

## Appendix A

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

Product Name: Fish logger

Trade Mark: Fish logger

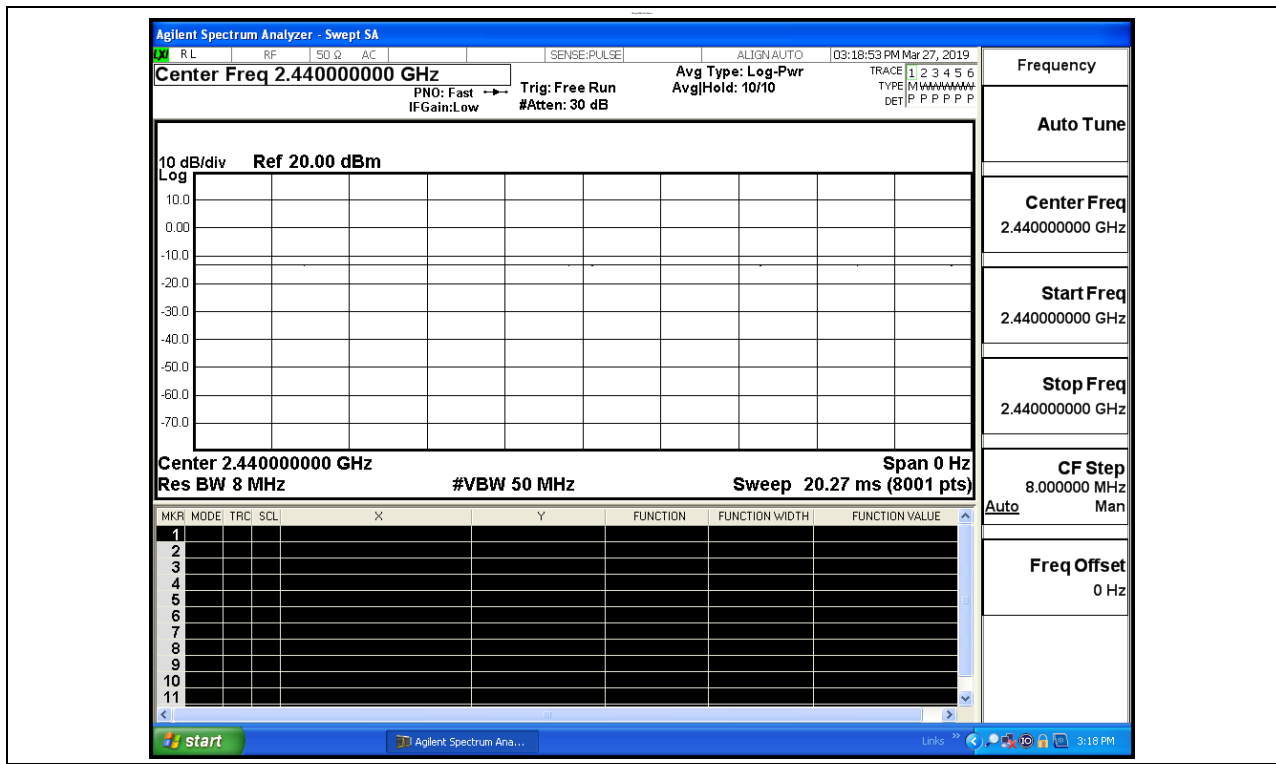
Test Model: FL-01

#### Environmental Conditions

Temperature:	23.6 ° C
Relative Humidity:	52.7%
ATM Pressure:	100.0 kPa
Test Engineer:	SCENT HU
Supervised by:	Tom.Liu

