



# 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.

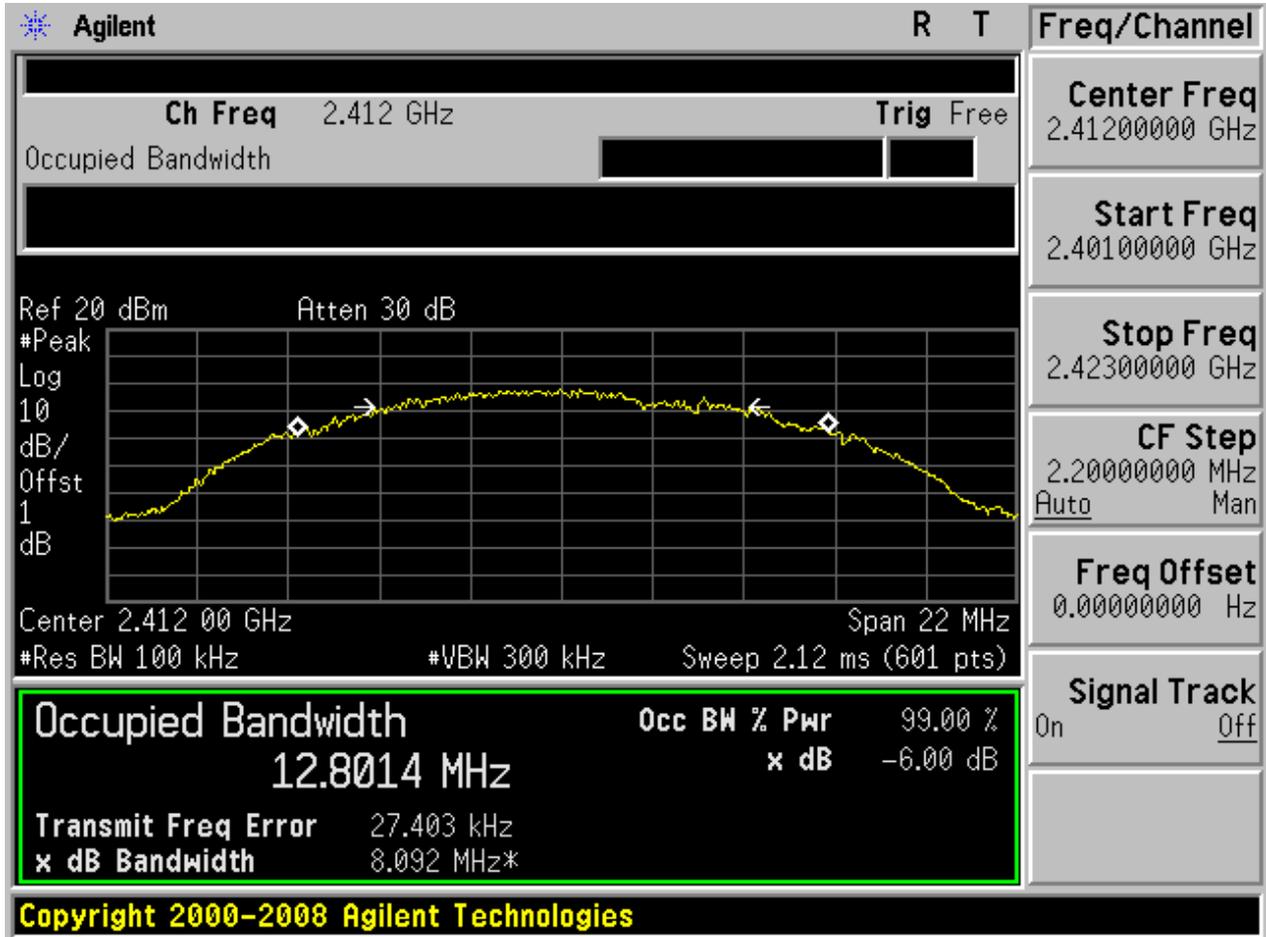
For measurements on smart antenna systems (devices with multiple transmit chains), the test is performed at each chain, and used as respective results for each chain.

### Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	DTS6dBBW[MHz]	Verdict
11B	L	2412	8.09	pass
11B	M	2437	8.41	pass
11B	H	2462	8.47	pass
11G	L	2412	16.53	pass
11G	M	2437	16.53	pass
11G	H	2462	16.49	pass
11N20	L	2412	17.70	pass
11N20	M	2437	17.71	pass
11N20	H	2462	17.63	pass

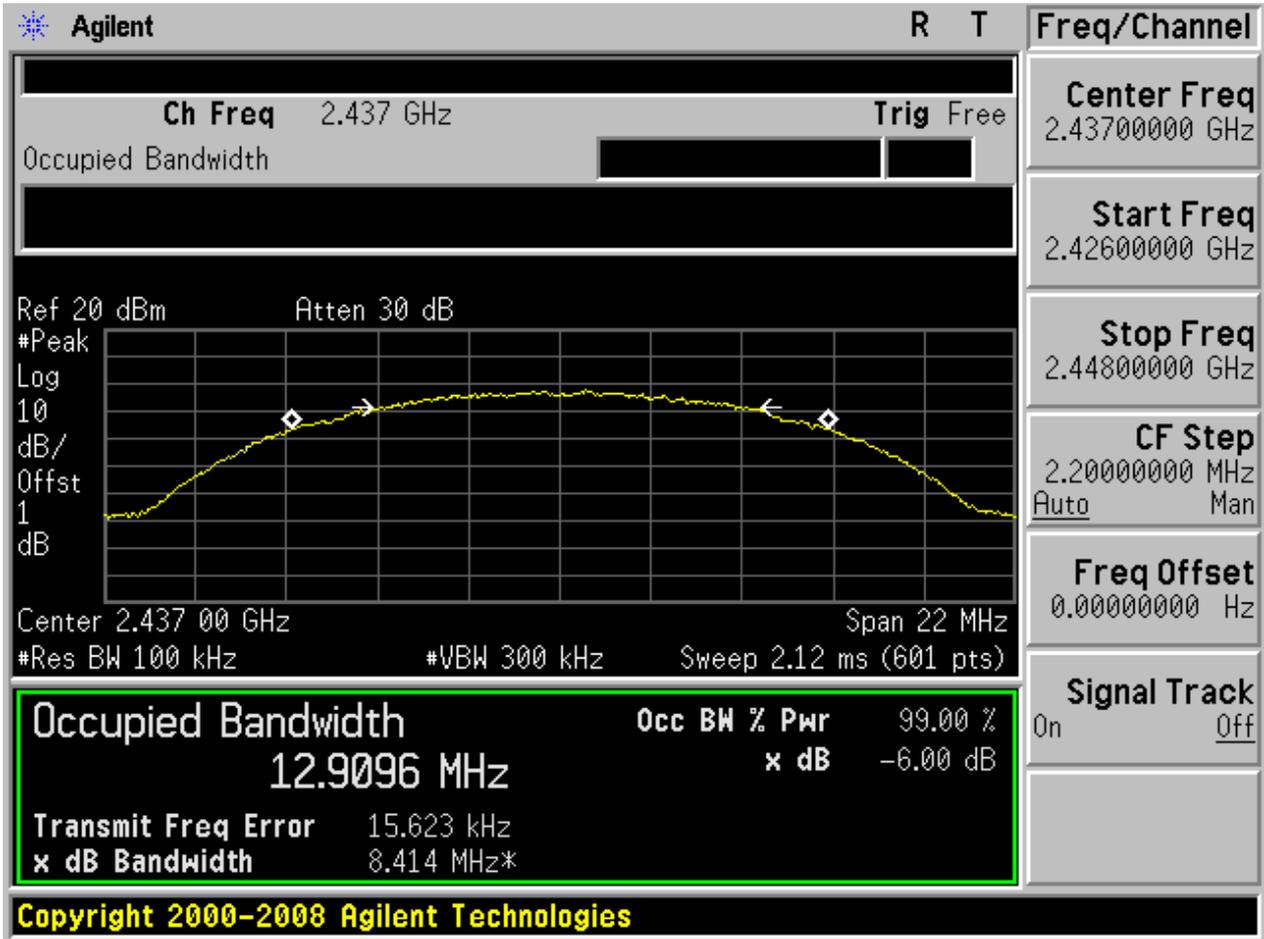
## Part II - Test Plots

### 2.1 11B\_L



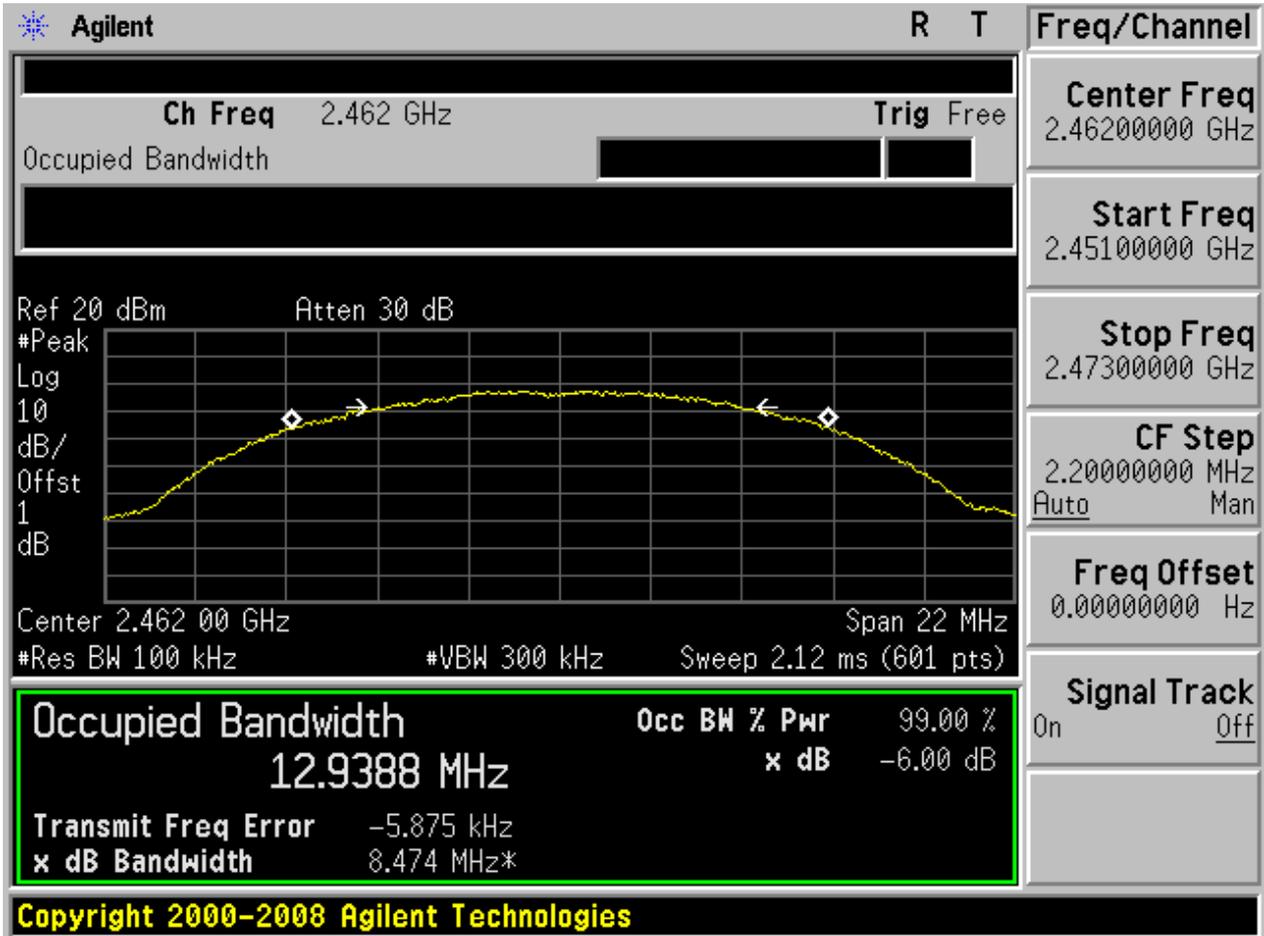


### 2.2 11B\_M



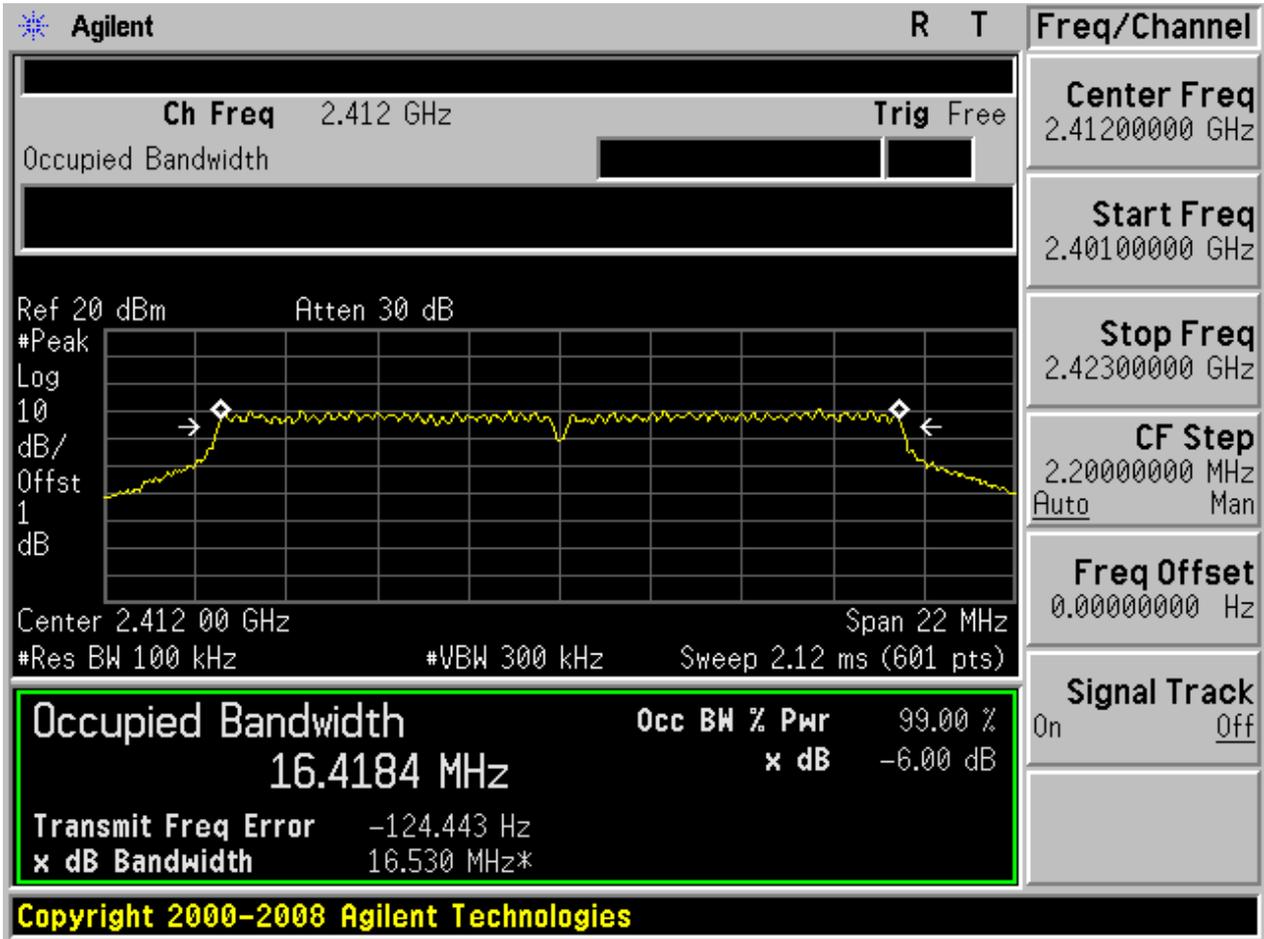


### 2.3 11B\_H



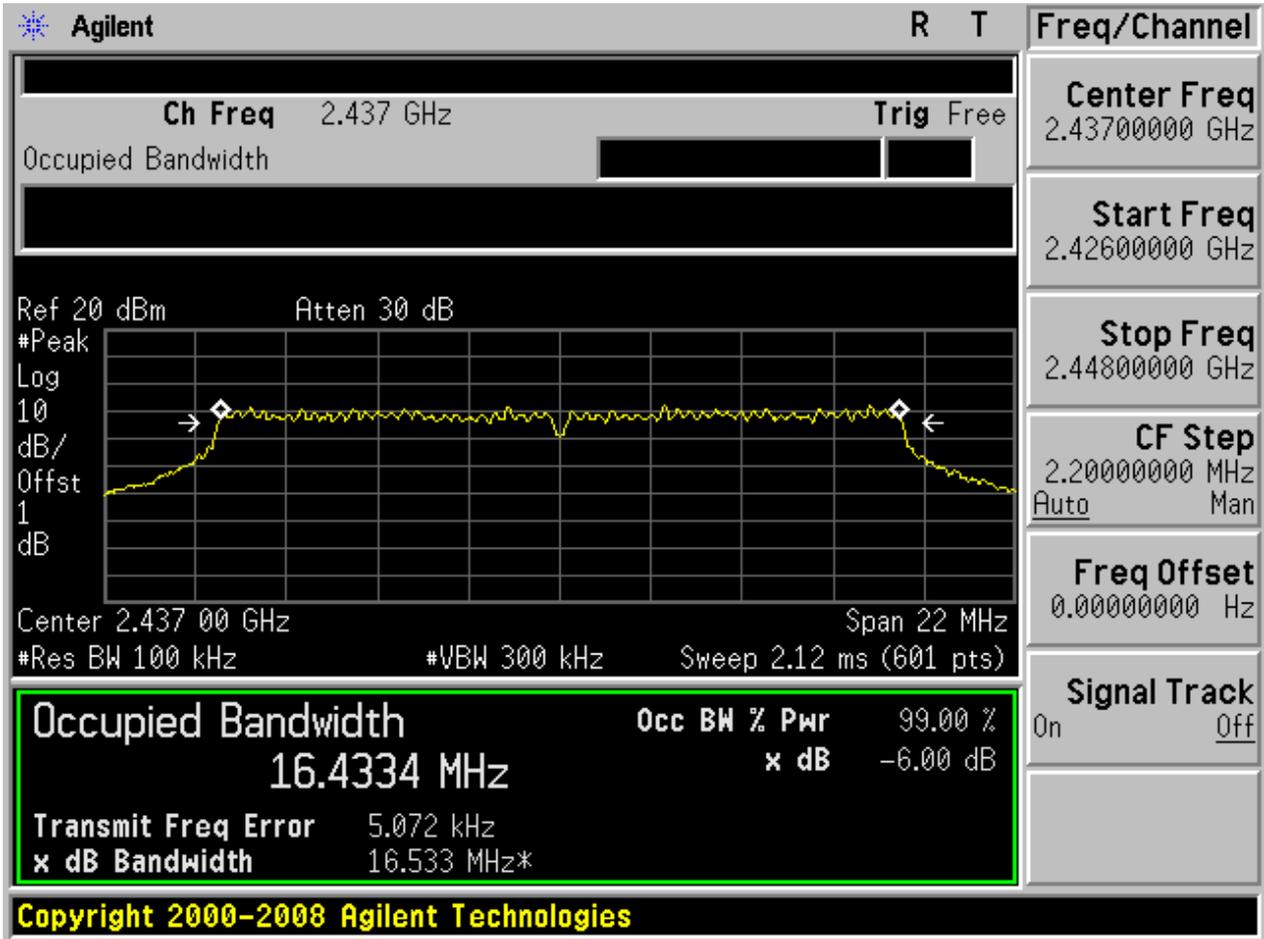


### 2.4 11G\_L



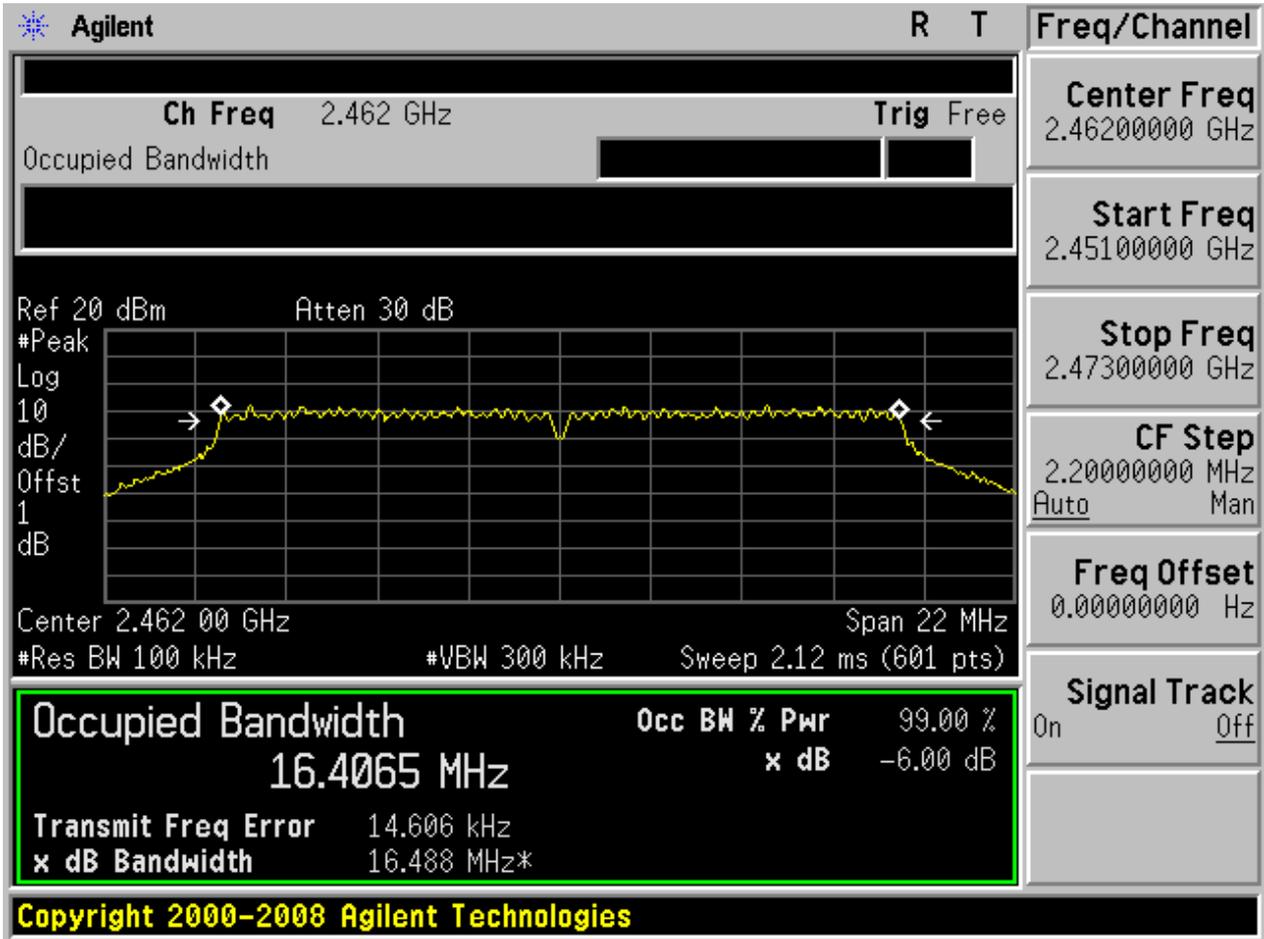


### 2.5 11G\_M



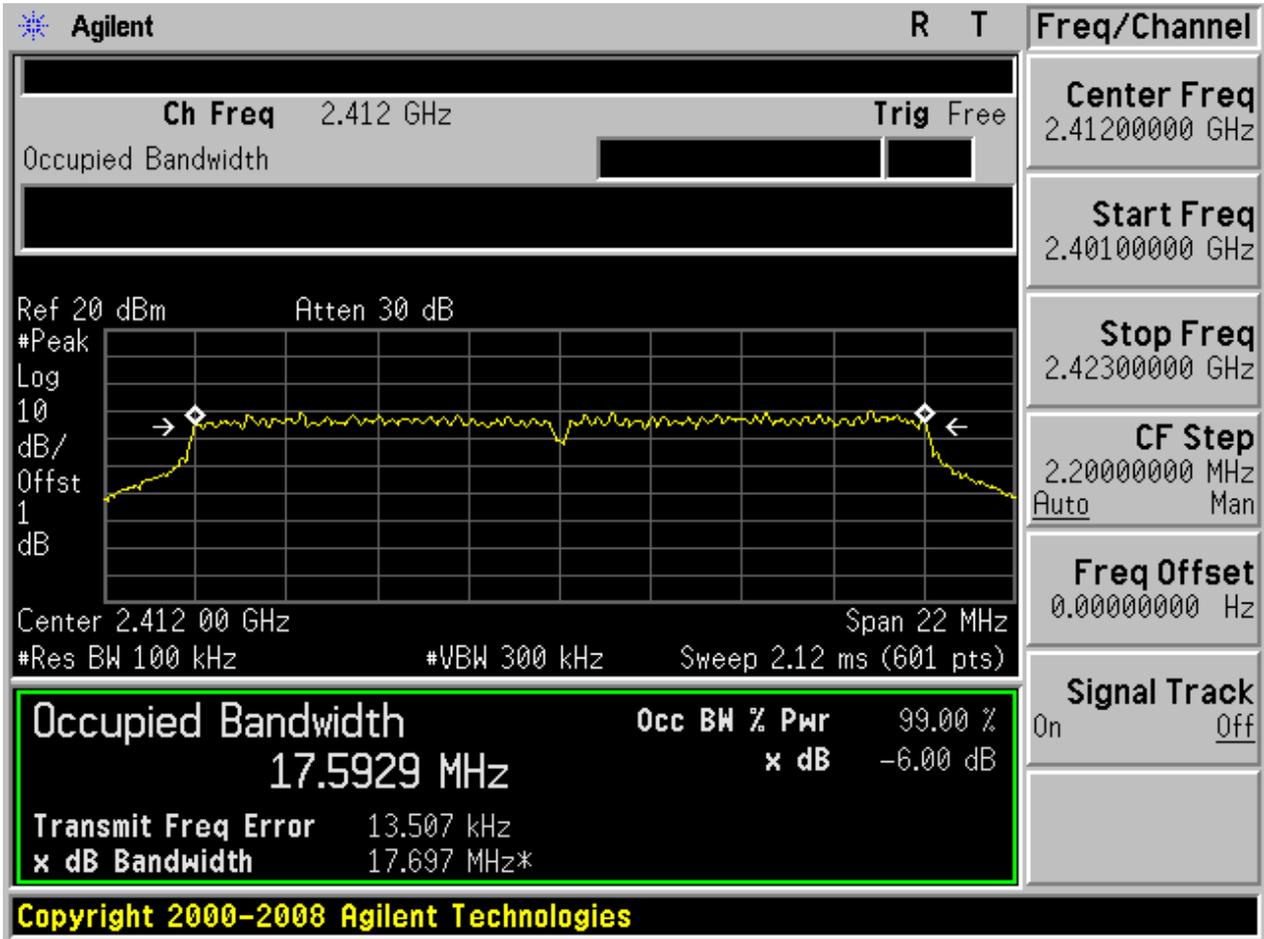


### 2.6 11G\_H



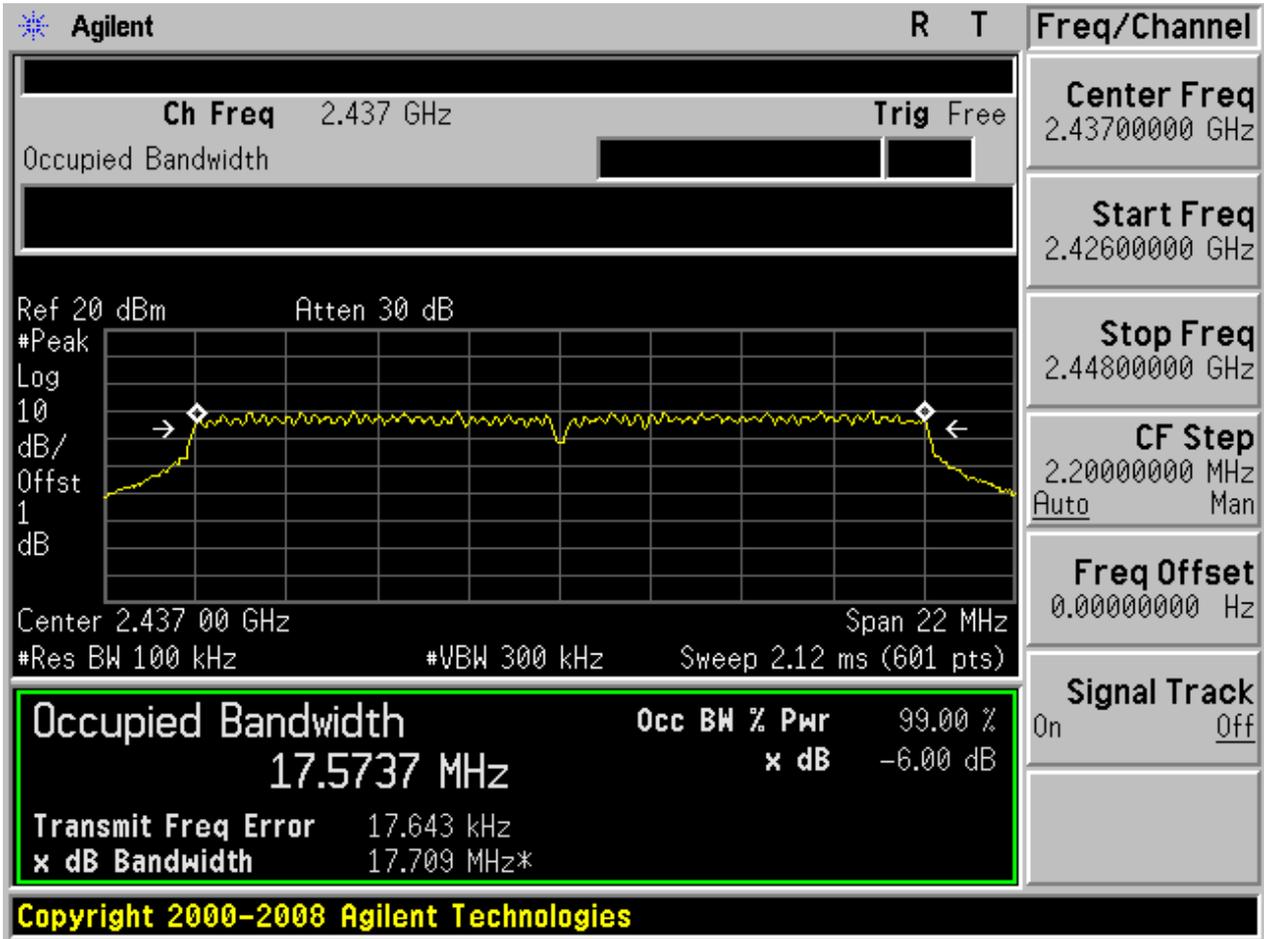


### 2.7 11N20\_L



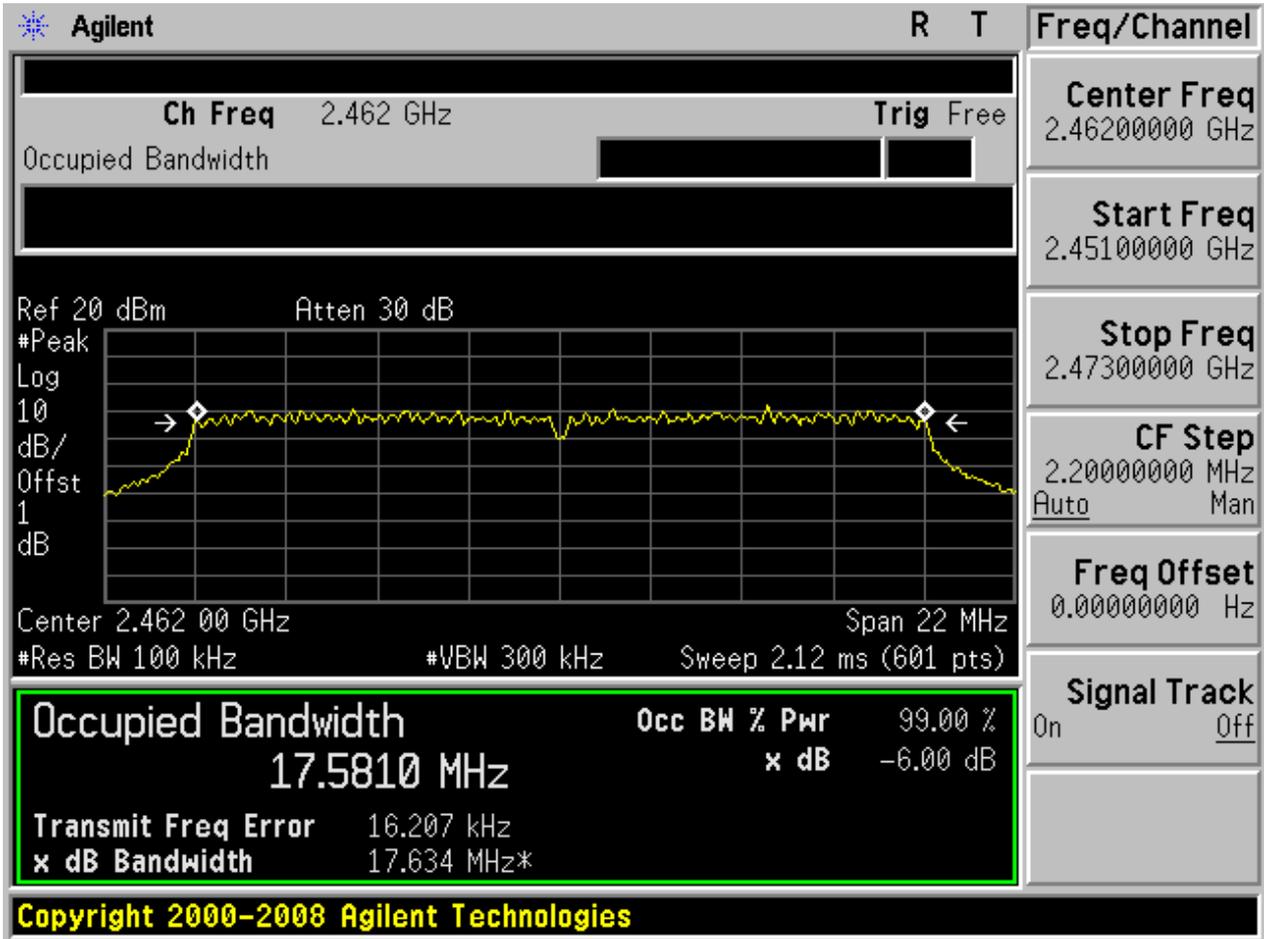


### 2.8 11N20\_M





### 2.9 11N20\_H



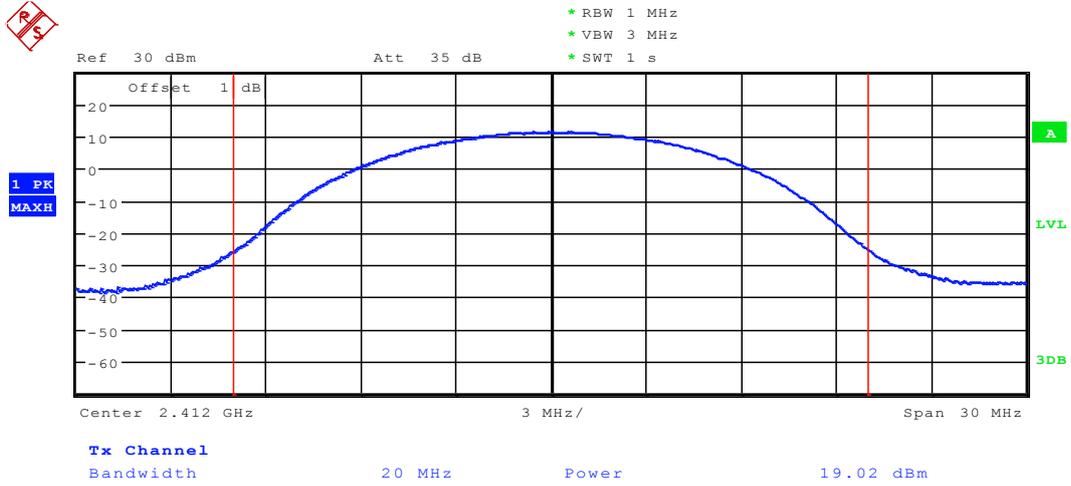
## Appendix B: Maximum Peak Conducted Output Power

### Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Meas. Level (Cond.) [dBm]	Verdict
11B	L	2412	19.02	pass
11B	M	2437	19.72	pass
11B	H	2462	20.25	pass
11G	L	2412	20.17	pass
11G	M	2437	21.29	pass
11G	H	2462	21.59	pass
11N20	L	2412	19.65	pass
11N20	M	2437	20.17	pass
11N20	H	2462	20.65	pass

## Part II - Test Plots

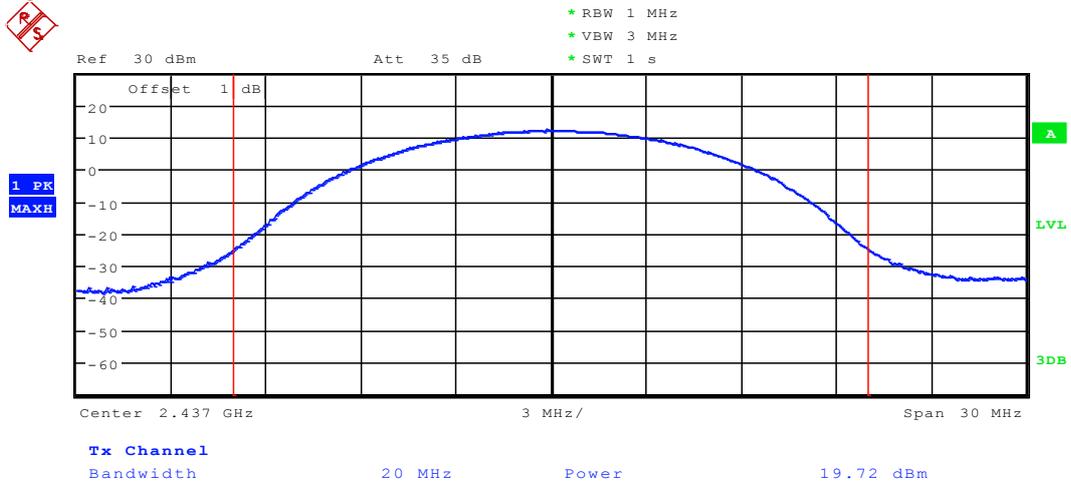
### 2.1 11B\_L



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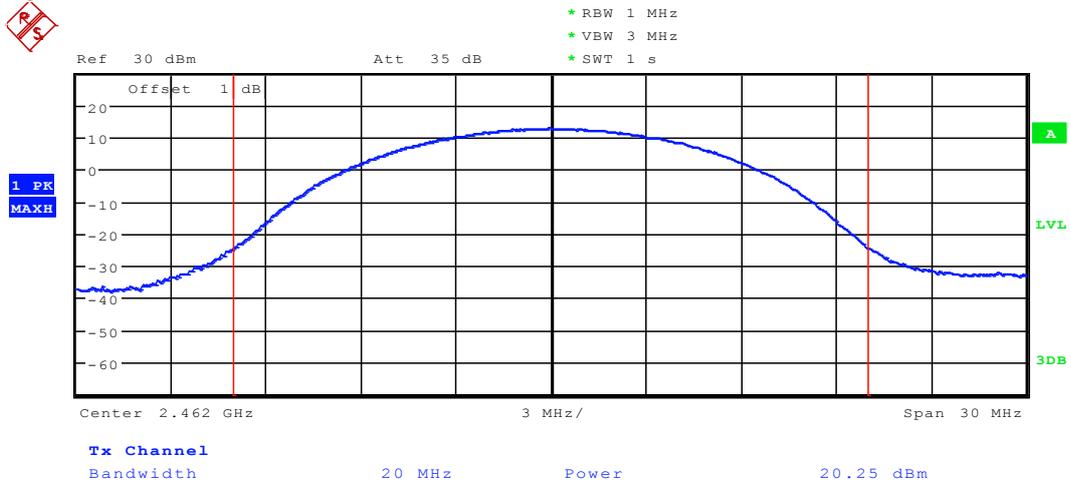
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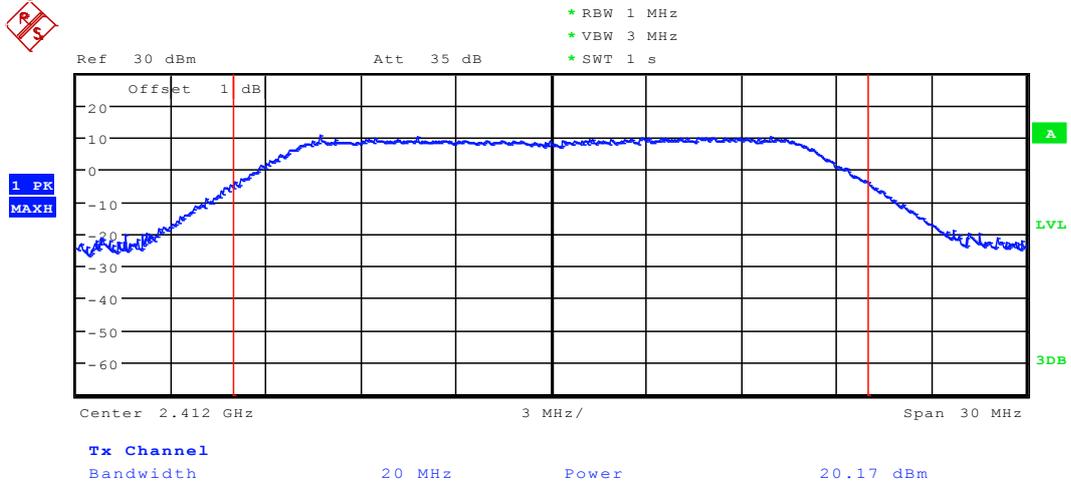


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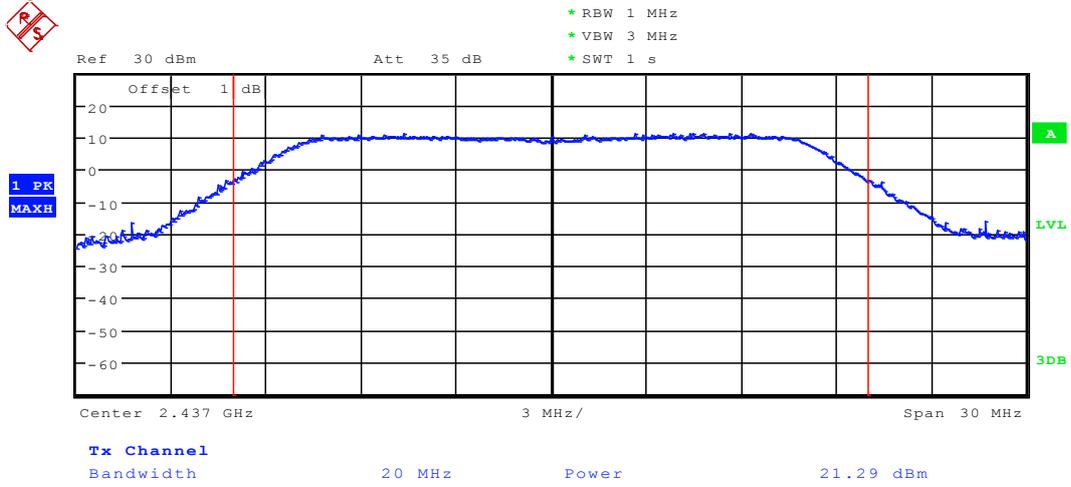
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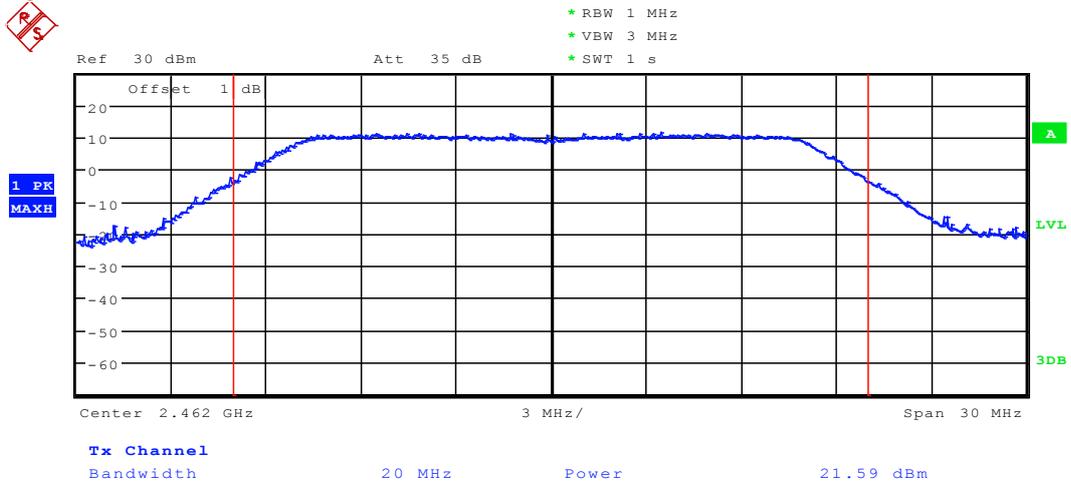
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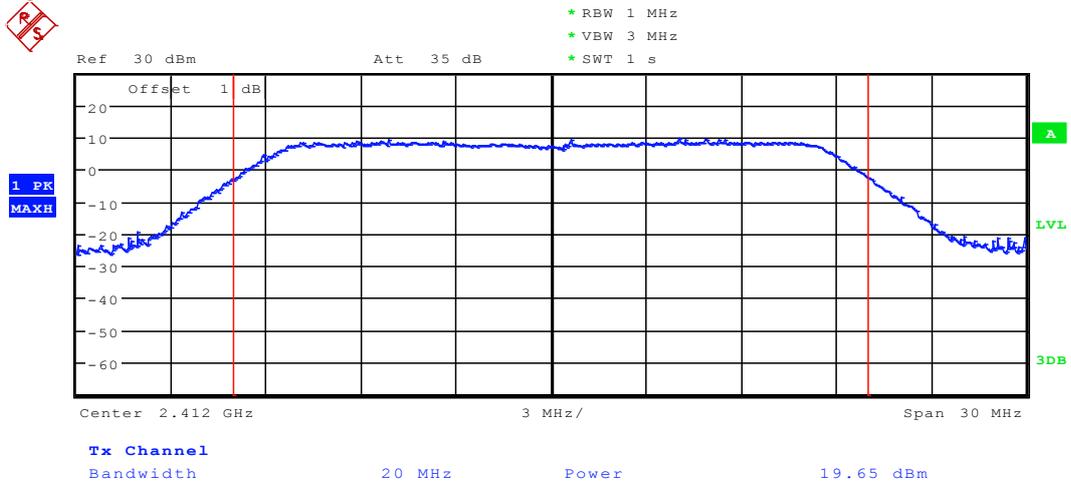
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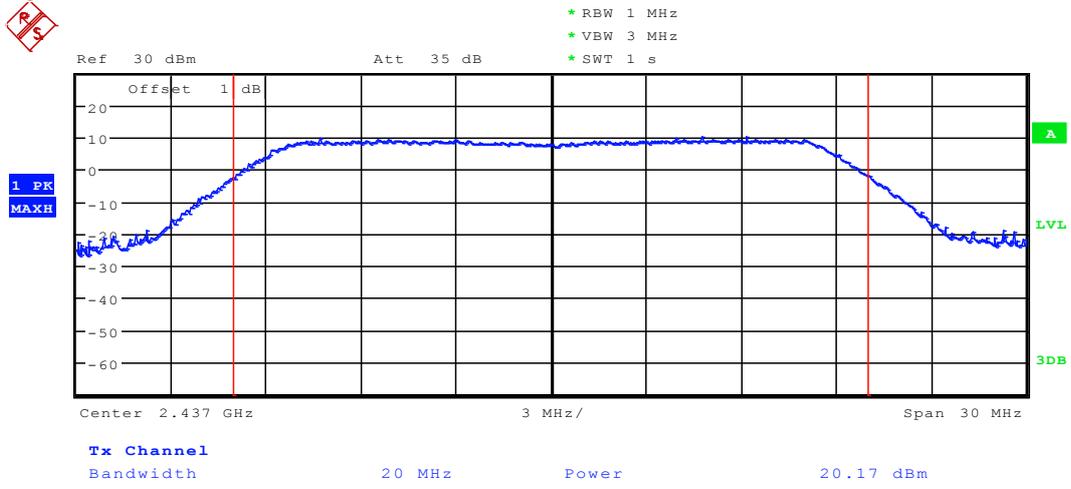
## 2.7 11N20\_L



