

Appendix A

RF Test Data for BT LE V5.0 (Conducted Measurement)

Product Name: Watch

Trade Mark: DOOGEE

Test Model: CS2

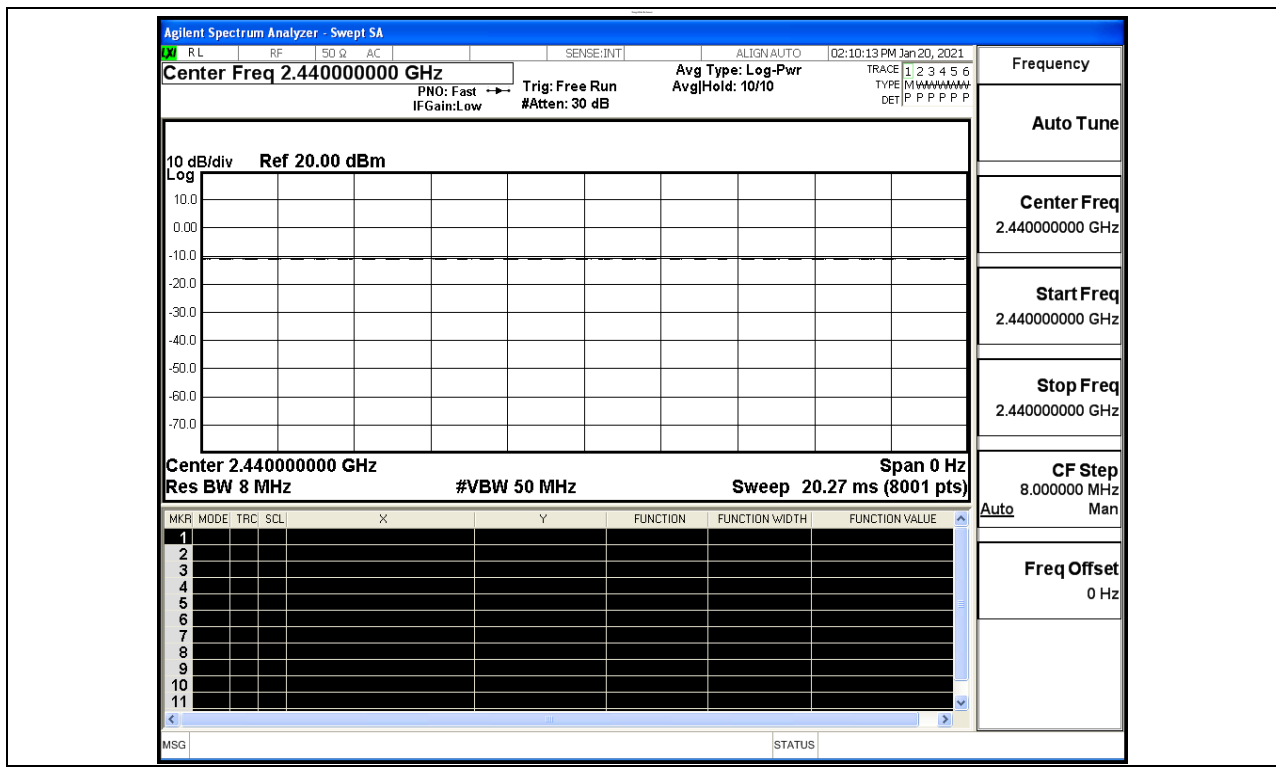
Environmental Conditions

Temperature:	23.2° C
Relative Humidity:	54.6%
ATM Pressure:	100.0 kPa
Test Engineer:	Carl Fu
Supervised by:	Li Huan

A.1 Duty Cycle

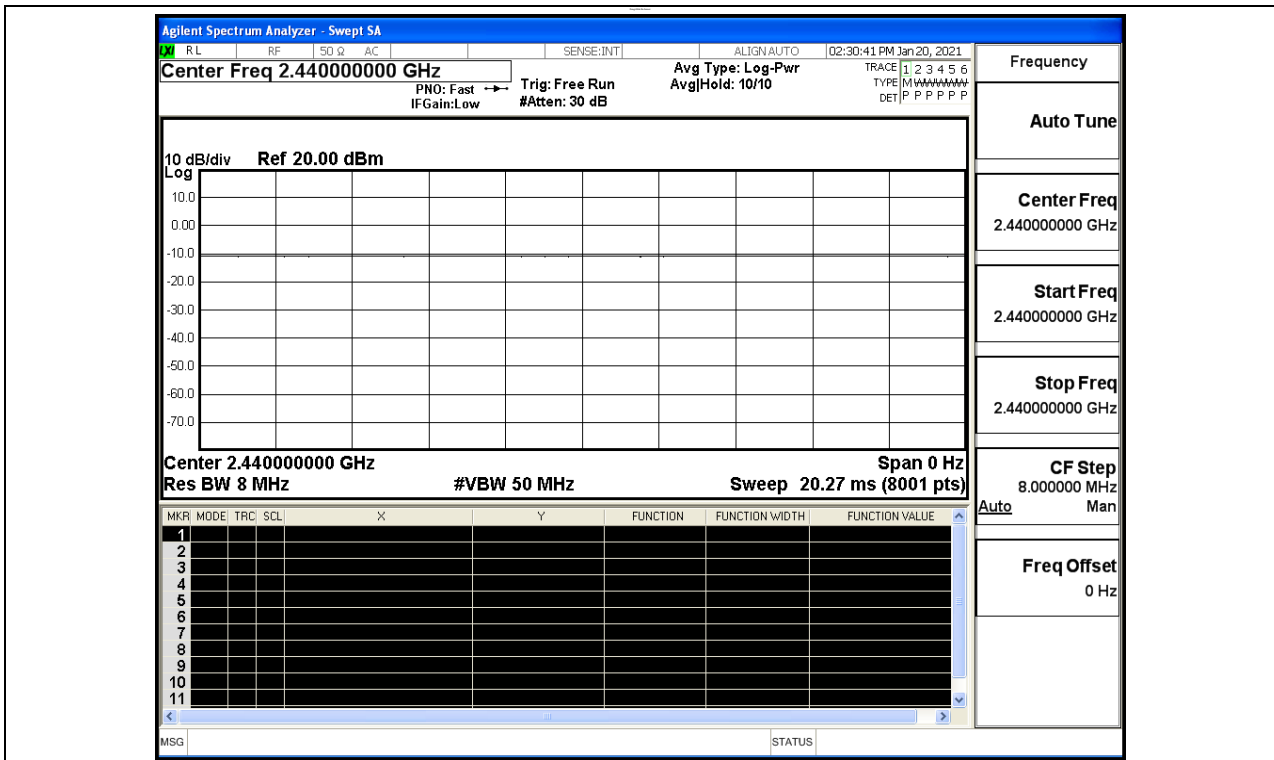
BT LE

Test Mode	Test Channel	Ant	Duty Cycle[%]	Verdict
BT LE	2440	Ant1	100	PASS



BT 2LE

Test Mode	Test Channel	Ant	Duty Cycle[%]	Verdict
BT 2LE	2440	Ant1	100	PASS

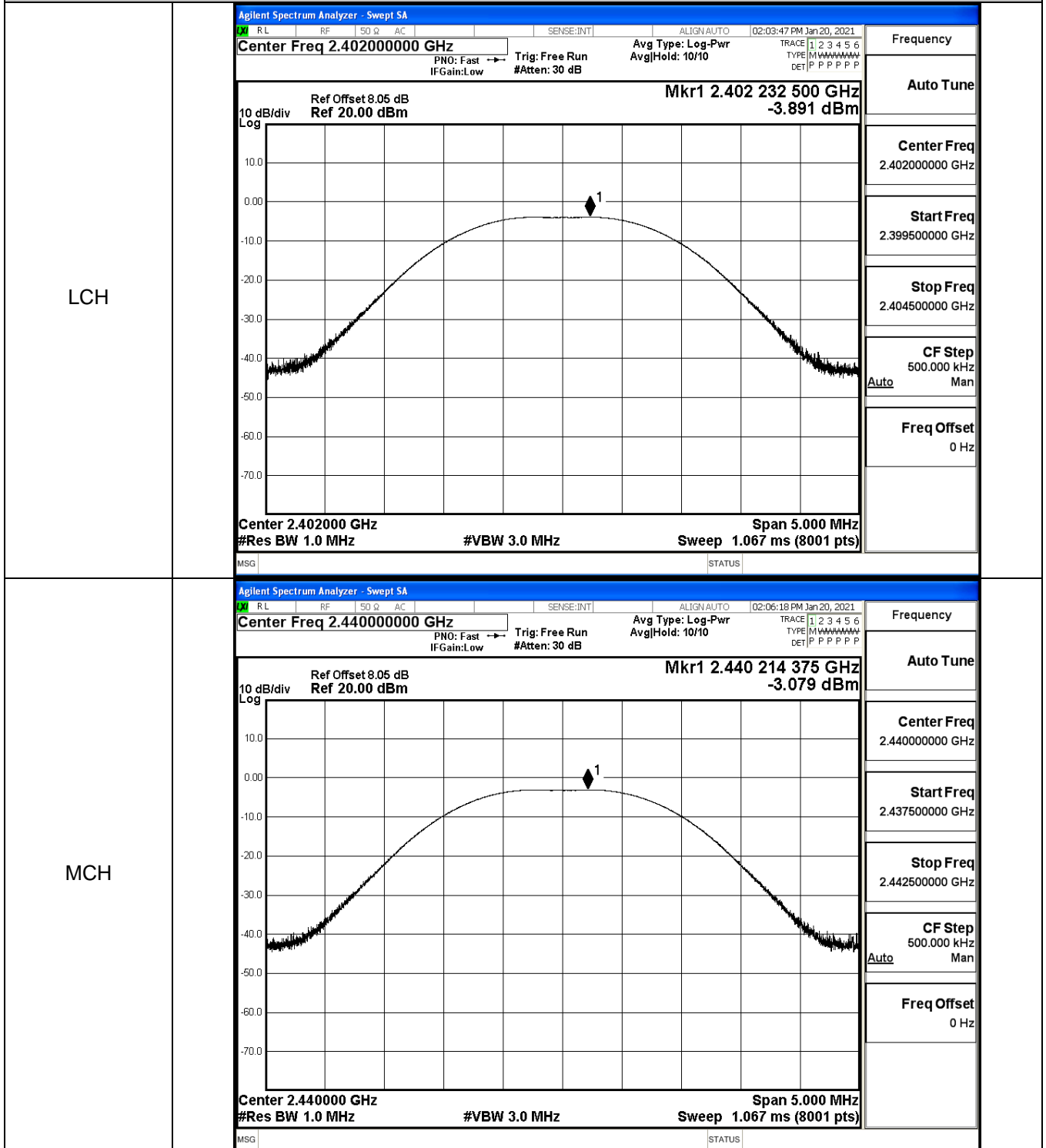


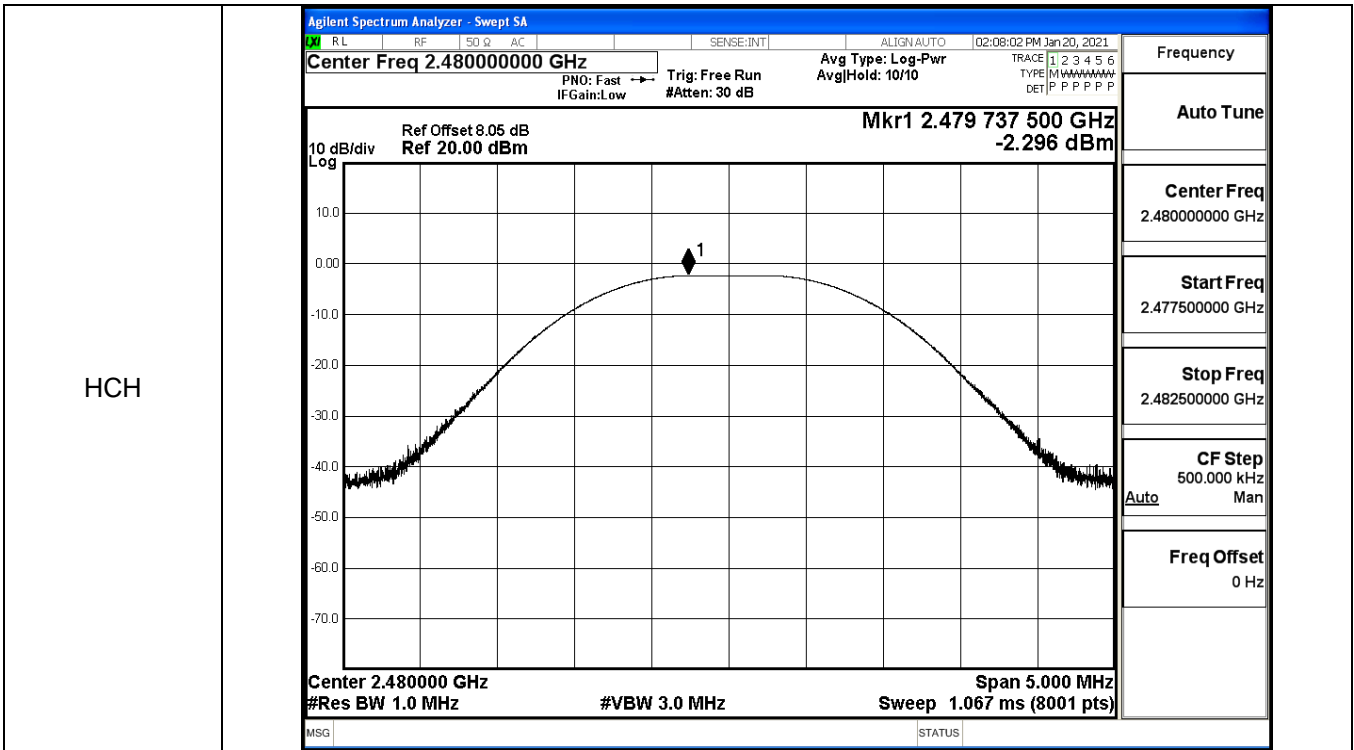
A.2 Maximum Conducted Peak Output Power

BT LE

Mode	Channel	Conduct Peak Power[dBm]	Limit [dBm]	Verdict
BT LE	LCH	-3.891	30	PASS
BT LE	MCH	-3.079	30	PASS
BT LE	HCH	-2.296	30	PASS

