

Appendix B

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

Product Name: Smartphone

Trade Mark: Hyundai

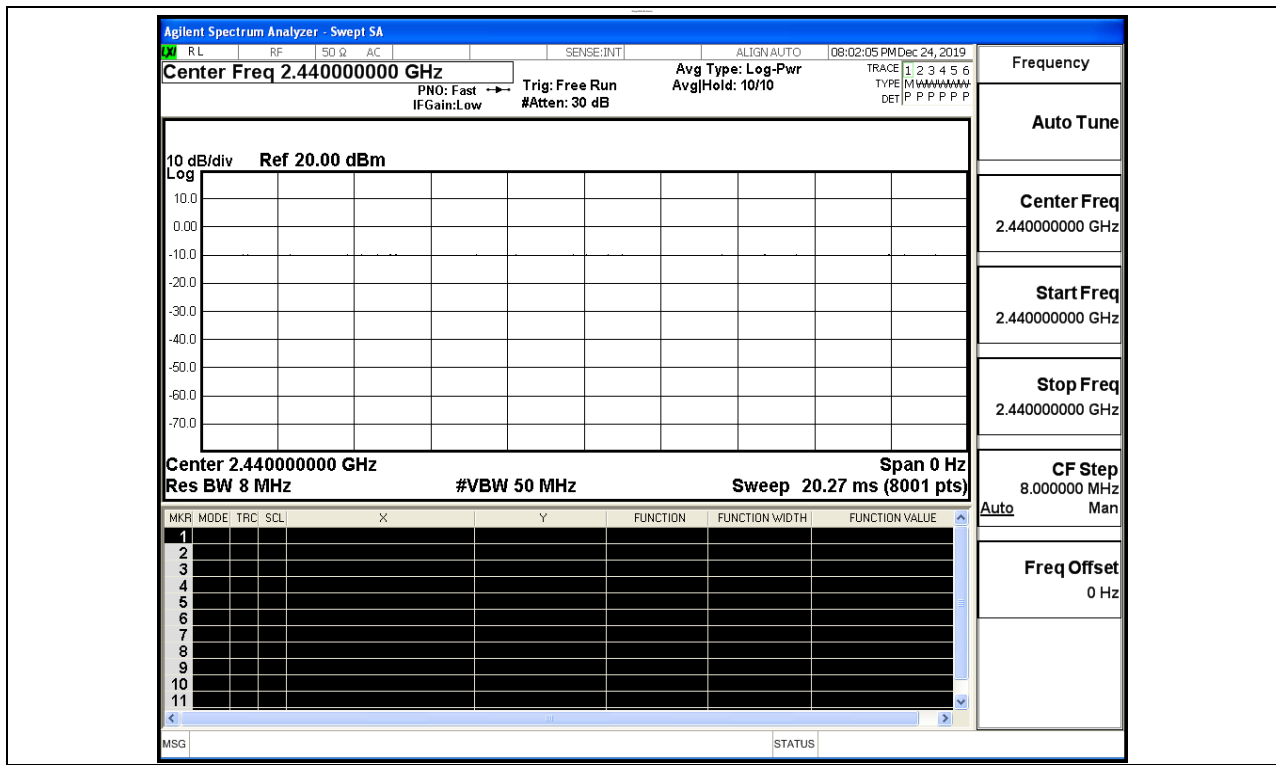
Test Model: Eternity G50W

Environmental Conditions

Temperature:	24.3°C
Relative Humidity:	53.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Diamond Lu
Supervised by:	Li Huan

