

Appendix B

RF Test Data for BT V4.0(BLE) (Conducted Measurement)

Product Name: Personal Mobile Alarm System

Trade Mark: N/A

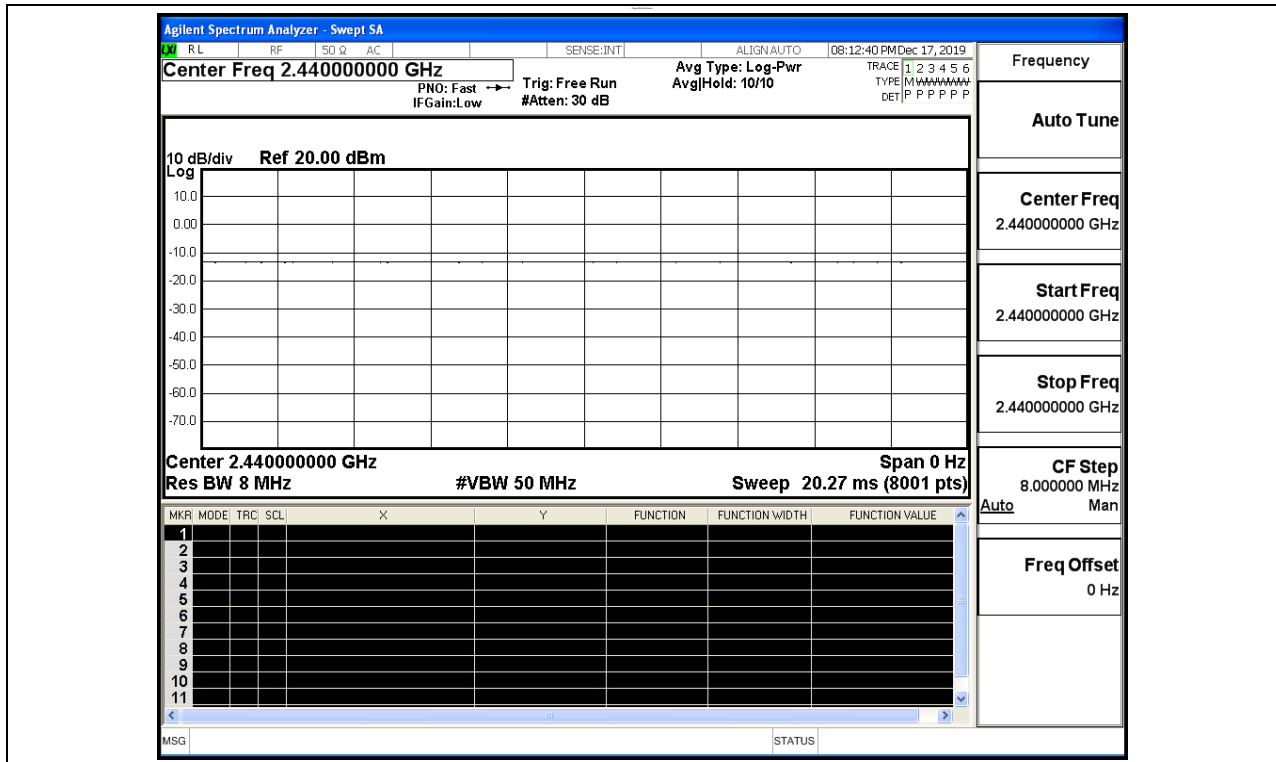
Test Model: EV-07BX-LTE

Environmental Conditions

Temperature:	24.3 ° C
Relative Humidity:	53.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Alisa Huang
Supervised by:	Wang.Chuang

