

Appendix A

RF Test Data for 2.4G WIFI (Conducted Measurement)

Product Name: Mini Wi-Fi RGB Controller+IR 24Keys Remote Controller

Trade Mark: N/A

Test Model: ZJ-MWIR-RGB

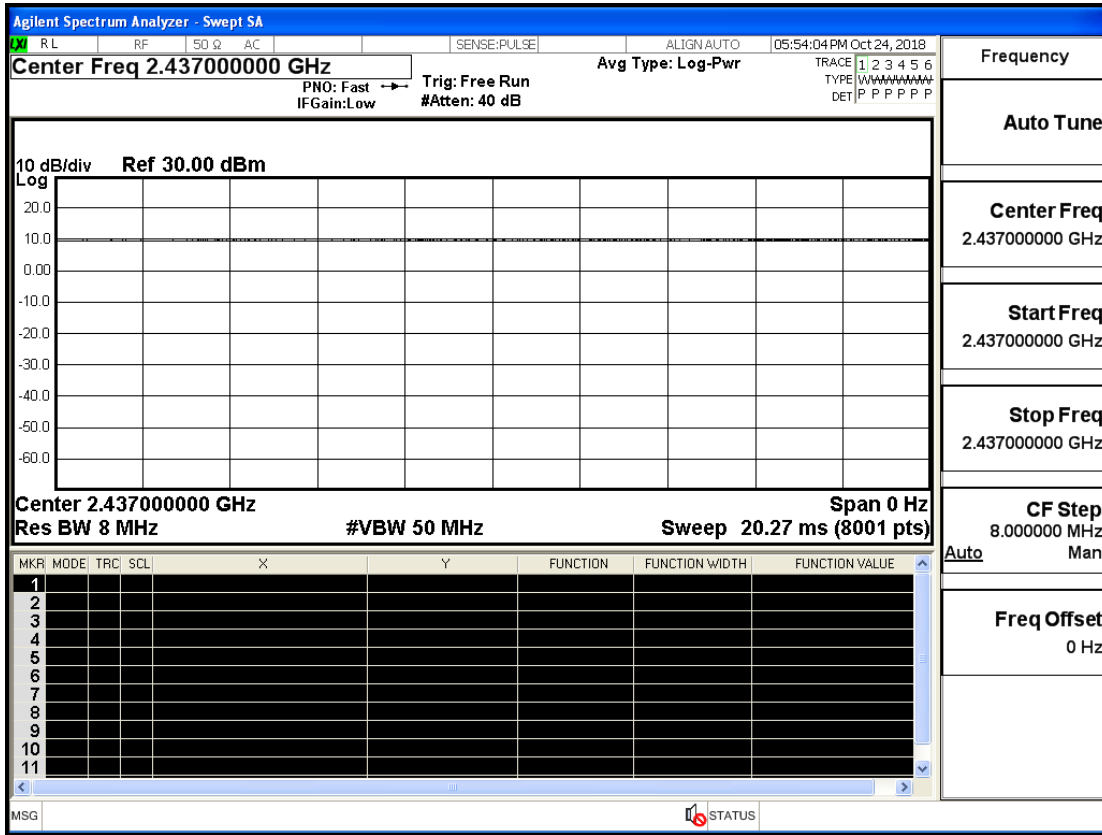
Environmental Conditions

Temperature:	24.3 ° C
Relative Humidity:	52.7%
ATM Pressure:	100.0 kPa
Test Engineer:	Mina.Xu
Supervised by:	Jayden.Zhuo

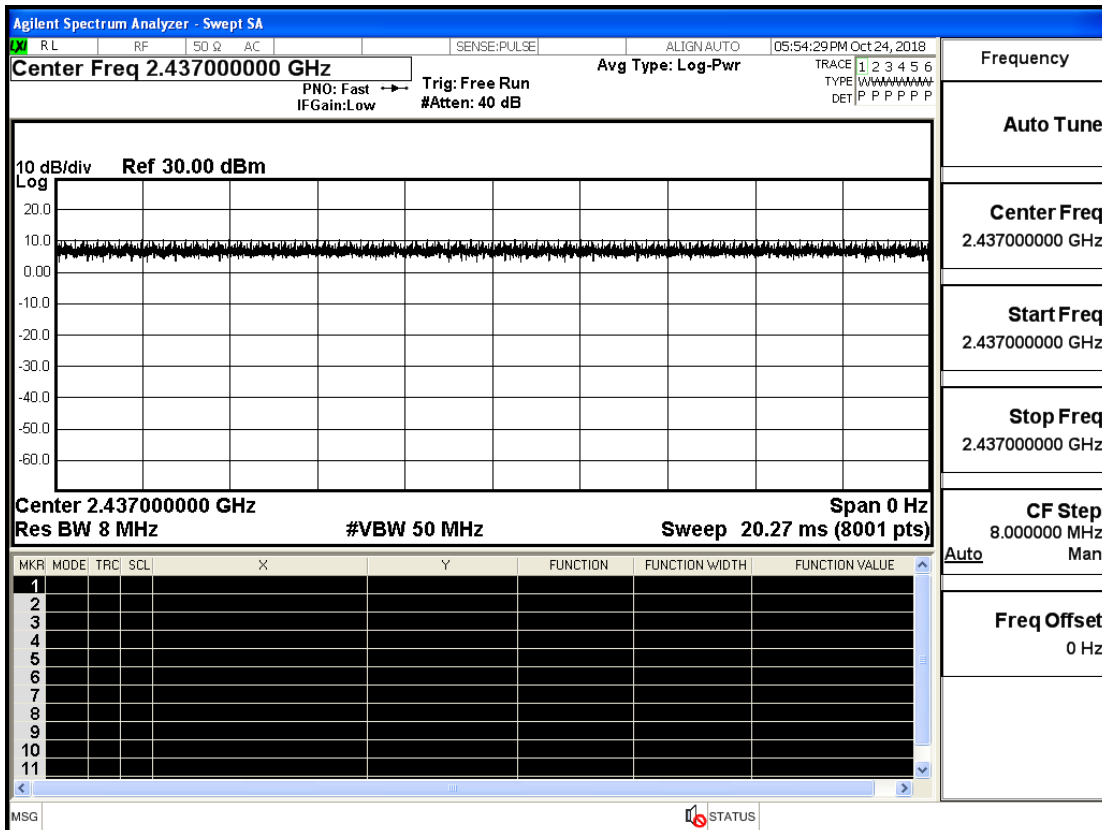
A.1 Duty Cycle

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

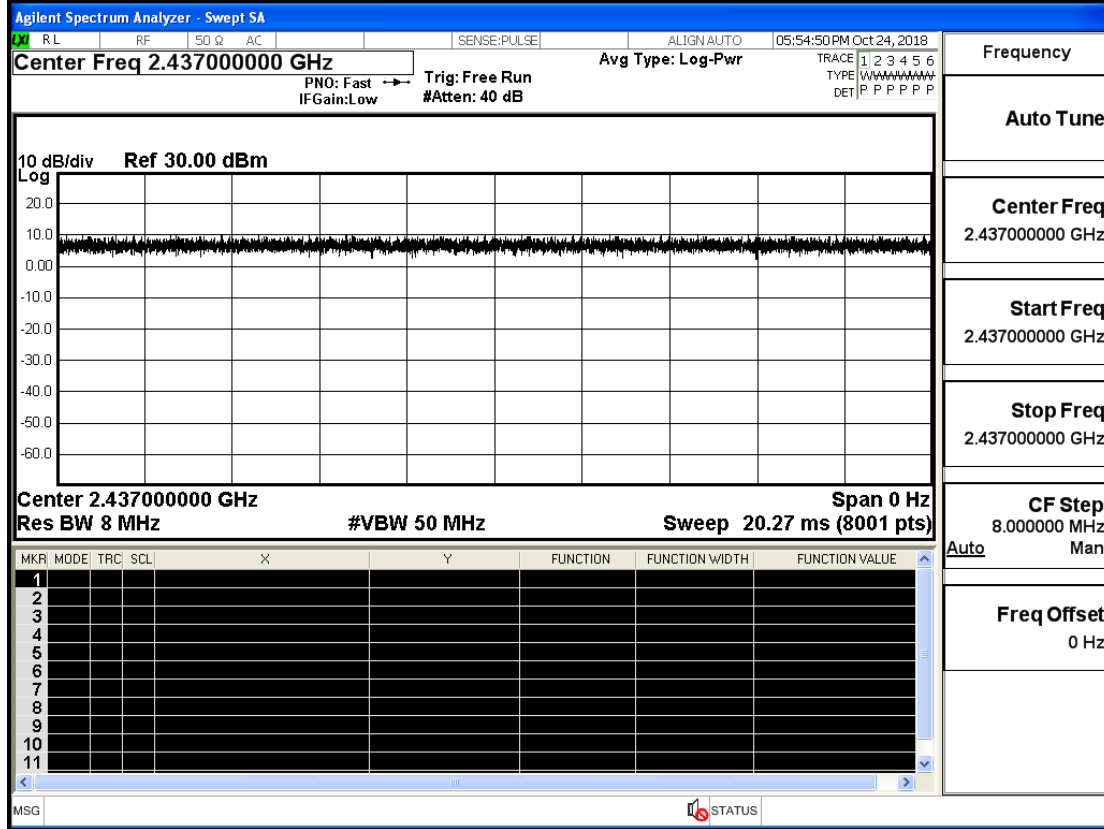
Duty Cycle_11B_2437_Ant1



Duty Cycle_11G_2437_Ant1



Duty Cycle_11N20SISO_2437_Ant1

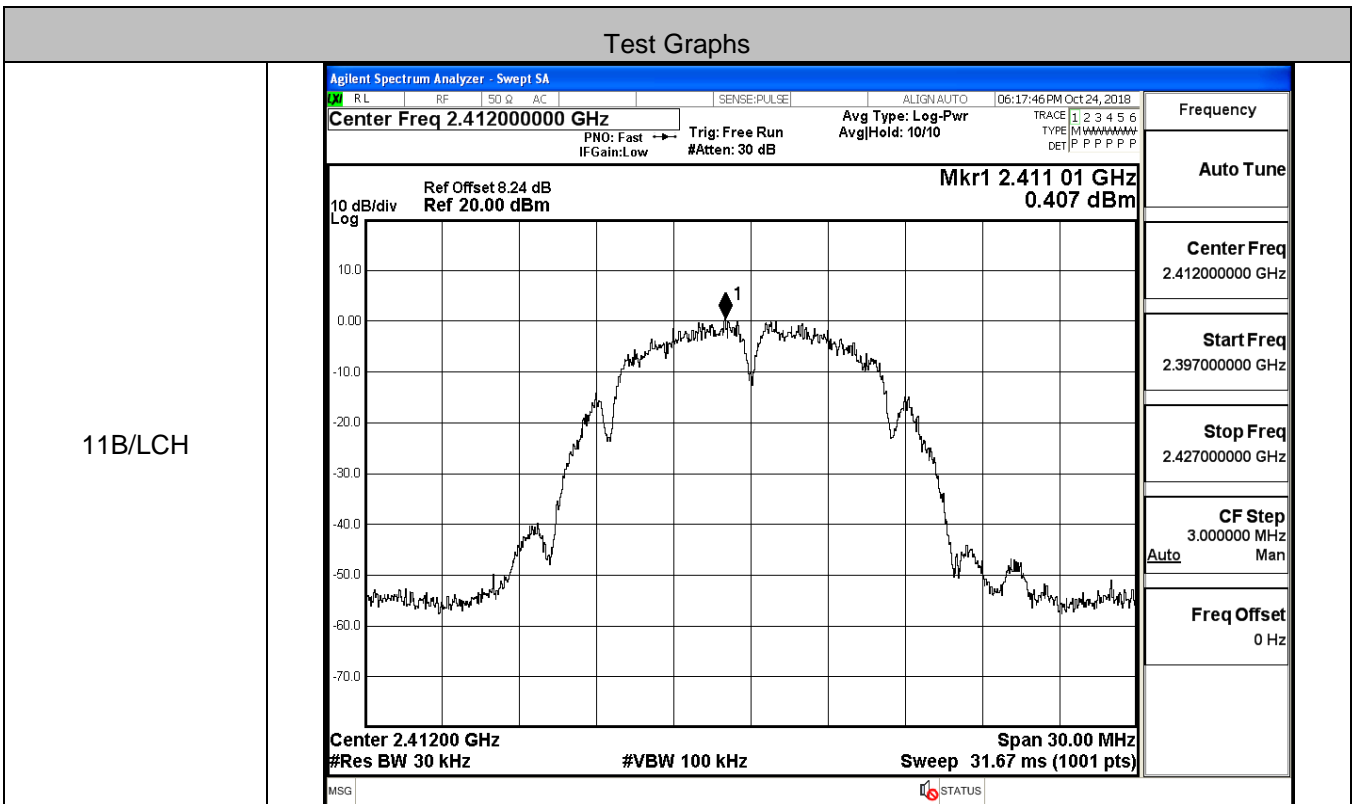


A.2 Maximum Conducted Output Power

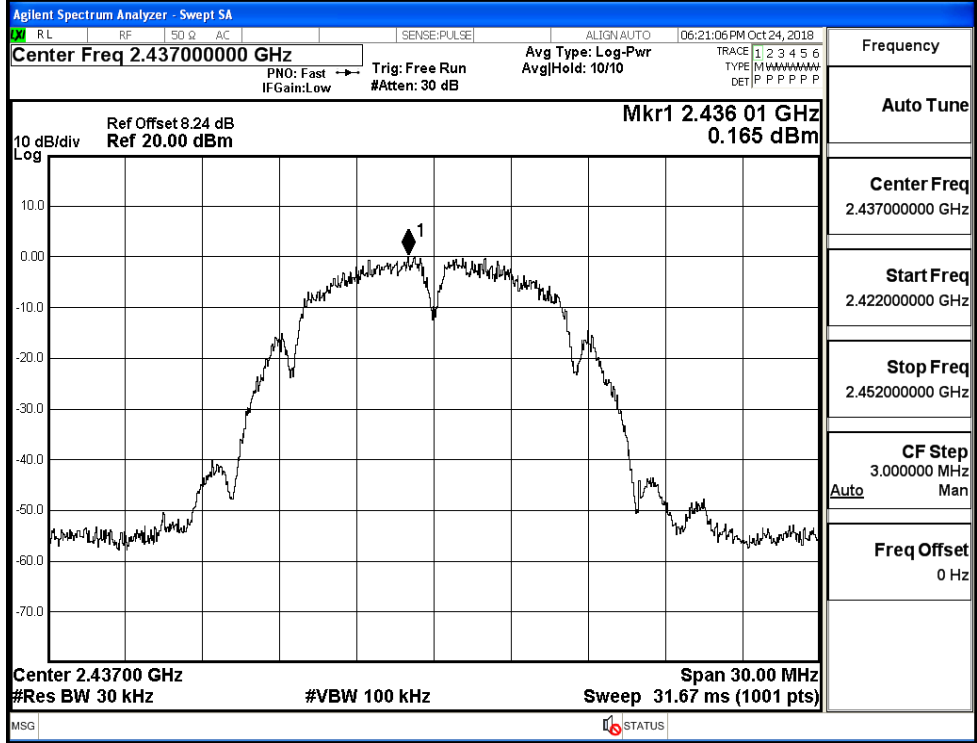
Mode	Channel	Meas.Level [dBm]	Limit [dBm]	Verdict
11B	LCH	15.73	30	PASS
	MCH	15.78	30	PASS
	HCH	16.17	30	PASS
11G	LCH	15.82	30	PASS
	MCH	15.71	30	PASS
	HCH	16.37	30	PASS
11N20SISO	LCH	15.18	30	PASS
	MCH	15.26	30	PASS
	HCH	15.59	30	PASS

A.3 Maximum Power Spectral Density

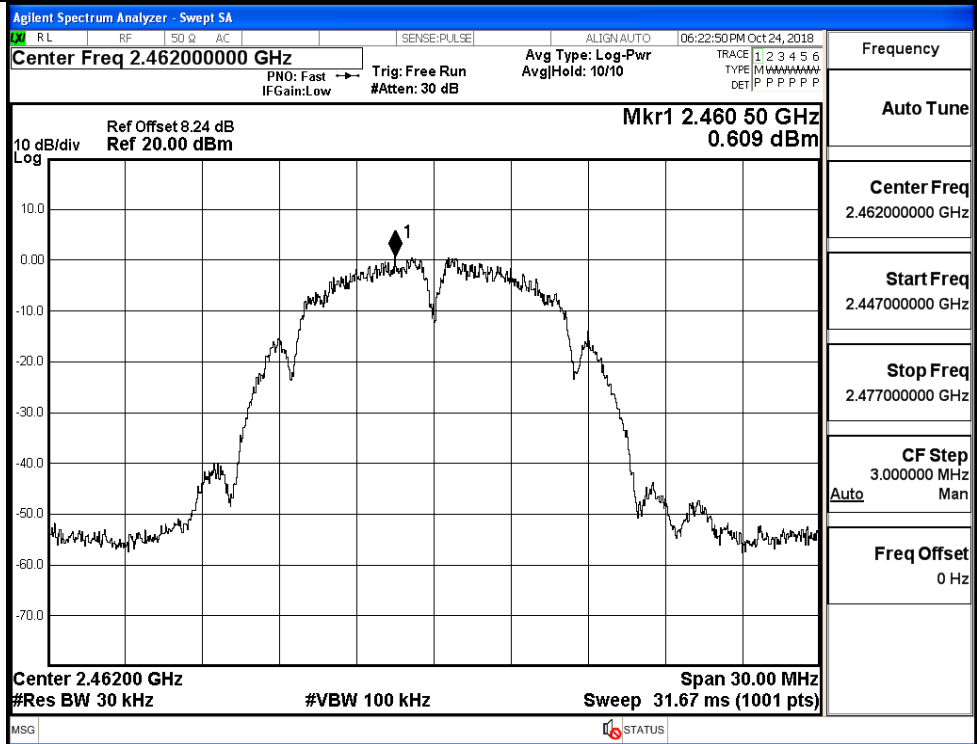
Mode	Channel	Meas.Level [dBm/30KHz]	Limit [dBm/3KHz]	Verdict
11B	LCH	0.407	8	PASS
	MCH	0.165	8	PASS
	HCH	0.609	8	PASS
11G	LCH	-3.773	8	PASS
	MCH	-7.286	8	PASS
	HCH	-7.248	8	PASS
11N20SISO	LCH	-11.655	8	PASS
	MCH	-11.443	8	PASS
	HCH	-11.197	8	PASS



