

## Appendix A

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

Product Name: NOTEBOOK PC

Trade Mark: THOMSON

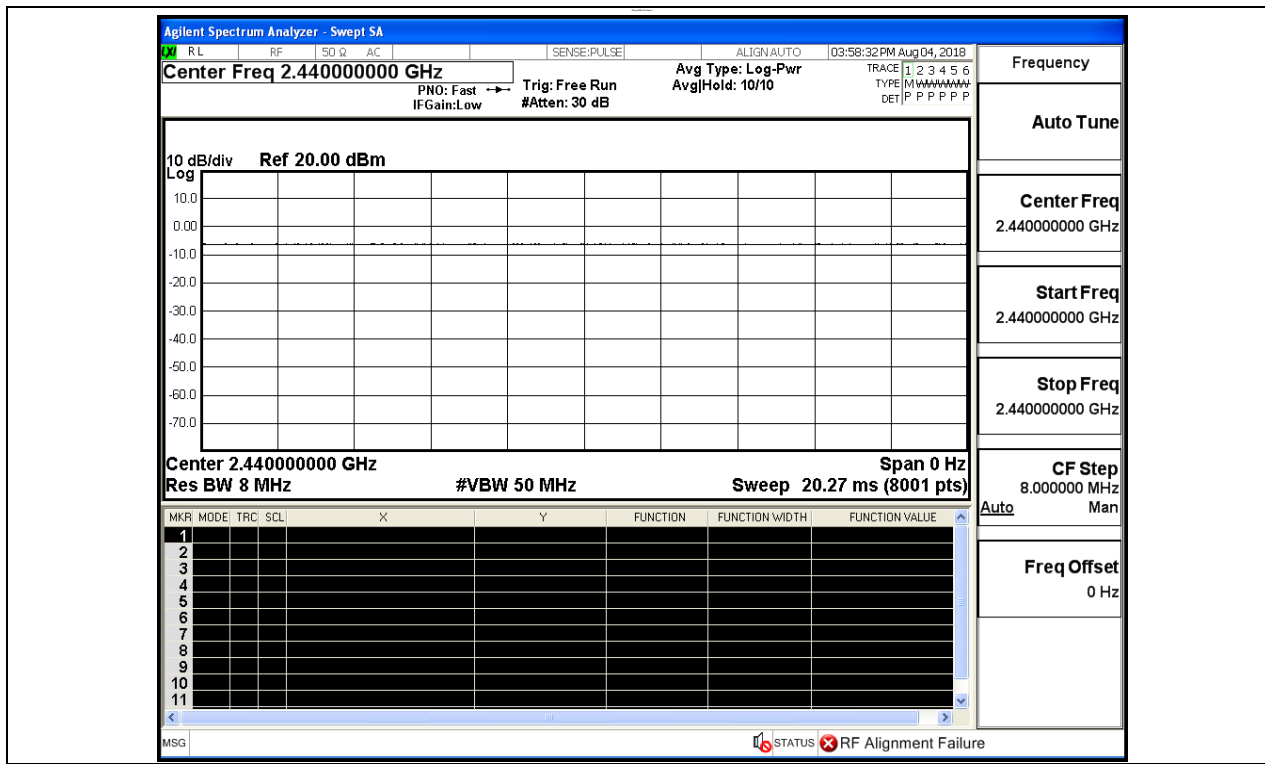
Test Model: WWNEO14A-2BK32

#### Environmental Conditions

Temperature:	24.3 ° C
Relative Humidity:	53.6%
ATM Pressure:	100.0 kPa
Test Engineer:	Mina.Xu
Supervised by:	Jayden.Zhuo

