

## Appendix B

### RF Test Data for BT 5.0(BLE) (Conducted Measurement)

Product Name: True wireless stereo earphones

Trade Mark: N/A

Test Model: TWS-G3

#### Environmental Conditions

Temperature:	23.5 ° C
Relative Humidity:	66%
ATM Pressure:	100.0 kPa
Test Engineer:	AKING JIN
Supervised by:	JAYDEN ZHUO

#### B.1 Duty Cycle

Test Mode	Test Channel	Ant	Duty Cycle[%]	Verdict
LE	2440	Ant1	100	PASS
2LE	2440	Ant1	100	PASS

Test Graphs

LE

Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN:AUTO 09:09:32 AM Sep 18, 2018

Center Freq 2.440000000 GHz Avg Type: Log-Pwr

Trig: Free Run PNO: Fast IFGain:Low Atten: 30 dB

Trace/Detector: 1

Select Trace: 1

Clear Write

Trace Average

Max Hold

Min Hold

View Blank Trace On

More 1 of 3

10 dB/div Ref 20.00 dBm Log

Center 2.440000000 GHz Span 0 Hz

Res BW 8 MHz #VBW 50 MHz Sweep 20.27 ms (8001 pts)

MSG STATUS

2LE

Agilent Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN:AUTO 10:23:41 AM Sep 18, 2018

Center Freq 2.440000000 GHz #Avg Type: Log-Pwr

Trig: Free Run PNO: Fast IFGain:Low Atten: 30 dB

Marker

Select Marker: 1

Normal

Delta

Fixed

Off

Properties

More 1 of 2

10 dB/div Ref 20.00 dBm Log

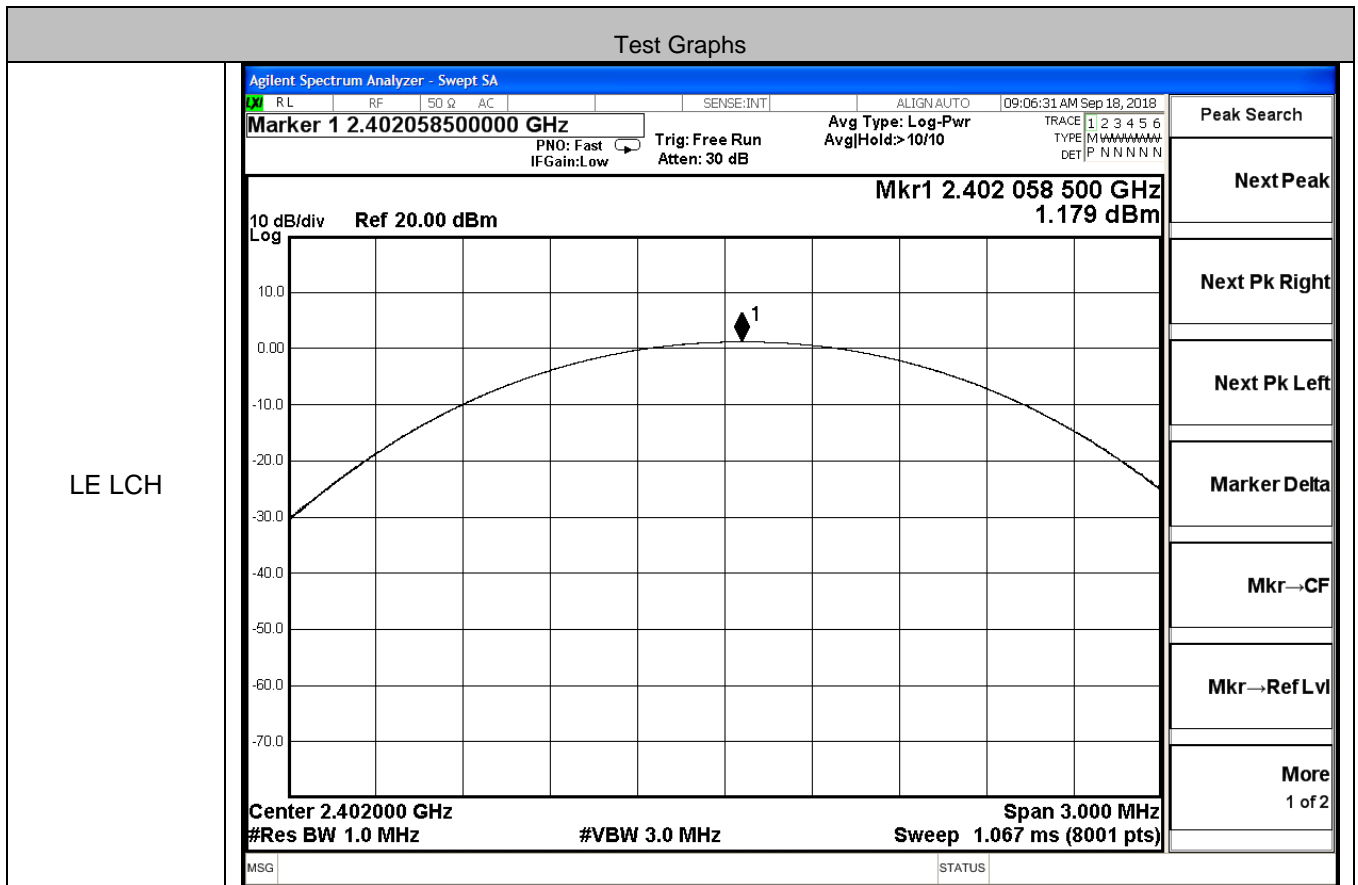
Center 2.440000000 GHz Span 0 Hz

Res BW 8 MHz #VBW 50 MHz Sweep 20.27 ms (8001 pts)

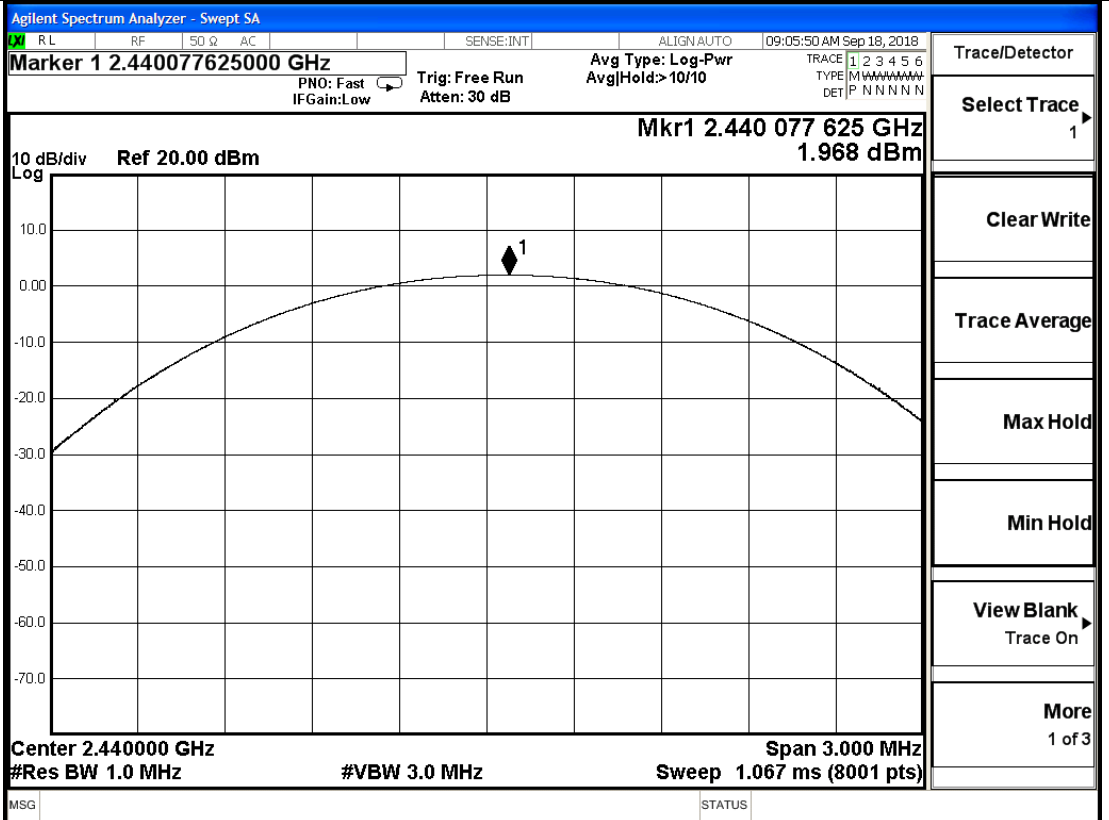
MSG STATUS

### B.2 Maximum Conducted Peak Output Power

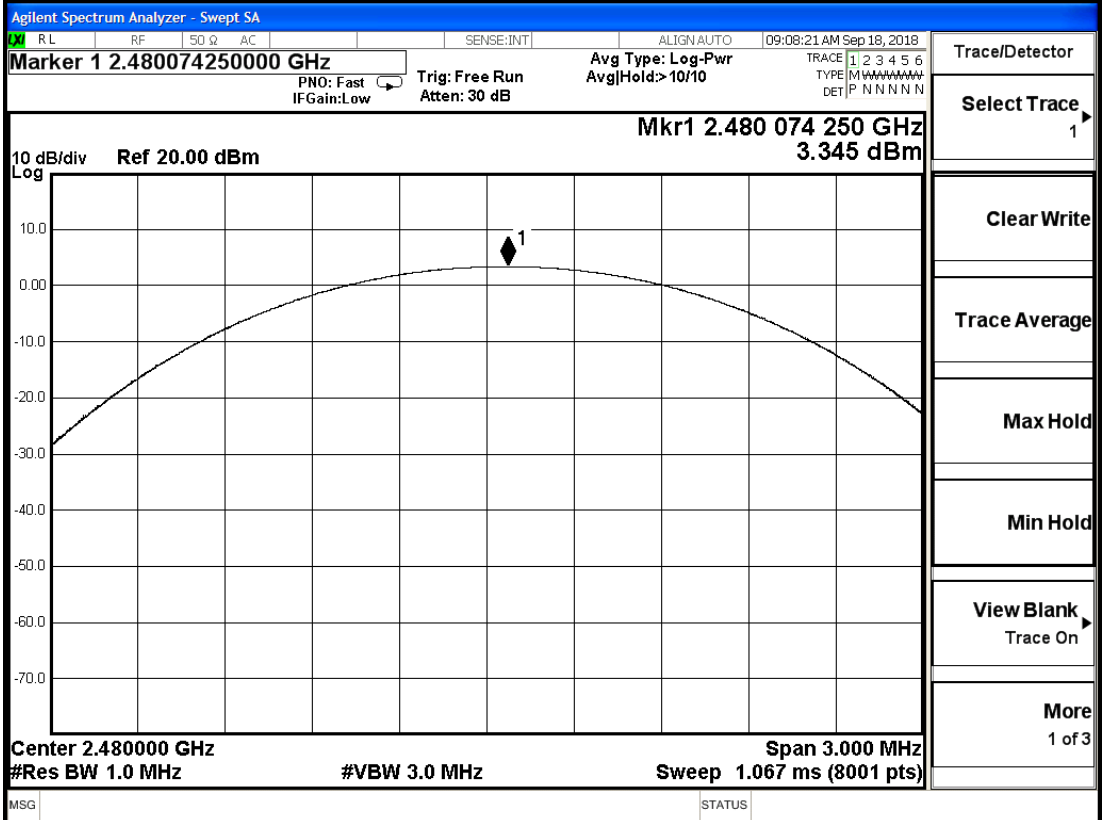
Mode	Channel	Conduct Peak Power[dBm]	Limit [dBm]	Verdict
LE	LCH	1.179	30	PASS
LE	MCH	1.968	30	PASS
LE	HCH	3.345	30	PASS
2LE	LCH	1.187	30	PASS
2LE	MCH	1.977	30	PASS
2LE	HCH	3.387	30	PASS