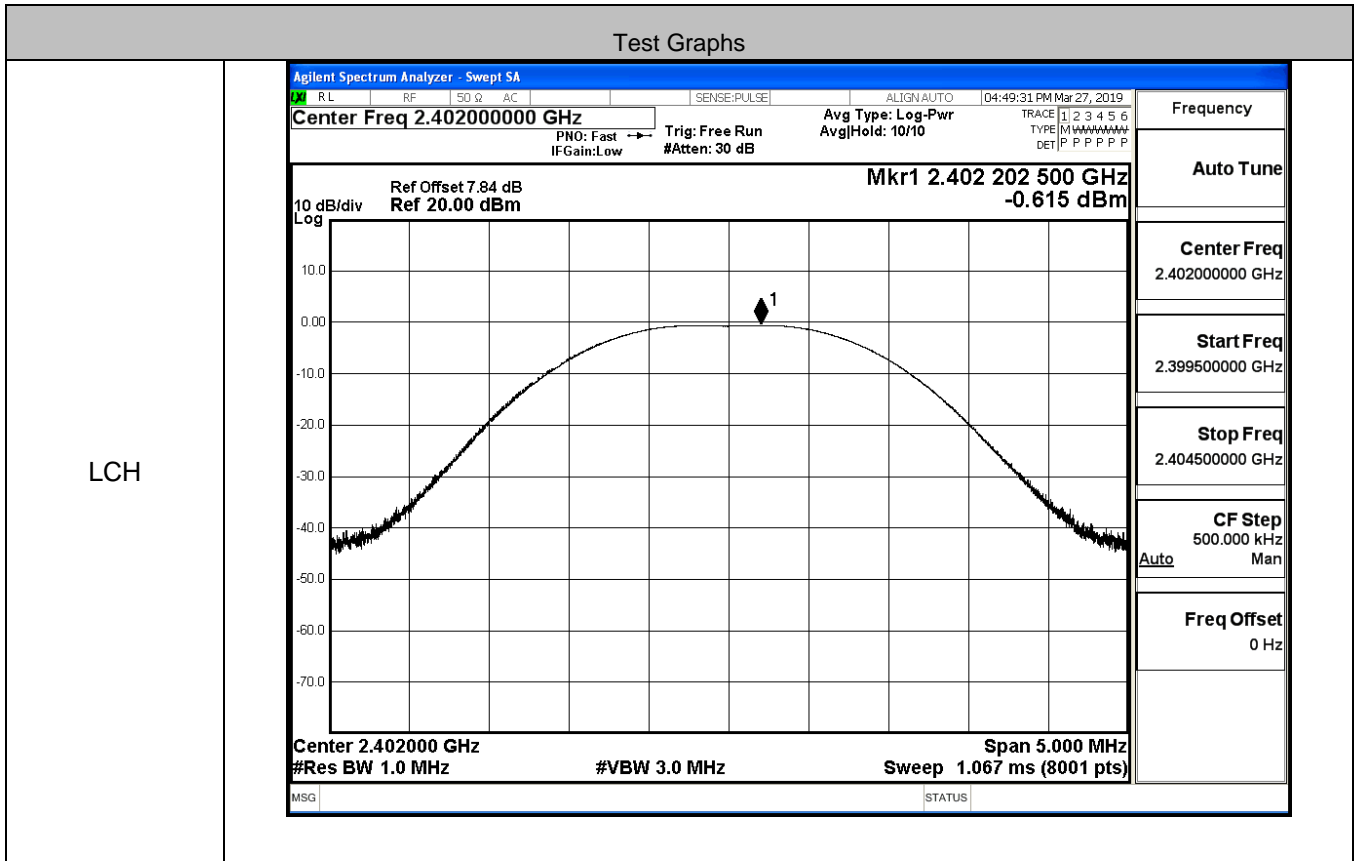
#### A.1 Duty Cycle

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

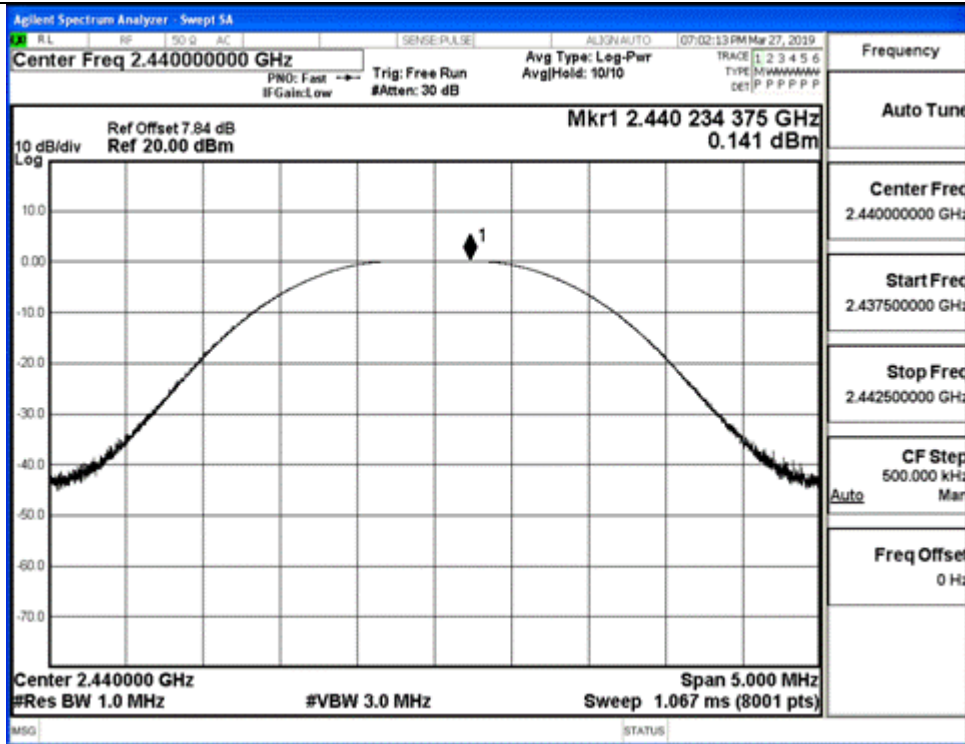


### A.2 Maximum Conducted Peak Output Power

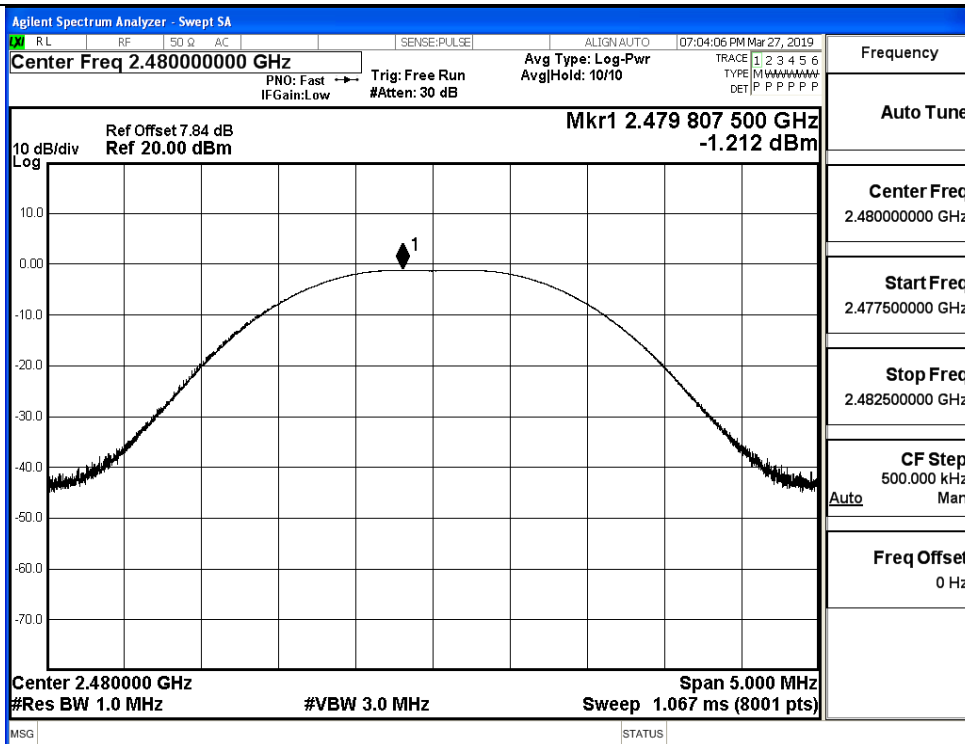
Mode	Channel	Conduct Peak Power[dBm]	Limit [dBm]	Verdict
BT LE	LCH	-0.615	30	PASS
BT LE	MCH	0.141	30	PASS
BT LE	HCH	-1.212	30	PASS