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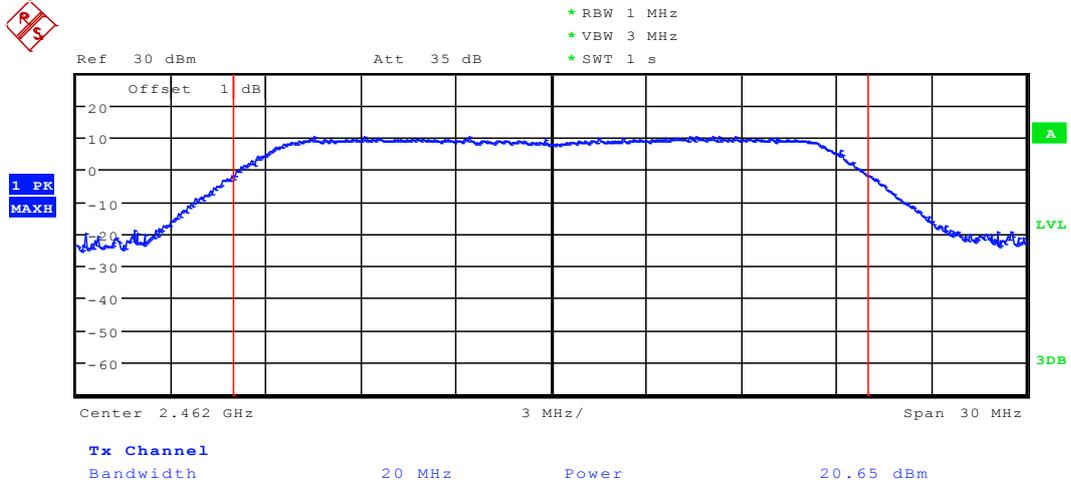
## 2.8 11N20\_M



Date: 8.MAR.2014 17:30:43



## 2.9 11N20\_H



Date: 8.MAR.2014 17:31:32



## Appendix C: Maximum Power Spectral Density Level

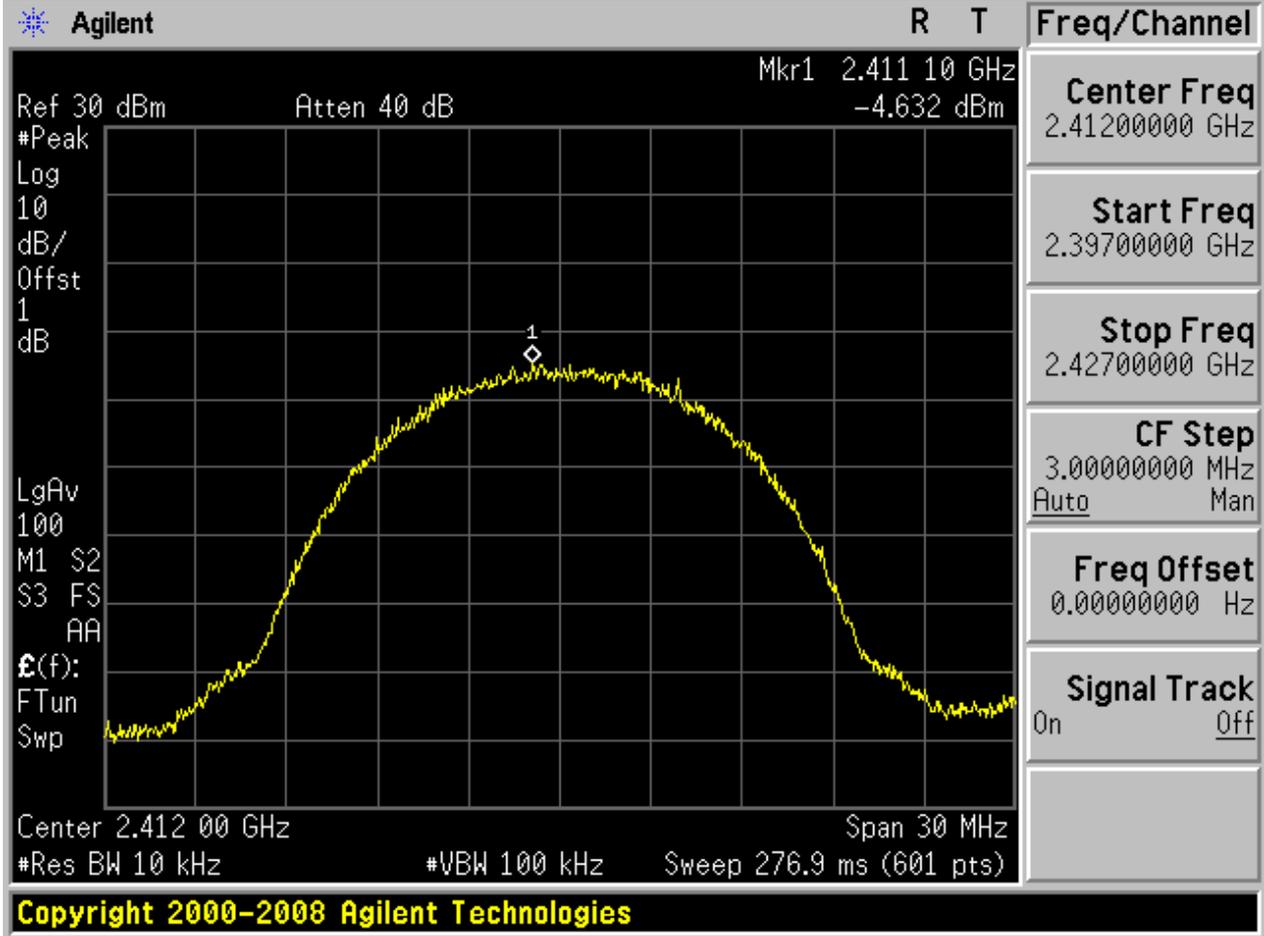
### Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	PD[MHz]	Verdict
11B	L	2412	-4.63	pass
11B	M	2437	-3.50	pass
11B	H	2462	-2.96	pass
11G	L	2412	-8.07	pass
11G	M	2437	-7.93	pass
11G	H	2462	-7.35	pass
11N20	L	2412	-8.73	pass
11N20	M	2437	-7.98	pass
11N20	H	2462	-6.85	pass



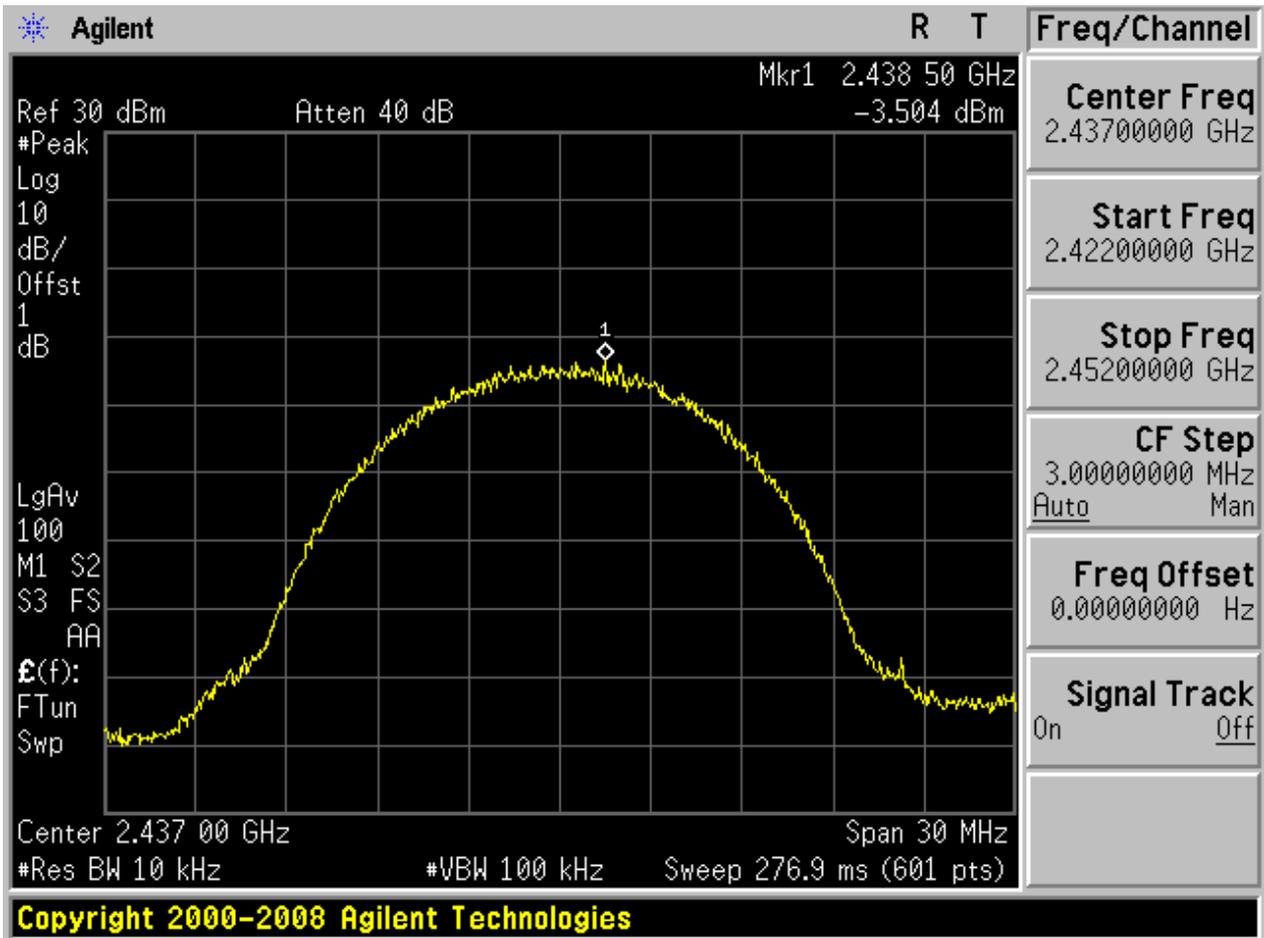
## Part II - Test Plots

### 2.1 11B\_L



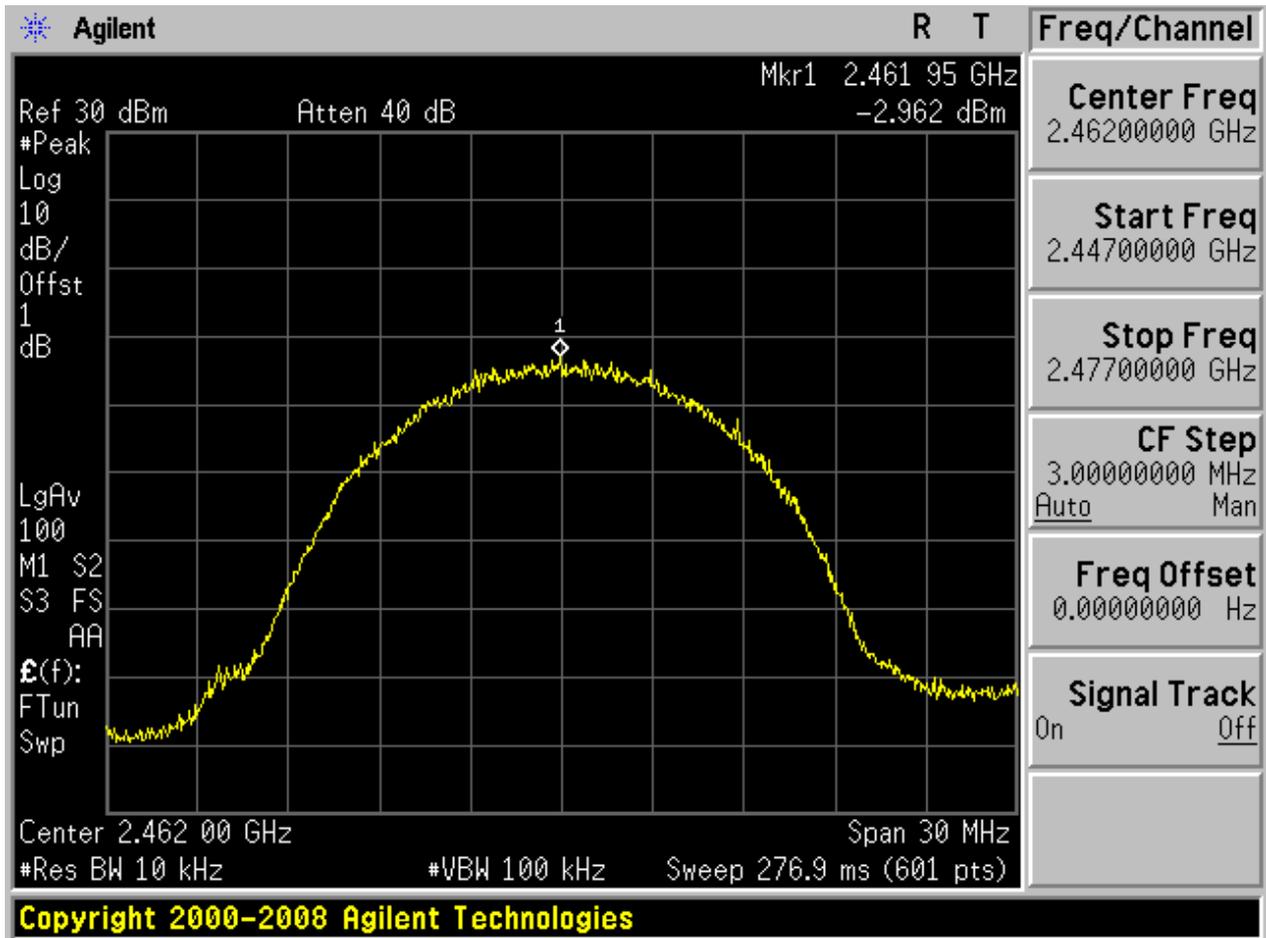


### 2.2 11B\_M



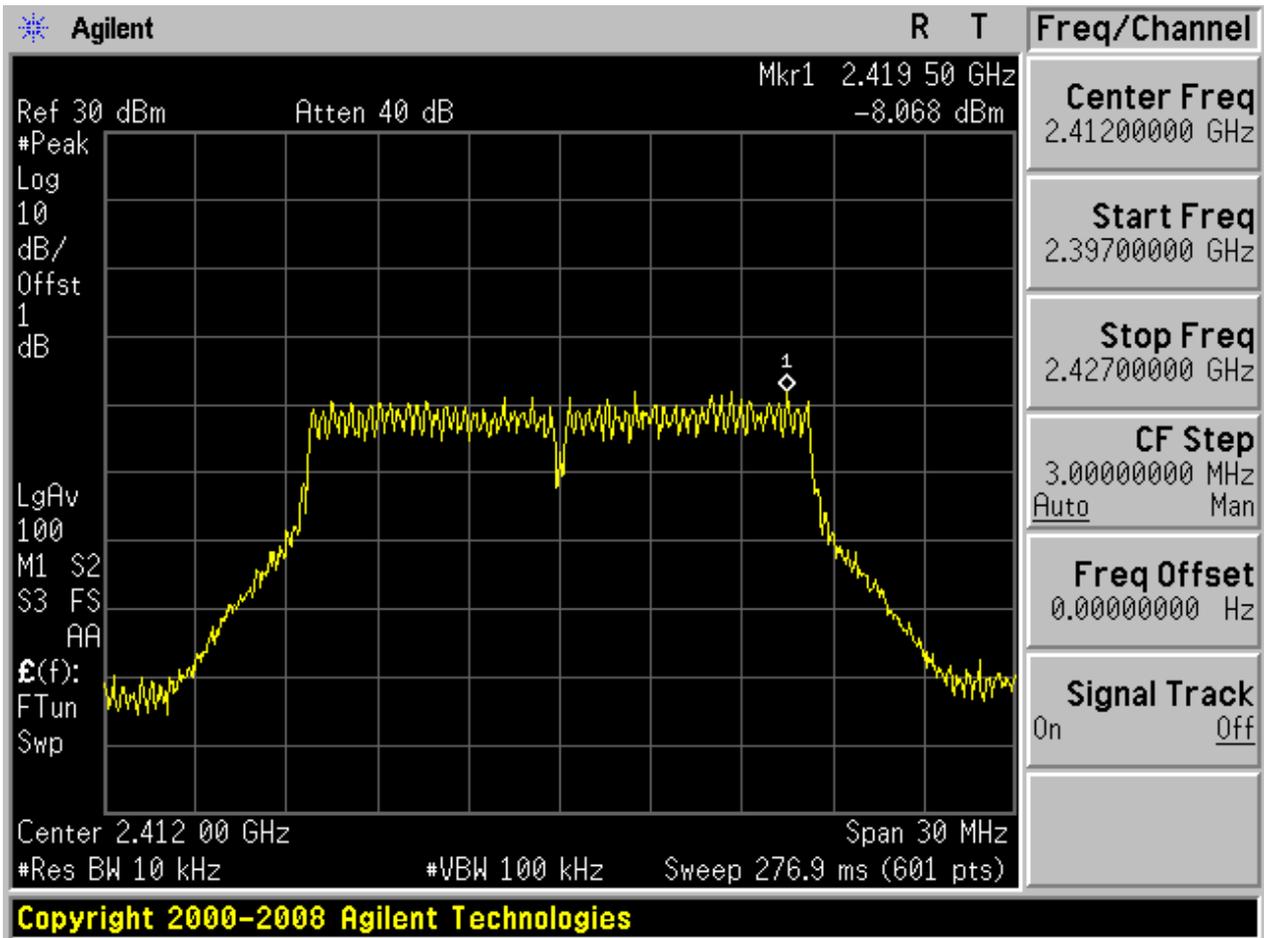


### 2.3 11B\_H



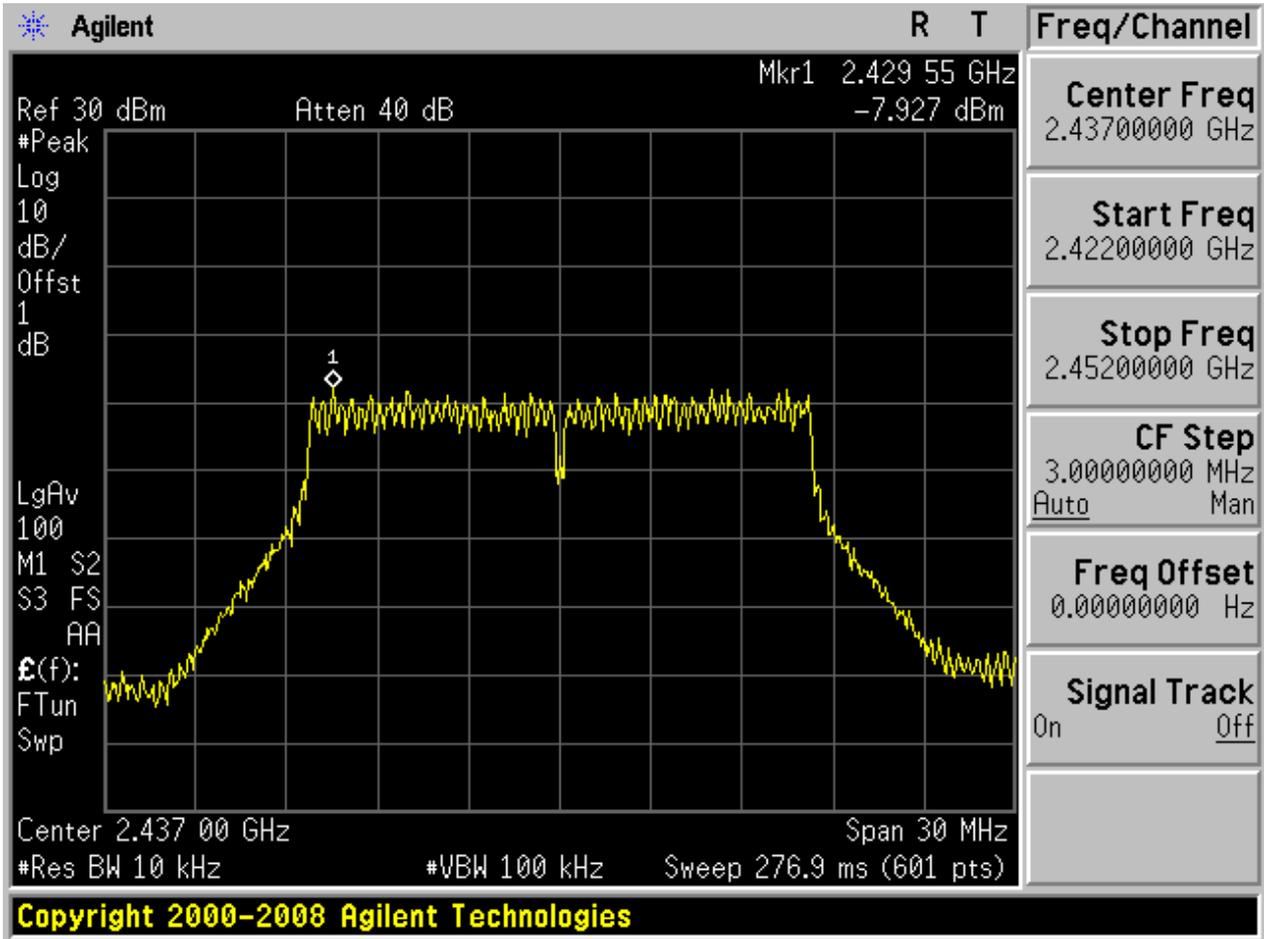


### 2.4 11G\_L



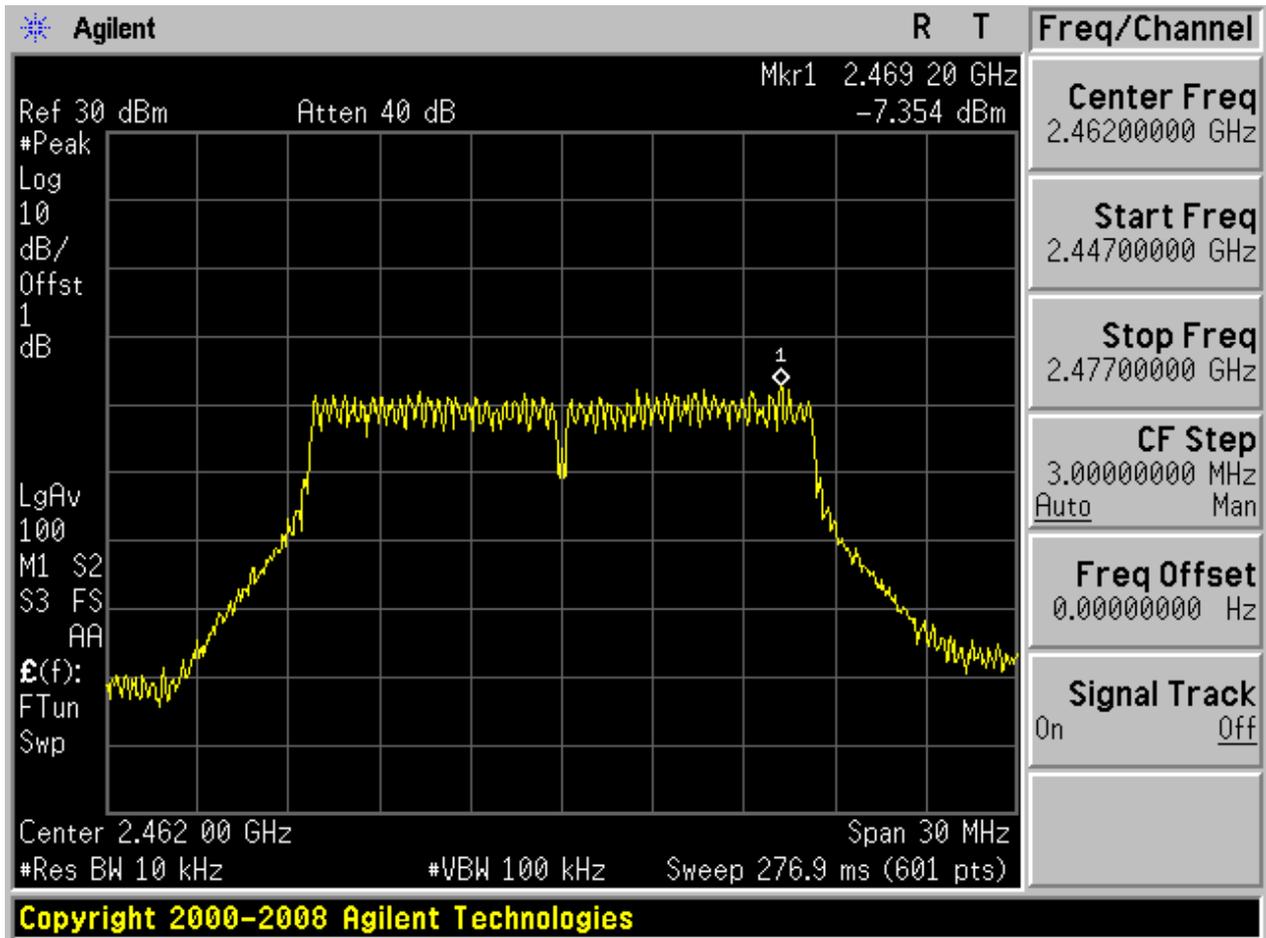


### 2.5 11G\_M



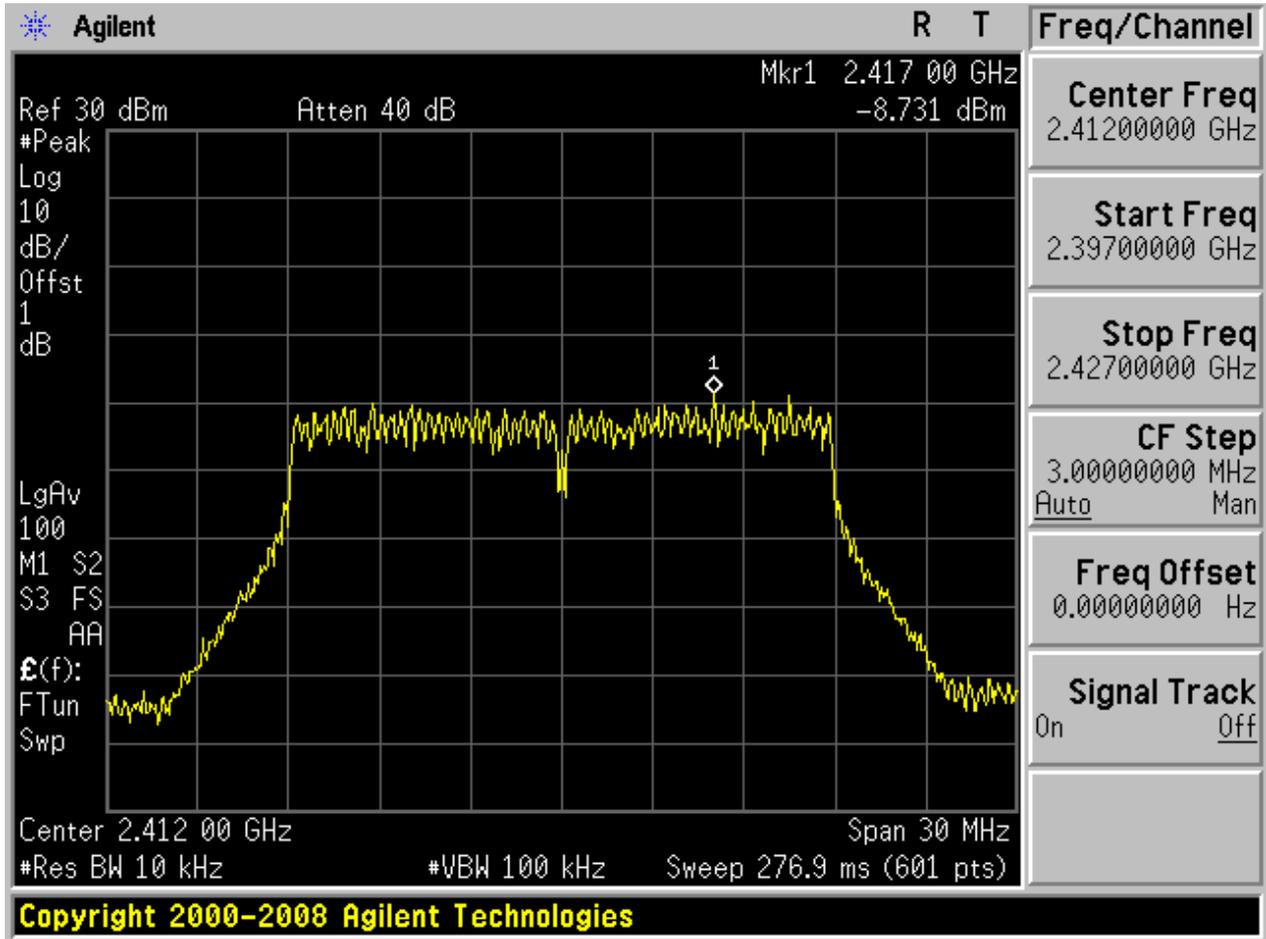


### 2.6 11G\_H



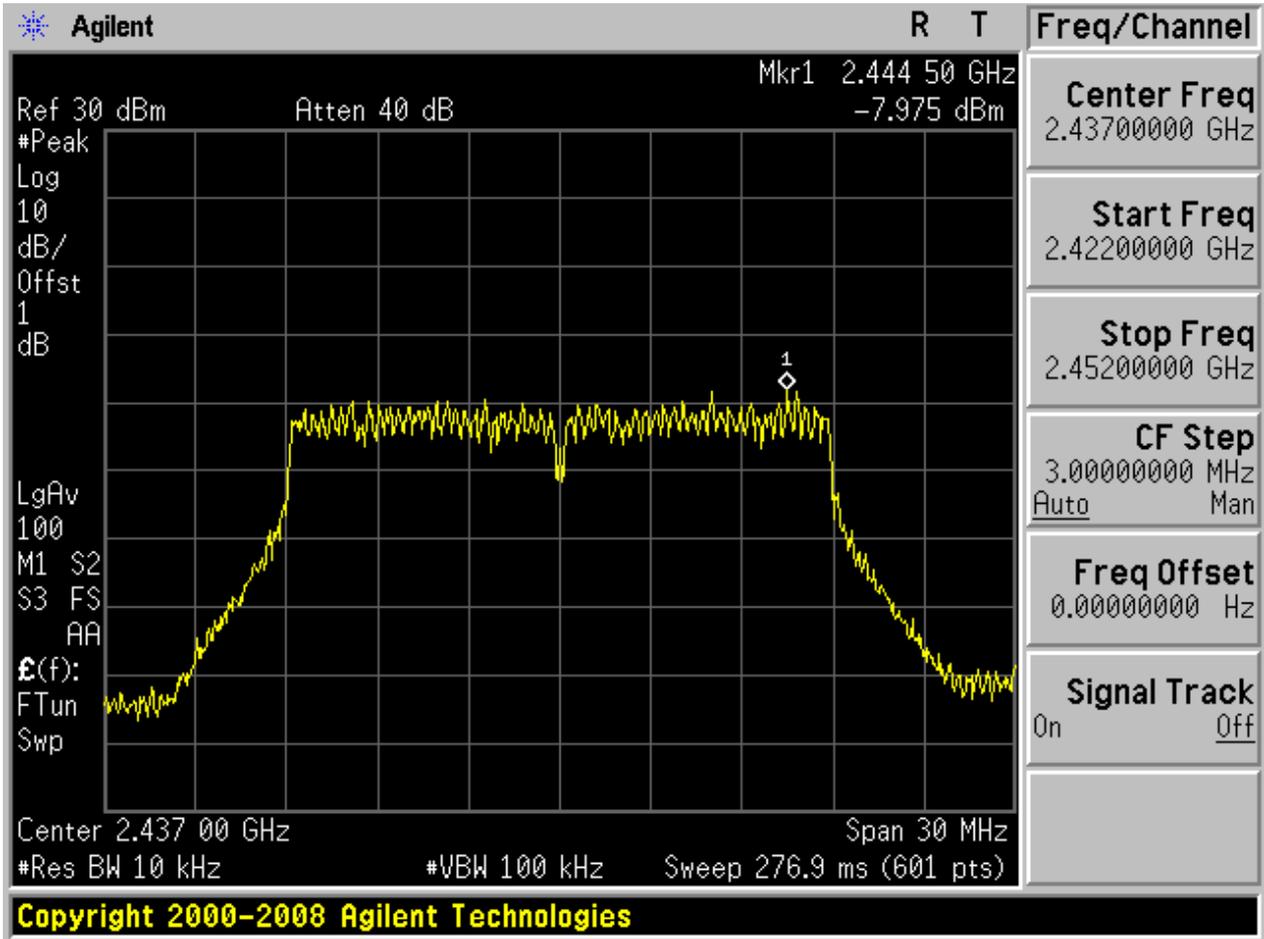


### 2.7 11N20\_L



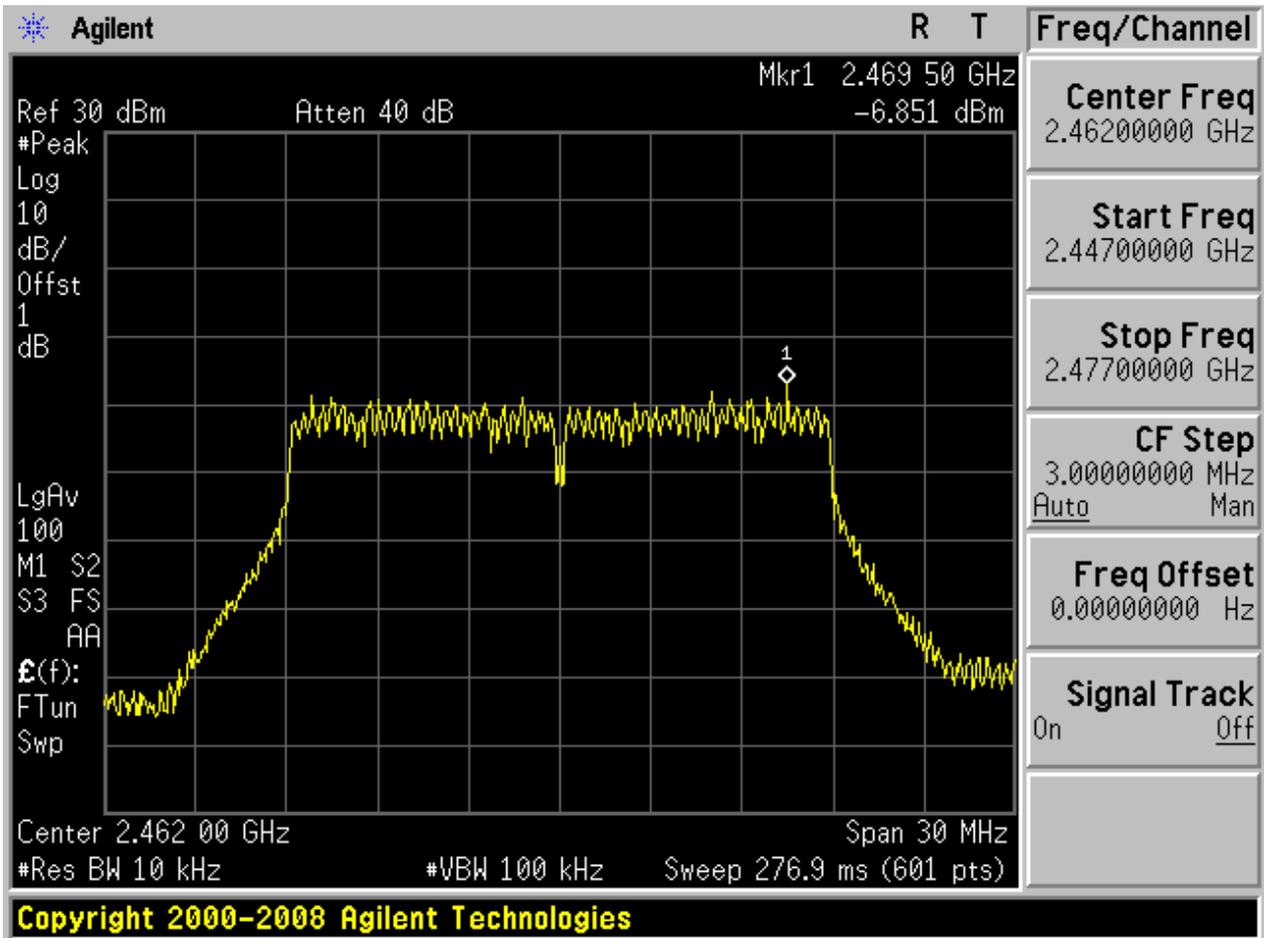


### 2.8 11N20\_M





### 2.9 11N20\_H



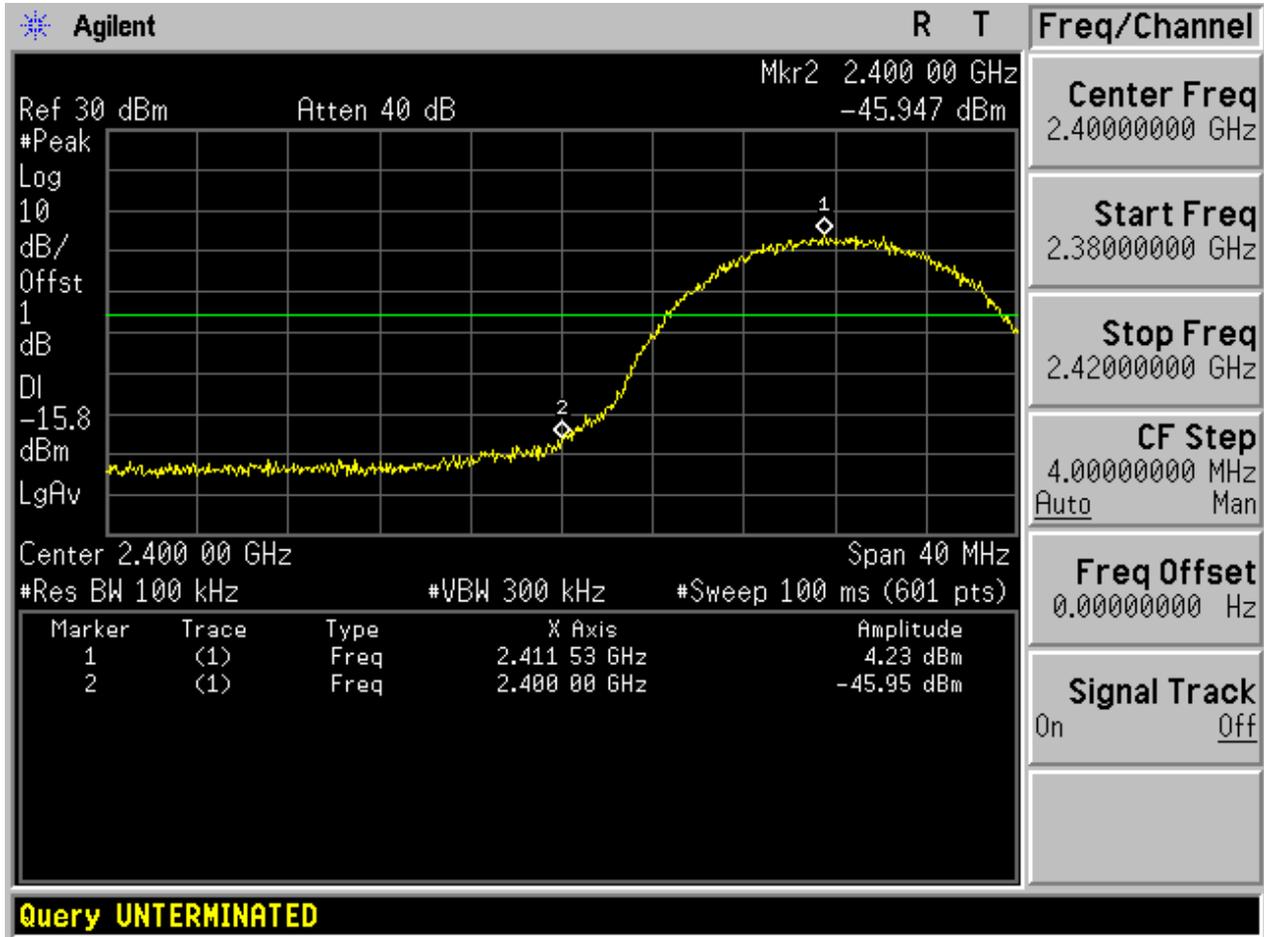
## Appendix D: Band Edges Compliance

### Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Carrier Power[dBm]	Max.Spurious Level[dBm]	Verdict
11B	L	2412	4.23	-45.95	pass
11B	H	2462	5.26	-52.13	pass
11G	L	2412	-0.01	-39.30	pass
11G	H	2462	1.25	-44.09	pass
11N20	L	2412	-0.93	-40.24	pass
11N20	H	2462	0.24	-43.08	pass

