



# 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.

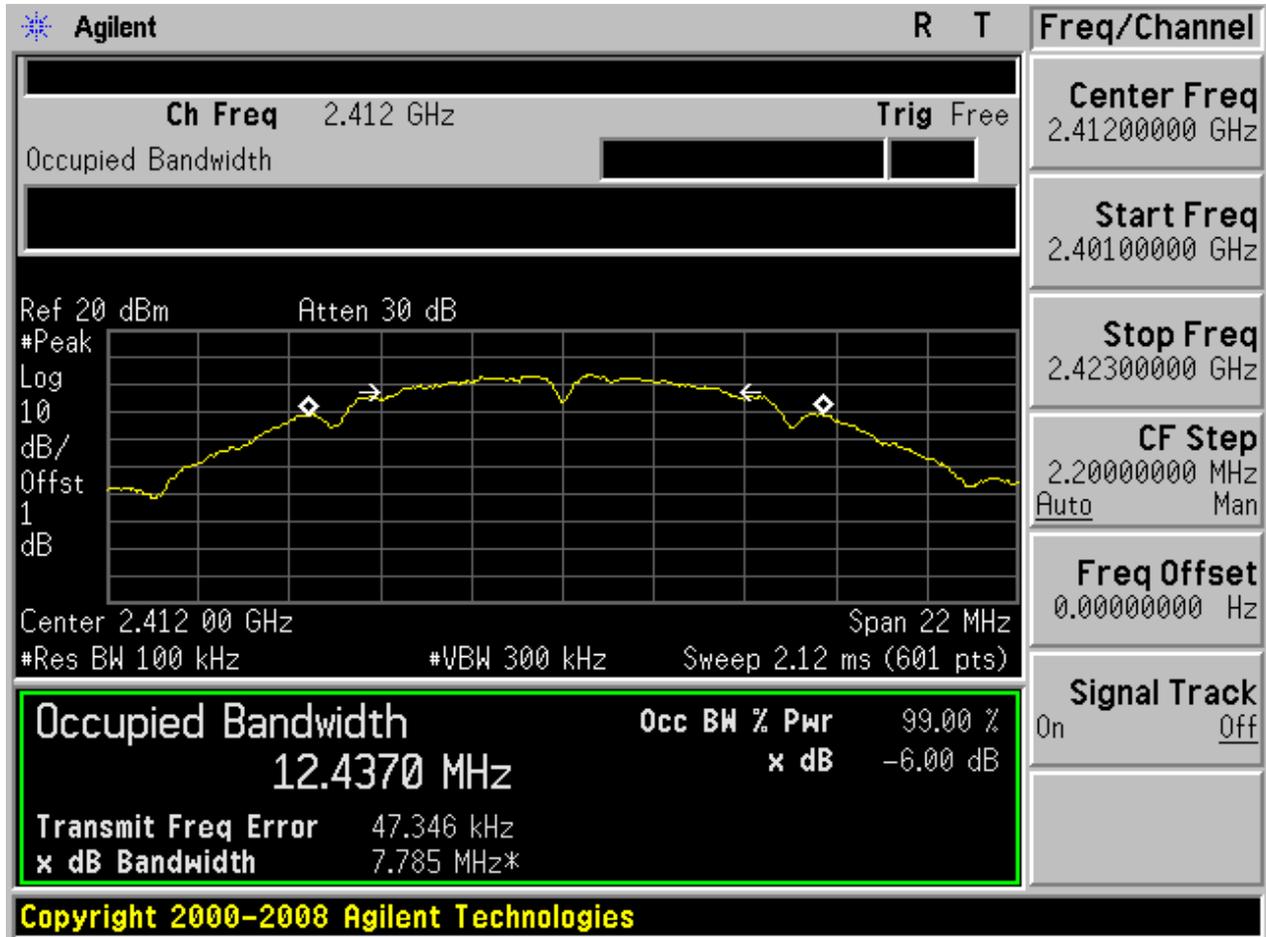
### Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Ant	DTS6dBBW[MHz]	Verdict
11B	L	2412	Ant 1	7.78	pass
11B	M	2437	Ant 1	6.85	pass
11B	H	2462	Ant 1	7.65	pass
11G	L	2412	Ant 1	16.59	pass
11G	M	2437	Ant 1	16.57	pass
11G	H	2462	Ant 1	16.54	pass
11N20	L	2412	Ant 1	17.80	pass
11N20	M	2437	Ant 1	17.80	pass
11N20	H	2462	Ant 1	17.80	pass



