

Appendix B

RF Test Data for 2.4G WIFI (Conducted Measurement)

Product Name: Smart small spotlights

Trade Mark: N/A

Test Model: GU10

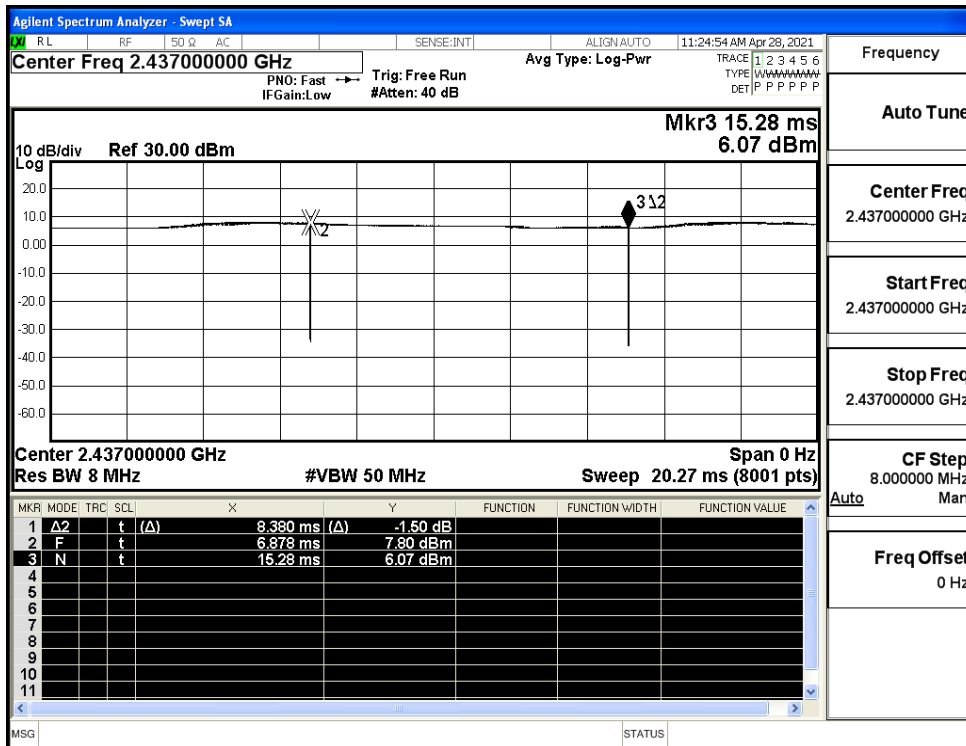
Environmental Conditions

Temperature:	25 ° C
Relative Humidity:	50%
ATM Pressure:	100.0 kPa
Test Engineer:	Carl Fu
Supervised by:	Li Huan

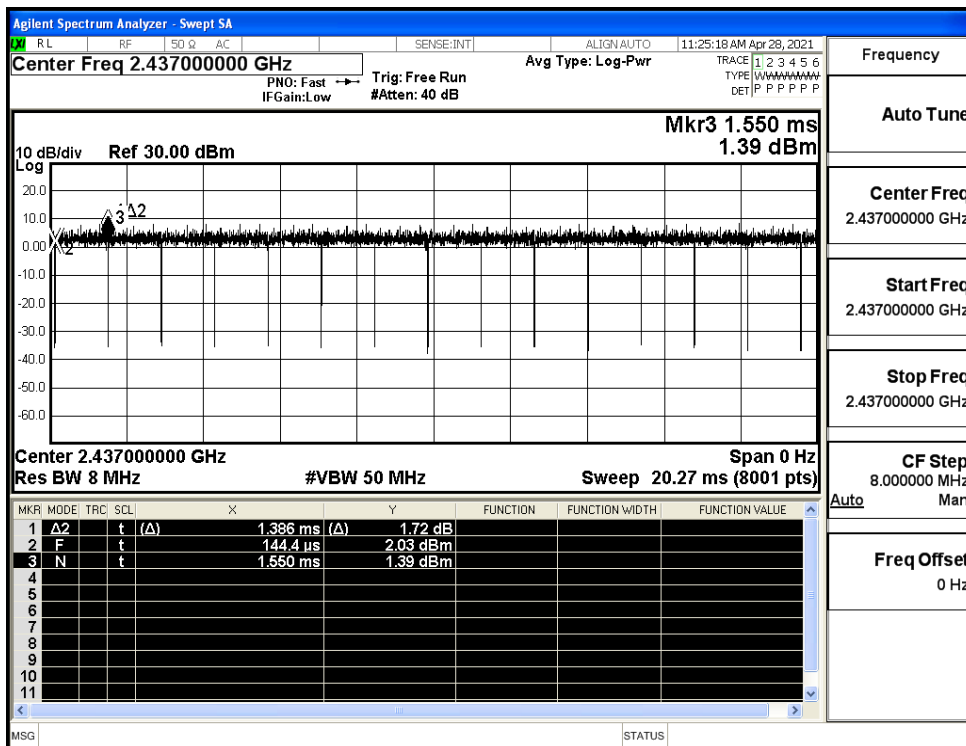
B.1 Duty Cycle

Test Mode	Test Channel	Ant	Duty Cycle[%]	Verdict
11B	2437	Ant1	99.79	PASS
11G	2437	Ant1	98.56	PASS
11N20SISO	2437	Ant1	98.46	PASS

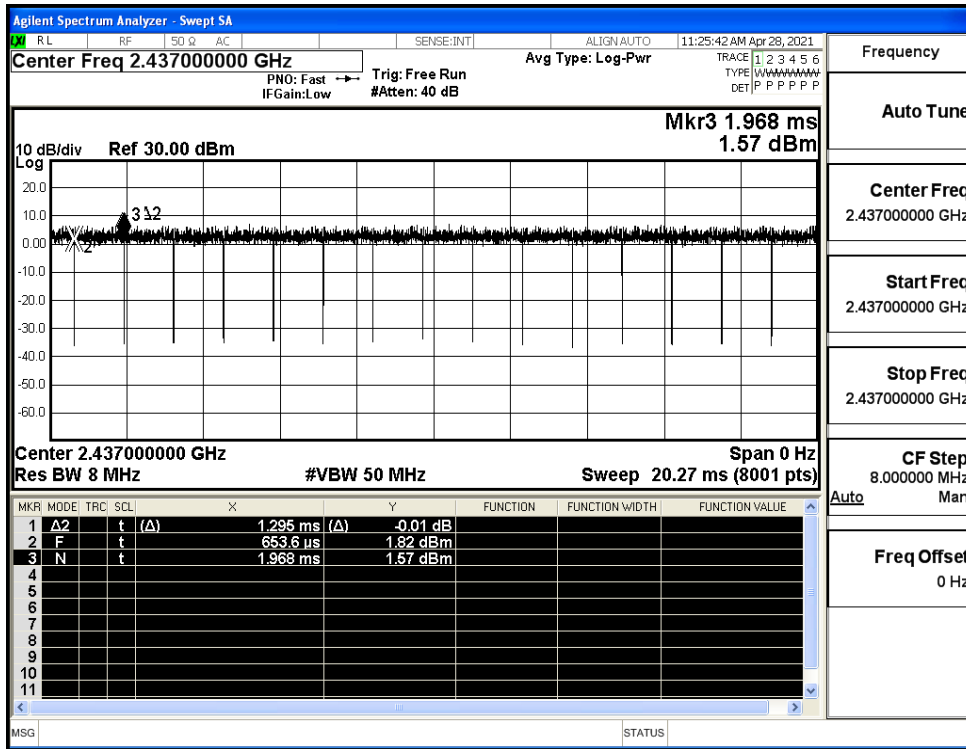
Duty Cycle_11B_2437_Ant1



Duty Cycle_11G_2437_Ant1



Duty Cycle_11N20SISO_2437_Ant1

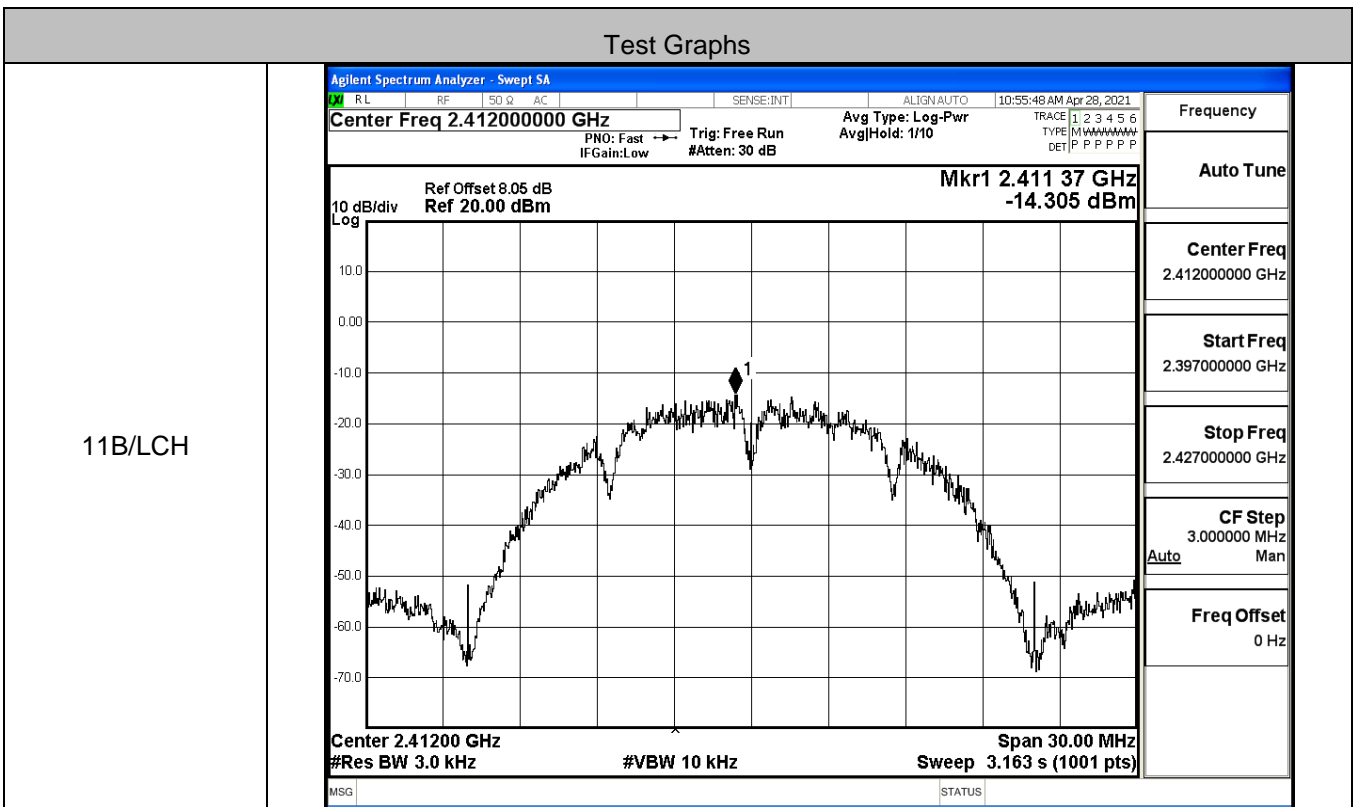


B.2 Maximum Conducted Peak Output Power

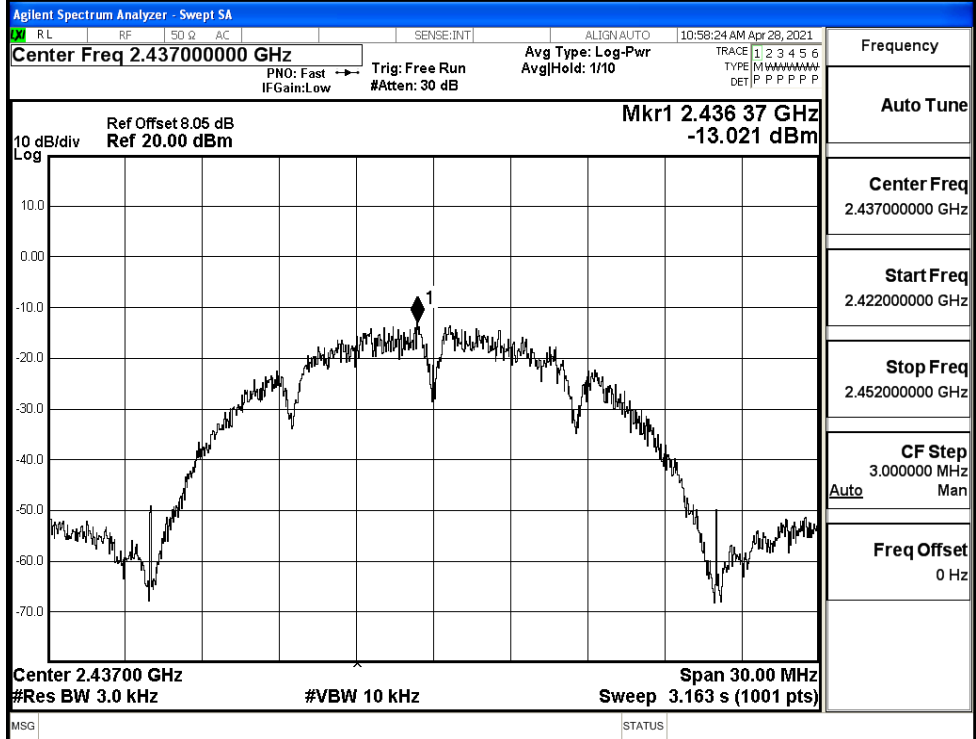
Mode	Channel	Meas.Level [dBm]	Limit [dBm]	Verdict
11B	LCH	13.17	30	PASS
	MCH	14.31	30	PASS
	HCH	14.41	30	PASS
11G	LCH	12.75	30	PASS
	MCH	14.60	30	PASS
	HCH	14.98	30	PASS
11N20SISO	LCH	12.41	30	PASS
	MCH	13.86	30	PASS
	HCH	14.48	30	PASS

B.3 Maximum Power Spectral Density

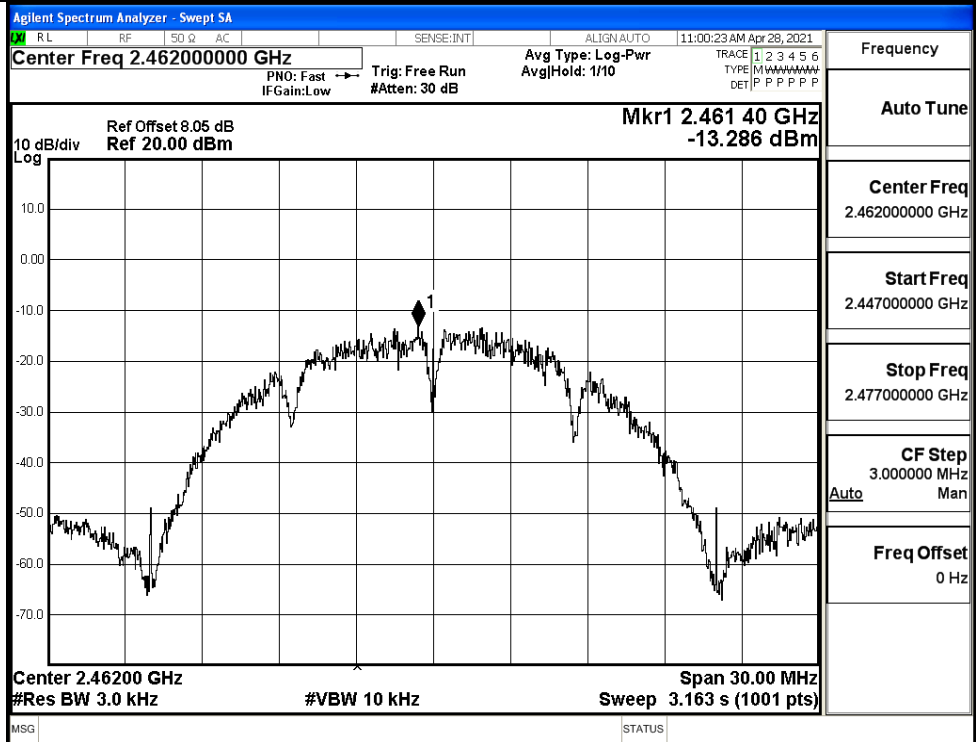
Mode	Channel	Meas.Level [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
11B	LCH	-14.305	8	PASS
	MCH	-13.021	8	PASS
	HCH	-13.286	8	PASS
11G	LCH	-20.249	8	PASS
	MCH	-18.442	8	PASS
	HCH	-17.515	8	PASS
11N20SISO	LCH	-19.819	8	PASS
	MCH	-17.876	8	PASS
	HCH	-16.793	8	PASS



