

Appendix B

RF Test Data for BT LE V5.1 (Conducted Measurement)

Product Name(PMN): T2 ANC Intelligent TWS Active Noise Cancellation Bluetooth headset

Trade Mark: LENTION

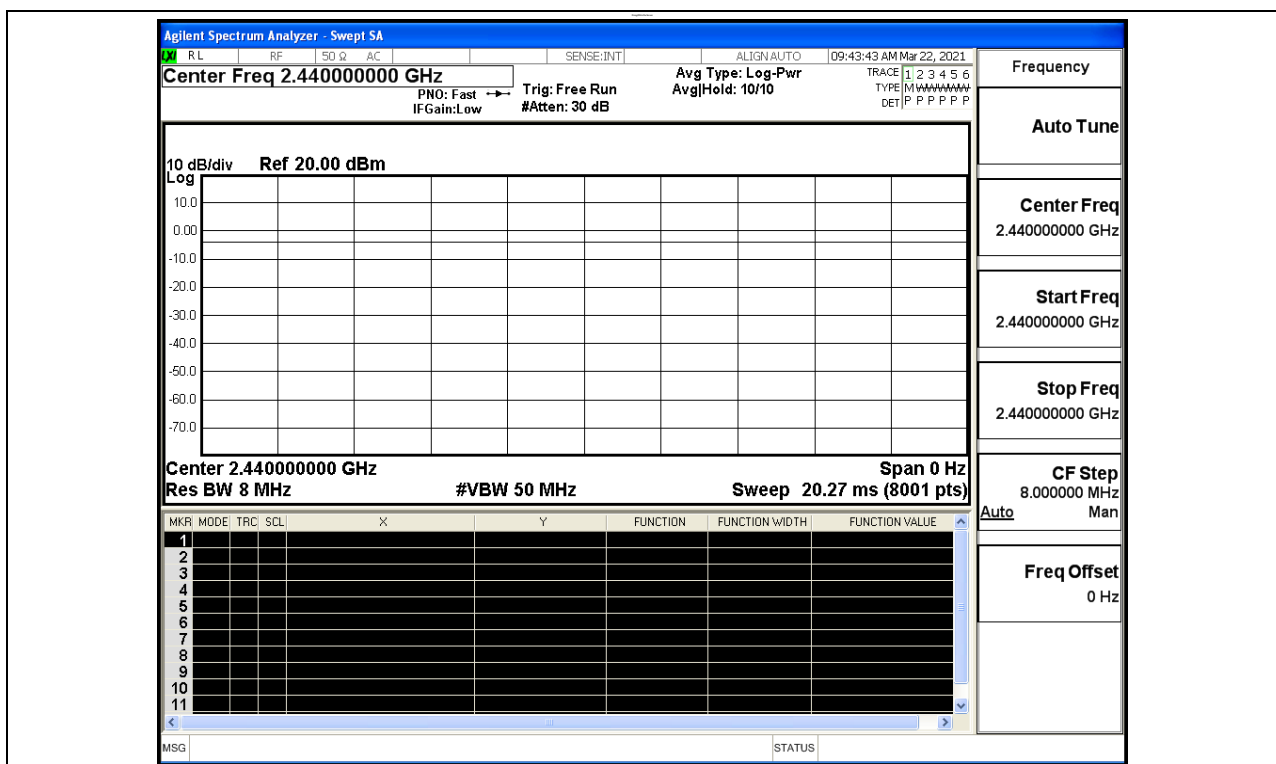
Test Model(HVIN): T2 ANC

Environmental Conditions

Temperature:	24.4° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Carl Fu
Supervised by:	Li Huan

B.1 Duty Cycle

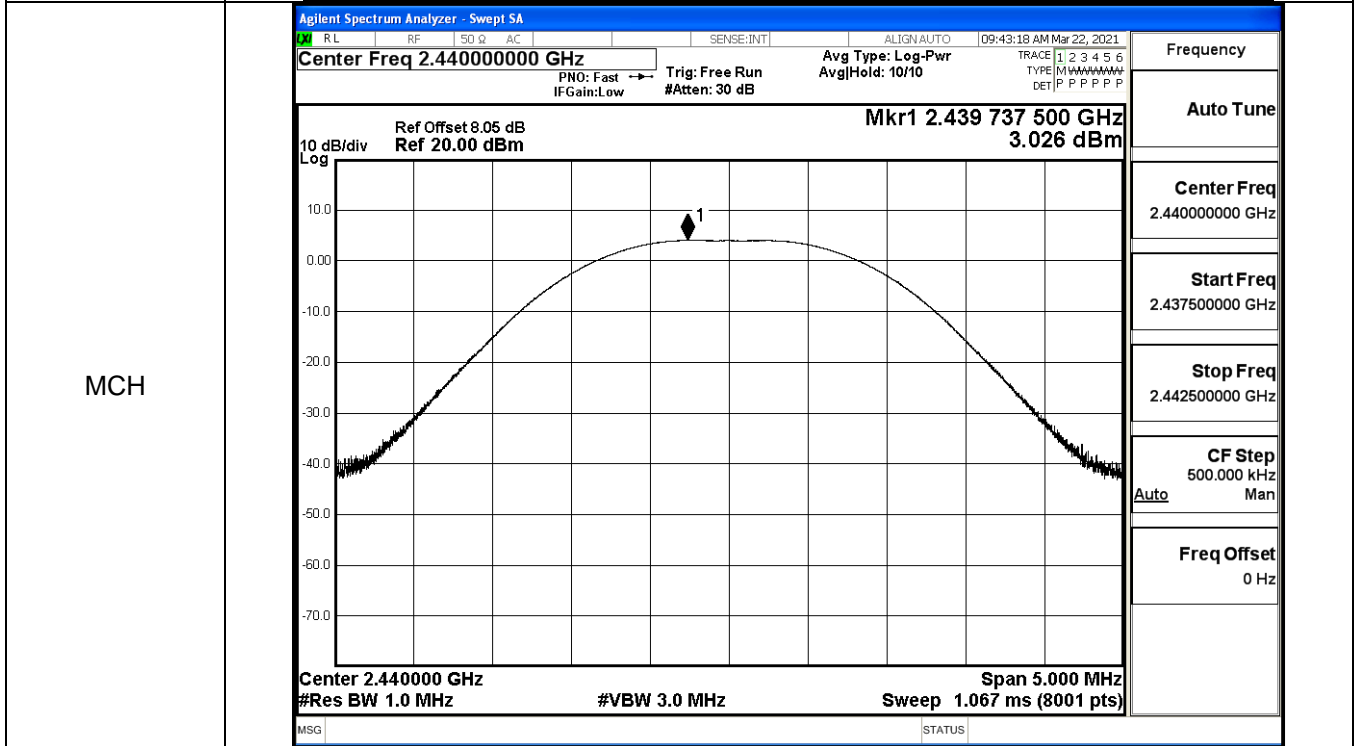
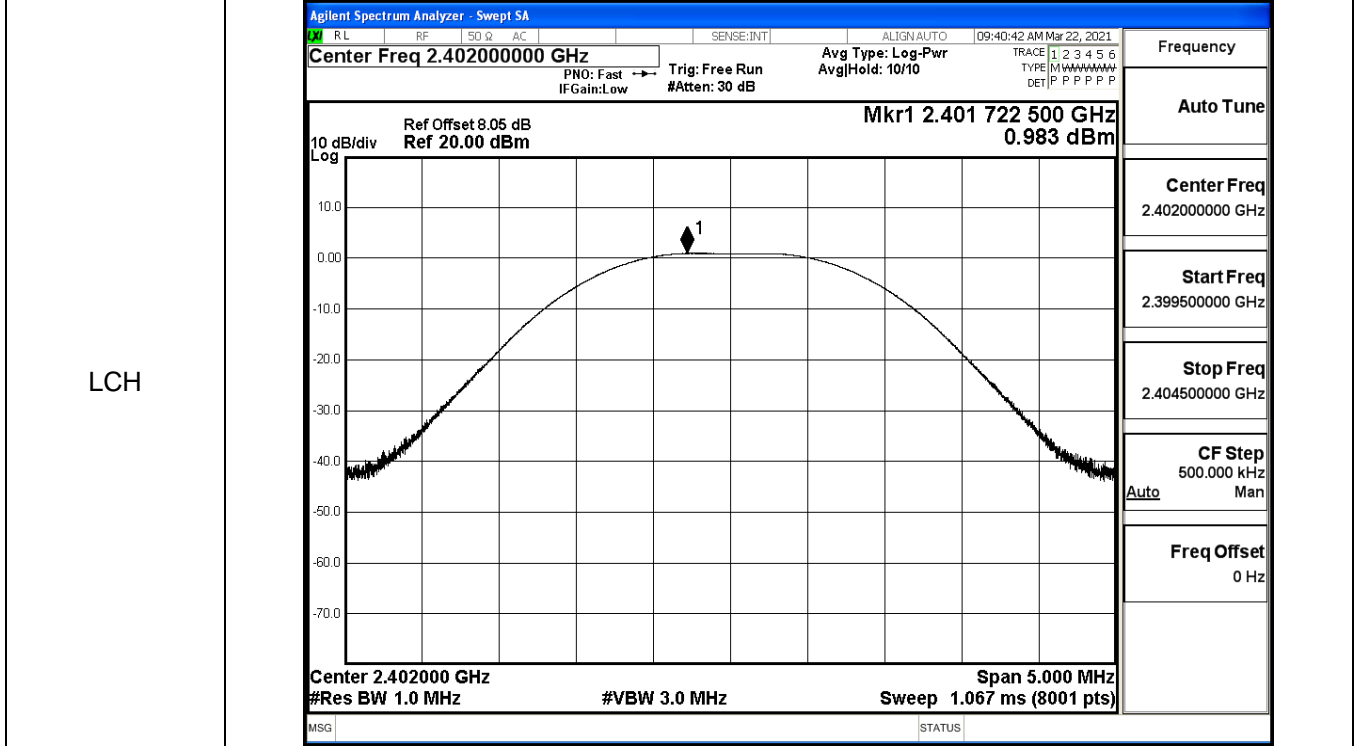
Test Mode	Test Channel	Ant	Duty Cycle[%]	Verdict
BT LE	2440	Ant1	100	PASS