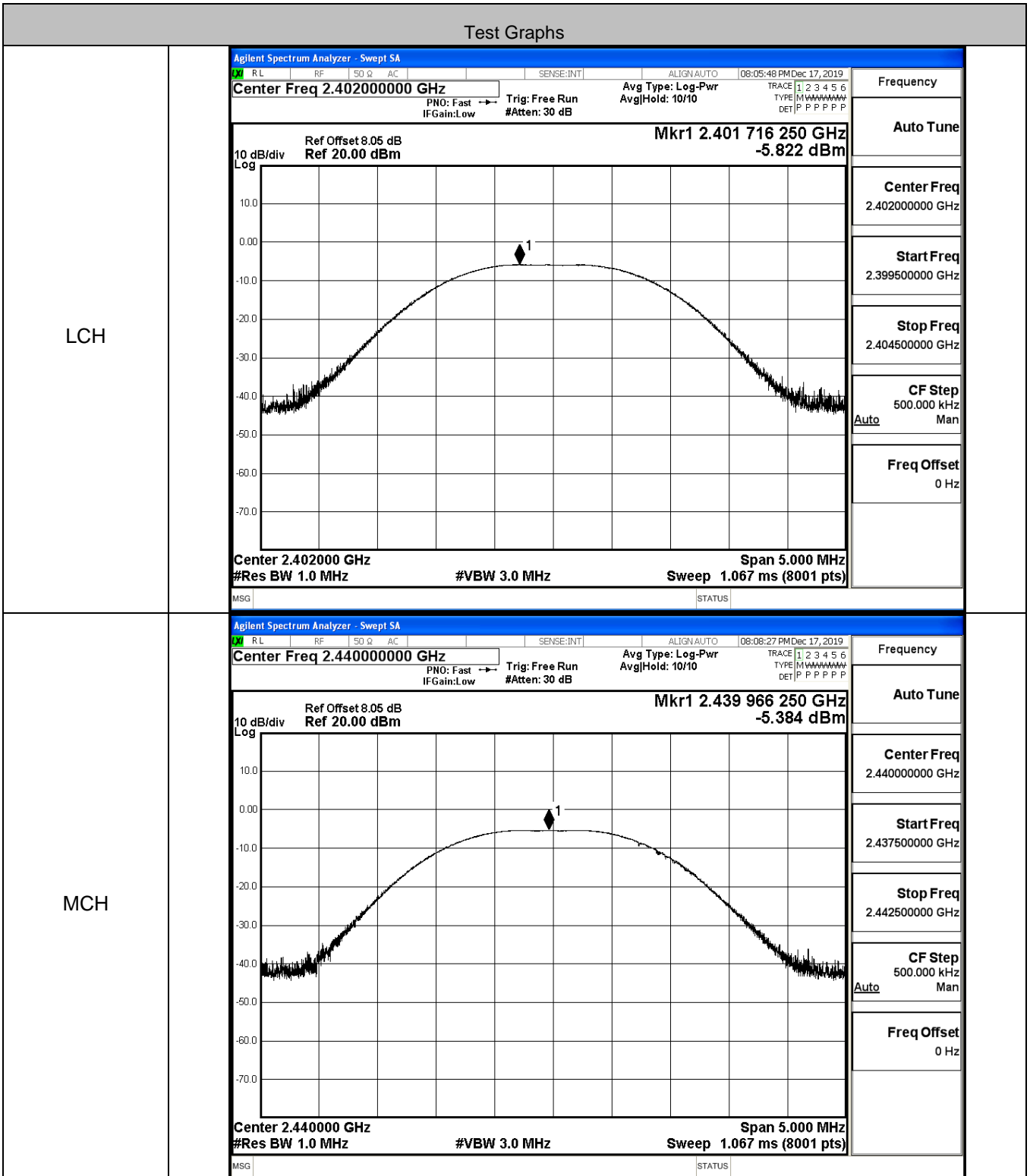
B.1 Duty Cycle

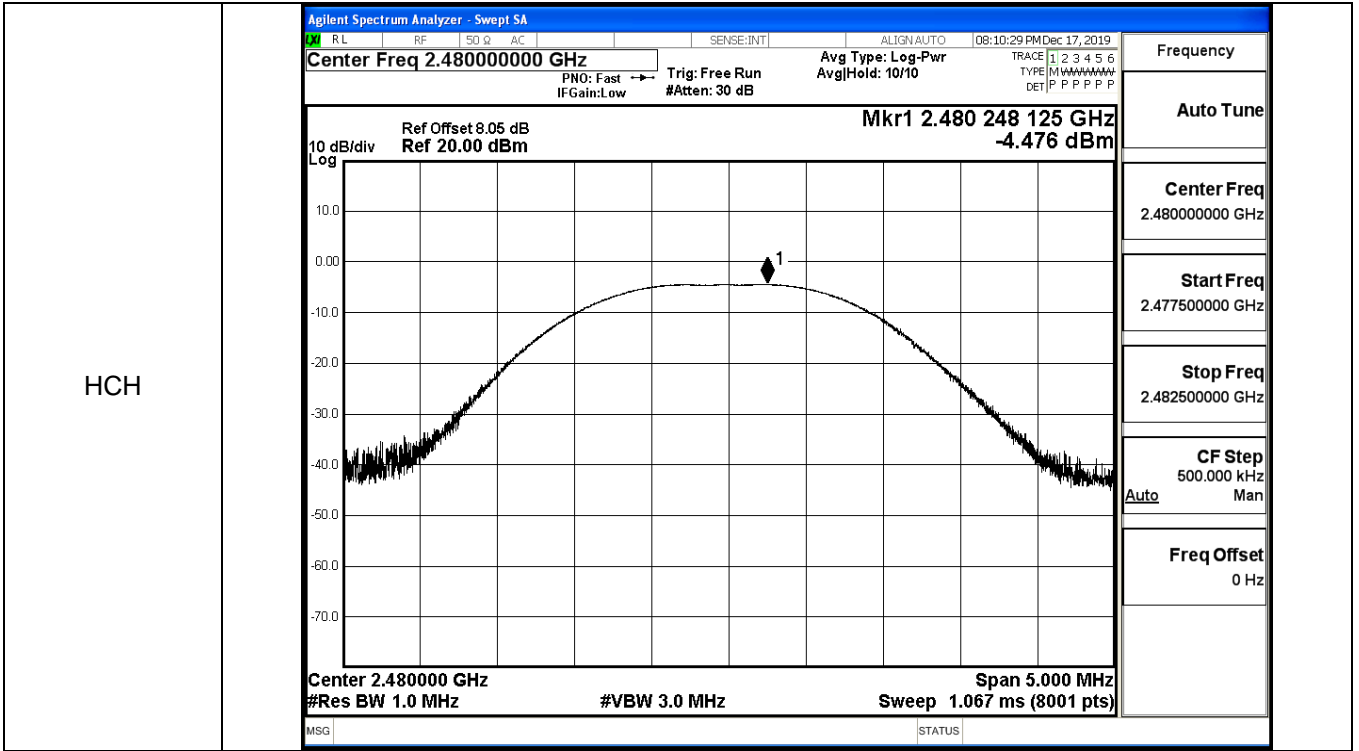
Test Mode	Test Channel	Ant	Duty Cycle[%]	Verdict
BT LE	2440	Ant1	100	PASS



B.2 Maximum Conducted Peak Output Power

Mode	Channel	Conduct Peak Power[dBm]	Limit [dBm]	Verdict
BT LE	LCH	-5.822	30	PASS
BT LE	MCH	-5.384	30	PASS
BT LE	HCH	-4.476	30	PASS

