

Appendix A

RF Test Data for BT LE V4.2(DTS) (Conducted Measurement)

Product Name: Sound Machine Night Light

Trade Mark: GRDE

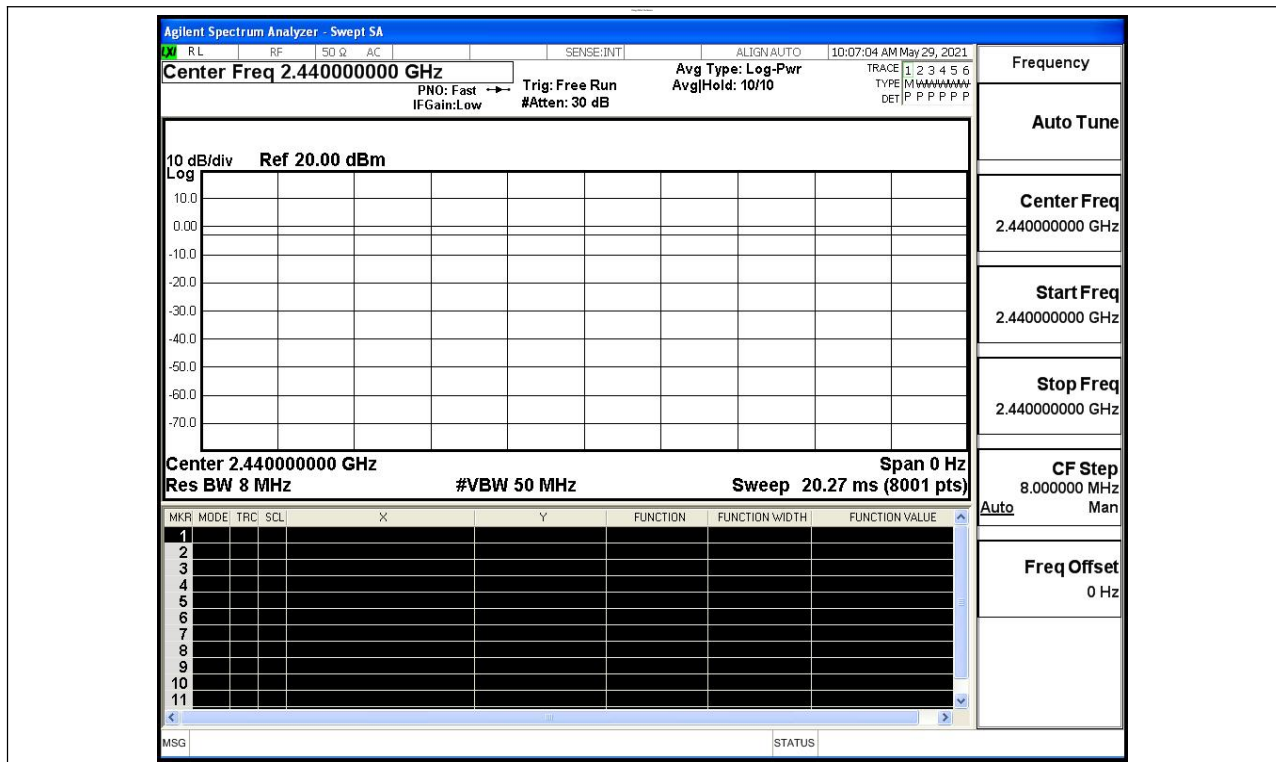
Test Model: NL01

Environmental Conditions

Temperature:	24.4 ° C
Relative Humidity:	54.6%
ATM Pressure:	100.0 kPa
Test Engineer:	Jay Li
Supervised by:	Li Huan

