

Appendix B

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

Product Name: 4G Smart Phone

Trade Mark: Smooth

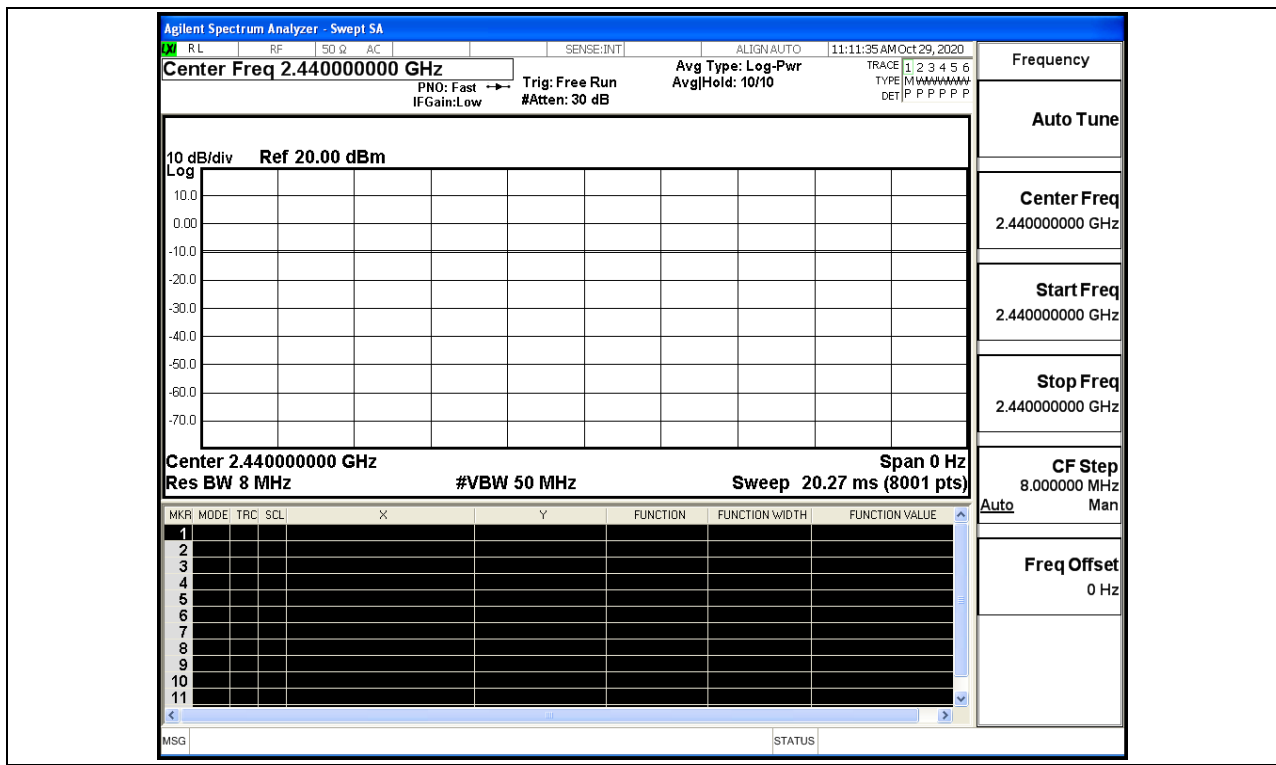
Test Model: Smooth 6.26

Environmental Conditions

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

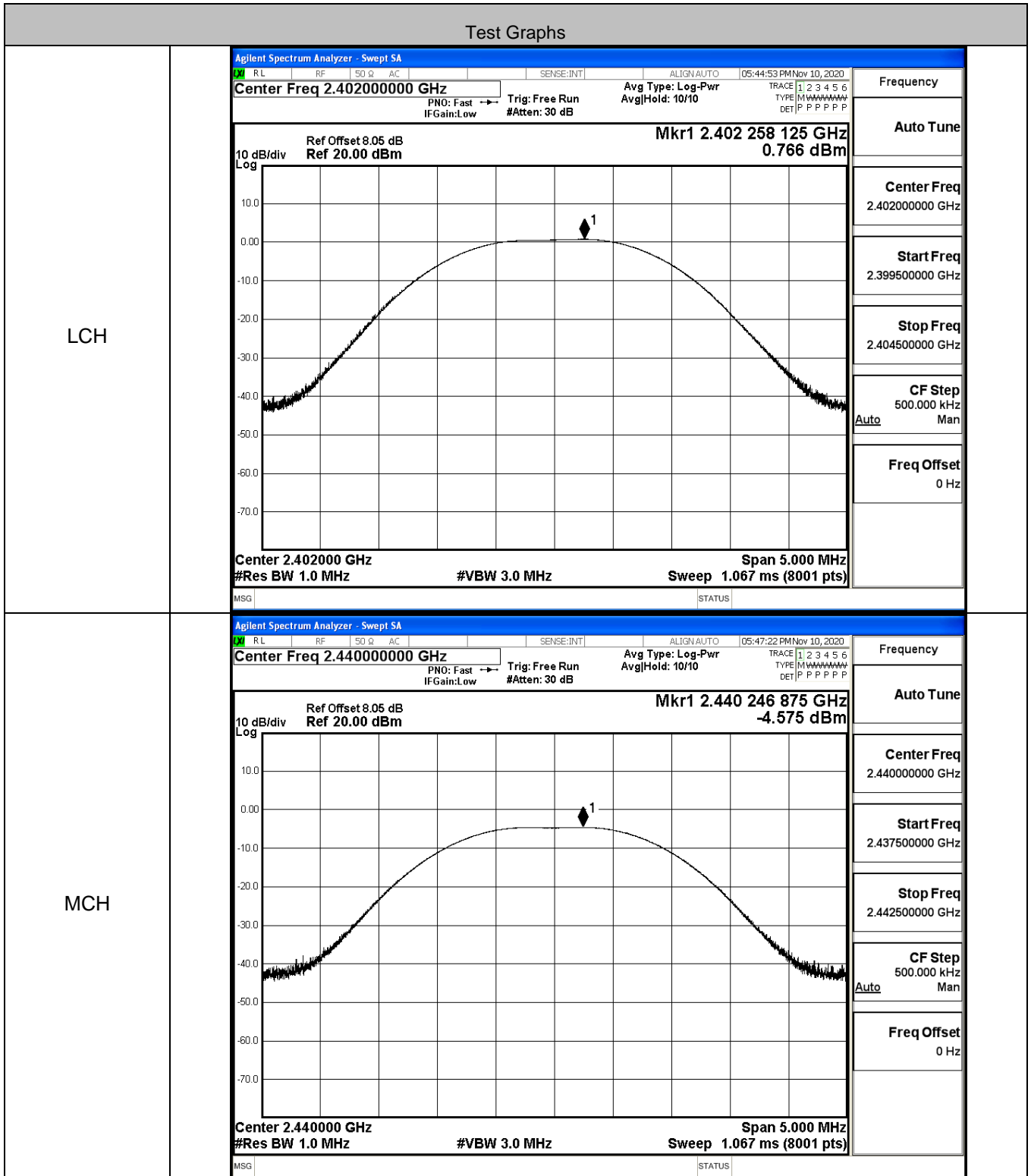
B.1 Duty Cycle

