

Appendix B

RF Test Data for BT V4.0(BDR/EDR) (Conducted Measurement)

Product Name: Tablet pc

Trade Mark: **HYUNDAI**

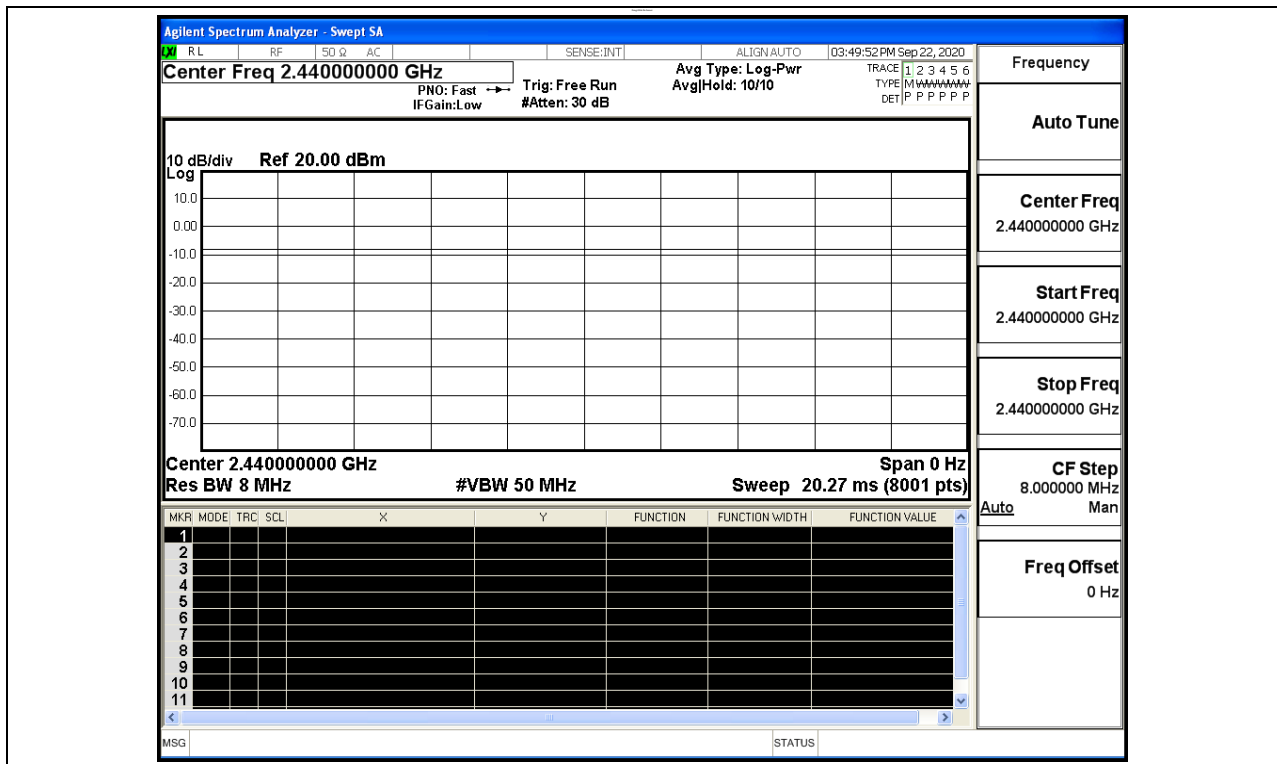
Test Model: 10WB1

Environmental Conditions

Temperature:	24.3 ° C
Relative Humidity:	53.9%
ATM Pressure:	100.0 kPa
Test Engineer:	Li huan
Supervised by:	Tom.Liu