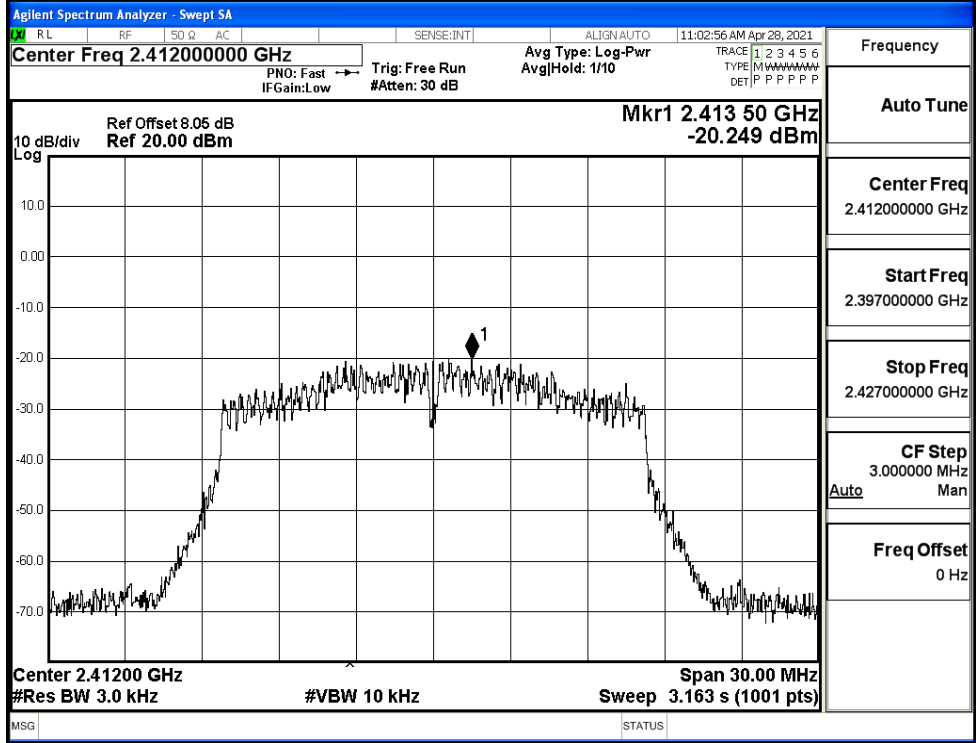
11B/MCH



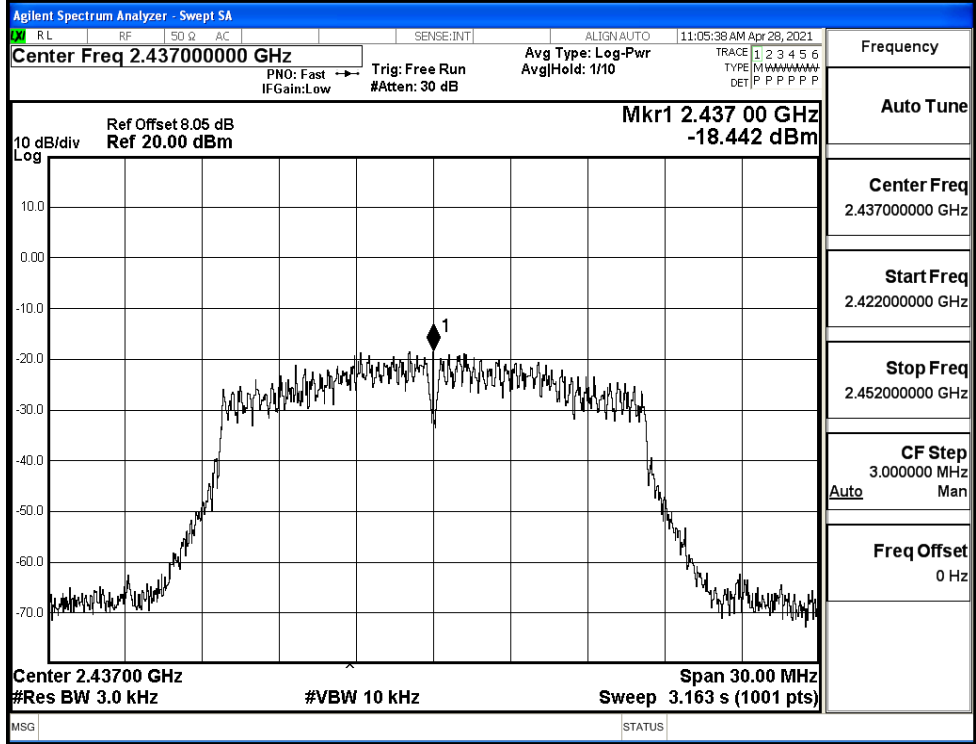
11B/HCH



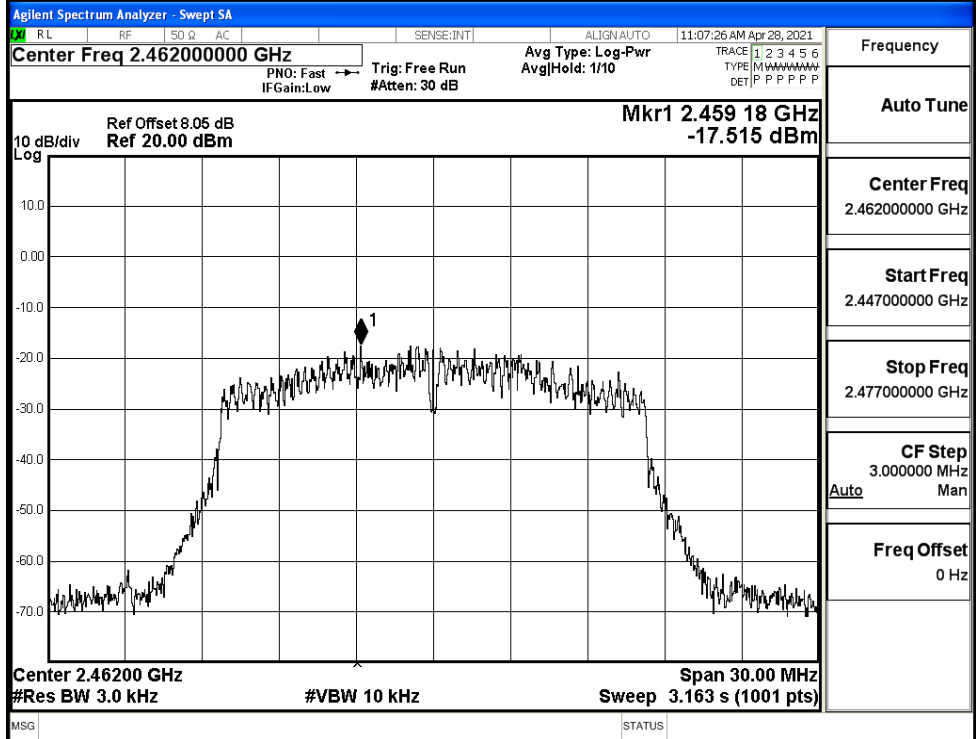
11G/LCH



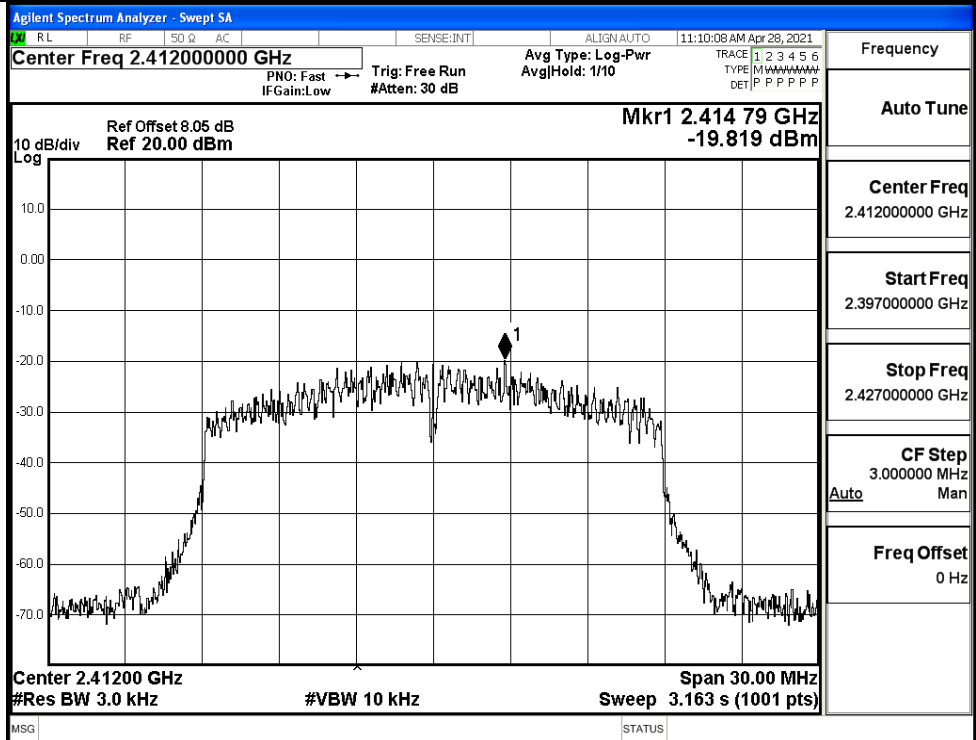
11G/MCH



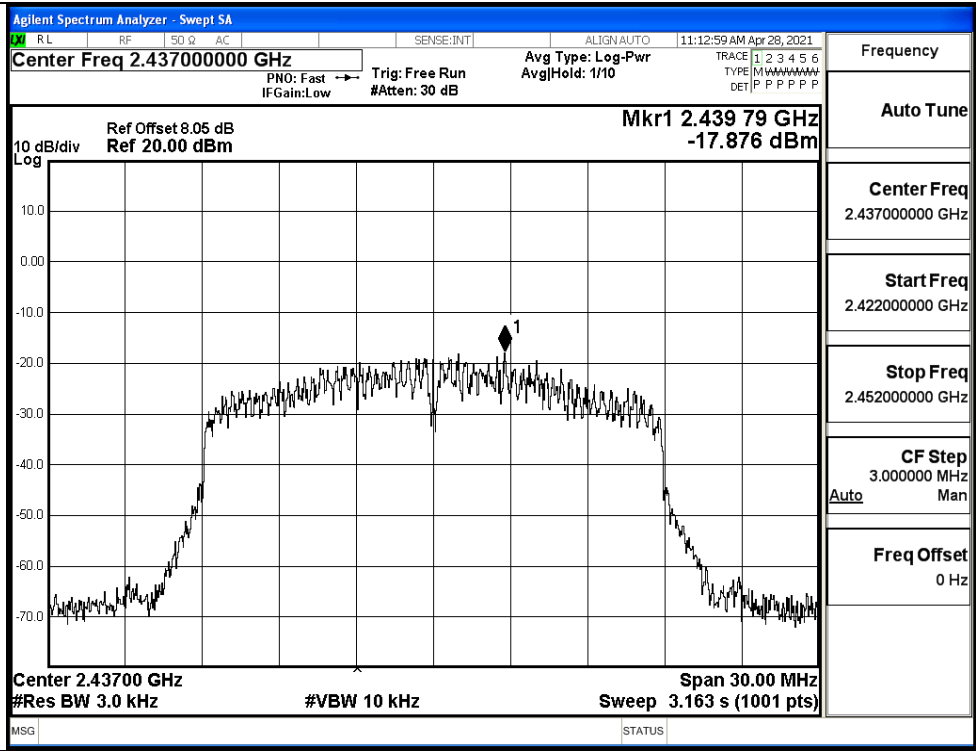
11G/HCH



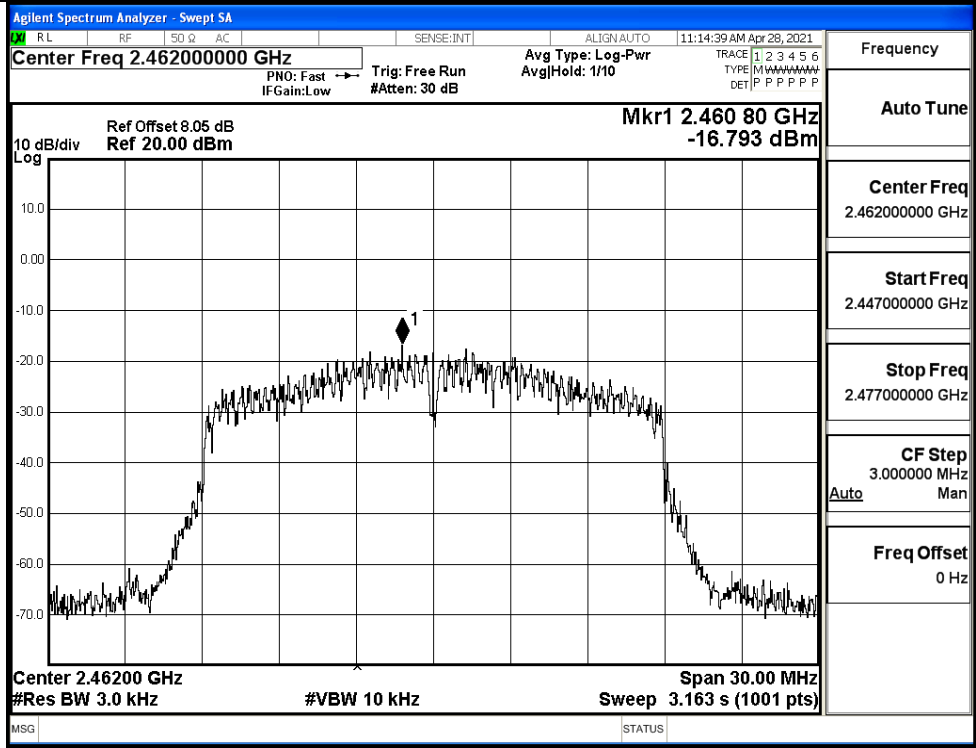
11N20SISO/LCH



11N20SISO/MCH

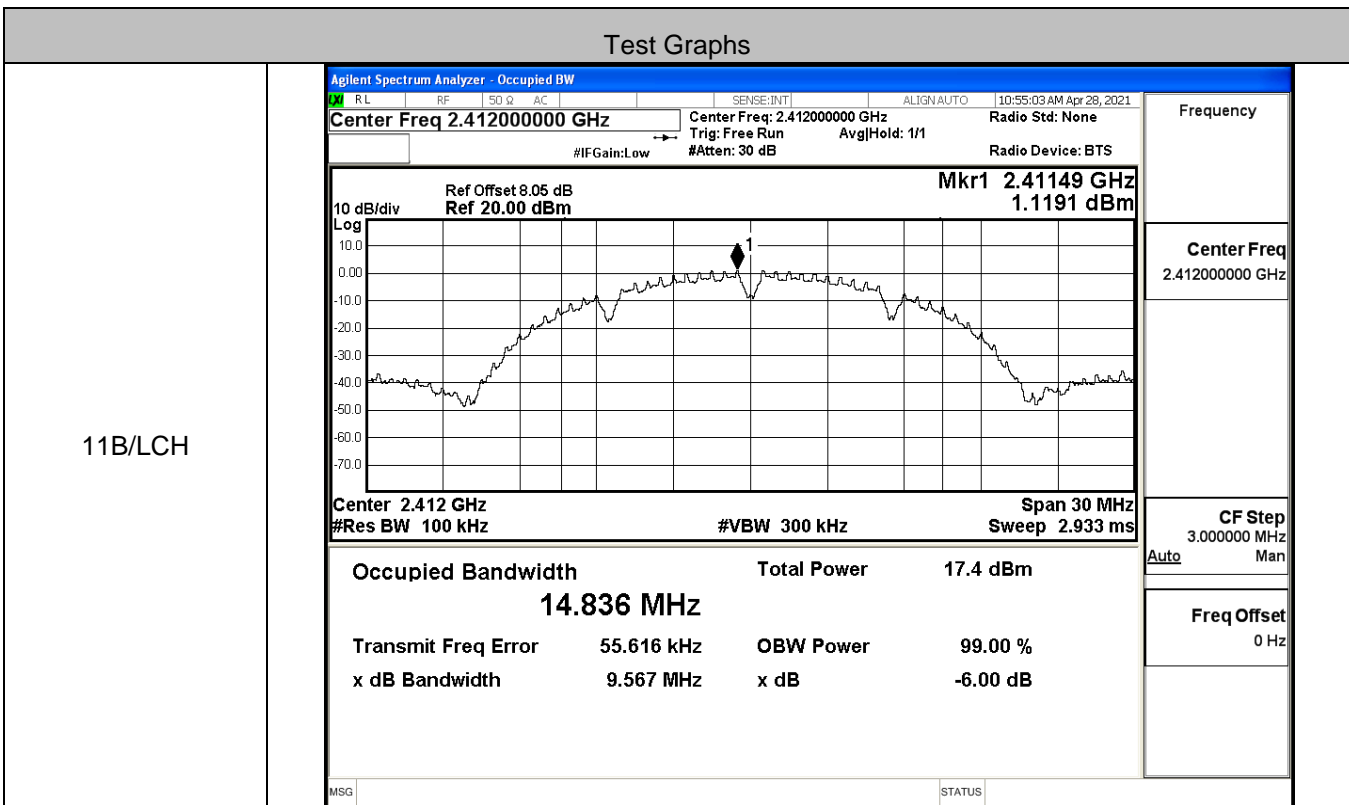


11N20SISO/HCH

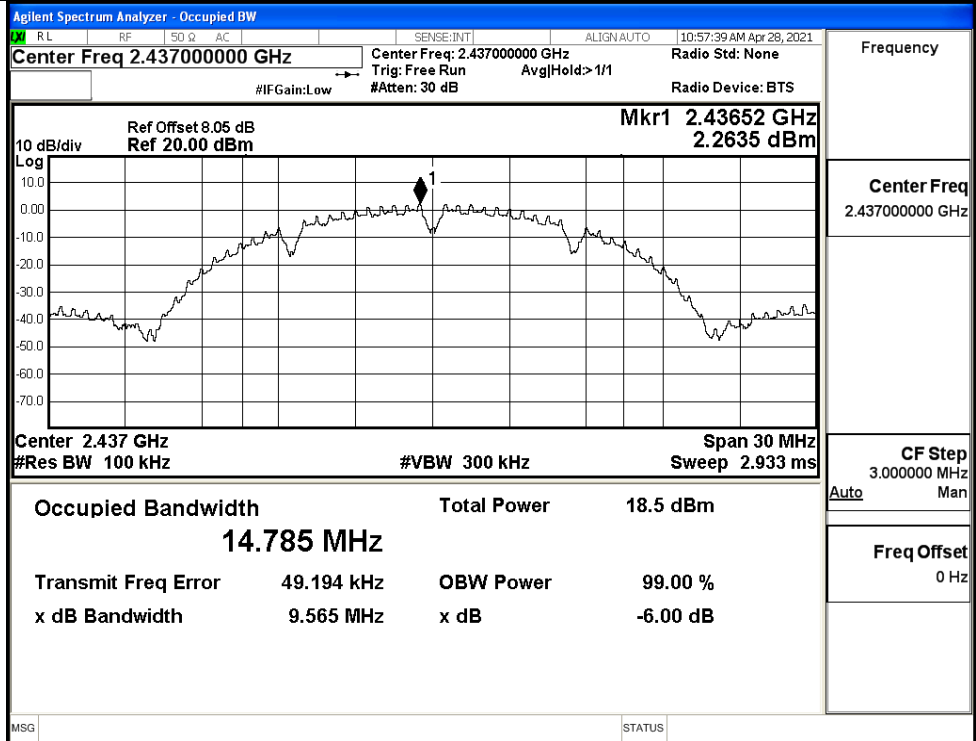


B.4 6dB Bandwidth

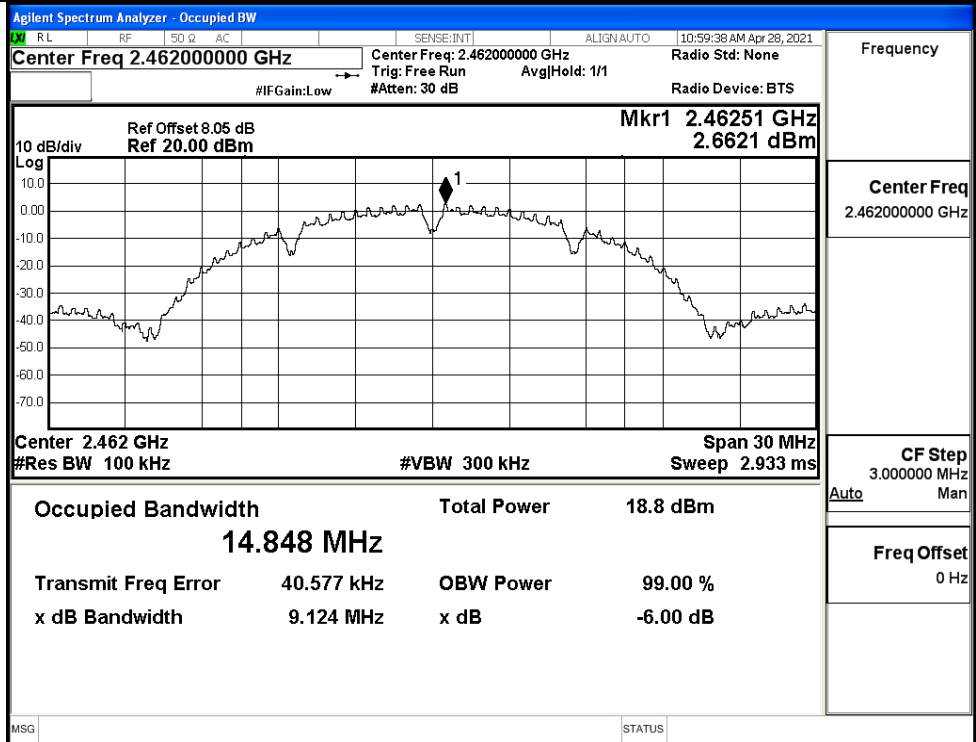
Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
11B	LCH	9.567	≥0.5	PASS
	MCH	9.565	≥0.5	PASS
	HCH	9.124	≥0.5	PASS
11G	LCH	12.59	≥0.5	PASS
	MCH	13.79	≥0.5	PASS
	HCH	12.59	≥0.5	PASS
11N20SISO	LCH	13.81	≥0.5	PASS
	MCH	12.57	≥0.5	PASS
	HCH	12.58	≥0.5	PASS



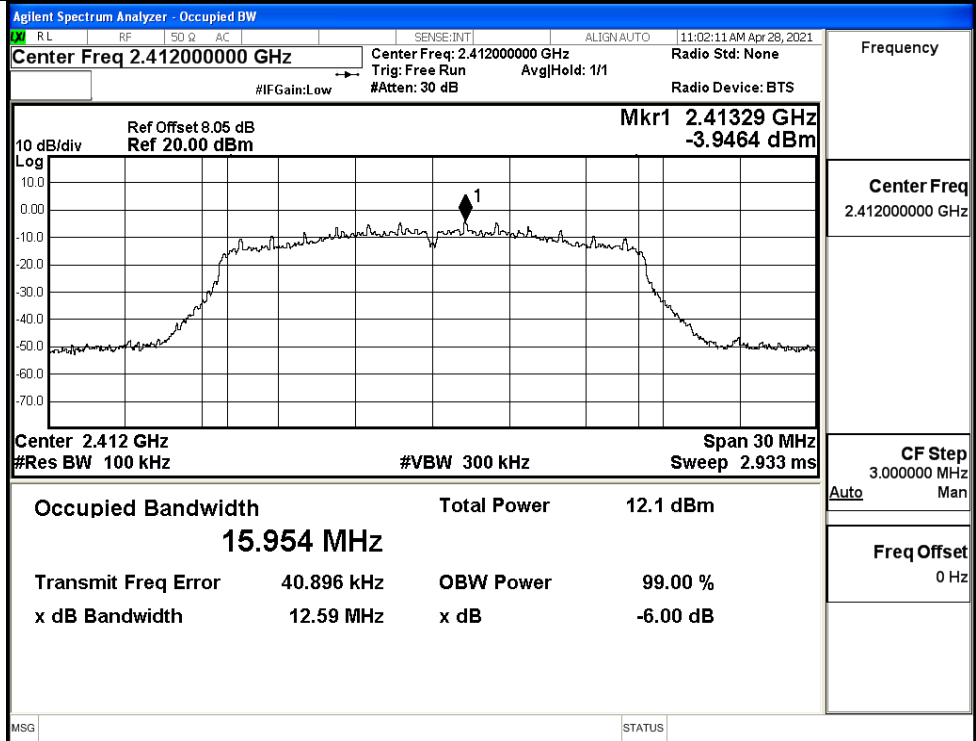
11B/MCH



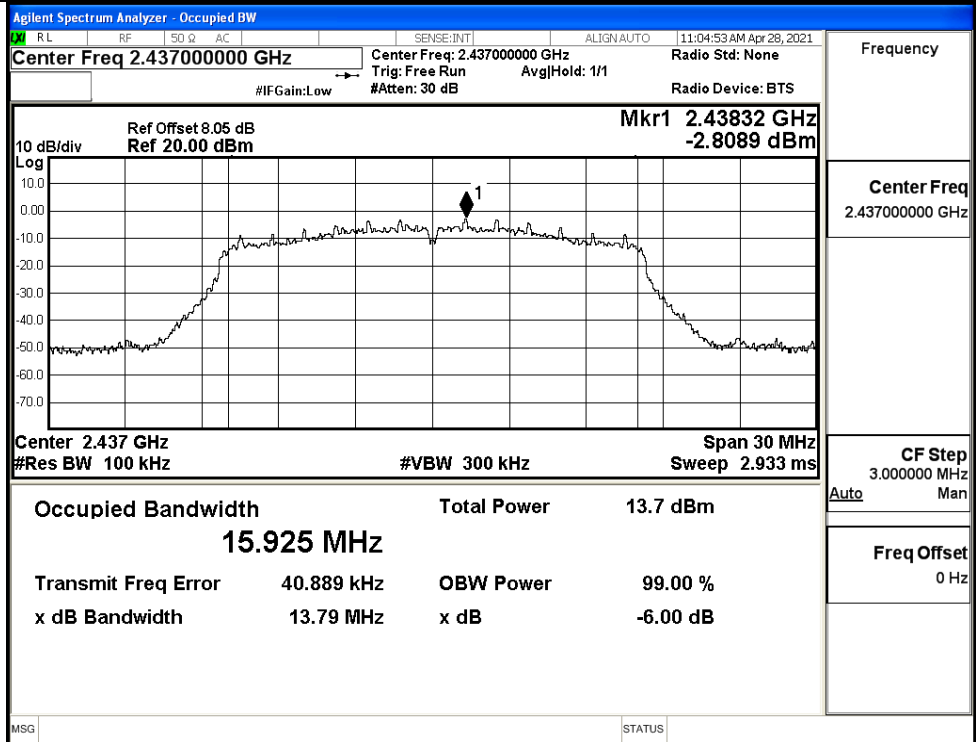
11B/HCH



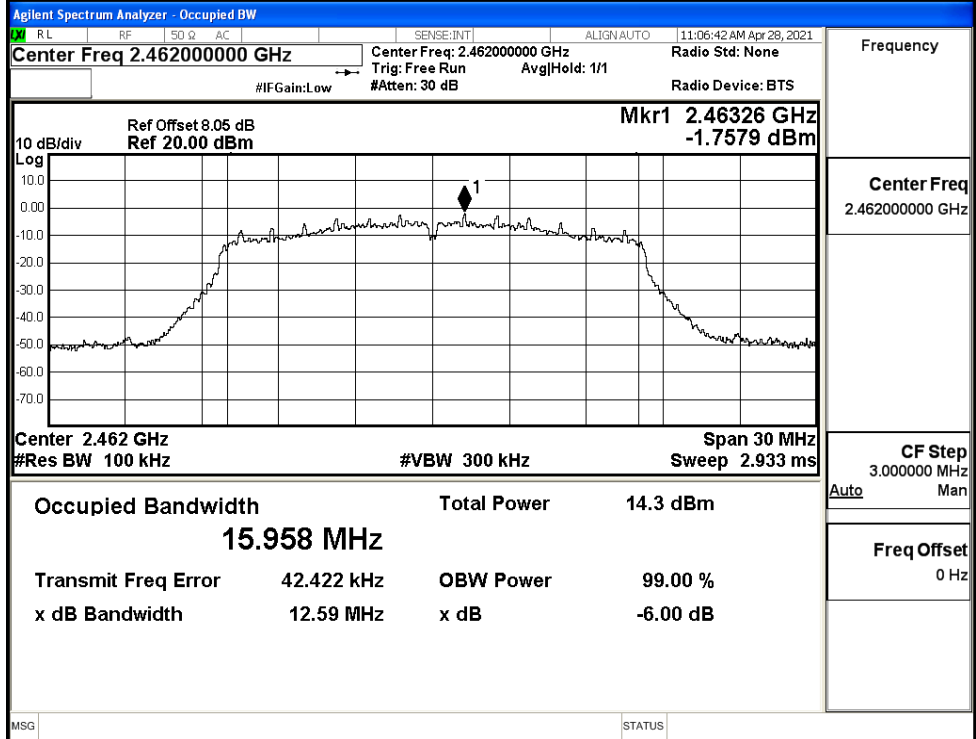
11G/LCH



11G/MCH

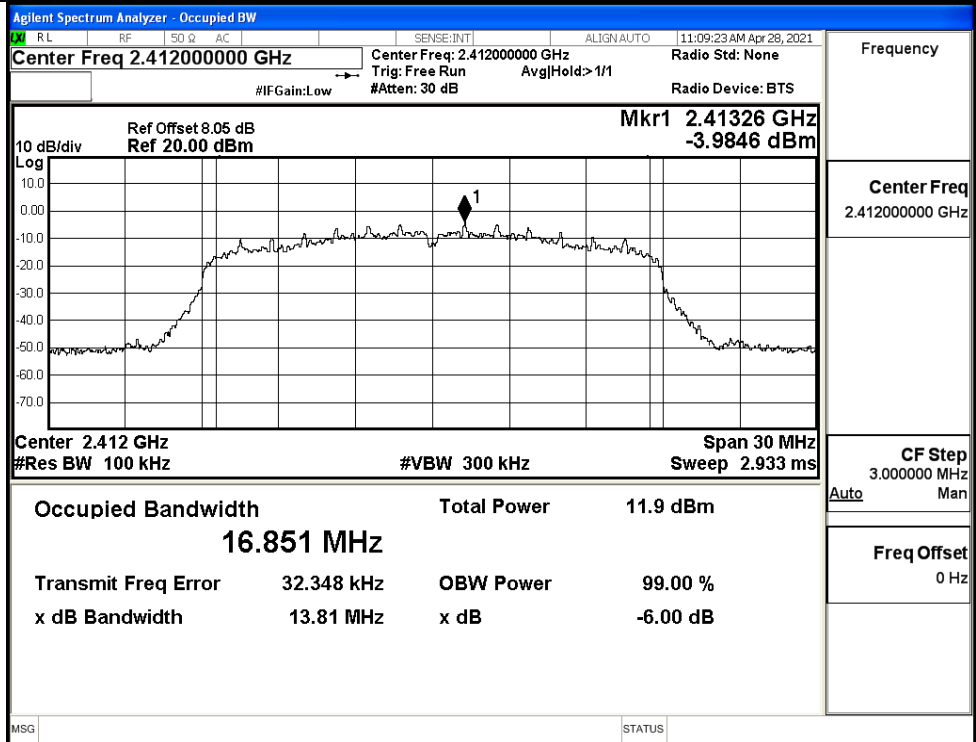


11G/HCH

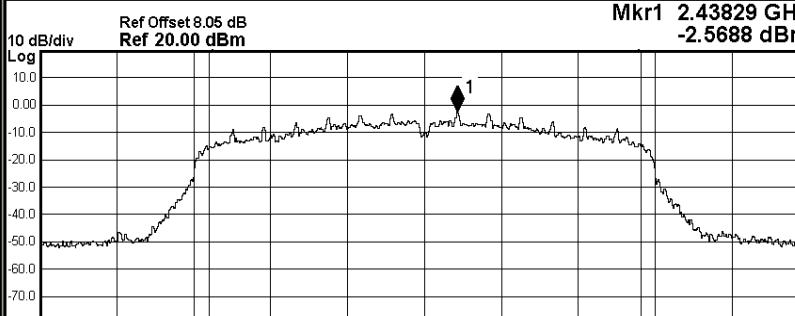
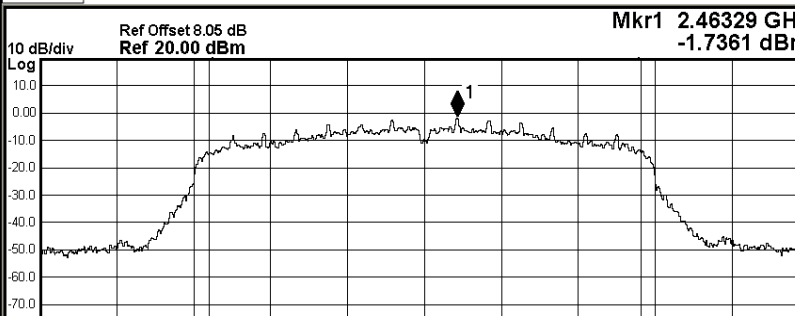


Frequency	2.46200000 GHz
Center Freq	2.46200000 GHz
CF Step	3.000000 MHz
Freq Offset	0 Hz