Test Graphs

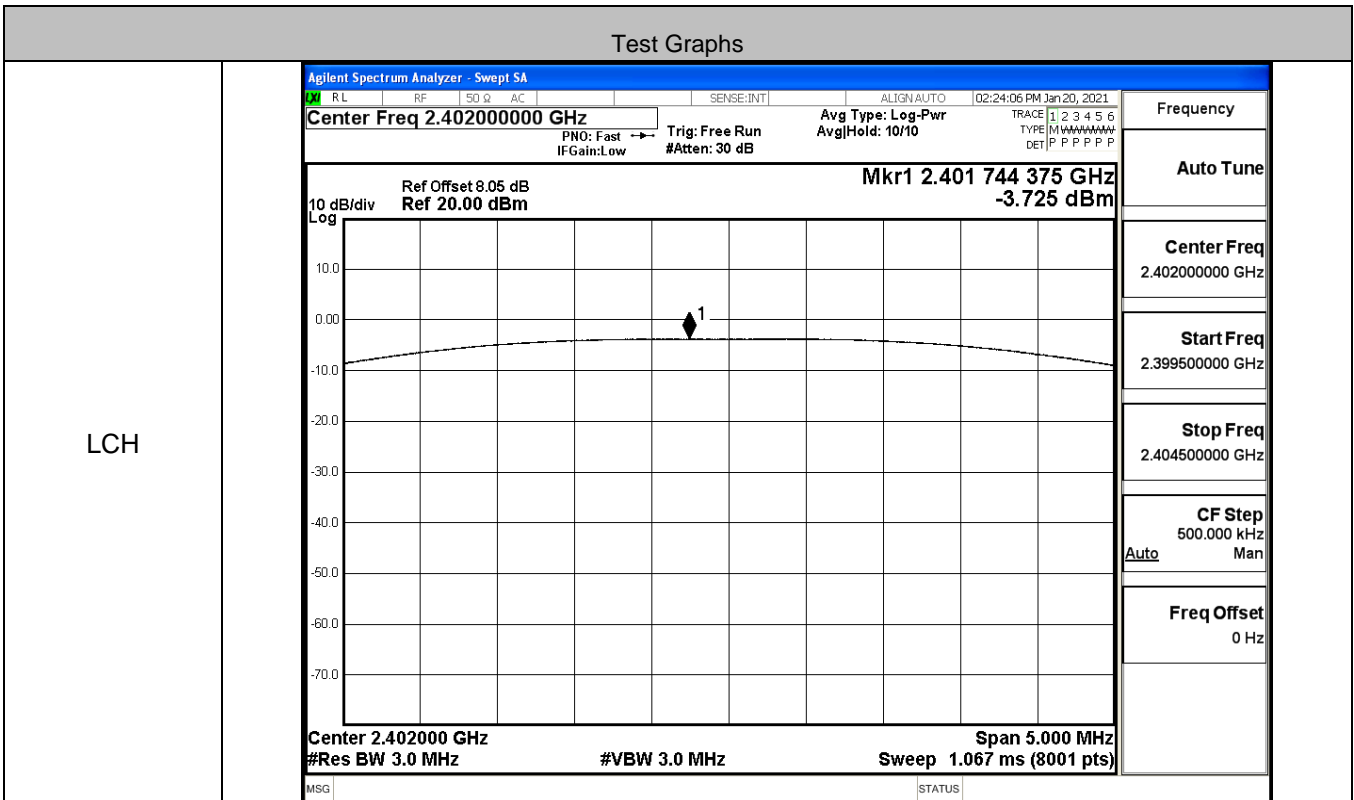




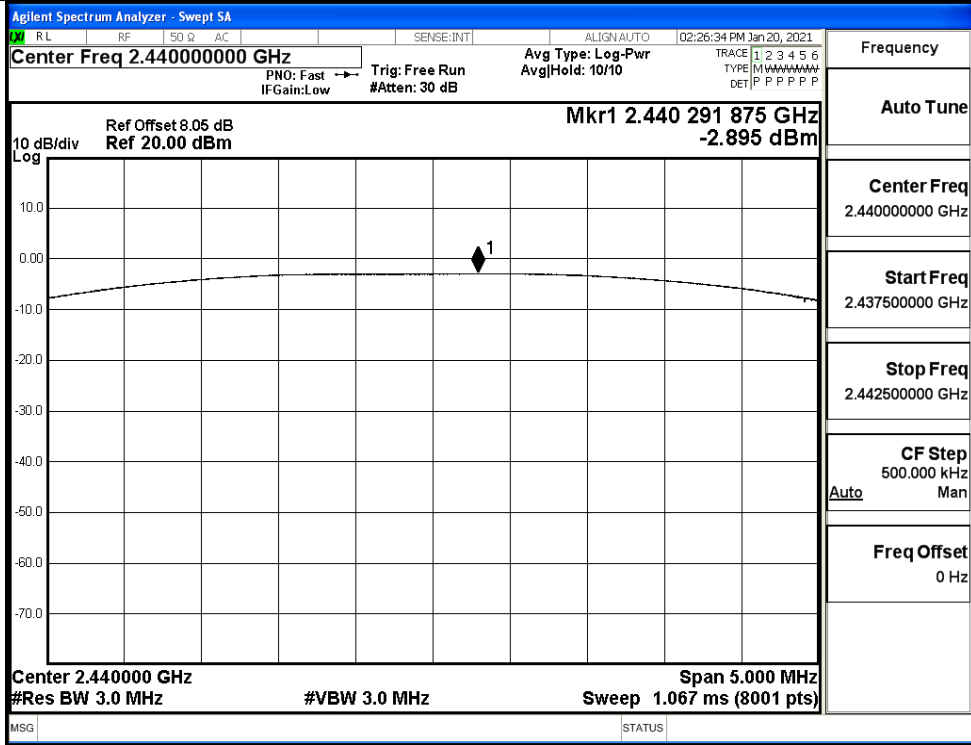
BT 2LE

Mode	Channel	Conduct Peak Power[dBm]	Limit [dBm]	Verdict
BT 2LE	LCH	-3.725	30	PASS
BT 2LE	MCH	-2.895	30	PASS
BT 2LE	HCH	-2.124	30	PASS

Test Graphs

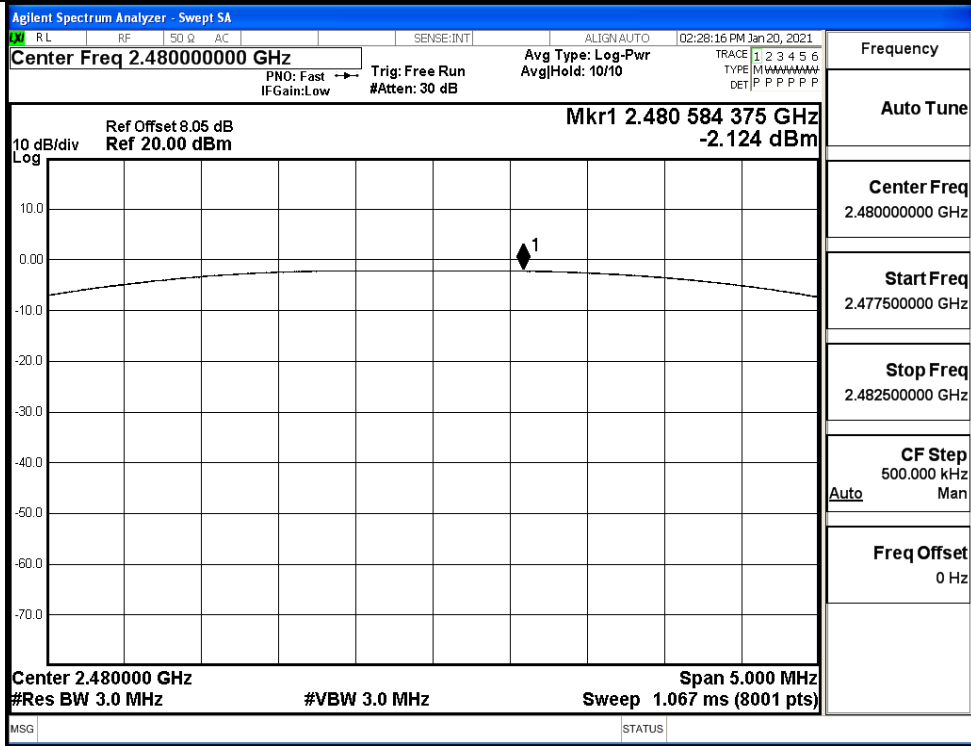


MCH



Frequency	
Auto Tune	
Center Freq	2.440000000 GHz
Start Freq	2.437500000 GHz
Stop Freq	2.442500000 GHz
CF Step	500.000 kHz
Auto	Man
Freq Offset	0 Hz

HCH



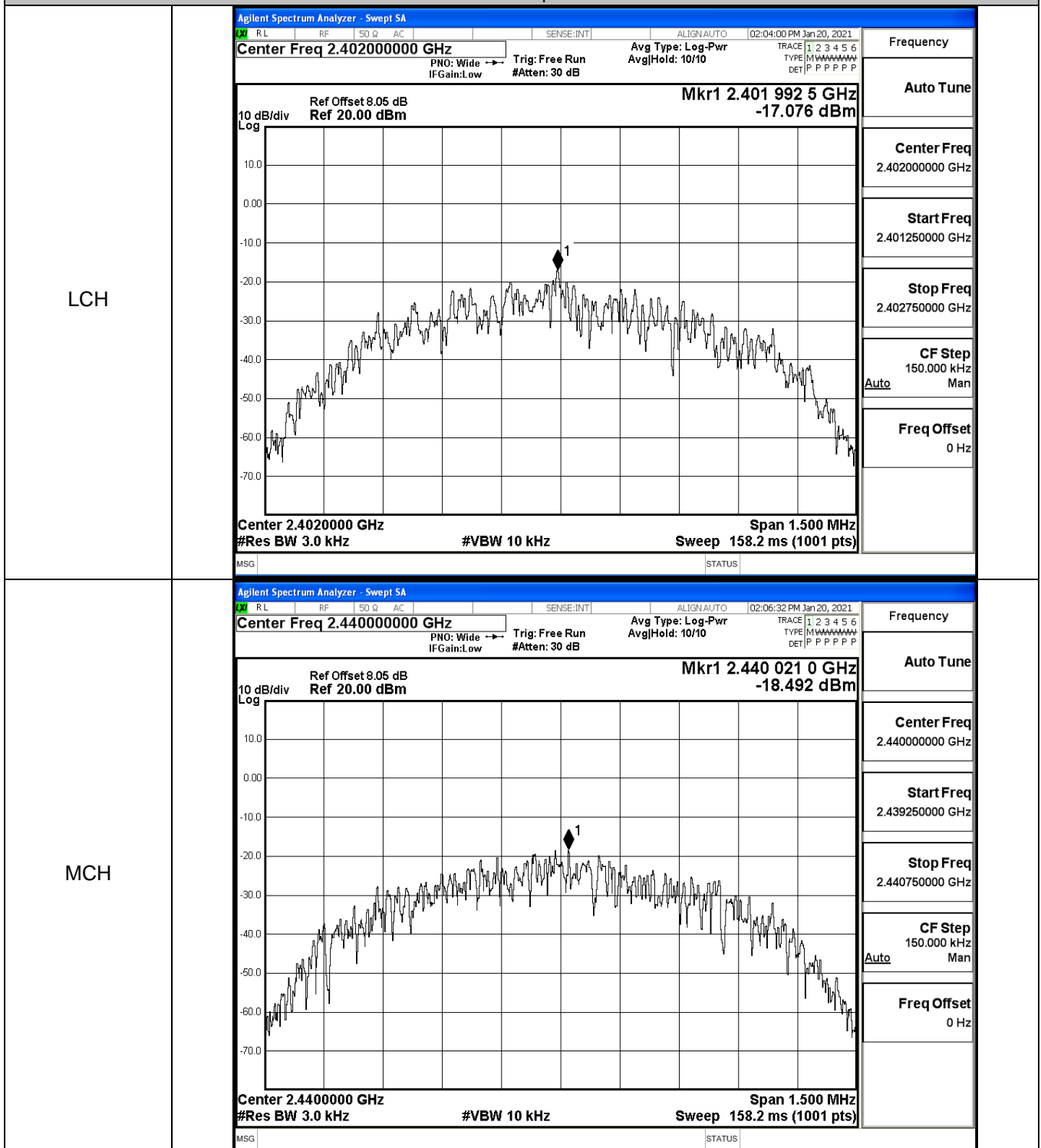
Frequency	
Auto Tune	
Center Freq	2.480000000 GHz
Start Freq	2.477500000 GHz
Stop Freq	2.482500000 GHz
CF Step	500.000 kHz
Auto	Man
Freq Offset	0 Hz