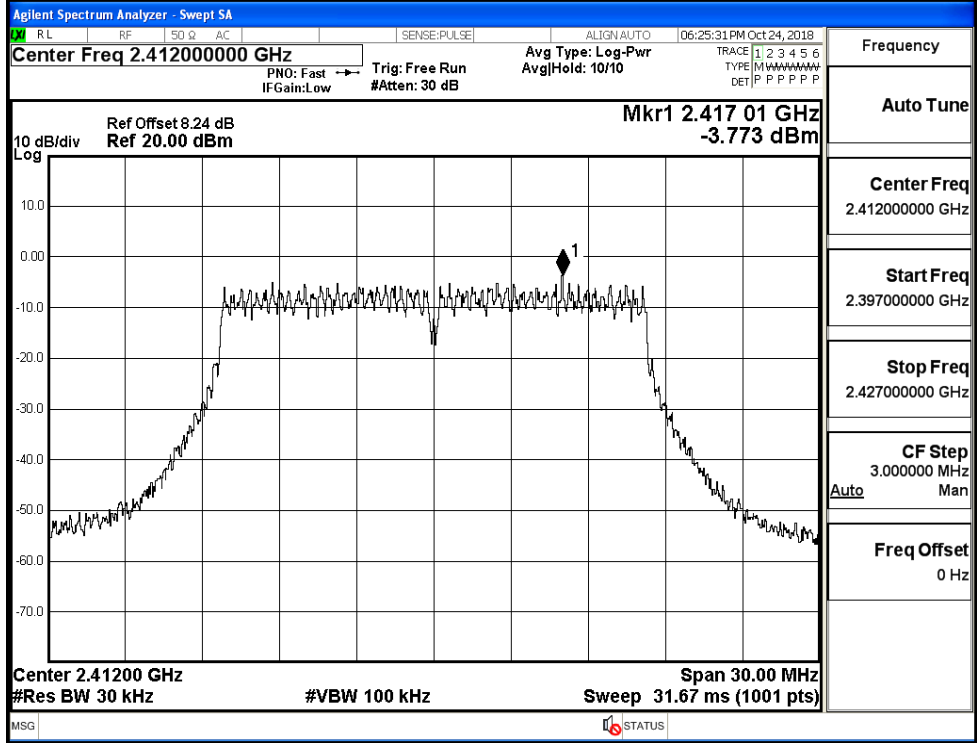
11B/MCH



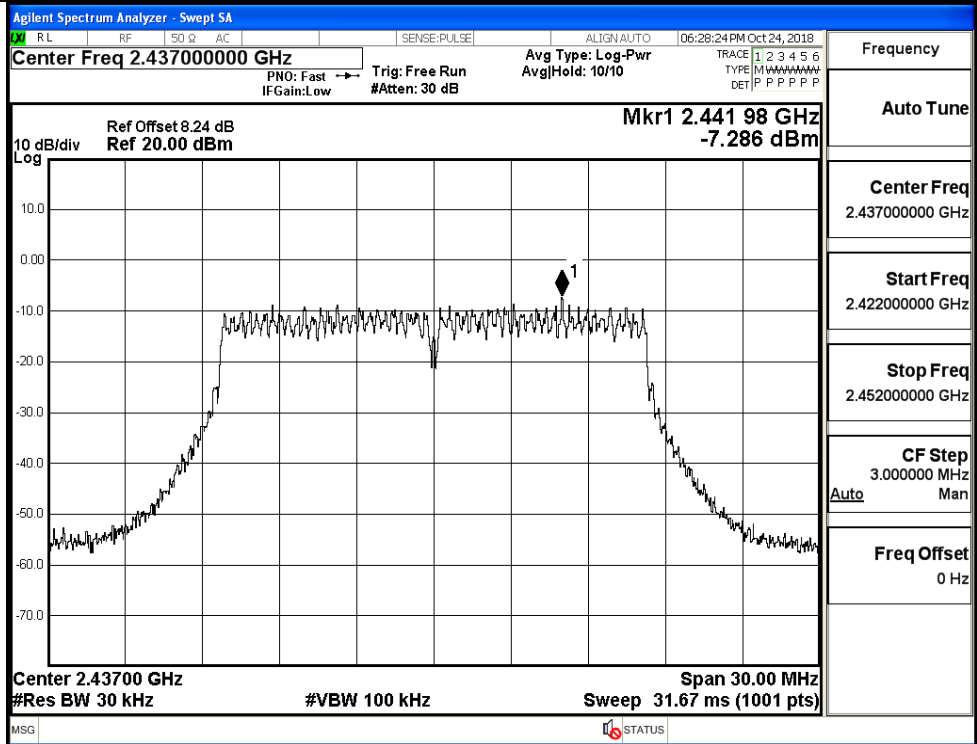
11B/HCH



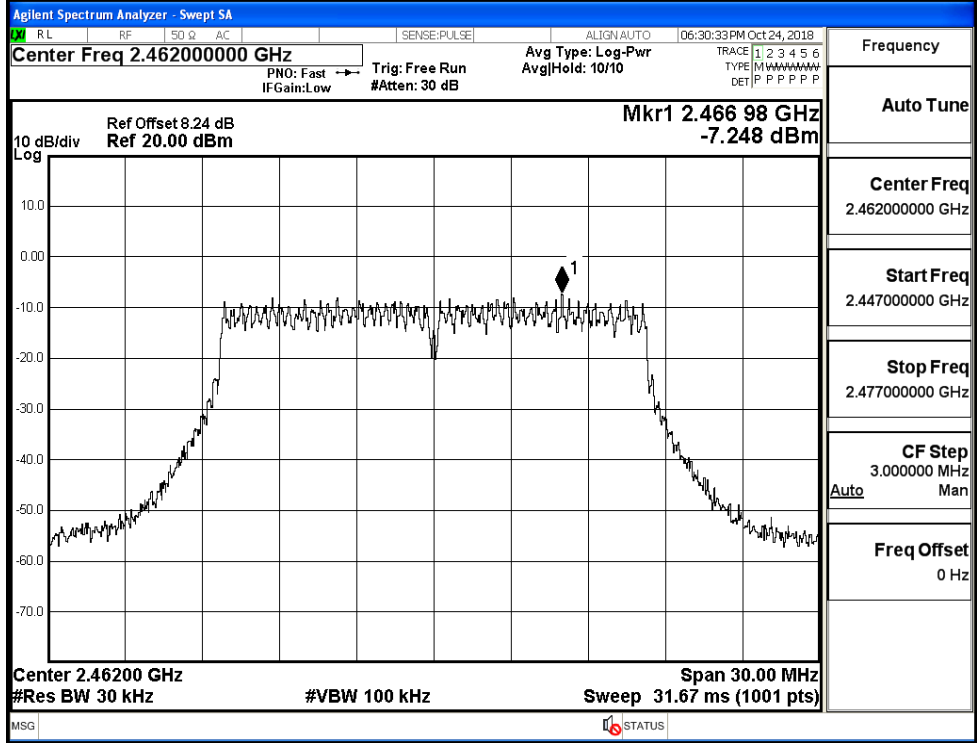
11G/LCH



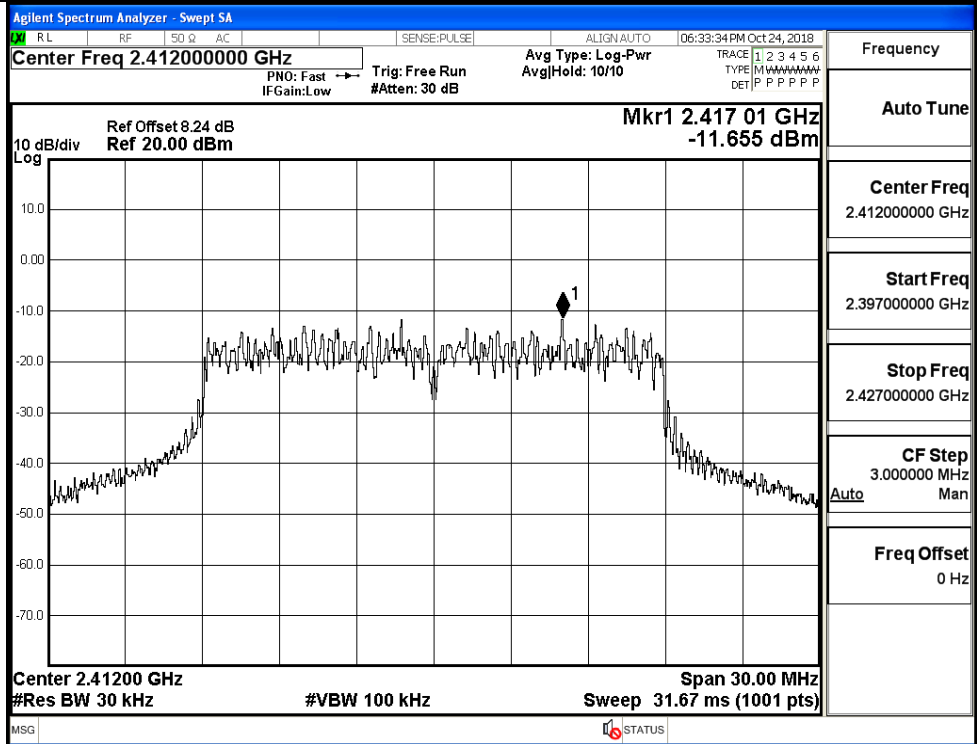
11G/MCH



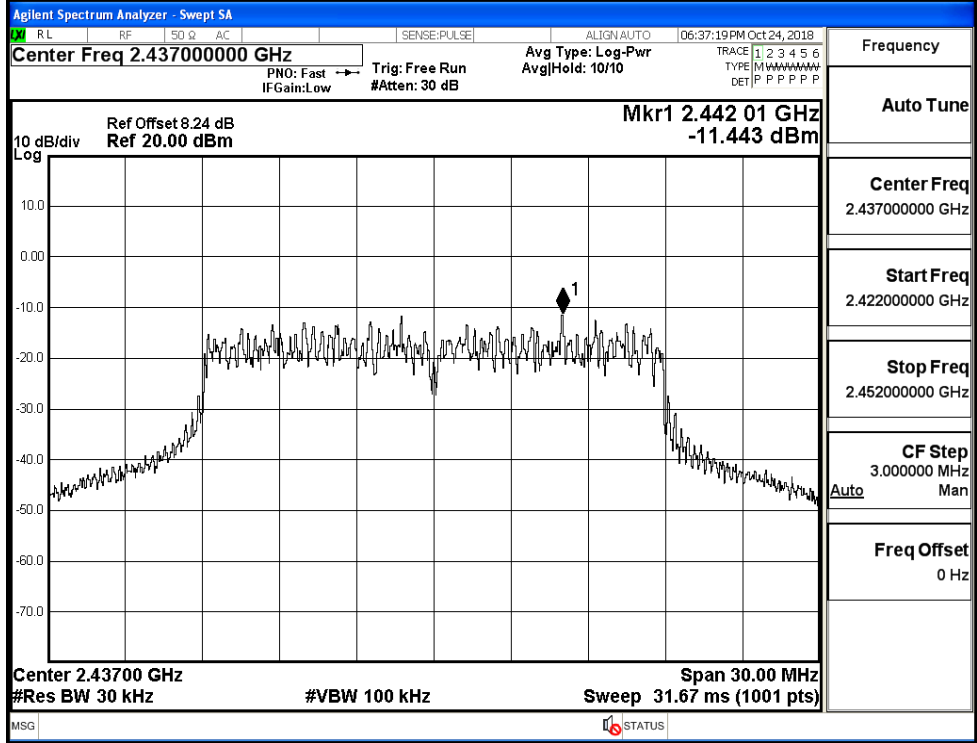
11G/HCH



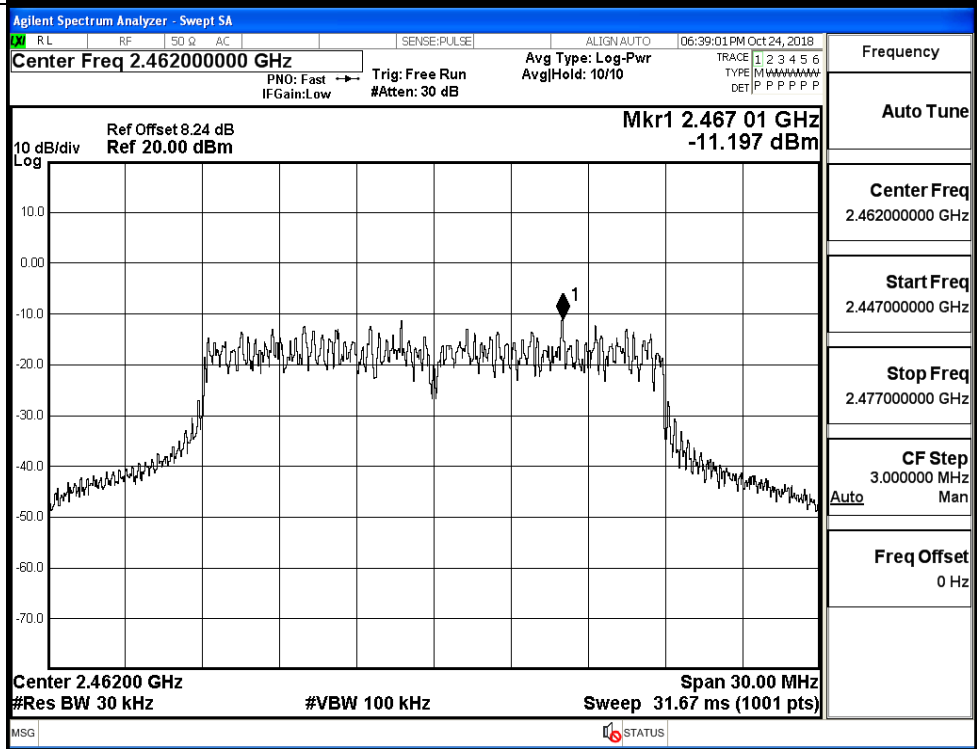
11N20SISO/LCH



11N20SISO/MCH

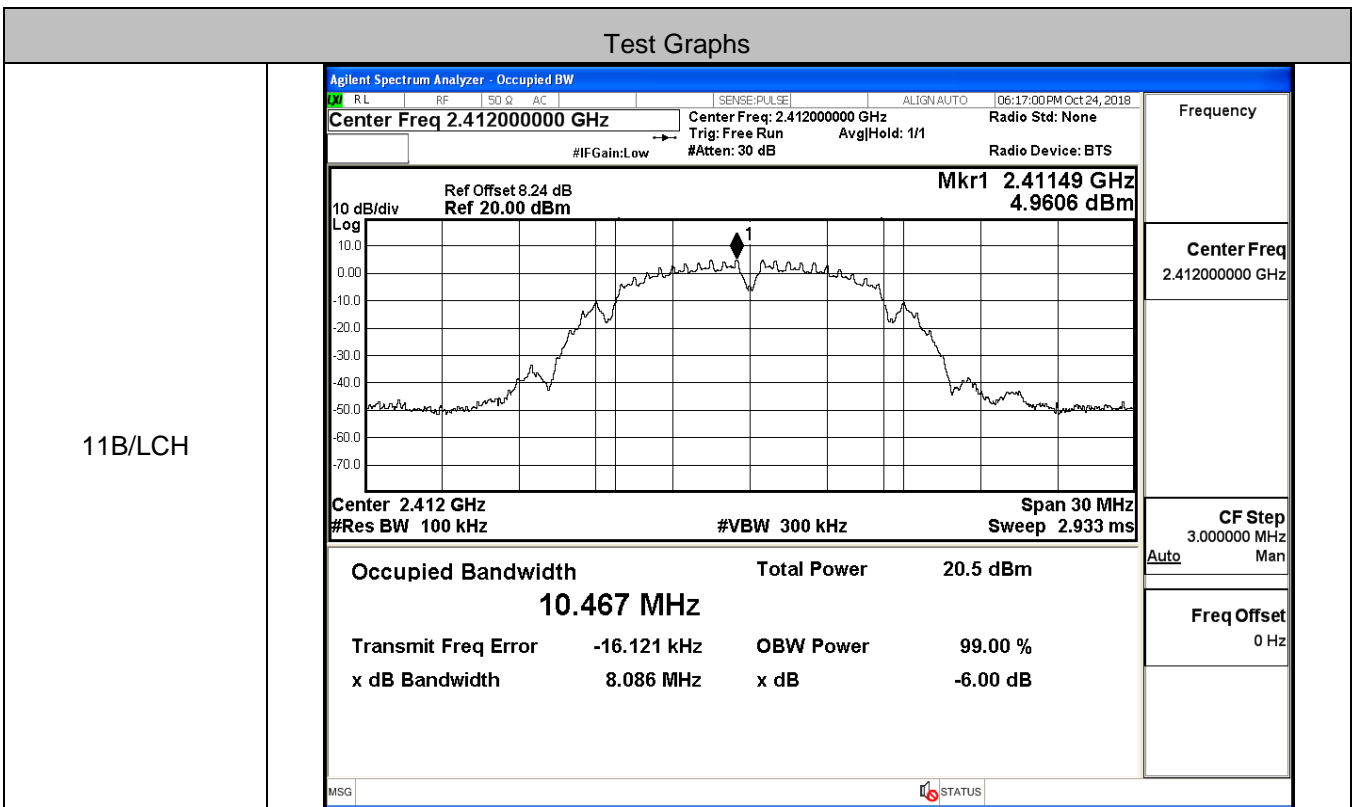


11N20SISO/HCH

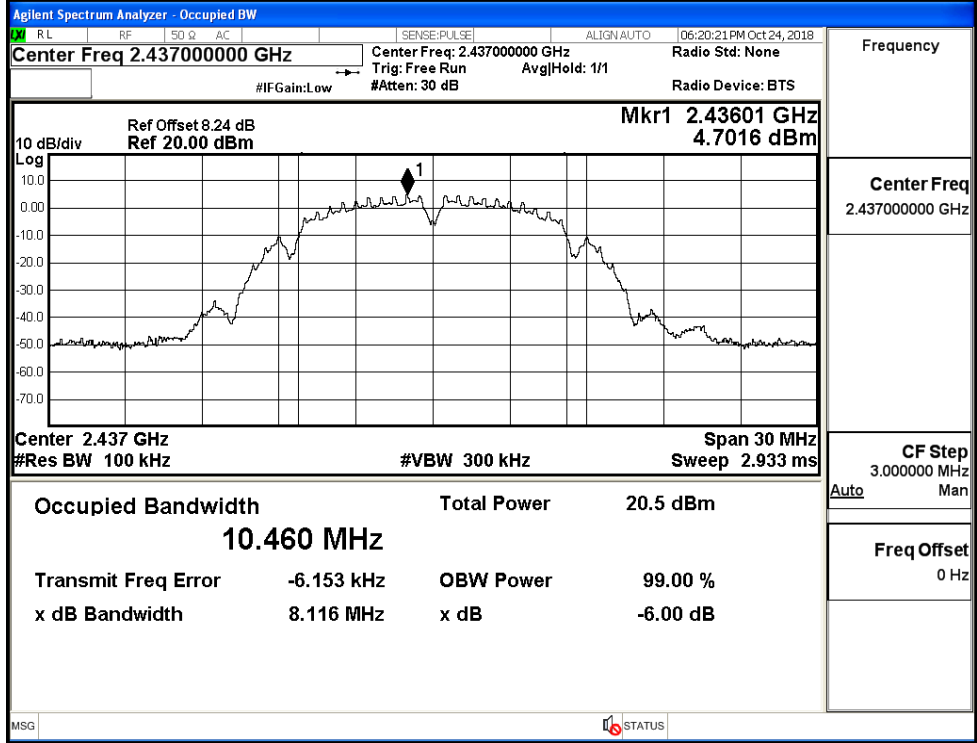


A.4 6dB Bandwidth

Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
11B	LCH	8.086	≥0.5	PASS
	MCH	8.116	≥0.5	PASS
	HCH	8.559	≥0.5	PASS
11G	LCH	16.35	≥0.5	PASS
	MCH	16.35	≥0.5	PASS
	HCH	16.36	≥0.5	PASS
11N20SISO	LCH	17.32	≥0.5	PASS
