

Appendix A

RF Test Data for 2.4G WIFI (Conducted Measurement)

Product Name: kids alarm clock

Trade Mark: SYCEES, Tntants, Kapebow

Test Model: AFQ05

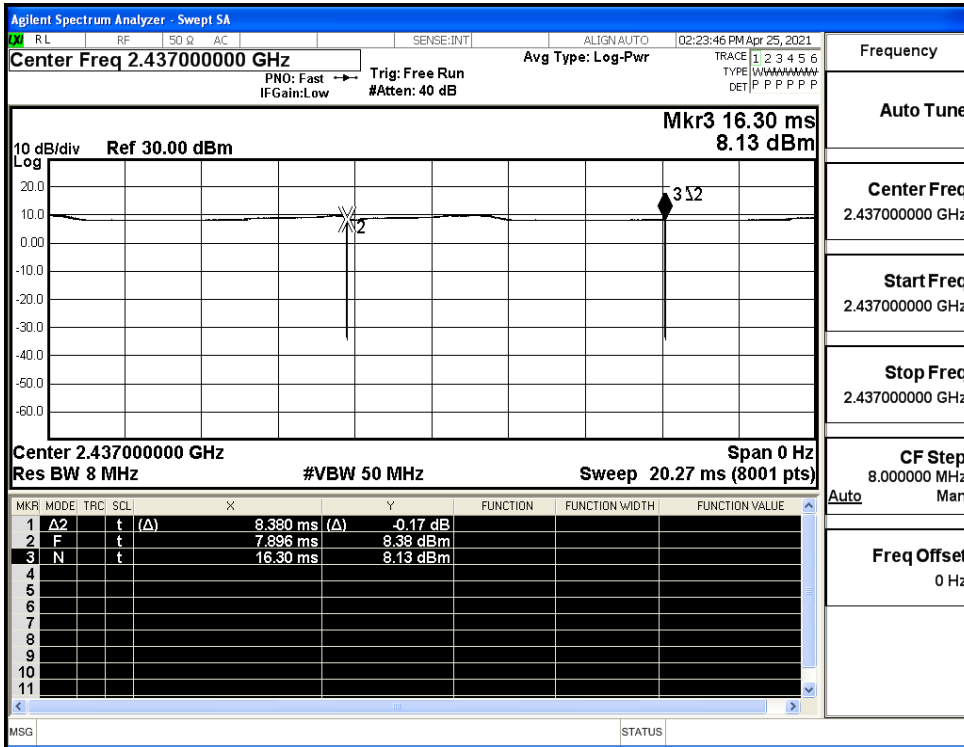
Environmental Conditions

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

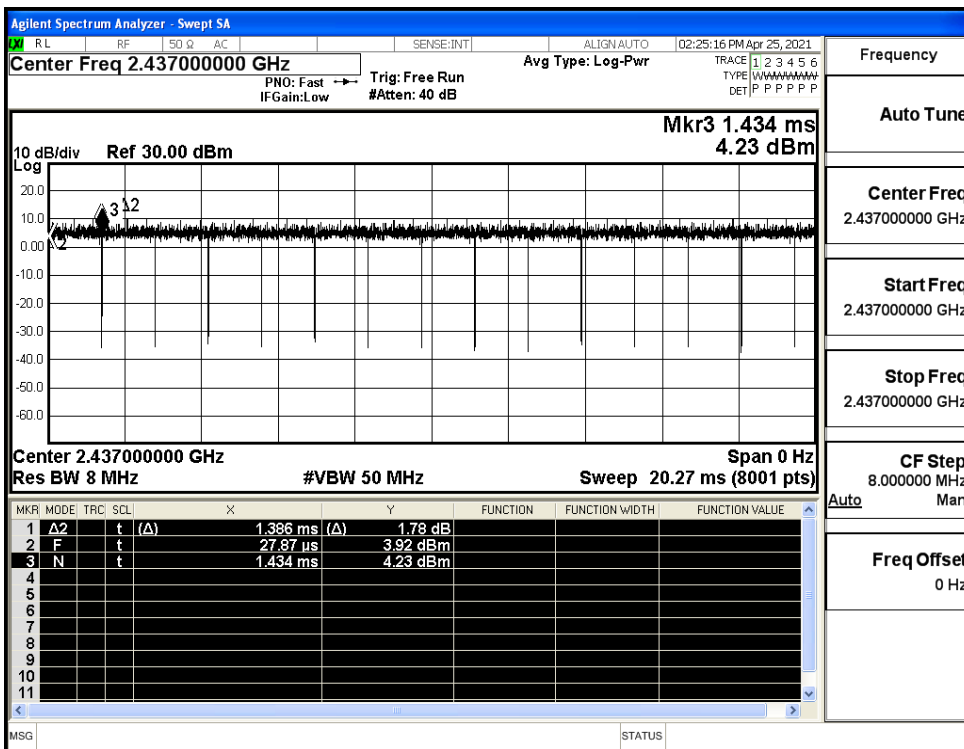
A.1 Duty Cycle

Test Mode	Test Channel	Ant	Duty Cycle[%]	Verdict
11B	2437	Ant1	99.76	PASS
11G	2437	Ant1	98.56	PASS
11N20SISO	2437	Ant1	98.65	PASS
11N40SISO	2437	Ant1	98.07	PASS

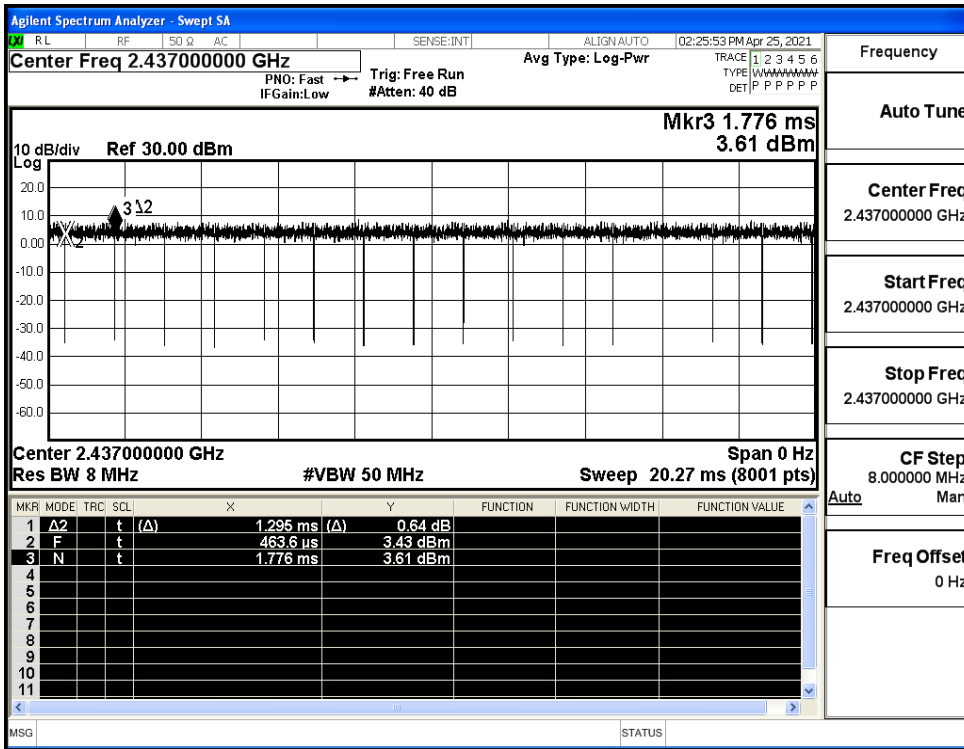
Duty Cycle_11B_2437_Ant1



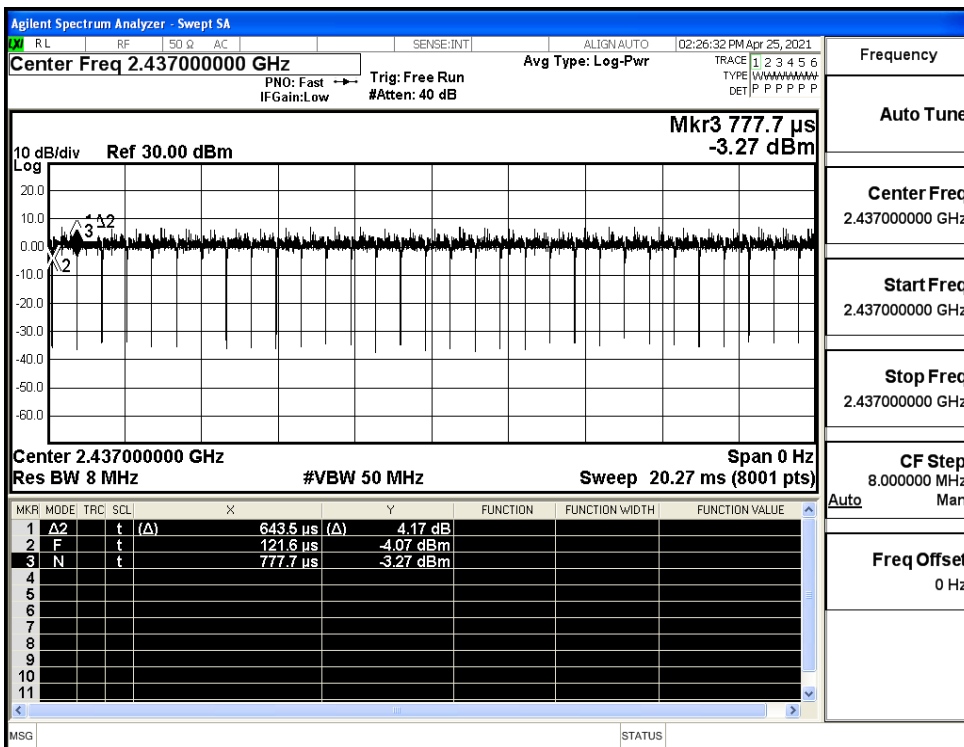
Duty Cycle_11G_2437_Ant1



Duty Cycle_11N20SISO_2437_Ant1



Duty Cycle_11N40SISO_2437_Ant1

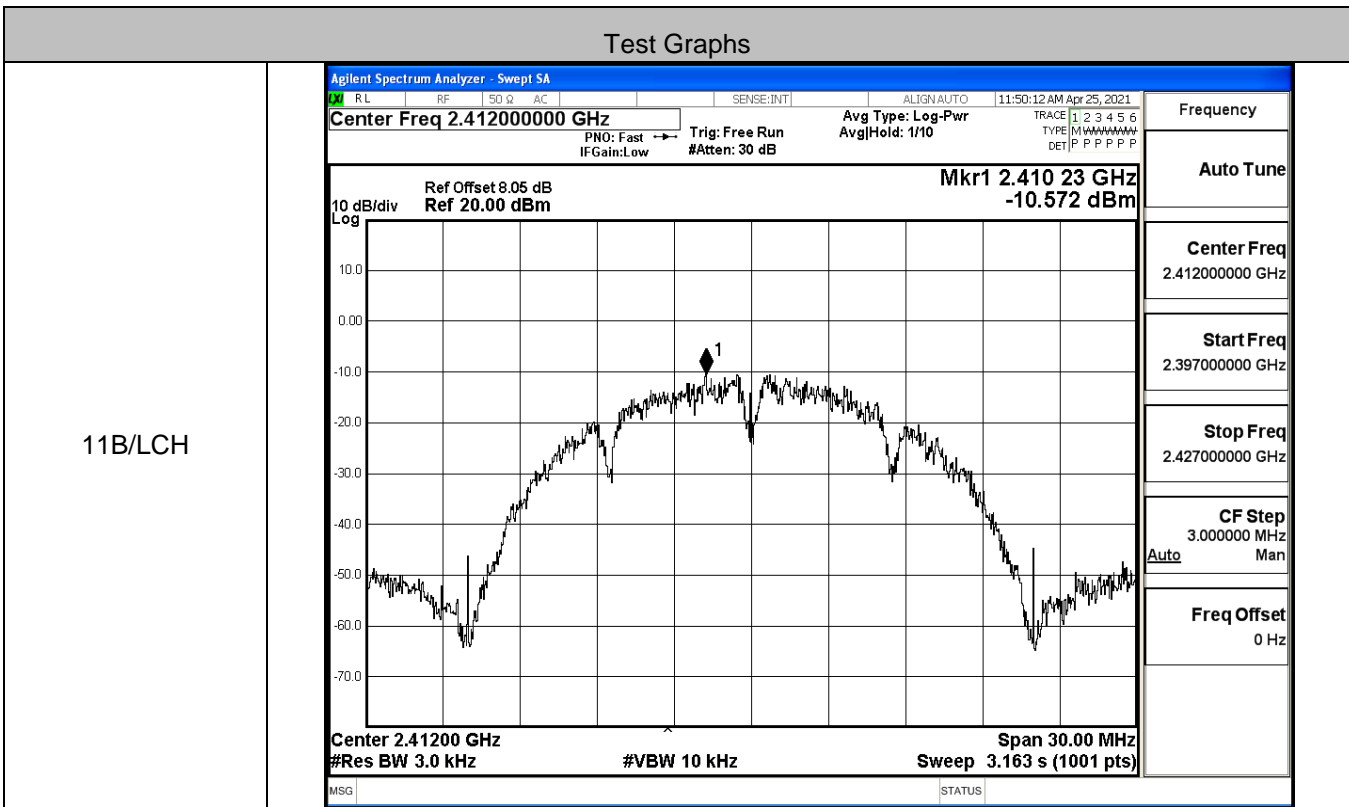


A.2 Maximum Conducted Output Power

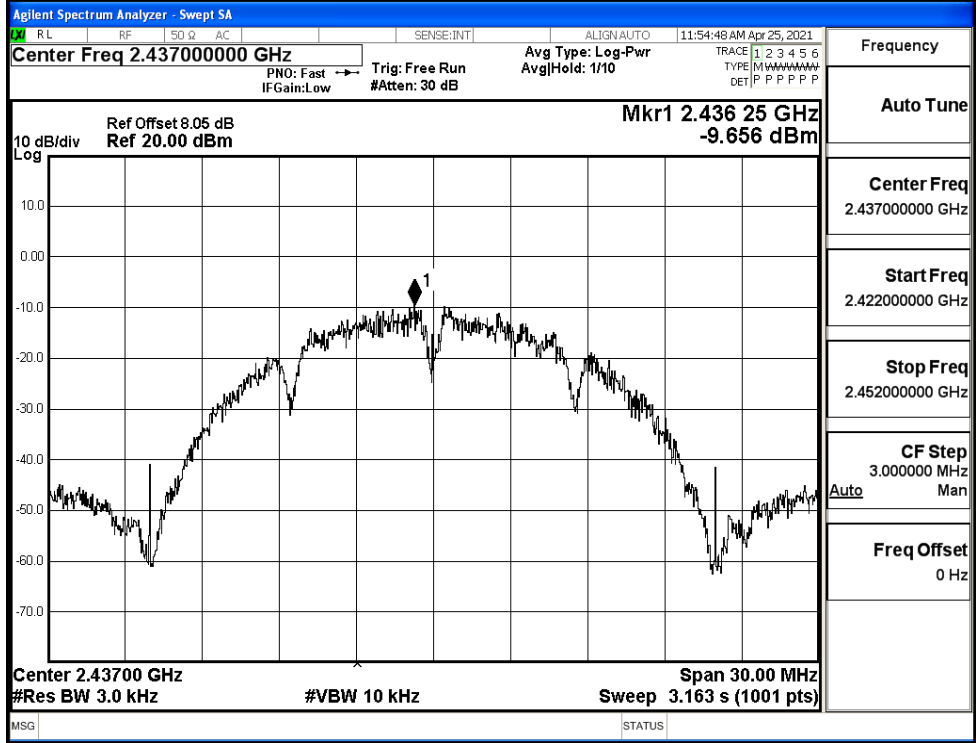
Mode	Channel	Meas.Level [dBm]	Limit [dBm]	Verdict
11B	LCH	17.25	30	PASS
	MCH	17.68	30	PASS
	HCH	17.46	30	PASS
11G	LCH	15.57	30	PASS
	MCH	17.24	30	PASS
	HCH	17.01	30	PASS
11N20SISO	LCH	13.43	30	PASS
	MCH	15.58	30	PASS
	HCH	15.66	30	PASS
11N40SISO	LCH	15.13	30	PASS
	MCH	15.89	30	PASS
	HCH	16.35	30	PASS

A.3 Maximum Power Spectral Density

Mode	Channel	Meas.Level [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
11B	LCH	-10.572	8	PASS
	MCH	-9.656	8	PASS
	HCH	-9.436	8	PASS
11G	LCH	-17.302	8	PASS
	MCH	-15.031	8	PASS
	HCH	-15.069	8	PASS
11N20SISO	LCH	-18.387	8	PASS
	MCH	-16.842	8	PASS
	HCH	-15.297	8	PASS
11N40SISO	LCH	-19.202	8	PASS
	MCH	-18.778	8	PASS
	HCH	-19.523	8	PASS

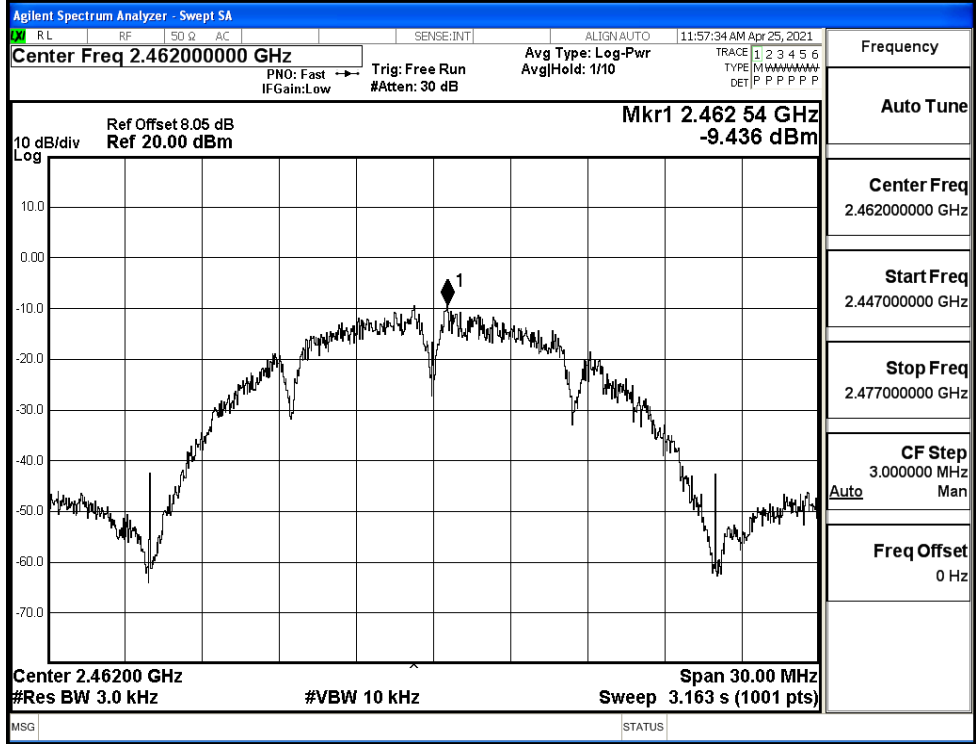


11B/MCH



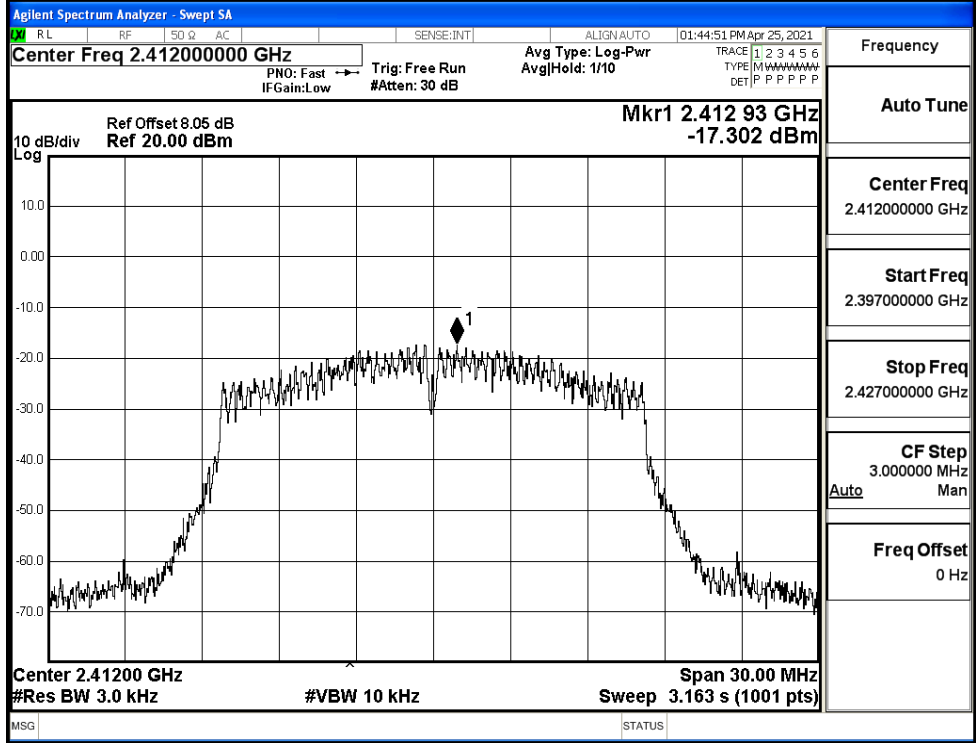
Frequency
Auto Tune
Center Freq 2.437000000 GHz
Start Freq 2.422000000 GHz
Stop Freq 2.452000000 GHz
CF Step 3.000000 MHz Auto Man
Freq Offset 0 Hz

11B/HCH

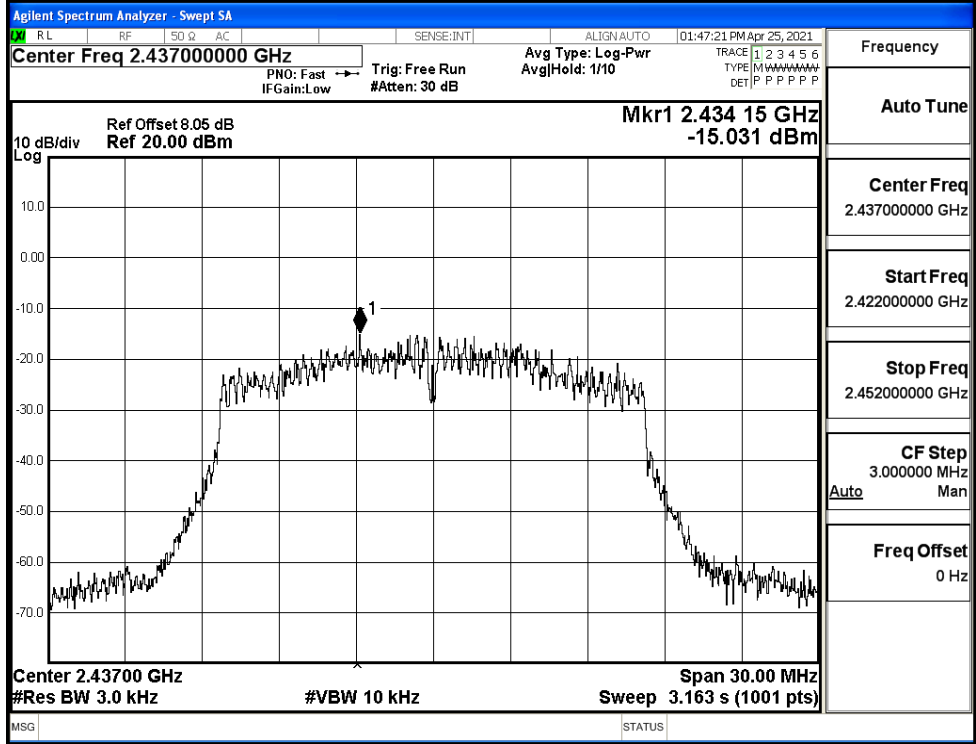


Frequency
Auto Tune
Center Freq 2.462000000 GHz
Start Freq 2.447000000 GHz
Stop Freq 2.477000000 GHz
CF Step 3.000000 MHz Auto Man
Freq Offset 0 Hz