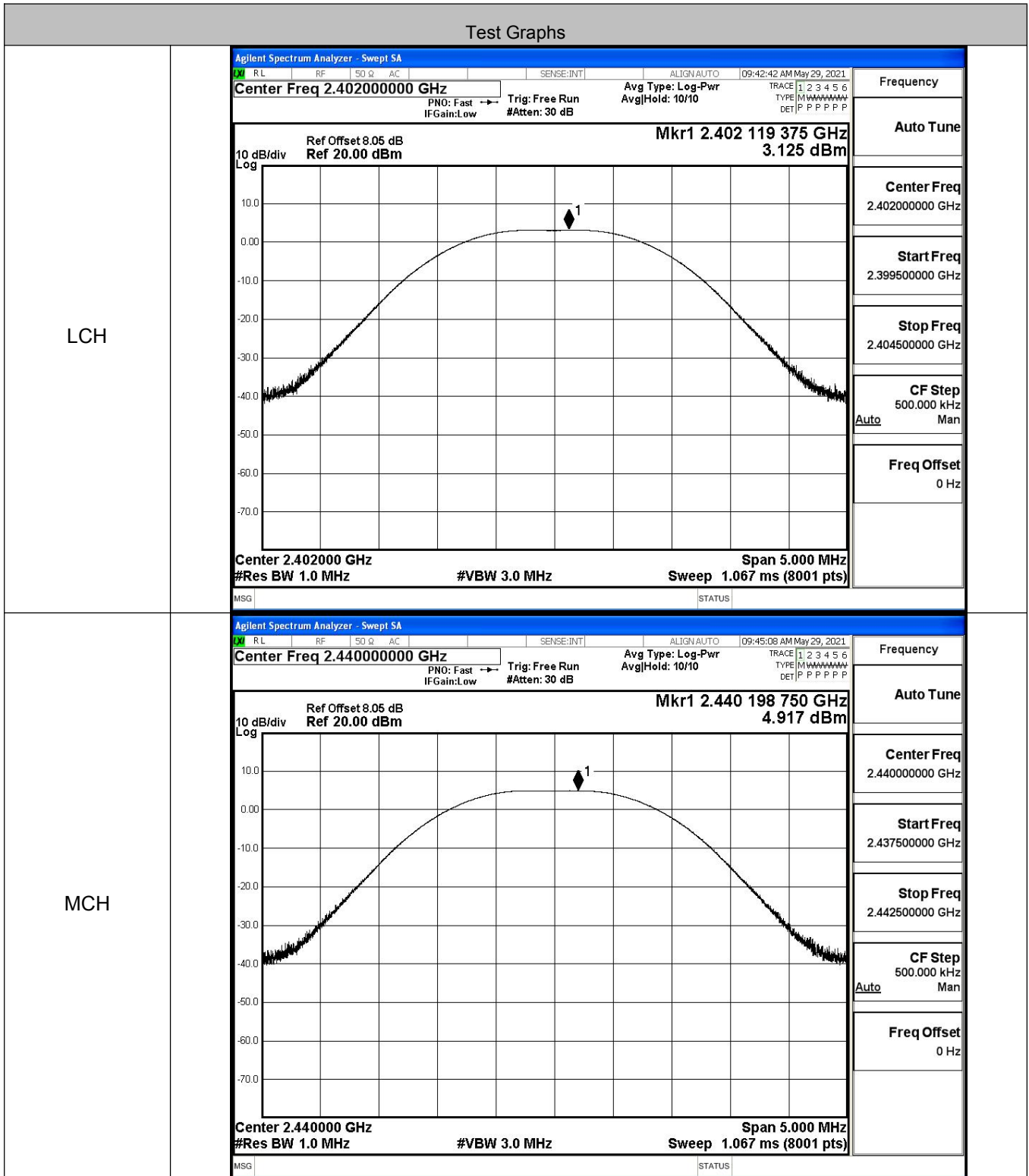
A.1 Duty Cycle

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



A.2 Maximum Conducted Peak Output Power

Mode	Channel	Conduct Peak Power[dBm]	Limit [dBm]	Verdict
BT LE	LCH	3.125	30	PASS
BT LE	MCH	4.917	30	PASS
BT LE	HCH	6.088	30	PASS