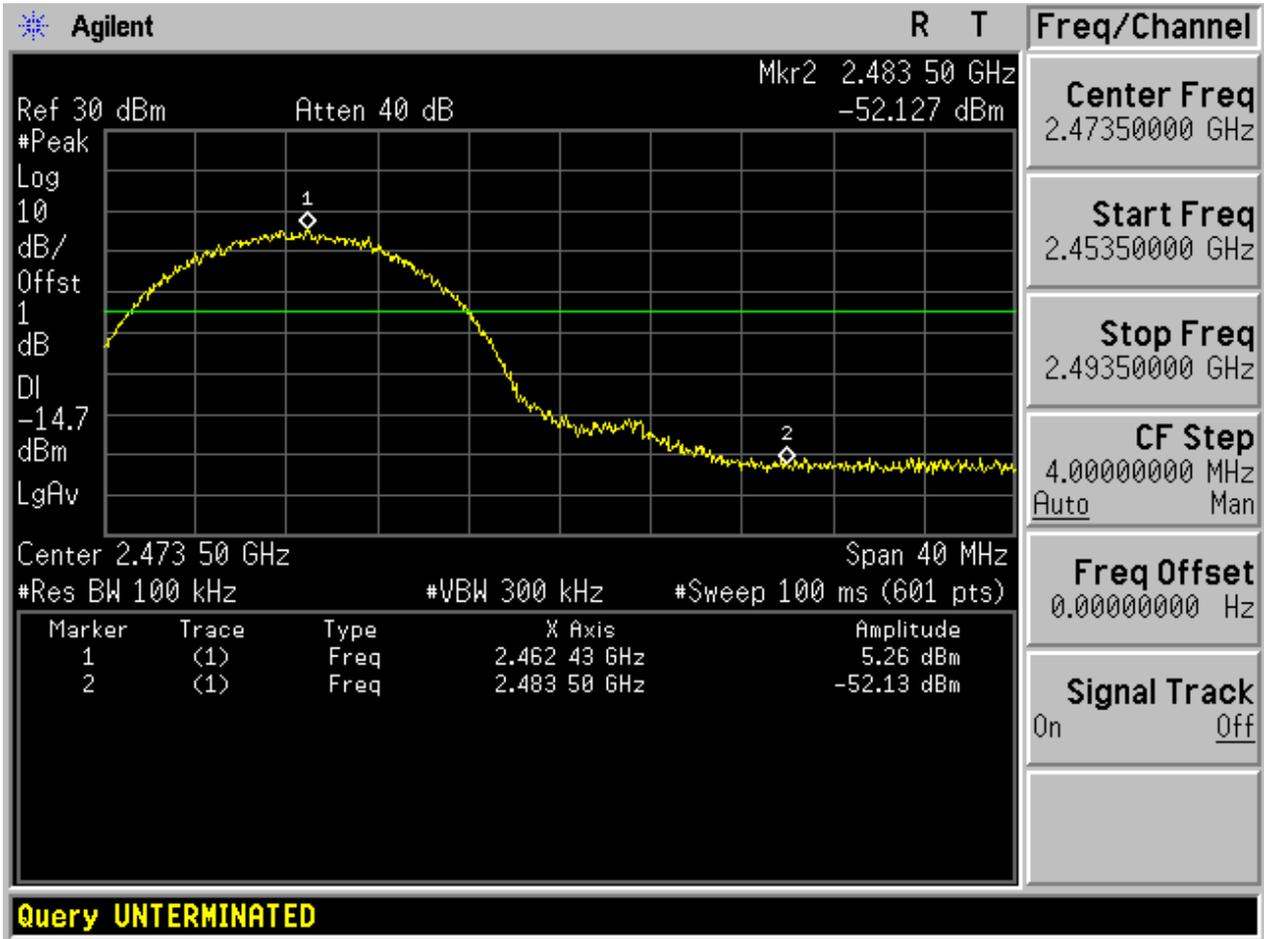
## Part II - Test Plots

### 2.1 11B\_L



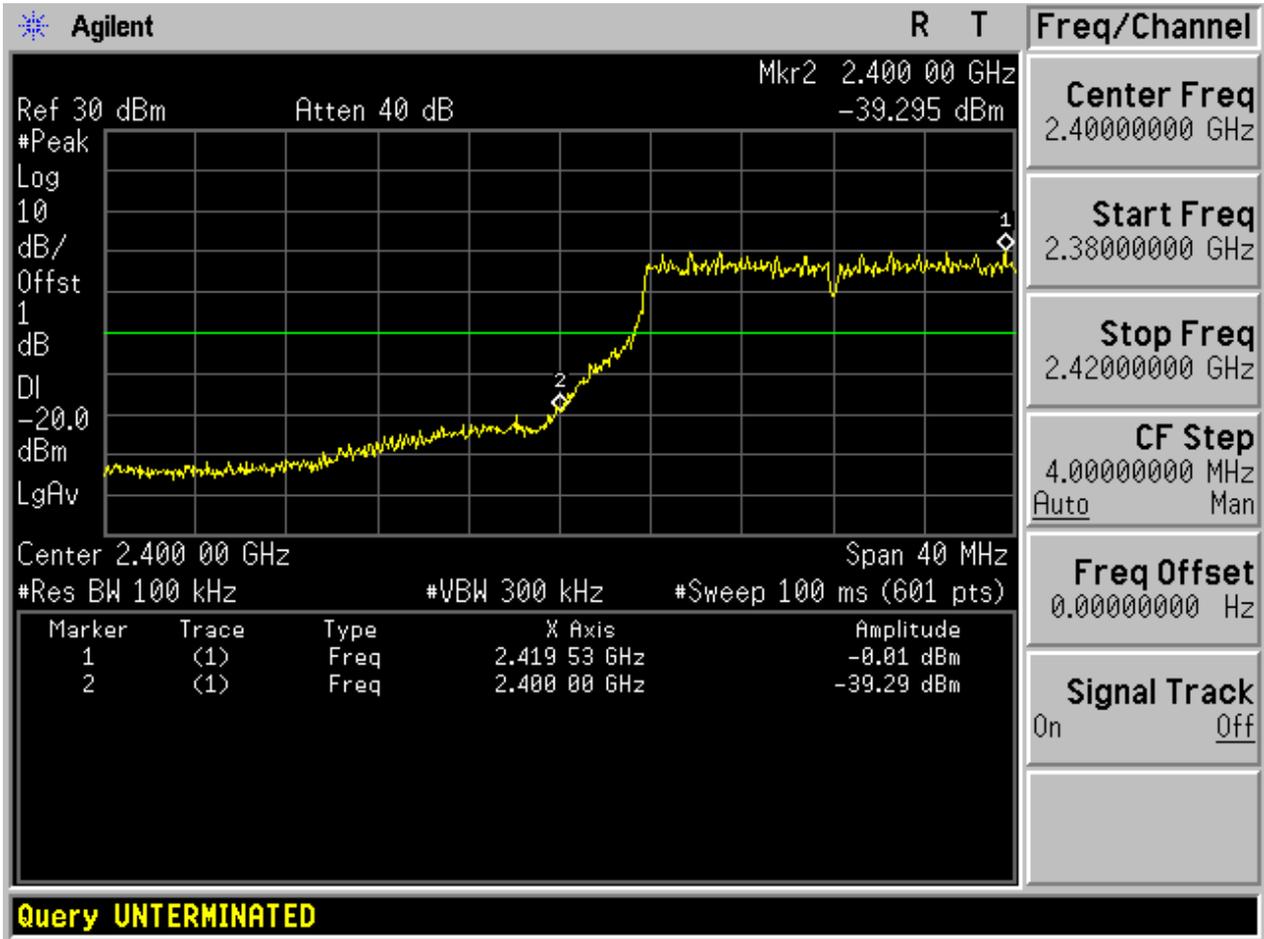


### 2.2 11B\_H



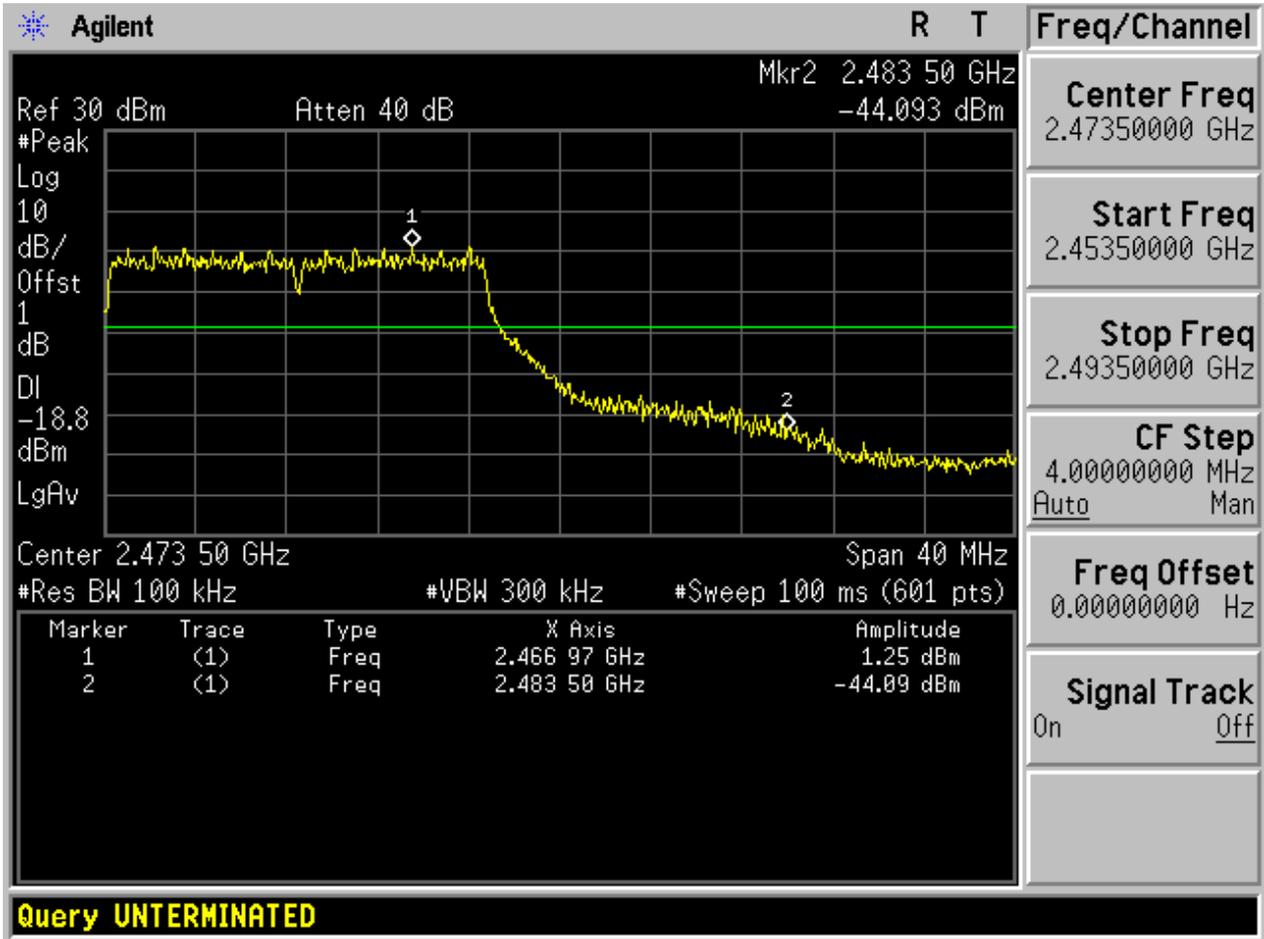


### 2.3 11G\_L



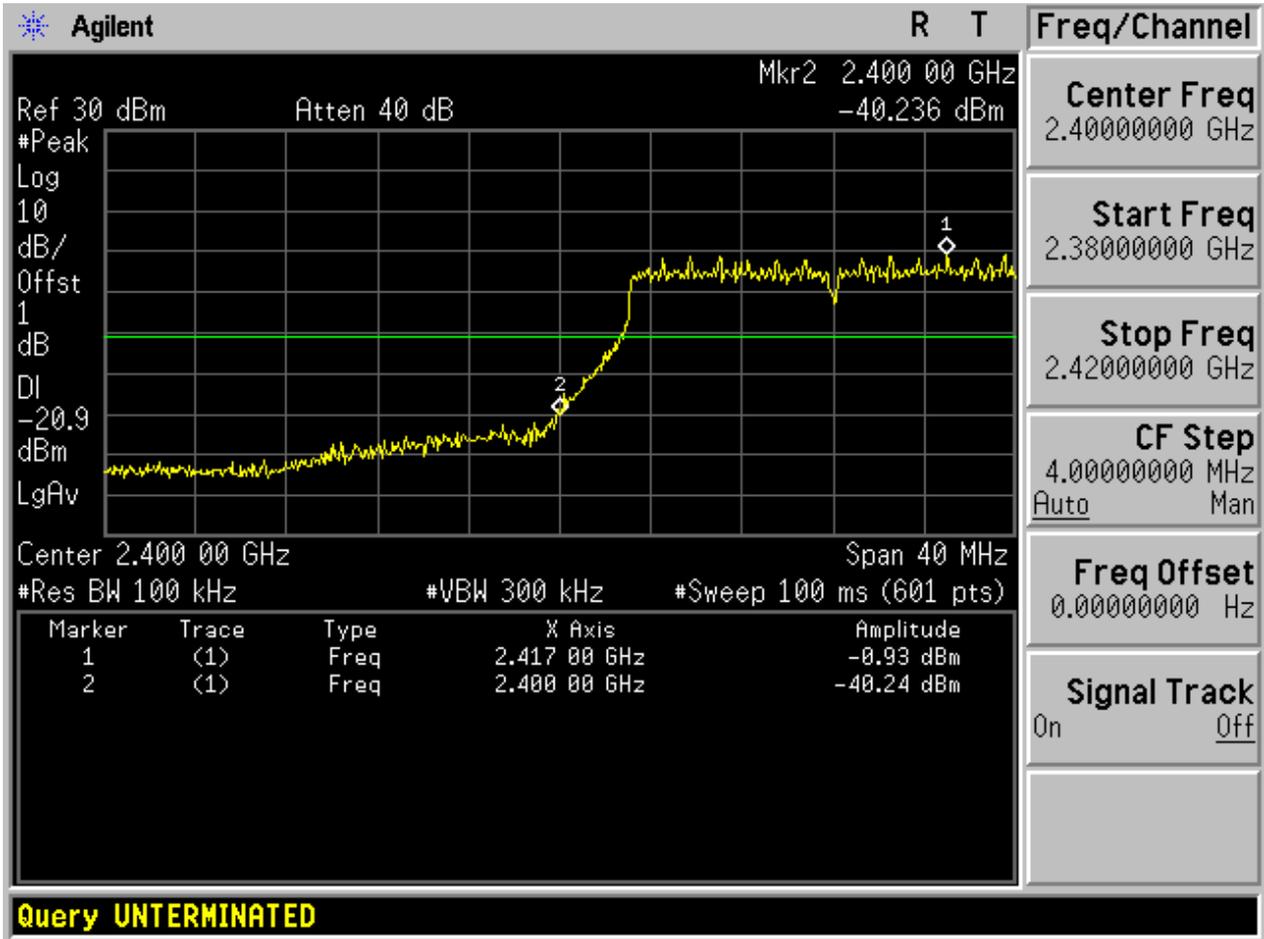


### 2.4 11G\_H



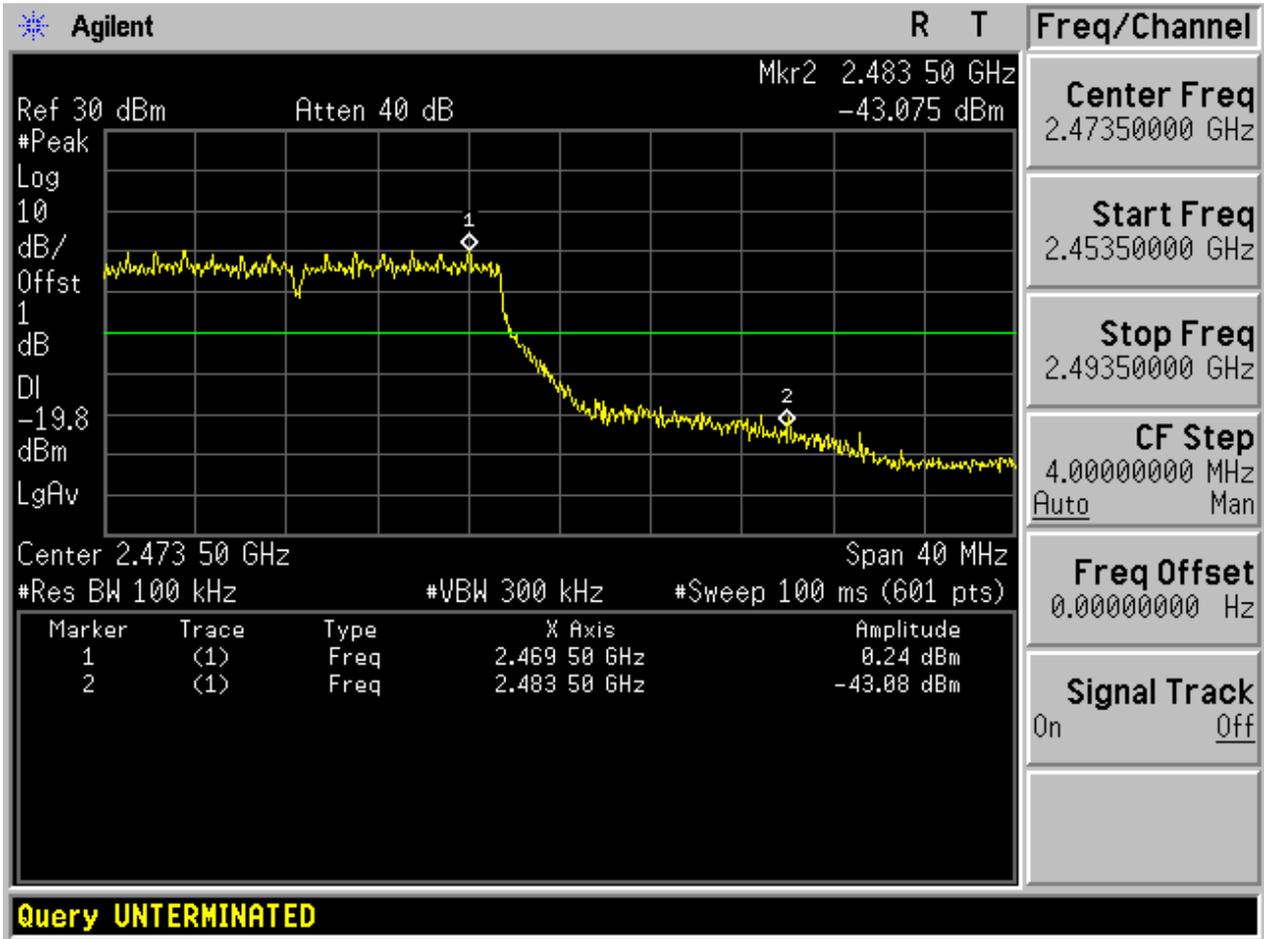


### 2.5 11N20\_L





### 2.6 11N20\_H



## Appendix E: 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

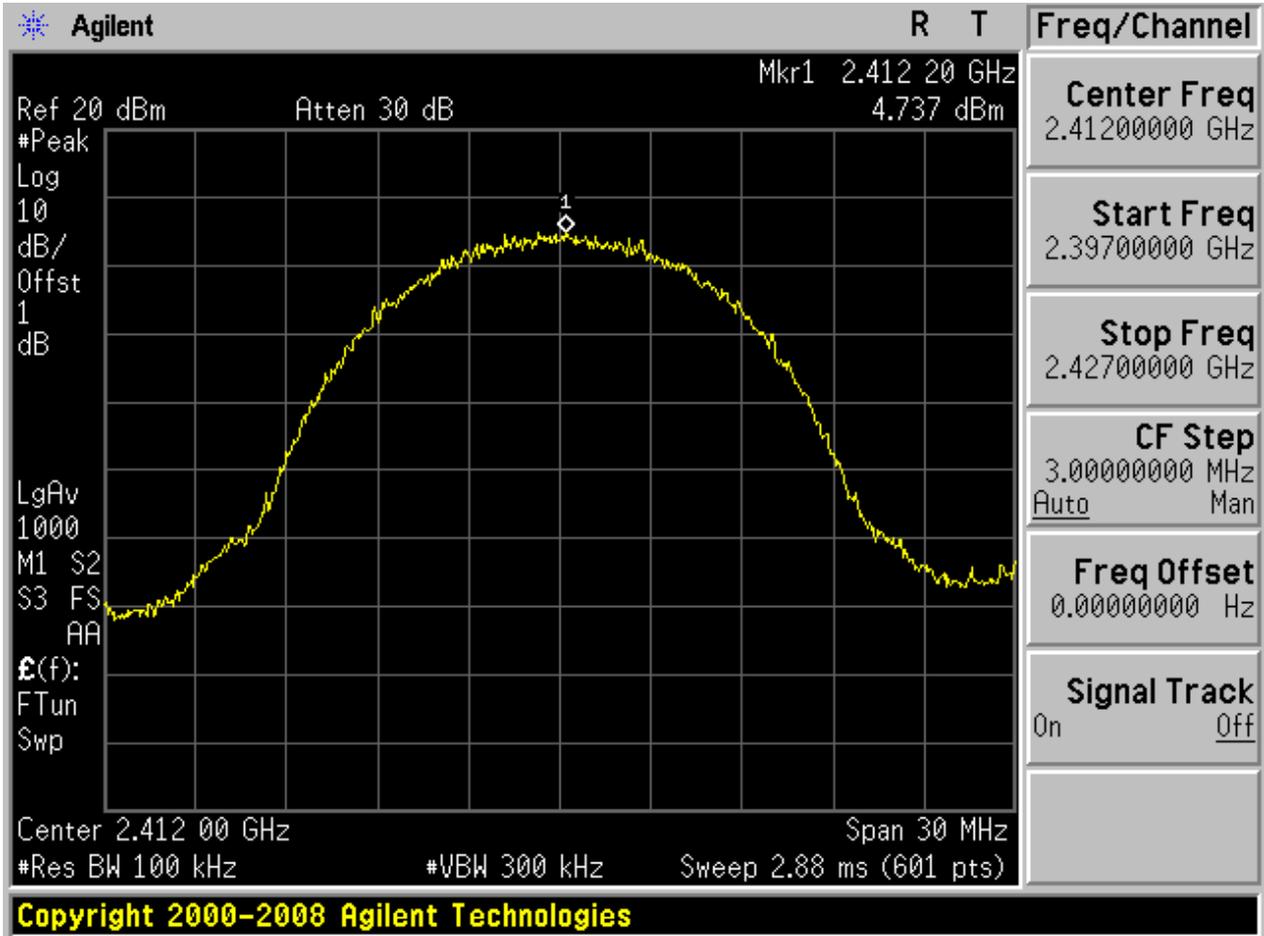
Test Mode	Test Channel	Frequency[MHz]	Pref[dBm]	Puw[dBm]	Verdict
11B	L	2412	4.74	<limit	pass
11B	M	2437	5.95	<limit	pass
11B	H	2462	5.94	<limit	pass
11G	L	2412	0.17	<limit	pass
11G	M	2437	0.83	<limit	pass
11G	H	2462	1.36	<limit	pass
11N20	L	2412	-0.78	<limit	pass
11N20	M	2437	-0.20	<limit	pass
11N20	H	2462	0.34	<limit	pass



## Part II - Test Plots

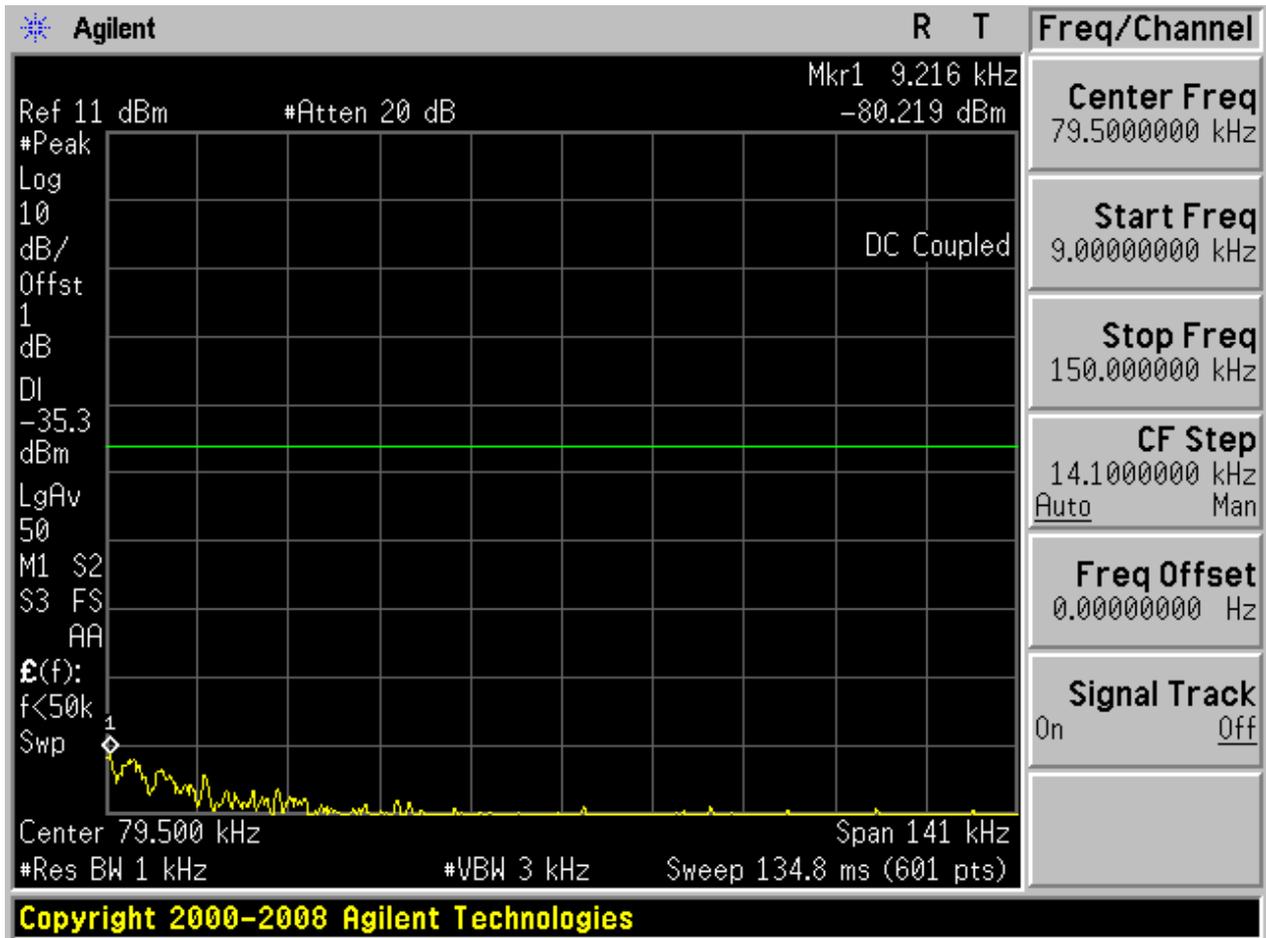
### 2.1 11B\_L

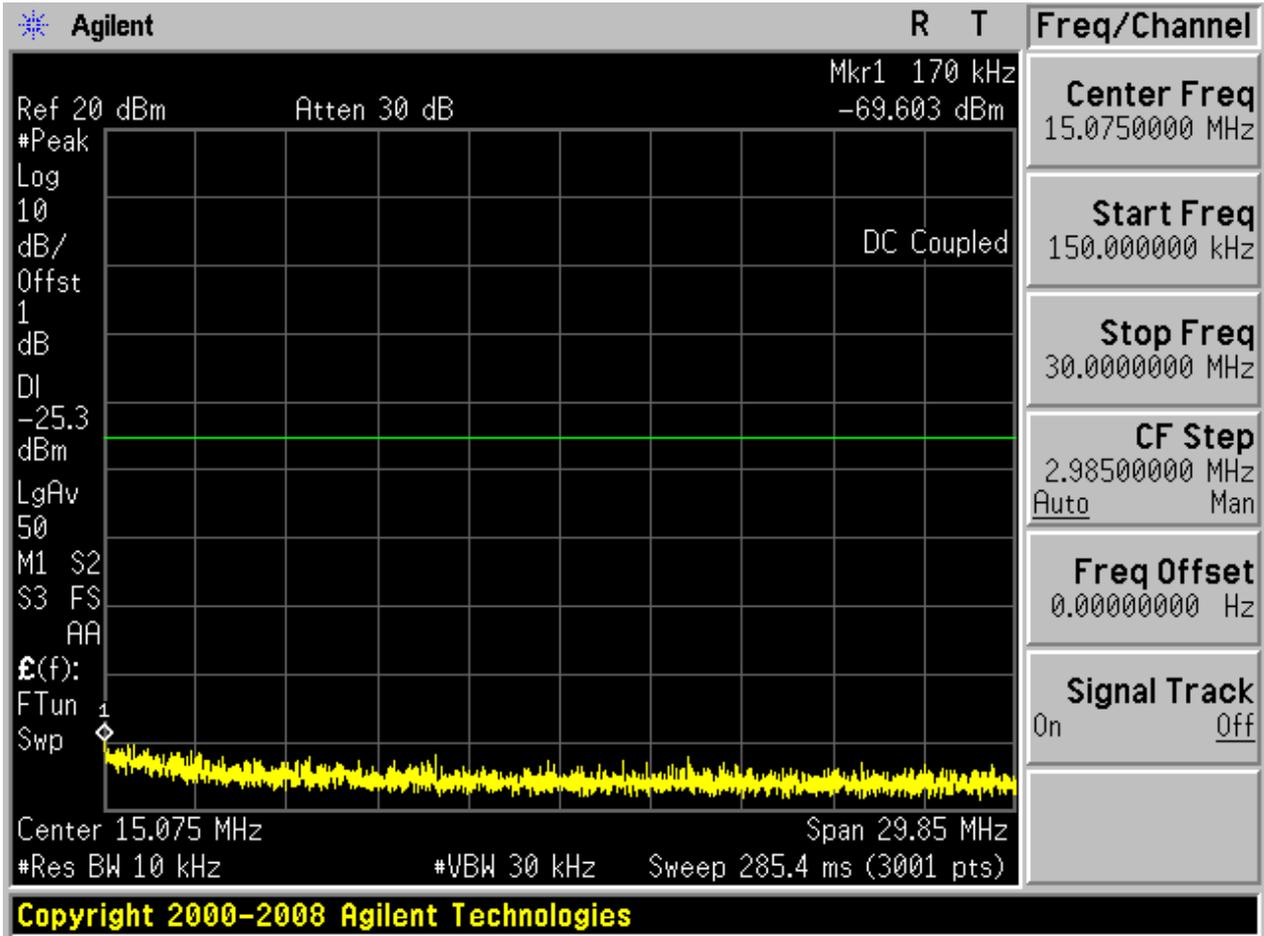
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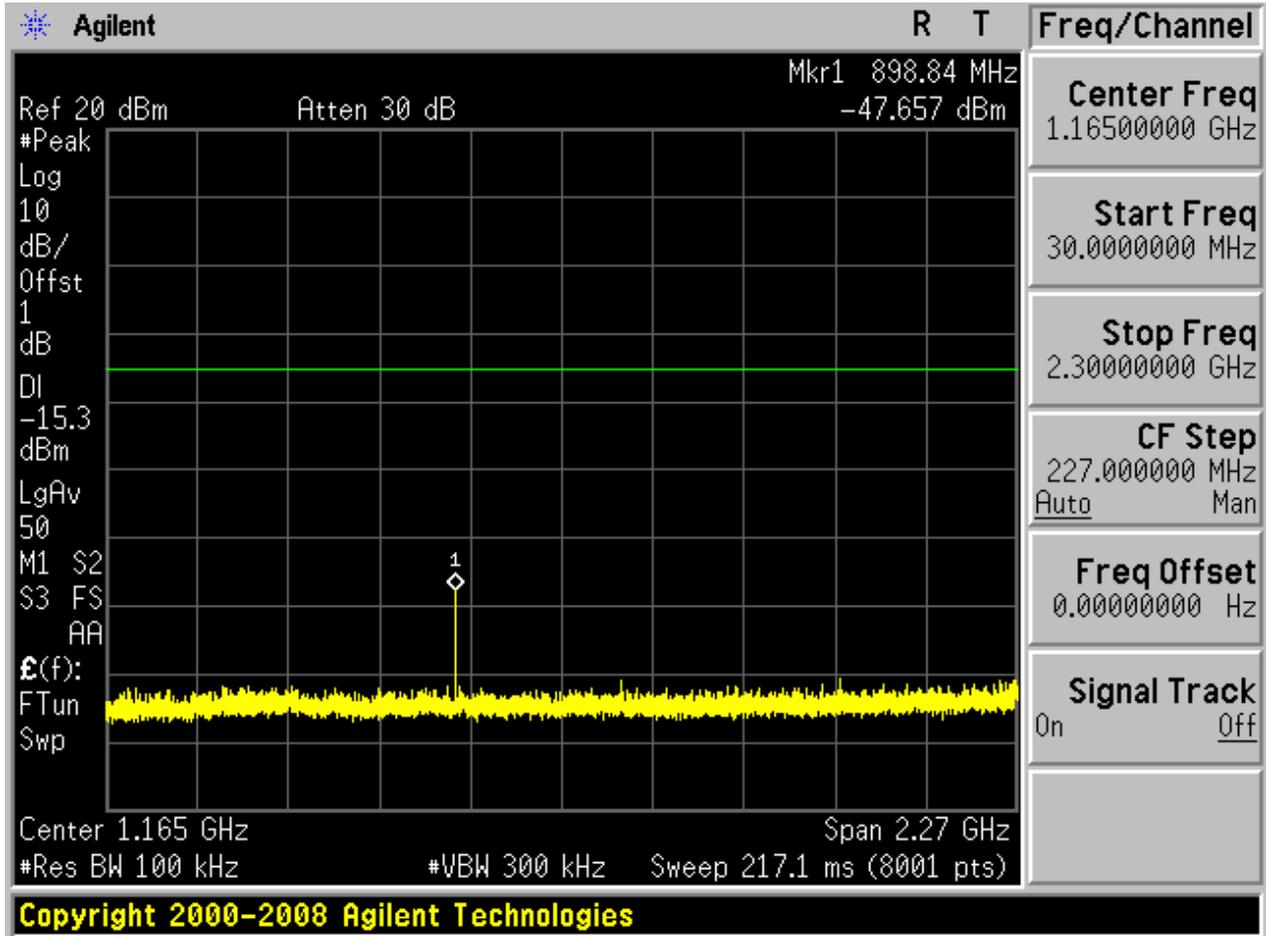


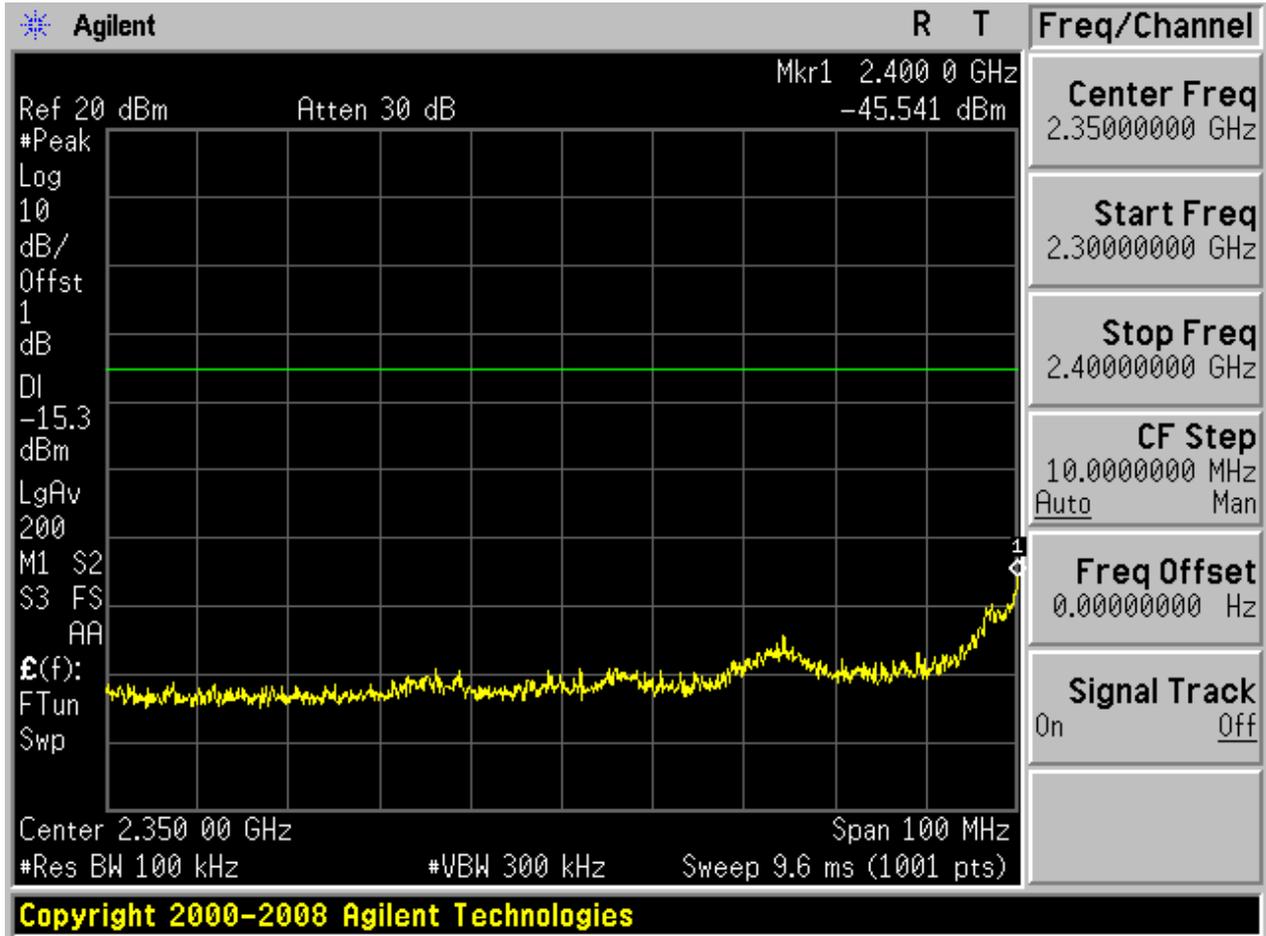


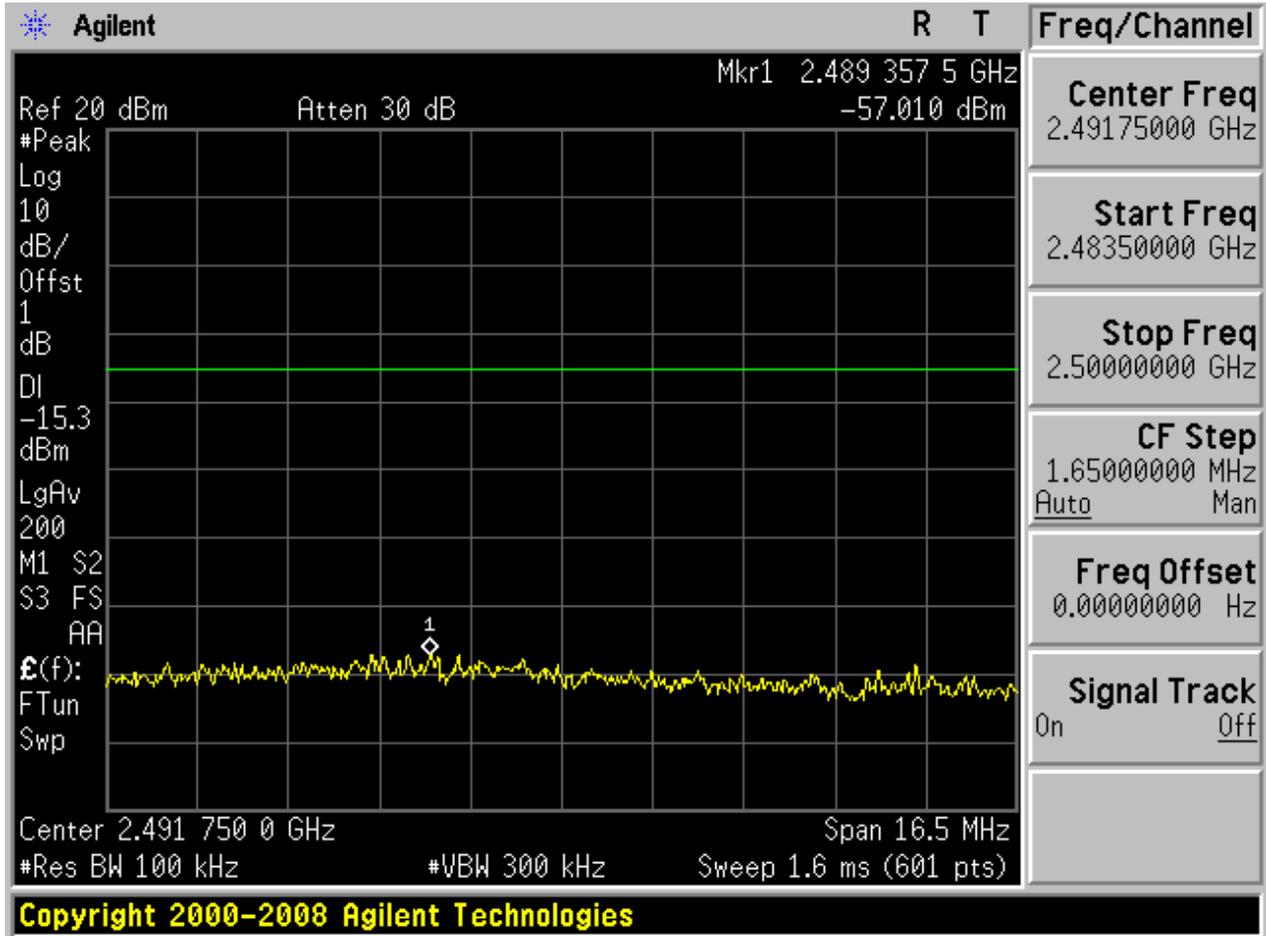
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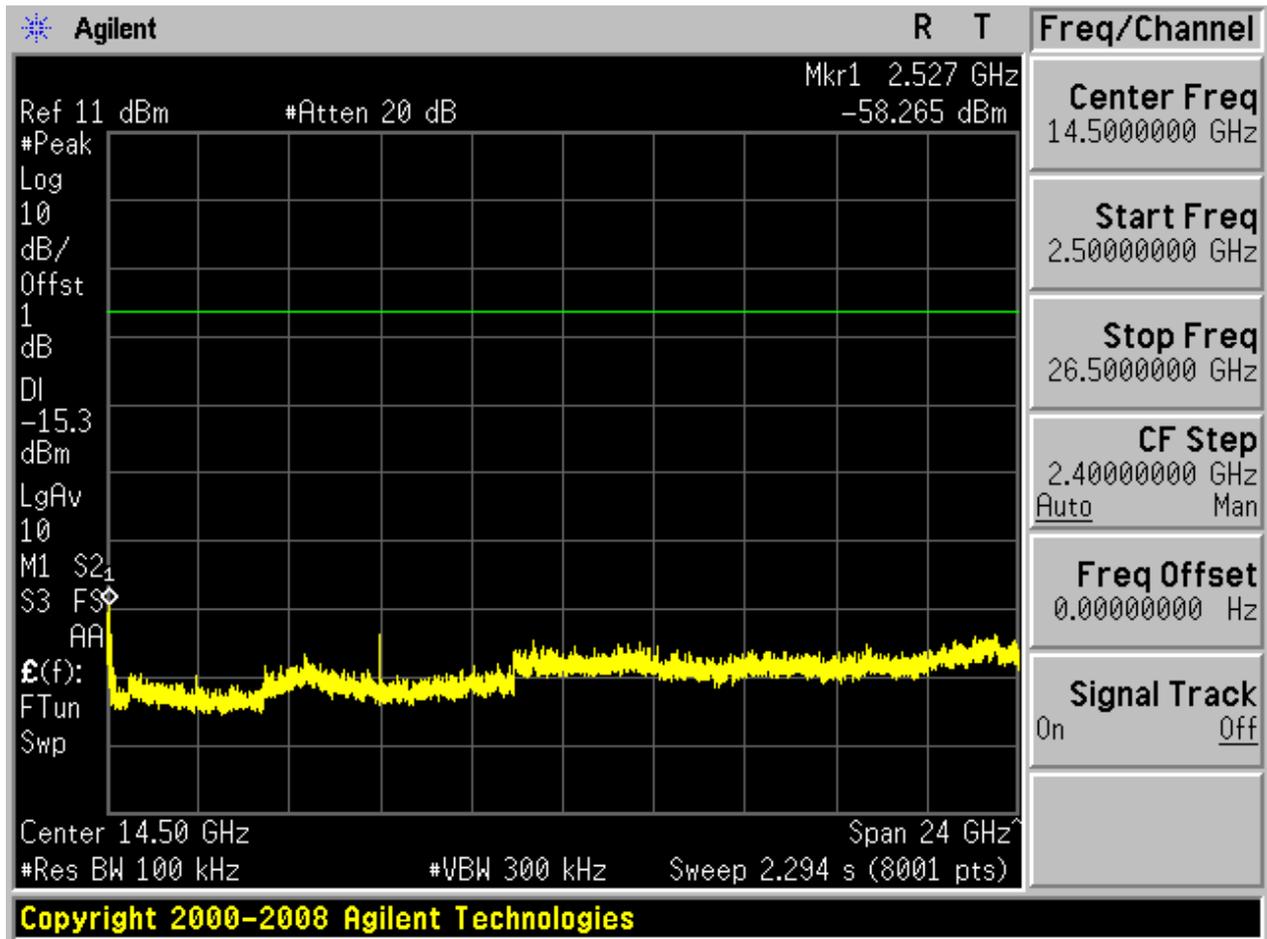








