



# Appendix A

## RF Test Data for 2.4G (Conducted Measurement)

Product Name: TV Wireless Headphones

Trade Mark: NVONS

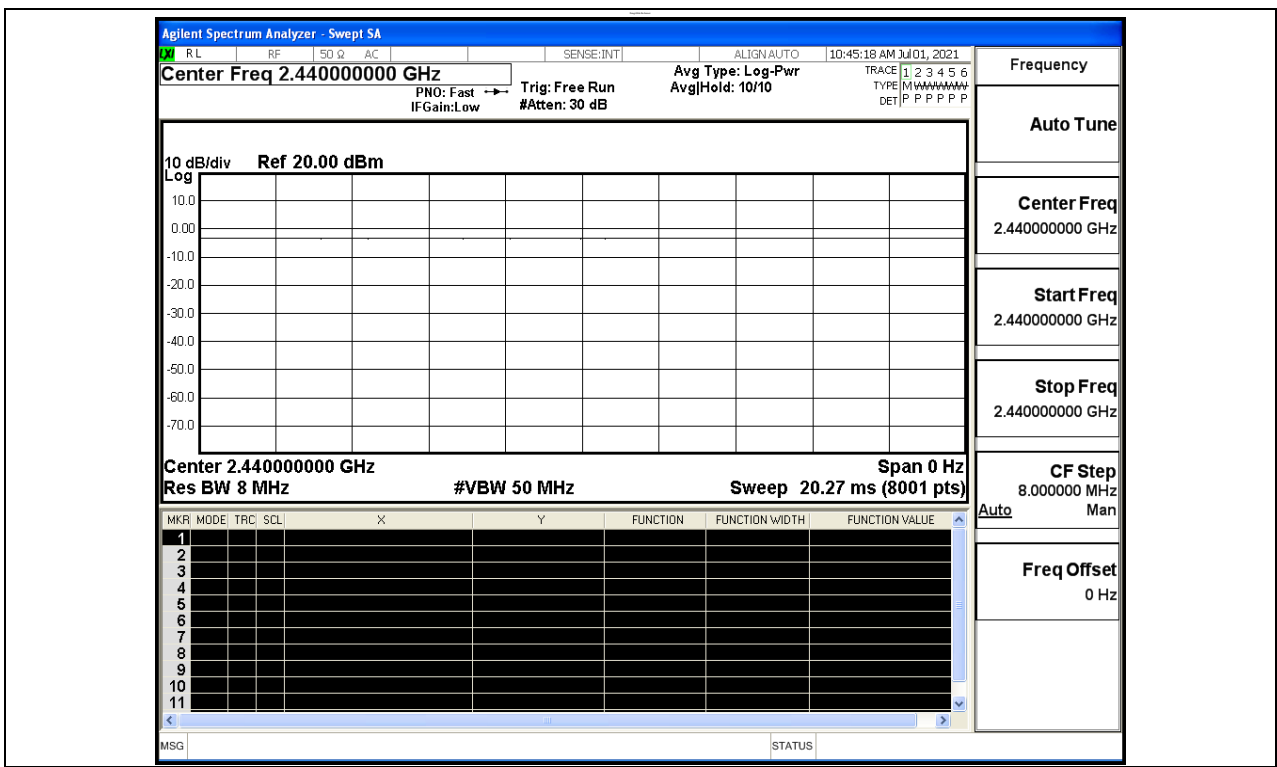
Test Model: h-RF811

### Environmental Conditions

Temperature:	24.2° C
Relative Humidity:	57.7%
ATM Pressure:	100.0 kPa
Test Engineer:	Jay Li
Supervised by:	Li Huan

### A.1 Duty Cycle

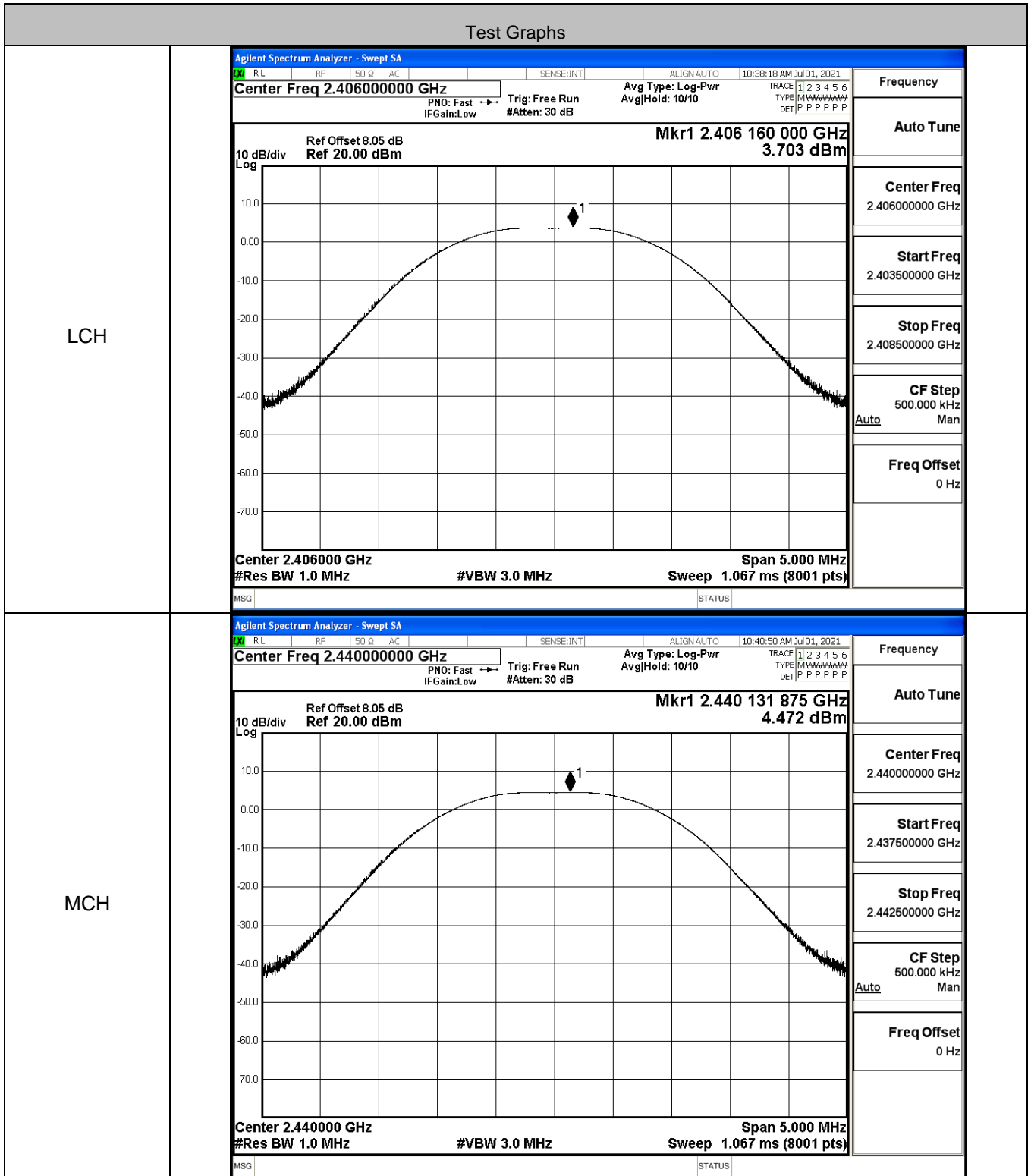
Test Mode	Test Channel	Ant	Duty Cycle[%]	Verdict
2.4G	2440	Ant1	100	PASS