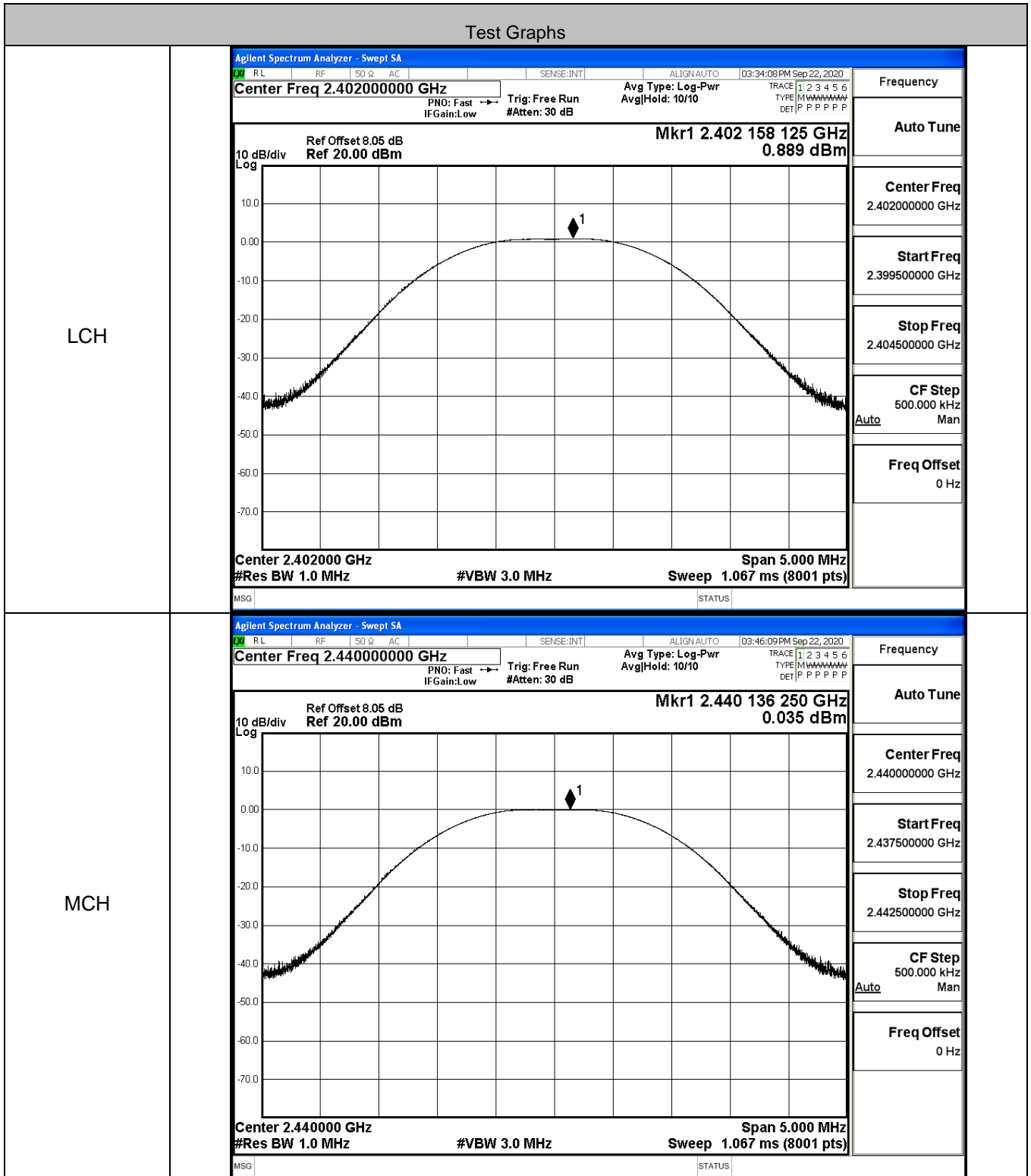
B.1 Duty Cycle

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

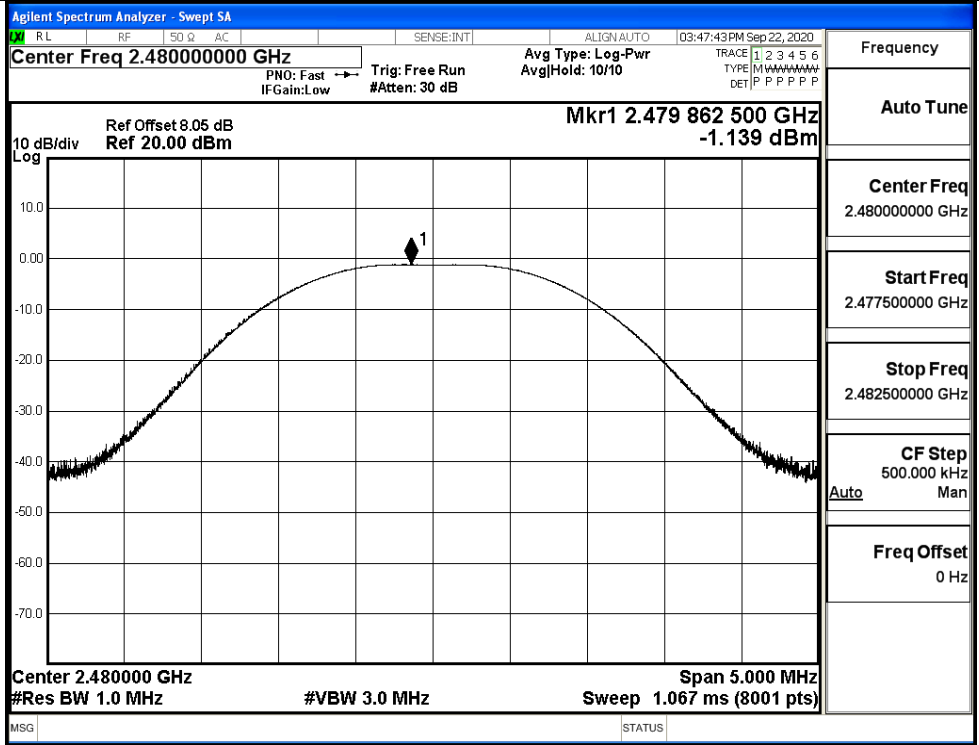


B.2 Maximum Conducted Peak Output Power

Mode	Channel	Conduct Peak Power[dBm]	Limit [dBm]	Verdict
BT LE	LCH	0.889	30	PASS
BT LE	MCH	0.035	30	PASS
BT LE	HCH	-1.139	30	PASS