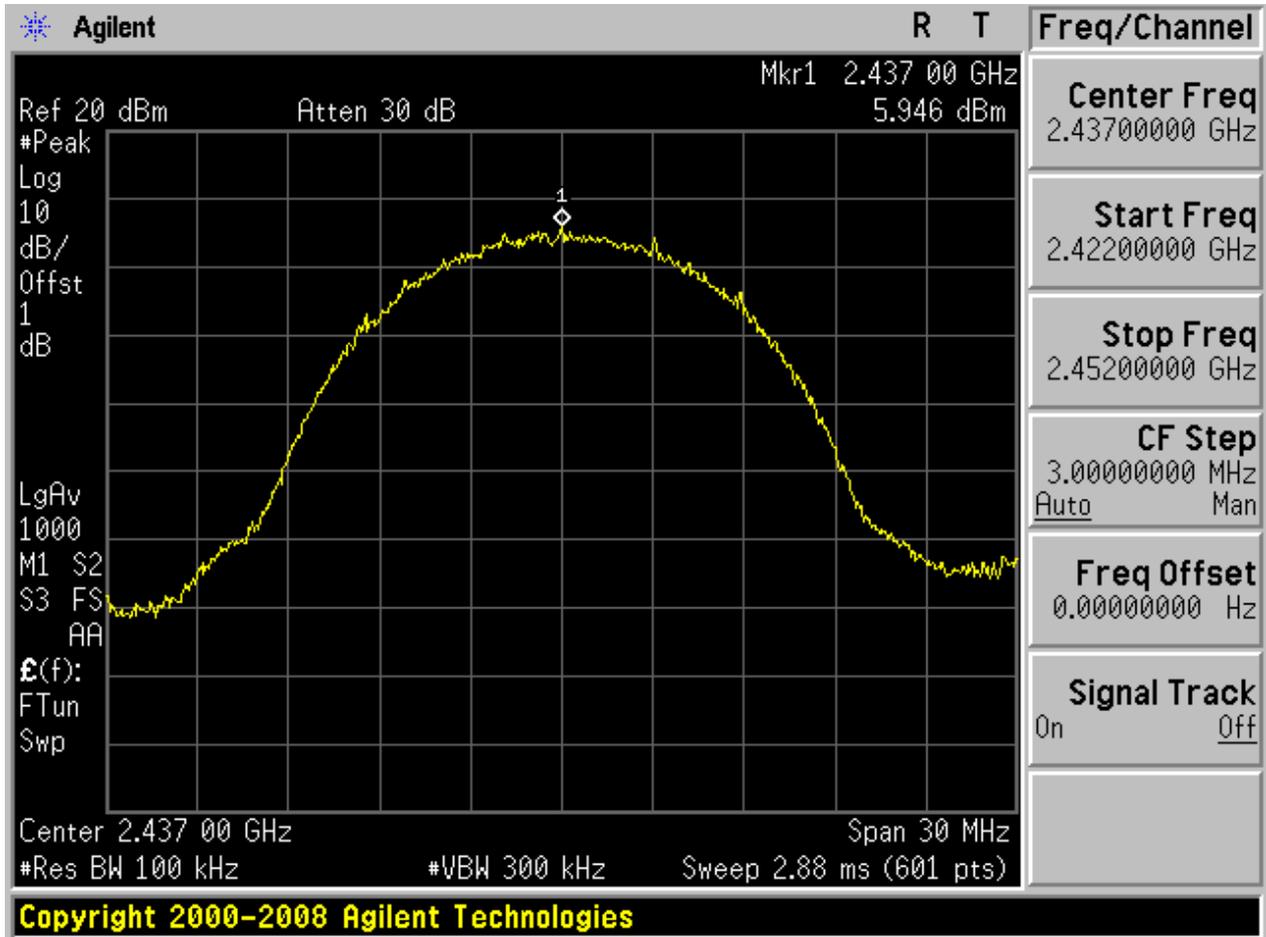






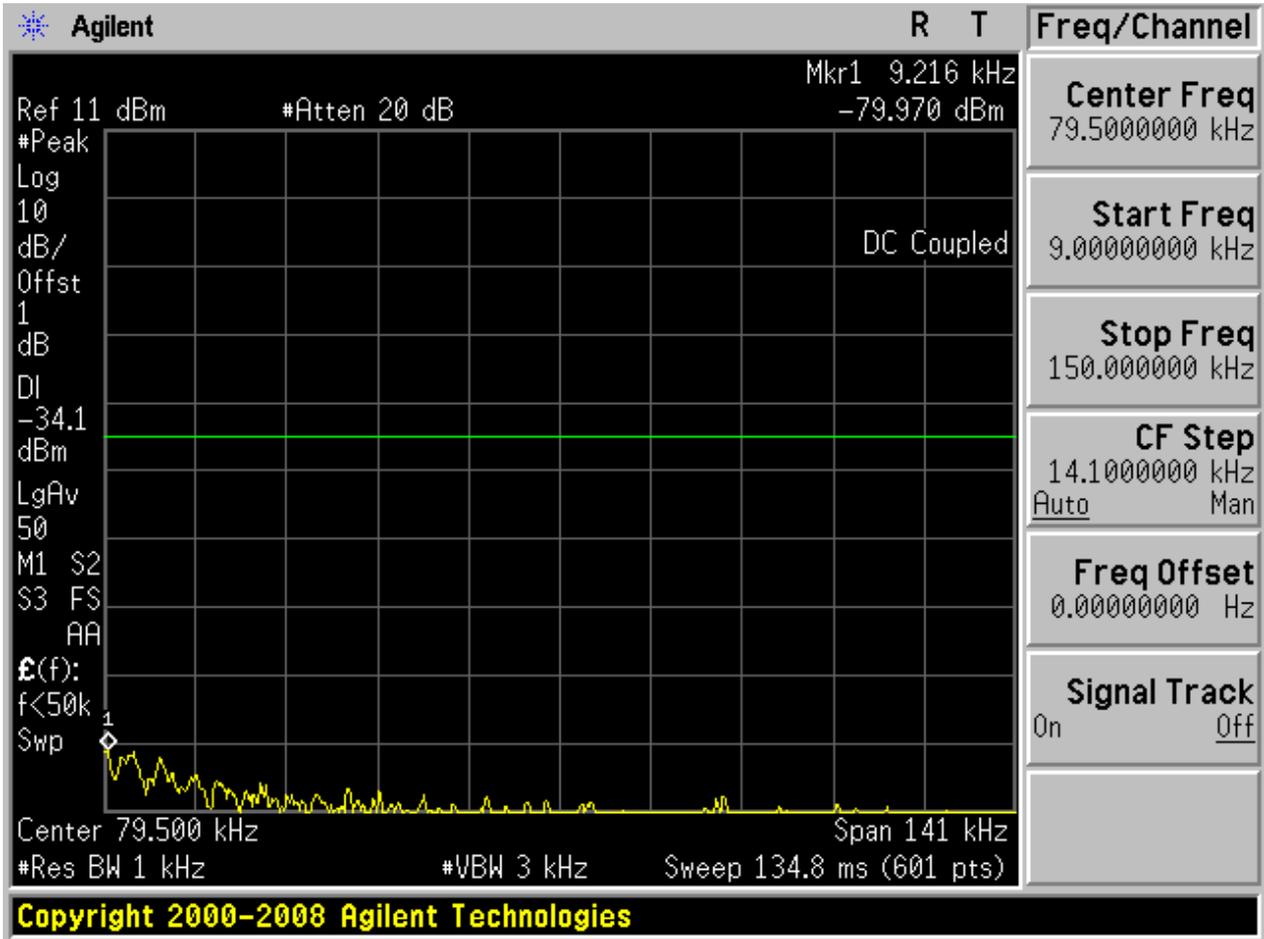
## 2.2 11B\_M

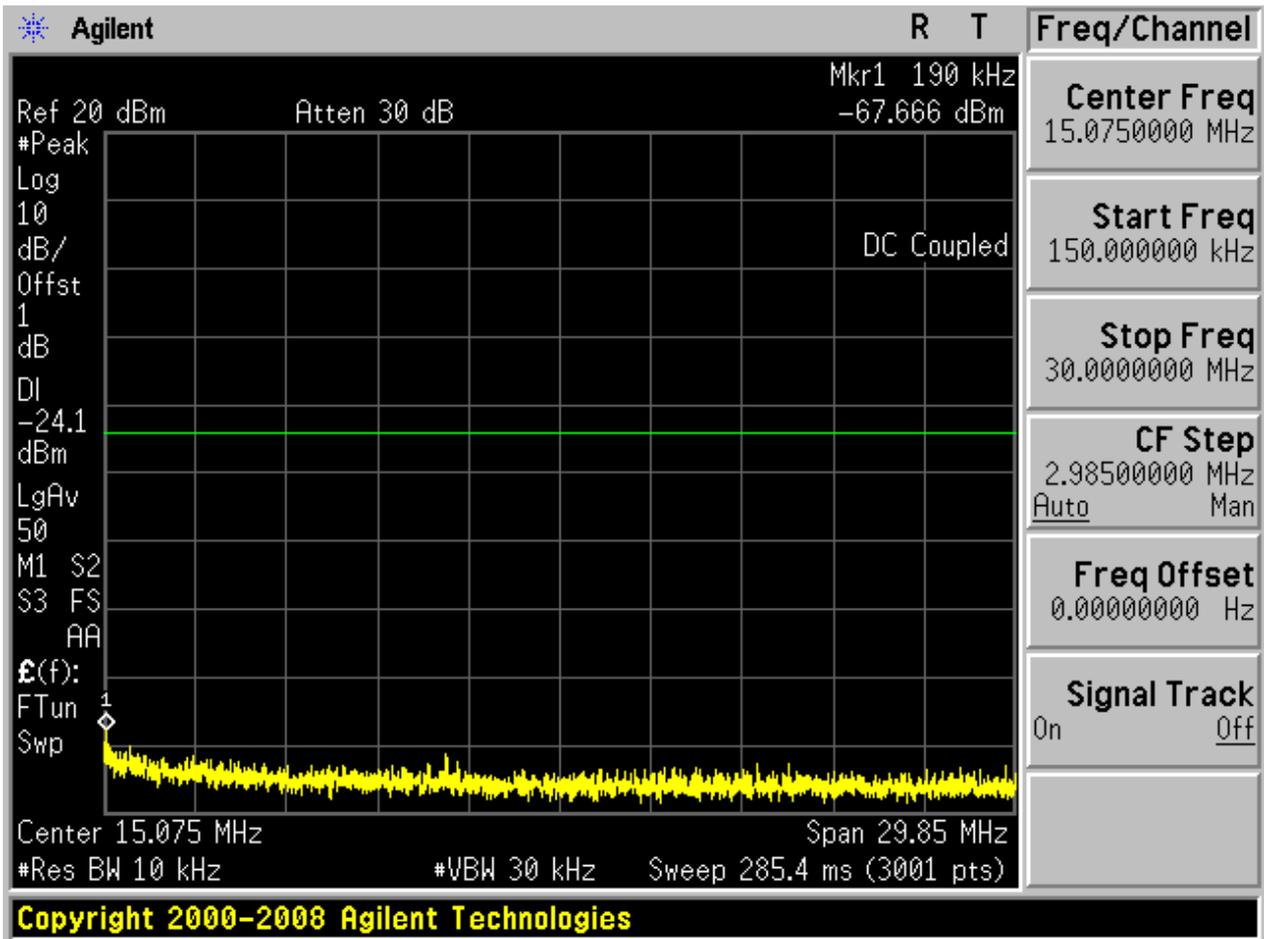
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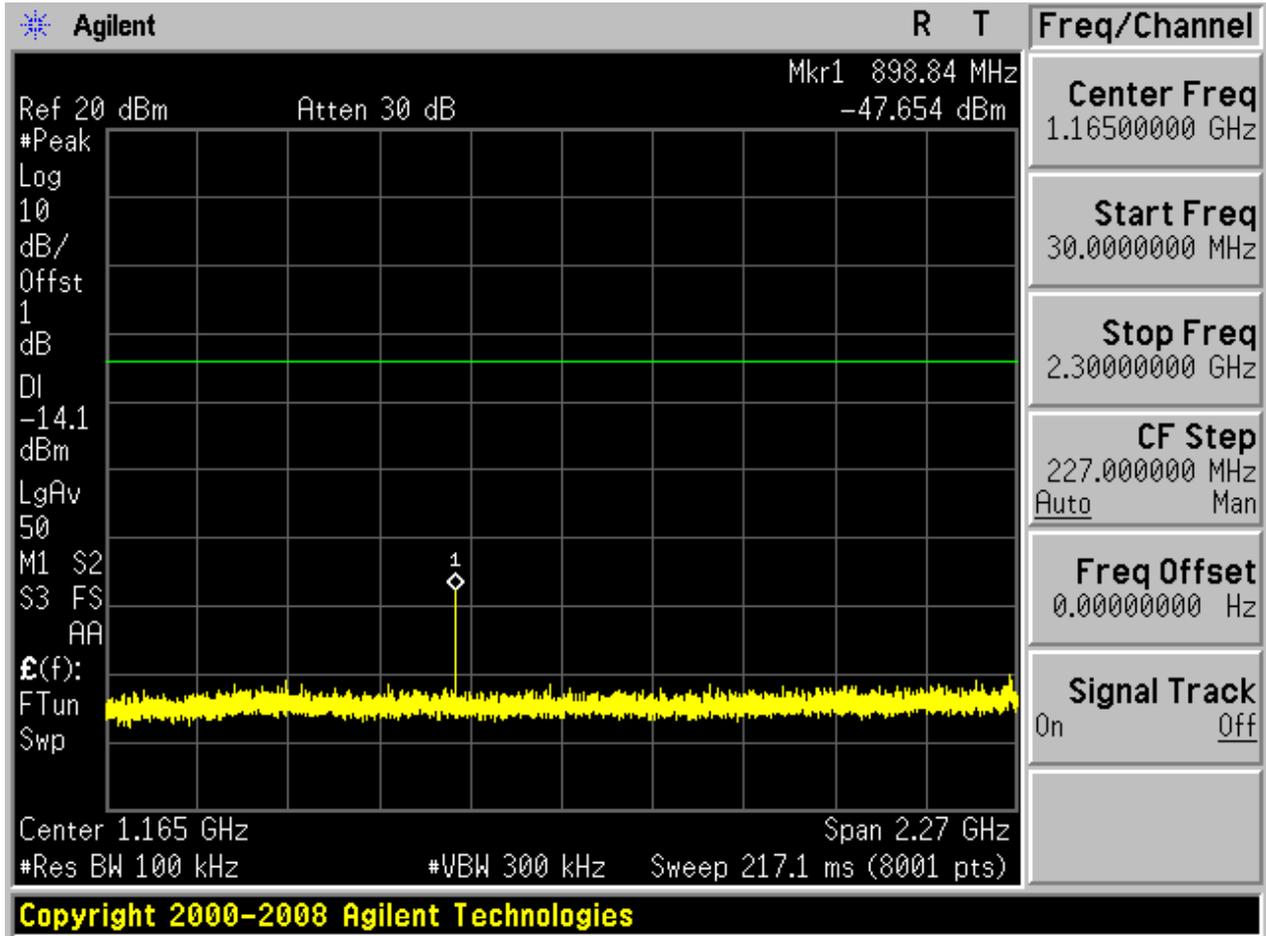


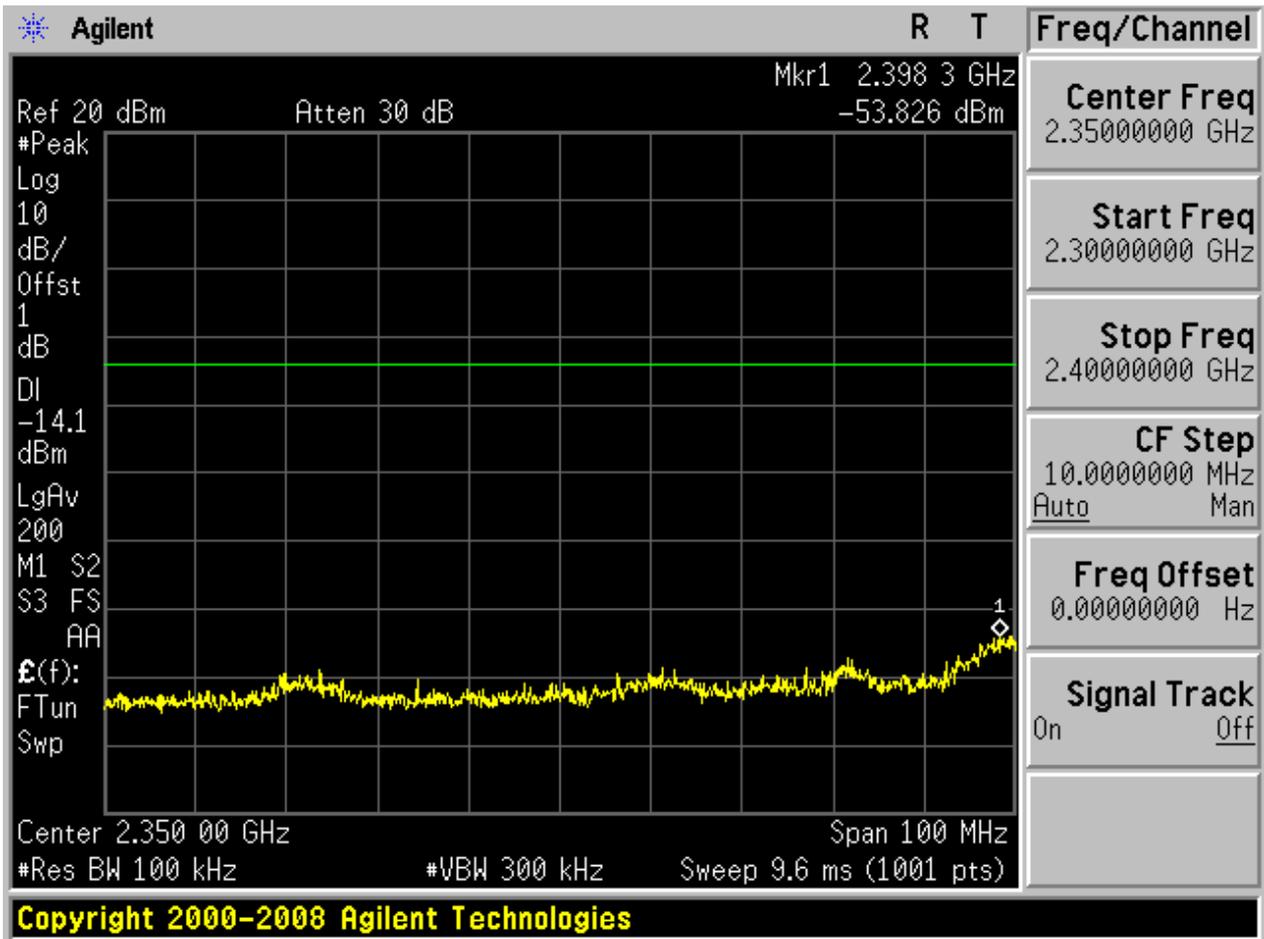


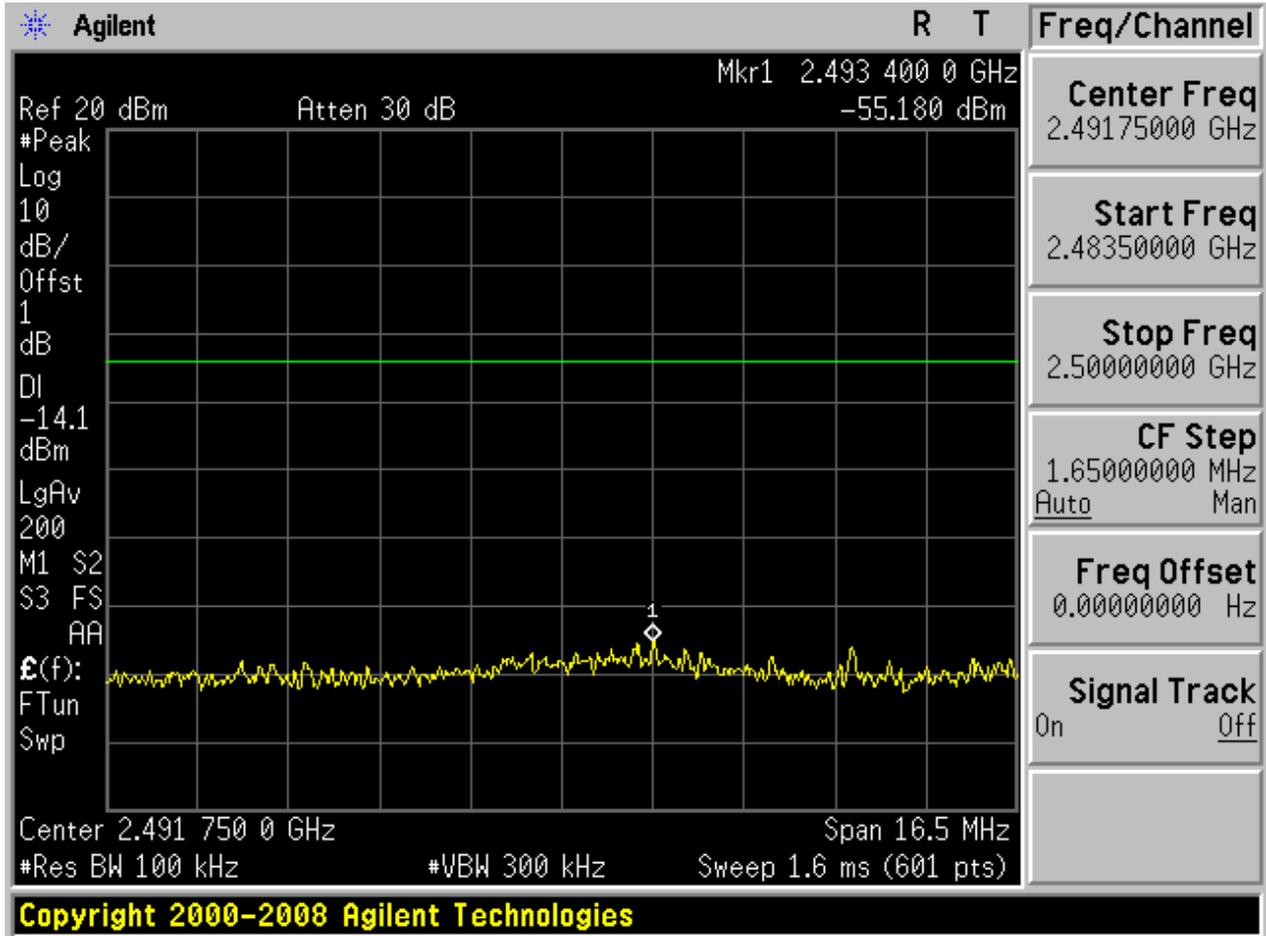
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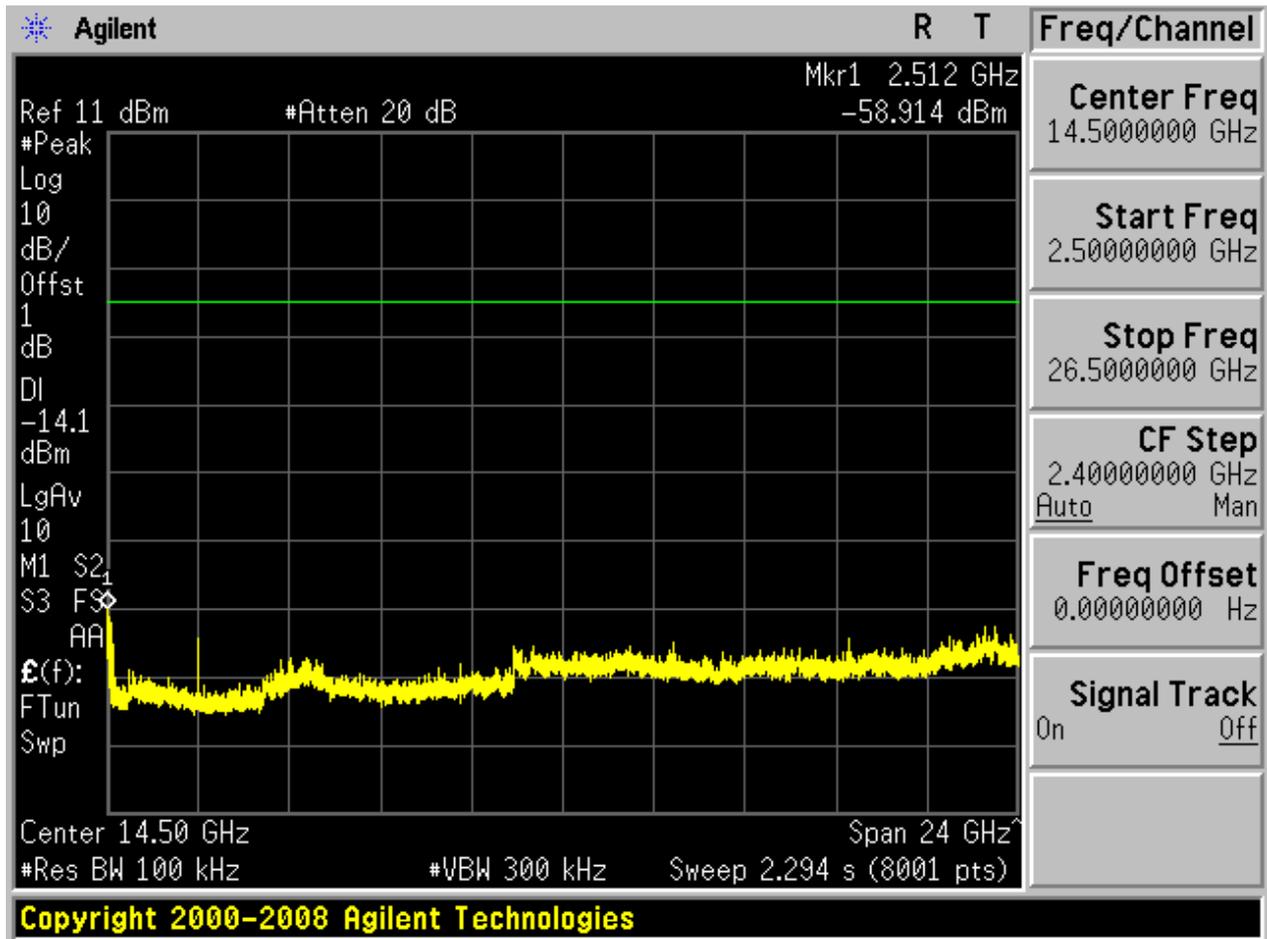








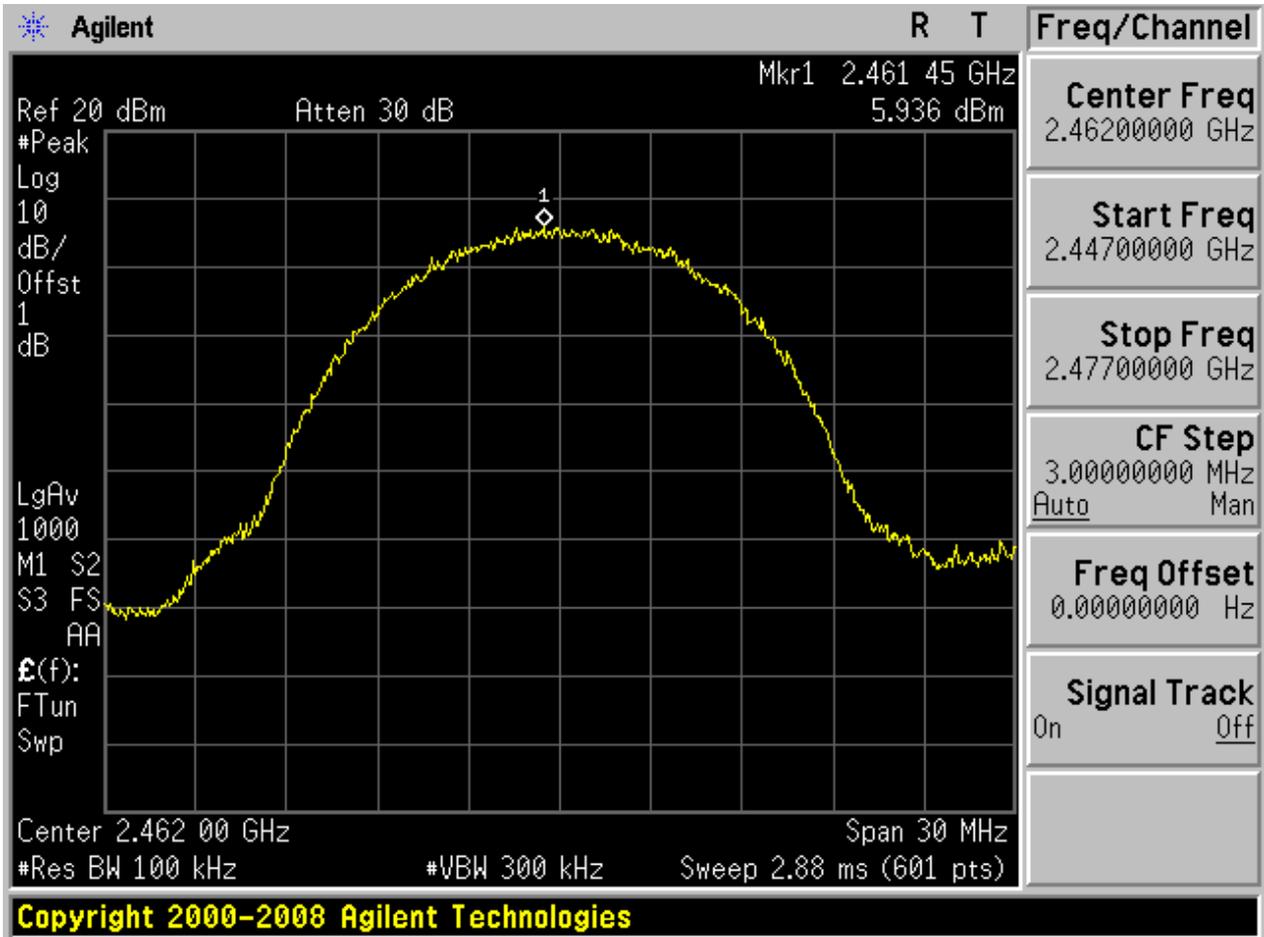






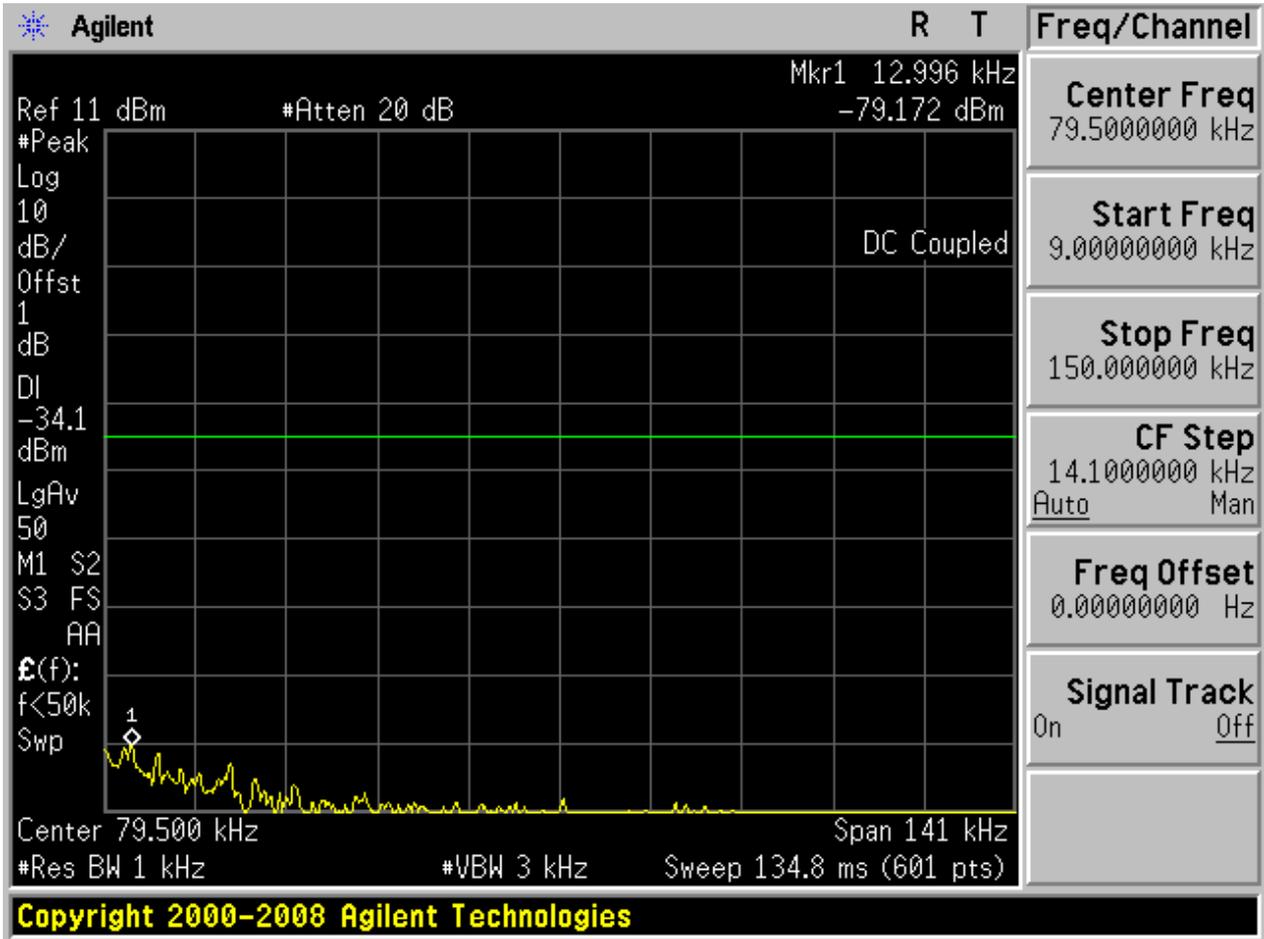
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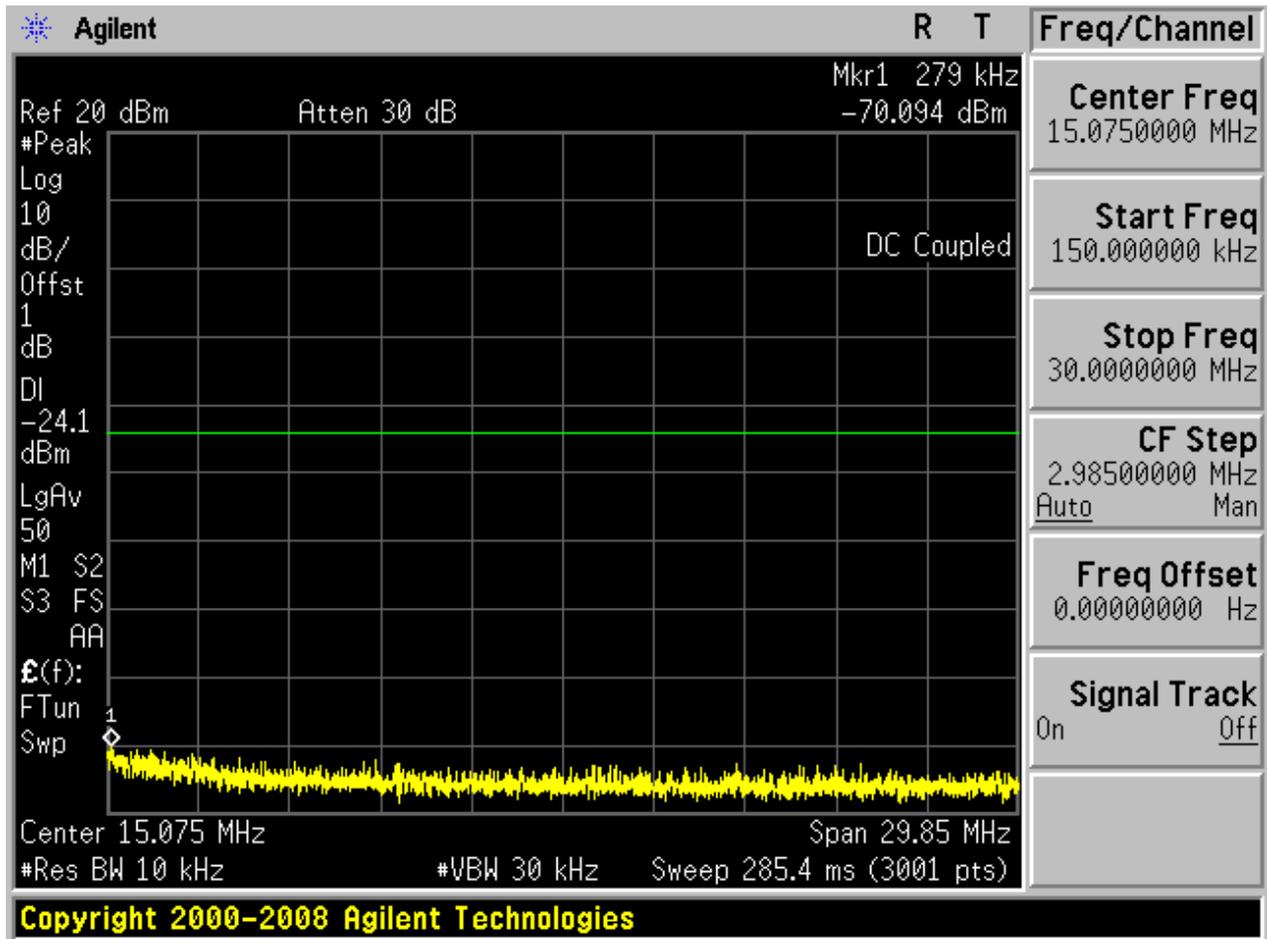
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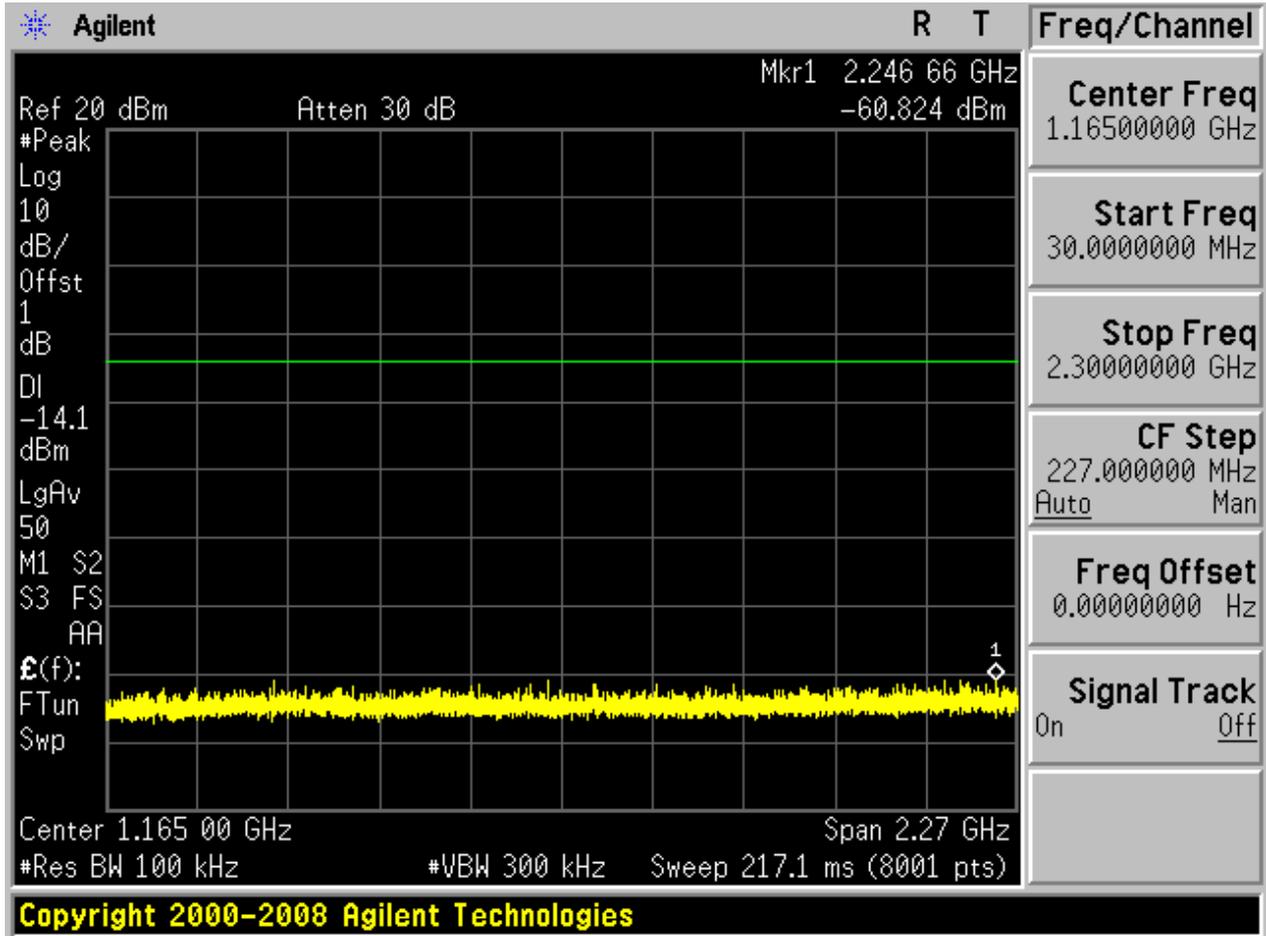


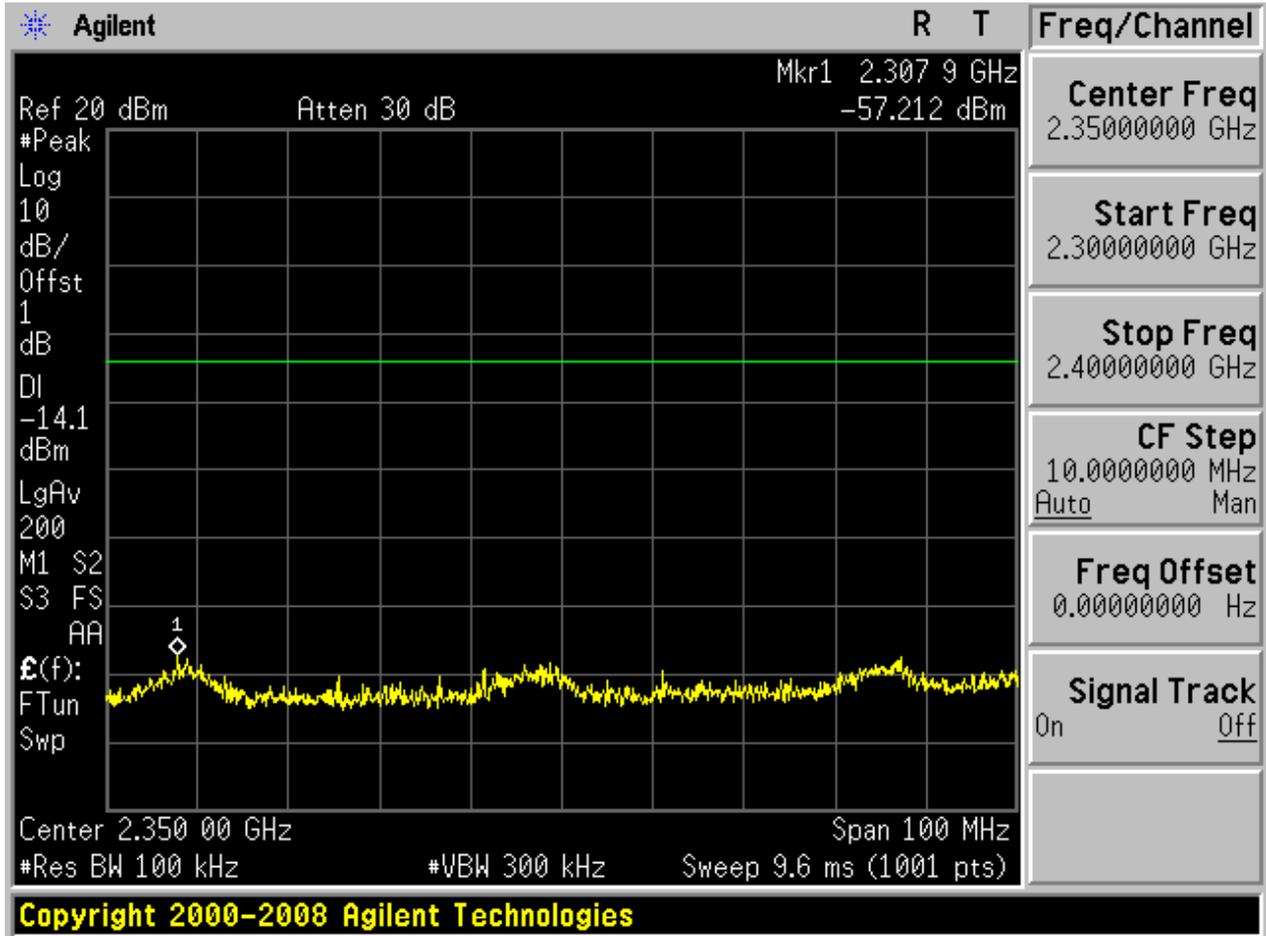


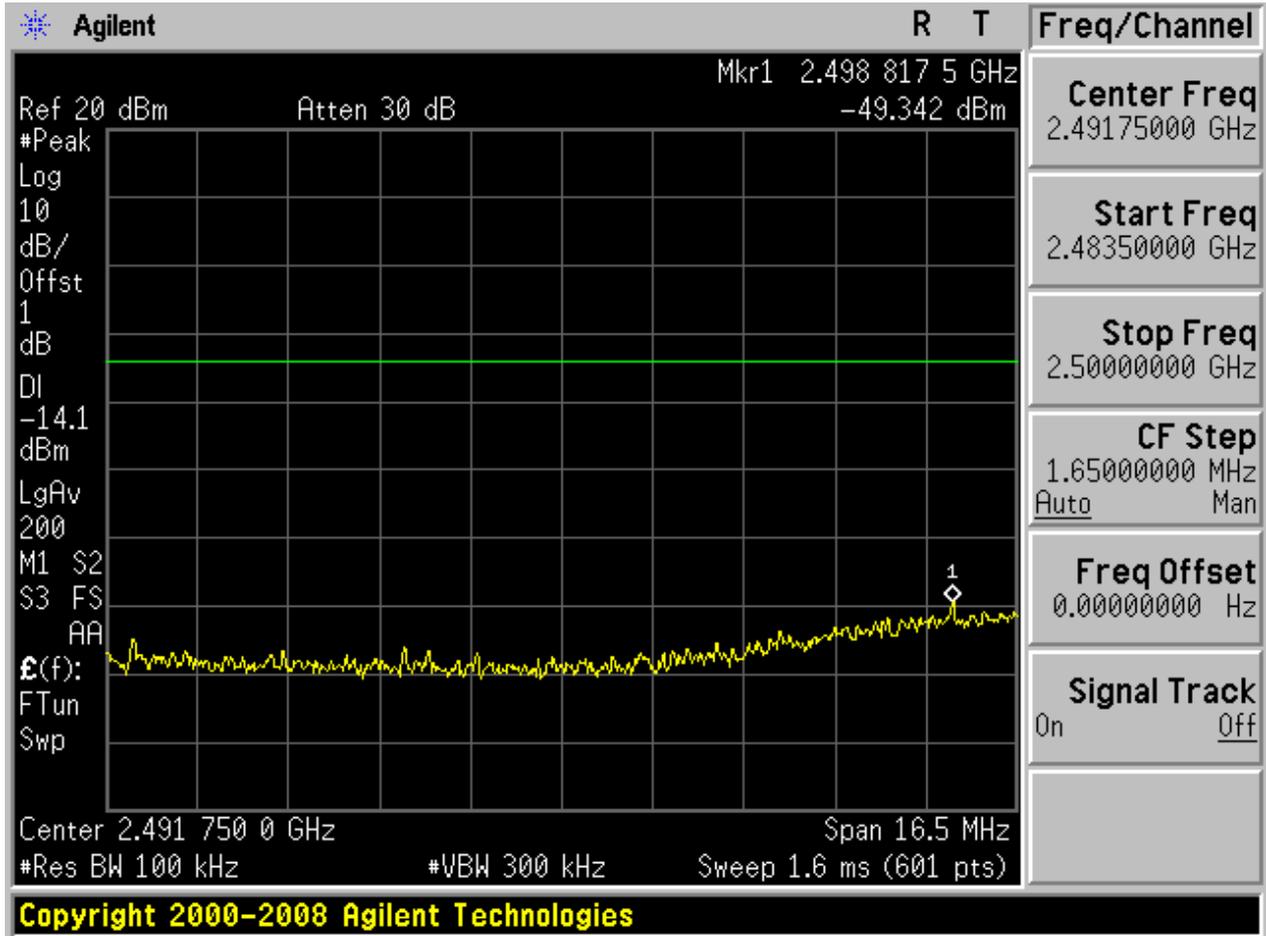
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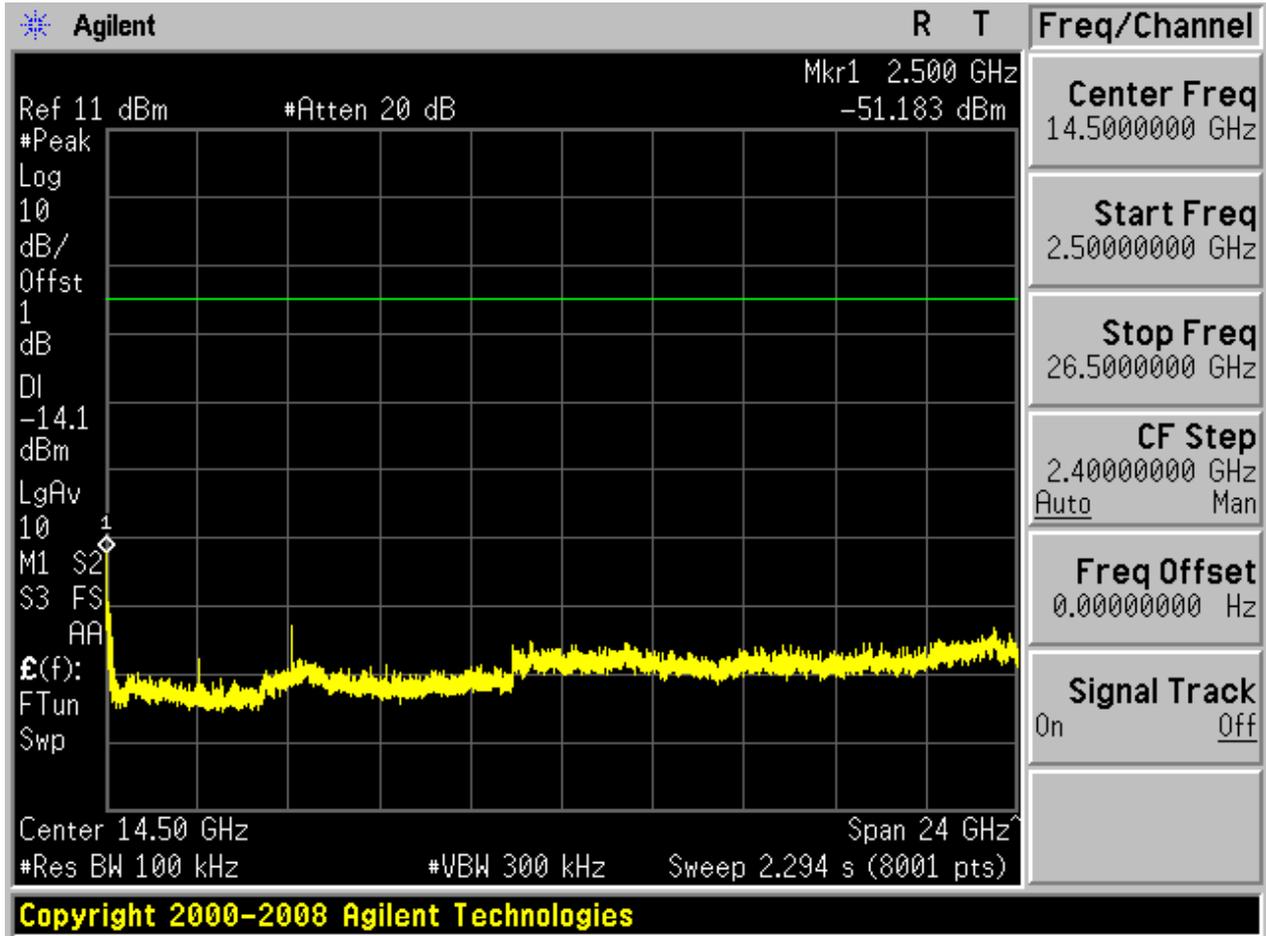