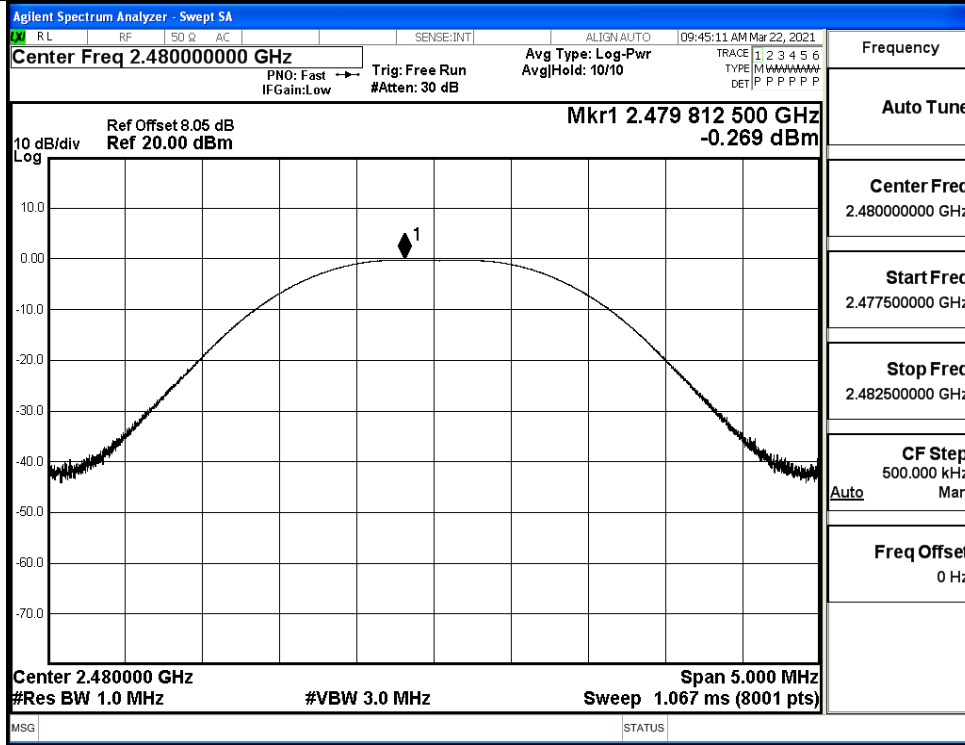
B.2 Maximum Conducted Peak Output Power

Mode	Channel	Conduct Peak Power[dBm]	Limit [dBm]	Verdict
BT LE	LCH	0.983	30	PASS
BT LE	MCH	3.026	30	PASS
BT LE	HCH	-0.269	30	PASS