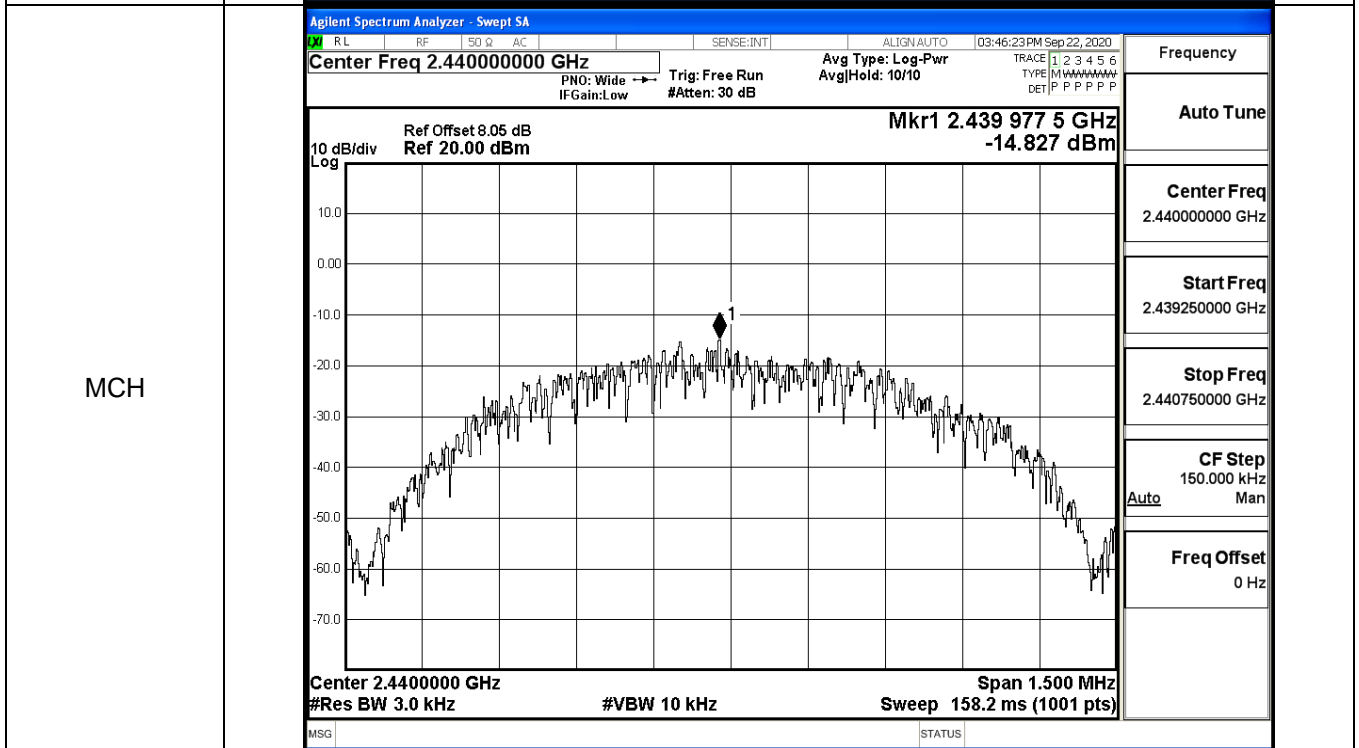
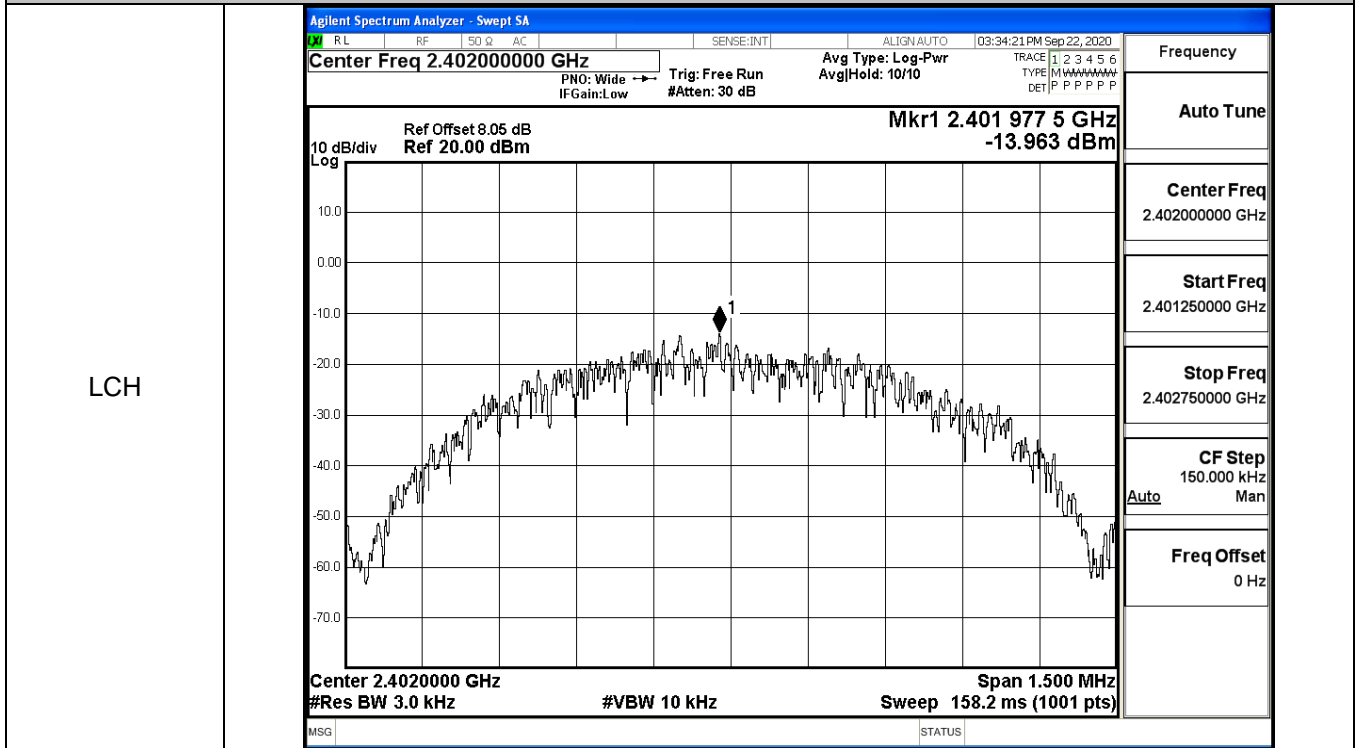
HCH



B.3 Maximum Power Spectral Density

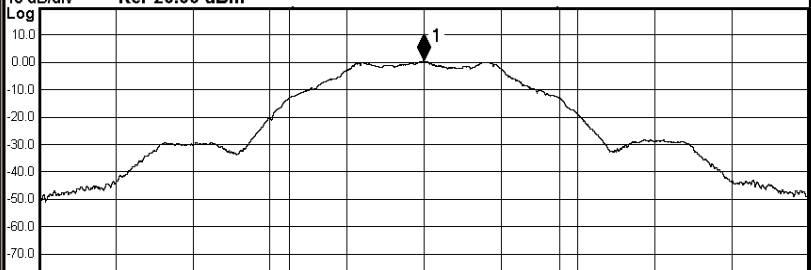
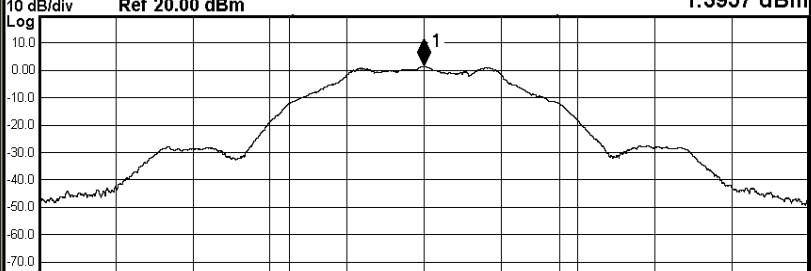
Mode	Channel	PSD [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
BT LE	LCH	-13.963	8	PASS
BT LE	MCH	-14.827	8	PASS
BT LE	HCH	-15.938	8	PASS