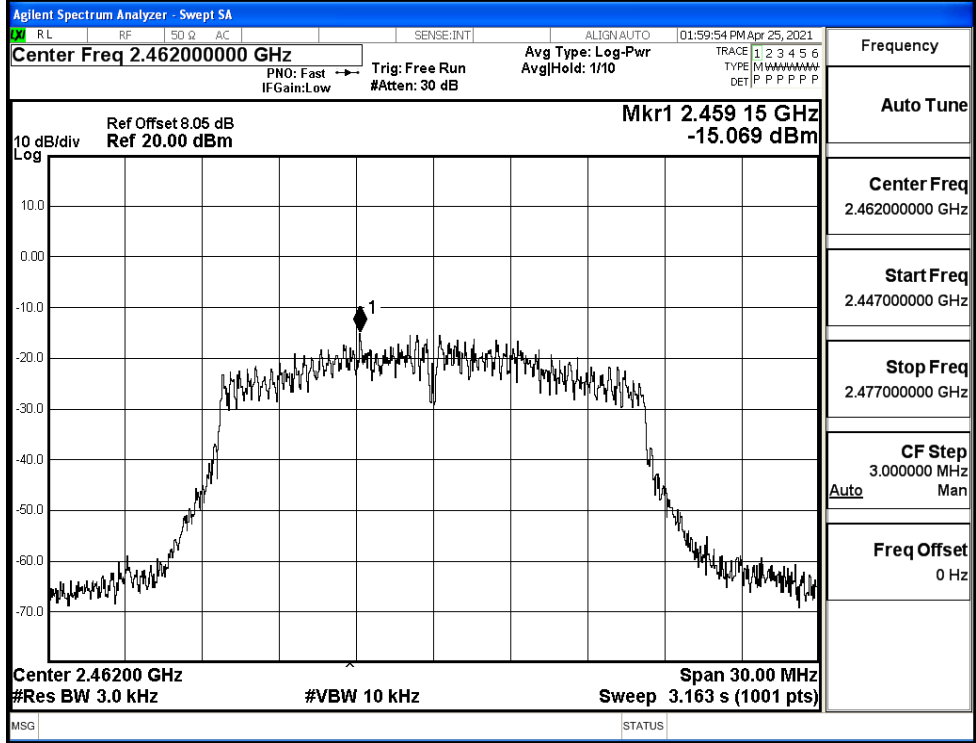
11G/LCH



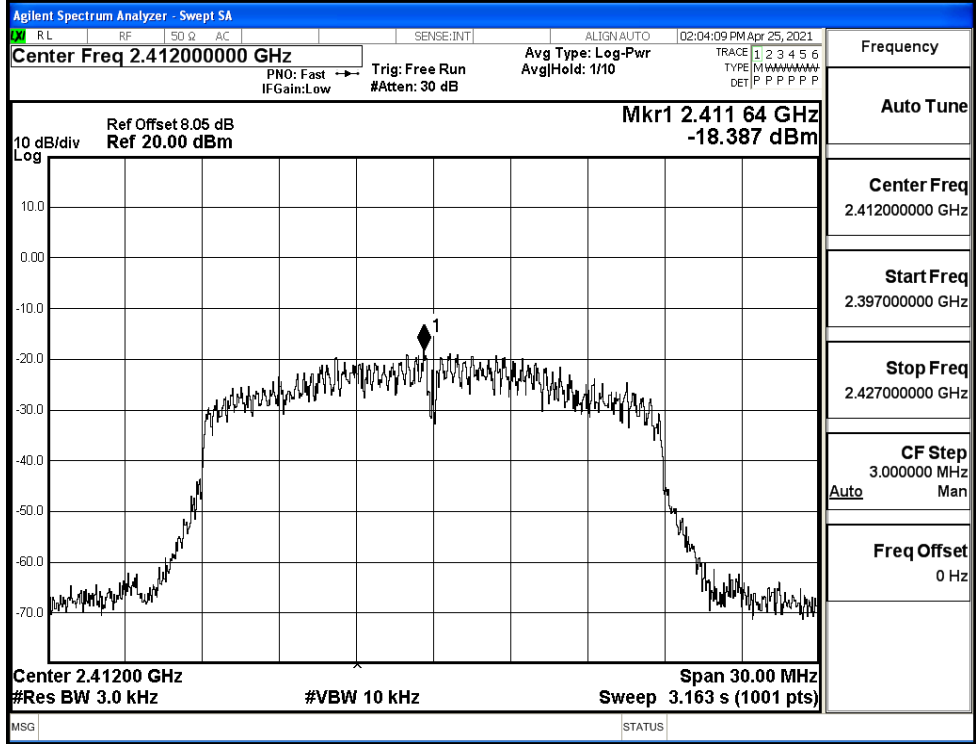
11G/MCH



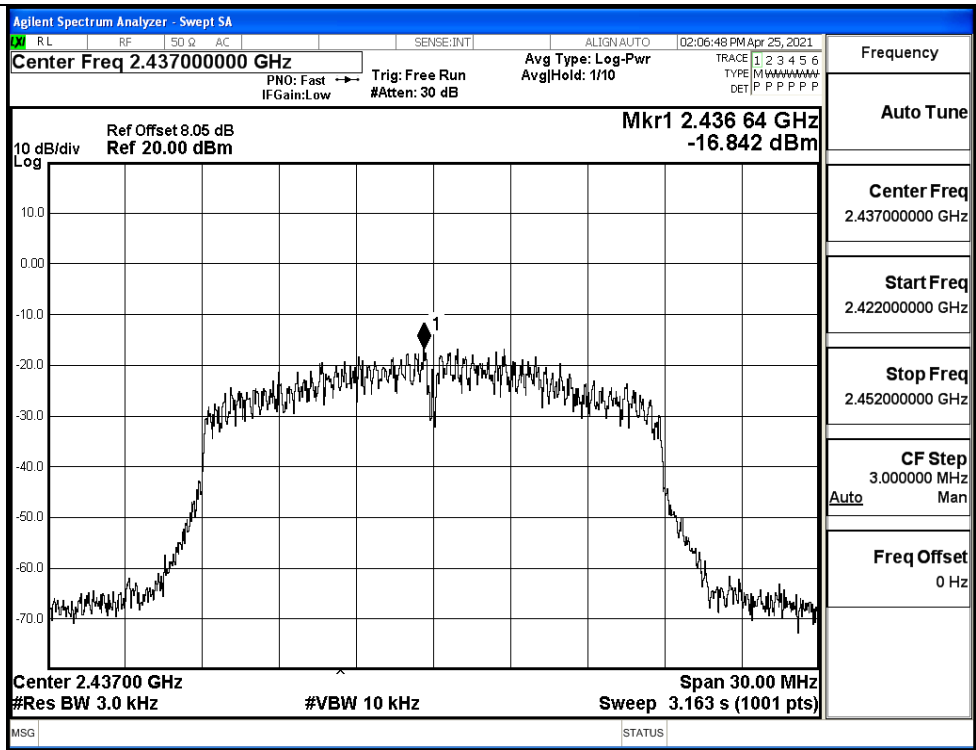
11G/HCH



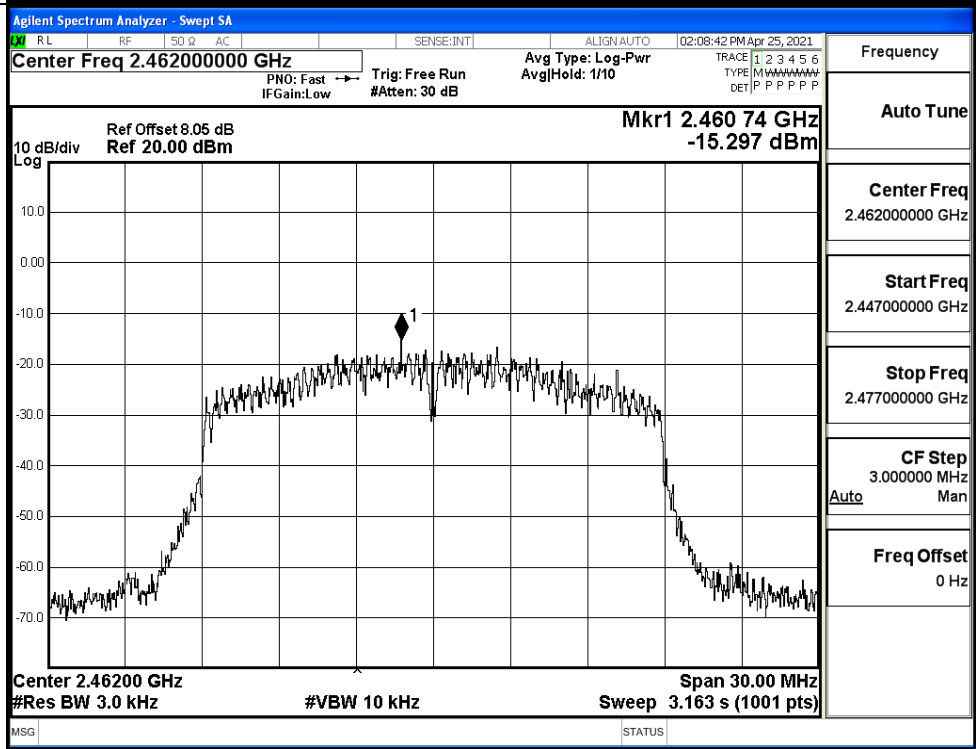
11N20SISO/LCH



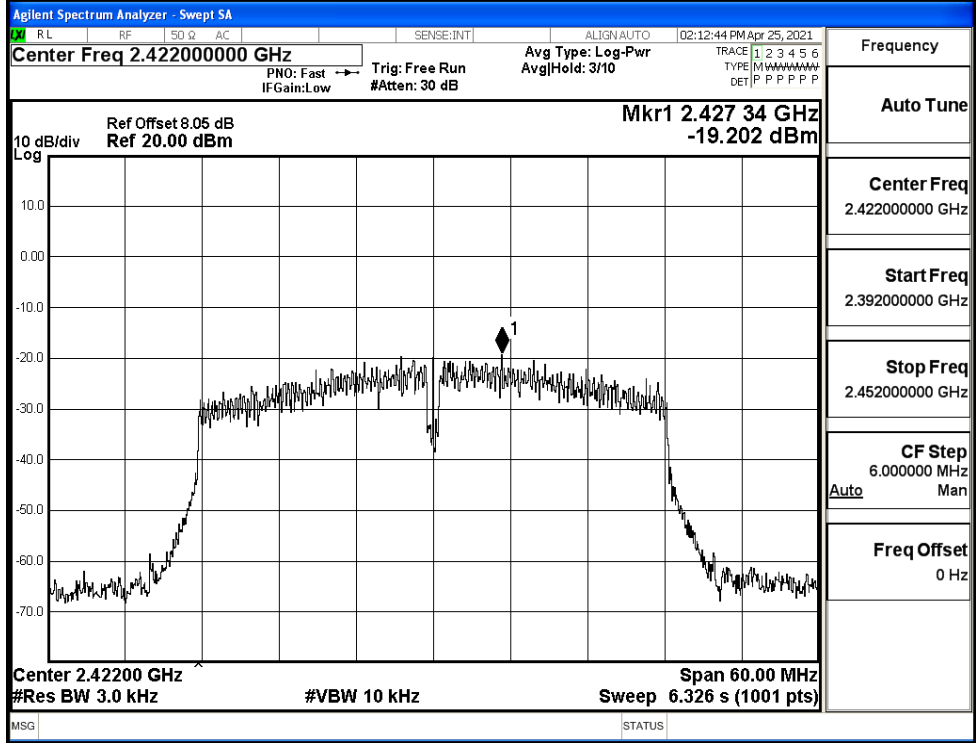
11N20SISO/MCH



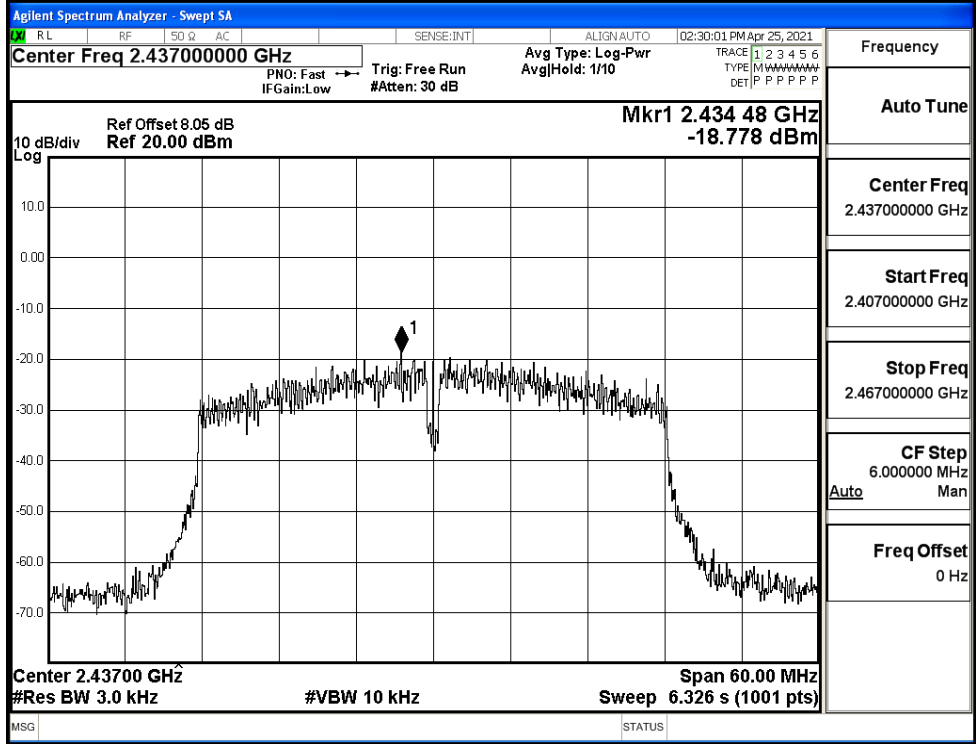
11N20SISO/HCH



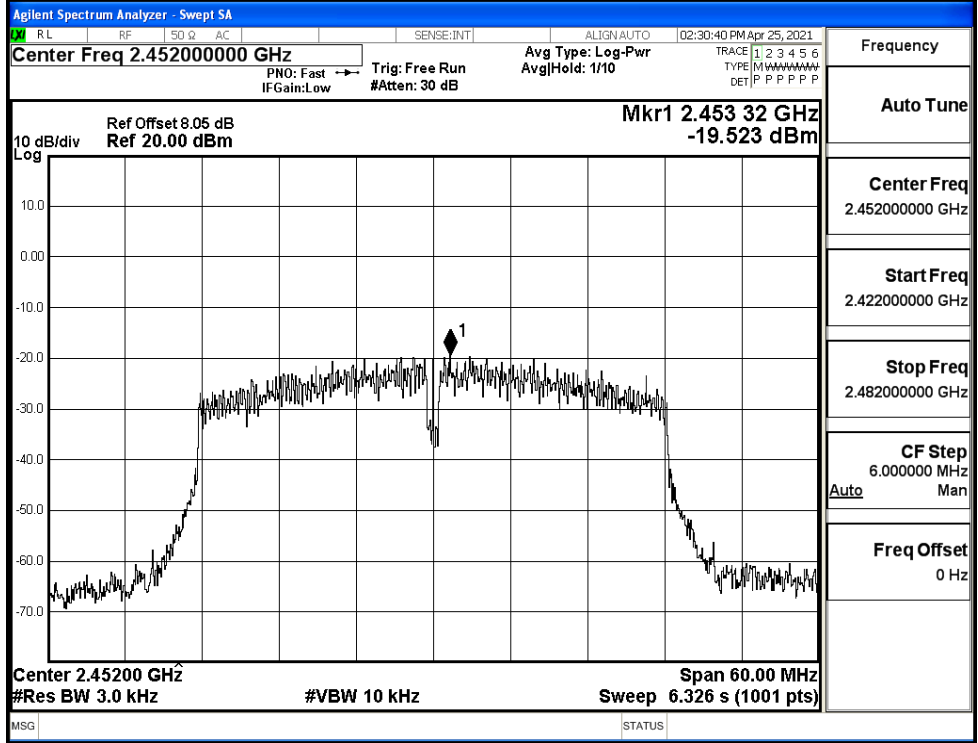
11N40SISO/LCH



11N40SISO/MCH

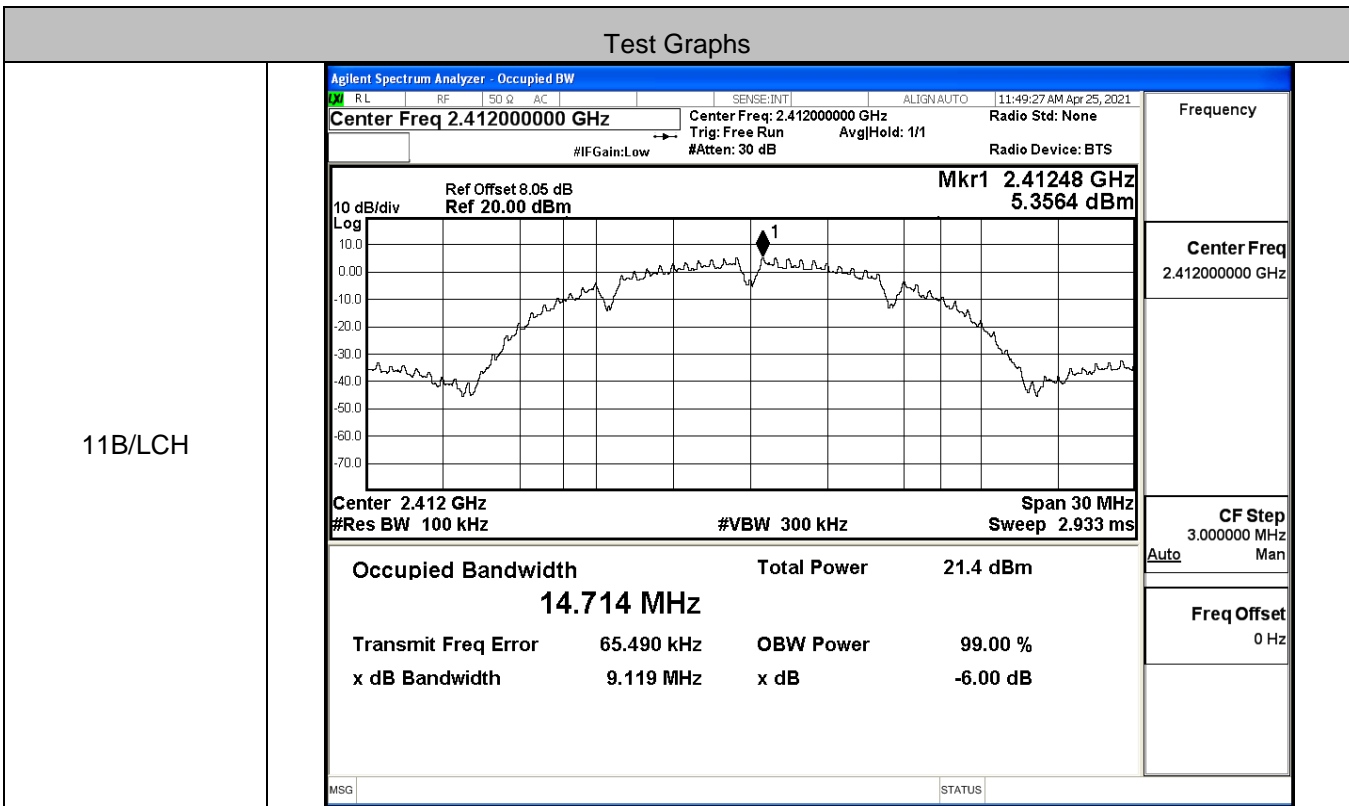


11N40SISO/HCH

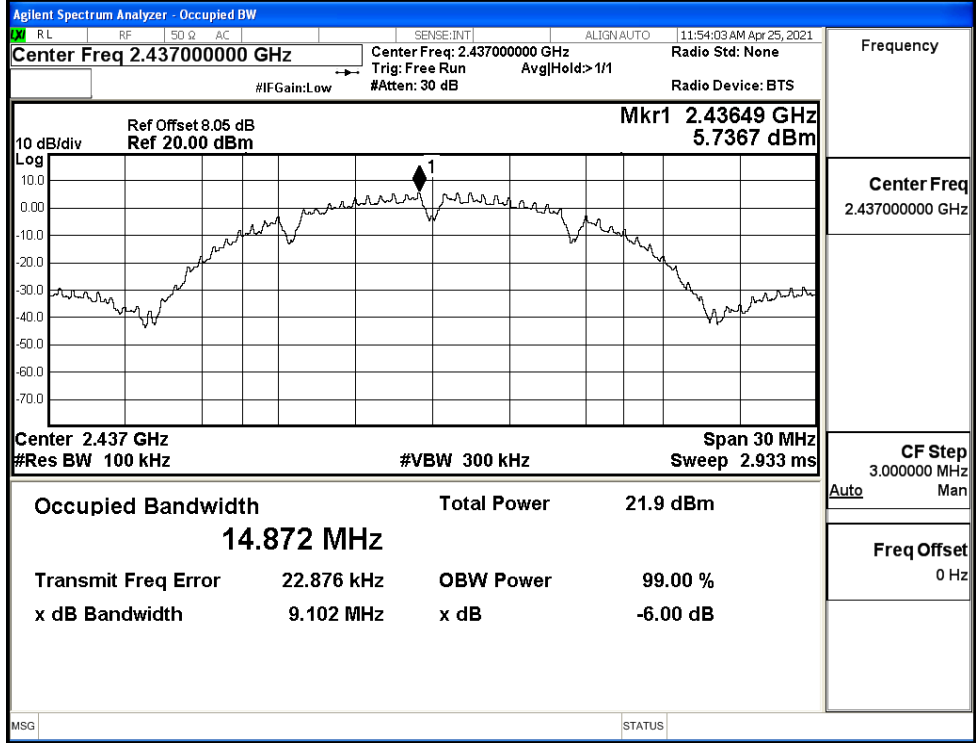


A.4 6dB Bandwidth

Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
11B	LCH	9.119	≥0.5	PASS
	MCH	9.102	≥0.5	PASS
	HCH	9.580	≥0.5	PASS
11G	LCH	11.34	≥0.5	PASS
	MCH	12.53	≥0.5	PASS
	HCH	12.55	≥0.5	PASS
11N20SISO	LCH	10.11	≥0.5	PASS
	MCH	13.79	≥0.5	PASS
	HCH	11.34	≥0.5	PASS
11N40SISO	LCH	31.35	≥0.5	PASS
	MCH	31.29	≥0.5	PASS
	HCH	33.79	≥0.5	PASS