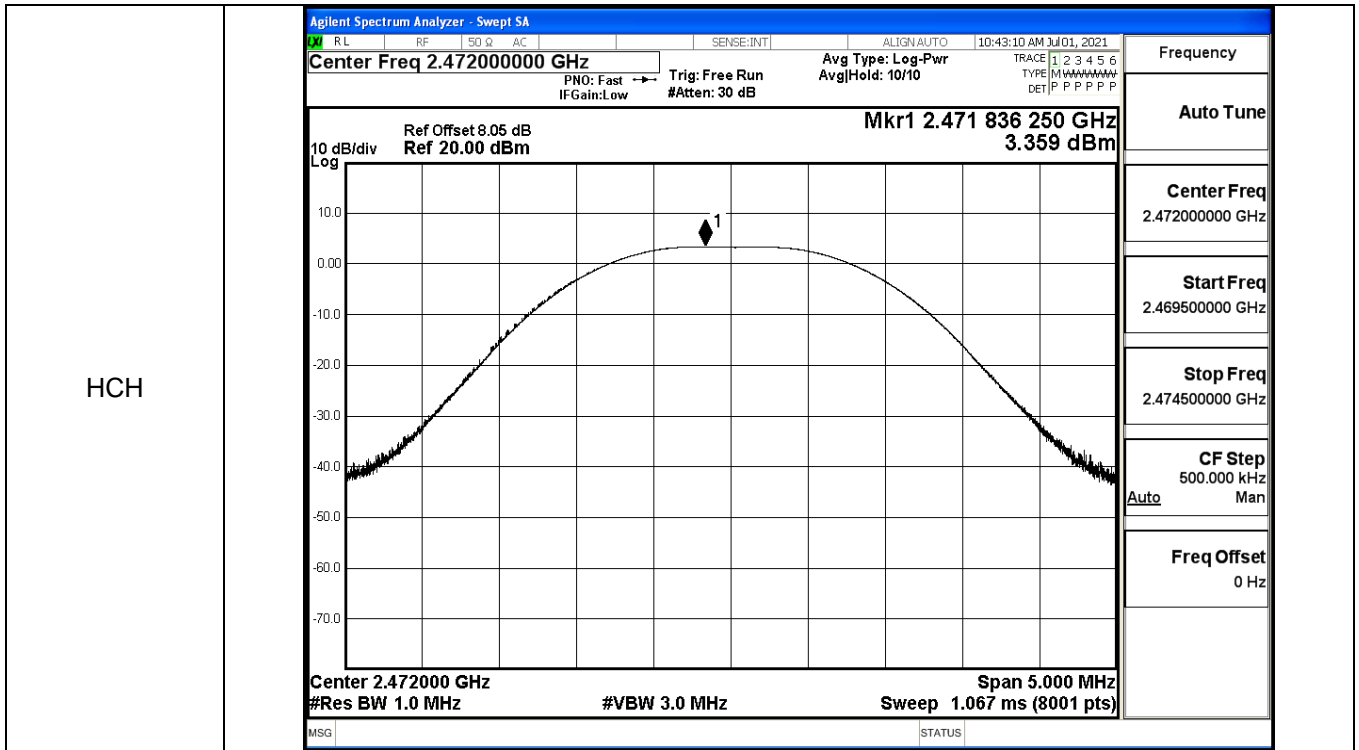




### A.2 Maximum Conducted Peak Output Power

Mode	Channel	Conduct Peak Power[dBm]	Limit [dBm]	Verdict
2.4G	LCH	3.703	30	PASS
2.4G	MCH	4.472	30	PASS
2.4G	HCH	3.359	30	PASS

