



# Appendix for Test Report



## Appendix A: DTS (6 dB) Bandwidth

In this document, the "DTS6dBBW" refers to the measured "DTS (6 dB) Bandwidth" value. In this Appendix, the "fc(DTS6dBBW)" refers to the centre of the measured "DTS6dBBW". The introduction of the "fc(DTS6dBBW)" is due to that other measurements use it as the spectrum analyzer setting.

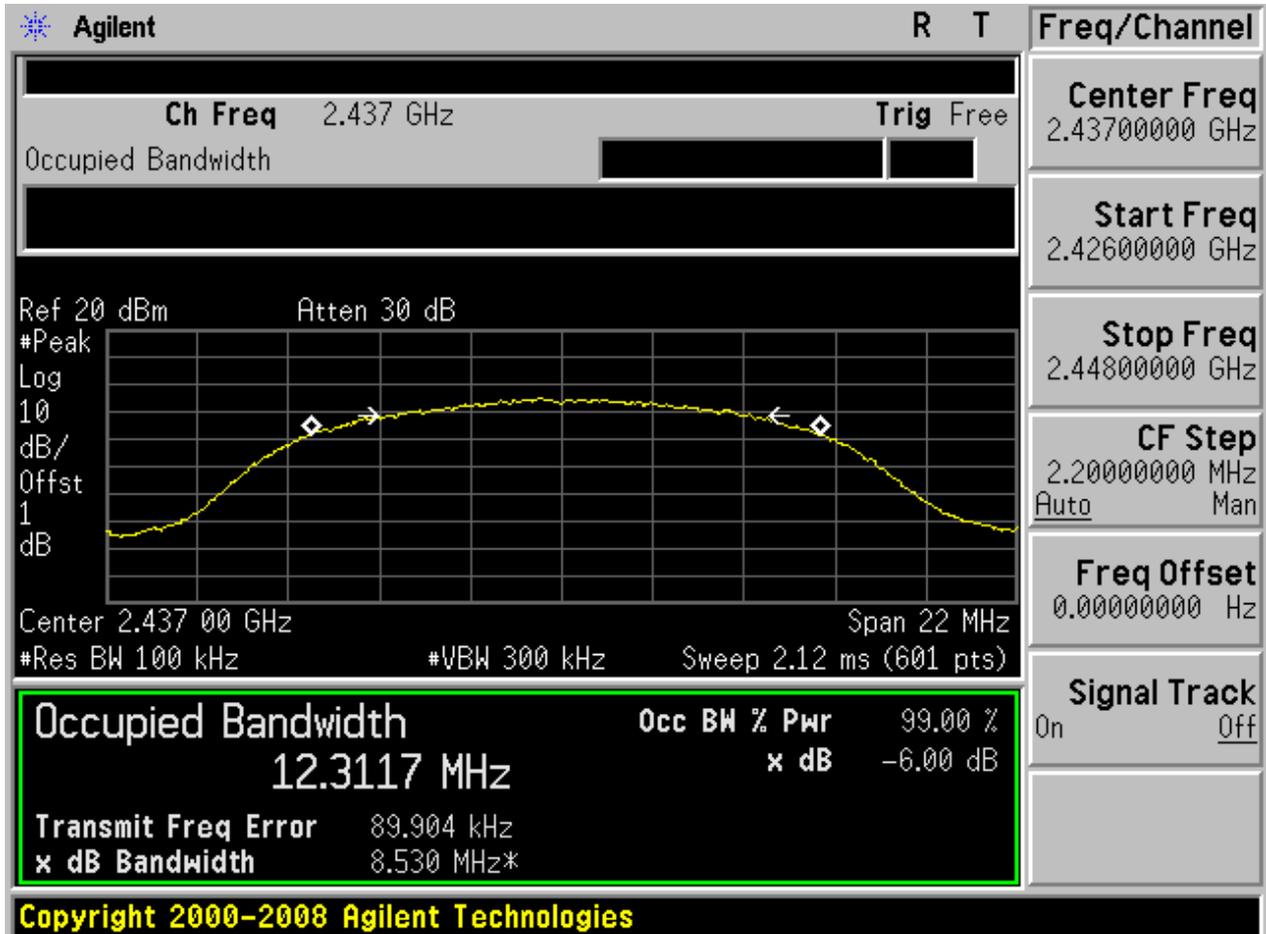
For measurements on smart antenna systems (devices with multiple transmit chains), the test is performed at each chain, and used as respective results for each chain.

### Part I - Test Results

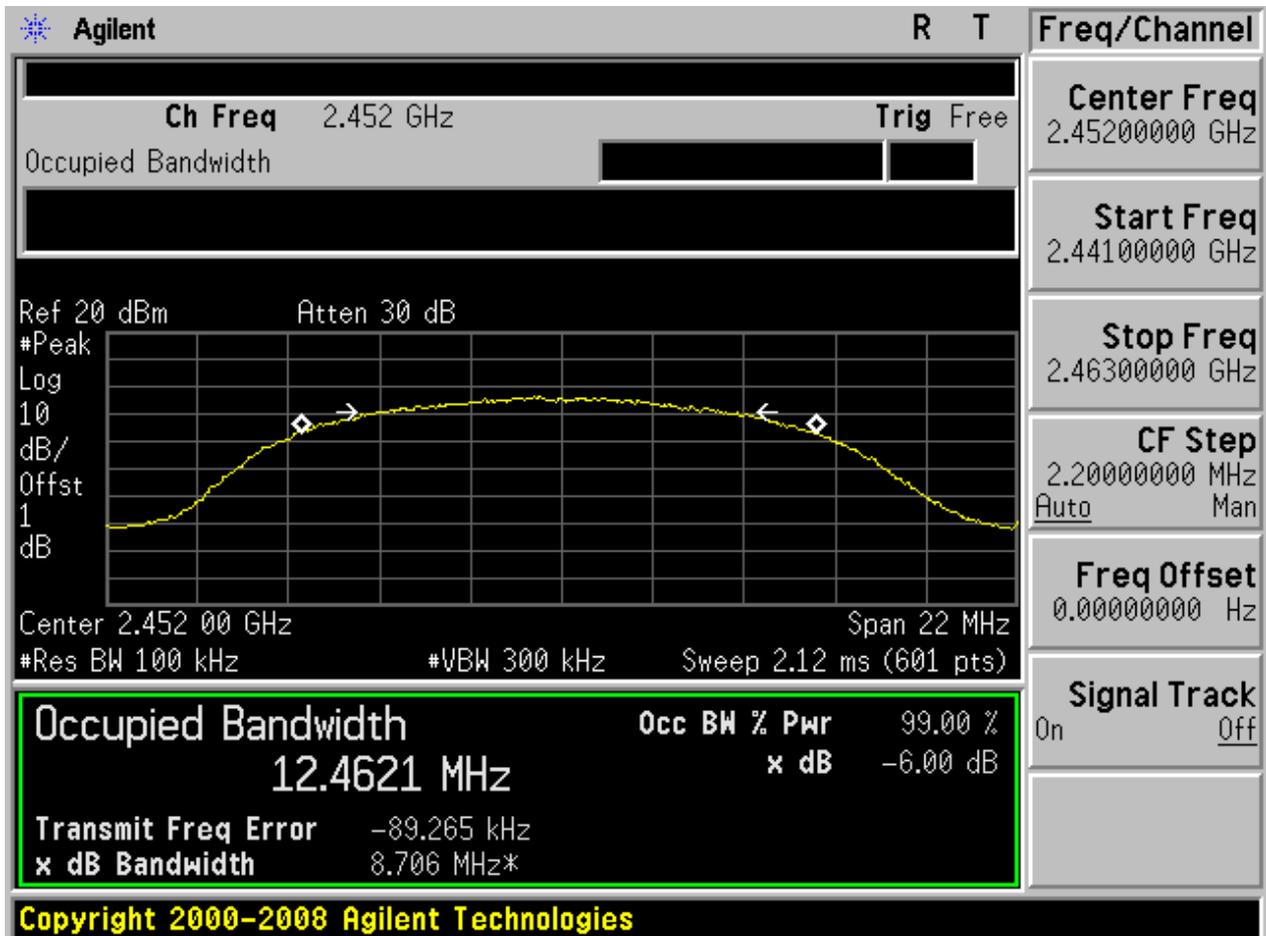
Test Mode	Test Channel	Frequency[MHz]	DTS6dBBW[MHz]	Verdict
11B	L	2437	8.53	pass
11B	M	2452	8.71	pass
11B	H	2462	8.64	pass
11G	L	2437	16.39	pass
11G	M	2452	16.44	pass
11G	H	2462	16.34	pass
11N20	L	2437	17.25	pass
11N20	M	2452	16.42	pass
11N20	H	2462	17.62	pass

## Part II - Test Plots

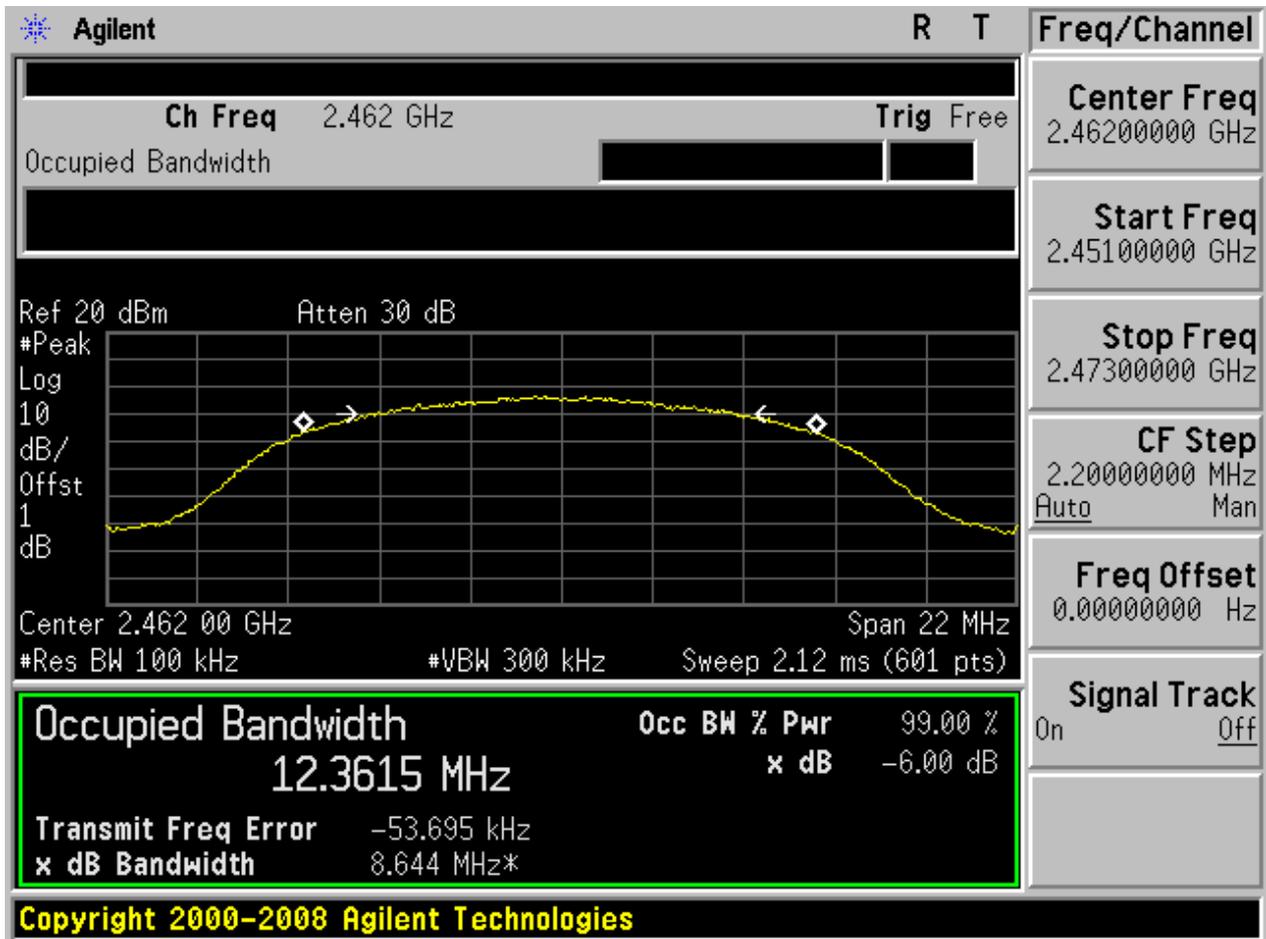
### 2.1 11B\_L



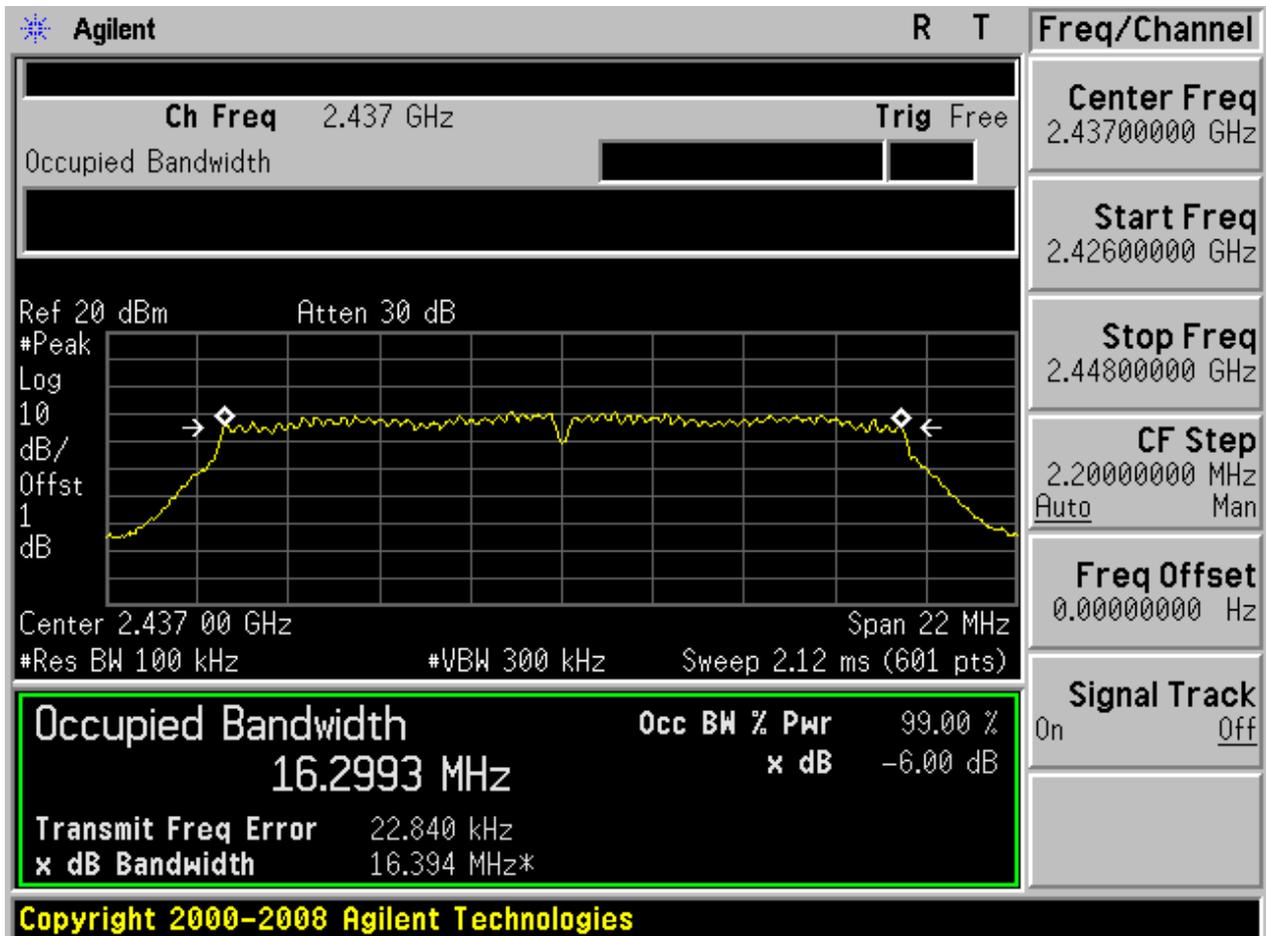
## 2.2 11B\_M



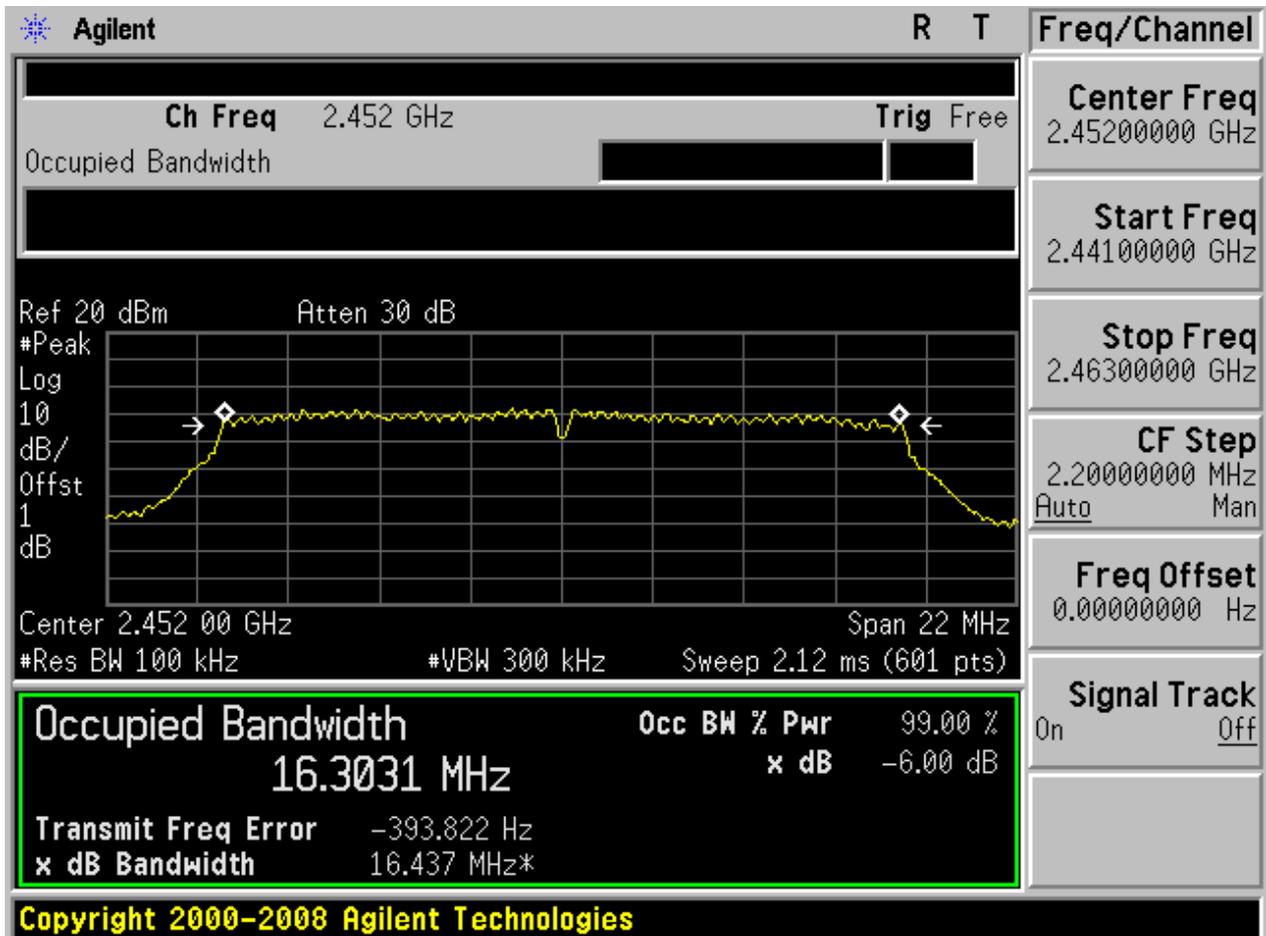
### 2.3 11B\_H



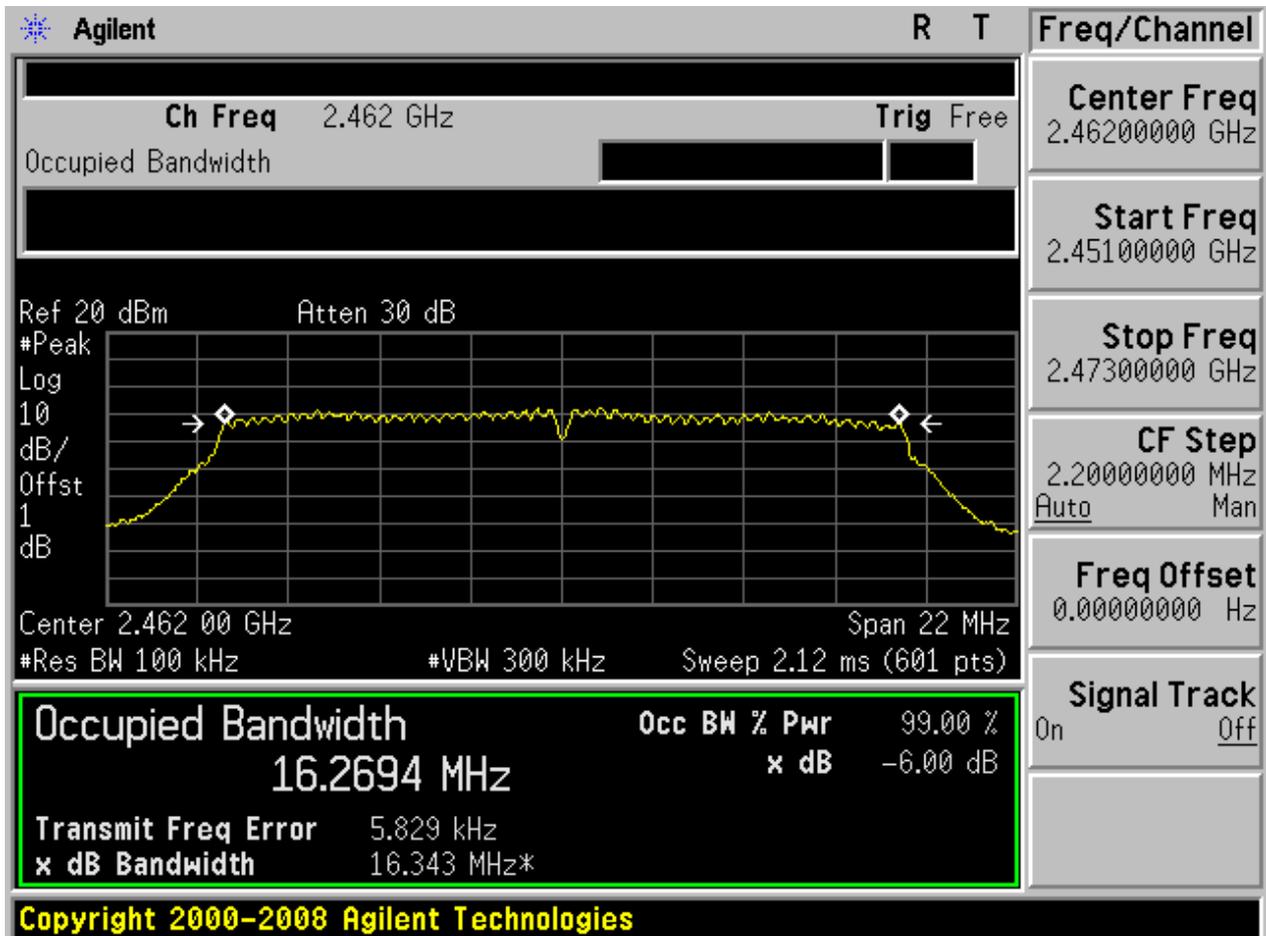
## 2.4 11G\_L



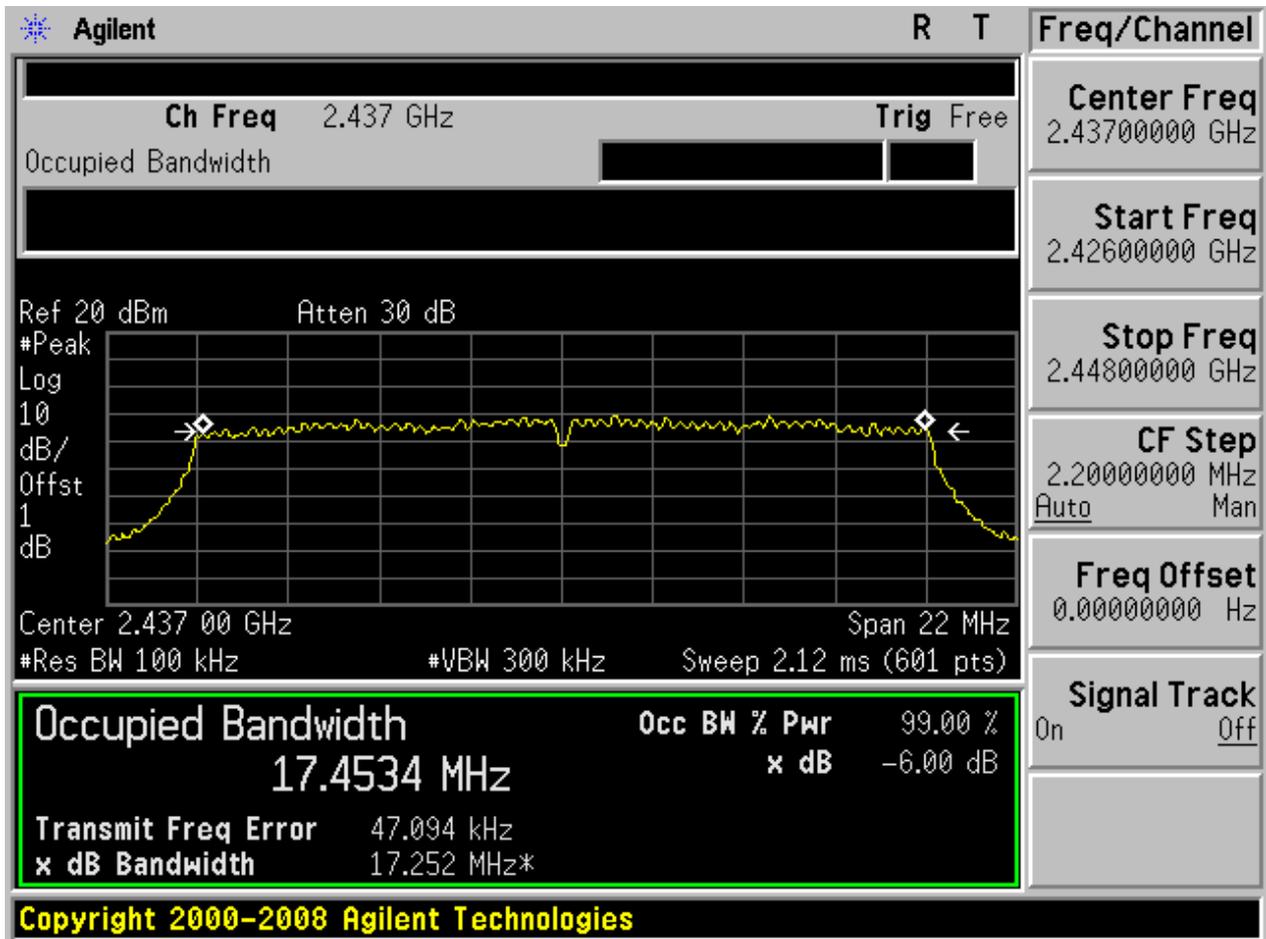
## 2.5 11G\_M



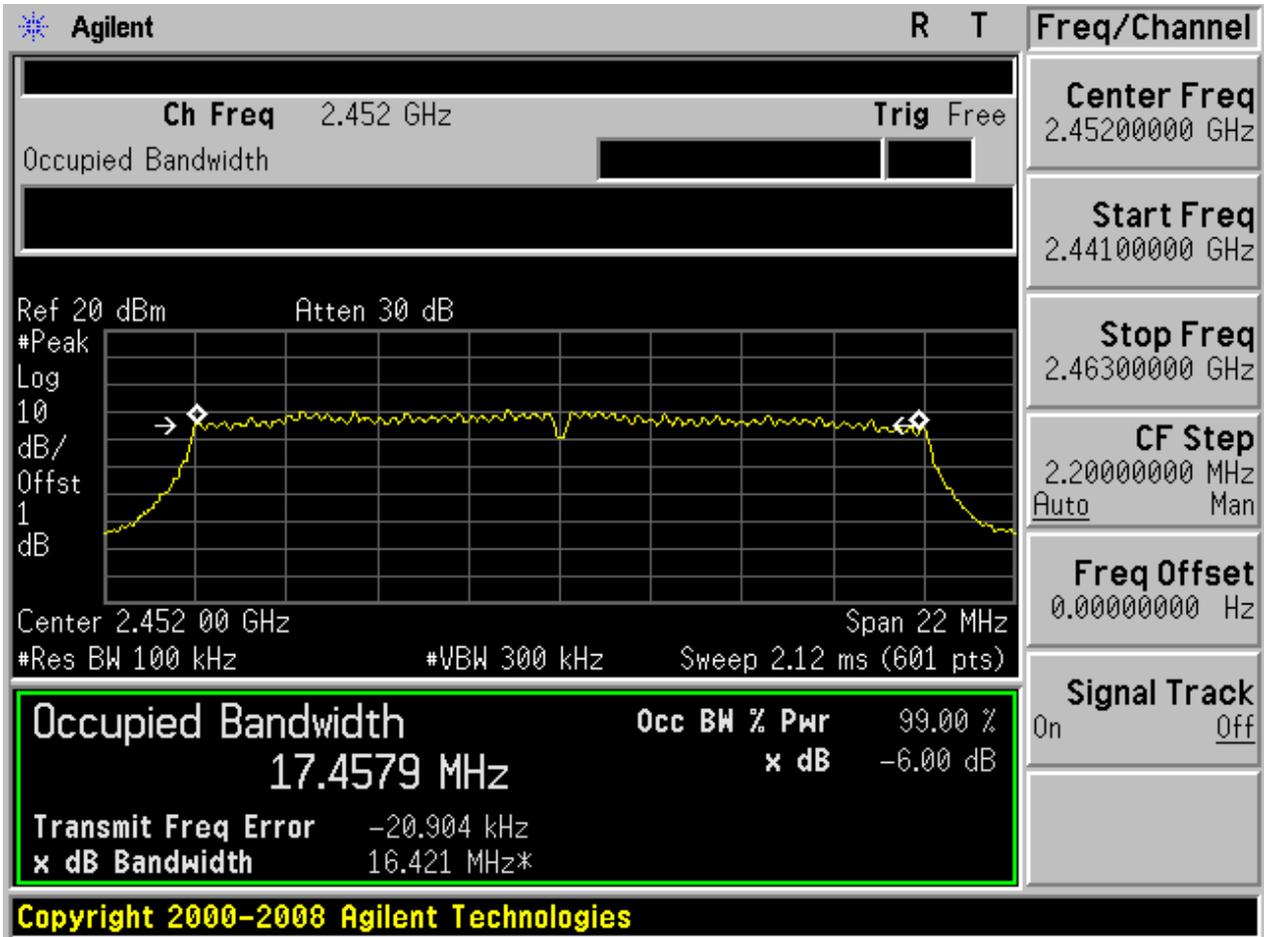
## 2.6 11G\_H



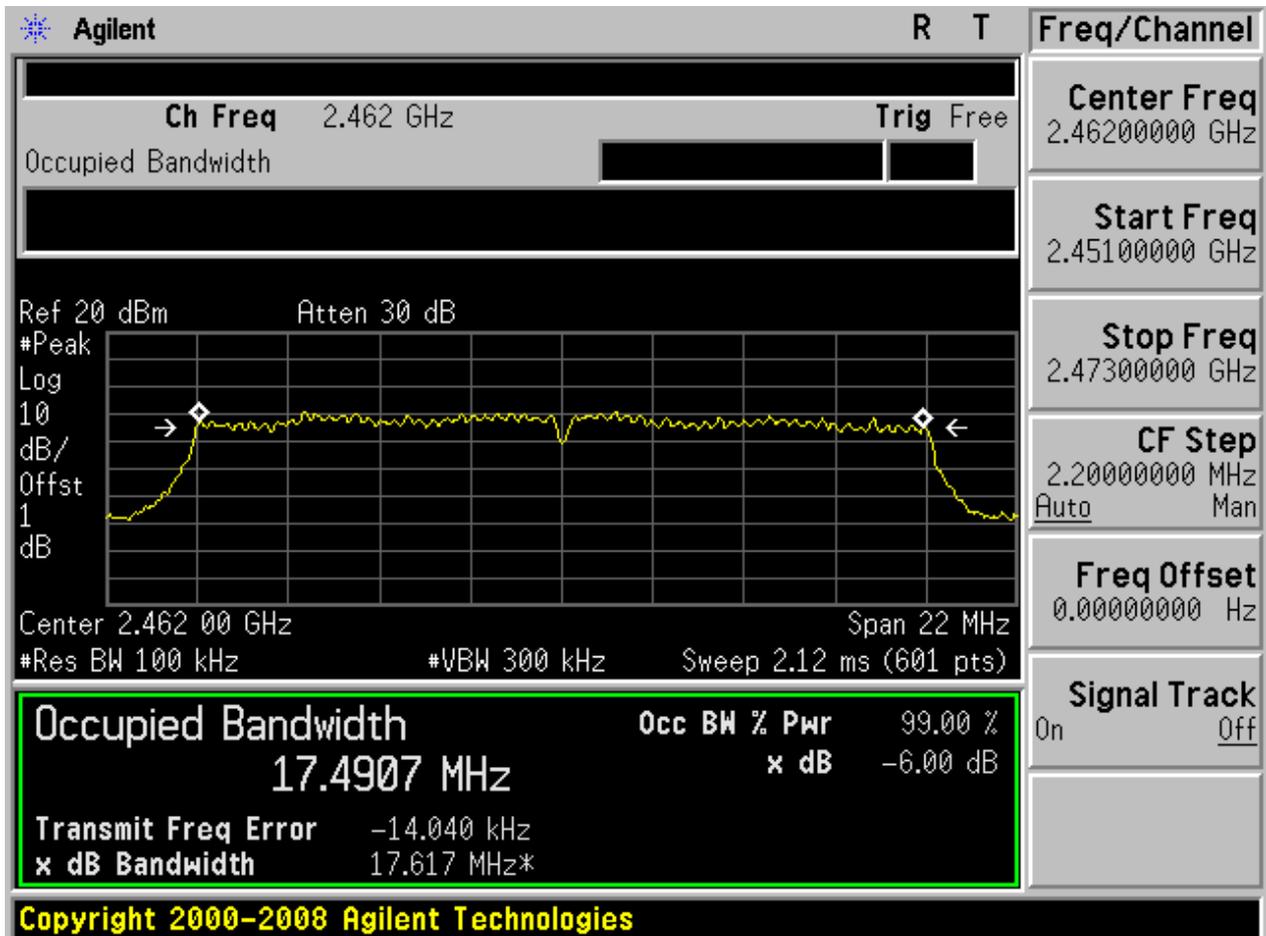
## 2.7 11N20\_L



2.8 11N20\_M



## 2.9 11N20\_H



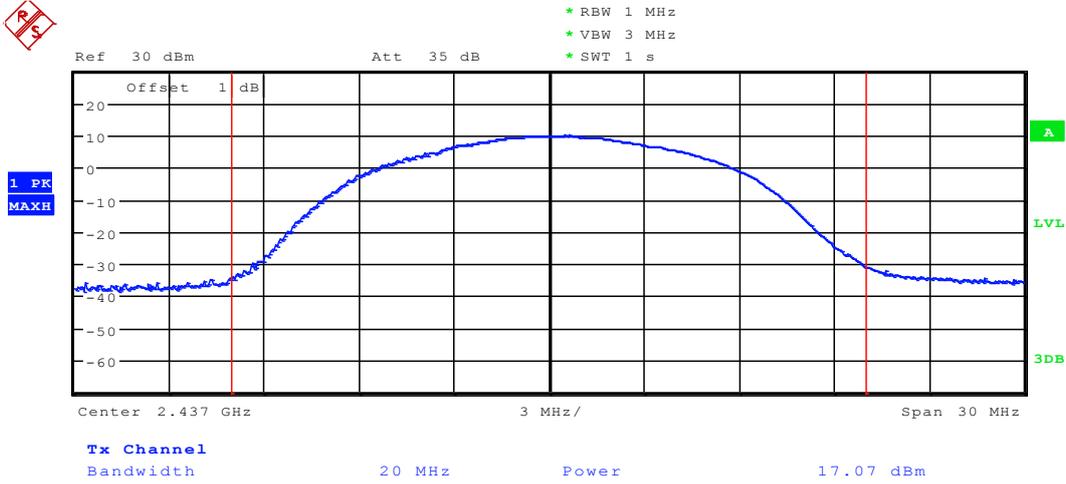
## Appendix B: Maximum Peak Conducted Output Power

### Part I - Test Results

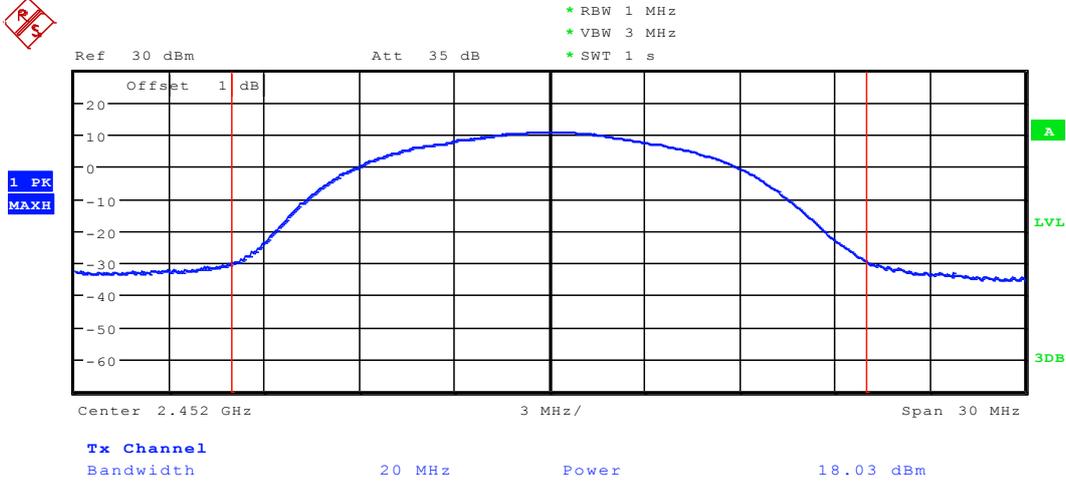
Test Mode	Test Channel	Frequency[MHz]	Meas. Level (Cond.) [dBm]	Verdict
11B	L	2437	17.07	pass
11B	M	2452	18.03	pass
11B	H	2462	18.11	pass
11G	L	2437	18.16	pass
11G	M	2452	19.44	pass
11G	H	2462	19.43	pass
11N20	L	2437	16.44	pass
11N20	M	2452	17.75	pass
11N20	H	2462	18.1	pass

## Part II - Test Plots

### 2.1 11B\_L



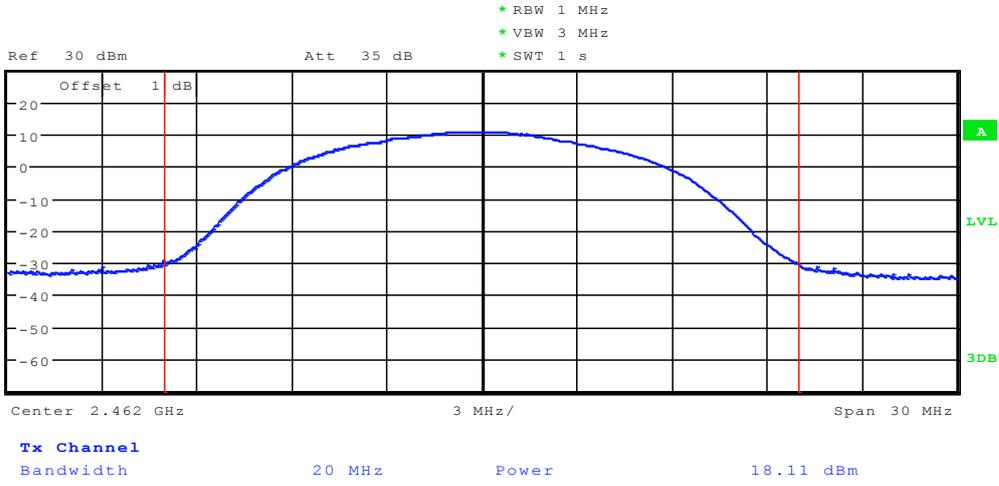
## 2.2 11B\_M



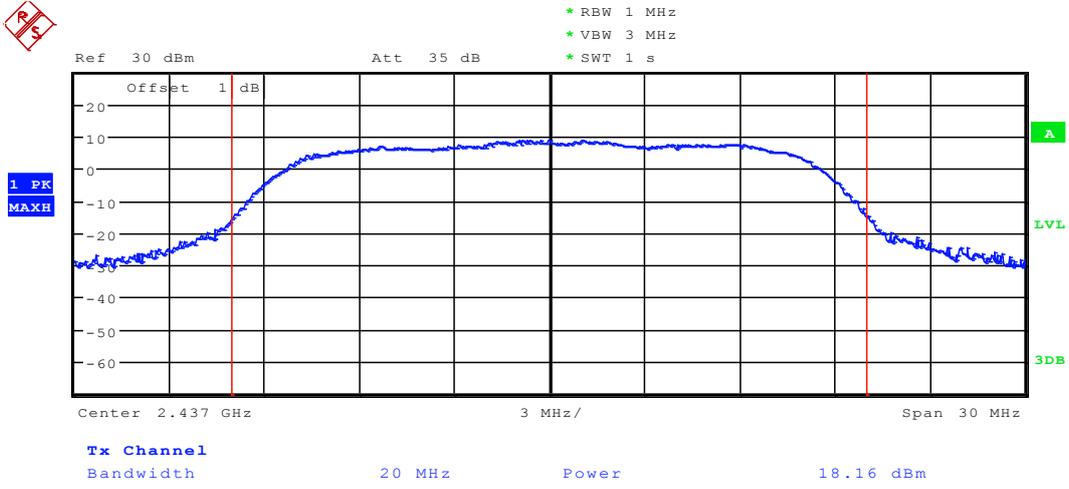
### 2.3 11B\_H



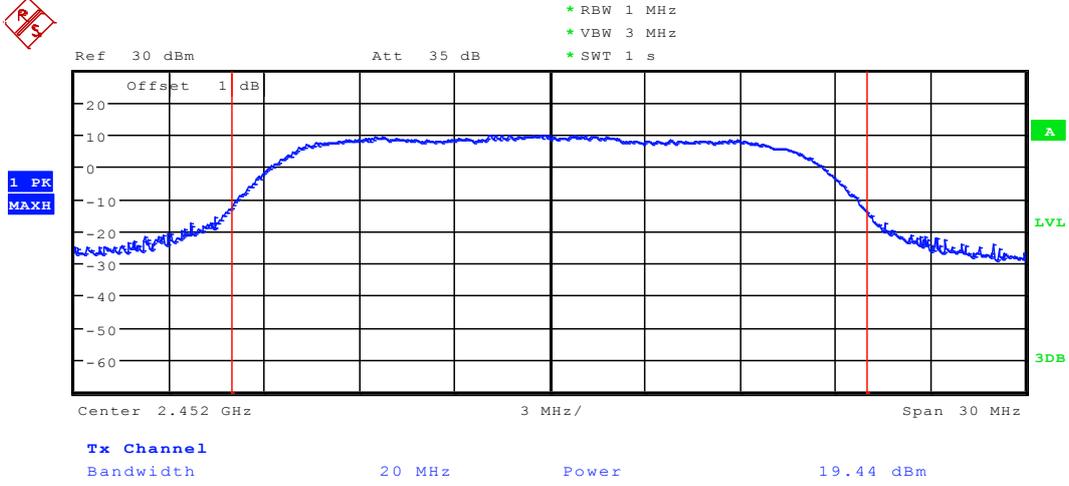
1 PK  
MAXH



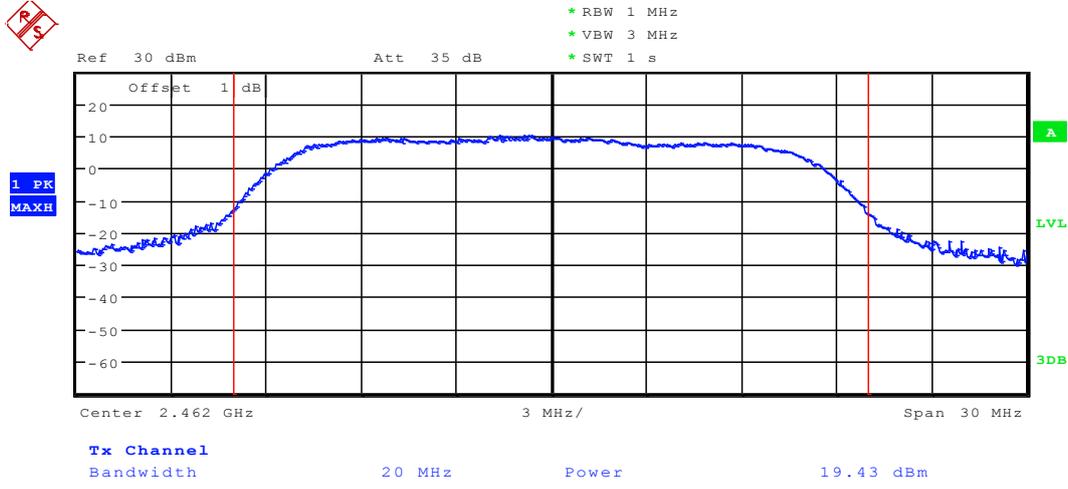
## 2.4 11G\_L



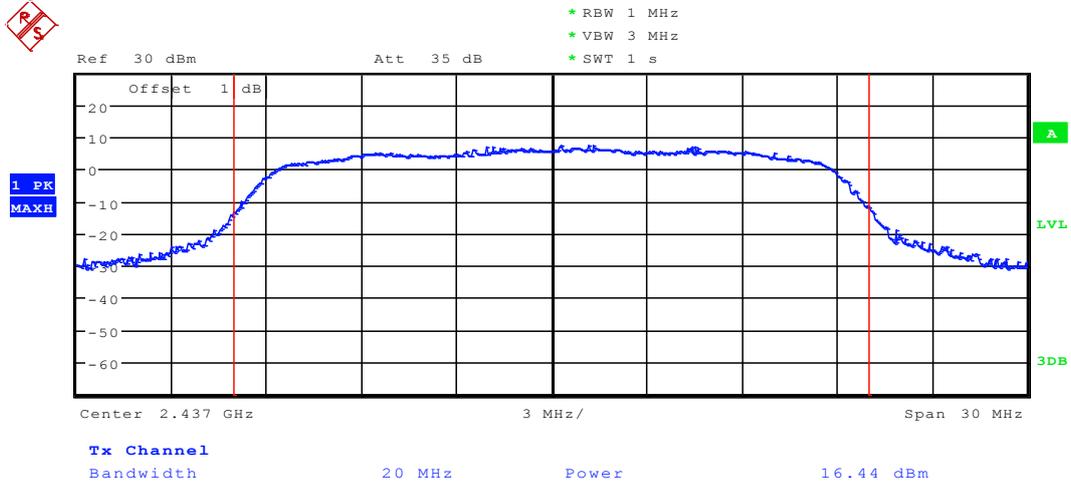
## 2.5 11G\_M



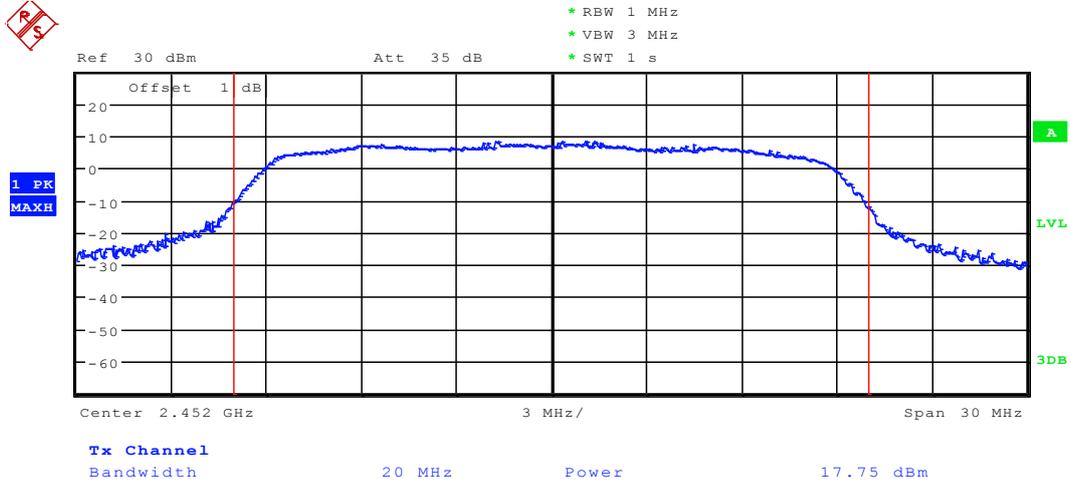
## 2.6 11G\_H



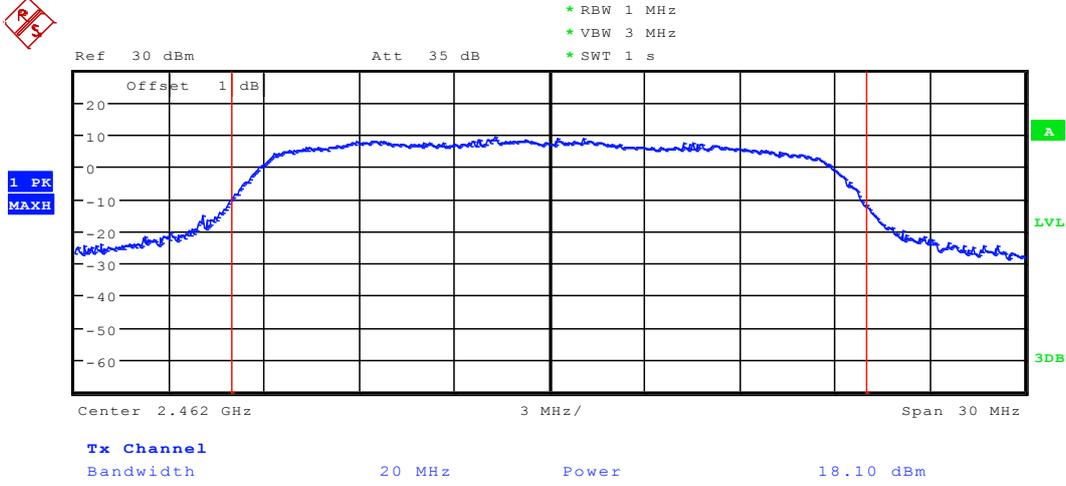
### 2.7 11N20\_L



## 2.8 11N20\_M



## 2.9 11N20\_H



## Appendix C: Average Power

Test Mode	Test Channel	Frequency[MHz]	Average Power
11B	L	2437	10.26
11B	M	2452	11.85
11B	H	2462	11.37
11G	L	2437	8.72
11G	M	2452	10.11
11G	H	2462	10.15
11N20	L	2437	7.47
11N20	M	2452	8.57
11N20	H	2462	8.69

## Appendix D: Maximum Power Spectral Density Level

In this Appendix, the "PD" refers to the measured "Maximum Power Spectral Density" value with 100 kHz RBW. The final result "PD" within 3 kHz bandwidth, which is used to compare with the limit requirements, should be adjusted according to:  $PD[dBm/3\text{ kHz}] = PD*[dBm/100kHz] - 15.2[dB]$ .