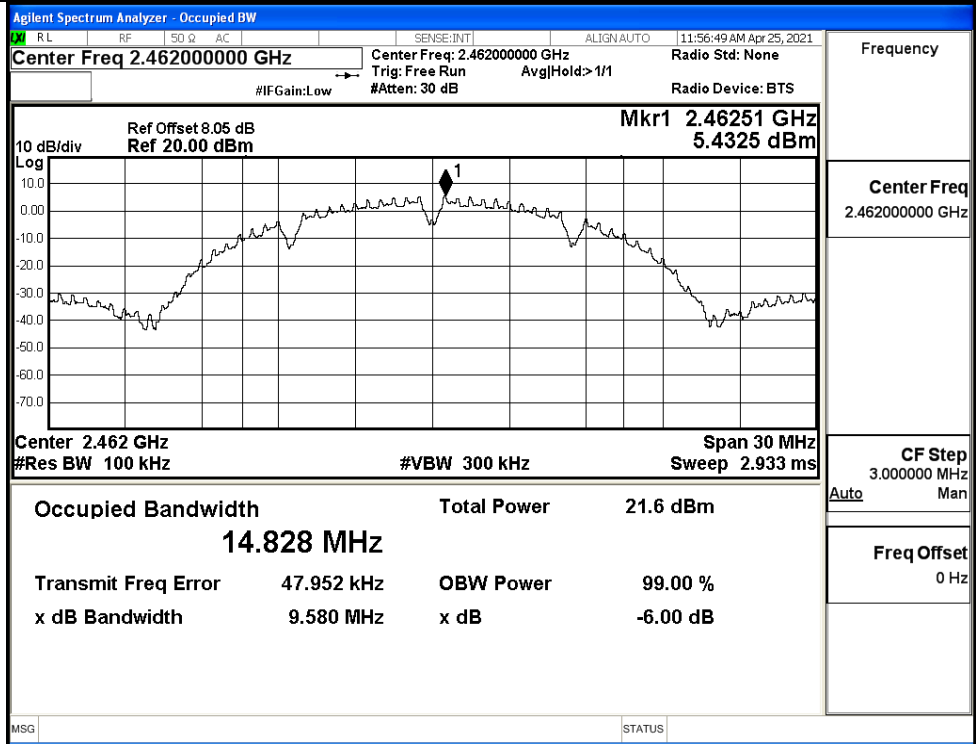


11B/MCH



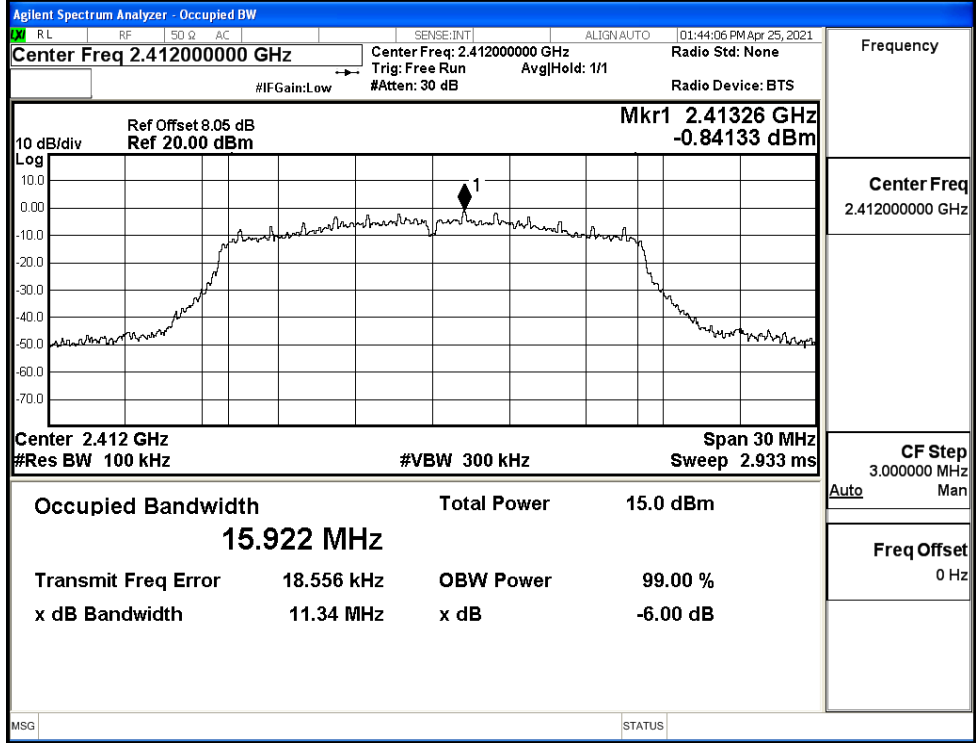
Frequency	2.43700000 GHz
Center Freq	2.43700000 GHz
CF Step	3.000000 MHz
Auto	Man
Freq Offset	0 Hz

11B/HCH



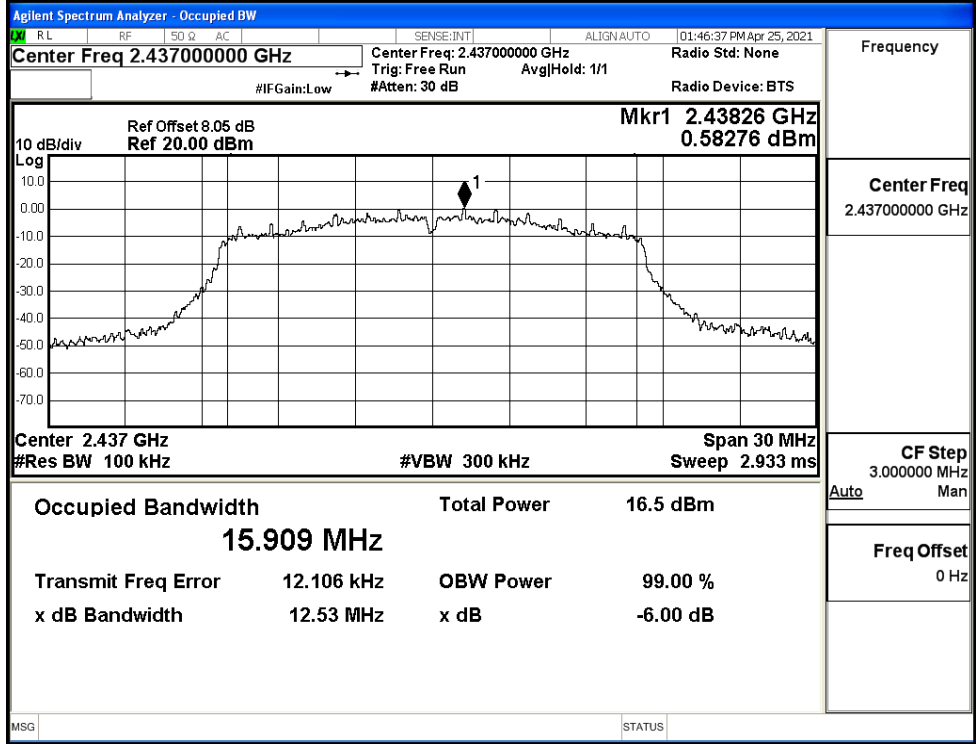
Frequency	2.46200000 GHz
Center Freq	2.46200000 GHz
CF Step	3.000000 MHz
Auto	Man
Freq Offset	0 Hz

11G/LCH



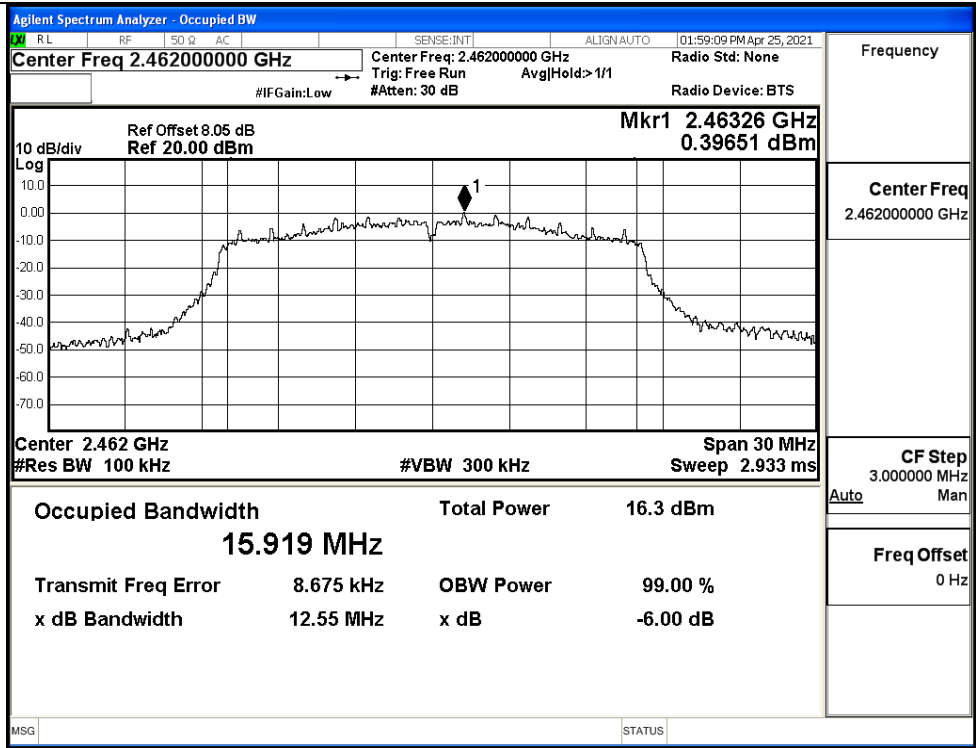
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Center Freq	2.41200000 GHz
CF Step	3.000000 MHz
Auto	Man
Freq Offset	0 Hz

11G/MCH

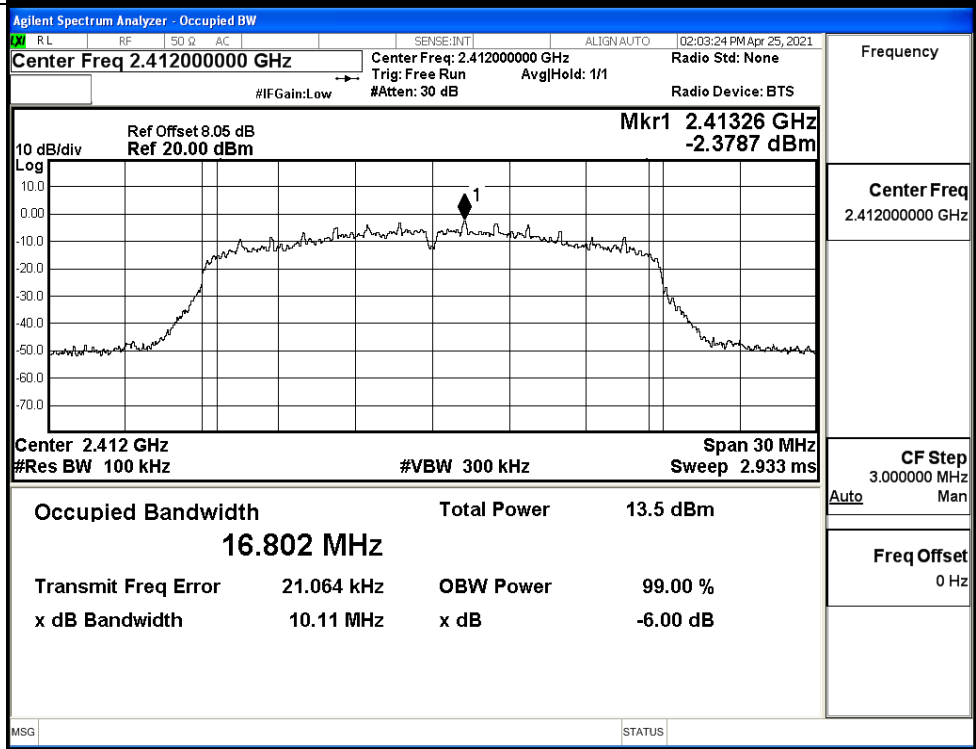


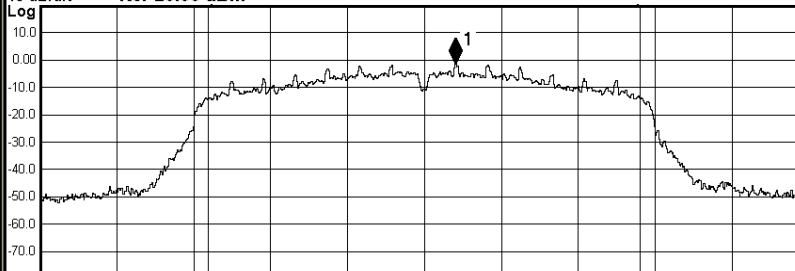
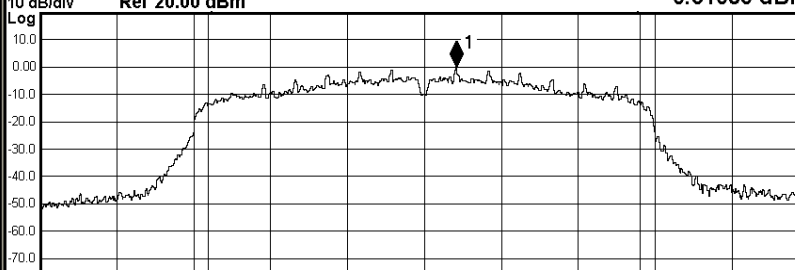
Frequency	2.43700000 GHz
Center Freq	2.43700000 GHz
CF Step	3.000000 MHz
Auto	Man
Freq Offset	0 Hz

11G/HCH

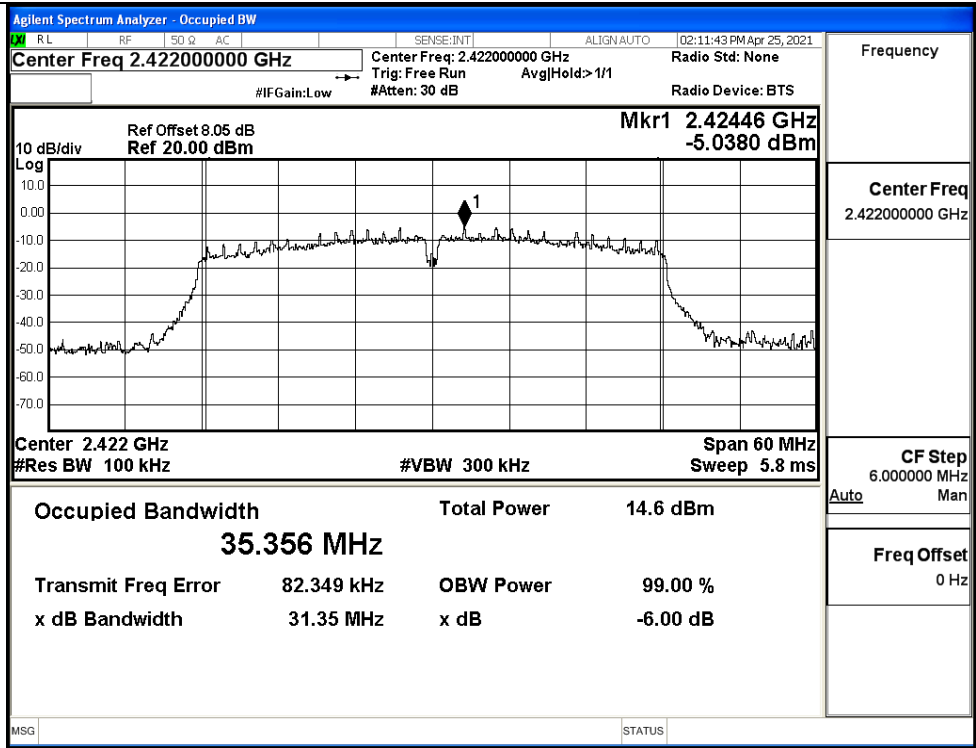


11N20SISO/LCH

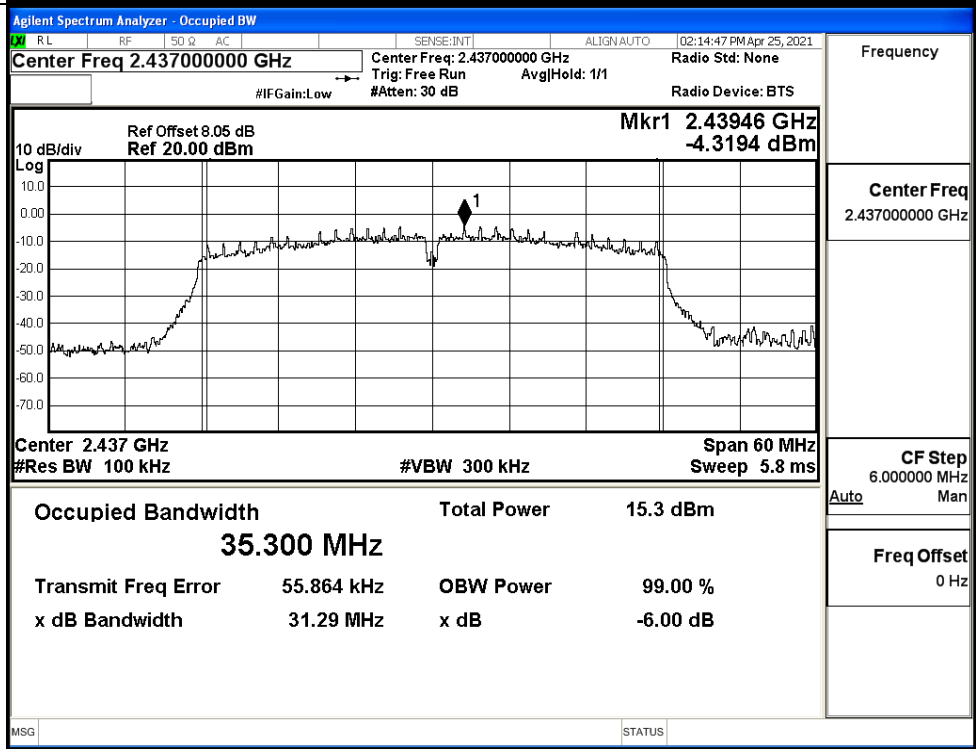


<p>11N20SISO/MCH</p>	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>RL RF SQ Ω AC SENSE:INT ALIGN AUTO 02:06:03 PM Apr 25, 2021</p> <p>Center Freq 2.43700000 GHz Center Freq: 2.43700000 GHz Radio Std: None Trig: Free Run Avg Hold: 1/1 #IFGain:Low #Atten: 30 dB Radio Device: BTS</p> <p>10 dB/div Ref Offset 8.05 dB Mkr1 2.4382 GHz Ref 20.00 dBm -1.5164 dBm</p>  <p>Center 2.437 GHz Span 30 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 2.933 ms</p> <p>Occupied Bandwidth Total Power 15.0 dBm 16.772 MHz</p> <p>Transmit Freq Error -3.477 kHz OBW Power 99.00 % x dB Bandwidth 13.79 MHz x dB -6.00 dB</p> <p>MSG STATUS</p>	<p>Frequency</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>Agilent Spectrum Analyzer - Occupied BW</p> <p>RL RF SQ Ω AC SENSE:INT ALIGN AUTO 02:07:57 PM Apr 25, 2021</p> <p>Center Freq 2.46200000 GHz Center Freq: 2.46200000 GHz Radio Std: None Trig: Free Run Avg Hold: >1/1 #IFGain:Low #Atten: 30 dB Radio Device: BTS</p> <p>10 dB/div Ref Offset 8.05 dB Mkr1 2.46323 GHz Ref 20.00 dBm -0.31085 dBm</p>  <p>Center 2.462 GHz Span 30 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 2.933 ms</p> <p>Occupied Bandwidth Total Power 15.4 dBm 16.805 MHz</p> <p>Transmit Freq Error -3.398 kHz OBW Power 99.00 % x dB Bandwidth 11.34 MHz x dB -6.00 dB</p> <p>MSG STATUS</p>