## Part II - Test Plots

### 2.1 11B\_L



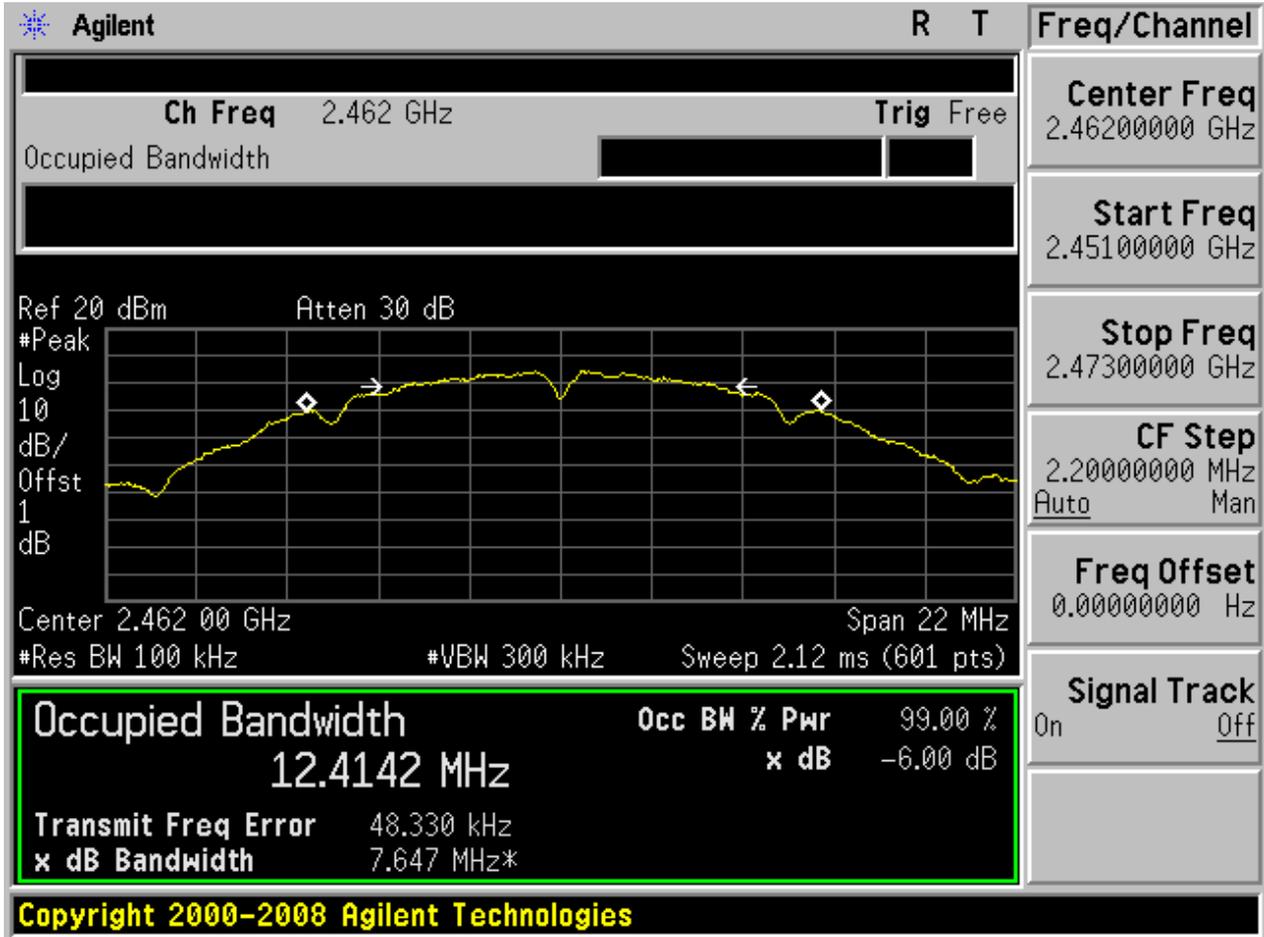


### 2.3 11B\_M



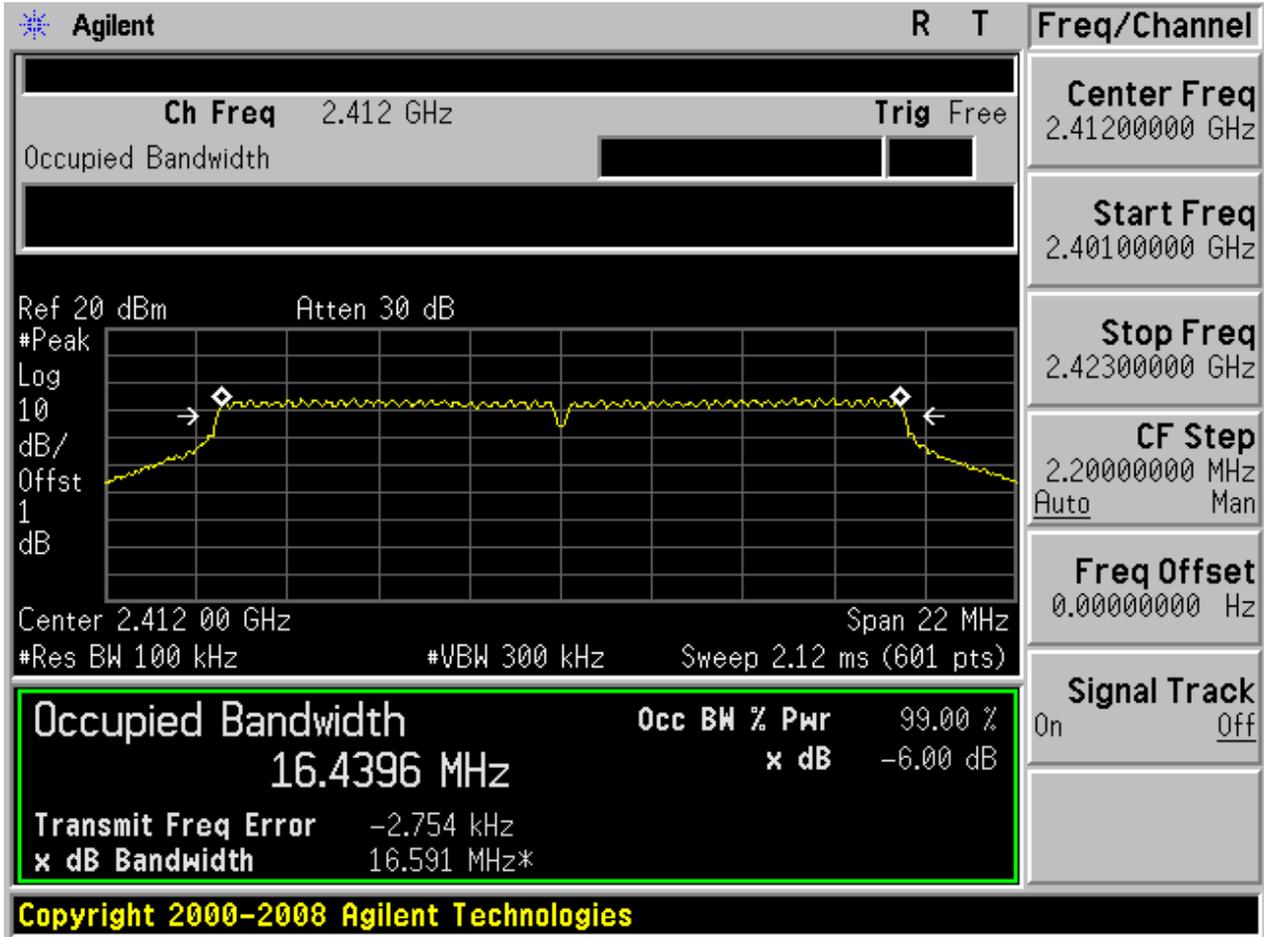


## 2.5 11B\_H



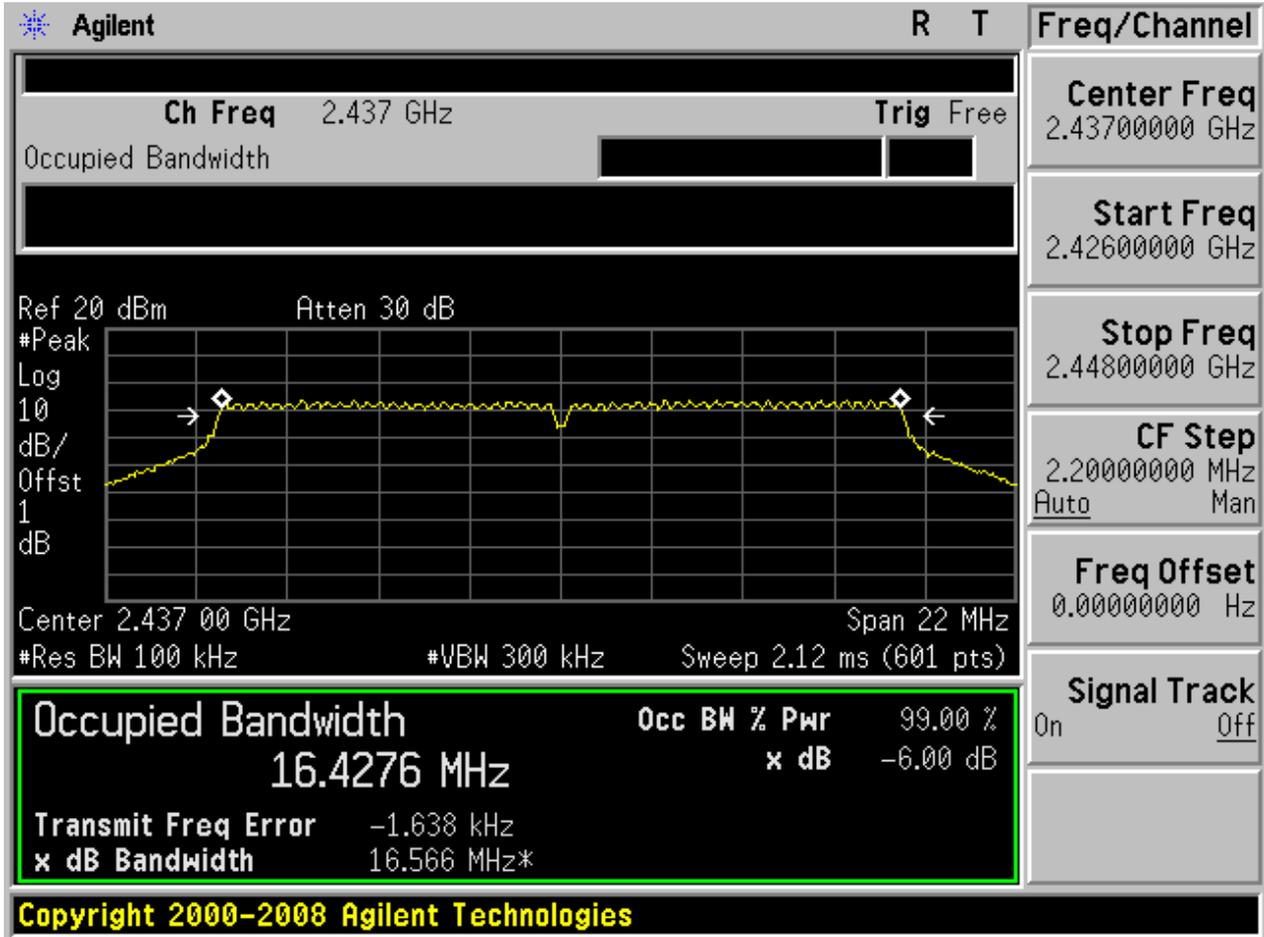


## 2.7 11G\_L



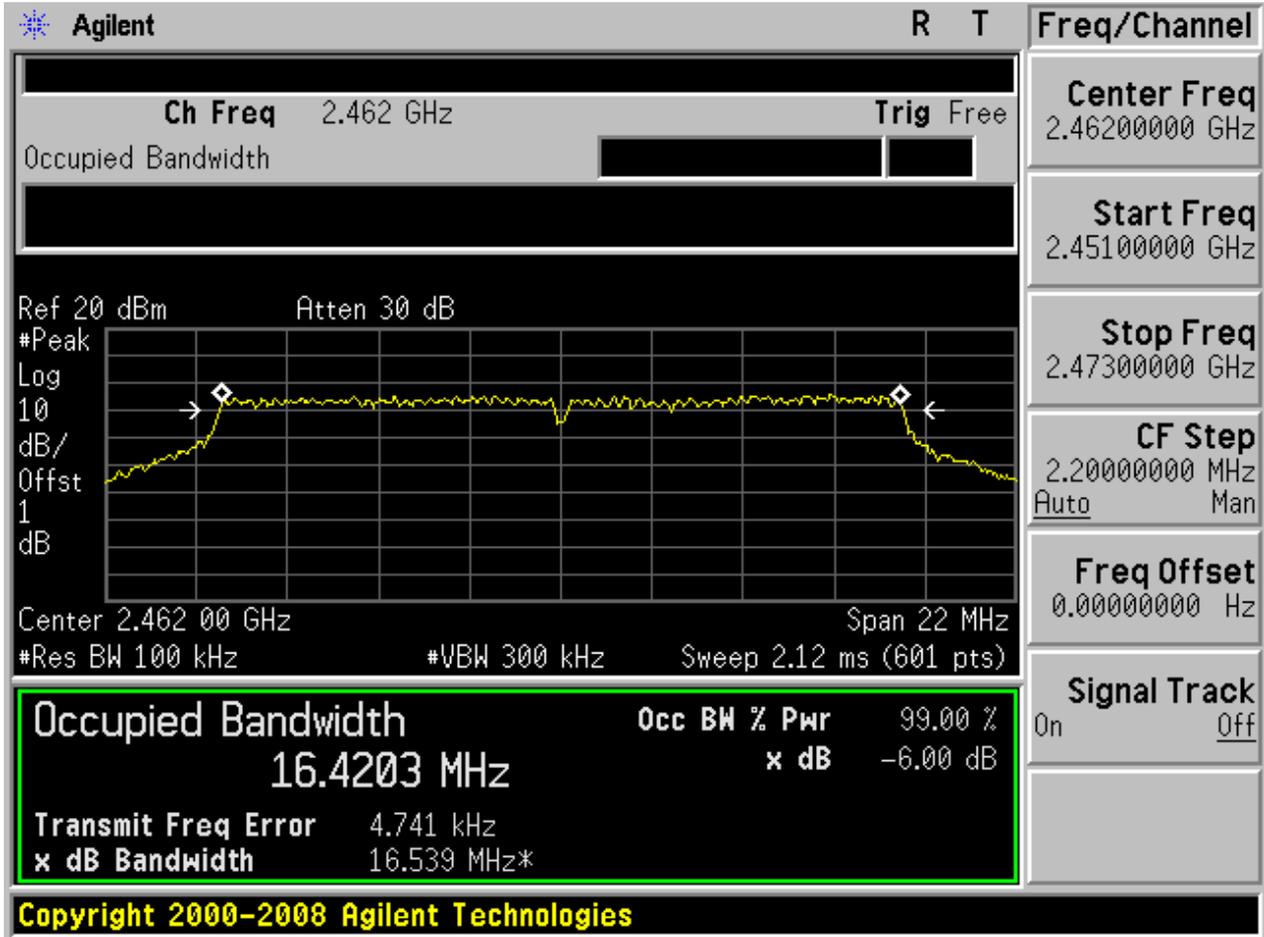


## 2.9 11G\_M



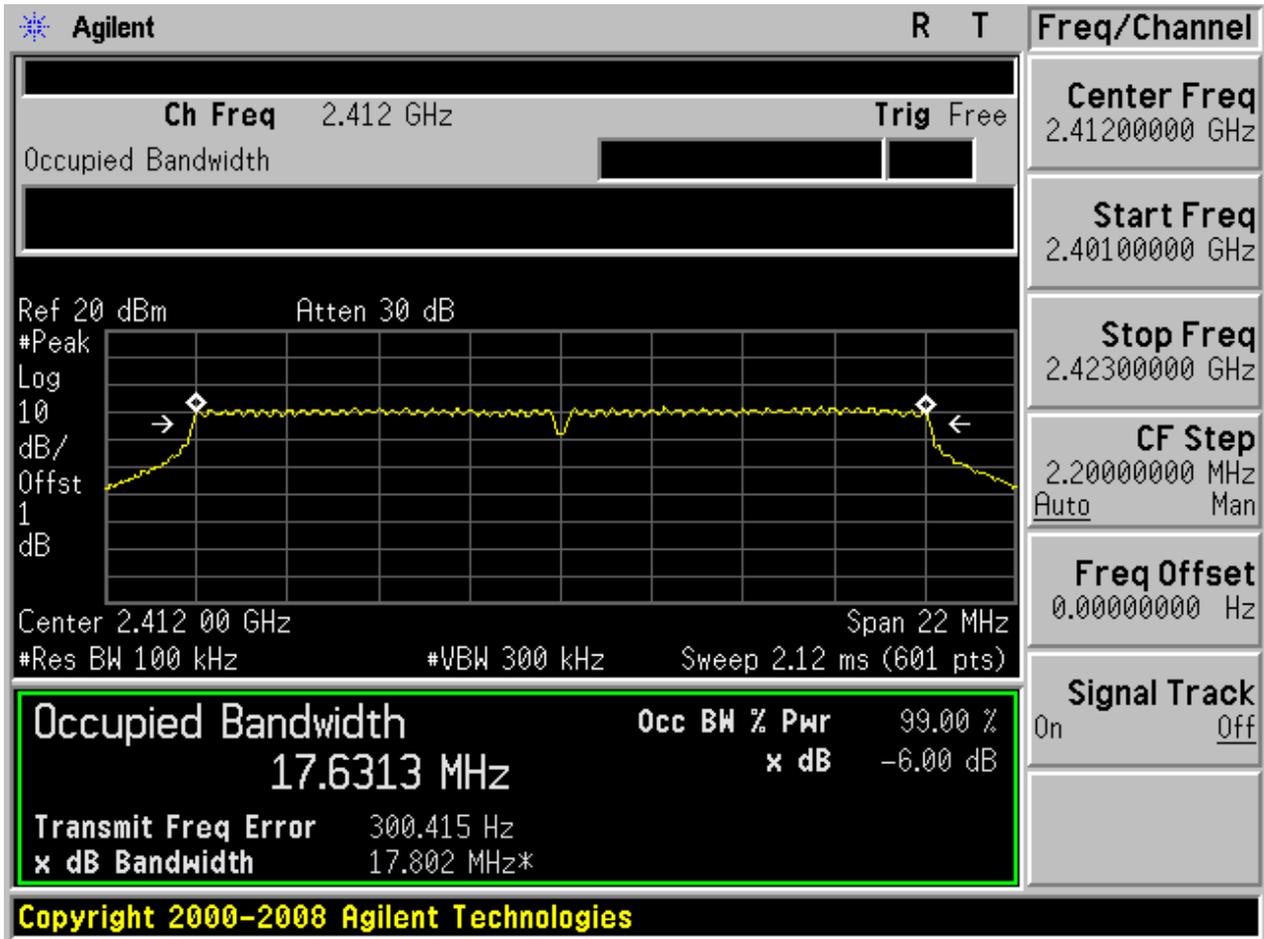


2.11 11G\_H



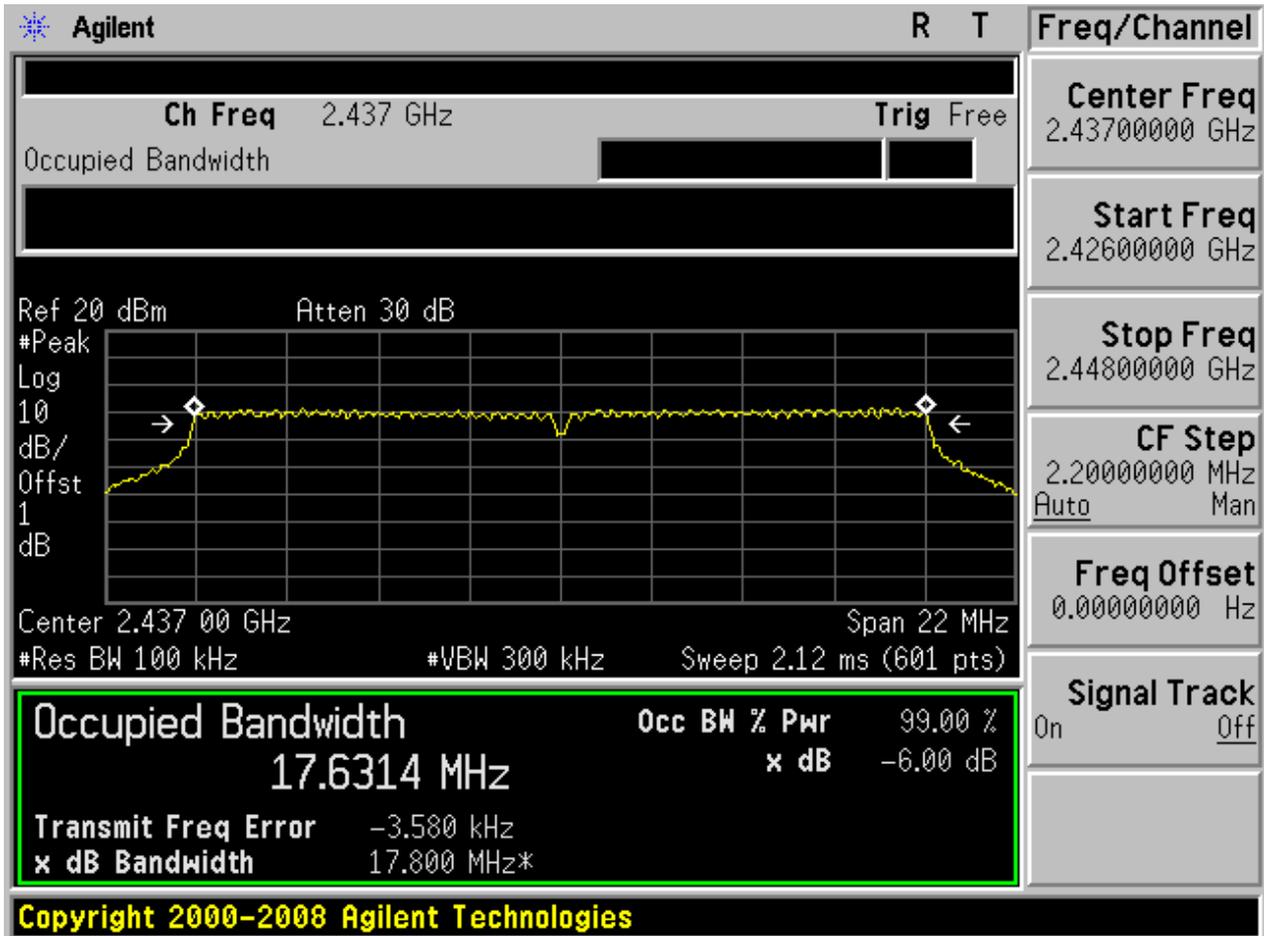


## 2.13 11N20\_L



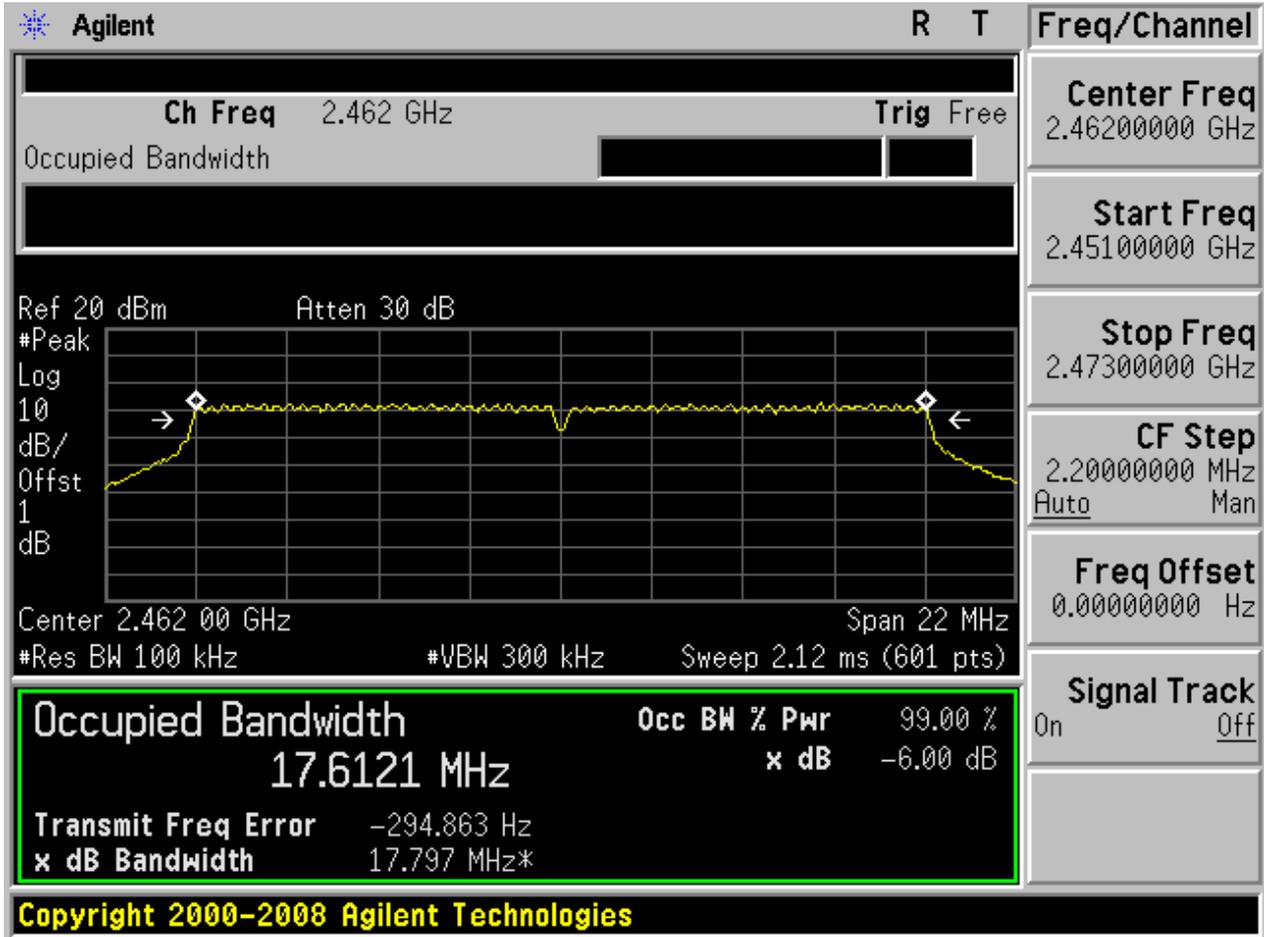


