

## Appendix B

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

Product Name: Aegis WiFi Gateway

Trade Mark: BOSMA

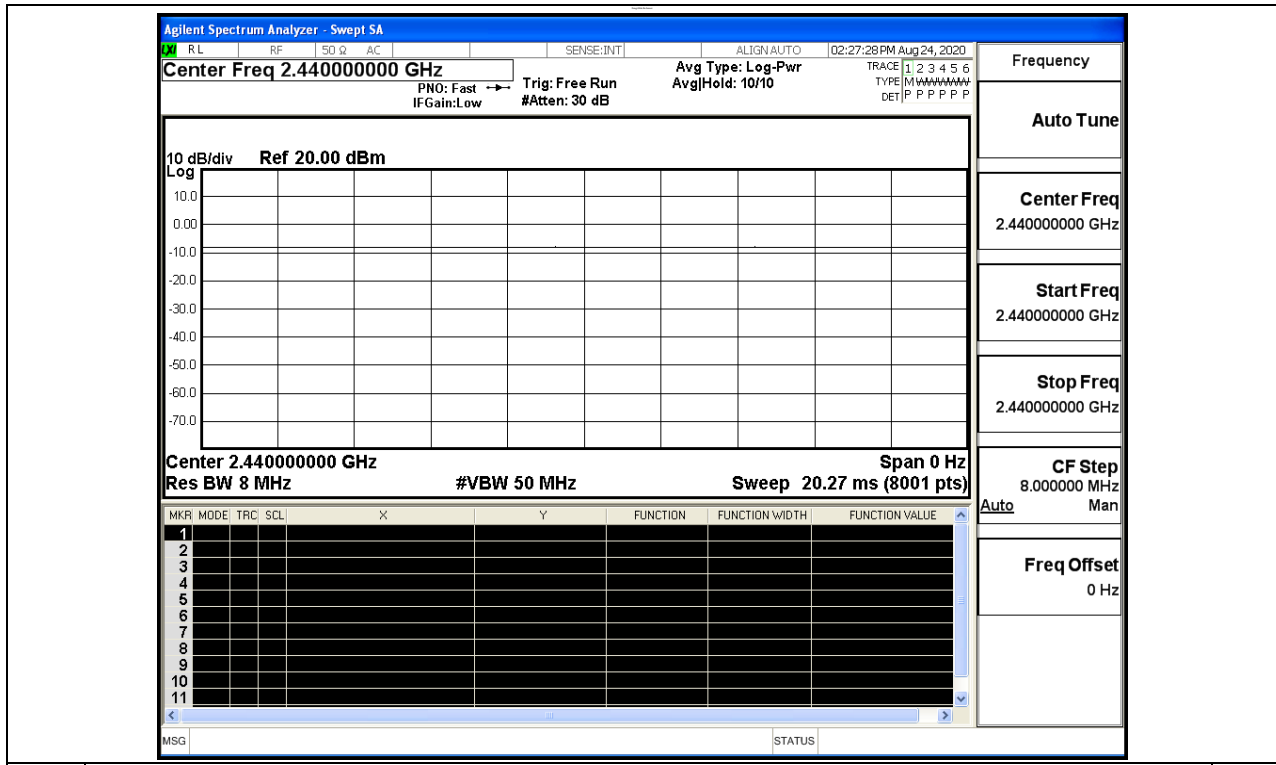
Test Model: RP0001

#### Environmental Conditions

Temperature:	23.2 ° C
Relative Humidity:	52.8%
ATM Pressure:	100.0 kPa
Test Engineer:	Diamond Lu
Supervised by:	Li Huan