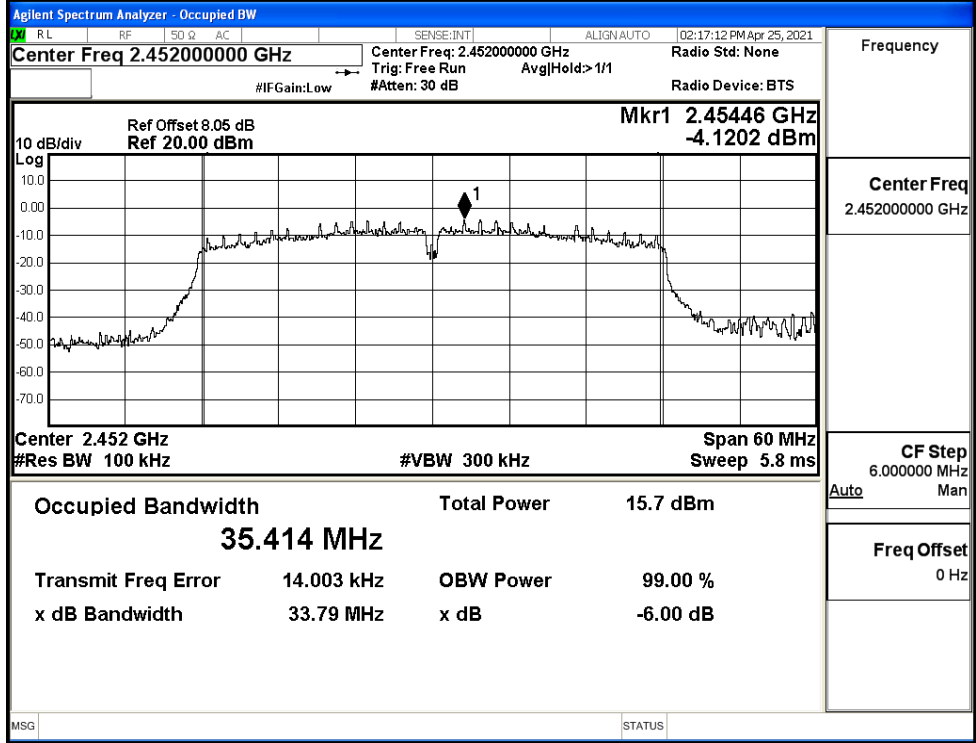
11N40SISO/LCH



11N40SISO/MCH



11N40SISO/HCH

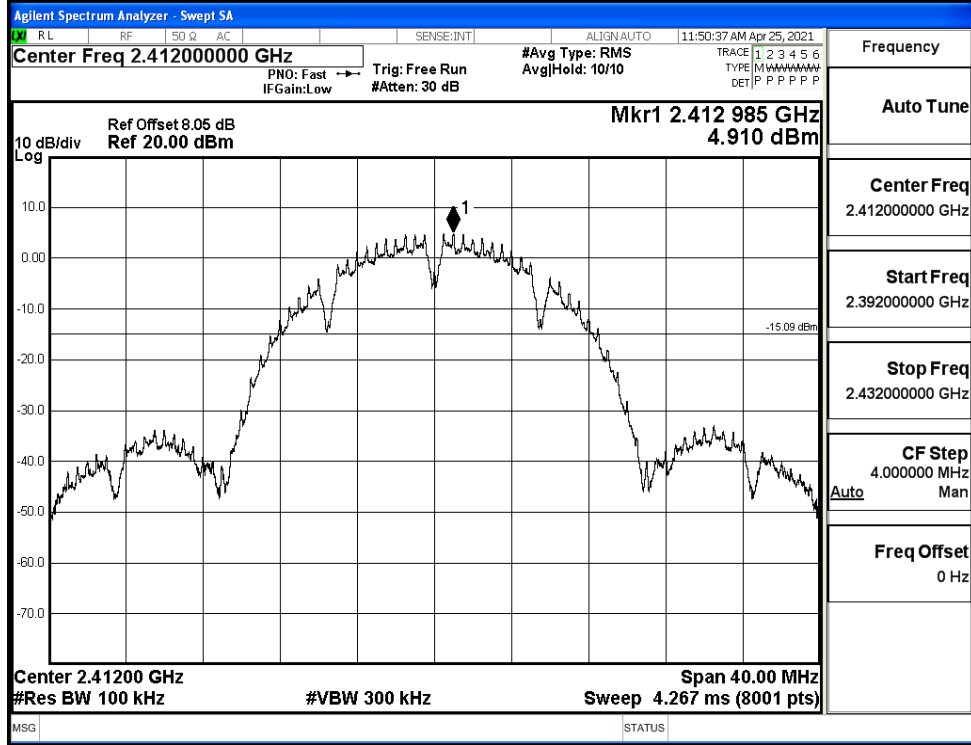


A.5 RF Conducted Spurious Emissions

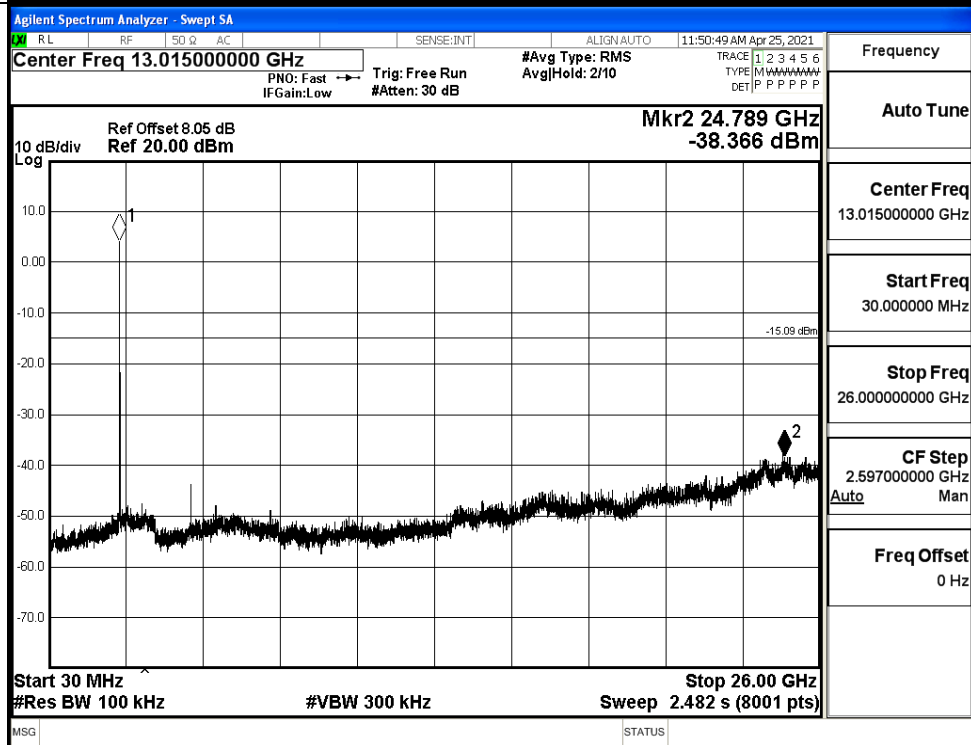
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
11B	LCH	4.91	-38.366	-15.090	PASS
	MCH	5.685	-37.968	-14.315	PASS
	HCH	5.329	-38.022	-14.671	PASS
11G	LCH	-0.991	-38.155	-20.991	PASS
	MCH	0.177	-37.959	-19.823	PASS
	HCH	0.337	-37.868	-19.663	PASS
11N20 SISO	LCH	-3.408	-38.224	-23.408	PASS
	MCH	-0.818	-38.658	-20.818	PASS
	HCH	-1.339	-38.230	-21.339	PASS
11N40 SISO	LCH	-5.106	-36.906	-25.106	PASS
	MCH	-4.316	-37.081	-24.316	PASS
	HCH	-4.302	-37.593	-24.302	PASS

