



# Appendix A: 20dB Emission Bandwidth (EBW)



## 1 Result Table

EUT Conf.	EBW [MHz]	Verdict
TM1_DH5_Ch0	1.024	Pass
TM1_DH5_Ch39	1.021	Pass
TM1_DH5_Ch78	1.019	Pass
TM2_2DH5_Ch0	1.352	Pass
TM2_2DH5_Ch39	1.351	Pass
TM2_2DH5_Ch78	1.353	Pass
TM3_3DH5_Ch0	1.325	Pass
TM3_3DH5_Ch39	1.325	Pass
TM3_3DH5_Ch78	1.326	Pass

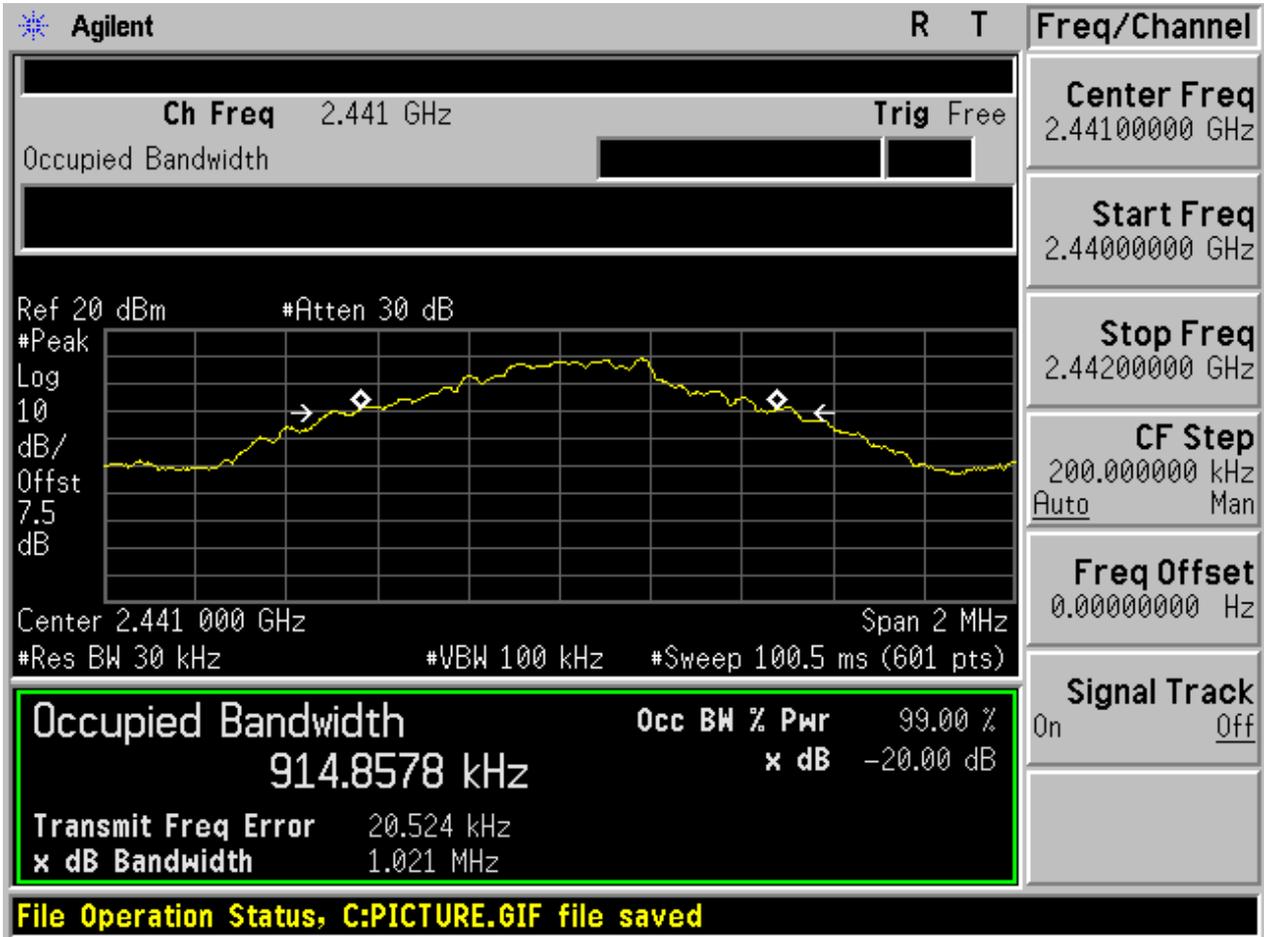


## 2 Test Plot

### 2.1 TM1\_DH5\_Ch0



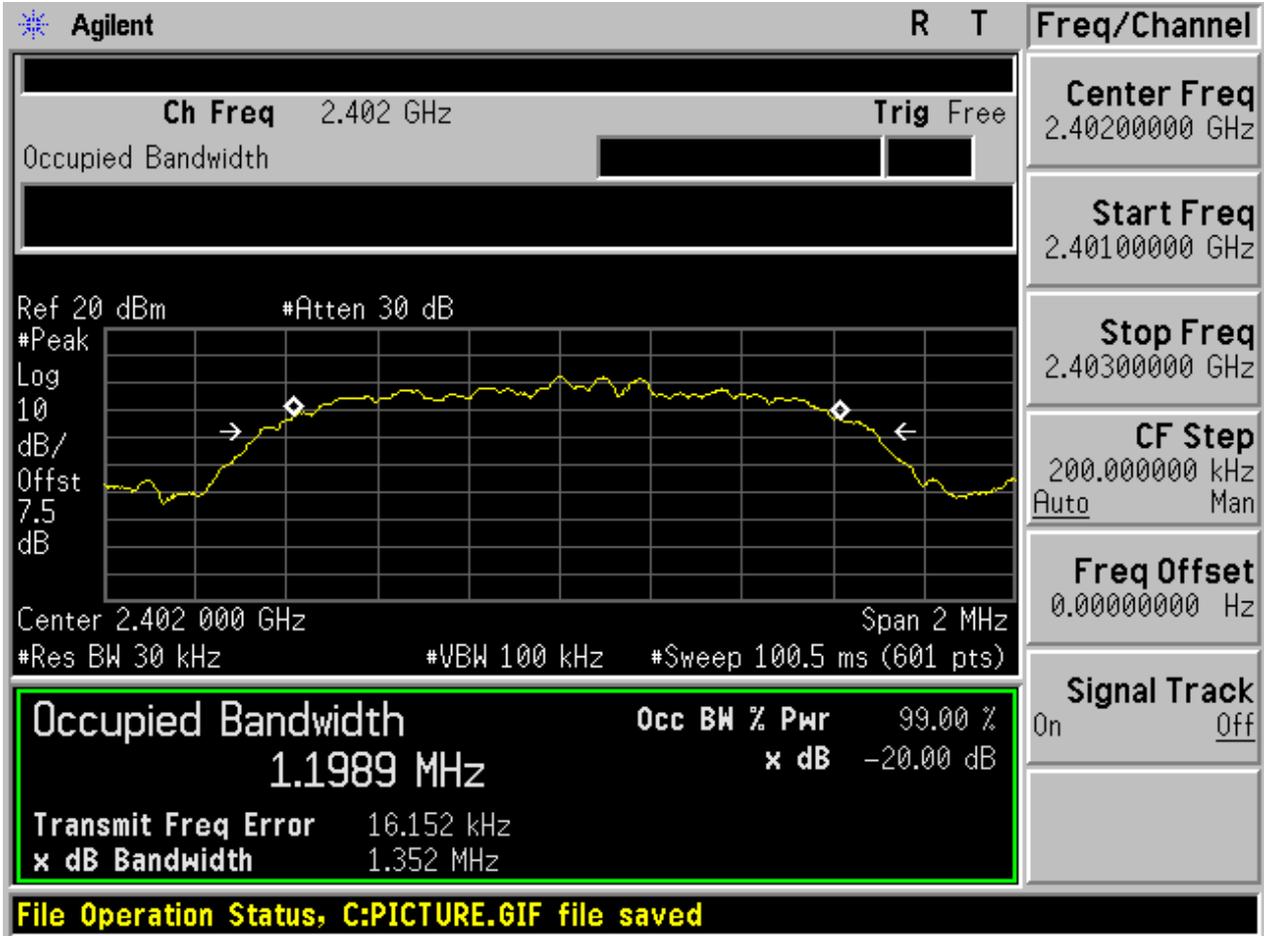
2.2 TM1\_DH5\_Ch39



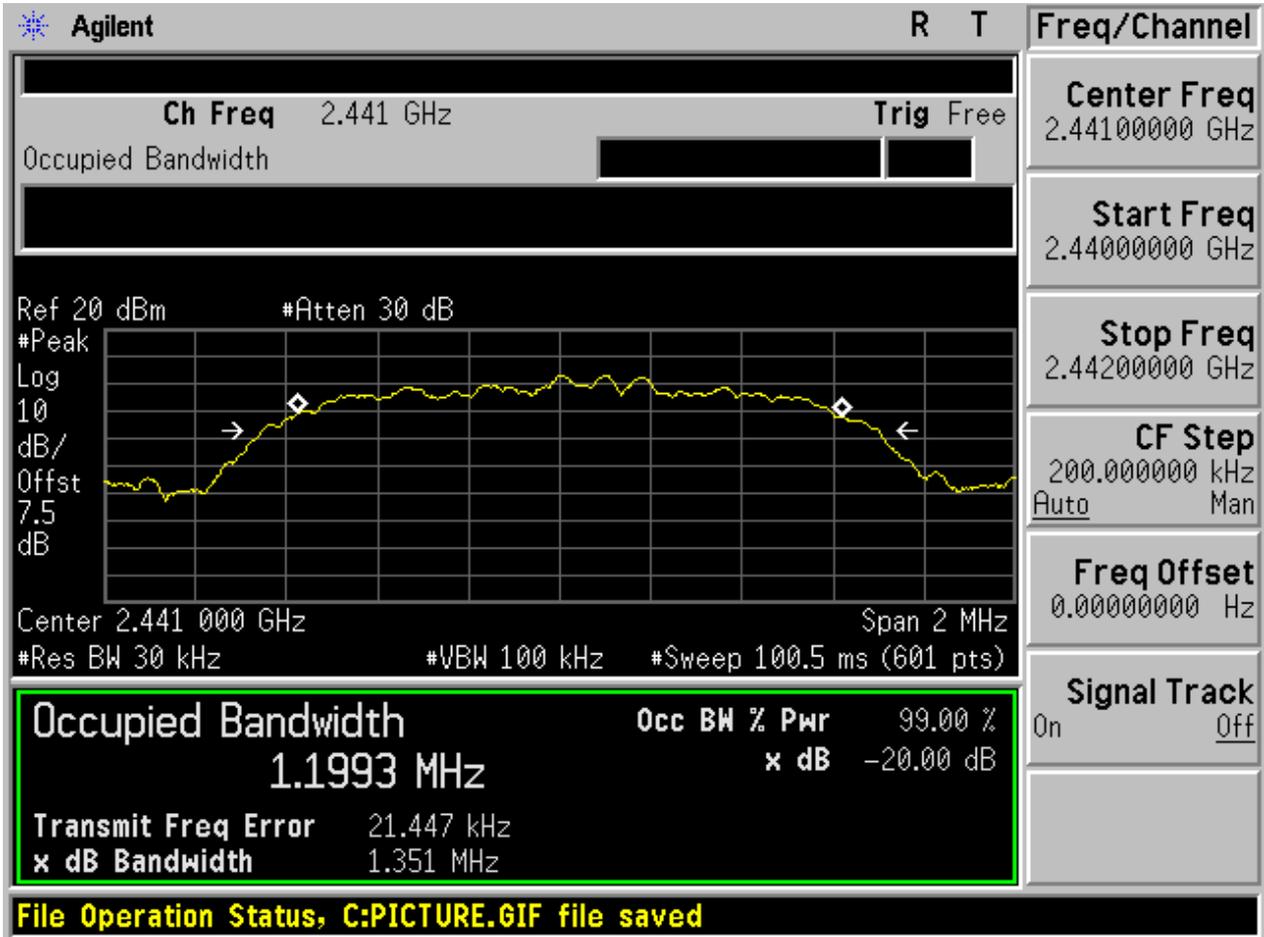
2.3 TM1\_DH5\_Ch78



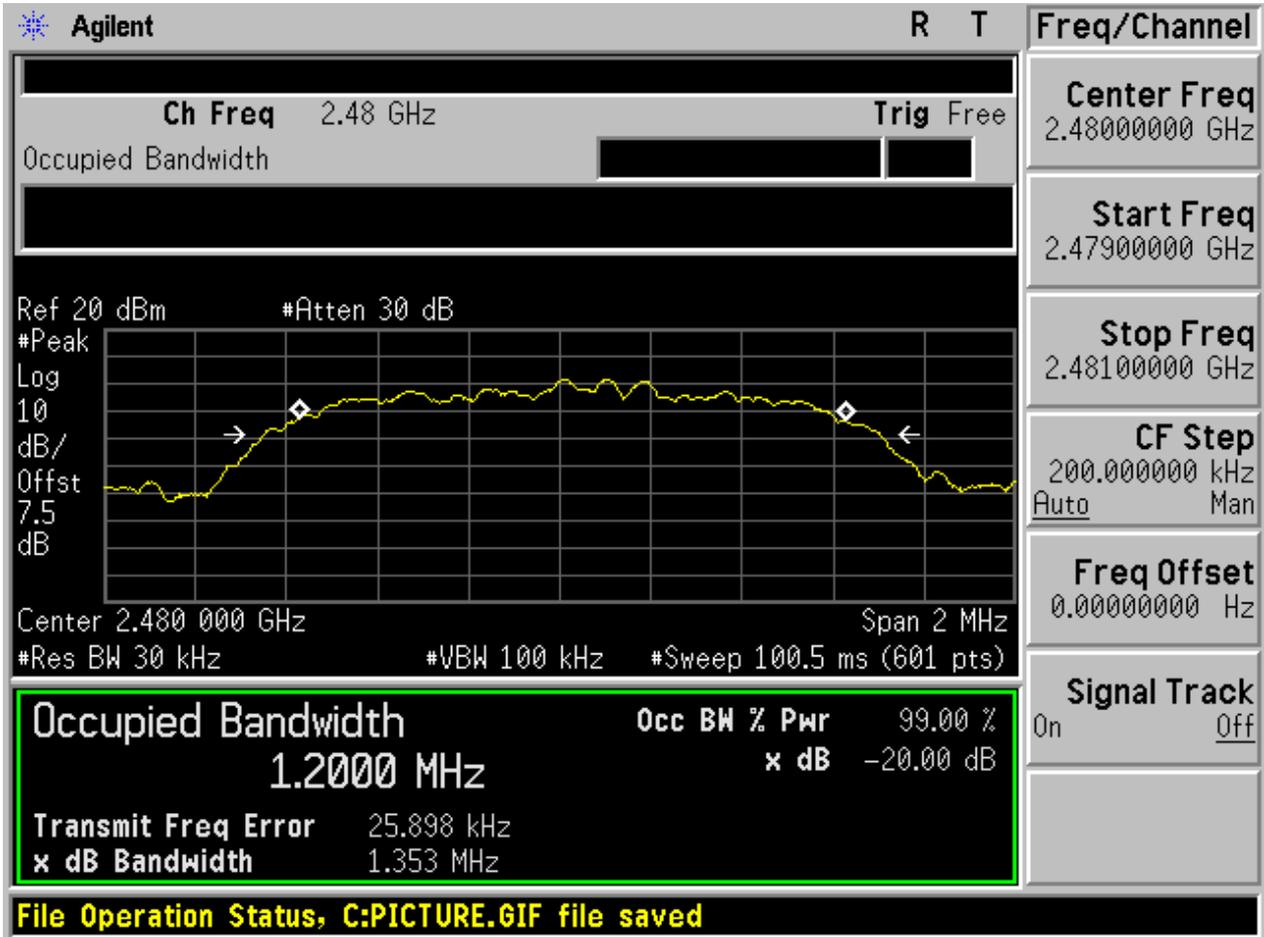
2.4 TM2\_2DH5\_Ch0



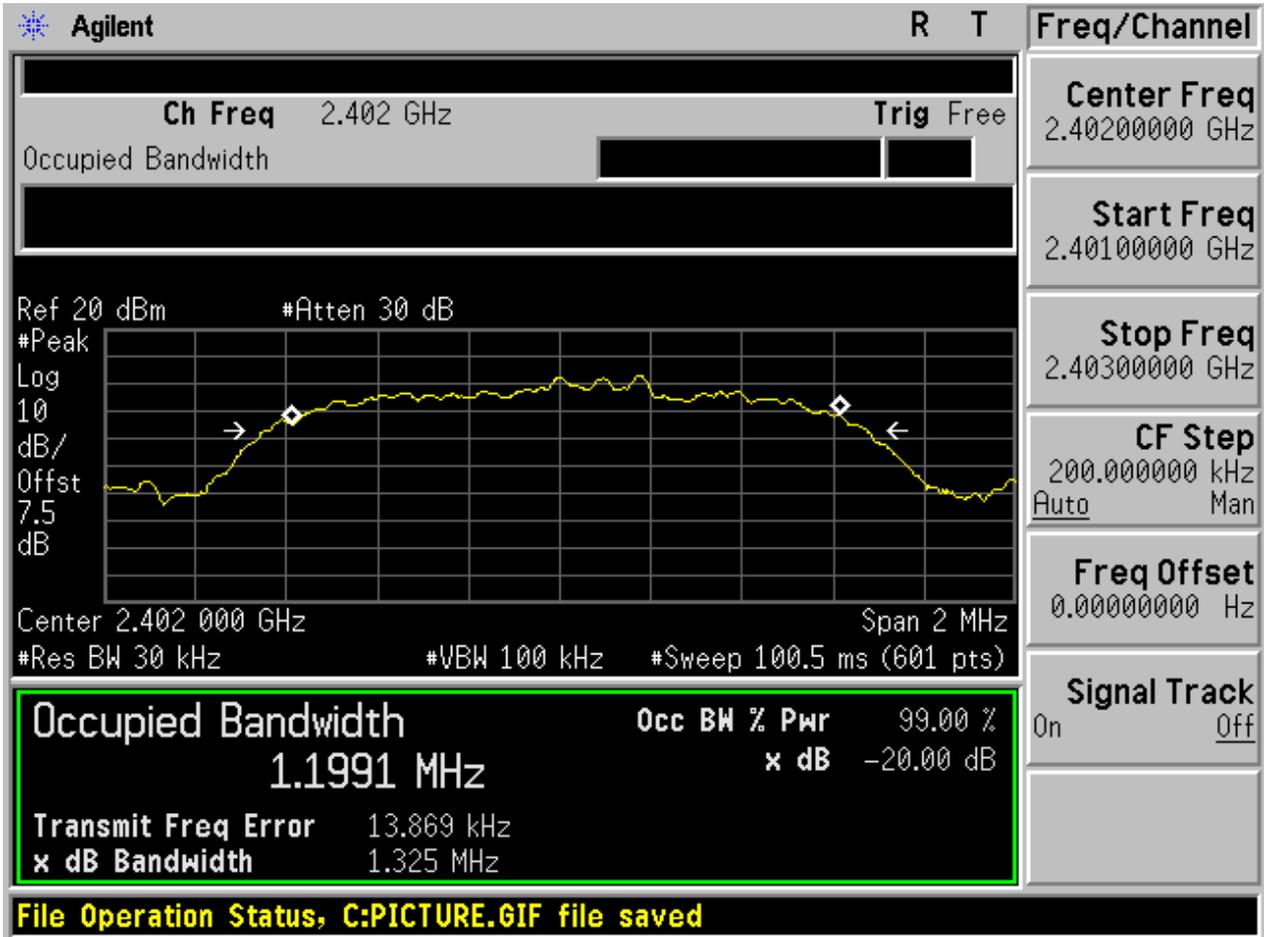
2.5 TM2\_2DH5\_Ch39



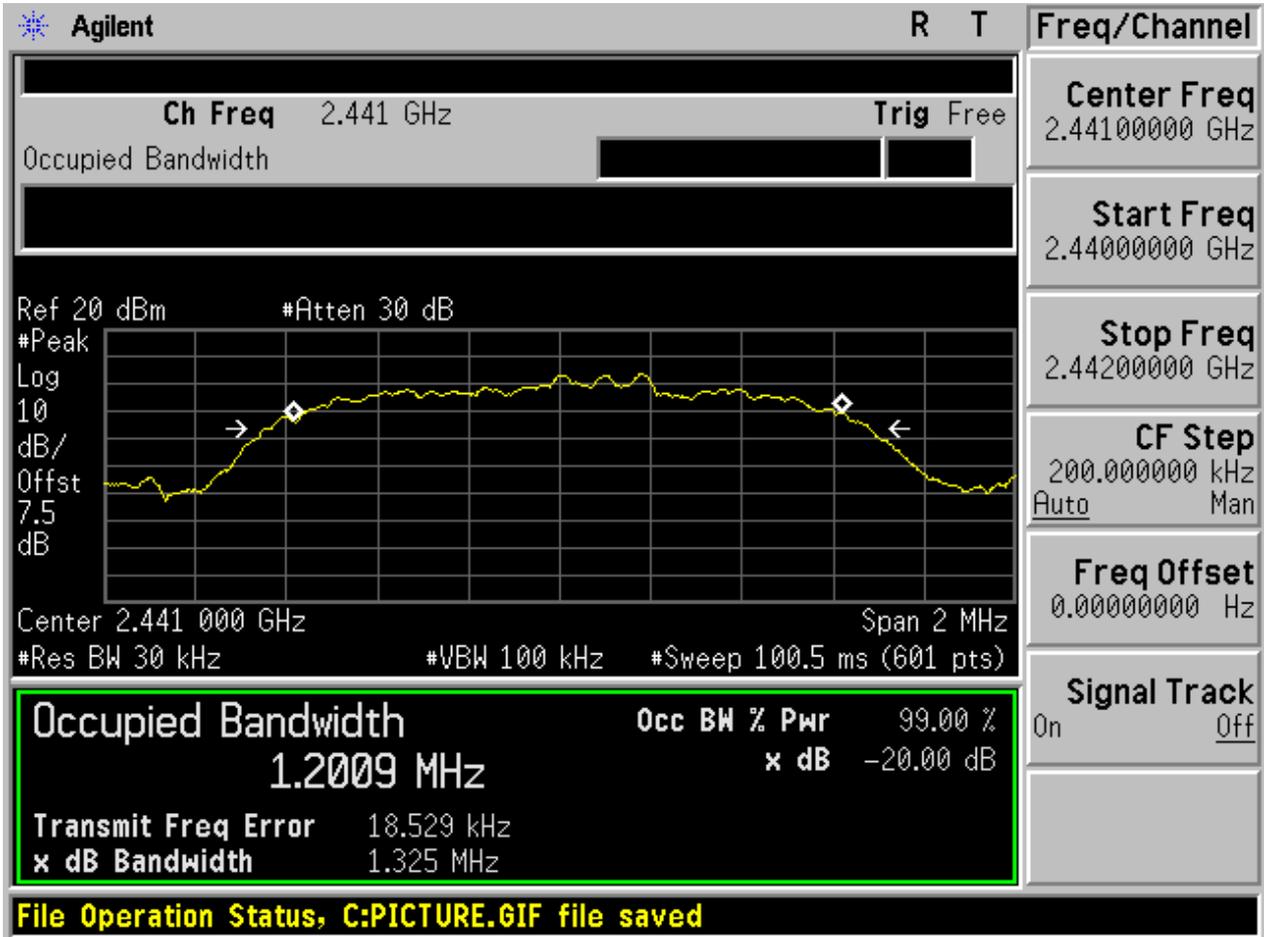
2.6 TM2\_2DH5\_Ch78



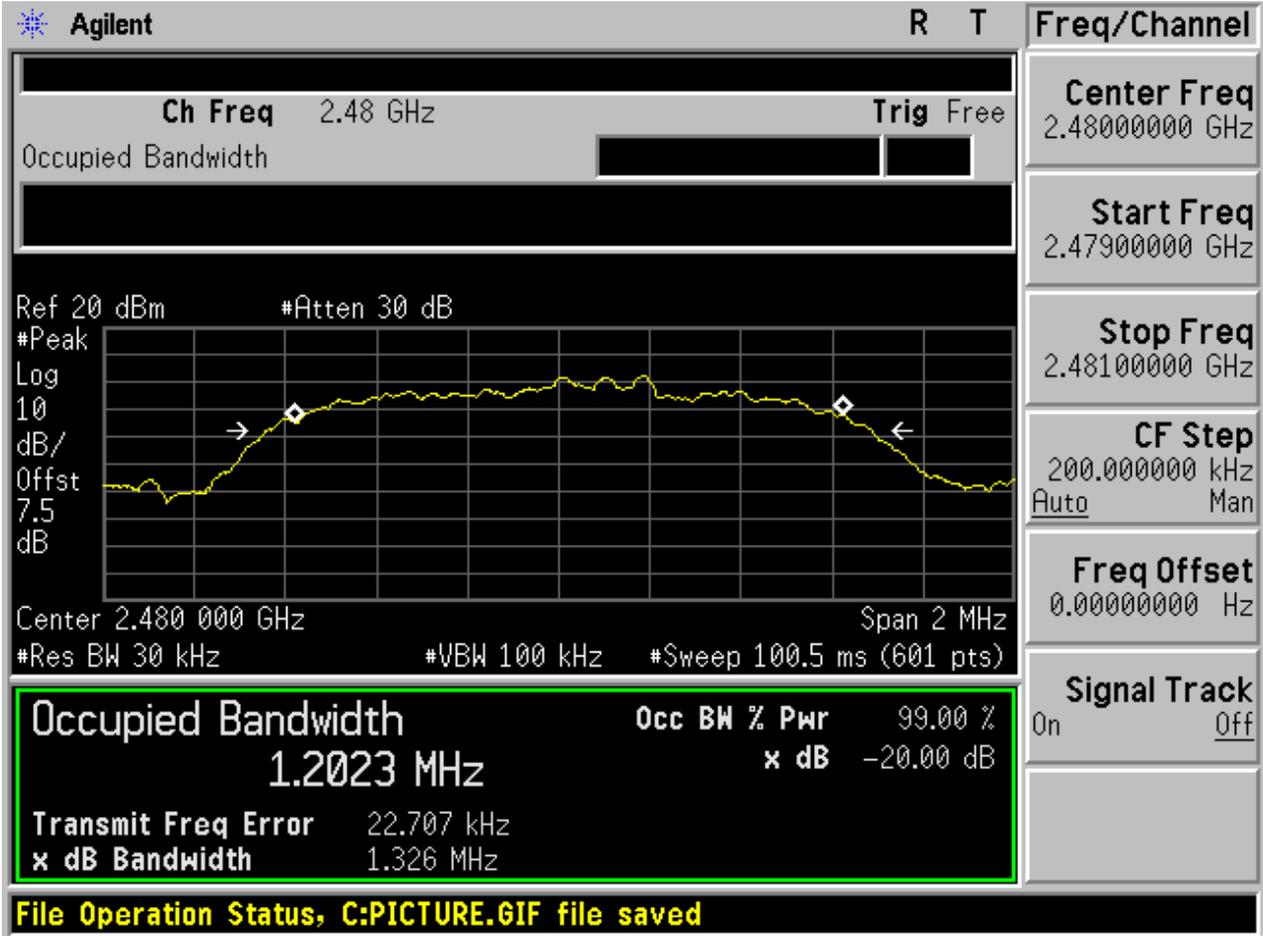
2.7 TM3\_3DH5\_Ch0



2.8 TM3\_3DH5\_Ch39



2.9 TM3\_3DH5\_Ch78





# Appendix B: Carrier Frequency Separation

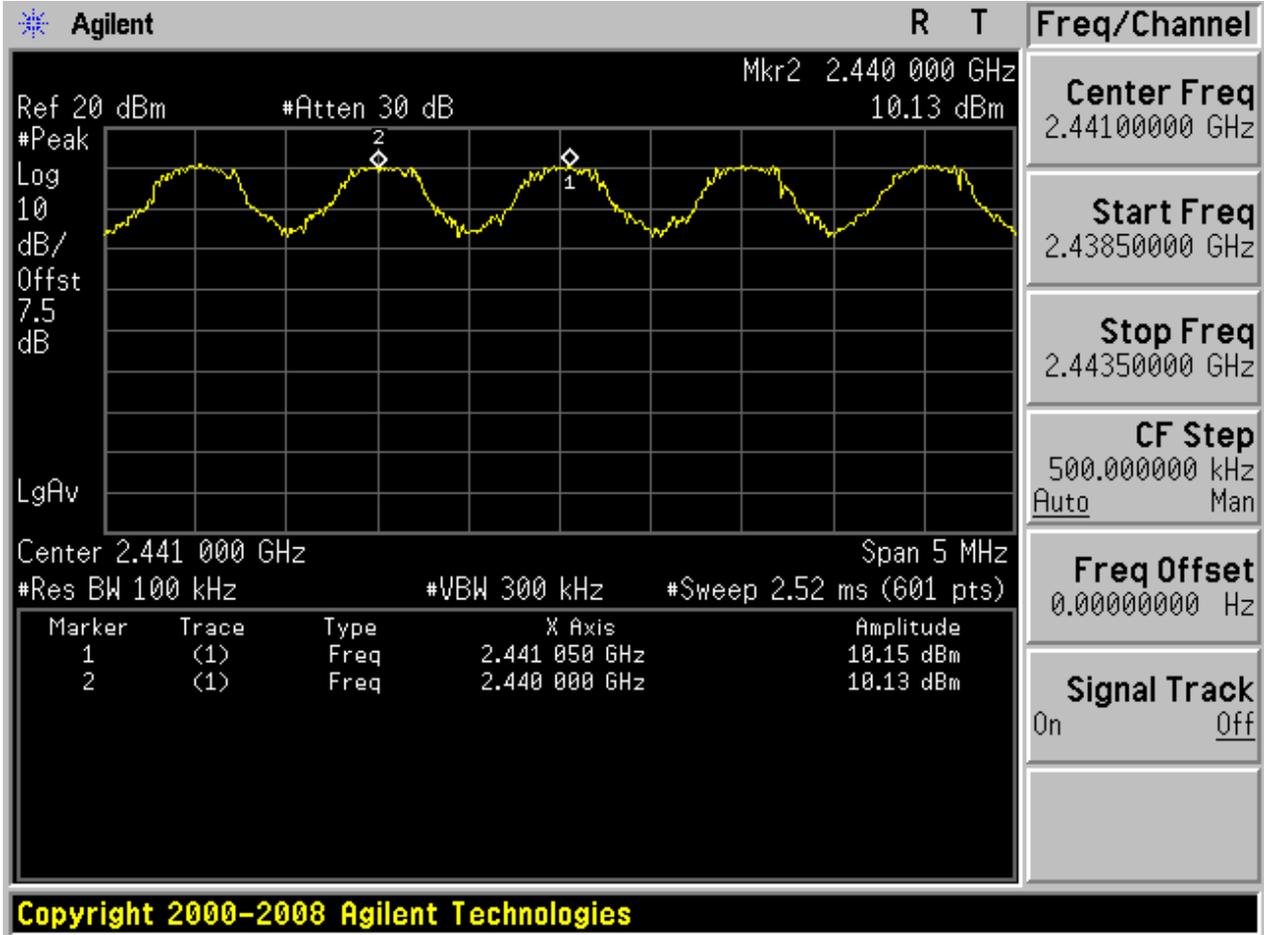


## 1 Result Table

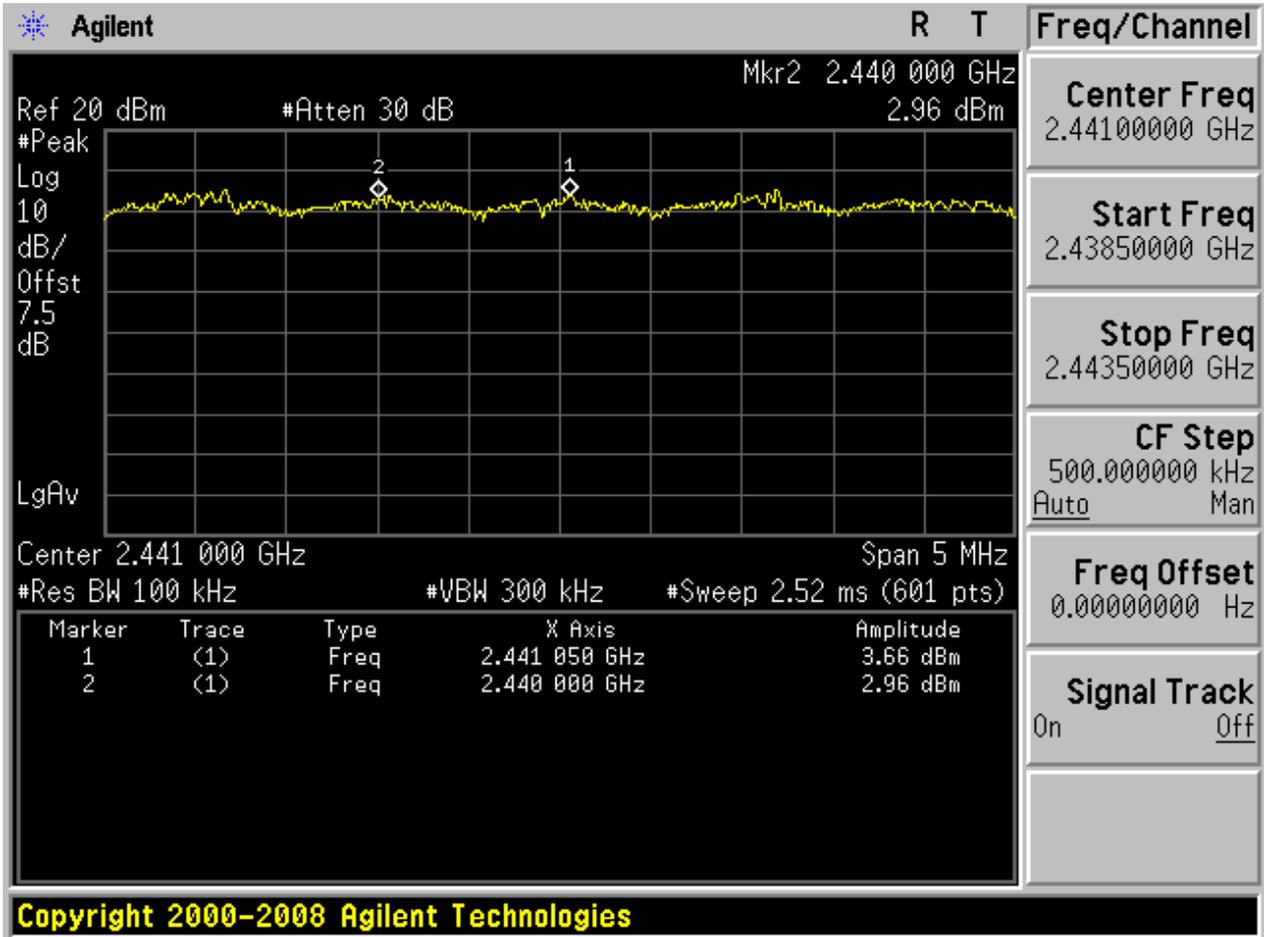
EUT Conf.	Carrier Frequency Separation [MHz]	Verdict
TM1_DH5_Hop	1.050	Pass
TM2_2DH5_Hop	1.050	Pass
TM3_3DH5_Hop	1.100	Pass

## 2 Test Plot

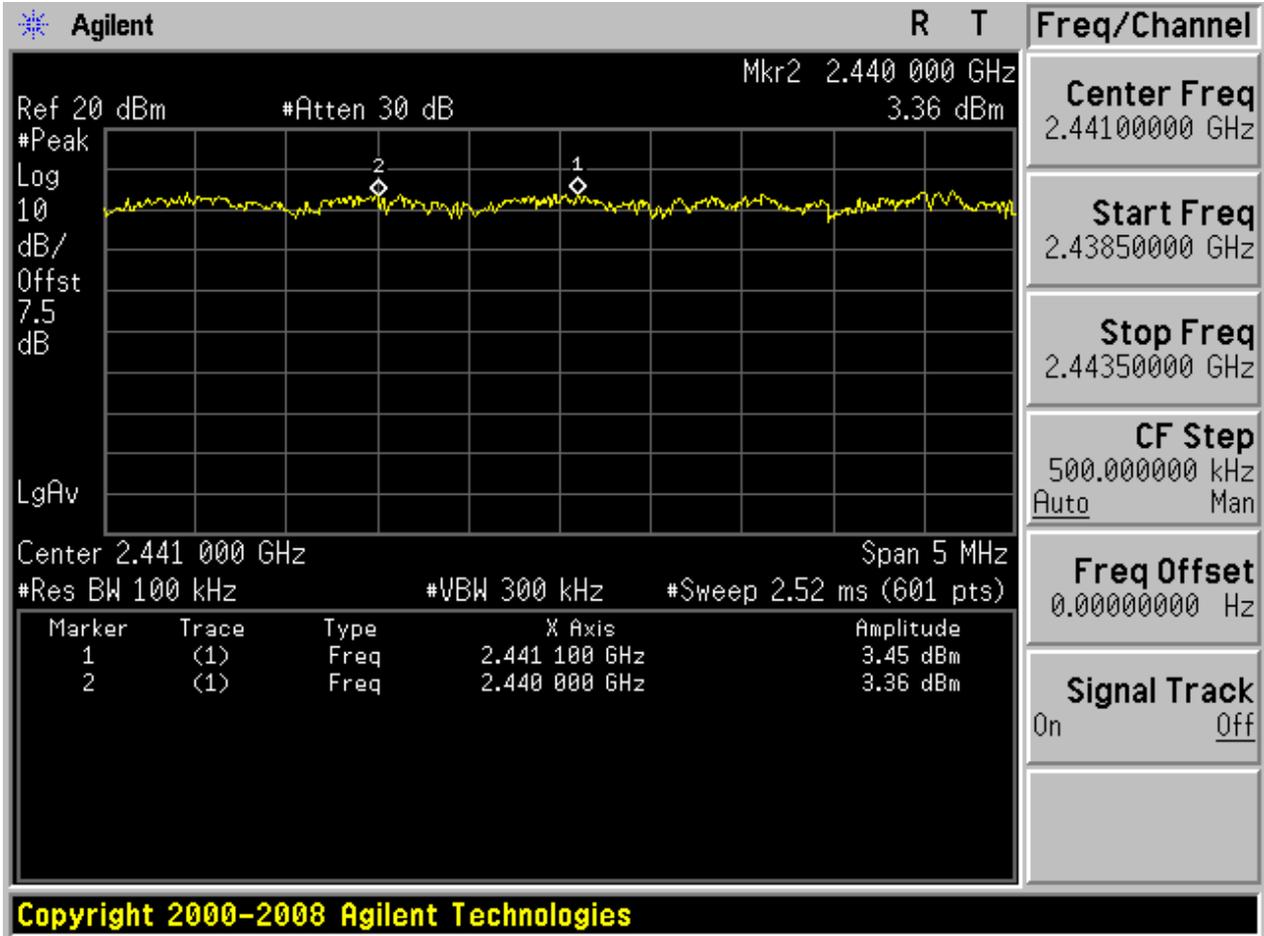
### 2.1 TM1\_DH5\_Hop



2.2 TM2\_2DH5\_Hop



### 2.3 TM3\_3DH5\_Hop





# Appendix C: Number of Hopping Channel

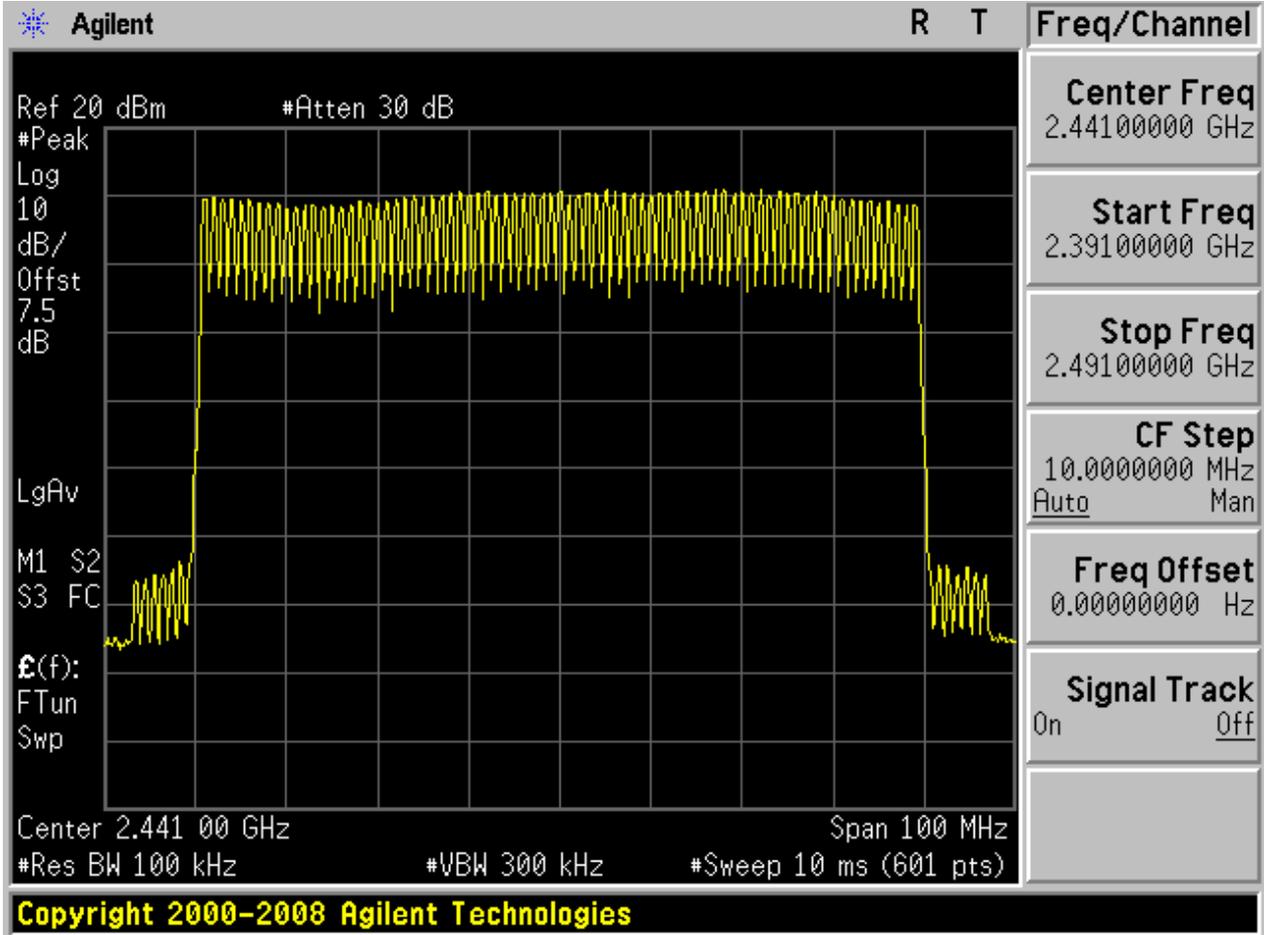


## 1 Result Table

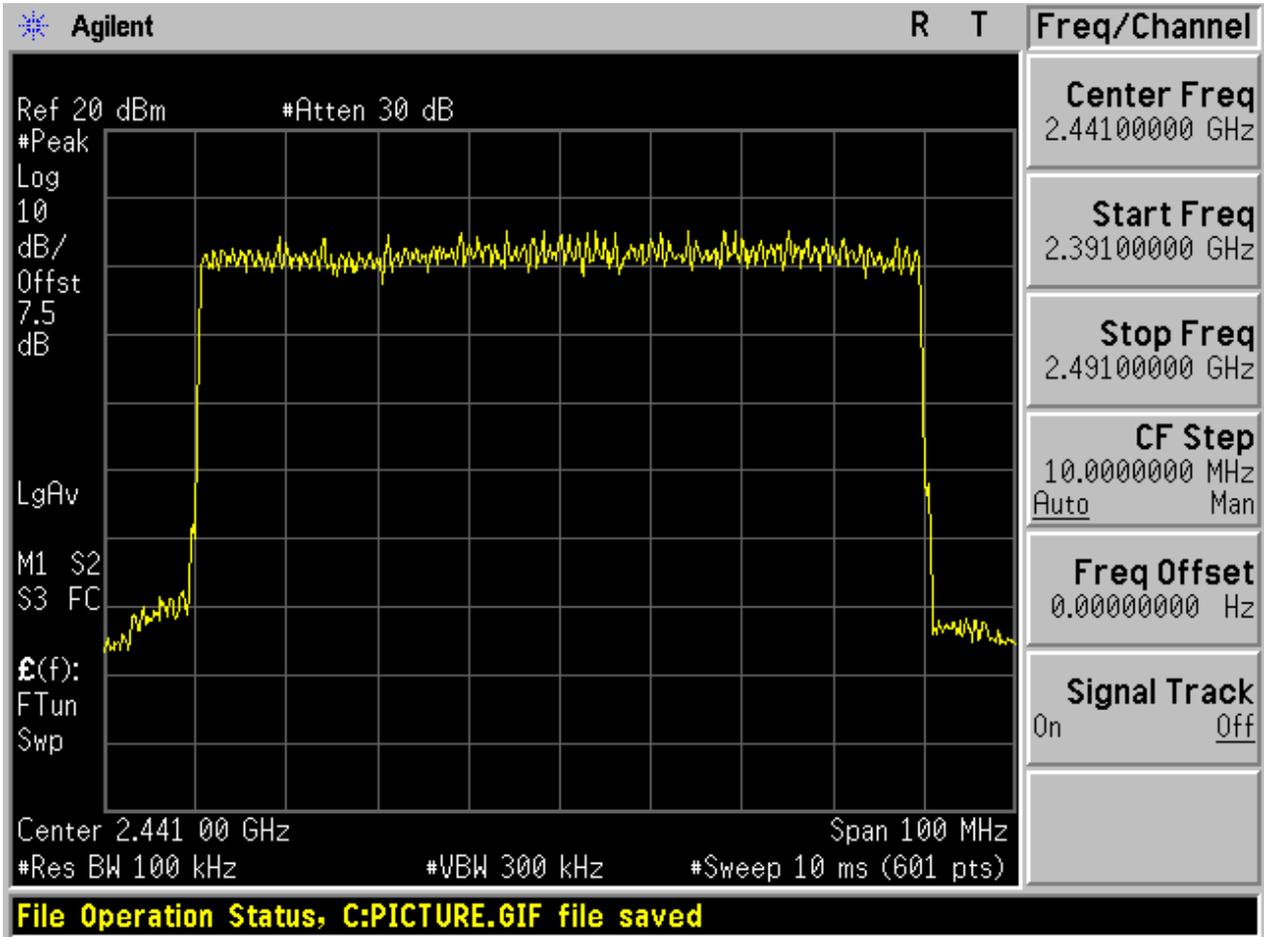
EUT Conf.	Number of Hopping Channel	Verdict
TM1_DH5_Hop	79	Pass
TM2_2DH5_Hop	79	Pass
TM3_3DH5_Hop	79	Pass

## 2 Test Plot

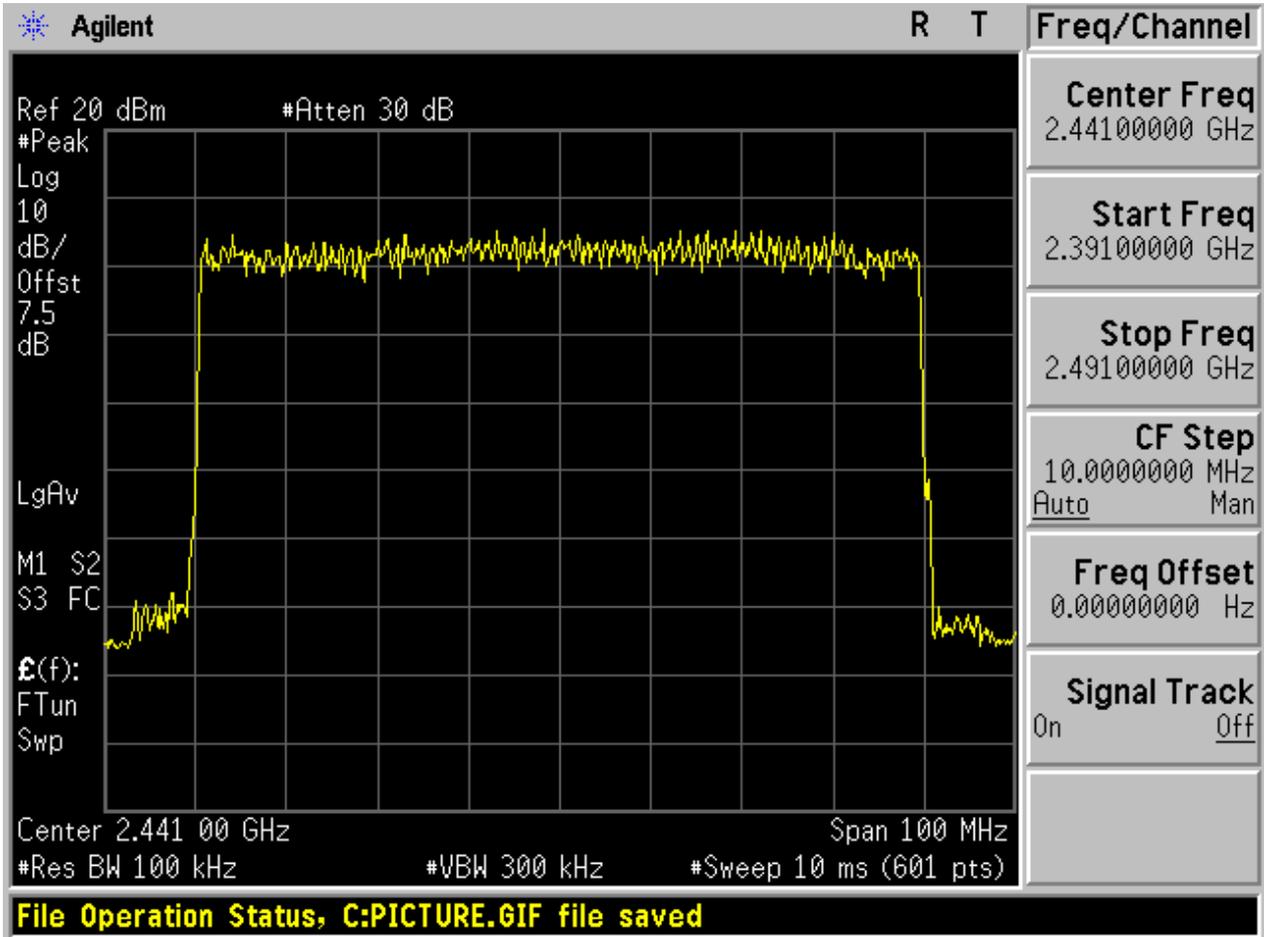
### 2.1 TM1\_DH5\_Hop



2.2 TM2\_2DH5\_Hop



2.3 TM3\_3DH5\_Hop





# Appendix D: Time of Occupancy (Dwell Time)

## 1 Result Table

The Dwell Time = Burst Width \* Total Hops. The detailed calculations are showed as follows:

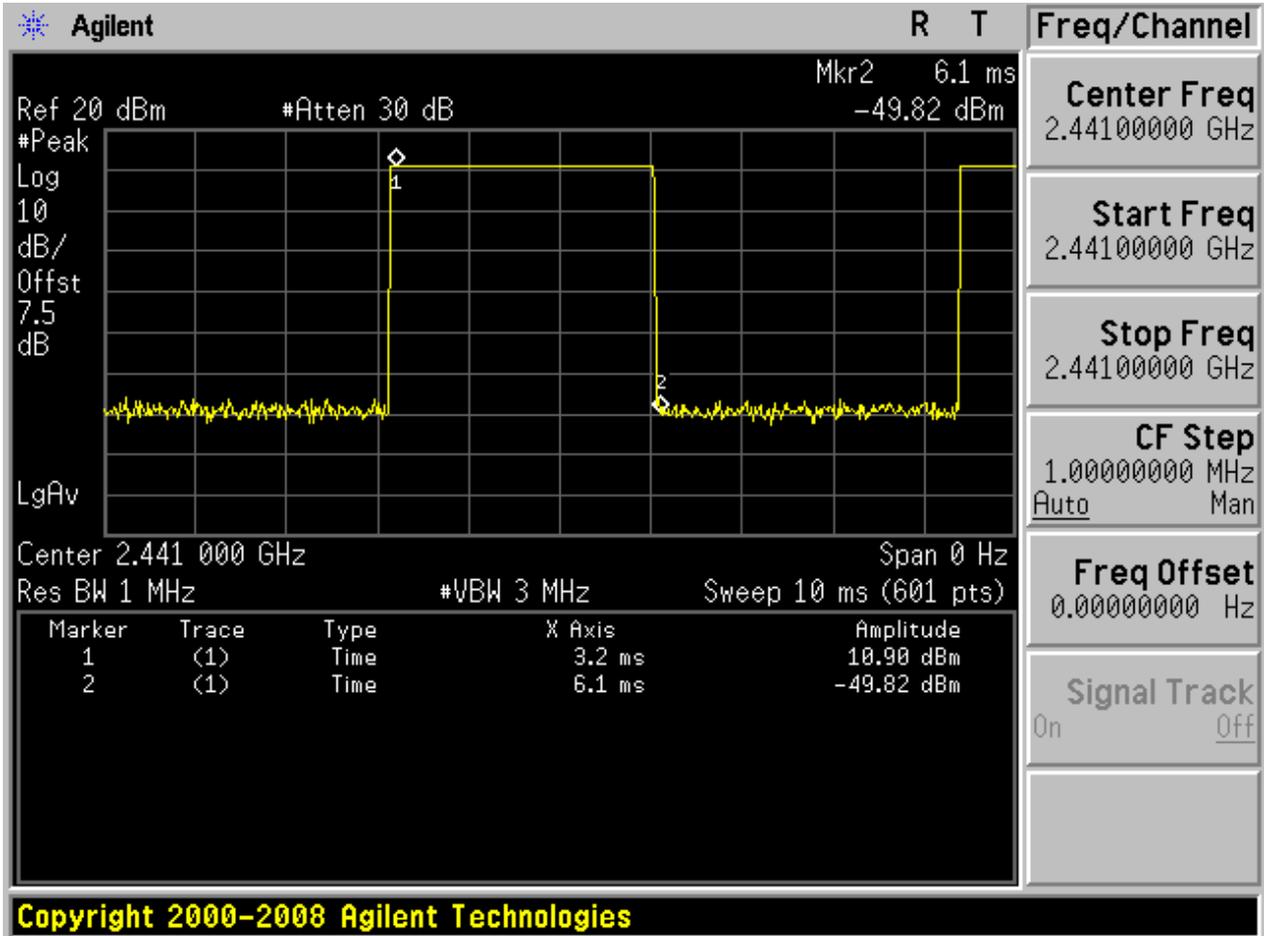
- The duration for dwell time calculation:  $0.4 \text{ [s]} * \text{hopping number} = 0.4 \text{ [s]} * 79 \text{ [ch]} = 31.6 \text{ [s*ch]}$ ;
- The burst width [ms/hop/ch], which is directly measured, refers to the duration on one channel hop.
- The hops per second for all channels: The selected EUT Conf uses a slot type of 5-Tx&1-Rx and a hopping rate of 1600 [ch\*hop/s] for all channels. So the final hopping rate for all channels is  $1600 / 6 = 266.67 \text{ [ch*hop/s]}$ ;
- The hops per second on one channel:  $266.67 \text{ [ch*hop/s]} / 79 \text{ [ch]} = 3.38 \text{ [hop/s]}$ ;
- The total hops for all channels within the dwell time calculation duration:  $3.38 \text{ [hop/s]} * 31.6 \text{ [s*ch]} = 106.67 \text{ [hop*ch]}$ ;
- The dwell time for all channels hopping:  $106.67 \text{ [hop*ch]} * \text{Burst Width [ms/hop/ch]}$ .