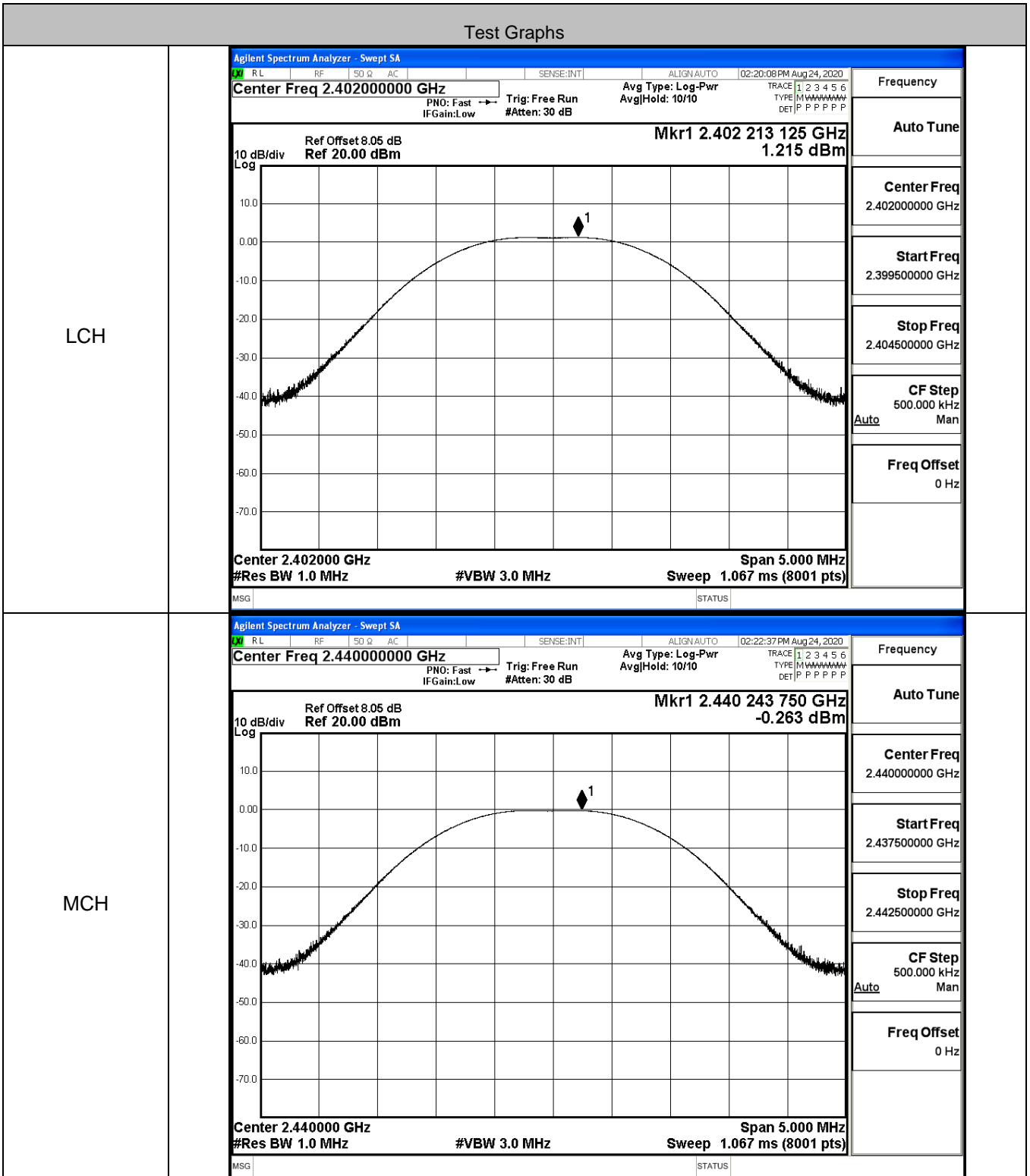
#### B.1 Duty Cycle

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

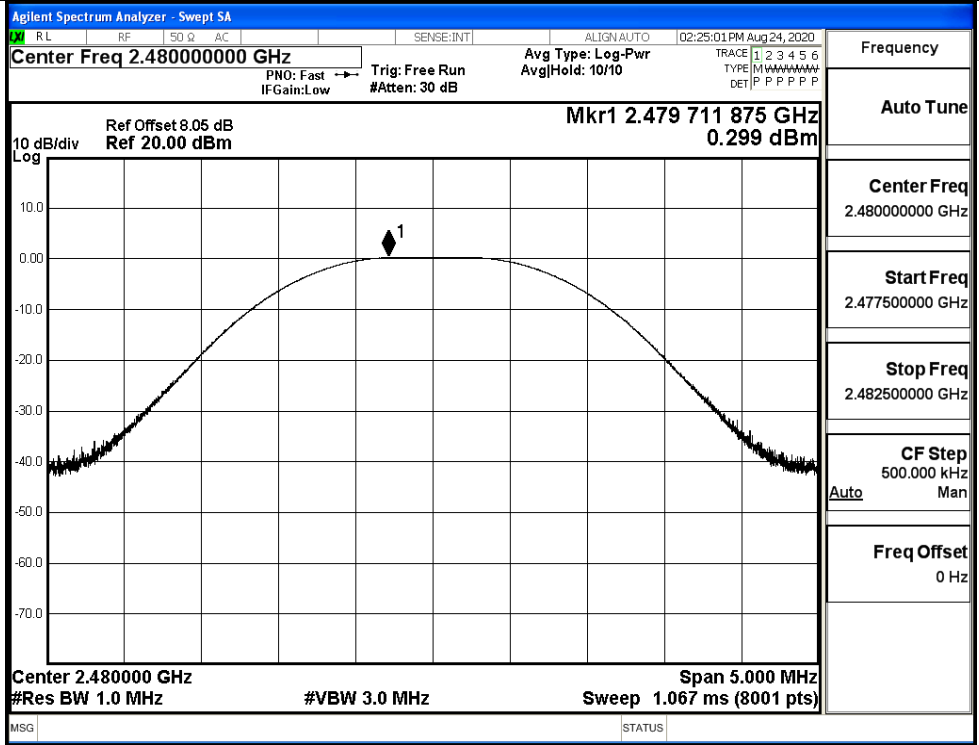


### B.2 Maximum Conducted Peak Output Power

Mode	Channel	Conduct Peak Power[dBm]	Limit [dBm]	Verdict
BT LE	LCH	1.215	30	PASS
BT LE	MCH	-0.263	30	PASS
BT LE	HCH	0.299	30	PASS