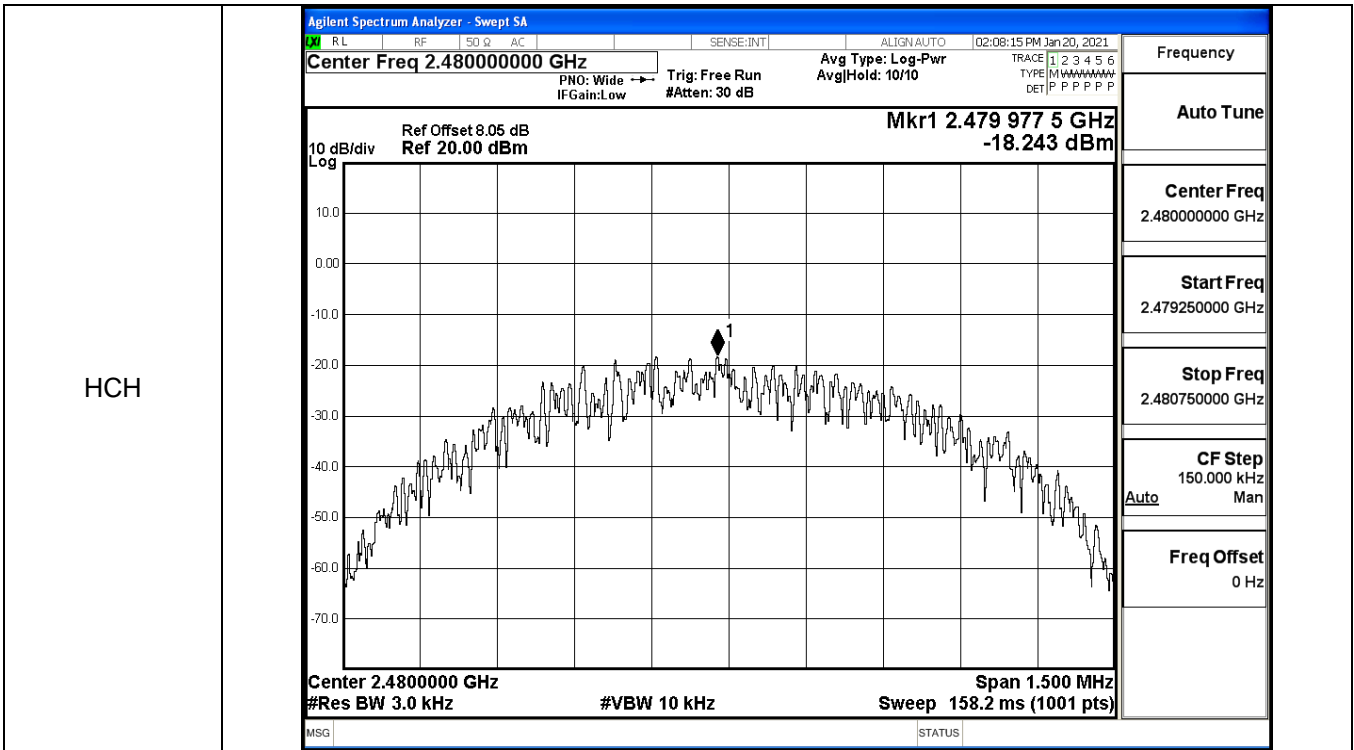
A.3 Maximum Power Spectral Density

BT LE

Mode	Channel	PSD [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
BT LE	LCH	-17.076	8	PASS
BT LE	MCH	-18.492	8	PASS
BT LE	HCH	-18.243	8	PASS

Test Graphs

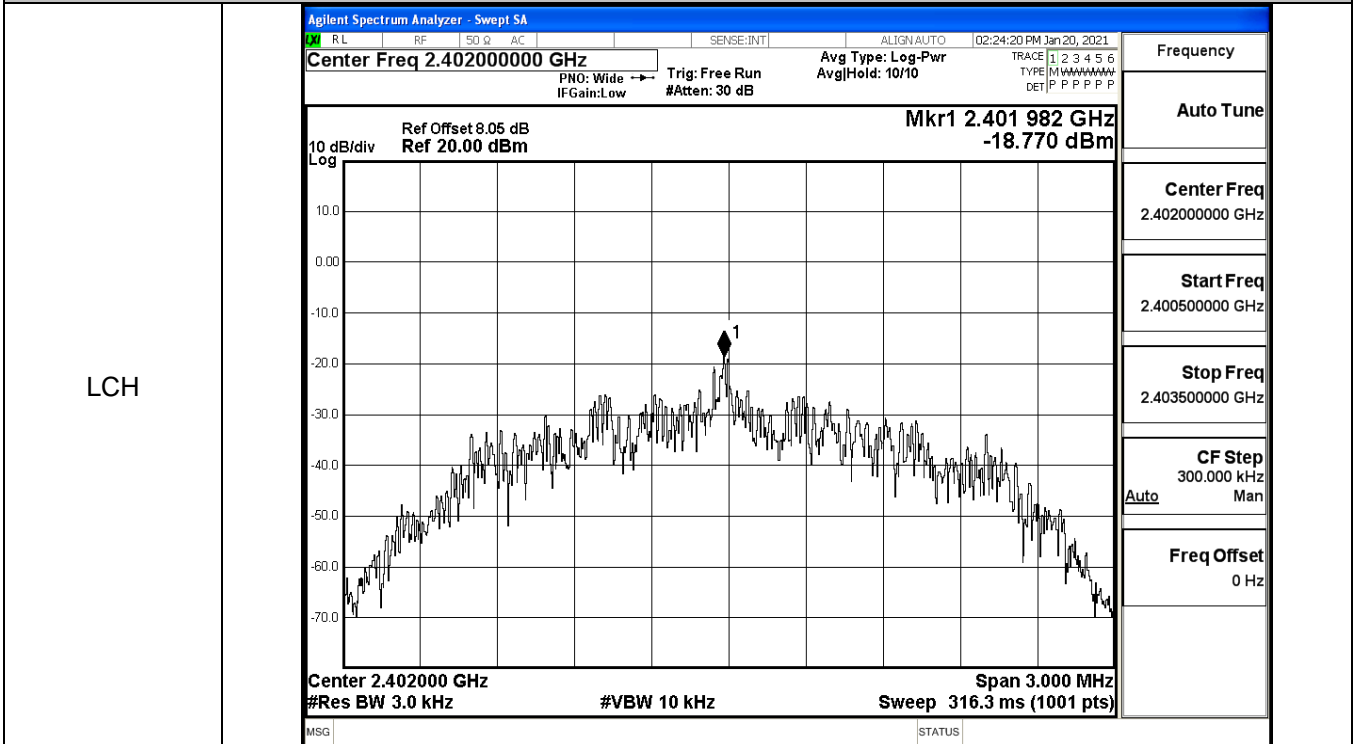




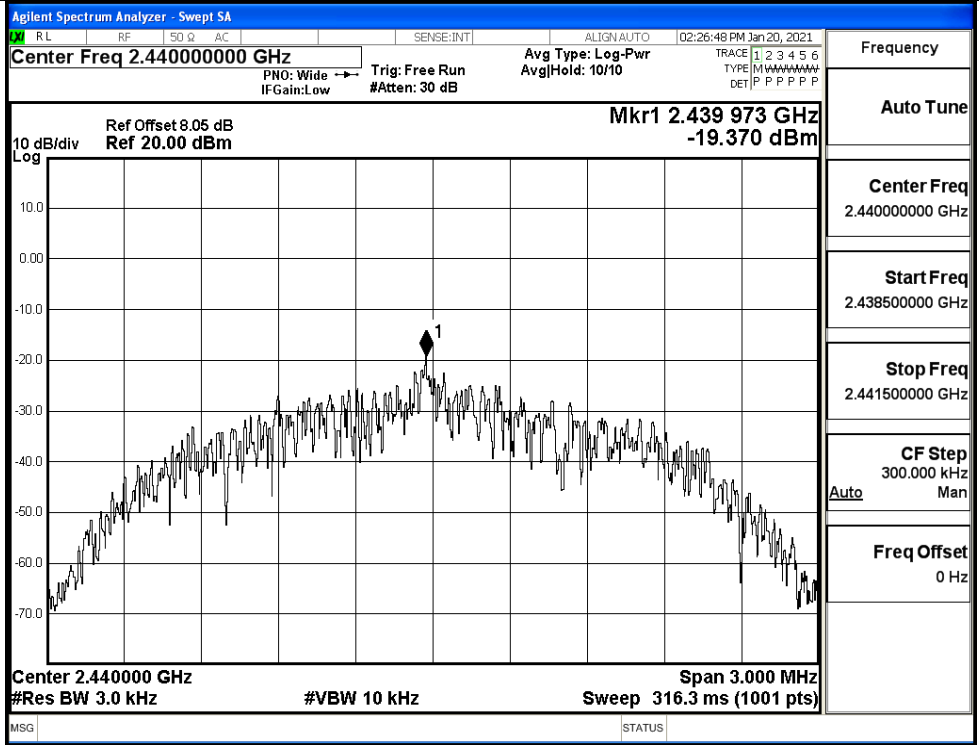
BT 2LE

Mode	Channel	PSD [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
BT 2LE	LCH	-18.770	8	PASS
BT 2LE	MCH	-19.370	8	PASS
BT 2LE	HCH	-19.408	8	PASS

