

Appendix A

RF Test Data for 2.4G WIFI (Conducted Measurement)

Product Name: Formuler Z+ NEO

Trade Mark: Formuler

Test Model: Z+ NEO

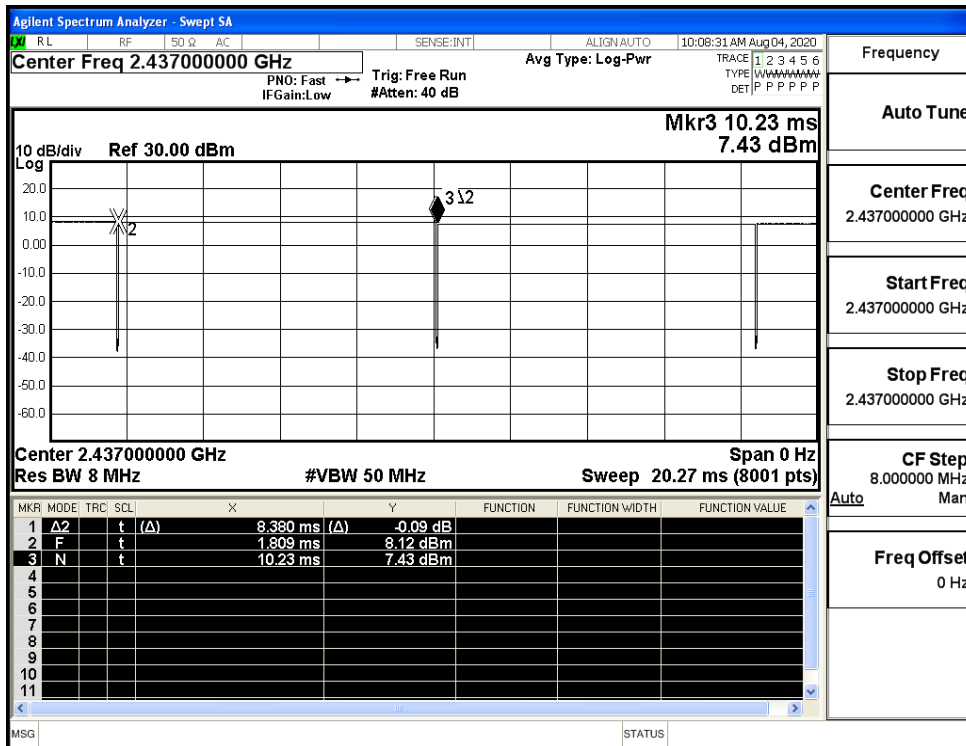
Environmental Conditions

Temperature:	23.2 ° C
Relative Humidity:	54.5%
ATM Pressure:	100.0 kPa
Test Engineer:	Jam Zheng
Supervised by:	Li Huan

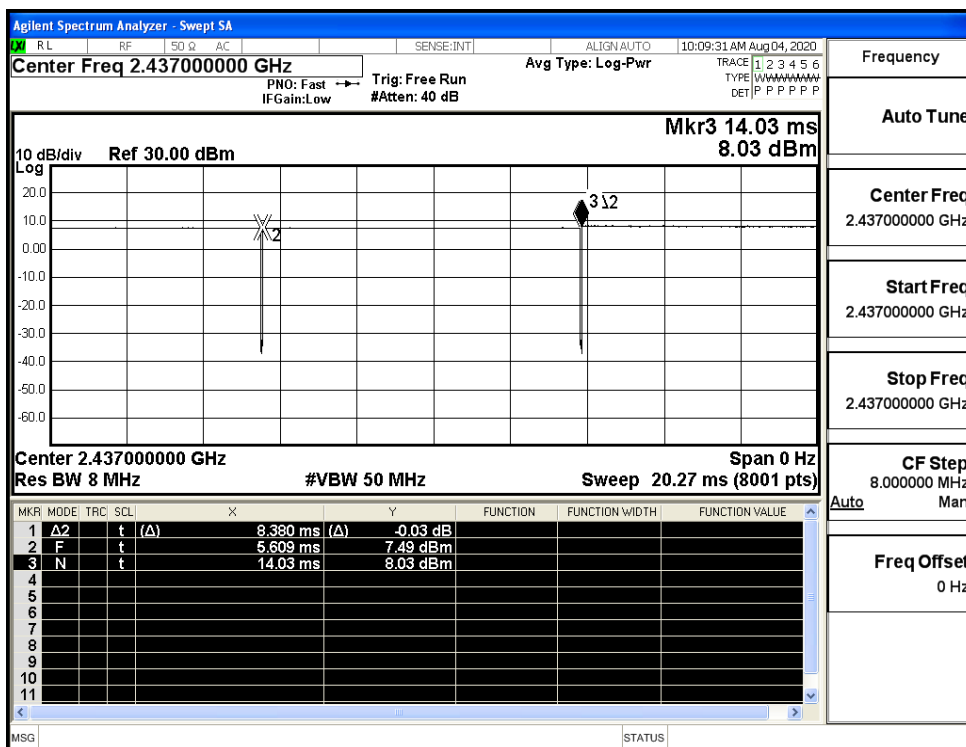
A.1 Duty Cycle

Test Mode	Test Channel	Ant	Duty Cycle[%]	Verdict
11B	2437	Ant1	99.49	PASS
11G	2437	Ant1	99.49	PASS
11N20SISO	2437	Ant1	98.42	PASS
11N40SISO	2437	Ant1	100.00	PASS

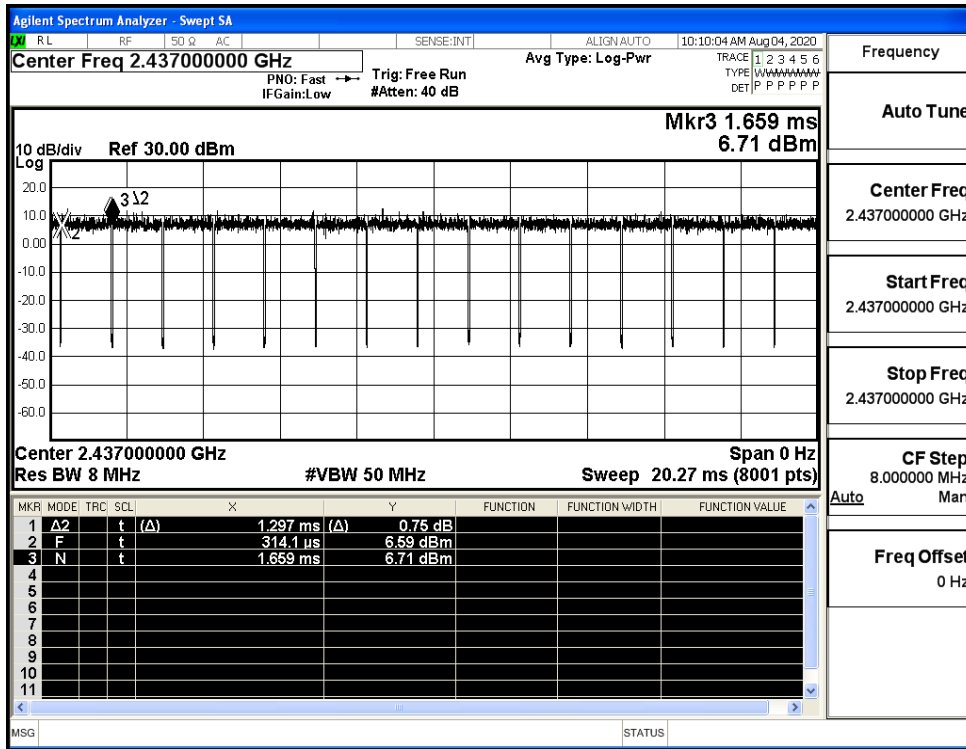
Duty Cycle_11B_2437_Ant1



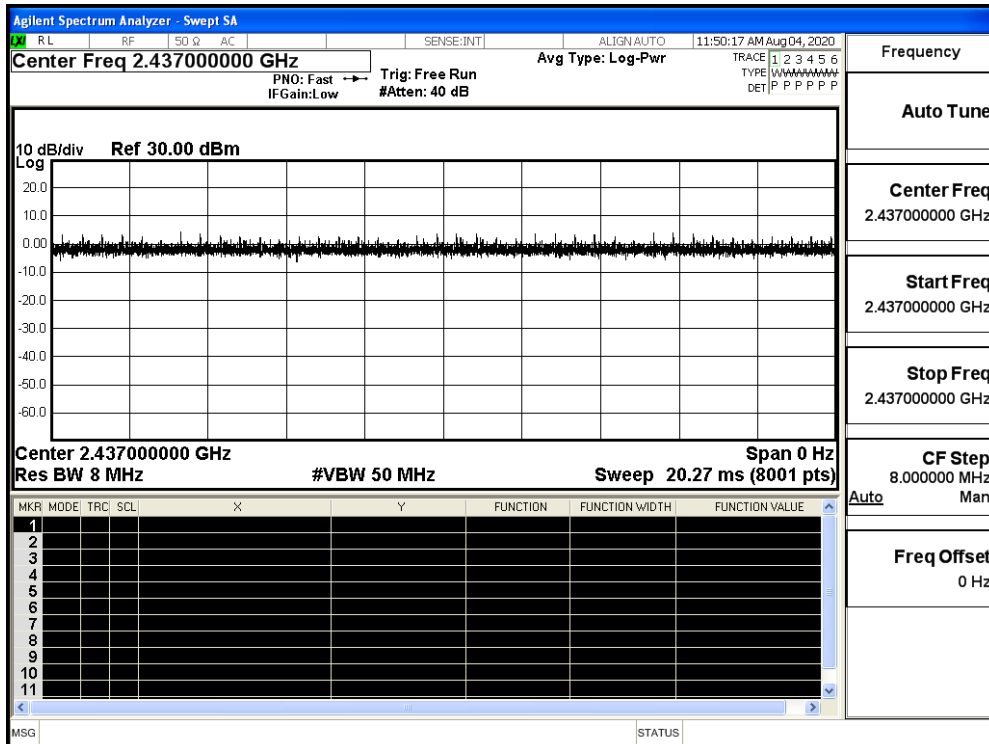
Duty Cycle_11G_2437_Ant1



Duty Cycle_11N20SISO_2437_Ant1



Duty Cycle_11N40SISO_2437_Ant1

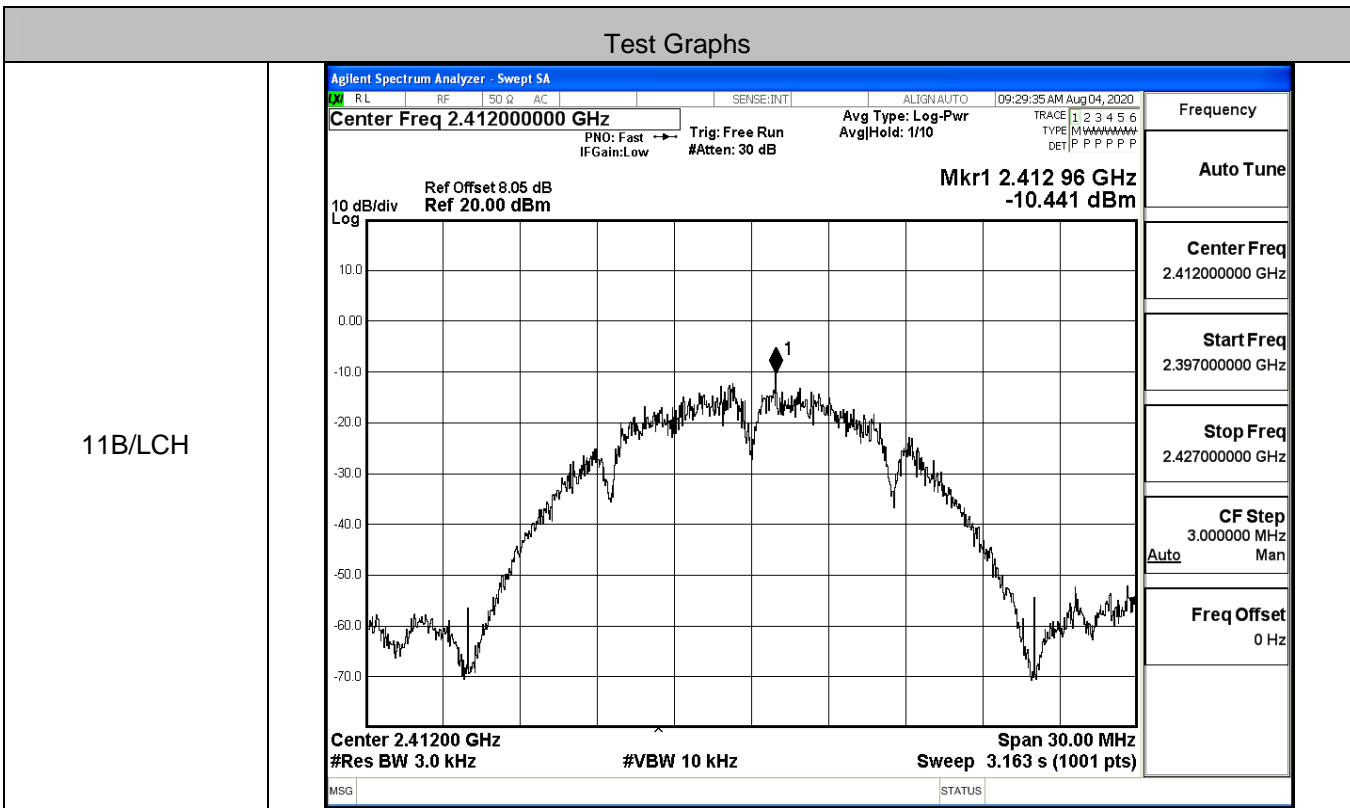


A.2 Maximum Conducted Output Power

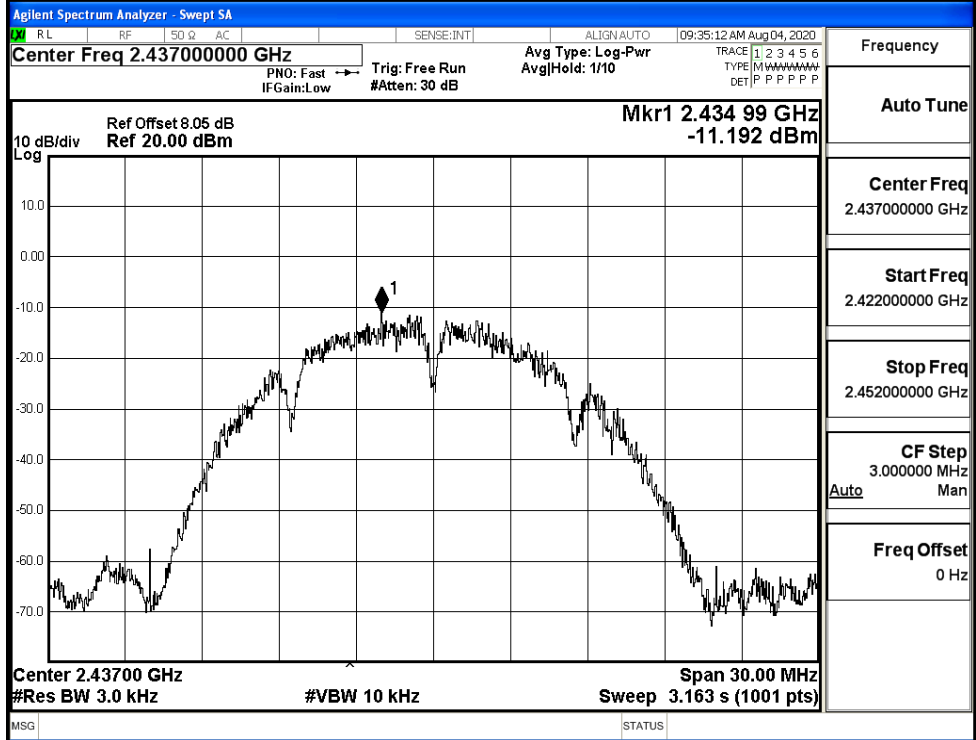
Mode	Channel	Meas.Level [dBm]	Limit [dBm]	Verdict
11B	LCH	13.74	30	PASS
	MCH	14.78	30	PASS
	HCH	14.02	30	PASS
11G	LCH	19.53	30	PASS
	MCH	20.01	30	PASS
	HCH	21.35	30	PASS
11N20SISO	LCH	19.17	30	PASS
	MCH	19.91	30	PASS
	HCH	19.25	30	PASS
11N40SISO	LCH	19.77	30	PASS
	MCH	19.81	30	PASS
	HCH	19.71	30	PASS

A.3 Maximum Power Spectral Density

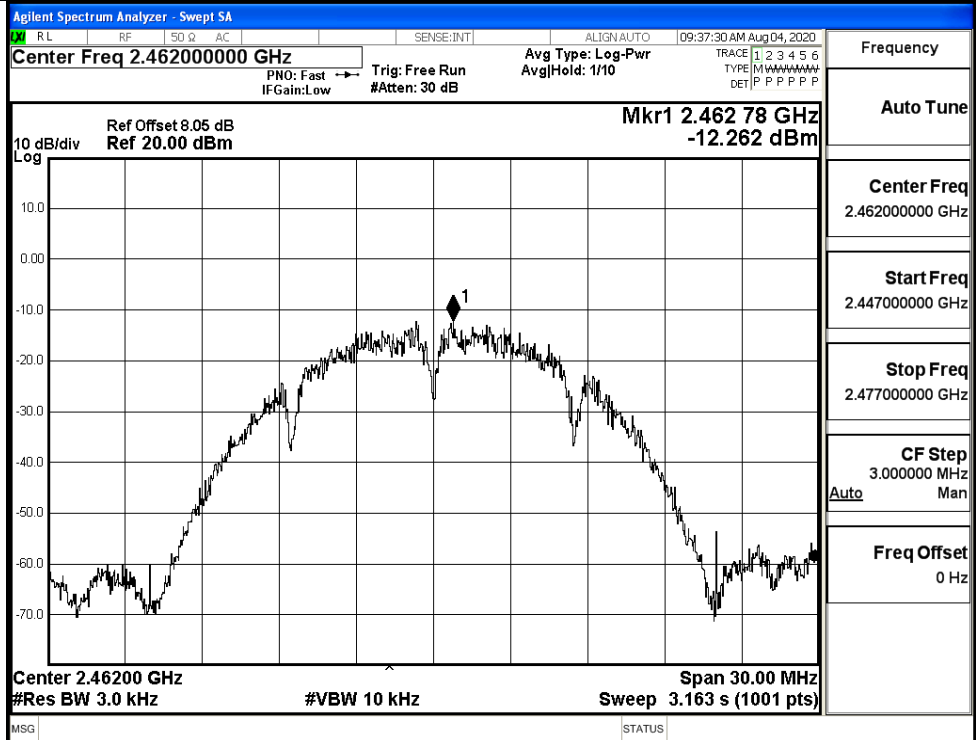
Mode	Channel	Meas.Level [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
11B	LCH	-10.441	8	PASS
	MCH	-11.192	8	PASS
	HCH	-12.262	8	PASS
11G	LCH	-12.621	8	PASS
	MCH	-12.787	8	PASS
	HCH	-9.864	8	PASS
11N20SISO	LCH	-14.206	8	PASS
	MCH	-14.134	8	PASS
	HCH	-12.930	8	PASS
11N40SISO	LCH	-15.358	8	PASS
	MCH	-14.468	8	PASS
	HCH	-17.586	8	PASS



