

## Appendix A

### RF Test Data for BT LE (Conducted Measurement)

Product Name: Cabinet Lock

Trade Mark: Digilock

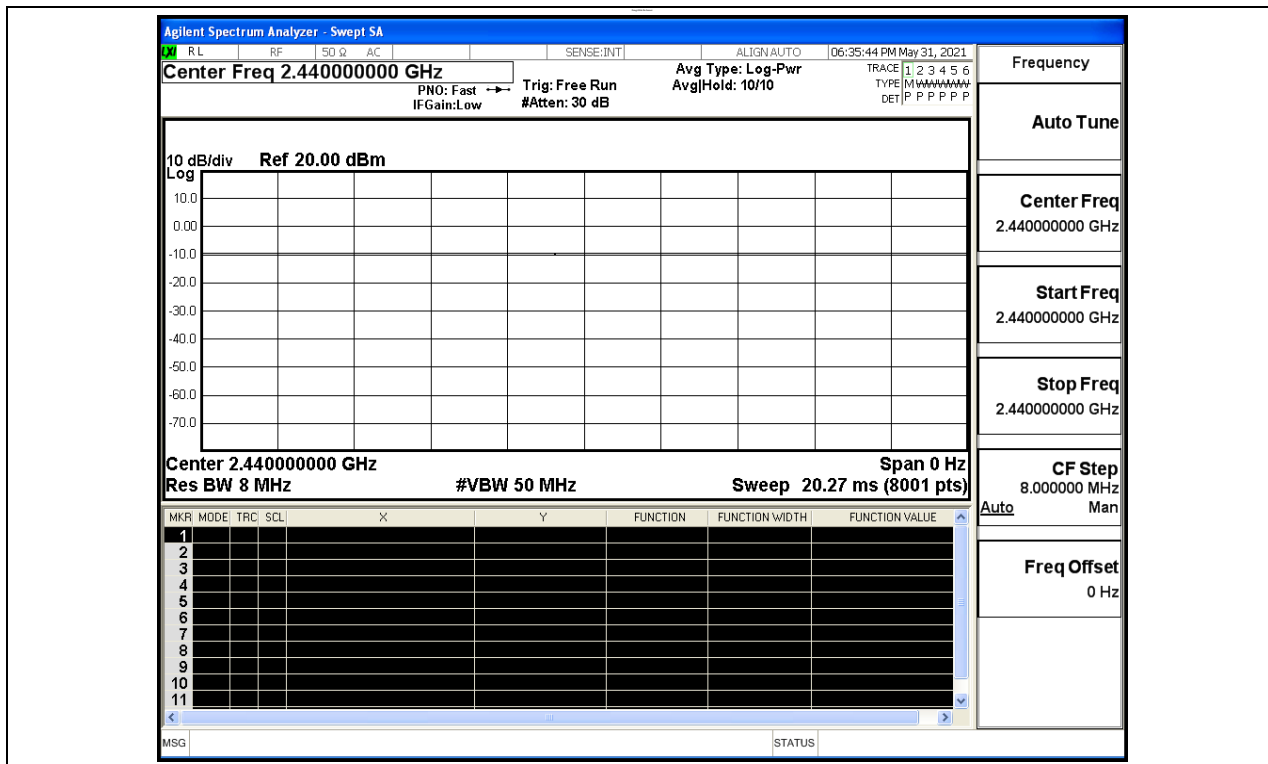
Test Model: D6VK-NX-101X

#### Environmental Conditions

Temperature:	25 °C
Relative Humidity:	50%
ATM Pressure:	100.0 kPa
Test Engineer:	Carl Fu
Supervised by:	Li Huan

