

Appendix B

RF Test Data for BT V4.1(BT LE) (Conducted Measurement)

Product Name: ACOUSTIC AUITAR AMP

Trade Mark: AROMA

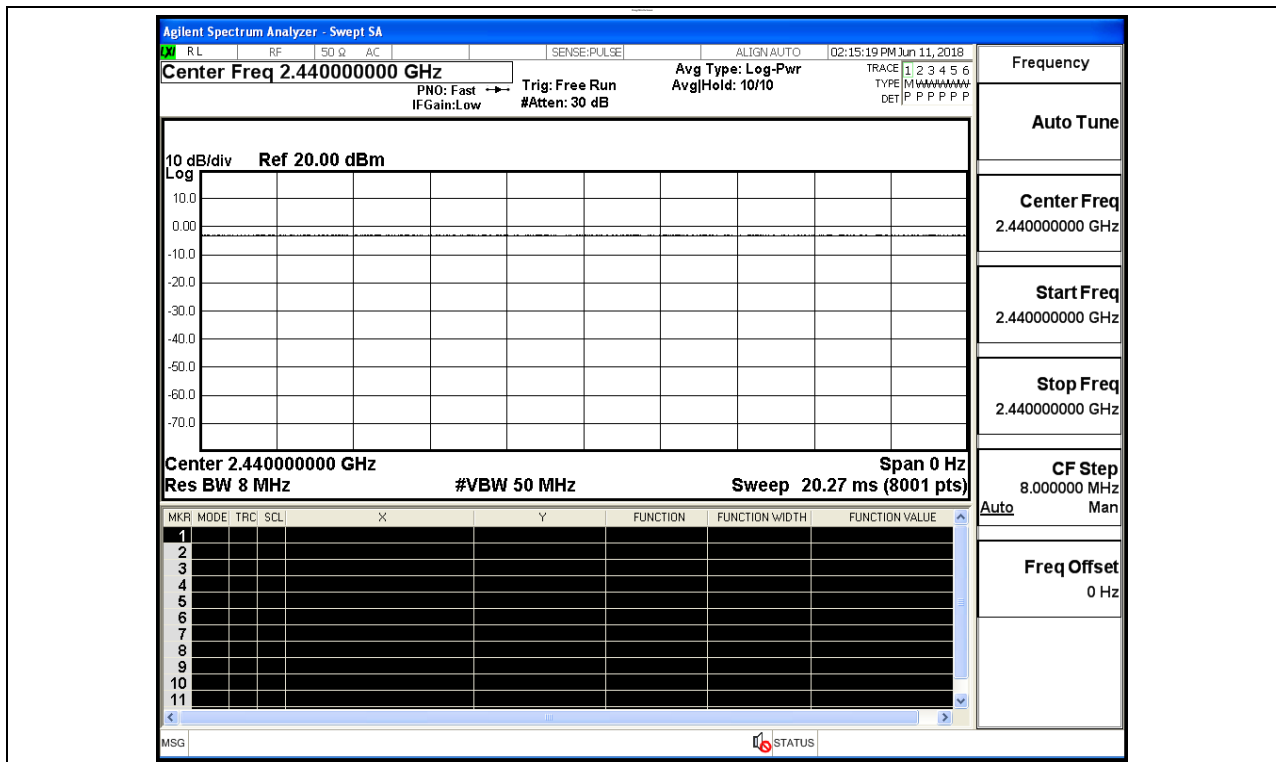
Test Model: AG-40A

Environmental Conditions

Temperature:	23.8 ° C
Relative Humidity:	53.7%
ATM Pressure:	100.0 kPa
Test Engineer:	Tom.Liu
Supervised by:	Jayden.Zhuo

