

Appendix B

RF Test Data for BT V4.2(LE) (Conducted Measurement)

Product Name: IPTV Receiver

Trade Mark: FORMULER

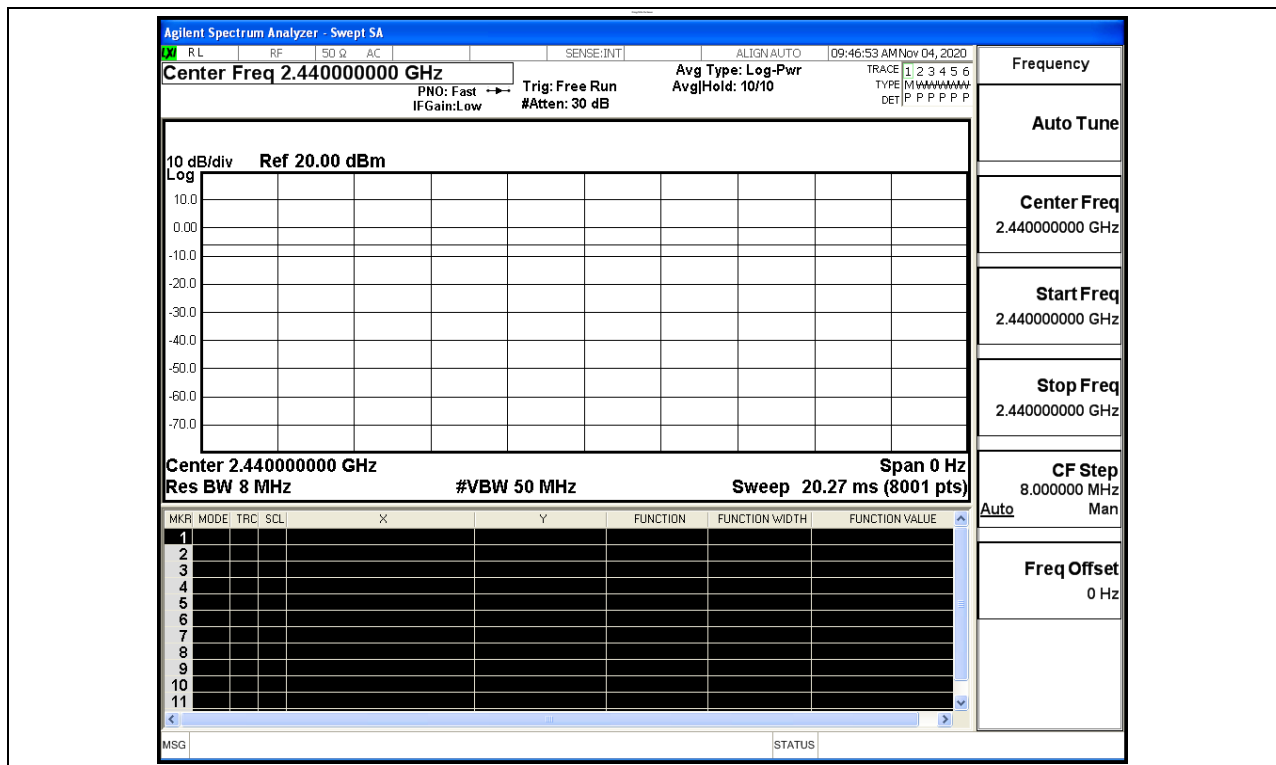
Test Model: Z ALPHA

Environmental Conditions

Temperature:	24.6° C
Relative Humidity:	54.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Ken He
Supervised by:	Li Huan

B.1 Duty Cycle

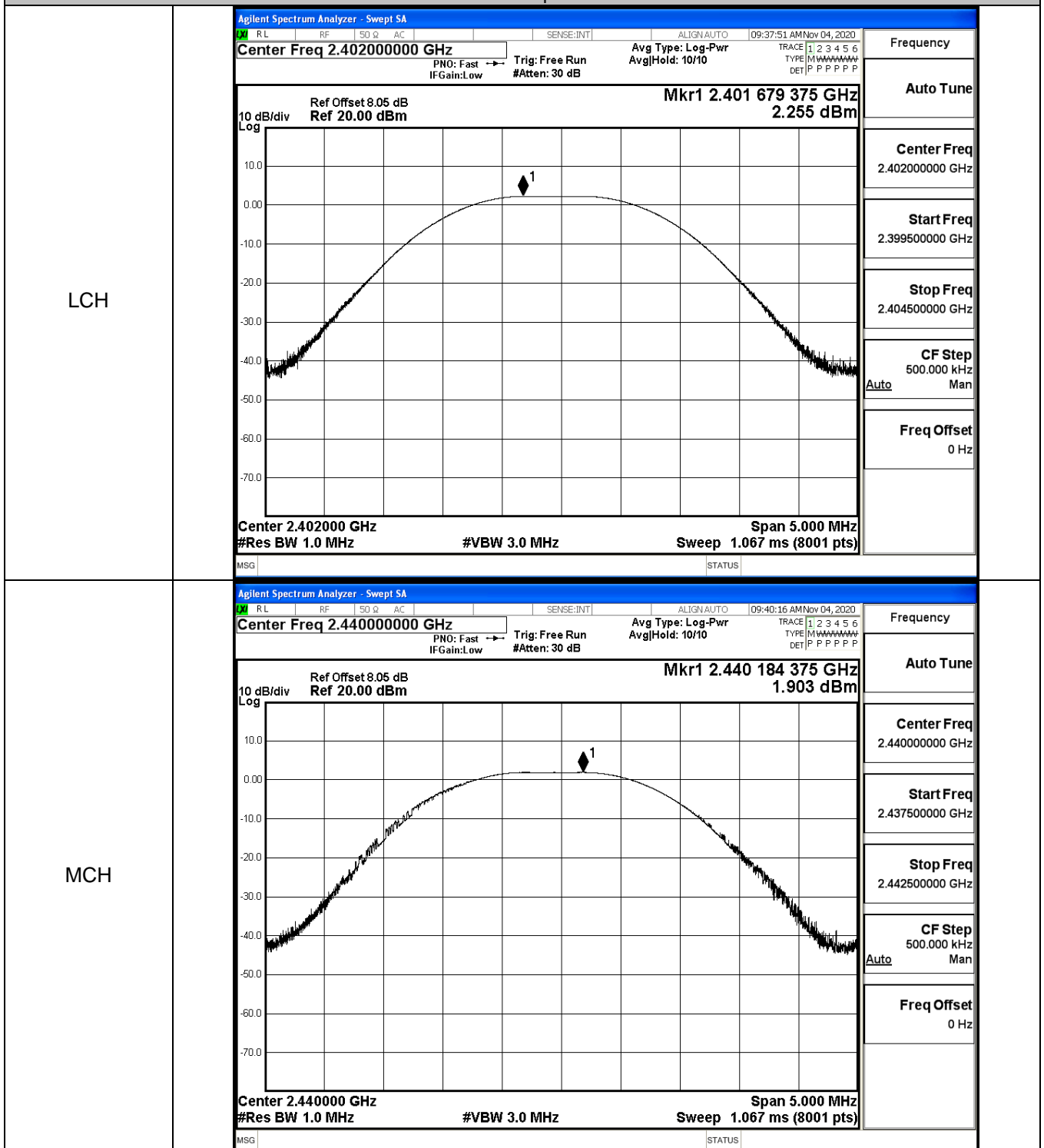
Test Mode	Test Channel	Ant	Duty Cycle[%]	Verdict
BT LE	2440	Ant1	100	PASS



