



# Appendix A: 20dB Emission Bandwidth (EBW)



## 1 Result Table

EUT Conf.	EBW [MHz]	Verdict
TM1_DH5_Ch0	1.021	Pass
TM1_DH5_Ch39	1.024	Pass
TM1_DH5_Ch78	1.024	Pass
TM2_2DH5_Ch0	1.347	Pass
TM2_2DH5_Ch39	1.344	Pass
TM2_2DH5_Ch78	1.341	Pass
TM3_3DH5_Ch0	1.321	Pass
TM3_3DH5_Ch39	1.327	Pass
TM3_3DH5_Ch78	1.324	Pass



## 2 Test Plot

### 2.1 TM1\_DH5\_Ch0



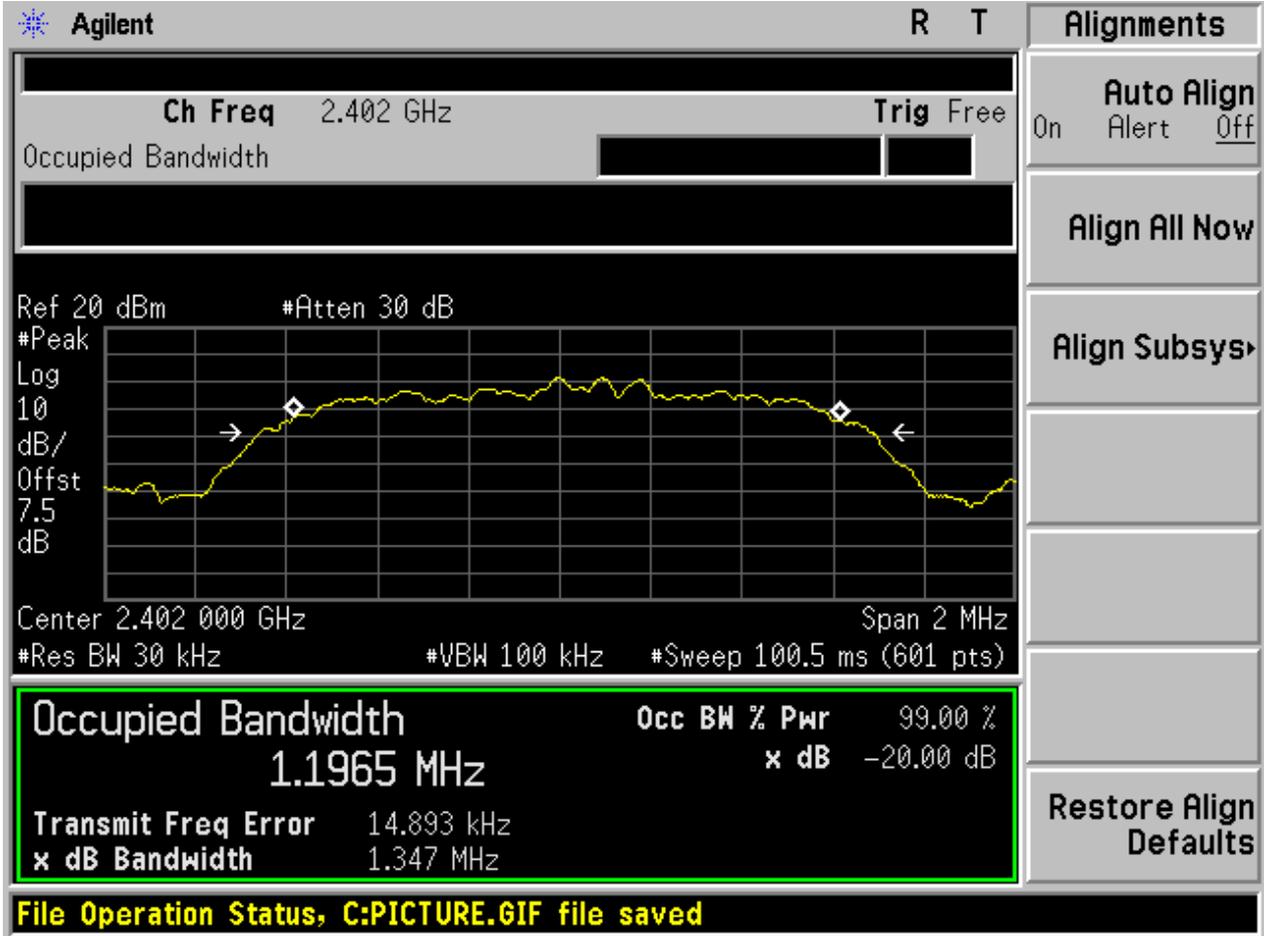
## 2.2 TM1\_DH5\_Ch39



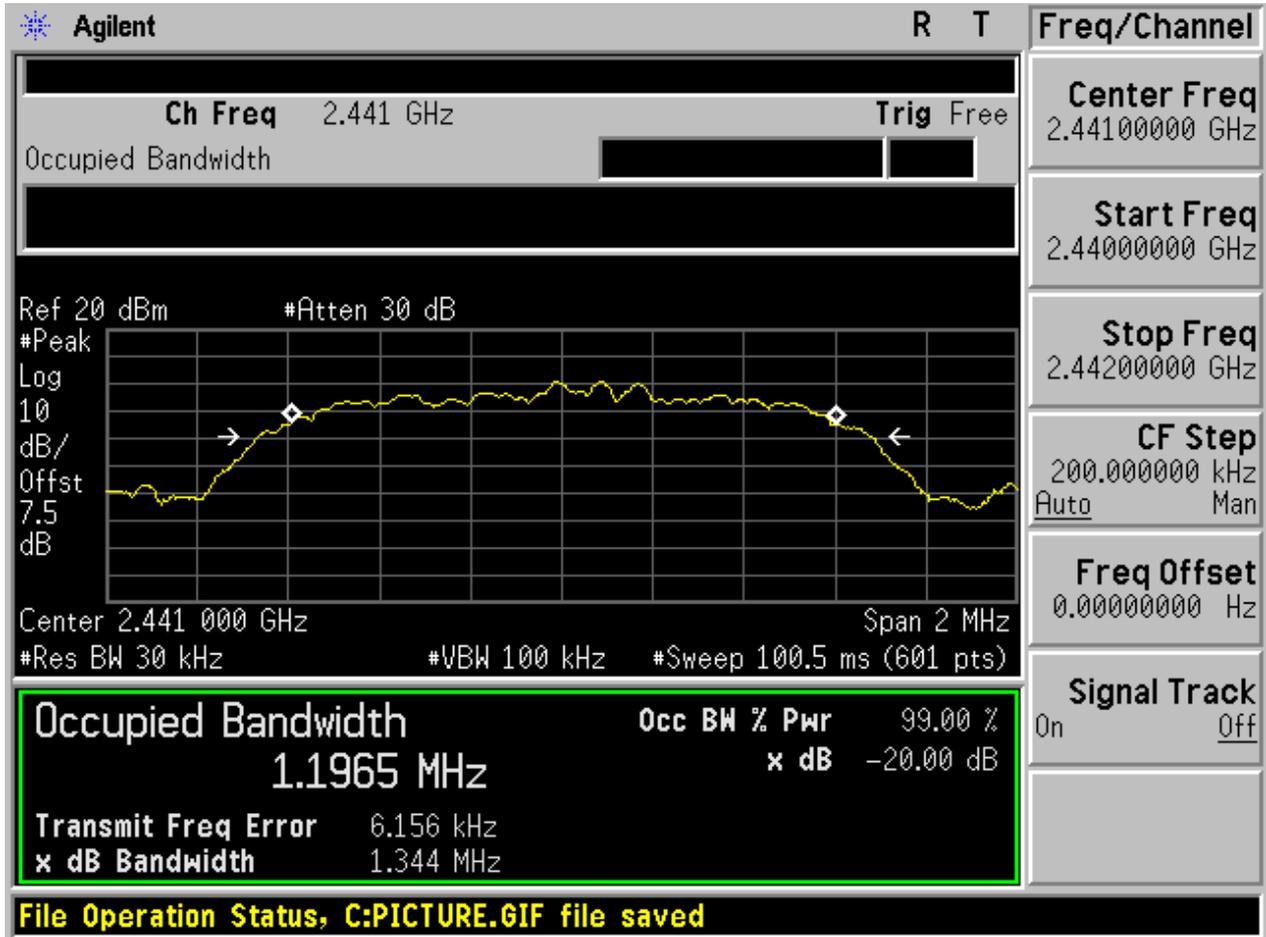
2.3 TM1\_DH5\_Ch78



2.4 TM2\_2DH5\_Ch0



## 2.5 TM2\_2DH5\_Ch39





## 2.7 TM3\_3DH5\_Ch0





2.9 TM3\_3DH5\_Ch78

Agilent
R T

**Ch Freq** 2.48 GHz

Occupied Bandwidth

**Trig** Free

**Center Freq**  
2.48000000 GHz

**Start Freq**  
2.47900000 GHz

**Stop Freq**  
2.48100000 GHz

**CF Step**  
200.000000 kHz  
Auto Man

**Freq Offset**  
0.00000000 Hz

**Signal Track**  
On Off

Ref 20 dBm #Atten 30 dB

Center 2.480 000 GHz Span 2 MHz

#Res BW 30 kHz #VBW 100 kHz #Sweep 100.5 ms (601 pts)

<b>Occupied Bandwidth</b>	<b>Occ BW % Pwr</b>	99.00 %
1.1967 MHz	<b>x dB</b>	-20.00 dB
<b>Transmit Freq Error</b>	-2.342 kHz	
<b>x dB Bandwidth</b>	1.324 MHz	

**File Operation Status, C:PICTURE.GIF file saved**



# Appendix B: Carrier Frequency Separation

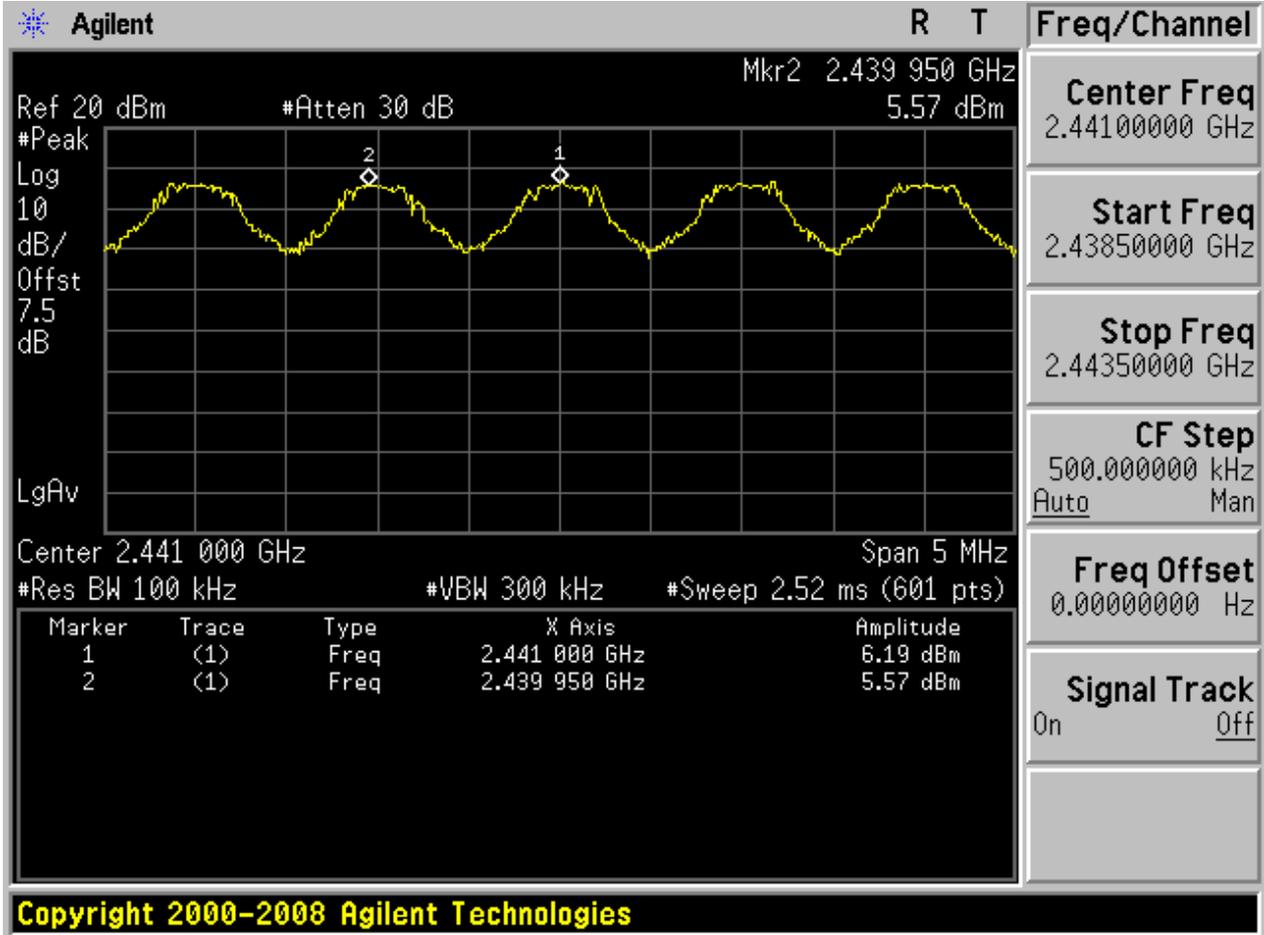


## 1 Result Table

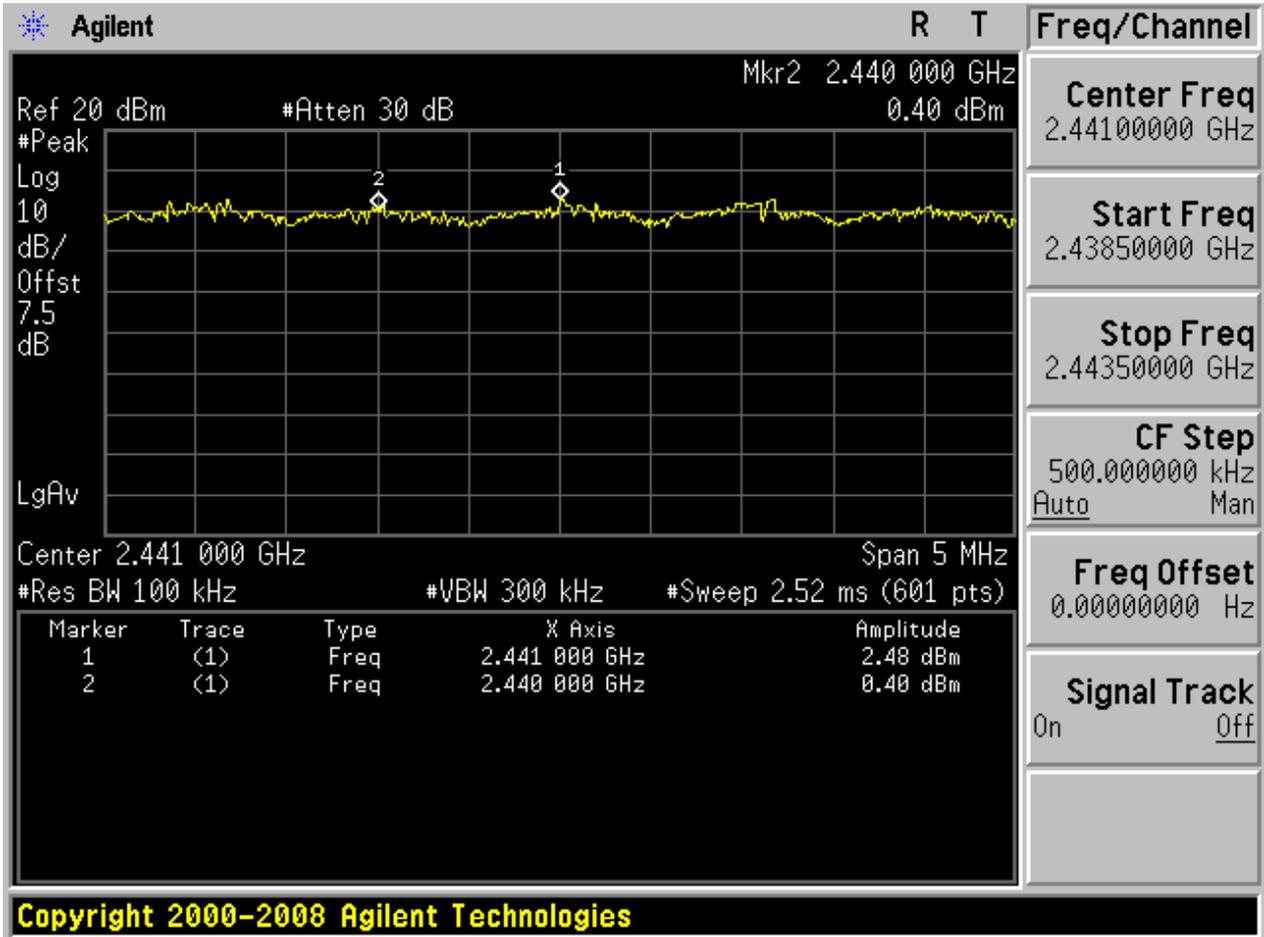
EUT Conf.	Carrier Frequency Separation [MHz]	Verdict
TM1_DH5_Hop	1.050	Pass
TM2_2DH5_Hop	1.000	Pass
TM3_3DH5_Hop	0.900	Pass

## 2 Test Plot

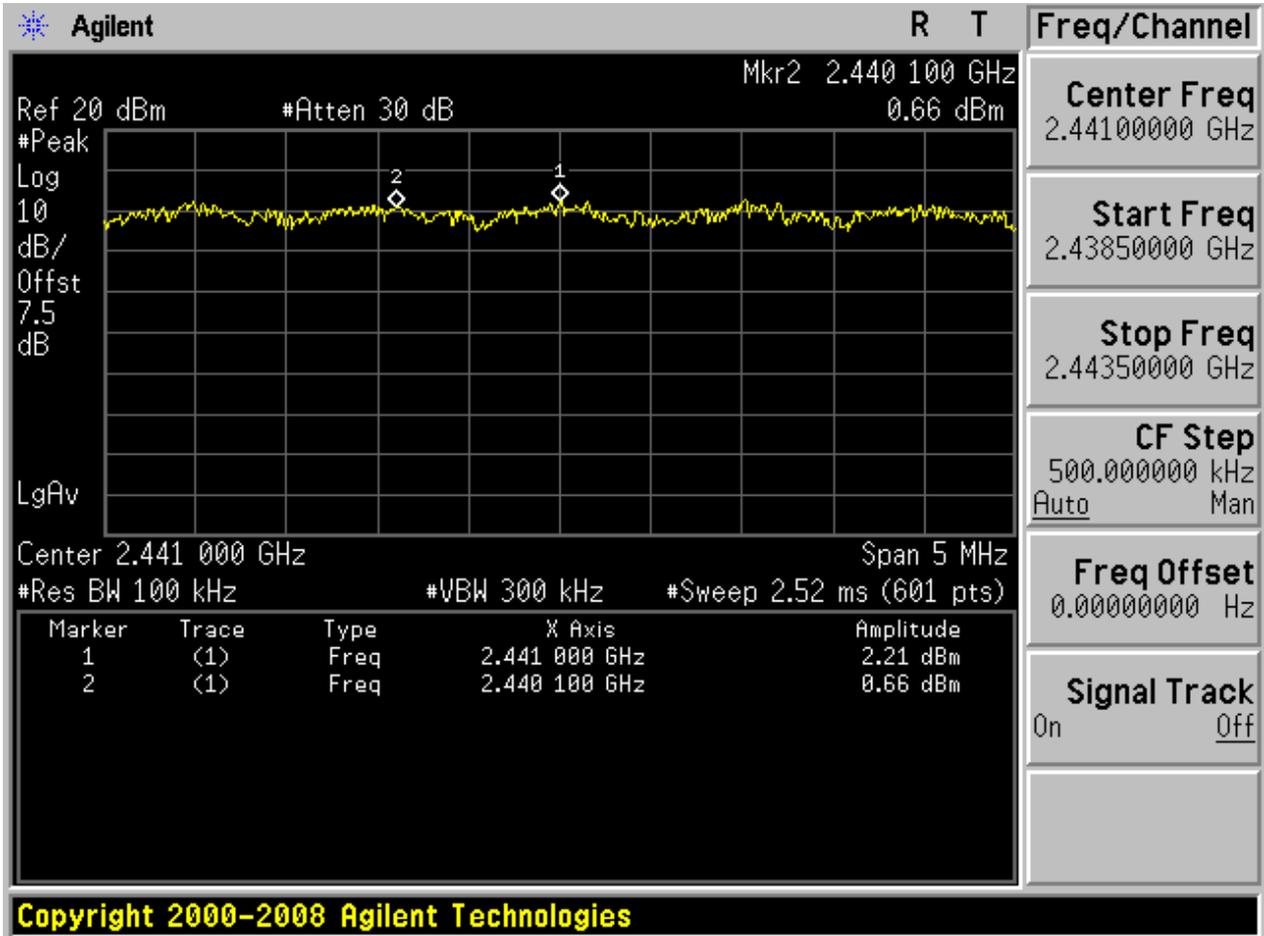
### 2.1 TM1\_DH5\_Hop



2.2 TM2\_2DH5\_Hop



### 2.3 TM3\_3DH5\_Hop





# Appendix C: Number of Hopping Channel

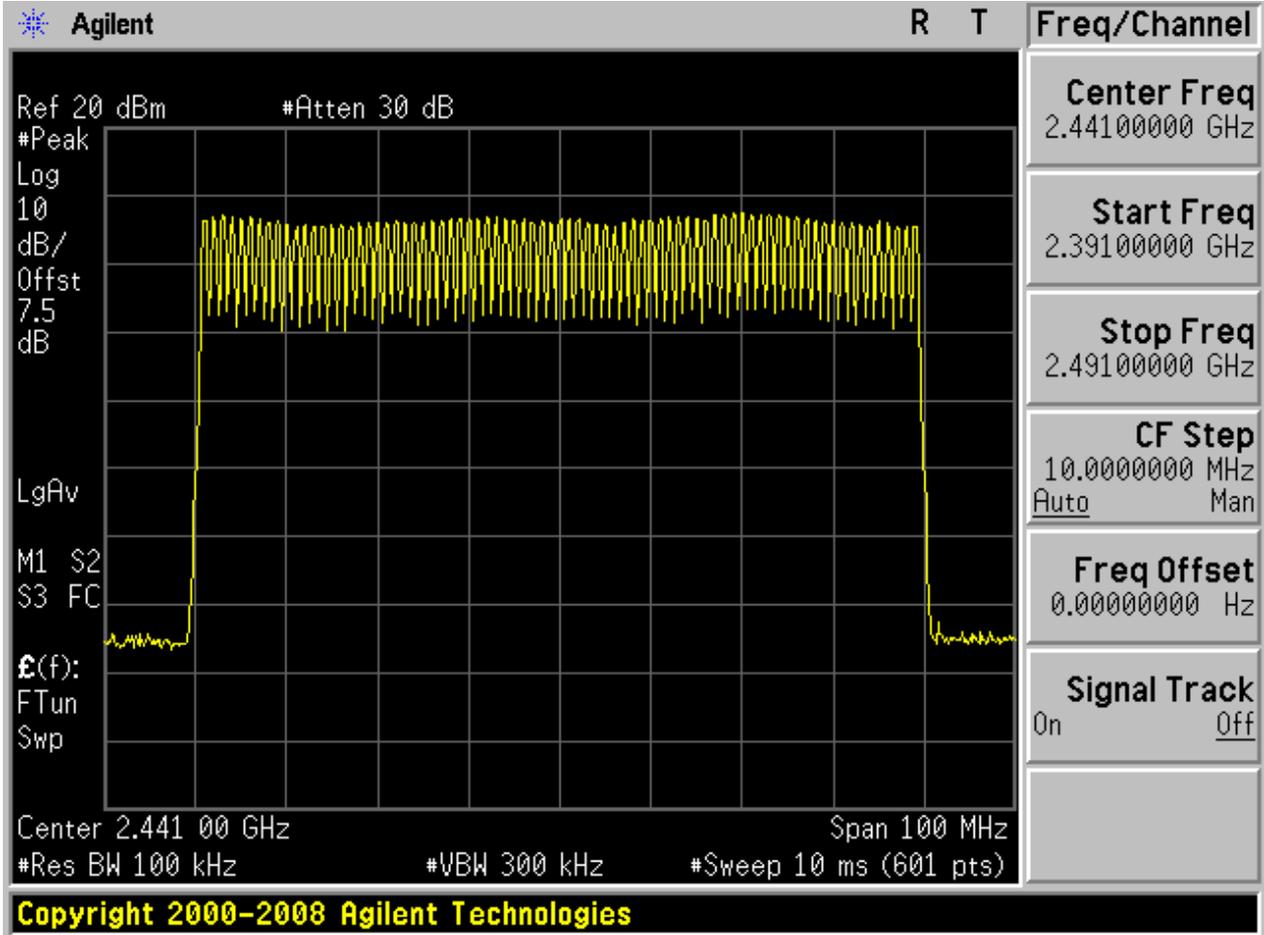


## 1 Result Table

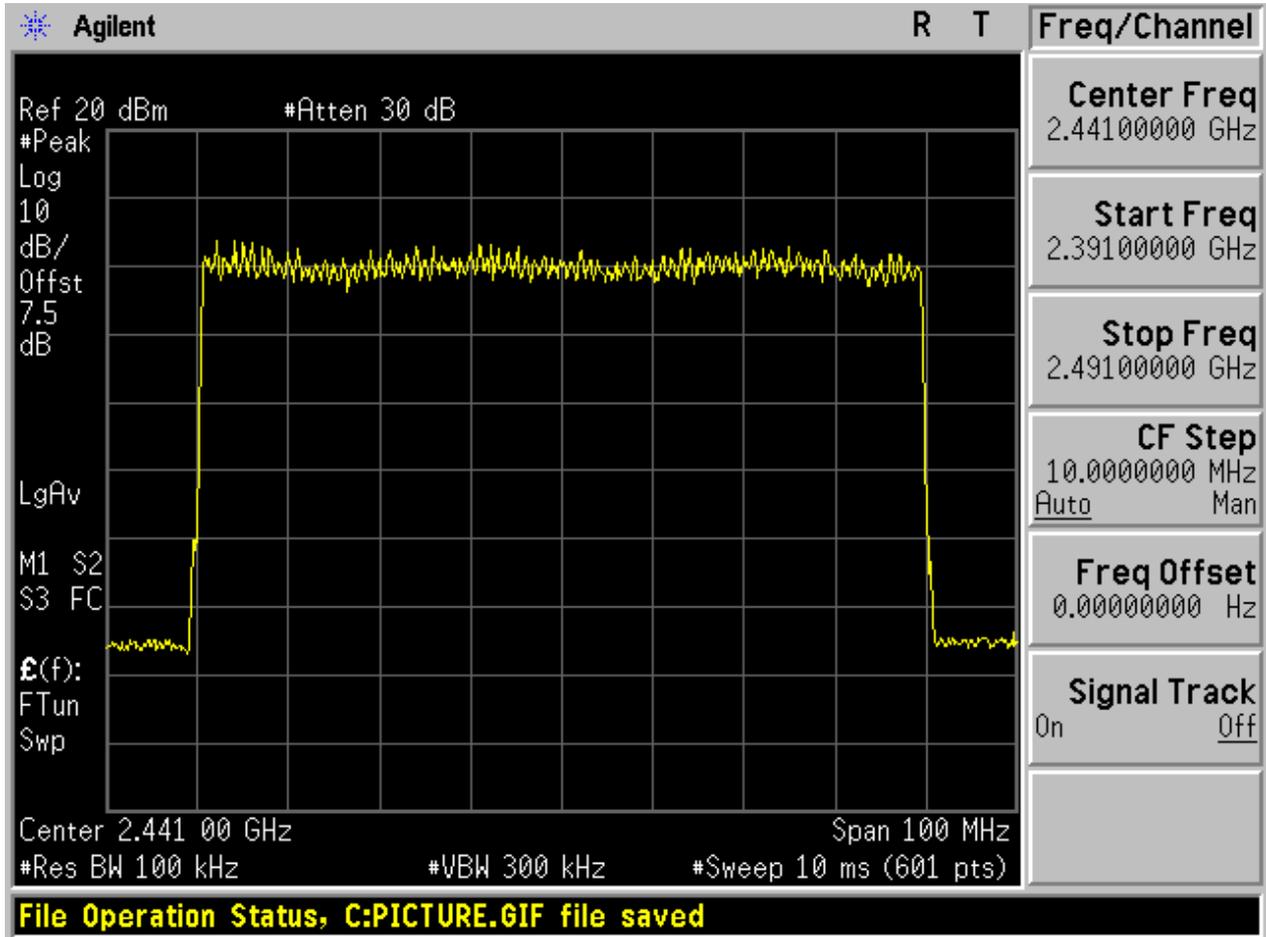
EUT Conf.	Number of Hopping Channel	Verdict
TM1_DH5_Hop	78	Pass
TM2_2DH5_Hop	64	Pass
TM3_3DH5_Hop	77	Pass

## 2 Test Plot

### 2.1 TM1\_DH5\_Hop

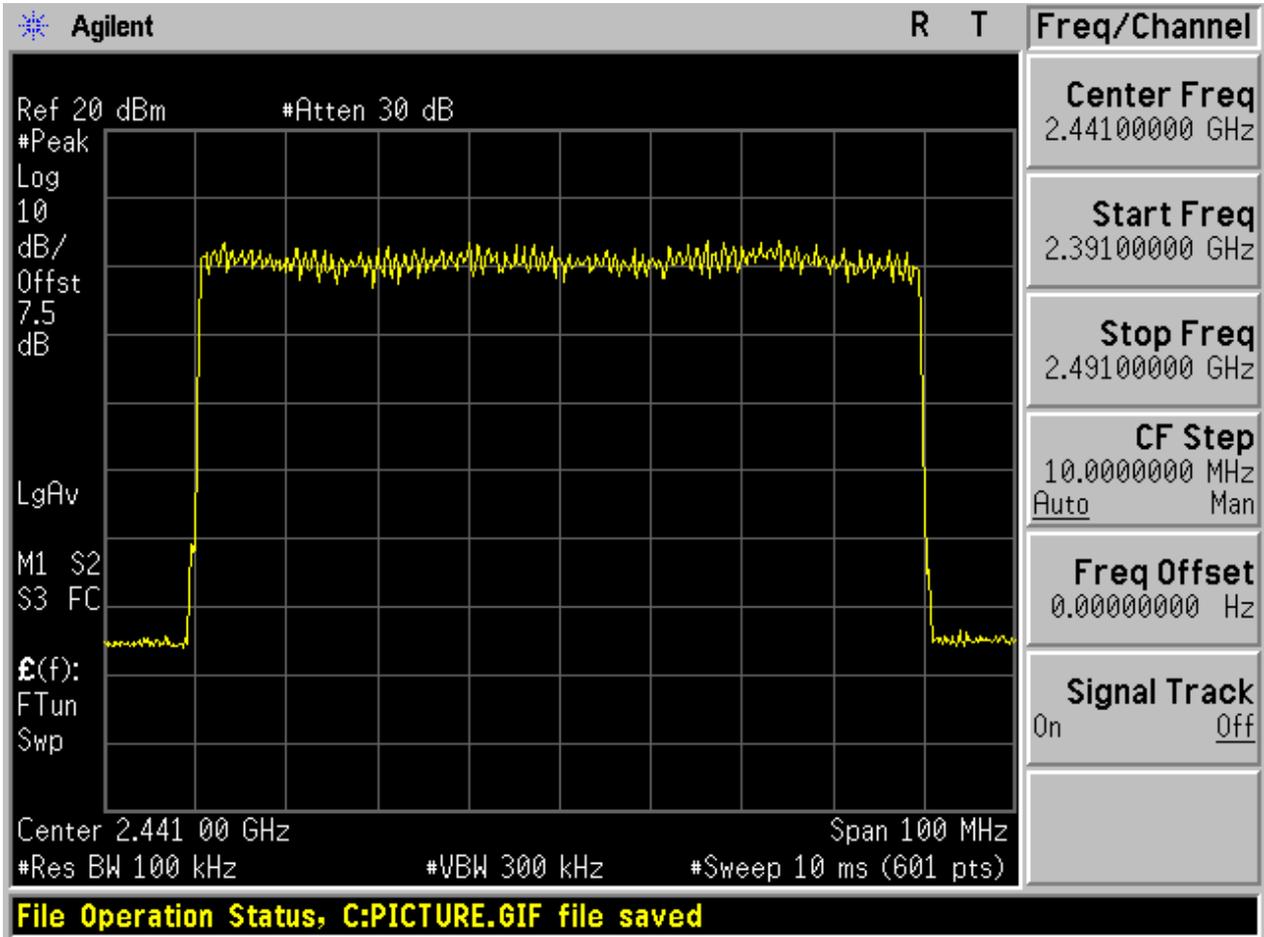


## 2.2 TM2\_2DH5\_Hop





### 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:

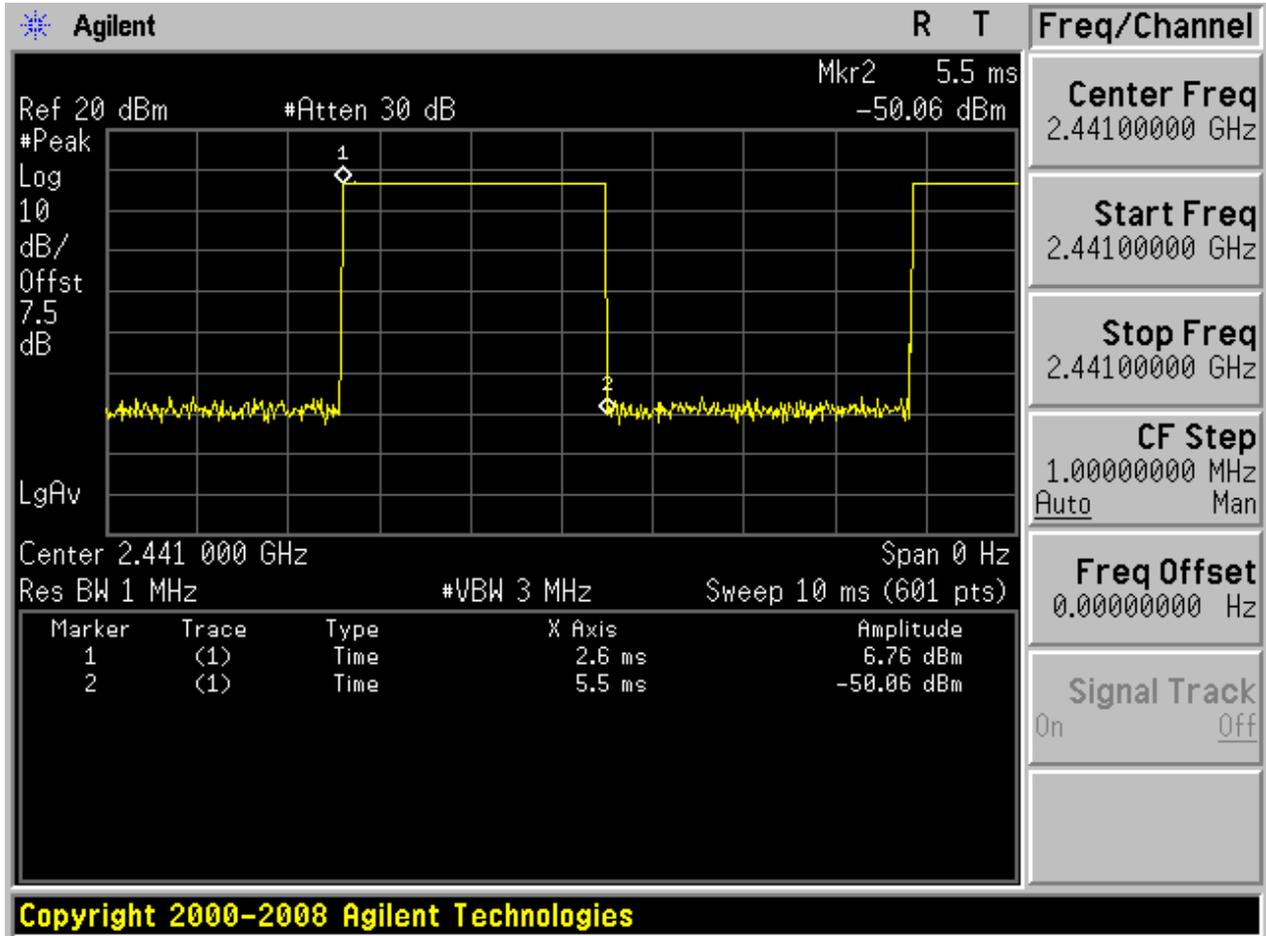
- The duration for dwell time calculation:  $0.4 \text{ [s]} * \text{hopping number} = 0.4 \text{ [s]} * 79 \text{ [ch]} = 31.6 \text{ [s*ch]}$ ;
- The burst width [ms/hop/ch], which is directly measured, refers to the duration on one channel hop.
- The hops per second for all channels: The selected 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	0.900	106.67	0.096	Pass
TM3_3DH5_Ch39	2.900	106.67	0.309	Pass

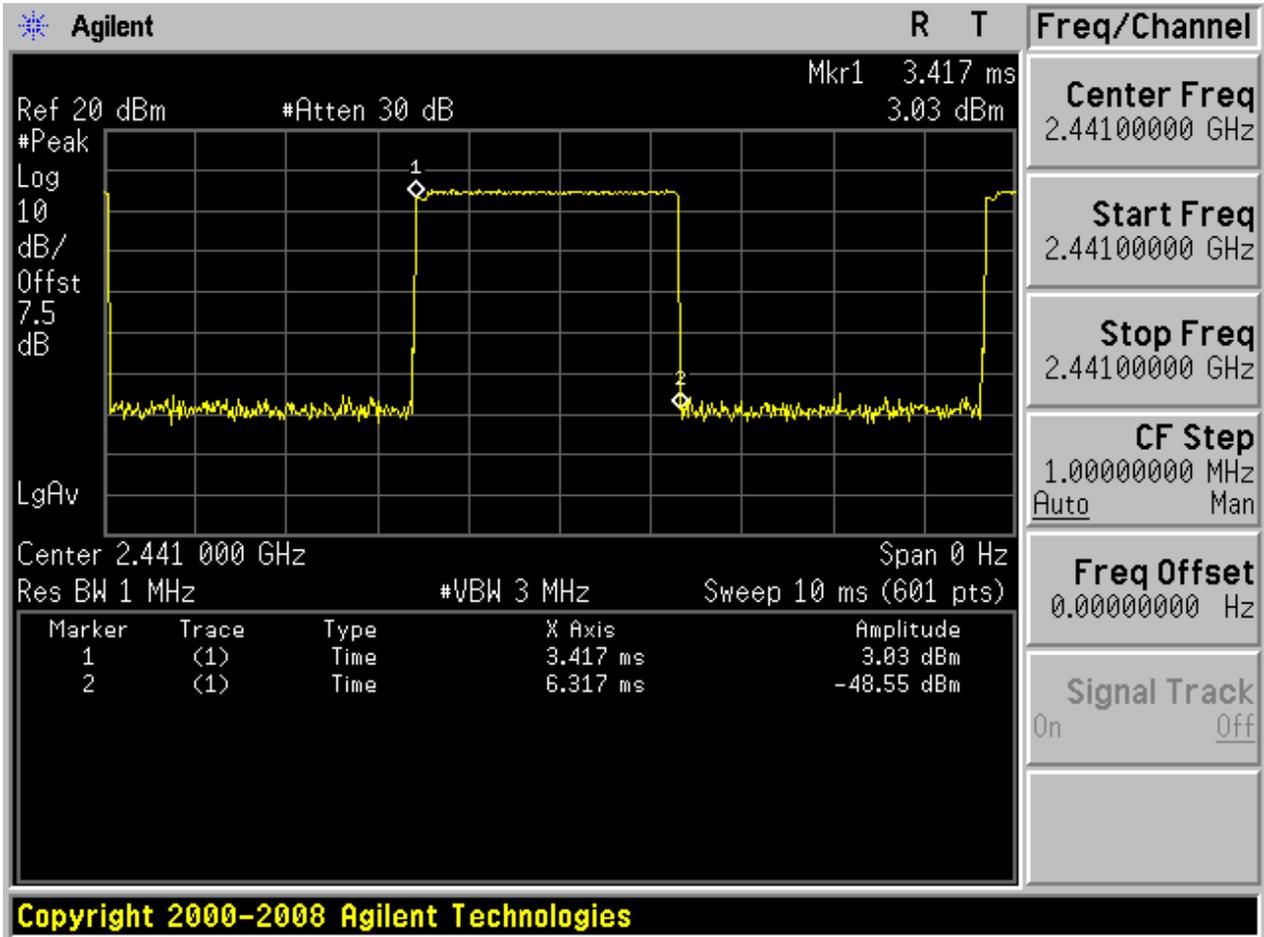
## 2 Test Plot

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

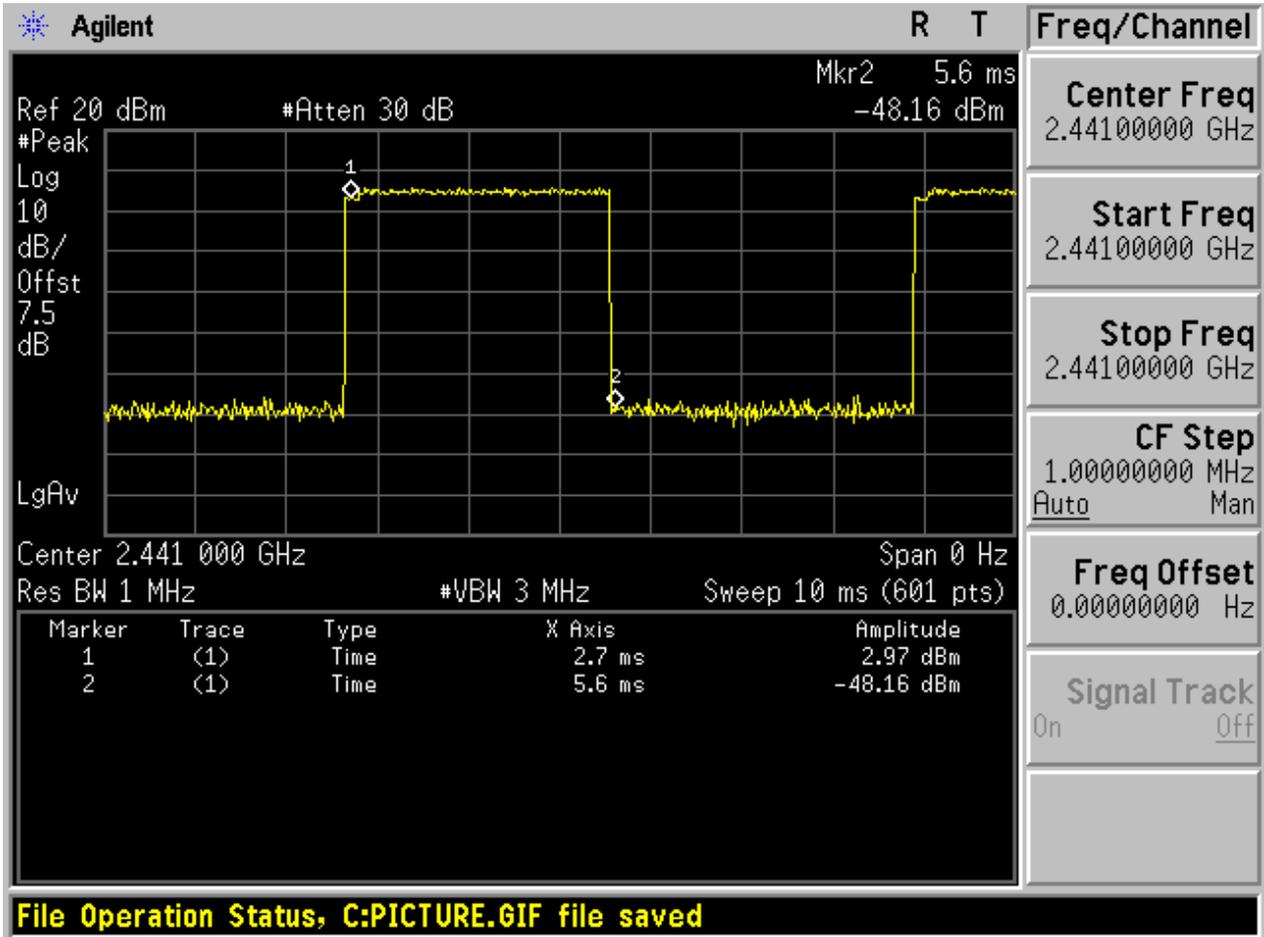
### 2.1 TM1\_DH5\_Ch39



2.2 TM2\_2DH5\_Ch39



2.3 TM3\_3DH5\_Ch39





# Appendix E: Maximum Peak Conducted Output Power



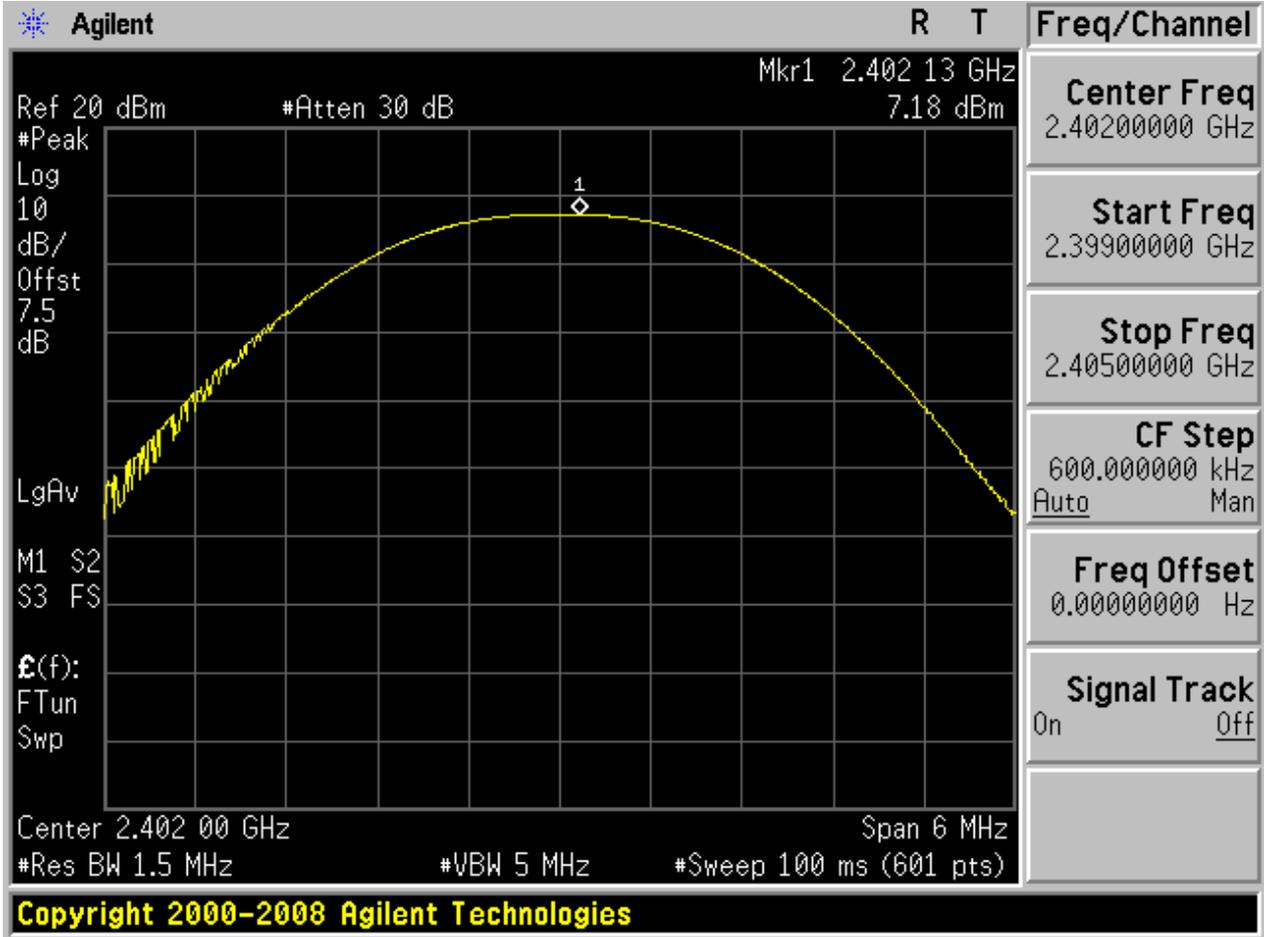
## 1 Result Table

EUT Conf.	Max. Peak Power [dBm]	Verdict
TM1_DH5_Ch0	7.18	Pass
TM1_DH5_Ch39	6.91	Pass
TM1_DH5_Ch78	6.36	Pass
TM2_2DH5_Ch0	5.92	Pass
TM2_2DH5_Ch39	5.3	Pass
TM2_2DH5_Ch78	4.56	Pass
TM3_3DH5_Ch0	6.28	Pass
TM3_3DH5_Ch39	5.71	Pass
TM3_3DH5_Ch78	5.02	Pass