EUT Conf.	Burst Width [ms/hop/ch]	Total Hops [hop*ch]	Dwell Time [ms]	Verdict
TM1_DH5_Ch39	2.900	106.67	0.309	Pass
TM2_2DH5_Ch39	2.900	106.67	0.309	Pass
TM3_3DH5_Ch39	2.900	106.67	0.309	Pass

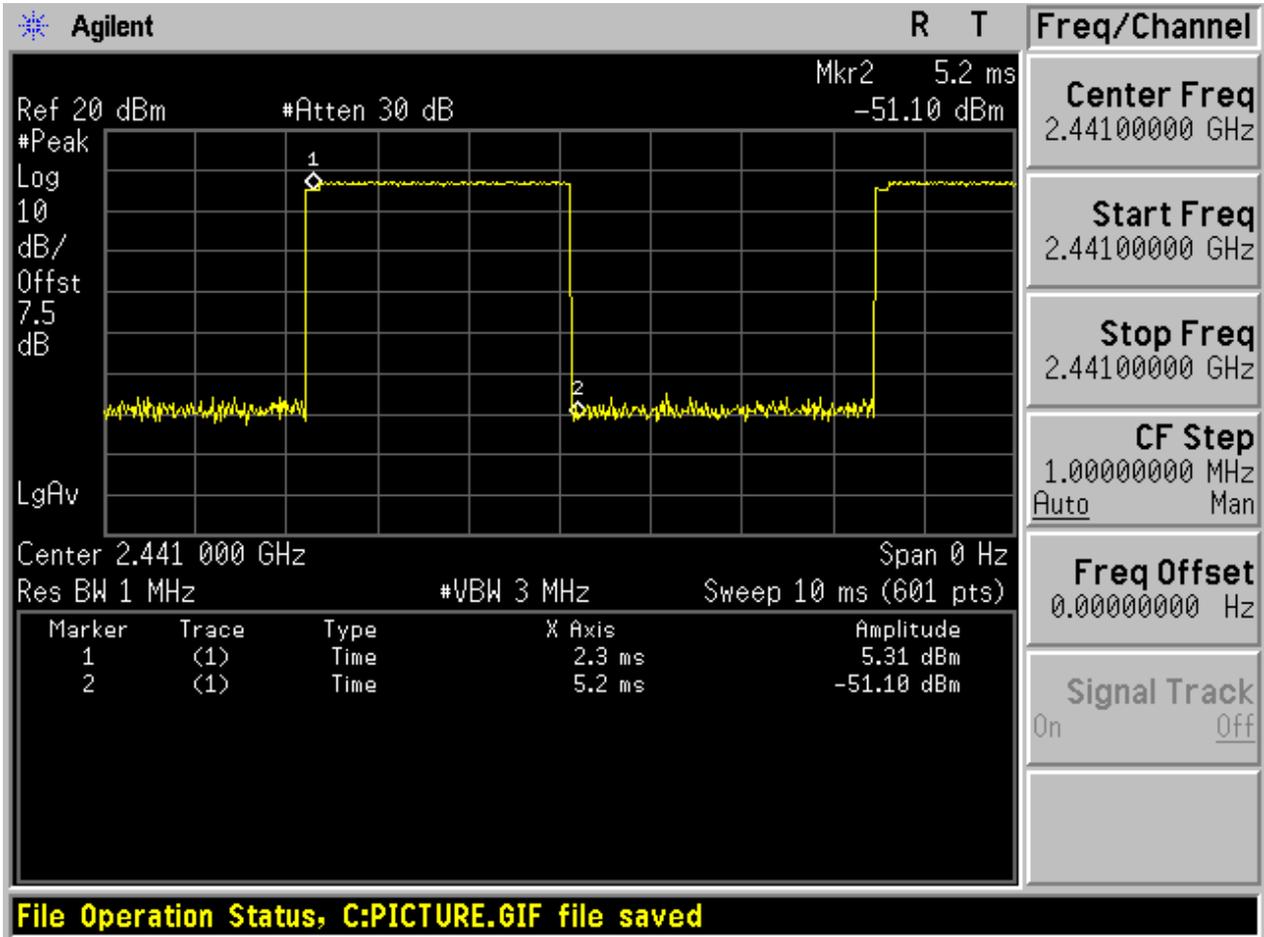
## 2 Test Plot

NOTE: The test plots are only for Burst Width measurements.

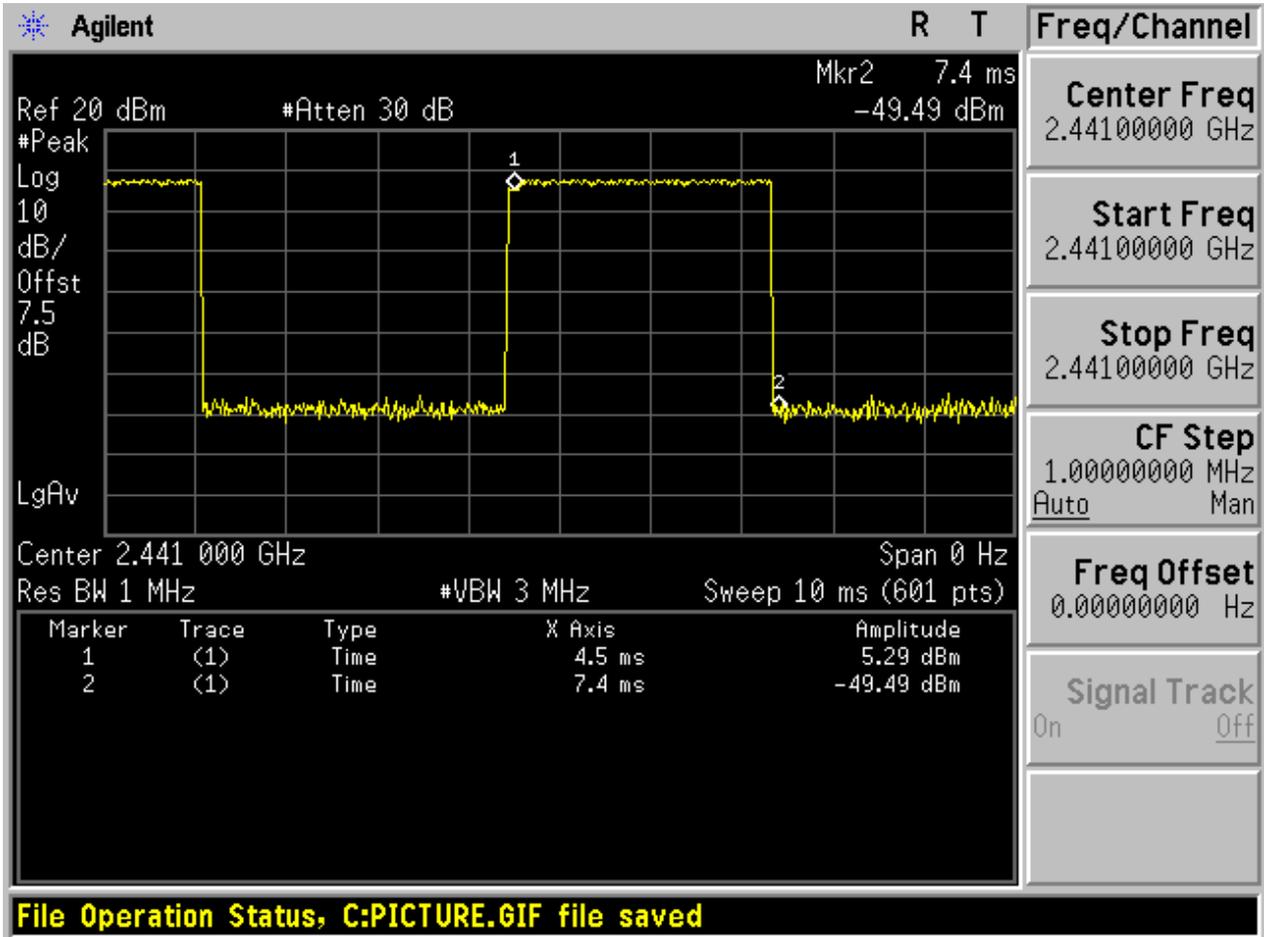
### 2.1 TM1\_DH5\_Ch39



2.2 TM2\_2DH5\_Ch39



2.3 TM3\_3DH5\_Ch39





# Appendix E: Maximum Peak Conducted Output Power

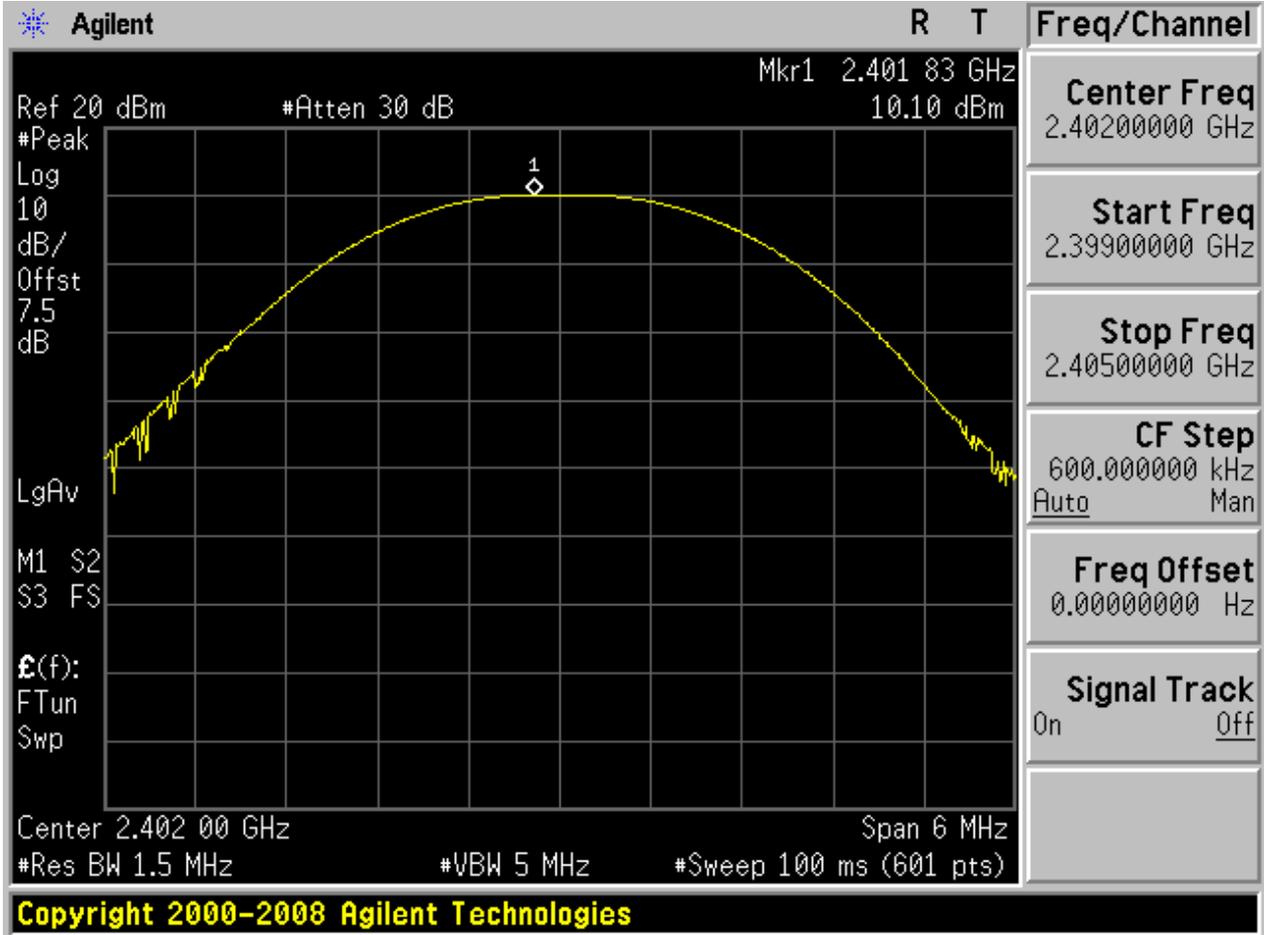


## 1 Result Table

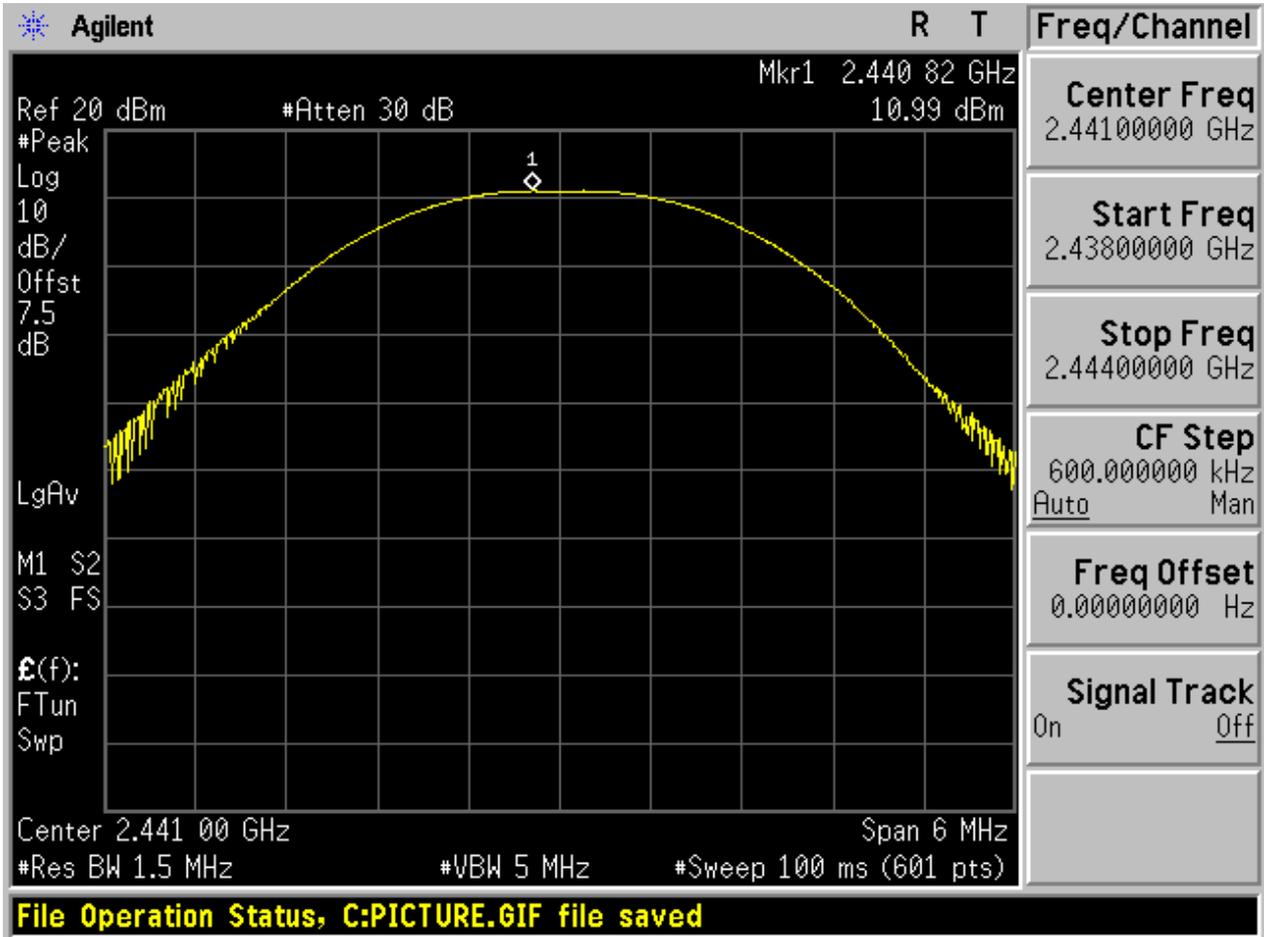
EUT Conf.	Max. Peak Power [dBm]	Verdict
TM1_DH5_Ch0	10.1	Pass
TM1_DH5_Ch39	10.99	Pass
TM1_DH5_Ch78	9.08	Pass
TM2_2DH5_Ch0	6.51	Pass
TM2_2DH5_Ch39	7.52	Pass
TM2_2DH5_Ch78	6.04	Pass
TM3_3DH5_Ch0	6.98	Pass
TM3_3DH5_Ch39	7.98	Pass
TM3_3DH5_Ch78	6.41	Pass

## 2 Test Plot

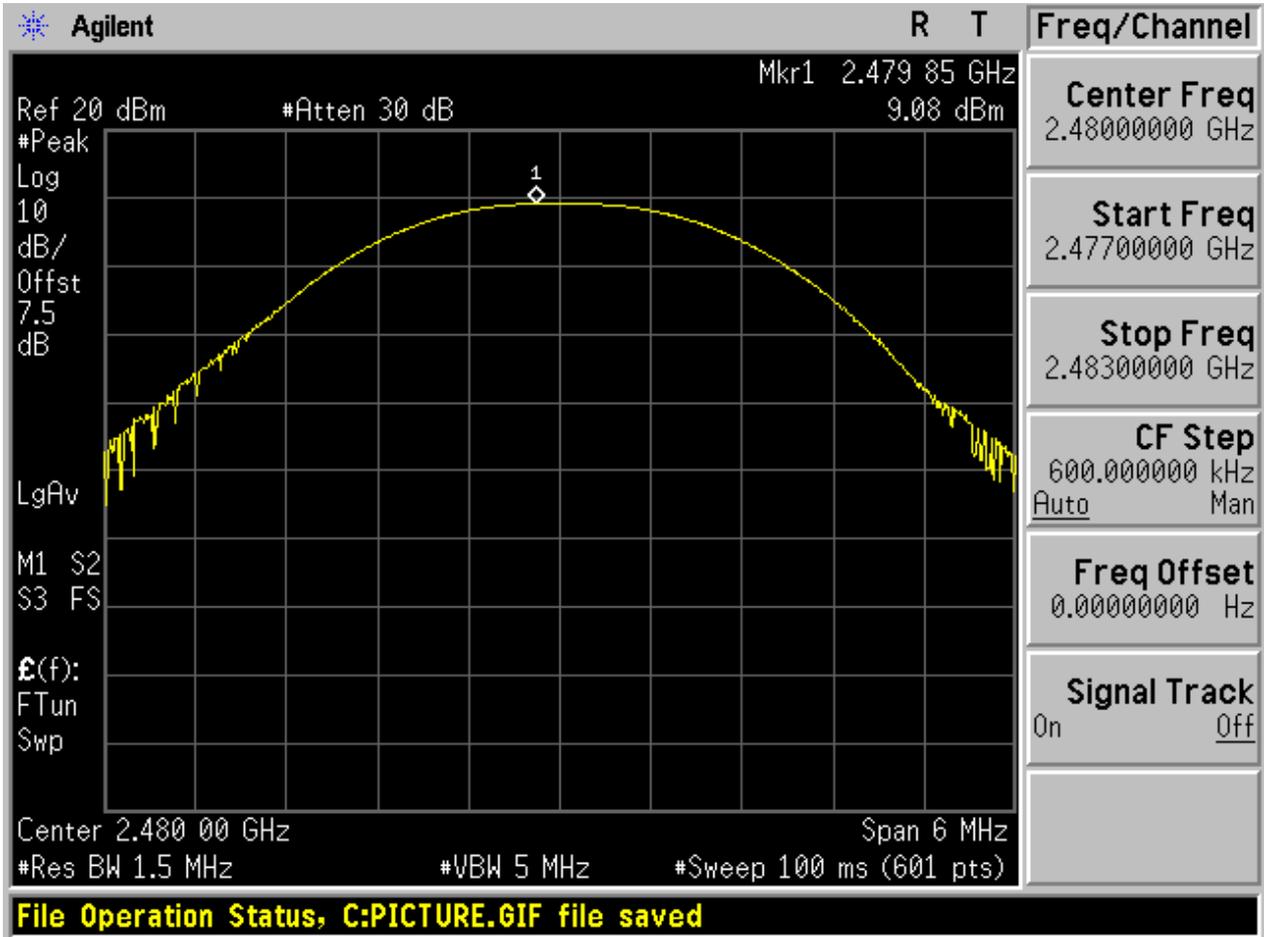
### 2.1 TM1\_DH5\_Ch0



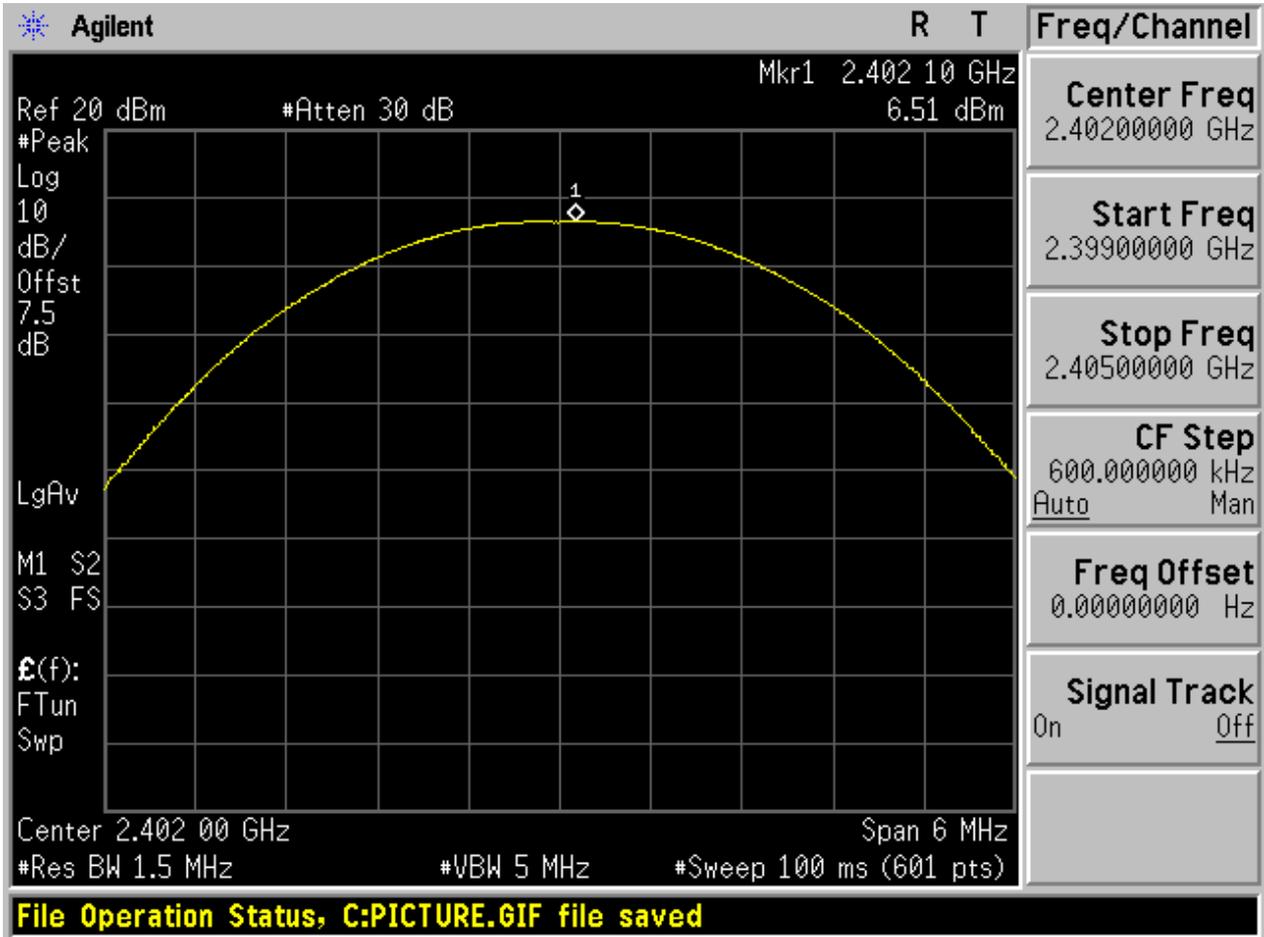
2.2 TM1\_DH5\_Ch39



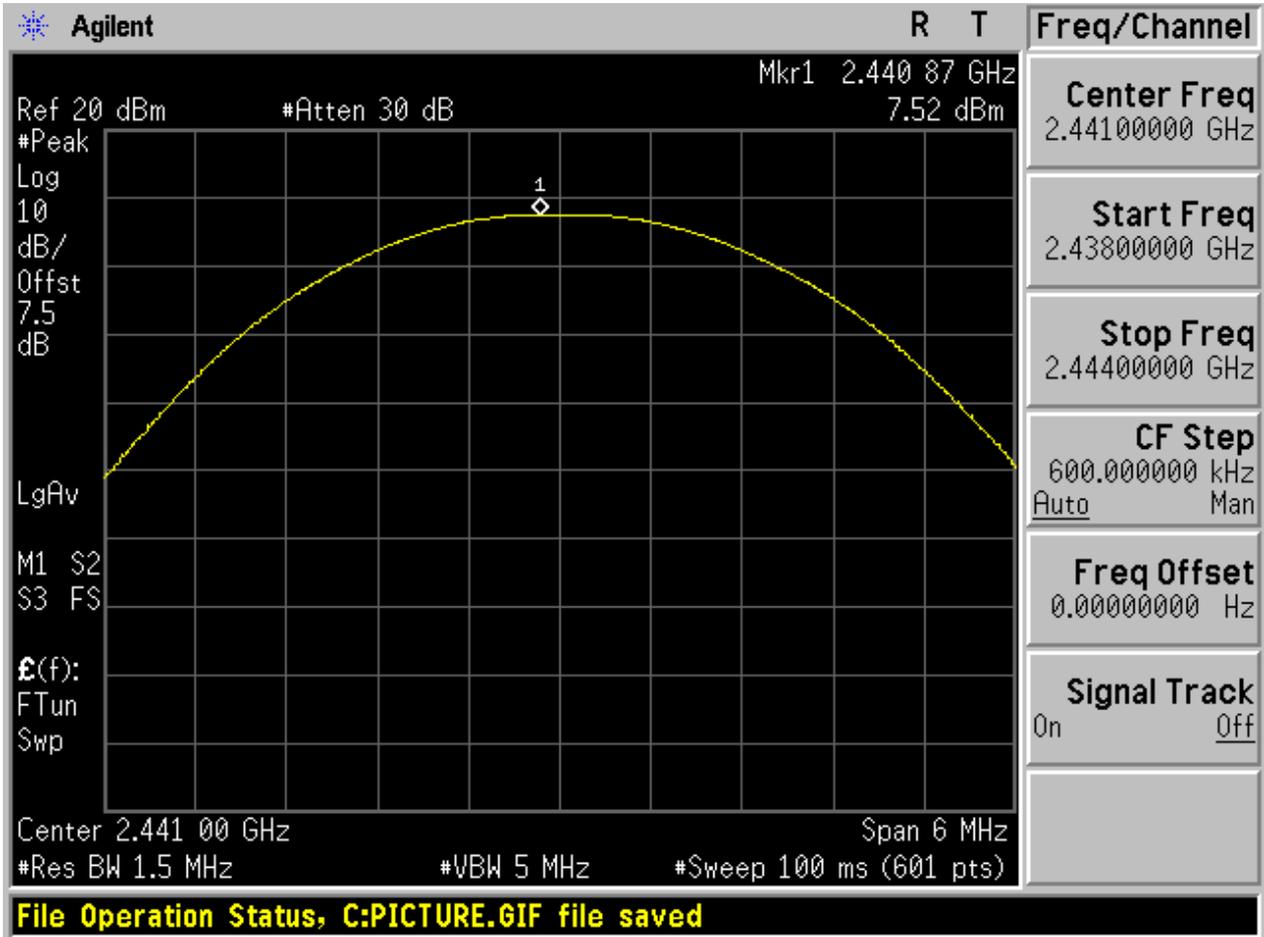
2.3 TM1\_DH5\_Ch78



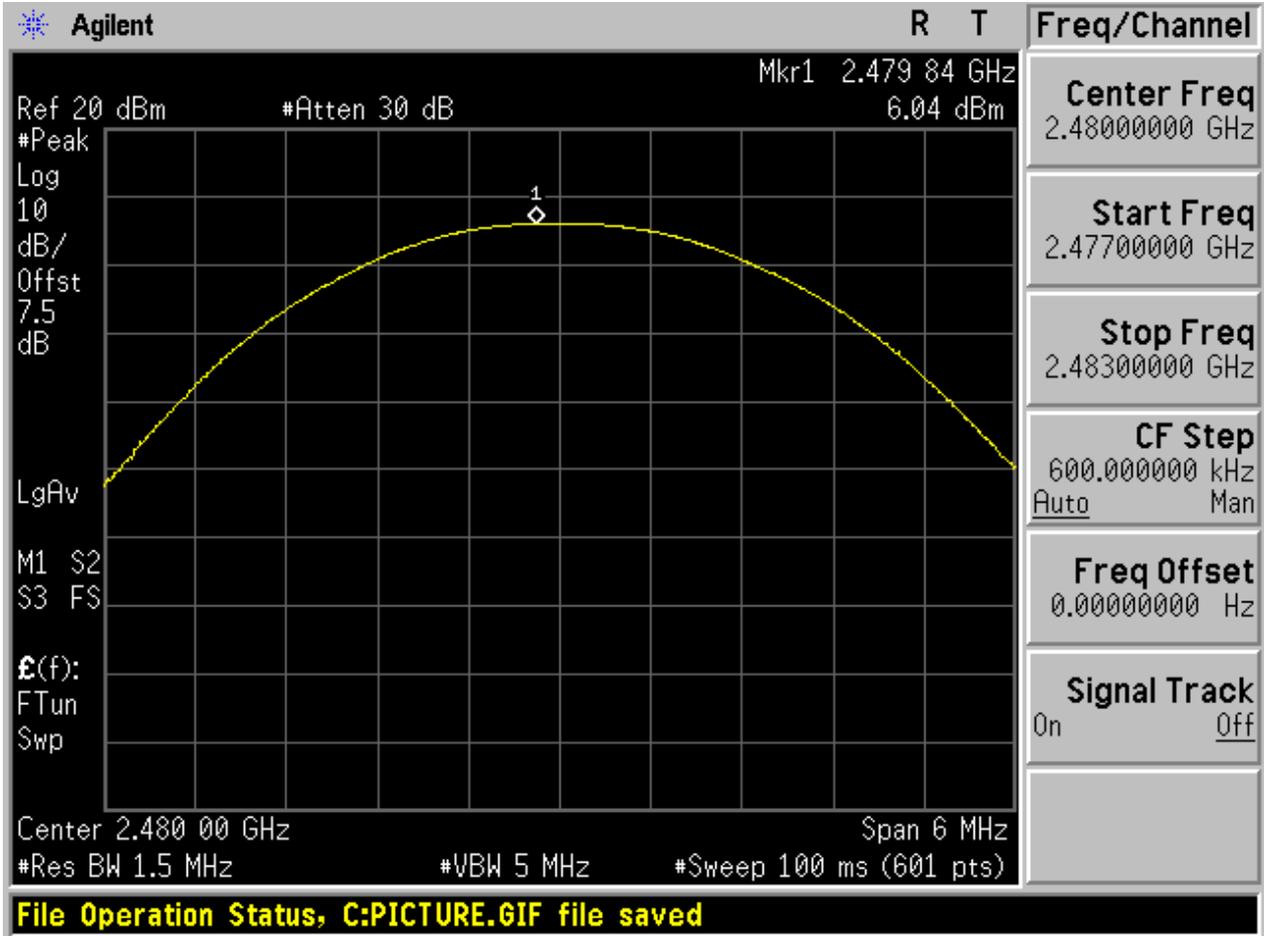
2.4 TM2\_2DH5\_Ch0



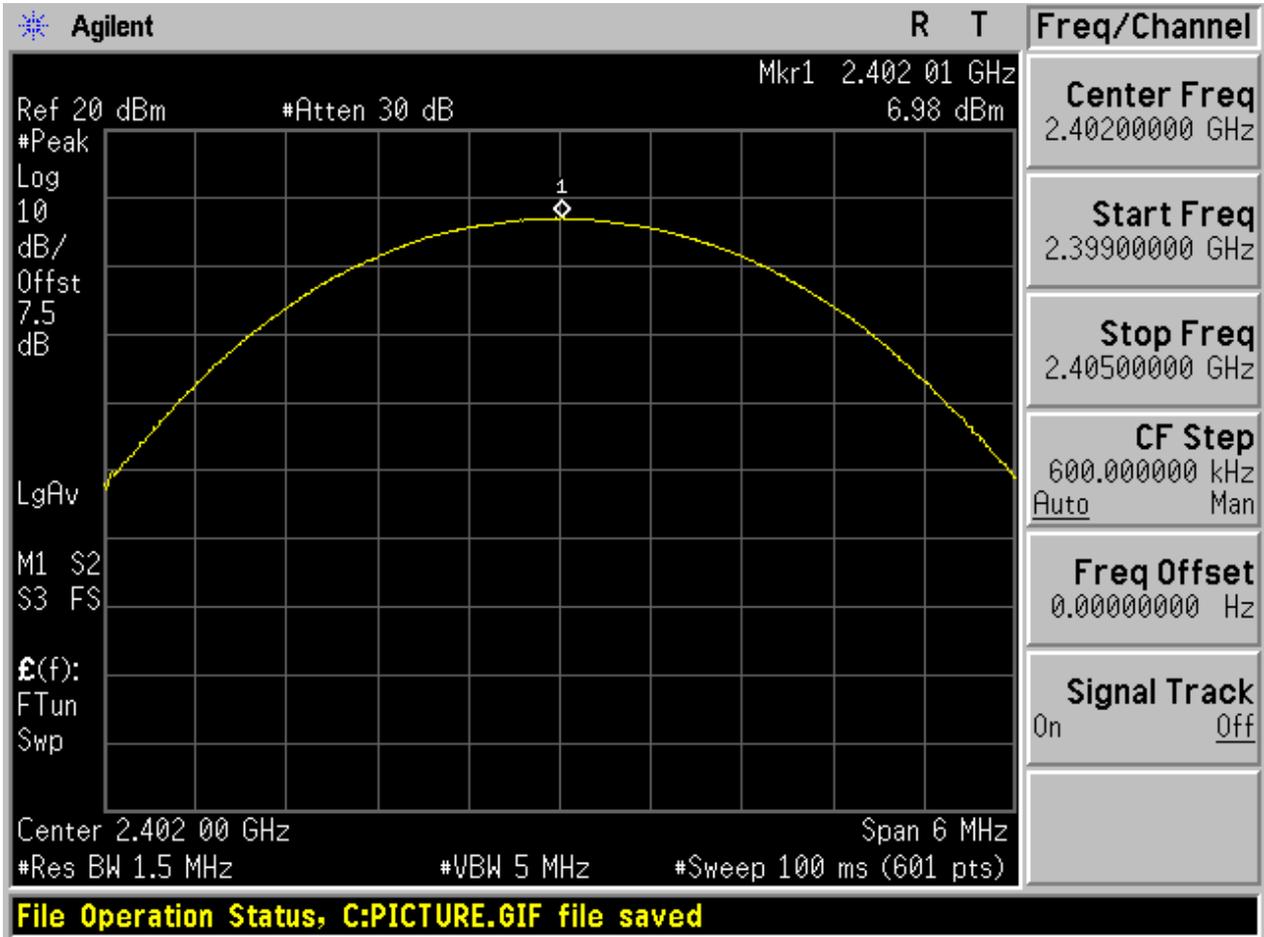
2.5 TM2\_2DH5\_Ch39



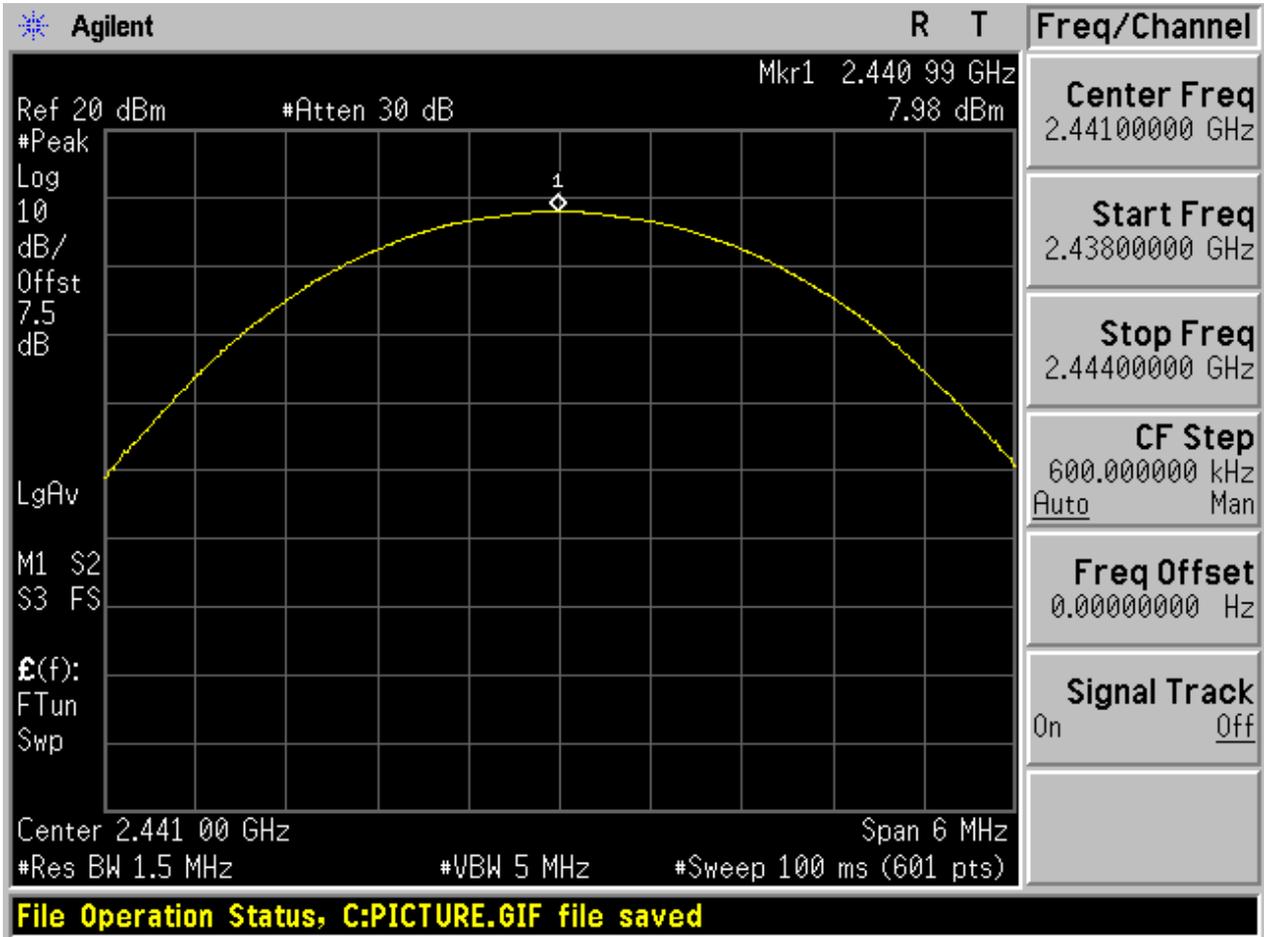
2.6 TM2\_2DH5\_Ch78



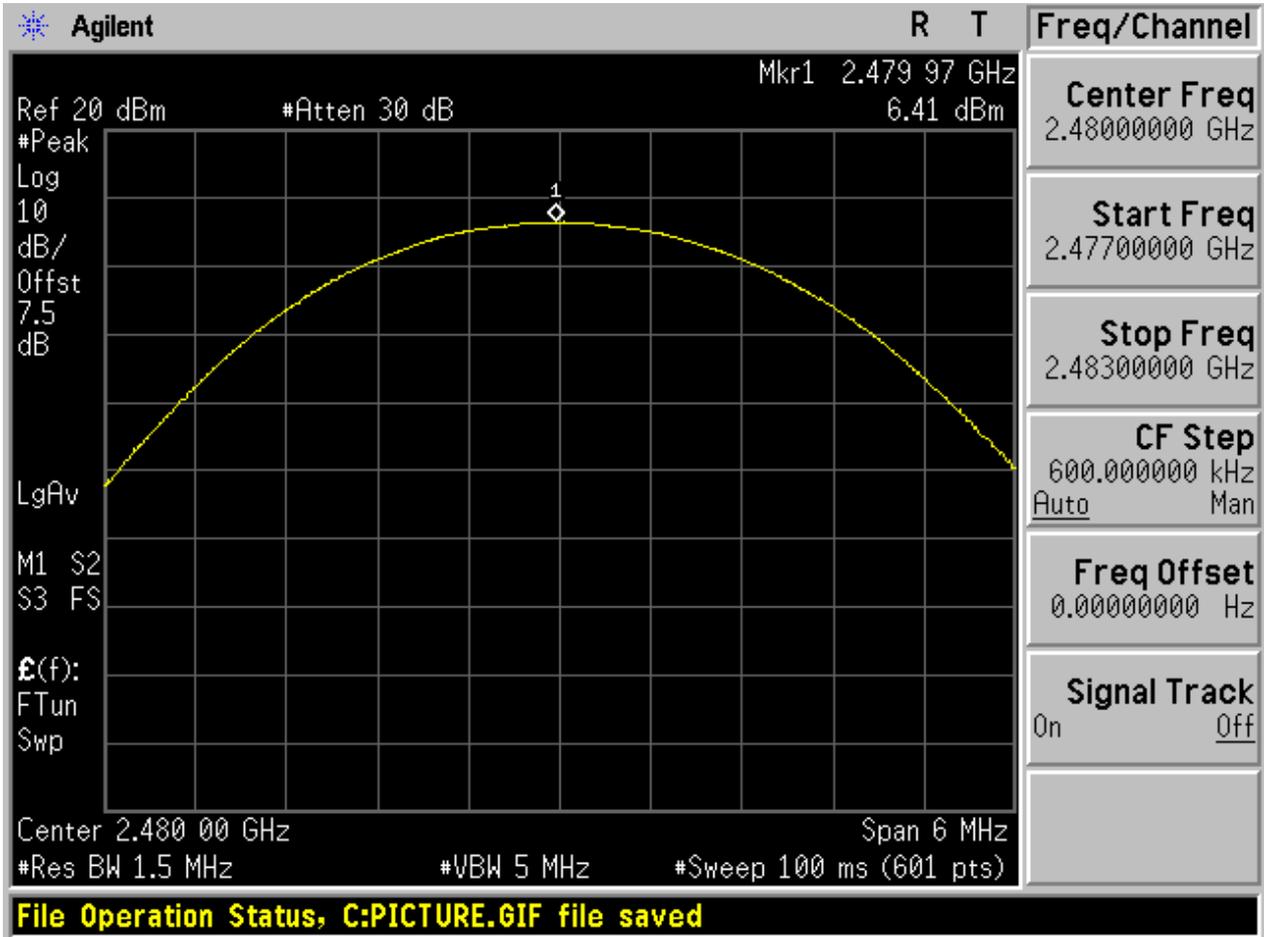
2.7 TM3\_3DH5\_Ch0



2.8 TM3\_3DH5\_Ch39



2.9 TM3\_3DH5\_Ch78





# Appendix F: Band edge spurious emission



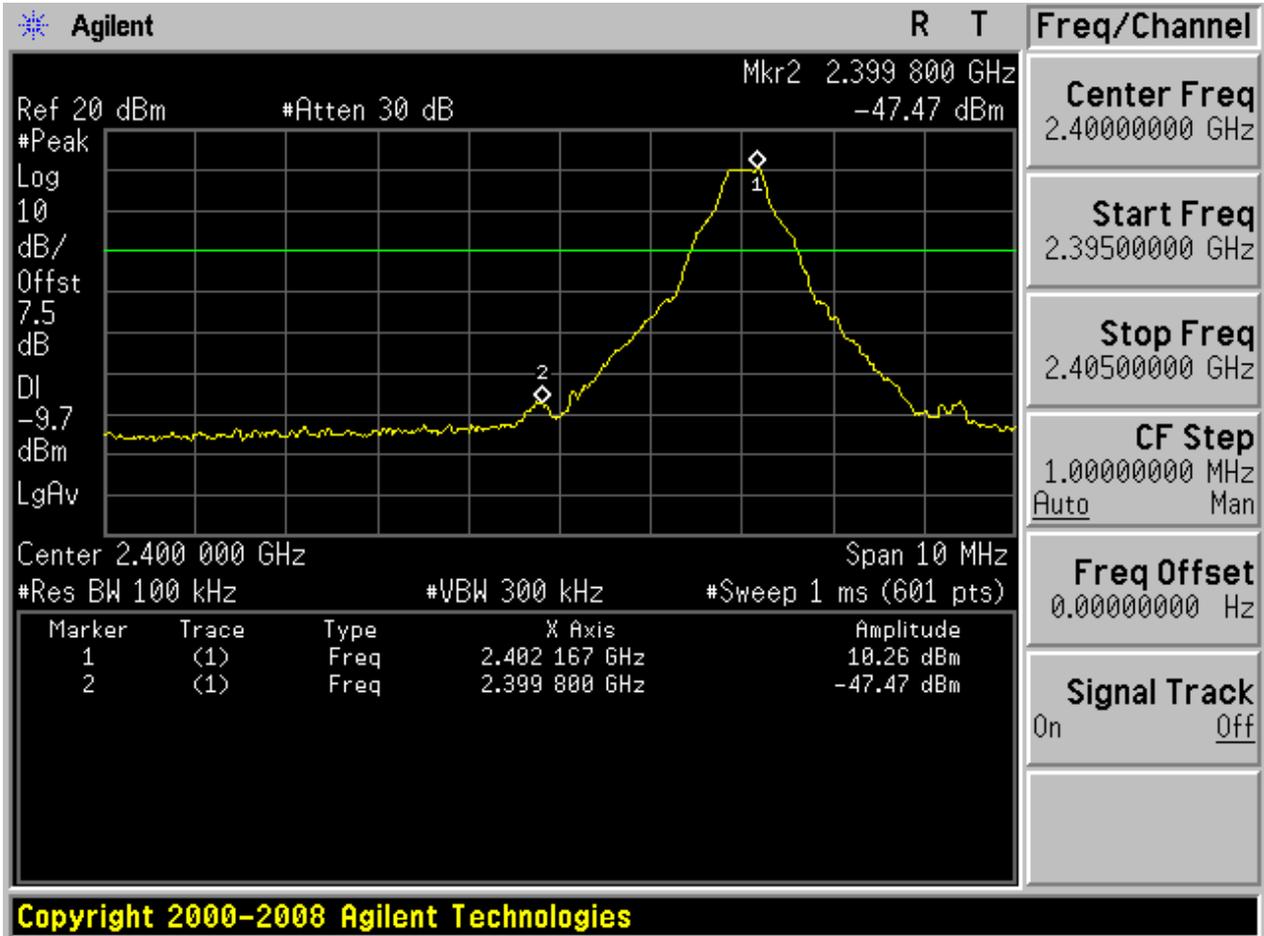
## 1 Result Table

EUT Conf.	Channel No.	Carrier Frequency [MHz]	Max. Spurious Level [dBm]	Frequency Hopping	Carrier Power [dBm]	Limit [dBm]	Result
TM1_DH5_Ch0	0	2402	-47.47	Off	10.26	-9.74	Pass
	-	-	-44.03	On	9.79	-10.21	Pass
TM1_DH5_Ch78	78	2480	-43.59	Off	9.09	-10.91	Pass
	-	-	-44.7	On	8.87	-11.13	Pass
TM2_2DH_5_Ch0	0	2402	-51.85	Off	4.34	-15.66	Pass
	-	-	-49.01	On	3.85	-16.15	Pass
TM2_2DH_5_Ch78	78	2480	-49.36	Off	3.82	-16.18	Pass
	-	-	-52.51	On	2.80	-17.2	Pass
TM3_3DH_5_Ch0	0	2402	-51.69	Off	4.20	-15.8	Pass
	-	-	-49.61	On	4.41	-15.59	Pass
TM3_3DH_5_Ch78	78	2480	-50.11	Off	3.94	-16.06	Pass
	-	-	-51.45	On	2.87	-17.13	Pass