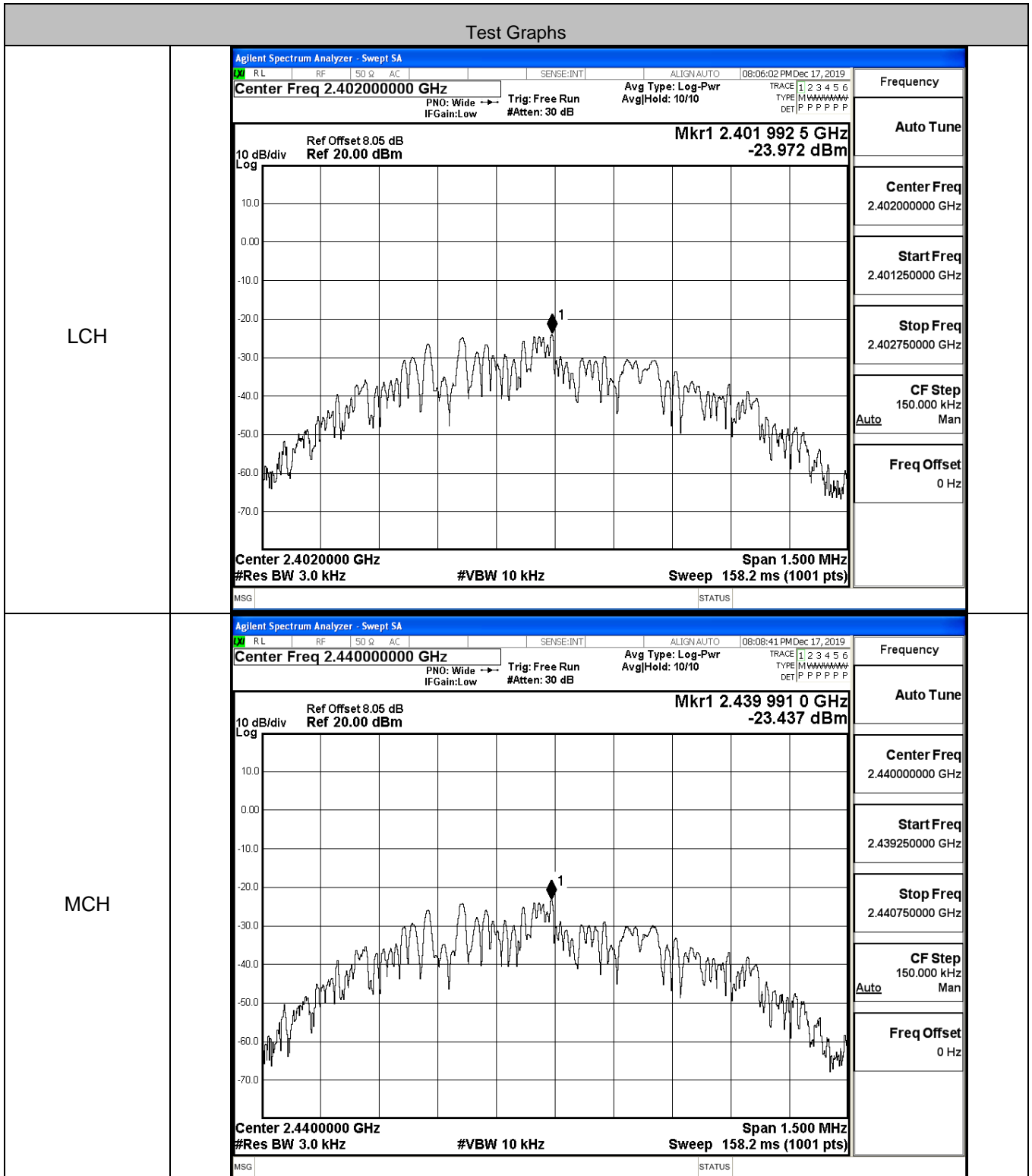




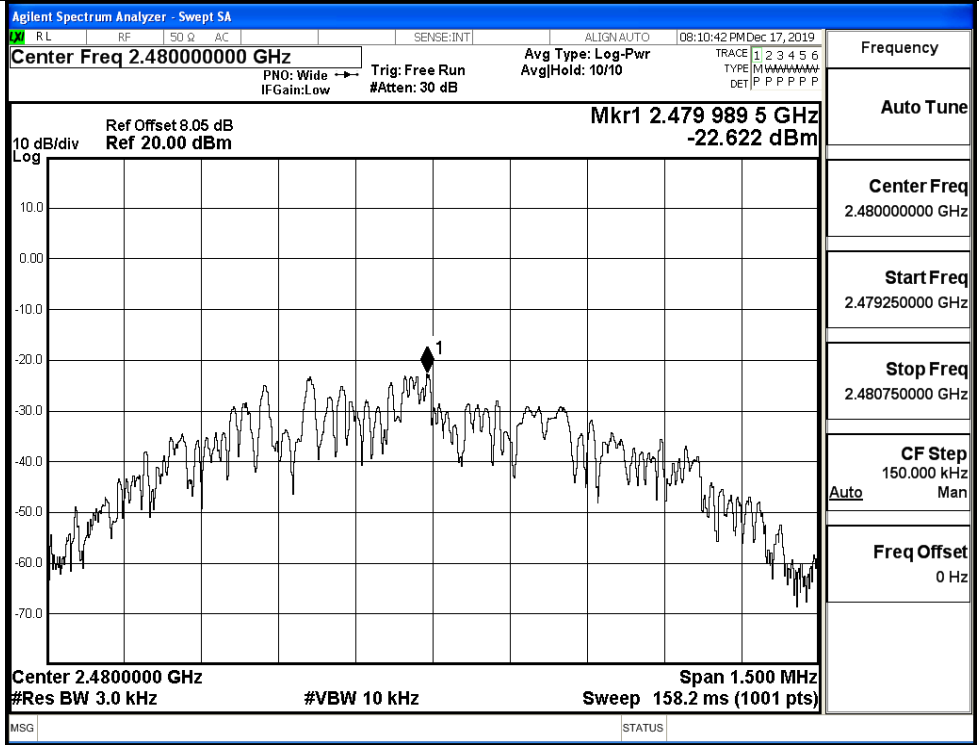
HCH

B.3 Maximum Power Spectral Density

Mode	Channel	PSD [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
BT LE	LCH	-23.972	8	PASS
BT LE	MCH	-23.437	8	PASS
BT LE	HCH	-22.622	8	PASS