11B_LCH_Graphs

Pref/11B/LCH

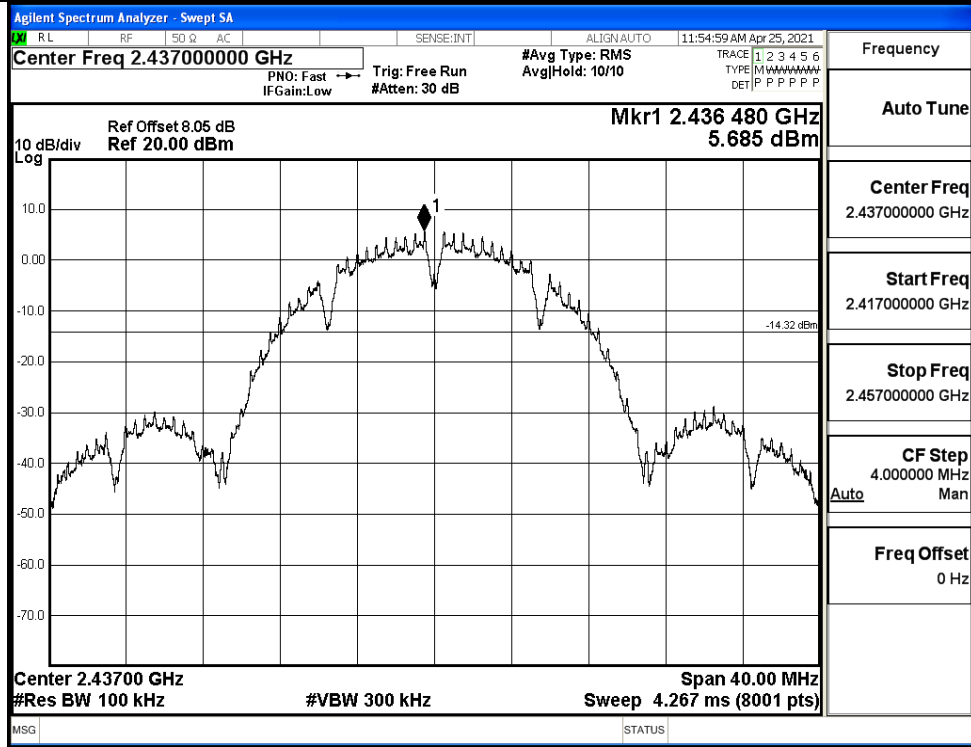


Puw/11B/LCH

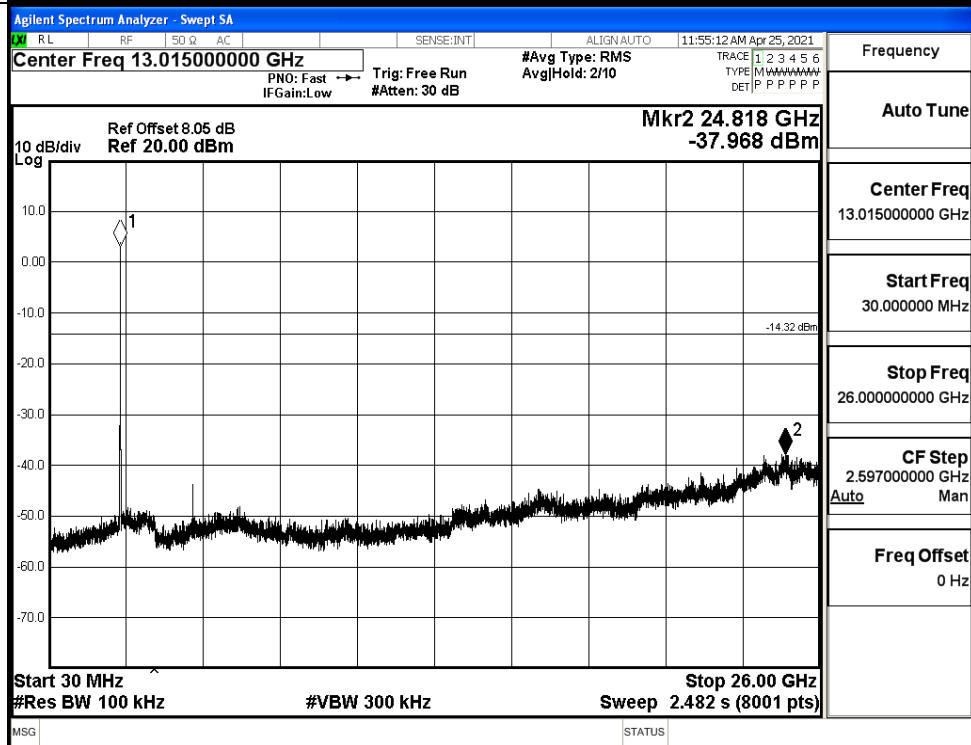


11B_MCH_Graphs

Pref/11B/MCH

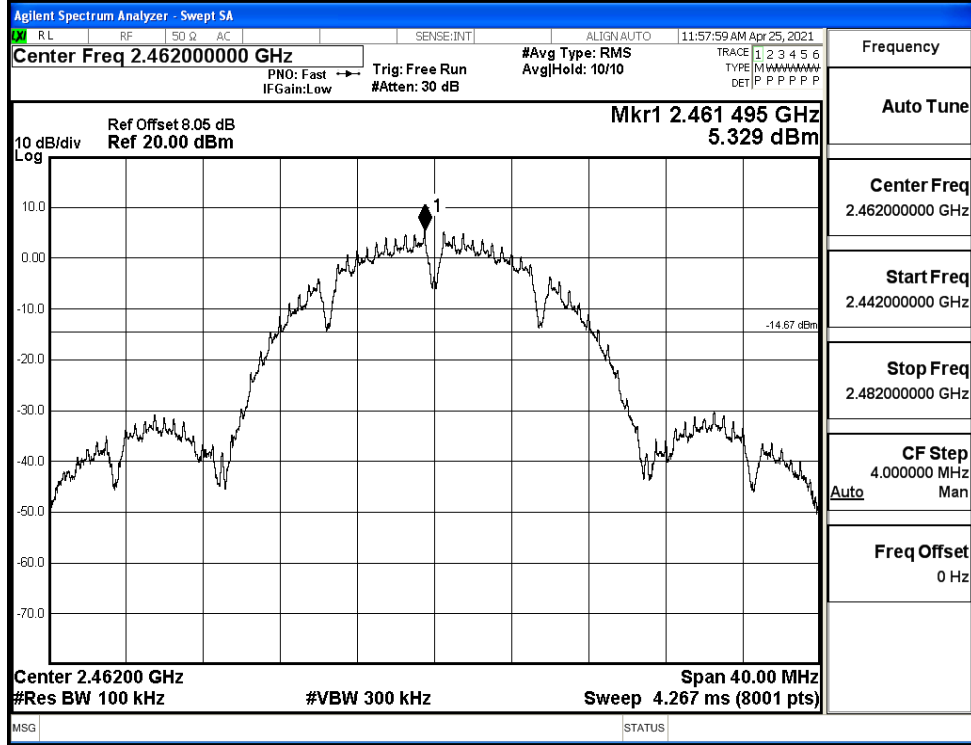


Puw/11B/MCH

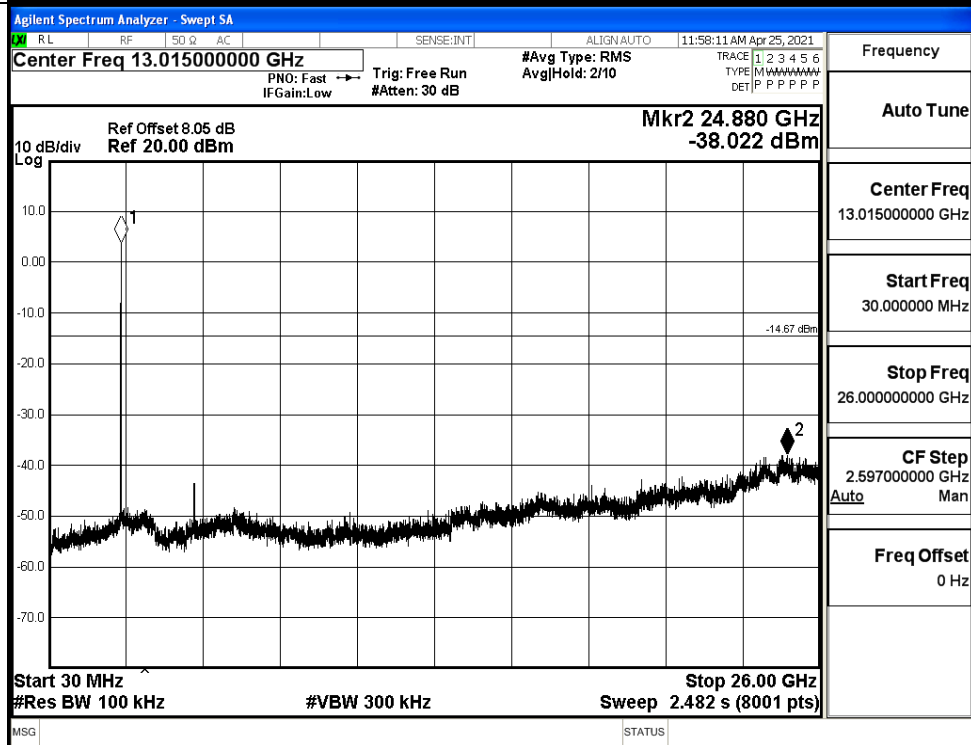


11B_HCH_Graphs

Pref/11B/HCH

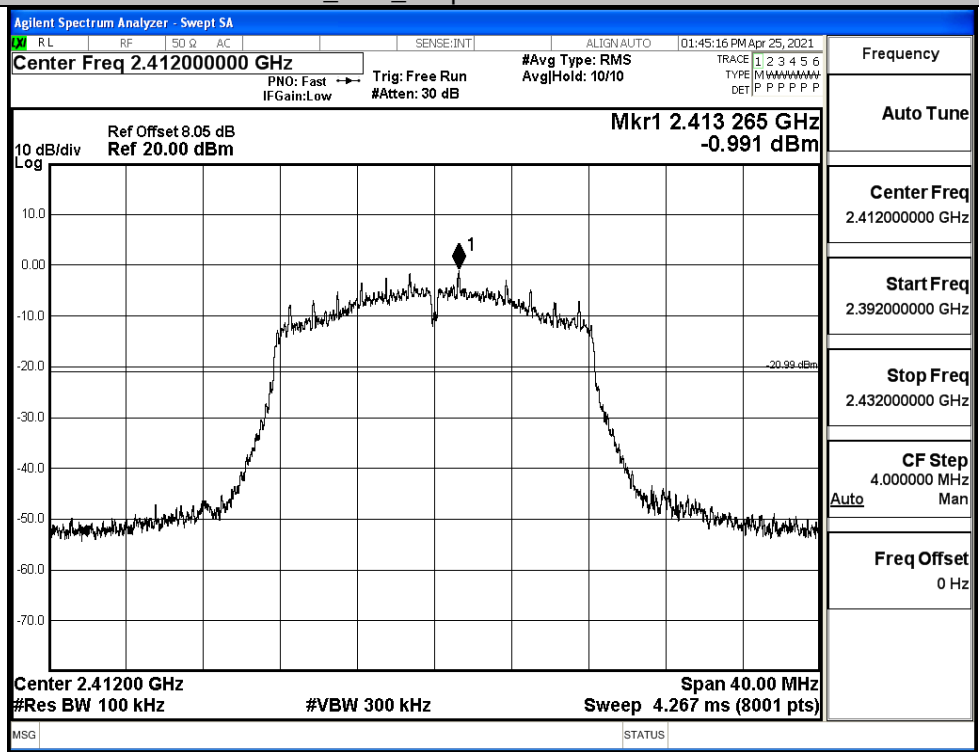


Puw/11B/HCH

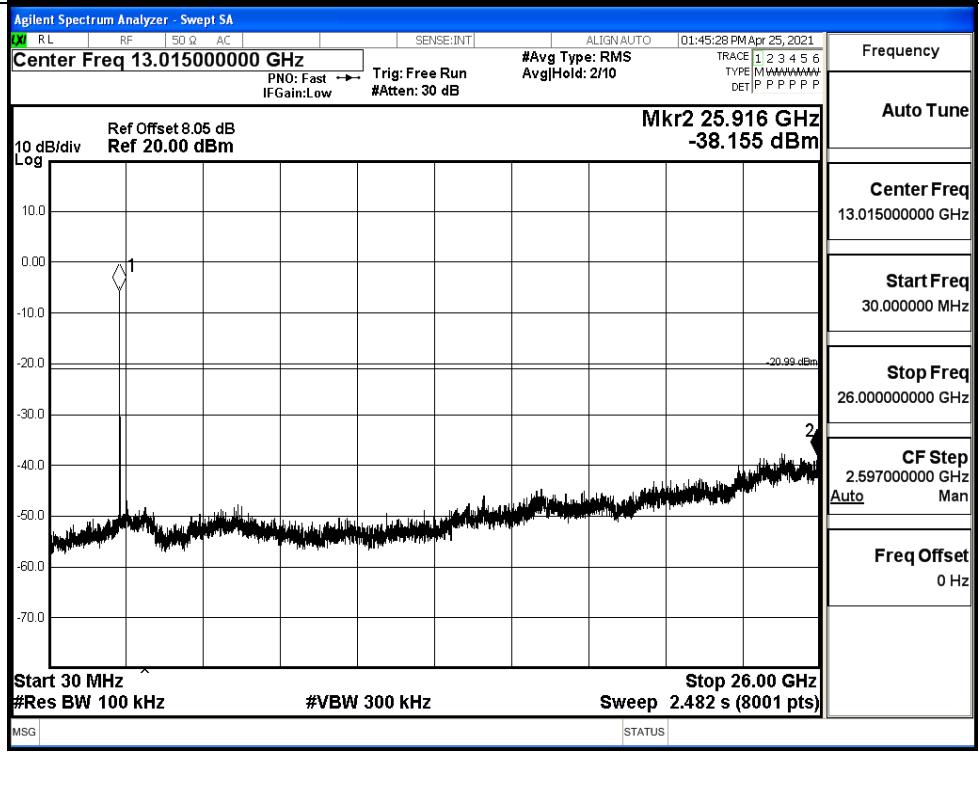


11G_LCH_Graphs

Pref/11G/LCH

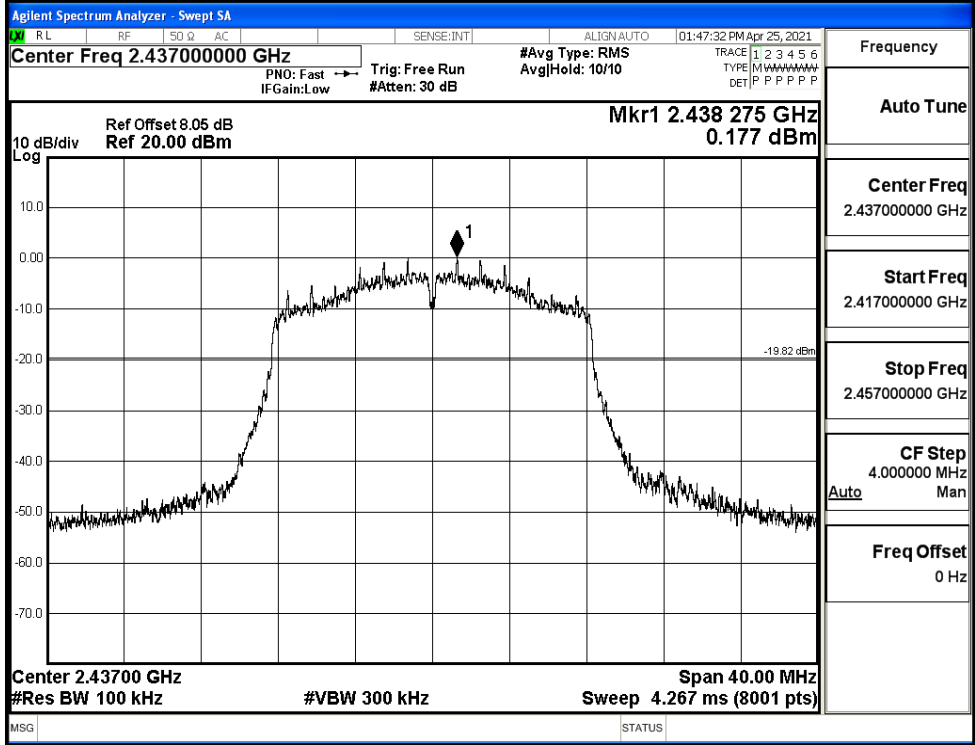


Puw/11G/LCH

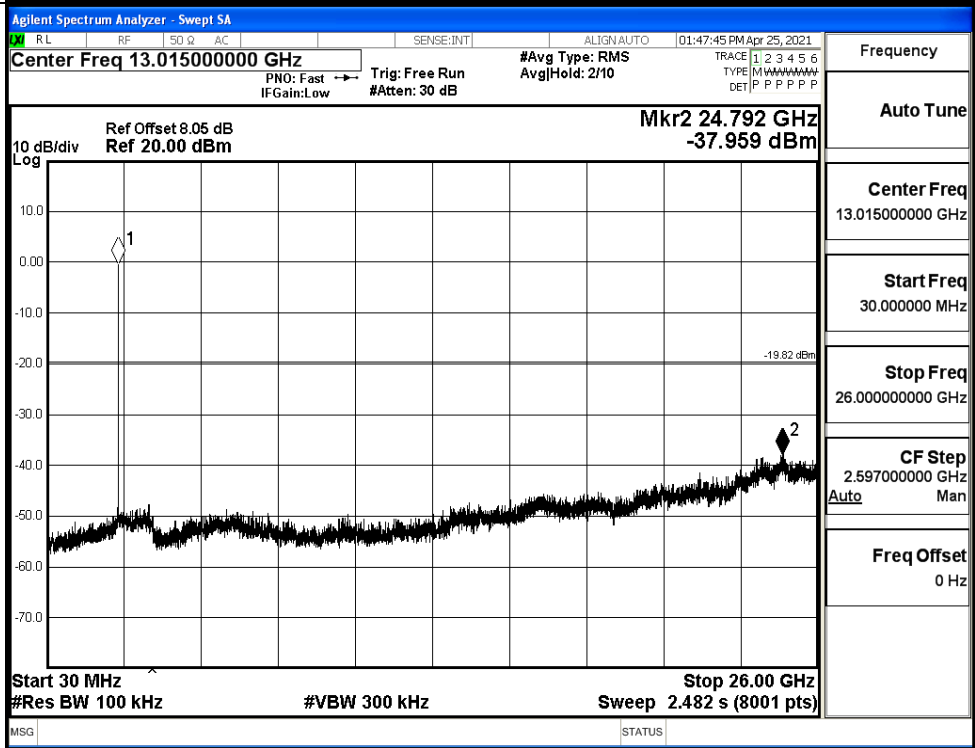


11G_MCH_Graphs

Pref/11G/MCH

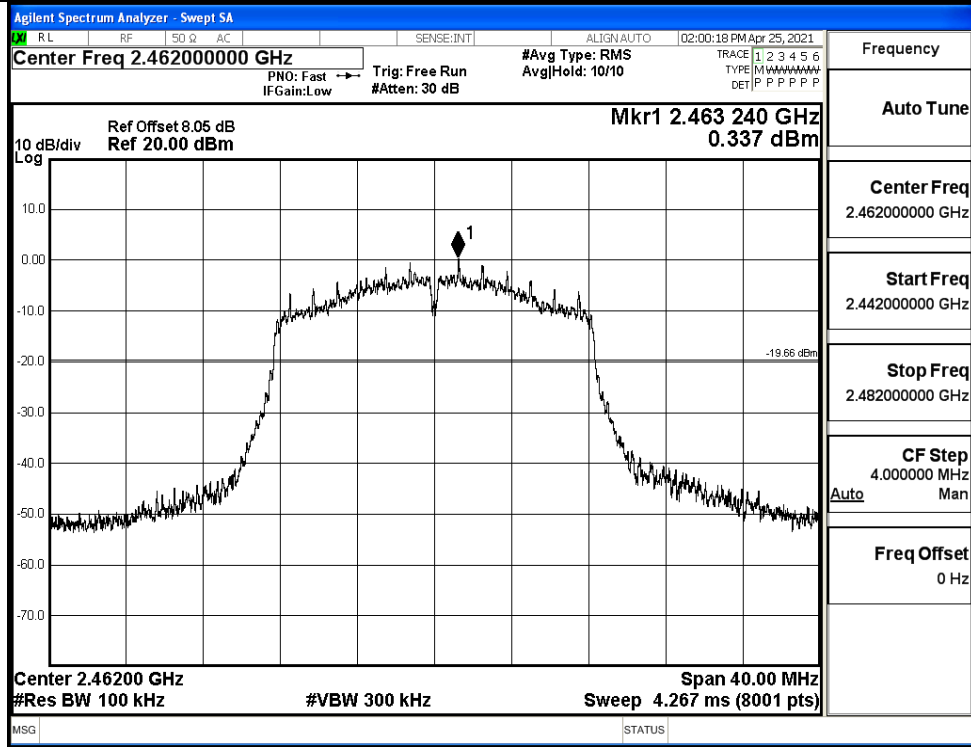


Puw/11G/MCH

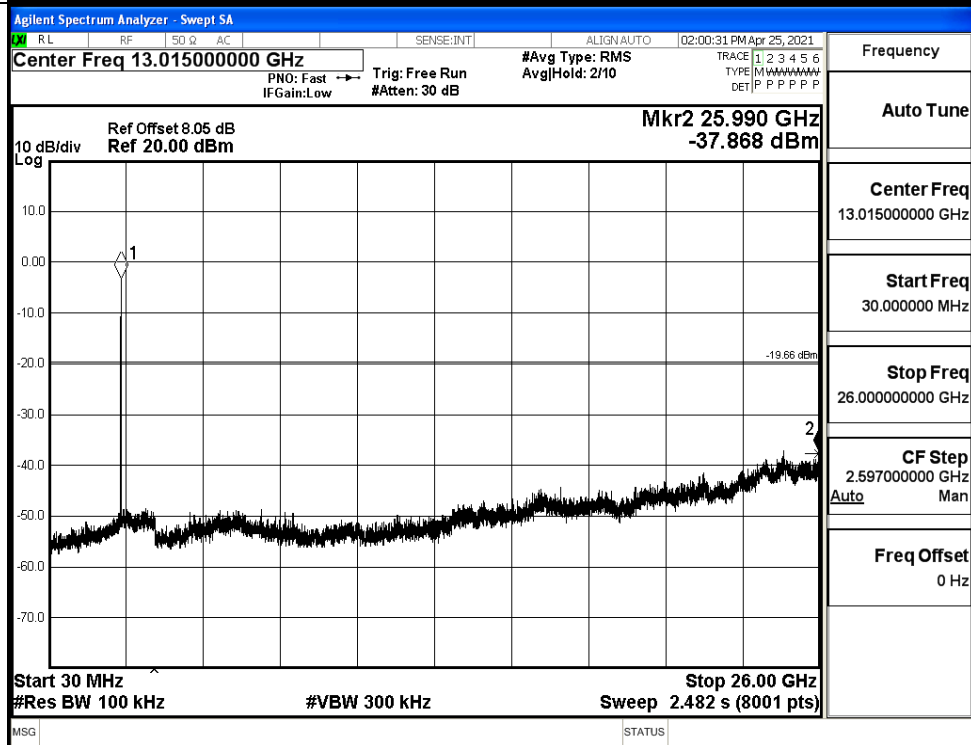


11G_HCH_Graphs

Pref/11G/HCH

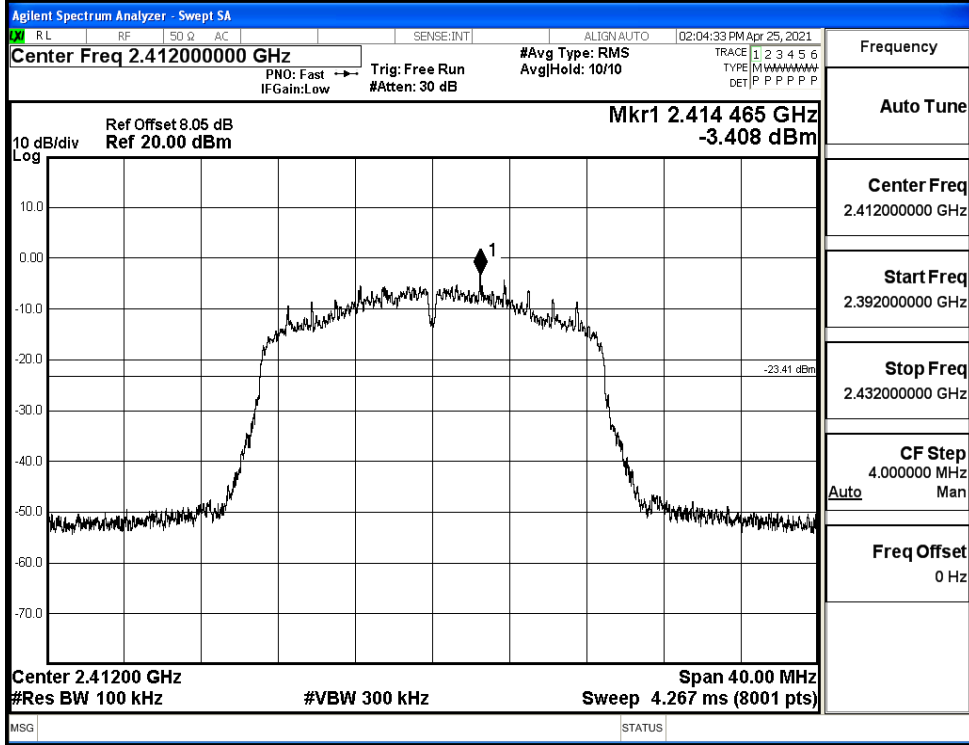


Puw/11G/HCH

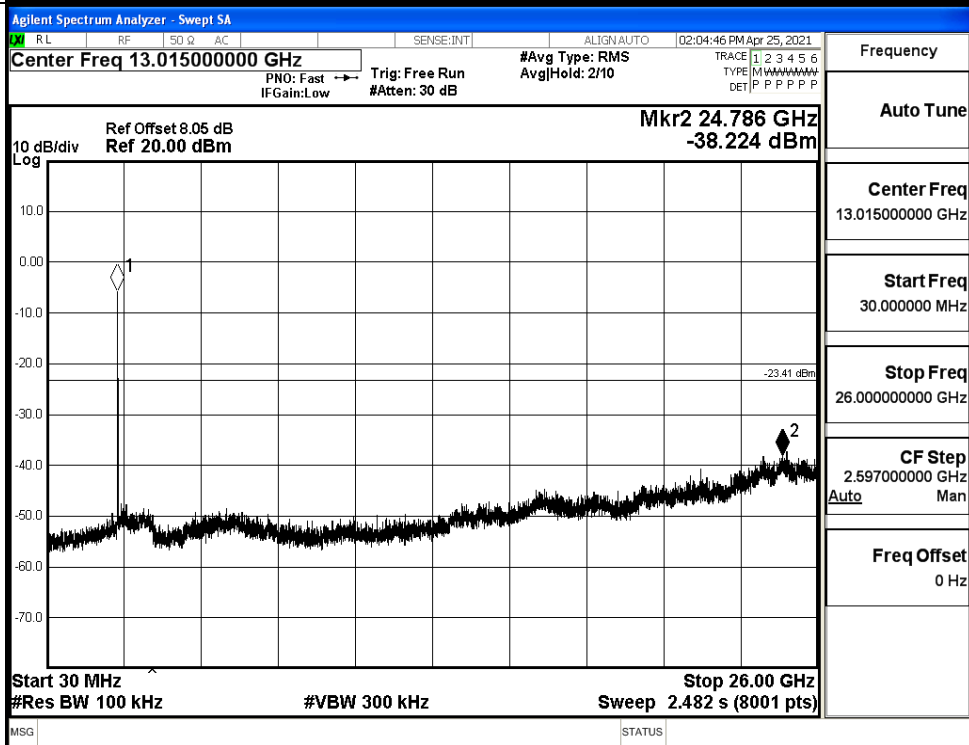


11N20SISO_LCH_Graphs

Pref/11N20SIS
O/LCH

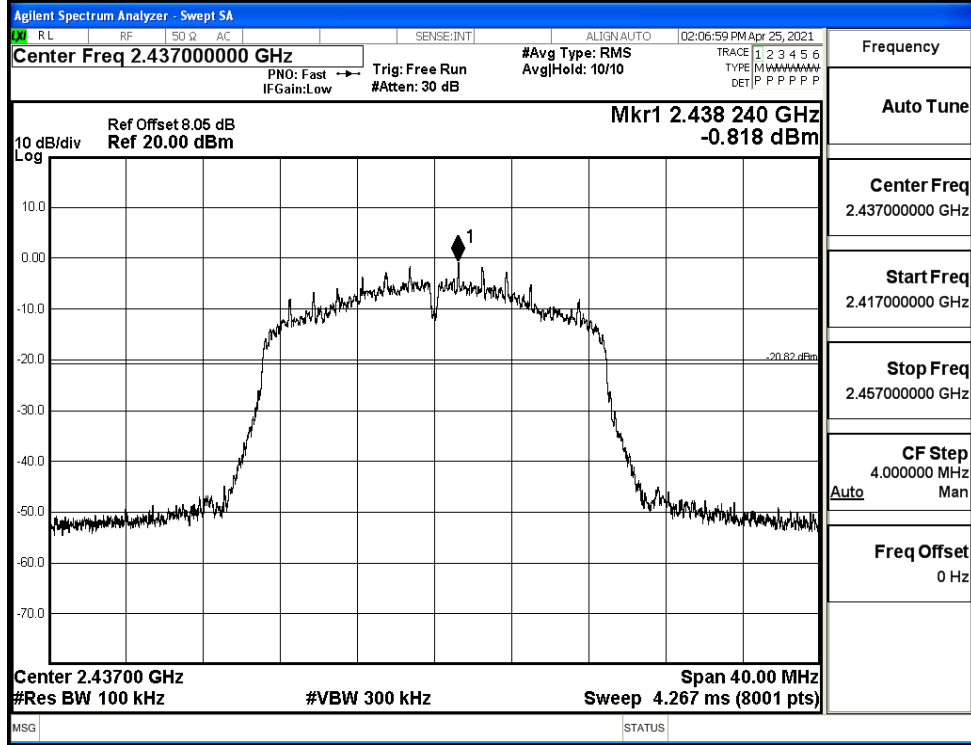


Puw/11N20
SISO/LCH

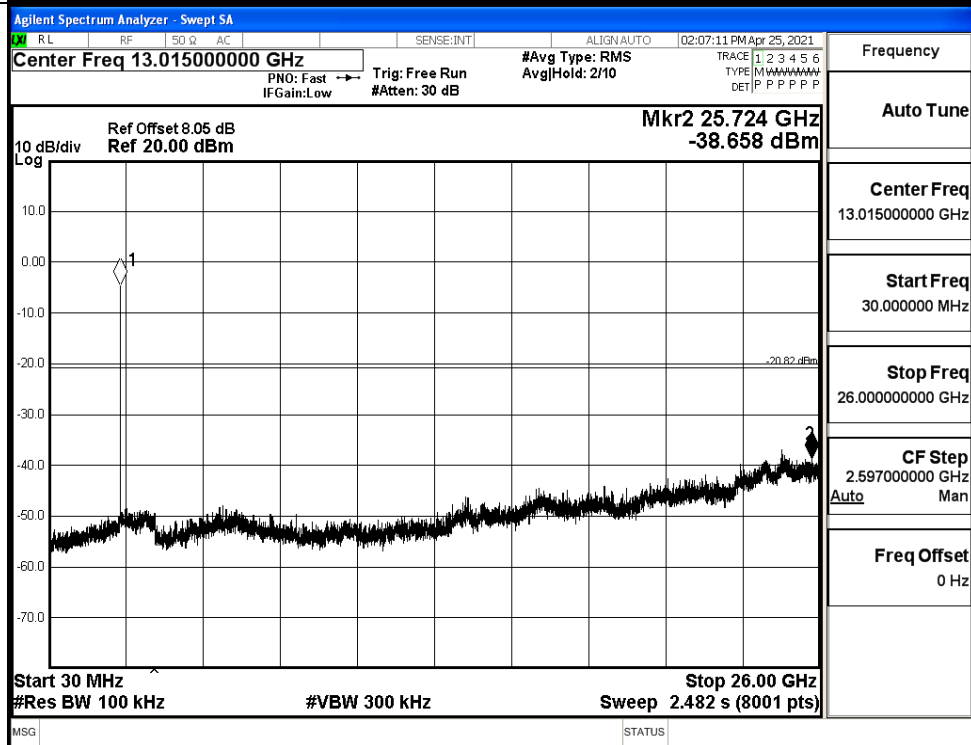


11N20SISO_MCH_Graphs

Pref/11N20
SISO/MCH

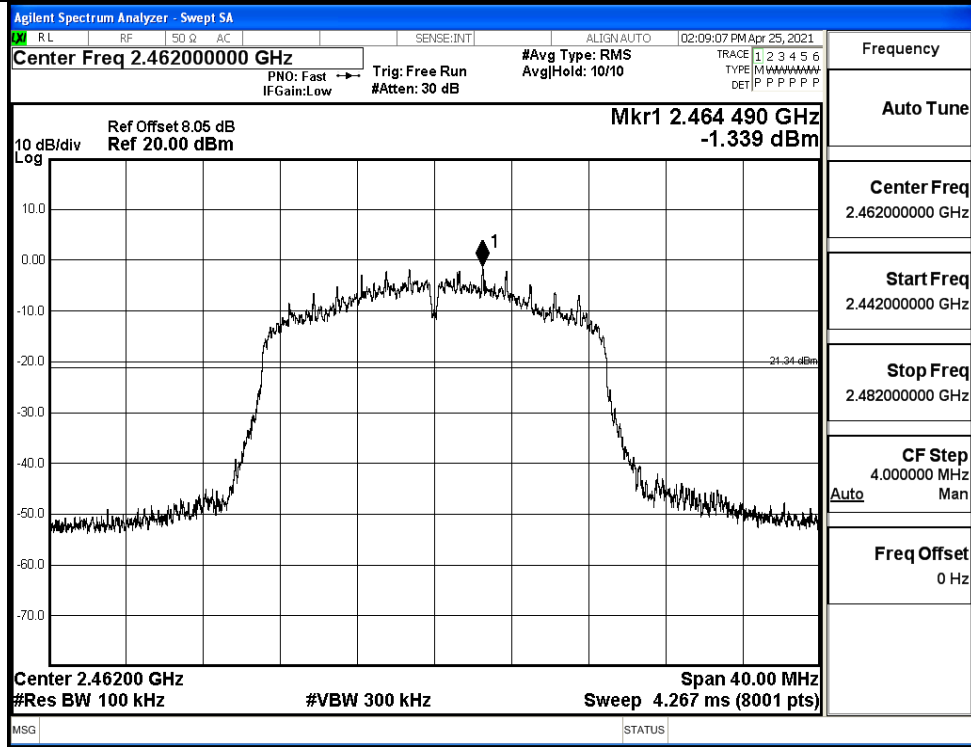


Puw/11N20
SISO/MCH

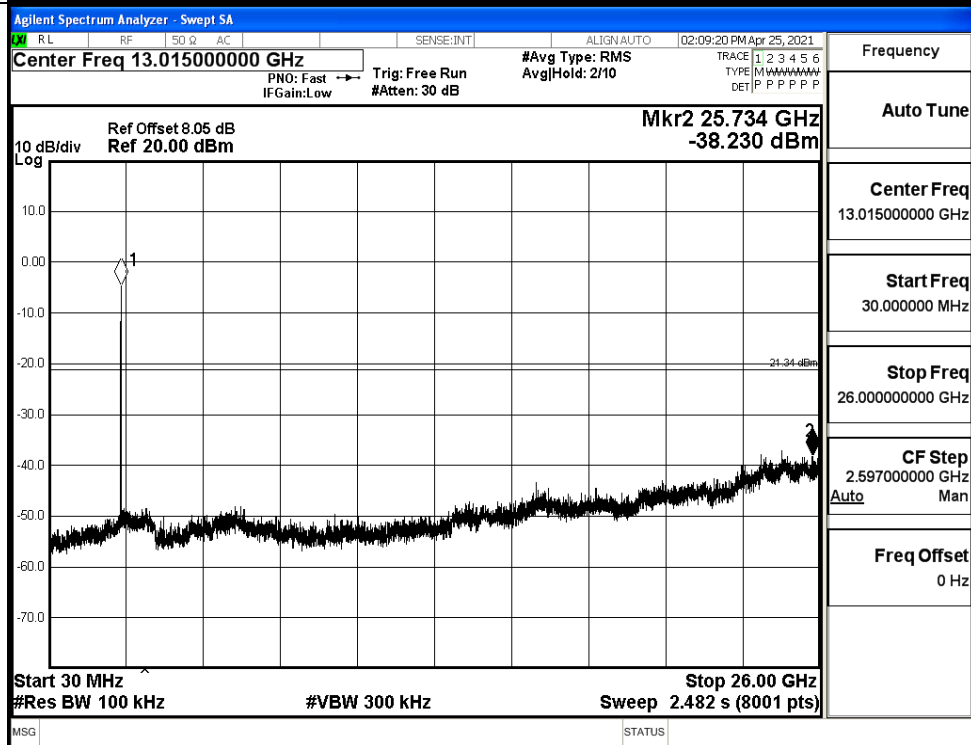


11N20SISO_HCH_Graphs

Pref/11N20
SISO/HCH

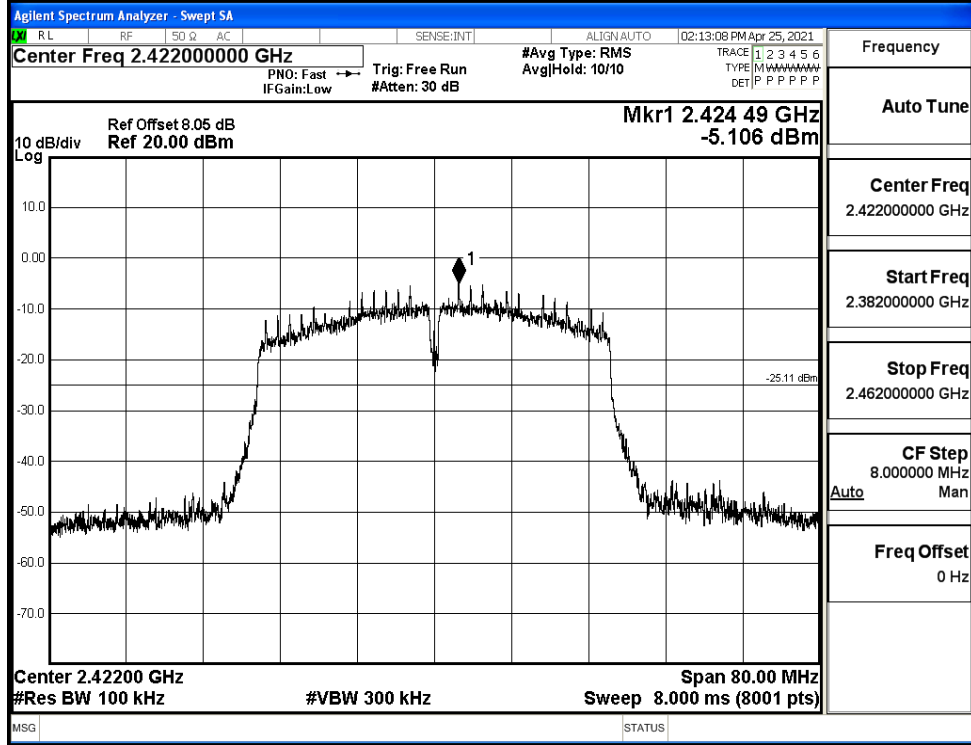


Puw/11N20
SISO/HCH