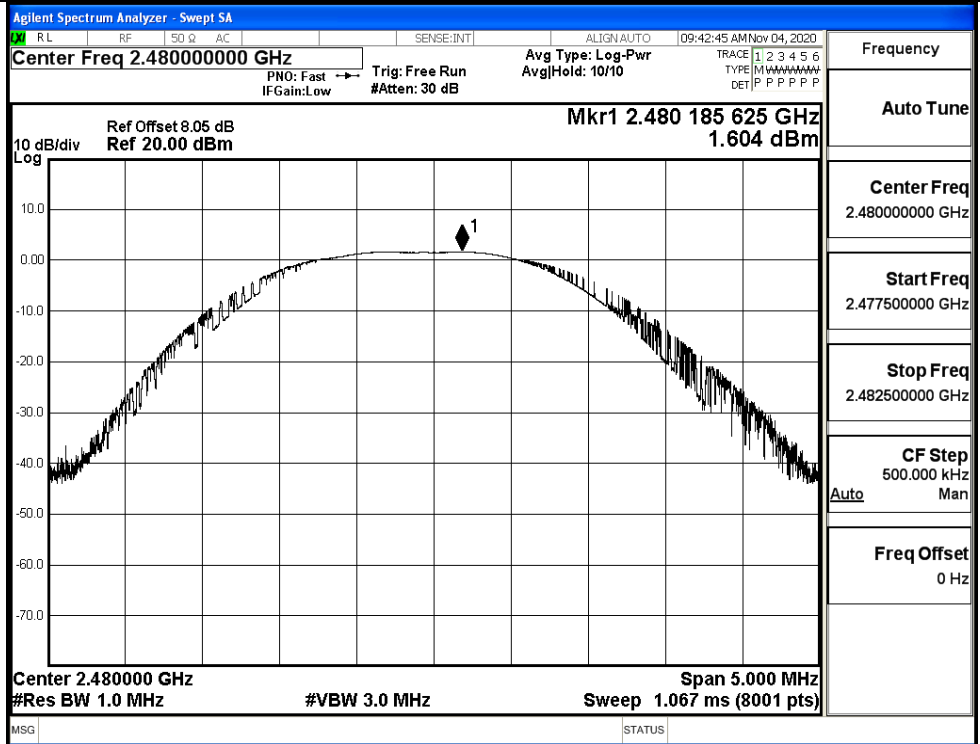
B.2 Maximum Conducted Peak Output Power

Mode	Channel	Conduct Peak Power[dBm]	Limit [dBm]	Verdict
BT LE	LCH	2.255	30	PASS
BT LE	MCH	1.903	30	PASS
BT LE	HCH	1.604	30	PASS