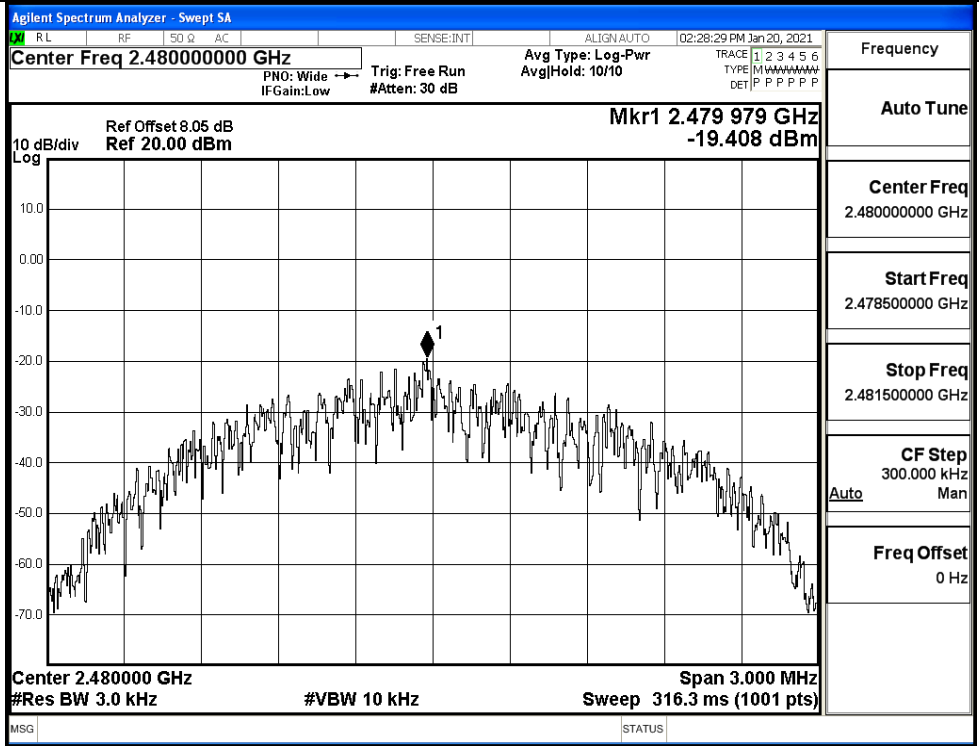
Test Graphs



MCH



HCH



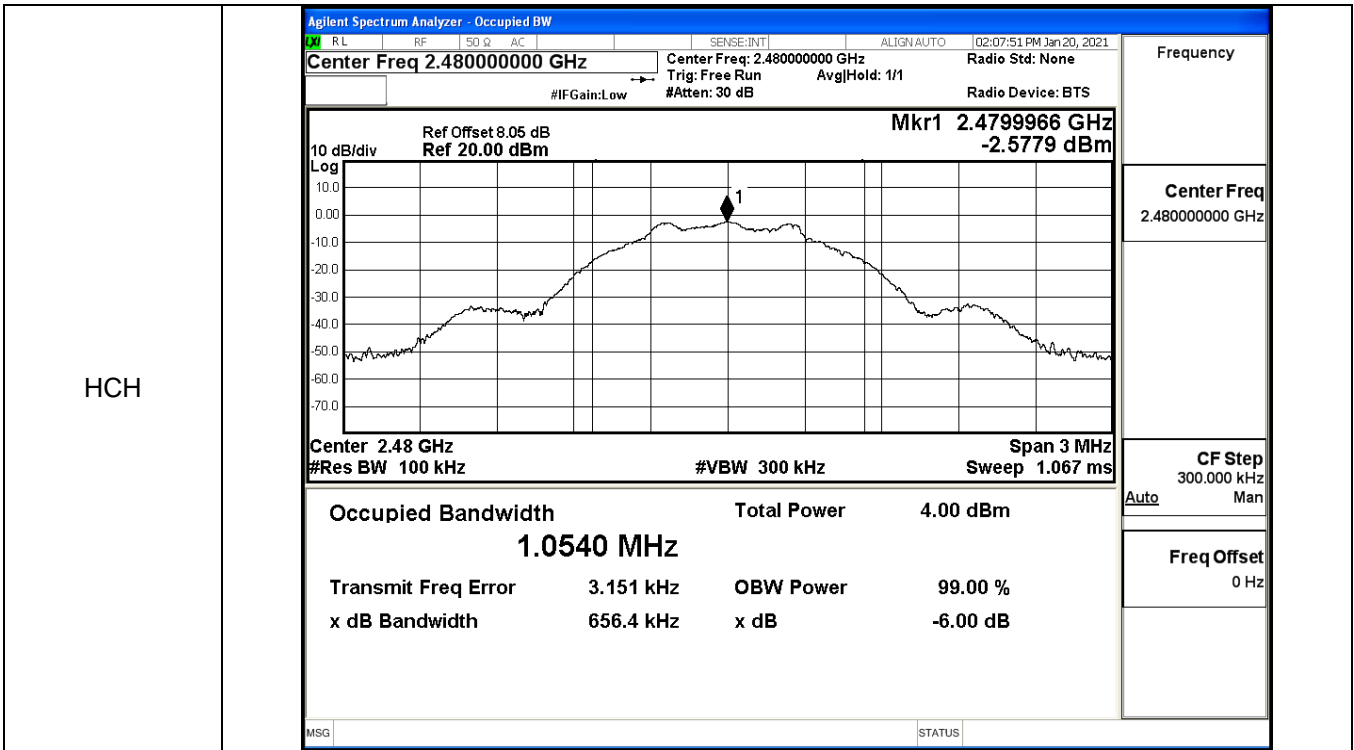
A.4 6dB Bandwidth

BT LE

Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
BT LE	LCH	0.6582	≥0.5	PASS
BT LE	MCH	0.6637	≥0.5	PASS
BT LE	HCH	0.6564	≥0.5	PASS

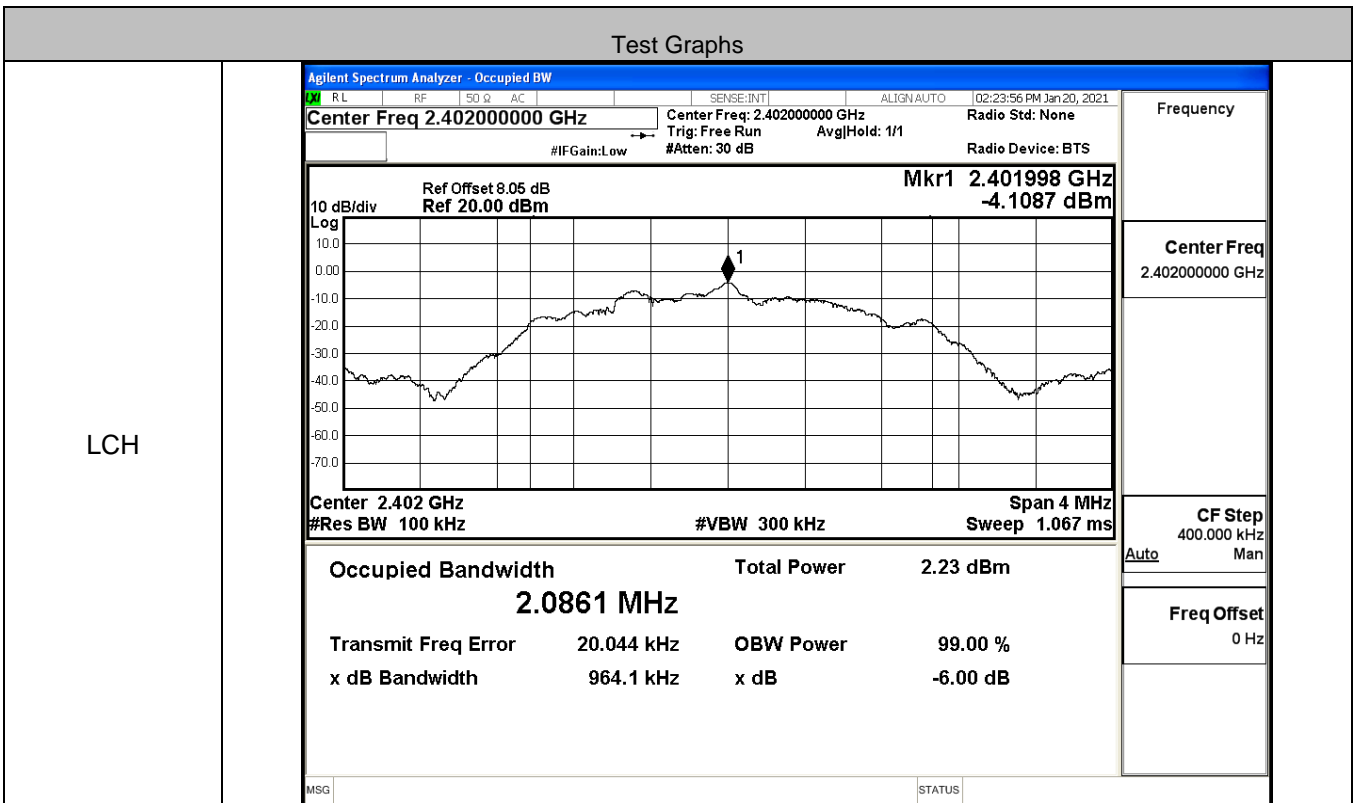
Test Graphs

LCH	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.40200000 GHz</p> <p>Center Freq: 2.40200000 GHz</p> <p>Radio Std: None</p> <p>Trig: Free Run</p> <p>Avg/Hold: 1/1</p> <p>#IFGain: Low</p> <p>#Atten: 30 dB</p> <p>Radio Device: BTS</p> <p>Ref Offset 8.05 dB</p> <p>Ref 20.00 dBm</p> <p>Mkr1 2.401993 GHz</p> <p>-4.2270 dBm</p> <p>10 dB/div</p> <p>Log</p> <p>Center 2.402 GHz</p> <p>#Res BW 100 kHz</p> <p>#VBW 300 kHz</p> <p>Span 3 MHz</p> <p>Sweep 1.067 ms</p> <p>Occupied Bandwidth 1.0549 MHz</p> <p>Total Power 2.21 dBm</p> <p>Transmit Freq Error 7.367 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 658.2 kHz</p> <p>x dB -6.00 dB</p>	<p>Frequency</p> <p>2.40200000 GHz</p> <p>CF Step 300.000 kHz</p> <p>Man</p> <p>Freq Offset 0 Hz</p>
MCH	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.44000000 GHz</p> <p>Center Freq: 2.44000000 GHz</p> <p>Radio Std: None</p> <p>Trig: Free Run</p> <p>Avg/Hold: 1/1</p> <p>#IFGain: Low</p> <p>#Atten: 30 dB</p> <p>Radio Device: BTS</p> <p>Ref Offset 8.05 dB</p> <p>Ref 20.00 dBm</p> <p>Mkr1 2.4399996 GHz</p> <p>-3.3500 dBm</p> <p>10 dB/div</p> <p>Log</p> <p>Center 2.44 GHz</p> <p>#Res BW 100 kHz</p> <p>#VBW 300 kHz</p> <p>Span 3 MHz</p> <p>Sweep 1.067 ms</p> <p>Occupied Bandwidth 1.0674 MHz</p> <p>Total Power 3.01 dBm</p> <p>Transmit Freq Error 2.542 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 663.7 kHz</p> <p>x dB -6.00 dB</p>	<p>Frequency</p> <p>2.44000000 GHz</p> <p>CF Step 300.000 kHz</p> <p>Man</p> <p>Freq Offset 0 Hz</p>