MCH

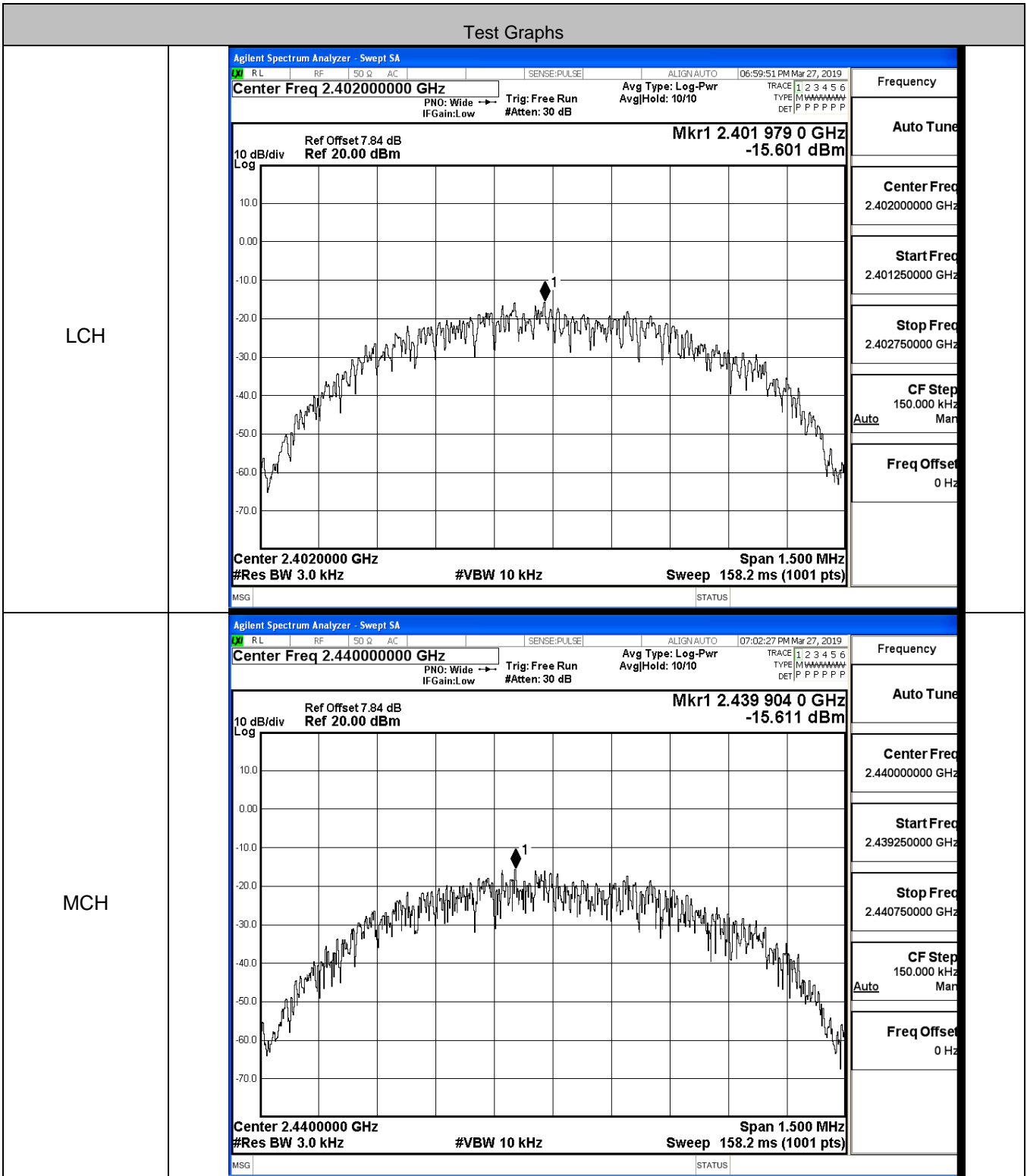


HCH



### A.3 Maximum Power Spectral Density

Mode	Channel	PSD [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
BT LE	LCH	-15.601	8	PASS
BT LE	MCH	-15.611	8	PASS
BT LE	HCH	-17.079	8	PASS





**A.4 6dB Bandwidth**

Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
BT LE	LCH	0.6996	≥0.5	PASS
BT LE	MCH	0.6953	≥0.5	PASS
BT LE	HCH	0.6933	≥0.5	PASS