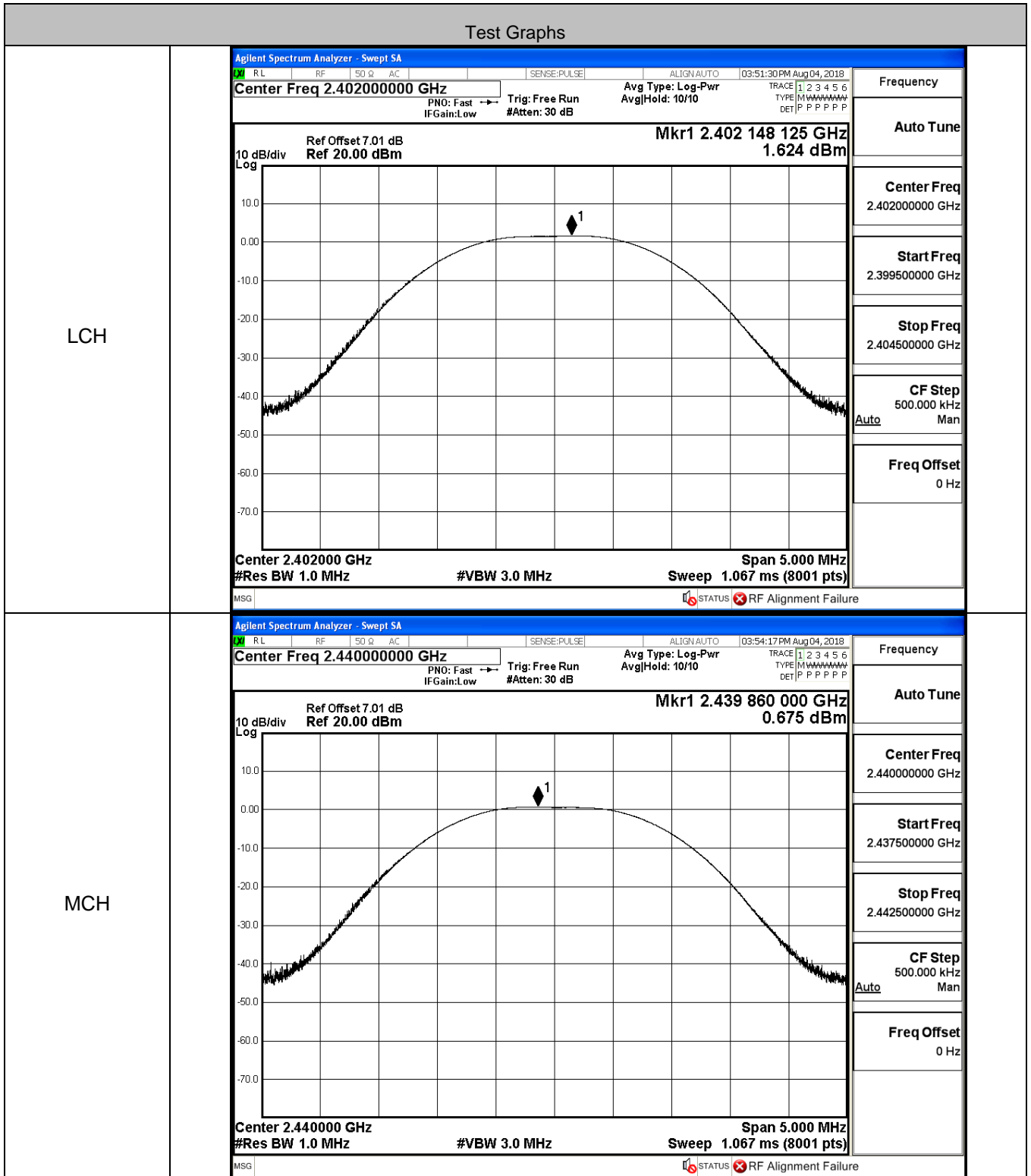
#### A.1 Duty Cycle

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

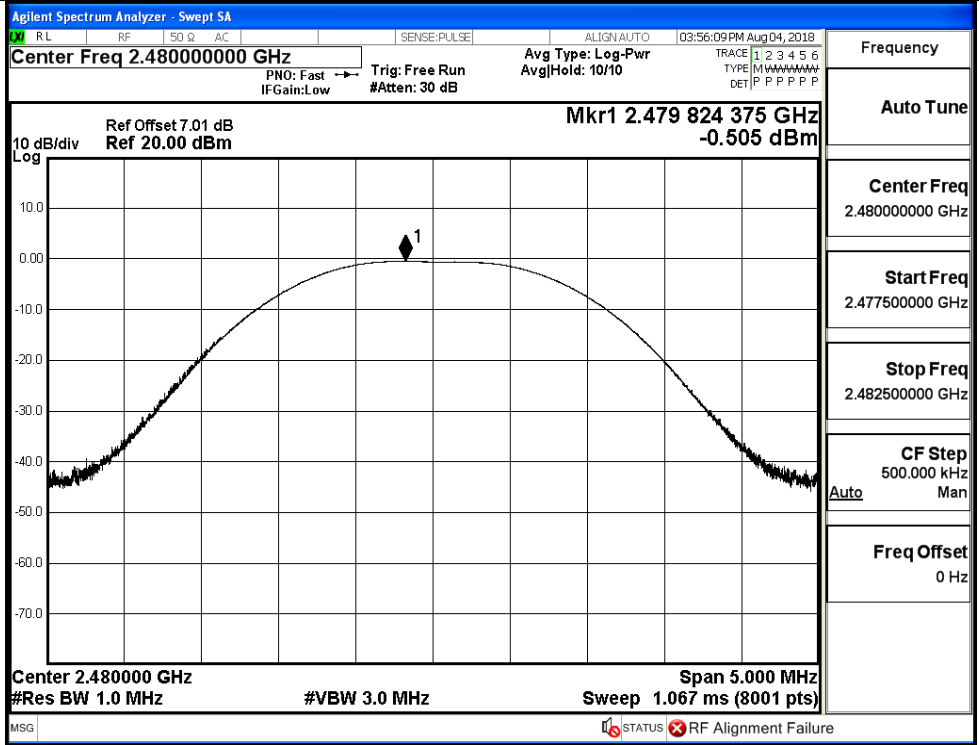


### A.2 Maximum Conducted Peak Output Power

Mode	Channel	Conduct Peak Power[dBm]	Limit [dBm]	Verdict
BT LE	LCH	1.624	30	PASS
BT LE	MCH	0.675	30	PASS
BT LE	HCH	-0.505	30	PASS