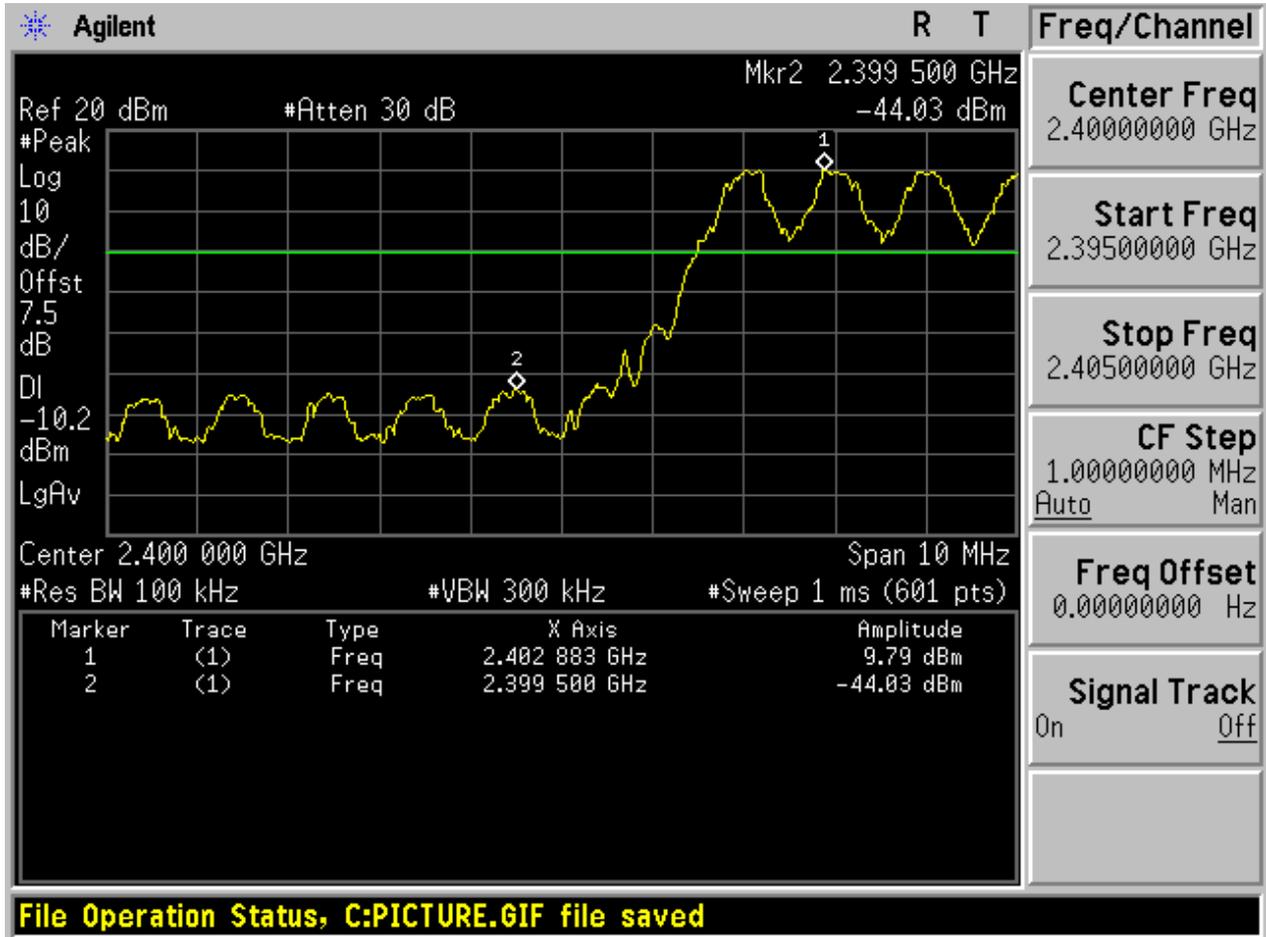
## 2 Test Plot

### 2.1 TM1\_DH5\_Ch0

No hopping

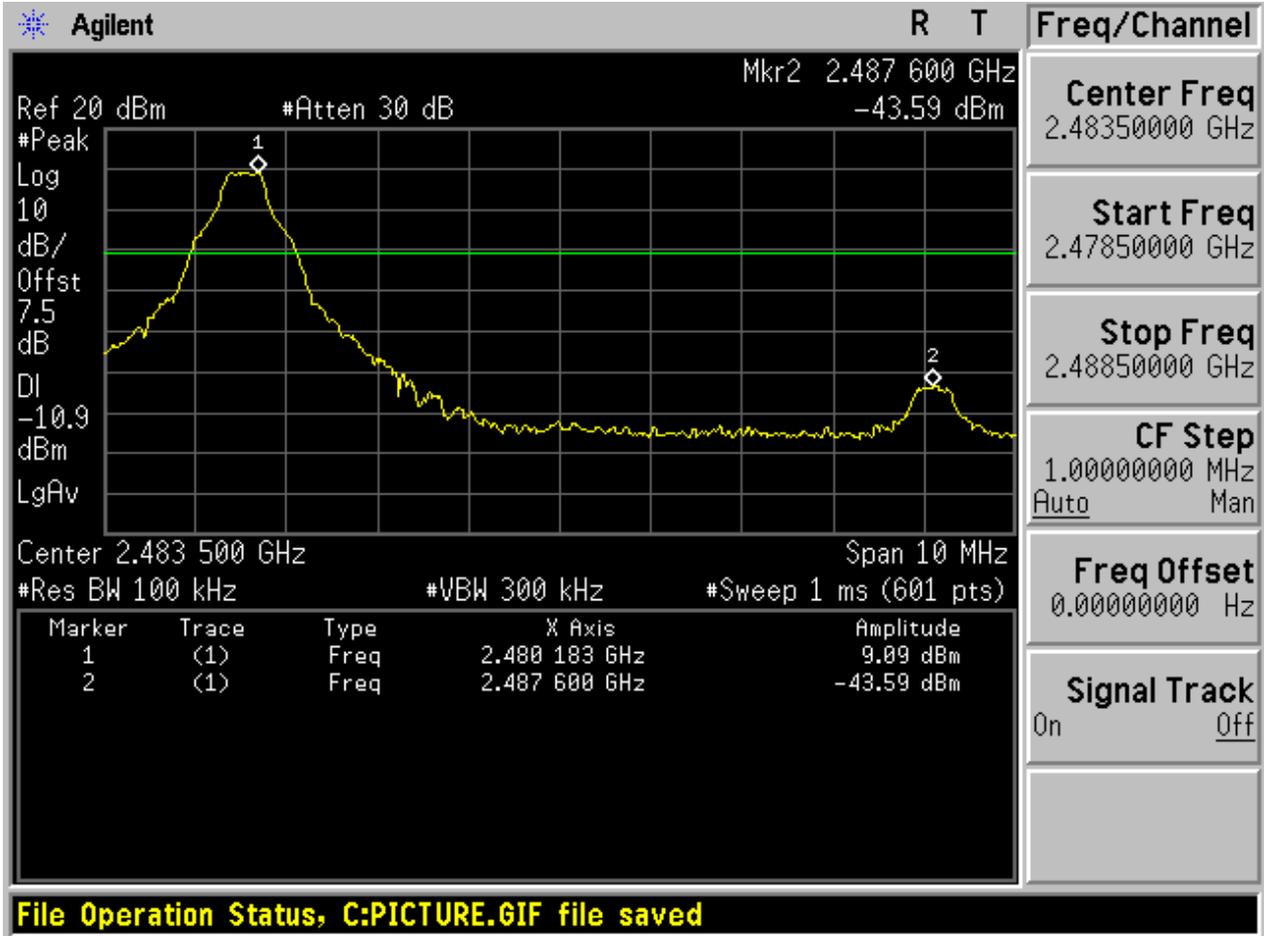


With hopping

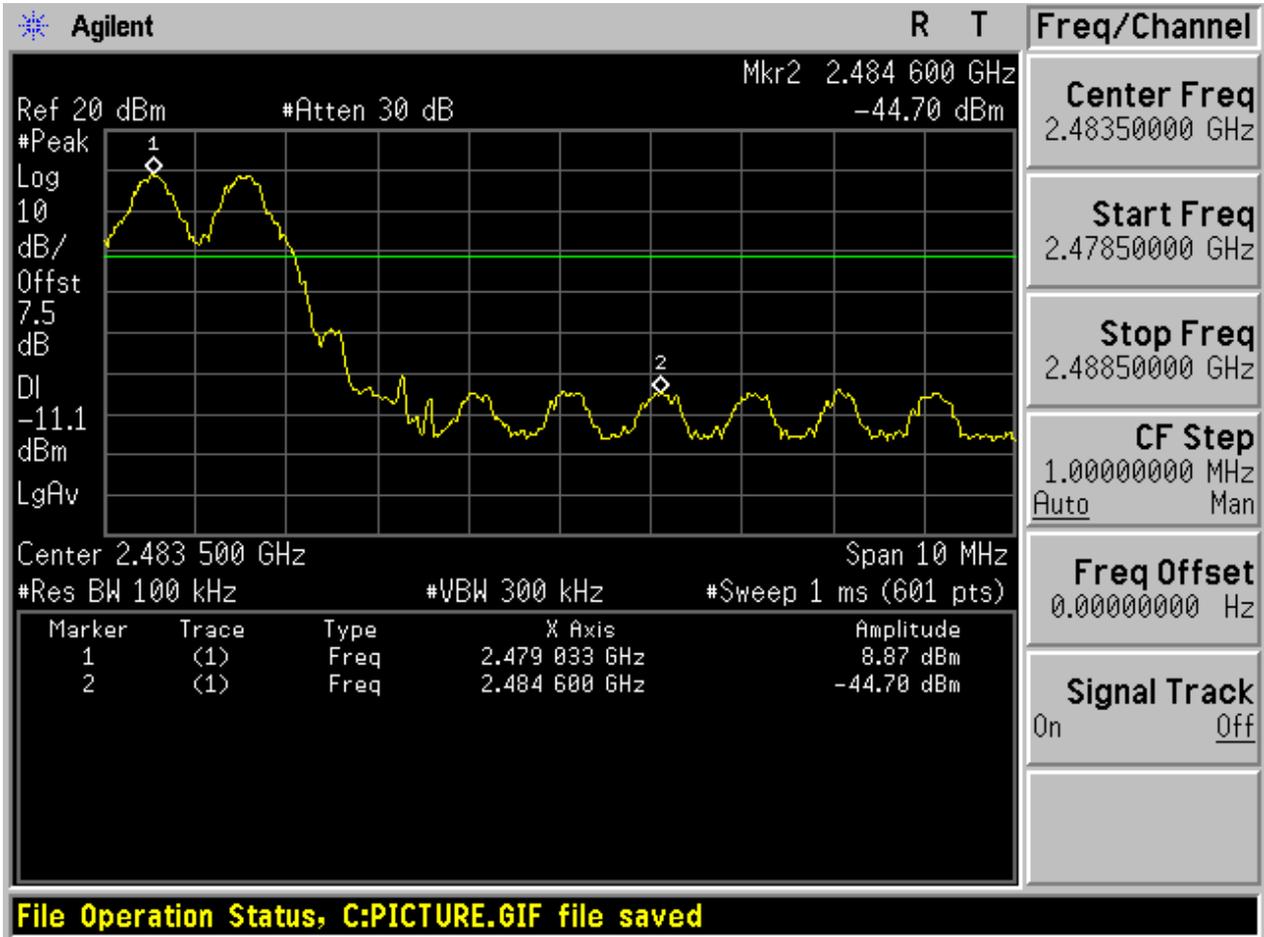


2.2 TM1\_DH5\_Ch78

No hopping

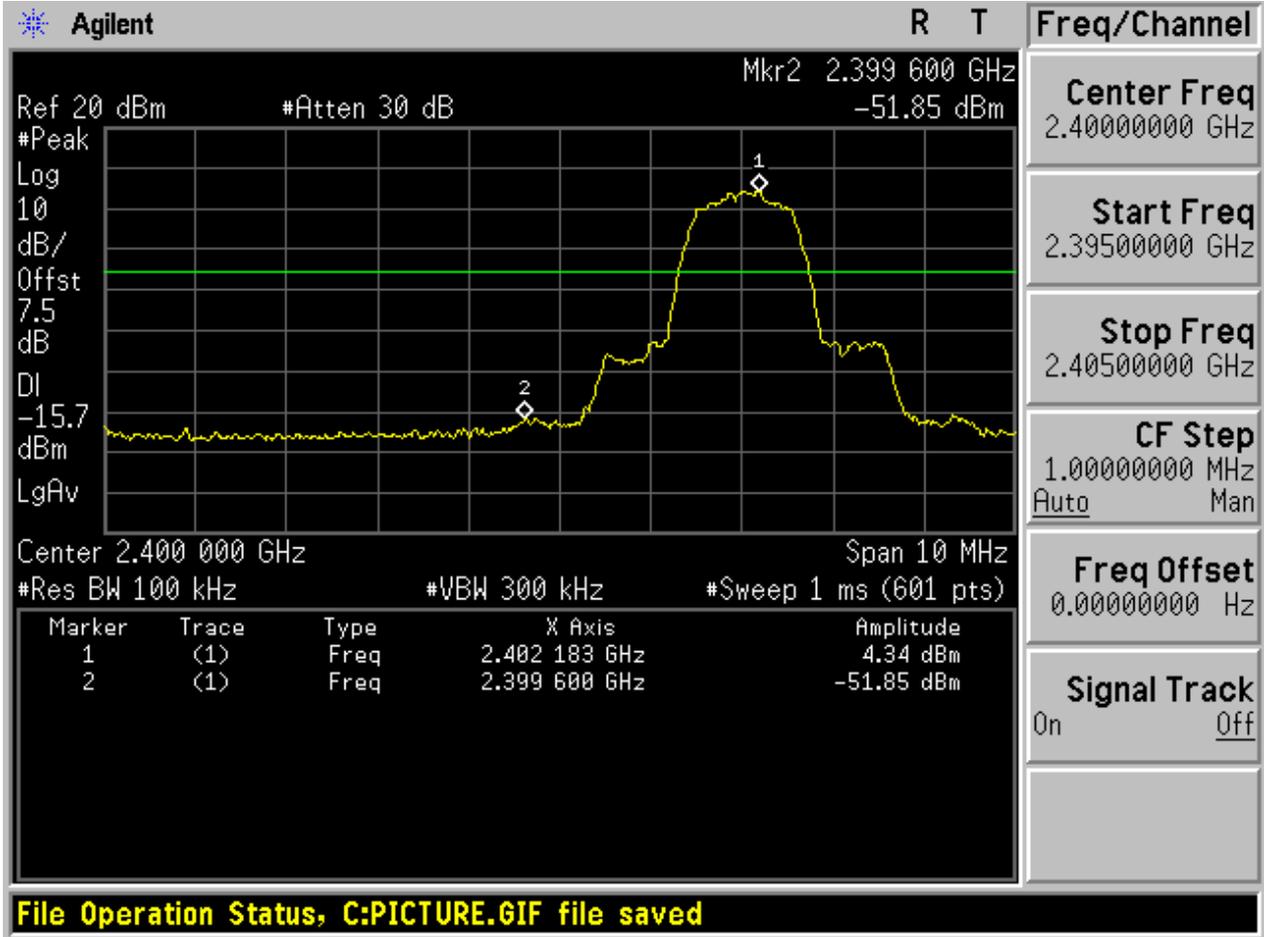


With hopping

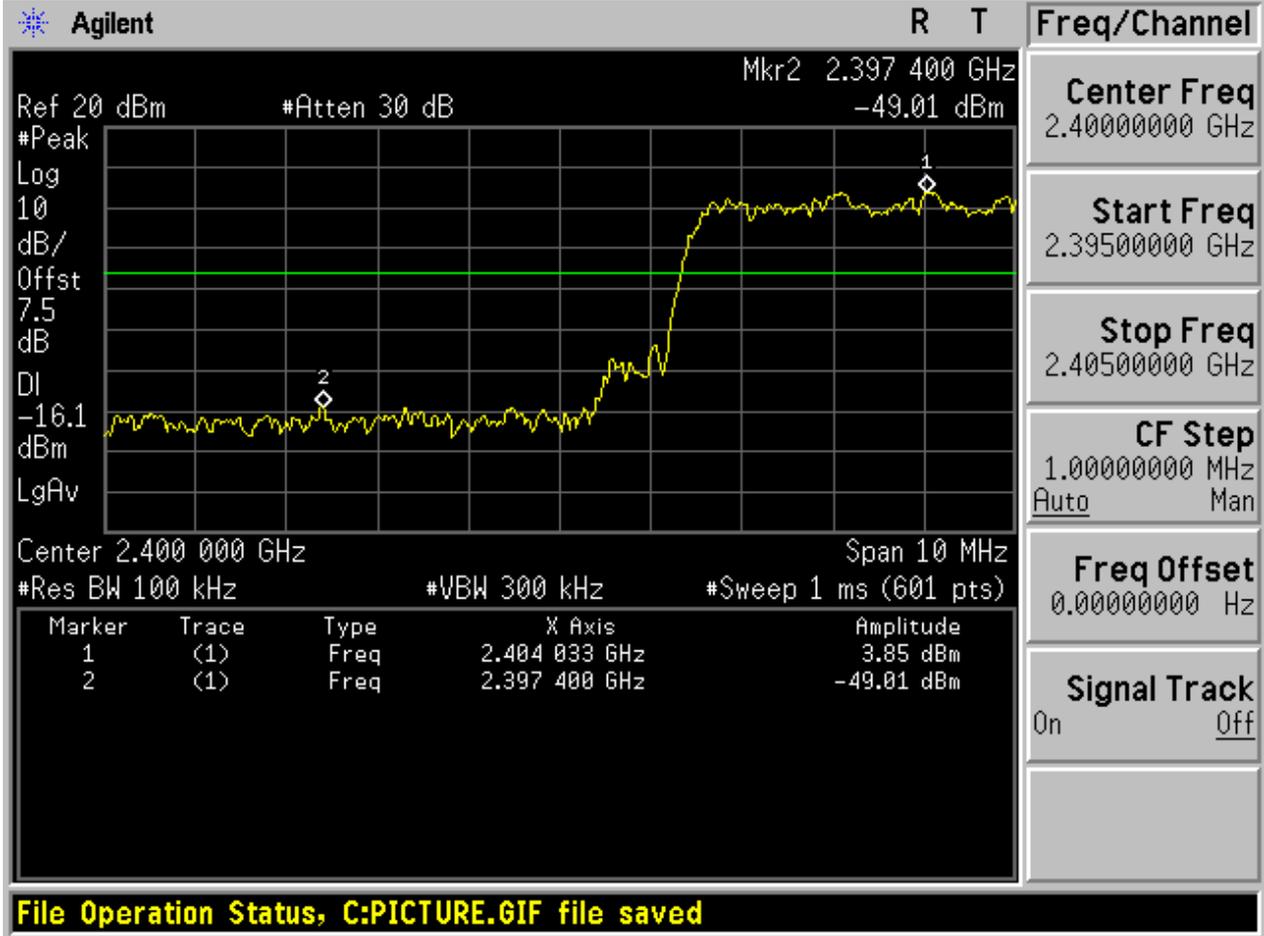


2.3 TM2\_2DH5\_Ch0

No hopping

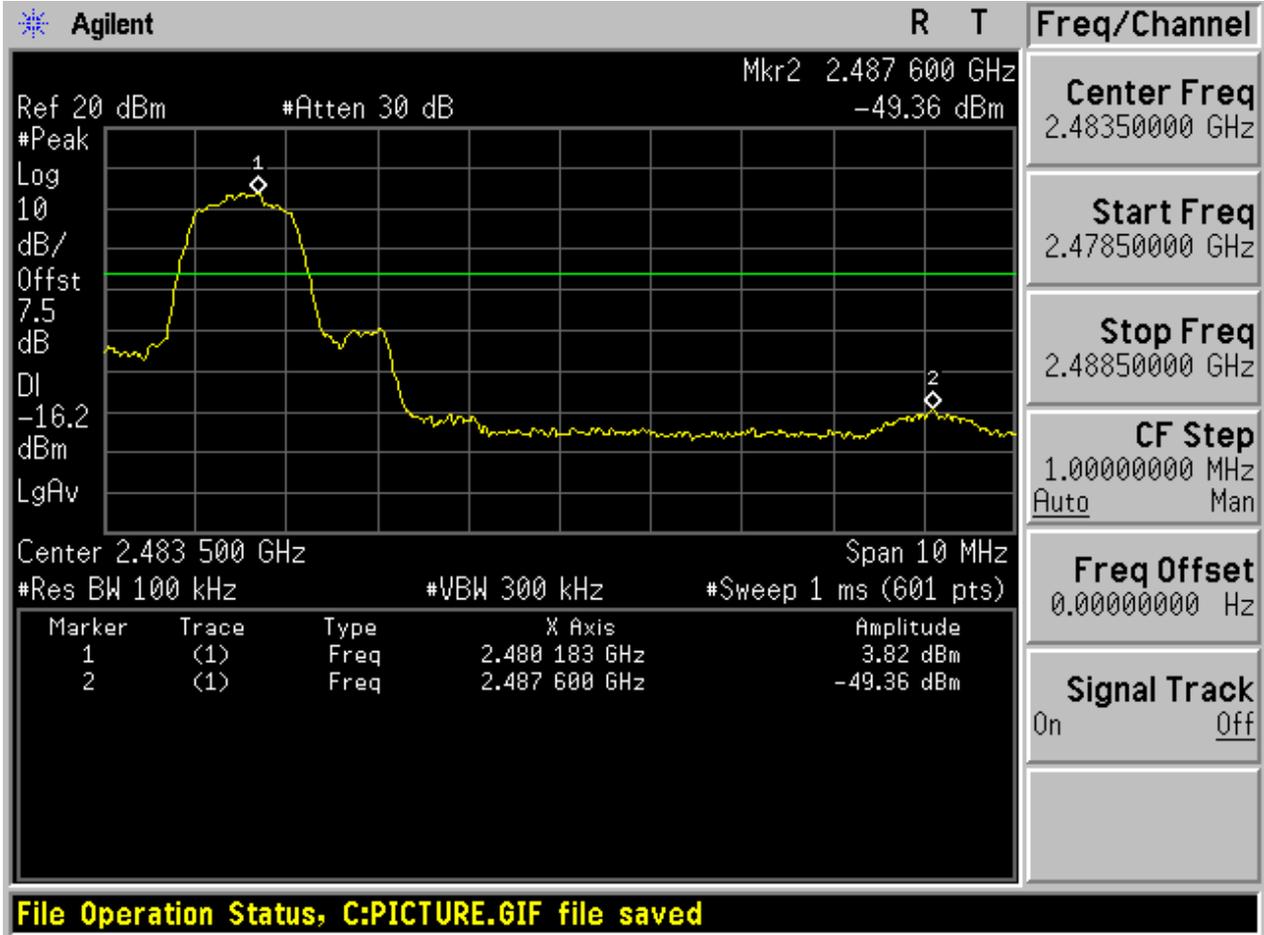


With hopping

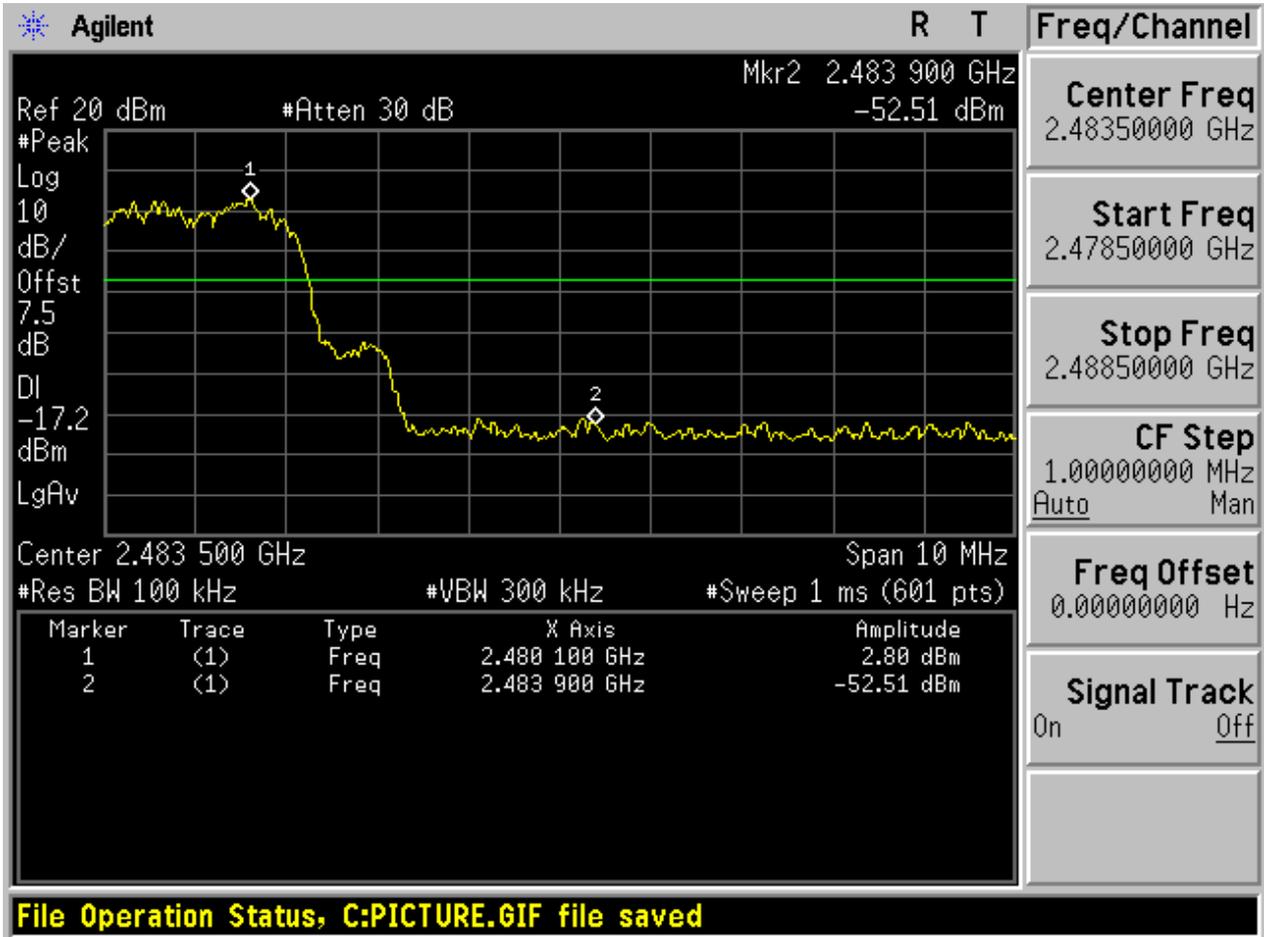


2.4 TM2\_2DH5\_Ch78

No hopping

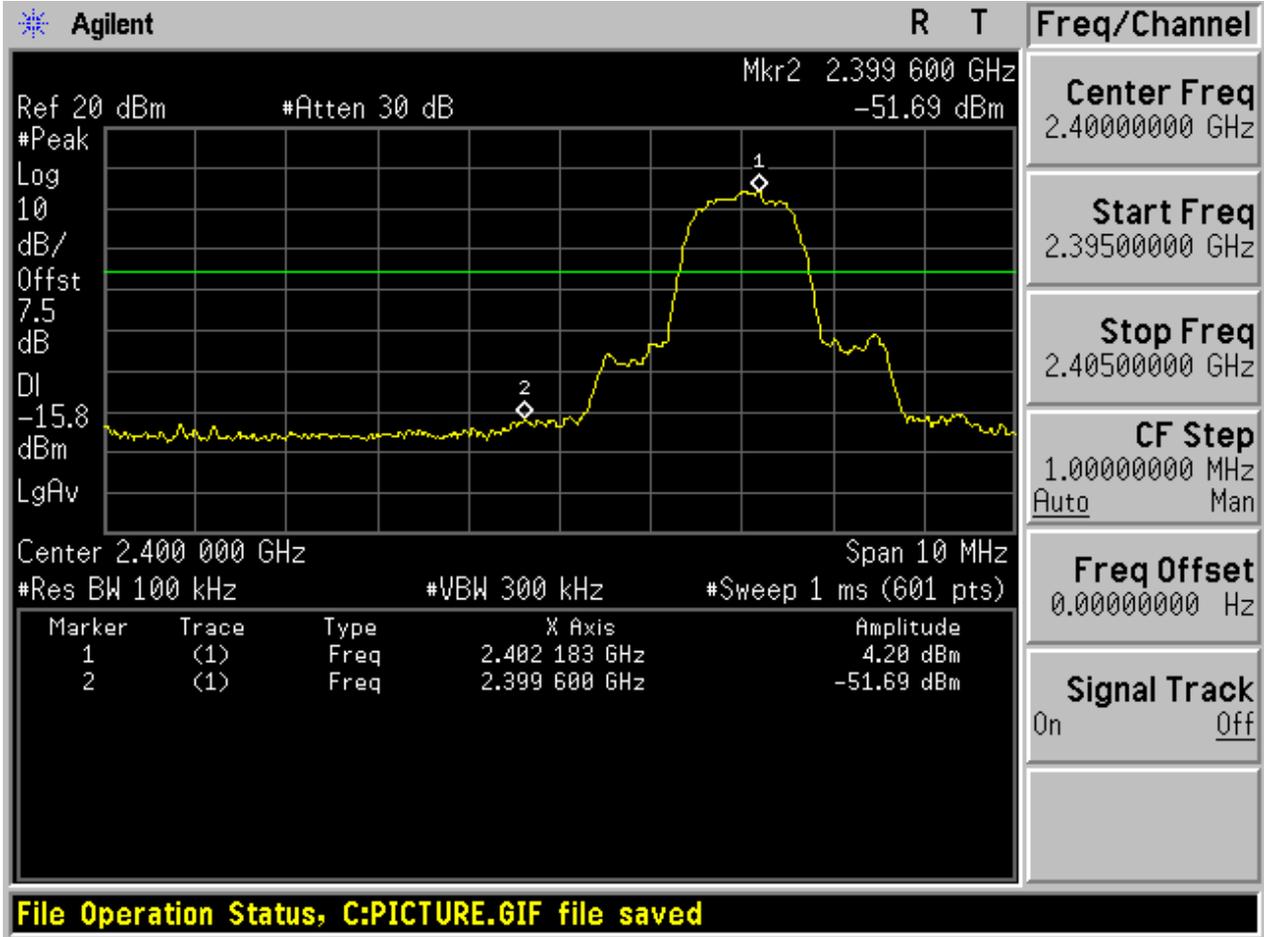


With hopping

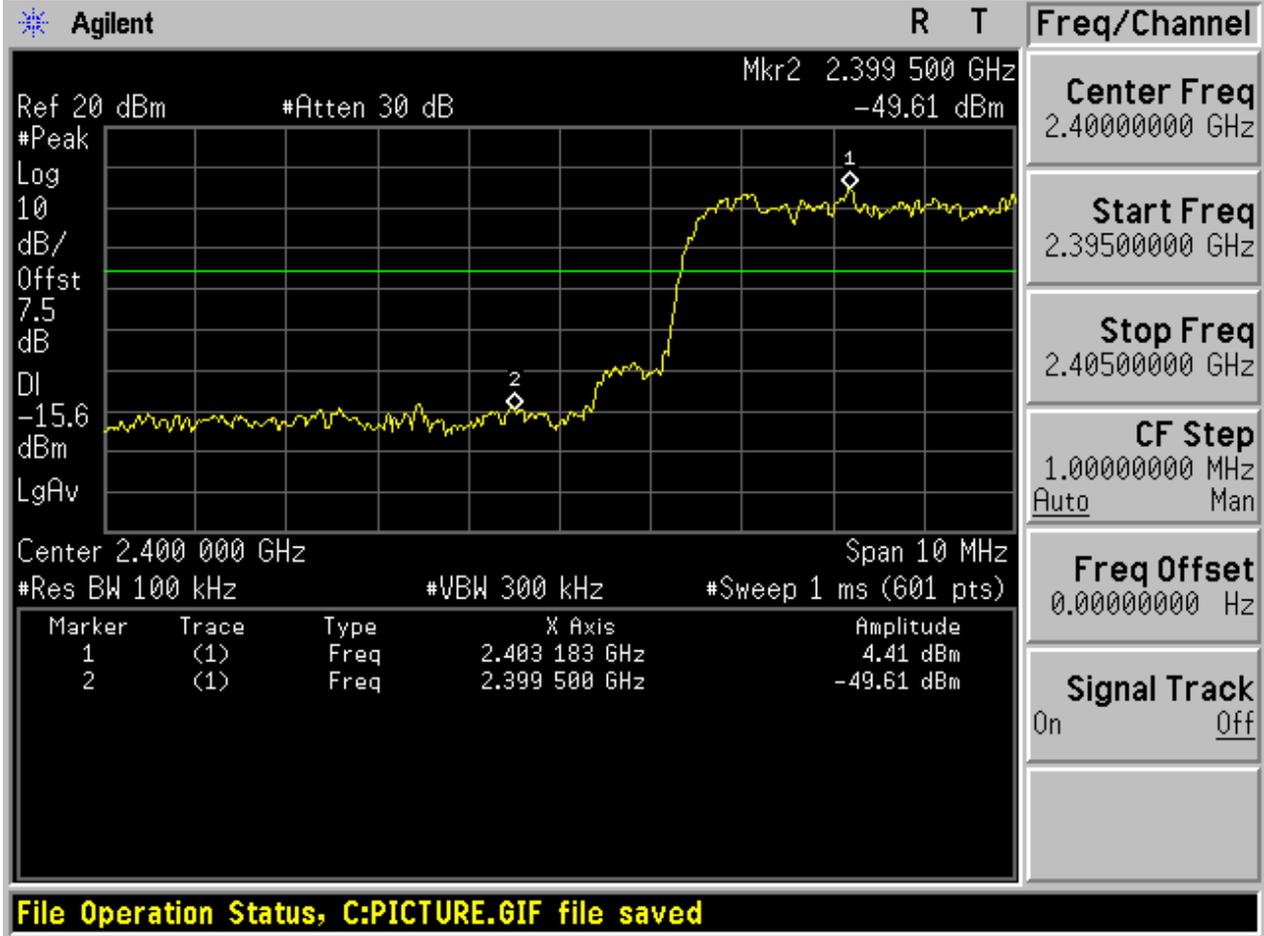


2.5 TM3\_3DH5\_Ch0

No hopping

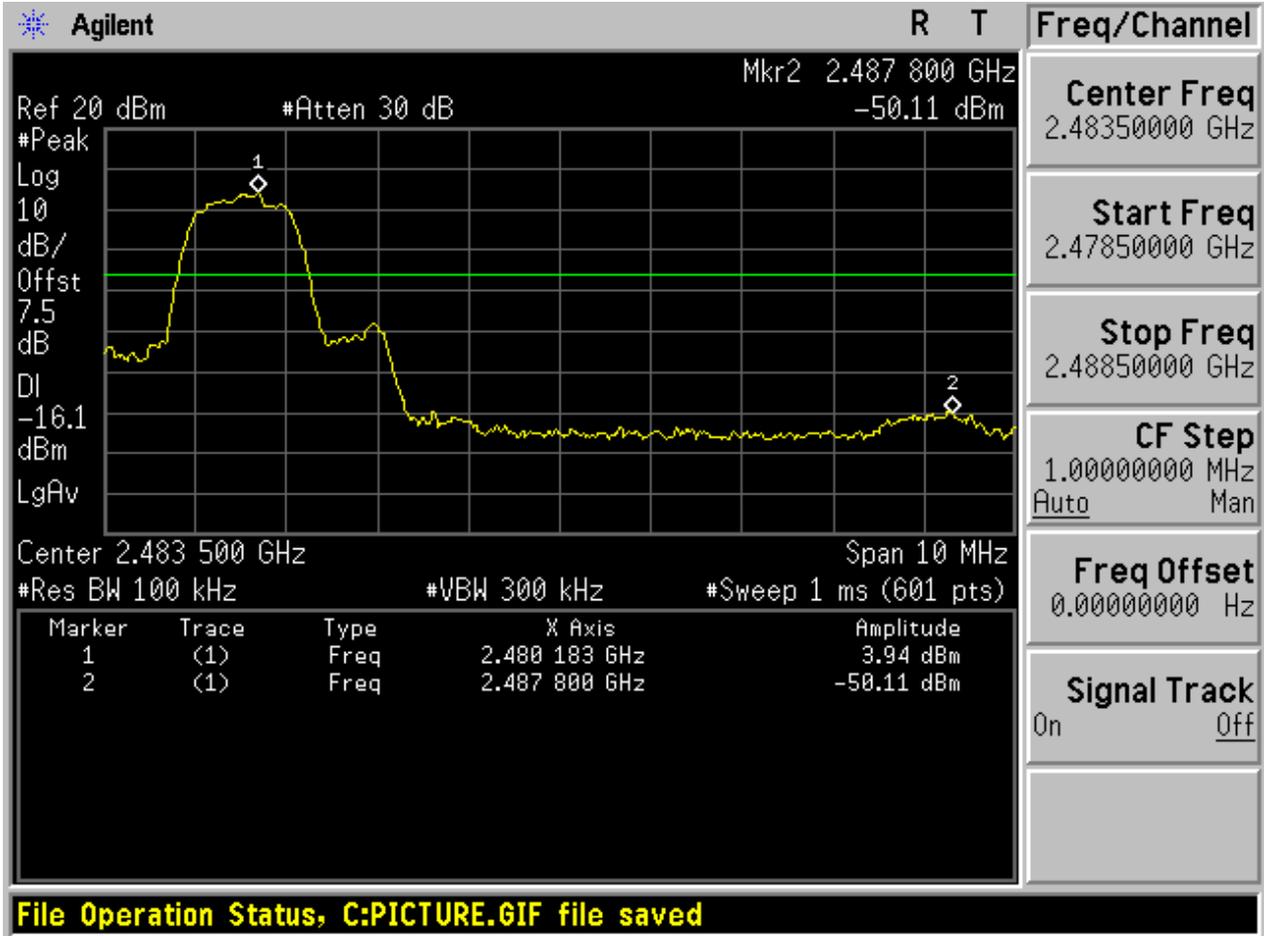


With hopping

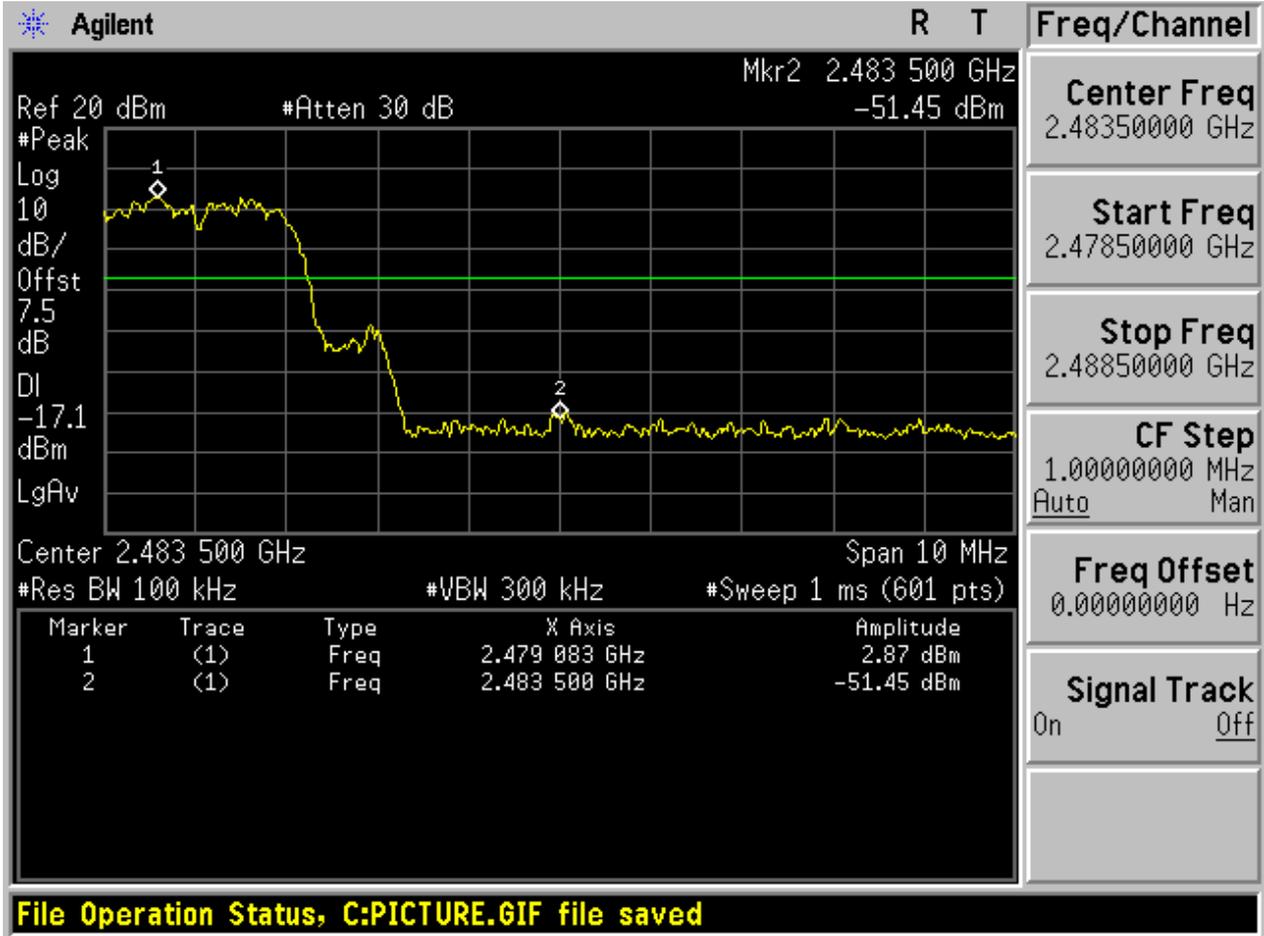


2.6 TM3\_3DH5\_Ch78

No hopping



With hopping





# Appendix G: Conducted RF Spurious Emission

## 1 Result Table

In this Appendix, the “Pref” refers to the peak power level in any 100 kHz bandwidth within the fundamental emission which is used as the reference level, the “Puw” refers to the maximum emission power in 100 kHz band segments outside of the authorized frequency band.

Considering that the higher ratio of RBW to the span for the frequency ranges below 30 MHz makes the results determination be complicated, a narrower RBW other than 100 kHz is used for these ranges. The measured value should add a RBW correction factor (RBWCF) where  $RBWCF [dB] = 10 \times \lg(100 [kHz]/\text{narrower RBW [kHz]})$ . As to this Appendix, the narrower RBW is 1 kHz and RBWCF is 20 dB for the frequency 9 kHz to 150 kHz, and the narrower RBW is 10 kHz and RBWCF is 10 dB for the frequency 150 kHz to 30 MHz.

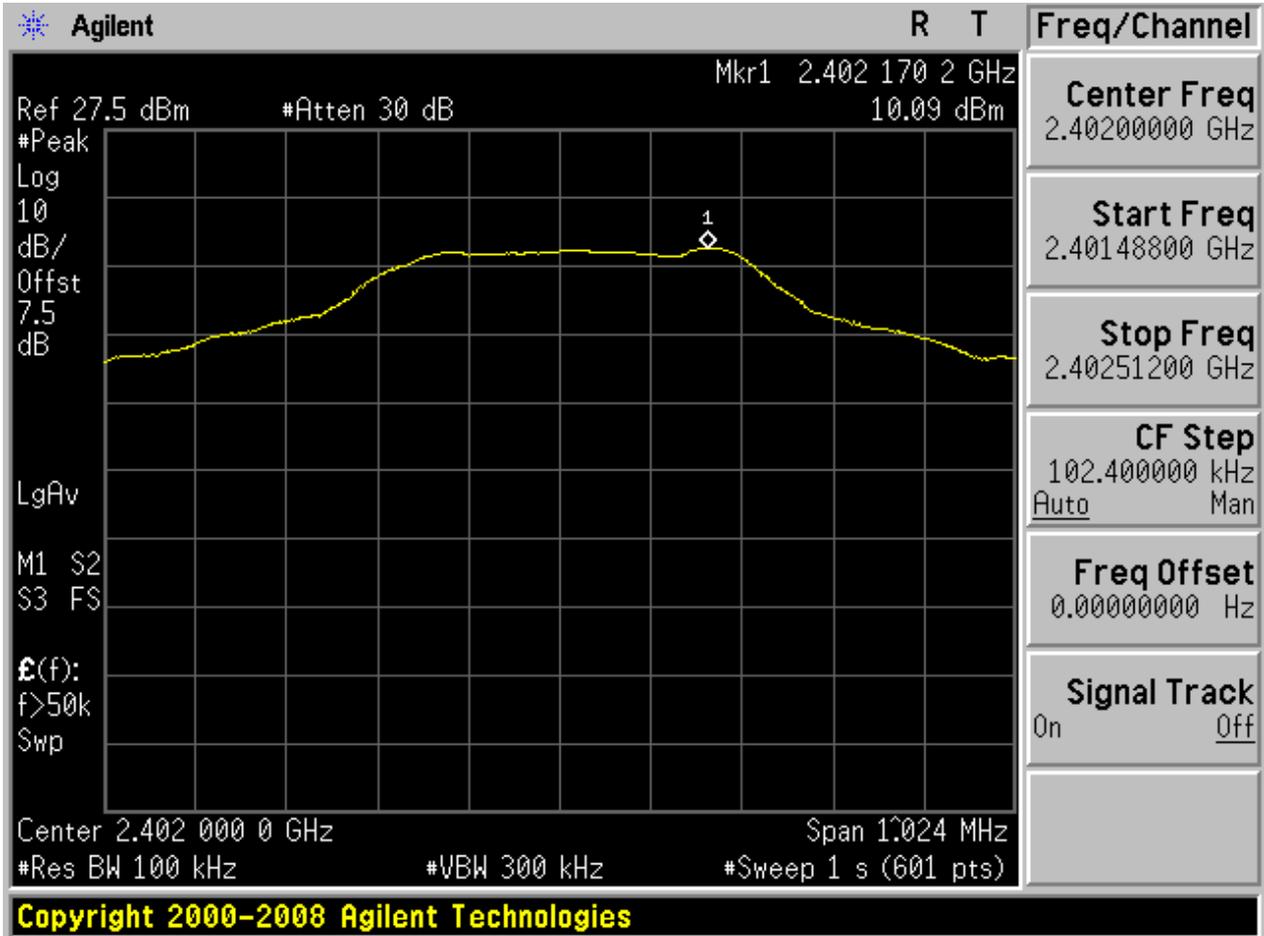
In the result table, the “< Limit” denotes that “The Puw [dBm] is less than Pref [dBm] - 20 [dB], see test plots for detailed”.