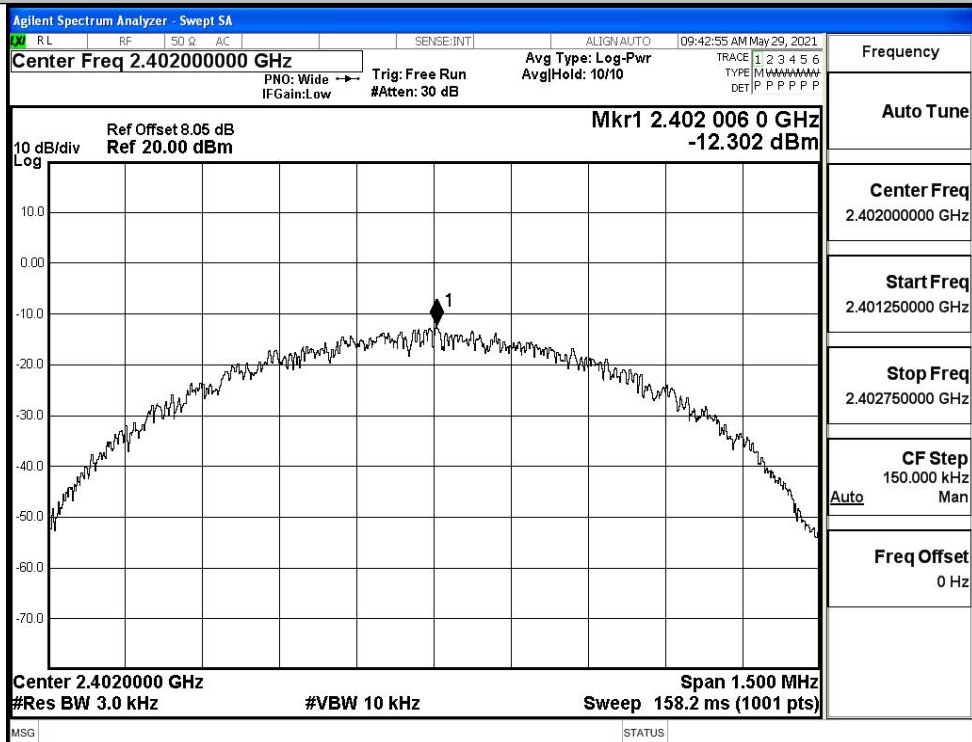


A.3 Maximum Power Spectral Density

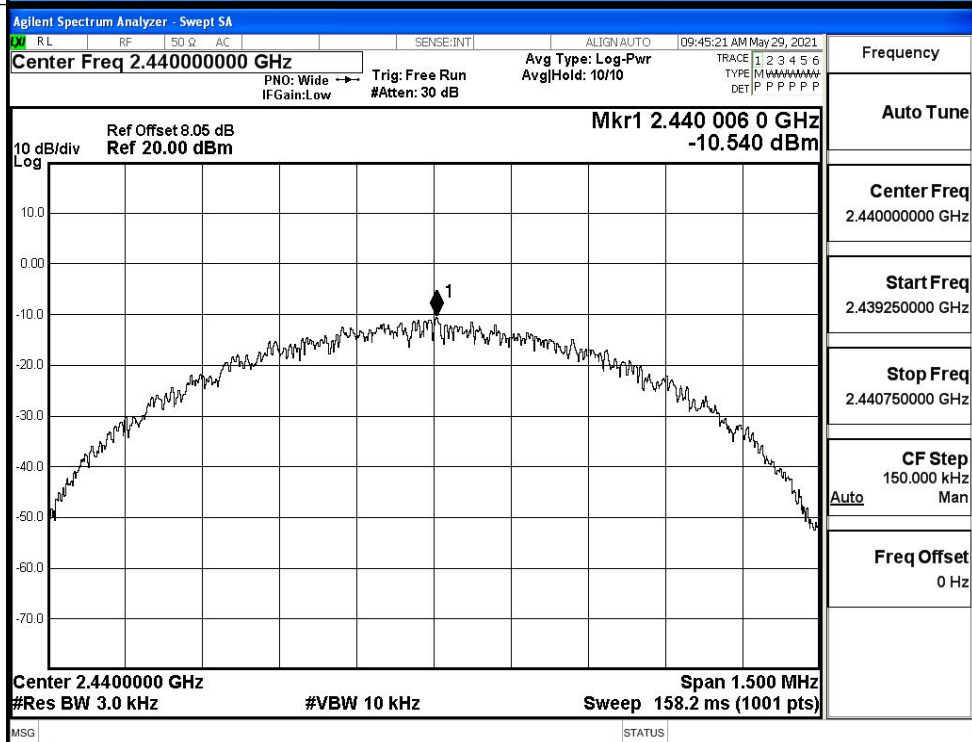
Mode	Channel	PSD [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
BT LE	LCH	-12.302	8	PASS
BT LE	MCH	-10.540	8	PASS
BT LE	HCH	-9.351	8	PASS

Test Graphs

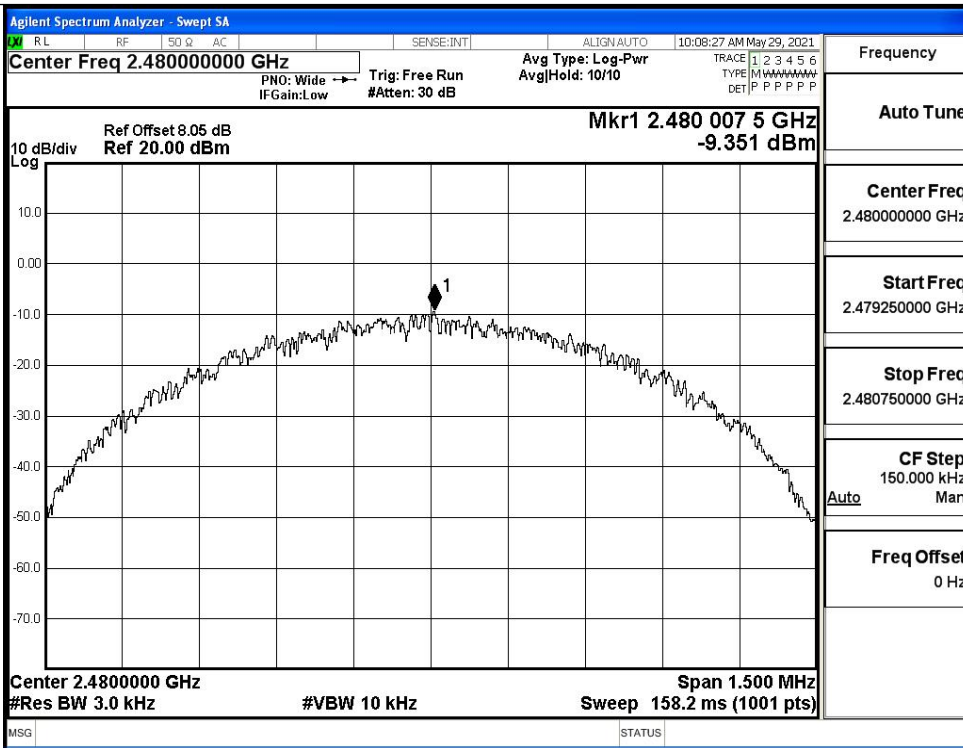
LCH



MCH



HCH



A.4 6dB Bandwidth

Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
BT LE	LCH	0.6767	≥0.5	PASS
BT LE	MCH	0.6777	≥0.5	PASS
BT LE	HCH	0.6800	≥0.5	PASS