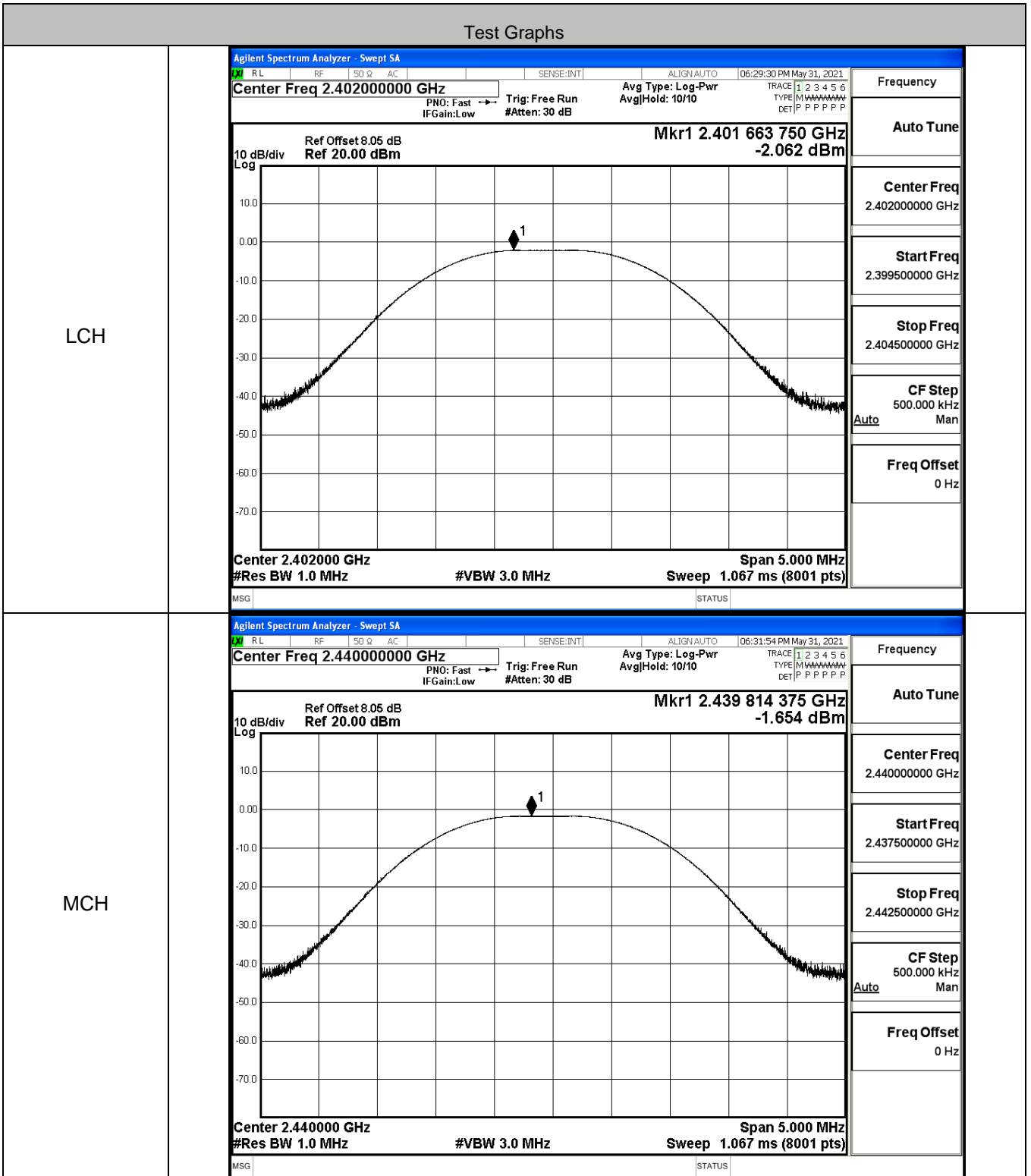
#### A.1 Duty Cycle

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



### A.2 Maximum Conducted Peak Output Power

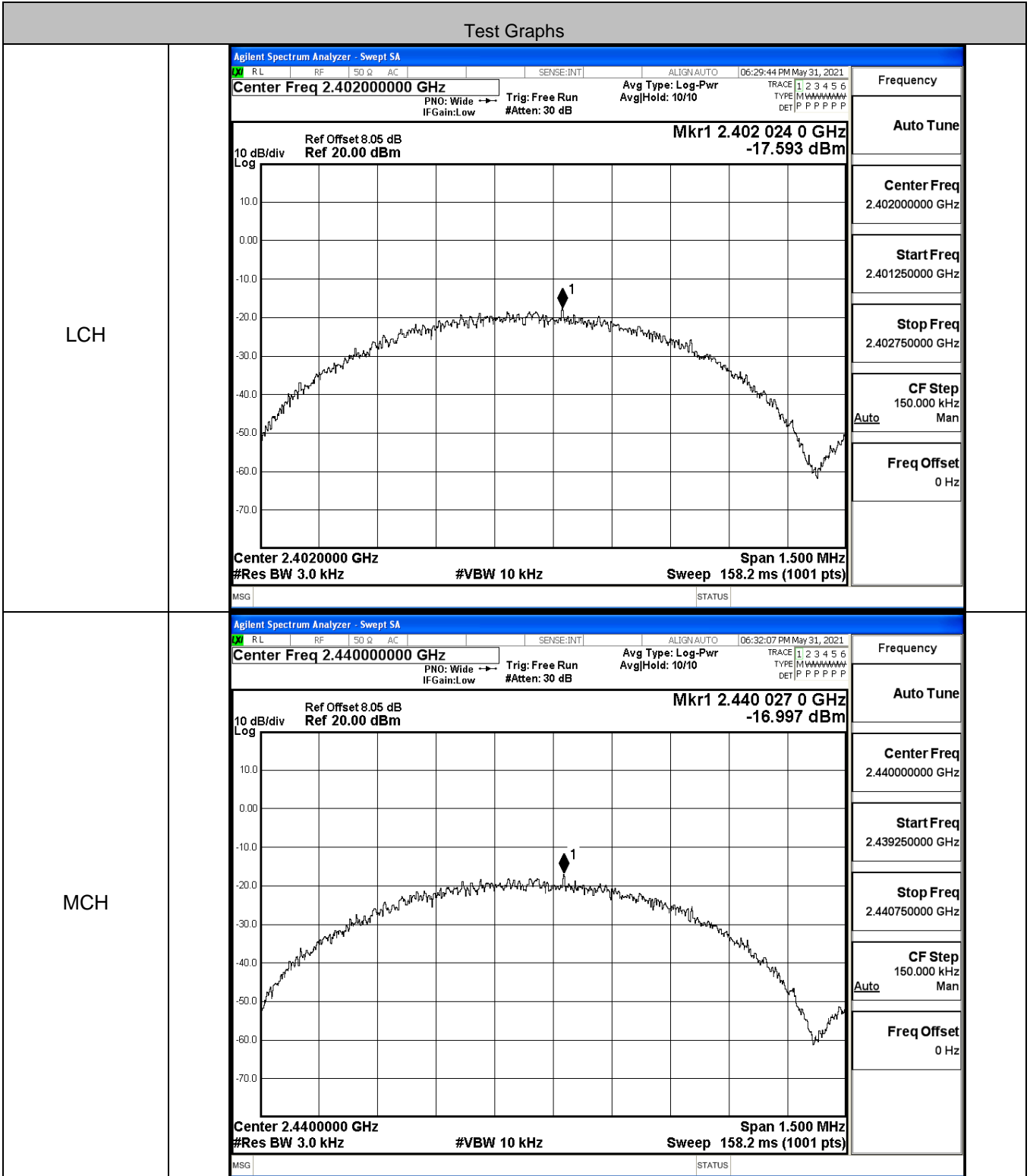
Mode	Channel	Conduct Peak Power[dBm]	Limit [dBm]	Verdict
BT LE	LCH	-2.062	30	PASS
BT LE	MCH	-1.654	30	PASS
BT LE	HCH	-1.615	30	PASS