	MCH	17.32	≥0.5	PASS
	HCH	17.32	≥0.5	PASS

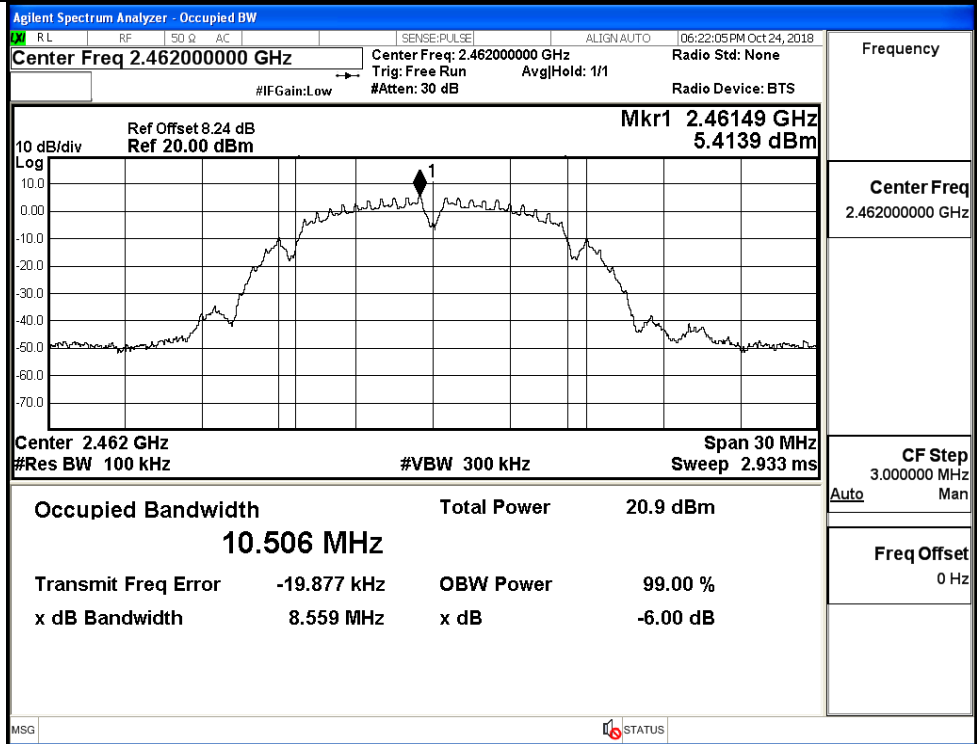


11B/MCH



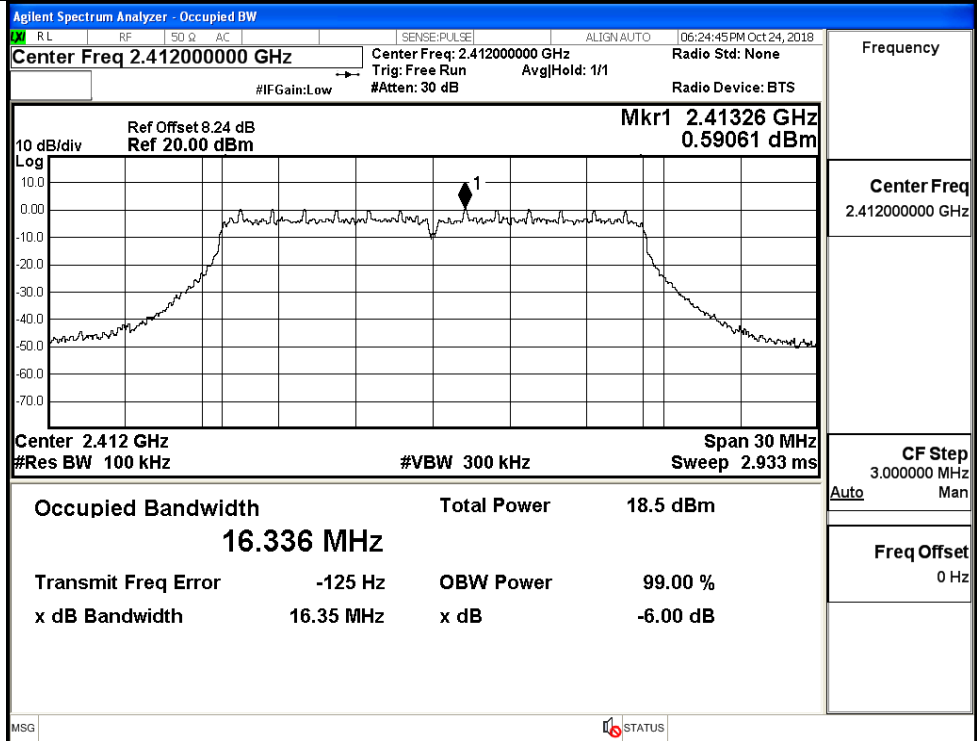
Frequency	2.43700000 GHz
Center Freq	2.43700000 GHz
CF Step	3.000000 MHz
Auto	Man
Freq Offset	0 Hz

11B/HCH

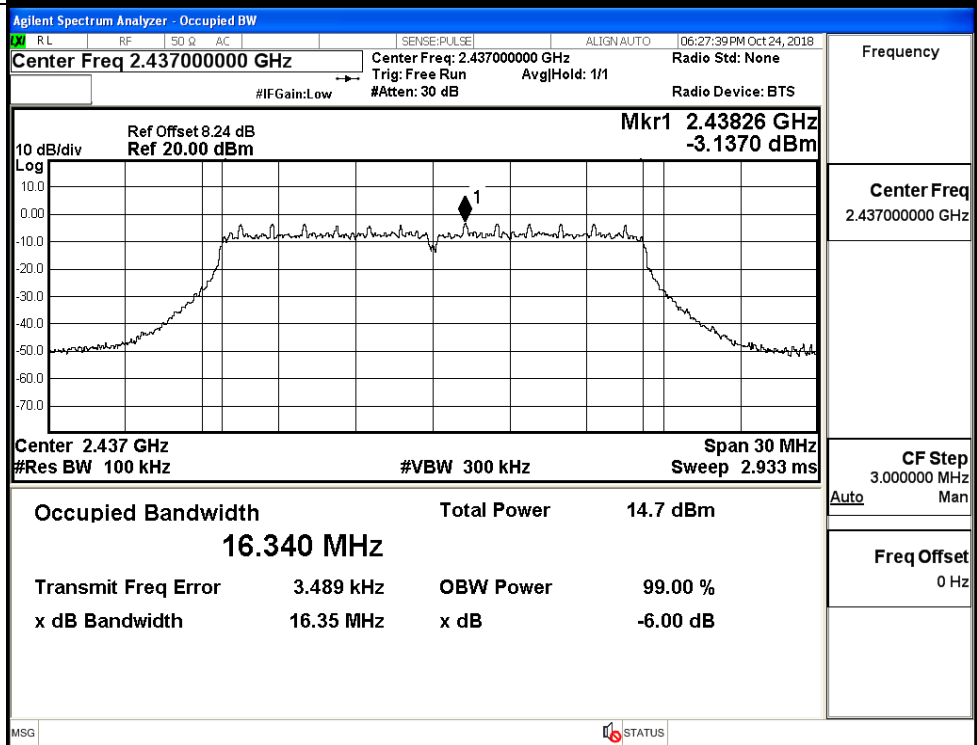


Frequency	2.46200000 GHz
Center Freq	2.46200000 GHz
CF Step	3.000000 MHz
Auto	Man
Freq Offset	0 Hz

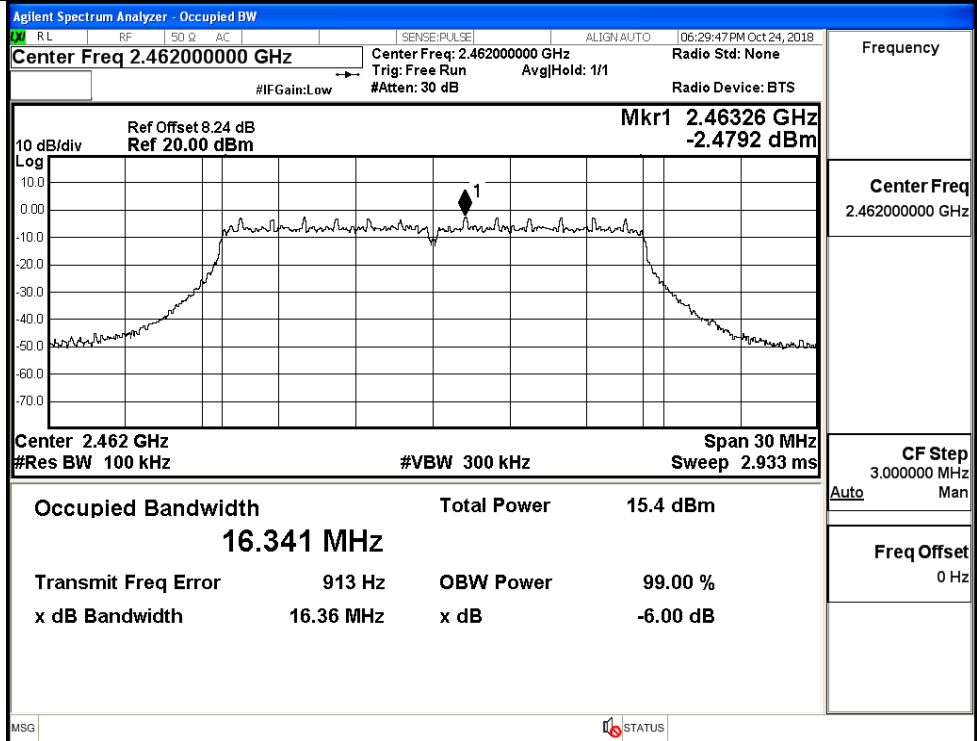
11G/LCH



11G/MCH

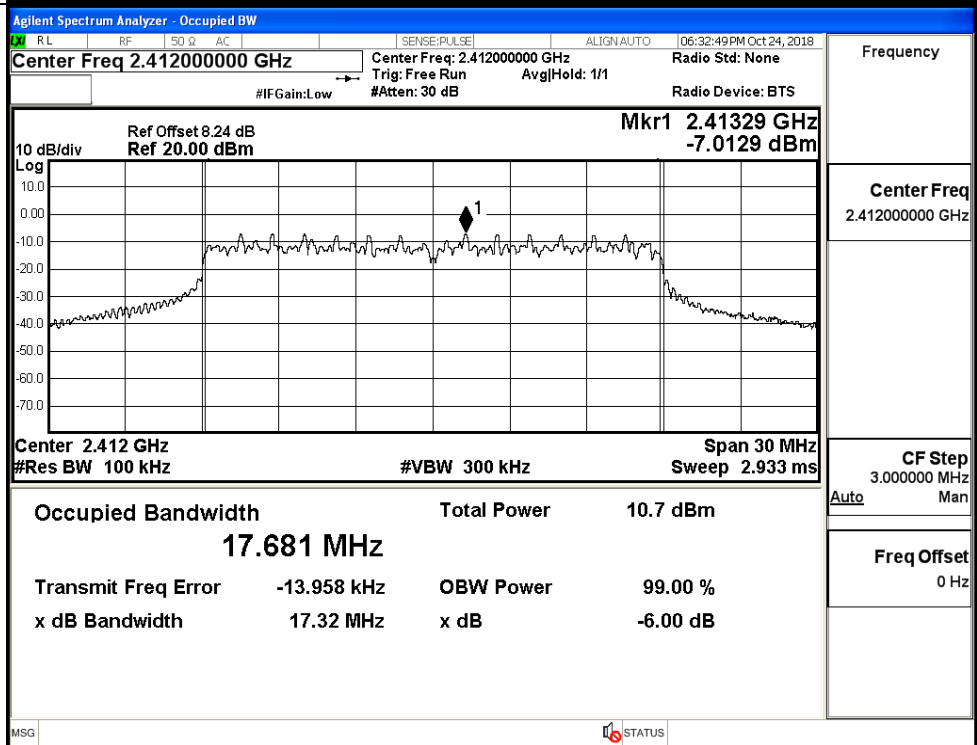


11G/HCH



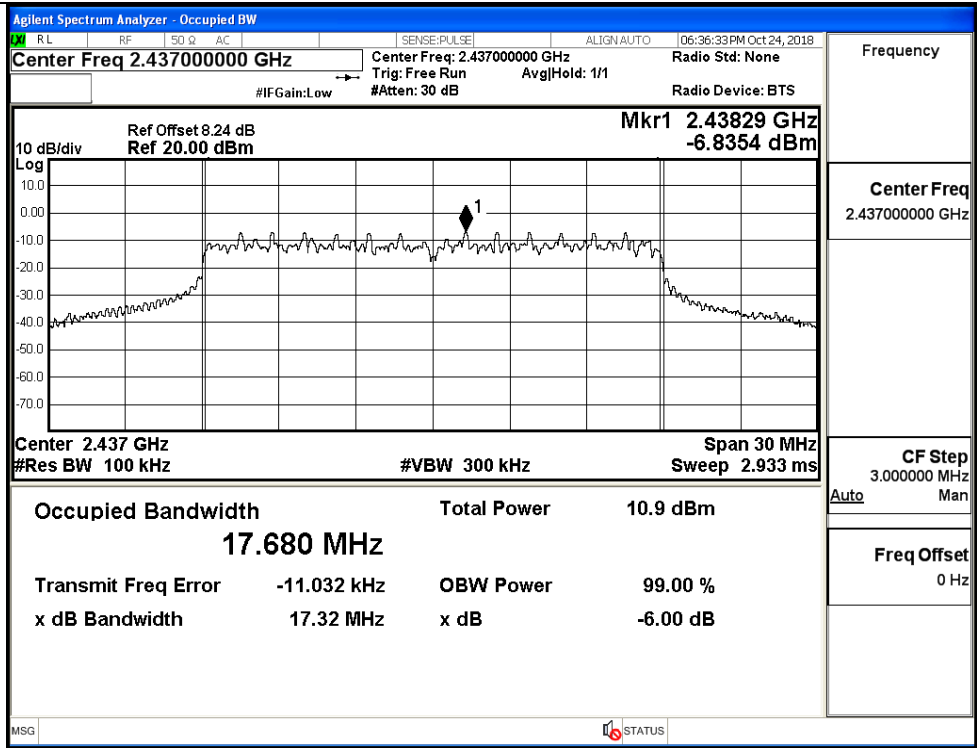
Frequency	2.46200000 GHz
Center Freq	2.46200000 GHz
CF Step	3.000000 MHz
Auto	Man
Freq Offset	0 Hz