Test Graphs



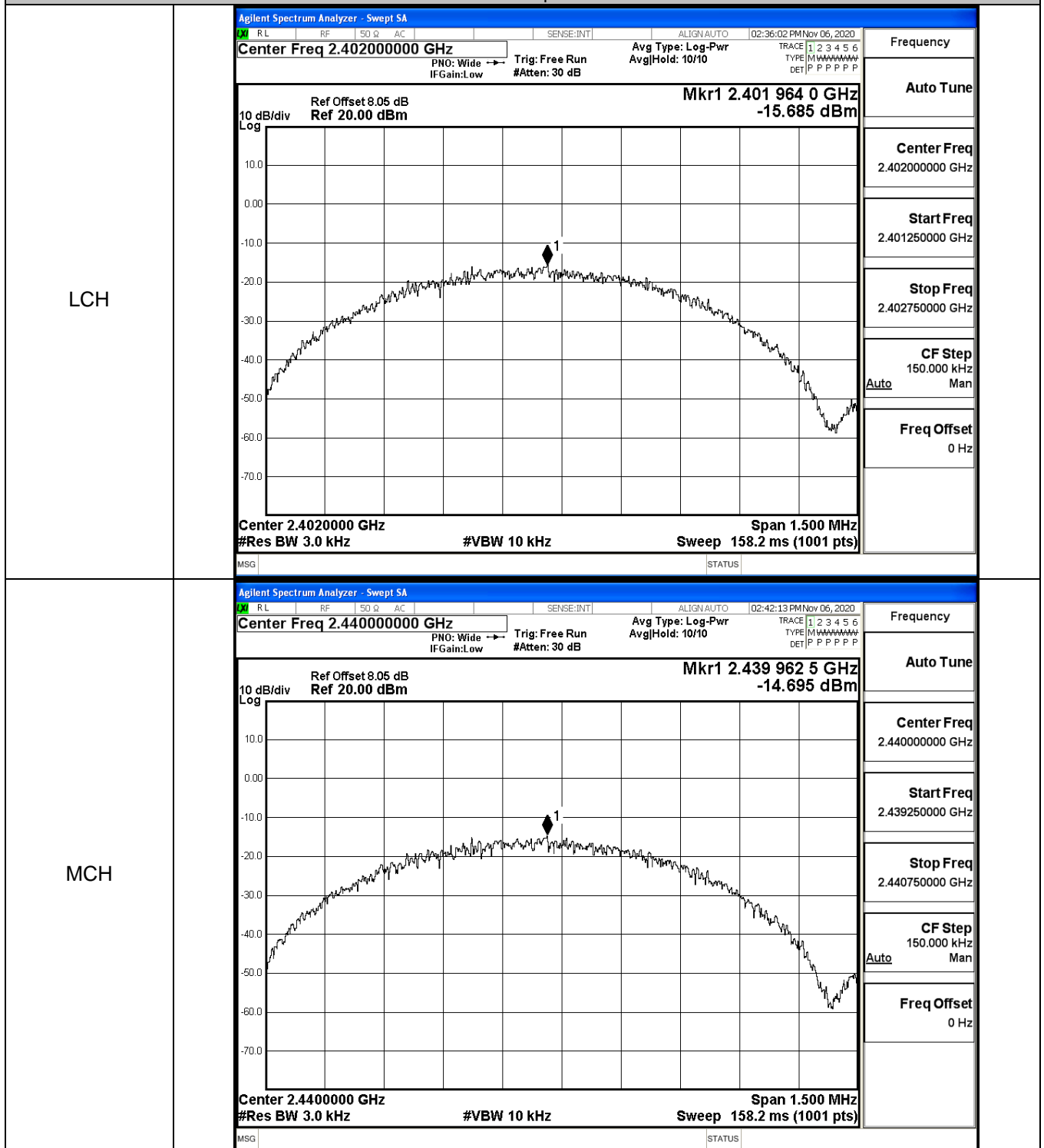
HCH



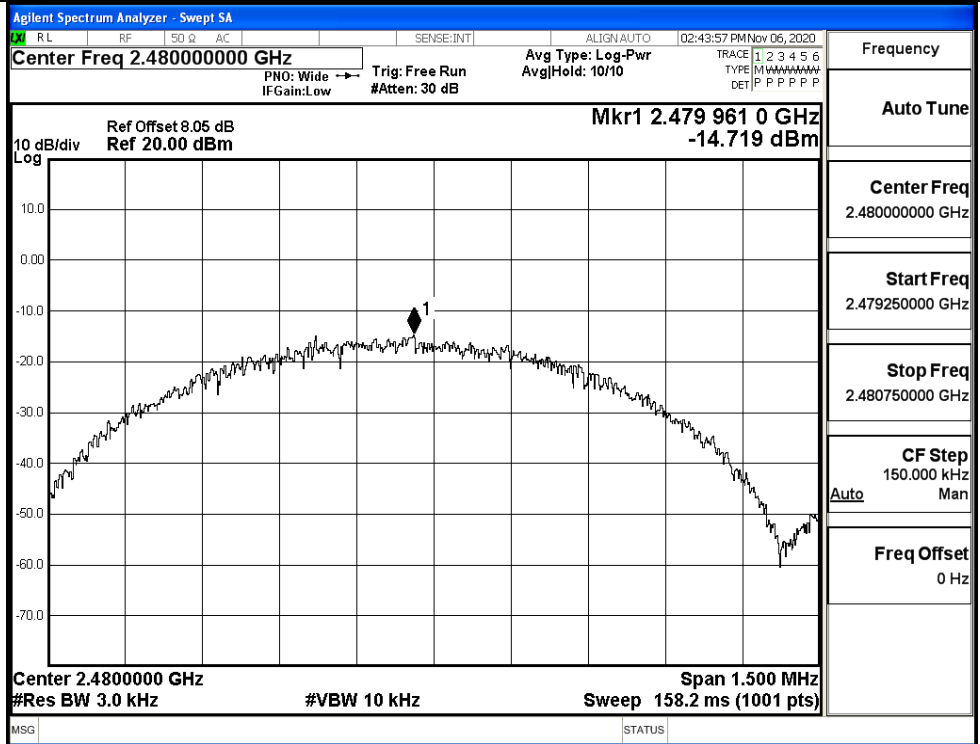
B.3 Maximum Power Spectral Density

Mode	Channel	PSD [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
BT LE	LCH	-15.685	8	PASS
BT LE	MCH	-14.695	8	PASS
BT LE	HCH	-14.719	8	PASS