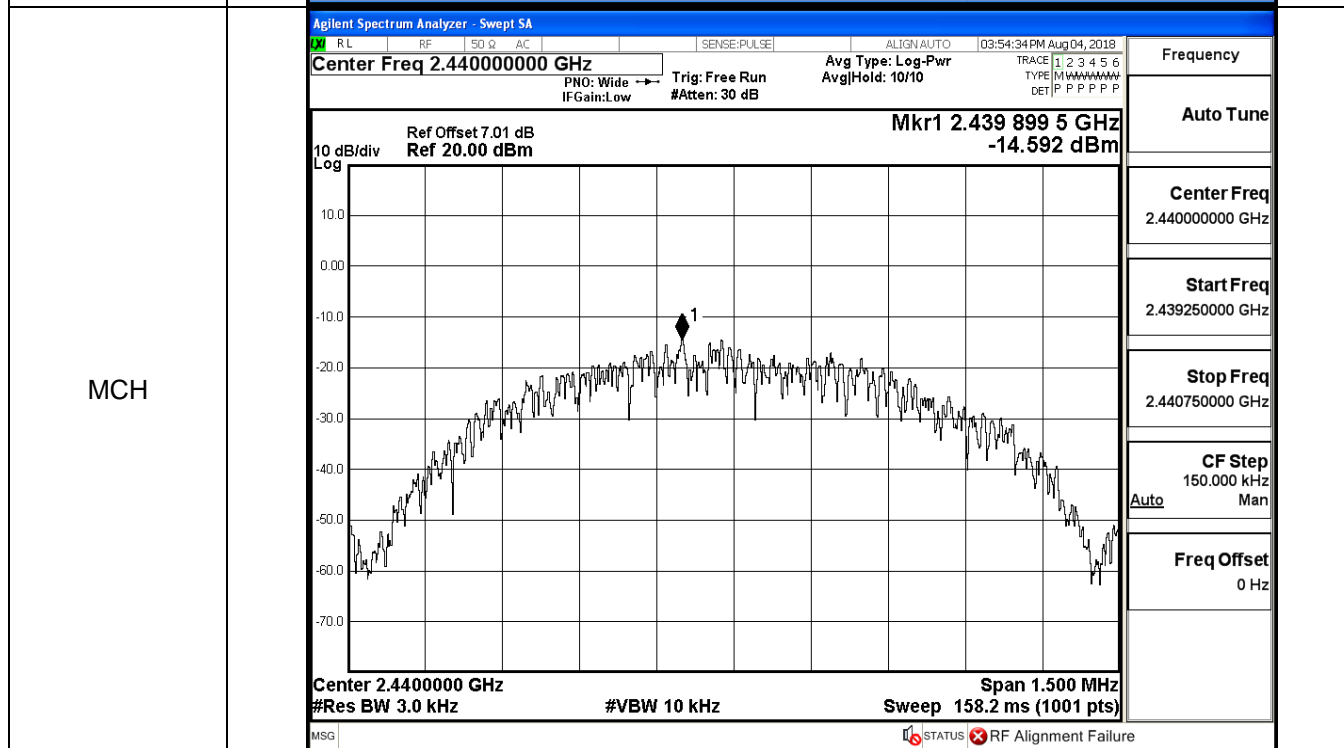
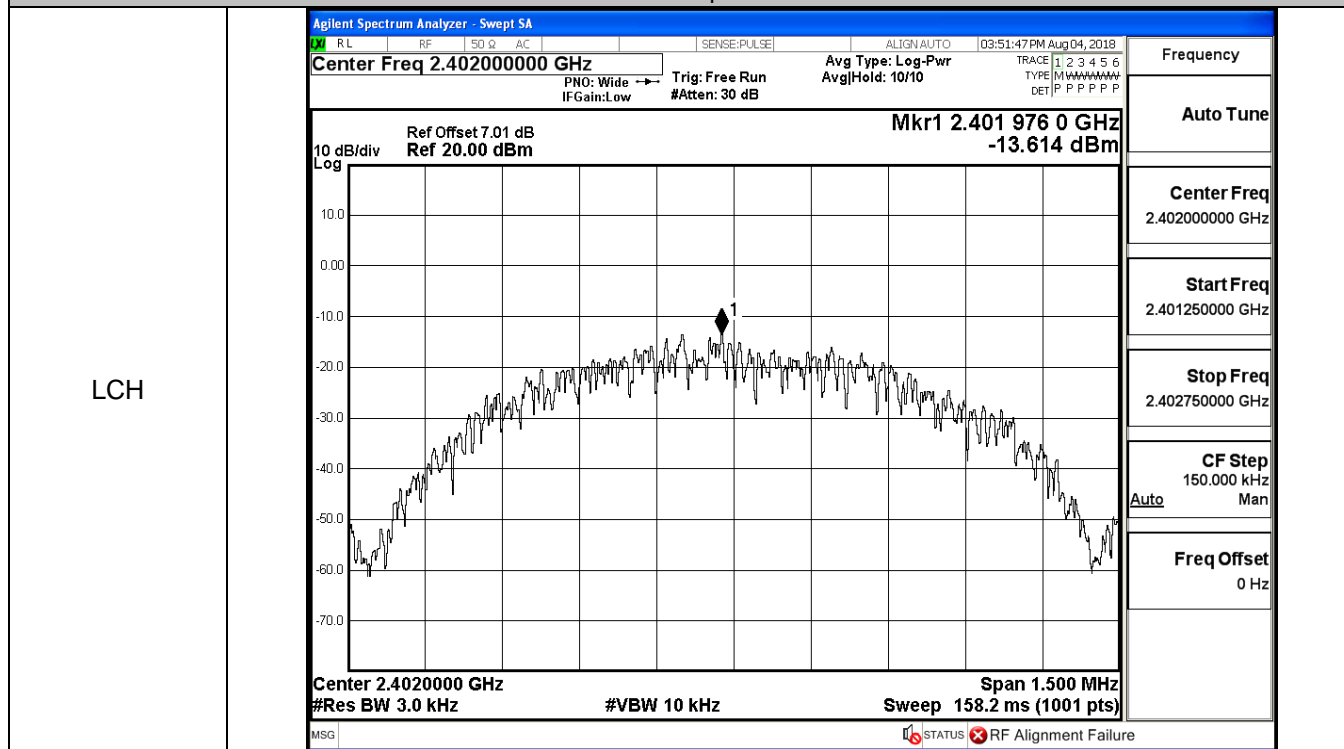
HCH



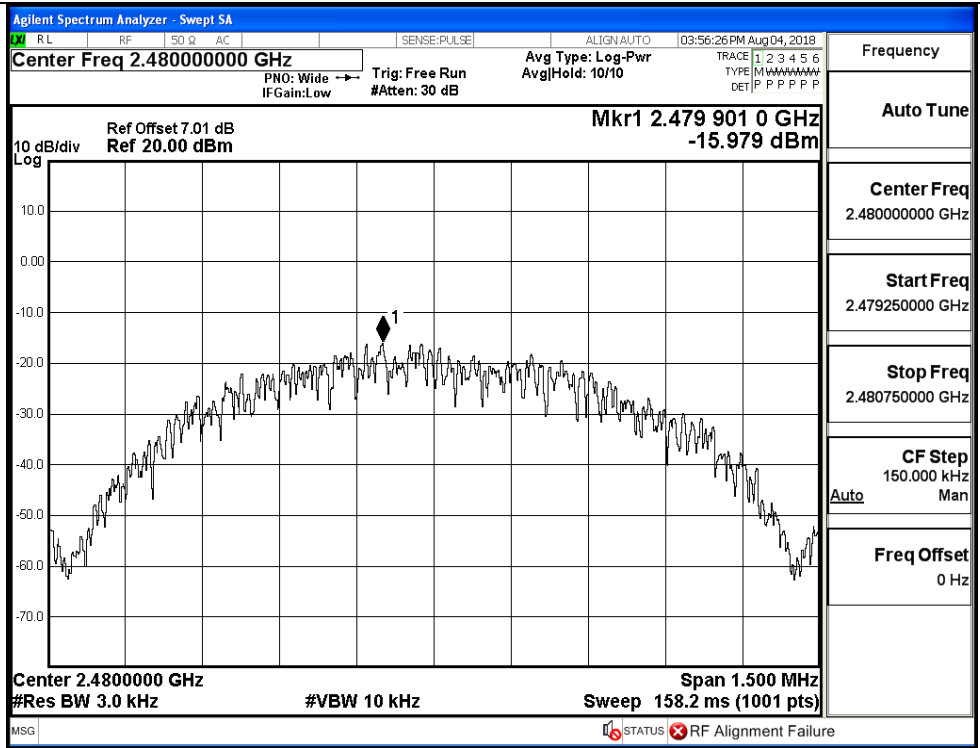
### A.3 Maximum Power Spectral Density

Mode	Channel	PSD [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
BT LE	LCH	-13.614	8	PASS
BT LE	MCH	-14.592	8	PASS
BT LE	HCH	-15.979	8	PASS

