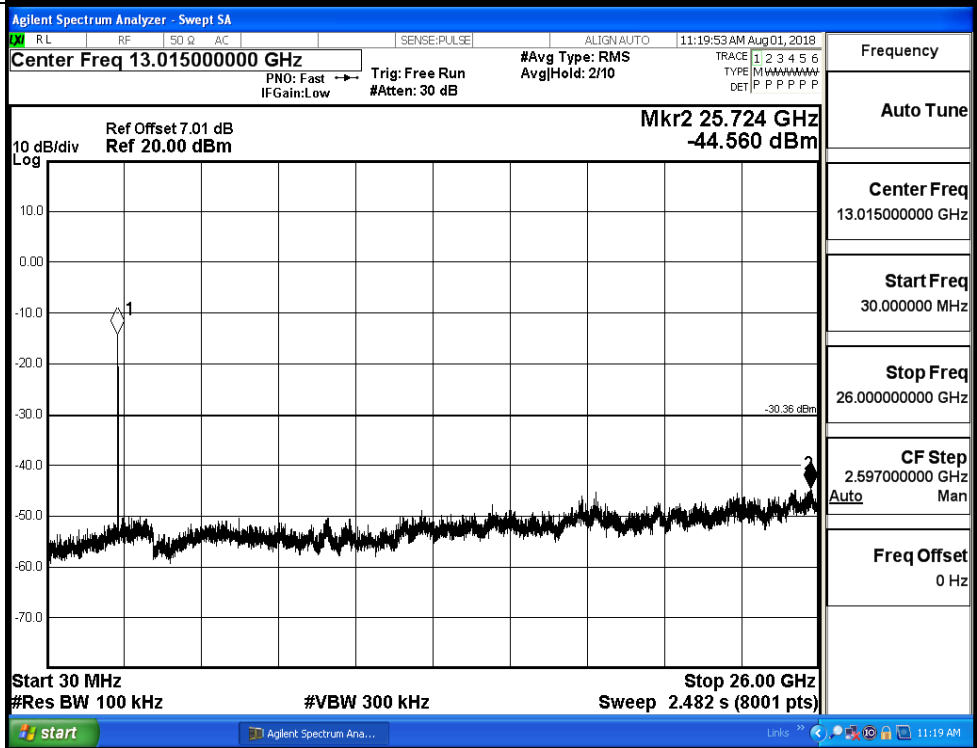
11N20SISO_LCH_Graphs

Pref/11N20SIS
O/LCH



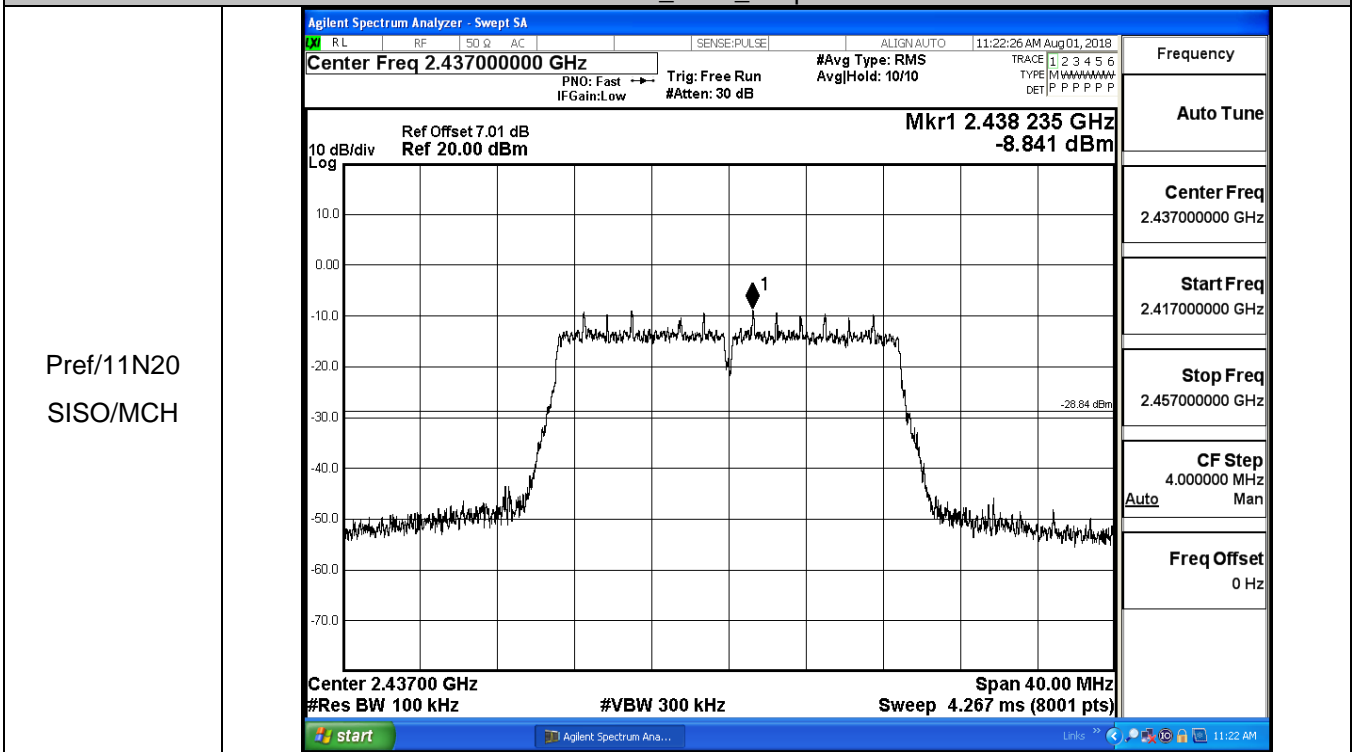
Frequency
Auto Tune
Center Freq 2.412000000 GHz
Start Freq 2.392000000 GHz
Stop Freq 2.432000000 GHz
CF Step 4.000000 MHz Auto Man
Freq Offset 0 Hz

Puw/11N20
SISO/LCH

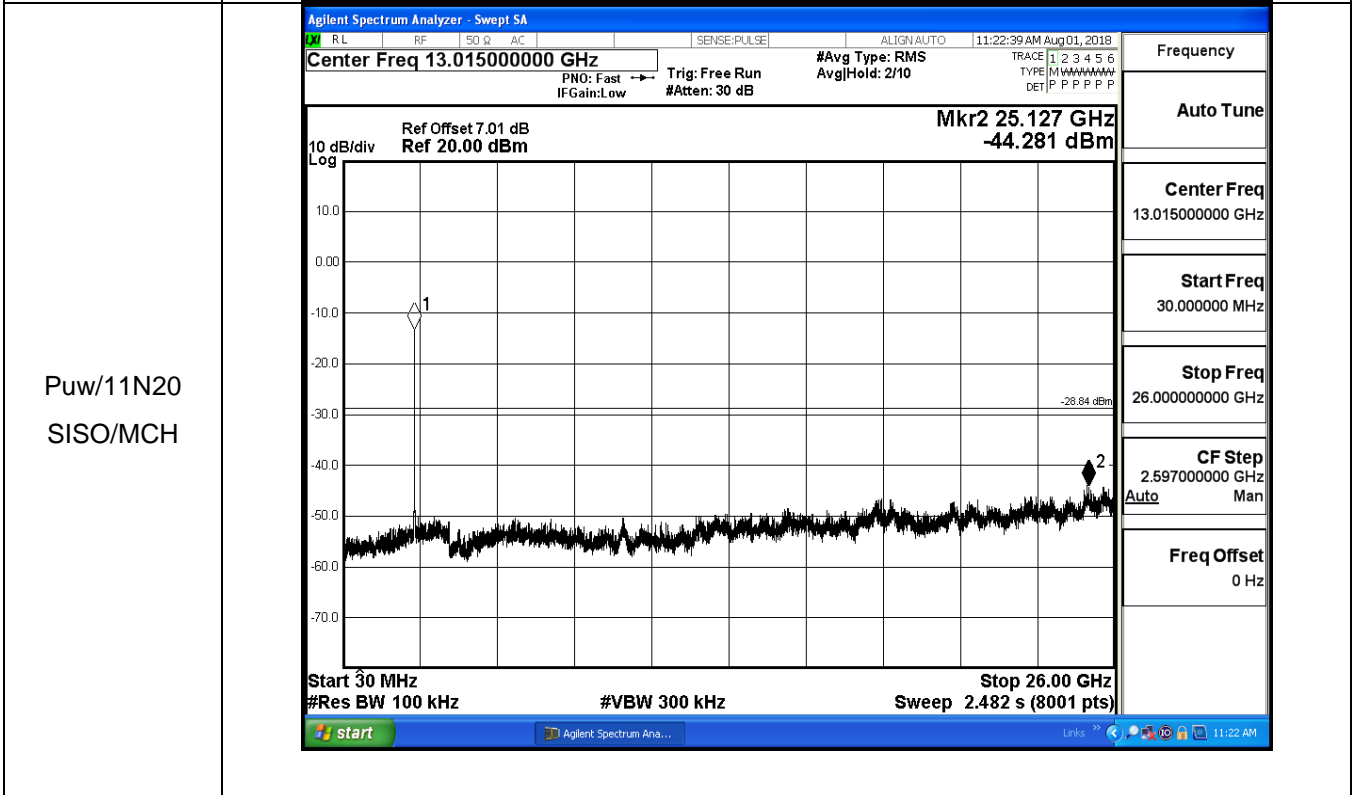


Frequency
Auto Tune
Center Freq 13.015000000 GHz
Start Freq 30.000000 MHz
Stop Freq 26.000000000 GHz
CF Step 2.597000000 GHz Auto Man
Freq Offset 0 Hz