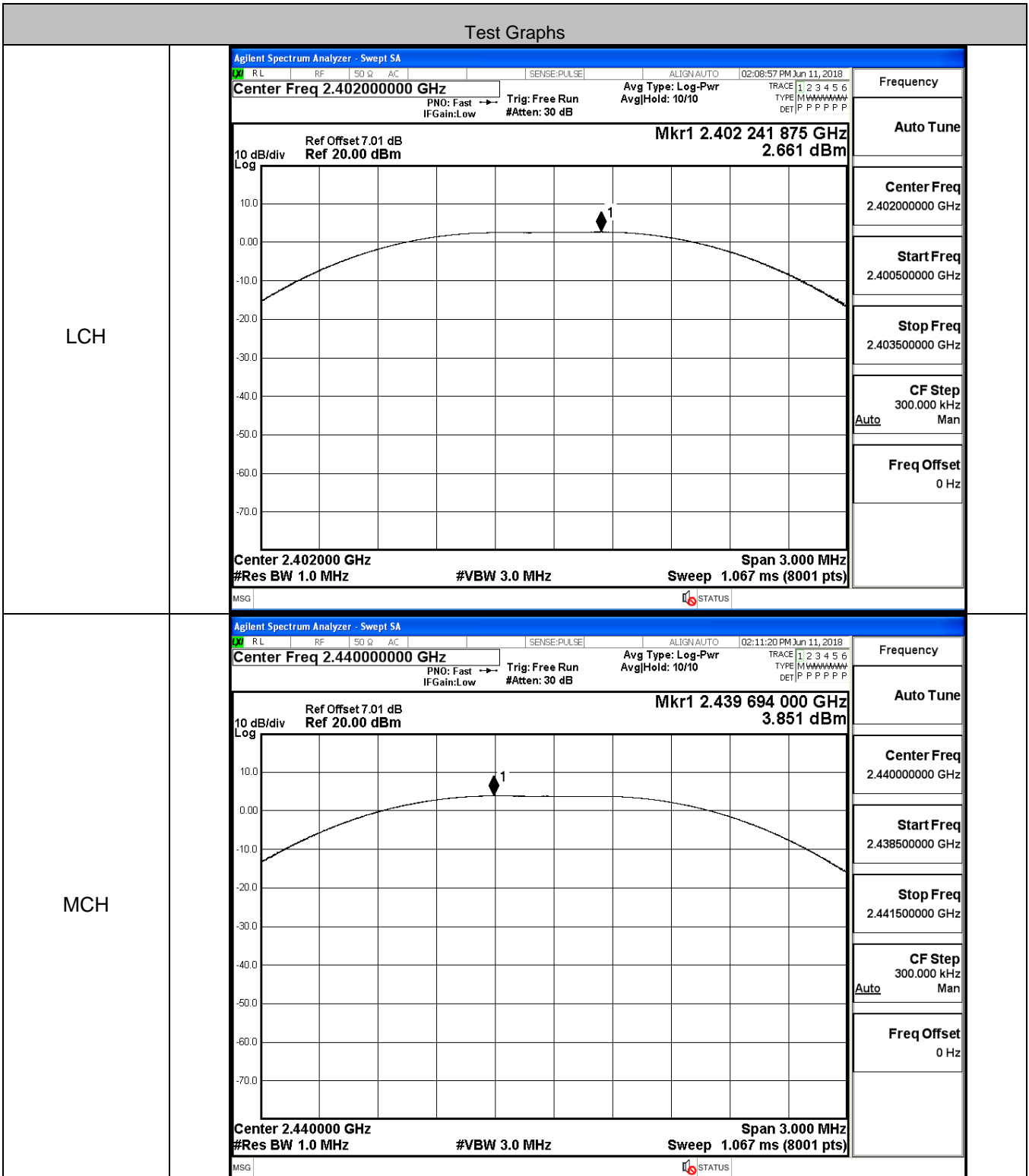
B.1 Duty Cycle

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

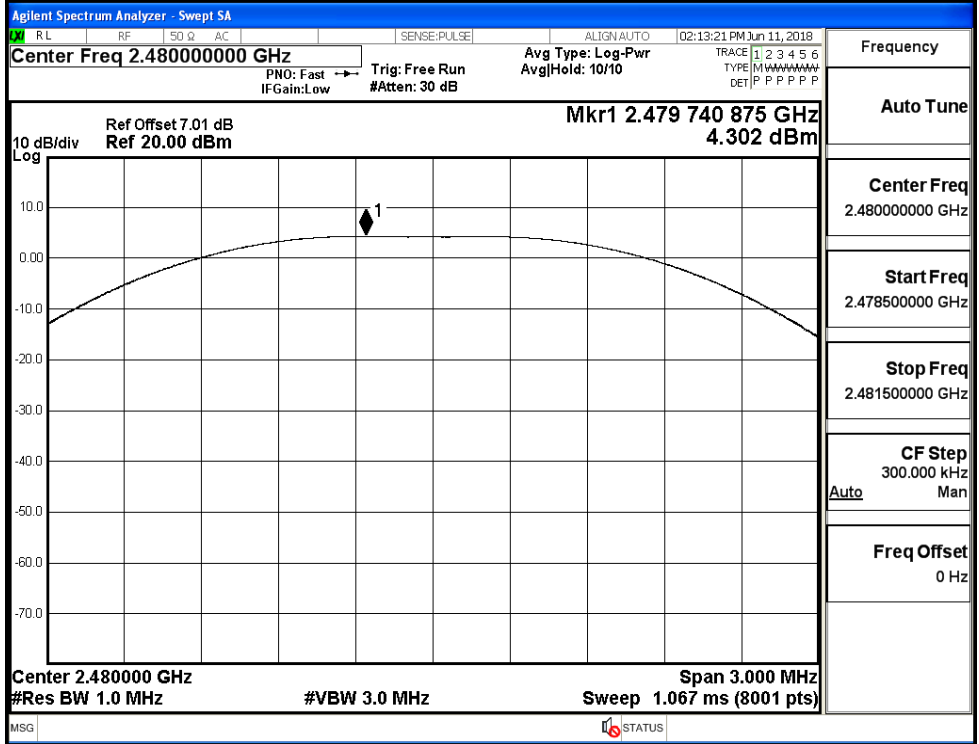


B.2 Maximum Conducted Peak Output Power

Mode	Channel	Conduct Peak Power[dBm]	Limit [dBm]	Verdict
BT LE	LCH	2.661	30	PASS
BT LE	MCH	3.851	30	PASS
BT LE	HCH	4.302	30	PASS