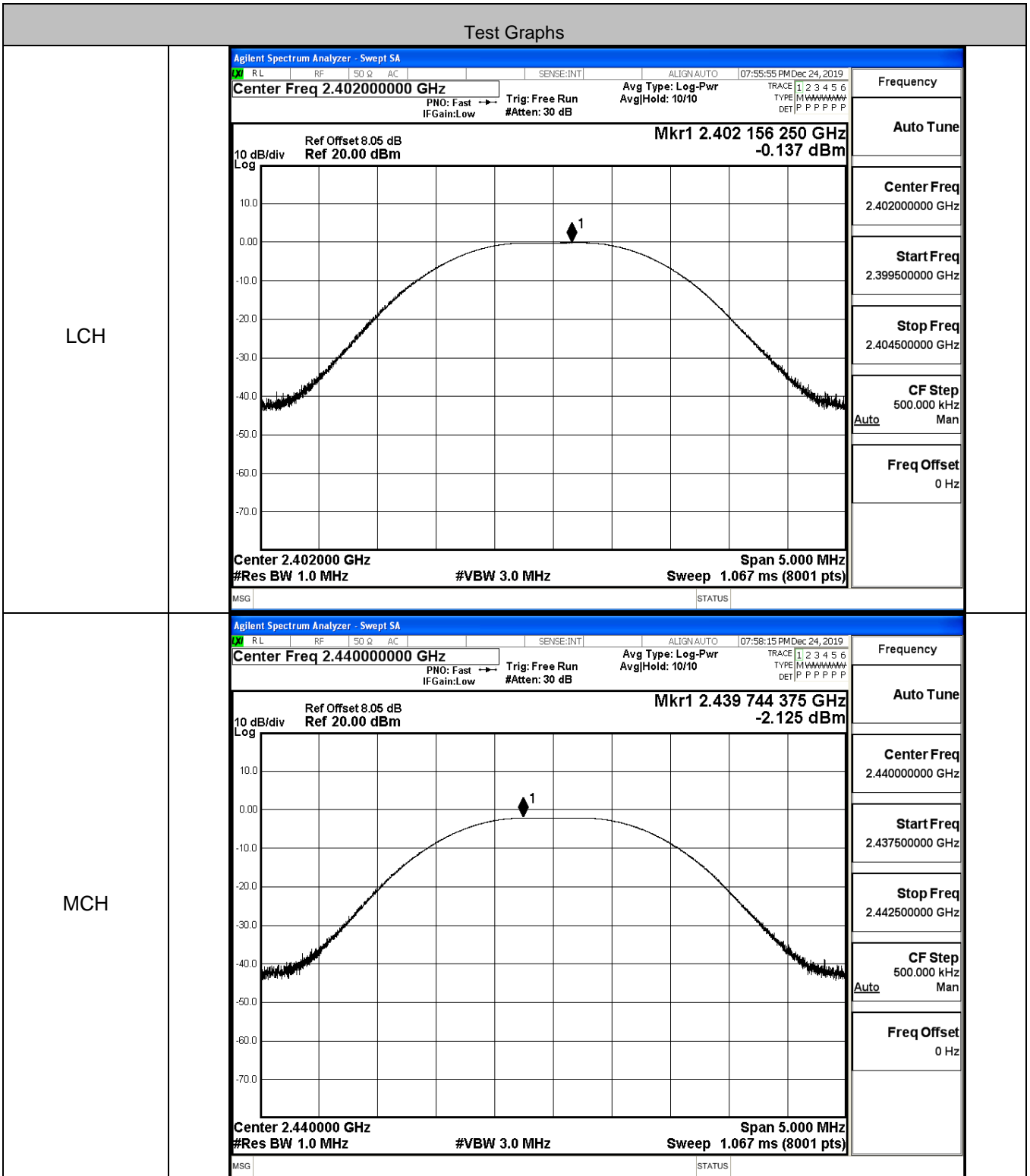
B.1 Duty Cycle

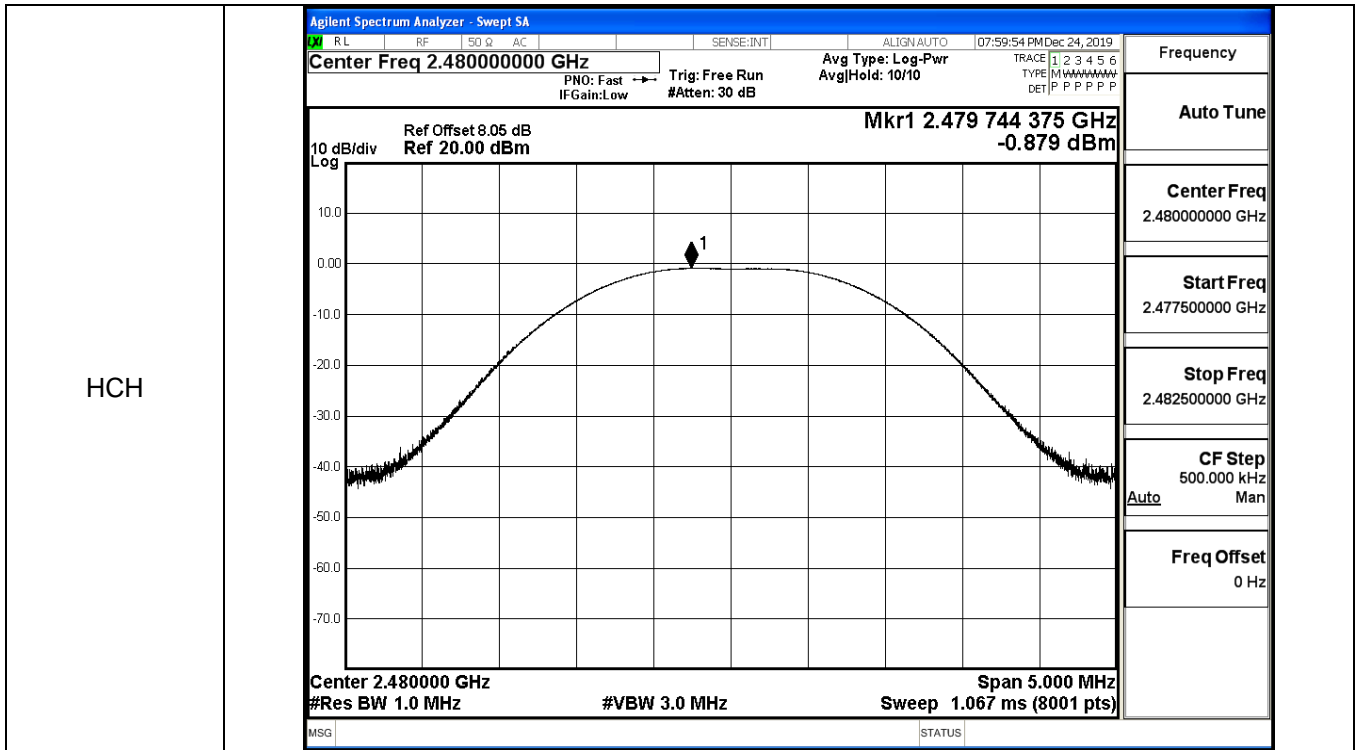
Test Mode	Test Channel	Ant	Duty Cycle[%]	Verdict
BT LE	2440	Ant1	100	PASS



B.2 Maximum Conducted Peak Output Power

Mode	Channel	Conduct Peak Power[dBm]	Limit [dBm]	Verdict
BT LE	LCH	-0.137	30	PASS
BT LE	MCH	-2.125	30	PASS
BT LE	HCH	-0.879	30	PASS