11N20SISO/LCH



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

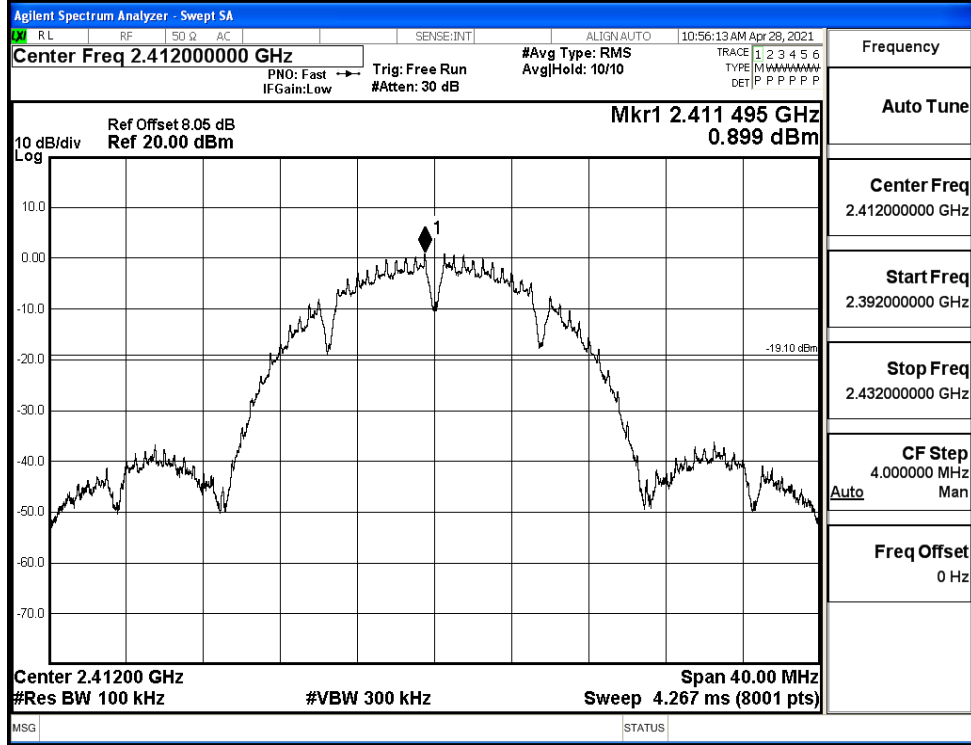
<p>11N20SISO/MCH</p>	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>RL RF SQ AC SENSE:INT ALIGN AUTO 11:12:14 AM Apr 28, 2021</p> <p>Center Freq 2.43700000 GHz Center Freq: 2.43700000 GHz Radio Std: None Trig: Free Run AvgHold: 1/1 #IFGain:Low #Atten: 30 dB Radio Device: BTS</p> <p>10 dB/div Ref Offset 8.05 dB Mkr1 2.43829 GHz Ref 20.00 dBm -2.5688 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 13.5 dBm 16.827 MHz</p> <p>Transmit Freq Error 31.602 kHz OBW Power 99.00 % x dB Bandwidth 12.57 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 AC SENSE:INT ALIGN AUTO 11:13:54 AM Apr 28, 2021</p> <p>Center Freq 2.46200000 GHz Center Freq: 2.46200000 GHz Radio Std: None Trig: Free Run AvgHold: 1/1 #IFGain:Low #Atten: 30 dB Radio Device: BTS</p> <p>10 dB/div Ref Offset 8.05 dB Mkr1 2.46329 GHz Ref 20.00 dBm -1.7361 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 14.1 dBm 16.854 MHz</p> <p>Transmit Freq Error 22.972 kHz OBW Power 99.00 % x dB Bandwidth 12.58 MHz x dB -6.00 dB</p> <p>MSG STATUS</p>