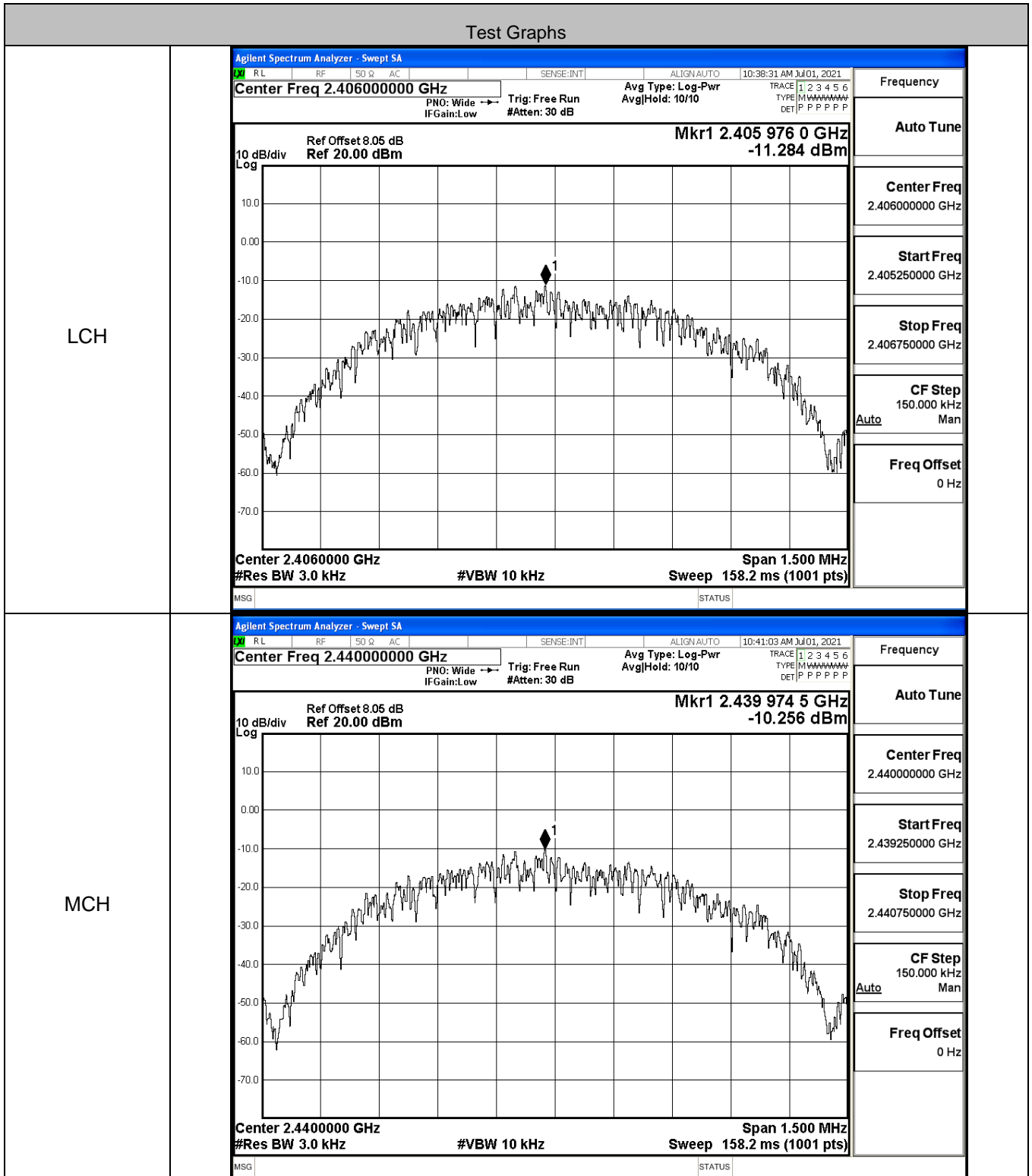


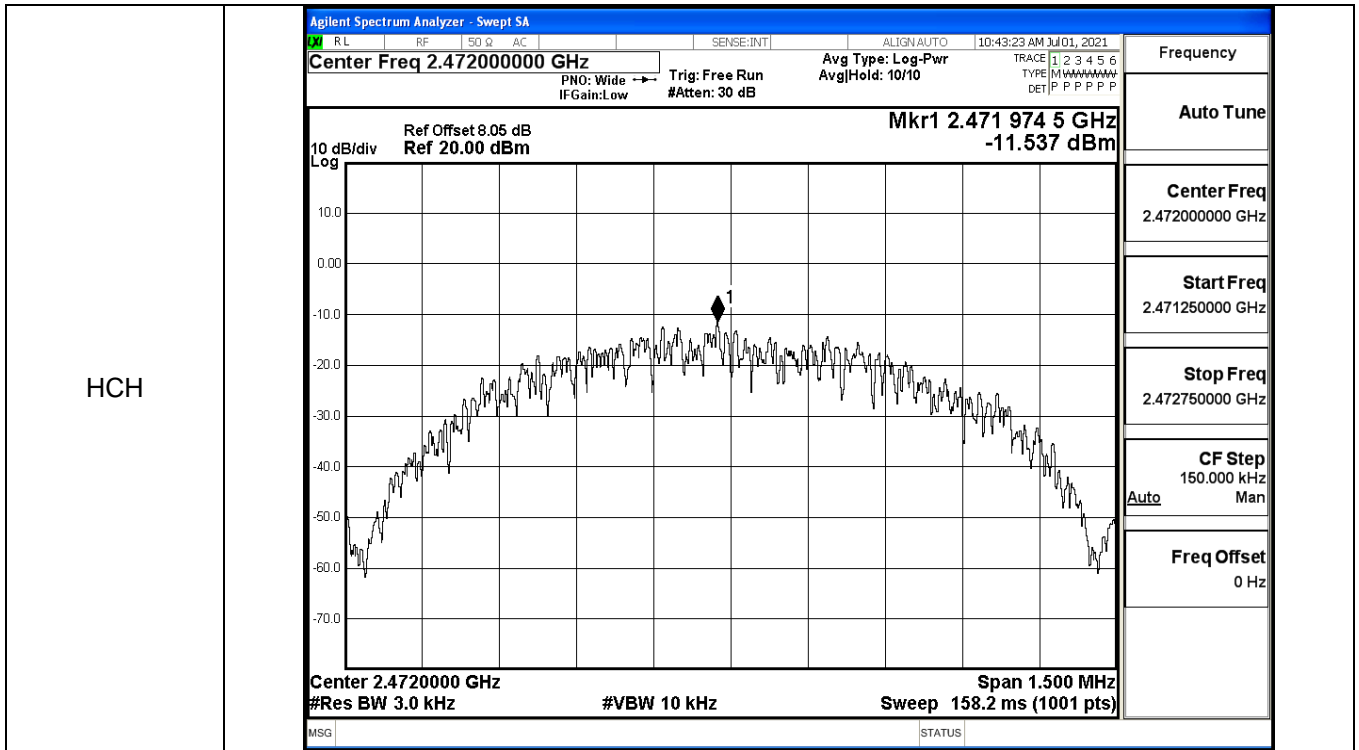




### A.3 Maximum Power Spectral Density

Mode	Channel	PSD [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
2.4G	LCH	-11.284	8	PASS
2.4G	MCH	-10.256	8	PASS
2.4G	HCH	-11.537	8	PASS