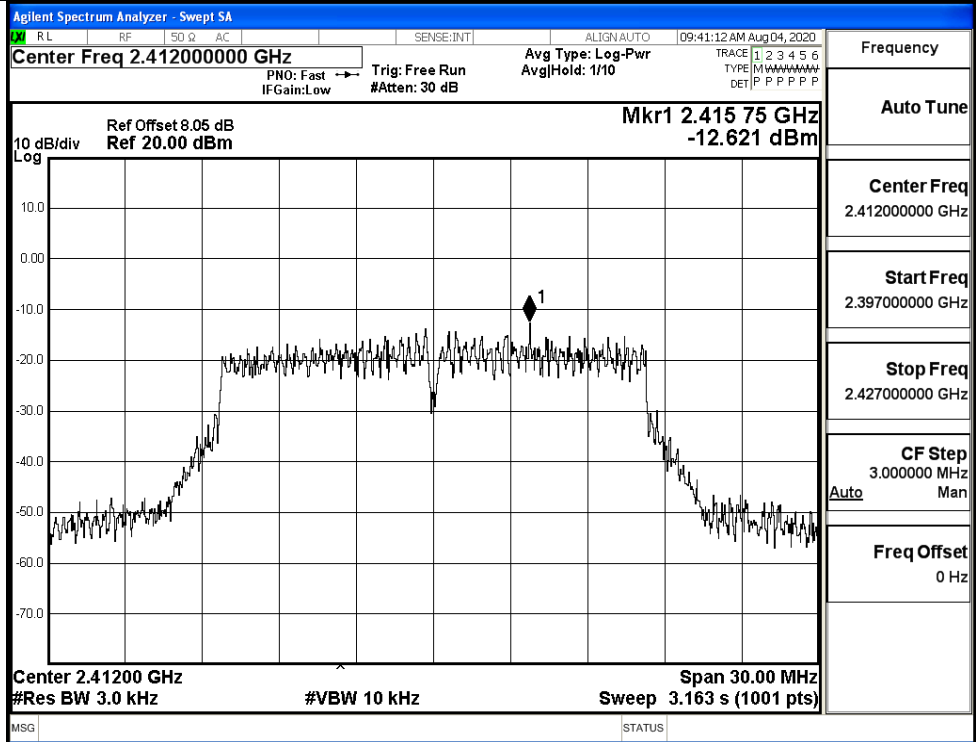
11B/MCH



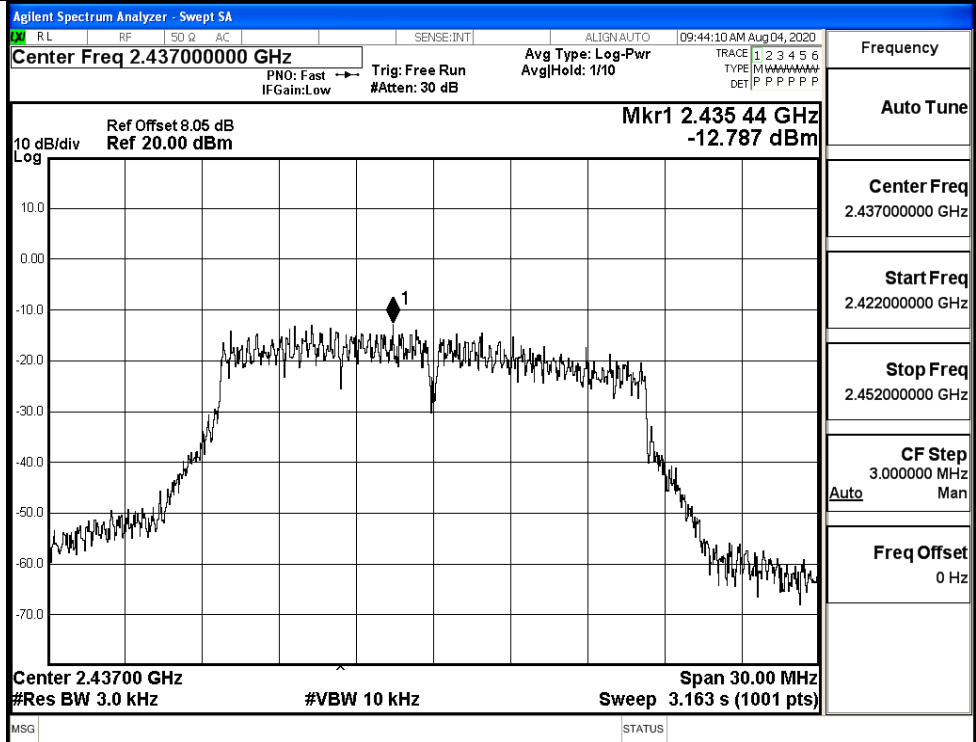
11B/HCH



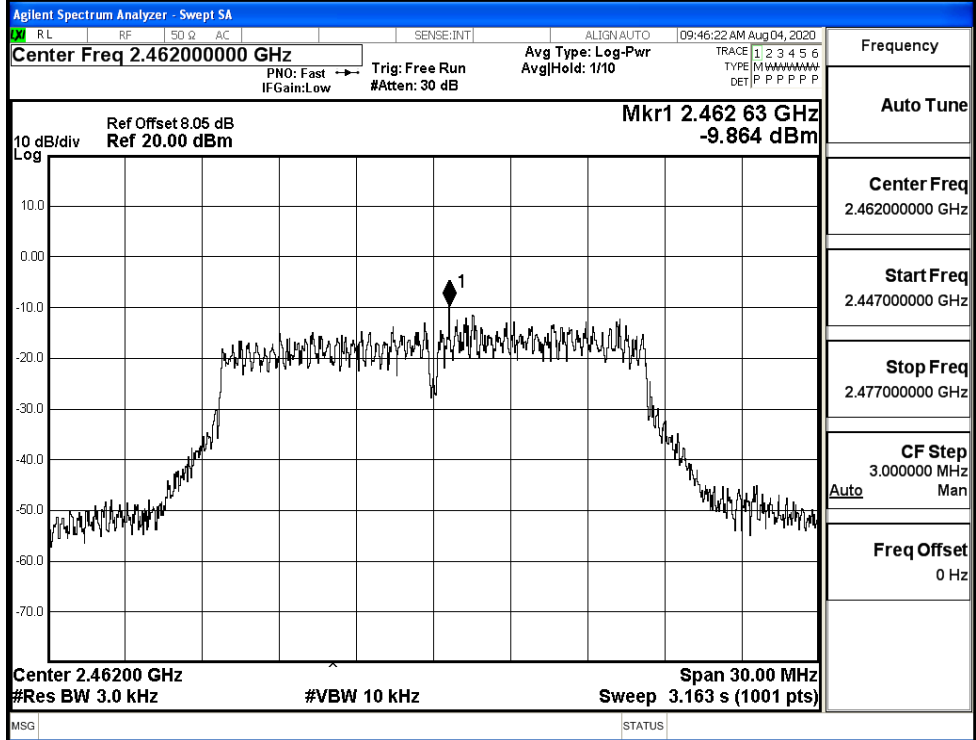
11G/LCH



11G/MCH

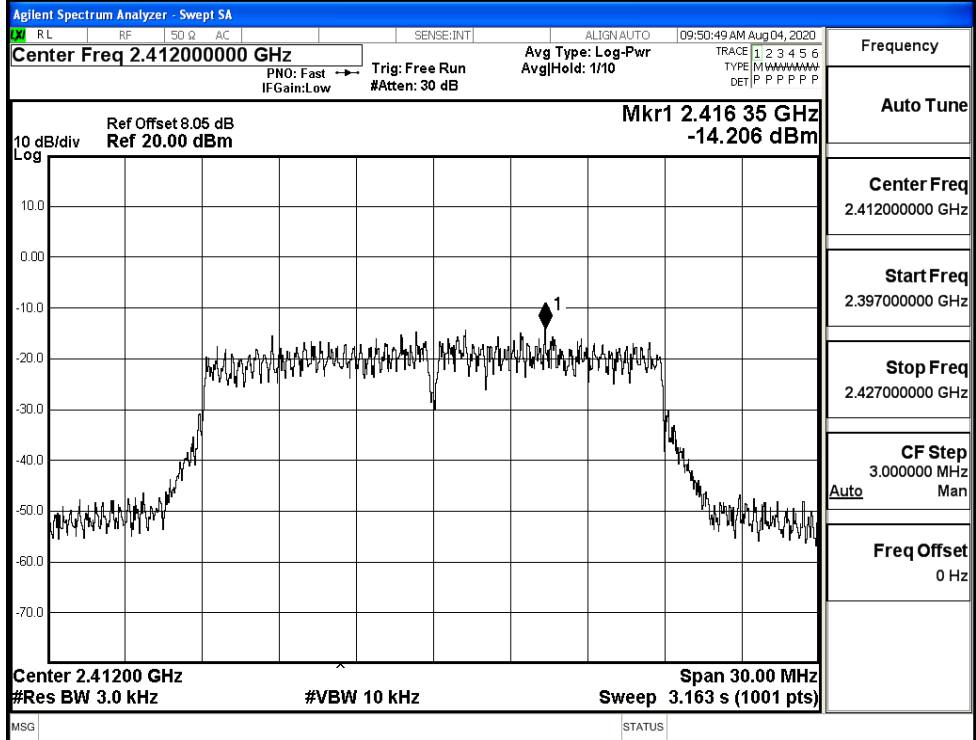


11G/HCH



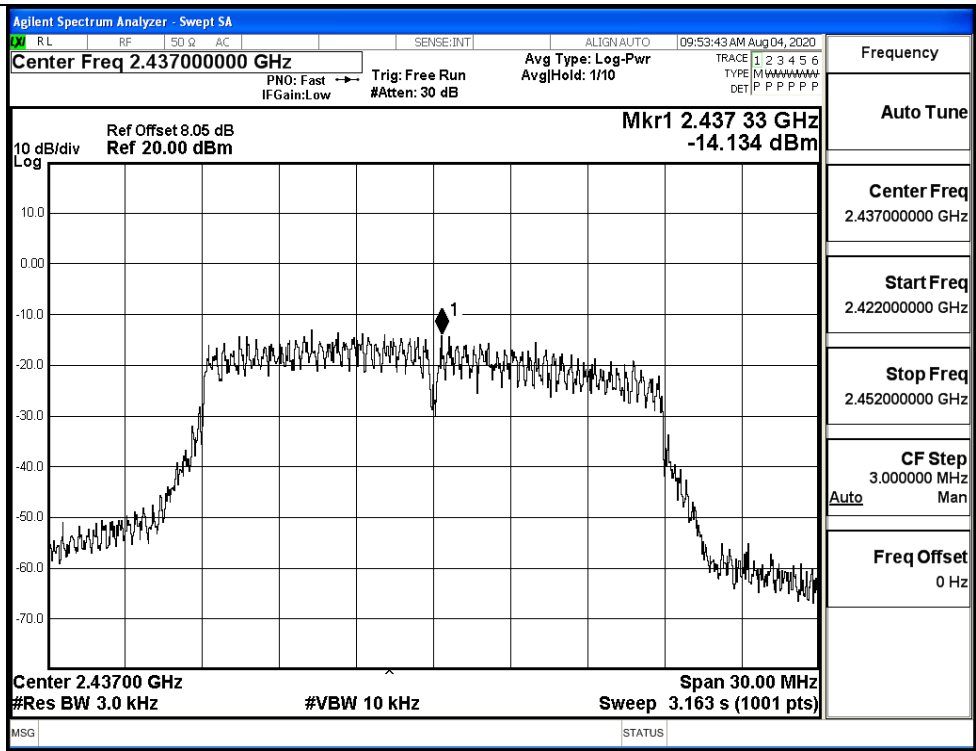
Frequency
Auto Tune
Center Freq 2.46200000 GHz
Start Freq 2.447000000 GHz
Stop Freq 2.477000000 GHz
CF Step 3.000000 MHz Auto Man
Freq Offset 0 Hz

11N20SISO/LCH

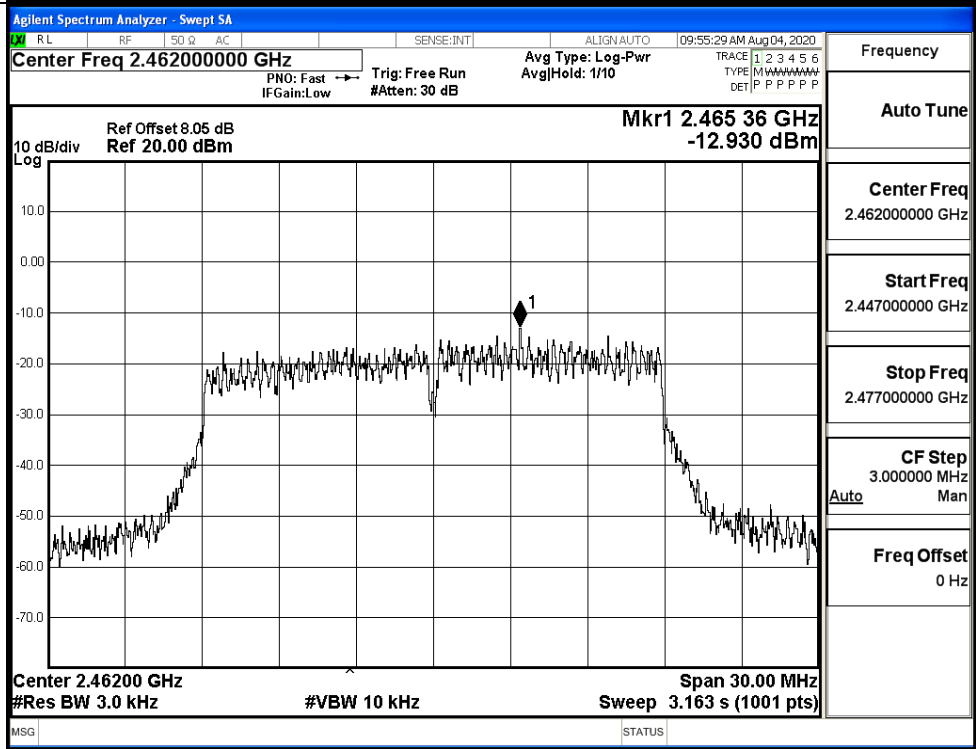


Frequency
Auto Tune
Center Freq 2.412000000 GHz
Start Freq 2.397000000 GHz
Stop Freq 2.427000000 GHz
CF Step 3.000000 MHz Auto Man
Freq Offset 0 Hz

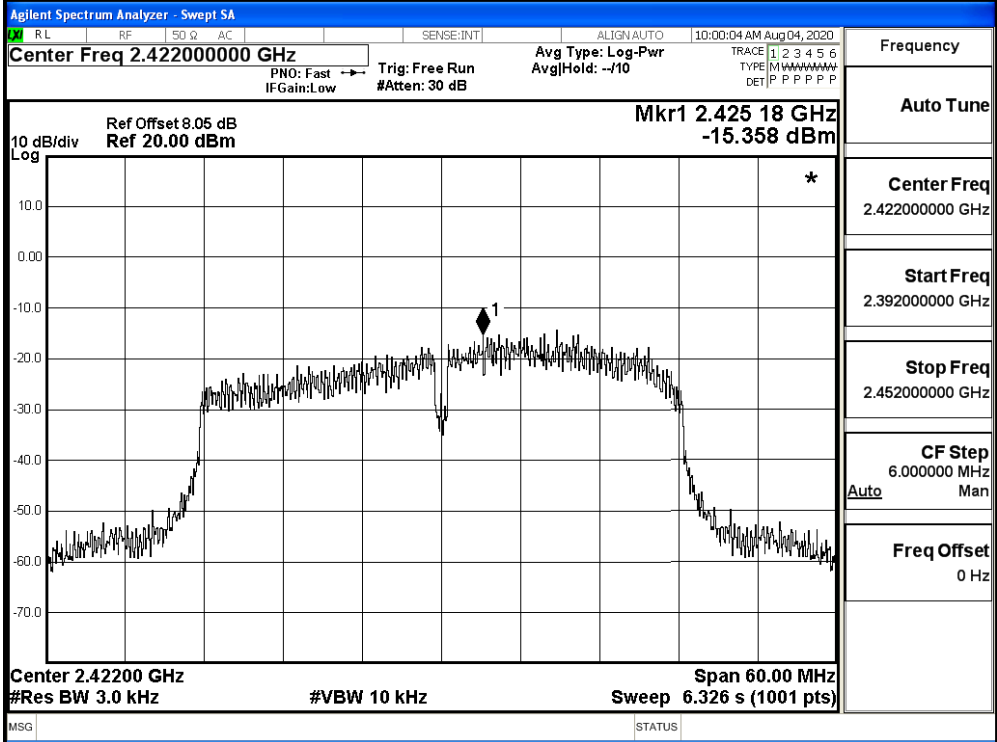
11N20SISO/MCH



11N20SISO/HCH

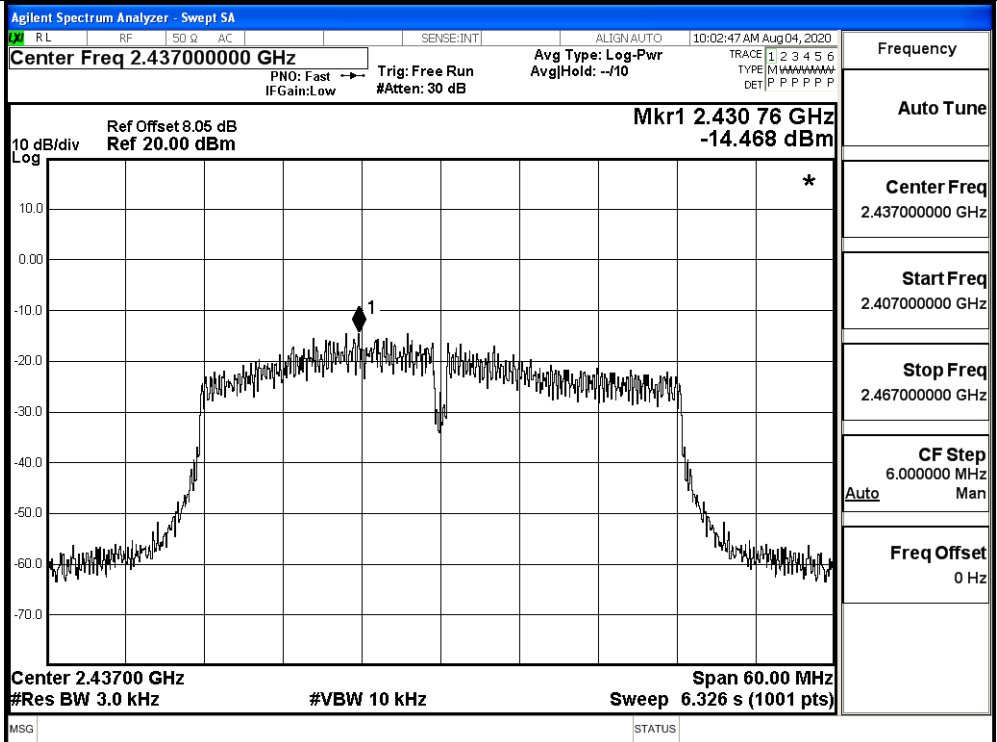


11N40SISO/LCH

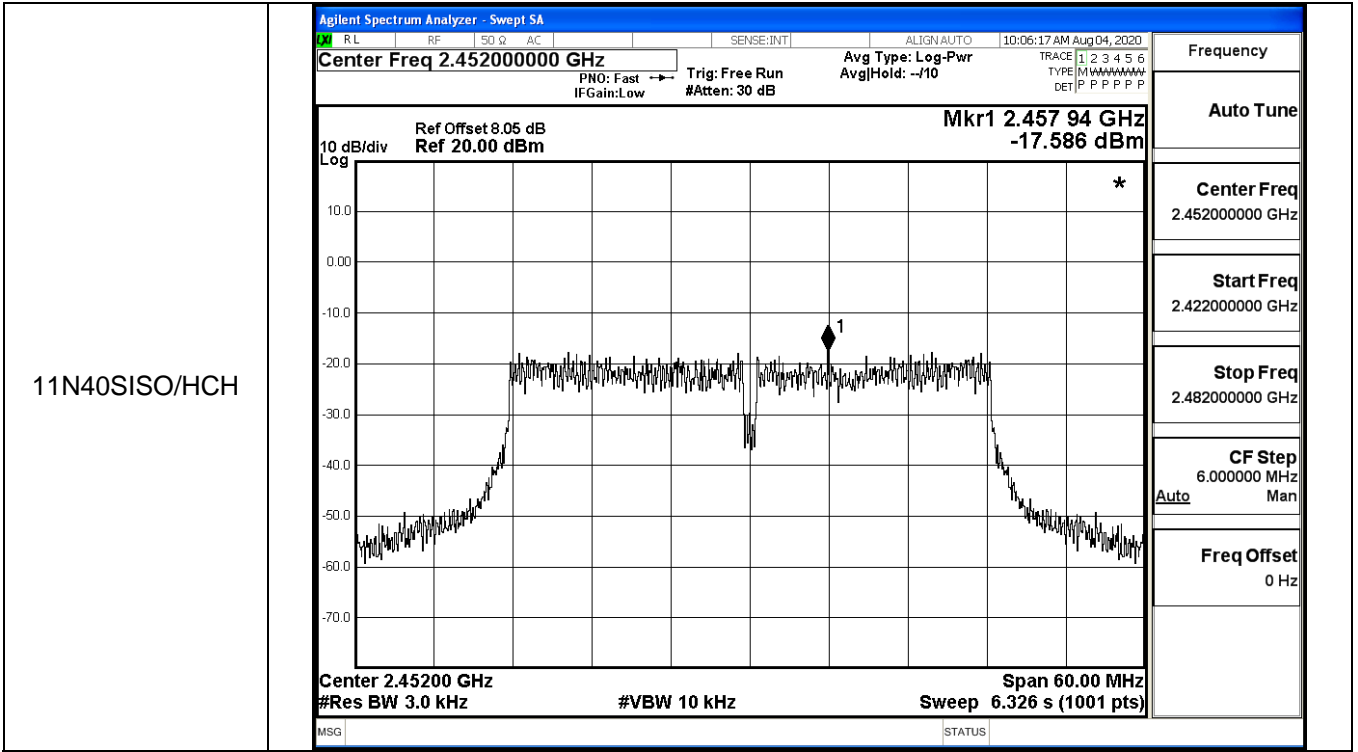


Frequency	2.422000000 GHz
Auto Tune	
Center Freq	2.422000000 GHz
Start Freq	2.392000000 GHz
Stop Freq	2.452000000 GHz
CF Step	6.000000 MHz
Auto	Man
Freq Offset	0 Hz

11N40SISO/MCH



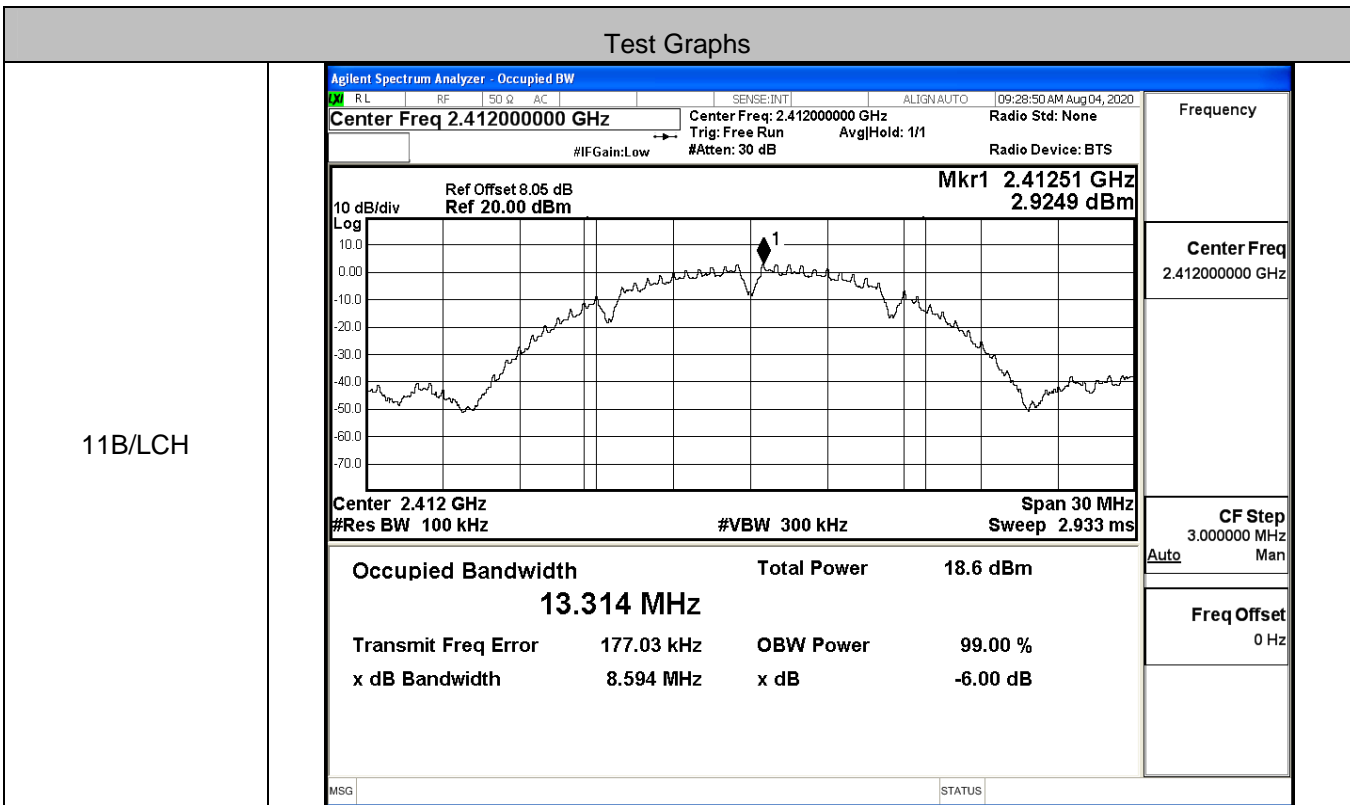
Frequency	2.437000000 GHz
Auto Tune	
Center Freq	2.437000000 GHz
Start Freq	2.407000000 GHz
Stop Freq	2.467000000 GHz
CF Step	6.000000 MHz
Auto	Man
Freq Offset	0 Hz