Test Graphs



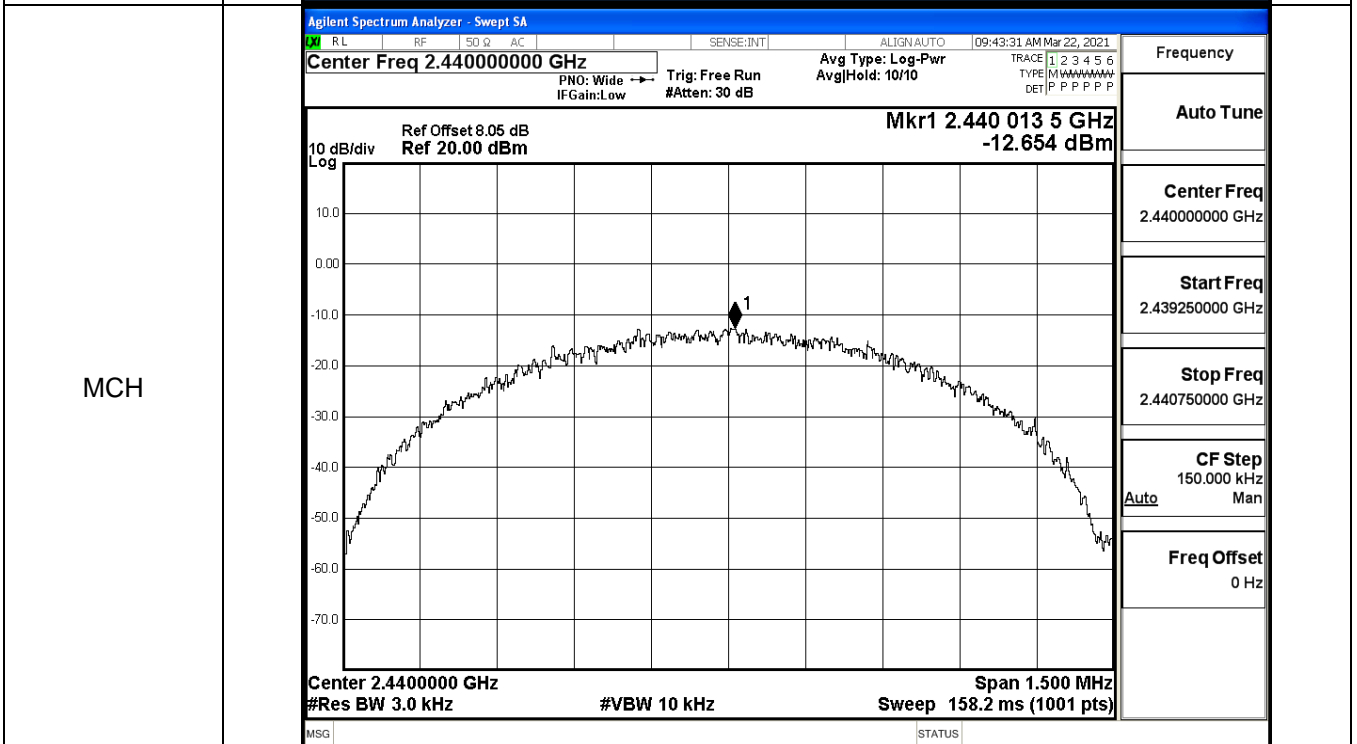
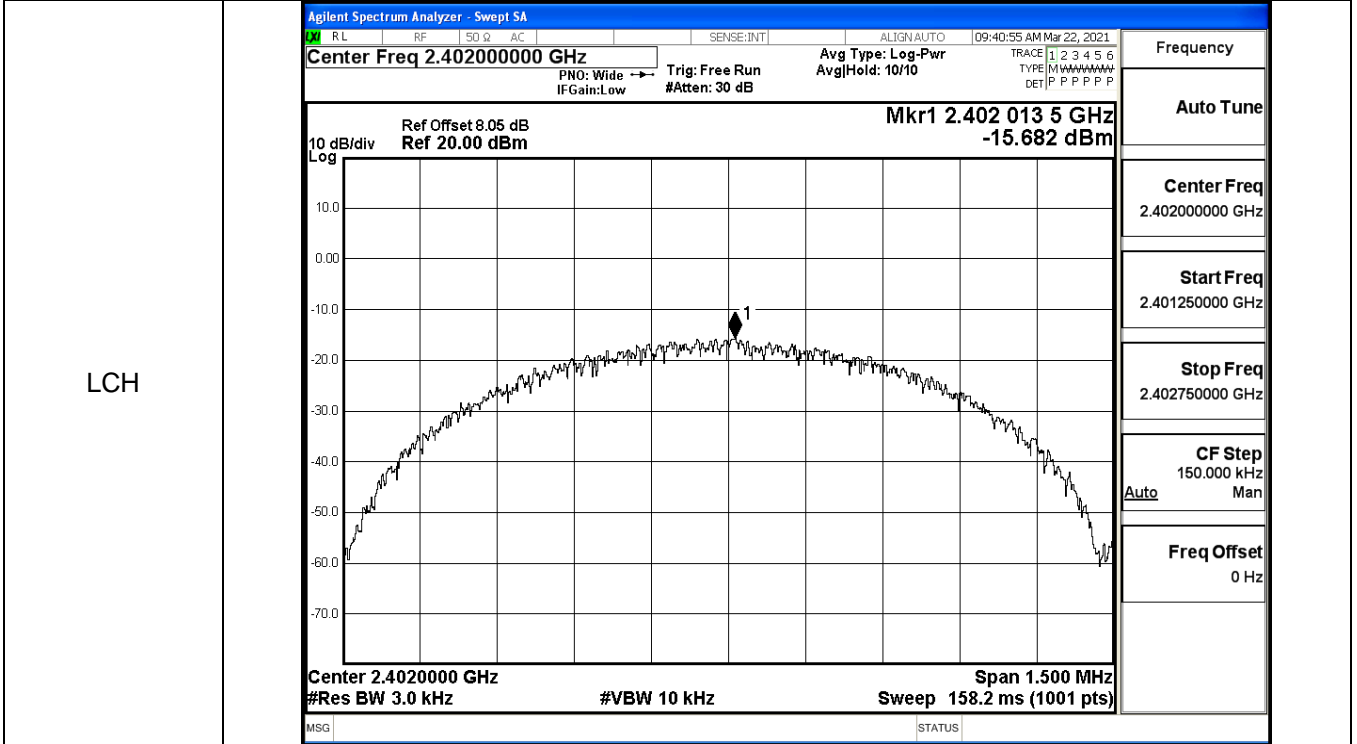
HCH