EUT Conf.	Pref [dBm/100 kHz]	Puw [dBm/100 kHz]	Verdict
TM1_DH5_Ch0	10.09	< Limit	Pass
TM1_DH5_Ch39	10.95	< Limit	Pass
TM1_DH5_Ch78	9.01	< Limit	Pass
TM2_2DH5_Ch0	4.21	< Limit	Pass
TM2_2DH5_Ch39	5.28	< Limit	Pass
TM2_2DH5_Ch78	3.84	< Limit	Pass
TM3_3DH5_Ch0	4.25	< Limit	Pass
TM3_3DH5_Ch39	5.29	< Limit	Pass
TM3_3DH5_Ch78	3.83	< Limit	Pass

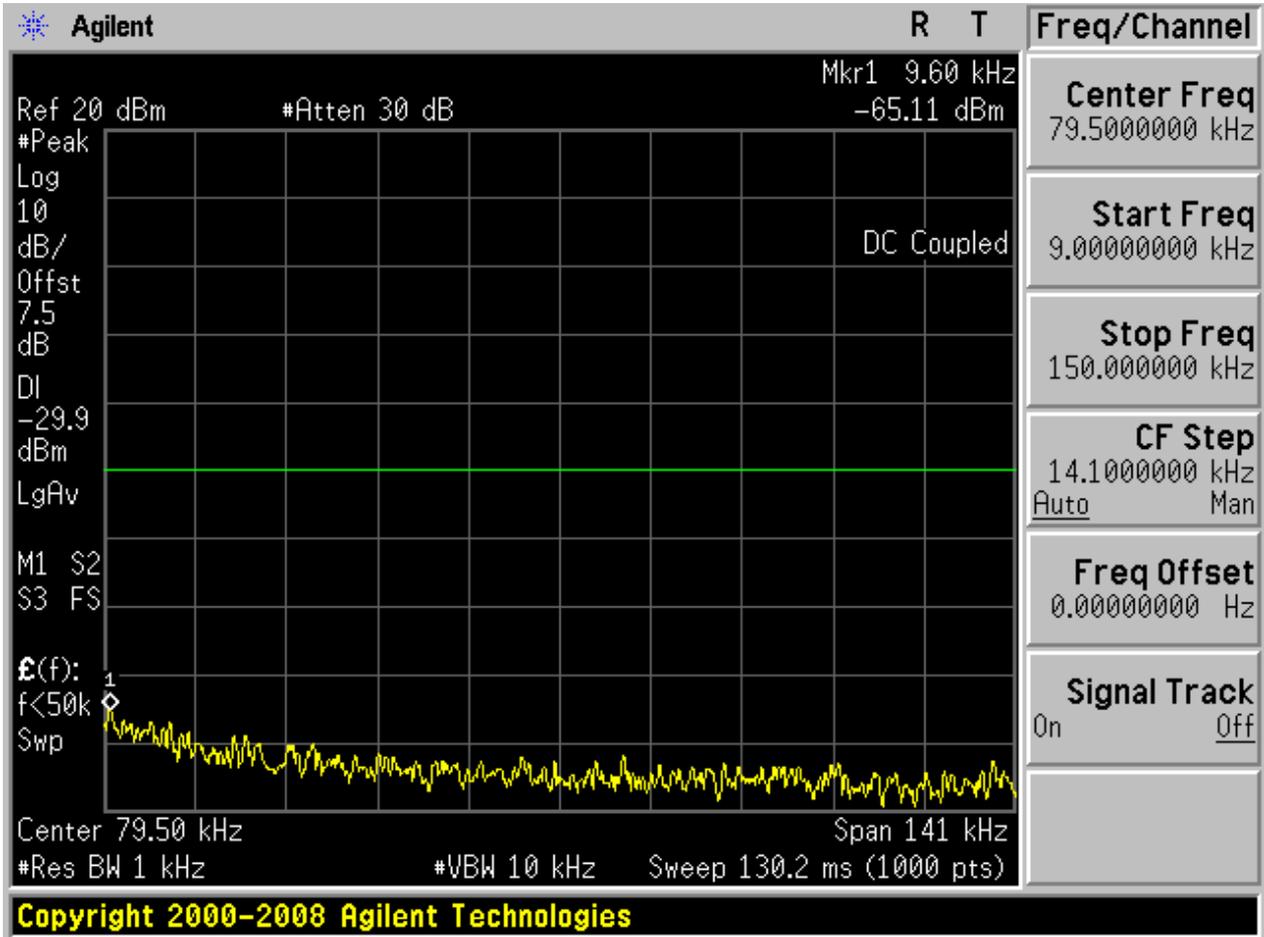
## 2 Test Plot

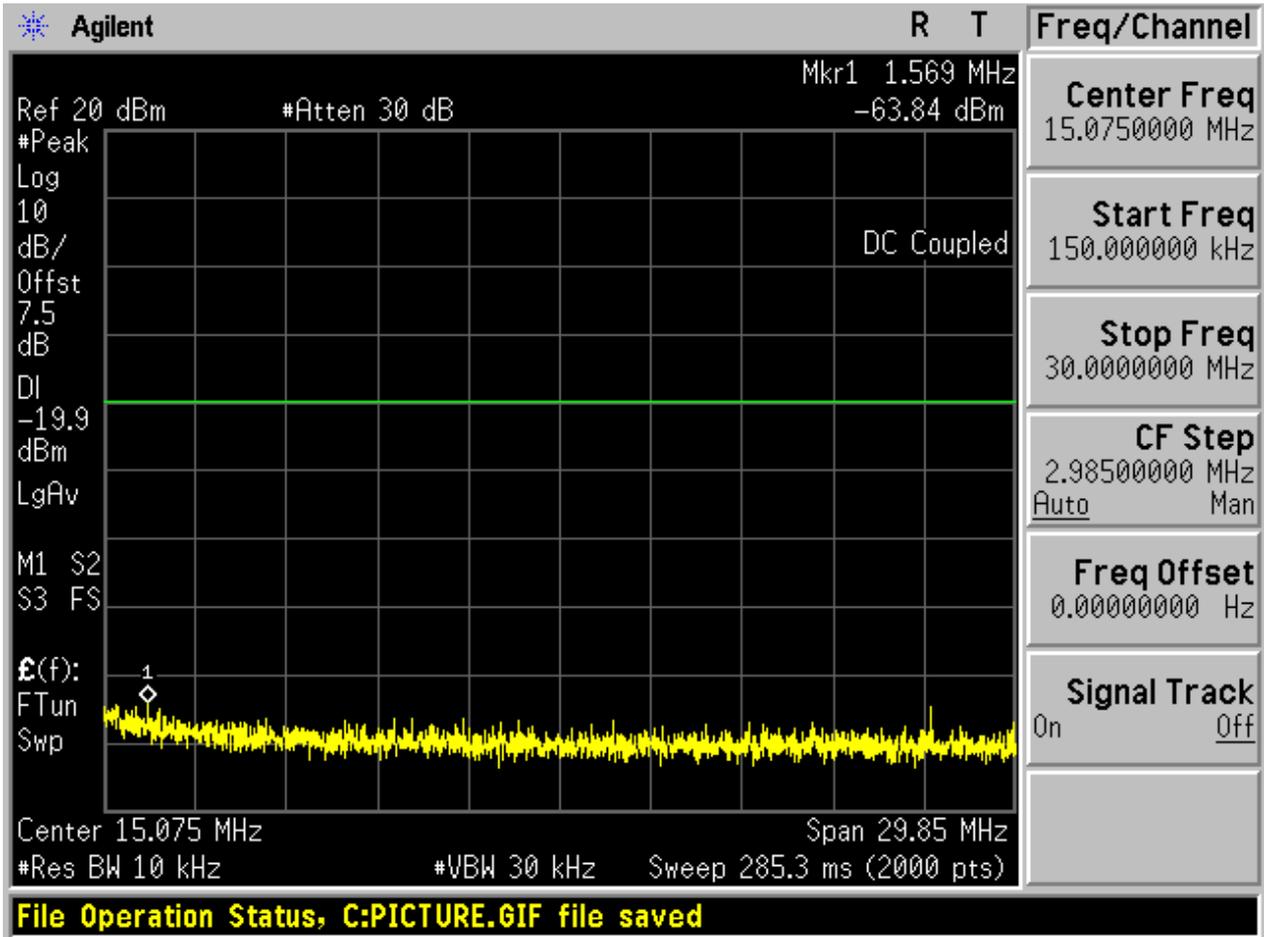
### 2.1 TM1\_DH5\_Ch0

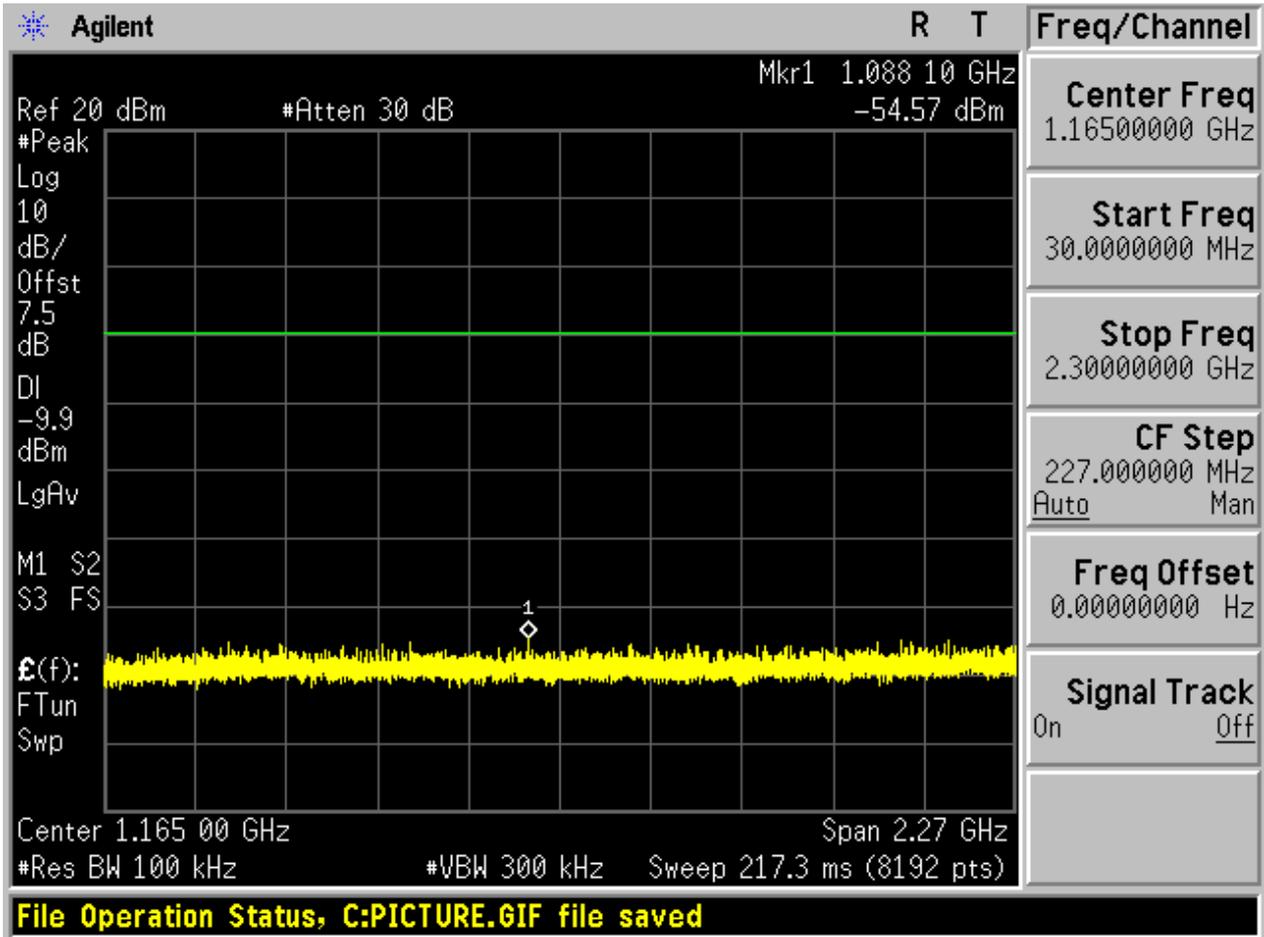
#### 2.1.1 Pref

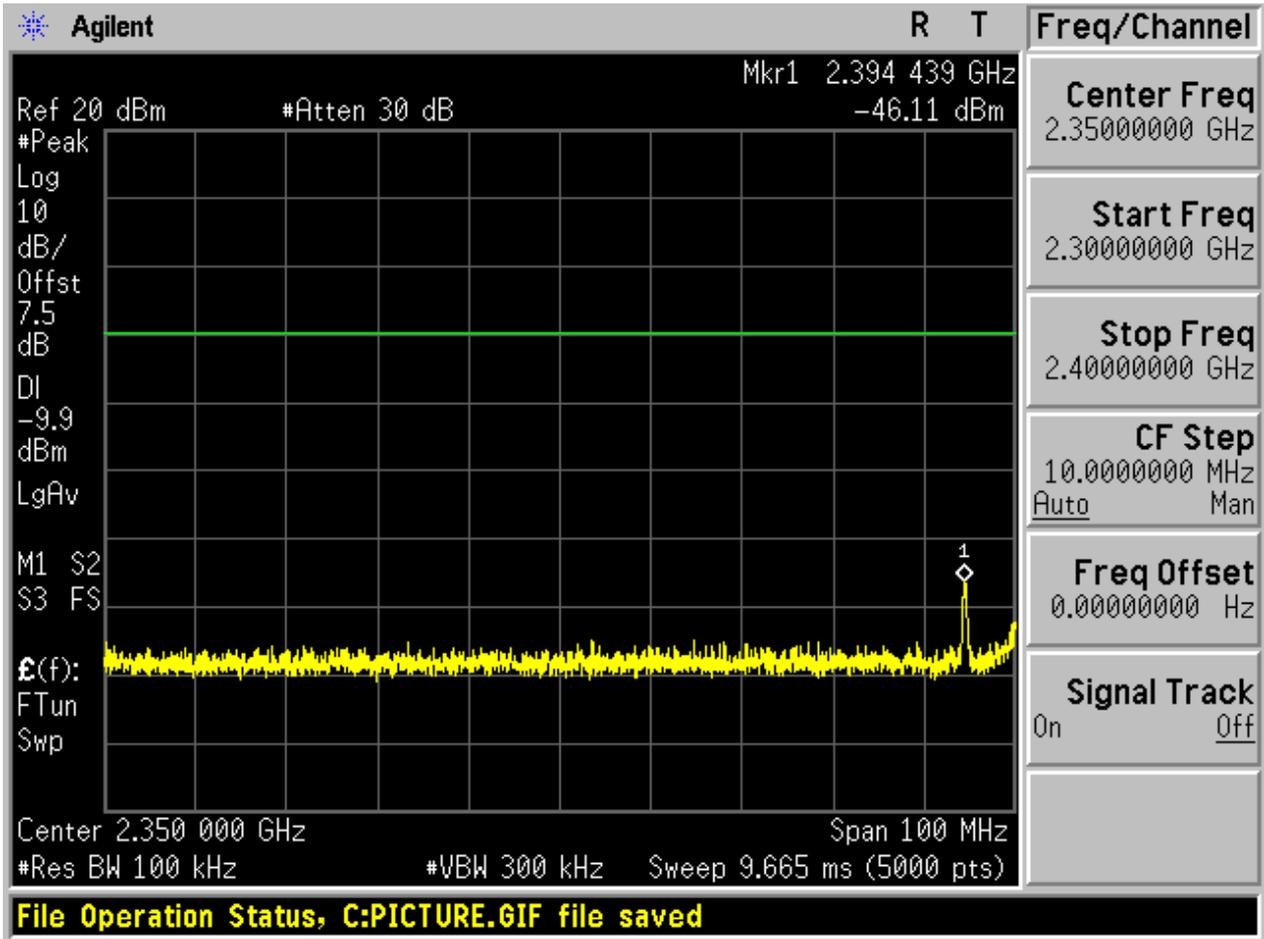


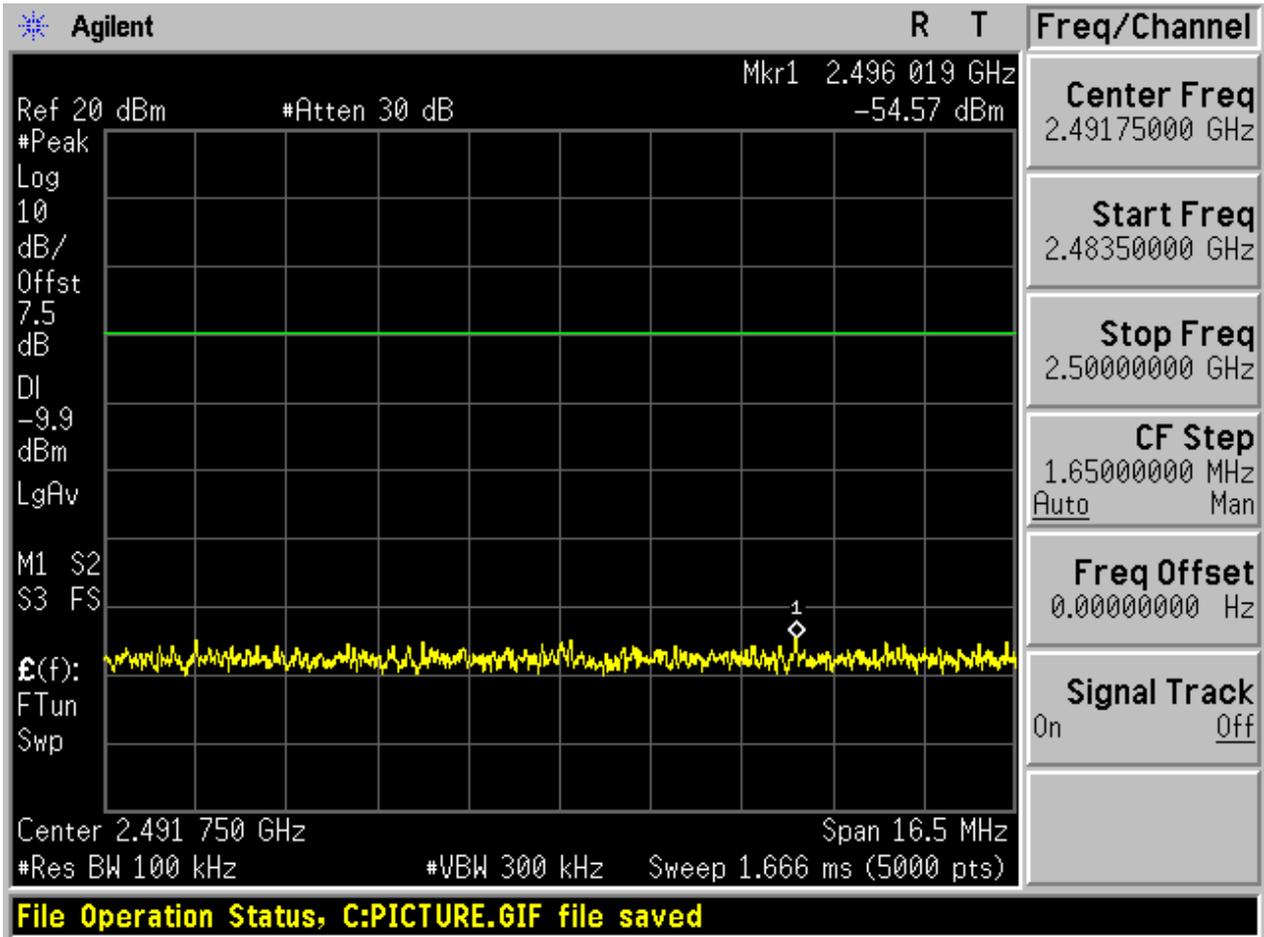
2.1.2 P<sub>uw</sub>

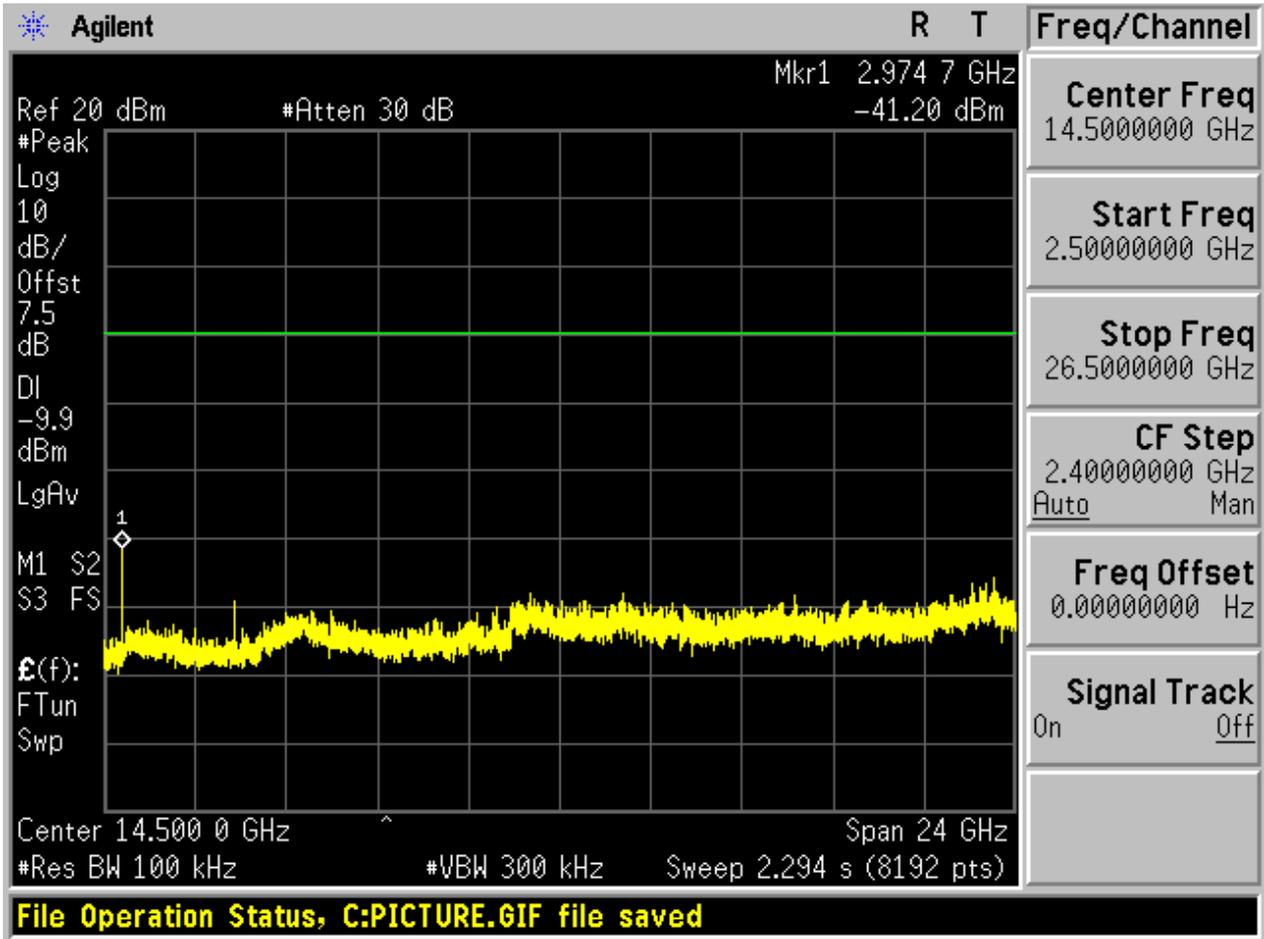






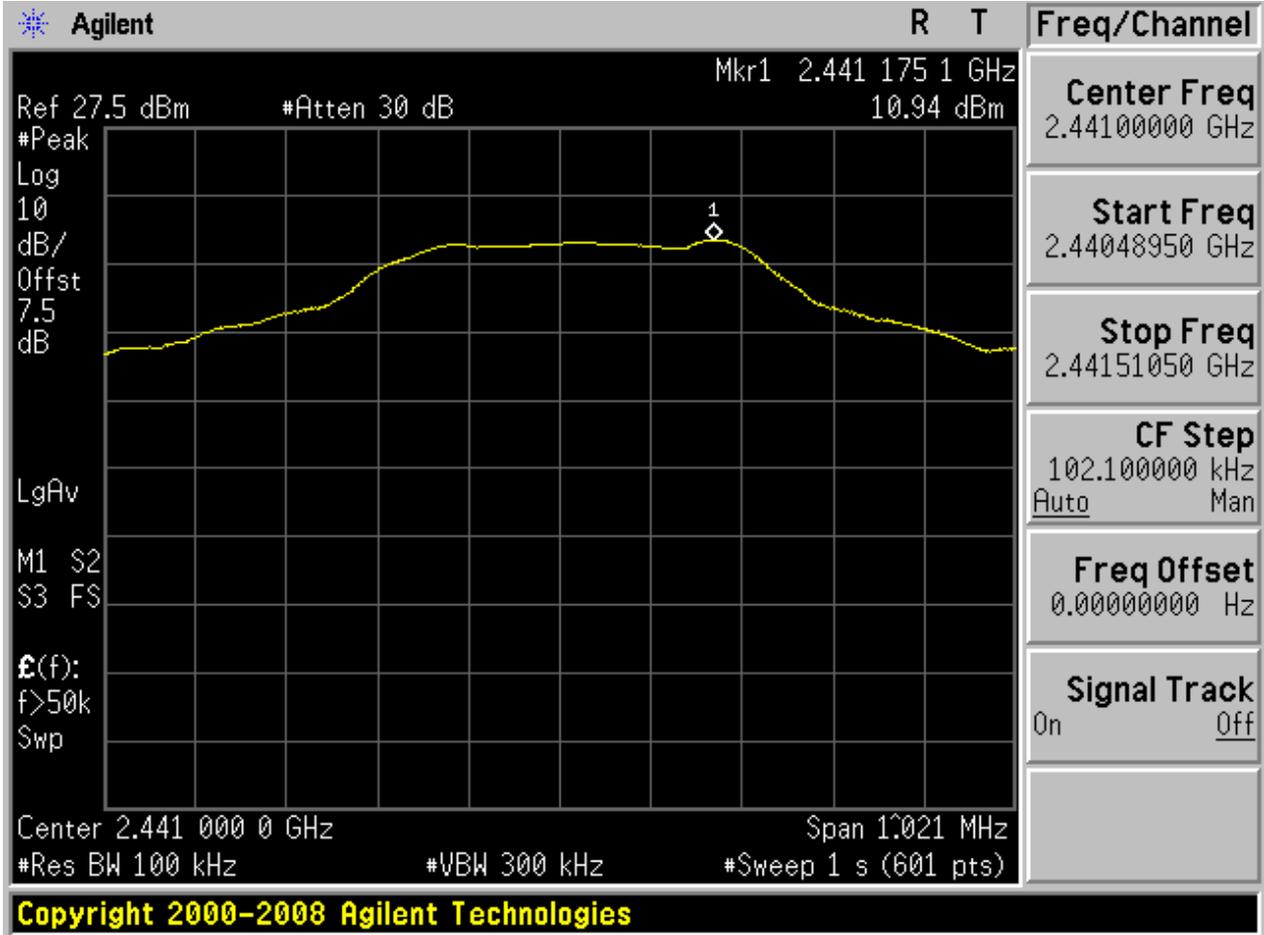




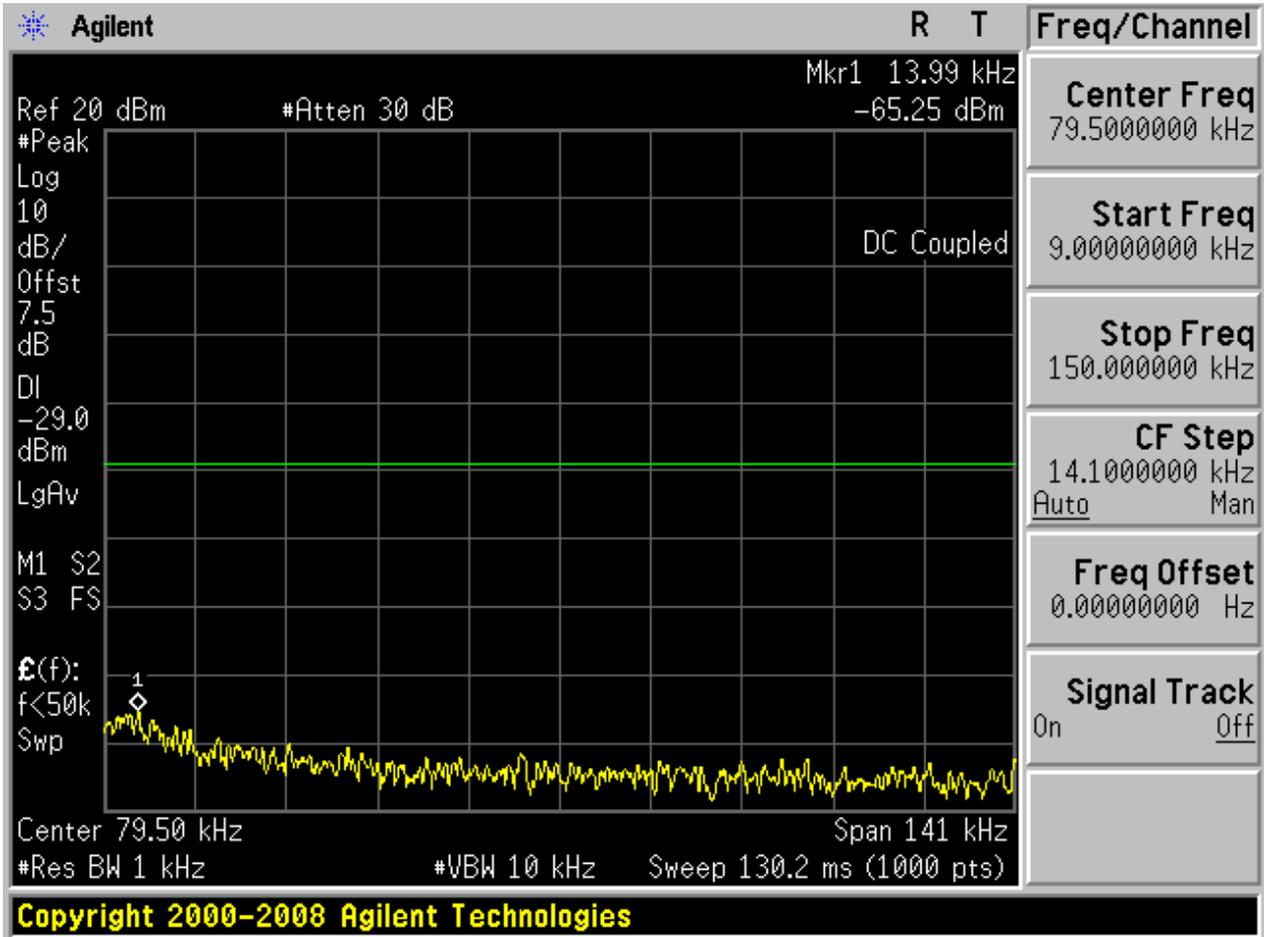


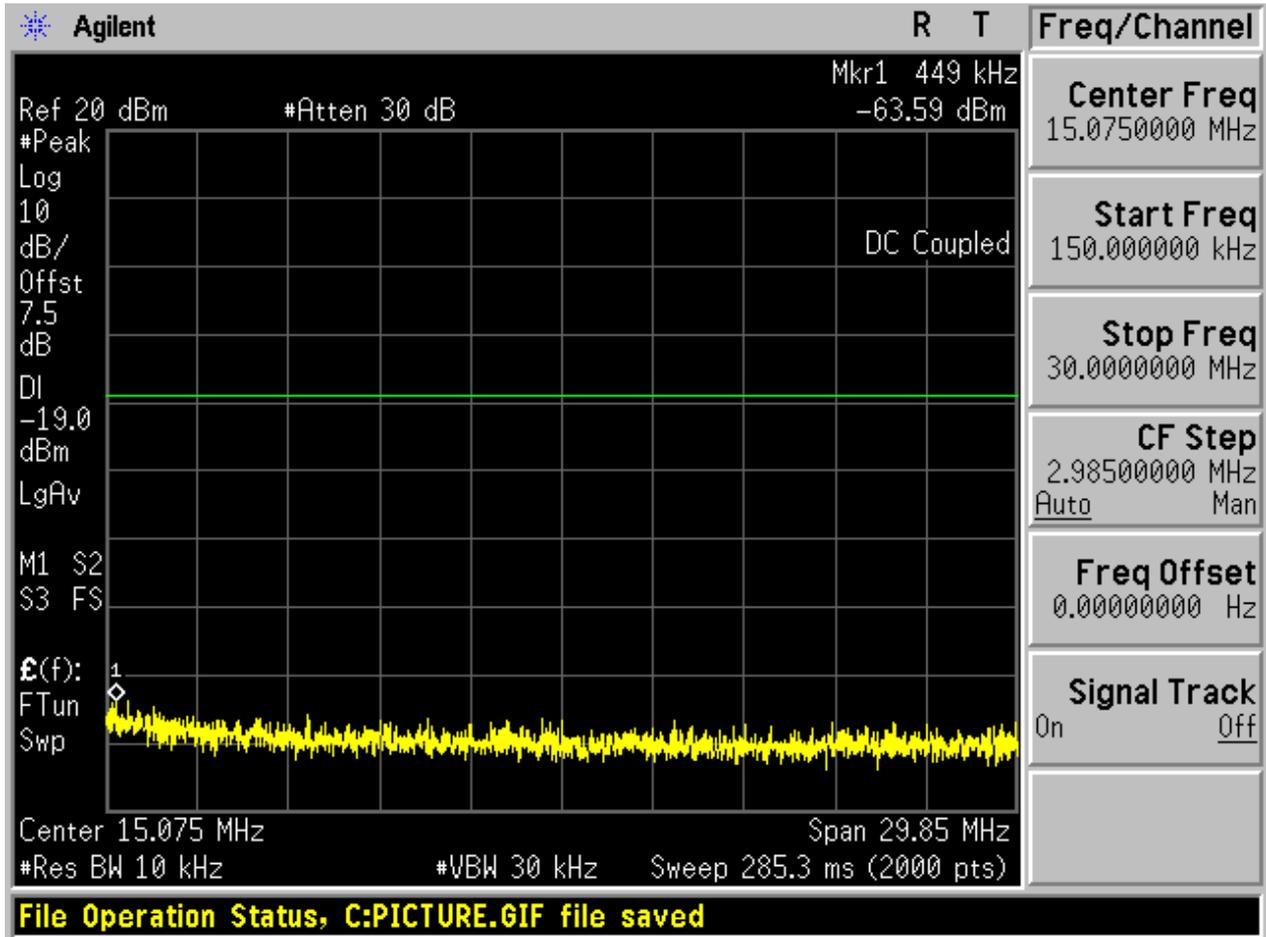
## 2.2 TM1\_DH5\_Ch39

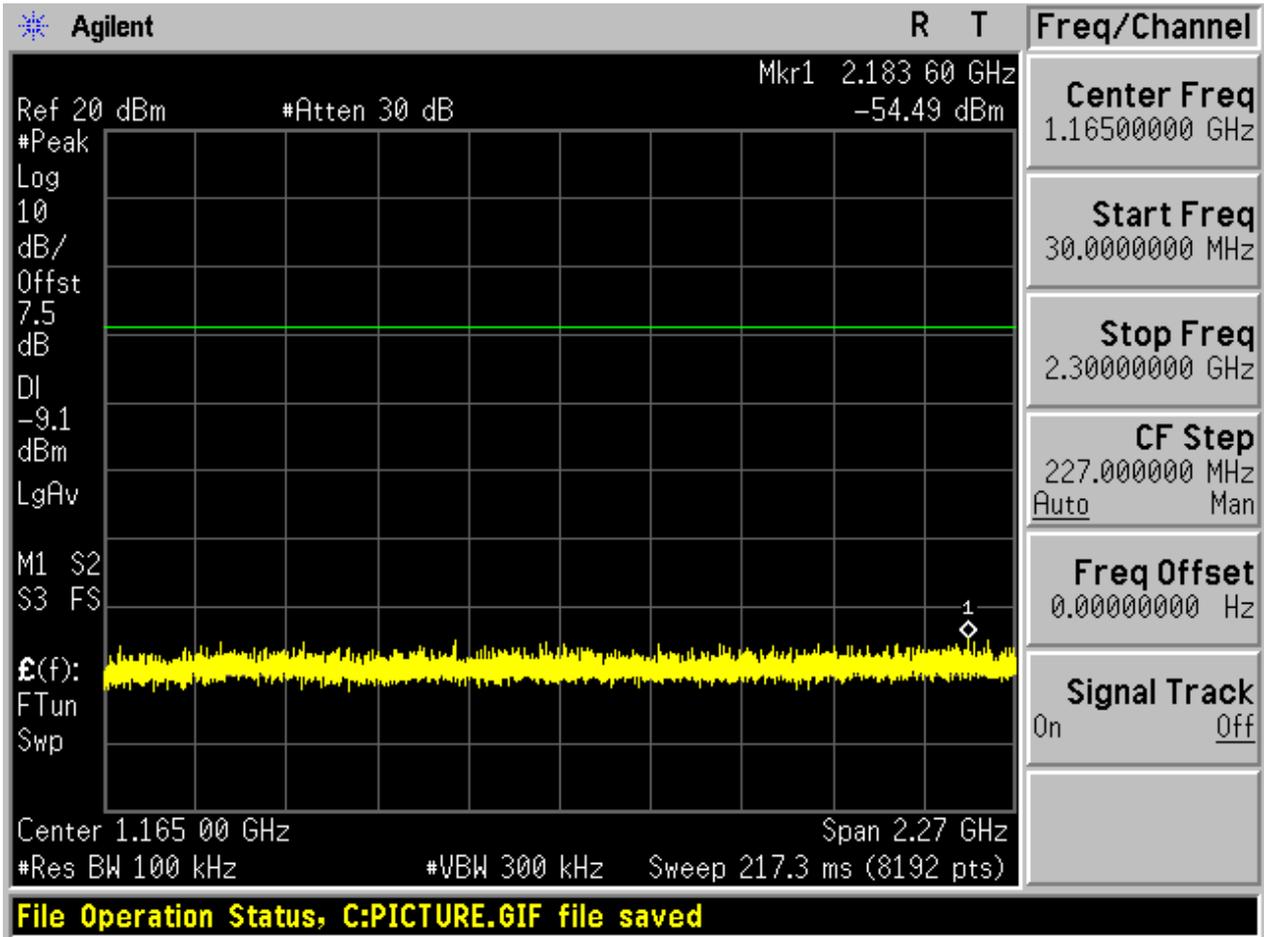