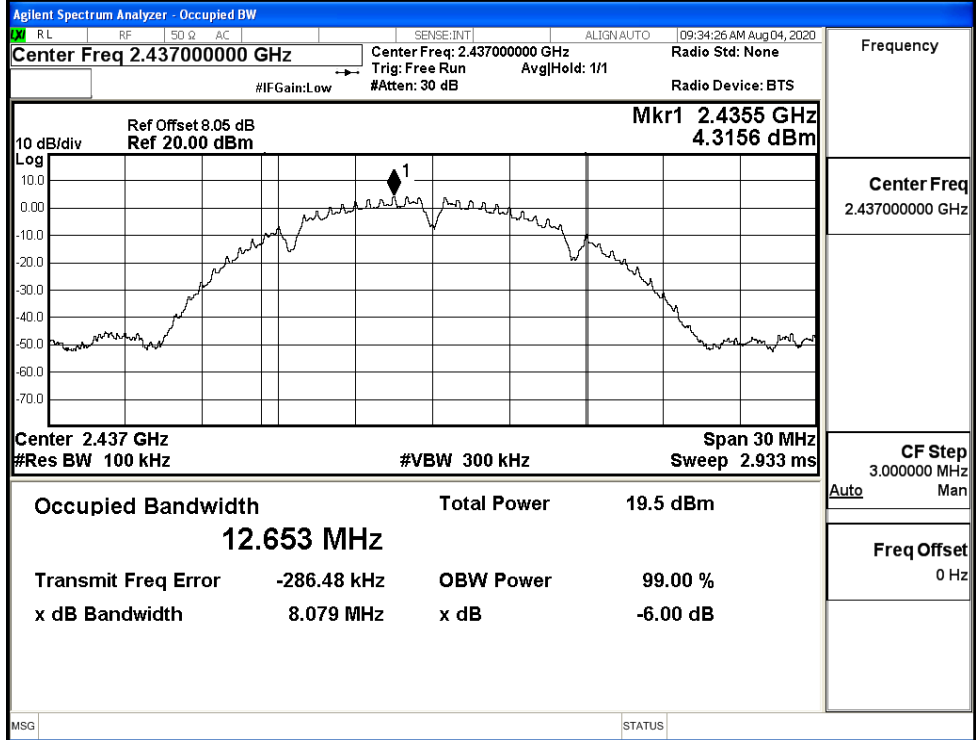
A.4 6dB Bandwidth

Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
11B	LCH	8.594	≥0.5	PASS
	MCH	8.079	≥0.5	PASS
	HCH	8.585	≥0.5	PASS
11G	LCH	15.72	≥0.5	PASS
	MCH	15.46	≥0.5	PASS
	HCH	15.74	≥0.5	PASS
11N20SISO	LCH	16.35	≥0.5	PASS
	MCH	15.95	≥0.5	PASS
	HCH	16.35	≥0.5	PASS
11N40SISO	LCH	26.31	≥0.5	PASS
	MCH	23.83	≥0.5	PASS
	HCH	36.42	≥0.5	PASS

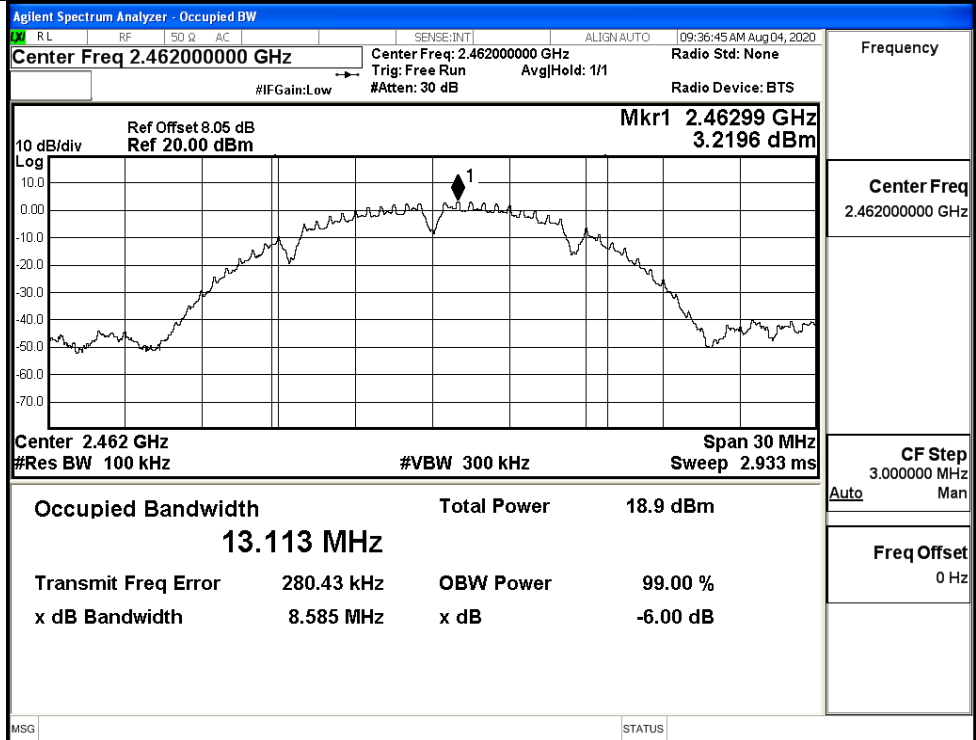
Test Graphs



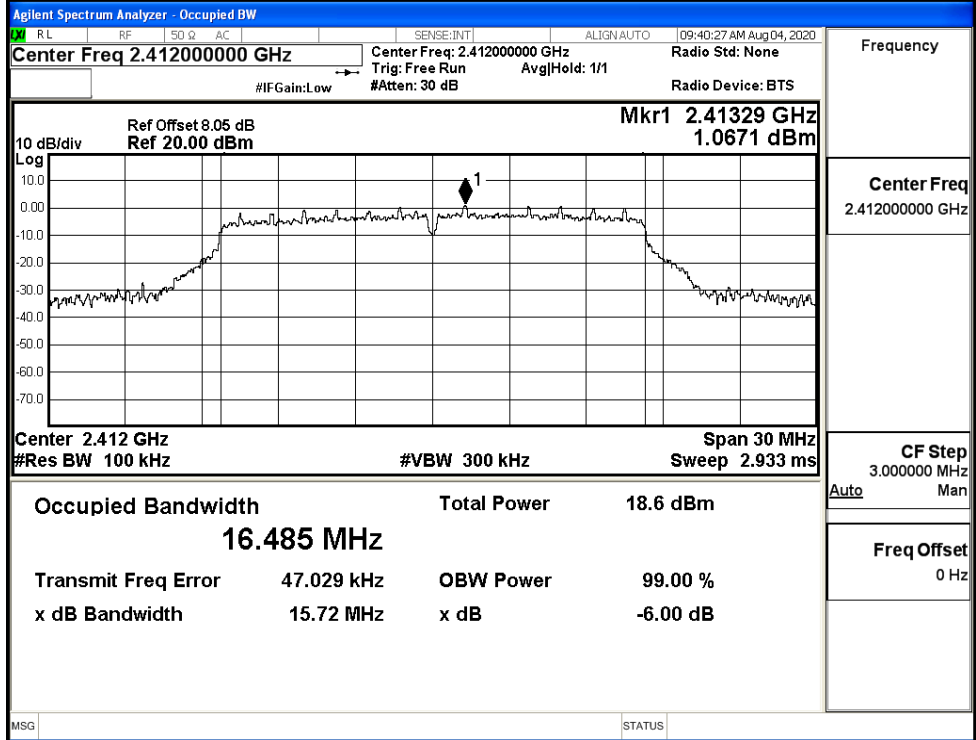
11B/MCH



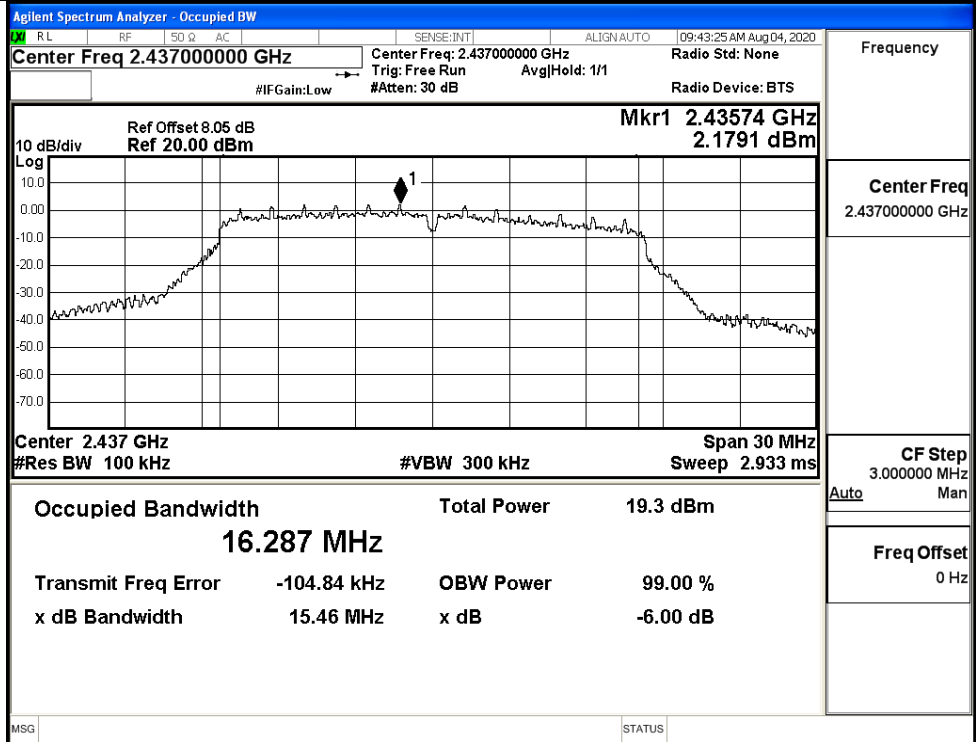
11B/HCH



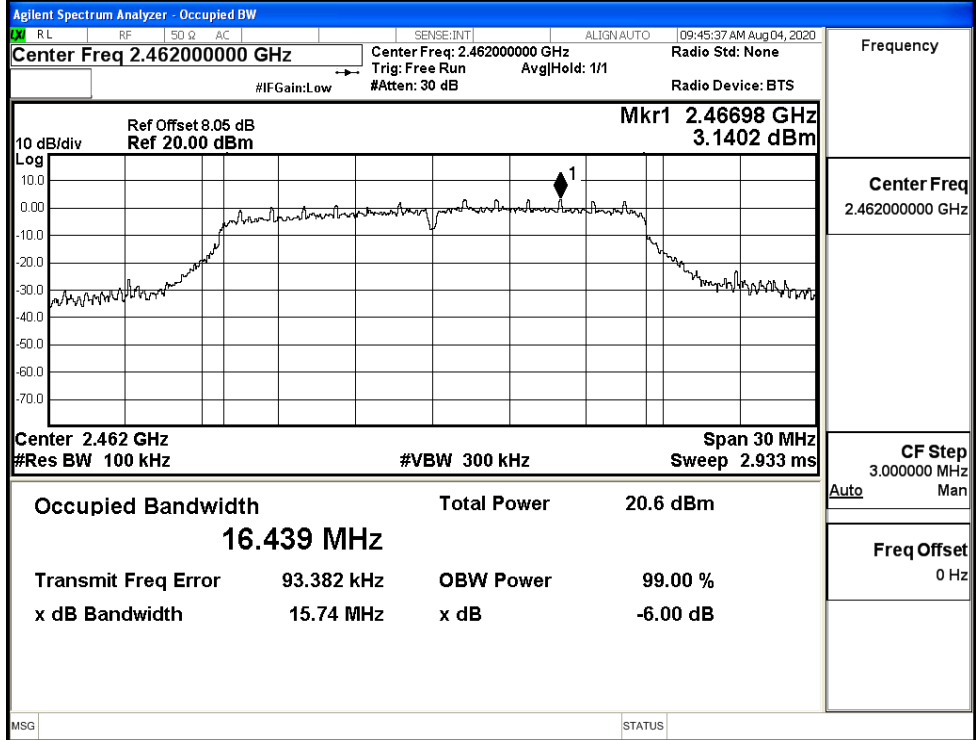
11G/LCH



11G/MCH

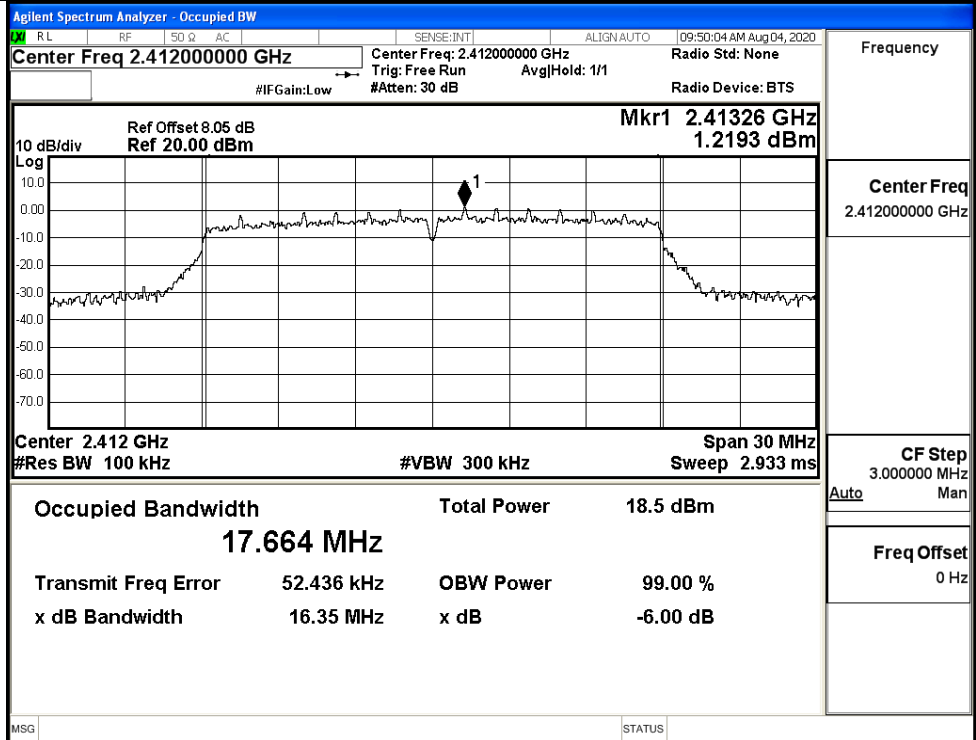


11G/HCH



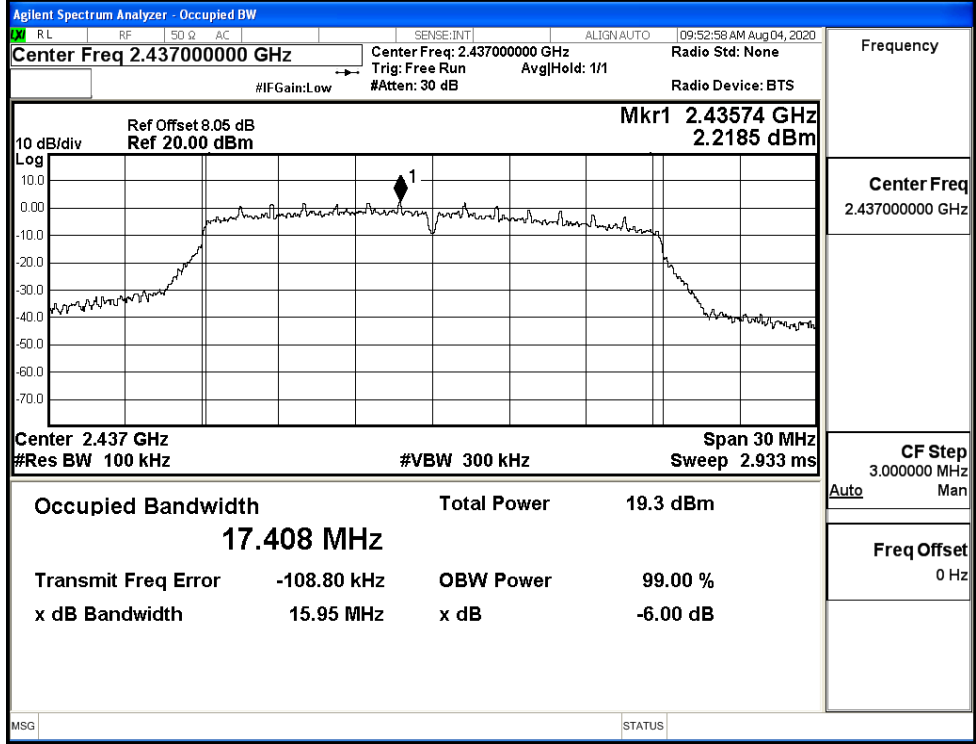
Frequency	2.46200000 GHz
Center Freq	2.46200000 GHz
CF Step	3.000000 MHz
Auto	Man
Freq Offset	0 Hz

11N20SISO/LCH

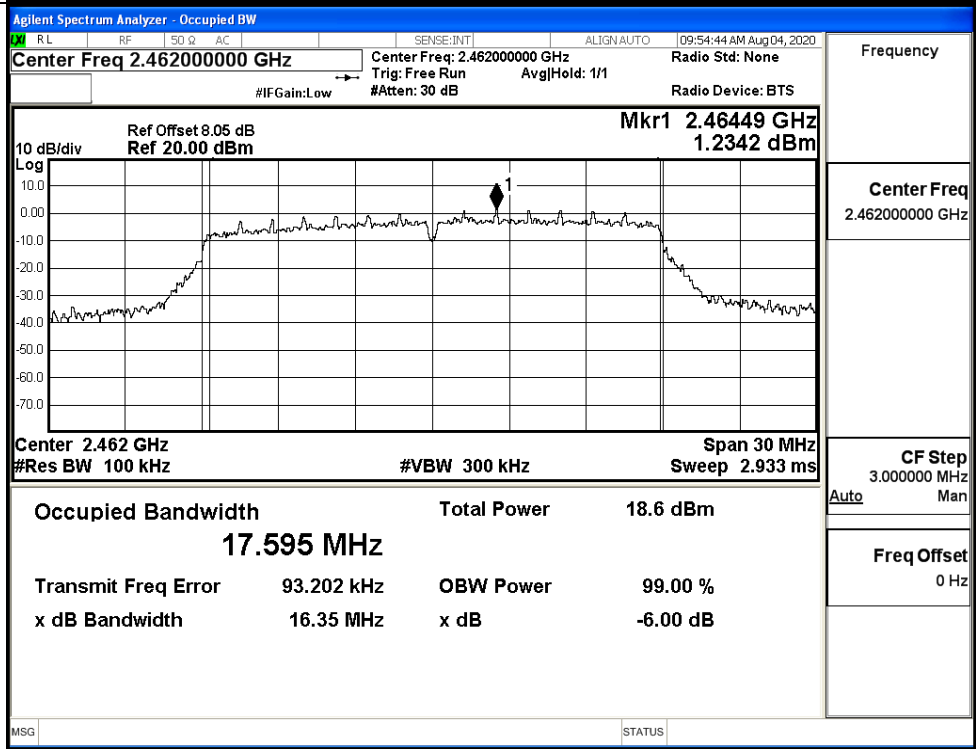


Frequency	2.41200000 GHz
Center Freq	2.41200000 GHz
CF Step	3.000000 MHz
Auto	Man
Freq Offset	0 Hz