**Test Graphs**

LCH		<p>Frequency</p> <p>Center Freq 2.402000000 GHz</p> <p>CF Step 300.000 kHz Auto</p> <p>Freq Offset 0 Hz</p>
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MCH		<p>Frequency</p> <p>Center Freq 2.440000000 GHz</p> <p>CF Step 300.000 kHz Auto</p> <p>Freq Offset 0 Hz</p>
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HCH

Agilent Spectrum Analyzer - Occupied BW

RL	RF	50 Ω	AC	SENSE:PULSE	ALIGN:AUTO	07:03:55 PM Mar 27, 2019
<b>Center Freq 2.480000000 GHz</b>			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	Ref Offset 7.84 dB	<b>Mkr1 2.4799963 GHz</b>
Log	Ref 20.00 dBm	<b>-2.0068 dBm</b>

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

<b>Occupied Bandwidth</b>	<b>Total Power</b>	<b>5.07 dBm</b>
<b>1.0458 MHz</b>		
Transmit Freq Error	5.134 kHz	OBW Power 99.00 %
x dB Bandwidth	693.3 kHz	x dB -6.00 dB

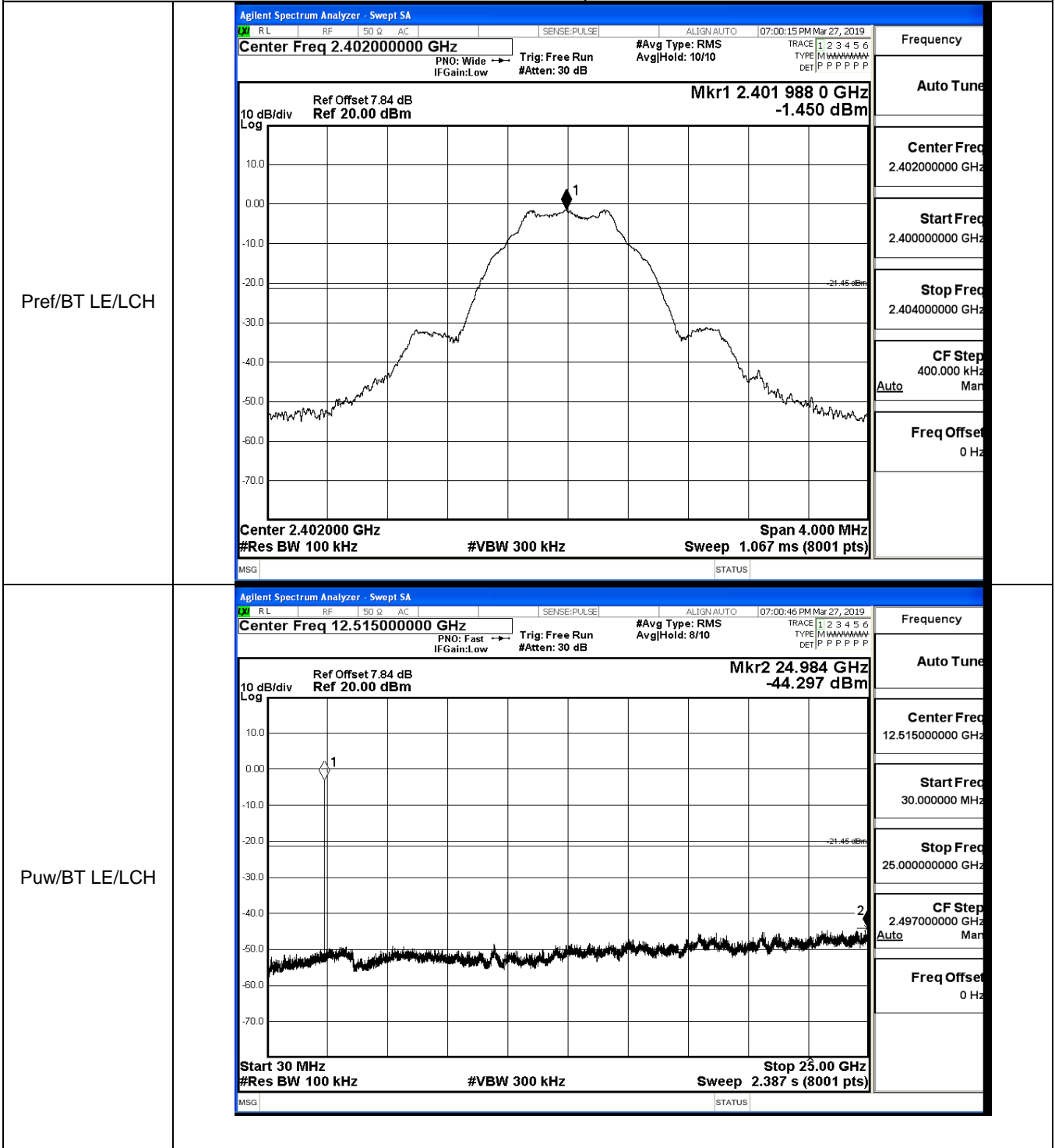
Frequency	2.480000000 GHz
Center Freq	2.480000000 GHz
CF Step	300.000 kHz
Auto	Man
Freq Offset	0 Hz

MSG
STATUS

### A.5 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
BT LE	LCH	-1.45	-44.297	-21.450	PASS
BT LE	MCH	-0.658	-44.149	-20.658	PASS
BT LE	HCH	-1.98	-44.375	-21.980	PASS