#### Test Graphs

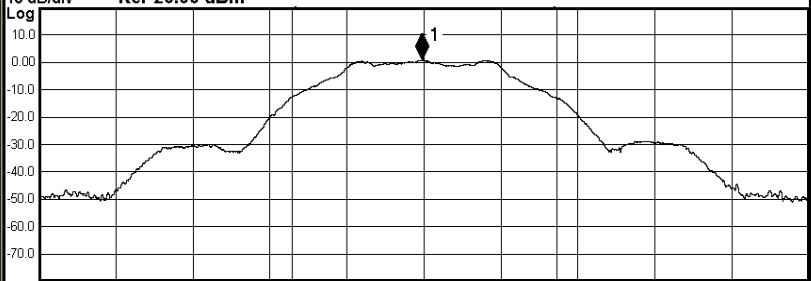
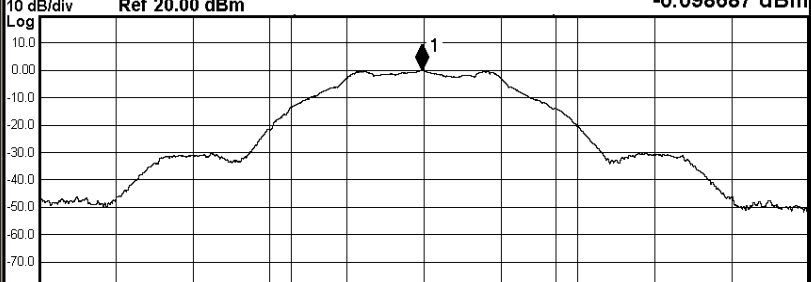


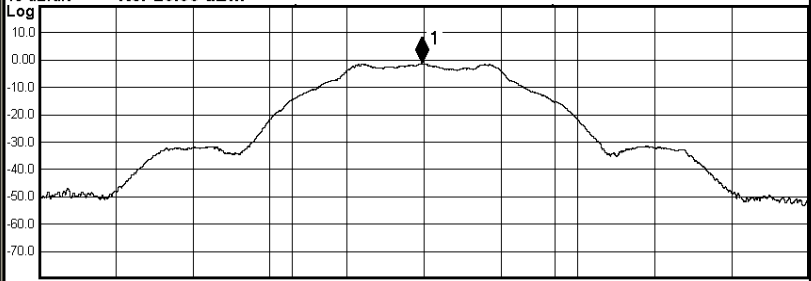
HCH



### A.4 6dB Bandwidth

Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
BT LE	LCH	0.6683	≥ 0.5	PASS
BT LE	MCH	0.6831	≥ 0.5	PASS
BT LE	HCH	0.6732	≥ 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:PULSE ALIGN:AUTO 03:51:14 PM Aug 04, 2018</p> <p style="margin: 0;">Center Freq: 2.402000000 GHz Center Freq: 2.402000000 GHz Radio Std: None                      Trig: Free Run AvgHold: &gt;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 7.01 dB                          Ref 20.00 dBm                     </div> <div style="text-align: right;">                         Mkr1 2.4019936 GHz                          0.82363 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>Occupied Bandwidth</td> <td>Total Power</td> <td colspan="2">7.85 dBm</td> </tr> <tr> <td colspan="4" style="text-align: center;"><b>1.0251 MHz</b></td> </tr> <tr> <td>Transmit Freq Error</td> <td>5.015 kHz</td> <td>OBW Power</td> <td>99.00 %</td> </tr> <tr> <td>x dB Bandwidth</td> <td>668.3 kHz</td> <td>x dB</td> <td>-6.00 dB</td> </tr> </table> <p style="font-size: x-small; margin-top: 5px;">MSG STATUS RF Alignment Failure</p> </div>	Occupied Bandwidth	Total Power	7.85 dBm		<b>1.0251 MHz</b>				Transmit Freq Error	5.015 kHz	OBW Power	99.00 %	x dB Bandwidth	668.3 kHz	x dB	-6.00 dB
Occupied Bandwidth	Total Power	7.85 dBm															
<b>1.0251 MHz</b>																	
Transmit Freq Error	5.015 kHz	OBW Power	99.00 %														
x dB Bandwidth	668.3 kHz	x dB	-6.00 dB														
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:PULSE ALIGN:AUTO 03:54:01 PM Aug 04, 2018</p> <p style="margin: 0;">Center Freq: 2.440000000 GHz Center Freq: 2.440000000 GHz Radio Std: None                      Trig: Free Run AvgHold: &gt;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 7.01 dB                          Ref 20.00 dBm                     </div> <div style="text-align: right;">                         Mkr1 2.4399921 GHz                          -0.098687 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 style="width: 100%; font-size: x-small; margin-top: 5px;"> <tr> <td>Occupied Bandwidth</td> <td>Total Power</td> <td colspan="2">6.95 dBm</td> </tr> <tr> <td colspan="4" style="text-align: center;"><b>1.0215 MHz</b></td> </tr> <tr> <td>Transmit Freq Error</td> <td>890 Hz</td> <td>OBW Power</td> <td>99.00 %</td> </tr> <tr> <td>x dB Bandwidth</td> <td>683.1 kHz</td> <td>x dB</td> <td>-6.00 dB</td> </tr> </table> <p style="font-size: x-small; margin-top: 5px;">MSG STATUS RF Alignment Failure</p> </div>	Occupied Bandwidth	Total Power	6.95 dBm		<b>1.0215 MHz</b>				Transmit Freq Error	890 Hz	OBW Power	99.00 %	x dB Bandwidth	683.1 kHz	x dB	-6.00 dB
Occupied Bandwidth	Total Power	6.95 dBm															
<b>1.0215 MHz</b>																	
Transmit Freq Error	890 Hz	OBW Power	99.00 %														
x dB Bandwidth	683.1 kHz	x dB	-6.00 dB														

HCH	Agilent Spectrum Analyzer - Occupied BW			RL RF 50 Ω AC SENSE:PULSE ALIGN: AUTO 03:55:54 PM Aug 04, 2018
	Center Freq 2.480000000 GHz		Center Freq: 2.480000000 GHz	Radio Std: None
	#IFGain: Low		Trig: Free Run	AvgHold: >1/1
	#Atten: 30 dB		Radio Device: BTS	
	Ref Offset 7.01 dB		Mkr1 2.4799921 GHz	
Ref 20.00 dBm		-1.2932 dBm		
 <p>The plot shows a signal spectrum with a peak at 2.4799921 GHz. The y-axis is labeled 'Log' and ranges from -70.0 to 10.0 dB/div. The x-axis represents frequency. A marker '1' is placed at the peak of the signal.</p>				
Center 2.48 GHz		#VBW 300 kHz	Span 3 MHz	
#Res BW 100 kHz		Sweep 1.067 ms		
Occupied Bandwidth		Total Power	5.75 dBm	
1.0240 MHz				
Transmit Freq Error	-949 Hz	OBW Power	99.00 %	
x dB Bandwidth	673.2 kHz	x dB	-6.00 dB	
MSG STATUS RF Alignment Failure				

