

Appendix B

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

Product Name: WIRELESS EARBUDS

Trade Mark: iWorld

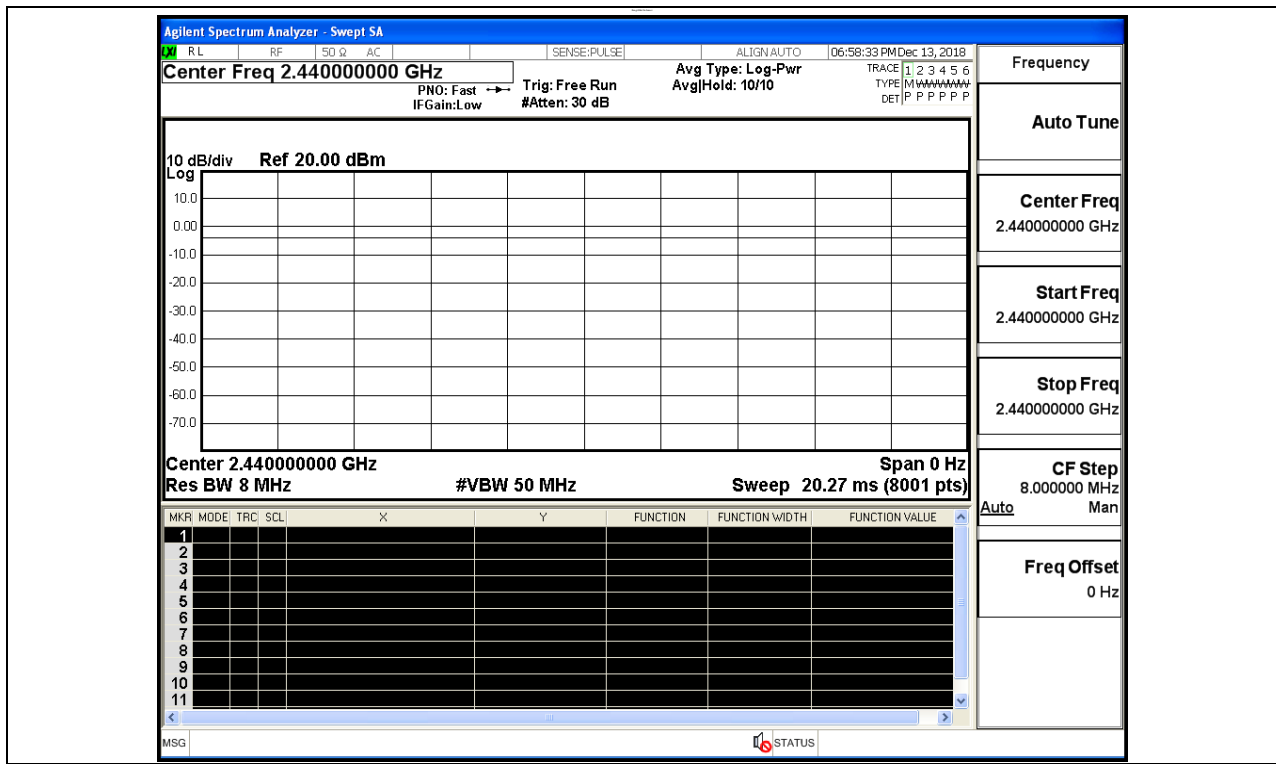
Test Model: FVBT1001-GRY

Environmental Conditions

Temperature:	23.4 ° C
Relative Humidity:	52.3%
ATM Pressure:	100.0 kPa
Test Engineer:	Diamond.Lu
Supervised by:	Jayden.Zhuo