11N20SISO/LCH

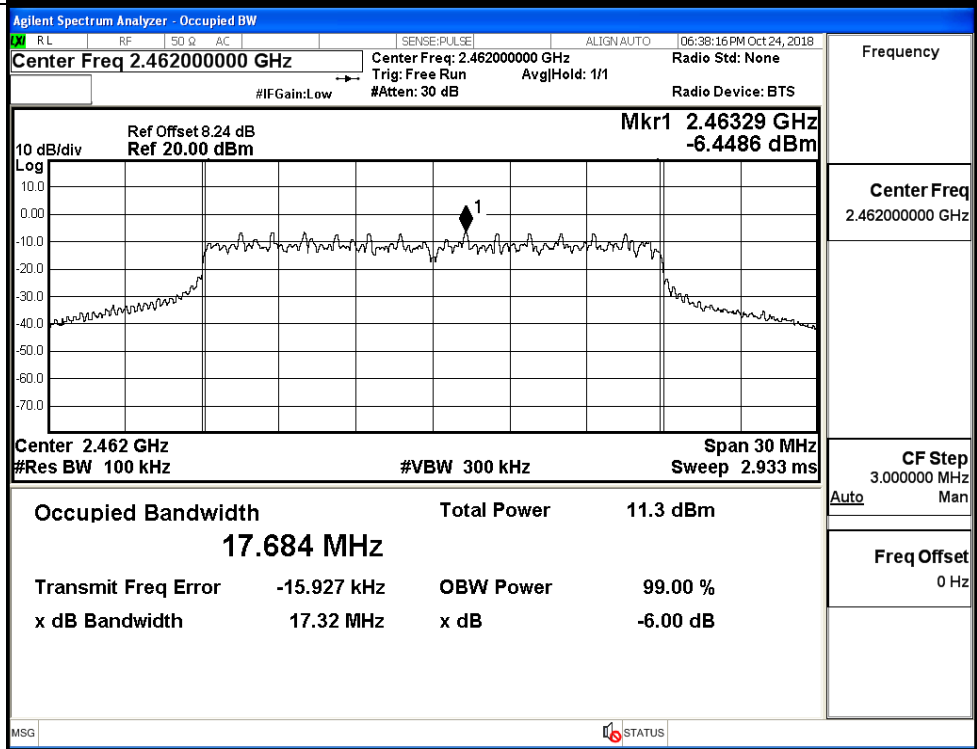


Frequency	2.41200000 GHz
Center Freq	2.41200000 GHz
CF Step	3.000000 MHz
Auto	Man
Freq Offset	0 Hz

11N20SISO/MCH



11N20SISO/HCH

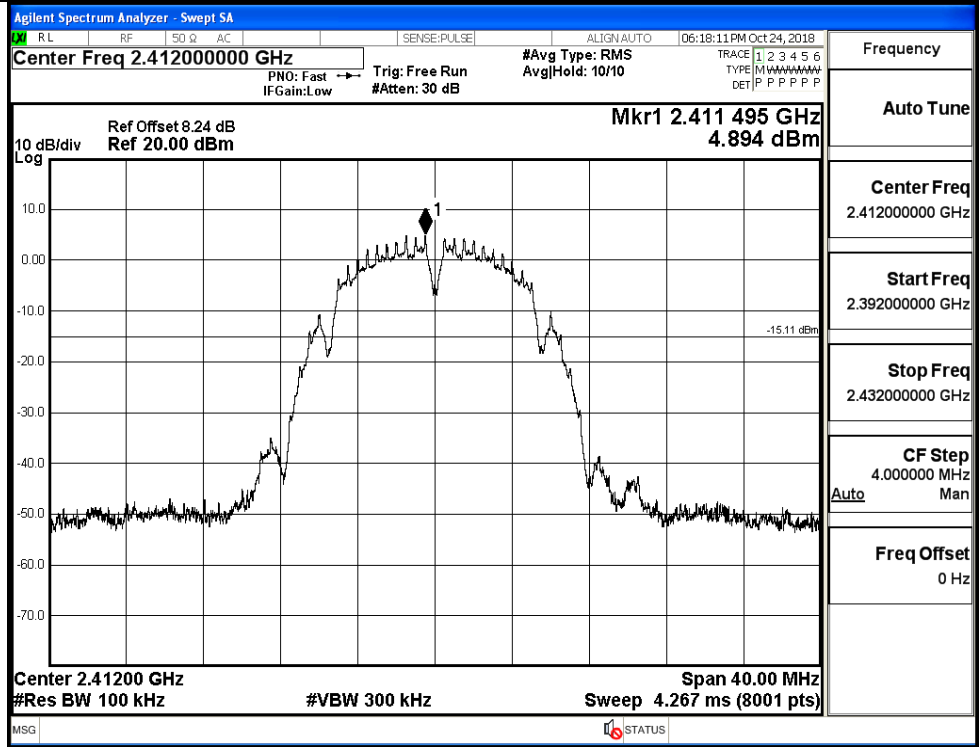


A.5 RF Conducted Spurious Emissions

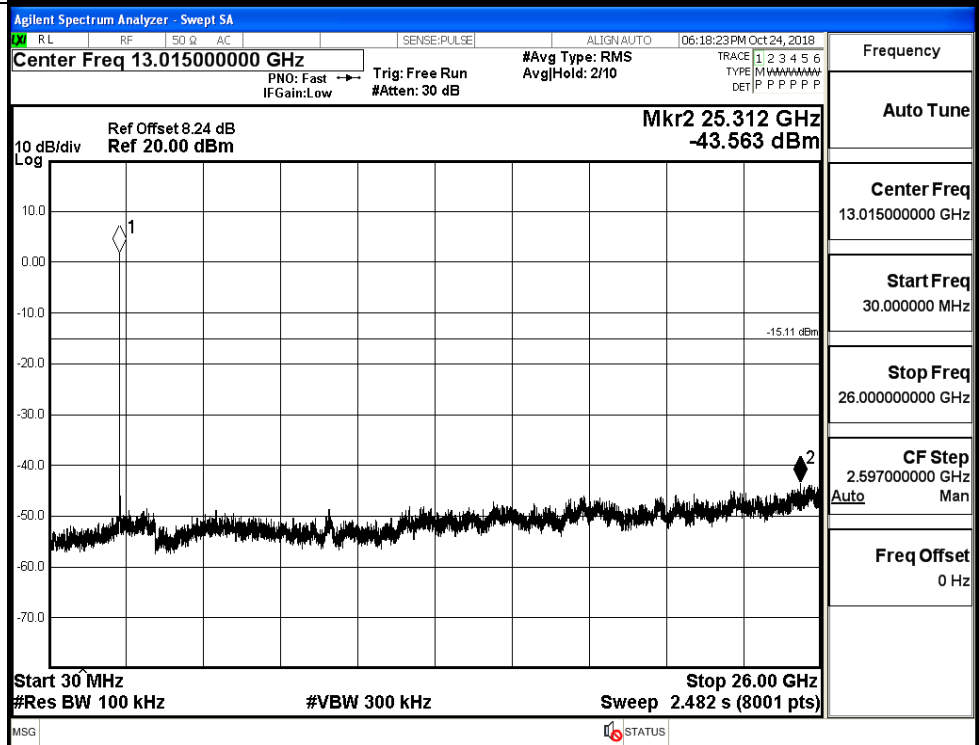
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
11B	LCH	4.894	-43.563	-15.106	PASS
	MCH	4.728	-43.554	-15.272	PASS
	HCH	5.297	-43.760	-14.703	PASS
11G	LCH	0.596	-43.451	-19.404	PASS
	MCH	-3.311	-41.230	-23.311	PASS
	HCH	-2.68	-43.413	-22.680	PASS
11N20 SISO	LCH	-6.957	-43.740	-26.957	PASS
	MCH	-6.975	-42.461	-26.975	PASS
	HCH	-6.535	-43.181	-26.535	PASS