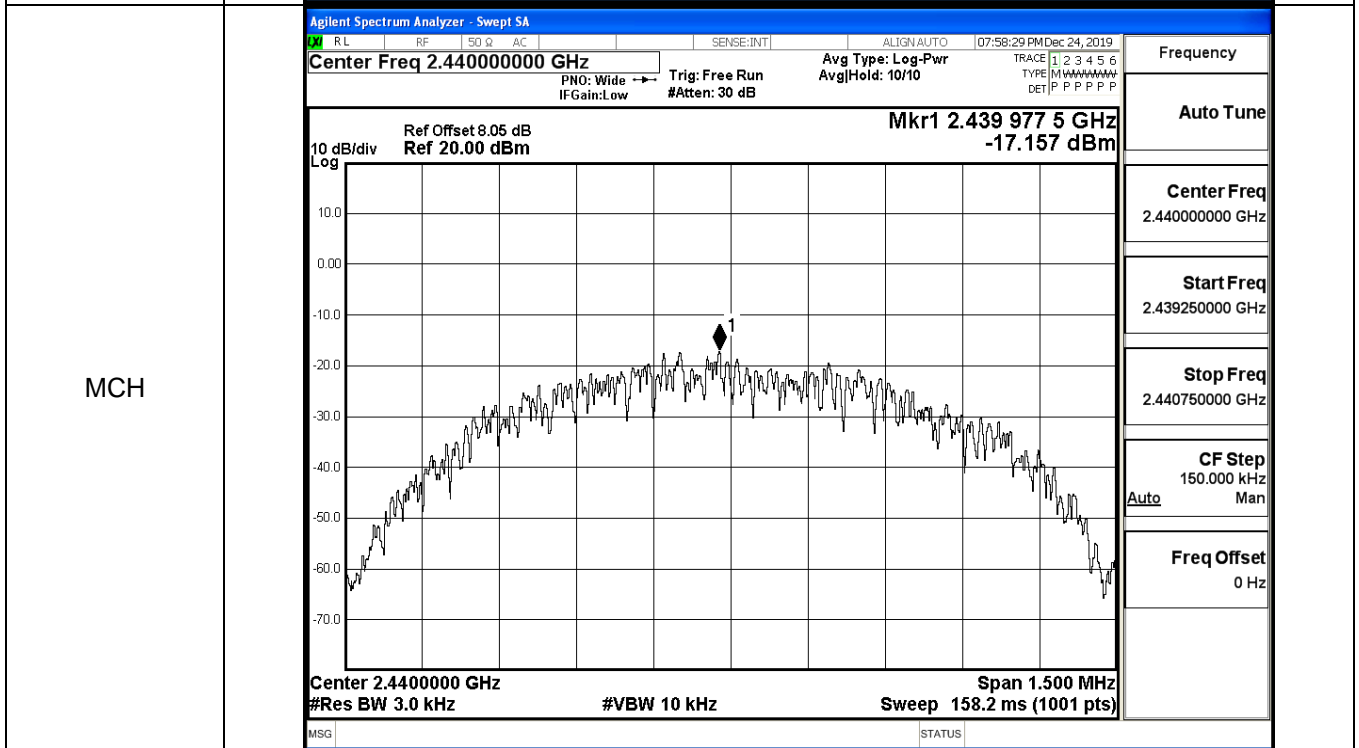
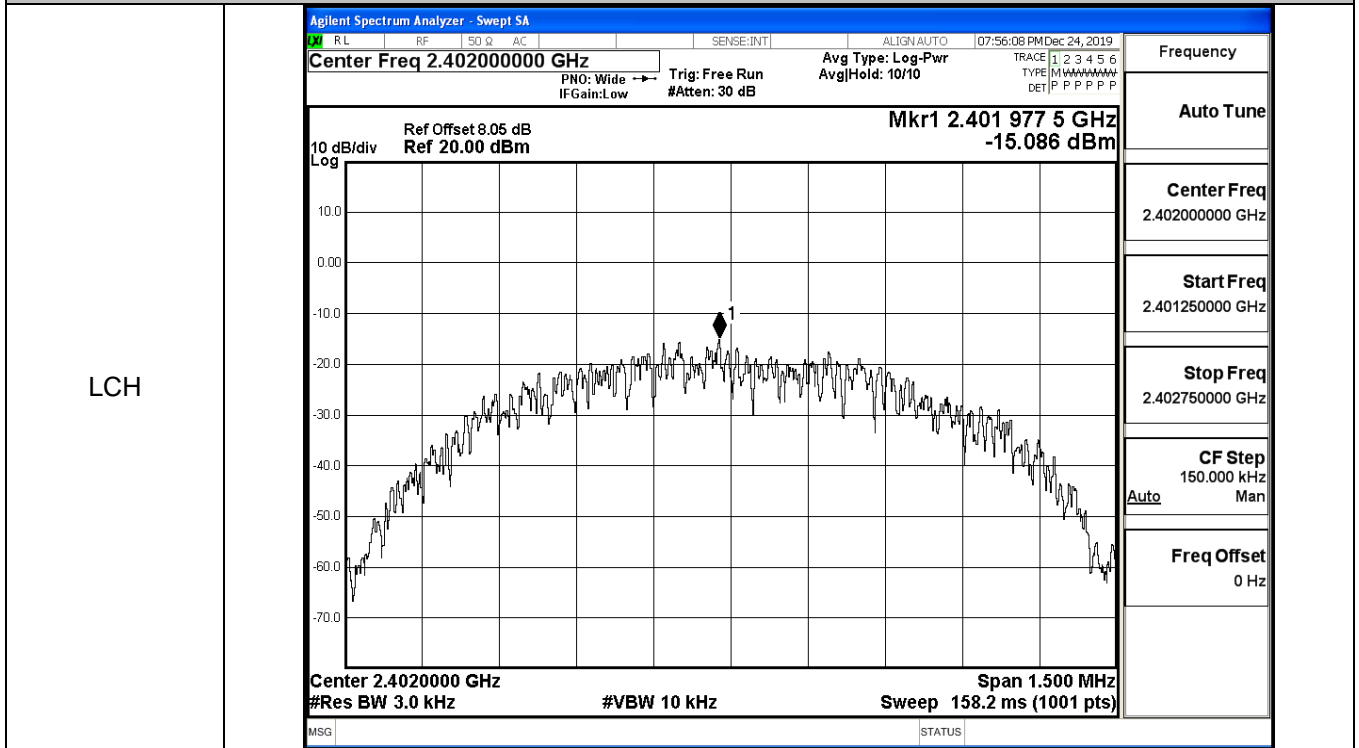