### A.3 Maximum Power Spectral Density

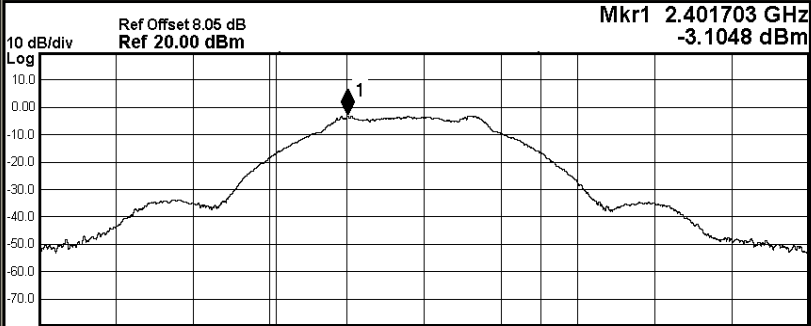
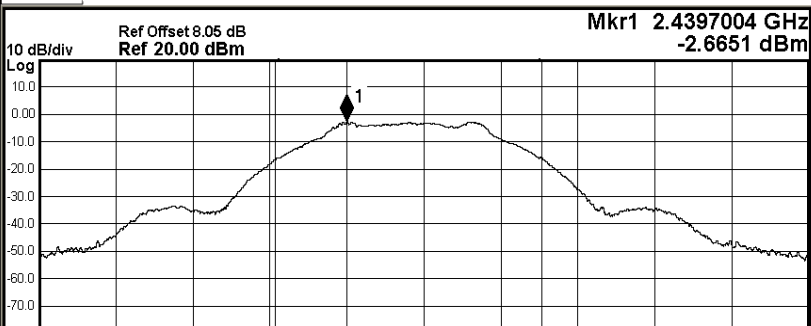
Mode	Channel	PSD [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
BT LE	LCH	-17.593	8	PASS
BT LE	MCH	-16.997	8	PASS
BT LE	HCH	-17.050	8	PASS