11B_LCH_Graphs

Pref/11B/LCH

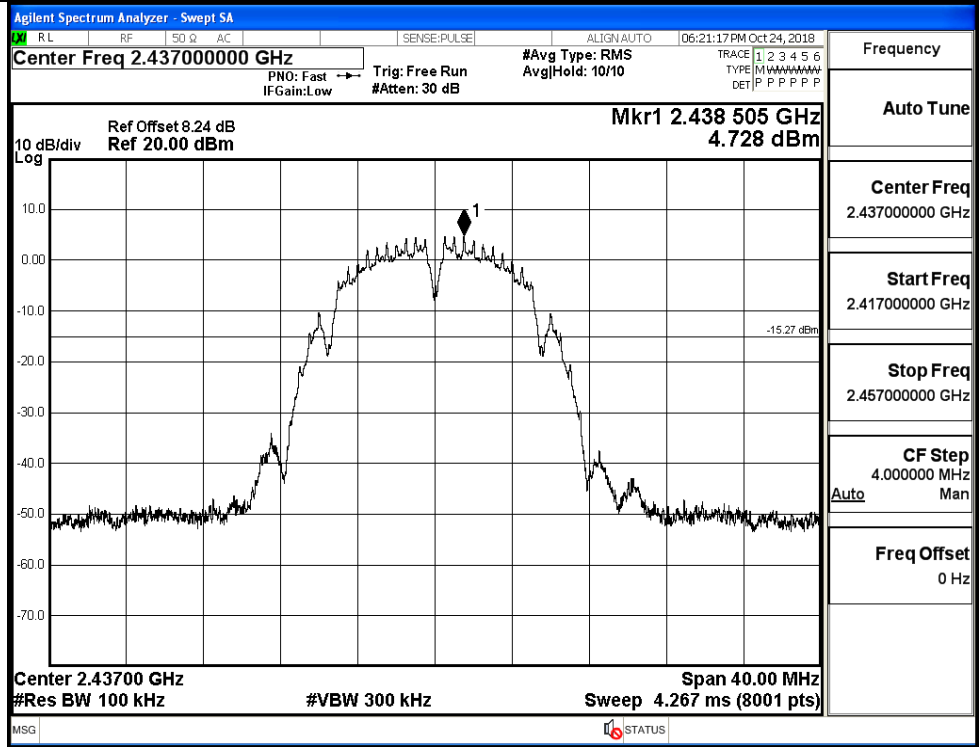


Puw/11B/LCH

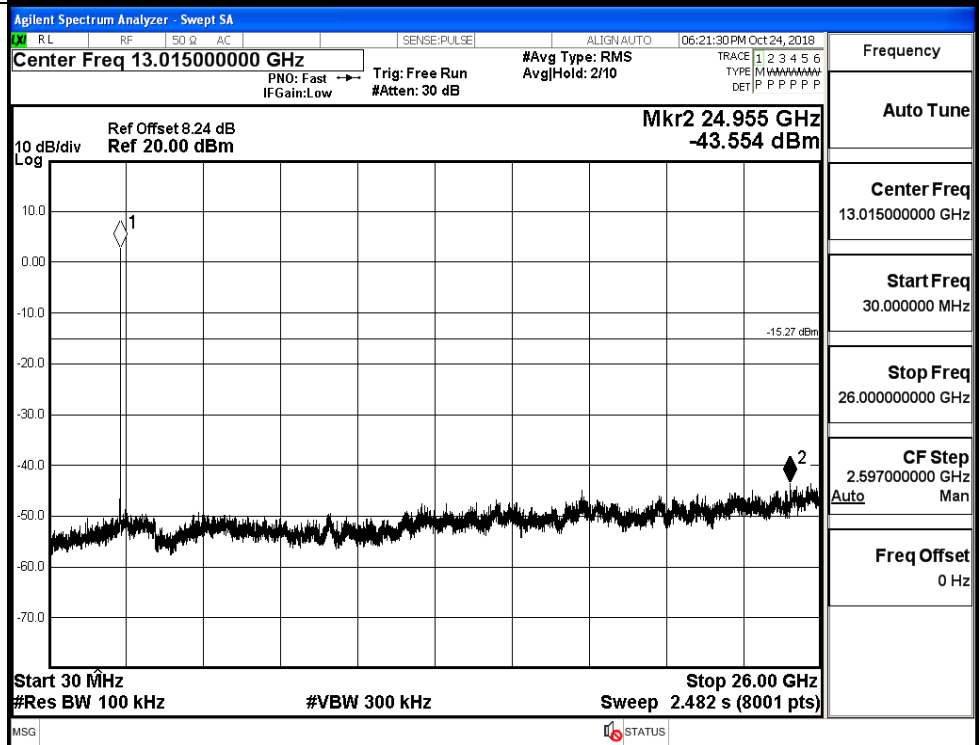


11B_MCH_Graphs

Pref/11B/MCH

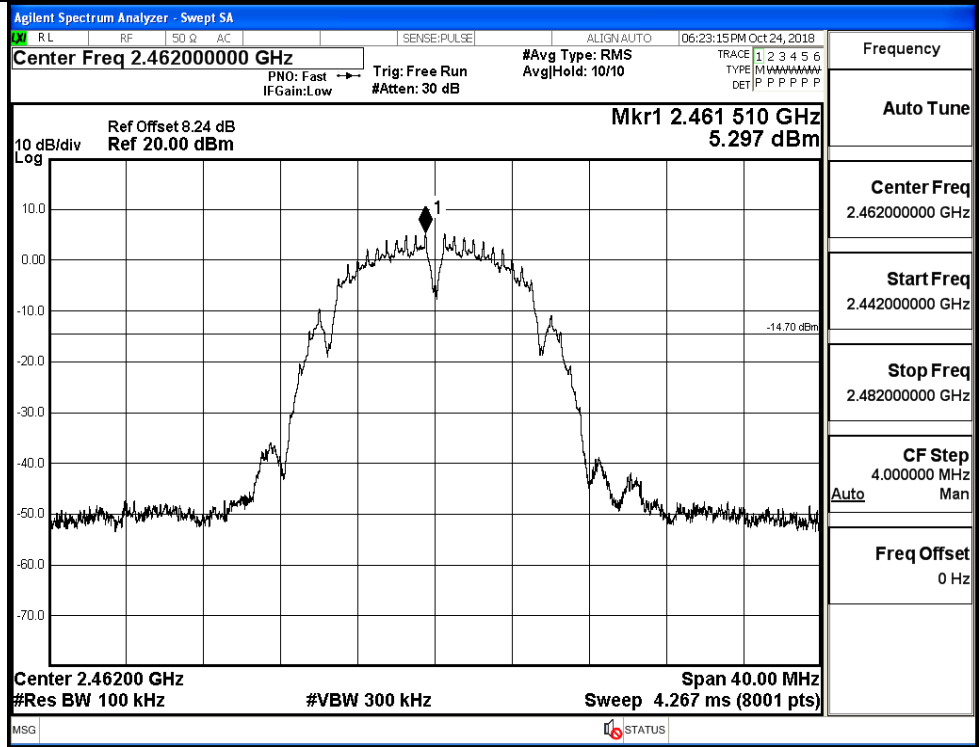


Puw/11B/MCH

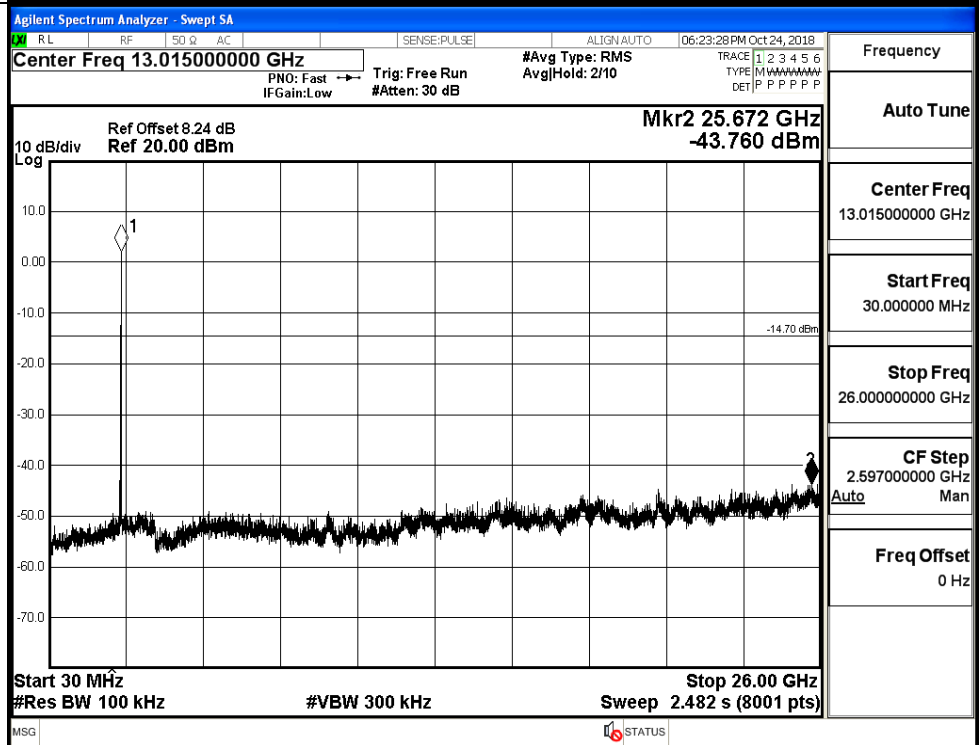


11B_HCH_Graphs

Pref/11B/HCH

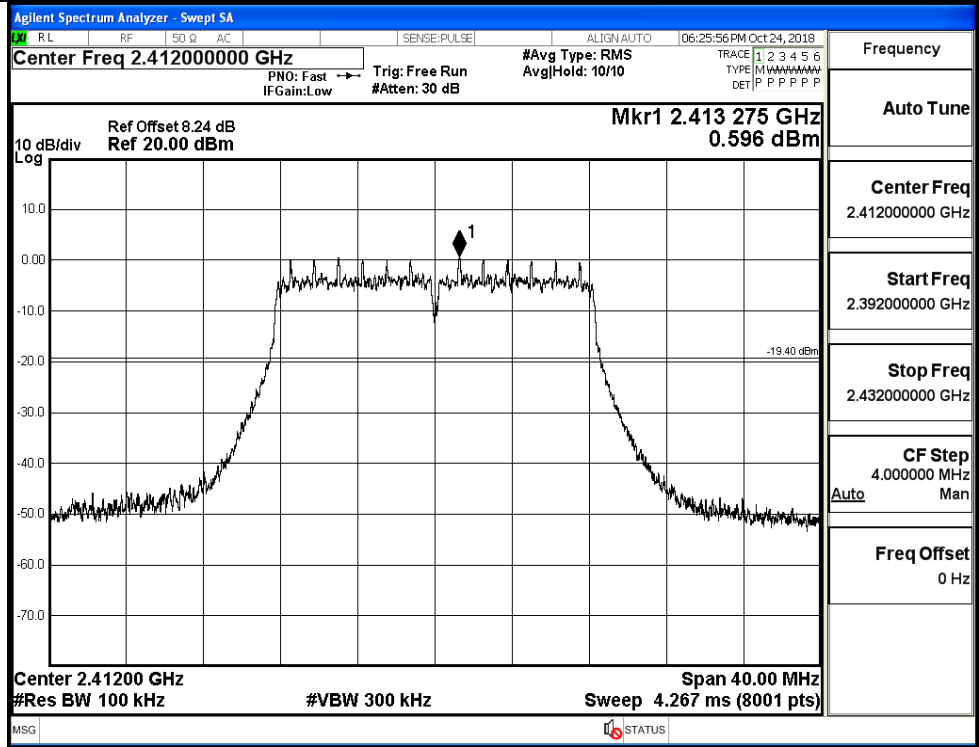


Puw/11B/HCH

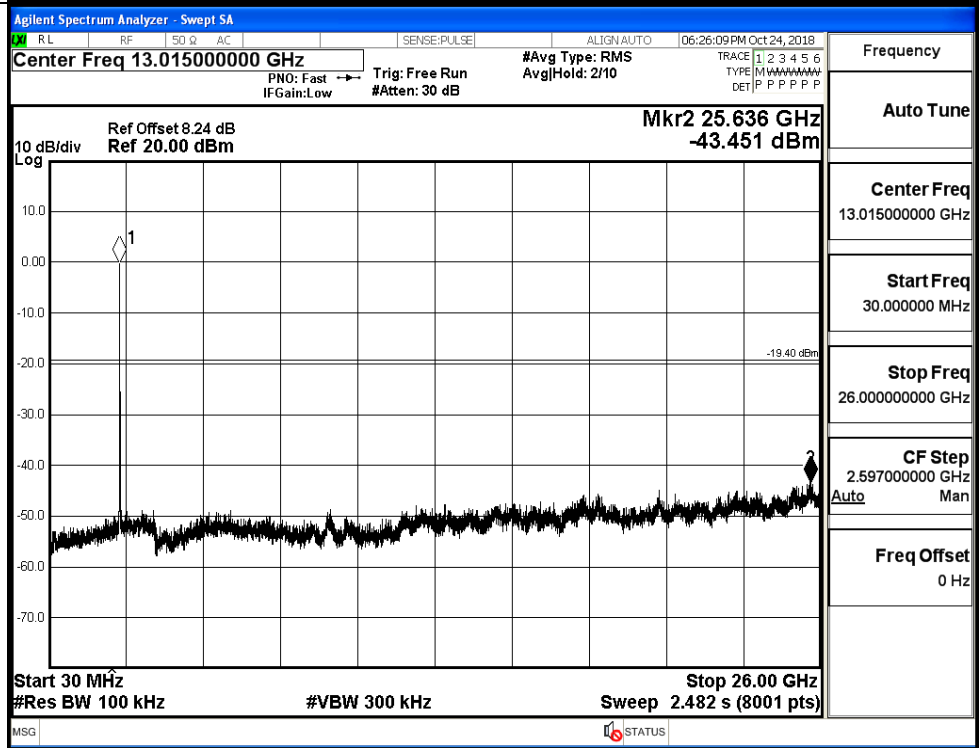


11G_LCH_Graphs

Pref/11G/LCH

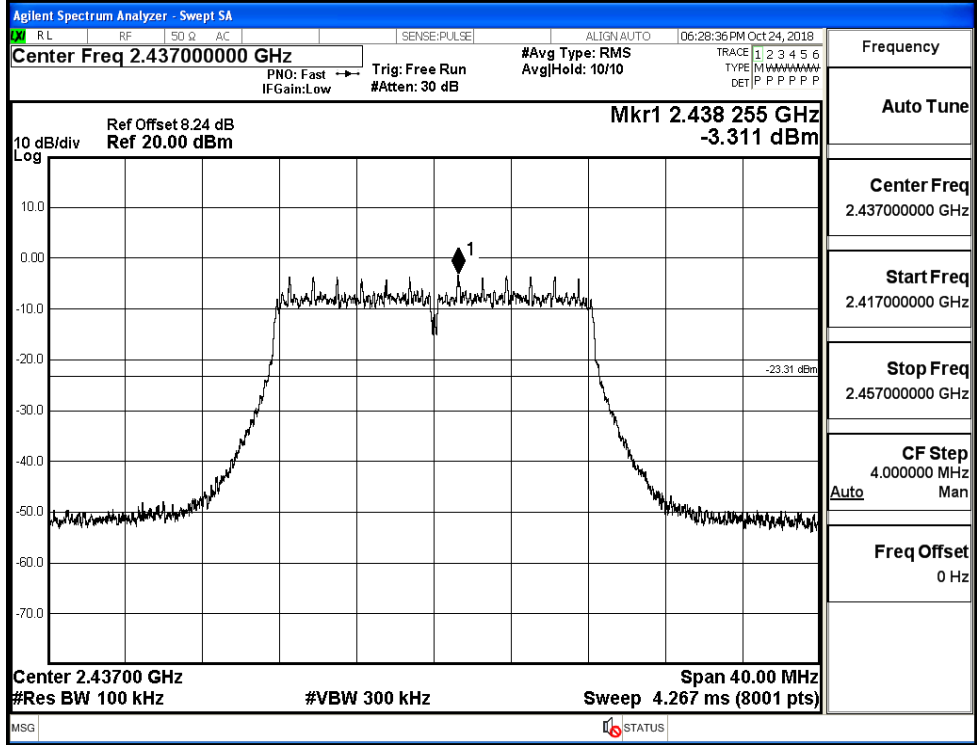


Puw/11G/LCH

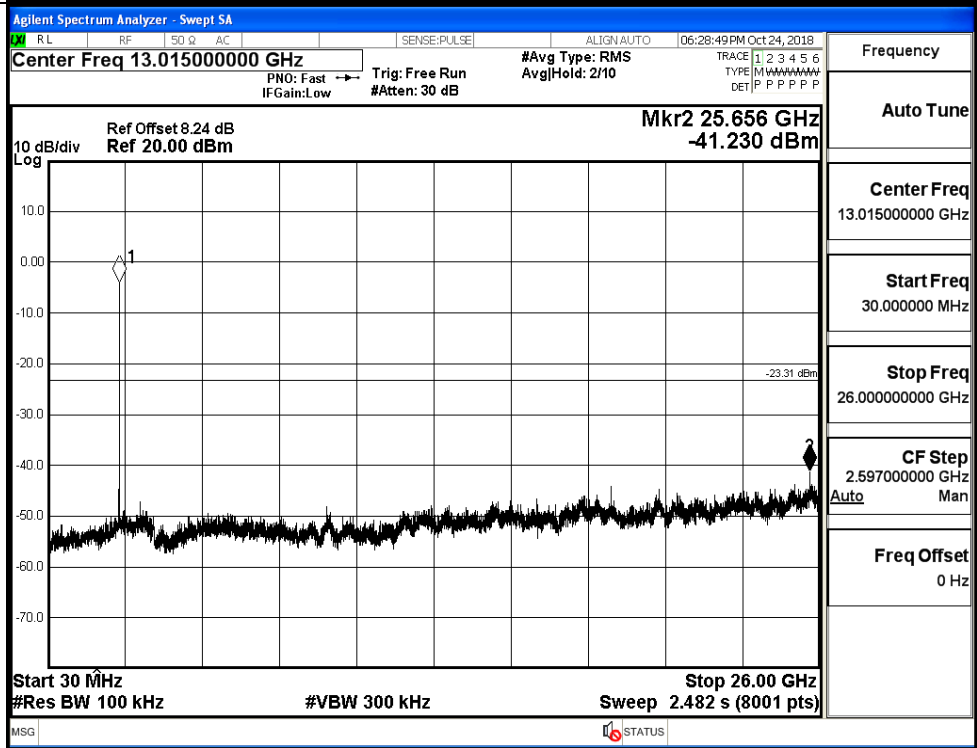


11G_MCH_Graphs

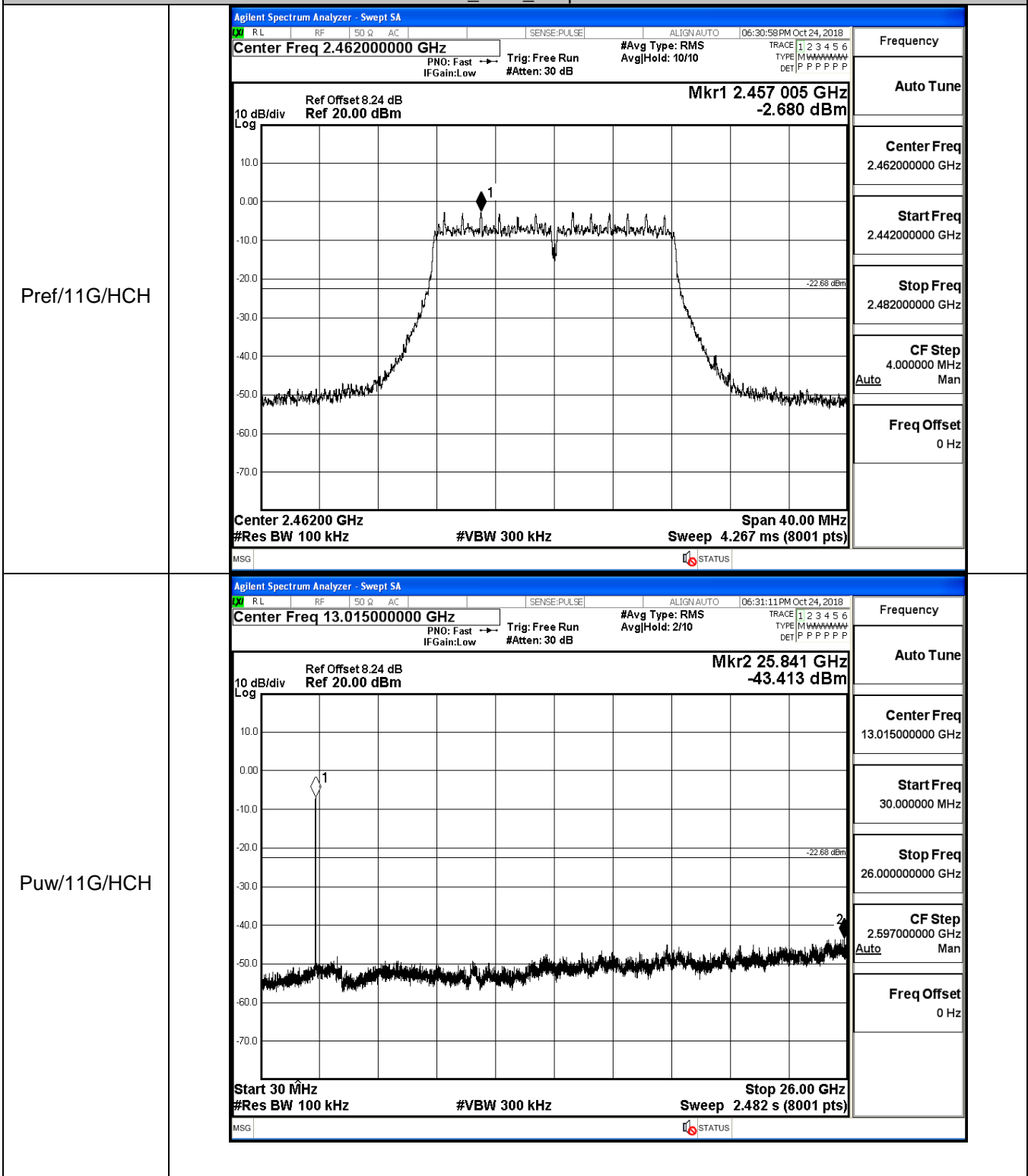
Pref/11G/MCH



Puw/11G/MCH



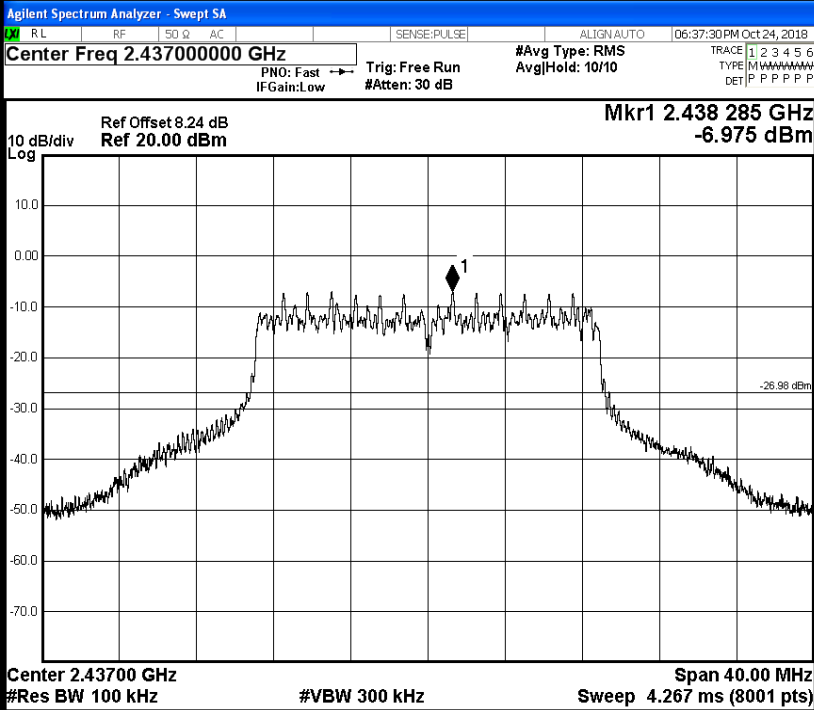
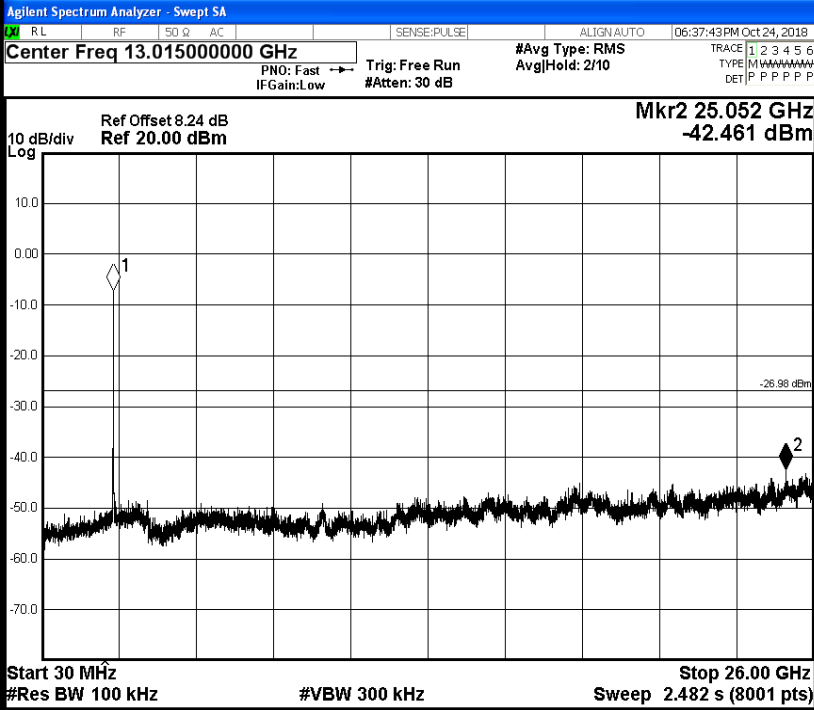
11G_HCH_Graphs