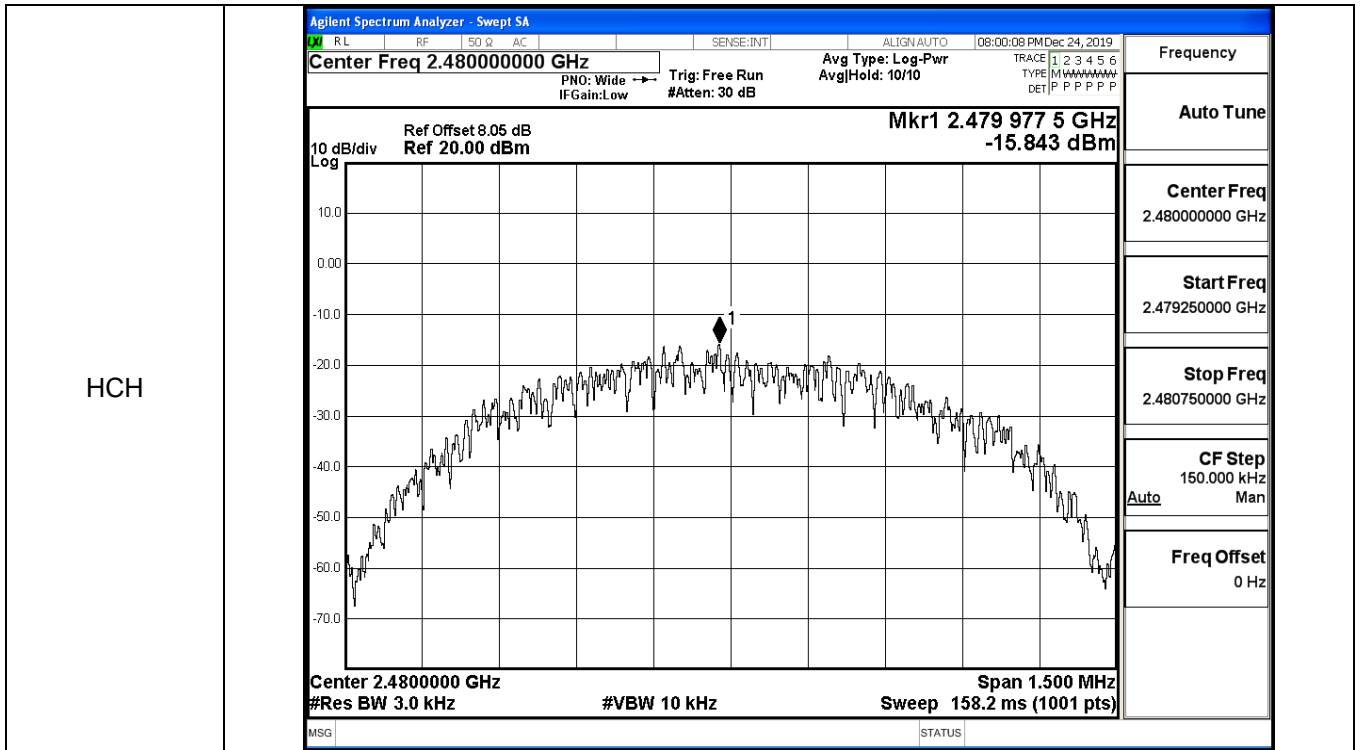


B.3 Maximum Power Spectral Density

Mode	Channel	PSD [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
BT LE	LCH	-15.086	8	PASS
BT LE	MCH	-17.157	8	PASS
BT LE	HCH	-15.843	8	PASS

Test Graphs

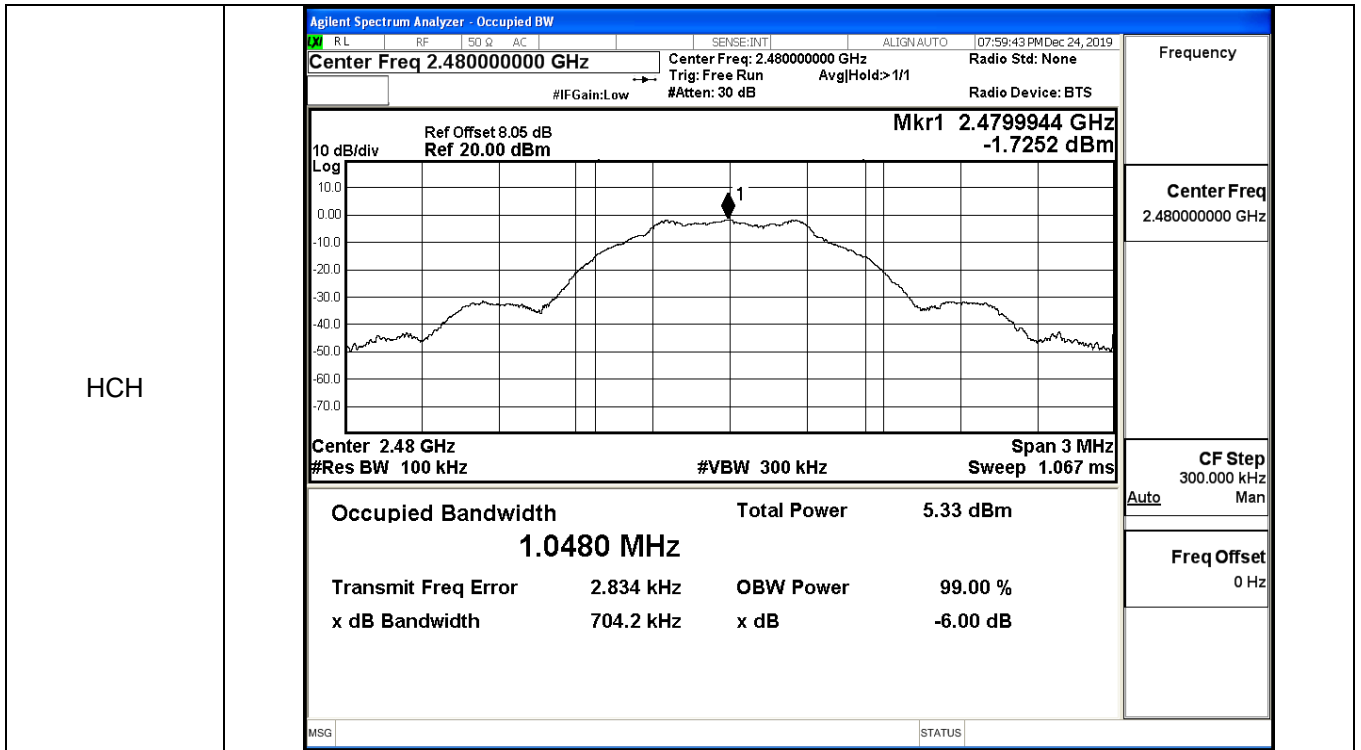




B.4 6dB Bandwidth

Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
BT LE	LCH	0.6976	≥0.5	PASS
BT LE	MCH	0.7038	≥0.5	PASS
BT LE	HCH	0.7042	≥0.5	PASS