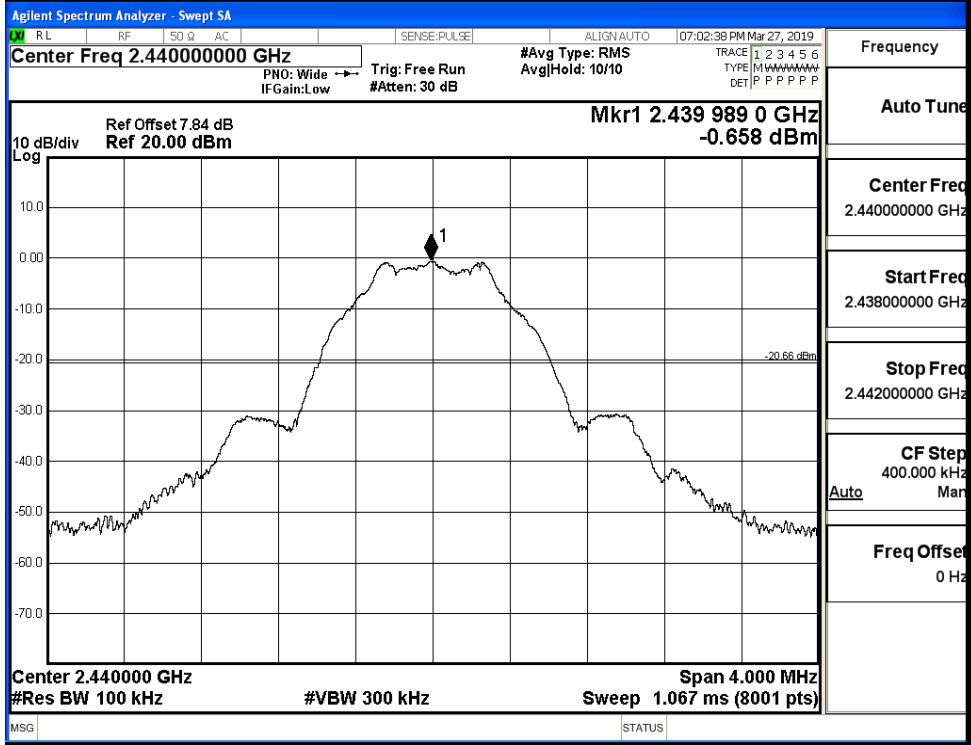
BT LE\_LCH\_Graphs



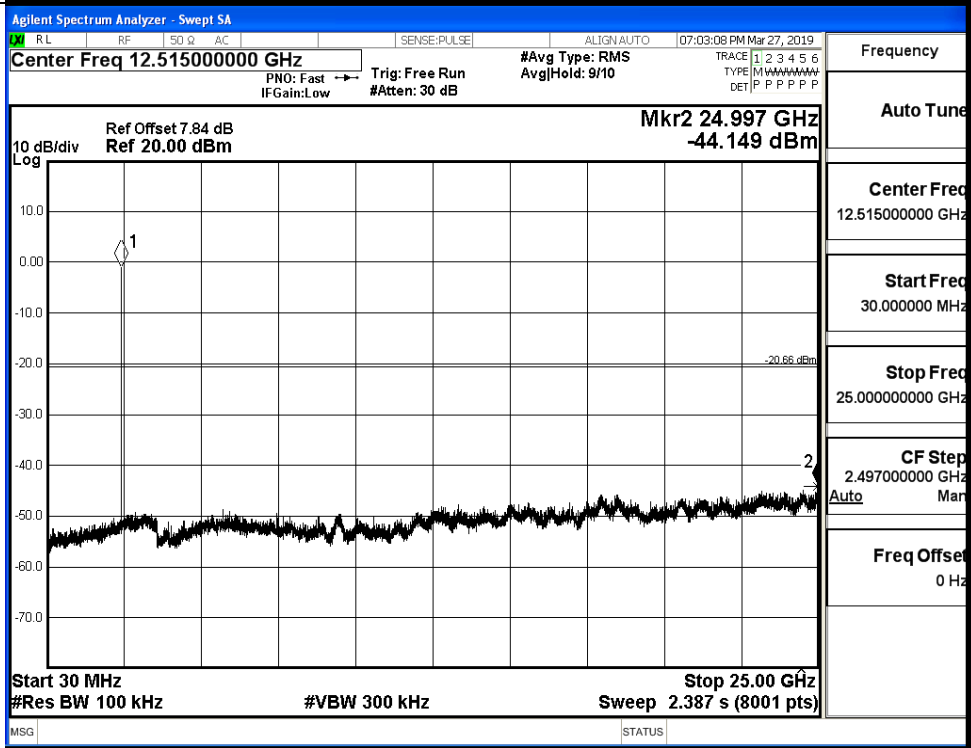


BT LE\_MCH\_Graphs

Pref/BT LE/MCH

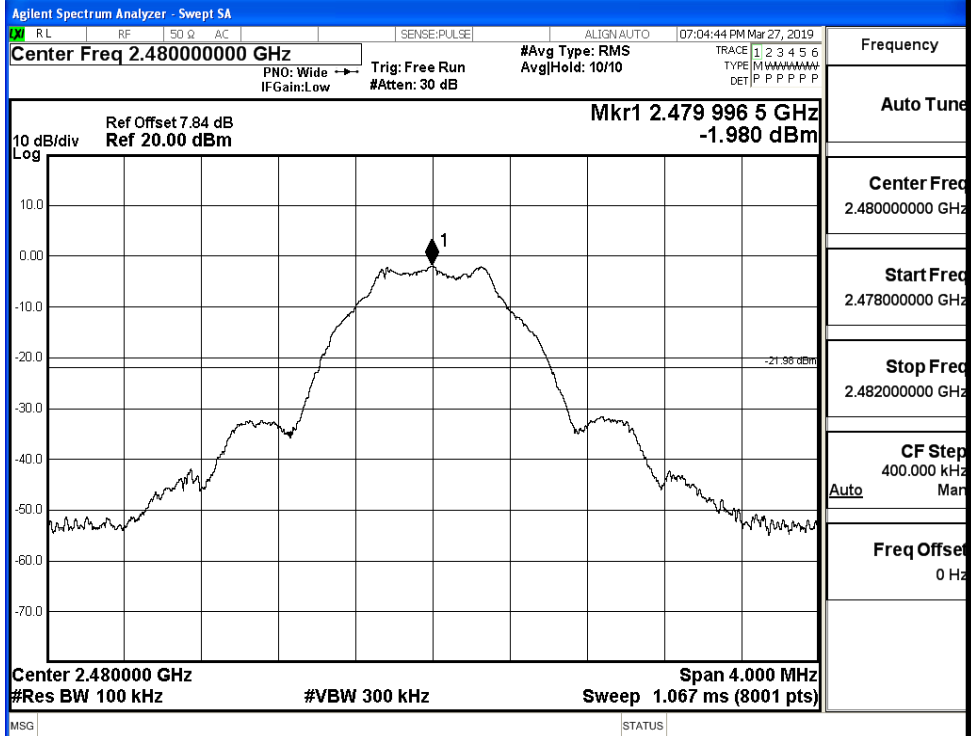


Puw/BT LE/MCH

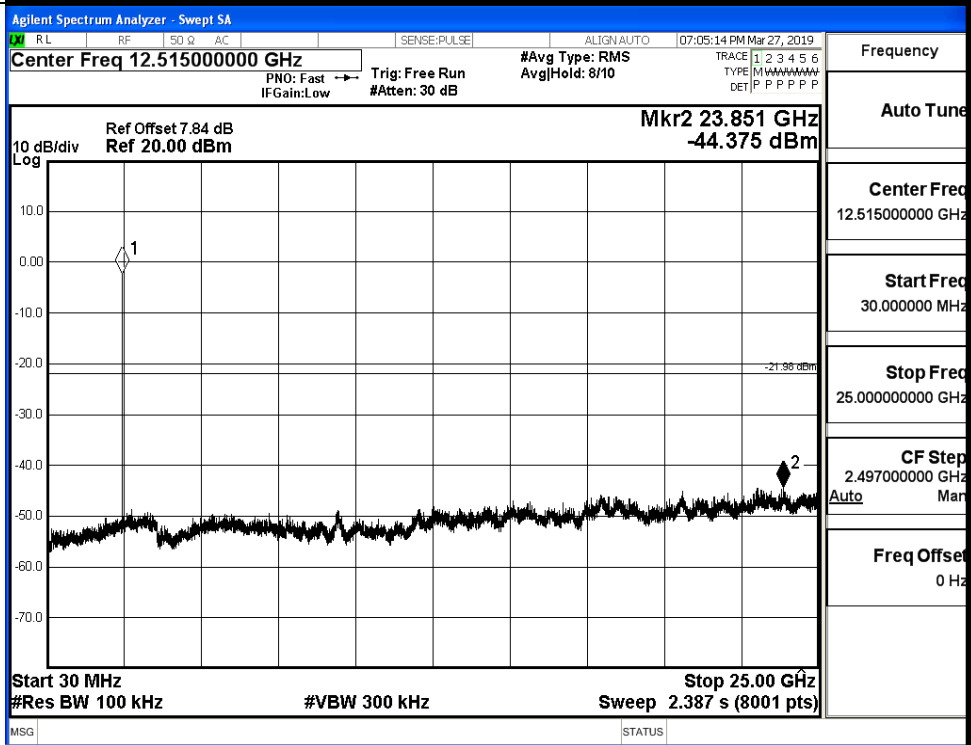


BT LE\_HCH\_Graphs