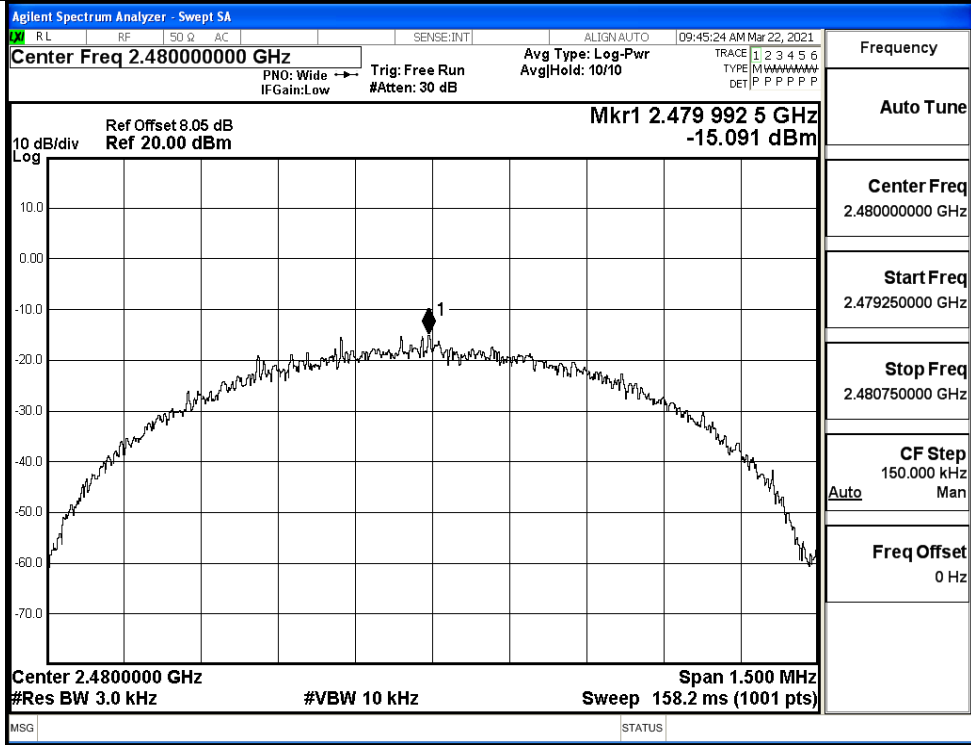
B.3 Maximum Power Spectral Density

Mode	Channel	PSD [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
BT LE	LCH	-15.682	8	PASS
BT LE	MCH	-12.654	8	PASS
BT LE	HCH	-15.091	8	PASS

Test Graphs



HCH

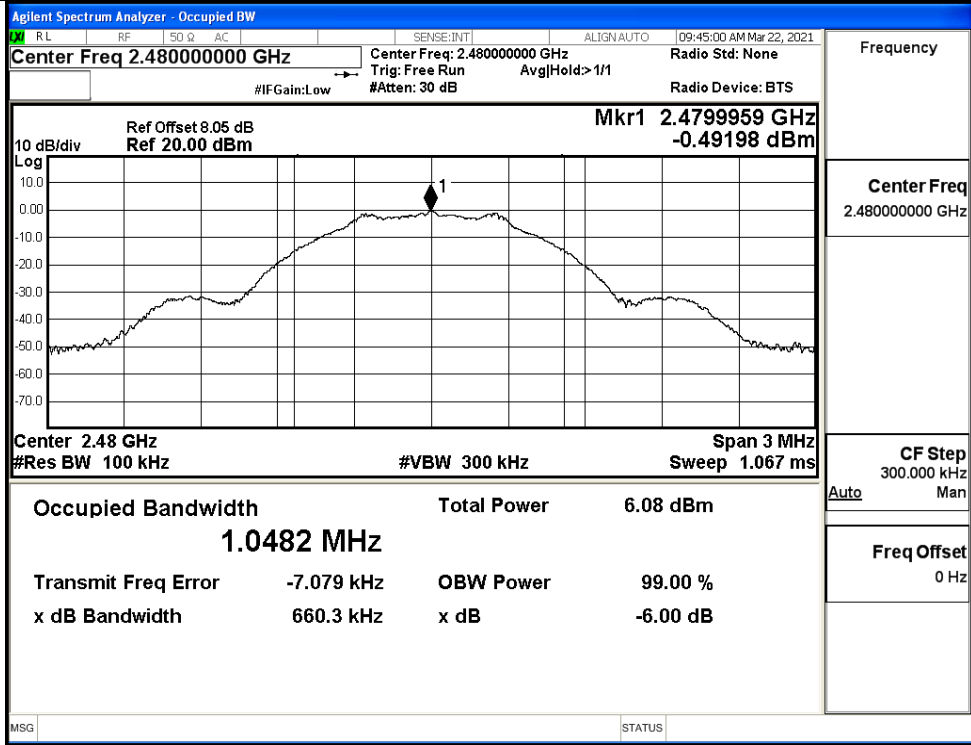


B.4 6dB Bandwidth

Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
BT LE	LCH	0.6678	≥0.5	PASS
BT LE	MCH	0.6750	≥0.5	PASS
BT LE	HCH	0.6603	≥0.5	PASS

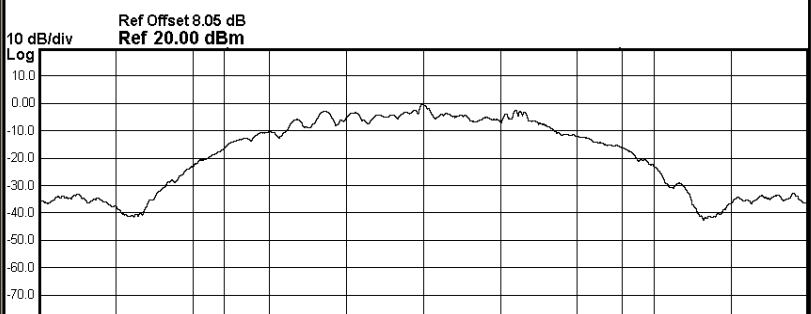
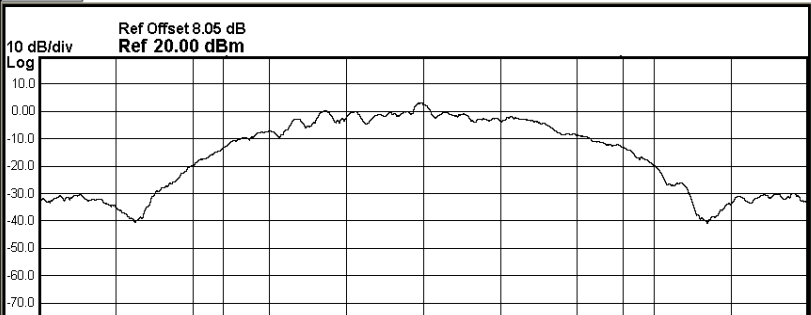
Test Graphs													
LCH	<div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center; margin: 0;">Agilent Spectrum Analyzer - Occupied BW</p> <p style="font-size: small; margin: 0;">RL RF 50 Ω AC SENSE:INT ALIGN:AUTO 09:40:31 AM Mar 22, 2021</p> <p style="margin: 0;">Center Freq 2.402000000 GHz Center Freq: 2.402000000 GHz Radio Std: None Trig: Free Run AvgHold>1/1 #IFGain:Low #Atten: 30 dB Radio Device: BTS</p> <div style="display: flex; justify-content: space-between;"> <div style="font-size: x-small;"> 10 dB/div Log Ref Offset 8.05 dB Ref 20.00 dBm </div> <div style="text-align: right;"> Mkr1 2.401993 GHz 0.69223 dBm </div> </div> <div style="display: flex; justify-content: space-between; font-size: x-small;"> <div>Center 2.402 GHz #Res BW 100 kHz</div> <div>#VBW 300 kHz</div> <div>Span 3 MHz Sweep 1.067 ms</div> </div> <table style="width: 100%; font-size: x-small; margin-top: 5px;"> <tr> <td>Occupied Bandwidth</td> <td>Total Power</td> <td>7.31 dBm</td> </tr> <tr> <td colspan="3" style="text-align: center;">1.0501 MHz</td> </tr> <tr> <td>Transmit Freq Error</td> <td>-5.227 kHz</td> <td>OBW Power 99.00 %</td> </tr> <tr> <td>x dB Bandwidth</td> <td>667.8 kHz</td> <td>x dB -6.00 dB</td> </tr> </table> <p style="font-size: x-small; margin-top: 5px;">MSG STATUS</p> </div>	Occupied Bandwidth	Total Power	7.31 dBm	1.0501 MHz			Transmit Freq Error	-5.227 kHz	OBW Power 99.00 %	x dB Bandwidth	667.8 kHz	x dB -6.00 dB
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1.0501 MHz													
Transmit Freq Error	-5.227 kHz	OBW Power 99.00 %											
x dB Bandwidth	667.8 kHz	x dB -6.00 dB											
MCH	<div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center; margin: 0;">Agilent Spectrum Analyzer - Occupied BW</p> <p style="font-size: small; margin: 0;">RL RF 50 Ω AC SENSE:INT ALIGN:AUTO 09:43:07 AM Mar 22, 2021</p> <p style="margin: 0;">Center Freq 2.440000000 GHz Center Freq: 2.440000000 GHz Radio Std: None Trig: Free Run AvgHold>1/1 #IFGain:Low #Atten: 30 dB Radio Device: BTS</p> <div style="display: flex; justify-content: space-between;"> <div style="font-size: x-small;"> 10 dB/div Log Ref Offset 8.05 dB Ref 20.00 dBm </div> <div style="text-align: right;"> Mkr1 2.440234 GHz 3.6548 dBm </div> </div> <div style="display: flex; justify-content: space-between; font-size: x-small;"> <div>Center 2.44 GHz #Res BW 100 kHz</div> <div>#VBW 300 kHz</div> <div>Span 3 MHz Sweep 1.067 ms</div> </div> <table style="width: 100%; font-size: x-small; margin-top: 5px;"> <tr> <td>Occupied Bandwidth</td> <td>Total Power</td> <td>10.4 dBm</td> </tr> <tr> <td colspan="3" style="text-align: center;">1.0496 MHz</td> </tr> <tr> <td>Transmit Freq Error</td> <td>-5.809 kHz</td> <td>OBW Power 99.00 %</td> </tr> <tr> <td>x dB Bandwidth</td> <td>675.0 kHz</td> <td>x dB -6.00 dB</td> </tr> </table> <p style="font-size: x-small; margin-top: 5px;">MSG STATUS</p> </div>	Occupied Bandwidth	Total Power	10.4 dBm	1.0496 MHz			Transmit Freq Error	-5.809 kHz	OBW Power 99.00 %	x dB Bandwidth	675.0 kHz	x dB -6.00 dB
Occupied Bandwidth	Total Power	10.4 dBm											
1.0496 MHz													
Transmit Freq Error	-5.809 kHz	OBW Power 99.00 %											
x dB Bandwidth	675.0 kHz	x dB -6.00 dB											