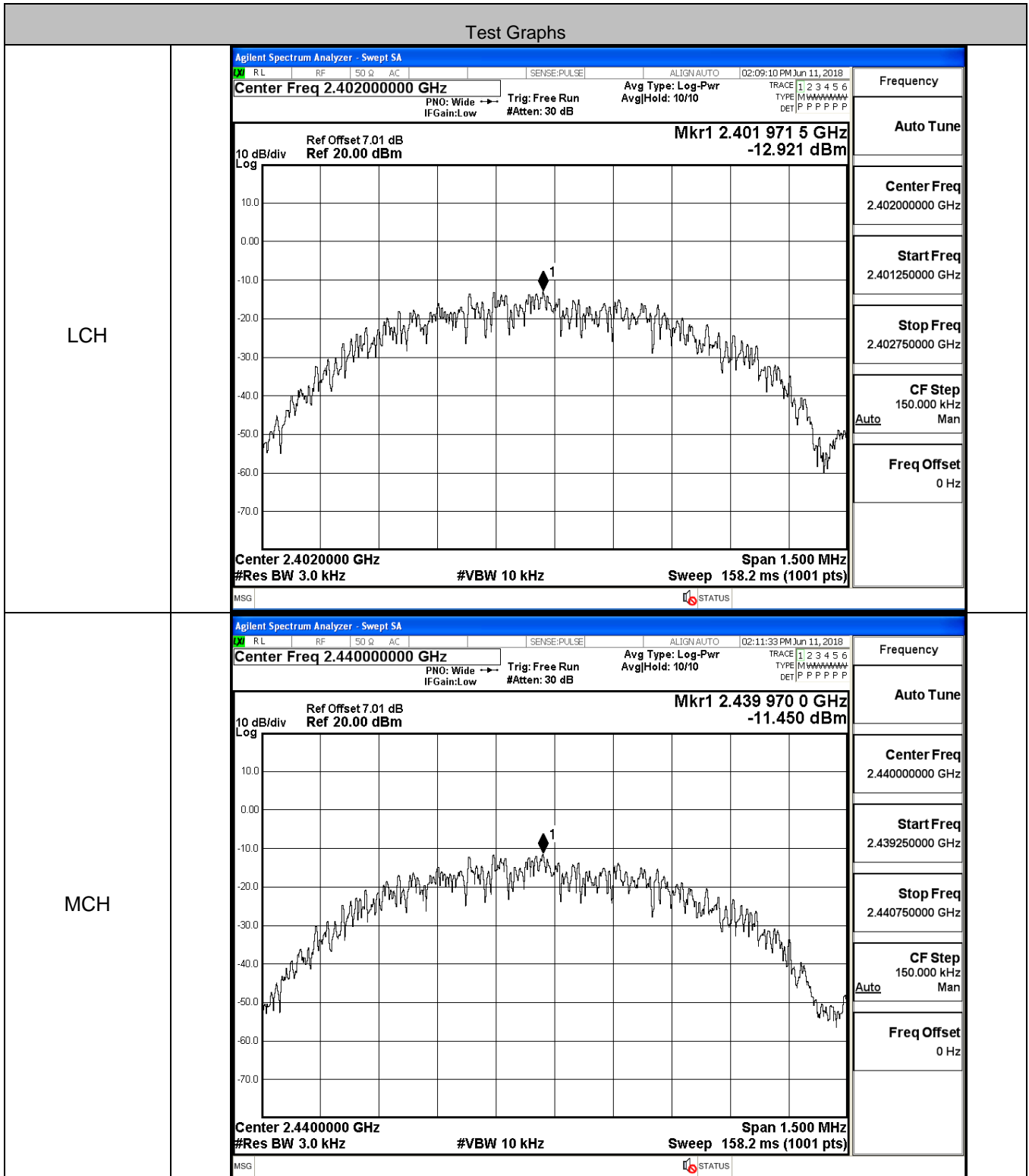


HCH

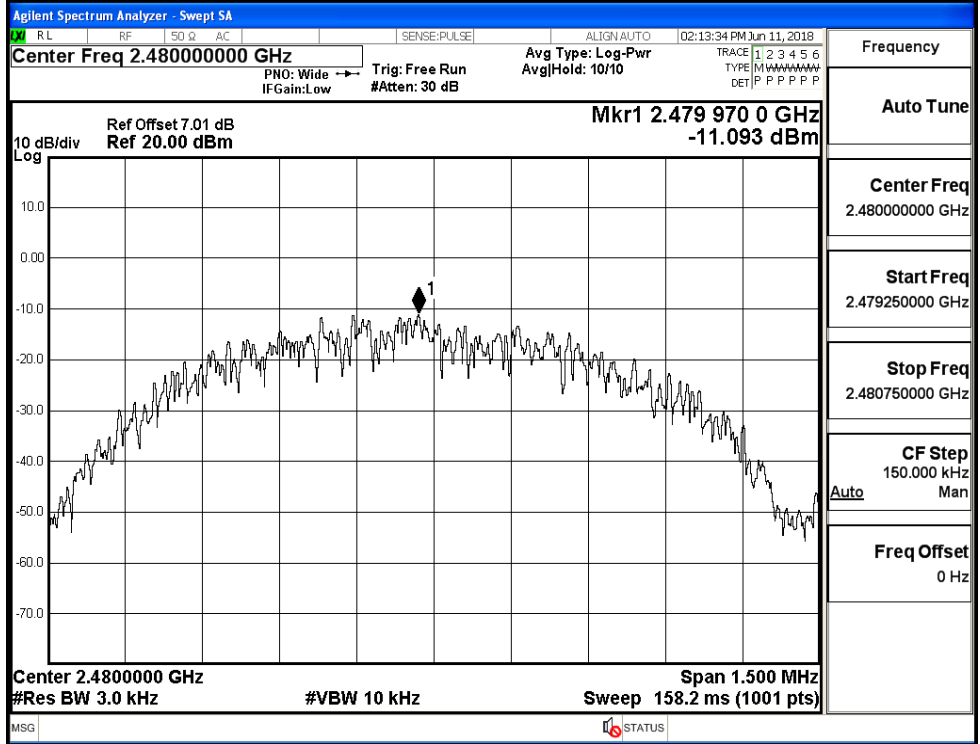


B.3 Maximum Power Spectral Density

Mode	Channel	PSD [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
BT LE	LCH	-12.921	8	PASS
BT LE	MCH	-11.450	8	PASS
BT LE	HCH	-11.093	8	PASS