Pref/BT LE/HCH



Puw/BT LE/HCH

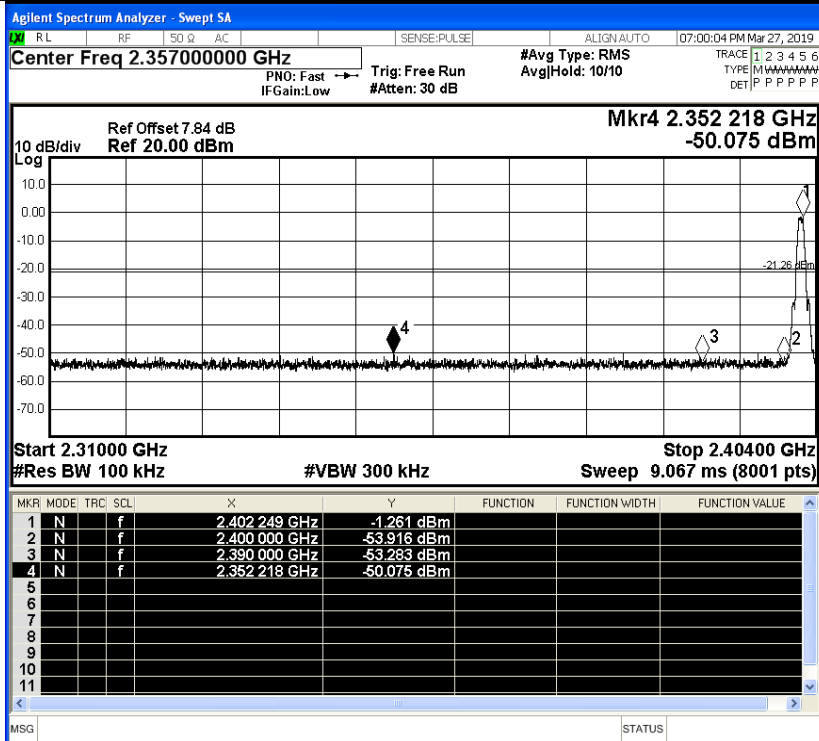


### A.6 Band-edge for RF Conducted Emissions

Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
BT LE	LCH	-1.261	-50.075	-21.26	PASS
BT LE	HCH	-1.809	-50.410	-21.81	PASS