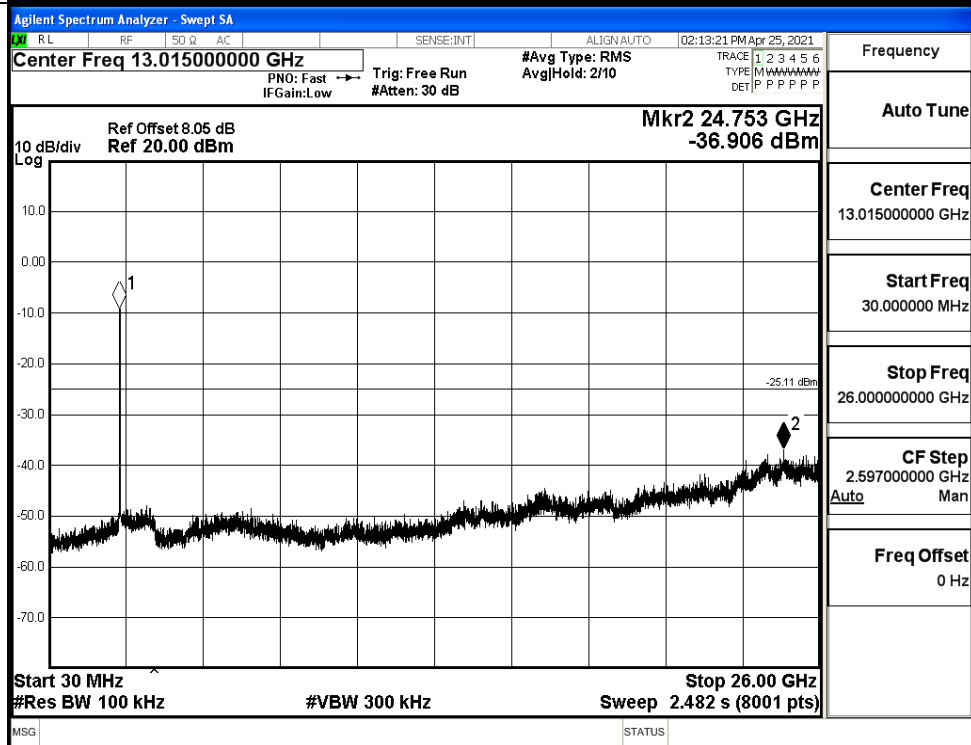


11N40SISO_LCH_Graphs

Pref/11N40
SISO/LCH

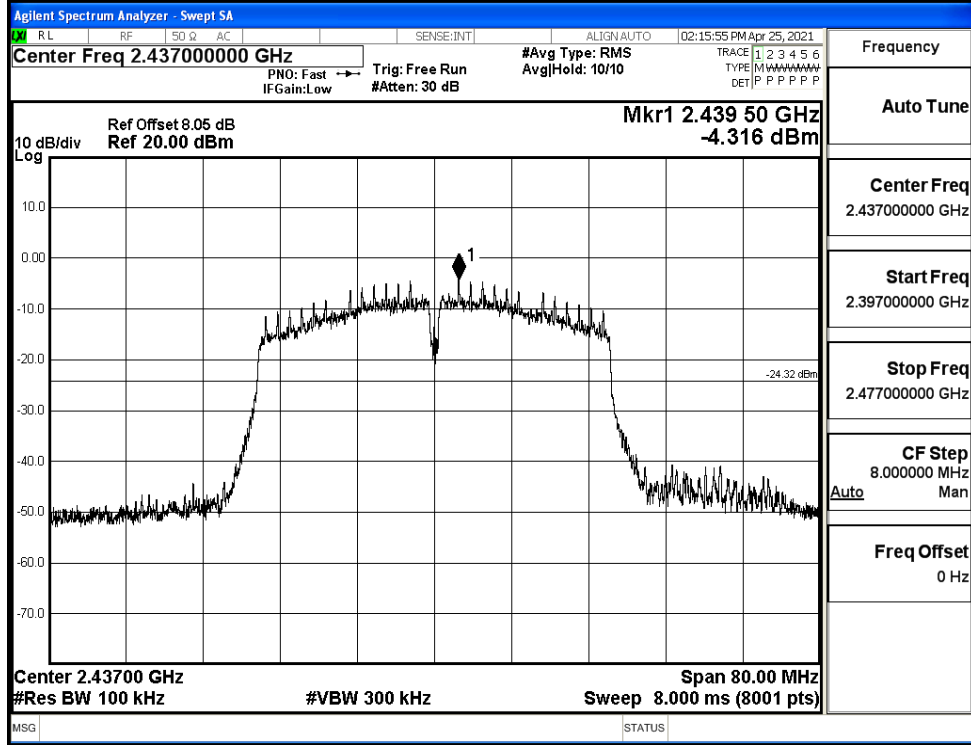


Puw/11N40
SISO/LCH

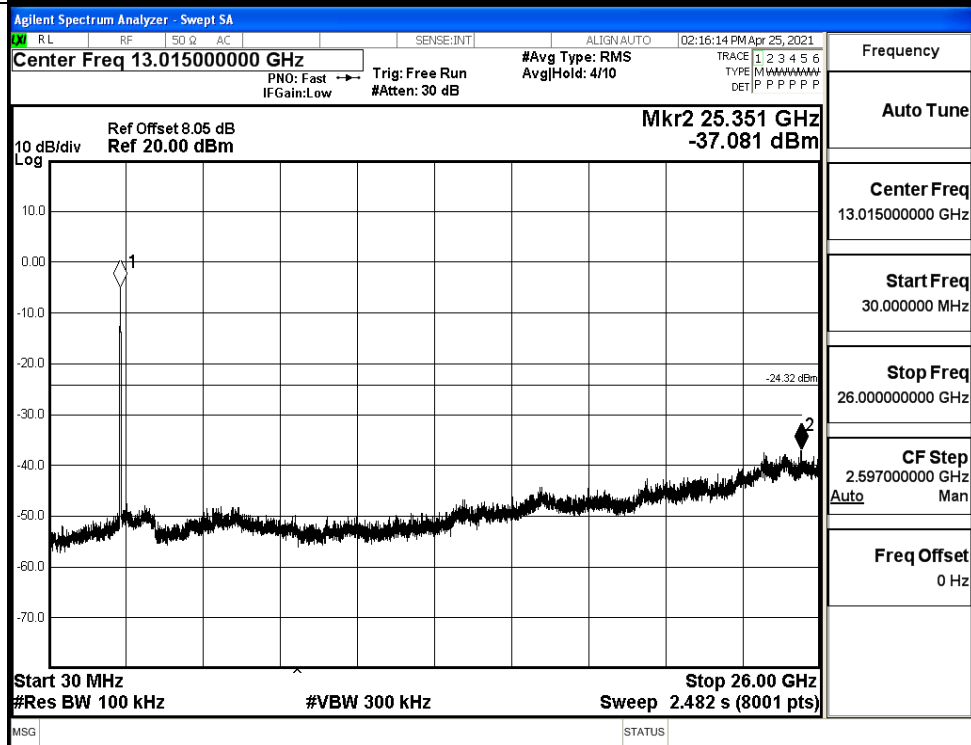


11N40SISO_MCH_Graphs

Pref/11N40
SISO/MCH

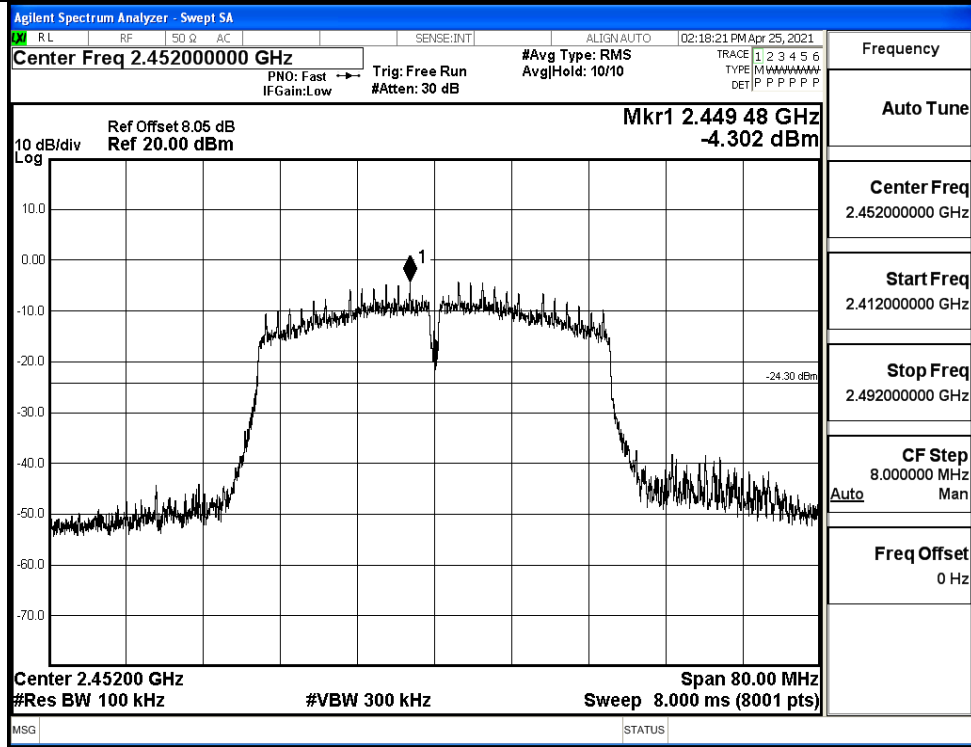


Puw/11N40
SISO/MCH

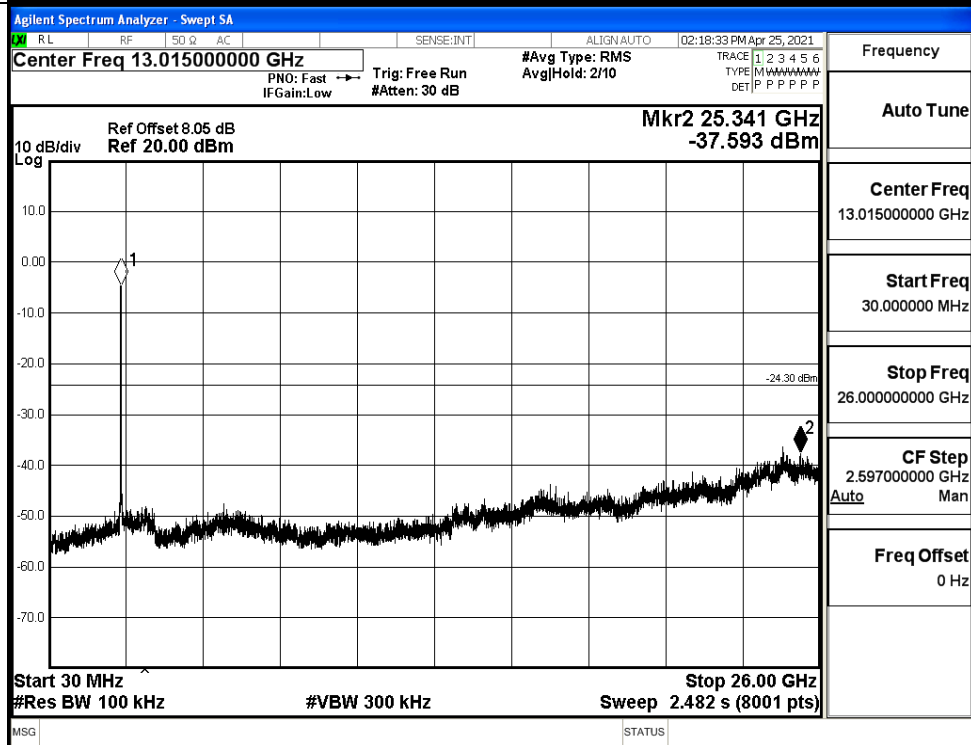


11N40SISO_HCH_Graphs

Pref/11N40
SISO/HCH

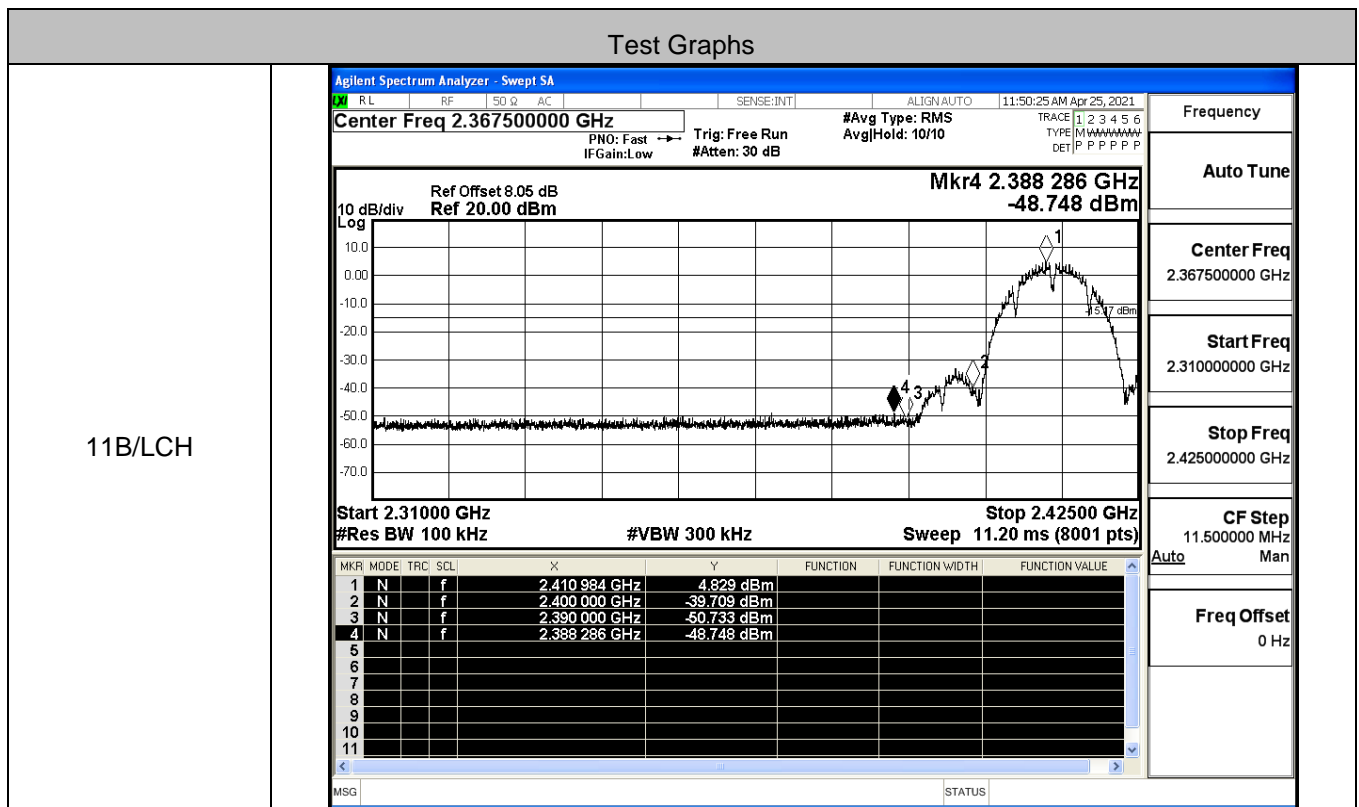


Puw/11N40
SISO/HCH

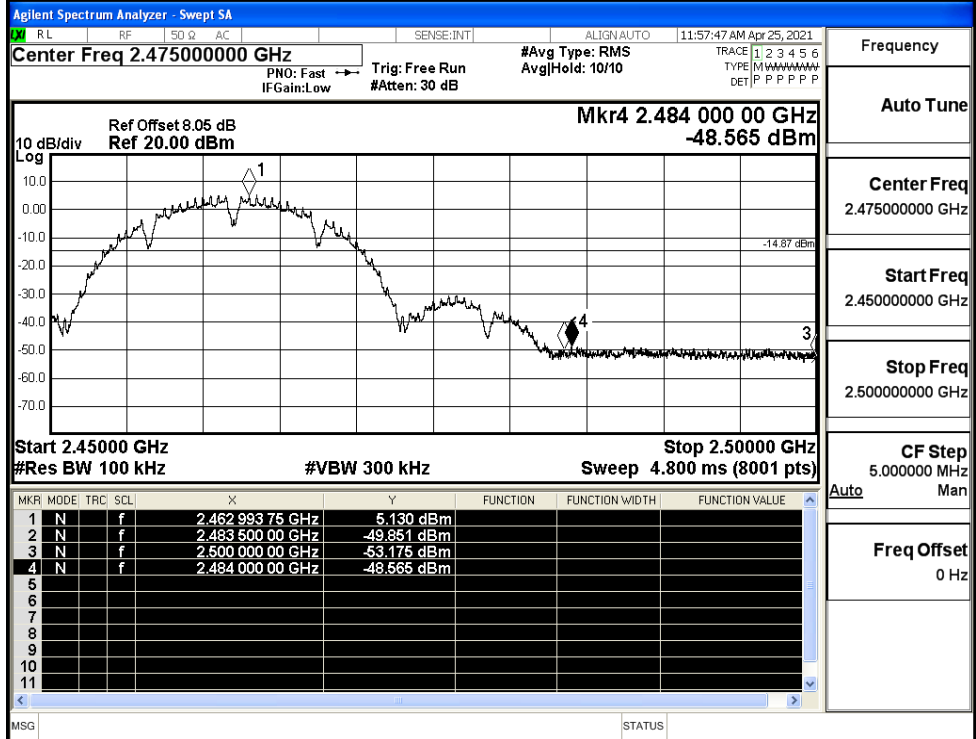


A.6 Band-edge for RF Conducted Emissions

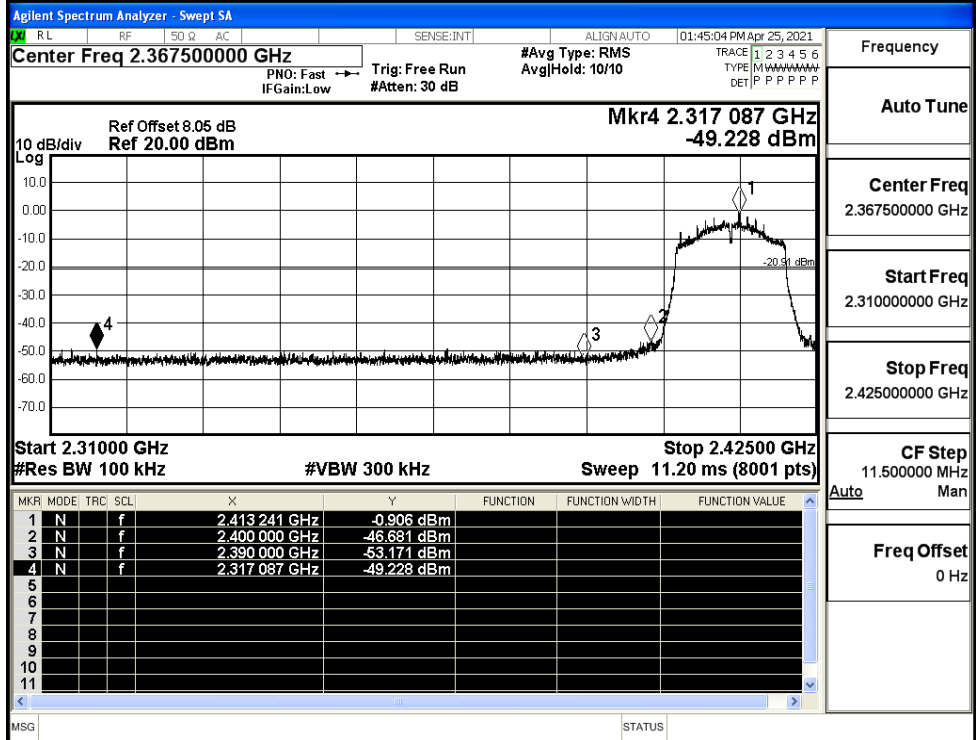
Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
11B	LCH	4.829	-48.748	-15.17	PASS
	HCH	5.130	-48.565	-14.87	PASS
11G	LCH	-0.906	-49.228	-20.91	PASS
	HCH	0.442	-48.580	-19.56	PASS
11N20SISO	LCH	-3.125	-49.531	-23.13	PASS
	HCH	-1.257	-48.047	-21.26	PASS
11N40SISO	LCH	-5.134	-49.200	-25.13	PASS
	HCH	-4.270	-41.197	-24.27	PASS



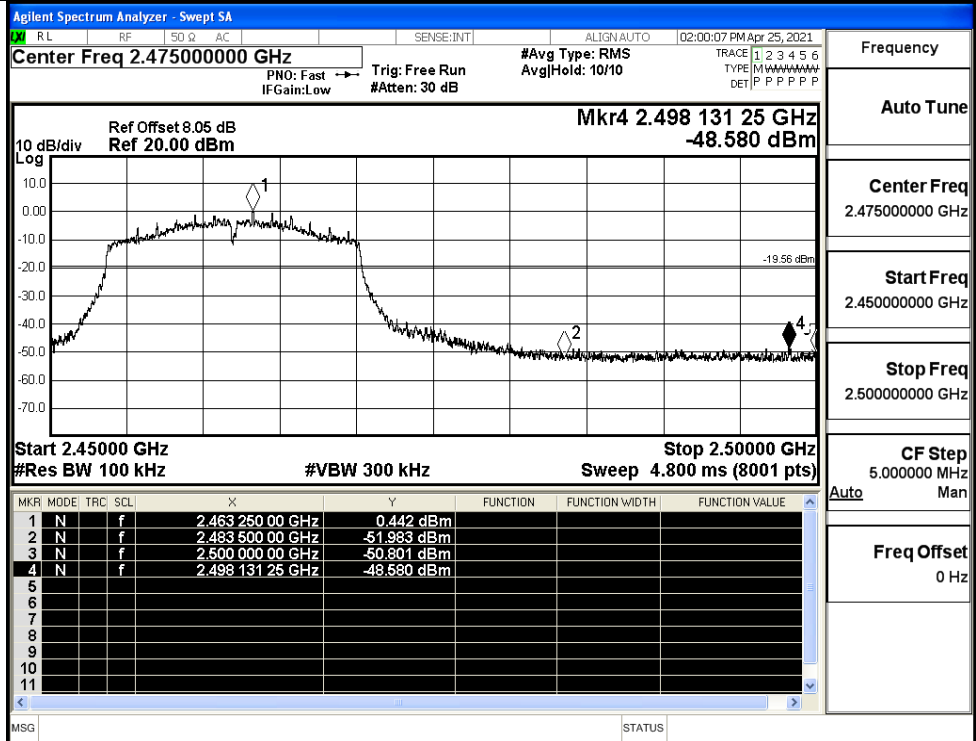
11B/HCH



11G/LCH

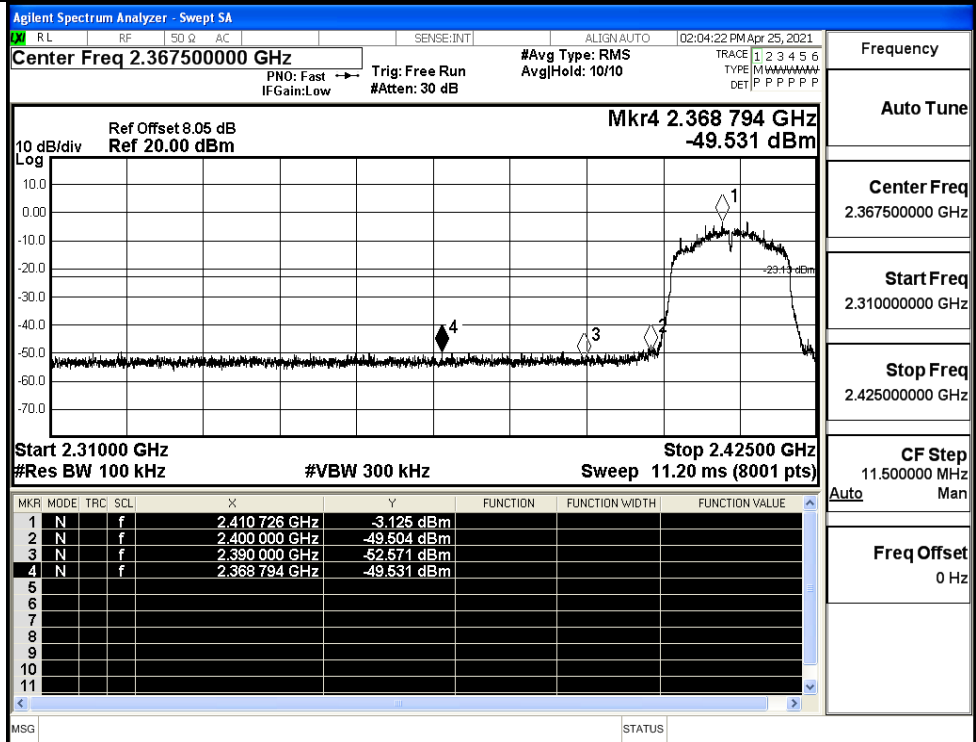


11G/HCH



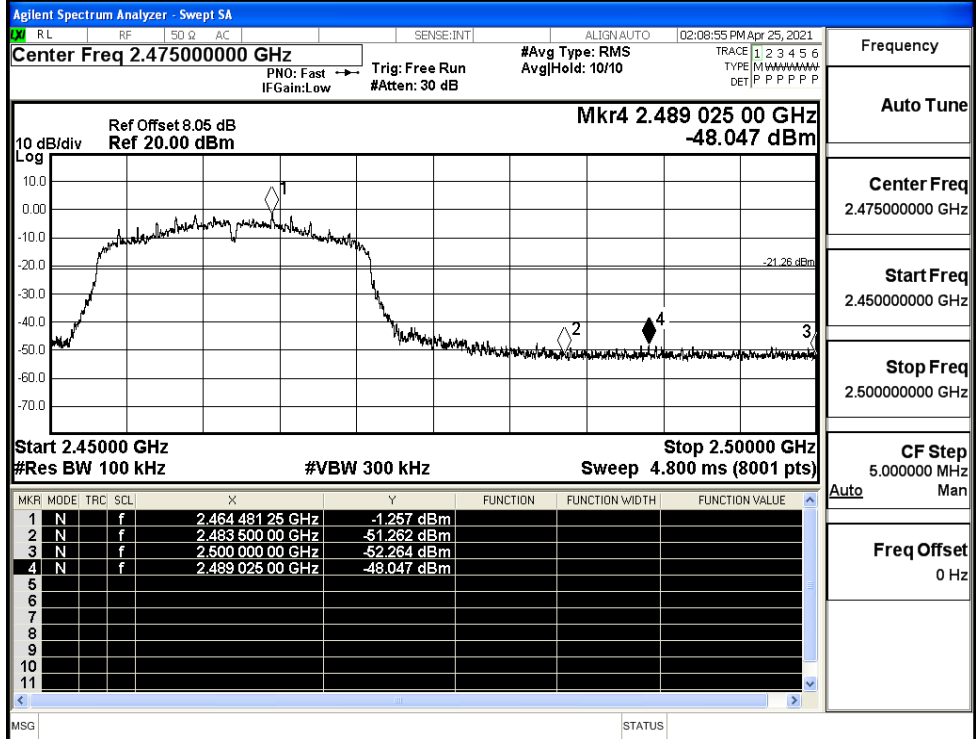
Frequency	Auto Tune
Center Freq	2.475000000 GHz
Start Freq	2.450000000 GHz
Stop Freq	2.500000000 GHz
CF Step	5.000000 MHz
Freq Offset	0 Hz