11N20SISO_MCH_Graphs



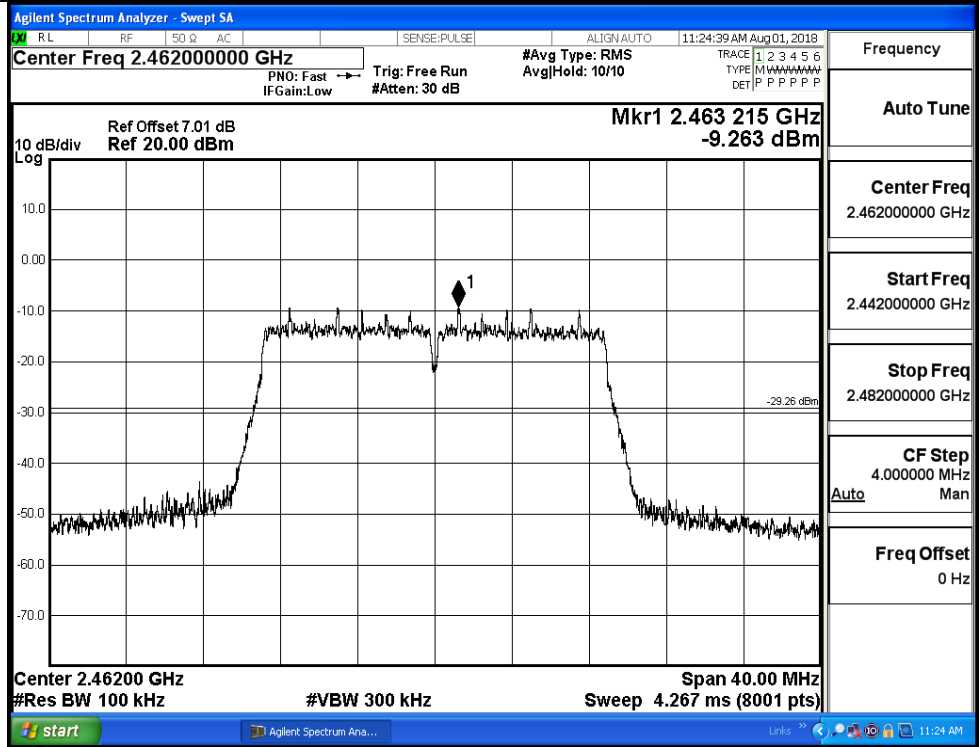
Pref/11N20
SISO/MCH



Puw/11N20
SISO/MCH

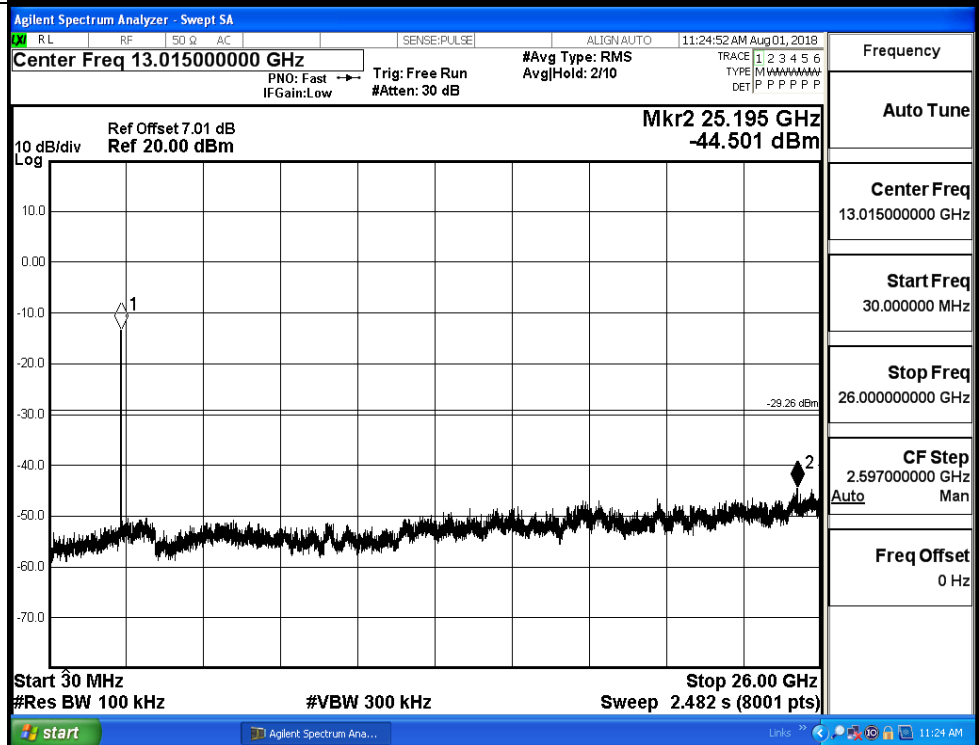
11N20SISO_HCH_Graphs

Pref/11N20
SISO/HCH



Frequency
Auto Tune
Center Freq 2.462000000 GHz
Start Freq 2.442000000 GHz
Stop Freq 2.482000000 GHz
CF Step 4.000000 MHz Auto Man
Freq Offset 0 Hz

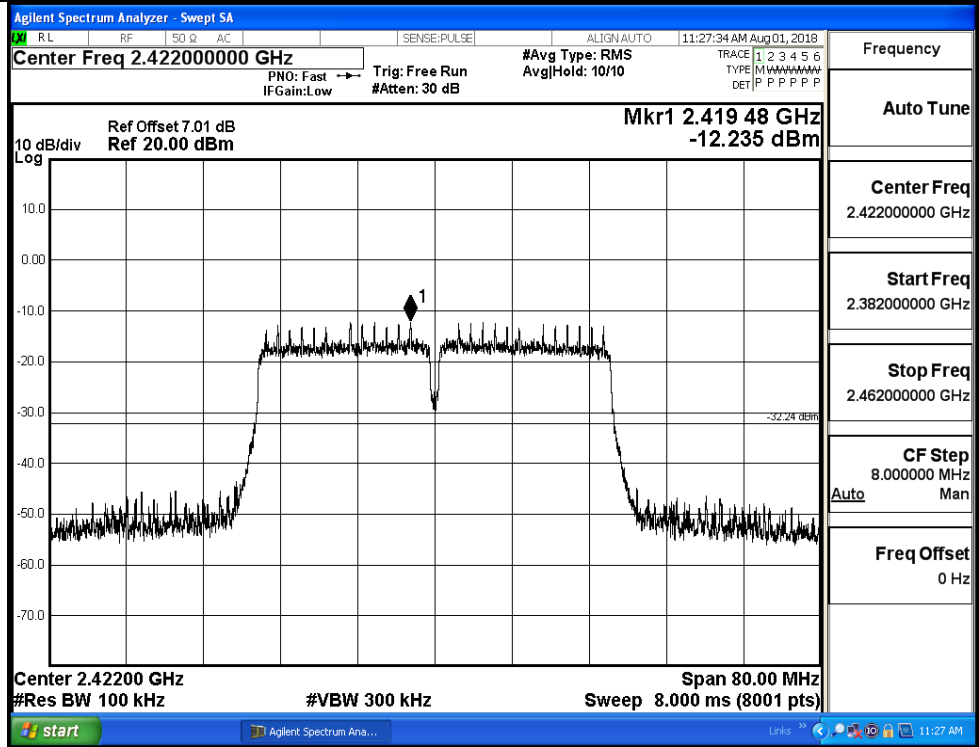
Puw/11N20
SISO/HCH



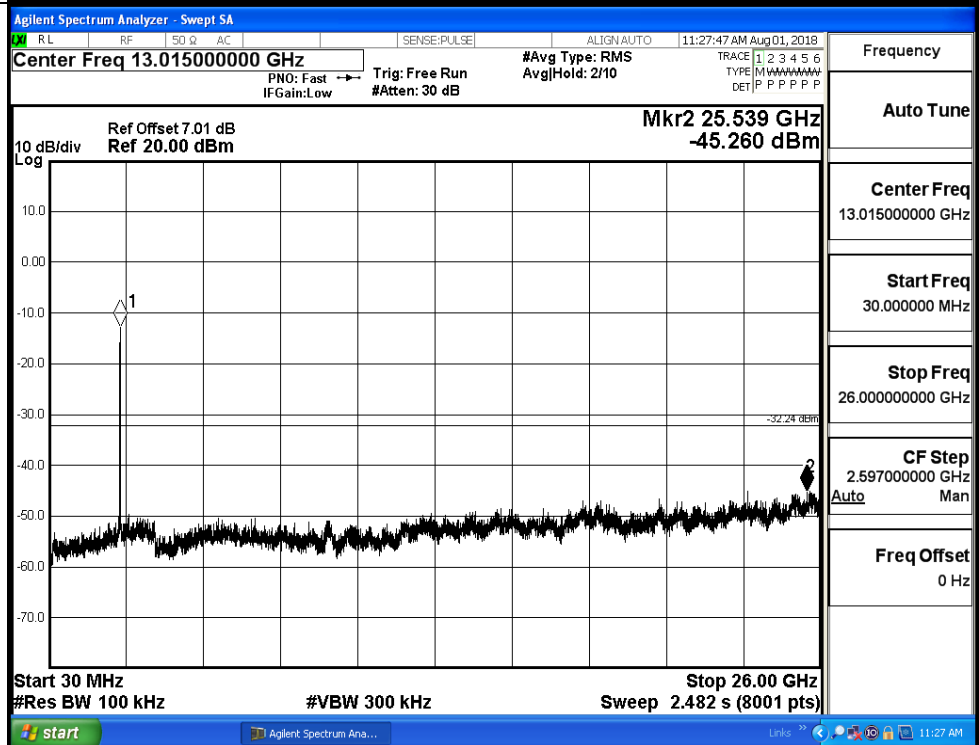
Frequency
Auto Tune
Center Freq 13.015000000 GHz
Start Freq 30.000000 MHz
Stop Freq 26.000000000 GHz
CF Step 2.597000000 GHz Auto Man
Freq Offset 0 Hz