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



B.2 Maximum Conducted Peak Output Power

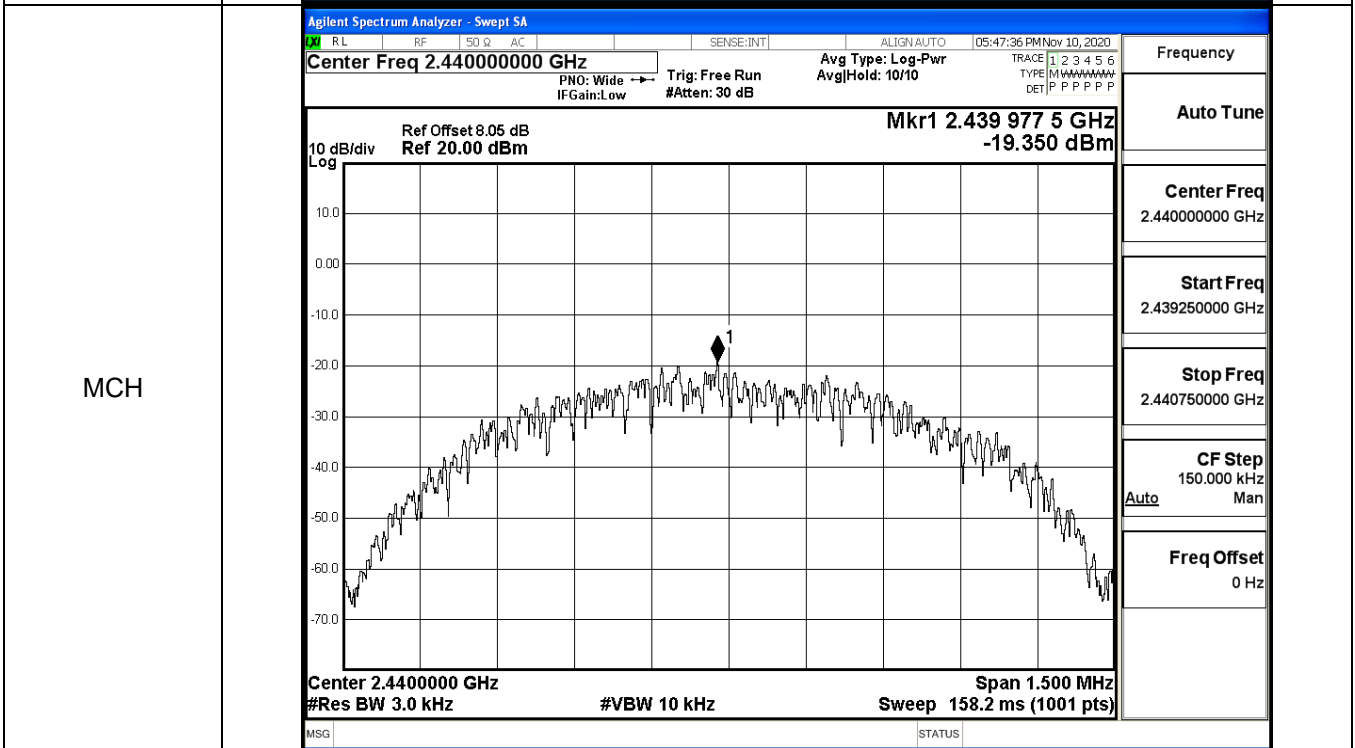
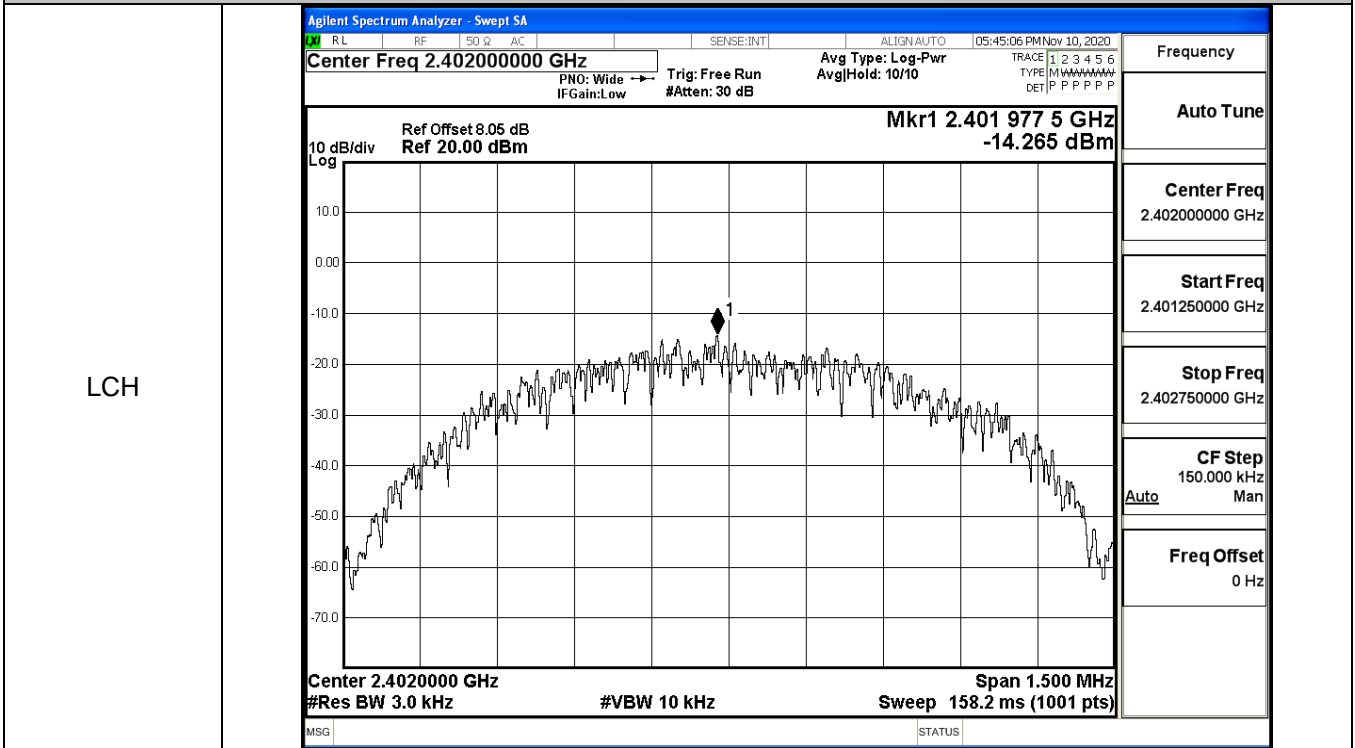
Mode	Channel	Conduct Peak Power[dBm]	Limit [dBm]	Verdict
BT LE	LCH	0.766	30	PASS
BT LE	MCH	-4.575	30	PASS
BT LE	HCH	-2.985	30	PASS