HCH

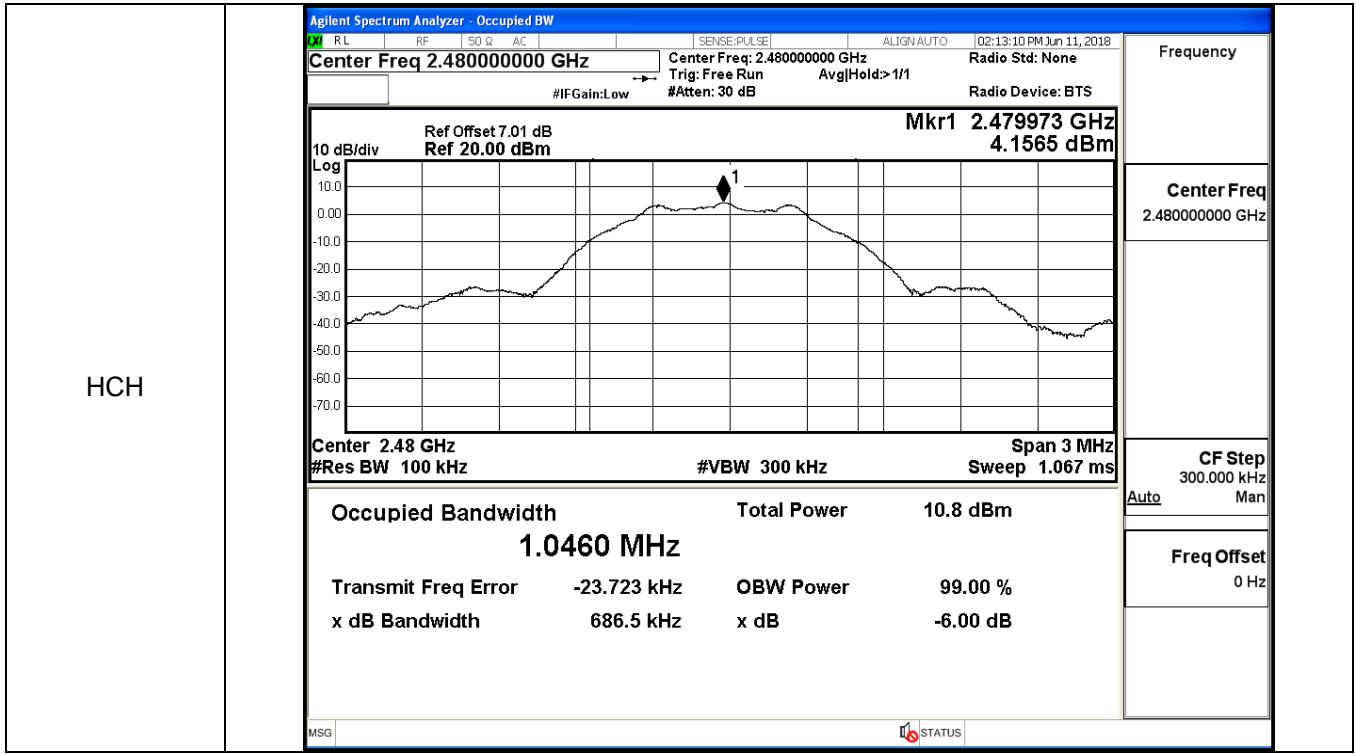


B.4 6dB Bandwidth

Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
BT LE	LCH	0.6870	≥0.5	PASS
BT LE	MCH	0.6962	≥0.5	PASS
BT LE	HCH	0.6865	≥0.5	PASS

Test Graphs

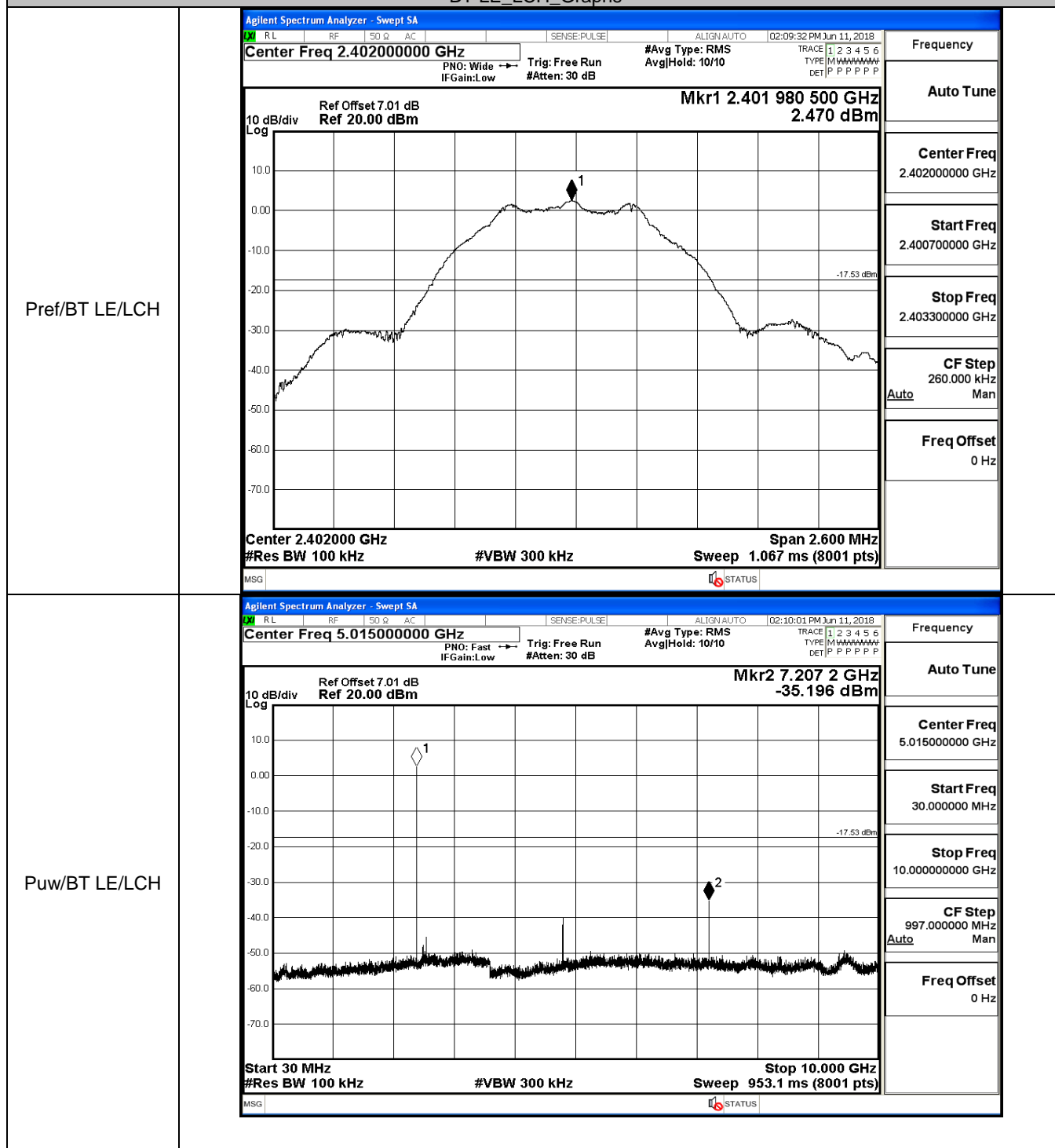
LCH	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.40200000 GHz Center Freq: 2.40200000 GHz Radio Std: None</p> <p>#IFGain:Low Trig: Free Run AvgHold> 1/1 Radio Device: BTS</p> <p>Ref Offset 7.01 dB Mkr1 2.4019726 GHz 2.4728 dBm</p> <p>Ref 20.00 dBm</p> <p>Center 2.402 GHz Span 3 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 1.067 ms</p> <table border="1"> <tr> <td>Occupied Bandwidth</td> <td>Total Power</td> <td>9.09 dBm</td> </tr> <tr> <td>1.0450 MHz</td> <td></td> <td></td> </tr> <tr> <td>Transmit Freq Error</td> <td>OBW Power</td> <td>99.00 %</td> </tr> <tr> <td>-17.254 kHz</td> <td>x dB</td> <td>-6.00 dB</td> </tr> <tr> <td>x dB Bandwidth</td> <td>687.0 kHz</td> <td></td> </tr> </table> <p>MSG STATUS</p>	Occupied Bandwidth	Total Power	9.09 dBm	1.0450 MHz			Transmit Freq Error	OBW Power	99.00 %	-17.254 kHz	x dB	-6.00 dB	x dB Bandwidth	687.0 kHz		<p>Frequency</p> <p>Center Freq 2.40200000 GHz</p> <p>CF Step 300.000 kHz Auto Man</p> <p>Freq Offset 0 Hz</p>
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x dB Bandwidth	687.0 kHz																
MCH	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.44000000 GHz Center Freq: 2.44000000 GHz Radio Std: None</p> <p>#IFGain:Low Trig: Free Run AvgHold> 1/1 Radio Device: BTS</p> <p>Ref Offset 7.01 dB Mkr1 2.4399741 GHz 3.7029 dBm</p> <p>Ref 20.00 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"> <tr> <td>Occupied Bandwidth</td> <td>Total Power</td> <td>10.3 dBm</td> </tr> <tr> <td>1.0459 MHz</td> <td></td> <td></td> </tr> <tr> <td>Transmit Freq Error</td> <td>OBW Power</td> <td>99.00 %</td> </tr> <tr> <td>-23.397 kHz</td> <td>x dB</td> <td>-6.00 dB</td> </tr> <tr> <td>x dB Bandwidth</td> <td>696.2 kHz</td> <td></td> </tr> </table> <p>MSG STATUS</p>	Occupied Bandwidth	Total Power	10.3 dBm	1.0459 MHz			Transmit Freq Error	OBW Power	99.00 %	-23.397 kHz	x dB	-6.00 dB	x dB Bandwidth	696.2 kHz		<p>Frequency</p> <p>Center Freq 2.44000000 GHz</p> <p>CF Step 300.000 kHz Auto Man</p> <p>Freq Offset 0 Hz</p>
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B.5 RF Conducted Spurious Emissions