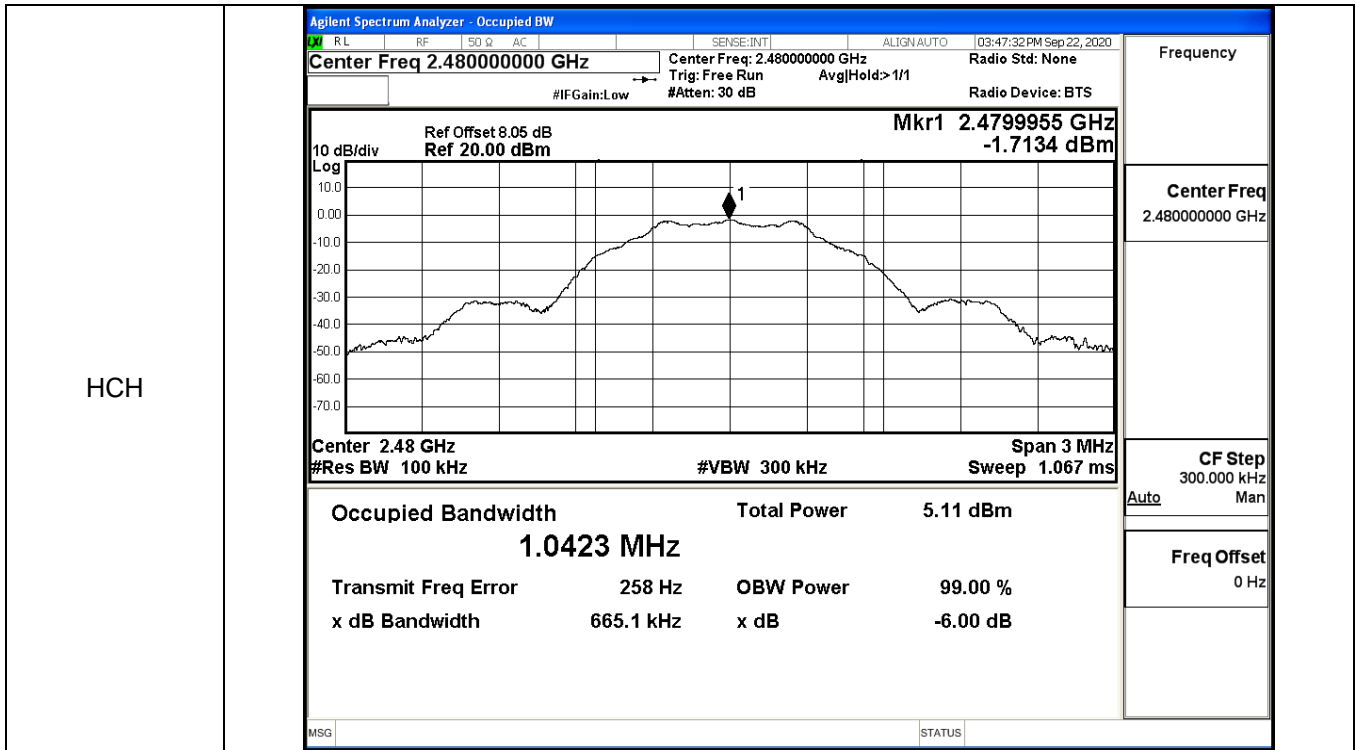
Test Graphs



B.4 6dB Bandwidth

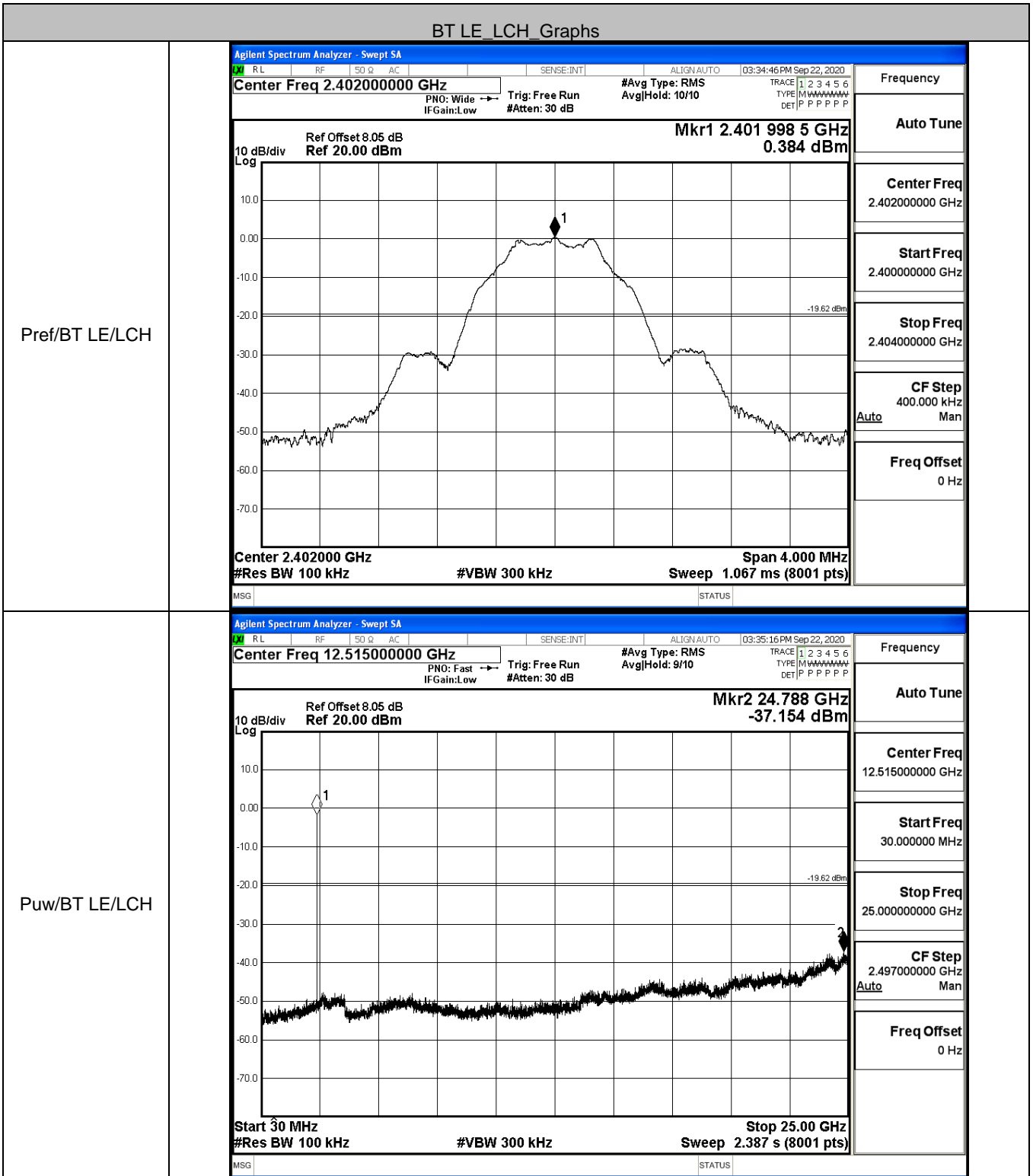
Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
BT LE	LCH	0.6721	≥0.5	PASS
BT LE	MCH	0.6632	≥0.5	PASS
BT LE	HCH	0.6651	≥0.5	PASS