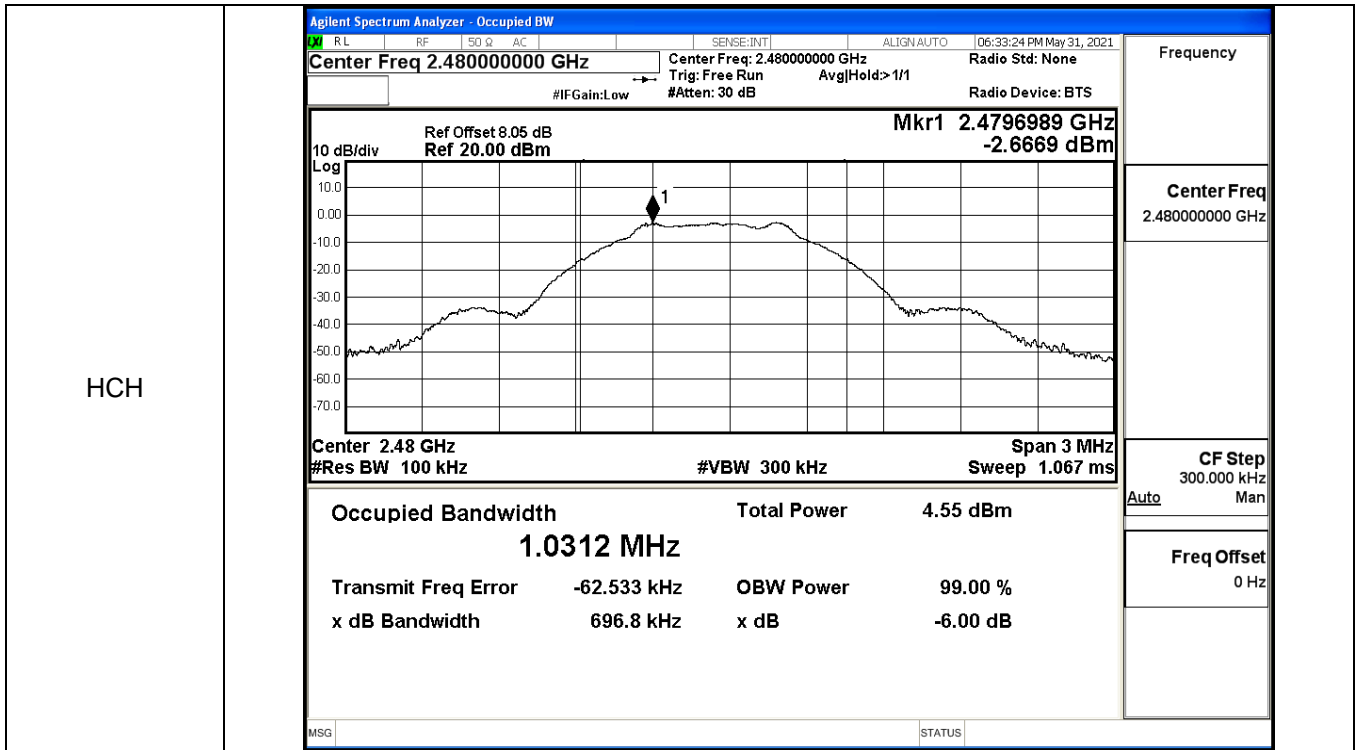




**A.4 6dB Bandwidth**

Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
BT LE	LCH	0.6893	≥0.5	PASS
BT LE	MCH	0.6954	≥0.5	PASS
BT LE	HCH	0.6968	≥0.5	PASS

Test Graphs													
LCH	<div style="border: 1px solid black; padding: 5px;"> <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 06:29:19 PM May 31, 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; margin: 5px 0;"> <p style="font-size: x-small; margin: 0;">10 dB/div Ref Offset 8.05 dB Mkr1 2.401703 GHz</p> <p style="font-size: x-small; margin: 0;">Log Ref 20.00 dBm -3.1048 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>Occupied Bandwidth</td> <td>Total Power</td> <td>4.10 dBm</td> </tr> <tr> <td style="text-align: center;"><b>1.0308 MHz</b></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> </div>	Occupied Bandwidth	Total Power	4.10 dBm	<b>1.0308 MHz</b>			Transmit Freq Error	OBW Power	99.00 %	x dB Bandwidth	x dB	-6.00 dB
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### A.5 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
BT LE	LCH	-3.198	-37.473	-23.198	PASS
BT LE	MCH	-2.677	-37.238	-22.677	PASS
BT LE	HCH	-2.668	-37.664	-22.668	PASS