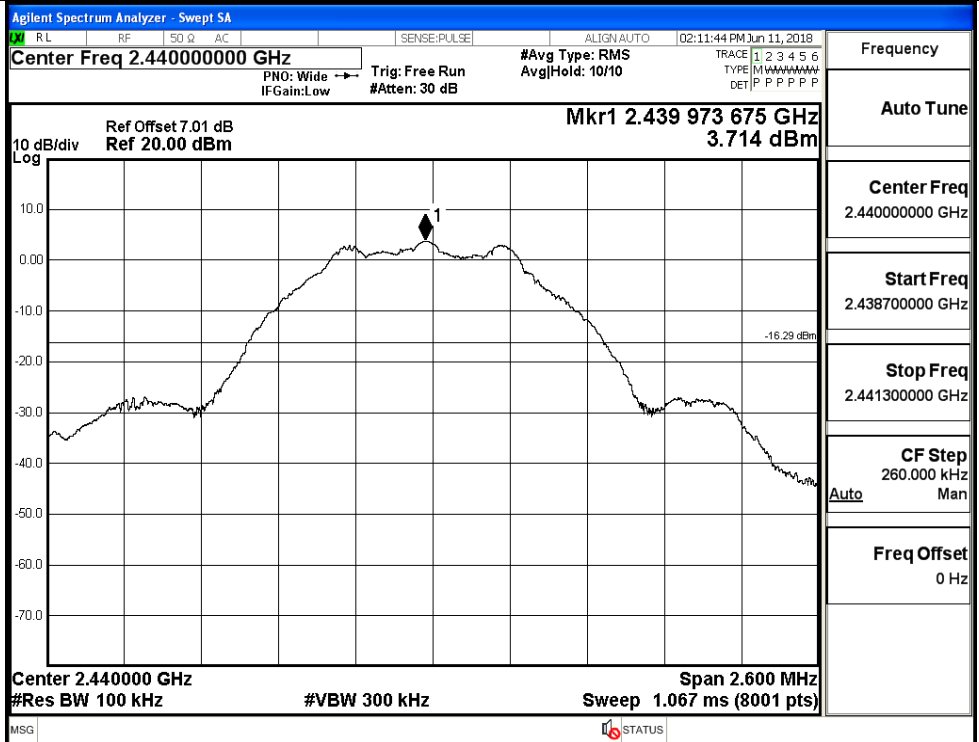
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
BT LE	LCH	2.47	-35.196	-17.530	PASS
BT LE	MCH	3.714	-28.352	-16.286	PASS
BT LE	HCH	4.173	-28.178	-15.827	PASS