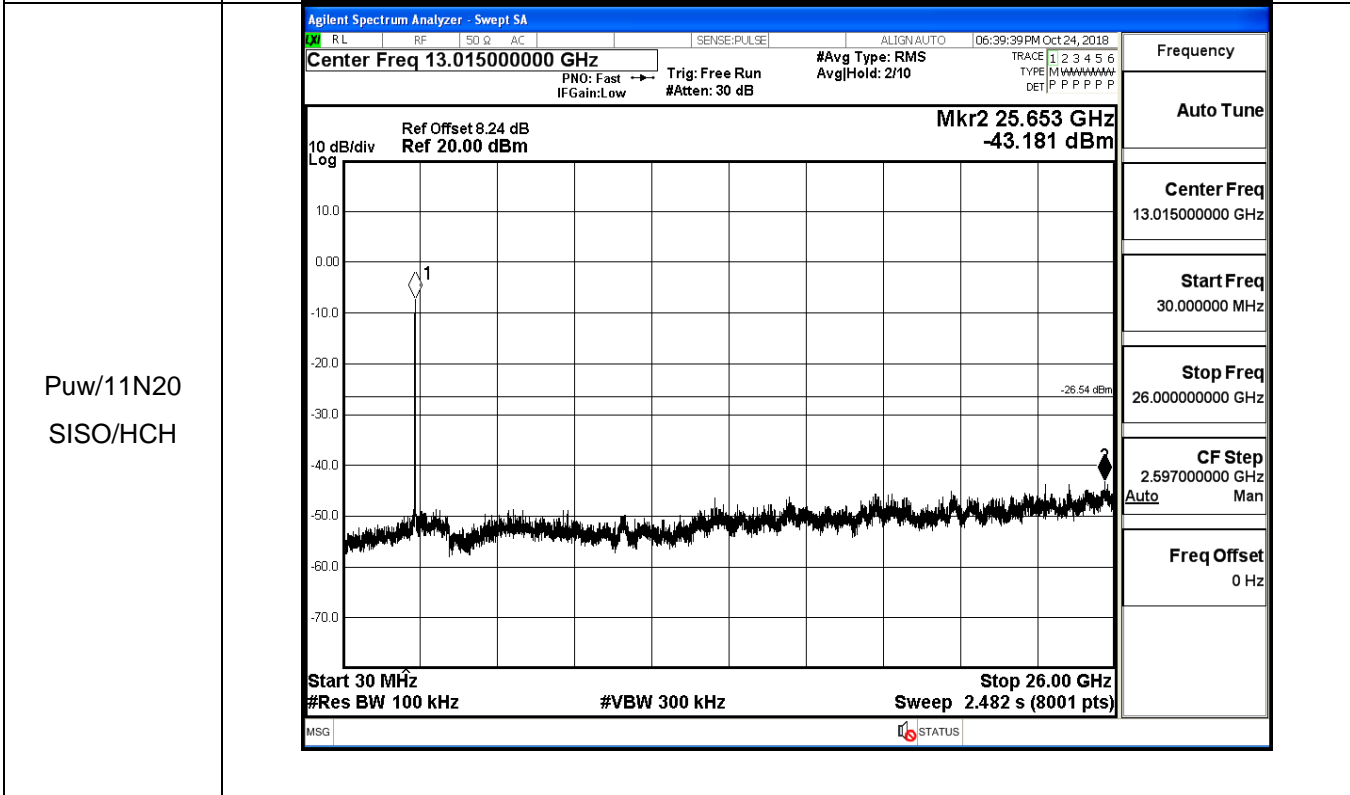
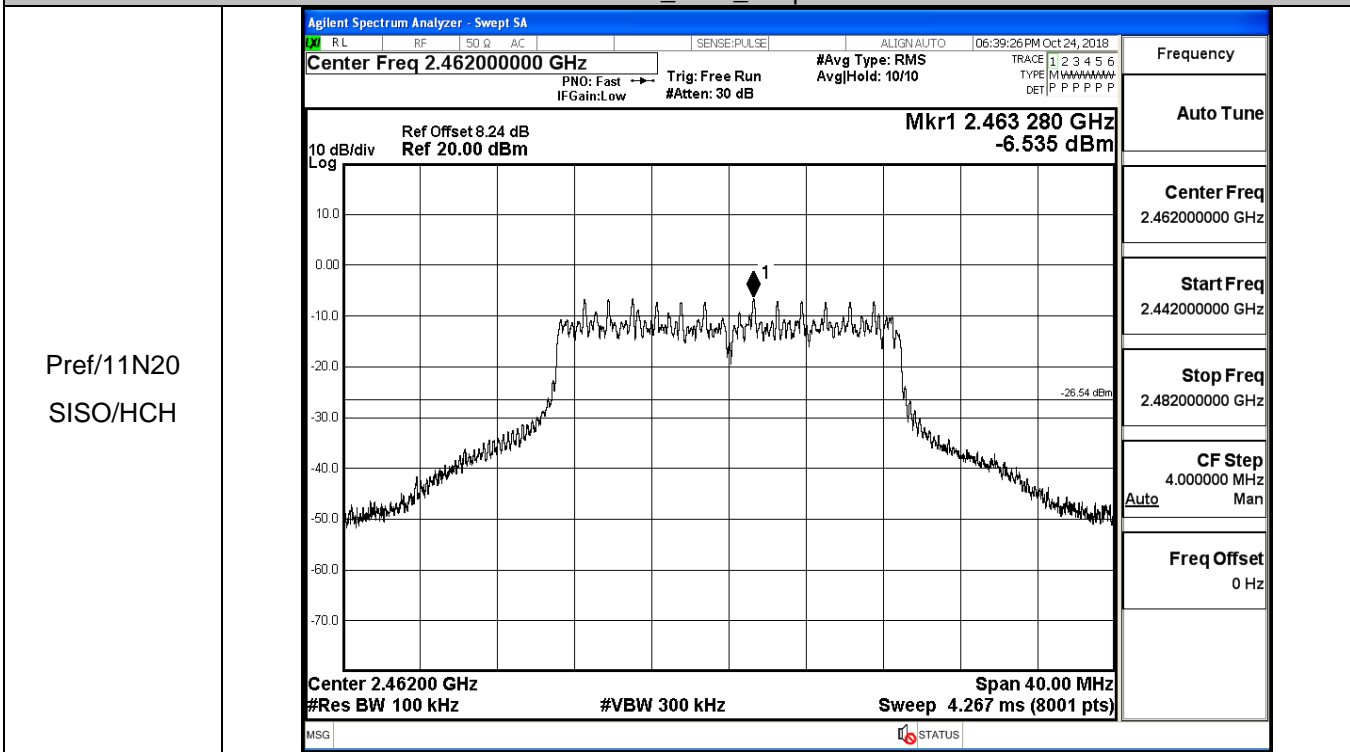
11N20SISO_LCH_Graphs

<p>Pref/11N20SIS O/LCH</p>		<p>Frequency Auto Tune Center Freq 2.412000000 GHz Start Freq 2.392000000 GHz Stop Freq 2.432000000 GHz CF Step 4.000000 MHz Auto Freq Offset 0 Hz</p>
<p>Puw/11N20 SISO/LCH</p>		<p>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</p>

11N20SISO_MCH_Graphs

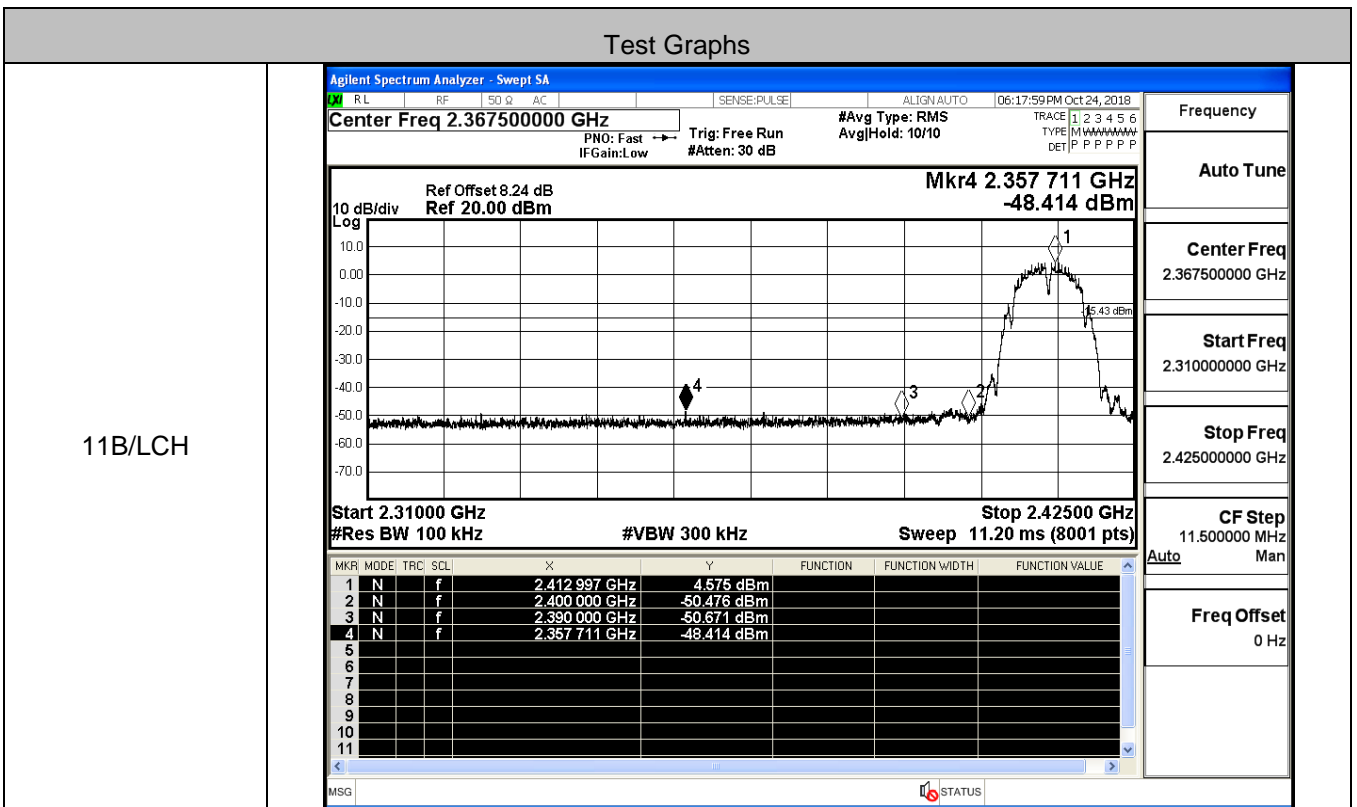
<p>Pref/11N20 SISO/MCH</p>	 <p>Agilent Spectrum Analyzer - Swept SA Center Freq 2.43700000 GHz #Avg Type: RMS AvgHold: 10/10 Mkr1 2.438 285 GHz -6.975 dBm 10 dB/div Log Ref Offset 8.24 dB Ref 20.00 dBm Center 2.43700 GHz #Res BW 100 kHz #VBW 300 kHz Span 40.00 MHz Sweep 4.267 ms (8001 pts)</p>	<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 2.437000000 GHz</p> <p>Start Freq 2.417000000 GHz</p> <p>Stop Freq 2.457000000 GHz</p> <p>CF Step 4.000000 MHz Auto Man</p> <p>Freq Offset 0 Hz</p>
<p>Puw/11N20 SISO/MCH</p>	 <p>Agilent Spectrum Analyzer - Swept SA Center Freq 13.01500000 GHz #Avg Type: RMS AvgHold: 2/10 Mkr2 25.052 GHz -42.461 dBm 10 dB/div Log Ref Offset 8.24 dB Ref 20.00 dBm Start 30 MHz #Res BW 100 kHz #VBW 300 kHz Stop 26.00 GHz Sweep 2.482 s (8001 pts)</p>	<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 13.015000000 GHz</p> <p>Start Freq 30.000000 MHz</p> <p>Stop Freq 26.000000000 GHz</p> <p>CF Step 2.597000000 GHz Auto Man</p> <p>Freq Offset 0 Hz</p>

11N20SISO_HCH_Graphs

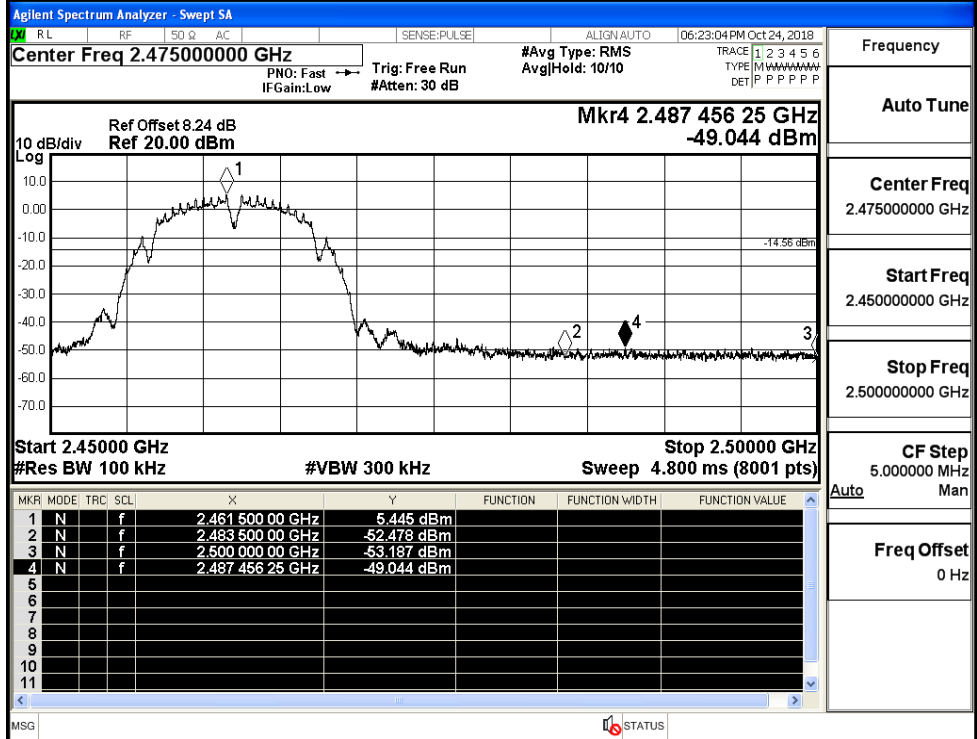


A.6 Band-edge for RF Conducted Emissions

Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
11B	LCH	4.575	-48.414	-15.43	PASS
	HCH	5.445	-49.044	-14.56	PASS
11G	LCH	0.301	-48.712	-19.7	PASS
	HCH	-2.430	-49.108	-22.43	PASS
11N20SISO	LCH	-6.925	-47.701	-26.93	PASS
	HCH	-6.513	-47.431	-26.51	PASS