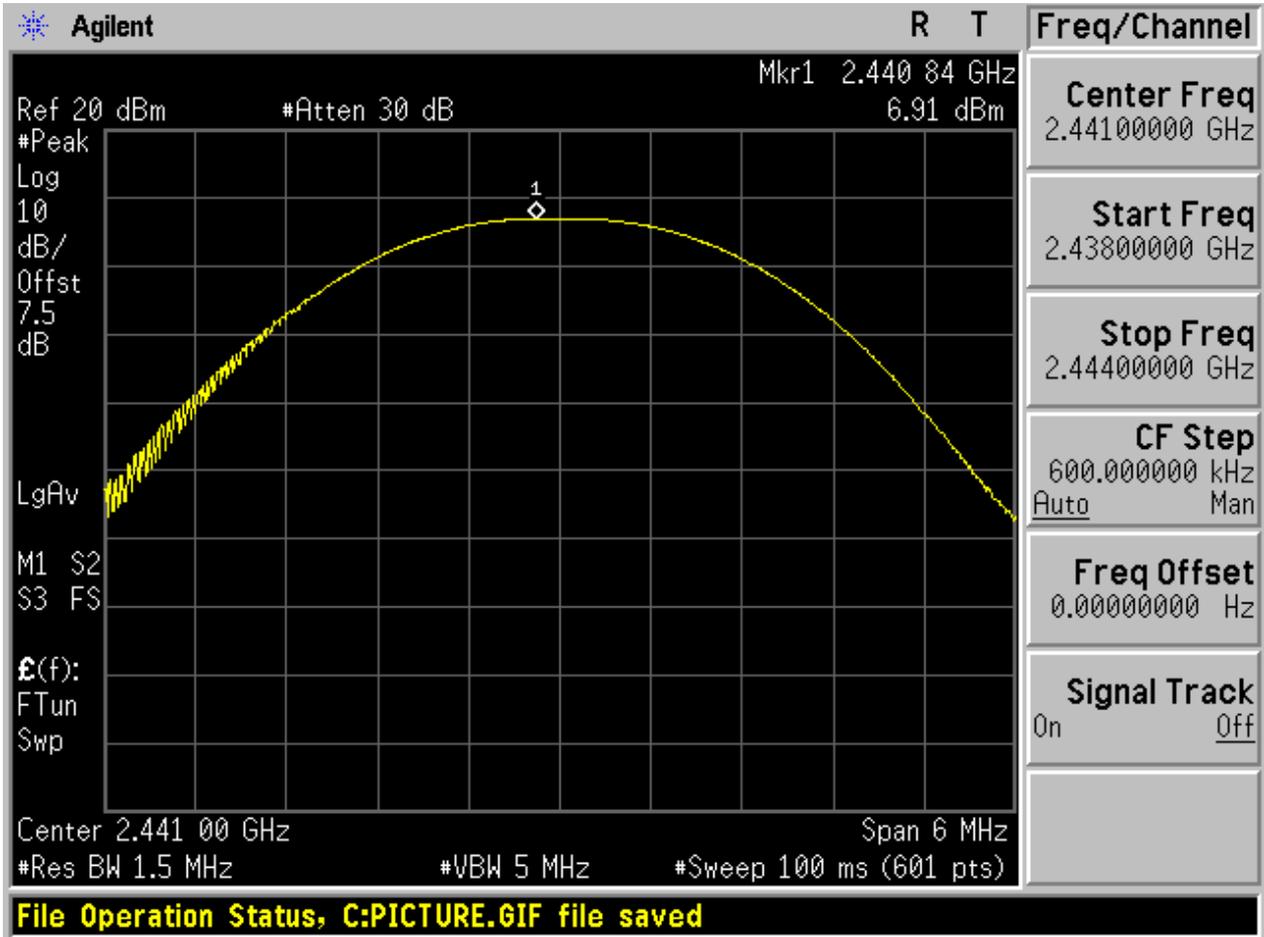


## 2 Test Plot

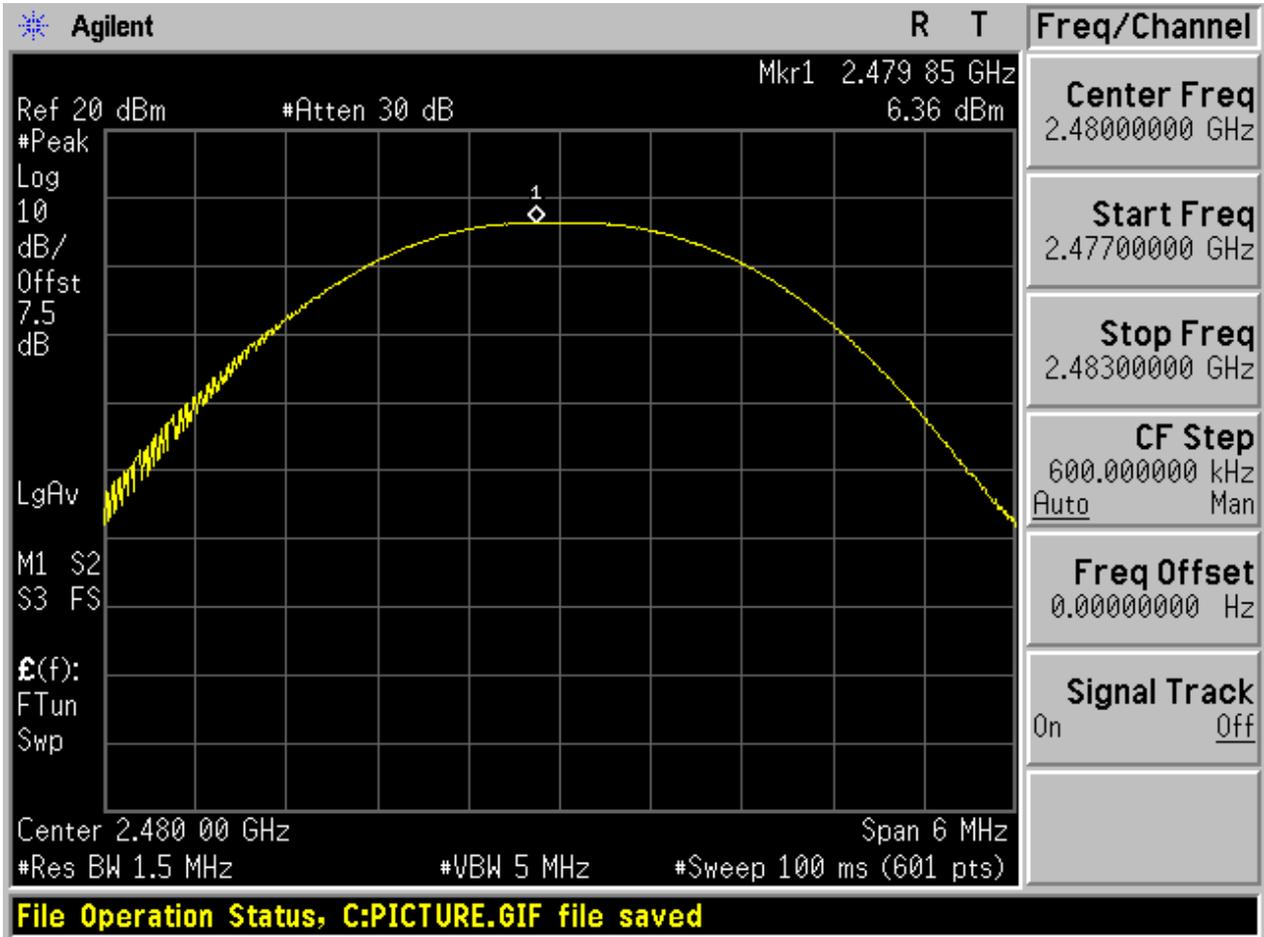
### 2.1 TM1\_DH5\_Ch0



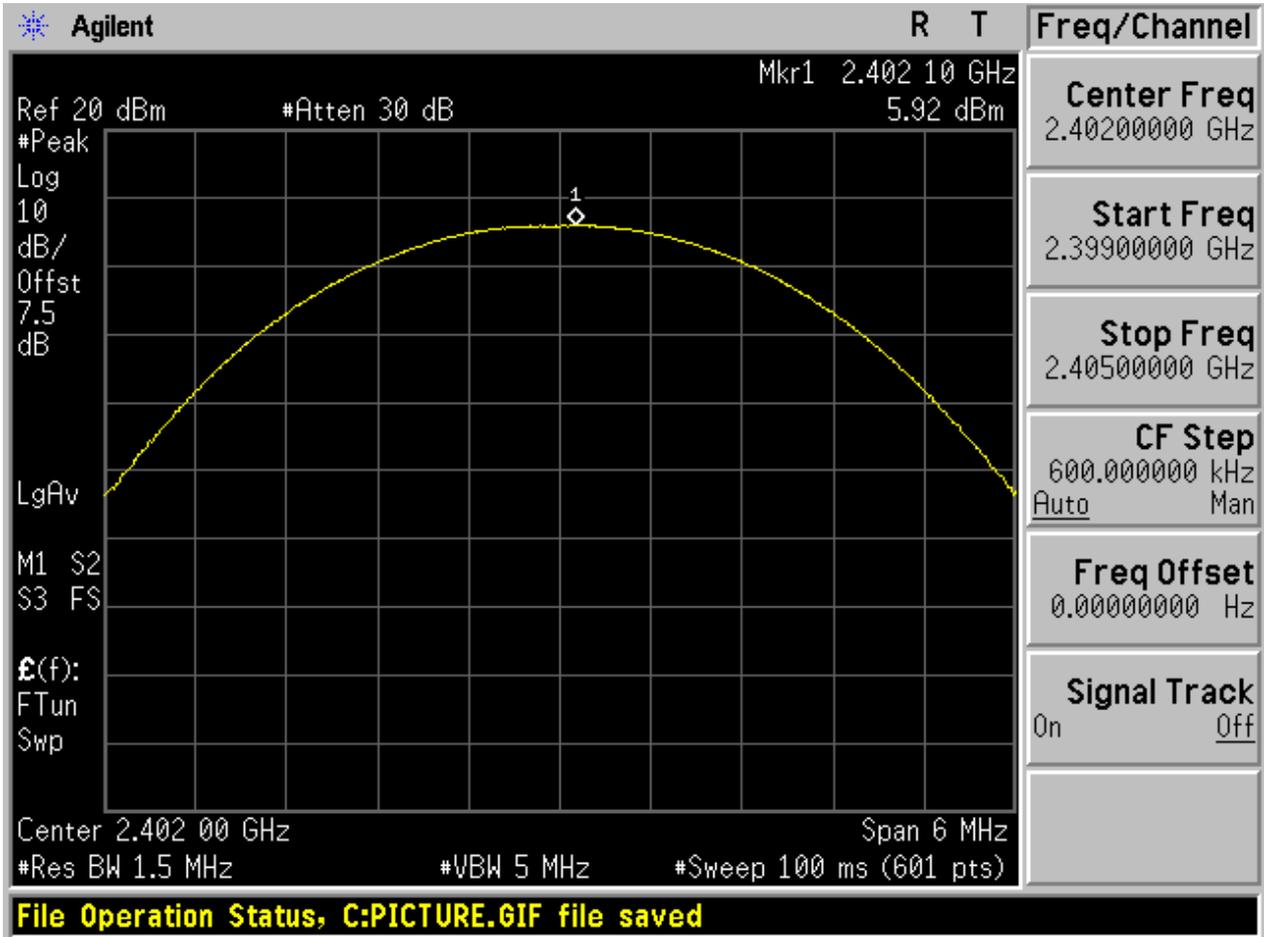
2.2 TM1\_DH5\_Ch39



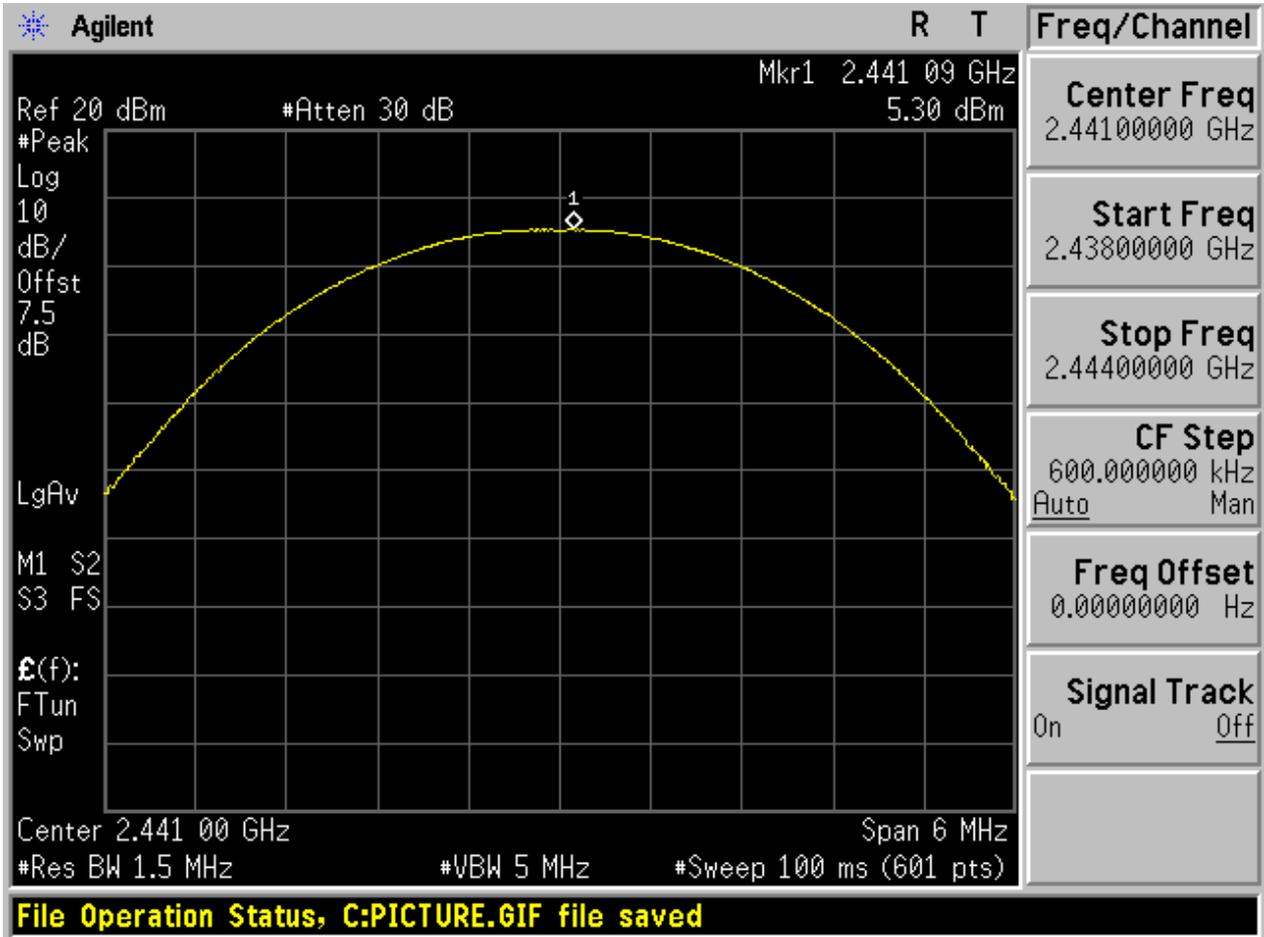
2.3 TM1\_DH5\_Ch78



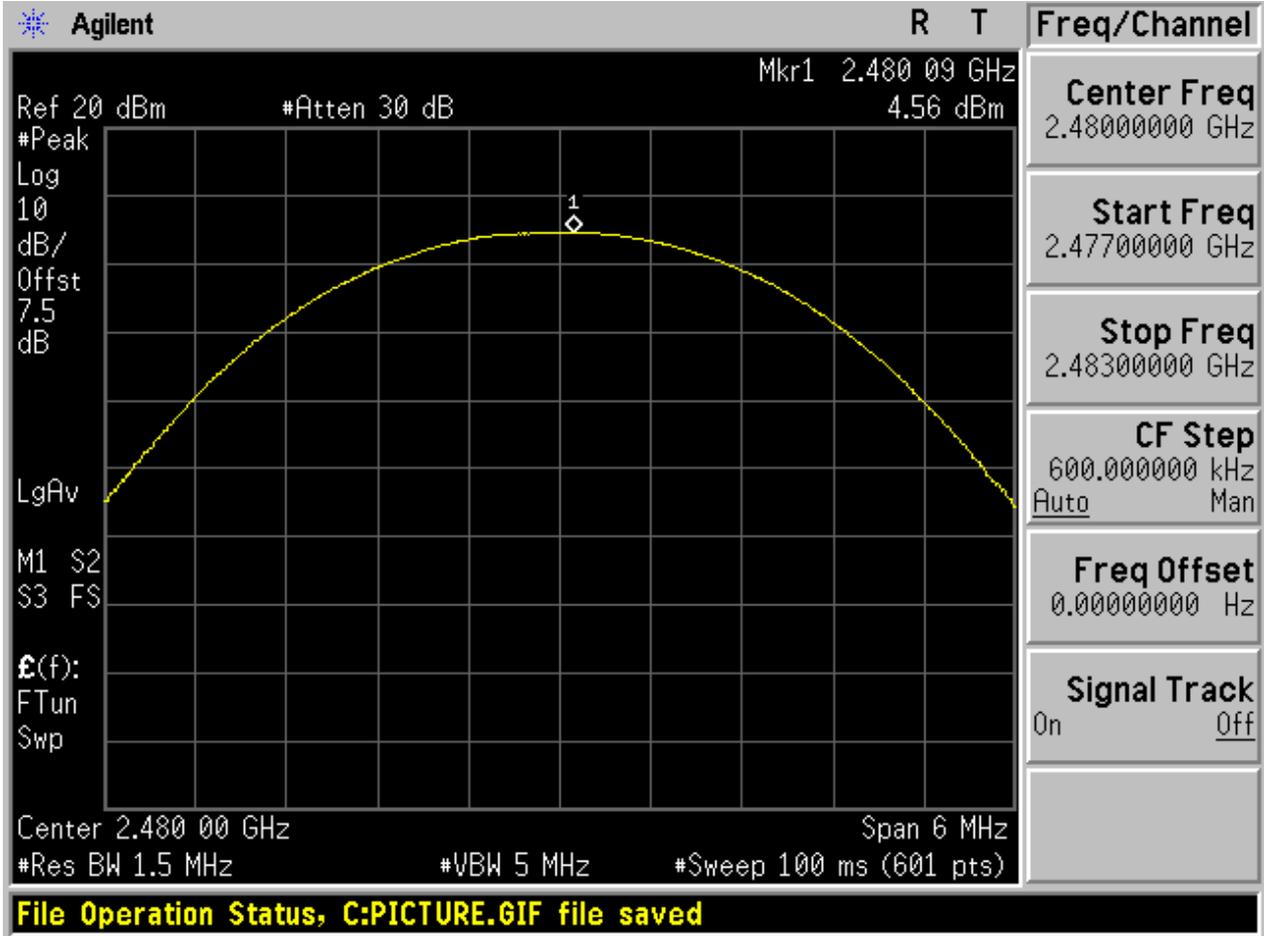
2.4 TM2\_2DH5\_Ch0



2.5 TM2\_2DH5\_Ch39

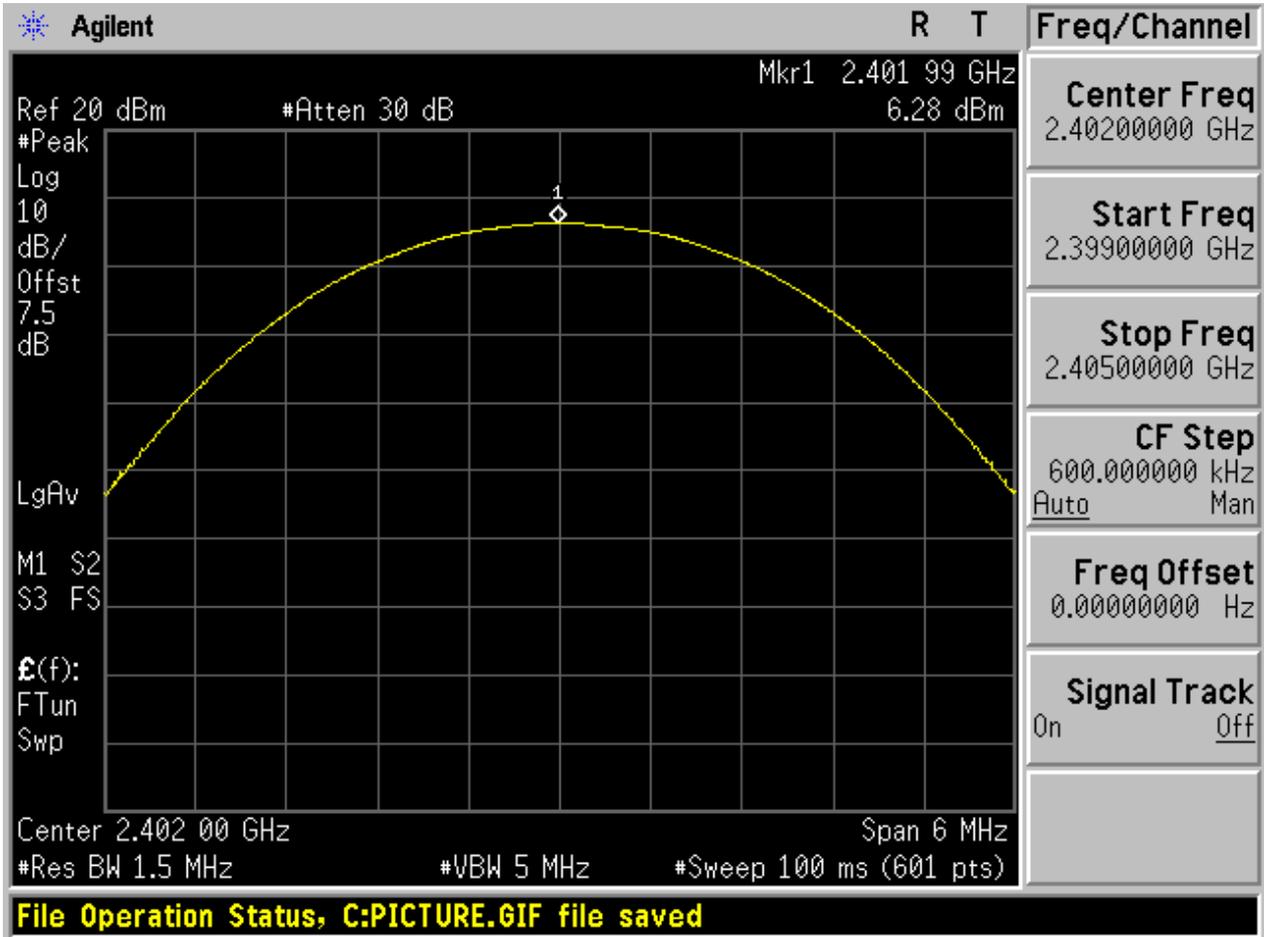


2.6 TM2\_2DH5\_Ch78

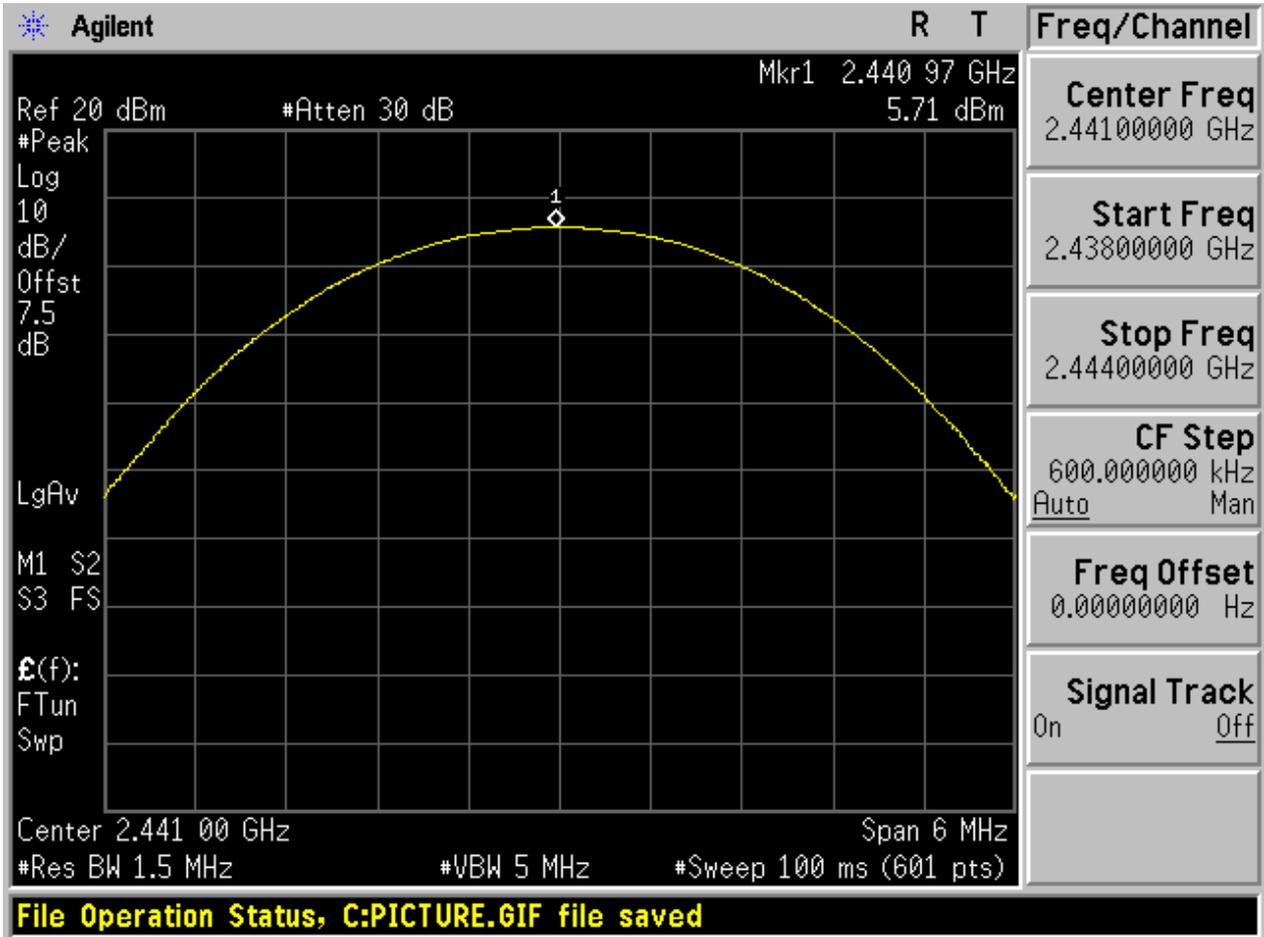




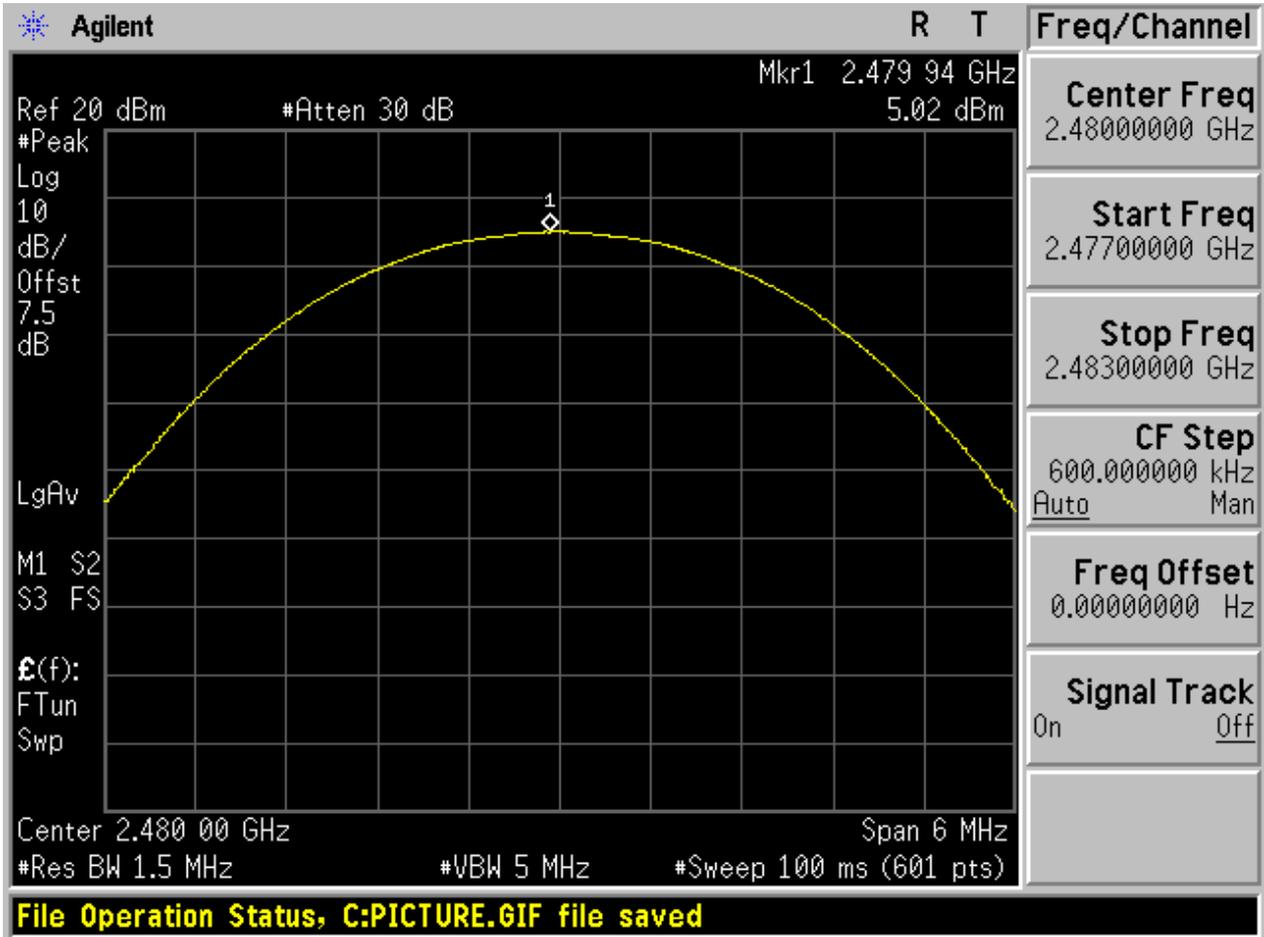
### 2.7 TM3\_3DH5\_Ch0



2.8 TM3\_3DH5\_Ch39



2.9 TM3\_3DH5\_Ch78





# Appendix F: Band edge spurious emission



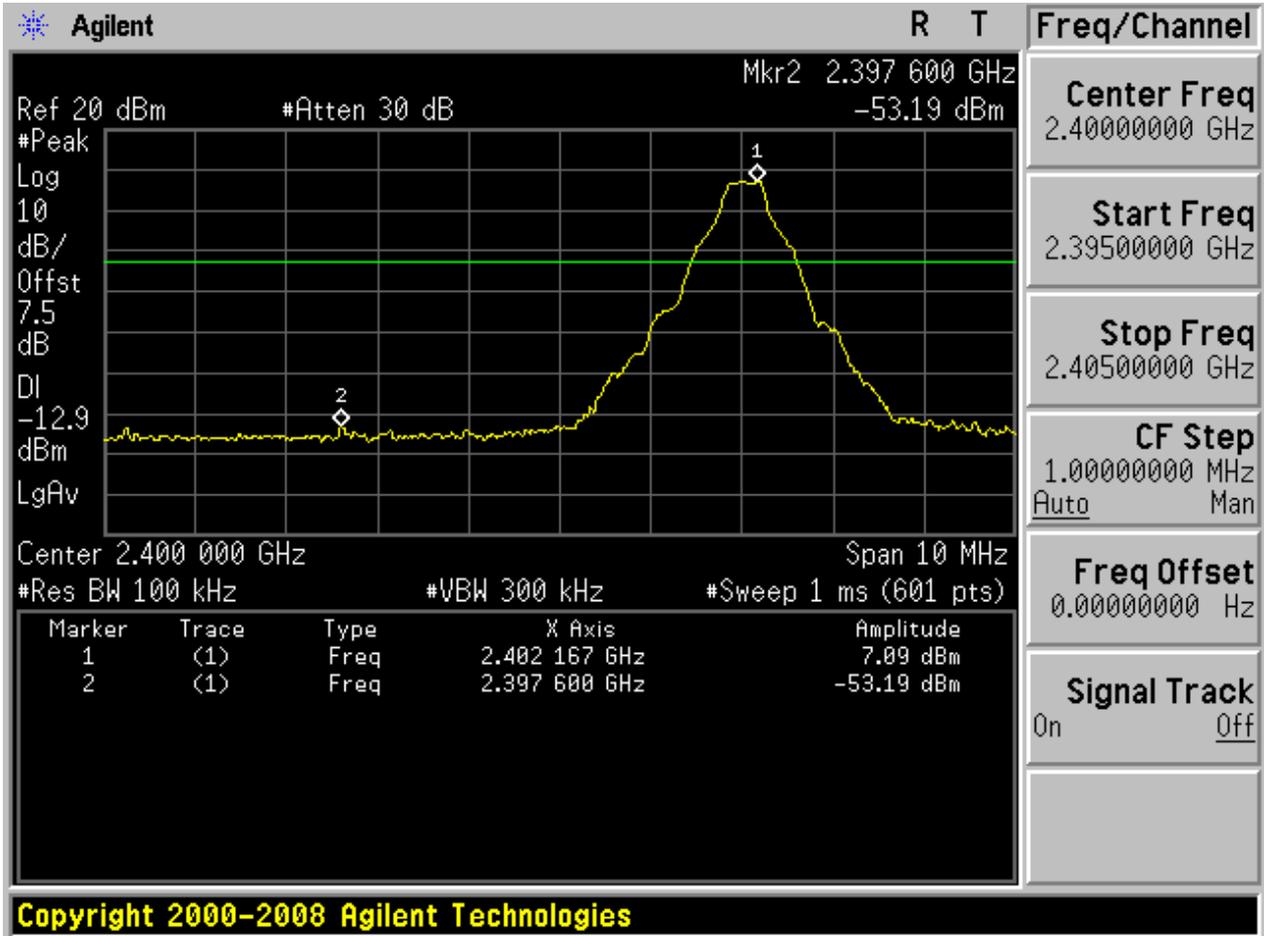
## 1 Result Table

EUT Conf.	Channel No.	Carrier Frequency [MHz]	Max. Spurious Level [dBm]	Frequency Hopping	Carrier Power [dBm]	Limit [dBm]	Result
TM1_DH5_Ch0	0	2402	-53.2	Off	7.09	-12.91	Pass
	-	-	-54.68	On	6.73	-13.27	Pass
TM1_DH5_Ch78	78	2480	-54.34	Off	6.20	-13.8	Pass
	-	-	-54.41	On	5.83	-14.17	Pass
TM2_2DH_5_Ch0	0	2402	-54.86	Off	3.57	-16.43	Pass
	-	-	-54.92	On	2.97	-17.03	Pass
TM2_2DH_5_Ch78	78	2480	-53.35	Off	2.11	-17.89	Pass
	-	-	-54.61	On	0.62	-19.38	Pass
TM3_3DH_5_Ch0	0	2402	-53.75	Off	3.55	-16.45	Pass
	-	-	-54.65	On	2.94	-17.06	Pass
TM3_3DH_5_Ch78	78	2480	-53.93	Off	2.19	-17.81	Pass
	-	-	-55.02	On	1.52	-18.48	Pass