BT LE_LCH_Graphs



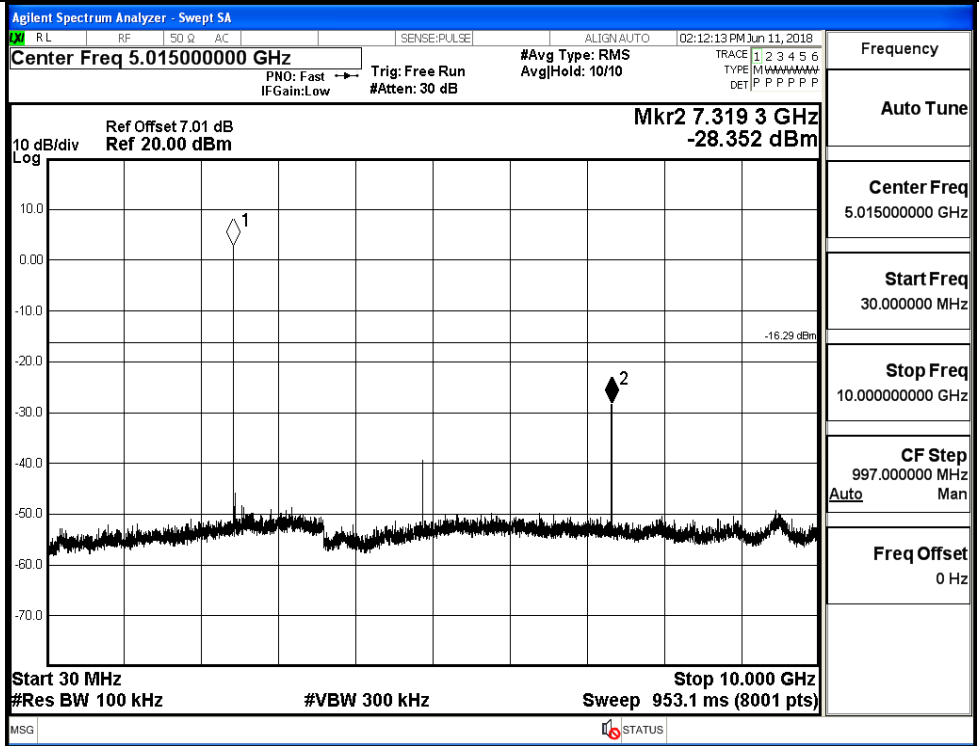
BT LE MCH Graphs

Pref/BT LE/MCH



Frequency	
Auto Tune	
Center Freq	2.44000000 GHz
Start Freq	2.438700000 GHz
Stop Freq	2.441300000 GHz
CF Step	260.000 kHz
Auto	Man
Freq Offset	0 Hz