HCH

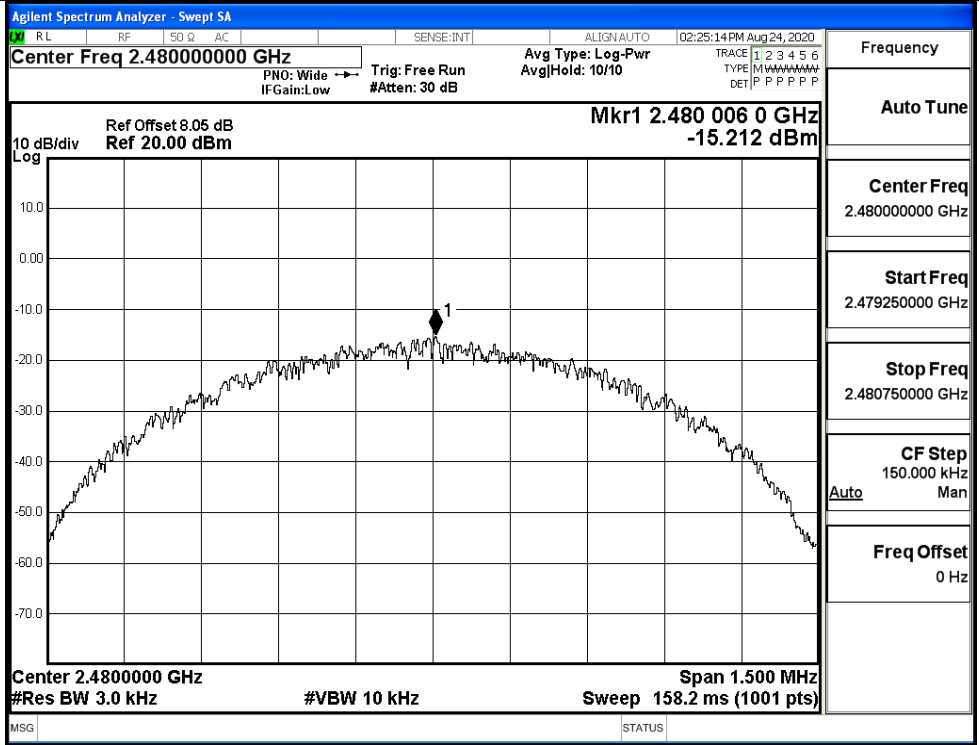


### B.3 Maximum Power Spectral Density

Mode	Channel	PSD [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
BT LE	LCH	-14.263	8	PASS
BT LE	MCH	-15.865	8	PASS
BT LE	HCH	-15.212	8	PASS

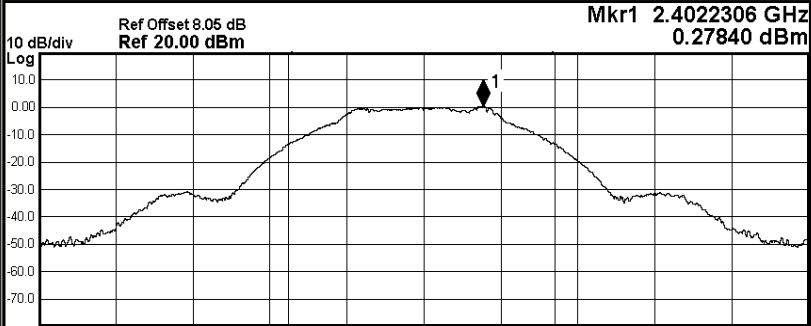
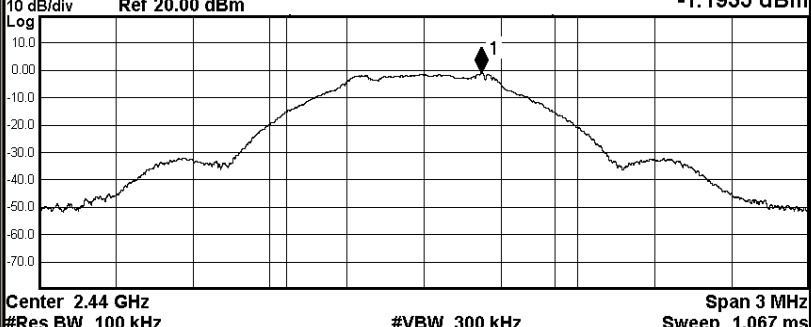
Test Graphs	
LCH	<div style="border: 1px solid black; padding: 5px;"> <p style="font-size: small; margin: 0;">Agilent Spectrum Analyzer - Swept SA</p> <p style="font-size: x-small; margin: 0;">RL RF 50 Ω AC SENSE:INT ALIGN:AUTO 02:20:21 PM Aug 24, 2020</p> <p style="font-size: small; margin: 0;">Center Freq 2.40200000 GHz Avg Type: Log-Pwr TRACE 1 2 3 4 5 6</p> <p style="font-size: x-small; margin: 0;">PNO: Wide → Trig: Free Run AvgHold: 10/10 TYPE M W W W W W W W</p> <p style="font-size: x-small; margin: 0;">IFGain:Low #Atten: 30 dB DET P P P P P P</p> <div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="width: 70%;"> <p style="font-size: small; margin: 0;">Ref Offset 8.05 dB Ref 20.00 dBm</p> <p style="font-size: small; margin: 0;">Mkr1 2.402 006 0 GHz -14.263 dBm</p> <p style="font-size: x-small; margin: 0;">Center 2.4020000 GHz Span 1.500 MHz #Res BW 3.0 kHz #VBW 10 kHz Sweep 158.2 ms (1001 pts)</p> </div> <div style="width: 25%; border-left: 1px solid black; padding-left: 5px;"> <p style="font-size: x-small; margin: 0;">Frequency</p> <p style="font-size: x-small; margin: 0;">Auto Tune</p> <p style="font-size: x-small; margin: 0;">Center Freq 2.402000000 GHz</p> <p style="font-size: x-small; margin: 0;">Start Freq 2.401250000 GHz</p> <p style="font-size: x-small; margin: 0;">Stop Freq 2.402750000 GHz</p> <p style="font-size: x-small; margin: 0;">CF Step 150.000 kHz Auto Man</p> <p style="font-size: x-small; margin: 0;">Freq Offset 0 Hz</p> </div> </div> <p style="font-size: x-small; margin: 0; display: flex; justify-content: space-between;">MSG STATUS</p> </div>
MCH	<div style="border: 1px solid black; padding: 5px;"> <p style="font-size: small; margin: 0;">Agilent Spectrum Analyzer - Swept SA</p> <p style="font-size: x-small; margin: 0;">RL RF 50 Ω AC SENSE:INT ALIGN:AUTO 02:22:50 PM Aug 24, 2020</p> <p style="font-size: small; margin: 0;">Center Freq 2.440000000 GHz Avg Type: Log-Pwr TRACE 1 2 3 4 5 6</p> <p style="font-size: x-small; margin: 0;">PNO: Wide → Trig: Free Run AvgHold: 10/10 TYPE M W W W W W W W</p> <p style="font-size: x-small; margin: 0;">IFGain:Low #Atten: 30 dB DET P P P P P P</p> <div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="width: 70%;"> <p style="font-size: small; margin: 0;">Ref Offset 8.05 dB Ref 20.00 dBm</p> <p style="font-size: small; margin: 0;">Mkr1 2.440 006 0 GHz -15.865 dBm</p> <p style="font-size: x-small; margin: 0;">Center 2.4400000 GHz Span 1.500 MHz #Res BW 3.0 kHz #VBW 10 kHz Sweep 158.2 ms (1001 pts)</p> </div> <div style="width: 25%; border-left: 1px solid black; padding-left: 5px;"> <p style="font-size: x-small; margin: 0;">Frequency</p> <p style="font-size: x-small; margin: 0;">Auto Tune</p> <p style="font-size: x-small; margin: 0;">Center Freq 2.440000000 GHz</p> <p style="font-size: x-small; margin: 0;">Start Freq 2.439250000 GHz</p> <p style="font-size: x-small; margin: 0;">Stop Freq 2.440750000 GHz</p> <p style="font-size: x-small; margin: 0;">CF Step 150.000 kHz Auto Man</p> <p style="font-size: x-small; margin: 0;">Freq Offset 0 Hz</p> </div> </div> <p style="font-size: x-small; margin: 0; display: flex; justify-content: space-between;">MSG STATUS</p> </div>