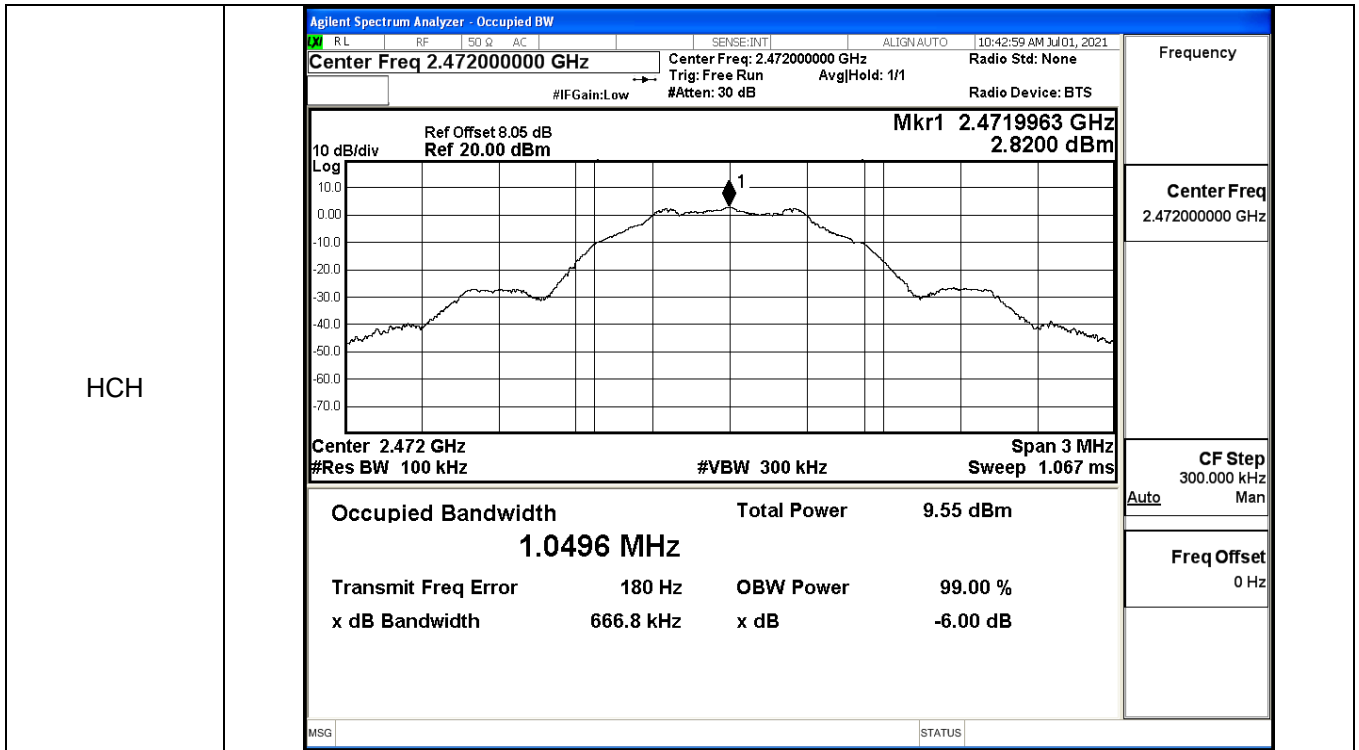




A.4 6dB Bandwidth

Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
2.4G	LCH	0.6669	≥0.5	PASS
2.4G	MCH	0.6662	≥0.5	PASS
2.4G	HCH	0.6668	≥0.5	PASS