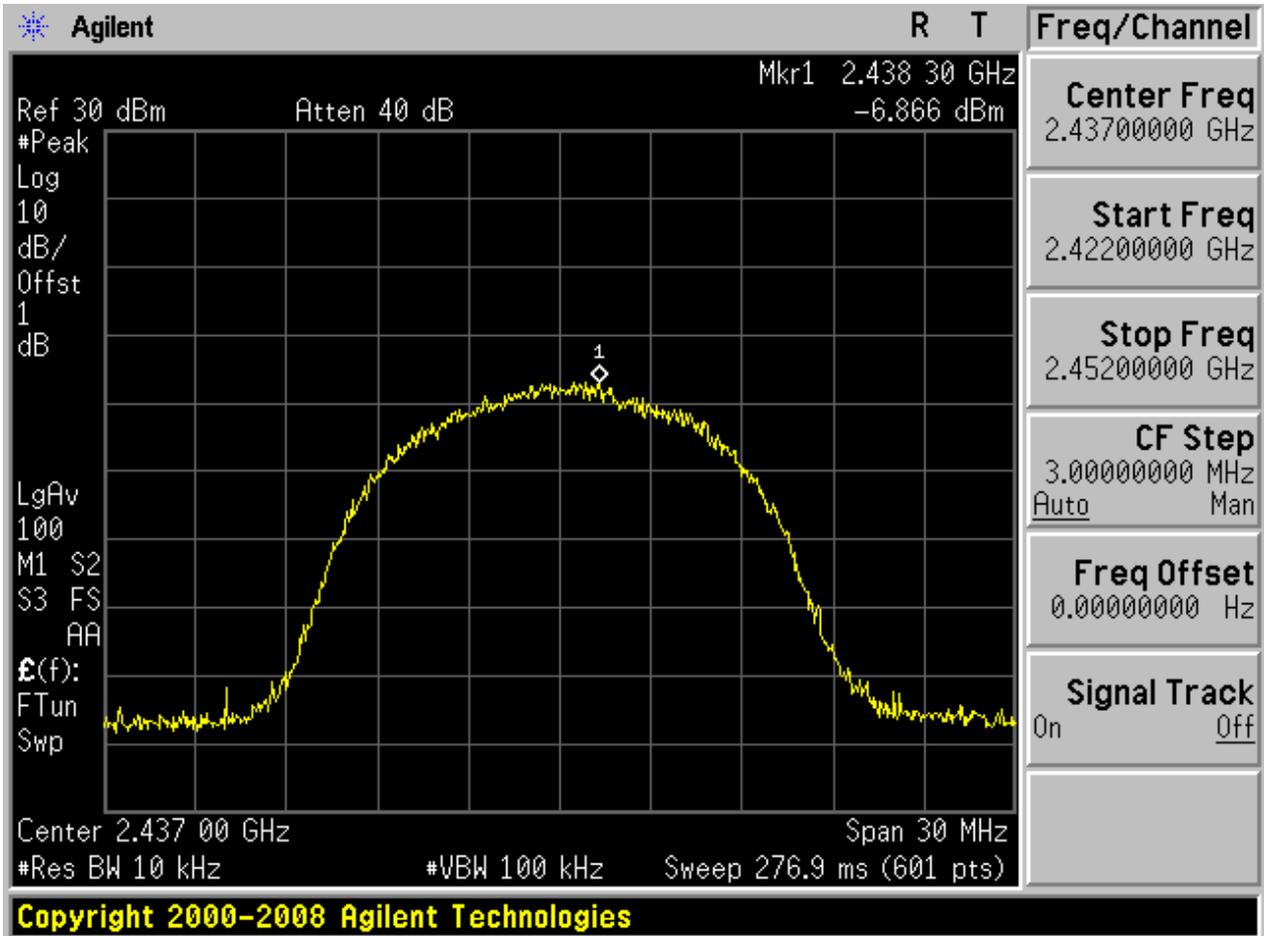
For measurements on smart antenna systems (devices with multiple transmit chains), the test is performed at each chain as "PD@i [dBm]", and then combined into the final result "PD [dBm]" to compare with the limit according to:  $PD [dBm] = 10 \times \lg(10^{(PD@1 [dBm] / 10)} + \dots + 10^{(PD@N [dBm] / 10)})$  (the N denotes the antenna chains used by smart antenna systems). NOTE that the method is a stringent but convenient consideration, because each "PD@i [dBm]" may be located at different frequency occurrence. For the final judgment, the combination of the final result "PD [dBm]" (Trace#sum) should be performed frequency-by-frequency on the measured spectrum trace for each antenna chain (Trace#i). Unless otherwise specified, the method for final judgment will not be used.

### Part I - Test Results

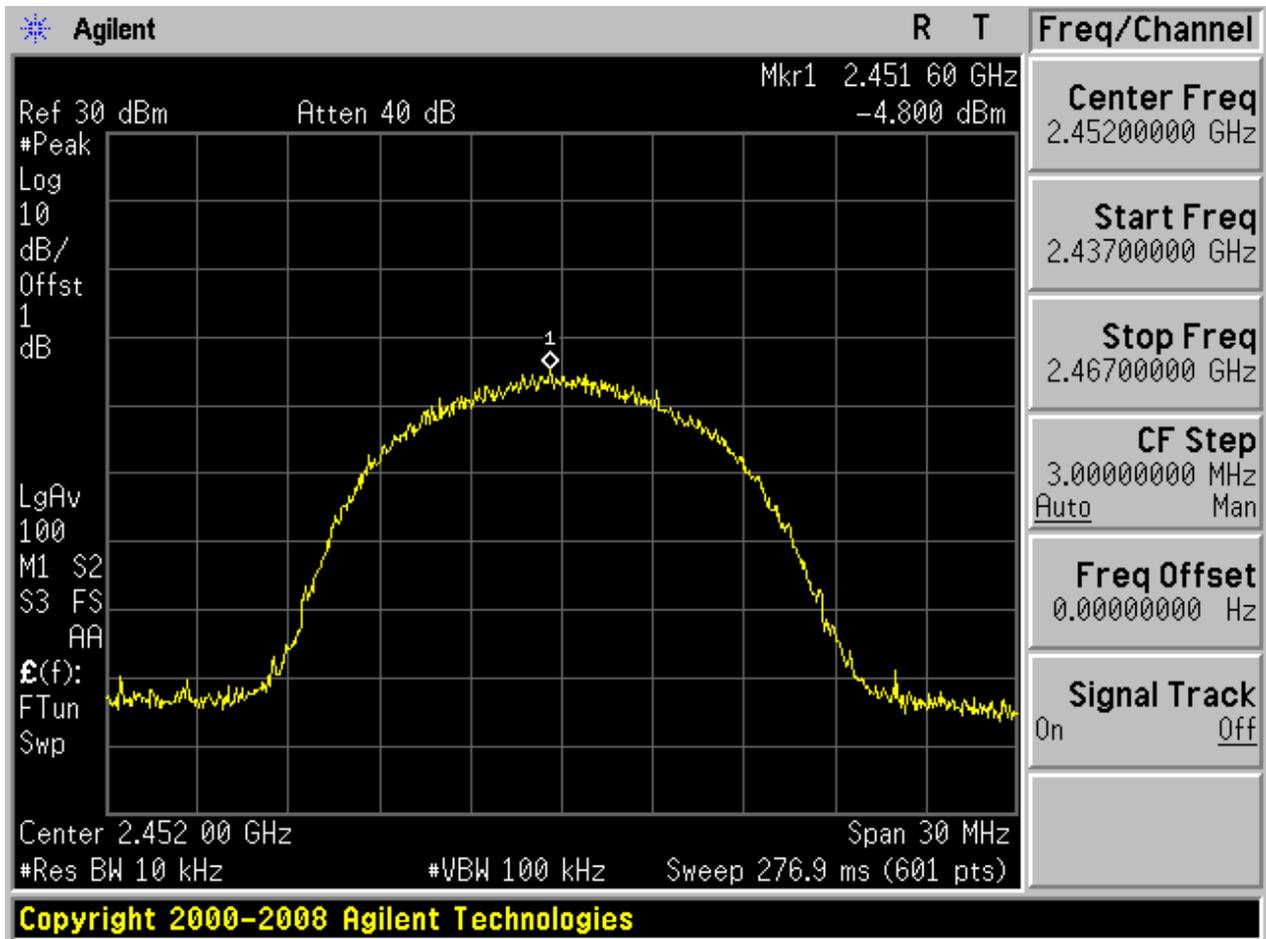
Test Mode	Test Channel	Frequency[MHz]	PD[MHz]	Verdict
11B	L	2437	-6.87	pass
11B	M	2452	-4.8	pass
11B	H	2462	-4.86	pass
11G	L	2437	-9.8	pass
11G	M	2452	-8.49	pass
11G	H	2462	-9.03	pass
11N20	L	2437	-11.01	pass
11N20	M	2452	-9.08	pass
11N20	H	2462	-8.79	pass

## Part II - Test Plots

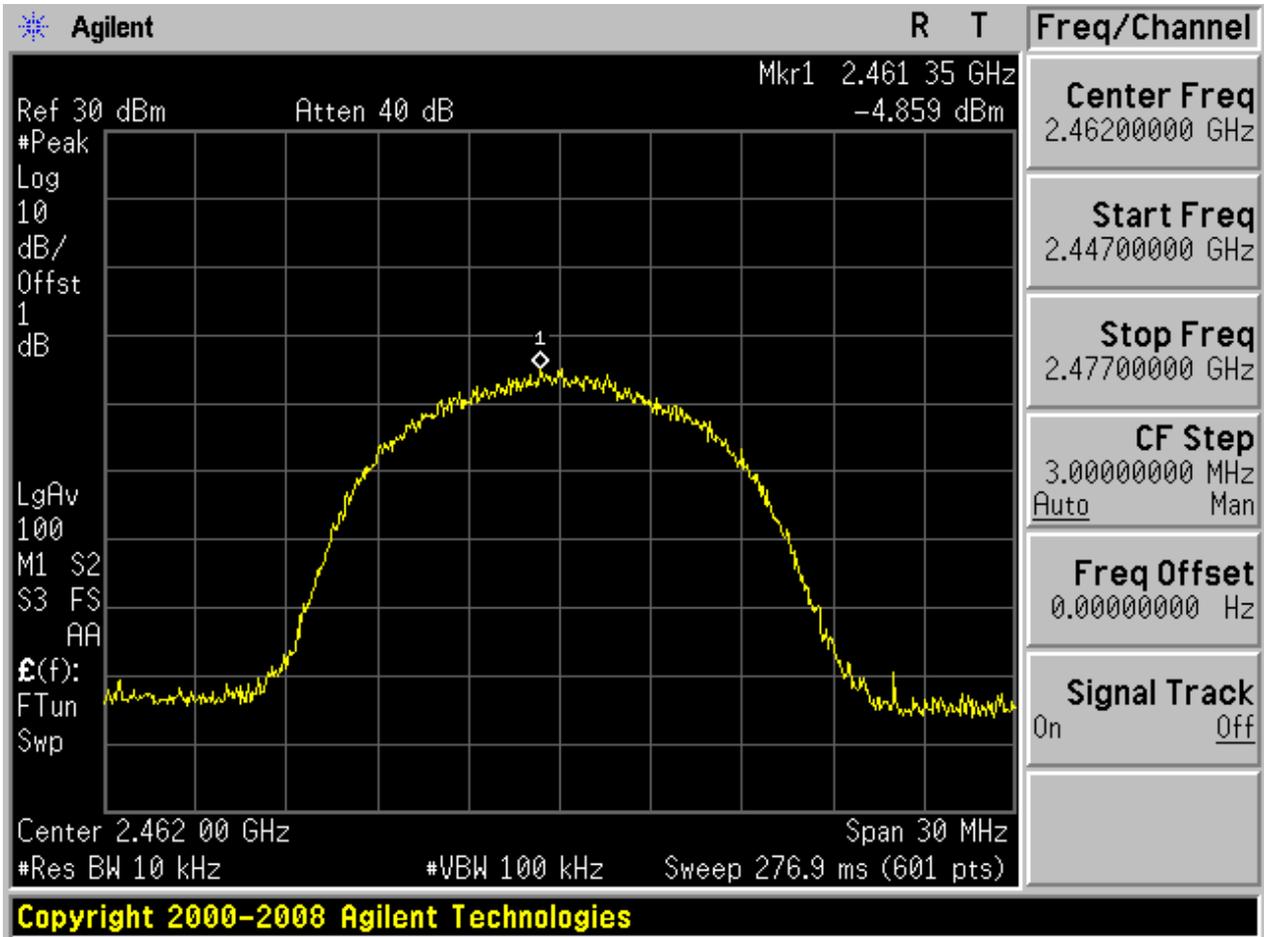
### 2.1 11B\_L



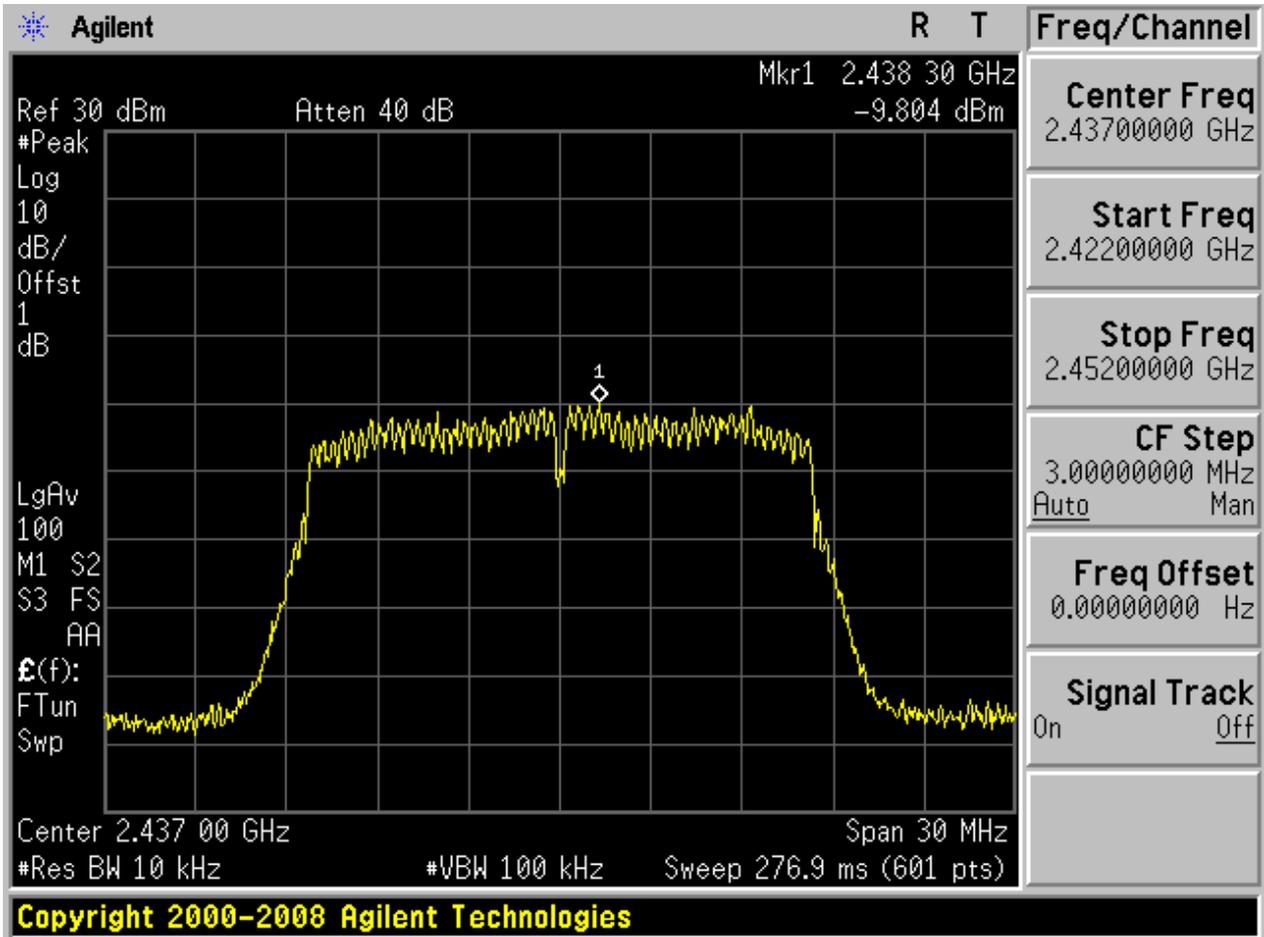
## 2.2 11B\_M



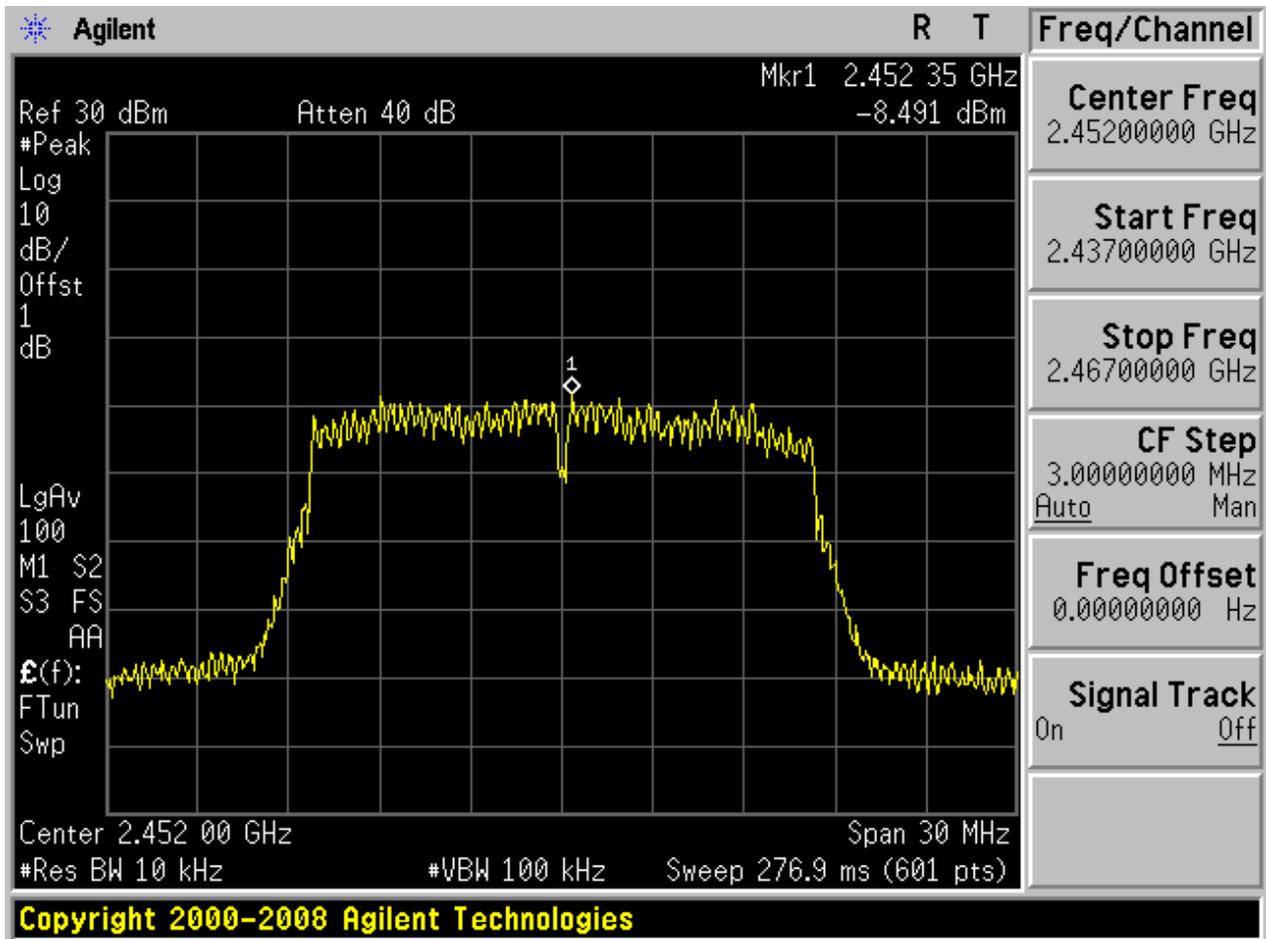
### 2.3 11B\_H



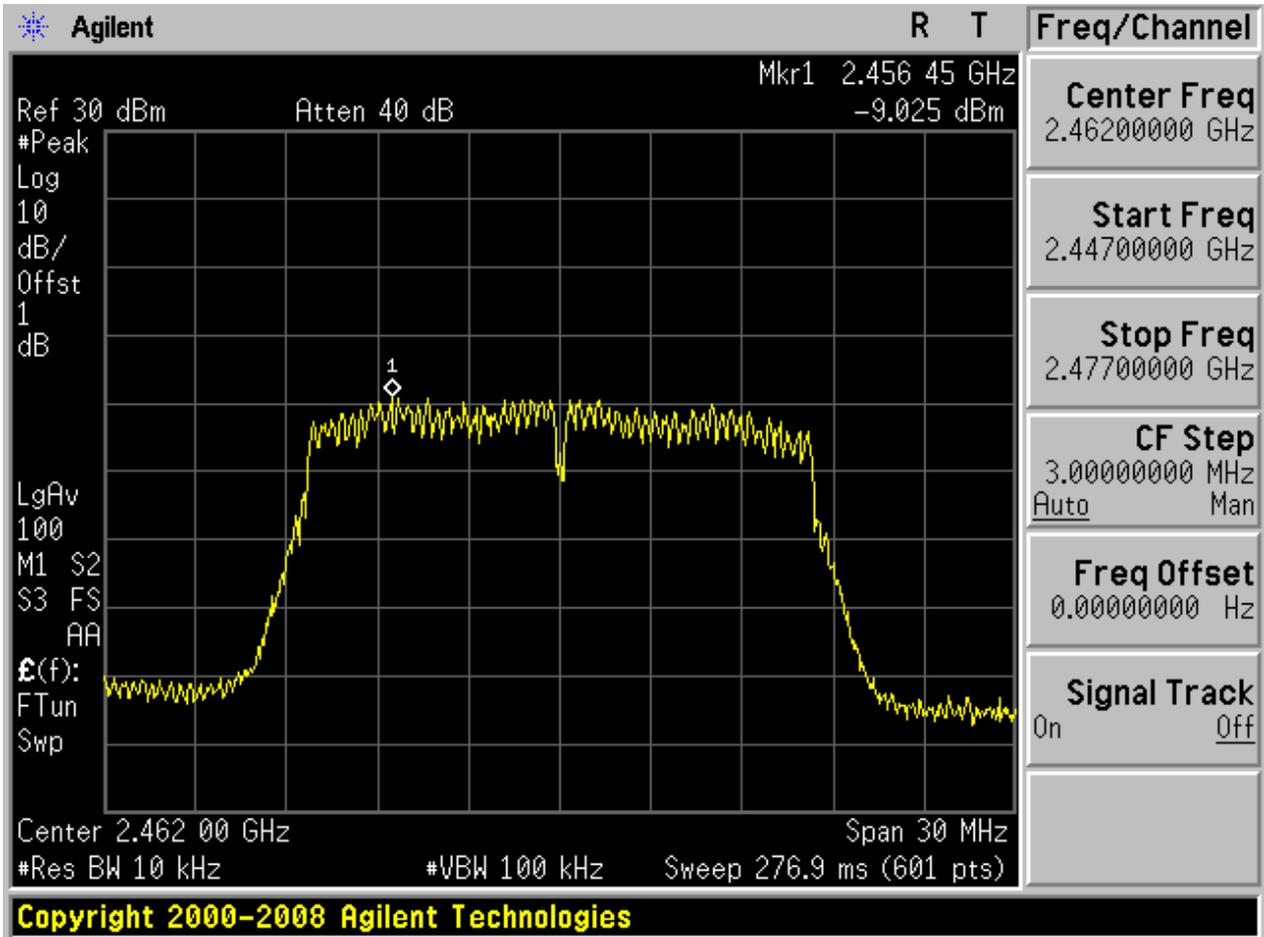
2.4 11G\_L



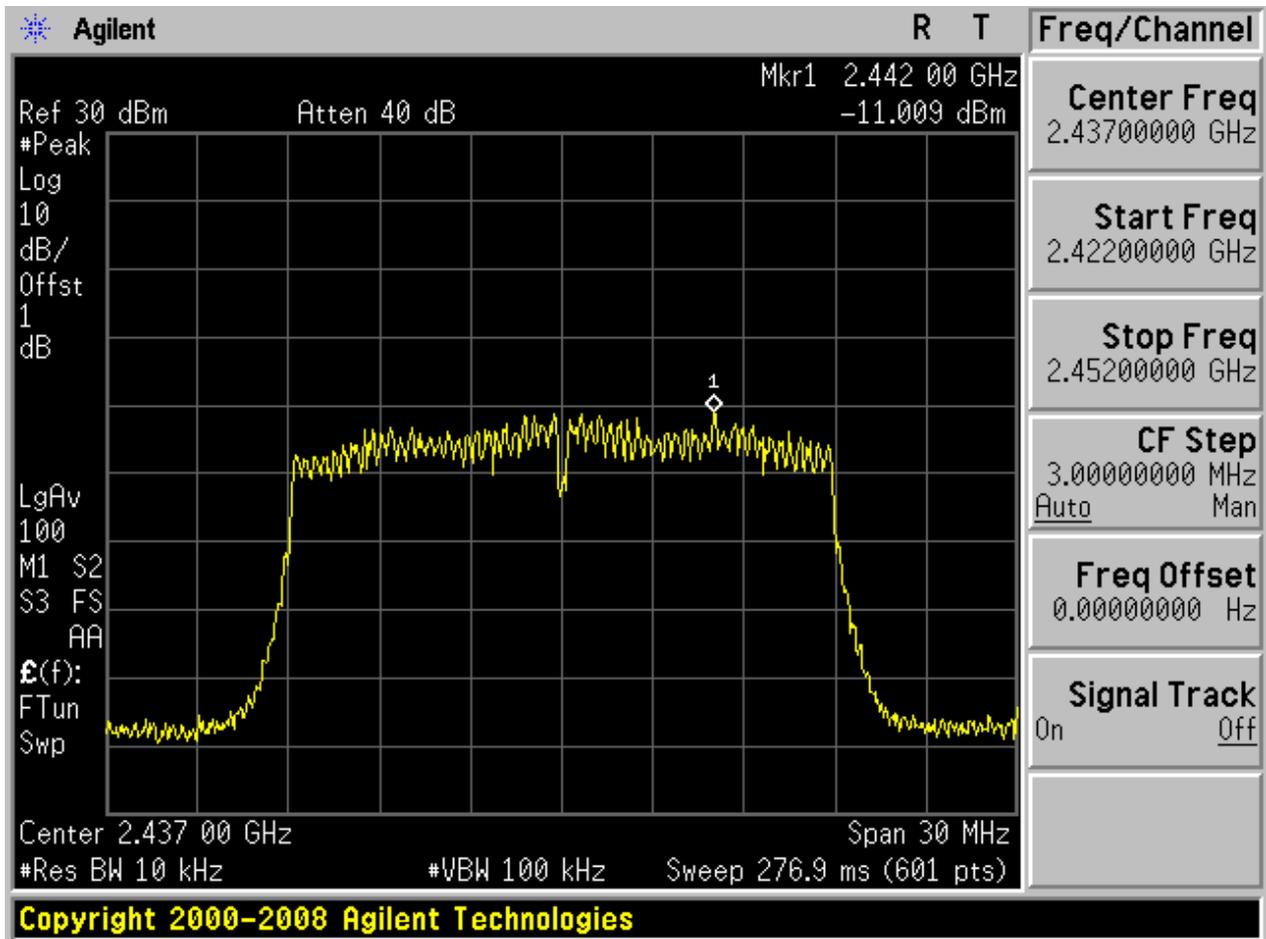
## 2.5 11G\_M



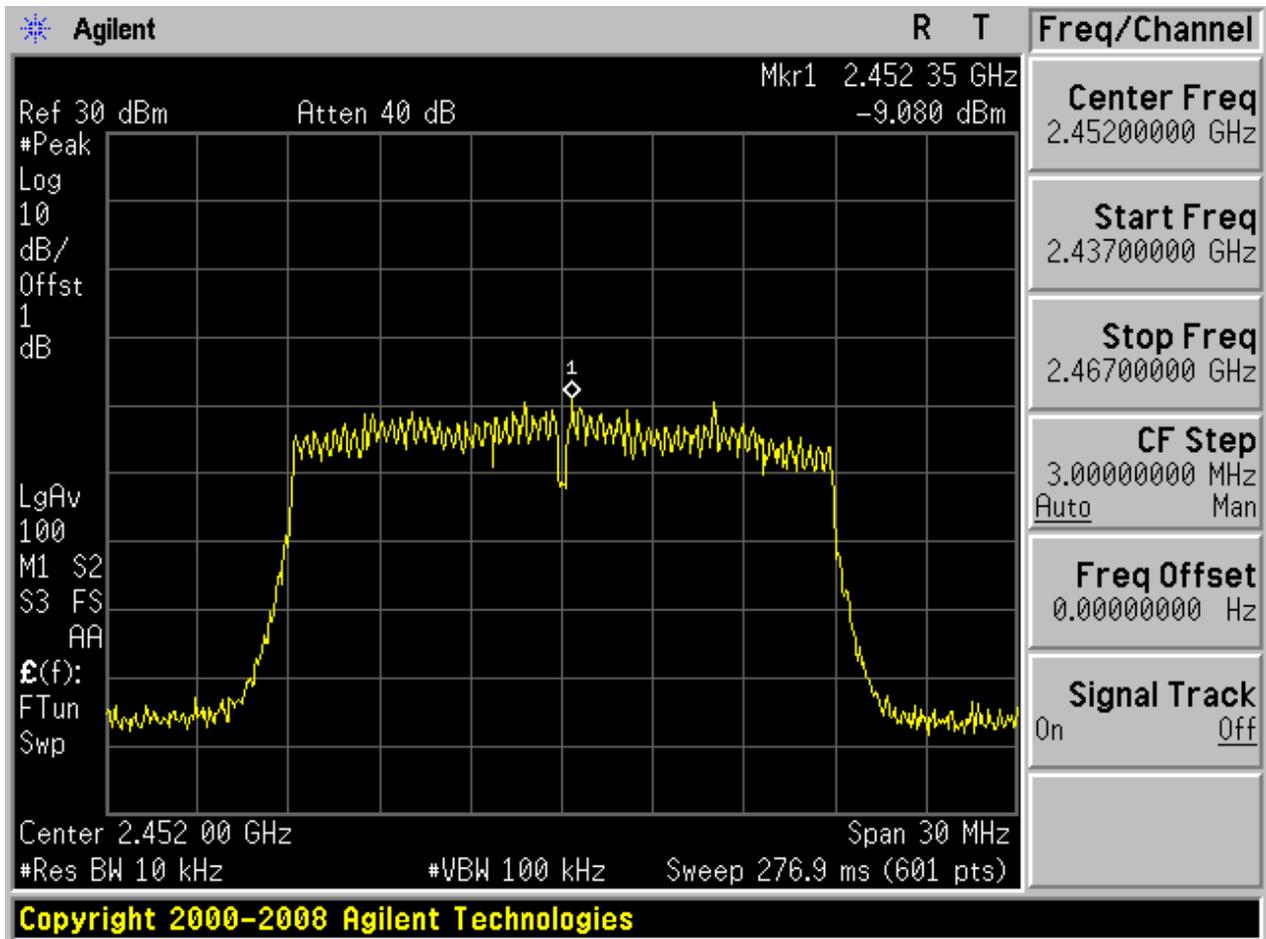
### 2.6 11G\_H



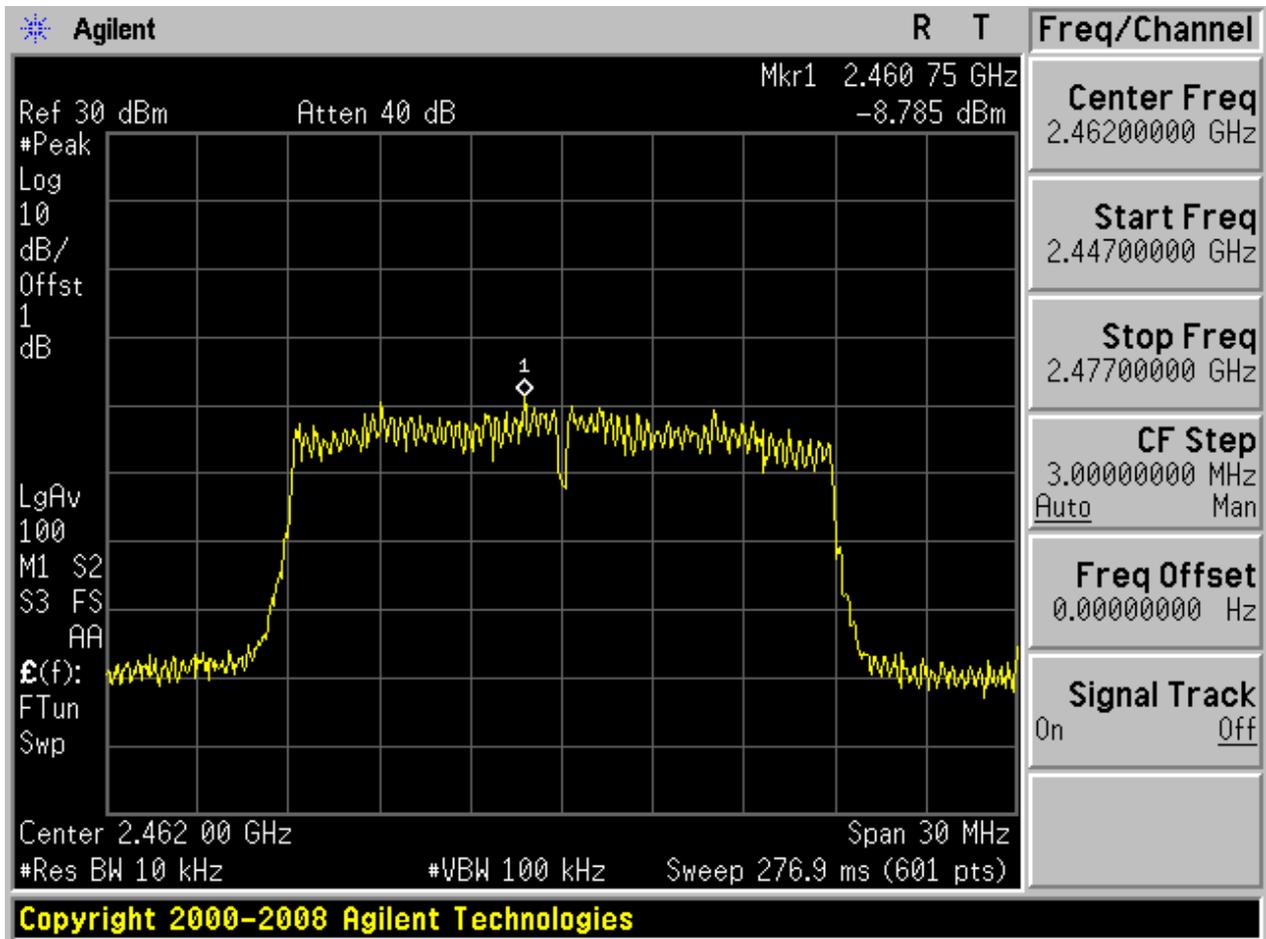
### 2.7 11N20\_L



## 2.8 11N20\_M



## 2.9 11N20\_H



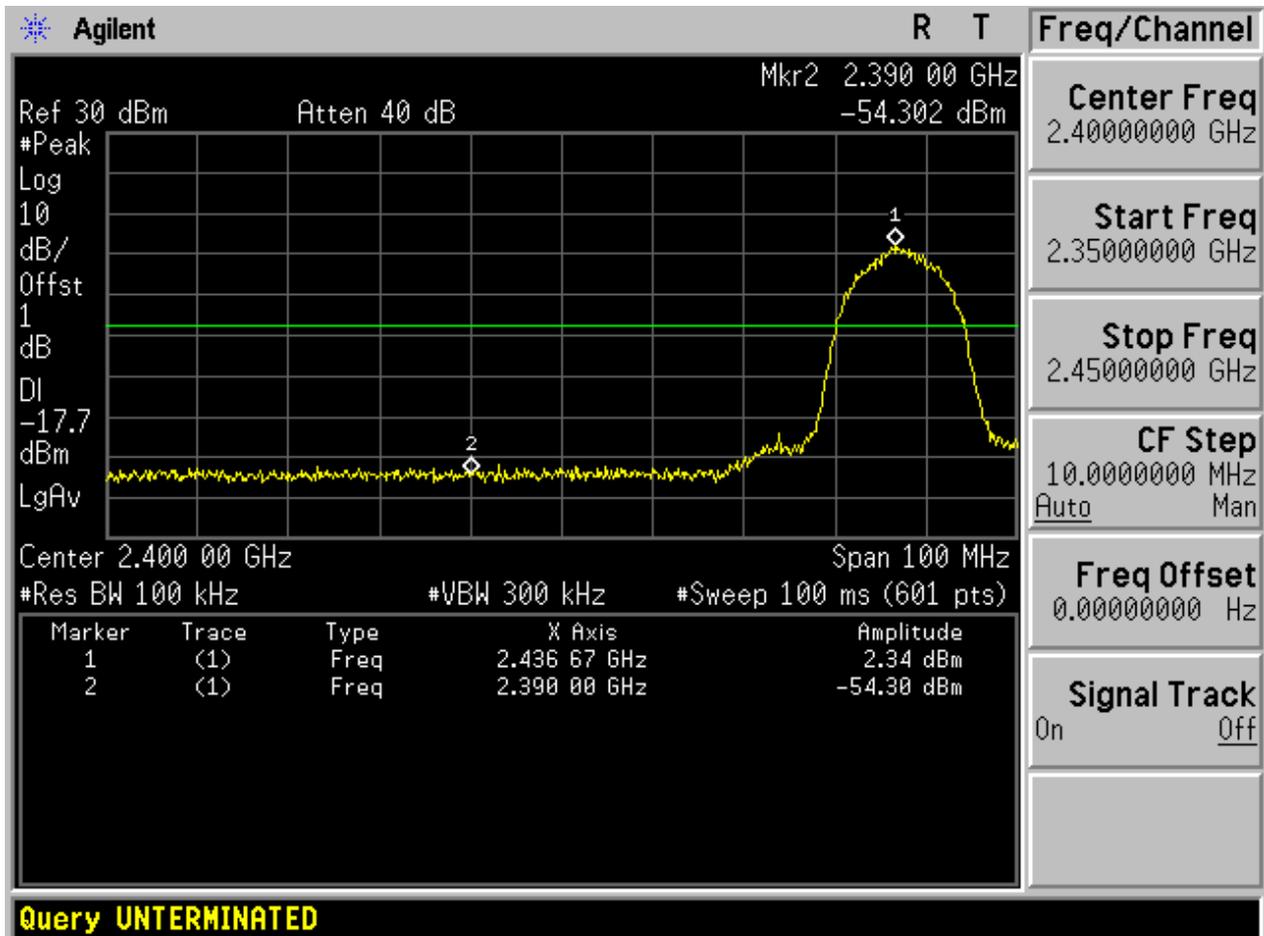
## Appendix E: Band Edges Compliance

### Part I - Test Results

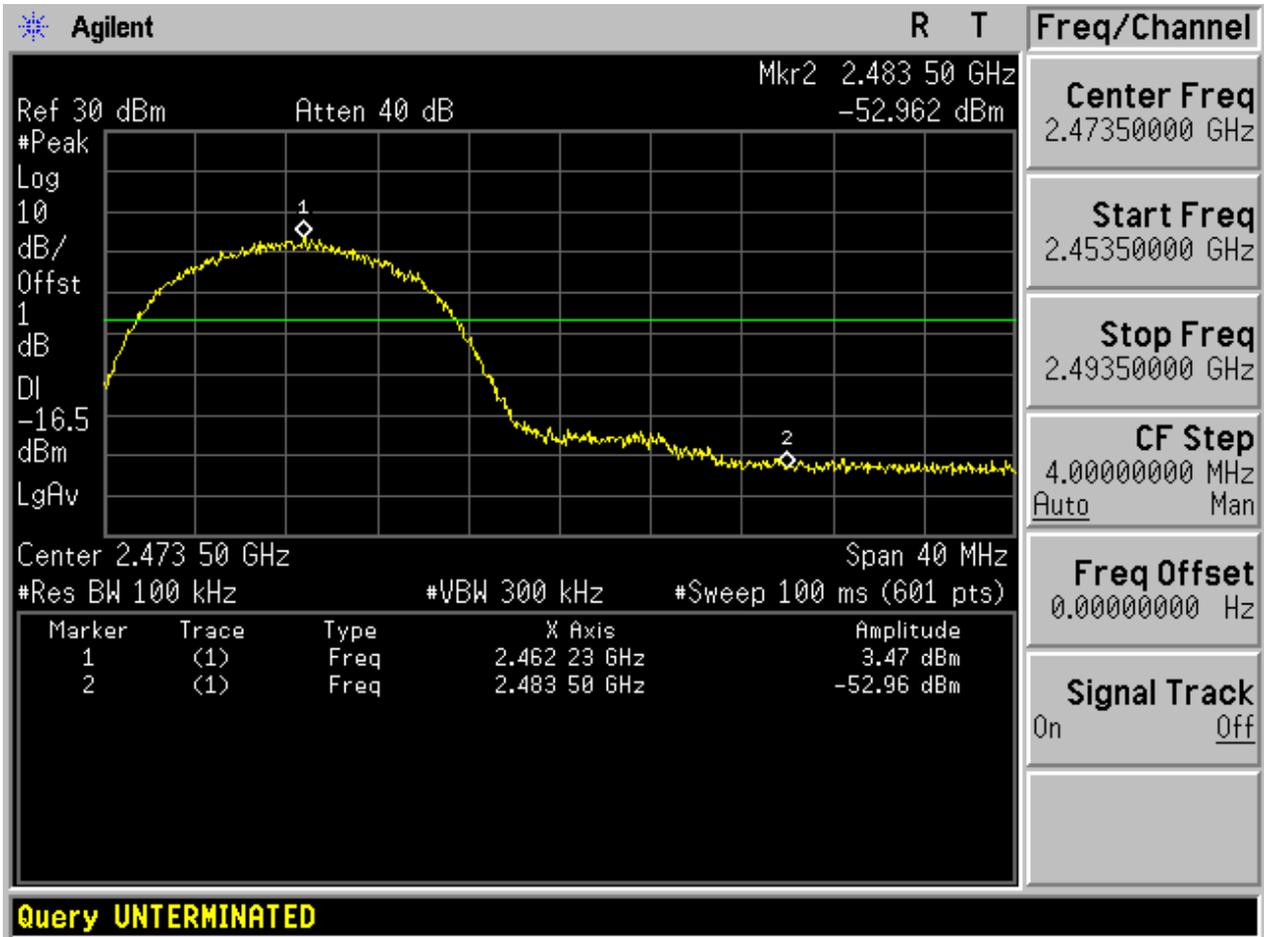
Test Mode	Test Channel	Frequency[MHz]	Carrier Power[dBm]	Max.Spurious Level[dBm]	Verdict
11B	L	2437	2.34	-54.3	pass
11B	H	2462	3.47	-52.96	pass
11G	L	2437	-1.41	-52.8	pass
11G	H	2462	-0.02	-47.55	pass
11N20	L	2437	-2.86	-54.5	pass
11N20	H	2462	-0.93	-48.92	pass