Test Graphs

LCH	<p style="font-size: small; margin: 0;">Agilent Spectrum Analyzer - Occupied BW</p> <p style="font-size: x-small; margin: 0;">RL RF 50 Ω AC SENSE:INT ALIGN: AUTO 09:42:31 AM May 29, 2021</p> <p style="font-size: small; margin: 0;">Center Freq 2.402000000 GHz Center Freq: 2.402000000 GHz Radio Std: None</p> <p style="font-size: x-small; margin: 0;">Trig: Free Run AvgHold: >1/1</p> <p style="font-size: x-small; margin: 0;">#IFGain: Low #Atten: 30 dB Radio Device: BTS</p> <div style="border: 1px solid black; padding: 2px;"> <p style="font-size: x-small; margin: 0;">10 dB/div Ref Offset 8.05 dB Mkr1 2.4022306 GHz</p> <p style="font-size: x-small; margin: 0;">Log Ref 20.00 dBm 2.1980 dBm</p> </div> <p style="font-size: x-small; margin: 0;">Center 2.402 GHz Span 3 MHz</p> <p style="font-size: x-small; margin: 0;">#Res BW 100 kHz #VBW 300 kHz Sweep 1.067 ms</p> <table style="width: 100%; font-size: x-small; border-collapse: collapse;"> <tr> <td style="width: 33%;">Occupied Bandwidth</td> <td style="width: 33%;">Total Power</td> <td style="width: 33%;">9.37 dBm</td> </tr> <tr> <td style="text-align: center;">1.0416 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 style="font-size: x-small; margin: 0;">MSG STATUS</p>	Occupied Bandwidth	Total Power	9.37 dBm	1.0416 MHz			Transmit Freq Error	OBW Power	99.00 %	x dB Bandwidth	x dB	-6.00 dB	<p style="font-size: x-small;">Frequency</p> <hr/> <p style="font-size: x-small;">Center Freq 2.402000000 GHz</p> <hr/> <p style="font-size: x-small;">CF Step 300.000 kHz Auto Man</p> <hr/> <p style="font-size: x-small;">Freq Offset 0 Hz</p>
	Occupied Bandwidth	Total Power	9.37 dBm											
	1.0416 MHz													
	Transmit Freq Error	OBW Power	99.00 %											
x dB Bandwidth	x dB	-6.00 dB												

MCH	<p style="font-size: small; margin: 0;">Agilent Spectrum Analyzer - Occupied BW</p> <p style="font-size: x-small; margin: 0;">RL RF 50 Ω AC SENSE:INT ALIGN: AUTO 09:44:57 AM May 29, 2021</p> <p style="font-size: small; margin: 0;">Center Freq 2.440000000 GHz Center Freq: 2.440000000 GHz Radio Std: None</p> <p style="font-size: x-small; margin: 0;">Trig: Free Run AvgHold: 1/1</p> <p style="font-size: x-small; margin: 0;">#IFGain: Low #Atten: 30 dB Radio Device: BTS</p> <div style="border: 1px solid black; padding: 2px;"> <p style="font-size: x-small; margin: 0;">10 dB/div Ref Offset 8.05 dB Mkr1 2.4402269 GHz</p> <p style="font-size: x-small; margin: 0;">Log Ref 20.00 dBm 3.9982 dBm</p> </div> <p style="font-size: x-small; margin: 0;">Center 2.44 GHz Span 3 MHz</p> <p style="font-size: x-small; margin: 0;">#Res BW 100 kHz #VBW 300 kHz Sweep 1.067 ms</p> <table style="width: 100%; font-size: x-small; border-collapse: collapse;"> <tr> <td style="width: 33%;">Occupied Bandwidth</td> <td style="width: 33%;">Total Power</td> <td style="width: 33%;">11.2 dBm</td> </tr> <tr> <td style="text-align: center;">1.0452 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 style="font-size: x-small; margin: 0;">MSG STATUS</p>	Occupied Bandwidth	Total Power	11.2 dBm	1.0452 MHz			Transmit Freq Error	OBW Power	99.00 %	x dB Bandwidth	x dB	-6.00 dB	<p style="font-size: x-small;">Frequency</p> <hr/> <p style="font-size: x-small;">Center Freq 2.440000000 GHz</p> <hr/> <p style="font-size: x-small;">CF Step 300.000 kHz Auto Man</p> <hr/> <p style="font-size: x-small;">Freq Offset 0 Hz</p>
	Occupied Bandwidth	Total Power	11.2 dBm											
	1.0452 MHz													
	Transmit Freq Error	OBW Power	99.00 %											
x dB Bandwidth	x dB	-6.00 dB												

HCH

Agilent Spectrum Analyzer - Occupied BW

RL	RF	50 Ω	AC	SENSE:INT	ALIGN:AUTO	10:08:02 AM May 29, 2021
Center Freq 2.480000000 GHz				Center Freq: 2.480000000 GHz	Radio Std: None	
				Trig: Free Run	AvgHold: 1/1	
#IFGain:Low				#Atten: 30 dB	Radio Device: BTS	