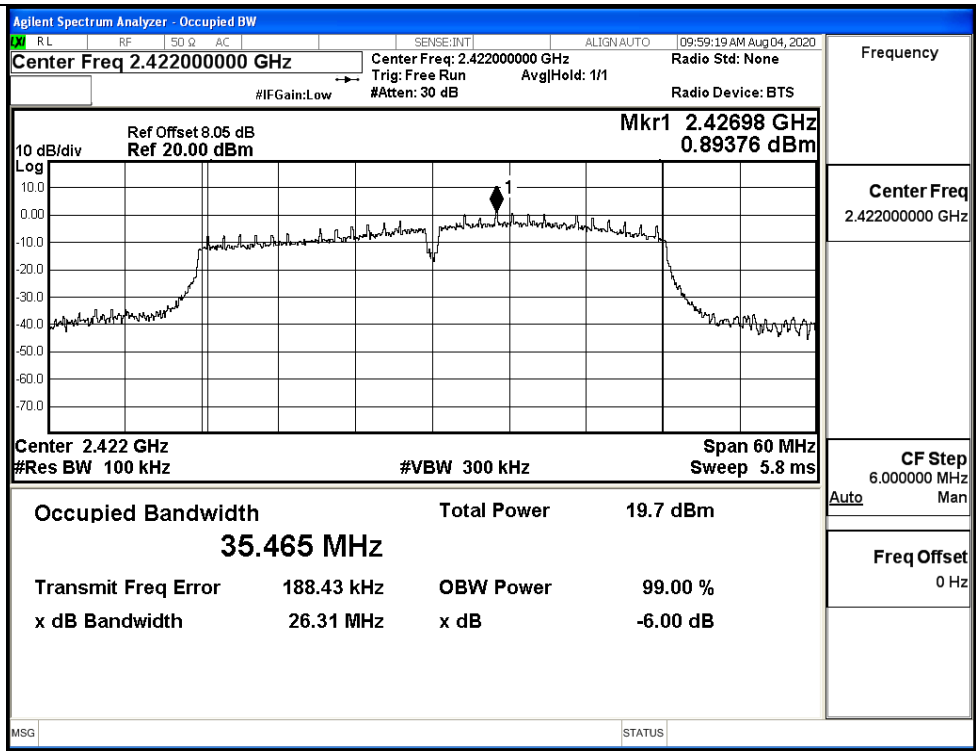
11N20SISO/MCH



11N20SISO/HCH



11N40SISO/LCH

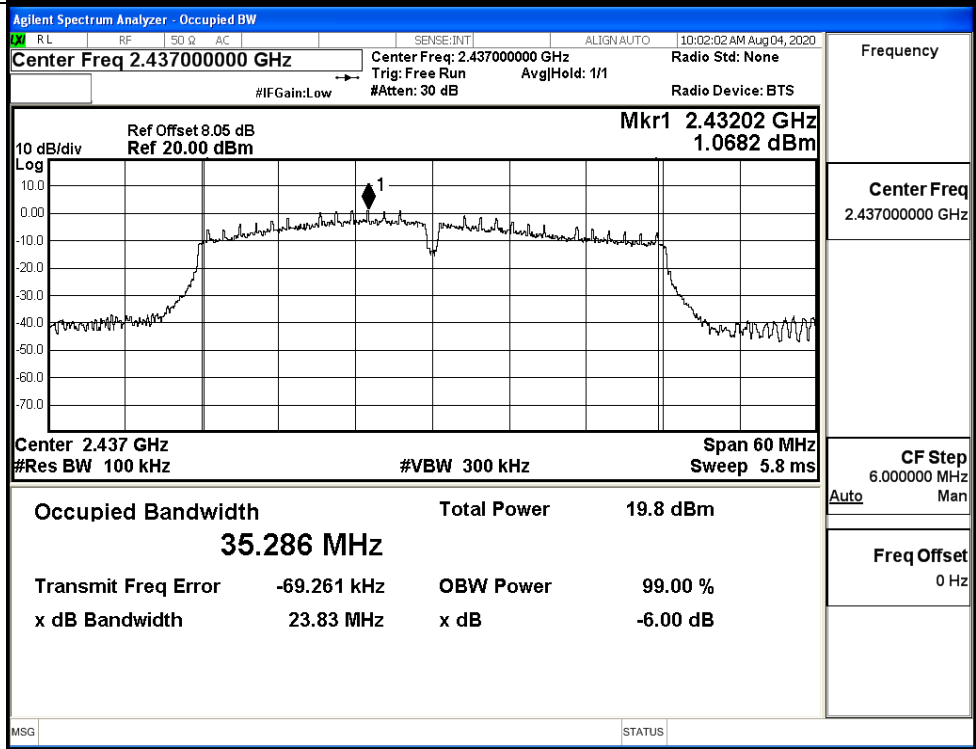


Frequency
2.42200000 GHz

CF Step
6.000000 MHz
Auto Man

Freq Offset
0 Hz

11N40SISO/MCH

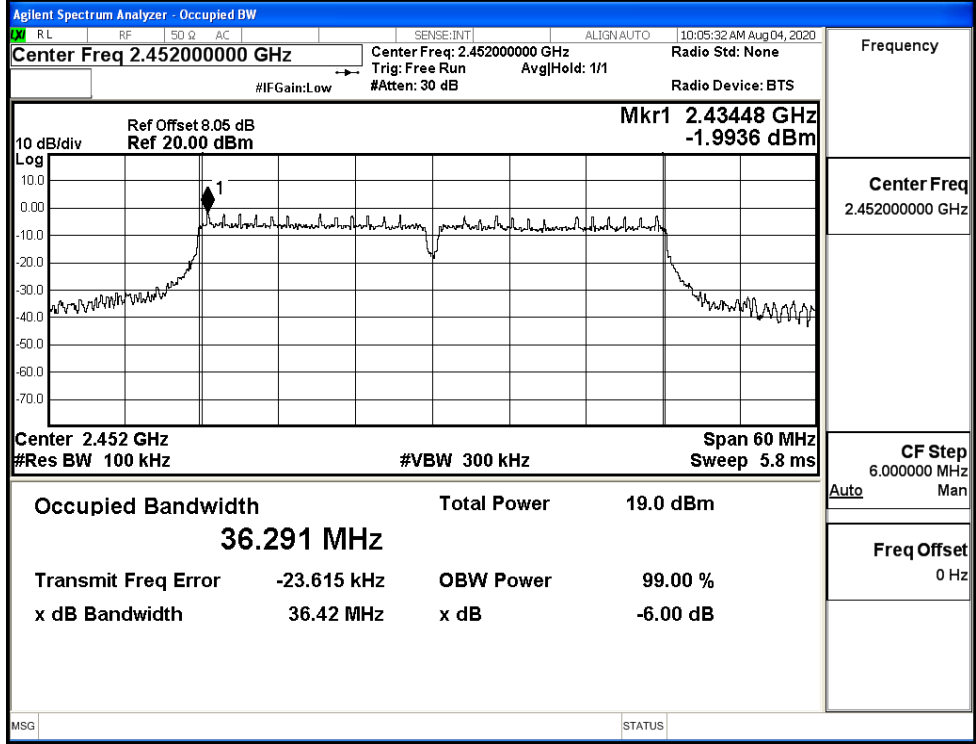


Frequency
2.43700000 GHz

CF Step
6.000000 MHz
Auto Man

Freq Offset
0 Hz

11N40SISO/HCH

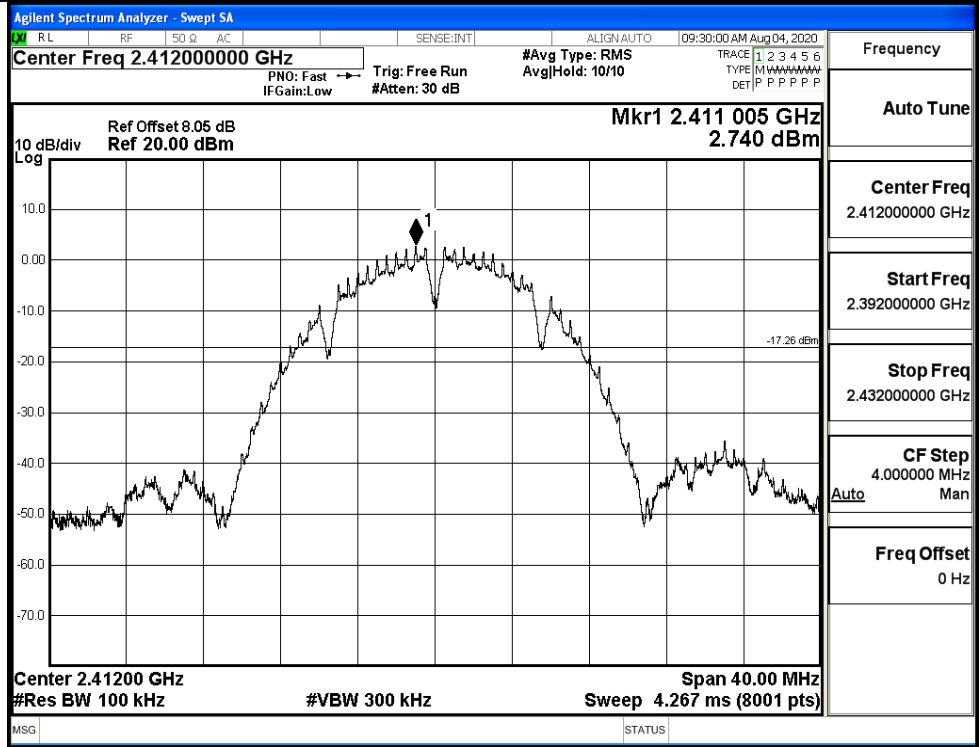


A.5 RF Conducted Spurious Emissions

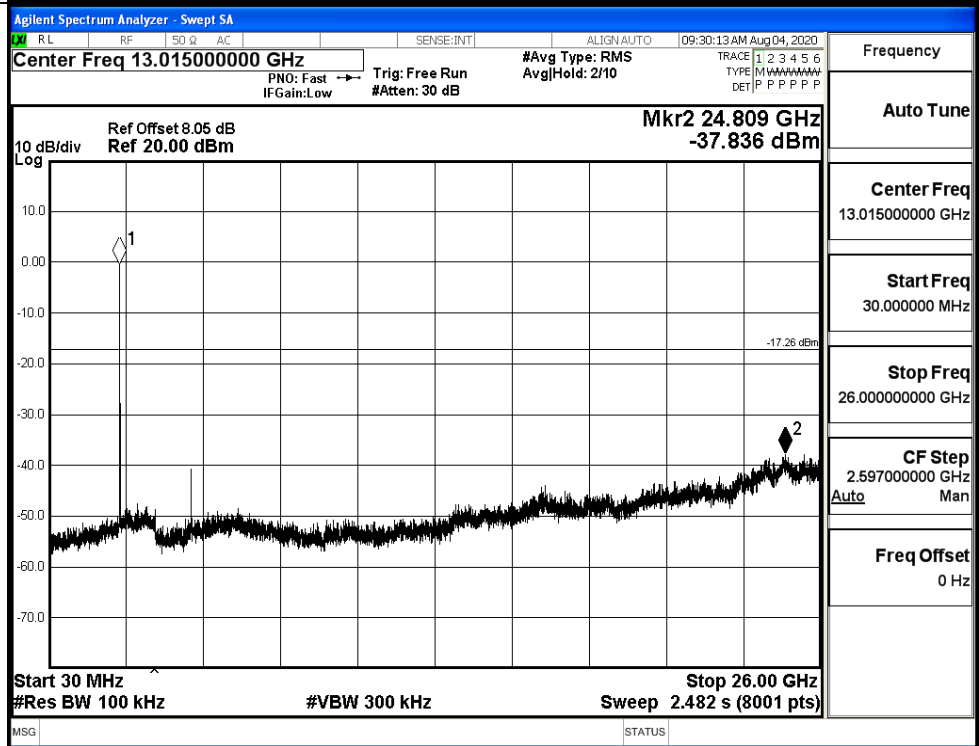
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
11B	LCH	2.74	-37.836	-17.260	PASS
	MCH	4.272	-38.286	-15.728	PASS
	HCH	3.255	-38.559	-16.745	PASS
11G	LCH	1.408	-37.941	-18.592	PASS
	MCH	1.97	-37.187	-18.030	PASS
	HCH	3.475	-37.587	-16.525	PASS
11N20 SISO	LCH	0.759	-38.282	-19.241	PASS
	MCH	2.058	-38.514	-17.942	PASS
	HCH	1.527	-38.410	-18.473	PASS
11N40 SISO	LCH	0.622	-37.327	-19.378	PASS
	MCH	0.977	-38.467	-19.023	PASS
	HCH	-2.031	-38.529	-22.031	PASS