Test Graphs



HCH

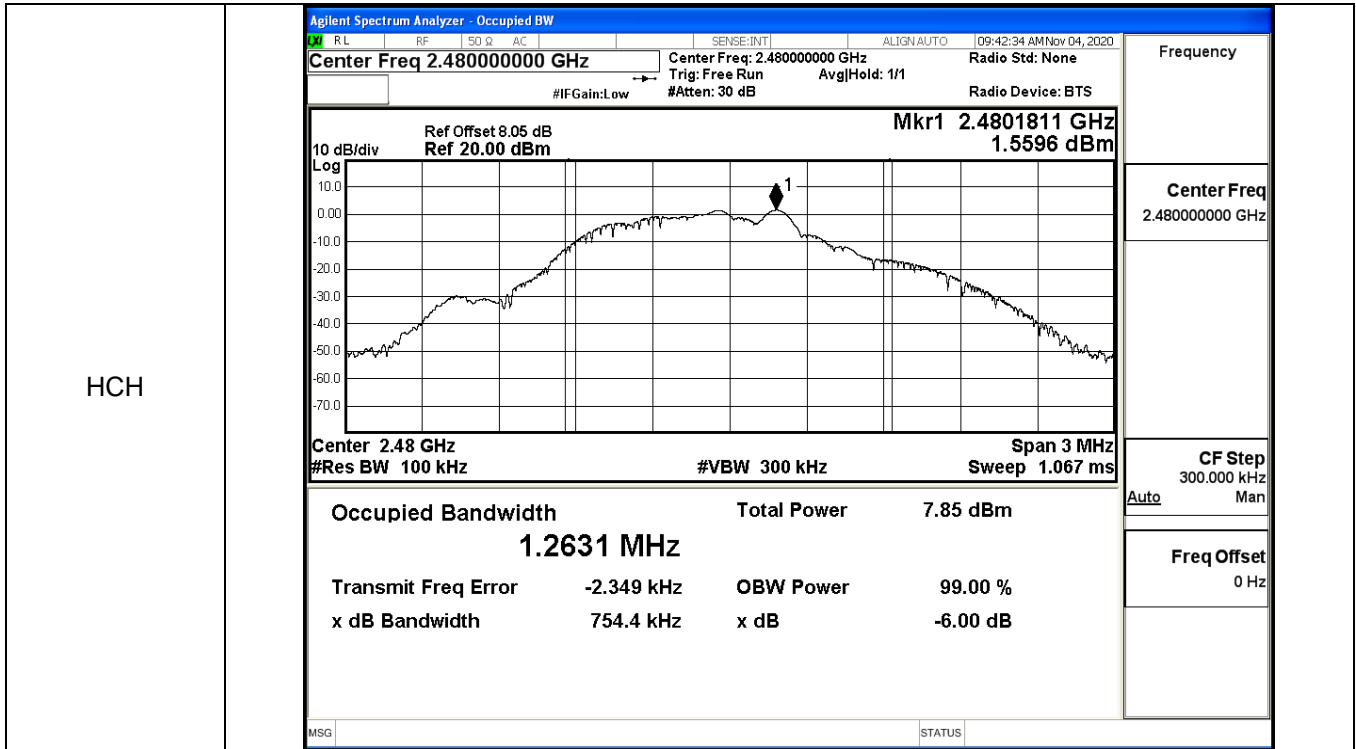


B.4 6dB Bandwidth

Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
BT LE	LCH	0.6485	≥0.5	PASS
BT LE	MCH	0.6660	≥0.5	PASS
BT LE	HCH	0.7544	≥0.5	PASS

Test Graphs

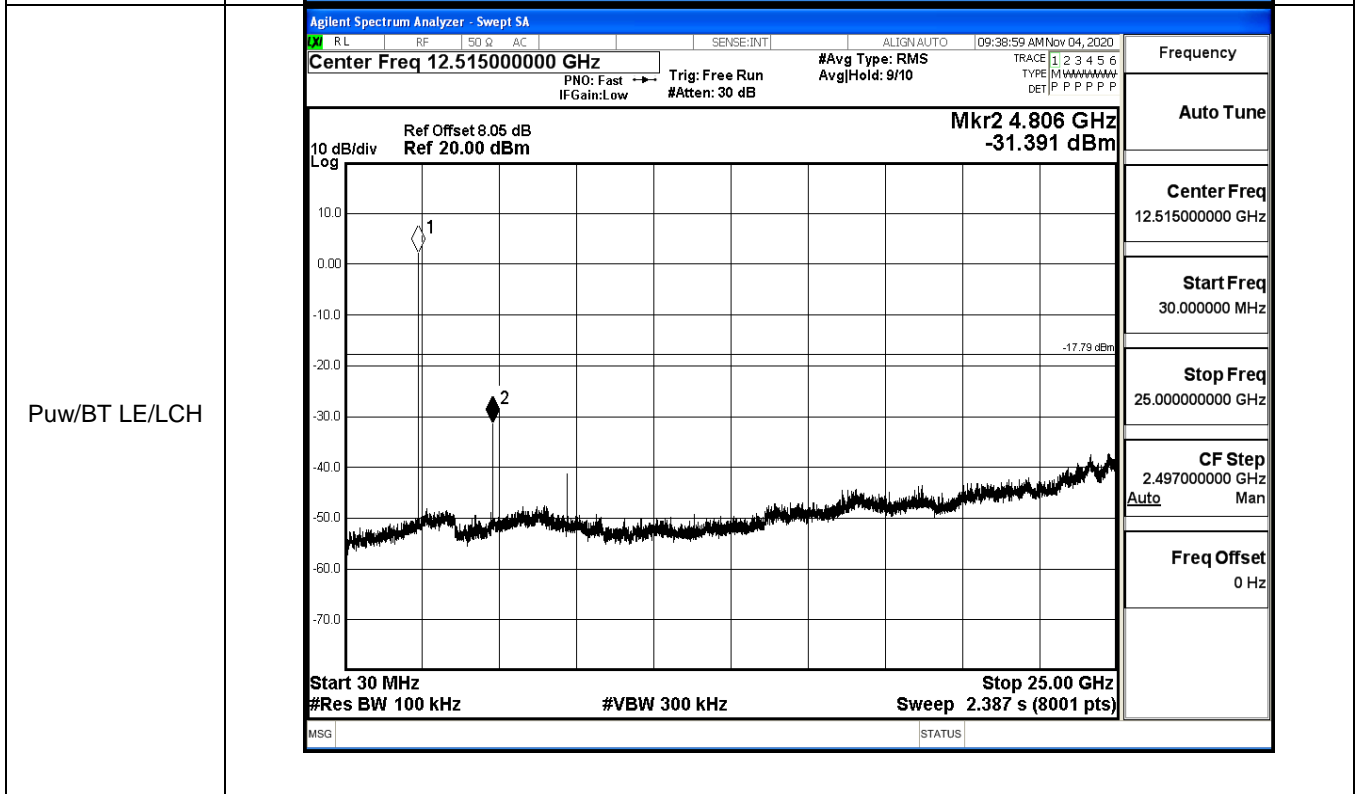
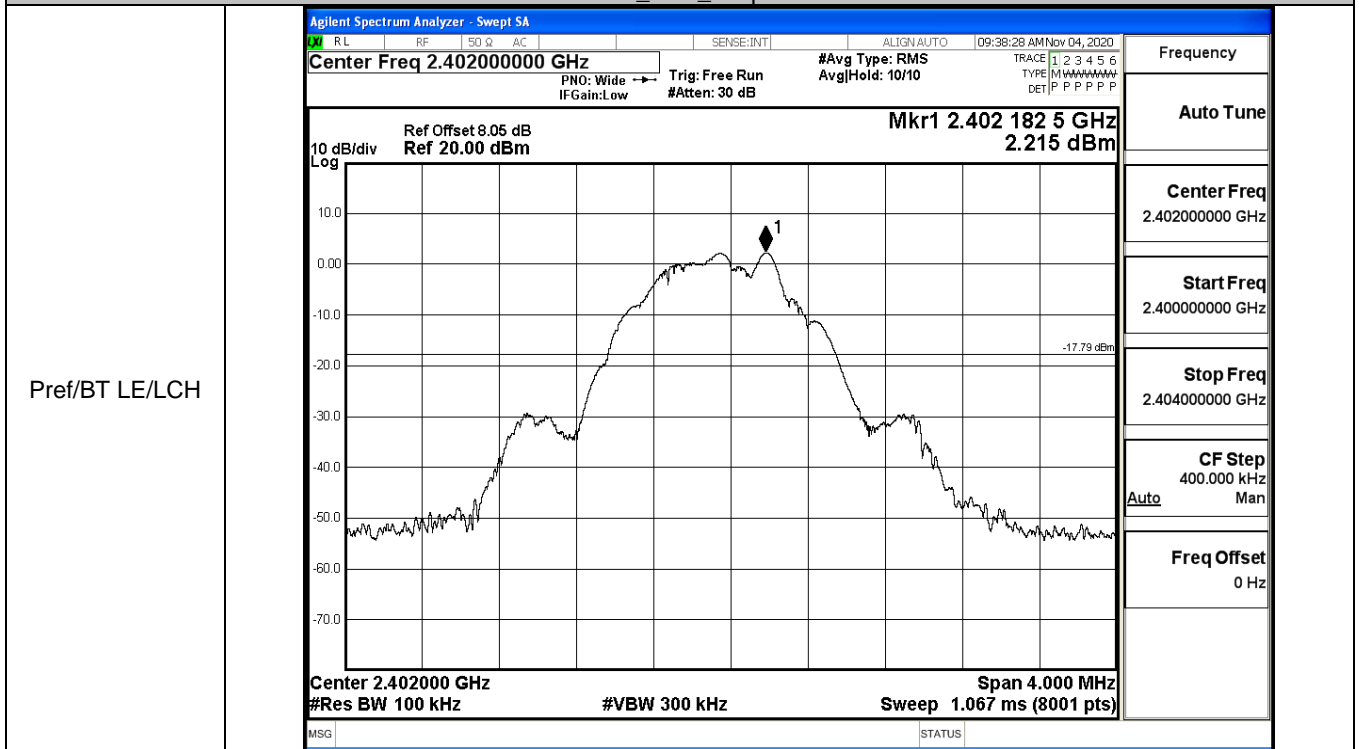
LCH	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.40200000 GHz</p> <p>Center Freq: 2.40200000 GHz</p> <p>Trig: Free Run</p> <p>Avg/Hold: 1/1</p> <p>Radio Std: None</p> <p>Radio Device: BTS</p> <p>#IF Gain: Low</p> <p>#Atten: 30 dB</p> <p>Ref Offset 8.05 dB</p> <p>Ref 20.00 dBm</p> <p>Mkr1 2.4021819 GHz</p> <p>2.2103 dBm</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 1.0462 MHz</p> <p>Total Power 8.31 dBm</p> <p>Transmit Freq Error -55.059 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 648.5 kHz</p> <p>x dB -6.00 dB</p> <p>MSG STATUS</p>	<p>Frequency</p> <p>Center Freq 2.40200000 GHz</p> <p>CF Step 300.000 kHz</p> <p>Auto 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>Trig: Free Run</p> <p>Avg/Hold: >1/1</p> <p>Radio Std: None</p> <p>Radio Device: BTS</p> <p>#IF Gain: Low</p> <p>#Atten: 30 dB</p> <p>Ref Offset 8.05 dB</p> <p>Ref 20.00 dBm</p> <p>Mkr1 2.4401808 GHz</p> <p>1.8490 dBm</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 1.0686 MHz</p> <p>Total Power 7.93 dBm</p> <p>Transmit Freq Error -45.011 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 666.0 kHz</p> <p>x dB -6.00 dB</p> <p>MSG STATUS</p>