## Part II - Test Plots

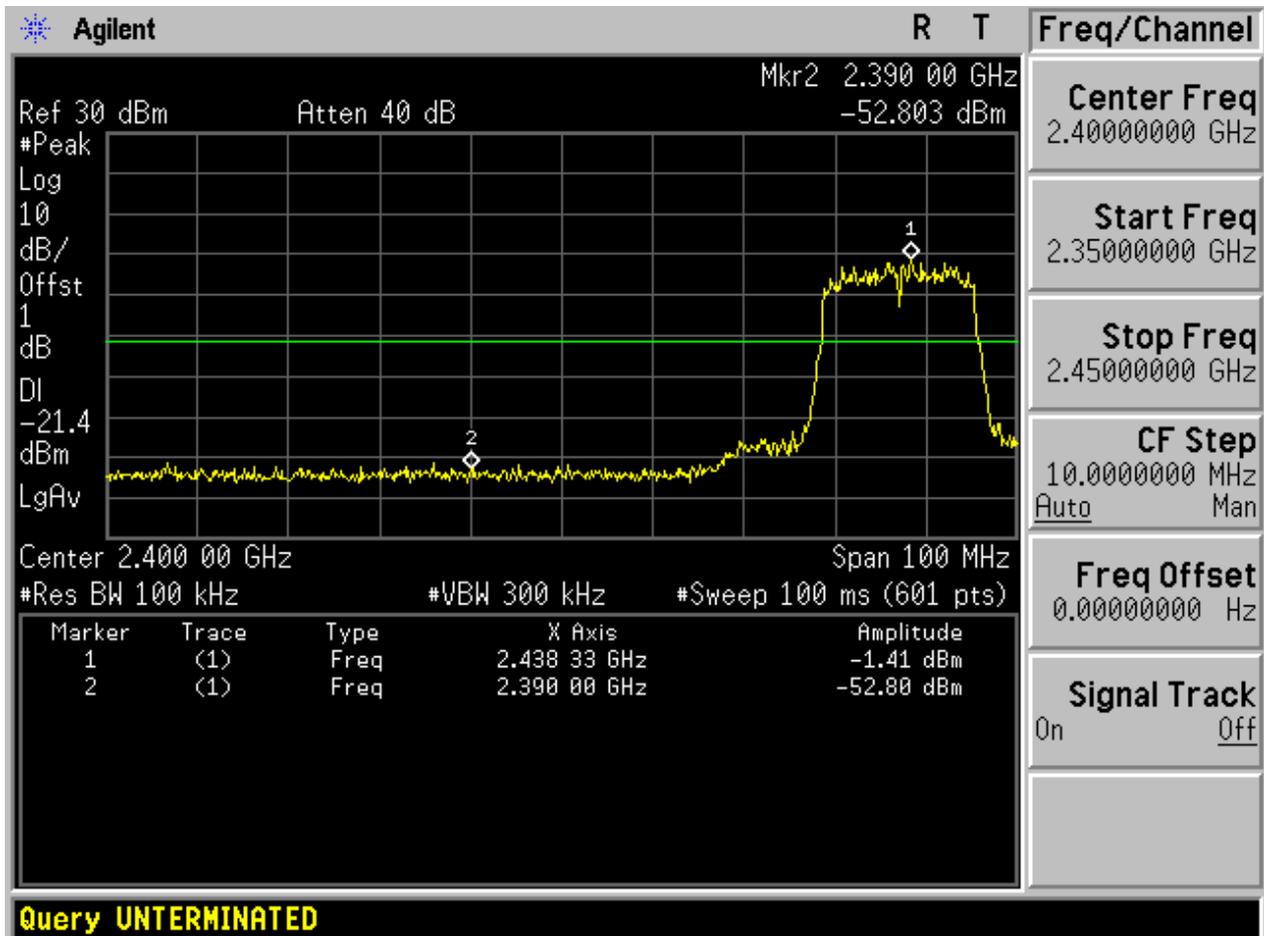
### 2.1 11B\_L



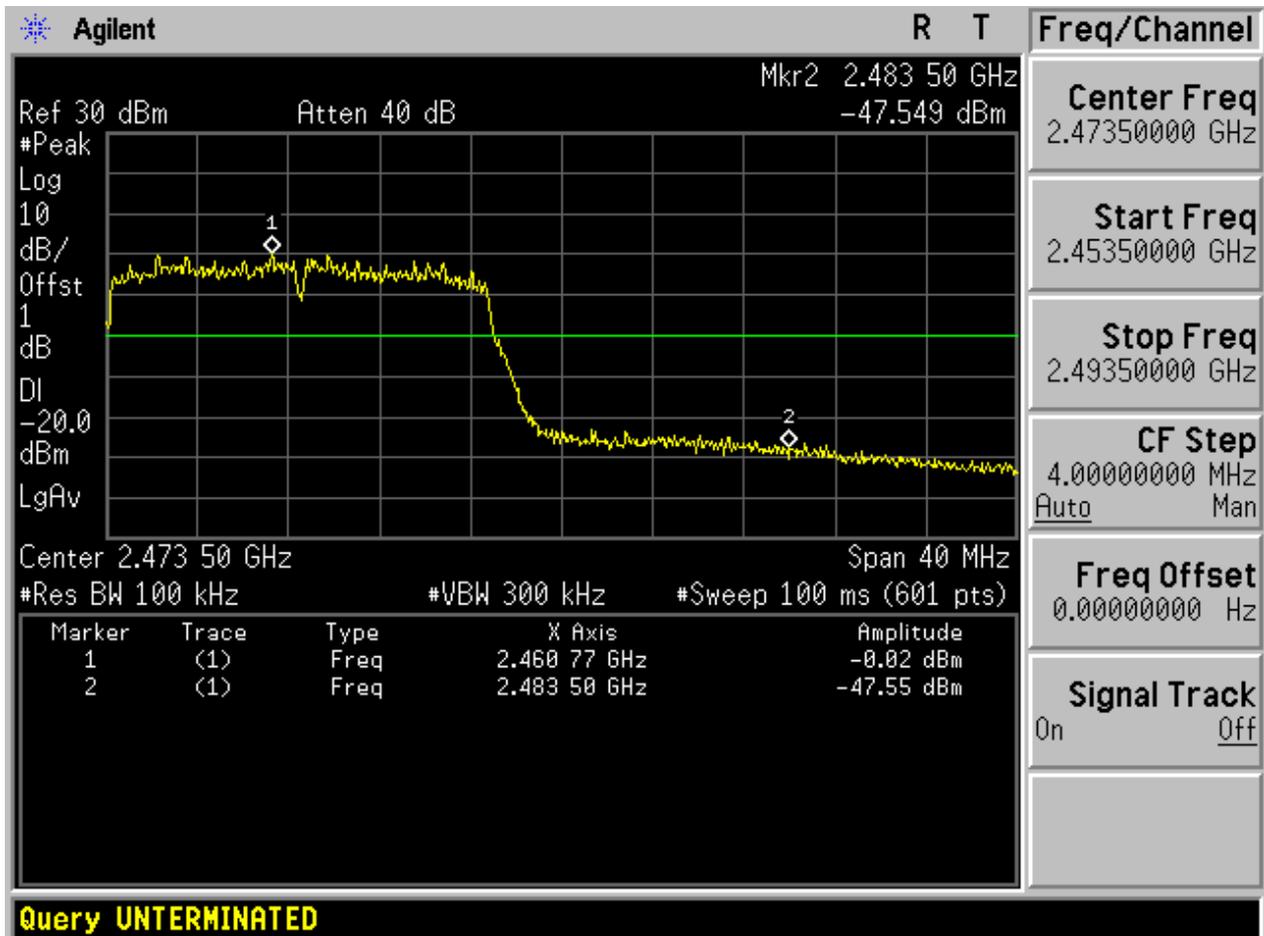
## 2.2 11B\_H



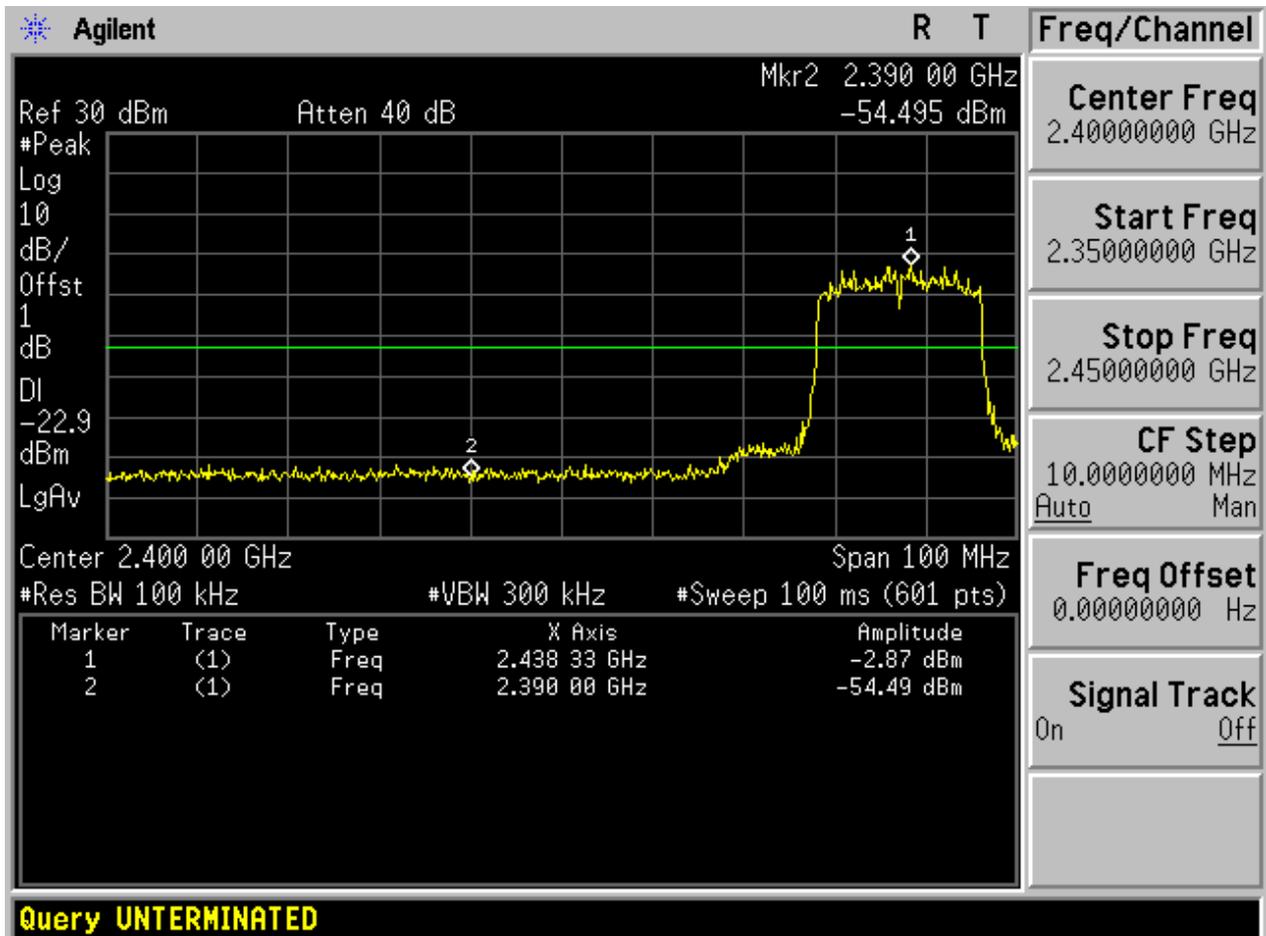
## 2.3 11G\_L



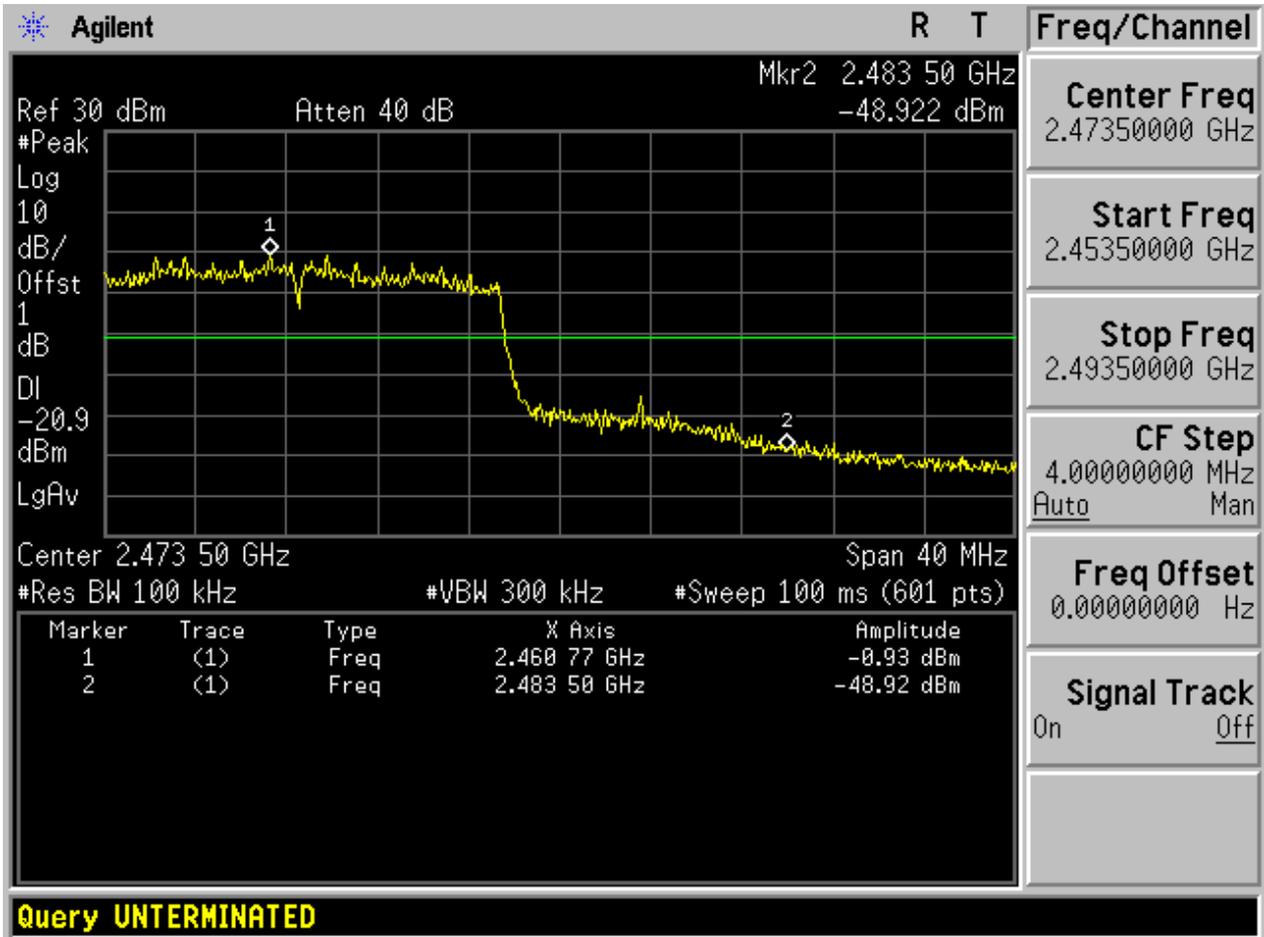
## 2.4 11G\_H



## 2.5 11N20\_L



2.6 11N20\_H



## Appendix F: Unwanted Emissions into Non-Restricted Frequency Bands

In this Appendix, the "Pref", which is used as the reference level, refers to the peak power level in any 100 kHz bandwidth within the fundamental emission, 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.

For measurements on smart antenna systems (devices with multiple transmit chains), the test is performed at each chain and used as respective results for each chain, due to the relative-limit requirement.

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

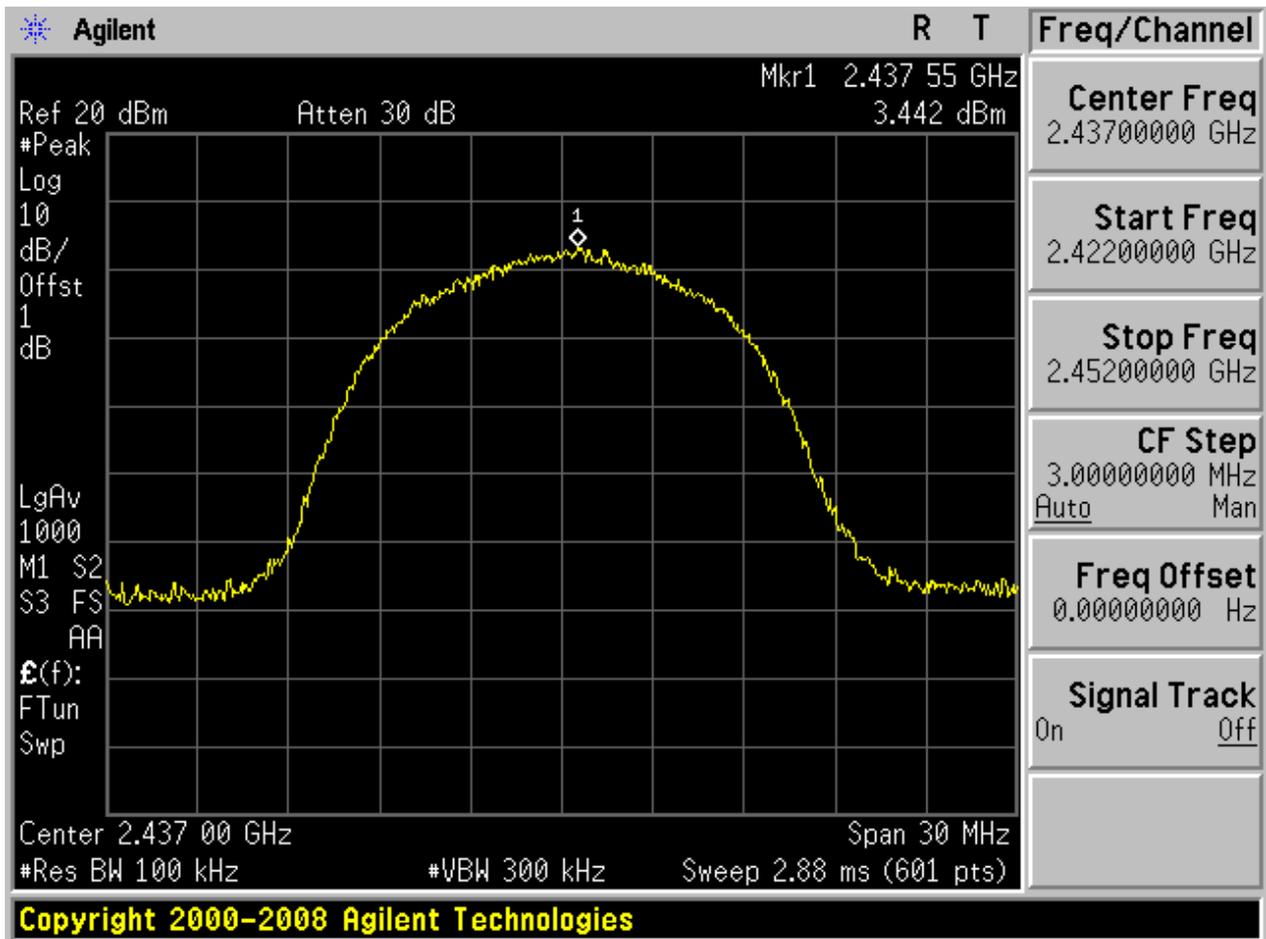
### Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Pref[dBm]	Puw[dBm]	Verdict
11B	L	2437	3.44	<limit	pass
11B	M	2452	5.04	<limit	pass
11B	H	2462	4.66	<limit	pass
11G	L	2437	-0.91	<limit	pass
11G	M	2452	0.57	<limit	pass
11G	H	2462	0.28	<limit	pass
11N20	L	2437	-1.82	<limit	pass
11N20	M	2452	-0.8	<limit	pass
11N20	H	2462	-0.29	<limit	pass

## Part II - Test Plots

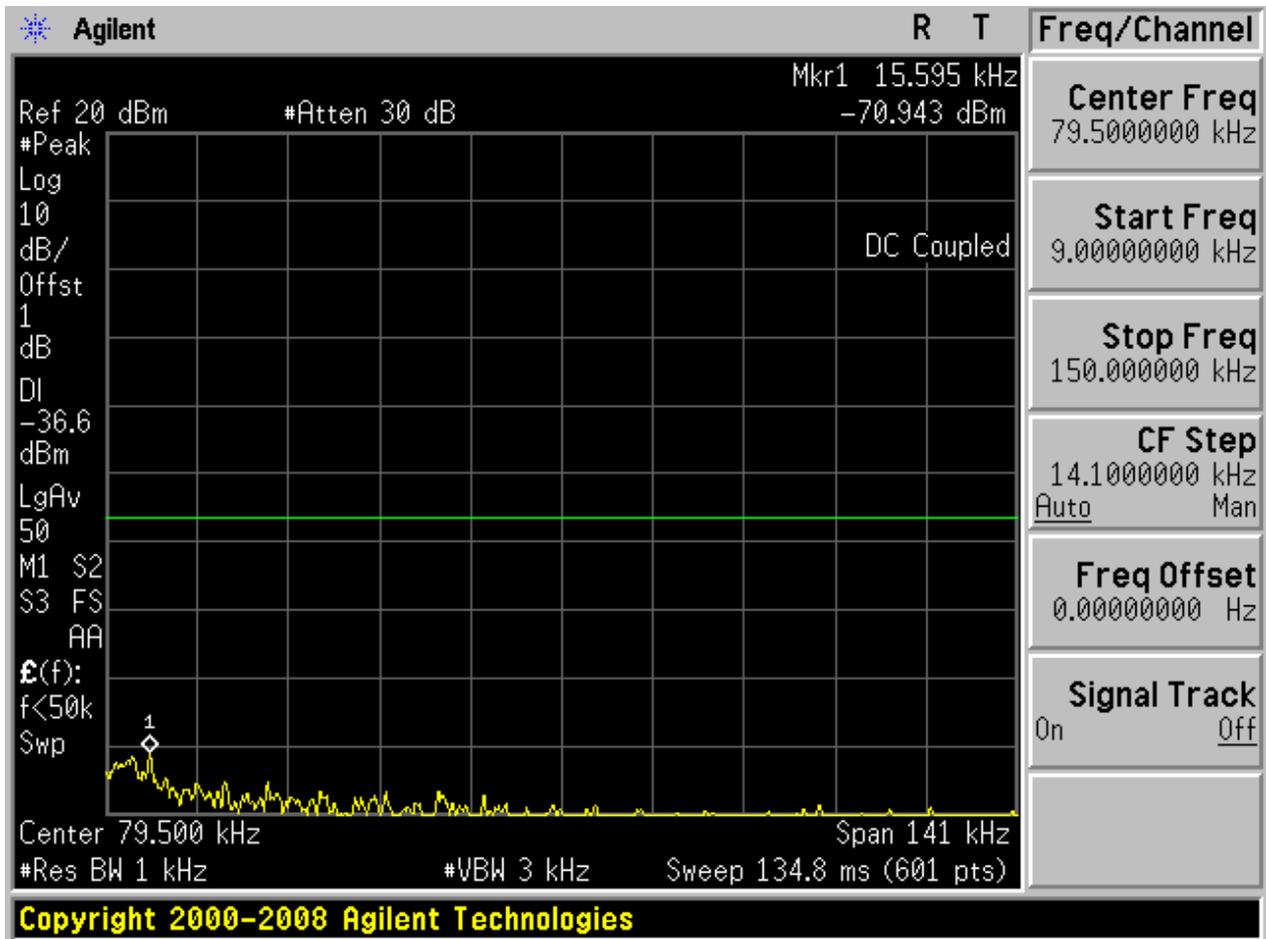
### 2.1 11B\_L

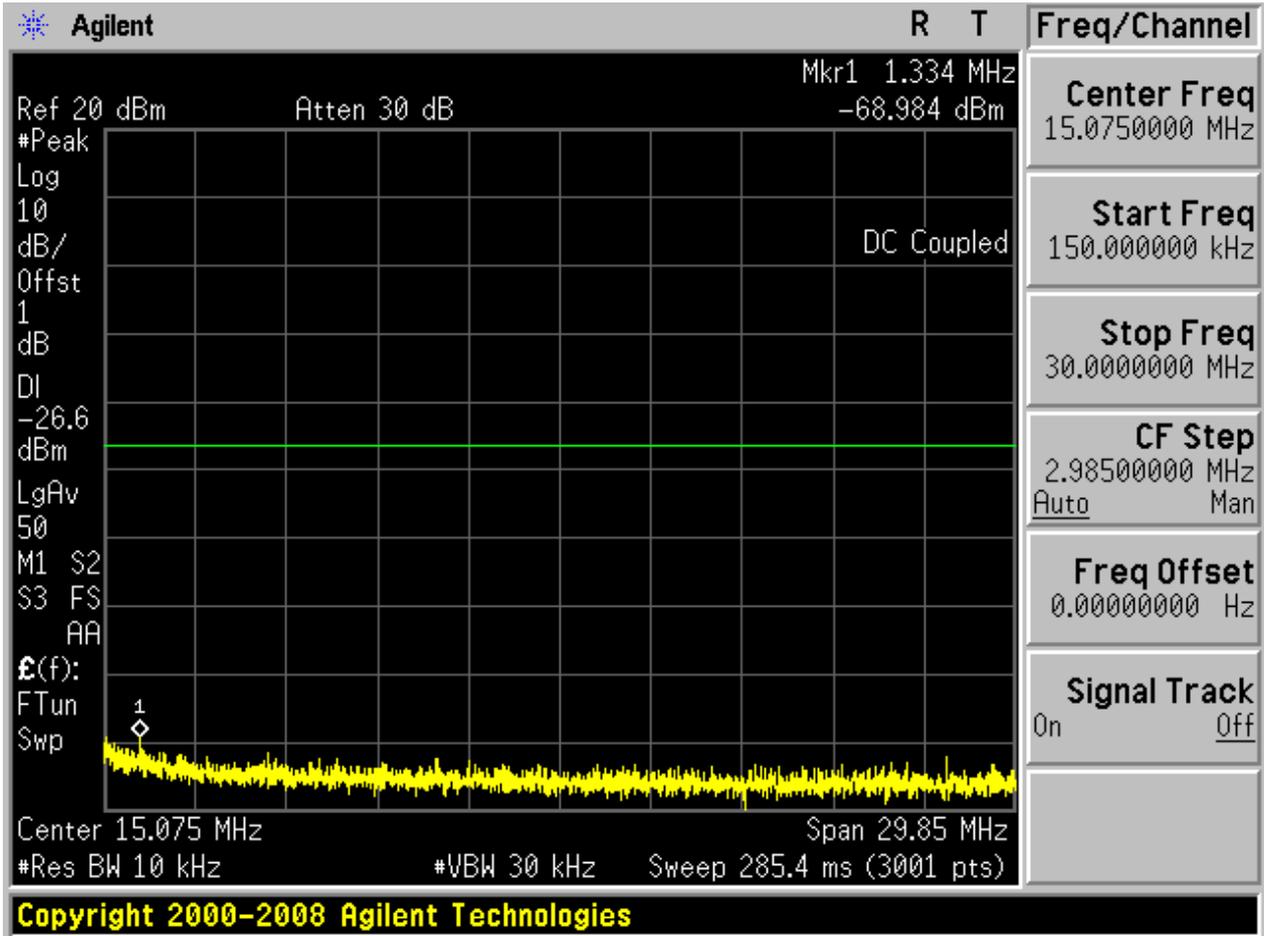
Pref:

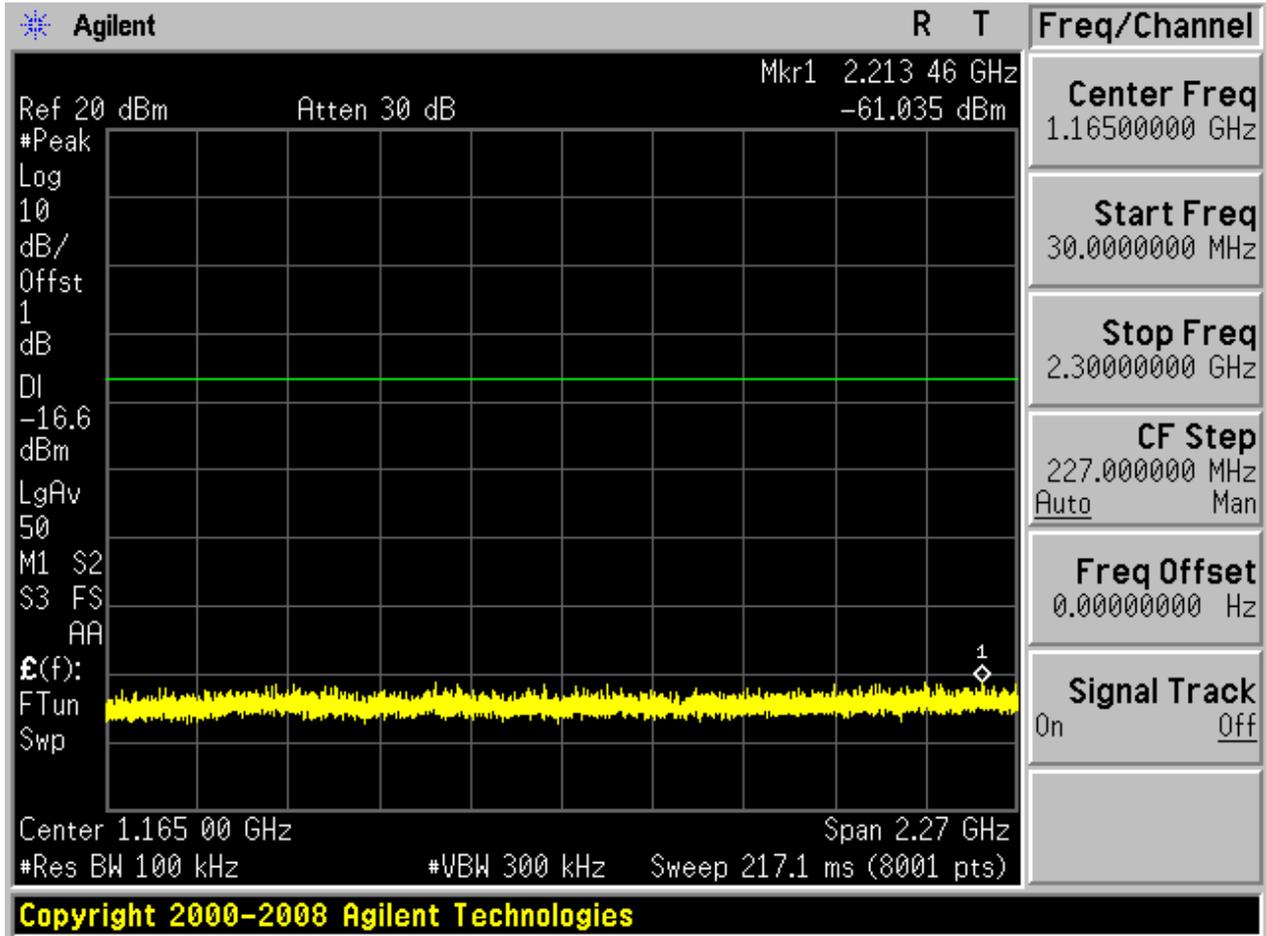


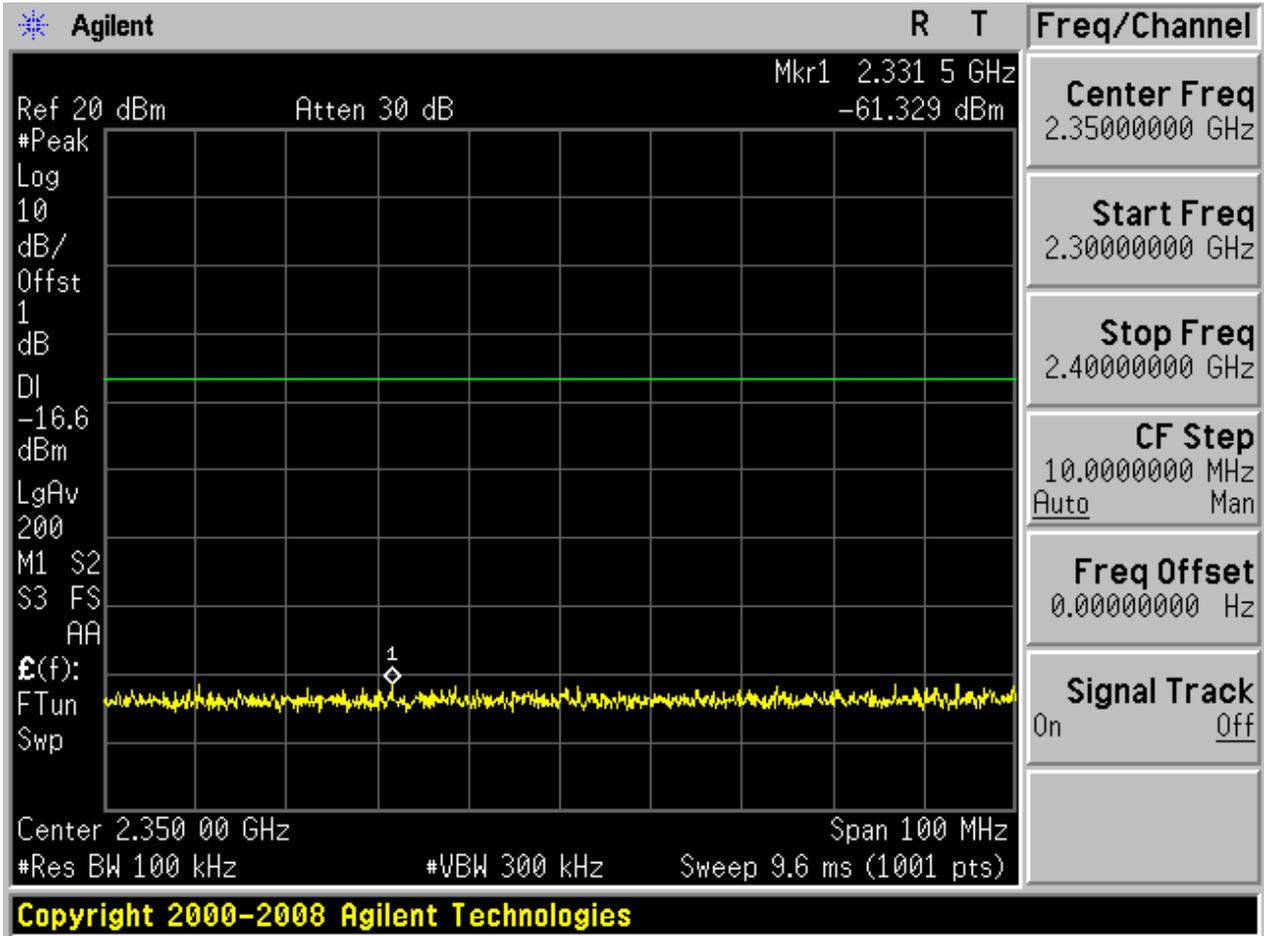


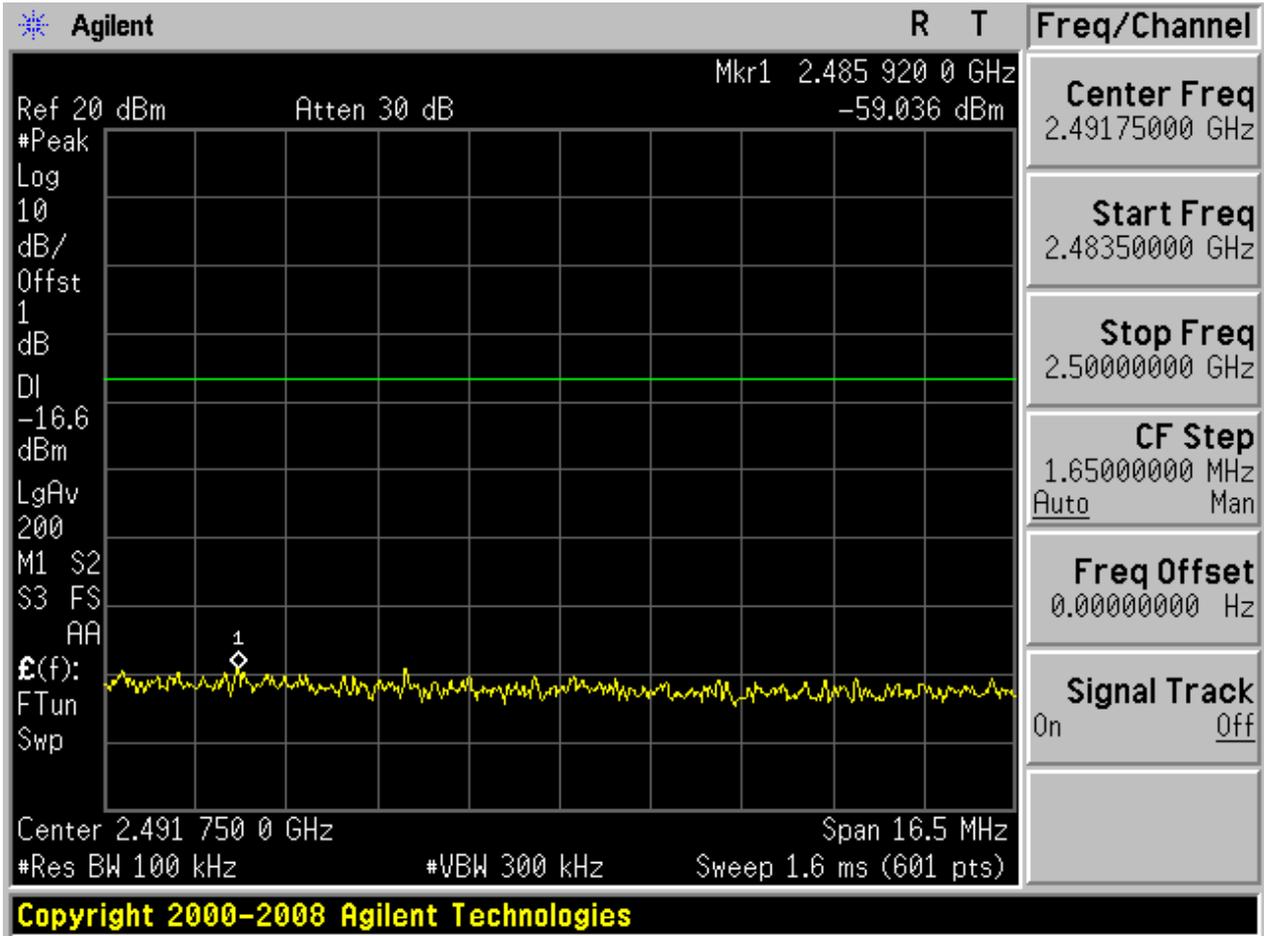
Puw:

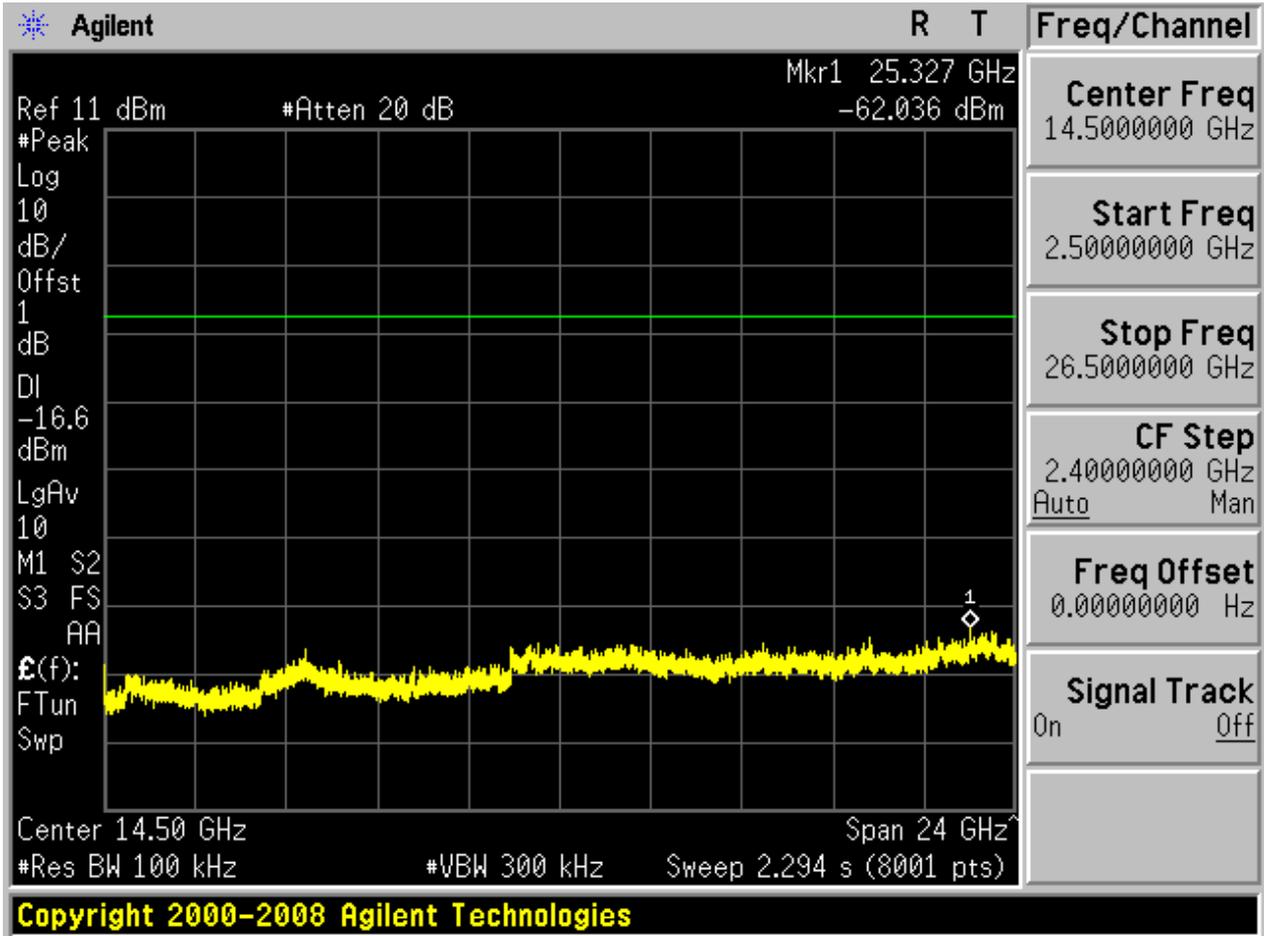






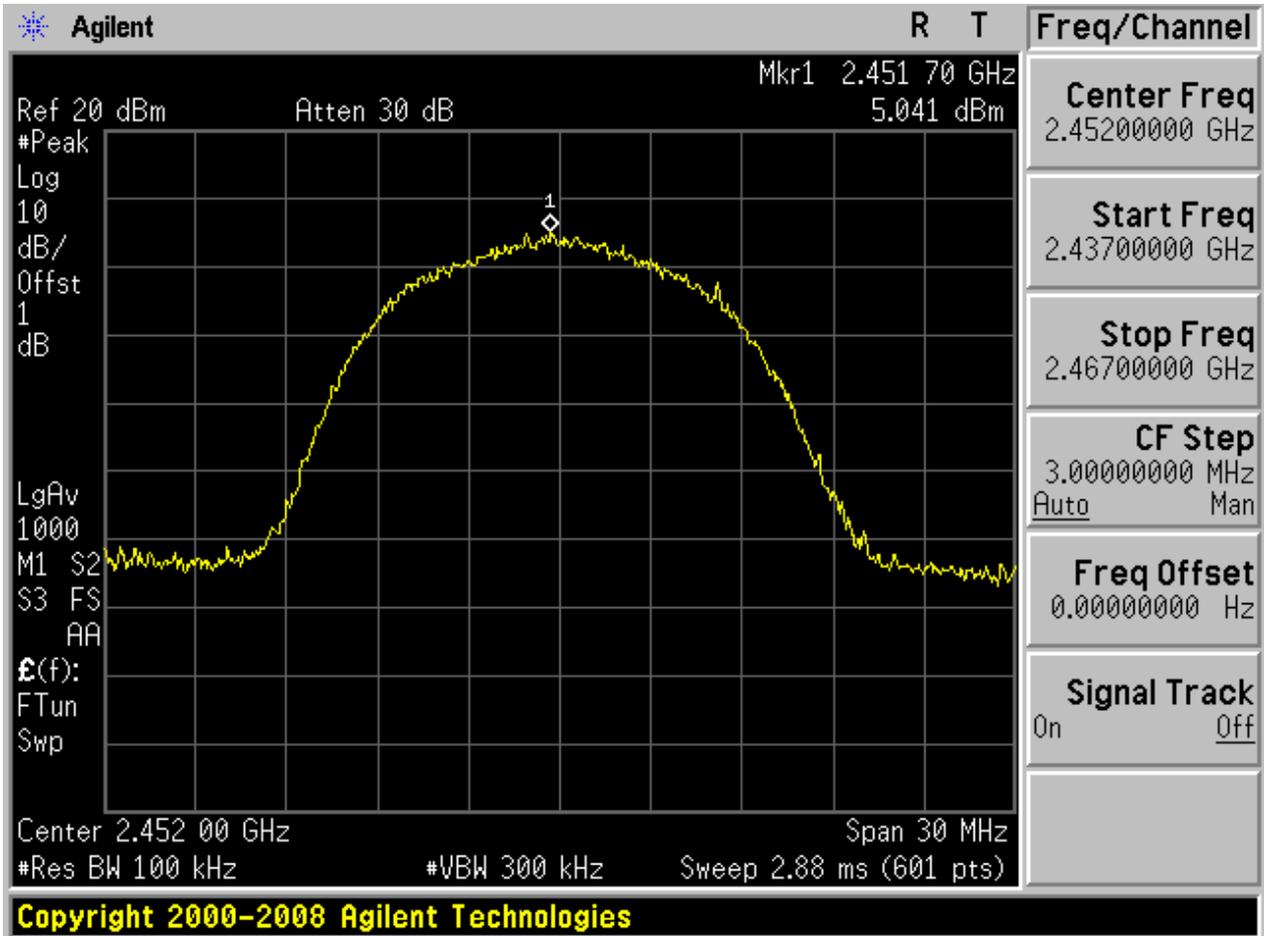




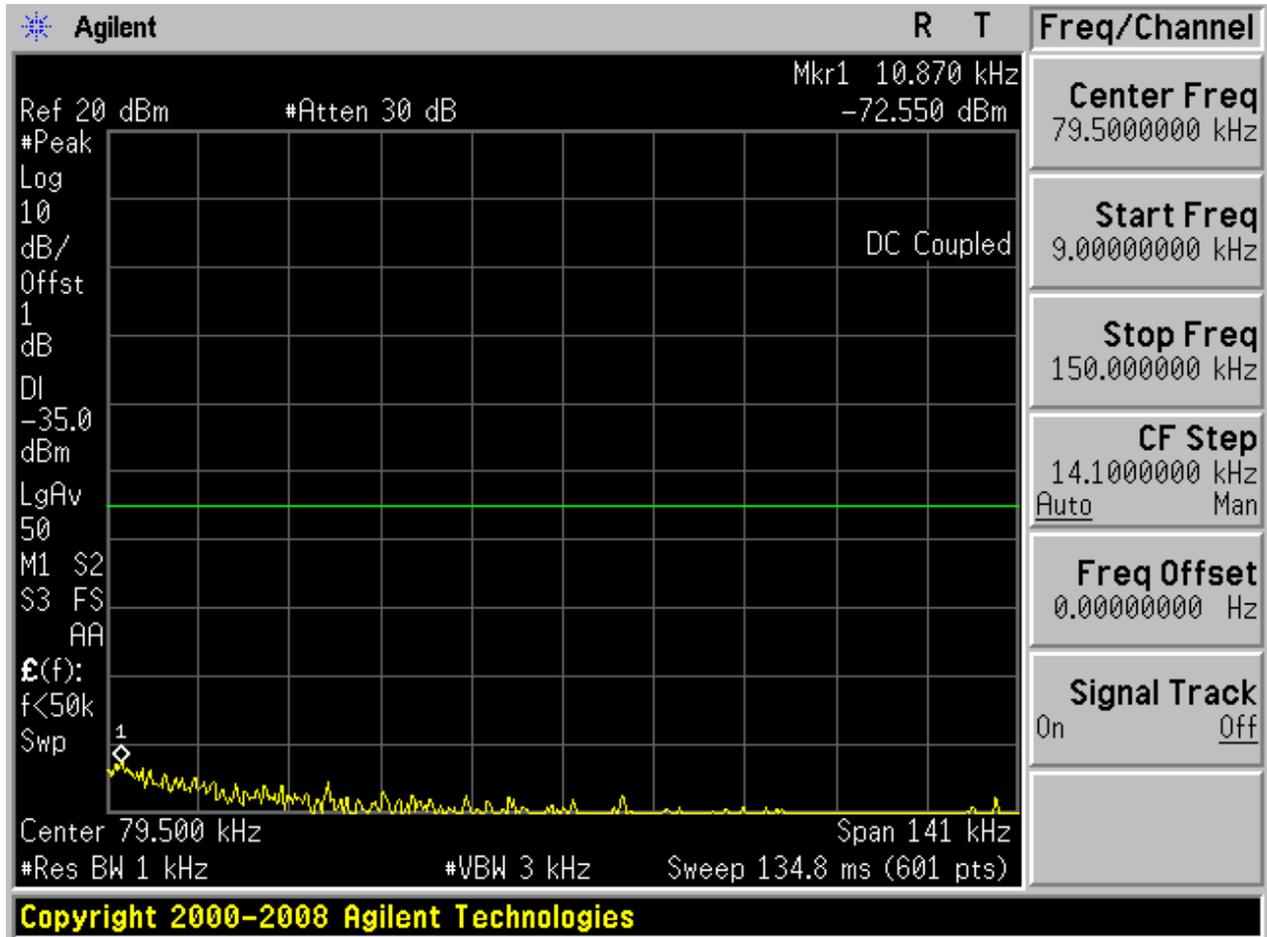


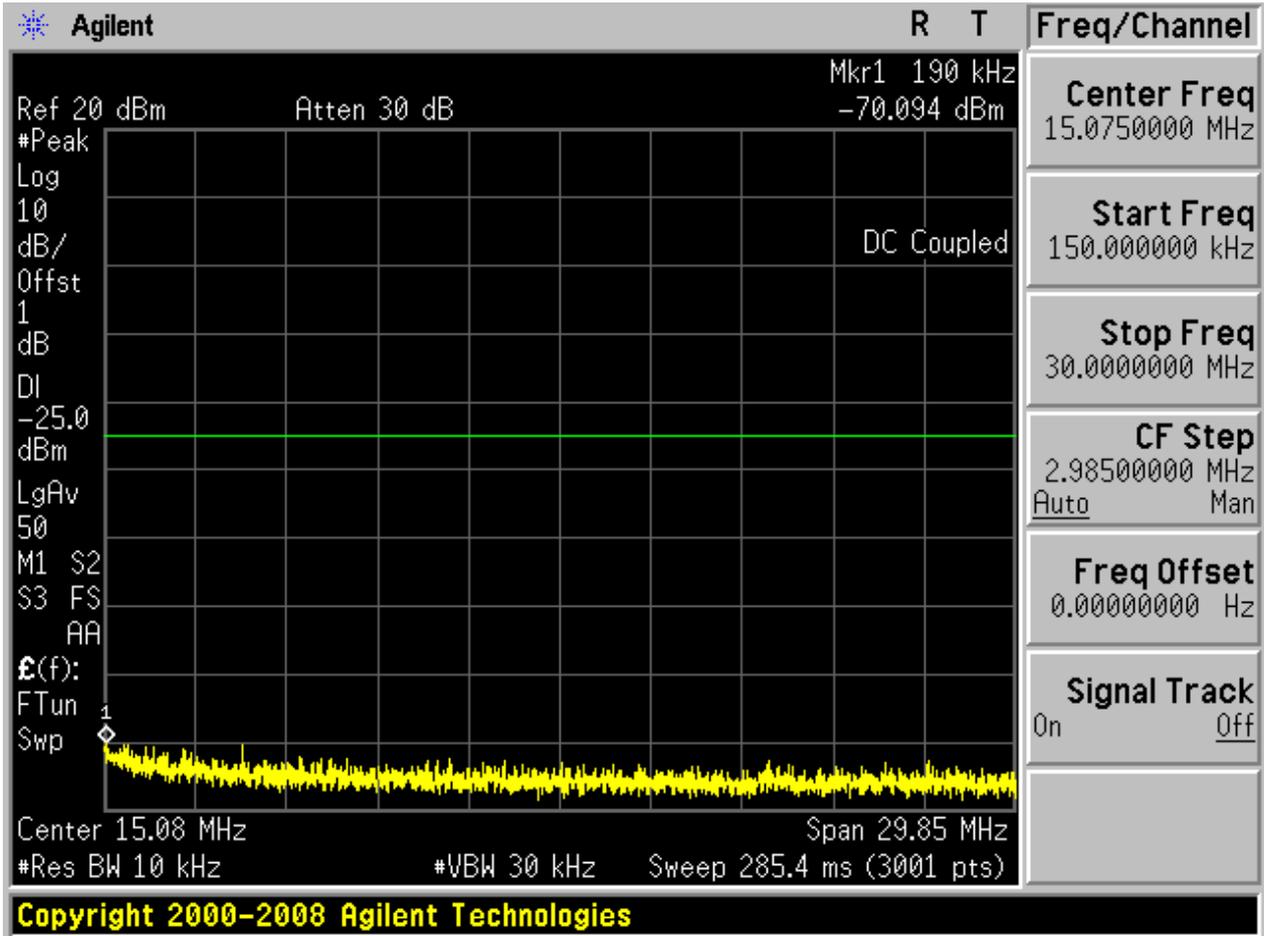
## 2.2 11B\_M

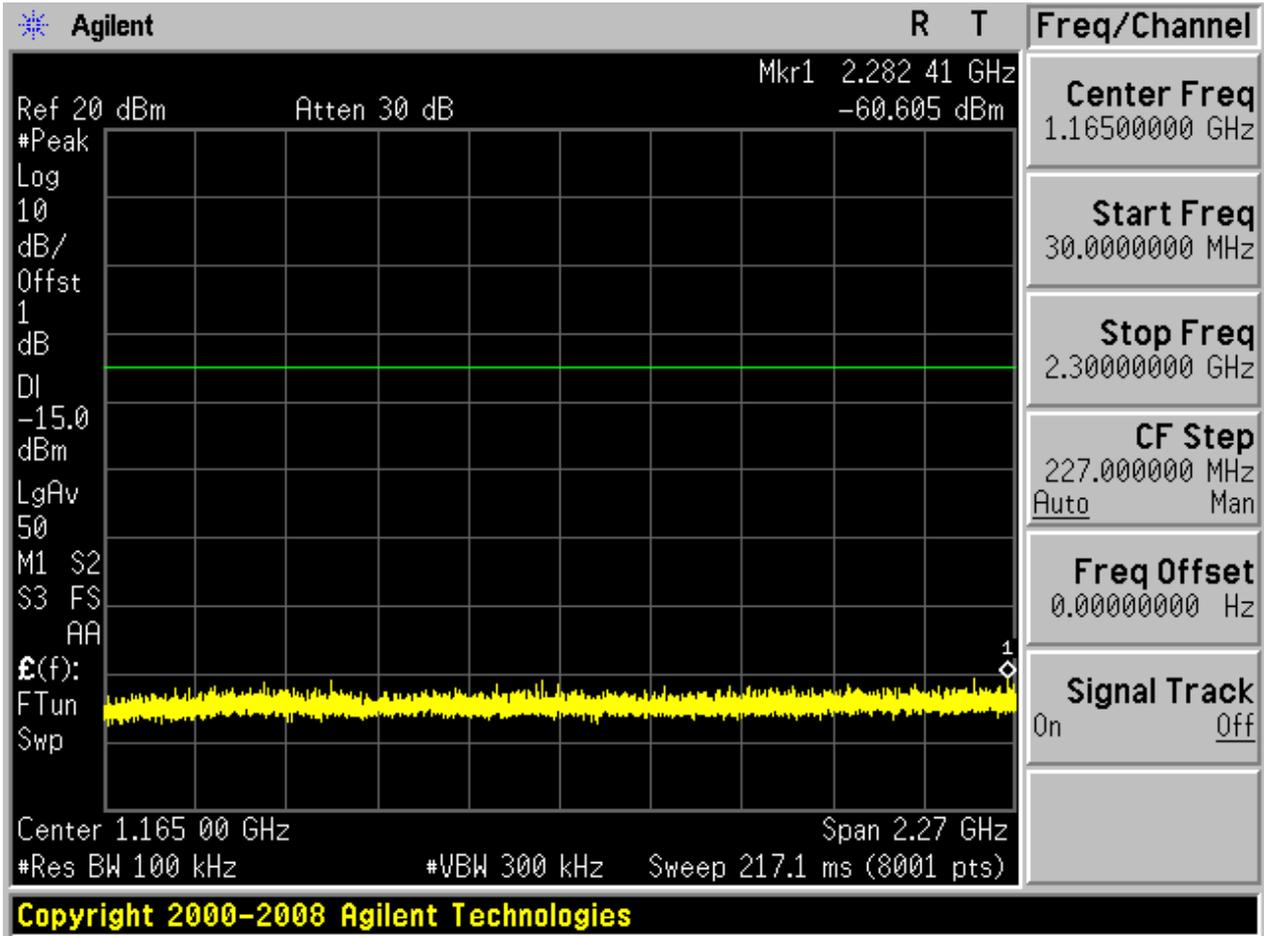
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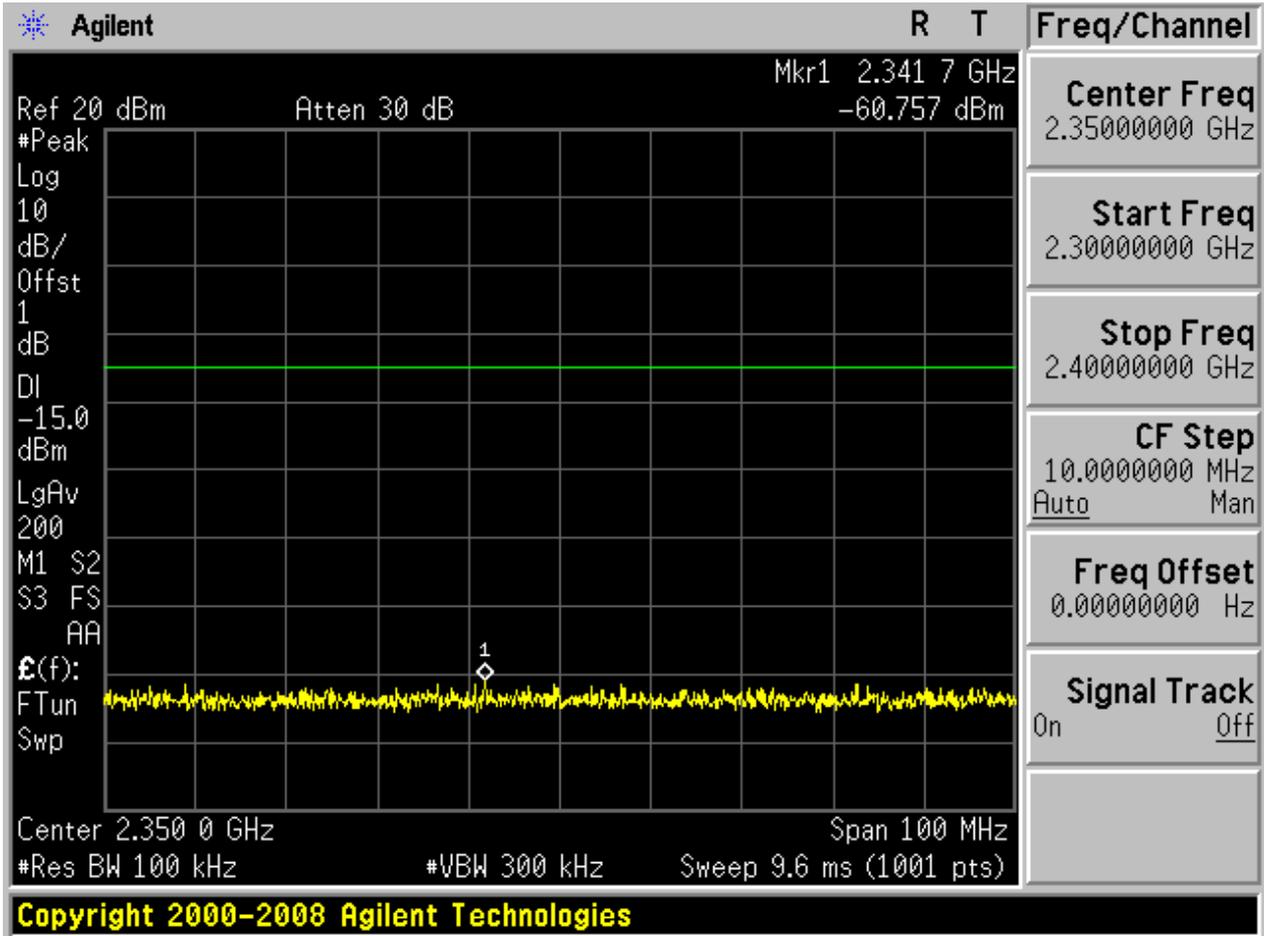


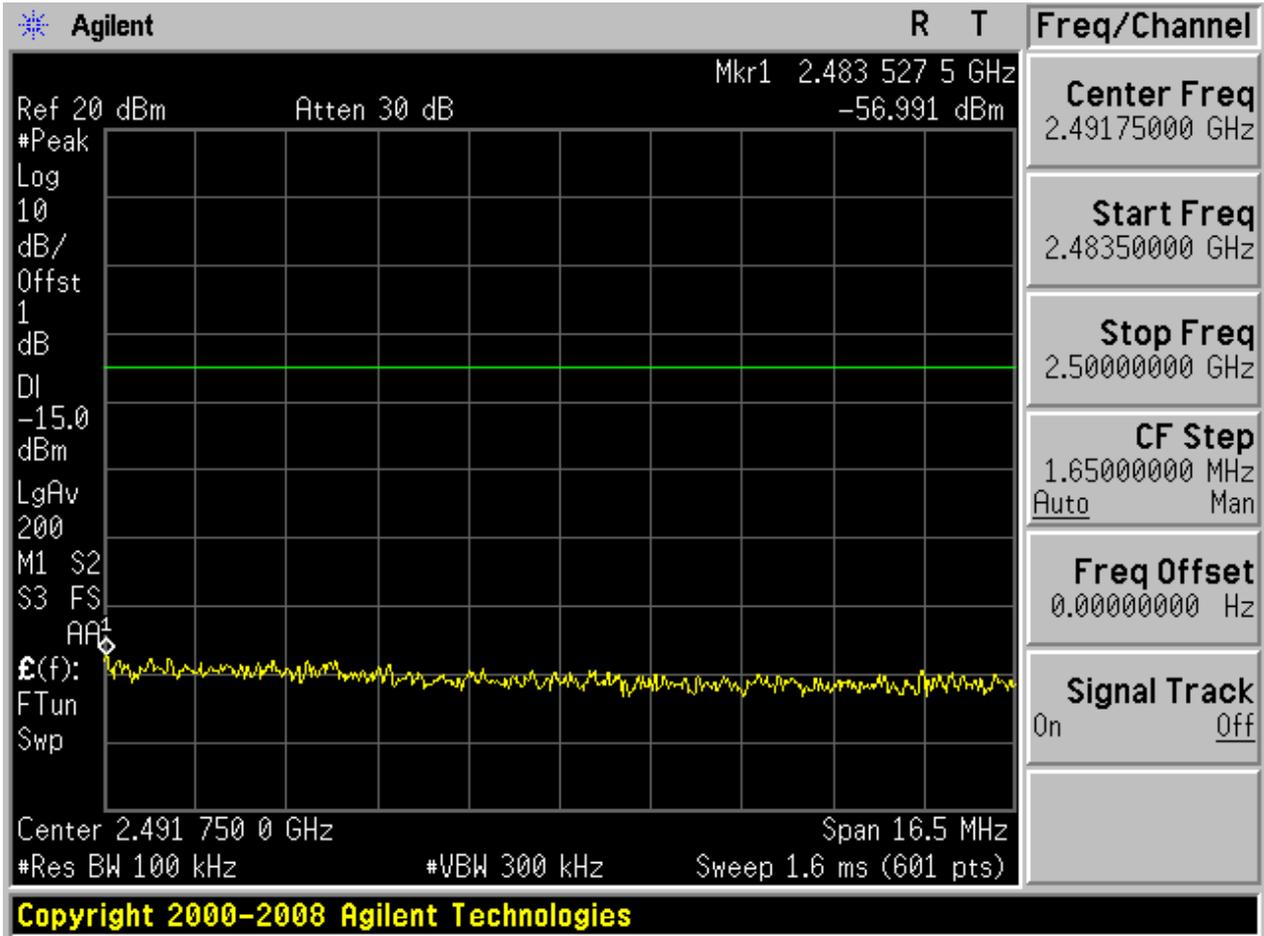
Puw:

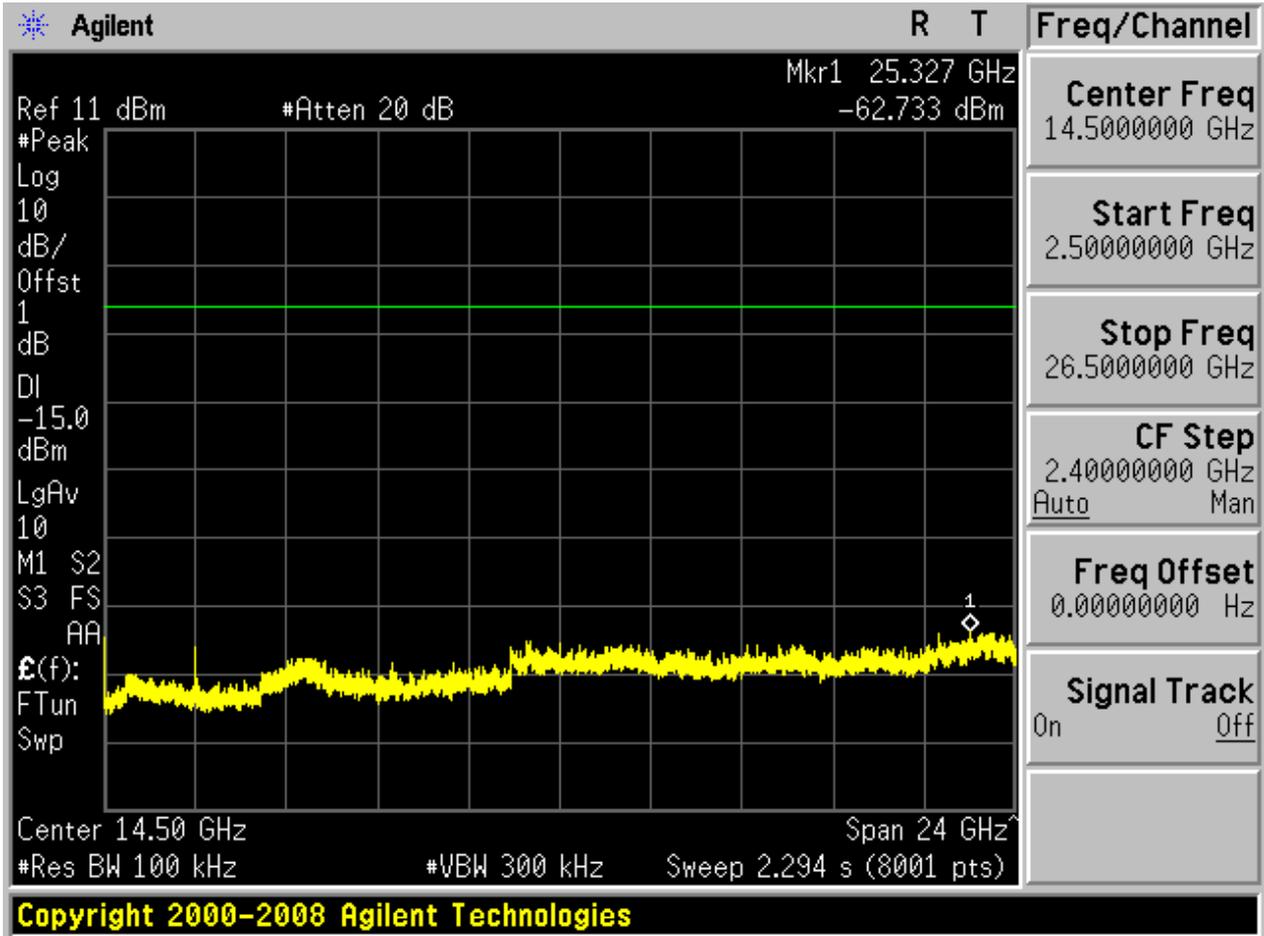






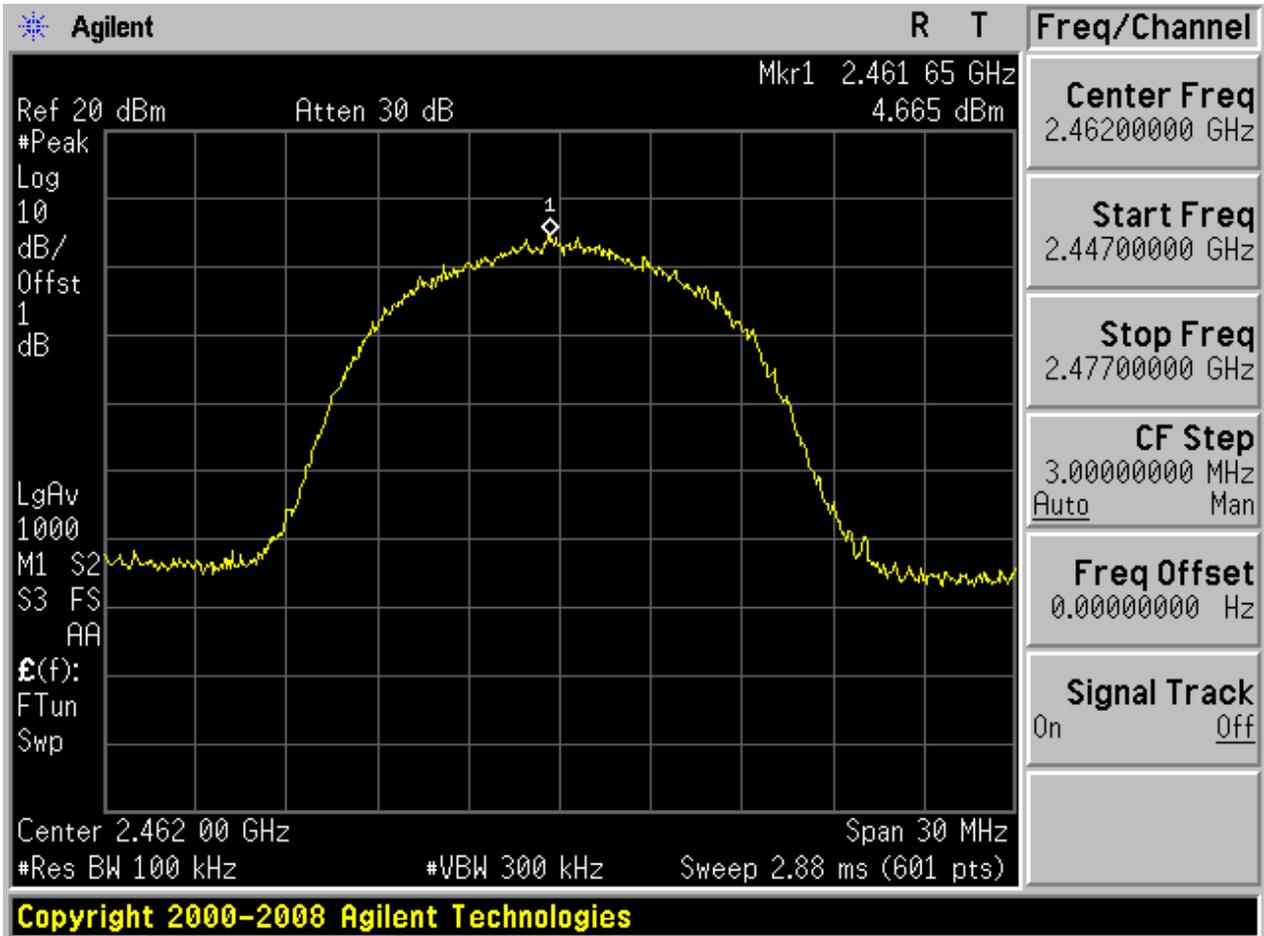






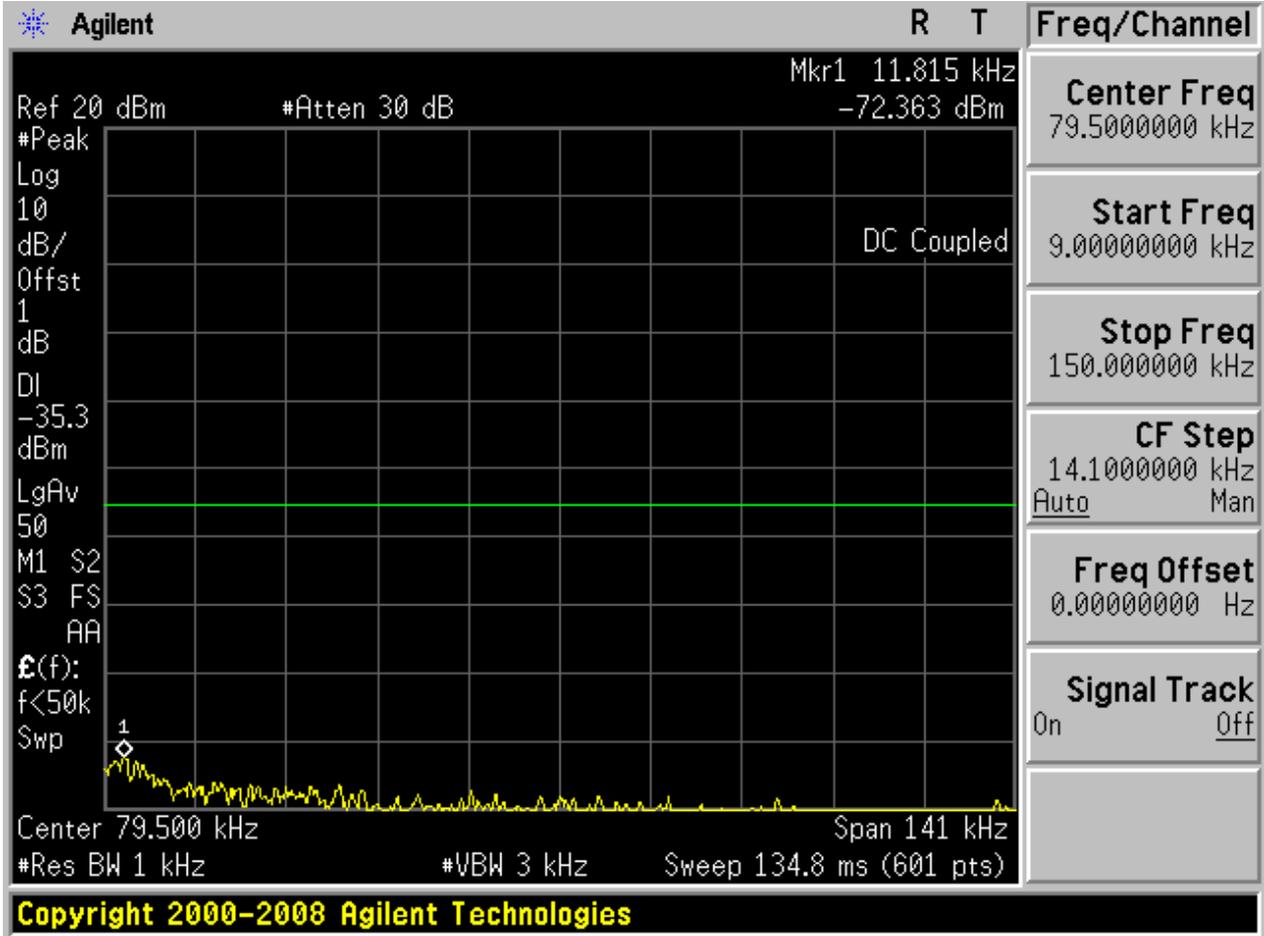
### 2.3 11B\_H

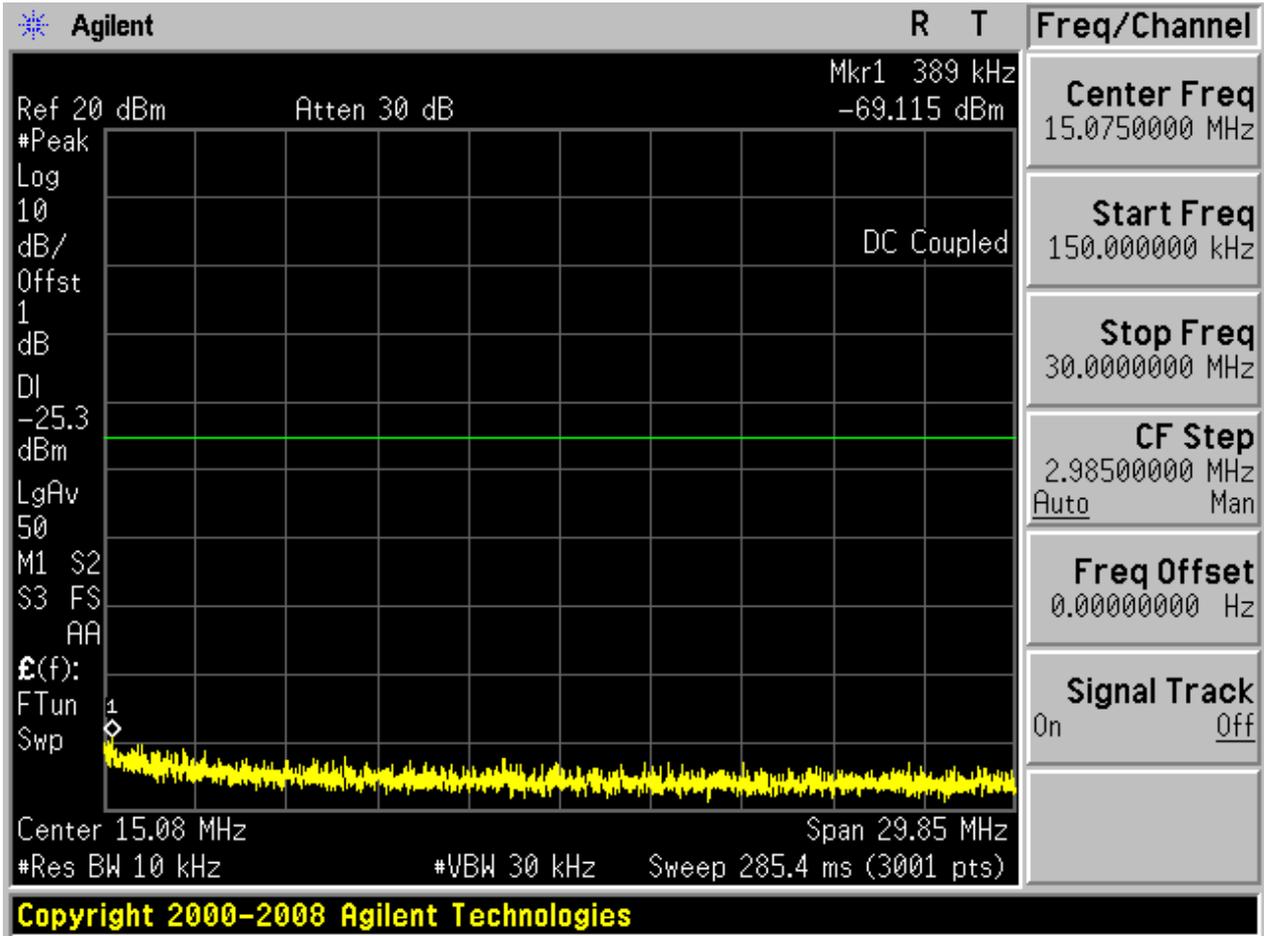
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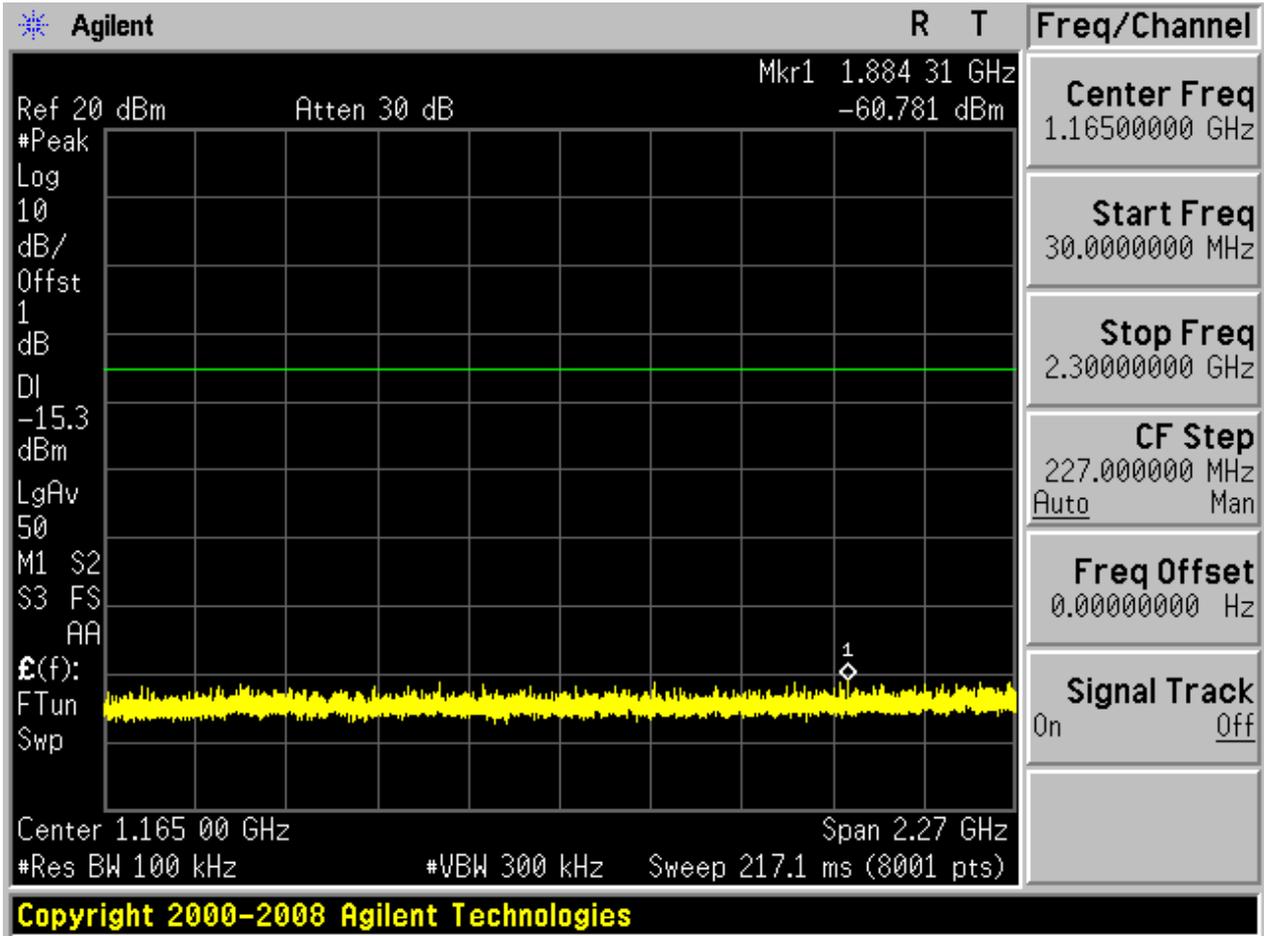


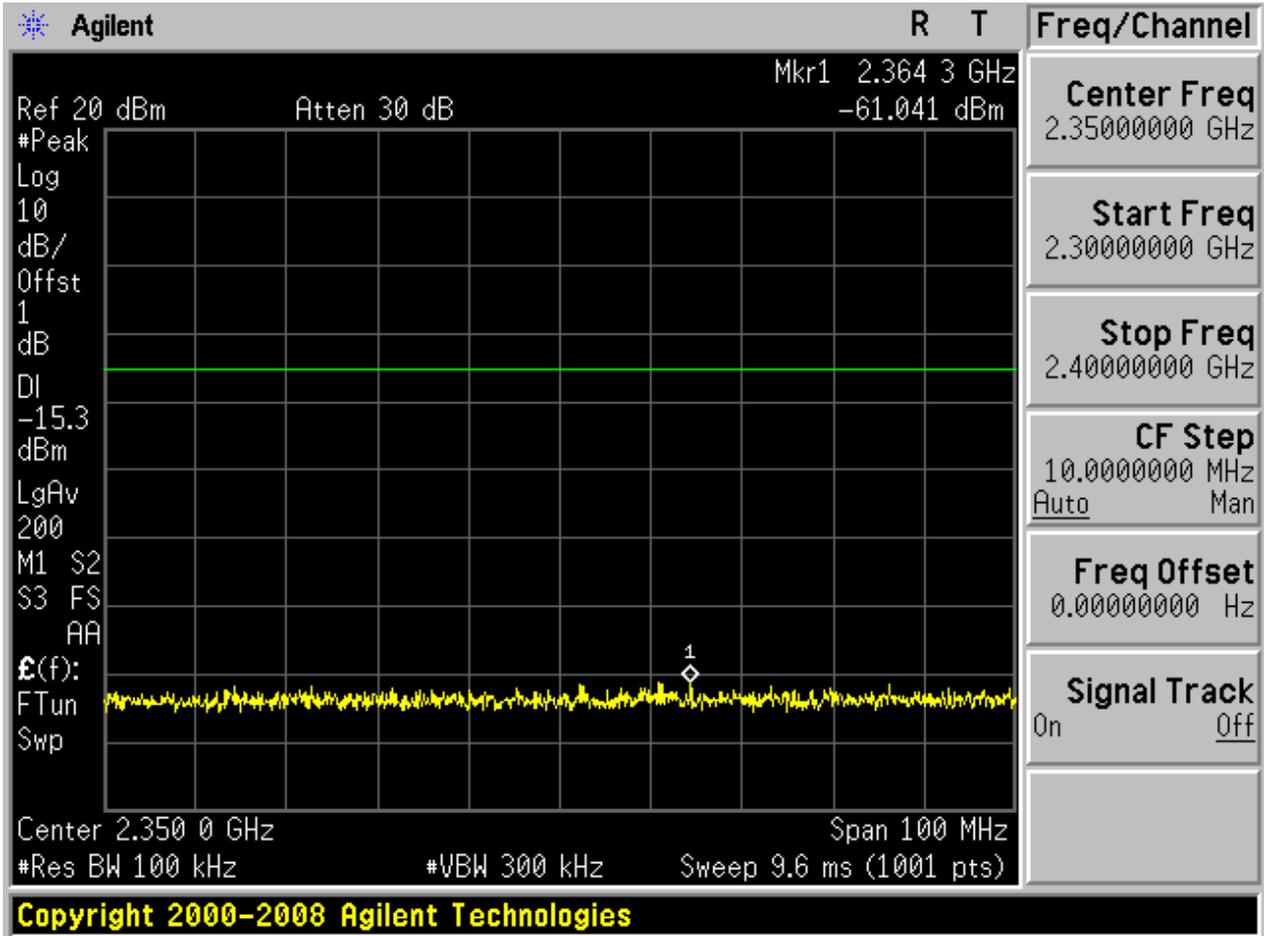


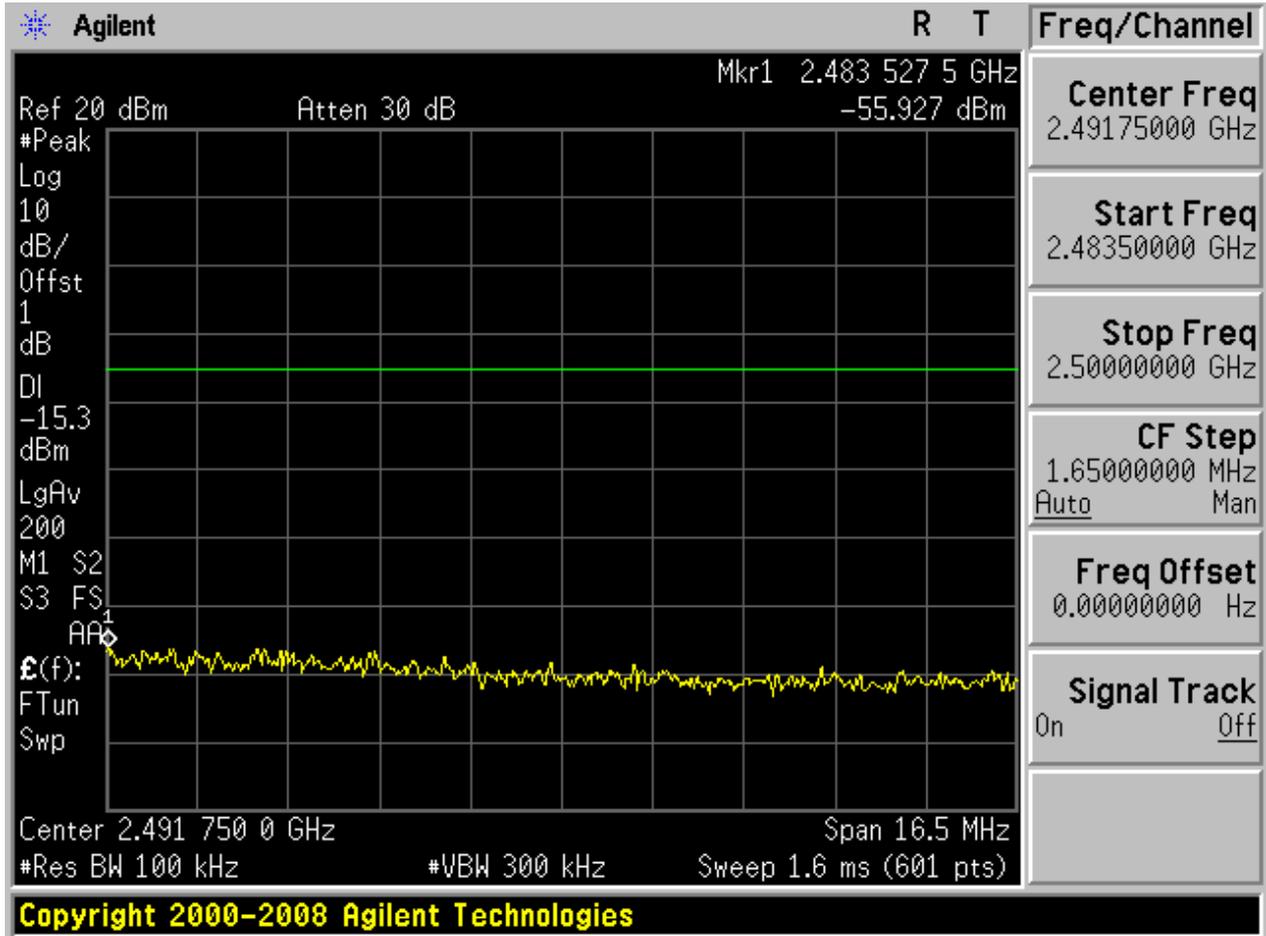
Puw:

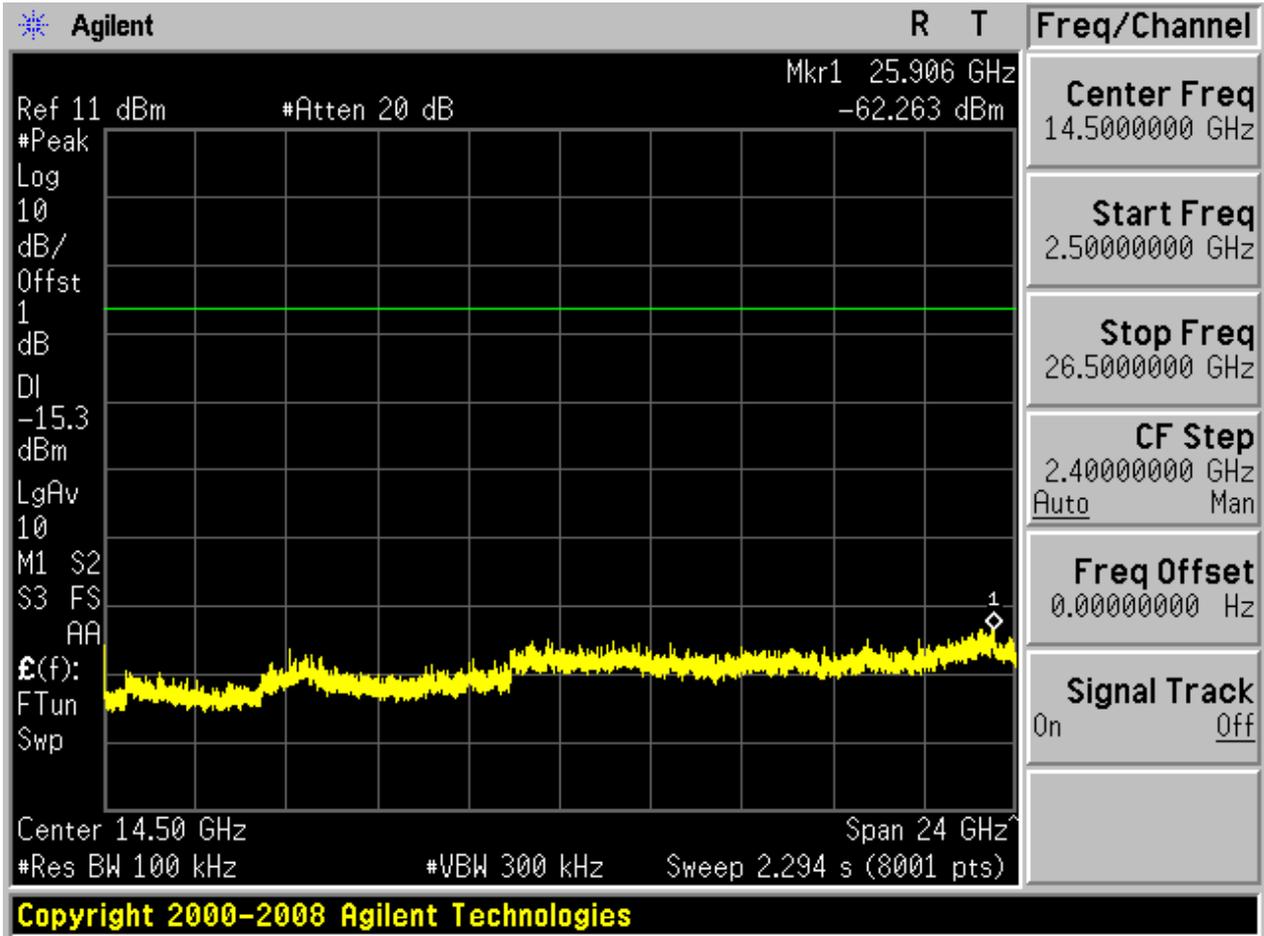






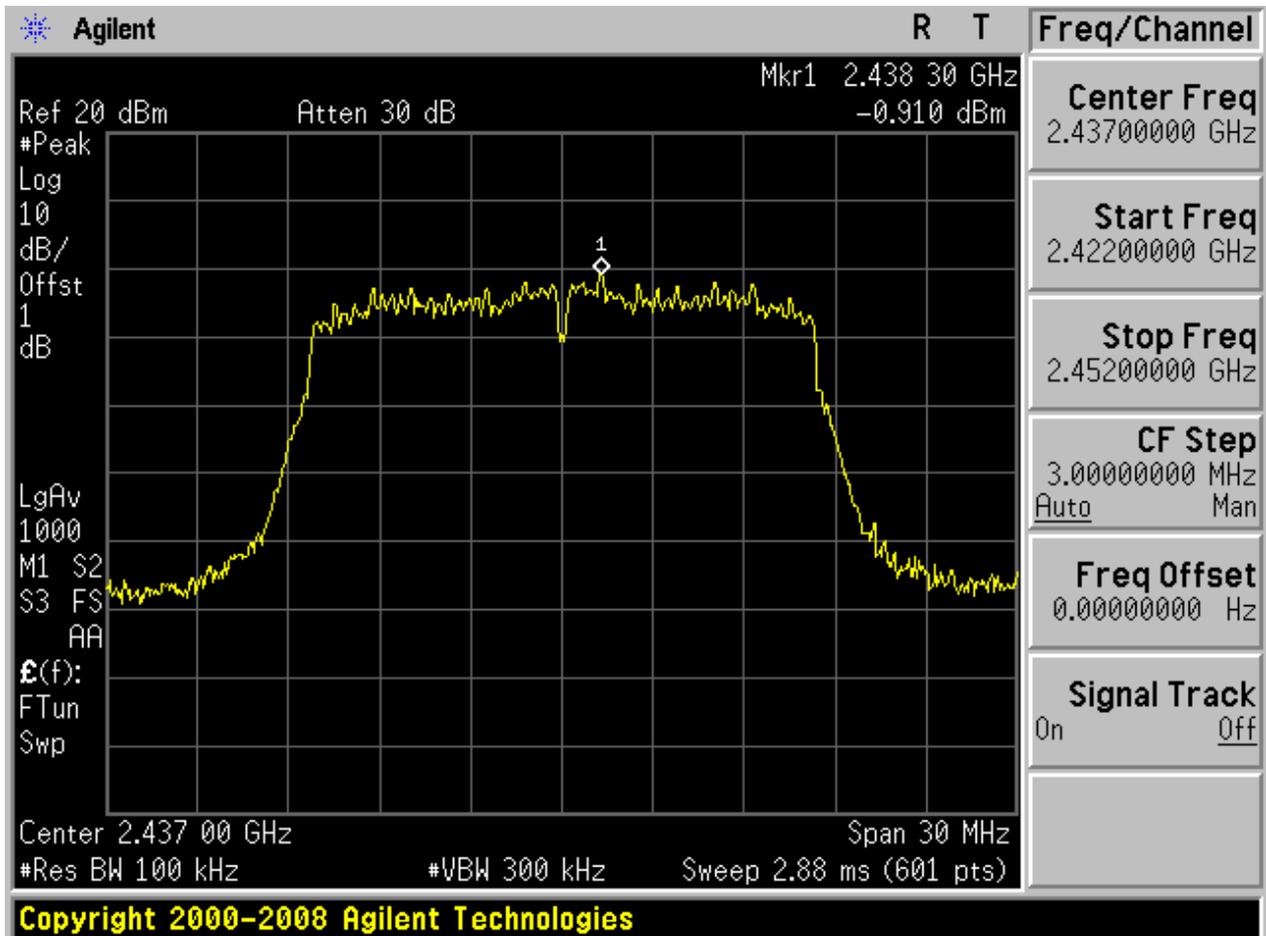




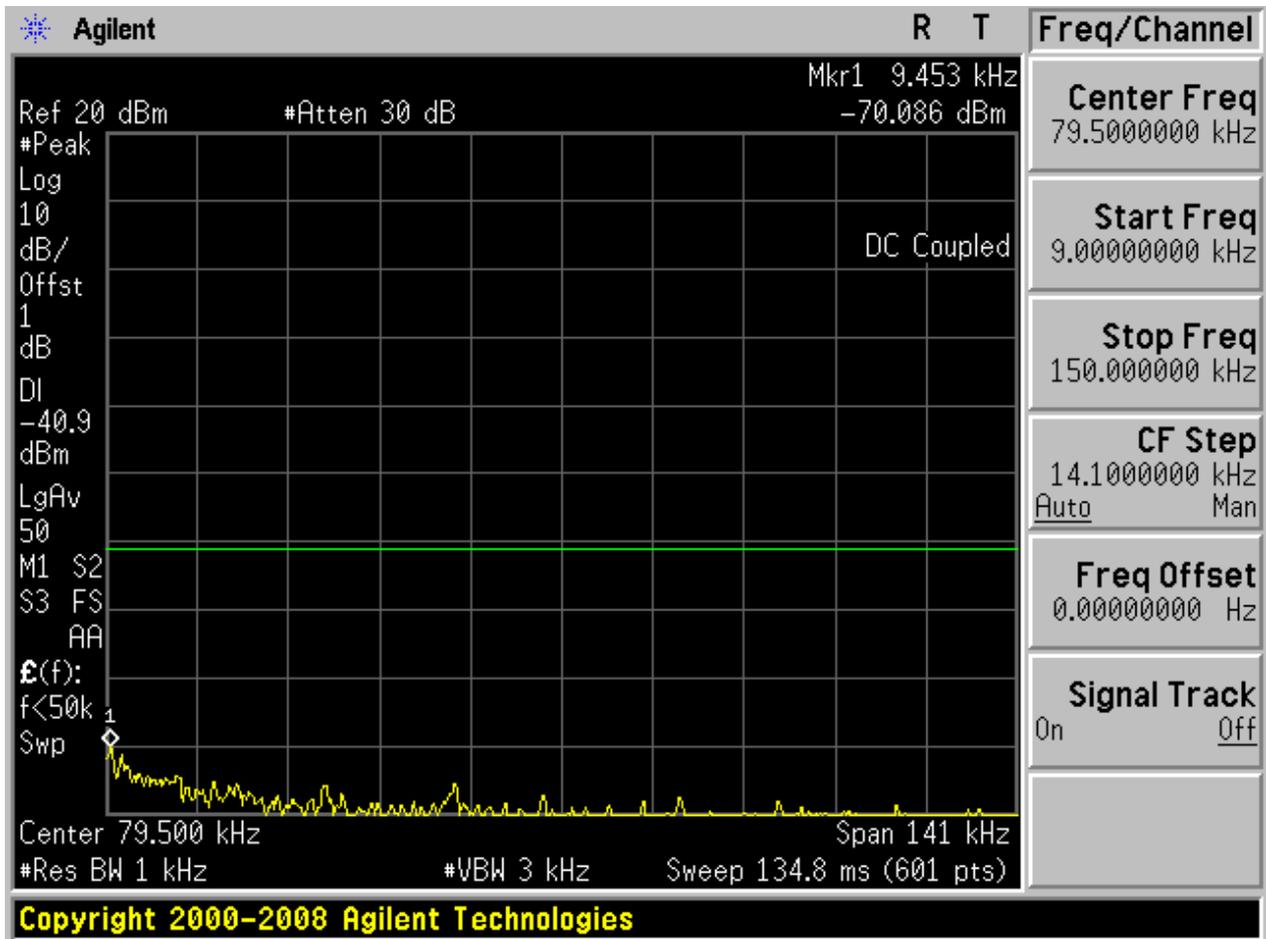


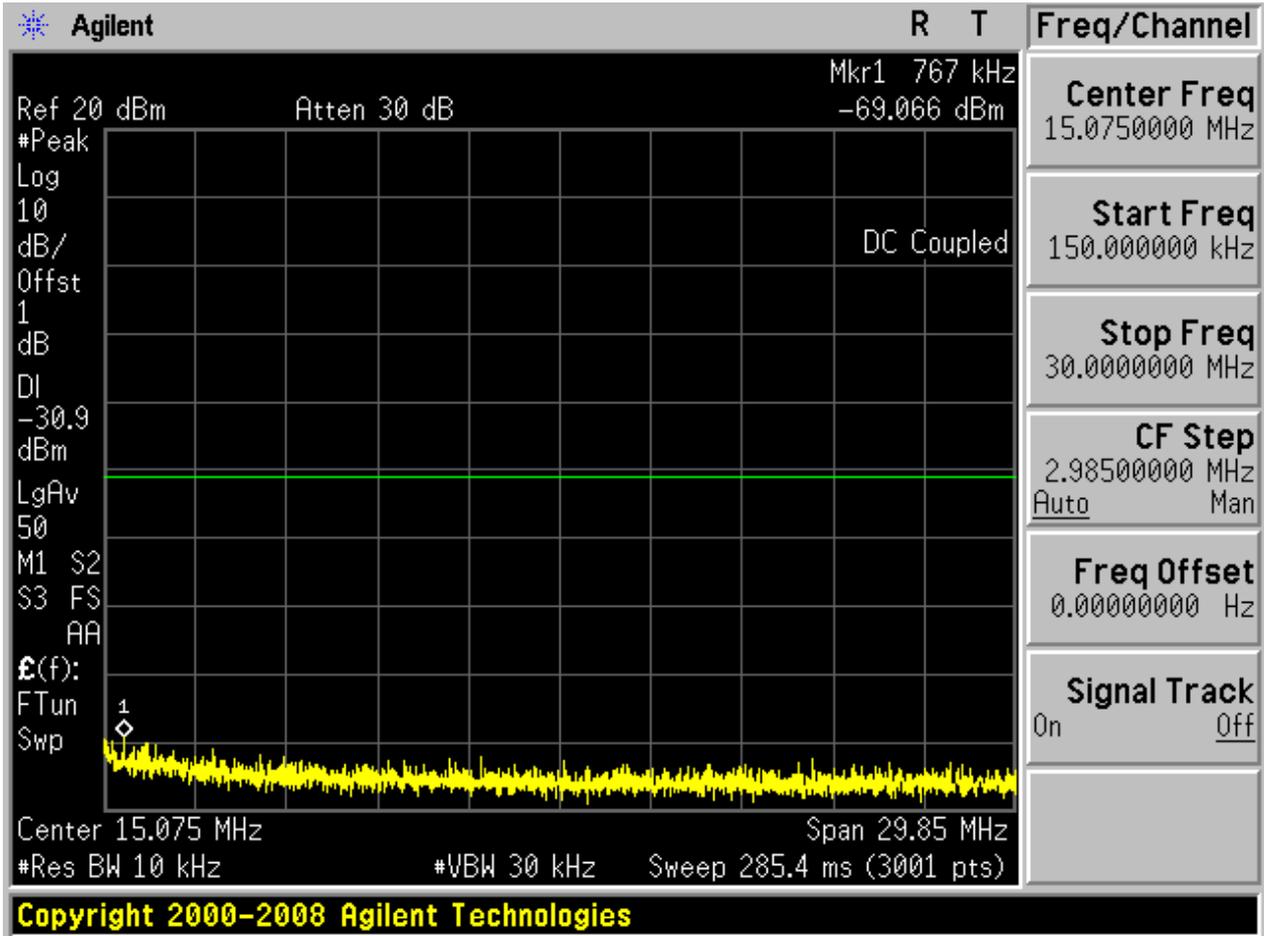
## 2.4 11G\_L

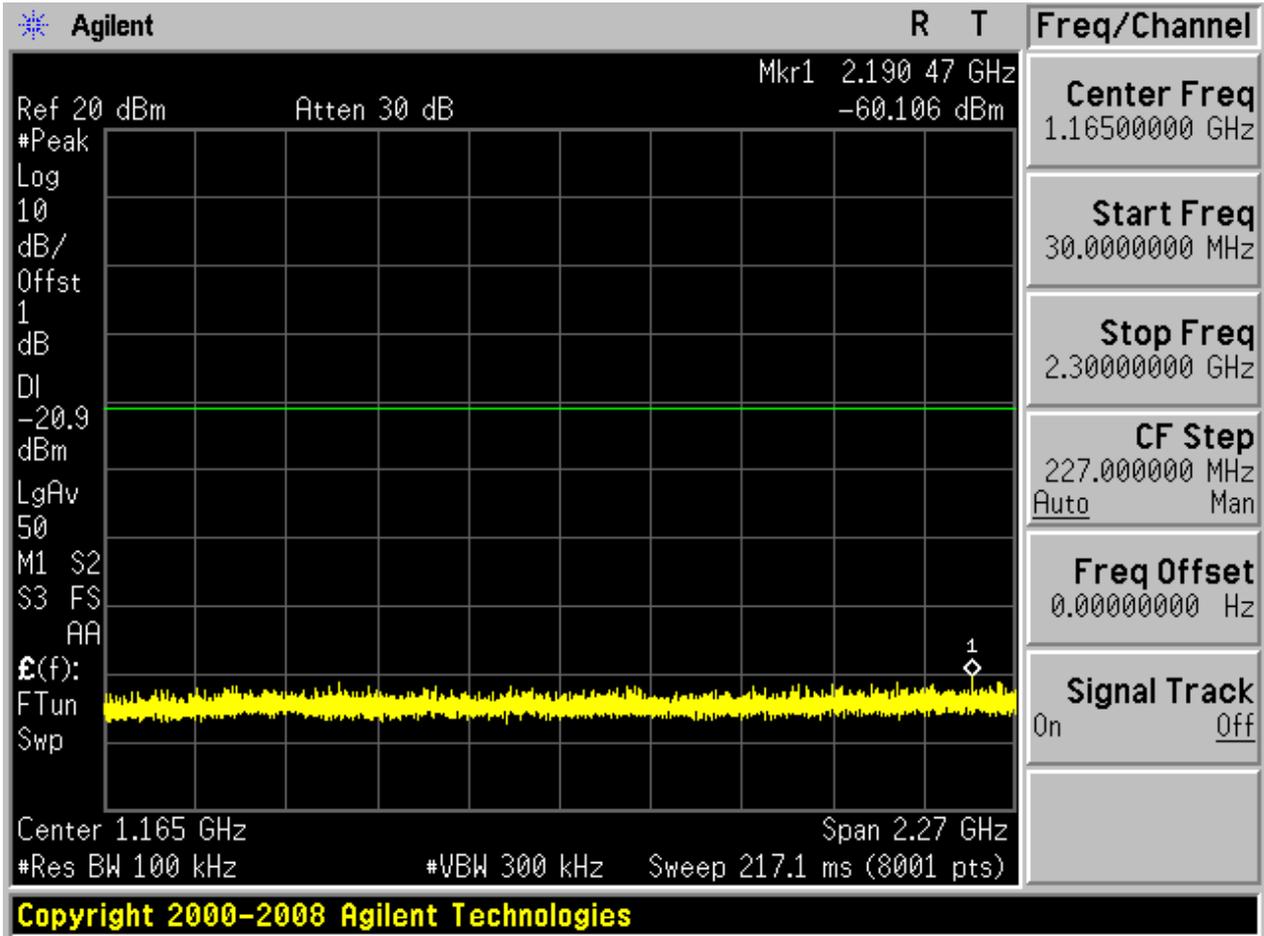
Pref:

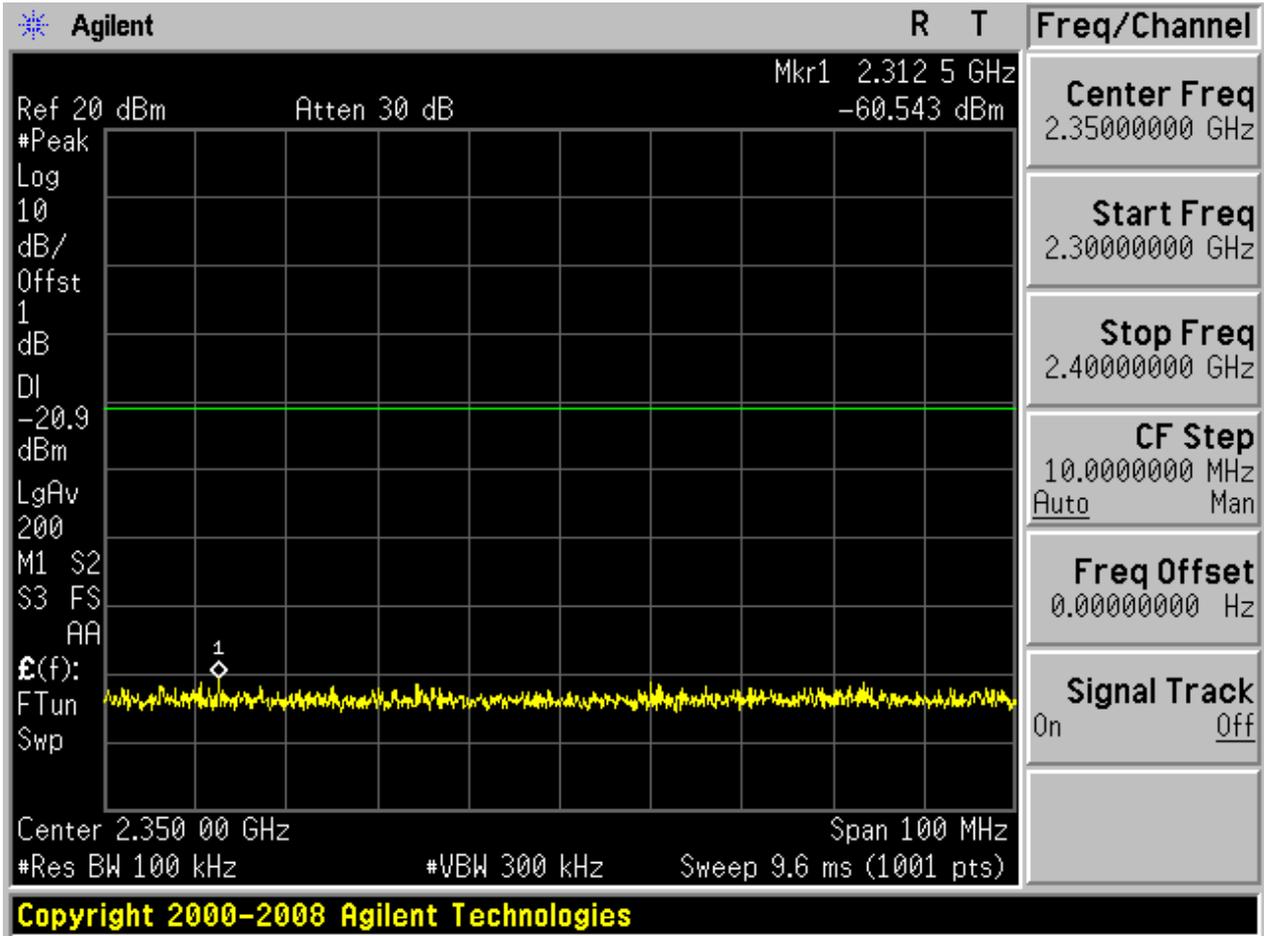


Puw:

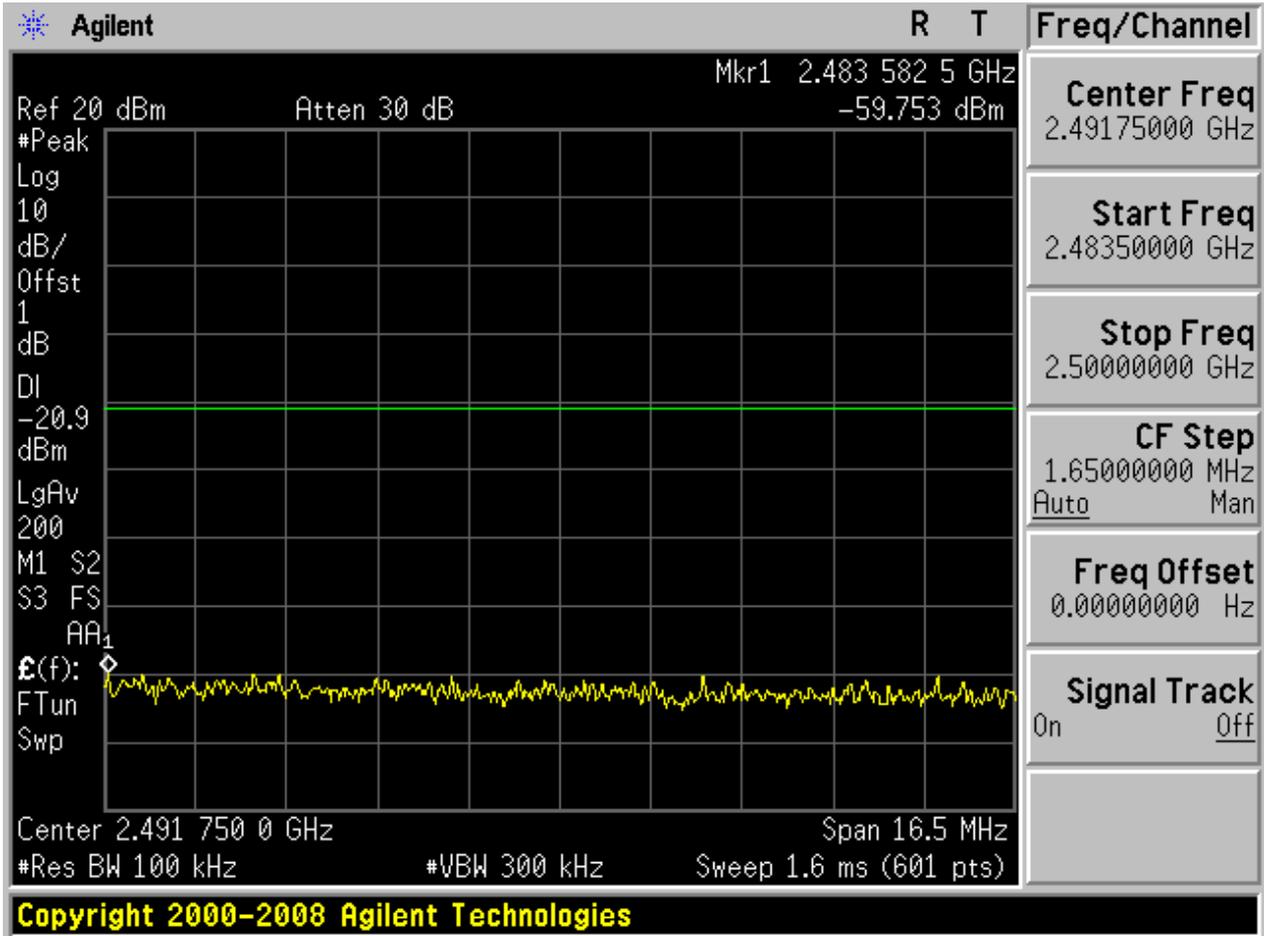


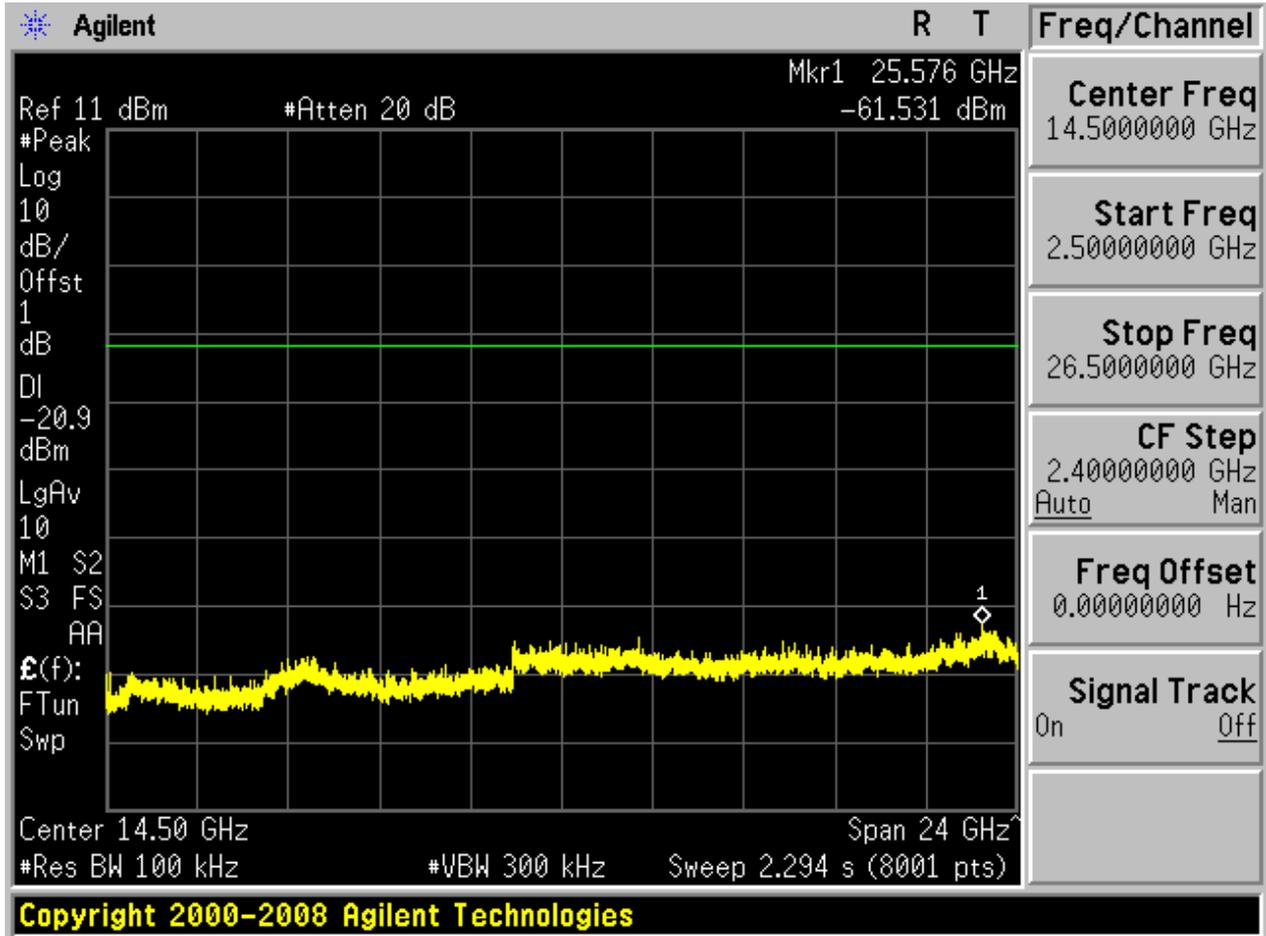






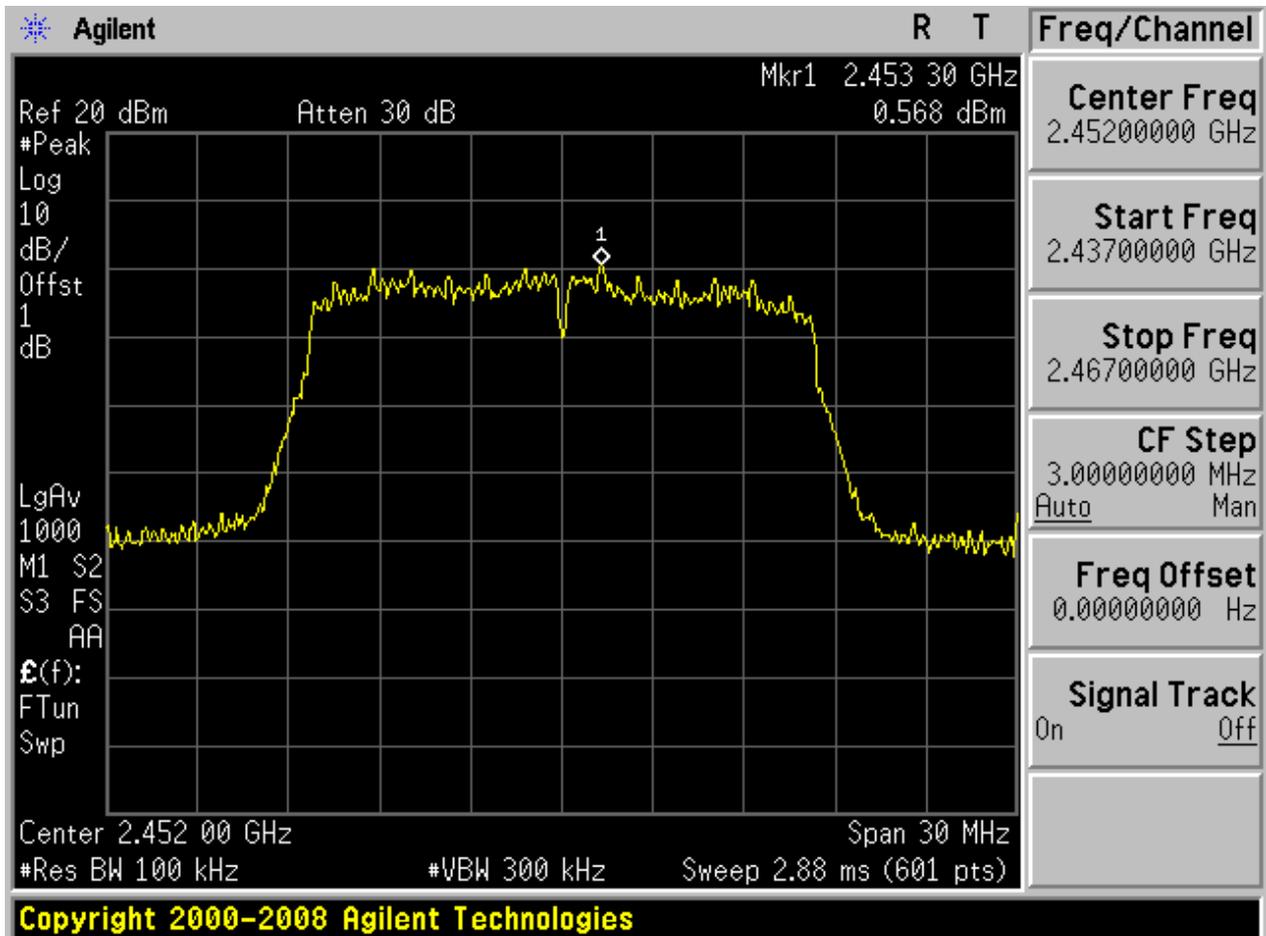
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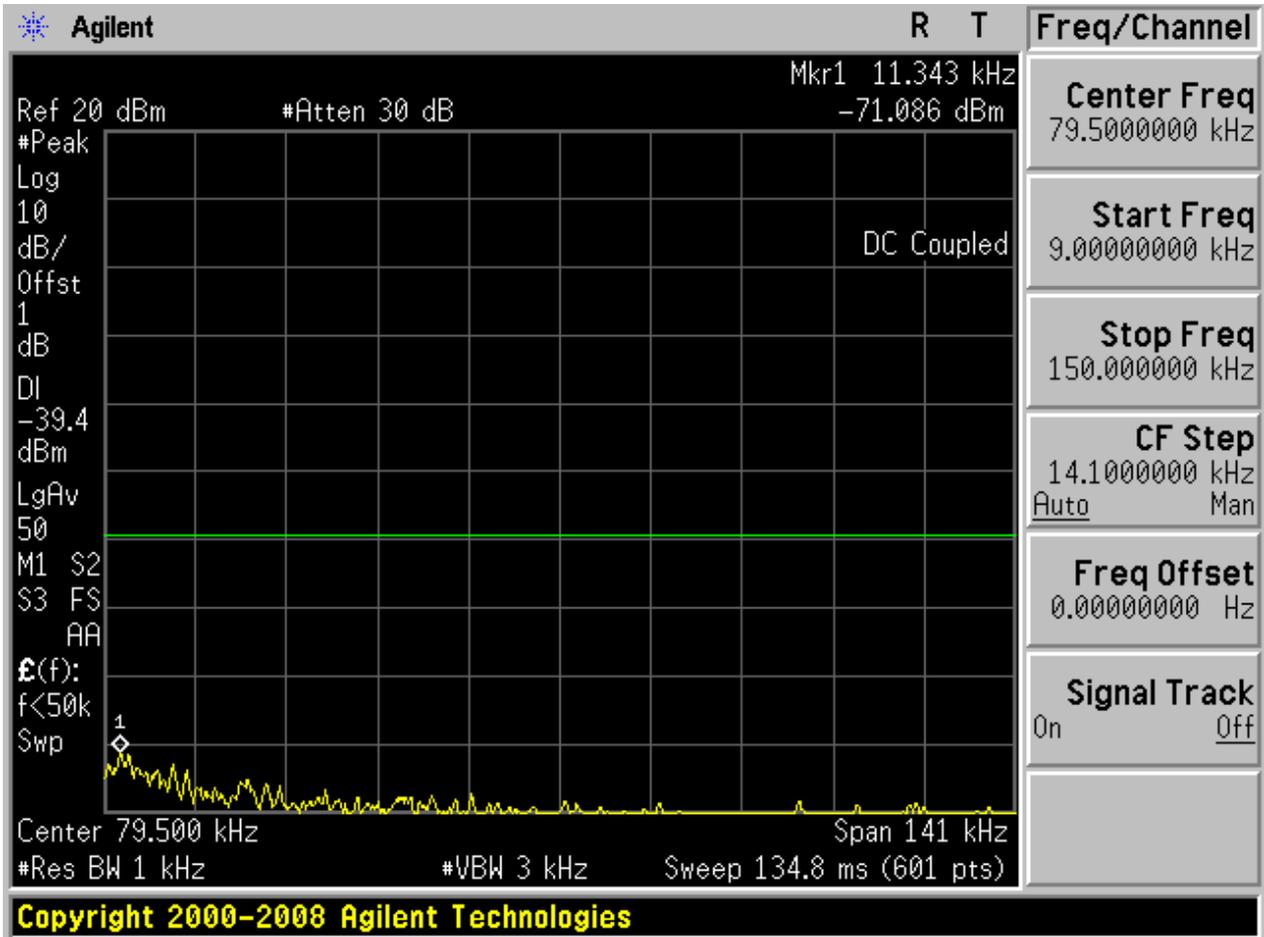


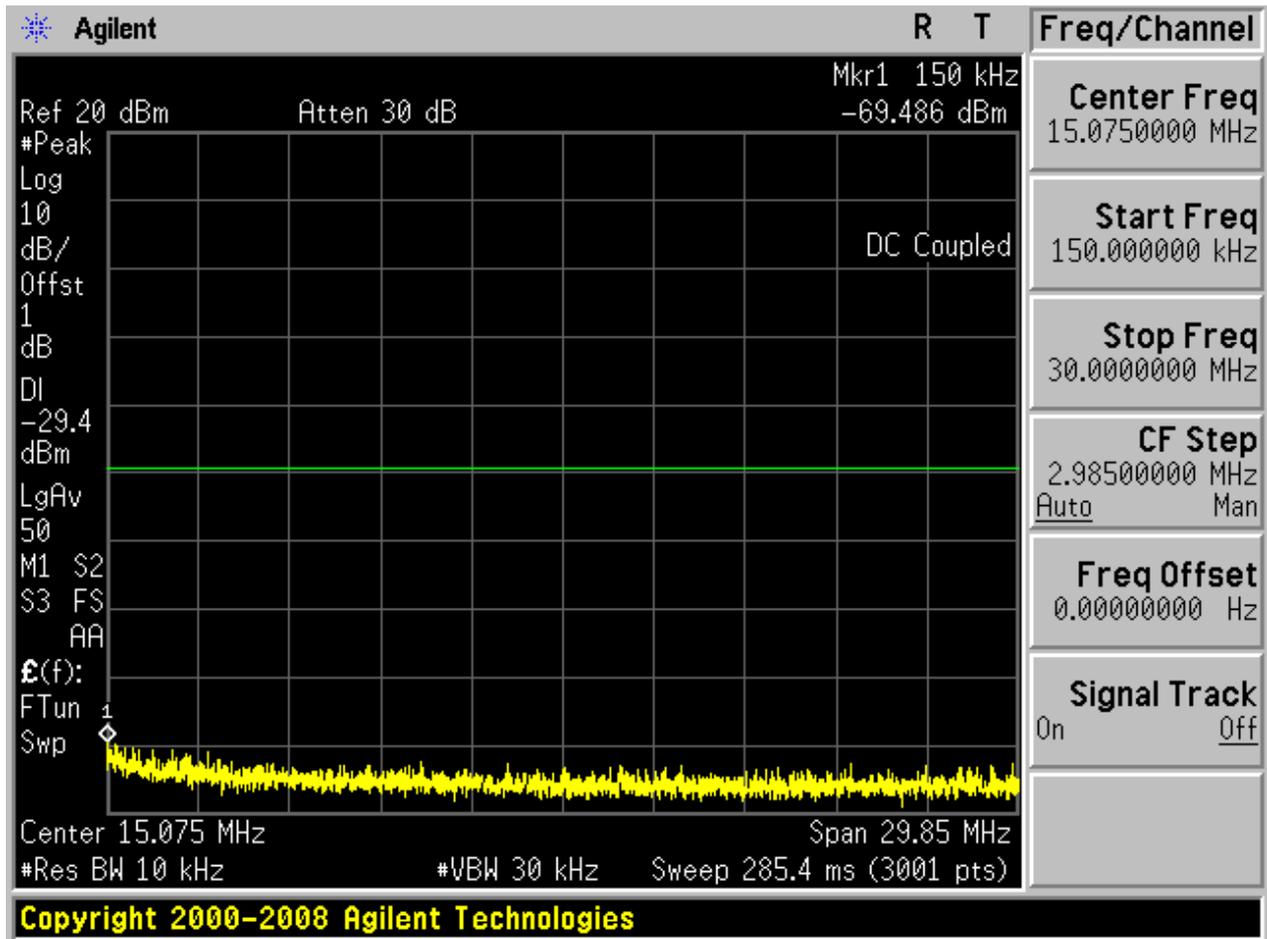
## 2.5 11G\_M

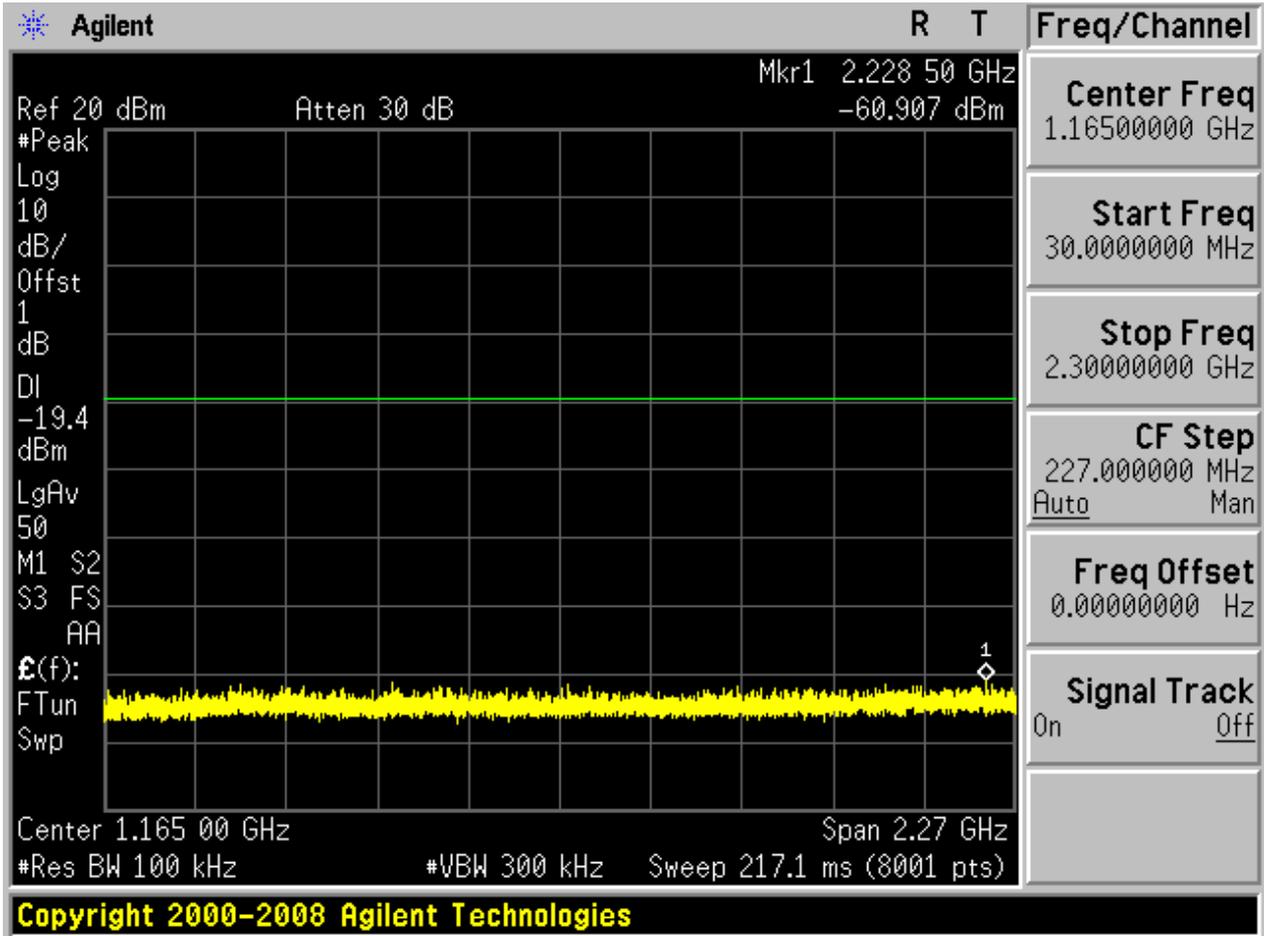
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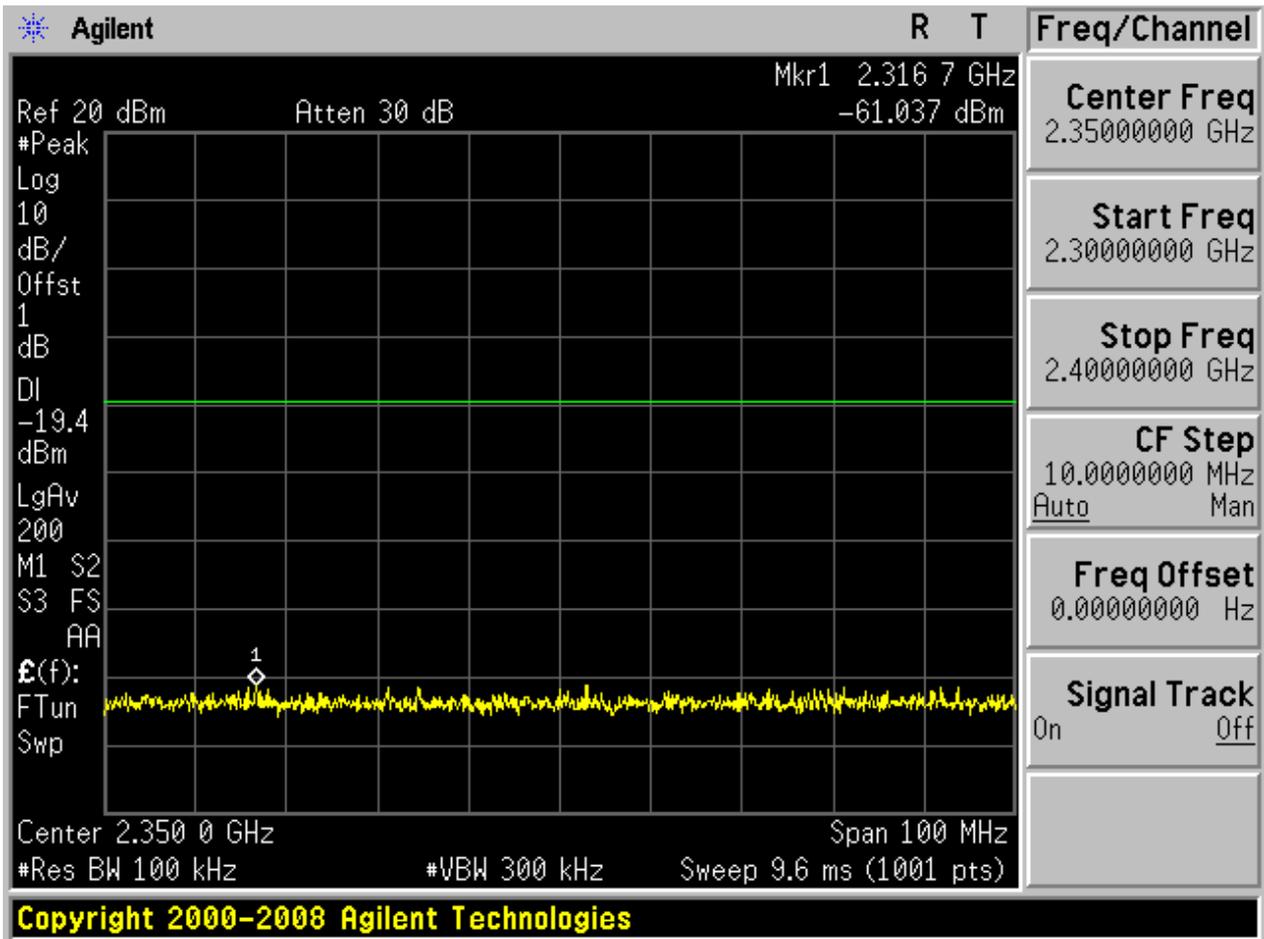


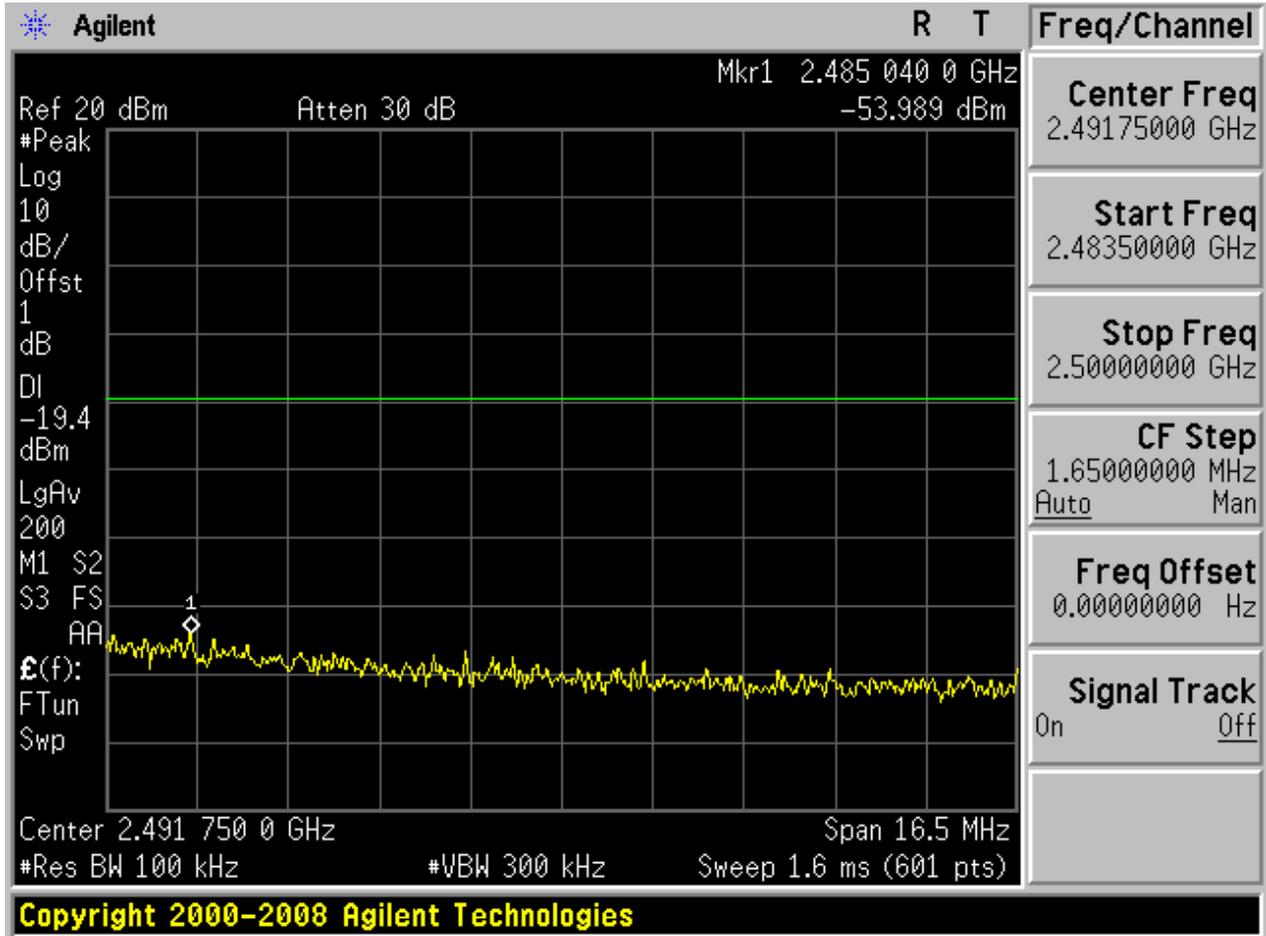
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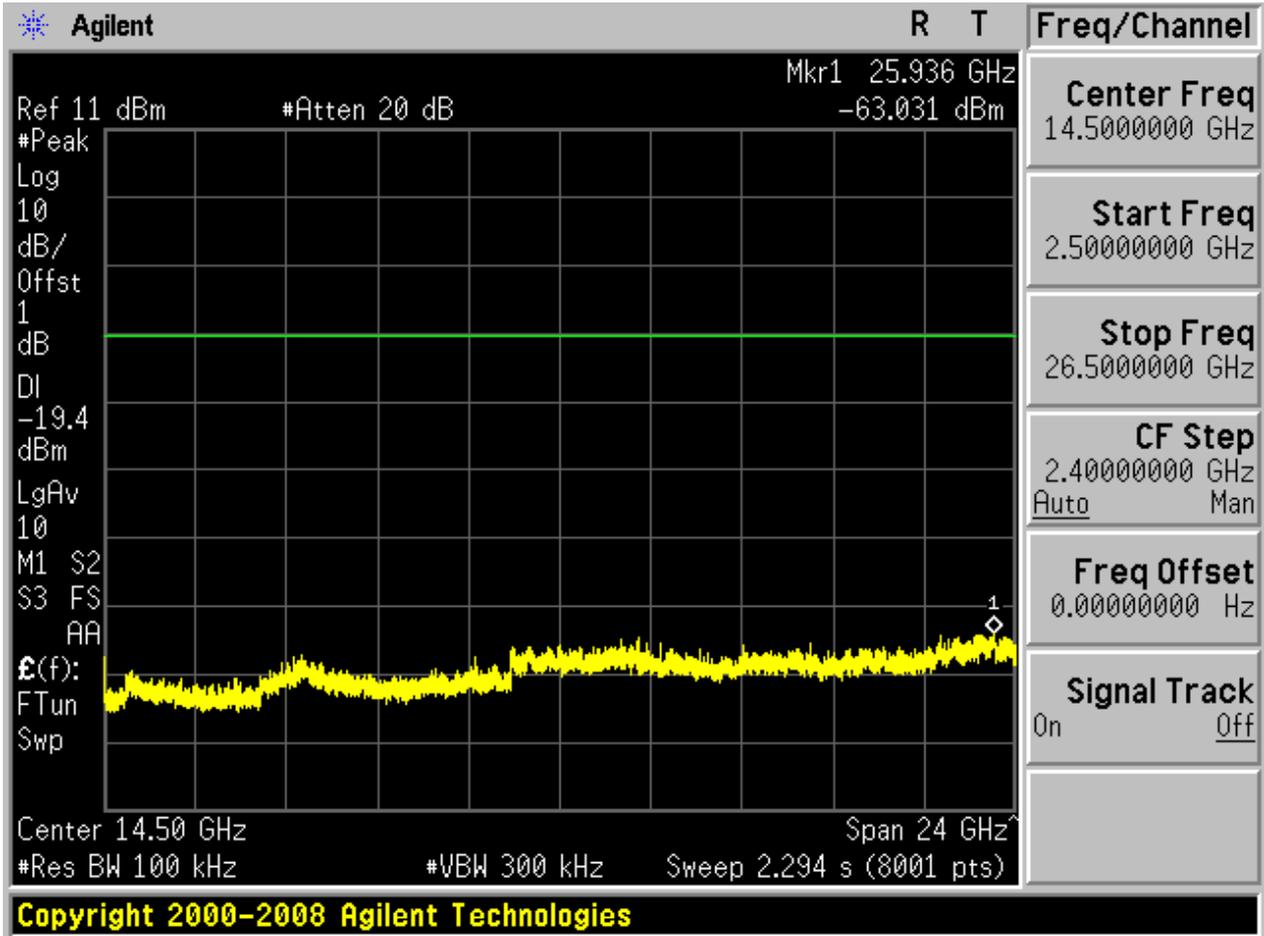