B.5 RF Conducted Spurious Emissions

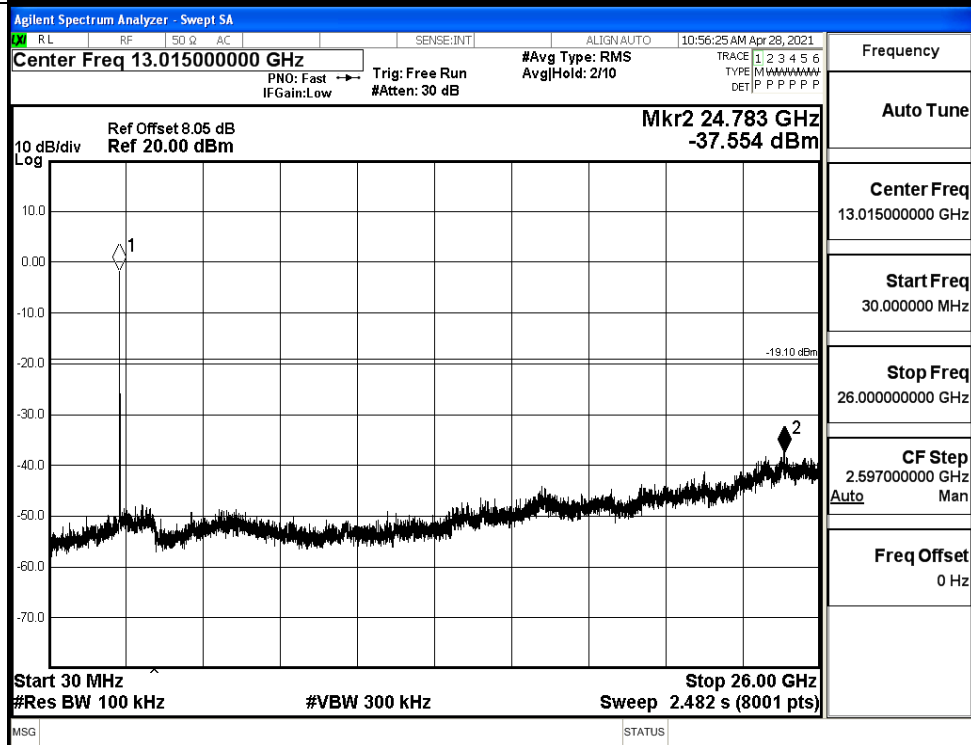
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
11B	LCH	0.899	-37.554	-19.101	PASS
	MCH	2.112	-36.925	-17.888	PASS
	HCH	2.036	-37.471	-17.964	PASS
11G	LCH	-4.233	-37.614	-24.233	PASS
	MCH	-2.326	-37.230	-22.326	PASS
	HCH	-1.791	-37.923	-21.791	PASS
11N20 SISO	LCH	-4.329	-38.207	-24.329	PASS
	MCH	-2.321	-37.866	-22.321	PASS
	HCH	-1.829	-38.126	-21.829	PASS