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 03:44:52 PM Sep 22, 2020</p> <p style="font-size: small; margin: 0;">Center Freq 2.402000000 GHz Center Freq: 2.402000000 GHz Radio Std: None</p> <p style="font-size: x-small; margin: 0;">Trig: Free Run AvgHold: 1/1</p> <p style="font-size: x-small; margin: 0;">#IFGain:Low #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;">10 dB/div Ref Offset 8.05 dB Mkr1 2.4019993 GHz</p> <p style="font-size: x-small; margin: 0;">Log Ref 20.00 dBm 0.48067 dBm</p>  </div> <p style="font-size: x-small; margin: 0;">Center 2.402 GHz Span 3 MHz</p> <p style="font-size: x-small; margin: 0;">#Res BW 100 kHz #VBW 300 kHz Sweep 1.067 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%;">7.23 dBm</td> </tr> <tr> <td style="text-align: center;">1.0477 MHz</td> <td></td> <td></td> </tr> <tr> <td>Transmit Freq Error</td> <td>3.222 kHz</td> <td>OBW Power</td> </tr> <tr> <td>x dB Bandwidth</td> <td>672.1 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> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"> <p style="font-size: x-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 03:36:17 PM Sep 22, 2020</p> <p style="font-size: small; margin: 0;">Center Freq 2.440000000 GHz Center Freq: 2.440000000 GHz Radio Std: None</p> <p style="font-size: x-small; margin: 0;">Trig: Free Run AvgHold: 1/1</p> <p style="font-size: x-small; margin: 0;">#IFGain:Low #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;">10 dB/div Ref Offset 8.05 dB Mkr1 2.4400008 GHz</p> <p style="font-size: x-small; margin: 0;">Log Ref 20.00 dBm 1.3957 dBm</p>  </div> <p style="font-size: x-small; margin: 0;">Center 2.44 GHz Span 3 MHz</p> <p style="font-size: x-small; margin: 0;">#Res BW 100 kHz #VBW 300 kHz Sweep 1.067 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%;">8.15 dBm</td> </tr> <tr> <td style="text-align: center;">1.0486 MHz</td> <td></td> <td></td> </tr> <tr> <td>Transmit Freq Error</td> <td>2.730 kHz</td> <td>OBW Power</td> </tr> <tr> <td>x dB Bandwidth</td> <td>663.2 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 style="font-size: x-small; margin: 0;">MSG STATUS</p> </div>	Occupied Bandwidth	Total Power	7.23 dBm	1.0477 MHz			Transmit Freq Error	3.222 kHz	OBW Power	x dB Bandwidth	672.1 kHz	x dB			99.00 %			-6.00 dB	Occupied Bandwidth	Total Power	8.15 dBm	1.0486 MHz			Transmit Freq Error	2.730 kHz	OBW Power	x dB Bandwidth	663.2 kHz	x dB			99.00 %			-6.00 dB
Occupied Bandwidth	Total Power	7.23 dBm																																			
1.0477 MHz																																					
Transmit Freq Error	3.222 kHz	OBW Power																																			
x dB Bandwidth	672.1 kHz	x dB																																			
		99.00 %																																			
		-6.00 dB																																			
Occupied Bandwidth	Total Power	8.15 dBm																																			
1.0486 MHz																																					
Transmit Freq Error	2.730 kHz	OBW Power																																			
x dB Bandwidth	663.2 kHz	x dB																																			
		99.00 %																																			
		-6.00 dB																																			



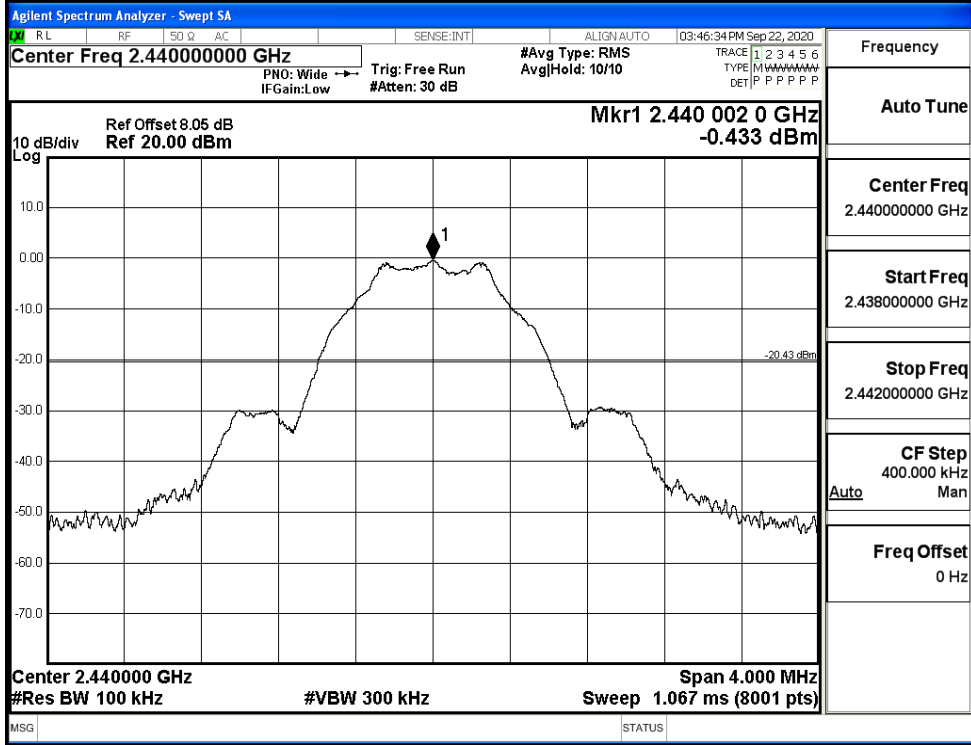
B.5 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
BT LE	LCH	0.384	-37.154	-19.616	PASS
BT LE	MCH	-0.433	-37.418	-20.433	PASS
BT LE	HCH	-1.68	-37.621	-21.680	PASS

