



# Appendix A: 20dB Emission Bandwidth (EBW)



## 1 Result Table

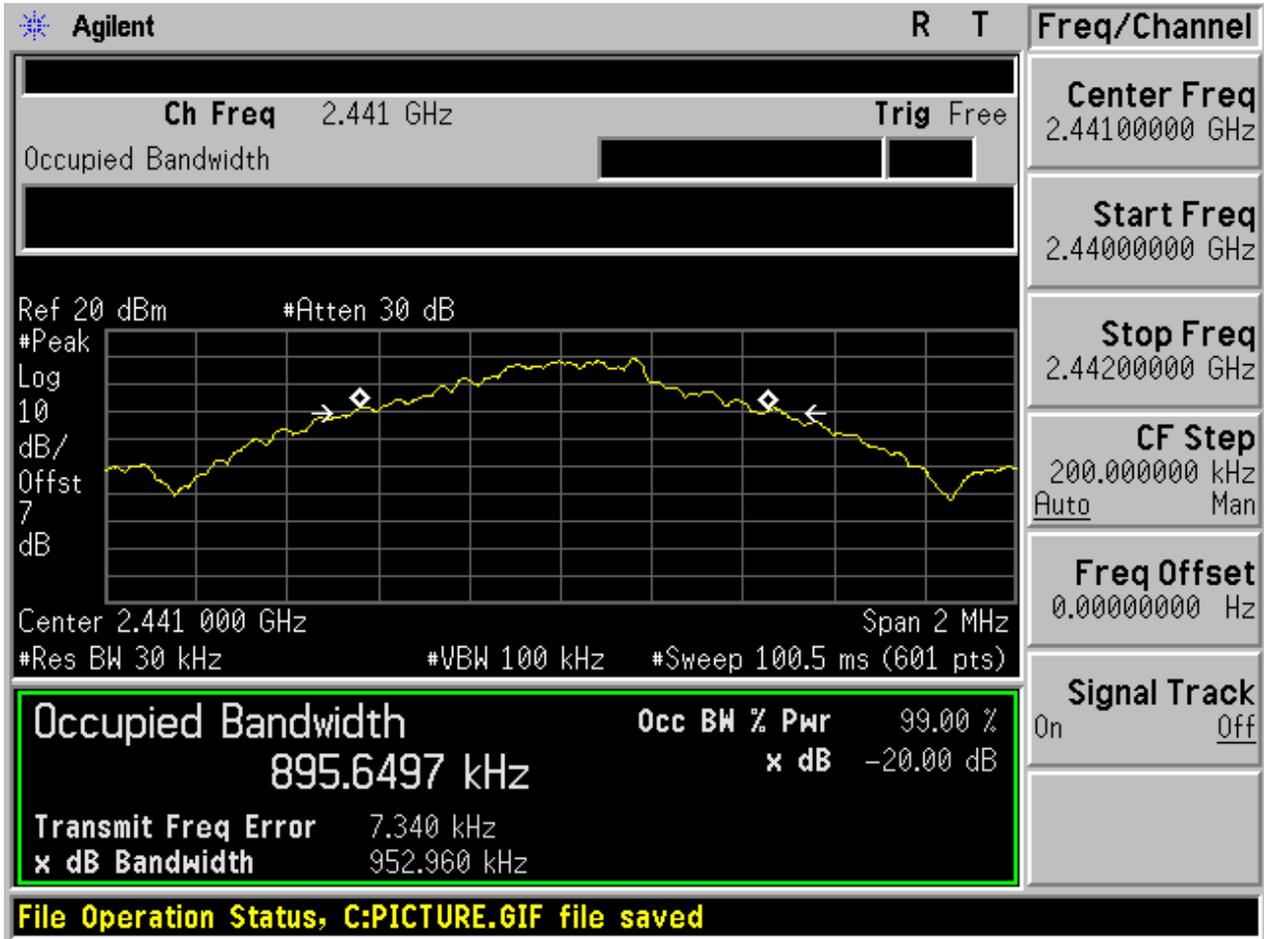
EUT Conf.	EBW [MHz]	Verdict
TM1_DH5_Ch0	0.955	Pass
TM1_DH5_Ch39	0.953	Pass
TM1_DH5_Ch78	0.959	Pass
TM2_2DH5_Ch0	1.290	Pass
TM2_2DH5_Ch39	1.288	Pass
TM2_2DH5_Ch78	1.288	Pass
TM3_3DH5_Ch0	1.282	Pass
TM3_3DH5_Ch39	1.278	Pass
TM3_3DH5_Ch78	1.273	Pass

2 Test Plot

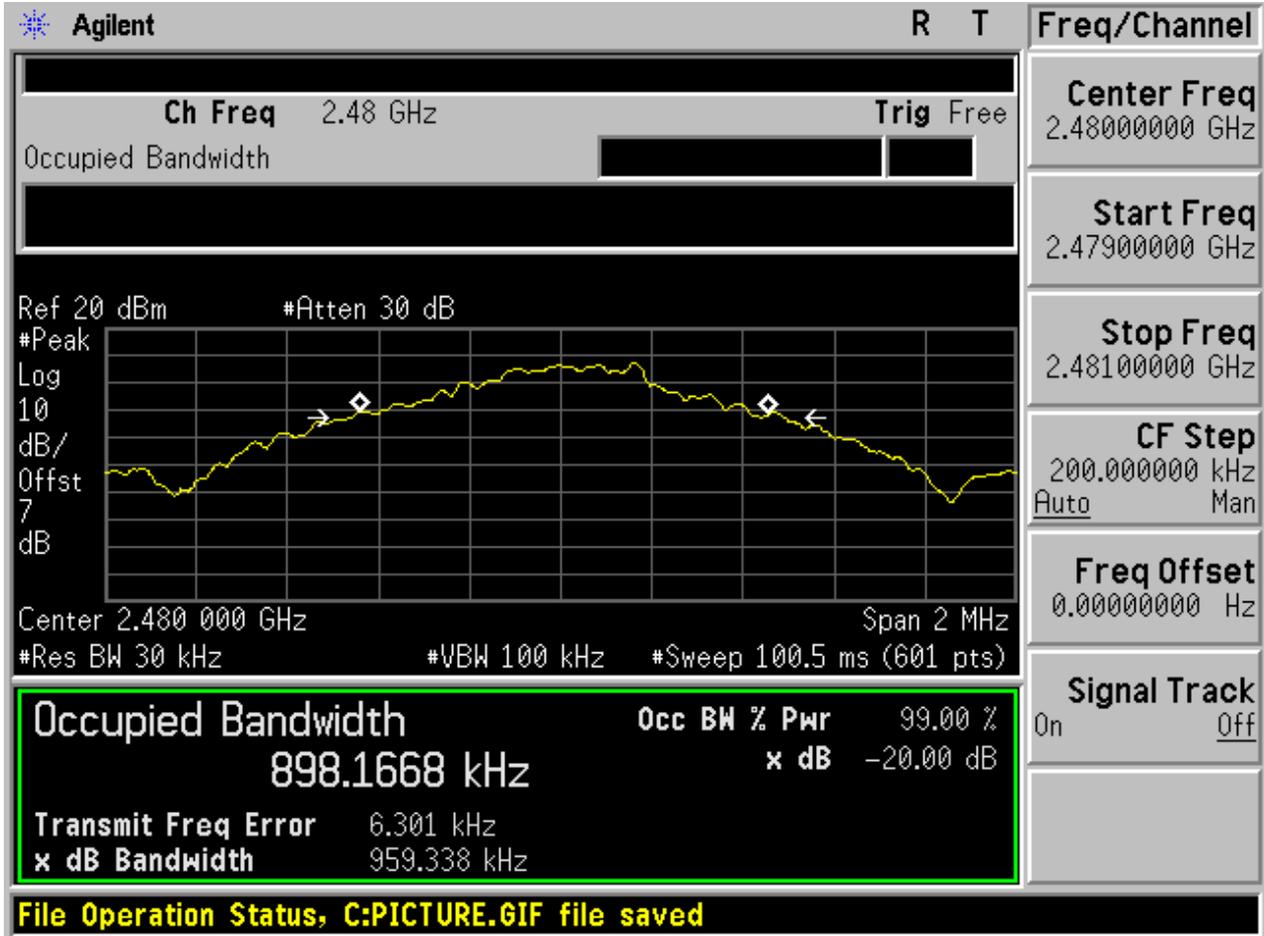
2.1 TM1\_DH5\_Ch0



2.2 TM1\_DH5\_Ch39



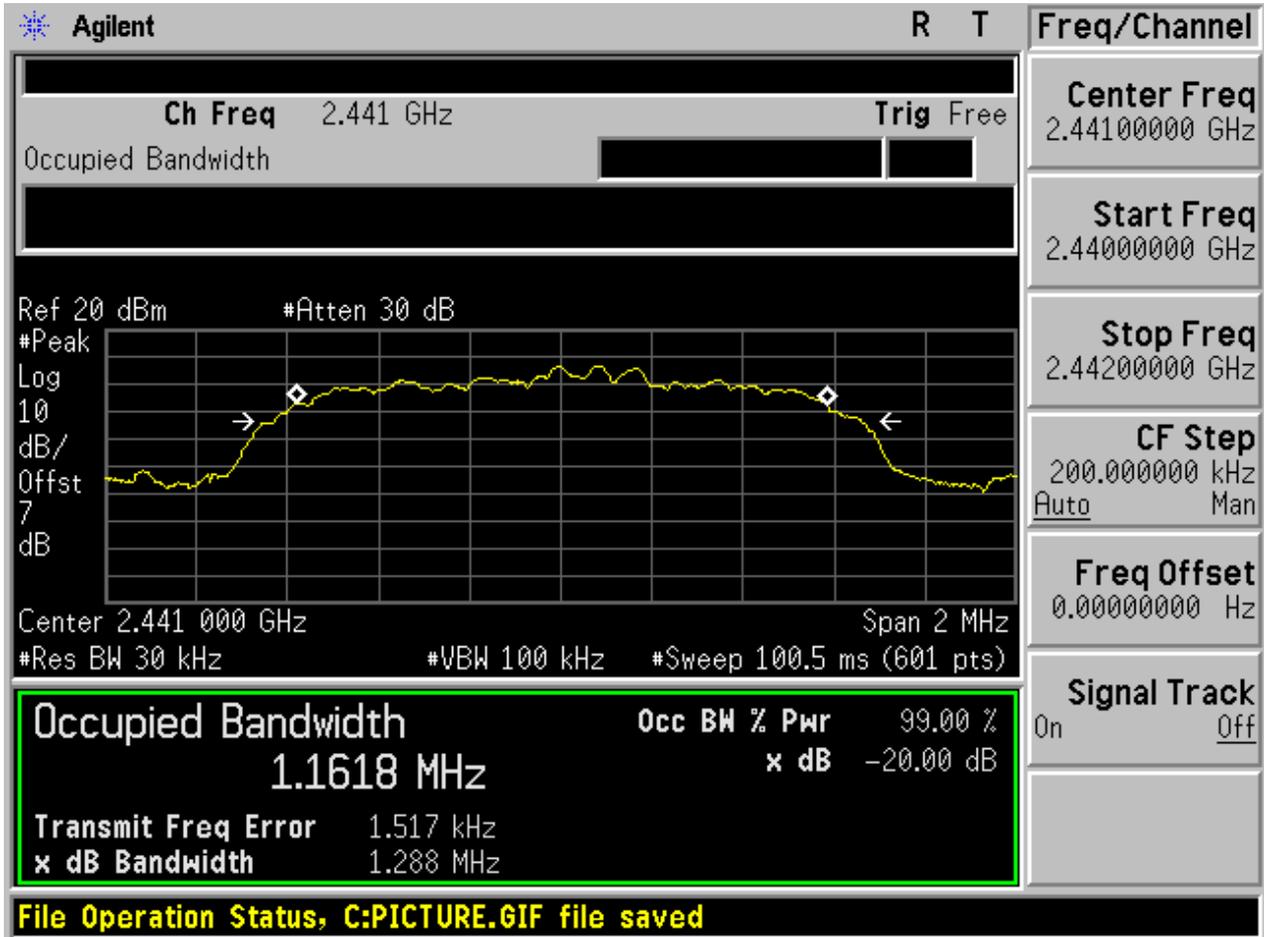
2.3 TM1\_DH5\_Ch78



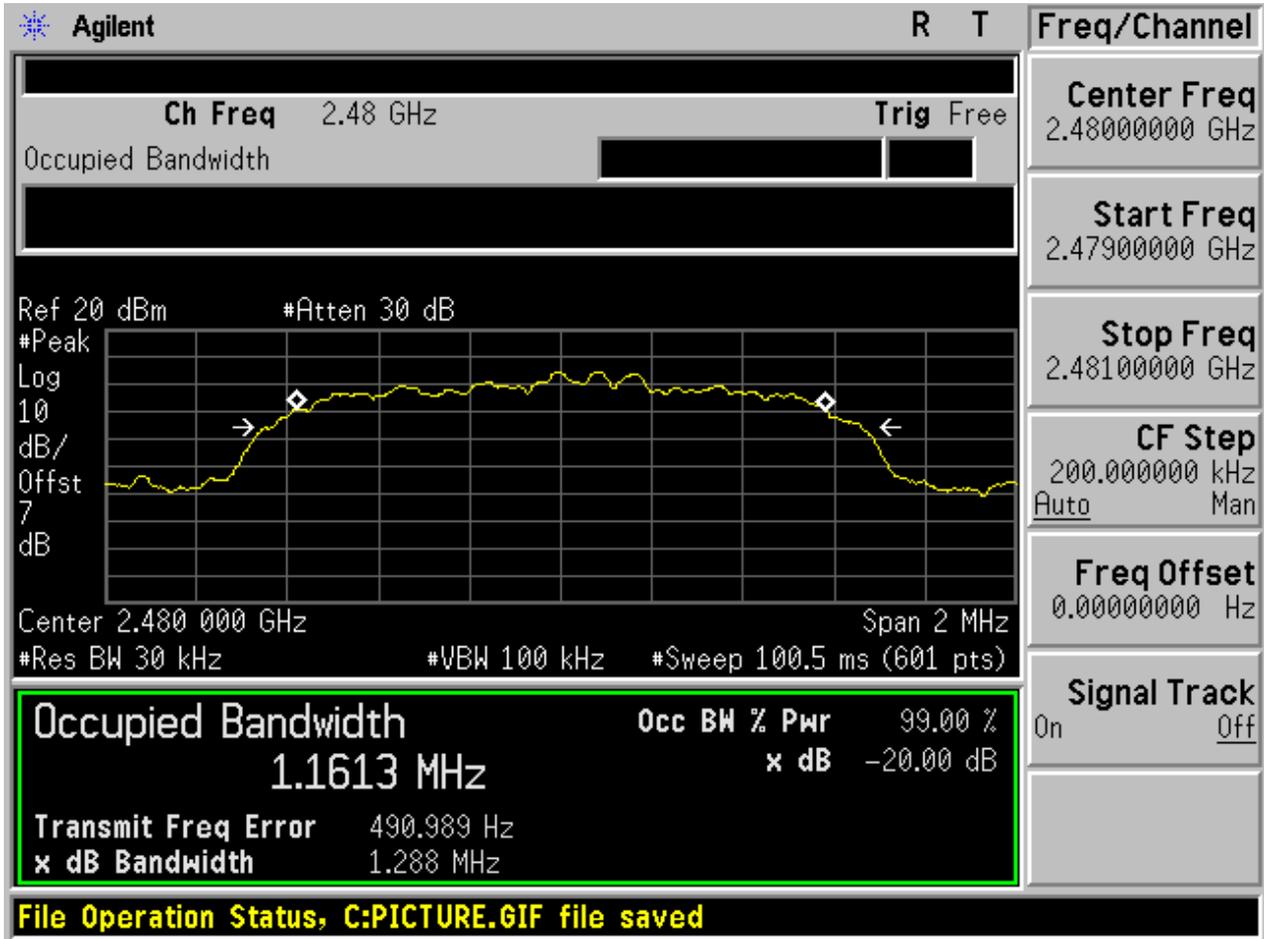
2.4 TM2\_2DH5\_Ch0



2.5 TM2\_2DH5\_Ch39



2.6 TM2\_2DH5\_Ch78



2.7 TM3\_3DH5\_Ch0

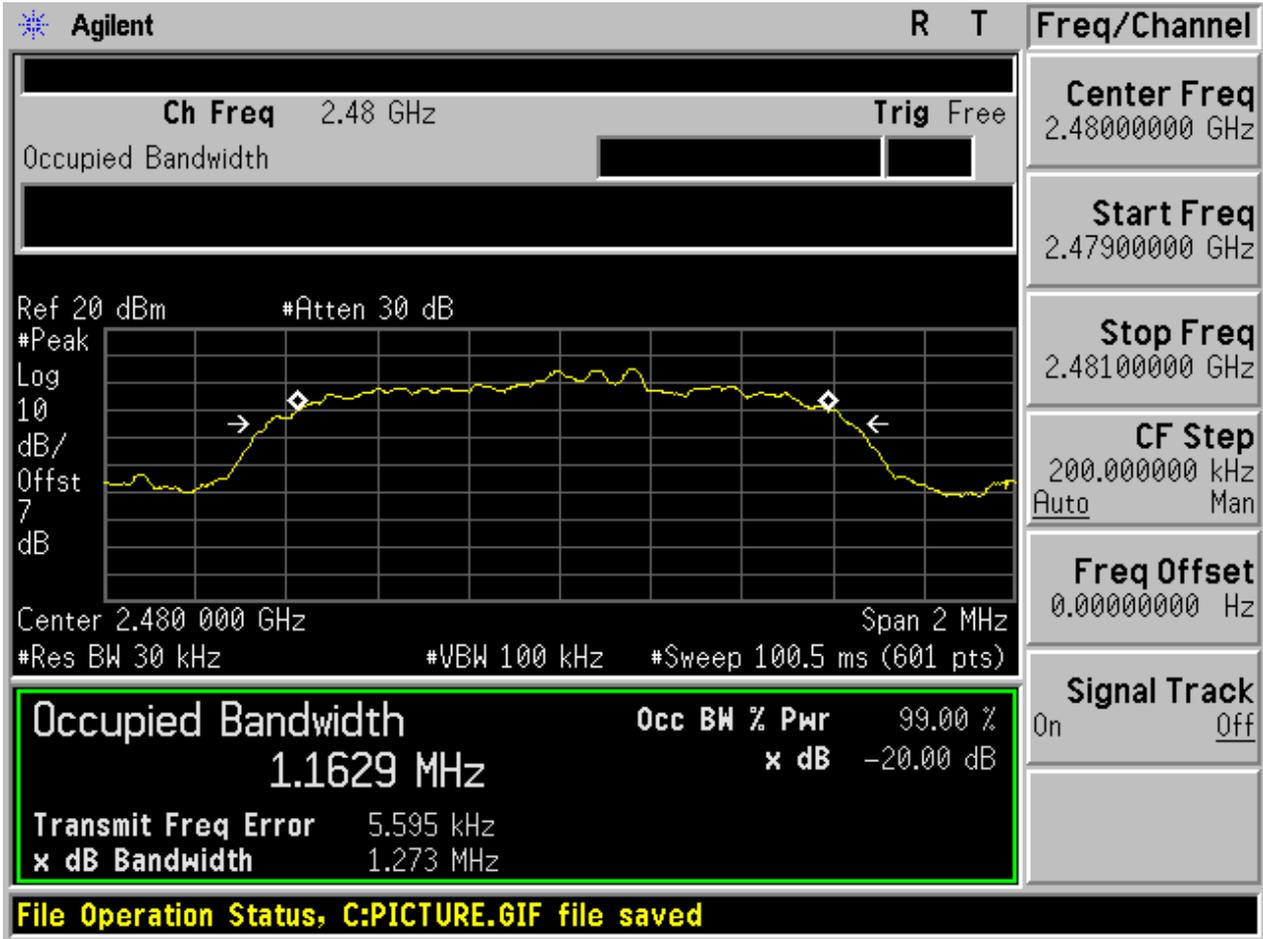


2.8 TM3\_3DH5\_Ch39





2.9 TM3\_3DH5\_Ch78





# Appendix B: Carrier Frequency Separation

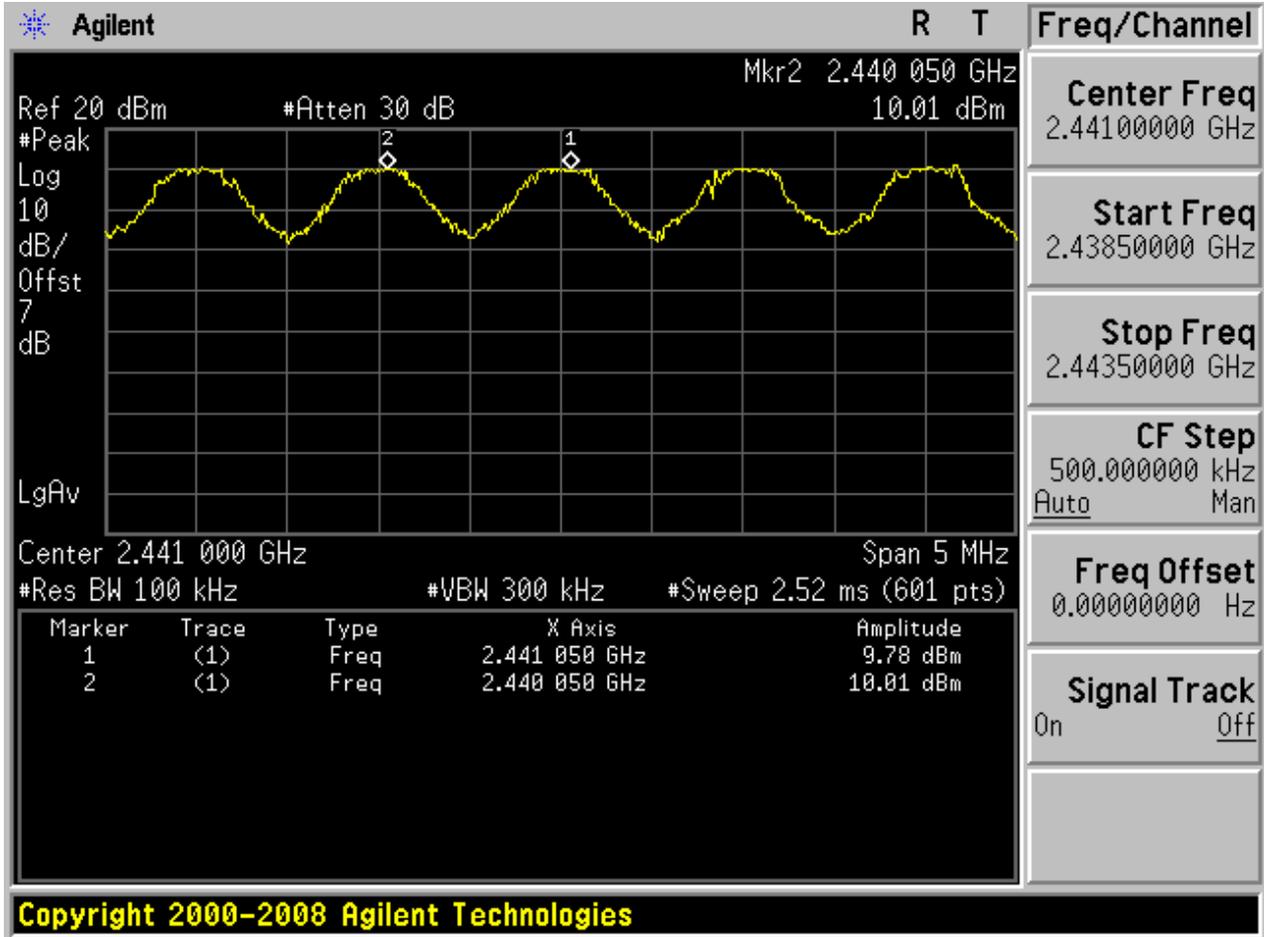


## 1 Result Table

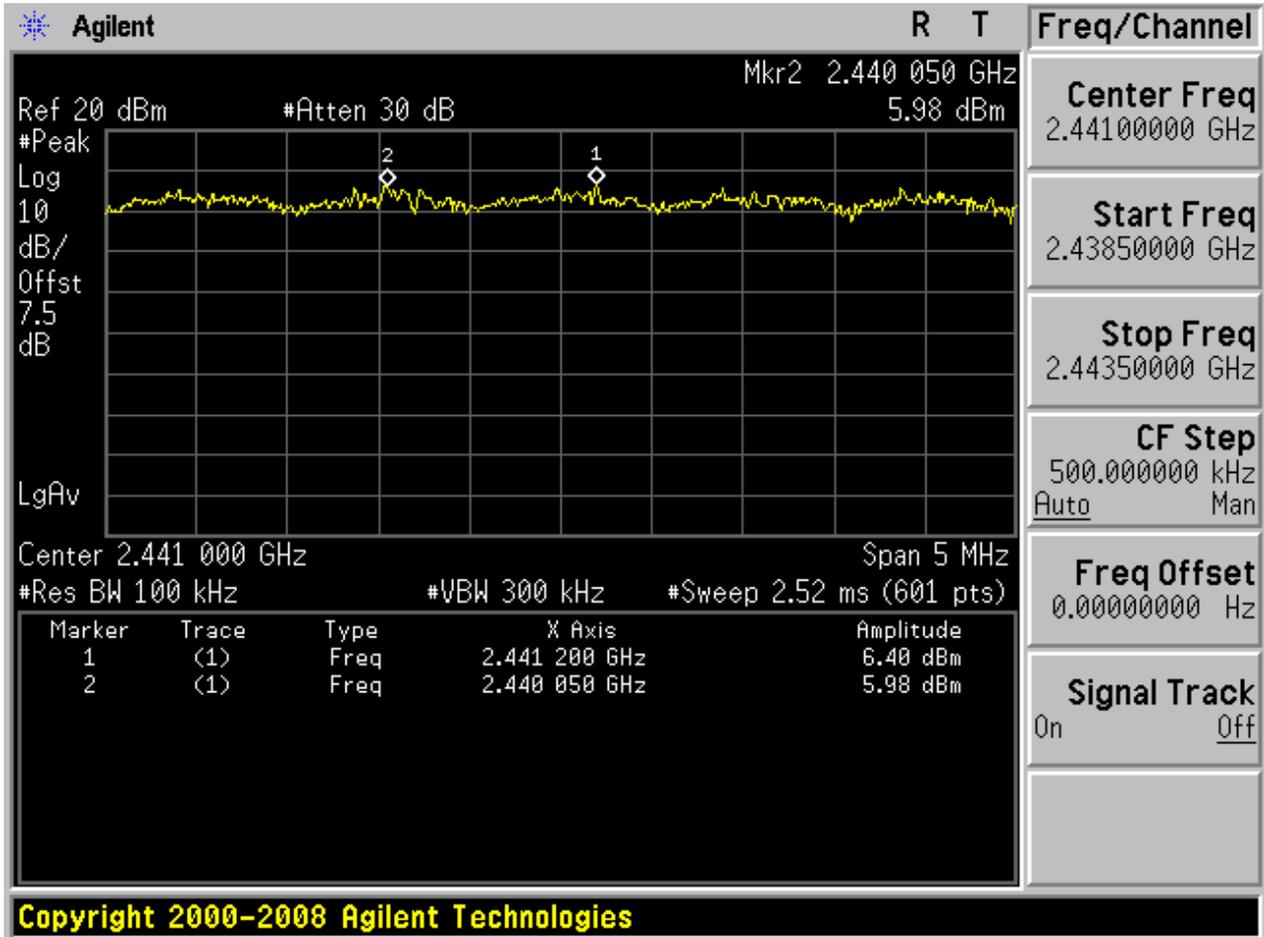
EUT Conf.	Carrier Frequency Separation [MHz]	Verdict
TM1_DH5_Hop	1.000	Pass
TM2_2DH5_Hop	1.150	Pass
TM3_3DH5_Hop	1.050	Pass

## 2 Test Plot

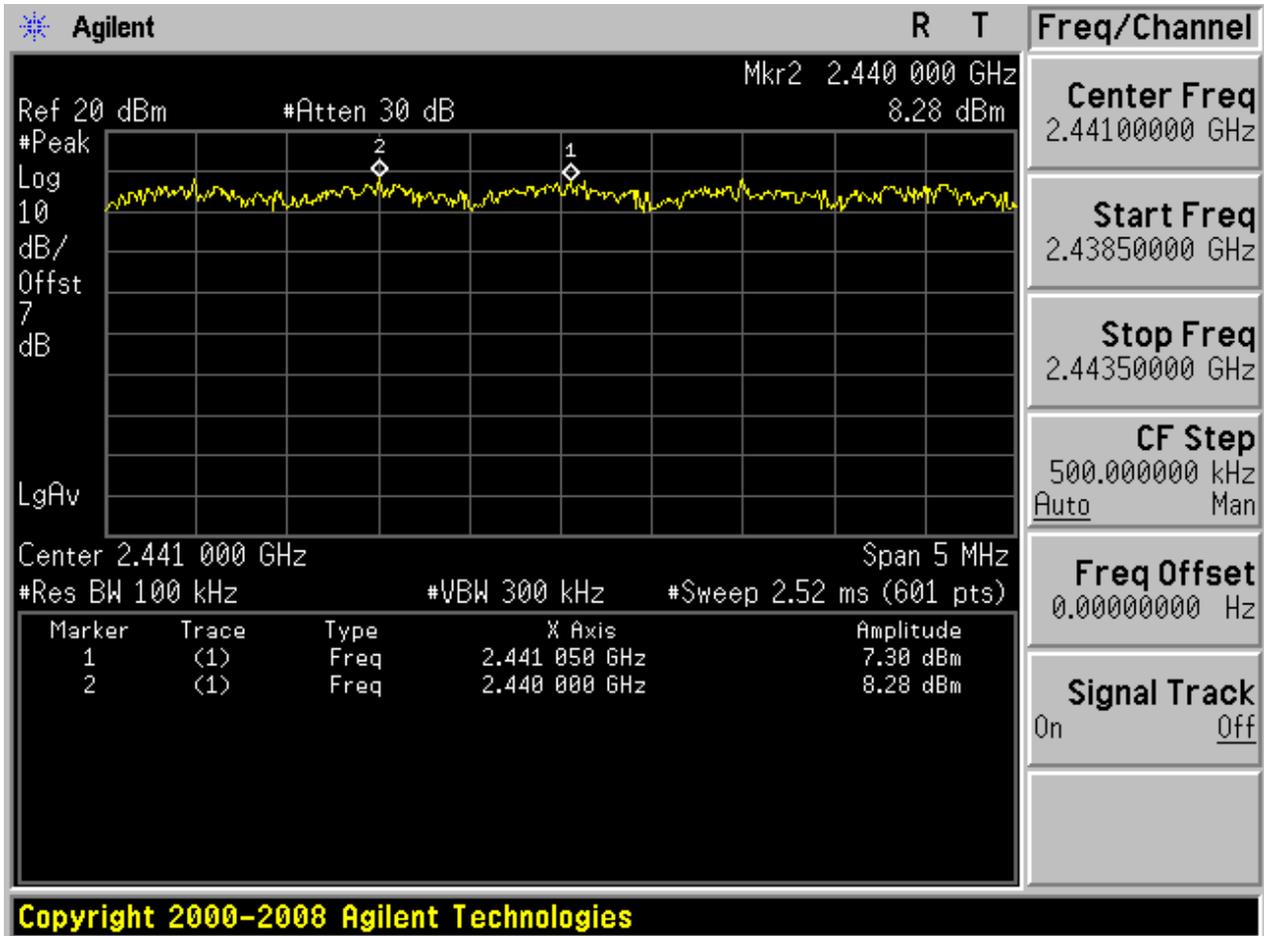
### 2.1 TM1\_DH5\_Hop



2.2 TM2\_2DH5\_Hop



2.3 TM3\_3DH5\_Hop





# Appendix C: Number of Hopping Channel

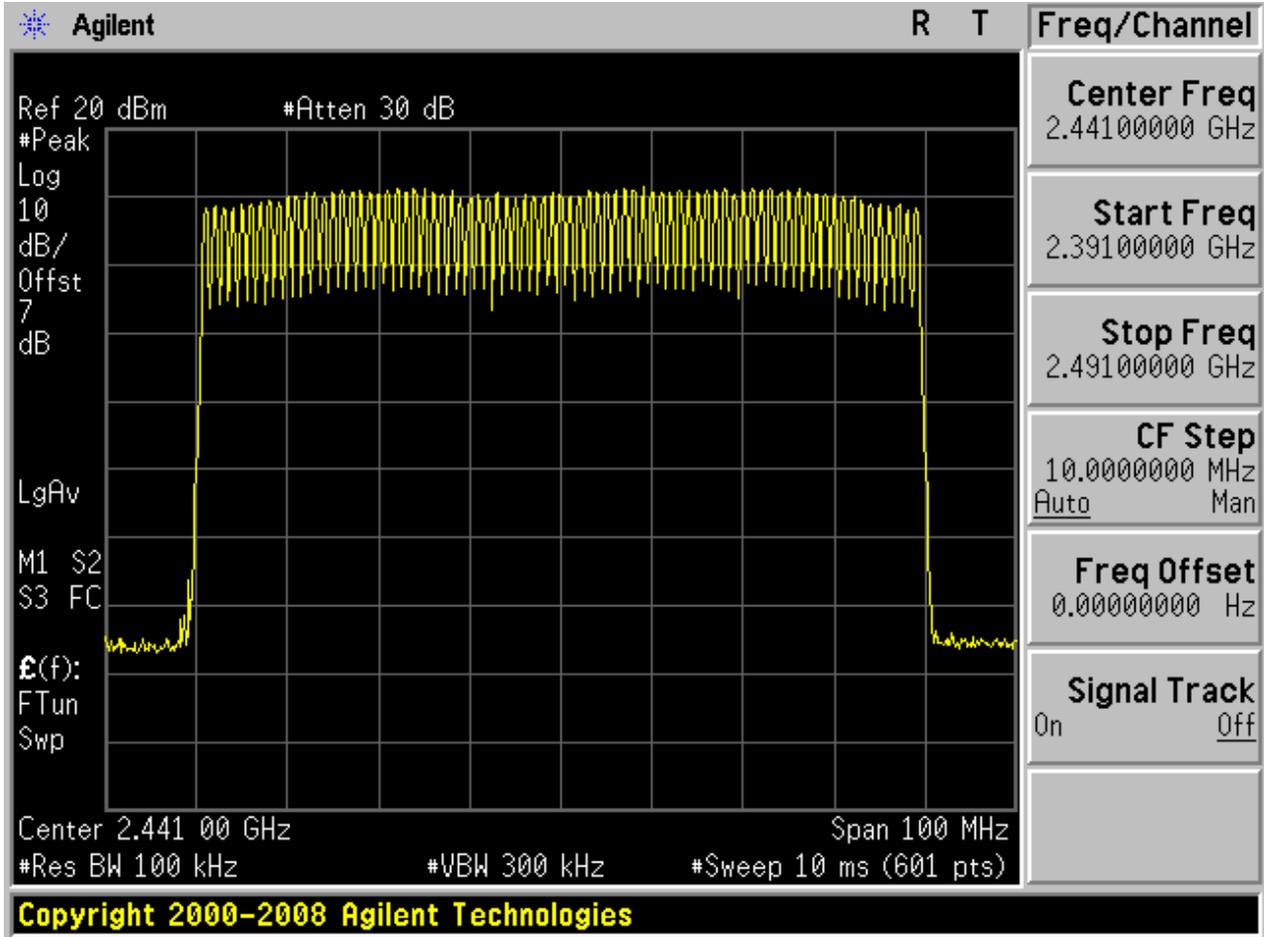


## 1 Result Table

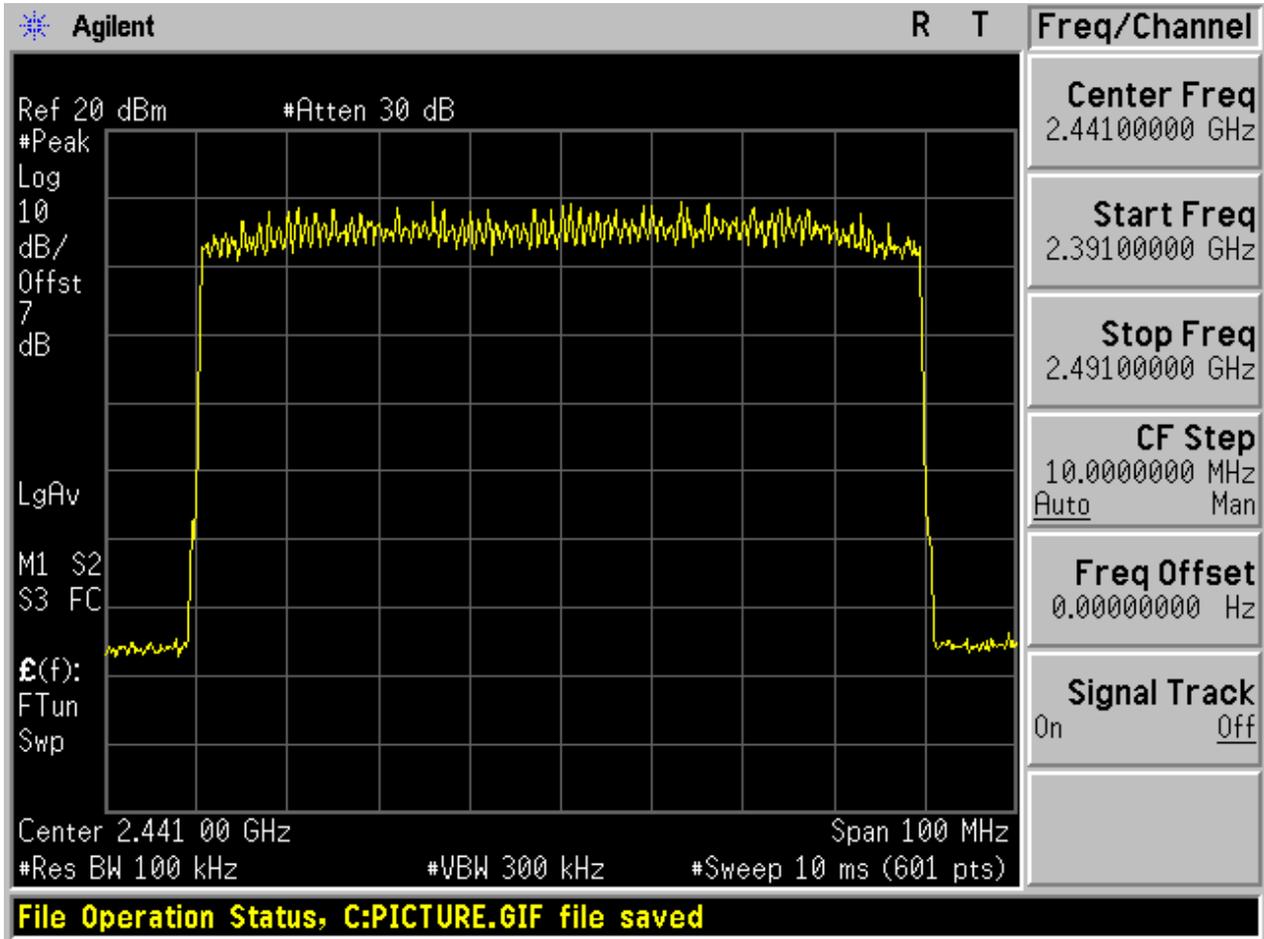
EUT Conf.	Number of Hopping Channel	Verdict
TM1_DH5_Hop	79	Pass
TM2_2DH5_Hop	79	Pass
TM3_3DH5_Hop	79	Pass

## 2 Test Plot

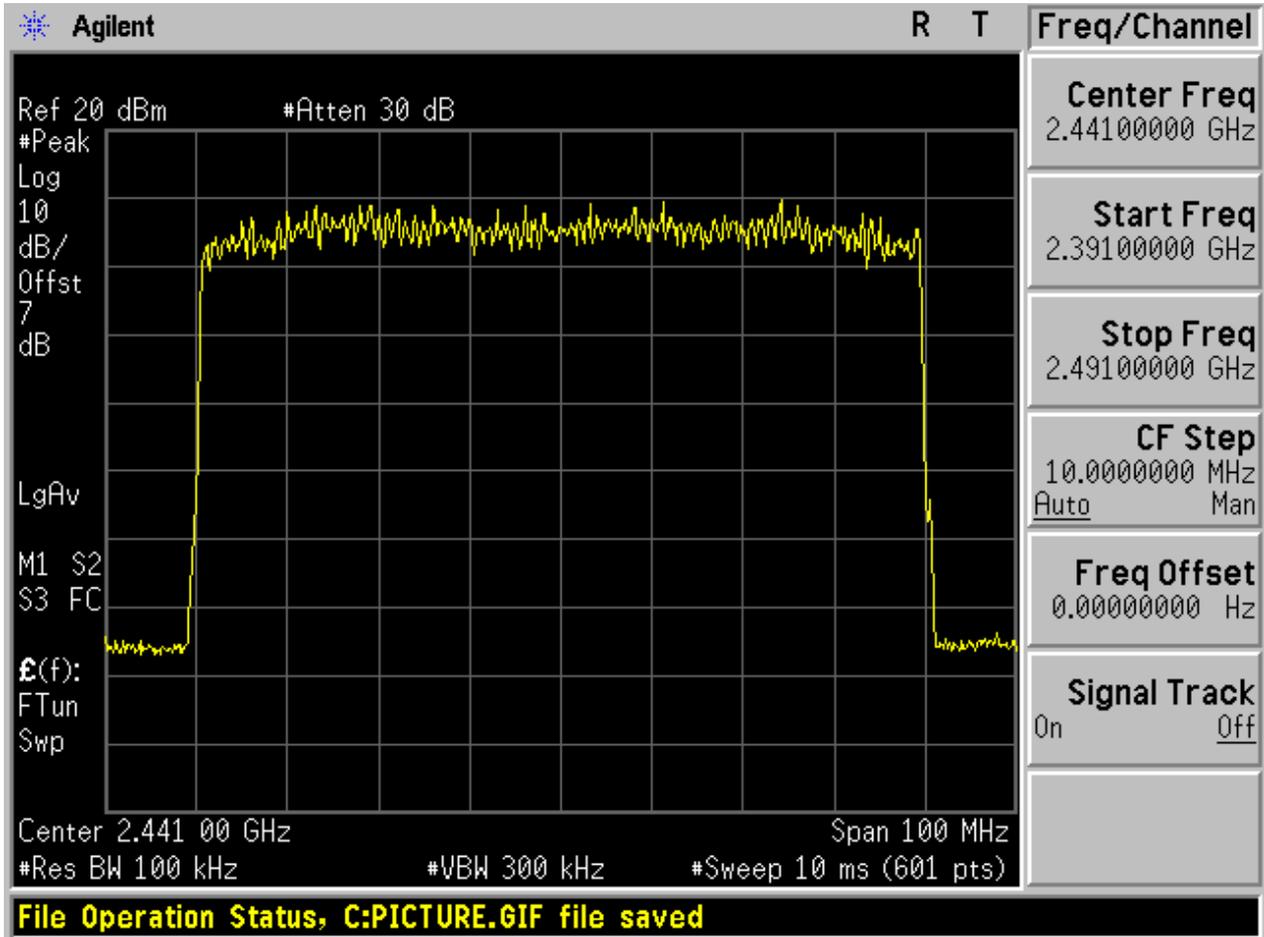
### 2.1 TM1\_DH5\_Hop



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:

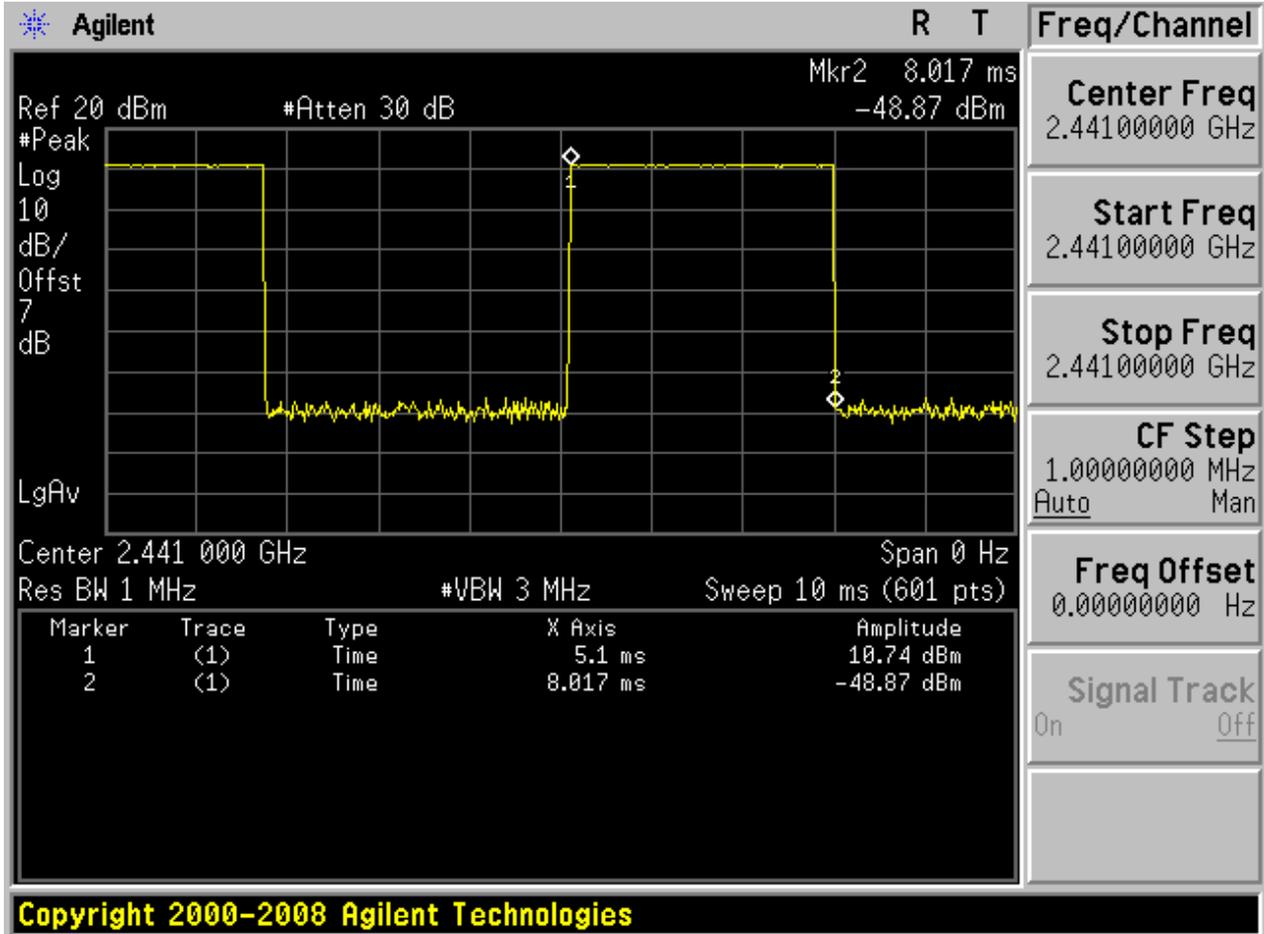
- The duration for dwell time calculation:  $0.4 \text{ [s]} * \text{hopping number} = 0.4 \text{ [s]} * 79 \text{ [ch]} = 31.6 \text{ [s*ch]}$ ;
- The burst width [ms/hop/ch], which is directly measured, refers to the duration on one channel hop.
- The hops per second for all channels: The selected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