11N40SISO_LCH_Graphs

Pref/11N40
SISO/LCH

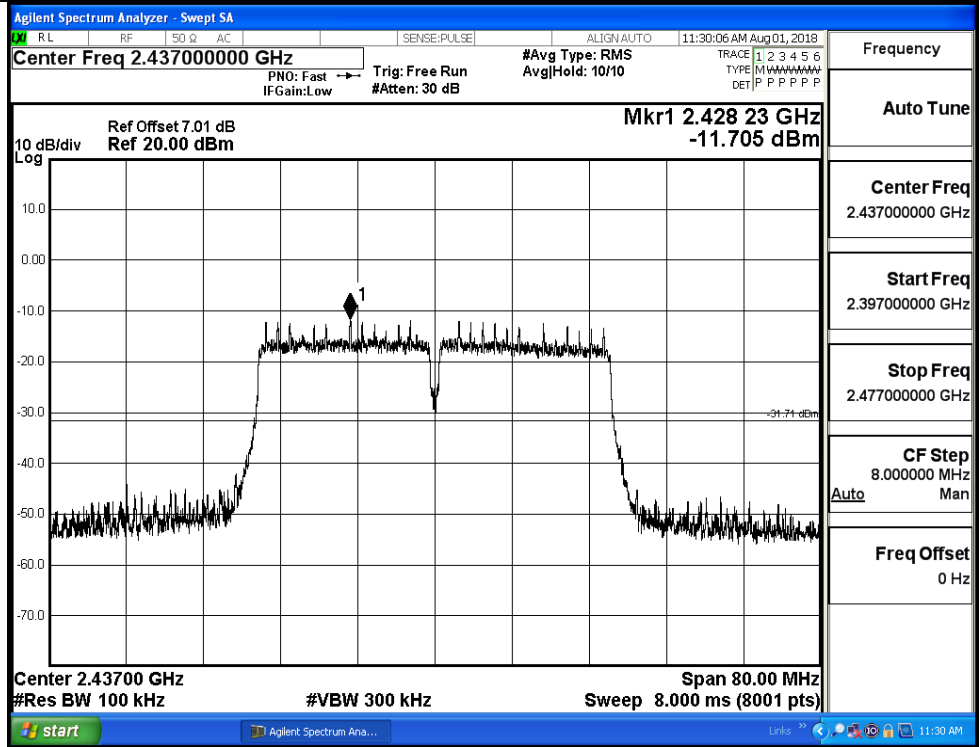


Puw/11N40
SISO/LCH



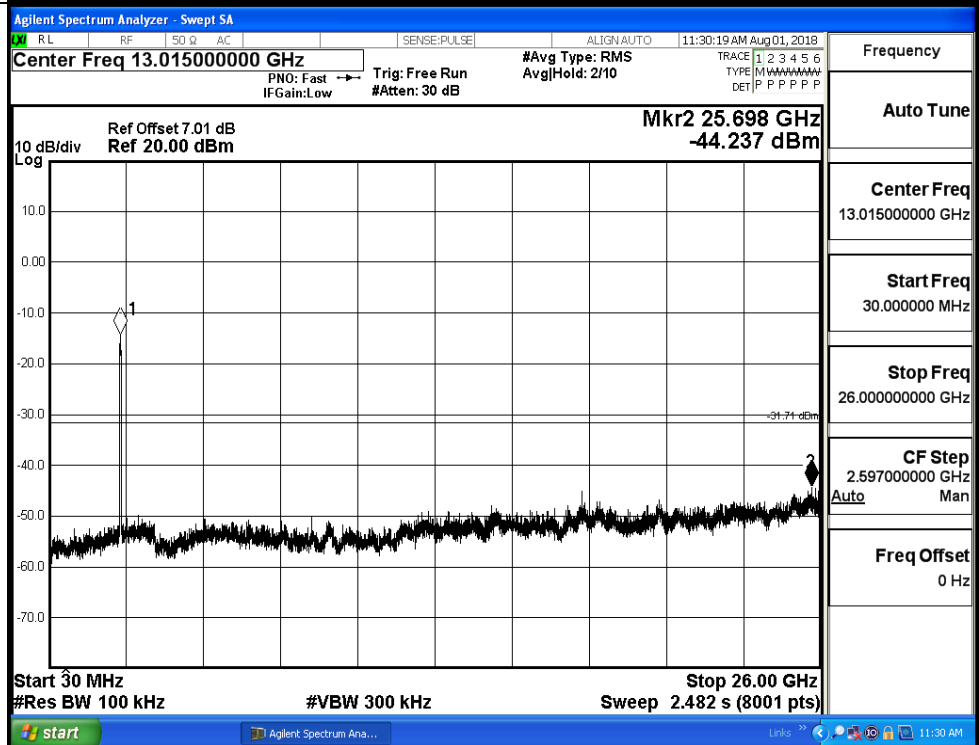
11N40SISO_MCH_Graphs

Pref/11N40
SISO/MCH



Frequency
Auto Tune
Center Freq 2.437000000 GHz
Start Freq 2.397000000 GHz
Stop Freq 2.477000000 GHz
CF Step 8.000000 MHz Auto
Freq Offset 0 Hz

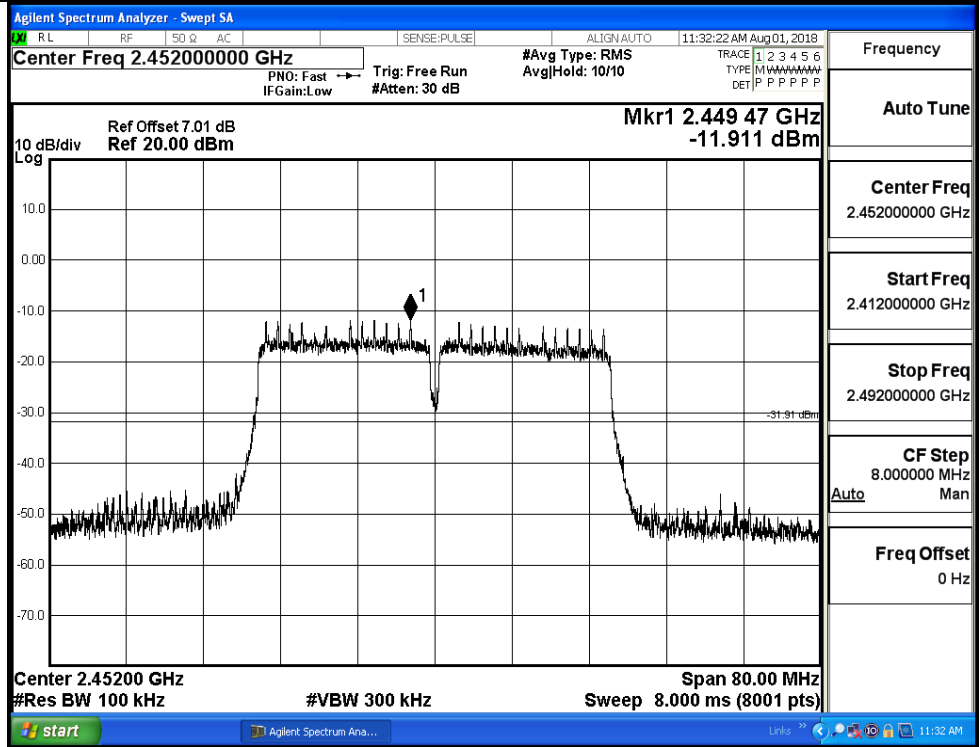
Puw/11N40
SISO/MCH



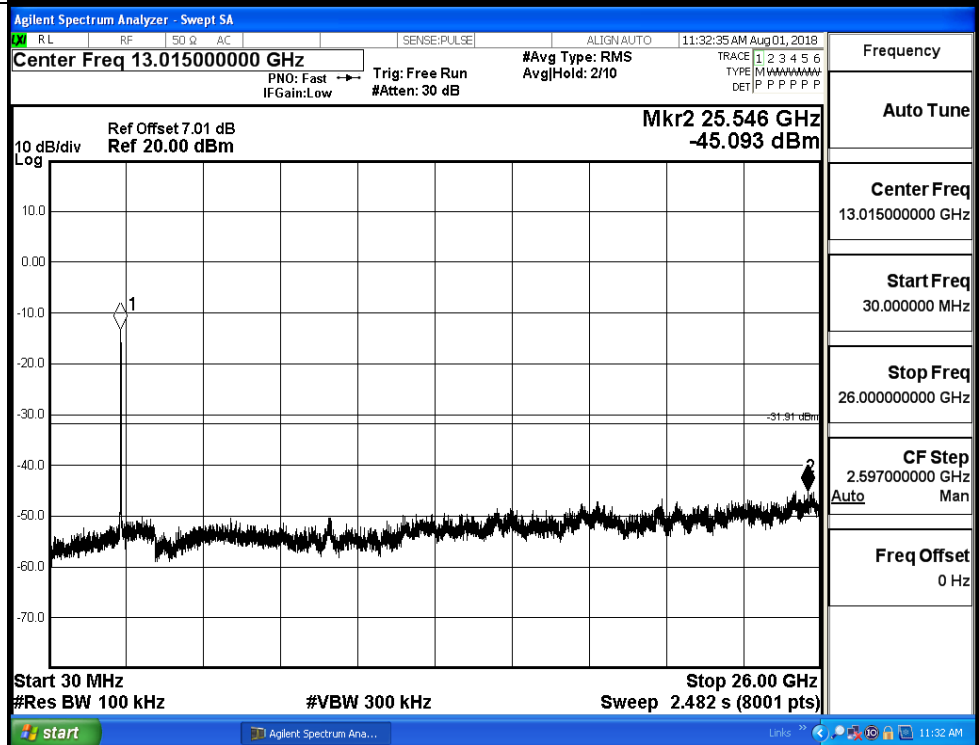
Frequency
Auto Tune
Center Freq 13.015000000 GHz
Start Freq 30.000000 MHz
Stop Freq 26.000000000 GHz
CF Step 2.597000000 GHz Auto
Freq Offset 0 Hz

11N40SISO_HCH_Graphs

Pref/11N40
SISO/HCH



Puw/11N40
SISO/HCH

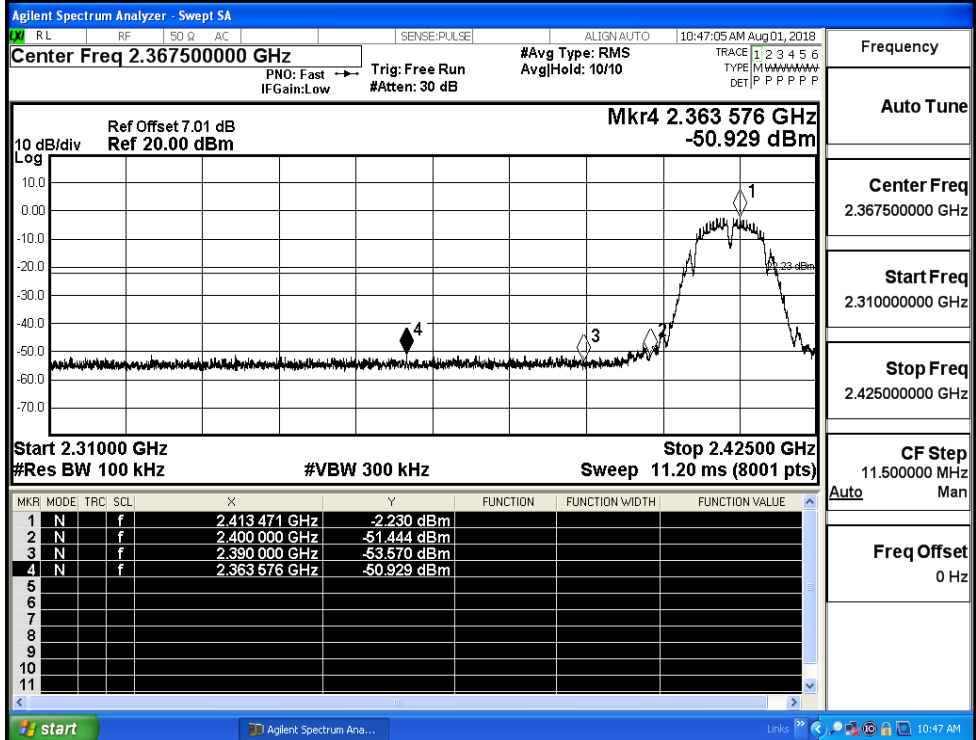


A.6 Band-edge for RF Conducted Emissions

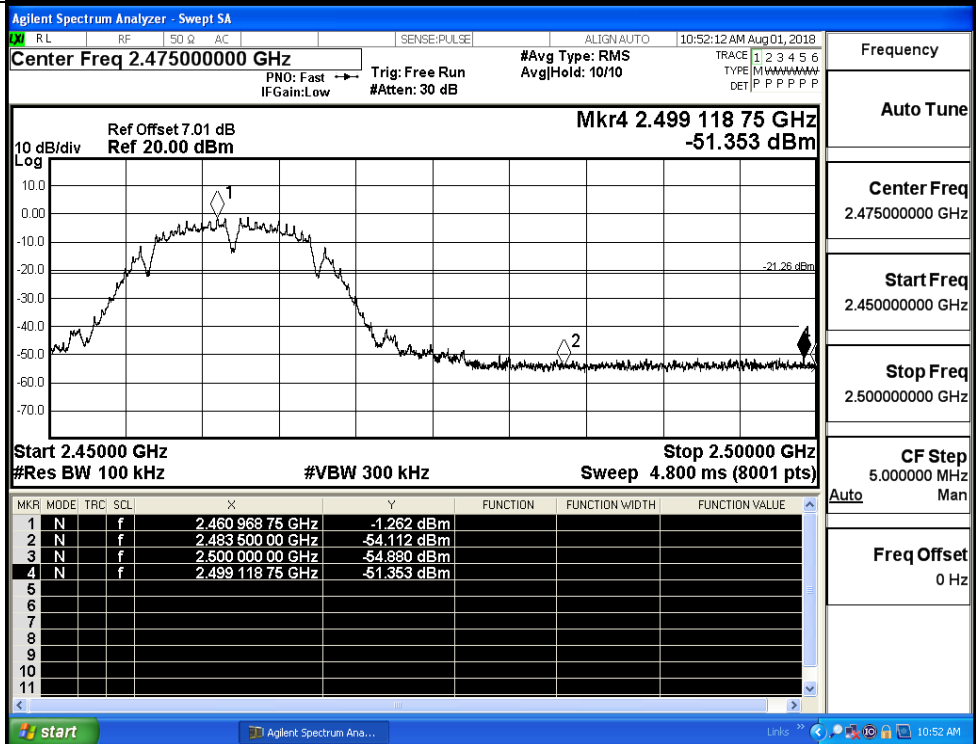
Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
11B	LCH	-2.230	-50.929	-22.23	PASS
	HCH	-1.262	-51.353	-21.26	PASS
11G	LCH	-9.006	-51.084	-29.01	PASS
	HCH	-8.984	-50.647	-28.98	PASS
11N20SISO	LCH	-10.600	-51.120	-30.6	PASS
	HCH	-9.175	-50.746	-29.18	PASS
11N40SISO	LCH	-12.091	-47.878	-32.09	PASS
	HCH	-11.742	-49.002	-31.74	PASS