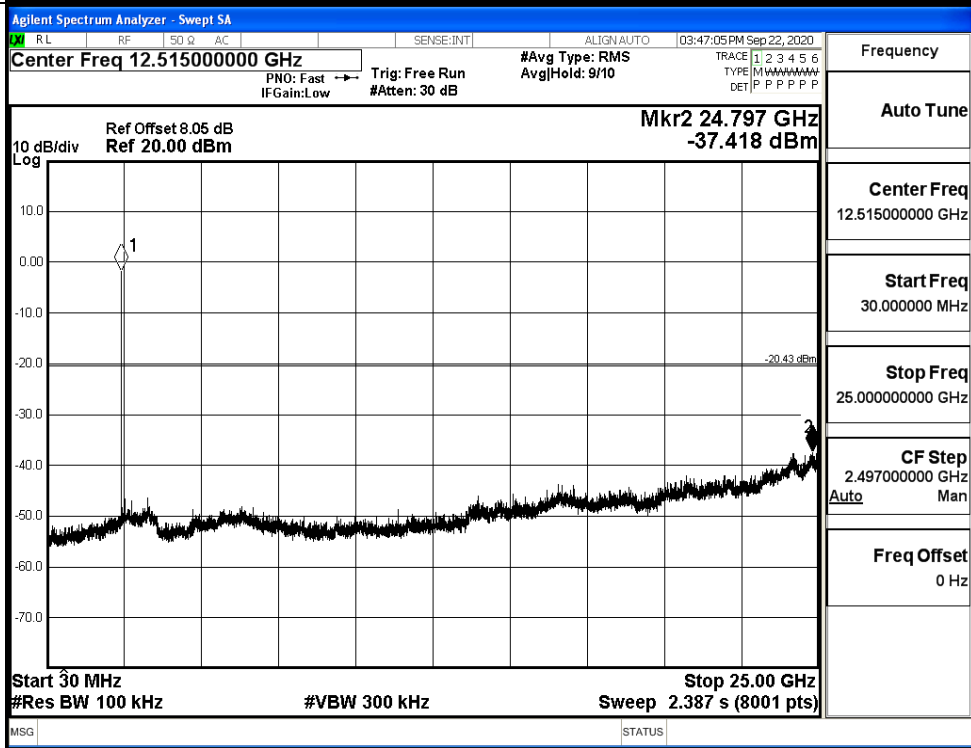


BT LE_MCH_Graphs

Pref/BT LE/MCH

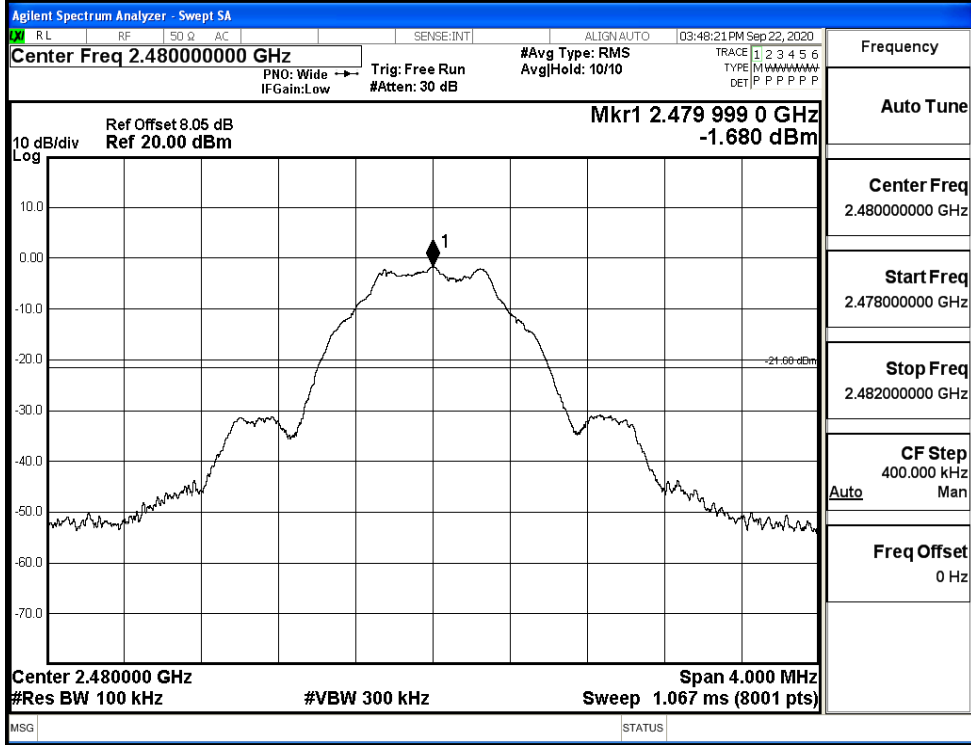


Puw/BT LE/MCH

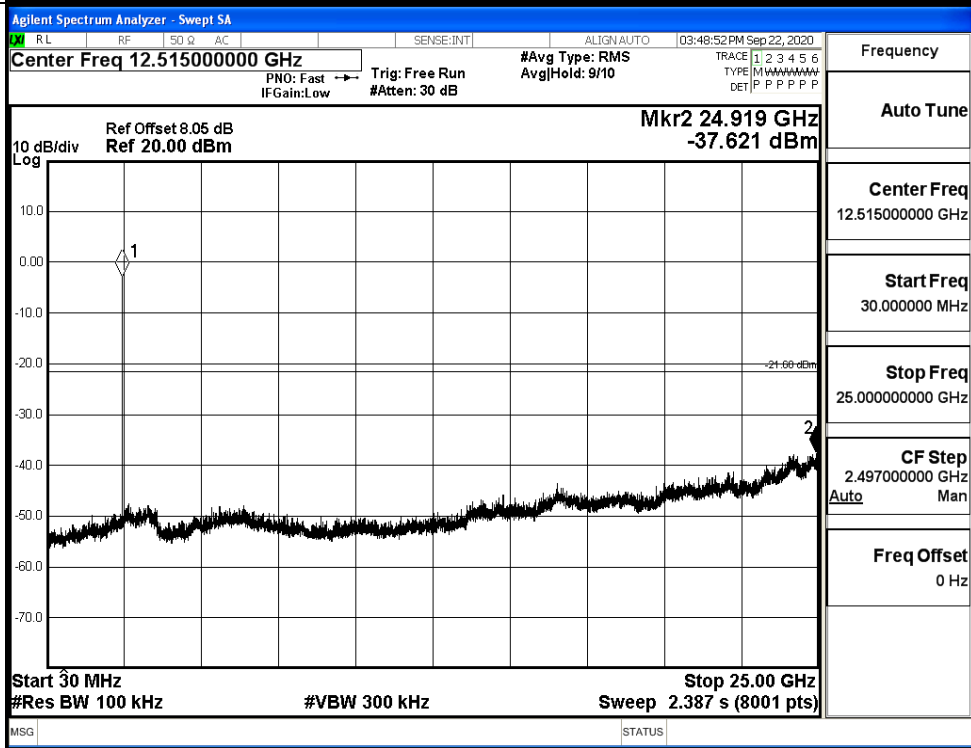


BT LE_HCH_Graphs

Pref/BT LE/HCH



Puw/BT LE/HCH



B.6 Band-edge for RF Conducted Emissions

Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
BT LE	LCH	0.400	-48.685	-19.6	PASS
BT LE	HCH	-1.553	-49.126	-21.55	PASS

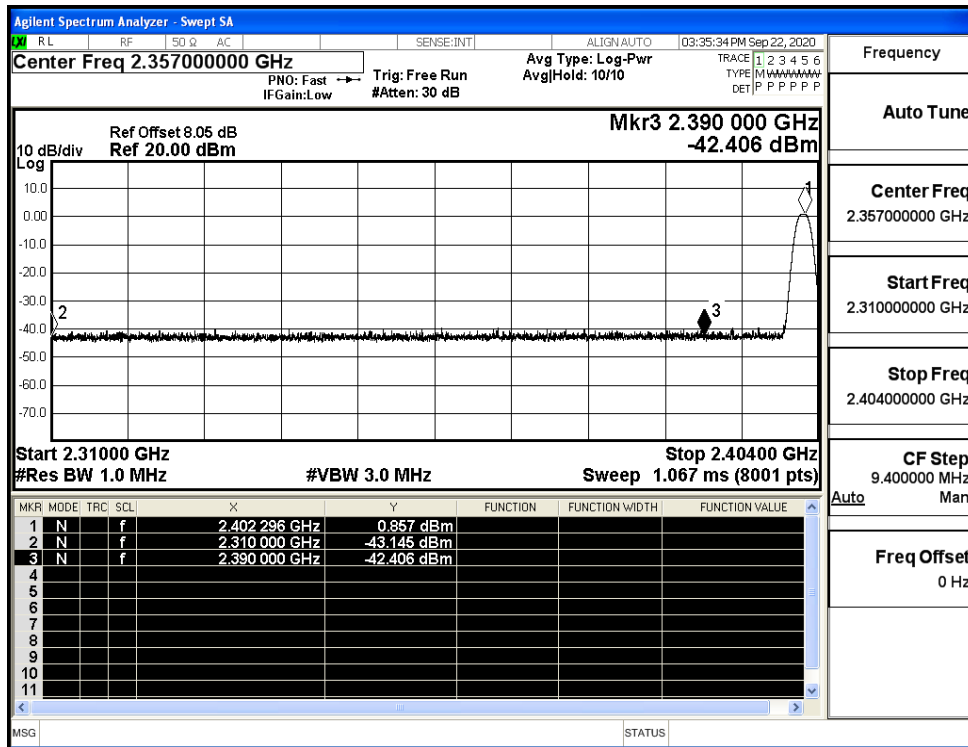
Test Graphs

LCH	<p>Agilent Spectrum Analyzer - Swept SA Center Freq 2.35700000 GHz Max Spurious Level -48.685 dBm Mkr4 2.337 812 GHz Start 2.31000 GHz, Stop 2.40400 GHz #Res BW 100 kHz, #VBW 300 kHz, Sweep 9.067 ms (8001 pts)</p> <table border="1" style="width: 100%; font-size: small;"> <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>0.400 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>-53.097 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>-53.560 dBm</td><td></td><td></td><td></td></tr> <tr><td>4</td><td>N</td><td>f</td><td></td><td>2.337 812 GHz</td><td>-48.685 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	0.400 dBm				2	N	f		2.400 000 GHz	-53.097 dBm				3	N	f		2.390 000 GHz	-53.560 dBm				4	N	f		2.337 812 GHz	-48.685 dBm				Frequency Auto Tune Center Freq 2.35700000 GHz Start Freq 2.310000000 GHz Stop Freq 2.404000000 GHz CF Step 9.400000 MHz Freq Offset 0 Hz
MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																																							
1	N	f		2.402 003 GHz	0.400 dBm																																										