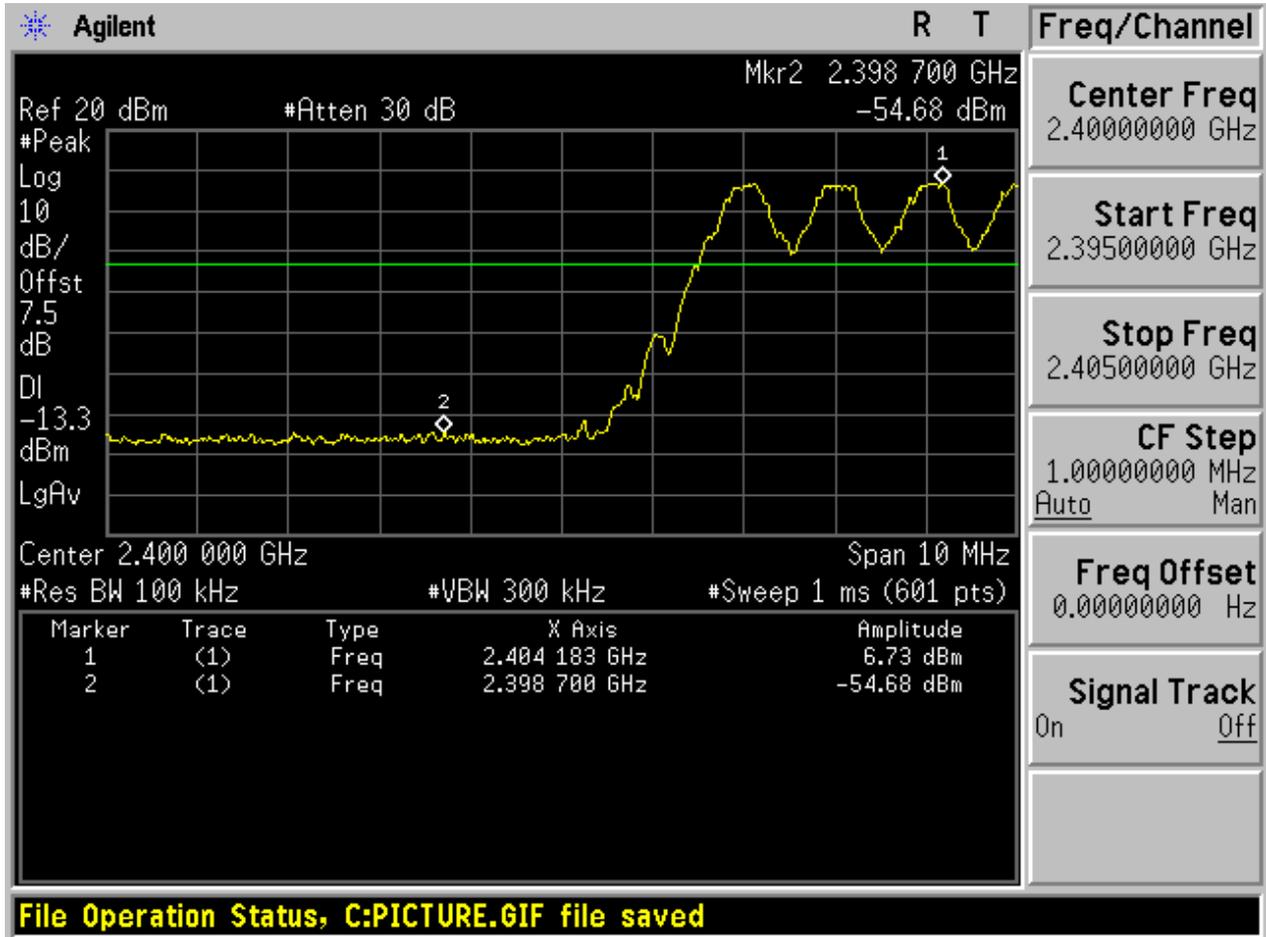
## 2 Test Plot

### 2.1 TM1\_DH5\_Ch0

No hopping

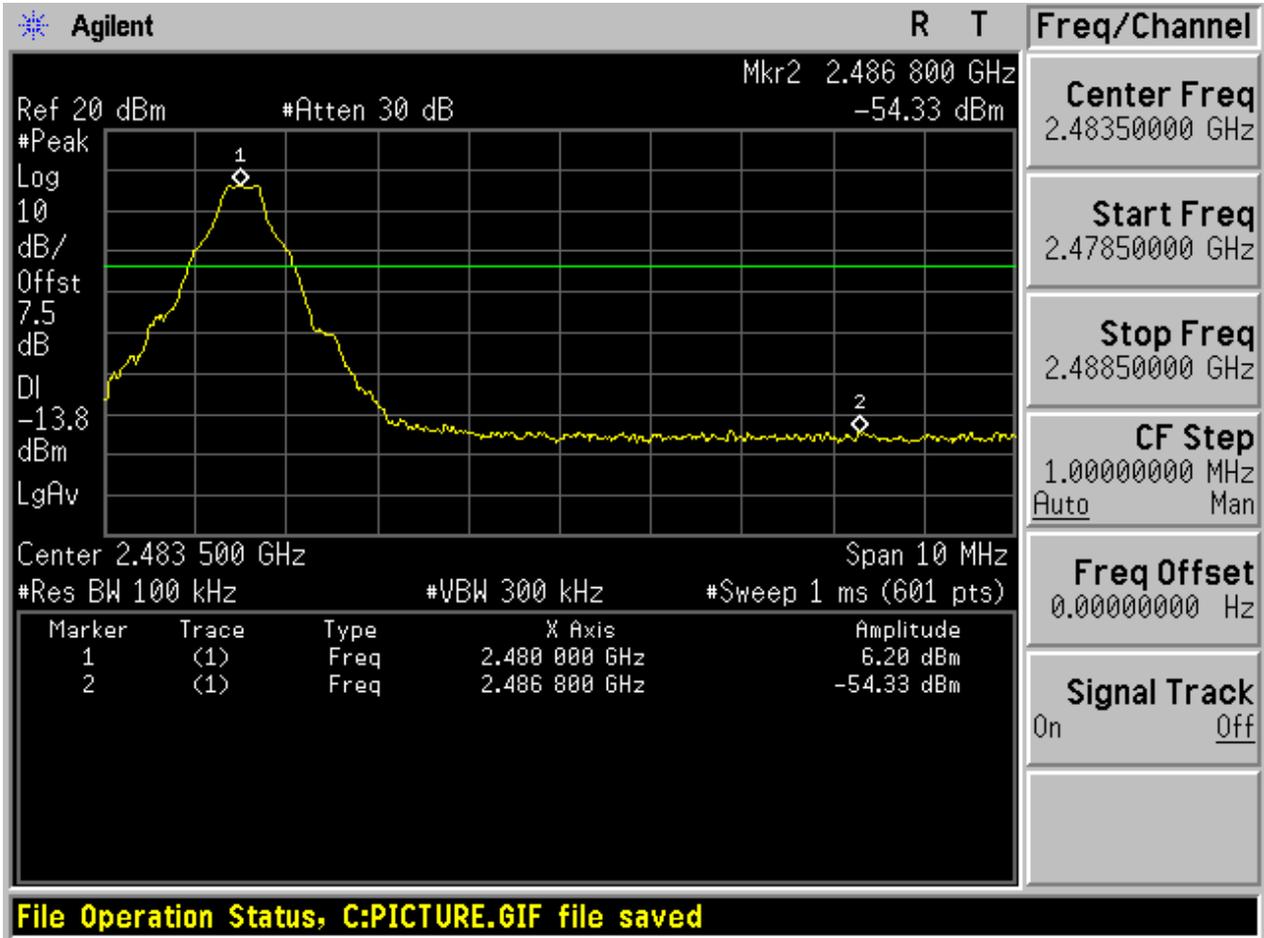


With hopping

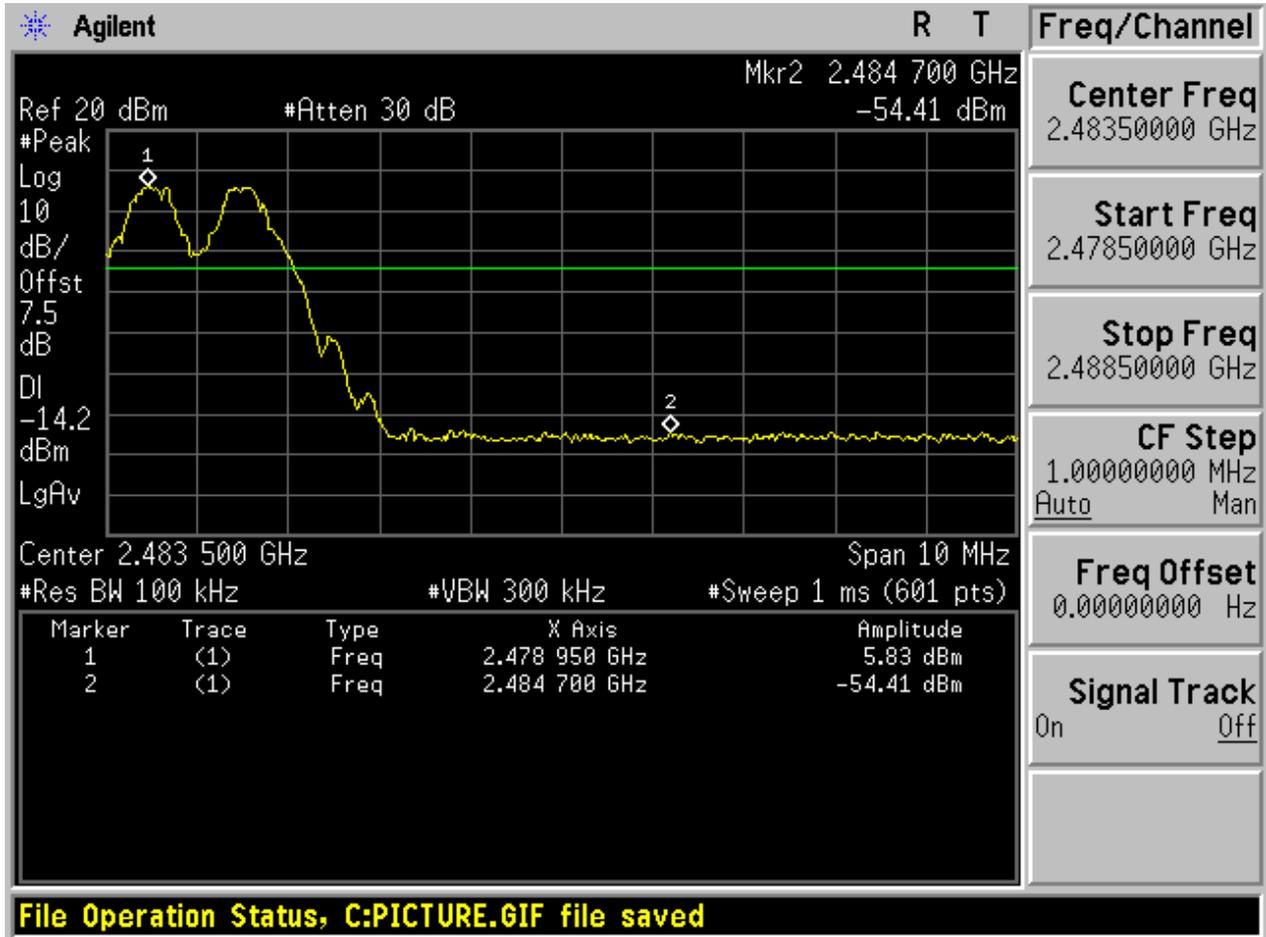


2.2 TM1\_DH5\_Ch78

No hopping

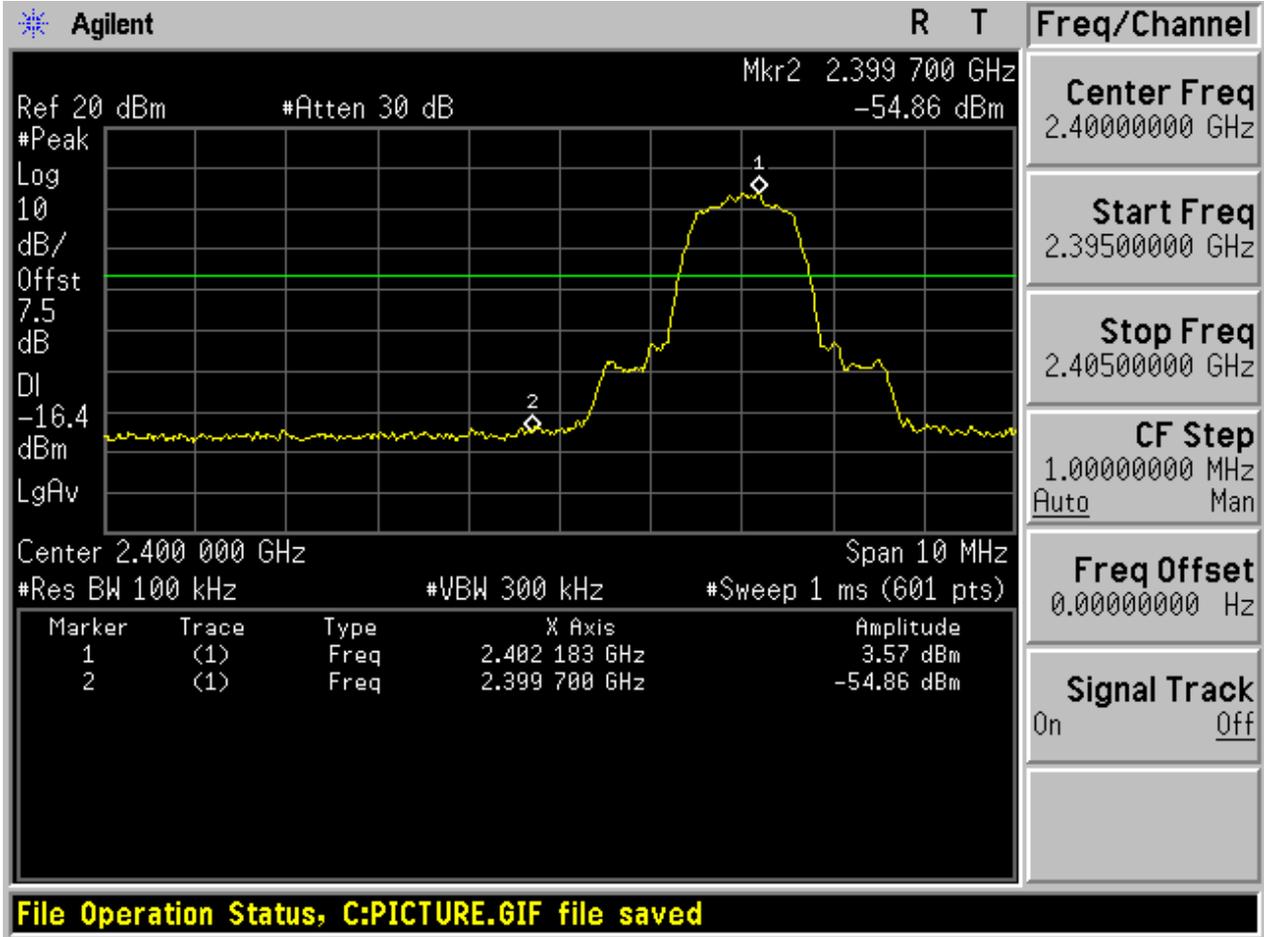


With hopping

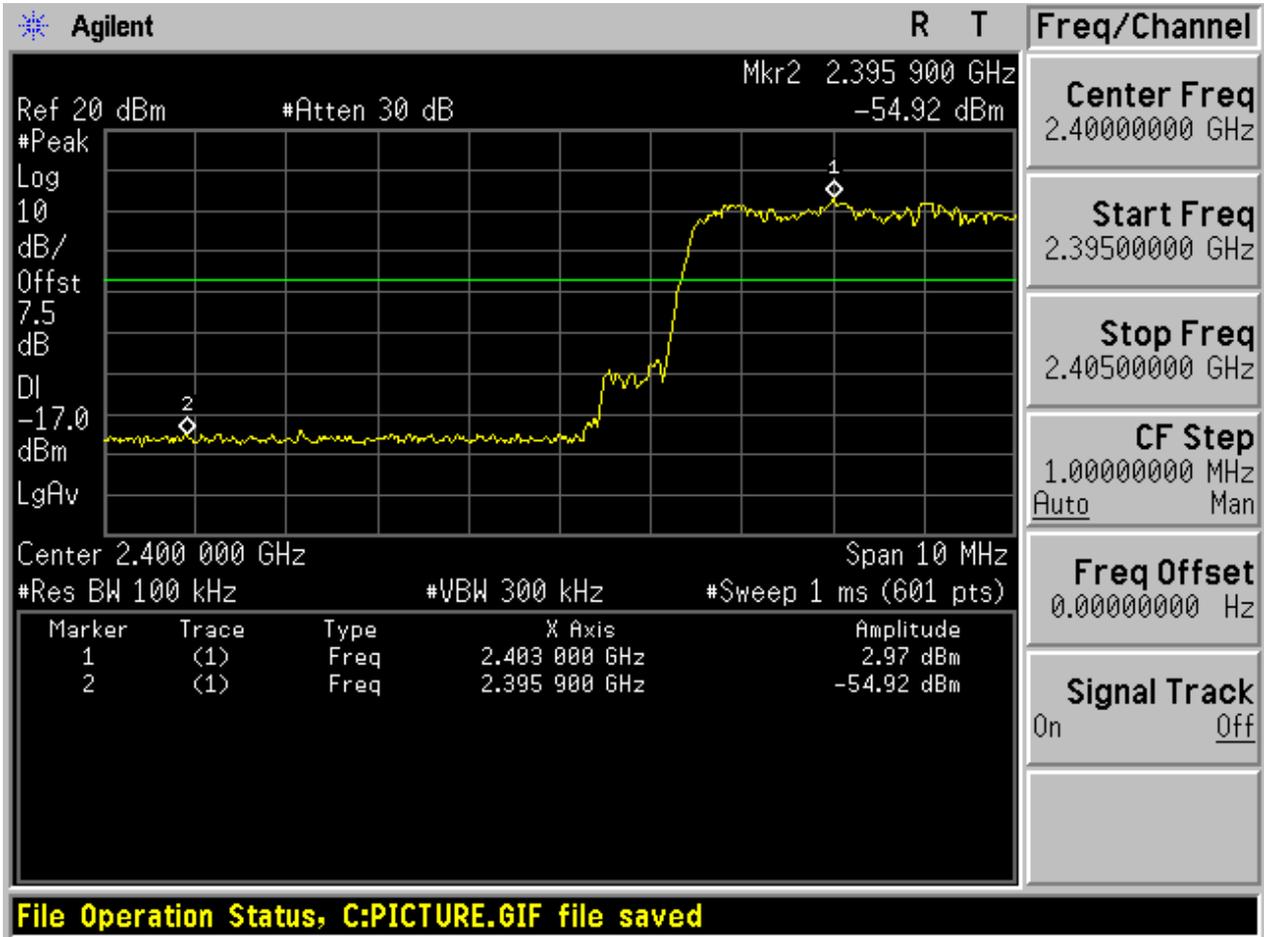


2.3 TM2\_2DH5\_Ch0

No hopping

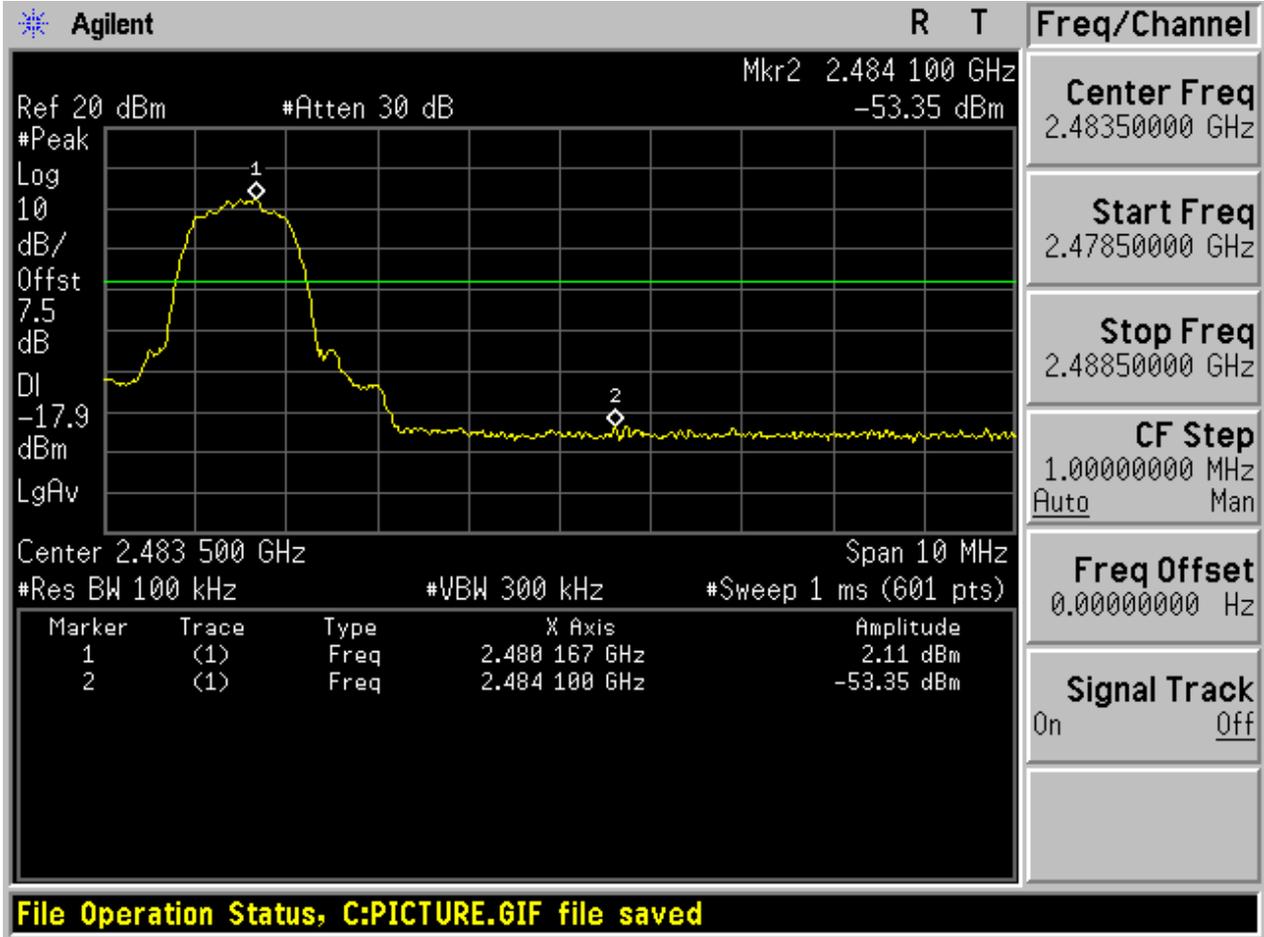


With hopping

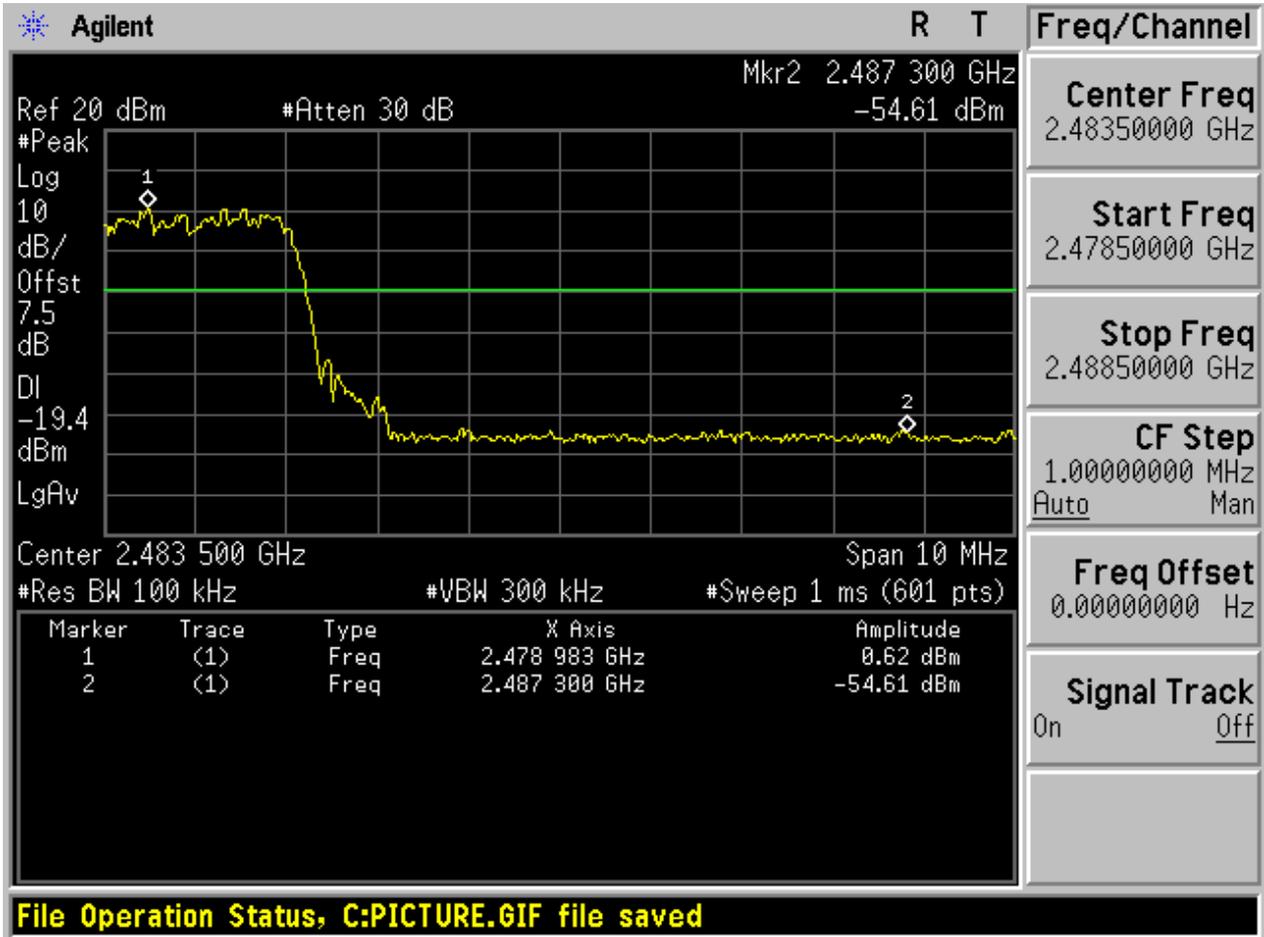


2.4 TM2\_2DH5\_Ch78

No hopping

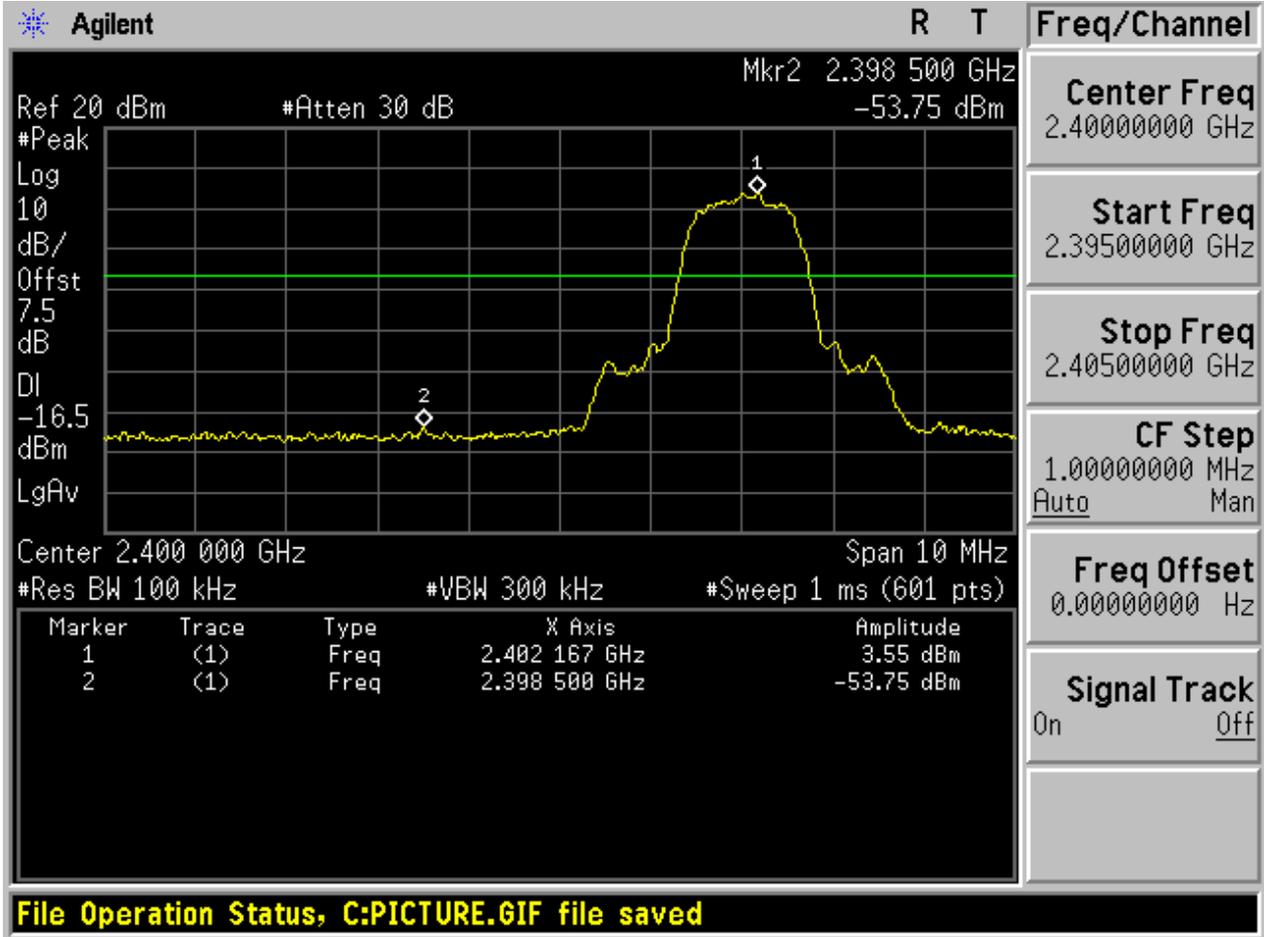


With hopping

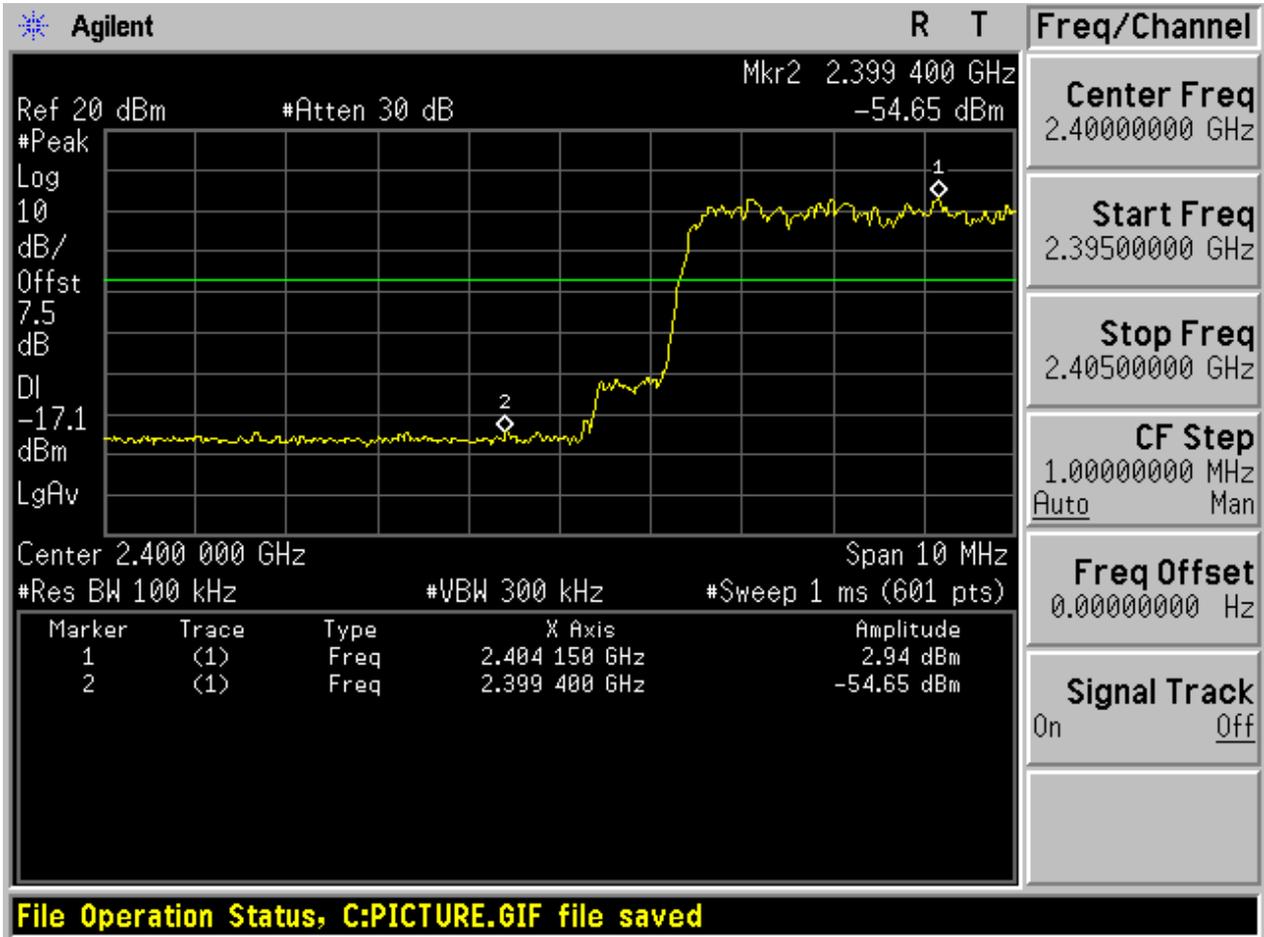


2.5 TM3\_3DH5\_Ch0

No hopping

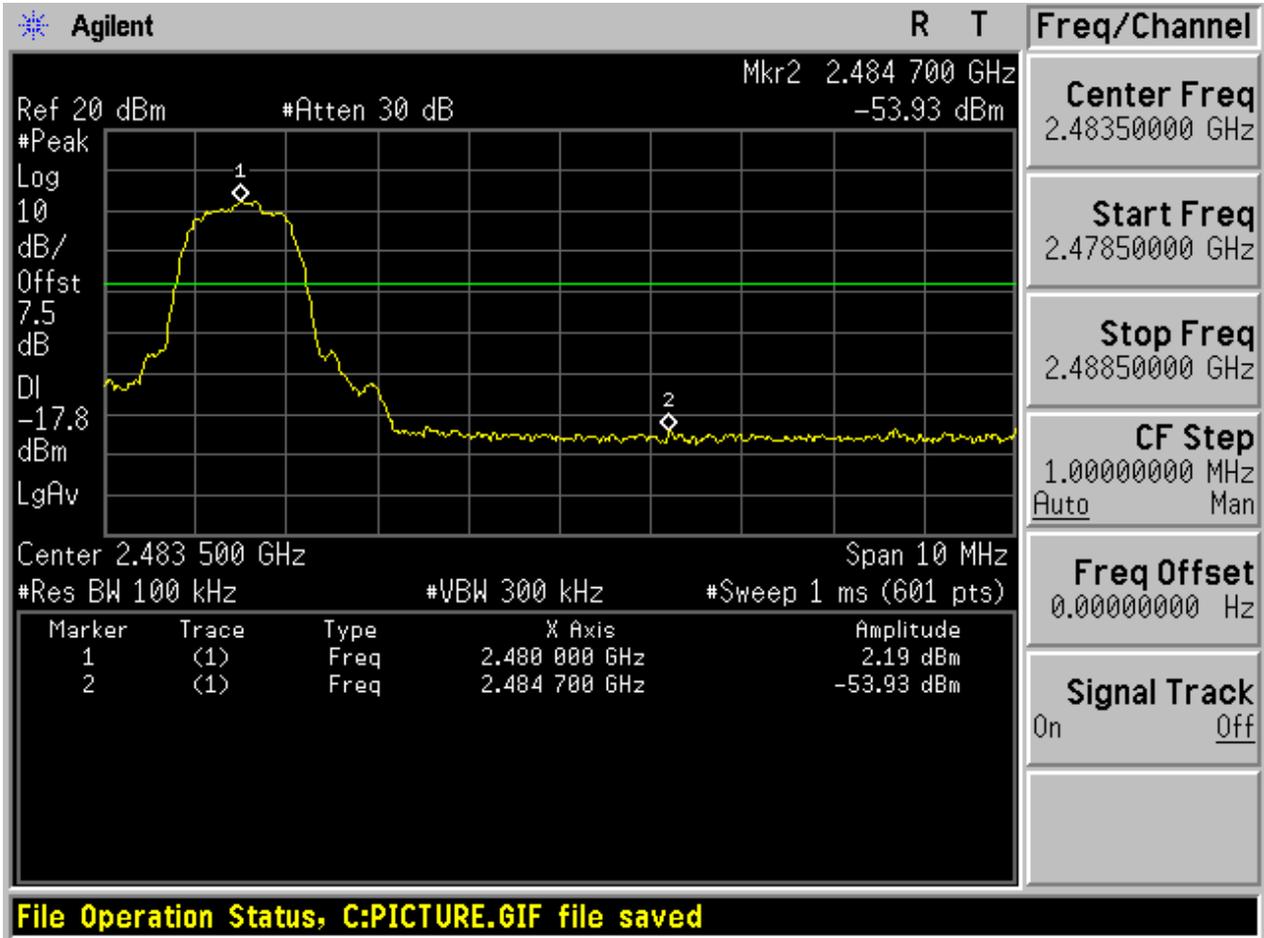


With hopping

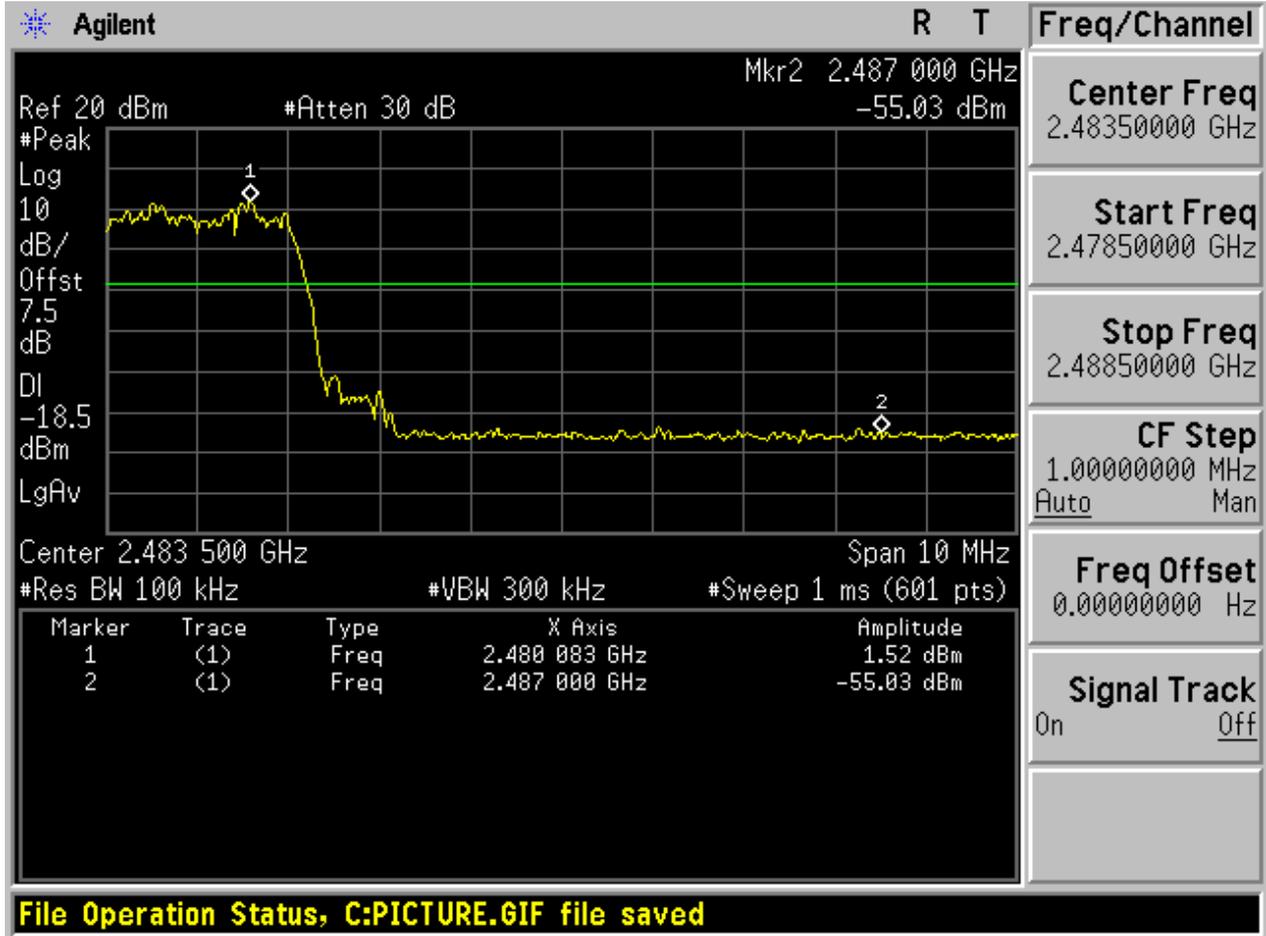


2.6 TM3\_3DH5\_Ch78

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”.

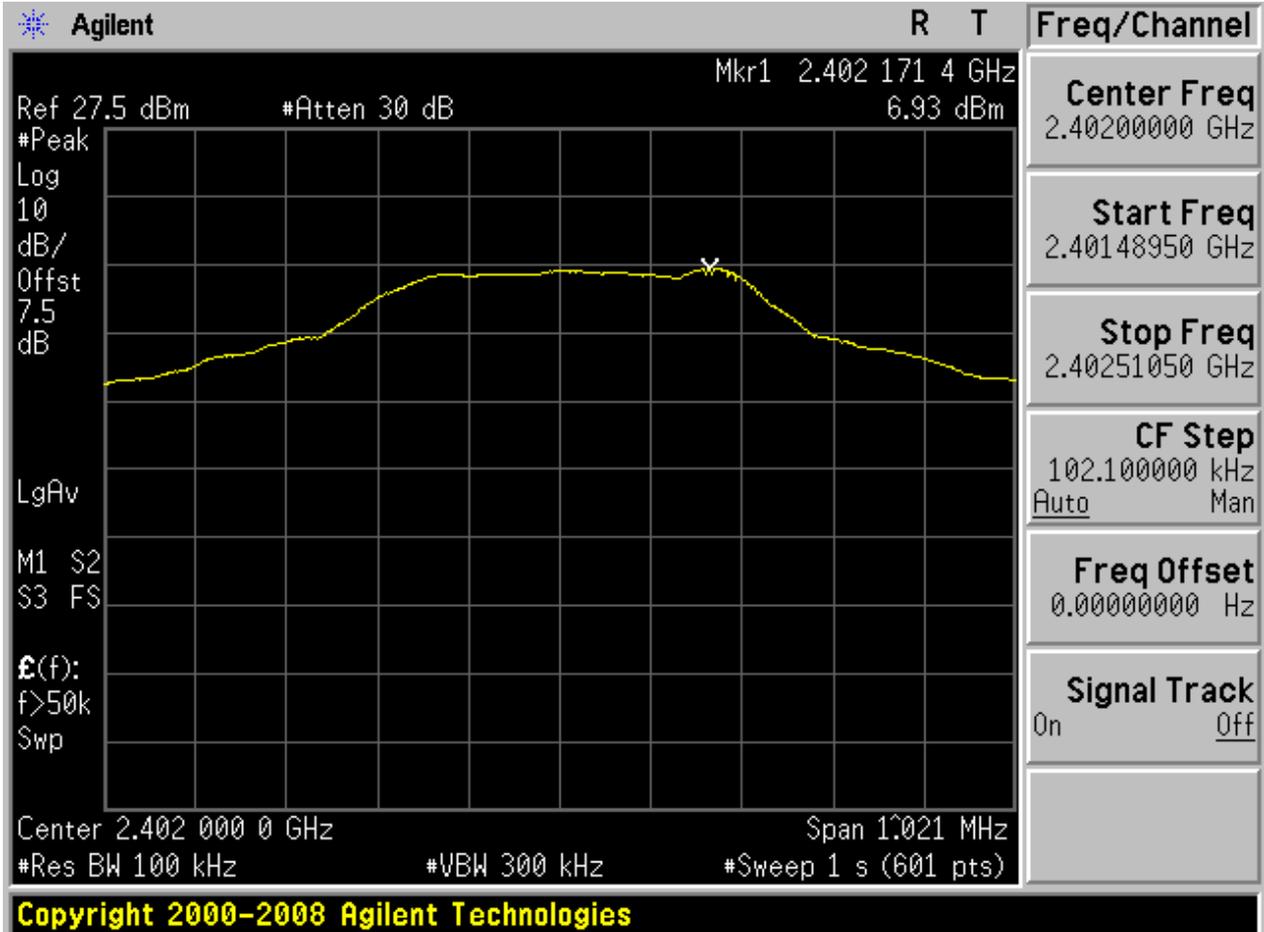
EUT Conf.	Pref [dBm/100 kHz]	Puw [dBm/100 kHz]	Verdict
TM1_DH5_Ch0	6.93	< Limit	Pass
TM1_DH5_Ch39	6.63	< Limit	Pass
TM1_DH5_Ch78	6.13	< Limit	Pass
TM2_2DH5_Ch0	3.45	< Limit	Pass
TM2_2DH5_Ch39	2.88	< Limit	Pass
TM2_2DH5_Ch78	2.09	< Limit	Pass
TM3_3DH5_Ch0	3.45	< Limit	Pass
TM3_3DH5_Ch39	2.89	< Limit	Pass
TM3_3DH5_Ch78	2.10	< Limit	Pass