Test Graphs

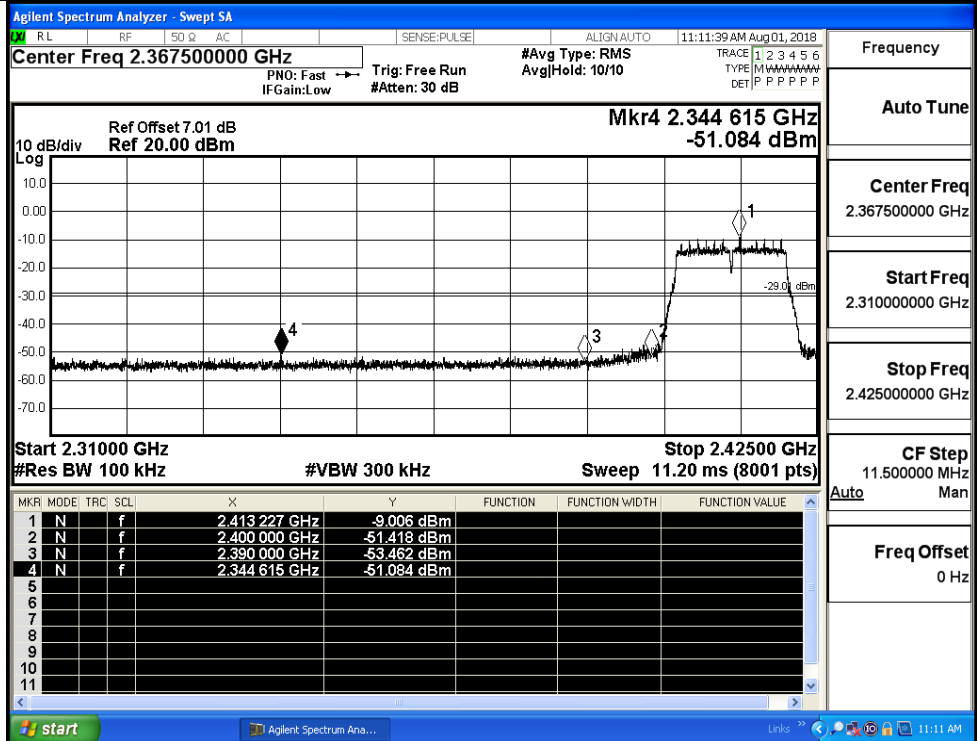
11B/LCH



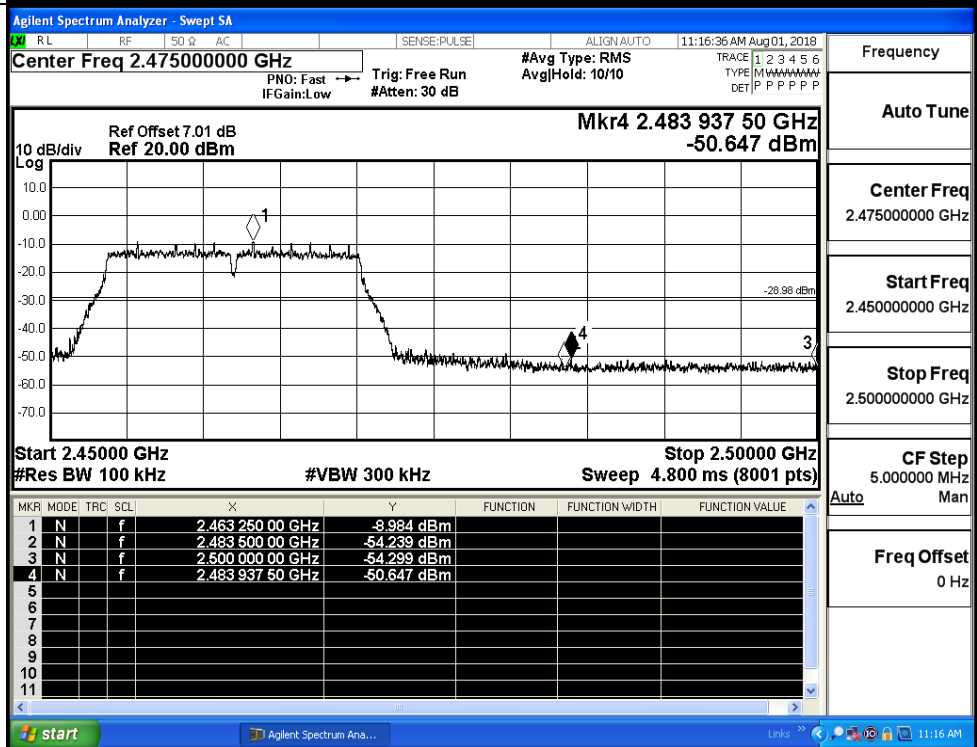
11B/HCH



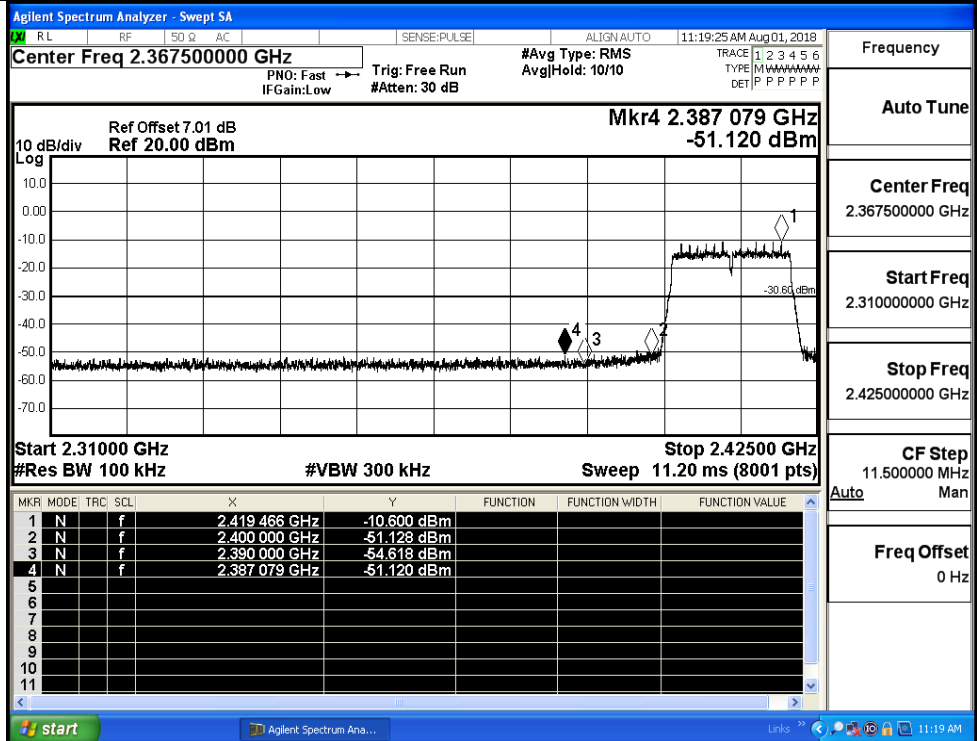
11G/LCH



11G/HCH



11N20SISO/LCH



Frequency

Auto Tune

Center Freq
2.367500000 GHz

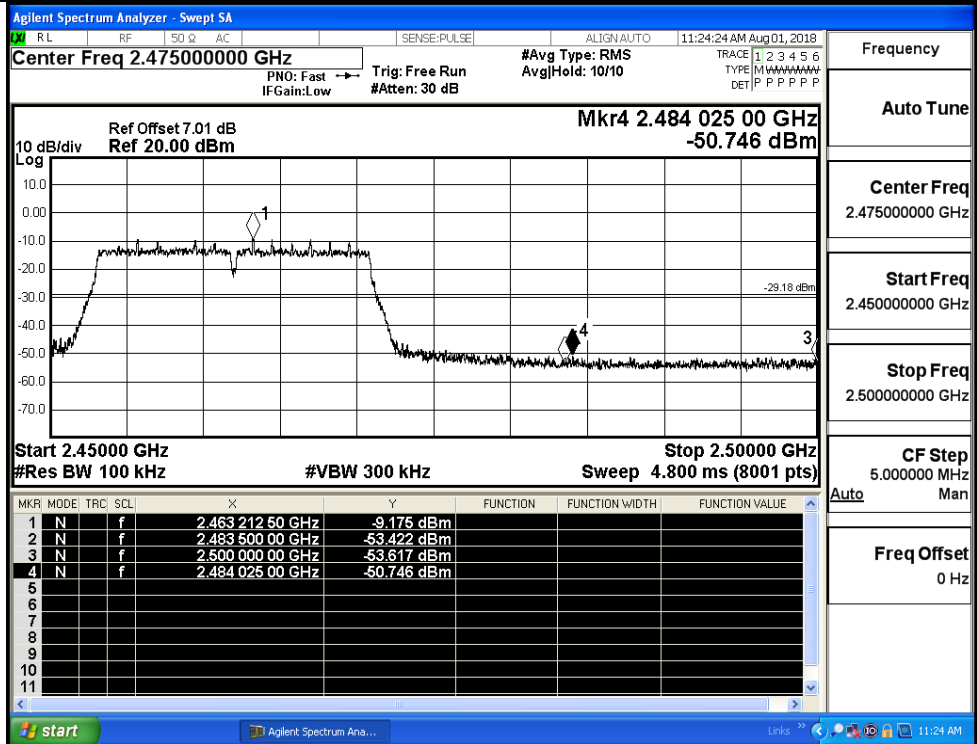
Start Freq
2.310000000 GHz

Stop Freq
2.425000000 GHz

CF Step
11.500000 MHz

Freq Offset
0 Hz

11N20SISO/HCH



Frequency

Auto Tune

Center Freq
2.475000000 GHz

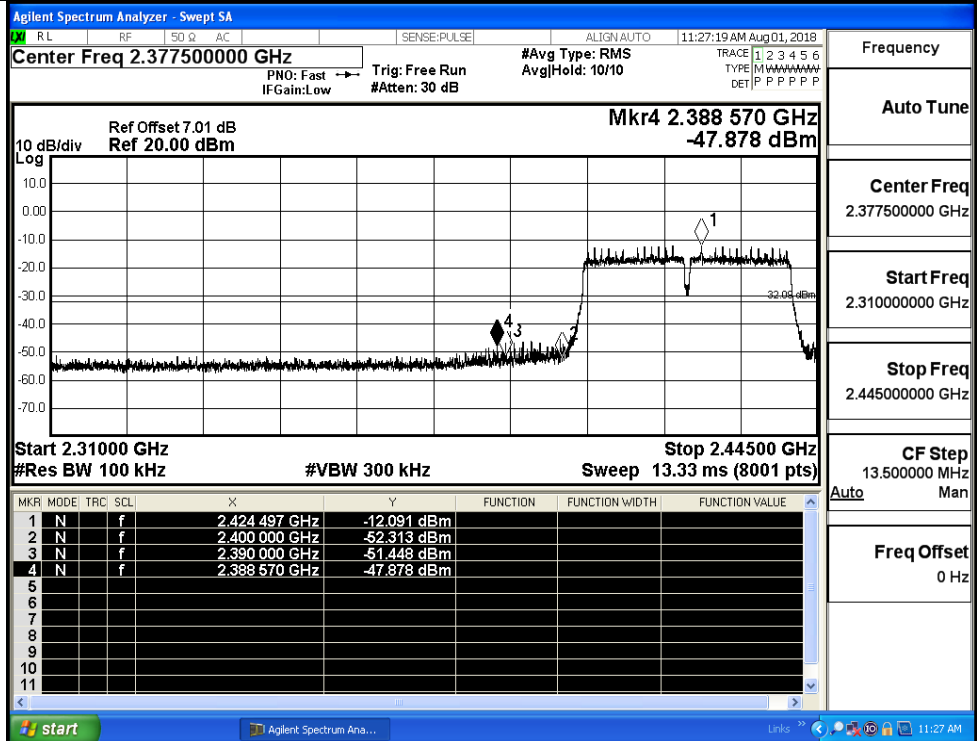
Start Freq
2.450000000 GHz

Stop Freq
2.500000000 GHz

CF Step
5.000000 MHz

Freq Offset
0 Hz

11N40SISO/LCH



Frequency

Auto Tune

Center Freq
2.377500000 GHz

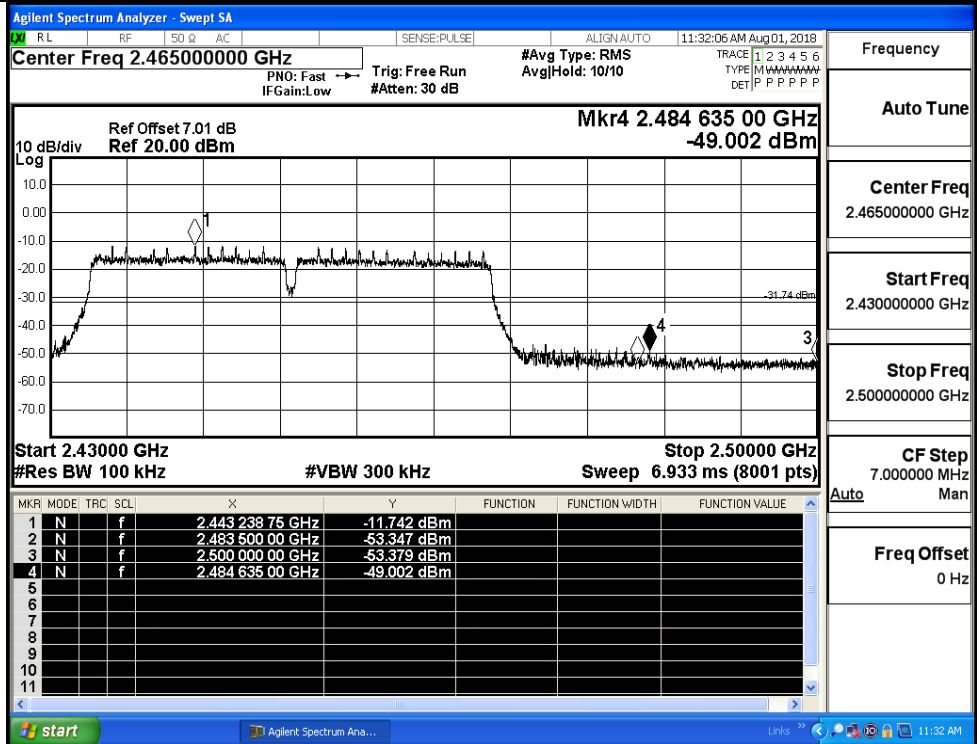
Start Freq
2.310000000 GHz

Stop Freq
2.445000000 GHz

CF Step
13.500000 MHz

Freq Offset
0 Hz

11N40SISO/HCH



Frequency

Auto Tune

Center Freq
2.465000000 GHz

Start Freq
2.430000000 GHz

Stop Freq
2.500000000 GHz

CF Step
7.000000 MHz

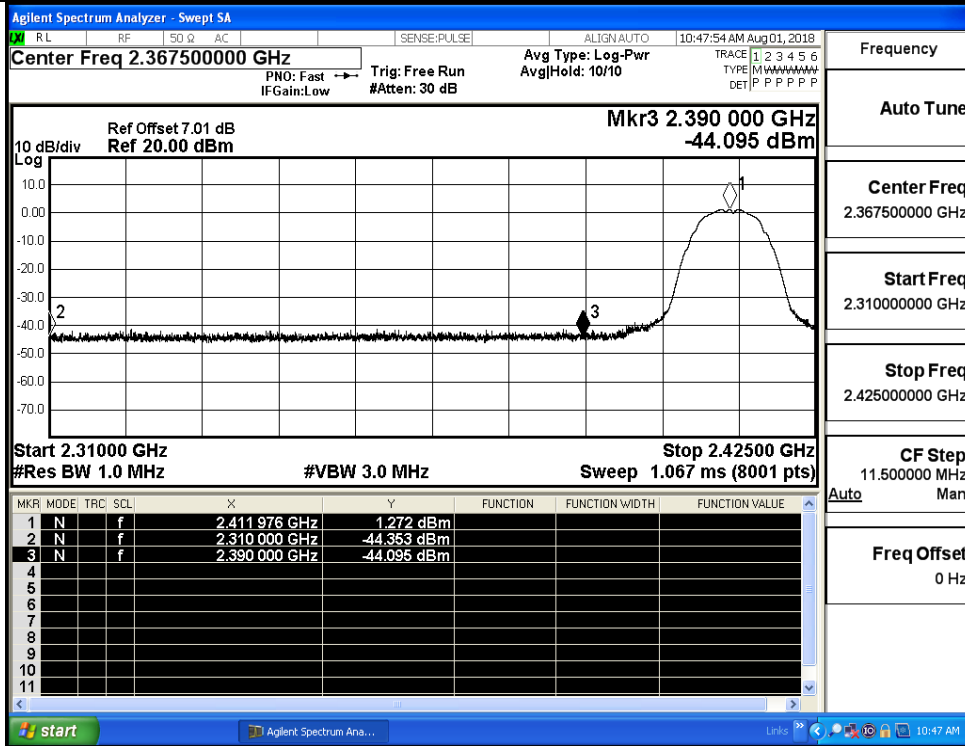
Freq Offset
0 Hz

A.7 Restrict-band band-edge measurements

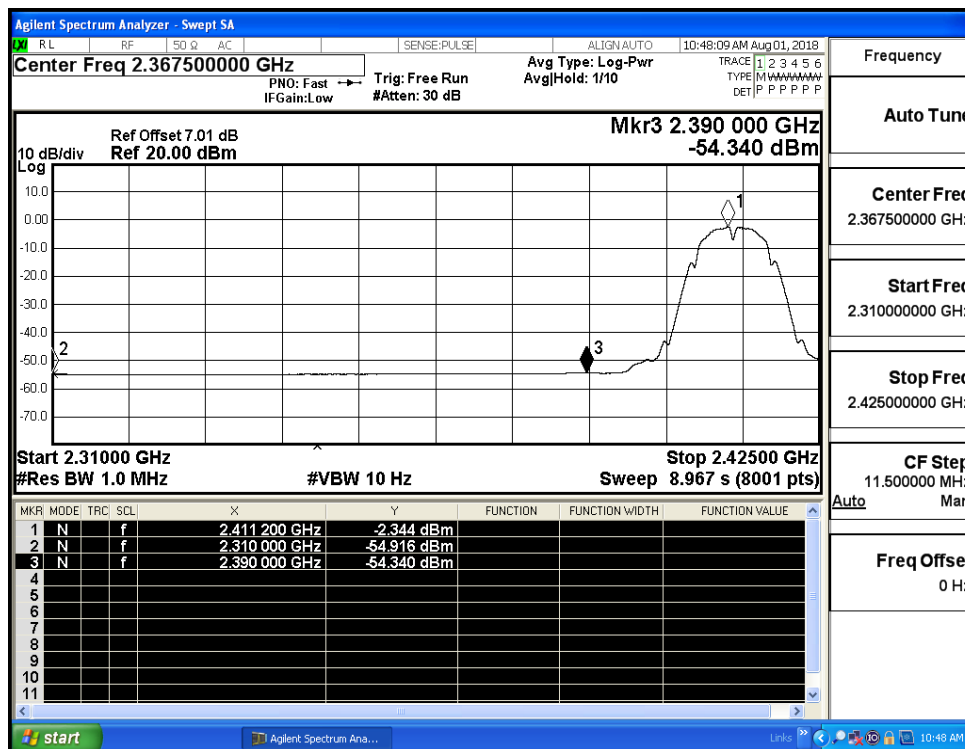
Test Mode	Test Channel	Ant	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBu V/m]	Verdict
11B	2412	Ant1	2310.0	-44.35	3.0	0	56.92	PEAK	74	PASS