2	N	f		2.400 000 GHz	-53.097 dBm																																										
3	N	f		2.390 000 GHz	-53.560 dBm																																										
4	N	f		2.337 812 GHz	-48.685 dBm																																										
HCH	<p>Agilent Spectrum Analyzer - Swept SA Center Freq 2.48900000 GHz Max Spurious Level -49.126 dBm Mkr4 2.489 255 75 GHz Start 2.47800 GHz, Stop 2.50000 GHz #Res BW 100 kHz, #VBW 300 kHz, Sweep 2.133 ms (8001 pts)</p> <table border="1" style="width: 100%; font-size: small;"> <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>-1.553 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>-53.013 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>-50.815 dBm</td><td></td><td></td><td></td></tr> <tr><td>4</td><td>N</td><td>f</td><td></td><td>2.489 255 75 GHz</td><td>-49.126 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	-1.553 dBm				2	N	f		2.483 500 00 GHz	-53.013 dBm				3	N	f		2.500 000 00 GHz	-50.815 dBm				4	N	f		2.489 255 75 GHz	-49.126 dBm				Frequency Auto Tune Center Freq 2.48900000 GHz Start Freq 2.478000000 GHz Stop Freq 2.500000000 GHz CF Step 2.200000 MHz Freq Offset 0 Hz
MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE																																							
1	N	f		2.480 002 00 GHz	-1.553 dBm																																										
2	N	f		2.483 500 00 GHz	-53.013 dBm																																										
3	N	f		2.500 000 00 GHz	-50.815 dBm																																										
4	N	f		2.489 255 75 GHz	-49.126 dBm																																										