HCH



B.5 Occupied Bandwidth

Mode	Channel	Occupied Bandwidth [MHz]	Limit [MHz]	Verdict
BT LE	LCH	1.0332	≥0.5	PASS
BT LE	MCH	1.0356	≥0.5	PASS
BT LE	HCH	1.0337	≥0.5	PASS

Test Graphs																			
LCH	<div style="border: 1px solid black; padding: 5px;"> <p style="font-size: small; margin: 0;">Agilent Spectrum Analyzer - Occupied BW</p> <p style="font-size: x-small; margin: 0;">RL RF 50 Ω AC SENSE:INT ALIGN:AUTO 11:34:01 AM Mar 22, 2021</p> <p style="font-size: small; margin: 0;">Center Freq 2.40200000 GHz Center Freq: 2.40200000 GHz Radio Std: None</p> <p style="font-size: x-small; margin: 0;">#IFGain:Low Trig: Free Run AvgHold: 10/10 #Atten: 30 dB Radio Device: BTS</p> <div style="border: 1px solid black; padding: 2px; margin: 5px 0;"> <p style="font-size: x-small; margin: 0;">Ref Offset 8.05 dB</p> <p style="font-size: x-small; margin: 0;">10 dB/div Ref 20.00 dBm</p>  </div> <p style="font-size: x-small; margin: 0;">Center 2.402 GHz Span 2 MHz</p> <p style="font-size: x-small; margin: 0;">#Res BW 30 kHz #VBW 100 kHz Sweep 2.133 ms</p> <table style="width: 100%; font-size: x-small; border-collapse: collapse;"> <tr> <td style="width: 33%;">Occupied Bandwidth</td> <td style="width: 33%;">Total Power</td> <td style="width: 33%;">8.95 dBm</td> </tr> <tr> <td style="text-align: center;">1.0332 MHz</td> <td></td> <td></td> </tr> <tr> <td>Transmit Freq Error</td> <td>-911 Hz</td> <td>OBW Power</td> </tr> <tr> <td>x dB Bandwidth</td> <td>607.9 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 style="font-size: x-small; margin: 0;">MSG STATUS</p> </div>	Occupied Bandwidth	Total Power	8.95 dBm	1.0332 MHz			Transmit Freq Error	-911 Hz	OBW Power	x dB Bandwidth	607.9 kHz	x dB			99.00 %			-6.00 dB
Occupied Bandwidth	Total Power	8.95 dBm																	
1.0332 MHz																			
Transmit Freq Error	-911 Hz	OBW Power																	
x dB Bandwidth	607.9 kHz	x dB																	
		99.00 %																	
		-6.00 dB																	
MCH	<div style="border: 1px solid black; padding: 5px;"> <p style="font-size: small; margin: 0;">Agilent Spectrum Analyzer - Occupied BW</p> <p style="font-size: x-small; margin: 0;">RL RF 50 Ω AC SENSE:INT ALIGN:AUTO 11:34:35 AM Mar 22, 2021</p> <p style="font-size: small; margin: 0;">Center Freq 2.44000000 GHz Center Freq: 2.44000000 GHz Radio Std: None</p> <p style="font-size: x-small; margin: 0;">#IFGain:Low Trig: Free Run AvgHold: 10/10 #Atten: 30 dB Radio Device: BTS</p> <div style="border: 1px solid black; padding: 2px; margin: 5px 0;"> <p style="font-size: x-small; margin: 0;">Ref Offset 8.05 dB</p> <p style="font-size: x-small; margin: 0;">10 dB/div Ref 20.00 dBm</p>  </div> <p style="font-size: x-small; margin: 0;">Center 2.44 GHz Span 2 MHz</p> <p style="font-size: x-small; margin: 0;">#Res BW 30 kHz #VBW 100 kHz Sweep 2.133 ms</p> <table style="width: 100%; font-size: x-small; border-collapse: collapse;"> <tr> <td style="width: 33%;">Occupied Bandwidth</td> <td style="width: 33%;">Total Power</td> <td style="width: 33%;">12.1 dBm</td> </tr> <tr> <td style="text-align: center;">1.0356 MHz</td> <td></td> <td></td> </tr> <tr> <td>Transmit Freq Error</td> <td>-285 Hz</td> <td>OBW Power</td> </tr> <tr> <td>x dB Bandwidth</td> <td>593.0 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 style="font-size: x-small; margin: 0;">MSG STATUS</p> </div>	Occupied Bandwidth	Total Power	12.1 dBm	1.0356 MHz			Transmit Freq Error	-285 Hz	OBW Power	x dB Bandwidth	593.0 kHz	x dB			99.00 %			-6.00 dB
Occupied Bandwidth	Total Power	12.1 dBm																	
1.0356 MHz																			
Transmit Freq Error	-285 Hz	OBW Power																	
x dB Bandwidth	593.0 kHz	x dB																	
		99.00 %																	
		-6.00 dB																	