### 2.2.1 Pref

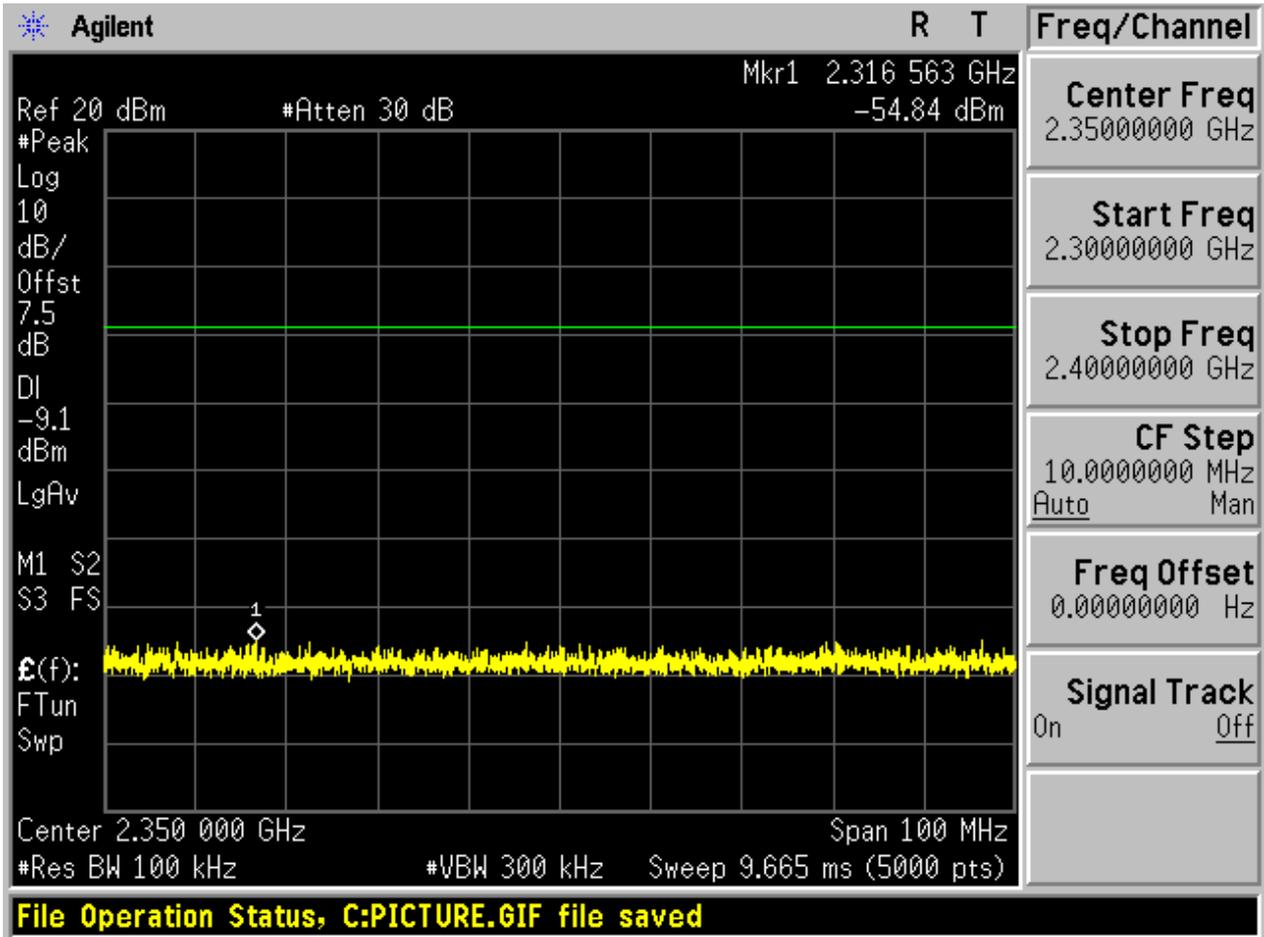


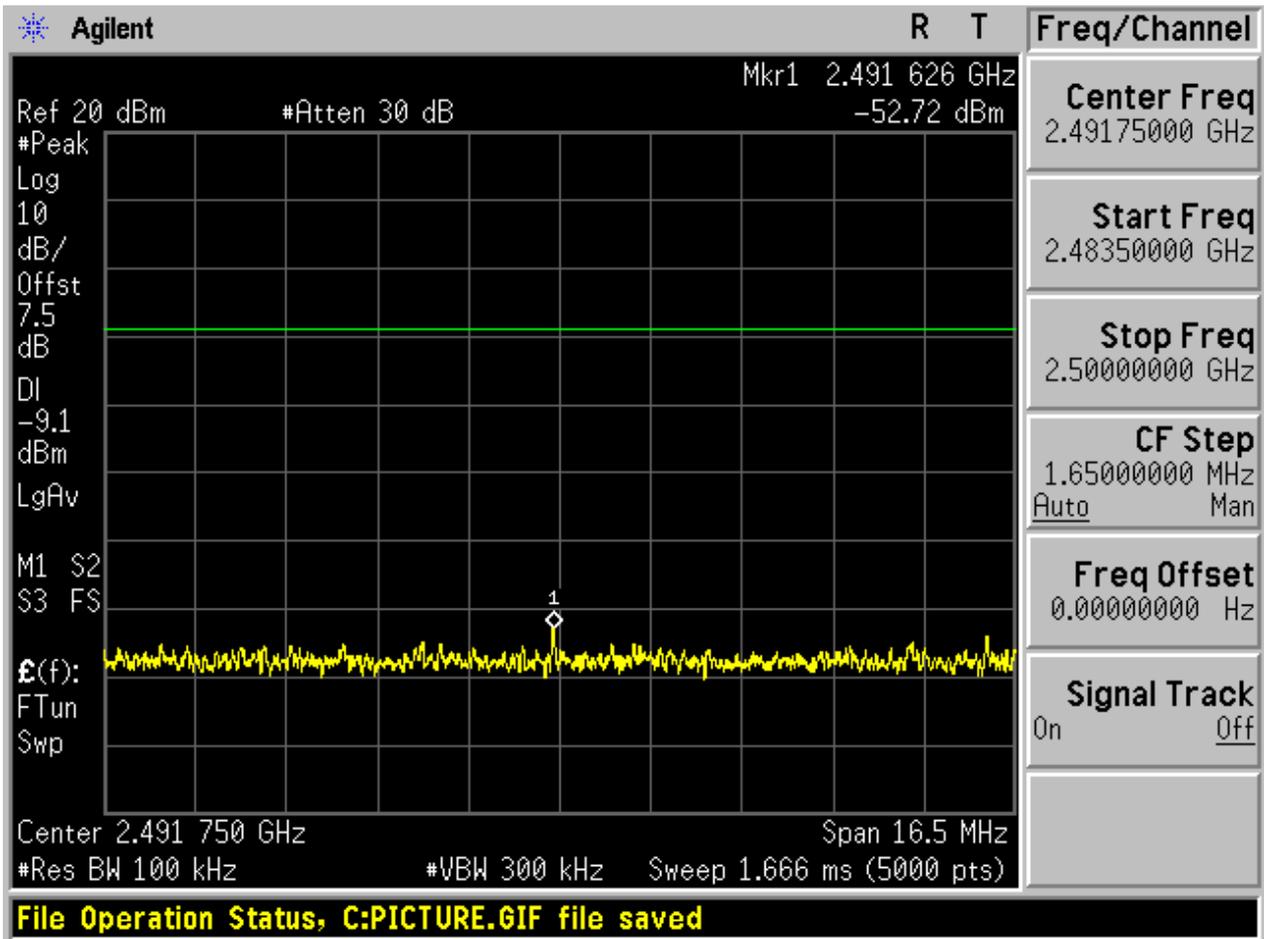
2.2.2 Puw

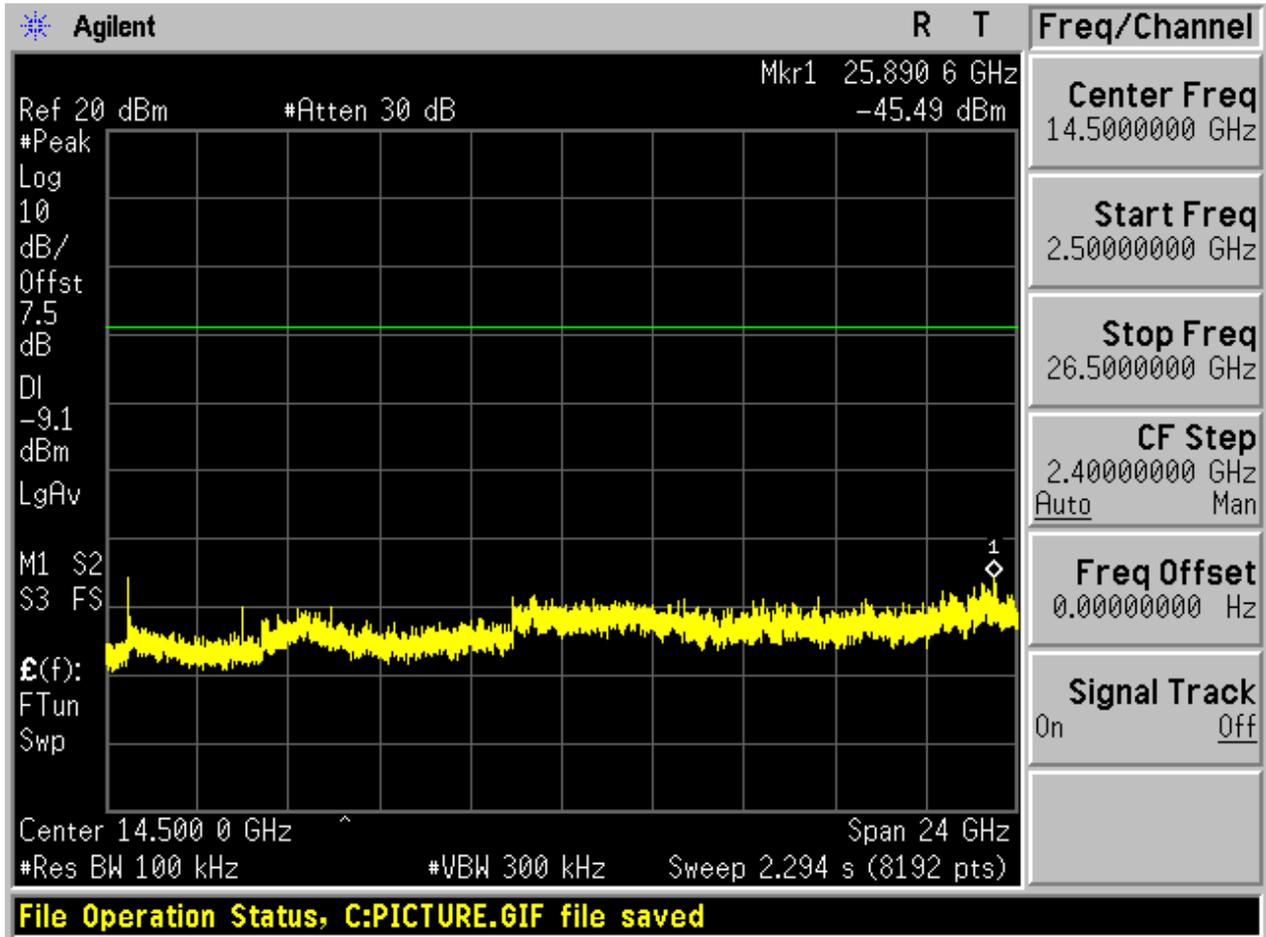






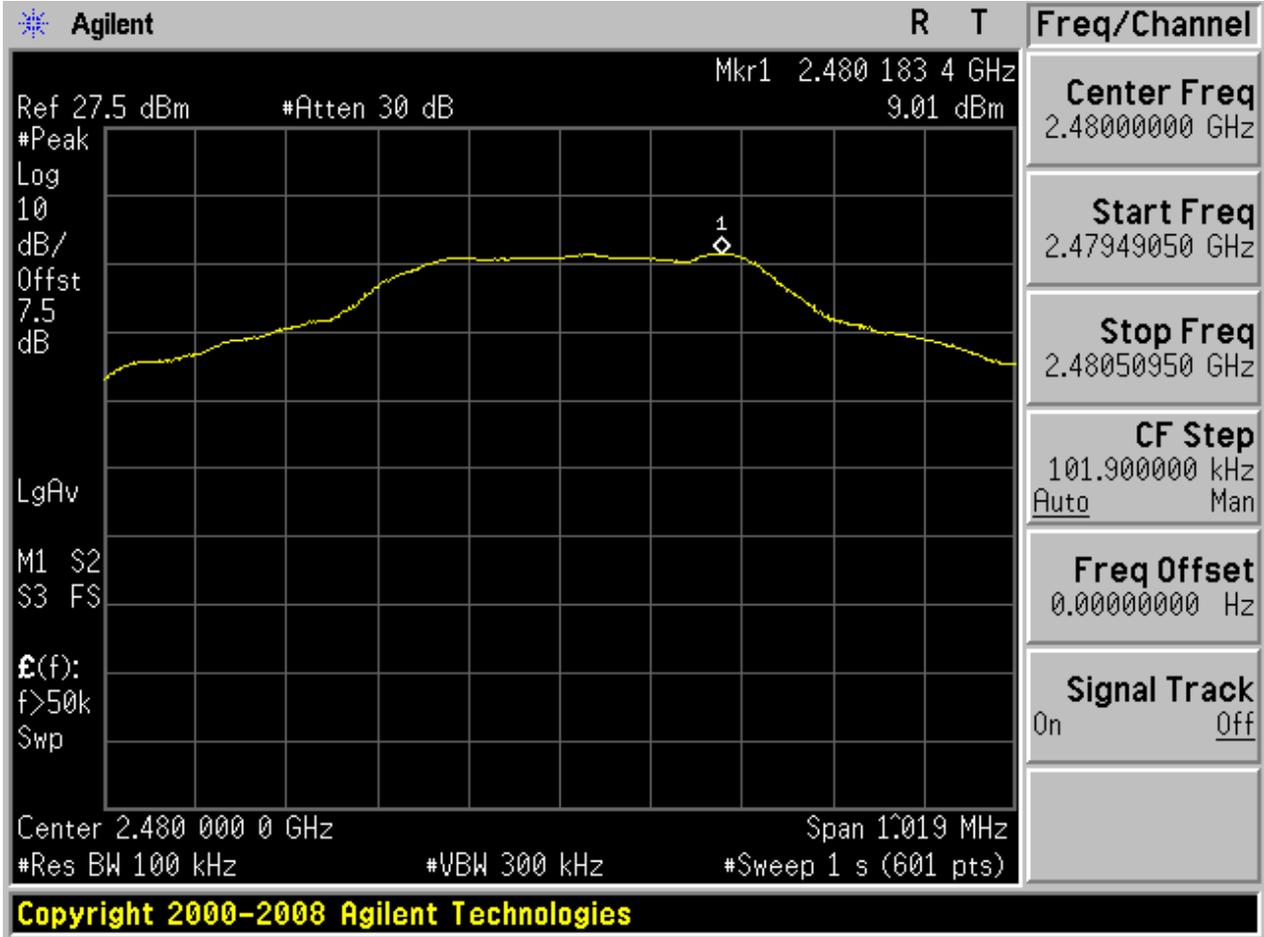




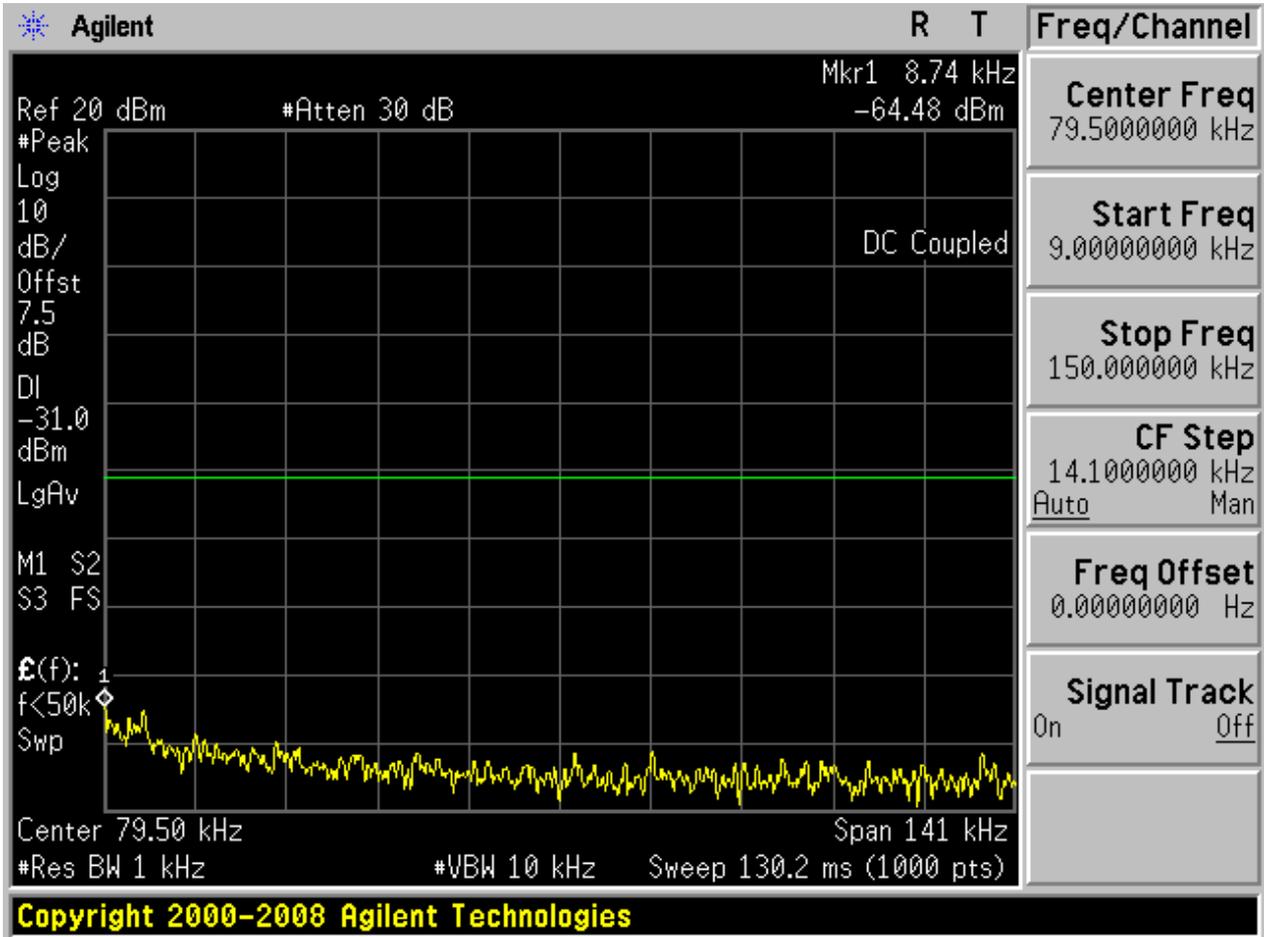


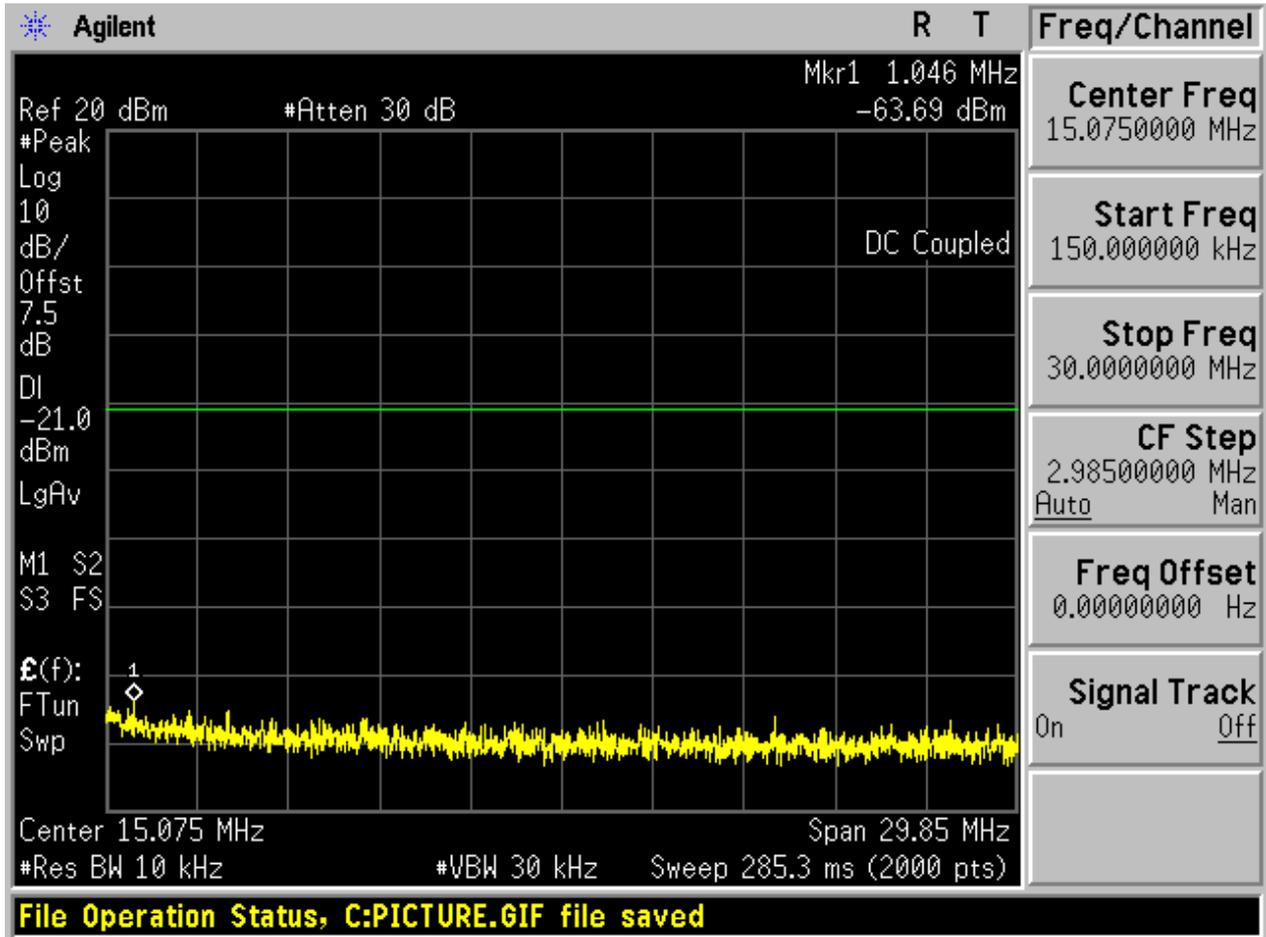
### 2.3 TM1\_DH5\_Ch78

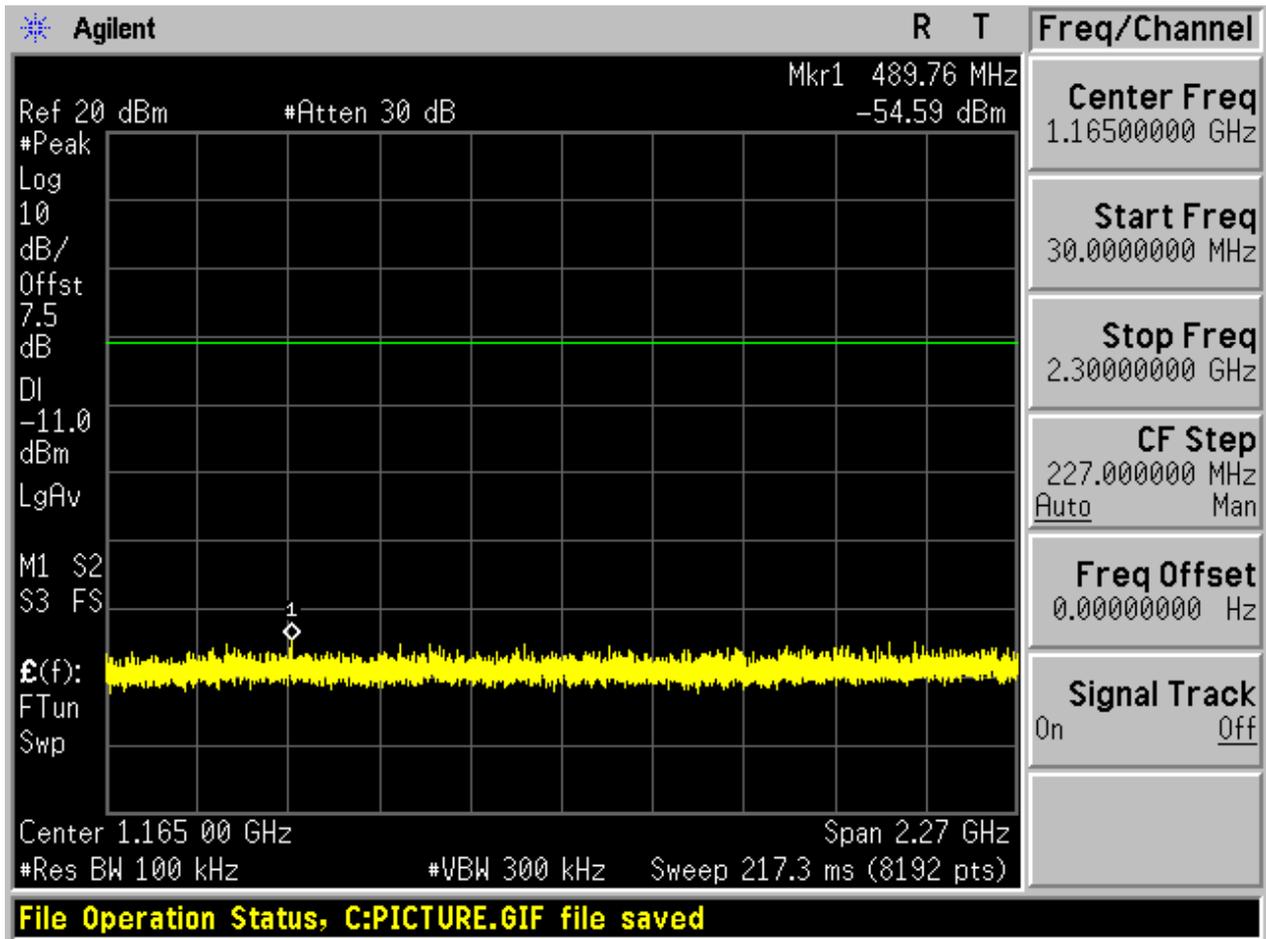
#### 2.3.1 Pref

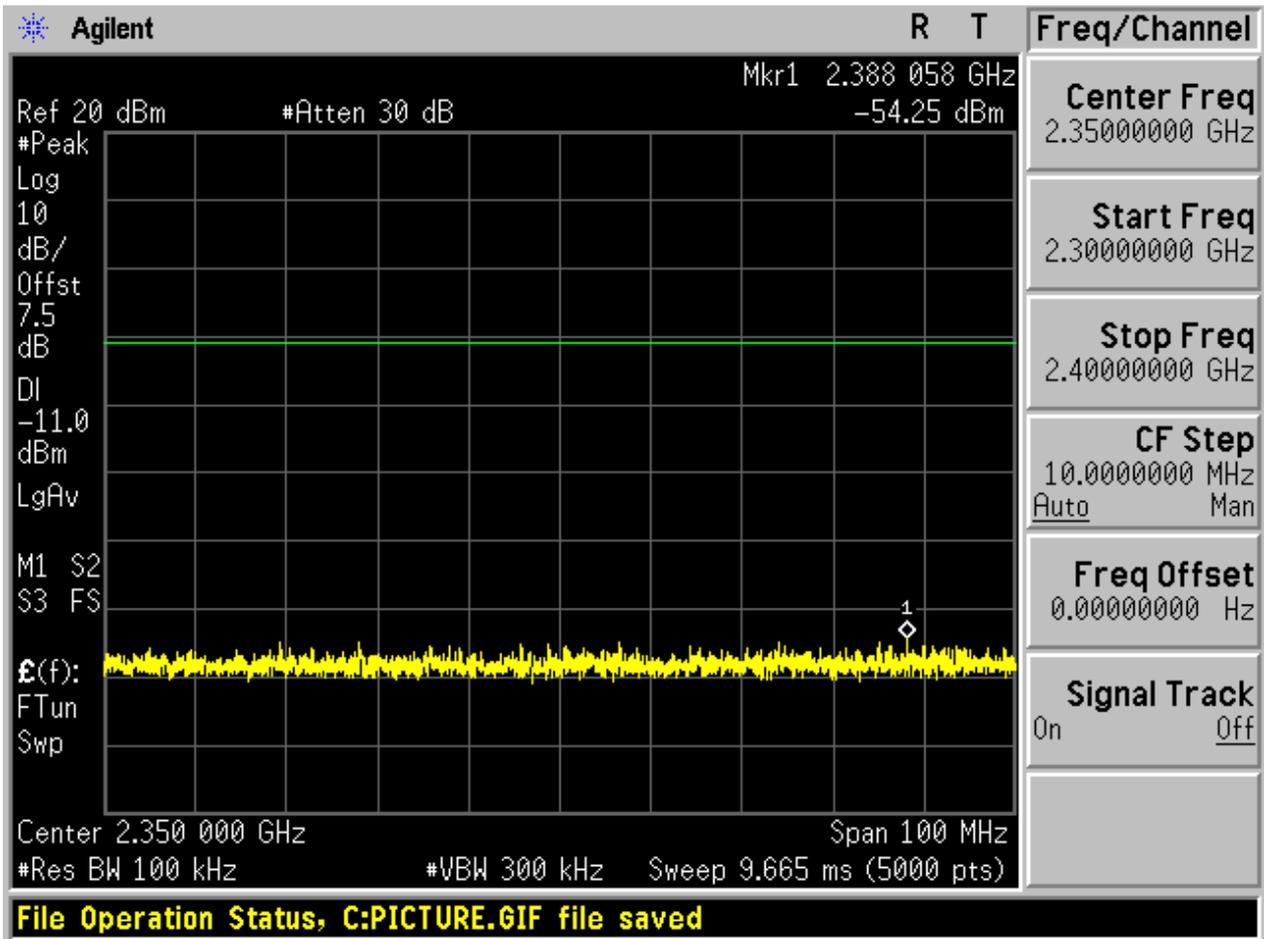


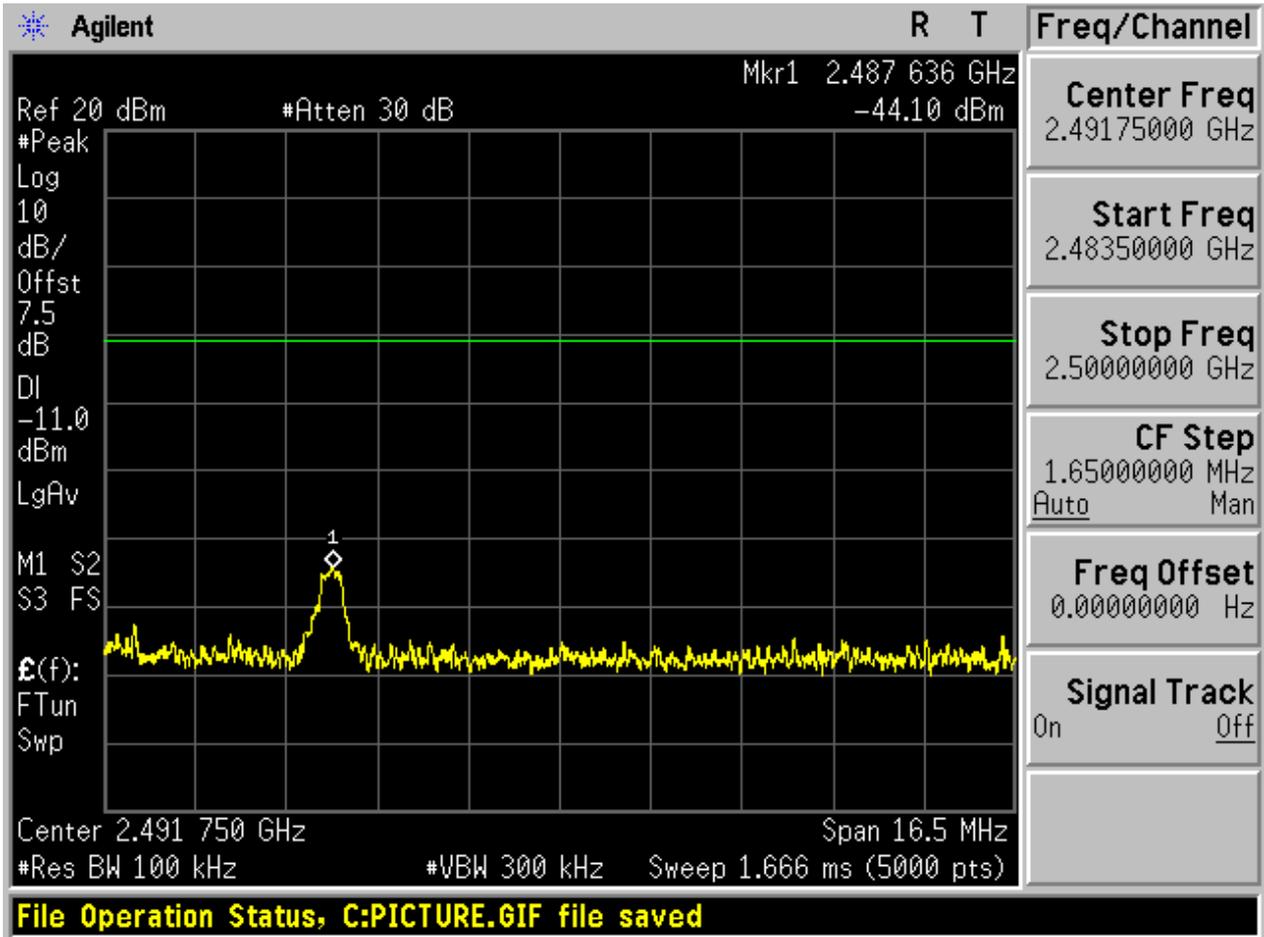
2.3.2 Puw

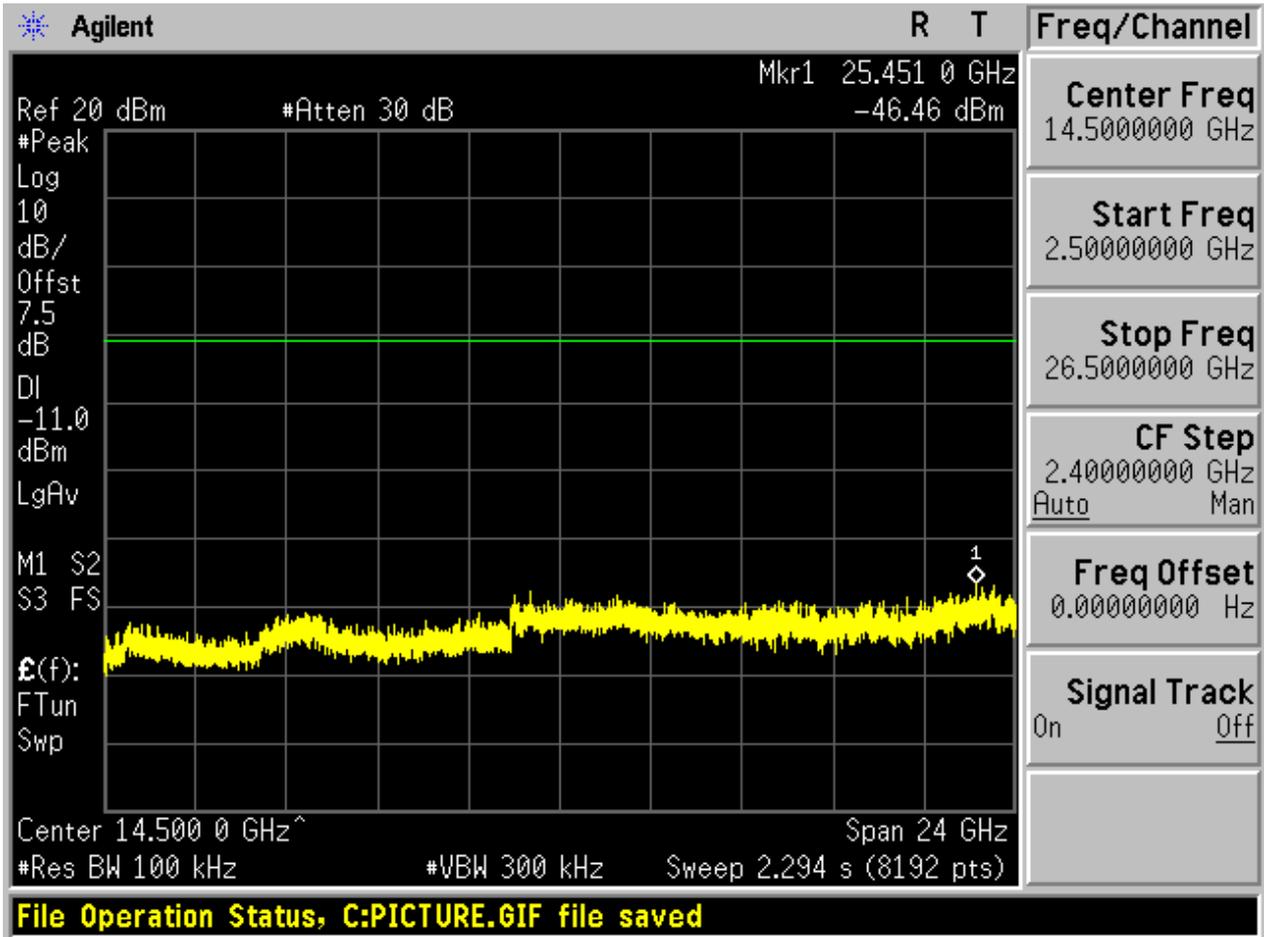






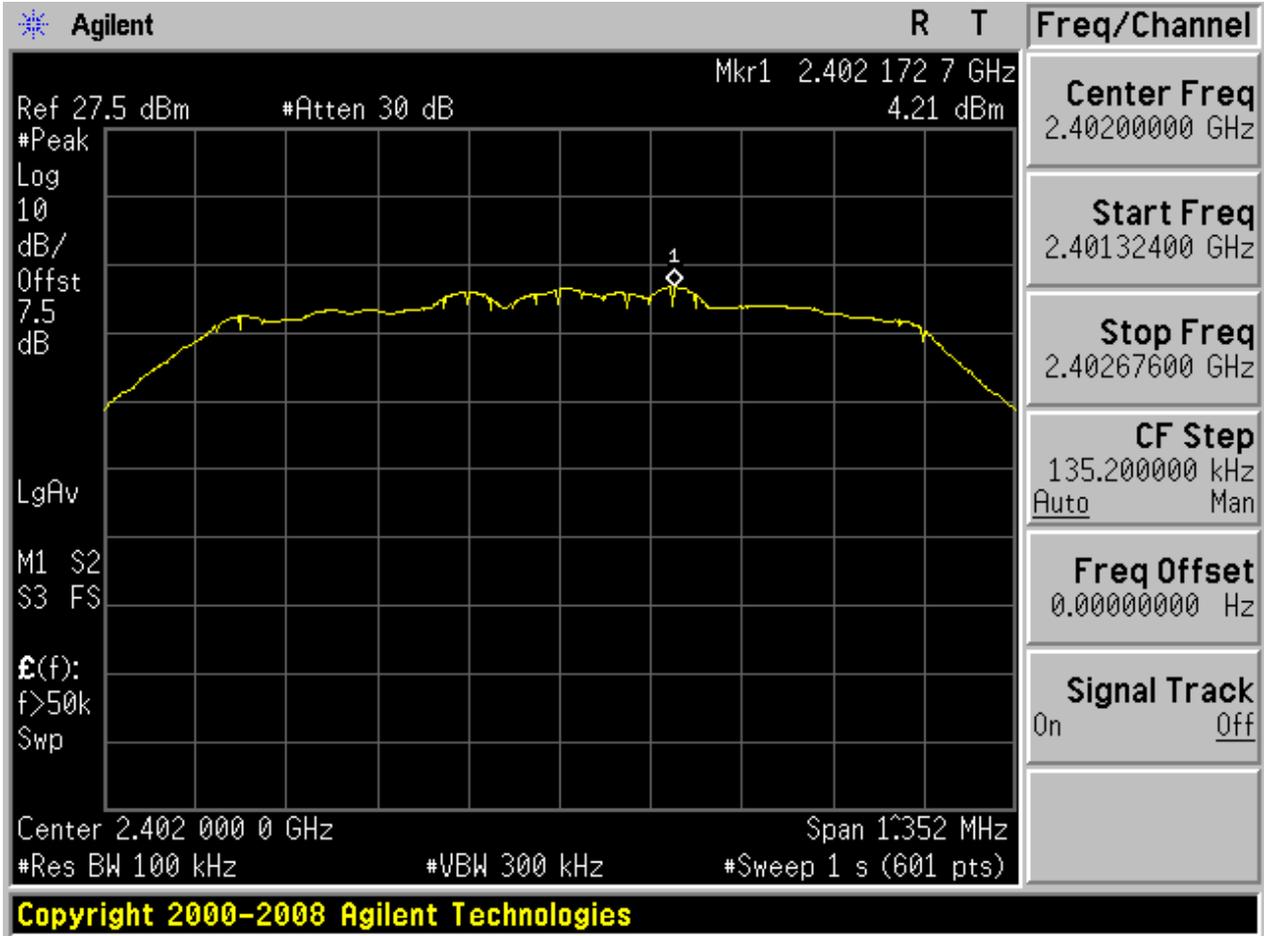




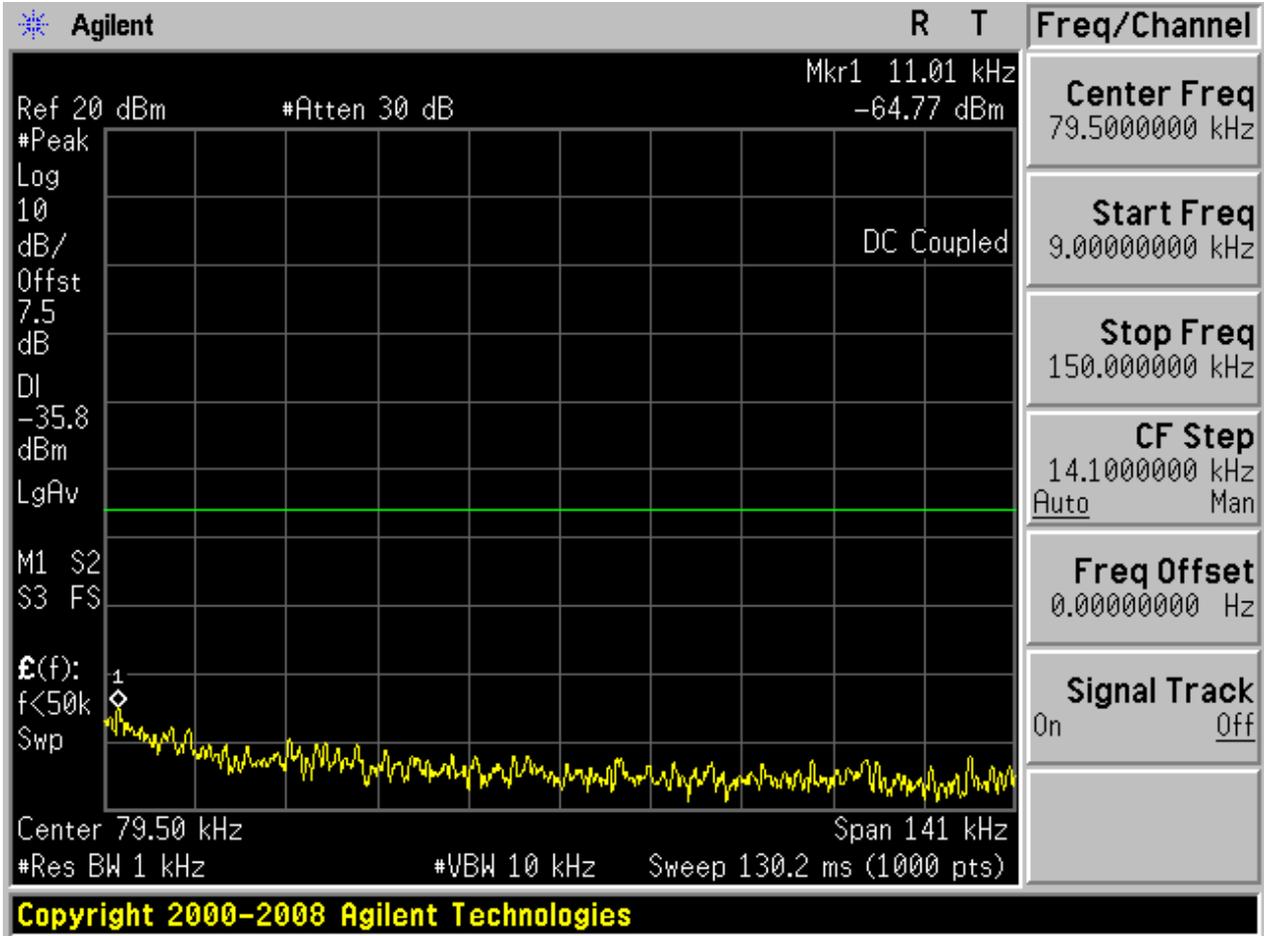


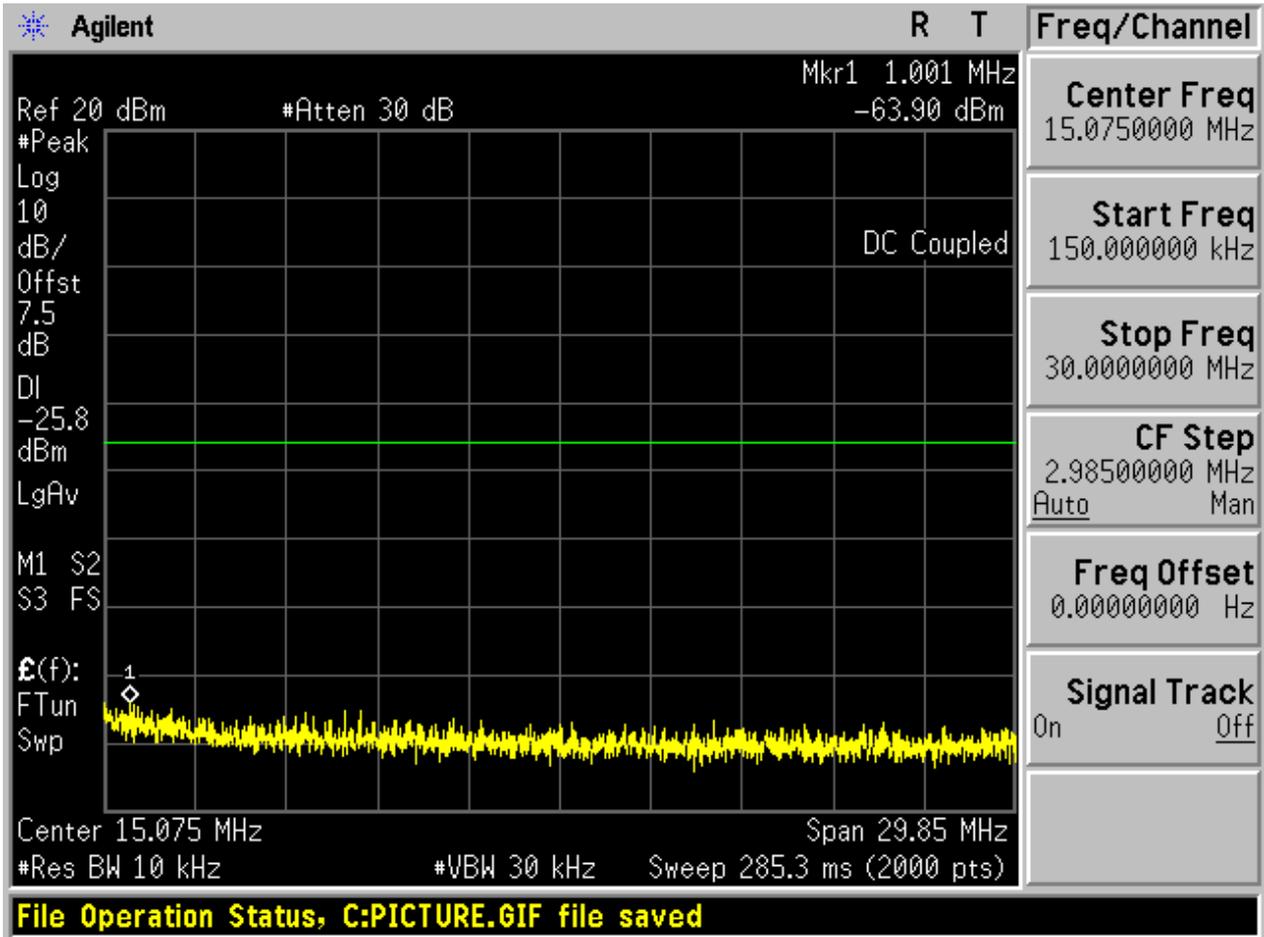
2.4 TM2\_2DH5\_Ch0

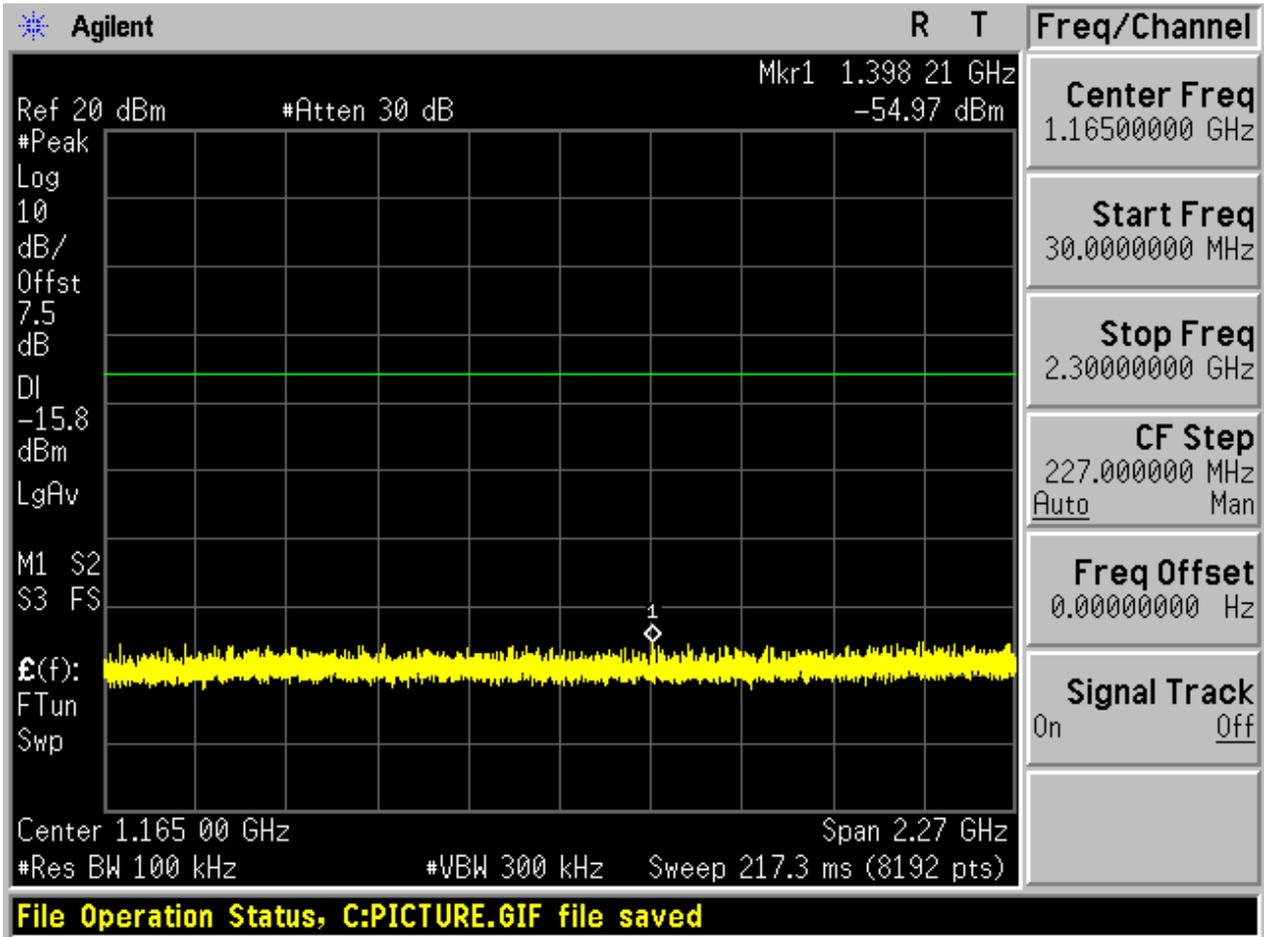
2.4.1 Pref

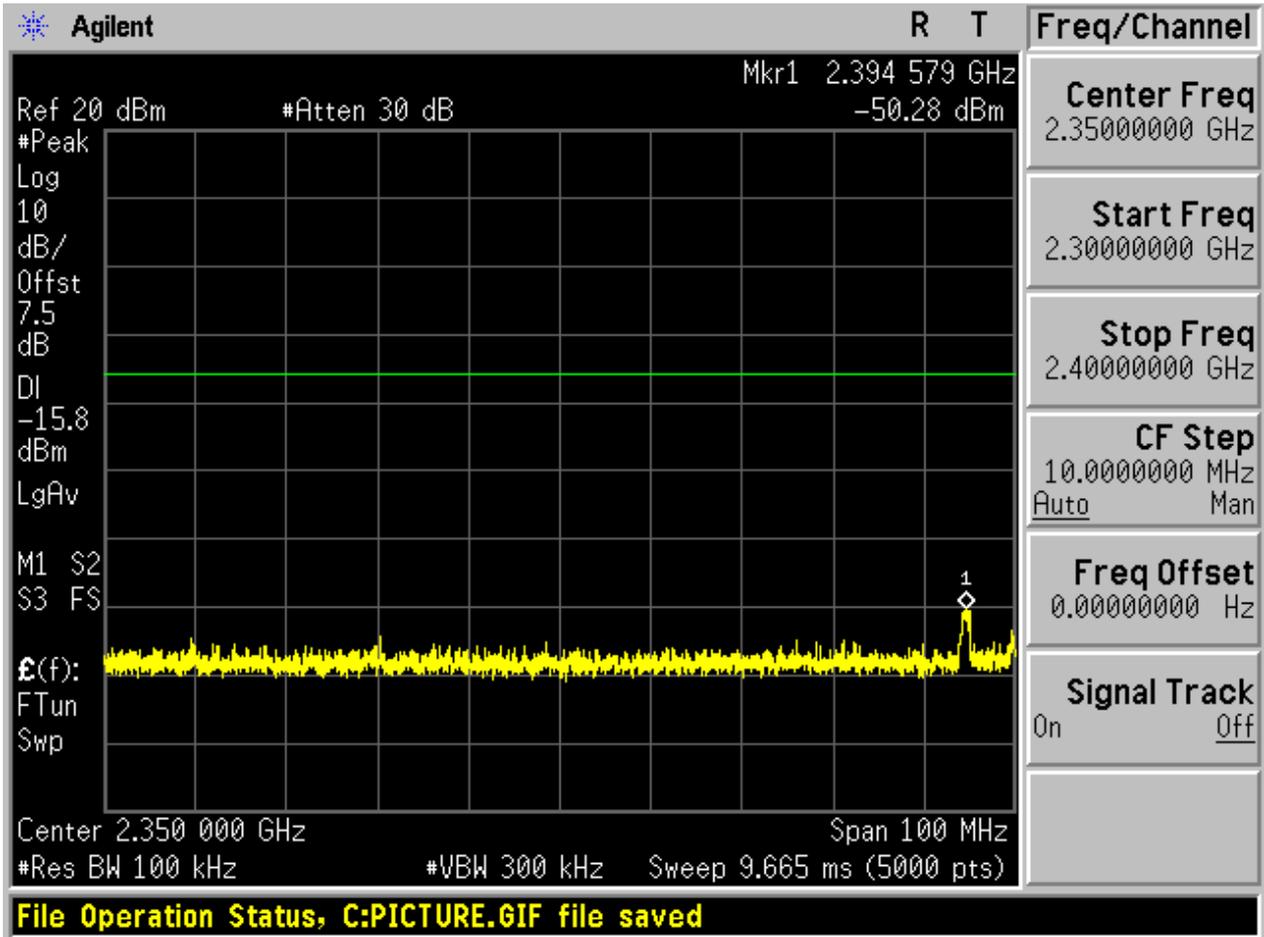


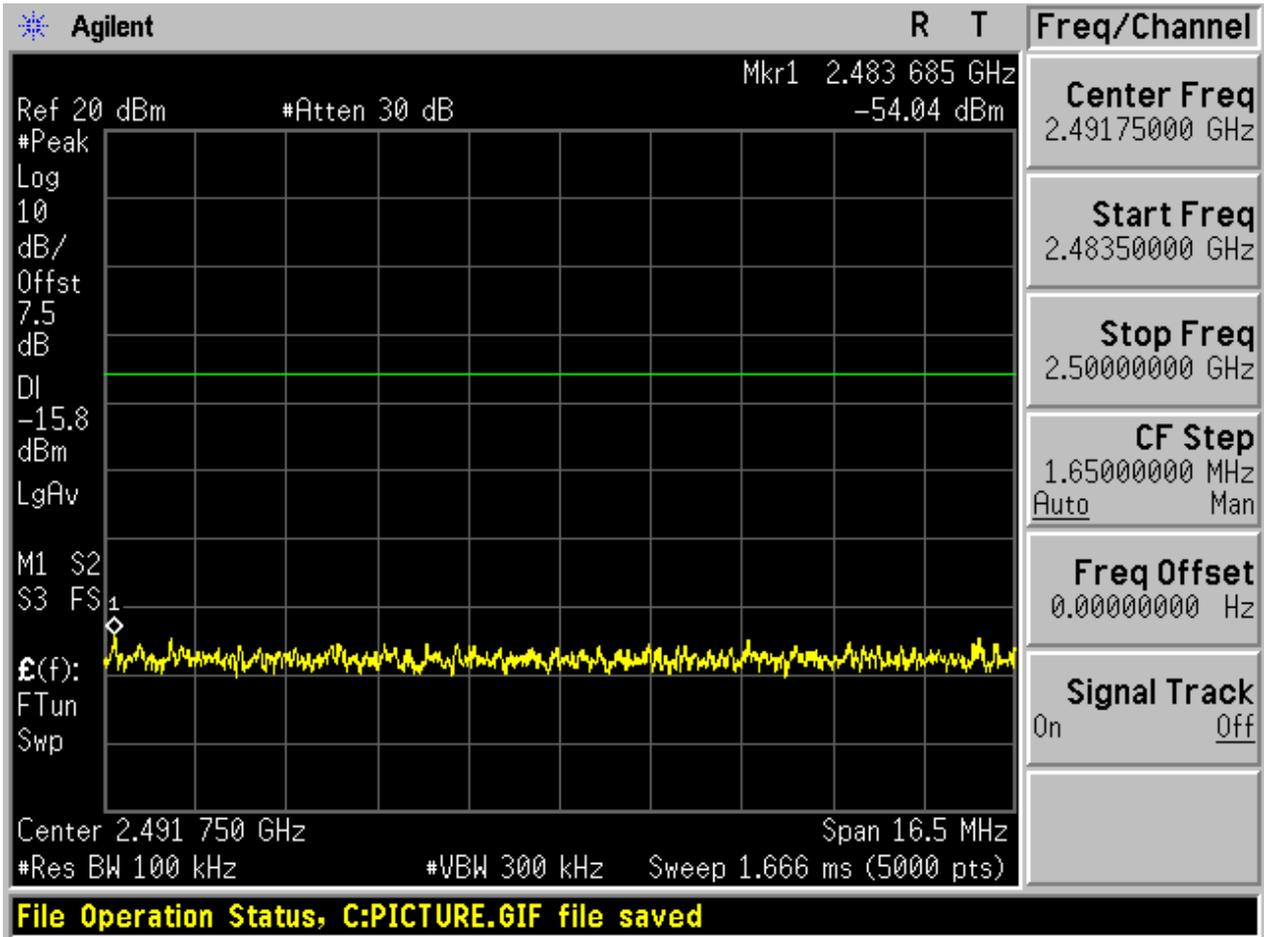
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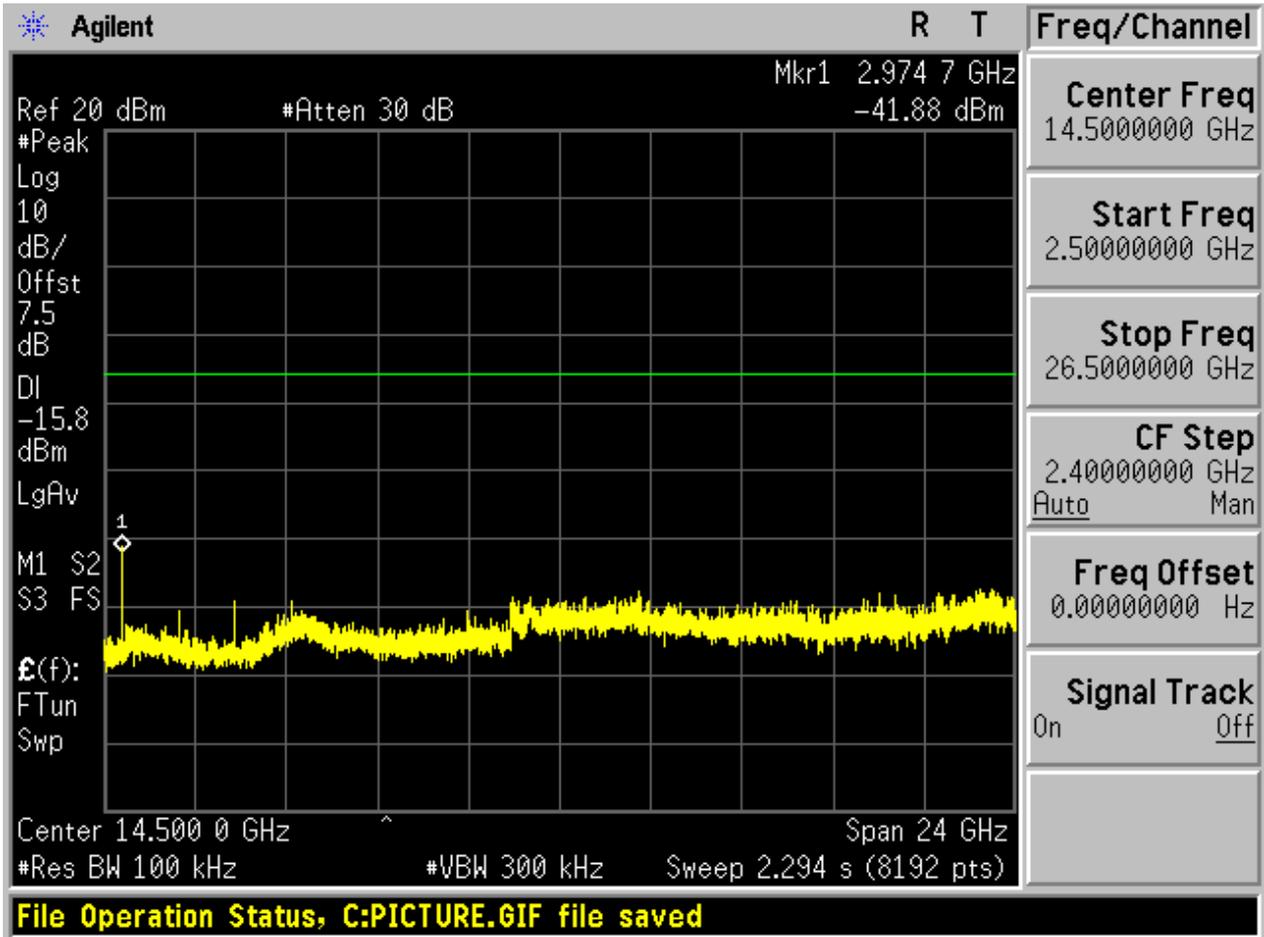