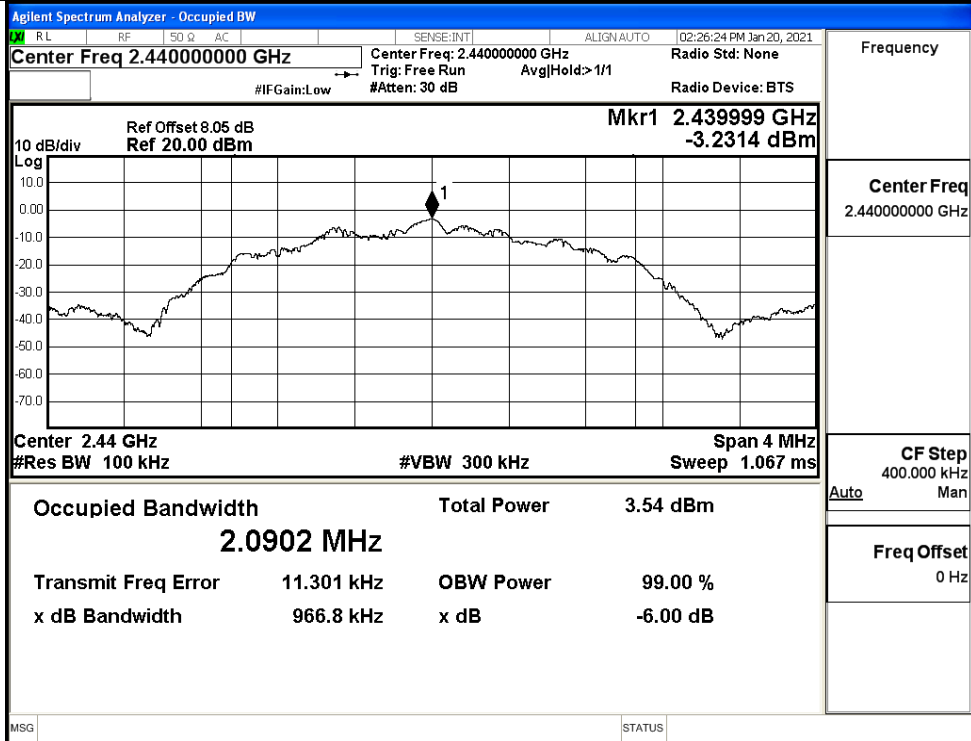


BT 2LE

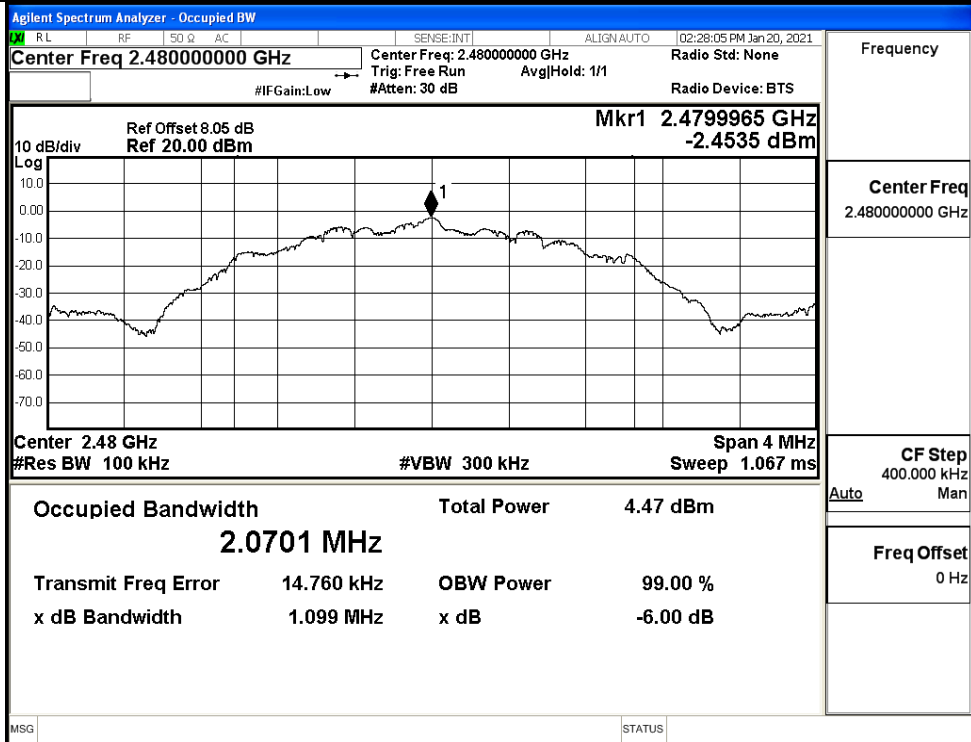
Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
BT 2LE	LCH	0.9641	≥0.5	PASS
BT 2LE	MCH	0.9668	≥0.5	PASS
BT 2LE	HCH	1.099	≥0.5	PASS



MCH



HCH

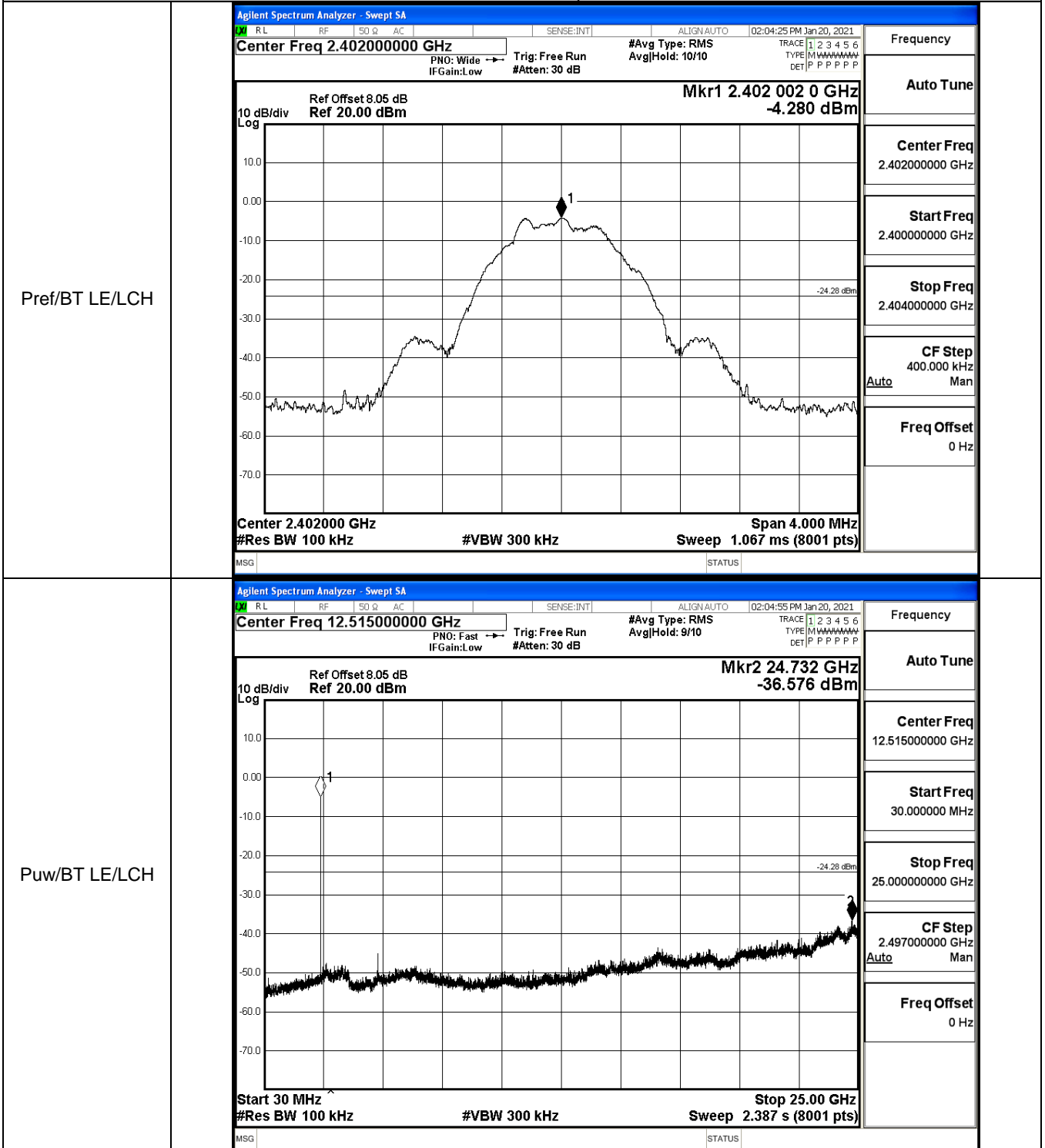


A.5 RF Conducted Spurious Emissions

BT LE

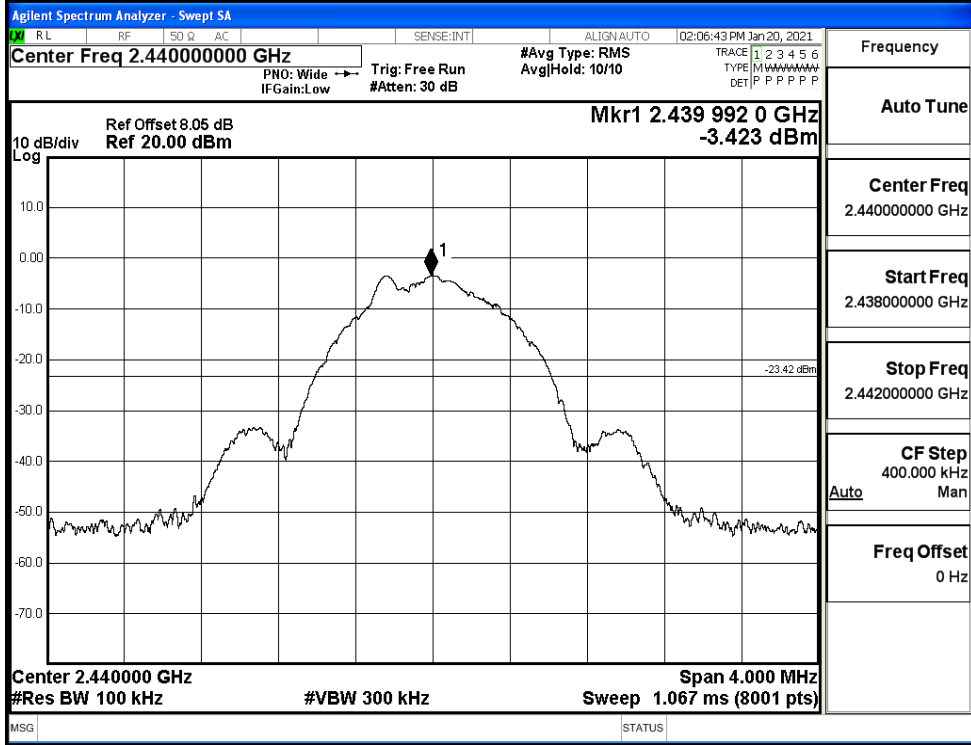
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
BT LE	LCH	-4.28	-36.576	-24.280	PASS
BT LE	MCH	-3.423	-37.469	-23.423	PASS
BT LE	HCH	-2.61	-37.293	-22.610	PASS