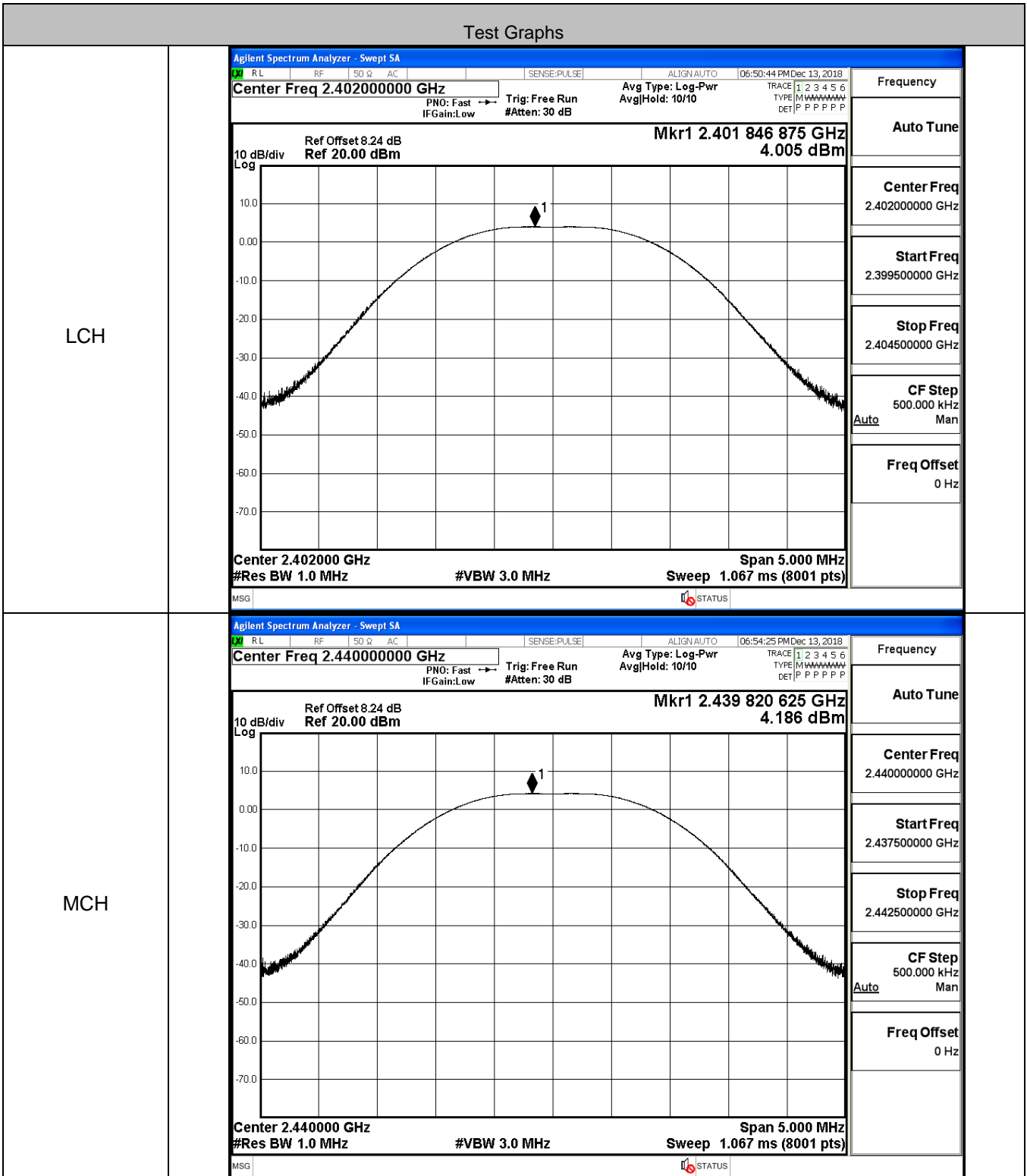
B.1 Duty Cycle

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



B.2 Maximum Conducted Peak Output Power

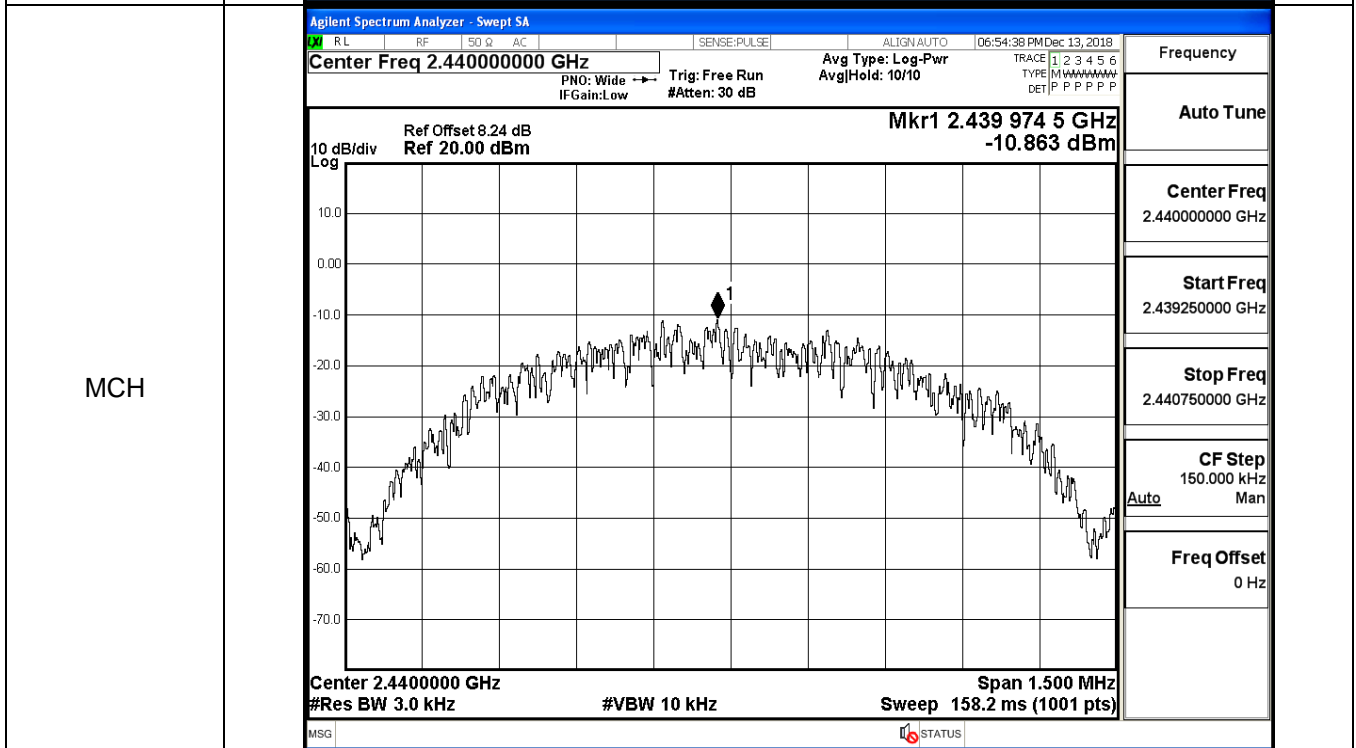