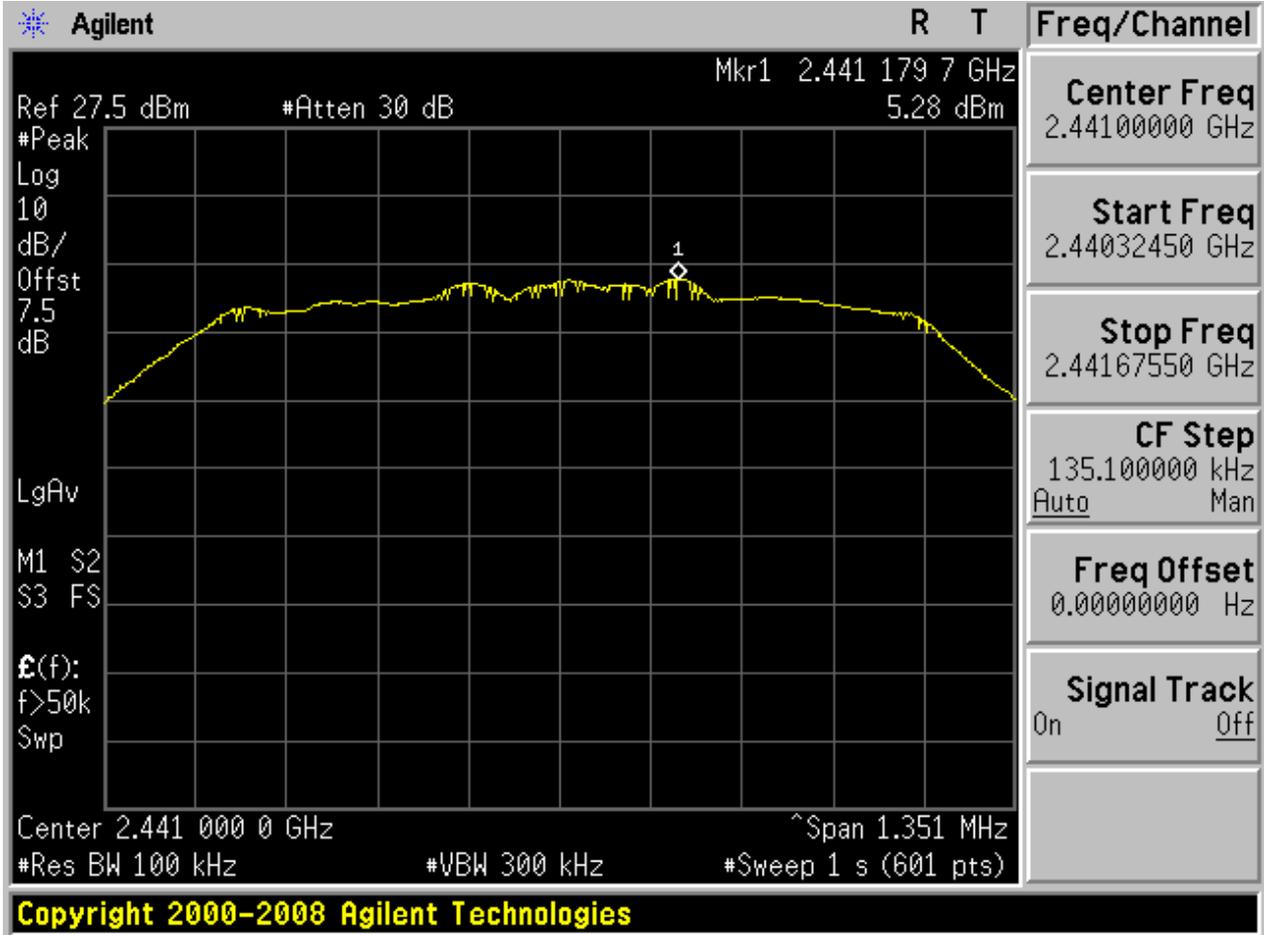




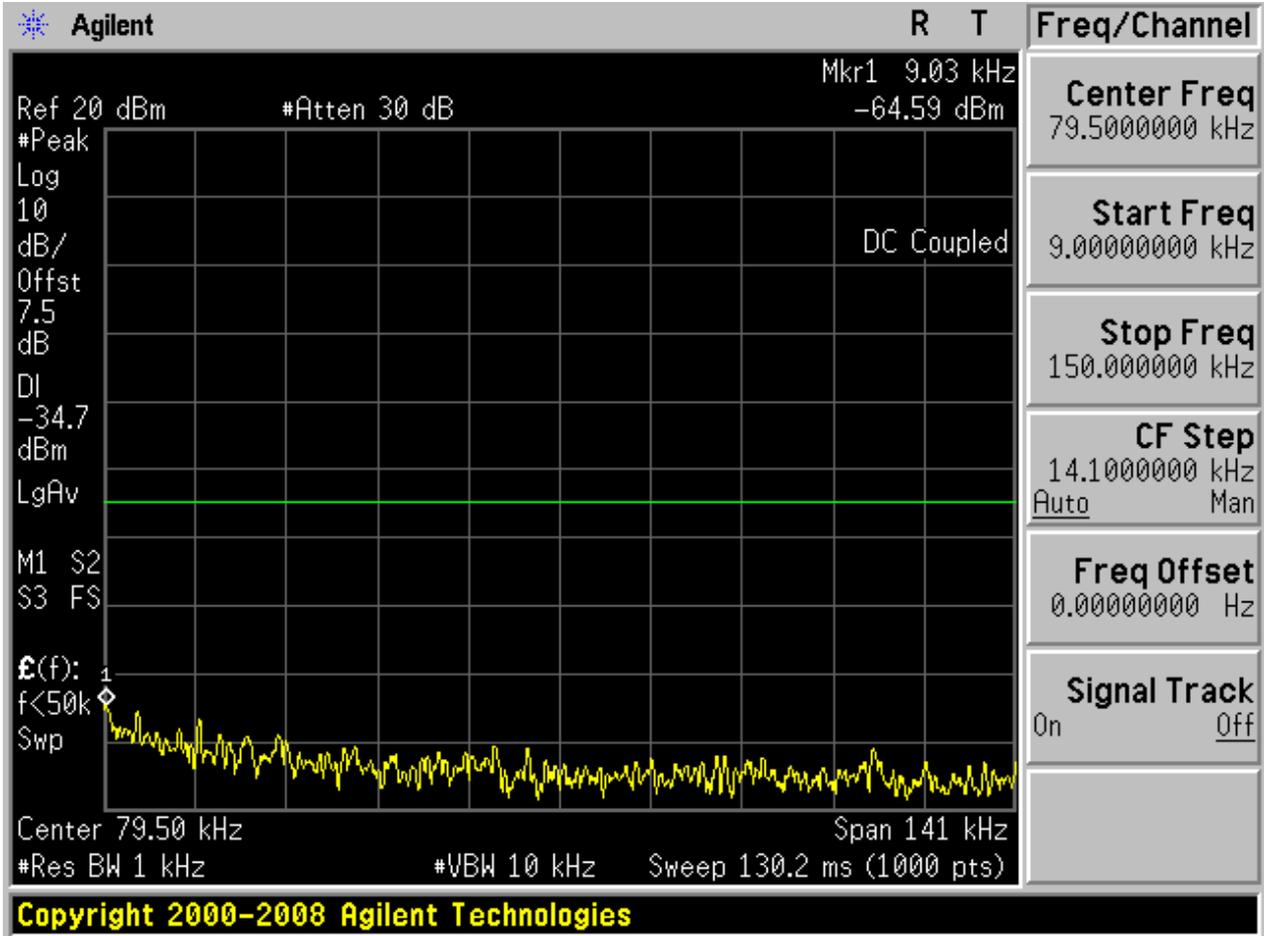


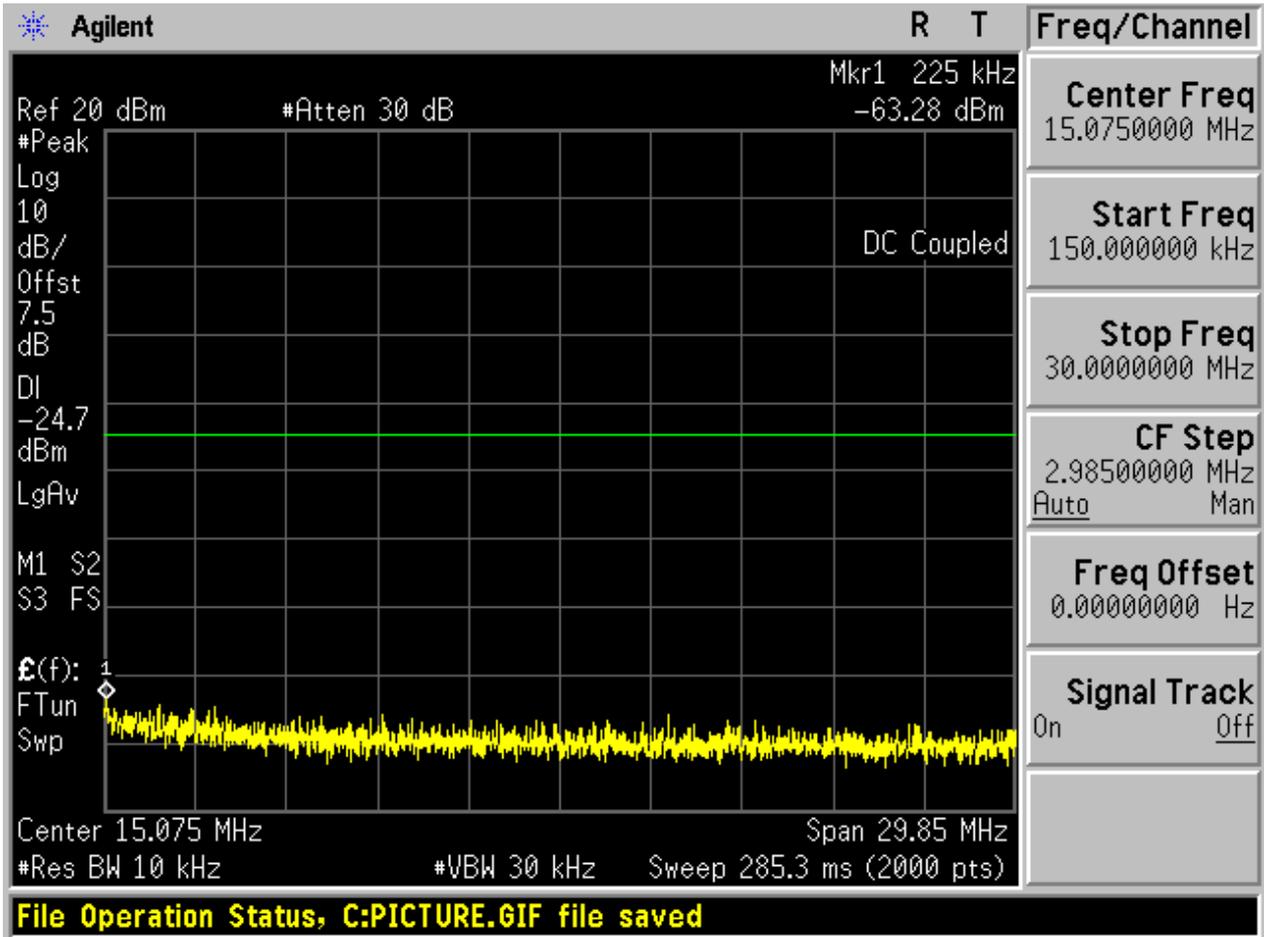
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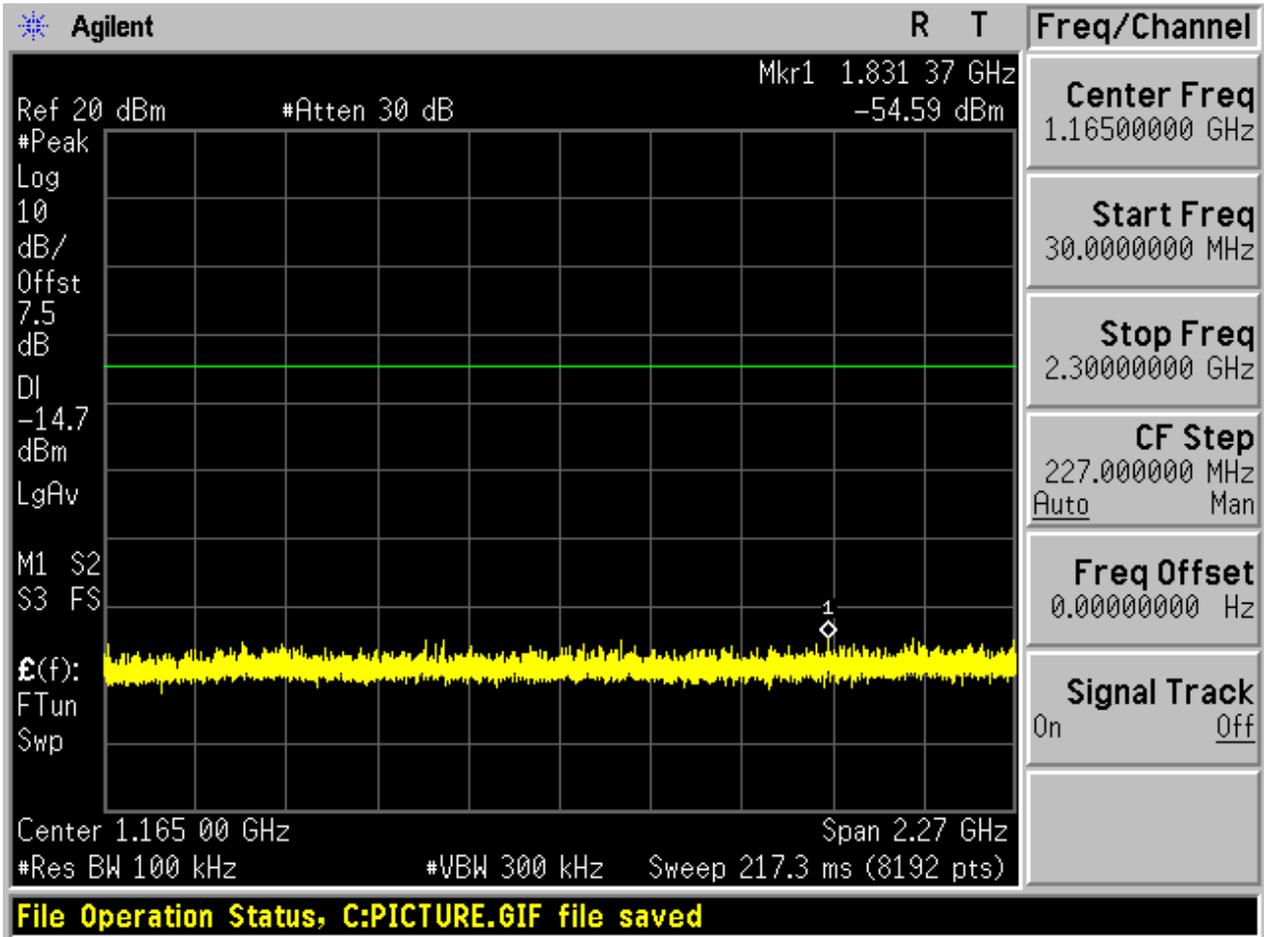
### 2.5.1 Pref

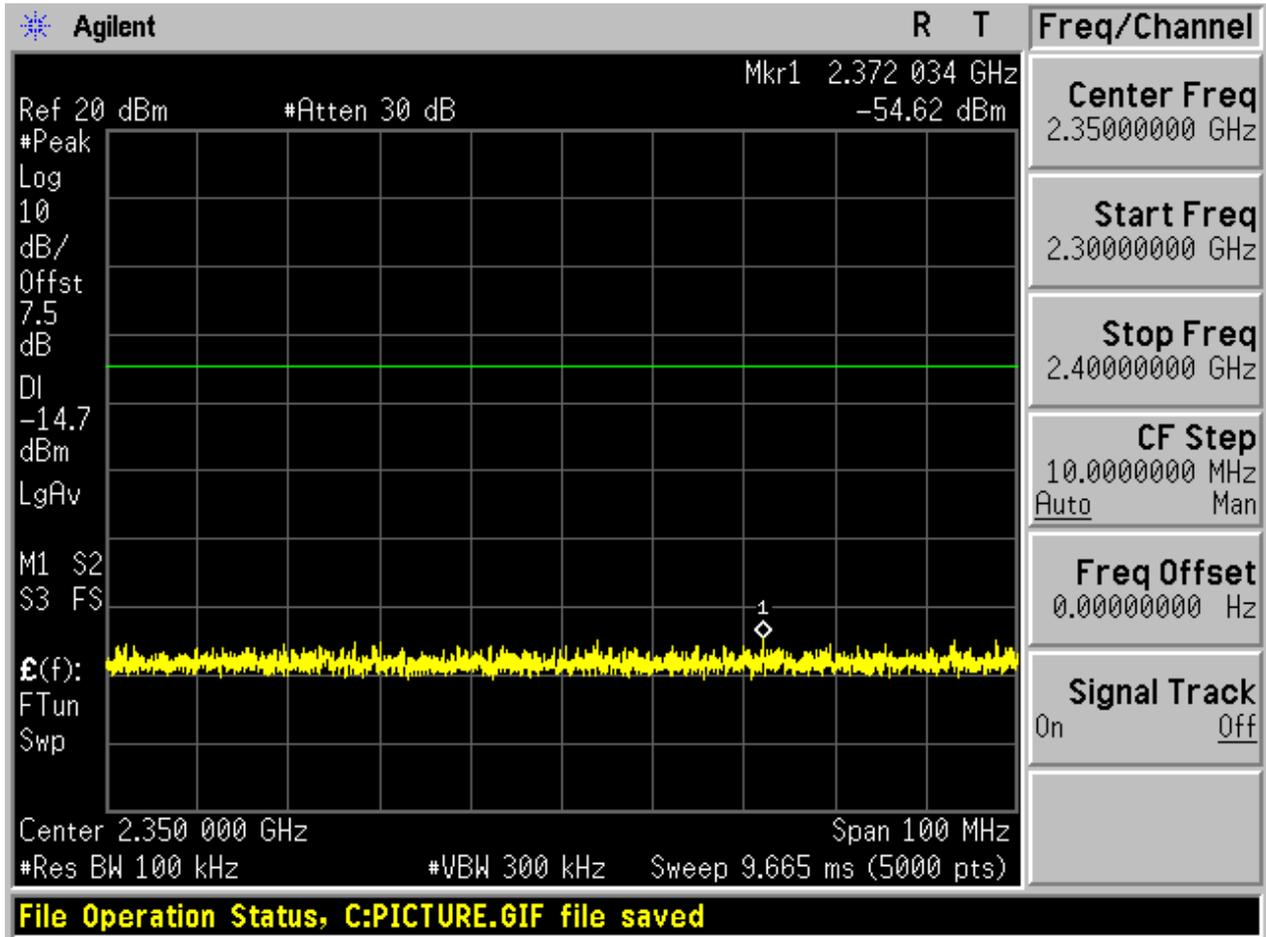


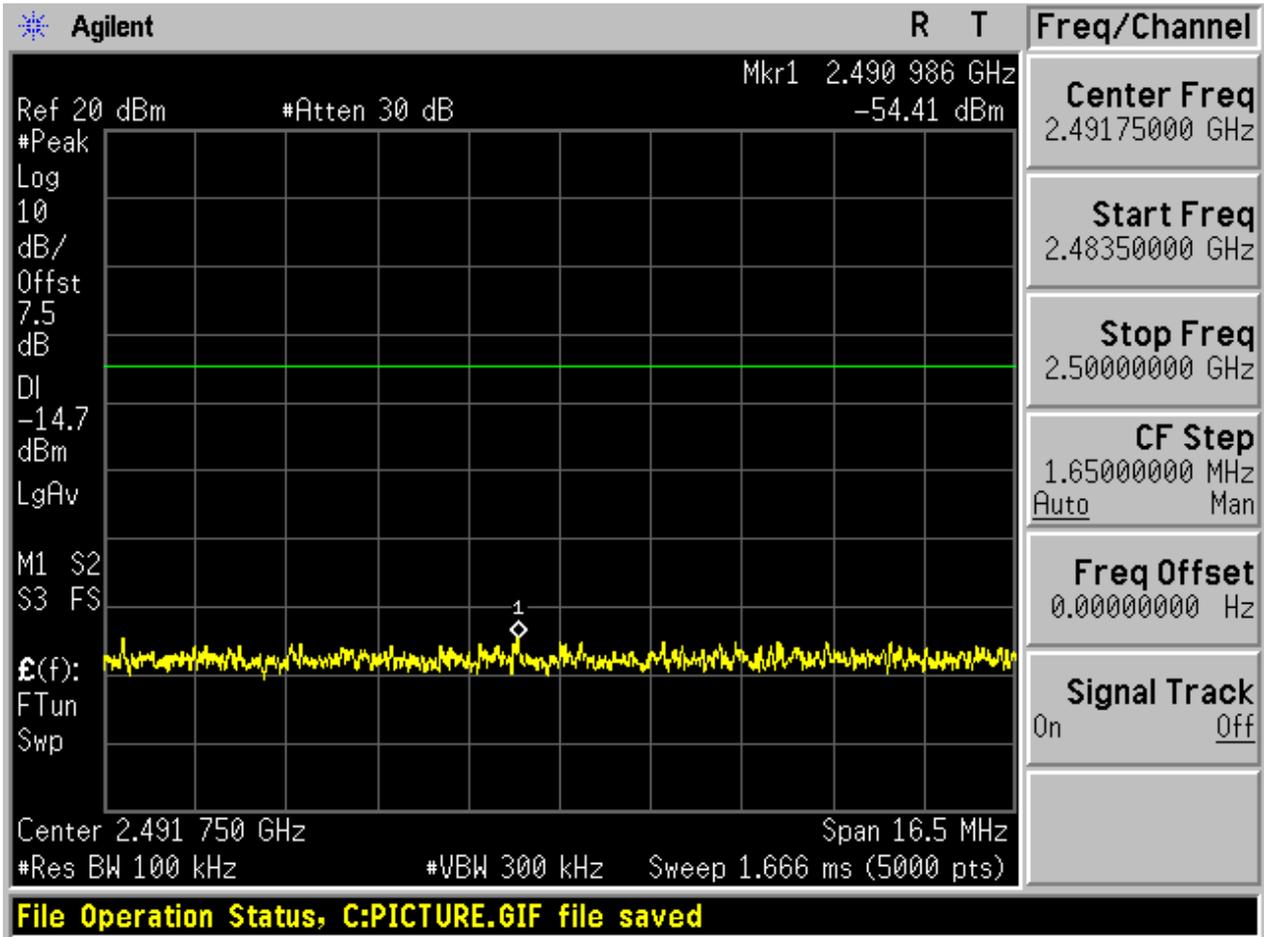
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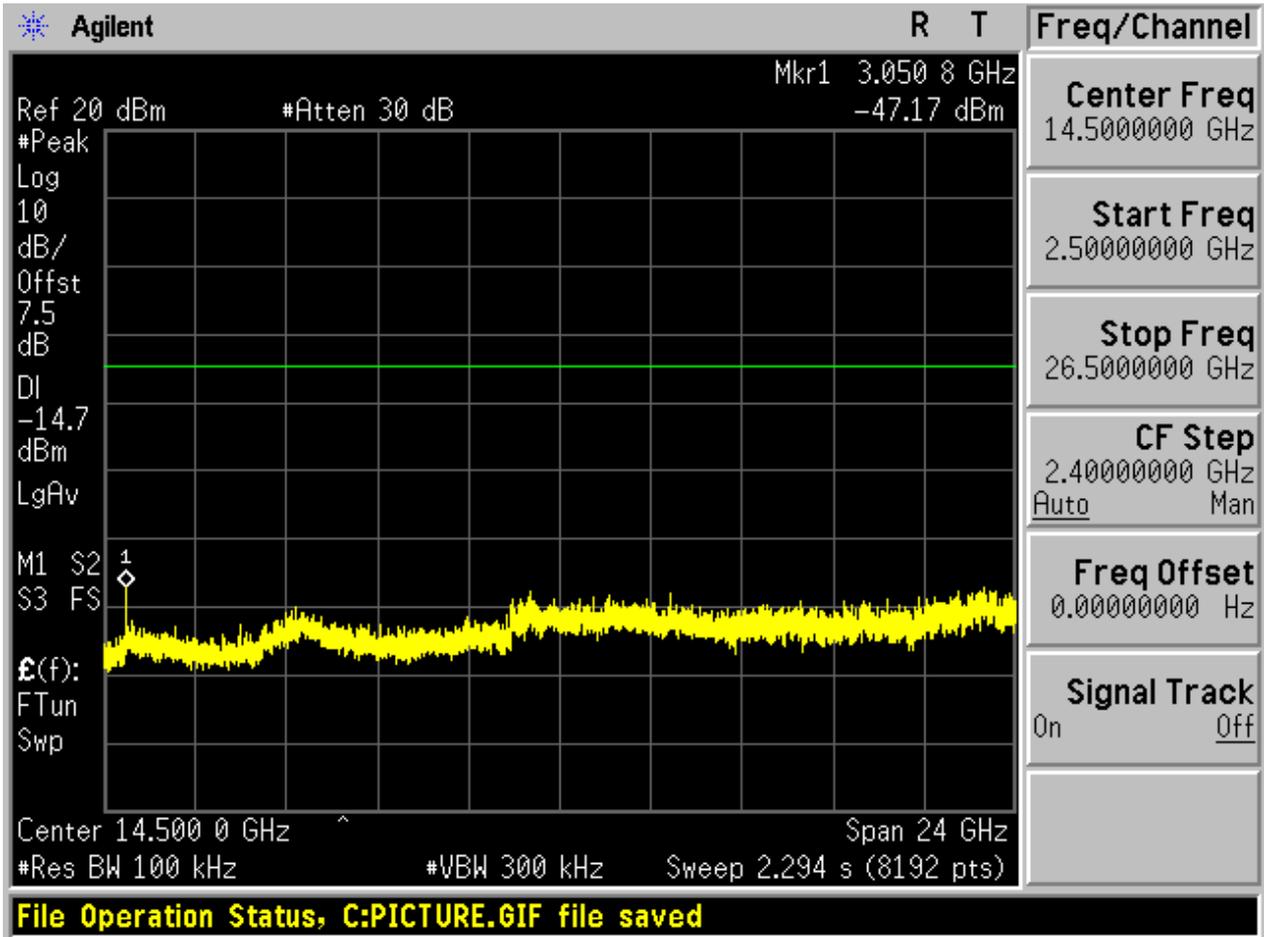






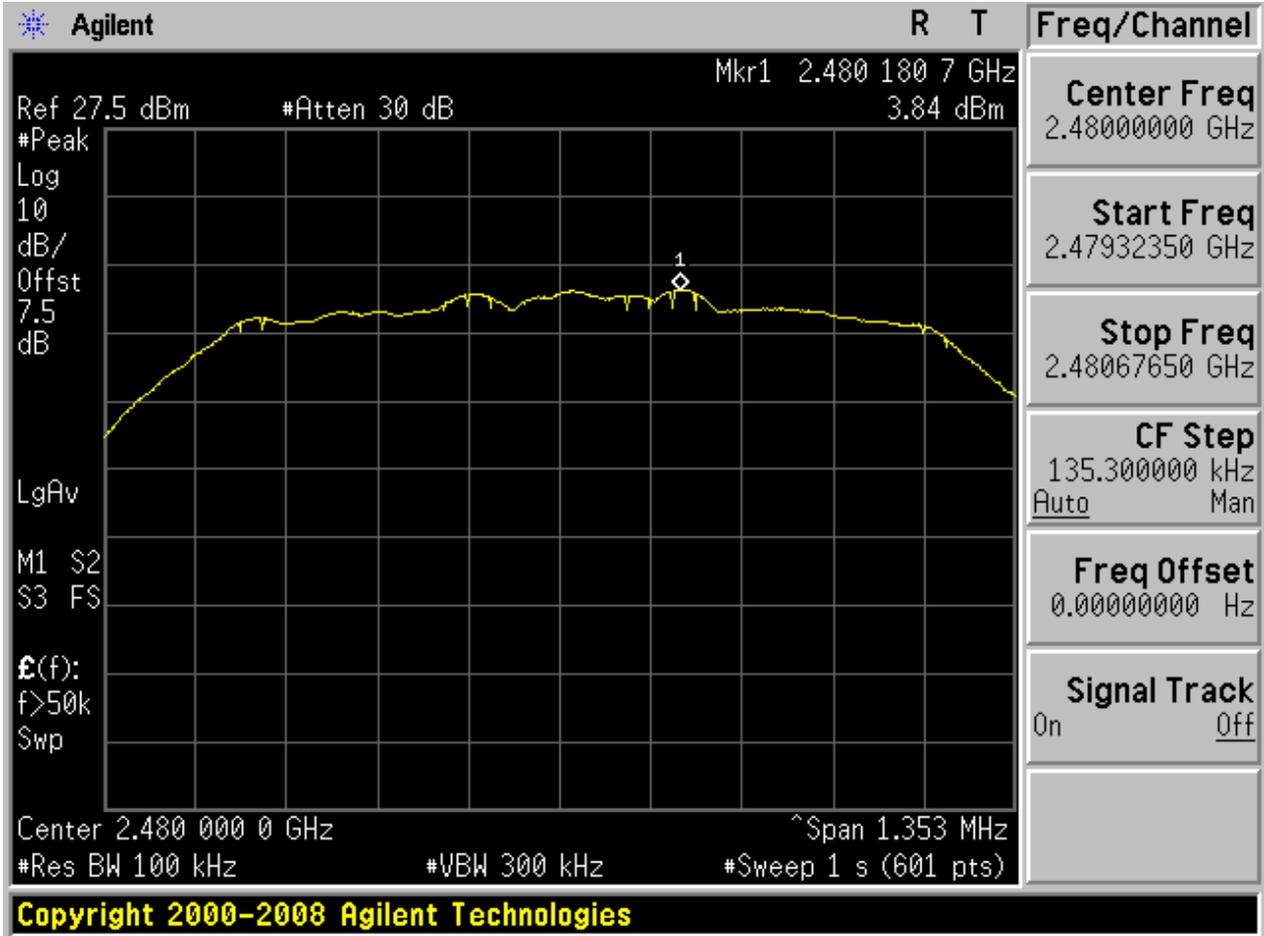




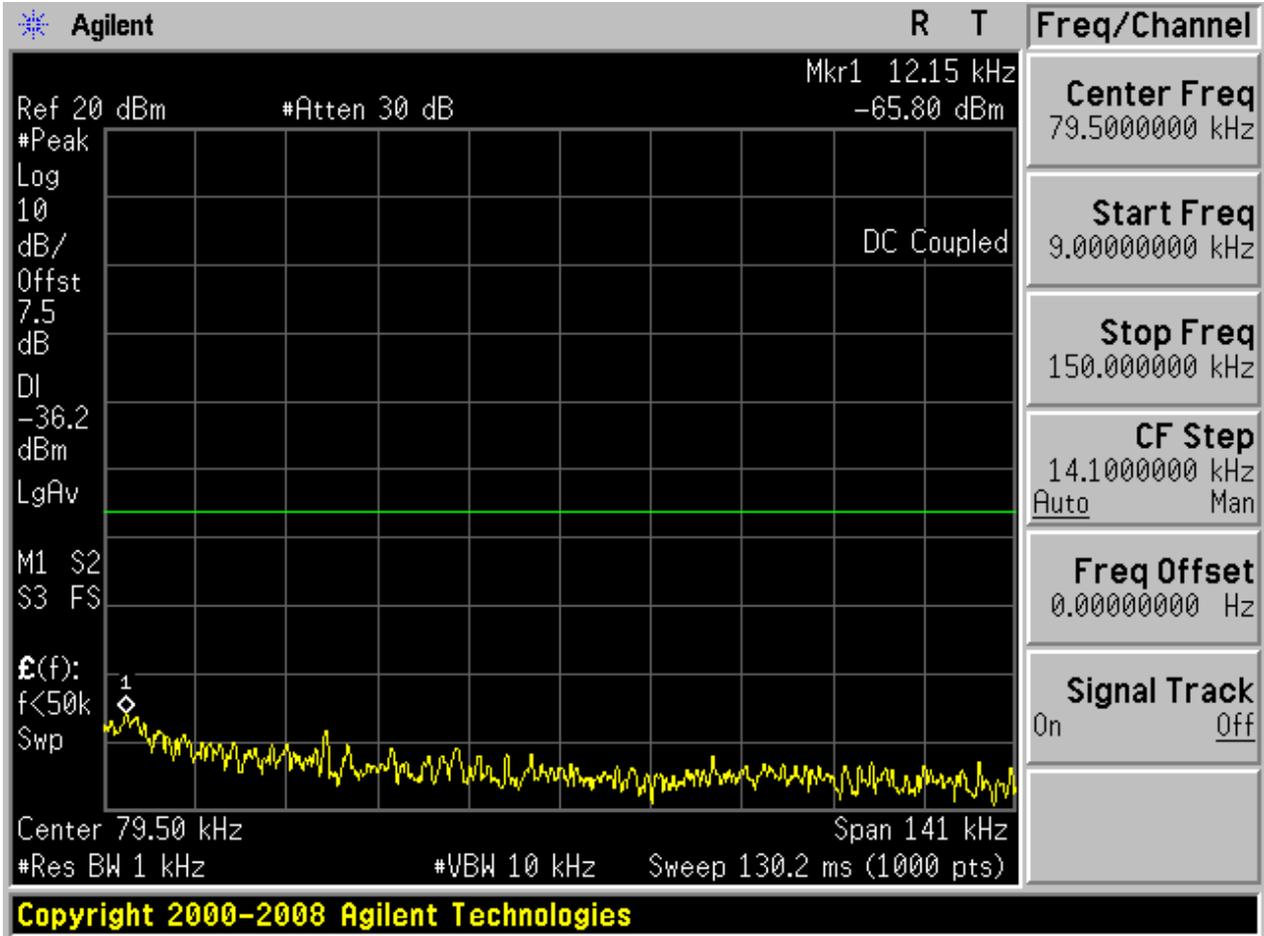


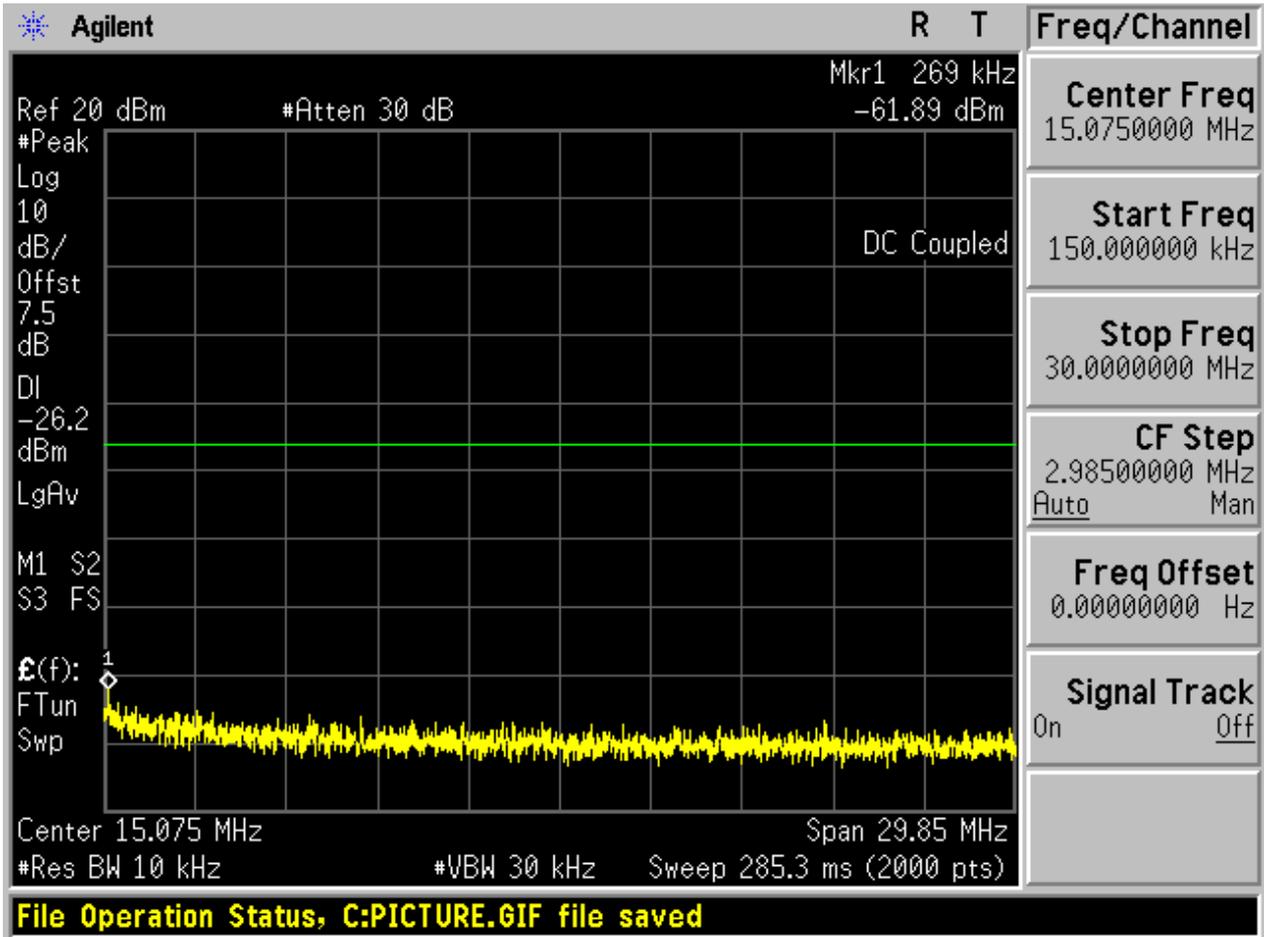
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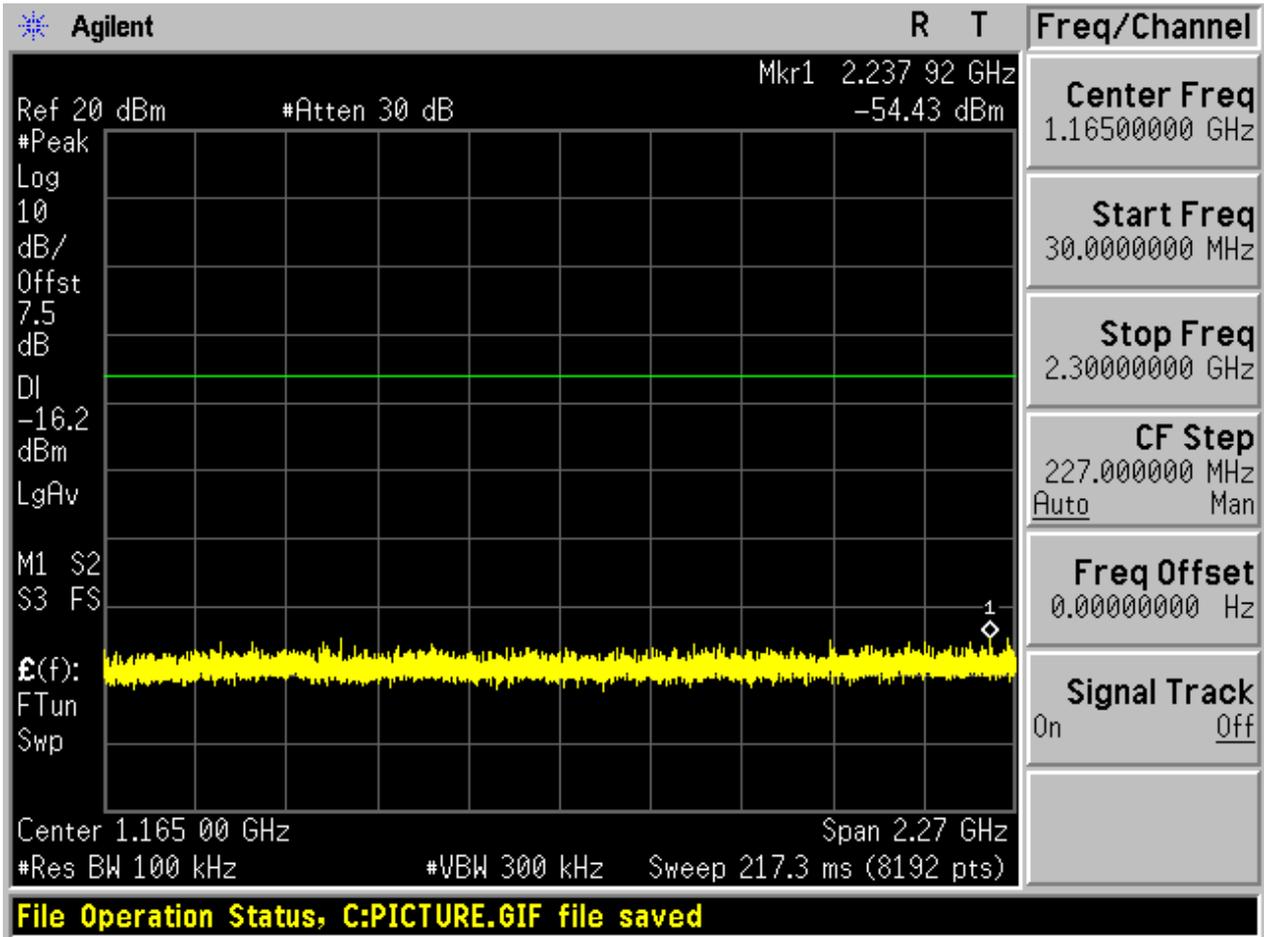
### 2.6.1 Pref