HCH



**B.4 6dB Bandwidth**

Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
BT LE	LCH	0.6687	≥0.5	PASS
BT LE	MCH	0.6658	≥0.5	PASS
BT LE	HCH	0.6701	≥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 02:19:56 PM Aug 24, 2020</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 2.4022306 GHz</p> <p style="font-size: x-small; margin: 0;">Log Ref 20.00 dBm 0.27840 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: 50%;">Occupied Bandwidth</td> <td style="width: 50%;">Total Power</td> <td style="width: 50%;">7.39 dBm</td> </tr> <tr> <td style="text-align: center;"><b>1.0377 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> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"> <p style="font-size: x-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 02:22:26 PM Aug 24, 2020</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: &gt;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 2.440225 GHz</p> <p style="font-size: x-small; margin: 0;">Log Ref 20.00 dBm -1.1935 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: 50%;">Occupied Bandwidth</td> <td style="width: 50%;">Total Power</td> <td style="width: 50%;">5.86 dBm</td> </tr> <tr> <td style="text-align: center;"><b>1.0422 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	7.39 dBm	<b>1.0377 MHz</b>			Transmit Freq Error	OBW Power	99.00 %	x dB Bandwidth	x dB	-6.00 dB	Occupied Bandwidth	Total Power	5.86 dBm	<b>1.0422 MHz</b>			Transmit Freq Error	OBW Power	99.00 %	x dB Bandwidth	x dB	-6.00 dB
Occupied Bandwidth	Total Power	7.39 dBm																							
<b>1.0377 MHz</b>																									
Transmit Freq Error	OBW Power	99.00 %																							
x dB Bandwidth	x dB	-6.00 dB																							
Occupied Bandwidth	Total Power	5.86 dBm																							
<b>1.0422 MHz</b>																									
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	02:24:50 PM Aug 24, 2020
Center Freq 2.480000000 GHz				Center Freq: 2.480000000 GHz	Radio Std: None	Frequency
				Trig: Free Run	AvgHold>1/1	
				#IFGain:Low	#Atten: 30 dB	Radio Device: BTS