B.3 Maximum Power Spectral Density

Mode	Channel	PSD [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
BT LE	LCH	-14.265	8	PASS
BT LE	MCH	-19.350	8	PASS
BT LE	HCH	-17.834	8	PASS

Test Graphs



B.4 6dB Bandwidth

Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
BT LE	LCH	0.6673	≥0.5	PASS
BT LE	MCH	0.6792	≥0.5	PASS
BT LE	HCH	0.6807	≥0.5	PASS

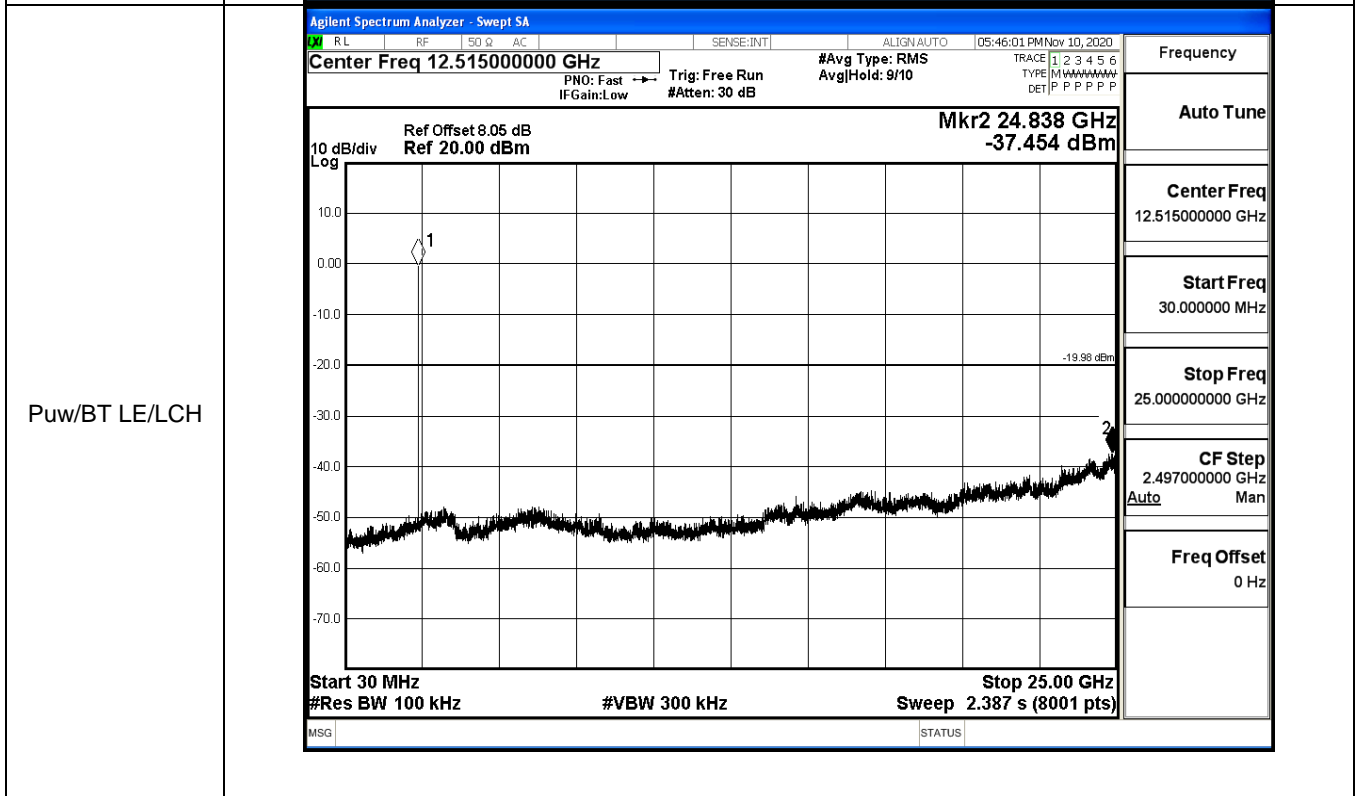
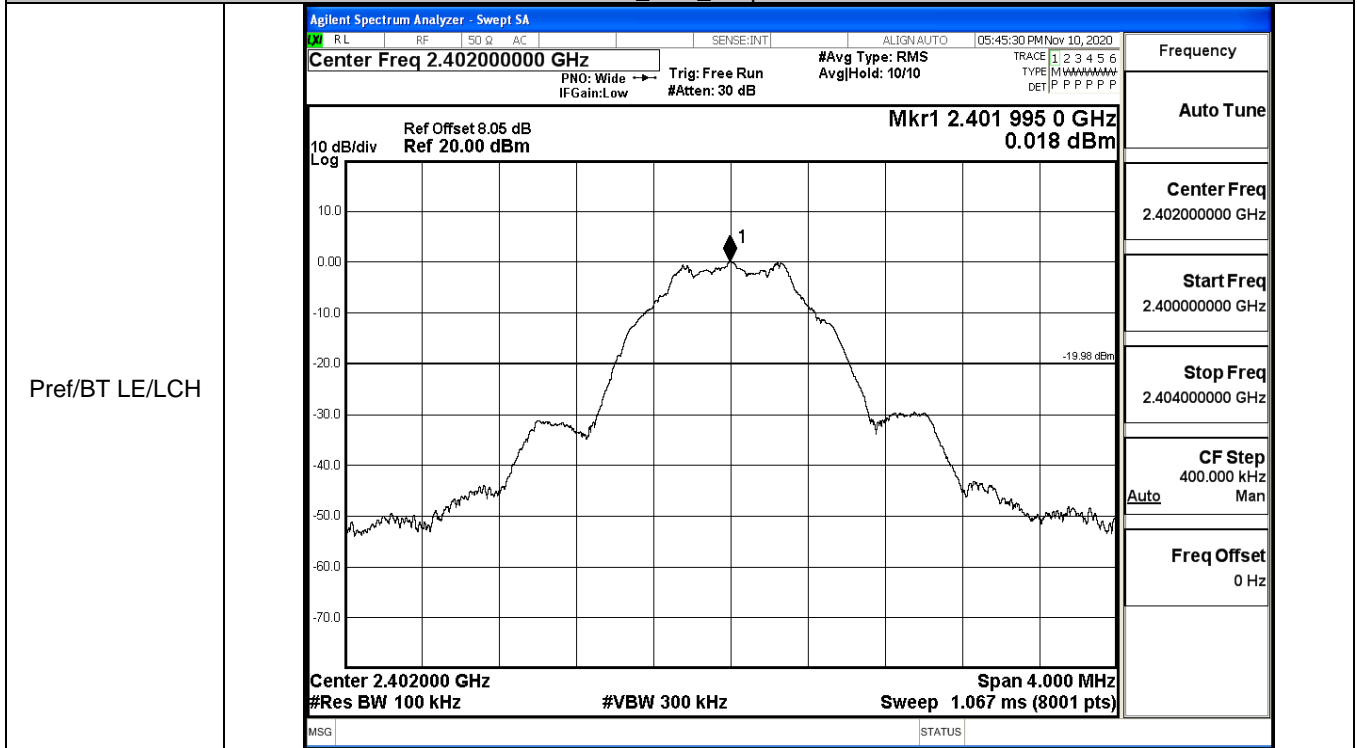
Test Graphs																			
LCH	<div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center; margin: 0;">Agilent Spectrum Analyzer - Occupied BW</p> <p style="font-size: small; margin: 0;">RL RF 50 Ω AC SENSE:INT ALIGN:AUTO 05:44:42 PM Nov 10, 2020</p> <p style="margin: 0;">Center 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 2.4019989 GHz 0.046314 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 border="0" 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%;">6.90 dBm</td> </tr> <tr> <td style="text-align: center;">1.0529 MHz</td> <td></td> <td></td> </tr> <tr> <td>Transmit Freq Error</td> <td>7.434 kHz</td> <td>OBW Power</td> </tr> <tr> <td>x dB Bandwidth</td> <td>667.3 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	6.90 dBm	1.0529 MHz			Transmit Freq Error	7.434 kHz	OBW Power	x dB Bandwidth	667.3 kHz	x dB			99.00 %			-6.00 dB
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MCH	<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 05:47:12 PM Nov 10, 2020</p> <p style="margin: 0;">Center Freq 2.440000000 GHz Center Freq: 2.440000000 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 2.4400008 GHz -5.1739 dBm </div> </div> <div style="display: flex; justify-content: space-between; font-size: x-small;"> <div>Center 2.44 GHz #Res BW 100 kHz</div> <div>#VBW 300 kHz</div> <div>Span 3 MHz Sweep 1.067 ms</div> </div> <table border="0" 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%;">1.68 dBm</td> </tr> <tr> <td style="text-align: center;">1.0467 MHz</td> <td></td> <td></td> </tr> <tr> <td>Transmit Freq Error</td> <td>7.648 kHz</td> <td>OBW Power</td> </tr> <tr> <td>x dB Bandwidth</td> <td>679.2 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	1.68 dBm	1.0467 MHz			Transmit Freq Error	7.648 kHz	OBW Power	x dB Bandwidth	679.2 kHz	x dB			99.00 %			-6.00 dB
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x dB Bandwidth	679.2 kHz	x dB																	
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		-6.00 dB																	