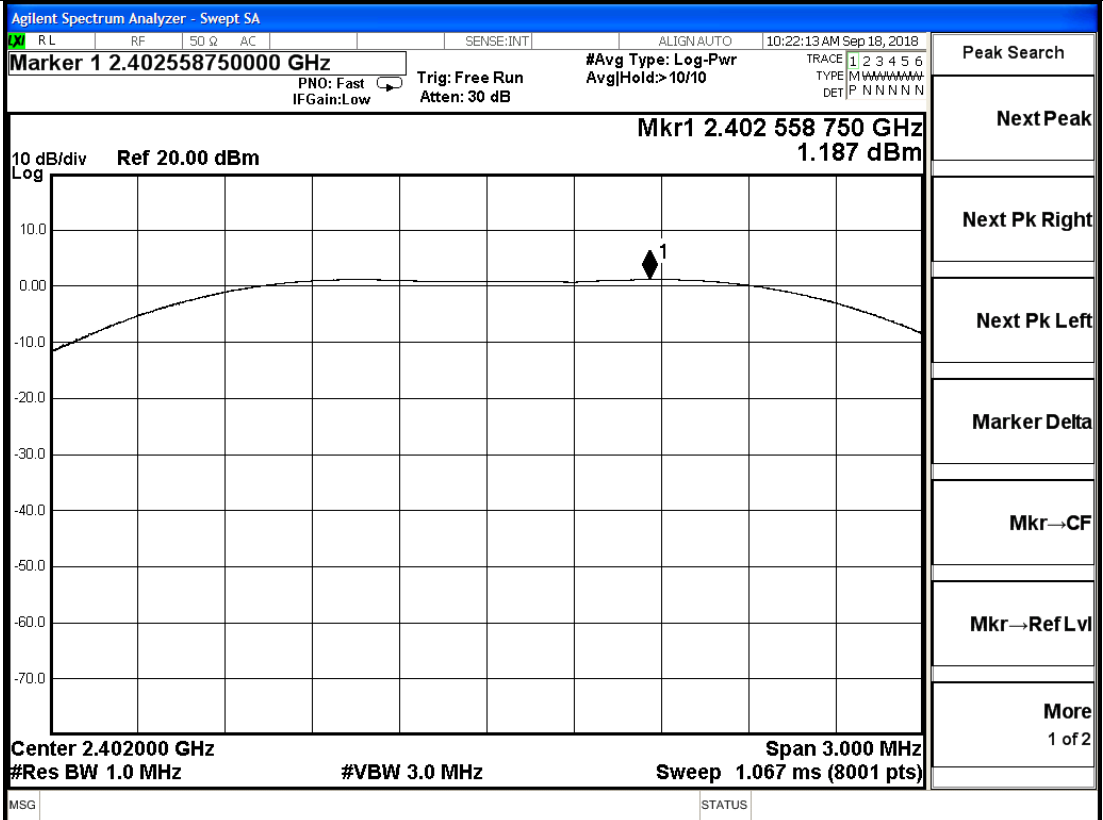
LE MCH



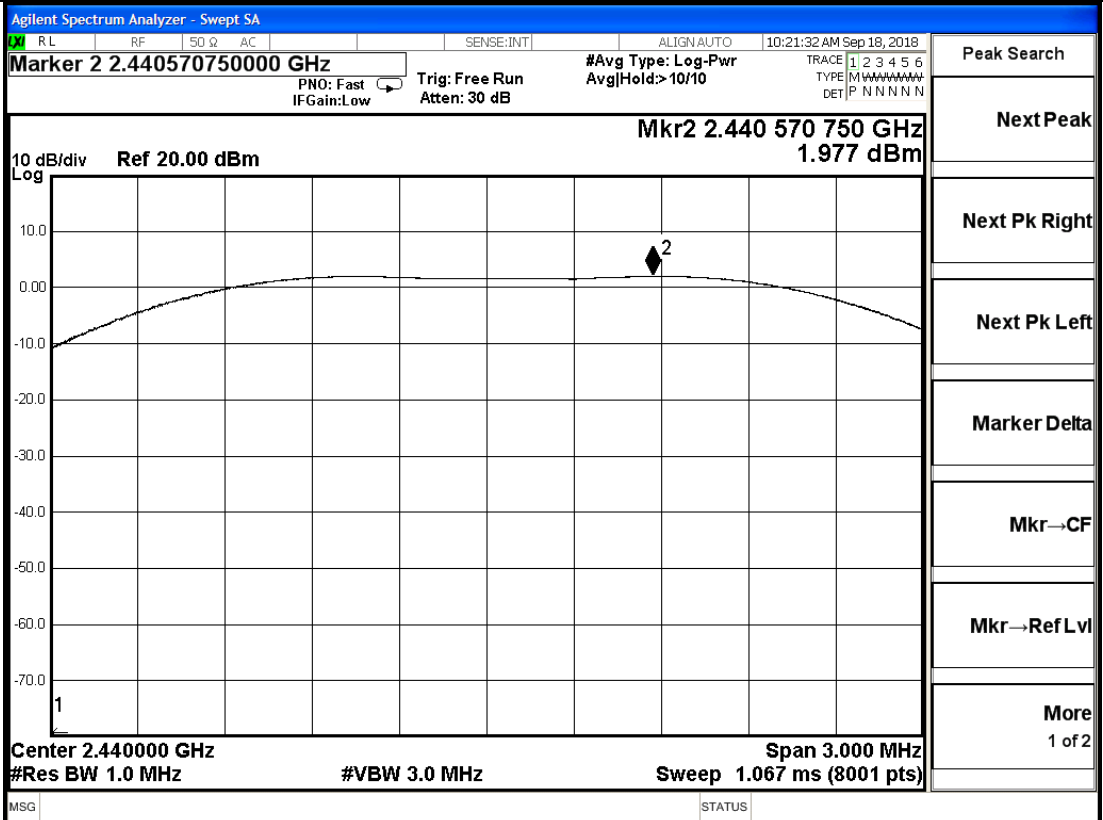
LE HCH

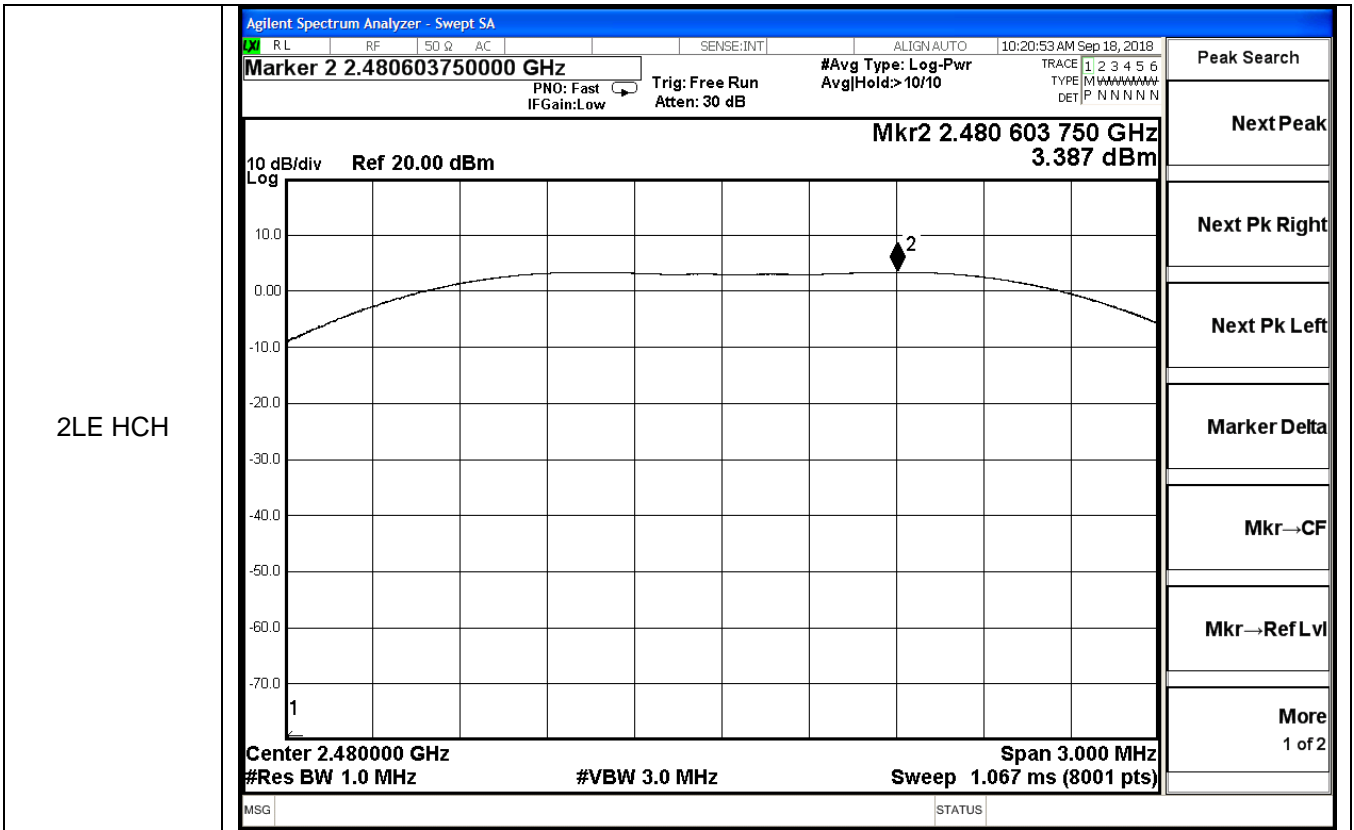


2LE LCH



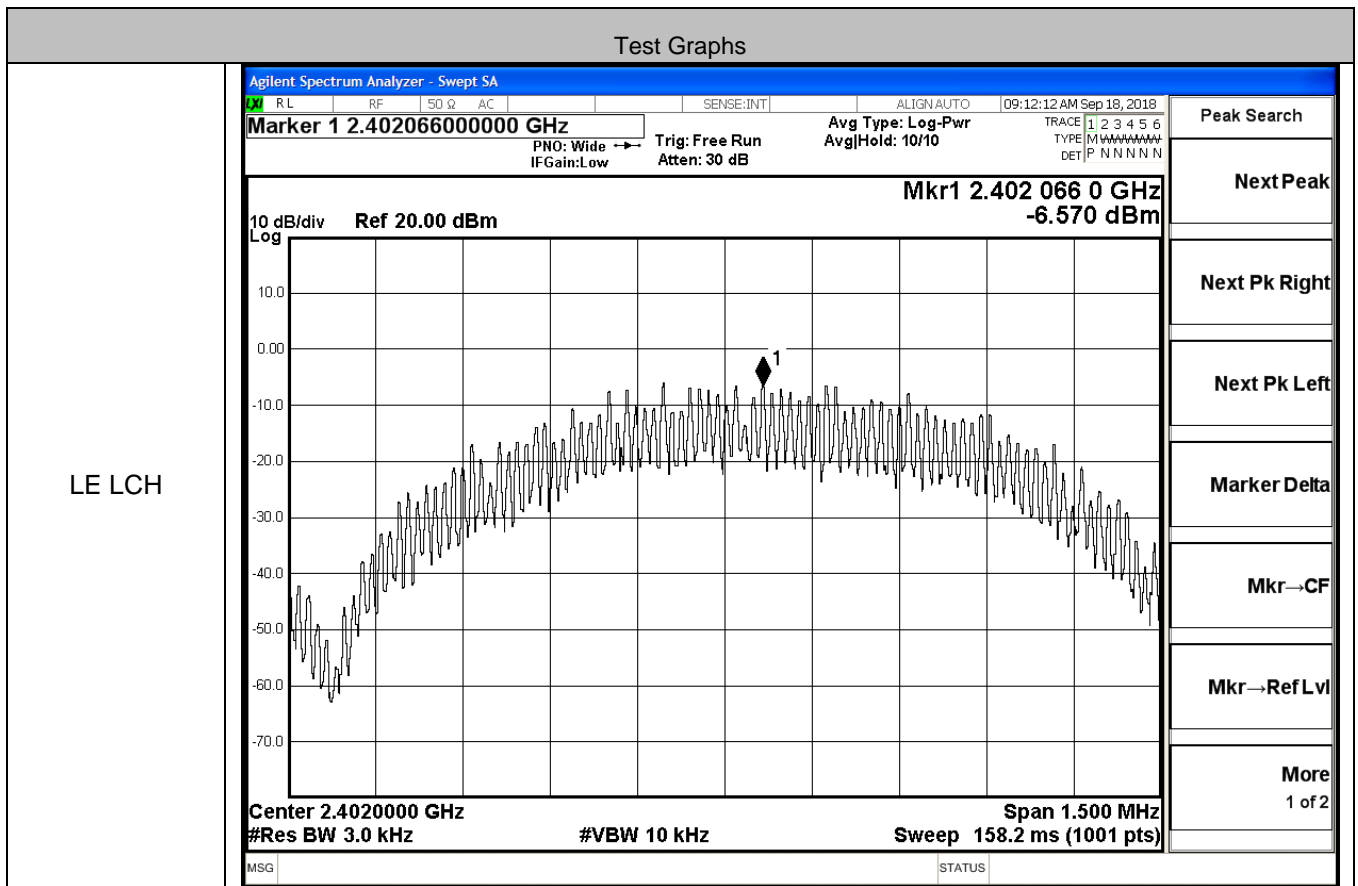
2LE MCH





### B.3 Maximum Power Spectral Density

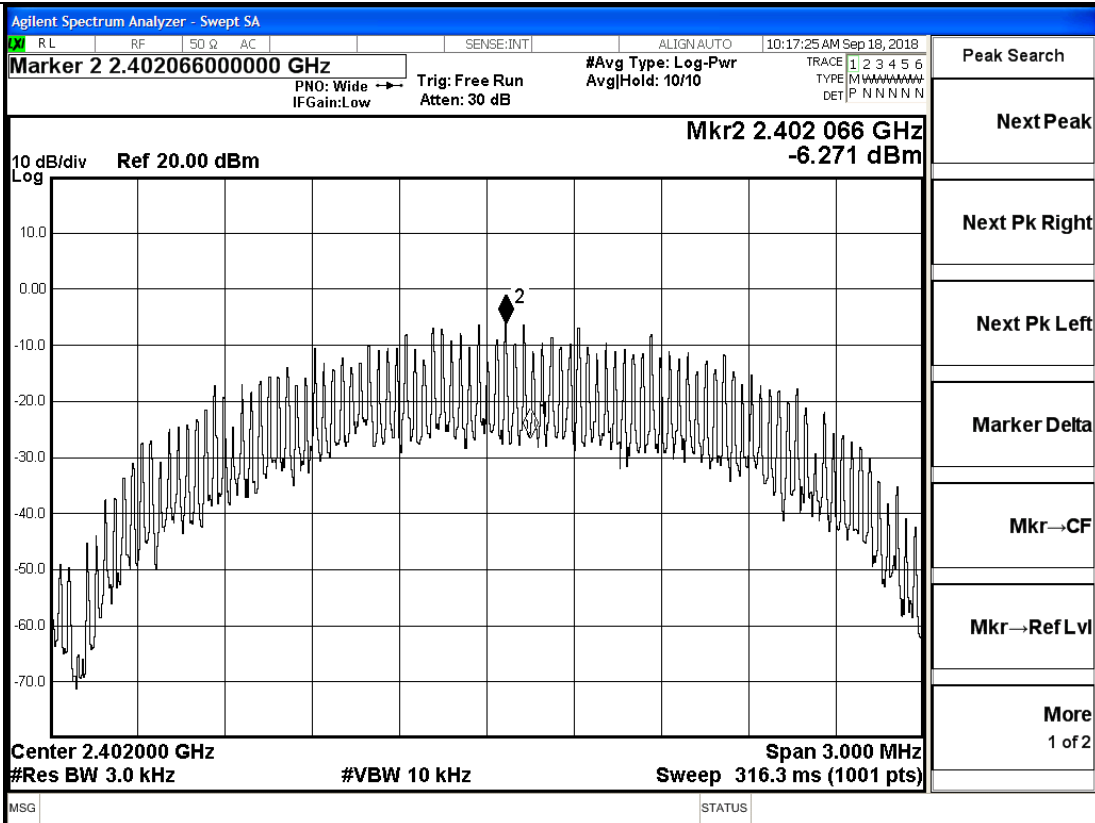
Mode	Channel	PSD [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
LE	LCH	-6.570	8	PASS
LE	MCH	-5.140	8	PASS
LE	HCH	-4.178	8	PASS
2LE	LCH	-6.271	8	PASS
2LE	MCH	-5.482	8	PASS
2LE	HCH	-4.031	8	PASS





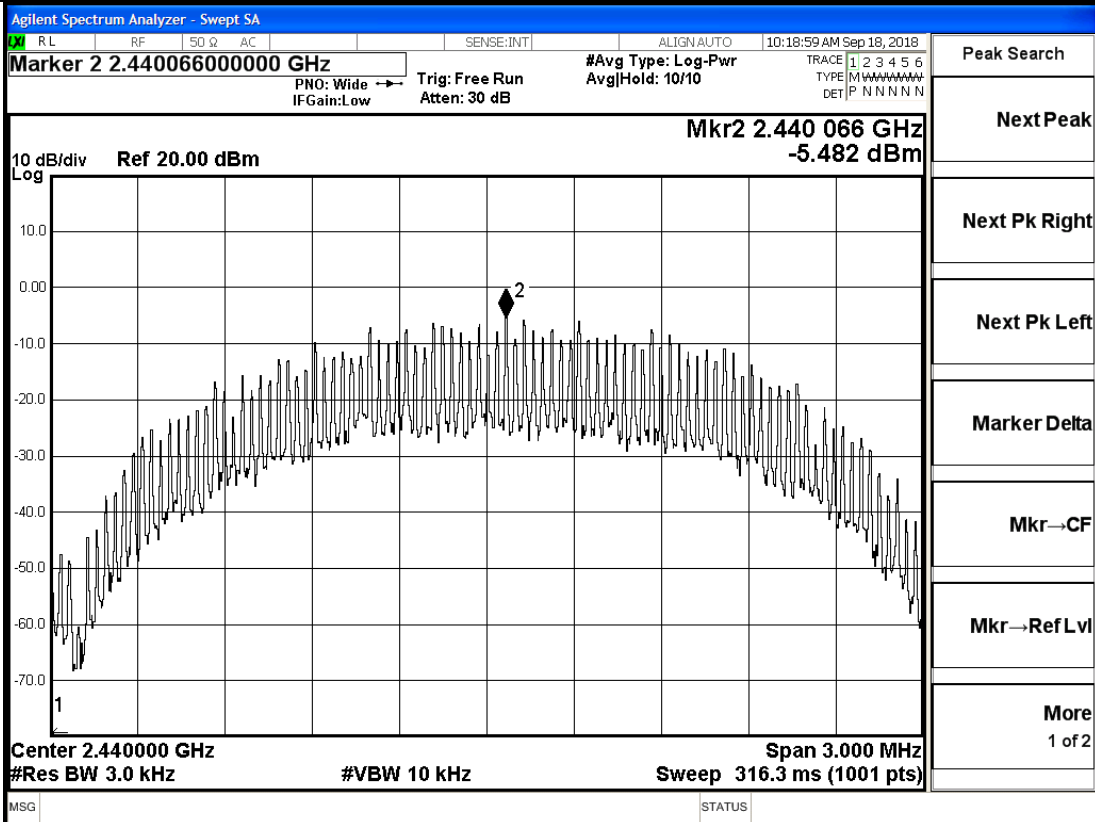


2LE LCH

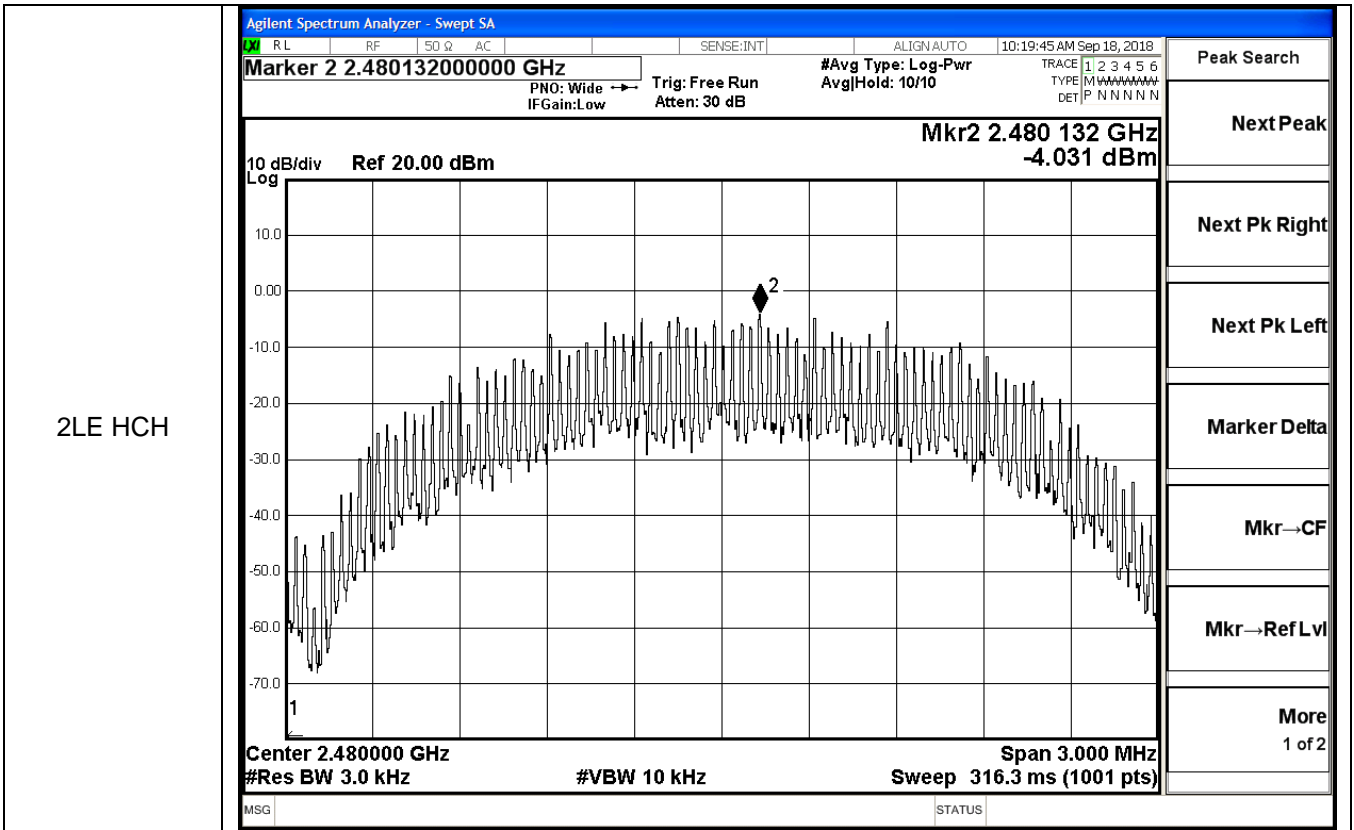


- Peak Search
- Next Peak
- Next Pk Right
- Next Pk Left
- Marker Delta
- Mkr→CF
- Mkr→Ref Lvl
- More 1 of 2