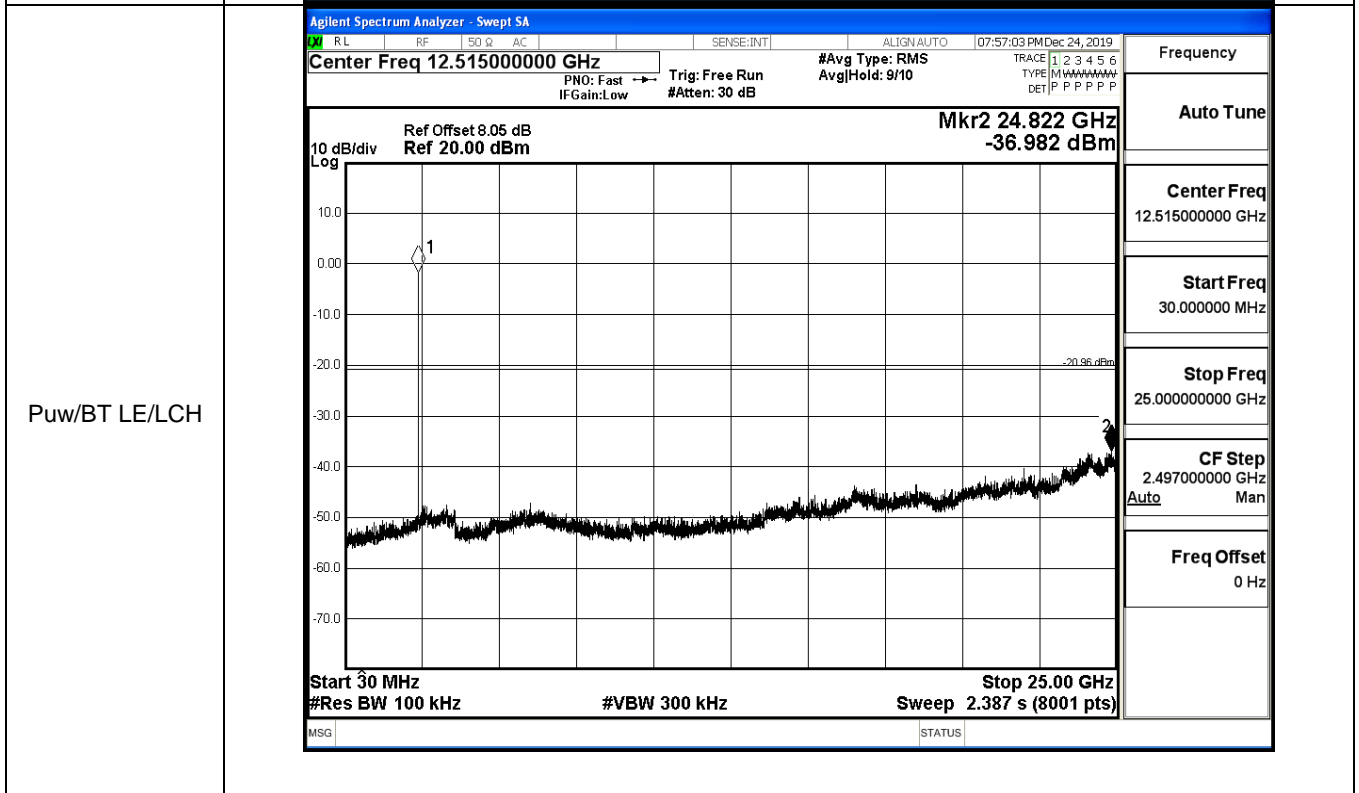
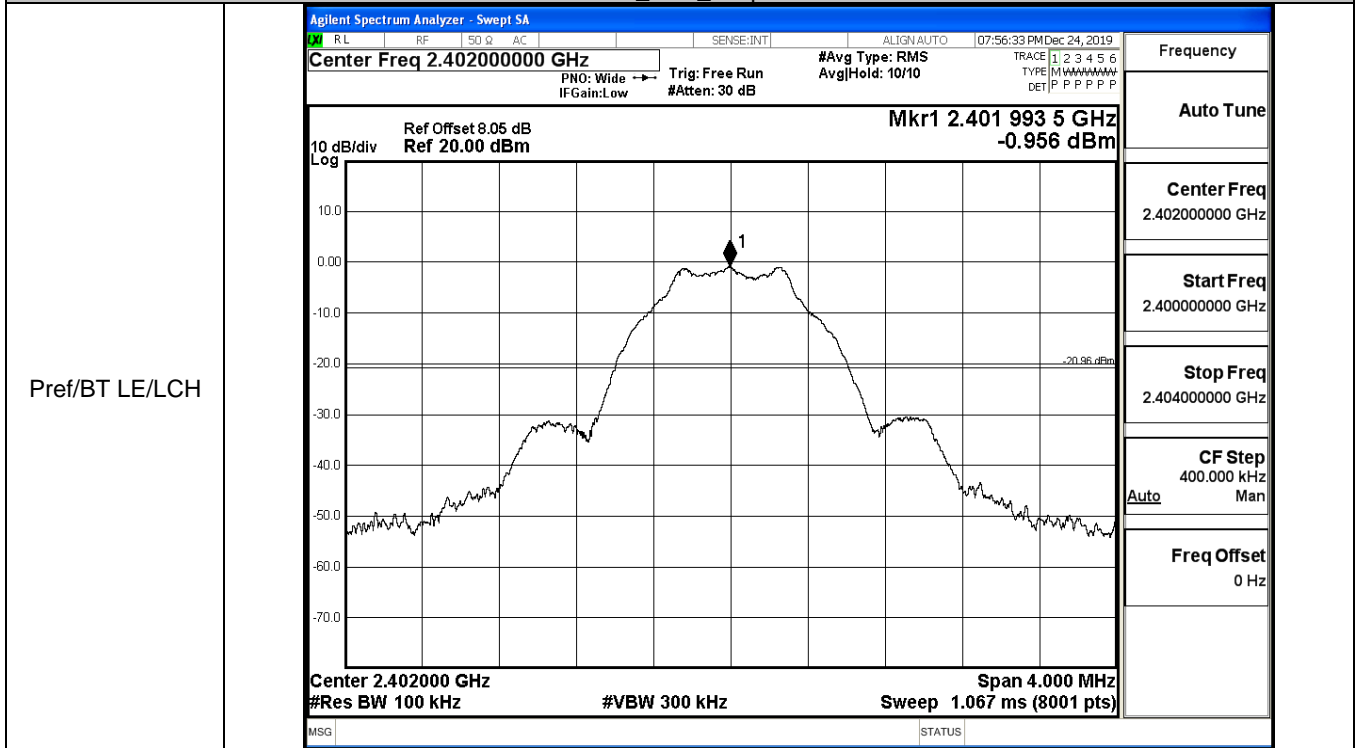
Test Graphs																			
LCH	<div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center; margin: 0;">Agilent Spectrum Analyzer - Occupied BW</p> <p style="font-size: small; margin: 0;">RL RF 50 Ω AC SENSE:INT ALIGN:AUTO 07:55:43 PM Dec 24, 2019</p> <p style="margin: 0;">Center Freq 2.402000000 GHz Center Freq: 2.402000000 GHz Radio Std: None Trig: Free Run AvgHold: 1/1 #IFGain:Low #Atten: 30 dB Radio Device: BTS</p> <div style="display: flex; justify-content: space-between;"> <div style="font-size: x-small;"> 10 dB/div Log Ref Offset 8.05 dB Ref 20.00 dBm </div> <div style="text-align: right;"> Mkr1 2.4020015 GHz -1.0582 dBm </div> </div> <div style="display: flex; justify-content: space-between; font-size: x-small;"> <div>Center 2.402 GHz #Res BW 100 kHz</div> <div>#VBW 300 kHz</div> <div>Span 3 MHz Sweep 1.067 ms</div> </div> <table style="width: 100%; font-size: x-small; margin-top: 5px;"> <tr> <td style="width: 33%;">Occupied Bandwidth</td> <td style="width: 33%;">Total Power</td> <td style="width: 33%;">6.04 dBm</td> </tr> <tr> <td style="text-align: center; font-weight: bold;">1.0491 MHz</td> <td></td> <td></td> </tr> <tr> <td>Transmit Freq Error</td> <td>5.267 kHz</td> <td>OBW Power</td> </tr> <tr> <td>x dB Bandwidth</td> <td>697.6 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-top: 5px;">MSG STATUS</p> </div>	Occupied Bandwidth	Total Power	6.04 dBm	1.0491 MHz			Transmit Freq Error	5.267 kHz	OBW Power	x dB Bandwidth	697.6 kHz	x dB			99.00 %			-6.00 dB
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B.5 RF Conducted Spurious Emissions