	2412	Ant1	2310.0	-54.92	3.0	0	46.35	AV	54	PASS
	2412	Ant1	2390.0	-44.10	3.0	0	57.17	PEAK	74	PASS
	2412	Ant1	2390.0	-54.34	3.0	0	46.93	AV	54	PASS
	2462	Ant1	2483.5	-43.88	3.0	0	57.39	PEAK	74	PASS
	2462	Ant1	2483.5	-54.36	3.0	0	46.91	AV	54	PASS
	2462	Ant1	2500.0	-43.69	3.0	0	57.58	PEAK	74	PASS
	2462	Ant1	2500.0	-54.23	3.0	0	47.04	AV	54	PASS
11G	2412	Ant1	2310.0	-43.21	3.0	0	58.06	PEAK	74	PASS
	2412	Ant1	2310.0	-54.92	3.0	0	46.35	AV	54	PASS
	2412	Ant1	2390.0	-44.40	3.0	0	56.87	PEAK	74	PASS
	2412	Ant1	2390.0	-54.21	3.0	0	47.06	AV	54	PASS
	2462	Ant1	2483.5	-43.88	3.0	0	57.39	PEAK	74	PASS
	2462	Ant1	2483.5	-54.08	3.0	0	47.19	AV	54	PASS
	2462	Ant1	2500.0	-43.36	3.0	0	57.91	PEAK	74	PASS
	2462	Ant1	2500.0	-54.19	3.0	0	47.08	AV	54	PASS
11N20 SISO	2412	Ant1	2310.0	-44.31	3.0	0	53.95	PEAK	74	PASS
	2412	Ant1	2310.0	-54.95	3.0	0	43.31	AV	54	PASS
	2412	Ant1	2390.0	-44.02	3.0	0	54.24	PEAK	74	PASS
	2412	Ant1	2390.0	-54.21	3.0	0	44.05	AV	54	PASS
	2462	Ant1	2483.5	-43.15	3.0	0	55.11	PEAK	74	PASS
	2462	Ant1	2483.5	-53.89	3.0	0	44.37	AV	54	PASS
	2462	Ant1	2500.0	-43.53	3.0	0	54.73	PEAK	74	PASS
	2462	Ant1	2500.0	-54.16	3.0	0	44.10	AV	54	PASS
11N40 SISO	2422	Ant1	2310.0	-44.13	3.0	0	54.13	PEAK	74	PASS
	2422	Ant1	2310.0	-54.94	3.0	0	43.32	AV	54	PASS