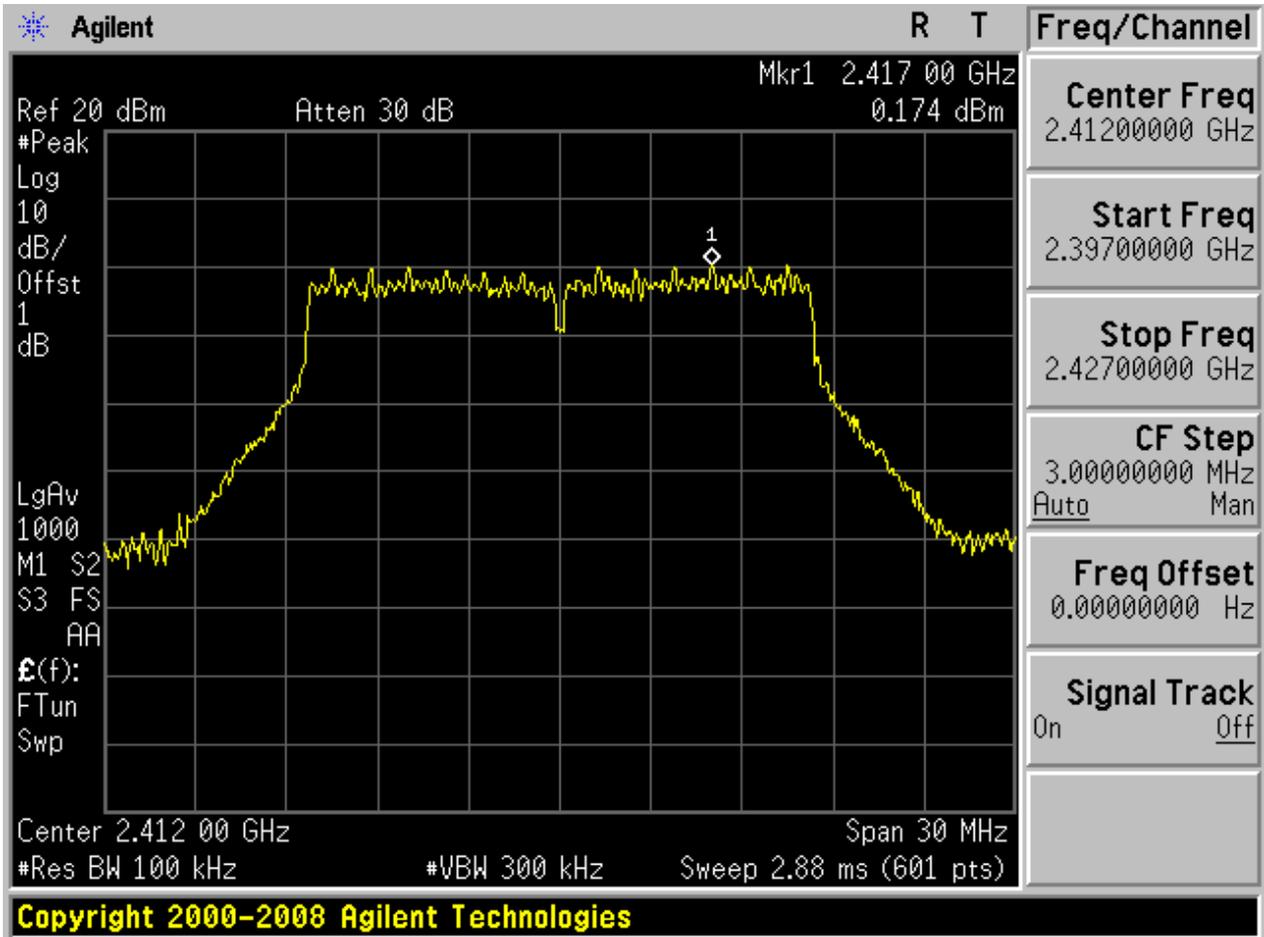






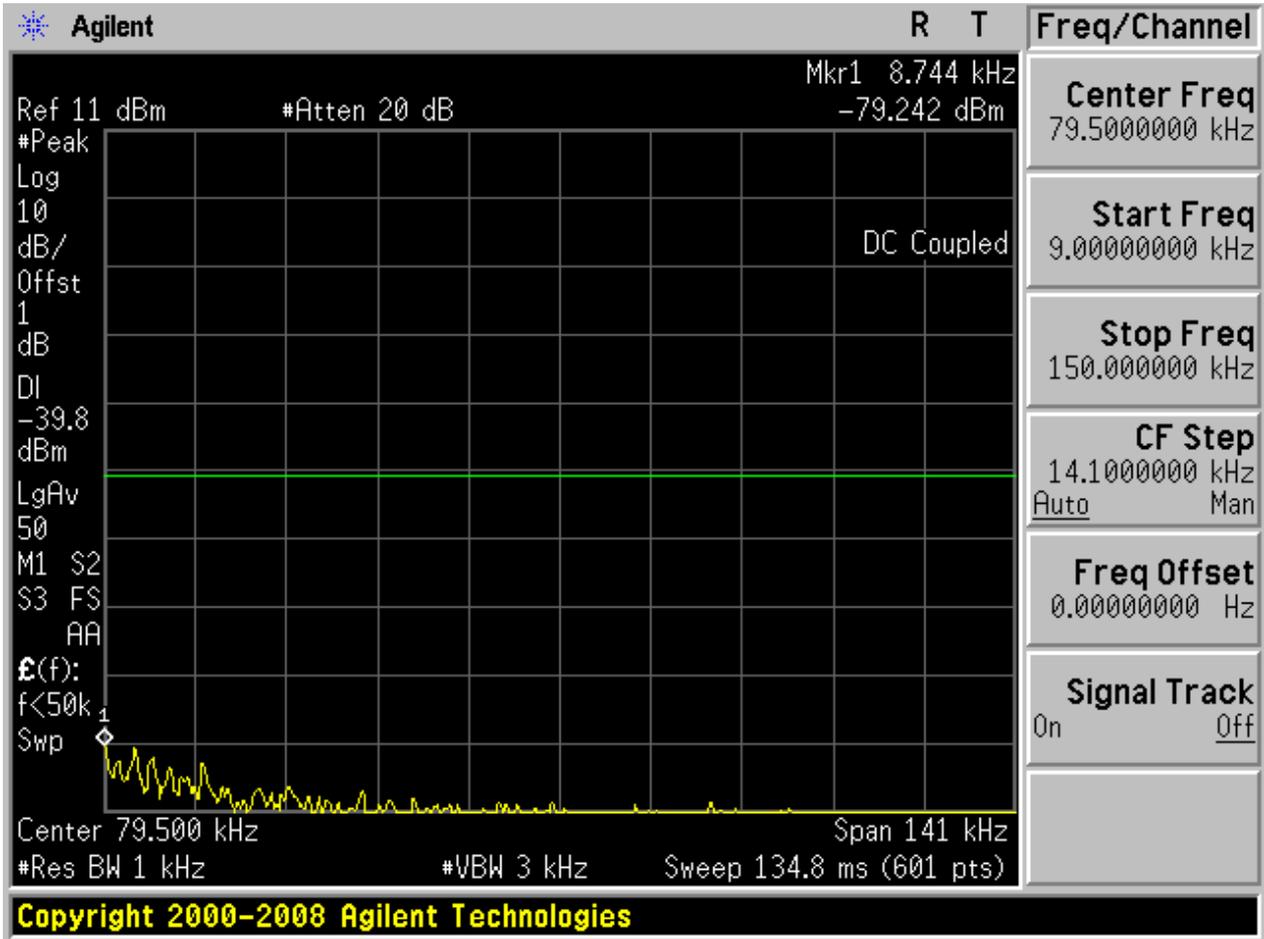
## 2.4 11G\_L

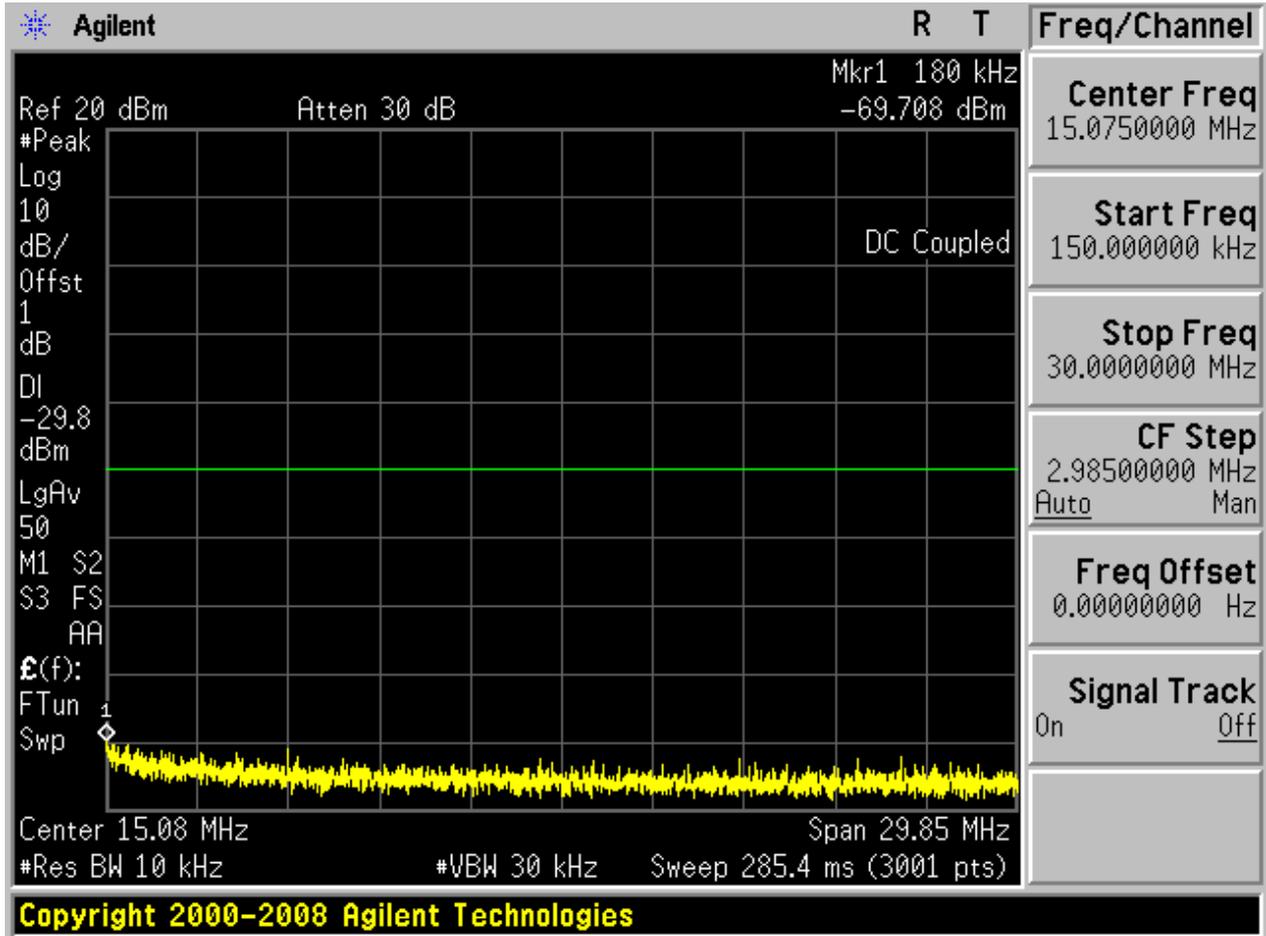
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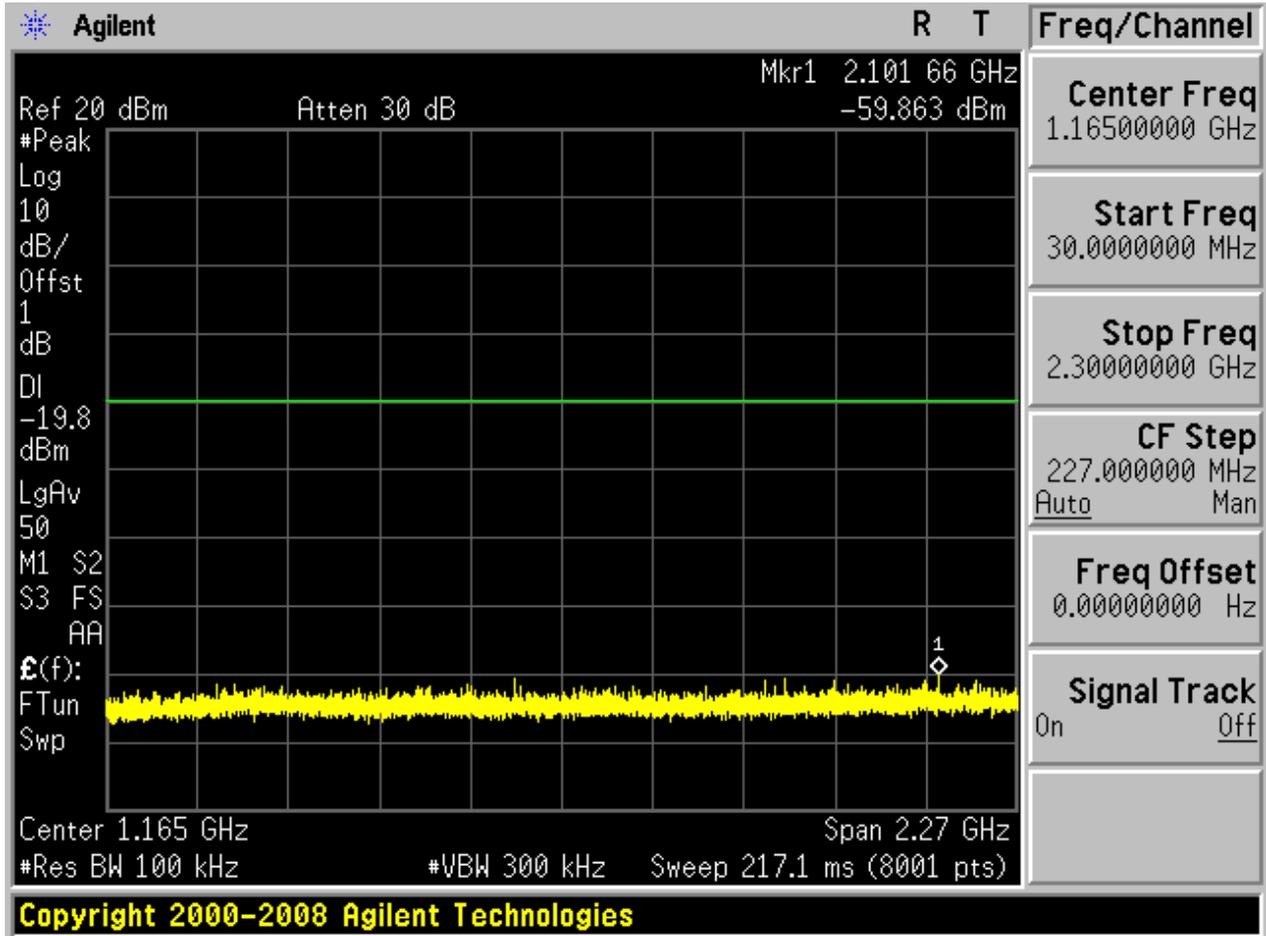


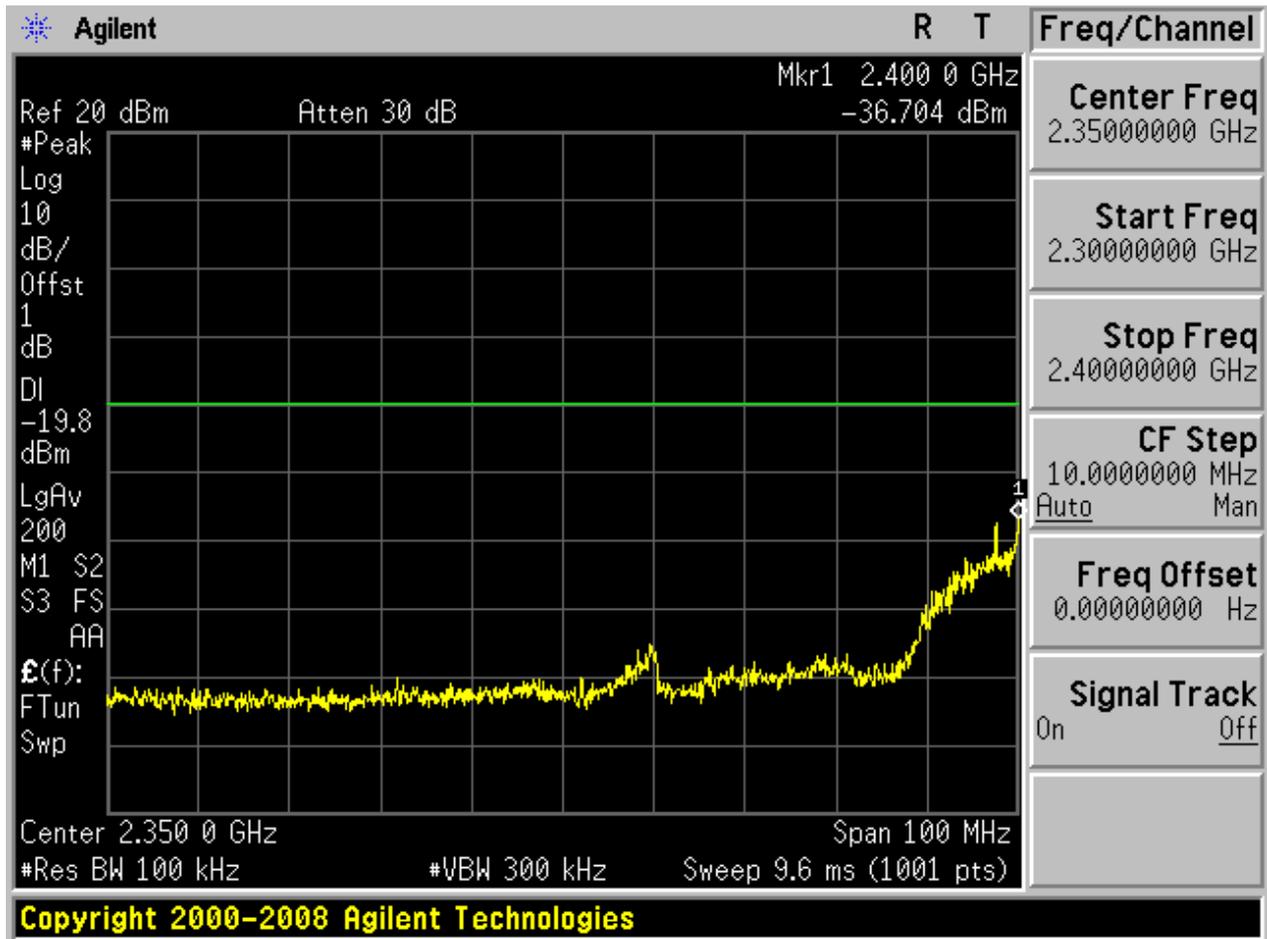


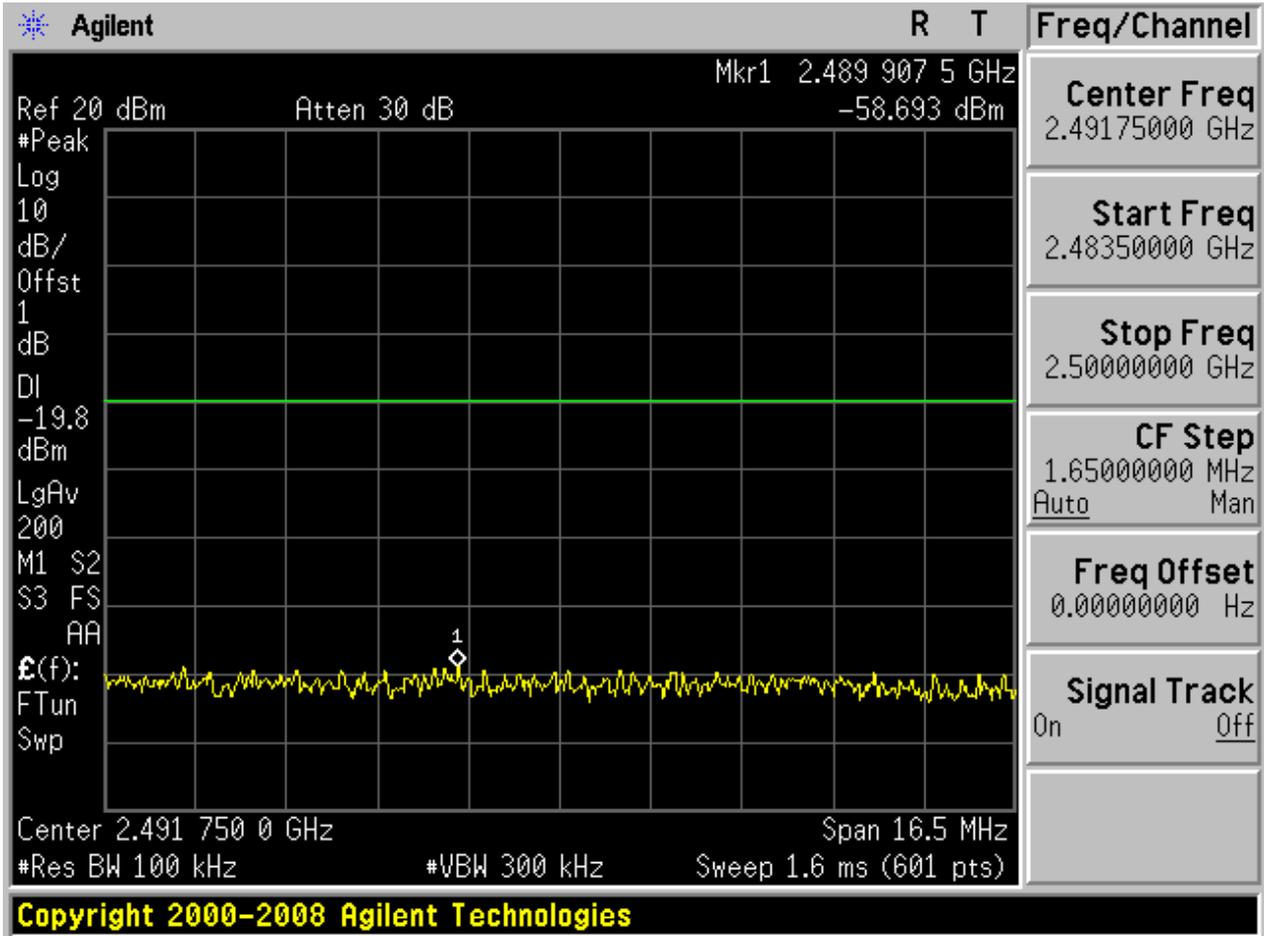
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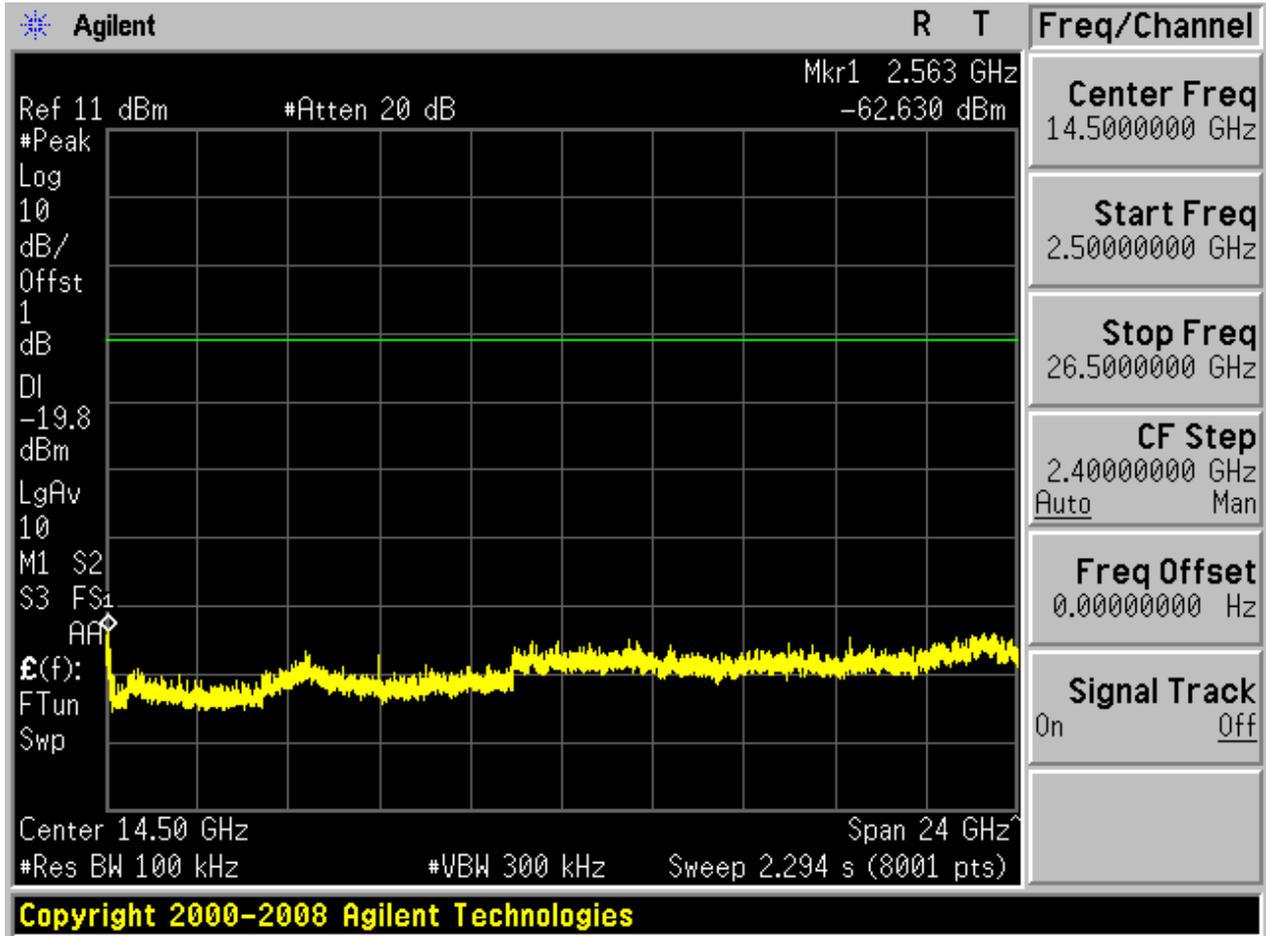








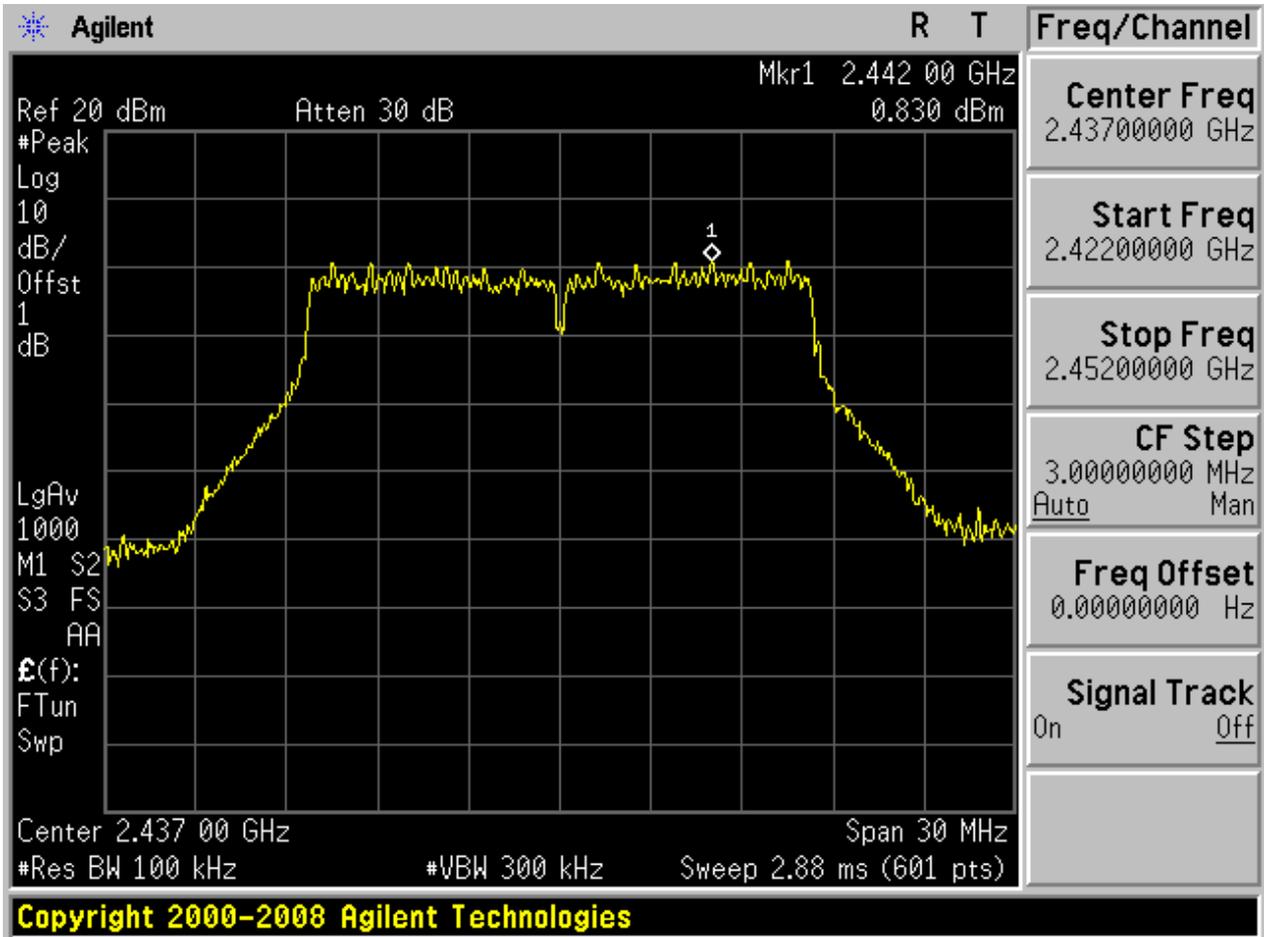






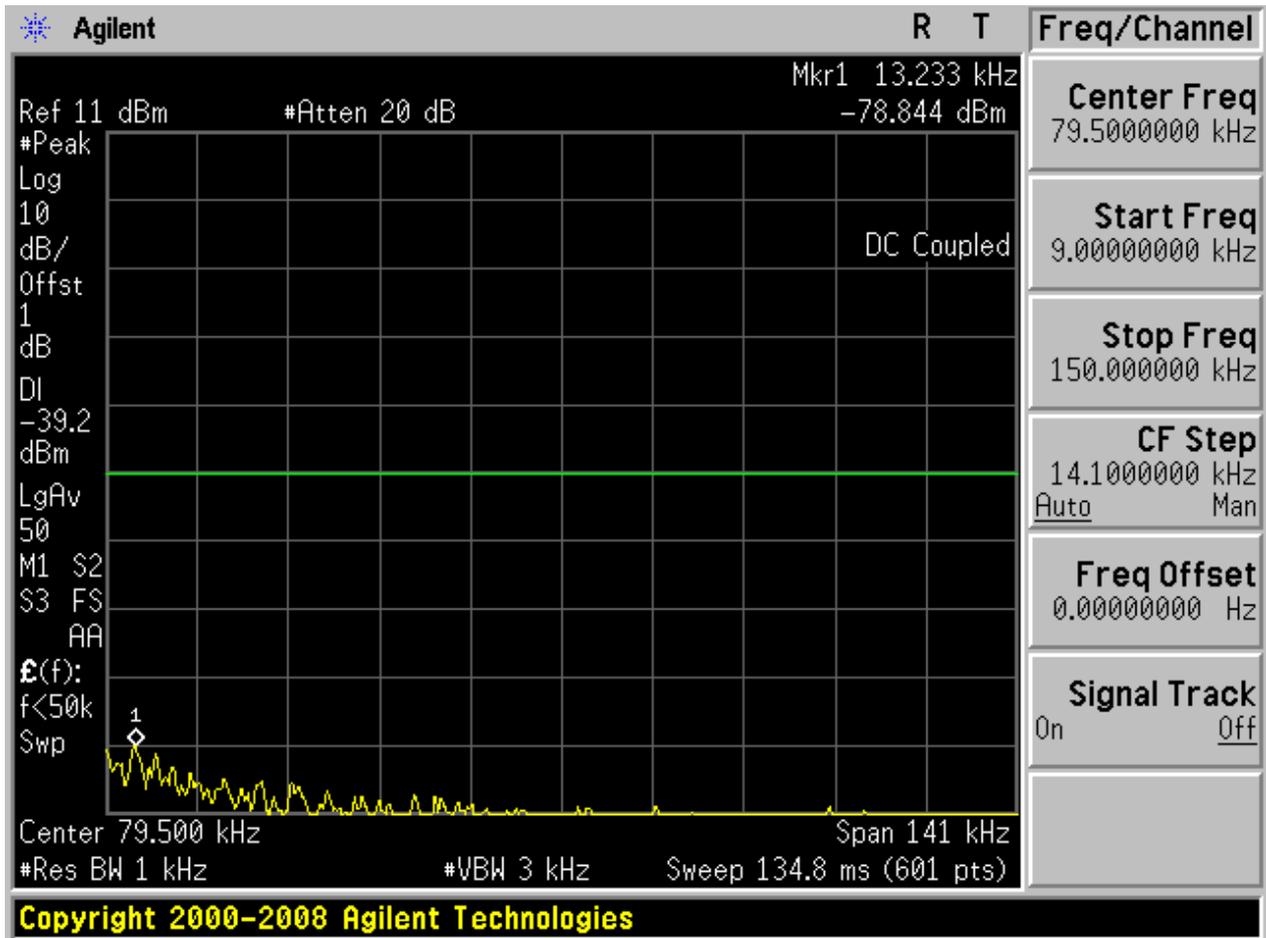
## 2.5 11G\_M

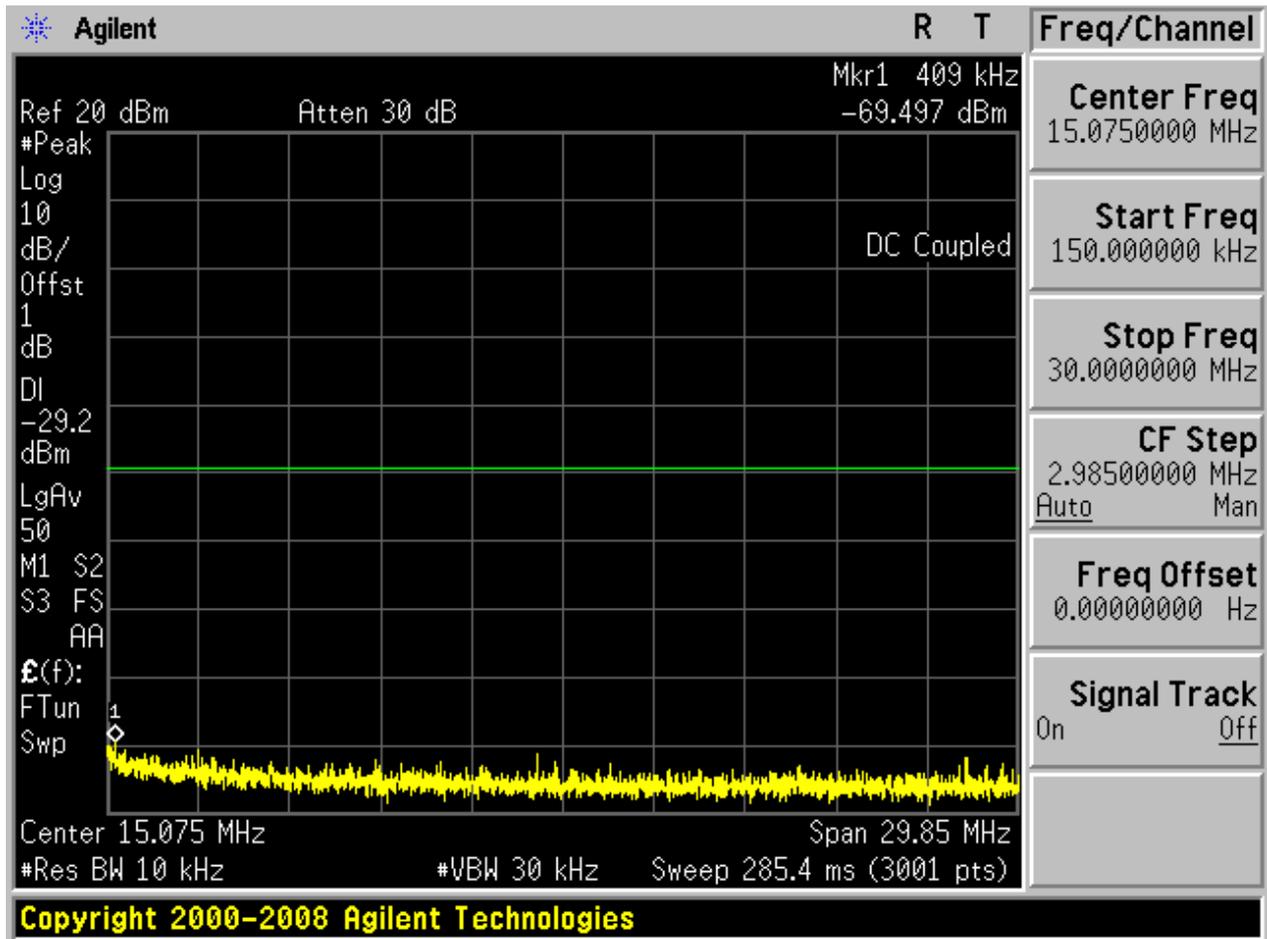
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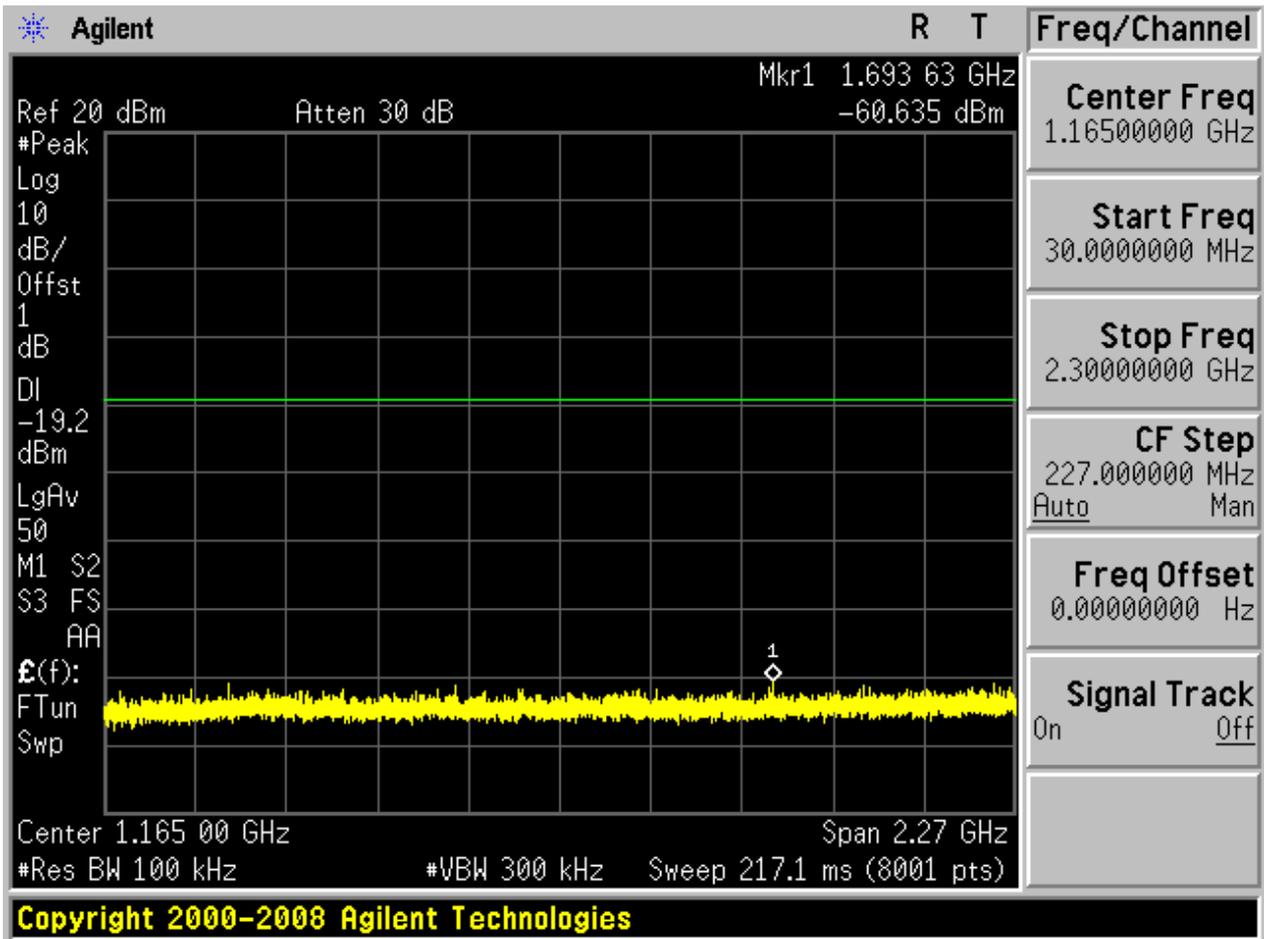


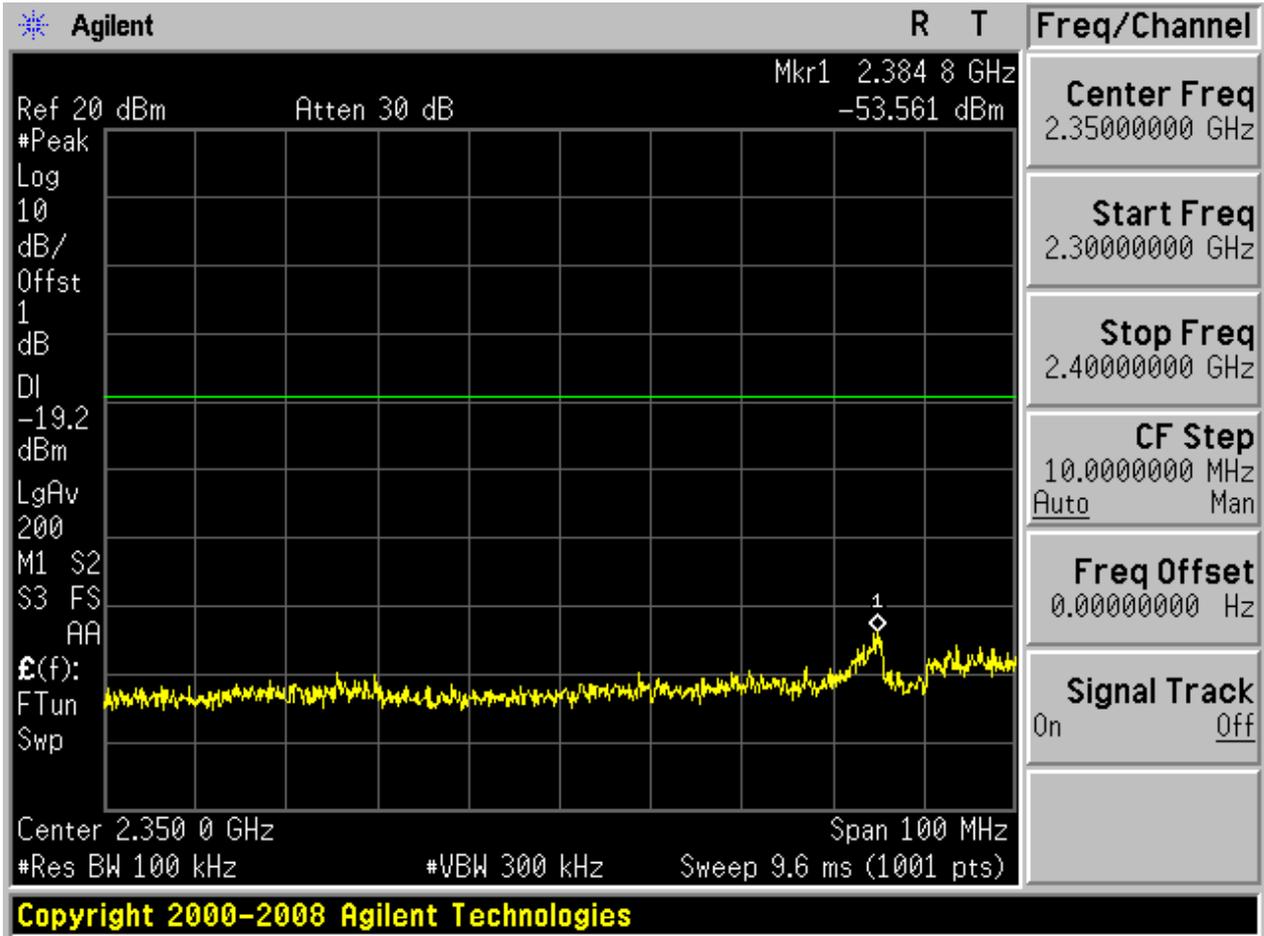


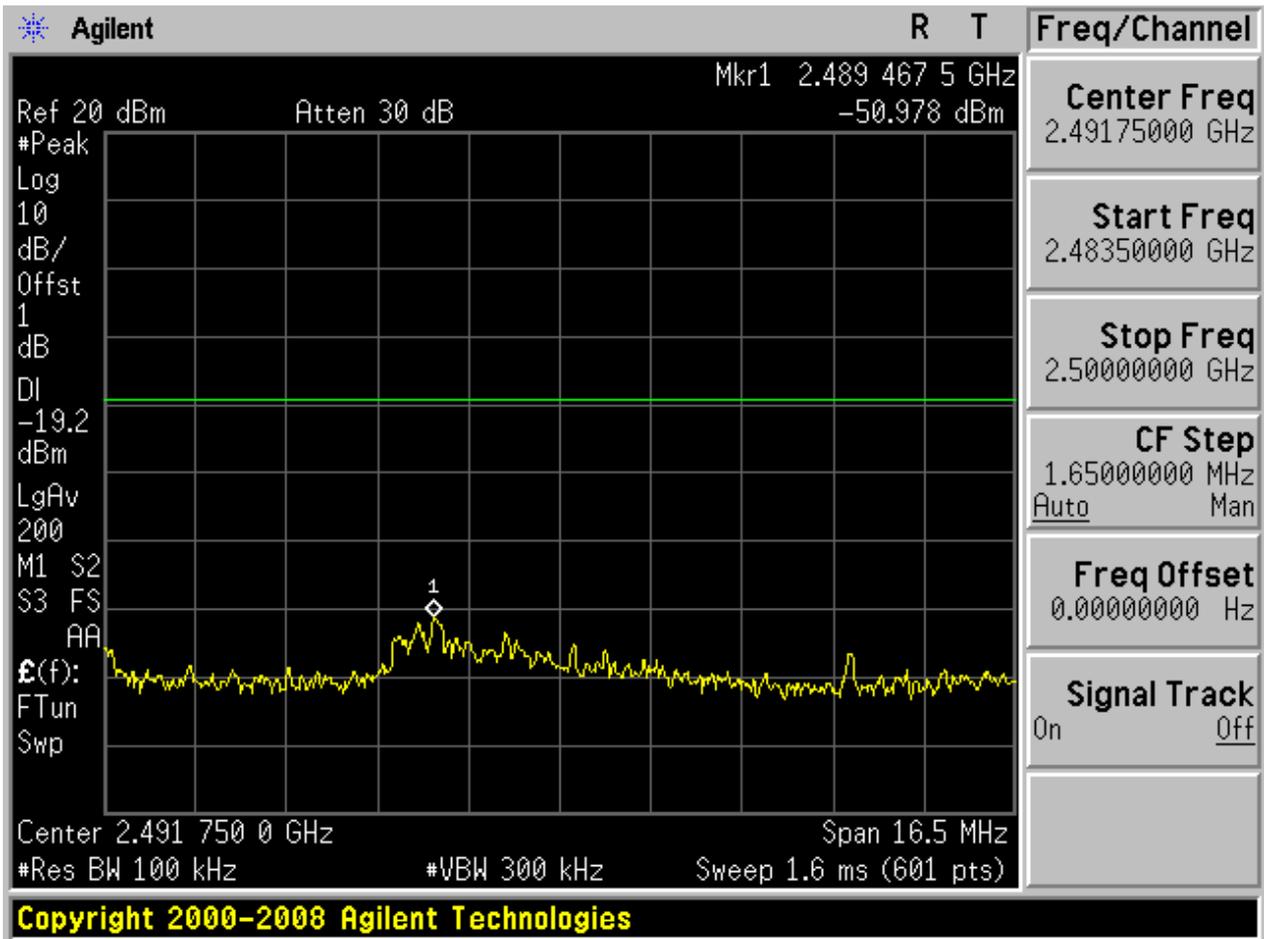
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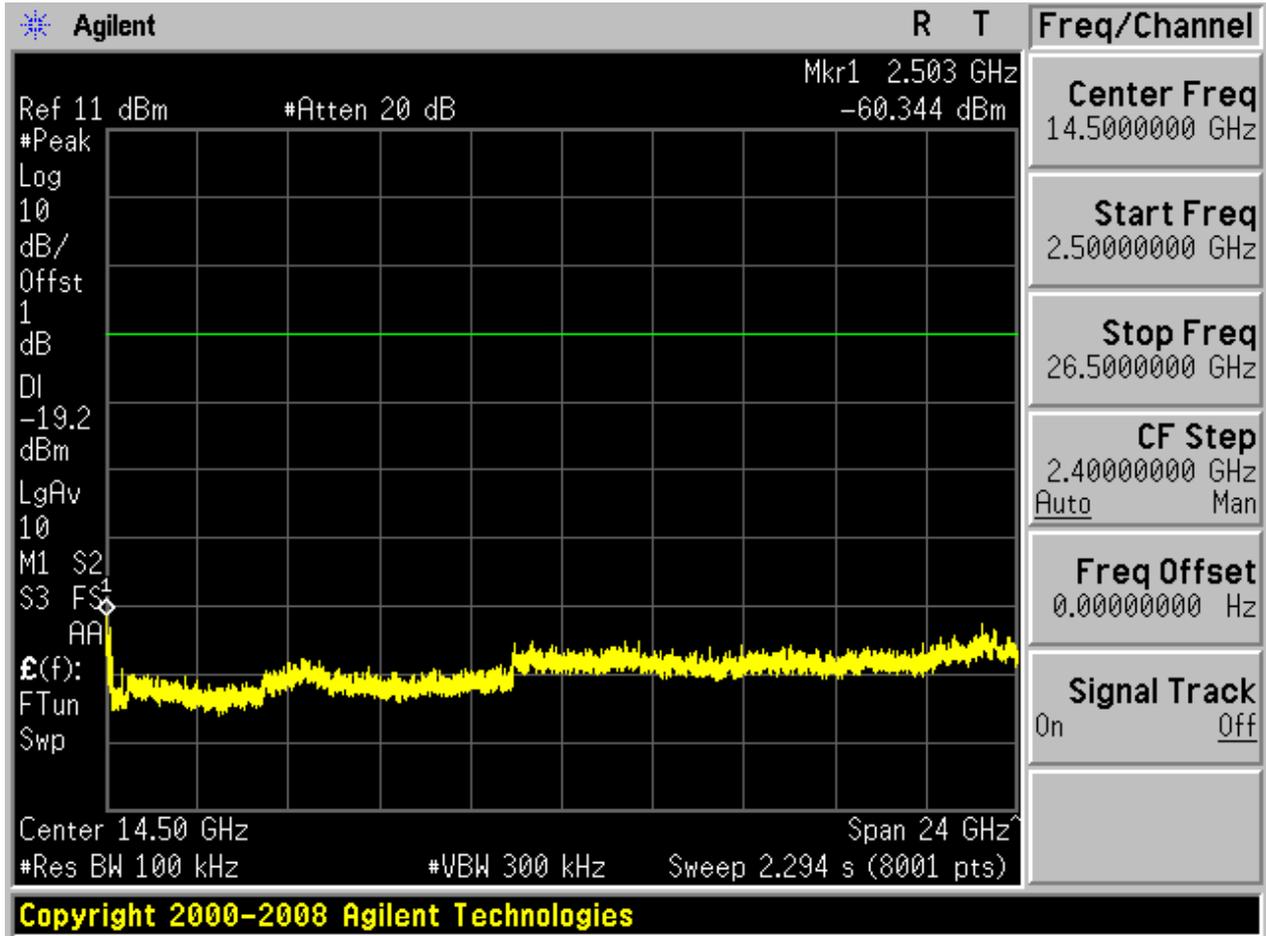