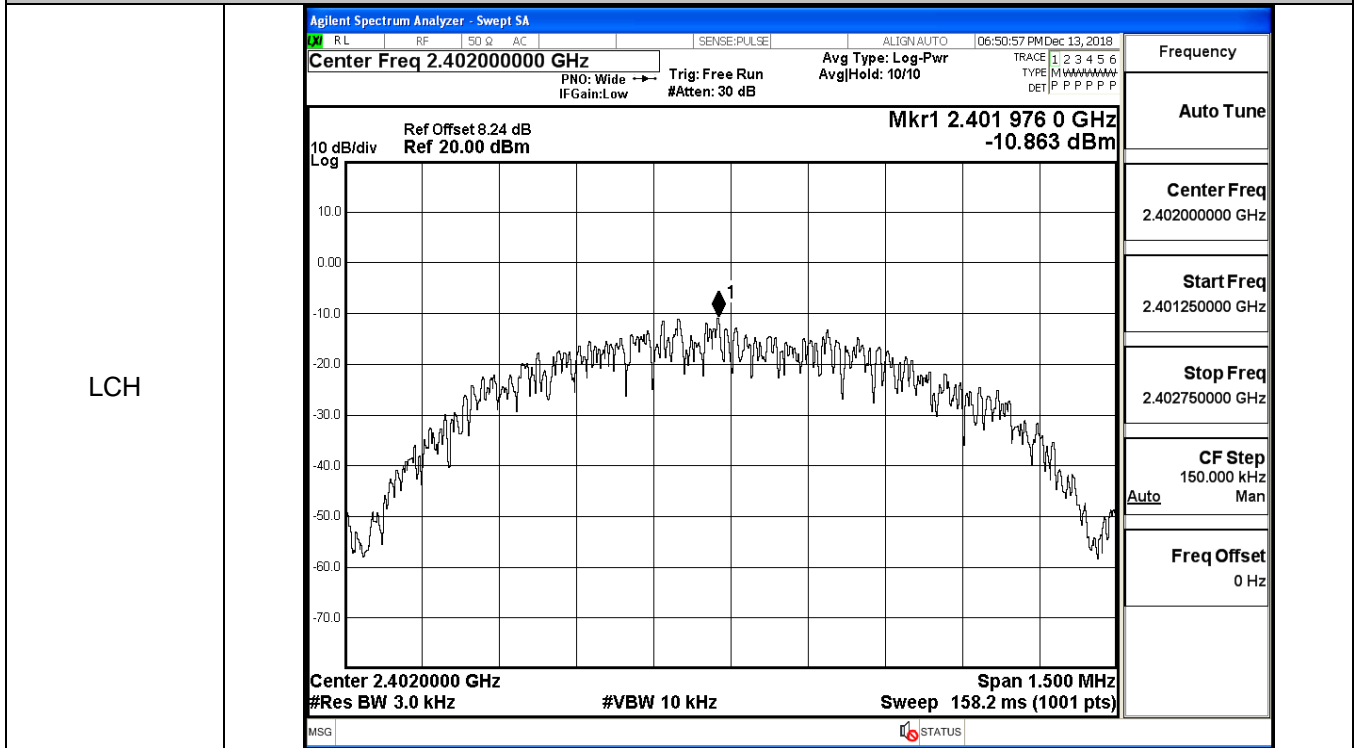
Mode	Channel	Conduct Peak Power[dBm]	Limit [dBm]	Verdict
BT LE	LCH	4.005	30	PASS
BT LE	MCH	4.186	30	PASS
BT LE	HCH	4.269	30	PASS