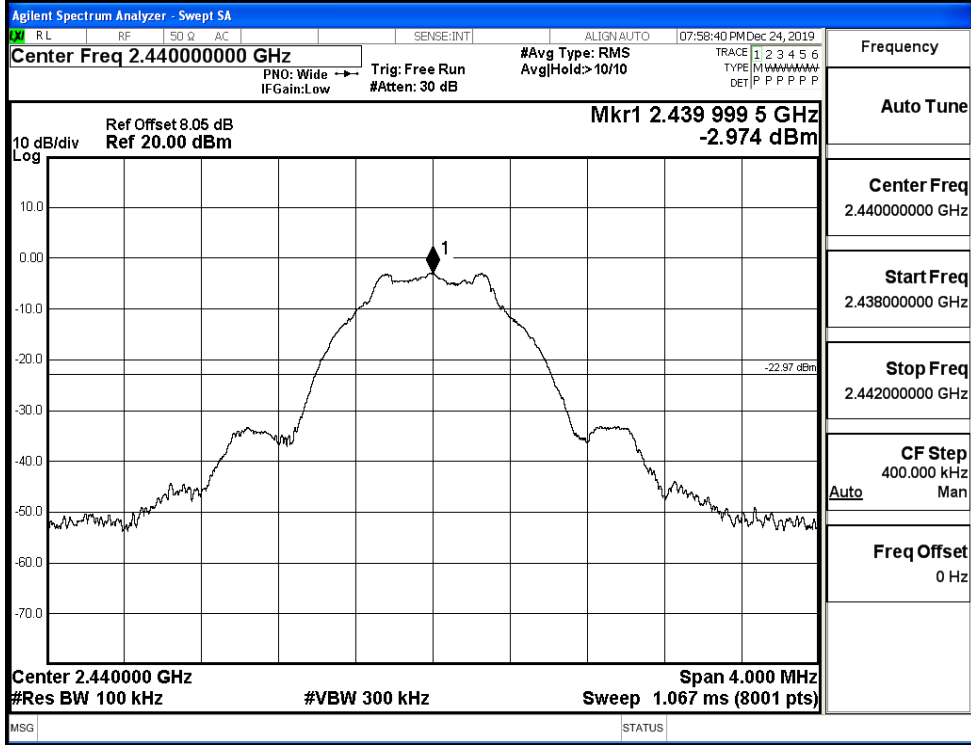
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
BT LE	LCH	-0.956	-36.982	-20.956	PASS
BT LE	MCH	-2.974	-37.053	-22.974	PASS
BT LE	HCH	-1.686	-37.410	-21.686	PASS