11B/HCH



Frequency

Auto Tune

Center Freq
2.47500000 GHz

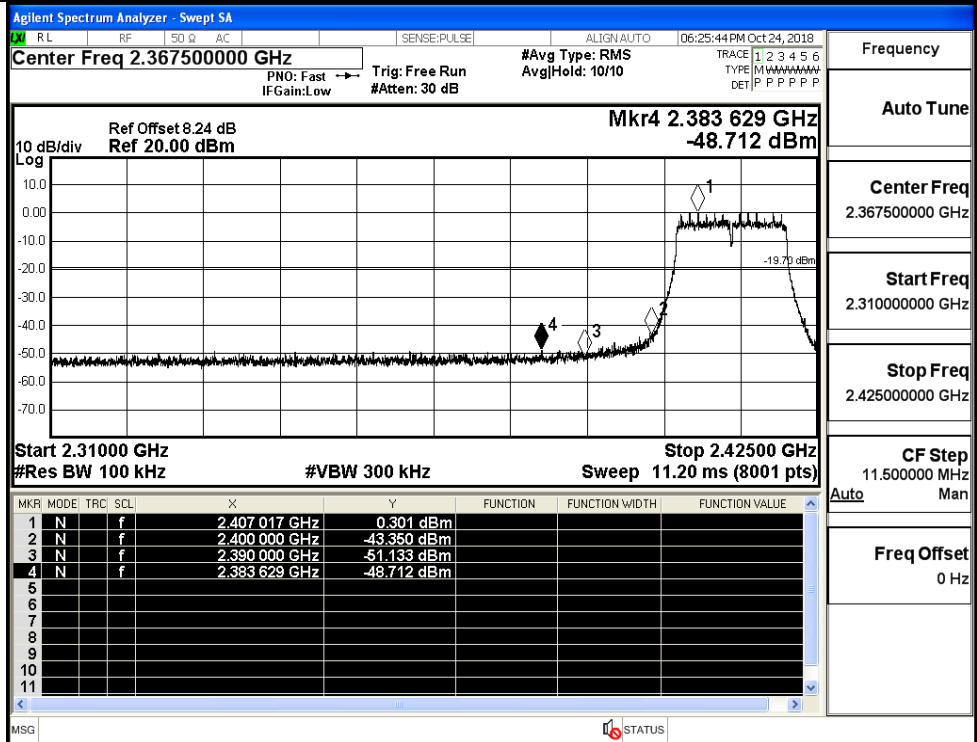
Start Freq
2.45000000 GHz

Stop Freq
2.50000000 GHz

CF Step
5.000000 MHz

Freq Offset
0 Hz

11G/LCH



Frequency

Auto Tune

Center Freq
2.36750000 GHz

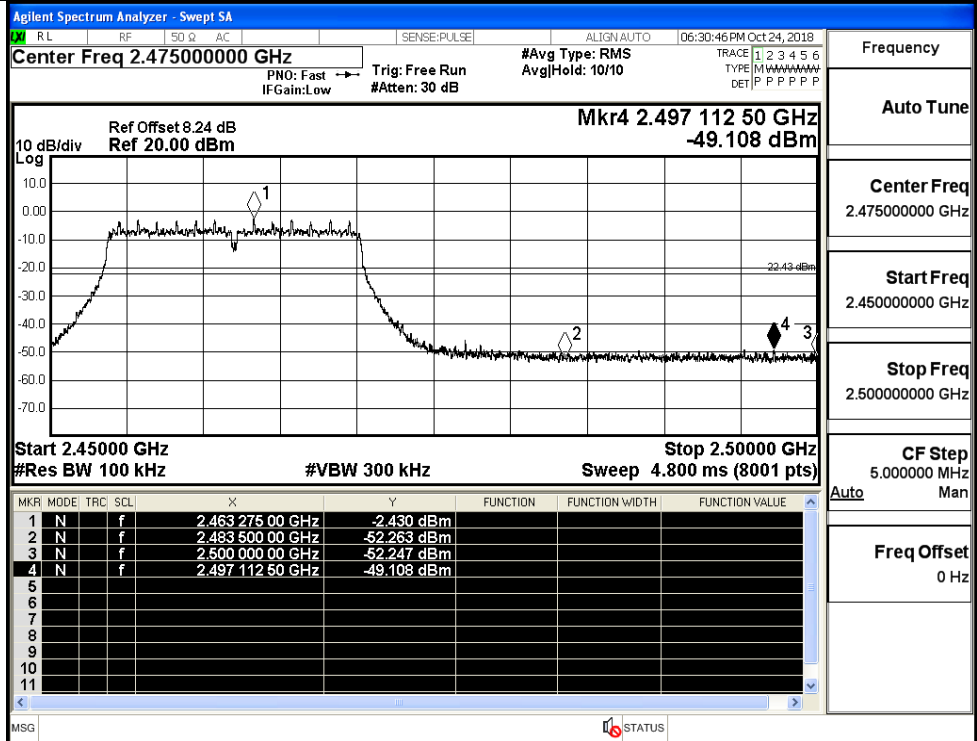
Start Freq
2.31000000 GHz

Stop Freq
2.42500000 GHz

CF Step
11.500000 MHz

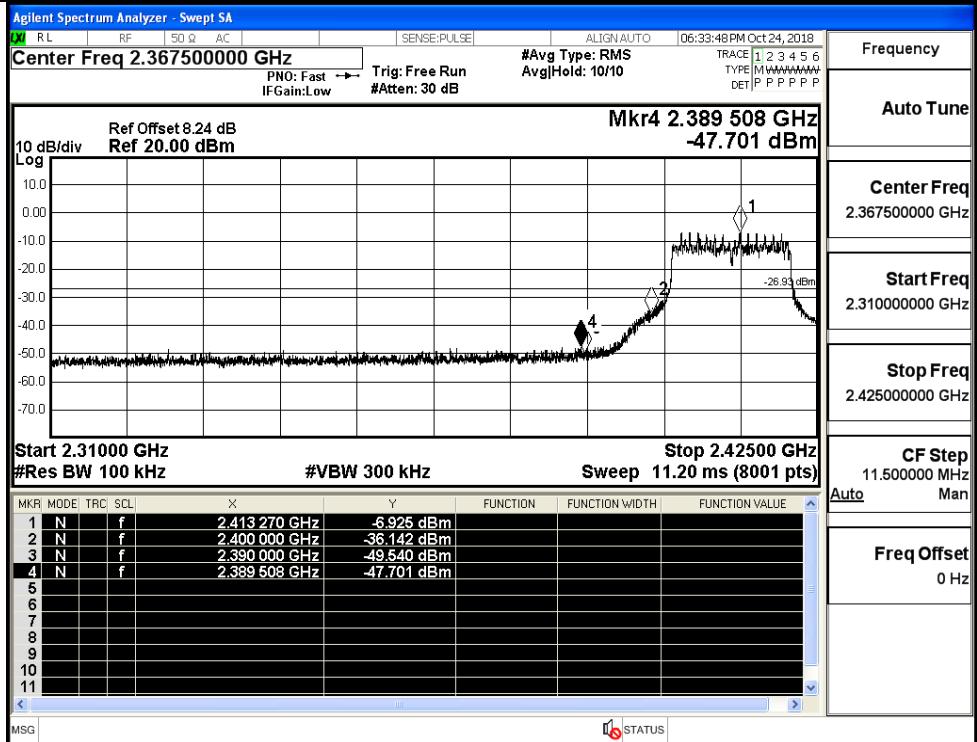
Freq Offset
0 Hz

11G/HCH



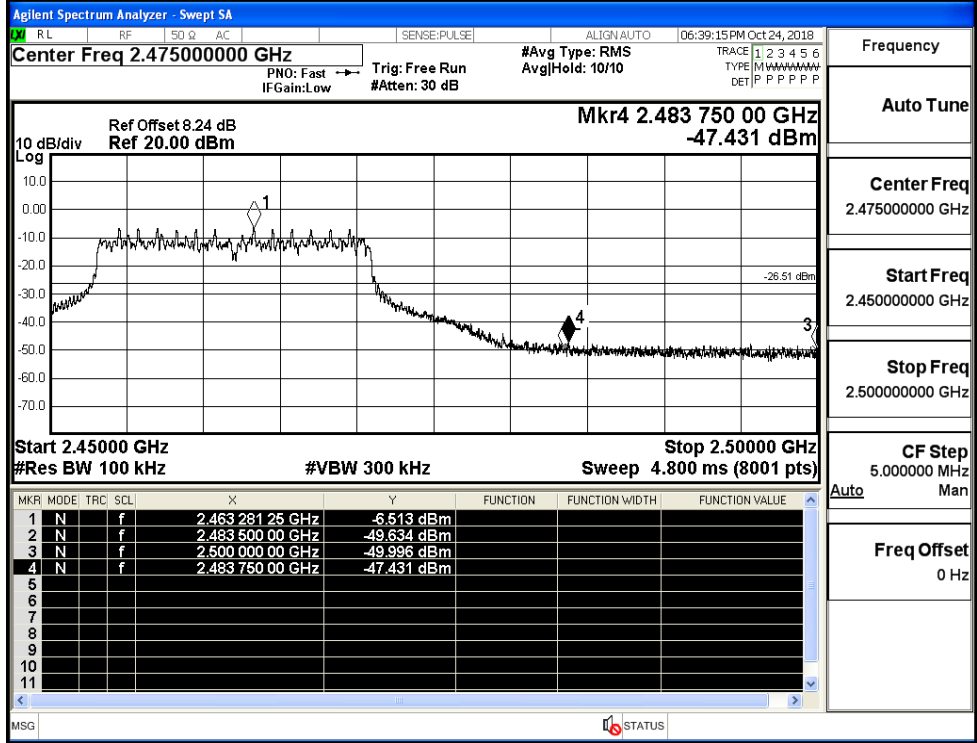
Frequency	
Auto Tune	
Center Freq	2.47500000 GHz
Start Freq	2.45000000 GHz
Stop Freq	2.50000000 GHz
CF Step	5.000000 MHz
Freq Offset	0 Hz

11N20SISO/LCH



Frequency	
Auto Tune	
Center Freq	2.36750000 GHz
Start Freq	2.31000000 GHz
Stop Freq	2.42500000 GHz
CF Step	11.500000 MHz
Freq Offset	0 Hz

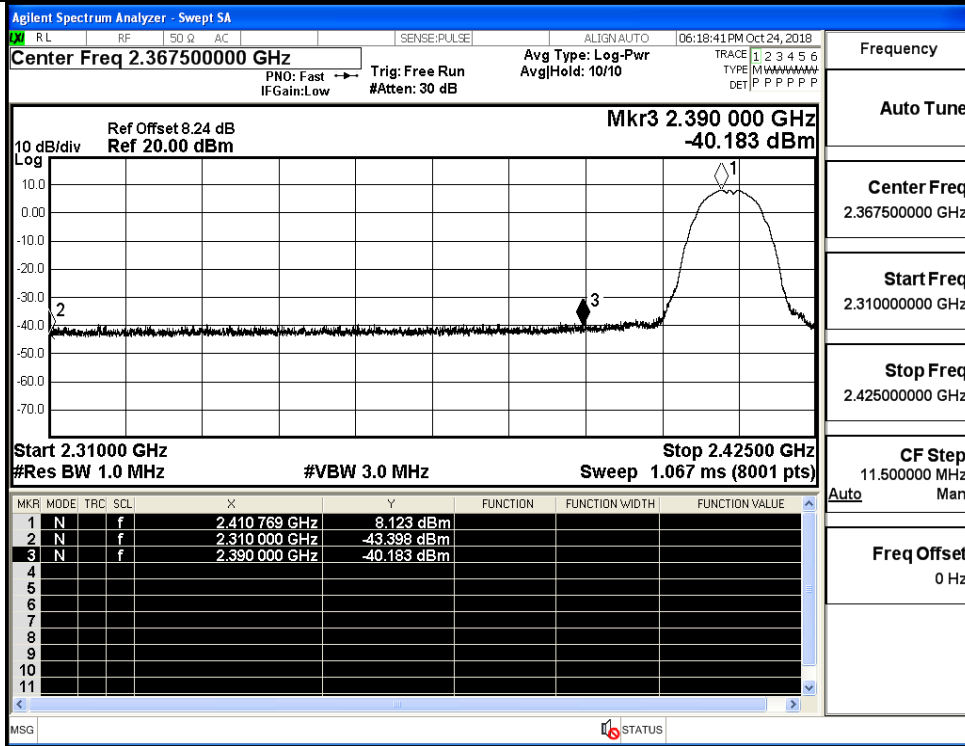
11N20SISO/HCH



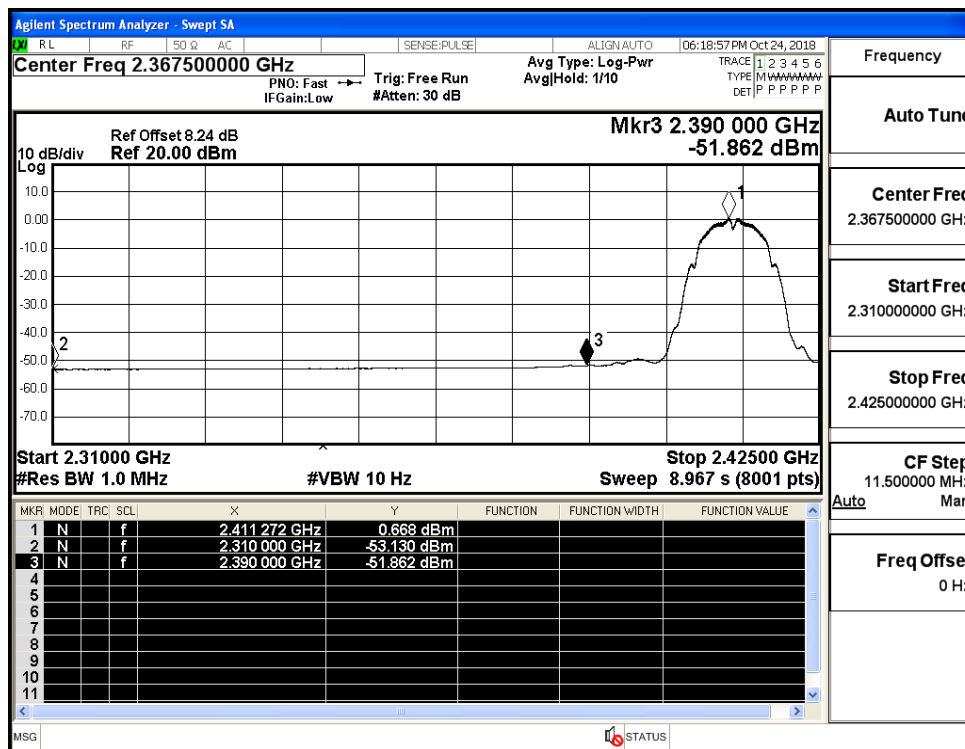
A.7 Restrict-band band-edge measurements

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	-43.40	2.0	0	53.86	PEAK	74	PASS
	2412	Ant1	2310.0	-53.13	2.0	0	44.13	AV	54	PASS
	2412	Ant1	2390.0	-40.18	2.0	0	57.07	PEAK	74	PASS
	2412	Ant1	2390.0	-51.86	2.0	0	45.40	AV	54	PASS
	2462	Ant1	2483.5	-40.61	2.0	0	56.65	PEAK	74	PASS
	2462	Ant1	2483.5	-51.76	2.0	0	45.50	AV	54	PASS
	2462	Ant1	2500.0	-41.73	2.0	0	55.53	PEAK	74	PASS
	2462	Ant1	2500.0	-52.29	2.0	0	44.97	AV	54	PASS
11G	2412	Ant1	2310.0	-42.14	2.0	0	55.12	PEAK	74	PASS
	2412	Ant1	2310.0	-53.15	2.0	0	44.11	AV	54	PASS
	2412	Ant1	2390.0	-39.06	2.0	0	58.20	PEAK	74	PASS
	2412	Ant1	2390.0	-51.32	2.0	0	45.93	AV	54	PASS
	2462	Ant1	2483.5	-41.11	2.0	0	56.15	PEAK	74	PASS
	2462	Ant1	2483.5	-51.94	2.0	0	45.31	AV	54	PASS
	2462	Ant1	2500.0	-40.80	2.0	0	56.45	PEAK	74	PASS
	2462	Ant1	2500.0	-52.23	2.0	0	45.02	AV	54	PASS
11N20 SISO	2412	Ant1	2310.0	-43.64	2.0	0	53.62	PEAK	74	PASS
	2412	Ant1	2310.0	-53.12	2.0	0	44.14	AV	54	PASS
	2412	Ant1	2390.0	-36.36	2.0	0	60.90	PEAK	74	PASS
	2412	Ant1	2390.0	-51.82	2.0	0	45.44	AV	54	PASS
	2462	Ant1	2483.5	-34.48	2.0	0	62.78	PEAK	74	PASS
	2462	Ant1	2483.5	-51.59	2.0	0	45.67	AV	54	PASS
	2462	Ant1	2500.0	-36.22	2.0	0	61.04	PEAK	74	PASS
	2462	Ant1	2500.0	-52.21	2.0	0	45.05	AV	54	PASS

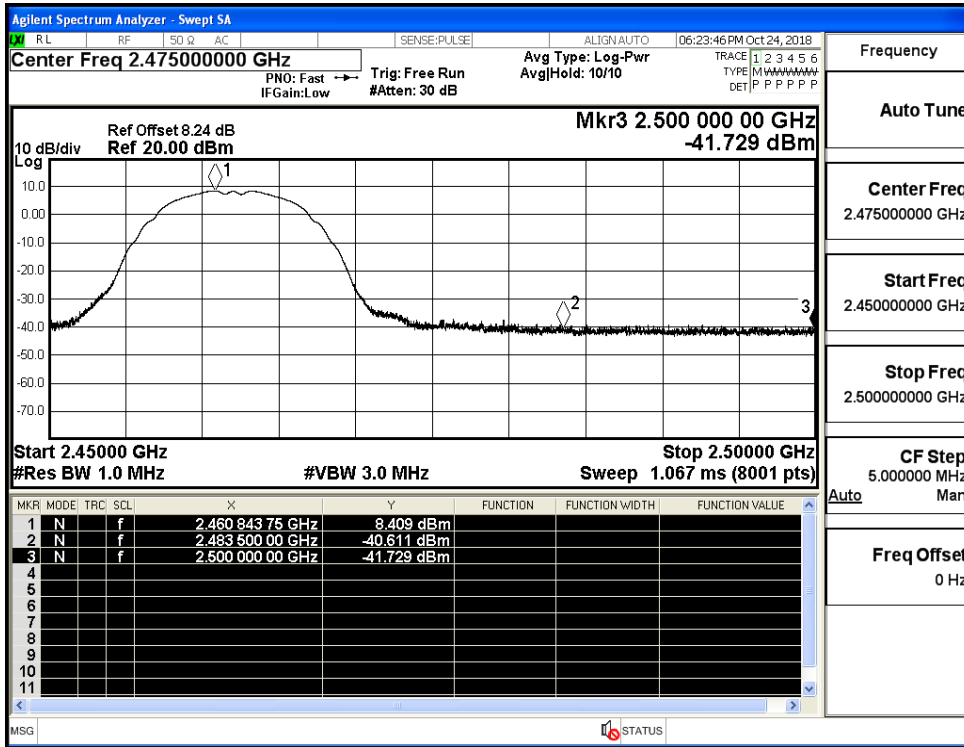
Restrict-band band-edge measurements_11B_2412_Ant1_PEAK



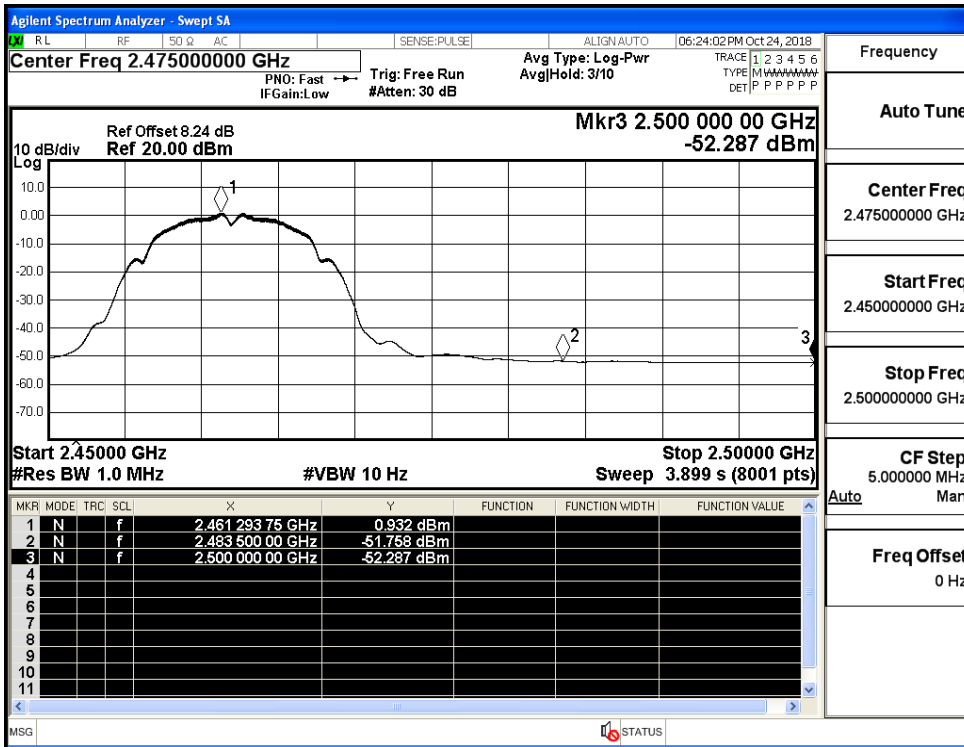
Restrict-band band-edge measurements_11B_2412_Ant1_AV