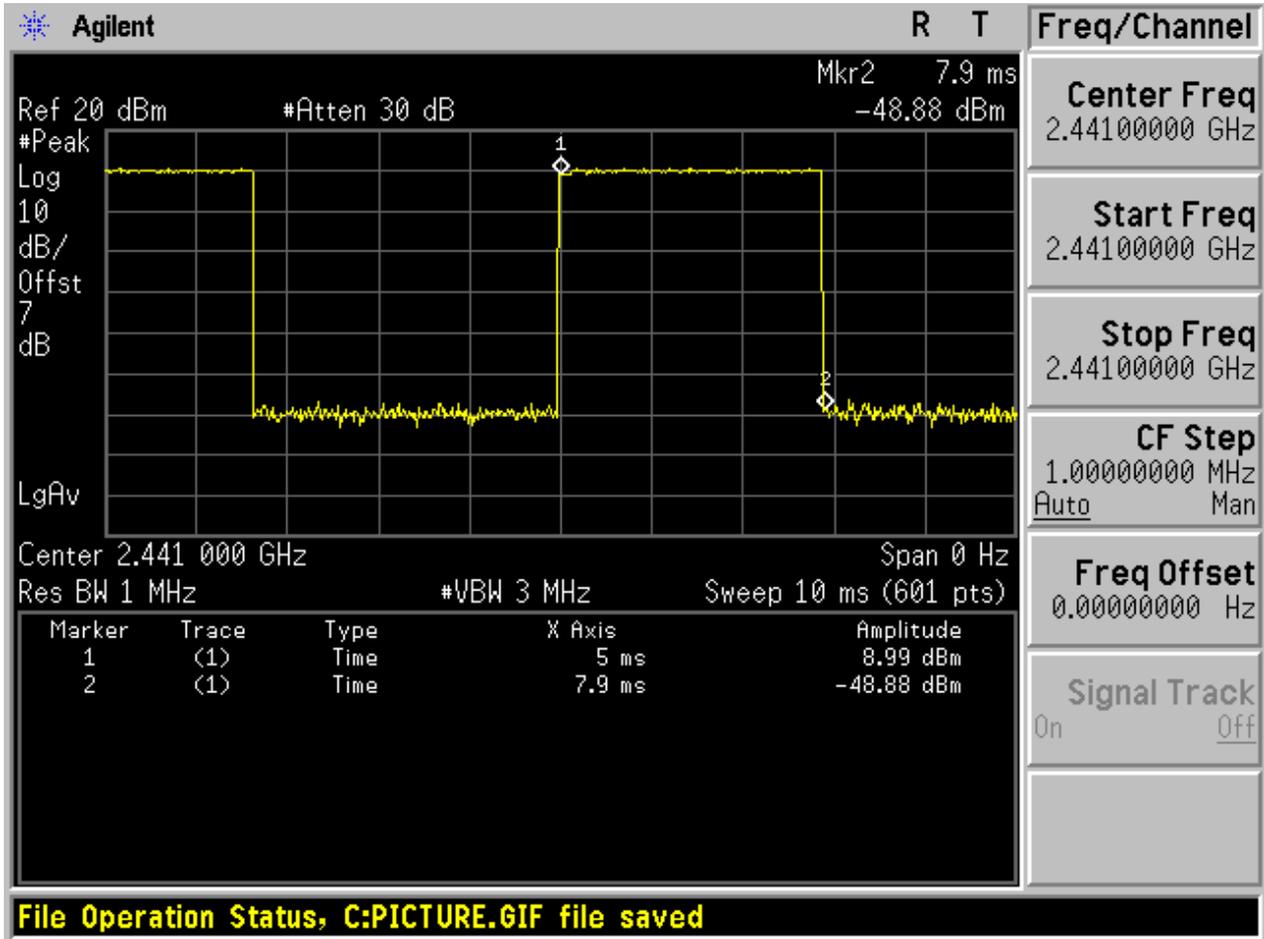
## 2 Test Plot

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

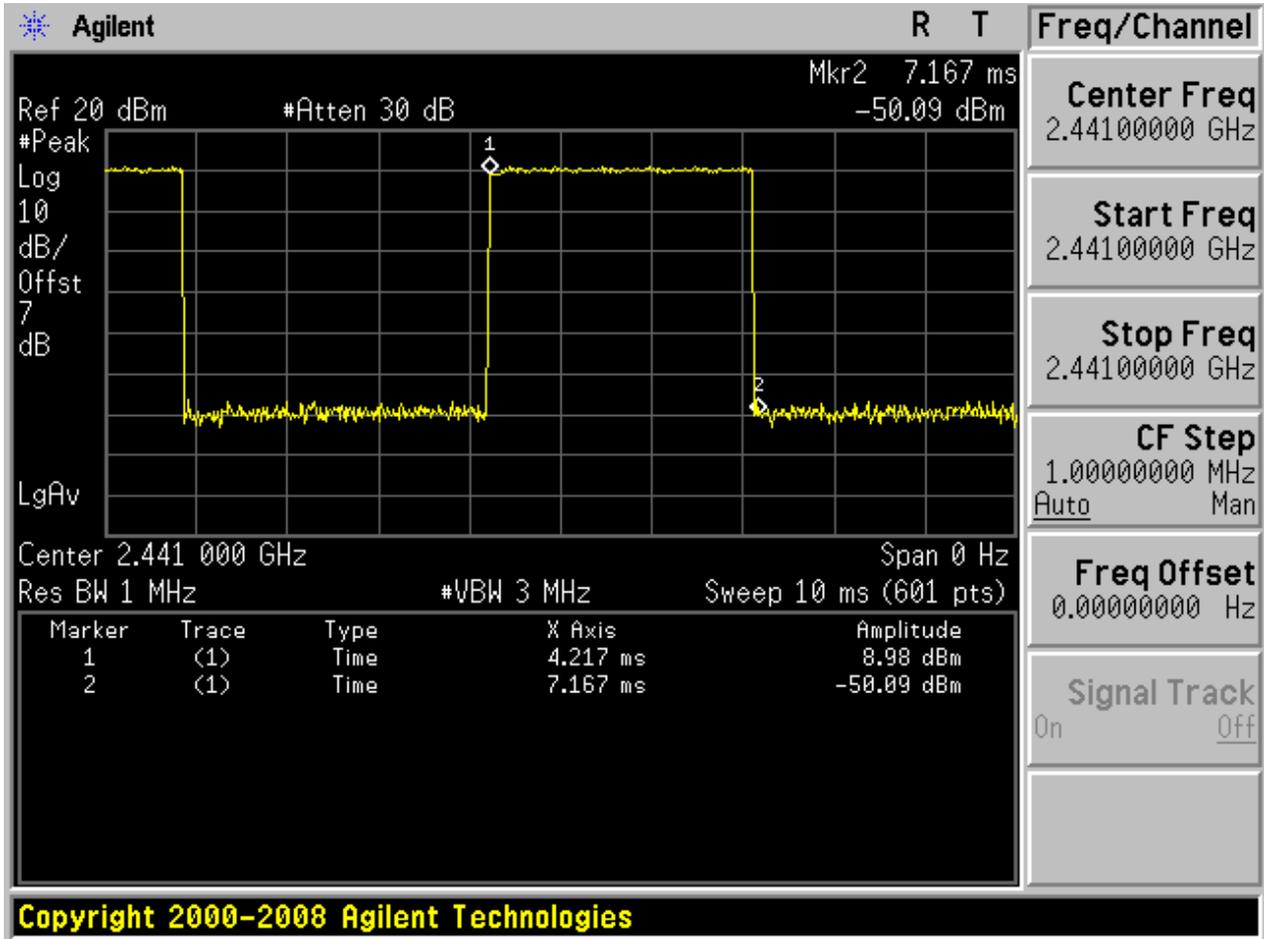
### 2.1 TM1\_DH5\_Ch39



2.2 TM2\_2DH5\_Ch39



2.3 TM3\_3DH5\_Ch39





# Appendix E: Maximum Peak Conducted Output Power

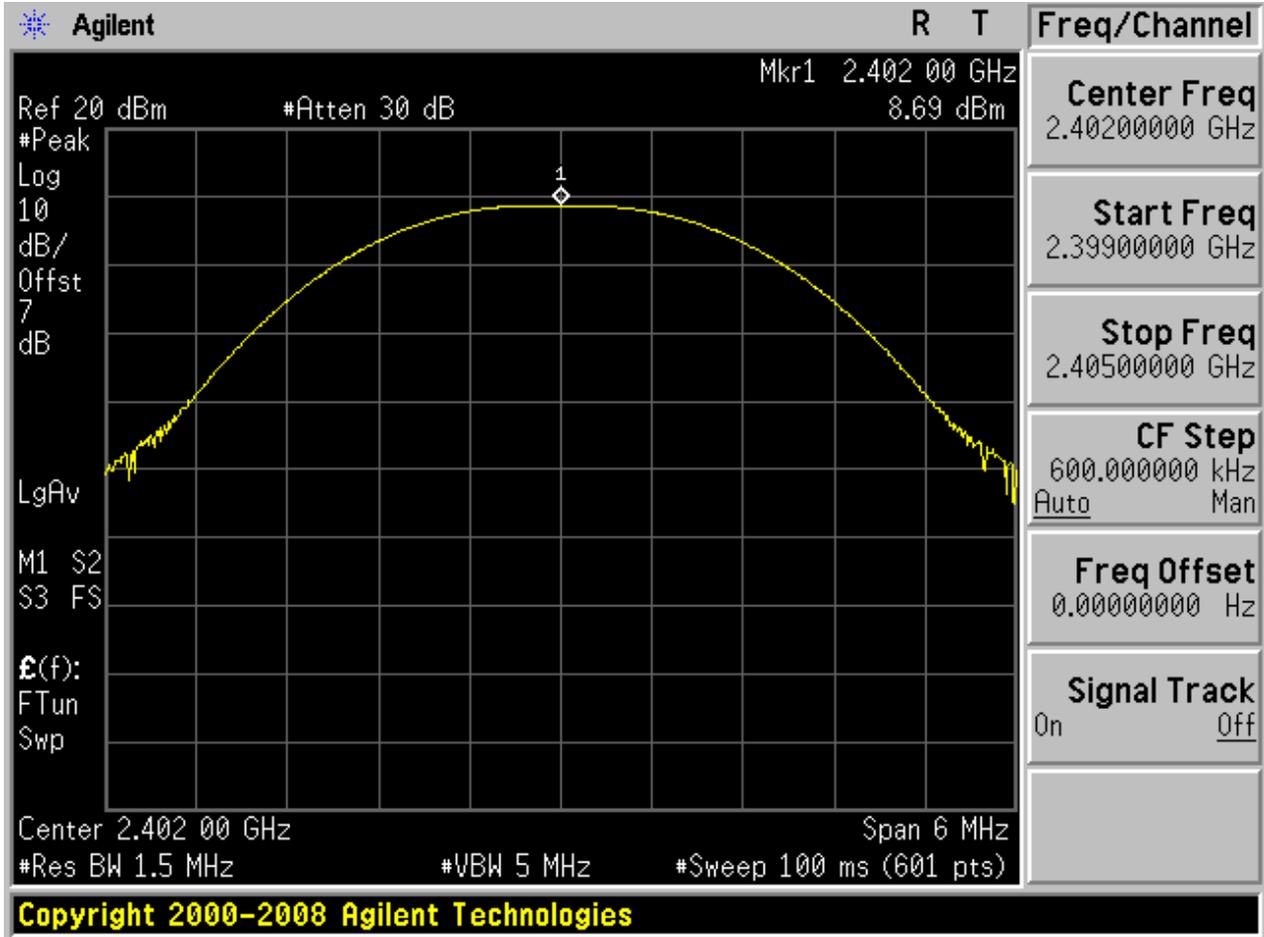


## 1 Result Table

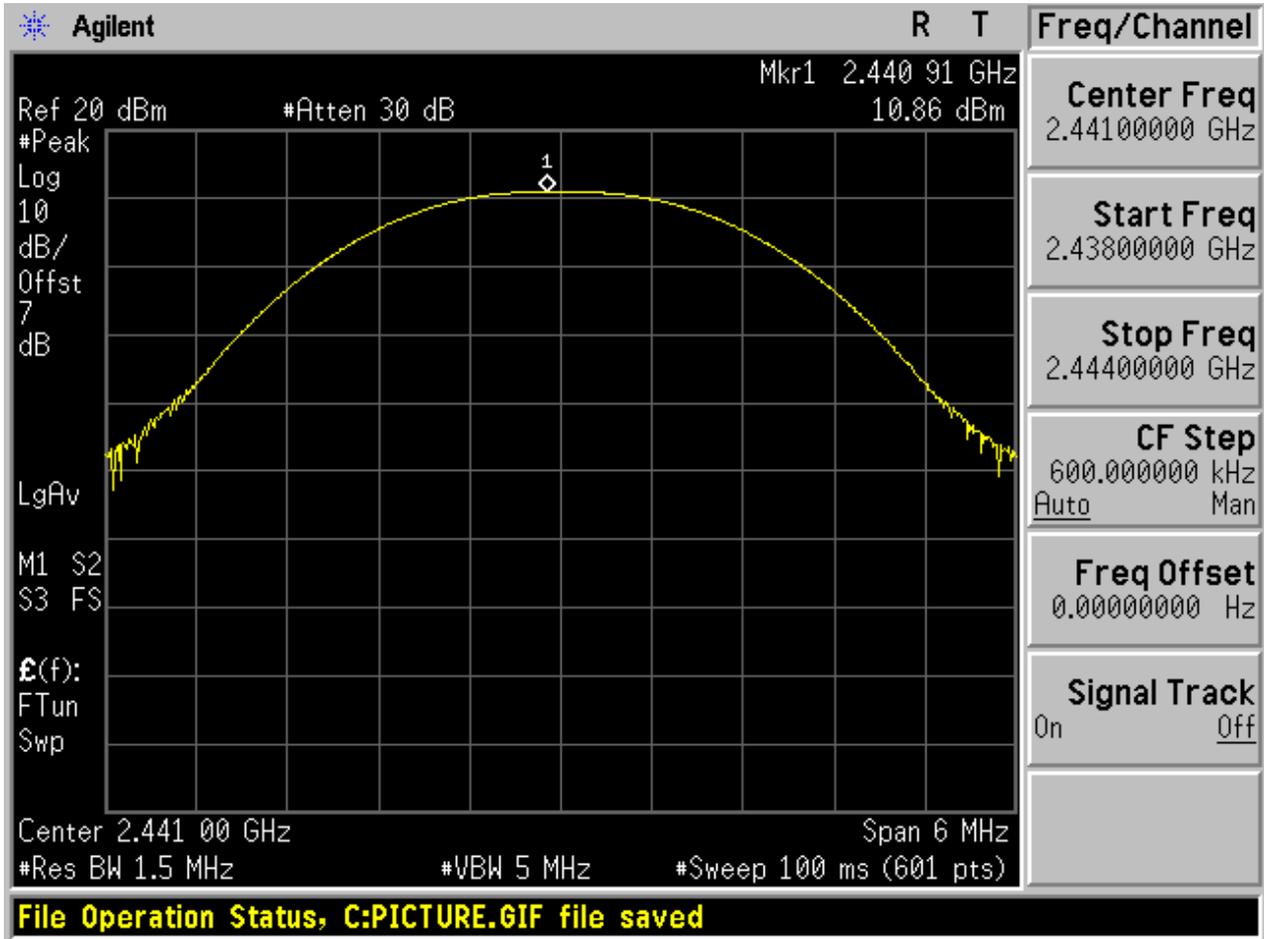
EUT Conf.	Max. Peak Power [dBm]	Verdict
TM1_DH5_Ch0	8.69	Pass
TM1_DH5_Ch39	10.86	Pass
TM1_DH5_Ch78	8.91	Pass
TM2_2DH5_Ch0	8.69	Pass
TM2_2DH5_Ch39	10.84	Pass
TM2_2DH5_Ch78	8.86	Pass
TM3_3DH5_Ch0	8.92	Pass
TM3_3DH5_Ch39	11.07	Pass
TM3_3DH5_Ch78	9.09	Pass

## 2 Test Plot

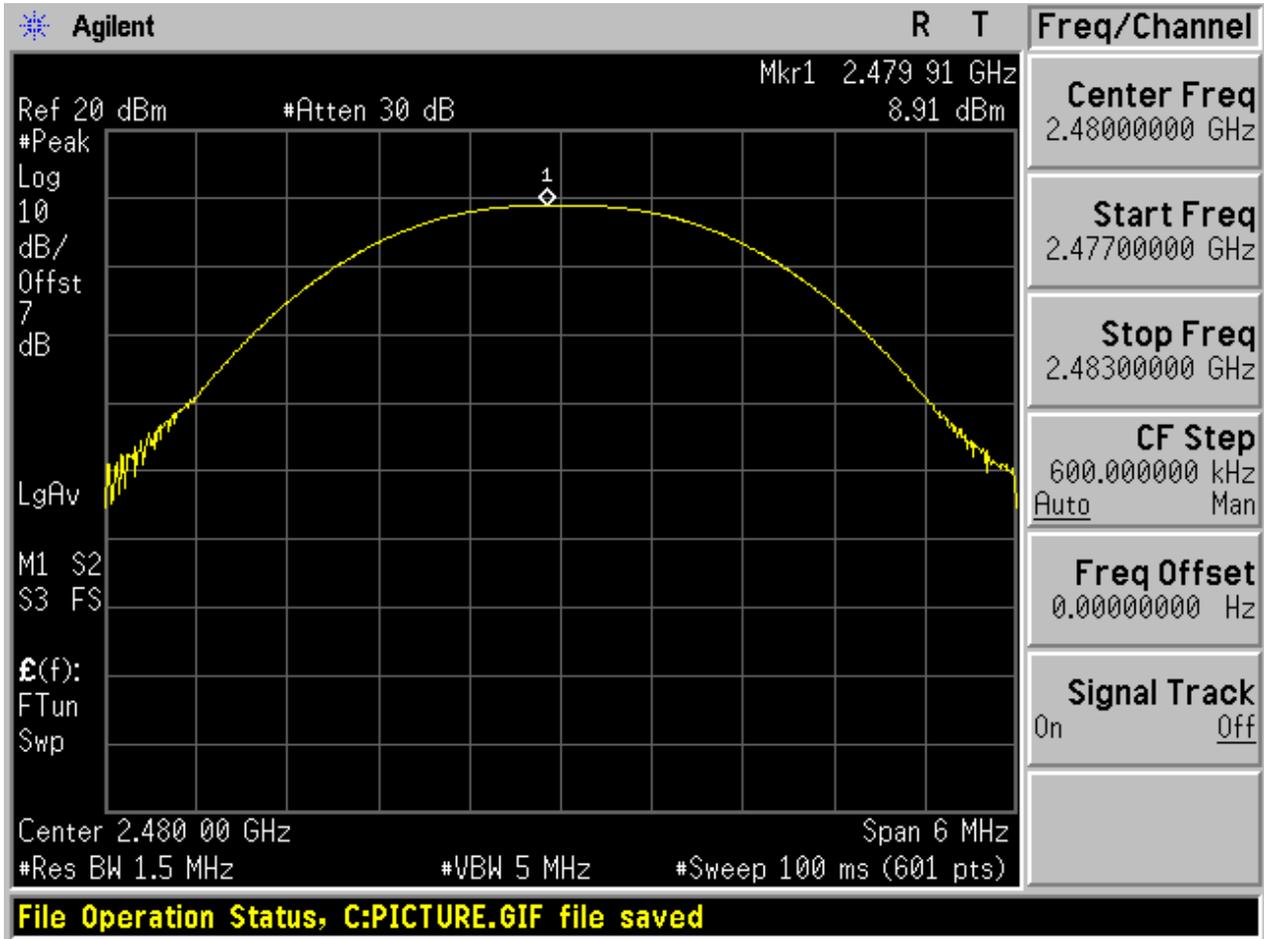
### 2.1 TM1\_DH5\_Ch0



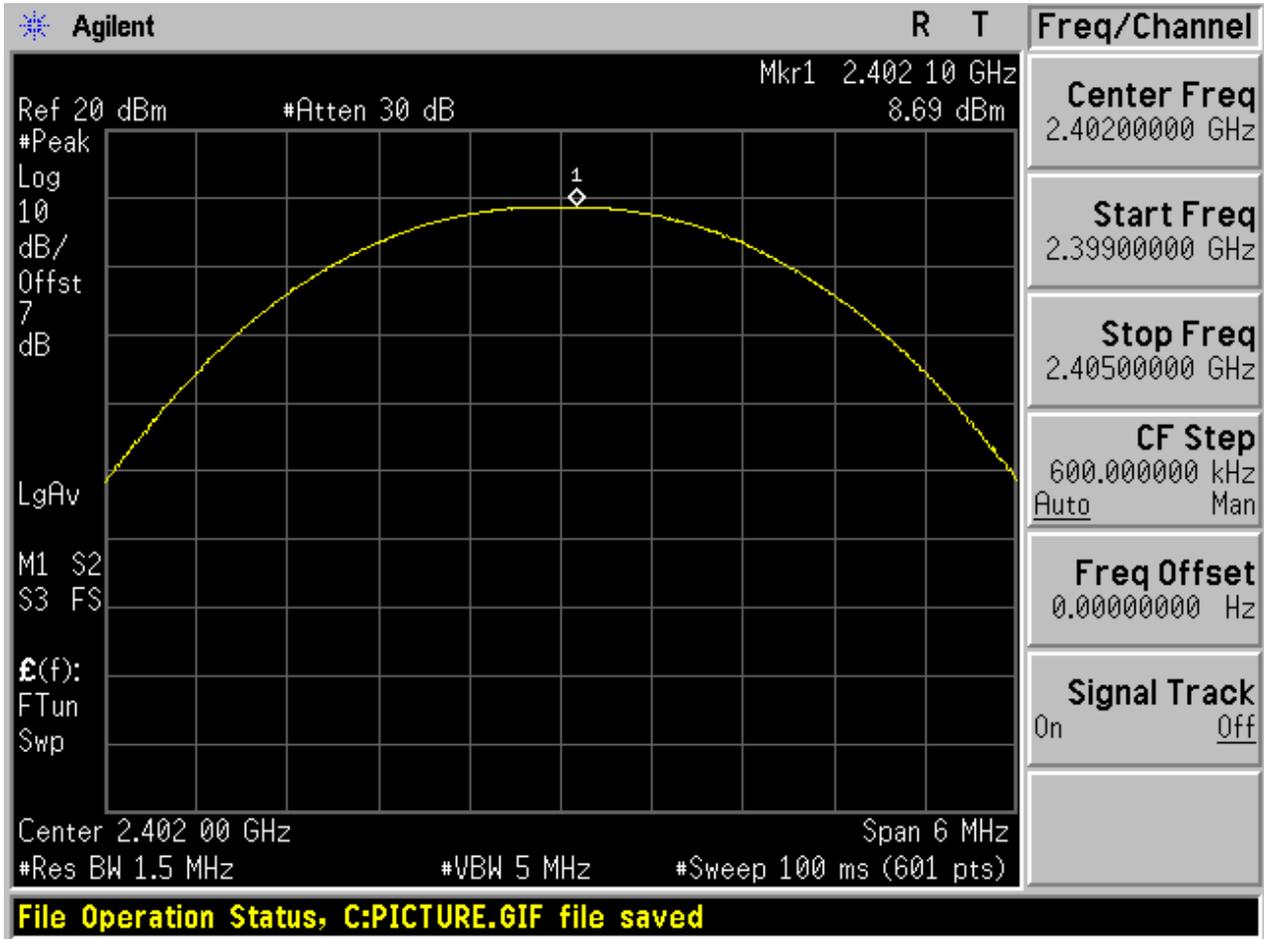
2.2 TM1\_DH5\_Ch39



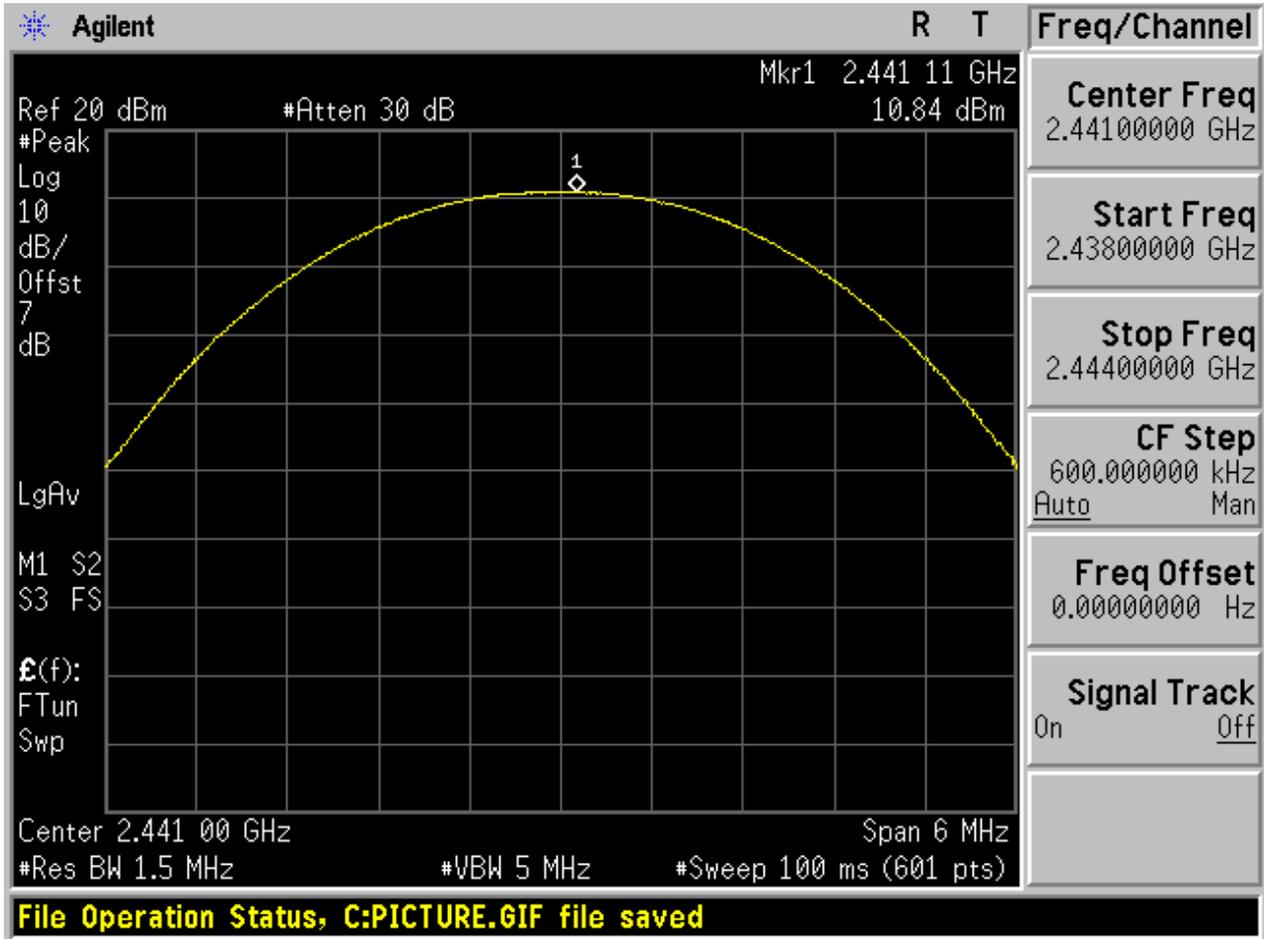
2.3 TM1\_DH5\_Ch78



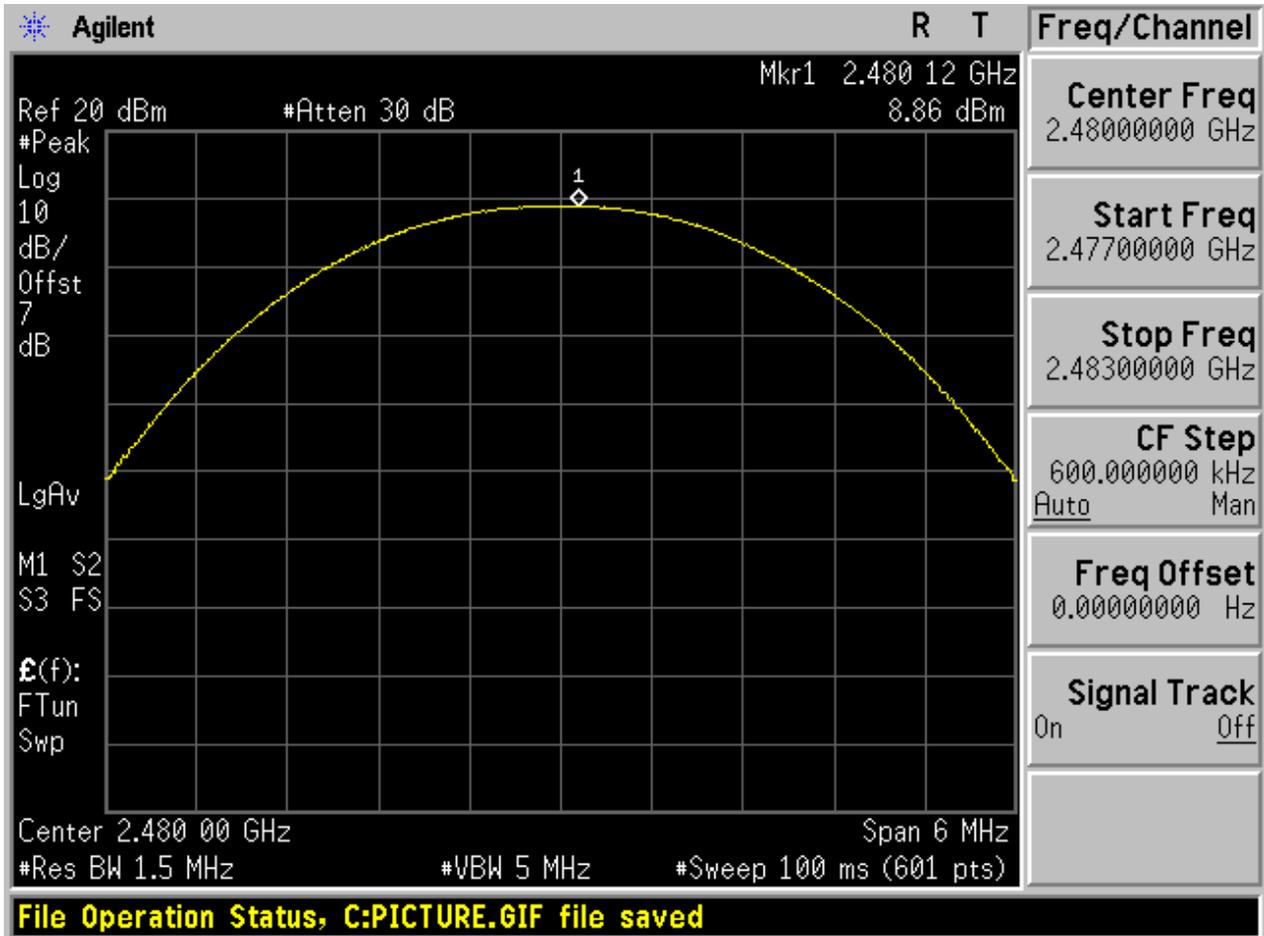
2.4 TM2\_2DH5\_Ch0



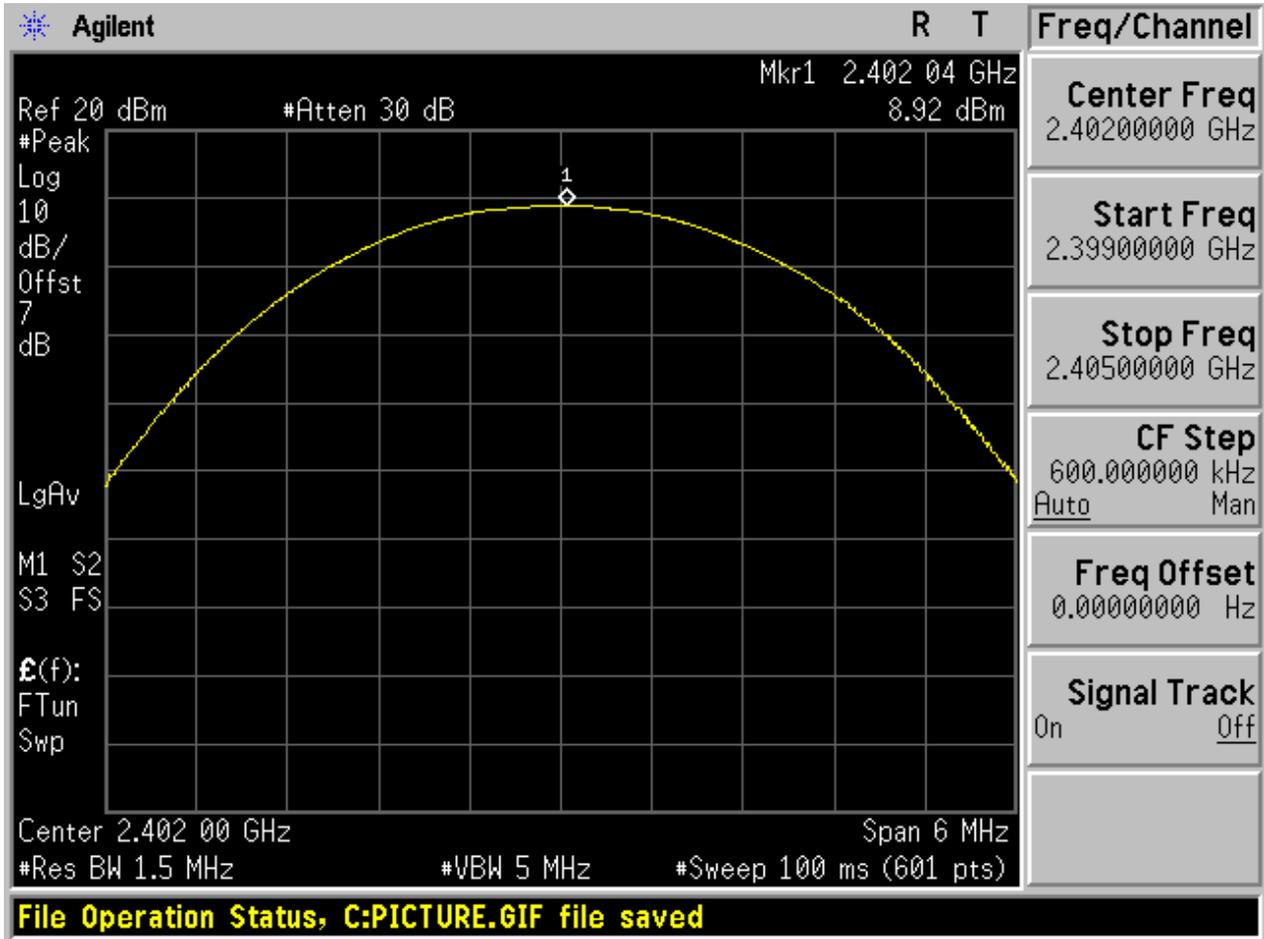
2.5 TM2\_2DH5\_Ch39



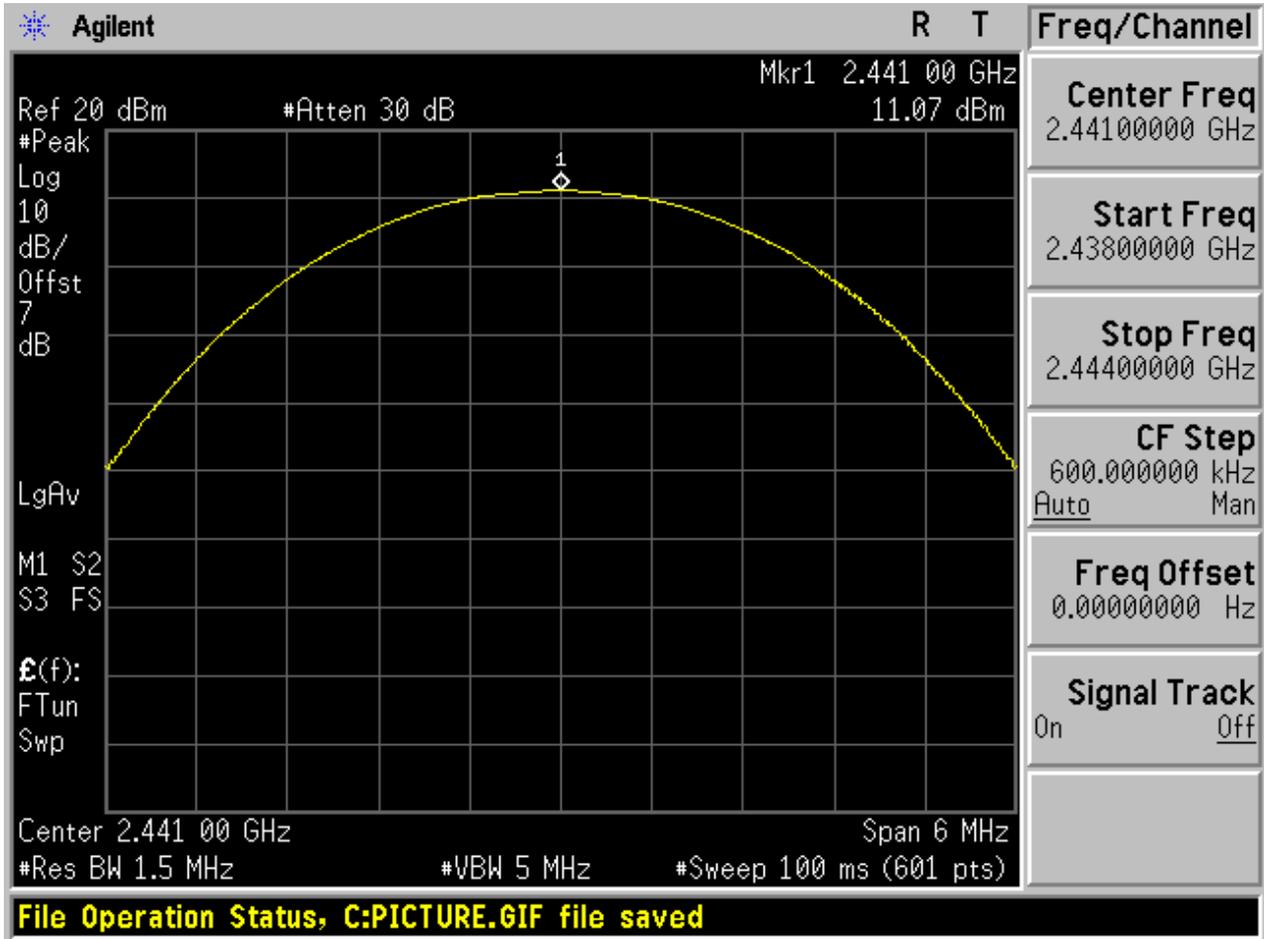
2.6 TM2\_2DH5\_Ch78



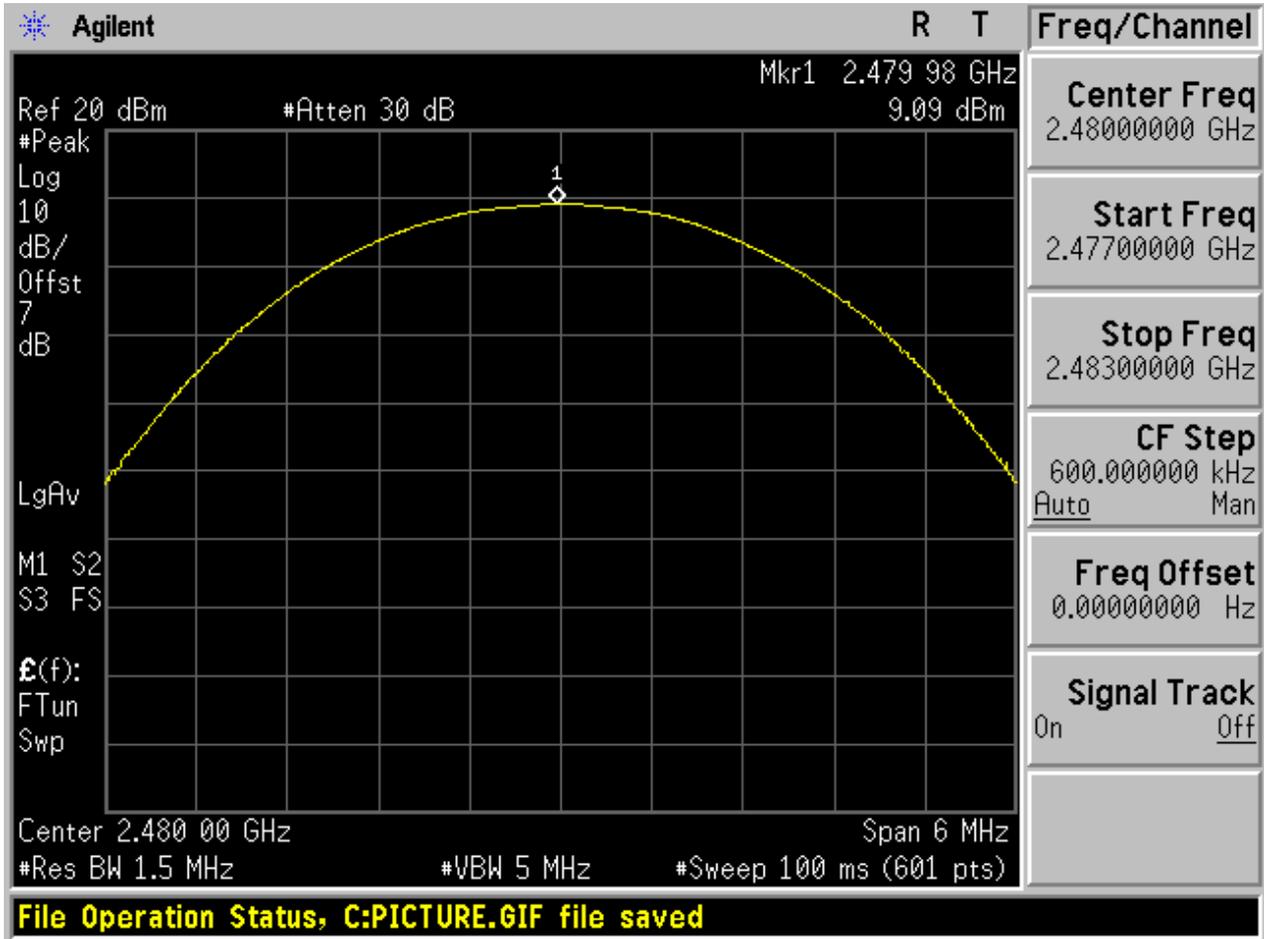
2.7 TM3\_3DH5\_Ch0



2.8 TM3\_3DH5\_Ch39



2.9 TM3\_3DH5\_Ch78





# Appendix F: Band edge spurious emission

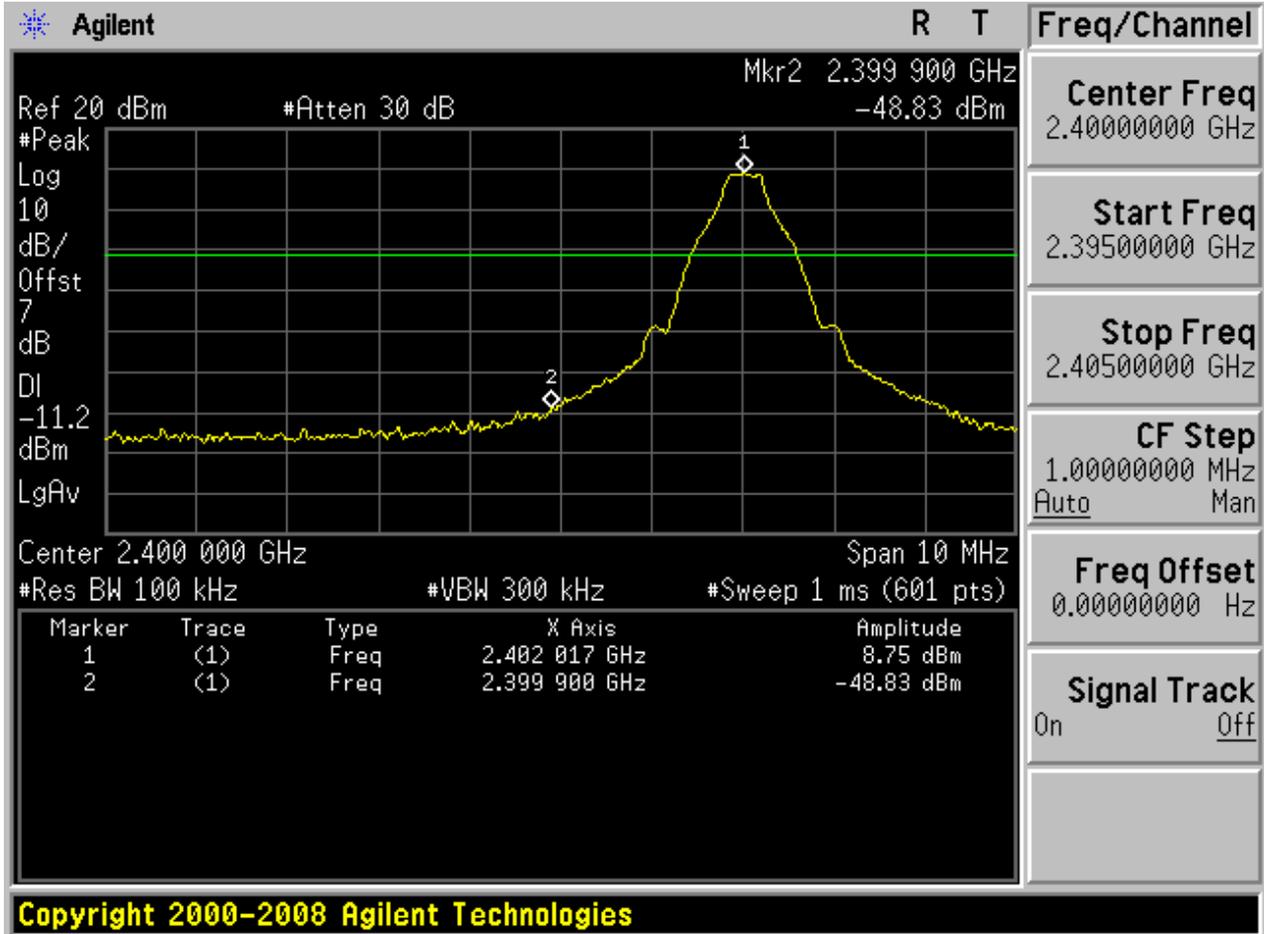
**1 Result Table**

EUT Conf.	Channel No.	Carrier Frequency [MHz]	Max. Spurious Level [dBm]	Frequency Hopping	Carrier Power [dBm]	Limit [dBm]	Result
TM1_DH5_Ch0	0	2402	-48.83	Off	8.75	-11.25	Pass
	-	-	-51.64	On	8.78	-11.22	Pass
TM1_DH5_Ch78	78	2480	-54.47	Off	8.82	-11.18	Pass
	-	-	-55.05	On	8.31	-11.69	Pass
TM2_2DH_5_Ch0	0	2402	-50.11	Off	6.90	-13.1	Pass
	-	-	-54.6	On	6.40	-13.6	Pass
TM2_2DH_5_Ch78	78	2480	-54.13	Off	7.07	-12.93	Pass
	-	-	-54.95	On	6.54	-13.46	Pass
TM3_3DH_5_Ch0	0	2402	-50.58	Off	6.92	-13.08	Pass
	-	-	-53.96	On	4.67	-15.33	Pass
TM3_3DH_5_Ch78	78	2480	-54.25	Off	7.09	-12.91	Pass
	-	-	-54.92	On	5.53	-14.47	Pass