Test Graphs

LCH



MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N		f	2.402 249 GHz	-1.261 dBm			
2	N		f	2.400 000 GHz	-53.916 dBm			
3	N		f	2.390 000 GHz	-53.283 dBm			
4	N		f	2.352 218 GHz	-50.075 dBm			
5								
6								
7								
8								
9								
10								
11								

Frequency

Auto Tune

Center Freq  
2.35700000 GHz

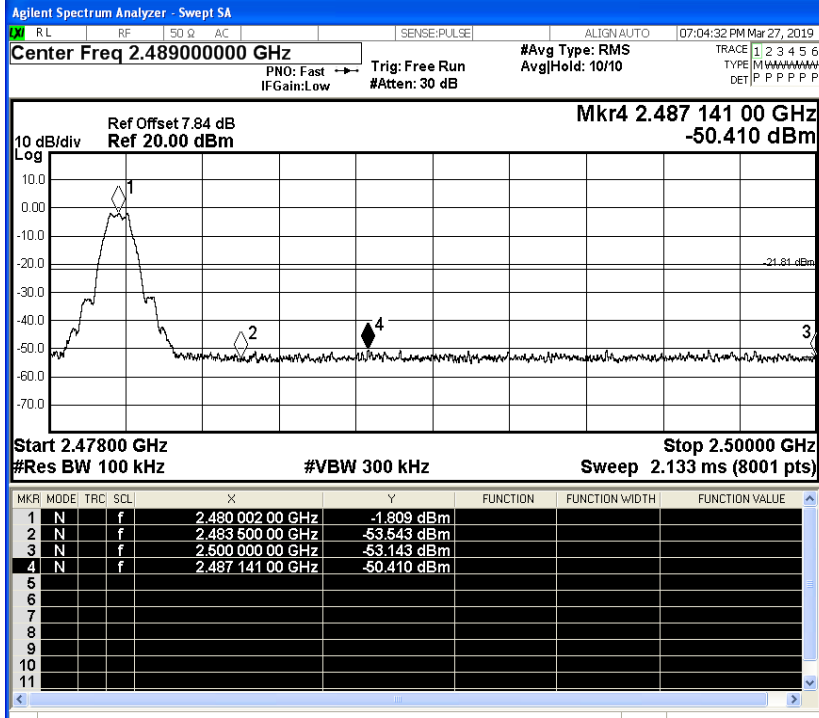
Start Freq  
2.31000000 GHz

Stop Freq  
2.40400000 GHz

CF Step  
9.400000 MHz

Freq Offset  
0 Hz

HCH



MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N		f	2.480 002 00 GHz	-1.809 dBm			
2	N		f	2.483 500 00 GHz	-53.543 dBm			
3	N		f	2.500 000 00 GHz	-53.143 dBm			
4	N		f	2.487 141 00 GHz	-50.410 dBm			
5								
6								
7								
8								
9								
10								
11								