## 2.15 11N20\_M





2.17 11N20\_H





## Appendix B: Maximum Peak Conducted Output Power

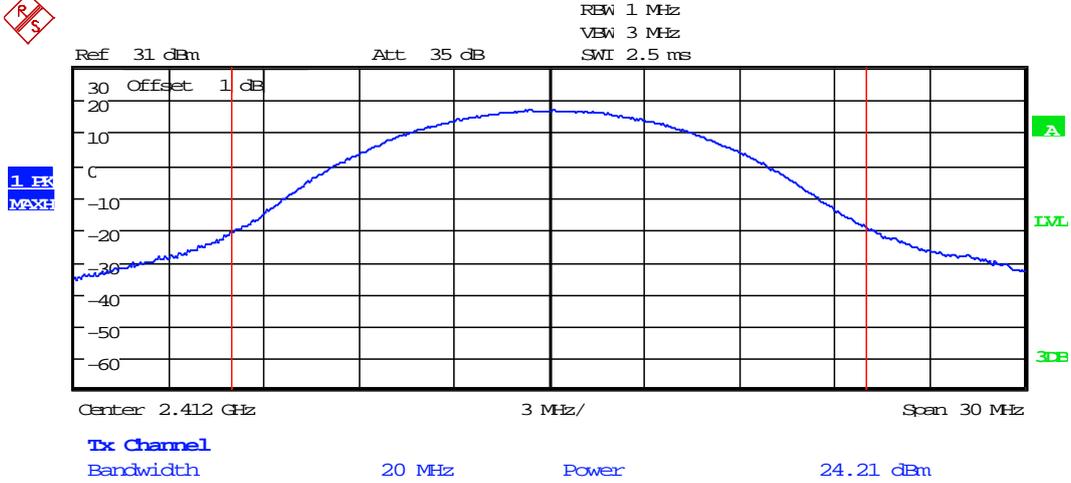
### Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Meas. Level (Cond.) [dBm]	Verdict
11B	L	2412	24.21	pass
11B	M	2437	24.08	pass
11B	H	2462	24.61	pass
11G	L	2412	21.60	pass
11G	M	2437	21.49	pass
11G	H	2462	22.15	pass
11N20	L	2412	19.52	pass
11N20	M	2437	19.60	pass
11N20	H	2462	19.97	pass