## 2 Test Plot

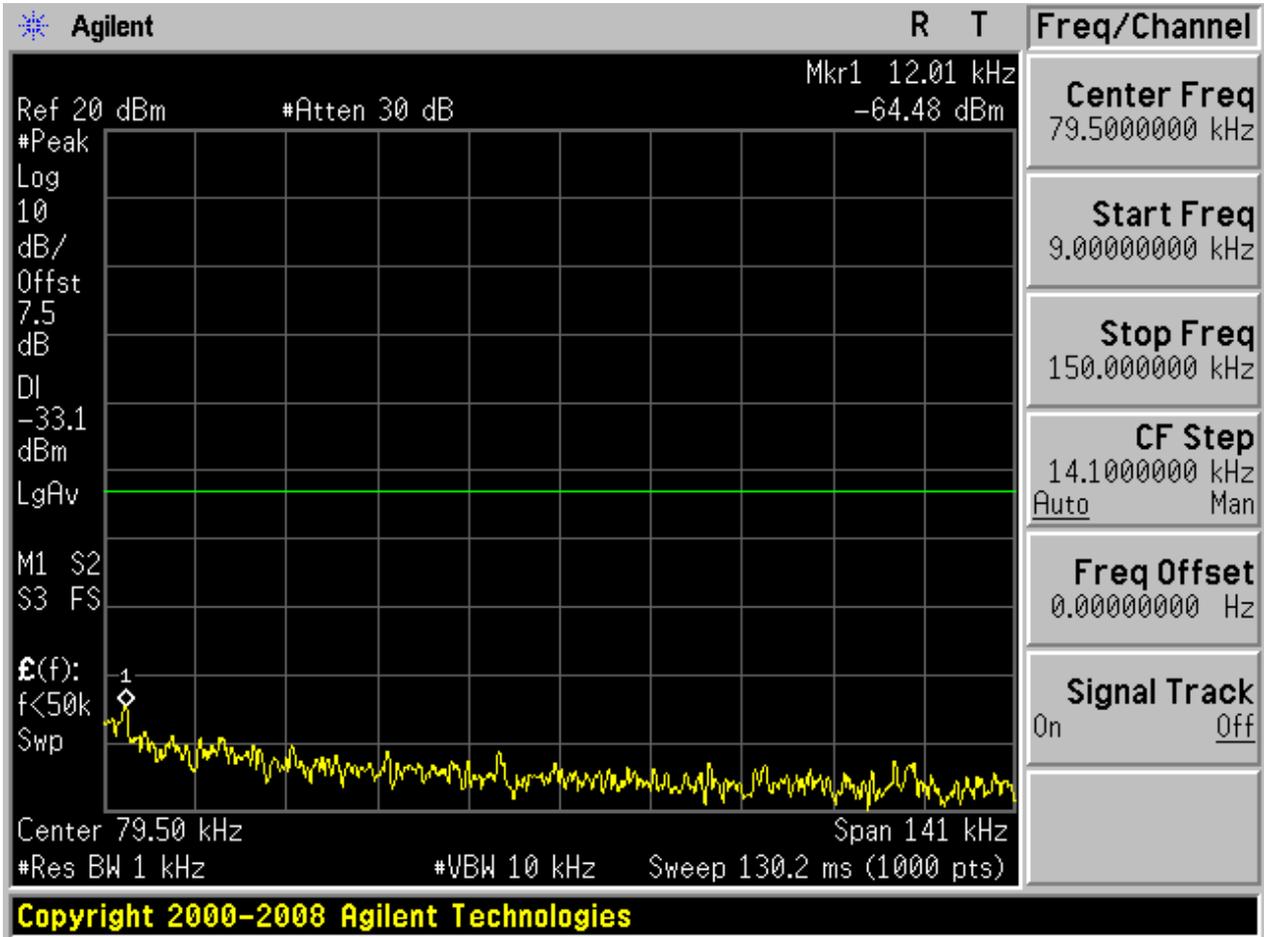
### 2.1 TM1\_DH5\_Ch0

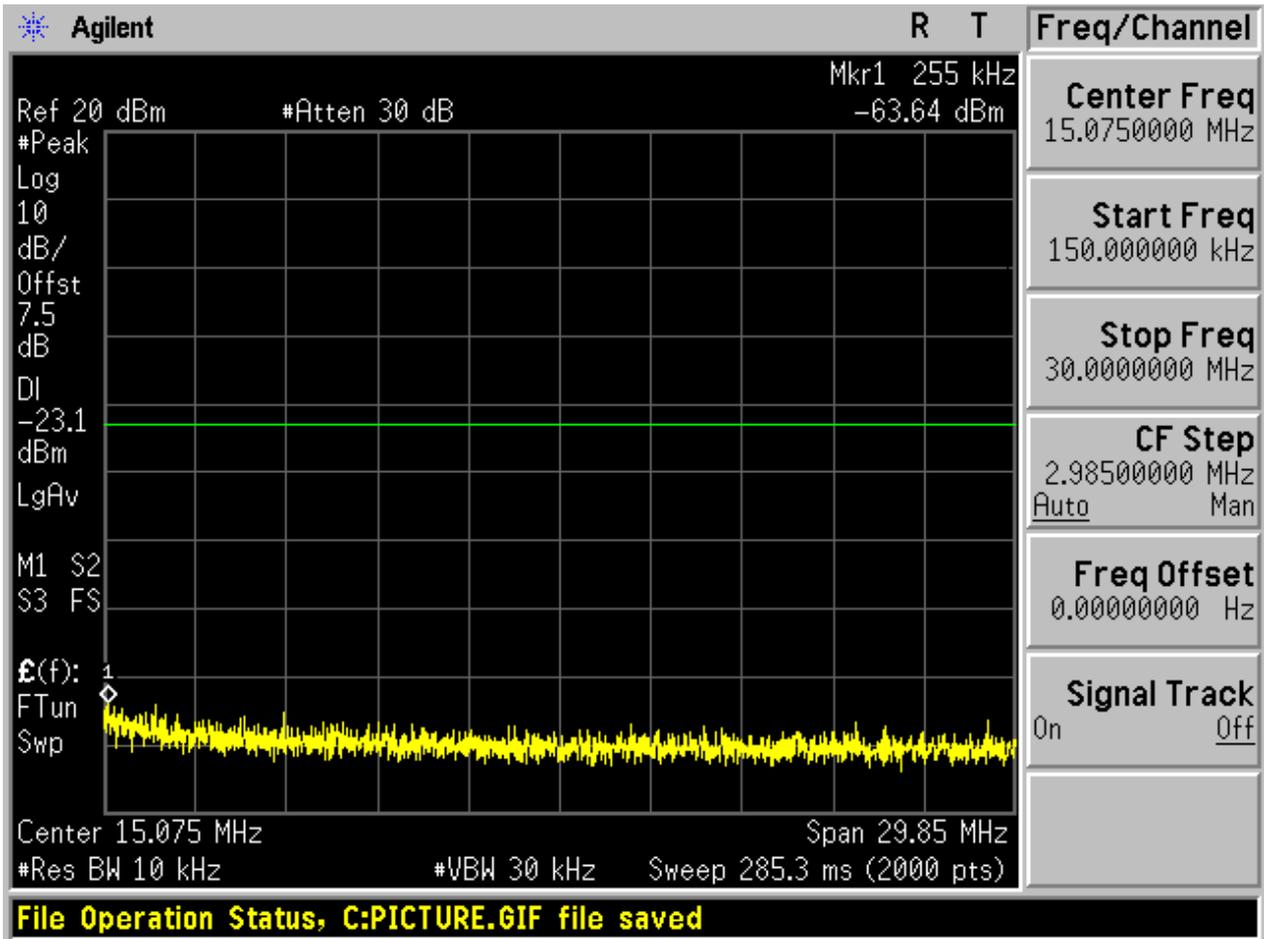
#### 2.1.1 Pref

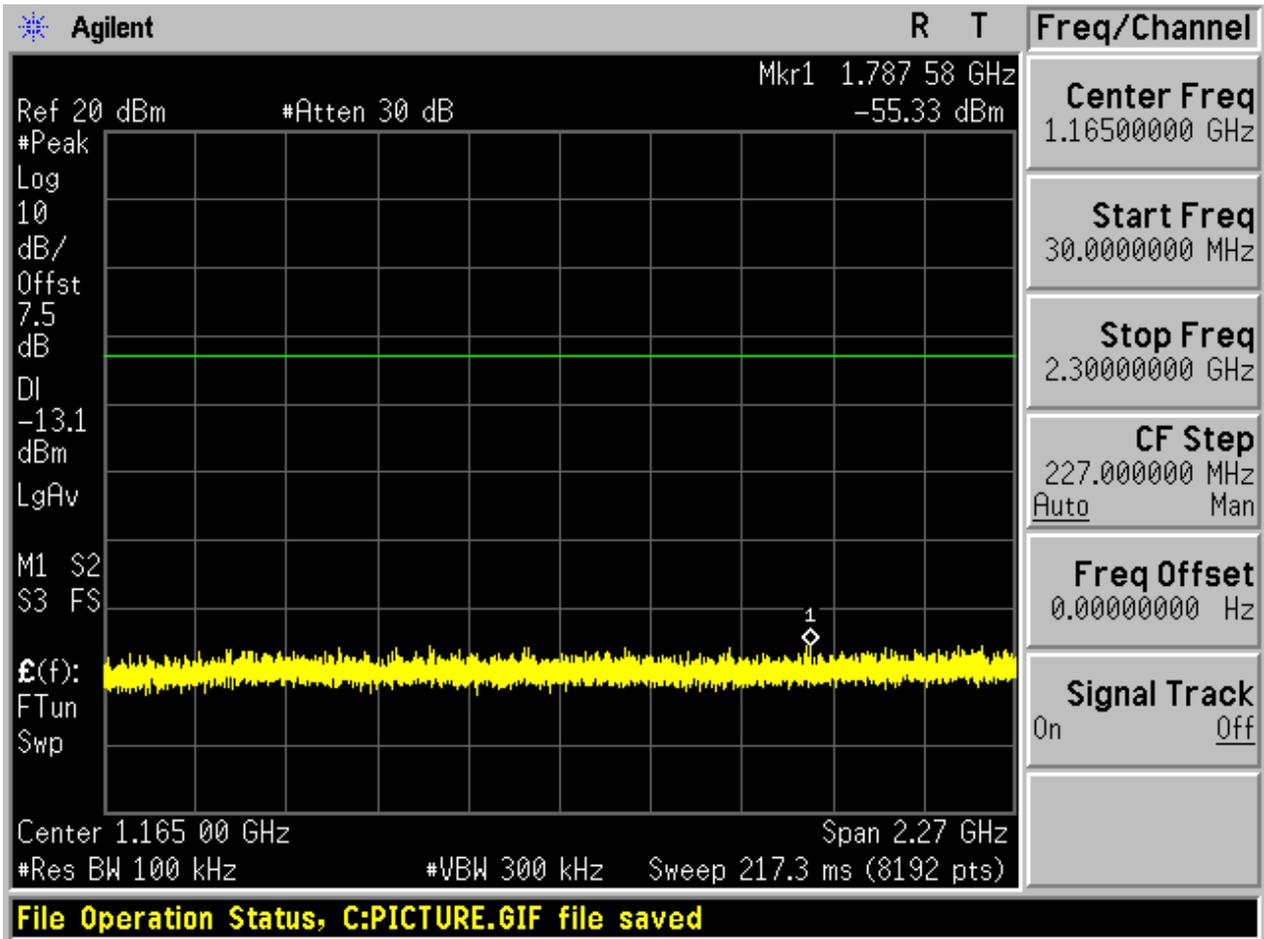


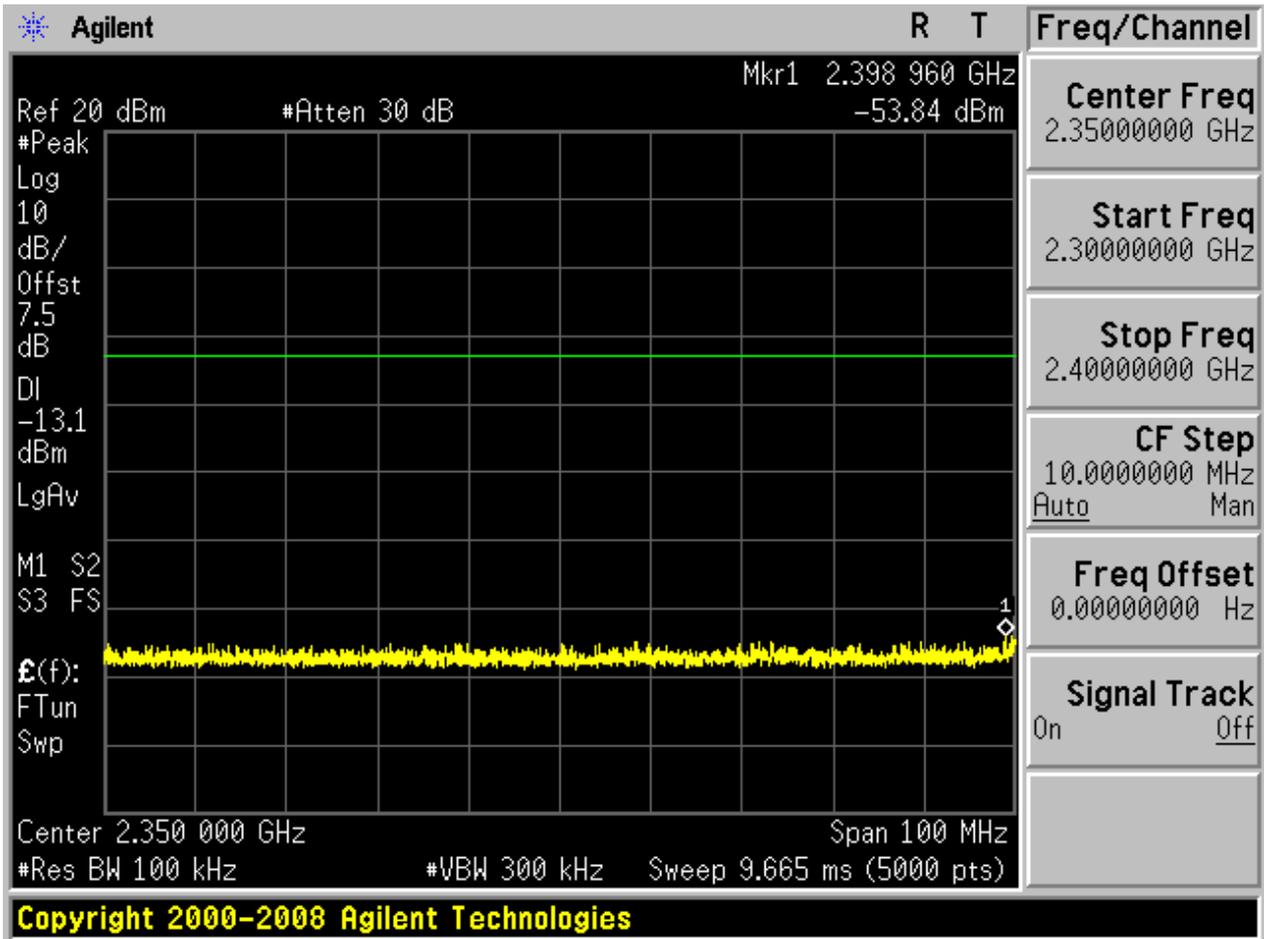


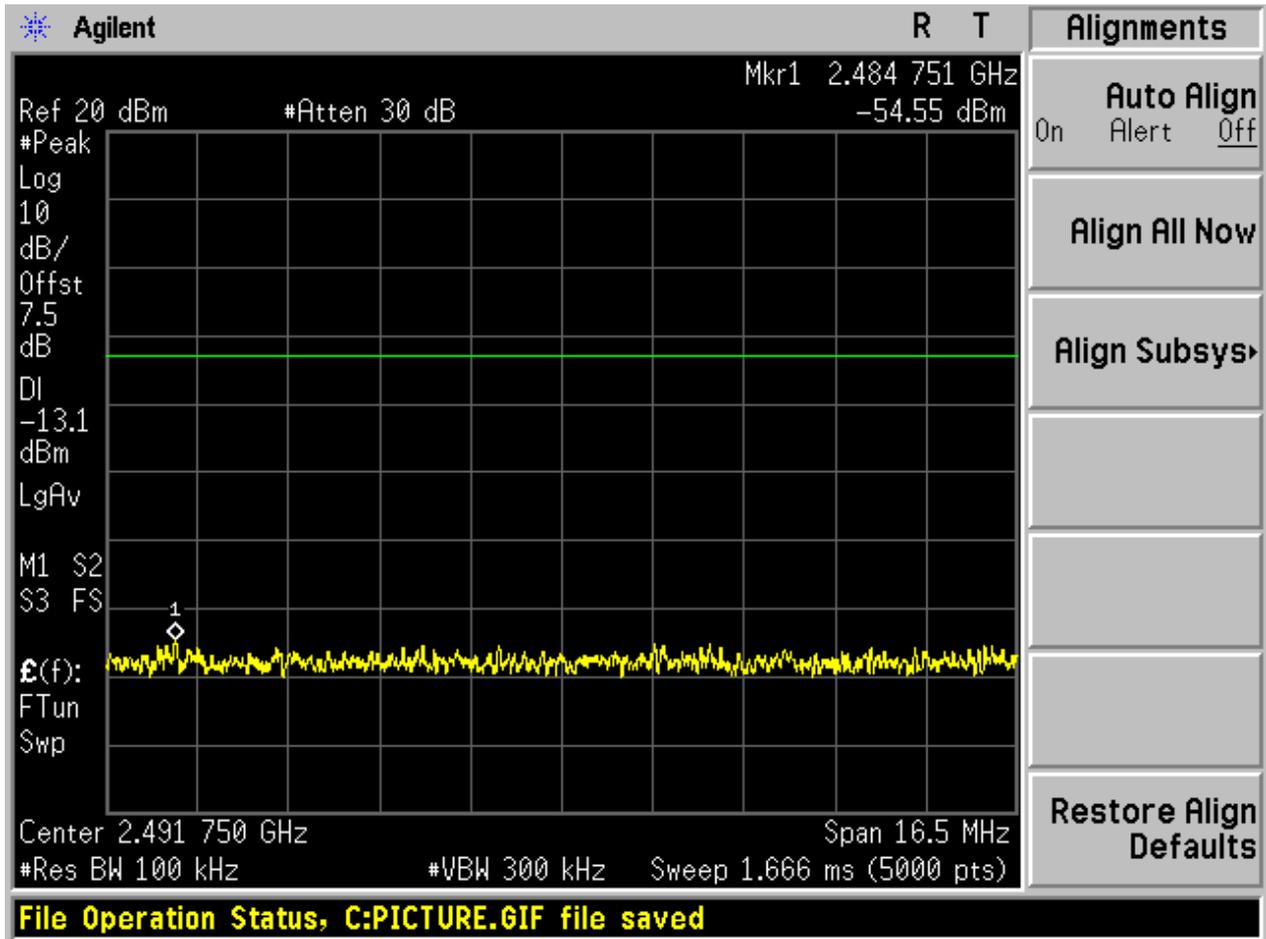
2.1.2 P<sub>uw</sub>

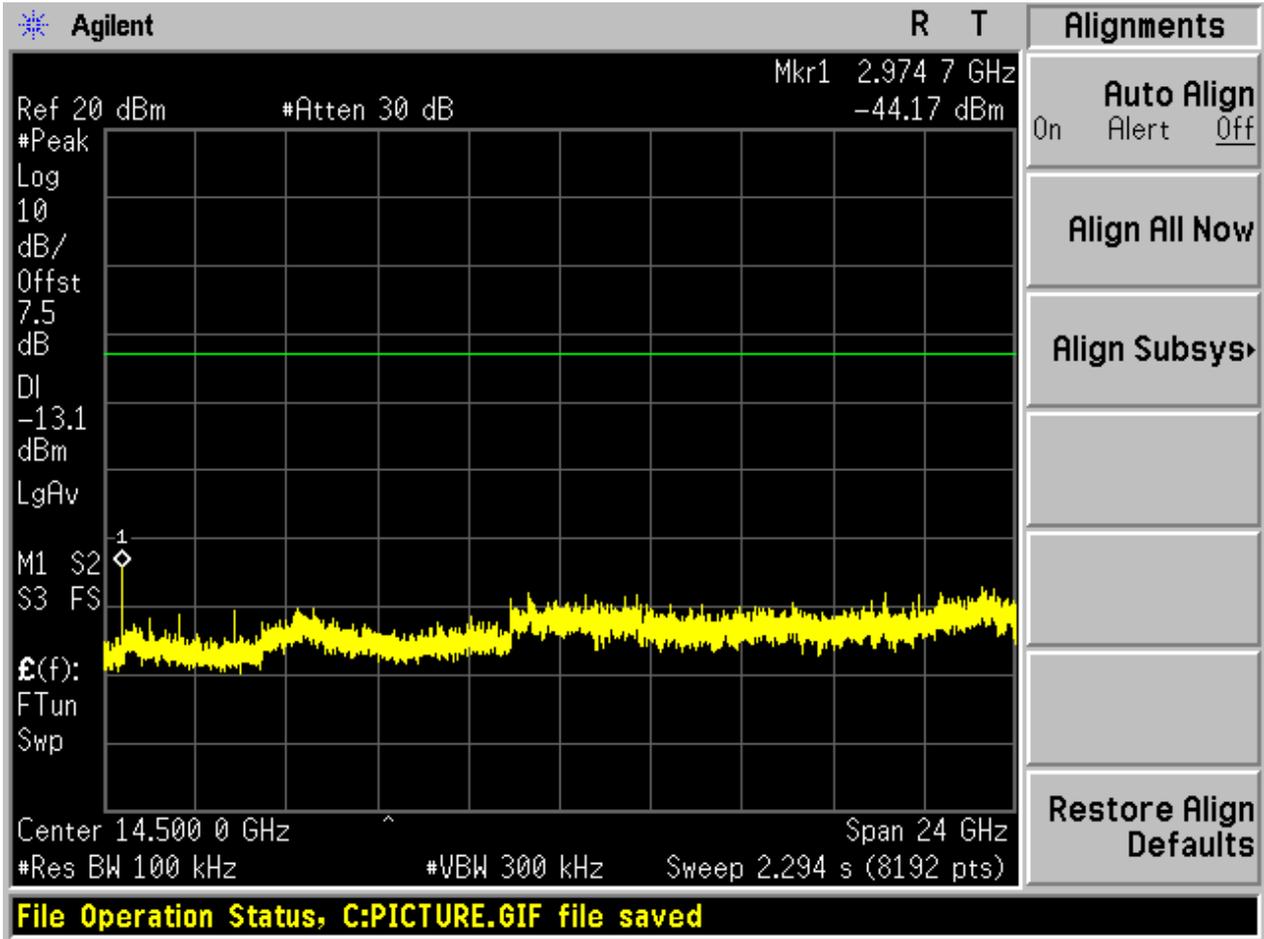








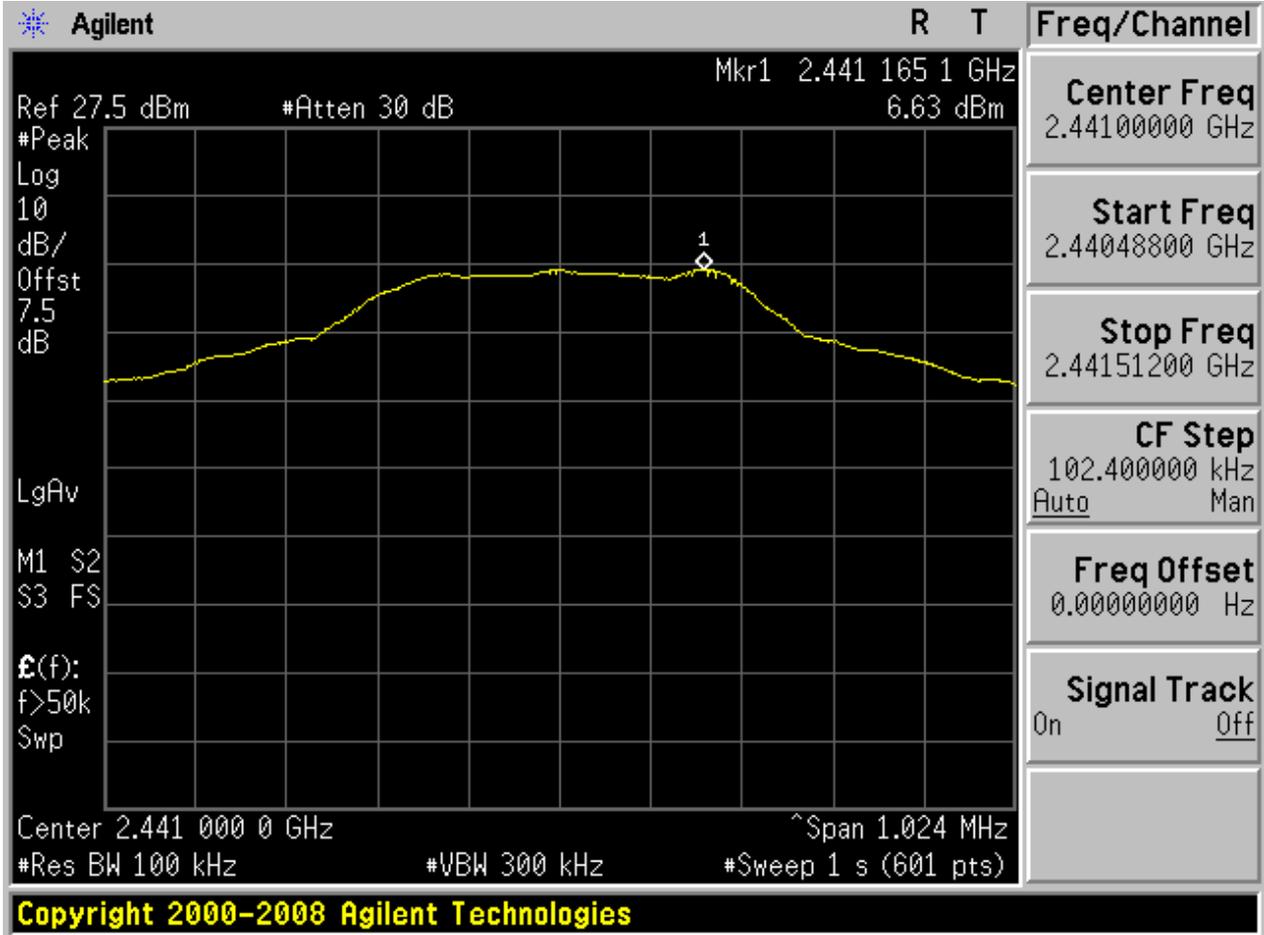




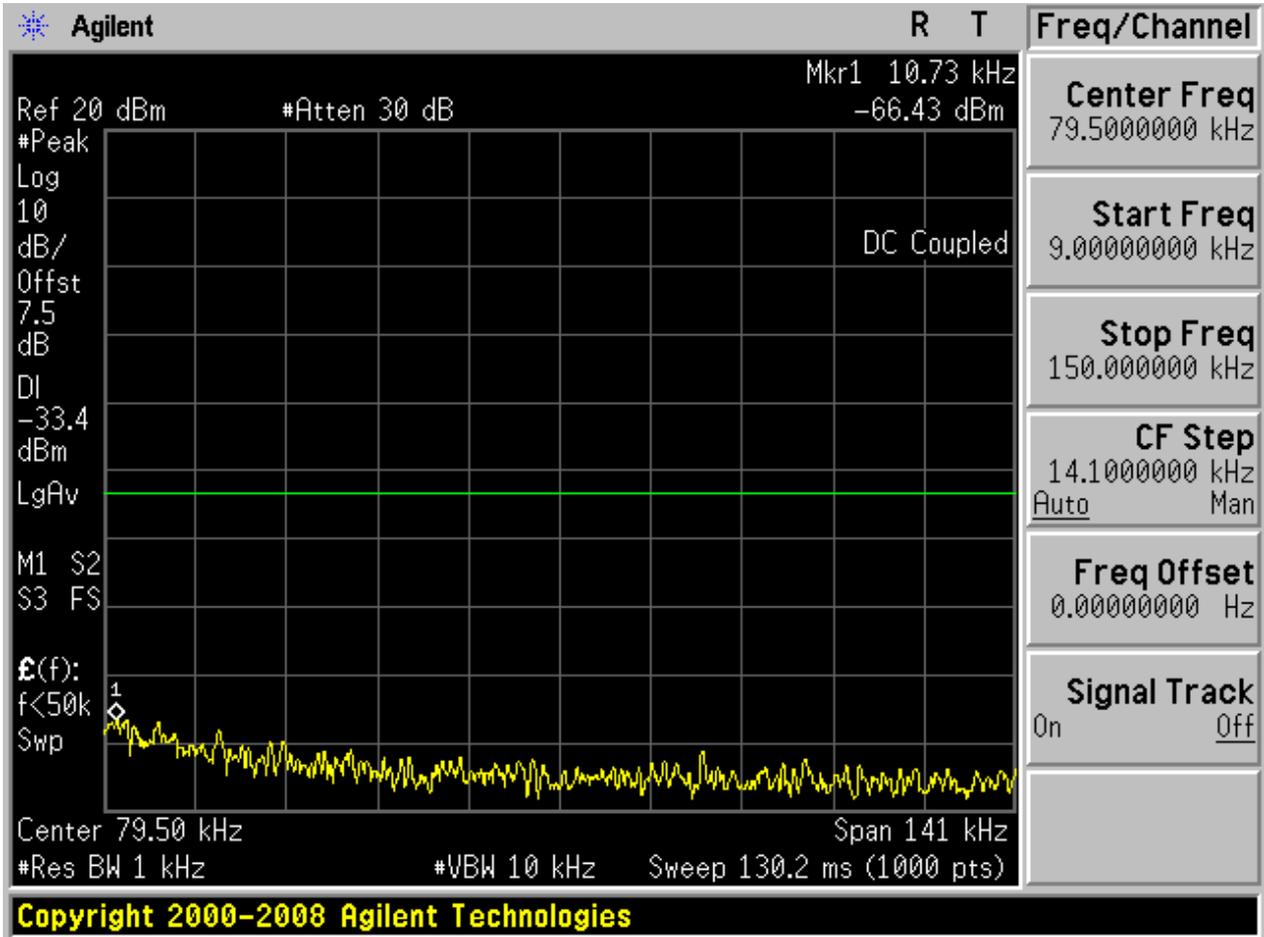


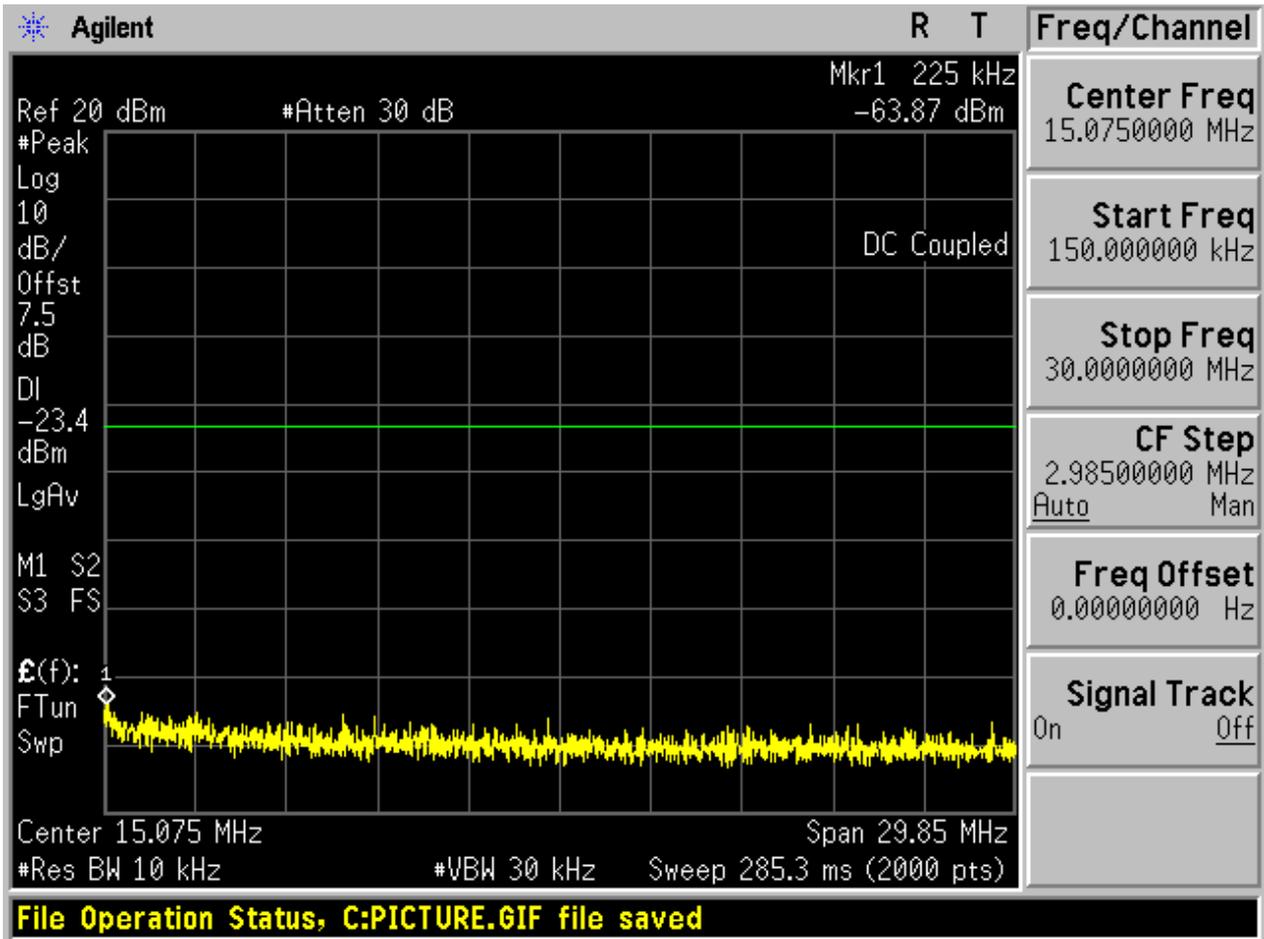
## 2.2 TM1\_DH5\_Ch39

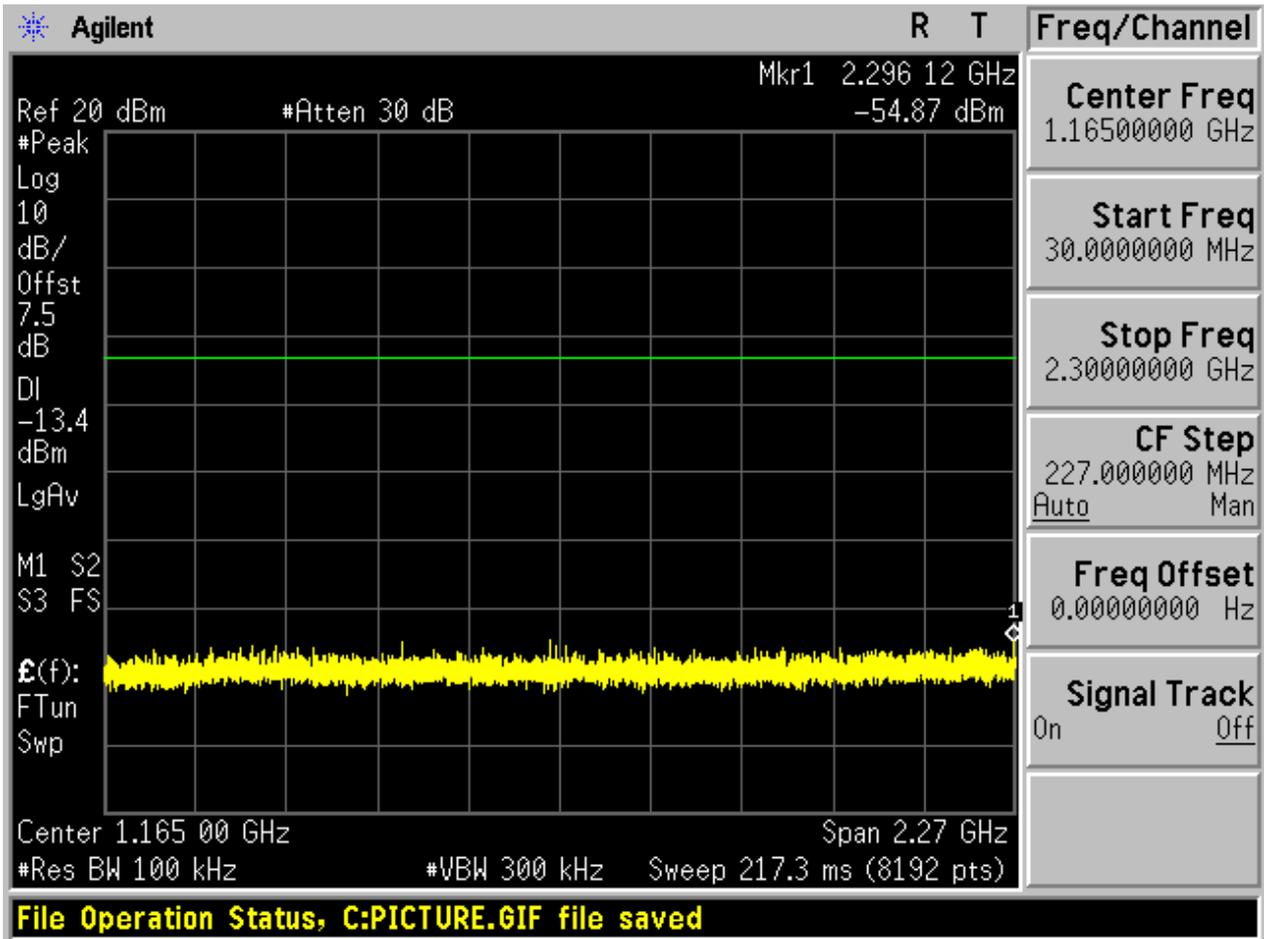
### 2.2.1 Pref

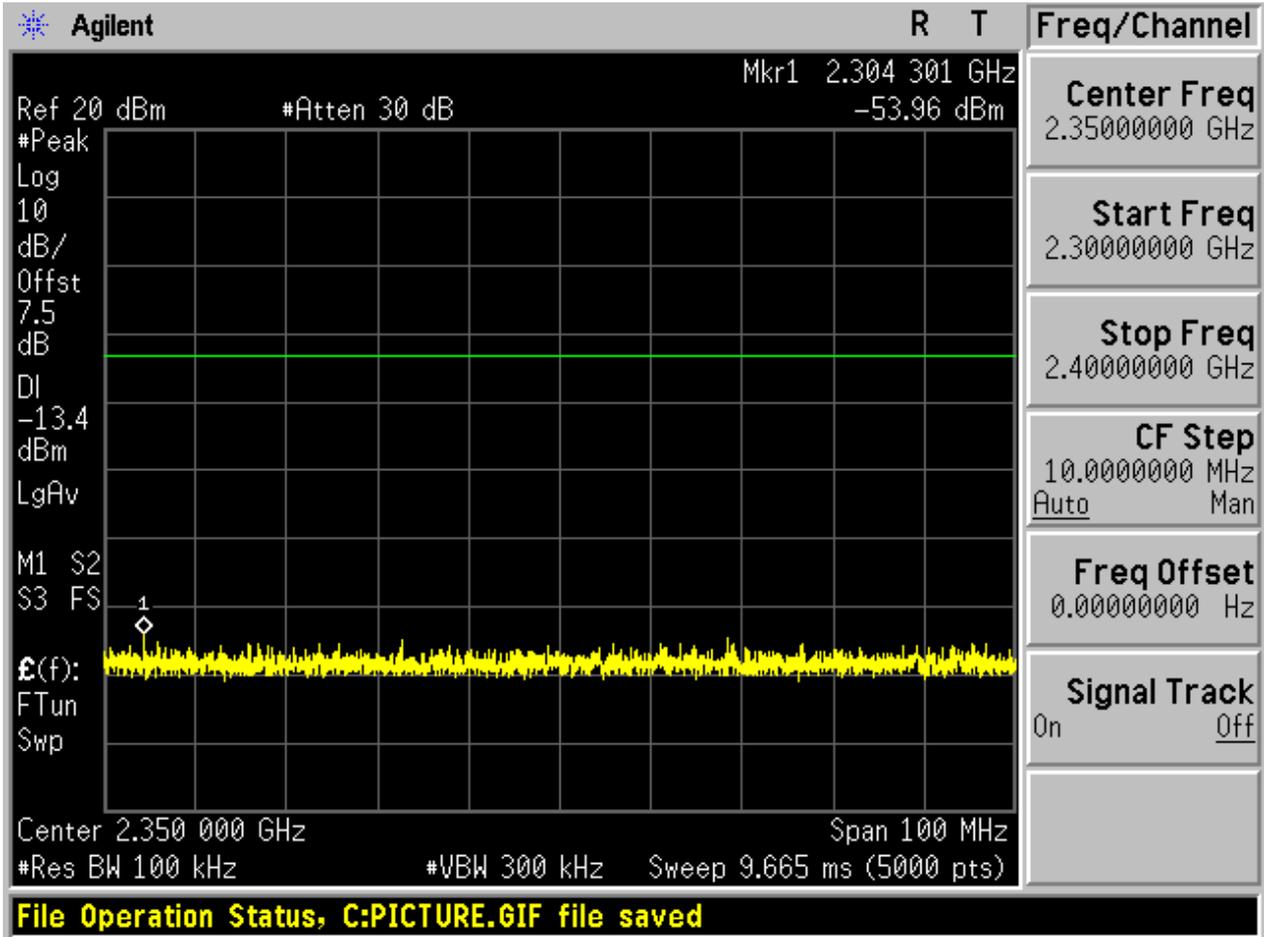


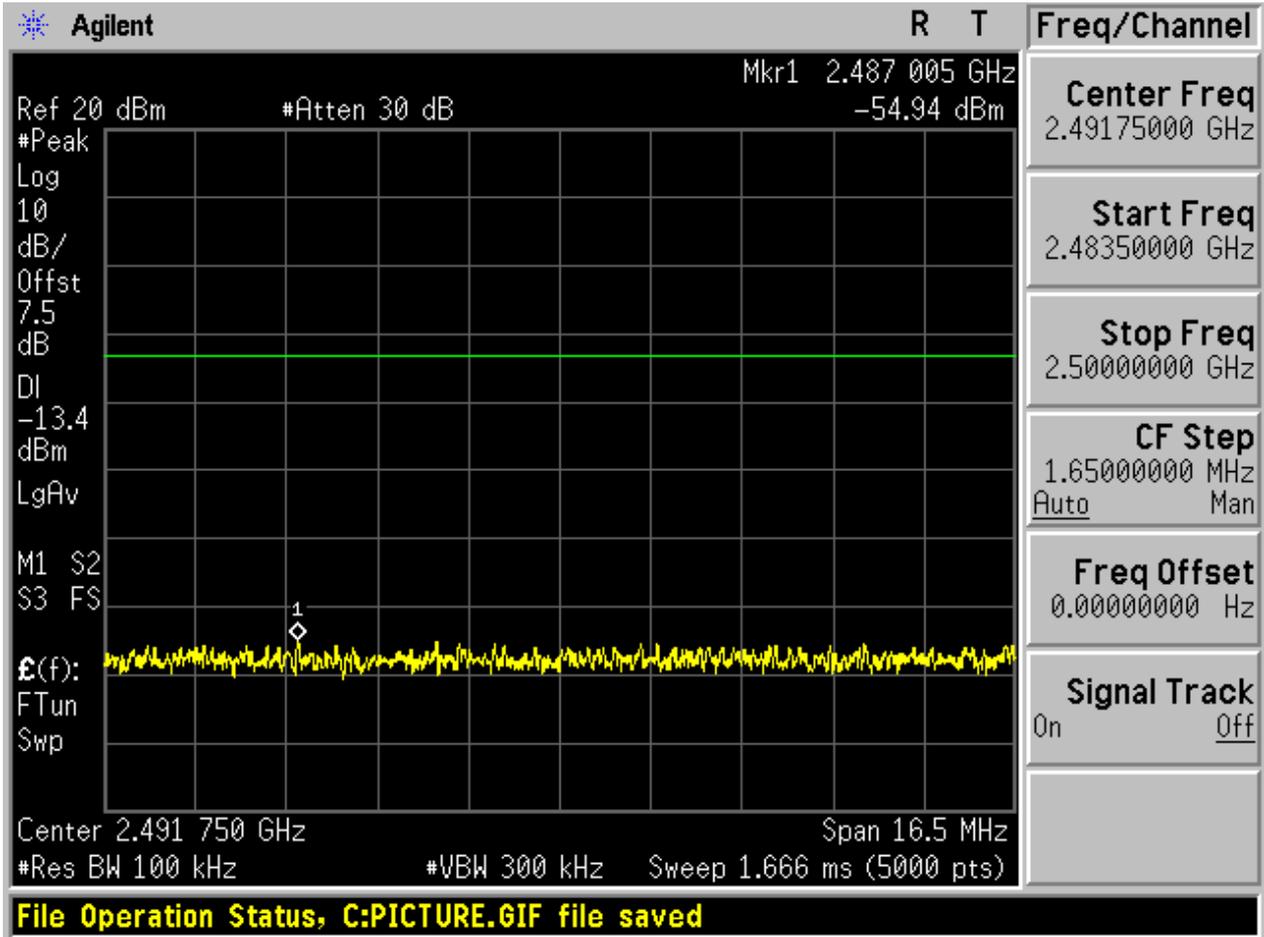
2.2.2 Puw

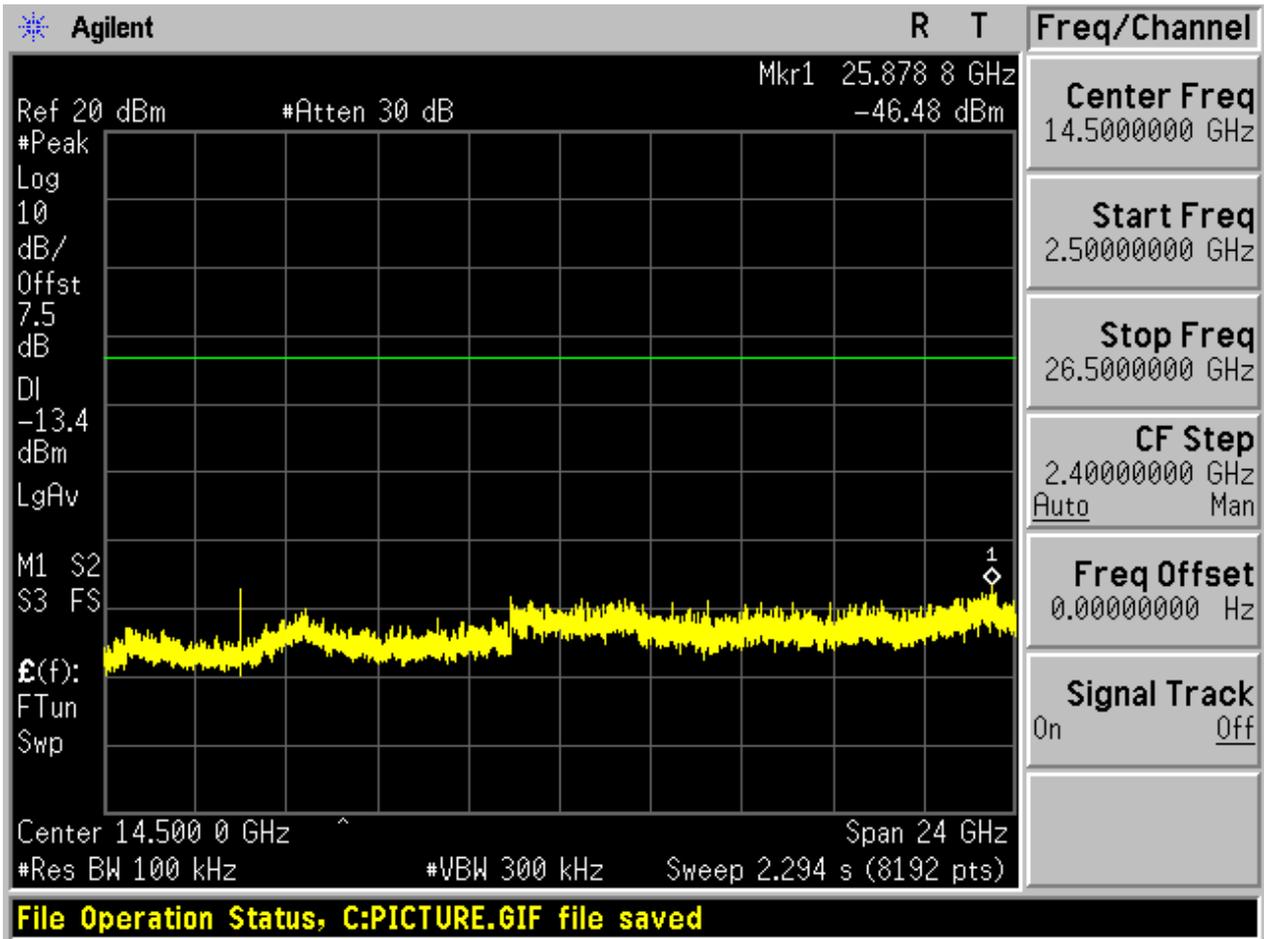






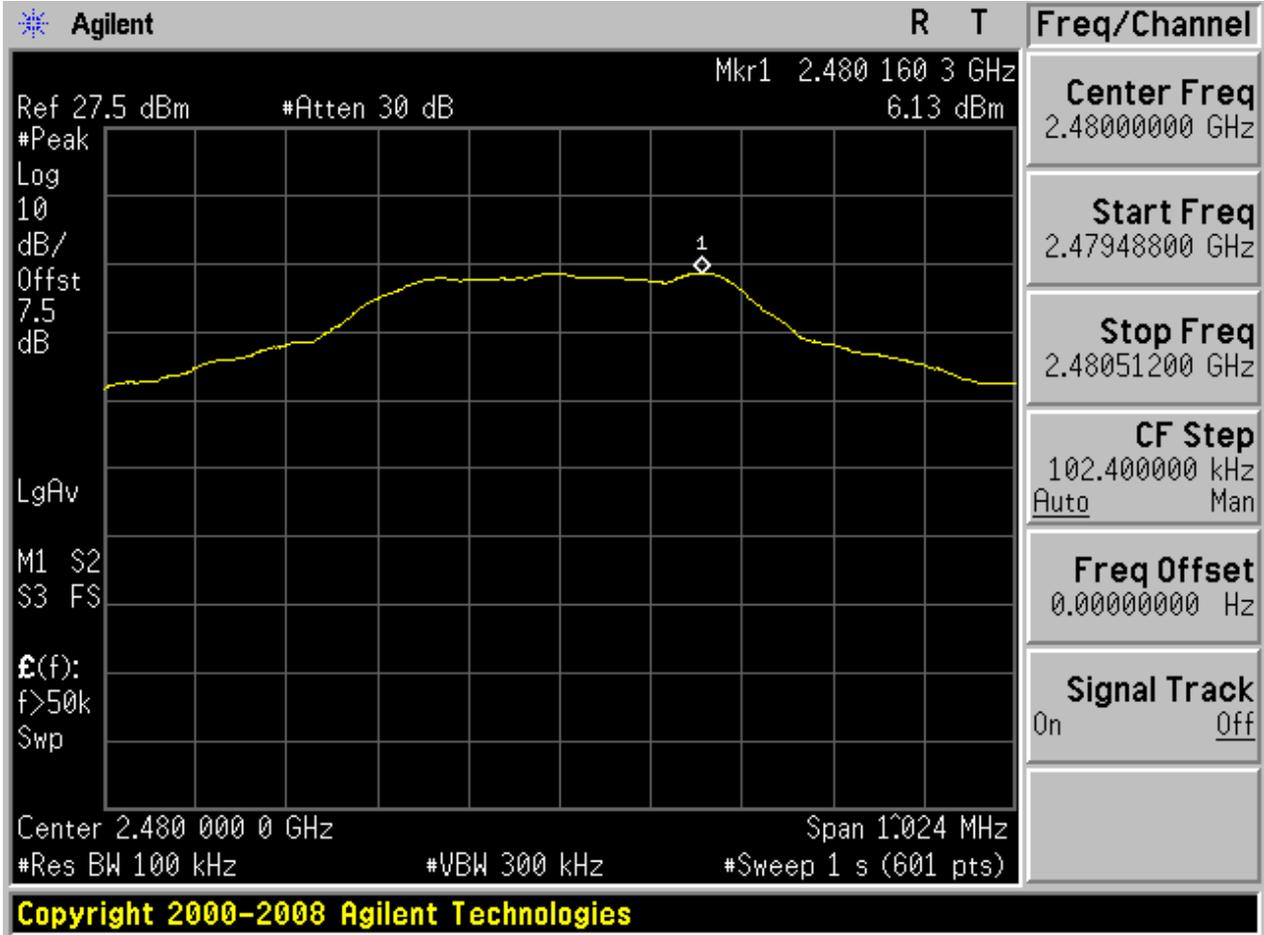




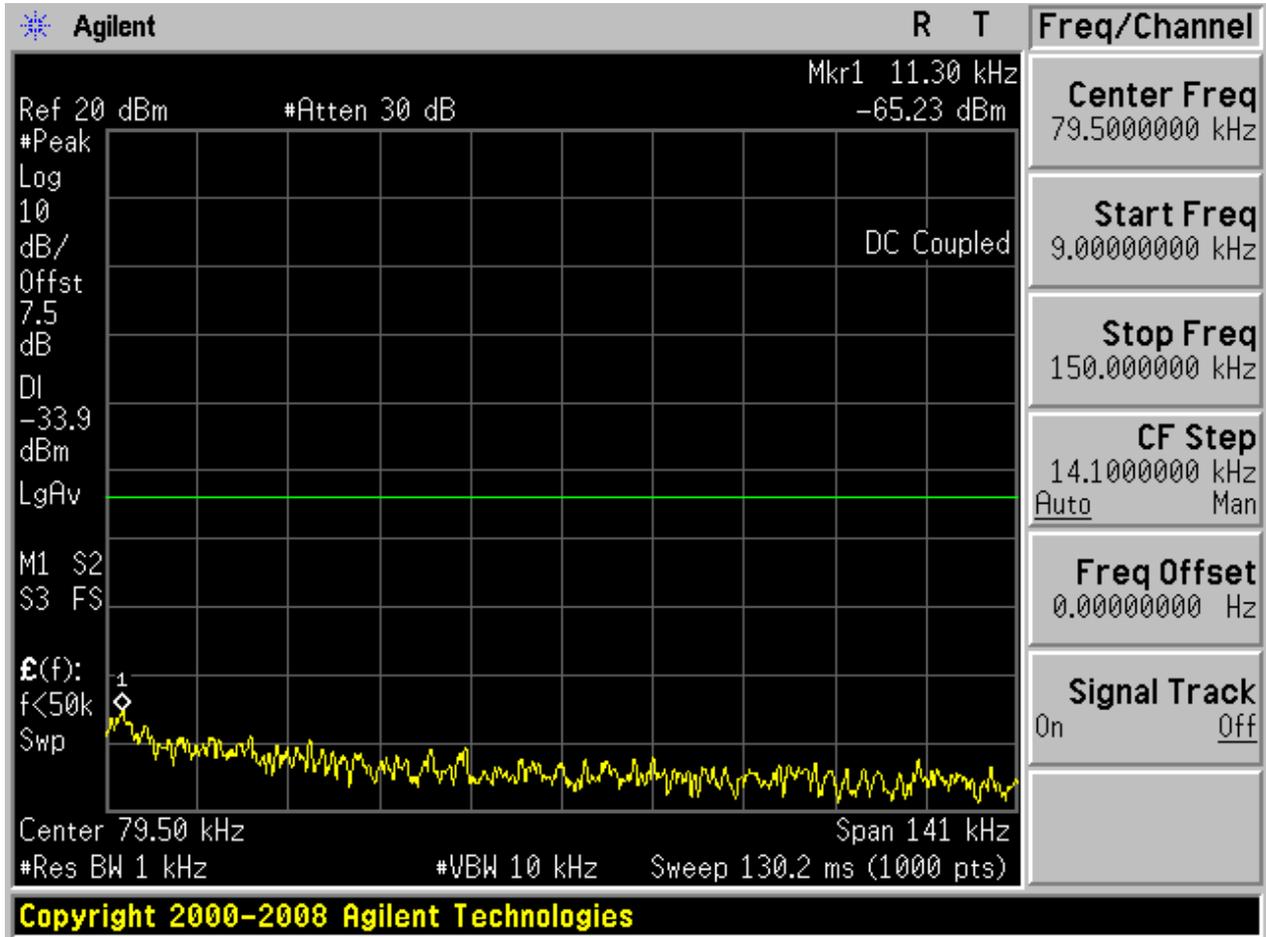


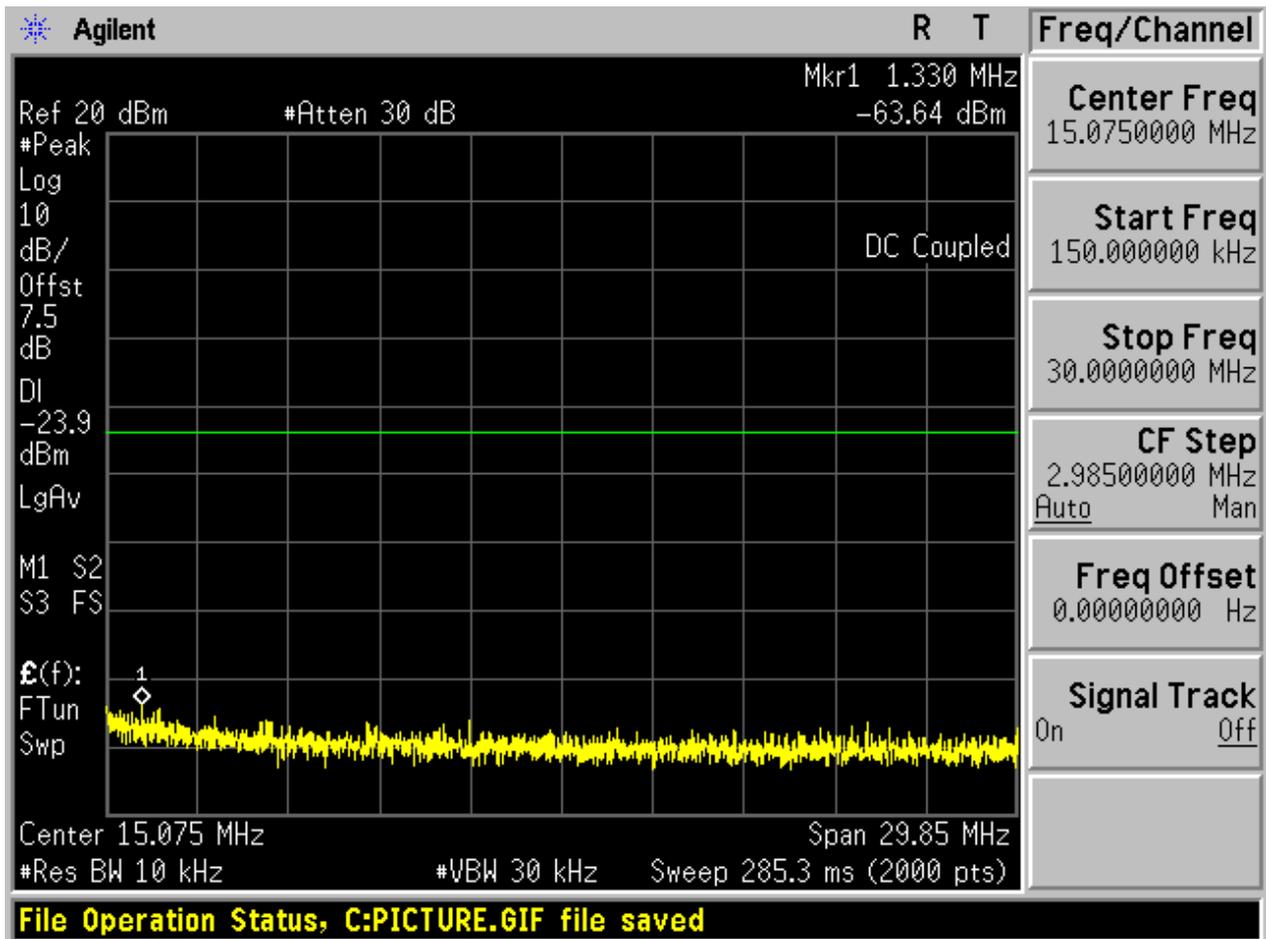
### 2.3 TM1\_DH5\_Ch78

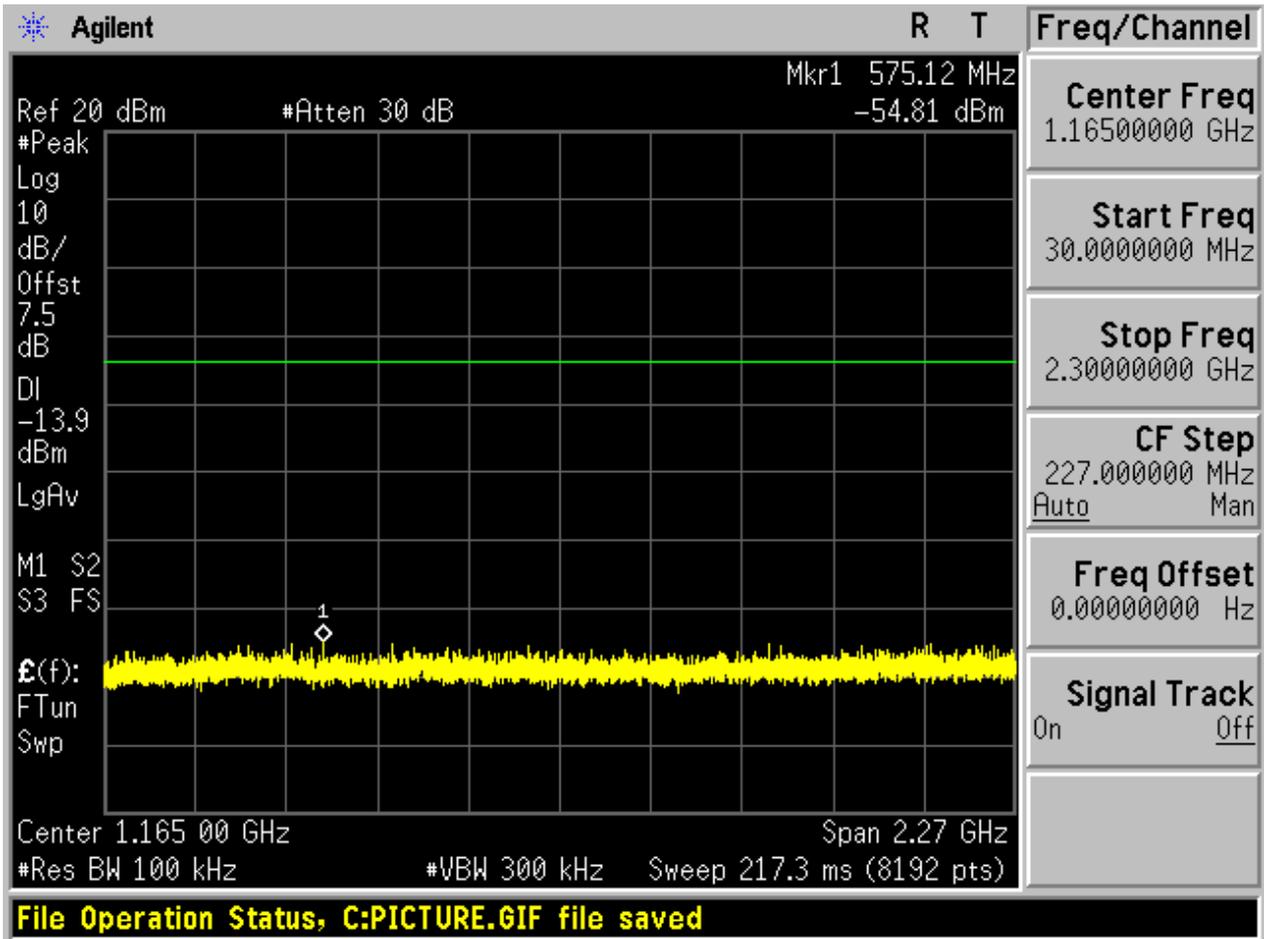
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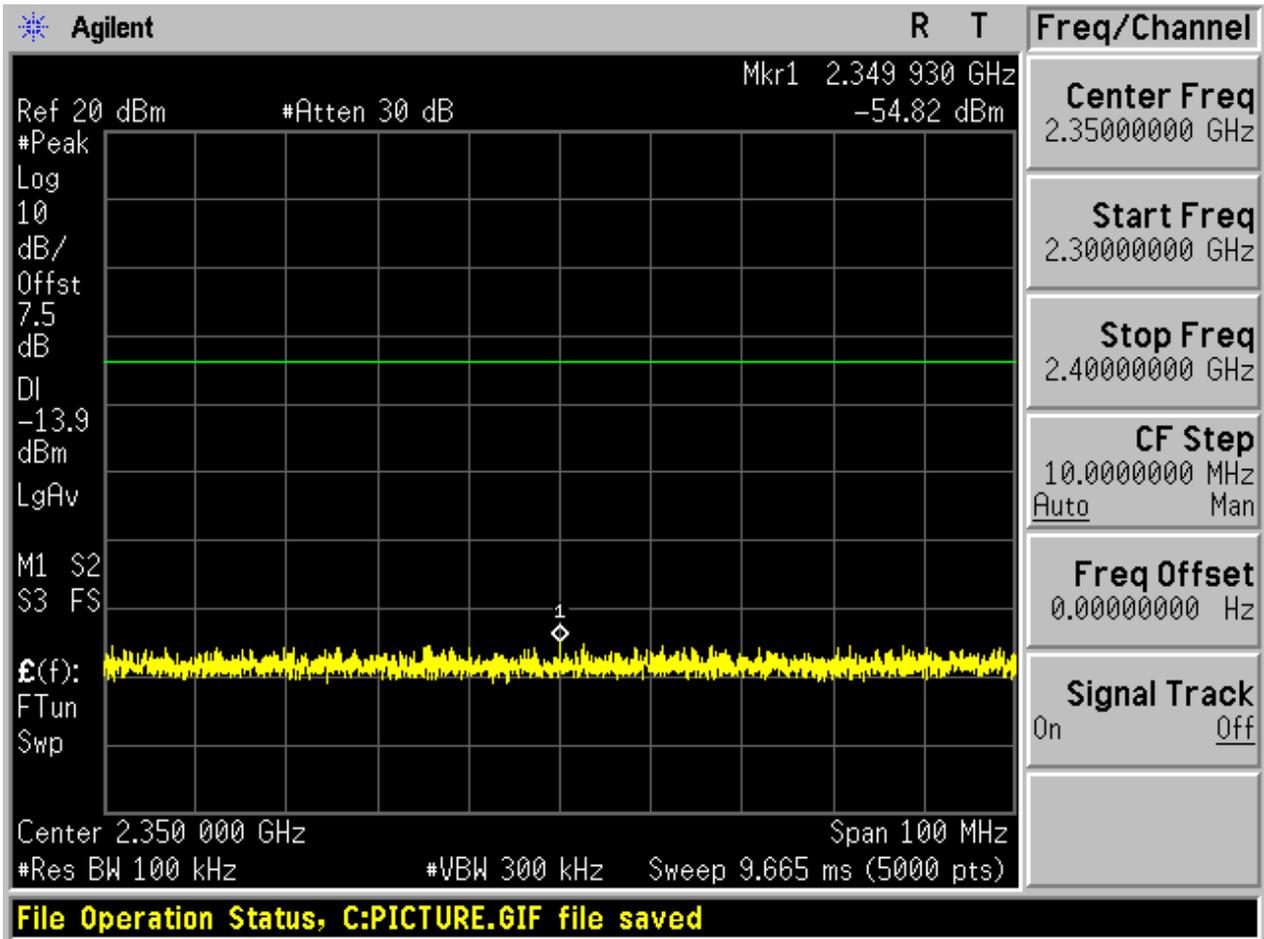