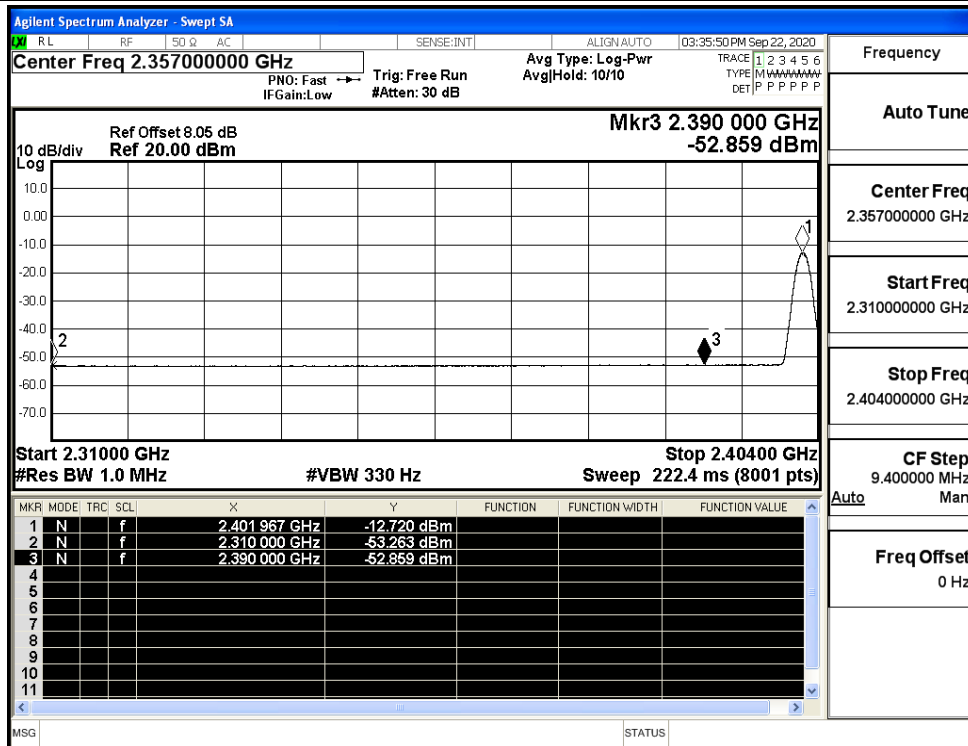
B.7 Restrict-band band-edge measurements

Test Mode	Test Channel	Ant	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdi
BT LE	2402	Ant1	2310.0	-43.15	2.0	0	54.11	PEAK	74	PASS
		Ant1	2310.0	-53.26	2.0	0	44.00	AV	54	PASS
		Ant1	2390.0	-42.41	2.0	0	54.85	PEAK	74	PASS
		Ant1	2390.0	-52.86	2.0	0	44.40	AV	54	PASS
	2480	Ant1	2483.5	-41.34	2.0	0	55.92	PEAK	74	PASS
		Ant1	2483.5	-52.56	2.0	0	44.70	AV	54	PASS
		Ant1	2500.0	-42.51	2.0	0	54.75	PEAK	74	PASS
		Ant1	2500.0	-52.35	2.0	0	44.91	AV	54	PASS

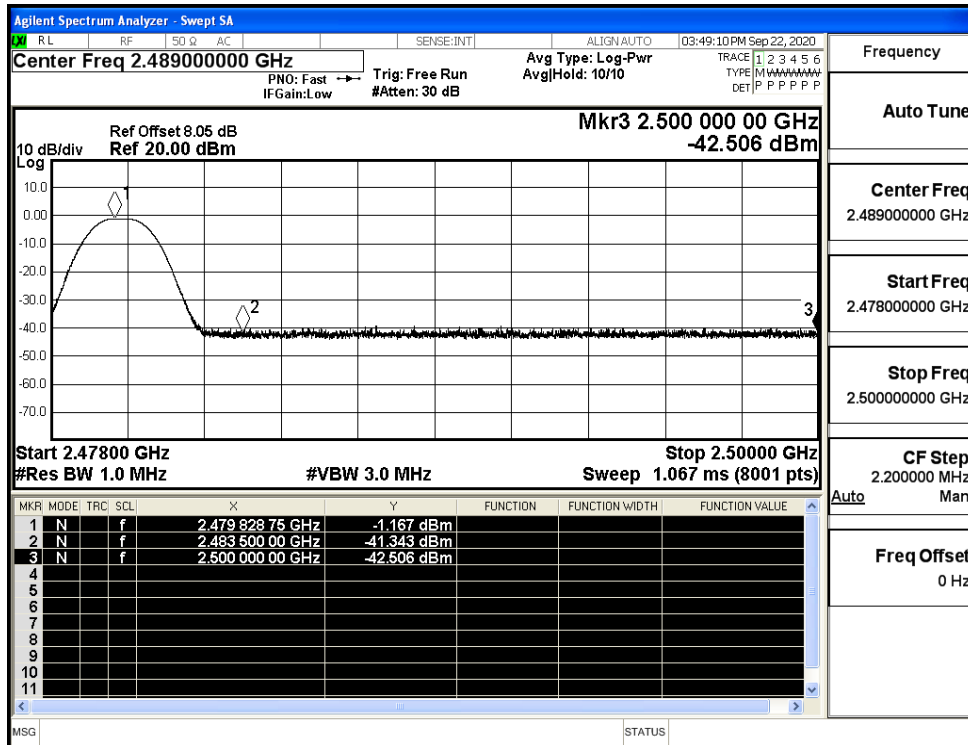
Restrict-band band-edge measurements_BT LE_2402_Ant1_PEAK



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