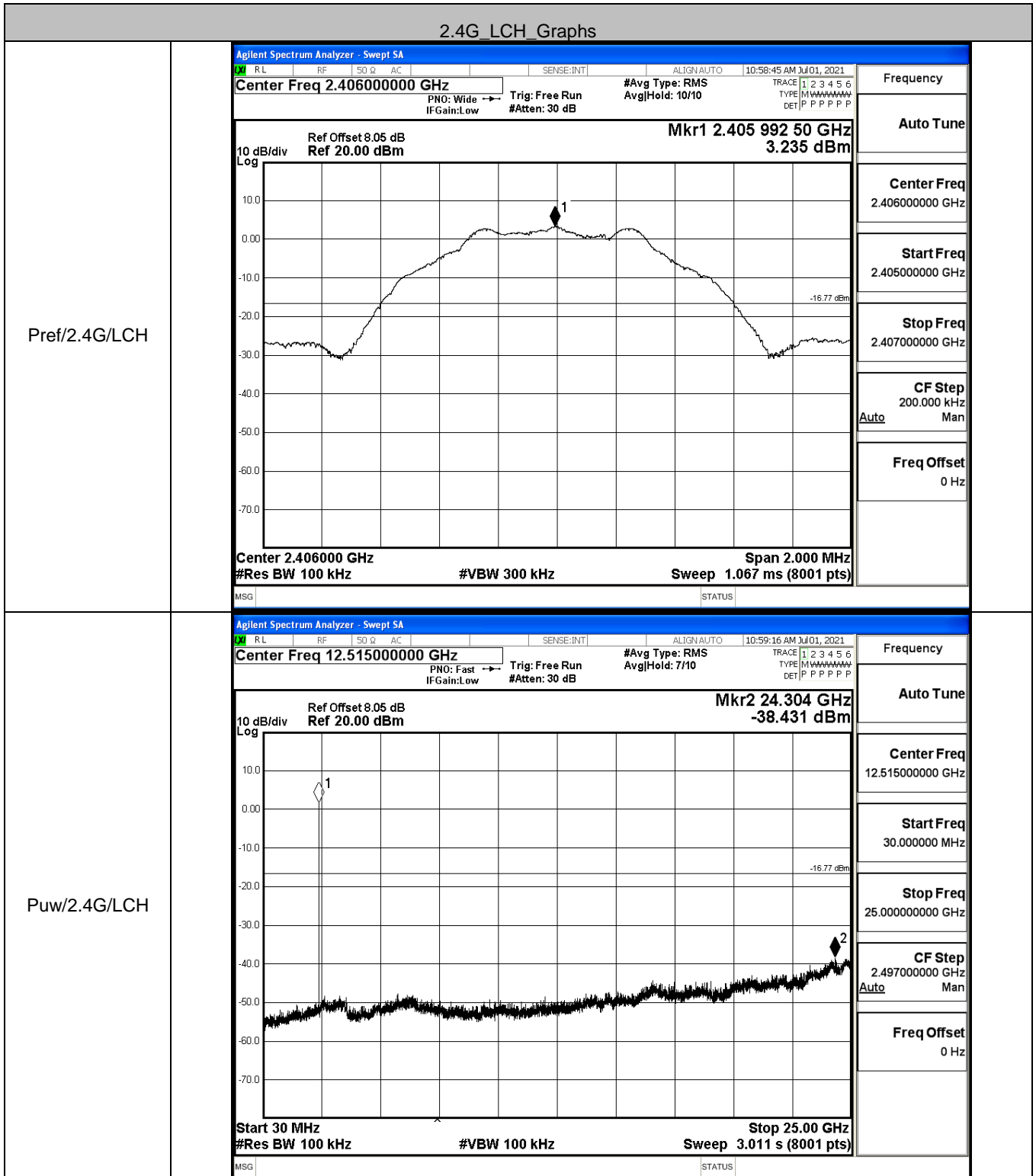
Test Graphs																			
LCH	<div style="border: 1px solid black; padding: 5px;"> <p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.406000000 GHz    Center Freq: 2.406000000 GHz    Radio Std: None</p> <p>Trig: Free Run    AvgHold: &gt;1/1    Radio Device: BTS</p> <p>#IFGain: Low    #Atten: 30 dB</p> <p>Ref Offset 8.05 dB    Mkr1 2.4059966 GHz</p> <p>Ref 20.00 dBm    3.2018 dBm</p> <p>Center 2.406 GHz    Span 3 MHz</p> <p>#Res BW 100 kHz    #VBW 300 kHz    Sweep 1.067 ms</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>Occupied Bandwidth</td> <td>Total Power</td> <td>9.96 dBm</td> </tr> <tr> <td colspan="3" style="text-align: center;"><b>1.0514 MHz</b></td> </tr> <tr> <td>Transmit Freq Error</td> <td>88 Hz</td> <td>OBW Power</td> </tr> <tr> <td>x dB Bandwidth</td> <td>666.9 kHz</td> <td>x dB</td> </tr> <tr> <td></td> <td></td> <td>99.00 %</td> </tr> <tr> <td></td> <td></td> <td>-6.00 dB</td> </tr> </table> <p>MSG    STATUS</p> </div>	Occupied Bandwidth	Total Power	9.96 dBm	<b>1.0514 MHz</b>			Transmit Freq Error	88 Hz	OBW Power	x dB Bandwidth	666.9 kHz	x dB			99.00 %			-6.00 dB
Occupied Bandwidth	Total Power	9.96 dBm																	
<b>1.0514 MHz</b>																			
Transmit Freq Error	88 Hz	OBW Power																	
x dB Bandwidth	666.9 kHz	x dB																	
		99.00 %																	
		-6.00 dB																	
MCH	<div style="border: 1px solid black; padding: 5px;"> <p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.440000000 GHz    Center Freq: 2.440000000 GHz    Radio Std: None</p> <p>Trig: Free Run    AvgHold: 1/1    Radio Device: BTS</p> <p>#IFGain: Low    #Atten: 30 dB</p> <p>Ref Offset 8.05 dB    Mkr1 2.4400026 GHz</p> <p>Ref 20.00 dBm    3.9082 dBm</p> <p>Center 2.44 GHz    Span 3 MHz</p> <p>#Res BW 100 kHz    #VBW 300 kHz    Sweep 1.067 ms</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>Occupied Bandwidth</td> <td>Total Power</td> <td>10.7 dBm</td> </tr> <tr> <td colspan="3" style="text-align: center;"><b>1.0483 MHz</b></td> </tr> <tr> <td>Transmit Freq Error</td> <td>607 Hz</td> <td>OBW Power</td> </tr> <tr> <td>x dB Bandwidth</td> <td>666.2 kHz</td> <td>x dB</td> </tr> <tr> <td></td> <td></td> <td>99.00 %</td> </tr> <tr> <td></td> <td></td> <td>-6.00 dB</td> </tr> </table> <p>MSG    STATUS</p> </div>	Occupied Bandwidth	Total Power	10.7 dBm	<b>1.0483 MHz</b>			Transmit Freq Error	607 Hz	OBW Power	x dB Bandwidth	666.2 kHz	x dB			99.00 %			-6.00 dB
Occupied Bandwidth	Total Power	10.7 dBm																	
<b>1.0483 MHz</b>																			
Transmit Freq Error	607 Hz	OBW Power																	
x dB Bandwidth	666.2 kHz	x dB																	
		99.00 %																	
		-6.00 dB																	





### A.5 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
2.4G	LCH	3.235	-38.431	-16.765	PASS
2.4G	MCH	3.959	-37.077	-16.041	PASS
2.4G	HCH	2.87	-38.042	-17.130	PASS