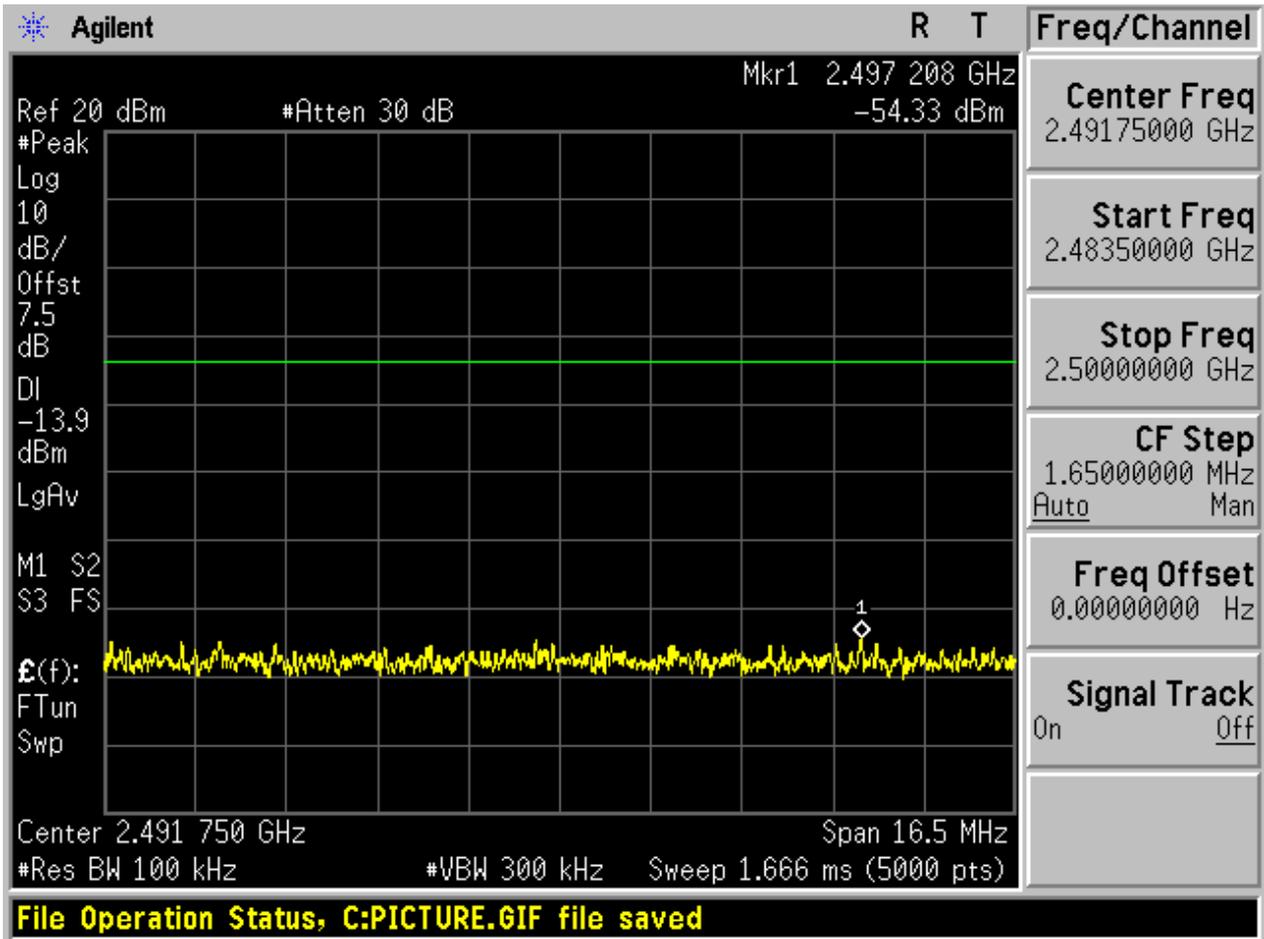
2.3.2 Puw

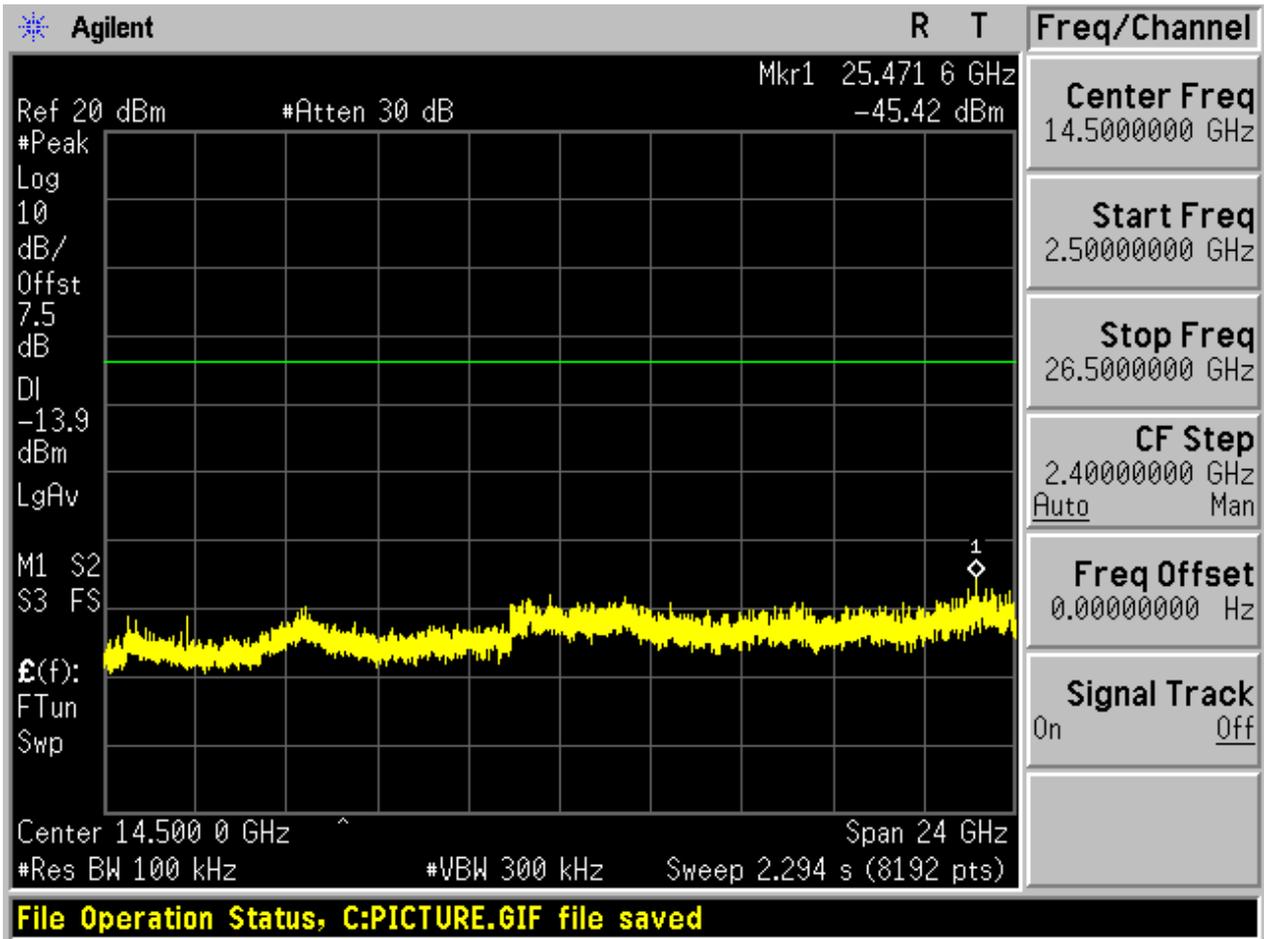






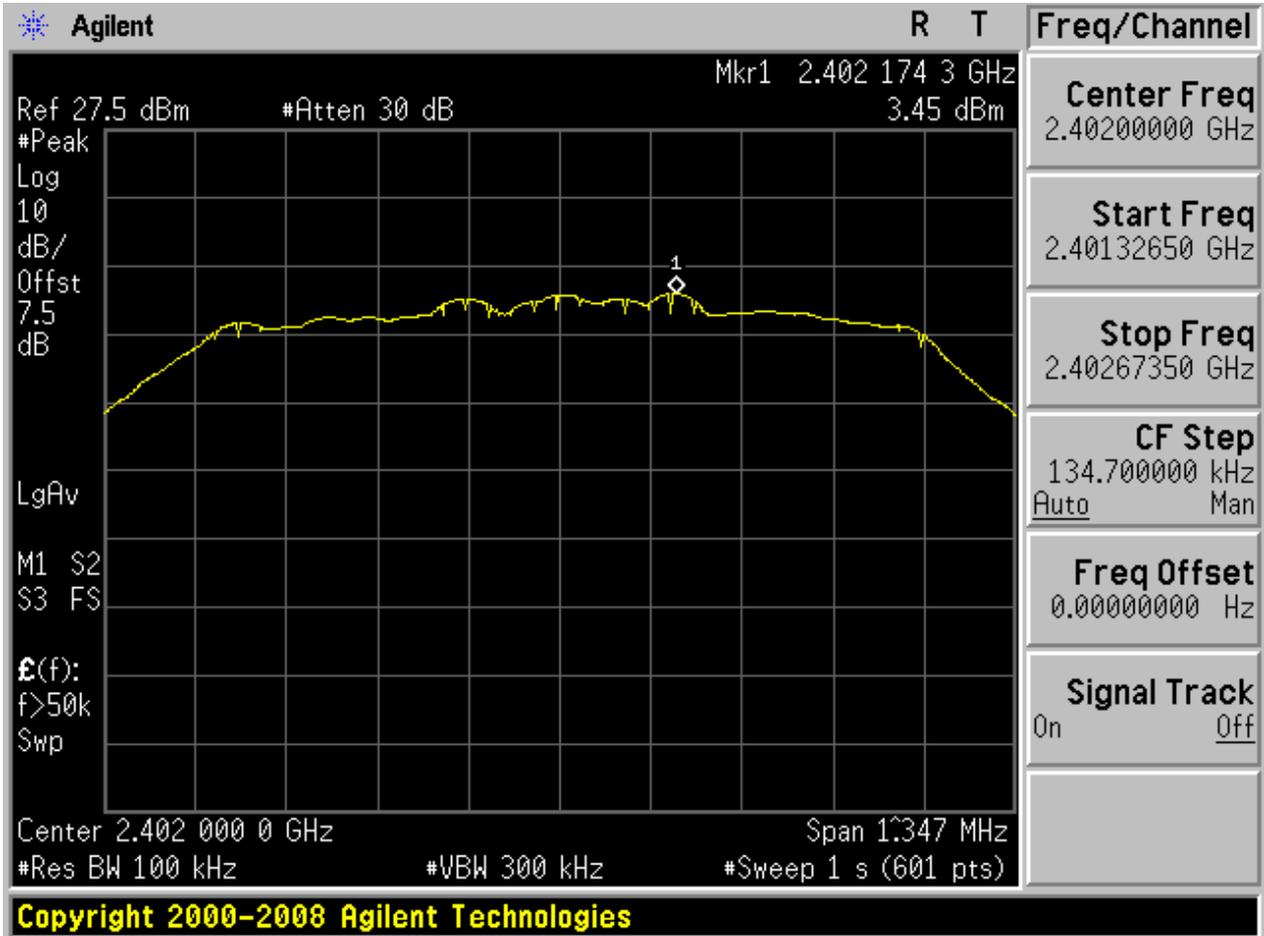




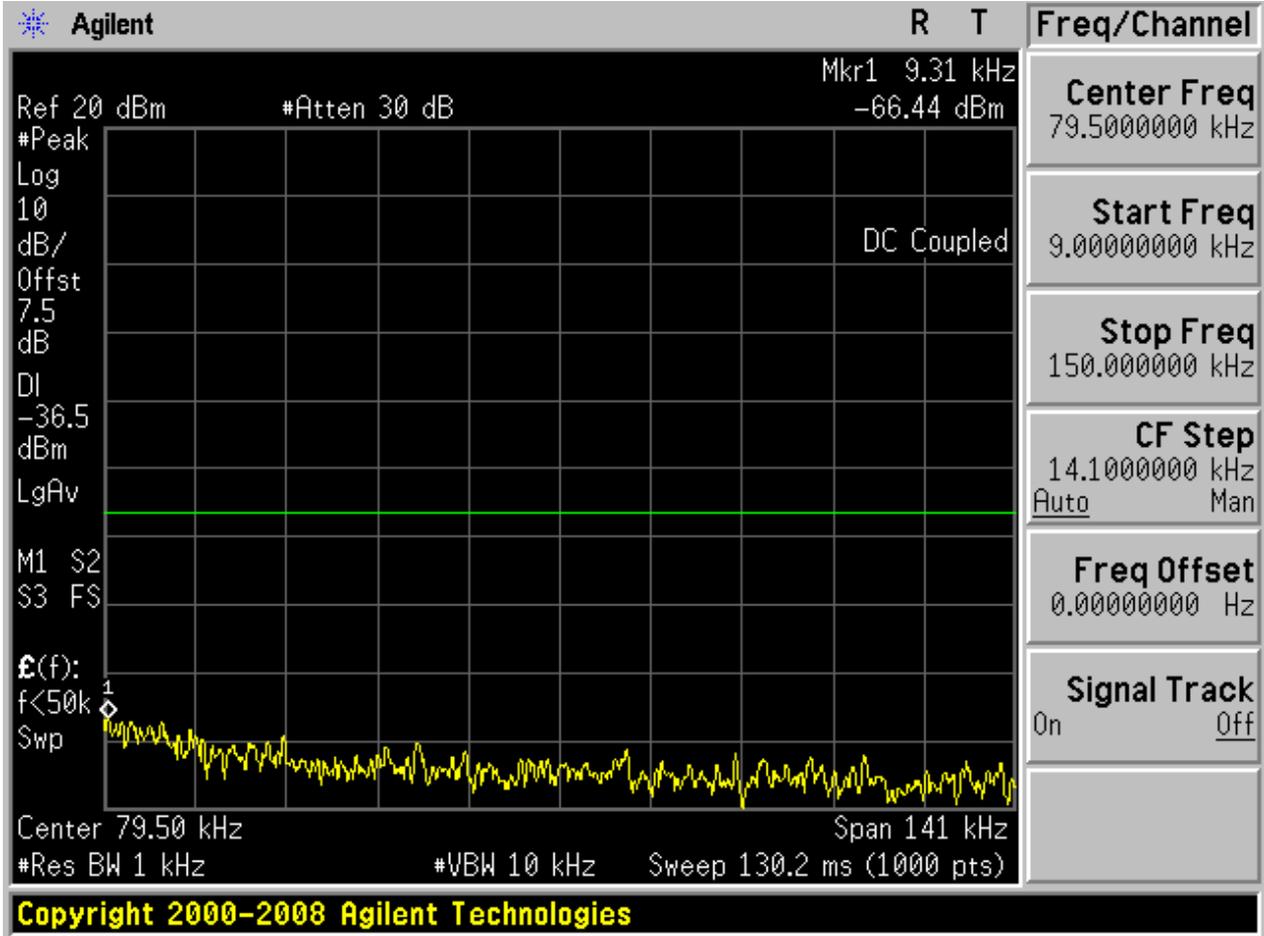


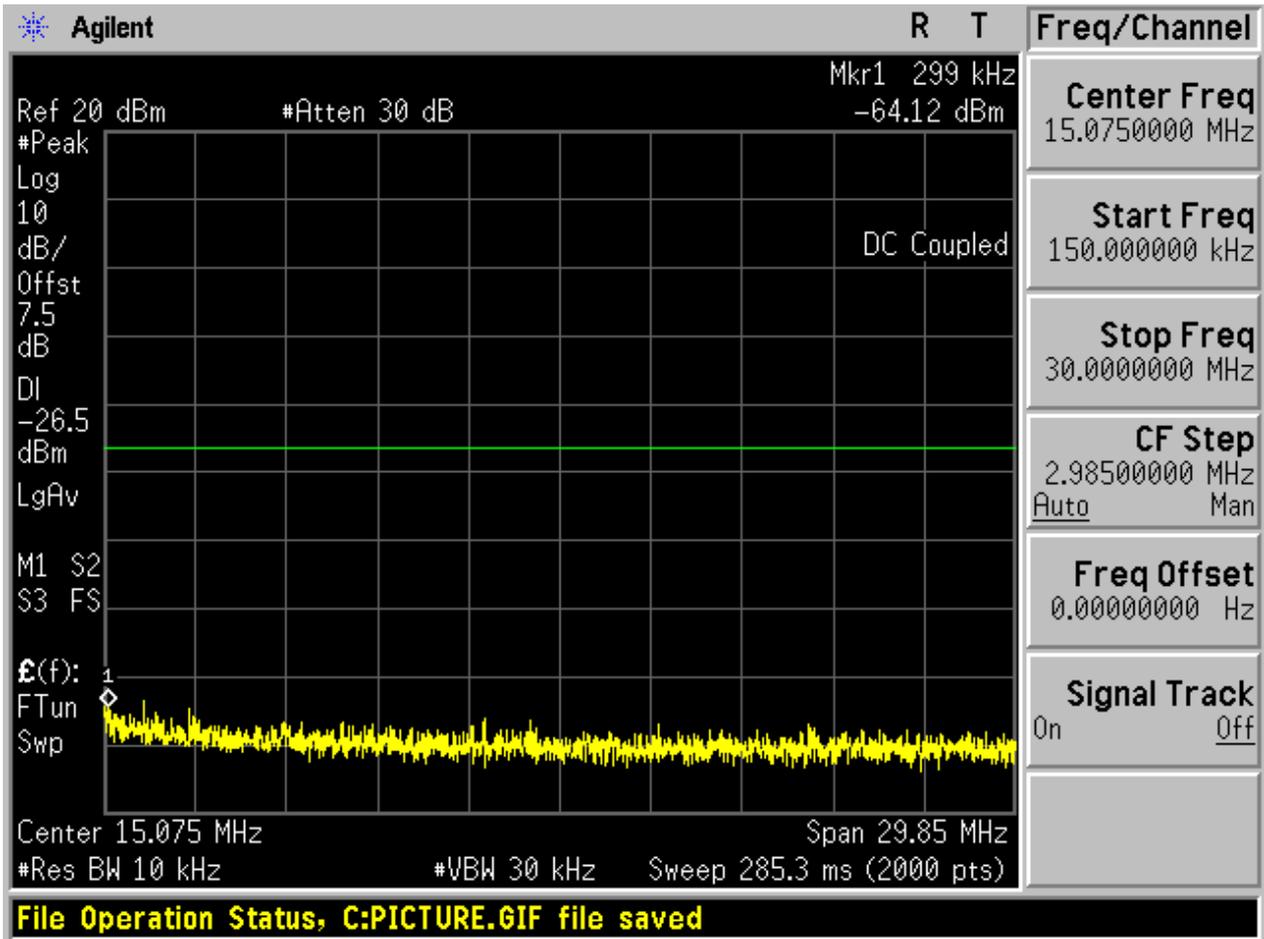
## 2.4 TM2\_2DH5\_Ch0

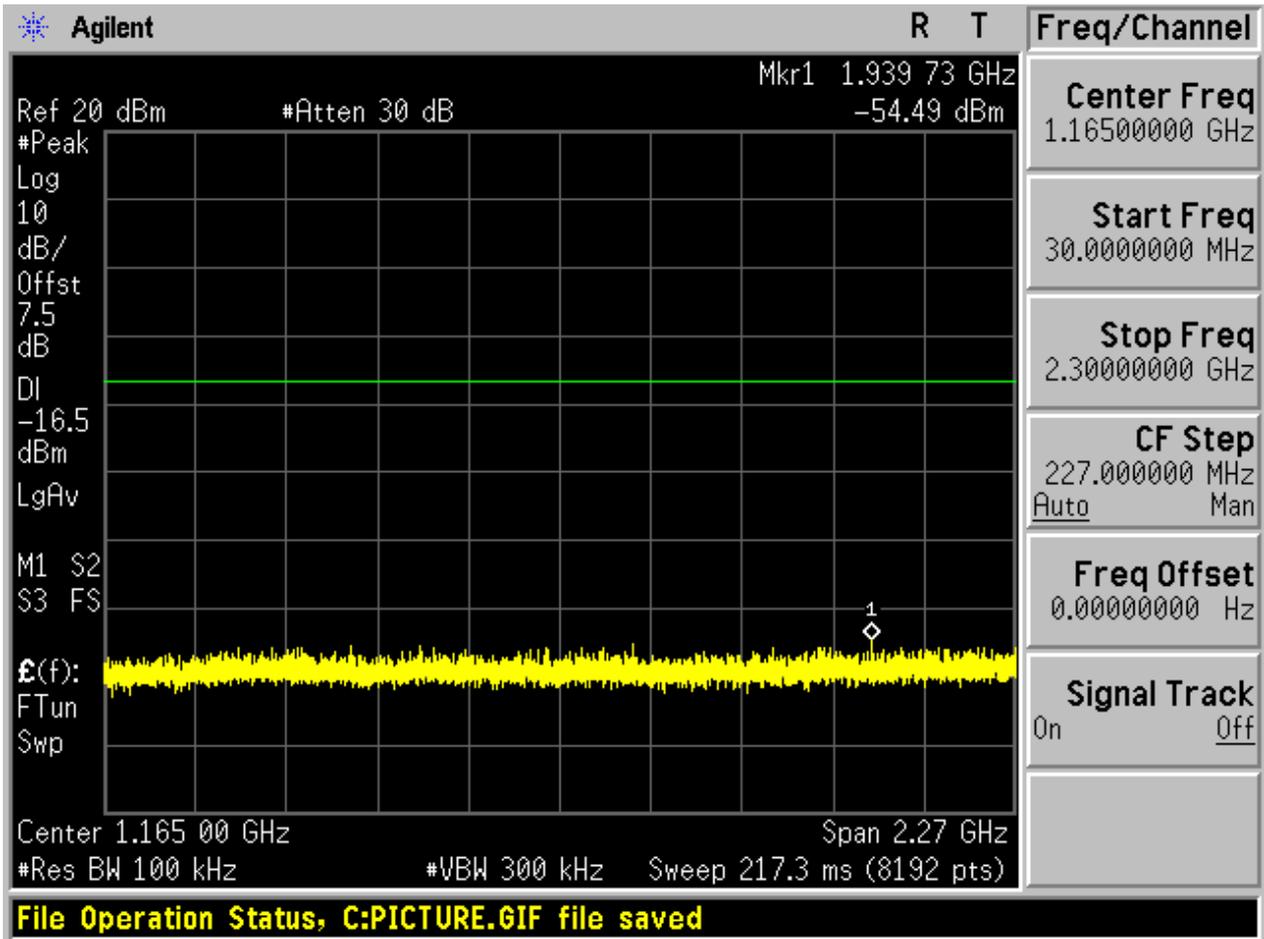
### 2.4.1 Pref

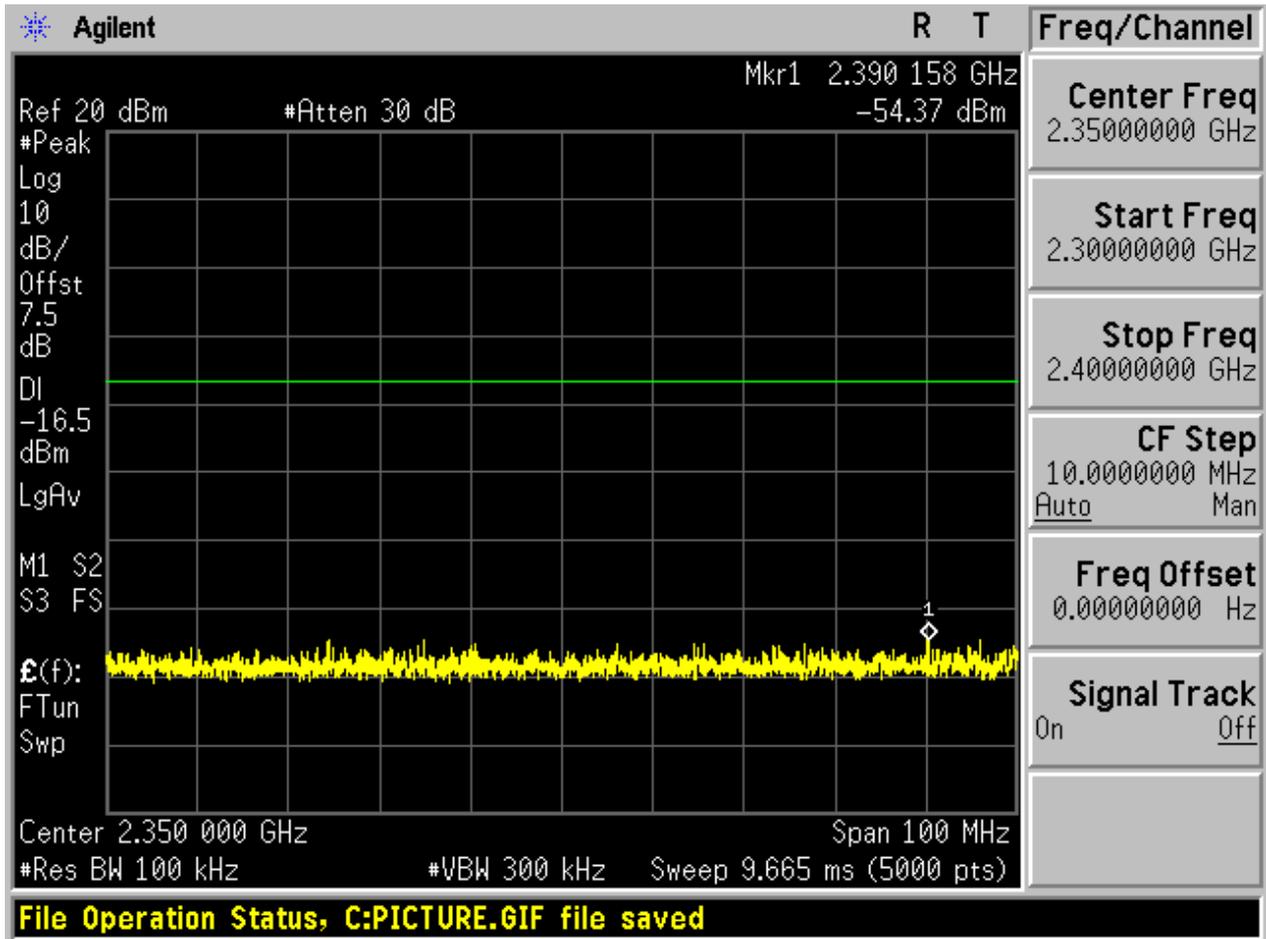


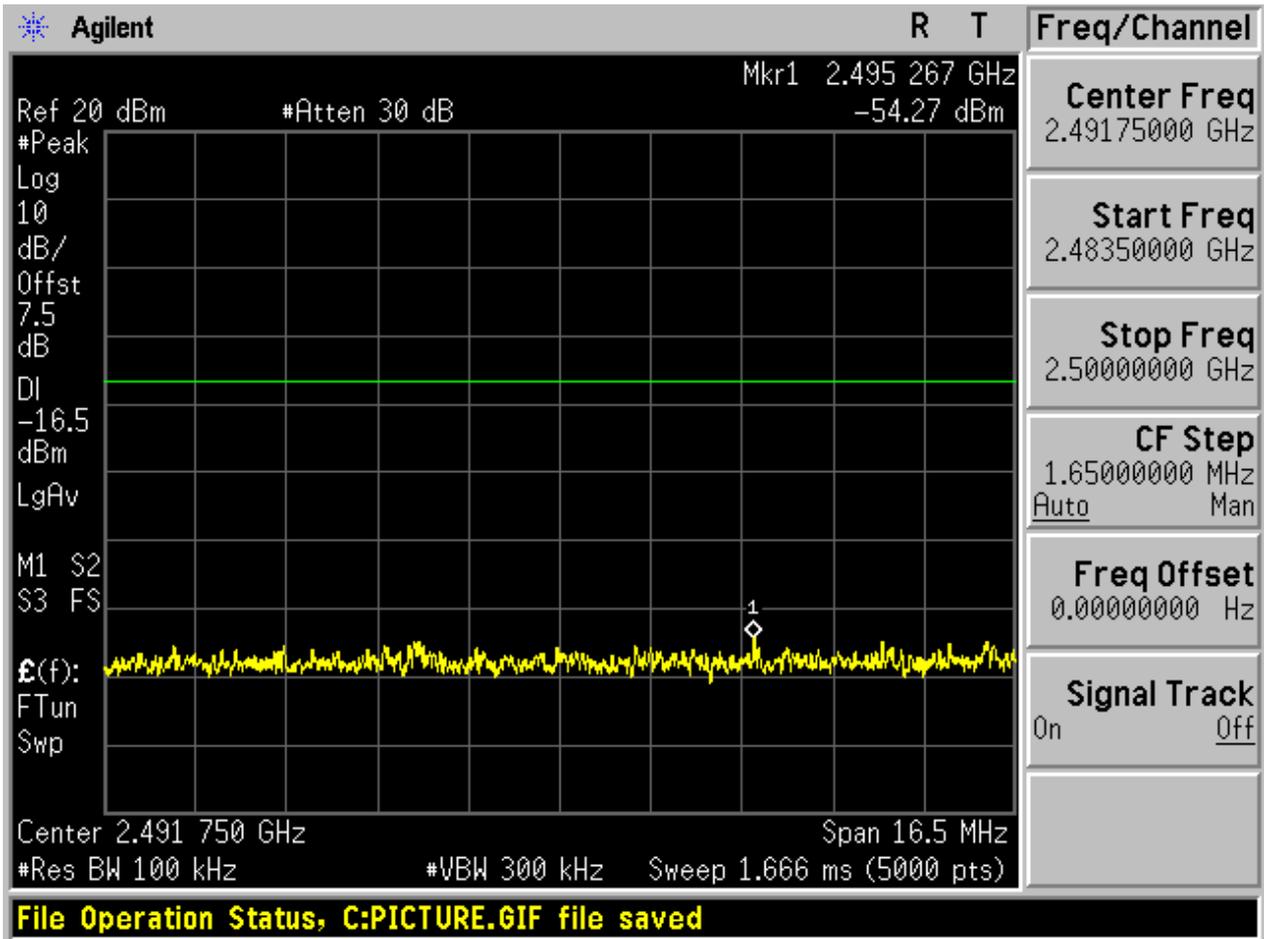
2.4.2 Puw

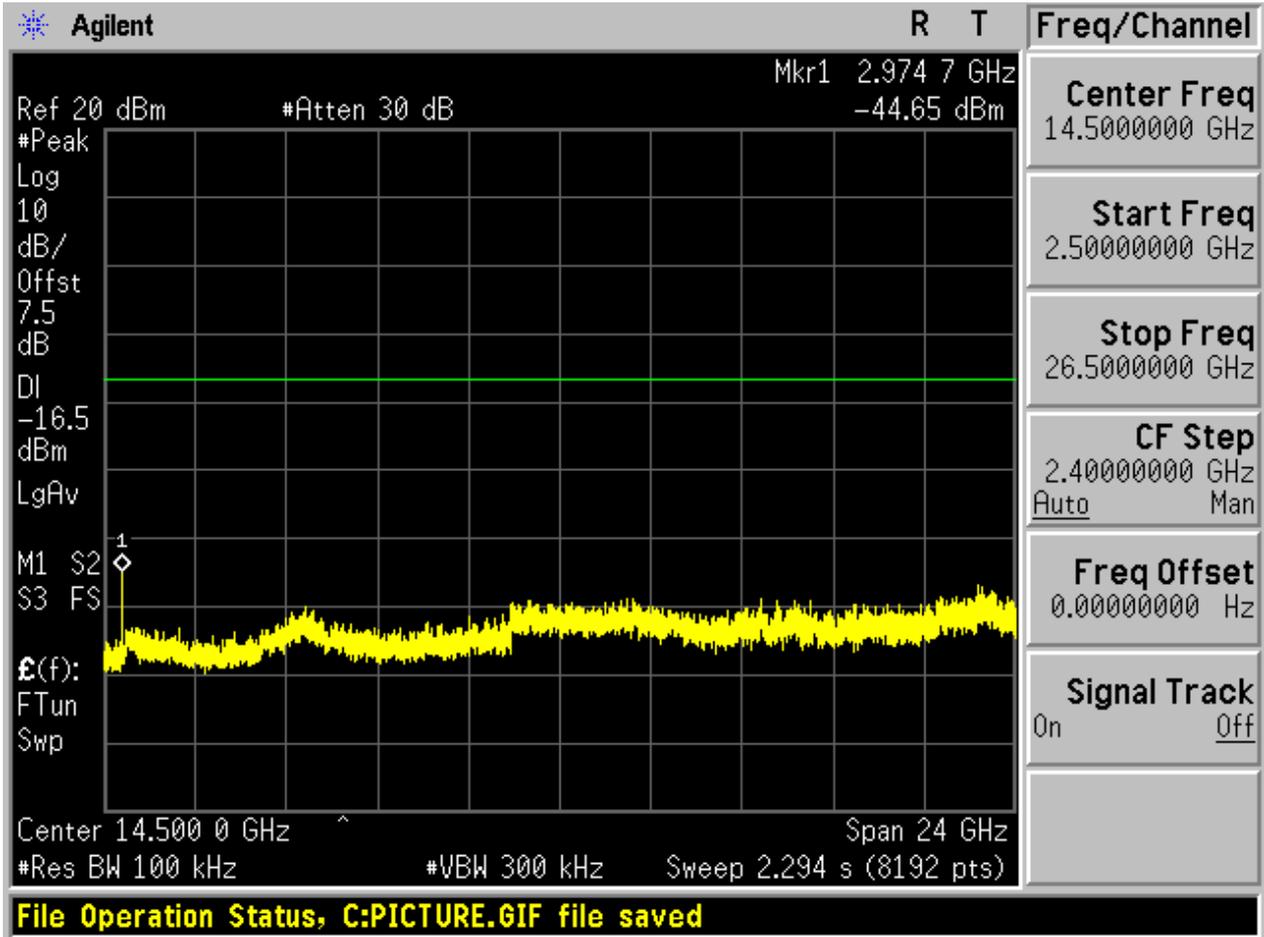






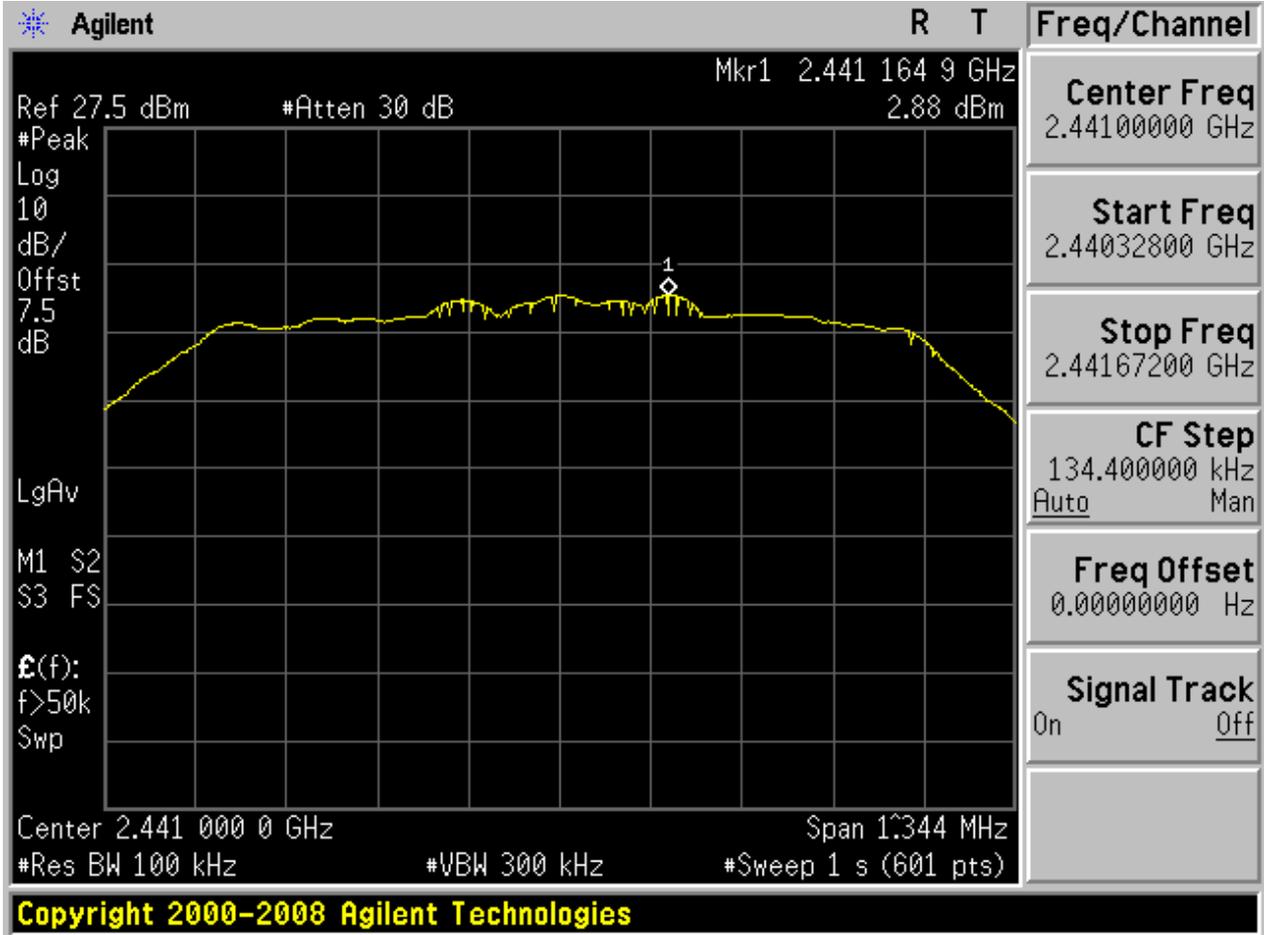




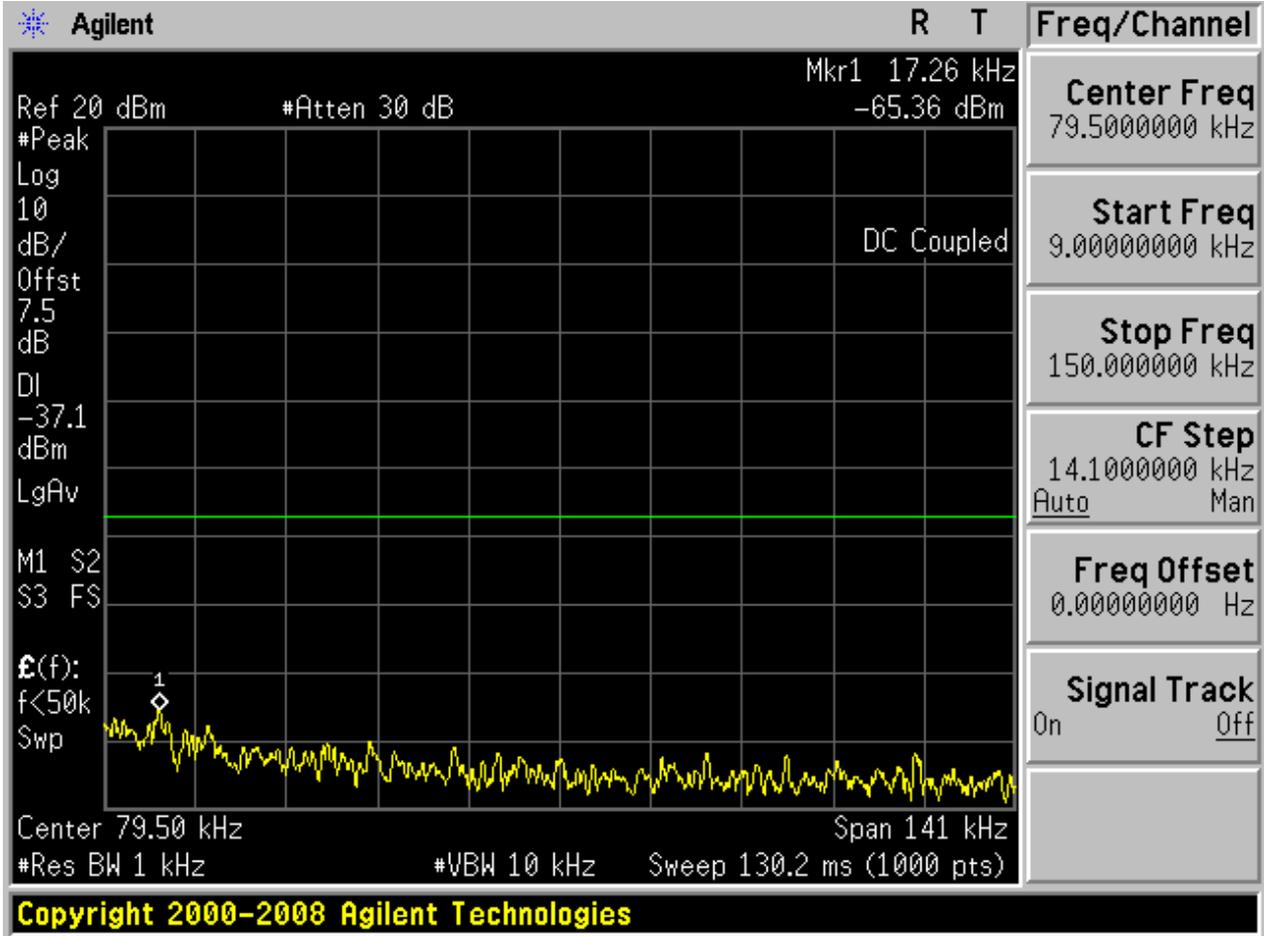


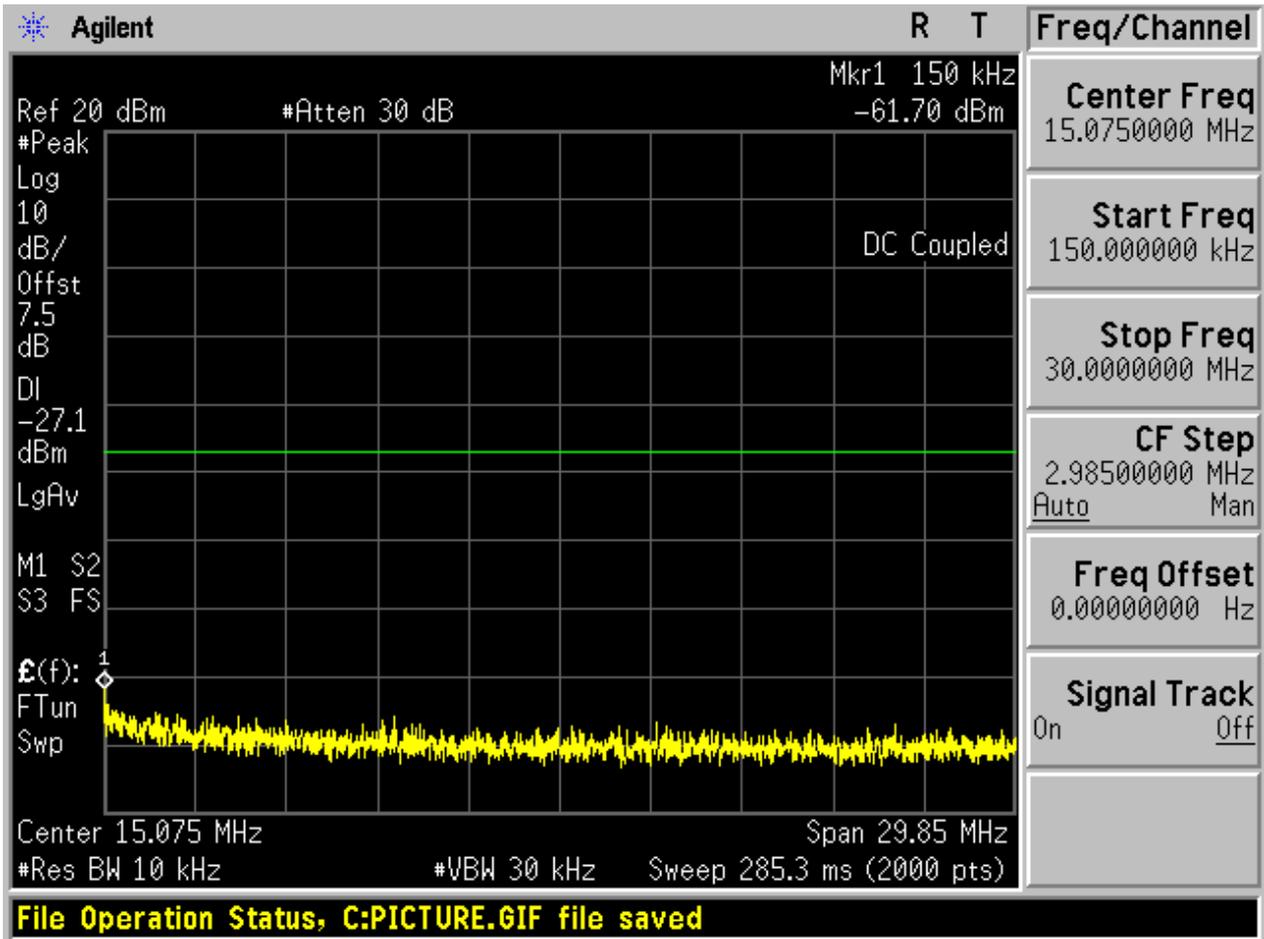
## 2.5 TM2\_2DH5\_Ch39

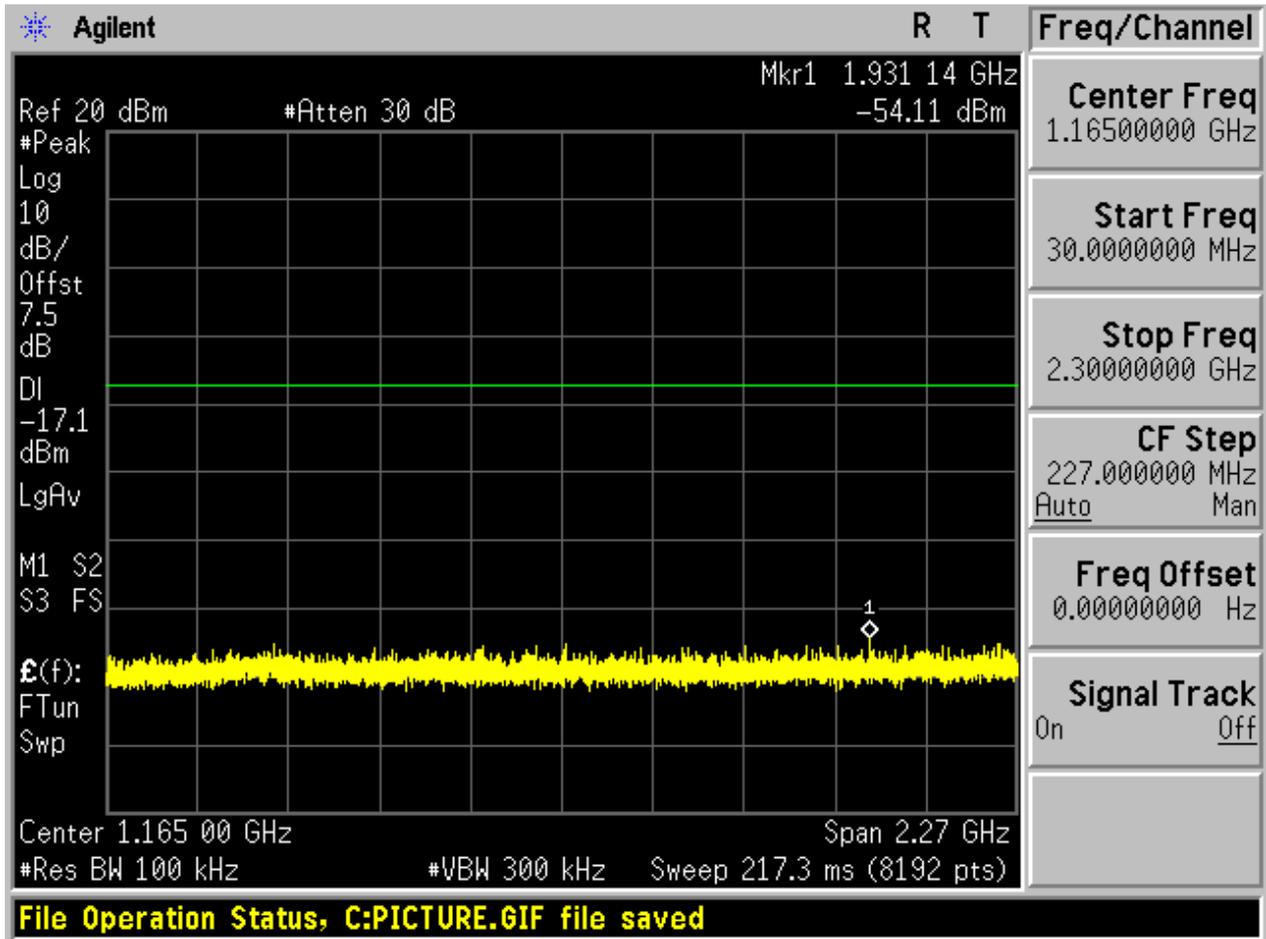
### 2.5.1 Pref

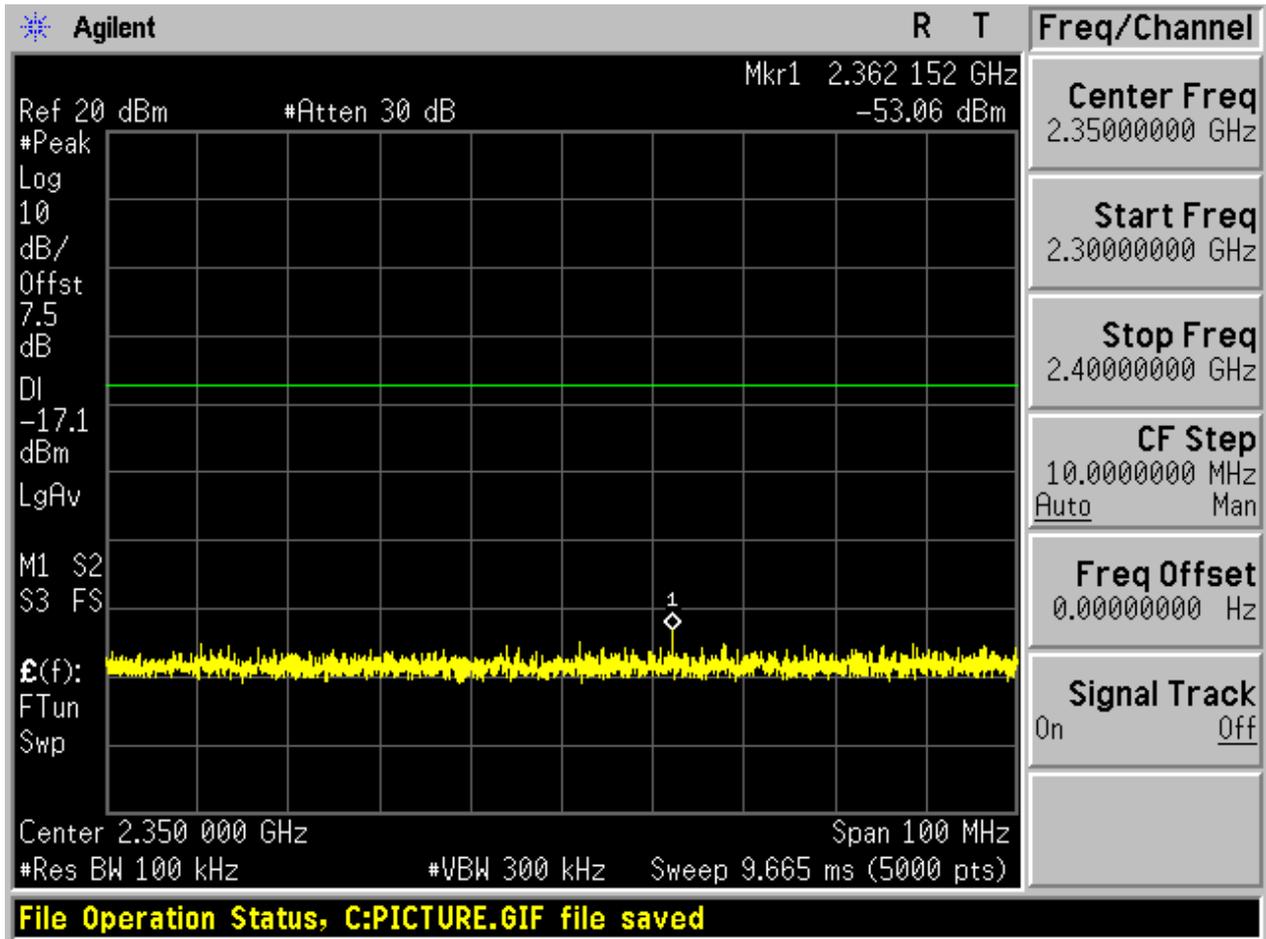