11B_LCH_Graphs

Pref/11B/LCH

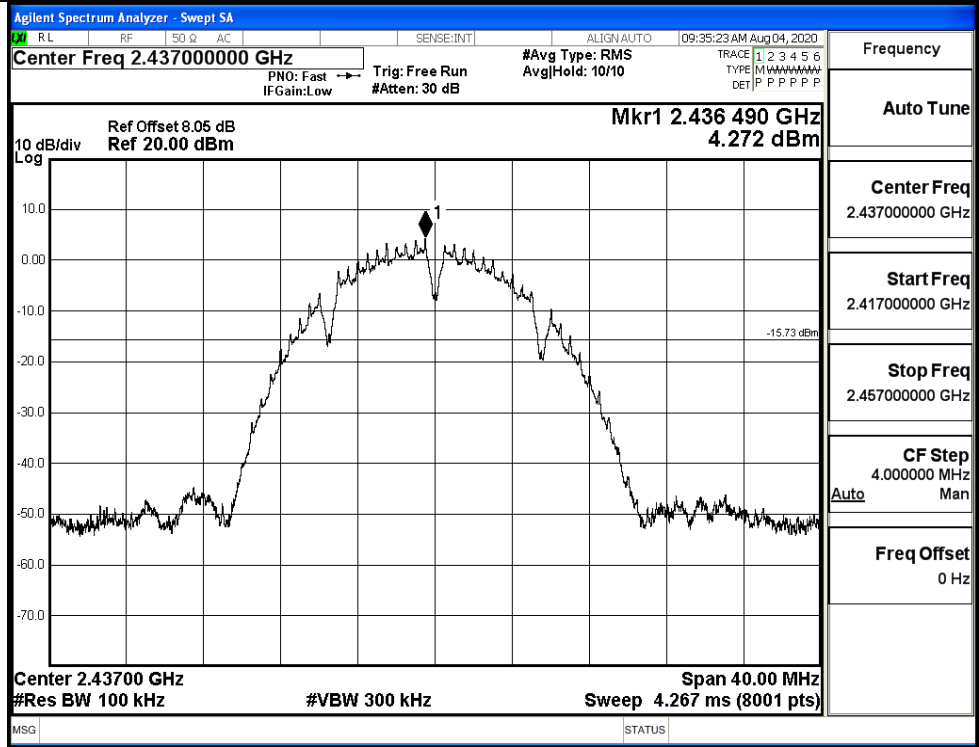


Puw/11B/LCH

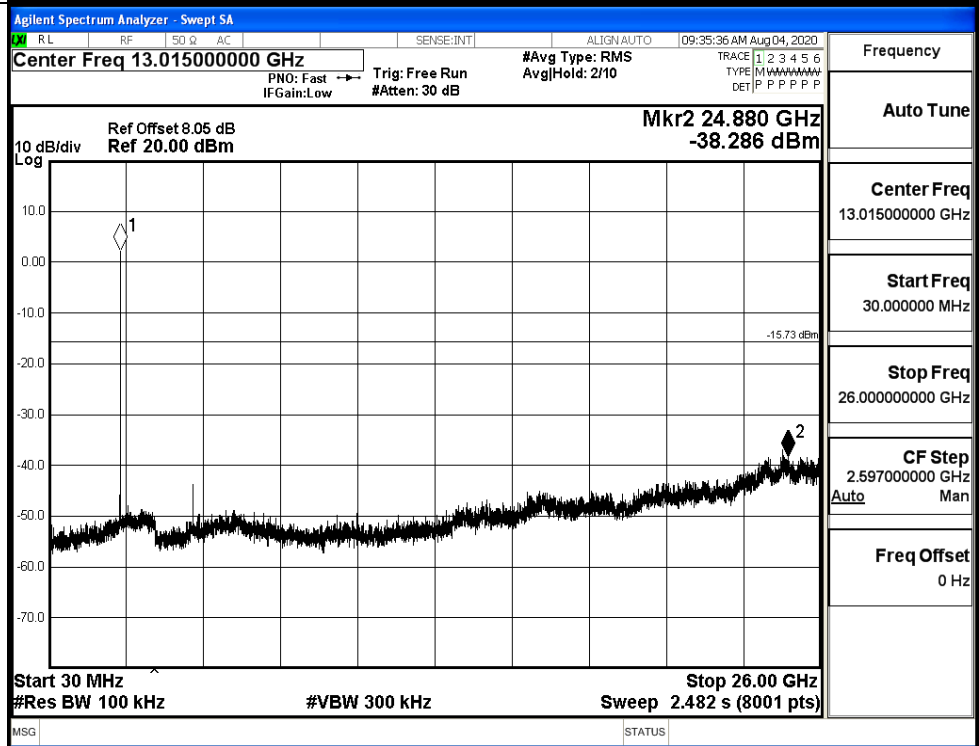


11B_MCH_Graphs

Pref/11B/MCH

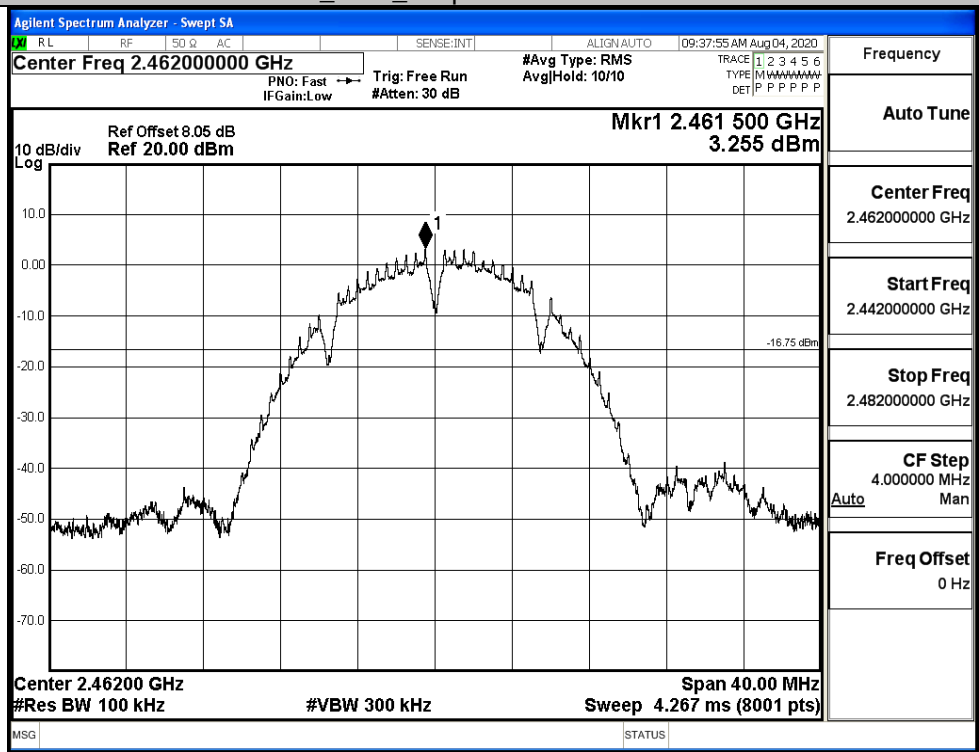


Puw/11B/MCH

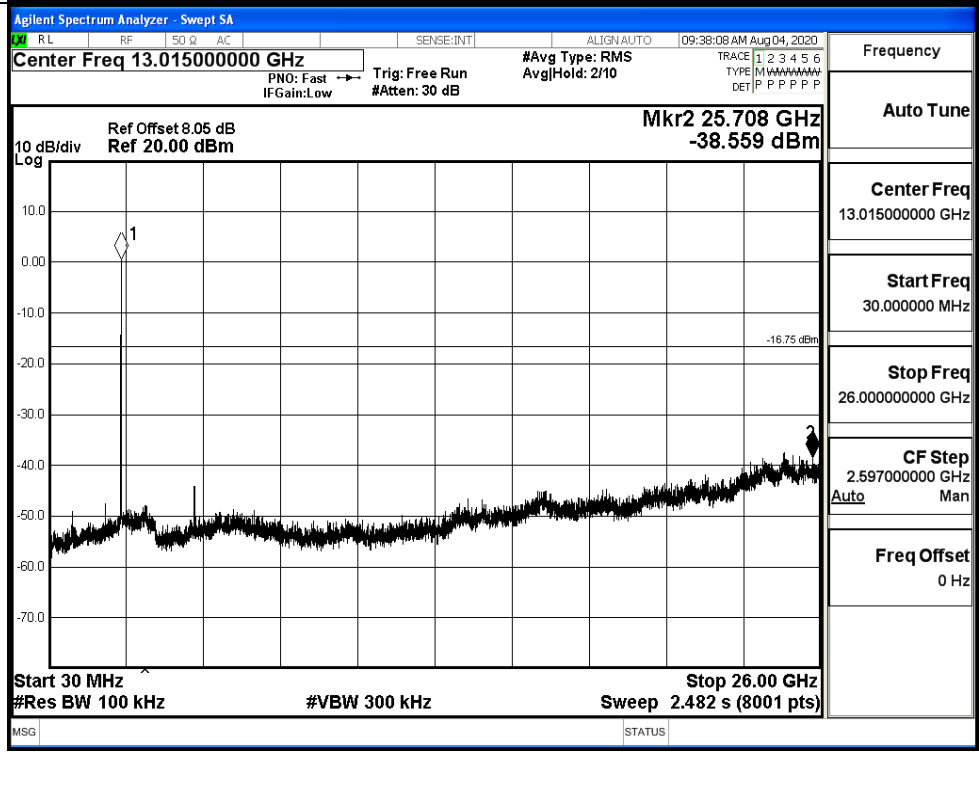


11B_HCH_Graphs

Pref/11B/HCH

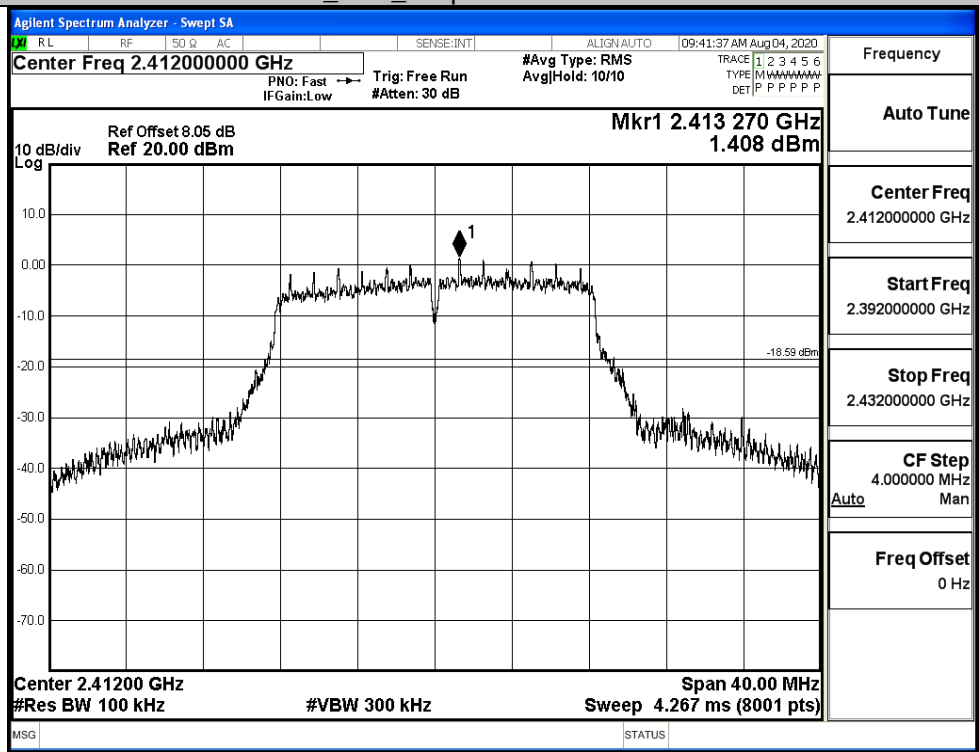


Puw/11B/HCH

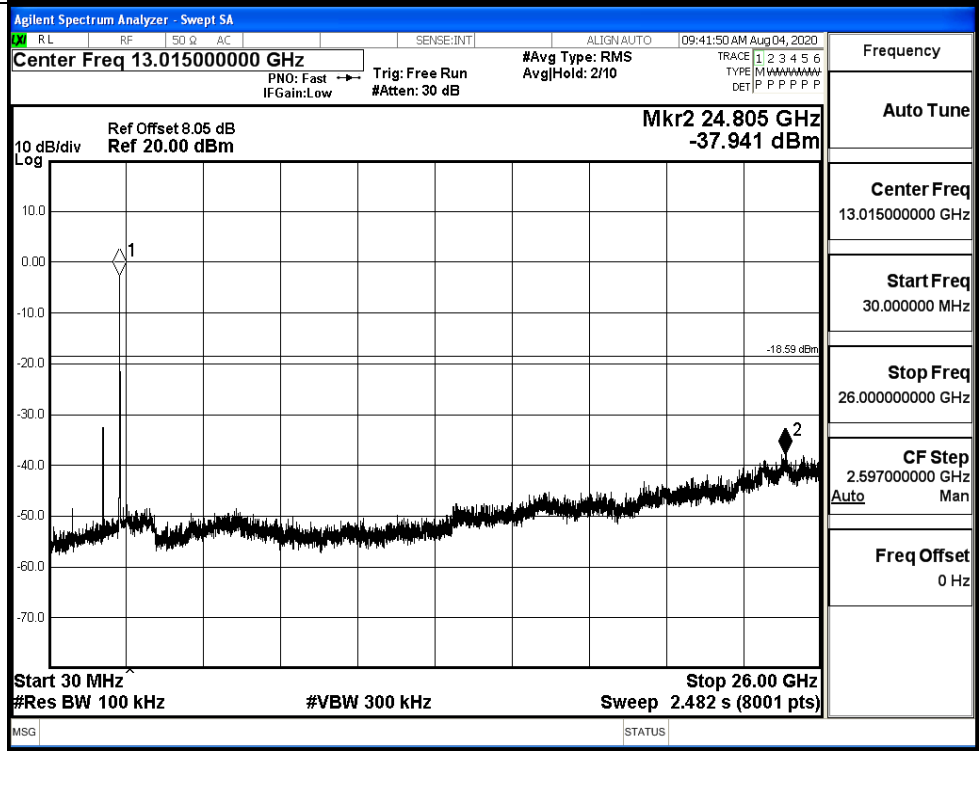


11G_LCH_Graphs

Pref/11G/LCH

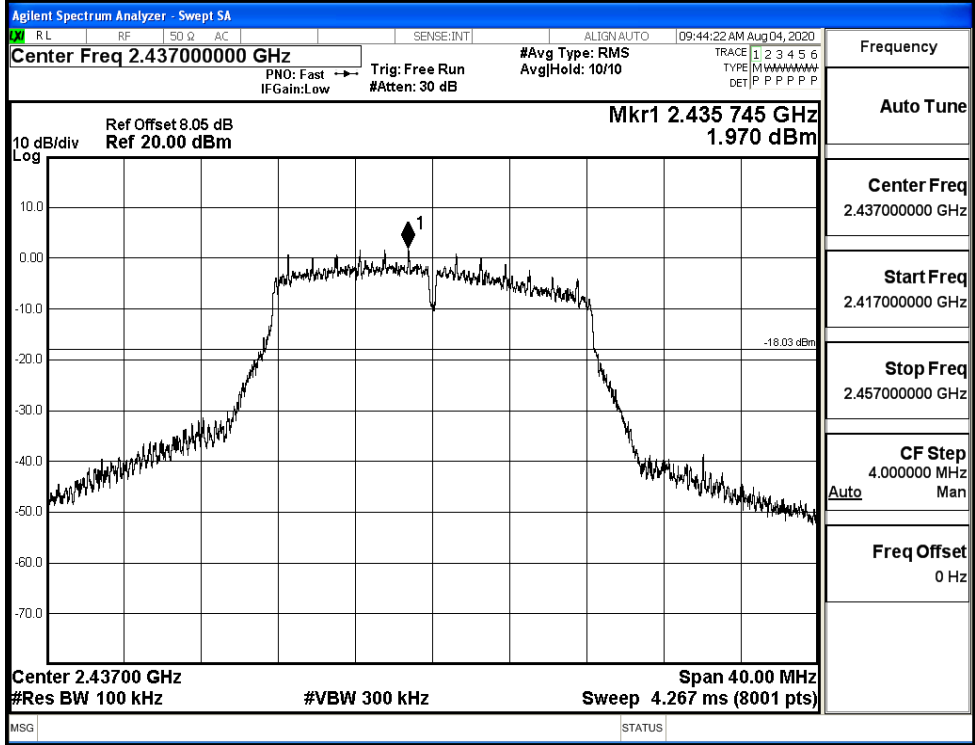


Puw/11G/LCH

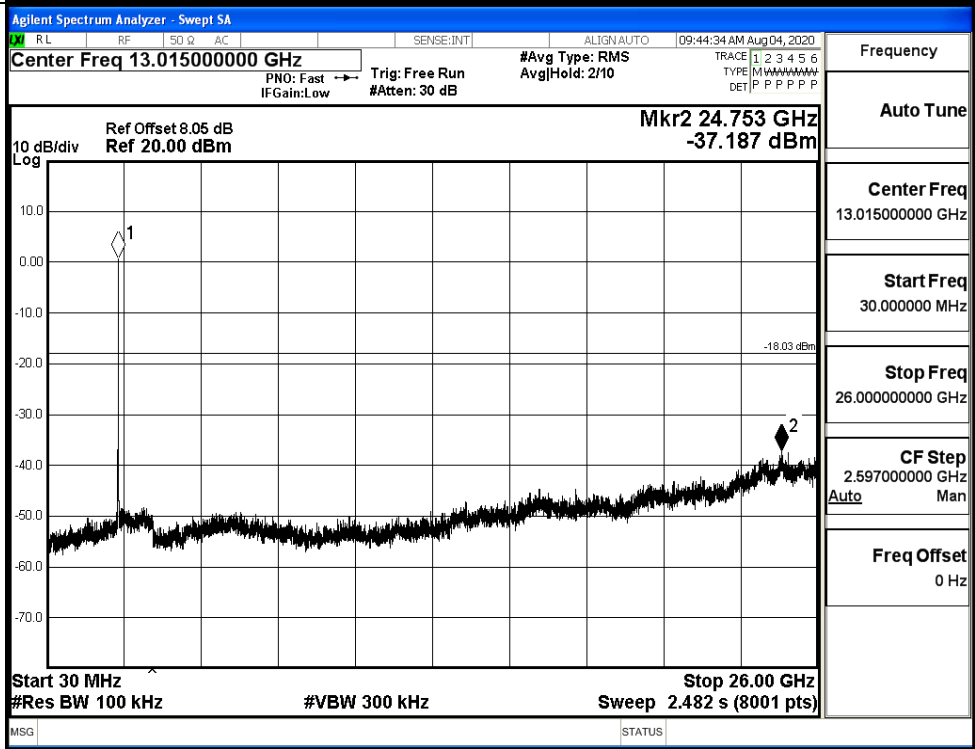


11G_MCH_Graphs

Pref/11G/MCH

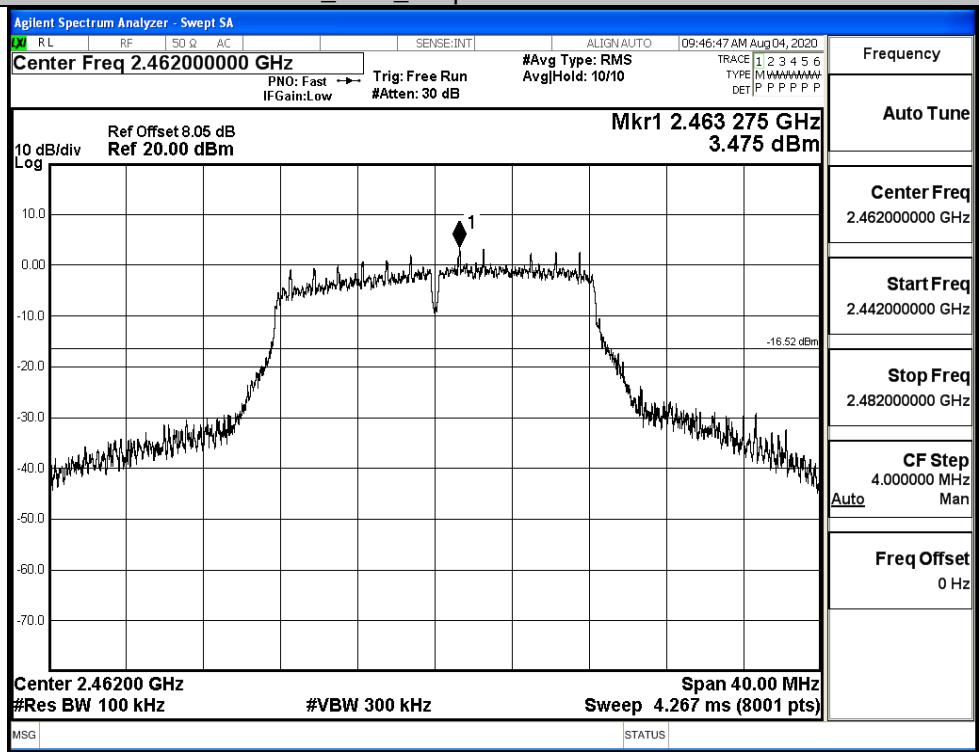


Puw/11G/MCH

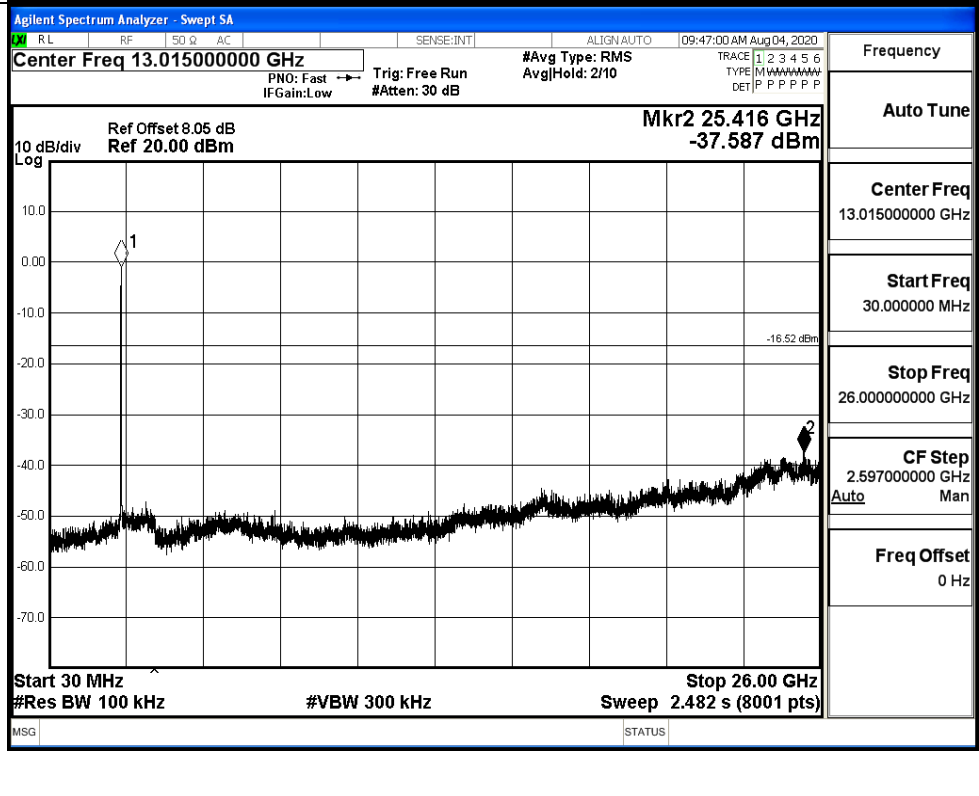


11G_HCH_Graphs

Pref/11G/HCH

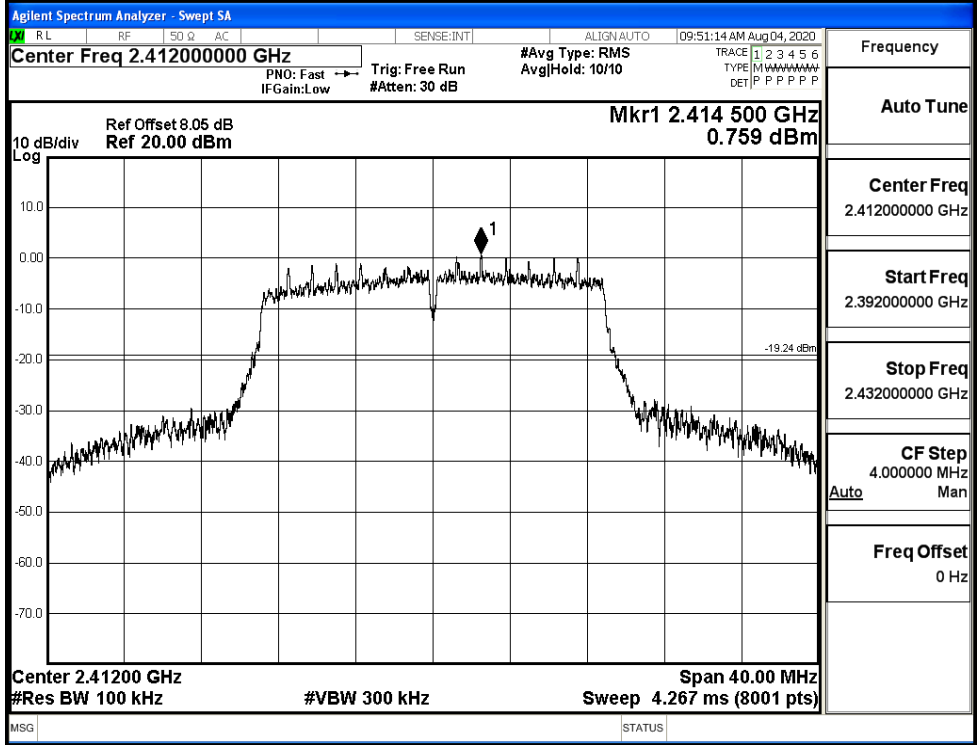


Puw/11G/HCH

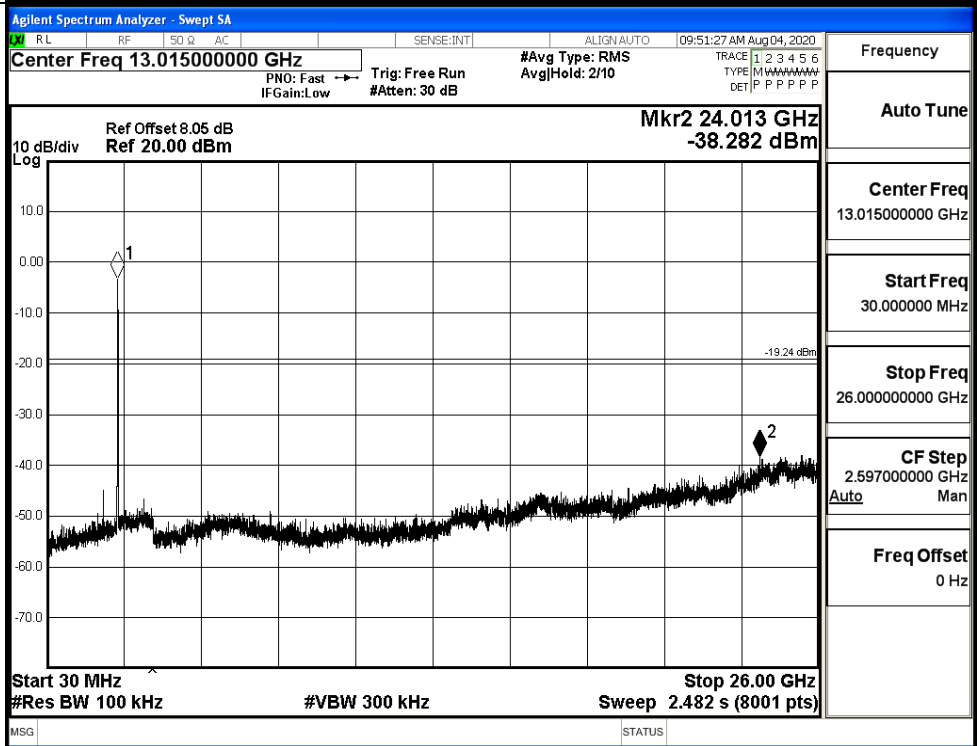


11N20SISO_LCH_Graphs

Pref/11N20SIS
O/LCH

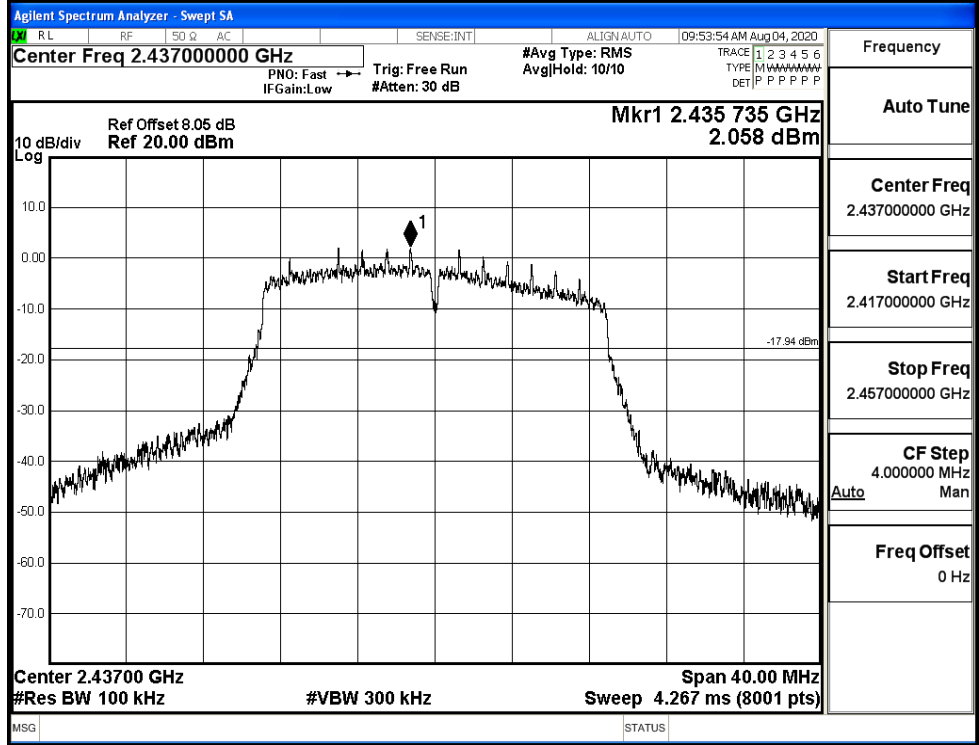


Puw/11N20
SISO/LCH

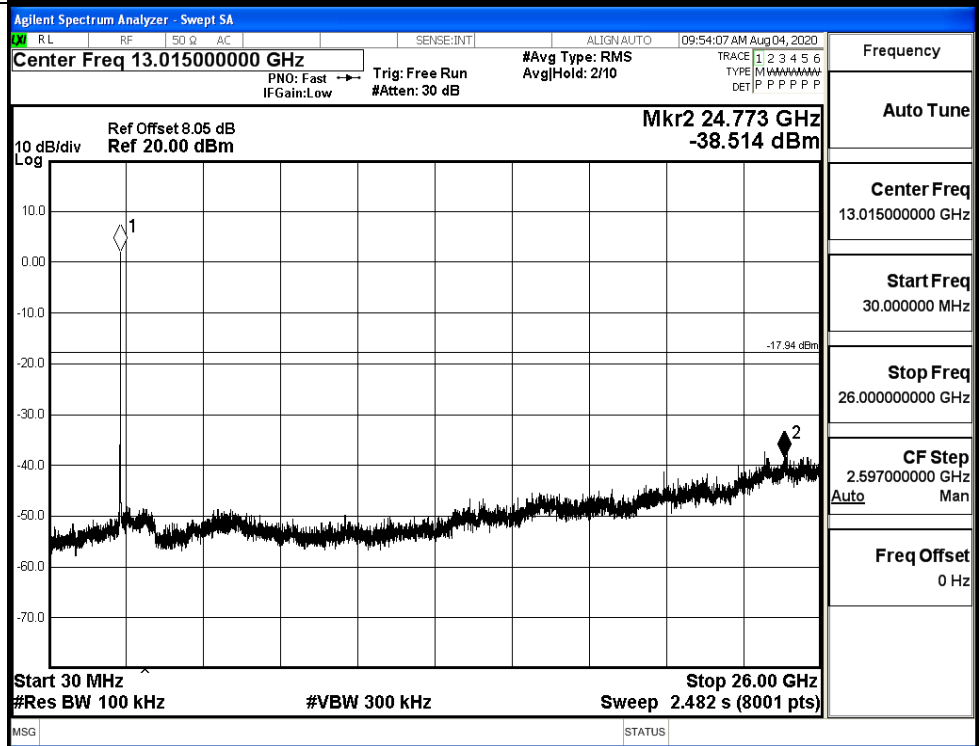


11N20SISO_MCH_Graphs

Pref/11N20
SISO/MCH

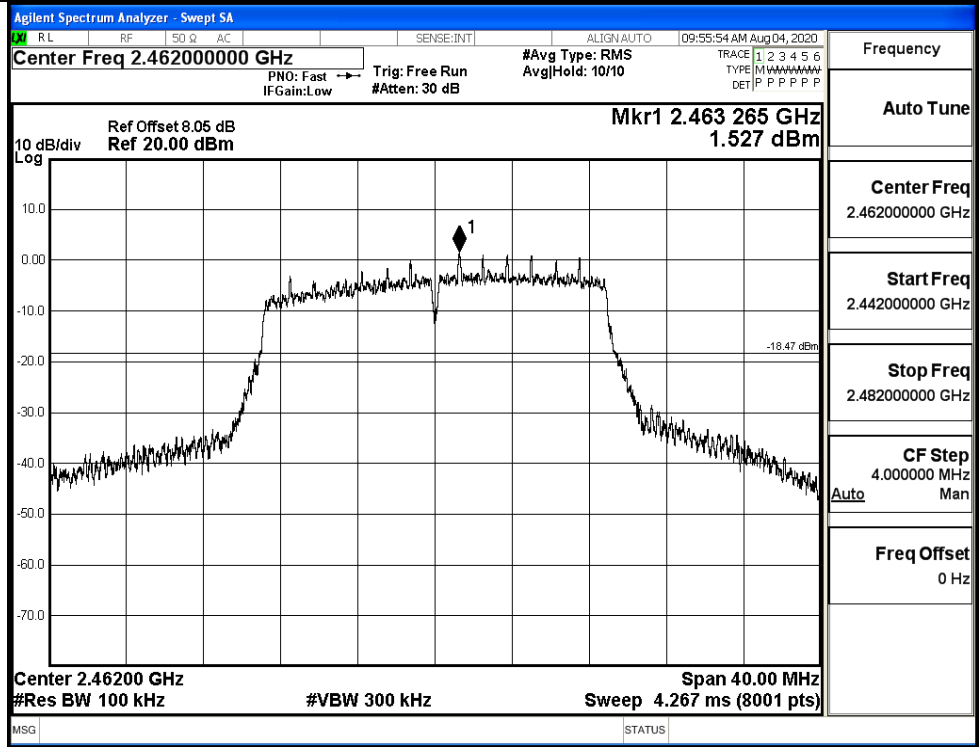


Puw/11N20
SISO/MCH

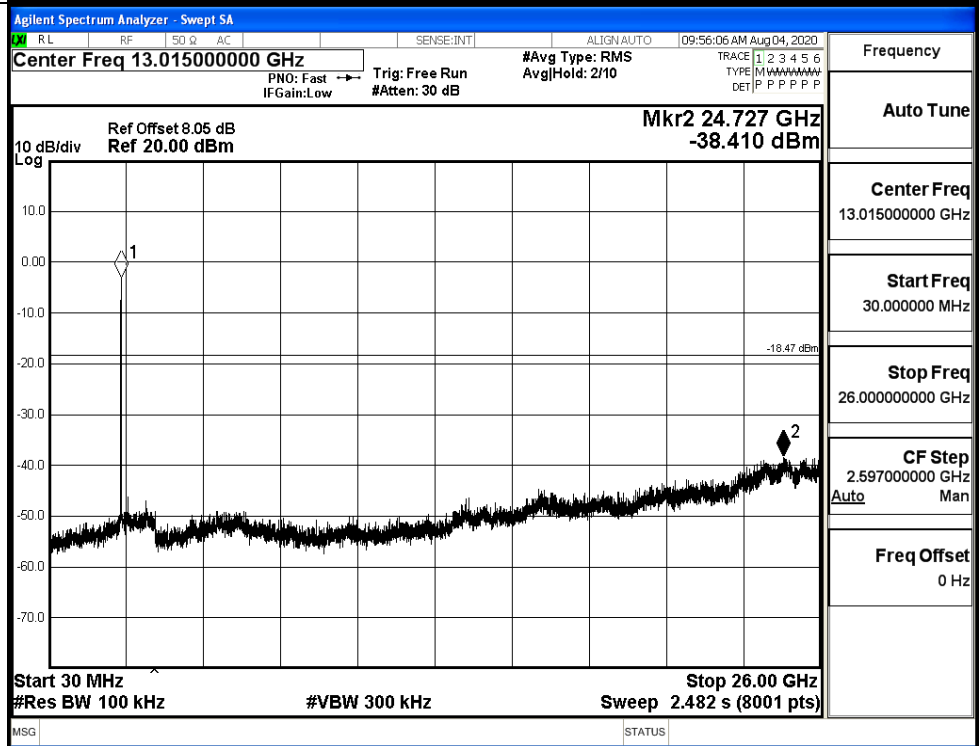


11N20SISO_HCH_Graphs

Pref/11N20
SISO/HCH

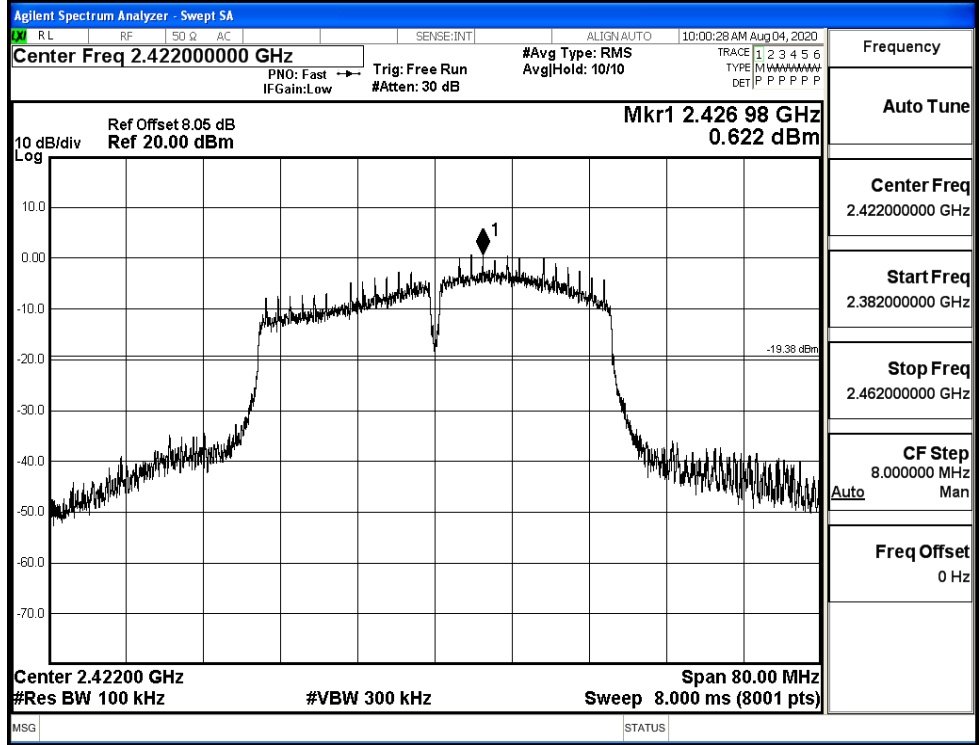