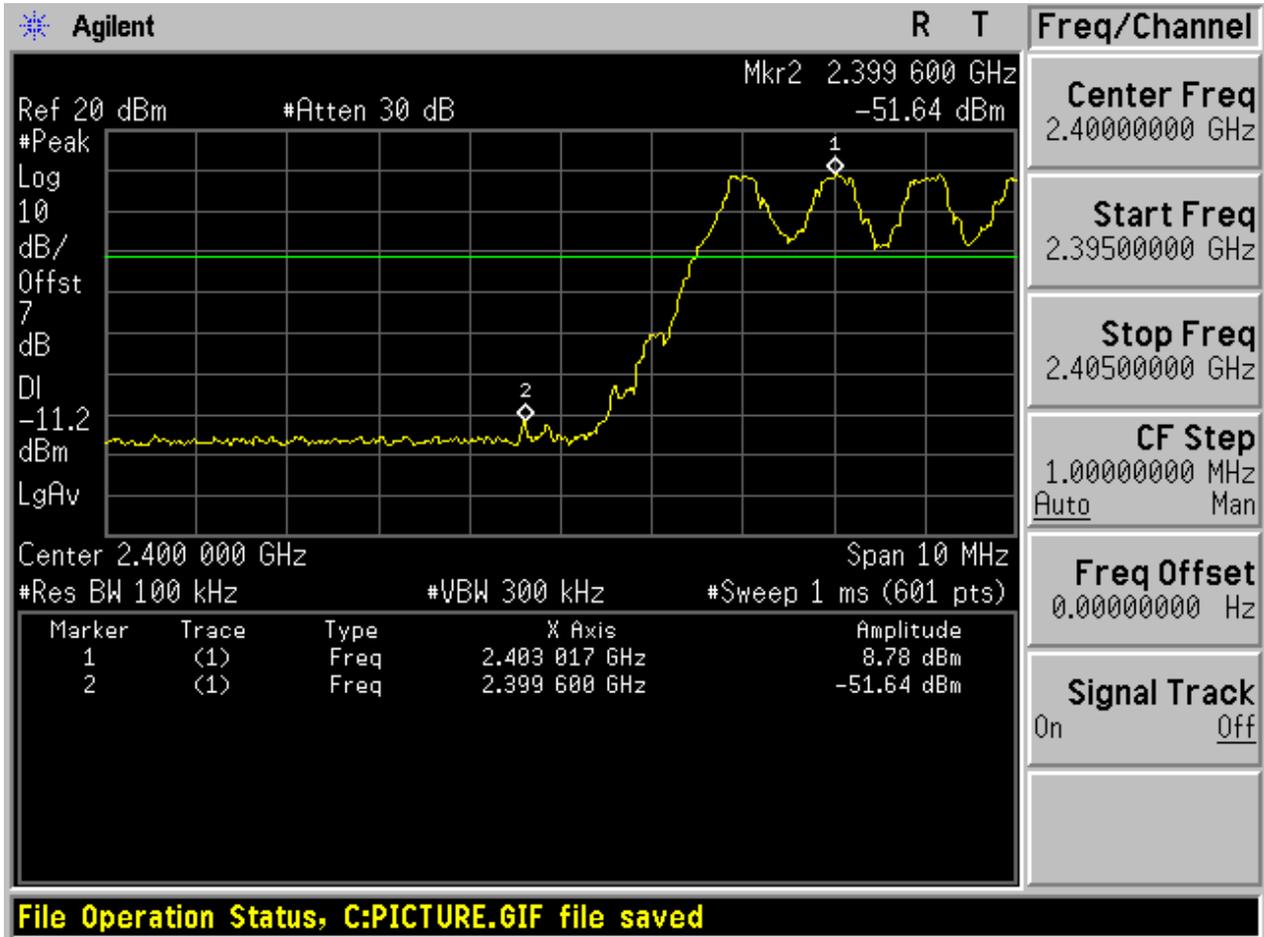
## 2 Test Plot

### 2.1 TM1\_DH5\_Ch0

No hopping

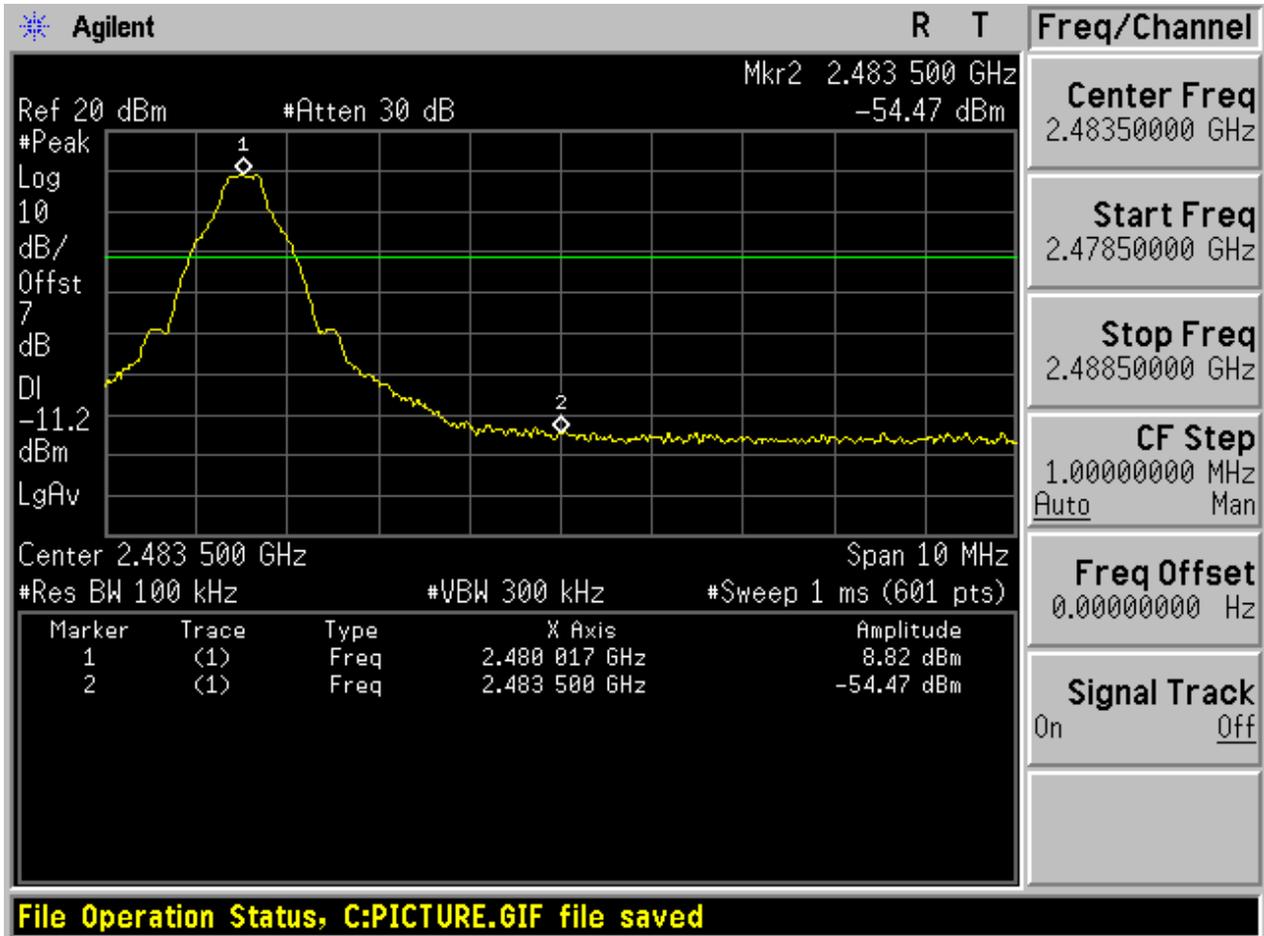


With hopping

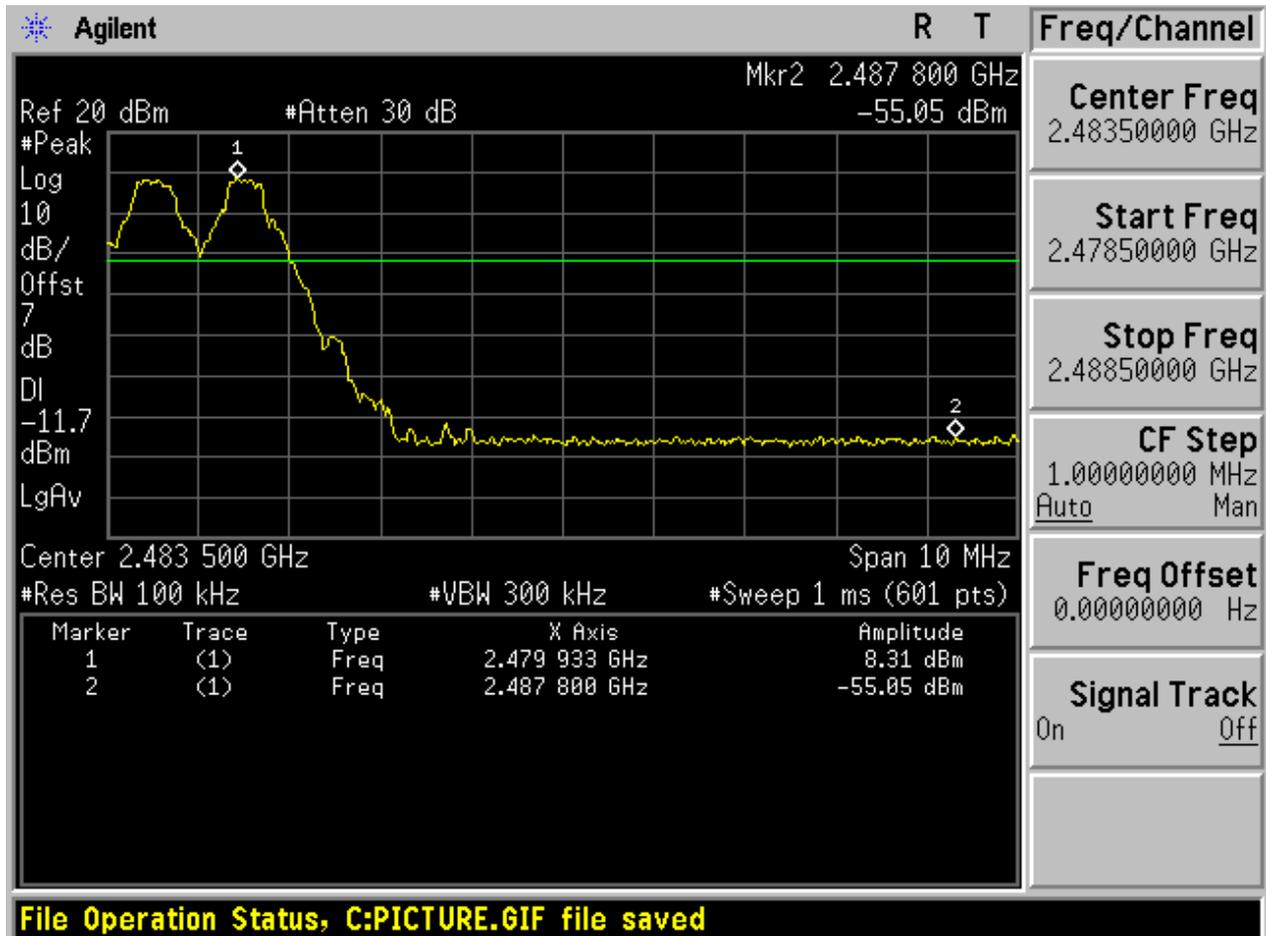


2.2 TM1\_DH5\_Ch78

No hopping

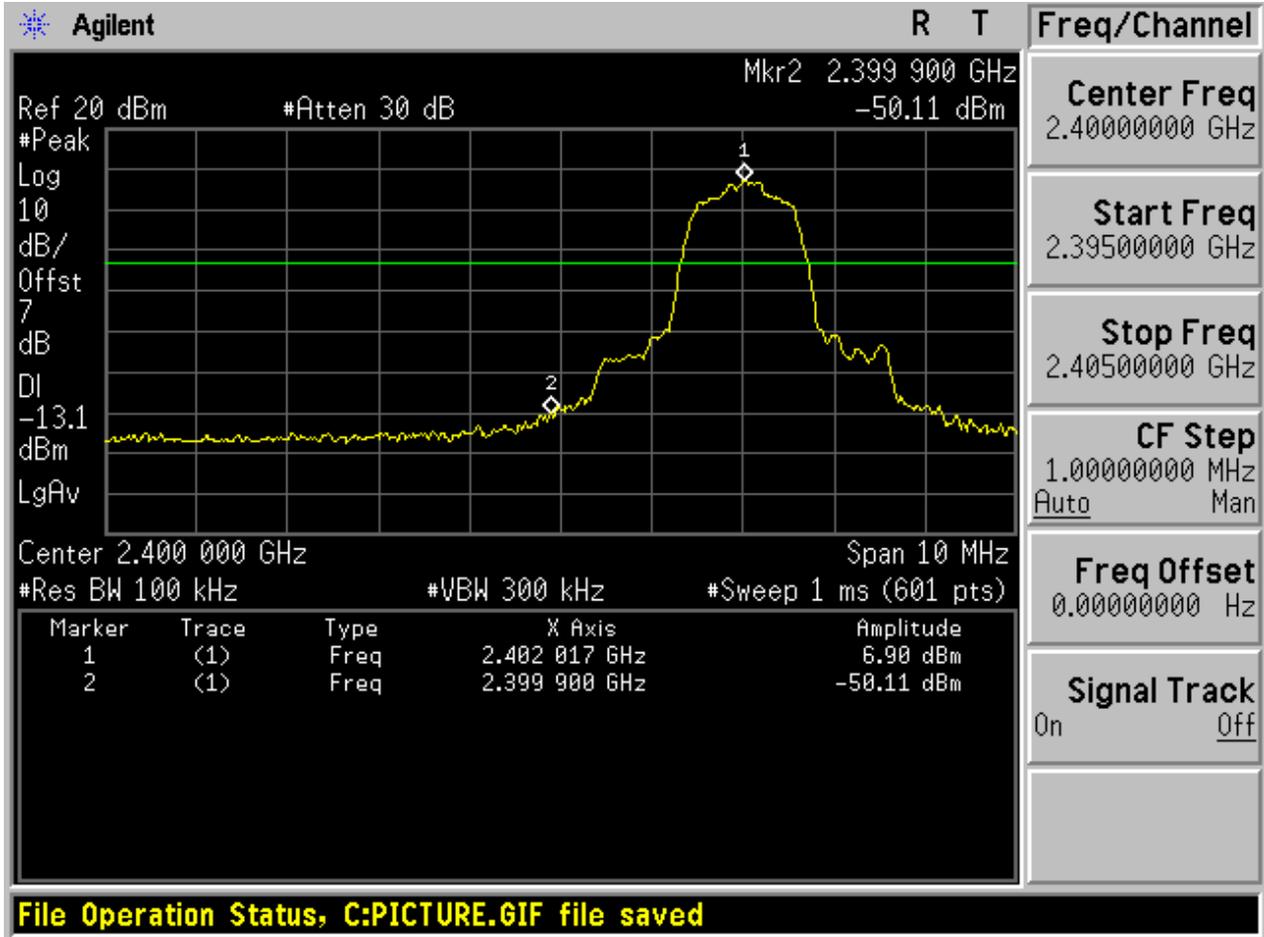


## With hopping

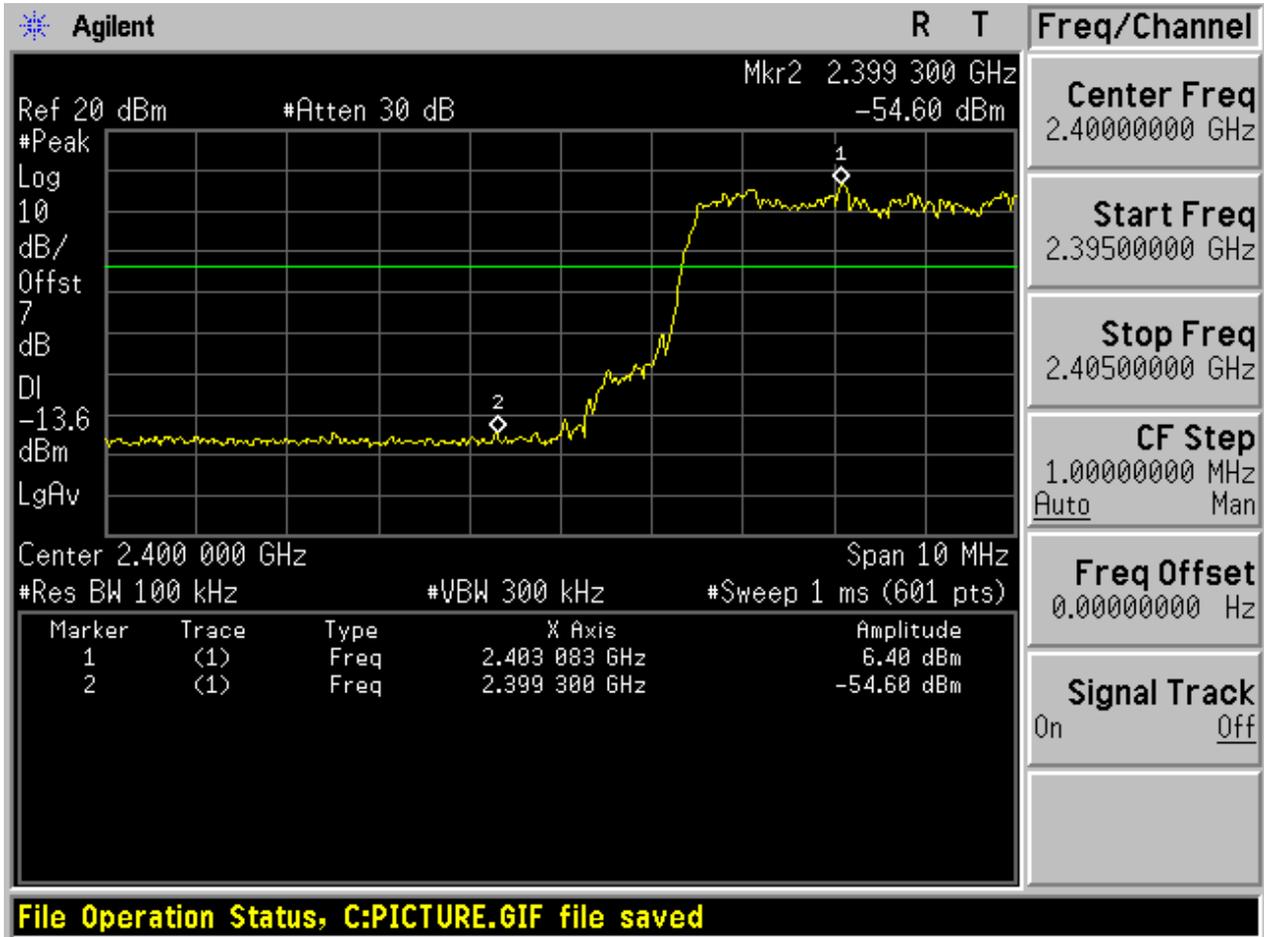


2.3 TM2\_2DH5\_Ch0

No hopping

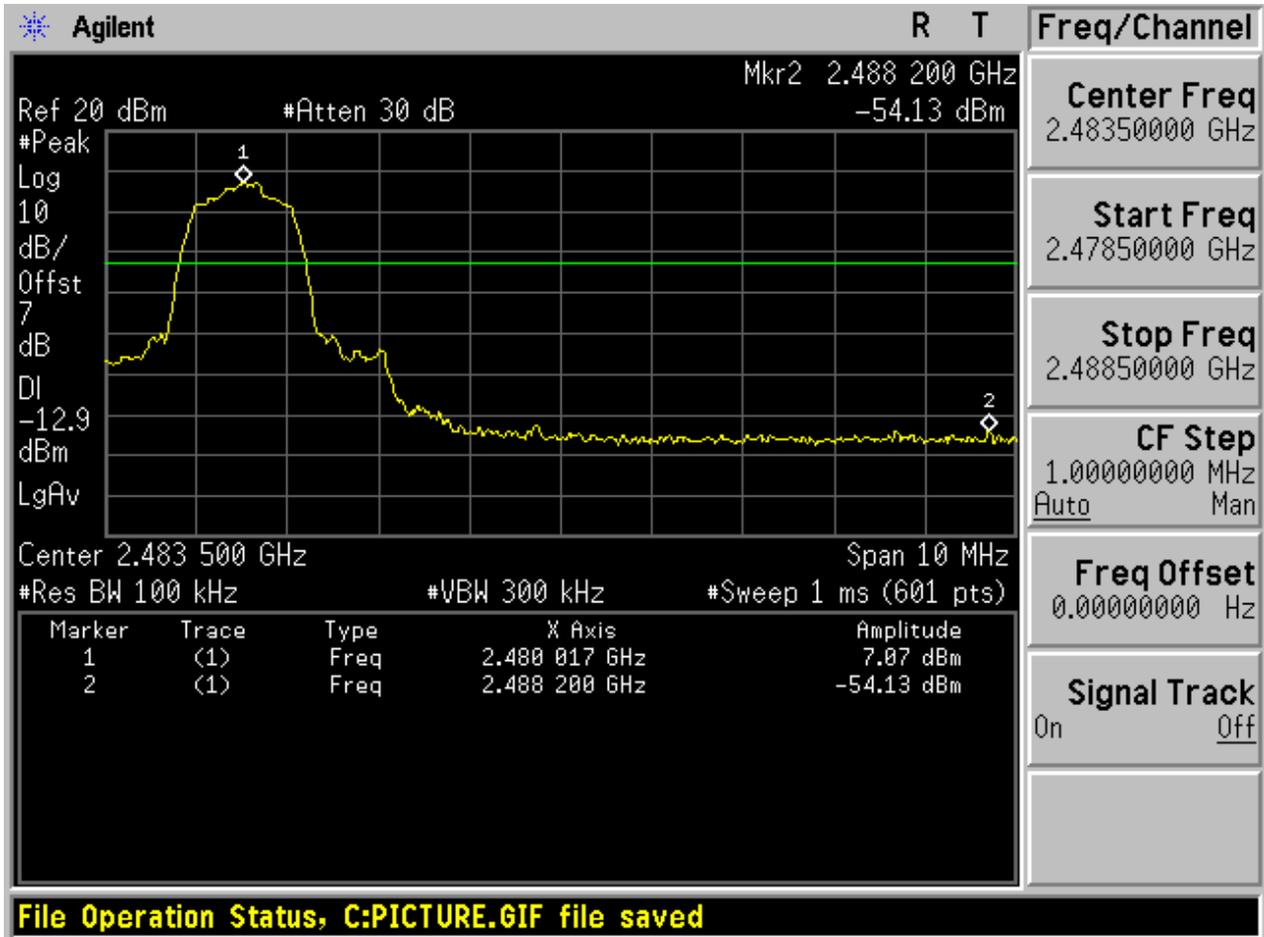


With hopping

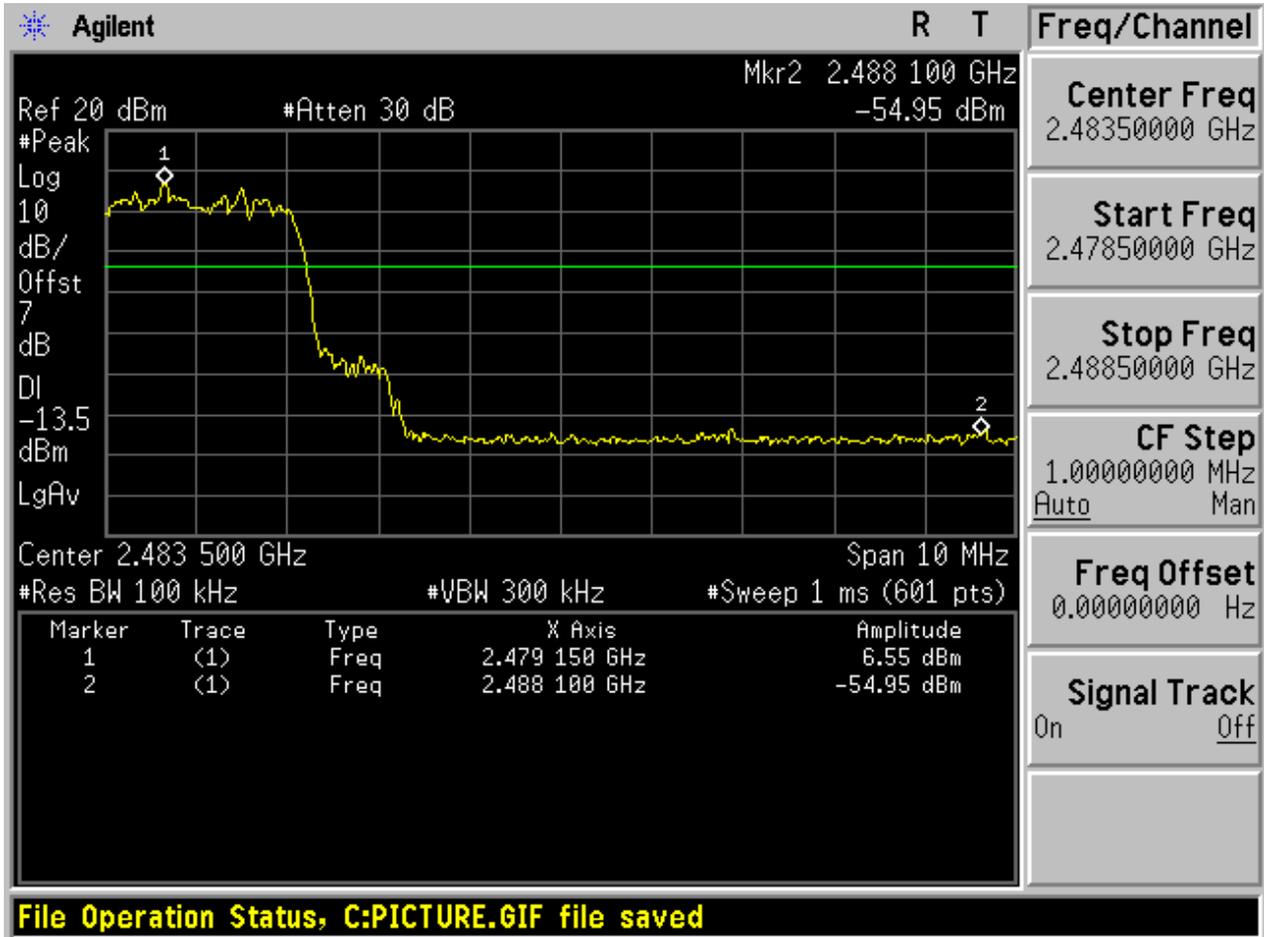


2.4 TM2\_2DH5\_Ch78

No hopping

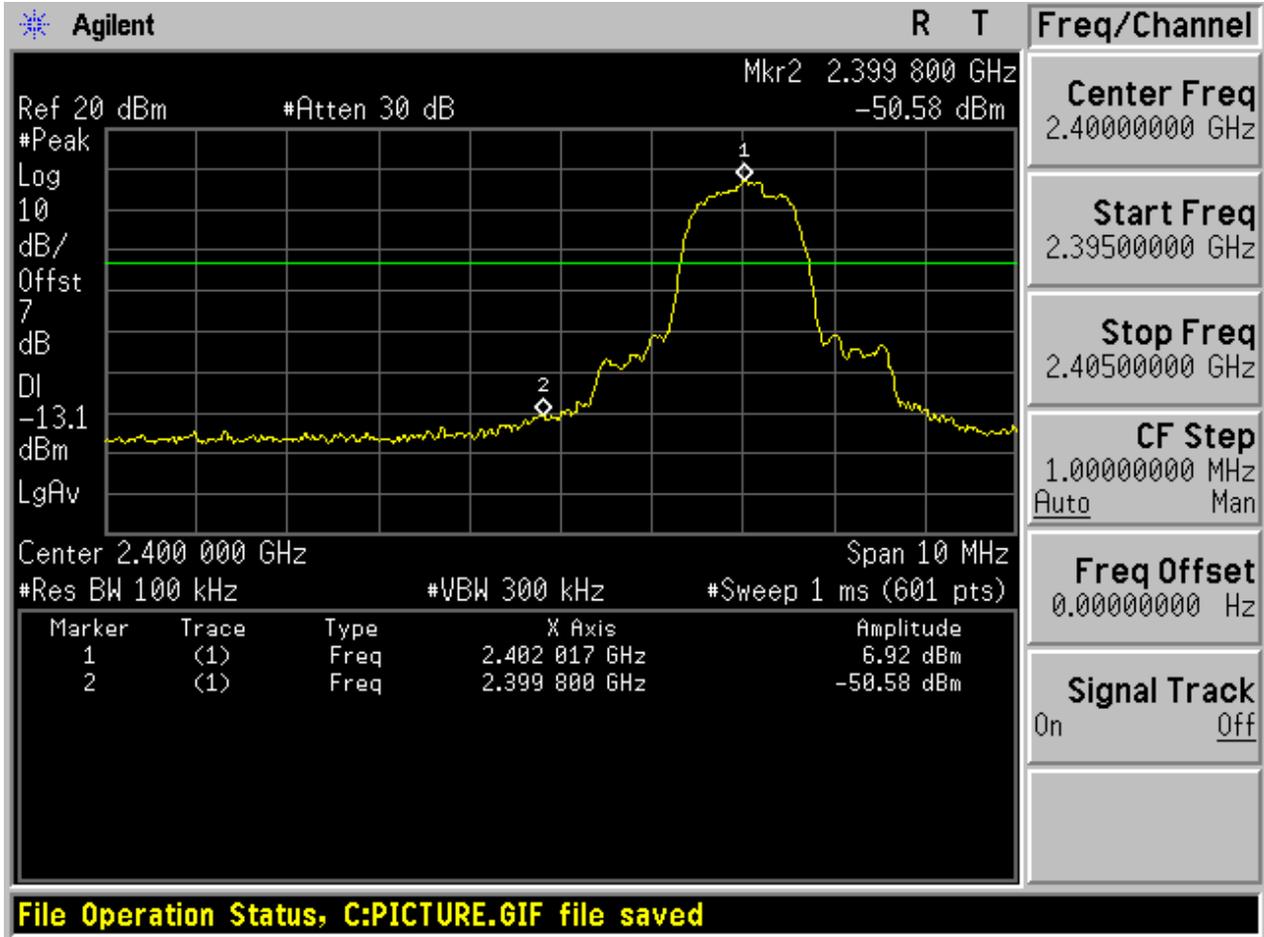


With hopping

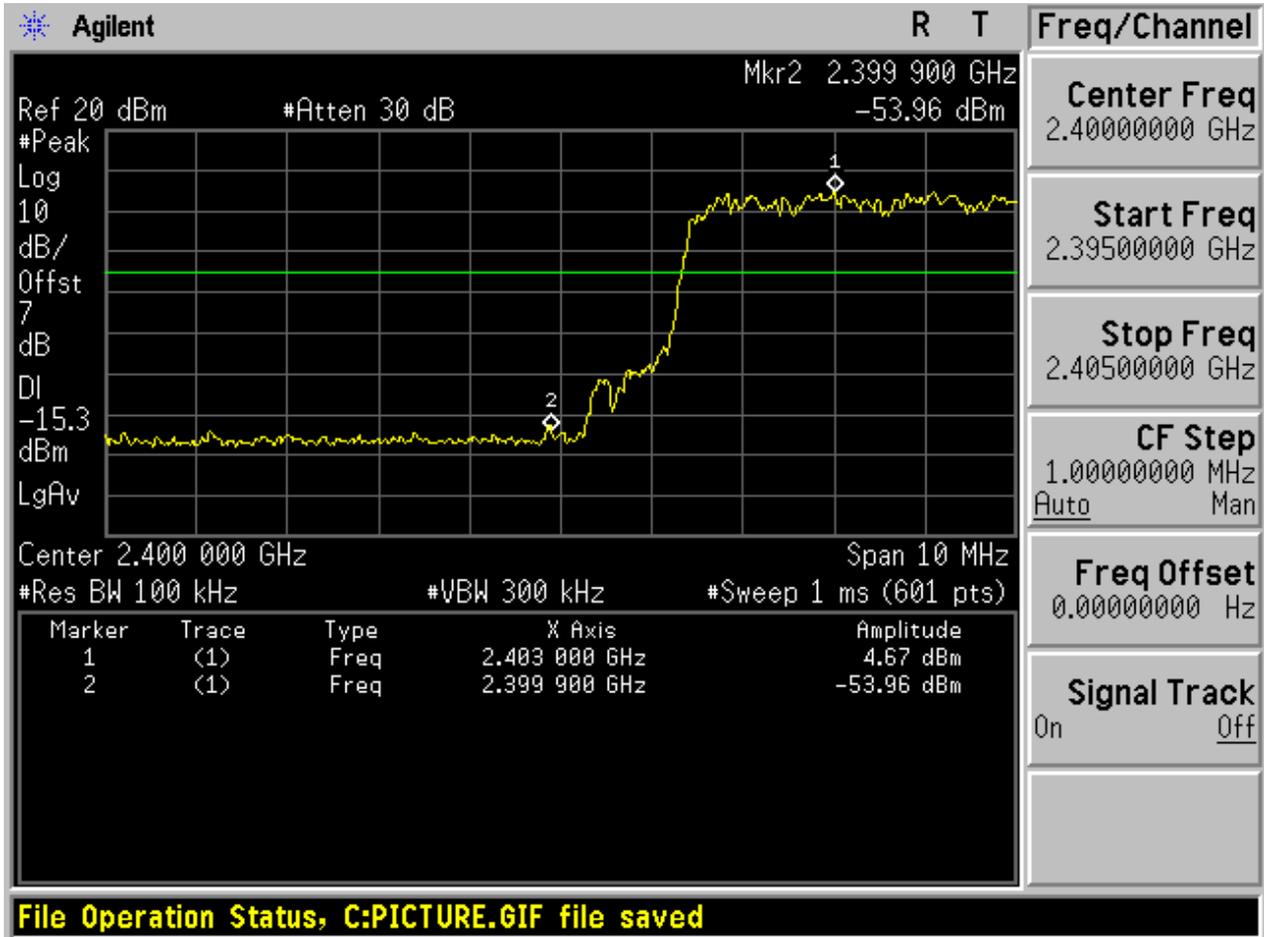


2.5 TM3\_3DH5\_Ch0

No hopping

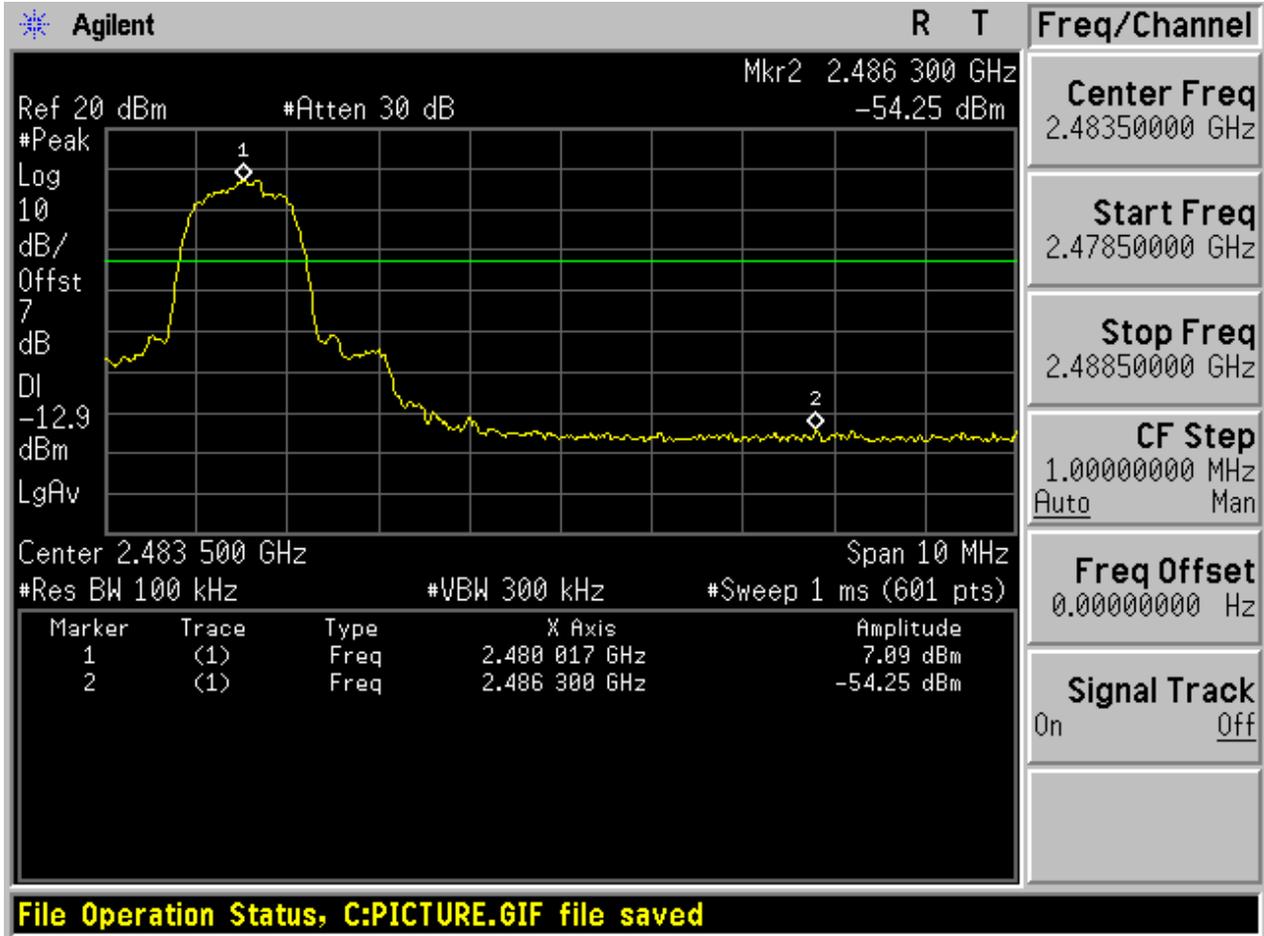


With hopping

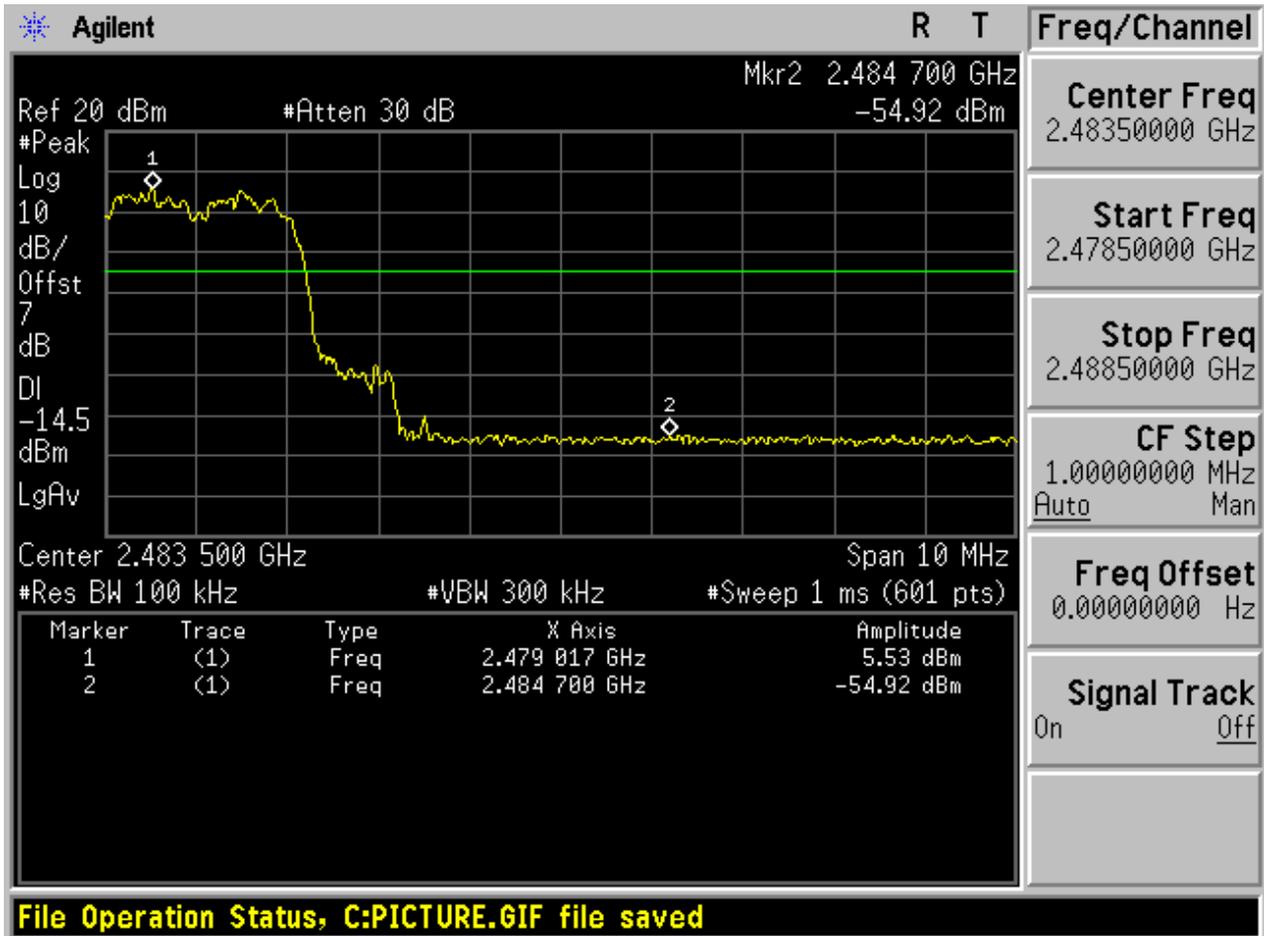


2.6 TM3\_3DH5\_Ch78

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”.

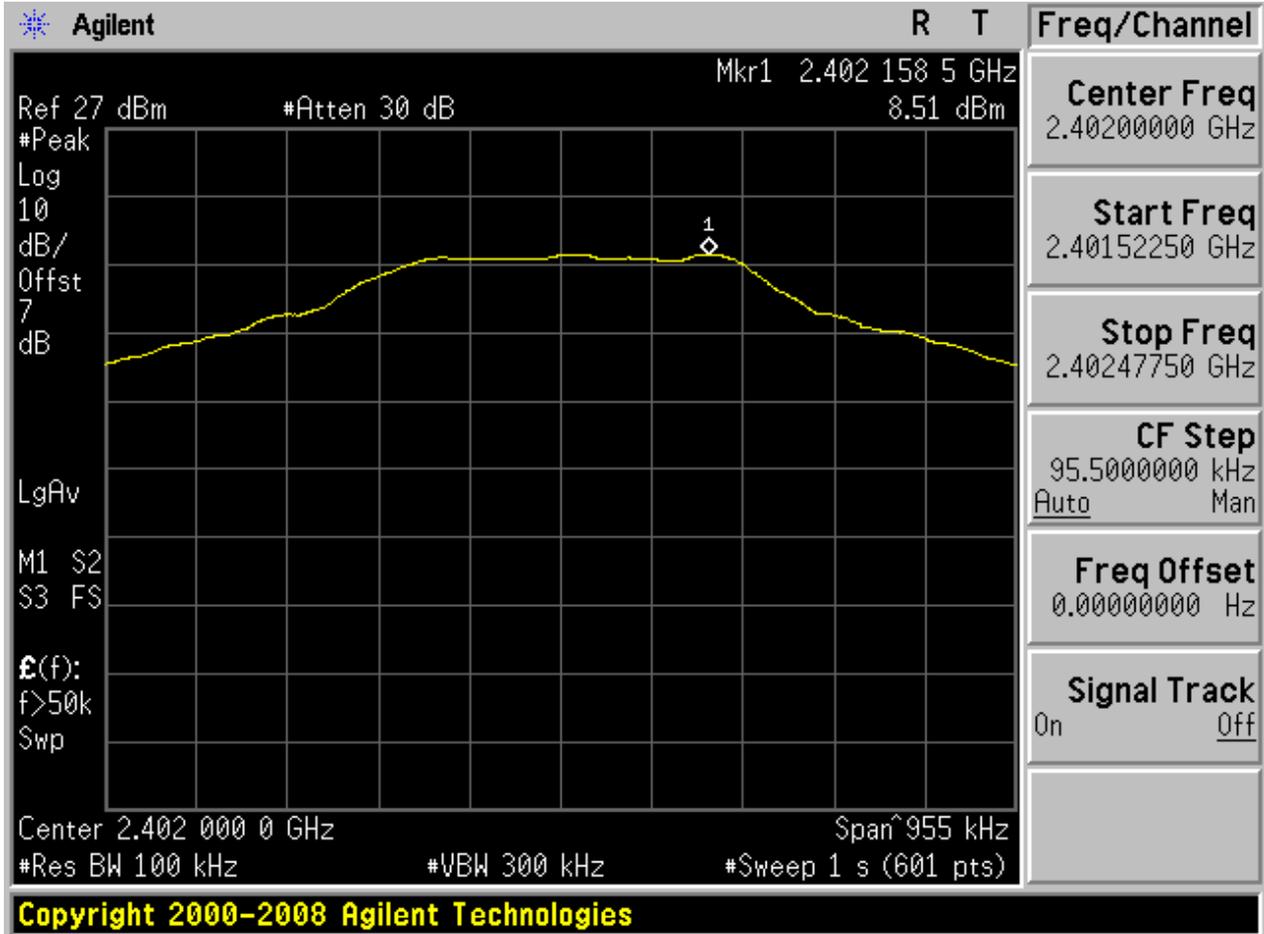
EUT Conf.	Pref [dBm/100 kHz]	Puw [dBm/100 kHz]	Verdict
TM1_DH5_Ch0	8.51	< Limit	Pass
TM1_DH5_Ch39	10.68	< Limit	Pass
TM1_DH5_Ch78	8.71	< Limit	Pass
TM2_2DH5_Ch0	6.72	< Limit	Pass
TM2_2DH5_Ch39	8.88	< Limit	Pass
TM2_2DH5_Ch78	6.91	< Limit	Pass
TM3_3DH5_Ch0	6.73	< Limit	Pass
TM3_3DH5_Ch39	8.91	< Limit	Pass
TM3_3DH5_Ch78	6.91	< Limit	Pass