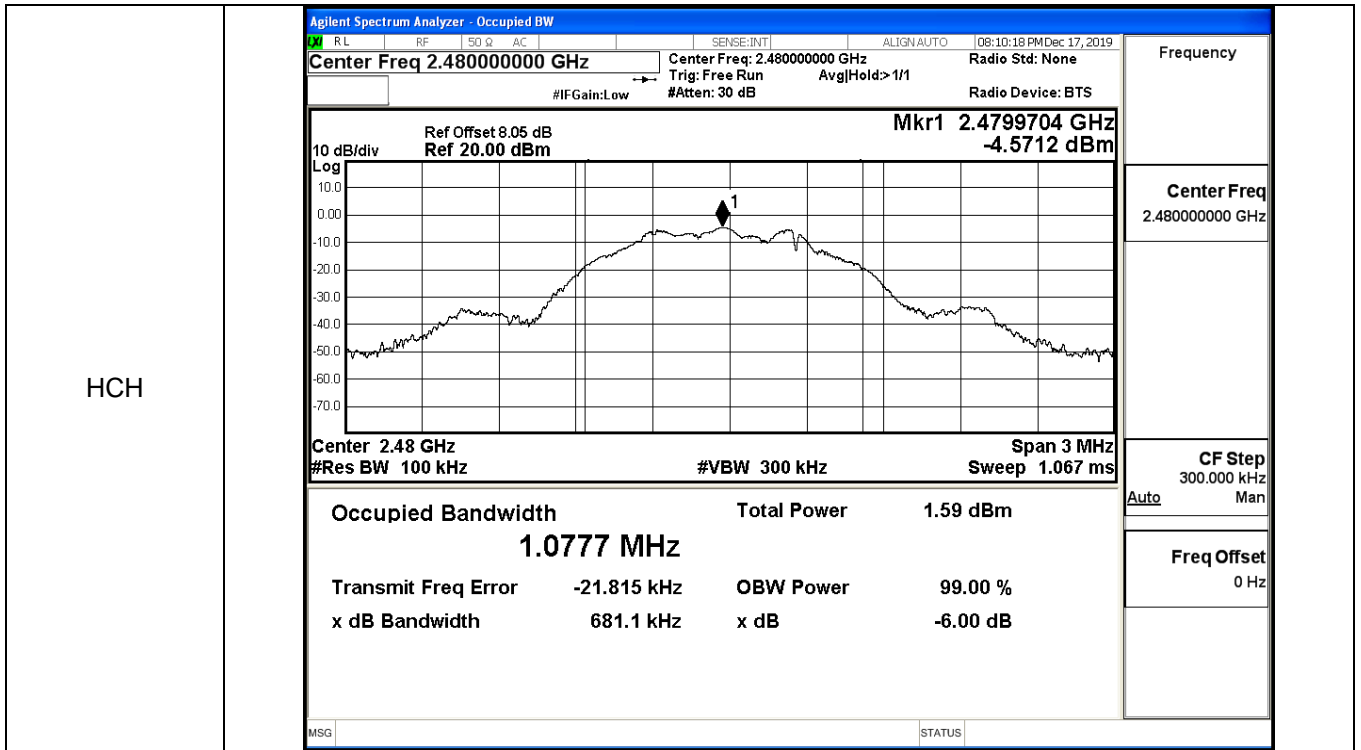
HCH



B.4 6dB Bandwidth

Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
BT LE	LCH	0.6893	≥0.5	PASS
BT LE	MCH	0.6902	≥0.5	PASS
BT LE	HCH	0.6811	≥0.5	PASS