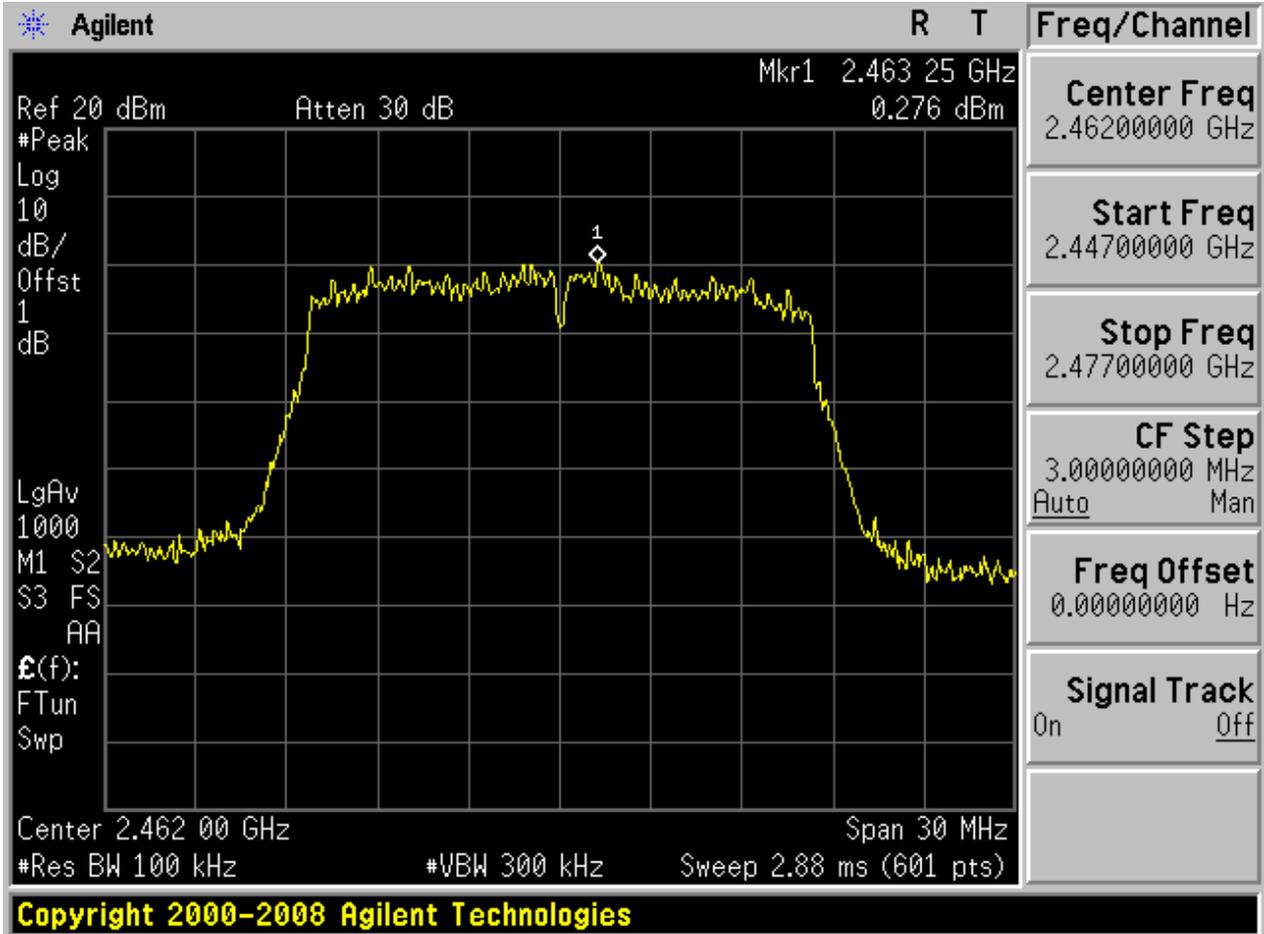




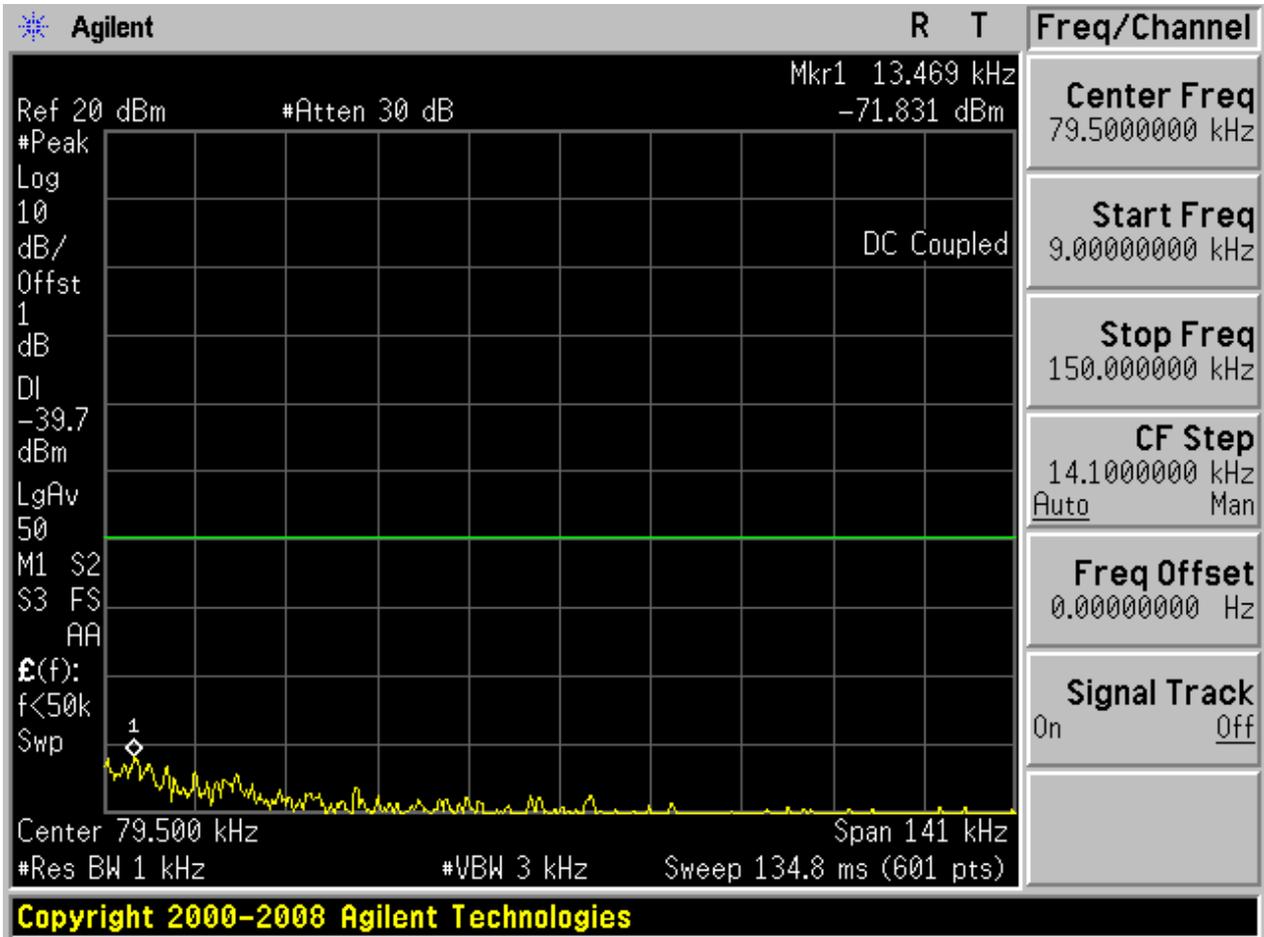


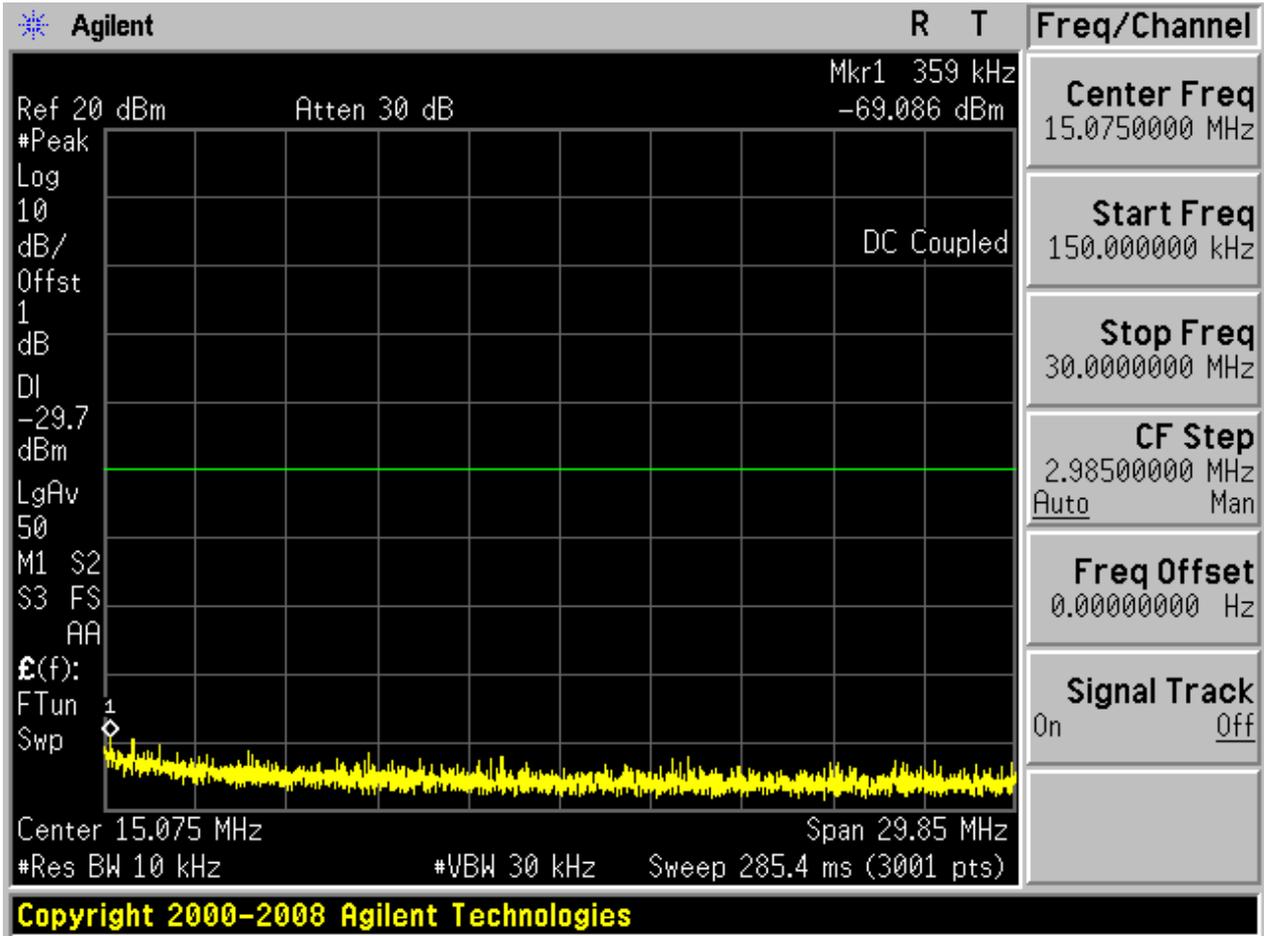
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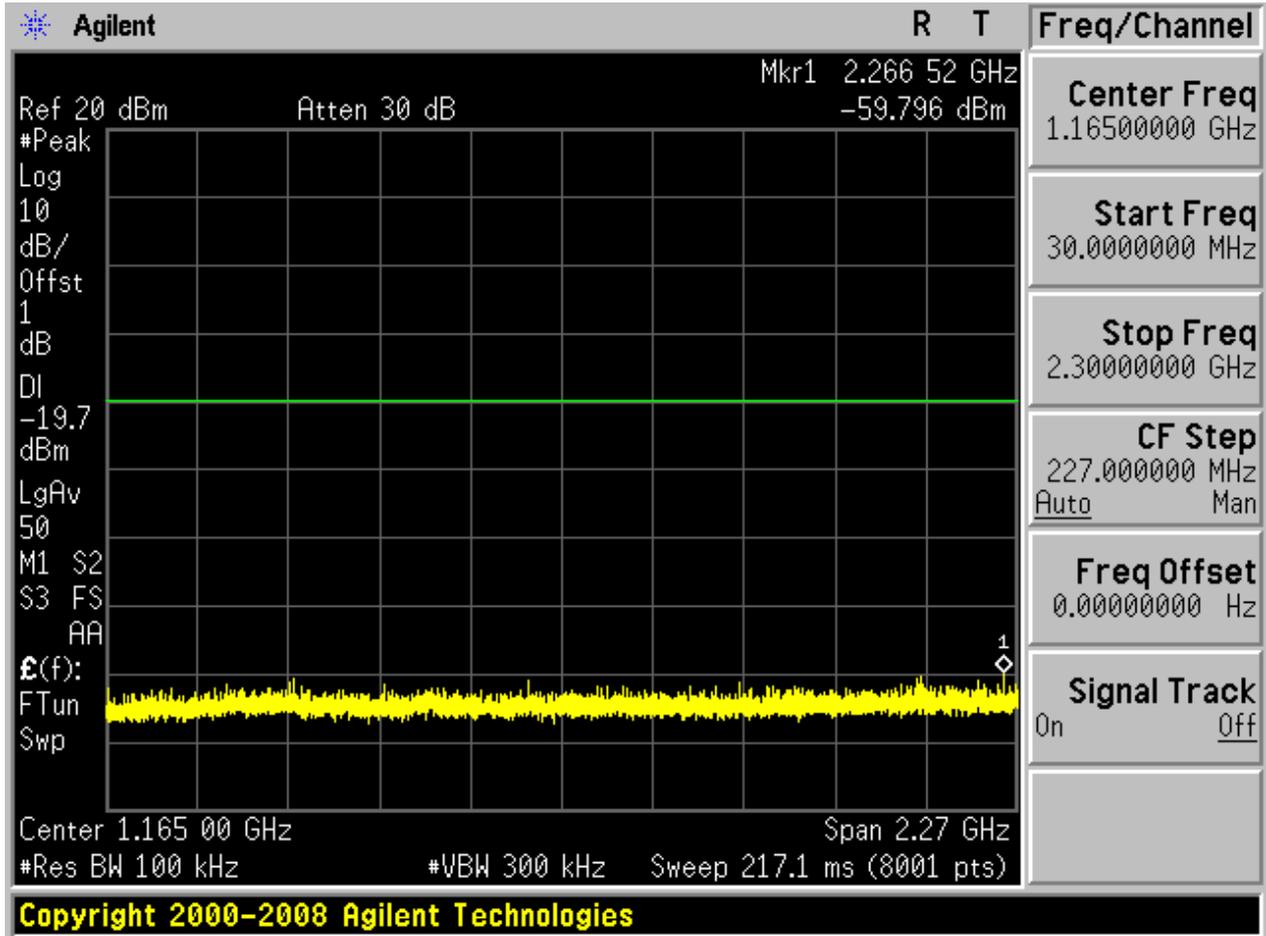
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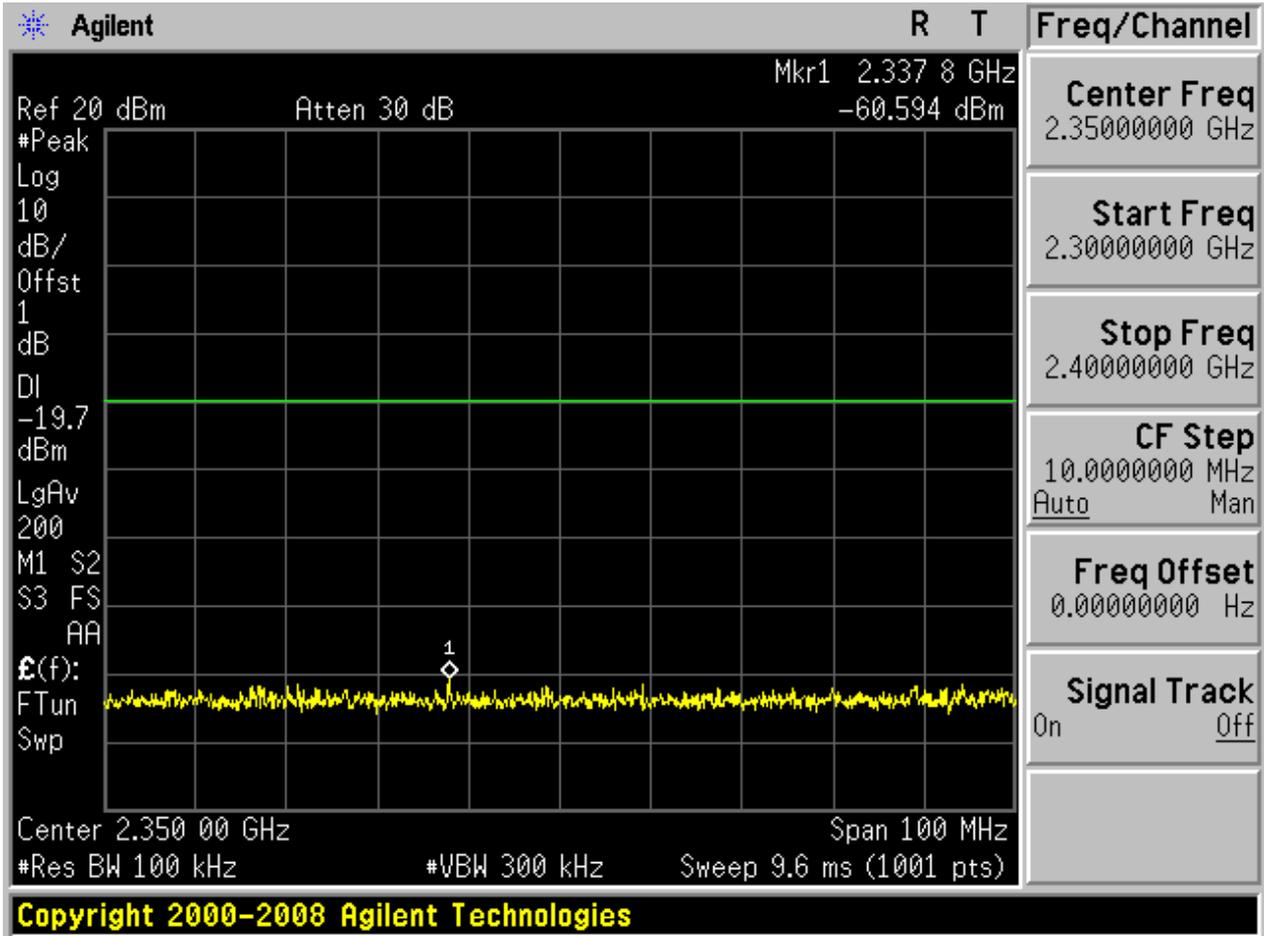


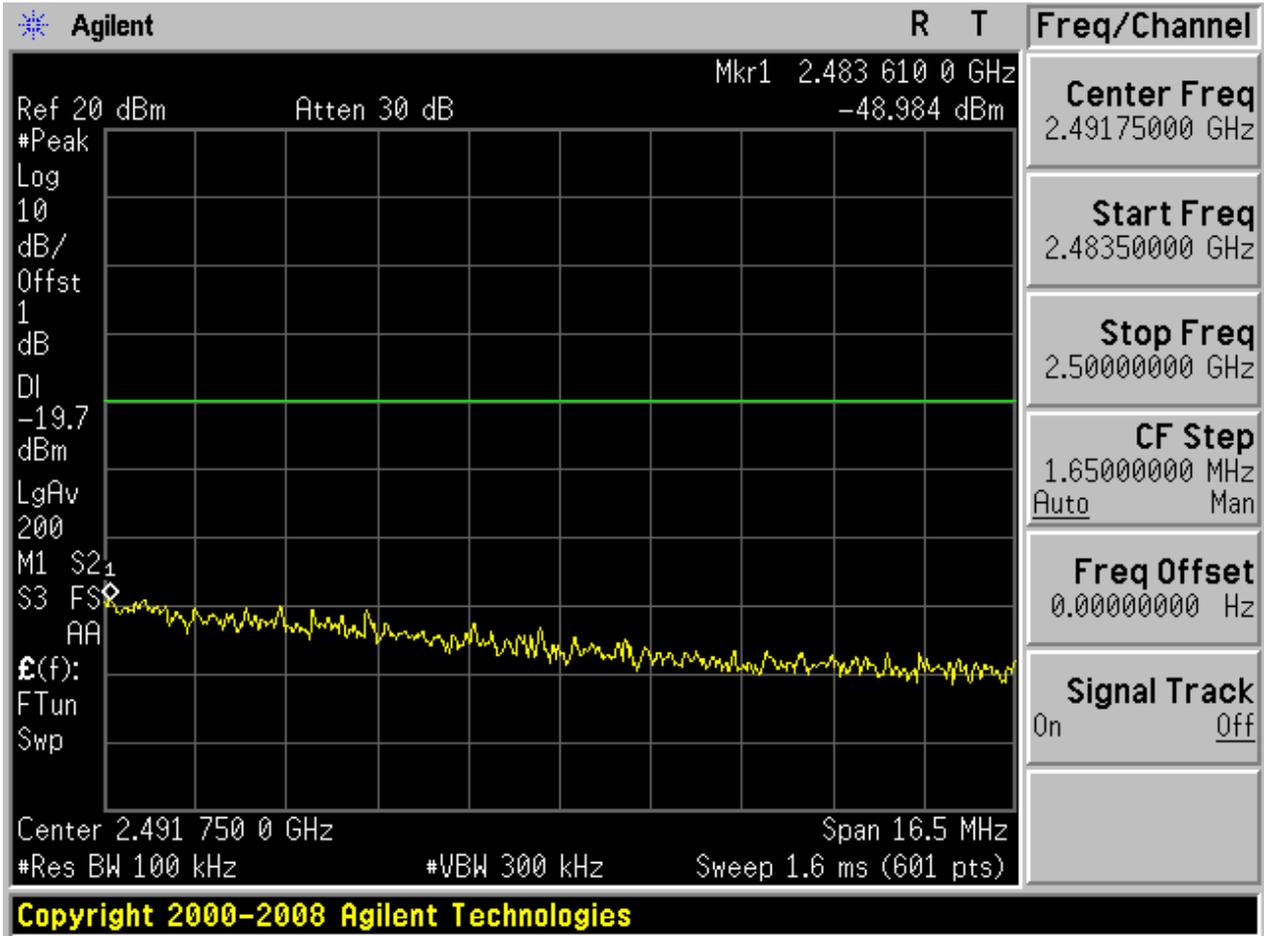
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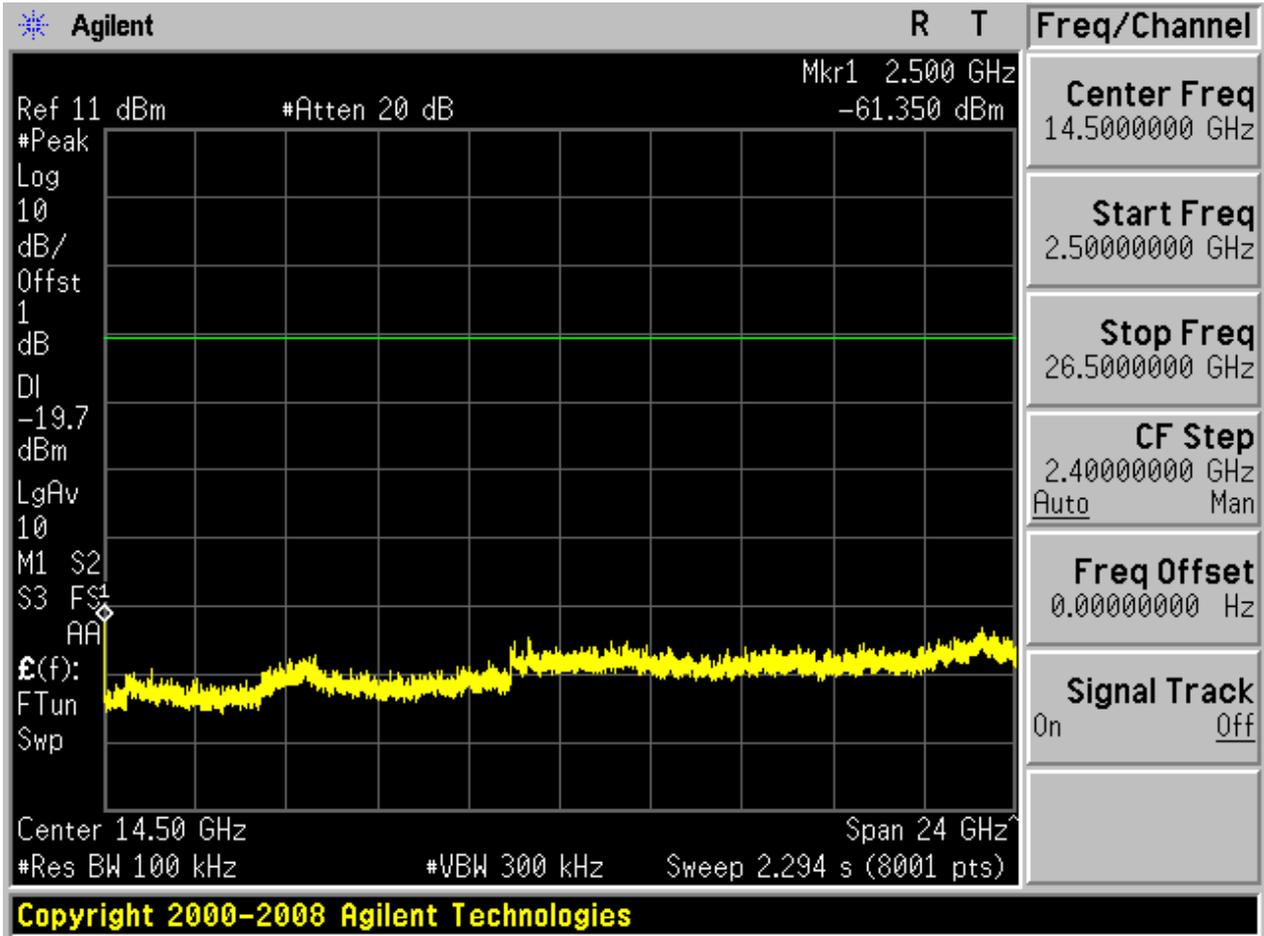






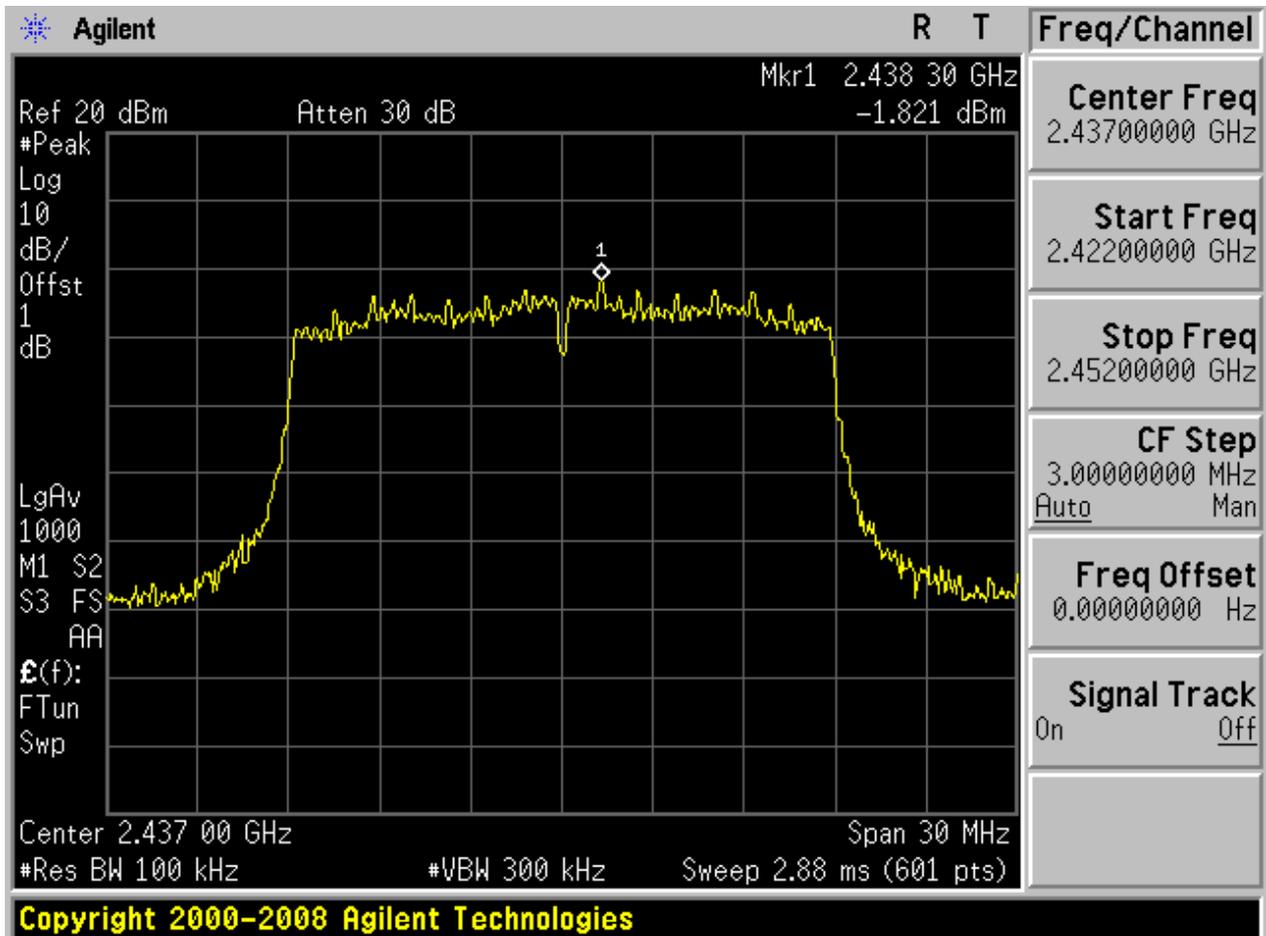




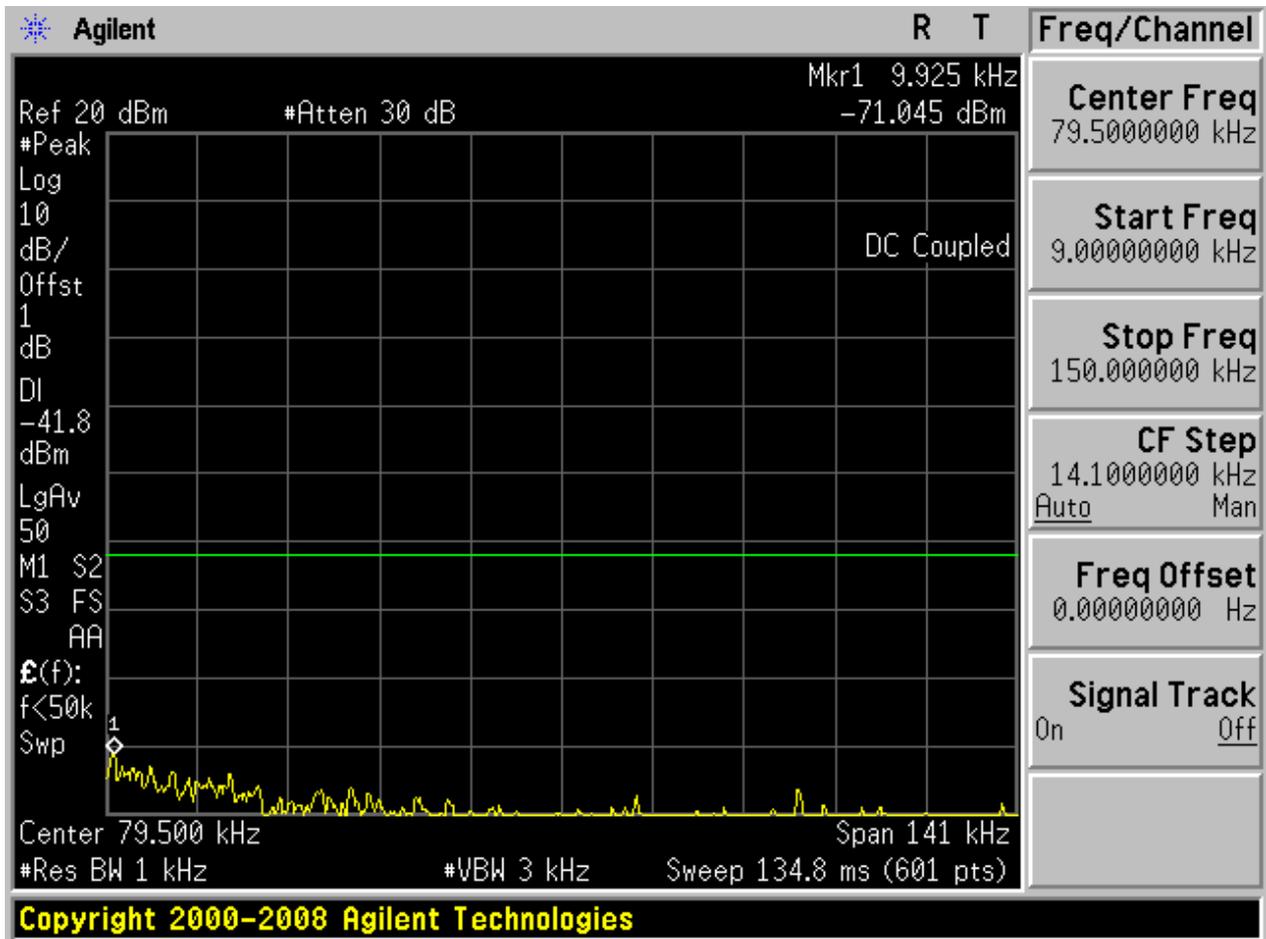


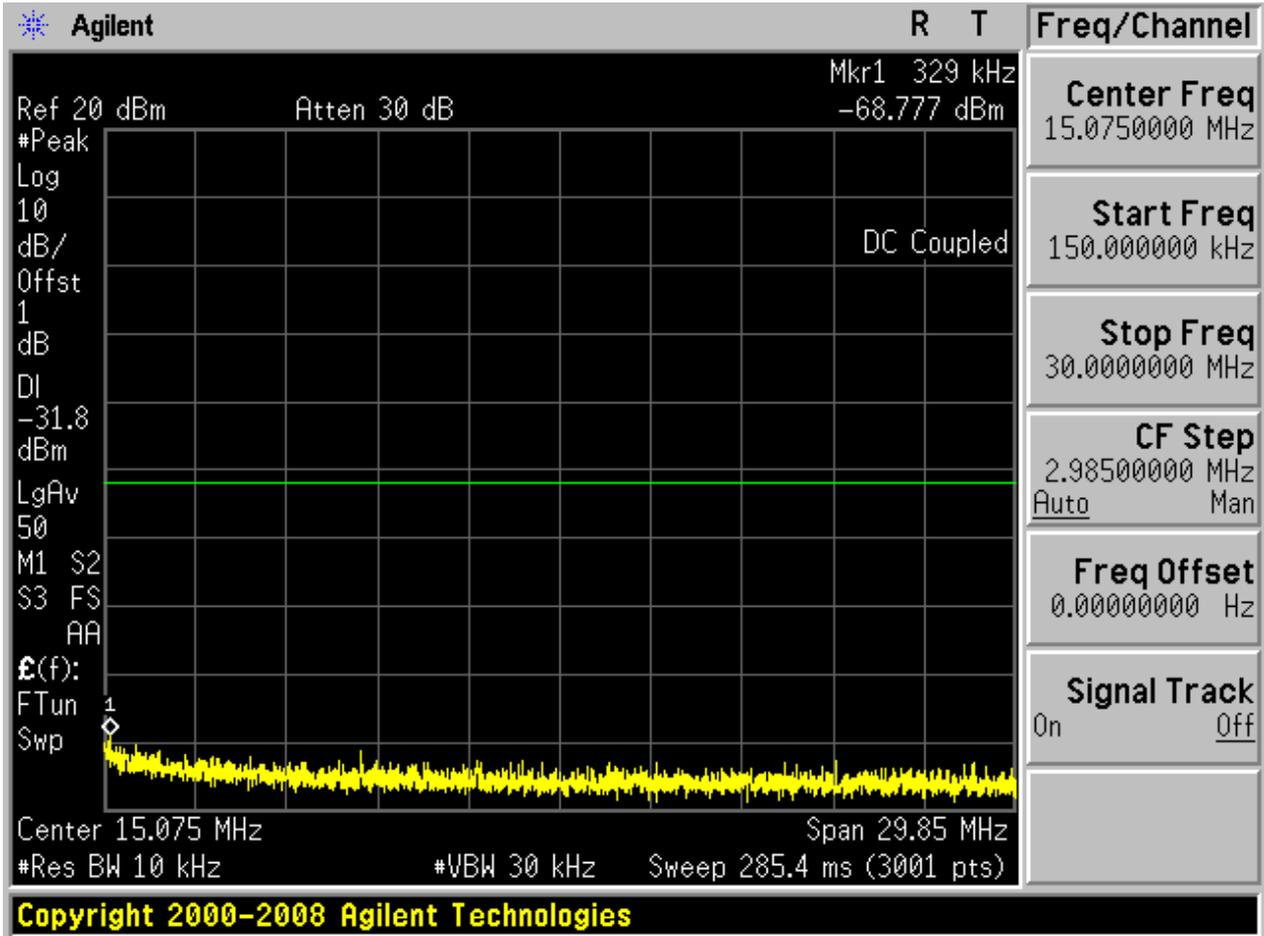
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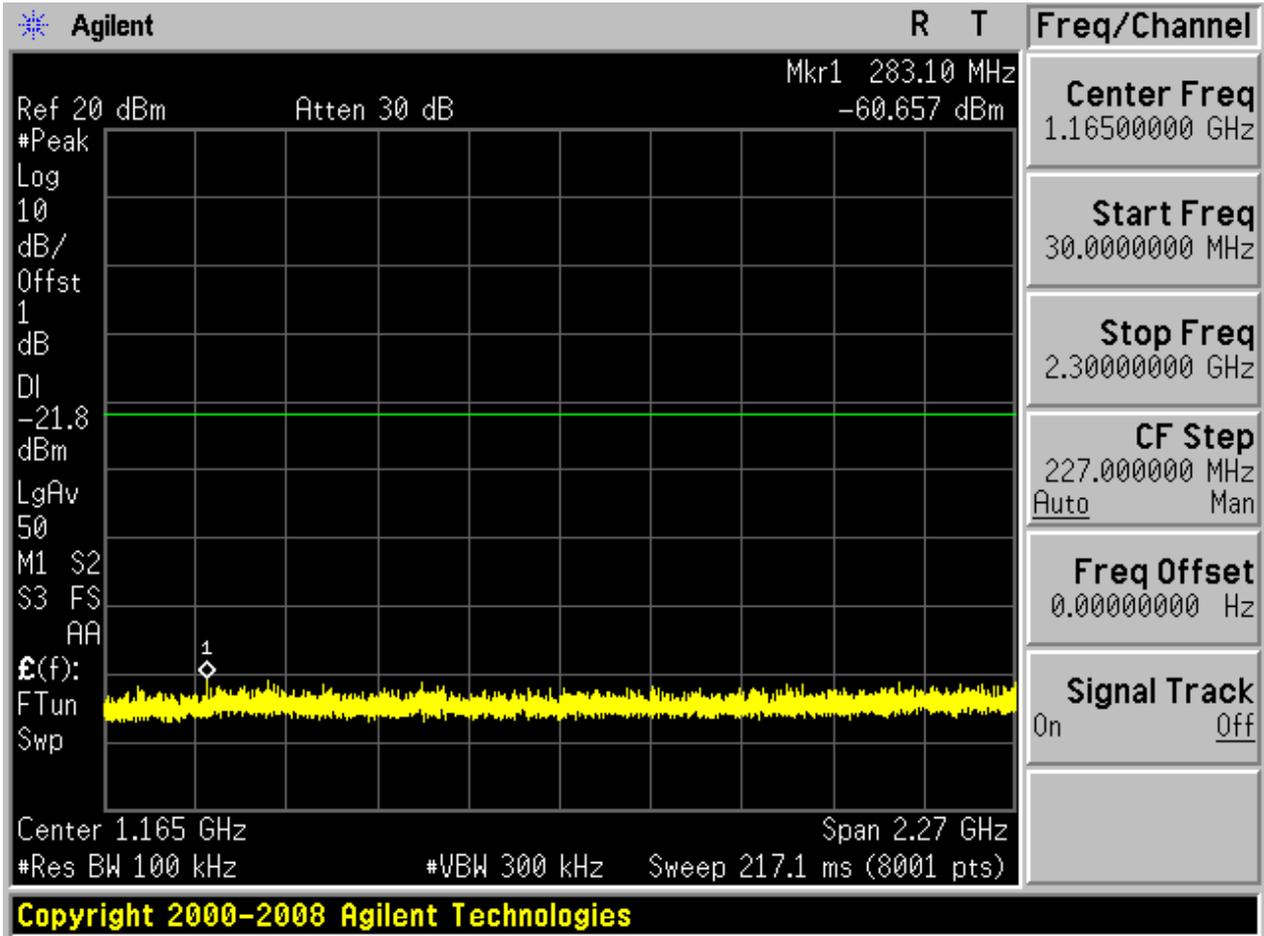
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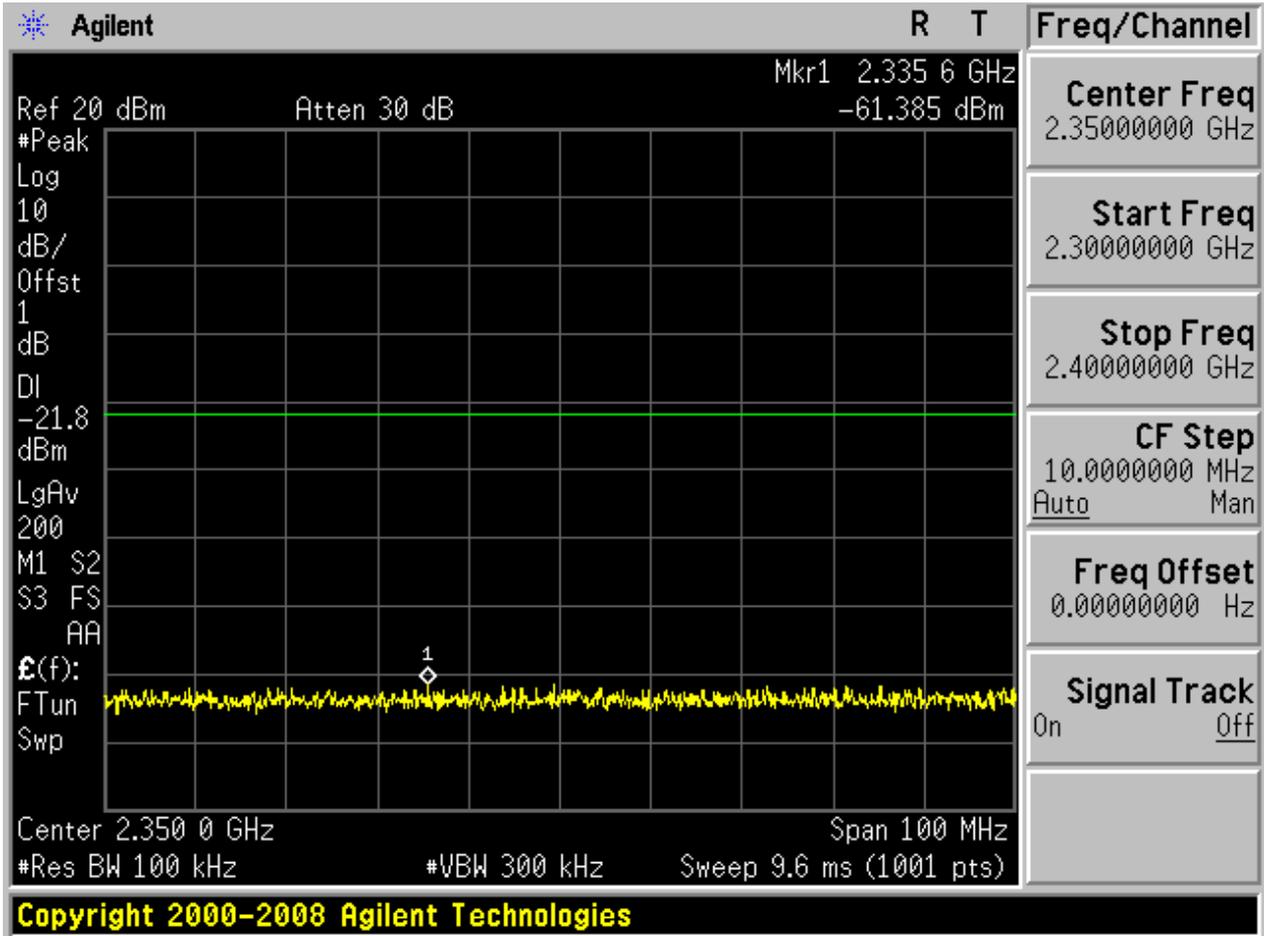
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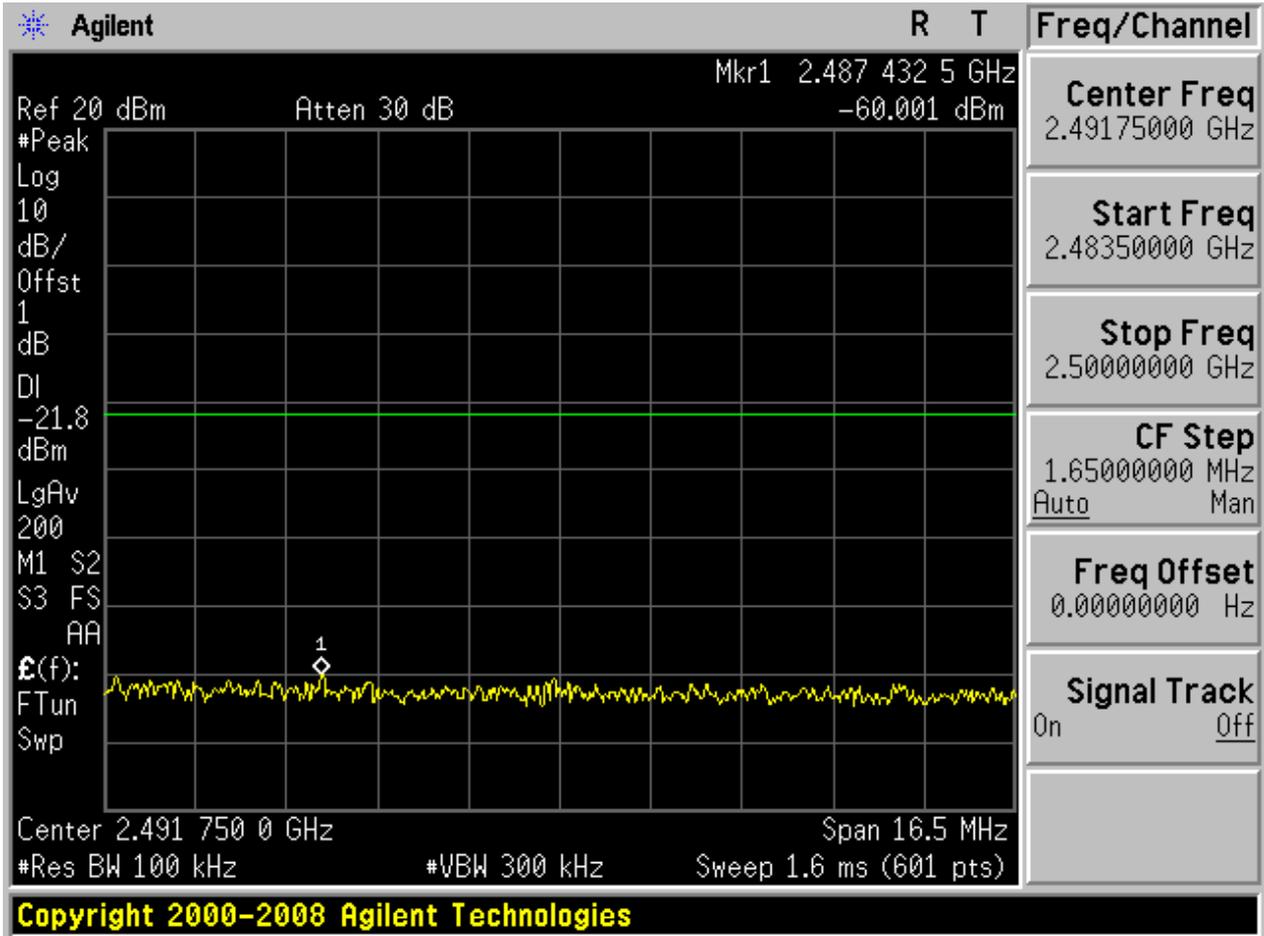