BT LE_LCH_Graphs

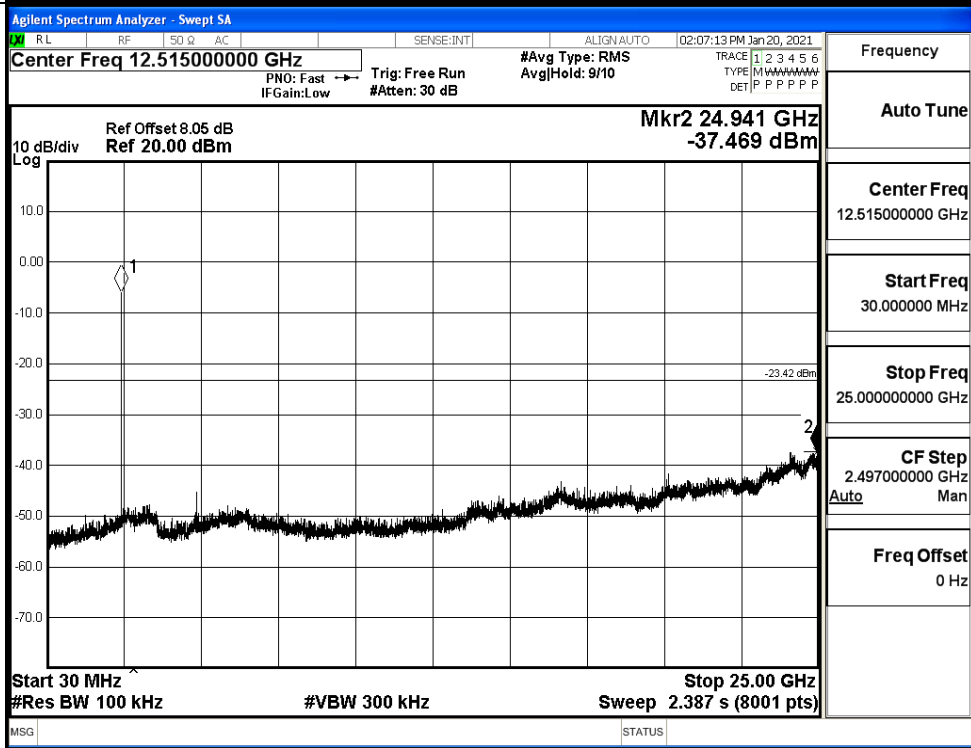


BT LE_MCH_Graphs

Pref/BT LE/MCH

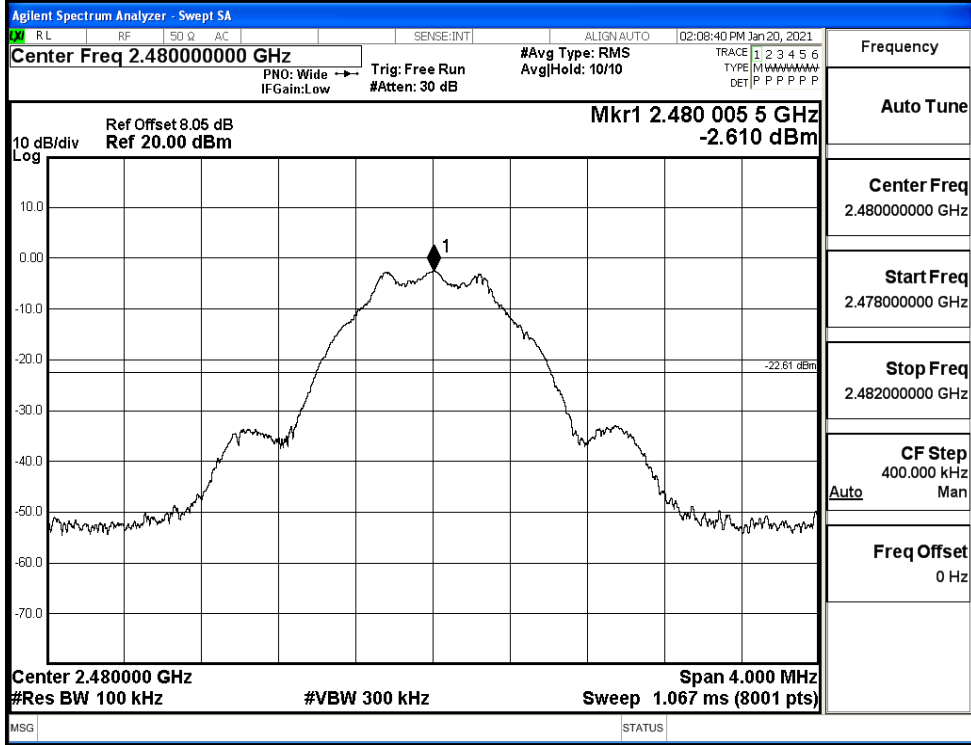


Puw/BT LE/MCH

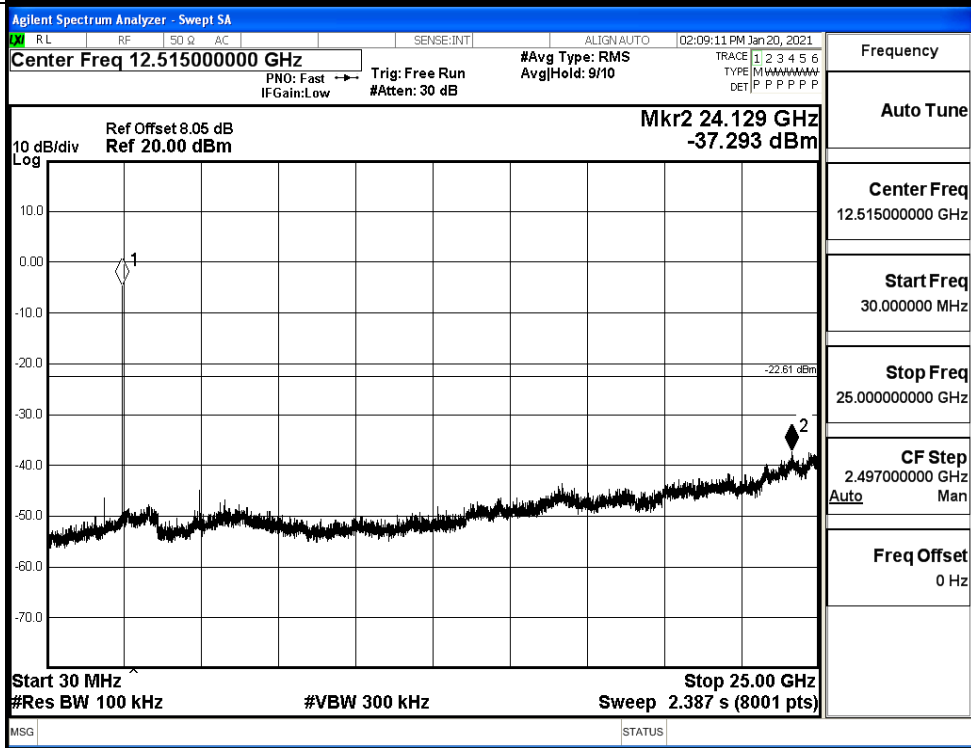


BT LE_HCH_Graphs

Pref/BT LE/HCH



Puw/BT LE/HCH



BT 2LE

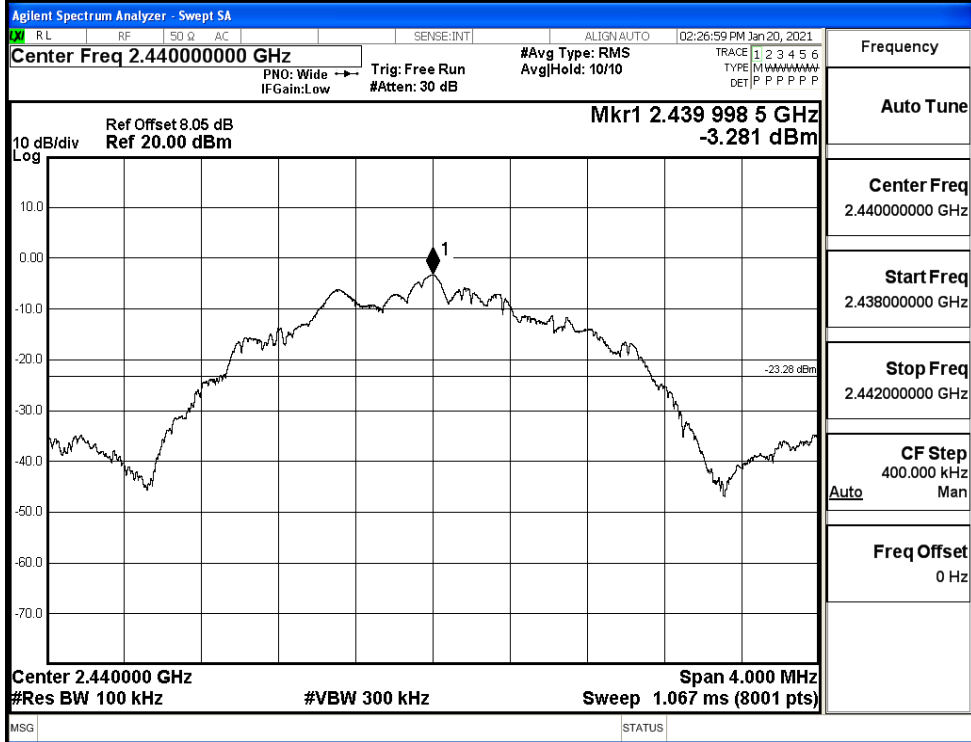
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
BT 2LE	LCH	-4.106	-37.117	-24.106	PASS
BT 2LE	MCH	-3.281	-37.536	-23.281	PASS
BT 2LE	HCH	-2.487	-36.951	-22.487	PASS

BT 2LE_LCH_Graphs

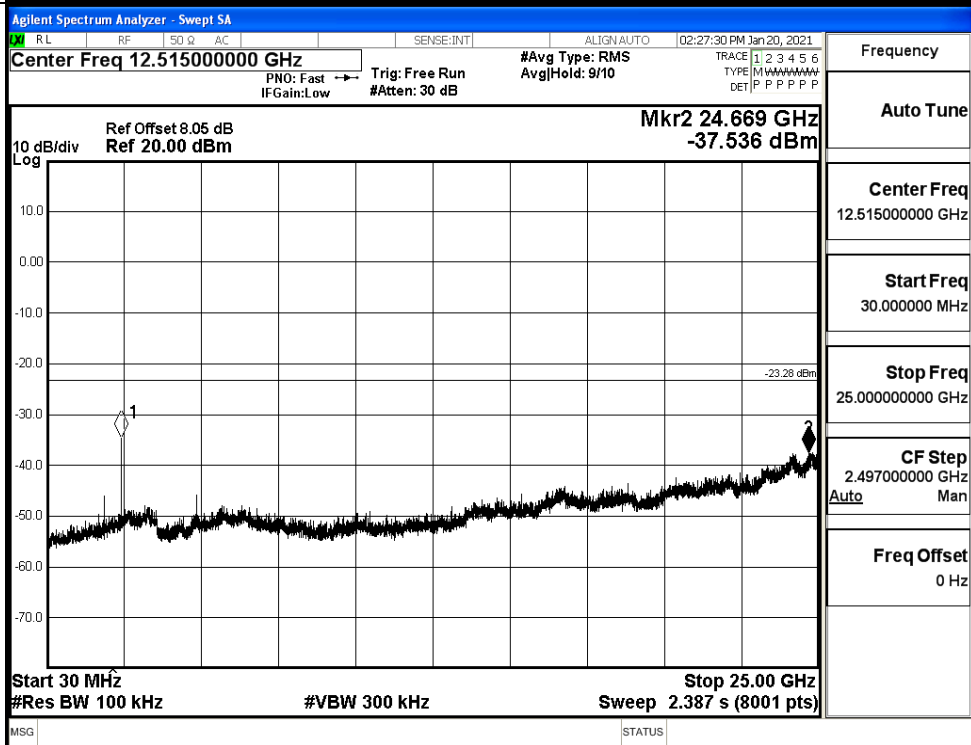
<p>Pref/BT 2LE/LCH</p>		<p>Agilent Spectrum Analyzer - Swept SA</p> <p>Center Freq 2.40200000 GHz</p> <p>Mkr1 2.402 000 5 GHz -4.106 dBm</p> <p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 2.402000000 GHz</p> <p>Start Freq 2.400000000 GHz</p> <p>Stop Freq 2.404000000 GHz</p> <p>CF Step 400.000 kHz Auto Man</p> <p>Freq Offset 0 Hz</p>
<p>Puw/BT 2LE/LCH</p>		<p>Agilent Spectrum Analyzer - Swept SA</p> <p>Center Freq 12.51500000 GHz</p> <p>Mkr2 24.769 GHz -37.117 dBm</p> <p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 12.515000000 GHz</p> <p>Start Freq 30.0000000 MHz</p> <p>Stop Freq 25.000000000 GHz</p> <p>CF Step 2.497000000 GHz Auto Man</p> <p>Freq Offset 0 Hz</p>

BT 2LE_MCH_Graphs

Pref/BT
2LE/MCH

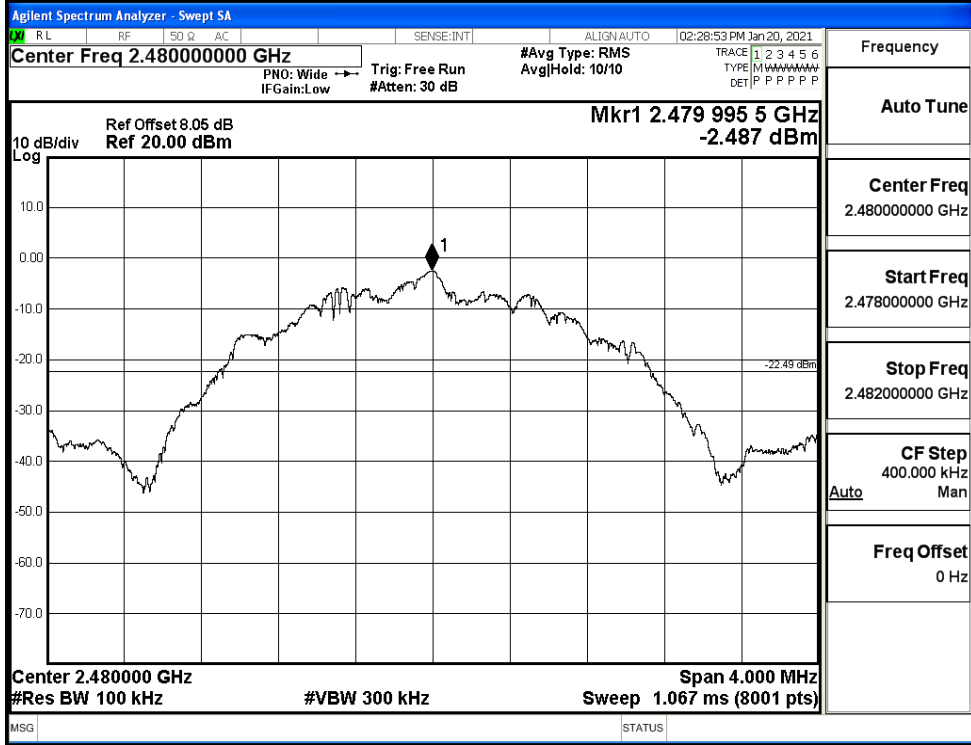


Puw/BT
2LE/MCH

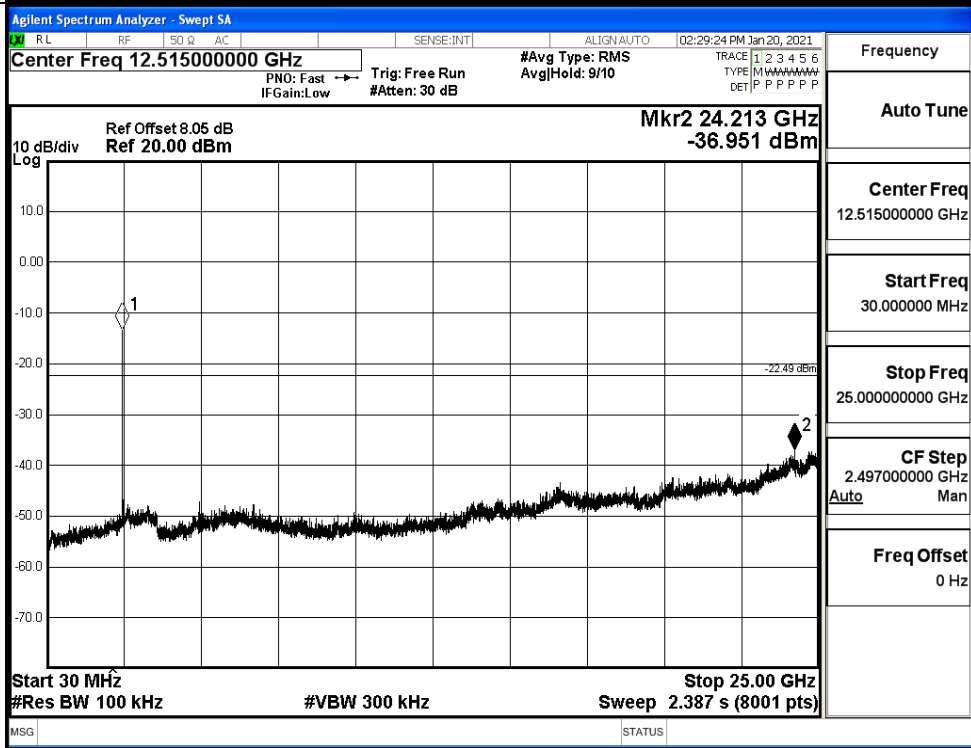


BT 2LE_HCH_Graphs

Pref/BT 2LE/HCH



Puw/BT 2LE/HCH



A.6 Band-edge for RF Conducted Emissions

BT LE

Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
BT LE	LCH	-4.069	-49.358	-24.07	PASS
BT LE	HCH	-2.487	-49.699	-22.49	PASS