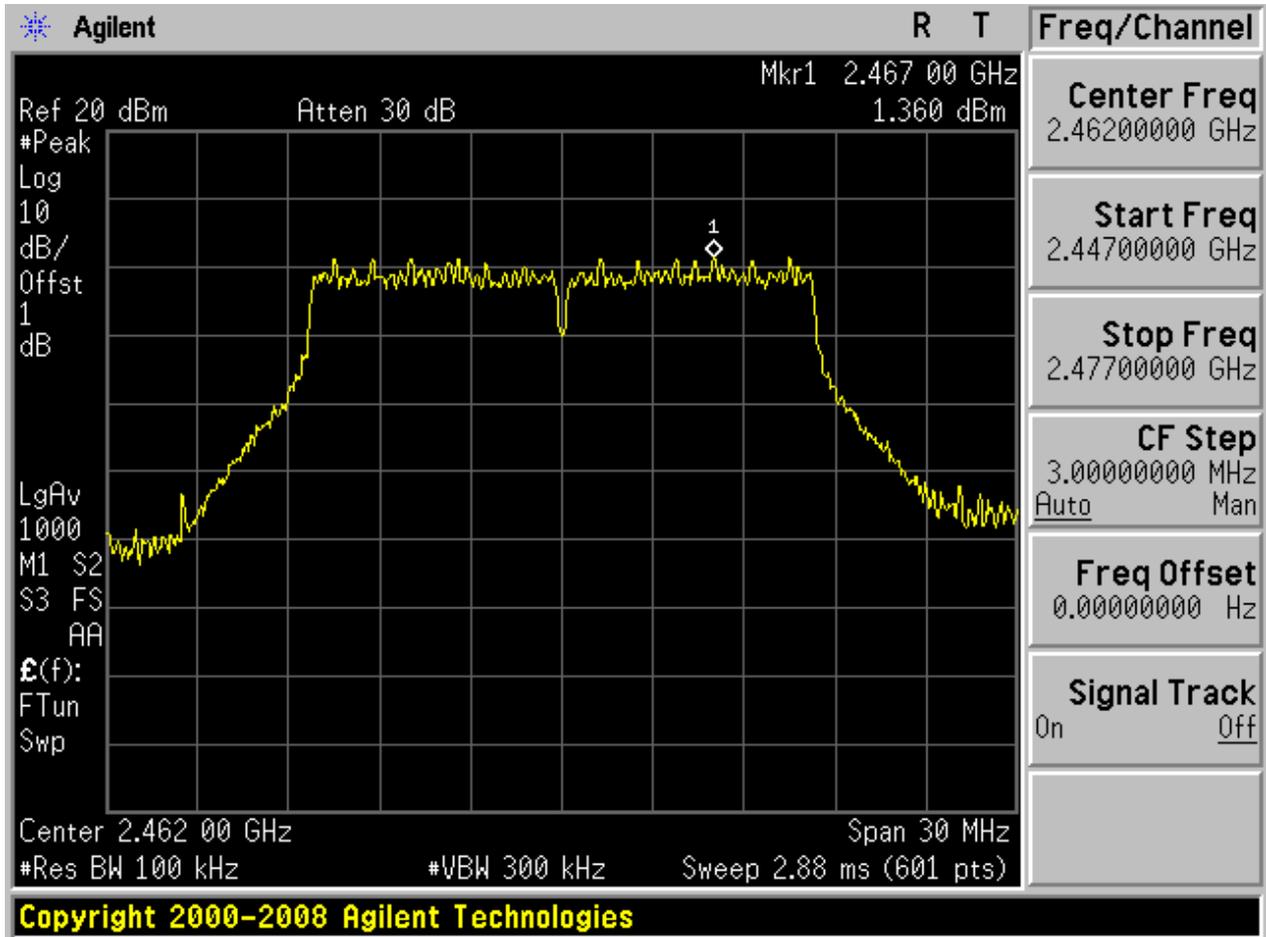






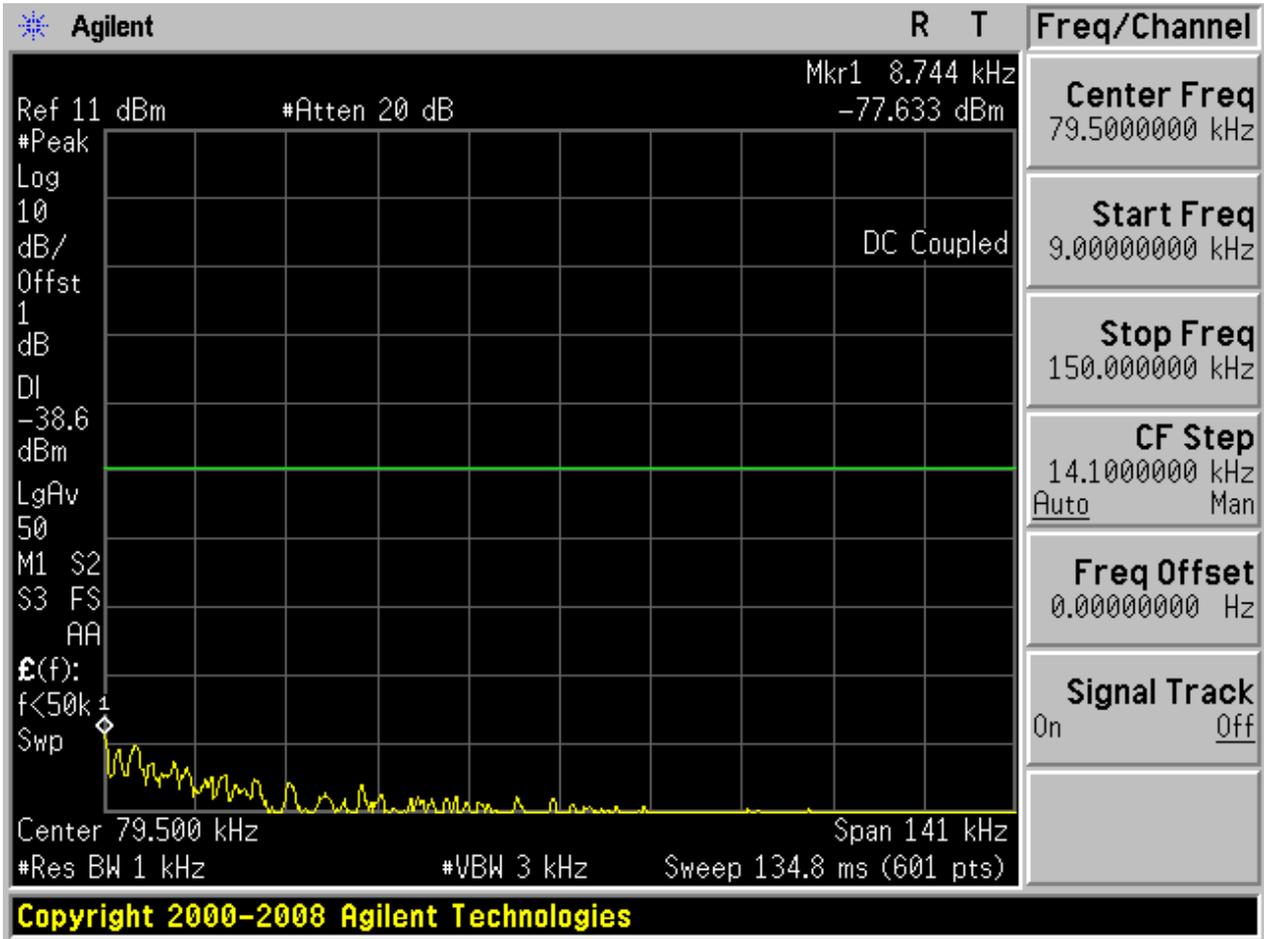
## 2.6 11G\_H

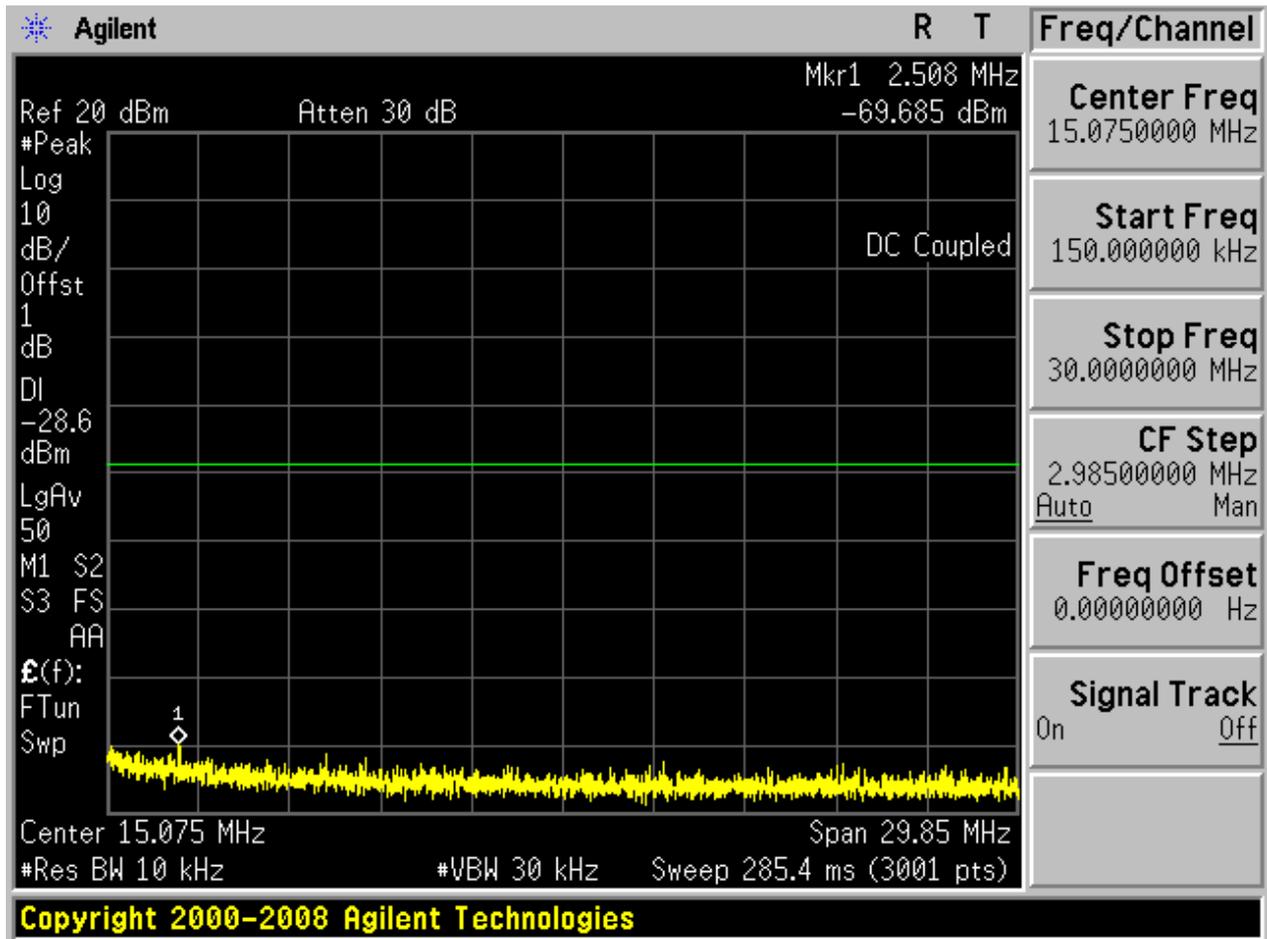
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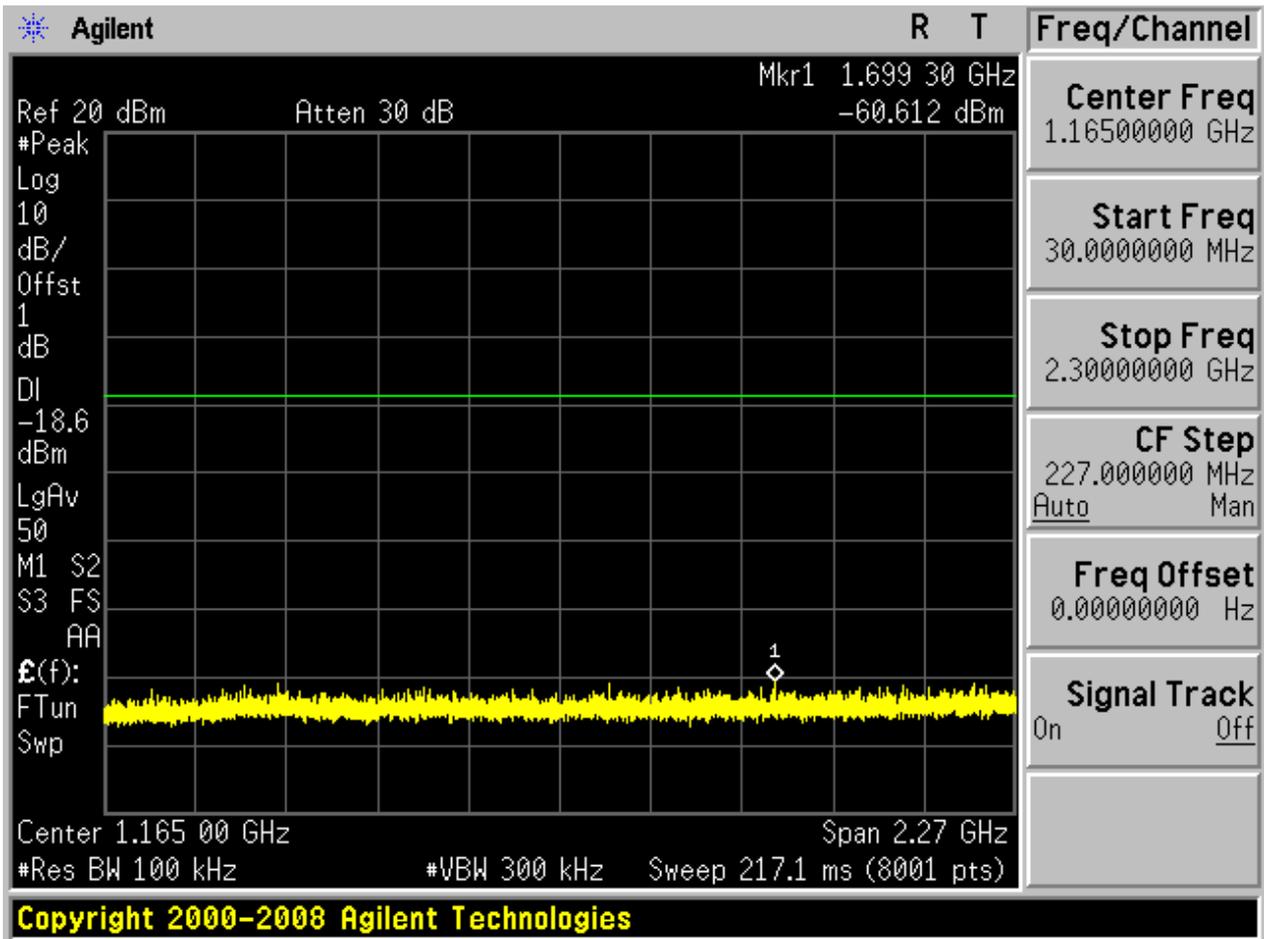


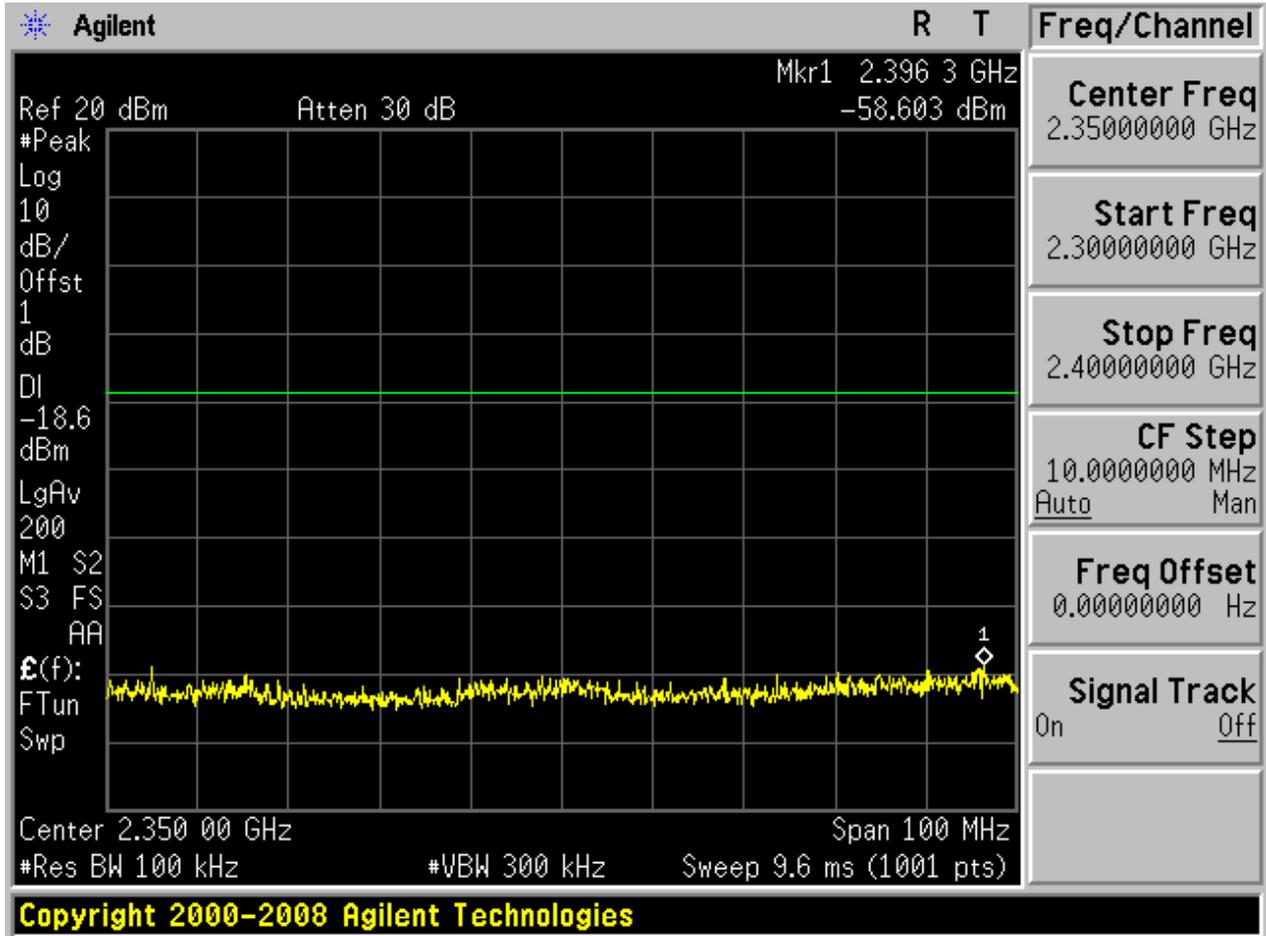


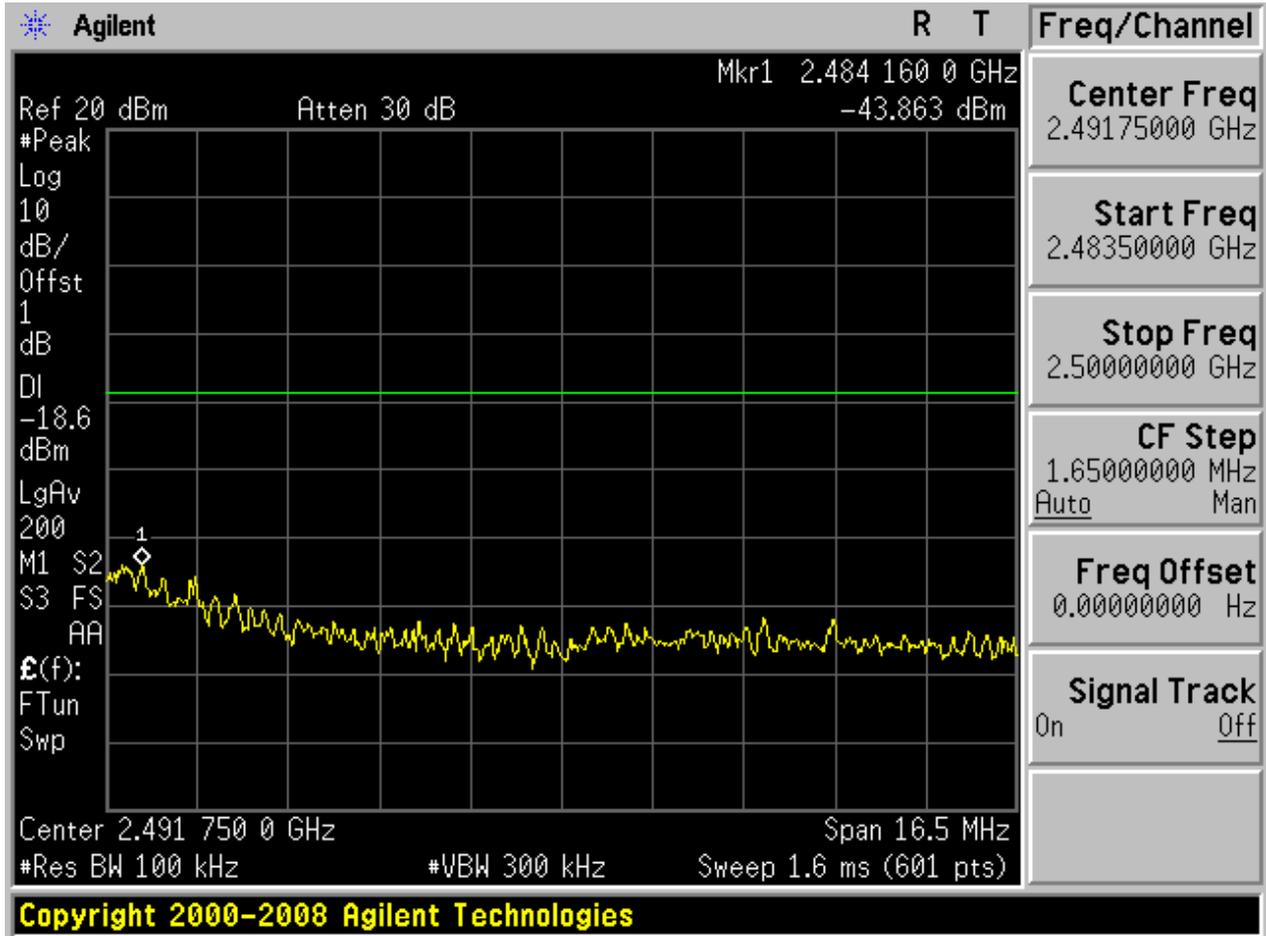
Puw:

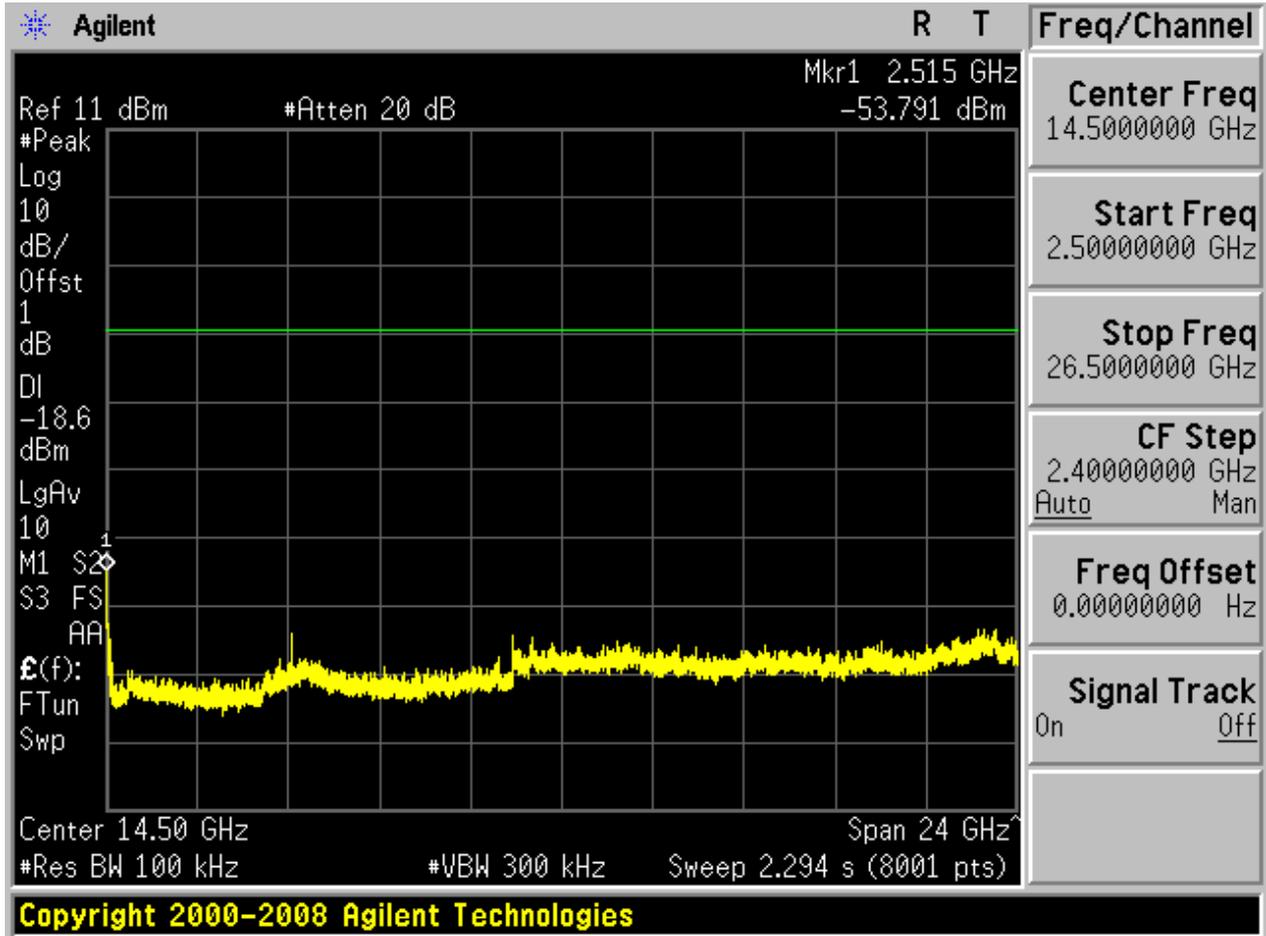








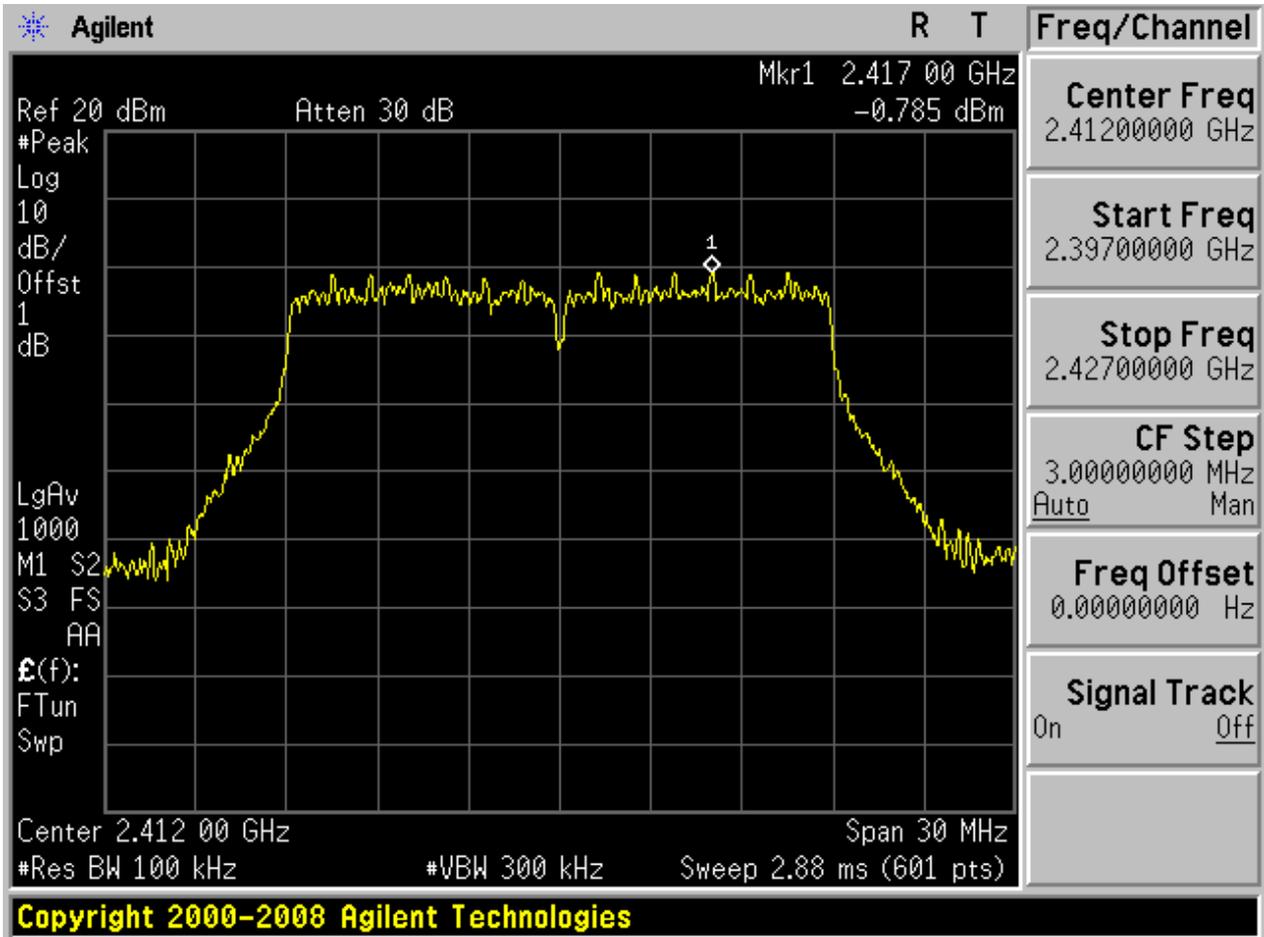






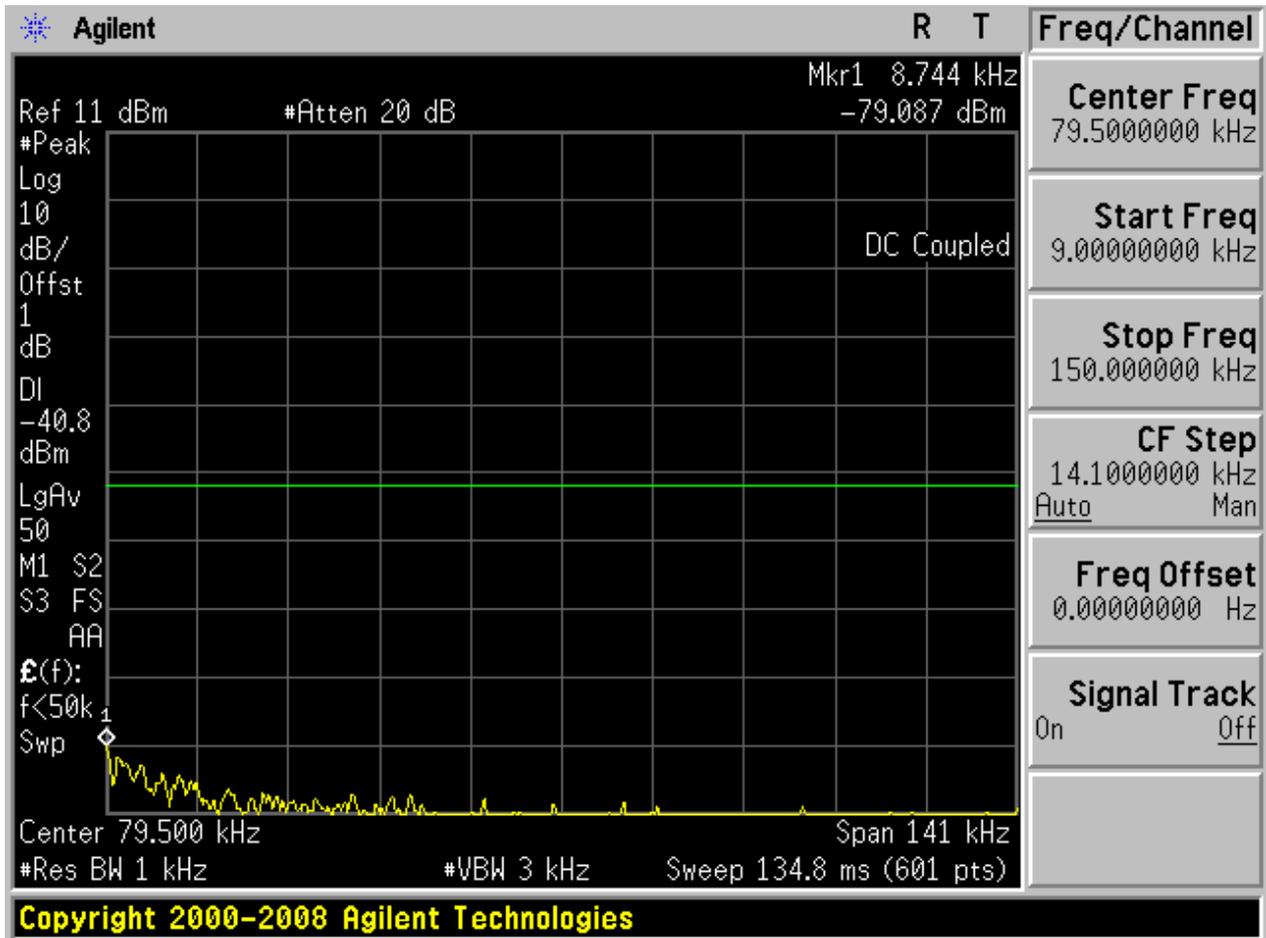
### 2.7 11N20\_L

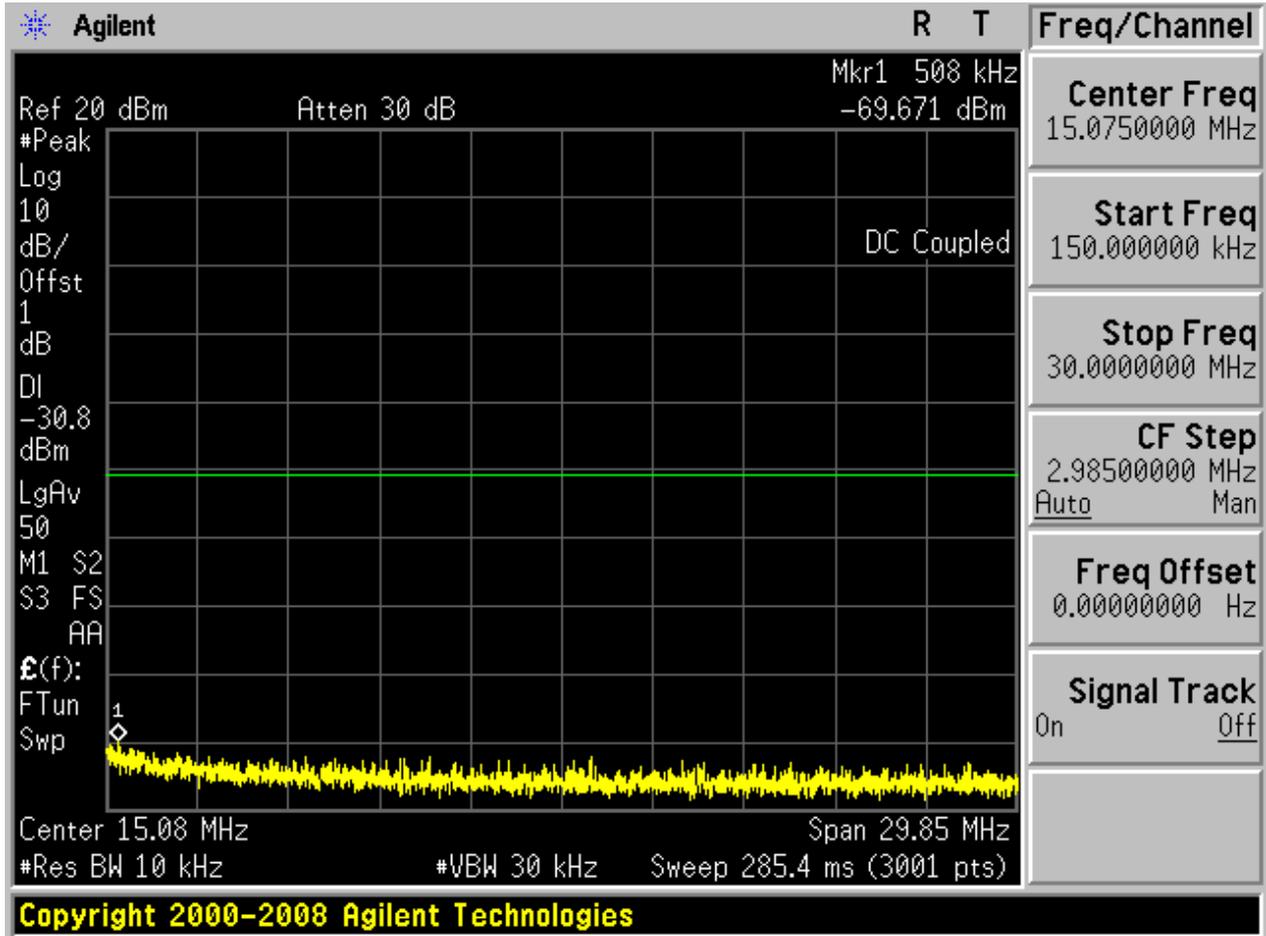
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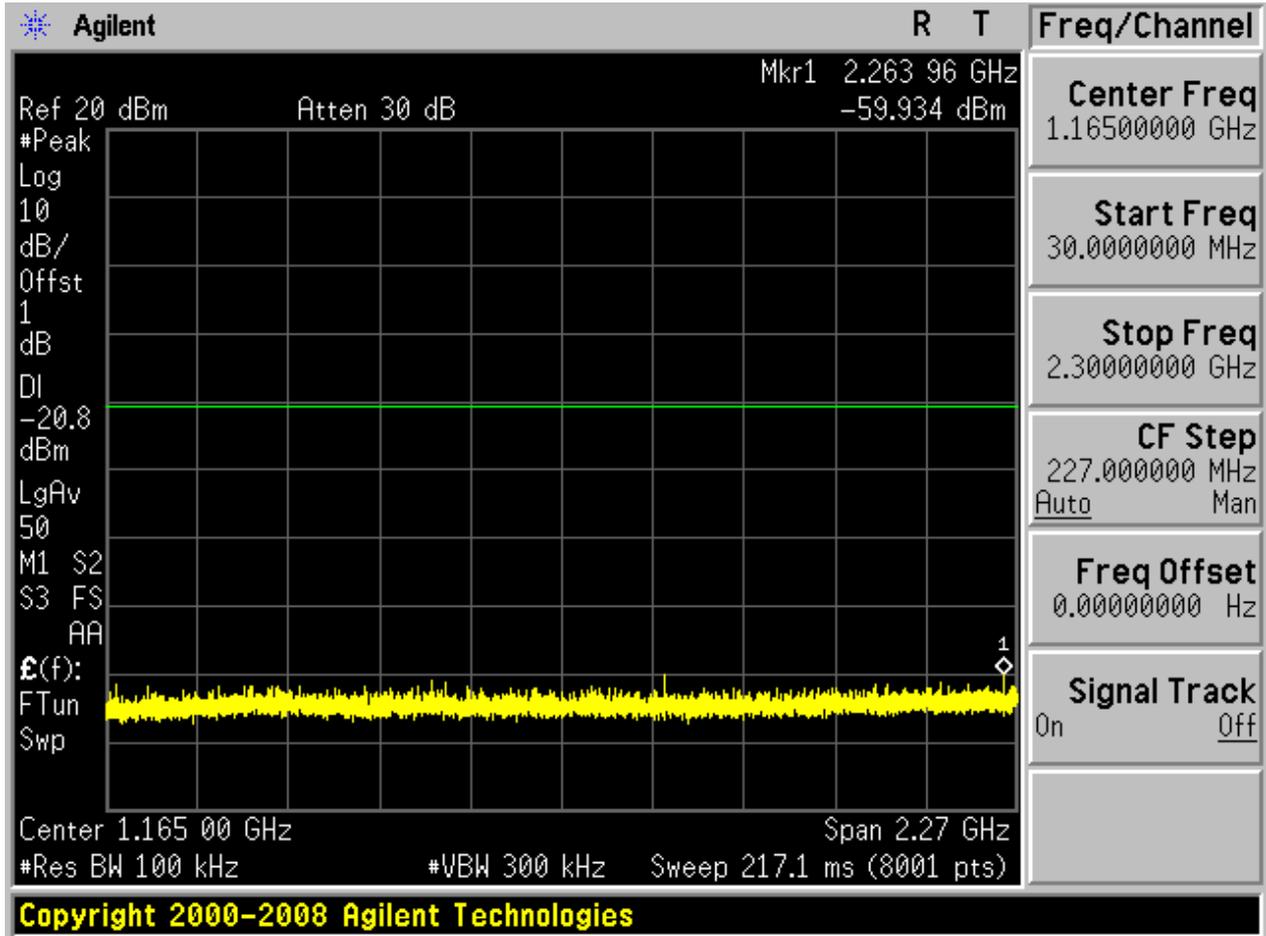