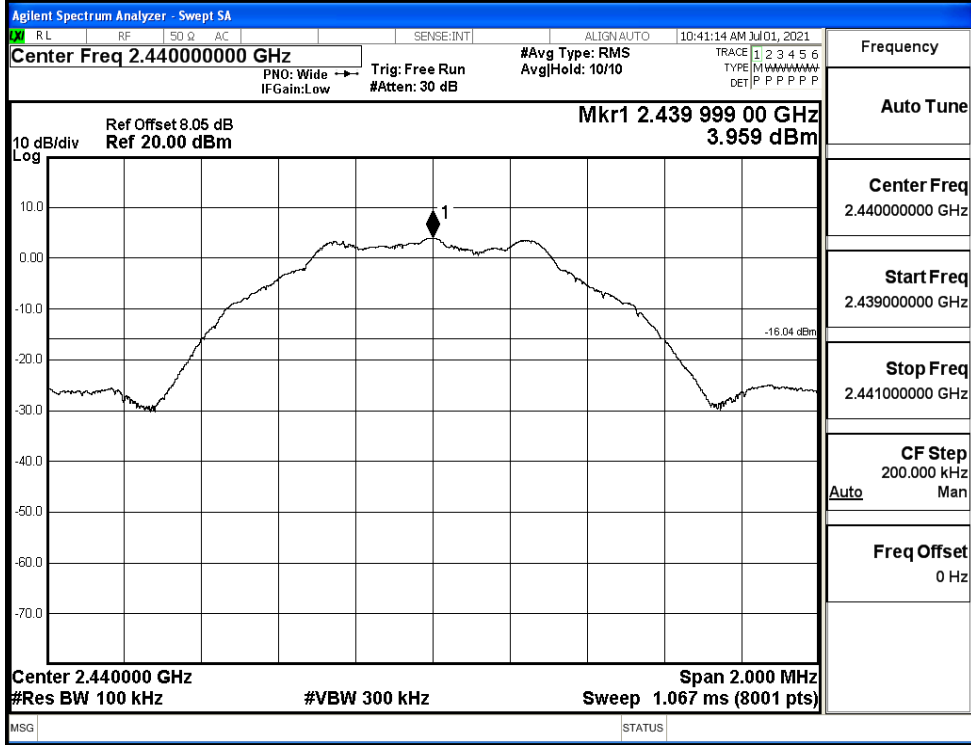




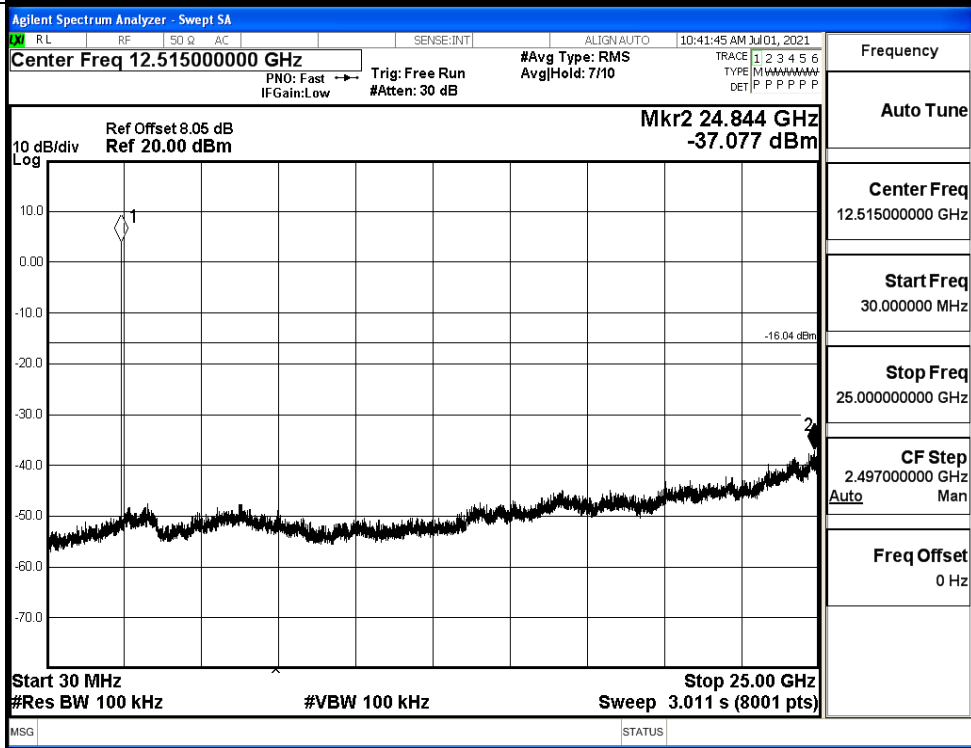


2.4G\_MCH\_Graphs

Pref/2.4G/MCH

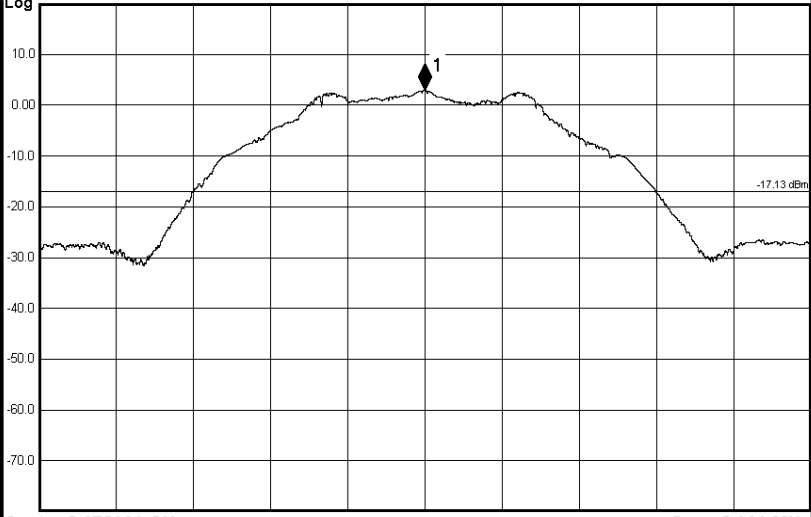
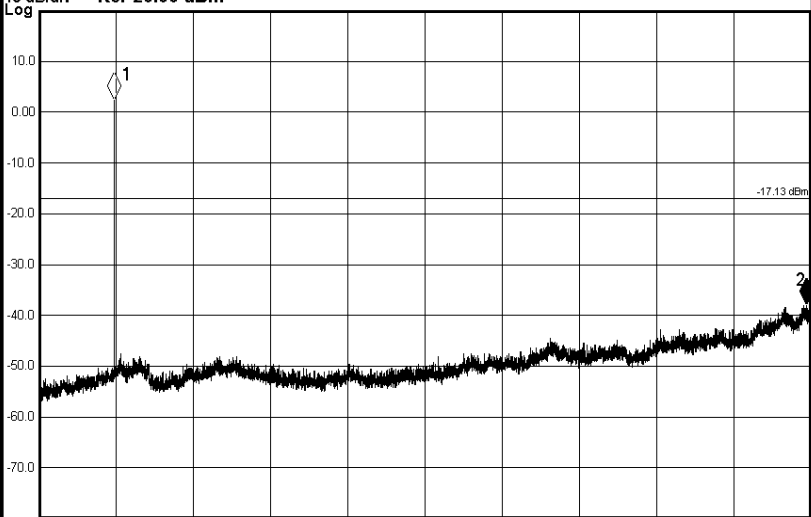