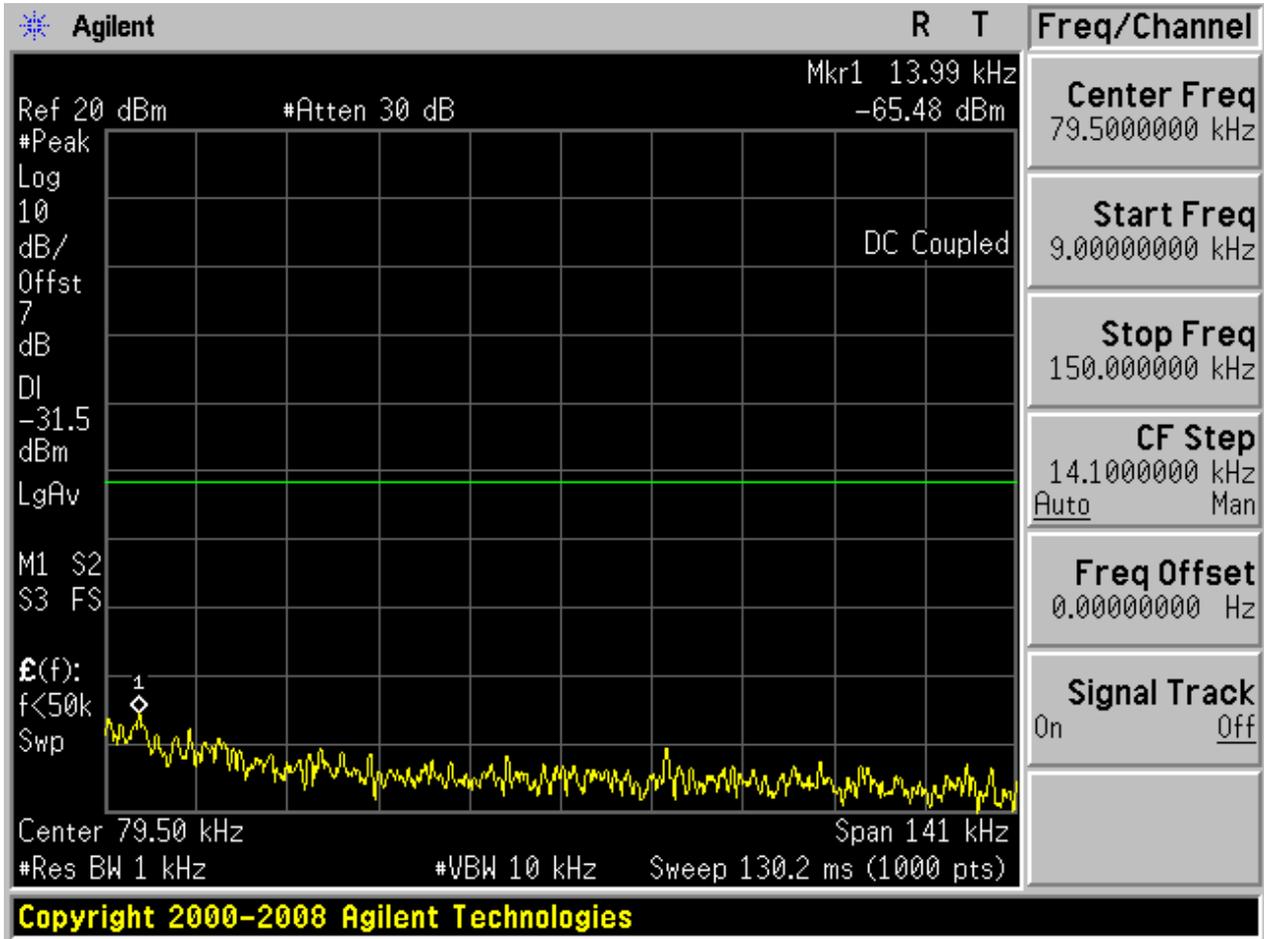
## 2 Test Plot

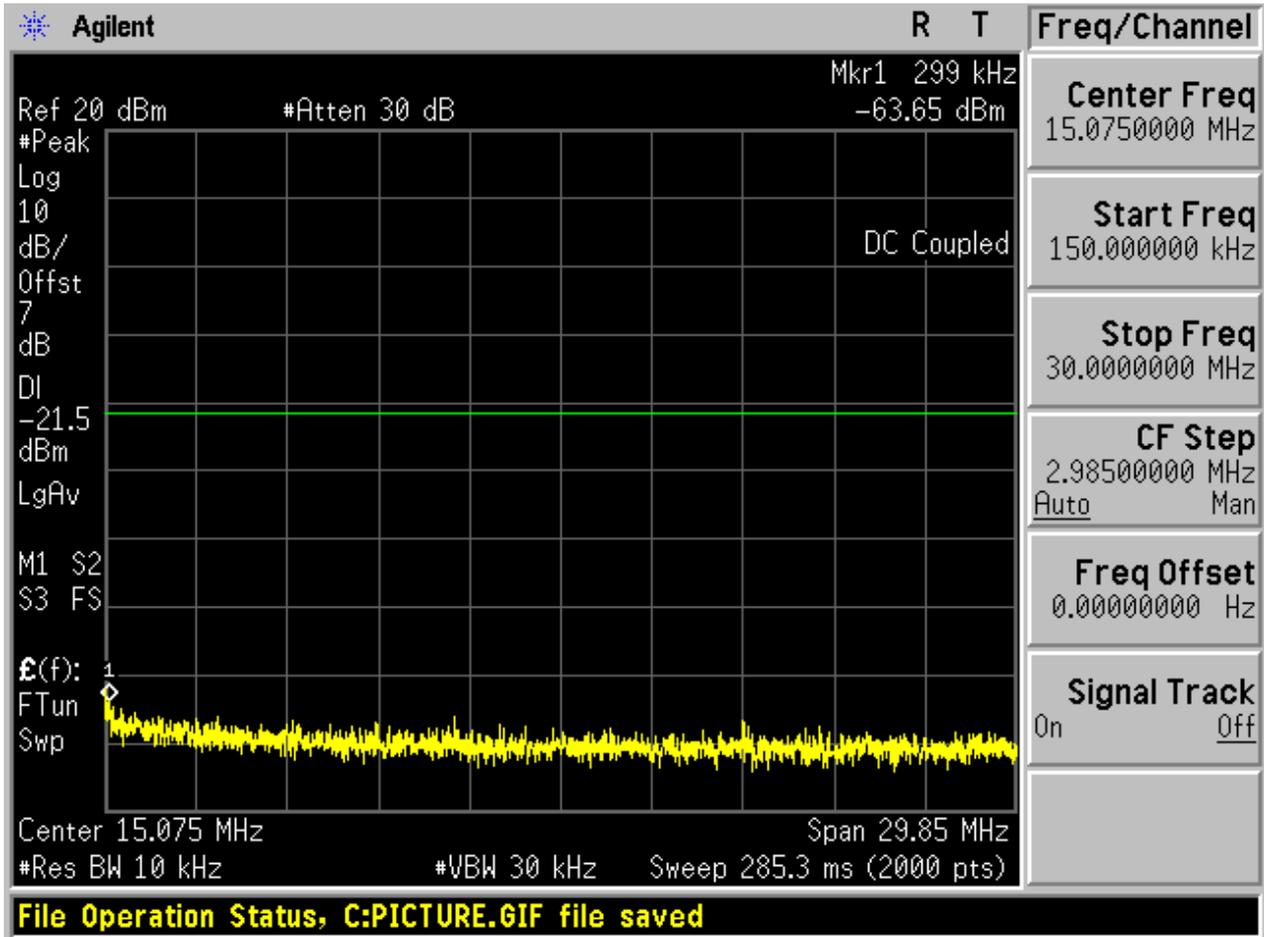
### 2.1 TM1\_DH5\_Ch0

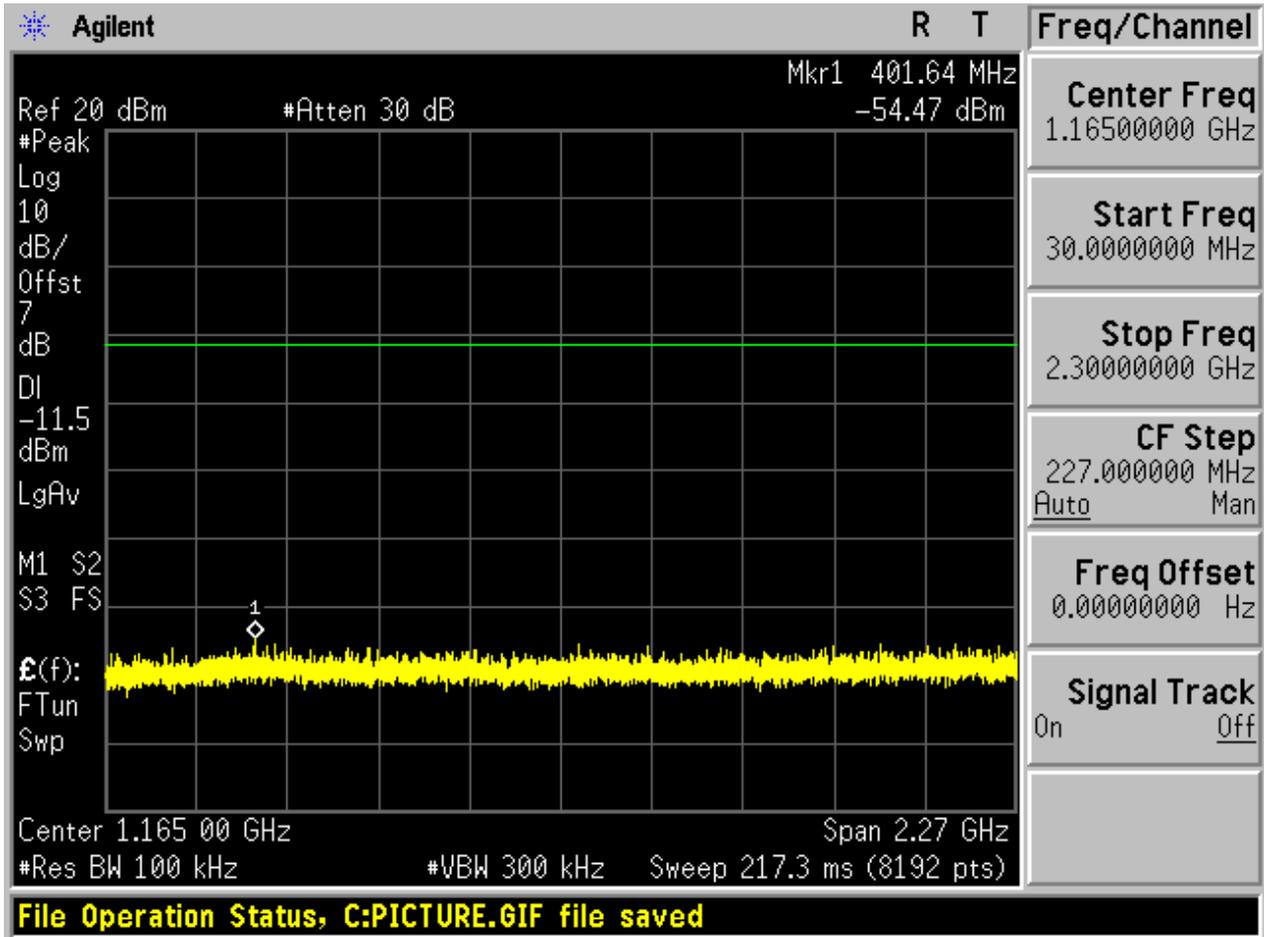
#### 2.1.1 Pref

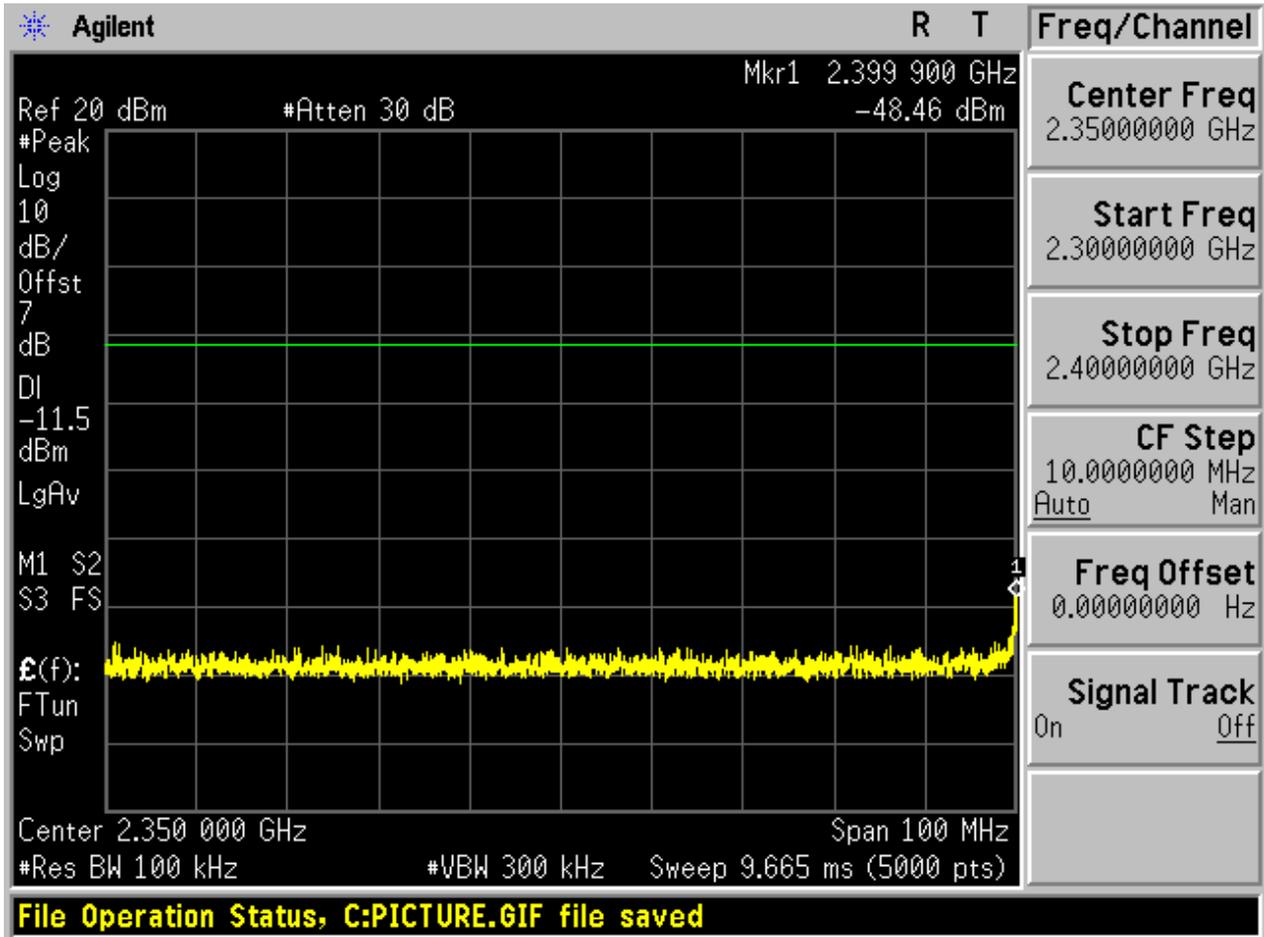


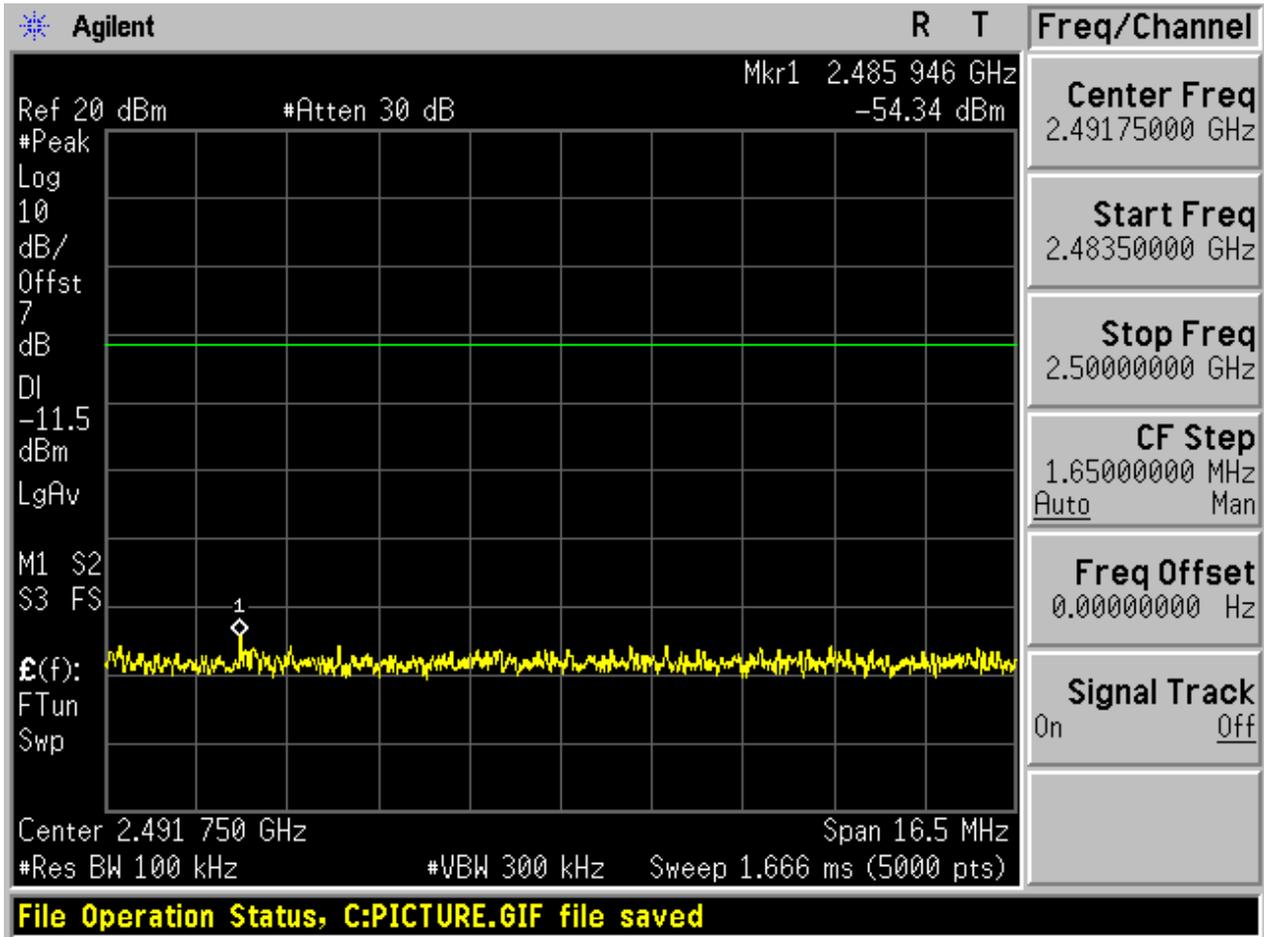
2.1.2 Puw

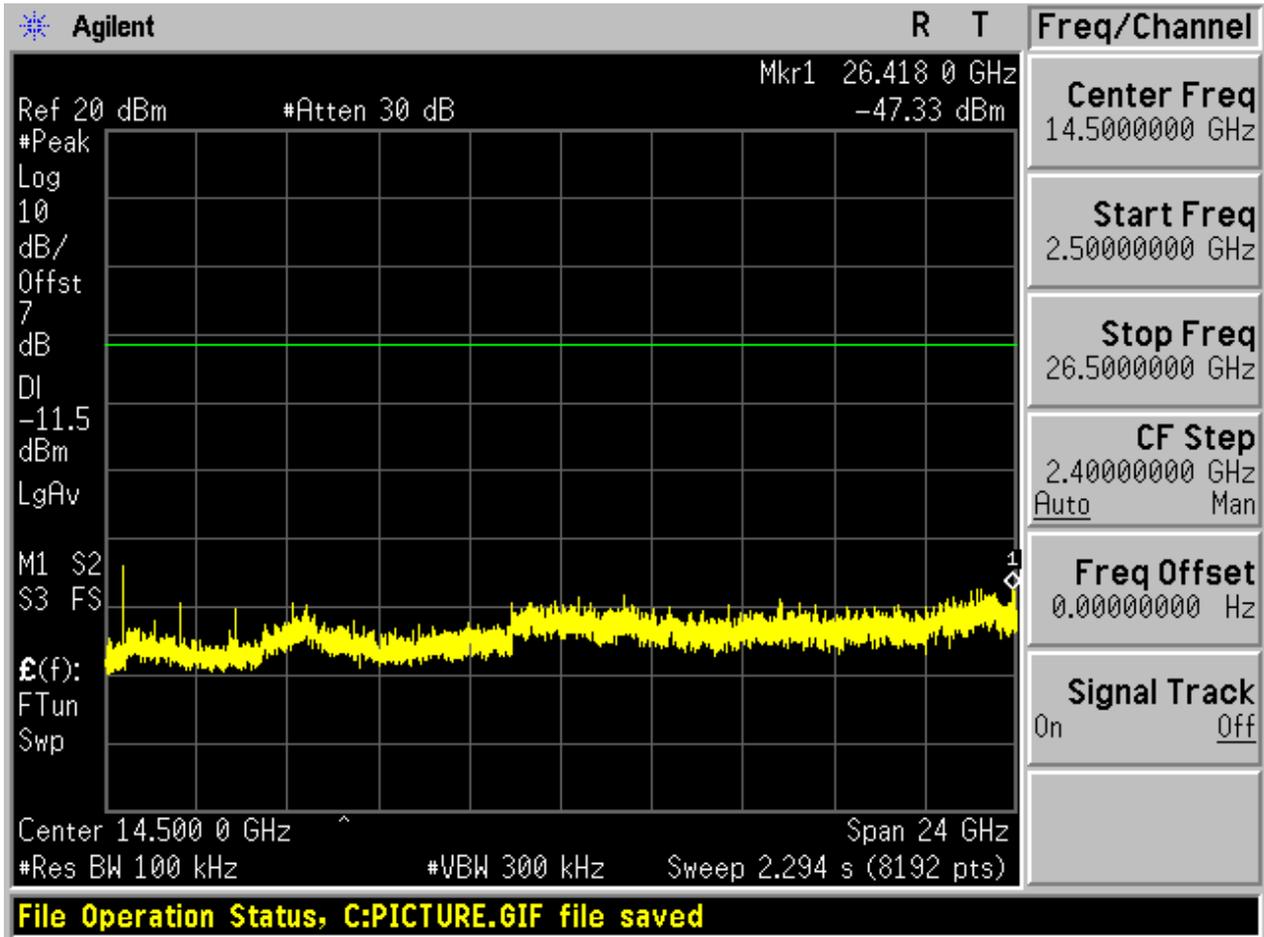






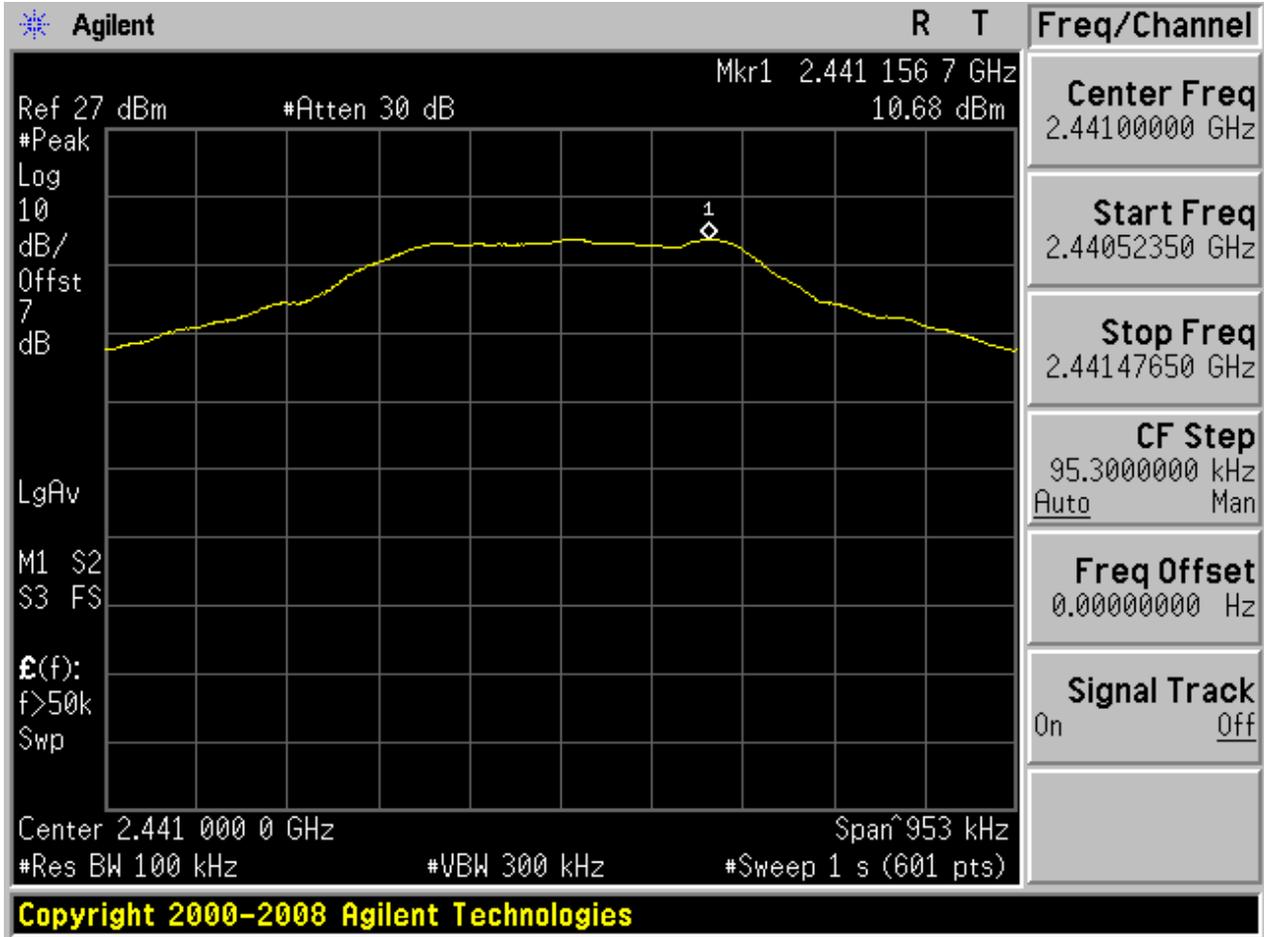




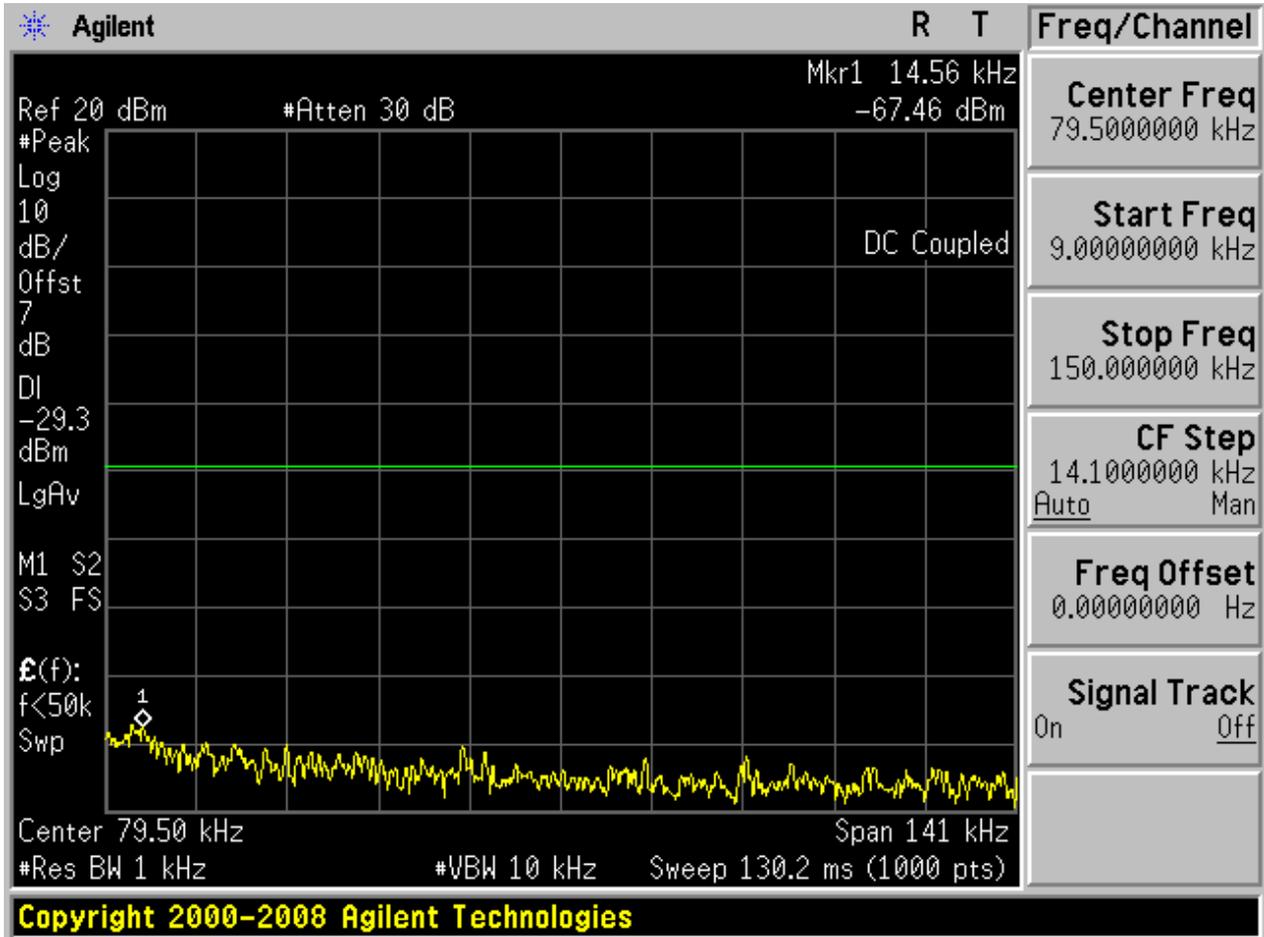


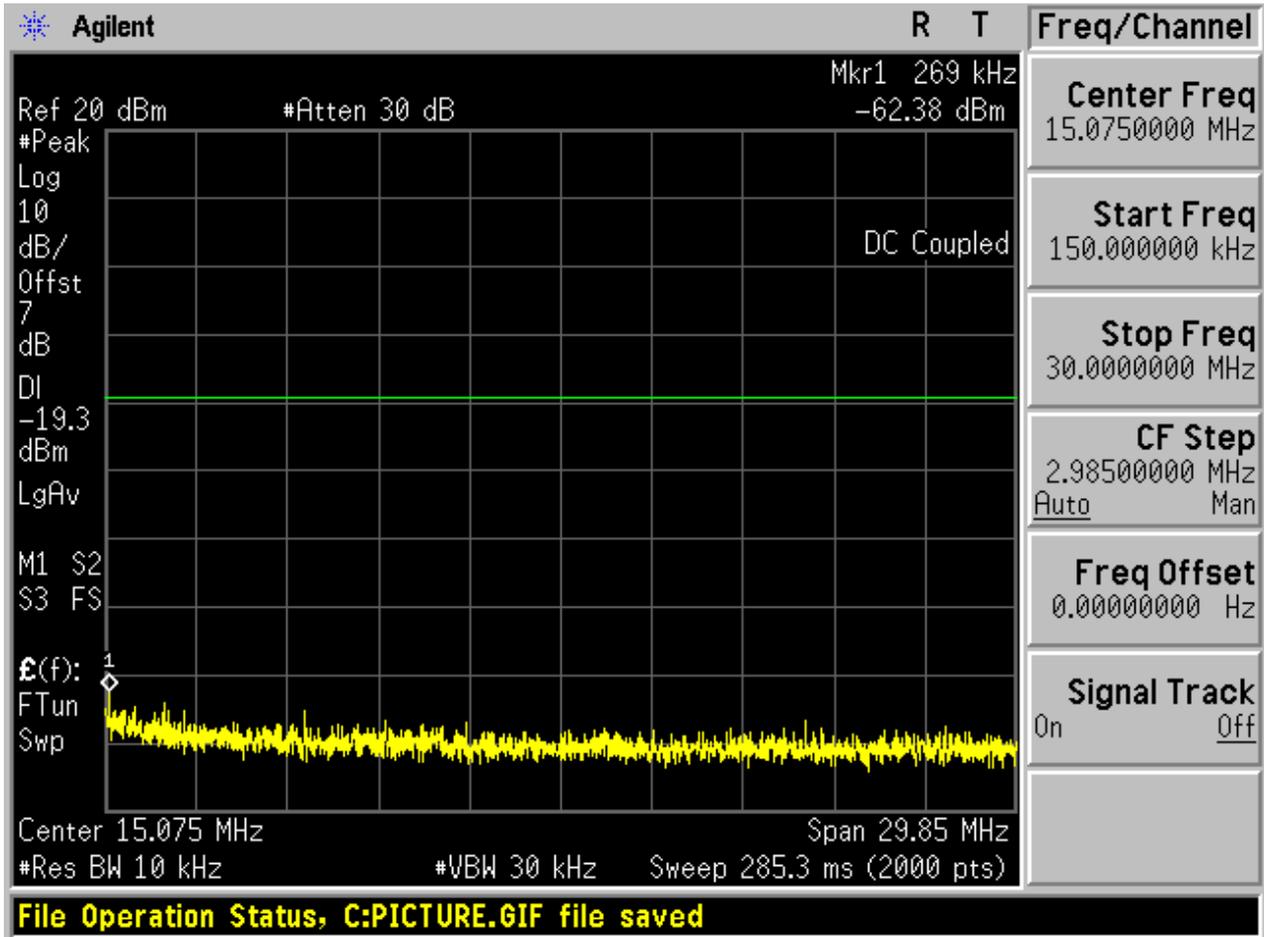
## 2.2 TM1\_DH5\_Ch39

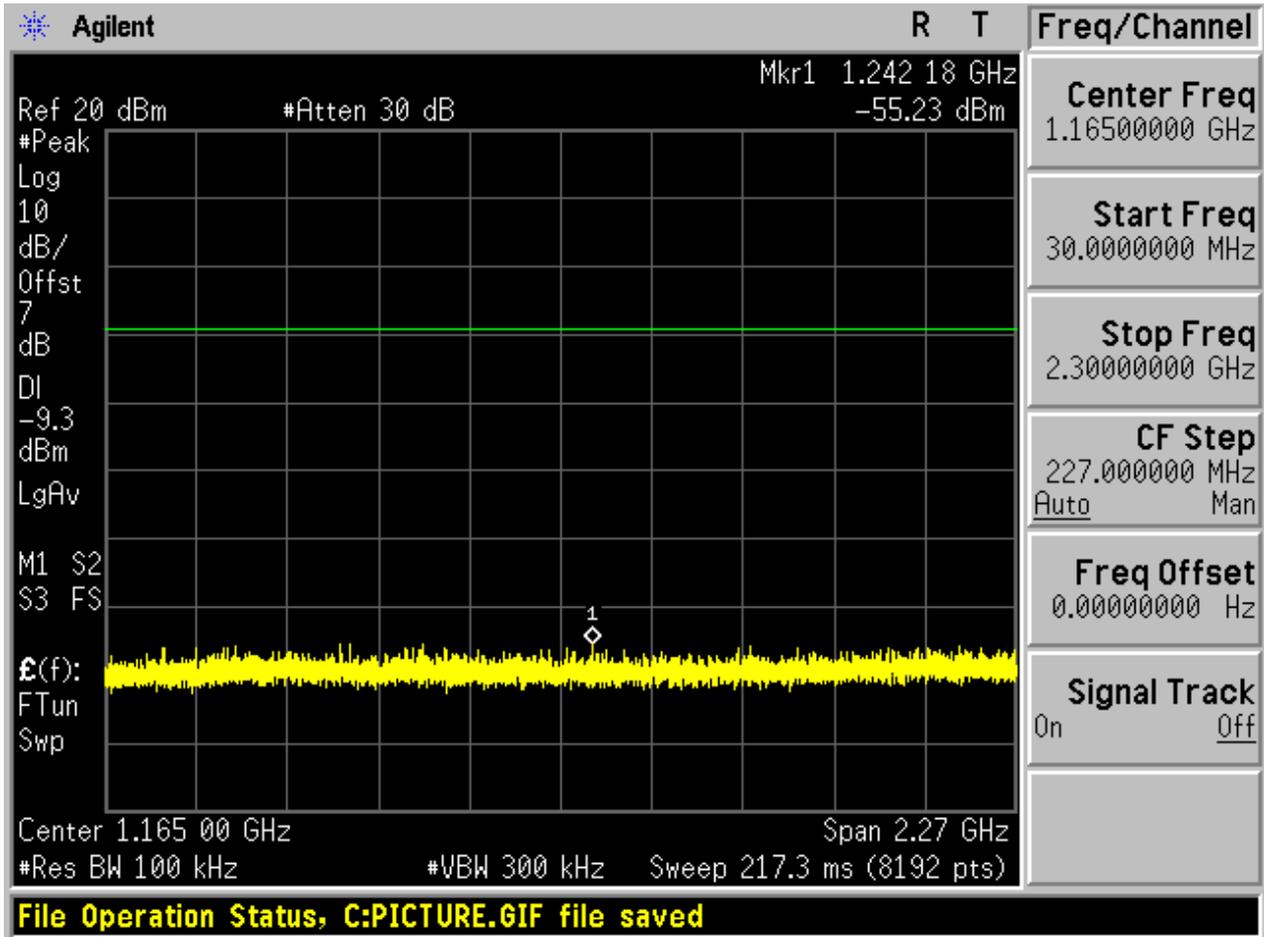
### 2.2.1 Pref

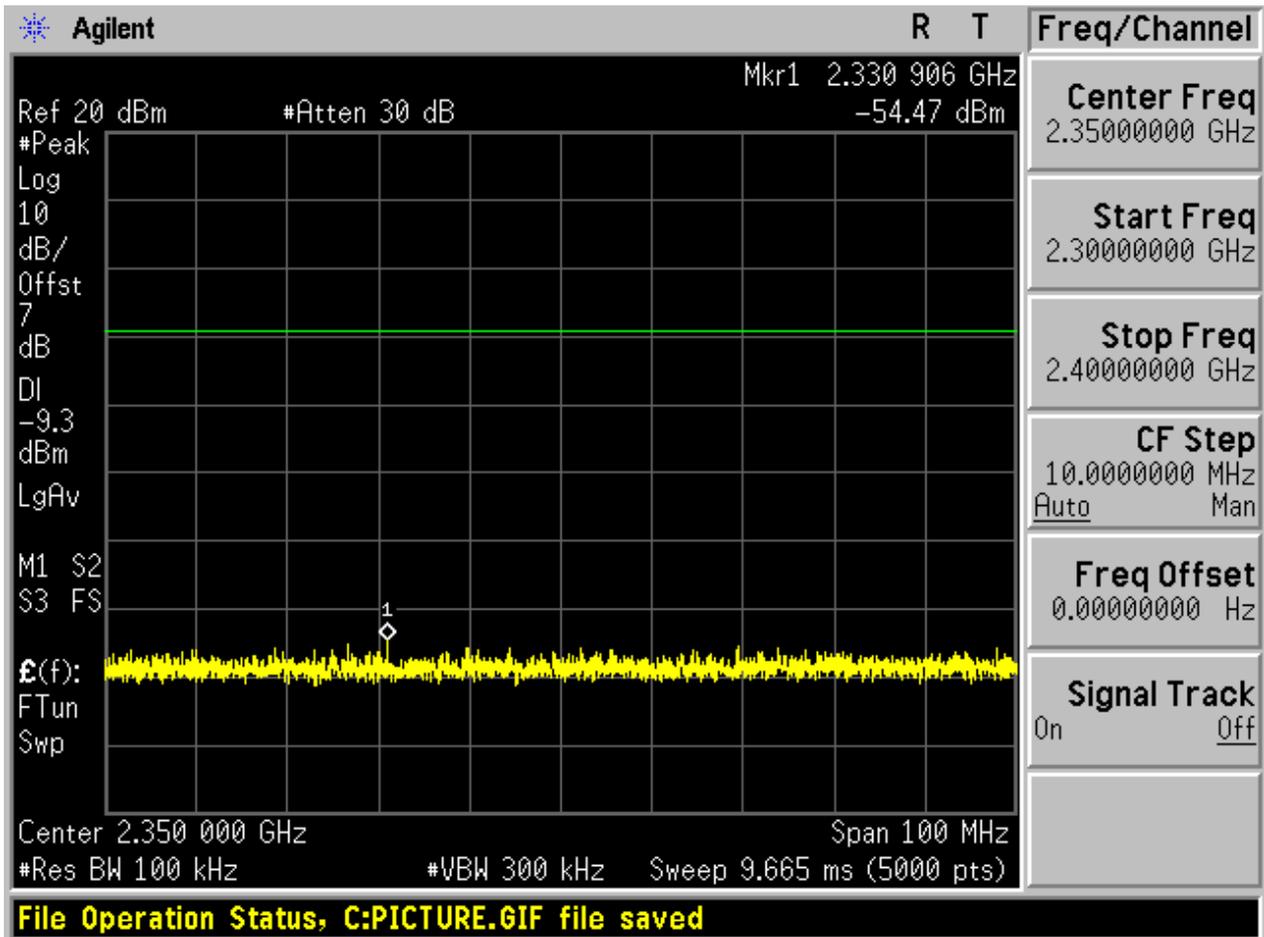


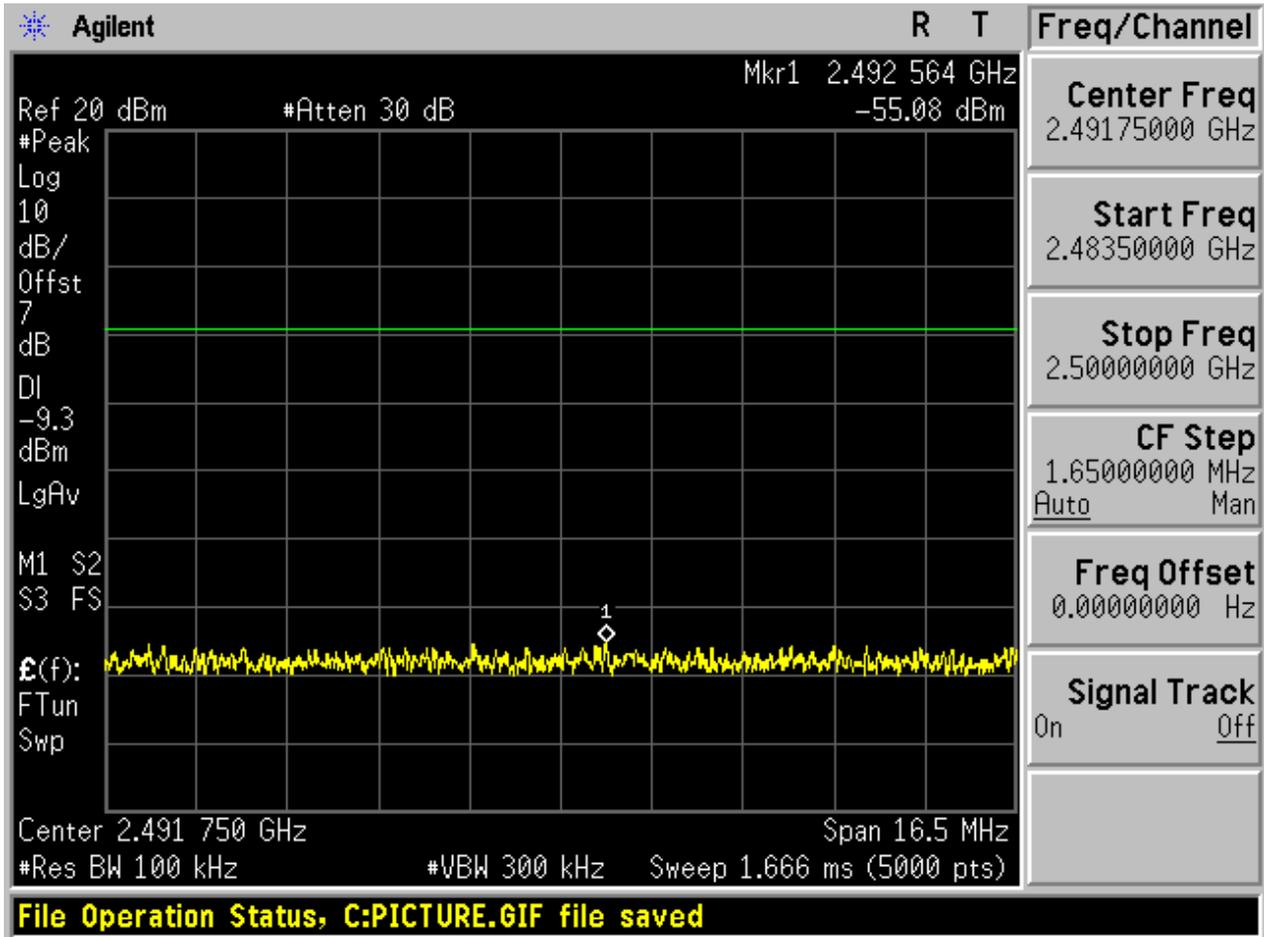
2.2.2 Puw

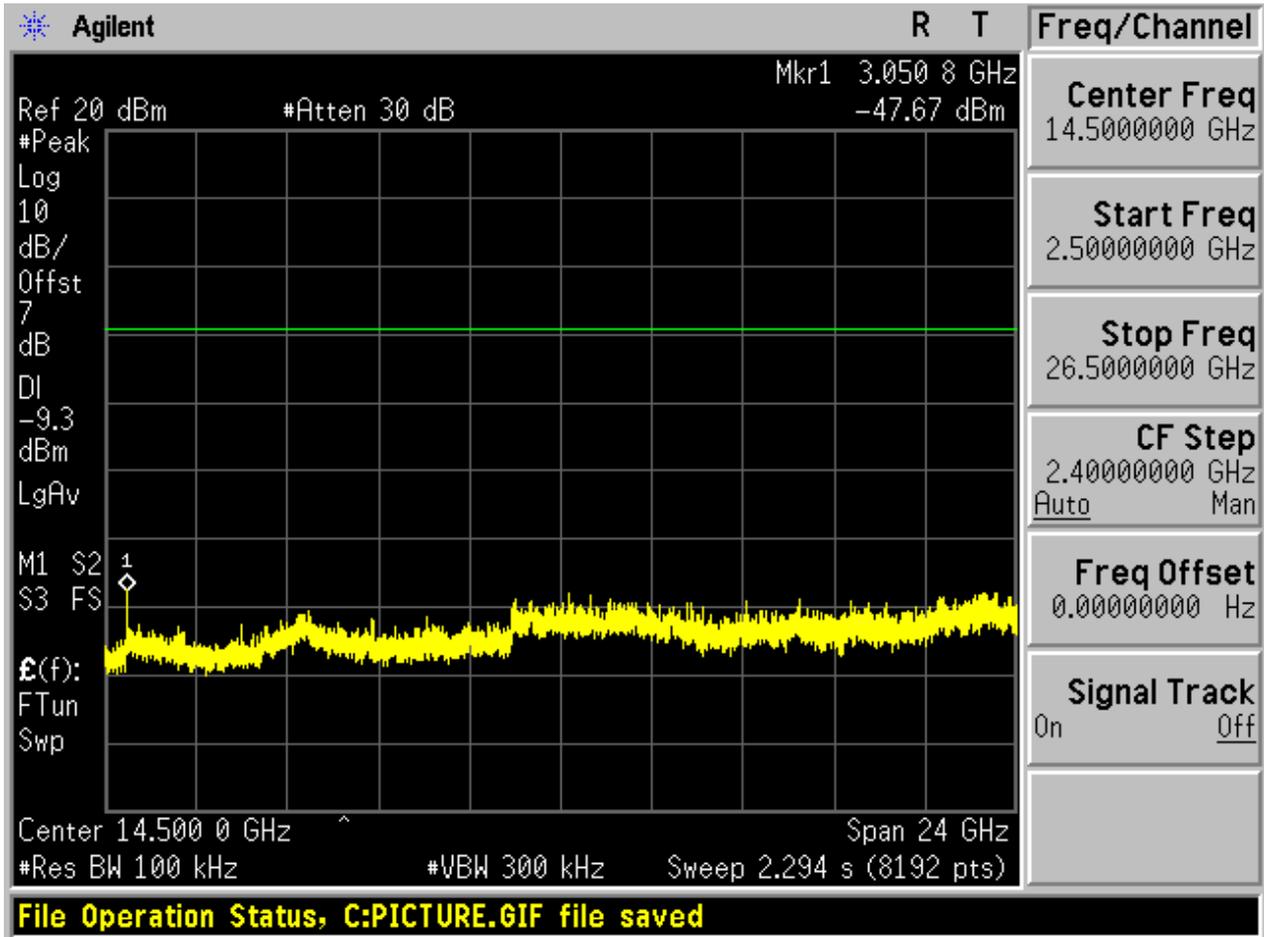






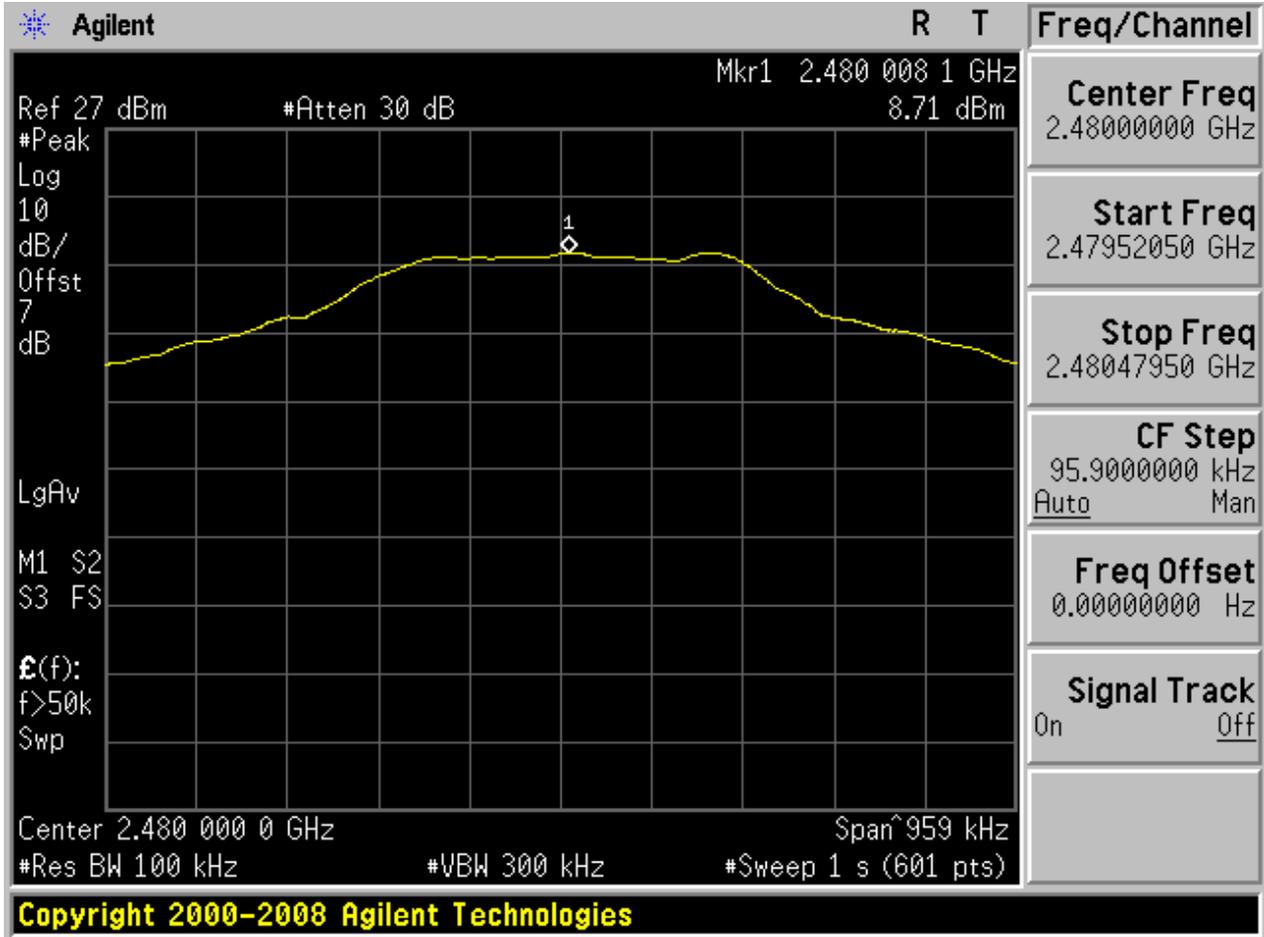




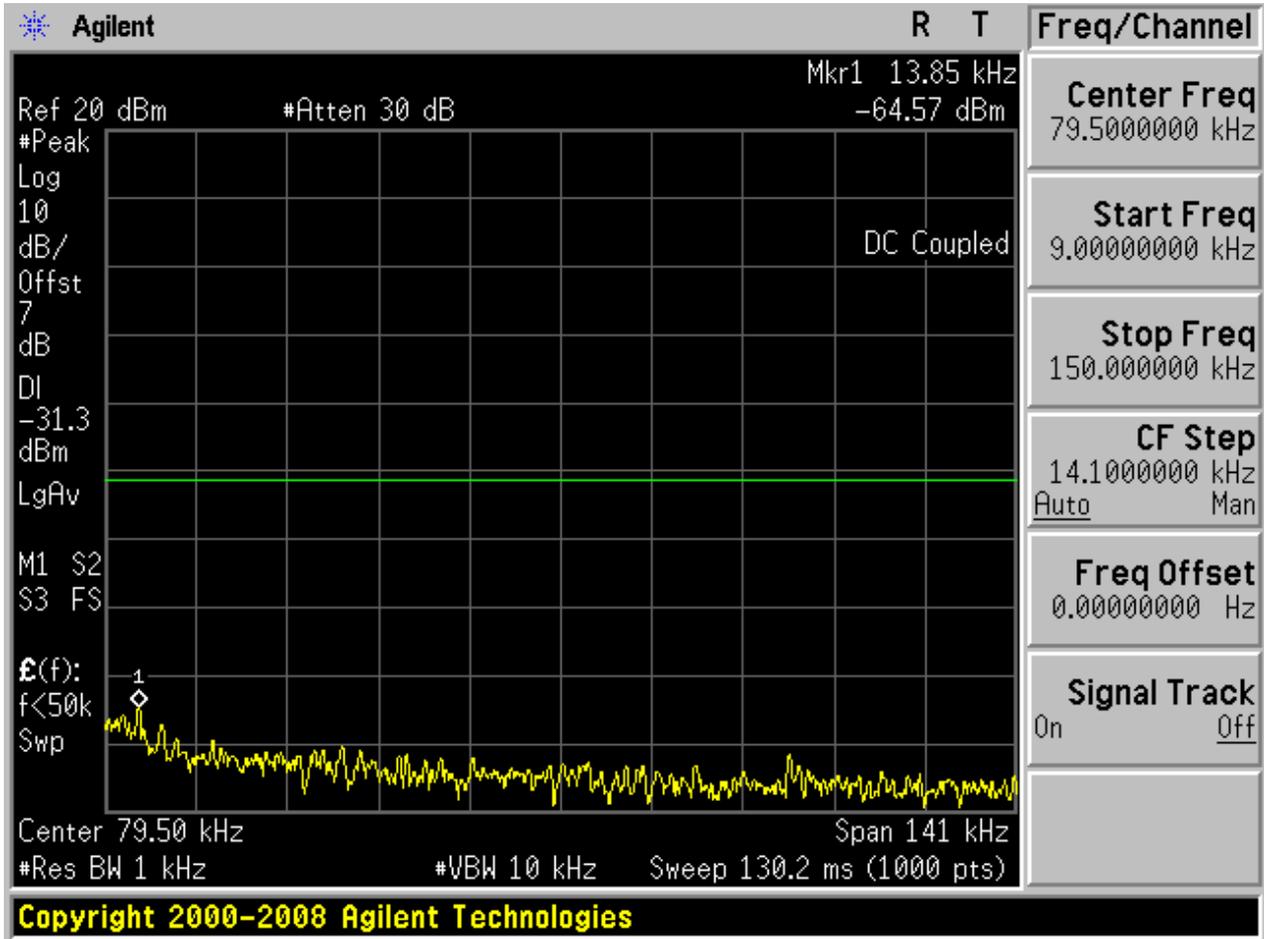


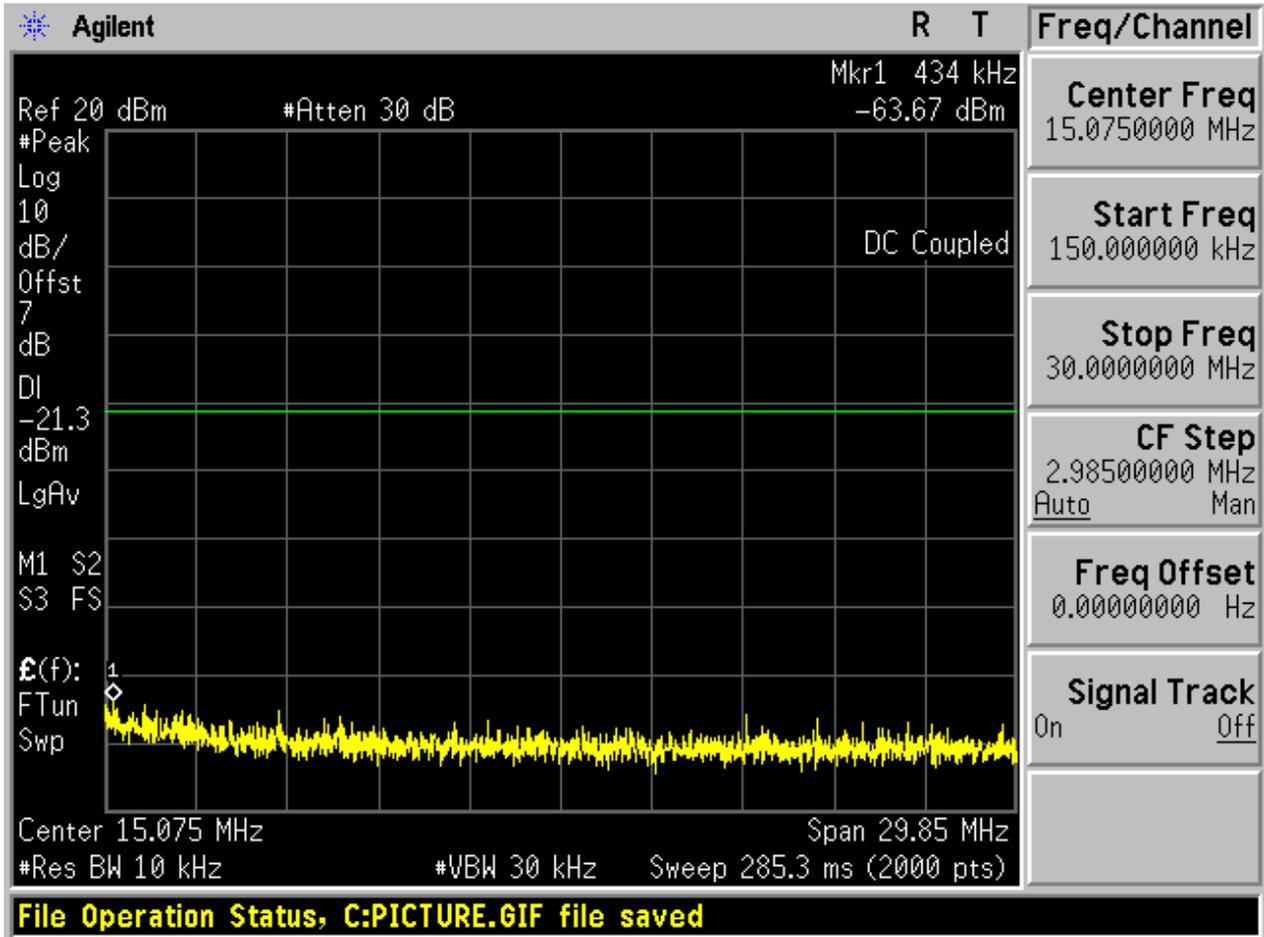
### 2.3 TM1\_DH5\_Ch78

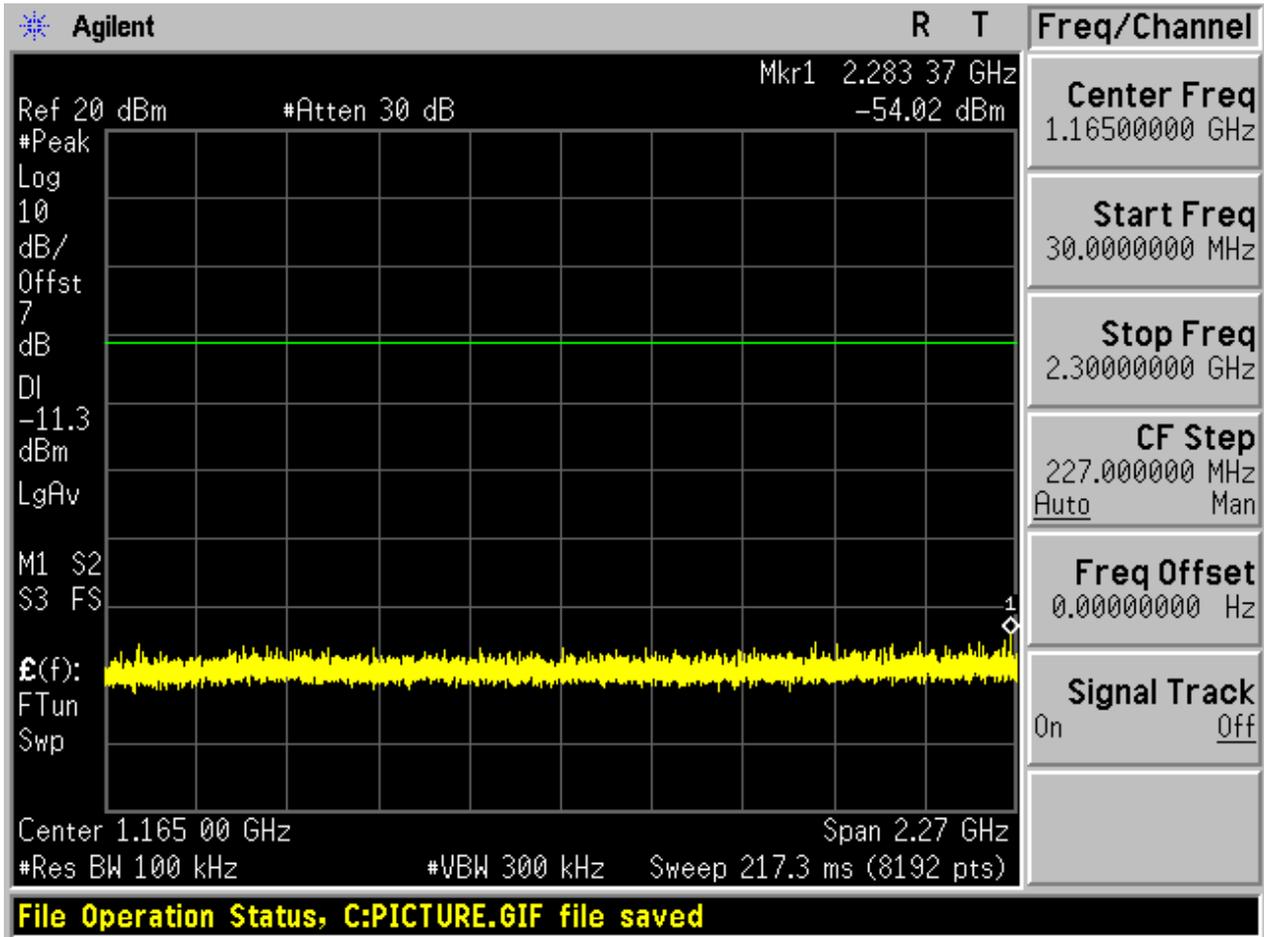
#### 2.3.1 Pref

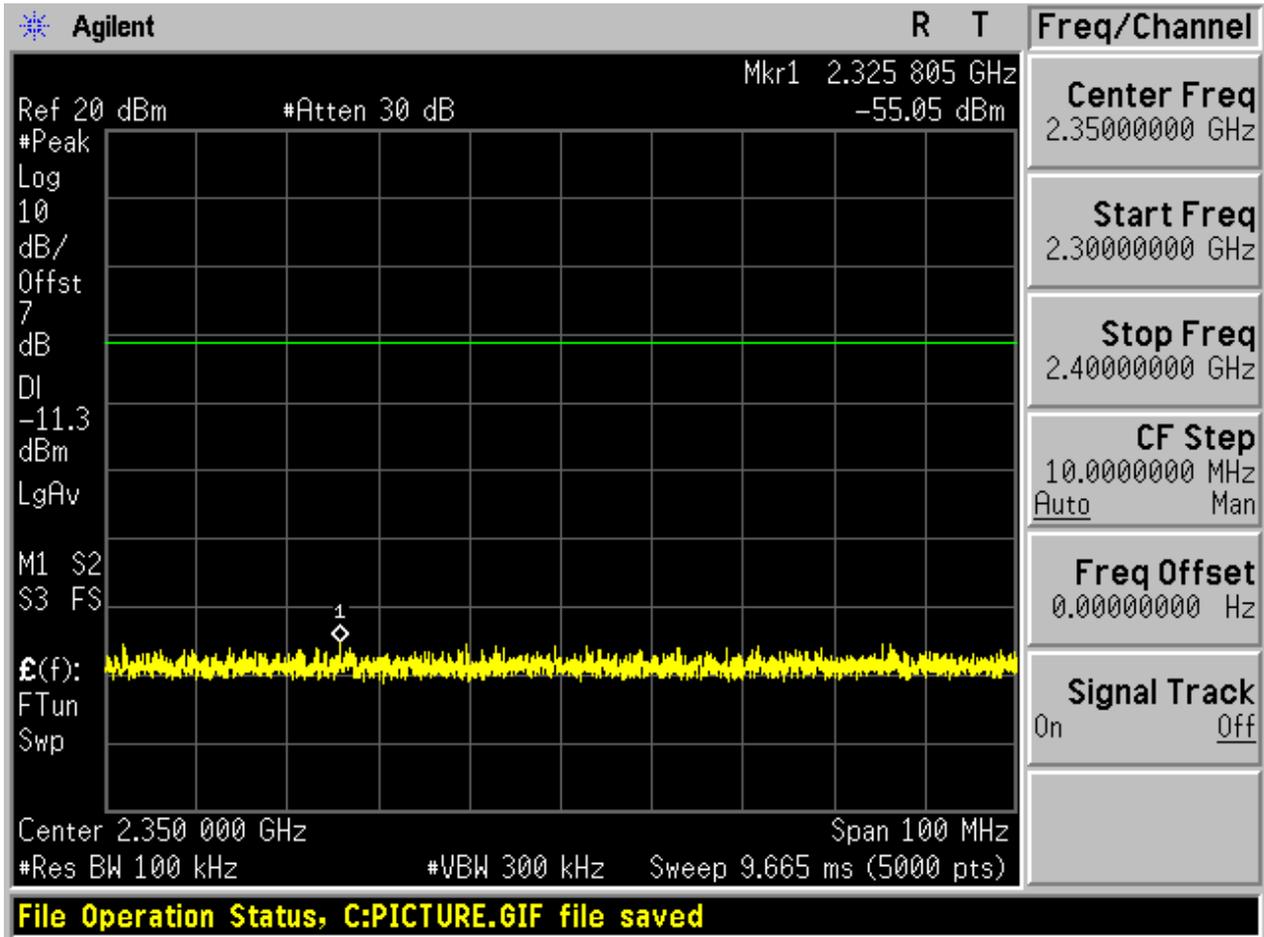


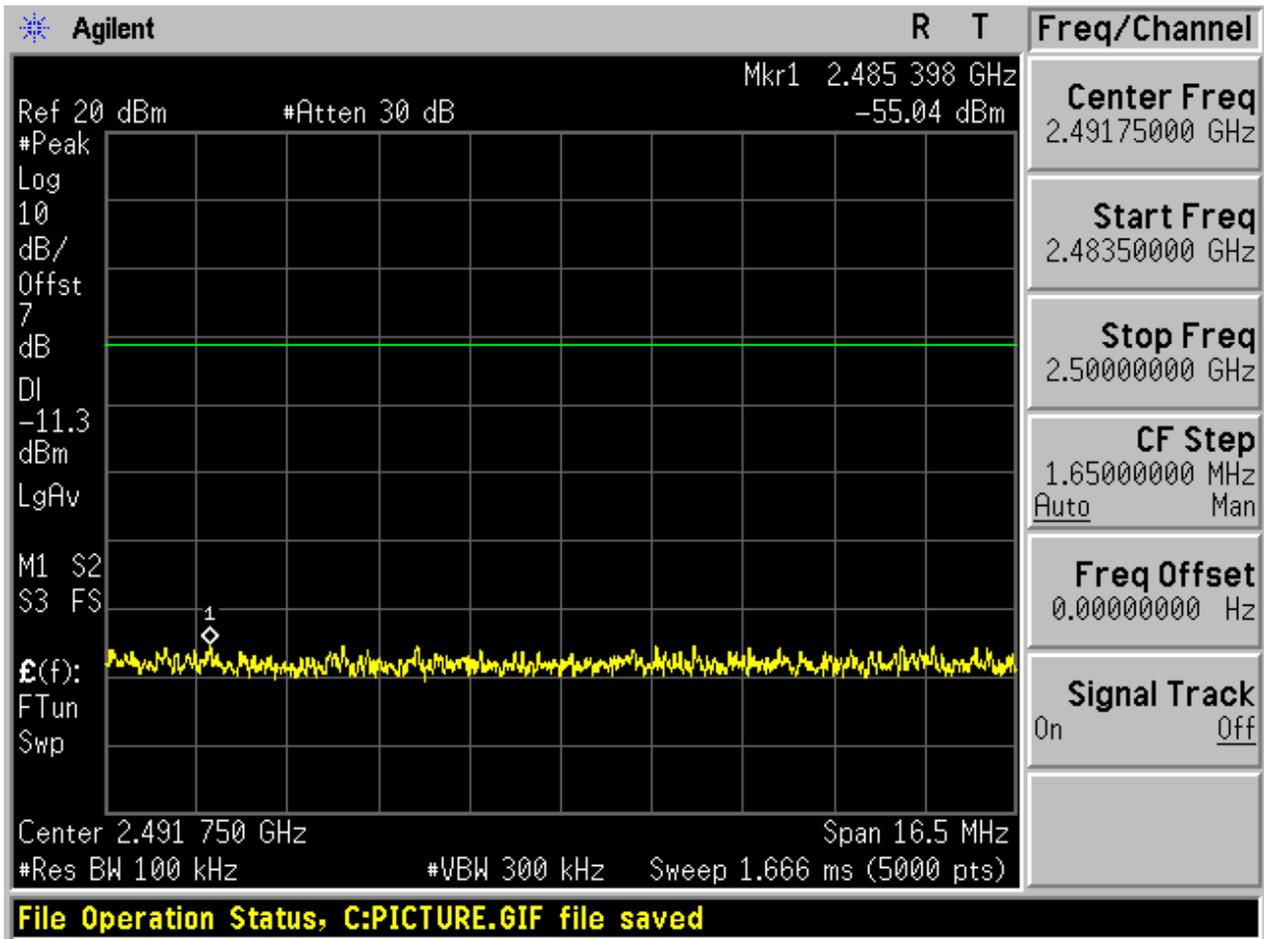
2.3.2 Puw

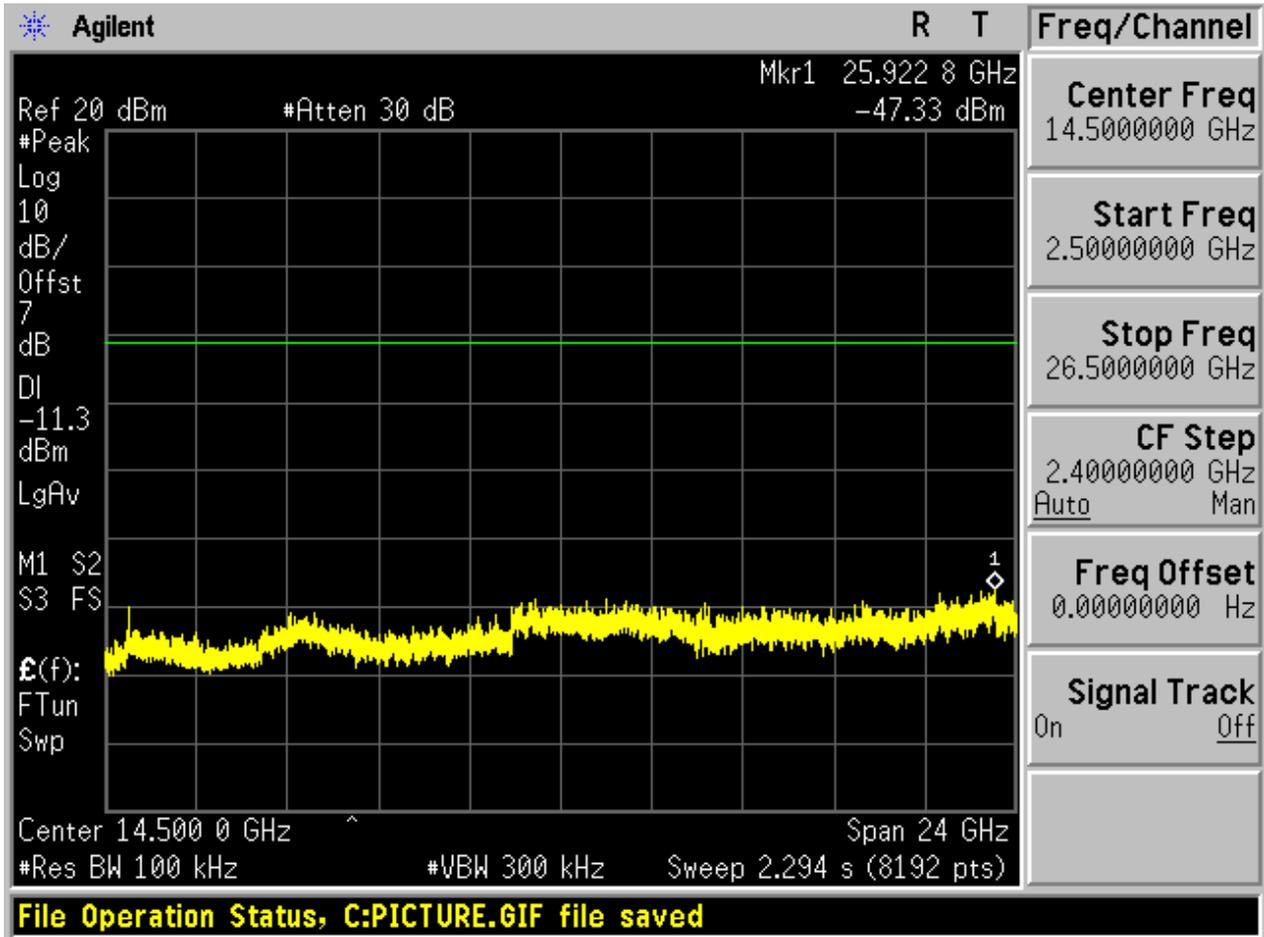






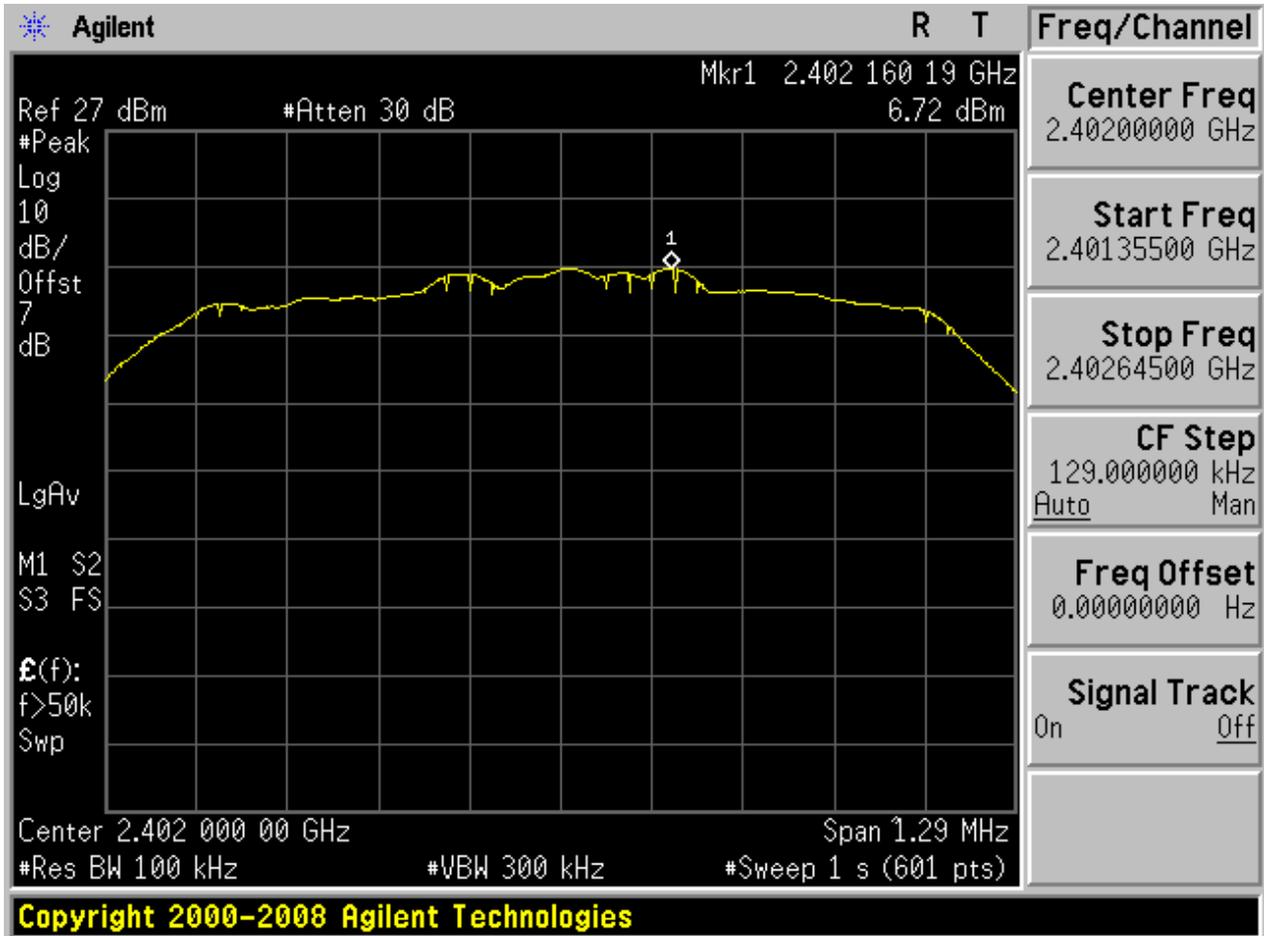




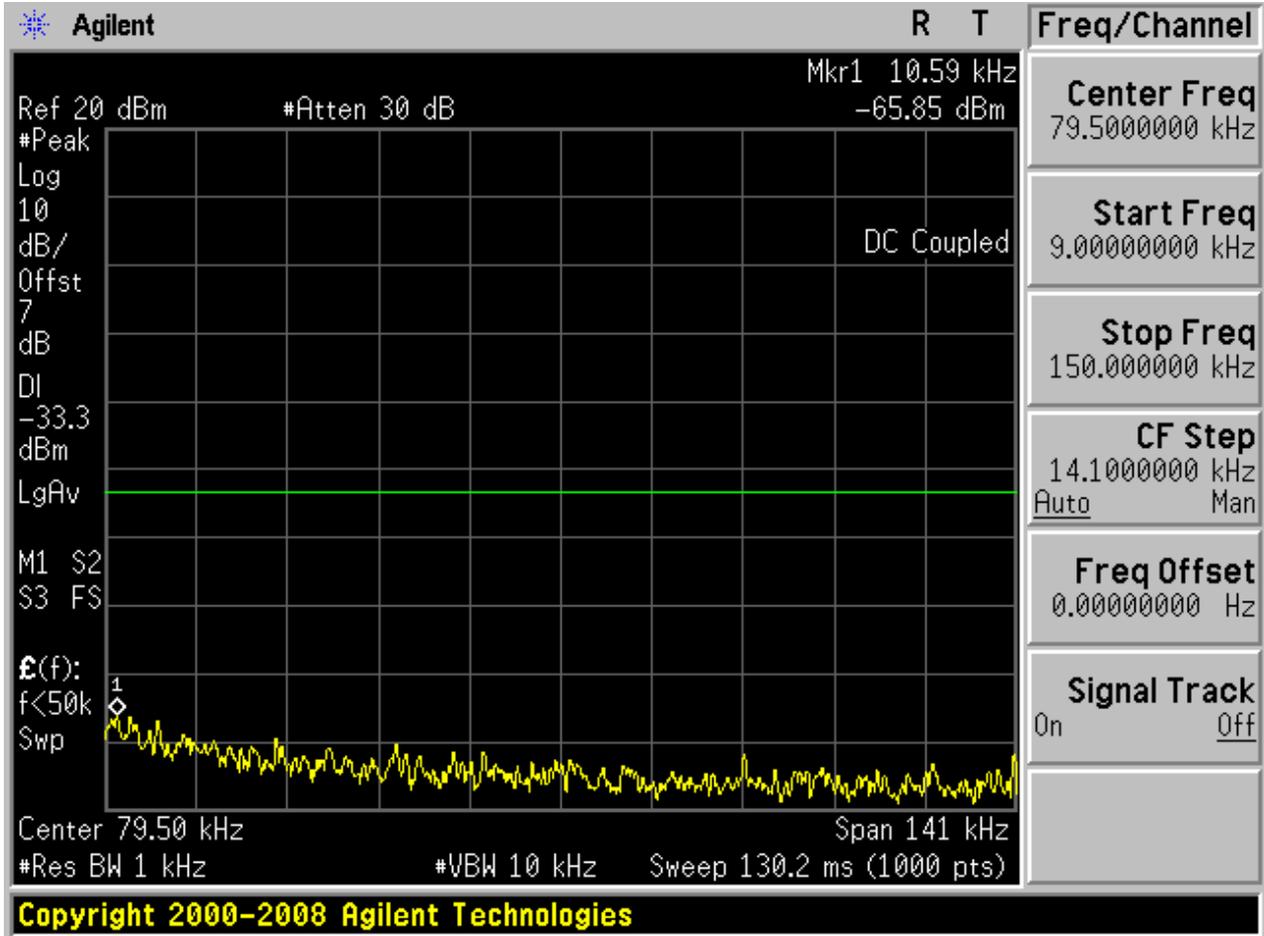


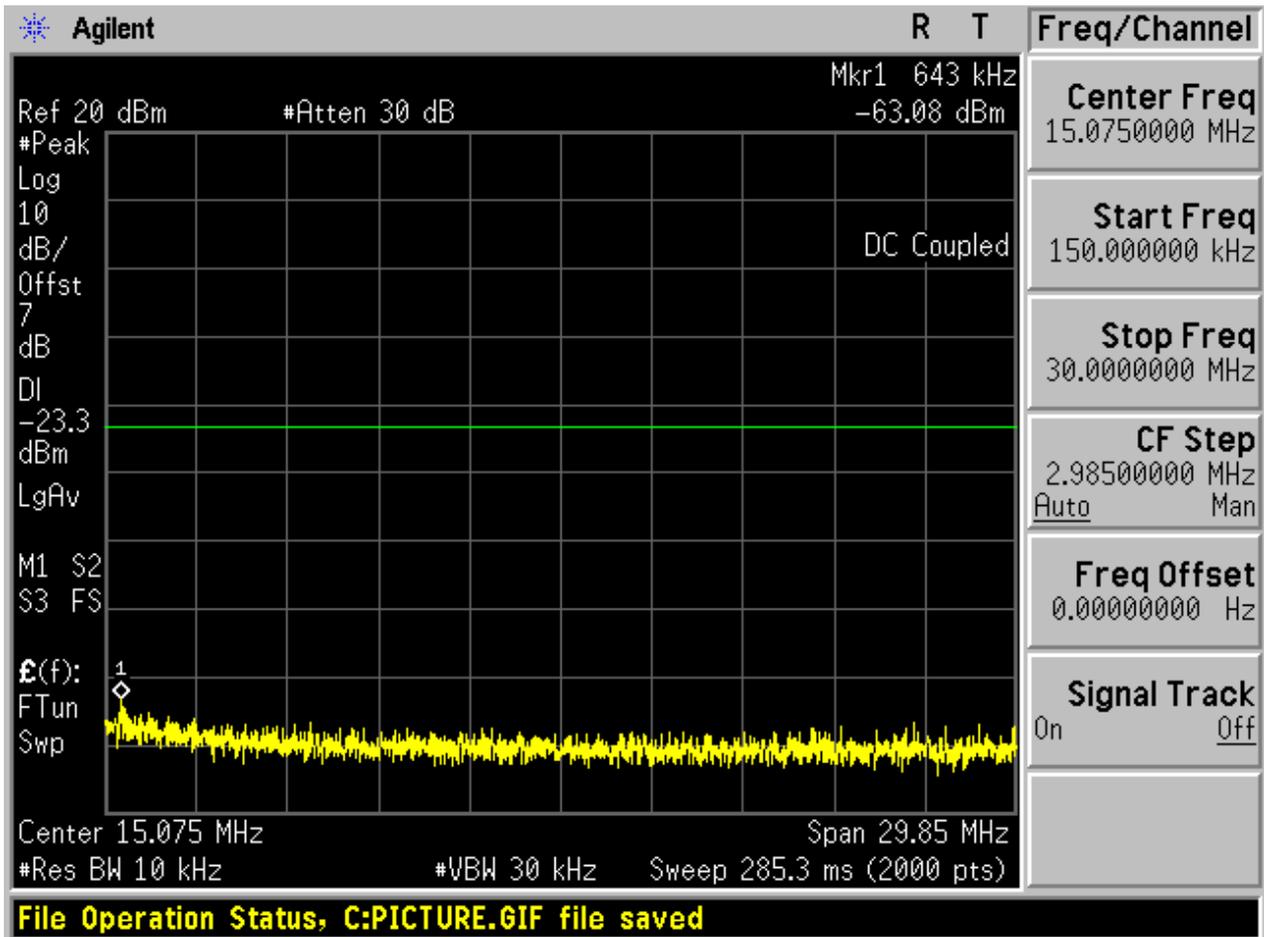
2.4 TM2\_2DH5\_Ch0

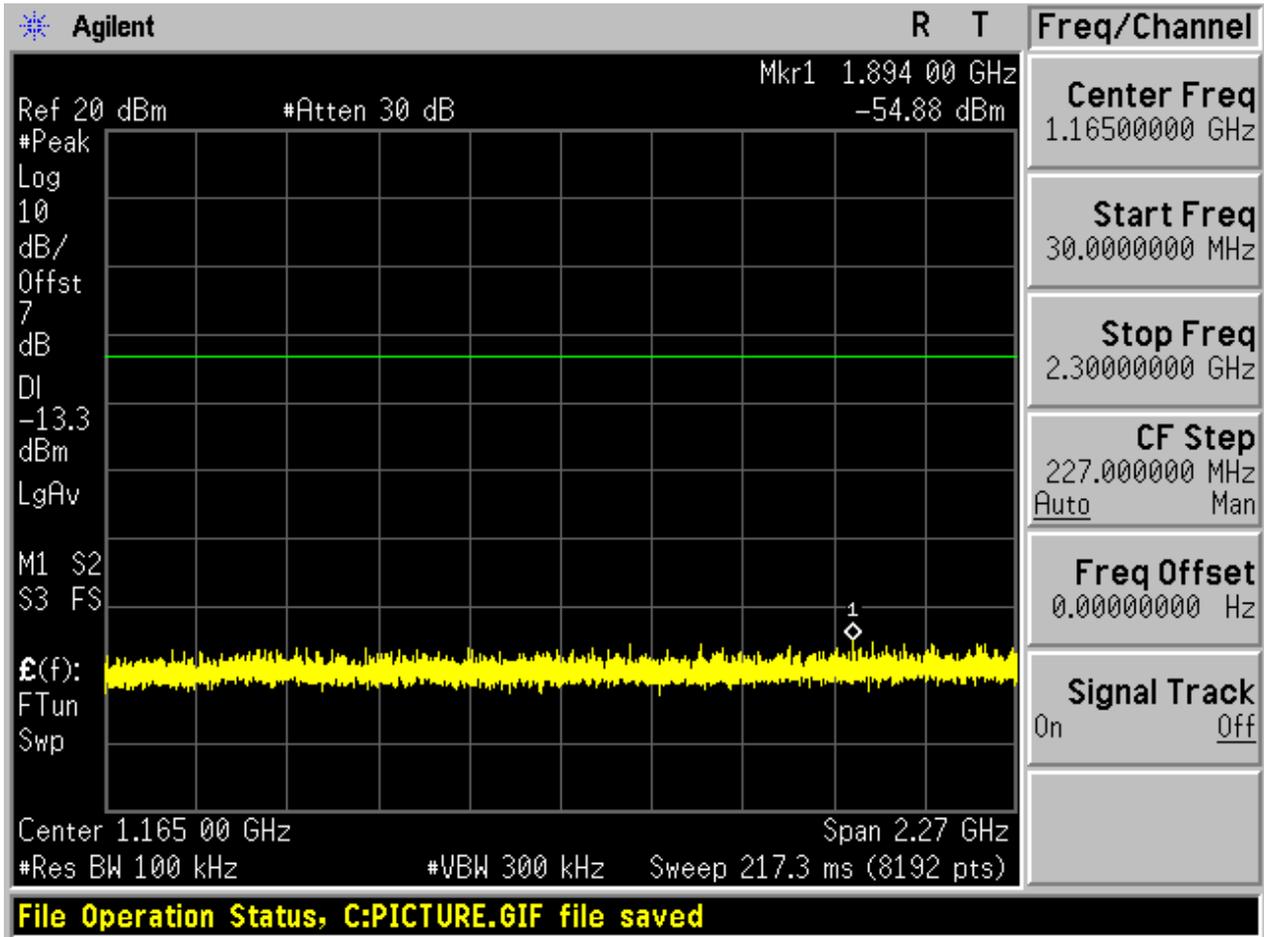
2.4.1 Pref

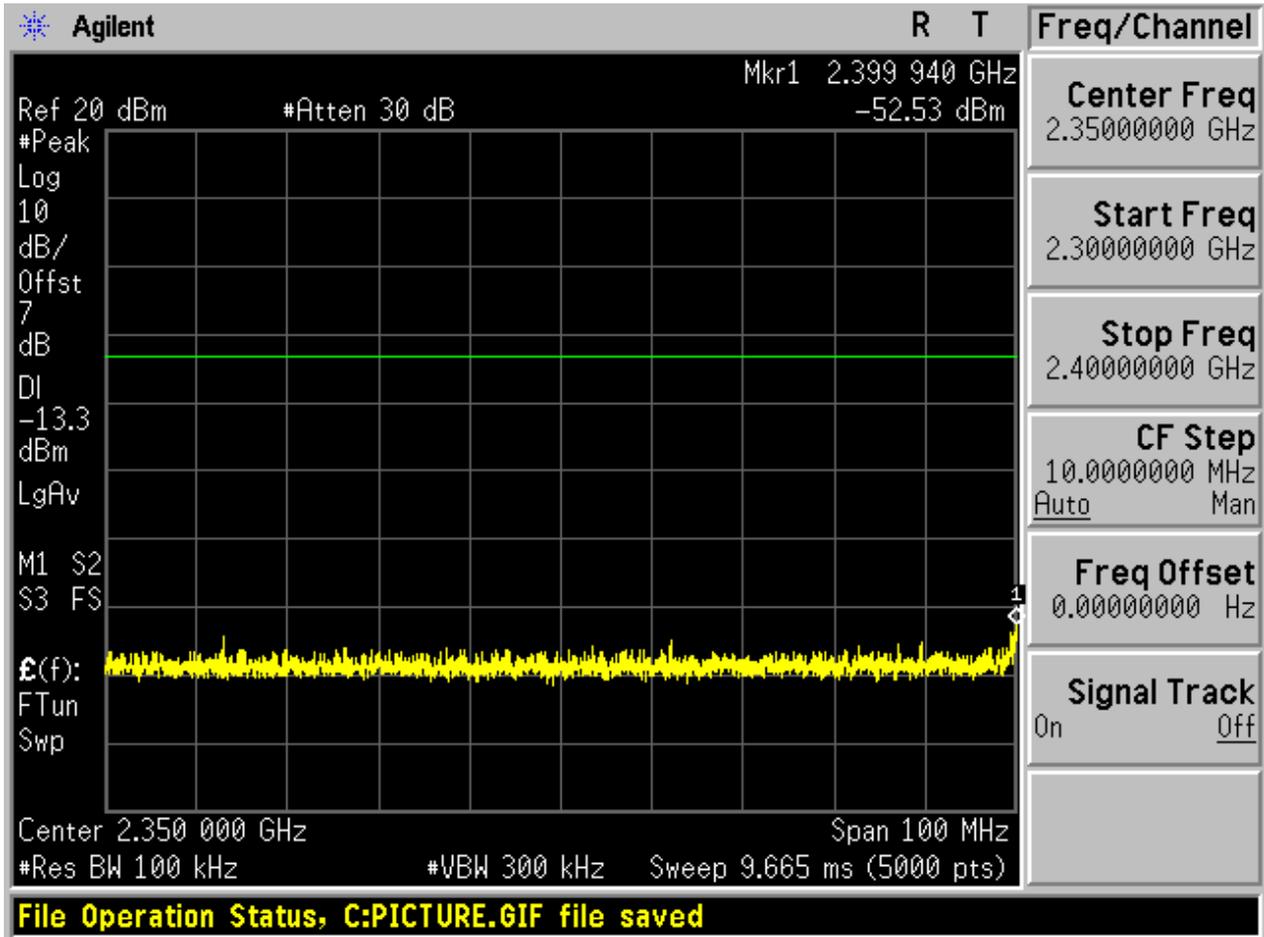