11B_LCH_Graphs

Pref/11B/LCH

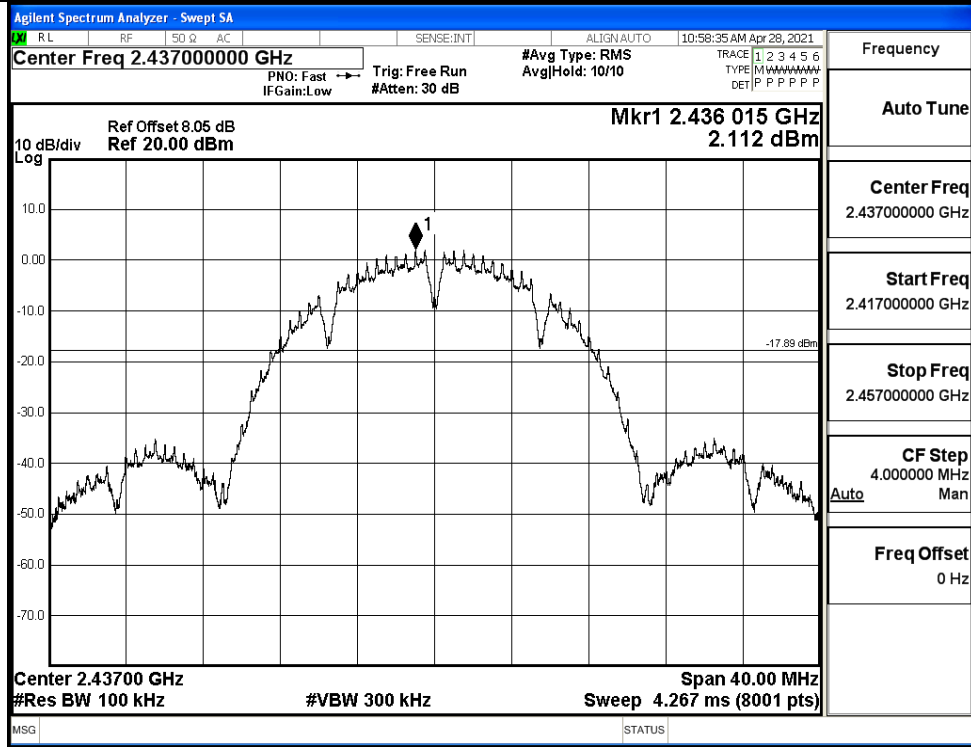


Puw/11B/LCH

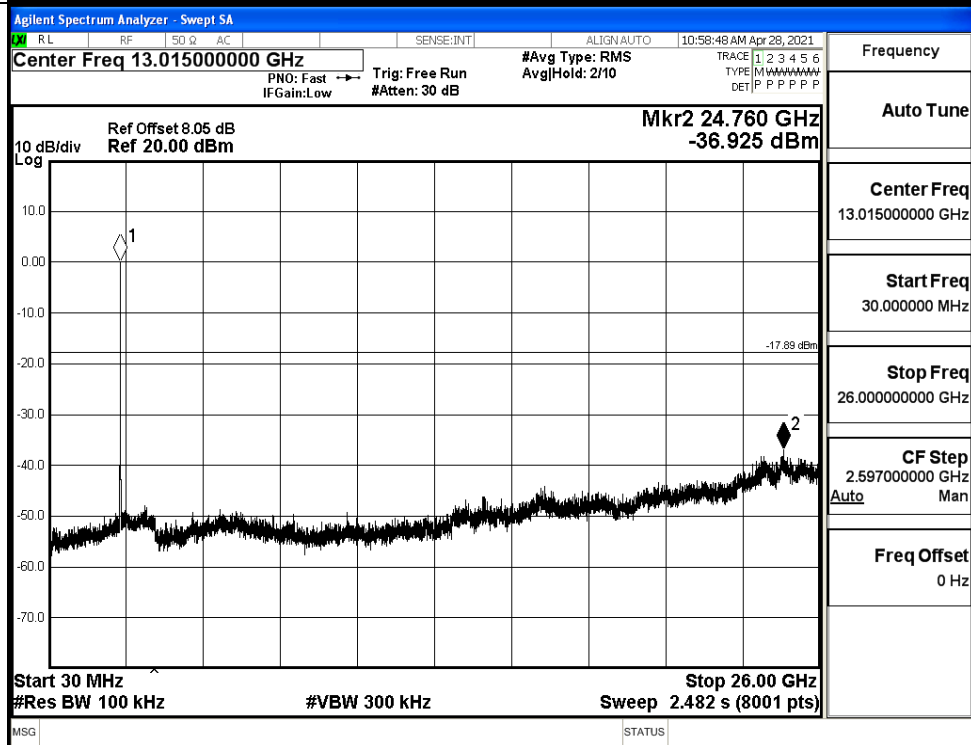


11B_MCH_Graphs

Pref/11B/MCH

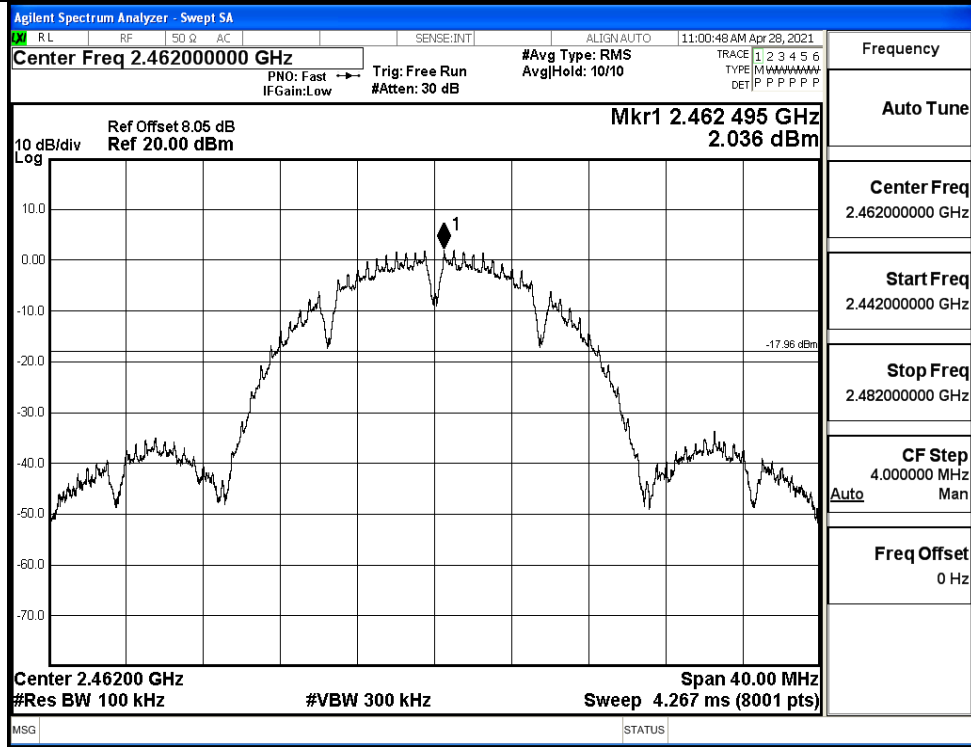


Puw/11B/MCH

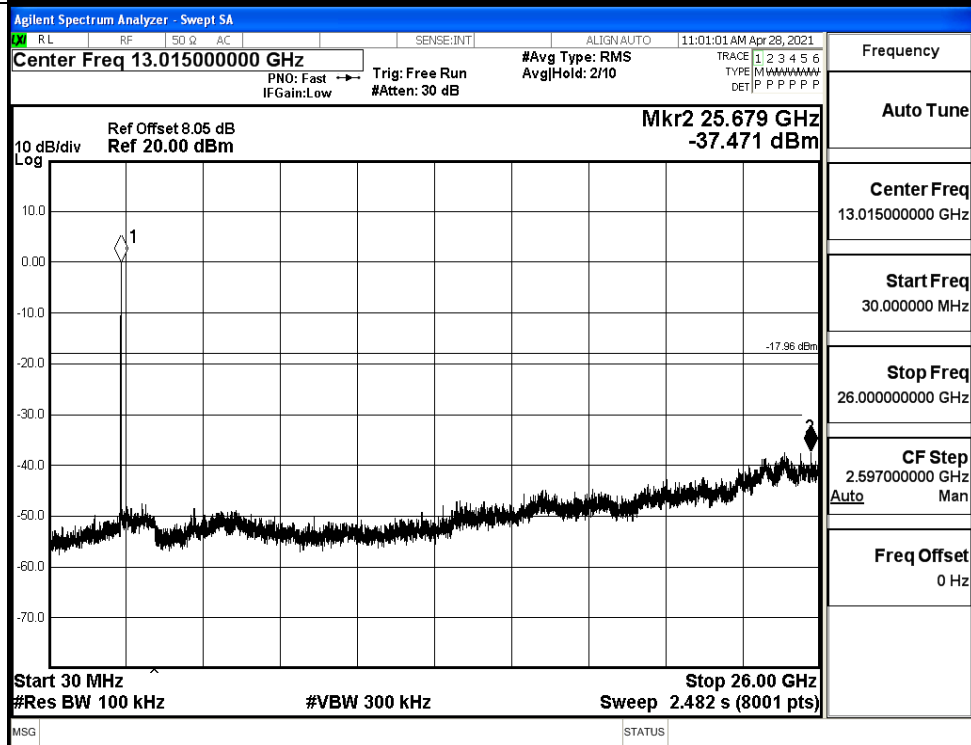


11B_HCH_Graphs

Pref/11B/HCH

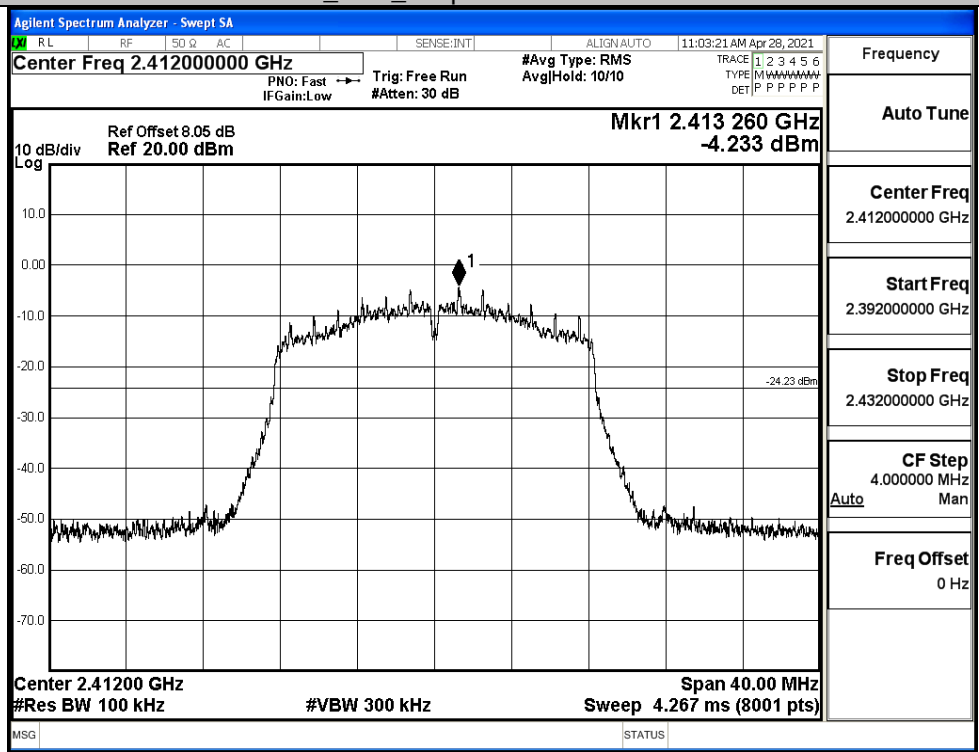


Puw/11B/HCH

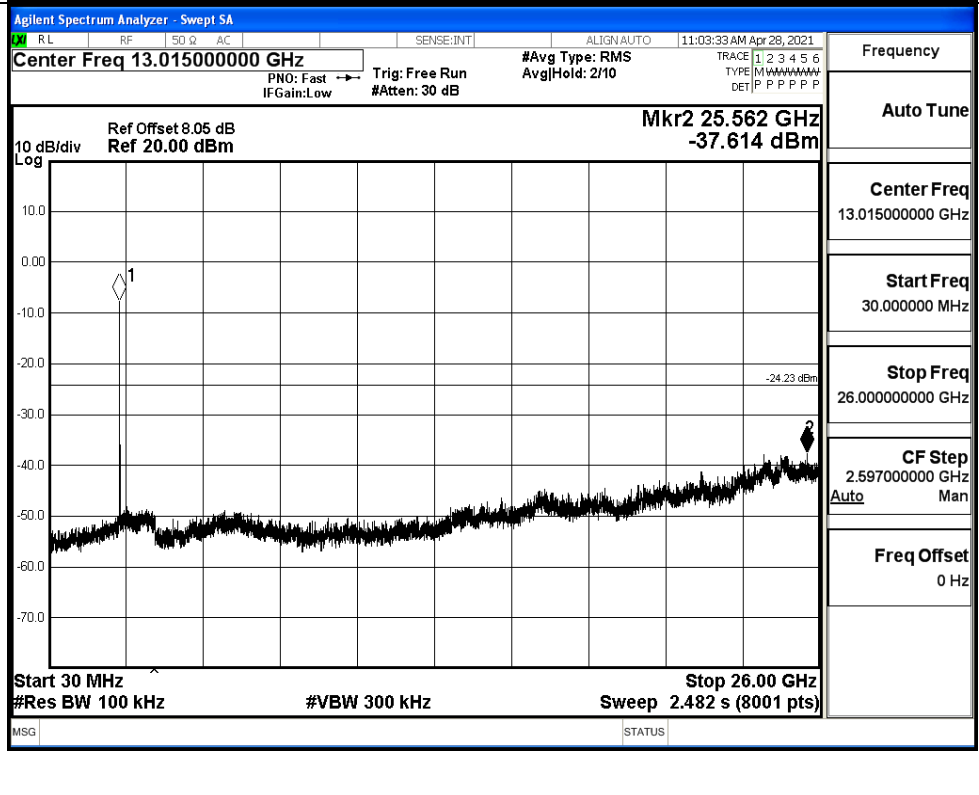


11G_LCH_Graphs

Pref/11G/LCH

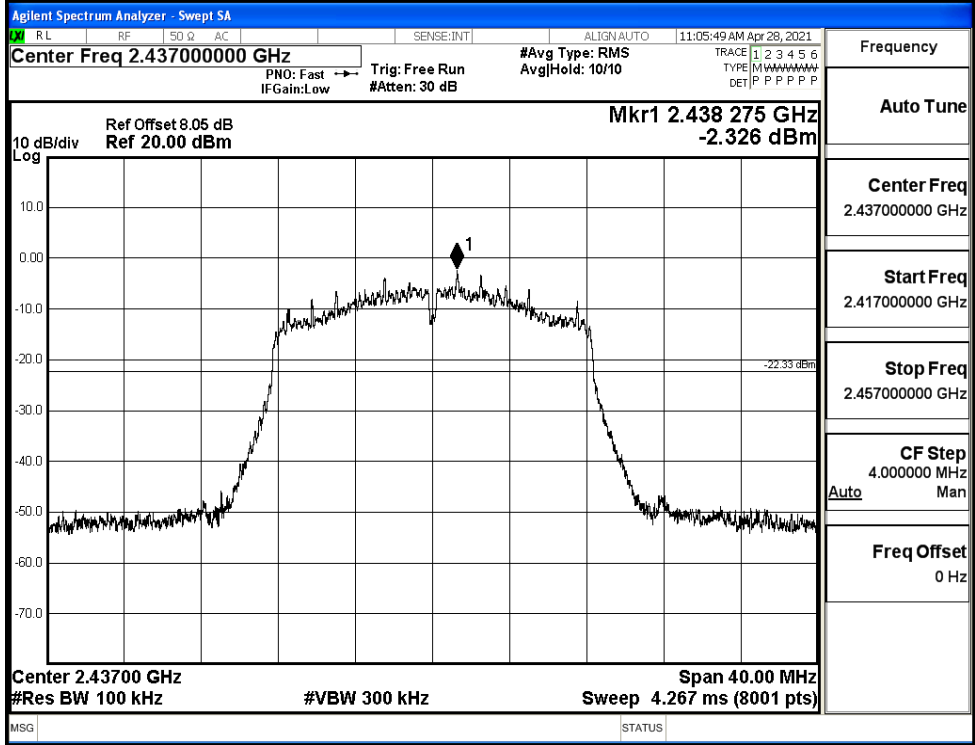


Puw/11G/LCH

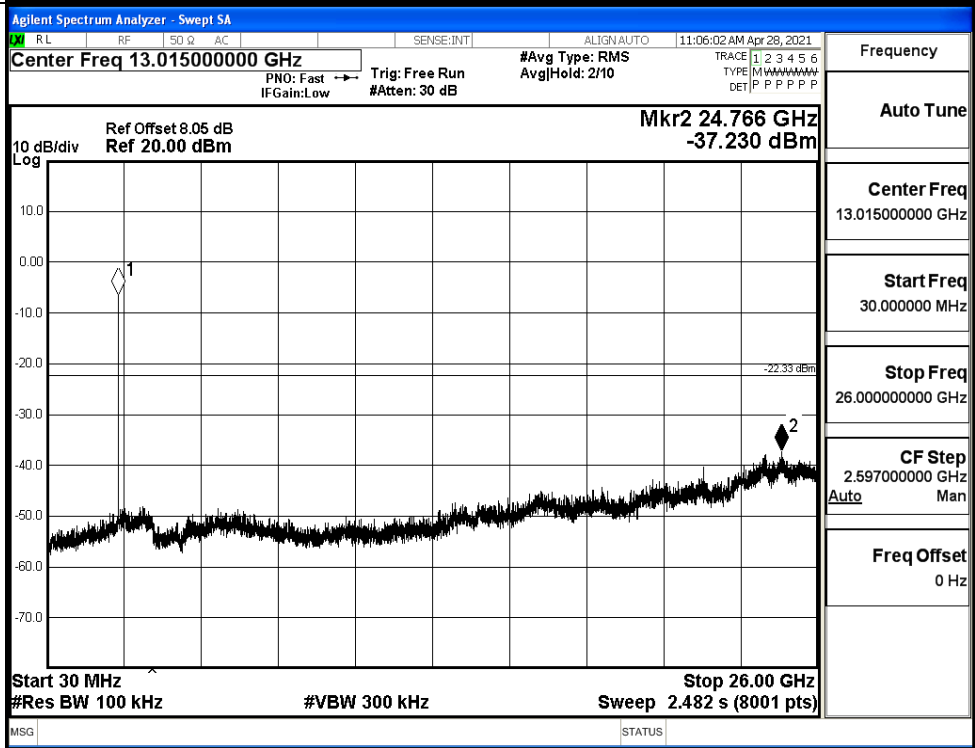


11G_MCH_Graphs

Pref/11G/MCH

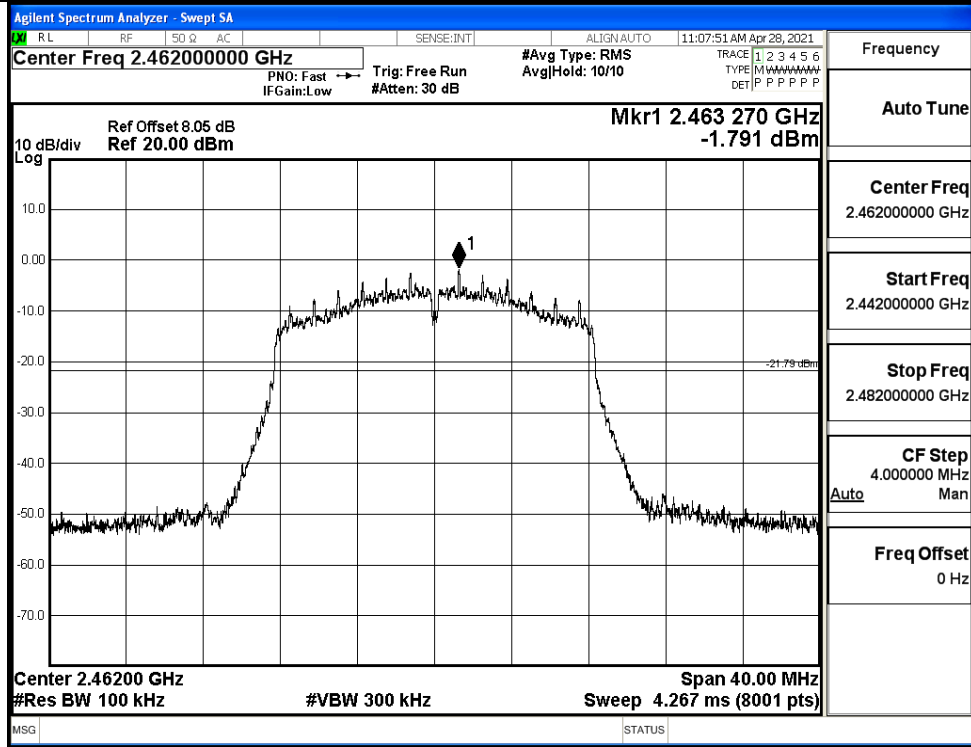


Puw/11G/MCH

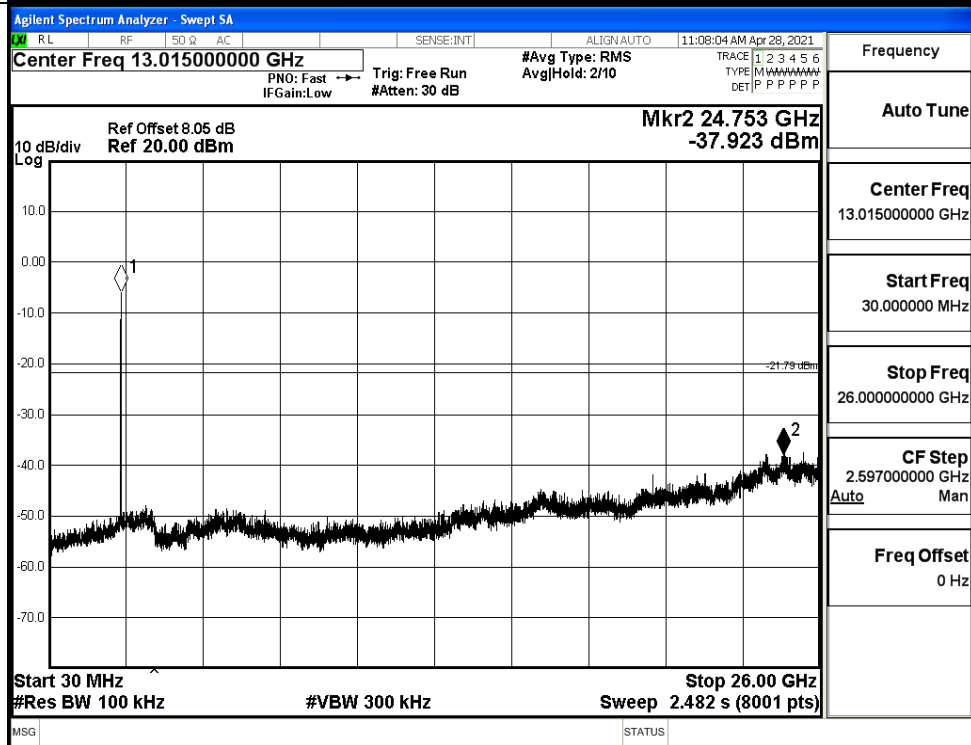


11G_HCH_Graphs

Pref/11G/HCH

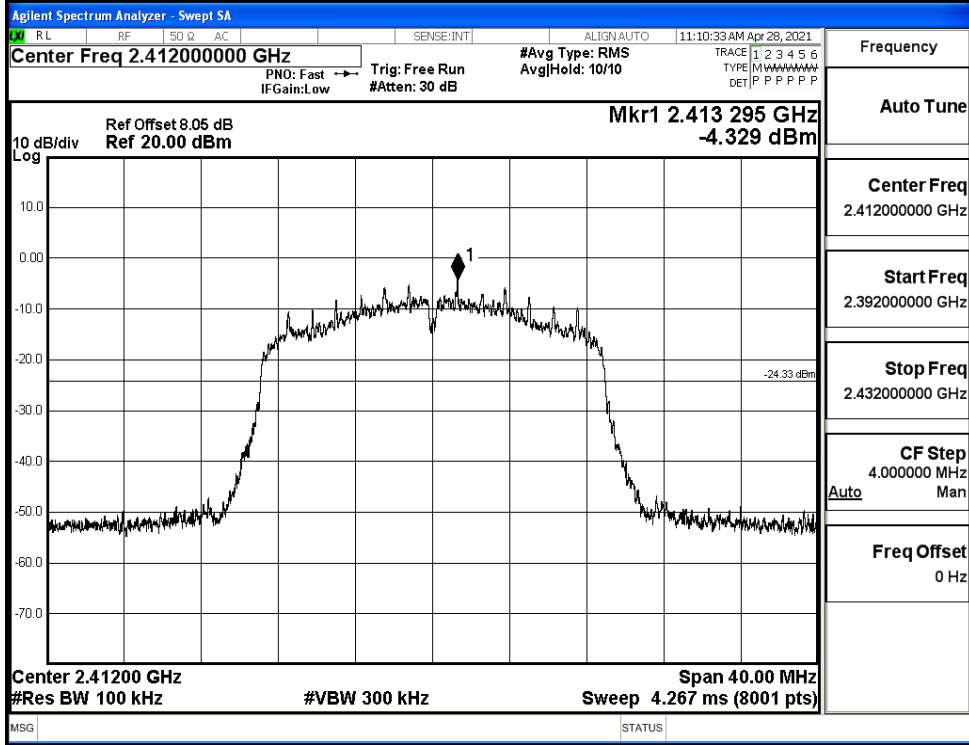


Puw/11G/HCH

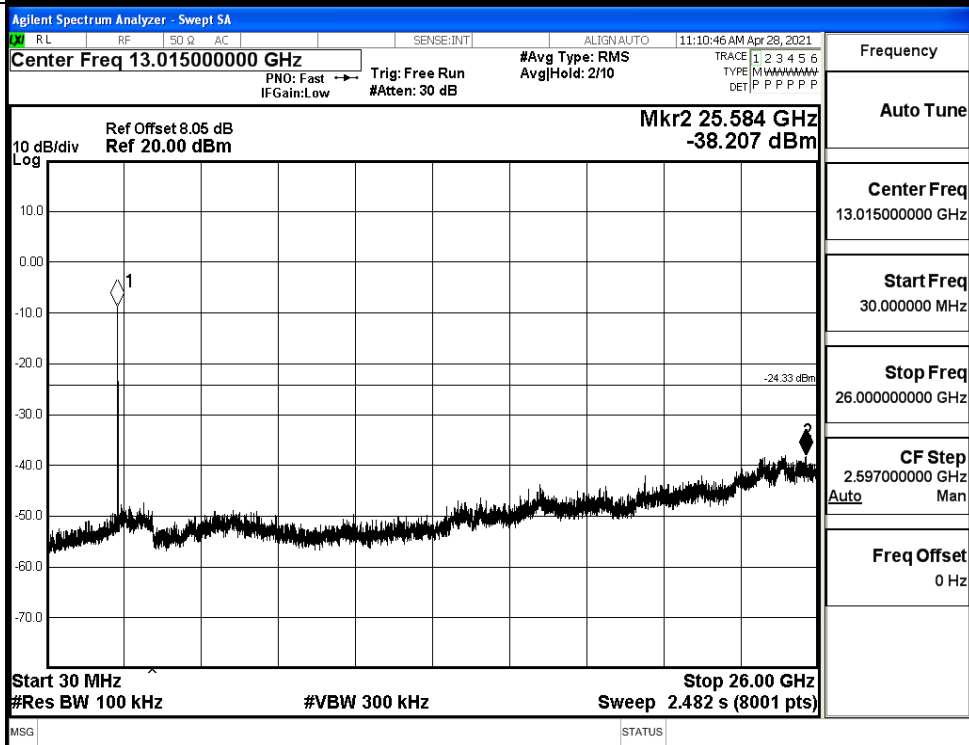