10 dB/div
Log

Mkr1 2.4802291 GHz
5.2001 dBm

Center 2.48 GHz	#VBW 300 kHz	Span 3 MHz
#Res BW 100 kHz	Sweep 1.067 ms	

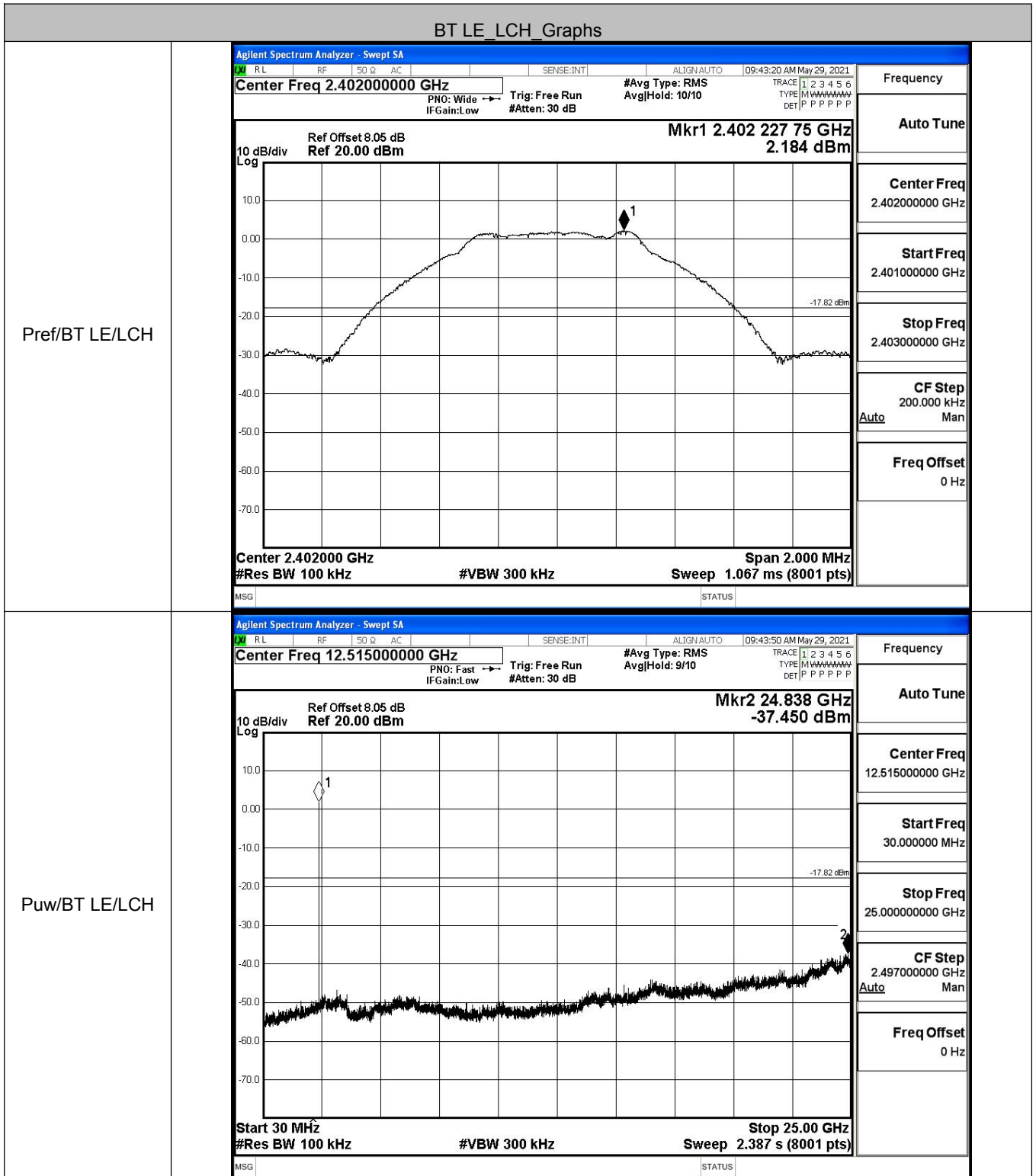
Occupied Bandwidth	Total Power	12.4 dBm
1.0426 MHz		
Transmit Freq Error	-7.661 kHz	OBW Power
x dB Bandwidth	680.0 kHz	x dB
		99.00 %
		-6.00 dB

MSG
STATUS

Frequency
Center Freq 2.480000000 GHz
CF Step 300.000 kHz Auto Man
Freq Offset 0 Hz

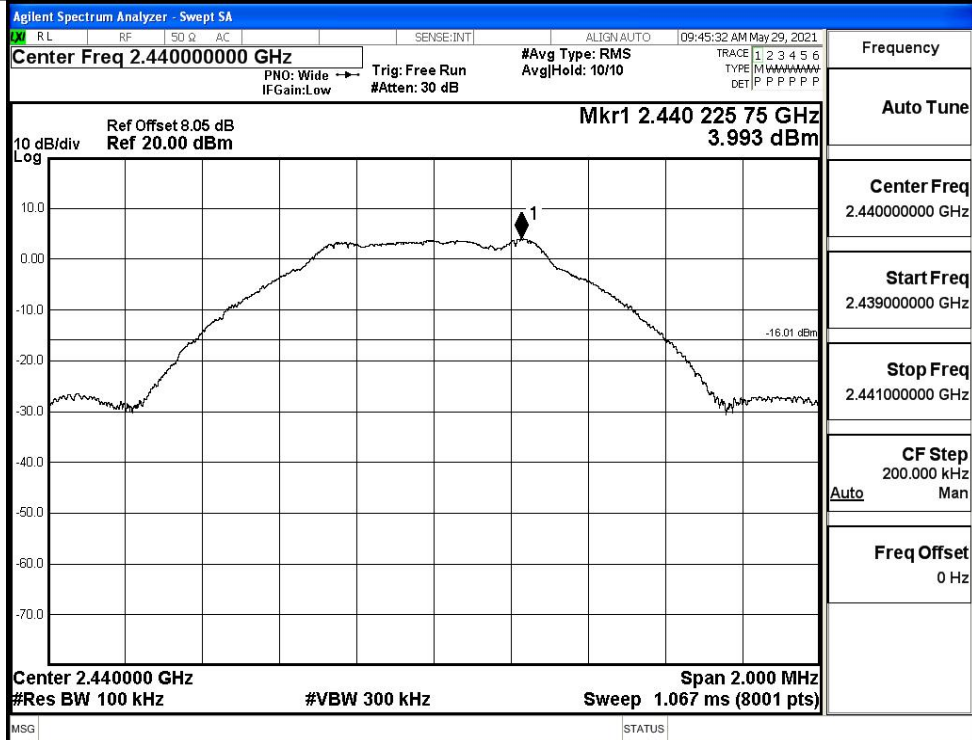
A.5 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
BT LE	LCH	2.184	-37.450	-17.816	PASS
BT LE	MCH	3.993	-37.493	-16.007	PASS
BT LE	HCH	5.158	-36.887	-14.842	PASS