Puw/11N20
SISO/HCH

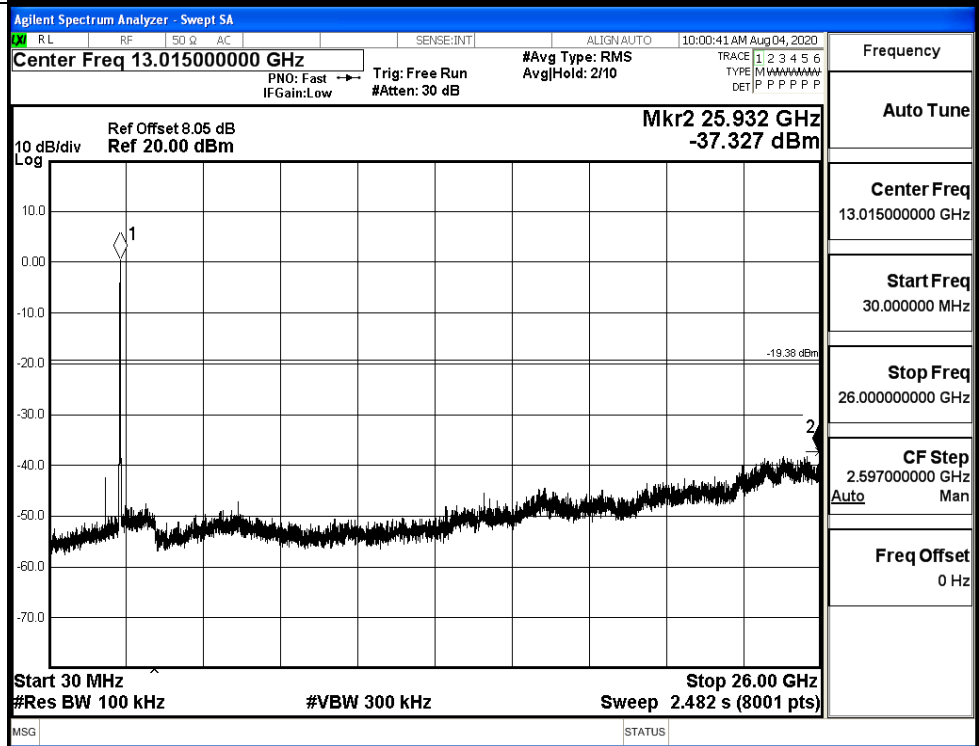


11N40SISO_LCH_Graphs

Pref/11N40
SISO/LCH

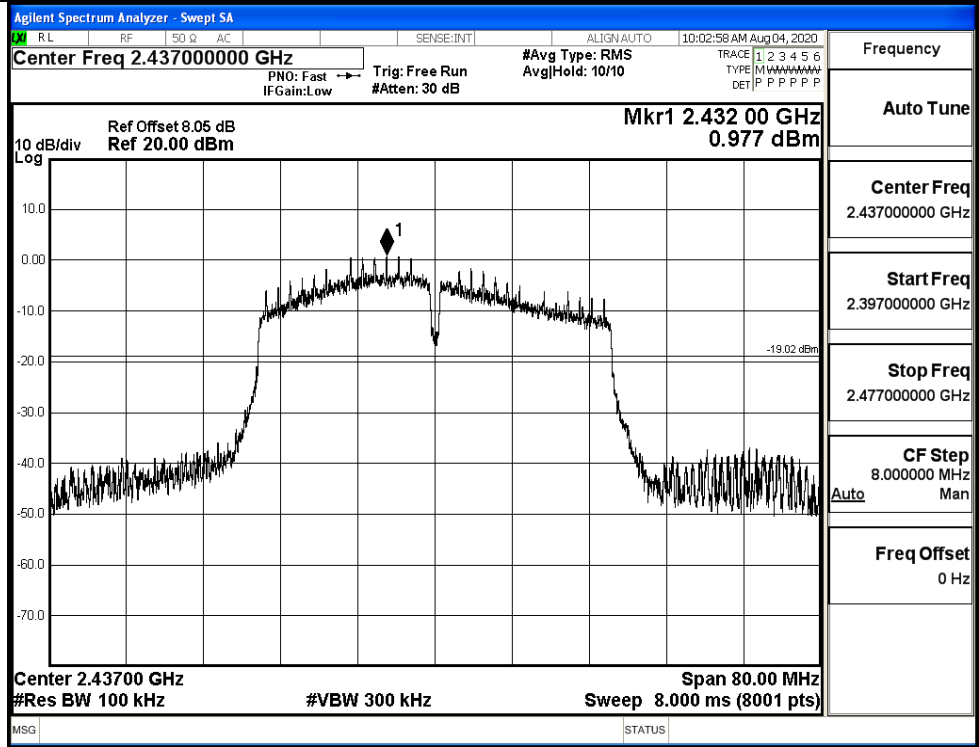


Puw/11N40
SISO/LCH



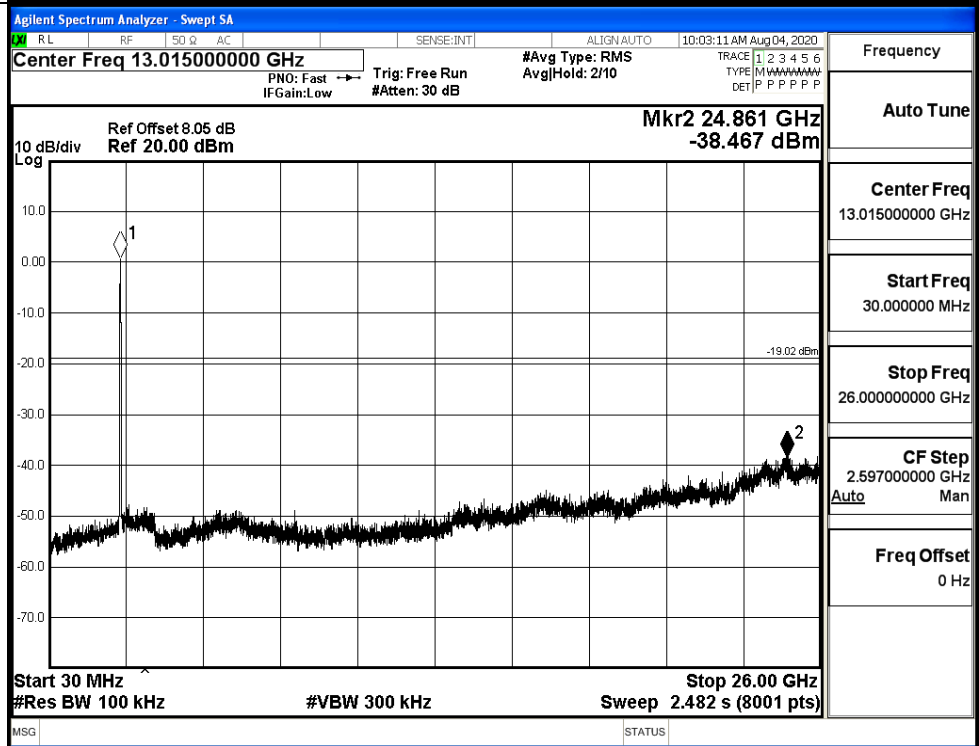
11N40SISO_MCH_Graphs

Pref/11N40
SISO/MCH



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

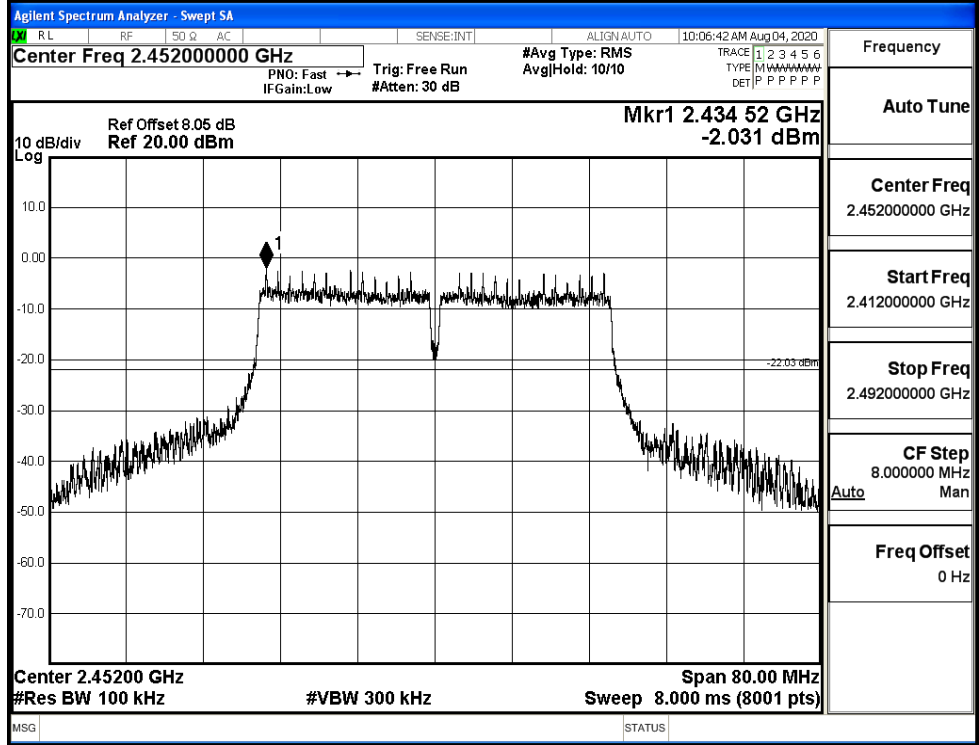
Puw/11N40
SISO/MCH



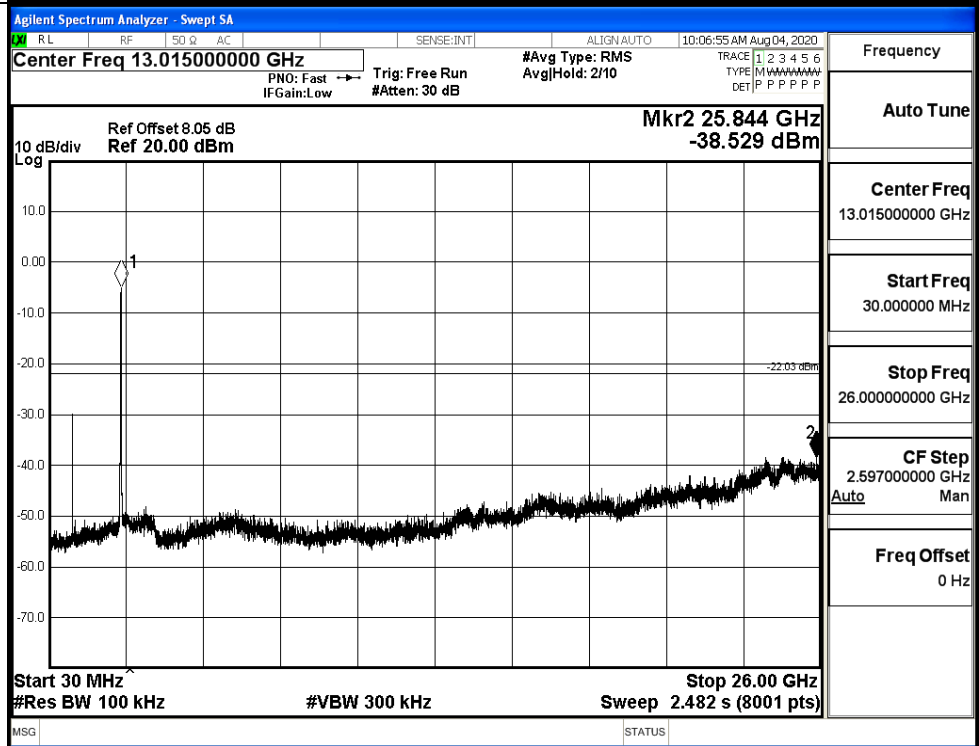
Frequency
Auto Tune
Center Freq 13.015000000 GHz
Start Freq 30.000000 MHz
Stop Freq 26.000000000 GHz
CF Step 2.597000000 GHz Auto Man
Freq Offset 0 Hz

11N40SISO_HCH_Graphs

Pref/11N40
SISO/HCH

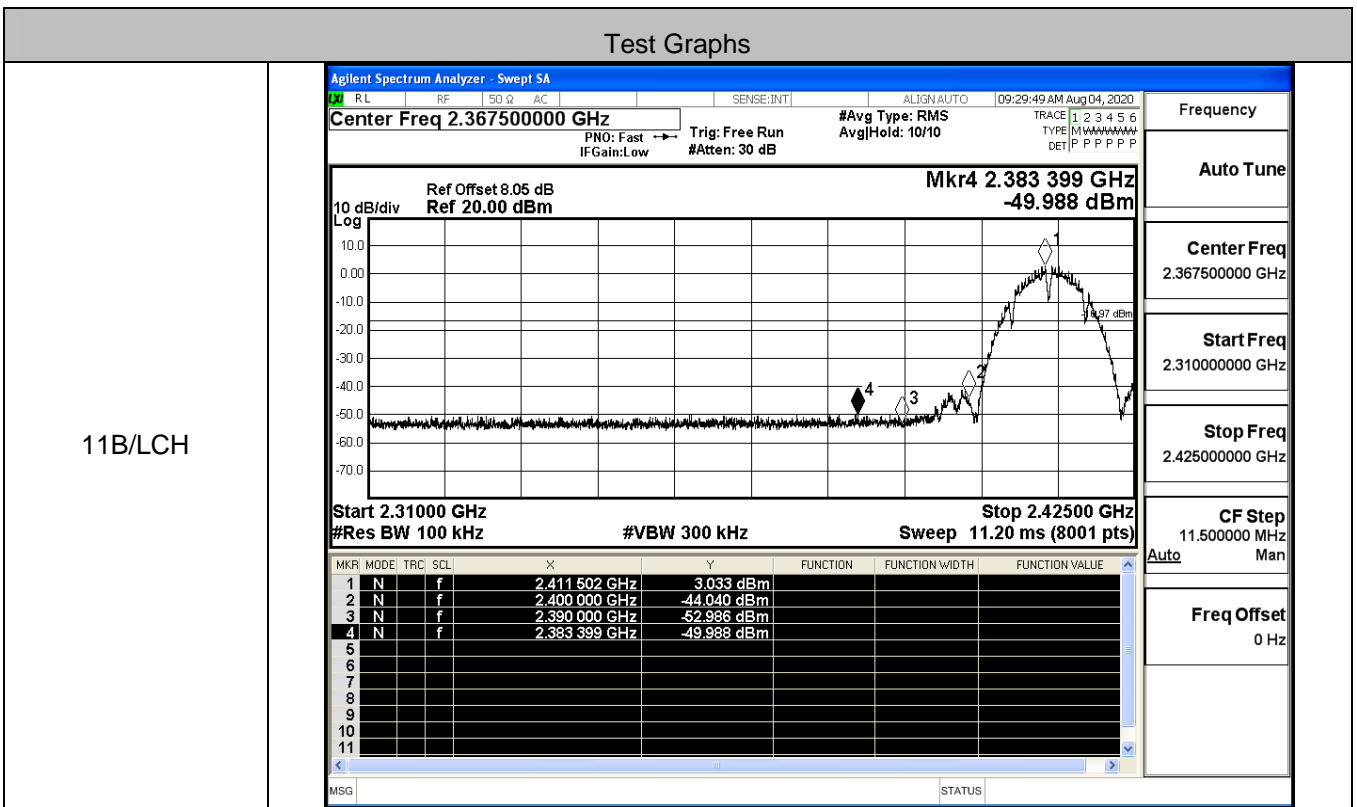


Puw/11N40
SISO/HCH

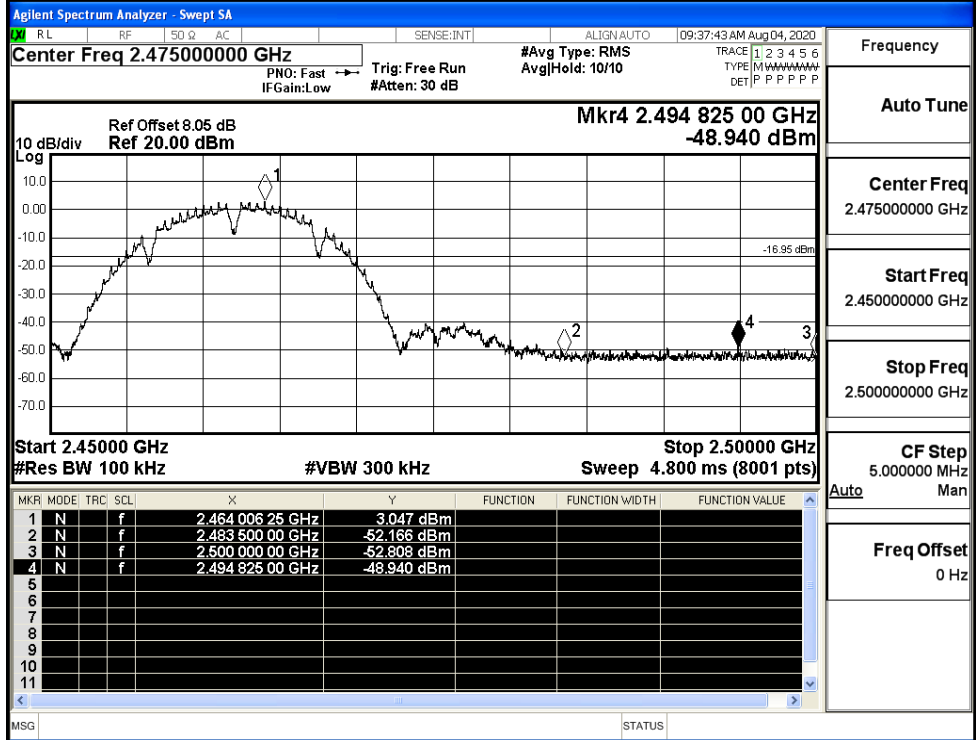


A.6 Band-edge for RF Conducted Emissions

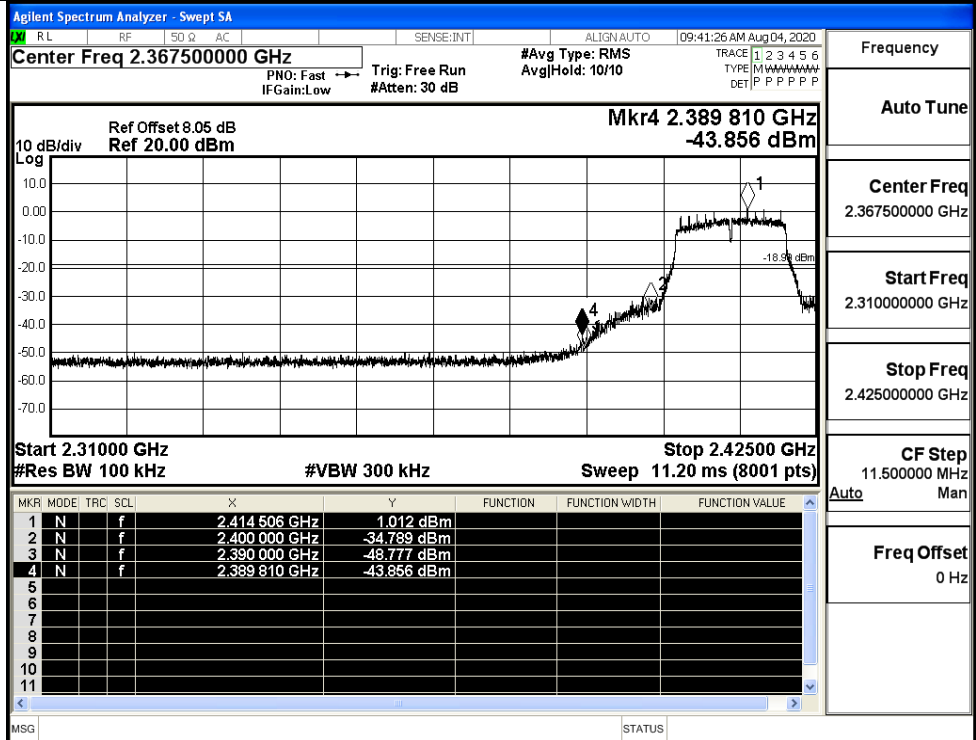
Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
11B	LCH	3.033	-49.988	-16.97	PASS
	HCH	3.047	-48.940	-16.95	PASS
11G	LCH	1.012	-43.856	-18.99	PASS
	HCH	3.461	-40.981	-16.54	PASS
11N20SISO	LCH	1.262	-44.782	-18.74	PASS
	HCH	1.209	-44.860	-18.79	PASS
11N40SISO	LCH	0.966	-40.205	-19.03	PASS
	HCH	-2.136	-37.379	-22.14	PASS