## Part II - Test Plots

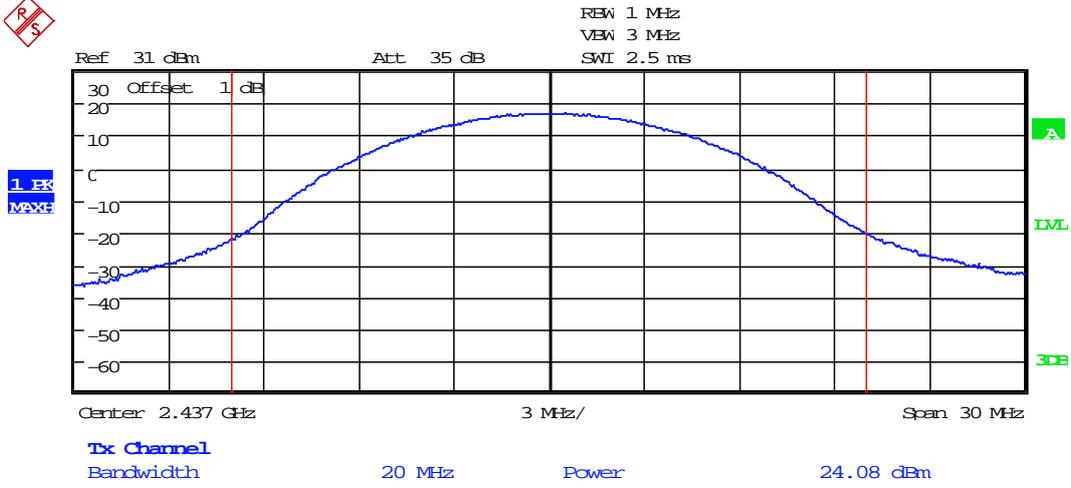
### 2.1 11B\_L



Date: 23.APR.2014 16:35:39



## 2.1 11B\_M



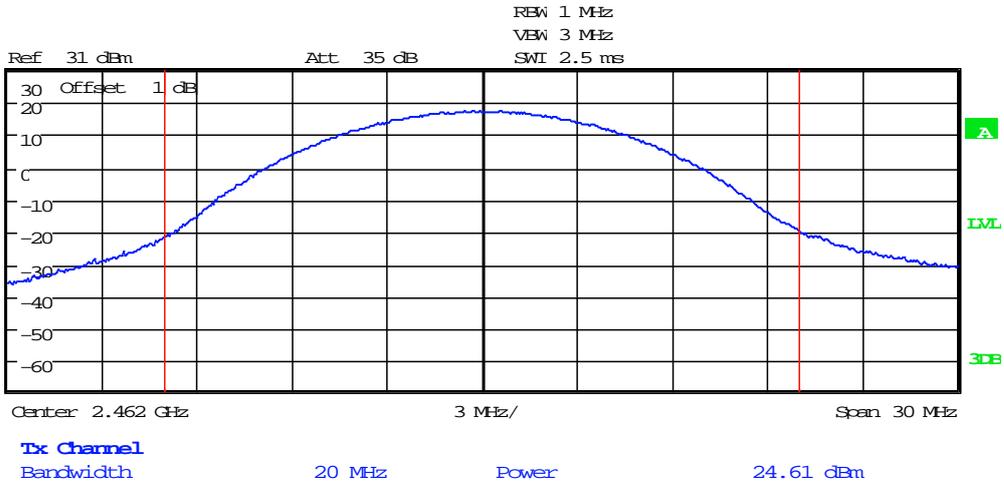
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## 2.1 11B\_H



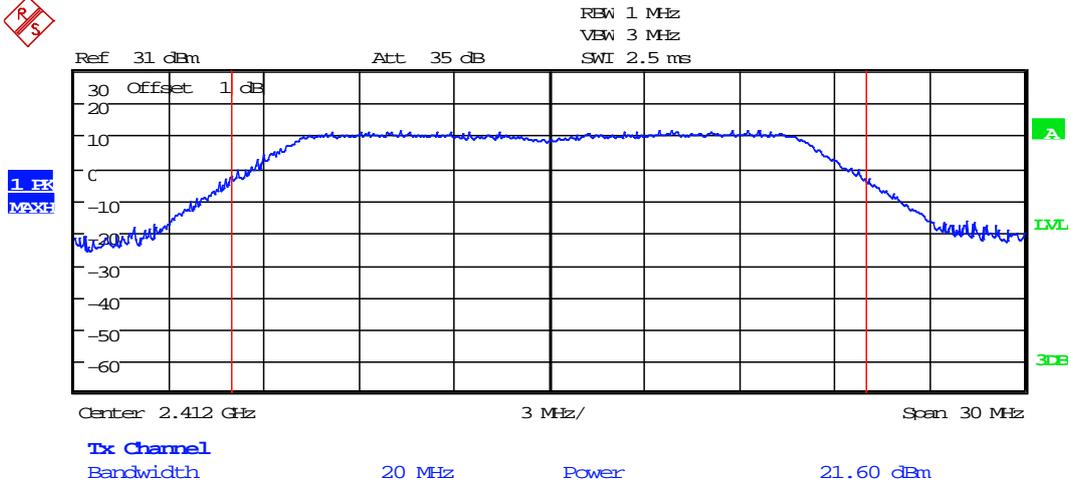
1. EK  
MAXI



Date: 23.APR.2014 16:37:19



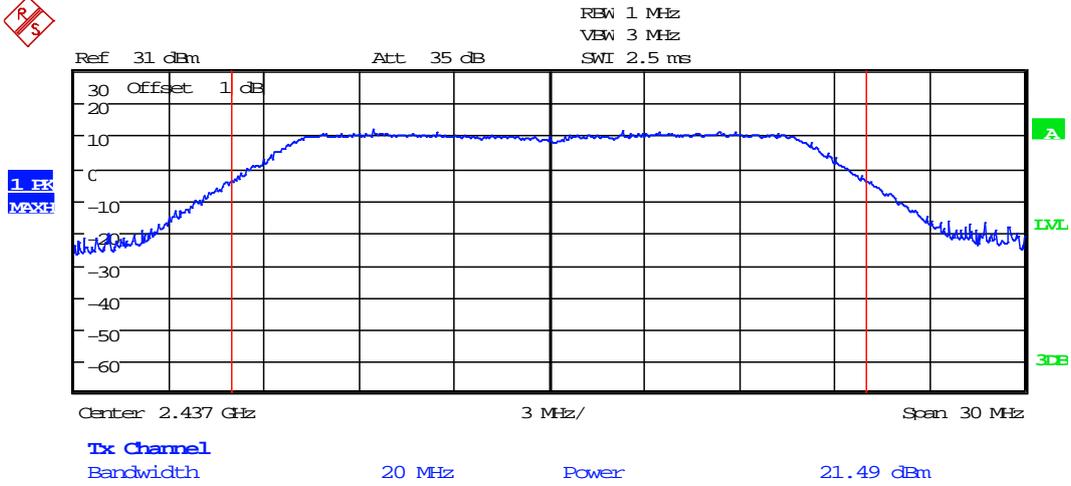
## 2.1 11G\_L



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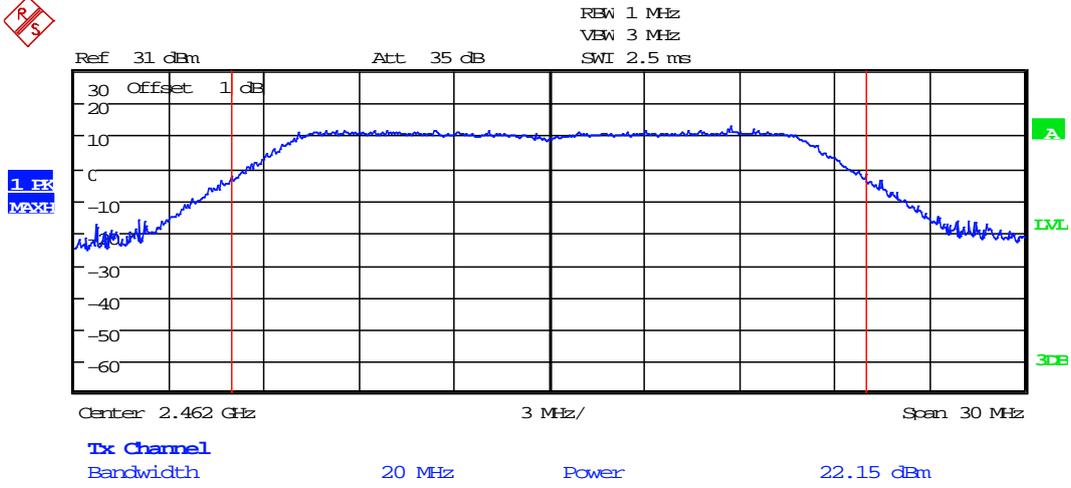
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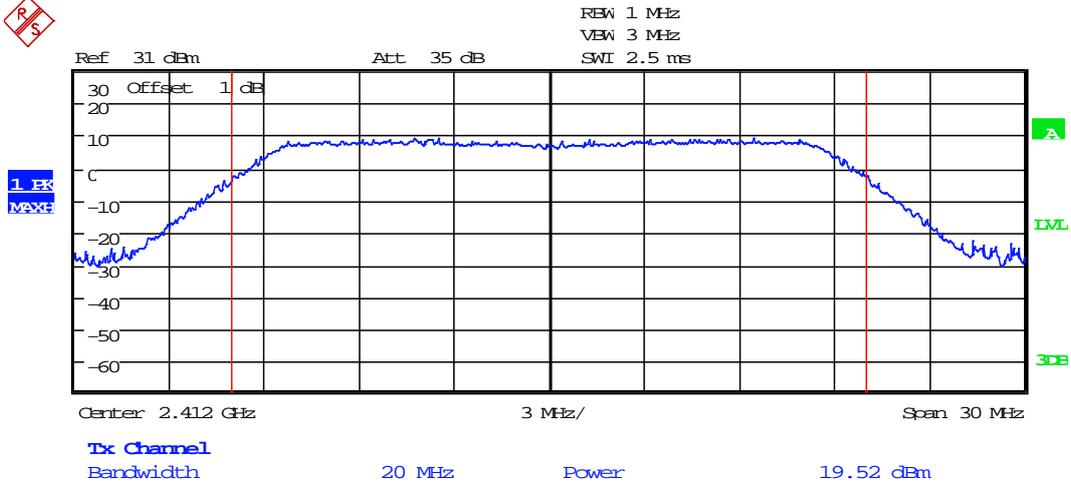
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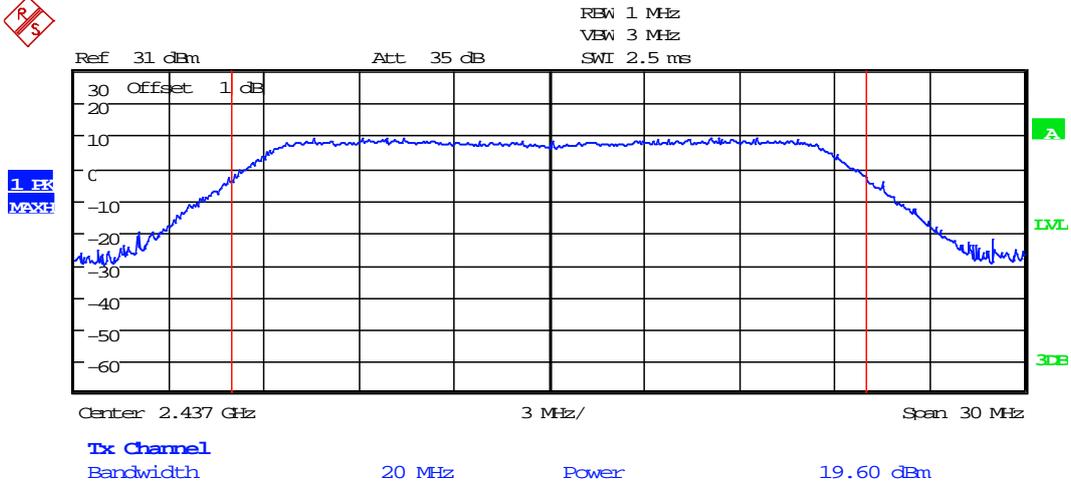
## 2.1 11N20\_L