10 dB/div	Ref Offset 8.05 dB	Mkr1 2.480228 GHz
Log	Ref 20.00 dBm	-0.66400 dBm

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

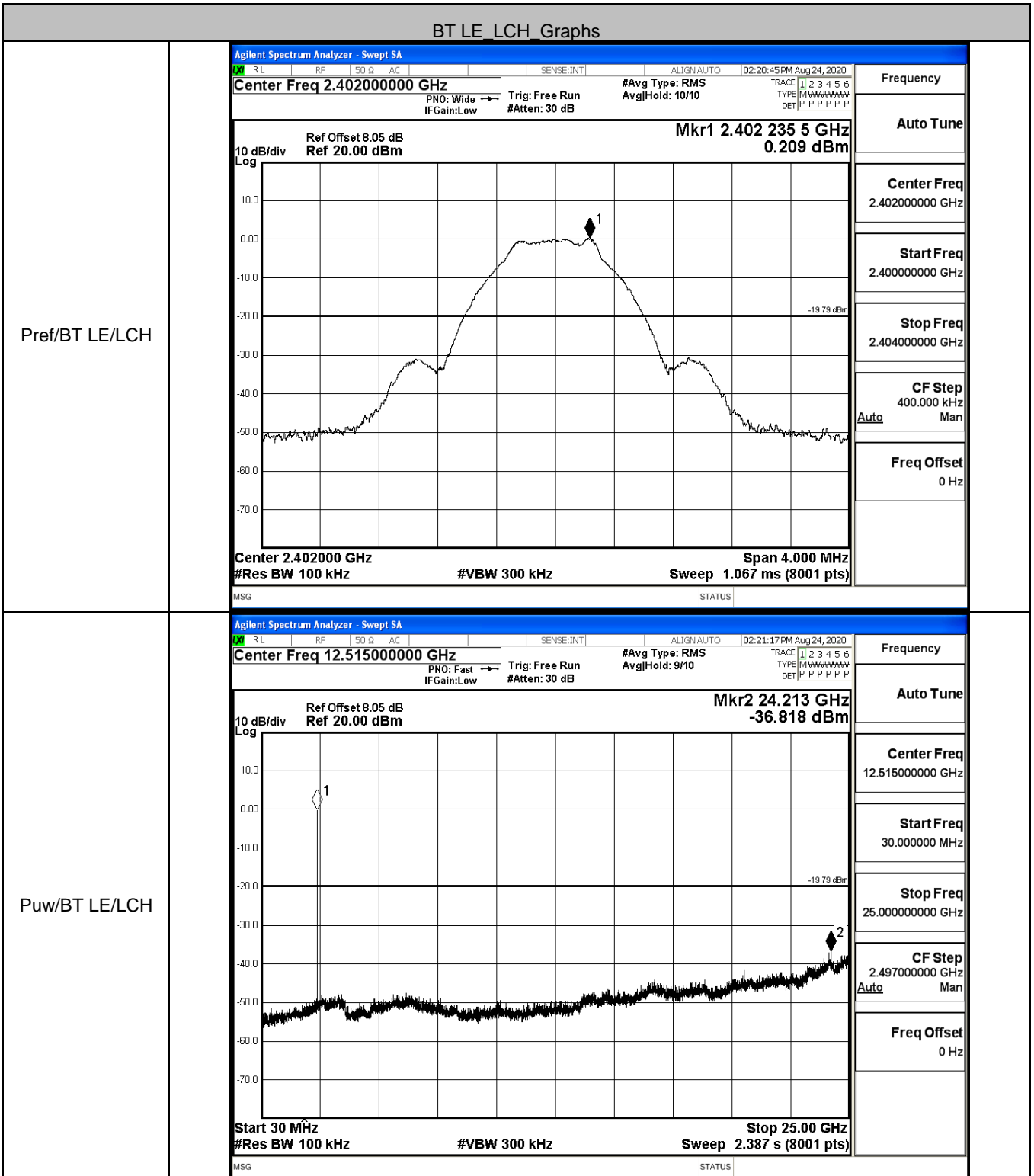
Occupied Bandwidth	Total Power	6.45 dBm
<b>1.0392 MHz</b>		
Transmit Freq Error	-10.793 kHz	OBW Power 99.00 %
x dB Bandwidth	670.1 kHz	x dB -6.00 dB

CF Step	Auto
300.000 kHz	Man
Freq Offset	0 Hz

MSG
STATUS

### B.5 RF Conducted Spurious Emissions

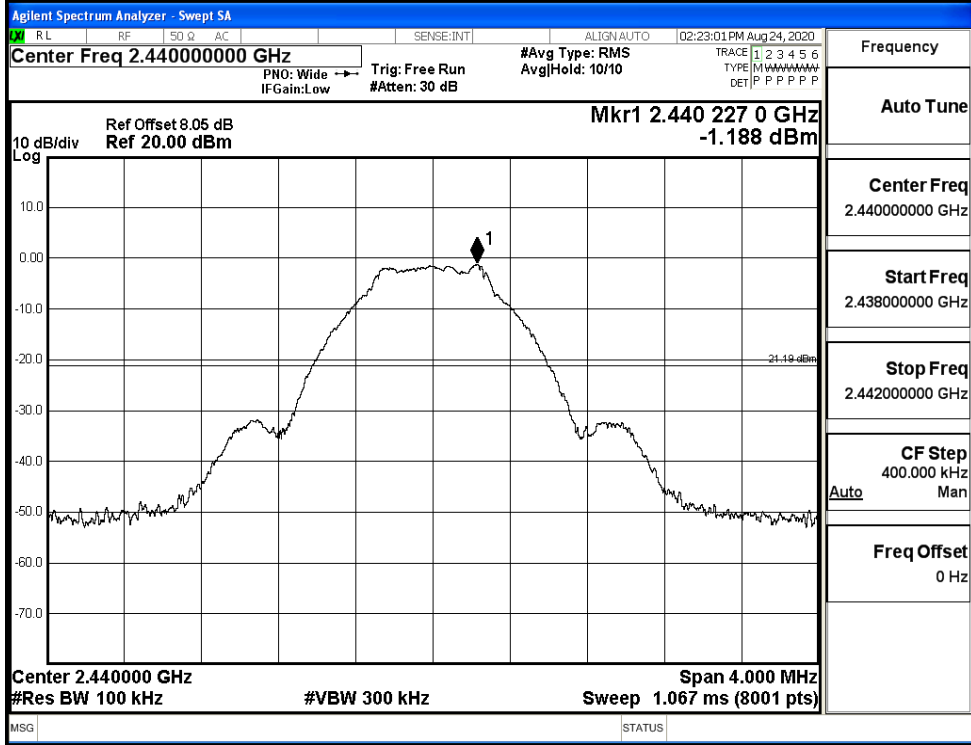
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
BT LE	LCH	0.209	-36.818	-19.791	PASS
BT LE	MCH	-1.188	-37.595	-21.188	PASS
BT LE	HCH	-0.67	-37.346	-20.670	PASS