2LE MCH

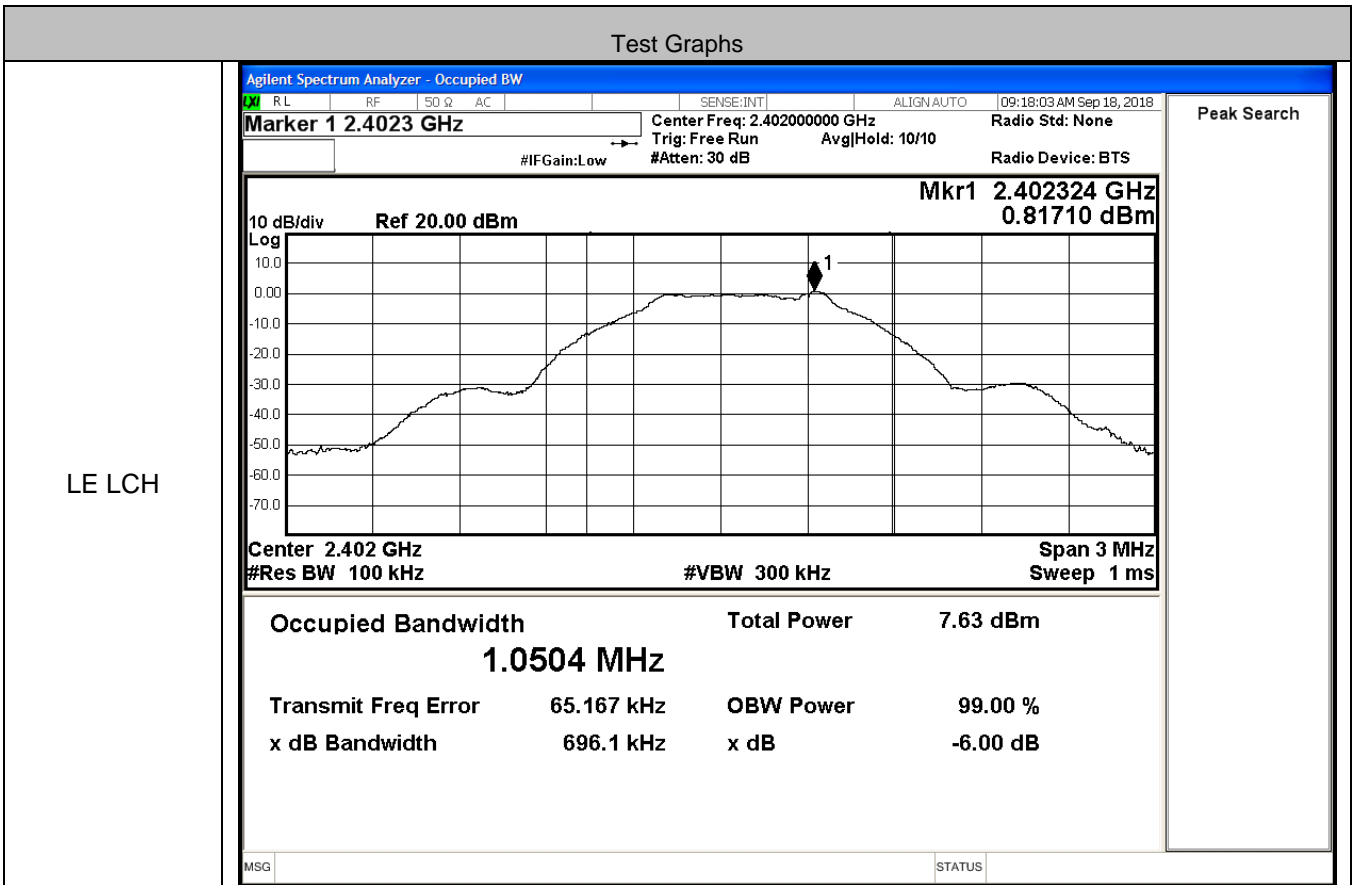


- Peak Search
- Next Peak
- Next Pk Right
- Next Pk Left
- Marker Delta
- Mkr→CF
- Mkr→Ref Lvl
- More 1 of 2

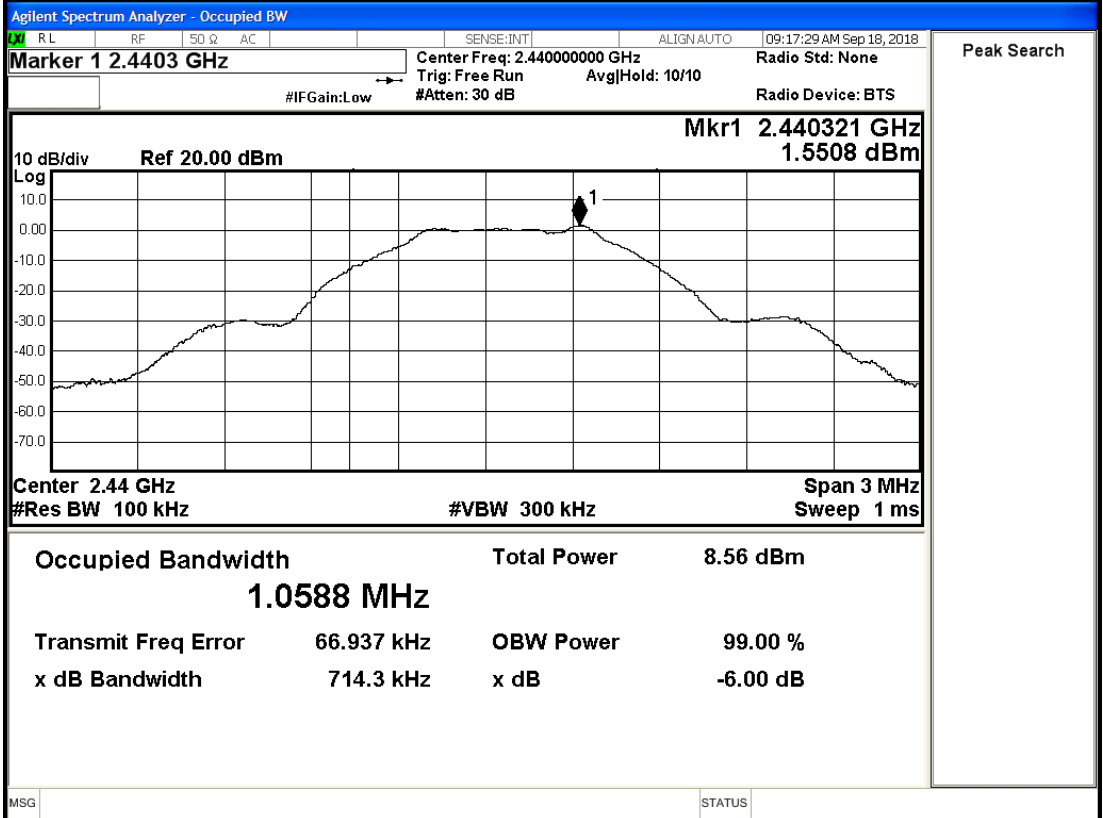


**B.4 6dB Bandwidth**

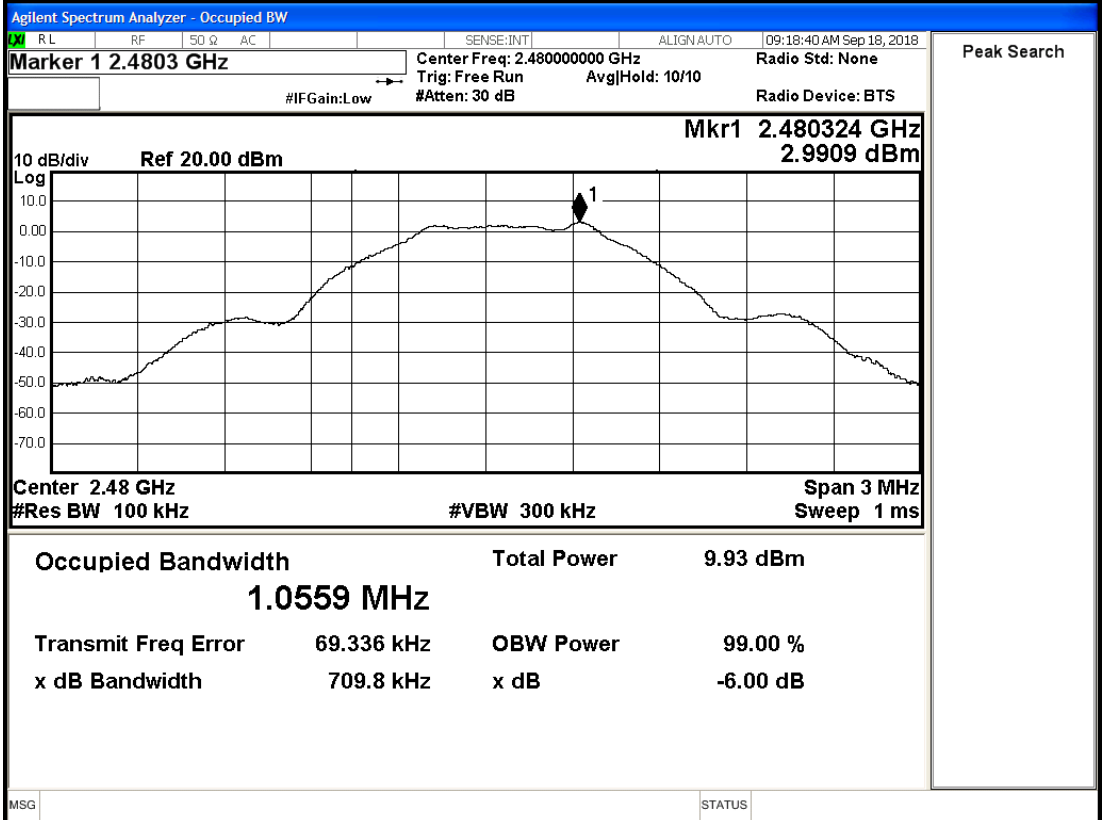
Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
LE	LCH	0.6961	≥0.5	PASS
LE	MCH	0.7143	≥0.5	PASS
LE	HCH	0.7098	≥0.5	PASS
2LE	LCH	1.229	≥0.5	PASS
2LE	MCH	1.229	≥0.5	PASS
2LE	HCH	1.246	≥0.5	PASS