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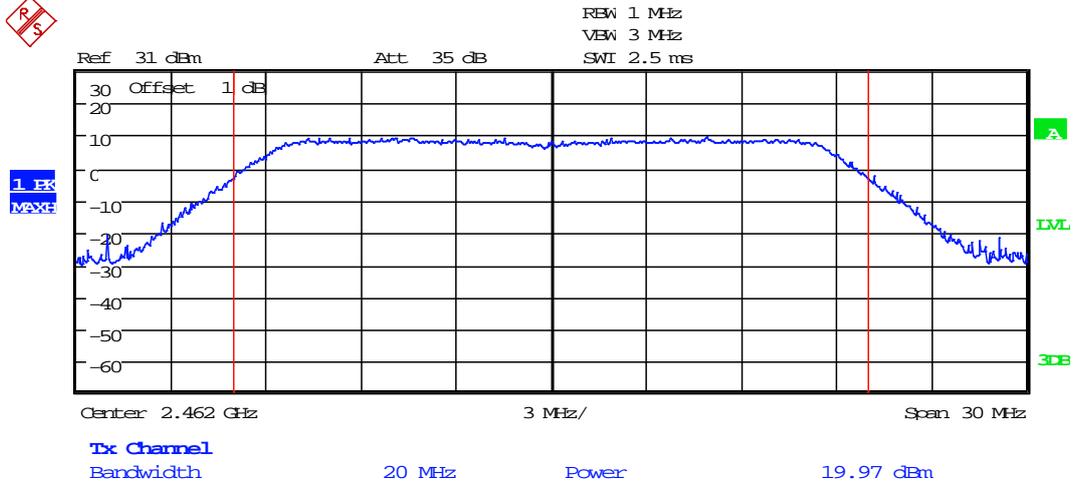
## 2.1 11N20\_M



Date: 23.APR.2014 16:44:53



## 2.1 1120\_H



Date: 23.APR.2014 16:46:01



## Appendix C: Maximum Power Spectral Density Level

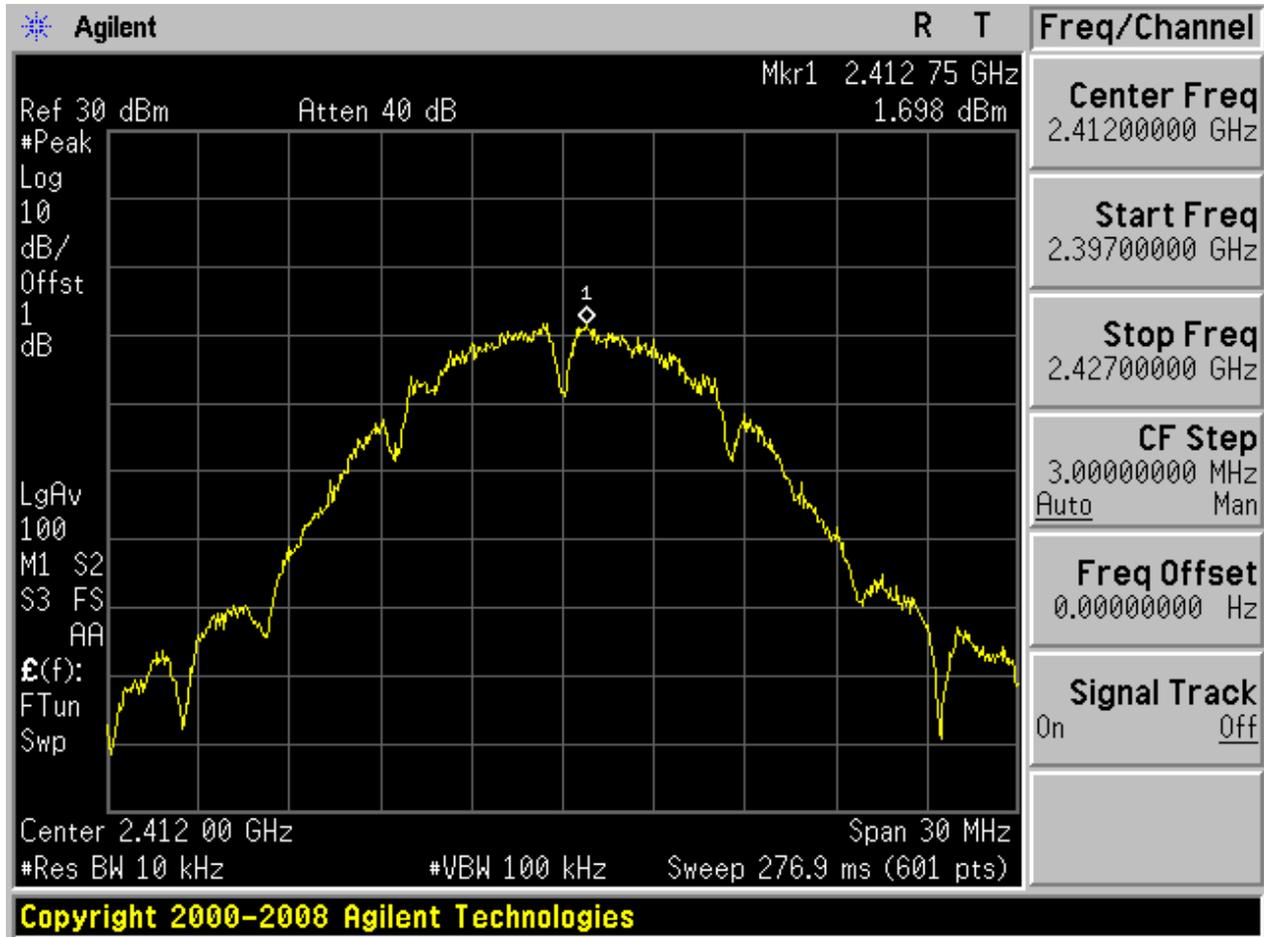
### Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Ant	PD[MHz]	Verdict
11B	L	2412	Ant 1	1.70	pass
11B	M	2437	Ant 1	1.51	pass
11B	H	2462	Ant 1	2.55	pass
11G	L	2412	Ant 1	-5.33	pass
11G	M	2437	Ant 1	-6.49	pass
11G	H	2462	Ant 1	-5.26	pass
11N20	L	2412	Ant 1	-7.81	pass
11N20	M	2437	Ant 1	-9.26	pass
11N20	H	2462	Ant 1	-7.54	pass