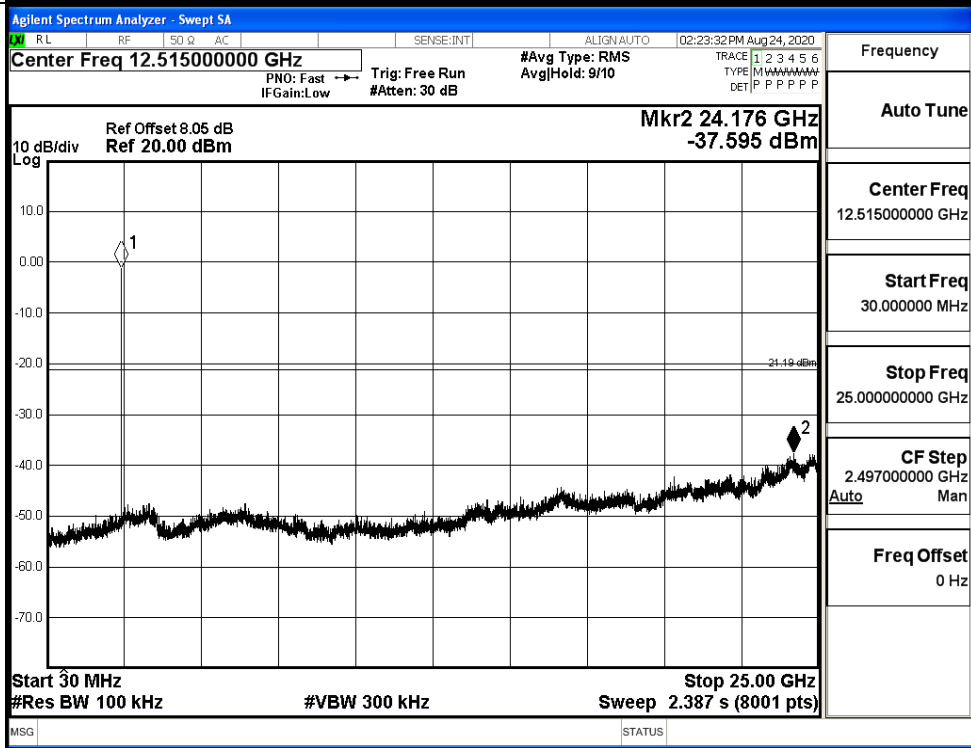


BT LE\_MCH\_Graphs

Pref/BT LE/MCH

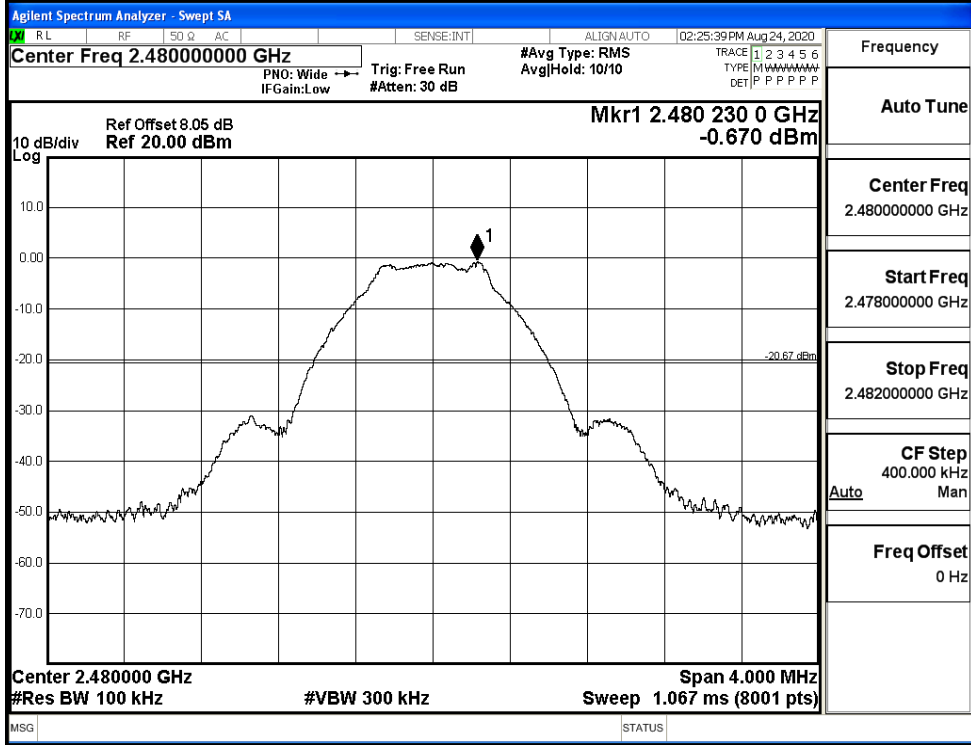


Puw/BT LE/MCH

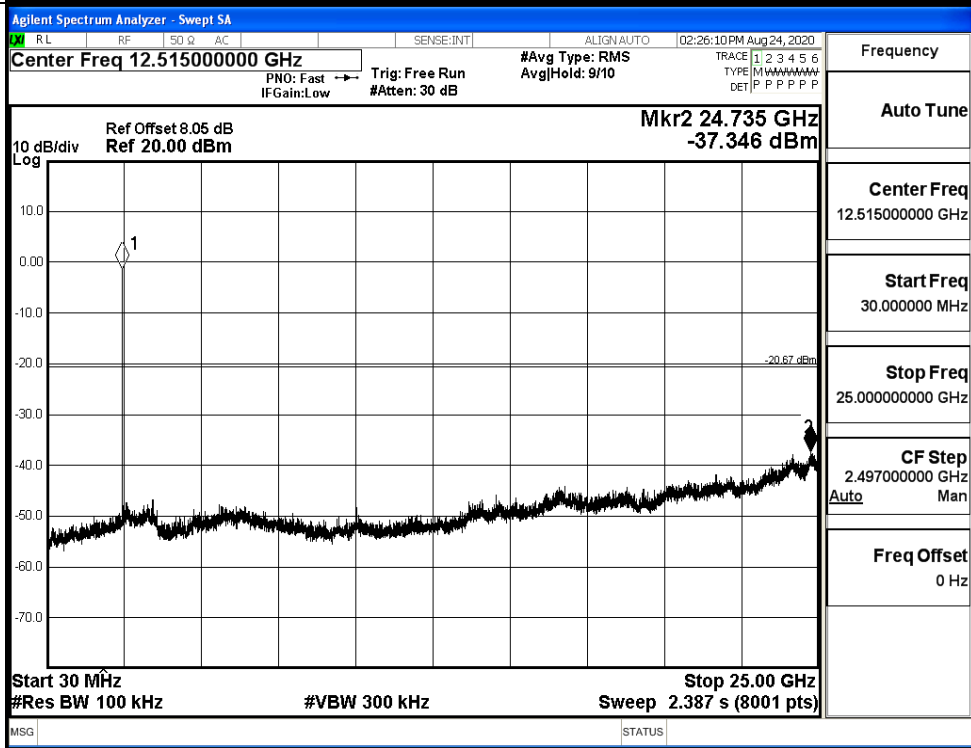


BT LE\_HCH\_Graphs

Pref/BT LE/HCH



Puw/BT LE/HCH



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

Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
BT LE	LCH	0.446	-48.810	-19.55	PASS
BT LE	HCH	-0.385	-48.750	-20.39	PASS

Test Graphs

LCH

Agilent Spectrum Analyzer - Swept SA  
 Center Freq 2.35700000 GHz  
 #Avg Type: RMS  
 #Res BW 100 kHz #VBW 300 kHz  
 Mkr4 2.314 524 GHz -48.810 dBm  
 Start 2.31000 GHz Stop 2.40400 GHz  
 #Res BW 100 kHz #VBW 300 kHz Sweep 9.067 ms (8001 pts)

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	f		2.401991 GHz	0.446 dBm			
2	N	f		2.400000 GHz	-52.673 dBm			
3	N	f		2.390000 GHz	-53.334 dBm			
4	N	f		2.314 524 GHz	-48.810 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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HCH

Agilent Spectrum Analyzer - Swept SA  
 Center Freq 2.48900000 GHz  
 #Avg Type: RMS  
 #Res BW 100 kHz #VBW 300 kHz  
 Mkr4 2.483 634 75 GHz -48.750 dBm  
 Start 2.47800 GHz Stop 2.50000 GHz  
 #Res BW 100 kHz #VBW 300 kHz Sweep 2.133 ms (8001 pts)

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	f		2.480 230 25 GHz	-0.385 dBm			
2	N	f		2.483 500 00 GHz	-51.108 dBm			
3	N	f		2.500 000 00 GHz	-52.409 dBm			
4	N	f		2.483 634 75 GHz	-48.750 dBm			