BT LE_LCH_Graphs

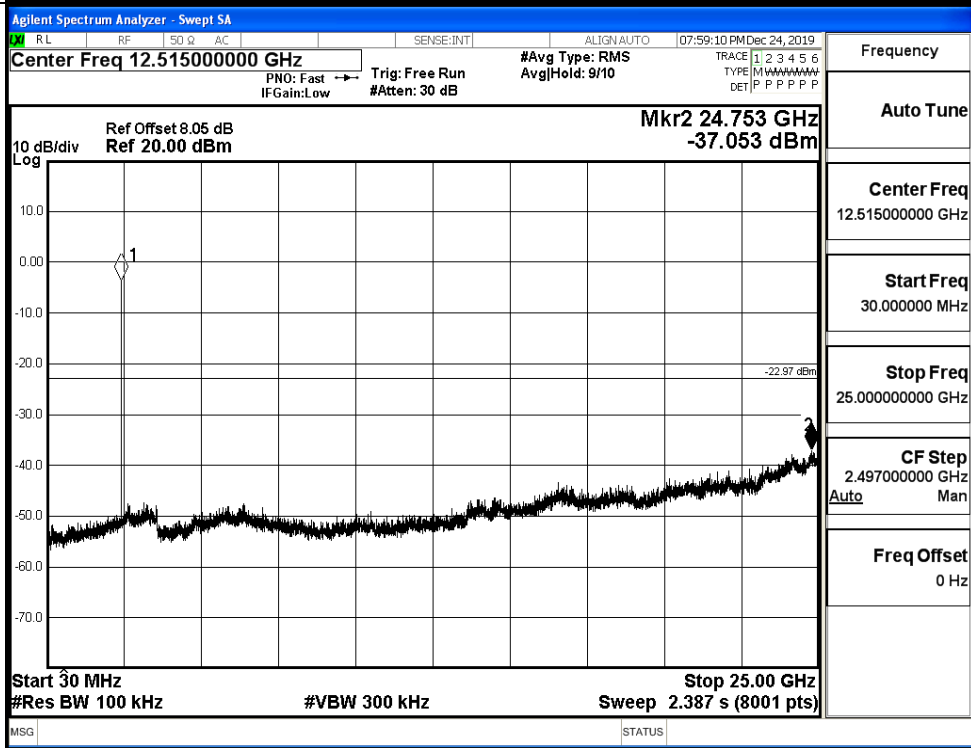


BT LE_MCH_Graphs

Pref/BT LE/MCH

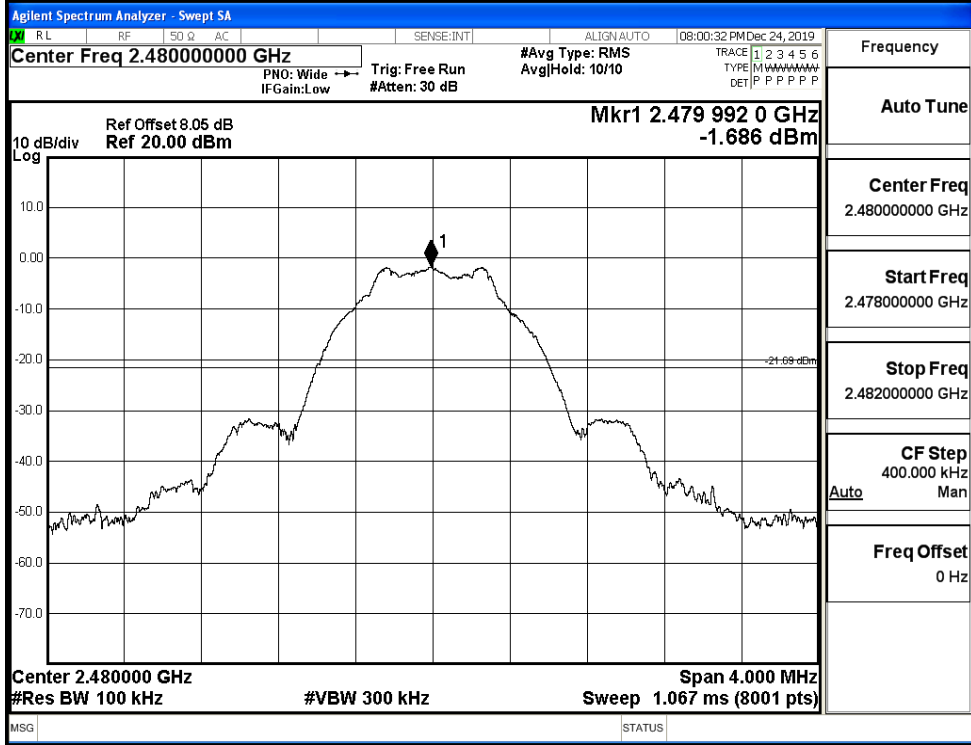


Puw/BT LE/MCH

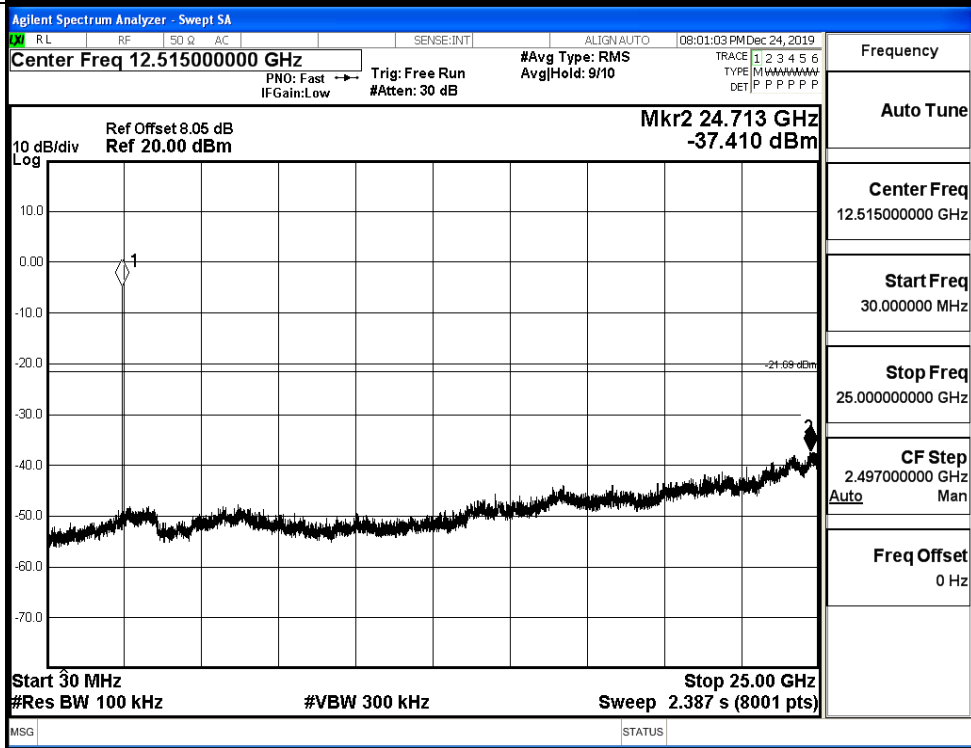


BT LE_HCH_Graphs

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	-0.734	-49.811	-20.73	PASS
BT LE	HCH	-1.471	-49.562	-21.47	PASS