11N20SISO_LCH_Graphs

Pref/11N20SIS
O/LCH

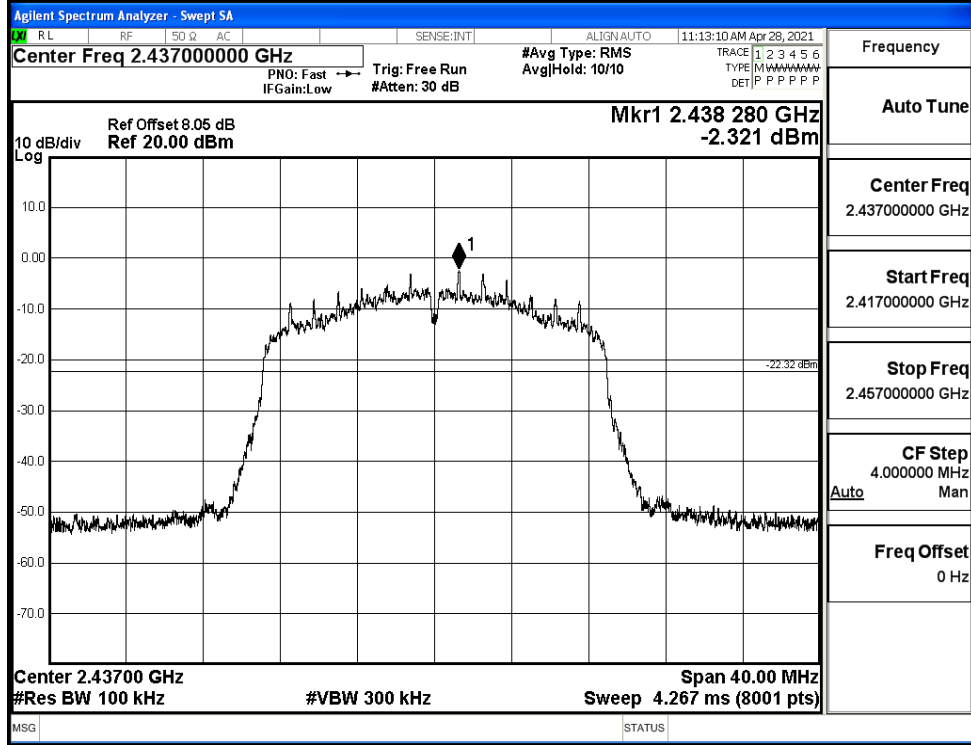


Puw/11N20
SISO/LCH

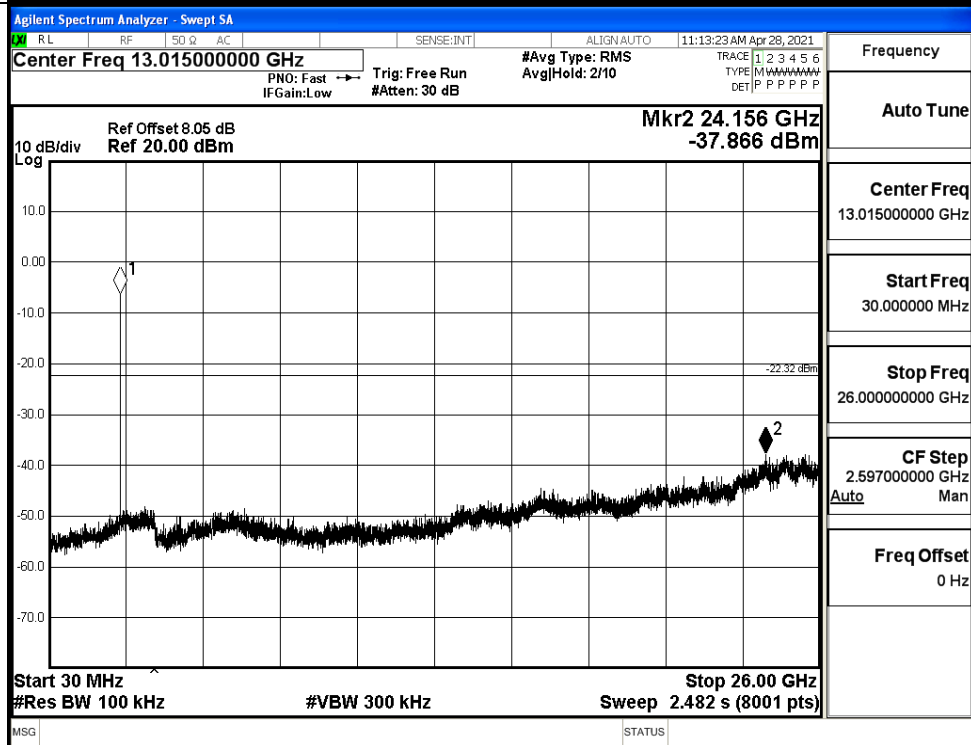


11N20SISO_MCH_Graphs

Pref/11N20
SISO/MCH

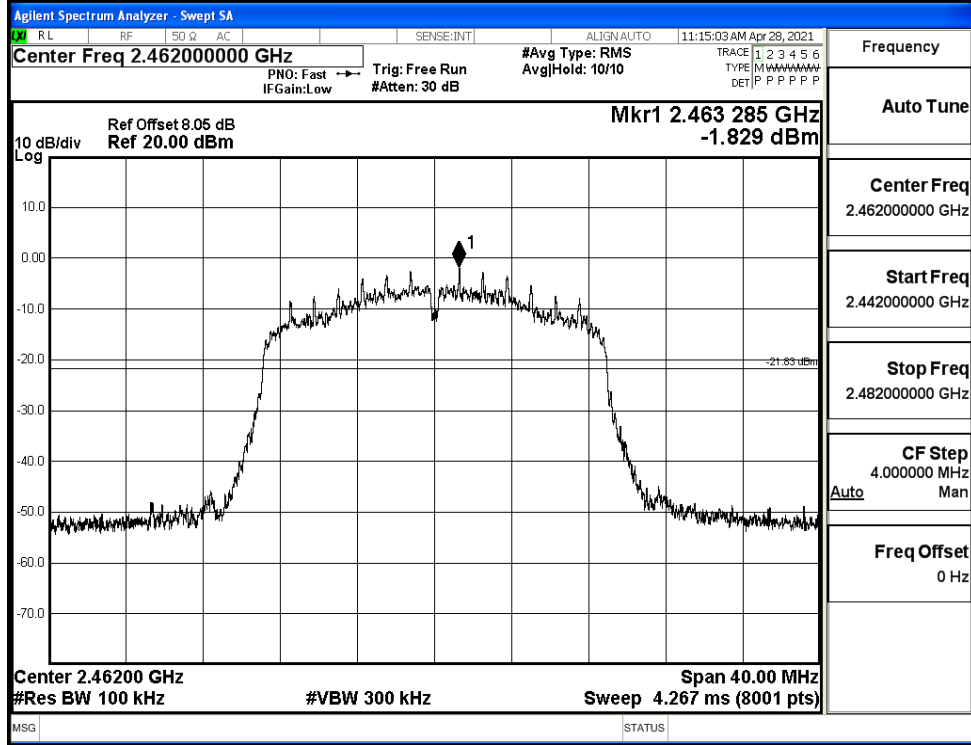


Puw/11N20
SISO/MCH

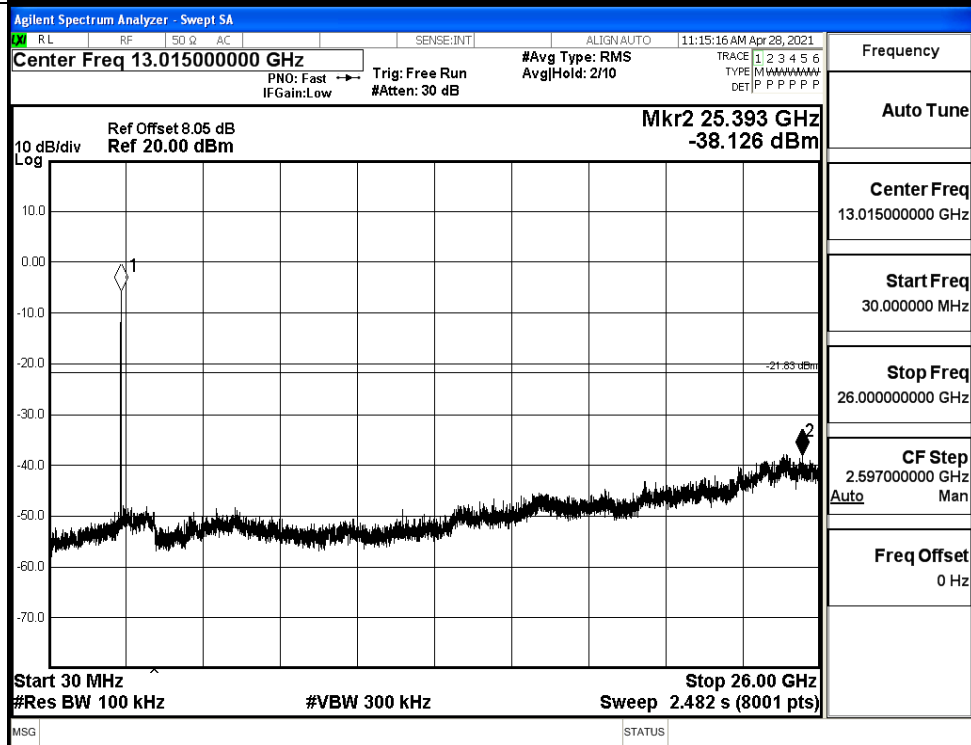


11N20SISO_HCH_Graphs

Pref/11N20
SISO/HCH

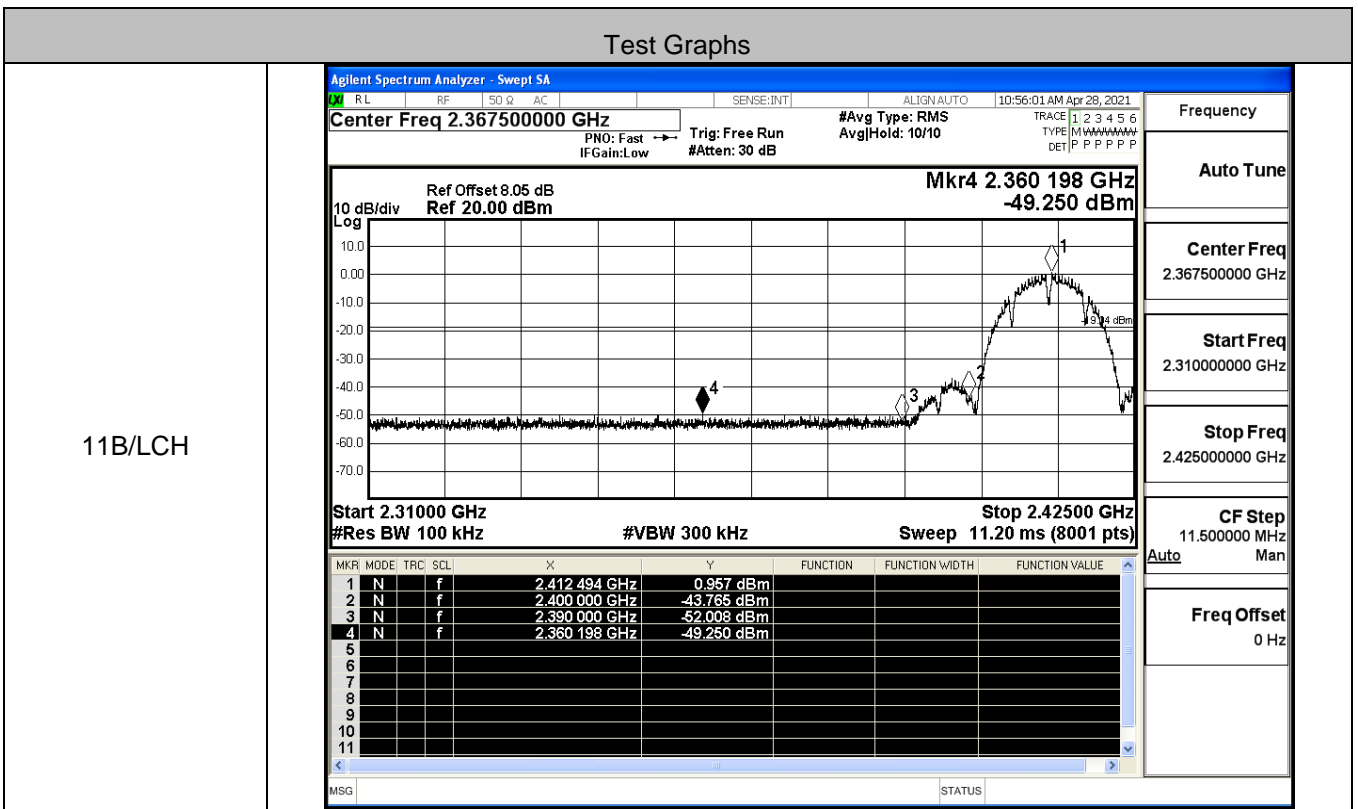


Puw/11N20
SISO/HCH

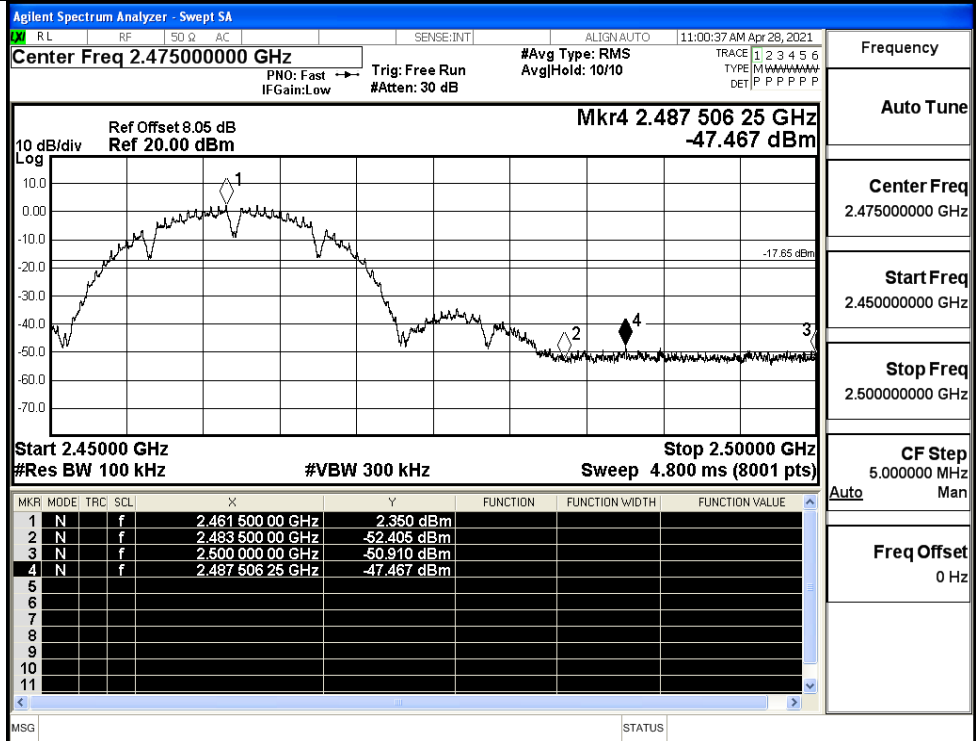


B.6 Band-edge for RF Conducted Emissions

Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
11B	LCH	0.957	-49.250	-19.04	PASS
	HCH	2.350	-47.467	-17.65	PASS
11G	LCH	-4.876	-48.549	-24.88	PASS
	HCH	-1.718	-49.465	-21.72	PASS
11N20SISO	LCH	-4.311	-50.136	-24.31	PASS
	HCH	-2.560	-49.363	-22.56	PASS