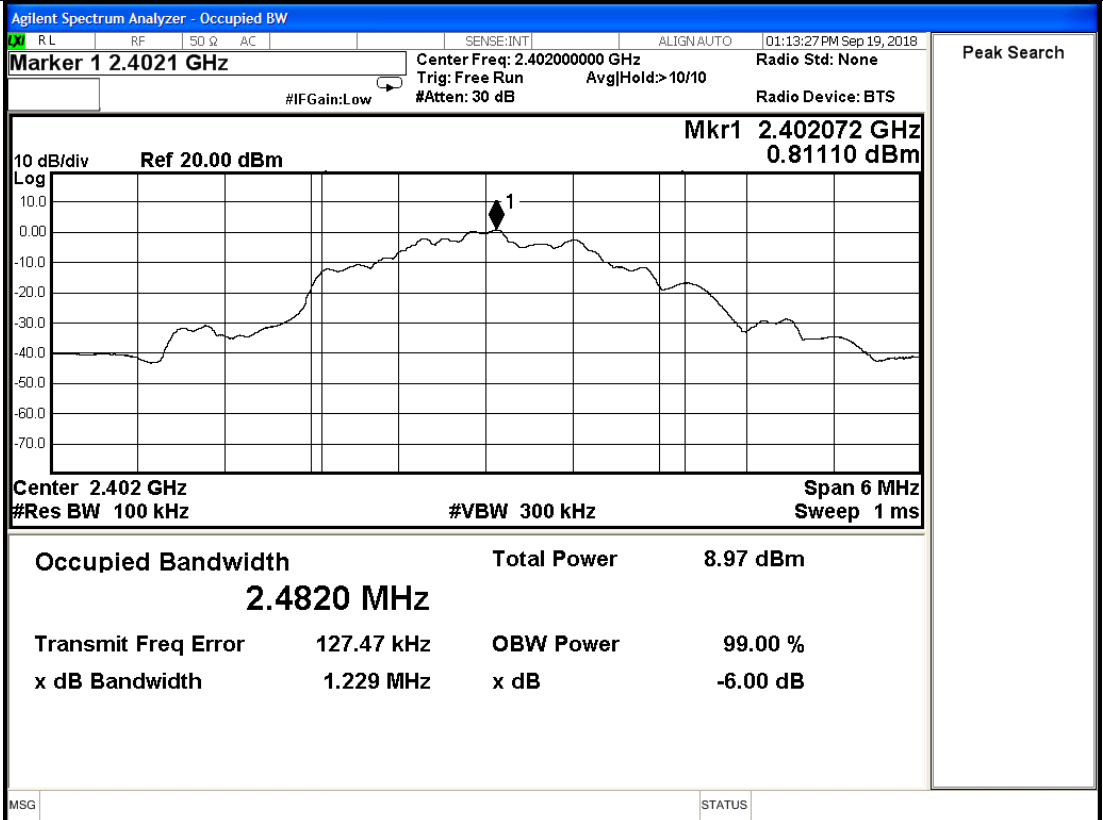
LE MCH



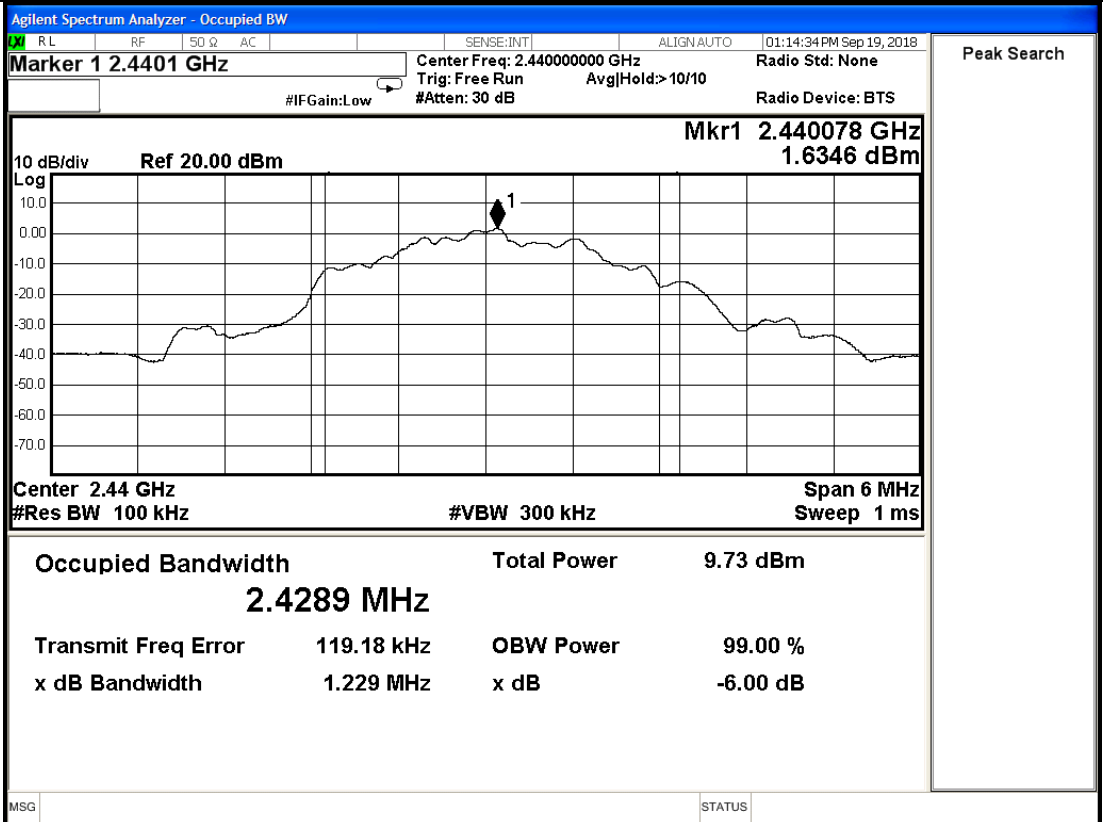
LE HCH

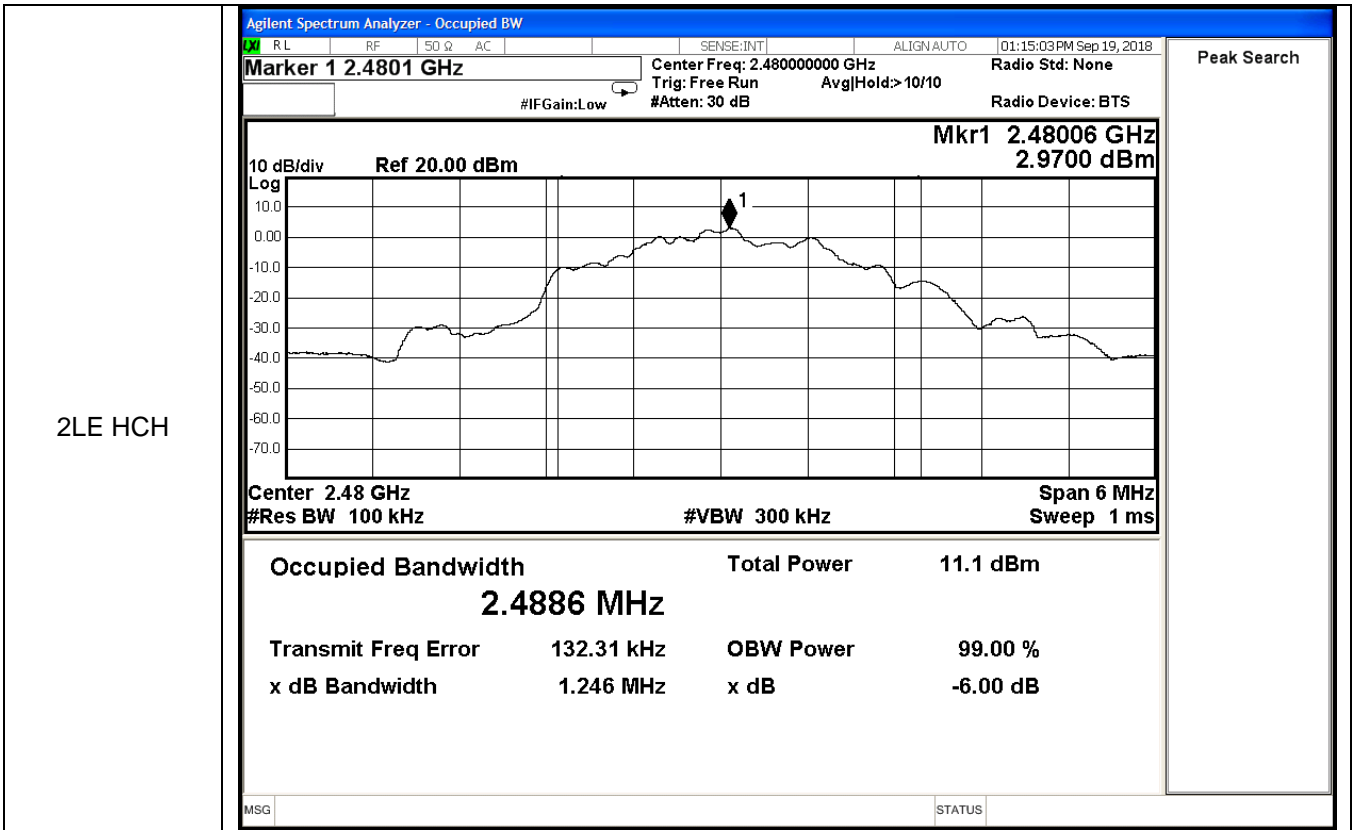


2LE LCH



2LE MCH



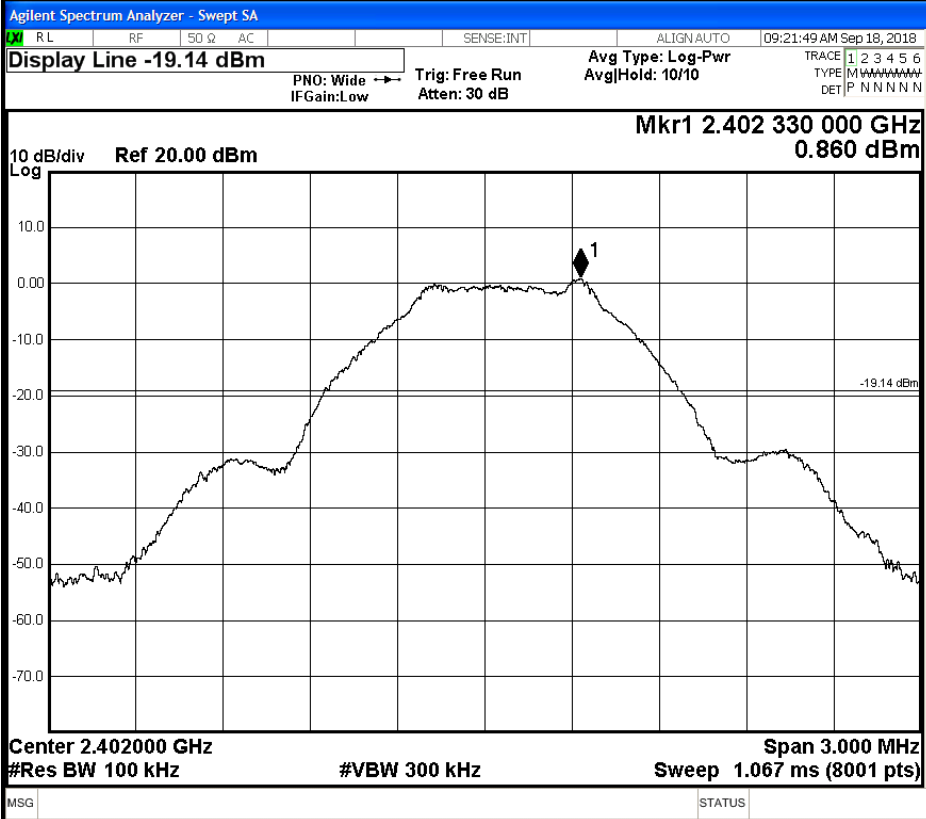


### B.5 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
LE	LCH	0.860	-49.725	-19.140	PASS
LE	MCH	1.653	-51.590	-18.347	PASS
LE	HCH	2.941	-49.516	-17.059	PASS
2LE	LCH	-1.681	-50.111	-21.681	PASS
2LE	MCH	-0.838	-50.173	-20.838	PASS
2LE	HCH	0.605	-50.343	-19.395	PASS