## Part II - Test Plots

### 2.1 11B\_L



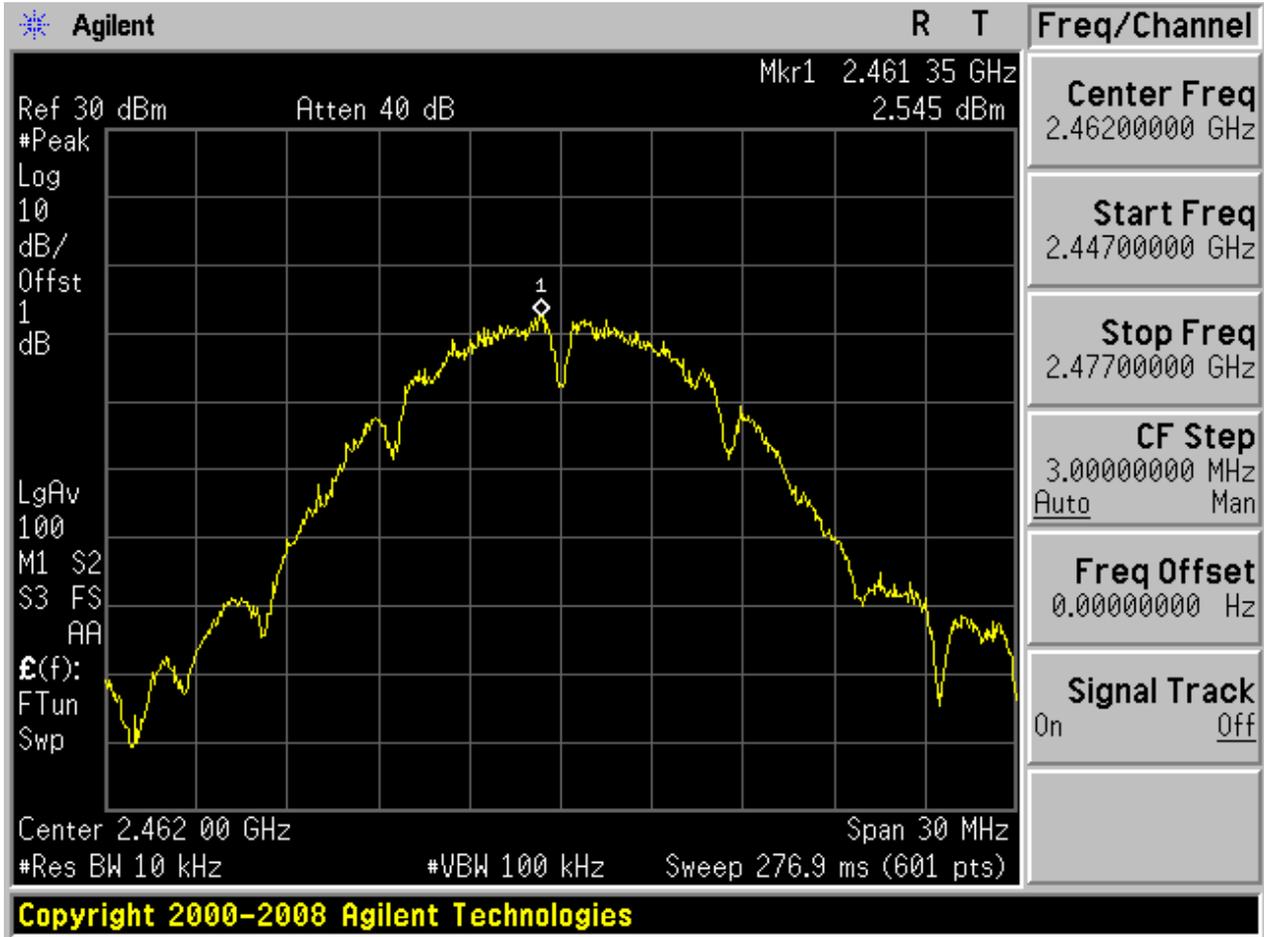


### 2.3 11B\_M



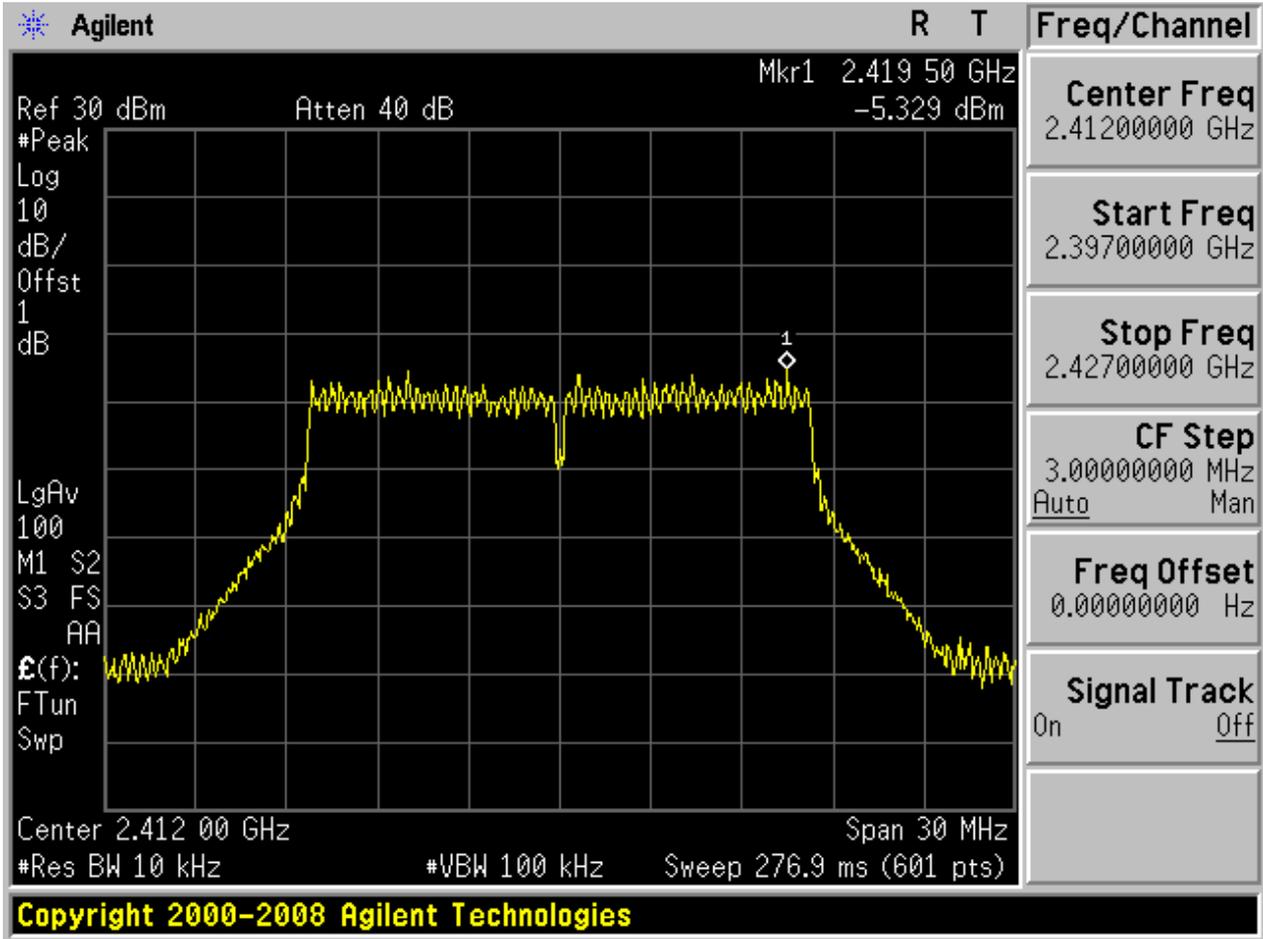


## 2.5 11B\_H



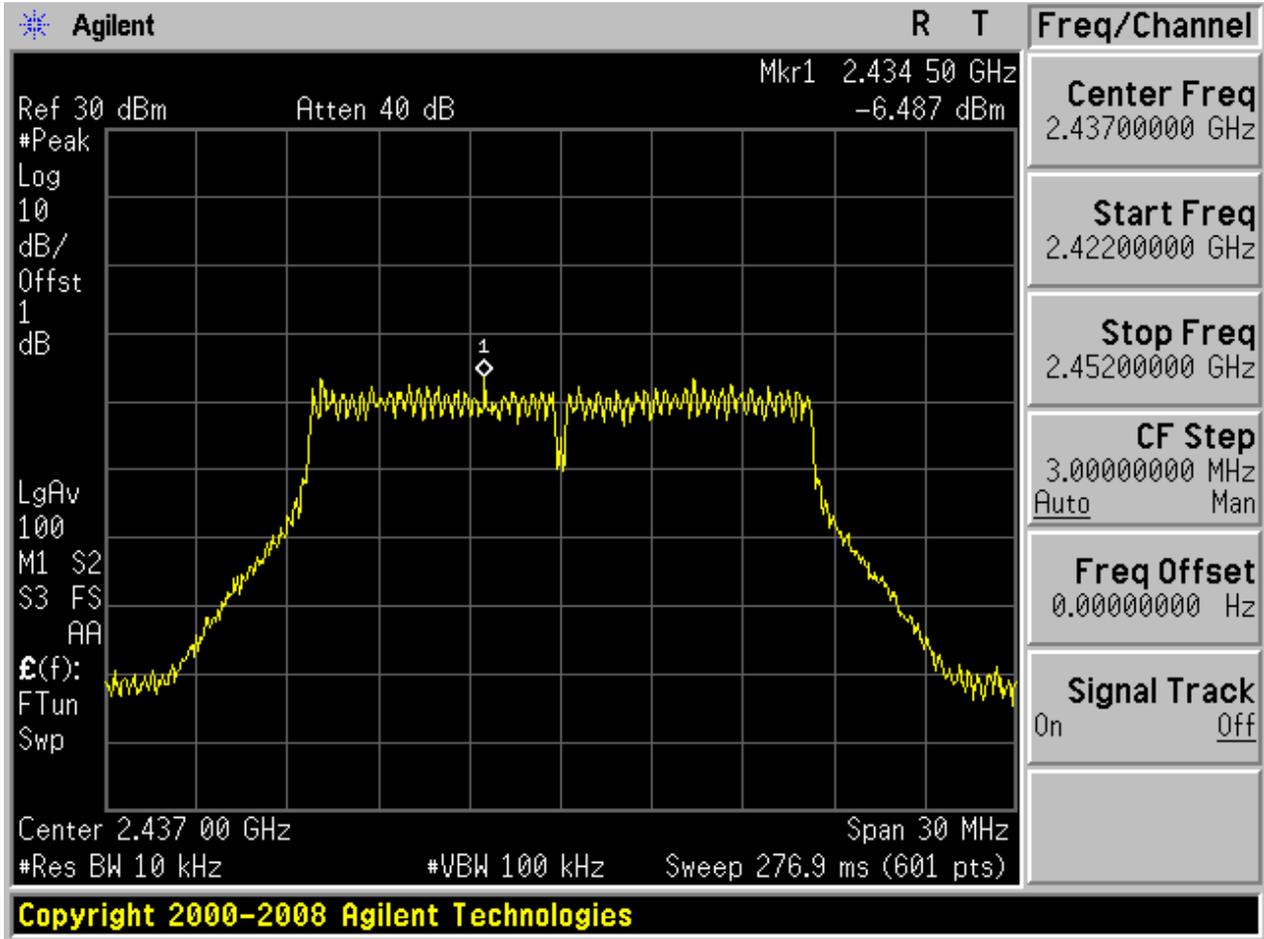


2.7 11G\_L



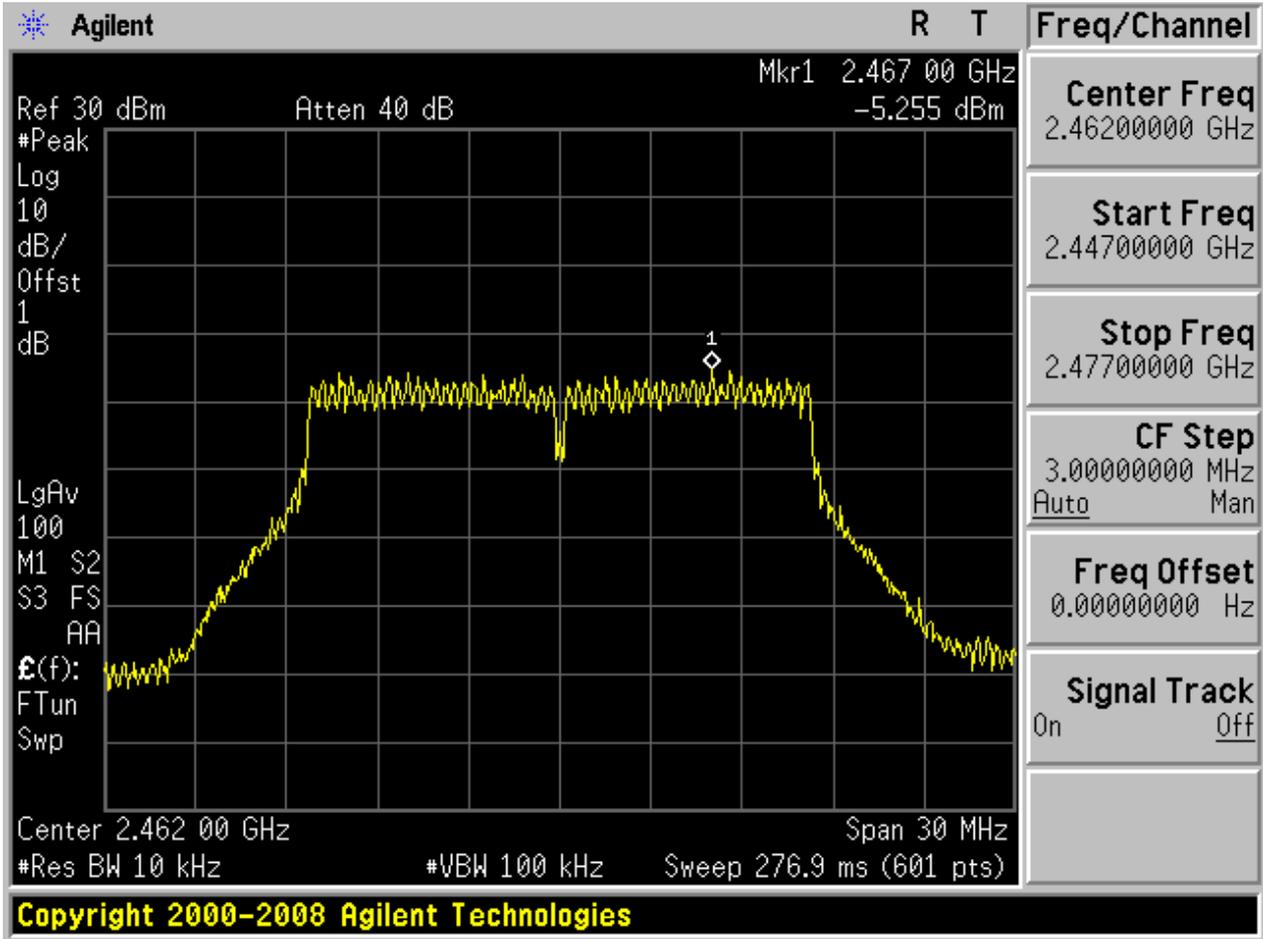


2.9 11G\_M



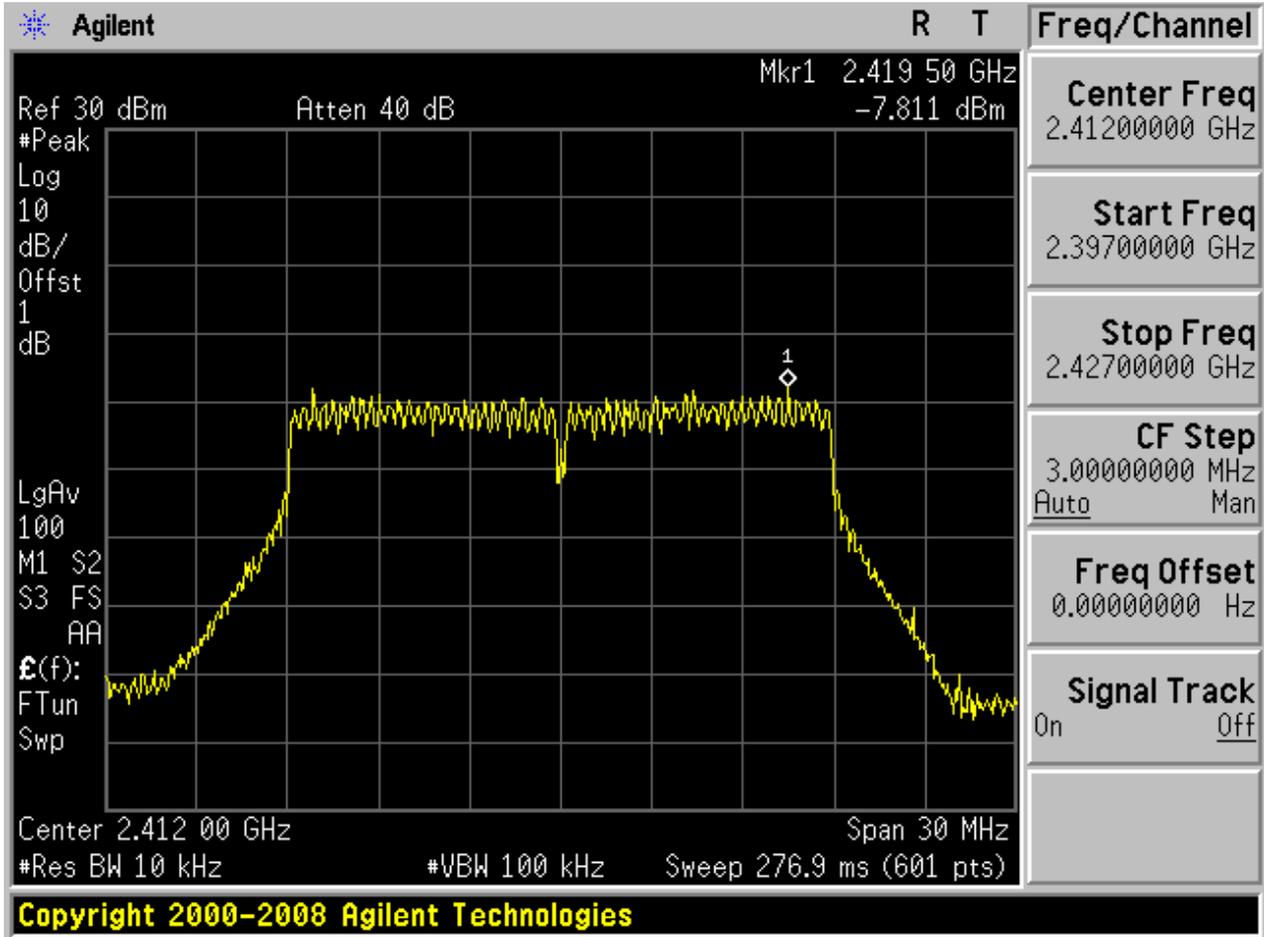


2.11 11G\_H