	2422	Ant1	2390.0	-35.23	3.0	0	63.03	PEAK	74	PASS
	2422	Ant1	2390.0	-53.40	3.0	0	44.86	AV	54	PASS
	2452	Ant1	2483.5	-37.57	3.0	0	60.69	PEAK	74	PASS
	2452	Ant1	2483.5	-53.74	3.0	0	44.52	AV	54	PASS
	2452	Ant1	2500.0	-42.02	3.0	0	56.24	PEAK	74	PASS
	2452	Ant1	2500.0	-54.19	3.0	0	44.07	AV	54	PASS

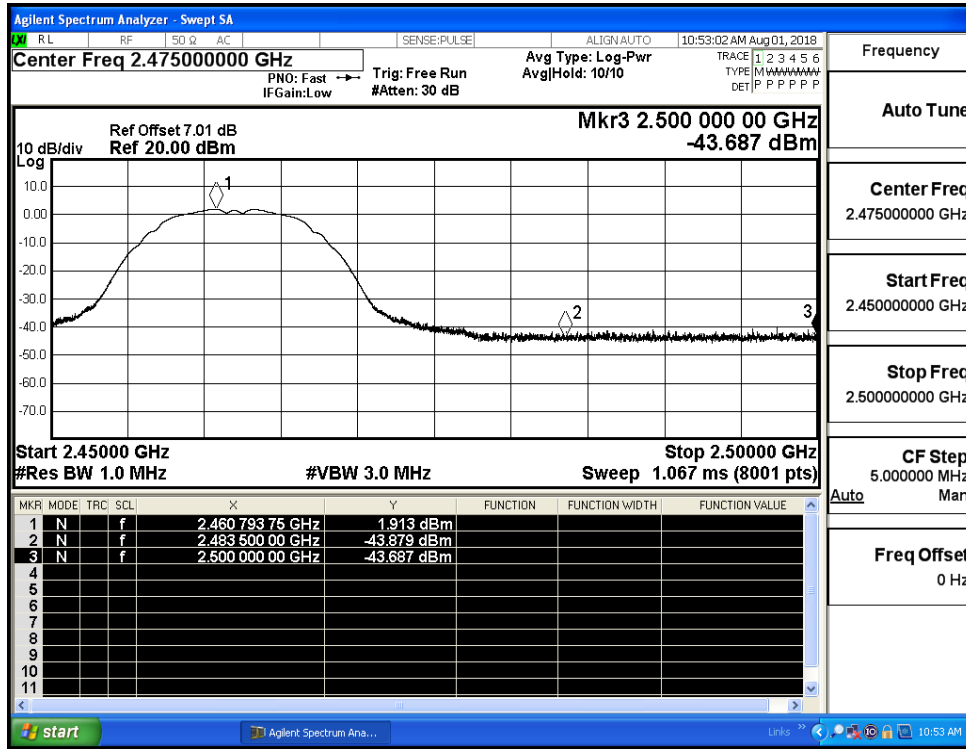
Restrict-band band-edge measurements_11B_2412_Ant1_PEAK



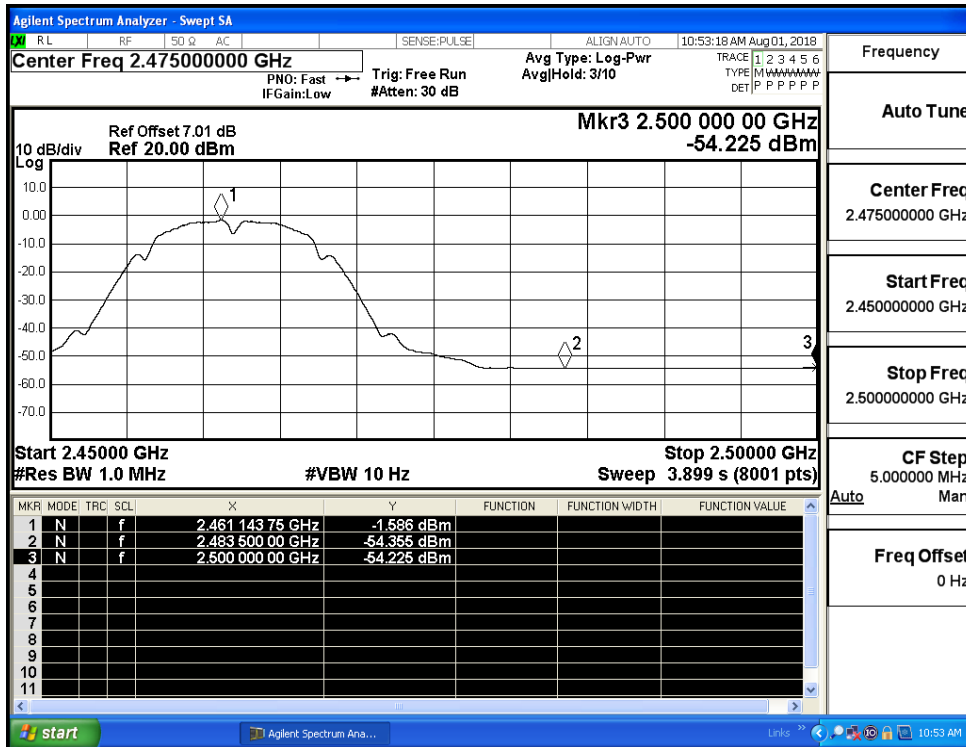
Restrict-band band-edge measurements_11B_2412_Ant1_AV



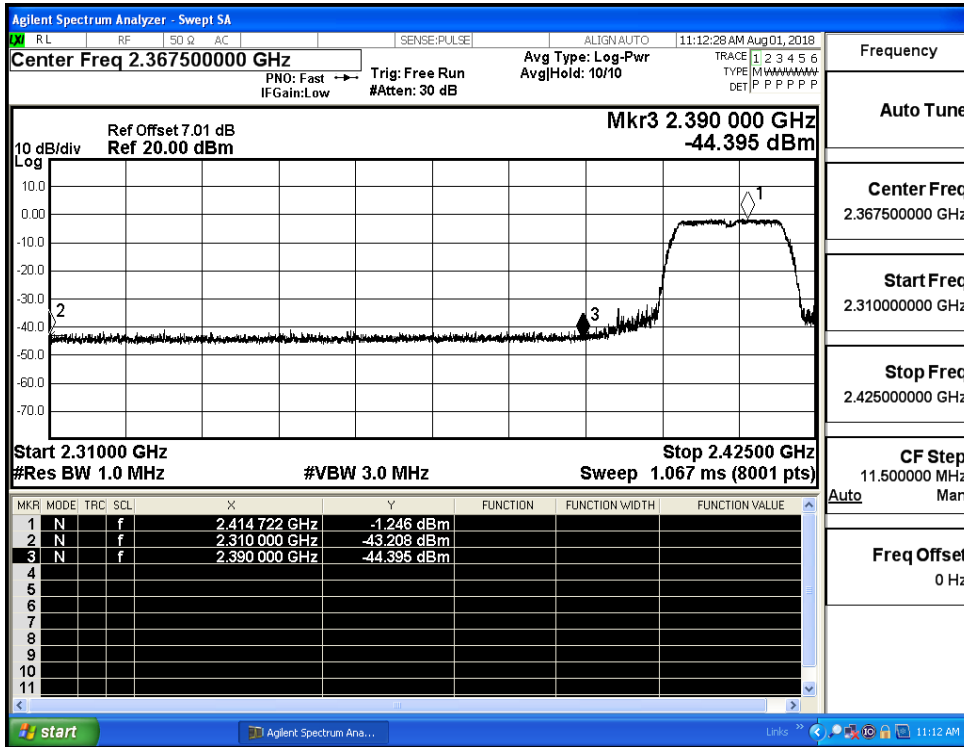
Restrict-band band-edge measurements_11B_2462_Ant1_PEAK



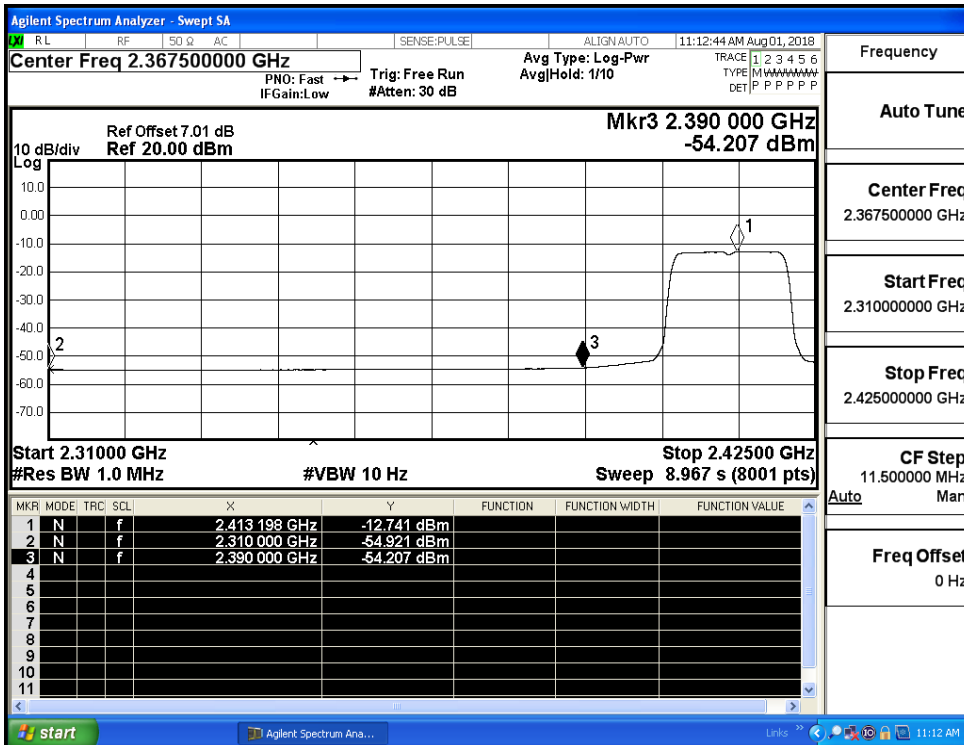
Restrict-band band-edge measurements_11B_2462_Ant1_AV