HCH

Agilent Spectrum Analyzer - Occupied BW

RL	RF	50 Ω	AC	SENSE:INT	ALIGN:AUTO	11:34:59 AM Mar 22, 2021
Center Freq 2.480000000 GHz				Center Freq: 2.480000000 GHz	Radio Std: None	Frequency
				Trig: Free Run	AvgJHold: 10/10	Center Freq 2.480000000 GHz
				#IFGain:Low	#Atten: 30 dB	

10 dB/div
Log

Ref Offset 8.05 dB
Ref 20.00 dBm

Center 2.48 GHz Span 2 MHz
#Res BW 30 kHz #VBW 100 kHz Sweep 2.133 ms

Occupied Bandwidth	Total Power	7.43 dBm
1.0337 MHz		
Transmit Freq Error	-704 Hz	OBW Power
x dB Bandwidth	615.8 kHz	x dB
		99.00 %
		-6.00 dB

CF Step	200.000 kHz
Auto	Man
Freq Offset	0 Hz

MSG STATUS

B.6 RF Conducted Spurious Emissions

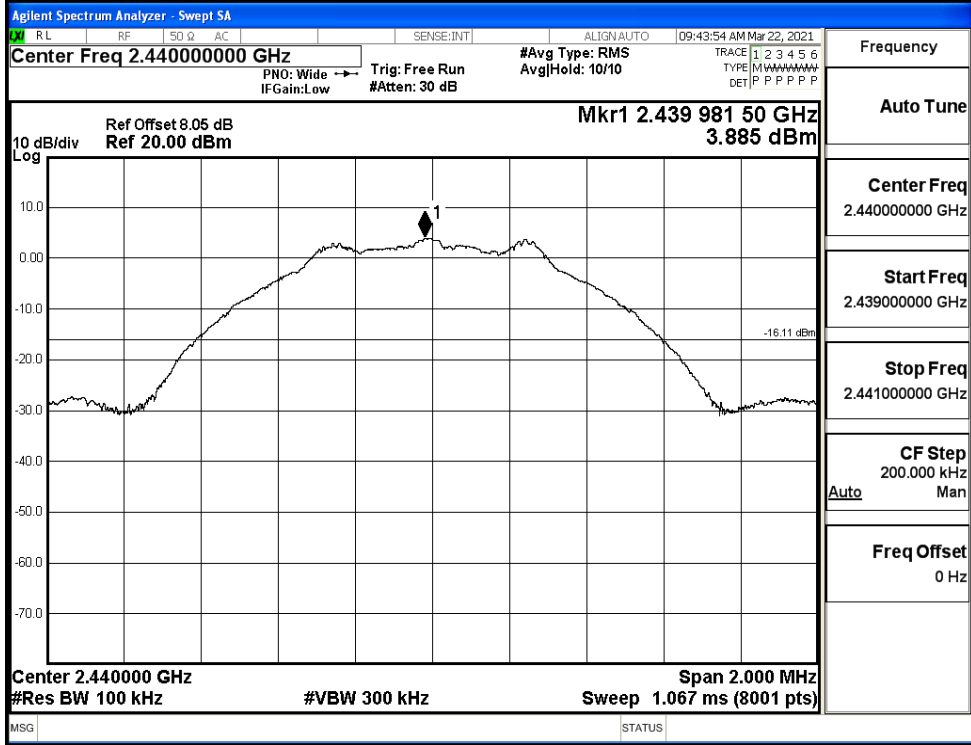
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
BT LE	LCH	0.672	-37.204	-19.328	PASS
BT LE	MCH	3.885	-36.159	-16.115	PASS
BT LE	HCH	-0.391	-36.314	-20.391	PASS

BT LE_LCH_Graphs

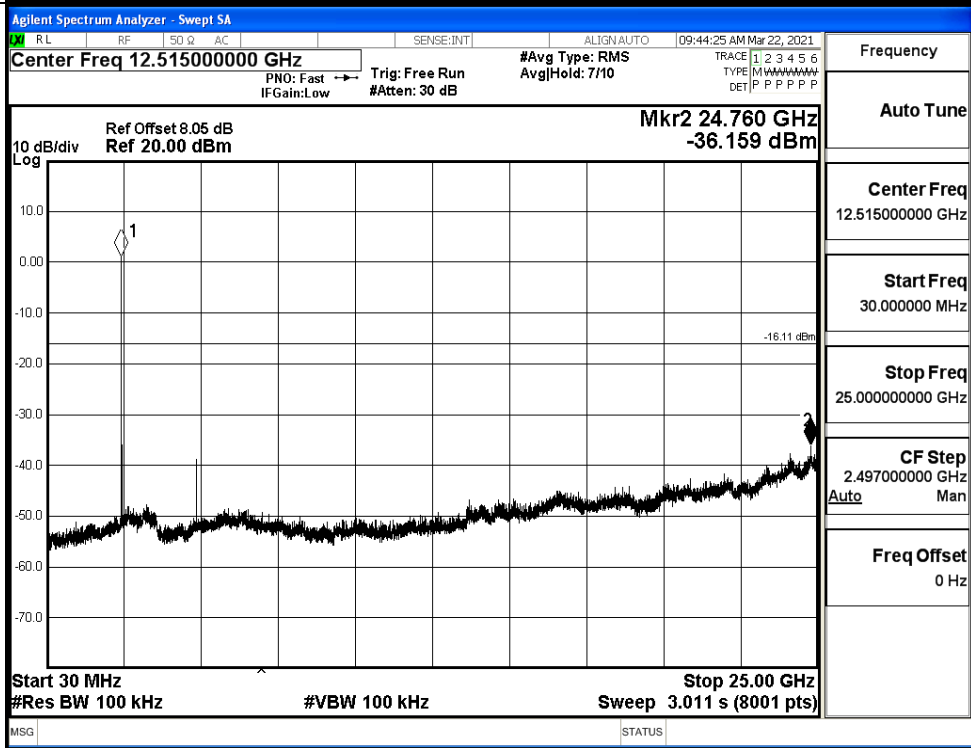
<p>Pref/BT LE/LCH</p>		<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 2.402000000 GHz</p> <p>Start Freq 2.401000000 GHz</p> <p>Stop Freq 2.403000000 GHz</p> <p>CF Step 200.000 kHz Auto Man</p> <p>Freq Offset 0 Hz</p>
<p>Puw/BT LE/LCH</p>		<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 12.515000000 GHz</p> <p>Start Freq 30.000000 MHz</p> <p>Stop Freq 25.000000000 GHz</p> <p>CF Step 2.497000000 GHz Auto Man</p> <p>Freq Offset 0 Hz</p>