Test Graphs

LCH		<table border="1"> <thead> <tr> <th>Frequency</th> </tr> </thead> <tbody> <tr> <td>Auto Tune</td> </tr> <tr> <td>Center Freq 2.357000000 GHz</td> </tr> <tr> <td>Start Freq 2.310000000 GHz</td> </tr> <tr> <td>Stop Freq 2.404000000 GHz</td> </tr> <tr> <td>CF Step 9.400000 MHz</td> </tr> <tr> <td>Freq Offset 0 Hz</td> </tr> </tbody> </table>	Frequency	Auto Tune	Center Freq 2.357000000 GHz	Start Freq 2.310000000 GHz	Stop Freq 2.404000000 GHz	CF Step 9.400000 MHz	Freq Offset 0 Hz
	Frequency								
Auto Tune									
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Stop Freq 2.404000000 GHz									
CF Step 9.400000 MHz									
Freq Offset 0 Hz									
HCH		<table border="1"> <thead> <tr> <th>Frequency</th> </tr> </thead> <tbody> <tr> <td>Auto Tune</td> </tr> <tr> <td>Center Freq 2.489000000 GHz</td> </tr> <tr> <td>Start Freq 2.478000000 GHz</td> </tr> <tr> <td>Stop Freq 2.500000000 GHz</td> </tr> <tr> <td>CF Step 2.200000 MHz</td> </tr> <tr> <td>Freq Offset 0 Hz</td> </tr> </tbody> </table>	Frequency	Auto Tune	Center Freq 2.489000000 GHz	Start Freq 2.478000000 GHz	Stop Freq 2.500000000 GHz	CF Step 2.200000 MHz	Freq Offset 0 Hz
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Auto Tune									
Center Freq 2.489000000 GHz									
Start Freq 2.478000000 GHz									
Stop Freq 2.500000000 GHz									
CF Step 2.200000 MHz									
Freq Offset 0 Hz									

BT 2LE

Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
BT 2LE	LCH	-4.094	-49.110	-24.09	PASS
BT 2LE	HCH	-2.375	-48.741	-22.38	PASS

Test Graphs

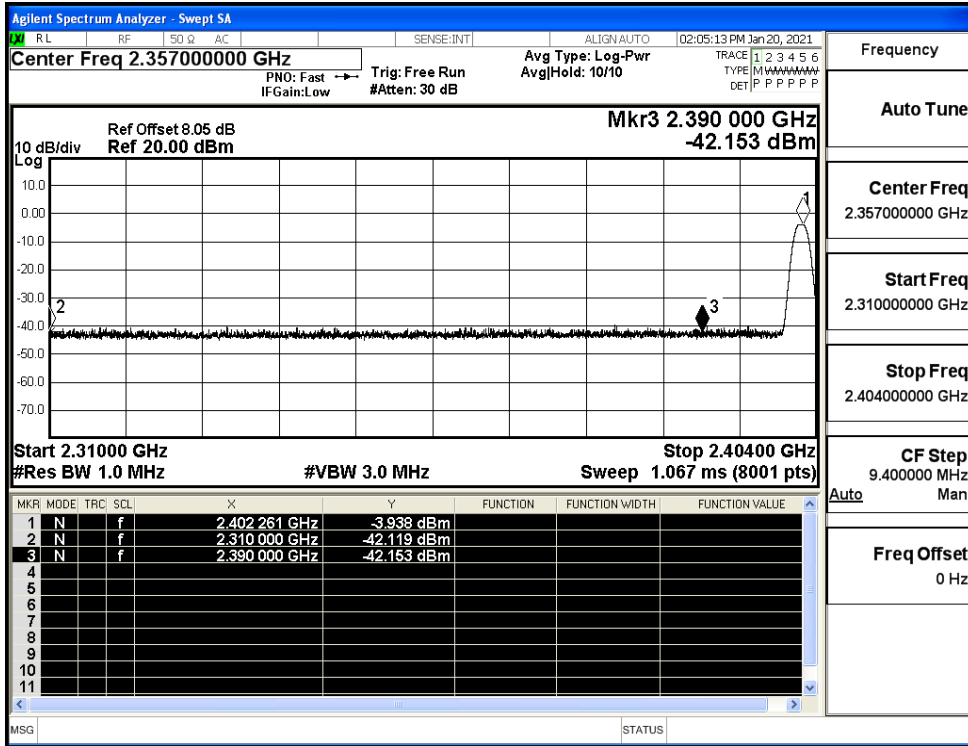
LCH		<p>Agilent Spectrum Analyzer - Swept SA</p> <p>Center Freq 2.357000000 GHz</p> <p>Mkr4 2.327 190 GHz -49.110 dBm</p> <p>Start 2.31000 GHz Stop 2.40400 GHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 9.067 ms (8001 pts)</p> <table border="1"> <thead> <tr> <th>MKR</th> <th>MODE</th> <th>TRC</th> <th>SCL</th> <th>X</th> <th>Y</th> <th>FUNCTION</th> <th>FUNCTION WIDTH</th> <th>FUNCTION VALUE</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>N</td> <td>f</td> <td></td> <td>2.402 003 GHz</td> <td>-4.094 dBm</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>N</td> <td>f</td> <td></td> <td>2.400 000 GHz</td> <td>-35.482 dBm</td> <td></td> <td></td> <td></td> </tr> <tr> <td>3</td> <td>N</td> <td>f</td> <td></td> <td>2.390 000 GHz</td> <td>-52.074 dBm</td> <td></td> <td></td> <td></td> </tr> <tr> <td>4</td> <td>N</td> <td>f</td> <td></td> <td>2.327 190 GHz</td> <td>-49.110 dBm</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	N	f		2.402 003 GHz	-4.094 dBm				2	N	f		2.400 000 GHz	-35.482 dBm				3	N	f		2.390 000 GHz	-52.074 dBm				4	N	f		2.327 190 GHz	-49.110 dBm			
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HCH		<p>Agilent Spectrum Analyzer - Swept SA</p> <p>Center Freq 2.489000000 GHz</p> <p>Mkr4 2.497 610 25 GHz -48.741 dBm</p> <p>Start 2.47800 GHz Stop 2.50000 GHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 2.133 ms (8001 pts)</p> <table border="1"> <thead> <tr> <th>MKR</th> <th>MODE</th> <th>TRC</th> <th>SCL</th> <th>X</th> <th>Y</th> <th>FUNCTION</th> <th>FUNCTION WIDTH</th> <th>FUNCTION VALUE</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>N</td> <td>f</td> <td></td> <td>2.480 002 00 GHz</td> <td>-2.375 dBm</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>N</td> <td>f</td> <td></td> <td>2.483 500 00 GHz</td> <td>-52.690 dBm</td> <td></td> <td></td> <td></td> </tr> <tr> <td>3</td> <td>N</td> <td>f</td> <td></td> <td>2.500 000 00 GHz</td> <td>-52.567 dBm</td> <td></td> <td></td> <td></td> </tr> <tr> <td>4</td> <td>N</td> <td>f</td> <td></td> <td>2.497 610 25 GHz</td> <td>-48.741 dBm</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	N	f		2.480 002 00 GHz	-2.375 dBm				2	N	f		2.483 500 00 GHz	-52.690 dBm				3	N	f		2.500 000 00 GHz	-52.567 dBm				4	N	f		2.497 610 25 GHz	-48.741 dBm			
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A.7 Restrict-band band-edge measurements

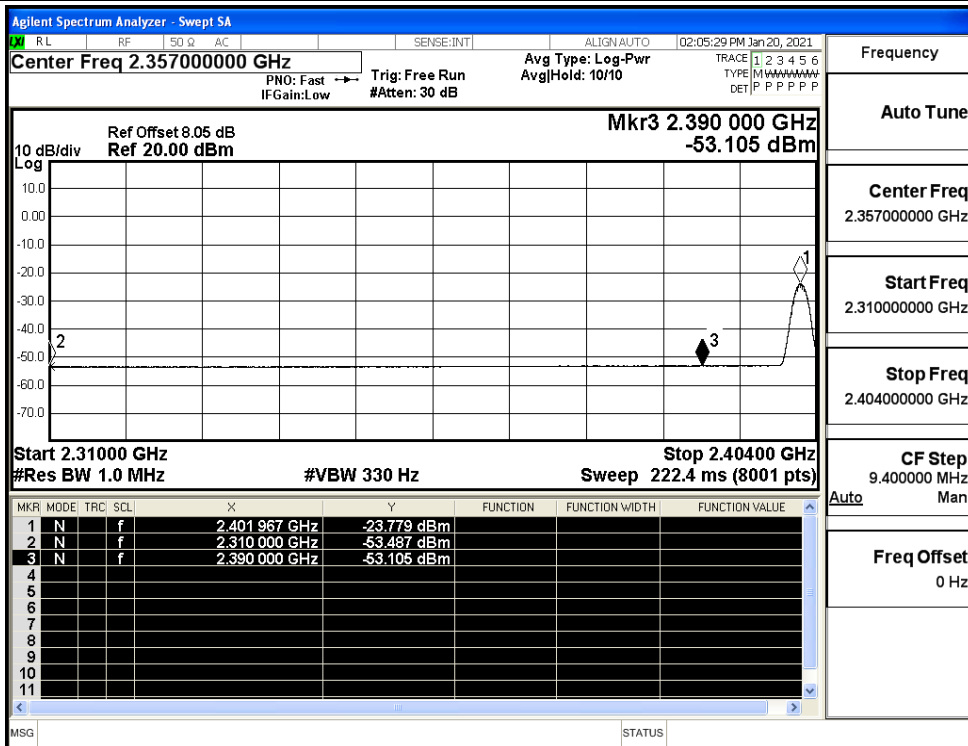
BT LE

Test Mode	Test Channel	Ant	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdi
BT LE	2402	Ant1	2310.0	-42.12	2.0	0	55.14	PEAK	74	PASS
		Ant1	2310.0	-53.49	2.0	0	43.77	AV	54	PASS
		Ant1	2390.0	-42.15	2.0	0	55.11	PEAK	74	PASS
		Ant1	2390.0	-53.11	2.0	0	44.15	AV	54	PASS
	2480	Ant1	2483.5	-42.25	2.0	0	55.01	PEAK	74	PASS
		Ant1	2483.5	-52.58	2.0	0	44.68	AV	54	PASS
		Ant1	2500.0	-42.94	2.0	0	54.32	PEAK	74	PASS
		Ant1	2500.0	-52.51	2.0	0	44.75	AV	54	PASS