Puw/2.4G/MCH





2.4G\_HCH\_Graphs

Pref/2.4G/HCH	<p>Agilent Spectrum Analyzer - Swept SA</p> <p>RL RF 50 Ω AC SENSE:INT ALIGN:AUTO 11:00:40 AM Jul 01, 2021</p> <p>Center Freq 2.47200000 GHz PNO: Wide Trig: Free Run #Avg Type: RMS AvgHold: 10/10</p> <p>IFGain:Low #Atten: 30 dB</p> <p>10 dB/div Ref Offset 8.05 dB Mkr1 2.472 000 00 GHz</p> <p>Log Ref 20.00 dBm 2.870 dBm</p>  <p>Center 2.472000 GHz Span 2.000 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 1.067 ms (8001 pts)</p> <p>MSG STATUS</p>	<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 2.472000000 GHz</p> <p>Start Freq 2.471000000 GHz</p> <p>Stop Freq 2.473000000 GHz</p> <p>CF Step 200.000 kHz</p> <p>Auto Man</p> <p>Freq Offset 0 Hz</p>
Puw/2.4G/HCH	<p>Agilent Spectrum Analyzer - Swept SA</p> <p>RL RF 50 Ω AC SENSE:INT ALIGN:AUTO 11:01:11 AM Jul 01, 2021</p> <p>Center Freq 12.51500000 GHz PNO: Fast Trig: Free Run #Avg Type: RMS AvgHold: 7/10</p> <p>IFGain:Low #Atten: 30 dB</p> <p>10 dB/div Ref Offset 8.05 dB Mkr2 24.860 GHz</p> <p>Log Ref 20.00 dBm -38.042 dBm</p>  <p>Start 30 MHz Stop 25.00 GHz</p> <p>#Res BW 100 kHz #VBW 100 kHz Sweep 3.011 s (8001 pts)</p> <p>MSG STATUS</p>	<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 12.515000000 GHz</p> <p>Start Freq 30.000000 MHz</p> <p>Stop Freq 25.000000000 GHz</p> <p>CF Step 2.497000000 GHz</p> <p>Auto Man</p> <p>Freq Offset 0 Hz</p>



A.6 Band-edge for RF Conducted Emissions

Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
2.4G	LCH	3.427	-49.740	-16.57	PASS
2.4G	HCH	2.893	-49.628	-17.11	PASS

**Test Graphs**

LCH

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	f		2.406 000 0 GHz	3.427 dBm			
2	N	f		2.400 000 0 GHz	-53.315 dBm			
3	N	f		2.390 000 0 GHz	-53.942 dBm			
4	N	f		2.357 562 5 GHz	-49.740 dBm			

Frequency

Auto Tune

Center Freq  
2.36000000 GHz

Start Freq  
2.31000000 GHz

Stop Freq  
2.41000000 GHz

CF Step  
10.000000 MHz

Freq Offset  
0 Hz

---

HCH

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	f		2.472 000 GHz	2.893 dBm			
2	N	f		2.483 500 GHz	-52.031 dBm			
3	N	f		2.500 000 GHz	-53.928 dBm			
4	N	f		2.489 012 GHz	-49.628 dBm			