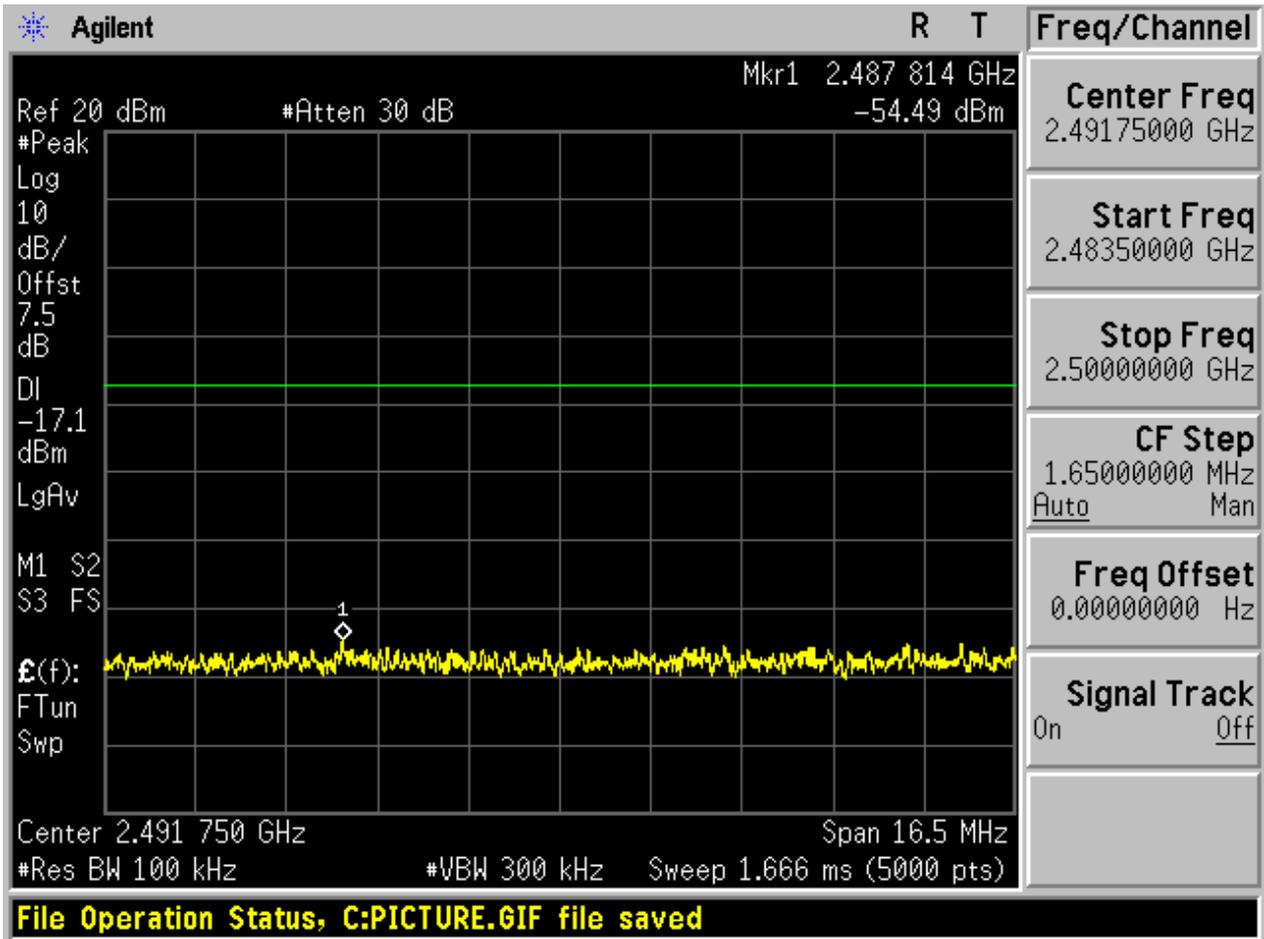
2.5.2 P<sub>uw</sub>

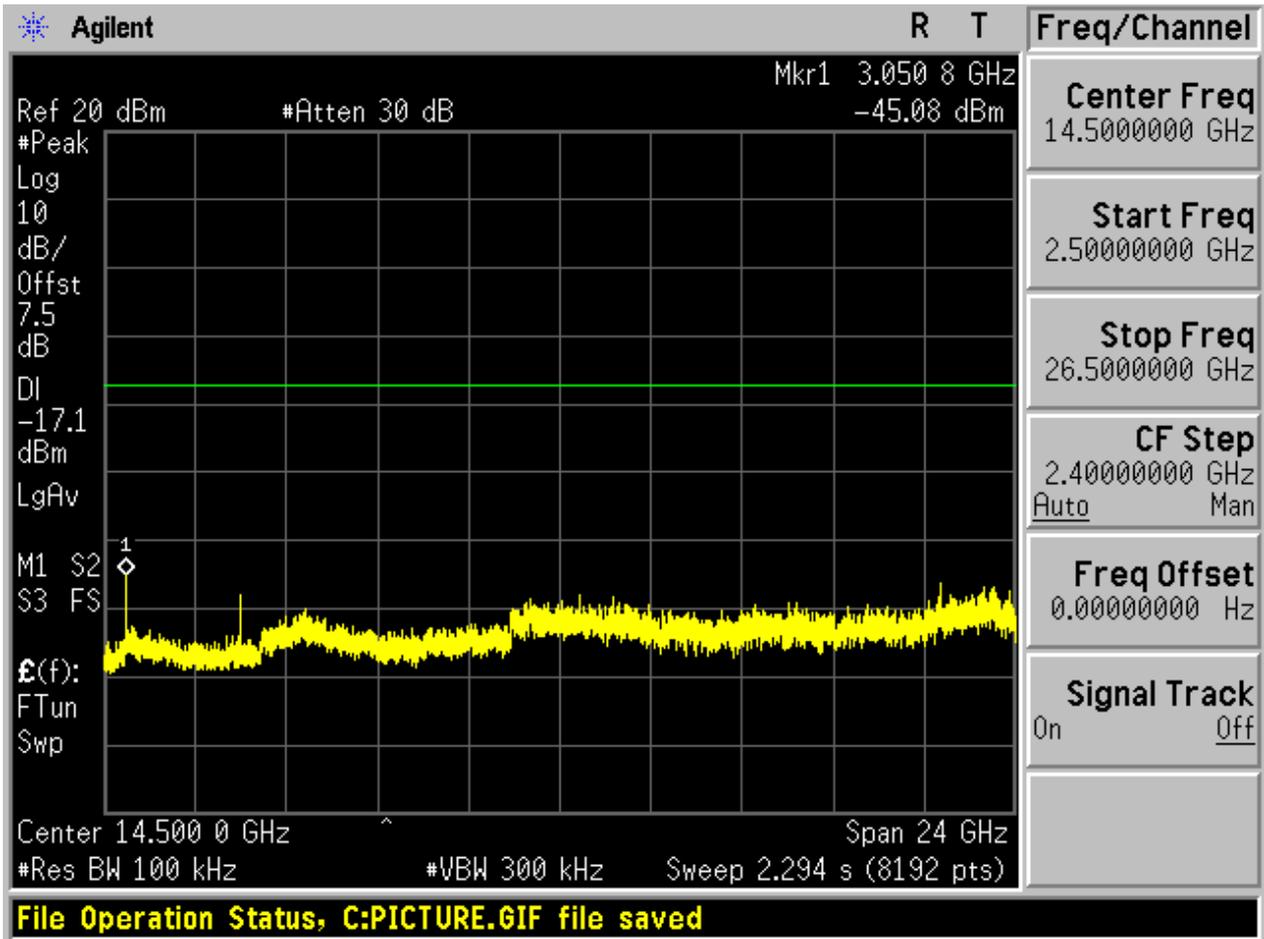








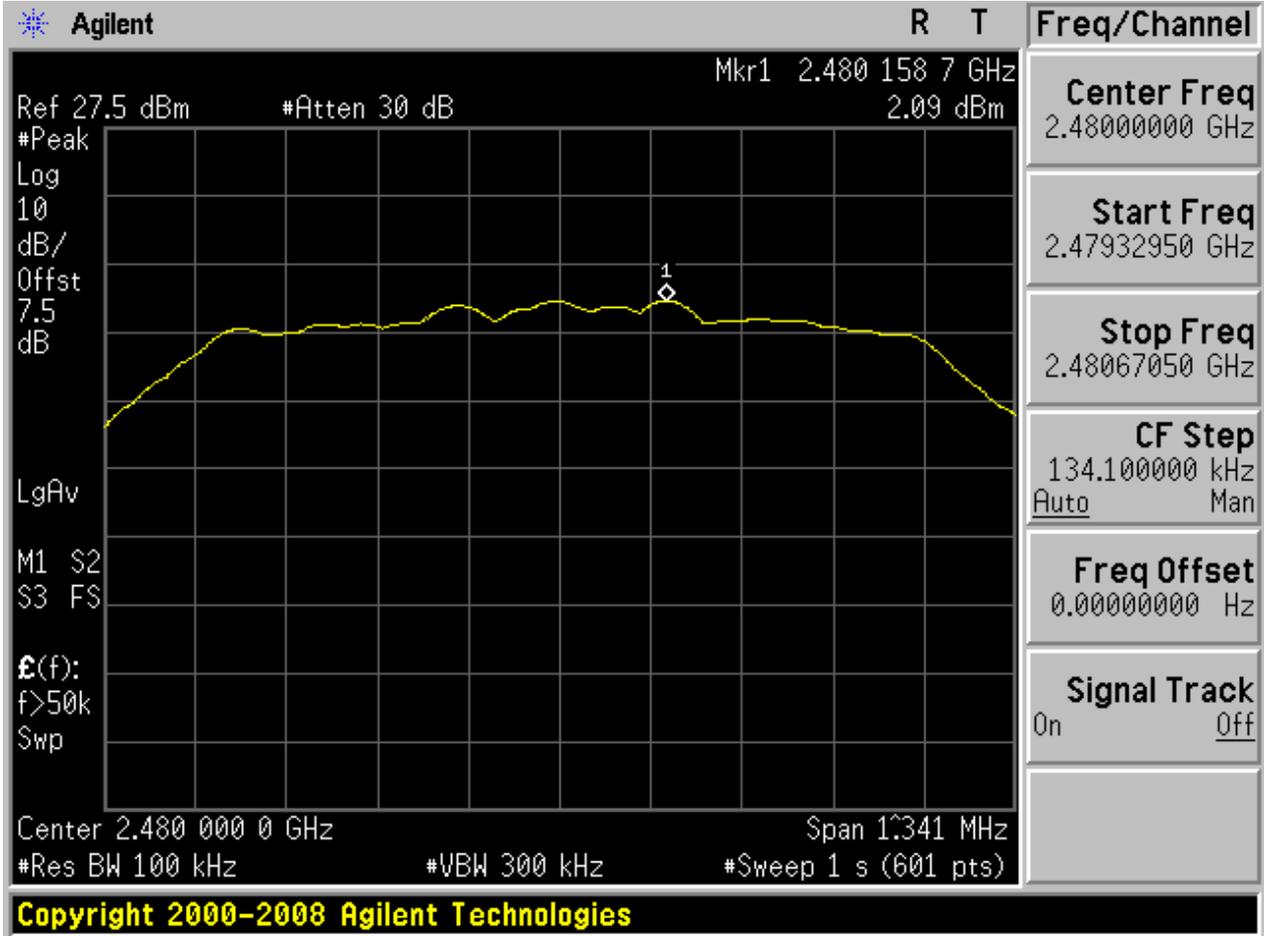




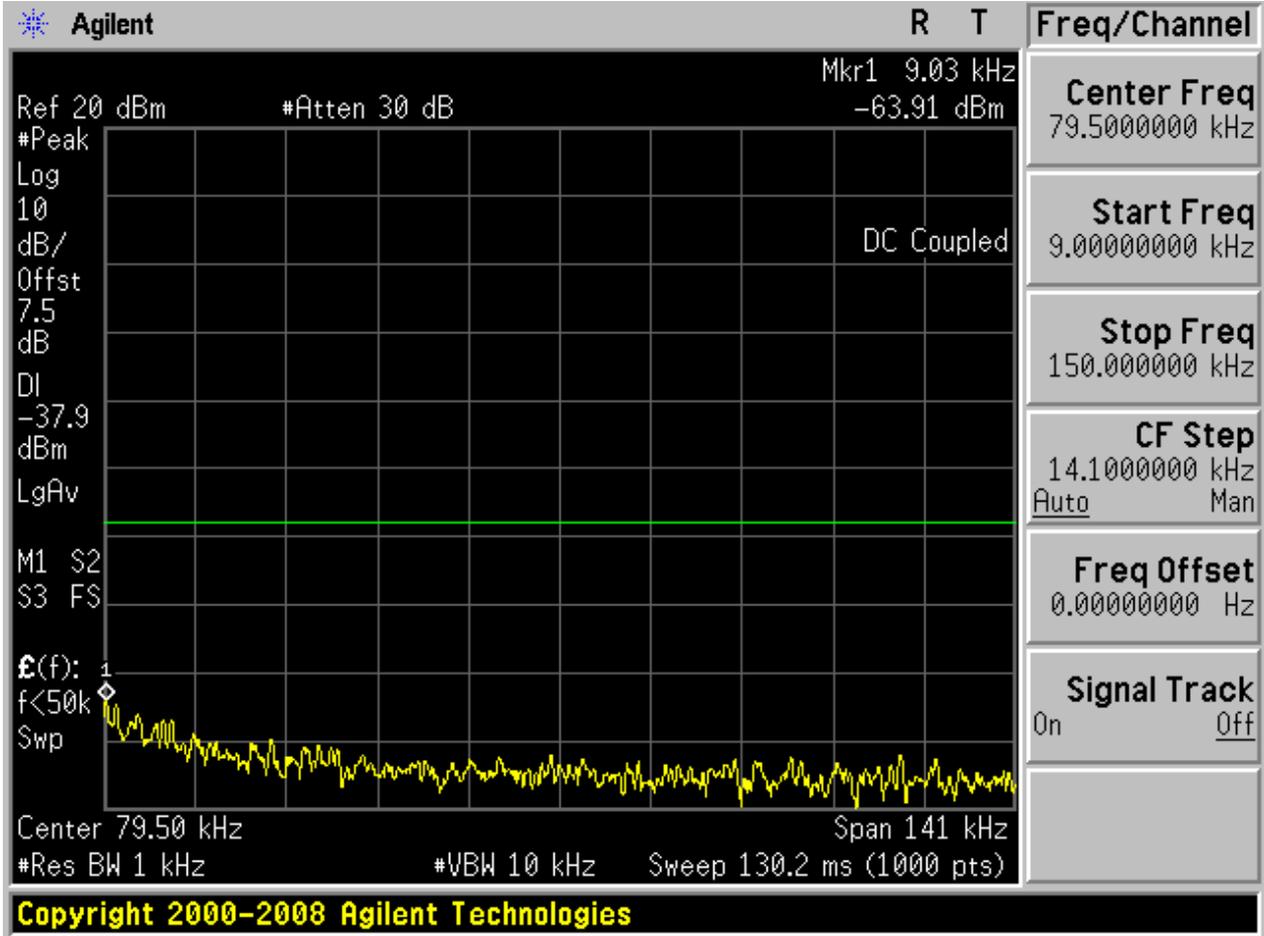


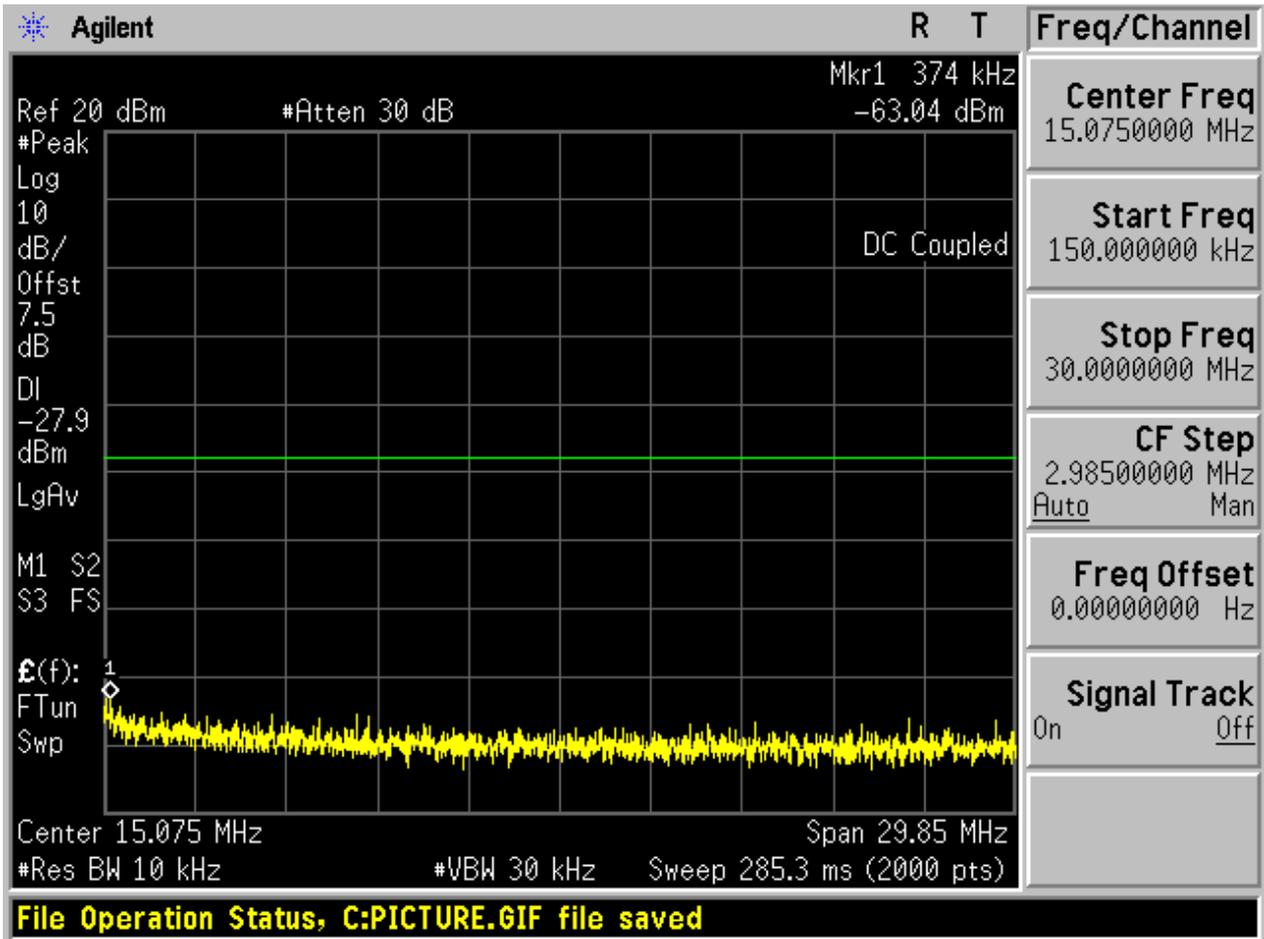
## 2.6 TM2\_2DH5\_Ch78

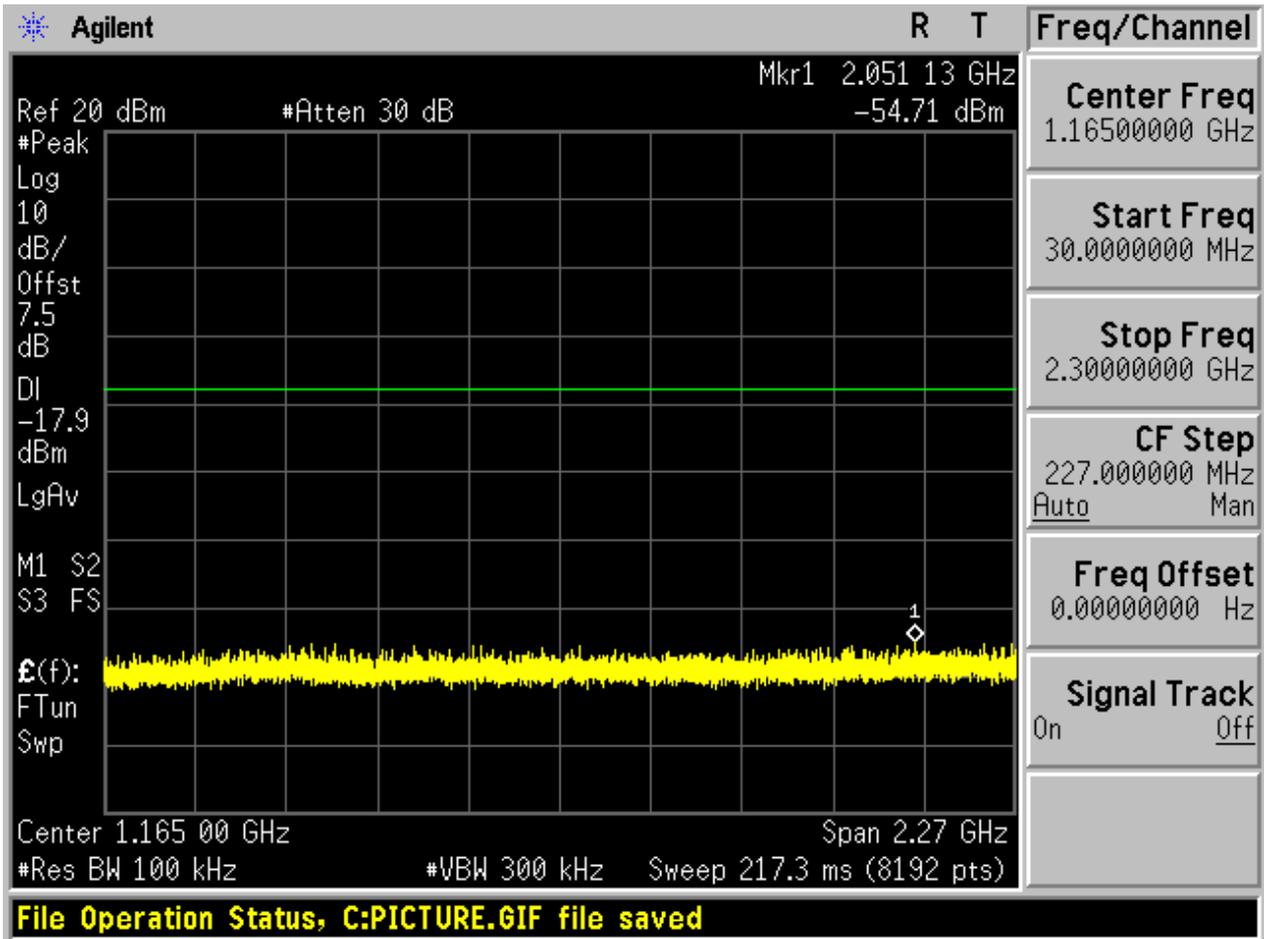
### 2.6.1 Pref

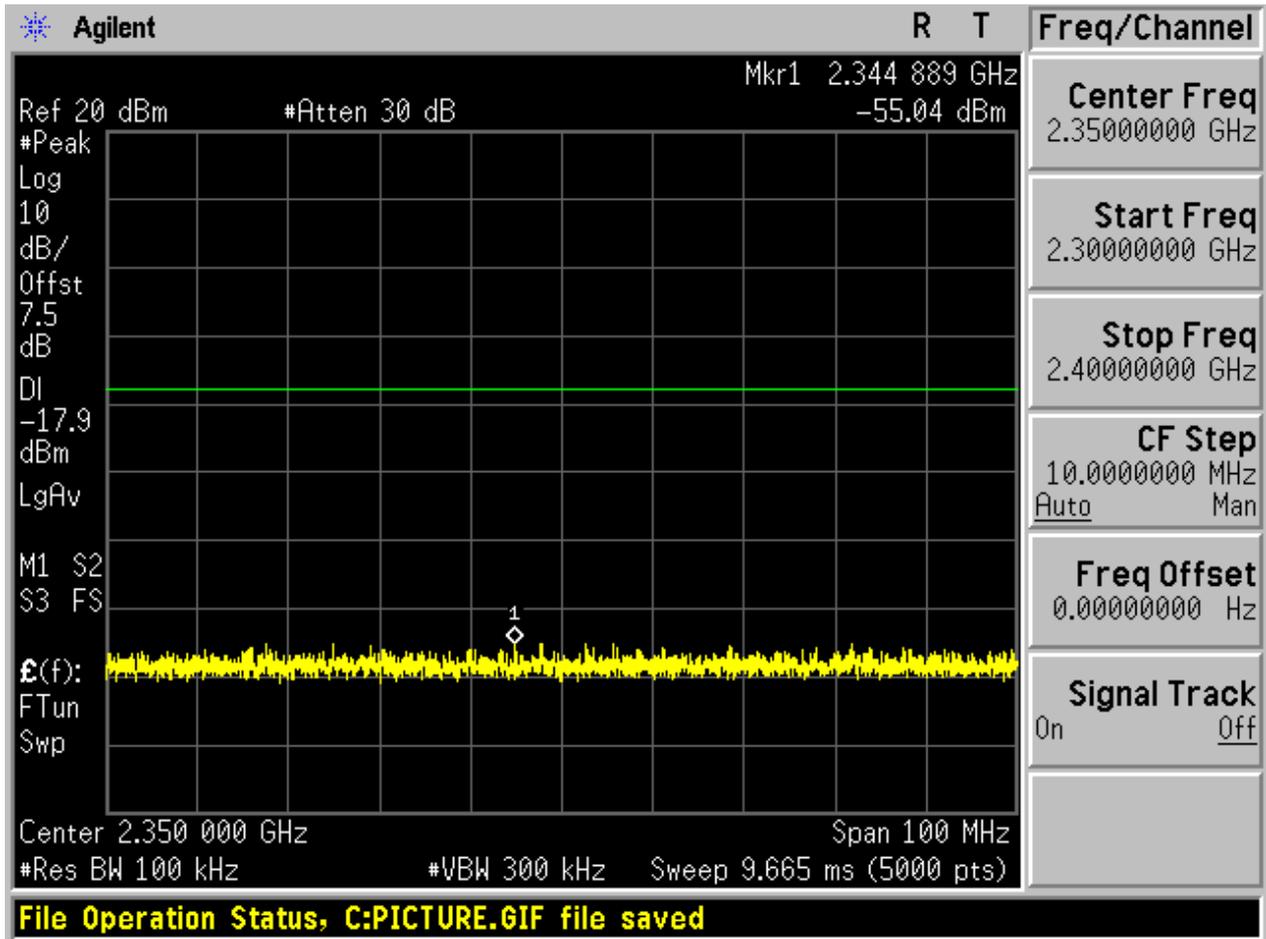


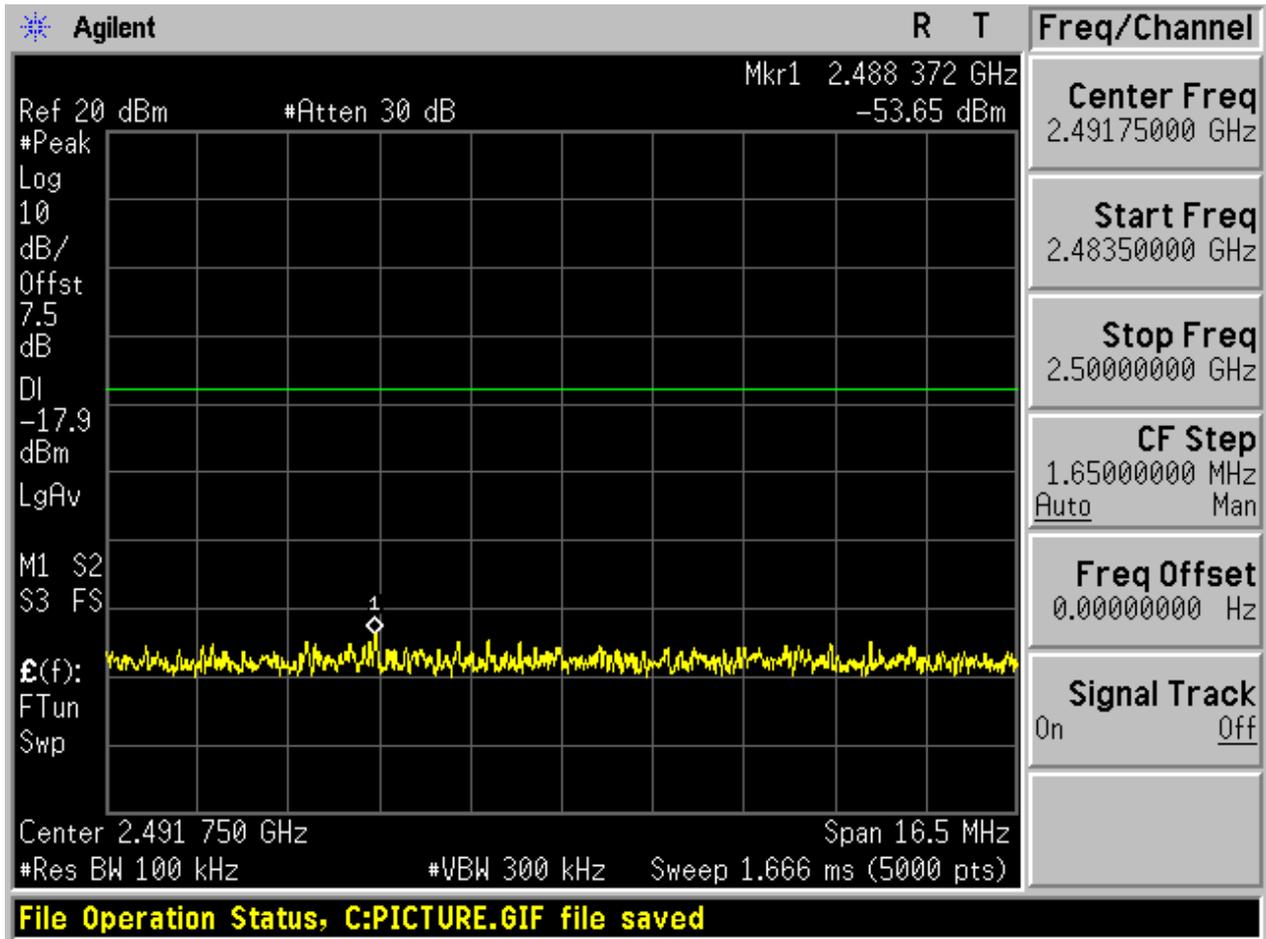
2.6.2 Puw

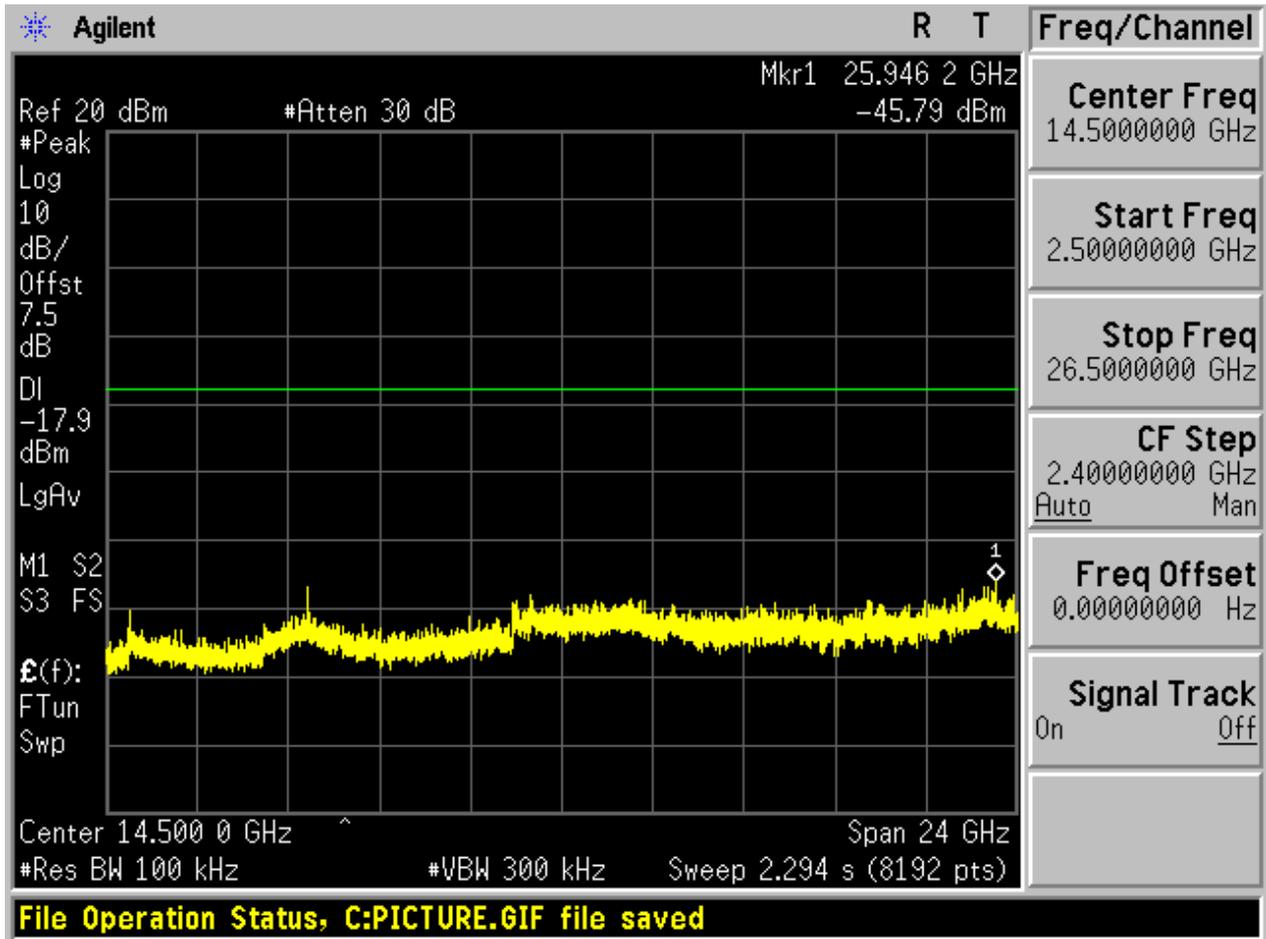












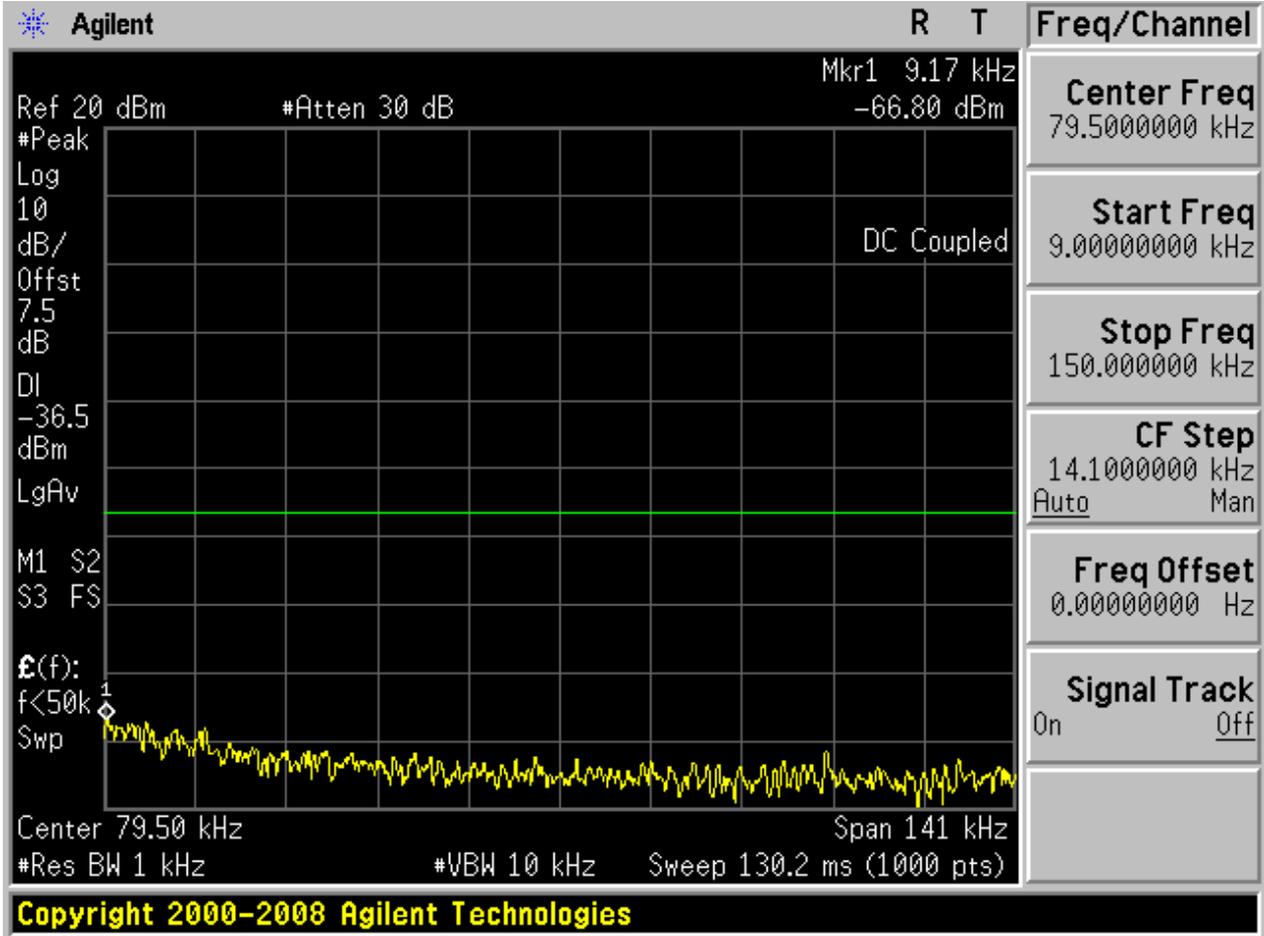


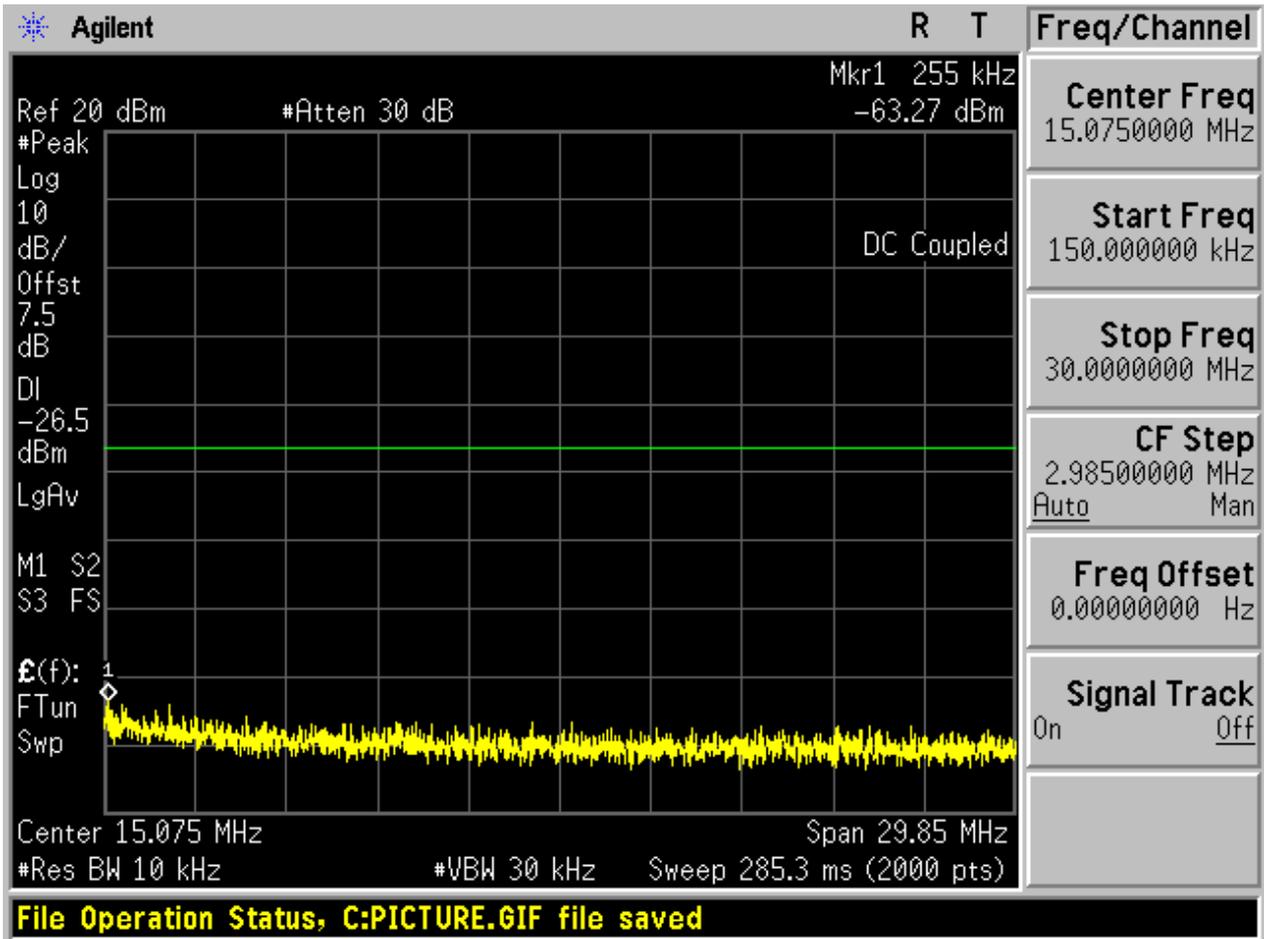
## 2.7 TM3\_3DH5\_Ch0

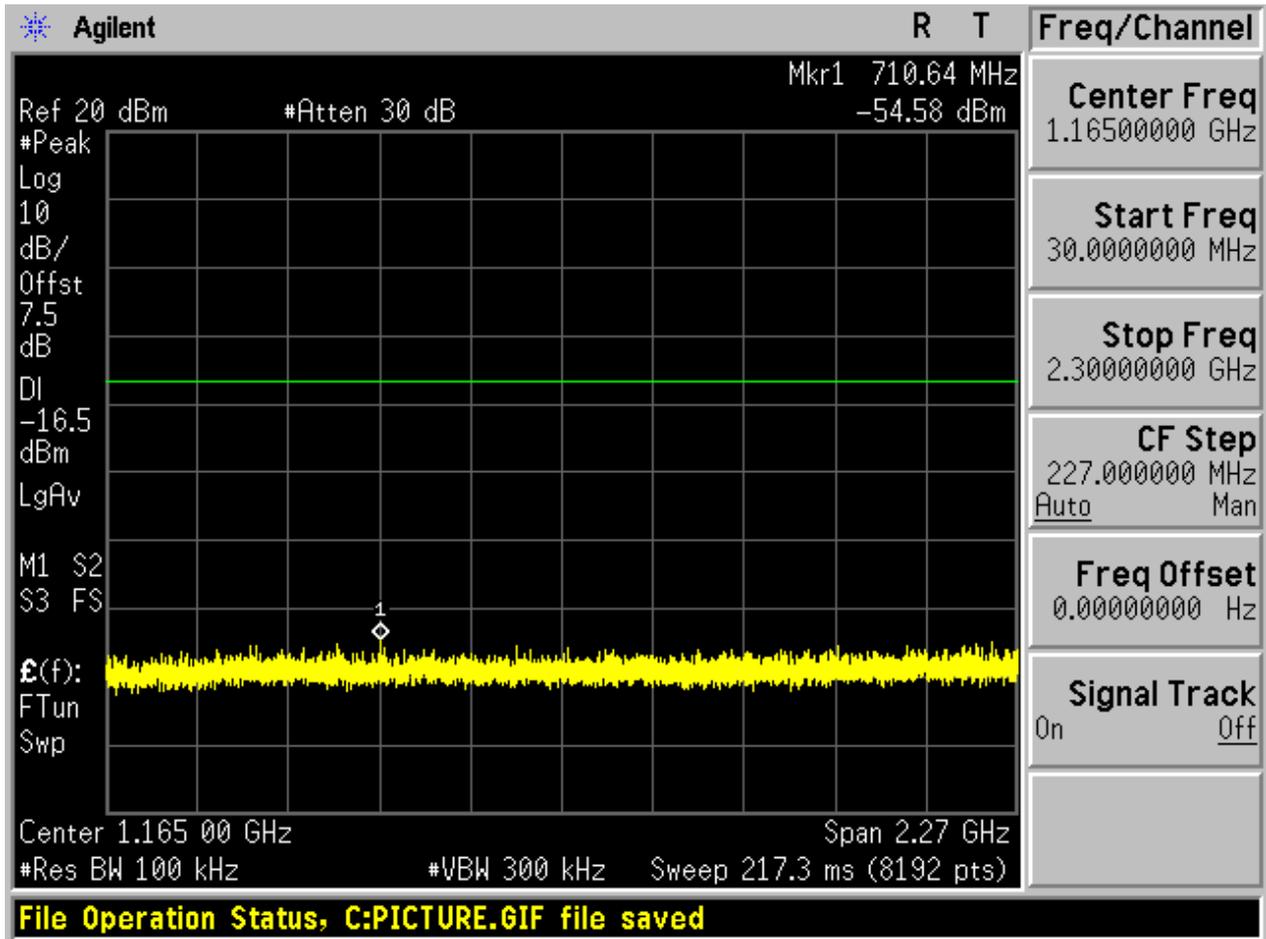
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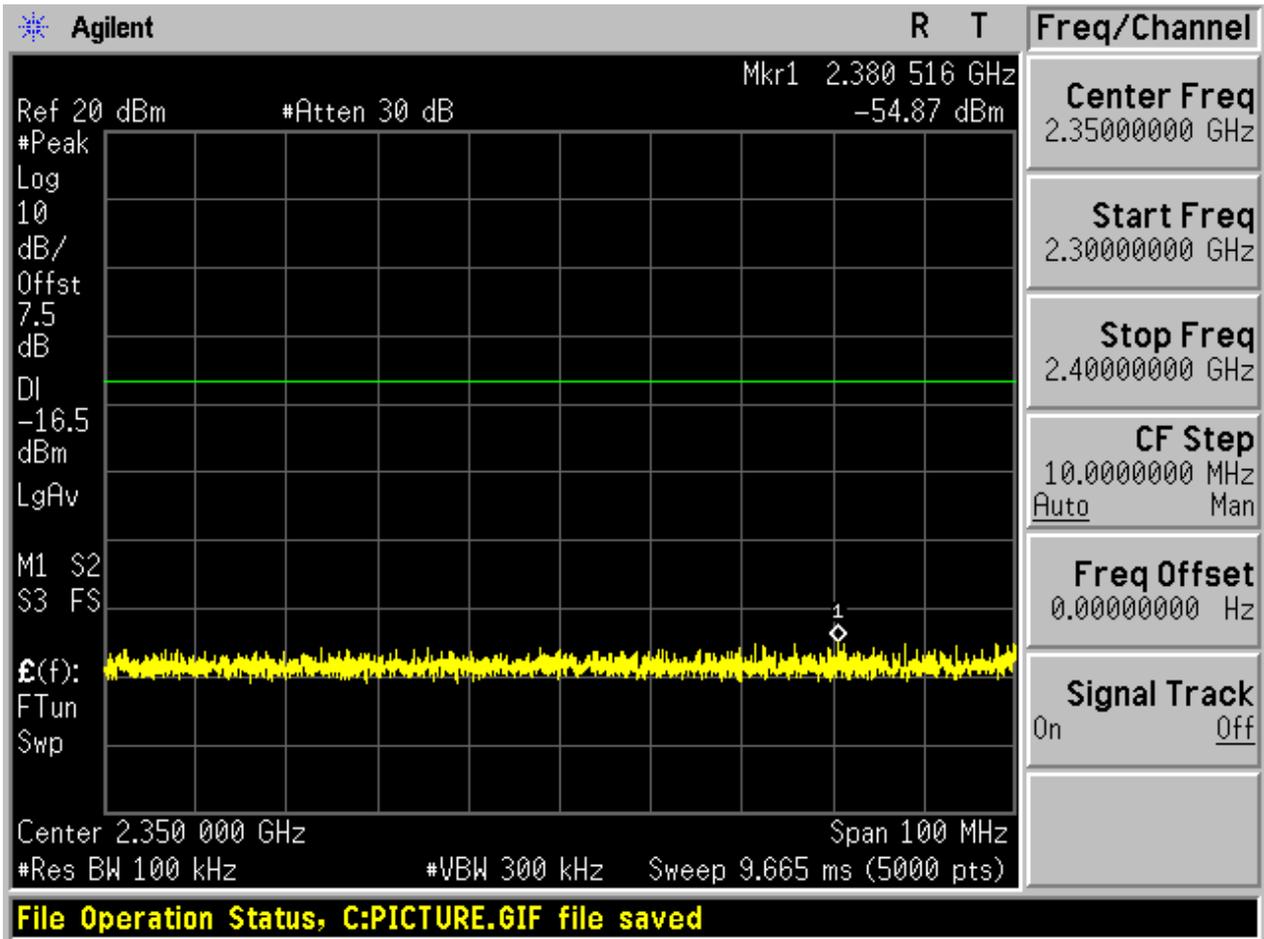