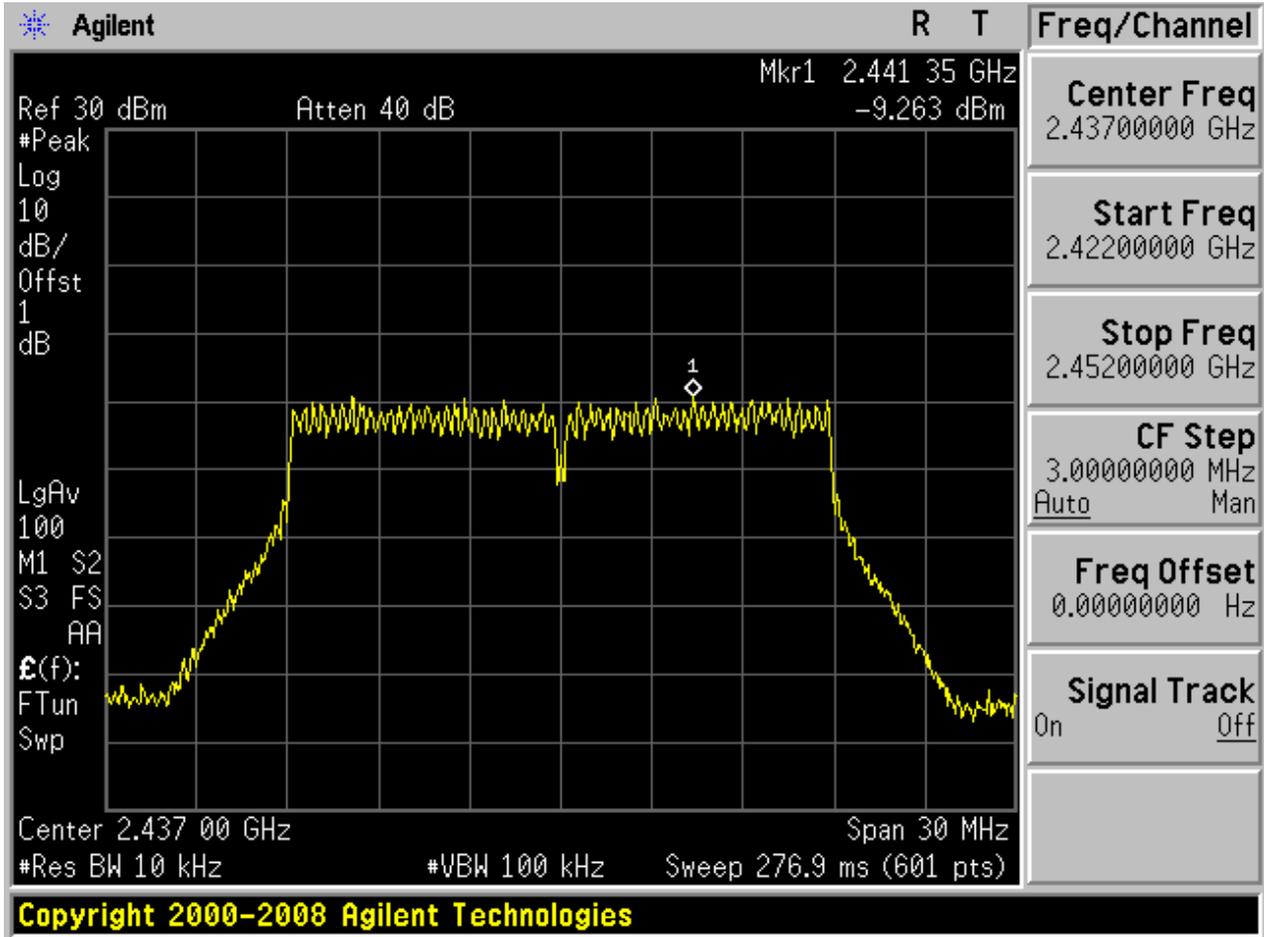


2.13 11N20\_L



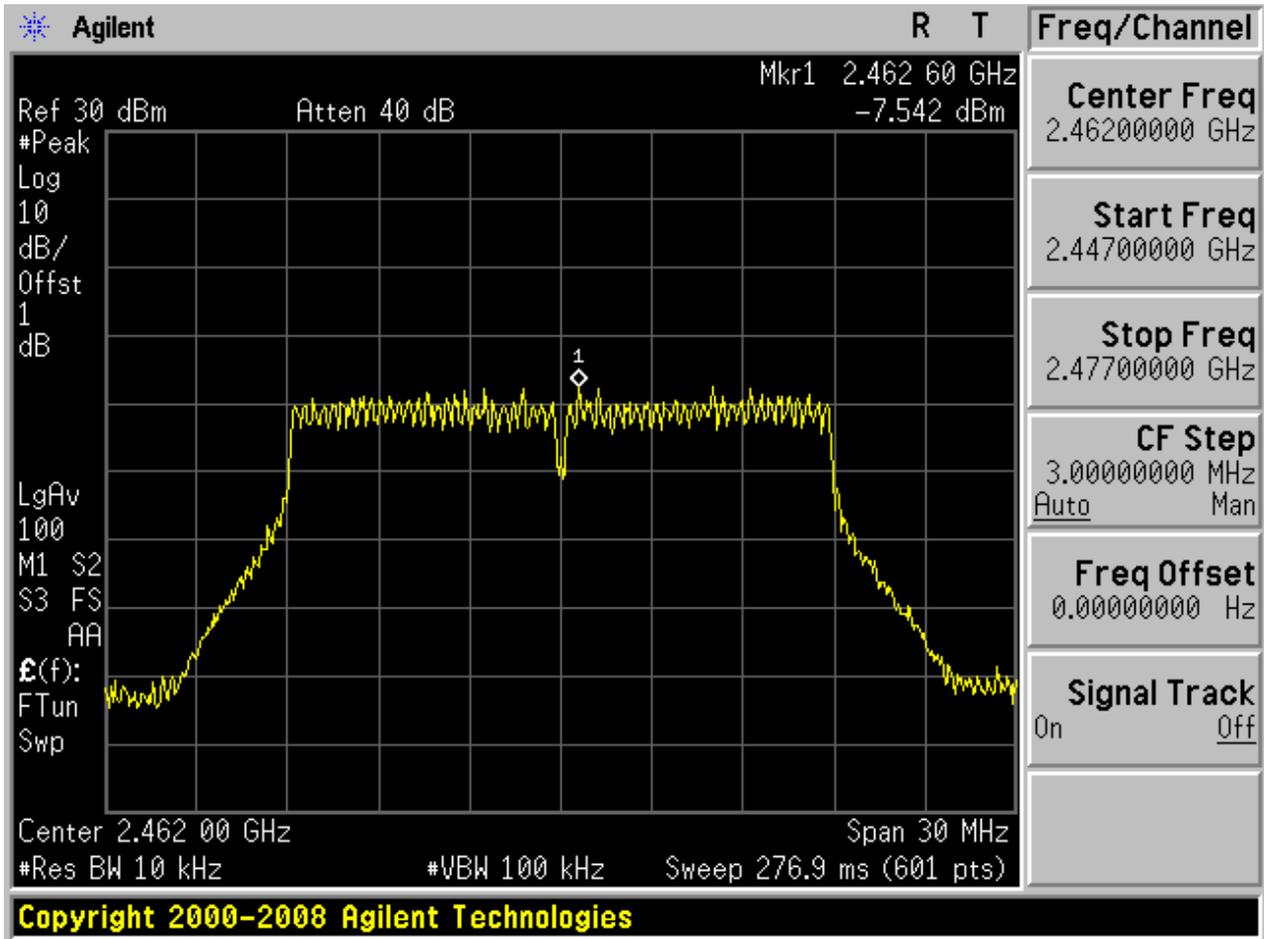


2.15 11N20\_M





## 2.17 11N20\_H





## Appendix D: Band Edges Compliance

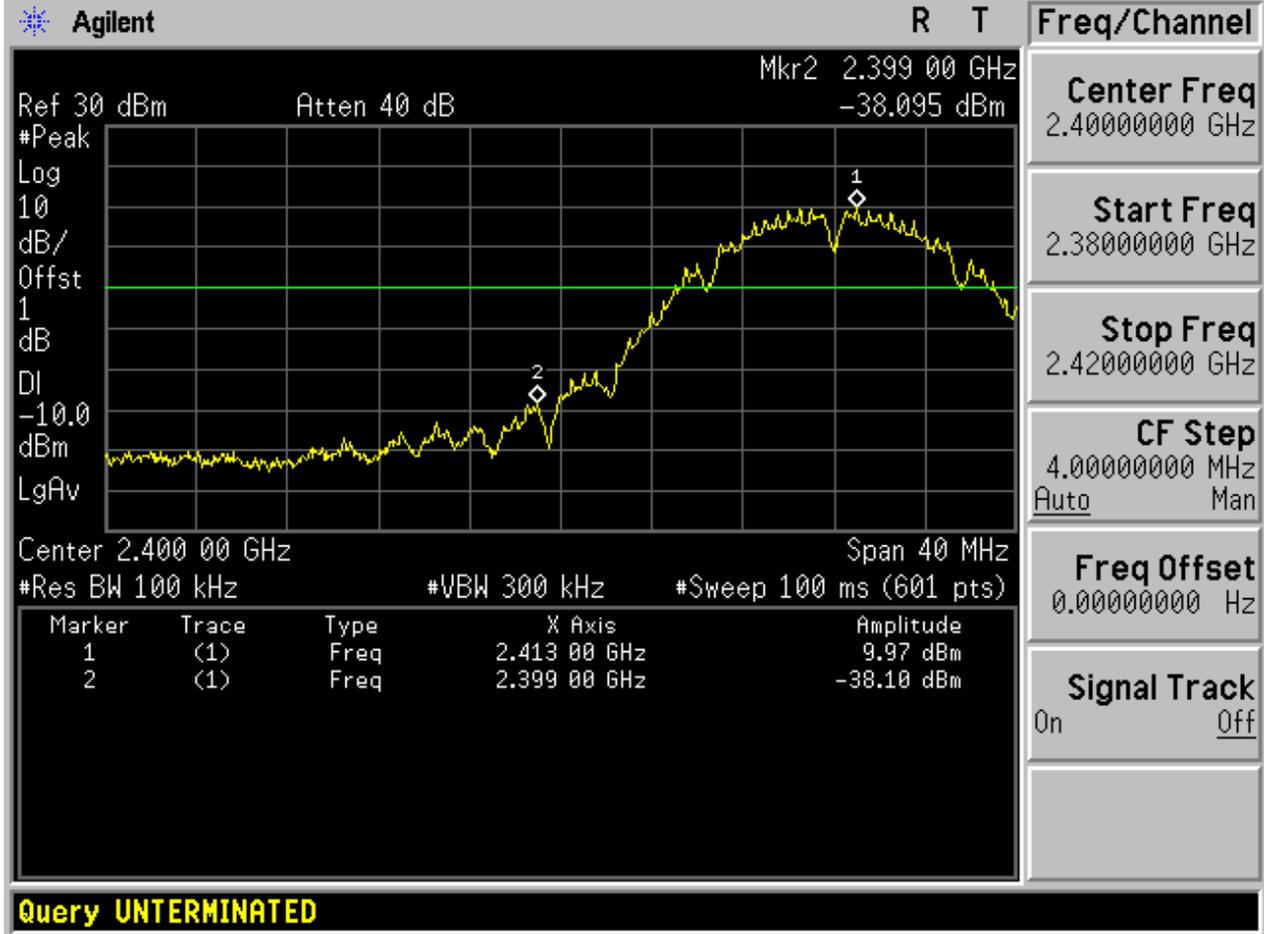
### Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Ant	Carrier Power[dBm]	Max.Spurious Level[dBm]	Verdict