B.3 Maximum Power Spectral Density

Mode	Channel	PSD [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
BT LE	LCH	-10.863	8	PASS
BT LE	MCH	-10.863	8	PASS
BT LE	HCH	-10.640	8	PASS

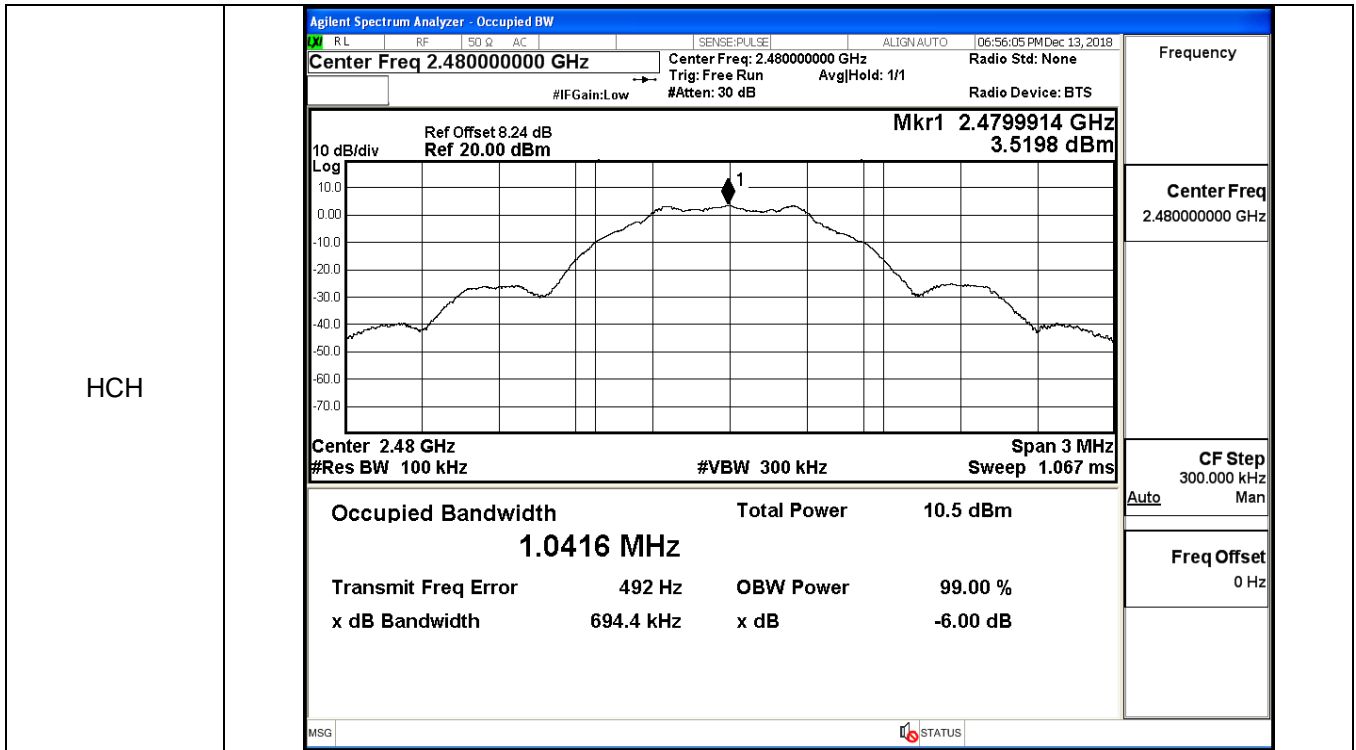
Test Graphs



B.4 6dB Bandwidth

Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
BT LE	LCH	0.6973	≥0.5	PASS
BT LE	MCH	0.6985	≥0.5	PASS
BT LE	HCH	0.6944	≥0.5	PASS

Test Graphs	
LCH	<div data-bbox="416 562 1390 1294"> <p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.40200000 GHz Center Freq: 2.40200000 GHz Radio Std: None</p> <p>Trig: Free Run AvgHold: >1/1 Radio Device: BTS</p> <p>#IFGain: Low #Atten: 30 dB</p> <p>Ref Offset 8.24 dB Mkr1 2.4019906 GHz</p> <p>Ref 20.00 dBm 3.2640 dBm</p> <p>Center 2.402 GHz Span 3 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 1.067 ms</p> <p>Occupied Bandwidth Total Power 10.3 dBm</p> <p>1.0446 MHz</p> <p>Transmit Freq Error 318 Hz OBW Power 99.00 %</p> <p>x dB Bandwidth 697.3 kHz x dB -6.00 dB</p> <p>MSG STATUS</p> </div>
MCH	<div data-bbox="416 1305 1390 2042"> <p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.44000000 GHz Center Freq: 2.44000000 GHz Radio Std: None</p> <p>Trig: Free Run AvgHold: 1/1 Radio Device: BTS</p> <p>#IFGain: Low #Atten: 30 dB</p> <p>Ref Offset 8.24 dB Mkr1 2.4399918 GHz</p> <p>Ref 20.00 dBm 3.4524 dBm</p> <p>Center 2.44 GHz Span 3 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 1.067 ms</p> <p>Occupied Bandwidth Total Power 10.5 dBm</p> <p>1.0428 MHz</p> <p>Transmit Freq Error -333 Hz OBW Power 99.00 %</p> <p>x dB Bandwidth 698.5 kHz x dB -6.00 dB</p> <p>MSG STATUS</p> </div>