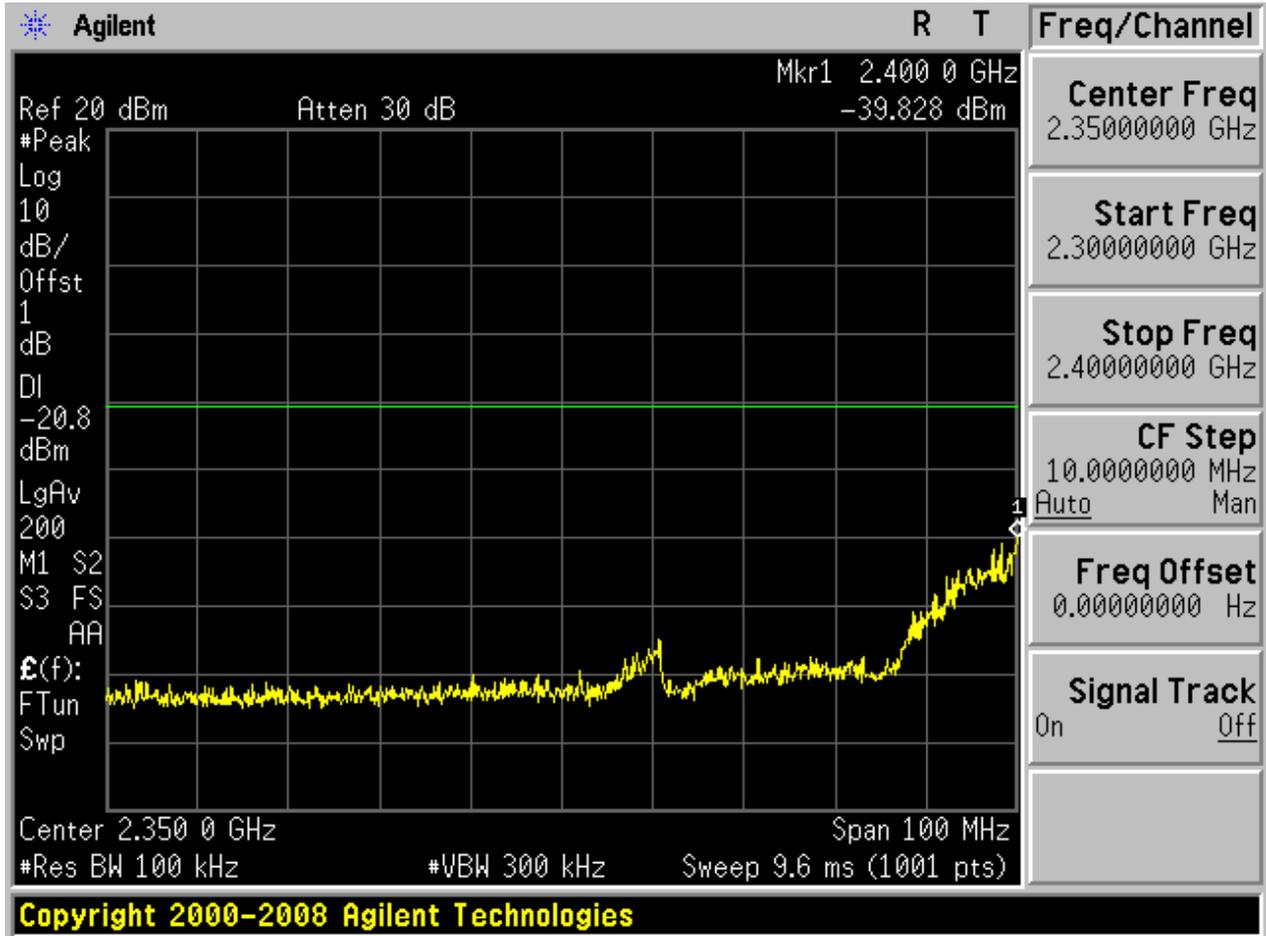


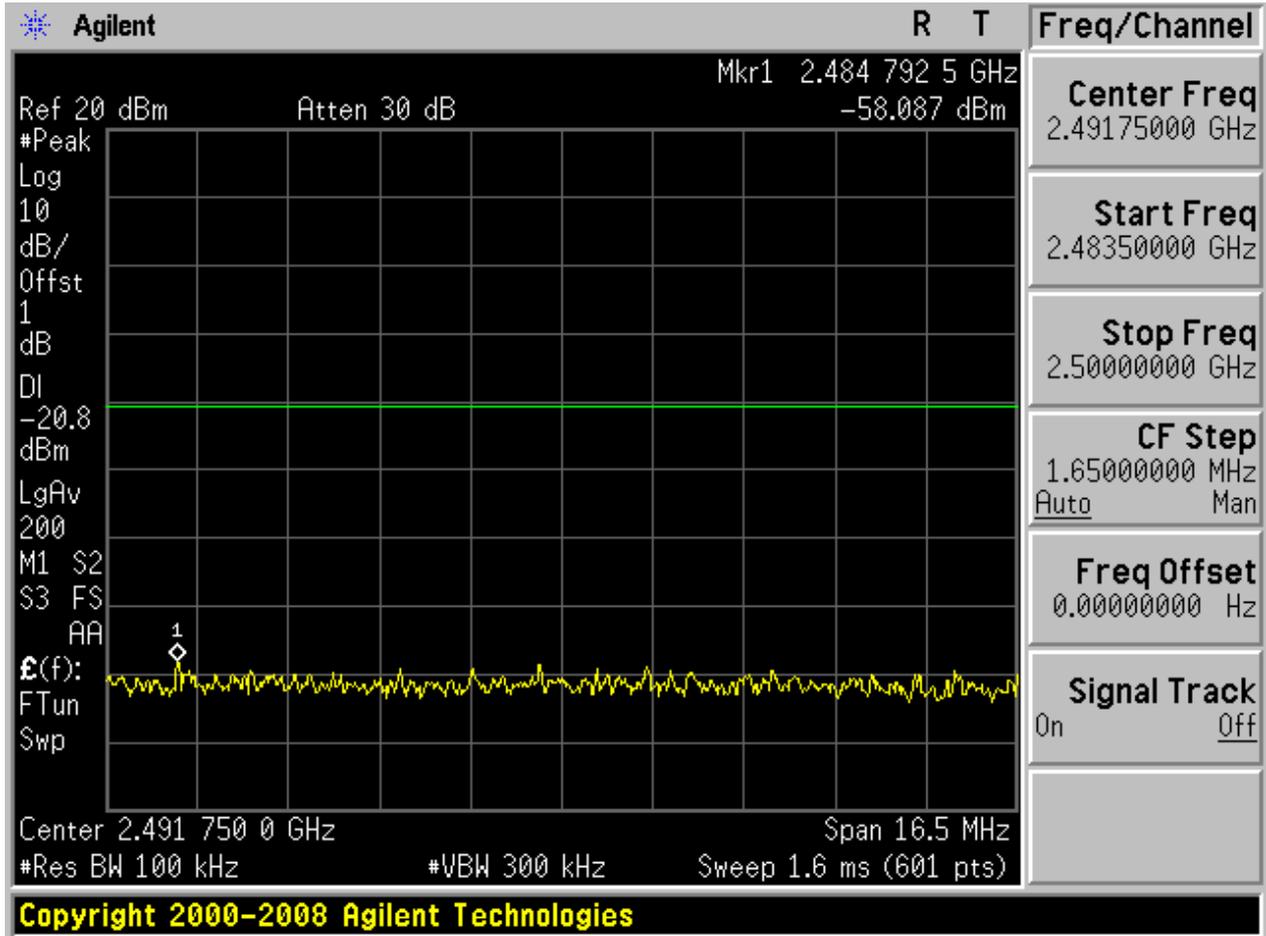
Puw:

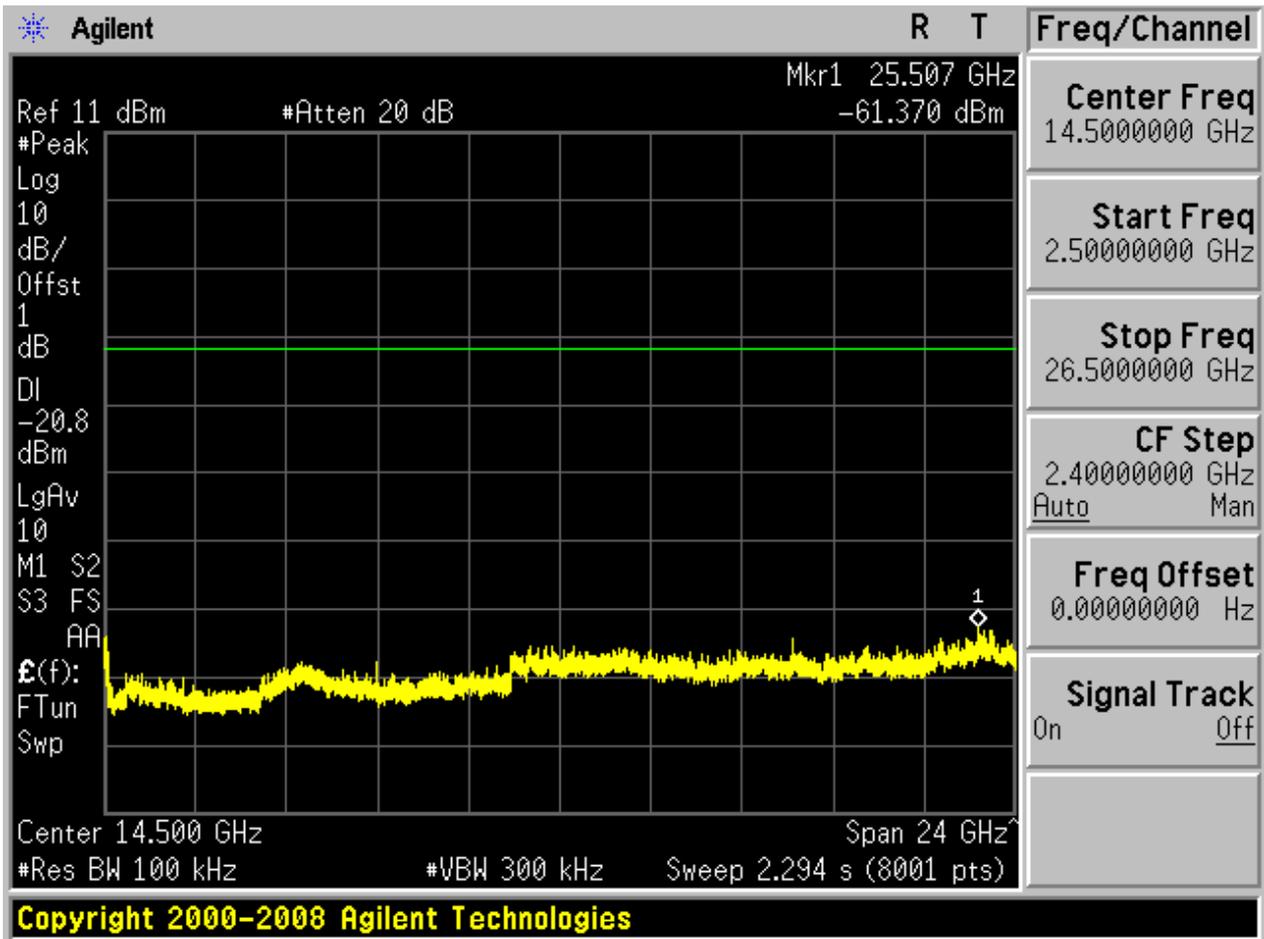








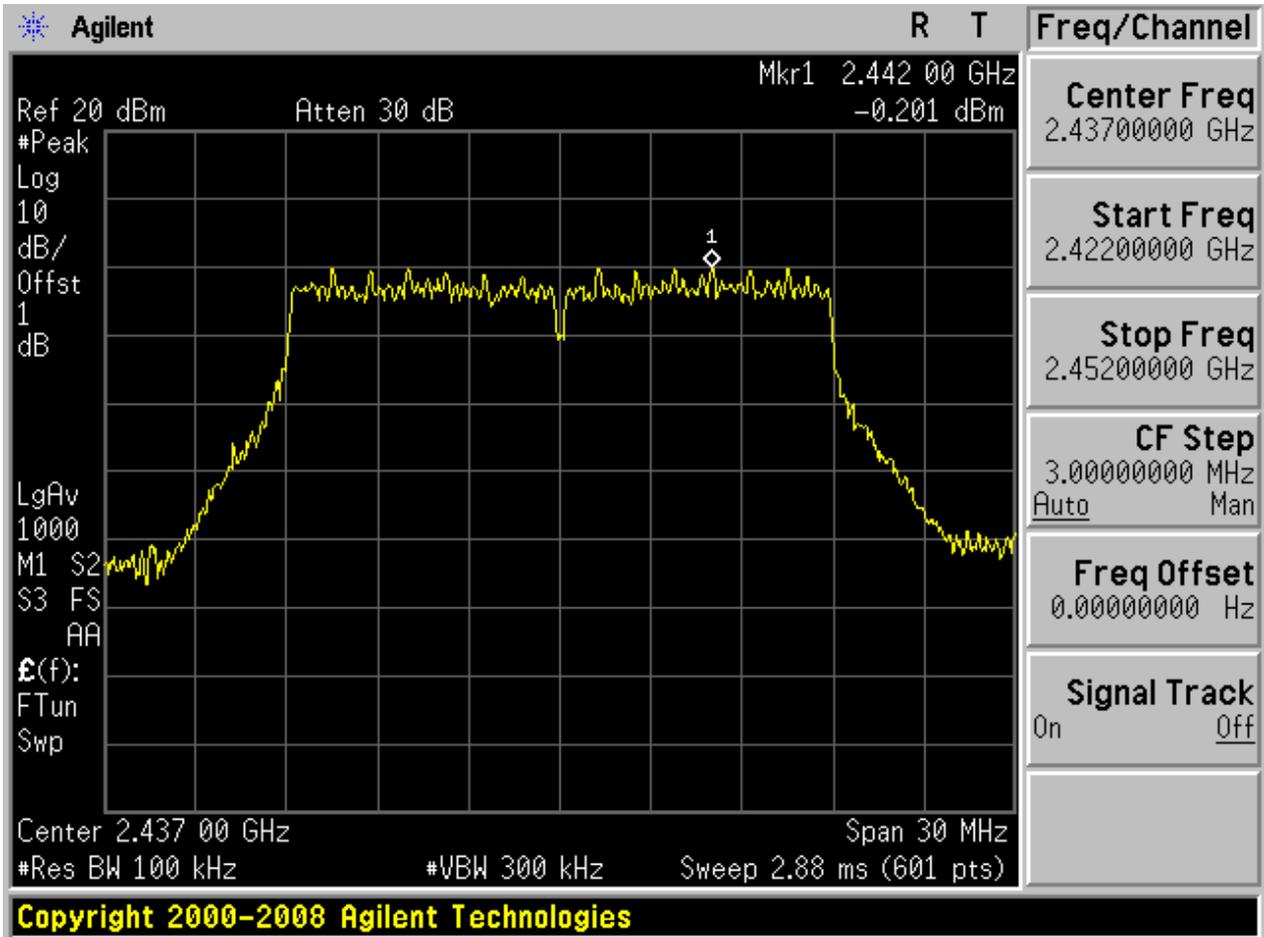






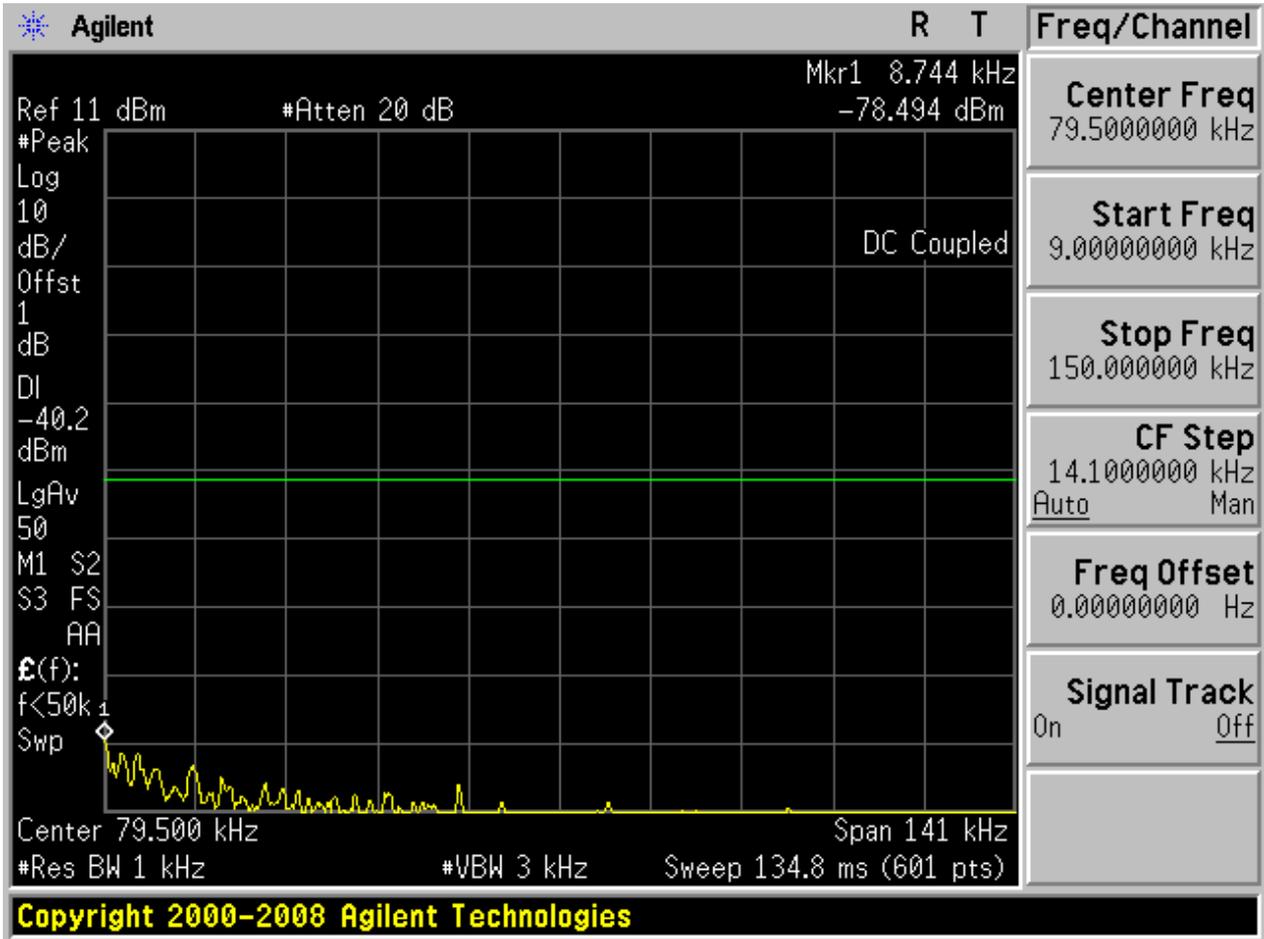
## 2.8 11N20\_M

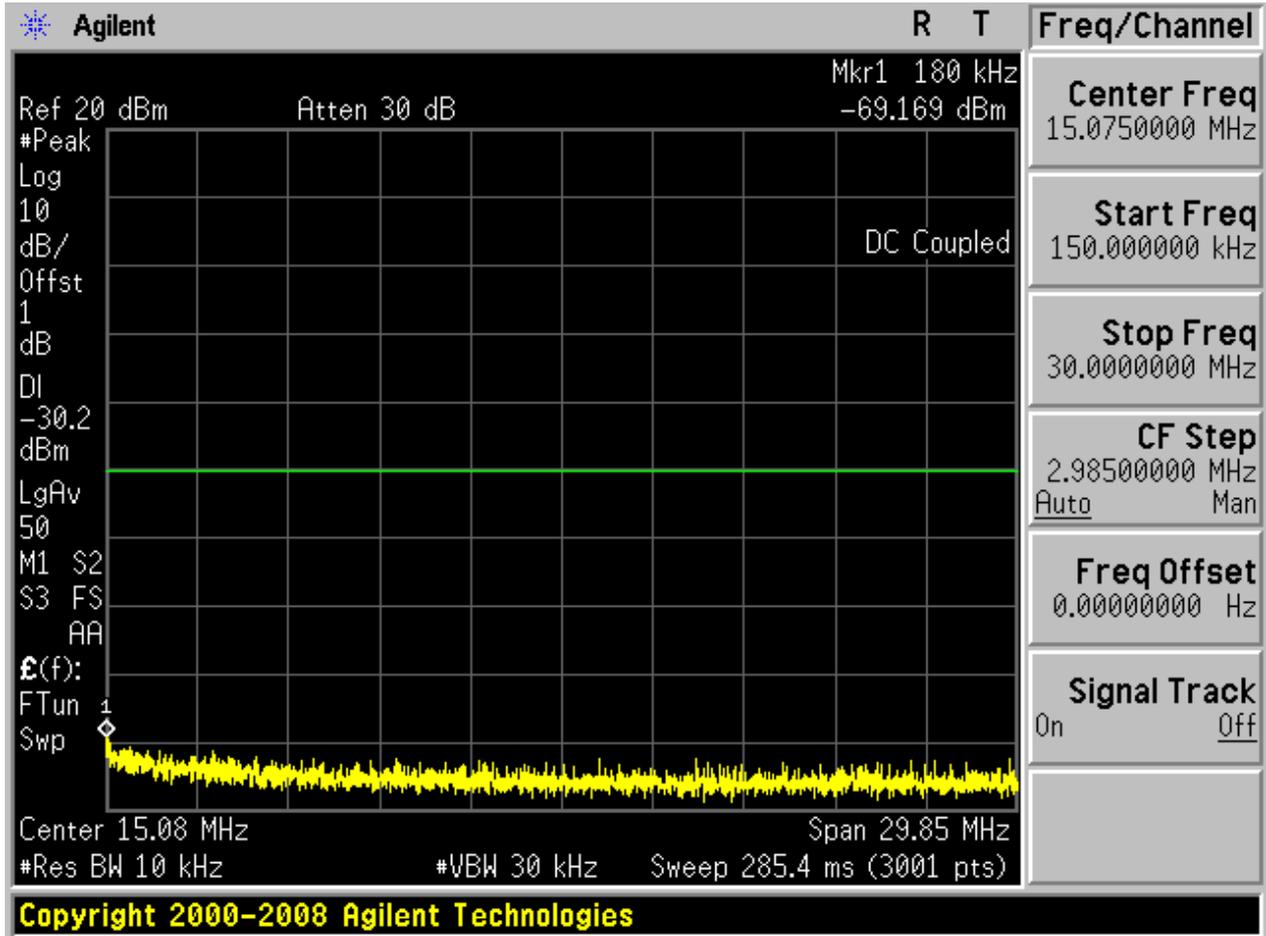
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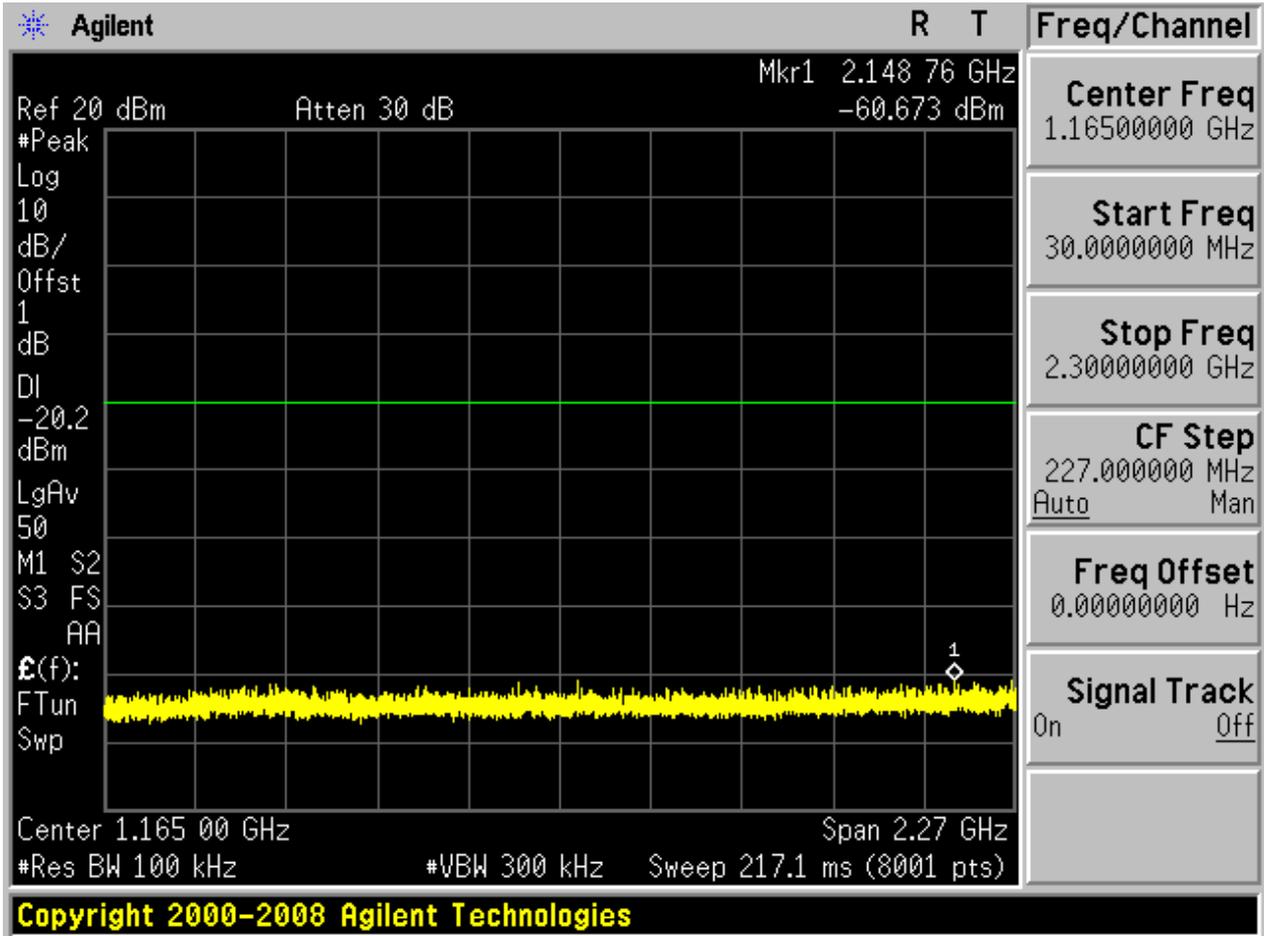


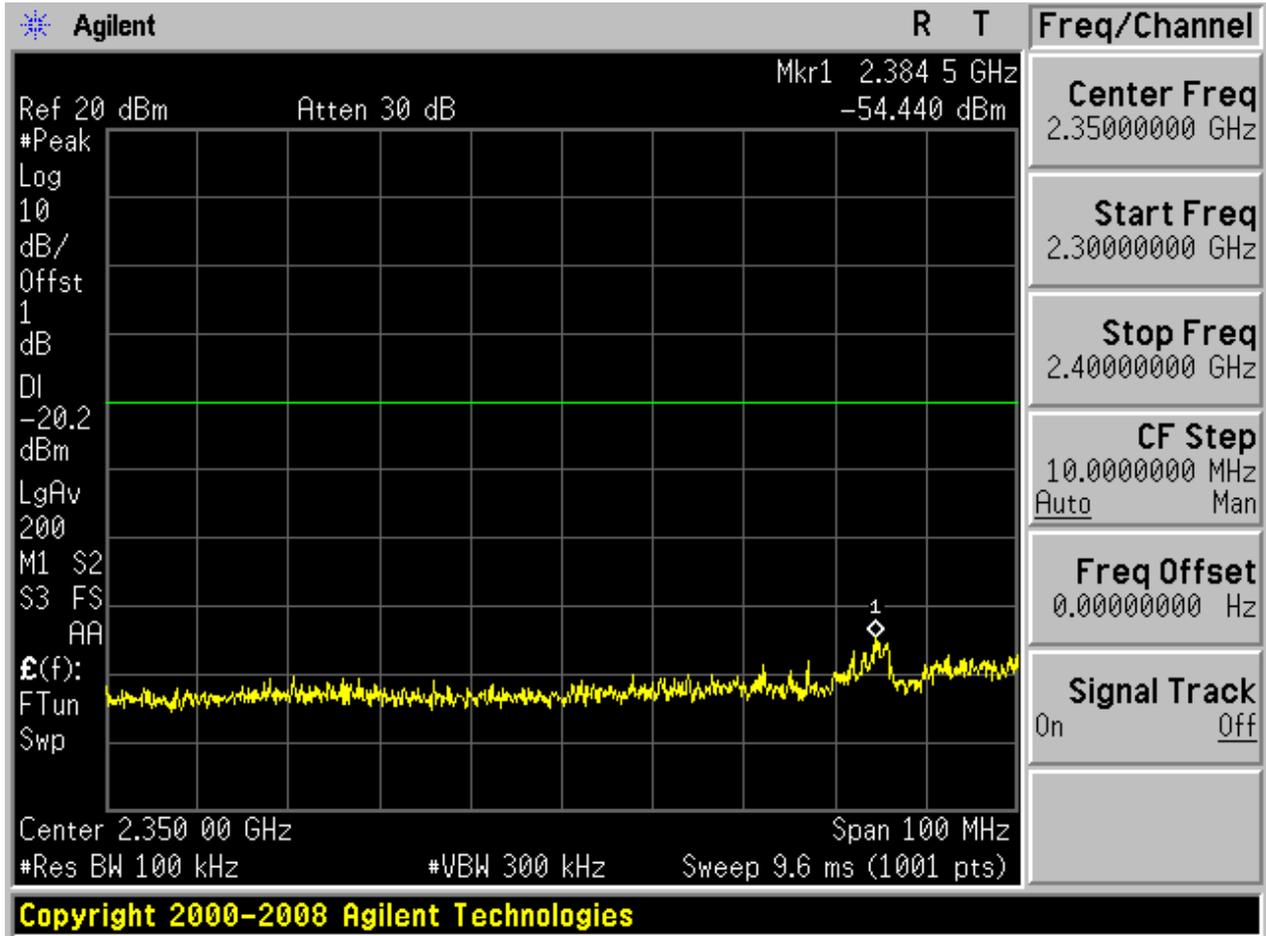


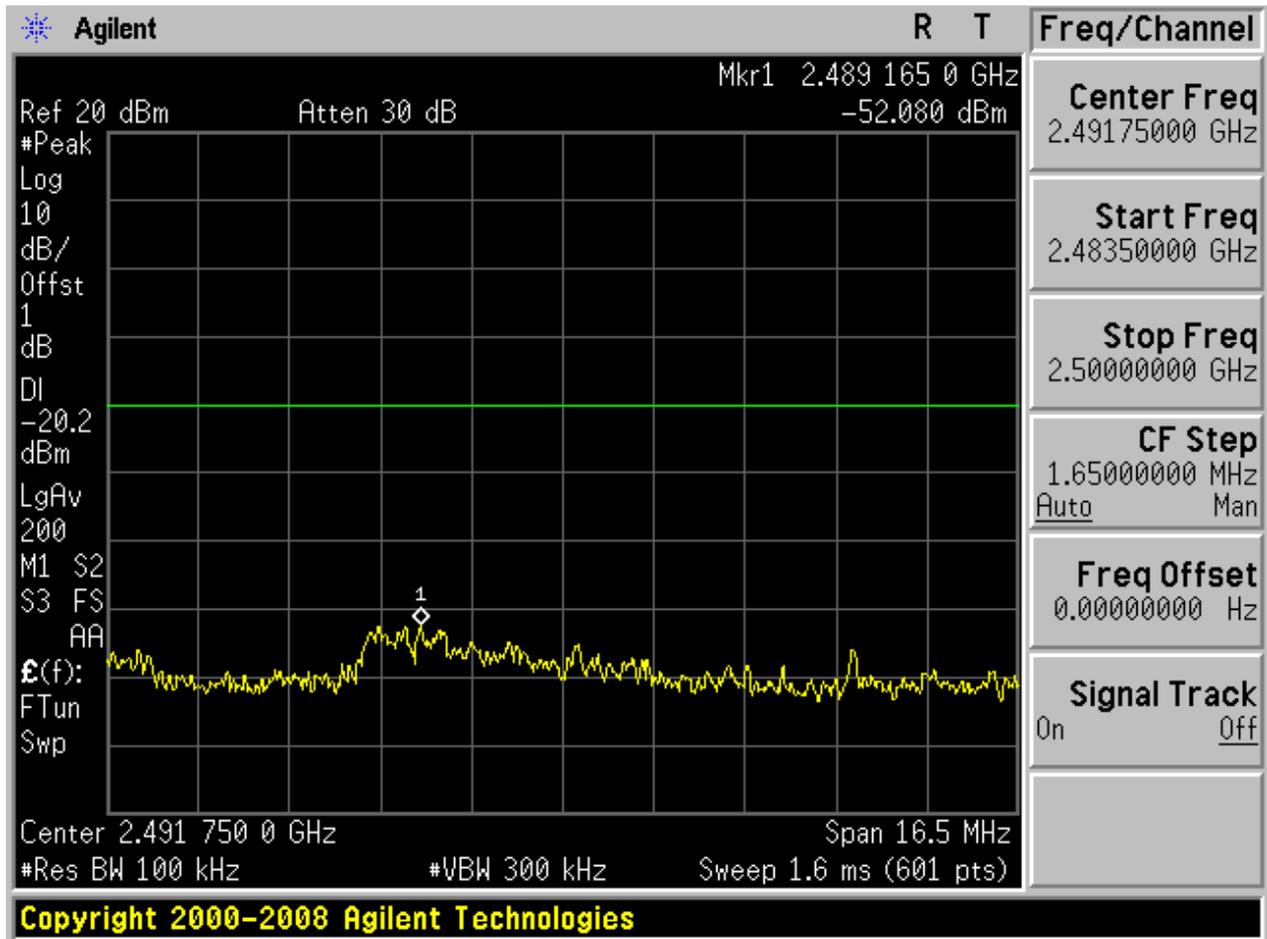
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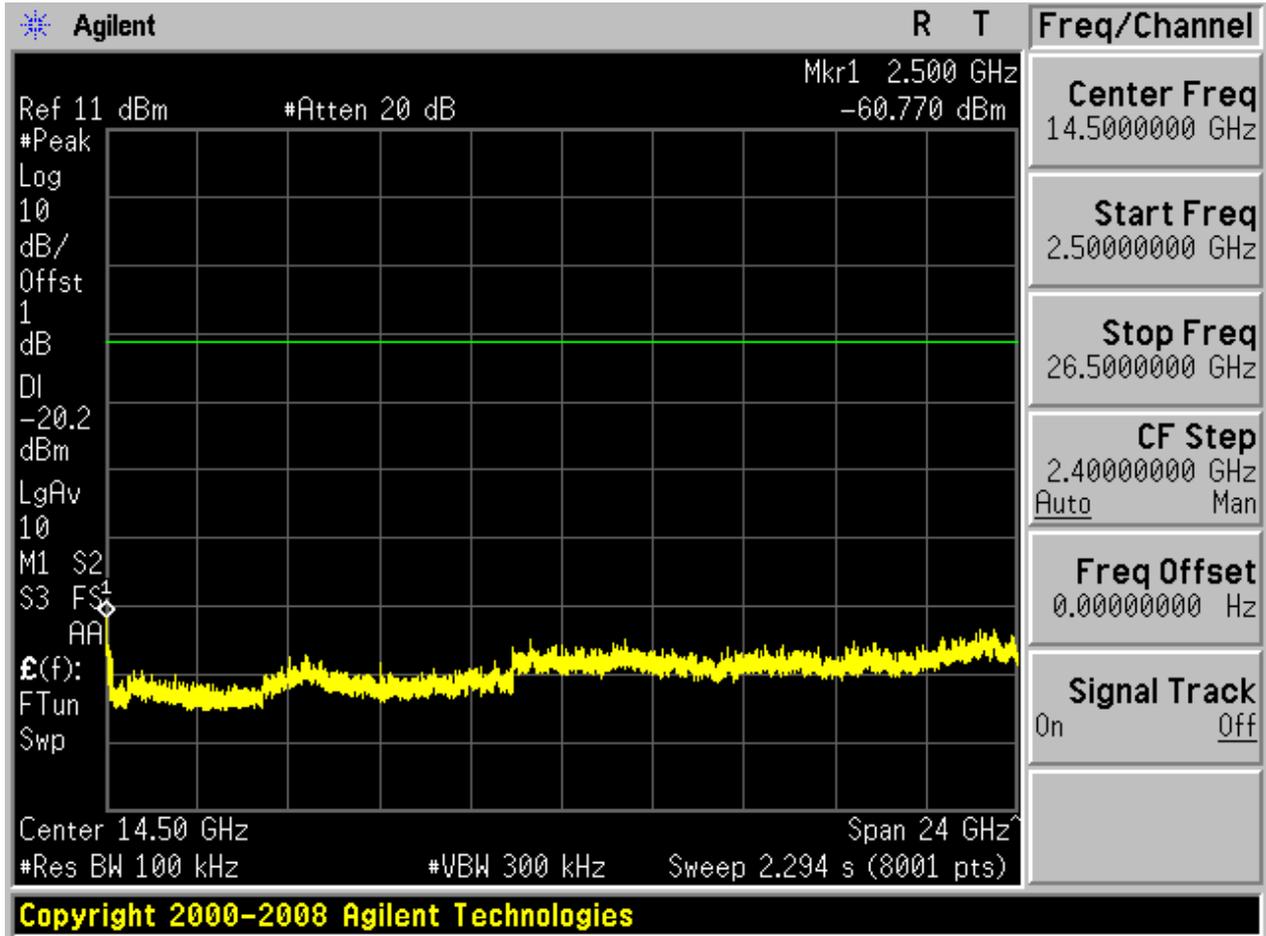








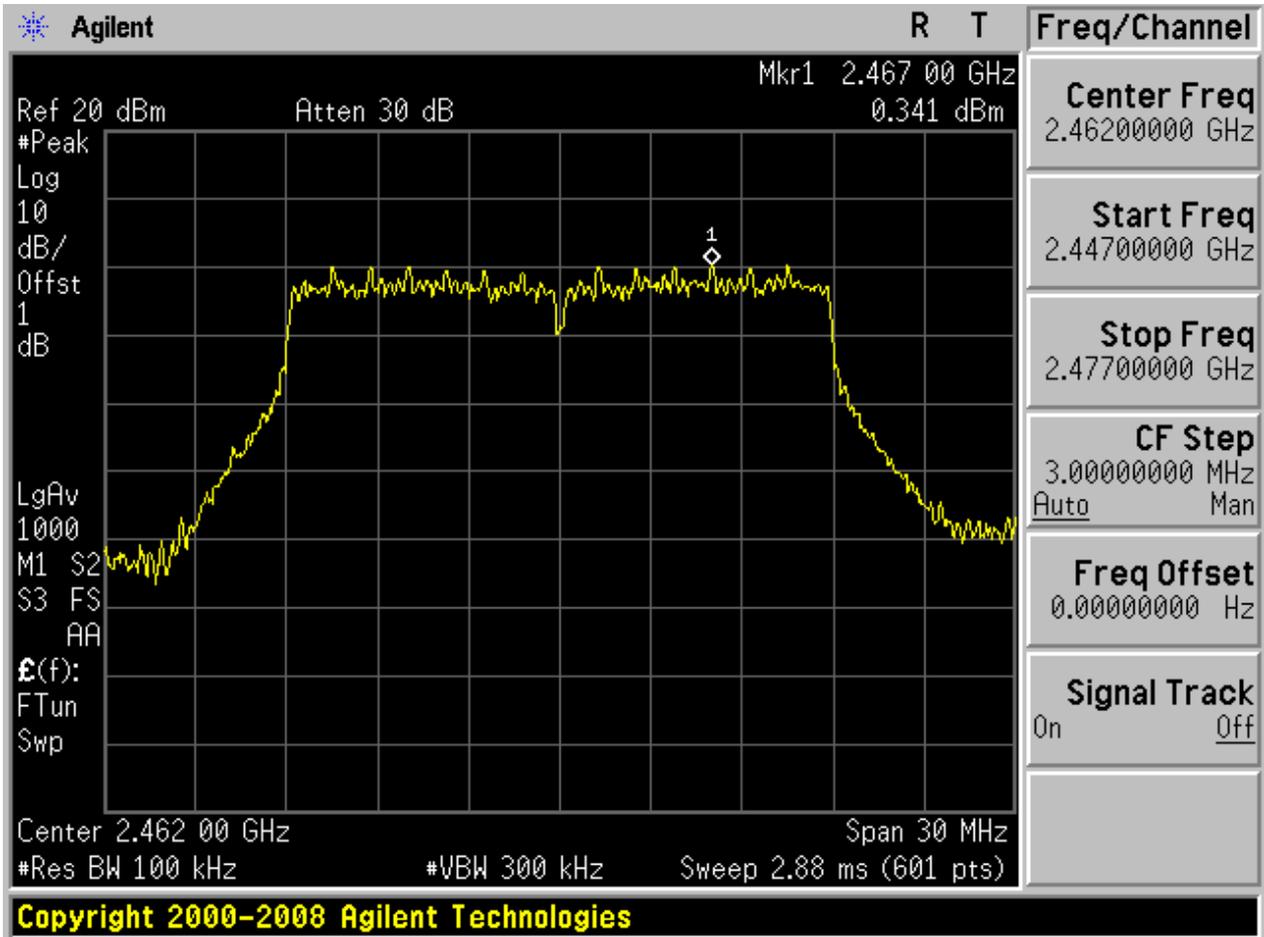






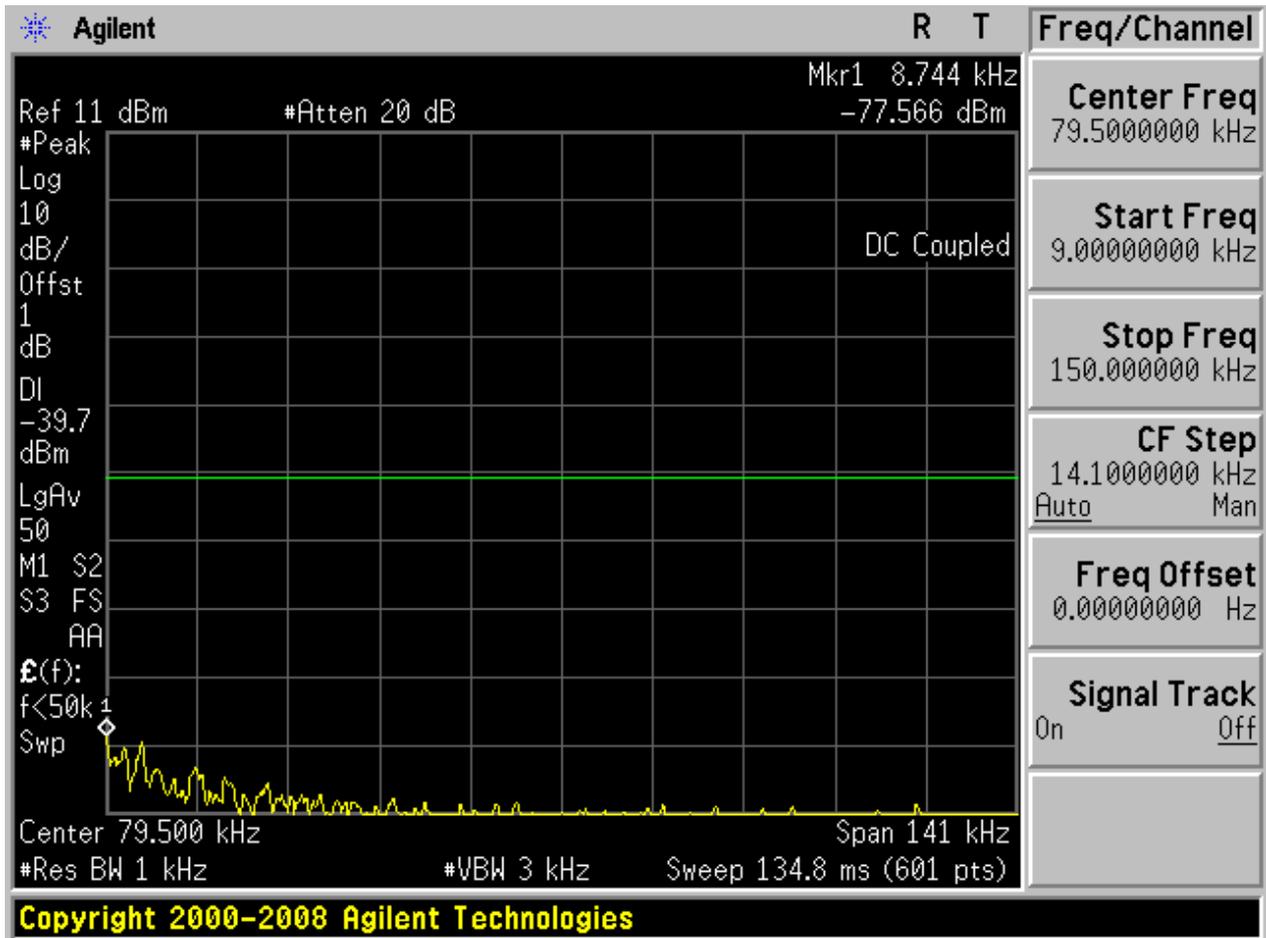
## 2.9 11N20\_H

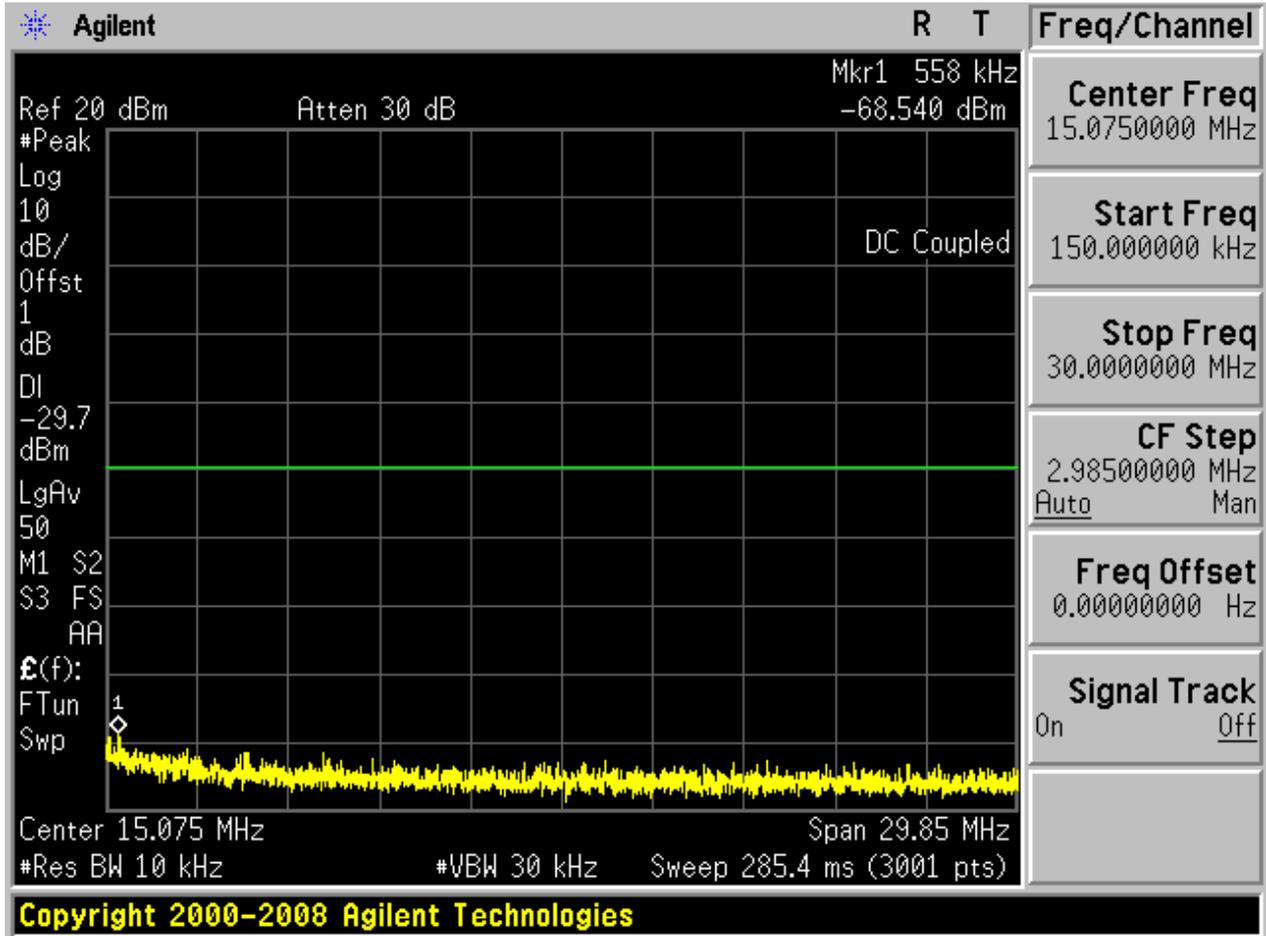
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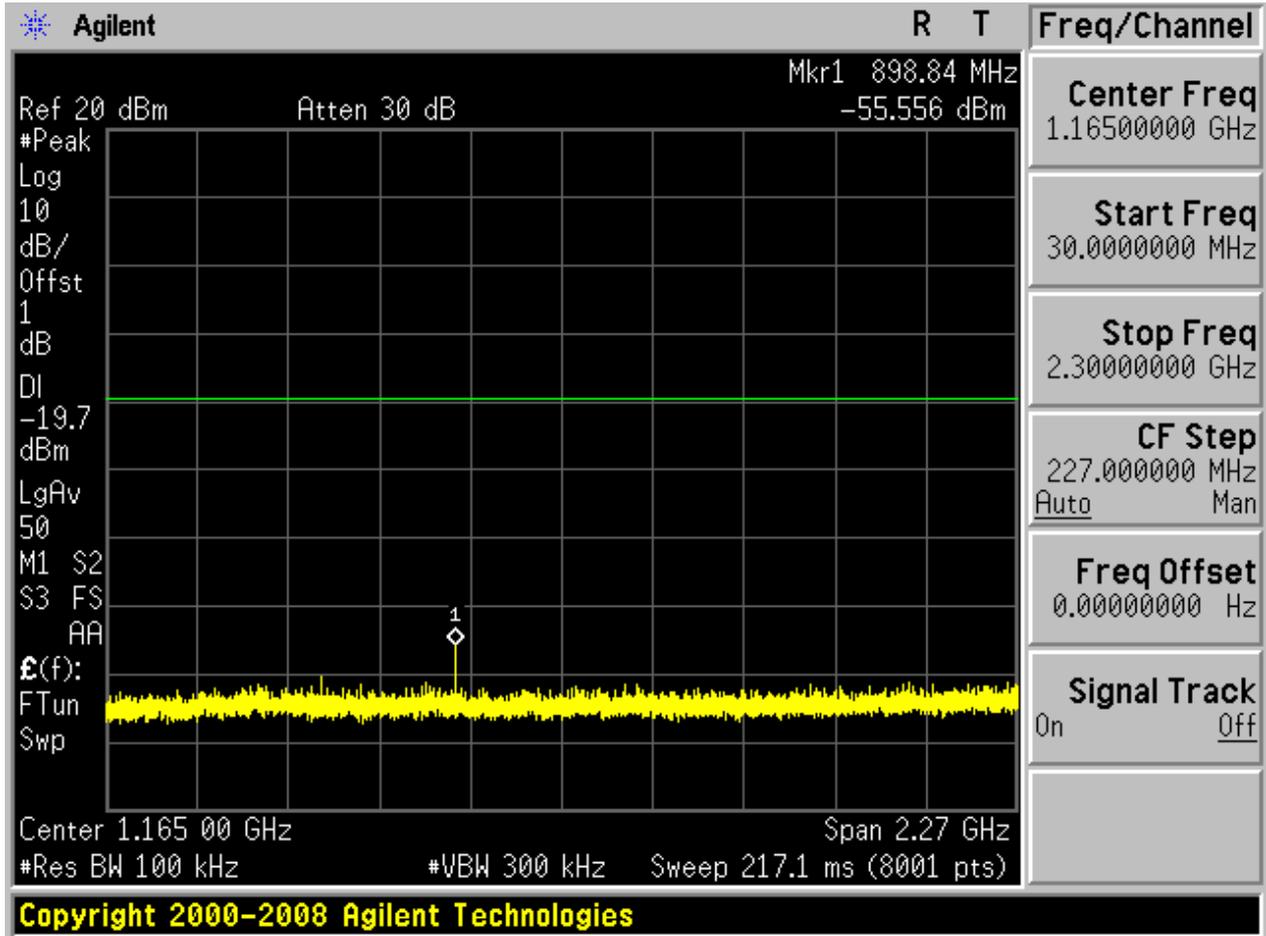