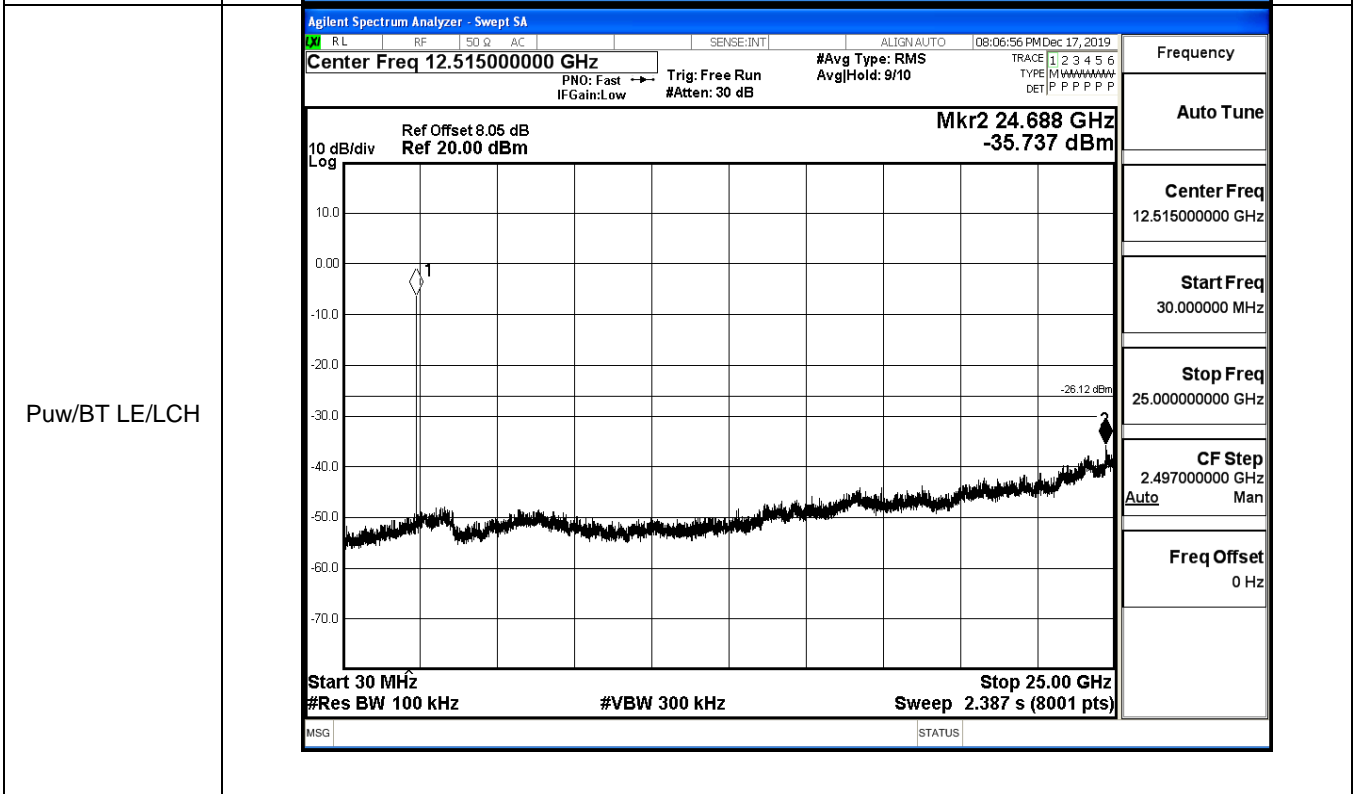
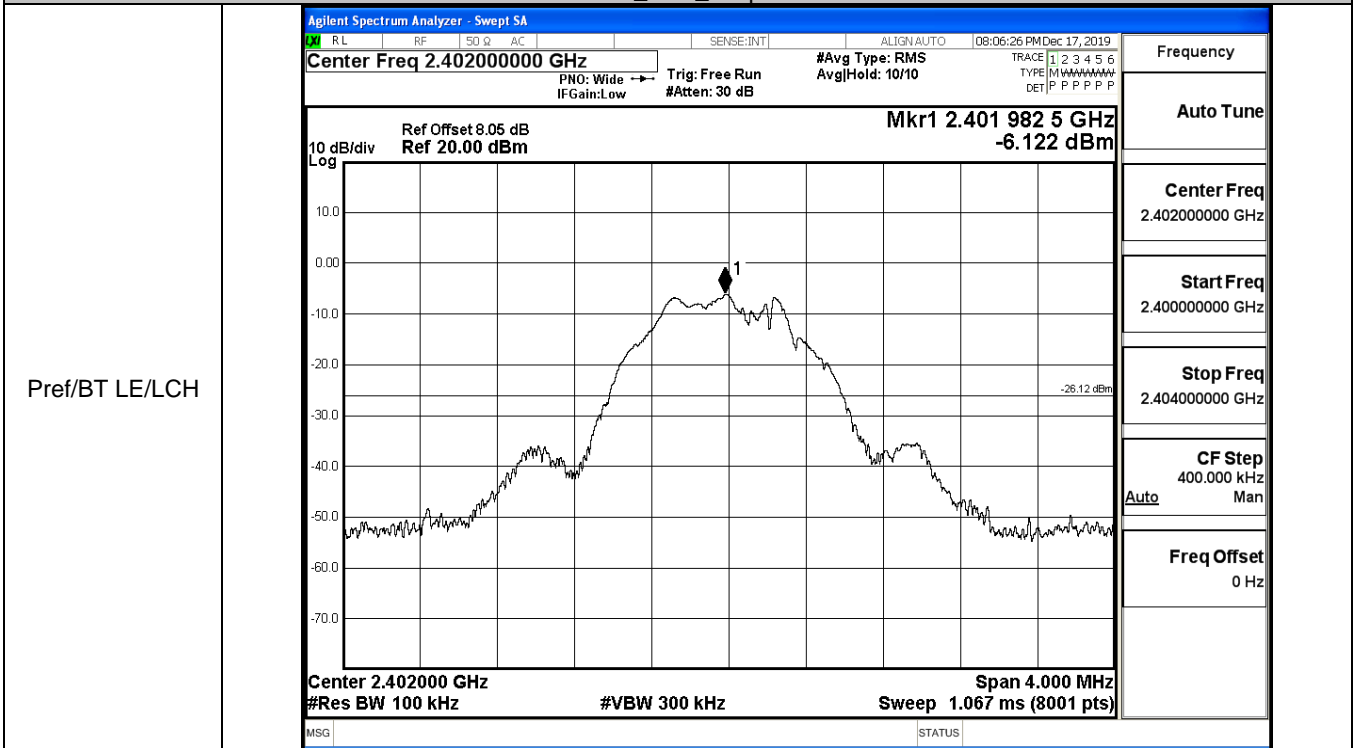
Test Graphs														
LCH	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.402000000 GHz Center Freq: 2.402000000 GHz Radio Std: None Trig: Free Run AvgHold: 1/1 Radio Device: BTS #IFGain:Low #Atten: 30 dB</p> <p>Ref Offset 8.05 dB Mkr1 2.4019685 GHz Ref 20.00 dBm -5.9365 dBm</p> <p>Center 2.402 GHz Span 3 MHz #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>0.34 dBm</td> </tr> <tr> <td>1.0651 MHz</td> <td></td> <td></td> </tr> <tr> <td>Transmit Freq Error</td> <td>OBW Power</td> <td>99.00 %</td> </tr> <tr> <td>x dB Bandwidth</td> <td>x dB</td> <td>-6.00 dB</td> </tr> </table> <p>MSG STATUS</p>	Occupied Bandwidth	Total Power	0.34 dBm	1.0651 MHz			Transmit Freq Error	OBW Power	99.00 %	x dB Bandwidth	x dB	-6.00 dB	<p>Frequency</p> <p>Center Freq 2.402000000 GHz</p> <p>CF Step 300.000 kHz Auto Man</p> <p>Freq Offset 0 Hz</p>
	Occupied Bandwidth	Total Power	0.34 dBm											
1.0651 MHz														
Transmit Freq Error	OBW Power	99.00 %												
x dB Bandwidth	x dB	-6.00 dB												
MCH	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.440000000 GHz Center Freq: 2.440000000 GHz Radio Std: None Trig: Free Run AvgHold: 1/1 Radio Device: BTS #IFGain:Low #Atten: 30 dB</p> <p>Ref Offset 8.05 dB Mkr1 2.4399711 GHz Ref 20.00 dBm -5.5163 dBm</p> <p>Center 2.44 GHz Span 3 MHz #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>0.75 dBm</td> </tr> <tr> <td>1.0711 MHz</td> <td></td> <td></td> </tr> <tr> <td>Transmit Freq Error</td> <td>OBW Power</td> <td>99.00 %</td> </tr> <tr> <td>x dB Bandwidth</td> <td>x dB</td> <td>-6.00 dB</td> </tr> </table> <p>MSG STATUS</p>	Occupied Bandwidth	Total Power	0.75 dBm	1.0711 MHz			Transmit Freq Error	OBW Power	99.00 %	x dB Bandwidth	x dB	-6.00 dB	<p>Frequency</p> <p>Center Freq 2.440000000 GHz</p> <p>CF Step 300.000 kHz Auto Man</p> <p>Freq Offset 0 Hz</p>
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x dB Bandwidth	x dB	-6.00 dB												