11B/HCH



Frequency

Auto Tune

Center Freq
2.47500000 GHz

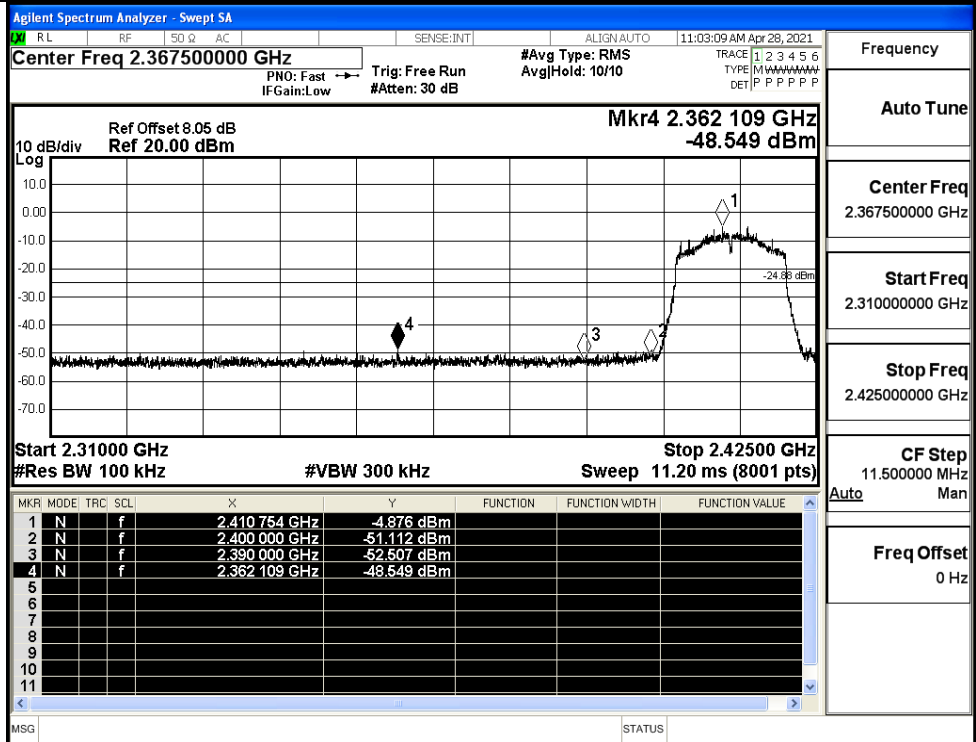
Start Freq
2.45000000 GHz

Stop Freq
2.50000000 GHz

CF Step
5.000000 MHz

Freq Offset
0 Hz

11G/LCH



Frequency

Auto Tune

Center Freq
2.36750000 GHz

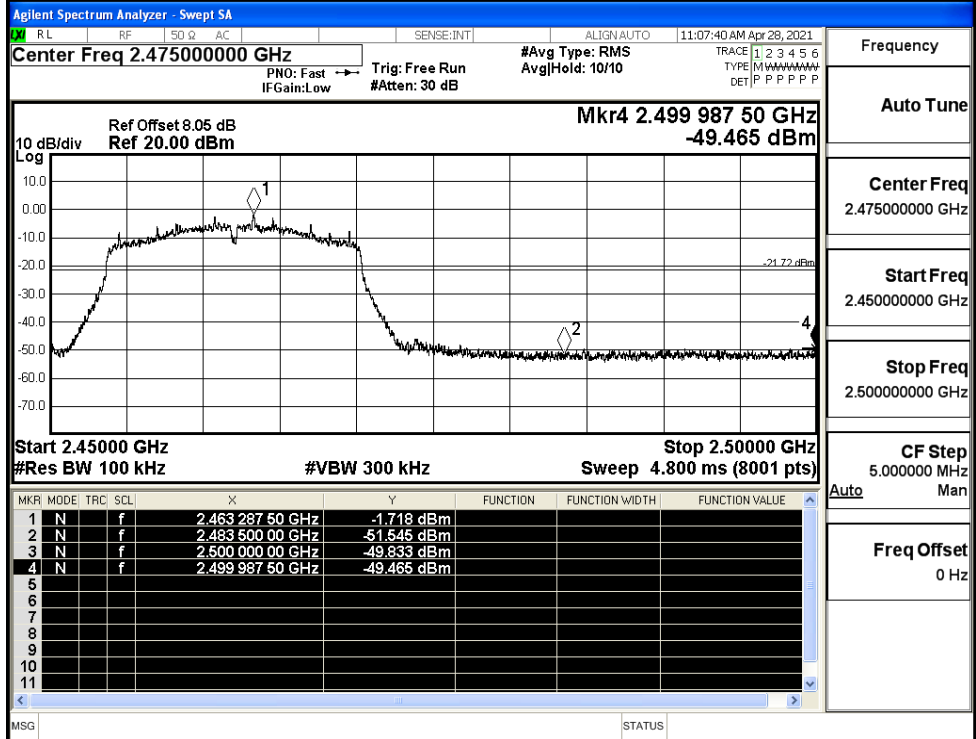
Start Freq
2.31000000 GHz

Stop Freq
2.42500000 GHz

CF Step
11.500000 MHz

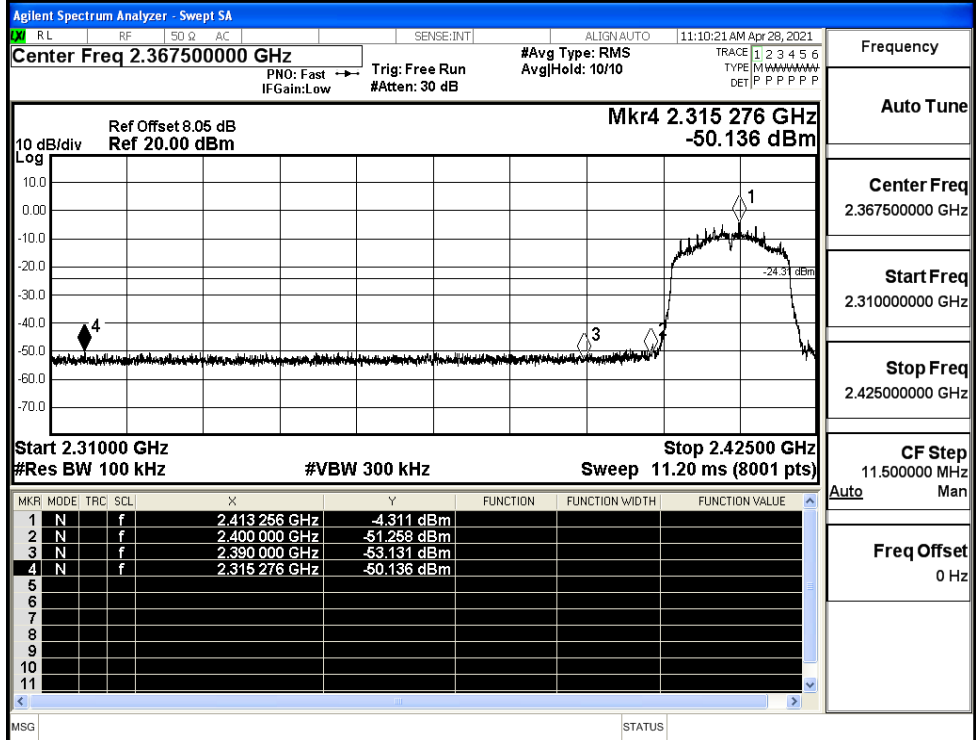
Freq Offset
0 Hz

11G/HCH



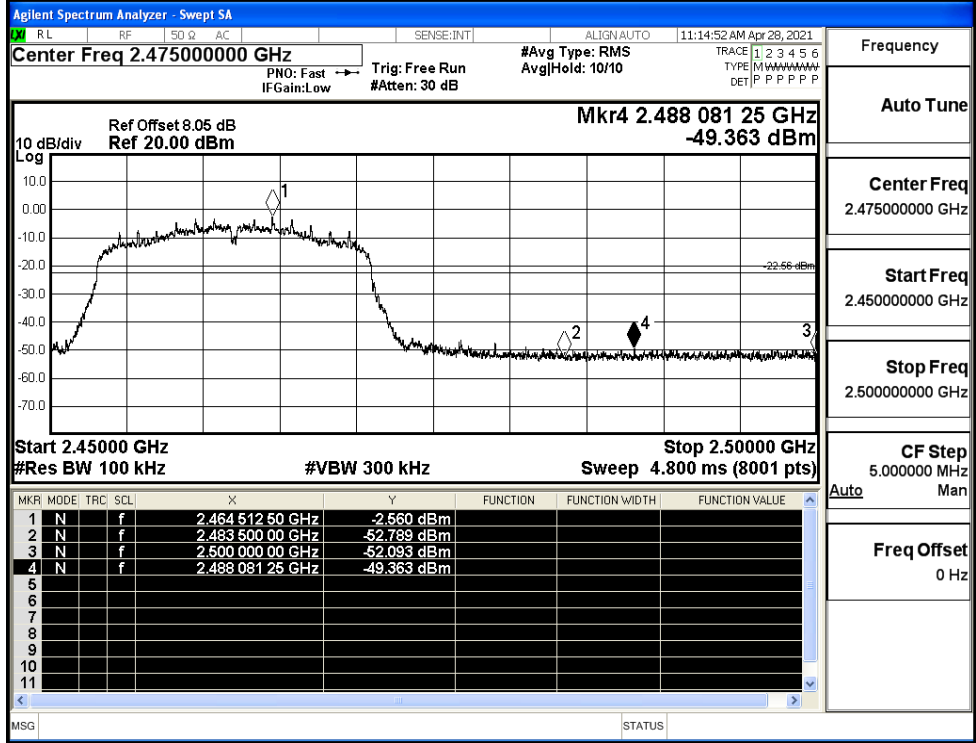
Frequency	
Auto Tune	
Center Freq	2.47500000 GHz
Start Freq	2.45000000 GHz
Stop Freq	2.50000000 GHz
CF Step	5.000000 MHz
Freq Offset	0 Hz

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

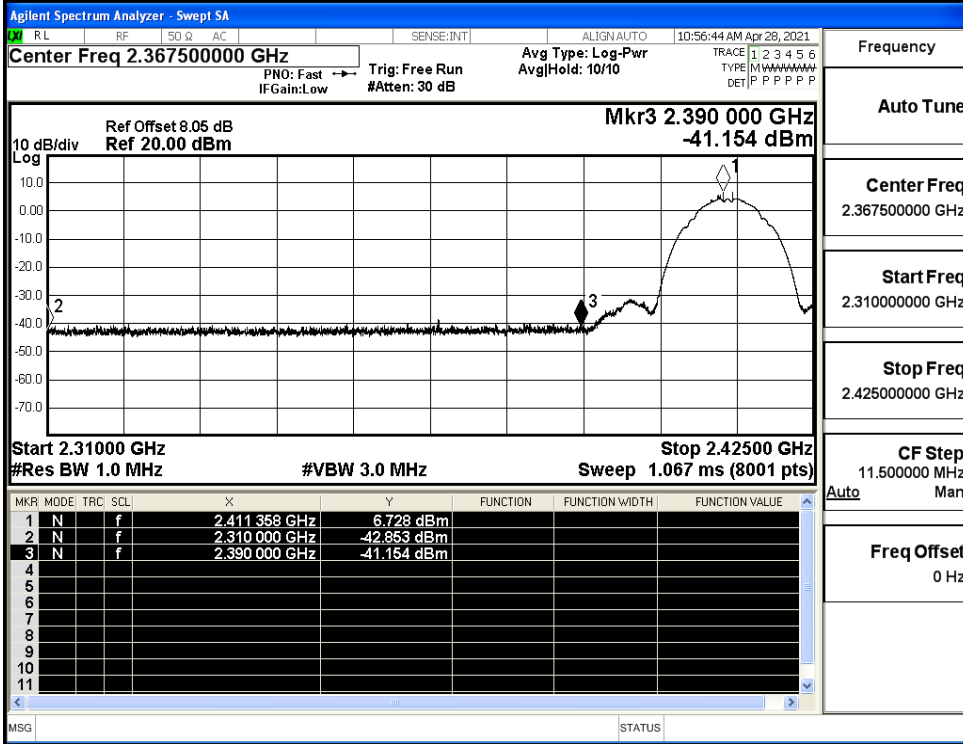
11N20SISO/HCH



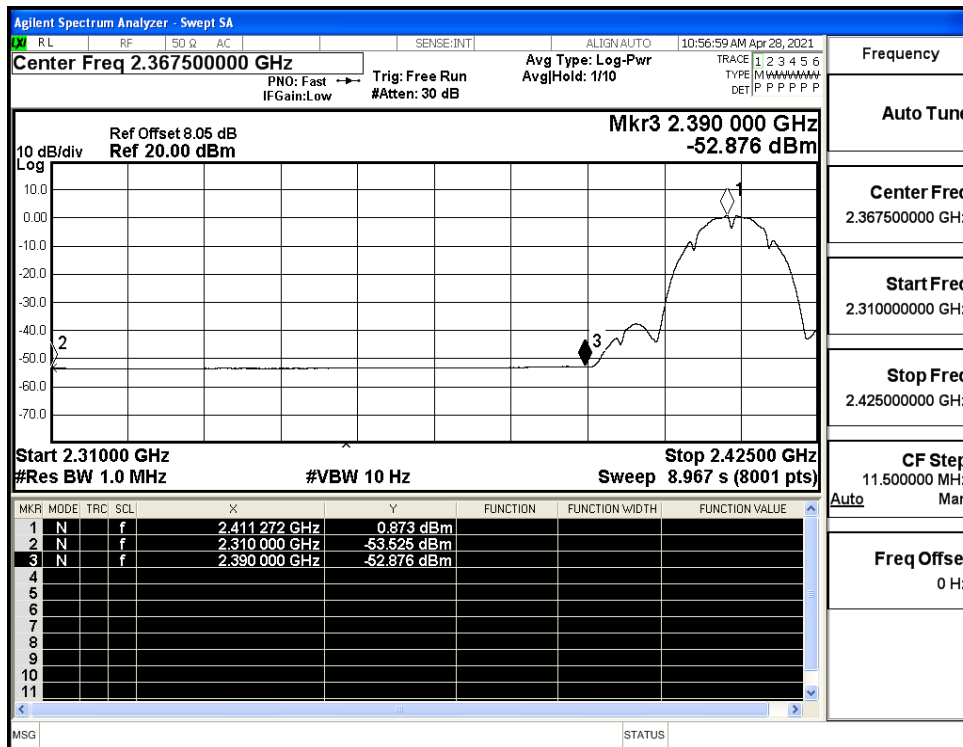
B.7 Restrict-band band-edge measurements

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	-42.85	4.6	0	56.98	PEAK	74	PASS
	2412	Ant1	2310.0	-53.53	4.6	0	46.30	AV	54	PASS
	2412	Ant1	2390.0	-41.15	4.6	0	58.68	PEAK	74	PASS
	2412	Ant1	2390.0	-52.88	4.6	0	46.95	AV	54	PASS
	2462	Ant1	2483.5	-41.94	4.6	0	57.89	PEAK	74	PASS
	2462	Ant1	2483.5	-52.23	4.6	0	47.60	AV	54	PASS
	2462	Ant1	2500.0	-41.49	4.6	0	58.34	PEAK	74	PASS
	2462	Ant1	2500.0	-52.21	4.6	0	47.62	AV	54	PASS
11G	2412	Ant1	2310.0	-43.00	4.6	0	56.83	PEAK	74	PASS
	2412	Ant1	2310.0	-53.53	4.6	0	46.30	AV	54	PASS
	2412	Ant1	2390.0	-42.11	4.6	0	57.72	PEAK	74	PASS
	2412	Ant1	2390.0	-53.02	4.6	0	46.81	AV	54	PASS
	2462	Ant1	2483.5	-42.64	4.6	0	57.19	PEAK	74	PASS
	2462	Ant1	2483.5	-52.39	4.6	0	47.44	AV	54	PASS
	2462	Ant1	2500.0	-41.32	4.6	0	58.51	PEAK	74	PASS
	2462	Ant1	2500.0	-52.08	4.6	0	47.75	AV	54	PASS
11N20 SISO	2412	Ant1	2310.0	-42.93	4.6	0	56.90	PEAK	74	PASS
	2412	Ant1	2310.0	-53.54	4.6	0	46.29	AV	54	PASS
	2412	Ant1	2390.0	-42.16	4.6	0	57.67	PEAK	74	PASS
	2412	Ant1	2390.0	-53.08	4.6	0	46.75	AV	54	PASS
	2462	Ant1	2483.5	-42.14	4.6	0	57.69	PEAK	74	PASS
	2462	Ant1	2483.5	-52.40	4.6	0	47.43	AV	54	PASS
	2462	Ant1	2500.0	-40.44	4.6	0	59.39	PEAK	74	PASS
	2462	Ant1	2500.0	-52.09	4.6	0	47.74	AV	54	PASS

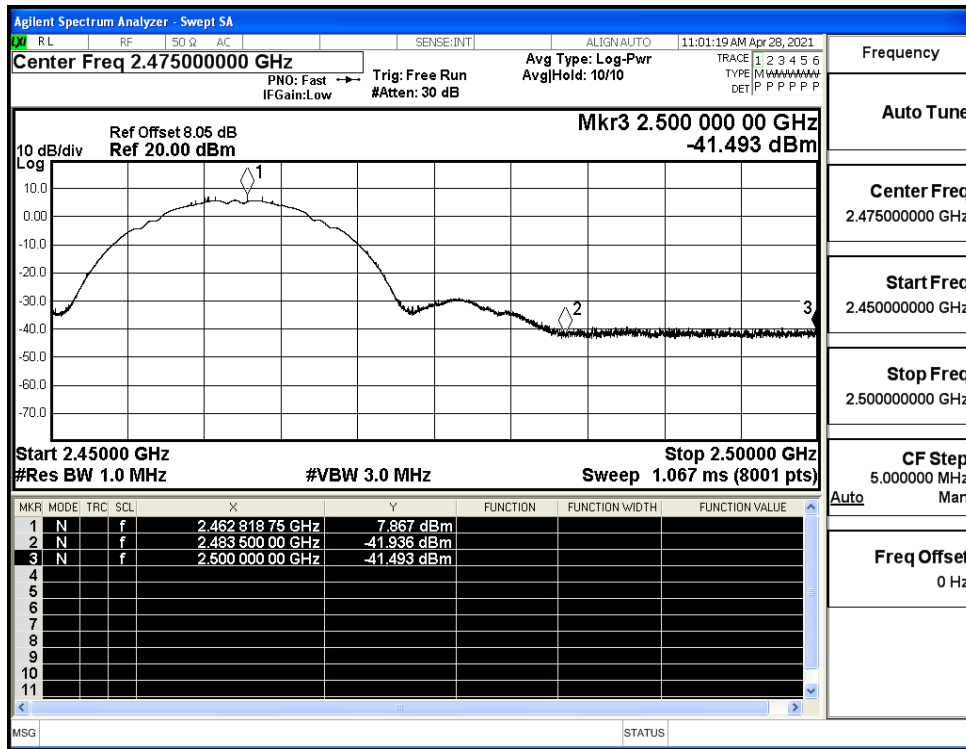
Restrict-band band-edge measurements_11B_2412_Ant1_PEAK



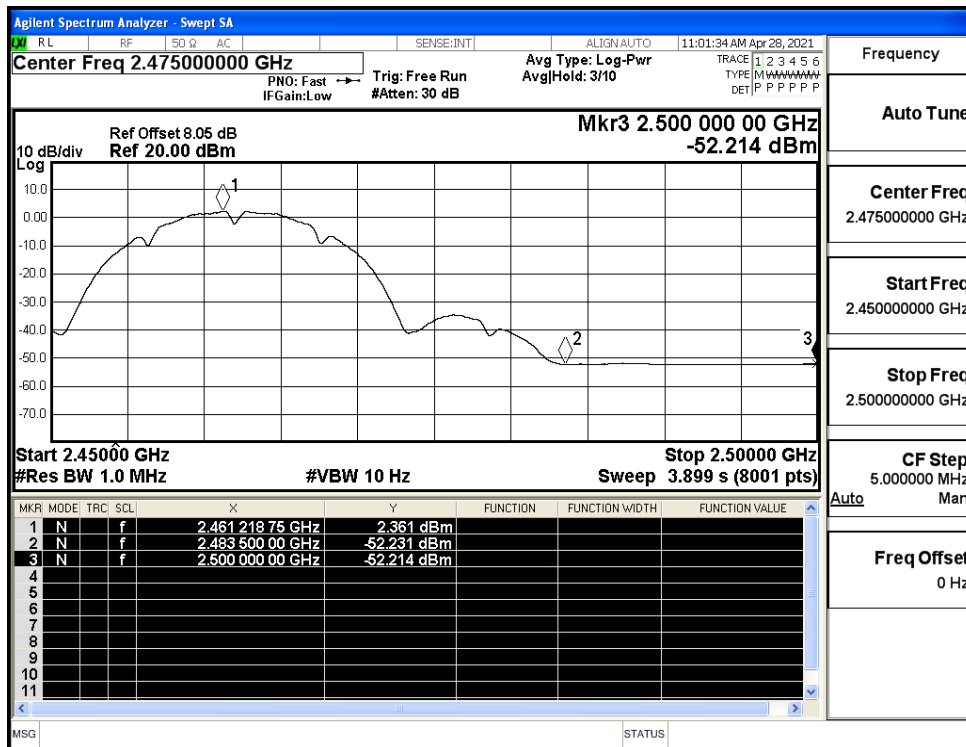
Restrict-band band-edge measurements_11B_2412_Ant1_AV