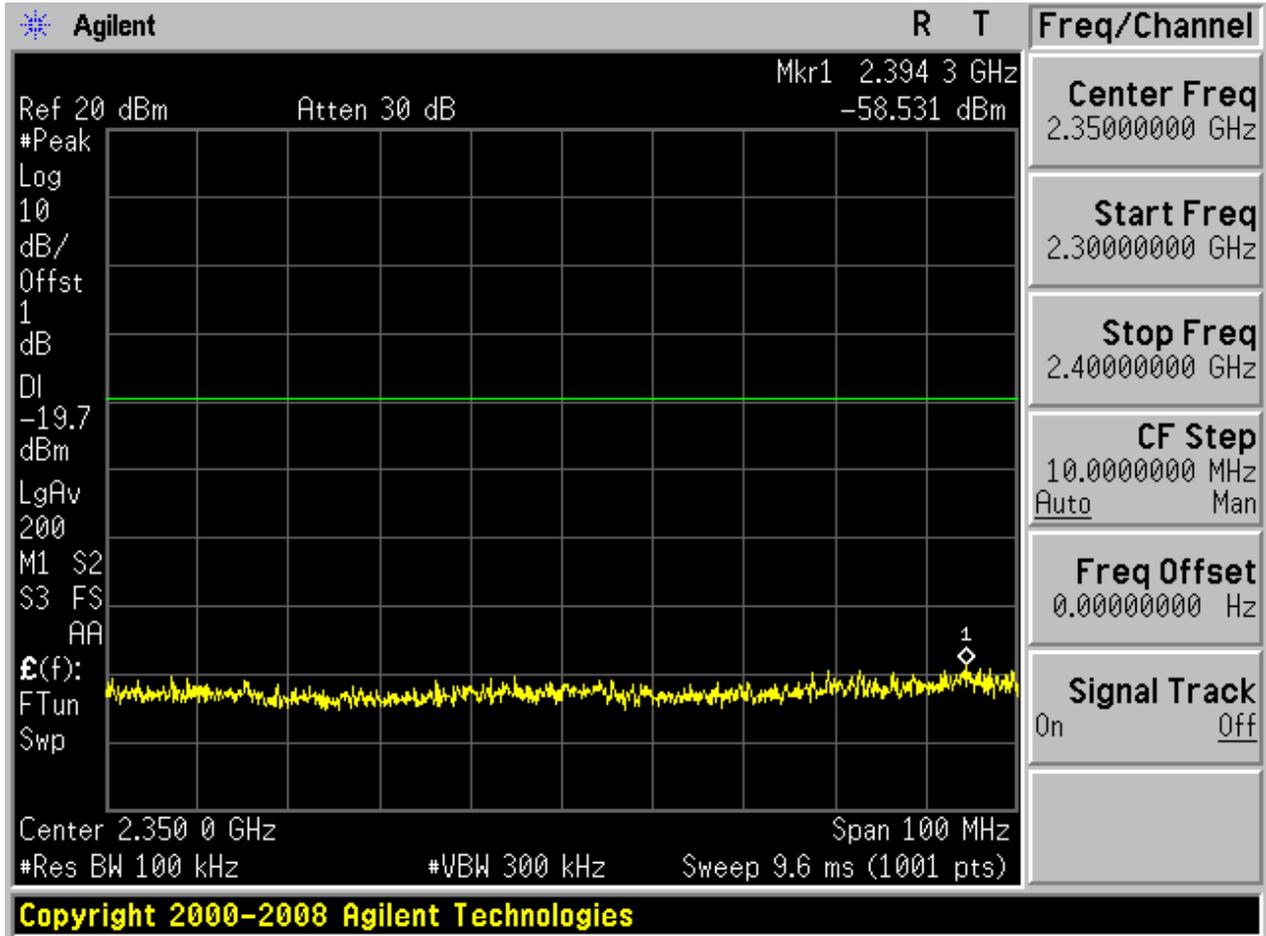


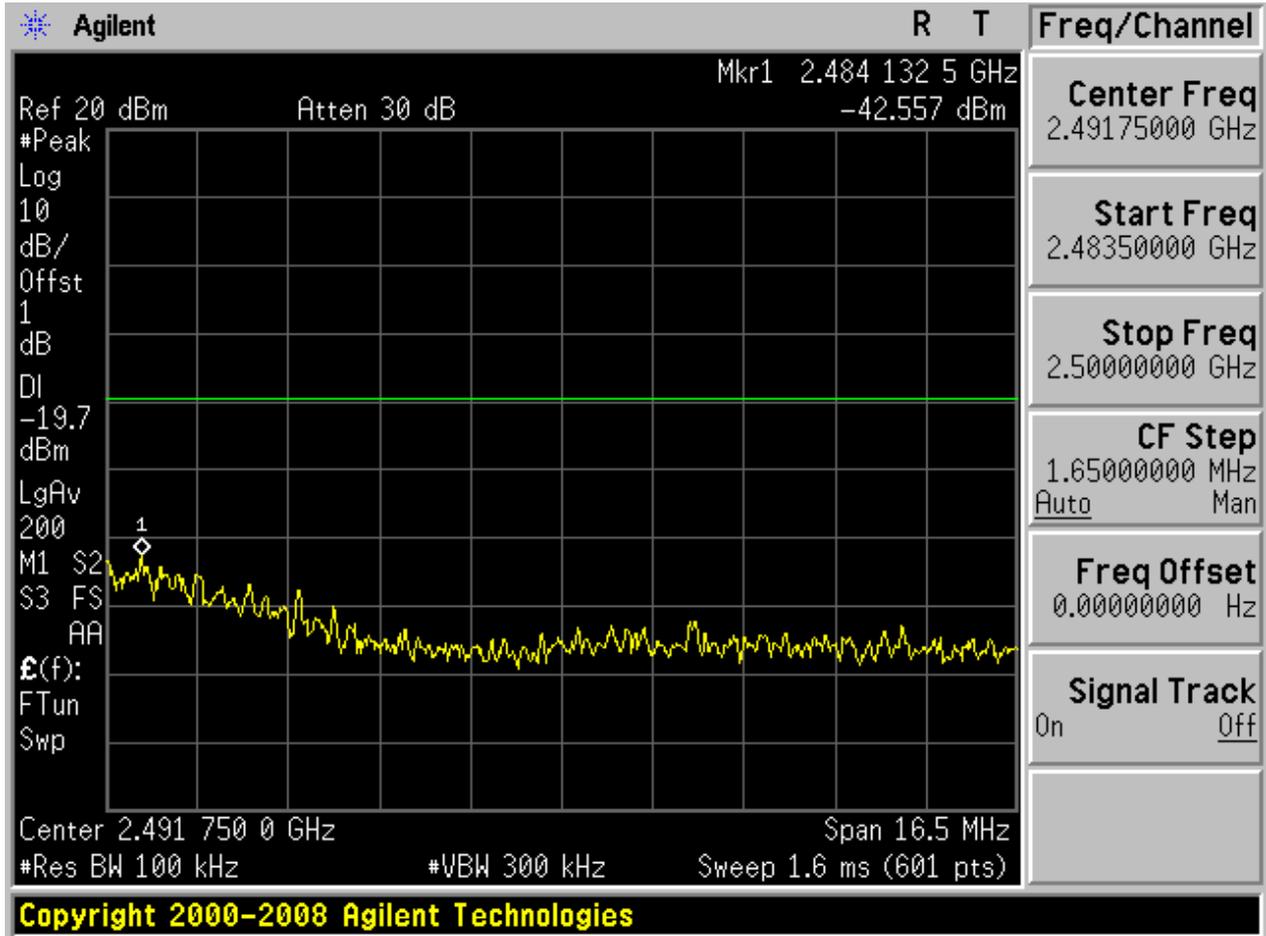
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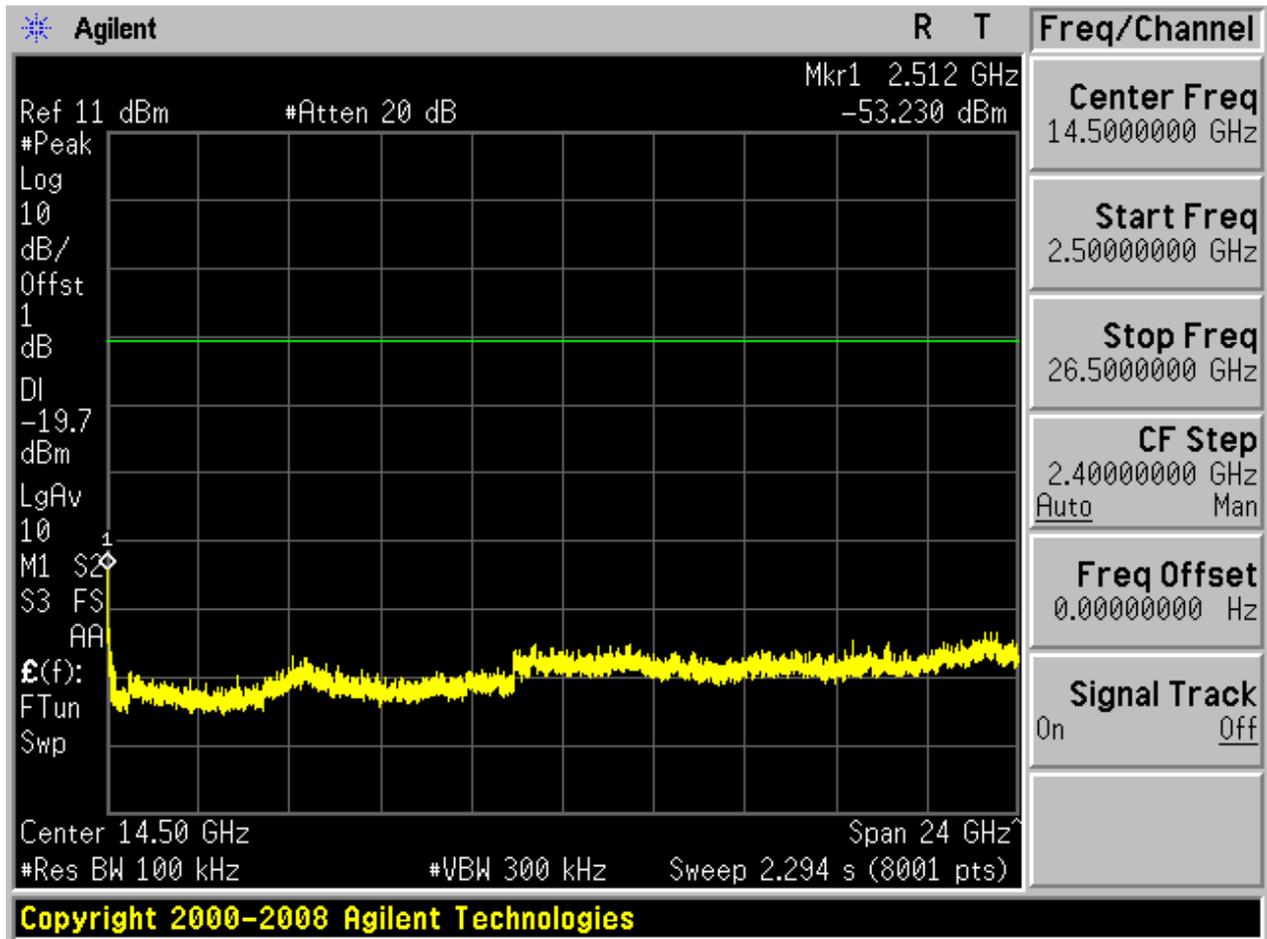












## Appendix F: Radiated Spurious Emission & Spurious in Restricted Band

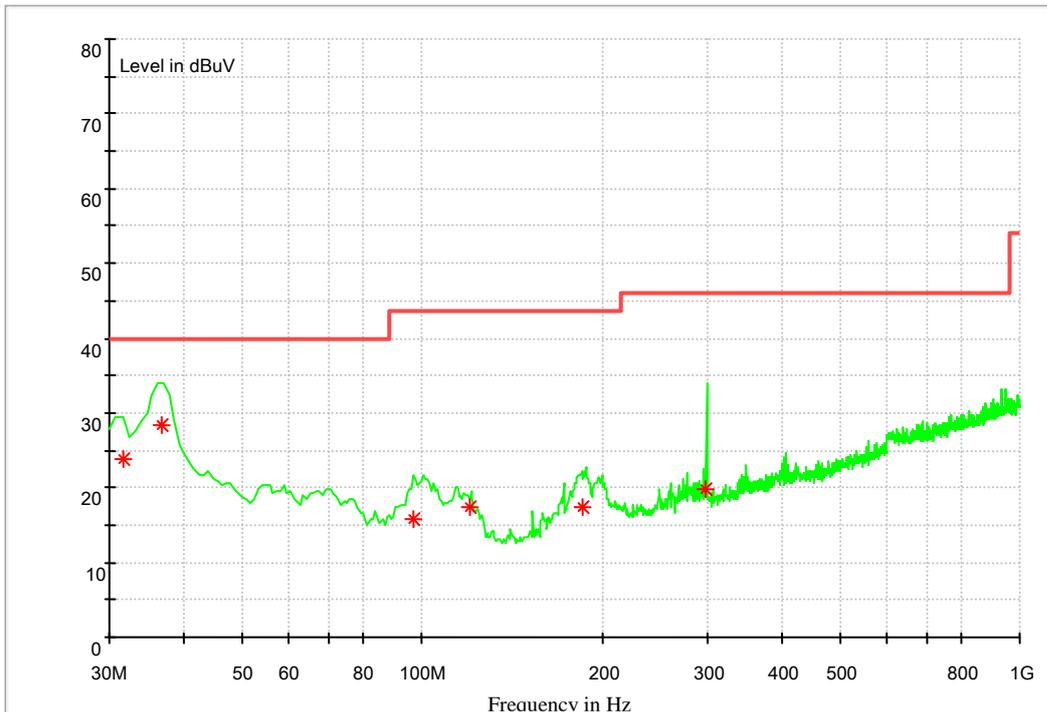
Note: Below 1GHz, RBW = 100 kHz, VBW = 300 kHz.

Above 1GHz, RBW = 1 MHz, VBW = 3 MHz.

The simultaneous transmission has been considered

**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).**

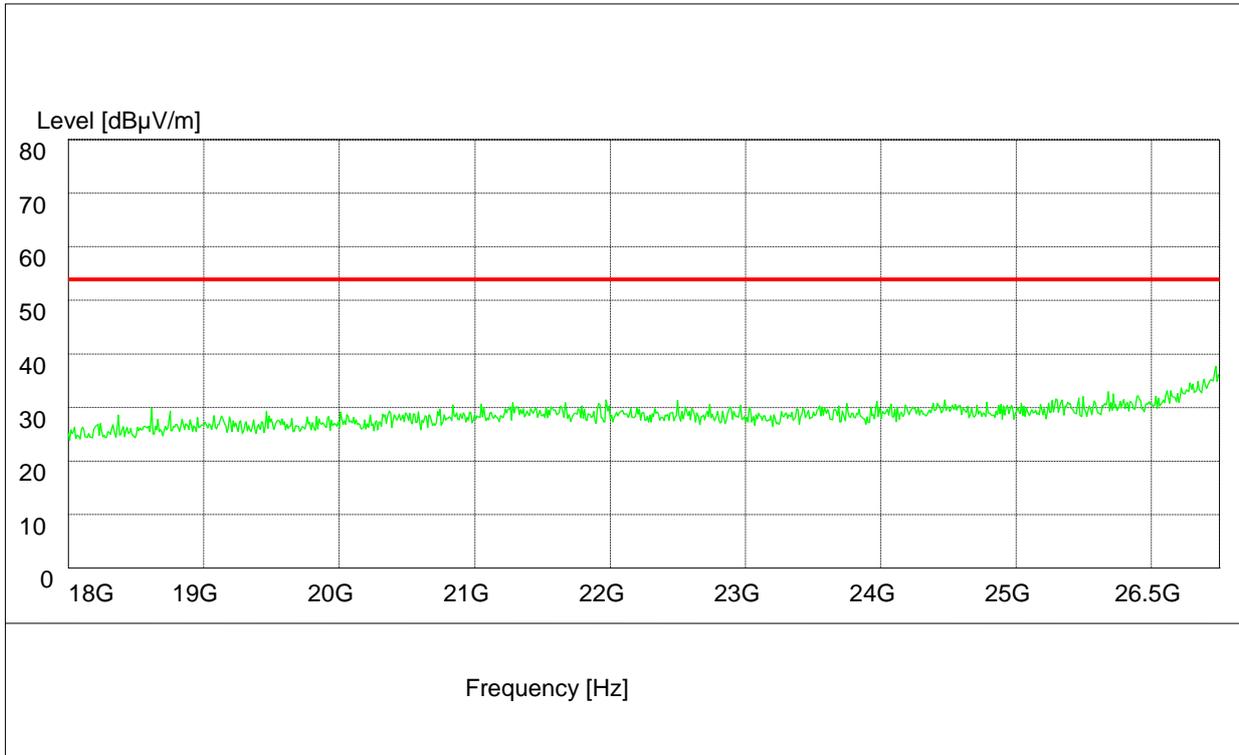


**MEASUREMENT RESULT: QP Detector**

Frequency MHz	Level dBμV/m	Transducer dB	Limit dBμV/m	Margin dB	Height cm	Azimuth deg	Polarisation
31.707264	23.9	14.1	40.0	16.1	100.0	353.0	VERTICAL
36.632640	28.2	14.8	40.0	11.8	100.0	16.0	VERTICAL
96.599680	15.9	13.1	43.5	27.6	400.0	193.0	VERTICAL
120.102720	17.5	11.8	43.5	26.0	278.0	303.0	HORIZONTAL
186.033280	17.4	12.1	43.5	26.1	172.0	250.0	HORIZONTAL
299.210880	19.8	15.5	46.0	26.2	100.0	96.0	HORIZONTAL

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

Note: No peak found in pre- test.

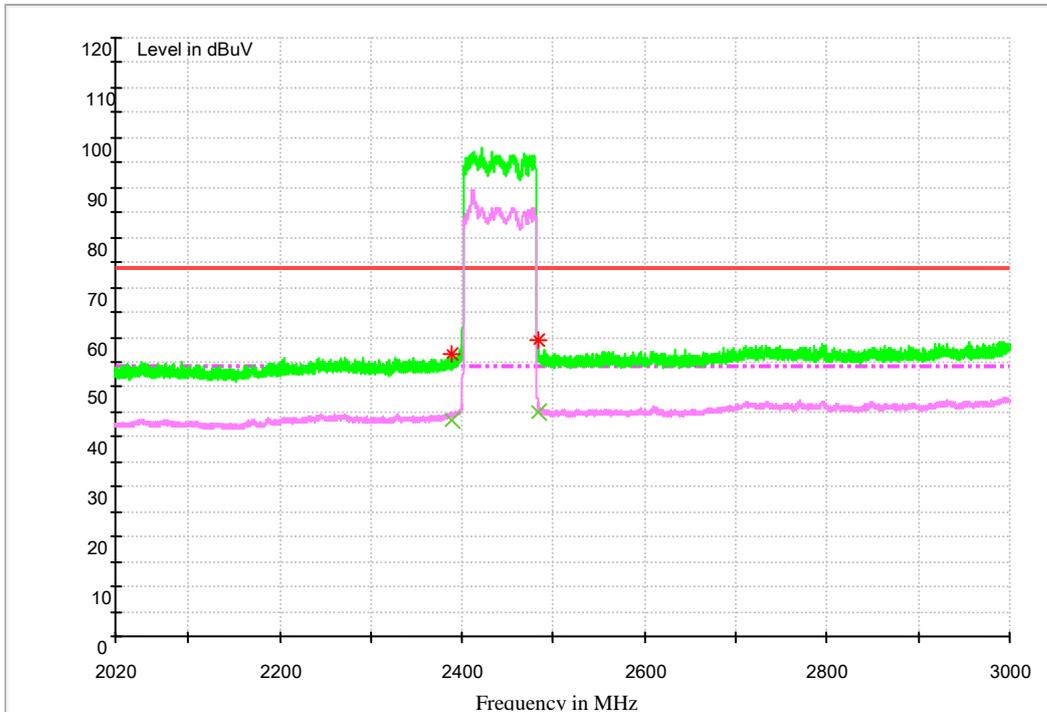


## **Part 3: Testing Range of “2.3GHz to 2.5GHz”**

- 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 01



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

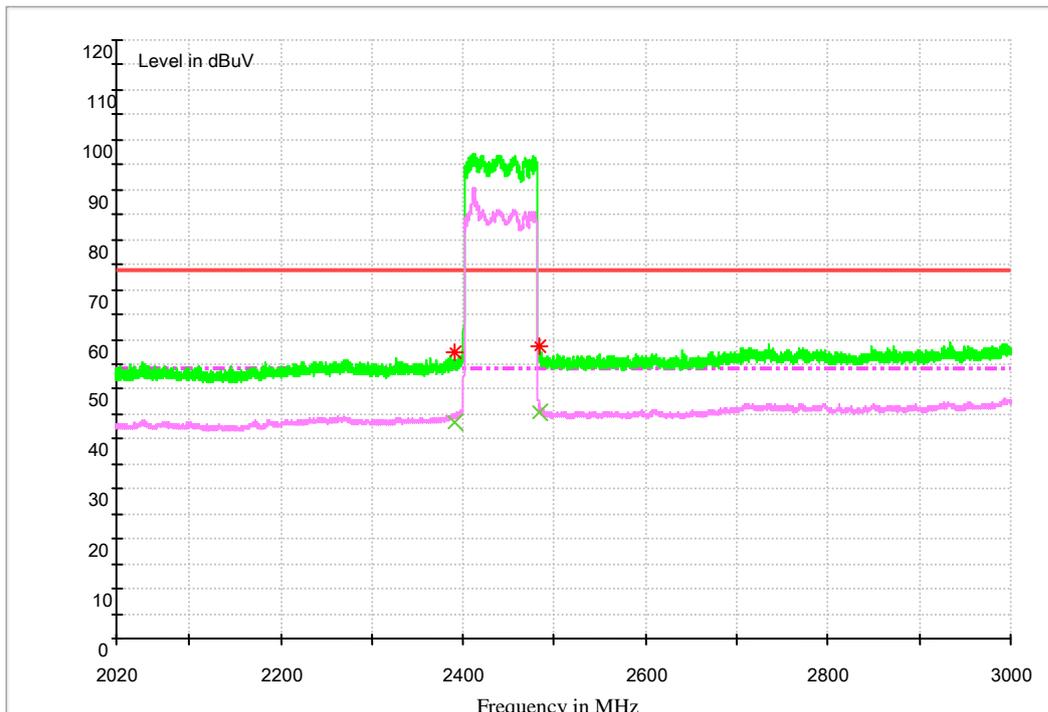
MEASUREMENT RESULT: PK Detector

Frequency MHz	Level dB $\mu$ V/m	Transd dB	Limit dB $\mu$ V/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	56.7	38.3	74.0	17.3	100.0	45.0	HORIZONTAL
2483.500000	59.3	40.7	74.0	14.7	100.0	197.0	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	43.2	38.3	54.0	10.8	100.0	282.0	VERTICAL
2483.500000	45.1	40.7	54.0	8.9	100.0	197.0	VERTICAL

## Channel 11



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

### MEASUREMENT RESULT: PK Detector

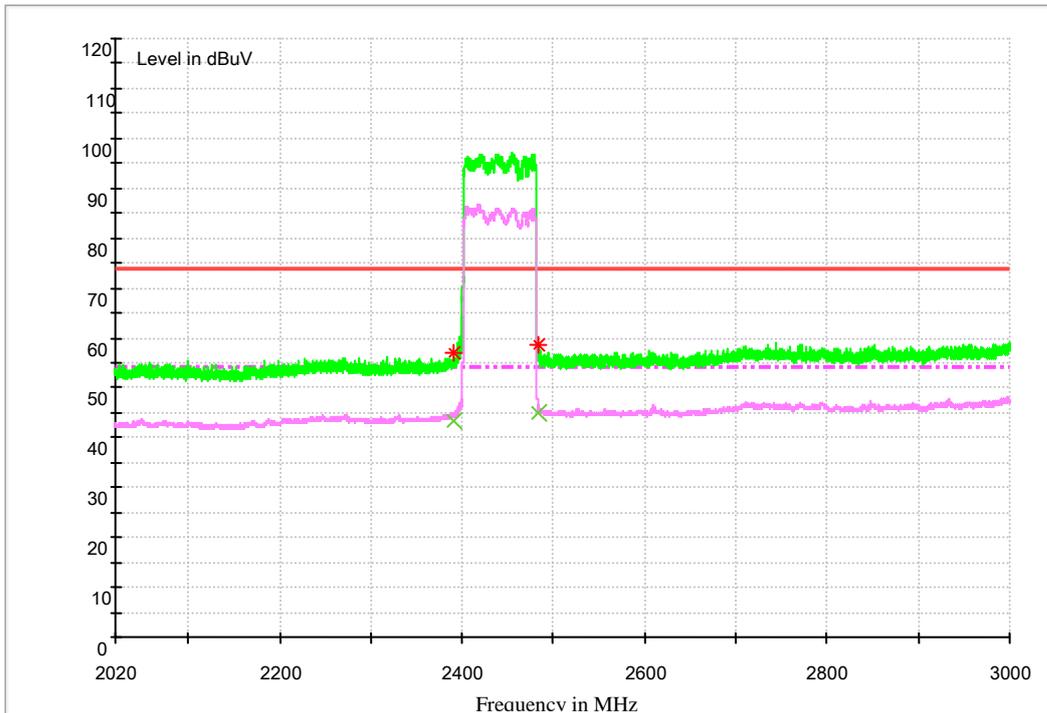
Frequency MHz	Level dB $\mu$ V/m	Transd dB	Limit dB $\mu$ V/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	57.4	38.3	74.0	16.6	121.0	45.0	VERTICAL
2483.500000	58.5	40.2	74.0	15.5	100.0	231.0	VERTICAL

### 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	43.2	38.3	54.0	10.8	100.0	18.0	HORIZONTAL
2483.500000	45.2	40.8	54.0	8.8	100.0	0.0	HORIZONTAL

# Test Mode: 11g

## Channel 01



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

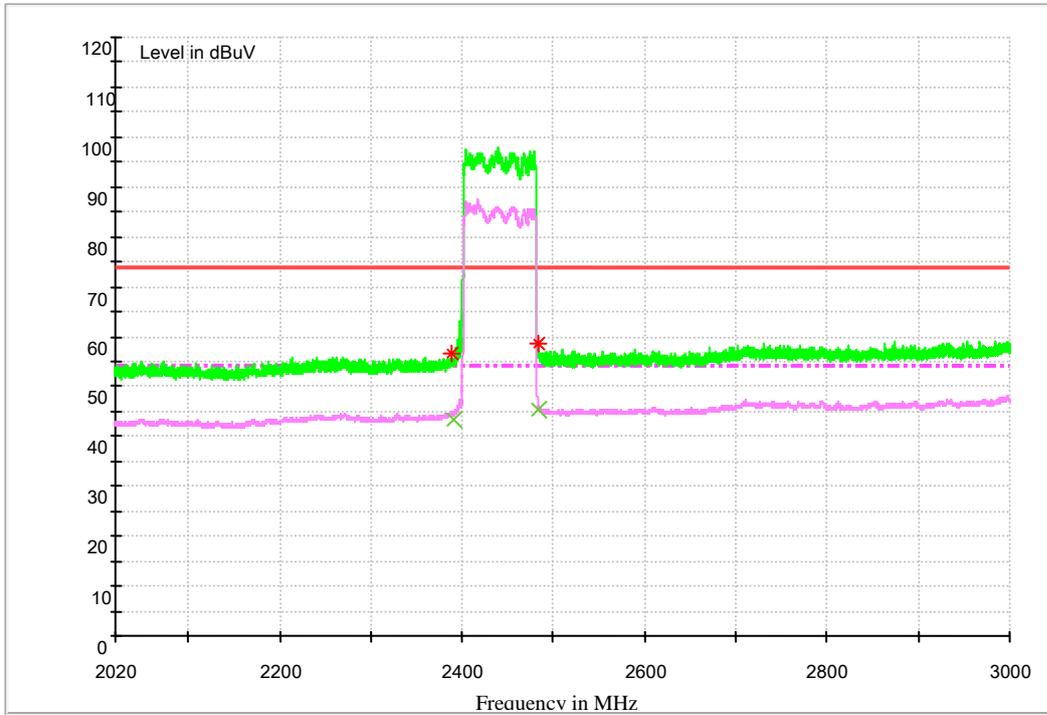
MEASUREMENT RESULT: PK Detector

Frequency MHz	Level dB $\mu$ V/m	Transd dB	Limit dB $\mu$ V/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	57.0	38.3	74.0	17.0	120.0	45.0	HORIZONTAL
2483.500000	58.8	40.8	74.0	15.2	100.0	250.0	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	43.2	38.3	54.0	10.8	100.0	0.0	HORIZONTAL
2483.500000	45.1	40.6	54.0	8.9	100.0	283.0	HORIZONTAL

## Channel 11



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

MEASUREMENT RESULT: PK Detector

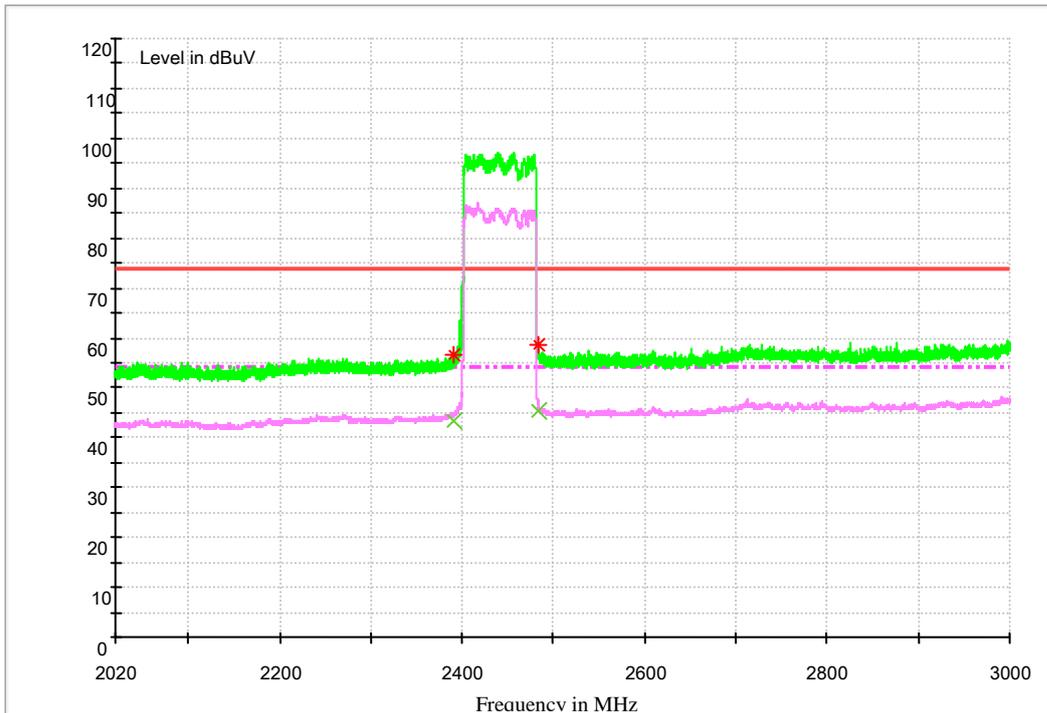
Frequency MHz	Level dB $\mu$ V/m	Transd dB	Limit dB $\mu$ V/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	56.6	38.3	74.0	17.4	100.0	129.0	VERTICAL
2483.500000	58.5	40.5	74.0	15.5	113.0	55.0	HORIZONTAL

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	43.2	38.3	54.0	10.8	100.0	0.0	HORIZONTAL
2483.500000	45.2	40.7	54.0	8.8	100.0	55.0	HORIZONTAL

# Test Mode: 11n

## Channel 01



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

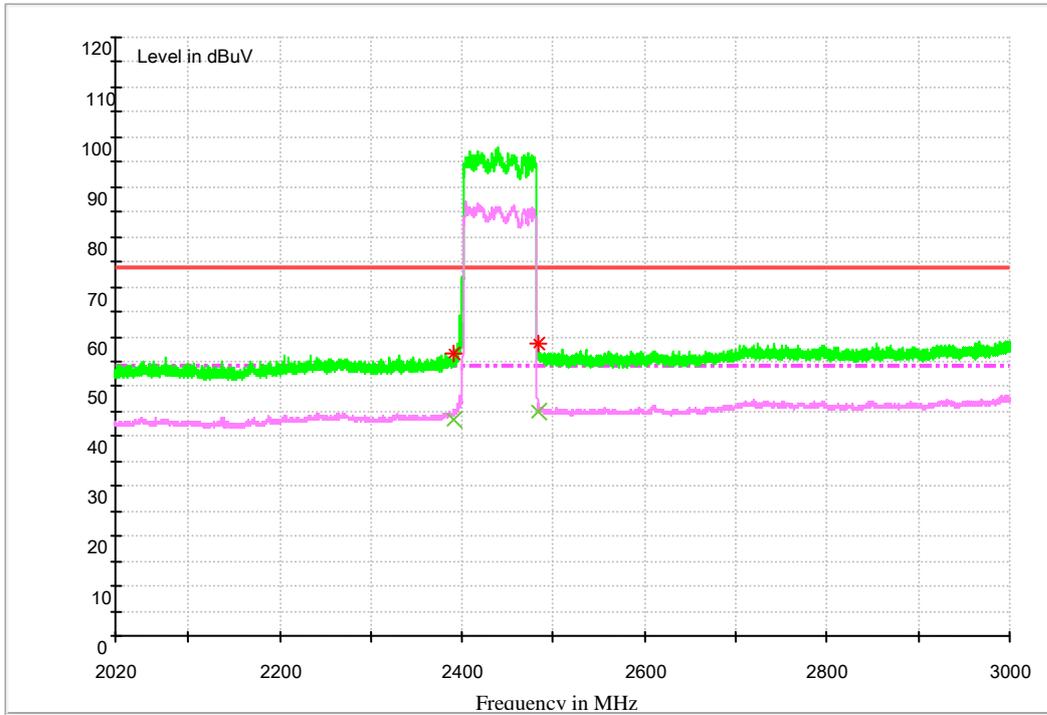
MEASUREMENT RESULT: PK Detector

Frequency MHz	Level dB $\mu$ V/m	Transd dB	Limit dB $\mu$ V/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	56.5	38.3	74.0	17.5	100.0	304.0	VERTICAL
2483.500000	58.6	40.4	74.0	15.4	100.0	123.0	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	43.3	38.3	54.0	10.7	100.0	164.0	HORIZONTAL
2483.500000	45.2	40.8	54.0	8.8	100.0	72.0	HORIZONTAL

## Channel 11



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

MEASUREMENT RESULT: PK Detector

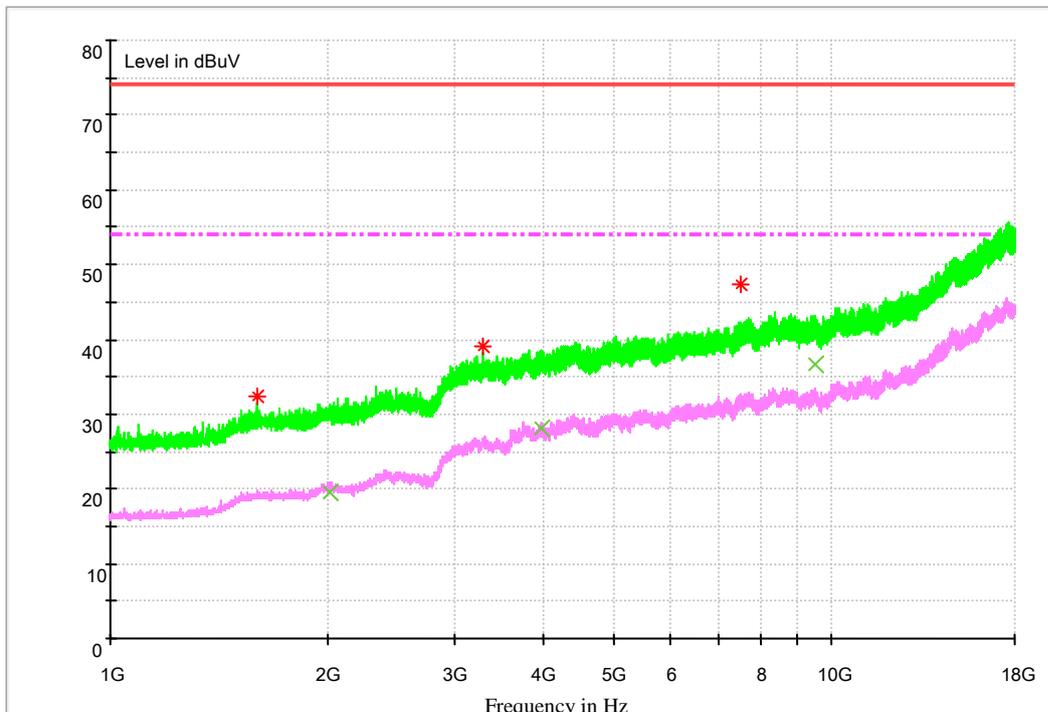
Frequency MHz	Level dB $\mu$ V/m	Transd dB	Limit dB $\mu$ V/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	56.7	38.3	74.0	17.3	120.0	48.0	HORIZONTAL
2483.500000	58.6	40.4	74.0	15.4	100.0	312.0	VERTICAL

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	43.2	38.3	54.0	10.8	100.0	61.0	HORIZONTAL
2483.500000	45.0	40.6	54.0	9.0	100.0	312.0	VERTICAL

#### **Part 4: Testing Range of “1 GHz to 18 GHz”**

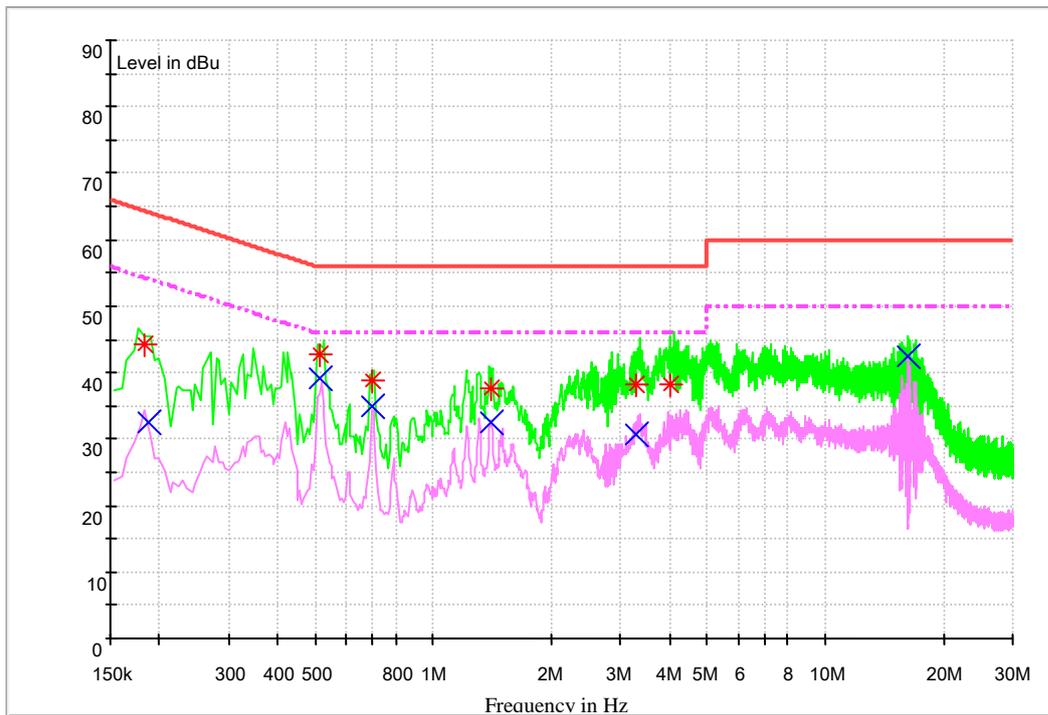
- Note 1: The test results and plot for testing range of “1 GHz to 18 GHz” showed as below is **the WORST case for all Test Modes and Channels**. This range will not be presented for each Test Mode and each Channel.
- Note 2: The testing range of “1 GHz to 18 GHz” is for checking radiated emissions located 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 G: Conducted Emission at Power Port

Note: RBW =9 kHz, VBW = 30 kHz

### Channel 6



**MEASUREMENT RESULT: QP Detector**

Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dB $\mu$ V	dB	dB $\mu$ V	dB		
0.182354	44.3	9.7	64.4	20.1	N	FLO
0.515718	42.6	9.7	56.0	13.4	L1	FLO
0.698441	38.8	9.7	56.0	17.2	L1	FLO
1.397006	37.5	9.7	56.0	18.5	L1	FLO
3.275715	38.3	9.7	56.0	17.7	N	FLO
4.030009	38.3	9.8	56.0	17.7	L1	FLO

**MEASUREMENT RESULT: AV Detector**

Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dB $\mu$ V	dB	dB $\mu$ V	dB		



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0.186812	32.5	9.7	54.2	21.7	L1	FLO
0.515906	39.1	9.7	46.0	6.9	L1	FLO
0.699885	35.0	9.7	46.0	11.0	L1	FLO
1.401738	32.6	9.7	46.0	13.4	L1	FLO
3.285908	30.9	9.7	46.0	15.1	N	FLO
16.266701	42.5	10.0	50.0	7.5	L1	FLO

---

END