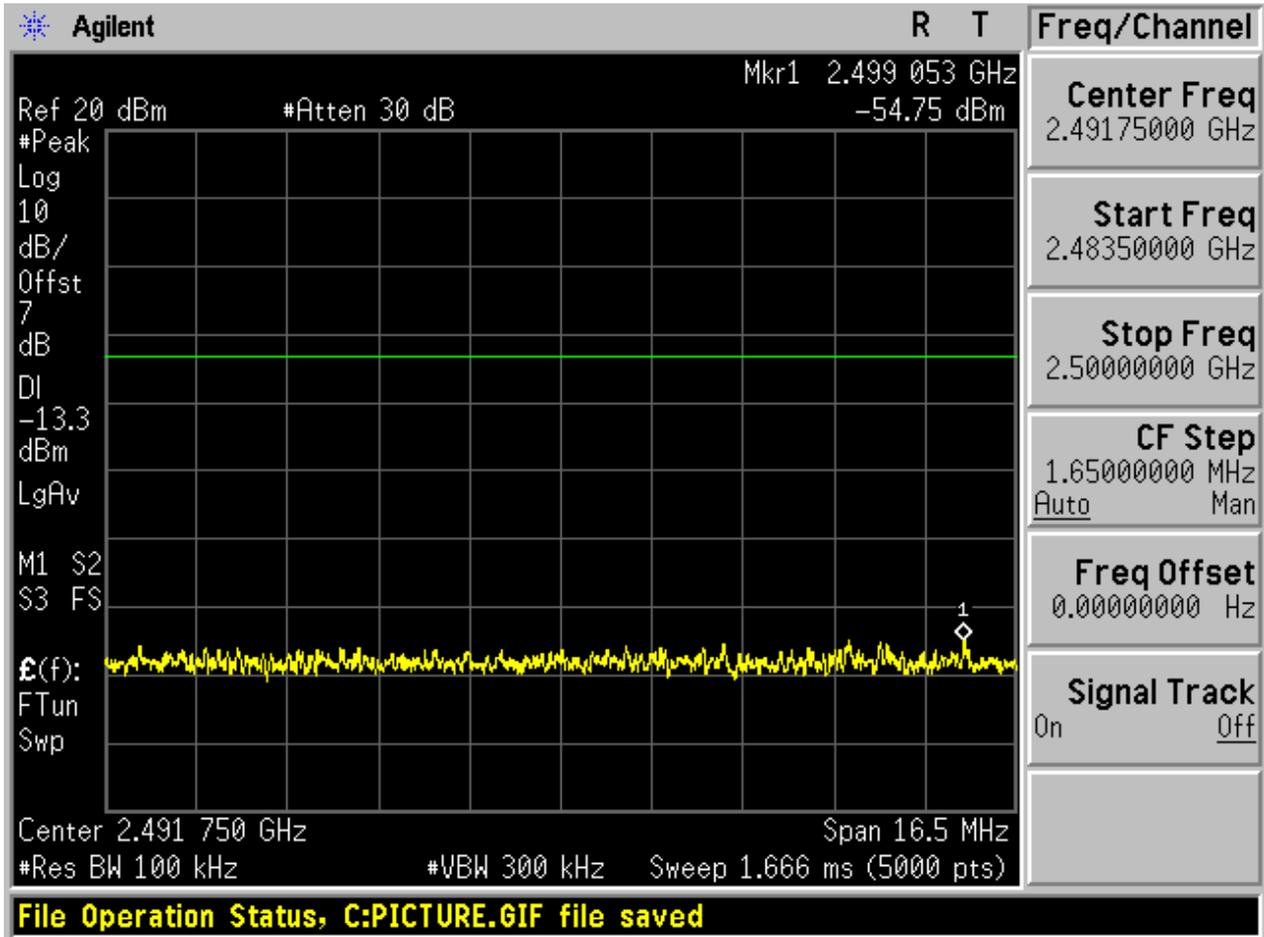
2.4.2 Puw

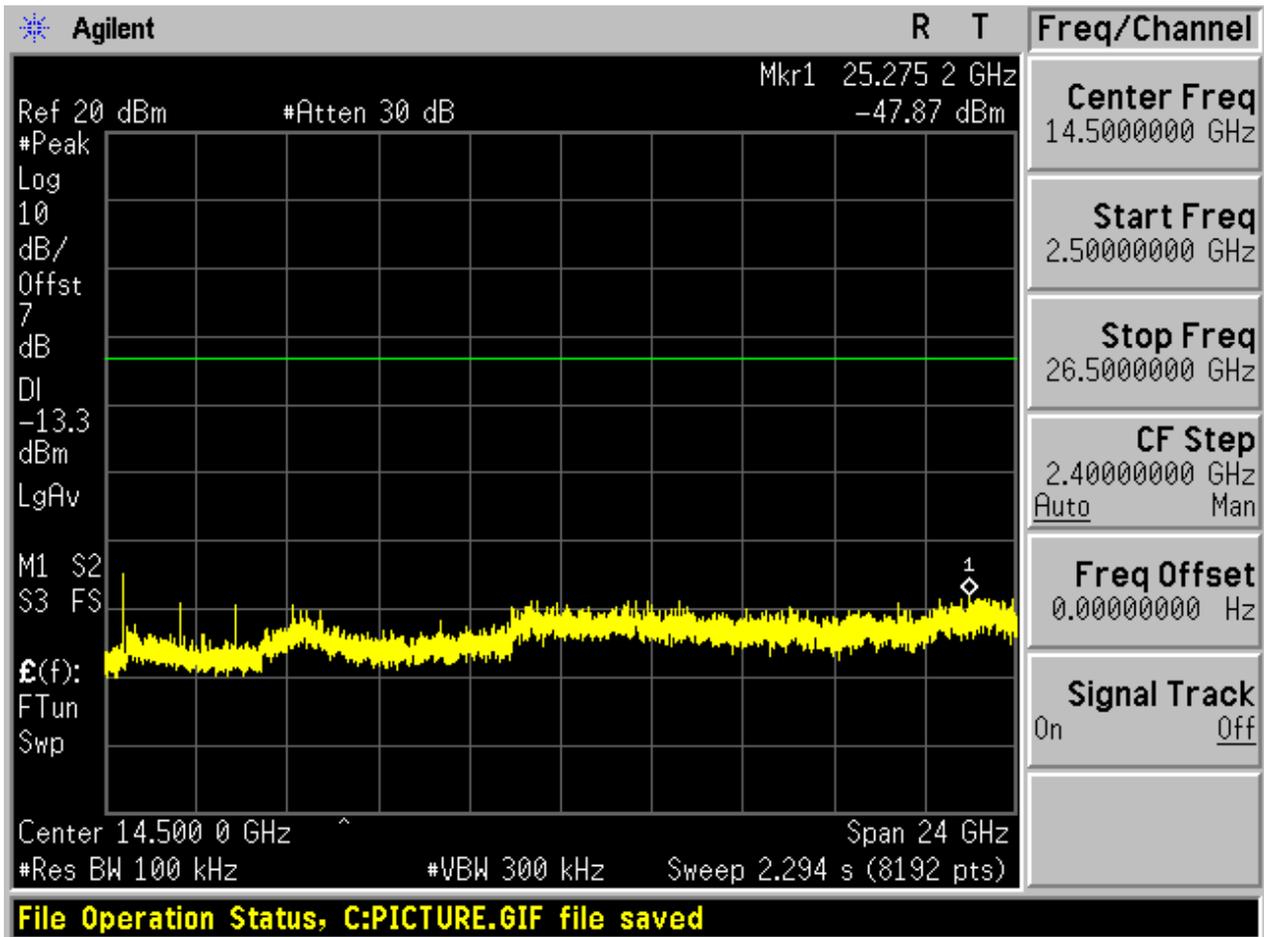






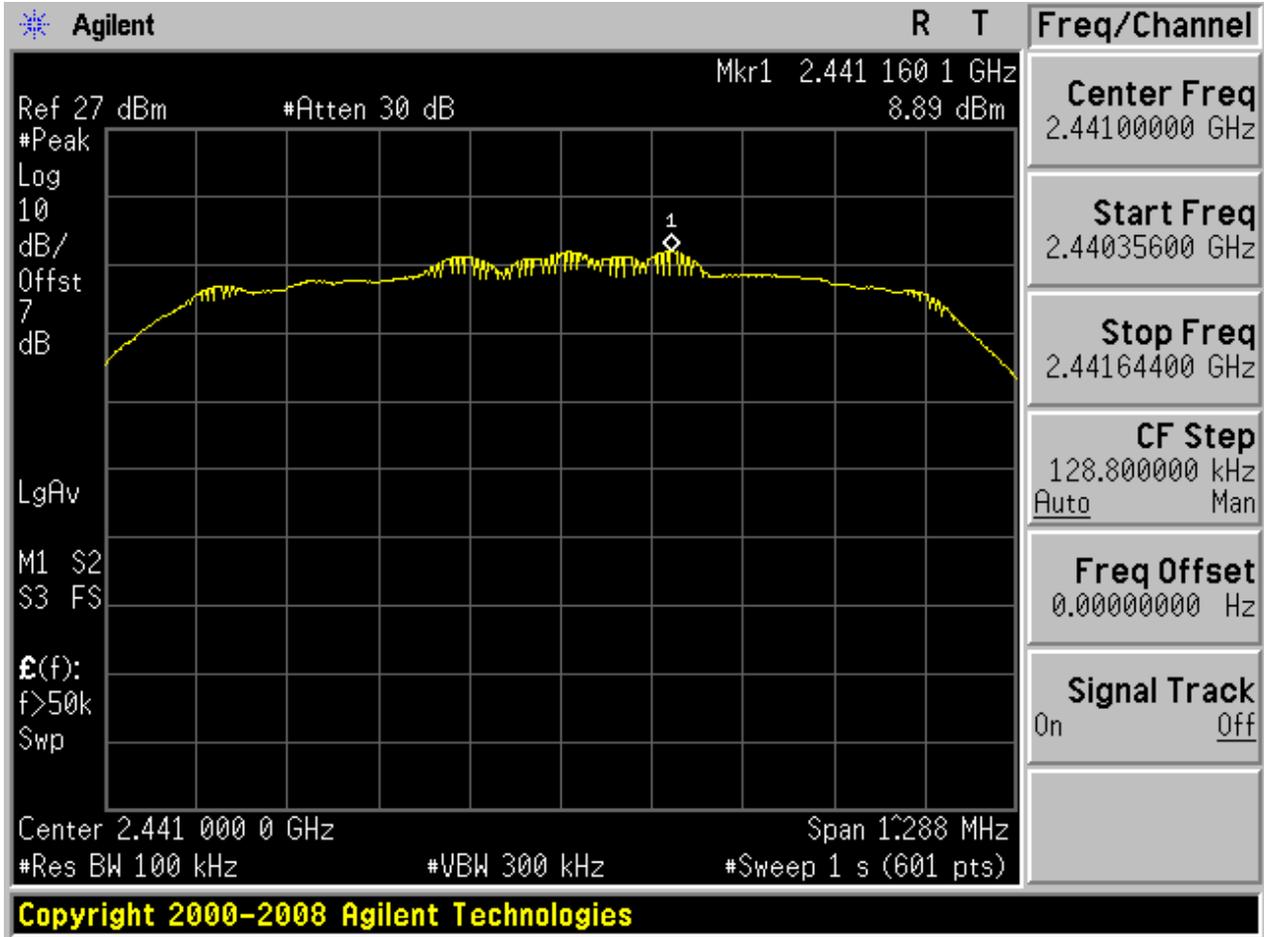




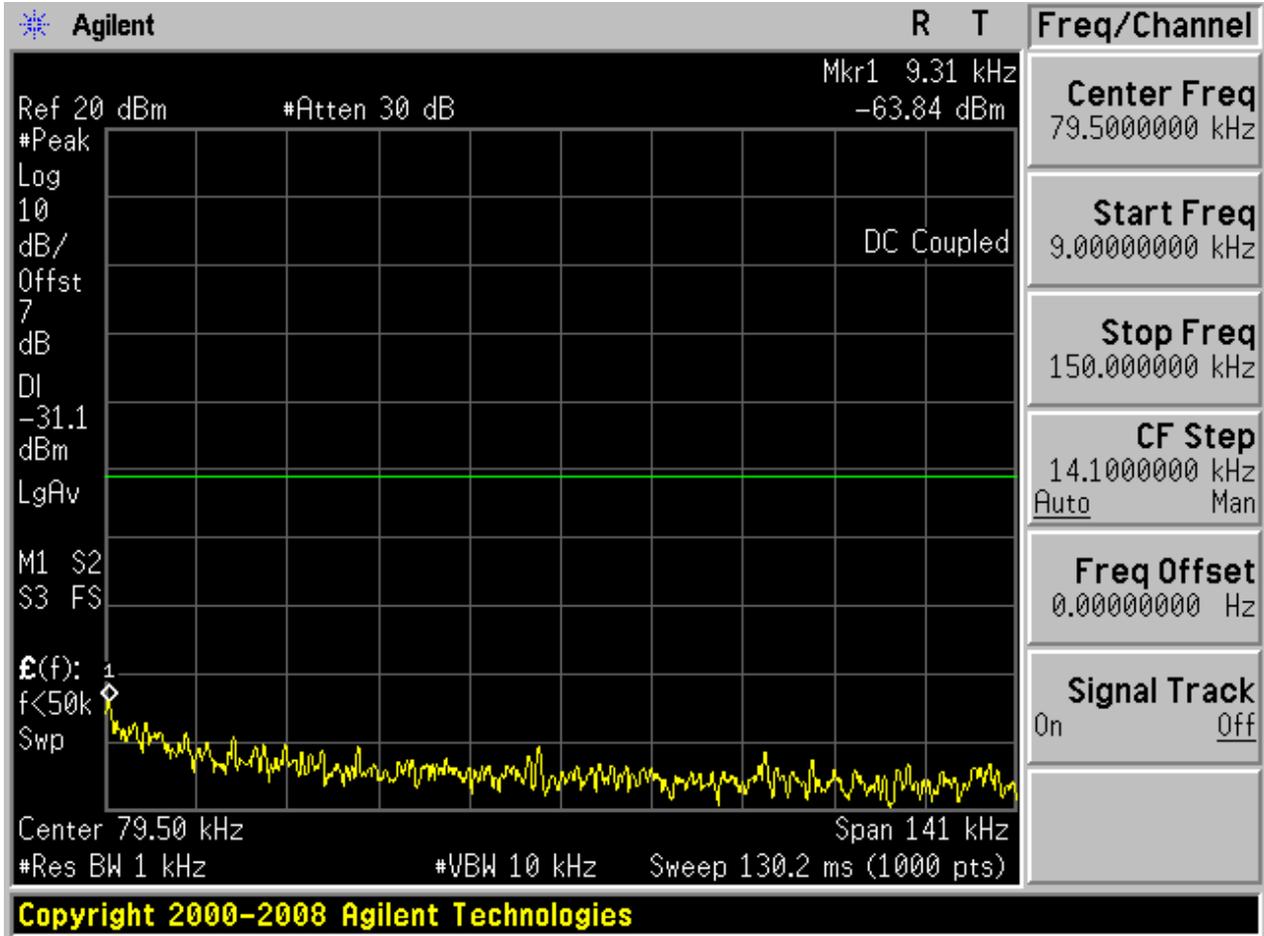


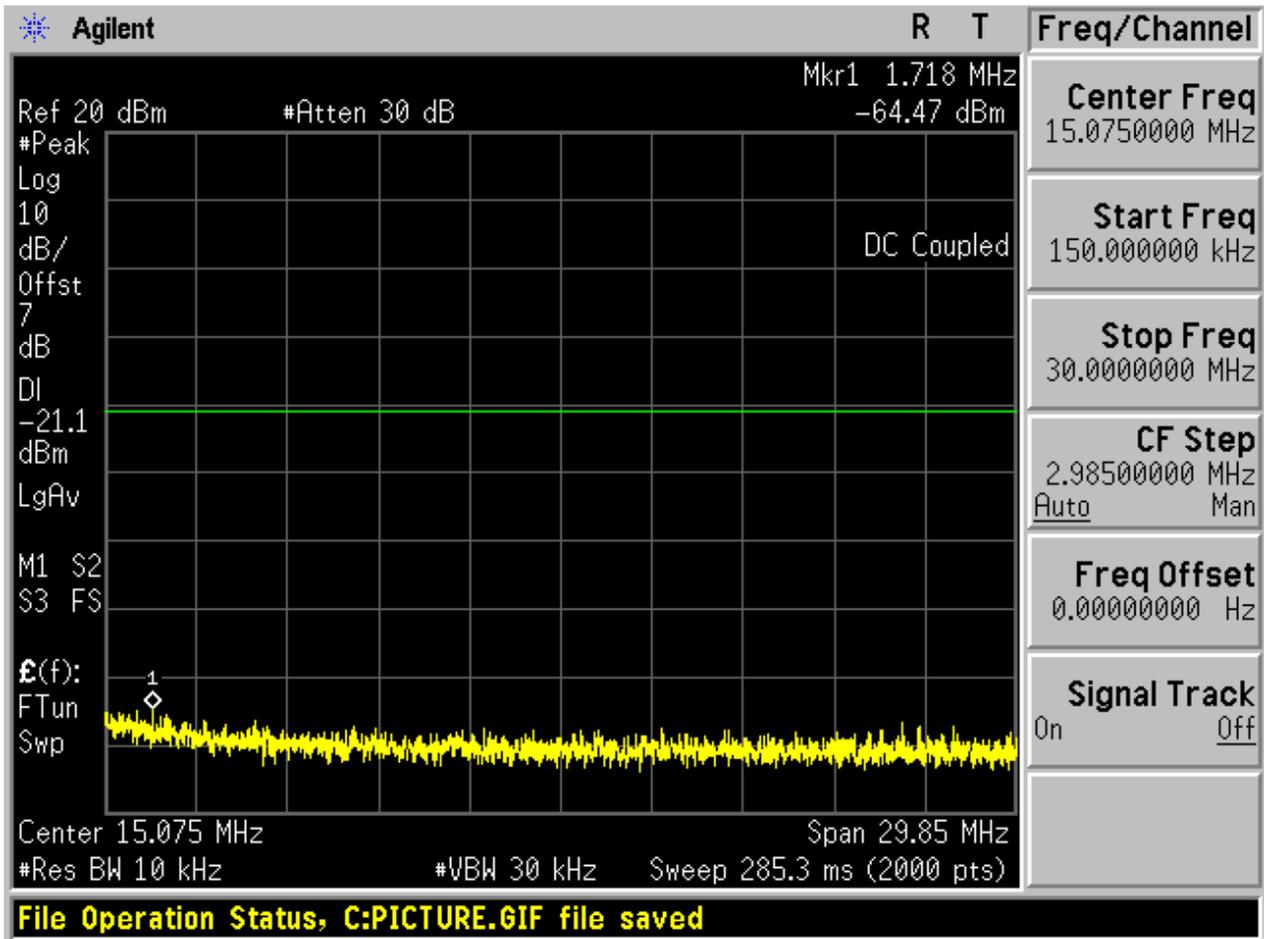
## 2.5 TM2\_2DH5\_Ch39

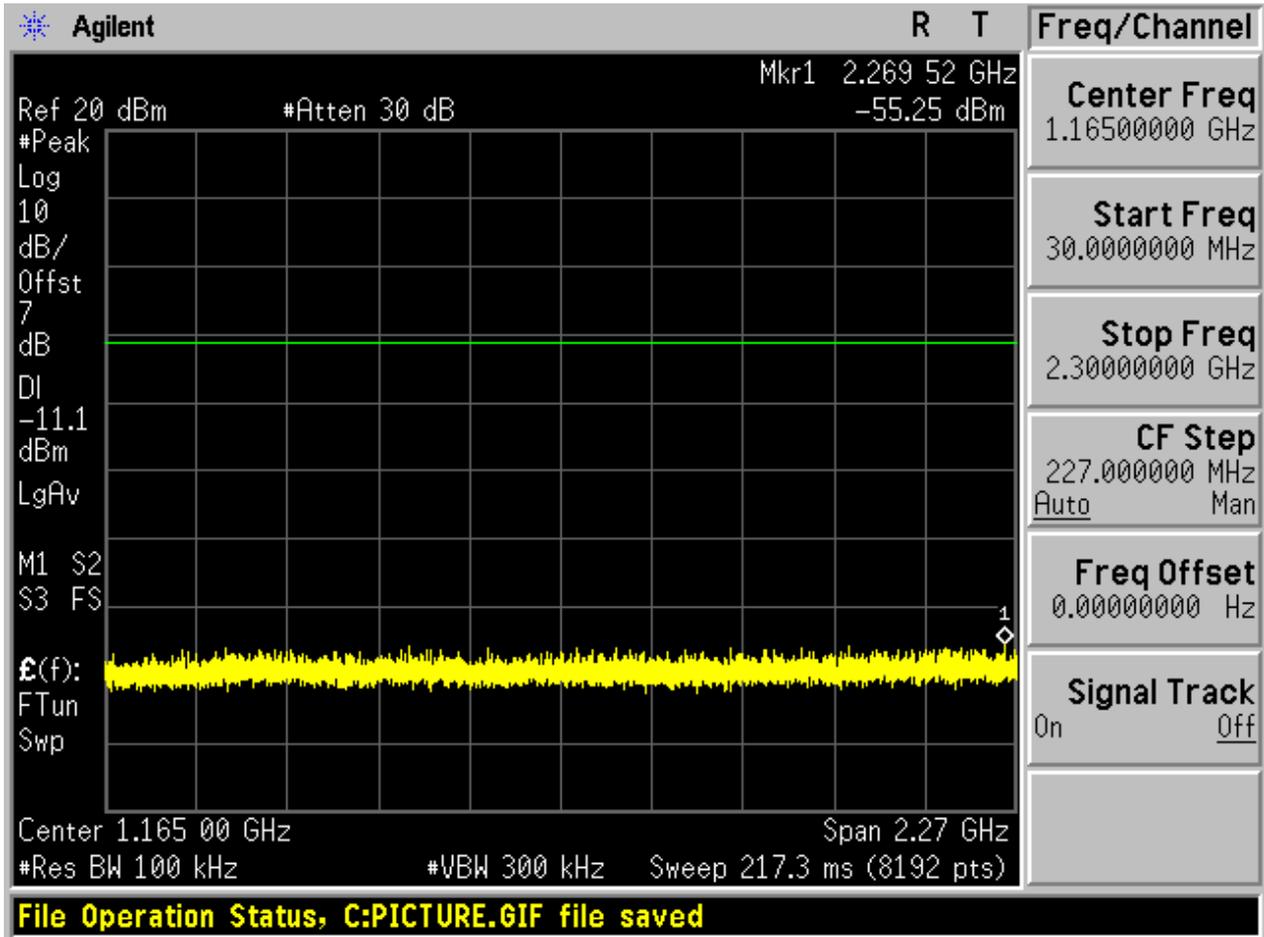
### 2.5.1 Pref

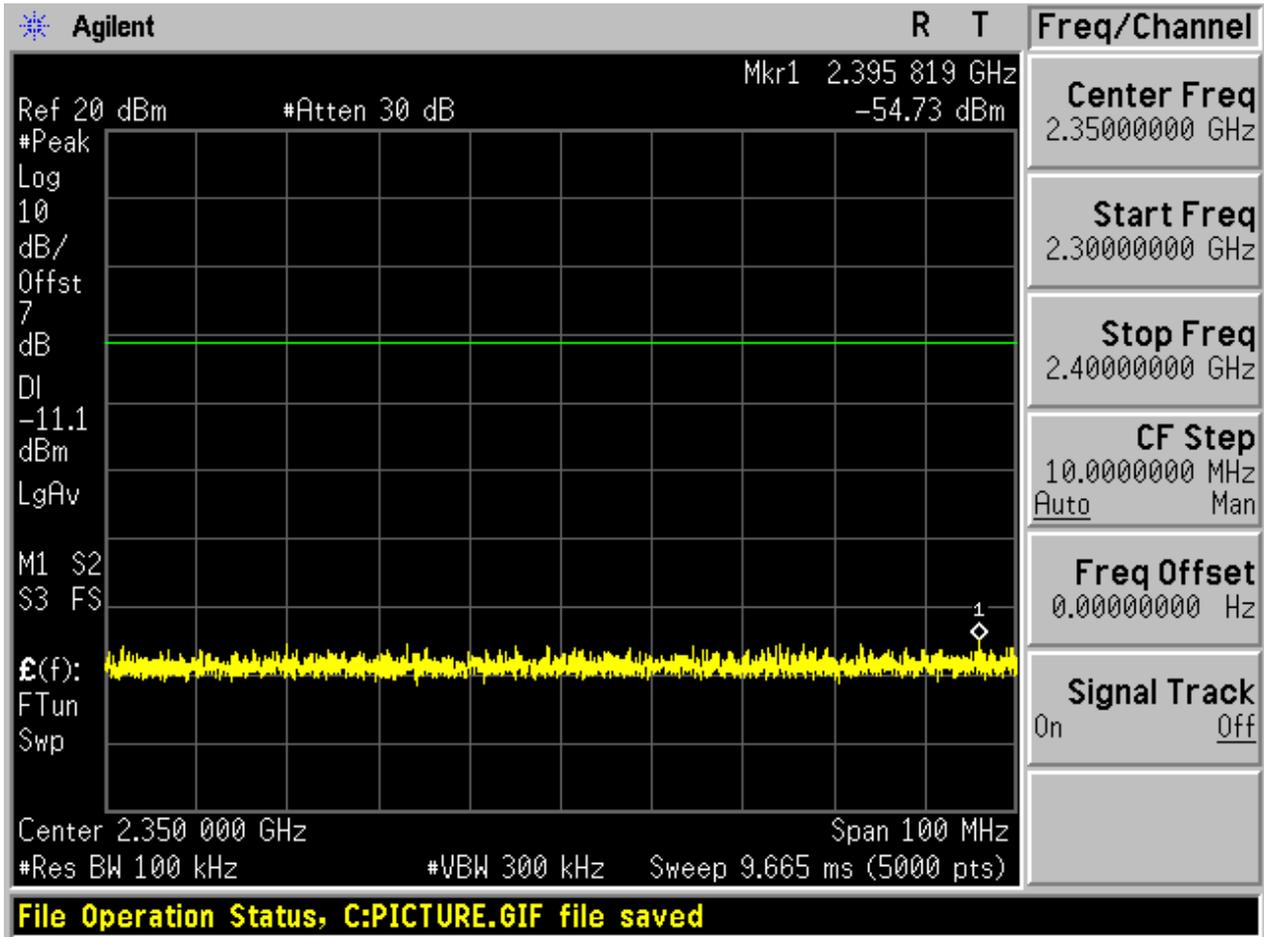


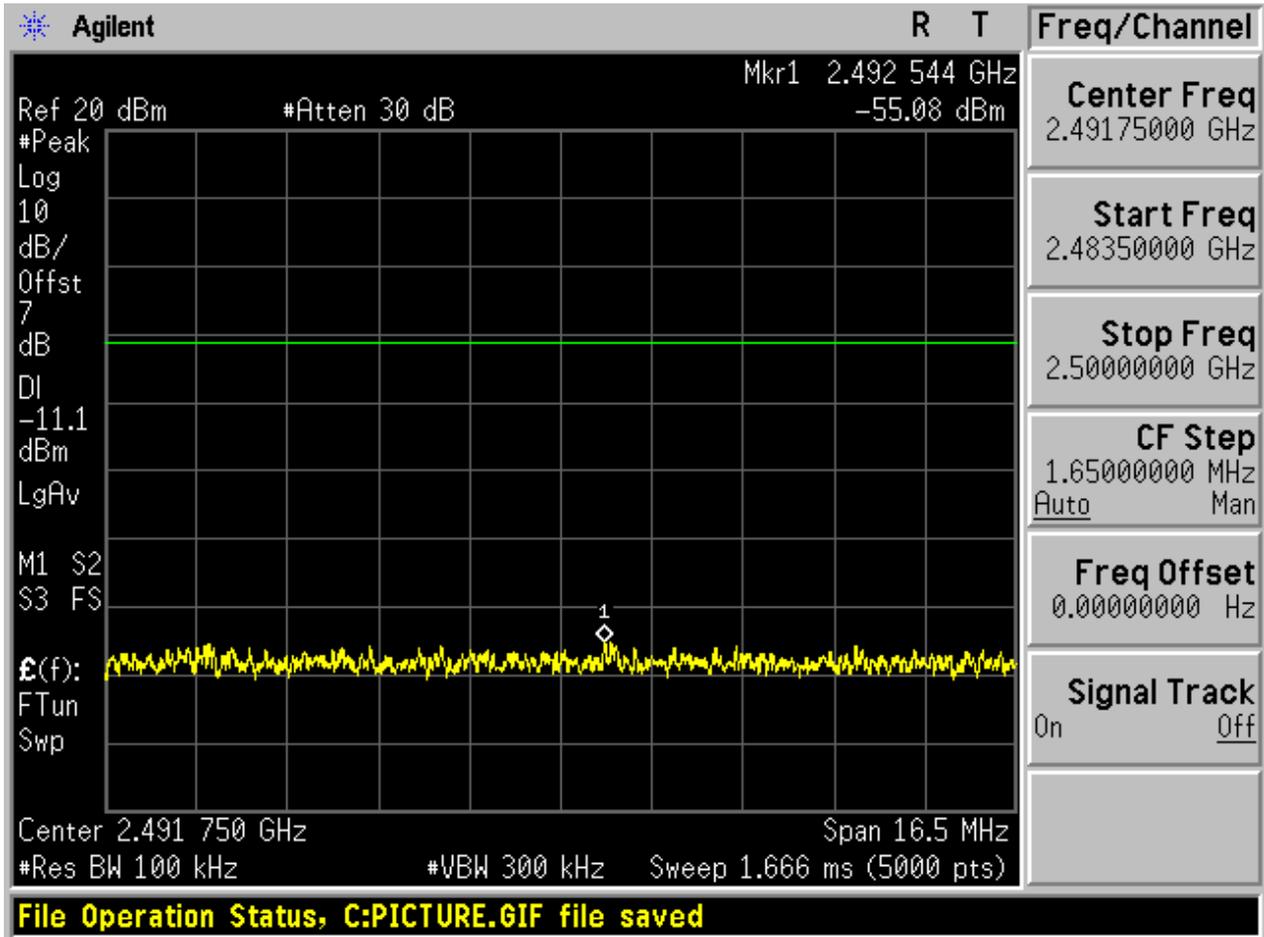
2.5.2 P<sub>uw</sub>

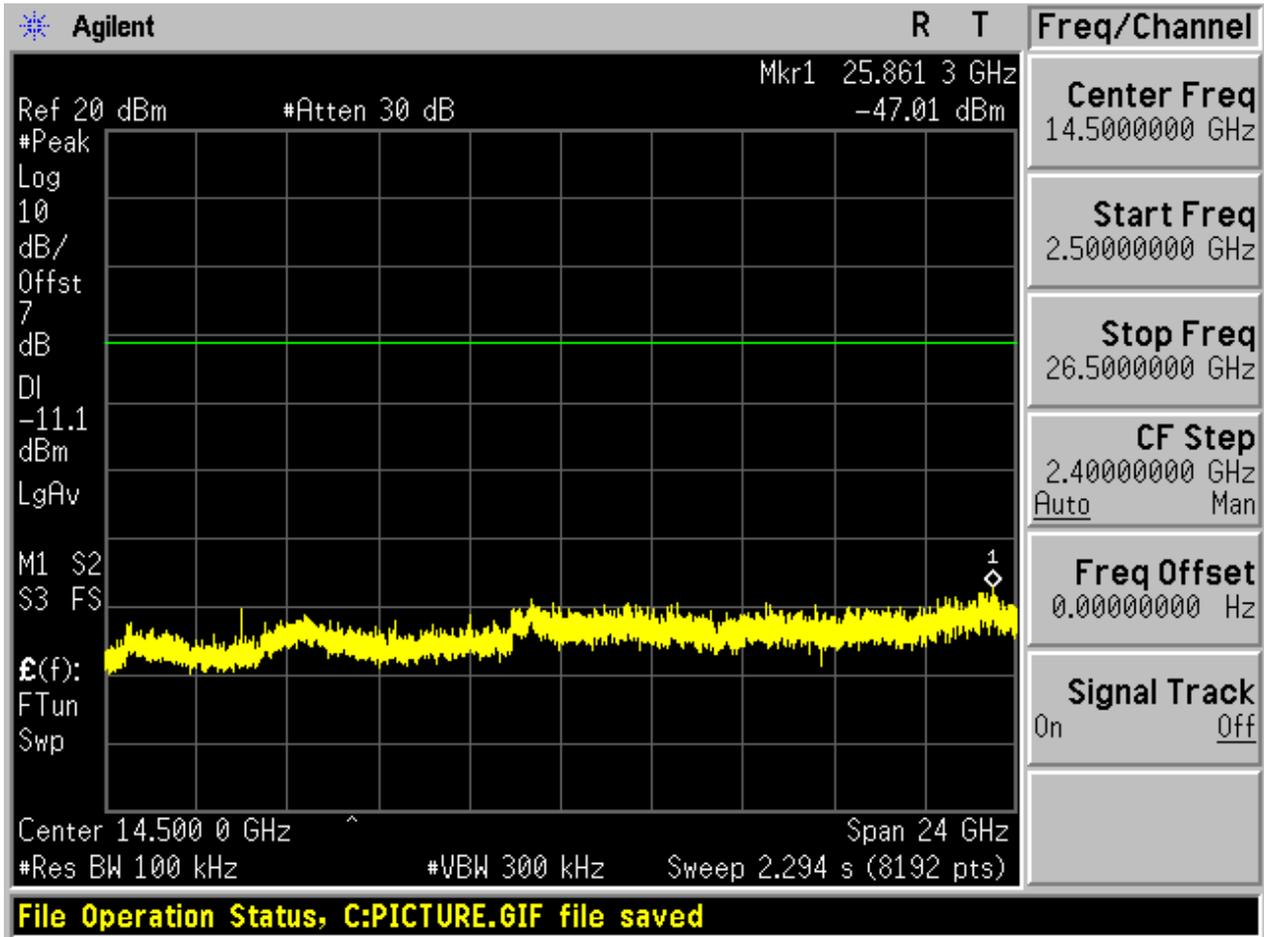






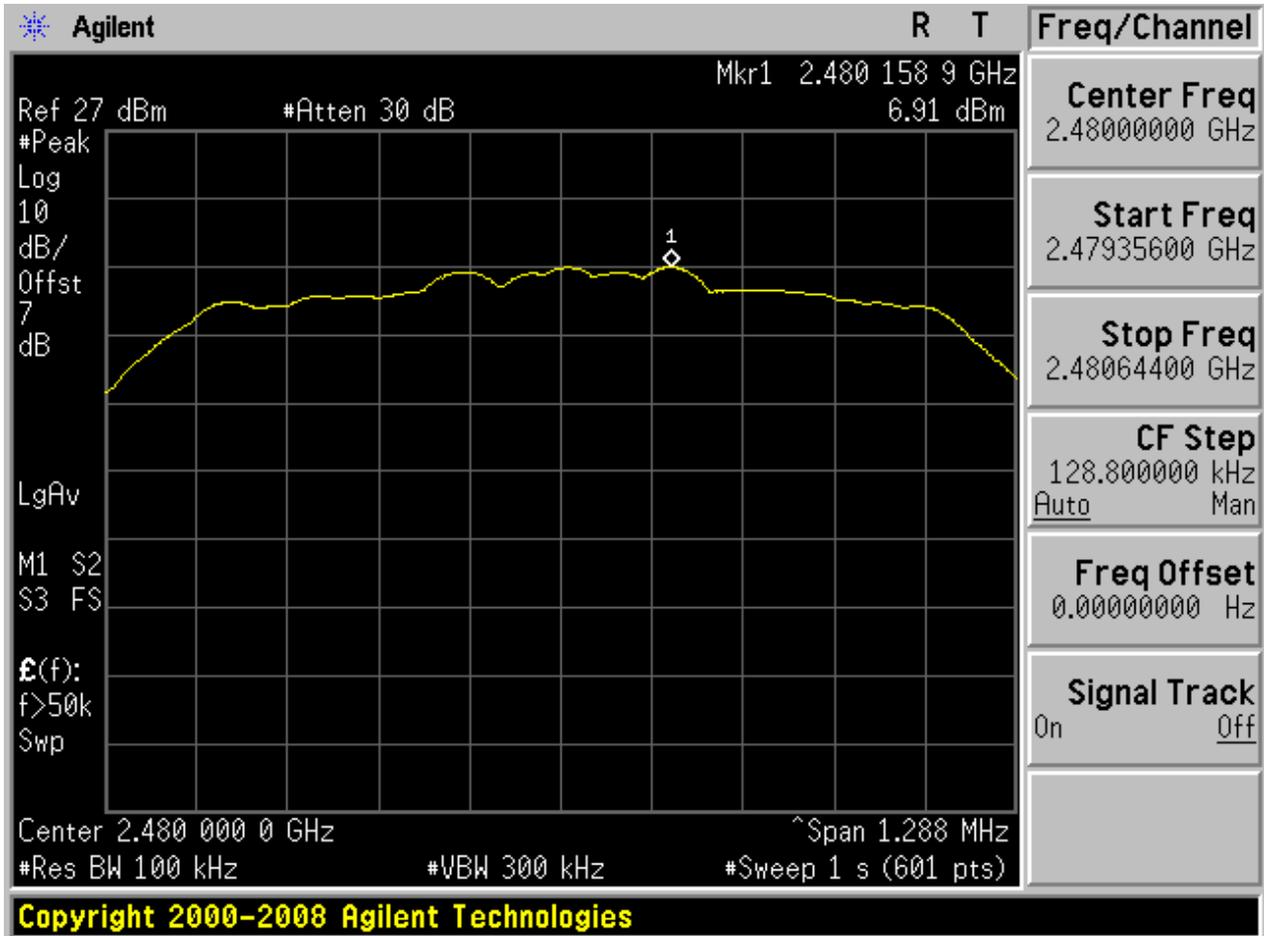




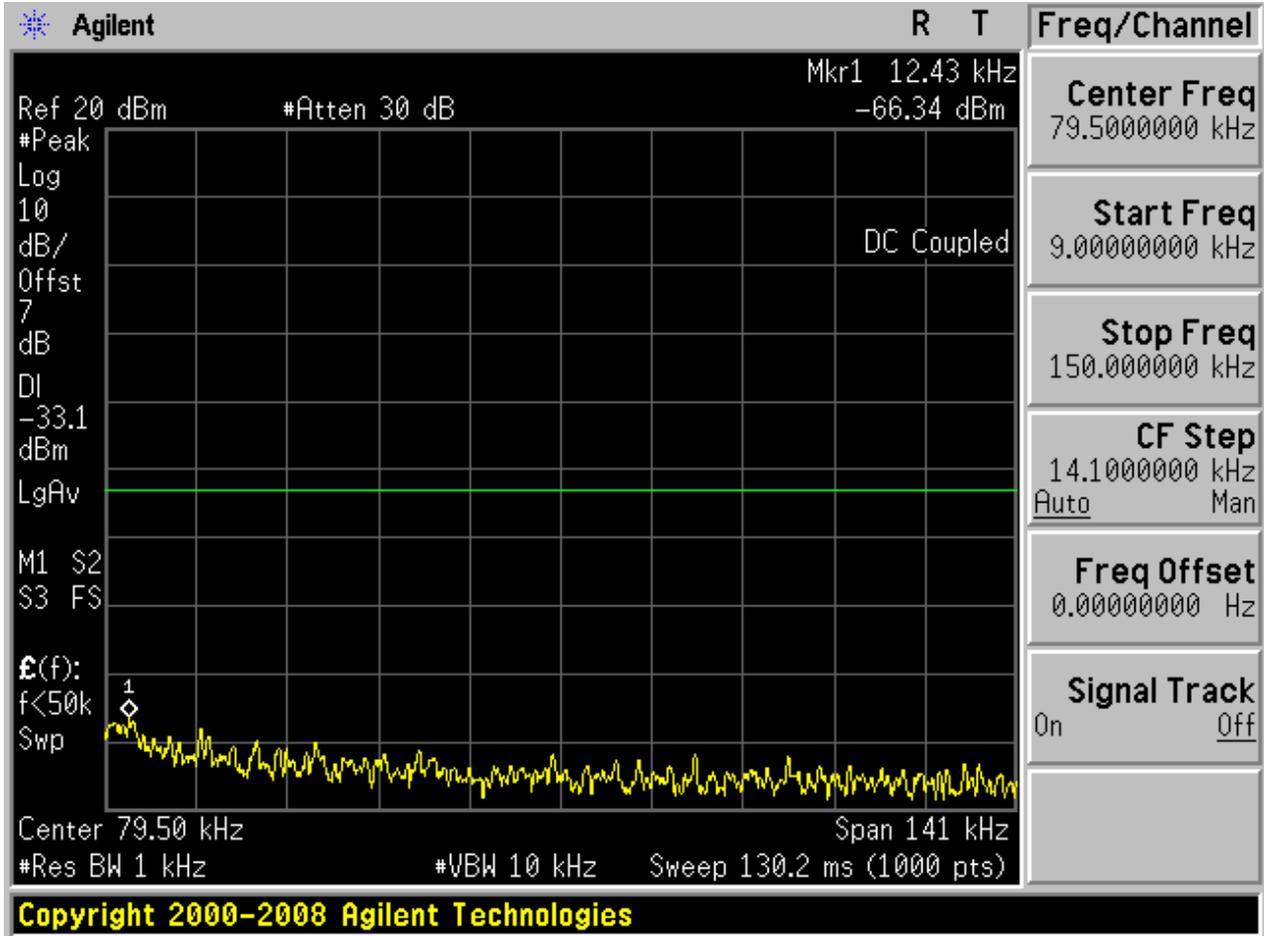


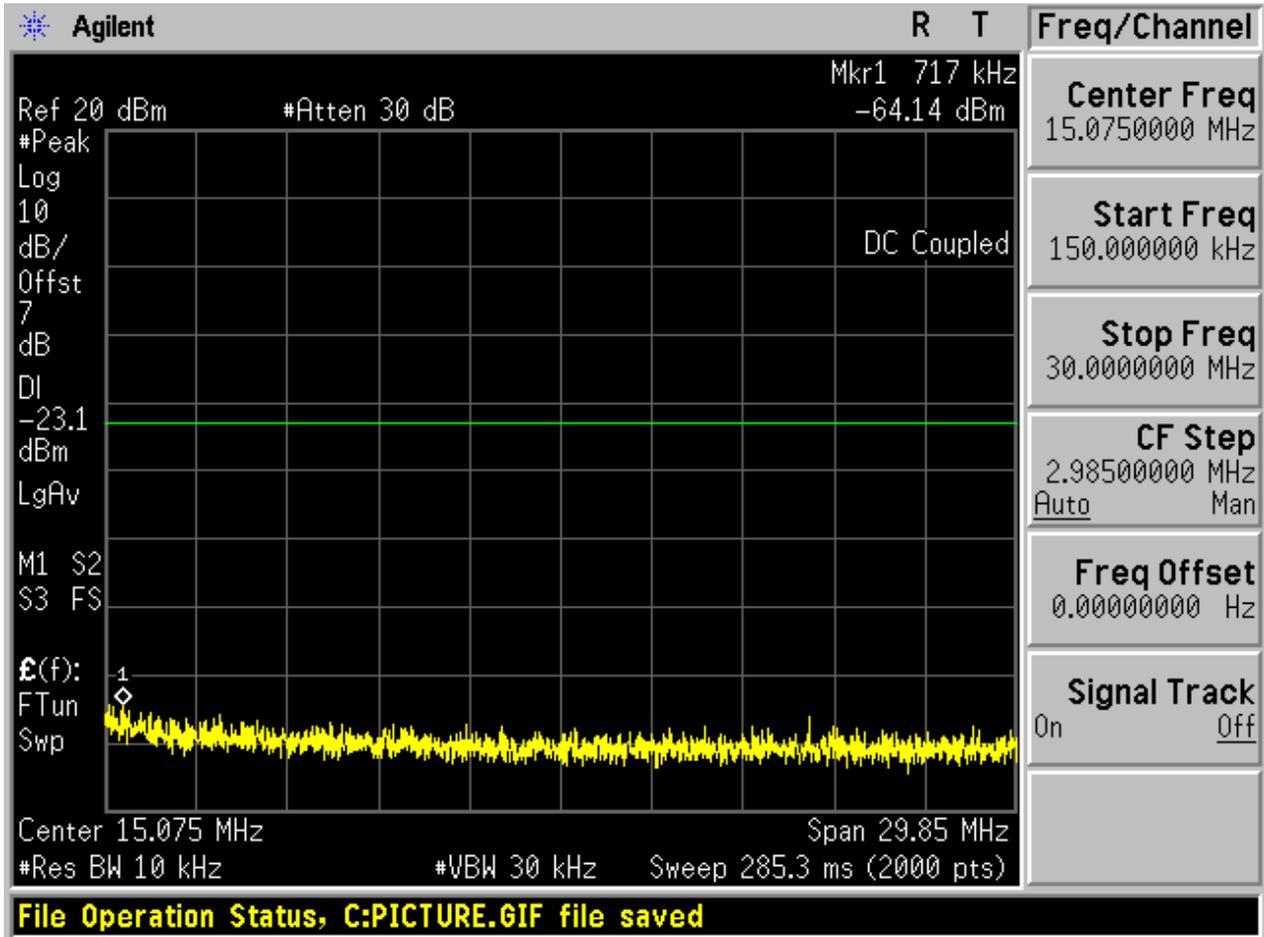
## 2.6 TM2\_2DH5\_Ch78

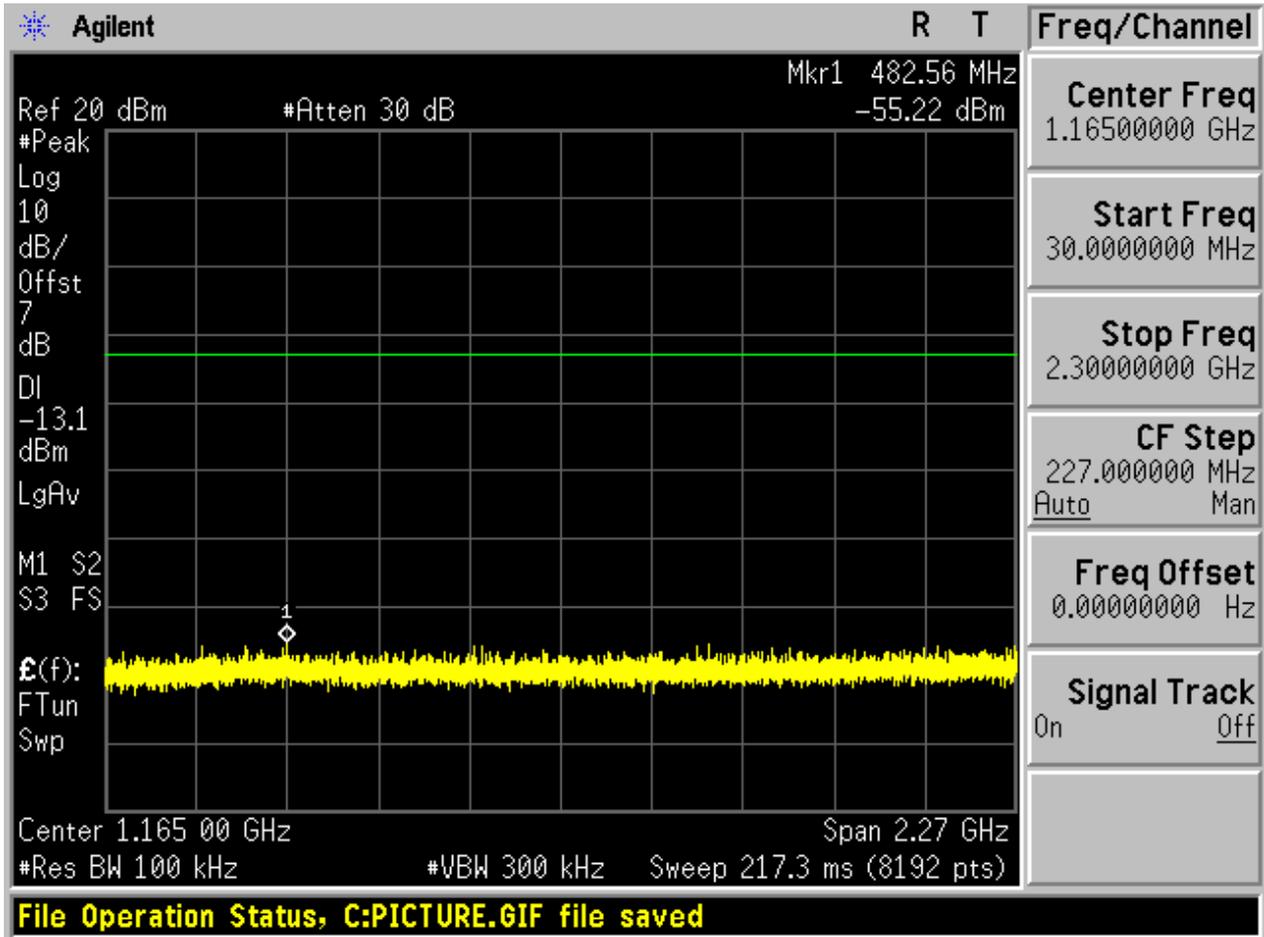
### 2.6.1 Pref

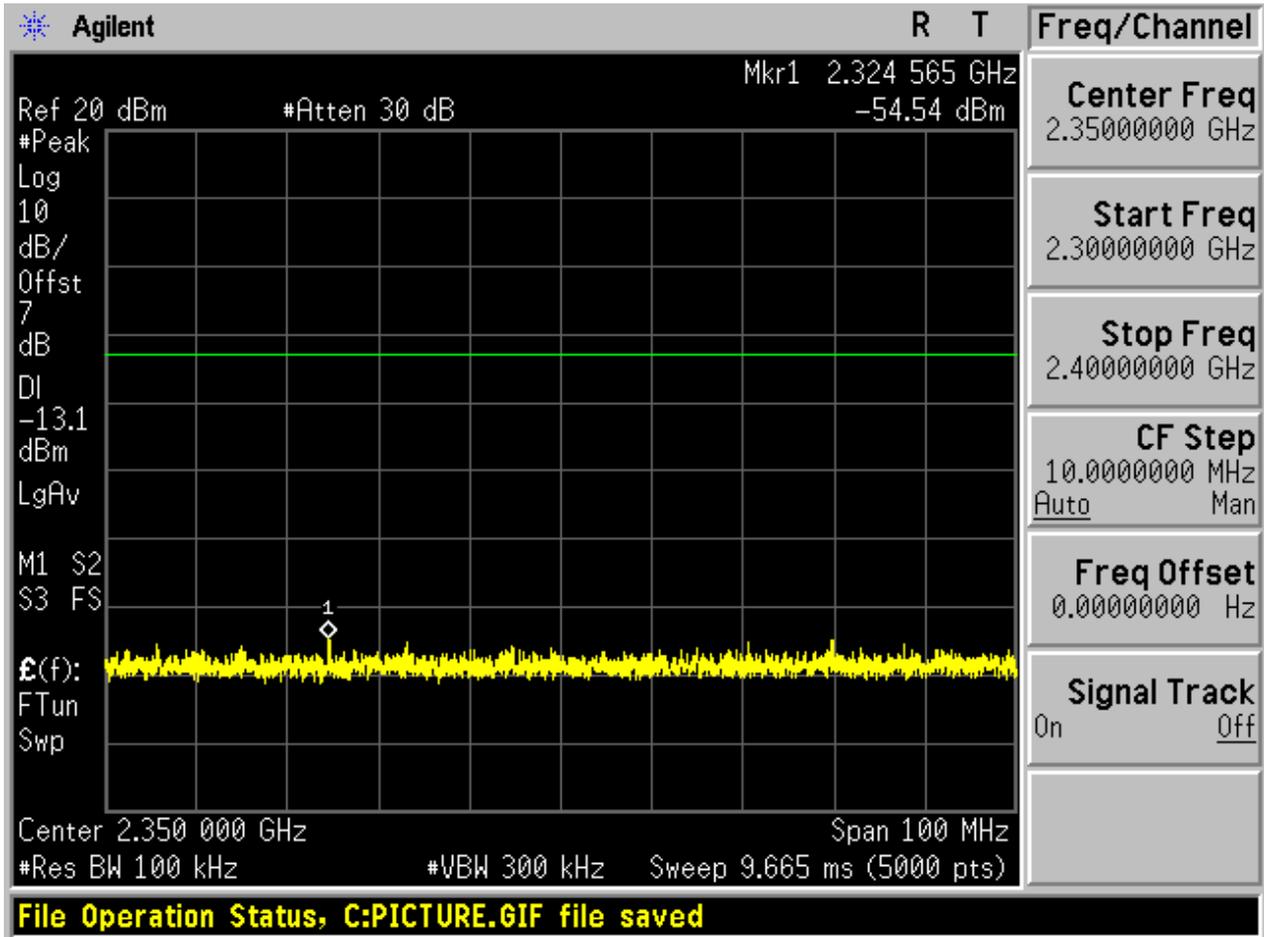


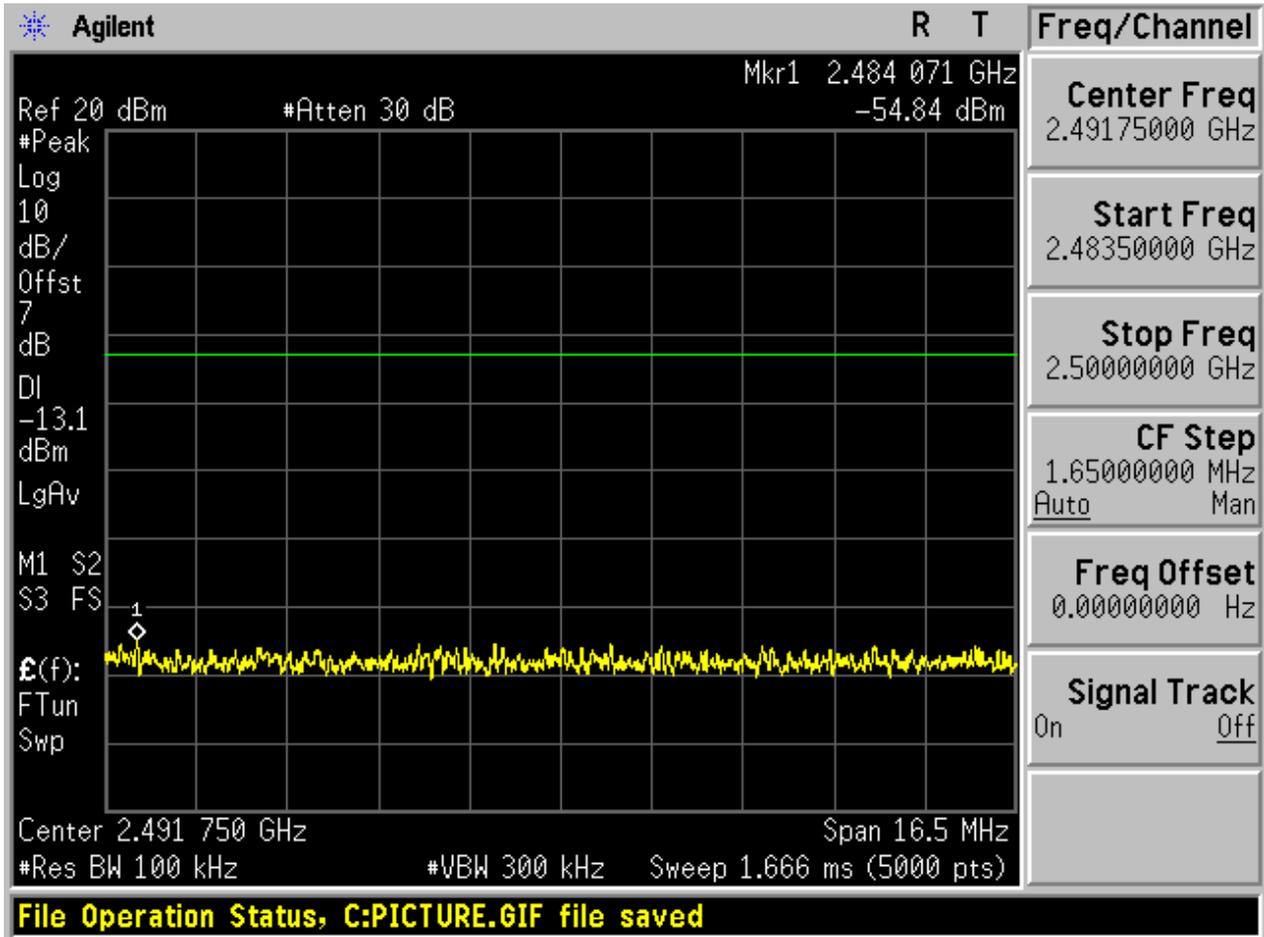
2.6.2 Puw

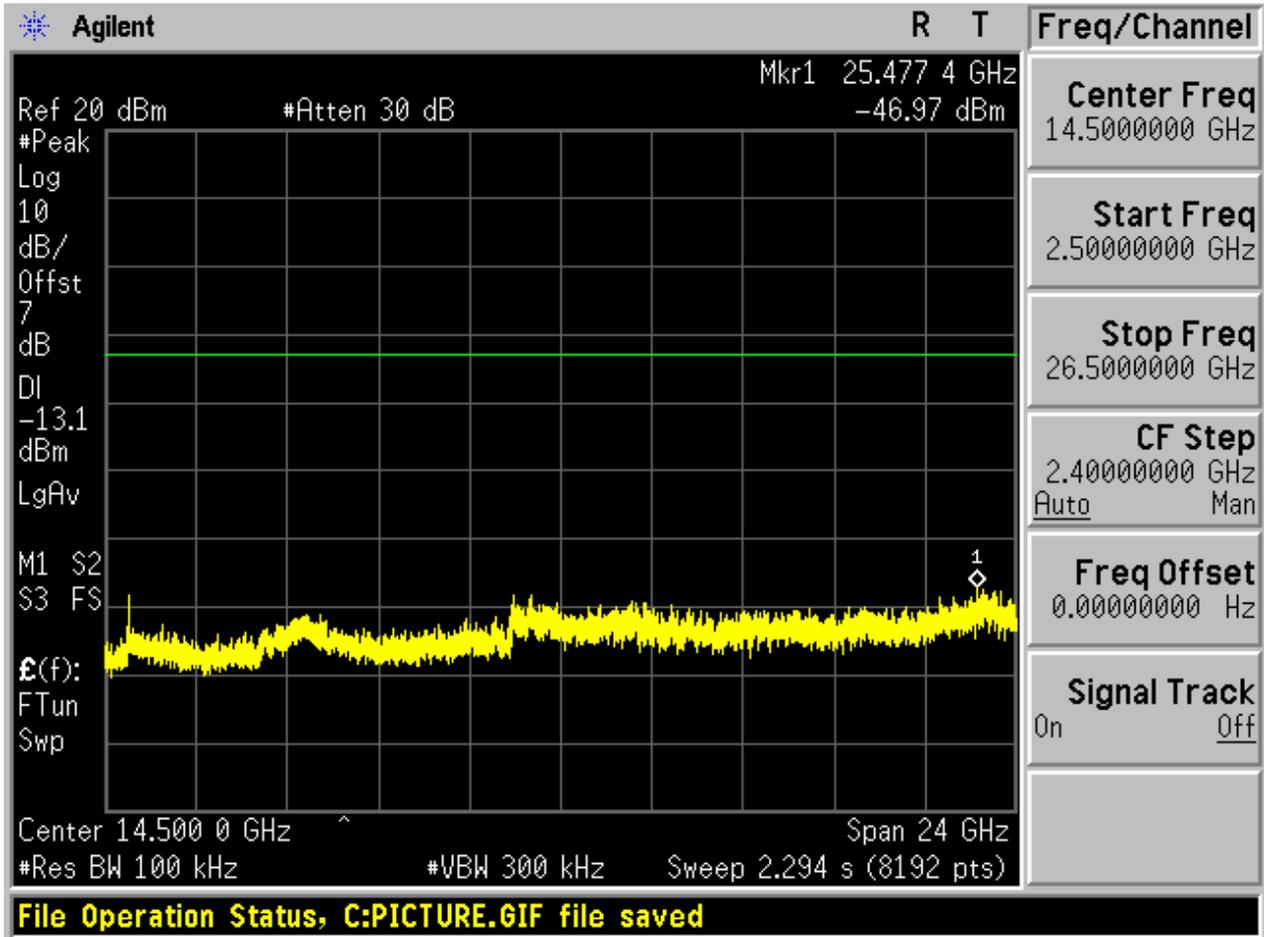






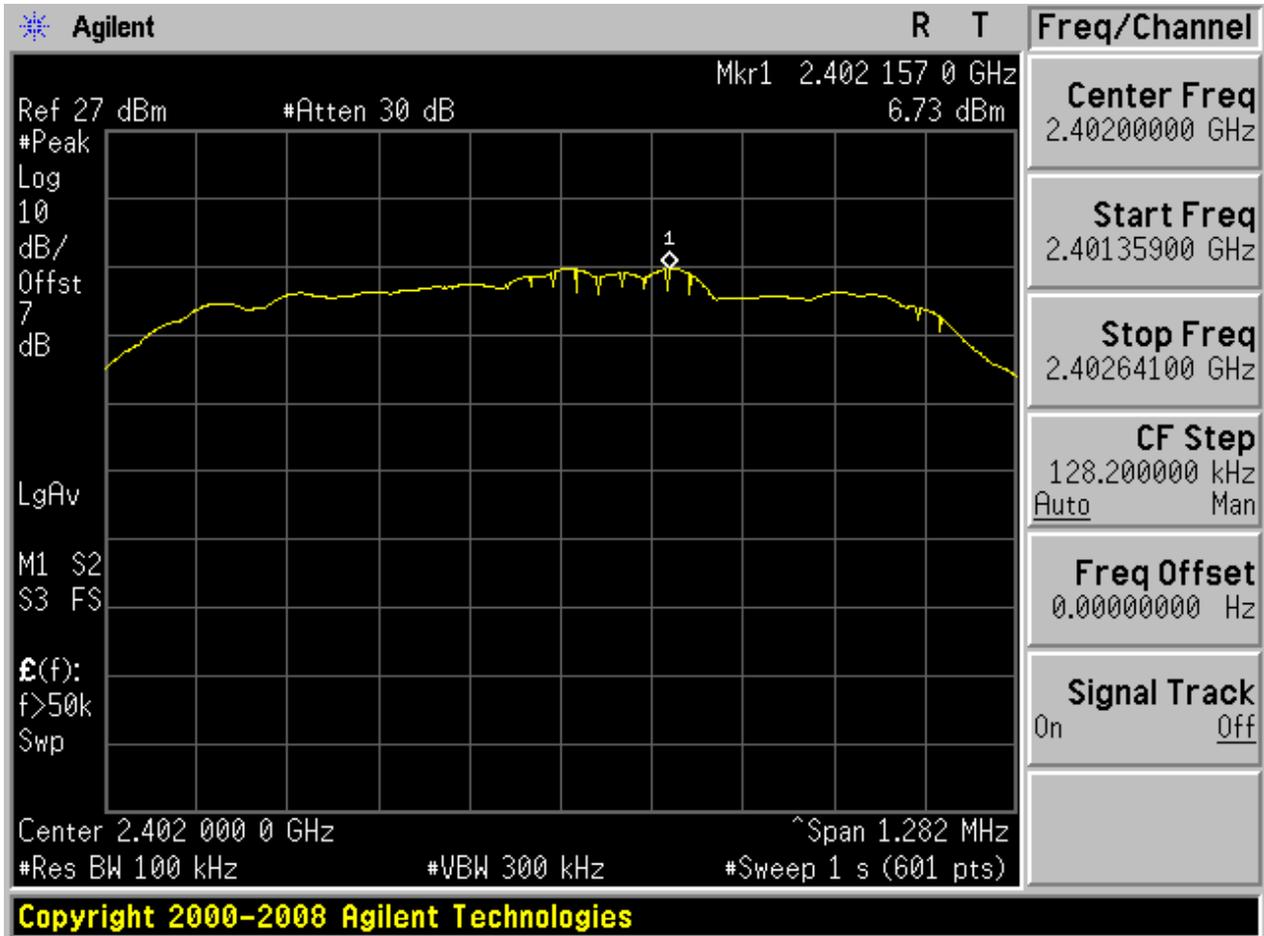




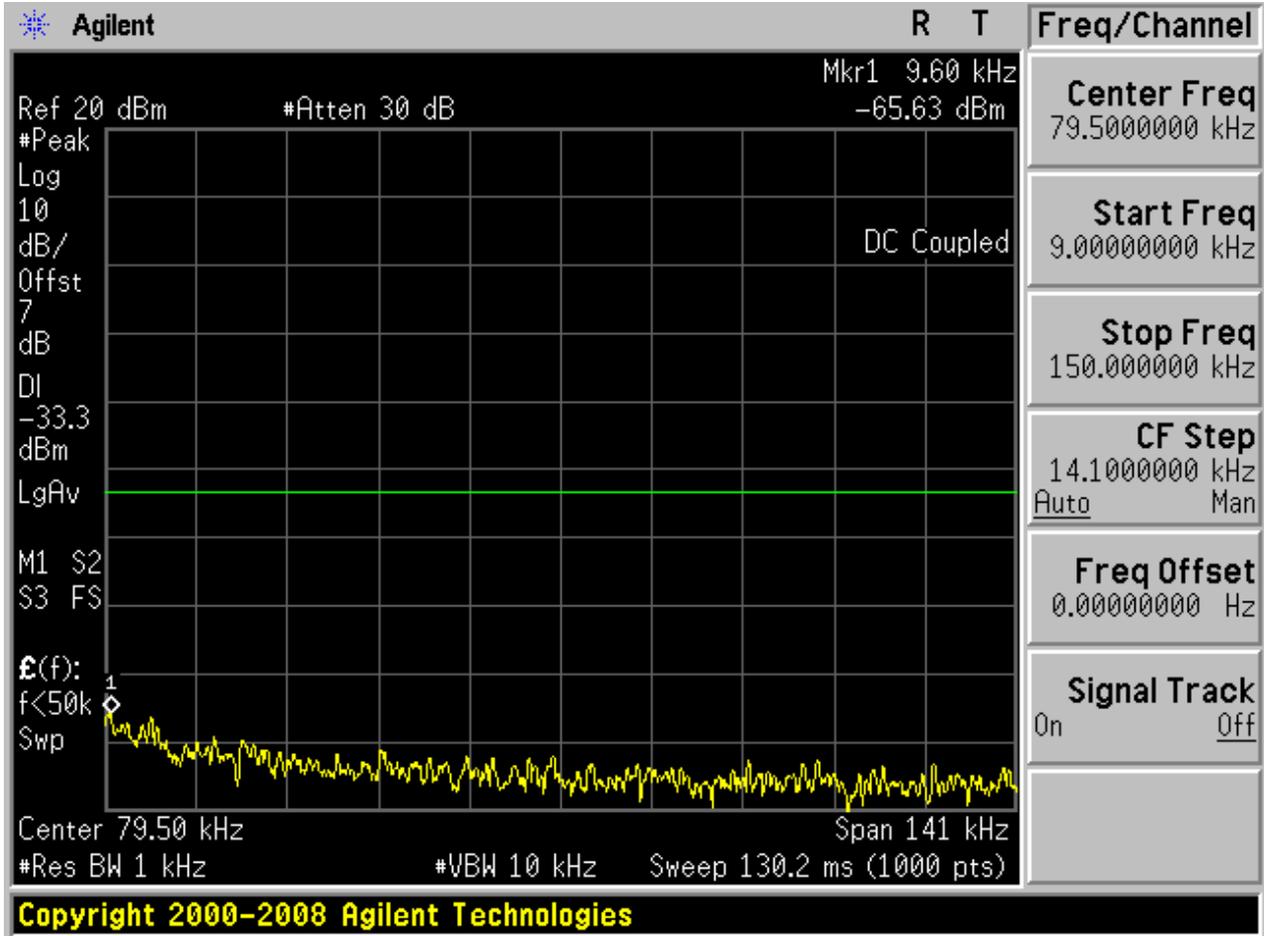


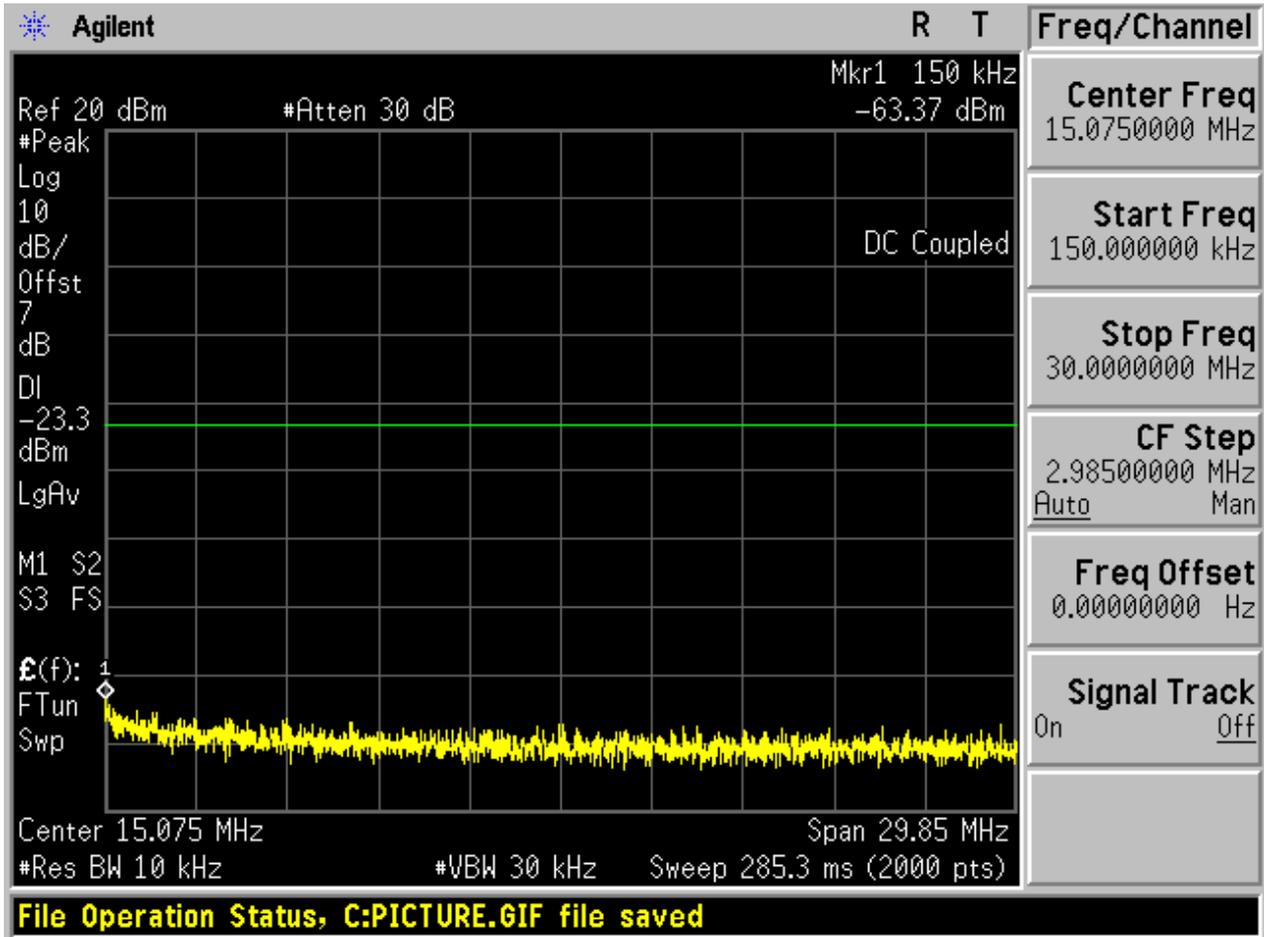
## 2.7 TM3\_3DH5\_Ch0

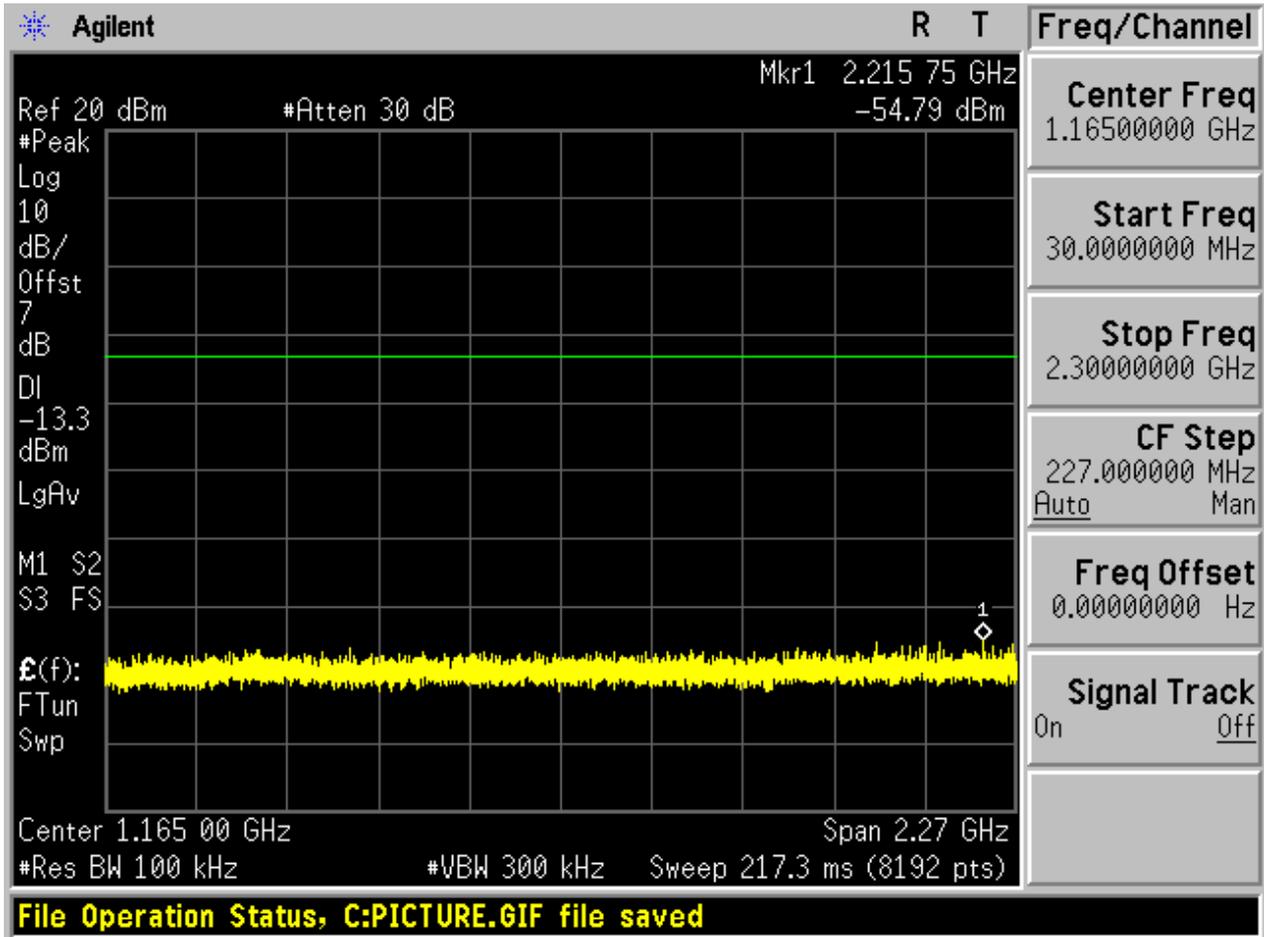
### 2.7.1 Pref

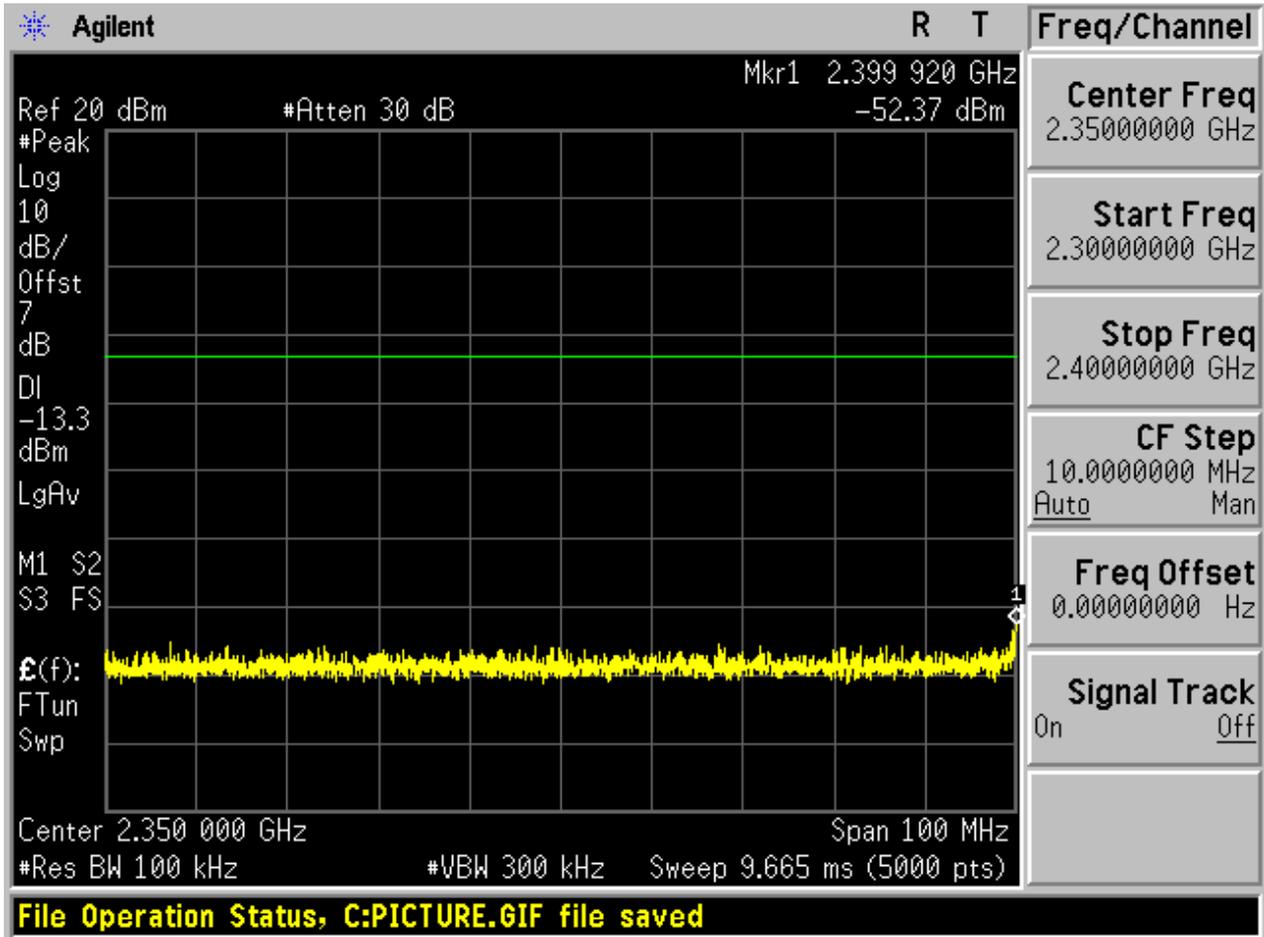


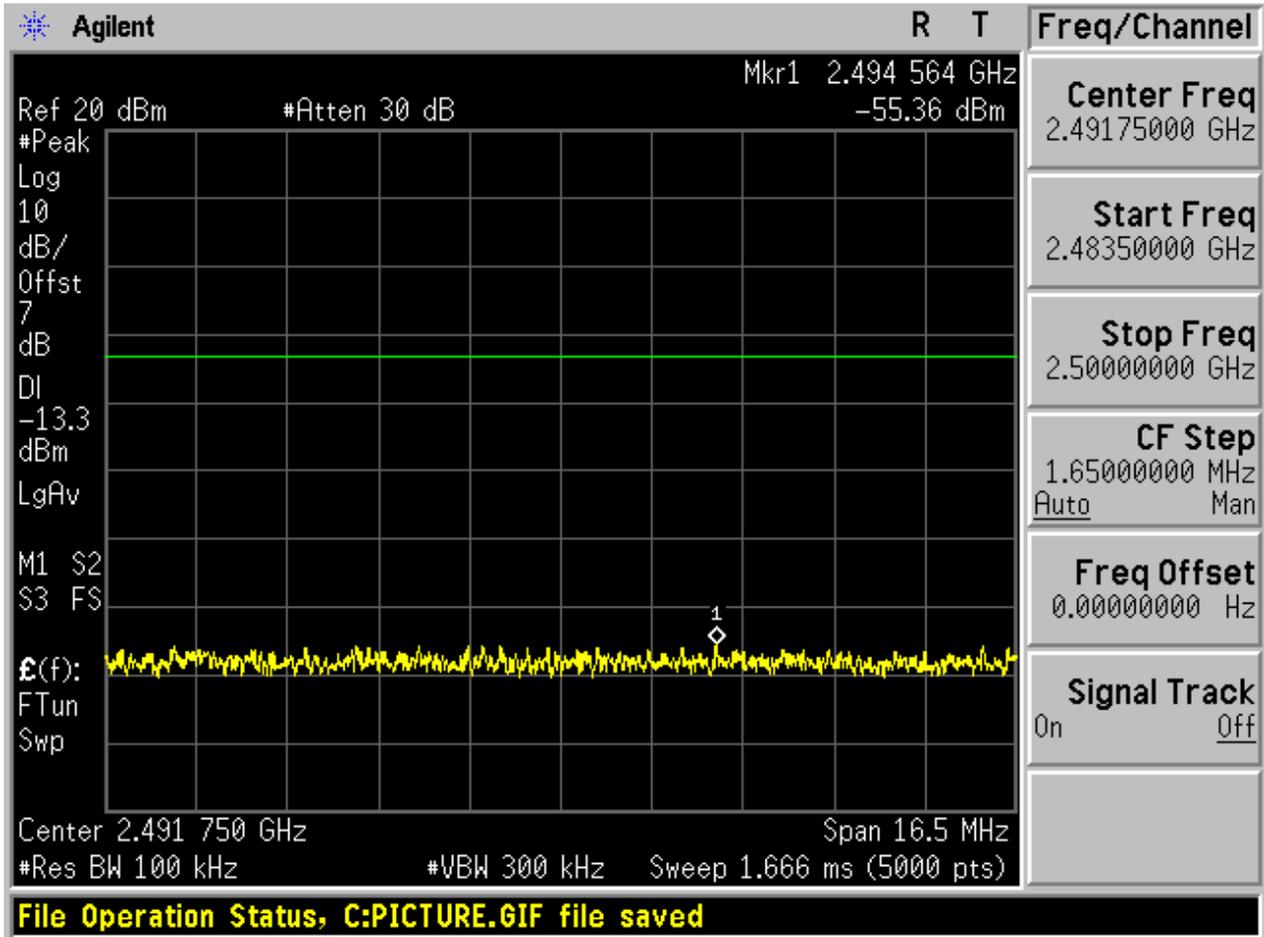
2.7.2 P<sub>uw</sub>

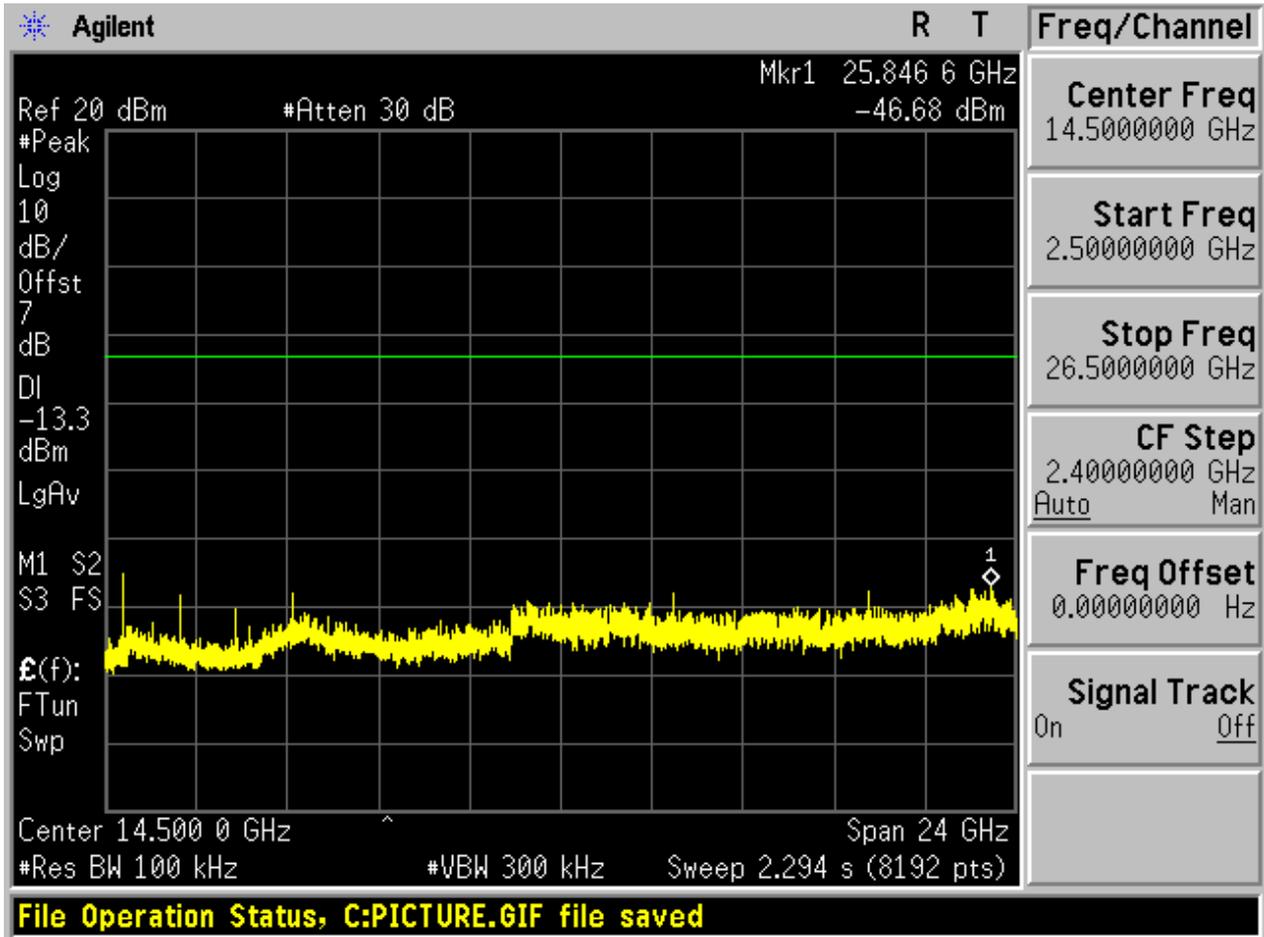






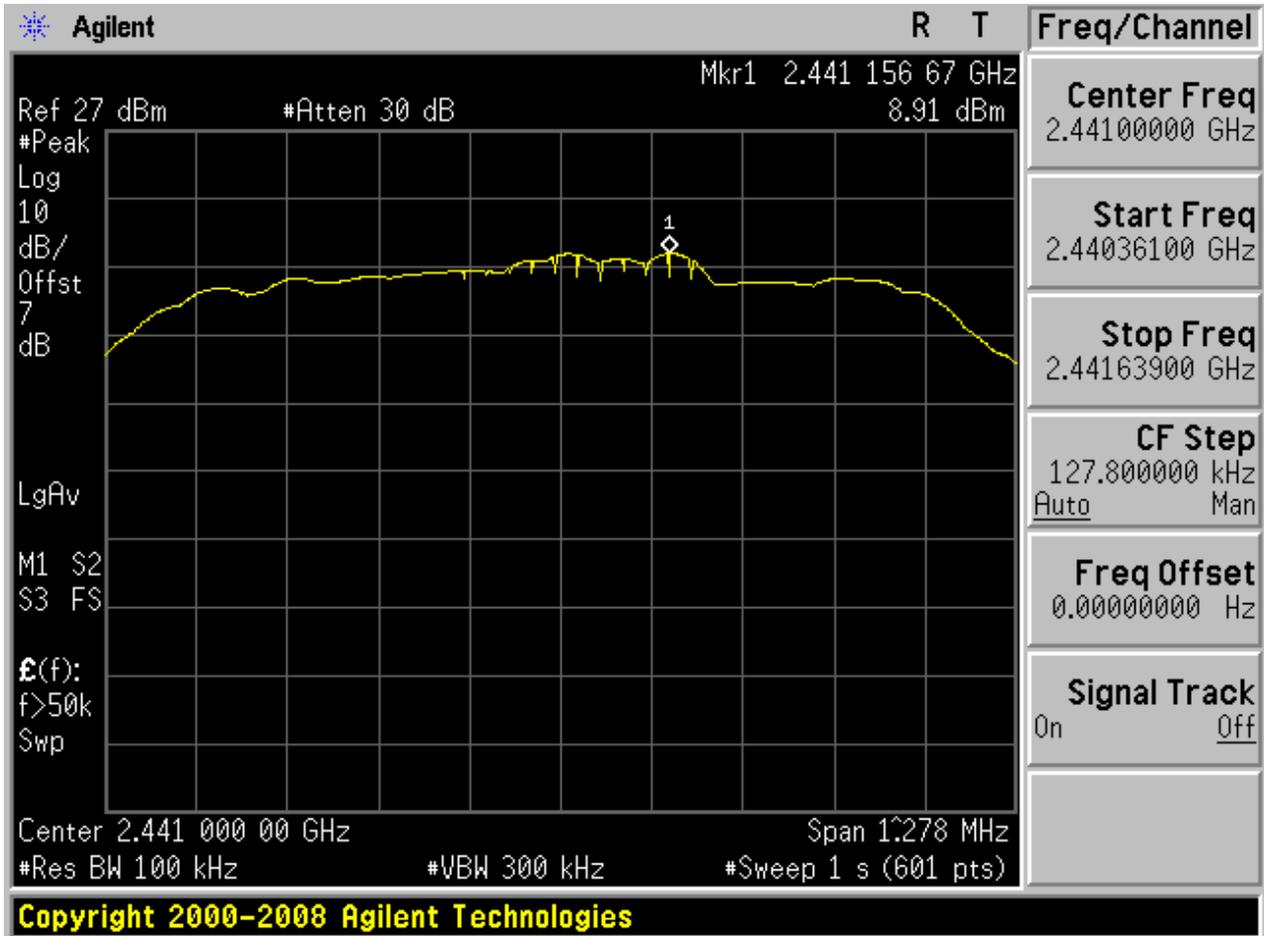




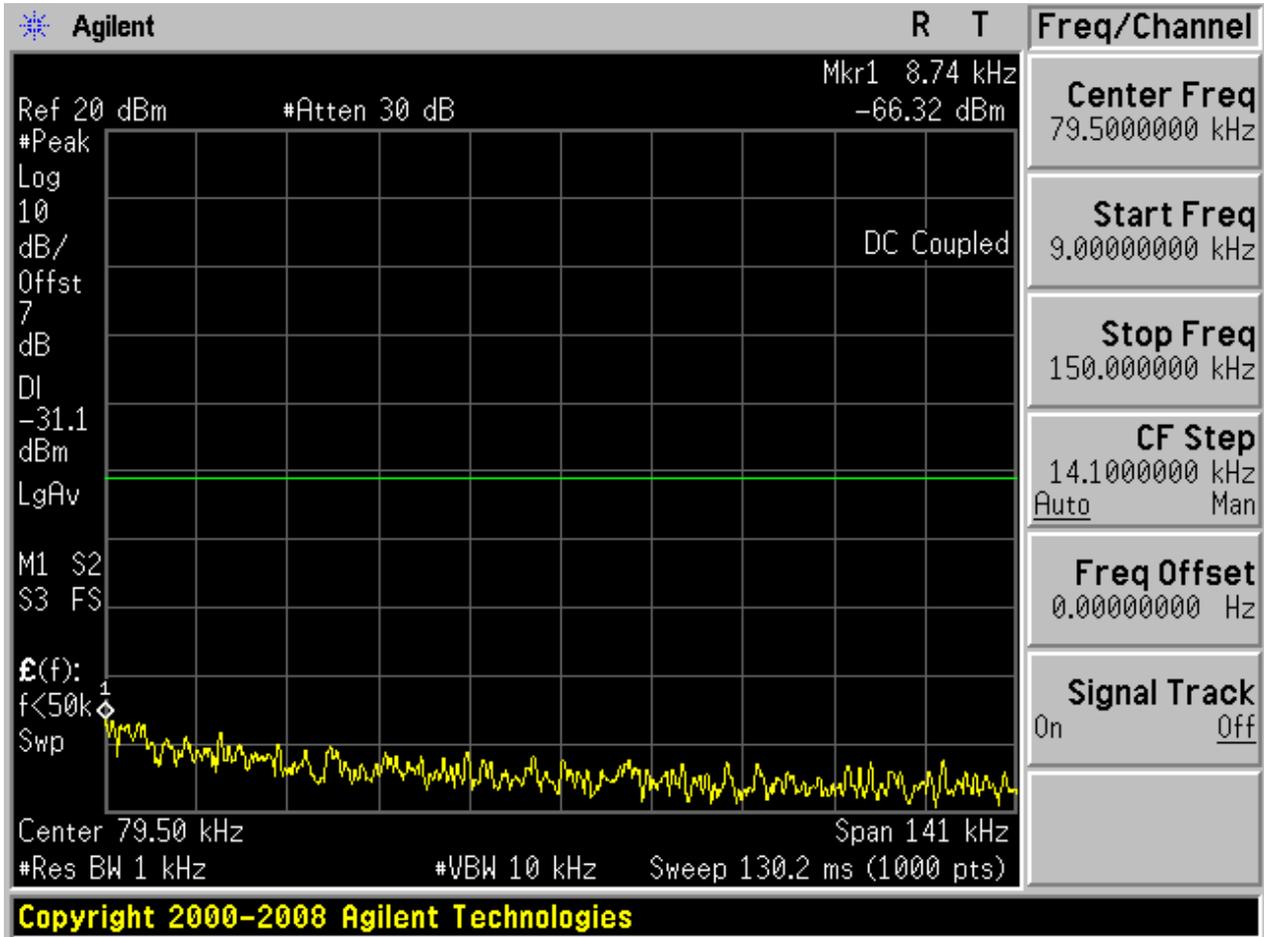


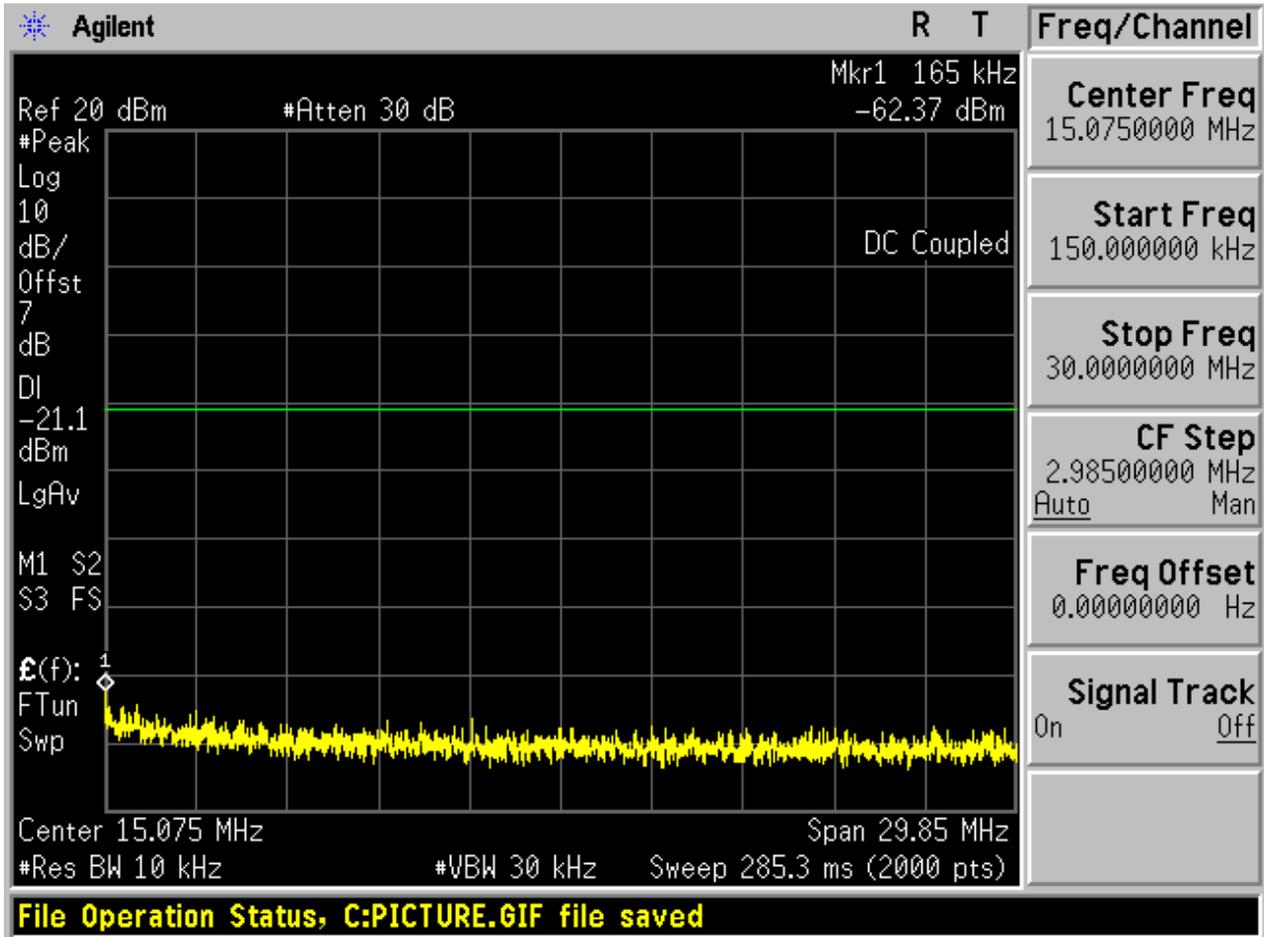