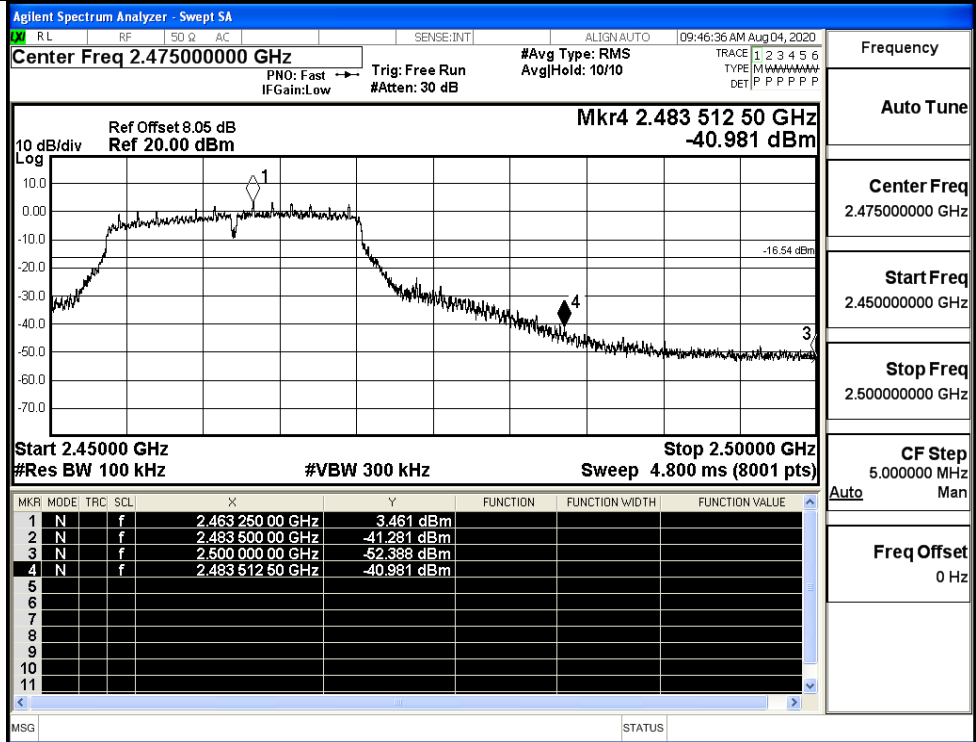
11B/HCH



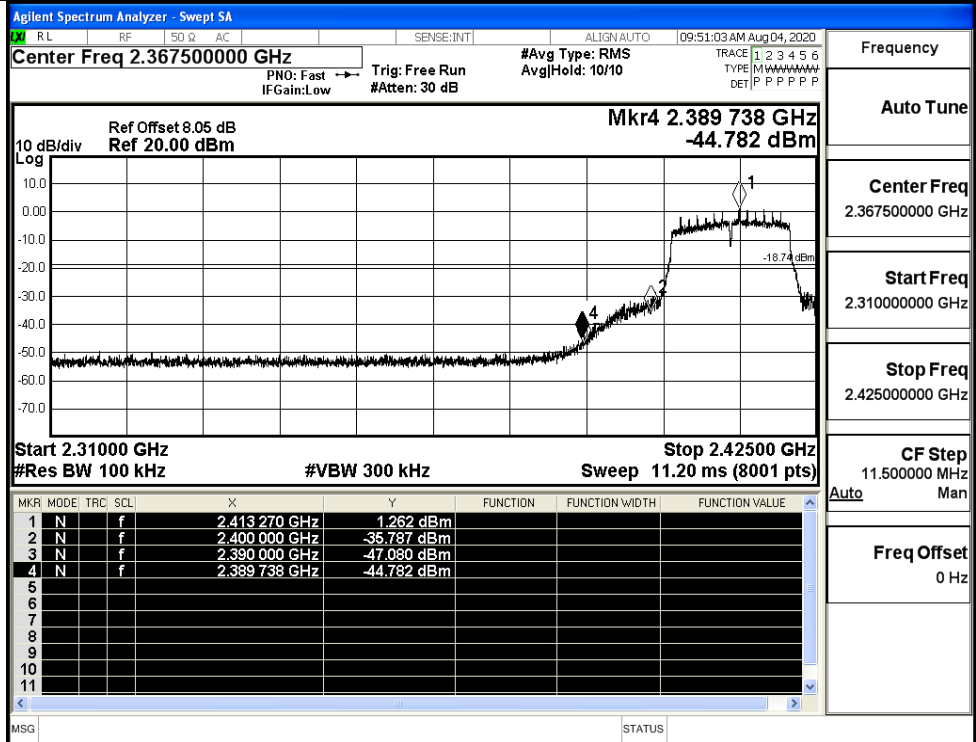
11G/LCH



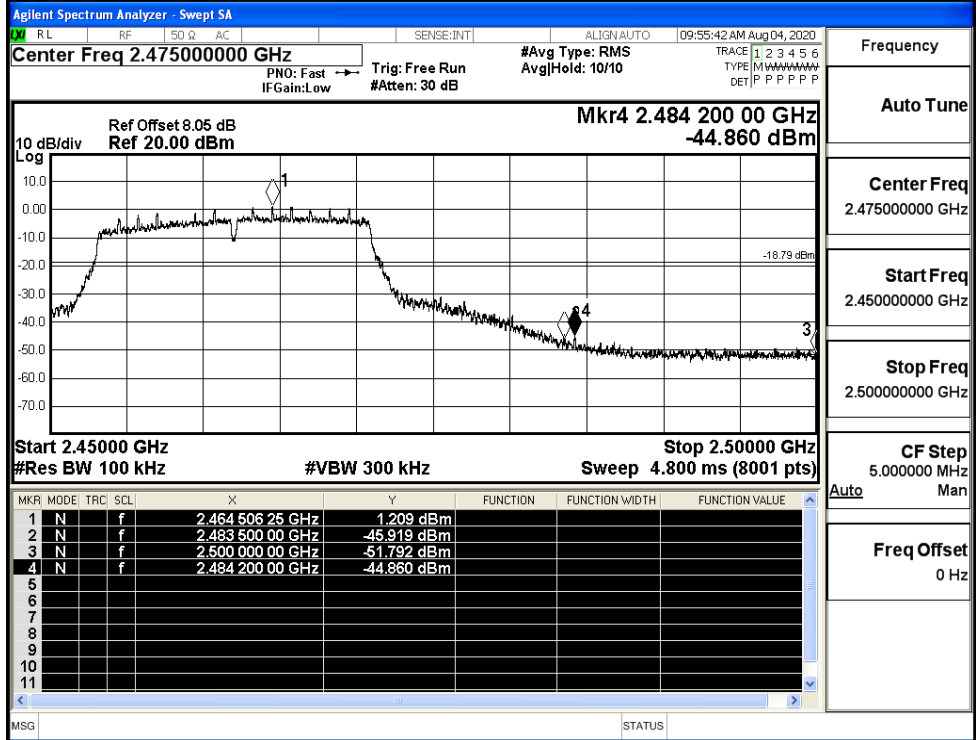
11G/HCH



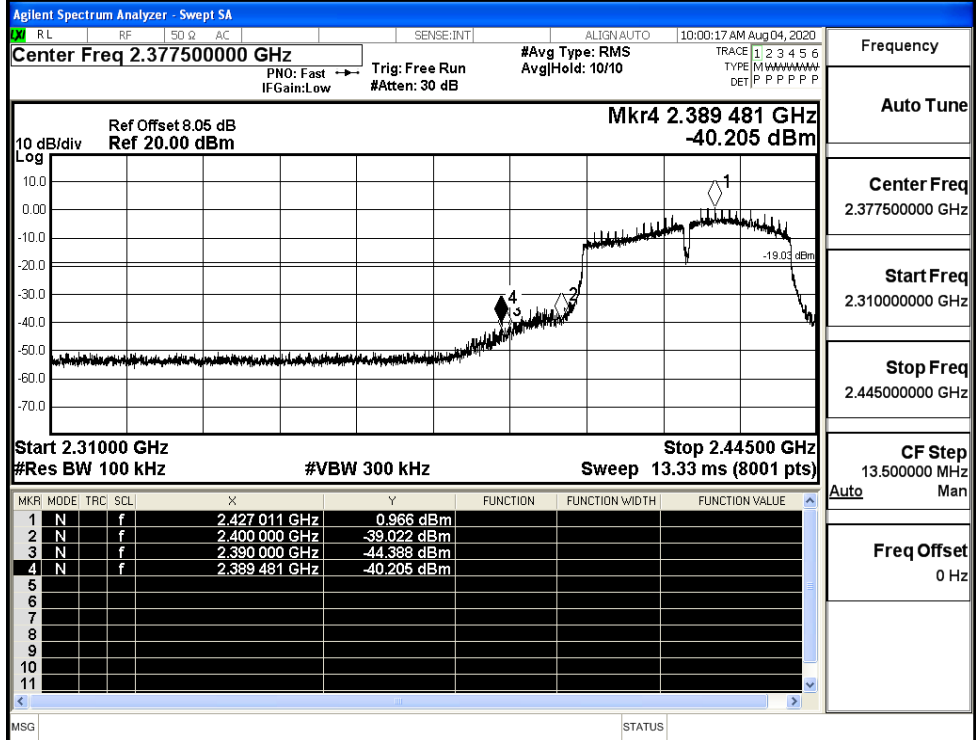
11N20SISO/LCH



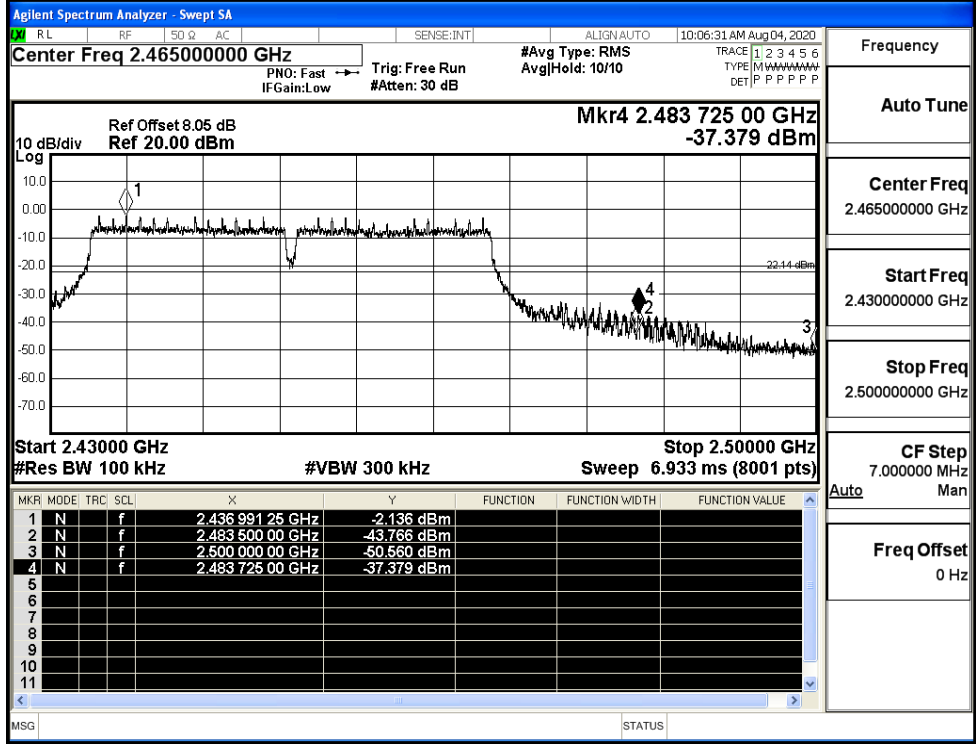
11N20SISO/HCH



11N40SISO/LCH



11N40SISO/HCH

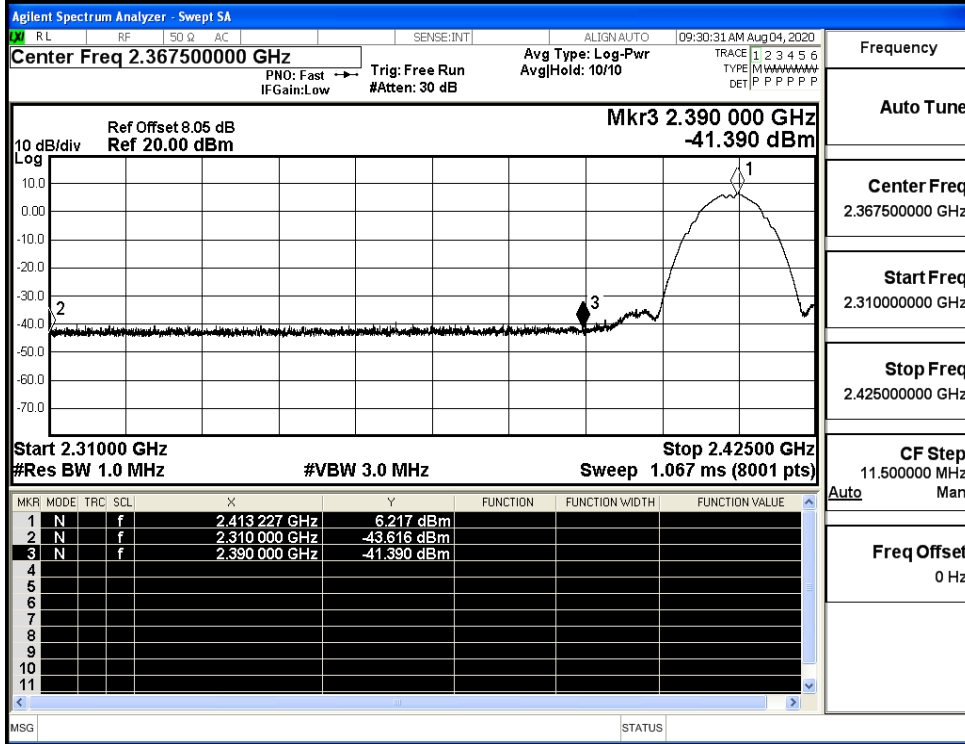


A.7 Restrict-band band-edge measurements

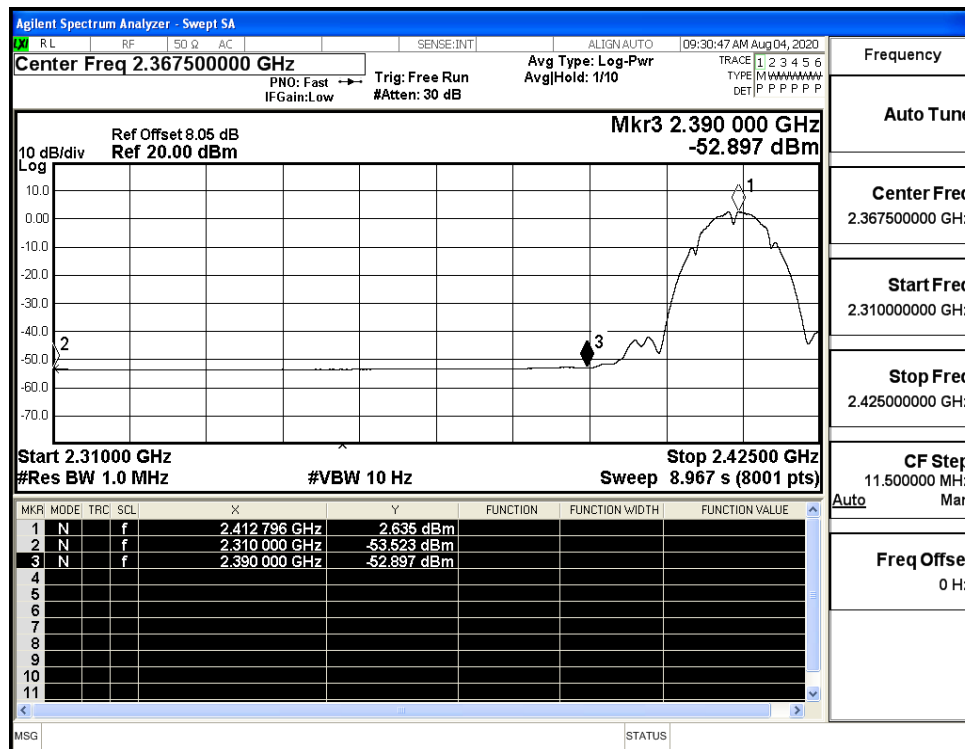
Test Mode	Test Channel	Ant	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBu V/m]	Verdict
11B	2412	Ant1	2310.0	-43.62	2.0	0	51.64	PEAK	74	PASS
	2412	Ant1	2310.0	-53.52	2.0	0	41.73	AV	54	PASS
	2412	Ant1	2390.0	-41.39	2.0	0	53.87	PEAK	74	PASS
	2412	Ant1	2390.0	-52.90	2.0	0	42.36	AV	54	PASS
	2462	Ant1	2483.5	-40.56	2.0	0	54.69	PEAK	74	PASS
	2462	Ant1	2483.5	-52.33	2.0	0	42.92	AV	54	PASS
	2462	Ant1	2500.0	-41.41	2.0	0	53.84	PEAK	74	PASS
	2462	Ant1	2500.0	-52.30	2.0	0	42.96	AV	54	PASS
11G	2412	Ant1	2310.0	-42.24	2.0	0	53.01	PEAK	74	PASS
	2412	Ant1	2310.0	-53.51	2.0	0	41.75	AV	54	PASS
	2412	Ant1	2390.0	-36.58	2.0	0	58.68	PEAK	74	PASS
	2412	Ant1	2390.0	-48.65	2.0	0	46.60	AV	54	PASS
	2462	Ant1	2483.5	-23.89	2.0	0	71.37	PEAK	74	PASS
	2462	Ant1	2483.5	-46.59	2.0	0	48.66	AV	54	PASS
	2462	Ant1	2500.0	-40.32	2.0	0	54.94	PEAK	74	PASS
	2462	Ant1	2500.0	-51.65	2.0	0	43.61	AV	54	PASS
11N20 SISO	2412	Ant1	2310.0	-43.15	2.0	0	52.11	PEAK	74	PASS
	2412	Ant1	2310.0	-53.49	2.0	0	41.76	AV	54	PASS
	2412	Ant1	2390.0	-34.33	2.0	0	60.92	PEAK	74	PASS
	2412	Ant1	2390.0	-47.41	2.0	0	47.84	AV	54	PASS
	2462	Ant1	2483.5	-32.09	2.0	0	63.16	PEAK	74	PASS
	2462	Ant1	2483.5	-48.31	2.0	0	46.95	AV	54	PASS
	2462	Ant1	2500.0	-41.81	2.0	0	53.45	PEAK	74	PASS
	2462	Ant1	2500.0	-51.87	2.0	0	43.38	AV	54	PASS
11N40 SISO	2422	Ant1	2310.0	-42.80	2.0	0	52.45	PEAK	74	PASS
	2422	Ant1	2310.0	-53.51	2.0	0	41.75	AV	54	PASS

	2422	Ant1	2390.0	-29.94	2.0	0	65.32	PEAK	74	PASS
	2422	Ant1	2390.0	-45.39	2.0	0	49.87	AV	54	PASS
	2452	Ant1	2483.5	-21.67	2.0	0	73.59	PEAK	74	PASS
	2452	Ant1	2483.5	-45.81	2.0	0	49.45	AV	54	PASS
	2452	Ant1	2500.0	-36.73	2.0	0	58.53	PEAK	74	PASS
	2452	Ant1	2500.0	-50.75	2.0	0	44.51	AV	54	PASS