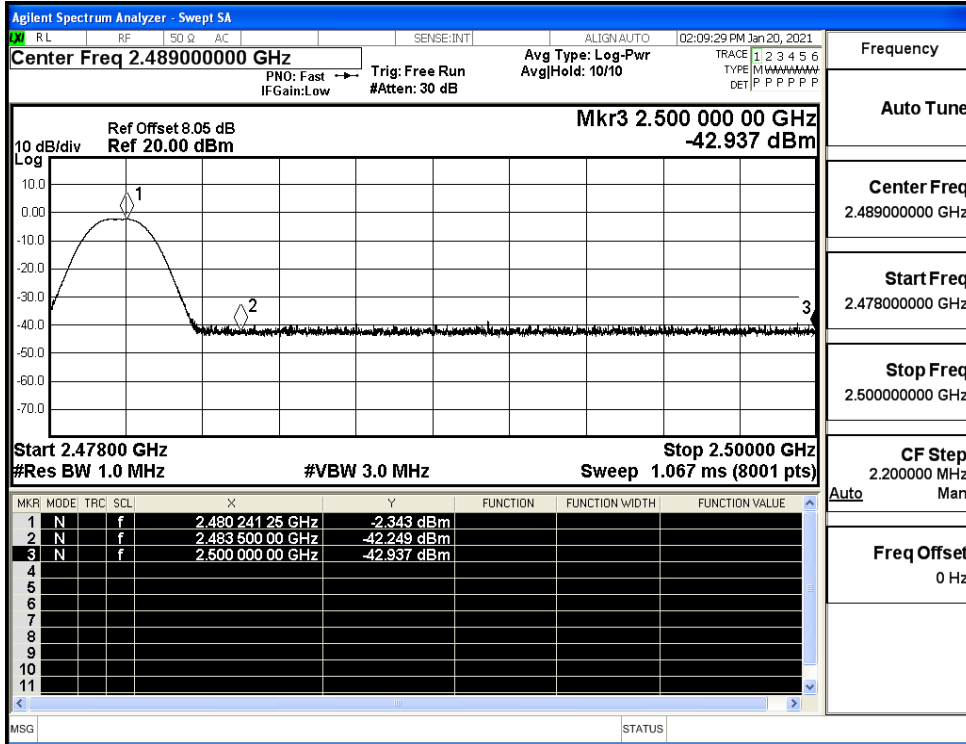
Restrict-band band-edge measurements_BT LE_2402_Ant1_PEAK



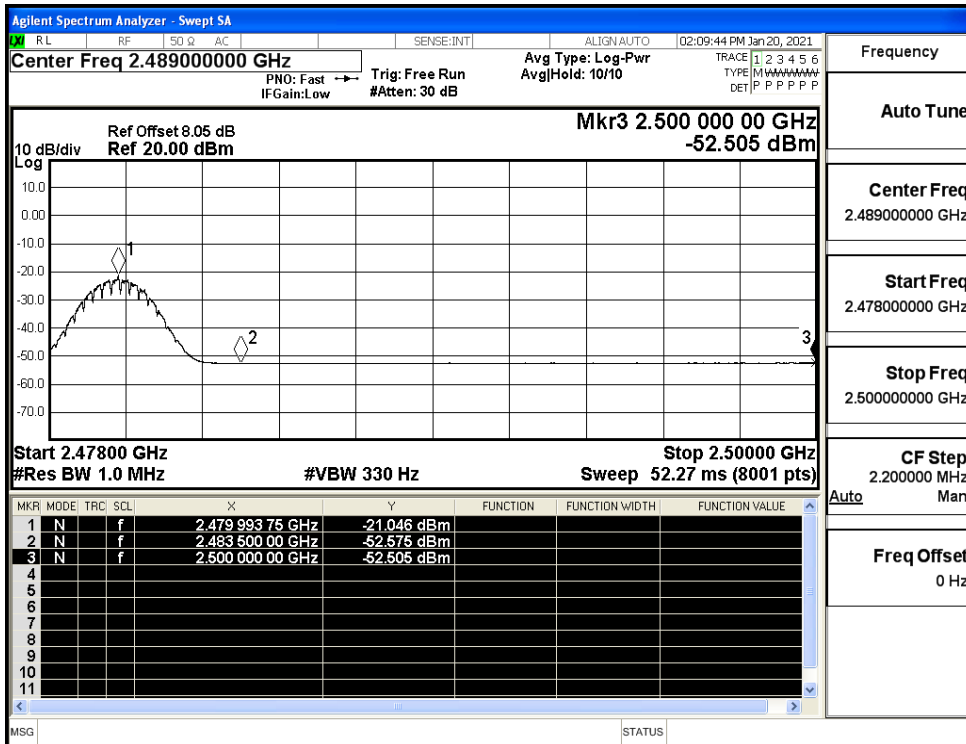
Restrict-band band-edge measurements_BT LE_2402_Ant1_AV



Restrict-band band-edge measurements_BT LE_2480_Ant1_PEAK



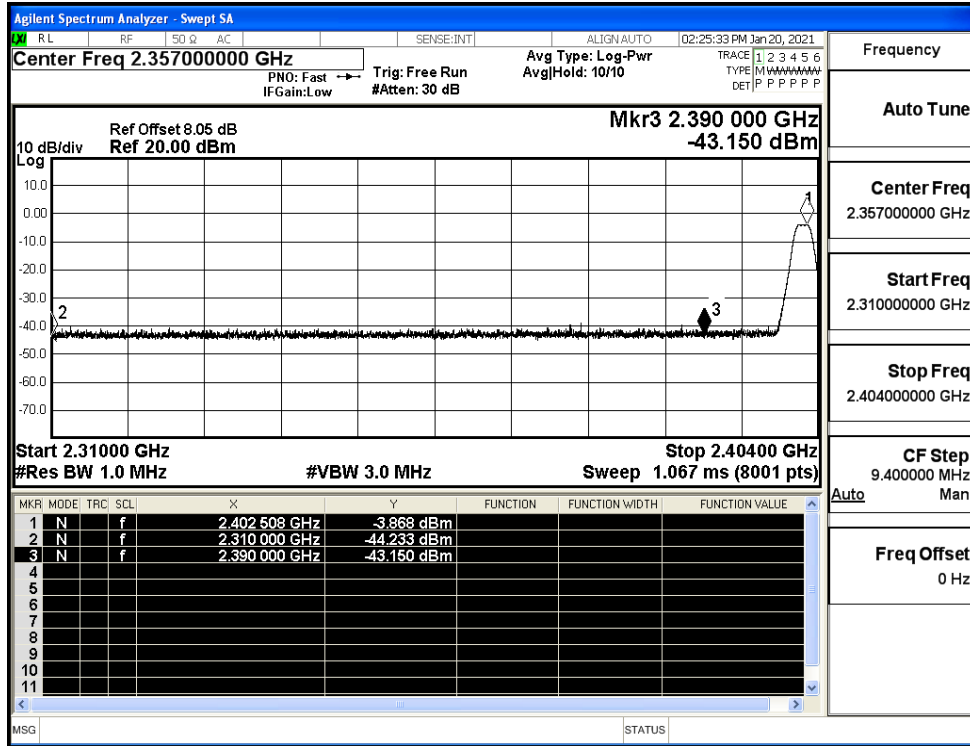
Restrict-band band-edge measurements_BT LE_2480_Ant1_AV



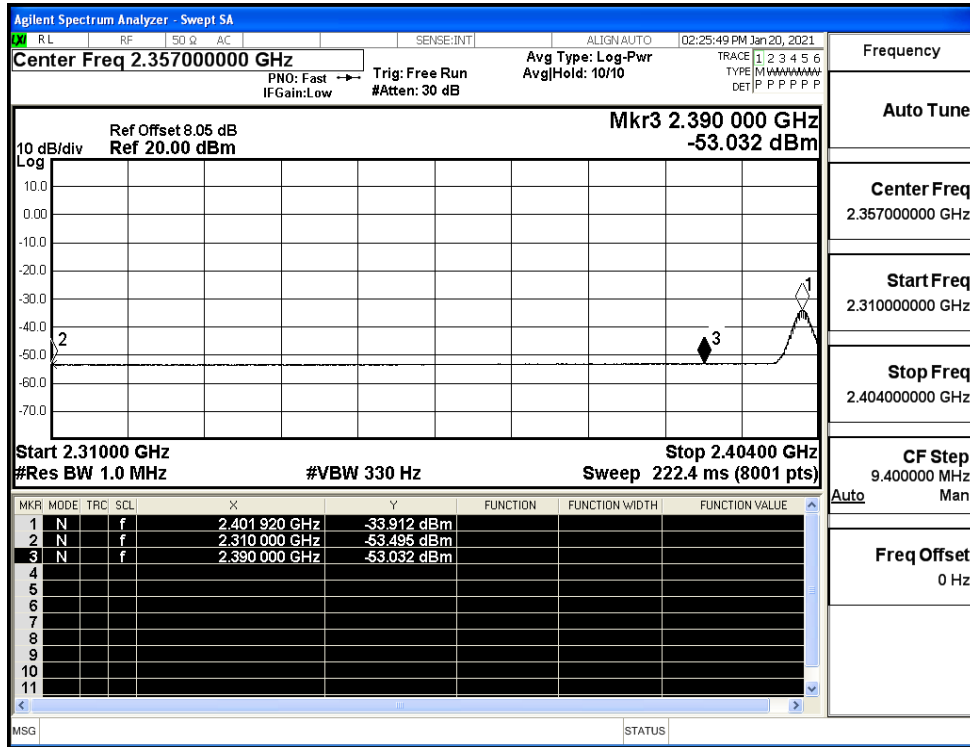
BT 2LE

Test Mode	Test Channel	Ant	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdi
BT 2LE	2402	Ant1	2310.0	-44.23	2.0	0	53.03	PEAK	74	PASS
		Ant1	2310.0	-53.50	2.0	0	43.76	AV	54	PASS
		Ant1	2390.0	-43.15	2.0	0	54.11	PEAK	74	PASS
		Ant1	2390.0	-53.03	2.0	0	44.23	AV	54	PASS
	2480	Ant1	2483.5	-43.20	2.0	0	54.06	PEAK	74	PASS
		Ant1	2483.5	-52.56	2.0	0	44.7	AV	54	PASS
		Ant1	2500.0	-43.58	2.0	0	53.68	PEAK	74	PASS
		Ant1	2500.0	-52.47	2.0	0	44.79	AV	54	PASS

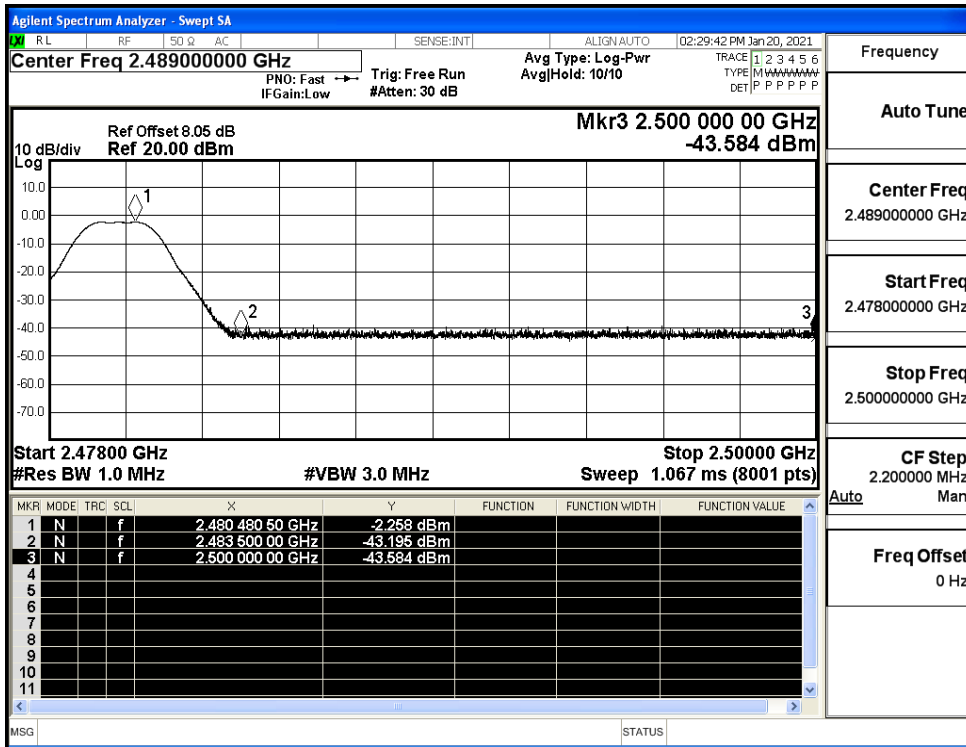
Restrict-band band-edge measurements_BT 2LE_2402_Ant1_PEAK



Restrict-band band-edge measurements_BT 2LE_2402_Ant1_AV



Restrict-band band-edge measurements_BT 2LE_2480_Ant1_PEAK



Restrict-band band-edge measurements_BT 2LE_2480_Ant1_AV