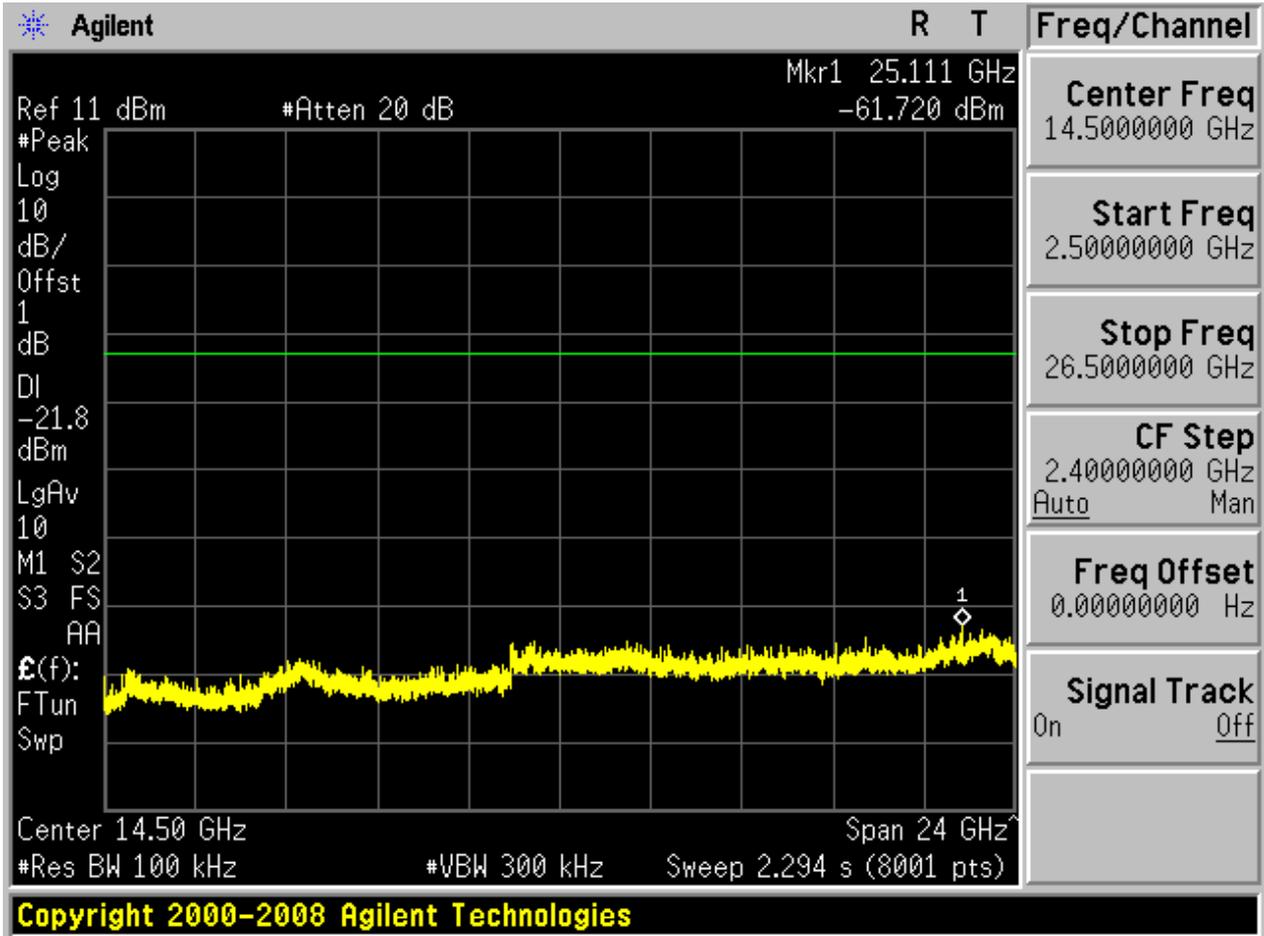




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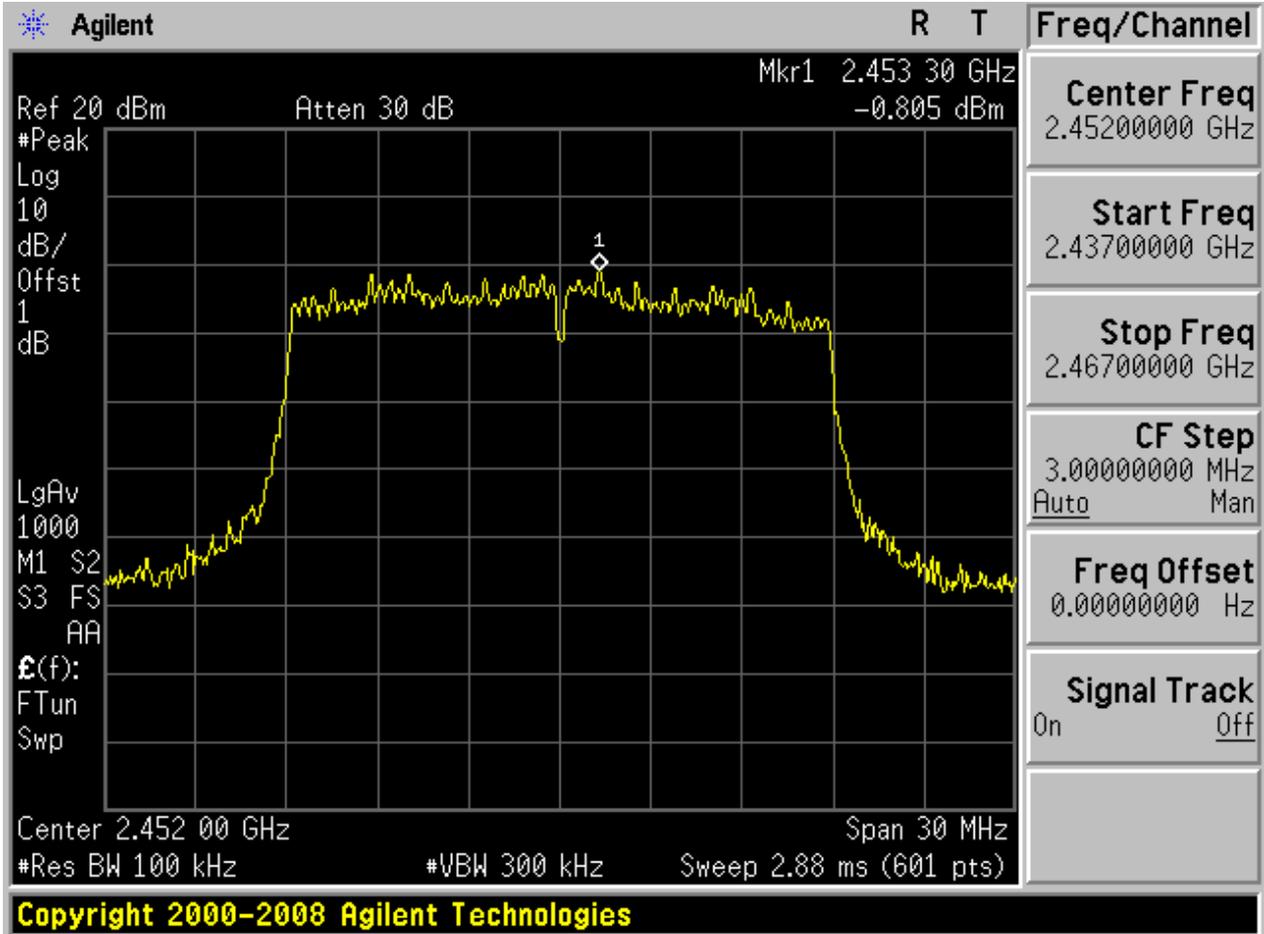




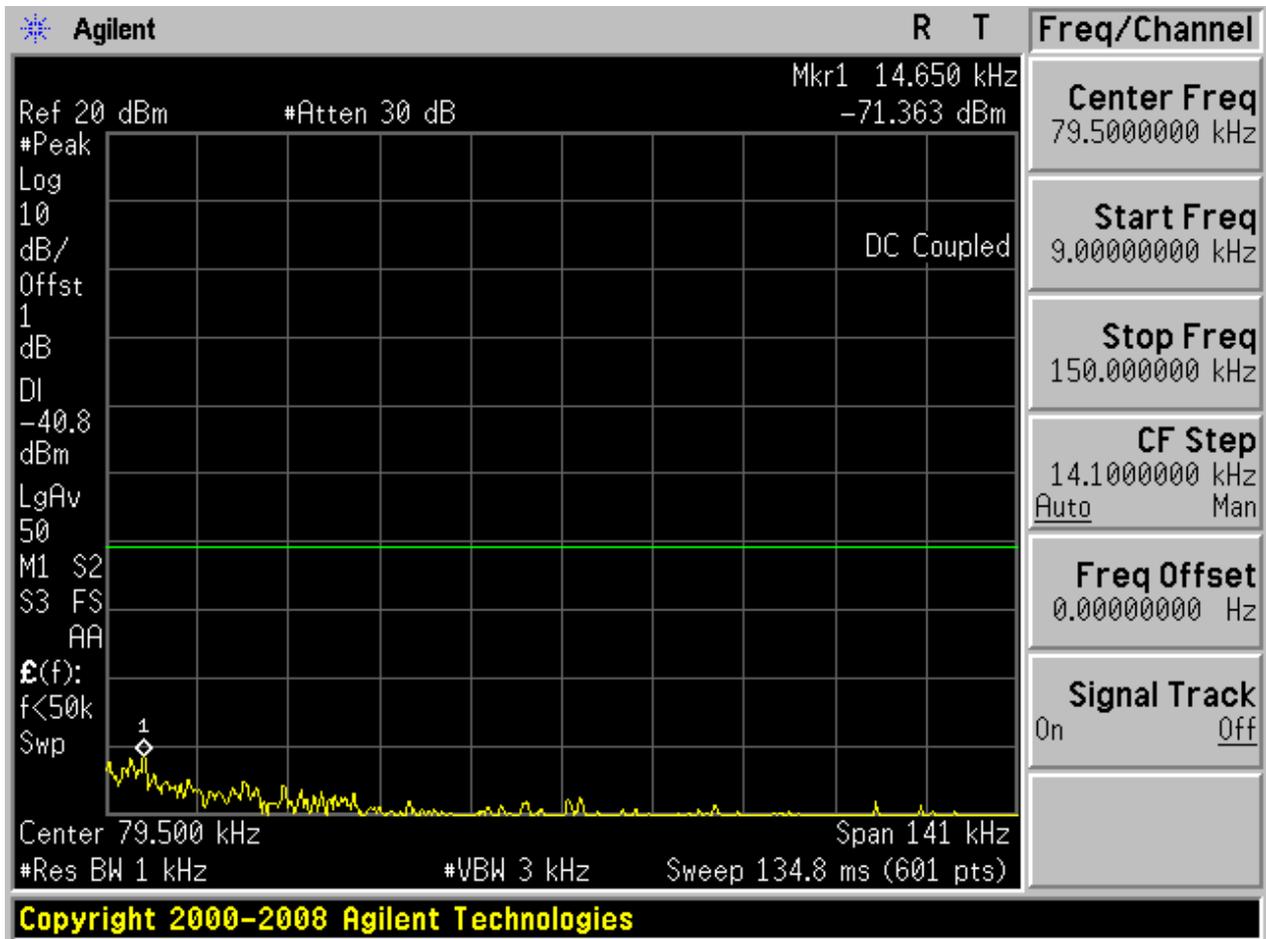


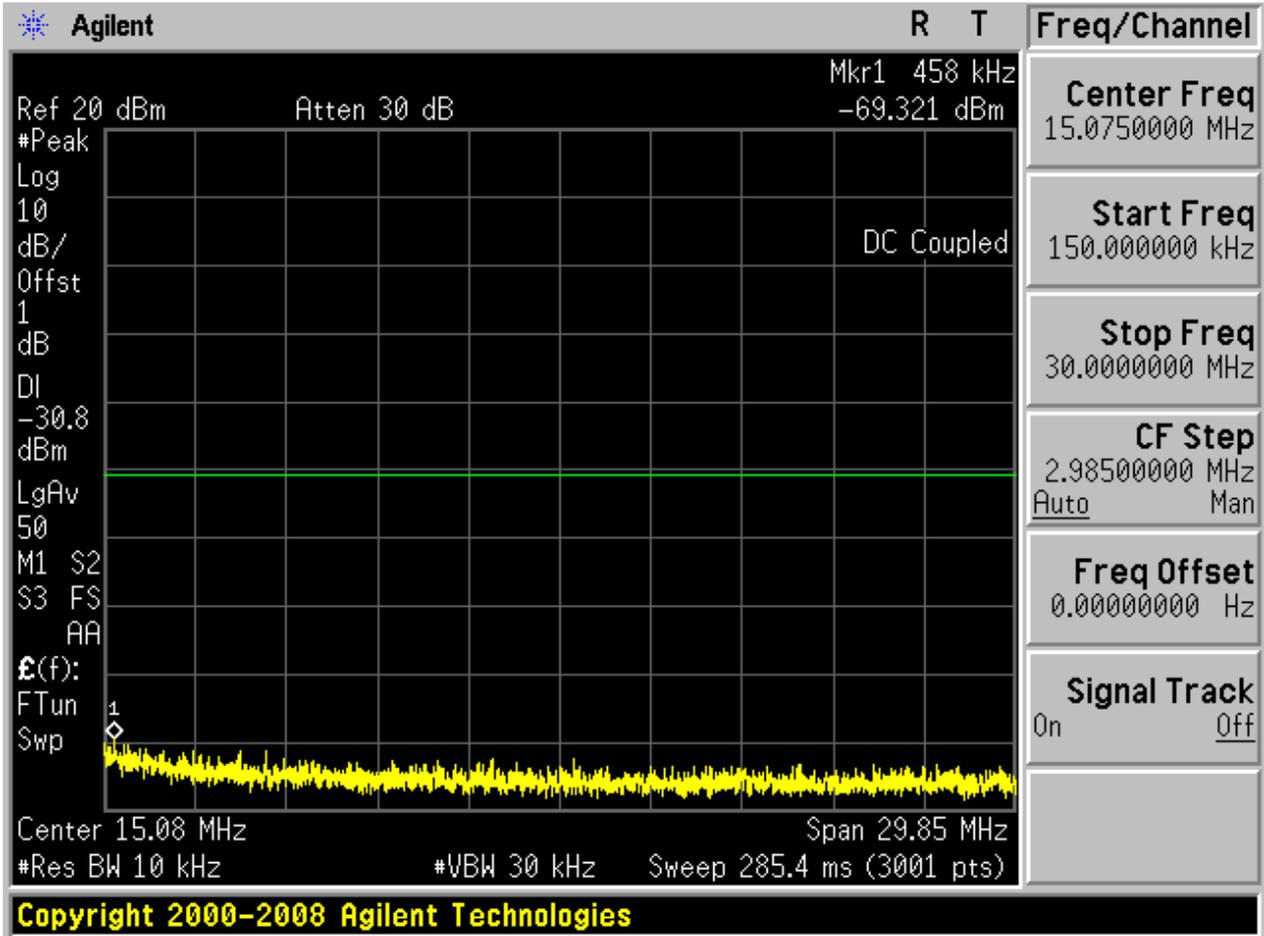
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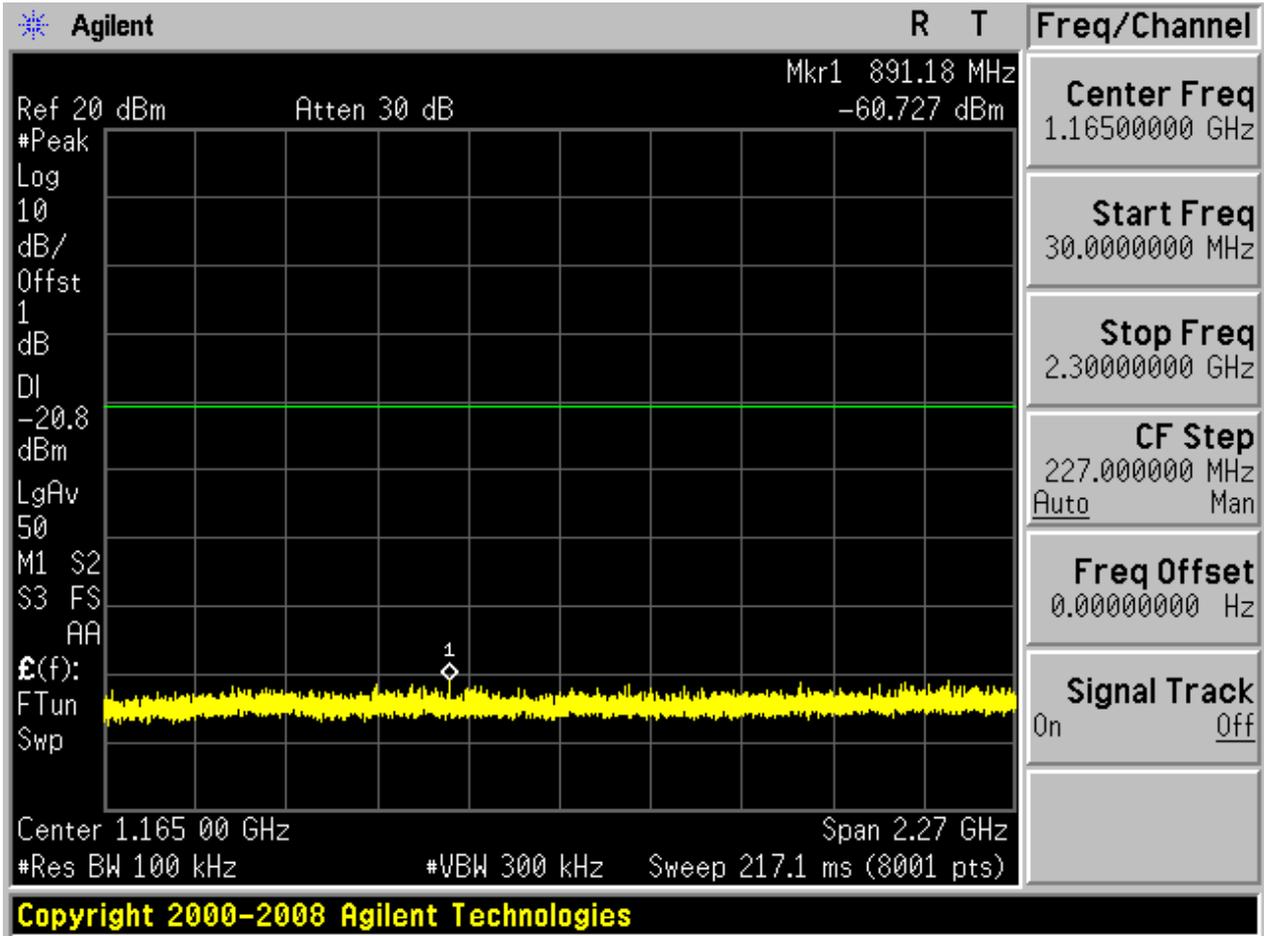
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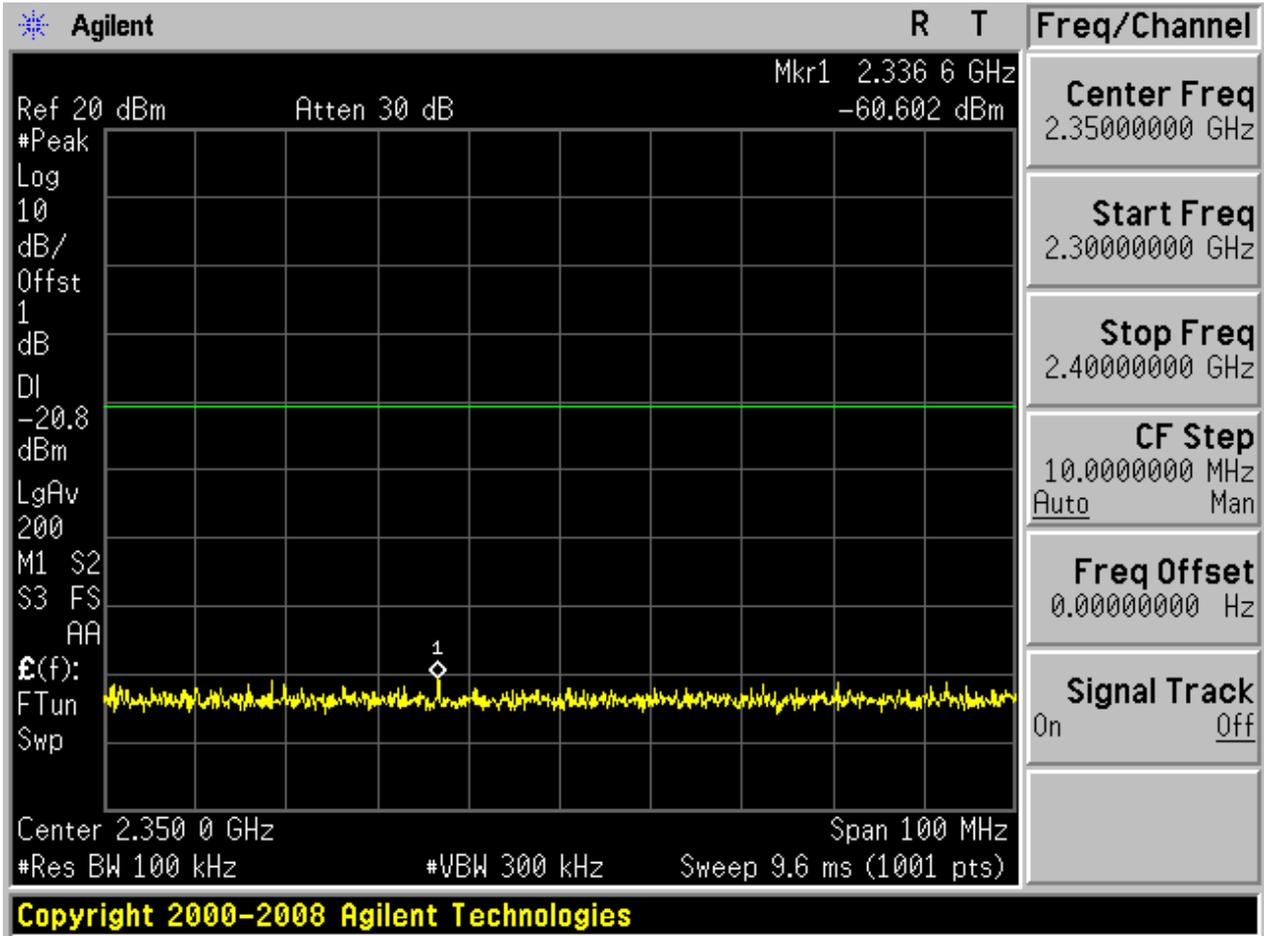


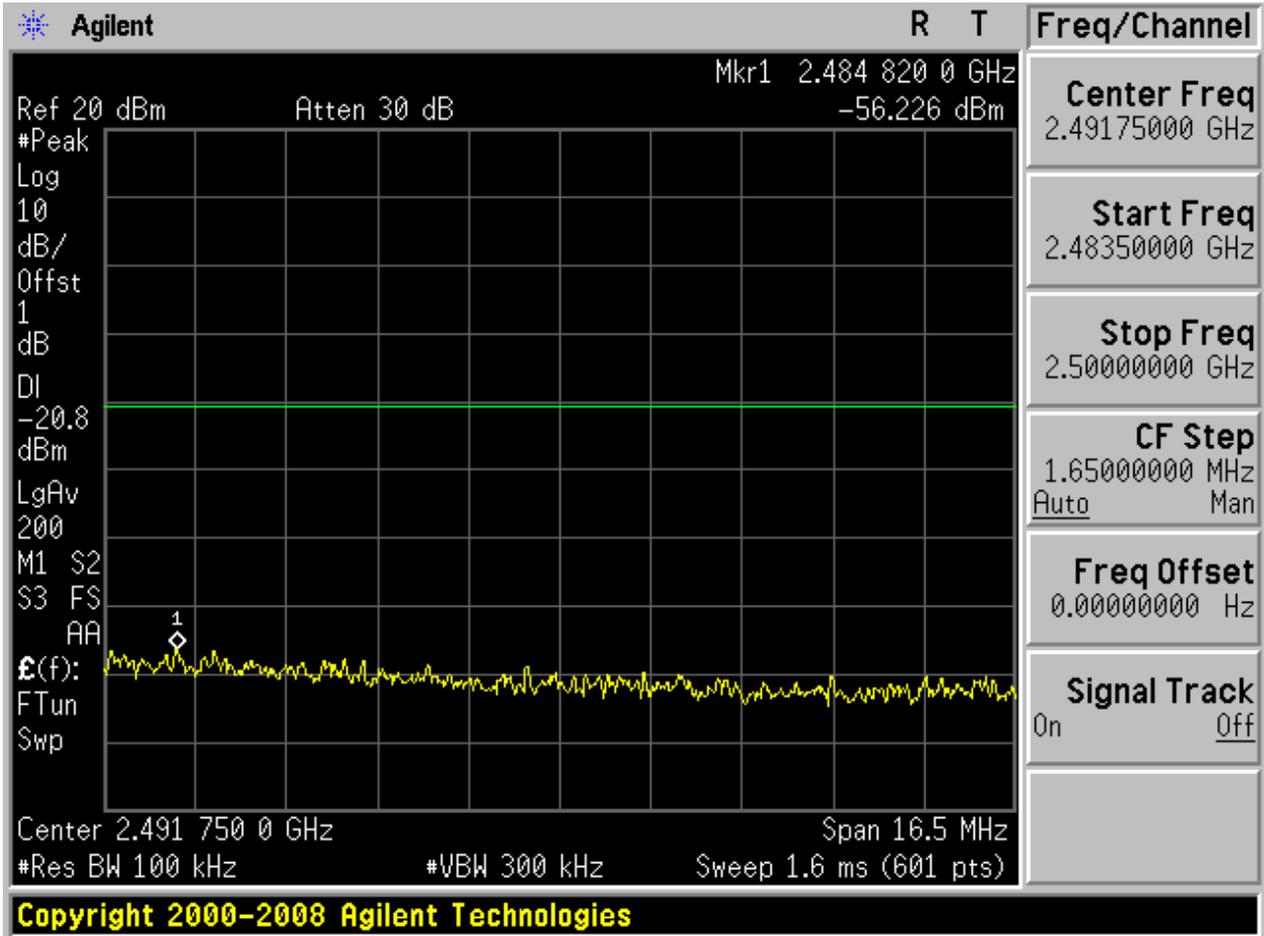
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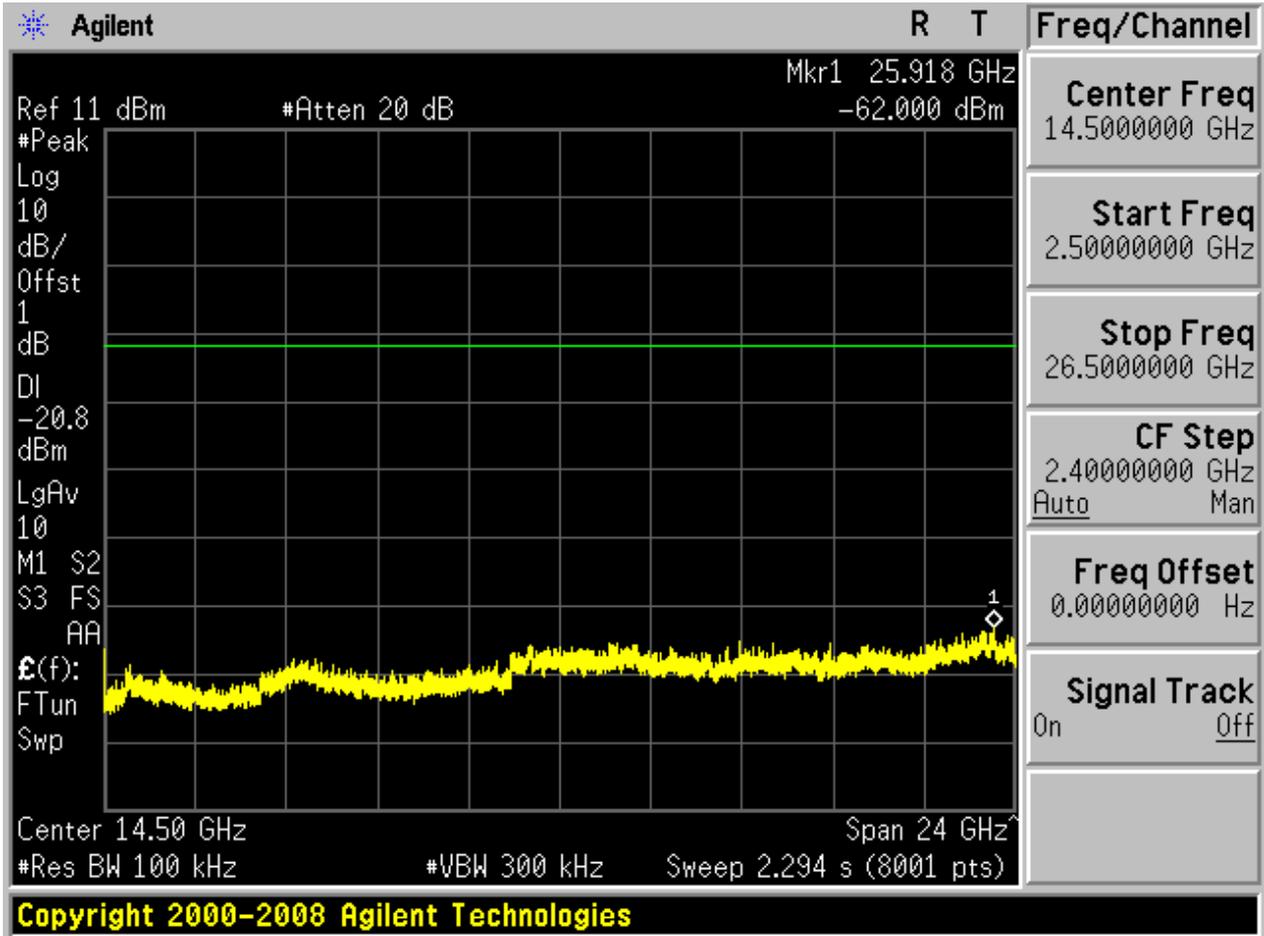






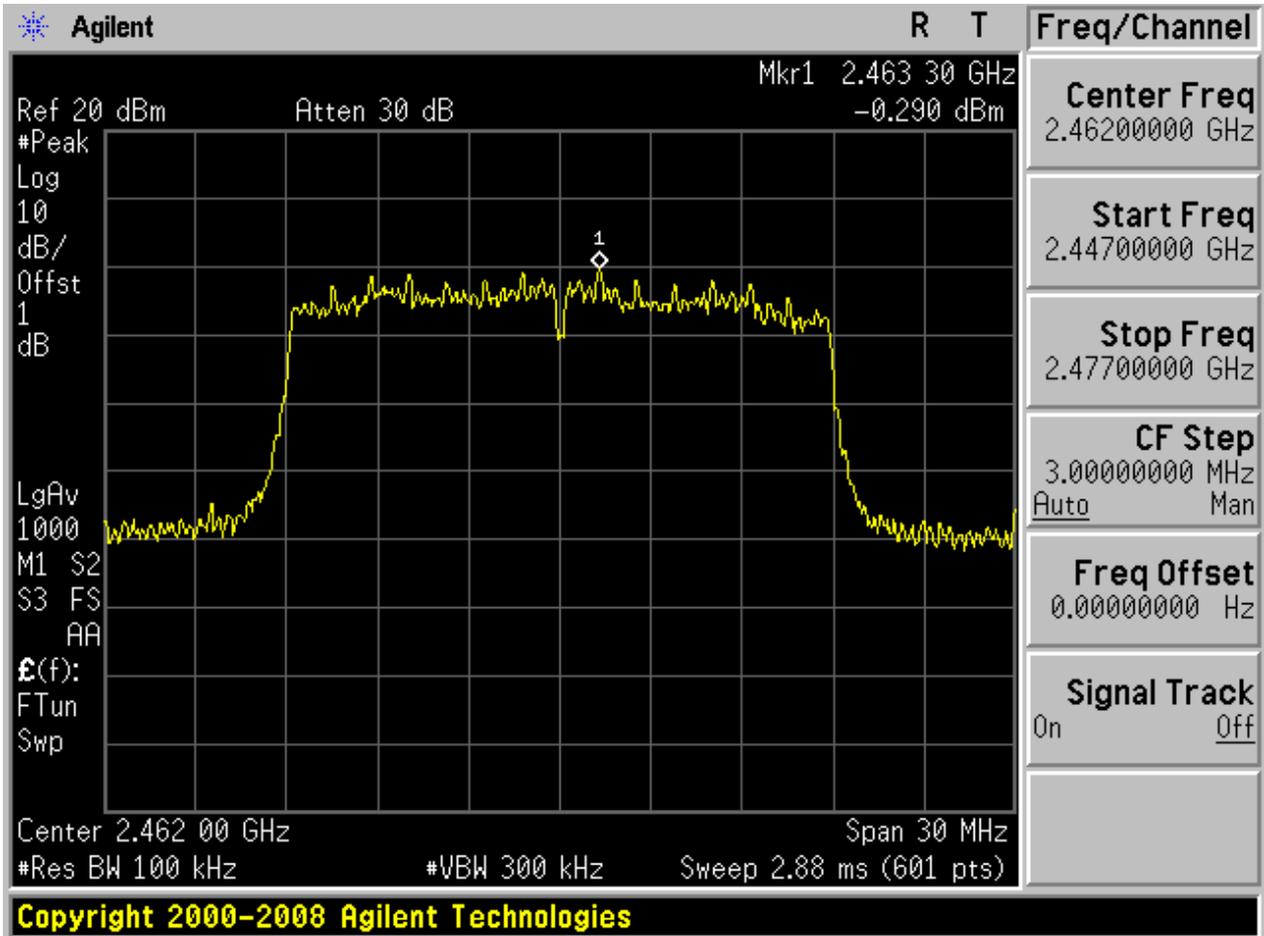




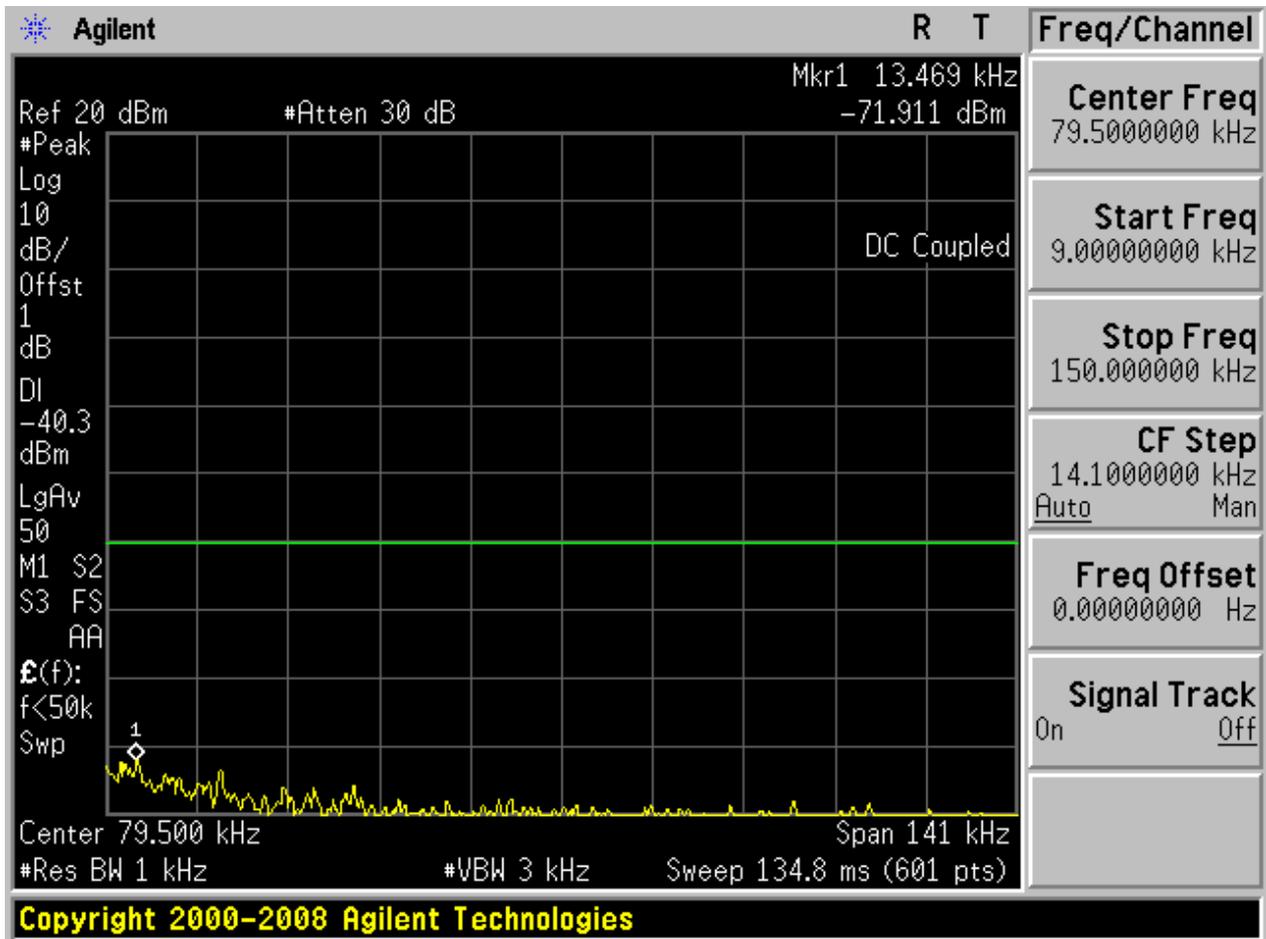


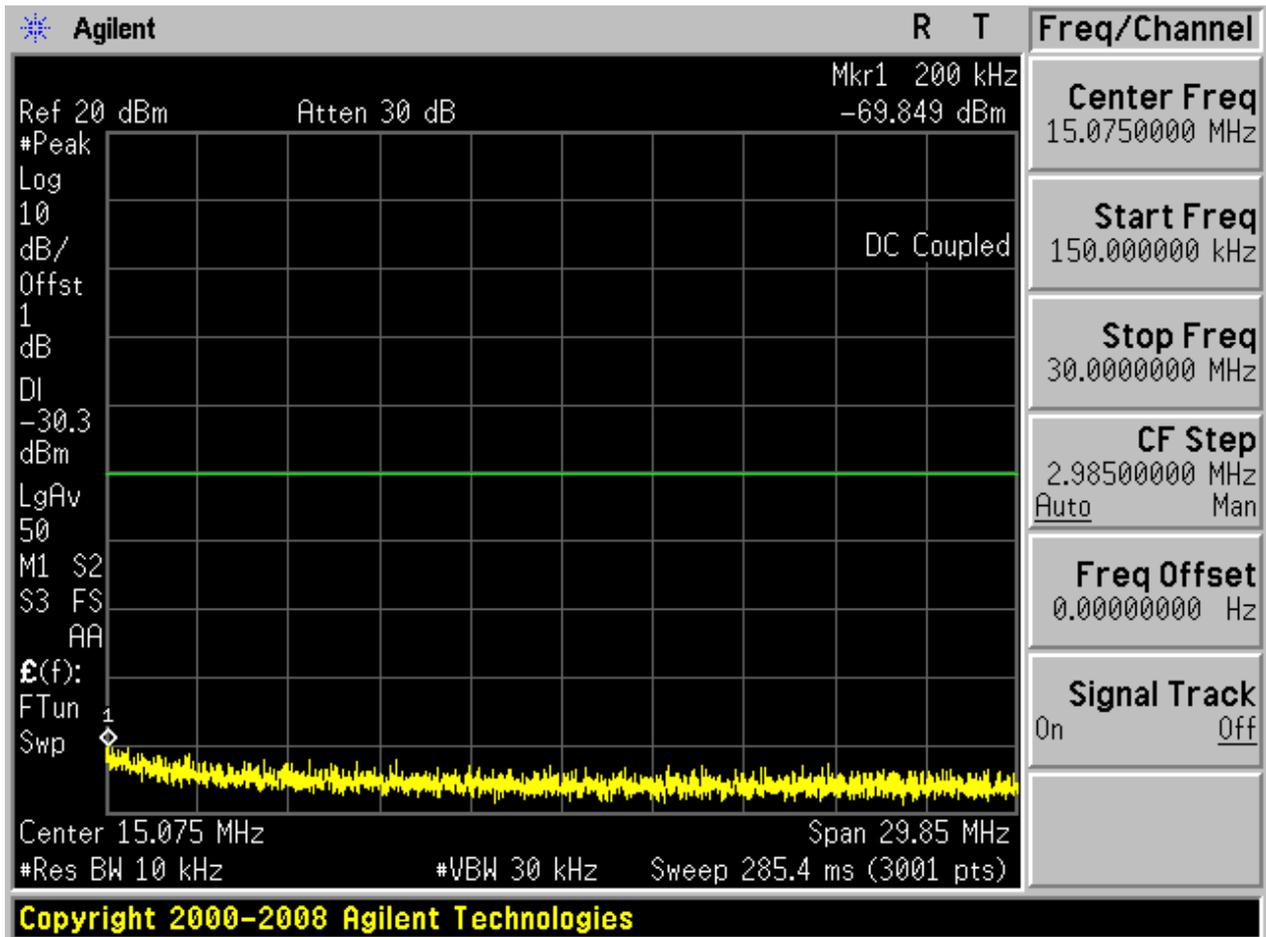
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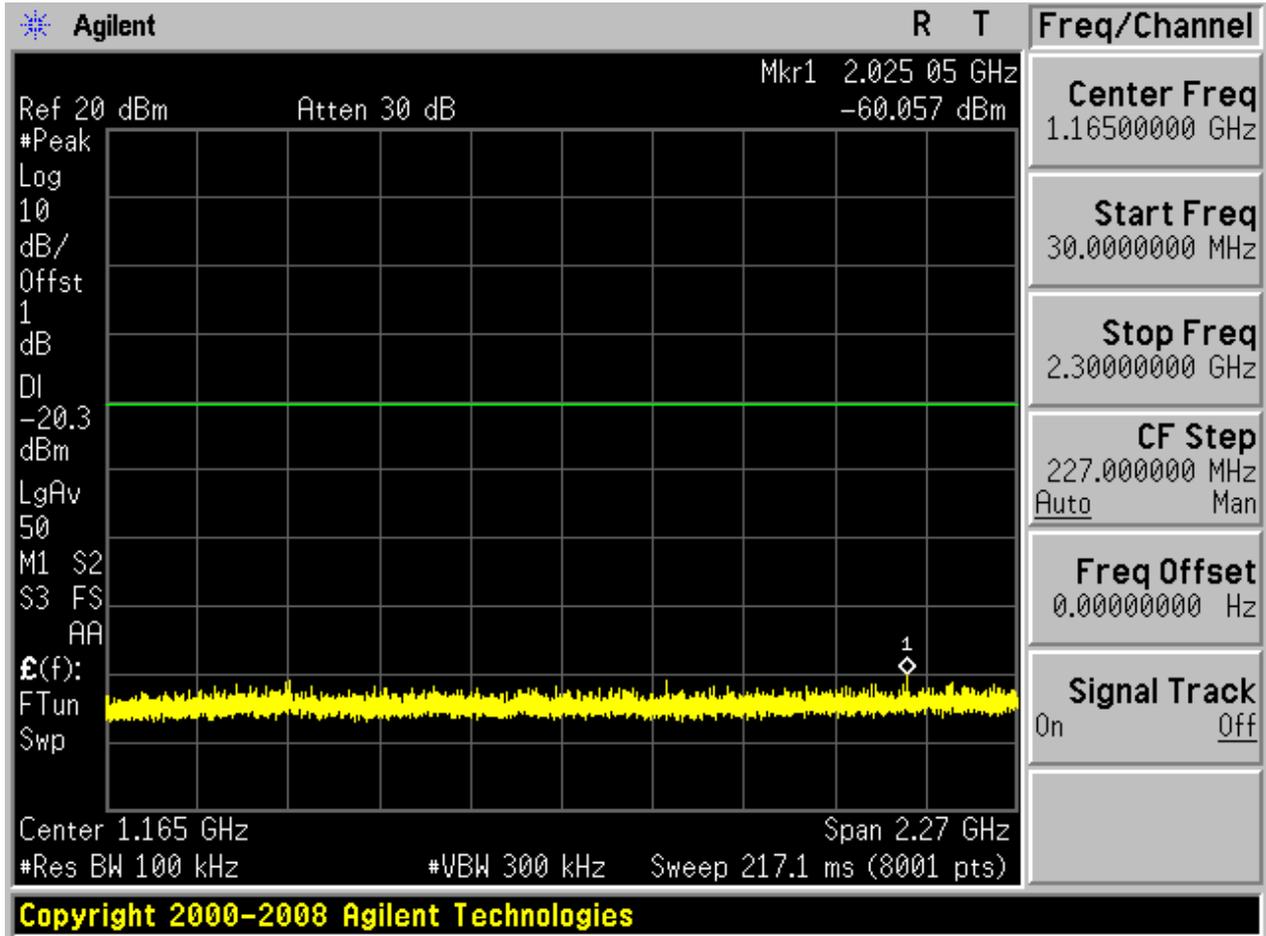
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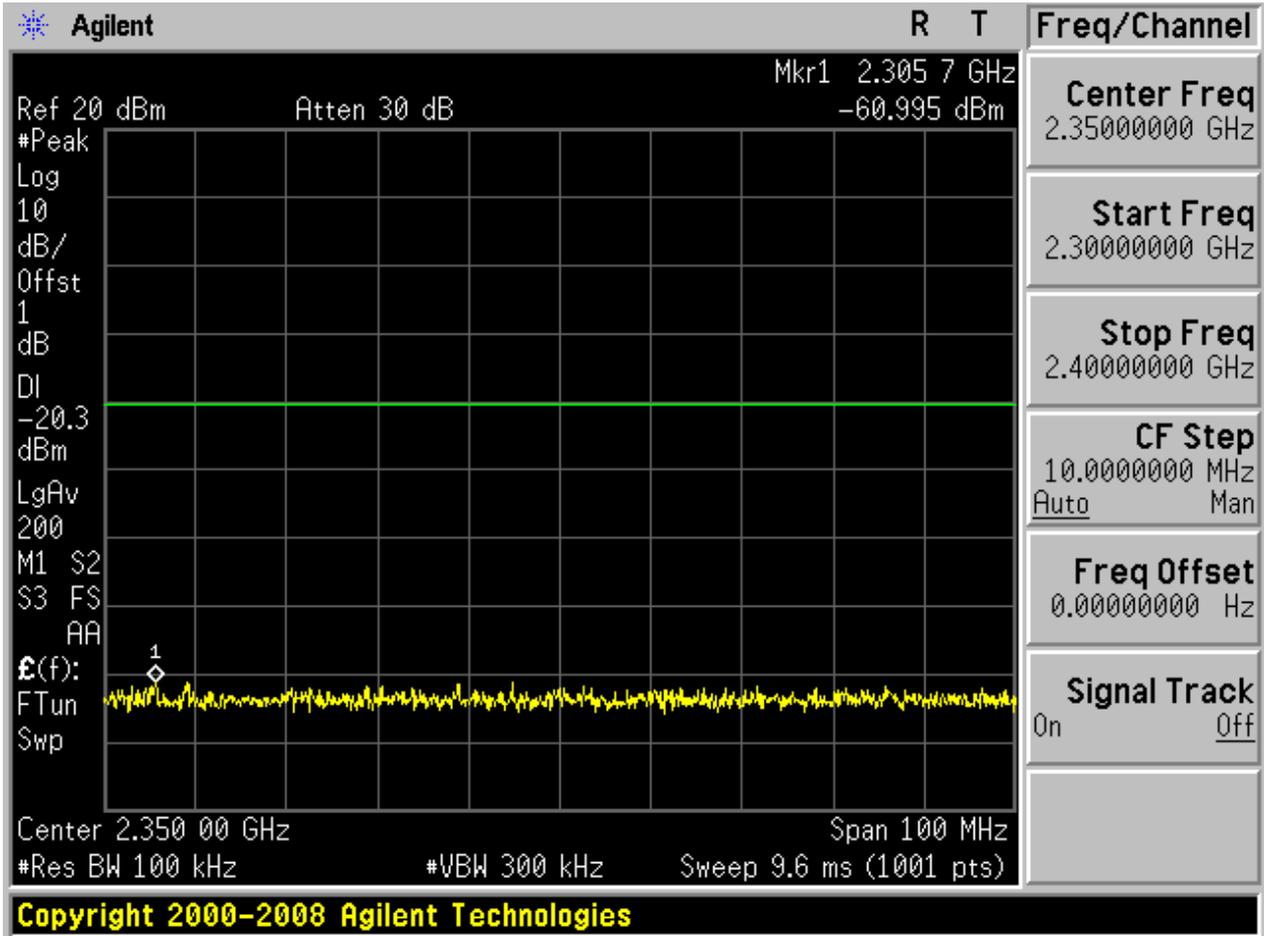