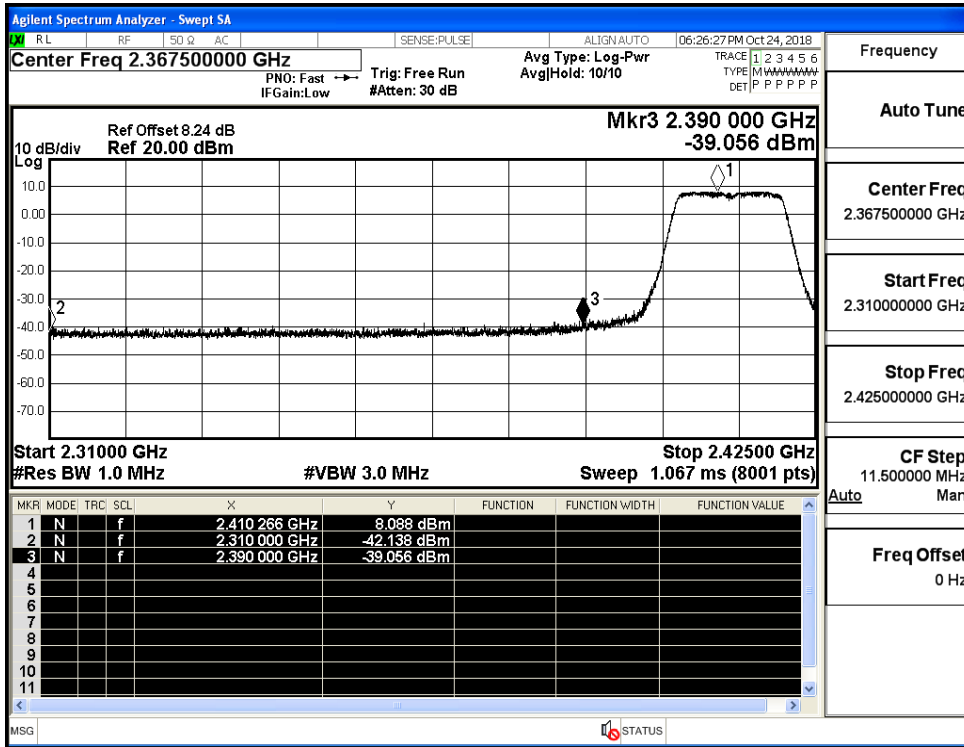
Restrict-band band-edge measurements_11B_2462_Ant1_PEAK



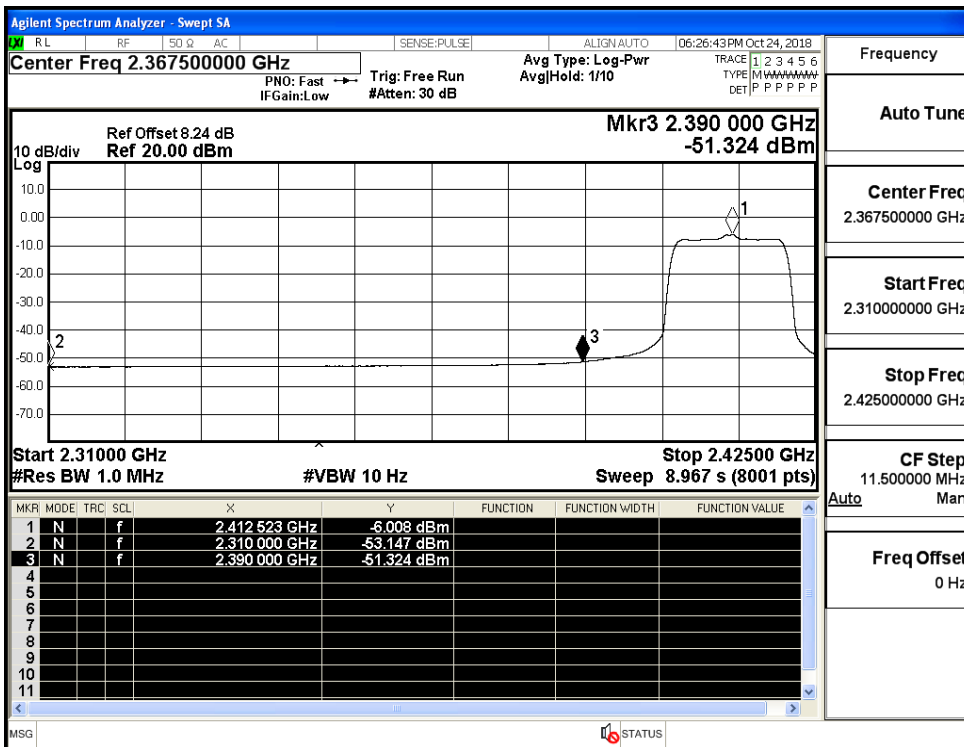
Restrict-band band-edge measurements_11B_2462_Ant1_AV



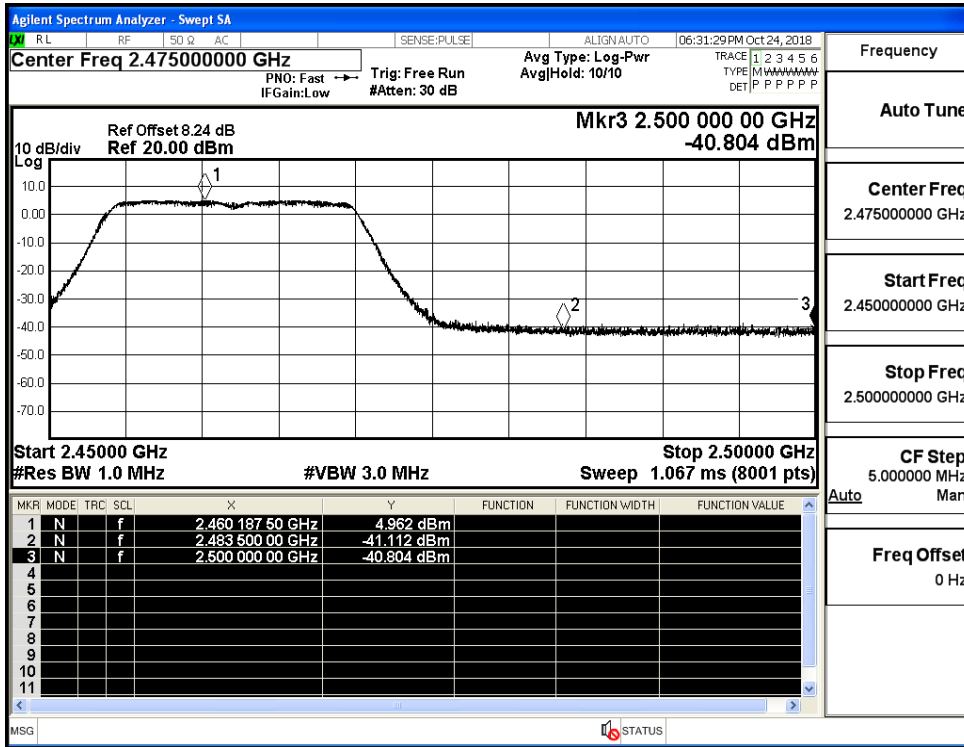
Restrict-band band-edge measurements_11G_2412_Ant1_PEAK



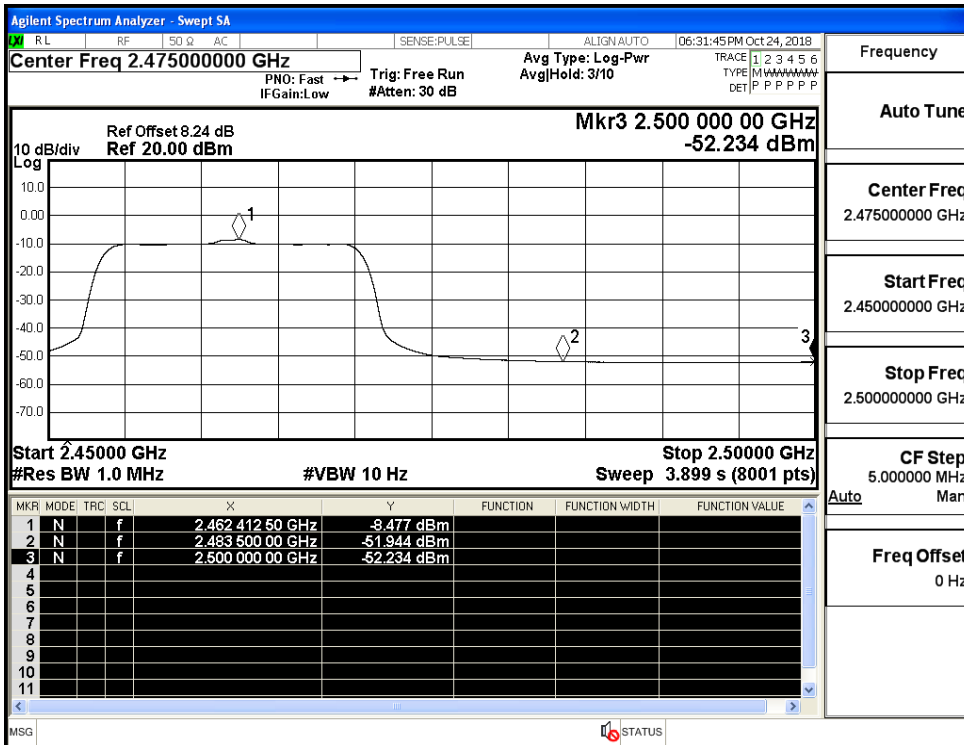
Restrict-band band-edge measurements_11G_2412_Ant1_AV



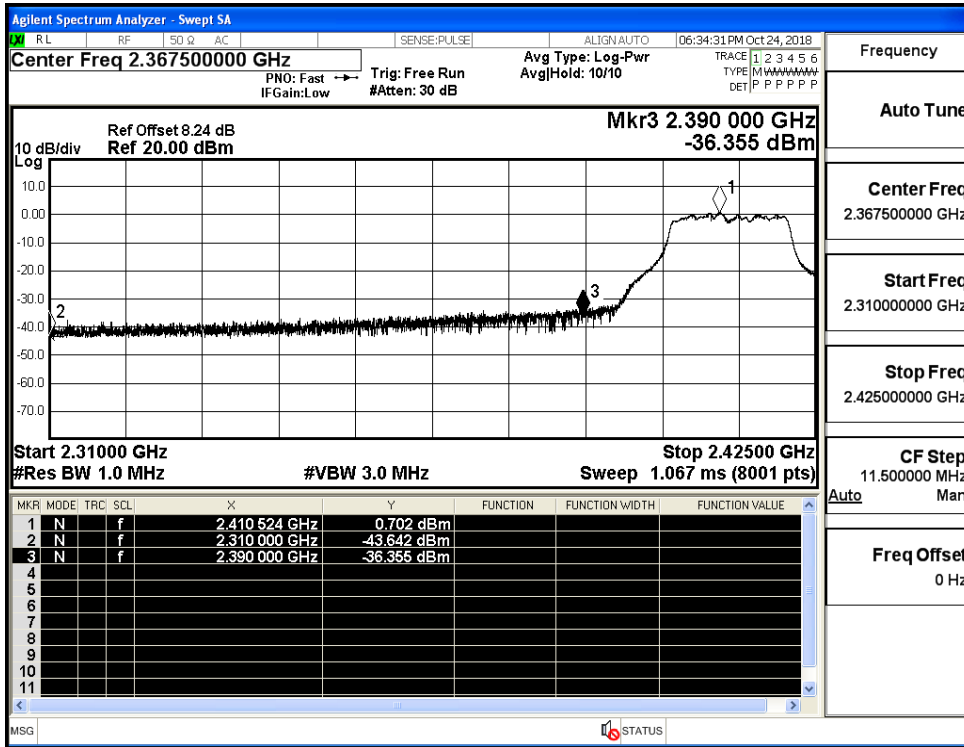
Restrict-band band-edge measurements_11G_2462_Ant1_PEAK



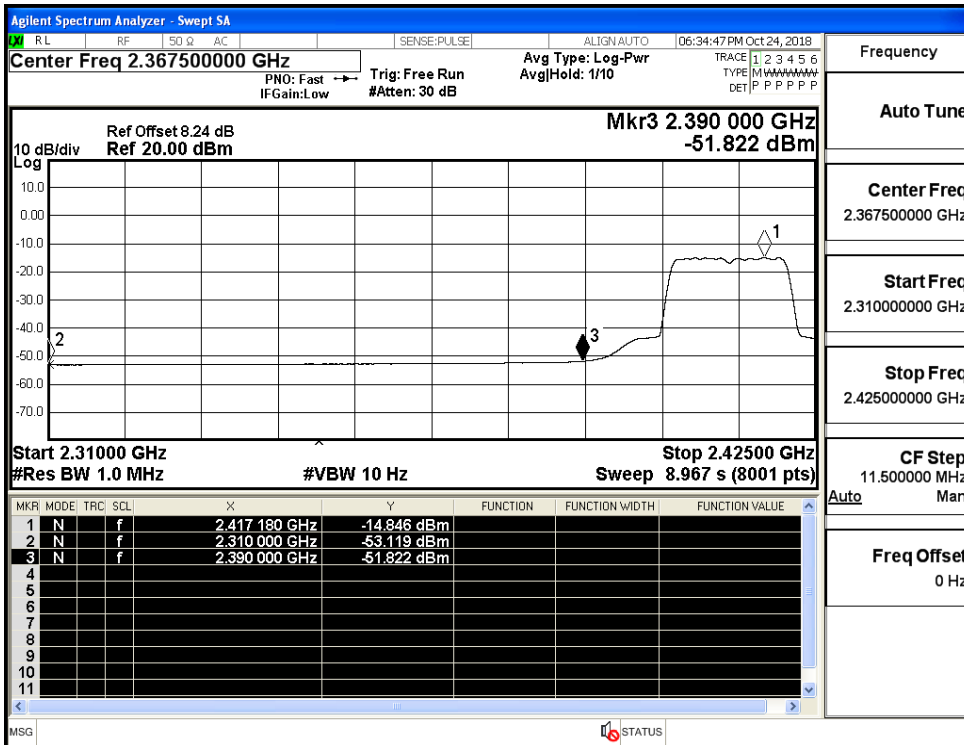
Restrict-band band-edge measurements_11G_2462_Ant1_AV



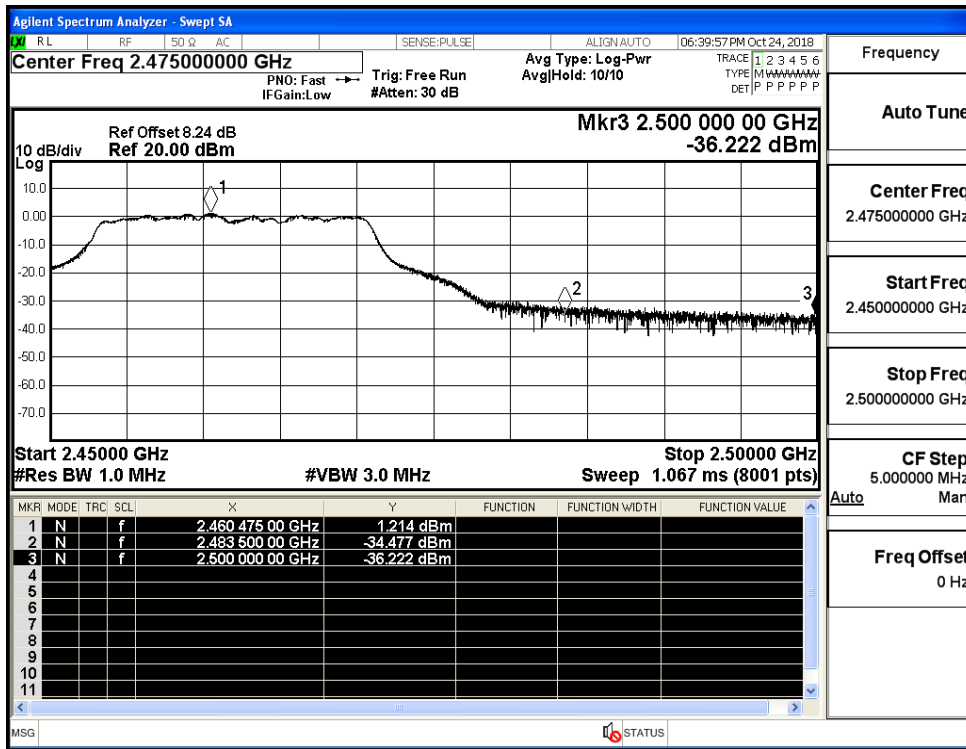
Restrict-band band-edge measurements_11N20SISO_2412_Ant1_PEAK



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