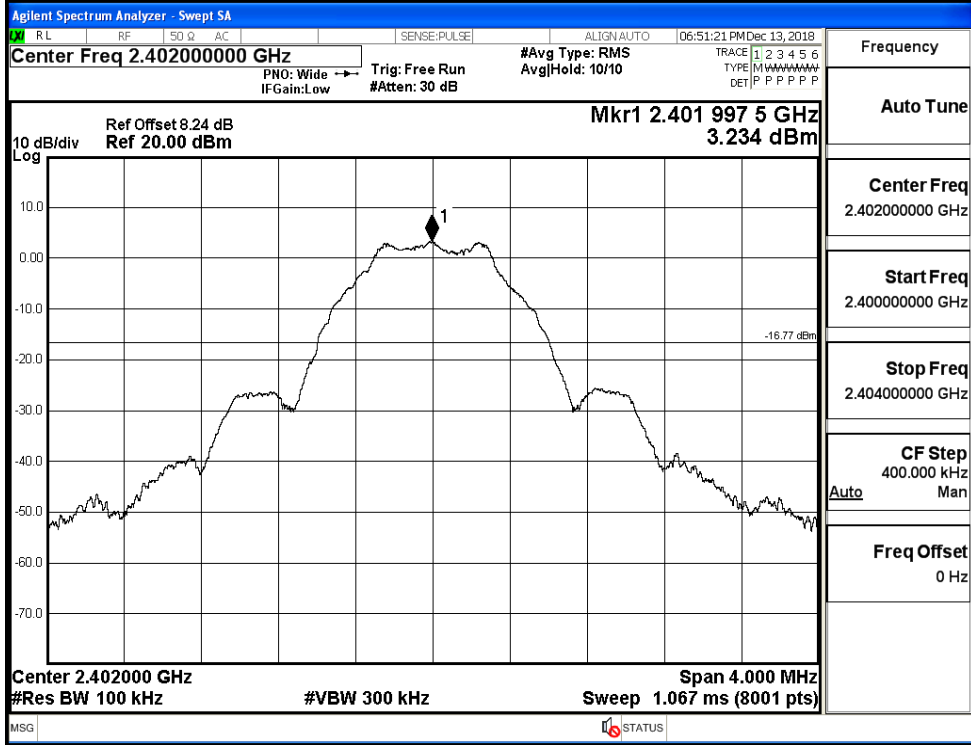


B.5 RF Conducted Spurious Emissions

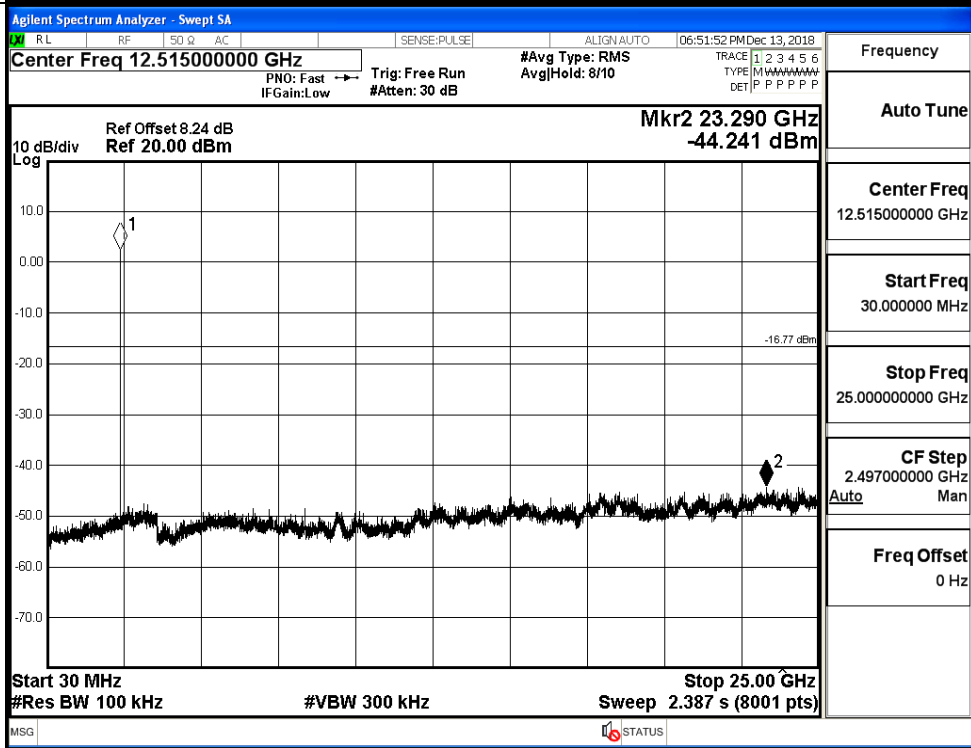
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
BT LE	LCH	3.234	-44.241	-16.766	PASS
BT LE	MCH	3.261	-44.348	-16.739	PASS
BT LE	HCH	3.55	-44.801	-16.450	PASS