B.5 RF Conducted Spurious Emissions

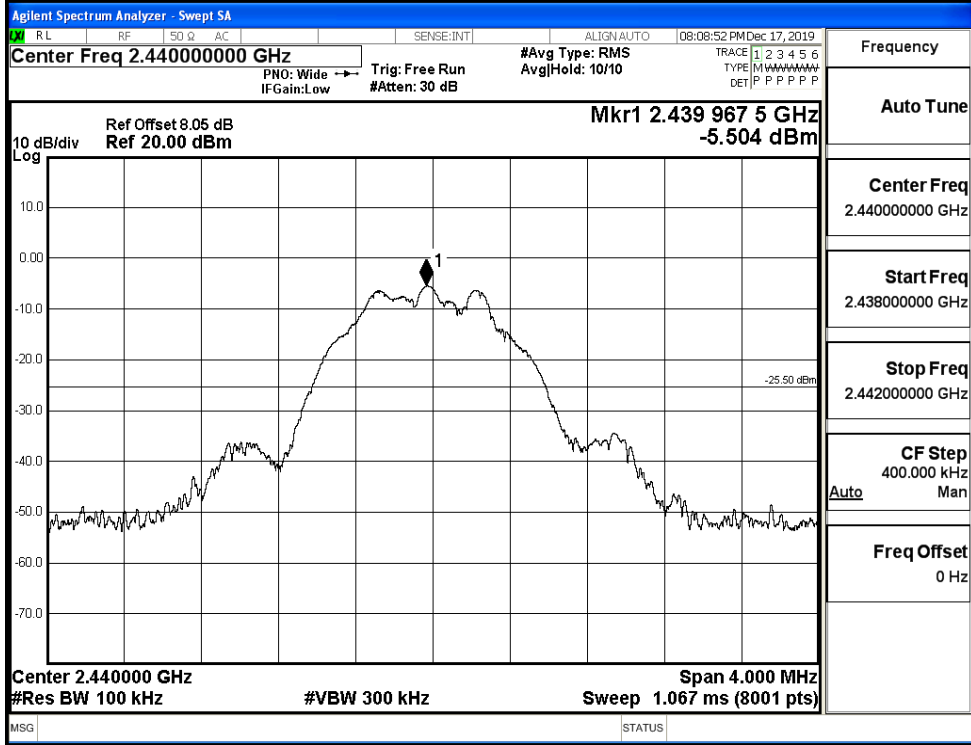
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
BT LE	LCH	-6.122	-35.737	-26.122	PASS
BT LE	MCH	-5.504	-37.282	-25.504	PASS
BT LE	HCH	-4.571	-37.408	-24.571	PASS