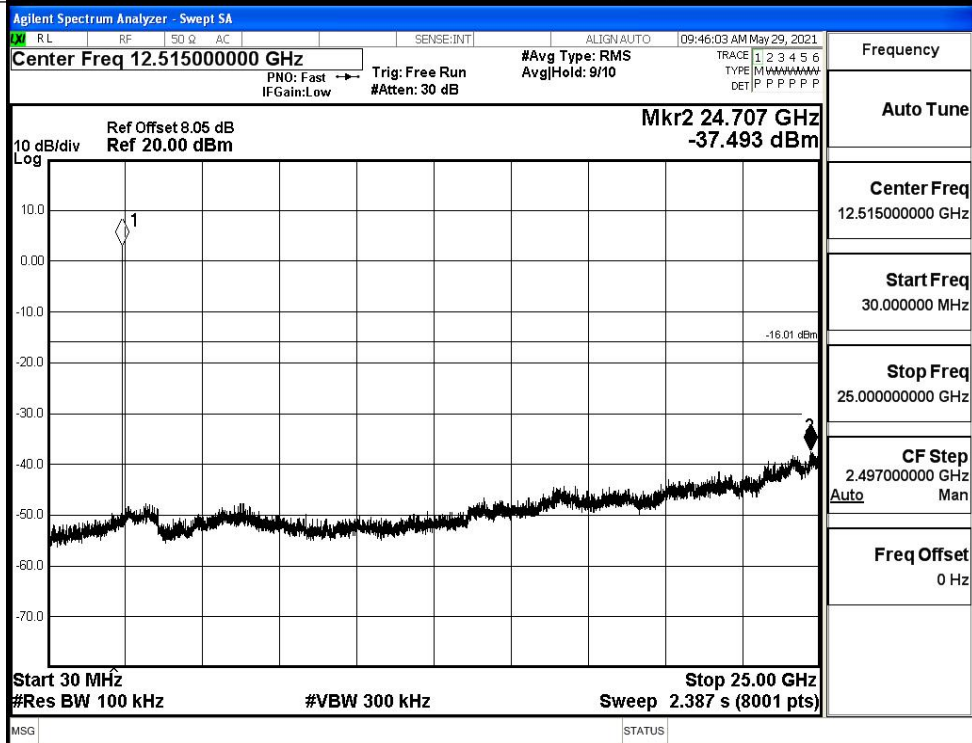


BT LE MCH Graphs

Pref/BT LE/MCH

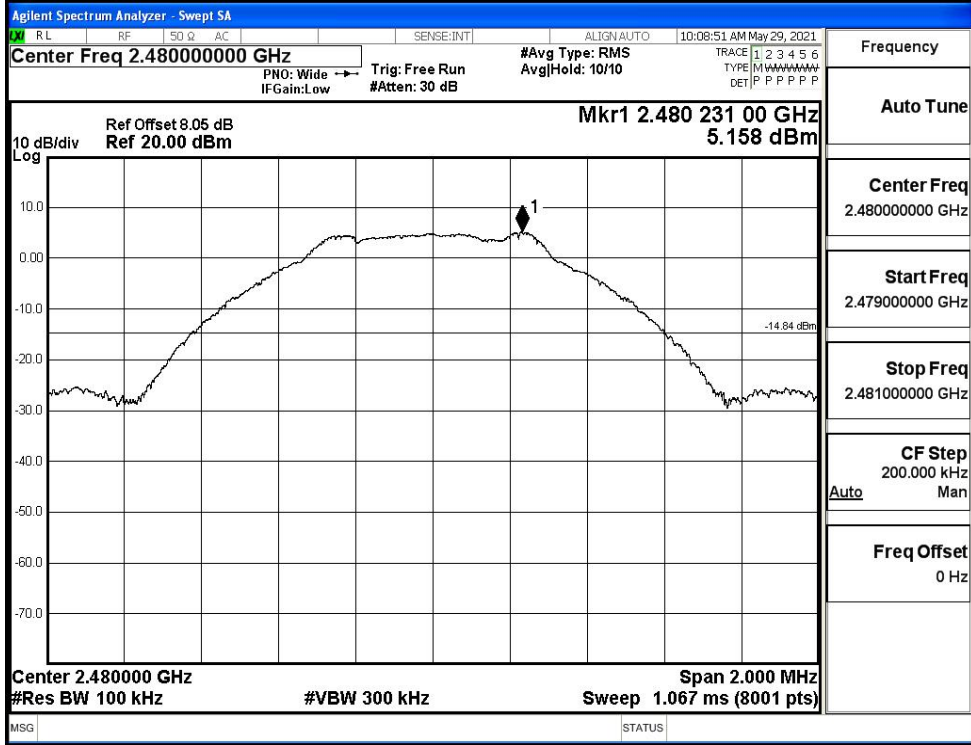


Puw/BT LE/MCH

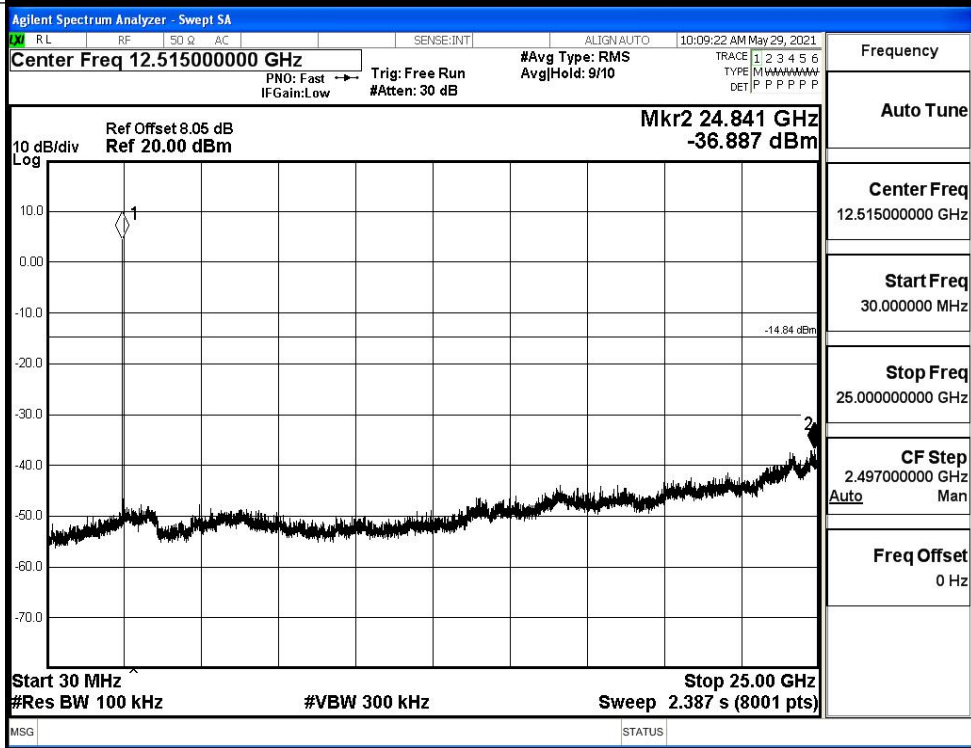


BT LE HCH Graphs

Pref/BT LE/HCH



Puw/BT LE/HCH



A.6 Band-edge for RF Conducted Emissions

Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
BT LE	LCH	2.458	-49.885	-17.54	PASS
BT LE	HCH	5.375	-47.539	-14.63	PASS