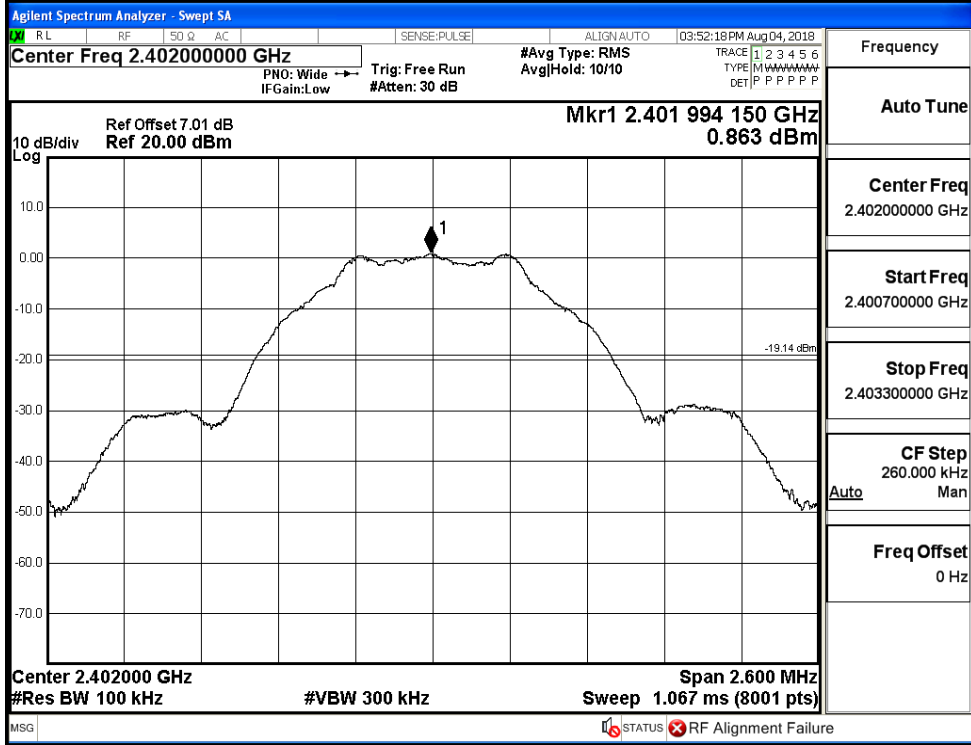
## A.5 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
BT LE	LCH	0.863	-44.930	-19.137	PASS
BT LE	MCH	-0.18	-45.204	-20.180	PASS
BT LE	HCH	-1.339	-44.481	-21.339	PASS