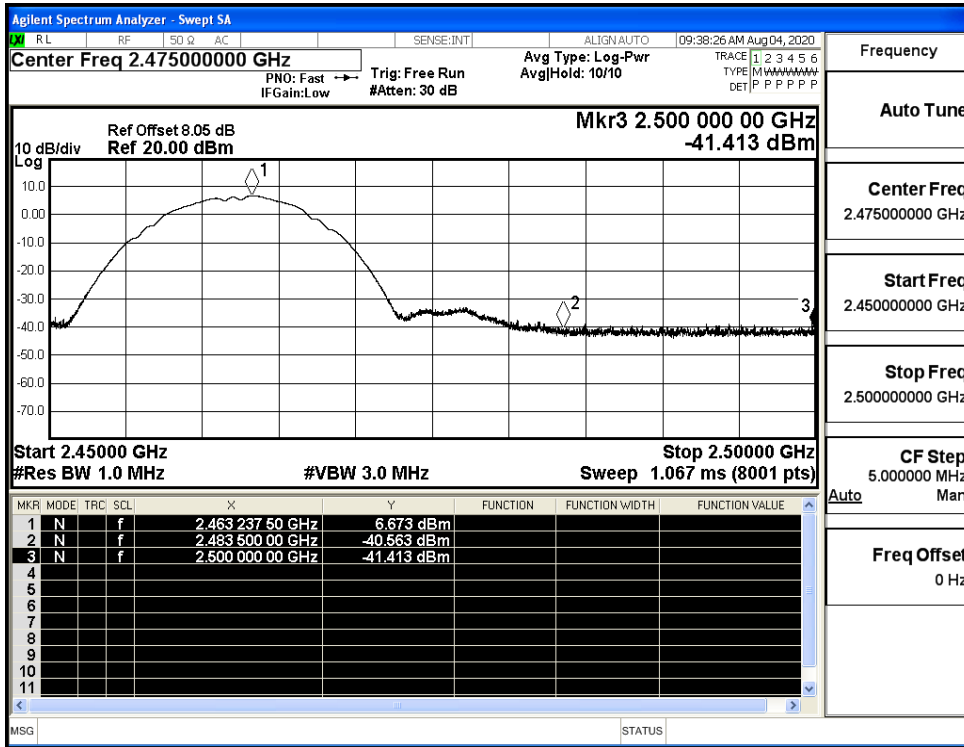
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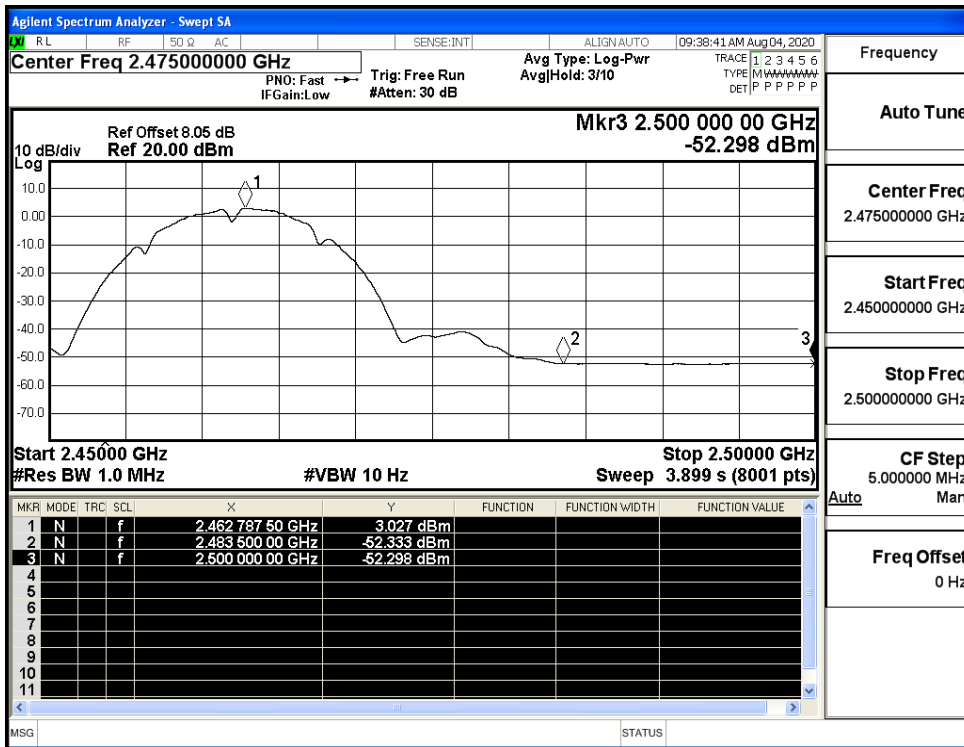
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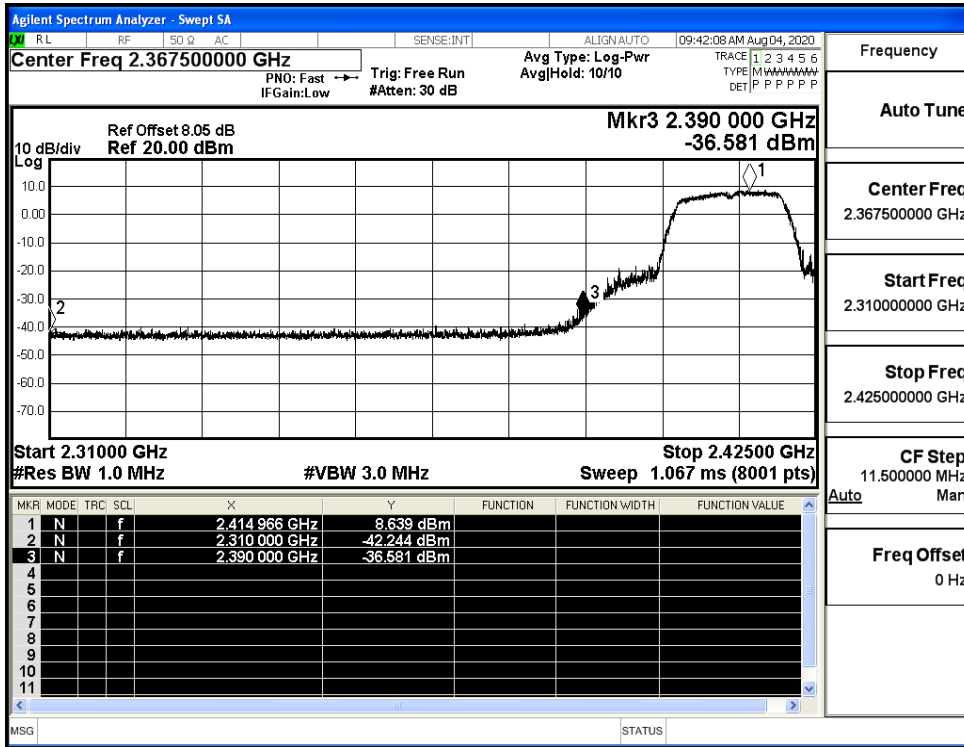
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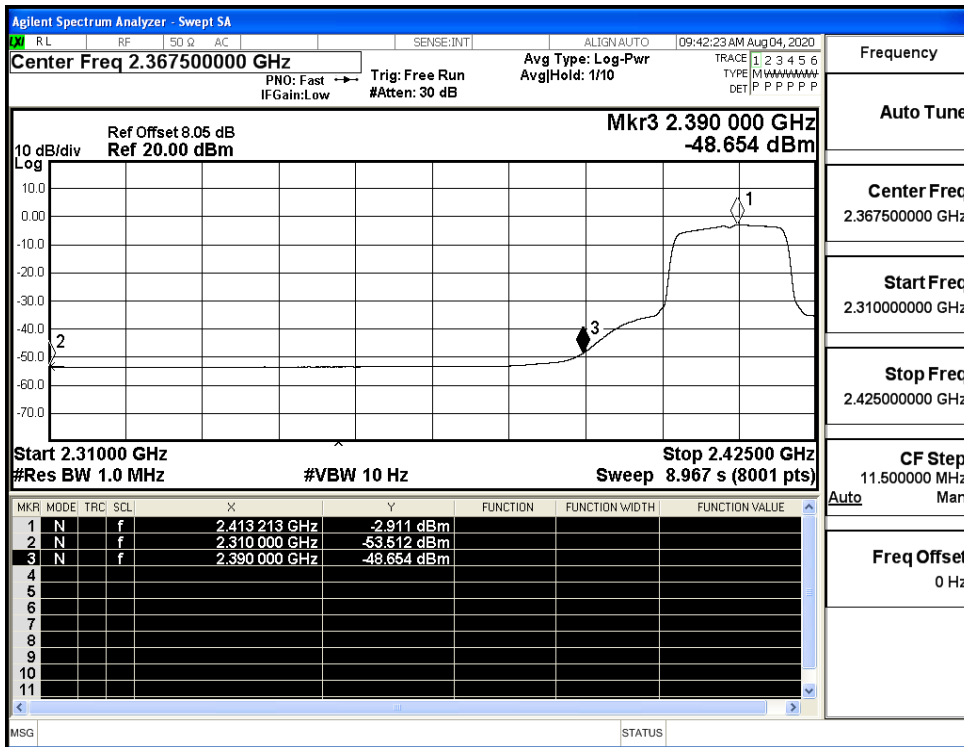
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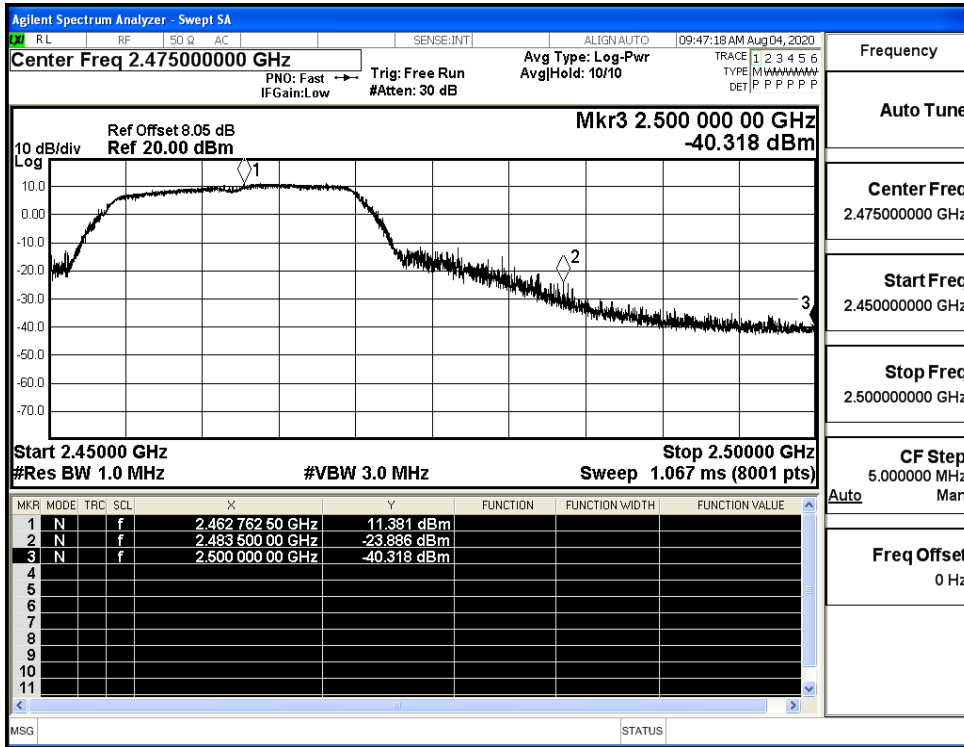
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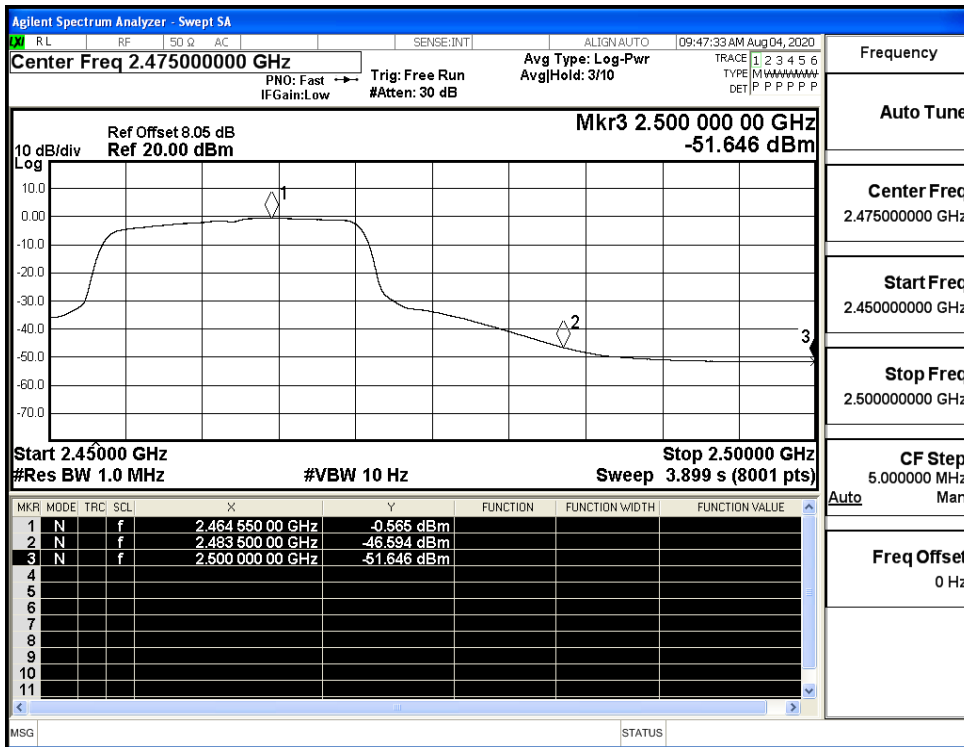
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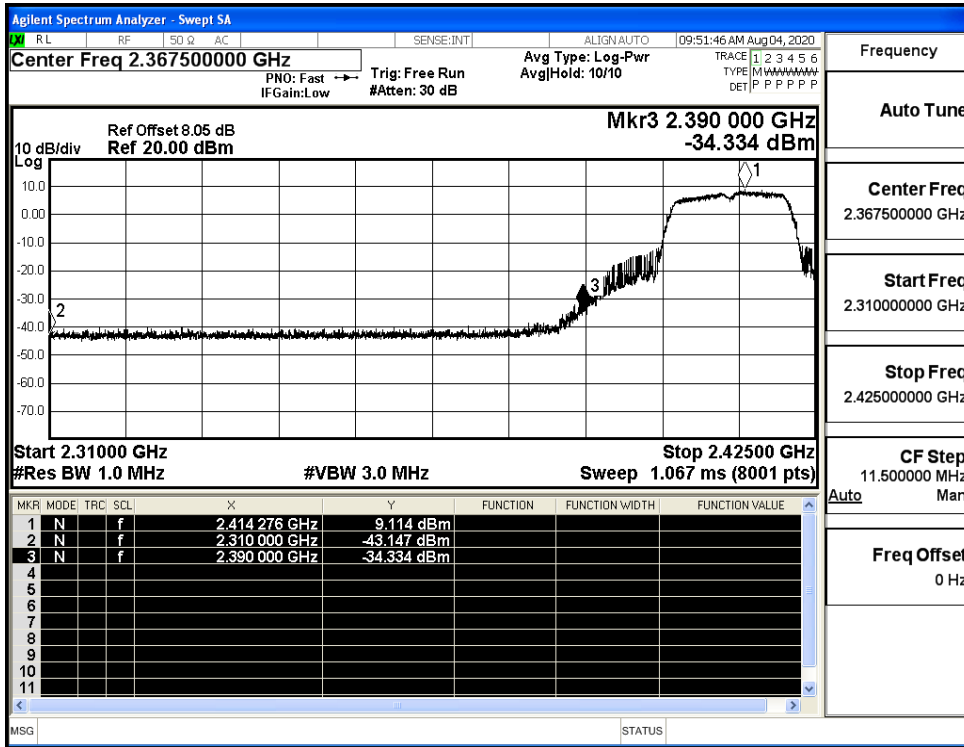
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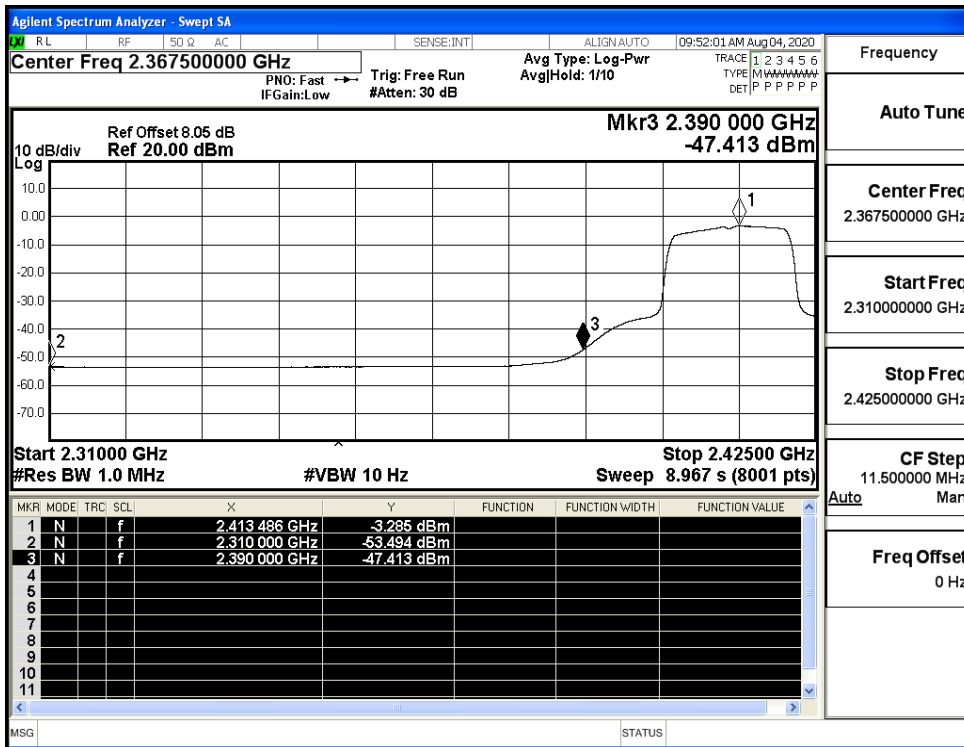
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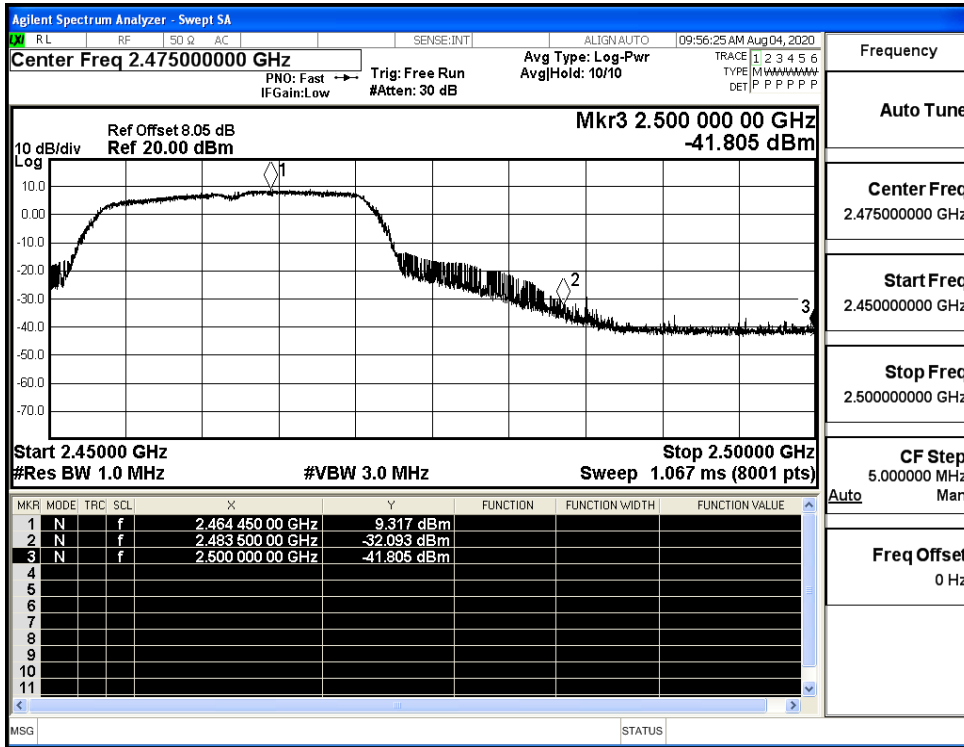
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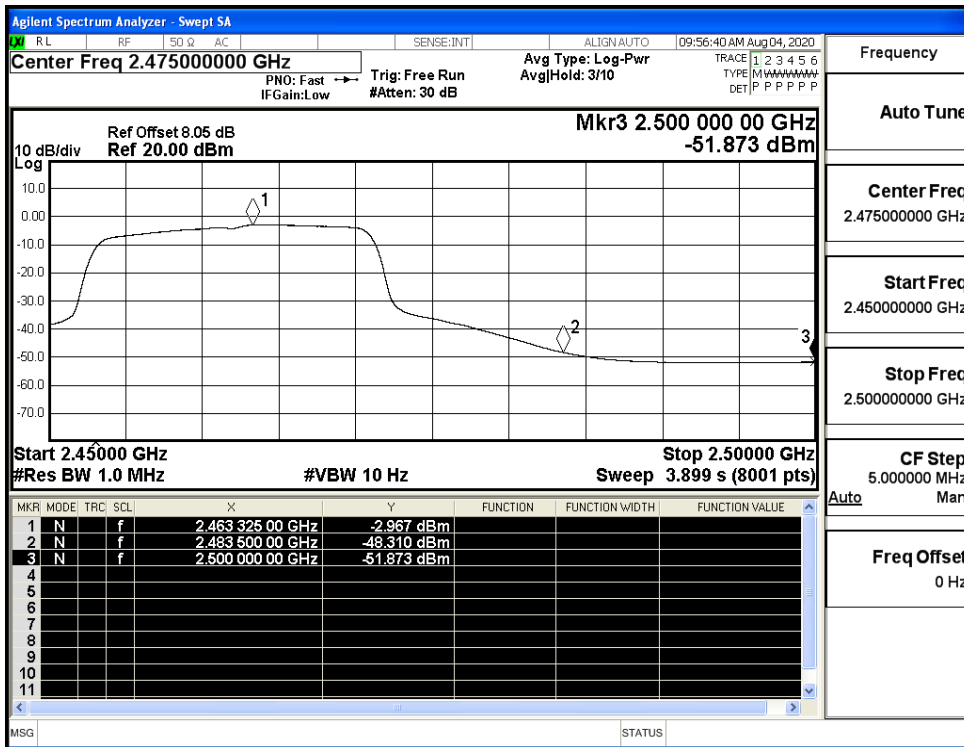
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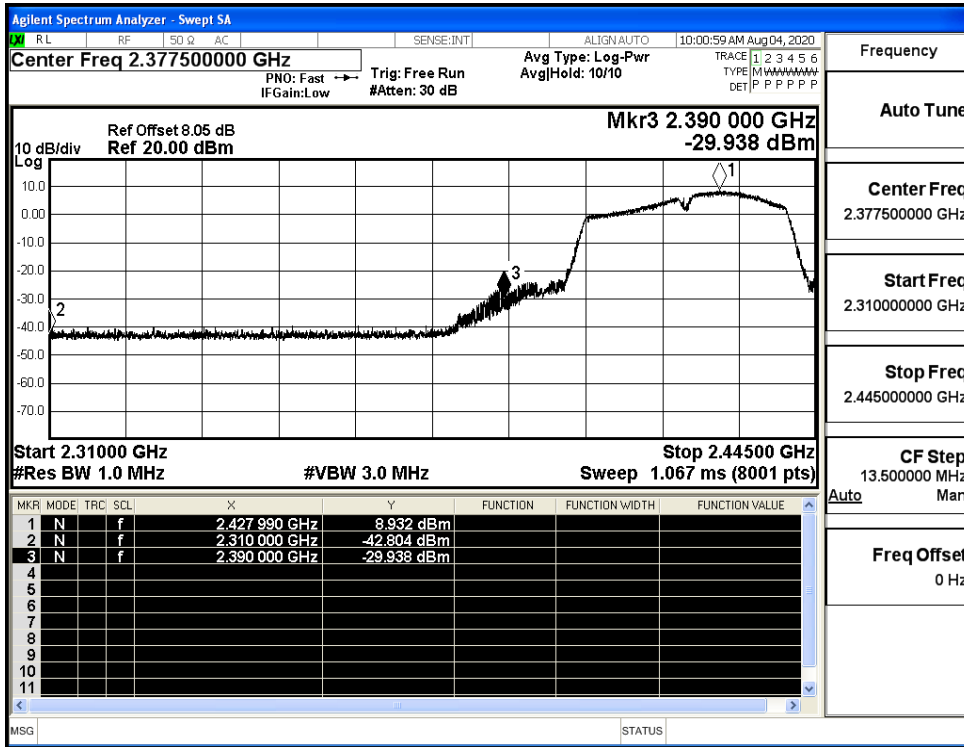
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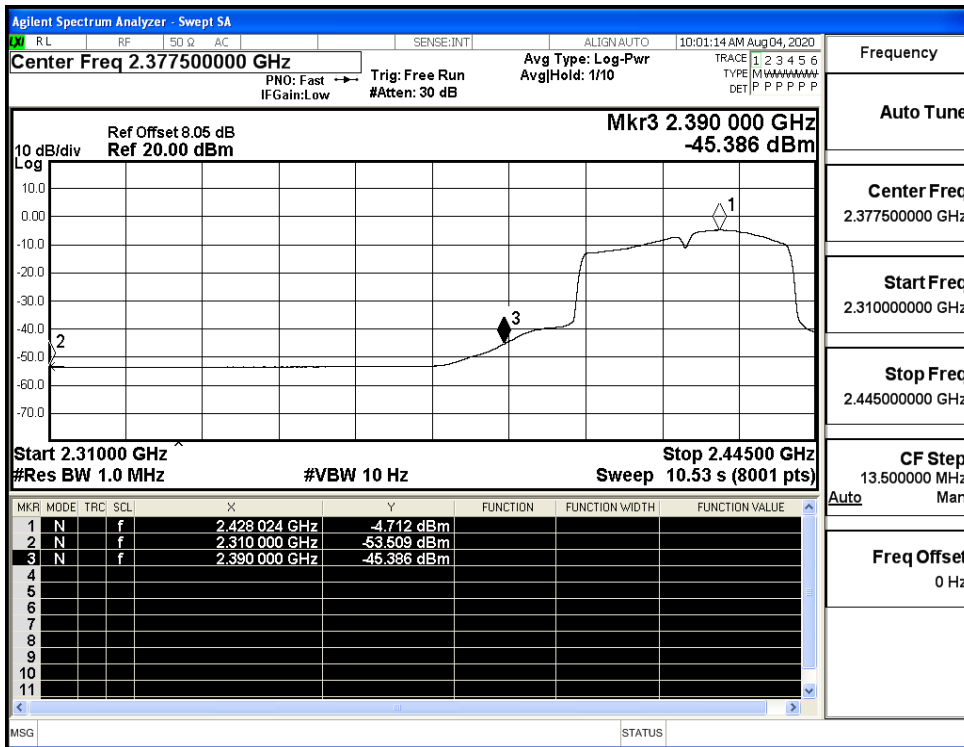
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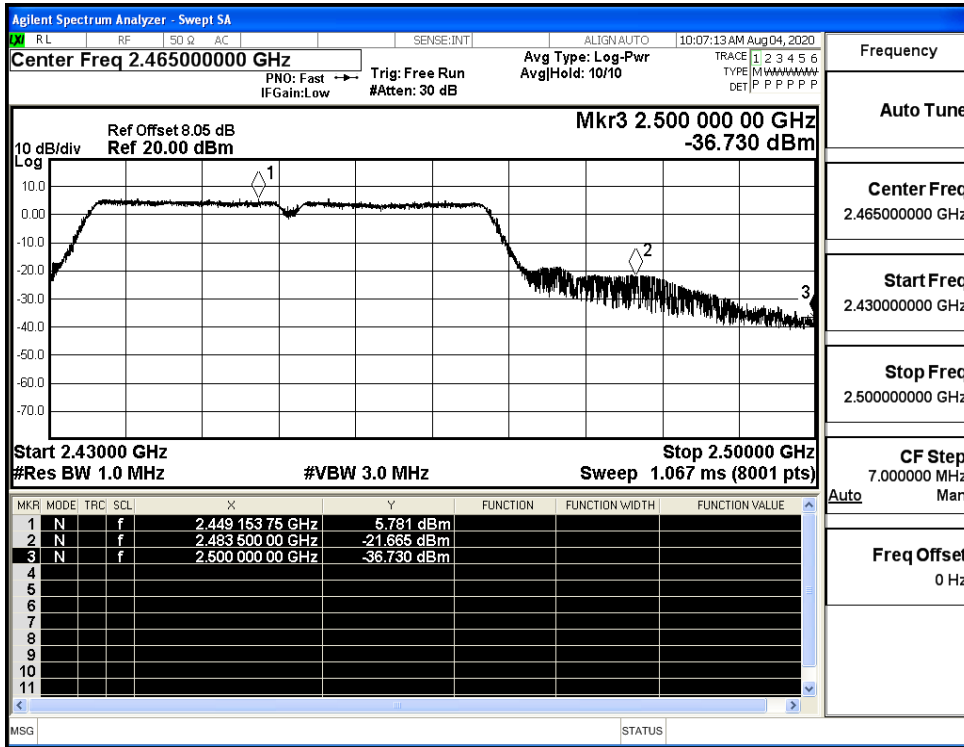
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Restrict-band band-edge measurements_11N40SISO_2422_Ant1_AV



Restrict-band band-edge measurements_11N40SISO_2452_Ant1_PEAK



Restrict-band band-edge measurements_11N40SISO_2452_Ant1_AV