BT LE_LCH_Graphs



BT LE_MCH_Graphs

Pref/BT LE/MCH

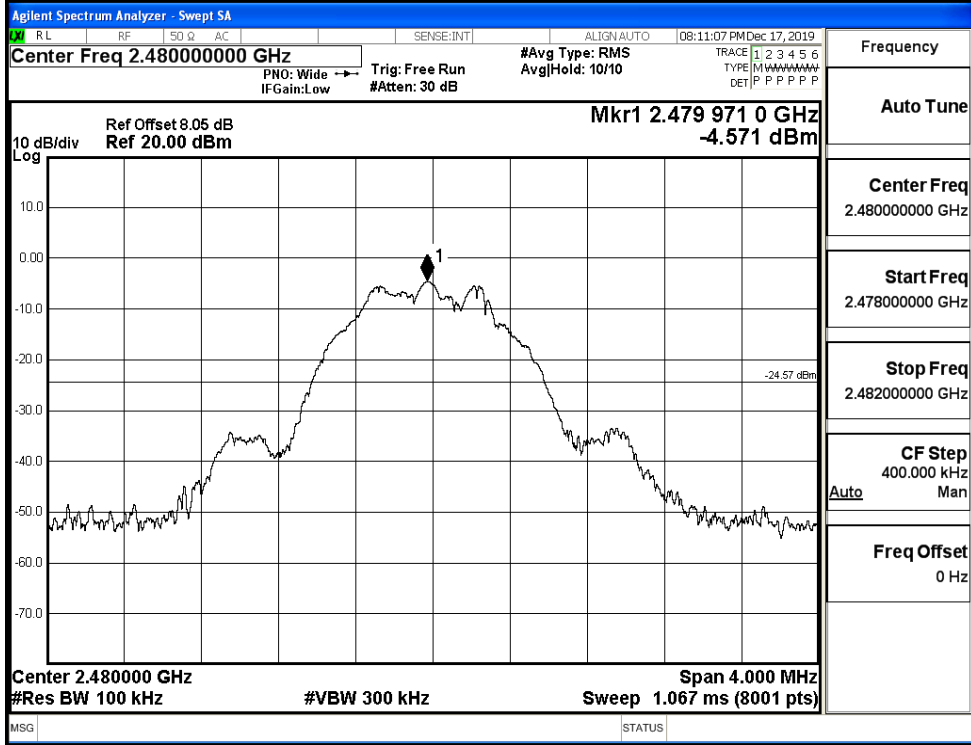


Puw/BT LE/MCH

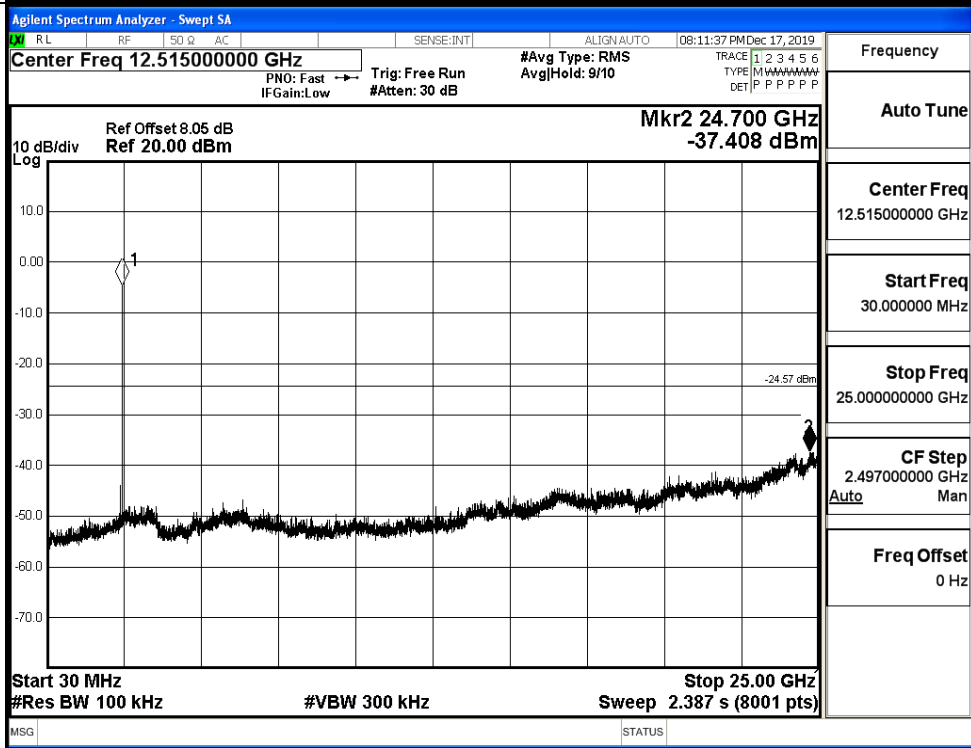


BT LE_HCH_Graphs

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	-5.782	-49.726	-25.78	PASS
BT LE	HCH	-4.469	-49.053	-24.47	PASS