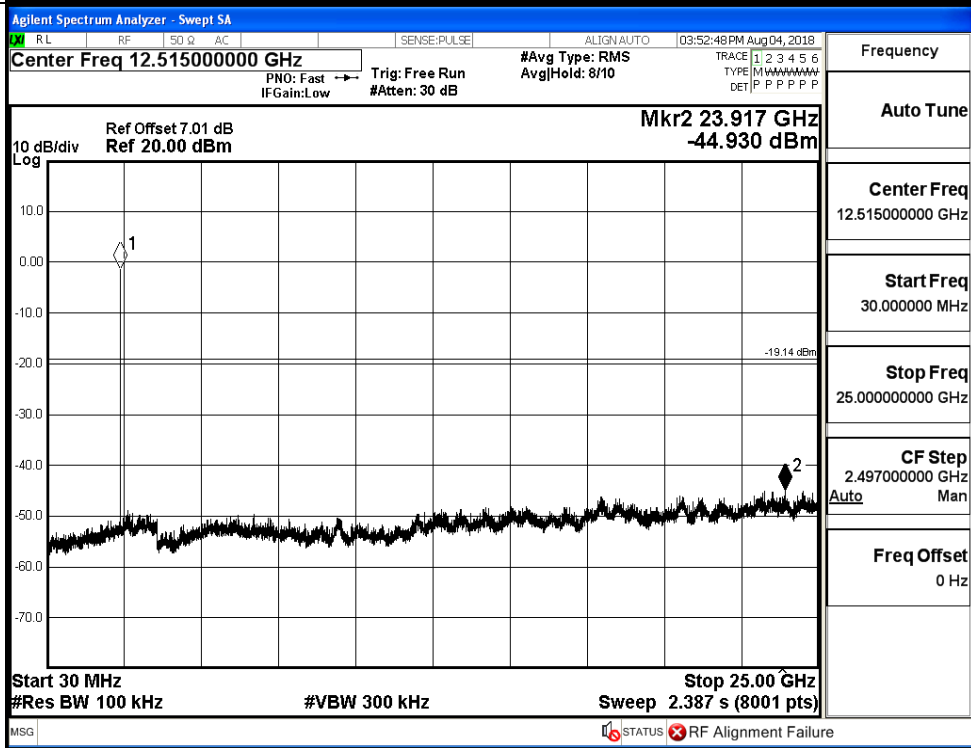


BT LE\_LCH\_Graphs

Pref/BT LE/LCH

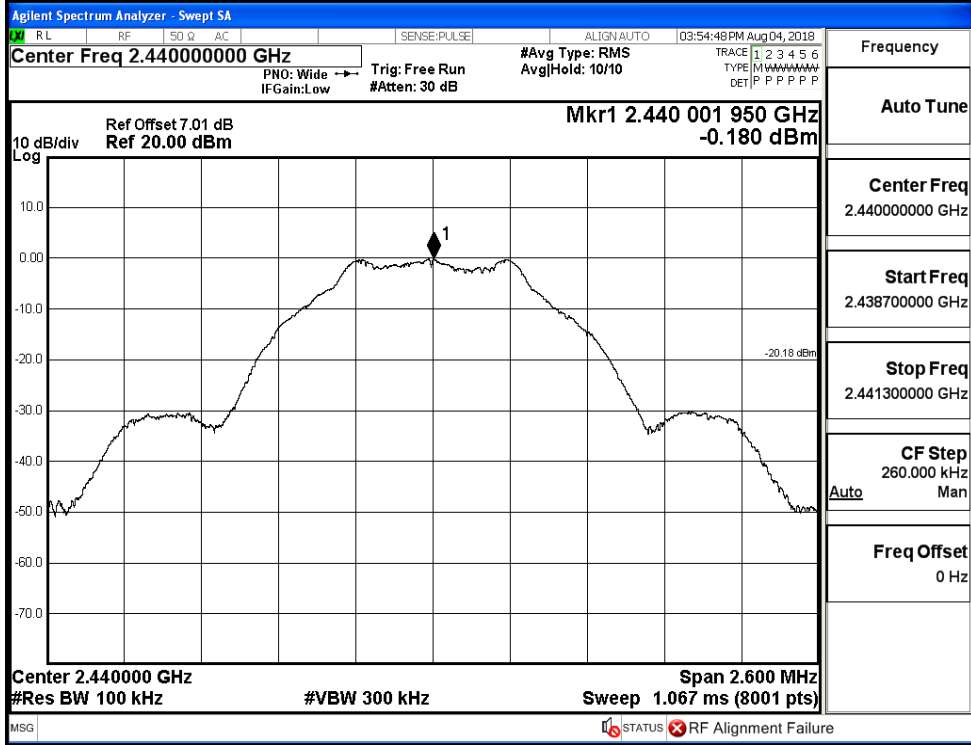


Puw/BT LE/LCH

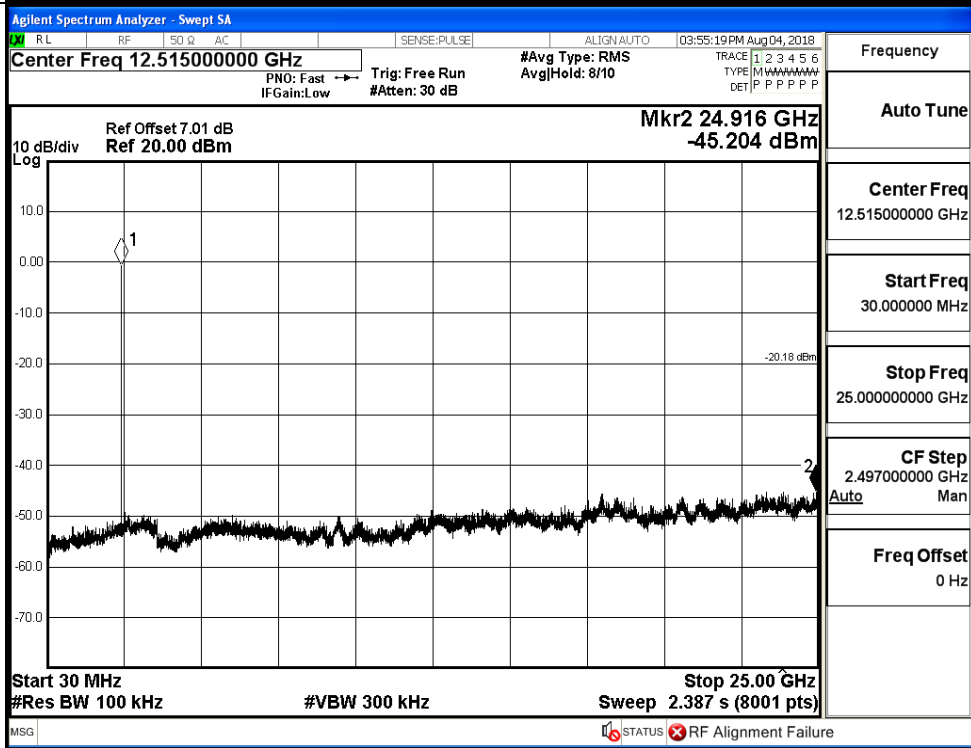


BT LE\_MCH\_Graphs

Pref/BT LE/MCH

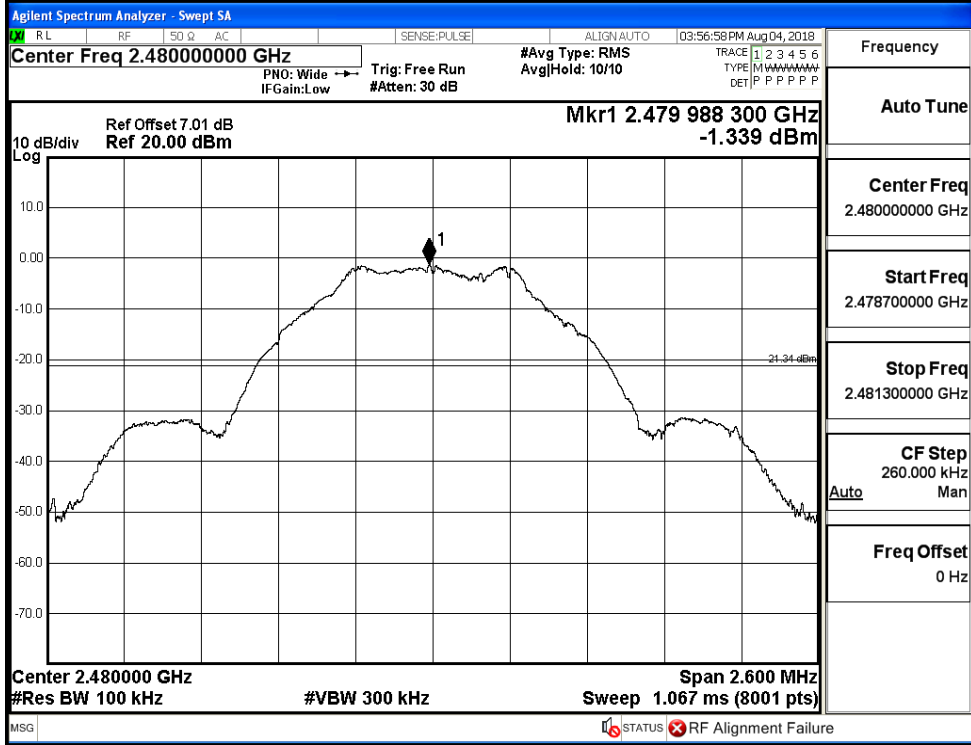


Puw/BT LE/MCH

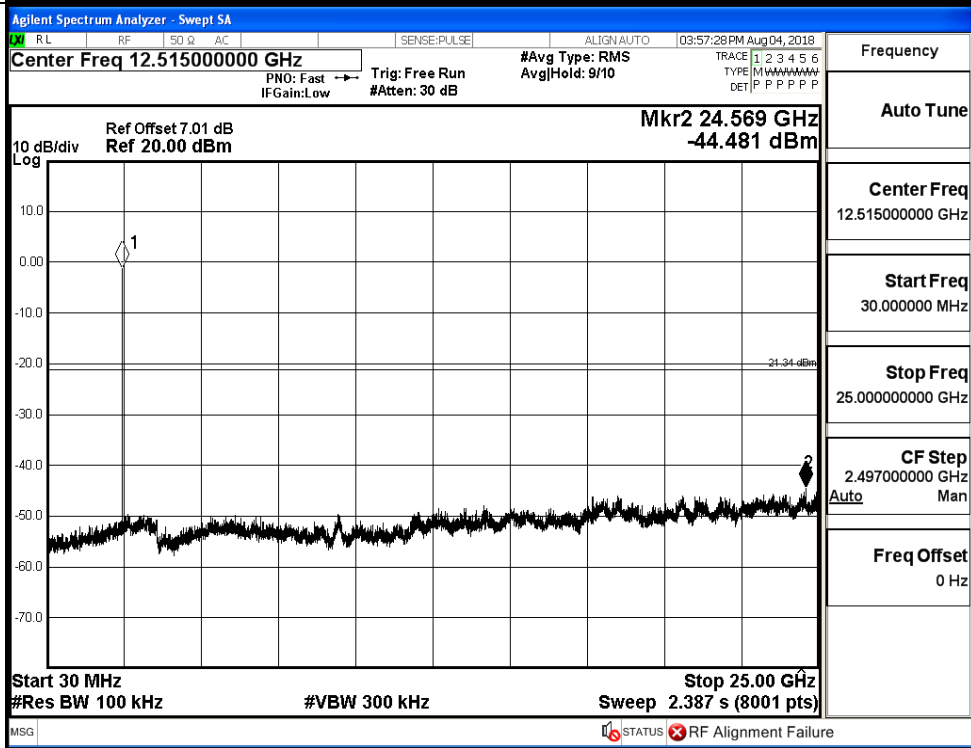