B.5 RF Conducted Spurious Emissions

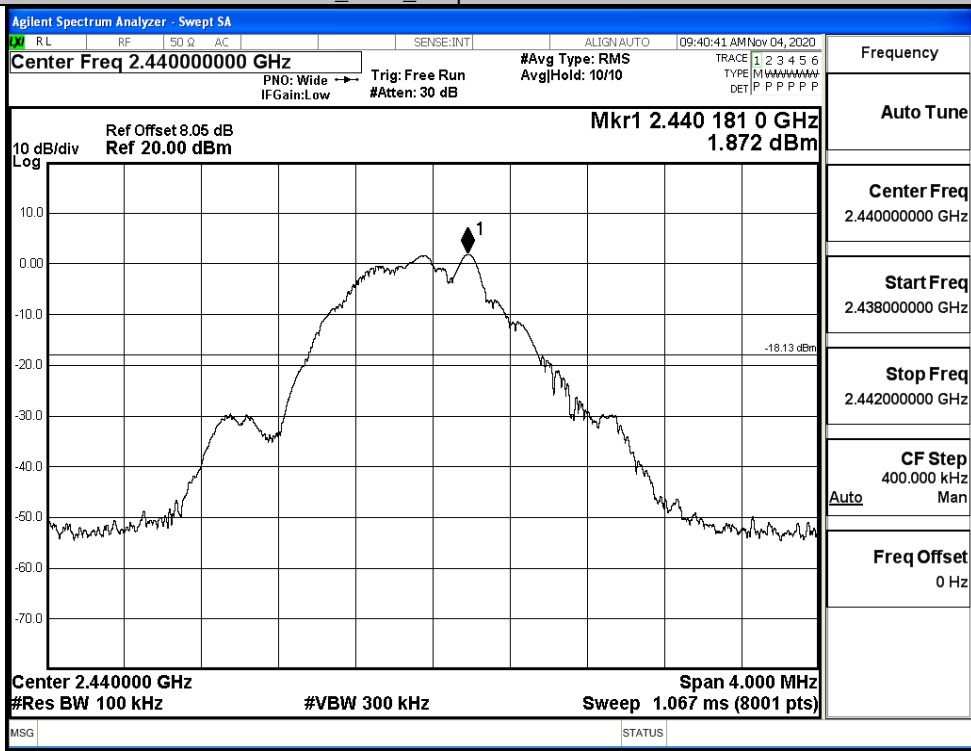
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
BT LE	LCH	2.215	-31.391	-17.785	PASS
BT LE	MCH	1.872	-31.725	-18.128	PASS
BT LE	HCH	1.575	-31.730	-18.425	PASS