LE\_LCH\_Graphs

Pref/ LE/LCH



Display

Annotation ▶

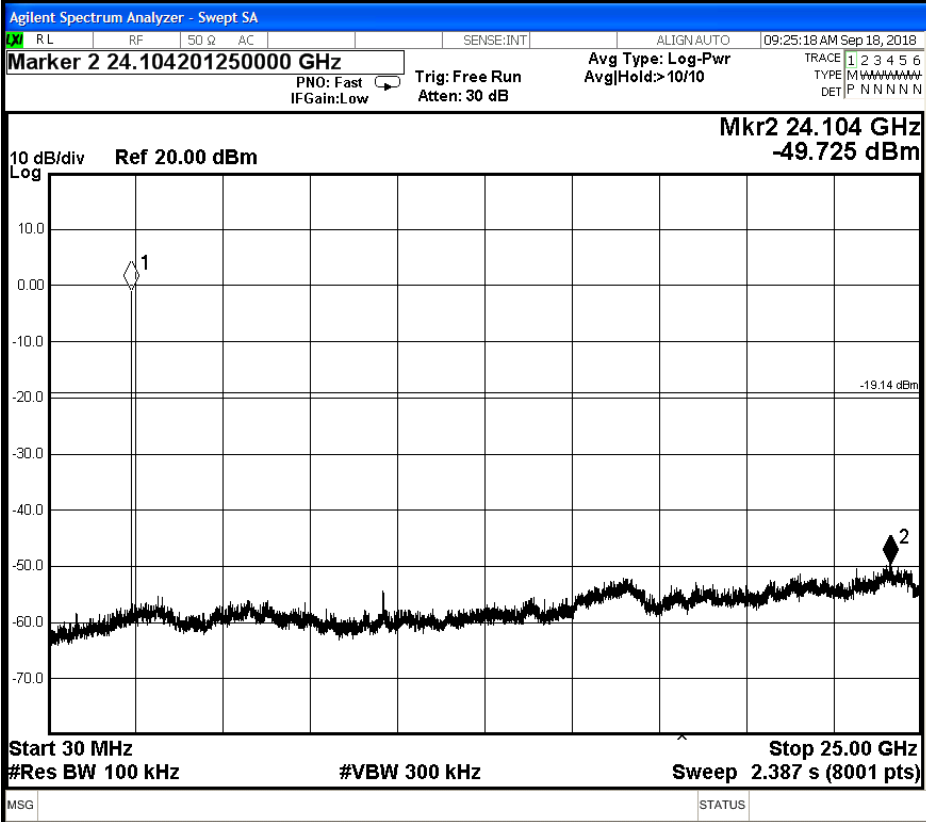
Title ▶

Graticule  
 On  
 Off

Display Line  
 -19.14 dBm  
 On  
 Off

System  
 Display ▶  
 Settings

Puw/ LE/LCH



Peak Search

Next Peak

Next Pk Right

Next Pk Left

Marker Delta

Mkr → CF

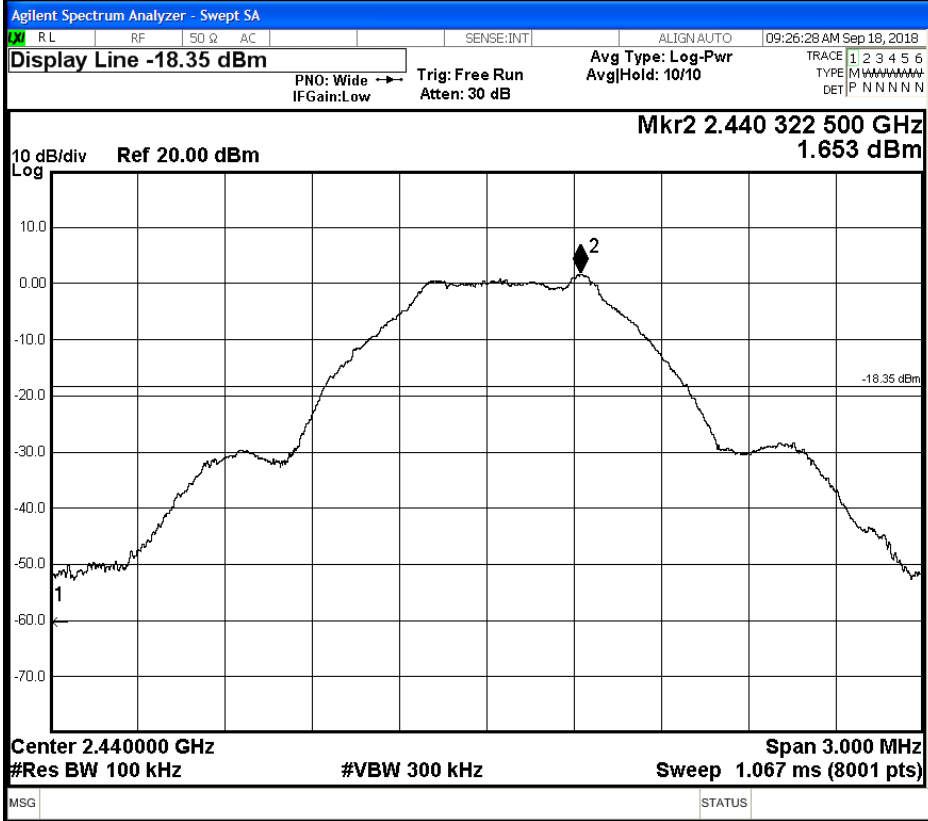
Mkr → Ref Lvl

More  
 1 of 2



LE\_MCH\_Graphs

Pref/ LE/MCH



Display

Annotation ▶

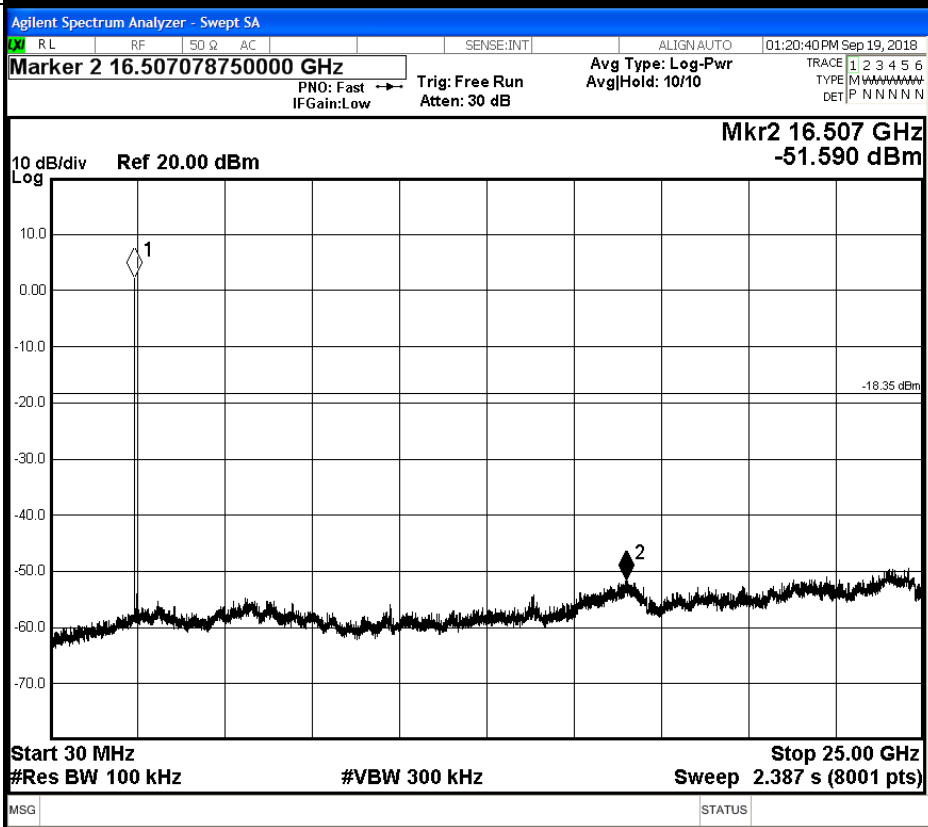
Title ▶

Graticule  
 On  
 Off

Display Line  
 -18.35 dBm  
 On  
 Off

System  
 Display ▶  
 Settings

Puw/ LE/MCH



Peak Search

Next Peak

Next Pk Right

Next Pk Left

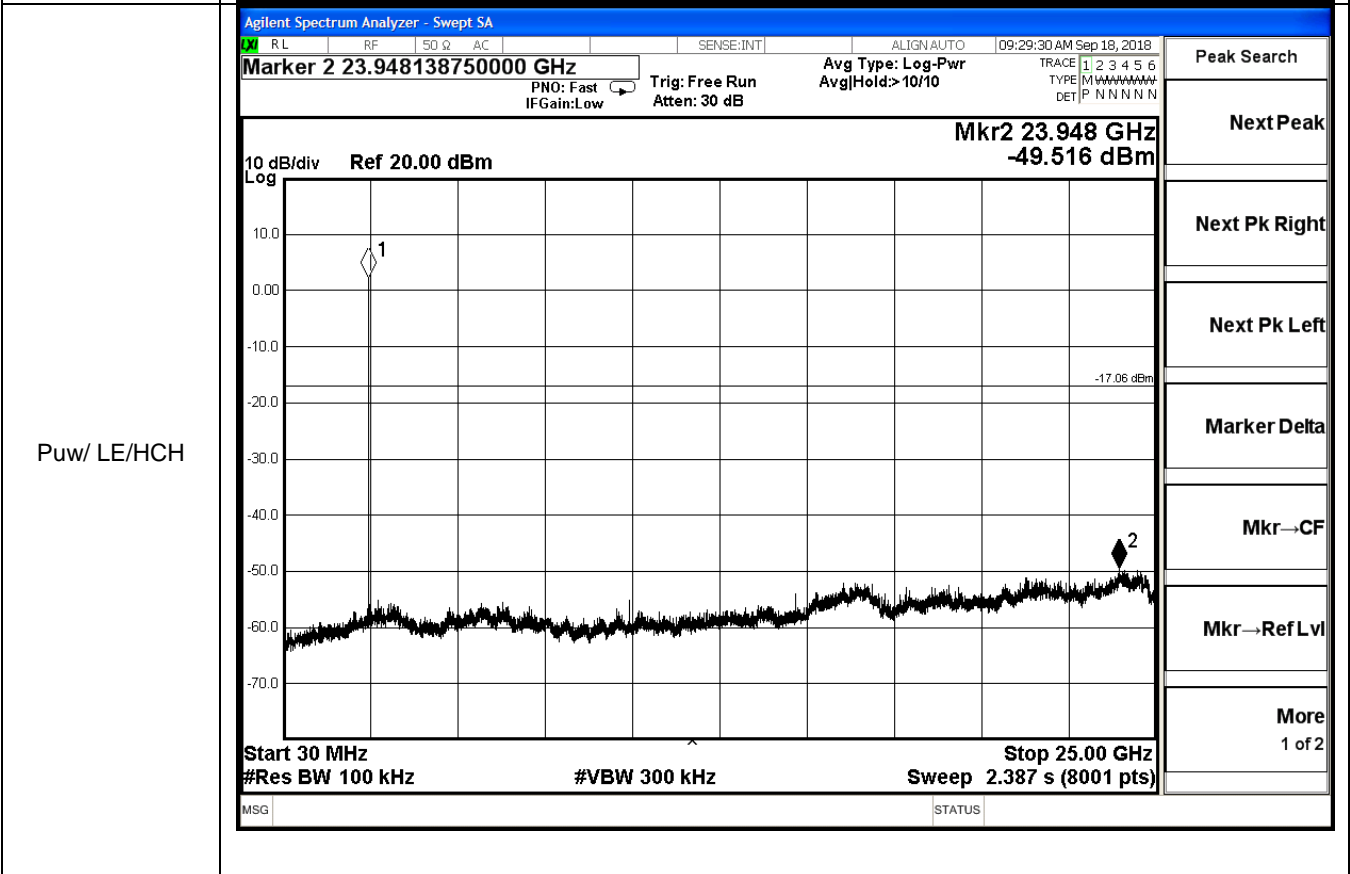
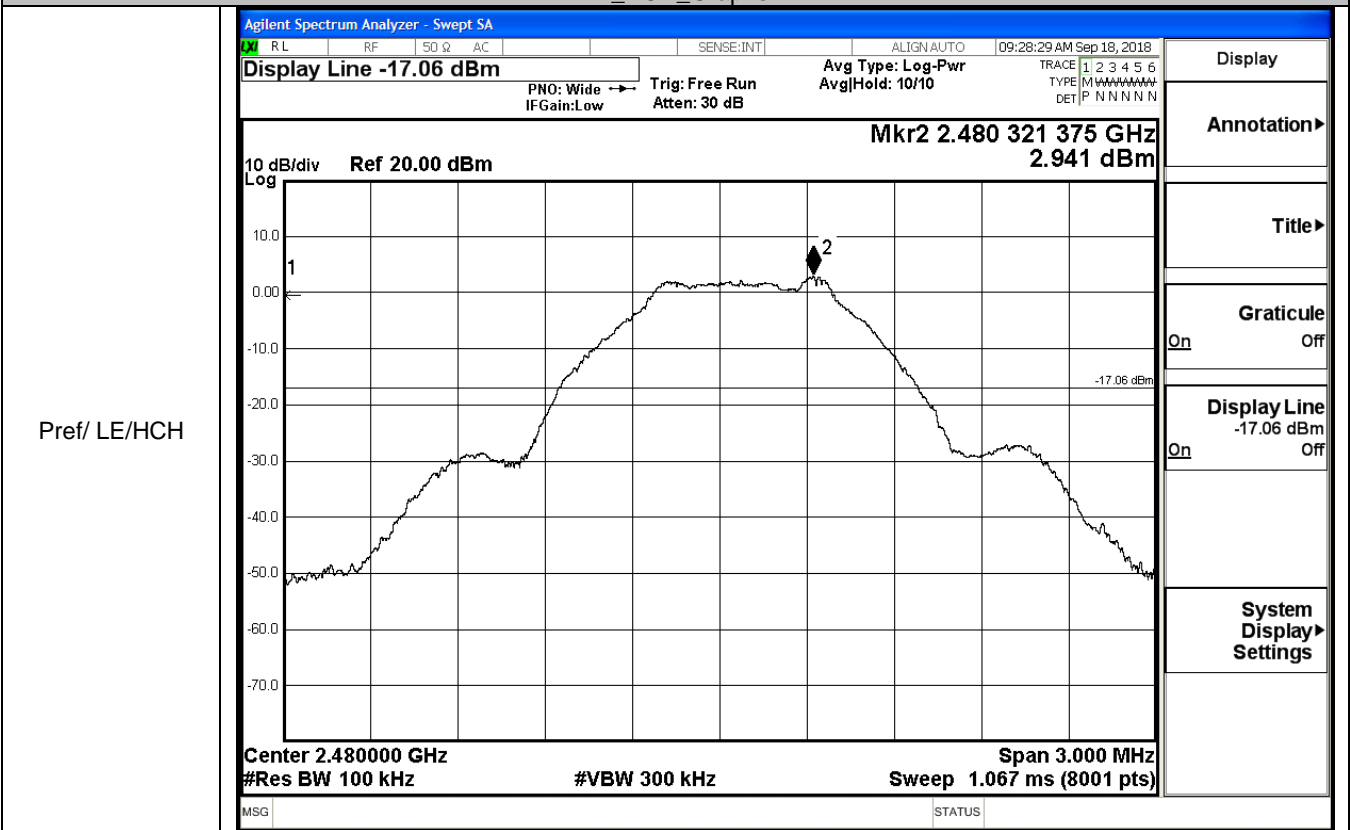
Marker Delta

Mkr → CF

Mkr → Ref Lvl

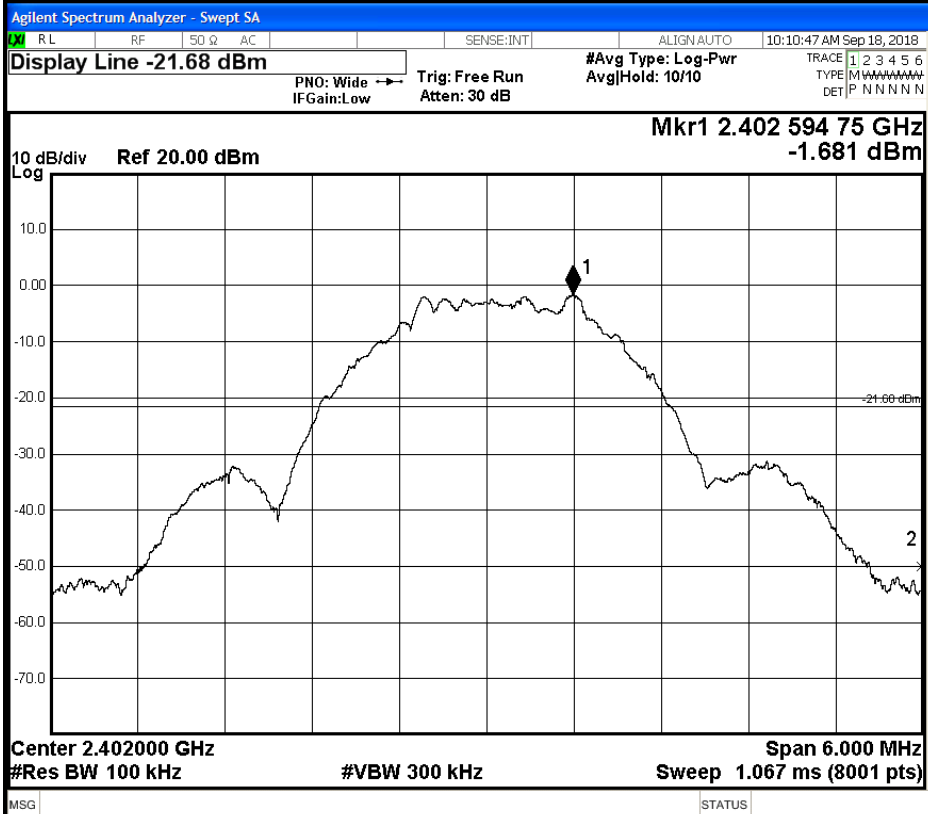
More  
 1 of 2

LE\_HCH\_Graphs



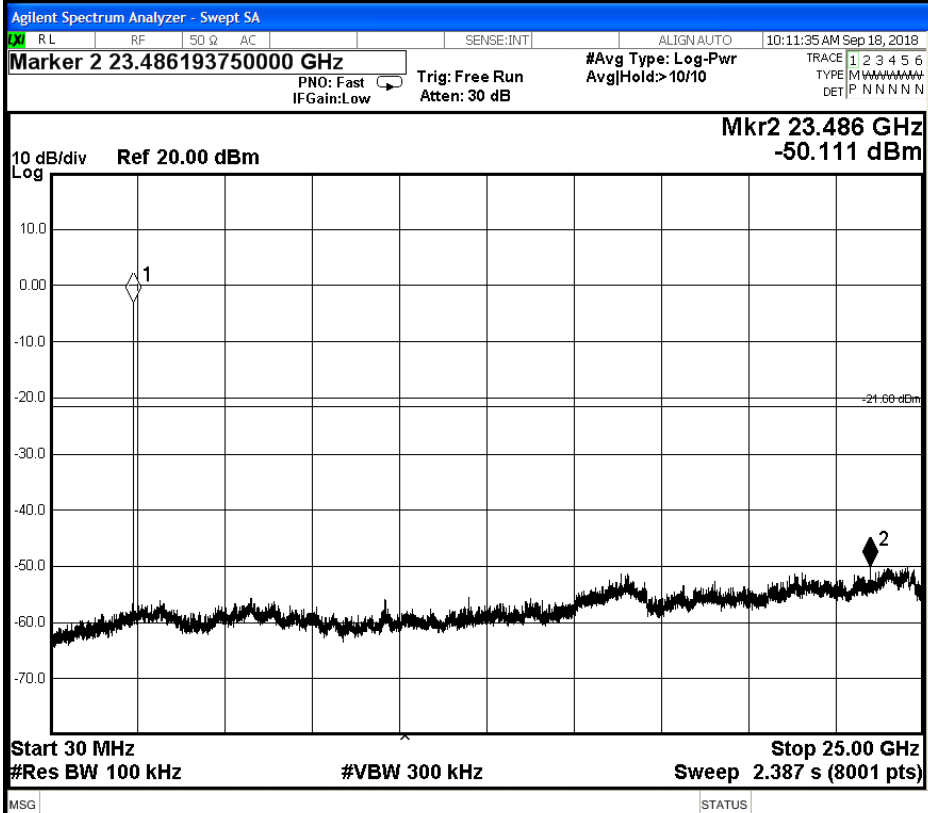
2LE\_LCH\_Graphs

Pref/2LE/LCH



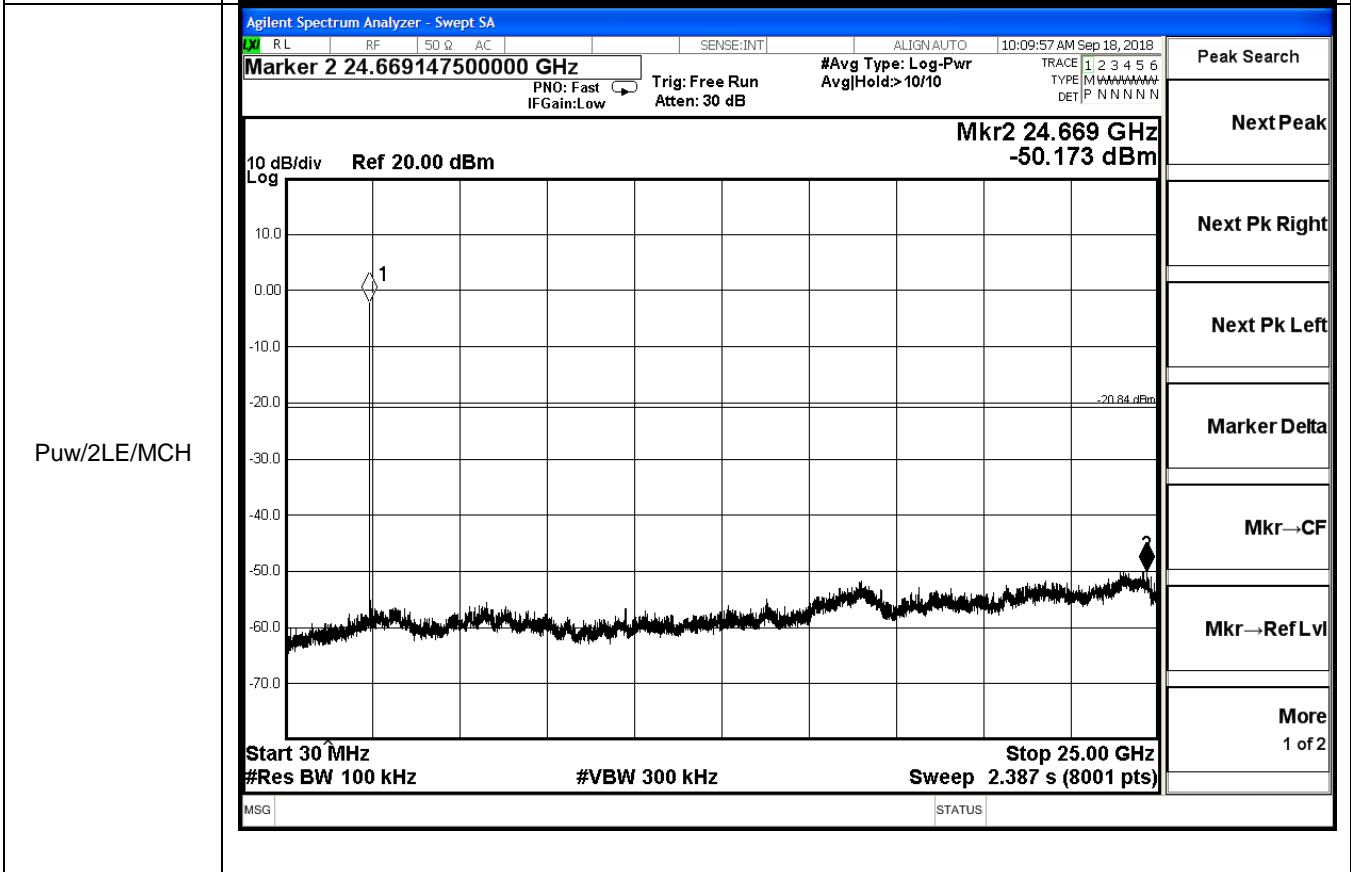
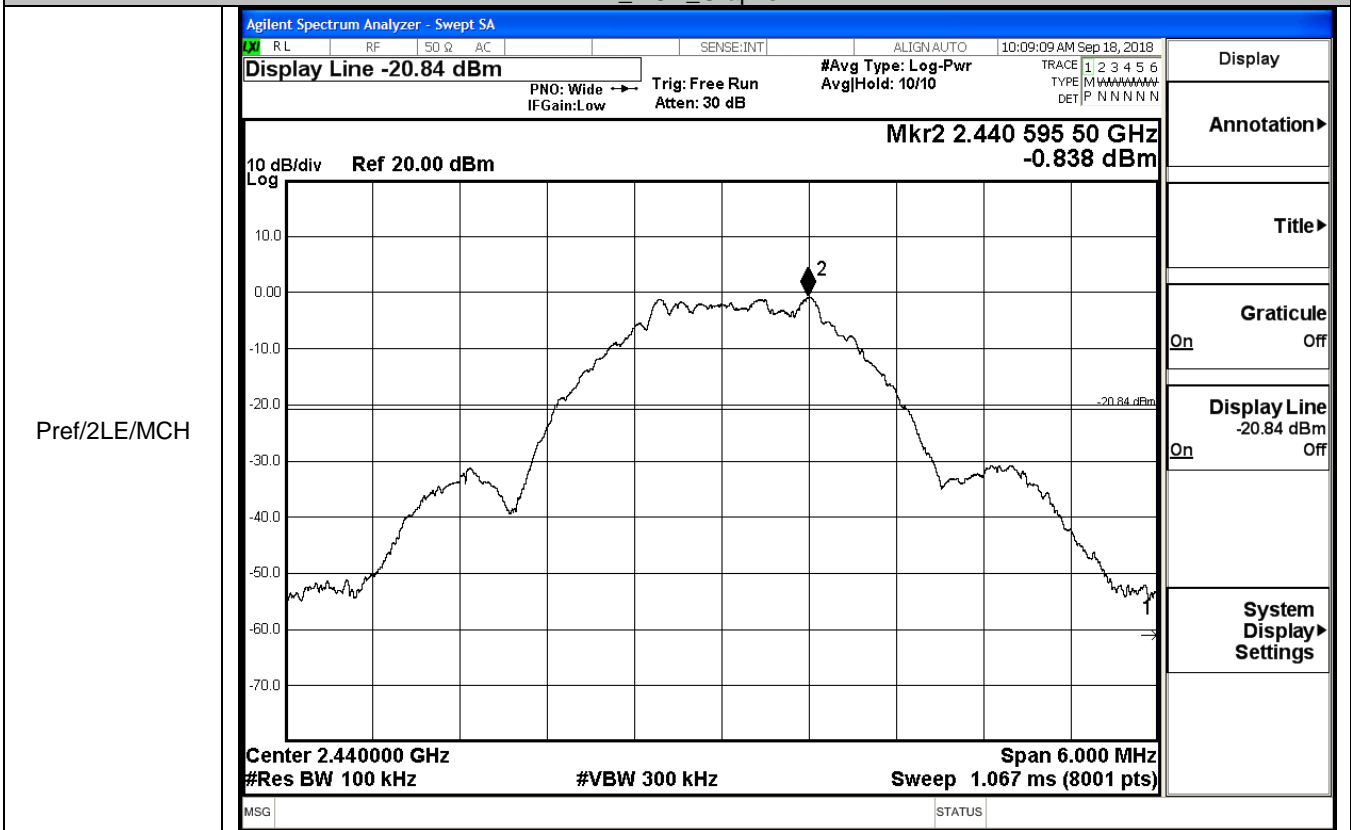
- Display
- Annotation ▶
- Title ▶
- Graticule  
On Off
- Display Line  
-21.68 dBm  
On Off
- System Display ▶  
Settings