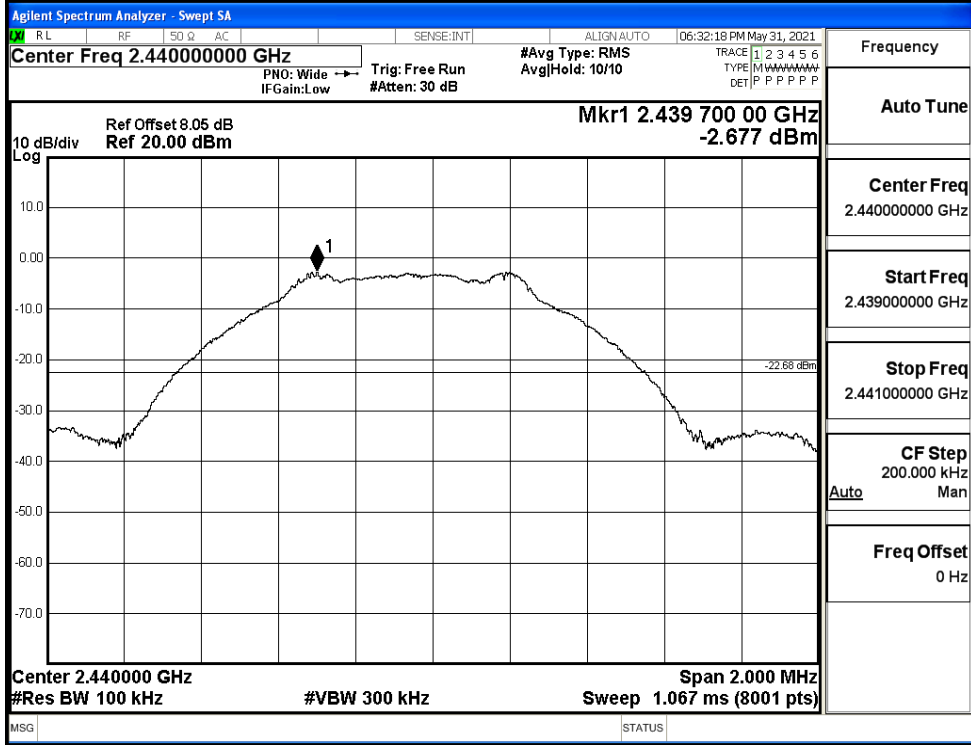
BT LE\_LCH\_Graphs

Pref/BT LE/LCH		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Frequency</td></tr> <tr><td>Auto Tune</td></tr> <tr><td>Center Freq 2.402000000 GHz</td></tr> <tr><td>Start Freq 2.401000000 GHz</td></tr> <tr><td>Stop Freq 2.403000000 GHz</td></tr> <tr><td>CF Step 200.000 kHz Auto Man</td></tr> <tr><td>Freq Offset 0 Hz</td></tr> </table>	Frequency	Auto Tune	Center Freq 2.402000000 GHz	Start Freq 2.401000000 GHz	Stop Freq 2.403000000 GHz	CF Step 200.000 kHz Auto Man	Freq Offset 0 Hz
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Puw/BT LE/LCH		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Frequency</td></tr> <tr><td>Auto Tune</td></tr> <tr><td>Center Freq 12.515000000 GHz</td></tr> <tr><td>Start Freq 30.000000 MHz</td></tr> <tr><td>Stop Freq 25.000000000 GHz</td></tr> <tr><td>CF Step 2.497000000 GHz Auto Man</td></tr> <tr><td>Freq Offset 0 Hz</td></tr> </table>	Frequency	Auto Tune	Center Freq 12.515000000 GHz	Start Freq 30.000000 MHz	Stop Freq 25.000000000 GHz	CF Step 2.497000000 GHz Auto Man	Freq Offset 0 Hz
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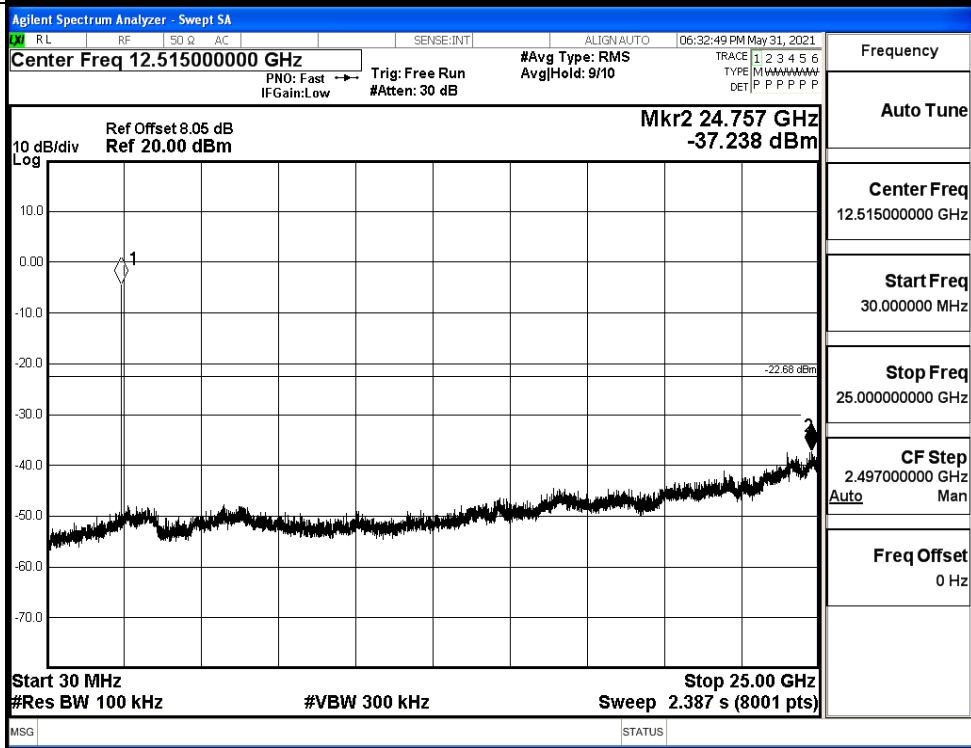