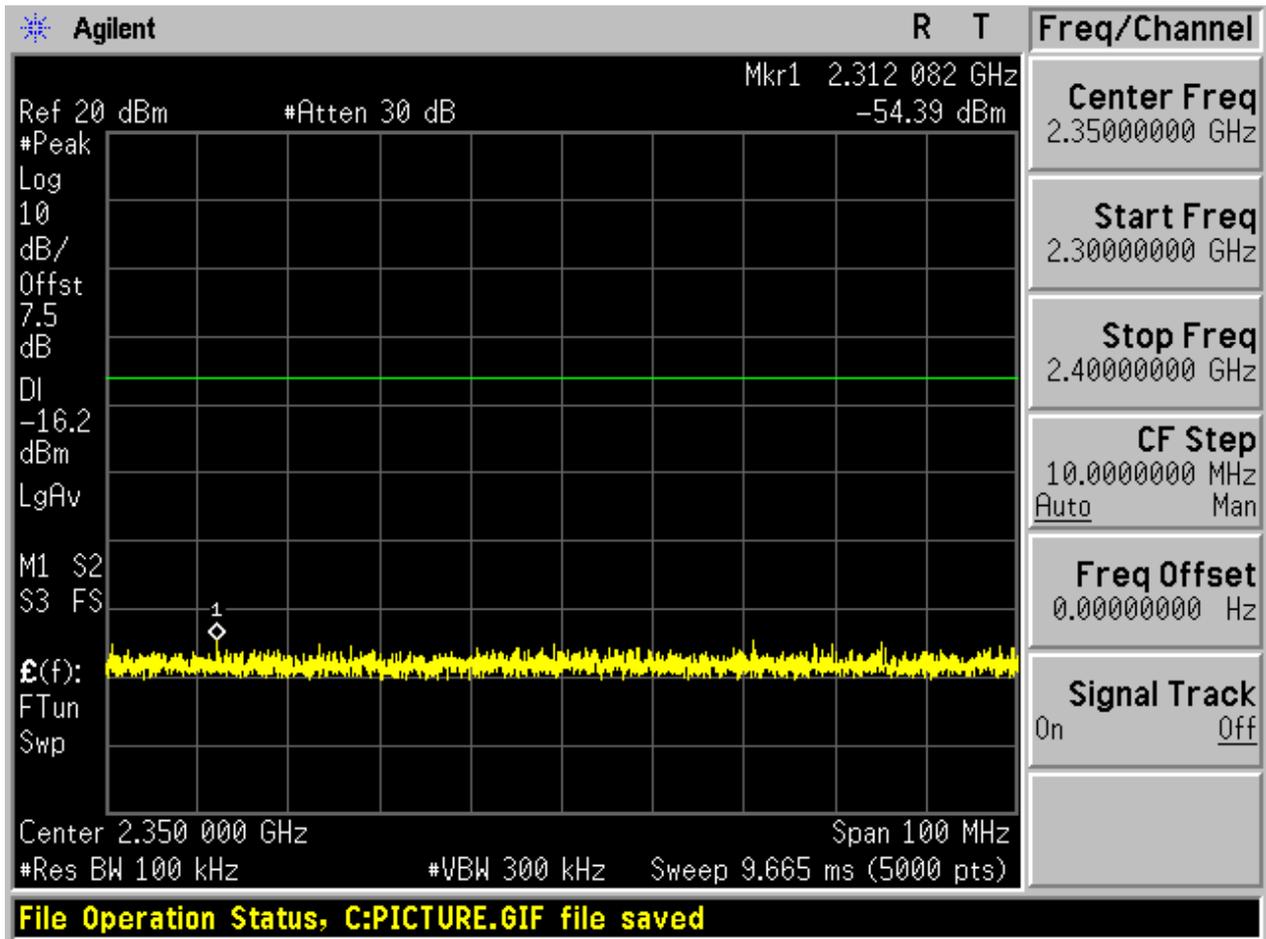


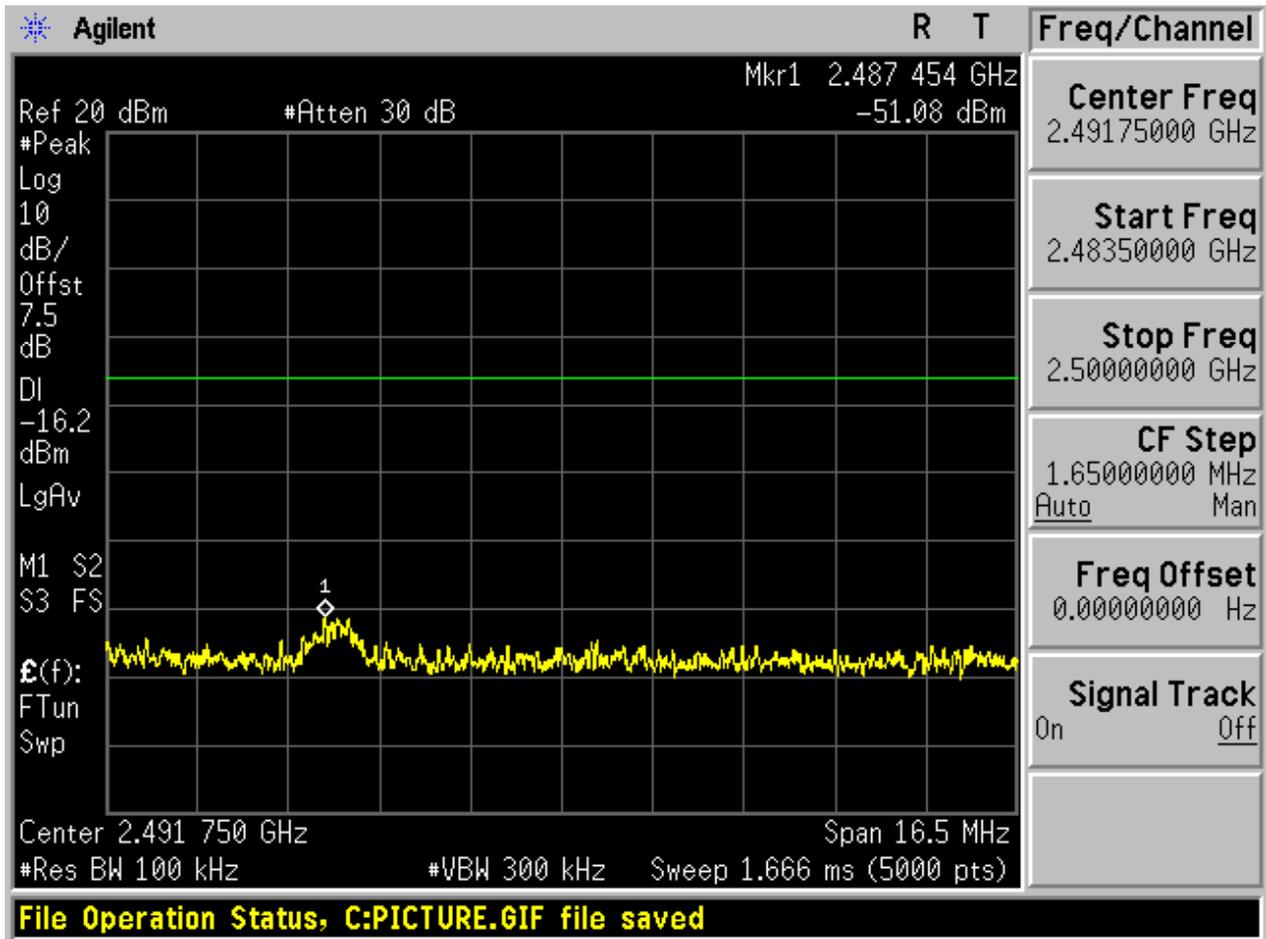
2.6.2 Puw

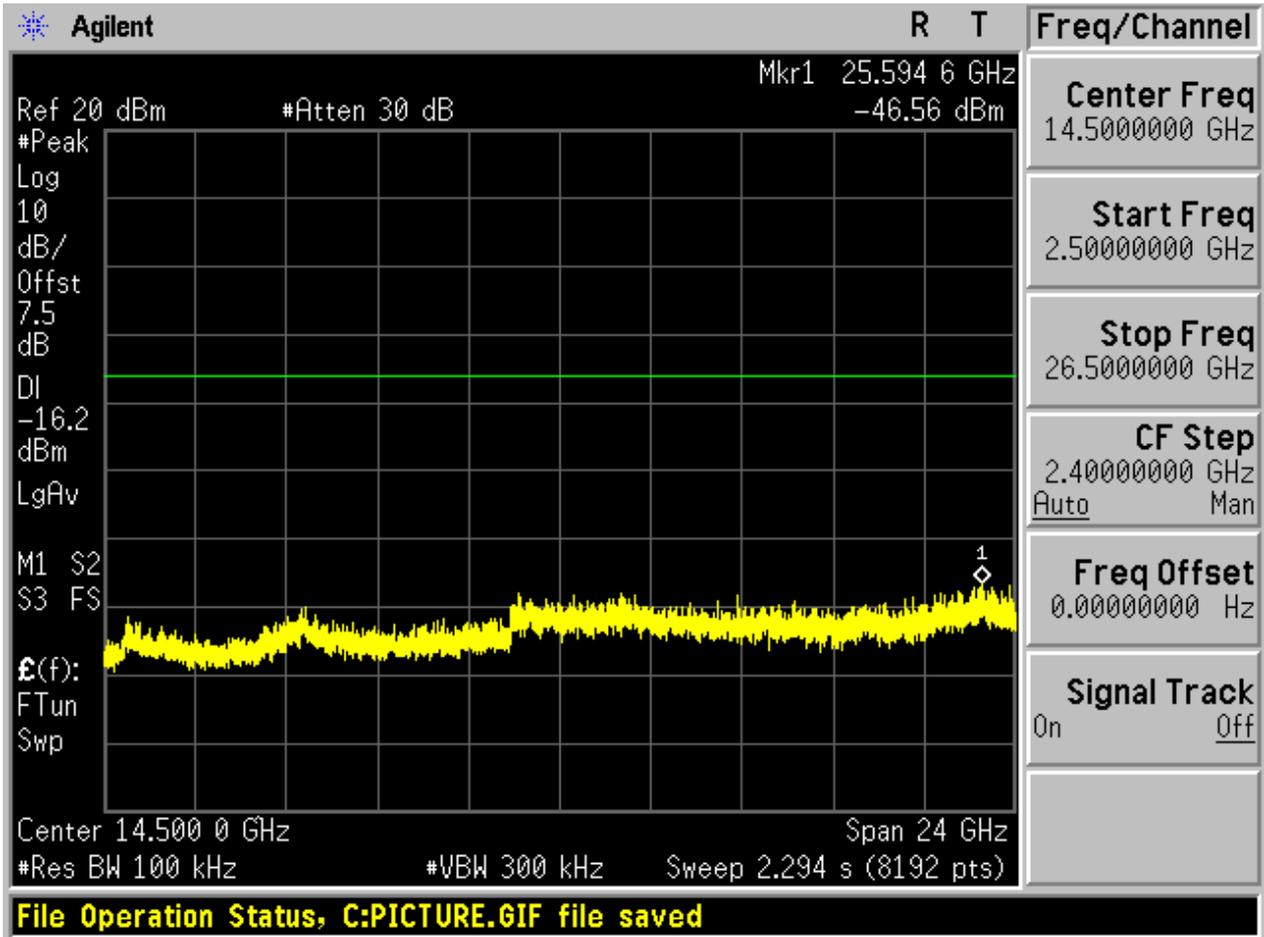






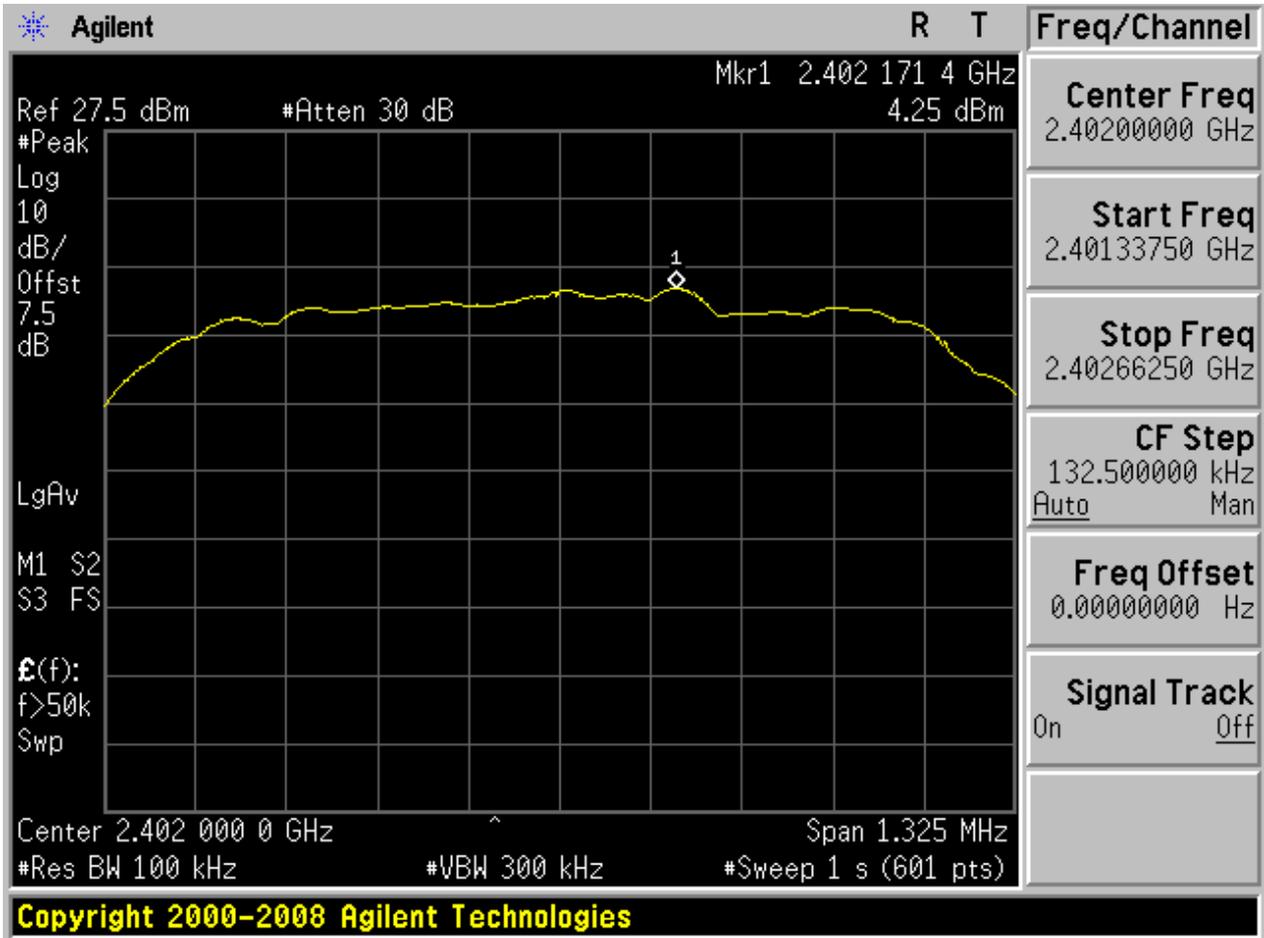




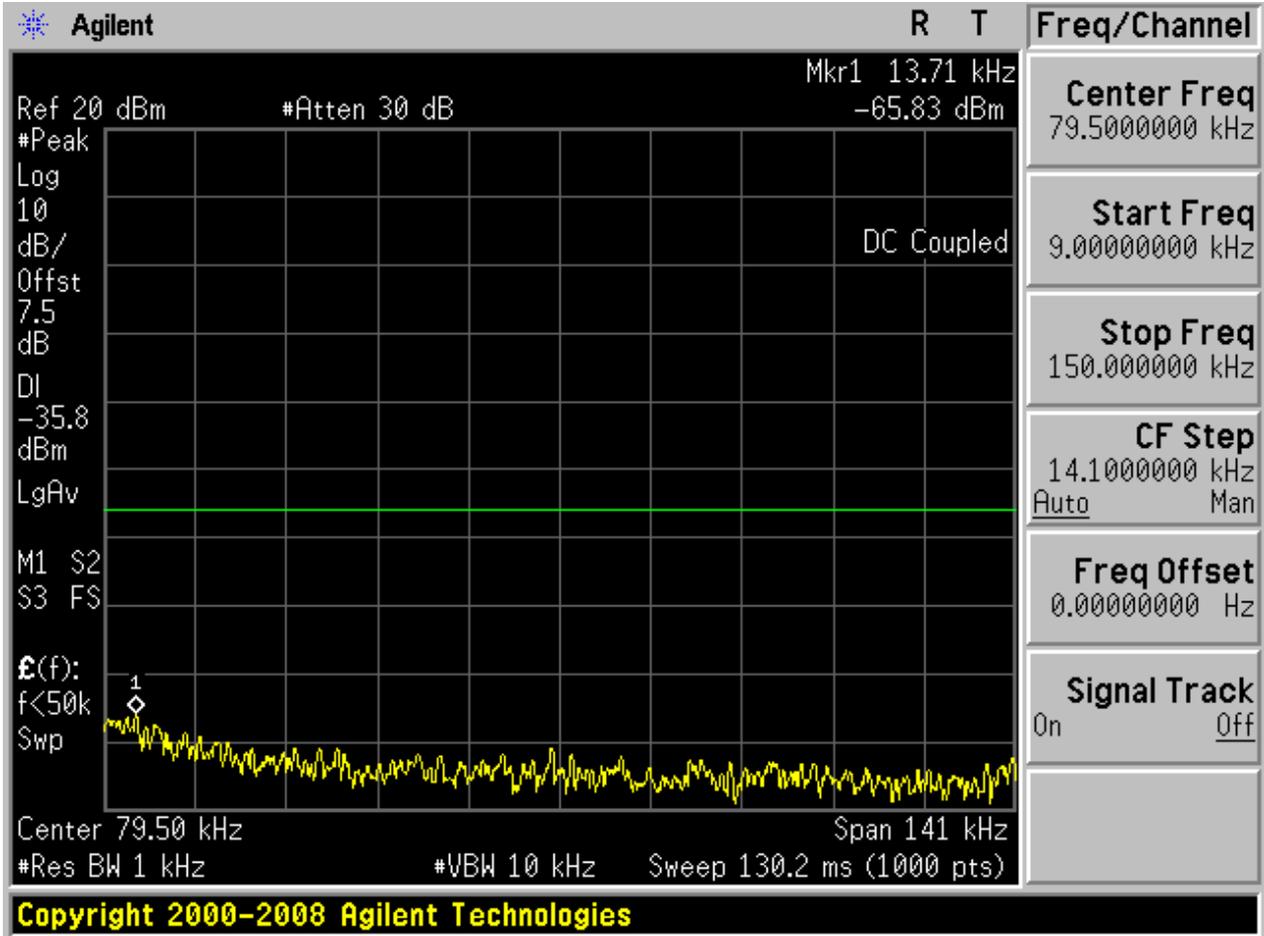


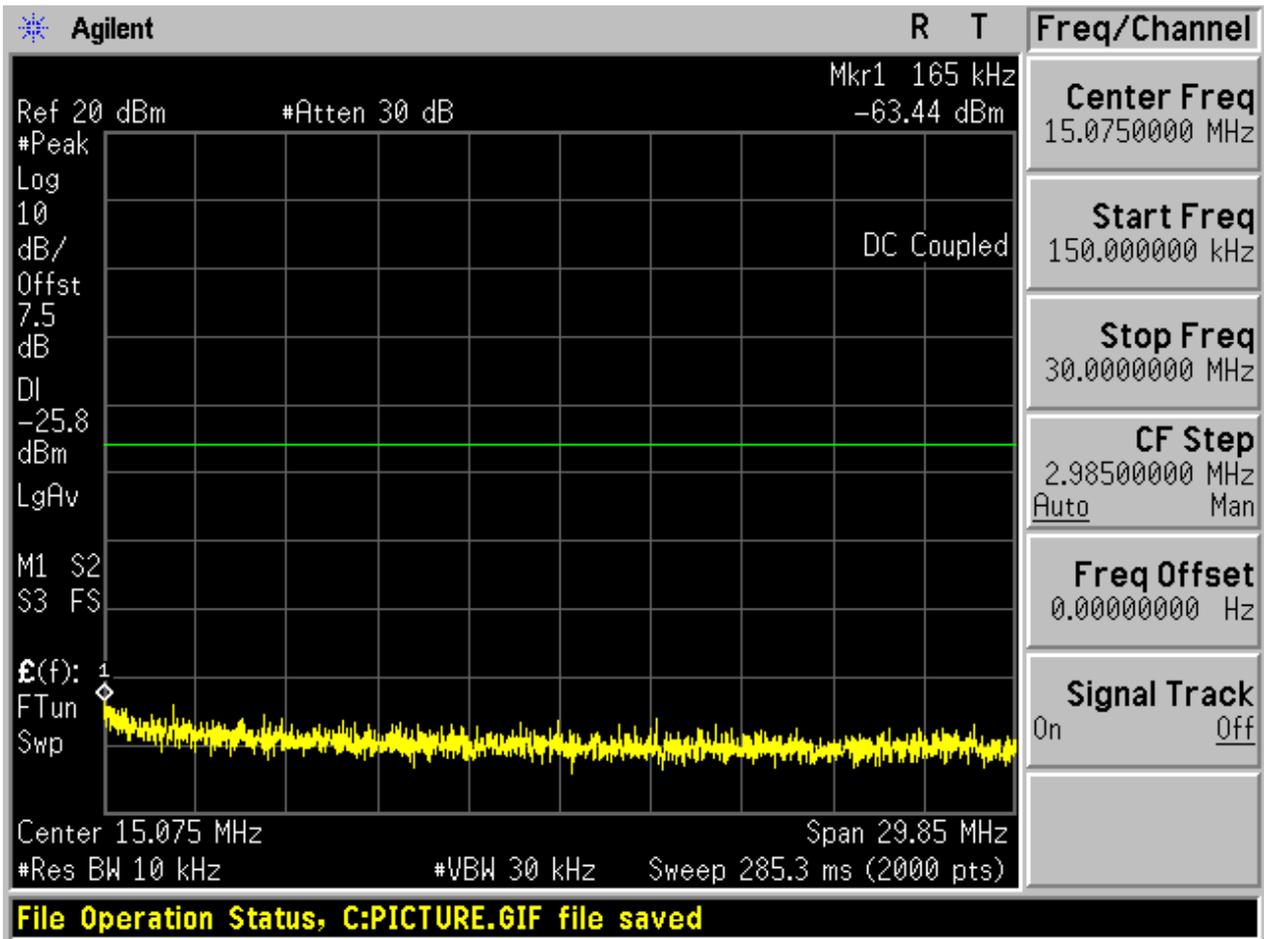
## 2.7 TM3\_3DH5\_Ch0

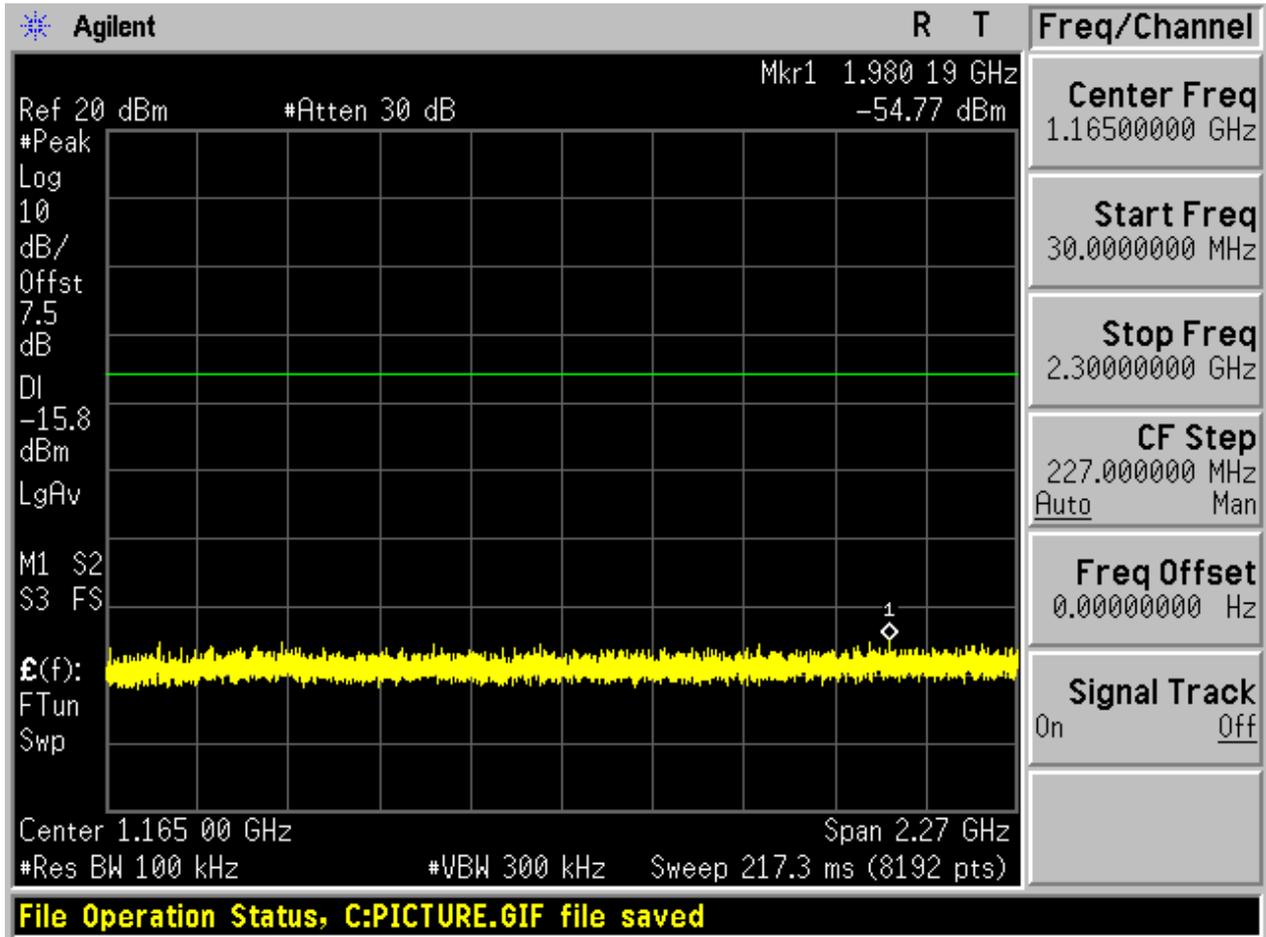
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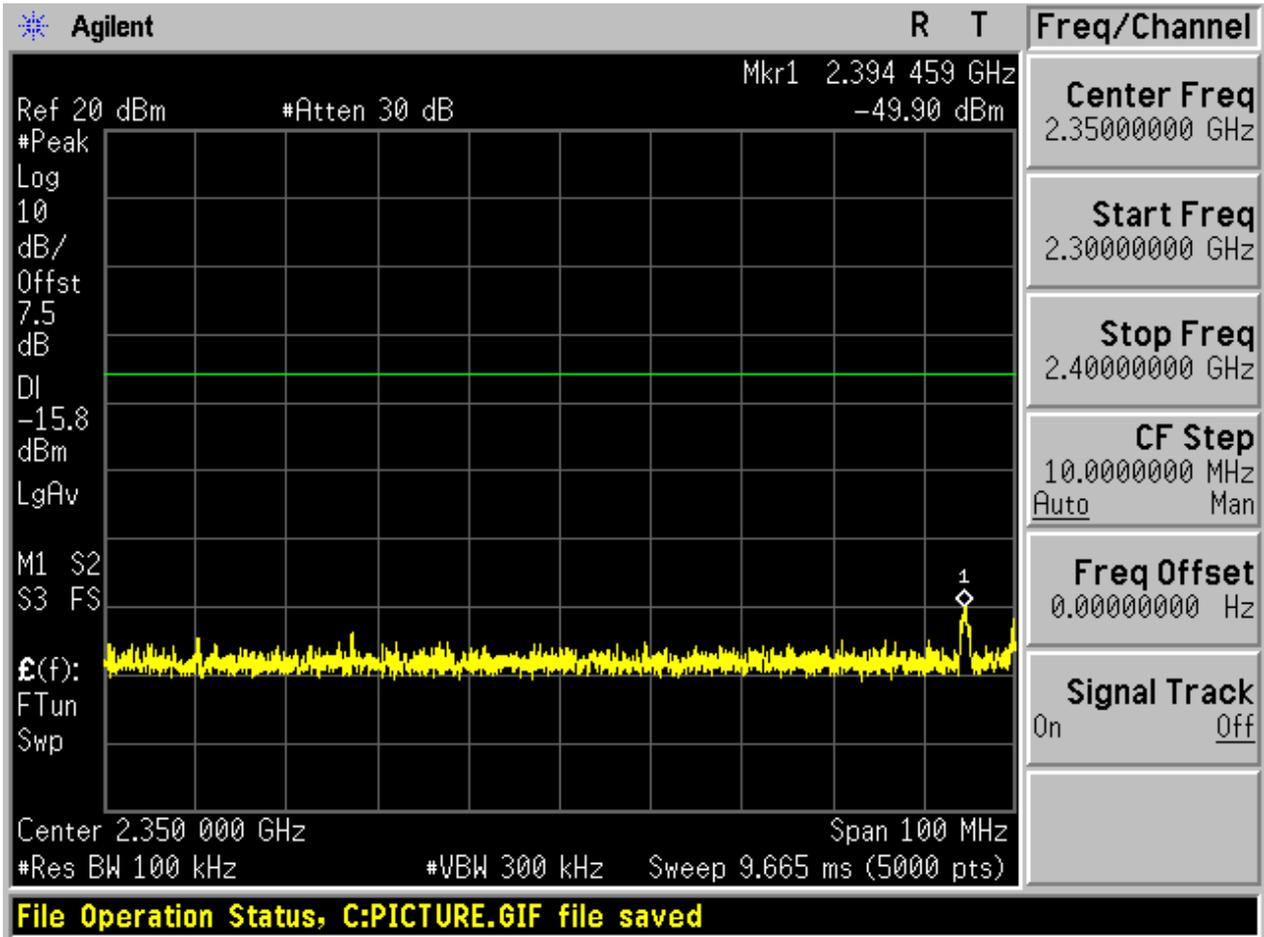


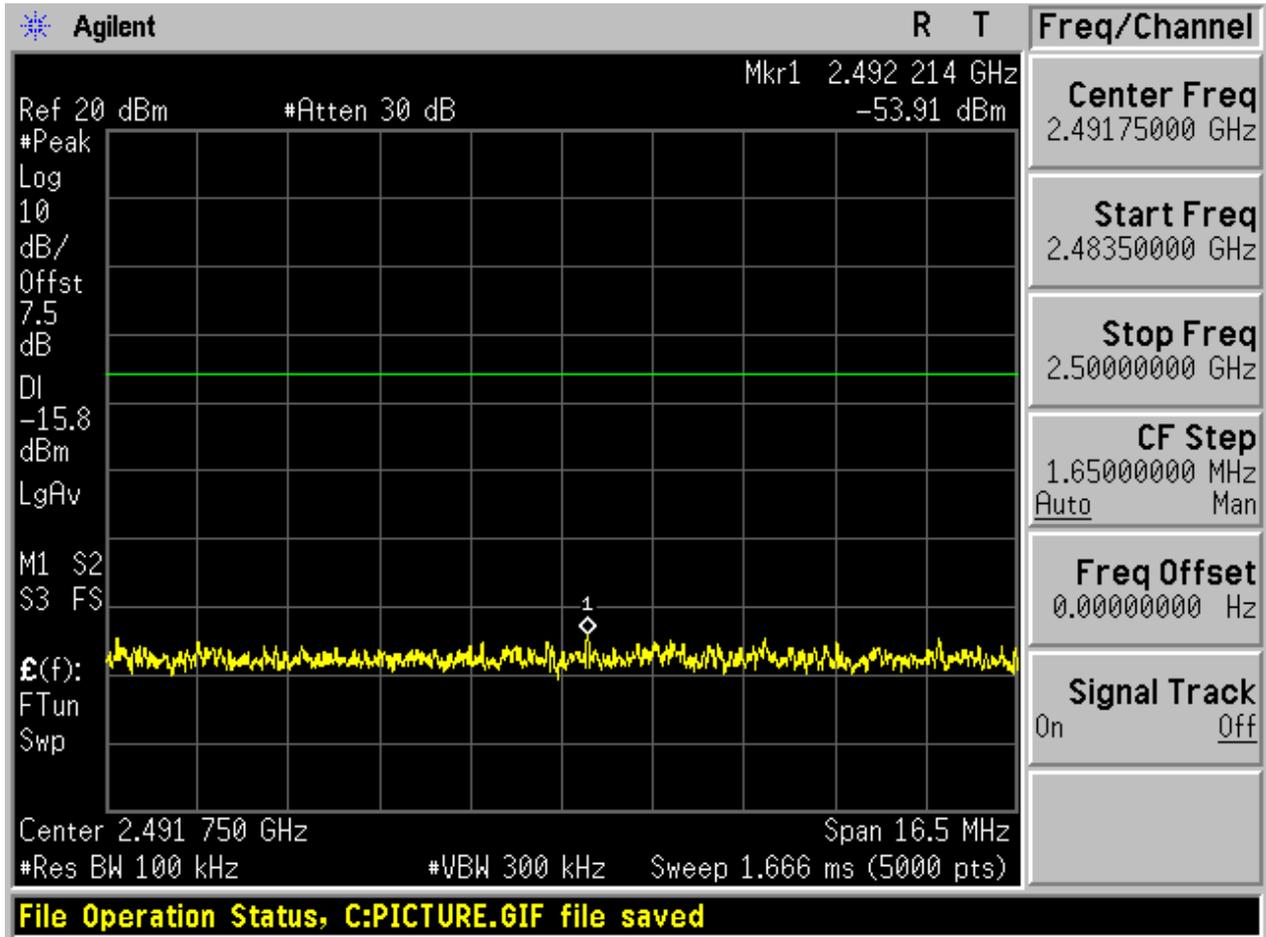
2.7.2 Puw

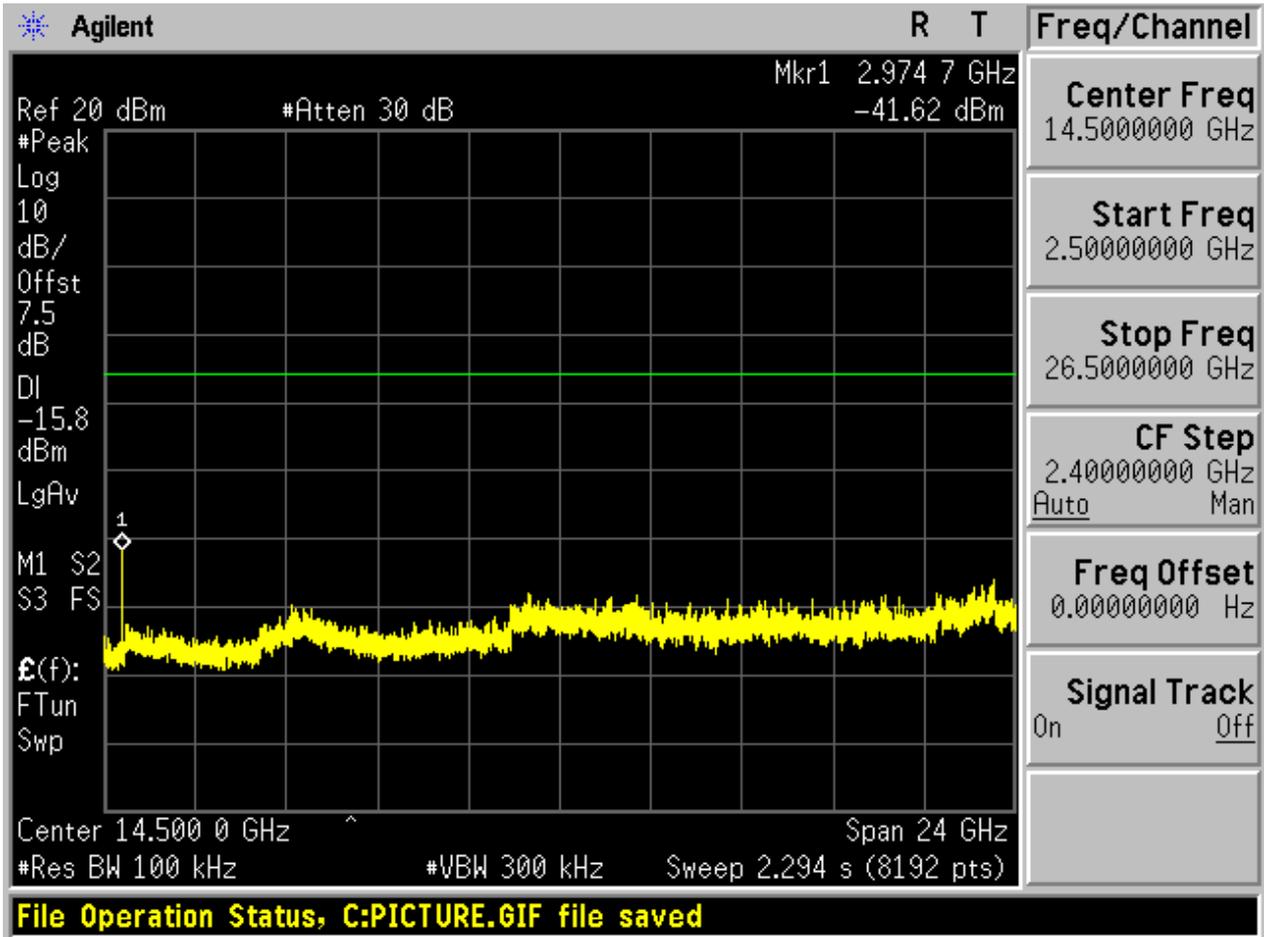






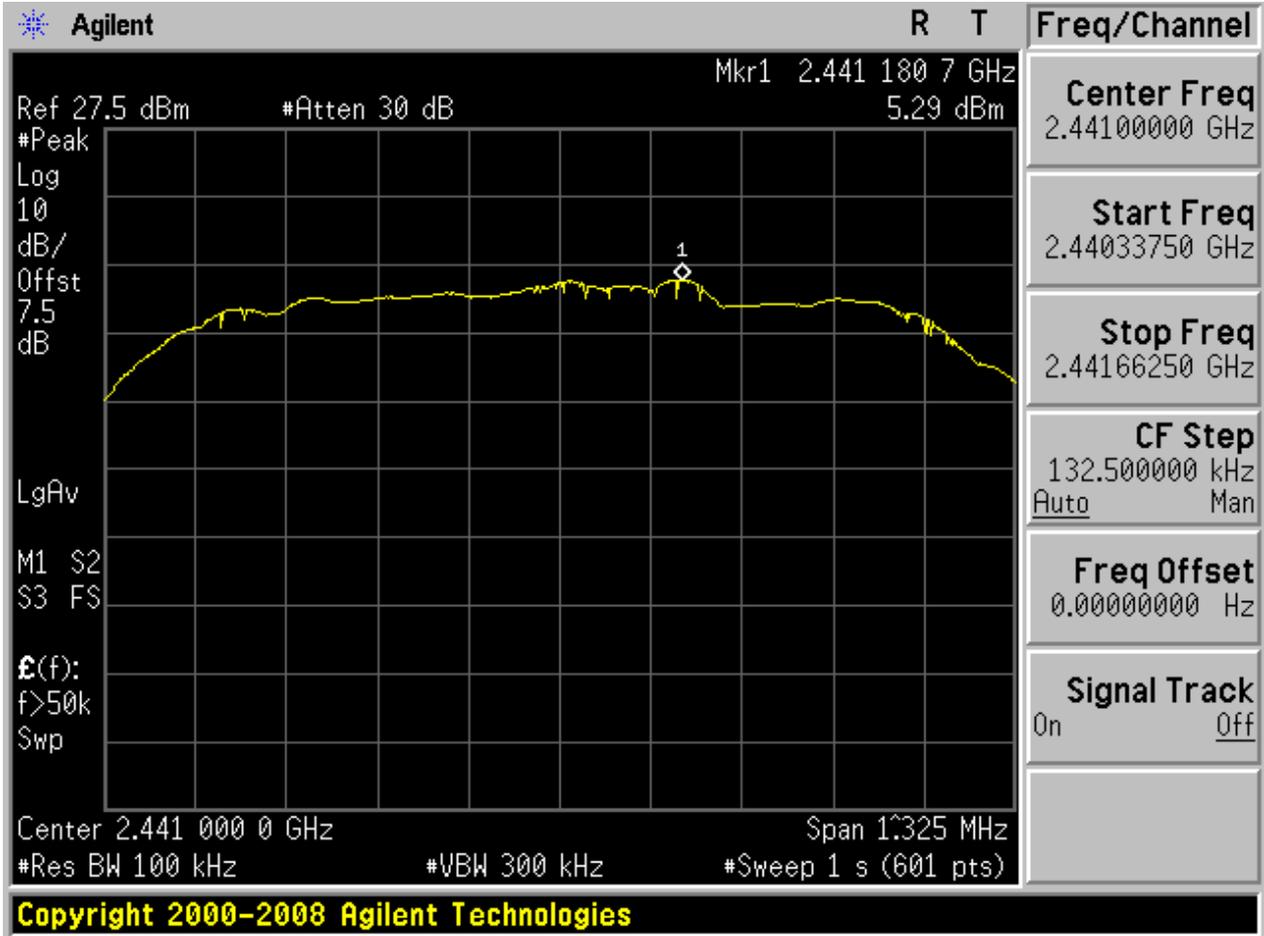




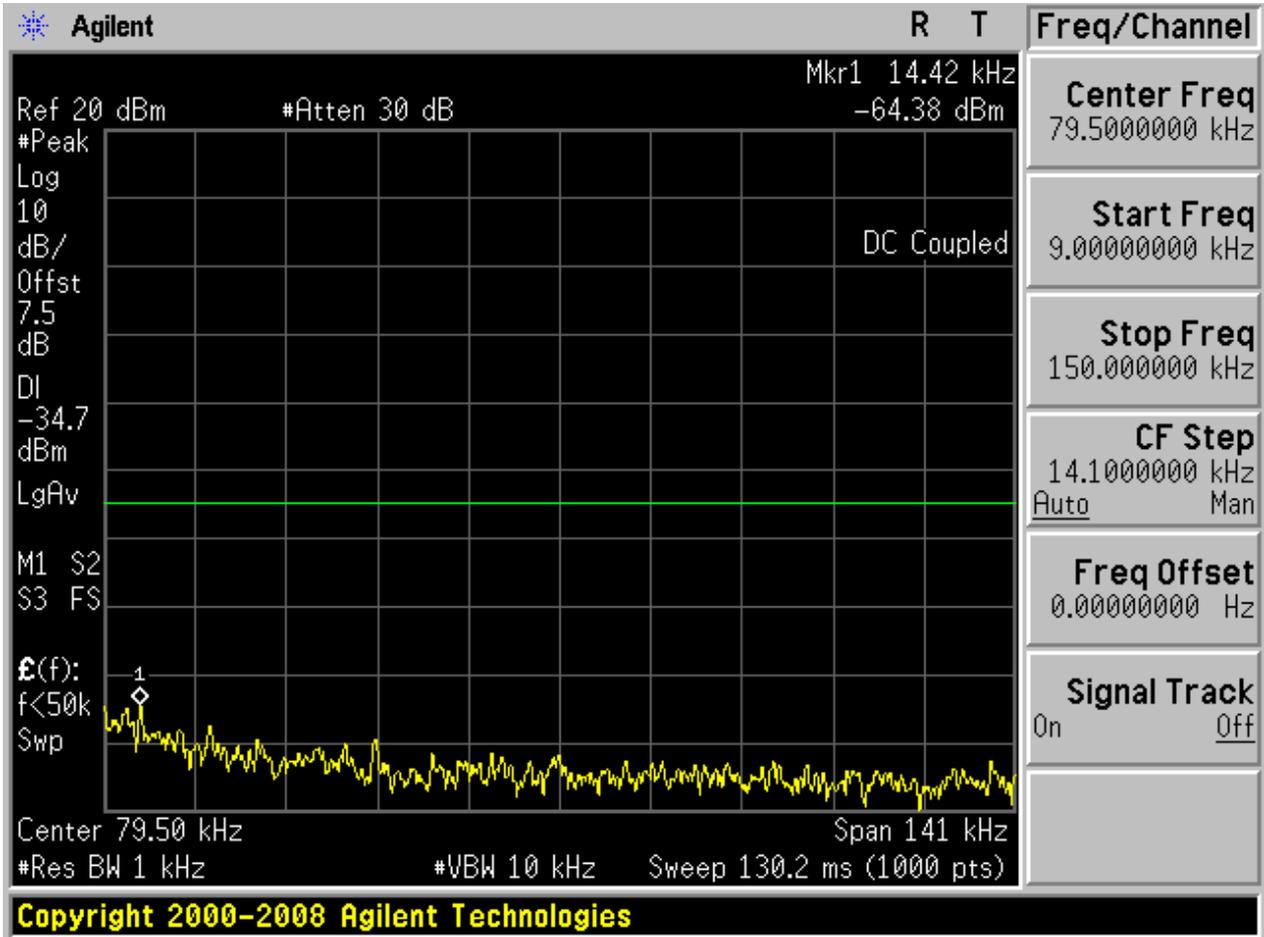


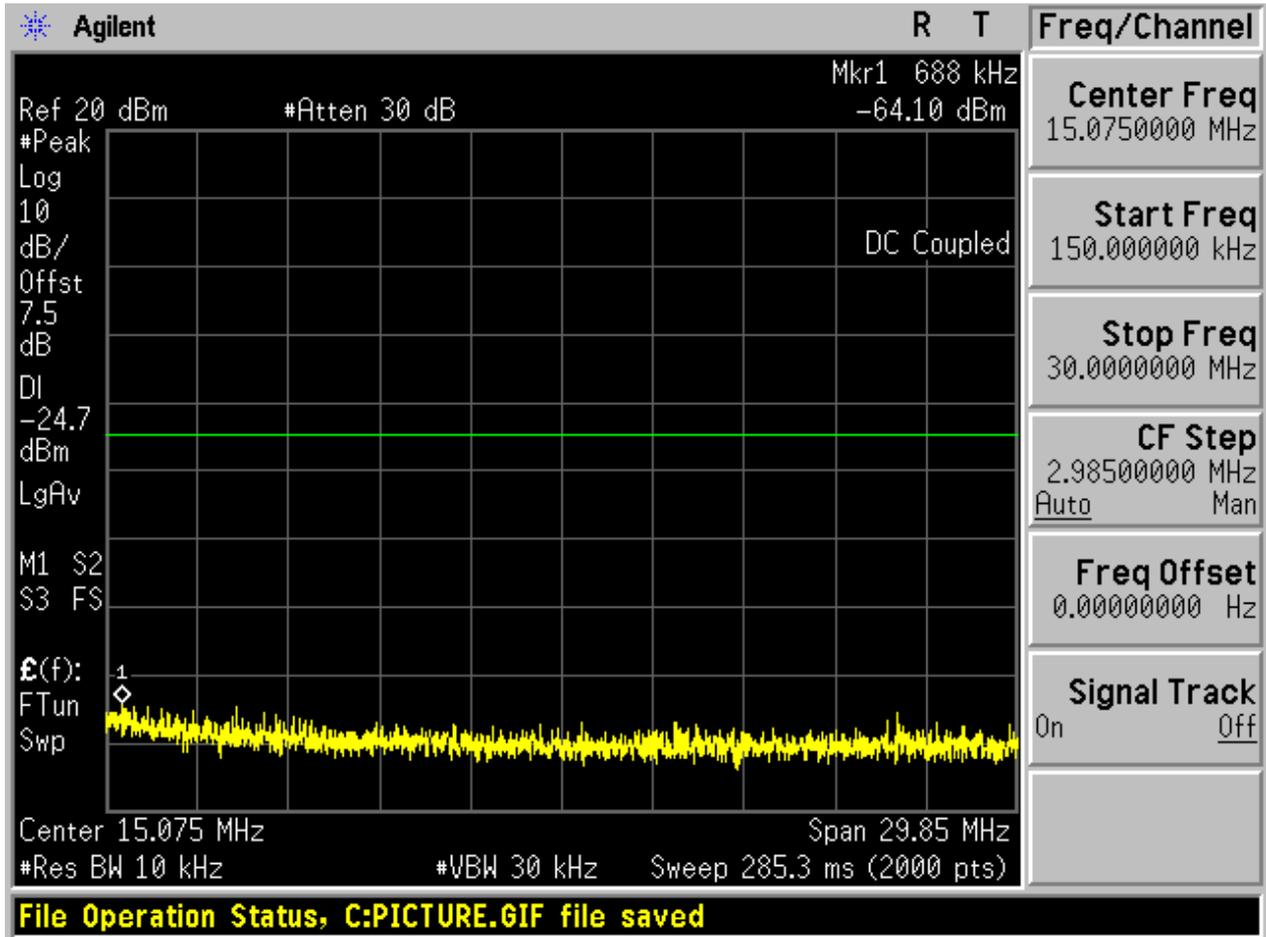
## 2.8 TM3\_3DH5\_Ch39

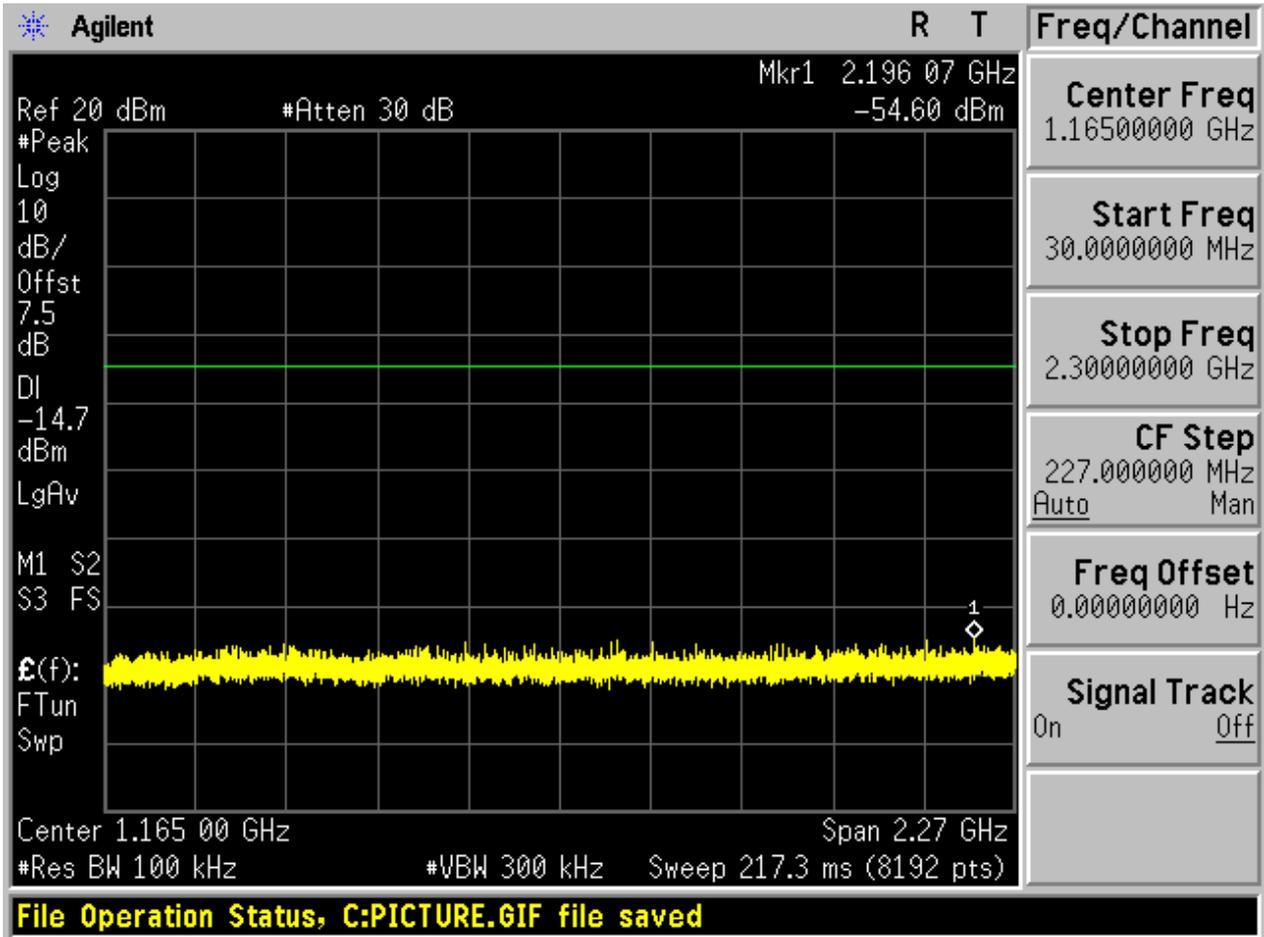
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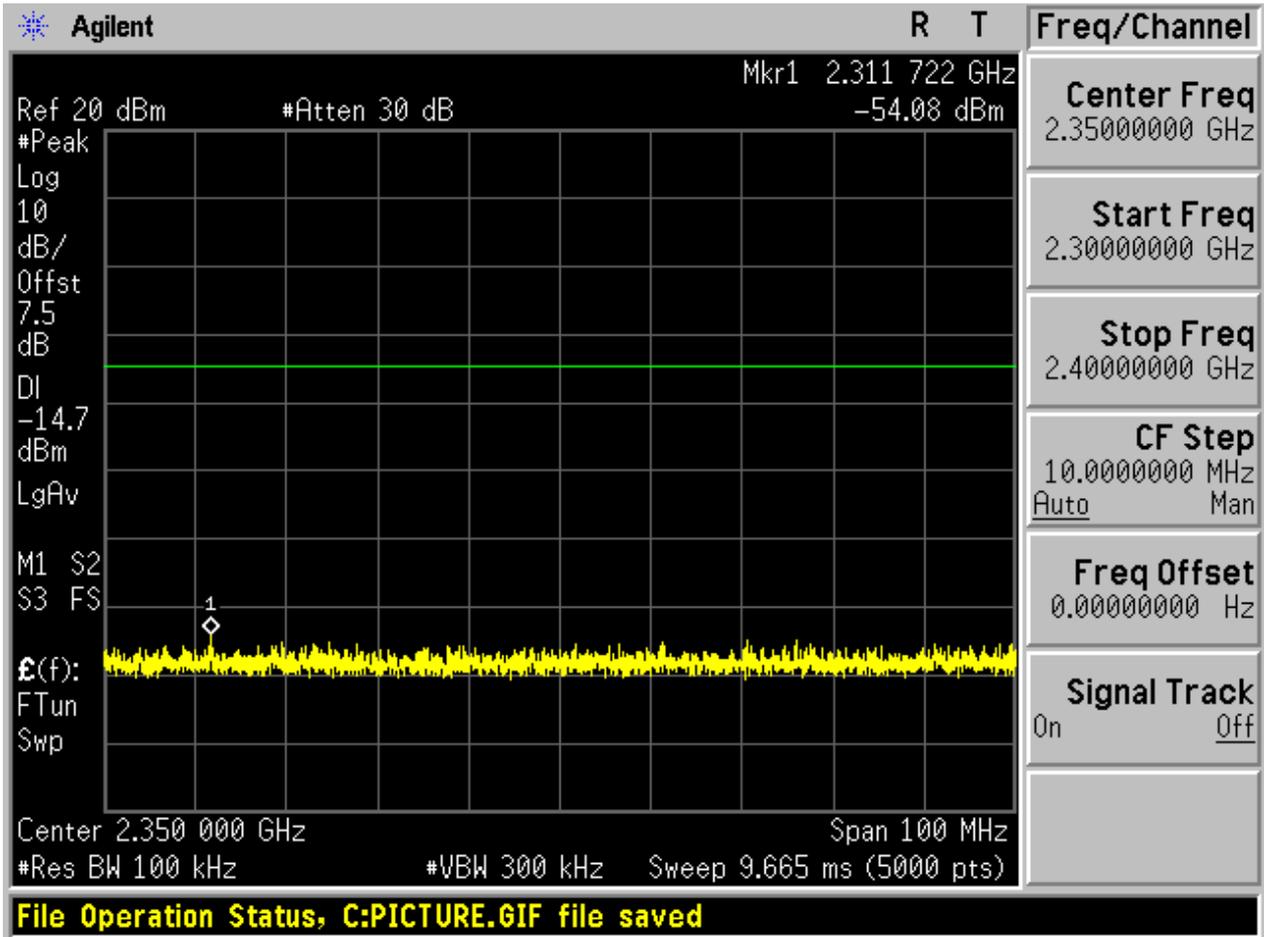