BT LE_LCH_Graphs

Pref/BT LE/LCH

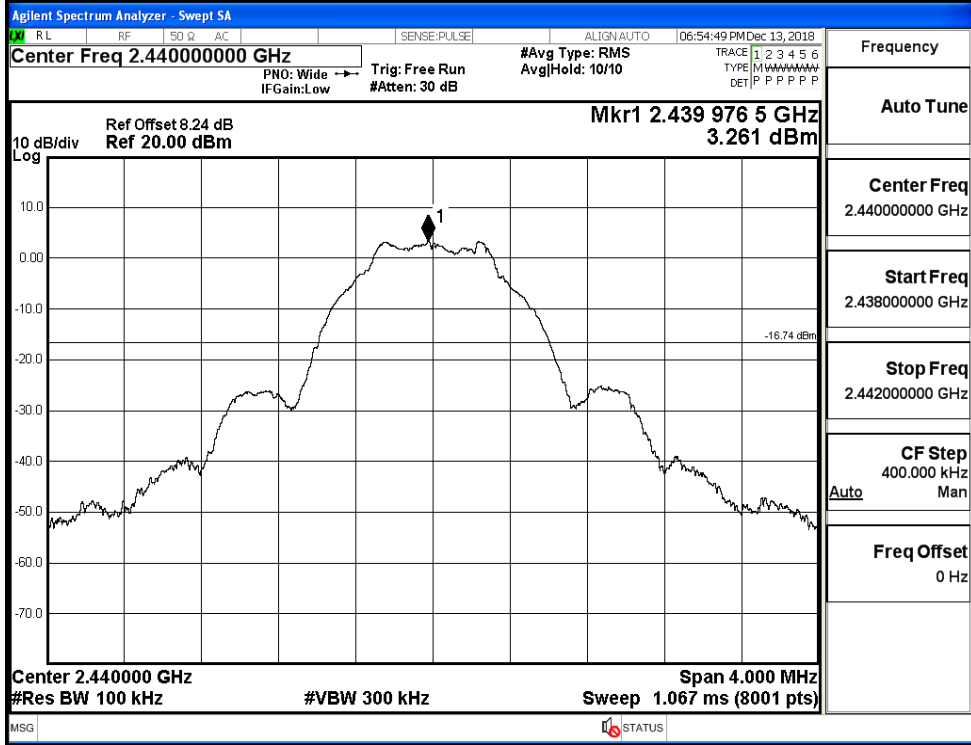


Puw/BT LE/LCH

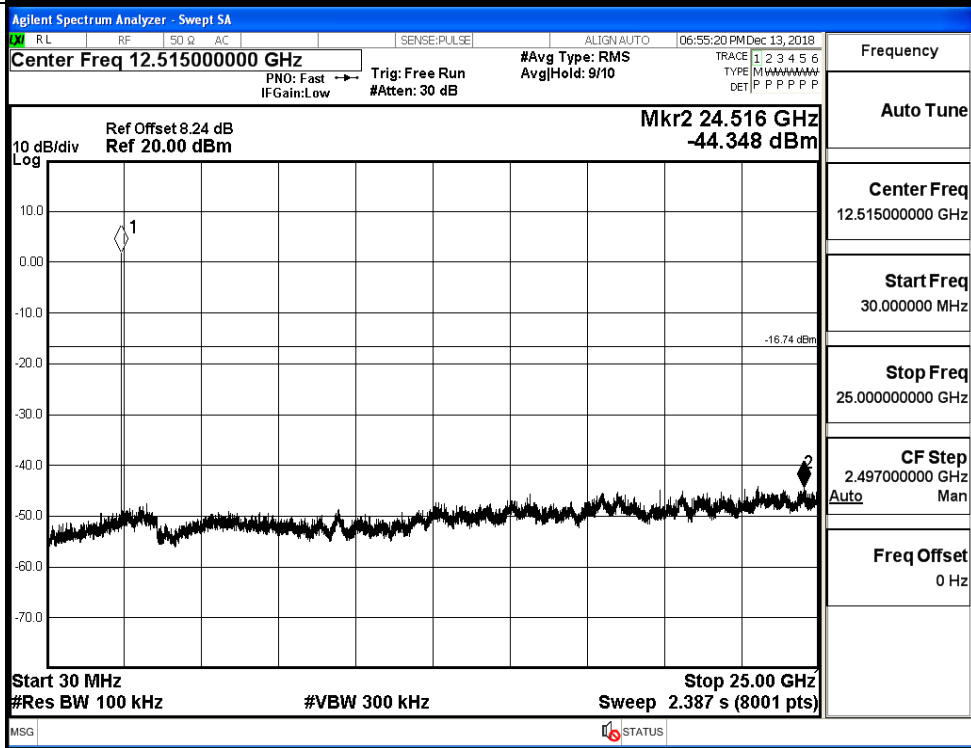


BT LE_MCH_Graphs

Pref/BT LE/MCH

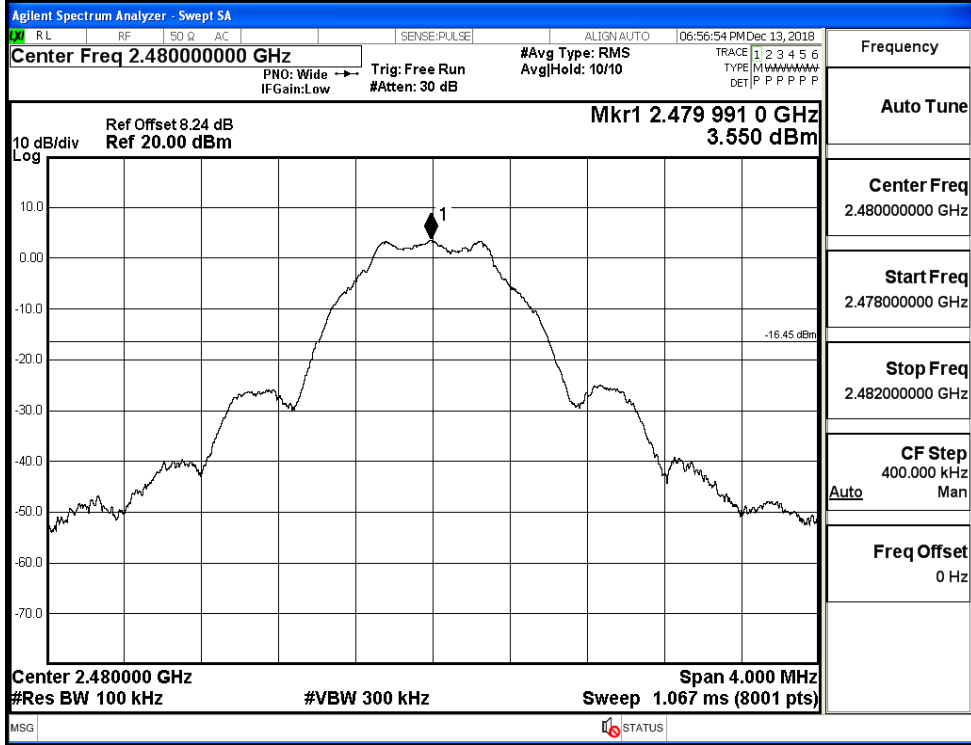


Puw/BT LE/MCH

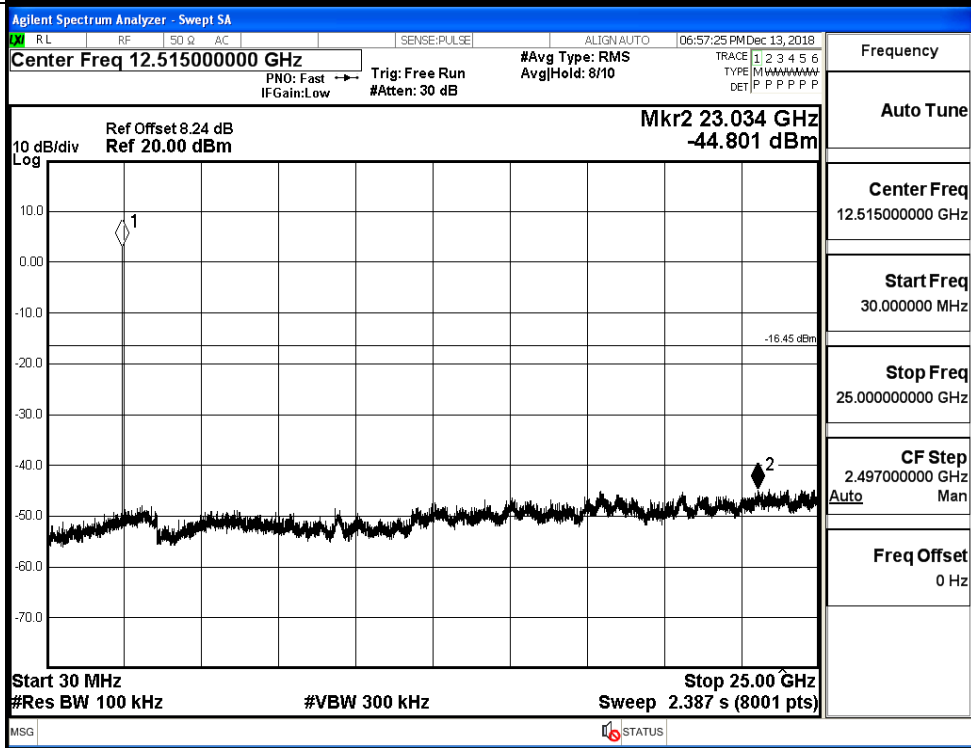


BT LE_HCH_Graphs

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	3.533	-49.399	-16.47	PASS
BT LE	HCH	3.655	-50.110	-16.35	PASS