Frequency

Auto Tune

Center Freq  
2.489000000 GHz

Start Freq  
2.478000000 GHz

Stop Freq  
2.500000000 GHz

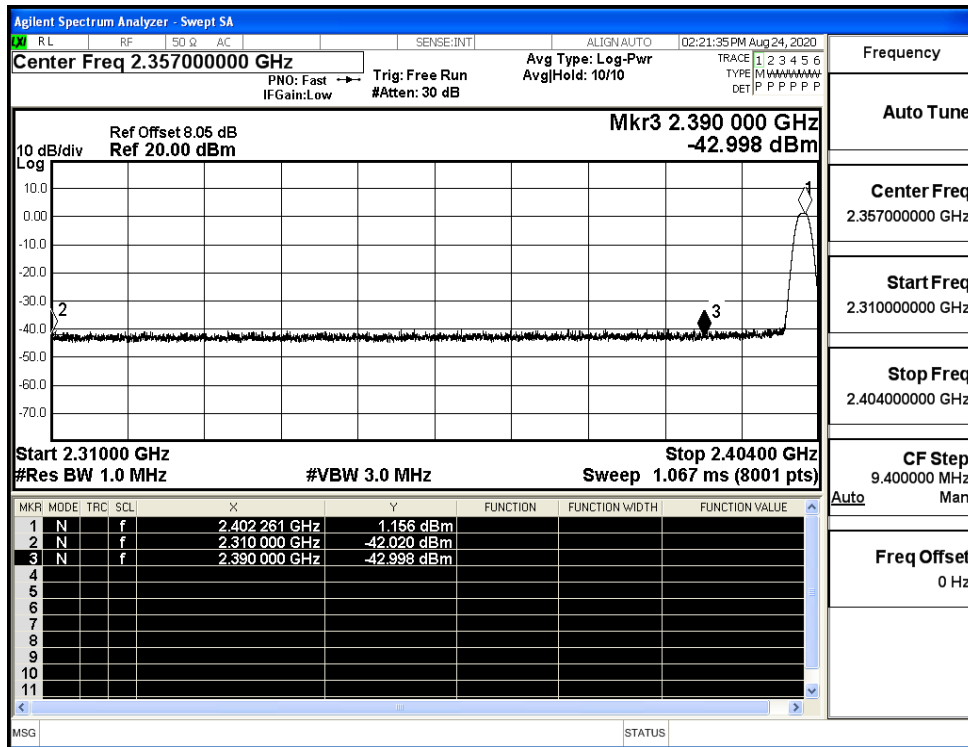
CF Step  
2.200000 MHz

Freq Offset  
0 Hz

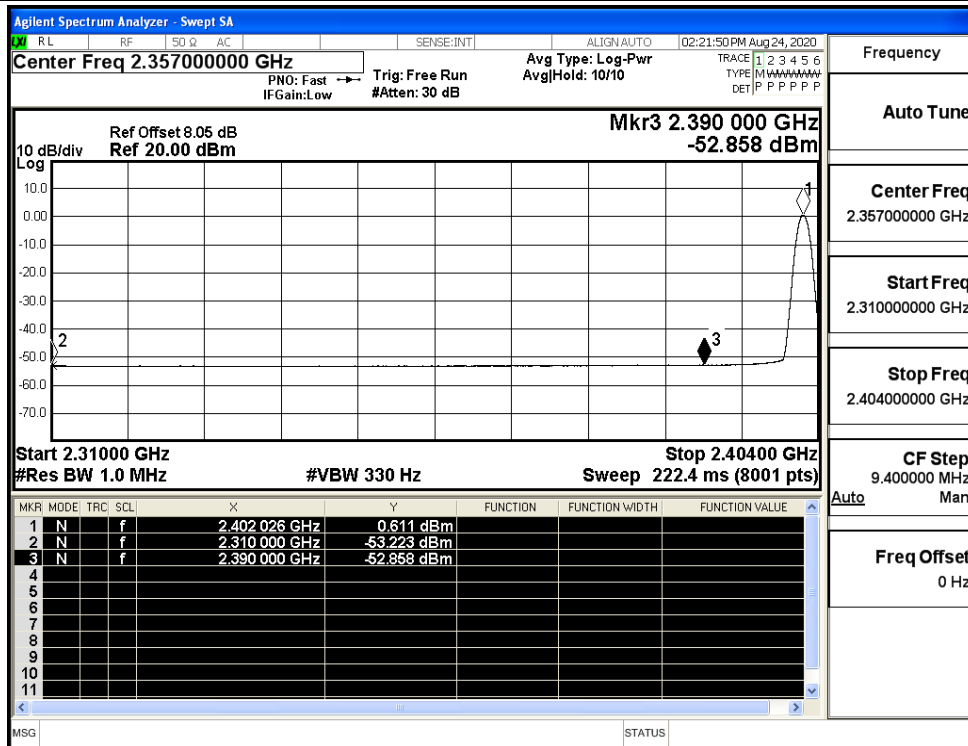
**B.7 Restrict-band band-edge measurements**

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	-42.02	2.0	0	55.24	PEAK	74	PASS
		Ant1	2310.0	-53.22	2.0	0	44.04	AV	54	PASS
		Ant1	2390.0	-43.00	2.0	0	54.26	PEAK	74	PASS
		Ant1	2390.0	-52.86	2.0	0	44.4	AV	54	PASS
	2480	Ant1	2483.5	-40.67	2.0	0	56.59	PEAK	74	PASS
		Ant1	2483.5	-51.60	2.0	0	45.66	AV	54	PASS
		Ant1	2500.0	-42.06	2.0	0	55.20	PEAK	74	PASS
		Ant1	2500.0	-52.37	2.0	0	44.89	AV	54	PASS

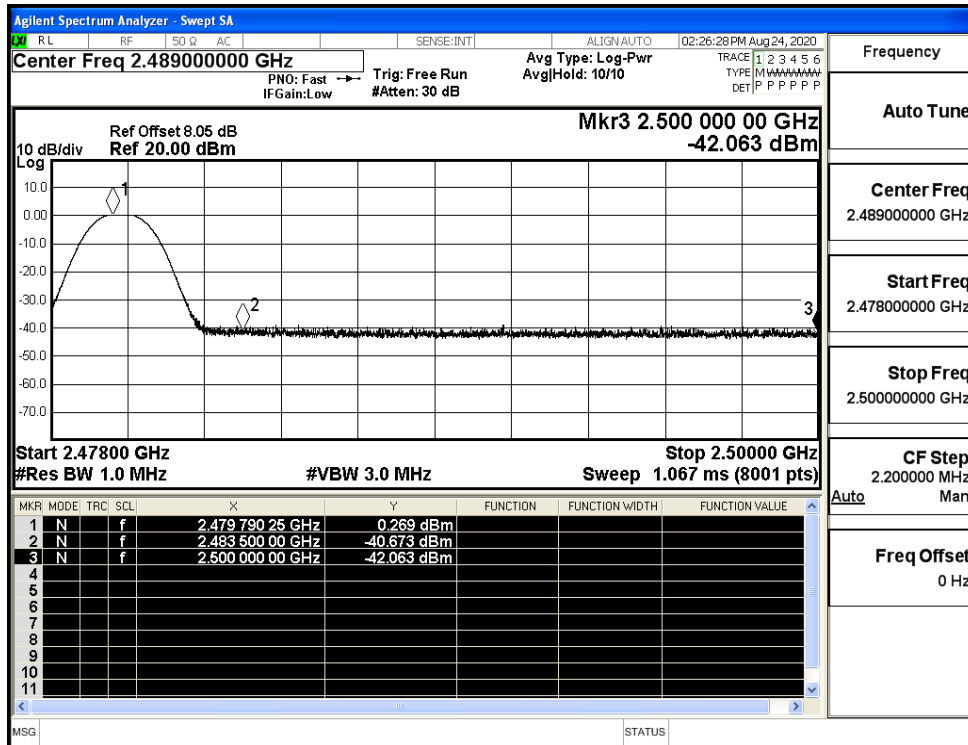
Restrict-band band-edge measurements\_BT LE\_2402\_Ant1\_PEAK



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