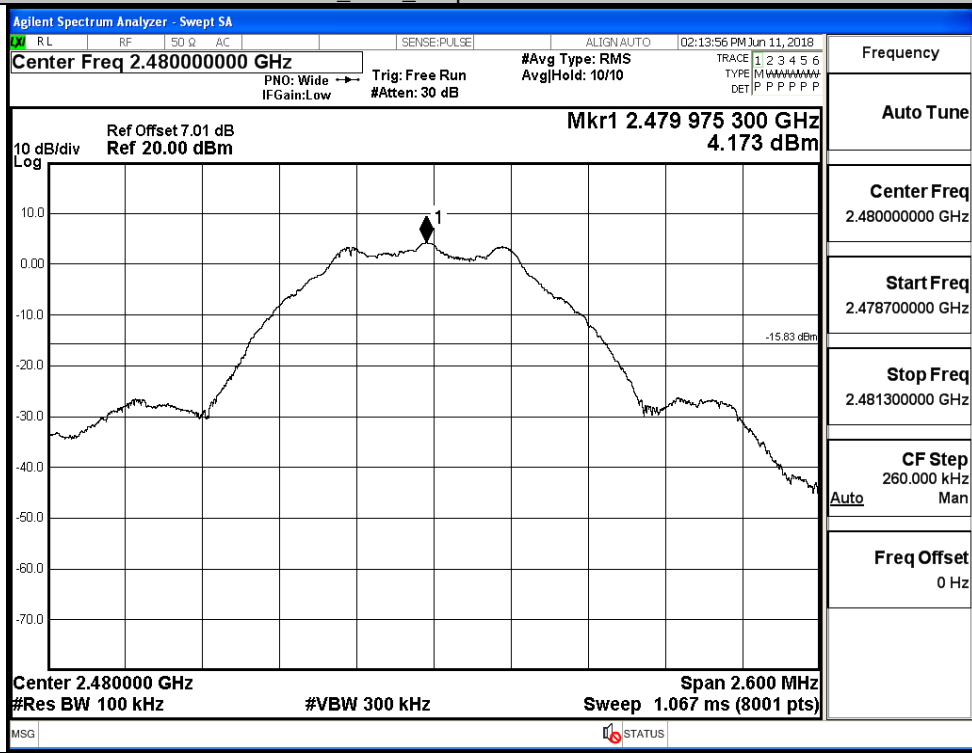
Puw/BT LE/MCH



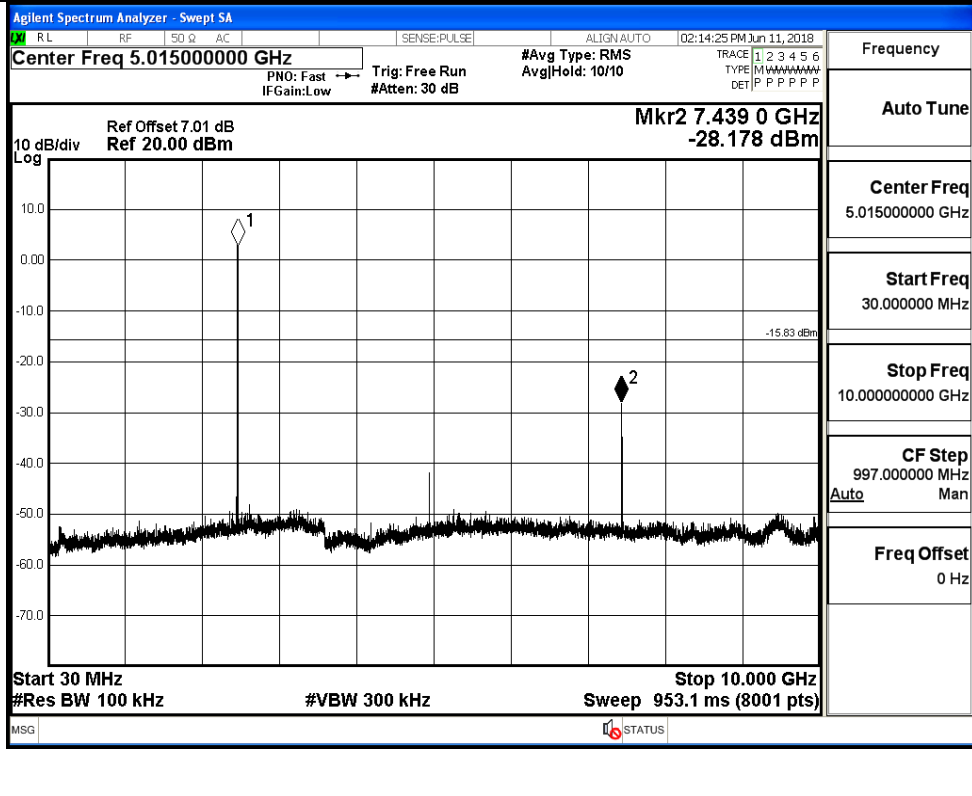
Frequency	
Auto Tune	
Center Freq	5.01500000 GHz
Start Freq	30.000000 MHz
Stop Freq	10.00000000 GHz
CF Step	997.000000 MHz
Auto	Man
Freq Offset	0 Hz

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	2.092	-50.827	-17.91	PASS
BT LE	HCH	4.302	-50.308	-15.7	PASS