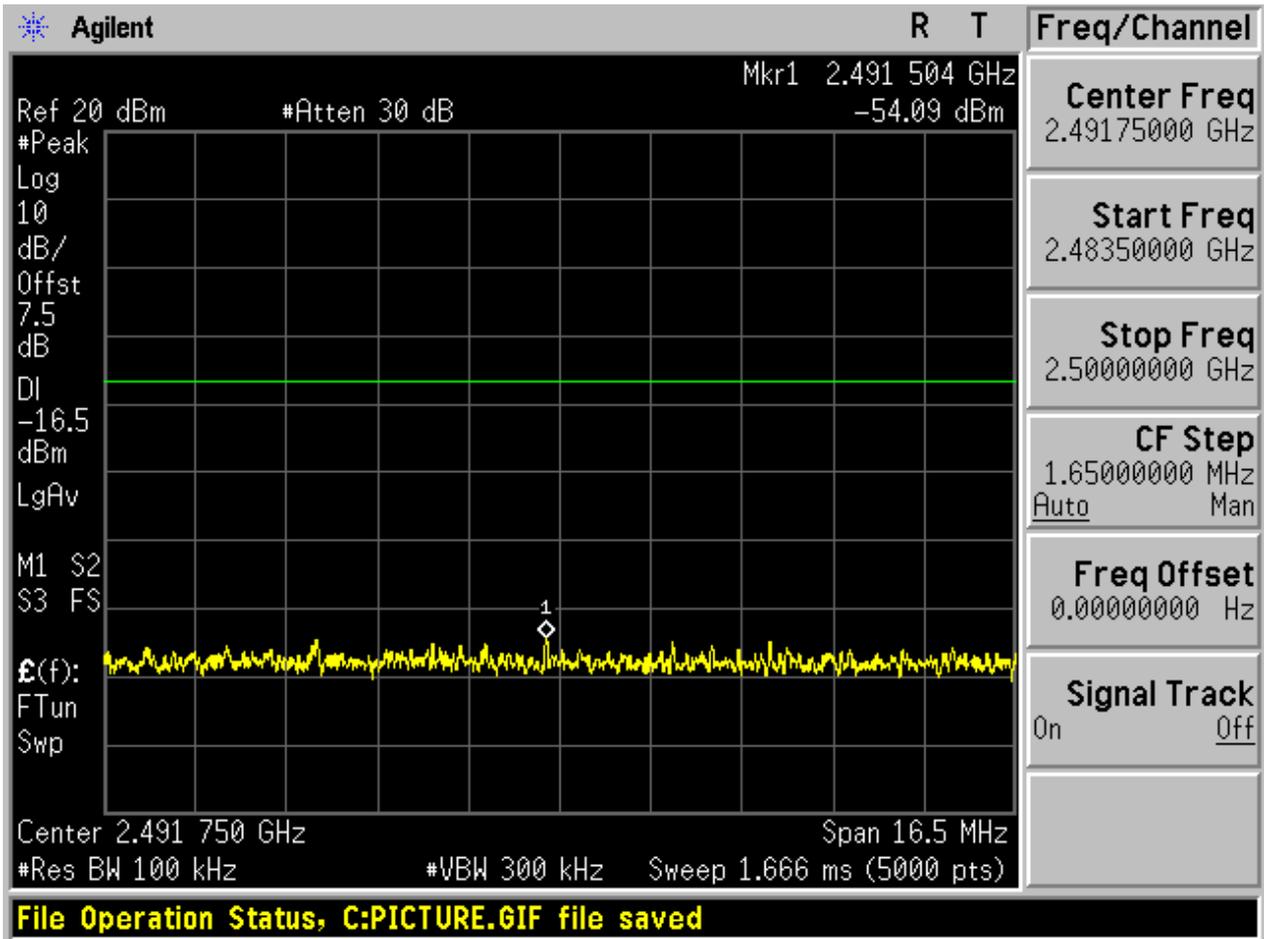
2.7.2 P<sub>uw</sub>

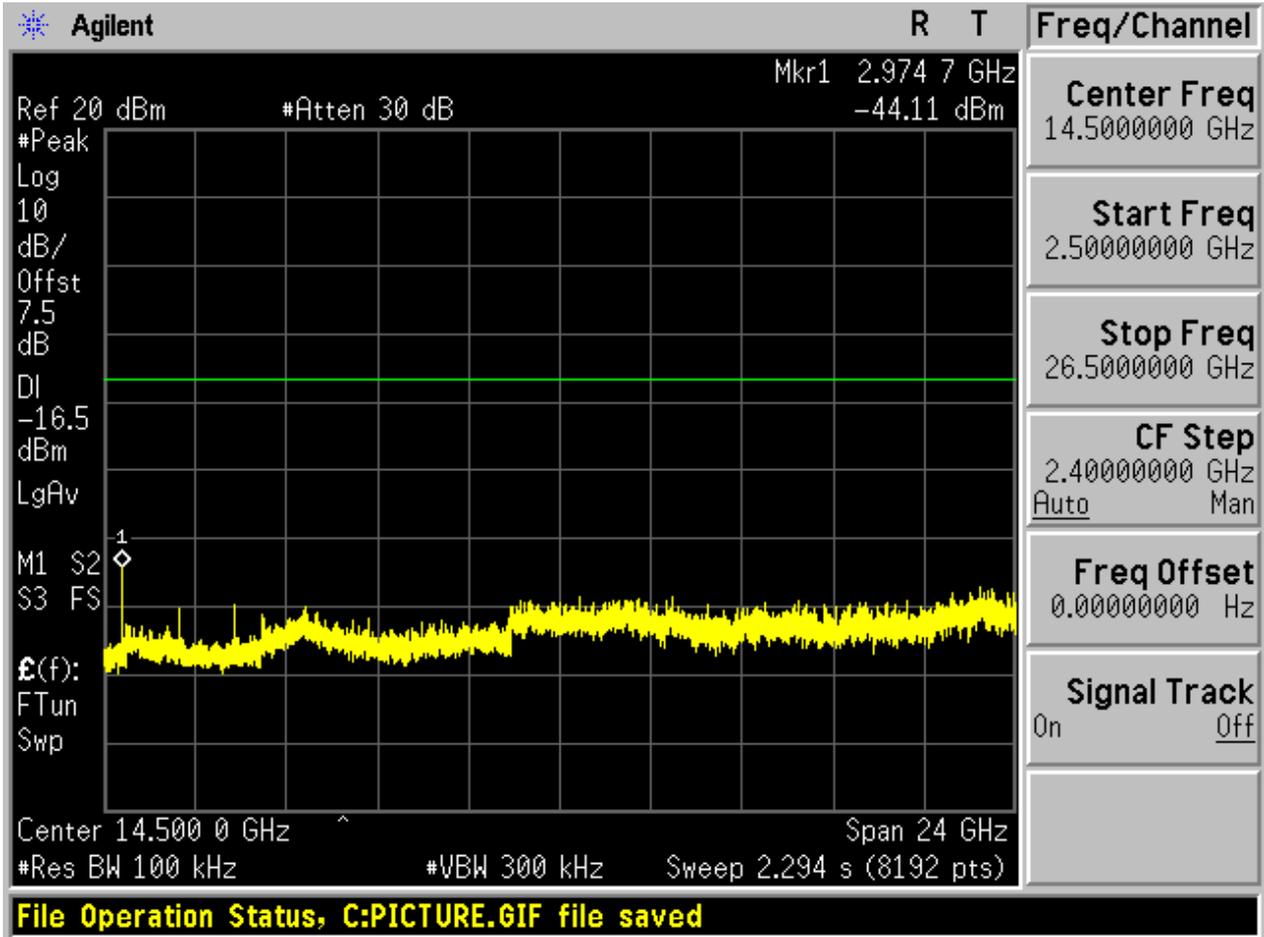








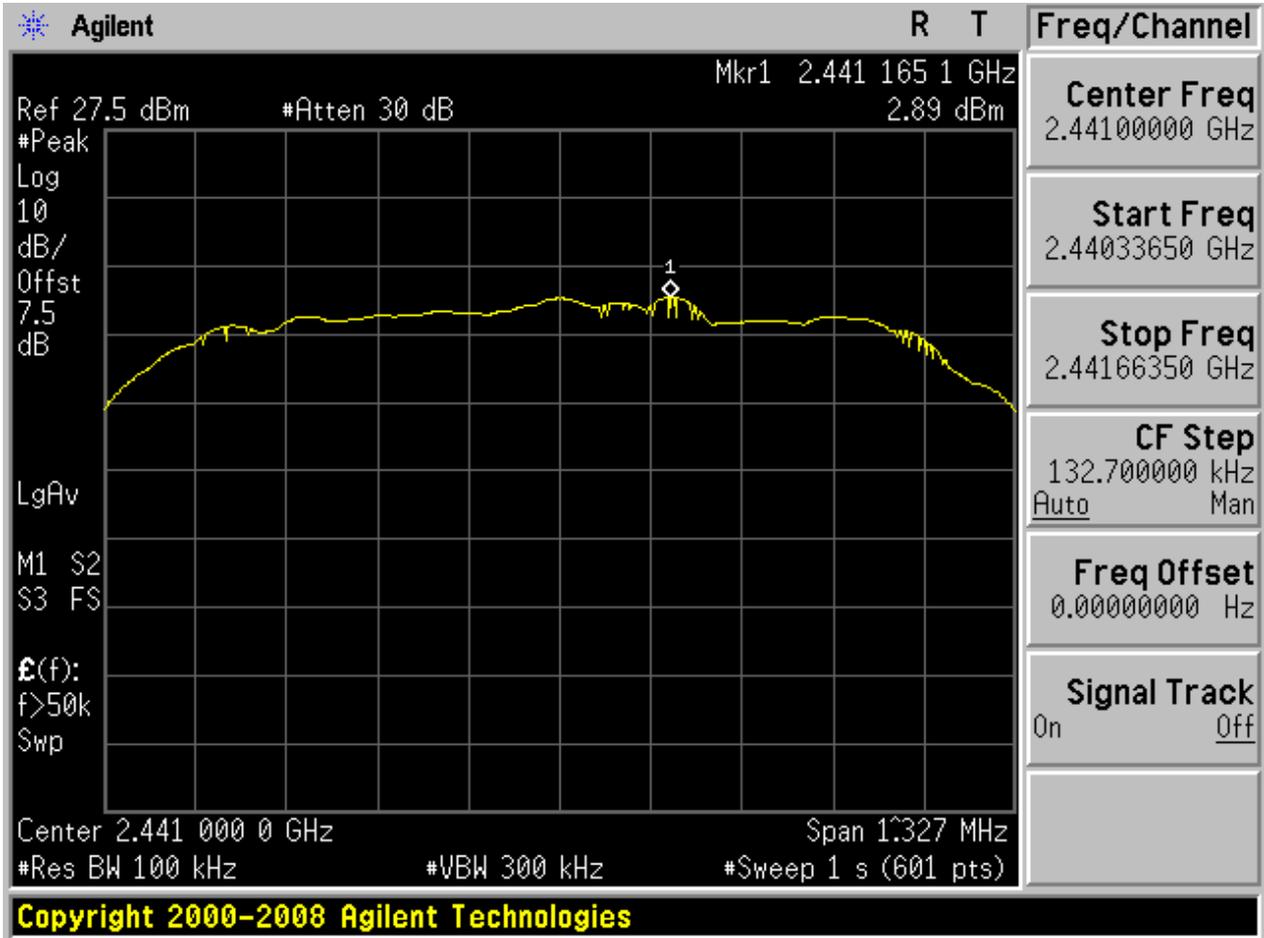




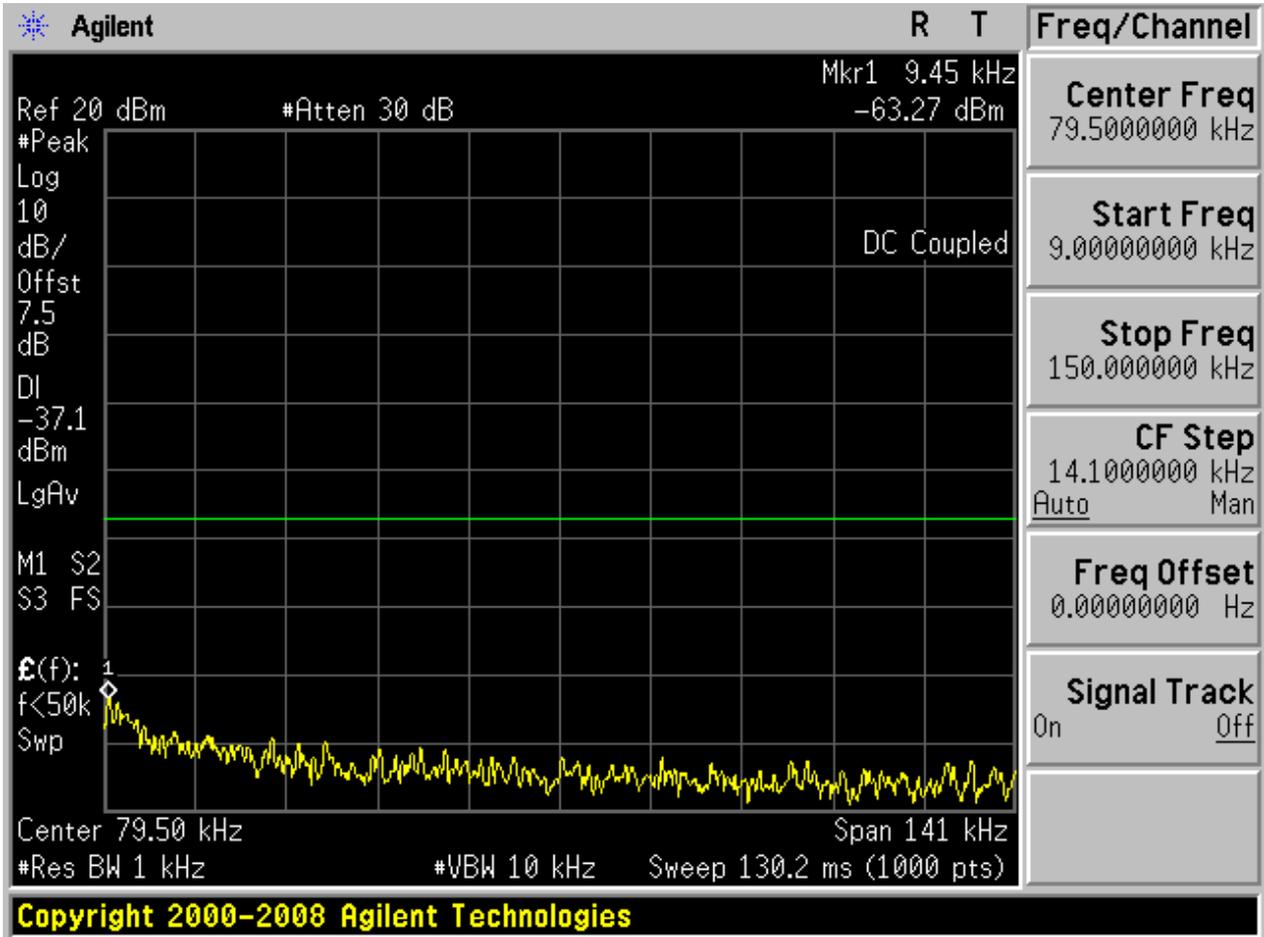


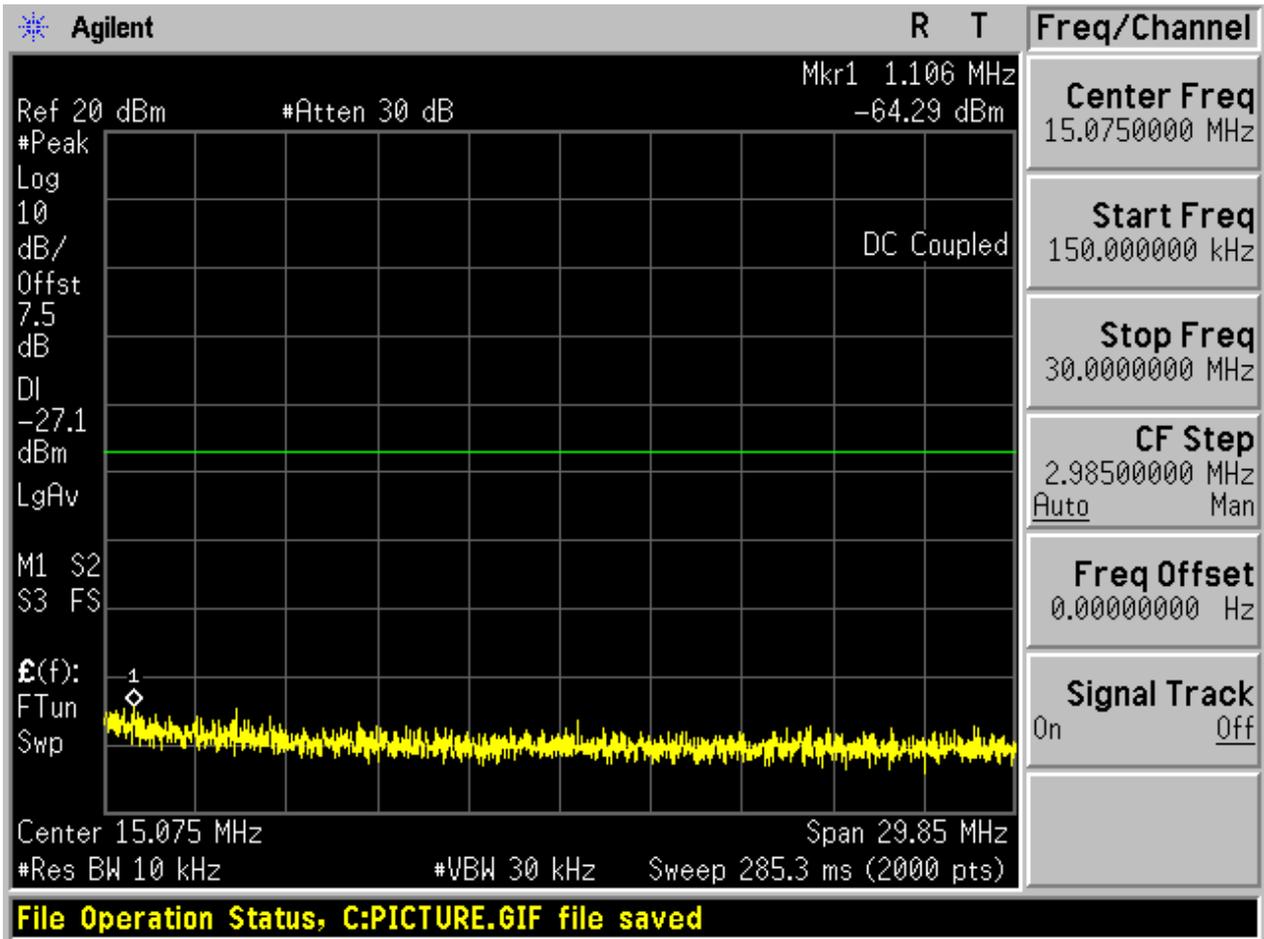
## 2.8 TM3\_3DH5\_Ch39

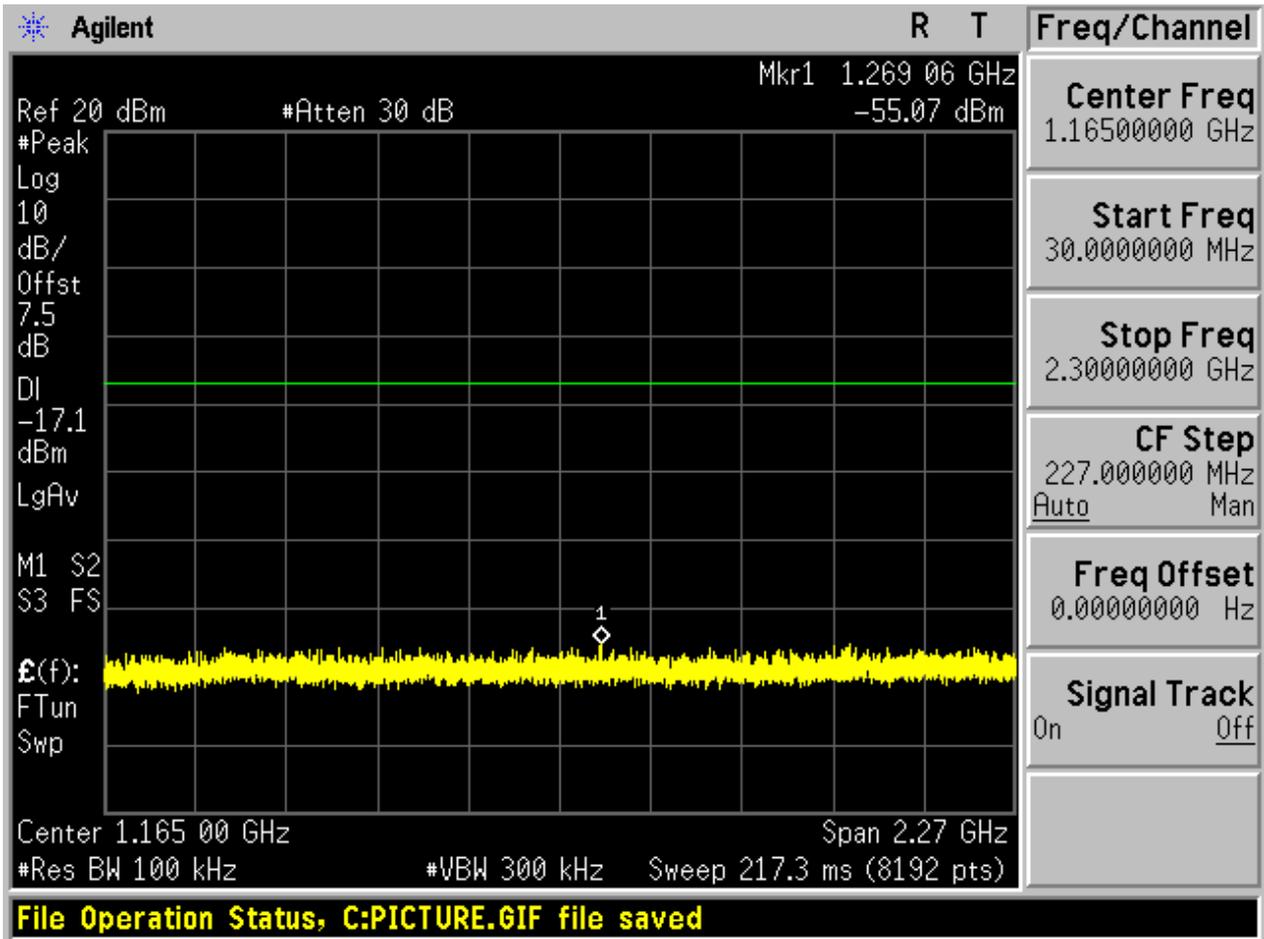
### 2.8.1 Pref

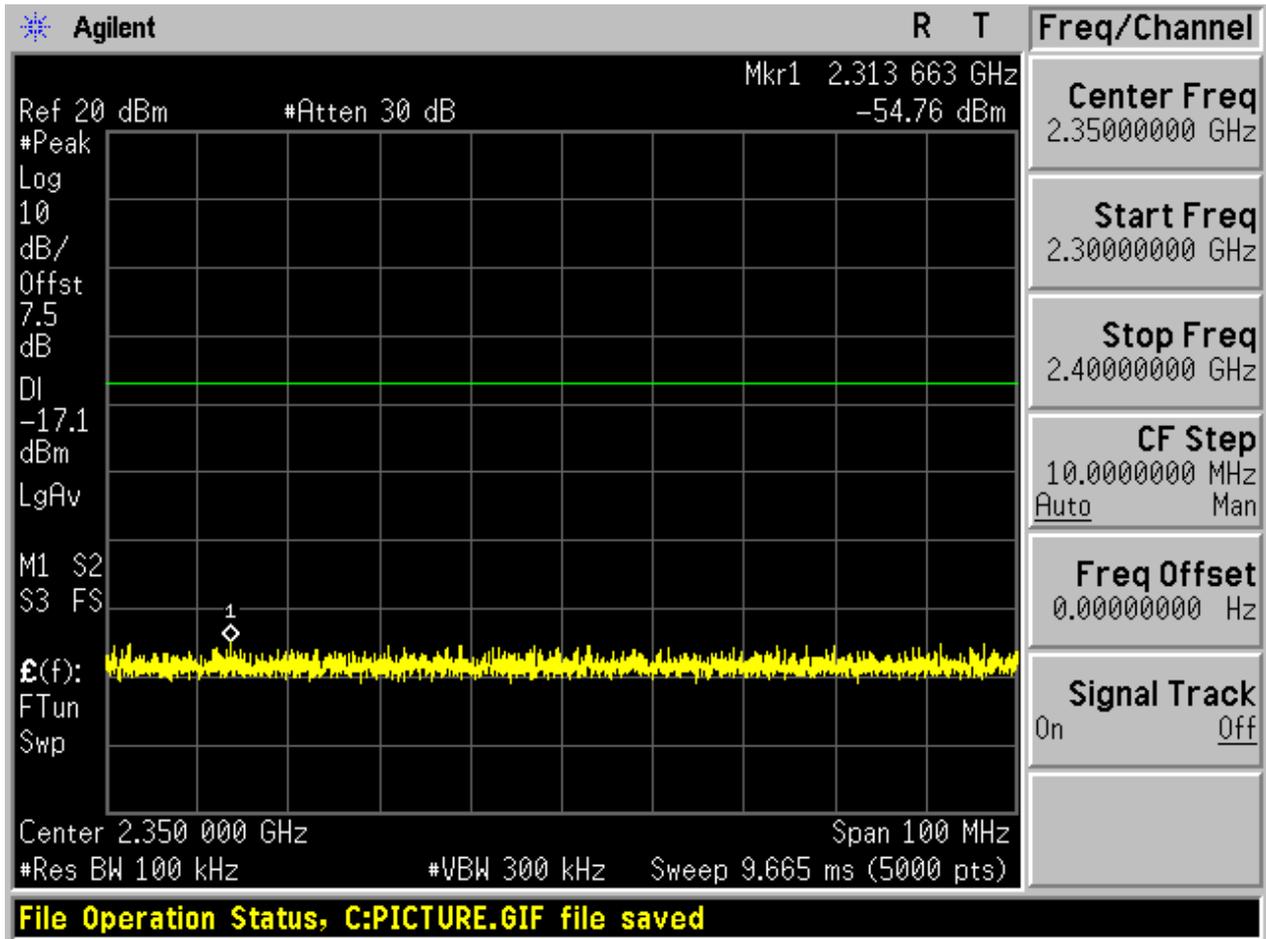


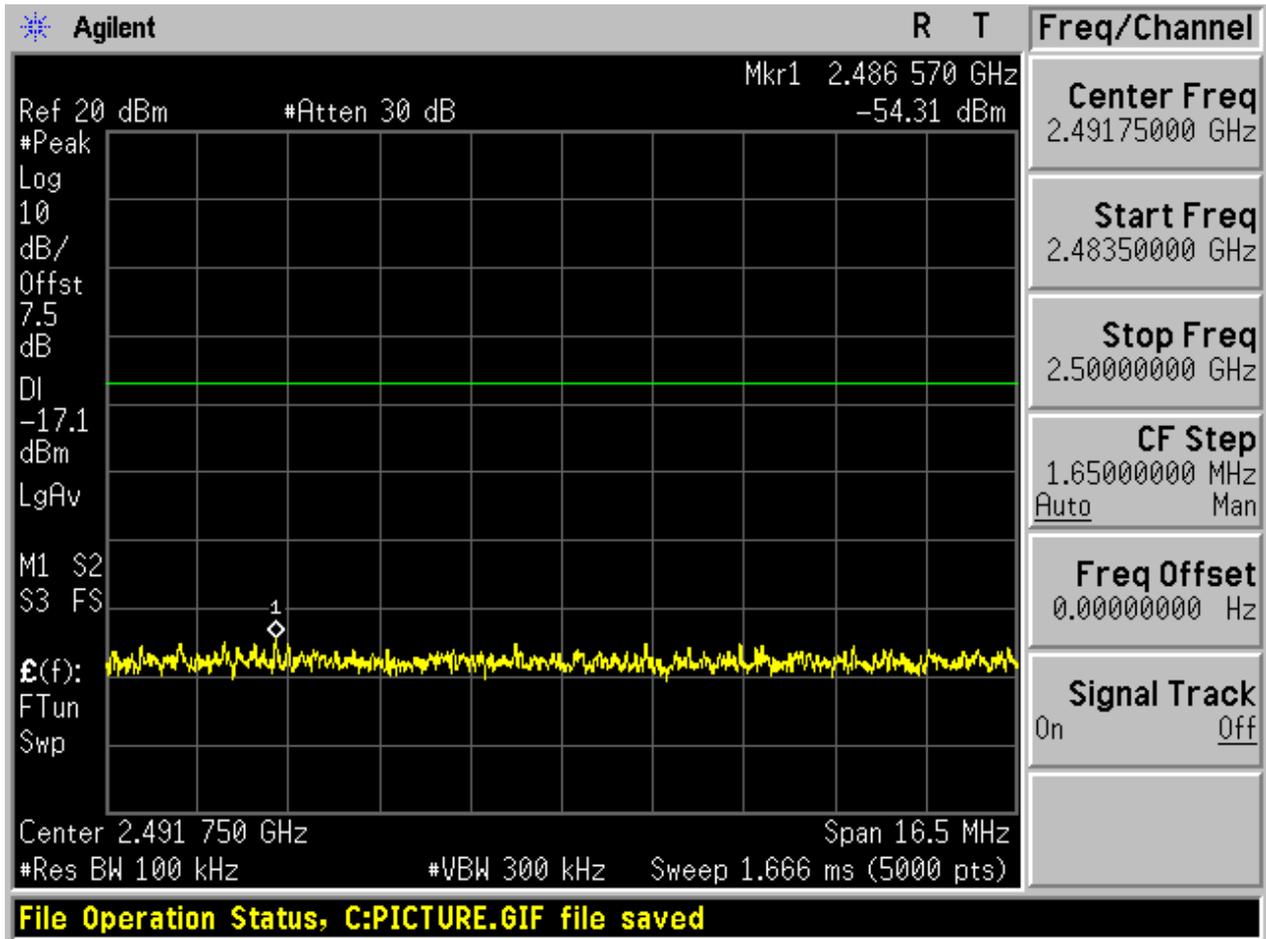
2.8.2 Puw

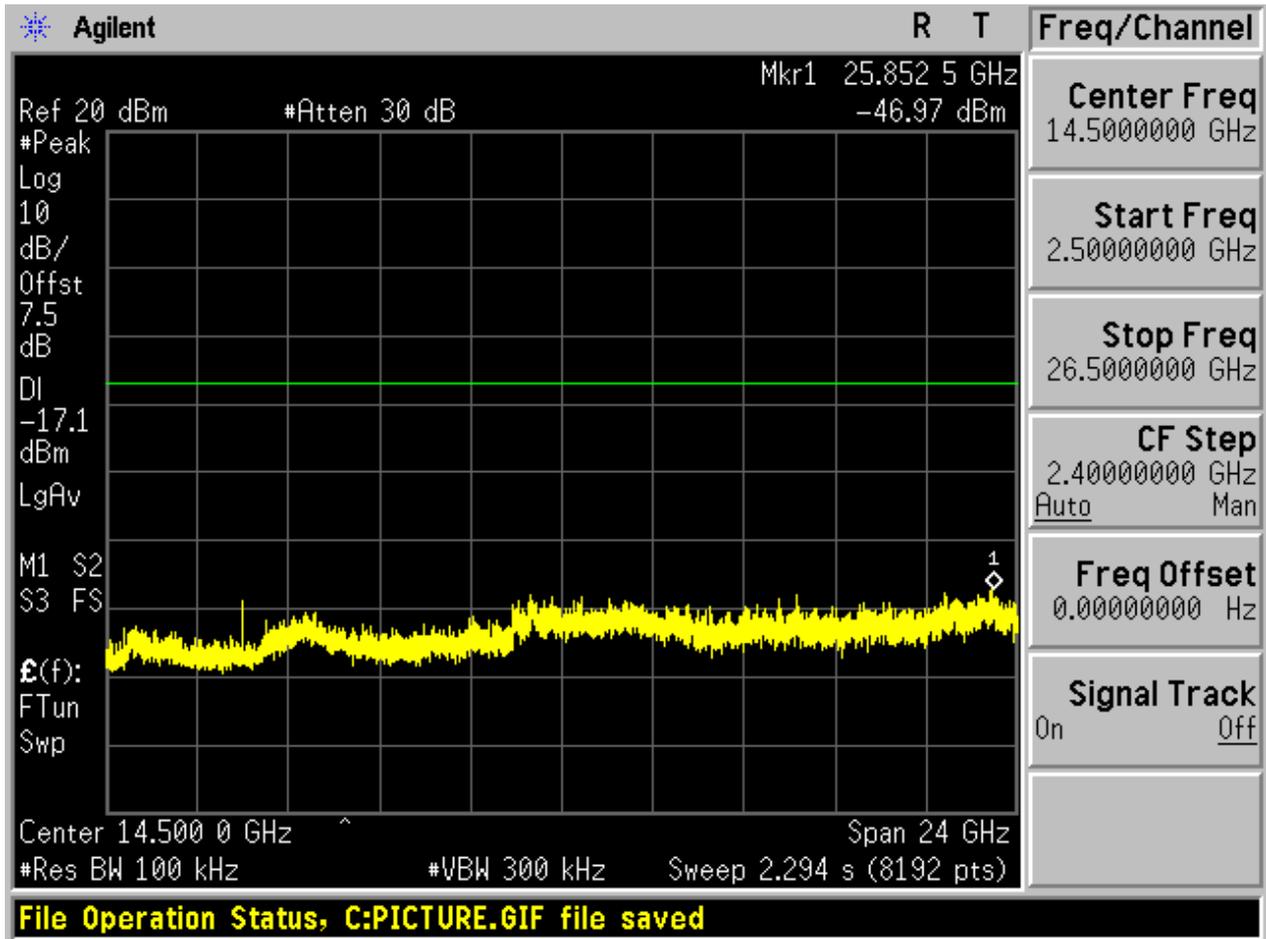








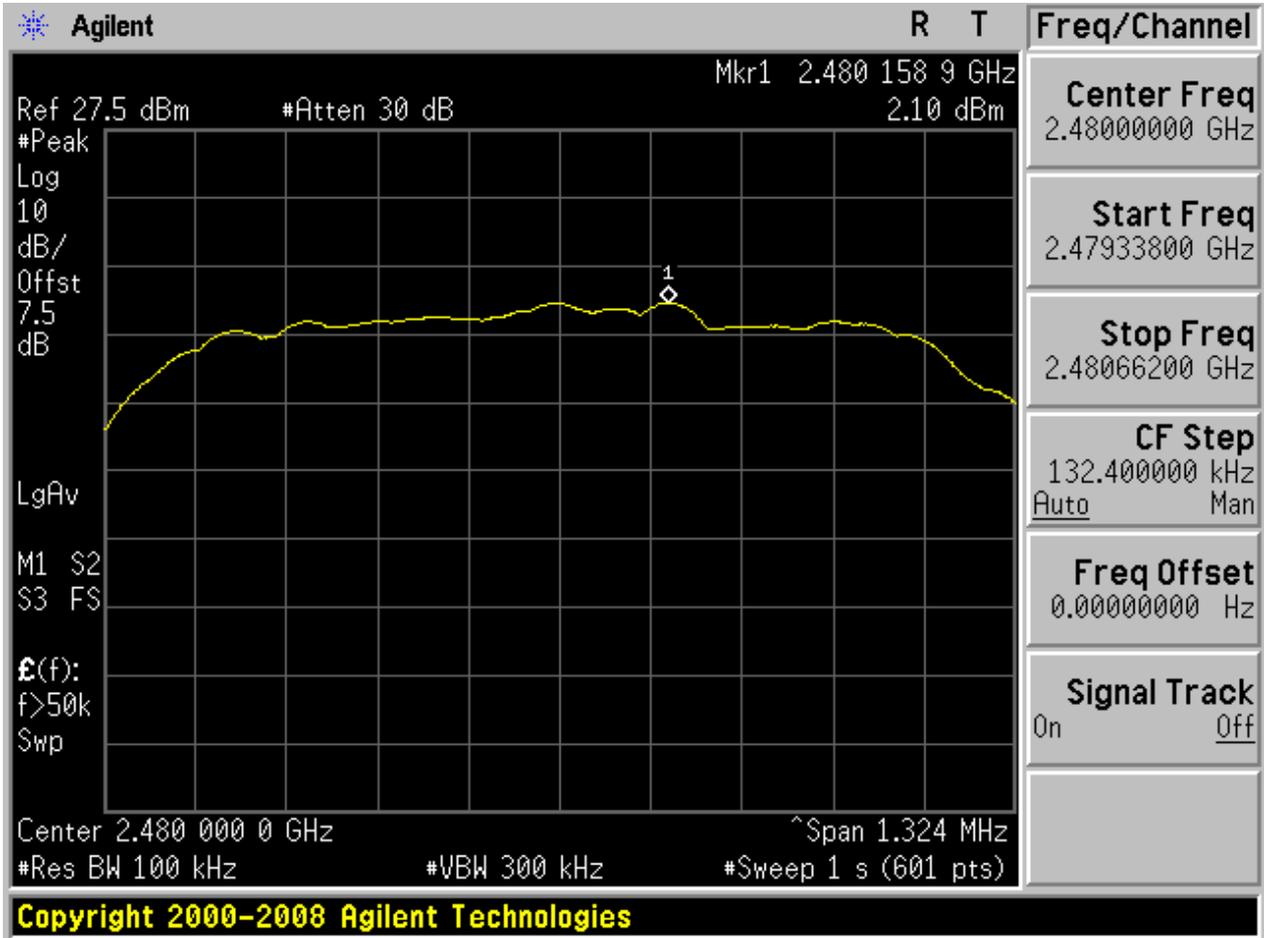




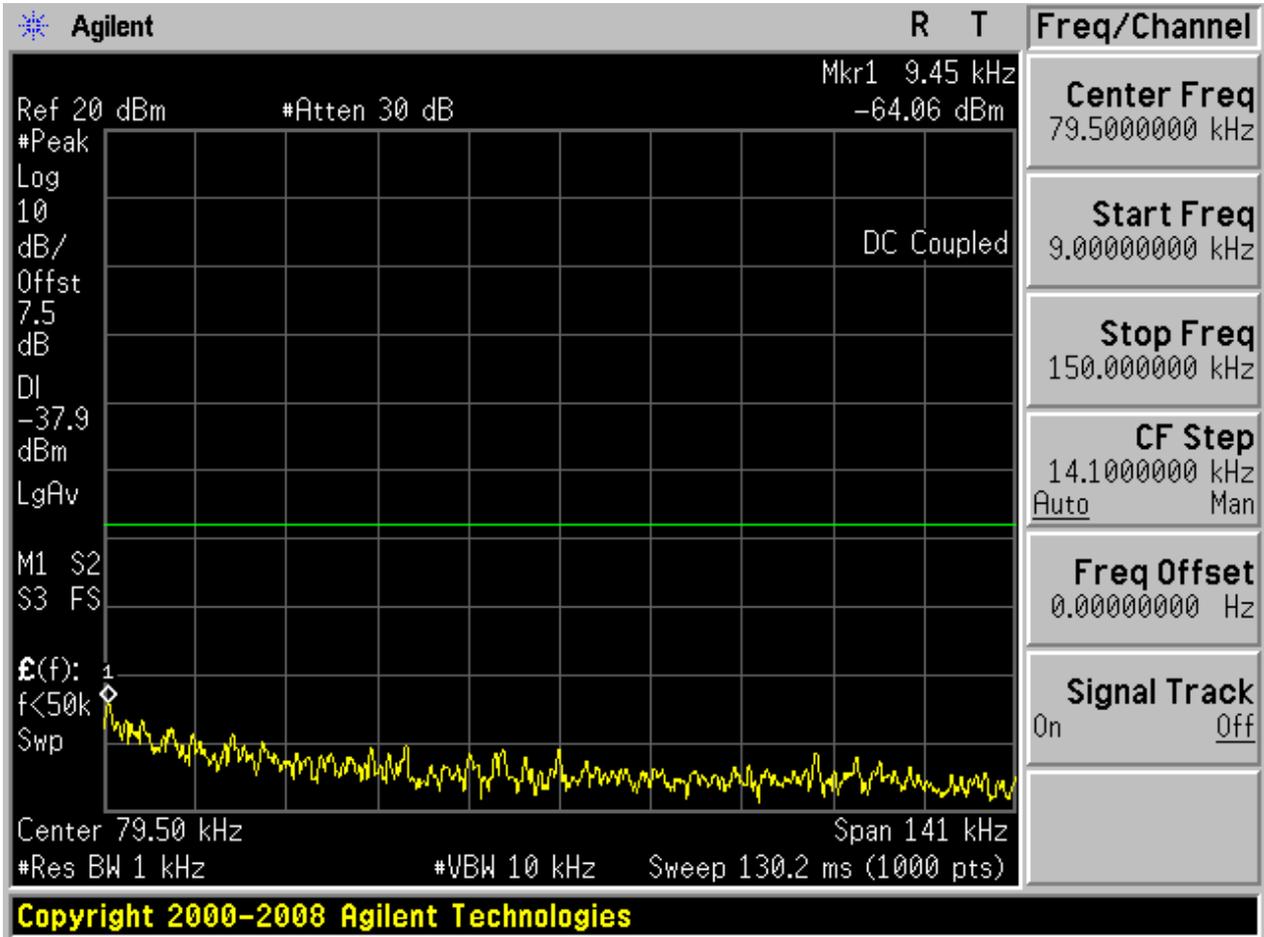


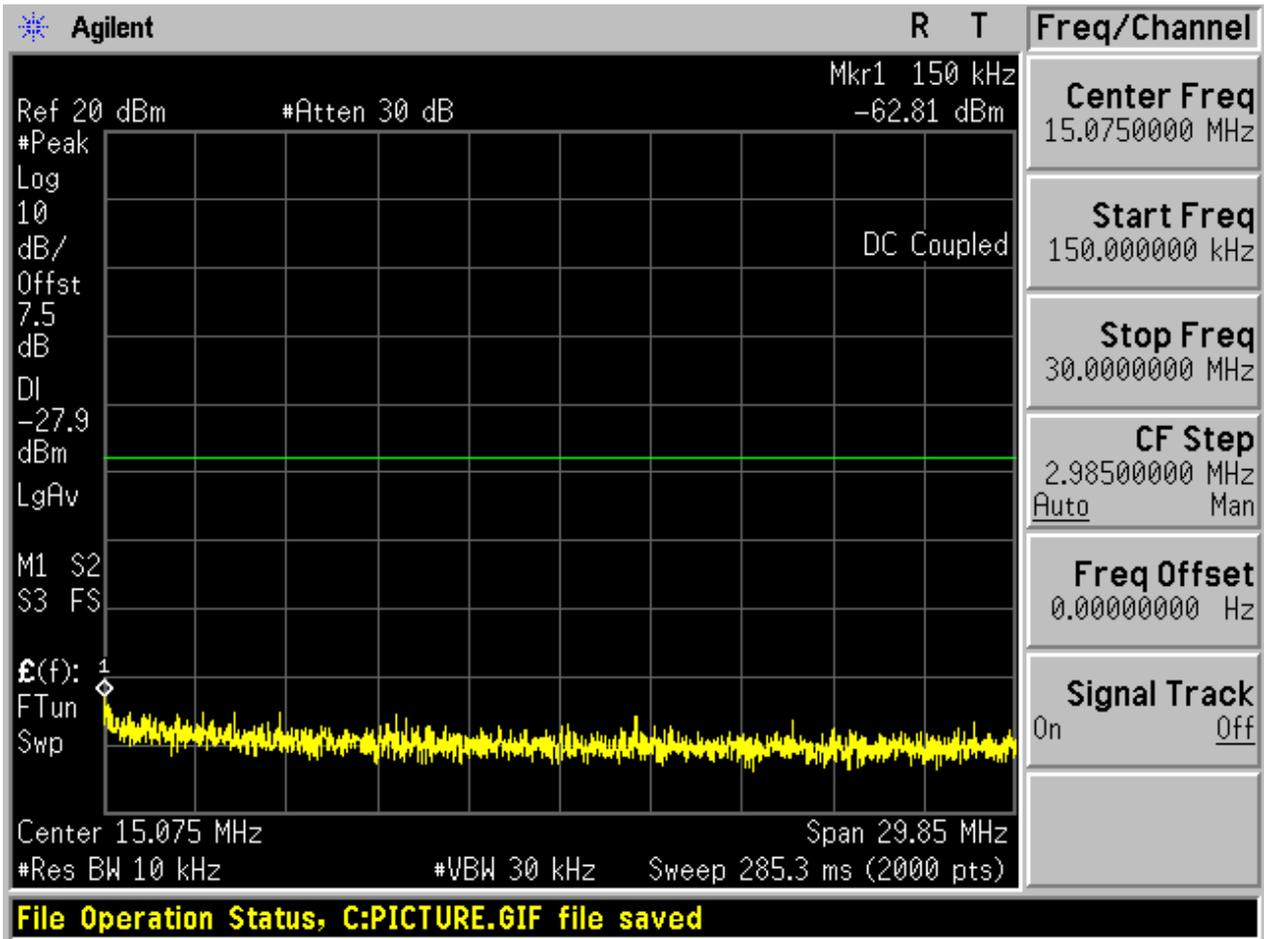
### 2.9 TM3\_3DH5\_Ch78

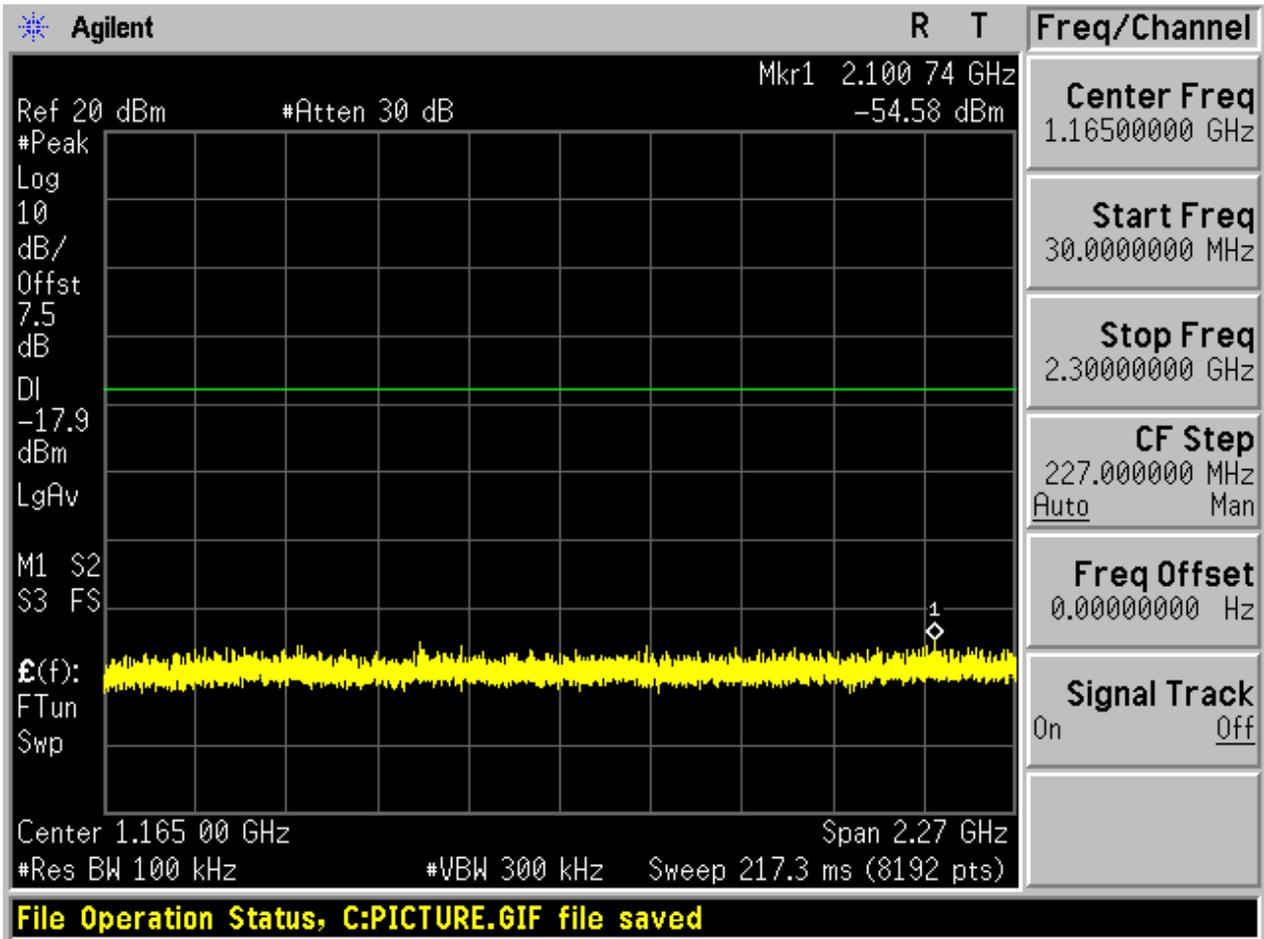
#### 2.9.1 Pref

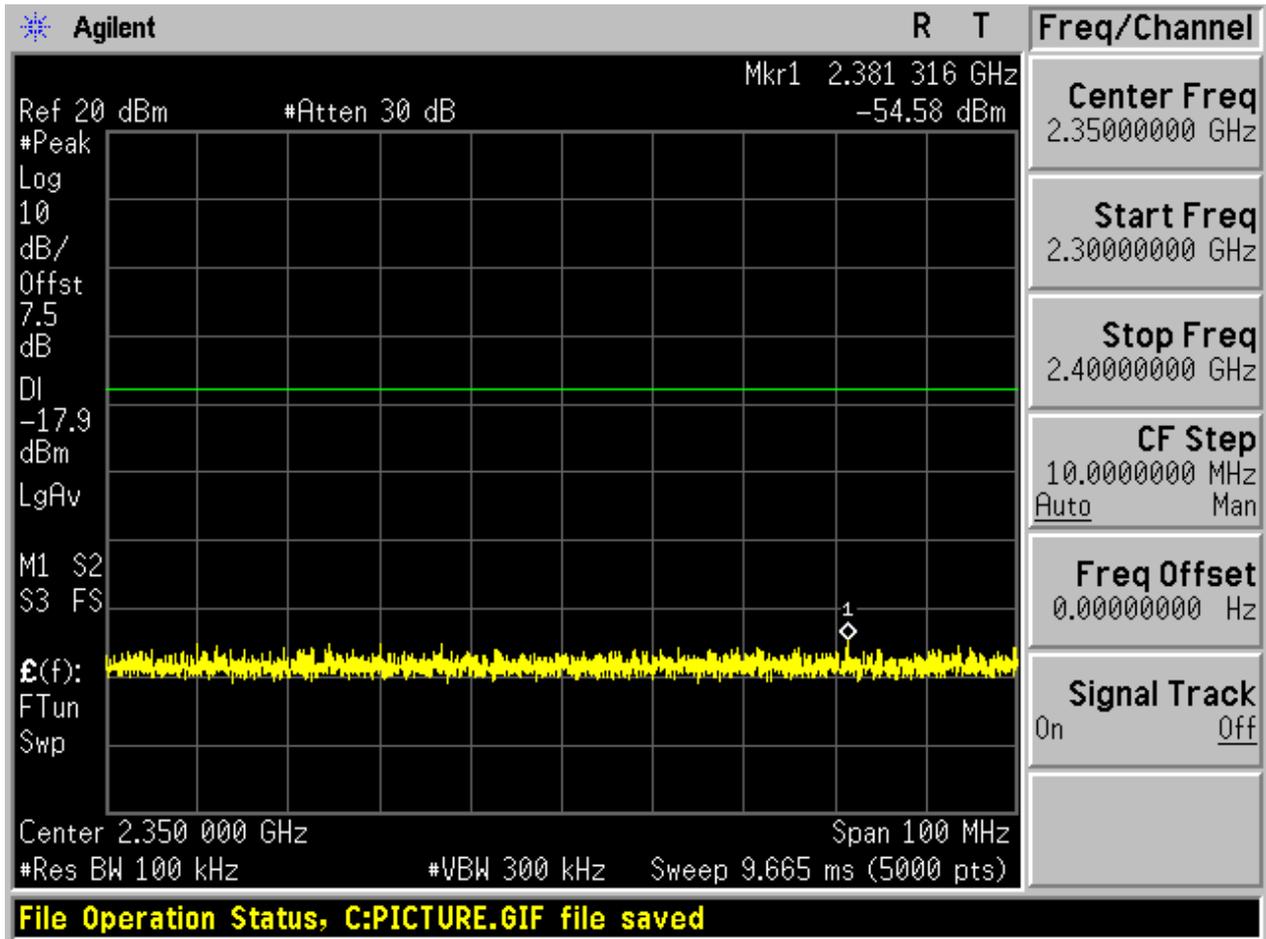


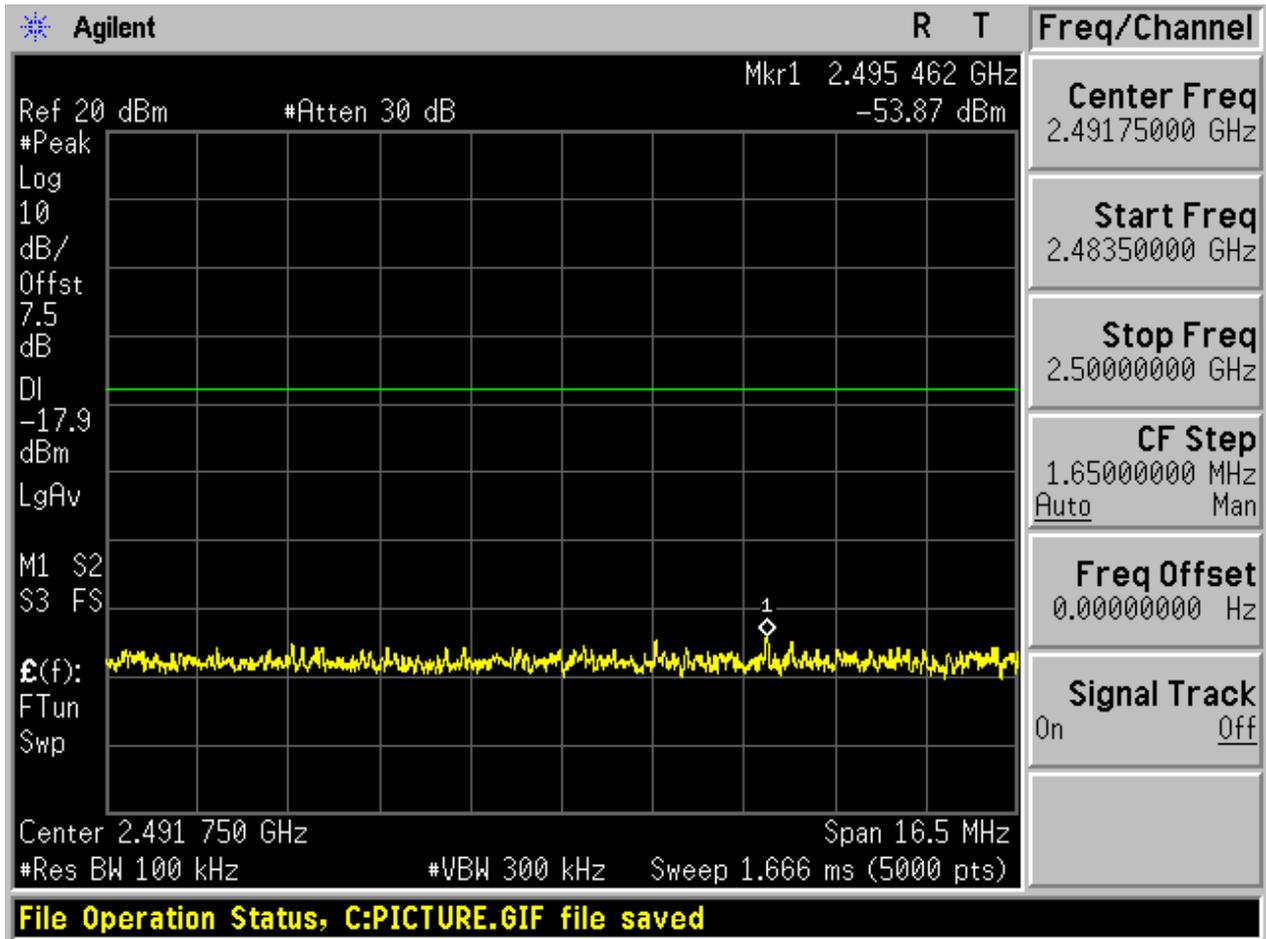
2.9.2 P<sub>uw</sub>

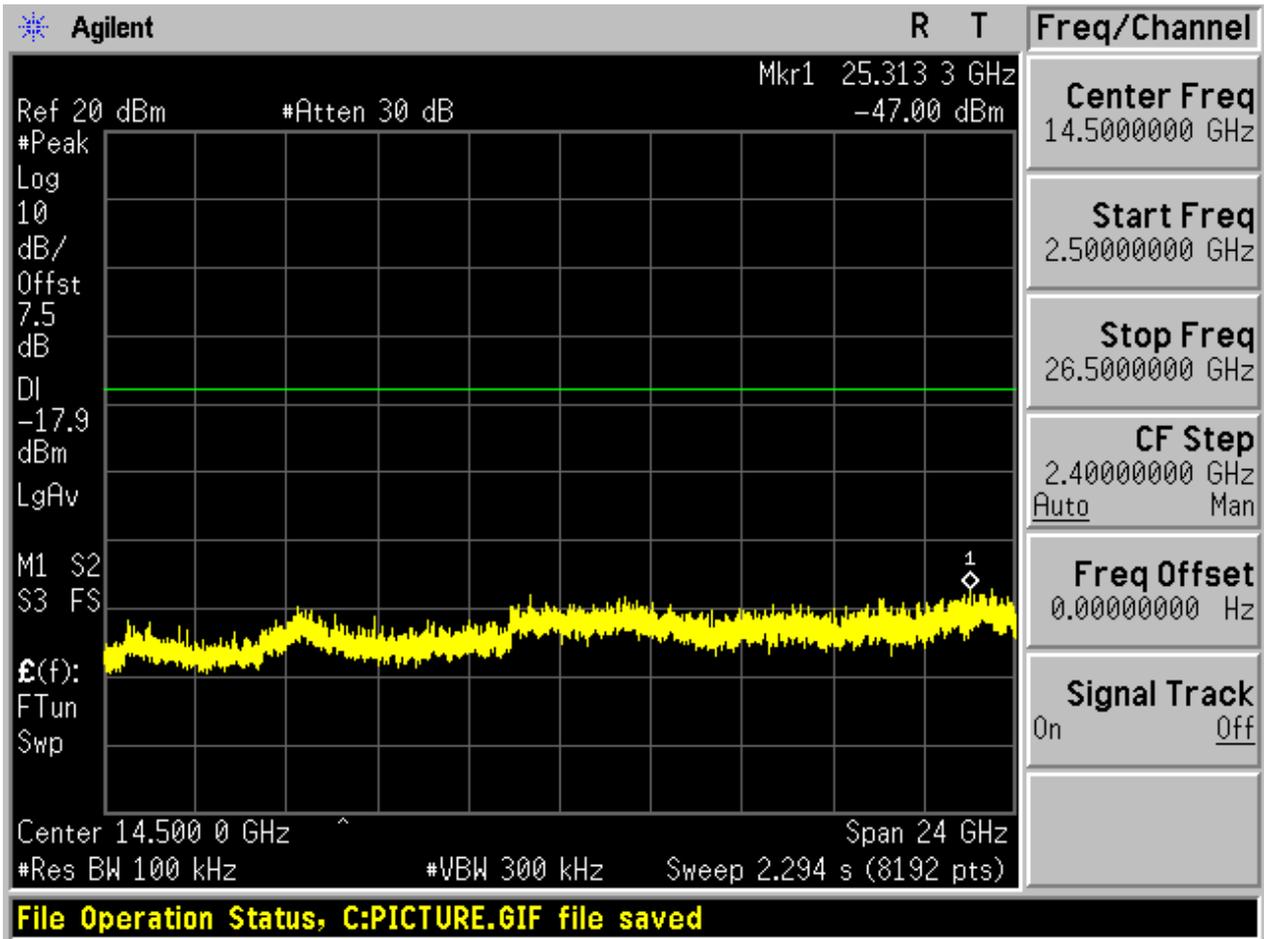














# Appendix H: Radiated Emissions in the Restricted Bands

## 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 30MHz”

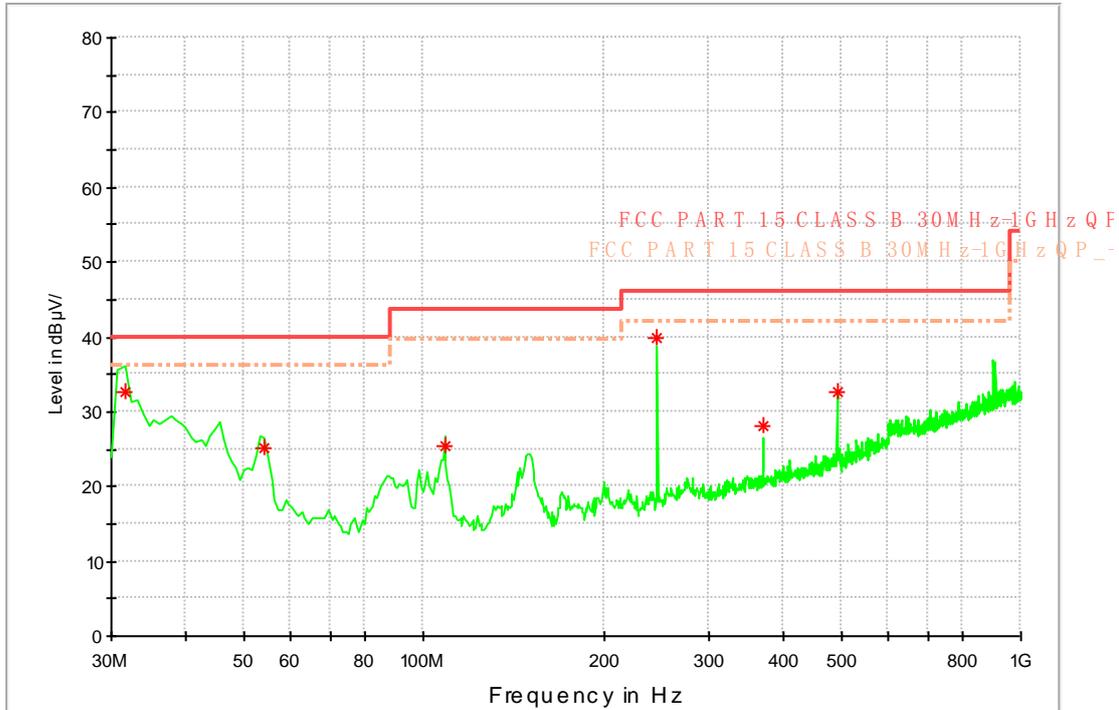
NOTE1: No peak found in the Test Range of “9 kHz to 30MHz”

### 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



Frequency (MHz)	QuasiPeak (dBµ V/m)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµ V/m)
31.782400	32.7	120.000	100.0	V	44.0	13.9	7.3	40.0
53.896320	25.0	120.000	100.0	V	-8.0	14.7	15.0	40.0
108.756160	25.5	120.000	271.0	H	187.0	13.3	18.0	43.5
246.386880	39.7	120.000	156.0	H	137.0	14.3	6.3	46.0
369.600000	28.0	120.000	100.0	H	262.0	17.3	18.0	46.0
492.830080	32.7	120.000	245.0	H	226.0	19.7	13.3	46.0



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

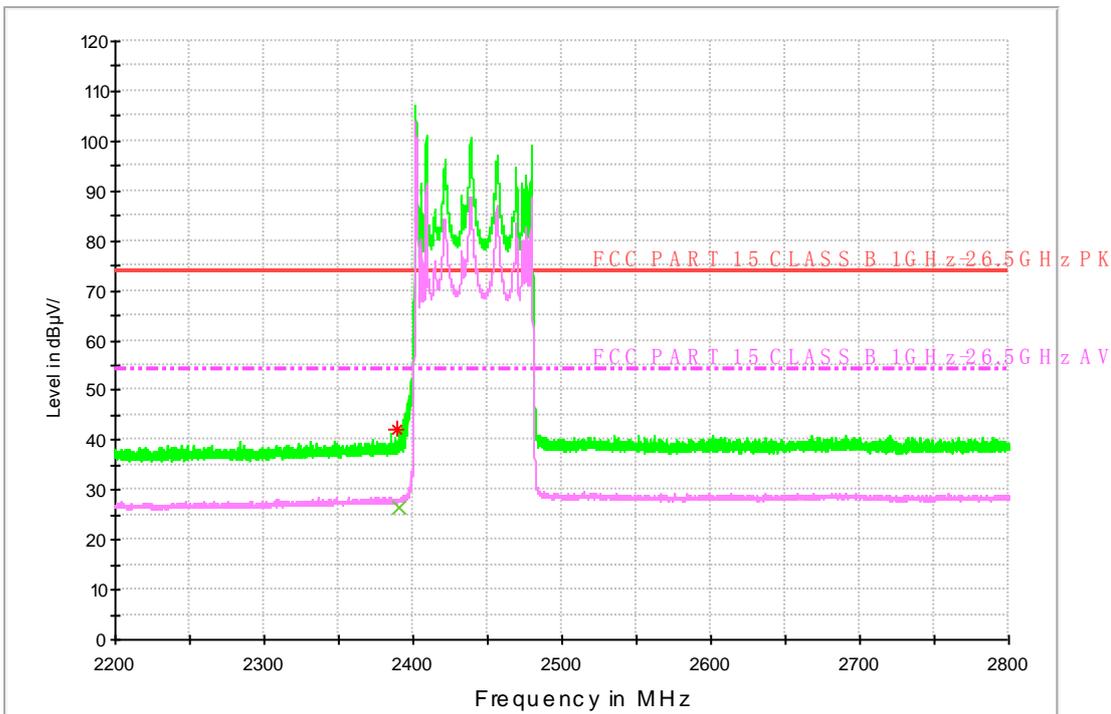
NOTE1: No peak found in the Test Range of “18 GHz to 26.5GHz”

**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**

FCC RE W IFI 1GHz-3GHz



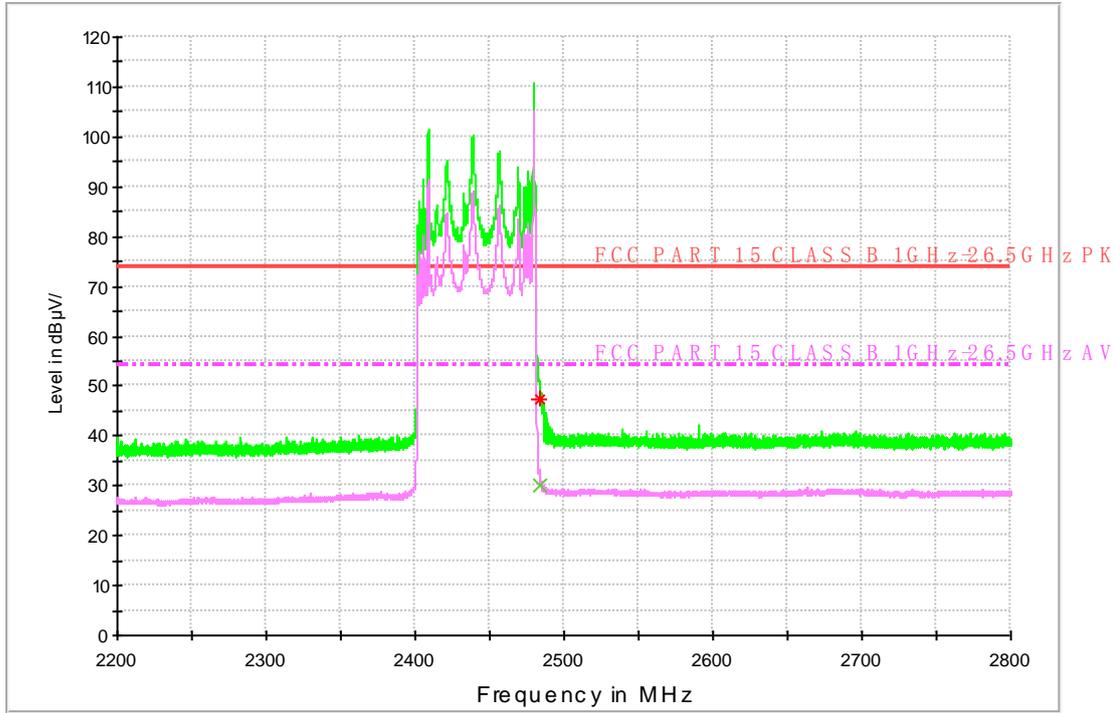