BT LE\_HCH\_Graphs

Pref/BT LE/HCH



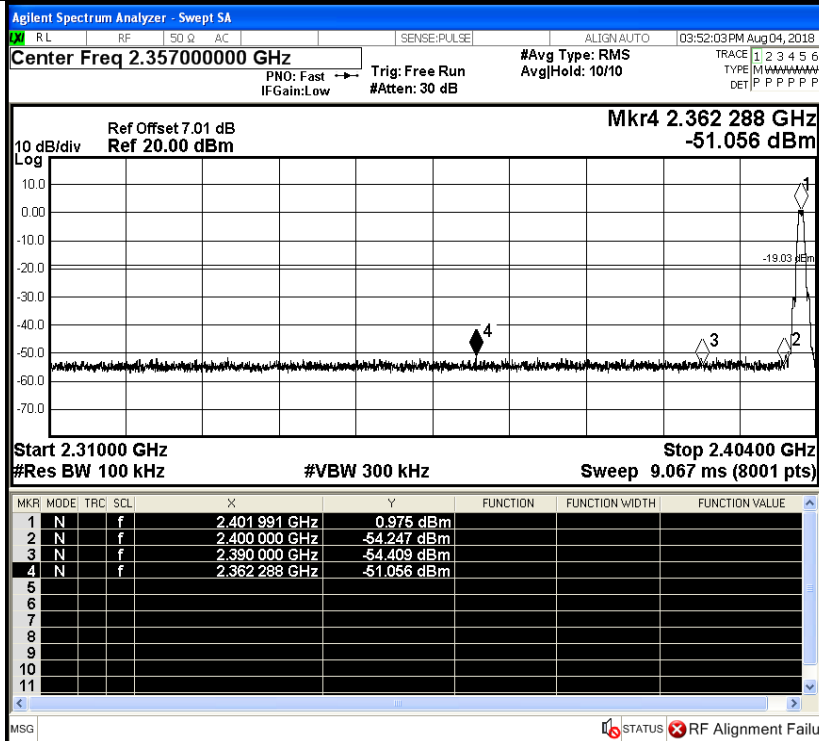
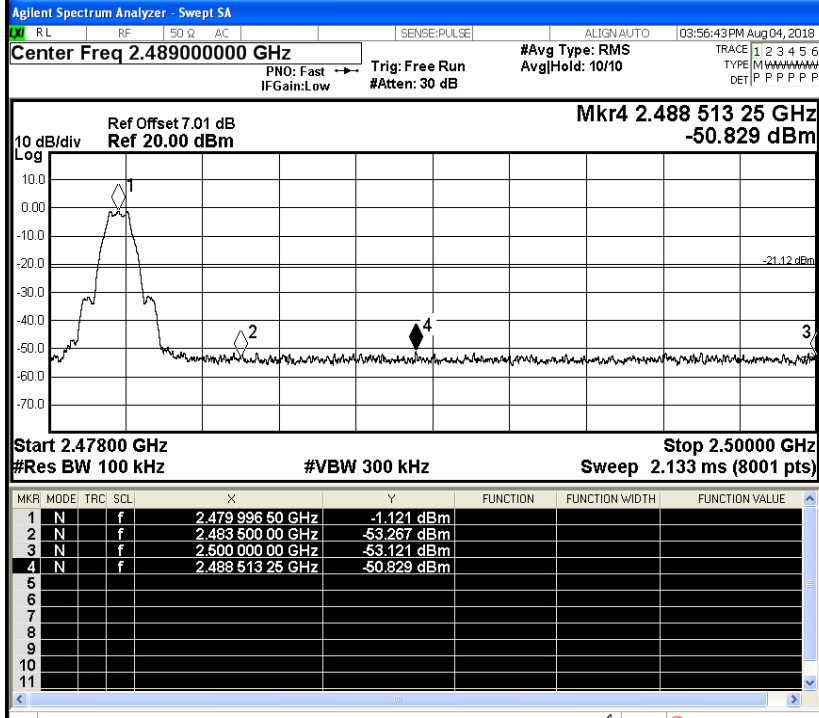
Puw/BT LE/HCH



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

Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
BT LE	LCH	0.975	-51.056	-19.03	PASS
BT LE	HCH	-1.121	-50.829	-21.12	PASS