BT LE_MCH_Graphs

Pref/BT LE/MCH

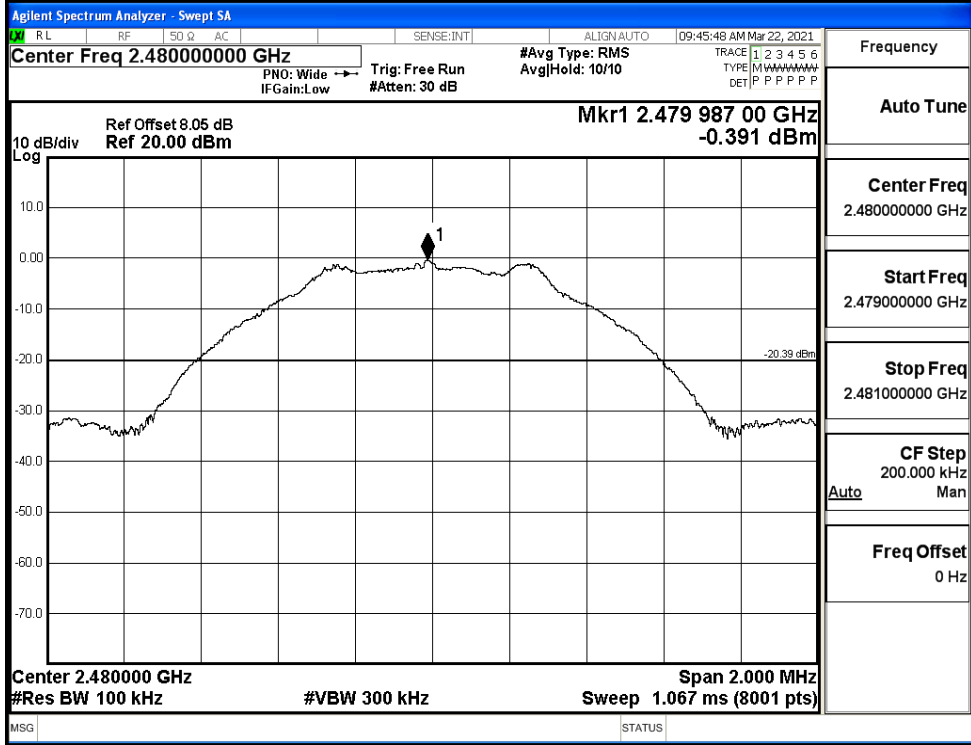


Puw/BT LE/MCH

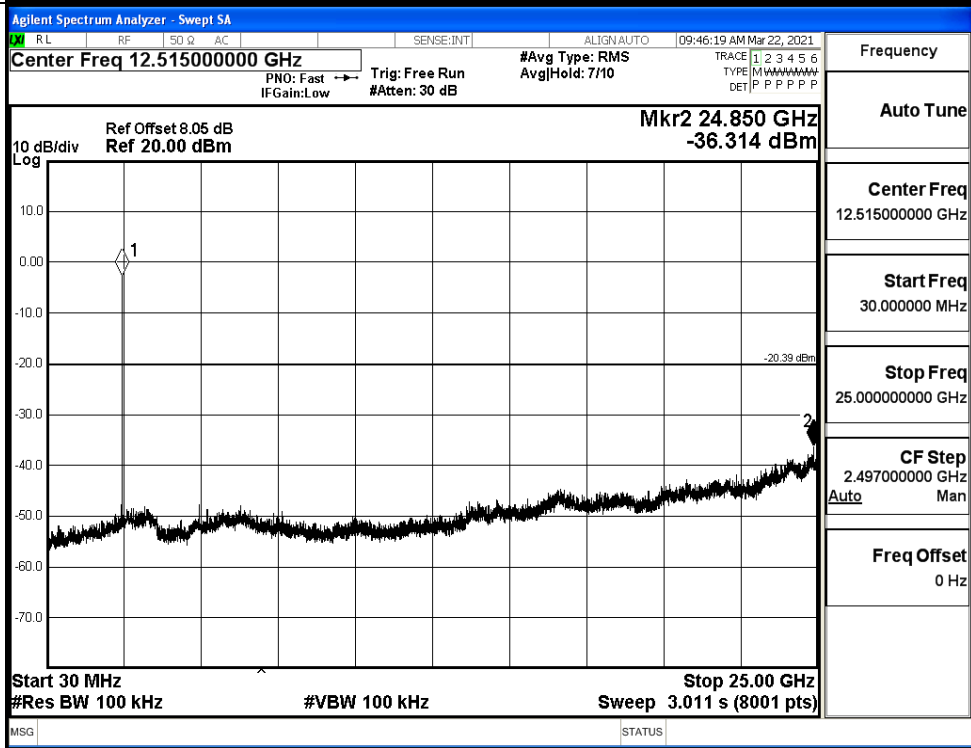


BT LE_HCH_Graphs

Pref/BT LE/HCH



Puw/BT LE/HCH



B.7 Band-edge for RF Conducted Emissions

Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
BT LE	LCH	-0.005	-49.619	-20.01	PASS
BT LE	HCH	-0.113	-48.781	-20.11	PASS