## 2.8 TM3\_3DH5\_Ch39

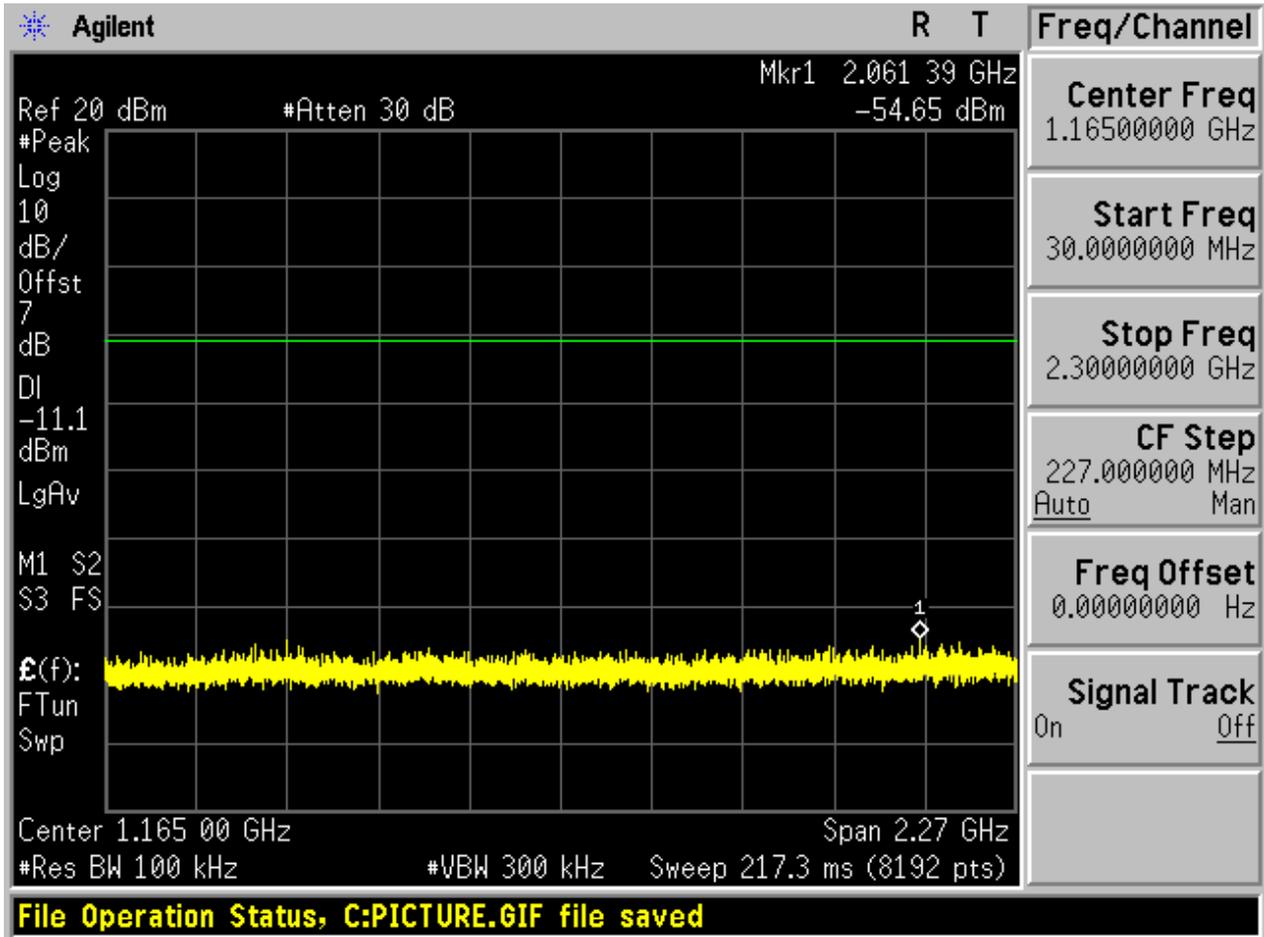
### 2.8.1 Pref

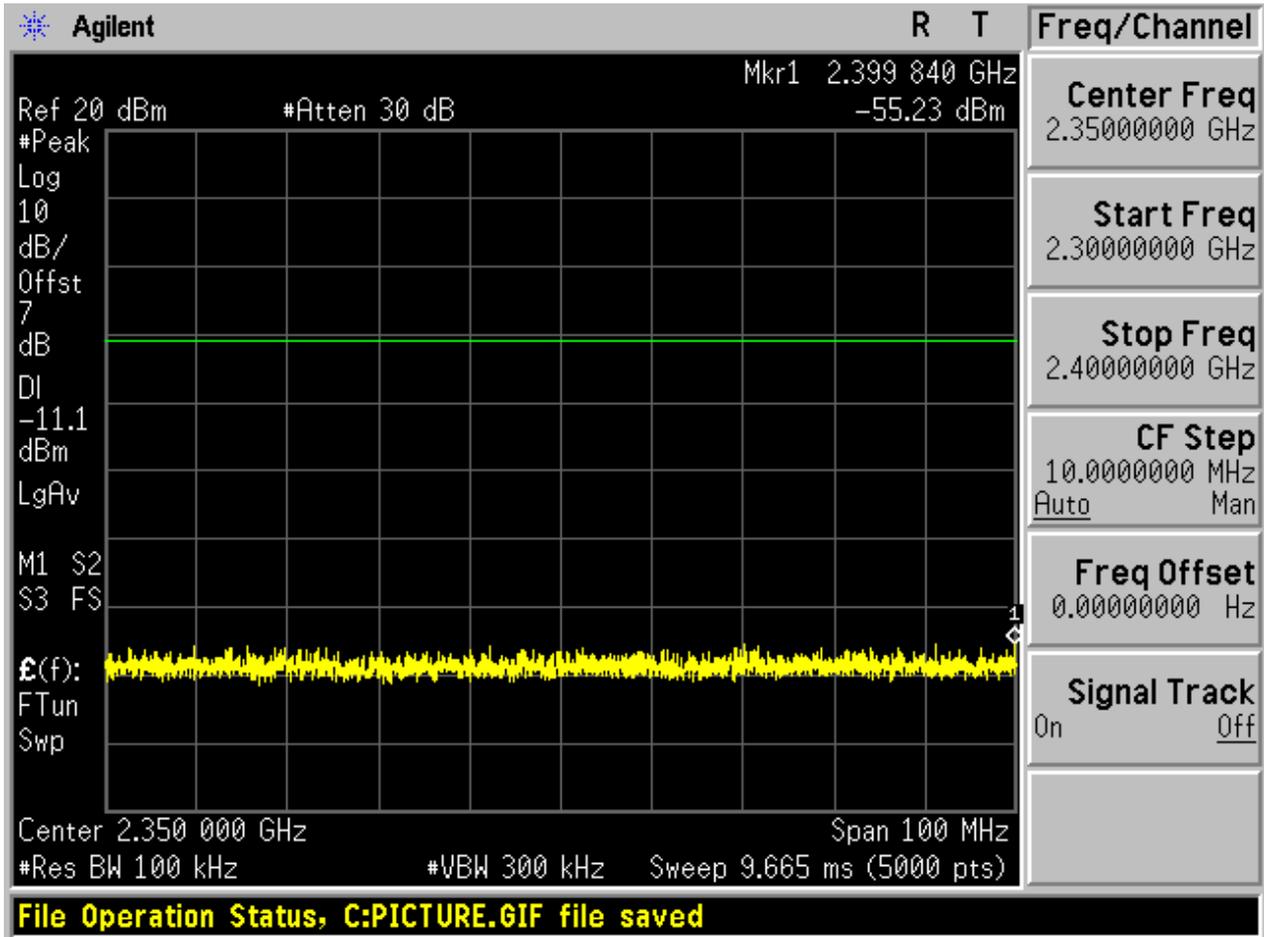


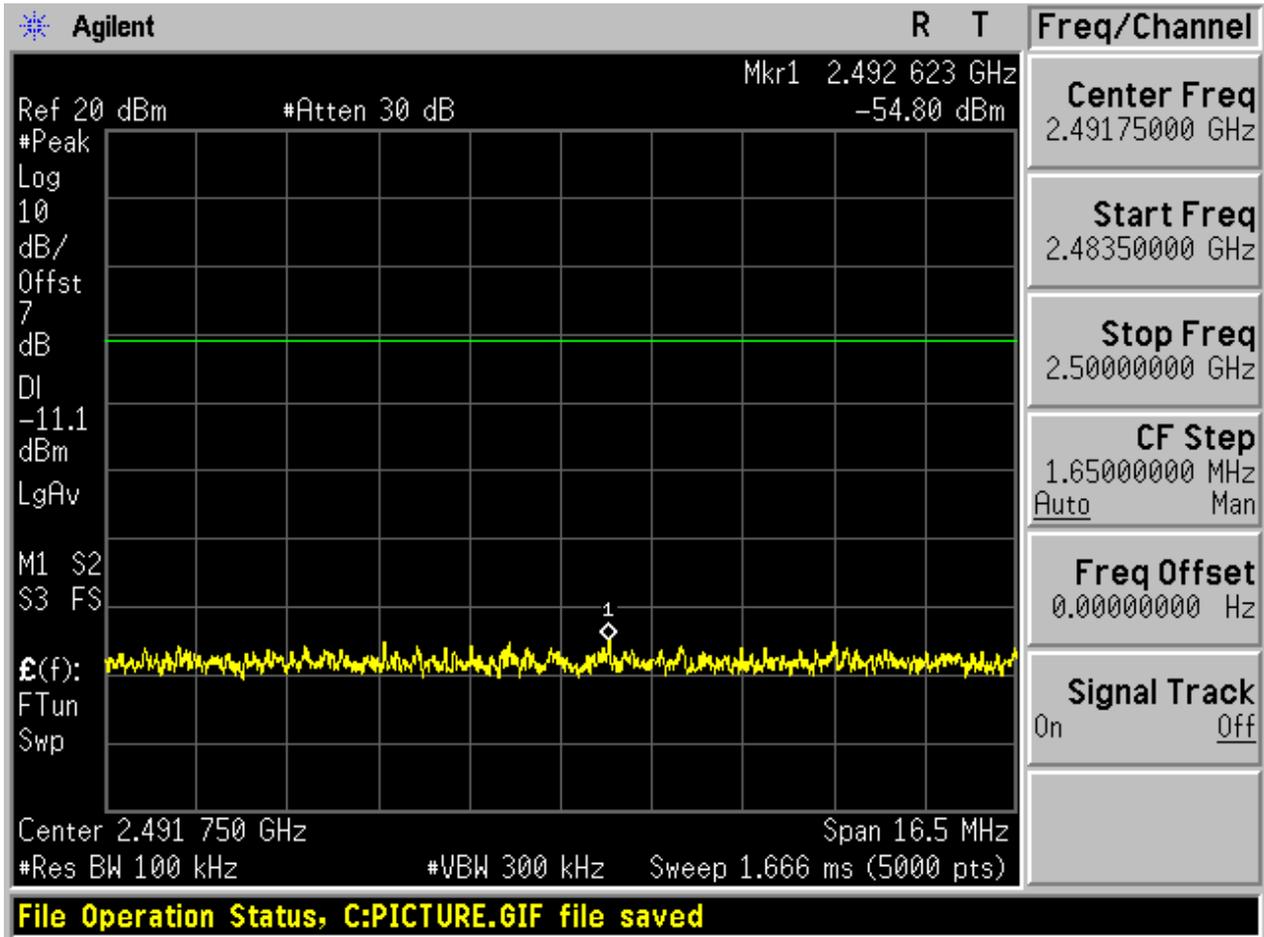
2.8.2 Puw

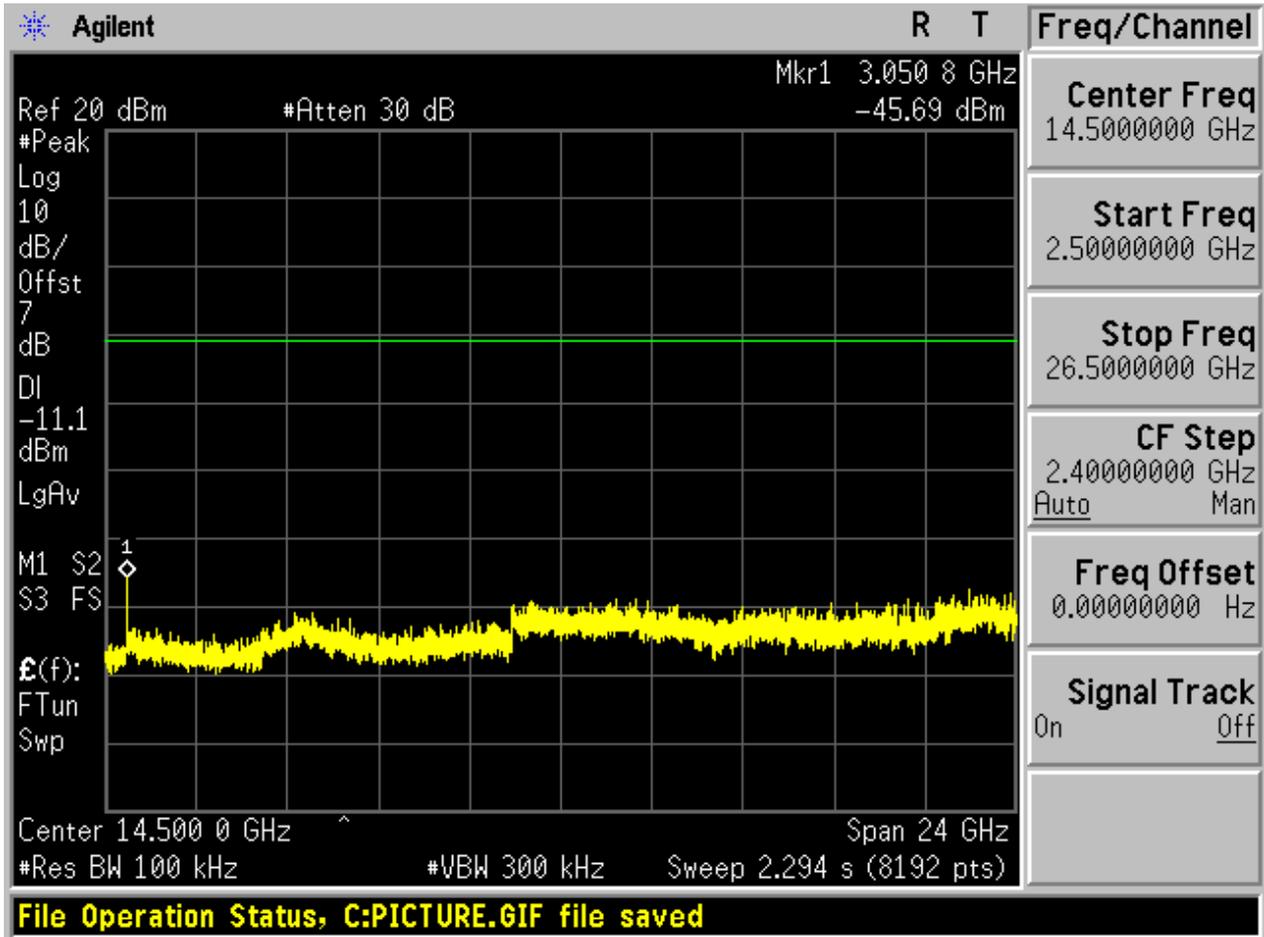








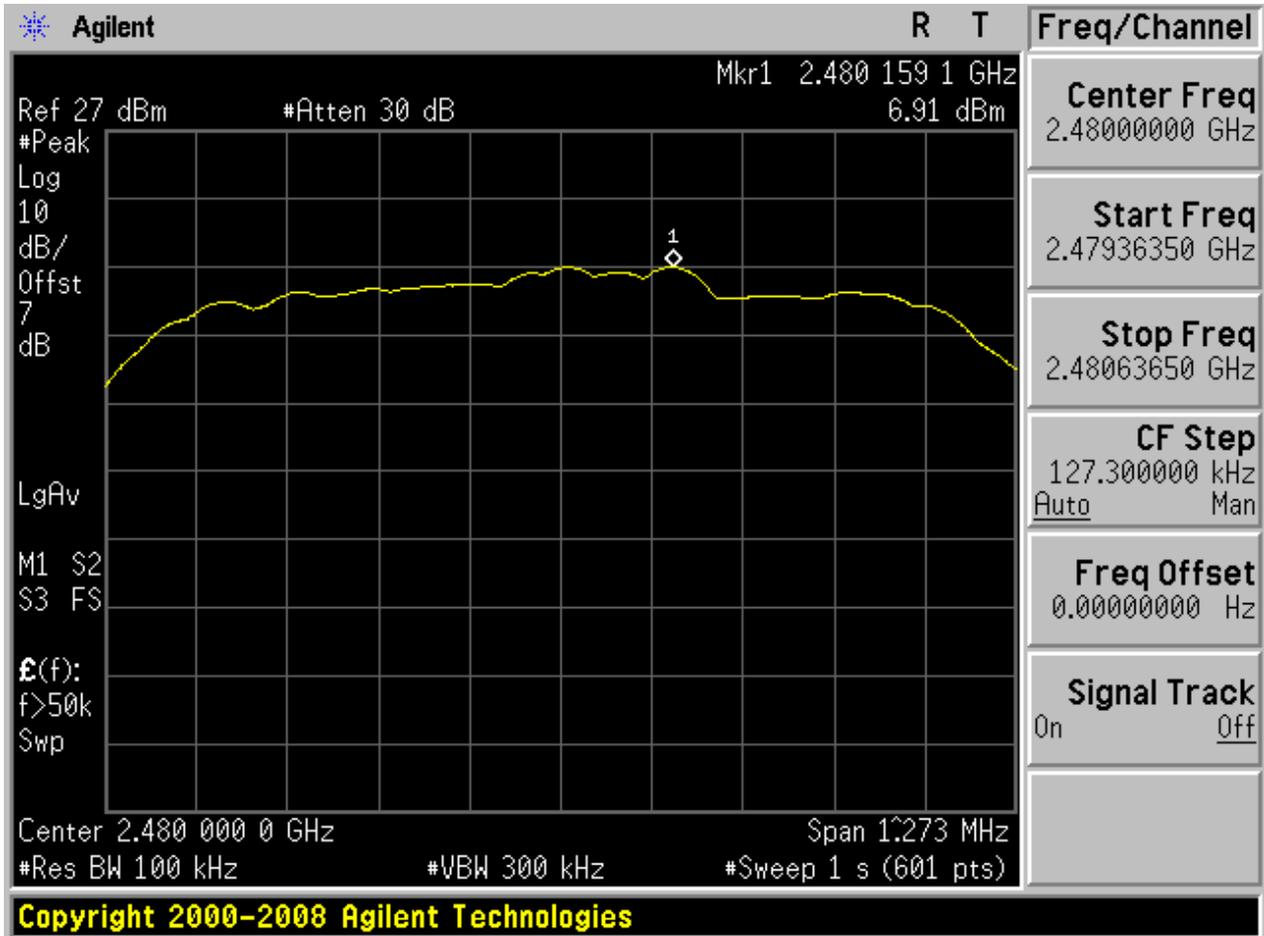




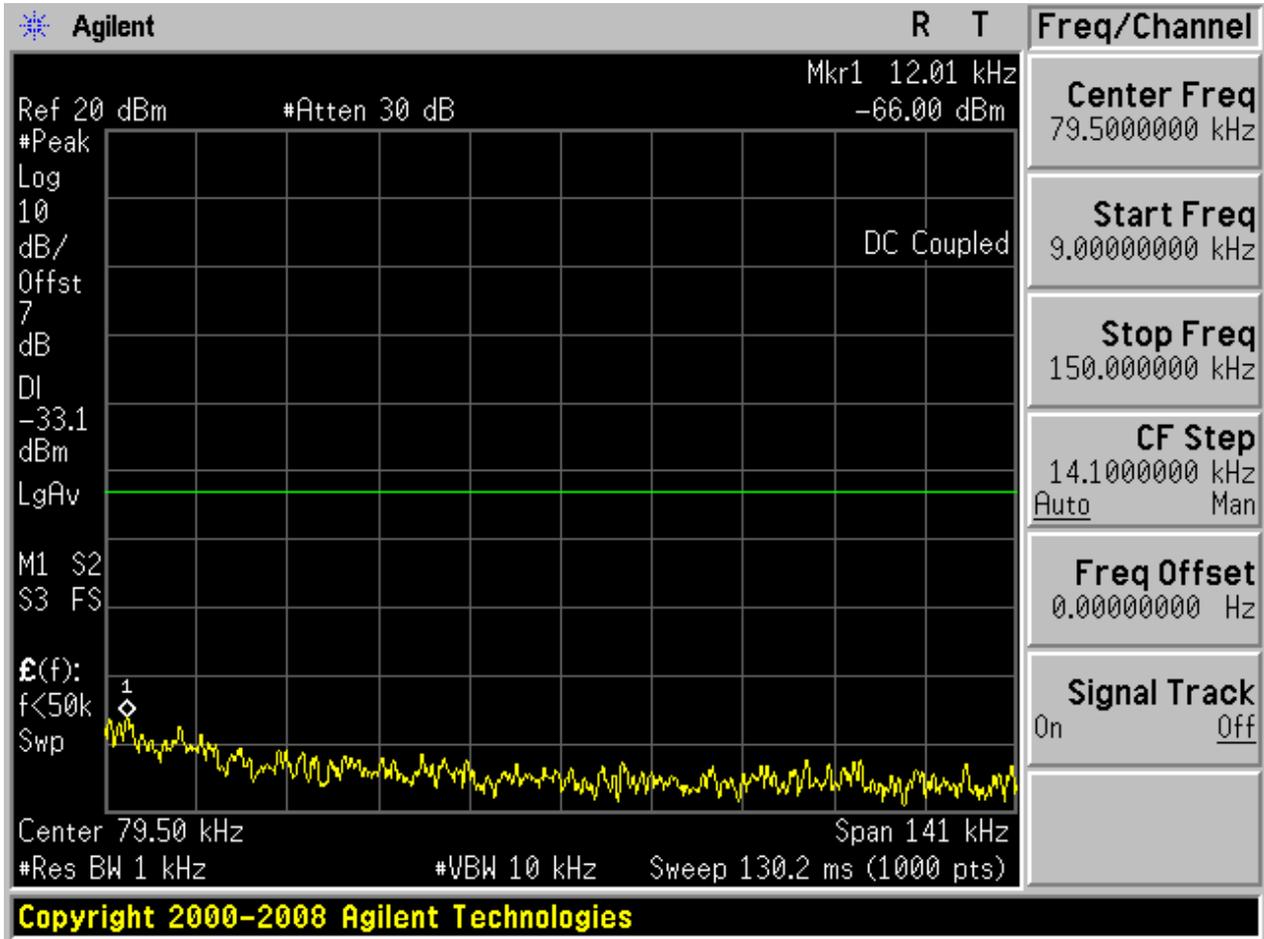


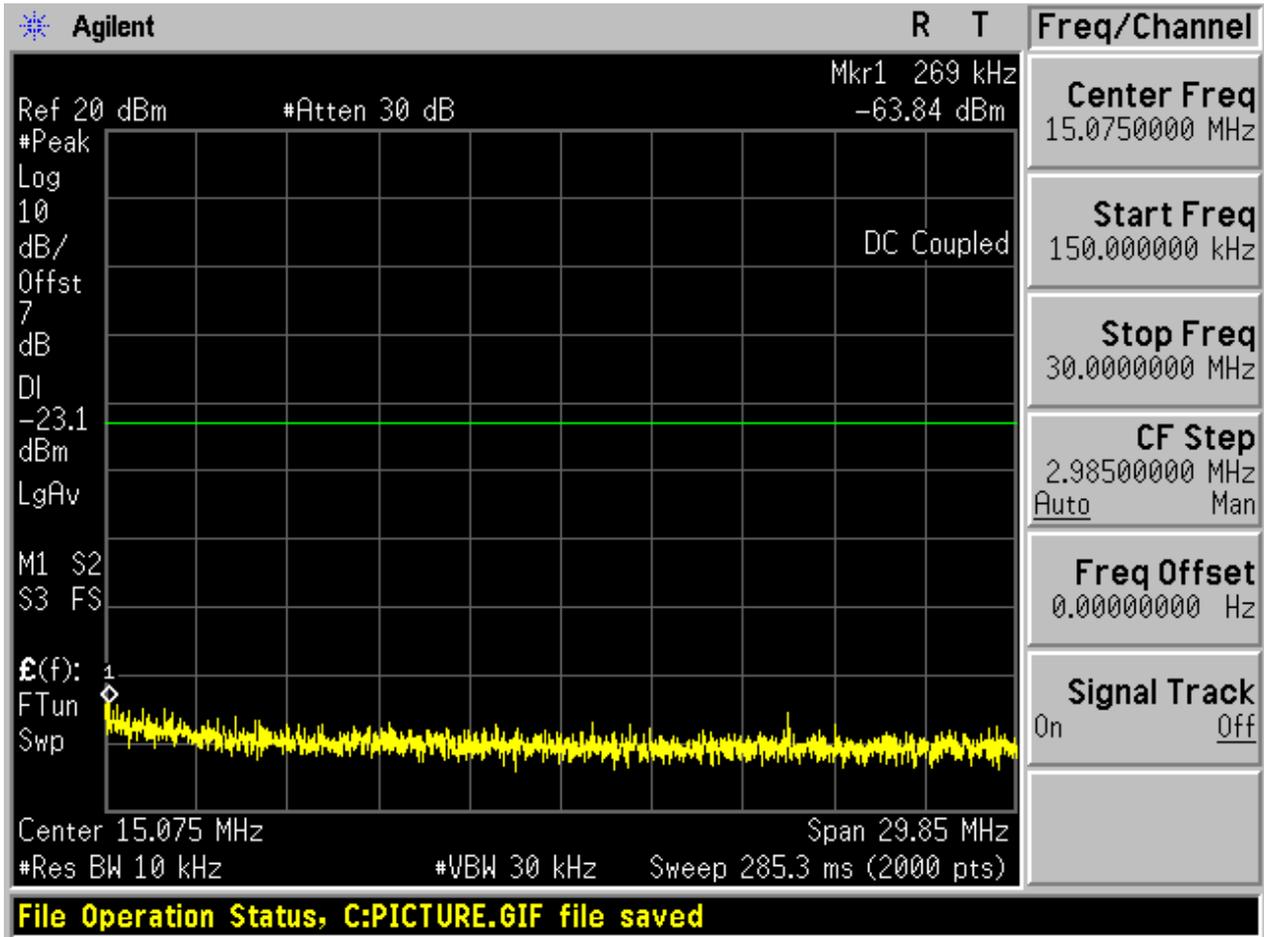
### 2.9 TM3\_3DH5\_Ch78

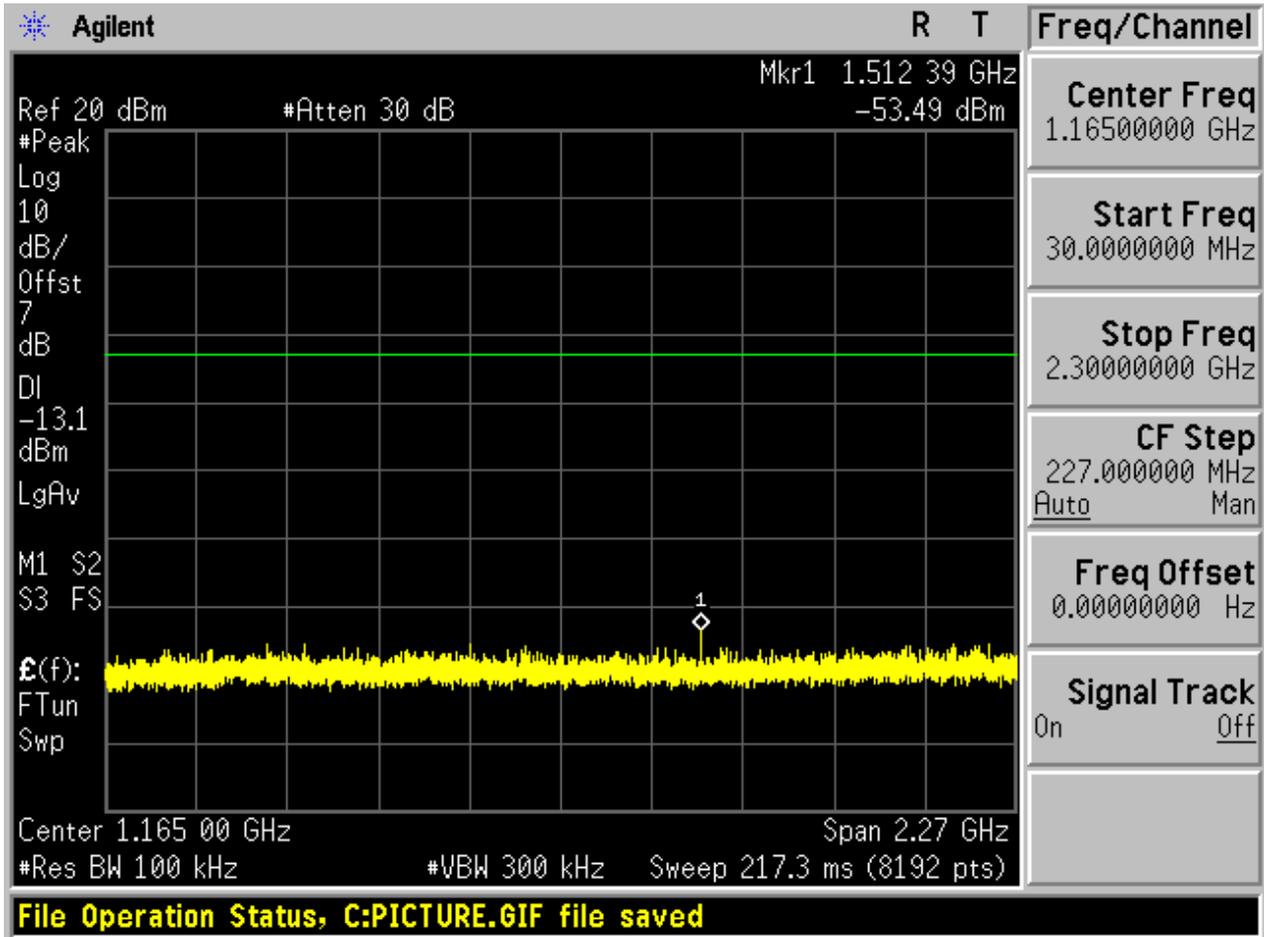
#### 2.9.1 Pref

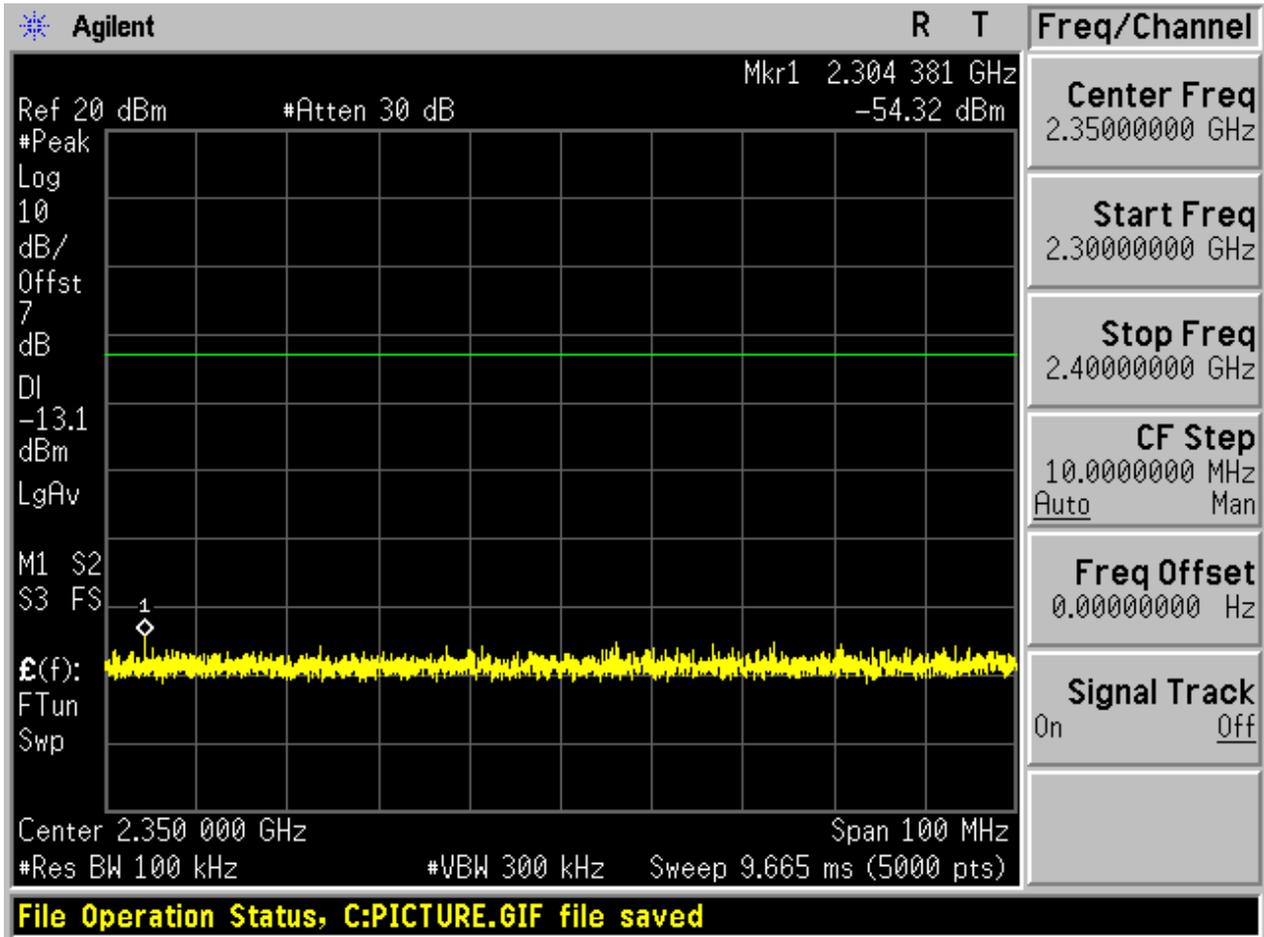


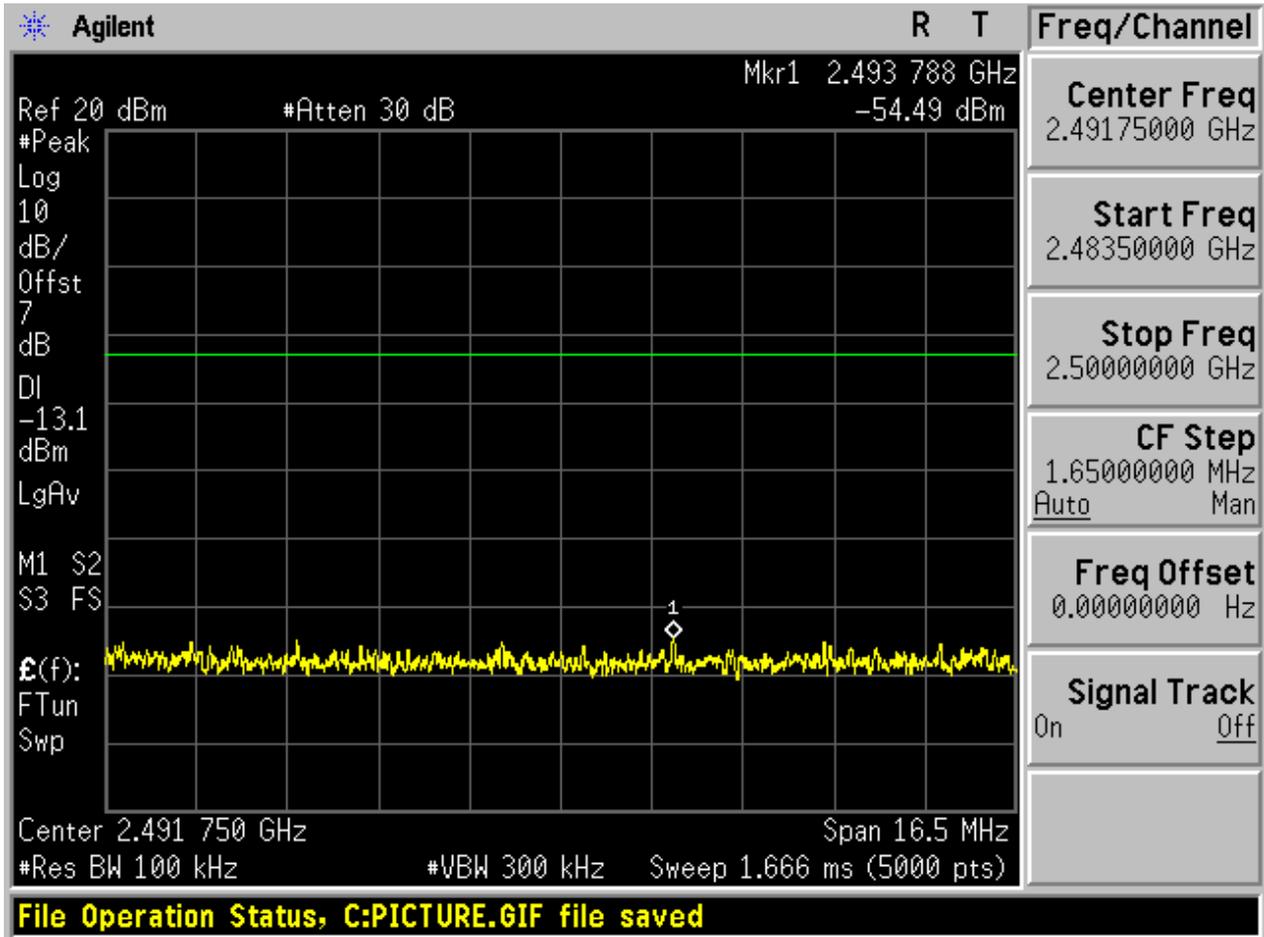
2.9.2 P<sub>uw</sub>

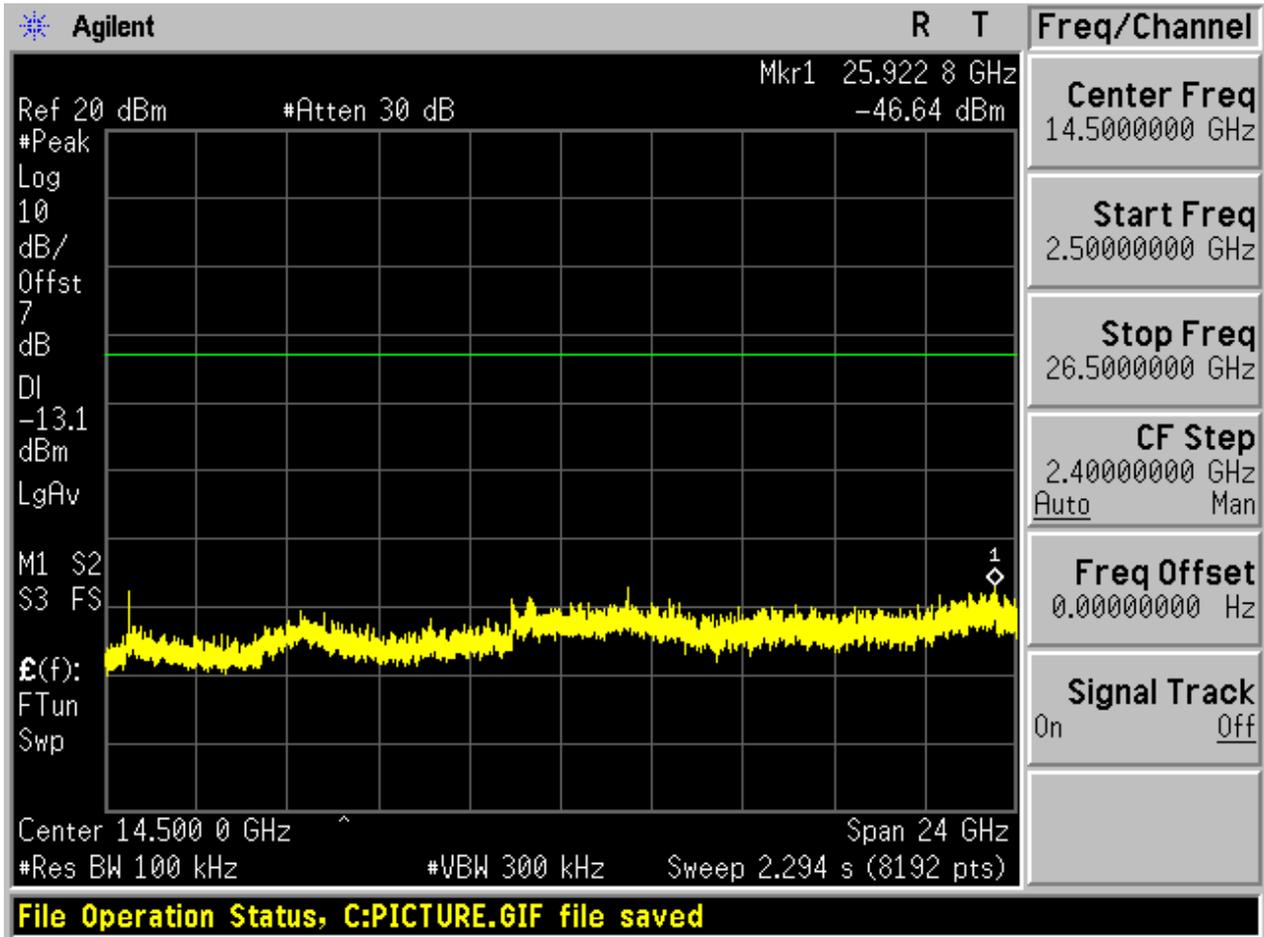














# Appendix H: Radiated Emissions in the Restricted Bands



## 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 “3 GHz to 18 GHz”, and
- (Part 5): Test range of “1 GHz to 3 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

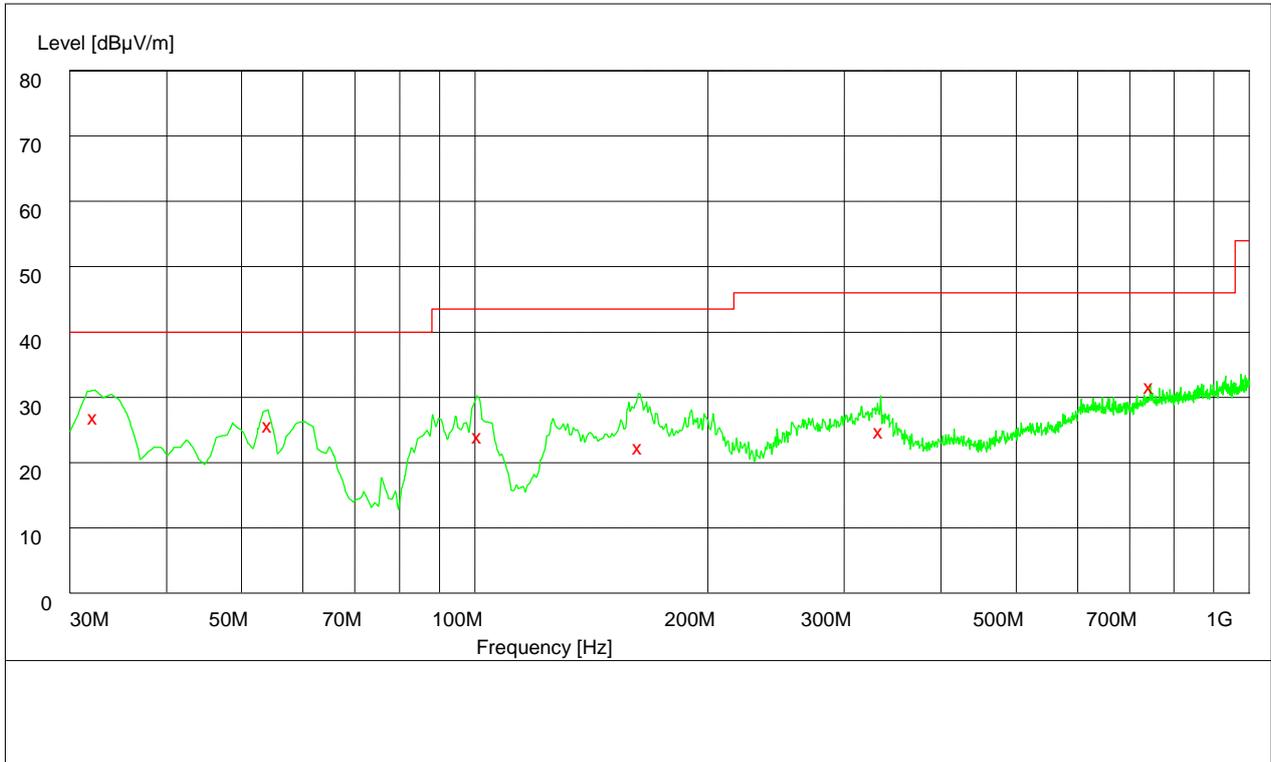
### Part 1: Testing Range of “9 kHz to 30MHz”

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.

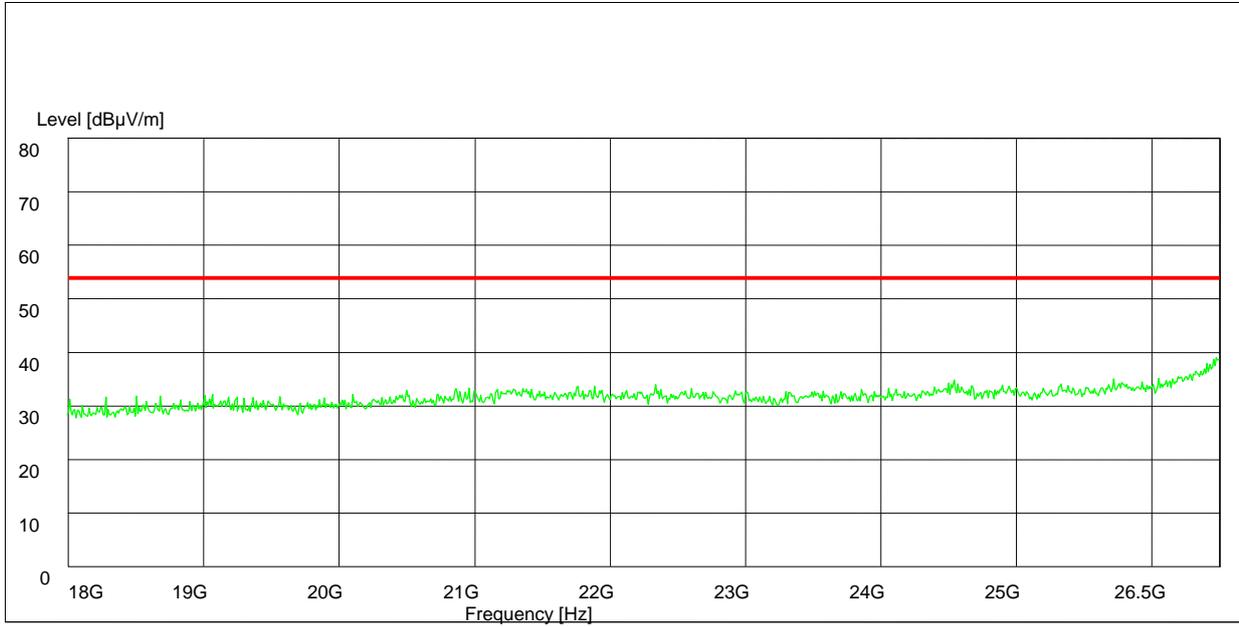
Note 2: The emissions in this range are mainly from the Platform Device (Notepad PC and its ancillary components).



Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Plarization
32.328000	28.30	12.8	40.0	11.7	100.0	58.00	VERTICAL