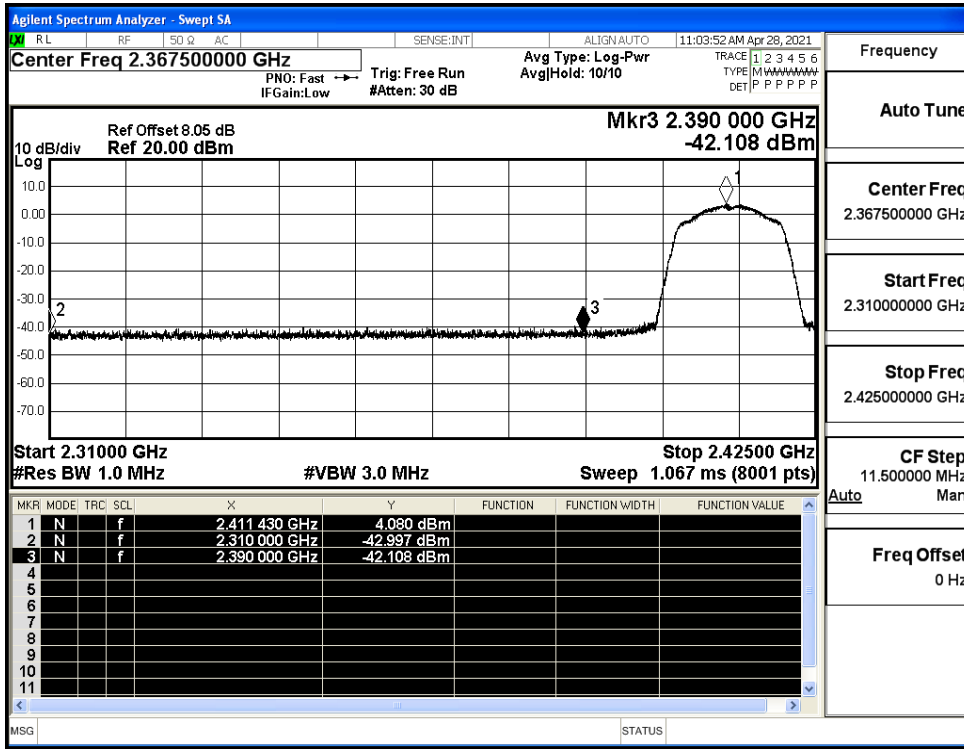
Restrict-band band-edge measurements_11B_2462_Ant1_PEAK



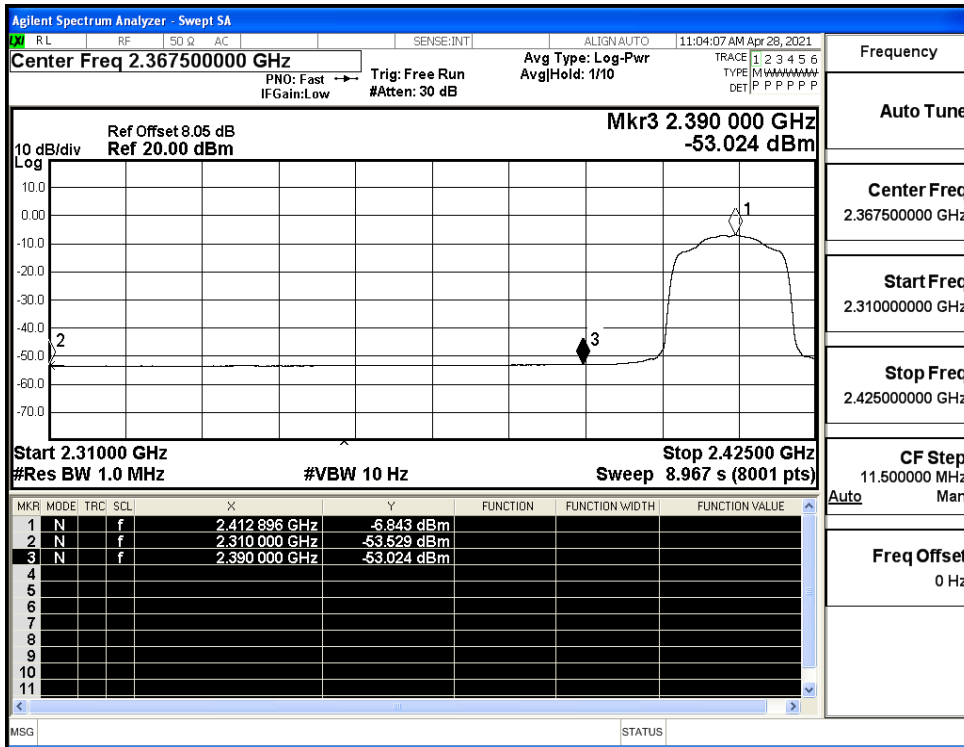
Restrict-band band-edge measurements_11B_2462_Ant1_AV



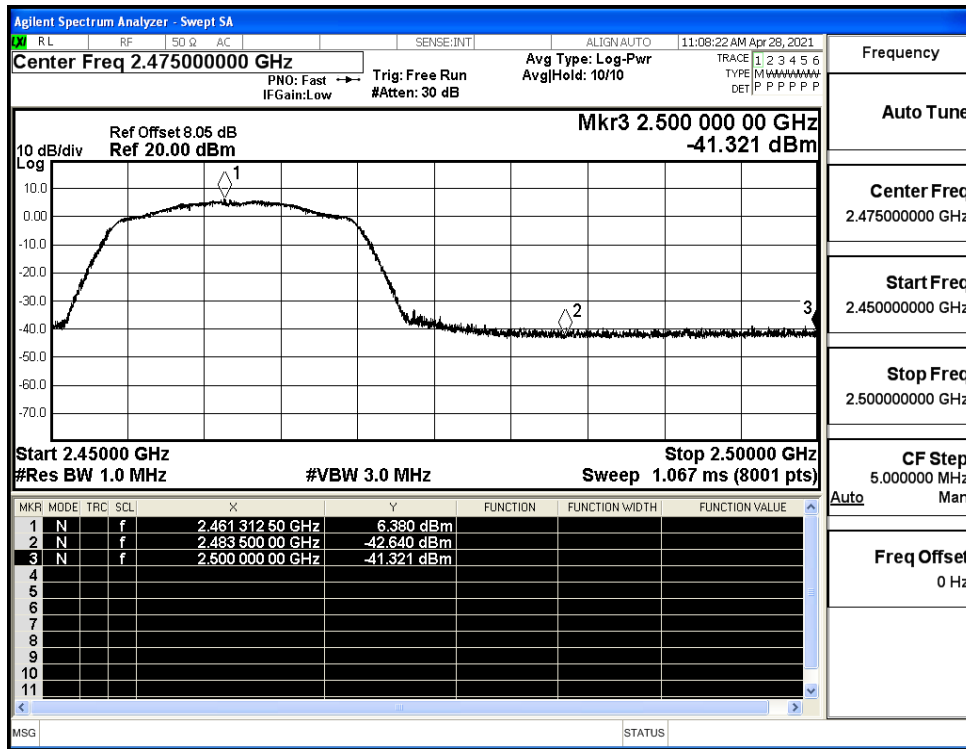
Restrict-band band-edge measurements_11G_2412_Ant1_PEAK



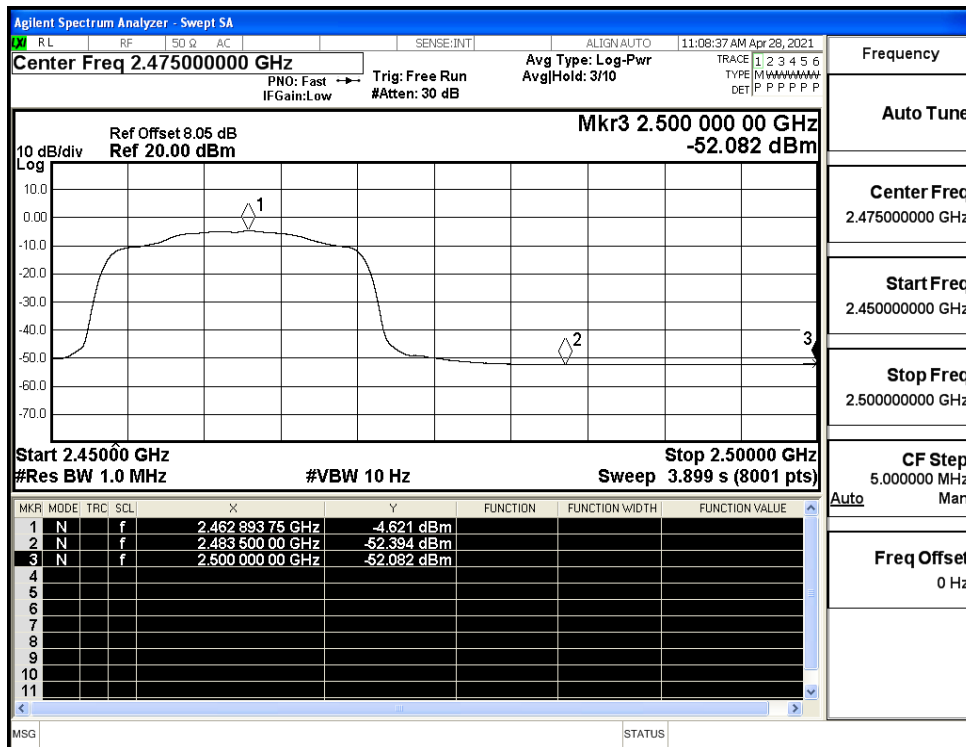
Restrict-band band-edge measurements_11G_2412_Ant1_AV



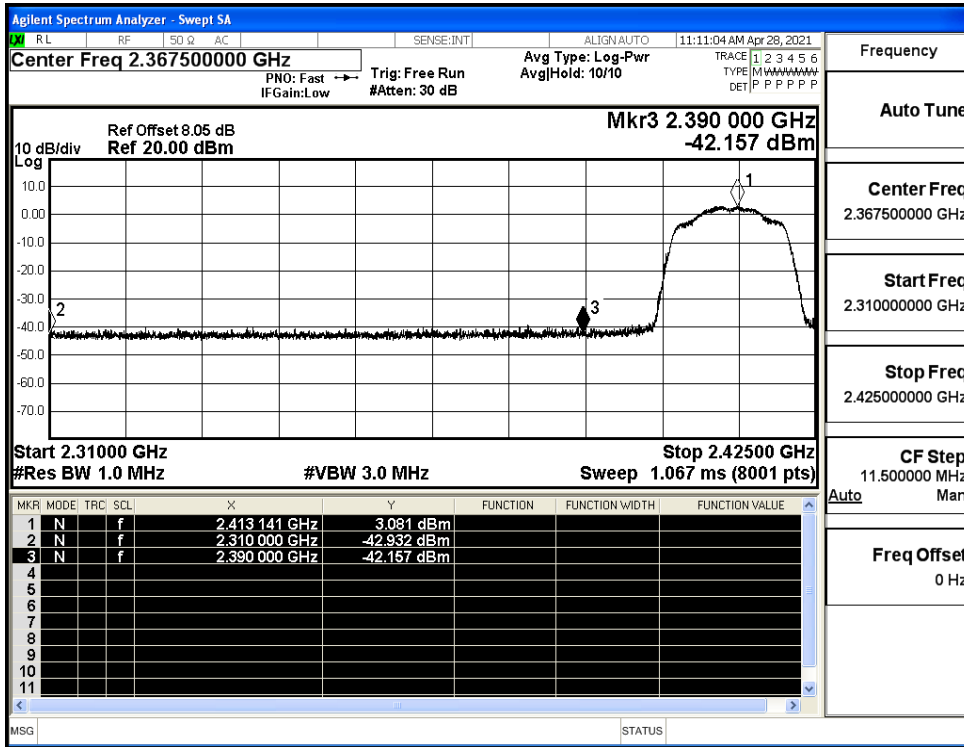
Restrict-band band-edge measurements_11G_2462_Ant1_PEAK



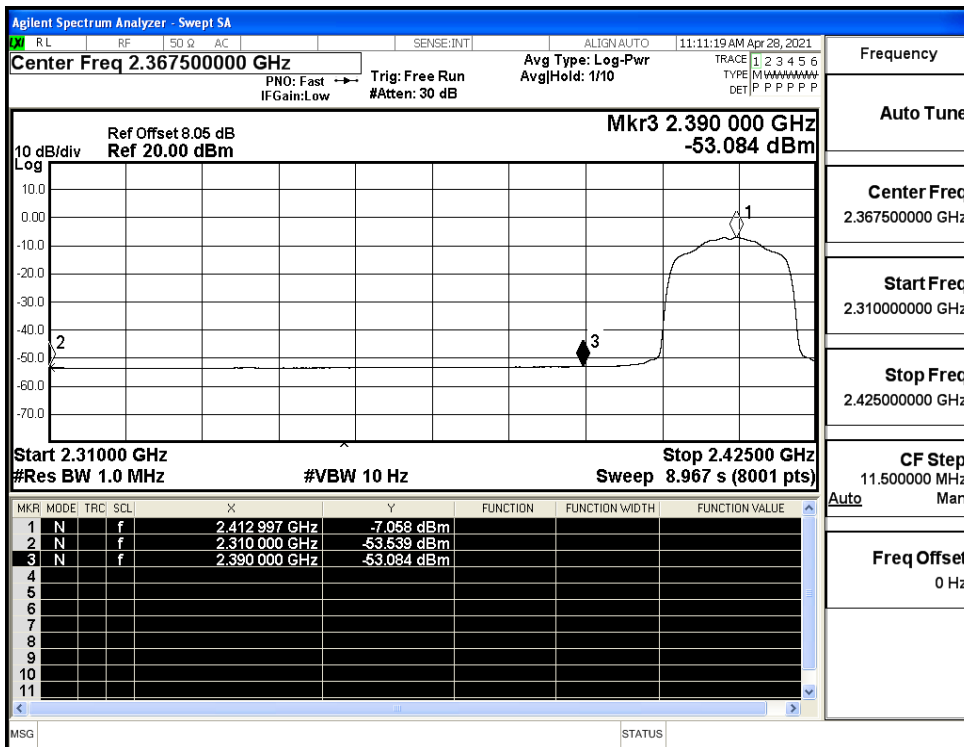
Restrict-band band-edge measurements_11G_2462_Ant1_AV



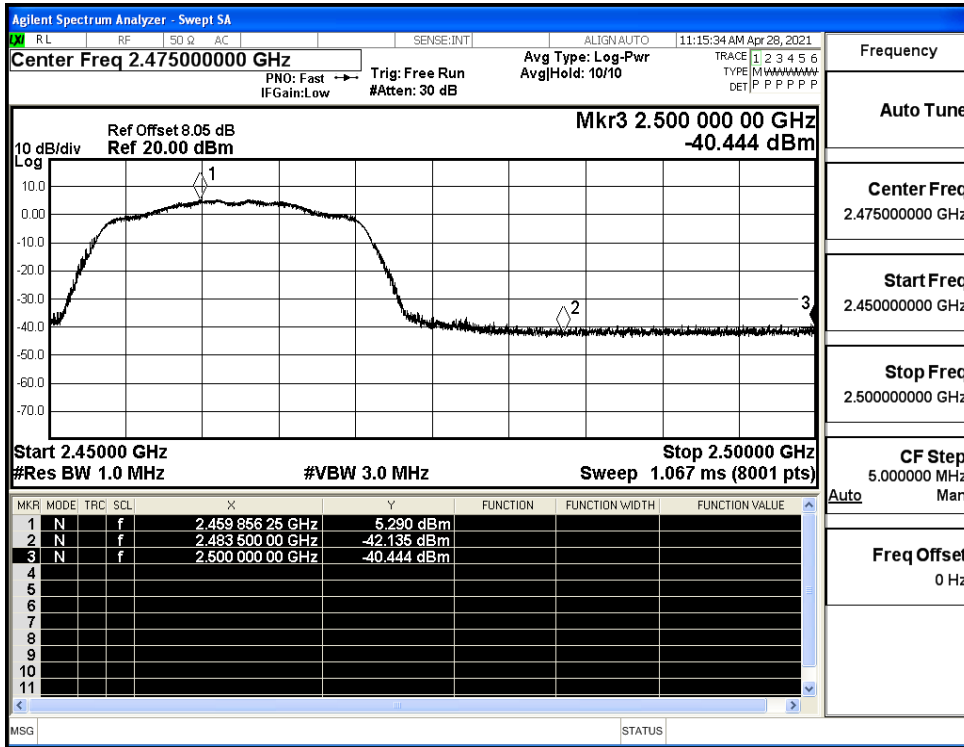
Restrict-band band-edge measurements_11N20SISO_2412_Ant1_PEAK



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