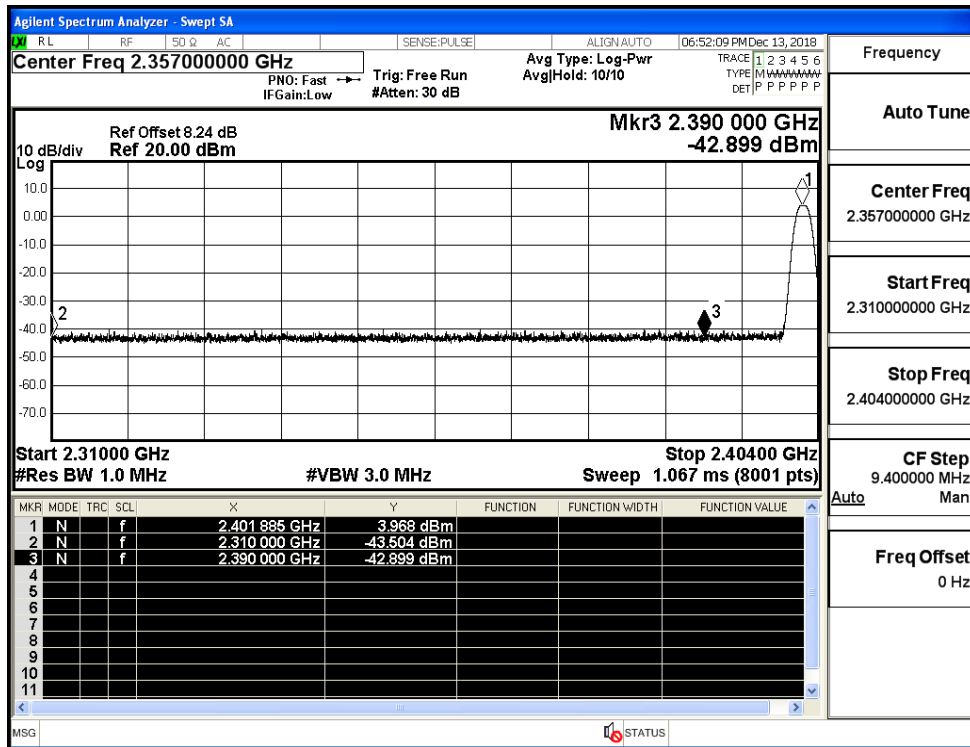
Test Graphs

LCH	<p>Agilent Spectrum Analyzer - Swept SA Center Freq 2.35700000 GHz Mkr4 2.368 374 GHz -49.399 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="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>2.401991 GHz</td><td>3.533 dBm</td><td></td><td></td><td></td></tr> <tr><td>2</td><td>N</td><td>f</td><td></td><td>2.400000 GHz</td><td>-51.928 dBm</td><td></td><td></td><td></td></tr> <tr><td>3</td><td>N</td><td>f</td><td></td><td>2.390000 GHz</td><td>-52.579 dBm</td><td></td><td></td><td></td></tr> <tr><td>4</td><td>N</td><td>f</td><td></td><td>2.368374 GHz</td><td>-49.399 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		2.401991 GHz	3.533 dBm				2	N	f		2.400000 GHz	-51.928 dBm				3	N	f		2.390000 GHz	-52.579 dBm				4	N	f		2.368374 GHz	-49.399 dBm				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
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4	N	f		2.368374 GHz	-49.399 dBm																																										
HCH	<p>Agilent Spectrum Analyzer - Swept SA Center Freq 2.48900000 GHz Mkr4 2.491 631 75 GHz -50.110 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="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>2.47998550 GHz</td><td>3.655 