HCH	Agilent Spectrum Analyzer - Occupied BW			RL	RF	50 Ω	AC	SENSE:INT	ALIGN:AUTO	05:50:35 PM Nov 10, 2020	
	Center Freq 2.480000000 GHz			Center Freq: 2.480000000 GHz			Radio Std: None			Frequency	
	#IFGain:Low			Trig: Free Run			AvgHold>1/1			Radio Device: BTS	
	#Atten: 30 dB			Mkr1 2.4800008 GHz			-3.5479 dBm			Center Freq 2.480000000 GHz	
	Ref Offset 8.05 dB			Ref 20.00 dBm			Span 3 MHz			CF Step 300.000 kHz	
10 dB/div			Log			#Res BW 100 kHz			#VBW 300 kHz		
Center 2.48 GHz			Sweep 1.067 ms			Auto			Man		
Occupied Bandwidth			Total Power			3.30 dBm			Freq Offset 0 Hz		
1.0513 MHz			Transmit Freq Error			3.504 kHz			OBW Power		
x dB Bandwidth			680.7 kHz			x dB			99.00 %		
						-6.00 dB					
MSG						STATUS					

B.5 RF Conducted Spurious Emissions

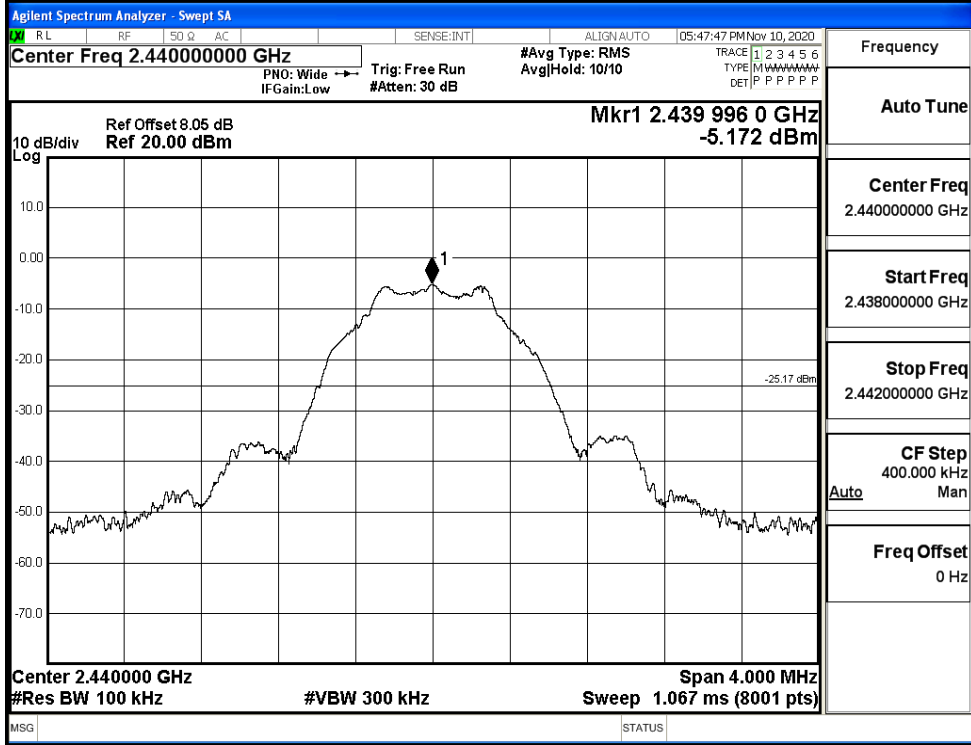
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
BT LE	LCH	0.018	-37.454	-19.982	PASS
BT LE	MCH	-5.172	-36.457	-25.172	PASS
BT LE	HCH	-3.689	-37.925	-23.689	PASS