Puw/2LE/LCH

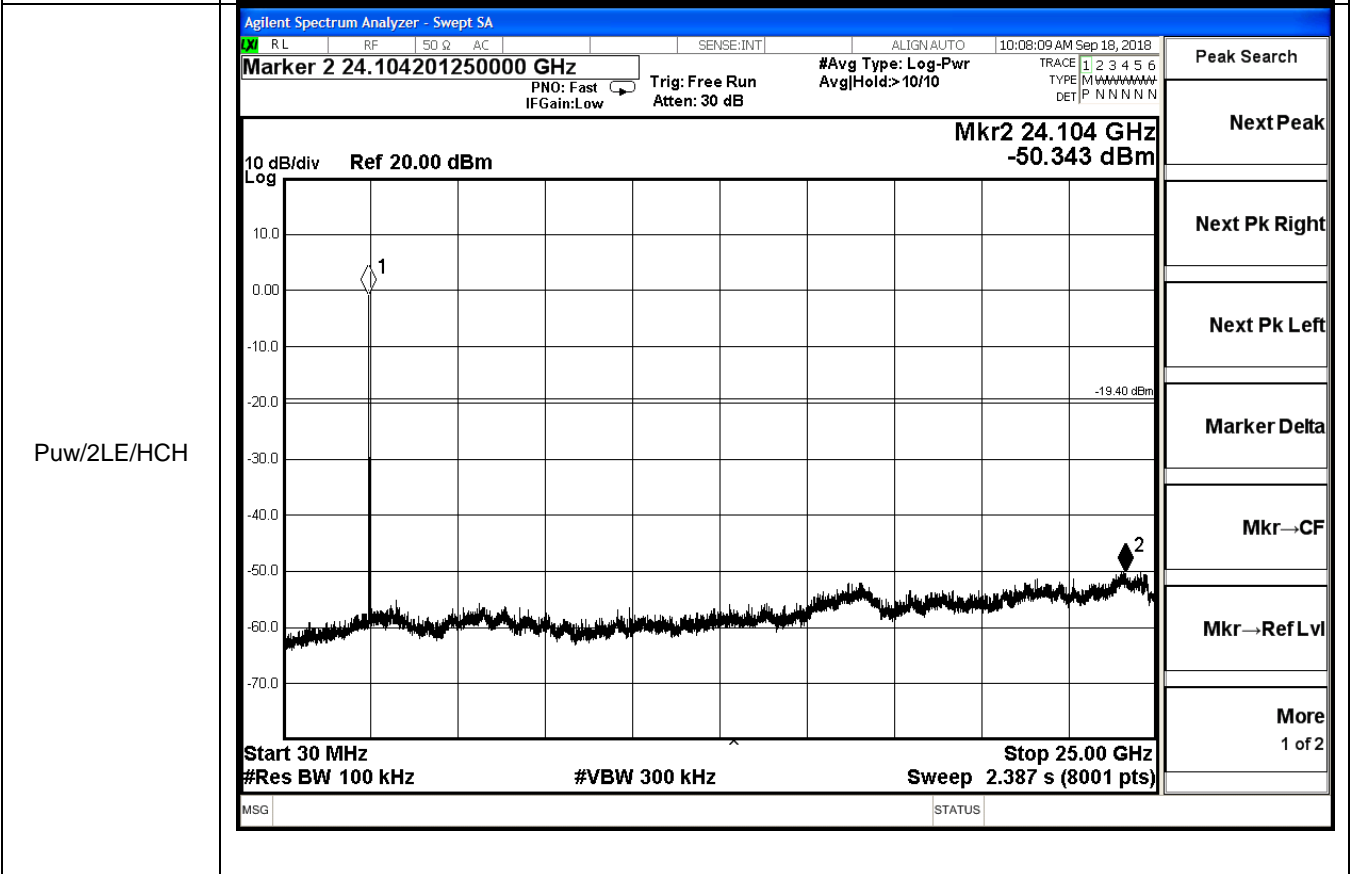
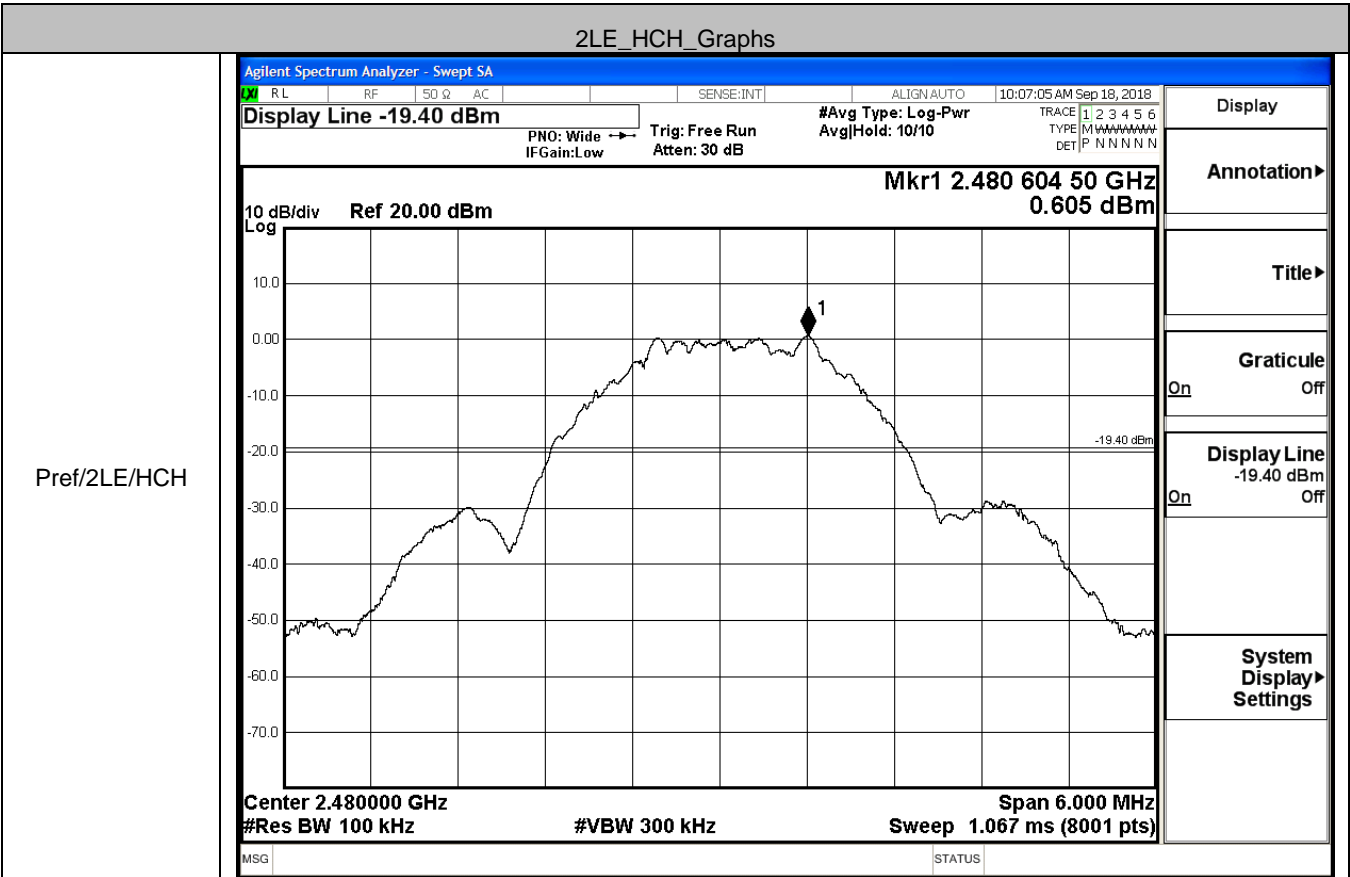


- Peak Search
- Next Peak
- Next PK Right
- Next PK Left
- Marker Delta
- Mkr→CF
- Mkr→Ref Lvl
- More  
1 of 2