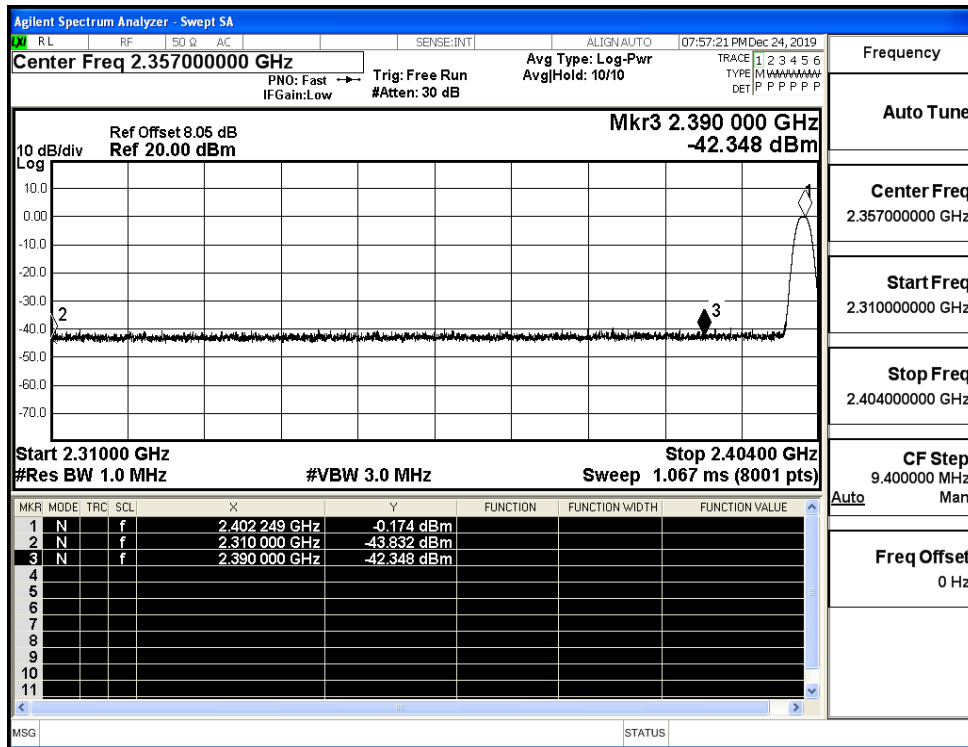
Test Graphs

LCH	<p>Agilent Spectrum Analyzer - Swept SA Center Freq 2.357000000 GHz Mkr4 2.389 418 GHz -49.811 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>2.401 991 GHz</td><td>-0.734 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>-52.014 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>-51.585 dBm</td><td></td><td></td><td></td></tr> <tr><td>4</td><td>N</td><td>f</td><td></td><td>2.389 418 GHz</td><td>-49.811 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		2.401 991 GHz	-0.734 dBm				2	N	f		2.400 000 GHz	-52.014 dBm				3	N	f		2.390 000 GHz	-51.585 dBm				4	N	f		2.389 418 GHz	-49.811 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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HCH	<p>Agilent Spectrum Analyzer - Swept SA Center Freq 2.489000000 GHz Mkr4 2.490 534 50 GHz -49.562 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>2.479 996 50 GHz</td><td>-1.471 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>-51.427 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>-52.952 dBm</td><td></td><td></td><td></td></tr> <tr><td>4</td><td>N</td><td>f</td><td></td><td>2.490 534 50 GHz</td><td>-49.562 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		2.479 996 50 GHz	-1.471 dBm				2	N	f		2.483 500 00 GHz	-51.427 dBm				3	N	f		2.500 000 00 GHz	-52.952 dBm				4	N	f		2.490 534 50 GHz	-49.562 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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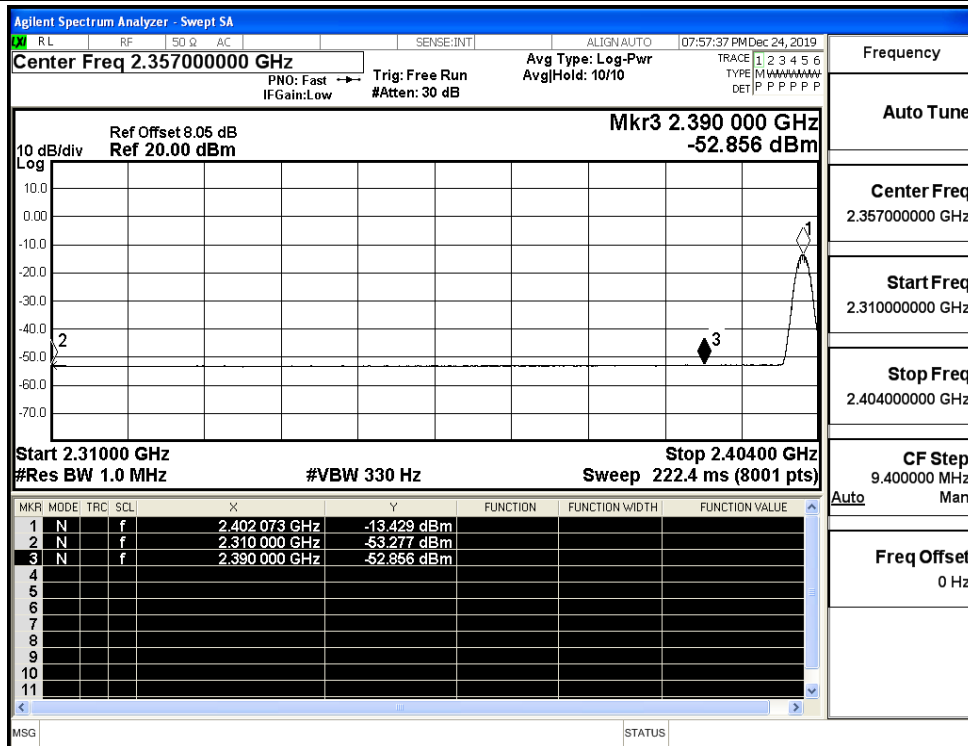
B.7 Restrict-band band-edge measurements

Test Mode	Test Channel	Ant	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
BT LE	2402	Ant1	2310.0	-43.83	2.0	0	53.40	PEAK	74	PASS
		Ant1	2310.0	-53.28	2.0	0	43.95	AV	54	PASS
		Ant1	2390.0	-42.35	2.0	0	54.88	PEAK	74	PASS
		Ant1	2390.0	-52.86	2.0	0	44.37	AV	54	PASS
	2480	Ant1	2483.5	-42.05	2.0	0	55.18	PEAK	74	PASS
		Ant1	2483.5	-52.49	2.0	0	44.74	AV	54	PASS
		Ant1	2500.0	-41.66	2.0	0	55.57	PEAK	74	PASS
		Ant1	2500.0	-52.23	2.0	0	45.00	AV	54	PASS

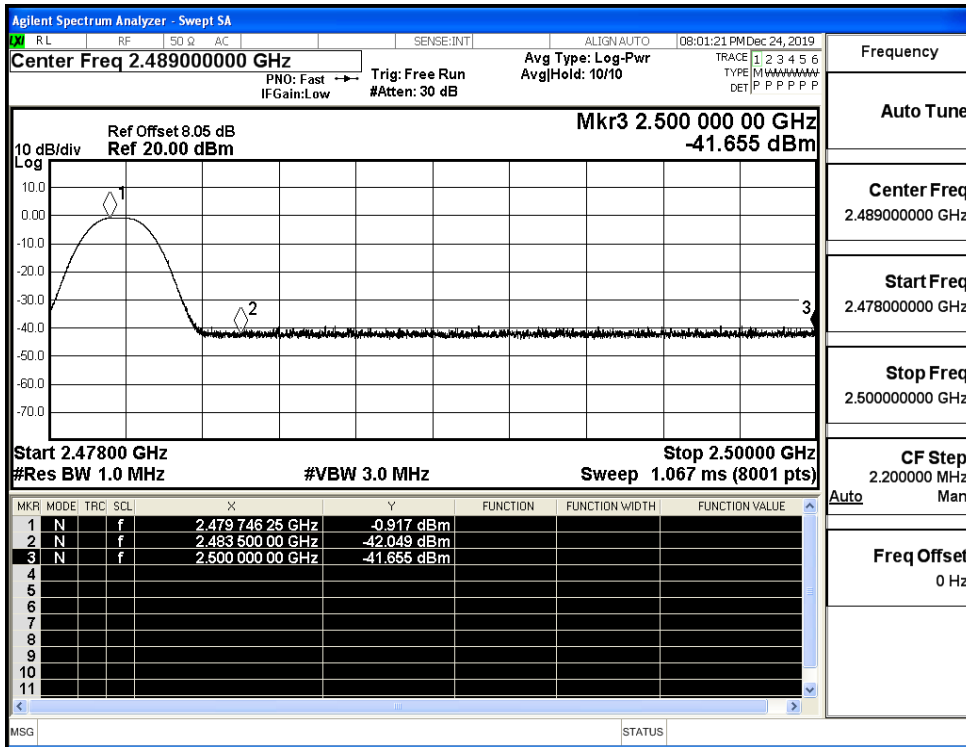
Restrict-band band-edge measurements_BT LE_2402_Ant1_PEAK



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