dBm</td><td></td><td></td><td></td></tr> <tr><td>2</td><td>N</td><td>f</td><td></td><td>2.48350000 GHz</td><td>-53.690 dBm</td><td></td><td></td><td></td></tr> <tr><td>3</td><td>N</td><td>f</td><td></td><td>2.50000000 GHz</td><td>-52.756 dBm</td><td></td><td></td><td></td></tr> <tr><td>4</td><td>N</td><td>f</td><td></td><td>2.49163175 GHz</td><td>-50.110 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		2.47998550 GHz	3.655 dBm				2	N	f		2.48350000 GHz	-53.690 dBm				3	N	f		2.50000000 GHz	-52.756 dBm				4	N	f		2.49163175 GHz	-50.110 dBm				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
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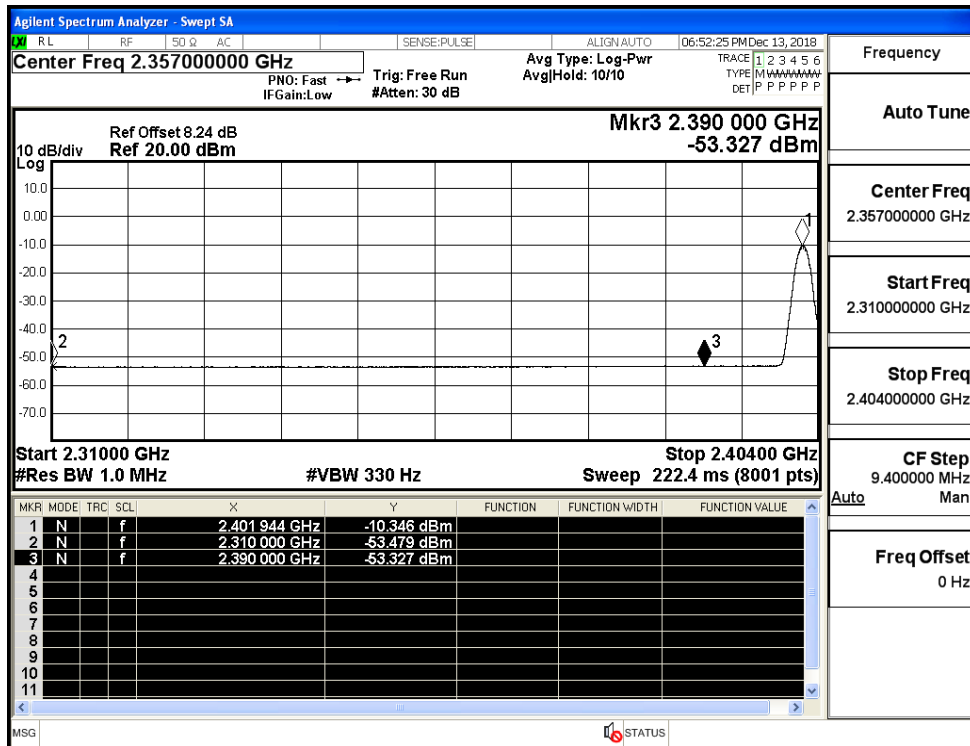
B.7 Restrict-band band-edge measurements

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	-43.50	2.0	0	51.75	PEAK	74	PASS
		Ant1	2310.0	-53.48	2.0	0	41.78	AV	54	PASS
		Ant1	2390.0	-42.90	2.0	0	52.36	PEAK	74	PASS
		Ant1	2390.0	-53.33	2.0	0	41.93	AV	54	PASS
	2480	Ant1	2483.5	-42.22	2.0	0	53.04	PEAK	74	PASS
		Ant1	2483.5	-52.90	2.0	0	42.35	AV	54	PASS
		Ant1	2500.0	-42.82	2.0	0	52.43	PEAK	74	PASS
		Ant1	2500.0	-52.90	2.0	0	42.36	AV	54	PASS

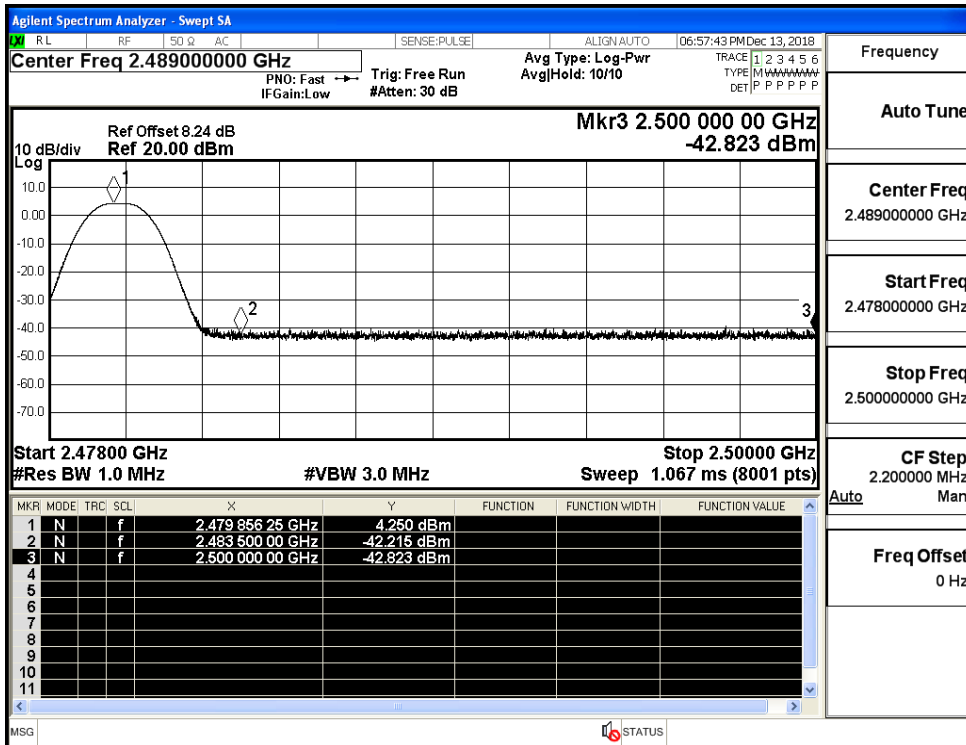
Restrict-band band-edge measurements_BT LE_2402_Ant1_PEAK



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