2LE\_MCH\_Graphs

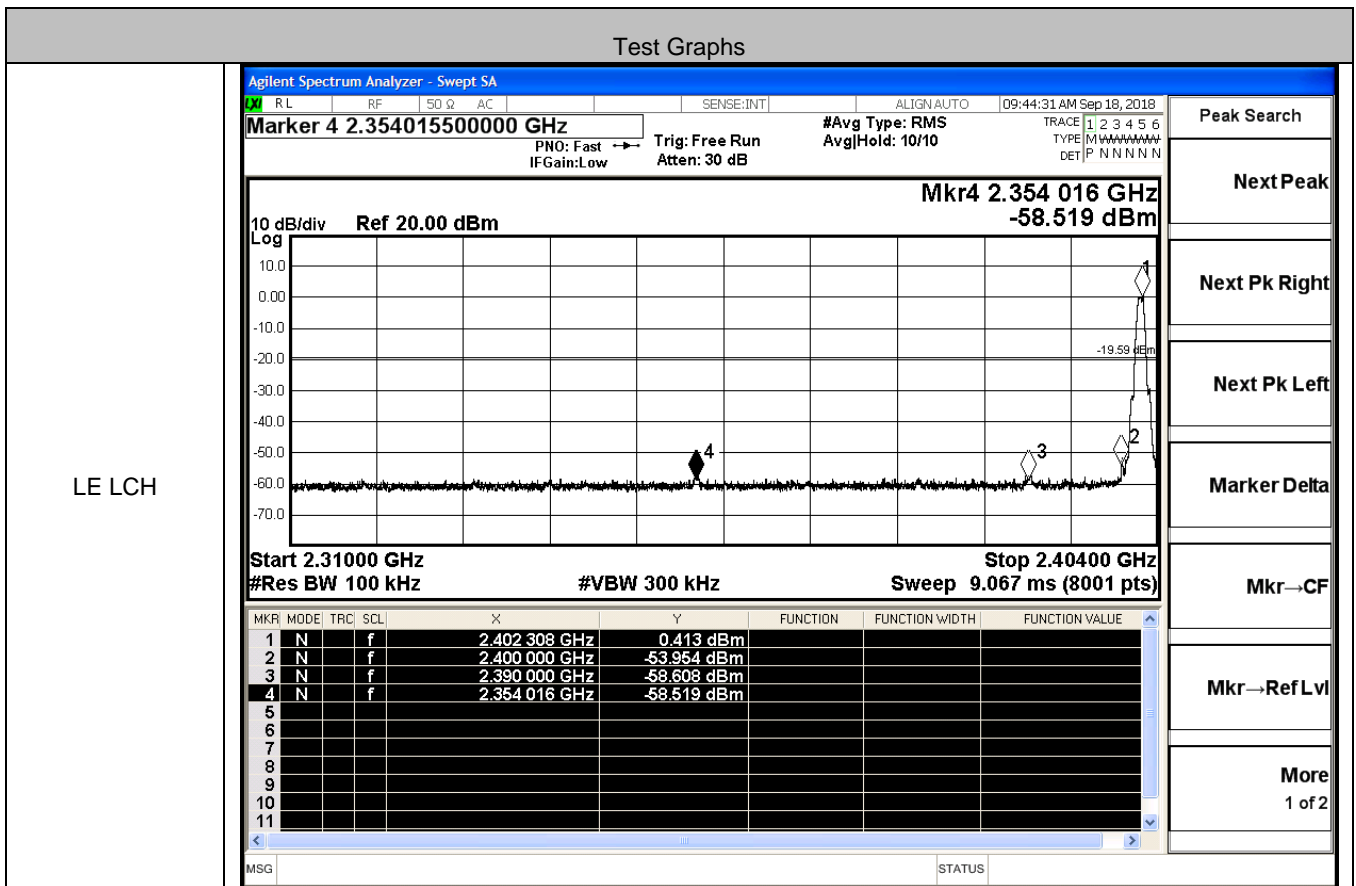


2LE\_HCH\_Graphs

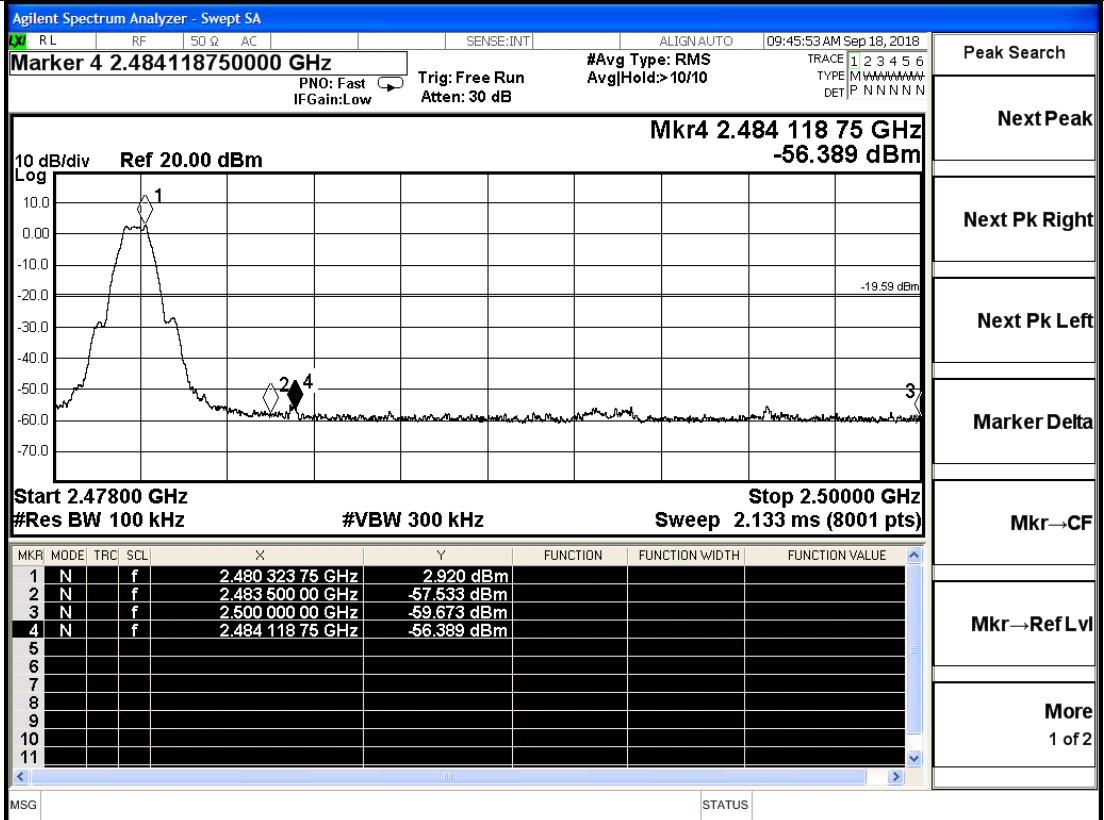


### B.6 Band-edge for RF Conducted Emissions

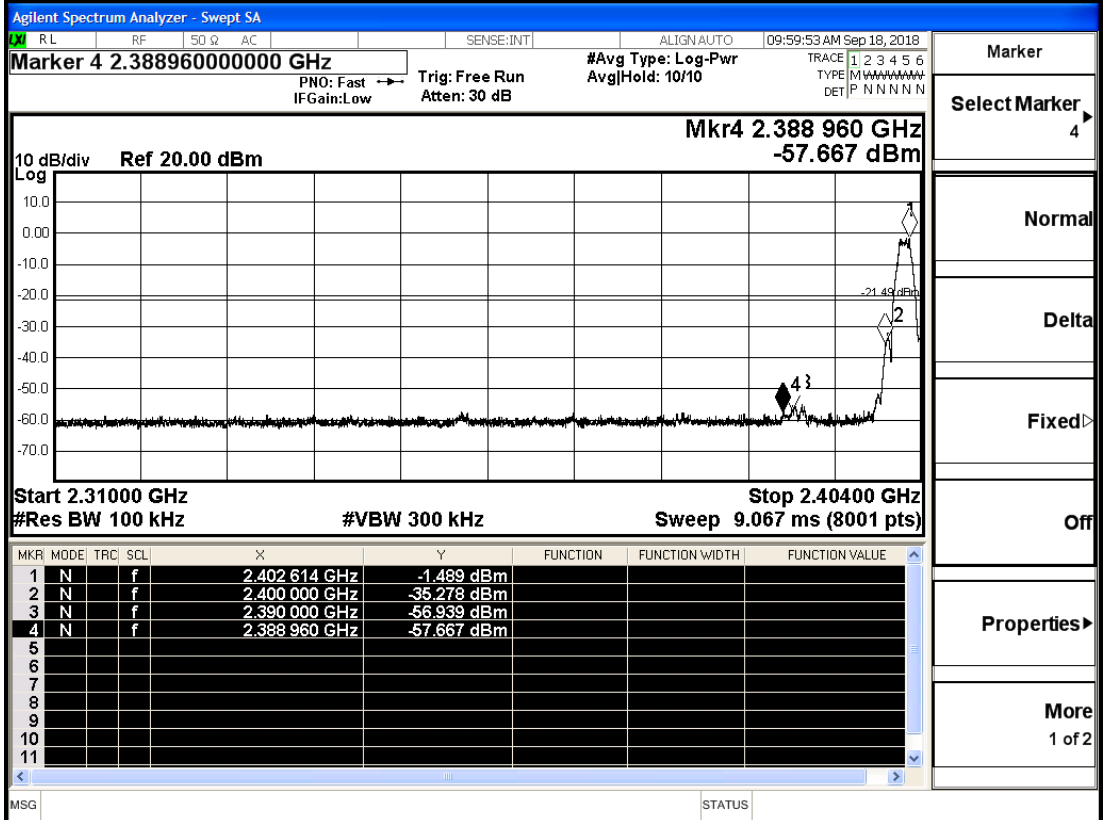
Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
LE	LCH	0.413	-58.519	-19.587	PASS
LE	HCH	2.920	-56.389	-17.080	PASS
2LE	LCH	-1.489	-57.667	-21.489	PASS
2LE	HCH	0.842	-51.530	-19.158	PASS



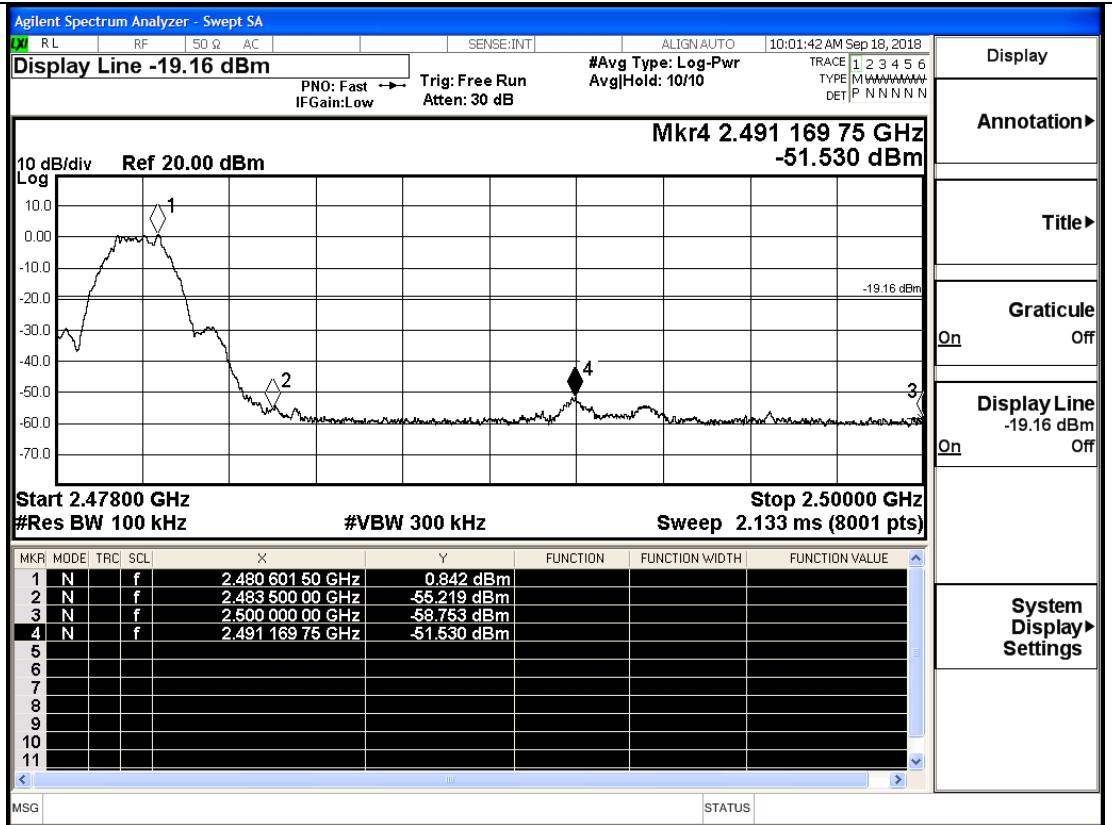
LE HCH



2LE LCH



2LE HCH

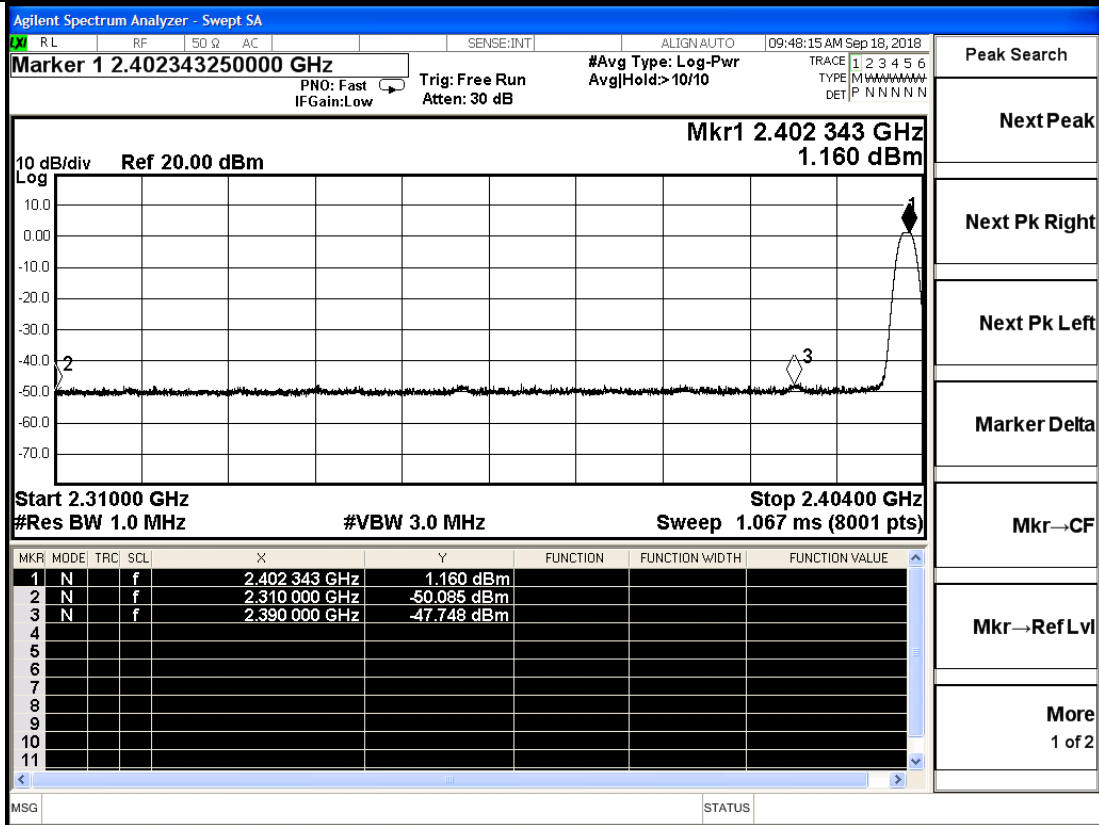




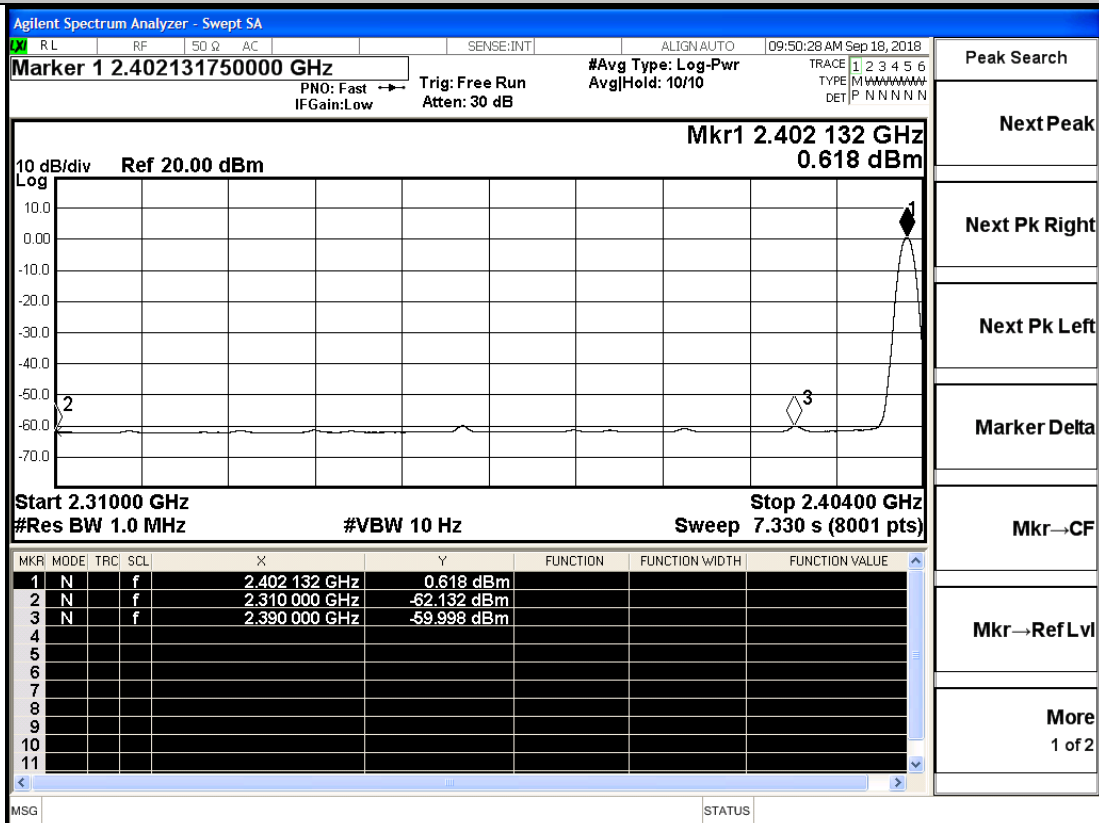
### B.7 Restrict-band band-edge measurements

Test Mode	Test Channel	Ant	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
LE	2402	Ant1	2310.0	-50.085	2.000	0	47.143	PEAK	74	PASS
		Ant1	2310.0	-62.132	2.000	0	35.096	AV	54	PASS
		Ant1	2390.0	-47.748	2.000	0	49.480	PEAK	74	PASS
		Ant1	2390.0	-59.998	2.000	0	37.230	AV	54	PASS
	2480	Ant1	2483.5	-47.875	2.000	0	49.353	PEAK	74	PASS
		Ant1	2483.5	-59.595	2.000	0	37.633	AV	54	PASS
		Ant1	2500.0	-50.421	2.000	0	46.807	PEAK	74	PASS
		Ant1	2500.0	-61.514	2.000	0	35.714	AV	54	PASS
2LE	2402	Ant1	2310.0	-48.202	2.000	0	49.026	PEAK	74	PASS
		Ant1	2310.0	-58.144	2.000	0	39.084	AV	54	PASS
		Ant1	2390.0	-49.541	2.000	0	47.687	PEAK	74	PASS
		Ant1	2390.0	-62.127	2.000	0	35.101	AV	54	PASS
	2480	Ant1	2483.5	-44.147	2.000	0	53.081	PEAK	74	PASS
		Ant1	2483.5	-53.556	2.000	0	43.672	AV	54	PASS
		Ant1	2500.0	-49.931	2.000	0	47.297	PEAK	74	PASS
		Ant1	2500.0	-61.493	2.000	0	35.735	AV	54	PASS

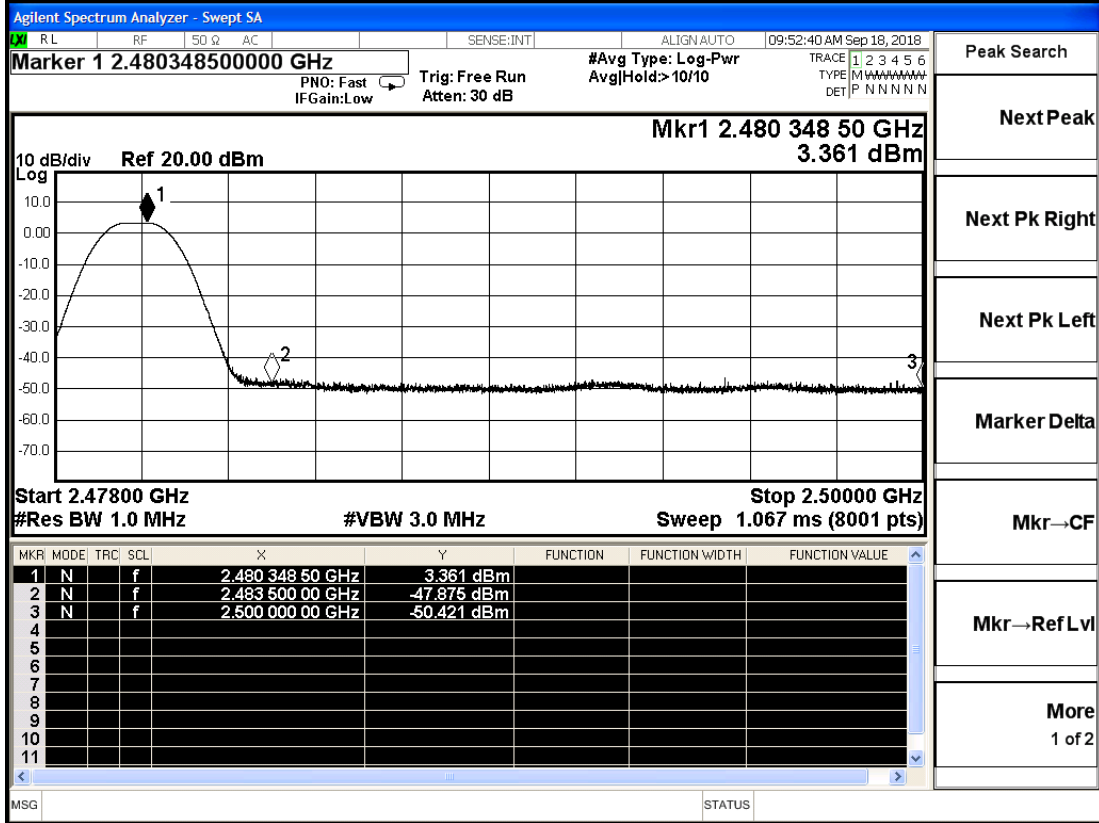
Restrict-band band-edge measurements\_LE\_2402\_Ant1\_PEAK