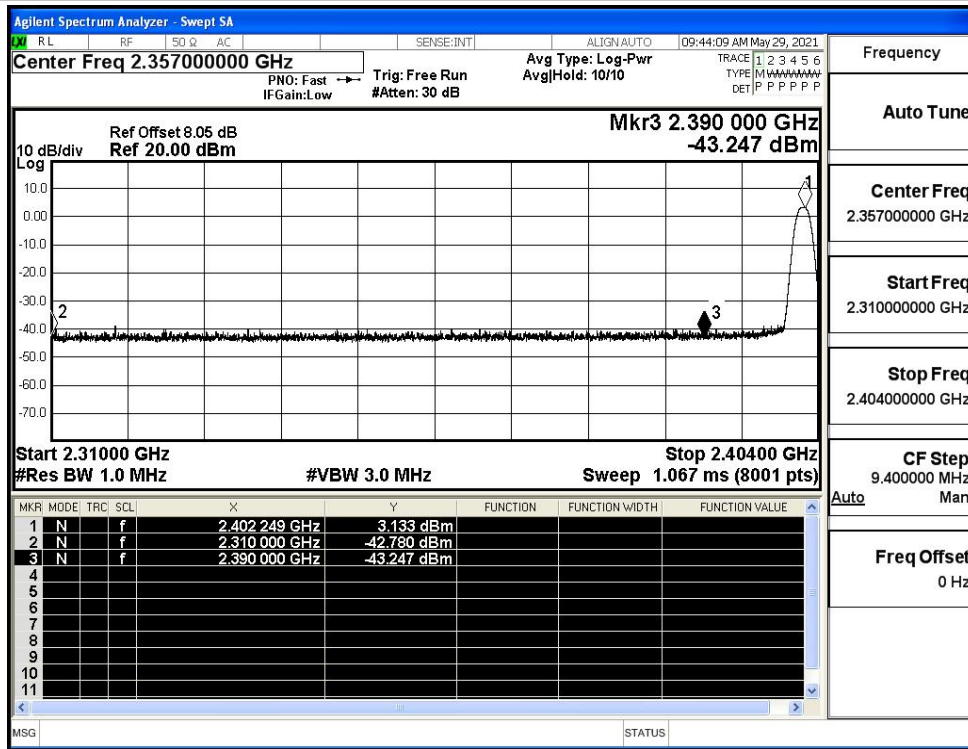
Test Graphs

LCH		<p>Agilent Spectrum Analyzer - Swept SA</p> <p>Center Freq 2.35700000 GHz</p> <p>Mkr4 2.373368 GHz -49.885 dBm</p> <p>Start 2.31000 GHz Stop 2.40400 GHz</p> <table border="1"> <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>2.402238 GHz</td><td>2.458 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>-49.464 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>-52.449 dBm</td><td></td><td></td><td></td></tr> <tr><td>4</td><td>N</td><td>f</td><td></td><td>2.373368 GHz</td><td>-49.885 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		2.402238 GHz	2.458 dBm				2	N	f		2.400000 GHz	-49.464 dBm				3	N	f		2.390000 GHz	-52.449 dBm				4	N	f		2.373368 GHz	-49.885 dBm			