BT LE\_MCH\_Graphs

Pref/BT LE/MCH

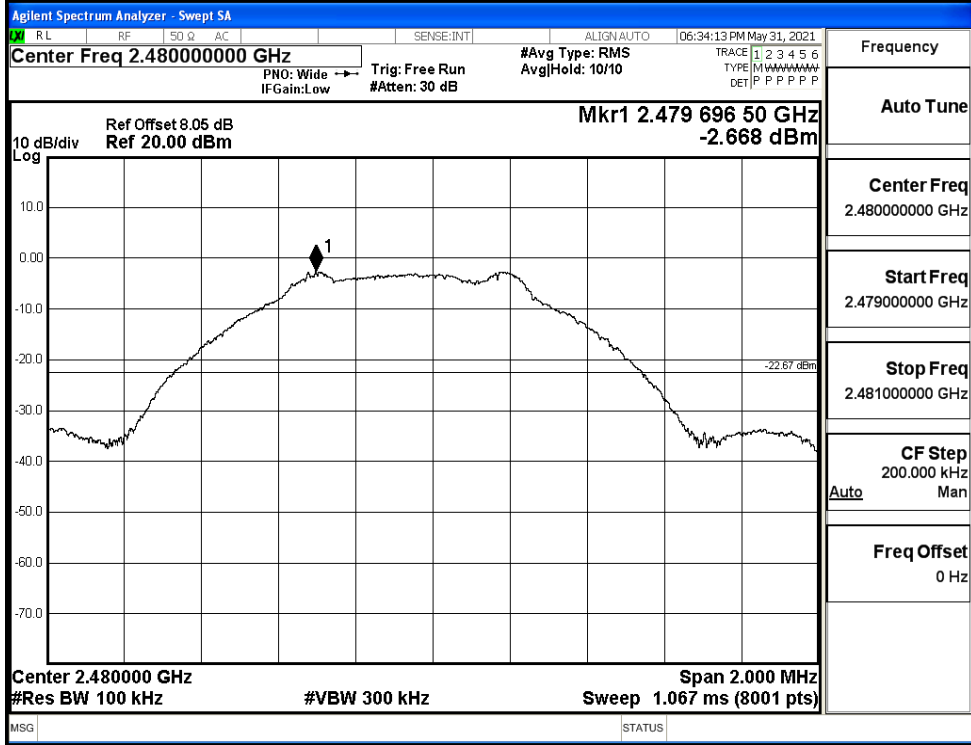


Puw/BT LE/MCH

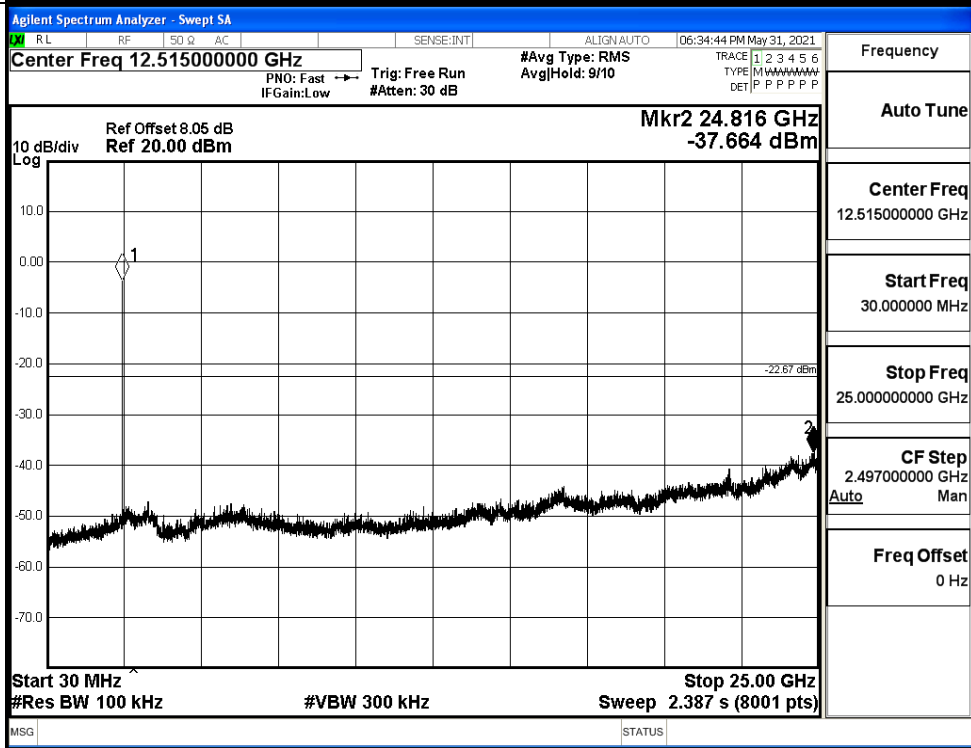


BT LE\_HCH\_Graphs

Pref/BT LE/HCH



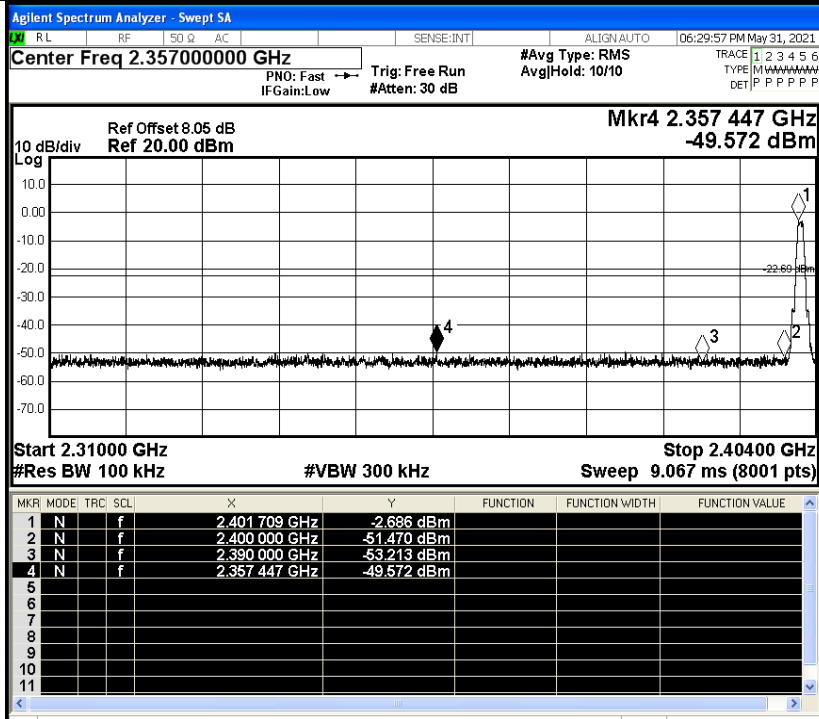
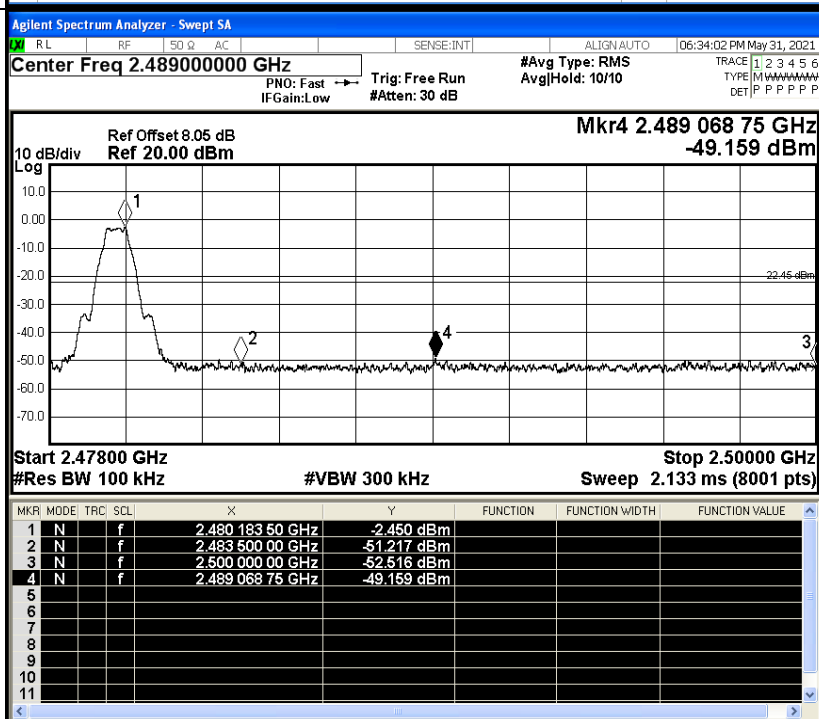
Puw/BT LE/HCH