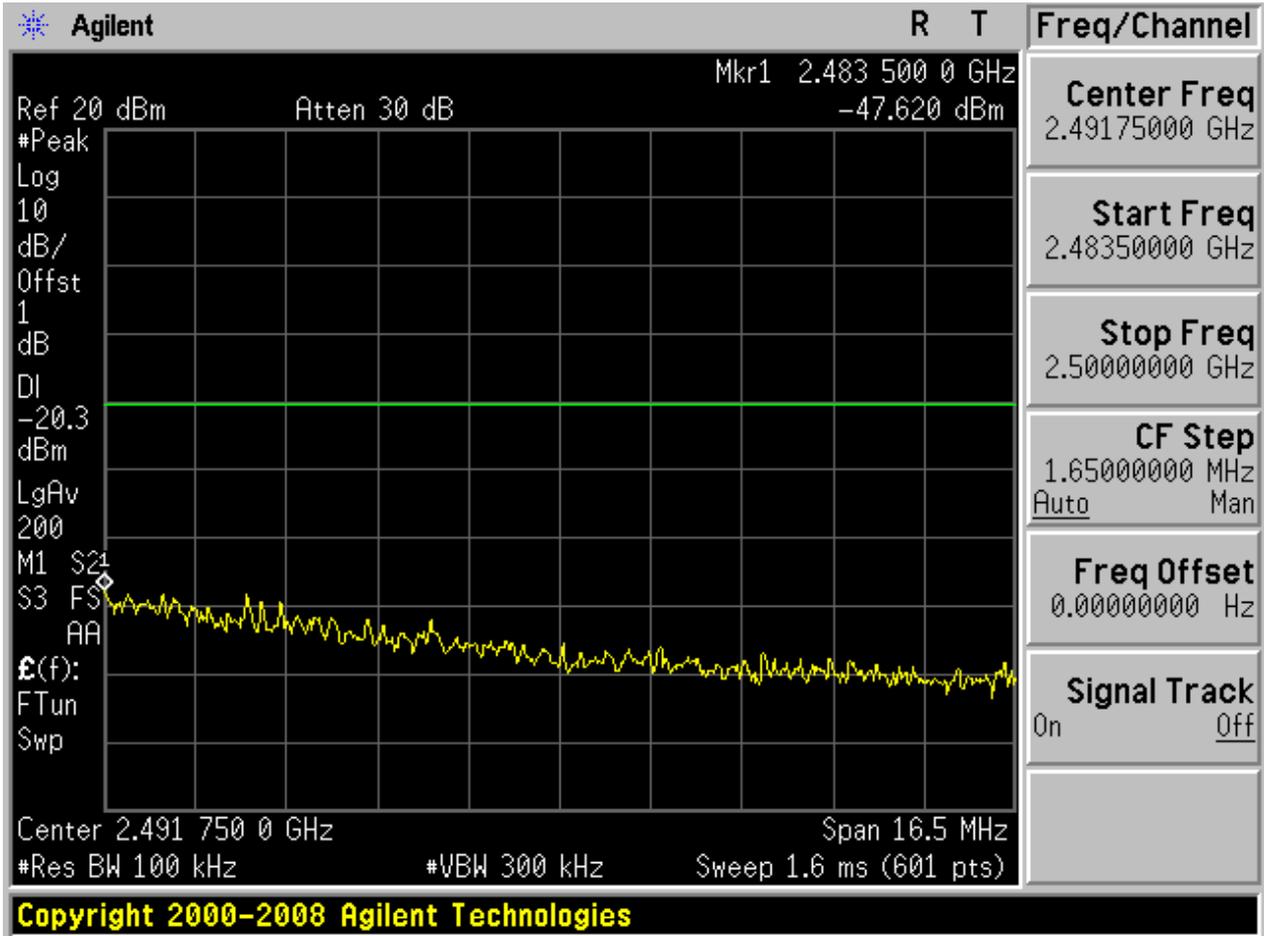
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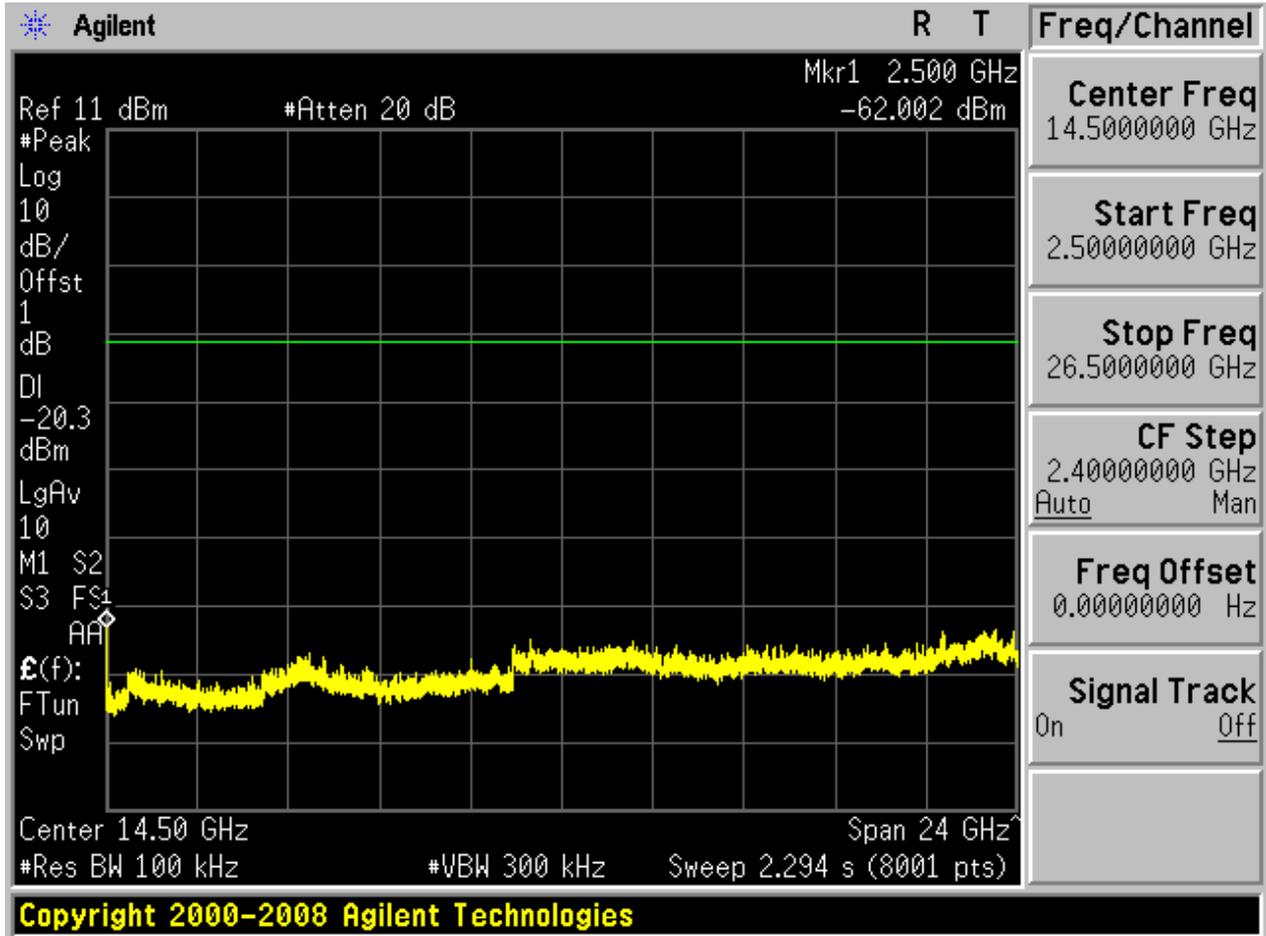












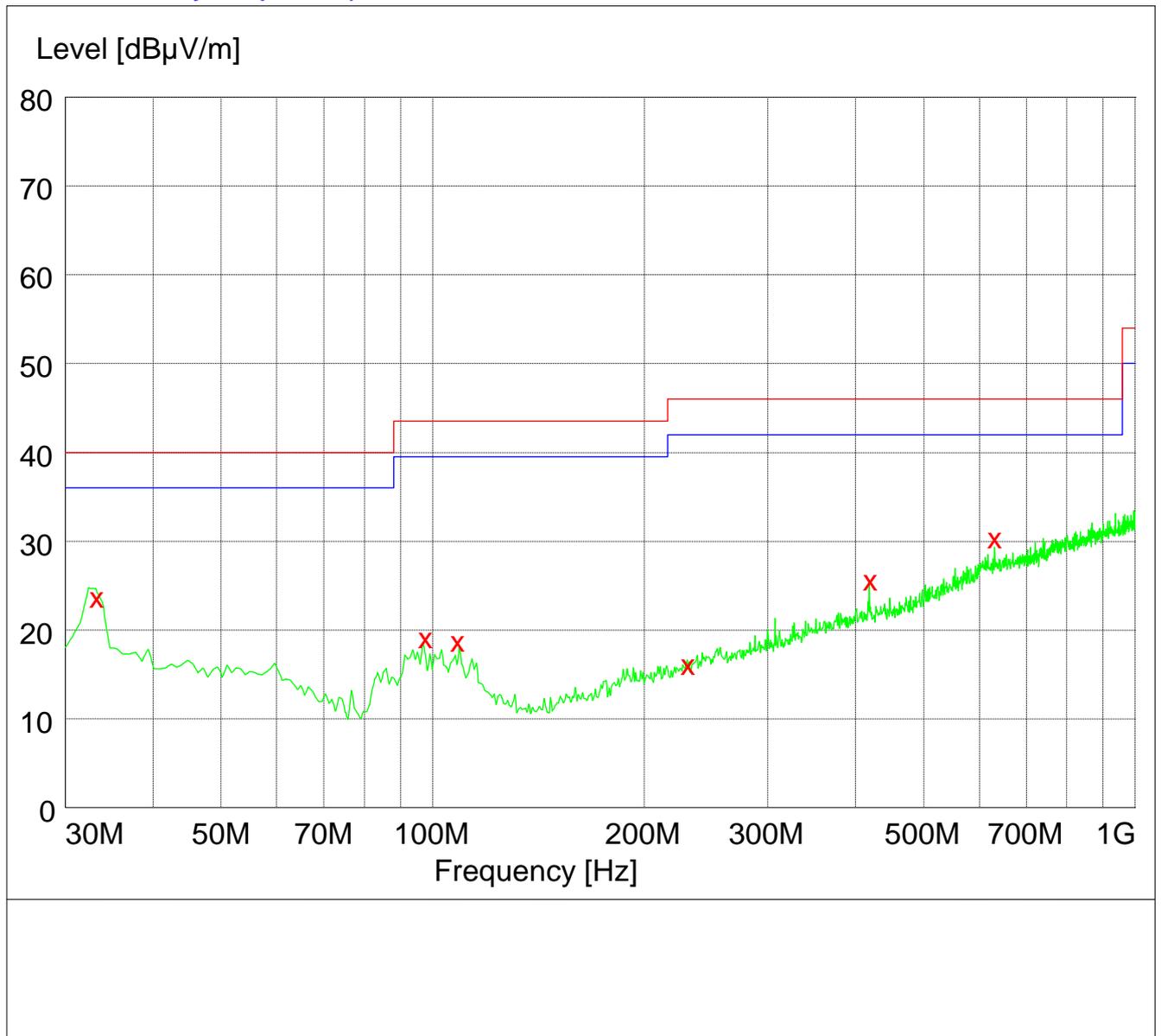


## **Appendix G: Radiated Spurious Emission & Spurious in Restricted Band**

## Part 1: 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).**

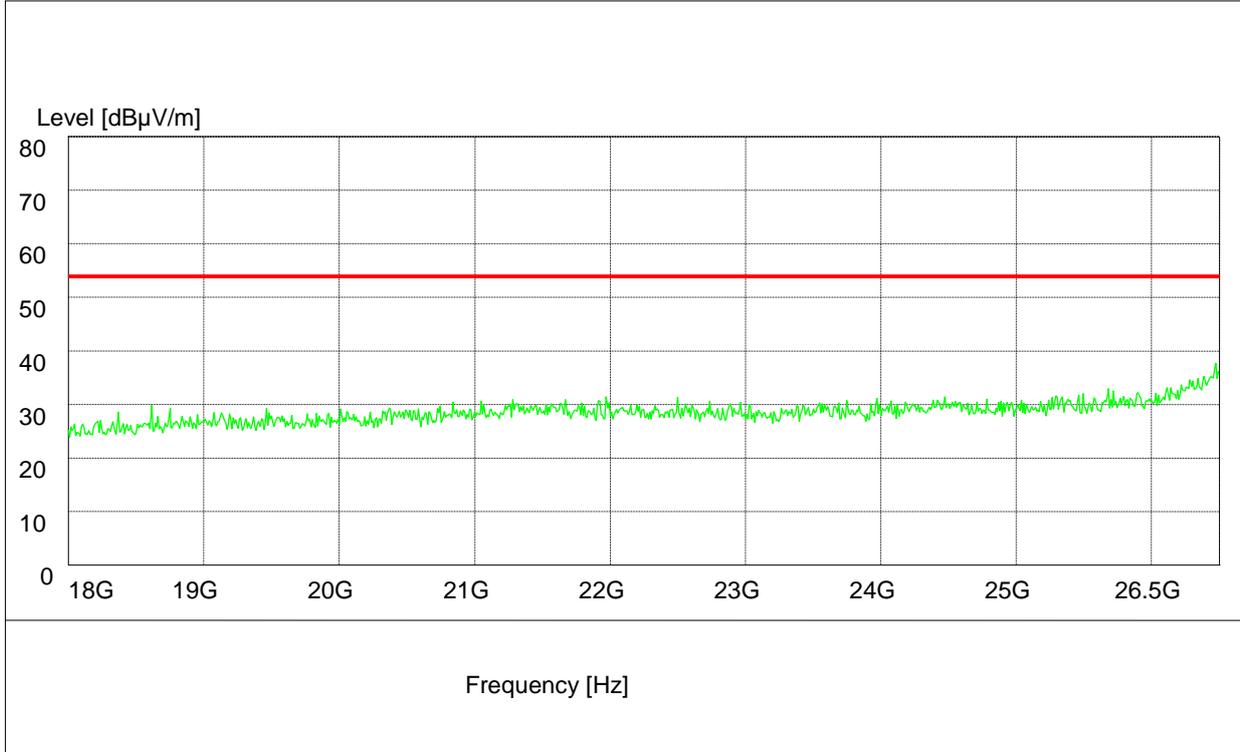




Frequency MHz	Level dB $\mu$ V/m	Transd dB	Limit dB $\mu$ V/m	Margin dB	Height cm	Azimuth deg	Plarization
33.180000	24.10	11.8	40.0	15.9	103.0	0.00	VERTICAL
97.620000	19.50	13.0	43.5	24.0	114.0	183.00	VERTICAL
108.480000	19.10	12.4	43.5	24.4	100.0	63.00	VERTICAL
231.000000	16.40	13.7	46.0	29.6	239.0	0.00	VERTICAL
418.860000	26.00	18.8	46.0	20.0	211.0	237.00	VERTICAL
630.540000	30.70	22.9	46.0	15.3	152.0	202.00	VERTICAL

**Part 2: Testing Range of “18 GHz to 26.5 GHz”**

Note: No peak found in pre- test.

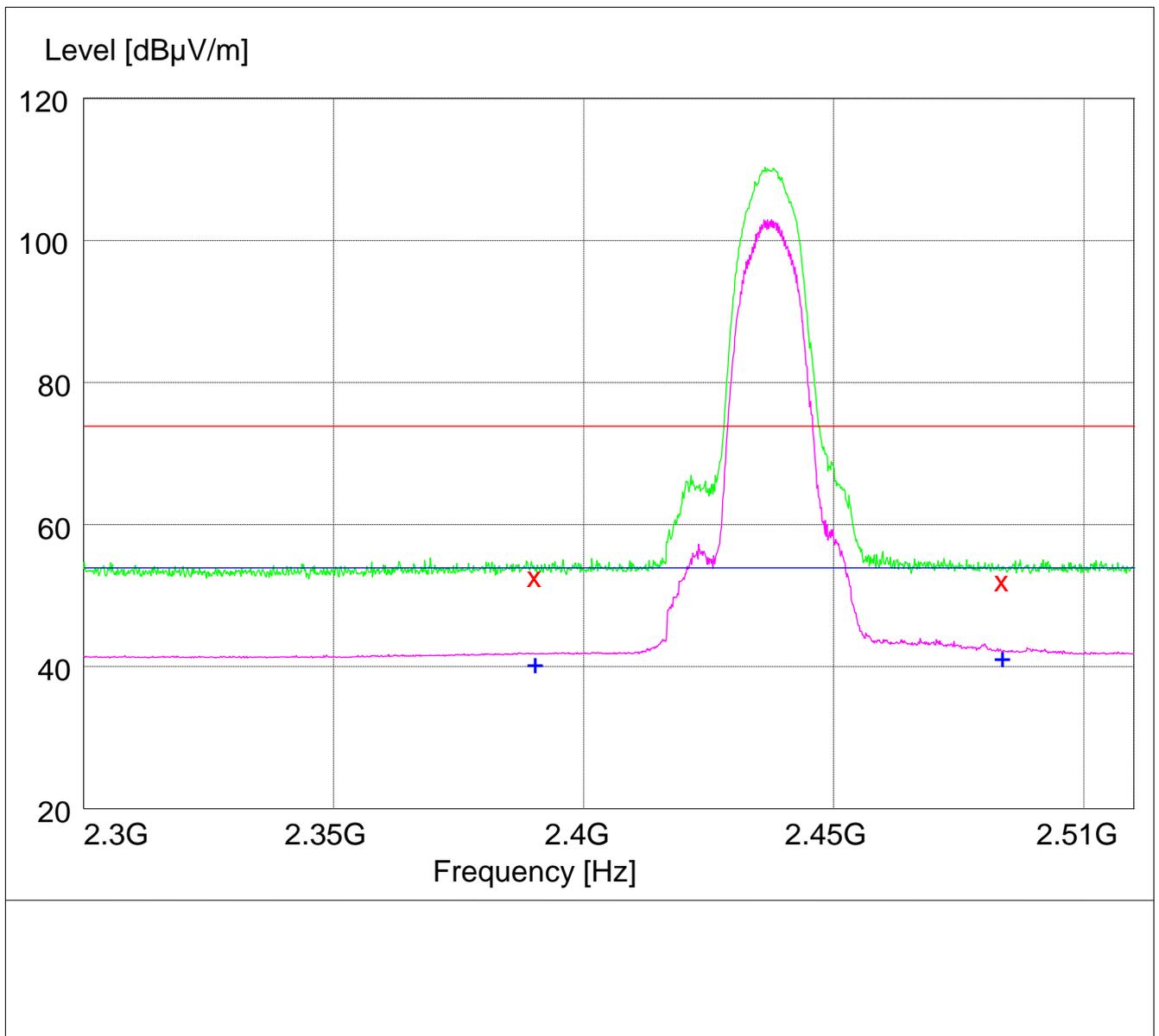


### Part 3: Testing Range of “2.3GHz to 2.5GHz”

- 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.

## Test Mode: 11b

### Channel 06





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

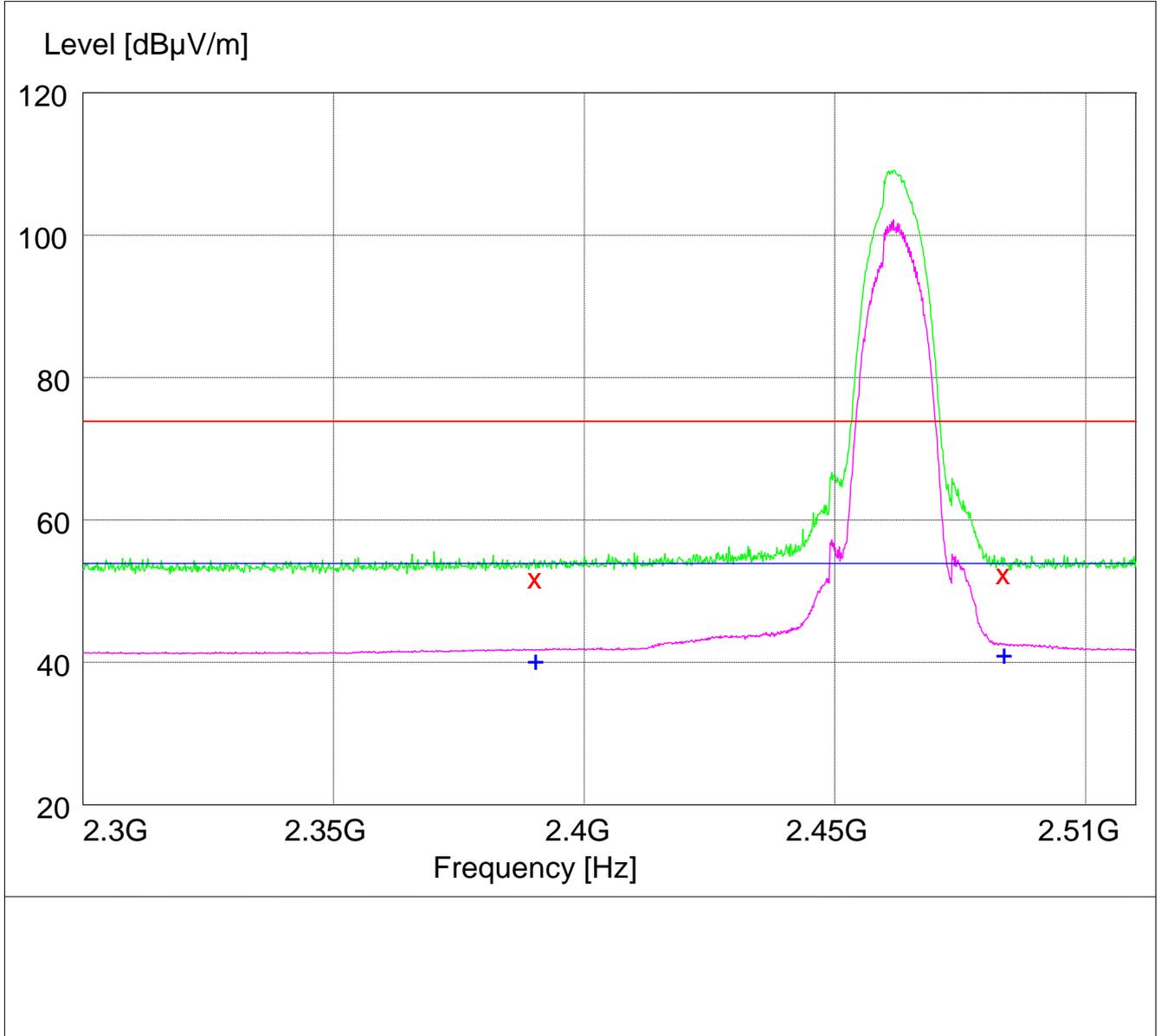
## MEASUREMENT RESULT: PK Detector

Frequency MHz	Level dB $\mu$ V/m	Transd dB	Limit dB $\mu$ V/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	53.10	34.8	74.0	20.9	100.0	318.00	VERTICAL
2483.500000	52.50	35.1	74.0	21.5	135.0	161.00	VERTICAL

## MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dB $\mu$ V/m	Transd dB	Limit dB $\mu$ V/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	40.90	34.8	54.0	13.1	165.0	8.00	HORIZONTAL
2483.500000	41.70	35.1	54.0	12.3	161.0	170.00	HORIZONTAL

## Channel 11



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



MEASUREMENT RESULT: PK Detector

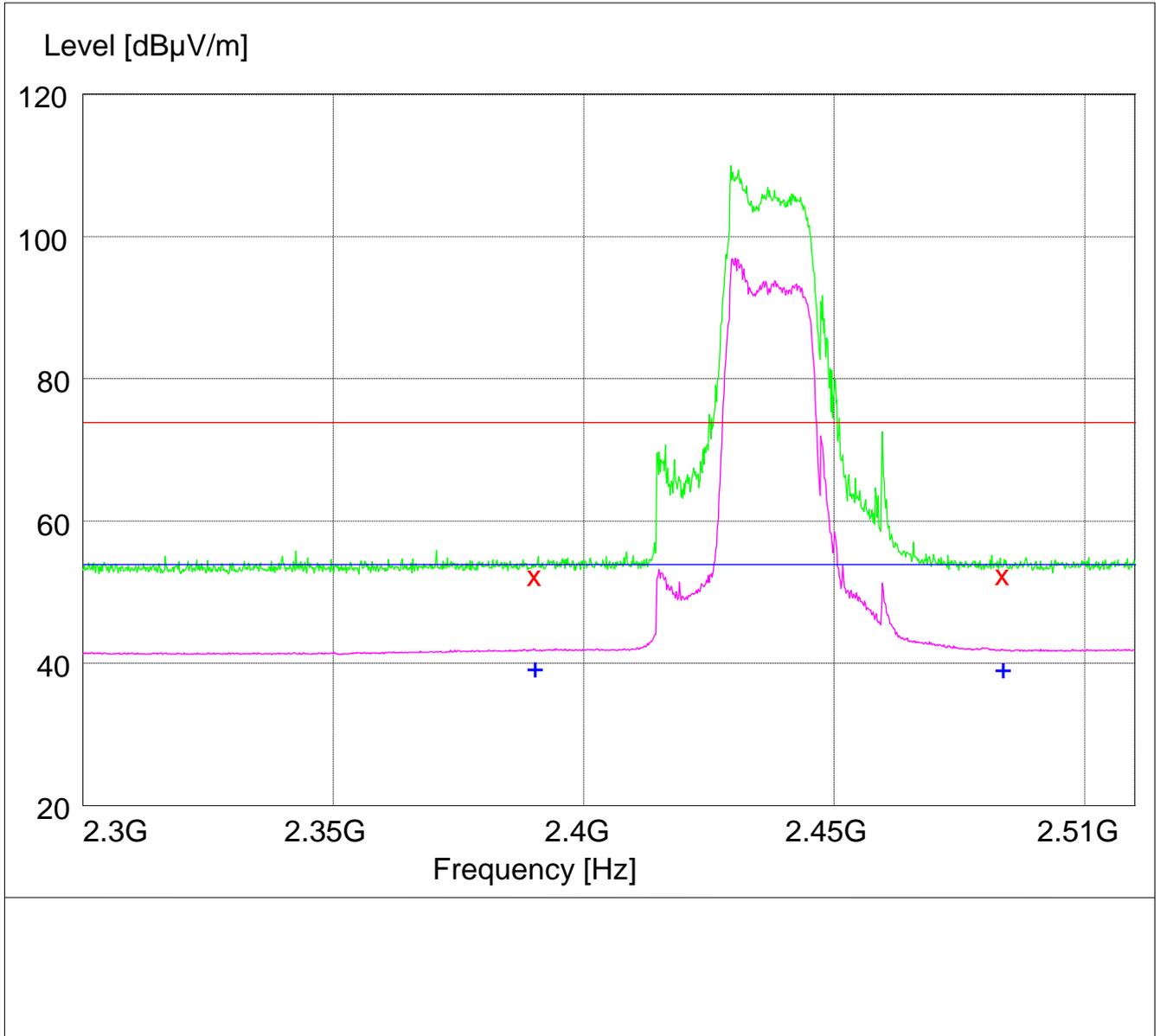
Frequency MHz	Level dB $\mu$ V/m	Transd dB	Limit dB $\mu$ V/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	52.30	34.8	74.0	21.7	129.0	177.00	HORIZONTAL
2483.500000	52.90	35.1	74.0	21.1	197.0	359.00	HORIZONTAL

MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dB $\mu$ V/m	Transd dB	Limit dB $\mu$ V/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	40.80	34.8	54.0	13.2	136.0	36.00	VERTICAL
2483.500000	41.60	35.1	54.0	12.4	100.0	149.00	HORIZONTAL

# Test Mode: 11g

## Channel 06



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



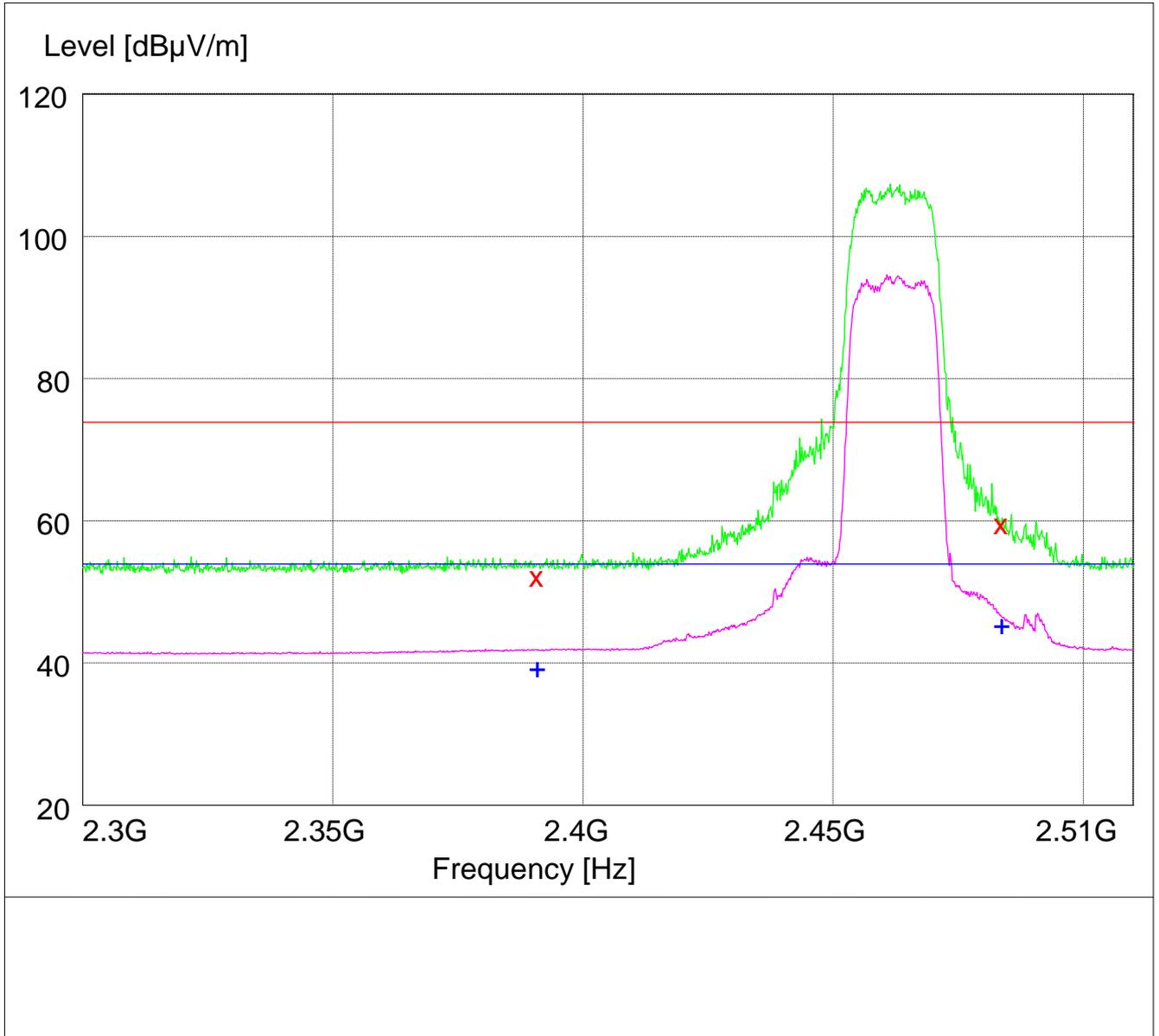
## MEASUREMENT RESULT: PK Detector

Frequency MHz	Level dB $\mu$ V/m	Transd dB	Limit dB $\mu$ V/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	52.80	34.8	74.0	21.2	101.0	35.00	HORIZONTAL
2483.500000	52.90	35.1	74.0	21.1	176.0	244.00	VERTICAL

## MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dB $\mu$ V/m	Transd dB	Limit dB $\mu$ V/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	39.80	34.8	54.0	14.2	157.0	42.00	HORIZONTAL
2483.500000	39.70	35.1	54.0	14.3	101.0	0.00	VERTICAL

## Channel 11



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



MEASUREMENT RESULT: PK Detector

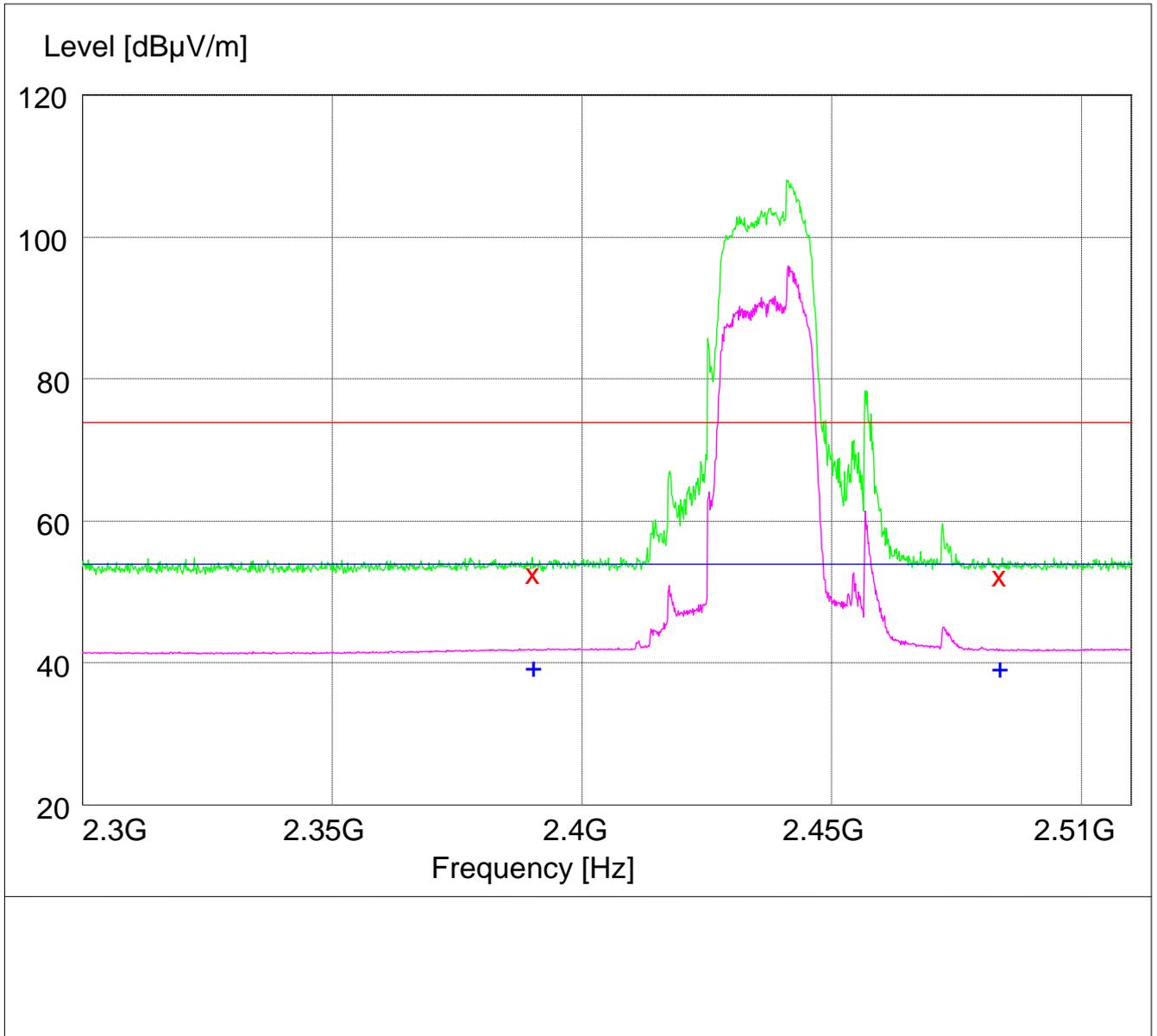
Frequency MHz	Level dB $\mu$ V/m	Transd dB	Limit dB $\mu$ V/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	52.80	34.8	74.0	21.2	150.0	349.00	VERTICAL
2483.500000	58.90	35.1	74.0	15.1	100.0	124.00	HORIZONTAL

MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dB $\mu$ V/m	Transd dB	Limit dB $\mu$ V/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	39.80	34.8	54.0	14.2	195.0	354.00	VERTICAL
2483.500000	45.80	35.1	54.0	8.2	117.0	91.00	HORIZONTAL

# Test Mode: 11n

## Channel 06



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

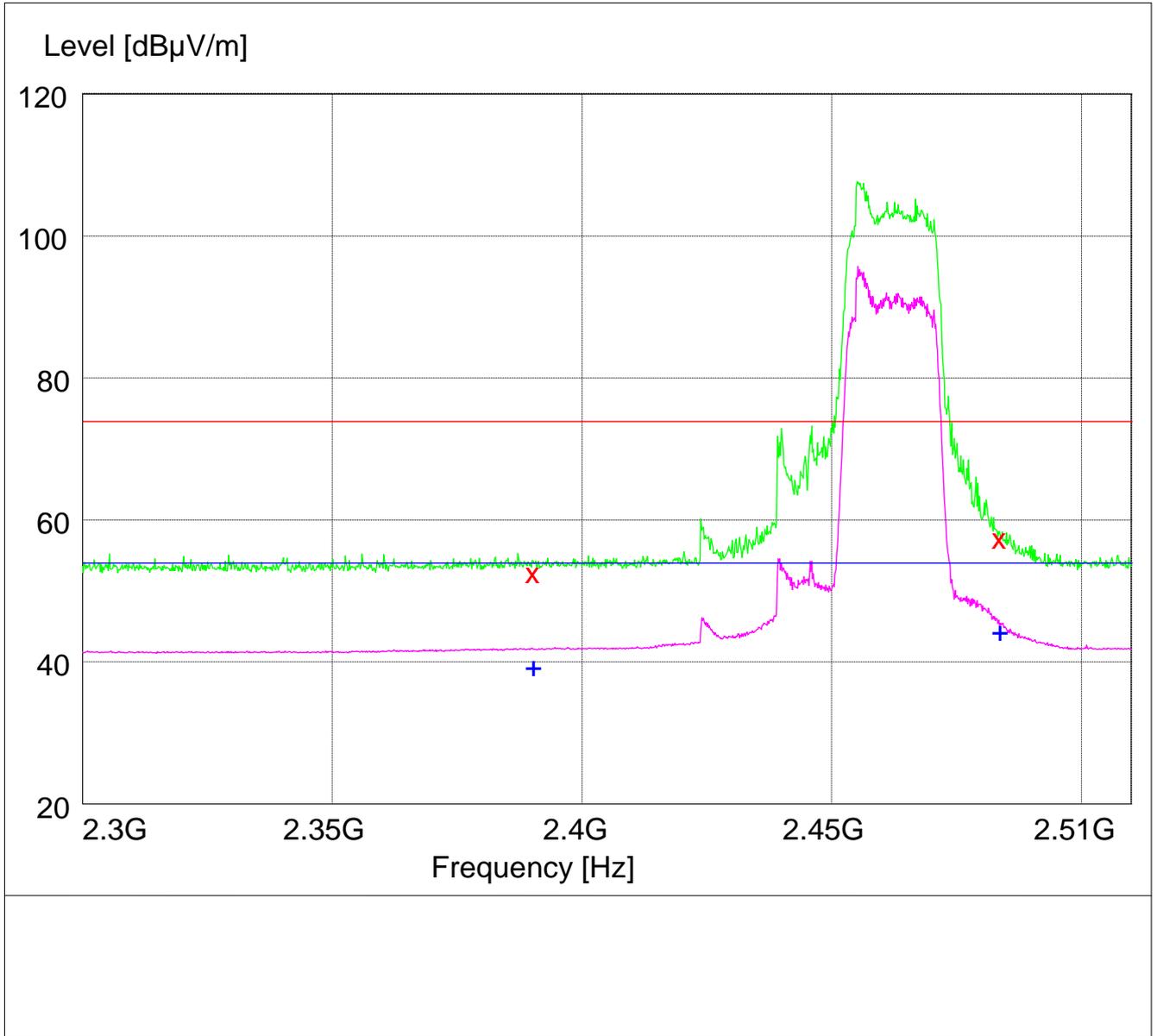
## MEASUREMENT RESULT: PK Detector

Frequency MHz	Level dB $\mu$ V/m	Transd dB	Limit dB $\mu$ V/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	53.00	34.8	74.0	21.0	174.0	36.00	VERTICAL
2483.500000	52.70	35.1	74.0	21.3	200.0	166.00	HORIZONTAL

## MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dB $\mu$ V/m	Transd dB	Limit dB $\mu$ V/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	39.90	34.8	54.0	14.1	100.0	83.00	VERTICAL
2483.500000	39.80	35.1	54.0	14.2	131.0	360.00	HORIZONTAL

## Channel 11



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
2390.000000	53.00	34.8	74.0	21.0	192.0	220.00	HORIZONTAL
2483.500000	57.80	35.1	74.0	16.2	140.0	6.00	HORIZONTAL

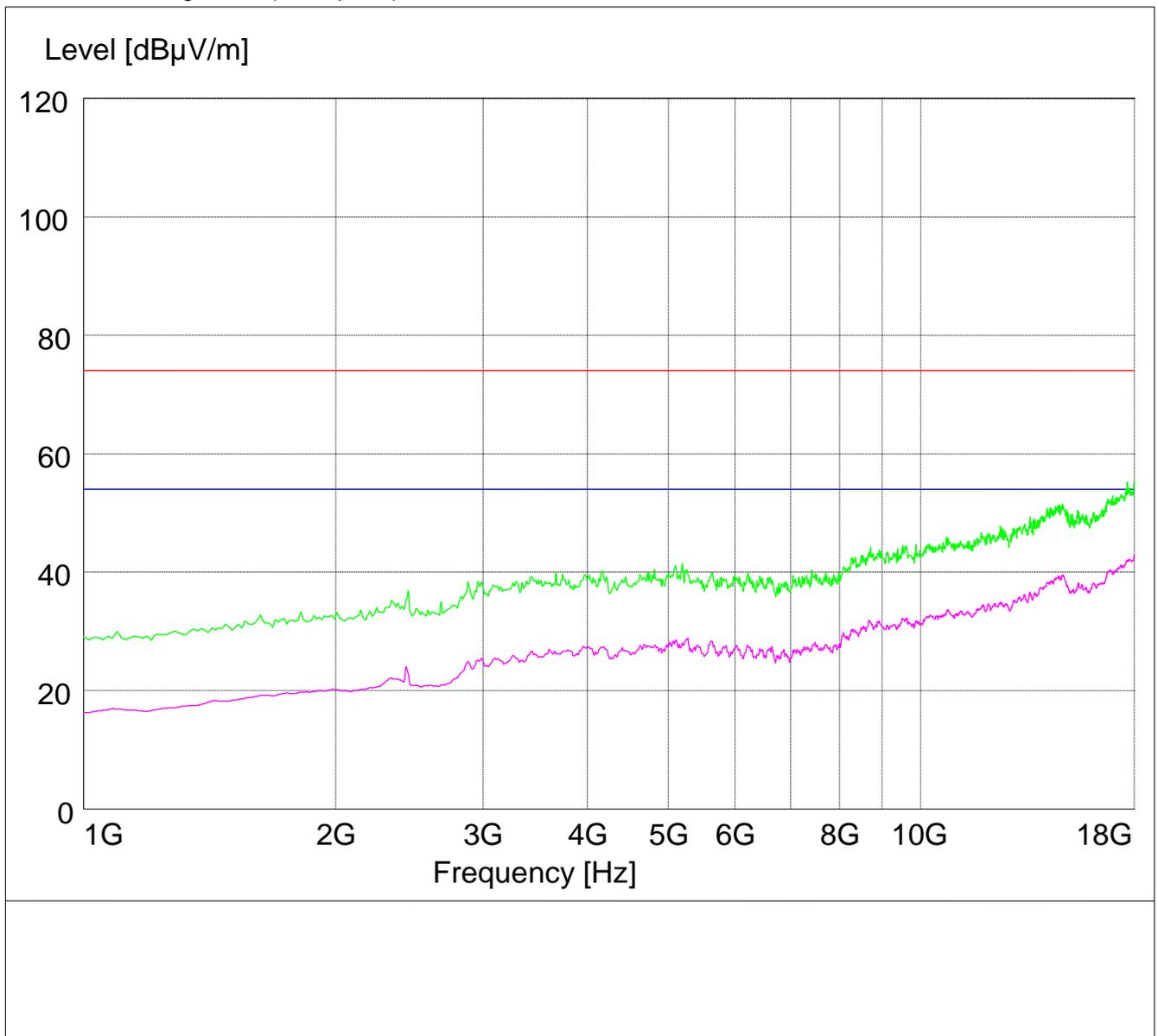


MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dB $\mu$ V/m	Transd dB	Limit dB $\mu$ V/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	39.80	34.8	54.0	14.2	112.0	319.00	VERTICAL
2483.500000	44.70	35.1	54.0	9.3	100.0	106.00	HORIZONTAL

#### **Part 4: 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).

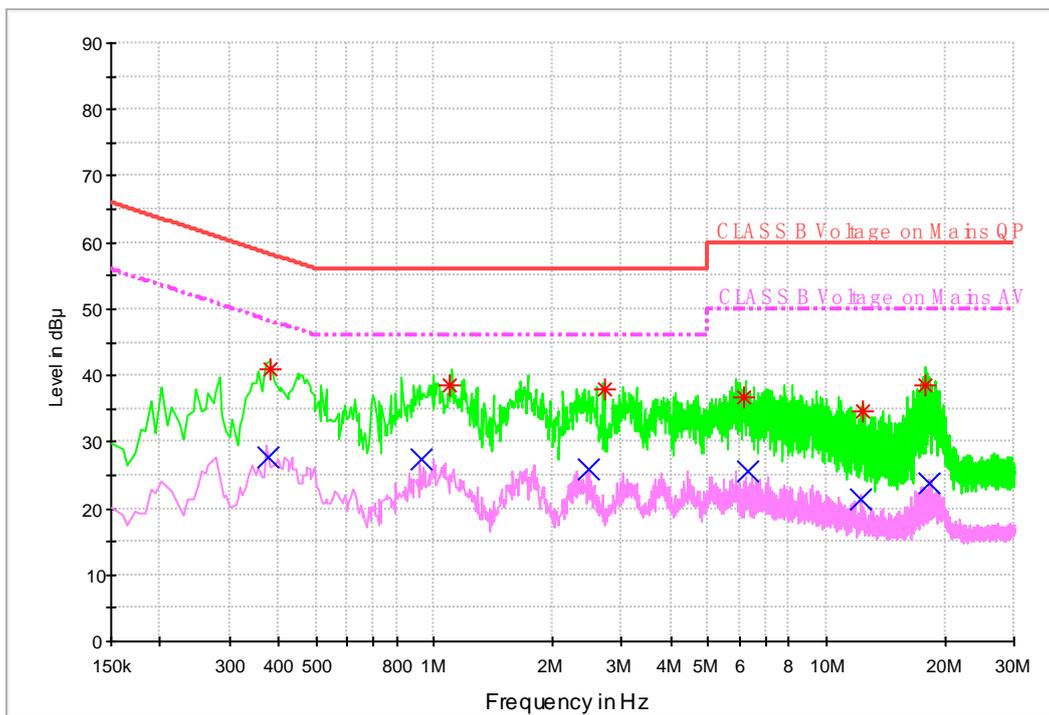


# Appendix H: Conducted Emission at Power Port

Note: RBW =9 kHz, VBW = 30 kHz

## Channel 9

CLASS B Voltage with ENV216



### MEASUREMENT RESULT: QP Detector

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.381338	40.8	9.7	17.4	58.2	L1	FLO
1.094621	38.6	9.7	17.4	56.0	L1	FLO
2.705906	37.9	9.7	18.1	56.0	N	FLO
6.158437	36.6	9.9	24.3	60.0	L1	FLO
12.397774	34.6	10.0	25.4	60.0	L1	FLO
17.768940	38.7	10.1	21.3	60.0	N	FLO

## MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Line	PE
0.377925	27.7	9.7	20.6	48.3	N	FLO
0.922094	27.4	9.7	18.6	46.0	L1	FLO
2.485762	25.8	9.7	20.2	46.0	N	FLO
6.328204	25.7	9.8	24.3	50.0	N	FLO
12.212658	21.2	10.0	28.8	50.0	N	FLO
18.287138	23.6	10.1	26.4	50.0	N	FLO

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END