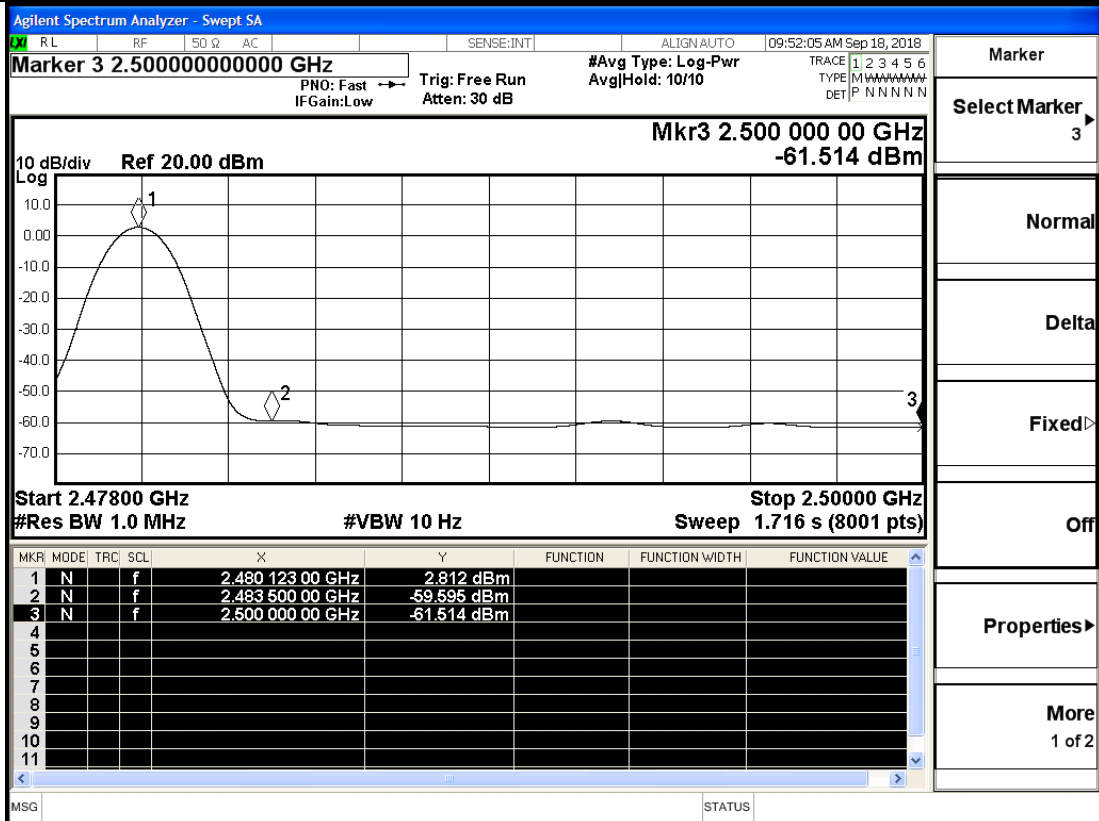
Restrict-band band-edge measurements\_LE\_2402\_Ant1\_AV



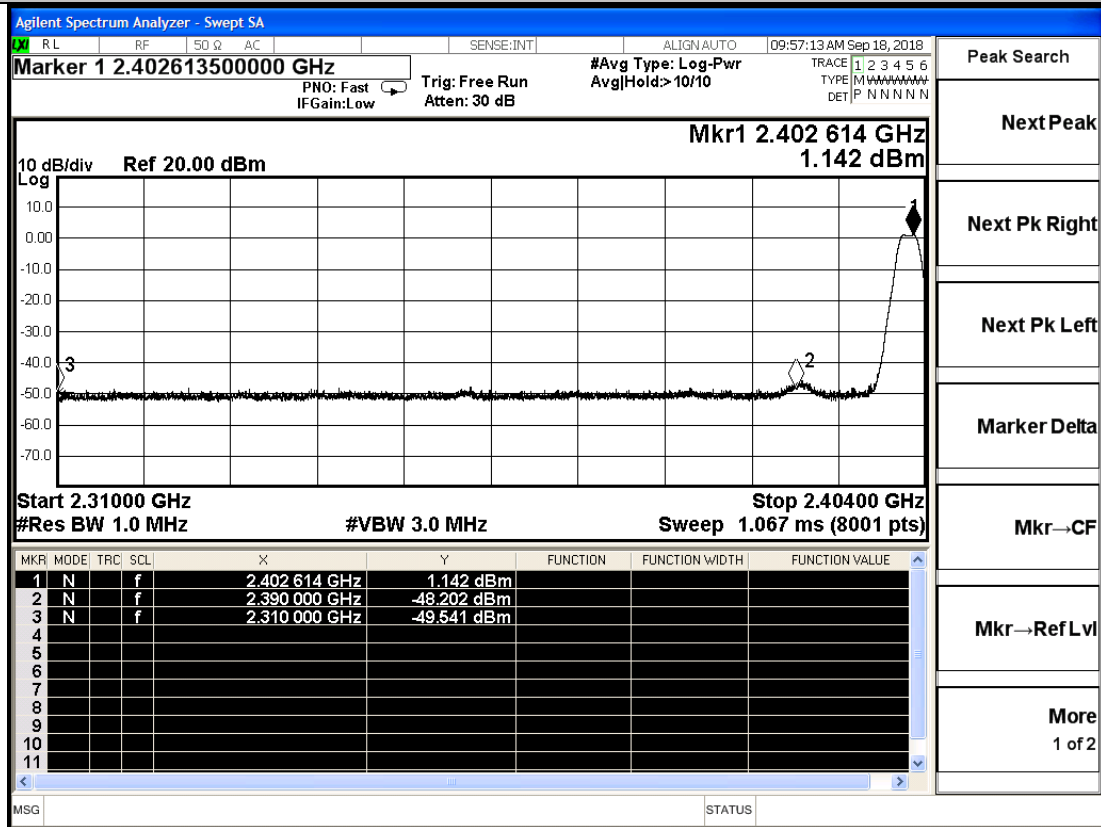
Restrict-band band-edge measurements\_LE\_2480\_Ant1\_PEAK



Restrict-band band-edge measurements\_LE\_2480\_Ant1\_AV

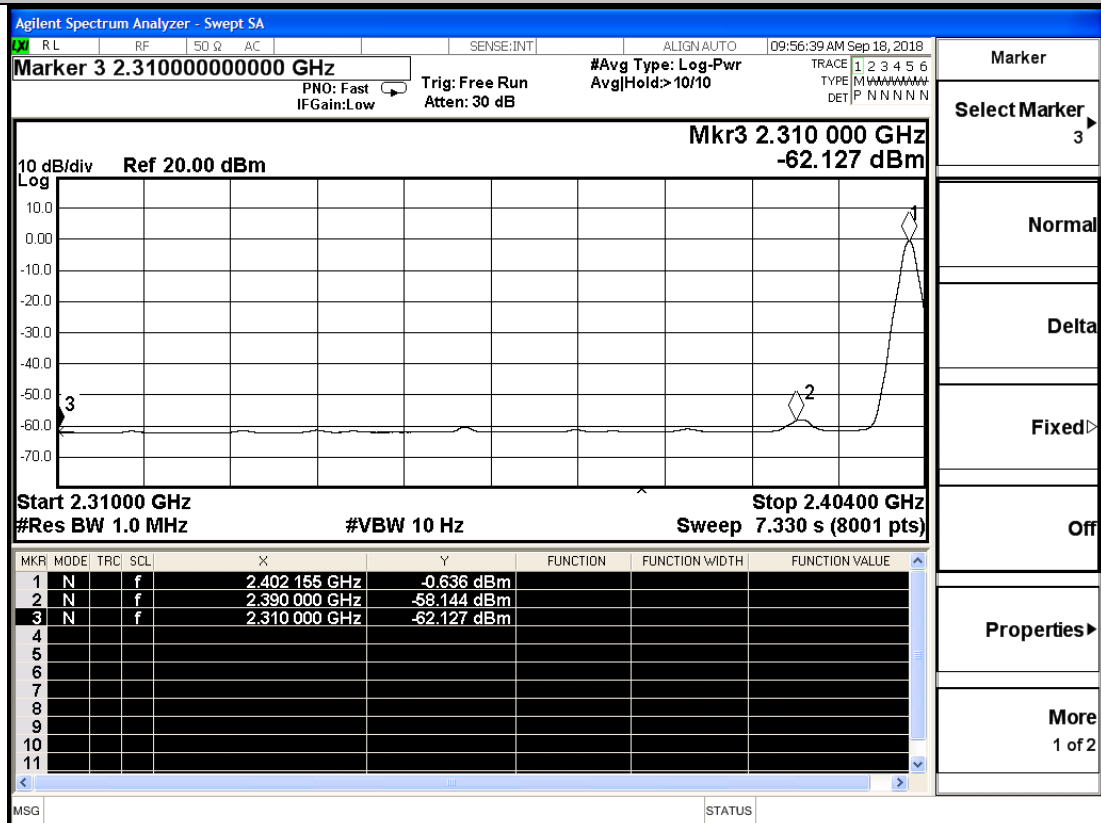


Restrict-band band-edge measurements\_2LE\_2402\_Ant1\_PEAK



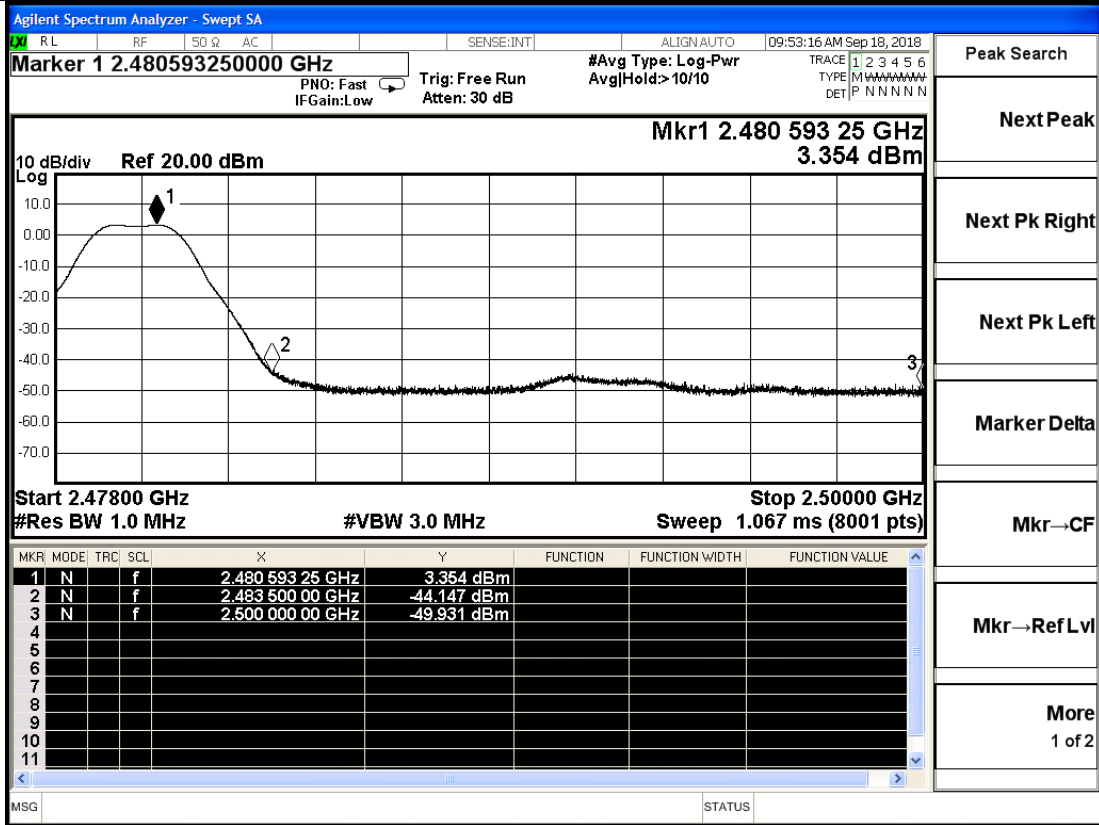
- Peak Search
- Next Peak
- Next Pk Right
- Next Pk Left
- Marker Delta
- Mkr→CF
- Mkr→Ref Lvl
- More  
1 of 2

Restrict-band band-edge measurements\_2LE\_2402\_Ant1\_AV



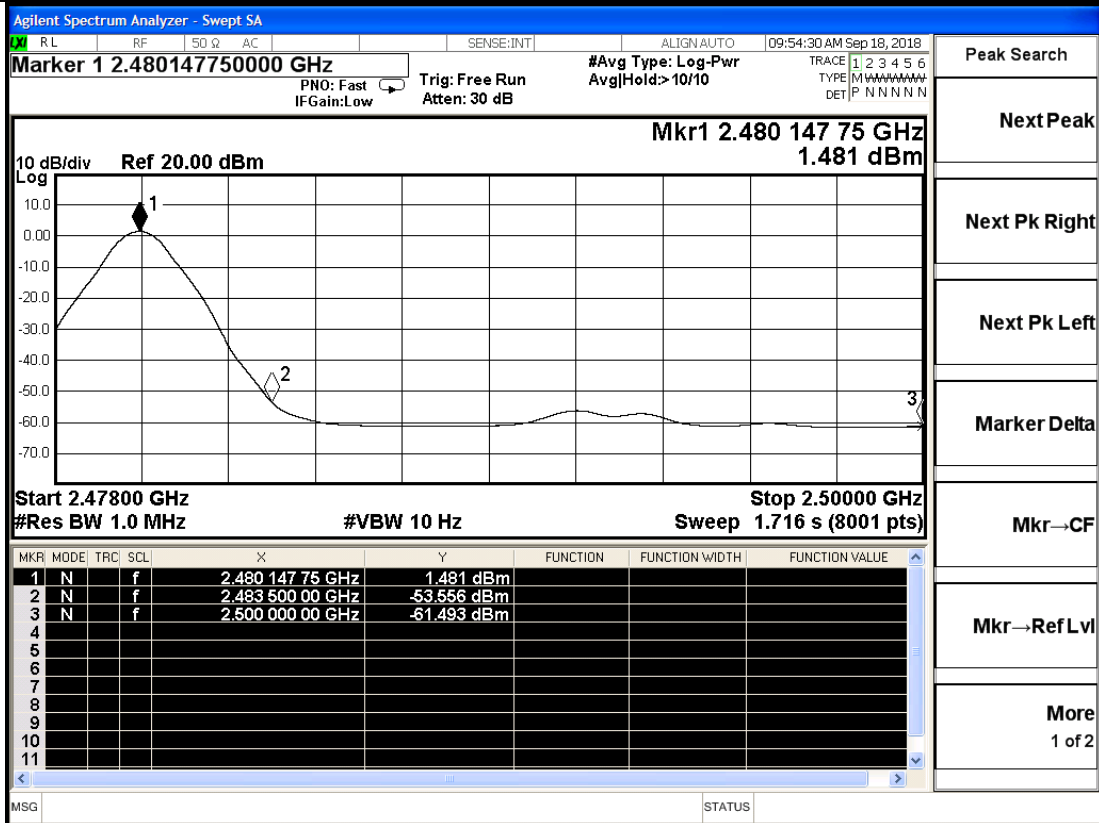
- Marker
- Select Marker  
3
- Normal
- Delta
- Fixed
- Off
- Properties
- More  
1 of 2

Restrict-band band-edge measurements\_2LE\_2480\_Ant1\_PEAK



- Peak Search
- Next Peak
- Next Pk Right
- Next Pk Left
- Marker Delta
- Mkr→CF
- Mkr→Ref Lvl
- More 1 of 2

Restrict-band band-edge measurements\_2LE\_2480\_Ant1\_AV



- Peak Search
- Next Peak
- Next Pk Right
- Next Pk Left
- Marker Delta
- Mkr→CF
- Mkr→Ref Lvl
- More 1 of 2