11N20SISO/LCH



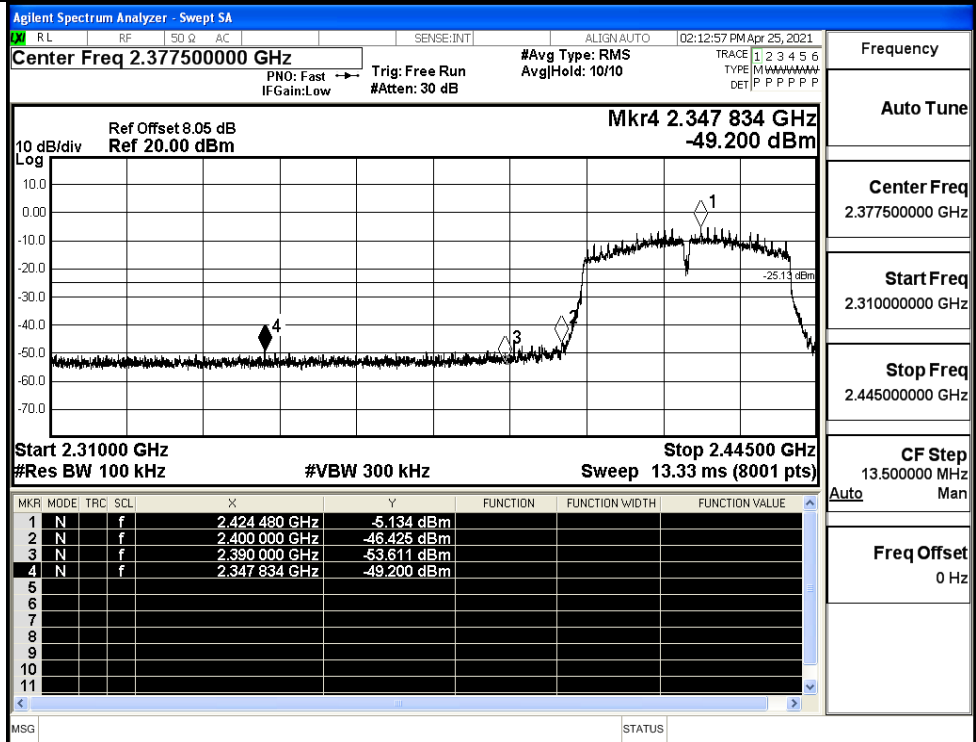
Frequency	Auto Tune
Center Freq	2.367500000 GHz
Start Freq	2.310000000 GHz
Stop Freq	2.425000000 GHz
CF Step	11.500000 MHz
Freq Offset	0 Hz

11N20SISO/HCH



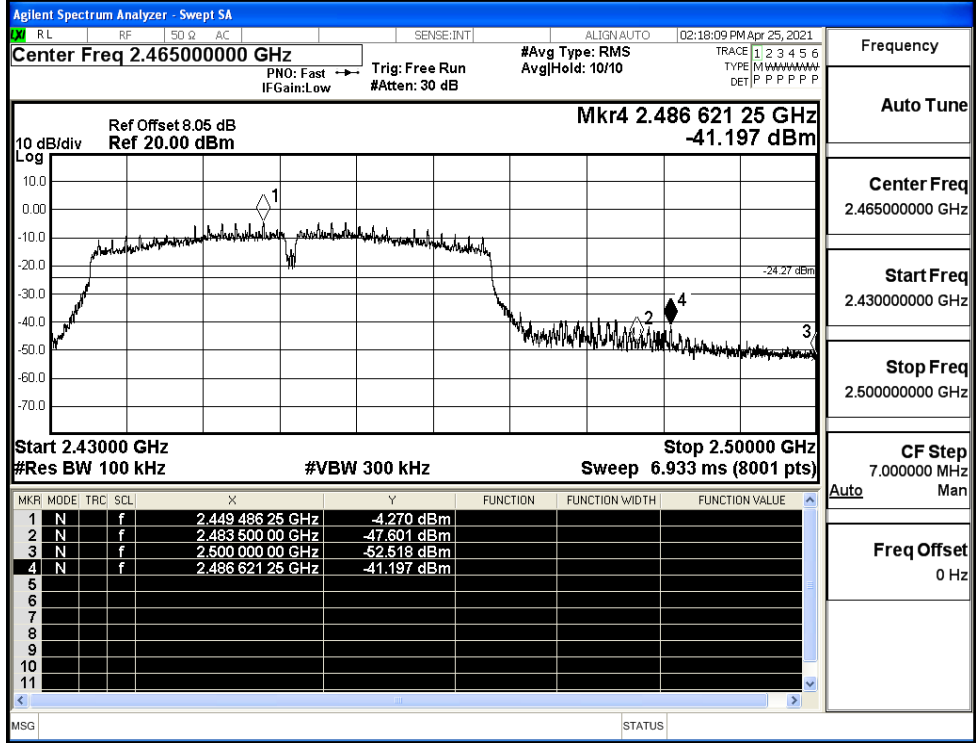
Frequency	
Auto Tune	
Center Freq	2.47500000 GHz
Start Freq	2.45000000 GHz
Stop Freq	2.50000000 GHz
CF Step	5.000000 MHz
Freq Offset	0 Hz

11N40SISO/LCH



Frequency	
Auto Tune	
Center Freq	2.37750000 GHz
Start Freq	2.31000000 GHz
Stop Freq	2.44500000 GHz
CF Step	13.500000 MHz
Freq Offset	0 Hz

11N40SISO/HCH

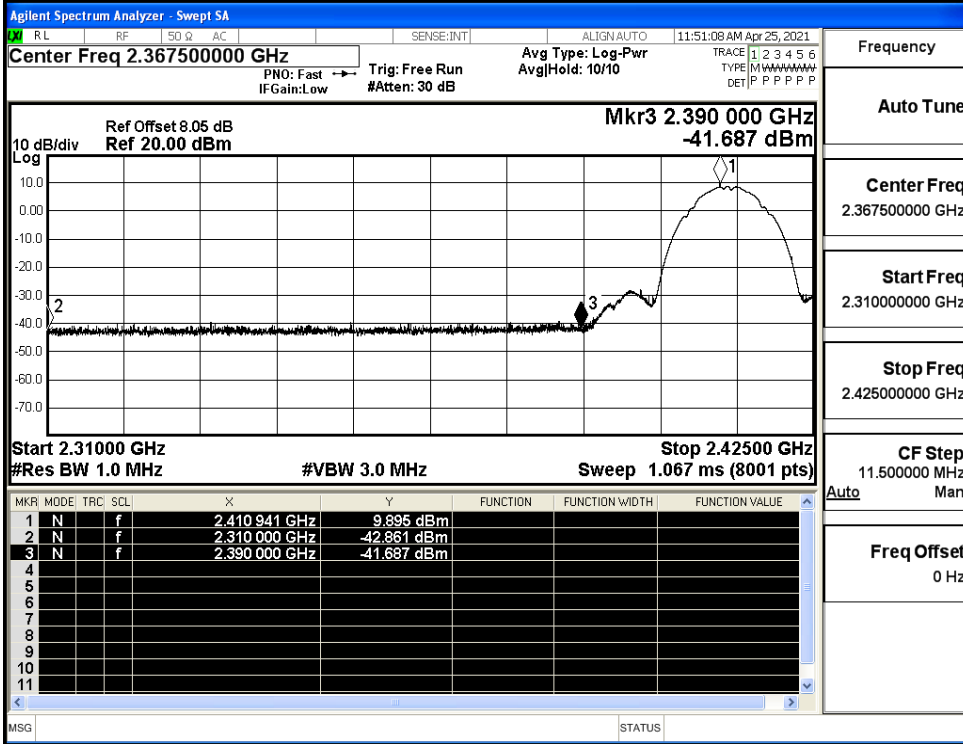


A.7 Restrict-band band-edge measurements

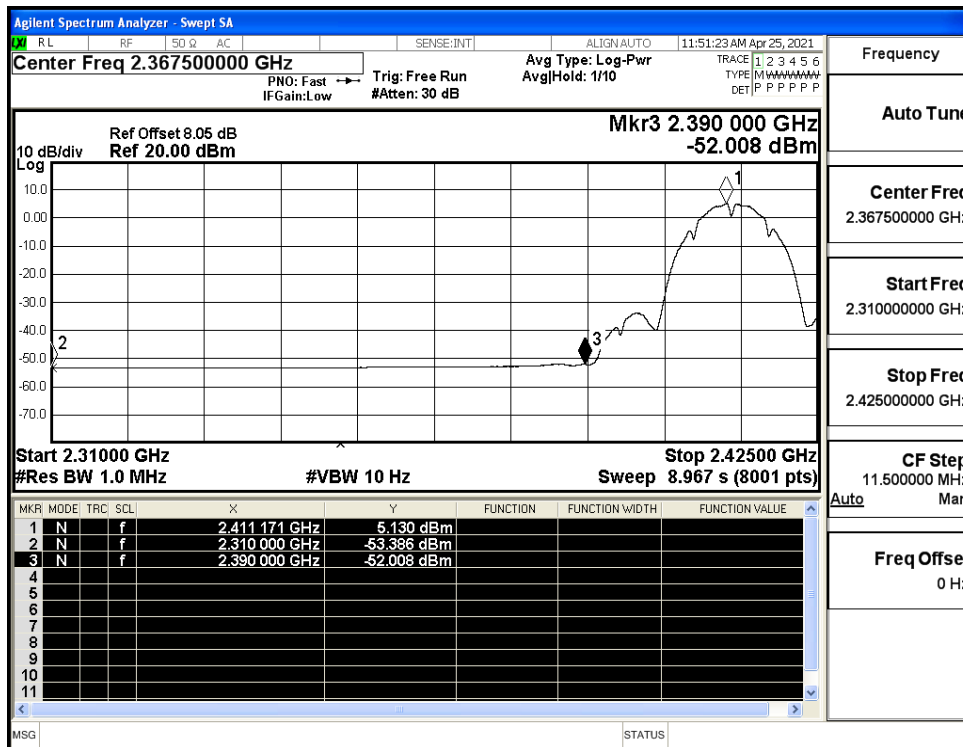
Test Mode	Test Channel	Ant	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBu V/m]	Verdict
11B	2412	Ant1	2310.0	-42.86	2.3	0	54.67	PEAK	74	PASS
	2412	Ant1	2310.0	-53.39	2.3	0	44.14	AV	54	PASS
	2412	Ant1	2390.0	-41.69	2.3	0	55.84	PEAK	74	PASS
	2412	Ant1	2390.0	-52.01	2.3	0	45.52	AV	54	PASS
	2462	Ant1	2483.5	-40.28	2.3	0	57.25	PEAK	74	PASS
	2462	Ant1	2483.5	-51.37	2.3	0	46.16	AV	54	PASS
	2462	Ant1	2500.0	-40.83	2.3	0	56.70	PEAK	74	PASS
	2462	Ant1	2500.0	-51.86	2.3	0	45.67	AV	54	PASS
11G	2412	Ant1	2310.0	-42.14	2.3	0	55.39	PEAK	74	PASS
	2412	Ant1	2310.0	-53.42	2.3	0	44.11	AV	54	PASS
	2412	Ant1	2390.0	-43.06	2.3	0	54.47	PEAK	74	PASS
	2412	Ant1	2390.0	-52.85	2.3	0	44.68	AV	54	PASS
	2462	Ant1	2483.5	-39.08	2.3	0	58.45	PEAK	74	PASS
	2462	Ant1	2483.5	-51.83	2.3	0	45.70	AV	54	PASS
	2462	Ant1	2500.0	-41.00	2.3	0	56.53	PEAK	74	PASS
	2462	Ant1	2500.0	-51.86	2.3	0	45.67	AV	54	PASS
11N20 SISO	2412	Ant1	2310.0	-43.85	2.3	0	53.68	PEAK	74	PASS
	2412	Ant1	2310.0	-53.48	2.3	0	44.05	AV	54	PASS
	2412	Ant1	2390.0	-42.29	2.3	0	55.24	PEAK	74	PASS
	2412	Ant1	2390.0	-52.92	2.3	0	44.61	AV	54	PASS
	2462	Ant1	2483.5	-41.89	2.3	0	55.64	PEAK	74	PASS
	2462	Ant1	2483.5	-52.06	2.3	0	45.47	AV	54	PASS
	2462	Ant1	2500.0	-41.32	2.3	0	56.21	PEAK	74	PASS
	2462	Ant1	2500.0	-51.93	2.3	0	45.60	AV	54	PASS
11N40 SISO	2422	Ant1	2310.0	-43.46	2.3	0	54.07	PEAK	74	PASS
	2422	Ant1	2310.0	-53.45	2.3	0	44.08	AV	54	PASS

	2422	Ant1	2390.0	-41.44	2.3	0	56.09	PEAK	74	PASS
	2422	Ant1	2390.0	-51.80	2.3	0	45.73	AV	54	PASS
	2452	Ant1	2483.5	-31.27	2.3	0	66.26	PEAK	74	PASS
	2452	Ant1	2483.5	-48.94	2.3	0	48.59	AV	54	PASS
	2452	Ant1	2500.0	-40.92	2.3	0	56.61	PEAK	74	PASS
	2452	Ant1	2500.0	-51.79	2.3	0	45.74	AV	54	PASS

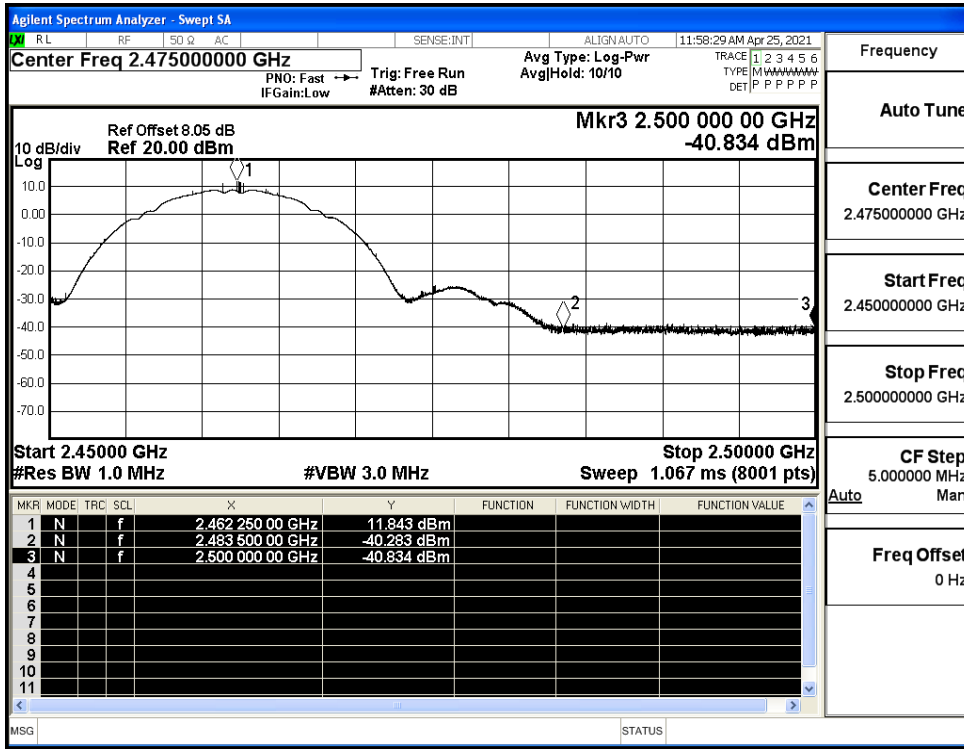
Restrict-band band-edge measurements_11B_2412_Ant1_PEAK



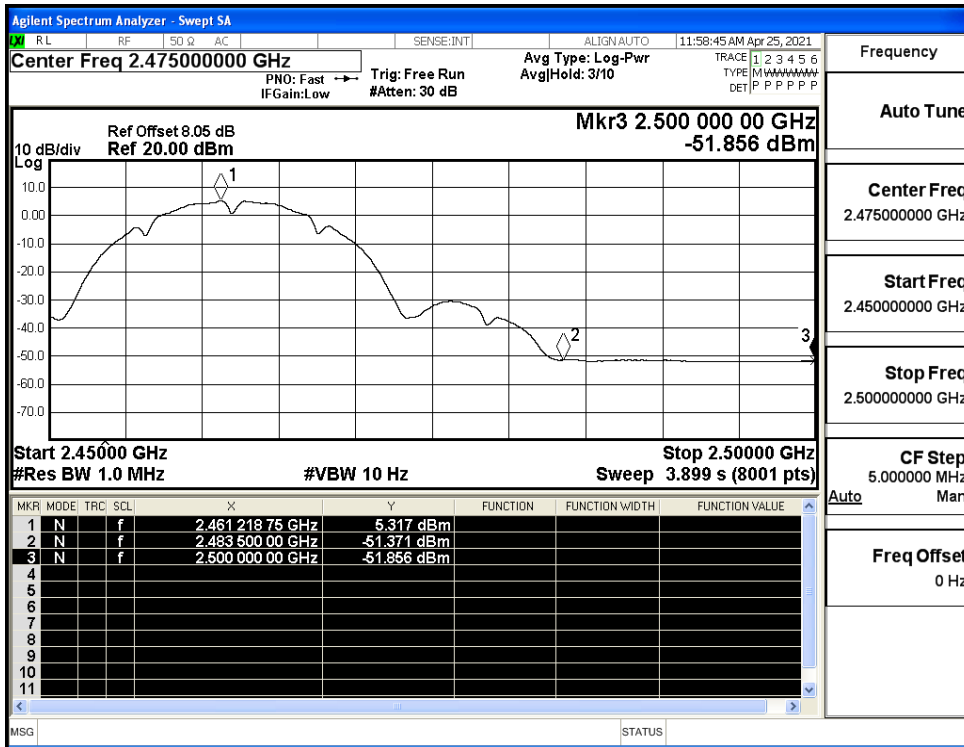
Restrict-band band-edge measurements_11B_2412_Ant1_AV



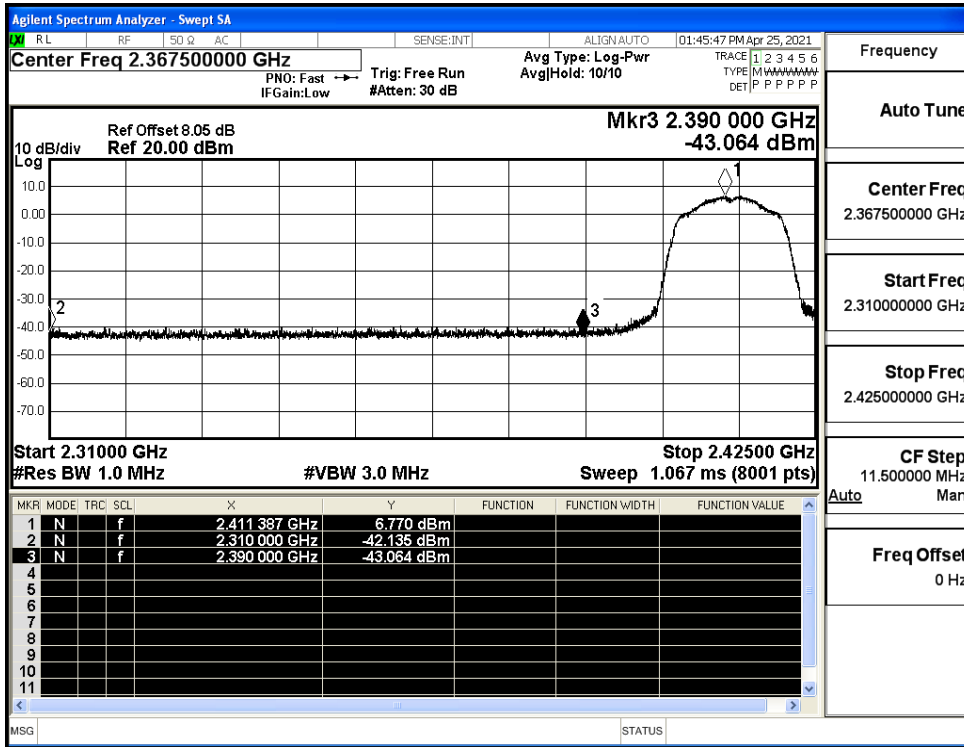
Restrict-band band-edge measurements_11B_2462_Ant1_PEAK