BT LE_LCH_Graphs

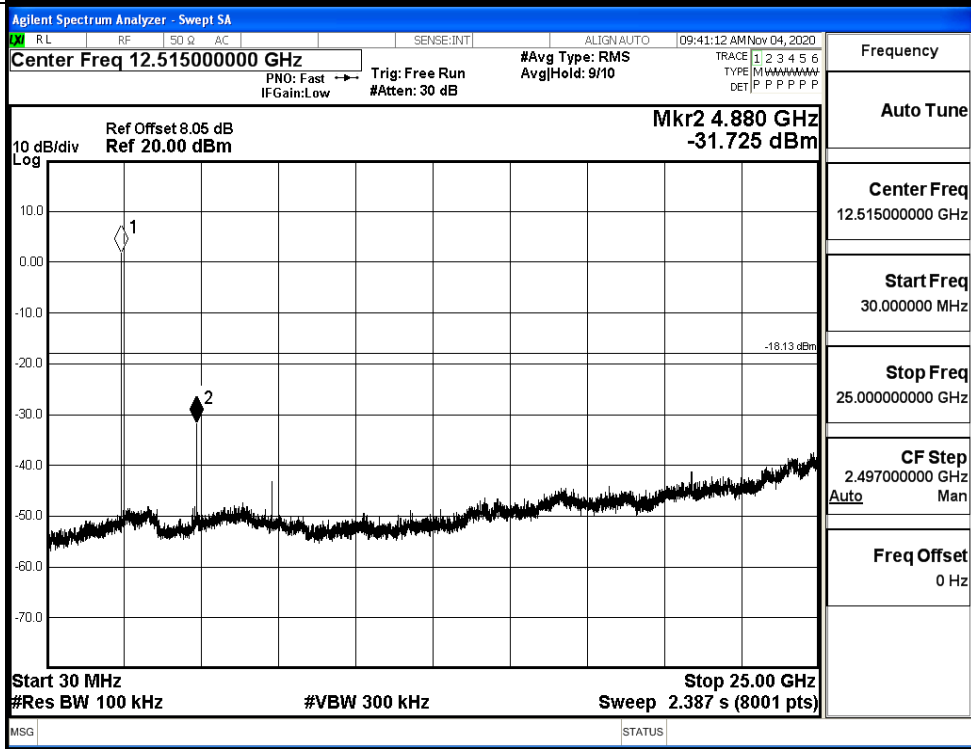


BT LE_MCH_Graphs

Pref/BT LE/MCH

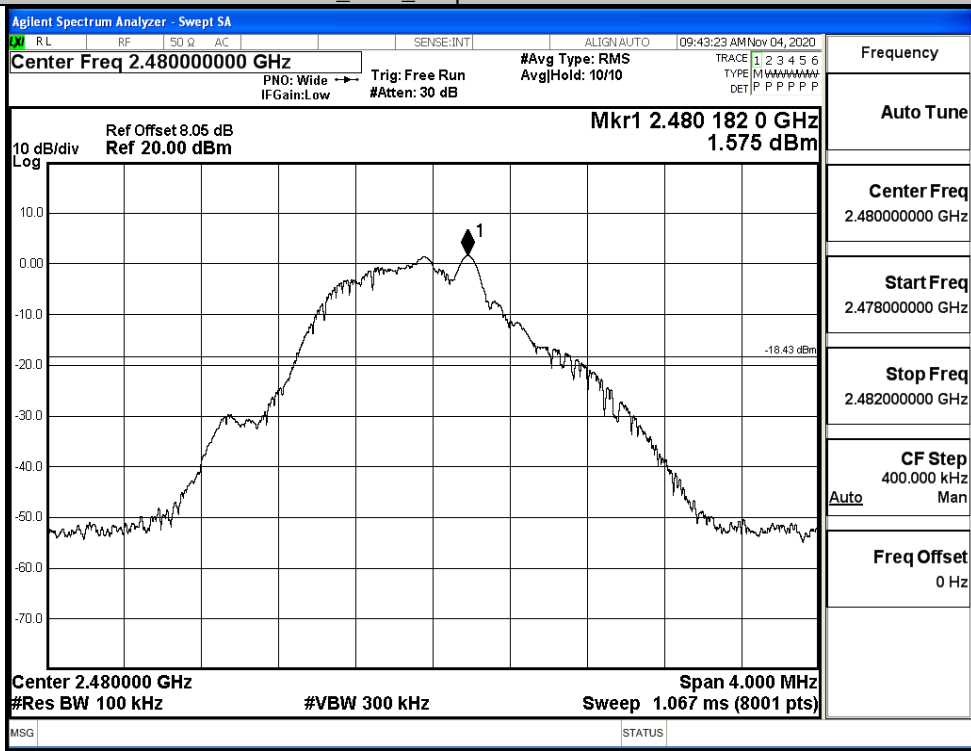


Puw/BT LE/MCH

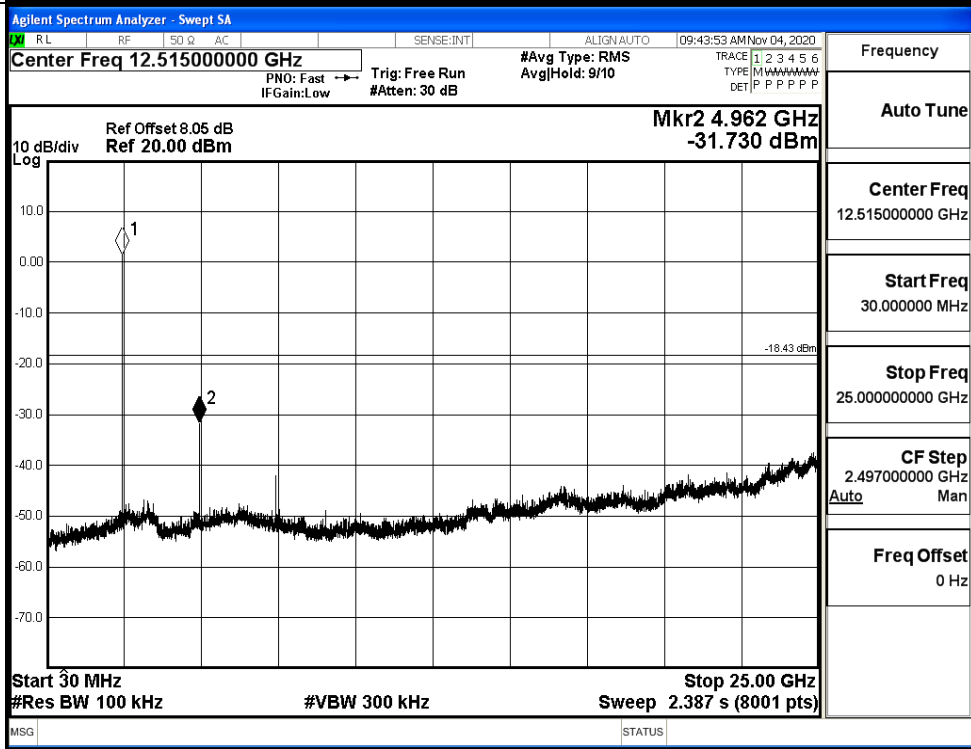


BT LE_HCH_Graphs

Pref/BT LE/HCH



Puw/BT LE/HCH



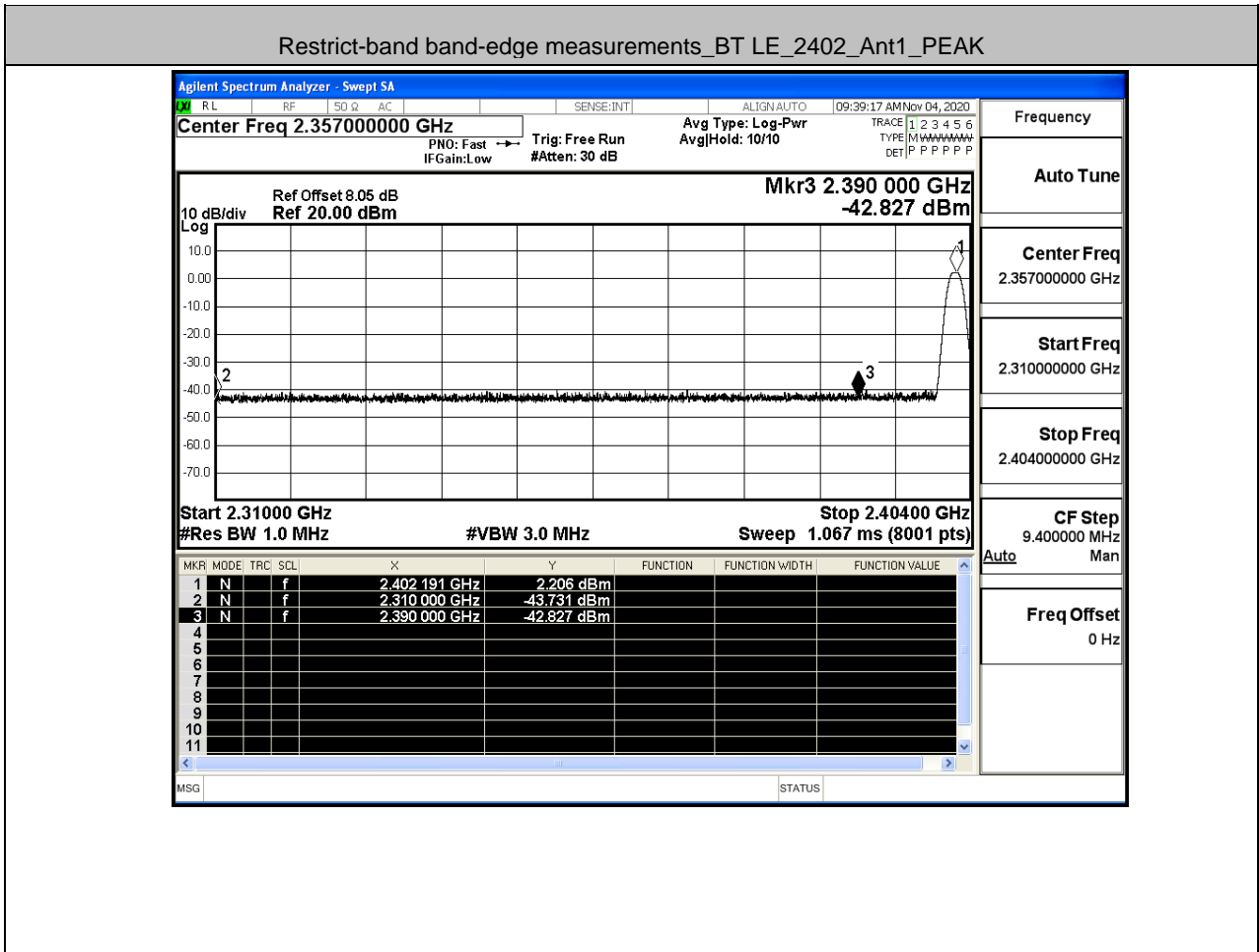
B.6 Band-edge for RF Conducted Emissions

Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
BT LE	LCH	2.313	-49.662	-17.69	PASS
BT LE	HCH	1.624	-49.284	-18.38	PASS