**Note: The peak exceeds the limit line is carrier frequency.**

MEASUREMENT RESULT: PK/ AV Detector

Frequency (MHz)	MaxPeak (dB $\mu$ V/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)
2389.579400	42.2	15000.0	1000.000	100.0	V	356.0	-7.6	31.8
Frequency (MHz)	Average (dB $\mu$ V/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)
2390.687600	26.7	15000.0	1000.000	100.0	V	350.0	-7.6	27.3

2.1.1.1 Channel 39

FCC RE W IFI 1GHZ-3GHz



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

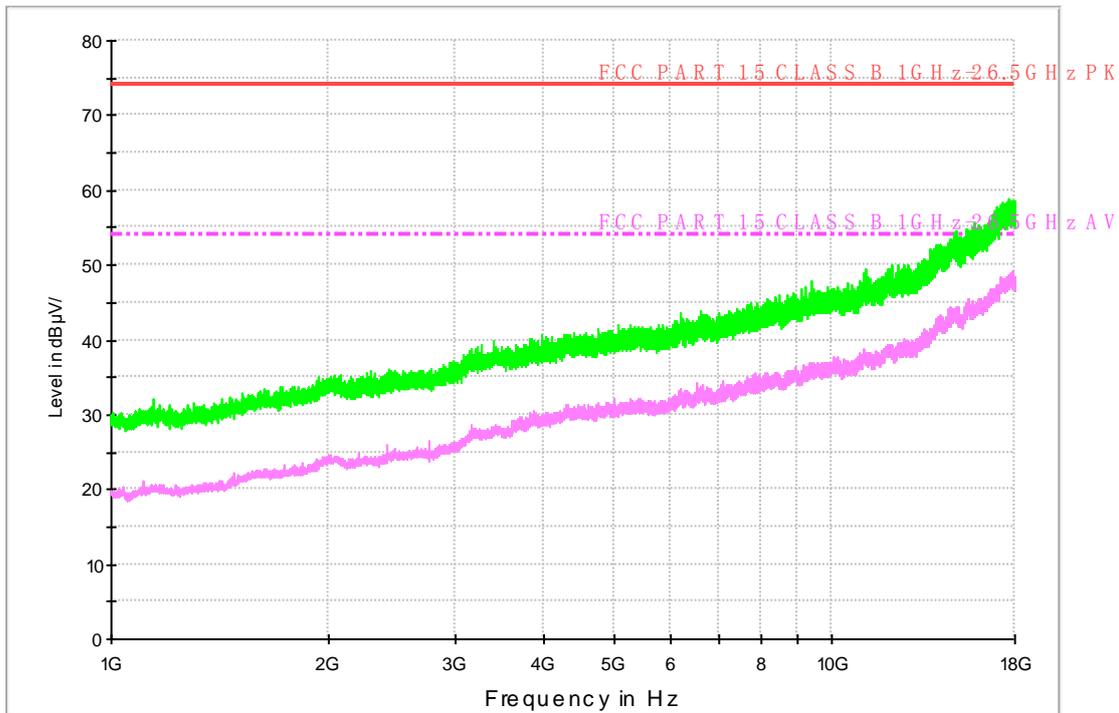
MEASUREMENT RESULT: PK/ AV Detector

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)
2483.255600	47.4	15000.0	1000.000	100.0	V	0.0	-5.2	26.6
Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)
2483.462400	30.0	15000.0	1000.000	100.0	H	62.0	-5.4	24.0

### 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 faraway 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).

FCC CLASS B RE 1GHz-18GHz





# Appendix I: AC Power Line Conducted Emissions



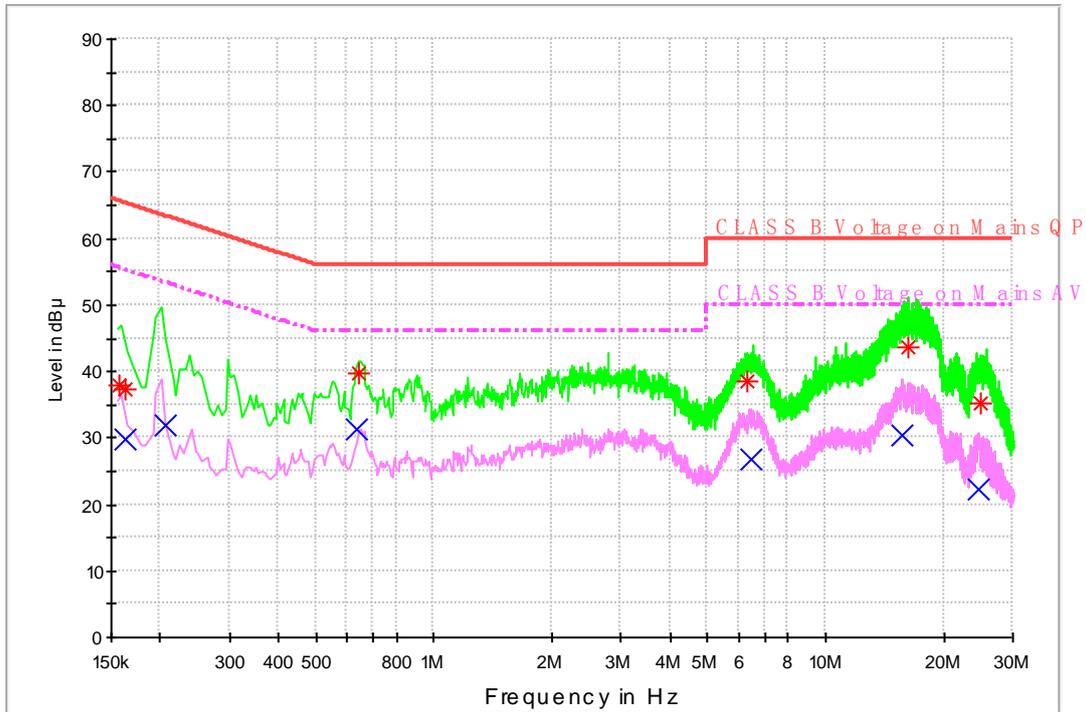
## 1 Result Table

In this Appendix, only the test results and plots under the worst case can be reported.

EUT Conf.	Maximum Emissions	Verdict
TM1_DH5_Ch39	Not found obvious spikes or see marked spikes on plots and listed emissions records.	Pass

## 2 Result Plot

CLASS B Voltage with ENV216



### Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.157511	37.9	L1	9.8	27.7	65.6
0.163892	37.4	L1	9.8	27.9	65.3
0.644670	39.7	N	9.8	16.3	56.0
6.328335	38.6	N	10.0	21.4	60.0
16.284126	43.7	L1	10.2	16.3	60.0
24.924438	35.1	N	10.3	24.9	60.0

### Final Result 2

Frequency (MHz)	Average (dBμ V)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.163202	29.8	L1	9.8	25.5	55.3
0.206305	32.0	N	9.8	21.4	53.4
0.635706	31.2	N	9.8	14.8	46.0
6.416283	26.7	N	10.0	23.3	50.0
15.713889	30.4	L1	10.2	19.6	50.0
24.534039	22.2	N	10.3	27.8	50.0

END