Test Graphs

LCH

Frequency

Auto Tune

Center Freq
2.35700000 GHz

Start Freq
2.31000000 GHz

Stop Freq
2.40400000 GHz

CF Step
9.400000 MHz

Freq Offset
0 Hz

HCH

Frequency

Auto Tune

Center Freq
2.48900000 GHz

Start Freq
2.47800000 GHz

Stop Freq
2.50000000 GHz

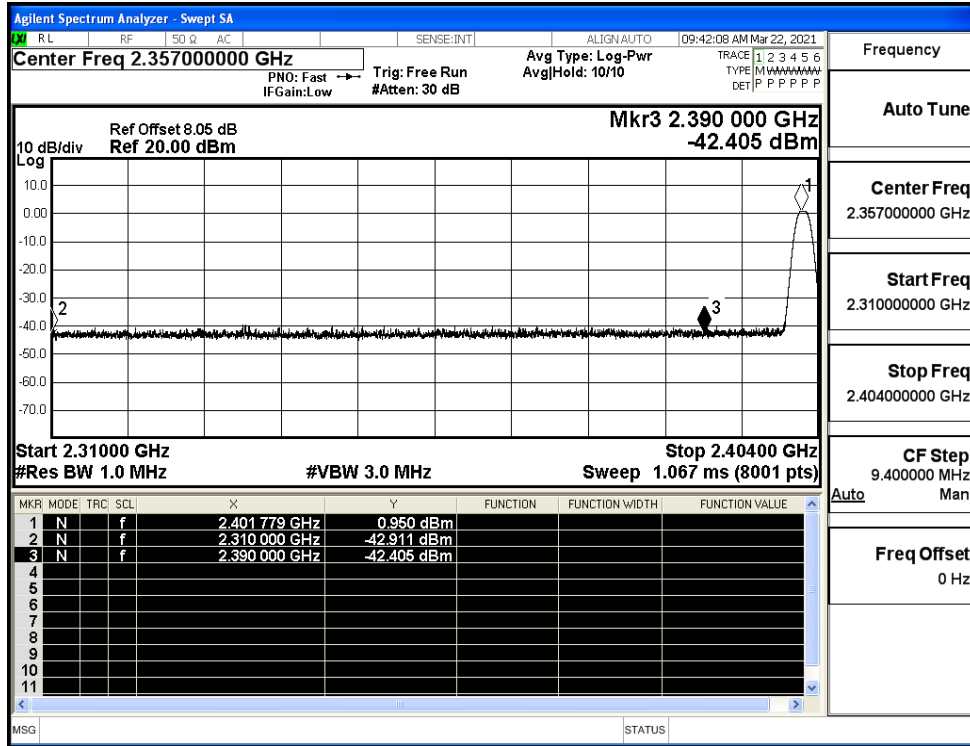
CF Step
2.200000 MHz

Freq Offset
0 Hz

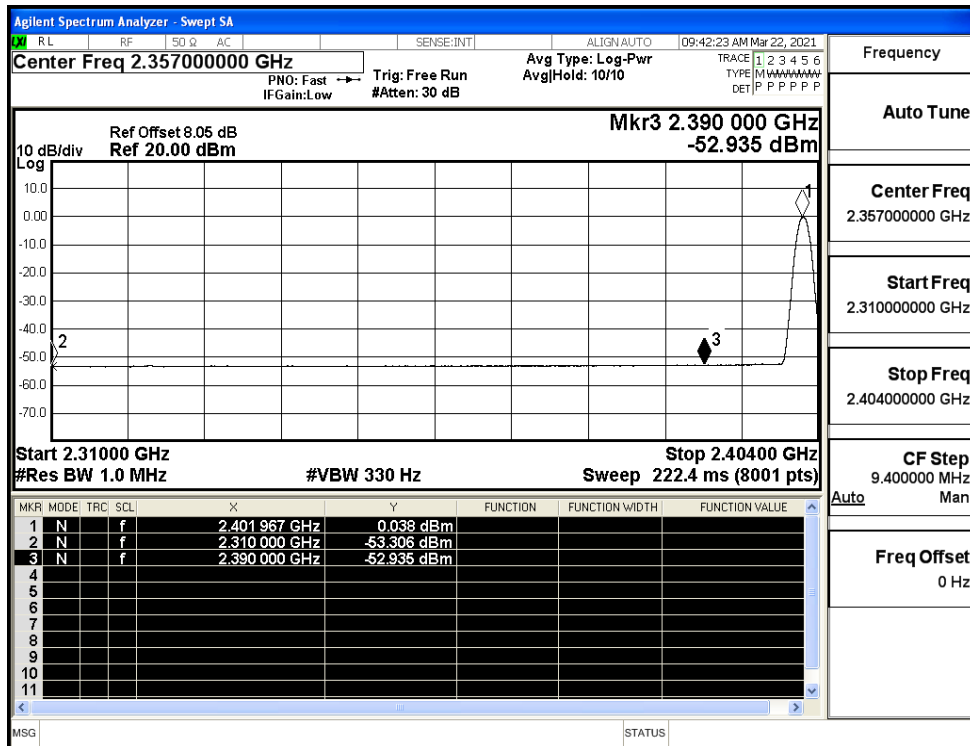
B.8 Restrict-band band-edge measurements

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	-42.91	2.0	0	54.35	PEAK	74	PASS
		Ant1	2310.0	-53.31	2.0	0	43.95	AV	54	PASS
		Ant1	2390.0	-42.41	2.0	0	54.85	PEAK	74	PASS
		Ant1	2390.0	-52.94	2.0	0	44.32	AV	54	PASS
	2480	Ant1	2483.5	-41.95	2.0	0	55.31	PEAK	74	PASS
		Ant1	2483.5	-52.36	2.0	0	44.90	AV	54	PASS
		Ant1	2500.0	-39.85	2.0	0	57.40	PEAK	74	PASS
		Ant1	2500.0	-52.26	2.0	0	45.00	AV	54	PASS

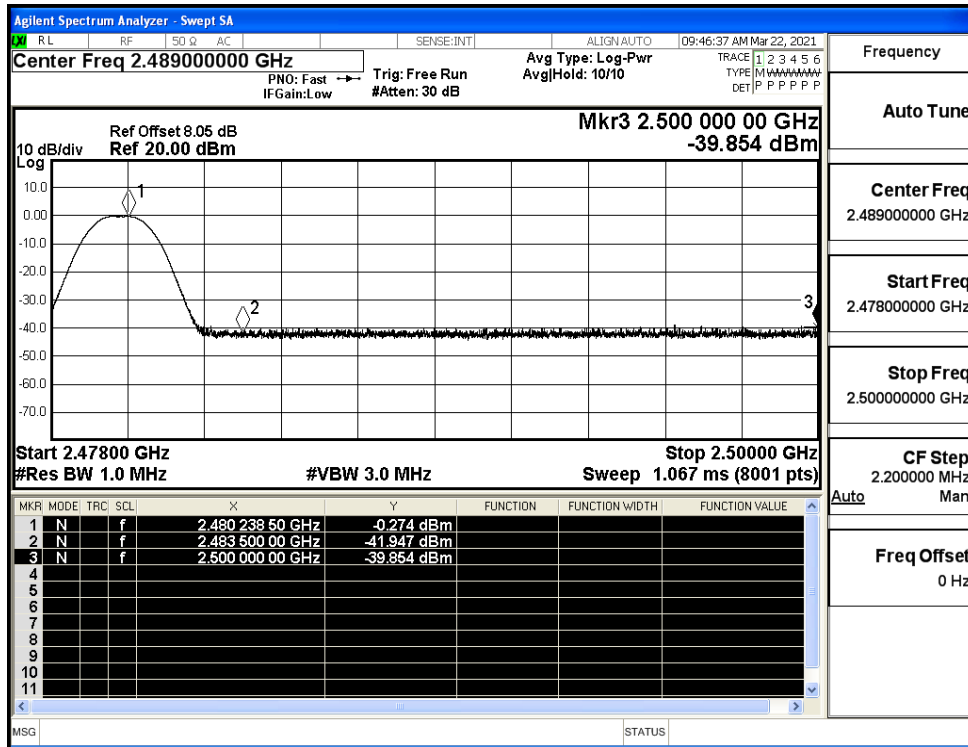
Restrict-band band-edge measurements_BT LE_2402_Ant1_PEAK



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