BT LE_LCH_Graphs

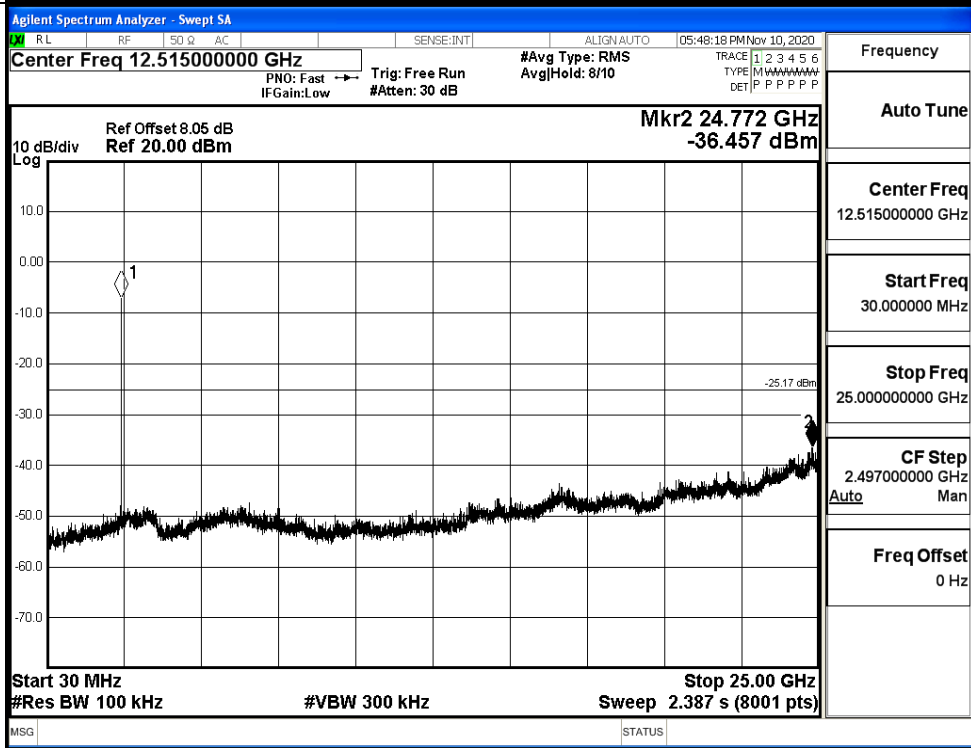


BT LE_MCH_Graphs

Pref/BT LE/MCH

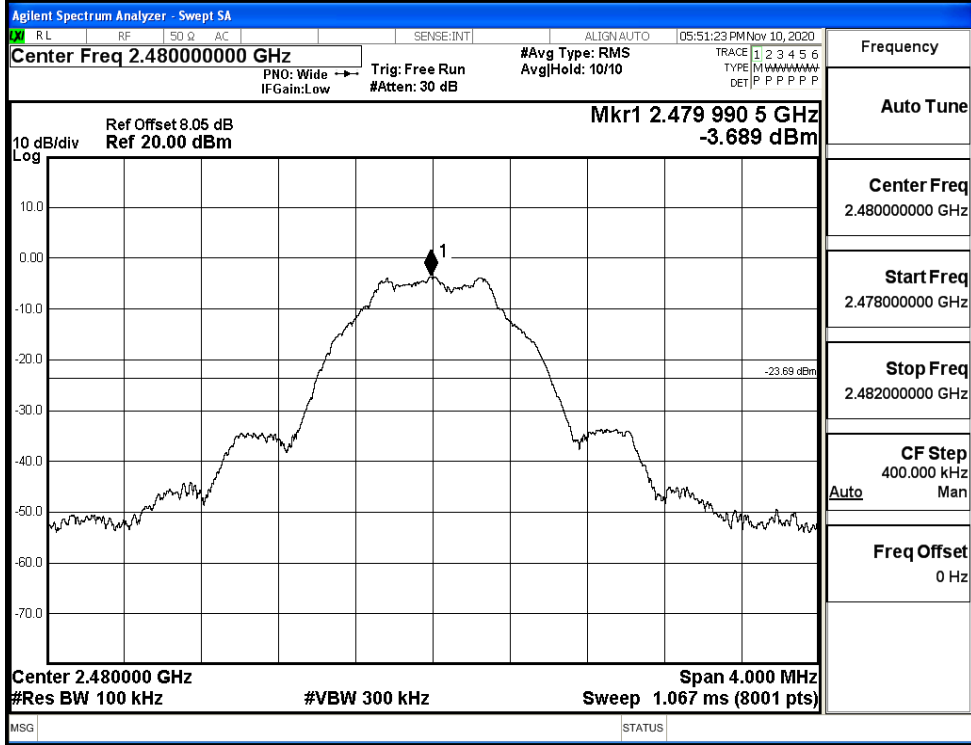


Puw/BT LE/MCH

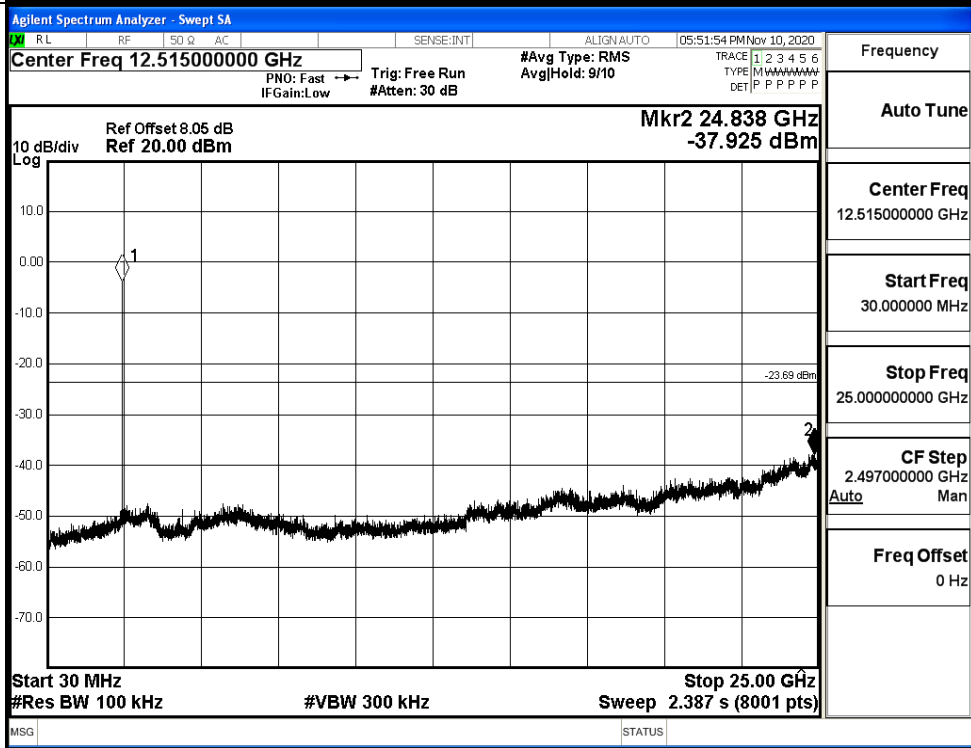


BT LE_HCH_Graphs

Pref/BT LE/HCH



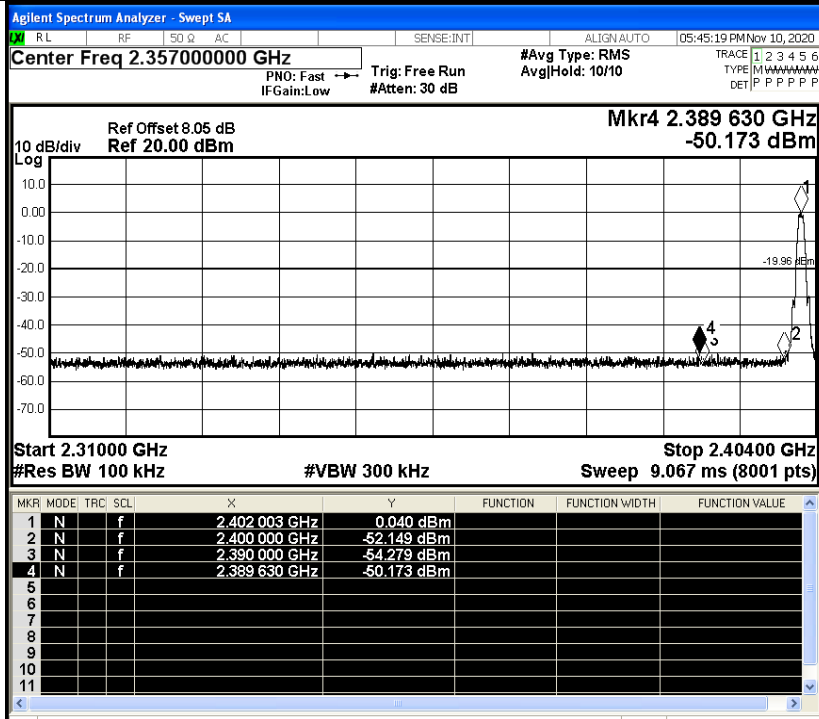
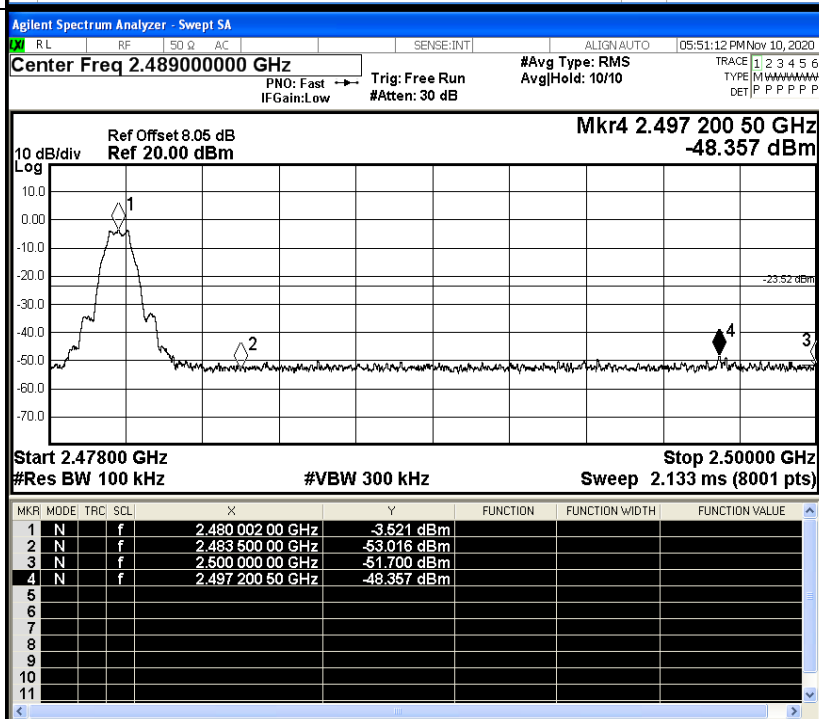
Puw/BT LE/HCH



B.6 Band-edge for RF Conducted Emissions

Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
BT LE	LCH	0.040	-50.173	-19.96	PASS