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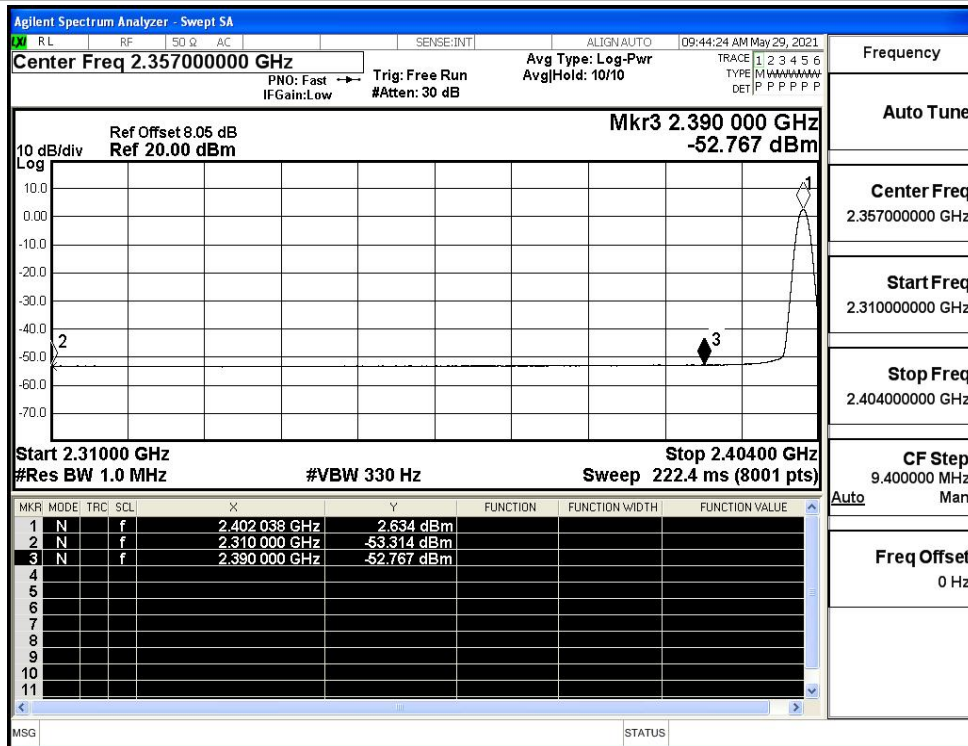
A.7 Restrict-band band-edge measurements

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	-42.78	2.5	0	54.98	PEAK	74	PASS
		Ant1	2310.0	-53.31	2.5	0	44.45	AV	54	PASS
		Ant1	2390.0	-43.25	2.5	0	54.51	PEAK	74	PASS
		Ant1	2390.0	-52.77	2.5	0	44.99	AV	54	PASS
	2480	Ant1	2483.5	-38.39	2.5	0	59.37	PEAK	74	PASS
		Ant1	2483.5	-49.42	2.5	0	48.34	AV	54	PASS
		Ant1	2500.0	-41.97	2.5	0	55.79	PEAK	74	PASS
		Ant1	2500.0	-52.13	2.5	0	45.63	AV	54	PASS

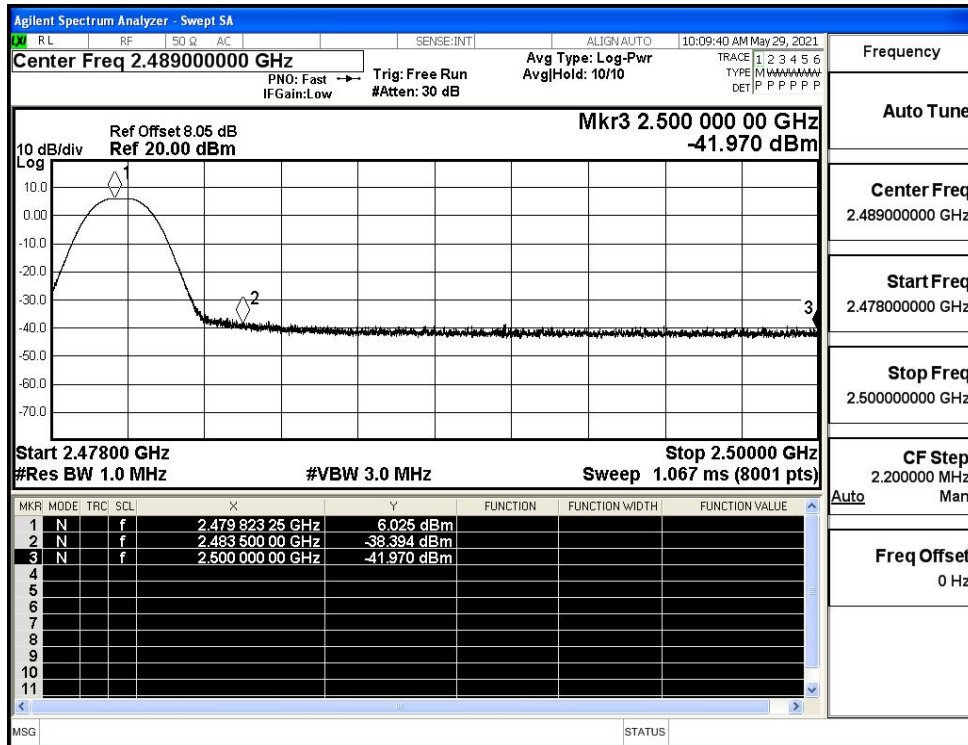
Restrict-band band-edge measurements_BT LE_2402_Ant1_PEAK



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