54.416000	27.10	14.9	40.0	12.9	100.0	165.00	VERTICAL
101.456000	25.50	13.8	43.5	18.0	118.0	173.00	VERTICAL
163.596000	23.80	10.5	43.5	19.7	100.0	227.00	HORIZONTAL
334.372000	26.30	18.9	46.0	19.7	100.0	327.00	HORIZONTAL
746.428000	33.10	25.3	46.0	12.9	162.0	360.00	VERTICAL

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

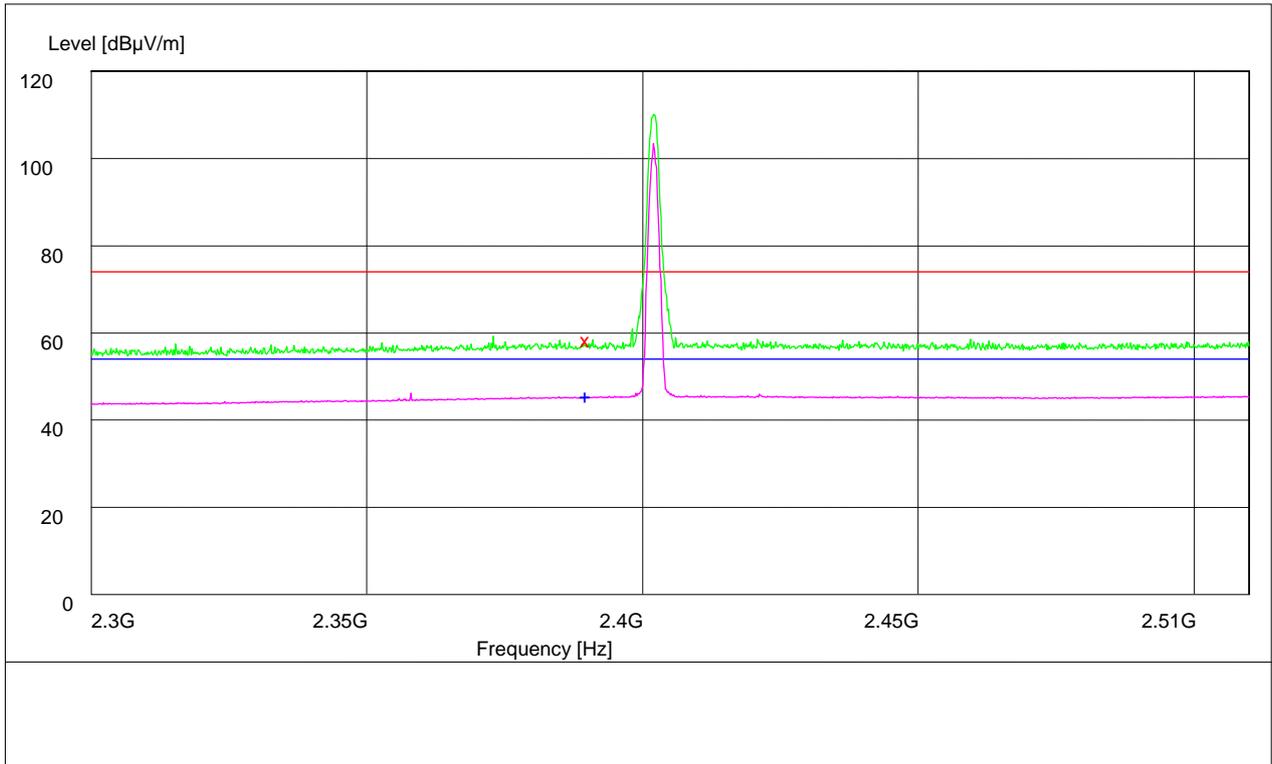
Note: No peak found in pre- test.



**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.

**2.1 Channel 00**



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

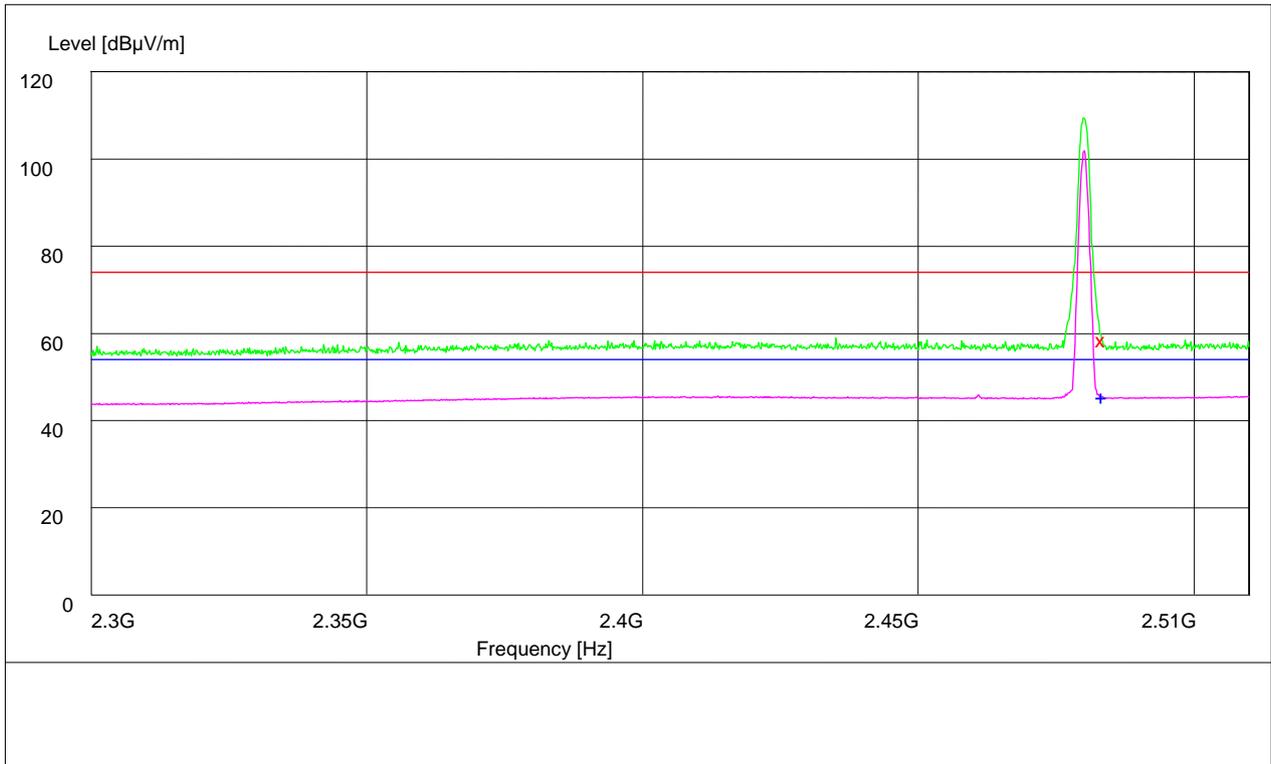
MEASUREMENT RESULT: PK Detector

Frequency MHz	Level dB $\mu$ V/m	Transd dB	Limit dB $\mu$ V/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	60.60	34.8	74.0	13.4	183.0	29.00	VERTICAL

MEASUREMENT RESULT: AVDetector

Frequency MHz	Level dB $\mu$ V/m	Transd dB	Limit dB $\mu$ V/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	47.60	34.8	54.0	6.4	200.0	164.00	VERTICAL

## 2.2 Channel 78



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

### MEASUREMENT RESULT: PK Detector

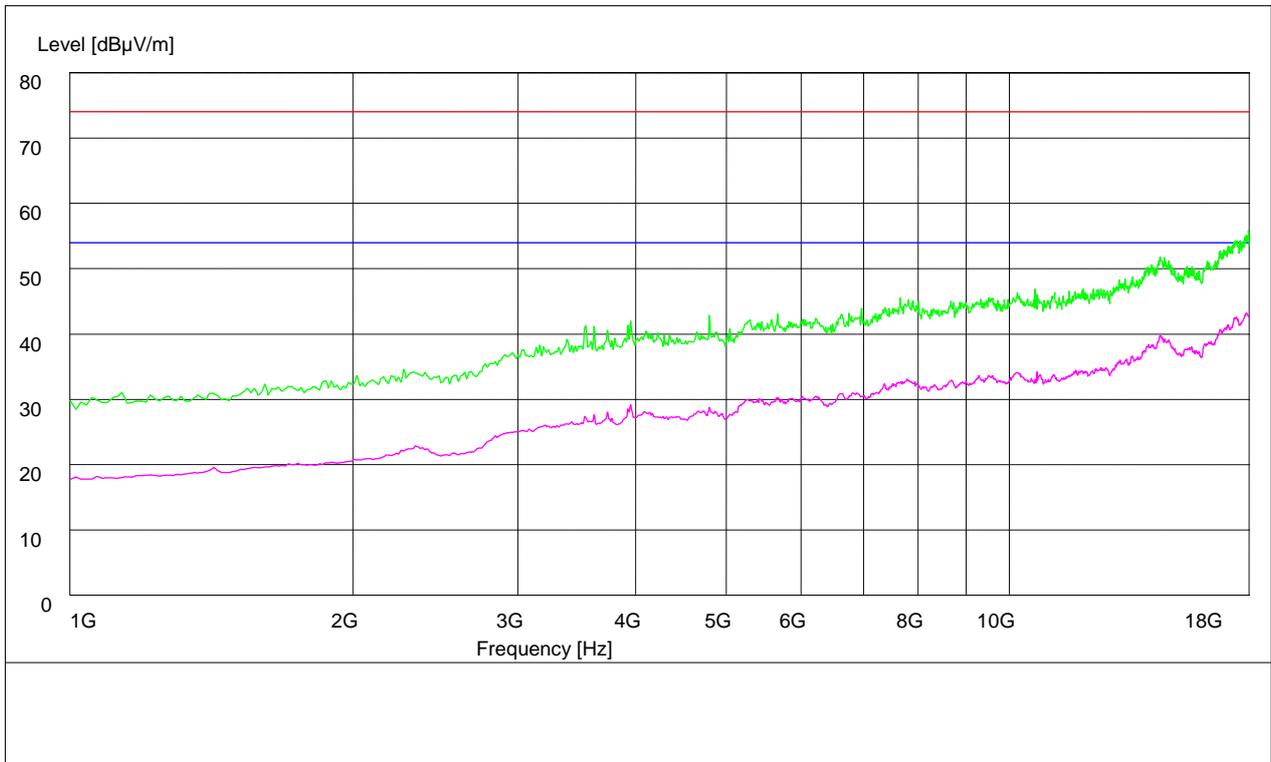
Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2483.500000	60.60	35.1	74.0	13.4	120.0	359.00	HORIZONTAL

### MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2483.500000	47.70	35.1	54.0	6.3	100.0	148.00	HORIZONTAL

## 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).





# Appendix I: AC Power Line Conducted Emissions



## 1 Result Table

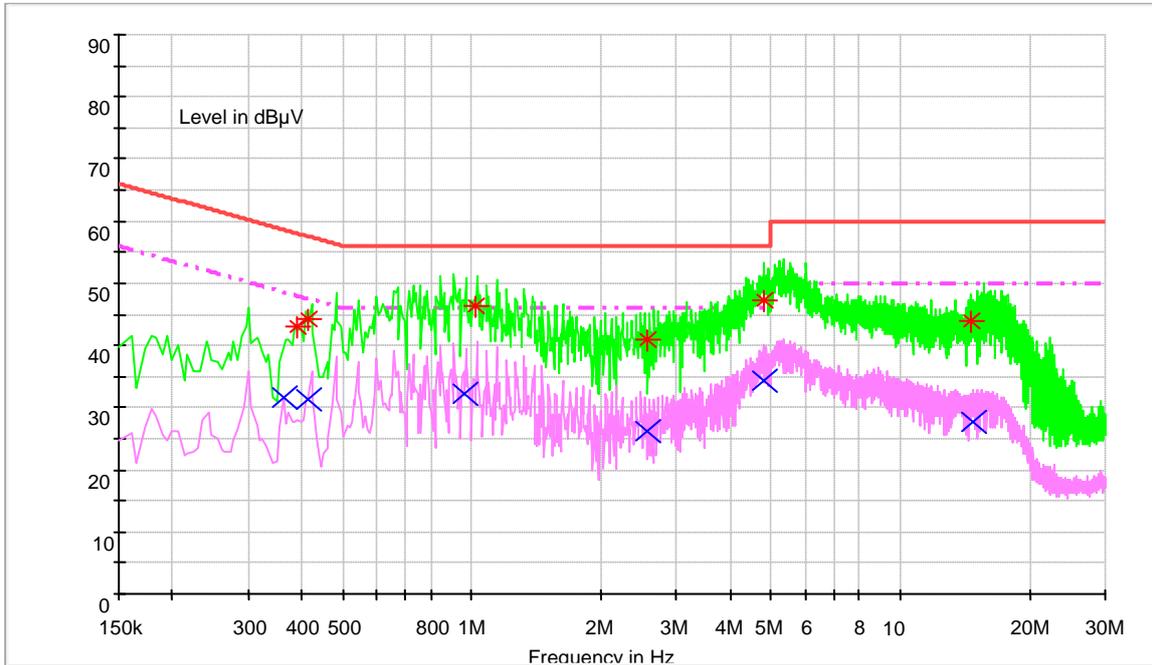
In this Appendix, only the test results and plots under the worst case can be reported.

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

### 2.1 TM1\_DH5\_Ch39

# Channel 39



MEASUREMENT RESULT: QP Detector

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.391181	43.2	9.7	58	14.8	N	FLO
0.414266	44.2	9.7	57.6	13.4	N	FLO
1.022096	46.4	9.7	56	9.6	N	FLO
2.567006	40.9	9.7	56	15.1	N	FLO
4.807669	47.3	9.8	56	8.7	N	FLO
14.63259	43.8	10	60	16.2	L1	FLO

MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.362681	31.7	9.7	48	16.3	N	FLO
0.415368	31.3	9.7	47.5	16.2	N	FLO
0.954866	32.3	9.7	46	13.7	N	FLO
2.560384	26.3	9.7	46	19.7	N	FLO
4.792684	34.4	9.8	46	11.6	N	FLO
14.69137	27.6	10.1	50	22.4	N	FLO



## Appendix J: Photos of Test Setups

### 3 Test Setup 2

#### 3.1 Radiated Emissions in the Restricted Bands

##### 3.1.1 Measurement Setup from 30 MHz to 1 GHz



##### 3.1.2 Measurement Setup from 1 GHz to 3 GHz, 3 GHz to 18 GHz



##### 3.1.3 Measurement Setup from 18 GHz to 26.5 GHz



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END