BT LE	HCH	-3.521	-48.357	-23.52	PASS

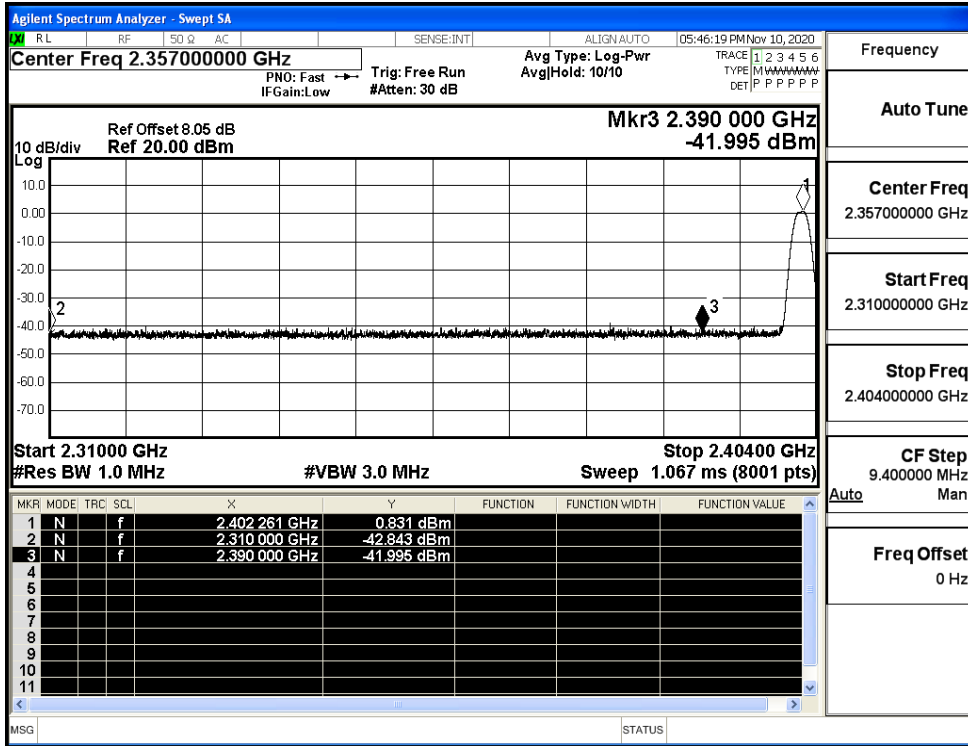
Test Graphs

LCH		<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 2.35700000 GHz</p> <p>Start Freq 2.31000000 GHz</p> <p>Stop Freq 2.40400000 GHz</p> <p>CF Step 9.400000 MHz</p> <p>Freq Offset 0 Hz</p>
HCH		<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 2.48900000 GHz</p> <p>Start Freq 2.47800000 GHz</p> <p>Stop Freq 2.50000000 GHz</p> <p>CF Step 2.200000 MHz</p> <p>Freq Offset 0 Hz</p>