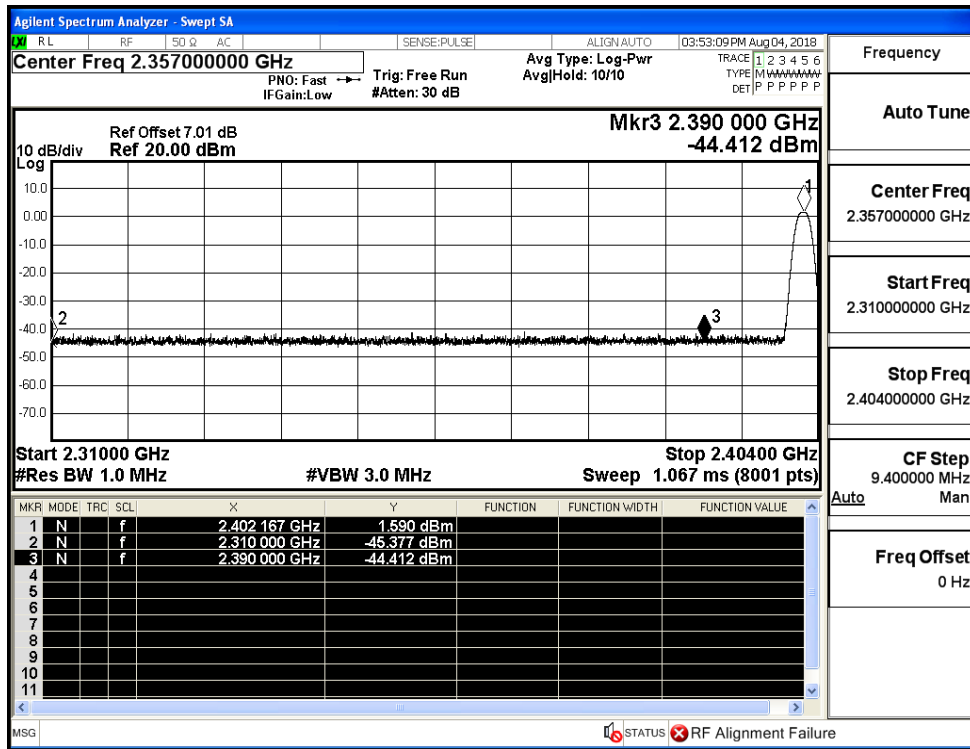
Test Graphs

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>

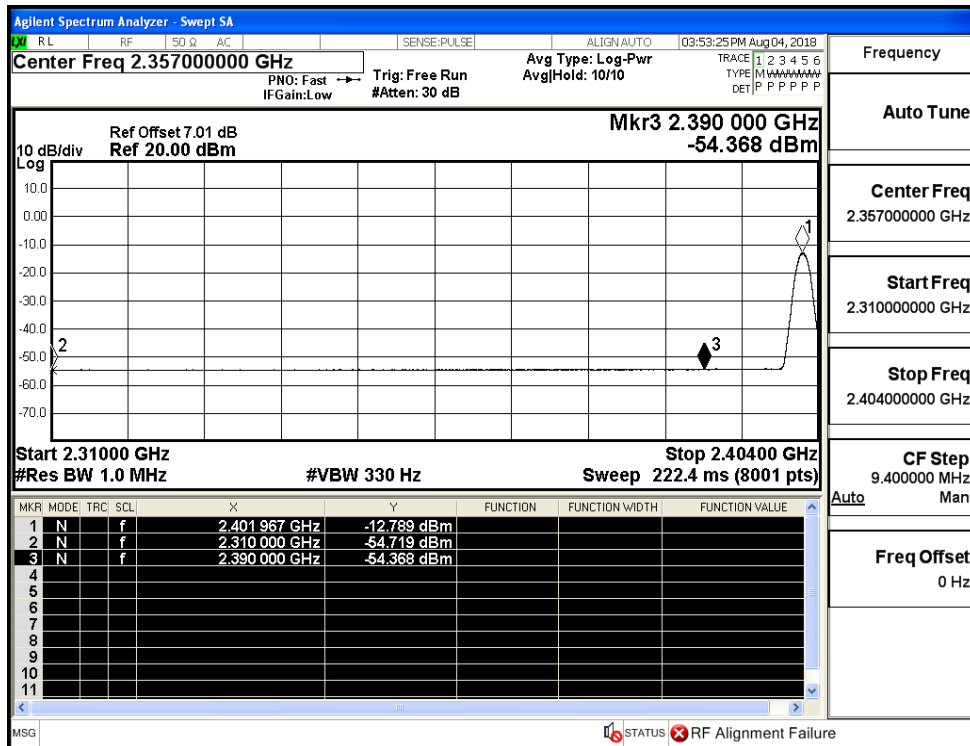
### A.7 Restrict-band band-edge measurements

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	-45.38	2.0	0	51.88	PEAK	74	PASS
		Ant1	2310.0	-54.72	2.0	0	42.54	AV	54	PASS
		Ant1	2390.0	-44.41	2.0	0	52.85	PEAK	74	PASS
		Ant1	2390.0	-54.37	2.0	0	42.89	AV	54	PASS
	2480	Ant1	2483.5	-44.39	2.0	0	52.86	PEAK	74	PASS
		Ant1	2483.5	-54.11	2.0	0	43.15	AV	54	PASS
		Ant1	2500.0	-44.57	2.0	0	52.69	PEAK	74	PASS
		Ant1	2500.0	-54.03	2.0	0	43.22	AV	54	PASS

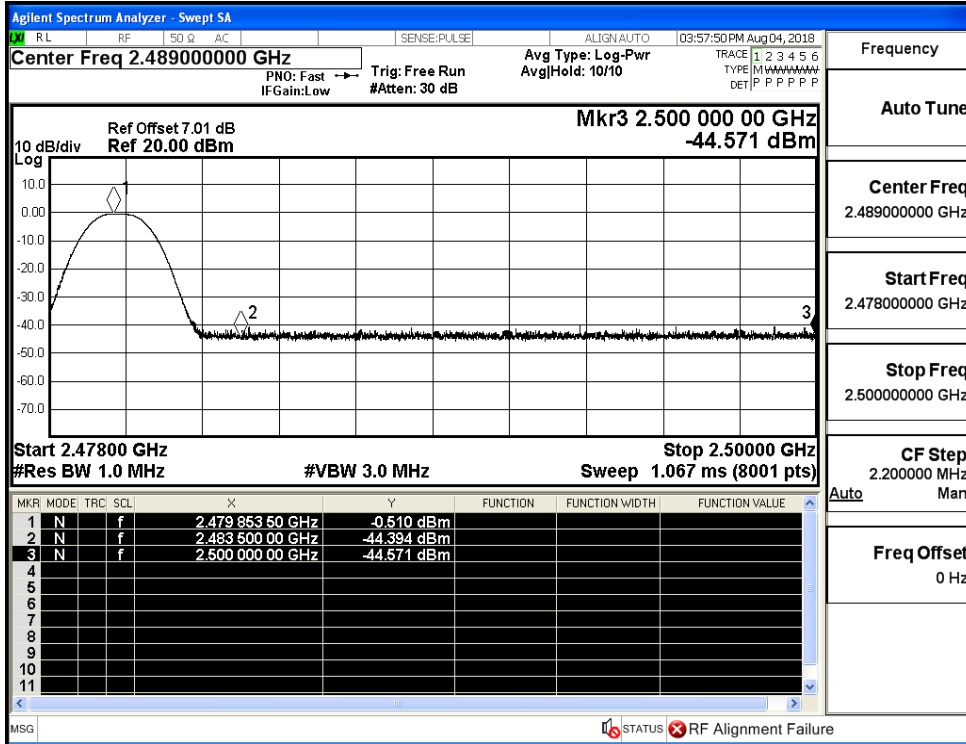
Restrict-band band-edge measurements\_BT LE\_2402\_Ant1\_PEAK



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