### A.6 Band-edge for RF Conducted Emissions

Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
BT LE	LCH	-2.686	-49.572	-22.69	PASS
BT LE	HCH	-2.450	-49.159	-22.45	PASS

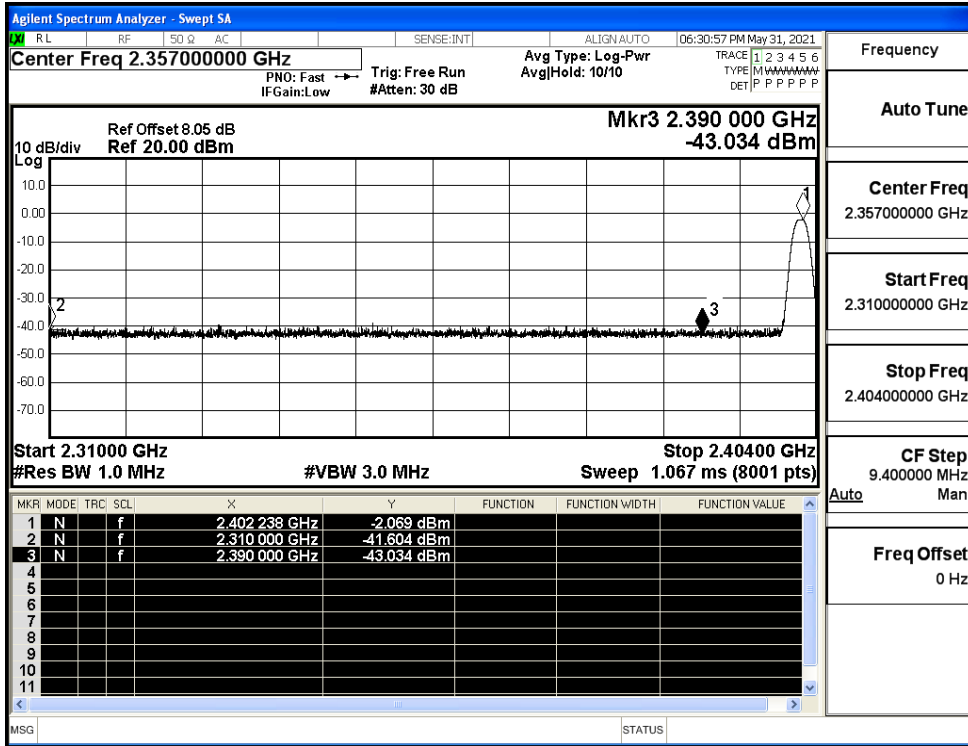
Test Graphs

LCH	 <p>Agilent Spectrum Analyzer - Swept SA                  Center Freq 2.35700000 GHz                  Mkr4 2.357 447 GHz -49.572 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%; border-collapse: collapse; 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>2.401 709 GHz</td><td>-2.686 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>-51.470 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>-53.213 dBm</td><td></td><td></td><td></td></tr> <tr><td>4</td><td>N</td><td>f</td><td></td><td>2.357 447 GHz</td><td>-49.572 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		2.401 709 GHz	-2.686 dBm				2	N	f		2.400 000 GHz	-51.470 dBm				3	N	f		2.390 000 GHz	-53.213 dBm				4	N	f		2.357 447 GHz	-49.572 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		2.357 447 GHz	-49.572 dBm																																										
HCH	 <p>Agilent Spectrum Analyzer - Swept SA                  Center Freq 2.489000000 GHz                  Mkr4 2.489 068 75 GHz -49.159 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%; border-collapse: collapse; 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>2.480 183 50 GHz</td><td>-2.450 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>-51.217 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>-52.516 dBm</td><td></td><td></td><td></td></tr> <tr><td>4</td><td>N</td><td>f</td><td></td><td>2.489 068 75 GHz</td><td>-49.159 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		2.480 183 50 GHz	-2.450 dBm				2	N	f		2.483 500 00 GHz	-51.217 dBm				3	N	f		2.500 000 00 GHz	-52.516 dBm				4	N	f		2.489 068 75 GHz	-49.159 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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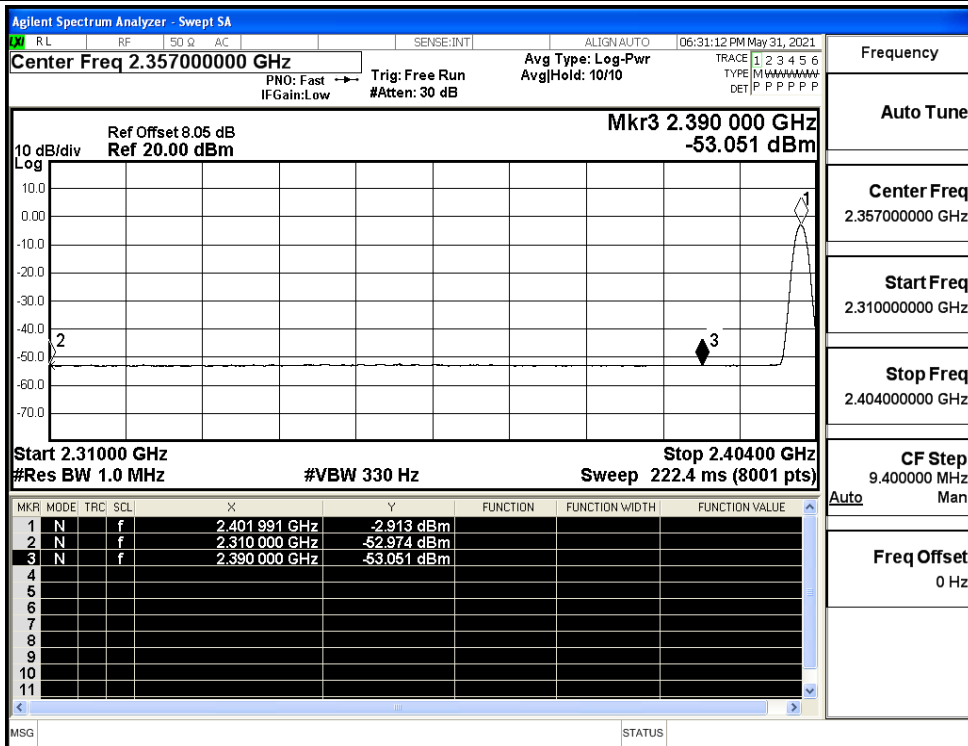
**A.7 Restrict-band band-edge measurements**

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	-41.60	2.0	0	55.63	PEAK	74	PASS
		Ant1	2310.0	-52.97	2.0	0	44.26	AV	54	PASS
		Ant1	2390.0	-43.03	2.0	0	54.20	PEAK	74	PASS
		Ant1	2390.0	-53.05	2.0	0	44.18	AV	54	PASS
	2480	Ant1	2483.5	-42.06	2.0	0	55.17	PEAK	74	PASS
		Ant1	2483.5	-52.45	2.0	0	44.78	AV	54	PASS
		Ant1	2500.0	-43.21	2.0	0	54.02	PEAK	74	PASS
		Ant1	2500.0	-52.40	2.0	0	44.83	AV	54	PASS

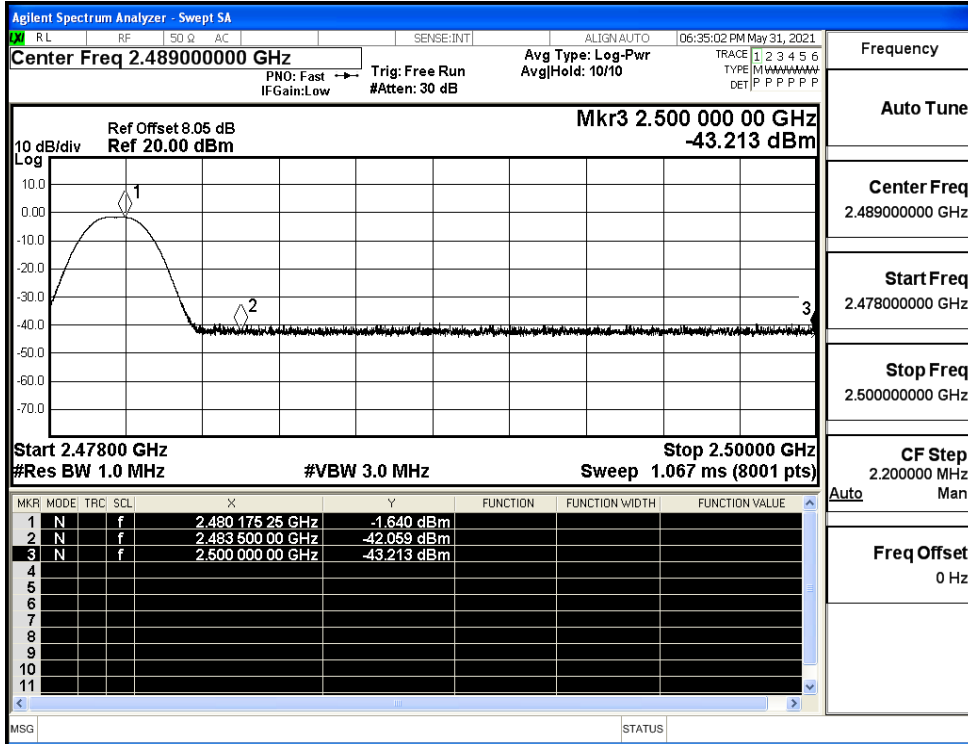
Restrict-band band-edge measurements\_BT LE\_2402\_Ant1\_PEAK



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