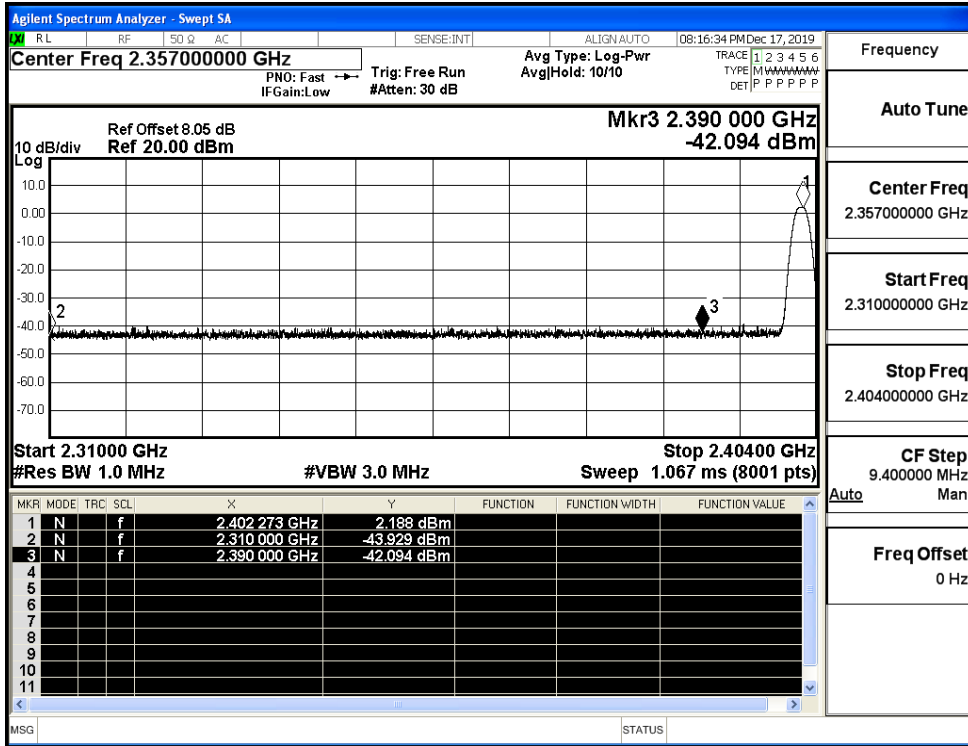
Test Graphs

LCH	<p>Agilent Spectrum Analyzer - Swept SA Center Freq 2.35700000 GHz Ref Offset 8.05 dB, Ref 20.00 dBm Mkr4 2.387 127 GHz -49.726 dBm 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>2.401 979 GHz</td><td>-5.782 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>-53.768 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>-53.193 dBm</td><td></td><td></td><td></td></tr> <tr><td>4</td><td>N</td><td>f</td><td></td><td>2.387 127 GHz</td><td>-49.726 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	-5.782 dBm				2	N	f		2.400 000 GHz	-53.768 dBm				3	N	f		2.390 000 GHz	-53.193 dBm				4	N	f		2.387 127 GHz	-49.726 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
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4	N	f		2.387 127 GHz	-49.726 dBm																																										
HCH	<p>Agilent Spectrum Analyzer - Swept SA Center Freq 2.48900000 GHz Ref Offset 8.05 dB, Ref 20.00 dBm Mkr4 2.493 677 75 GHz -49.053 dBm 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>2.479 980 00 GHz</td><td>-4.469 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>-52.870 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>-53.219 dBm</td><td></td><td></td><td></td></tr> <tr><td>4</td><td>N</td><td>f</td><td></td><td>2.493 677 75 GHz</td><td>-49.053 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		2.479 980 00 GHz	-4.469 dBm				2	N	f		2.483 500 00 GHz	-52.870 dBm				3	N	f		2.500 000 00 GHz	-53.219 dBm				4	N	f		2.493 677 75 GHz	-49.053 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
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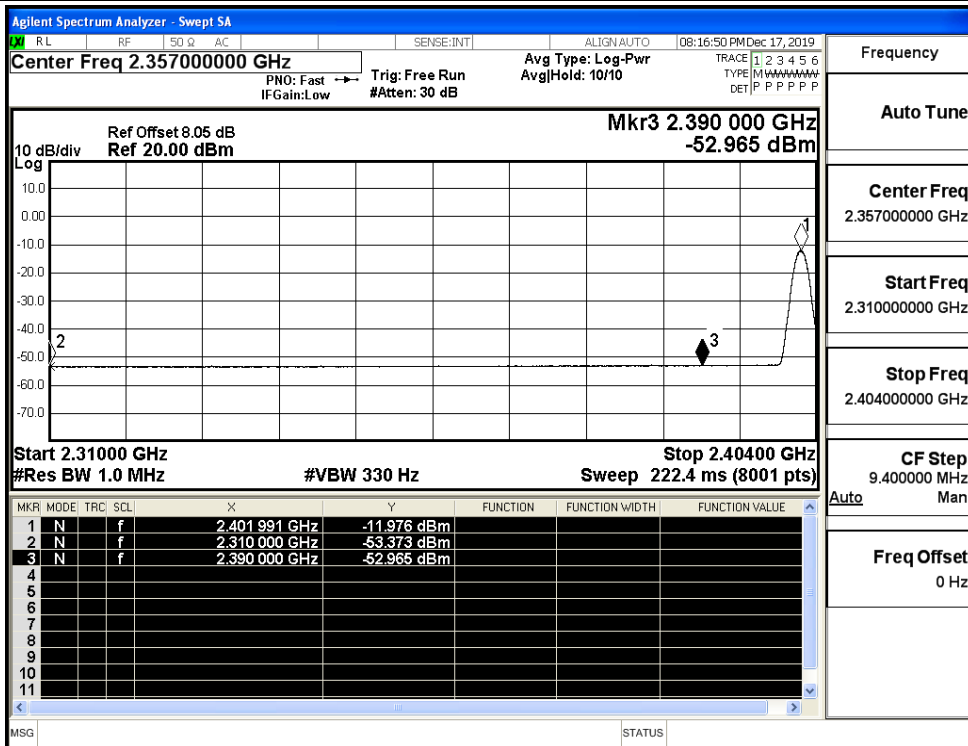
B.7 Restrict-band band-edge measurements

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	-43.93	2.0	0	53.33	PEAK	74	PASS
		Ant1	2310.0	-53.37	2.0	0	43.88	AV	54	PASS
		Ant1	2390.0	-42.09	2.0	0	55.16	PEAK	74	PASS
		Ant1	2390.0	-52.97	2.0	0	44.29	AV	54	PASS
	2480	Ant1	2483.5	-41.22	2.0	0	56.04	PEAK	74	PASS
		Ant1	2483.5	-52.42	2.0	0	44.83	AV	54	PASS
		Ant1	2500.0	-42.74	2.0	0	54.52	PEAK	74	PASS
		Ant1	2500.0	-52.45	2.0	0	44.81	AV	54	PASS

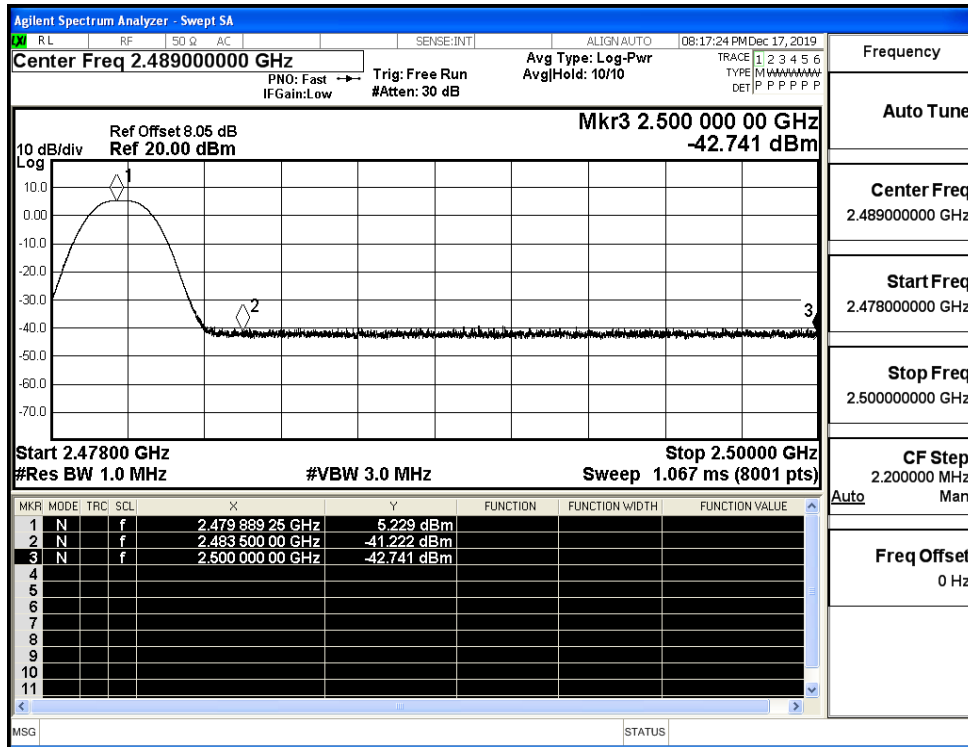
Restrict-band band-edge measurements_BT LE_2402_Ant1_PEAK



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