Frequency

Auto Tune

Center Freq  
2.48900000 GHz

Start Freq  
2.47800000 GHz

Stop Freq  
2.50000000 GHz

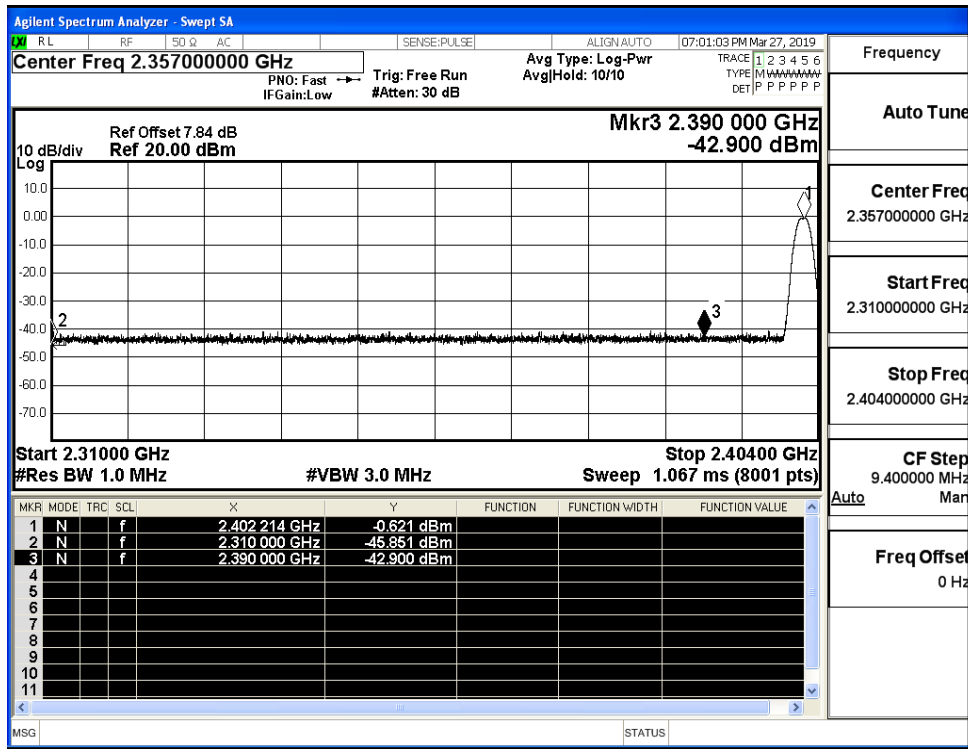
CF Step  
2.200000 MHz

Freq Offset  
0 Hz

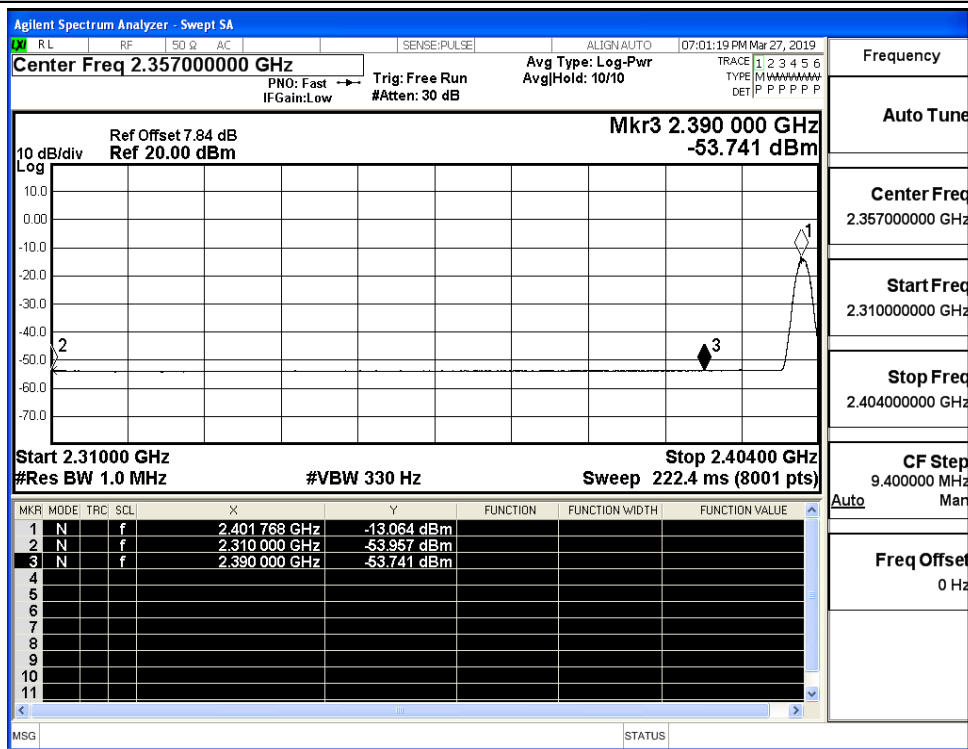
### A.7 Restrict-band band-edge measurements

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	-45.85	2.0	0	51.41	PEAK	74	PASS
		Ant1	2310.0	-53.96	2.0	0	43.30	AV	54	PASS
		Ant1	2390.0	-42.90	2.0	0	54.36	PEAK	74	PASS
		Ant1	2390.0	-53.74	2.0	0	43.52	AV	54	PASS
	2480	Ant1	2483.5	-43.56	2.0	0	53.70	PEAK	74	PASS
		Ant1	2483.5	-53.53	2.0	0	43.73	AV	54	PASS
		Ant1	2500.0	-42.48	2.0	0	54.78	PEAK	74	PASS
		Ant1	2500.0	-53.32	2.0	0	43.94	AV	54	PASS

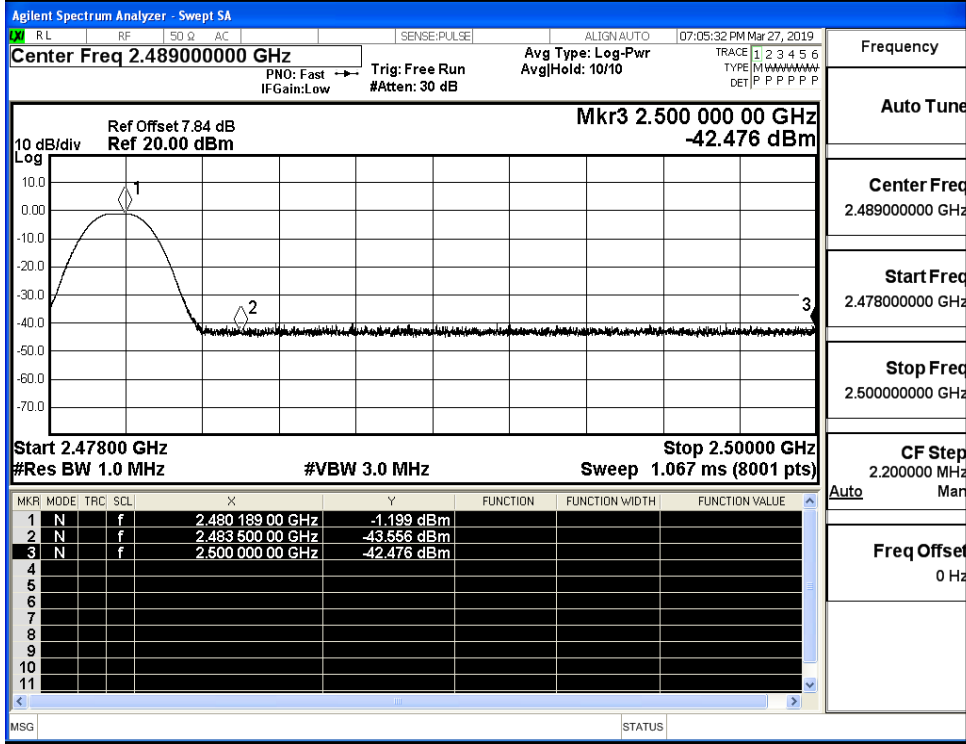
Restrict-band band-edge measurements\_BT LE\_2402\_Ant1\_PEAK



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