Frequency

Auto Tune

Center Freq  
2.48400000 GHz

Start Freq  
2.46800000 GHz

Stop Freq  
2.50000000 GHz

CF Step  
3.200000 MHz

Freq Offset  
0 Hz

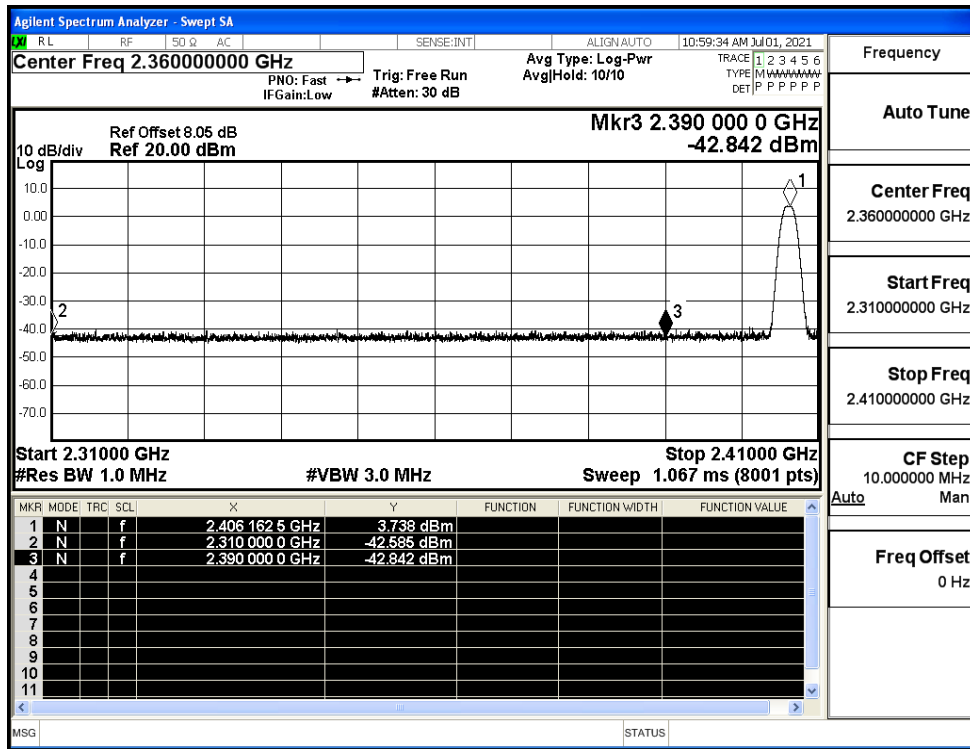


### A.7 Restrict-band band-edge measurements

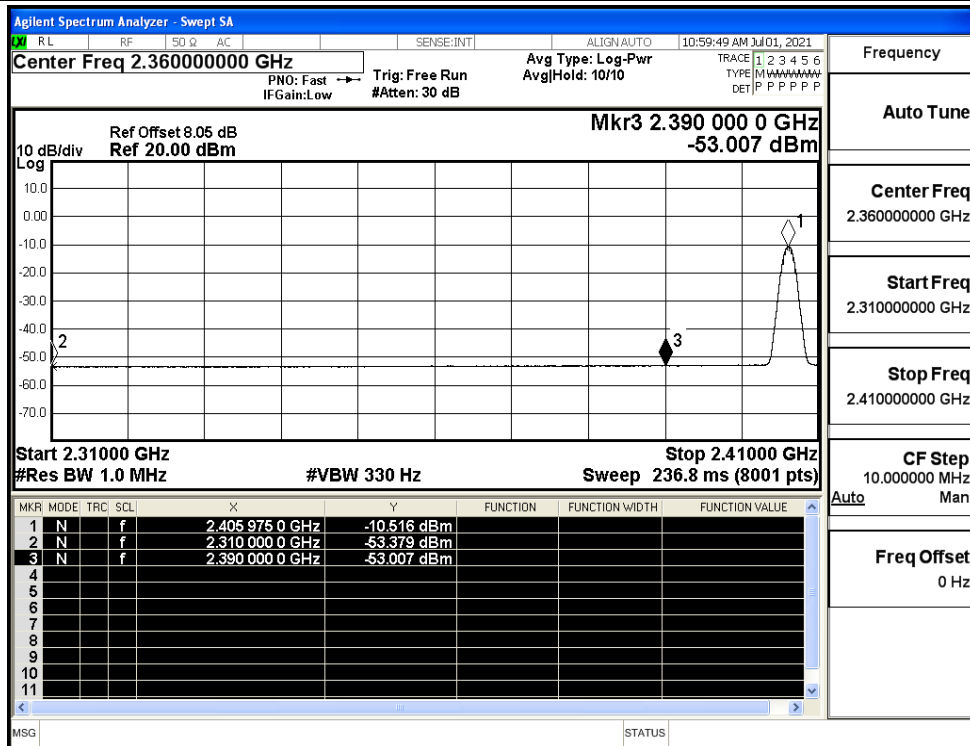
Test Mode	Test Channel	Ant	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdi
2.4G	2402	Ant1	2310.0	-42.59	2.0	0	54.67	PEAK	74	PASS
		Ant1	2310.0	-53.38	2.0	0	43.88	AV	54	PASS
		Ant1	2390.0	-42.84	2.0	0	54.42	PEAK	74	PASS
		Ant1	2390.0	-53.01	2.0	0	44.25	AV	54	PASS
	2480	Ant1	2483.5	-43.61	2.0	0	53.65	PEAK	74	PASS
		Ant1	2483.5	-52.67	2.0	0	44.59	AV	54	PASS
		Ant1	2500.0	-41.01	2.0	0	56.25	PEAK	74	PASS
		Ant1	2500.0	-52.37	2.0	0	44.89	AV	54	PASS



Restrict-band band-edge measurements\_2.4G\_2402\_Ant1\_PEAK

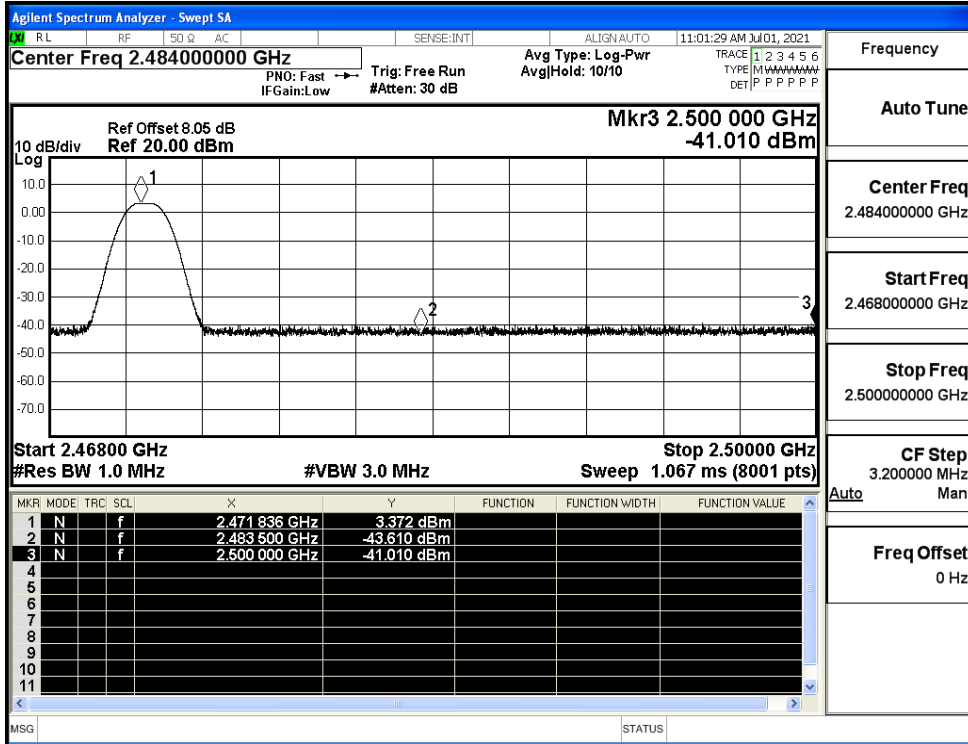


Restrict-band band-edge measurements\_2.4G\_2402\_Ant1\_AV





Restrict-band band-edge measurements\_2.4G\_2480\_Ant1\_PEAK



Restrict-band band-edge measurements\_2.4G\_2480\_Ant1\_AV