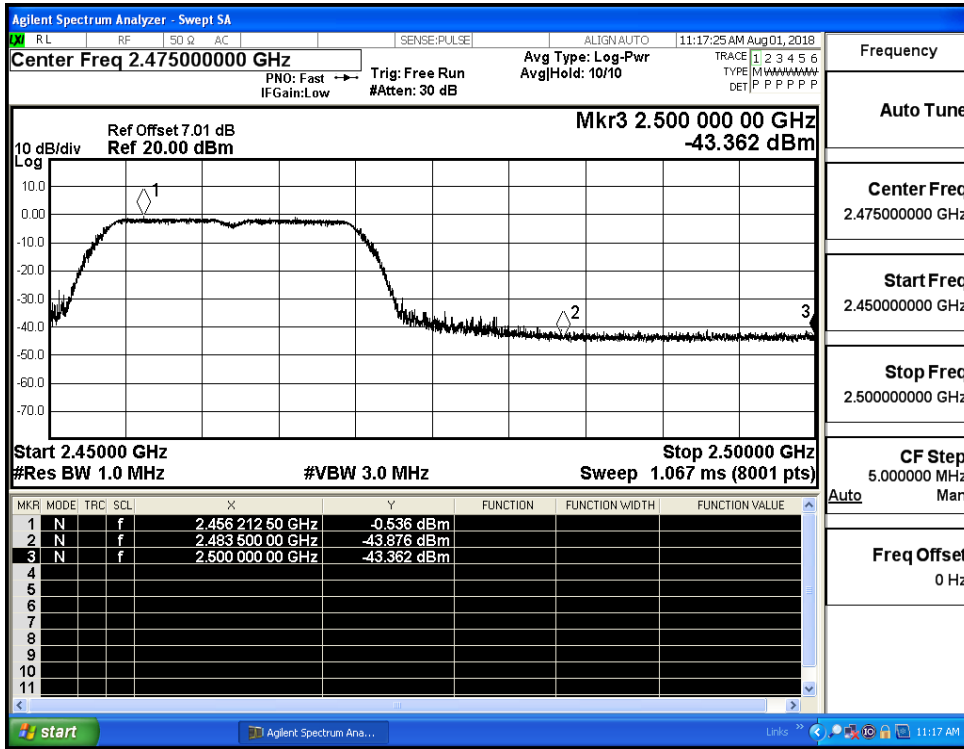
Restrict-band band-edge measurements_11G_2412_Ant1_PEAK



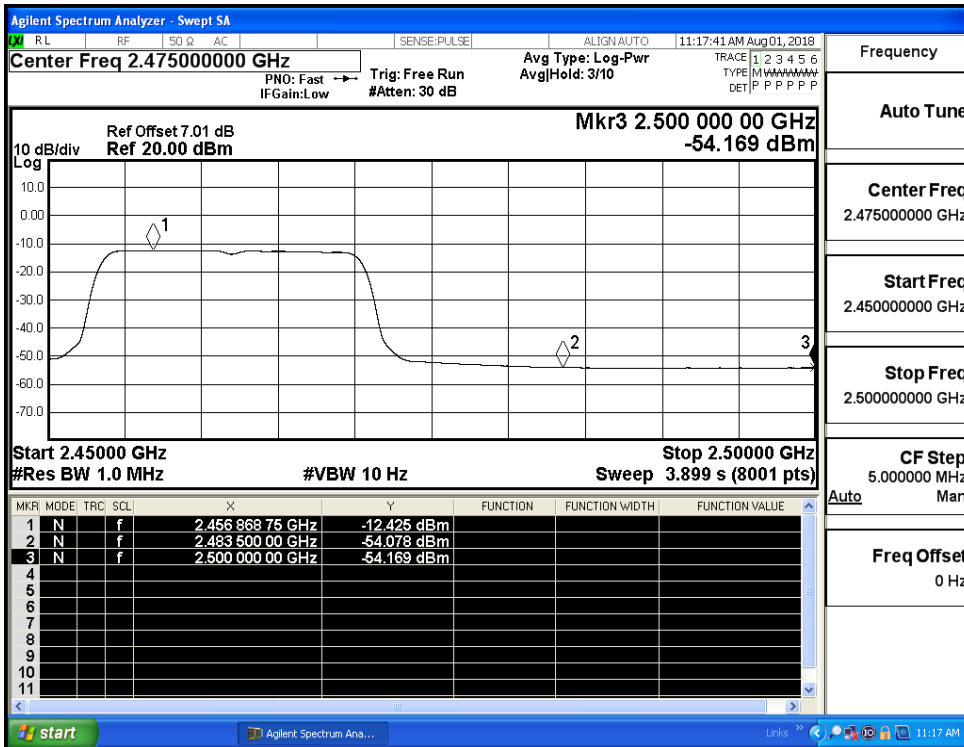
Restrict-band band-edge measurements_11G_2412_Ant1_AV



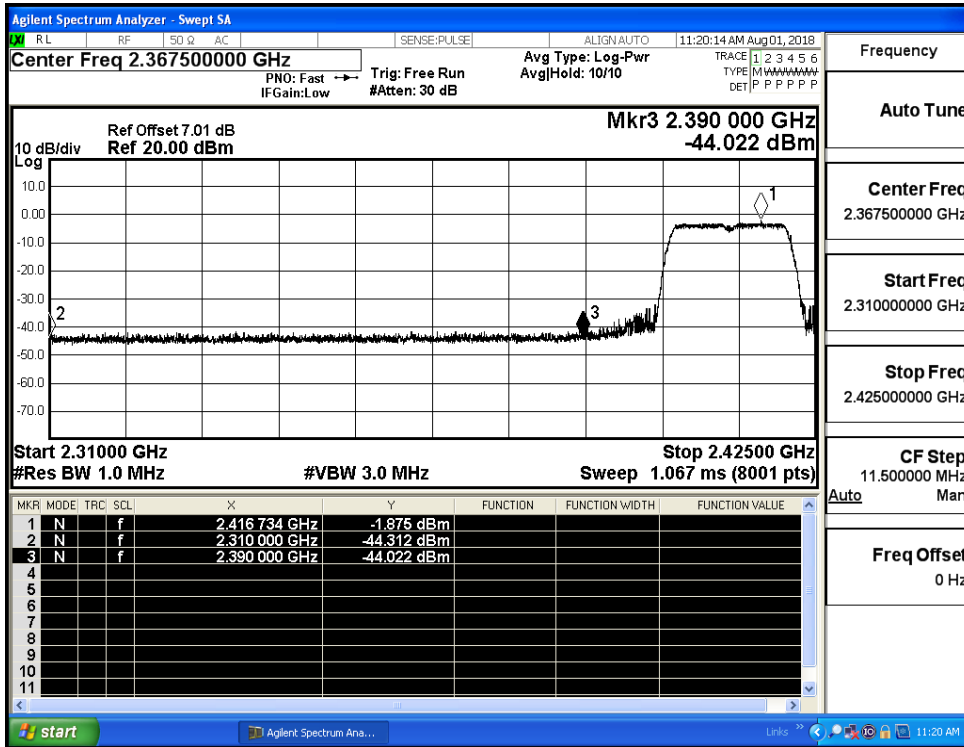
Restrict-band band-edge measurements_11G_2462_Ant1_PEAK



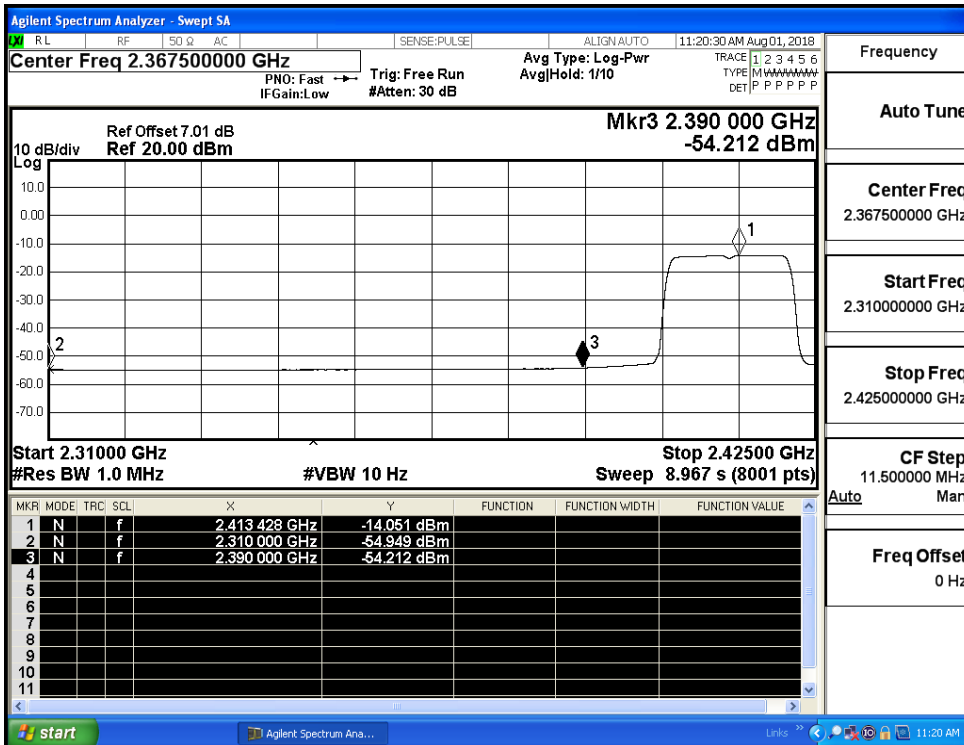
Restrict-band band-edge measurements_11G_2462_Ant1_AV