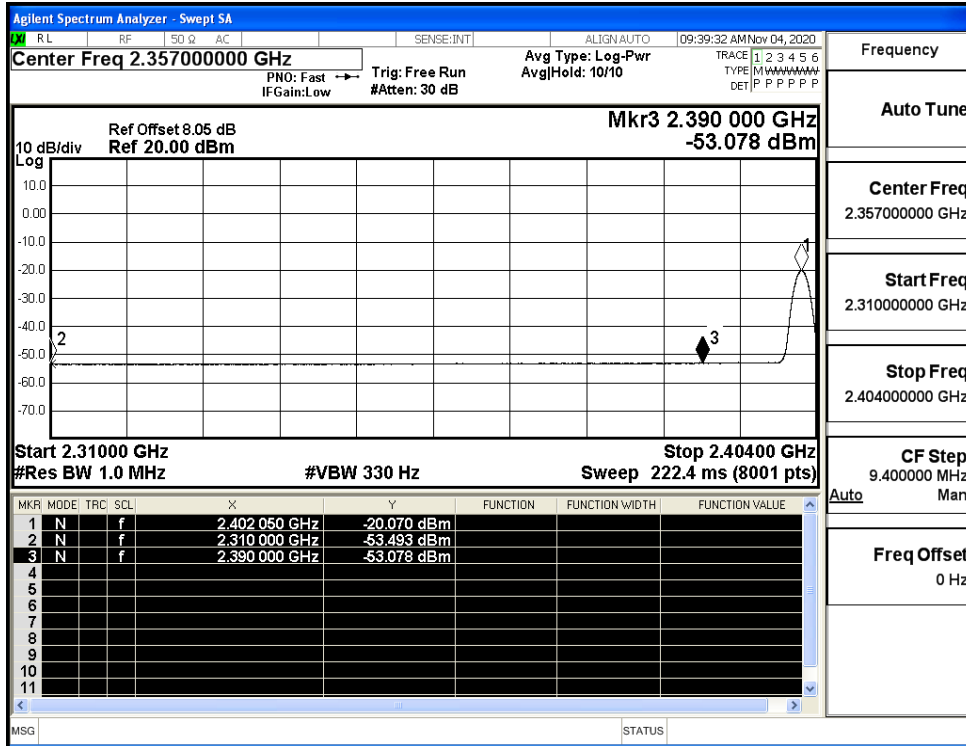
Test Graphs																																														
LCH	<div data-bbox="416 611 1390 1350"> <p>Agilent Spectrum Analyzer - Swept SA</p> <p>Center Freq 2.357000000 GHz</p> <p>Mkr4 2.375 577 GHz -49.662 dBm</p> <table border="1"> <thead> <tr> <th>MKR</th> <th>MODE</th> <th>TRC</th> <th>SCL</th> <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>2.401 932 GHz</td> <td>2.313 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>-52.541 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>-53.830 dBm</td> <td></td> <td></td> <td></td> </tr> <tr> <td>4</td> <td>N</td> <td>f</td> <td></td> <td>2.375 577 GHz</td> <td>-49.662 dBm</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> </div>	MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	N	f		2.401 932 GHz	2.313 dBm				2	N	f		2.400 000 GHz	-52.541 dBm				3	N	f		2.390 000 GHz	-53.830 dBm				4	N	f		2.375 577 GHz	-49.662 dBm			
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HCH	<div data-bbox="416 1357 1390 2098"> <p>Agilent Spectrum Analyzer - Swept SA</p> <p>Center Freq 2.489000000 GHz</p> <p>Mkr4 2.487 578 25 GHz -49.284 dBm</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>2.480 186 25 GHz</td> <td>1.624 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>-52.168 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>-52.658 dBm</td> <td></td> <td></td> <td></td> </tr> <tr> <td>4</td> <td>N</td> <td>f</td> <td></td> <td>2.487 578 25 GHz</td> <td>-49.284 dBm</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> </div>	MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	N	f		2.480 186 25 GHz	1.624 dBm				2	N	f		2.483 500 00 GHz	-52.168 dBm				3	N	f		2.500 000 00 GHz	-52.658 dBm				4	N	f		2.487 578 25 GHz	-49.284 dBm			
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B.7 Restrict-band band-edge measurements

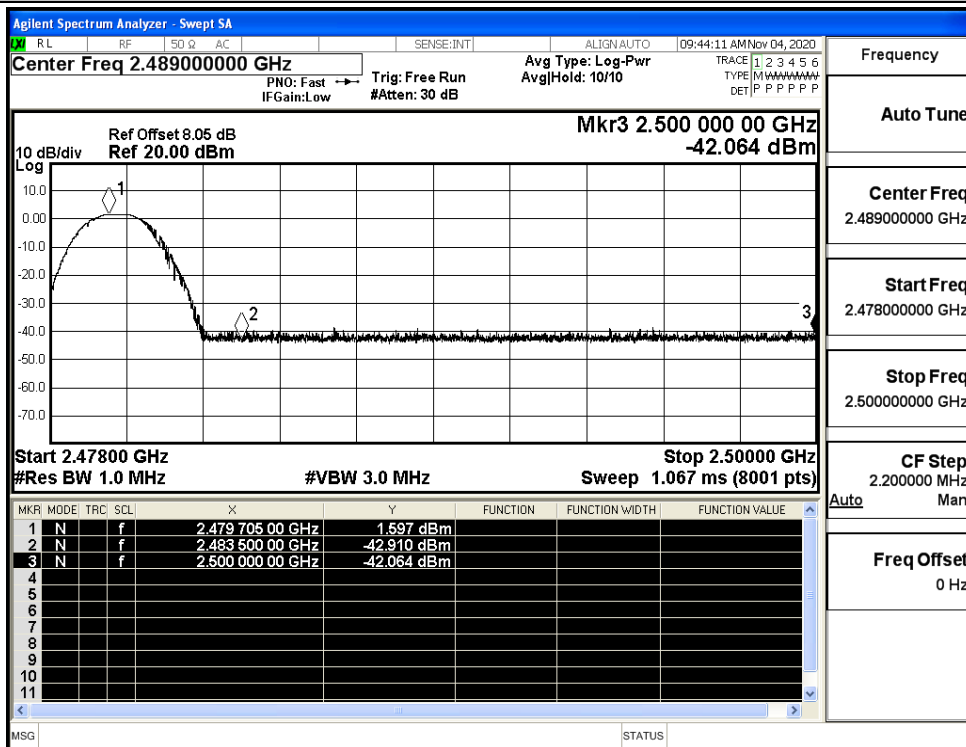
Test Mode	Test Channel	Ant	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdi
BT LE	2402	Ant1	2310.0	-43.73	2.0	0	51.53	PEAK	74	PASS
		Ant1	2310.0	-53.49	2.0	0	41.76	AV	54	PASS
		Ant1	2390.0	-42.83	2.0	0	52.43	PEAK	74	PASS
		Ant1	2390.0	-53.08	2.0	0	42.18	AV	54	PASS
	2480	Ant1	2483.5	-42.91	2.0	0	52.35	PEAK	74	PASS
		Ant1	2483.5	-52.59	2.0	0	42.67	AV	54	PASS
		Ant1	2500.0	-42.06	2.0	0	53.19	PEAK	74	PASS
		Ant1	2500.0	-52.43	2.0	0	42.83	AV	54	PASS



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