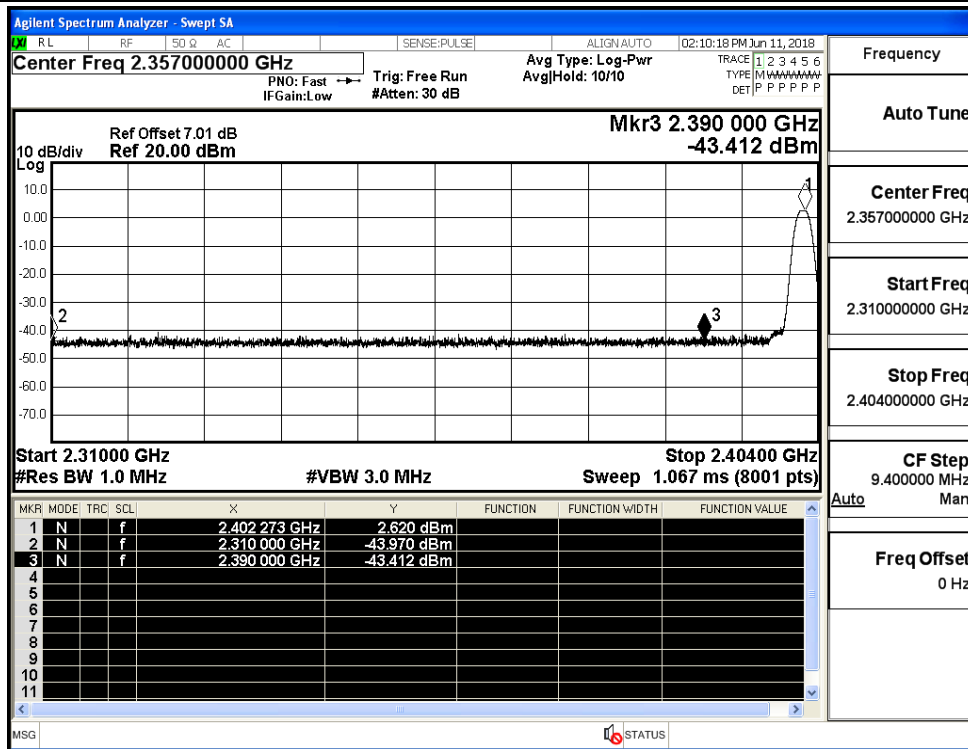
Test Graphs

LCH	<p>Agilent Spectrum Analyzer - Swept SA Center Freq 2.357000000 GHz Mkr4 2.381 934 GHz -50.827 dBm Start 2.31000 GHz #Res BW 100 kHz #VBW 300 kHz Stop 2.40400 GHz Sweep 9.067 ms (8001 pts)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <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>2.401 979 GHz</td><td>2.092 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>-45.629 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>-55.197 dBm</td><td></td><td></td><td></td></tr> <tr><td>4</td><td>N</td><td>f</td><td></td><td>2.381 934 GHz</td><td>-50.827 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		2.401 979 GHz	2.092 dBm				2	N	f		2.400 000 GHz	-45.629 dBm				3	N	f		2.390 000 GHz	-55.197 dBm				4	N	f		2.381 934 GHz	-50.827 dBm				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
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4	N	f		2.381 934 GHz	-50.827 dBm																																										
HCH	<p>Agilent Spectrum Analyzer - Swept SA Center Freq 2.489000000 GHz Mkr4 2.488 862 50 GHz -50.308 dBm Start 2.47800 GHz #Res BW 100 kHz #VBW 300 kHz Stop 2.50000 GHz Sweep 2.133 ms (8001 pts)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <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>2.479 982 75 GHz</td><td>4.302 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>-51.398 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>-54.614 dBm</td><td></td><td></td><td></td></tr> <tr><td>4</td><td>N</td><td>f</td><td></td><td>2.488 862 50 GHz</td><td>-50.308 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		2.479 982 75 GHz	4.302 dBm				2	N	f		2.483 500 00 GHz	-51.398 dBm				3	N	f		2.500 000 00 GHz	-54.614 dBm				4	N	f		2.488 862 50 GHz	-50.308 dBm				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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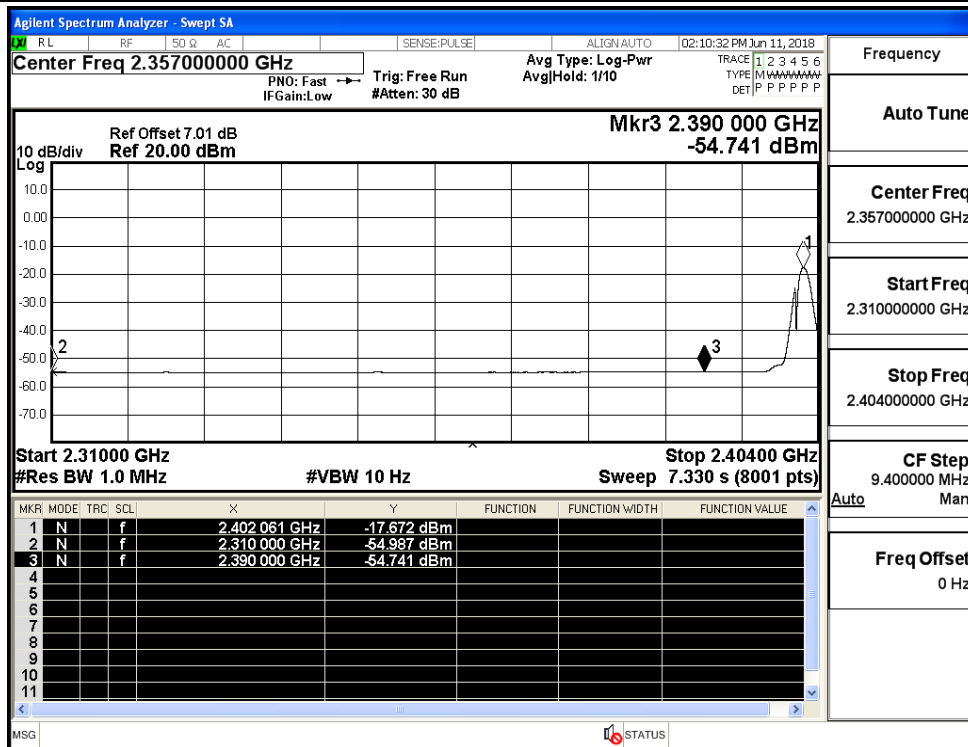
B.7 Restrict-band band-edge measurements

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	-43.97	2.0	0	53.29	PEAK	74	PASS
		Ant1	2310.0	-54.99	2.0	0	42.27	AV	54	PASS
		Ant1	2390.0	-43.41	2.0	0	53.85	PEAK	74	PASS
		Ant1	2390.0	-54.74	2.0	0	42.52	AV	54	PASS
	2480	Ant1	2483.5	-38.36	2.0	0	58.90	PEAK	74	PASS
		Ant1	2483.5	-51.36	2.0	0	45.90	AV	54	PASS
		Ant1	2500.0	-43.54	2.0	0	53.72	PEAK	74	PASS
		Ant1	2500.0	-54.36	2.0	0	42.90	AV	54	PASS

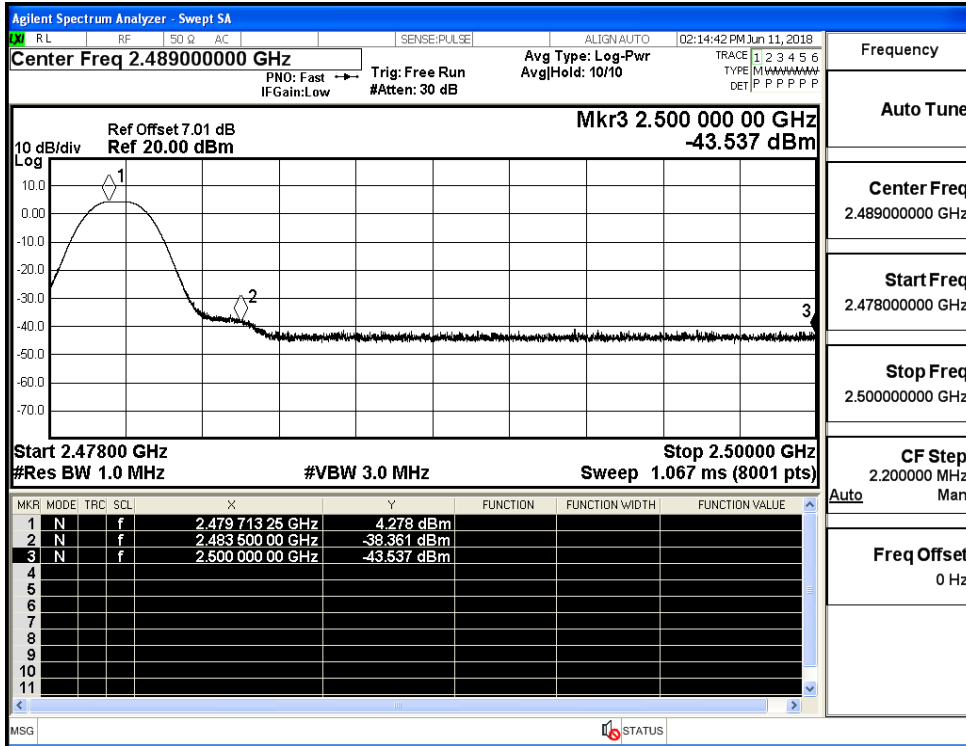
Restrict-band band-edge measurements_BT LE_2402_Ant1_PEAK



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