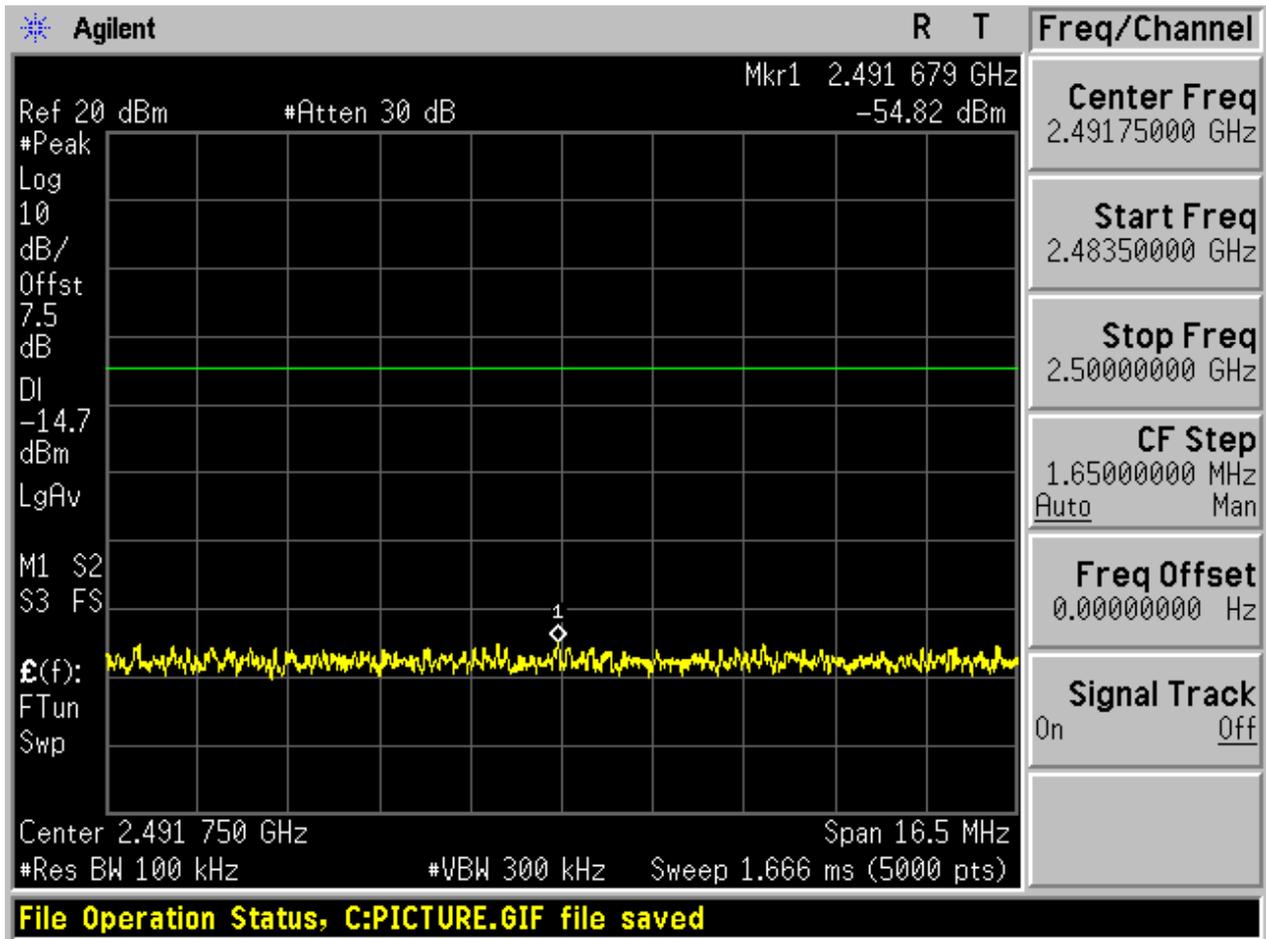
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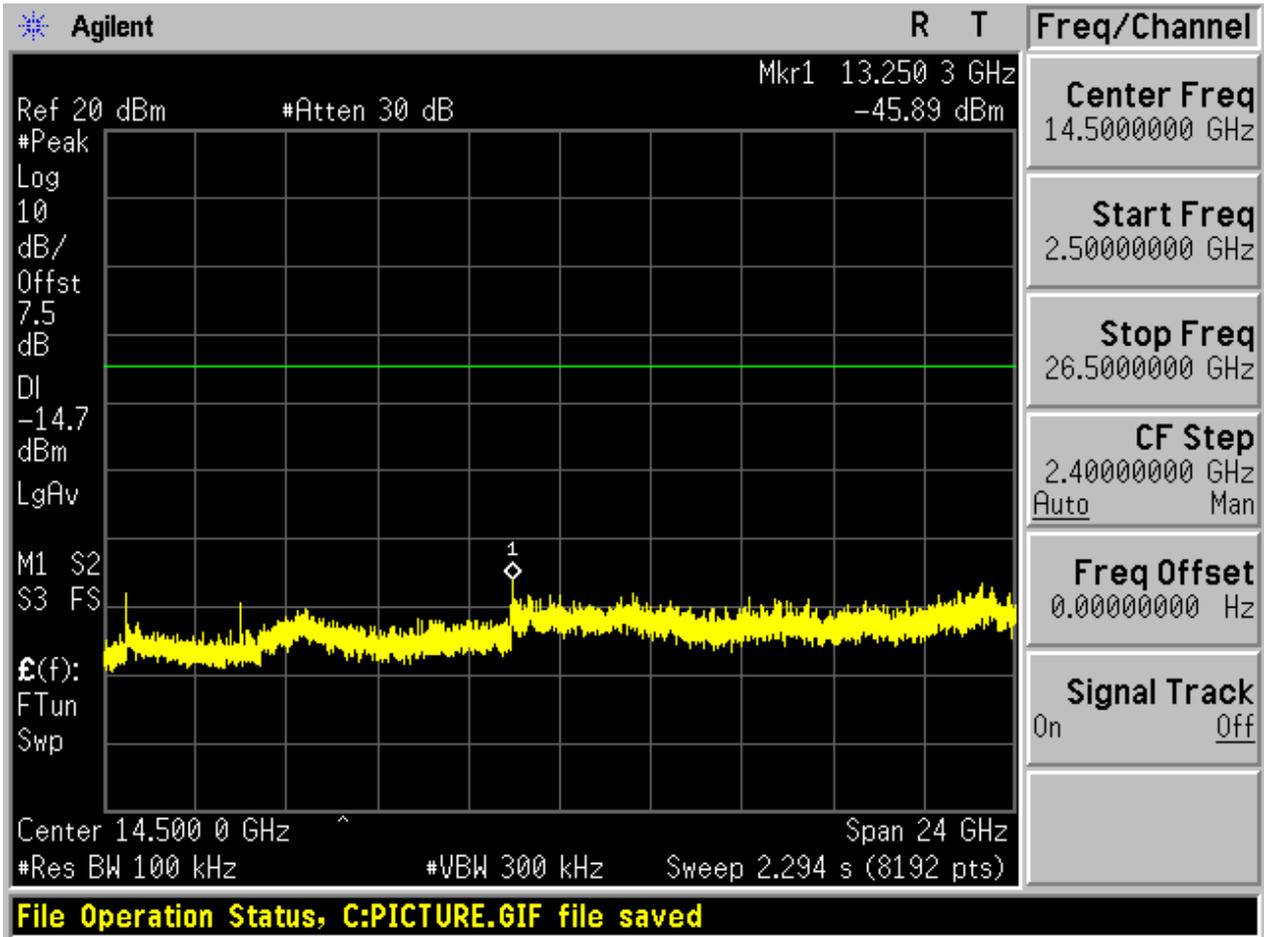






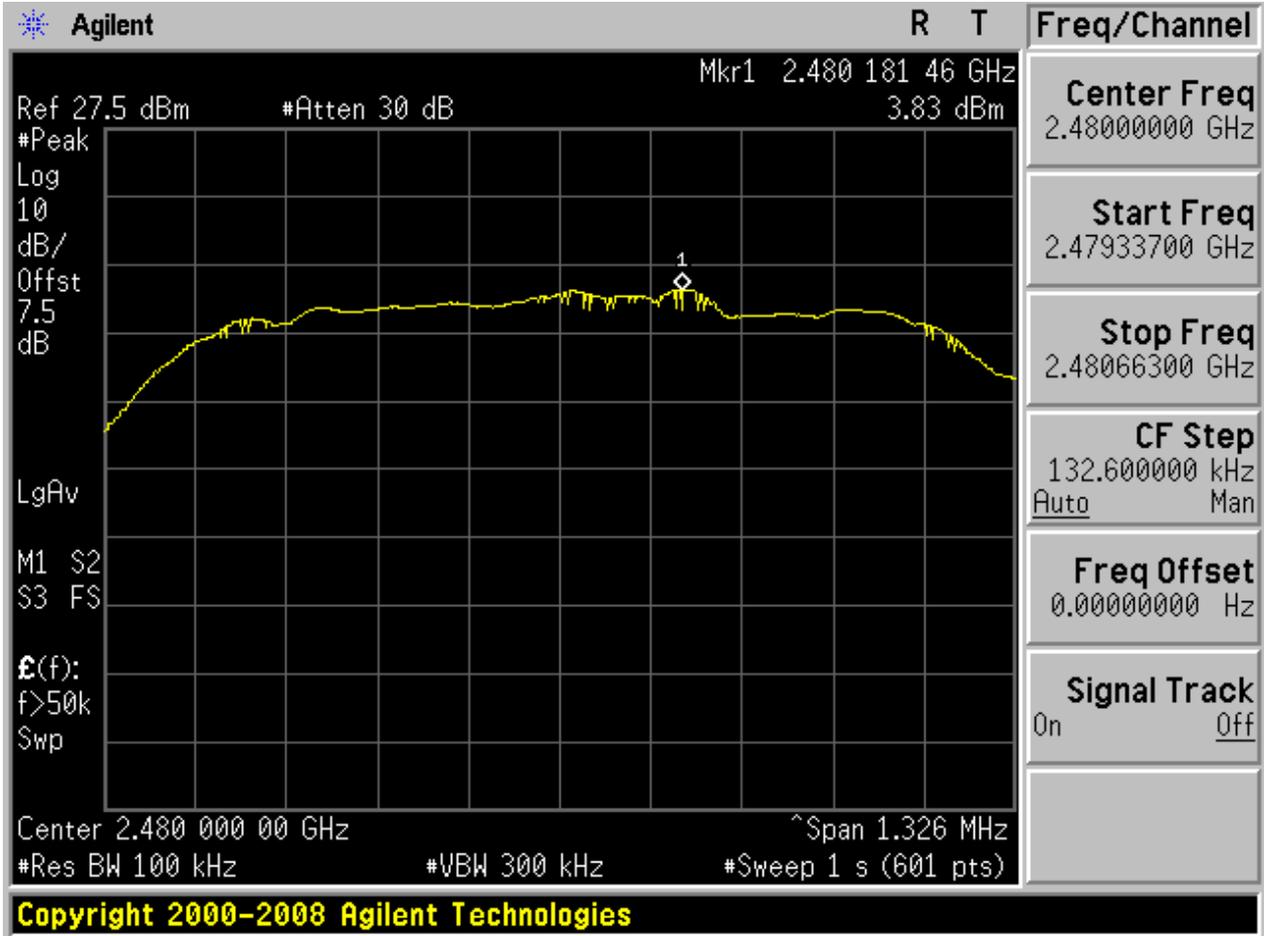




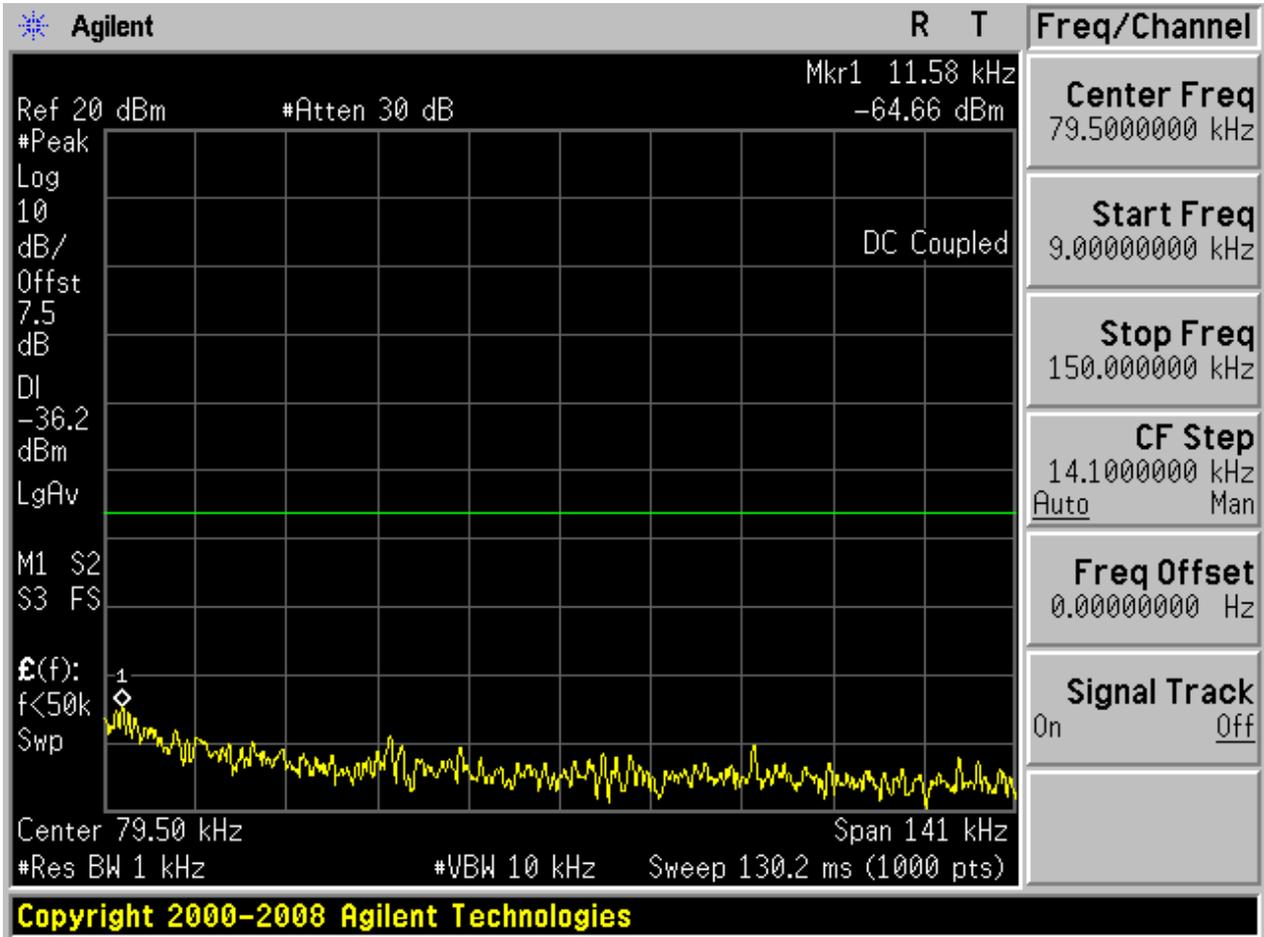


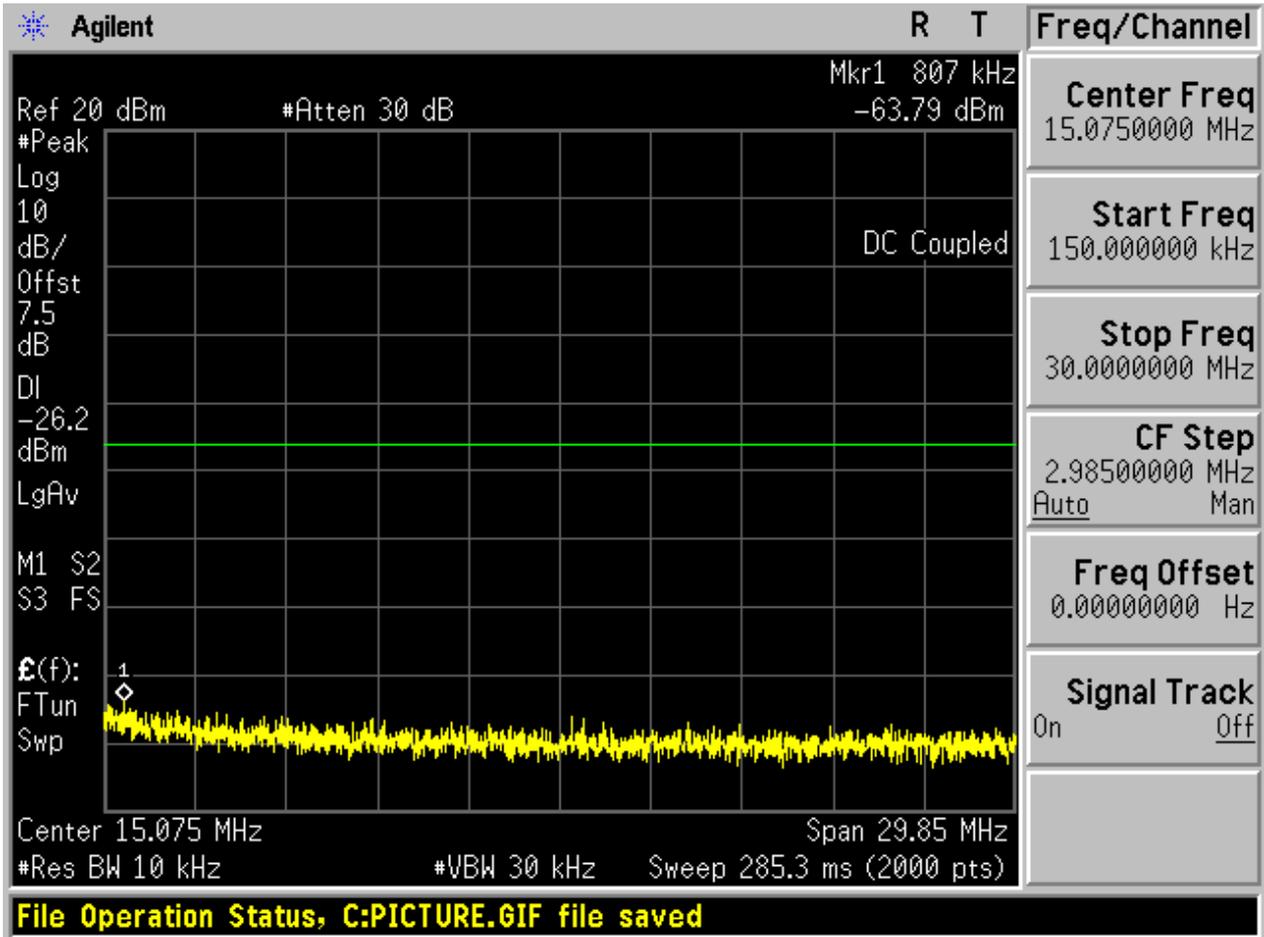
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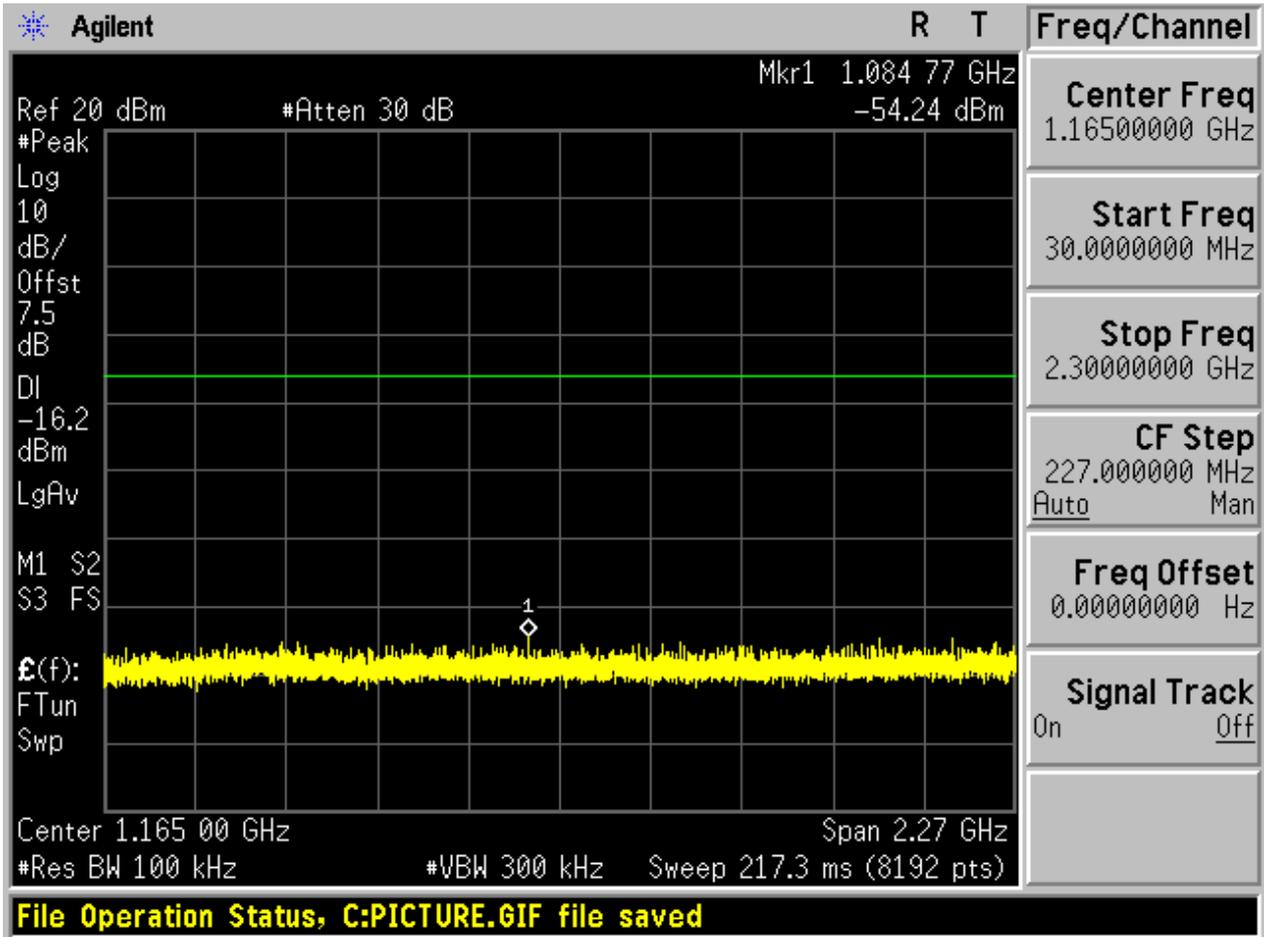
### 2.9.1 Pref

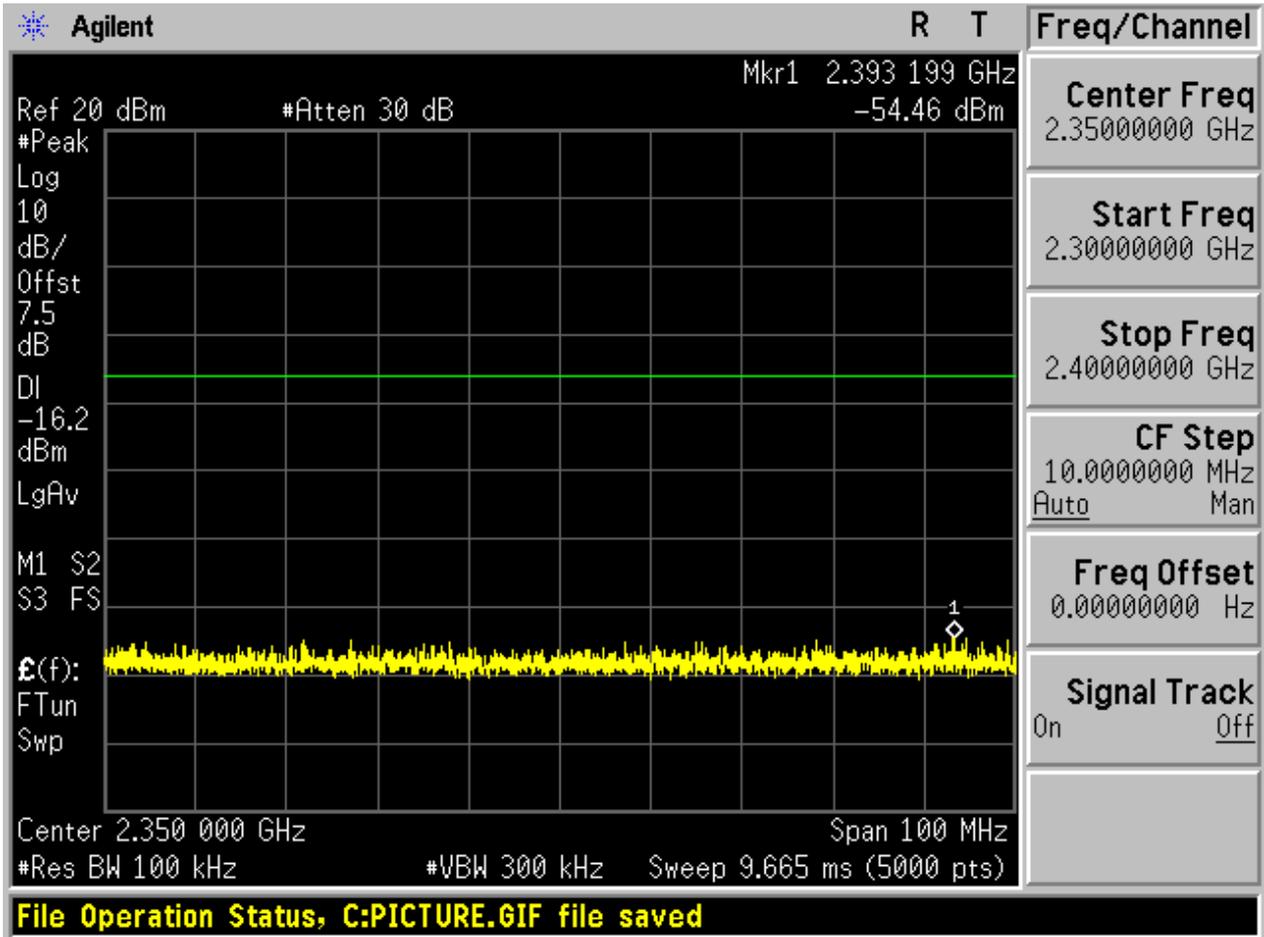


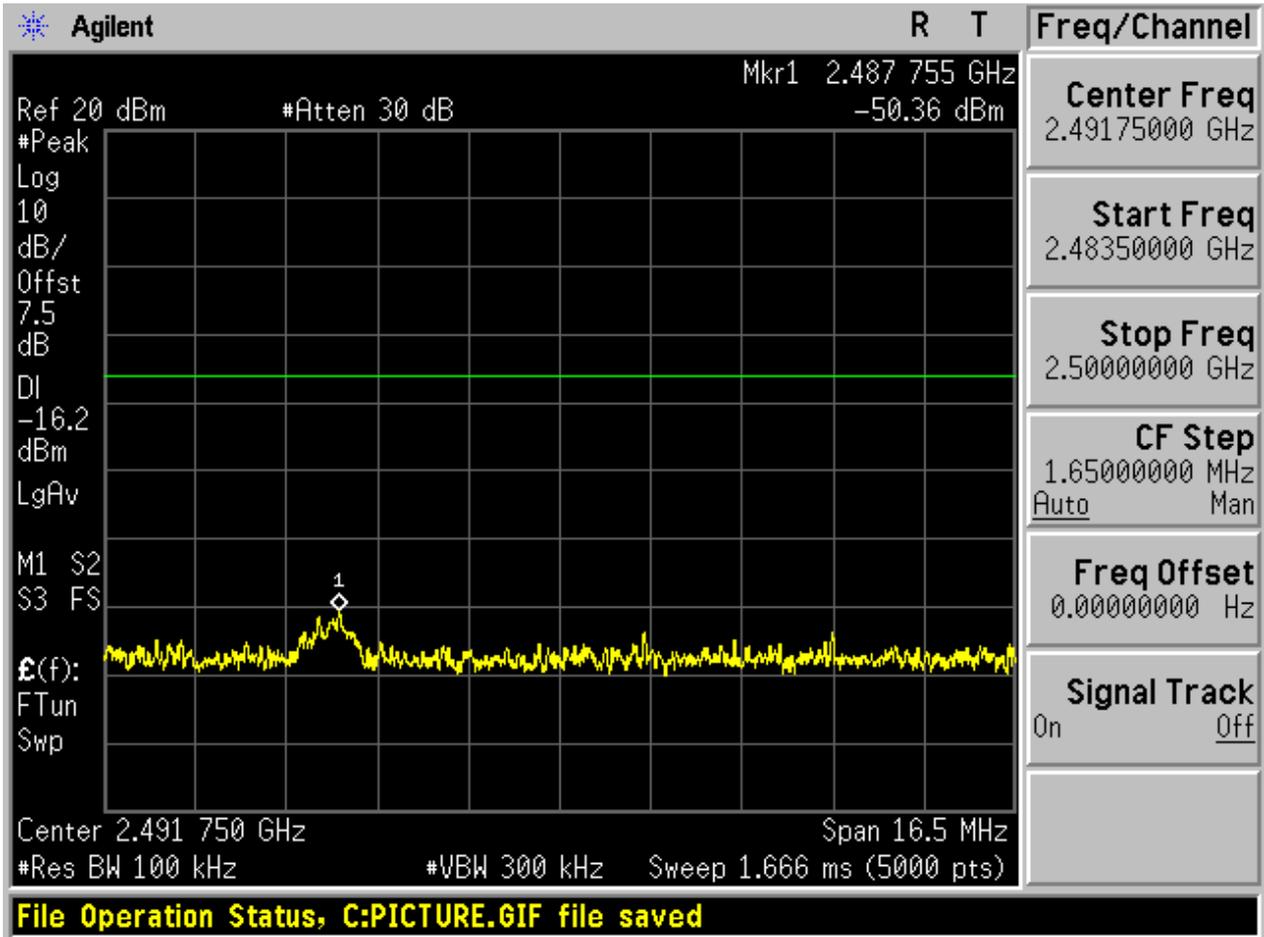
2.9.2 Puw

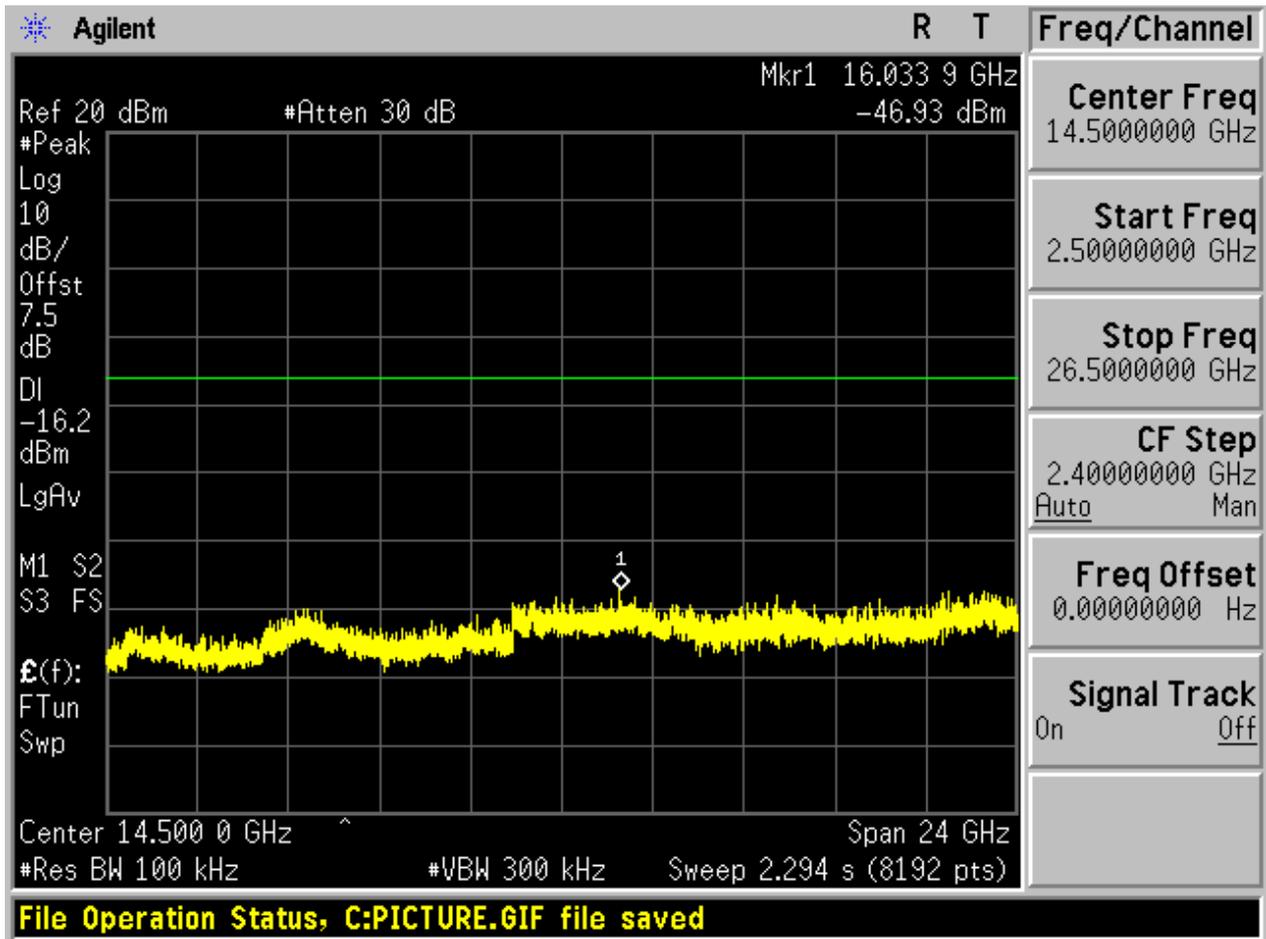














# Appendix H: Radiated Emissions in the Restricted Bands

## 1 Result Table

The whole testing range is from “30 MHz to 26.5 GHz (10th harmonics)” is divided into 4 parts according to the test site settings, which are:

- (Part 1): Test range of “9 KHz to 30 MHz”,
- (Part 2): Test range of “30 MHz to 1 GHz”,
- (Part 3): Test range of “18 GHz to 26.5 GHz”.
- (Part 4): Test range of “2.3 GHz to 2.5 GHz”, and
- (Part 5): Test range of “1 GHz to 18 GHz”.

In this Appendix, only the test results and plots under the worst case can be reported. In the result table, the “< Limit” denotes that “Not found obvious spikes or see marked spikes on plots and listed emissions records”.

Test Range	EUT Conf.	Emissions	Verdict
30 MHz to 1 GHz	TM1_DH5_Ch0 (Worst Conf.)	< Limit	Pass
1 GHz to 3 GHz	TM1_DH5_Ch0 (Worst Conf.)	< Limit	Pass
	TM1_DH5_Ch78 (Worst Conf.)	< Limit	Pass
3 GHz to 18 GHz	TM1_DH5_Ch0 (Worse Conf.)	< Limit	Pass
18 GHz to 26.5 GHz	TM1_DH5_Ch0 (Worst Conf.)	< Limit	Pass

## 2 Result Plot

### Part 1: Testing Range of “9 KHz to 30 MHz”

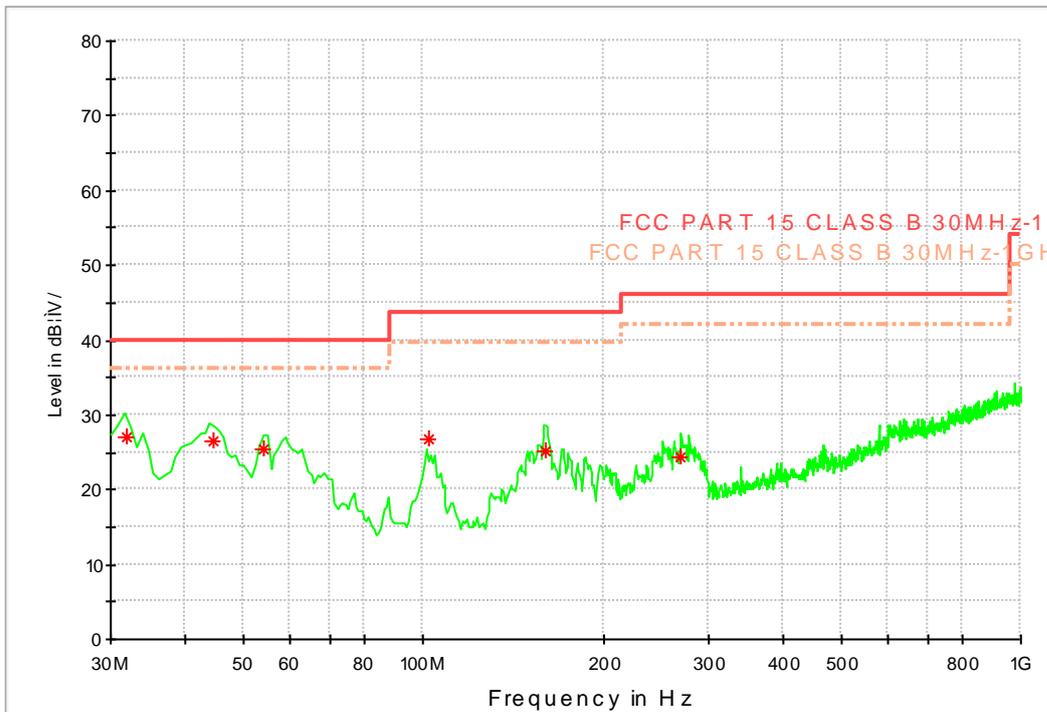
NOTE1: No peak found in the Test Range of “9 kHz to 30MHz”

### Part 2: Testing Range of “30 MHz to 1 GHz”

Note 1: The test results and plot for testing range of “30 MHz to 1 GHz” showed as below is the WORST case for all Test Modes and Channels. This range will not be presented for each Test Mode and each Channel.

Note 2: The emissions in this range are mainly from the Platform Device (Notepad PC and its ancillary components).

FCC CLASS B RE 30MHz-1GHz



## Final Result 1

Frequency (MHz)	QuasiPeak	Bandwidth	Height	Polarization	Azimuth	Correction	Margin	Limit (dB $\mu$ )
31.805440	27.1	120.000	100.0	V	110.0	13.9	12.9	40.0
44.709120	26.6	120.000	100.0	V	184.0	14.9	13.4	40.0
54.253760	25.5	120.000	100.0	V	289.0	14.7	14.5	40.0
101.90144	26.8	120.000	155.0	V	224.0	13.6	16.7	43.5
160.84416	25.1	120.000	100.0	V	273.0	10.8	18.4	43.5
269.88992	24.5	120.000	122.0	H	279.0	14.8	21.5	46.0

**Part 3: Testing Range of “18 GHz to 26.5 GHz”**

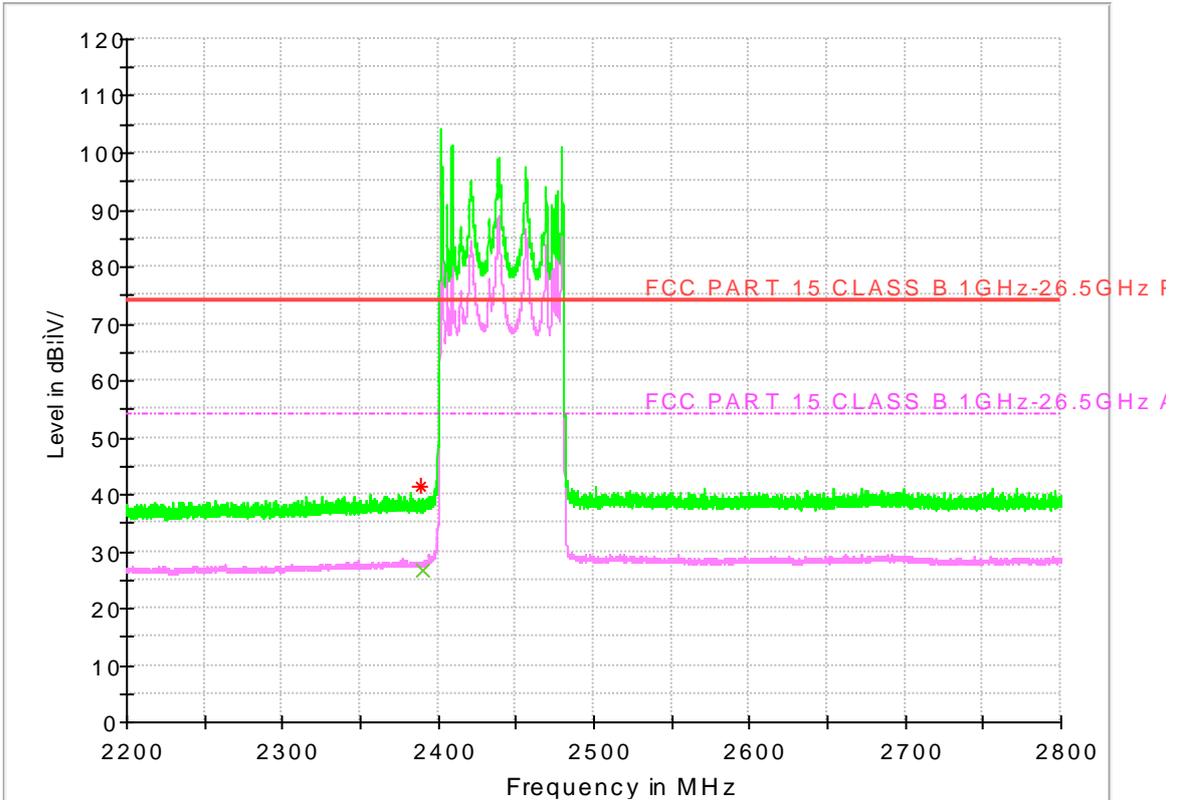
NOTE1: No peak found in the Test Range of “18 GHz to 26.5 GHz”

**Part 4: Testing Range of “2.3GHz to 2.5GHz”**

- Note 1: The testing range of “2.3 GHz to 2.5 GHz” is for checking radiated emissions located in restricted bands near the EUT operating bands.
- Note 2: Two limits are required in the testing range above 1 GHz, that is Peak limit (74 dB $\mu$ V/m) and Average Limit (54 dB $\mu$ V/m).
- Note 3: The peak spike exceeds the limit line is EUT’s operating frequency.

**Channel 0**

Full Spectrum

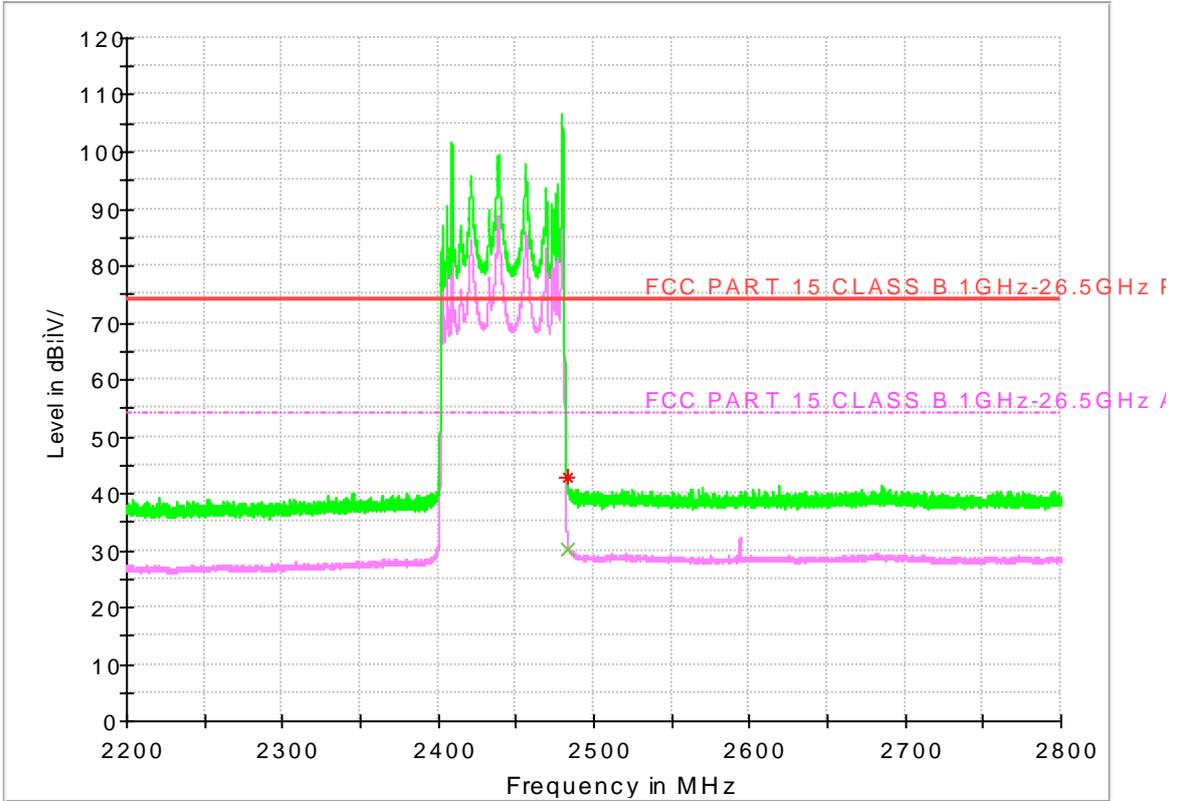


Note: The peak exceeds the limit line is carrier frequency.

Frequency (MHz)	MaxPeak	Average (dB $\mu$ V/)	Limit (dB $\mu$ V/)	Margin	Meas. Time	Band width	Height	Pol	Azimuth	Corr. (dB)
2389.3184	41.32	---	74.00	32.68	15000.0	1000.000	100.0	V	285.0	-7.6
2389.989200	---	26.60	54.00	27.40	15000.0	1000.000	100.0	H	67.0	-7.6

**Channel 78**

Full Spectrum

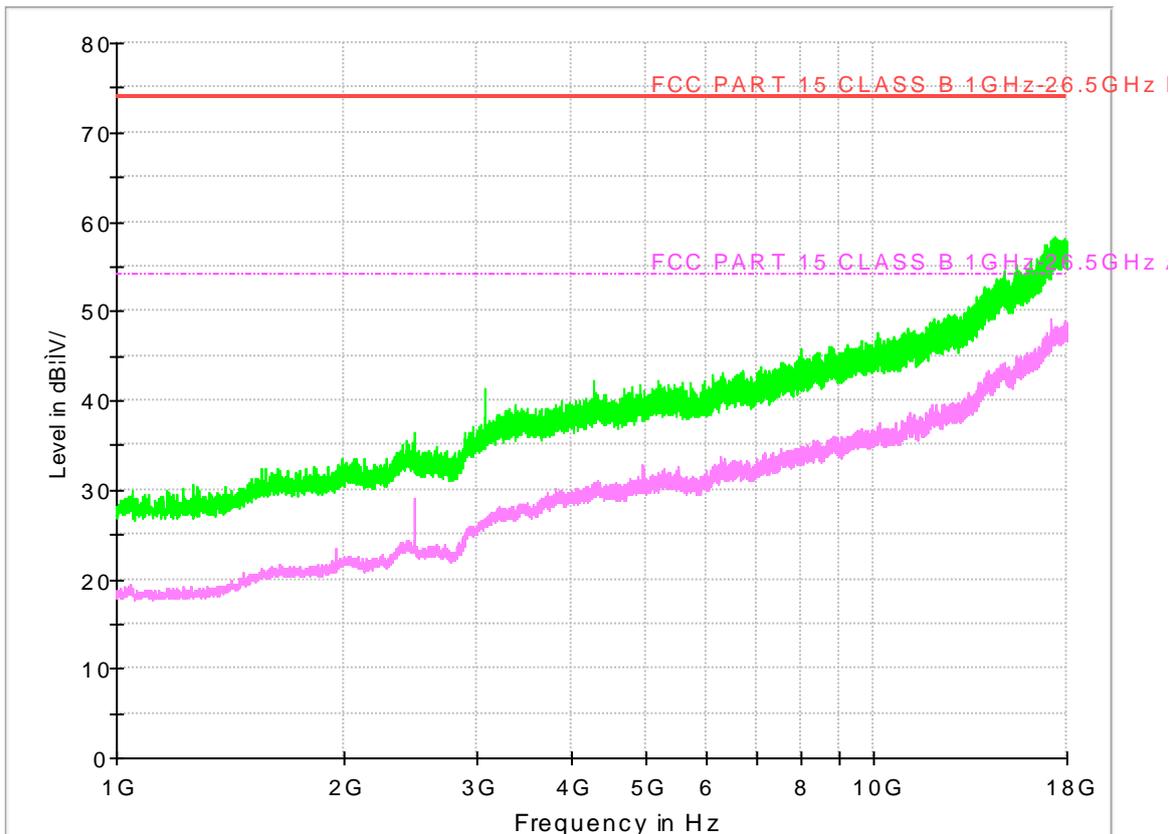


Note: The peak exceeds the limit line is carrier frequency.

Frequency (MHz)	MaxPeak	Average (dBµV/)	Limit (dBµV/)	Margin	Meas. Time	Bandwidth	Height	Pol	Azimuth	Corr. (dB)
2483.4572	---	30.11	54.00	23.89	15000.0	1000.000	100.0	H	-14.0	-5.4
2483.514400	42.78	---	74.00	31.23	15000.0	1000.000	100.0	H	38.0	-5.8

## Part 5: Testing Range of “1 GHz to 18 GHz”

- Note 1: The test results and plot for testing range of “1 GHz to 18 GHz” showed as below is the WORST case for all Test Modes and Channels. This range will not be presented for each Test Mode and each Channel.
- Note 2: The testing range of “1 GHz to 18 GHz” is for checking radiated emissions located in restricted bands far away from the EUT operating bands.
- Note 3: Two limits are required in the testing range above 1 GHz, that is Peak limit (74 dB $\mu$ V/m) and Average Limit (54 dB $\mu$ V/m).



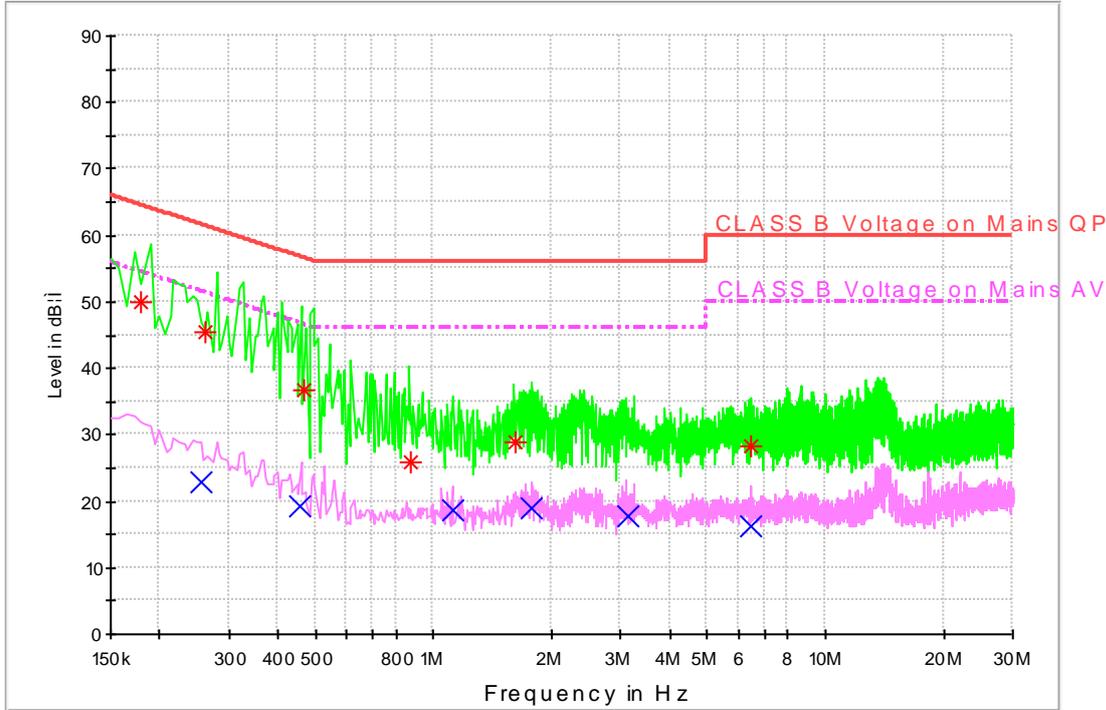


# Appendix I: AC Power Line Conducted Emissions

## 1 Result Table

Note: RBW =9 kHz, VBW = 30 kHz

CLASS B Voltage with ENV216



## Final Result 1

Frequency	QuasiPeak	Line	Corr.	Margin	Limit
0.178206	49.9	N	9.8	14.7	64.6
0.261620	45.3	N	9.8	16.1	61.4
0.468752	36.7	L1	9.8	19.9	56.5
0.874292	26.0	L1	9.8	30.0	56.0
1.620255	28.8	N	9.8	27.2	56.0
6.410986	28.3	N	10.0	31.7	60.0



## Final Result 2

Frequency	QuasiPeak	Line	Corr.	Margin	Limit
0.255288	23.0	N	9.8	28.6	51.6
0.455286	19.2	L1	9.8	27.6	46.8
1.113537	18.7	N	9.8	27.3	46.0
1.782149	18.9	N	9.8	27.1	46.0
3.142715	17.7	N	9.8	28.3	46.0
6.418512	16.4	N	10.0	33.6	50.0

Note: Level= Reading level+ Transd (cable loss + correction factor).The reading level is used to calculate by software which is not shown in the sheet.

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END