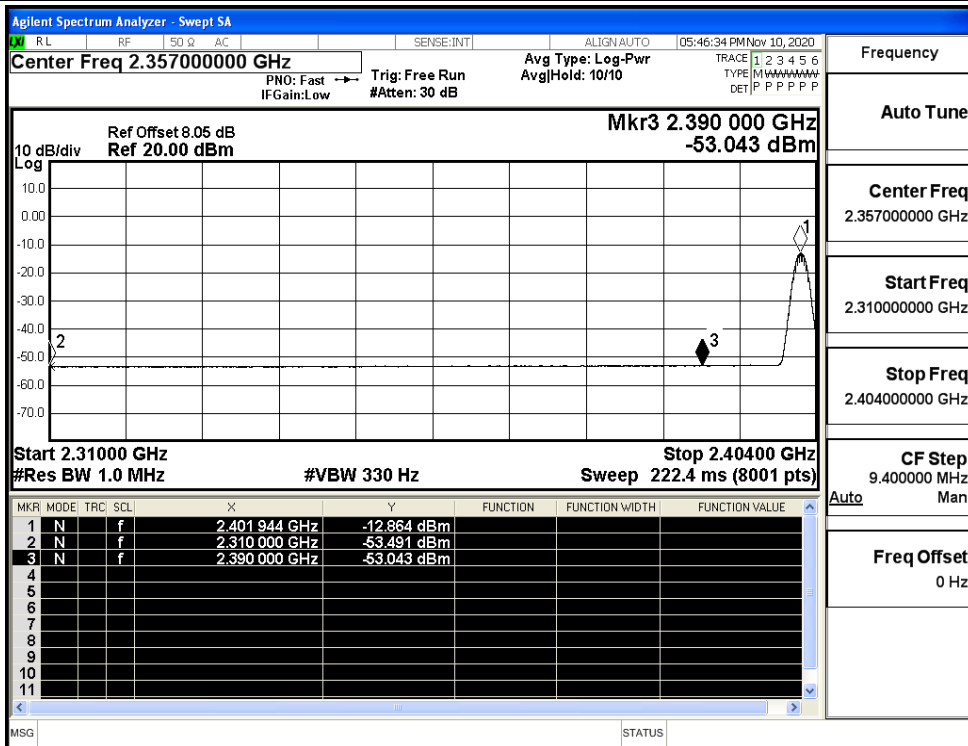
B.7 Restrict-band band-edge measurements

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	-42.84	2.0	0	52.41	PEAK	74	PASS
		Ant1	2310.0	-53.49	2.0	0	41.77	AV	54	PASS
		Ant1	2390.0	-42.00	2.0	0	53.26	PEAK	74	PASS
		Ant1	2390.0	-53.04	2.0	0	42.21	AV	54	PASS
	2480	Ant1	2483.5	-42.59	2.0	0	52.66	PEAK	74	PASS
		Ant1	2483.5	-52.62	2.0	0	42.64	AV	54	PASS
		Ant1	2500.0	-43.51	2.0	0	51.75	PEAK	74	PASS
		Ant1	2500.0	-52.41	2.0	0	42.85	AV	54	PASS

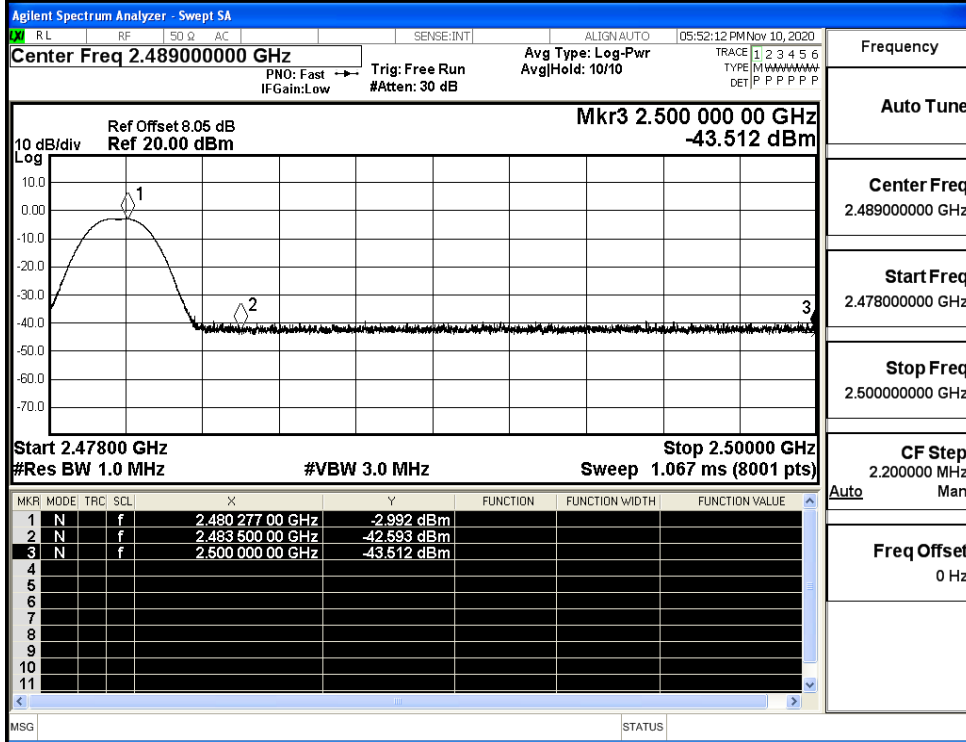
Restrict-band band-edge measurements_BT LE_2402_Ant1_PEAK



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