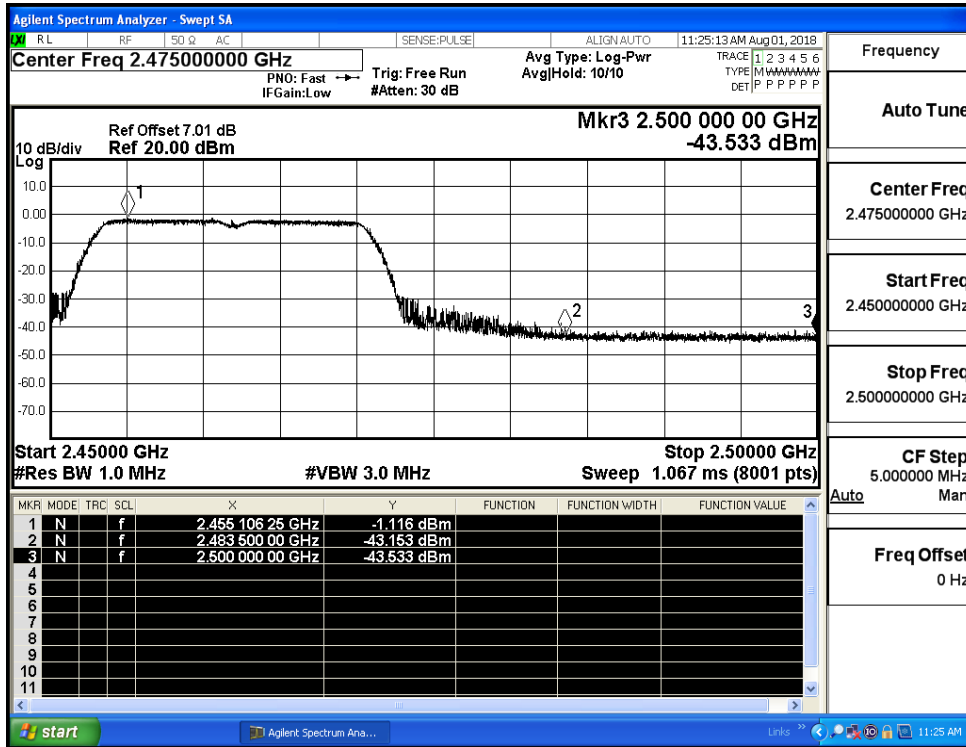
Restrict-band band-edge measurements_11N20SISO_2412_Ant1_PEAK



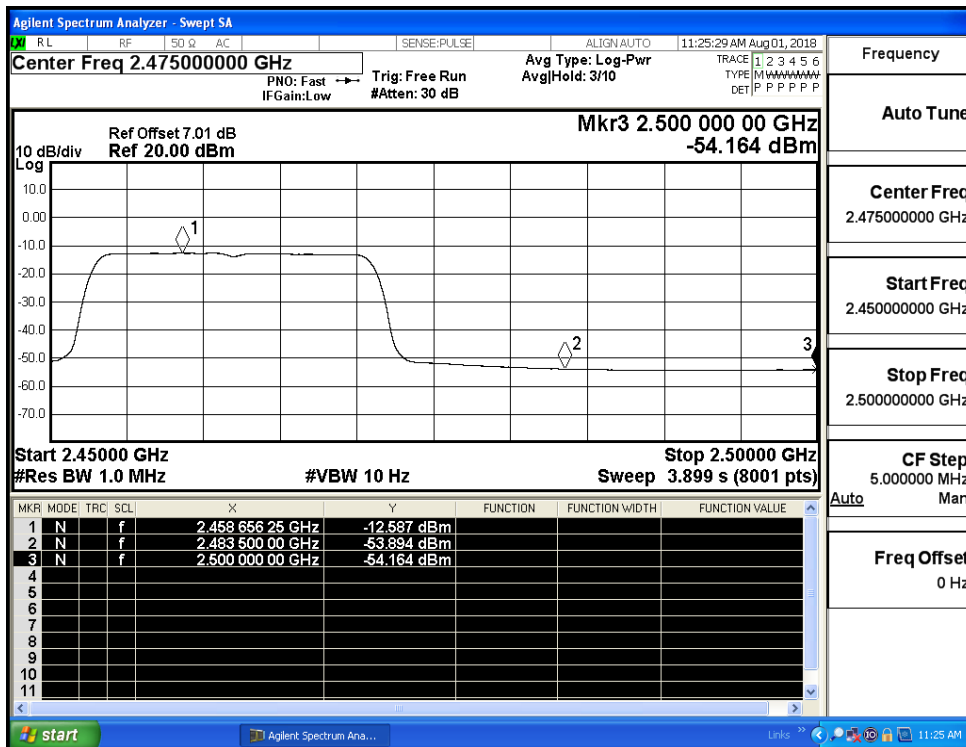
Restrict-band band-edge measurements_11N20SISO_2412_Ant1_AV



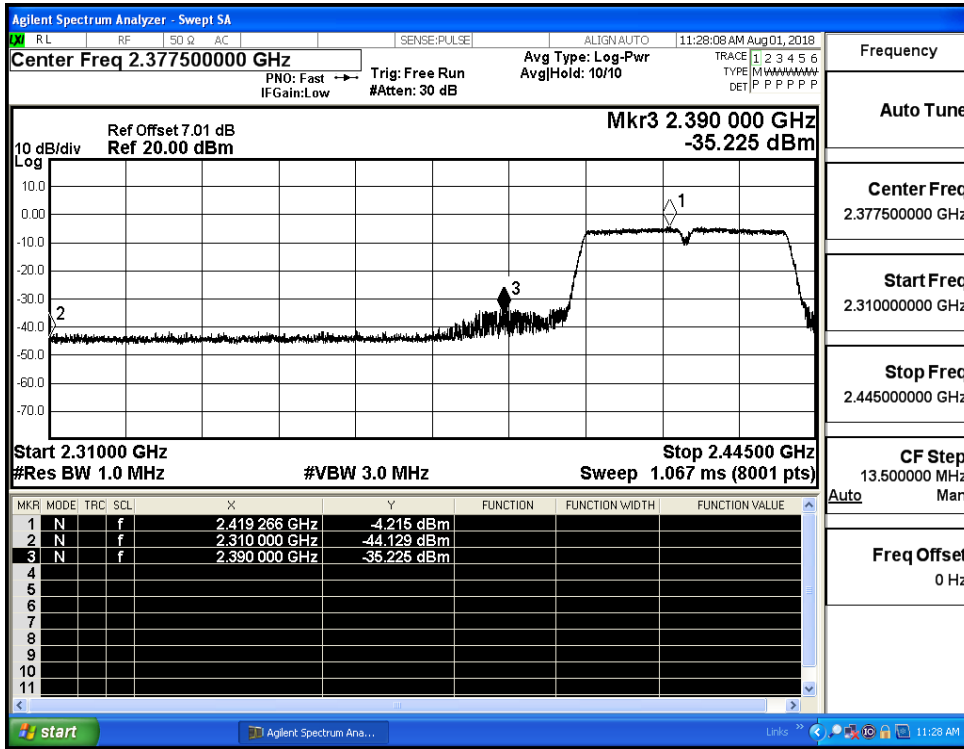
Restrict-band band-edge measurements_11N20SISO_2462_Ant1_PEAK



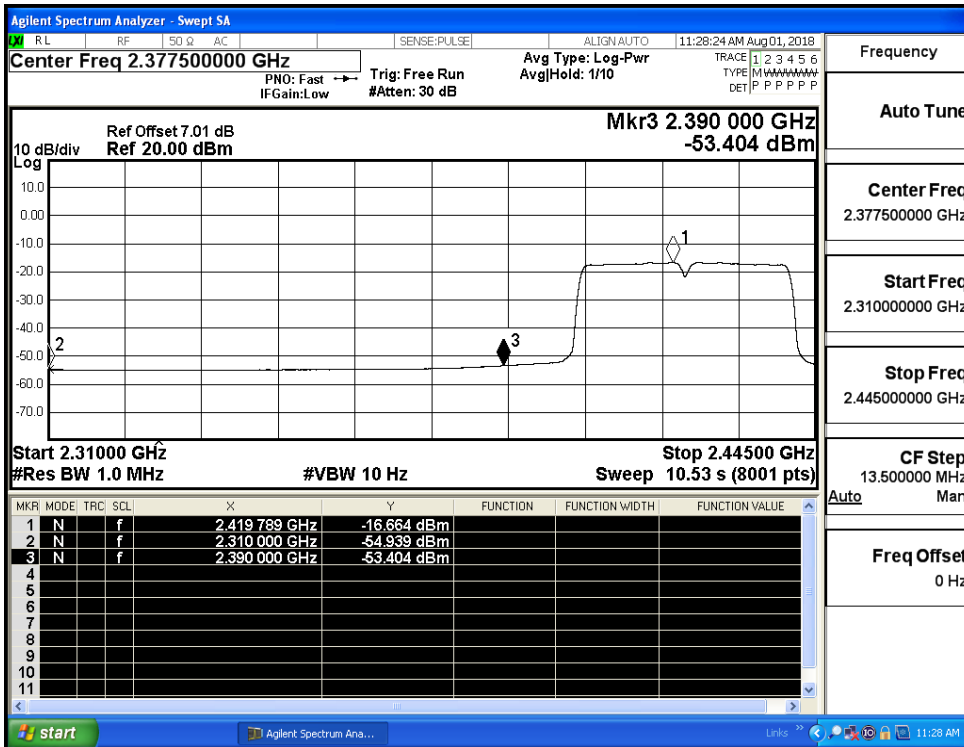
Restrict-band band-edge measurements_11N20SISO_2462_Ant1_AV



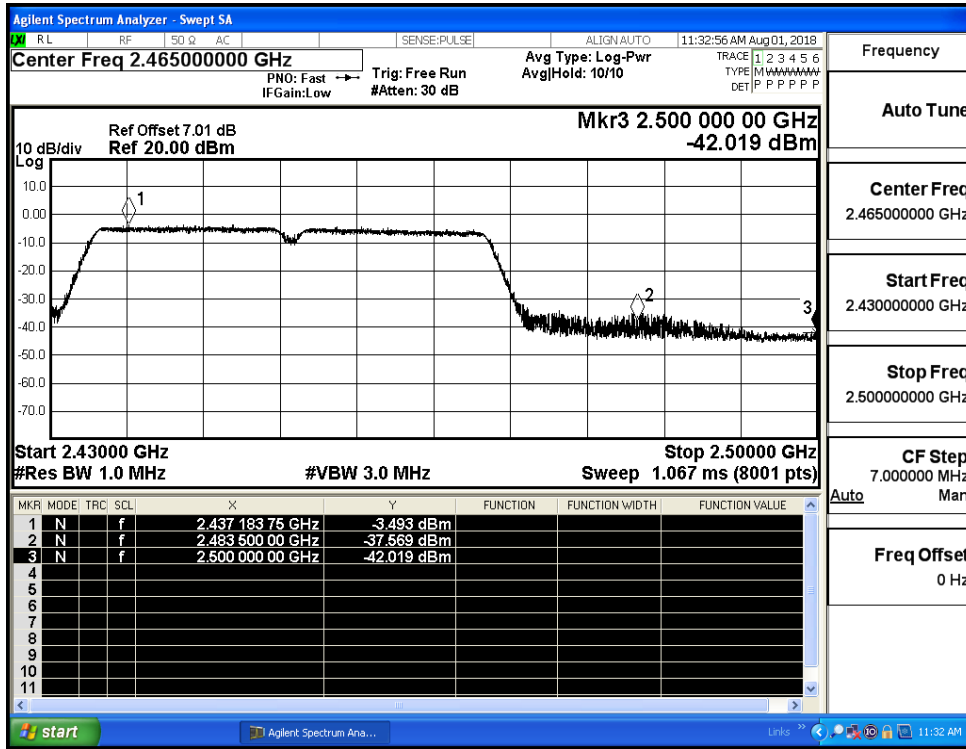
Restrict-band band-edge measurements_11N40SISO_2422_Ant1_PEAK



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