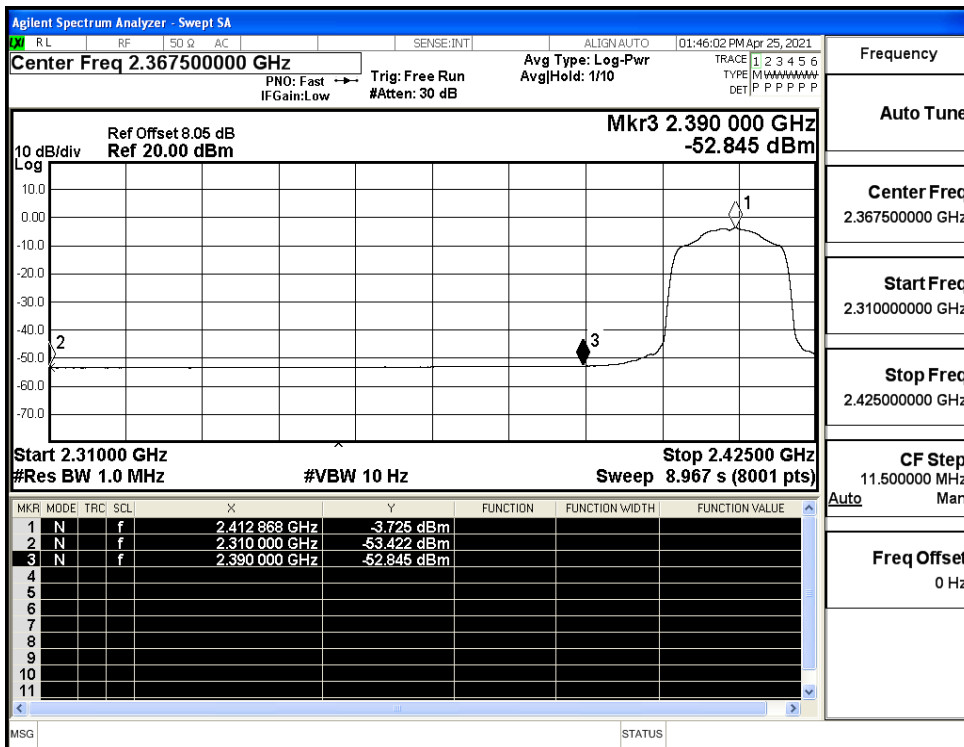
Restrict-band band-edge measurements_11B_2462_Ant1_AV



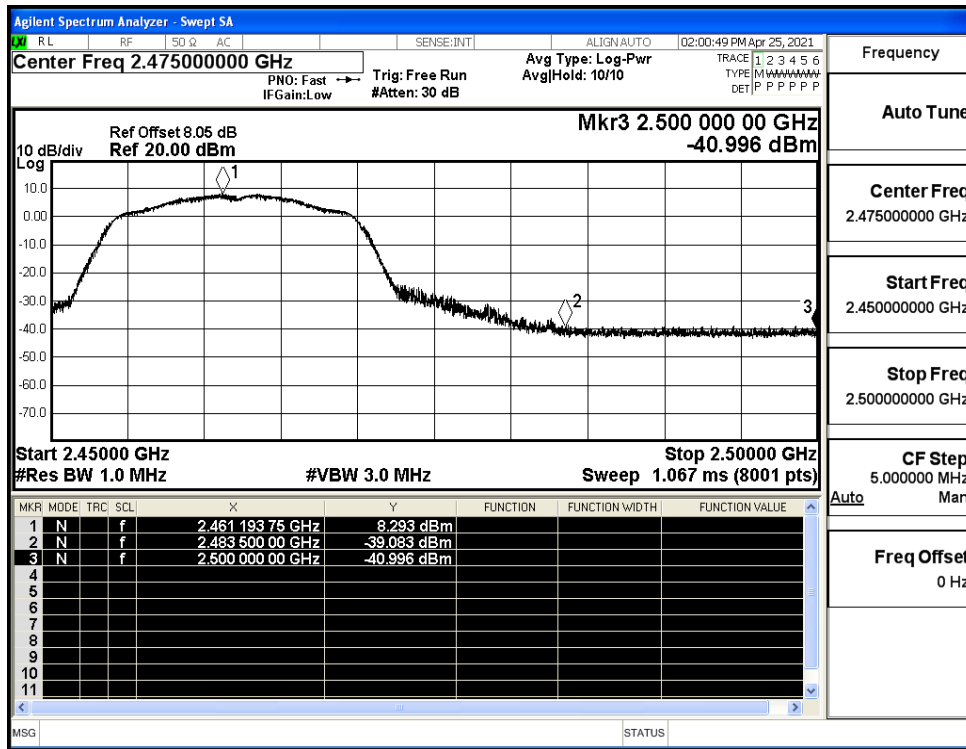
Restrict-band band-edge measurements_11G_2412_Ant1_PEAK



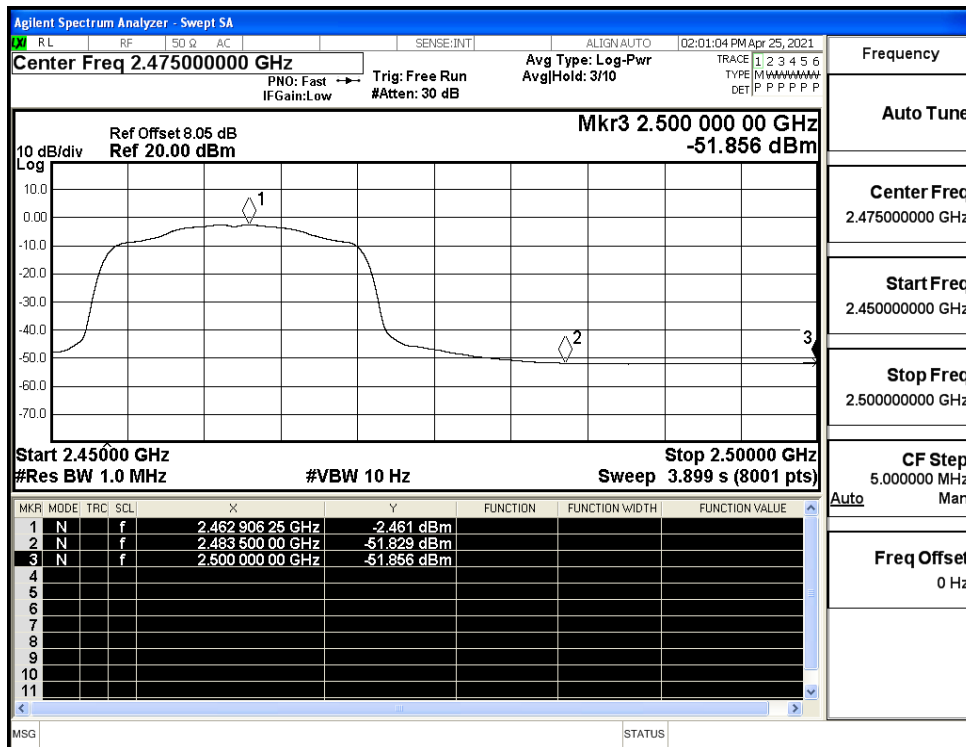
Restrict-band band-edge measurements_11G_2412_Ant1_AV



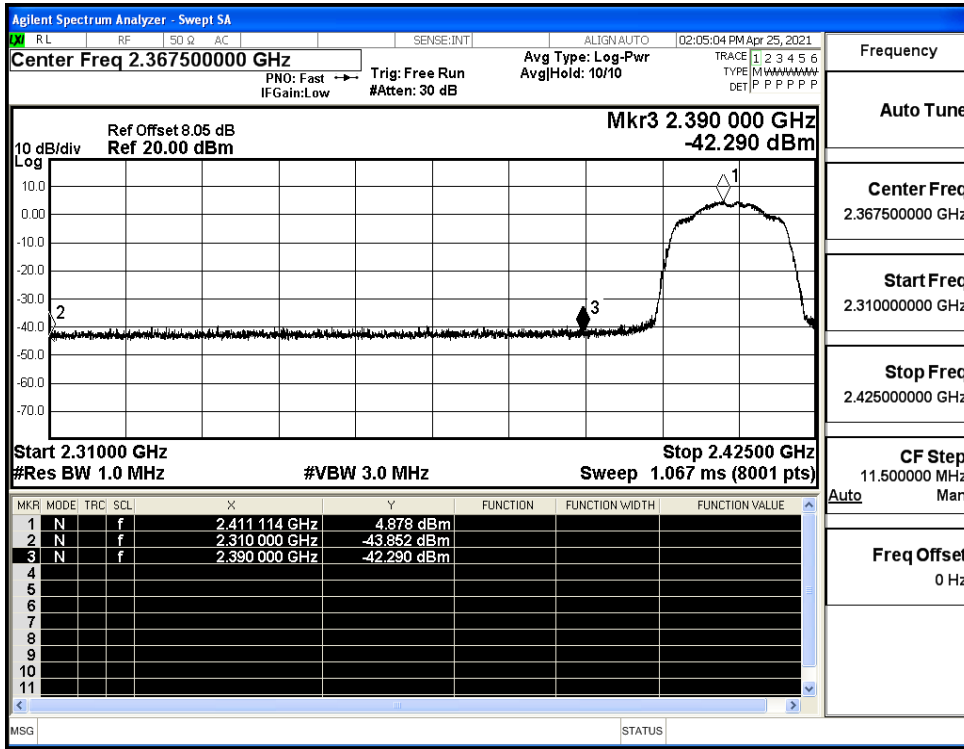
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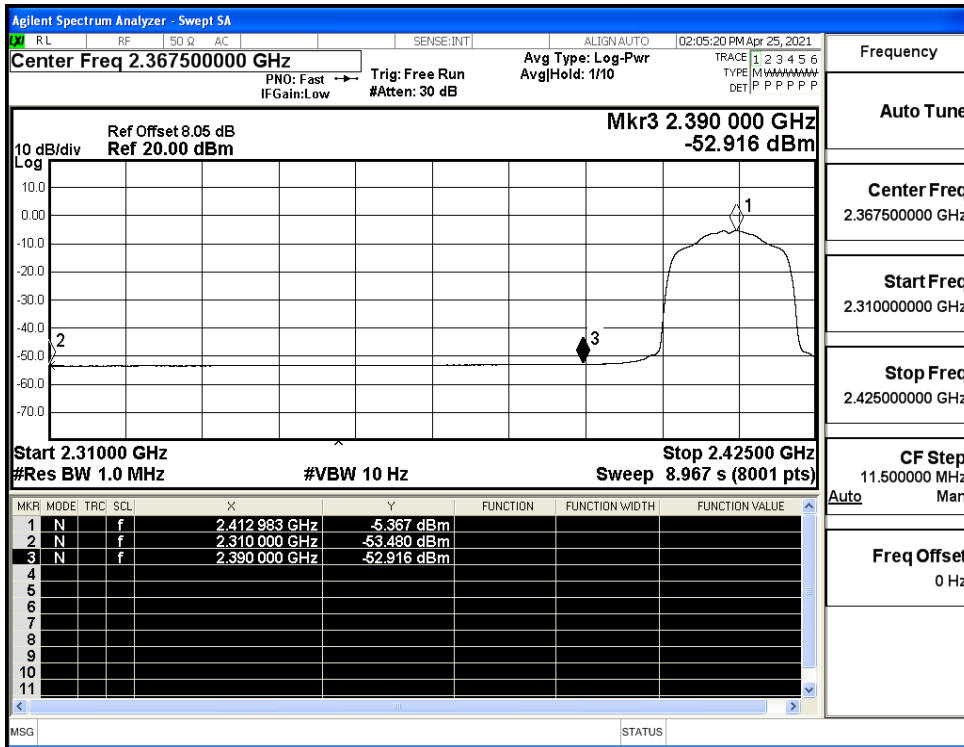
Restrict-band band-edge measurements_11G_2462_Ant1_AV



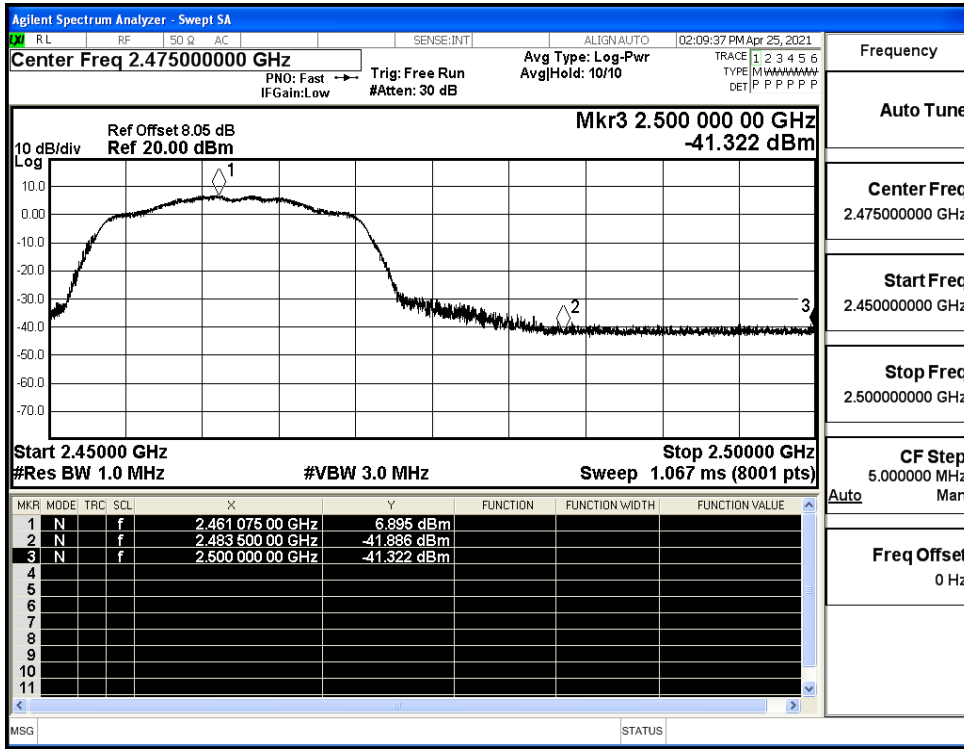
Restrict-band band-edge measurements_11N20SISO_2412_Ant1_PEAK



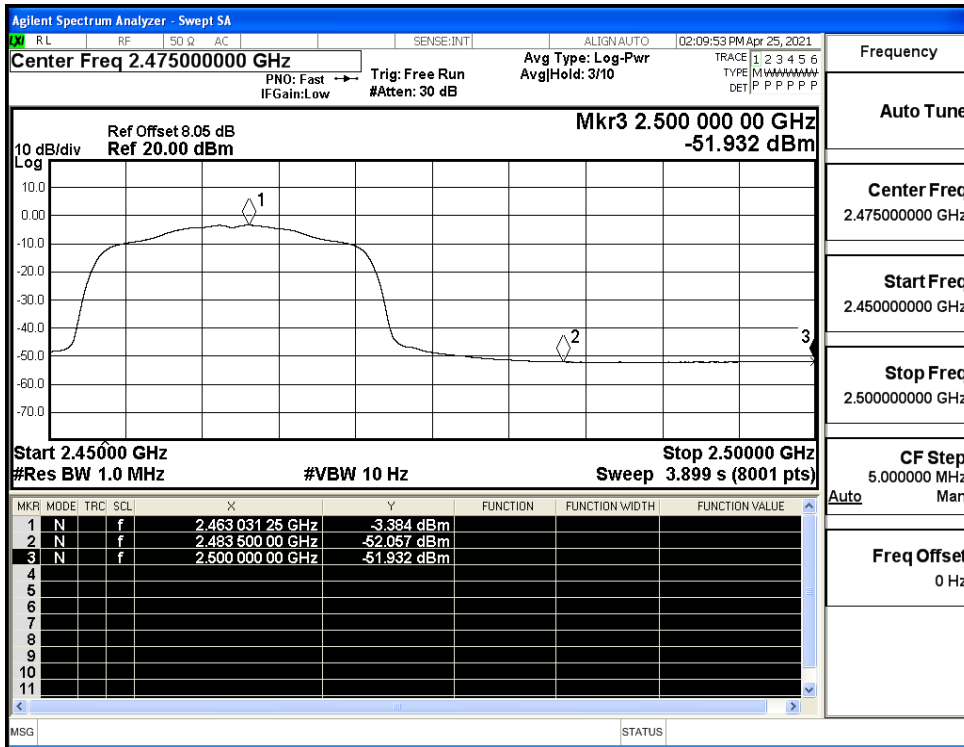
Restrict-band band-edge measurements_11N20SISO_2412_Ant1_AV



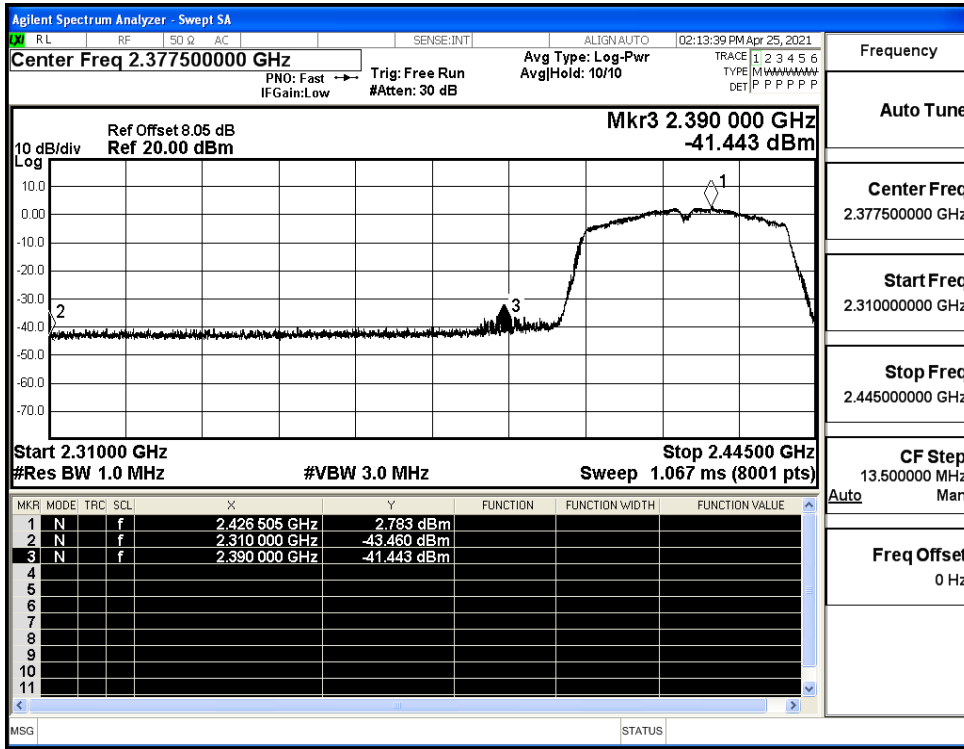
Restrict-band band-edge measurements_11N20SISO_2462_Ant1_PEAK



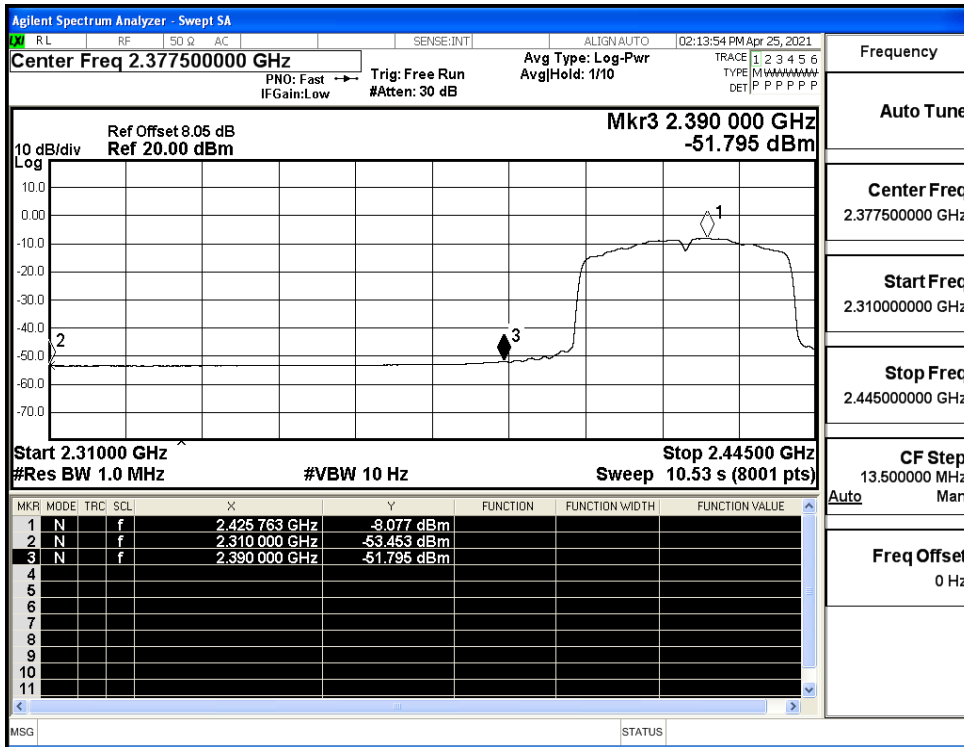
Restrict-band band-edge measurements_11N20SISO_2462_Ant1_AV



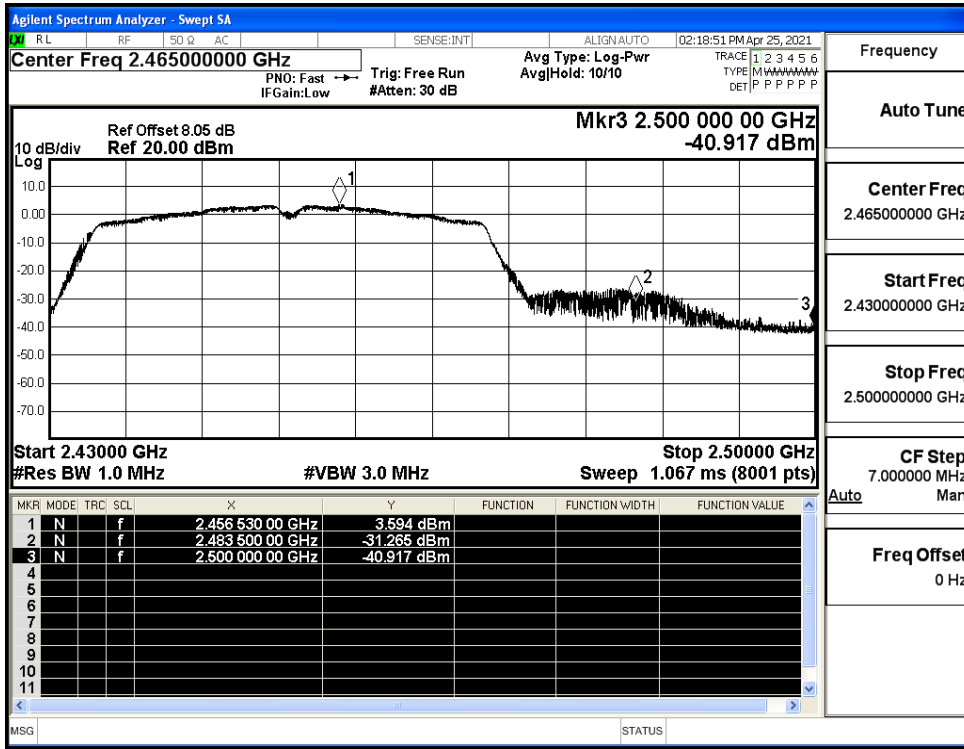
Restrict-band band-edge measurements_11N40SISO_2422_Ant1_PEAK



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