11B	L	2412	Ant 1	9.97	-38.10	pass
11B	H	2462	Ant 1	10.43	-47.79	pass
11G	L	2412	Ant 1	0.71	-37.08	pass
11G	H	2462	Ant 1	2.49	-43.94	pass
11N20	L	2412	Ant 1	-0.12	-37.48	pass
11N20	H	2462	Ant 1	0.32	-47.80	pass

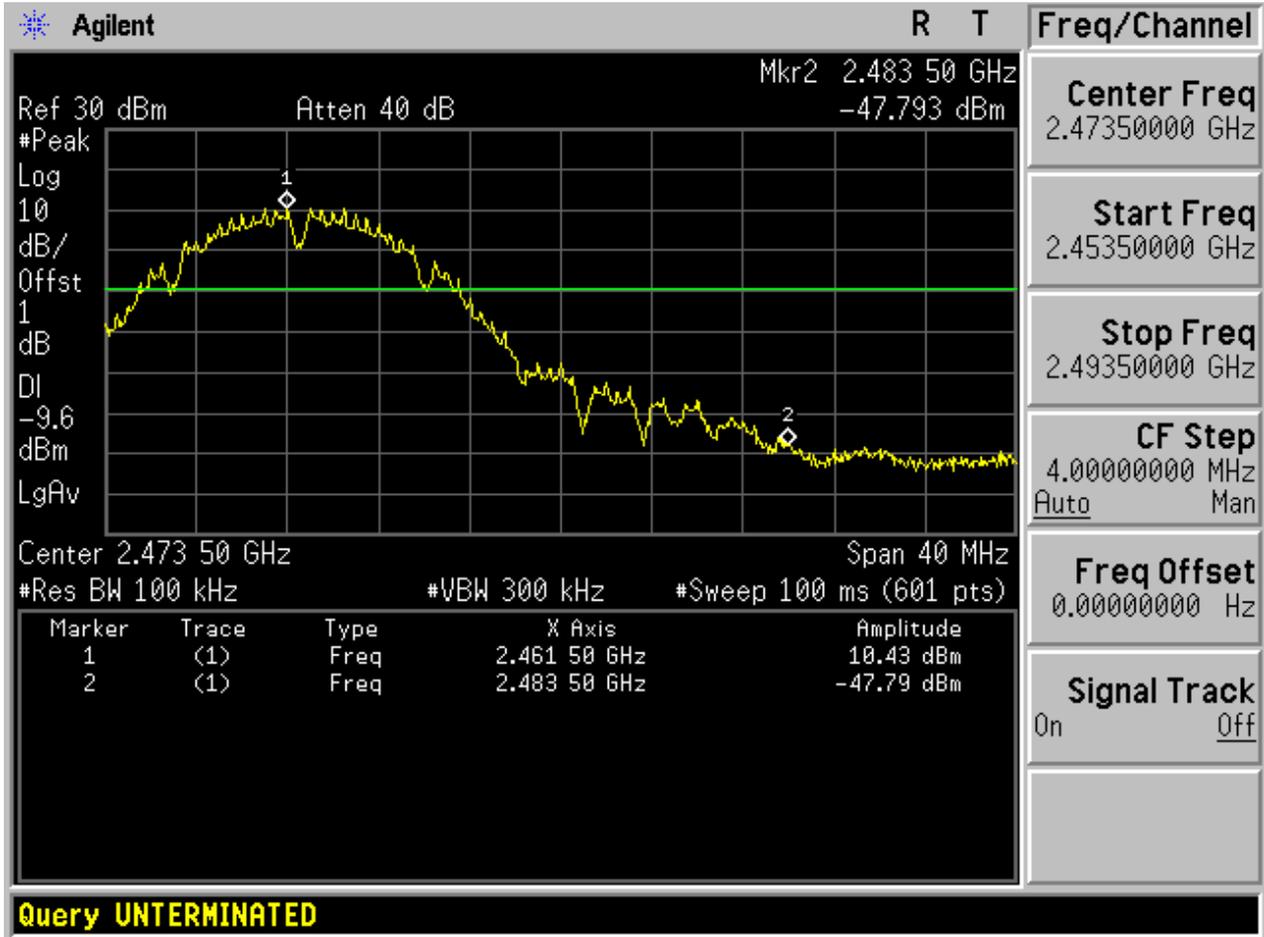


## Part II - Test Plots

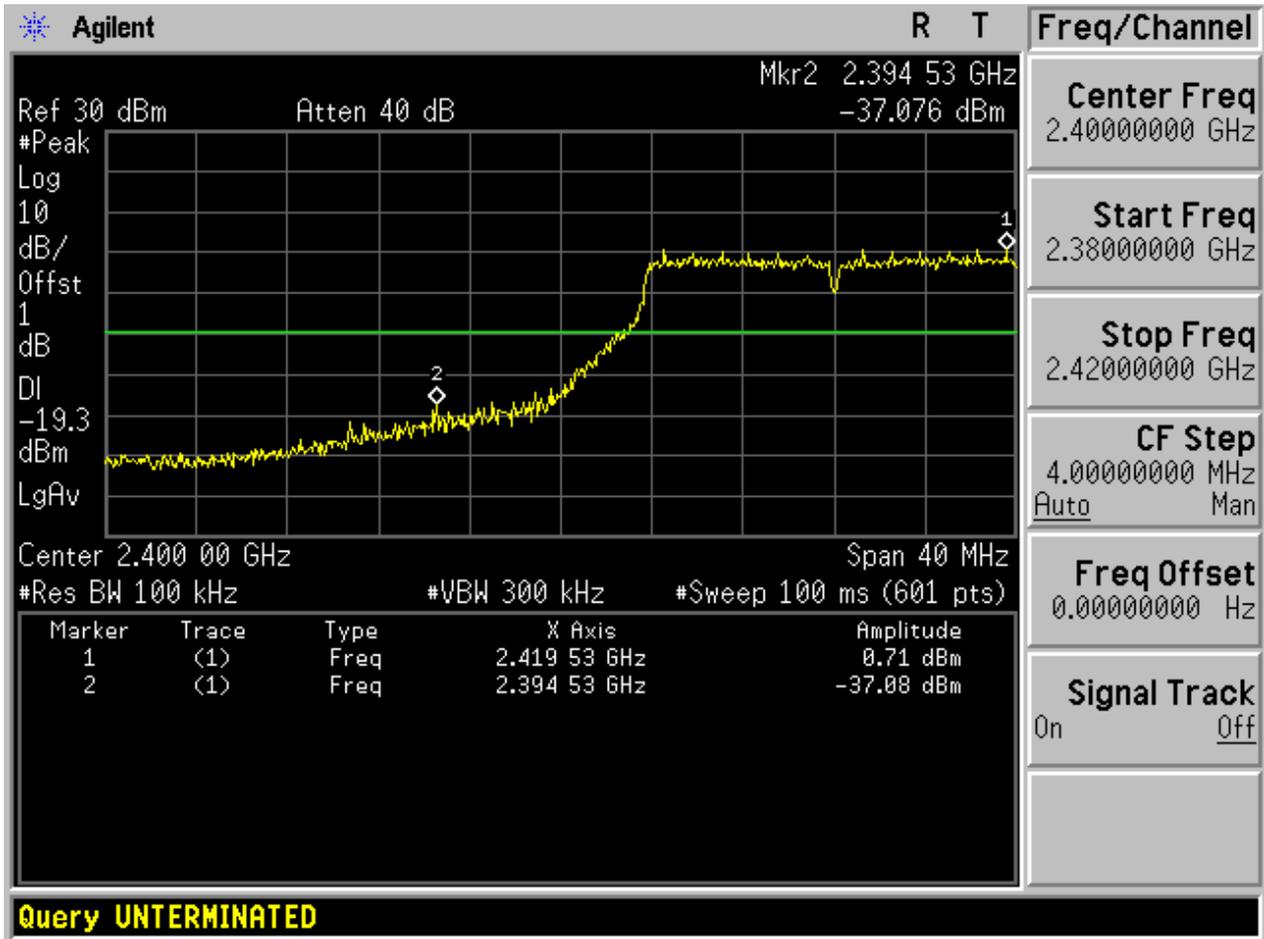
### 2.1 11B\_L



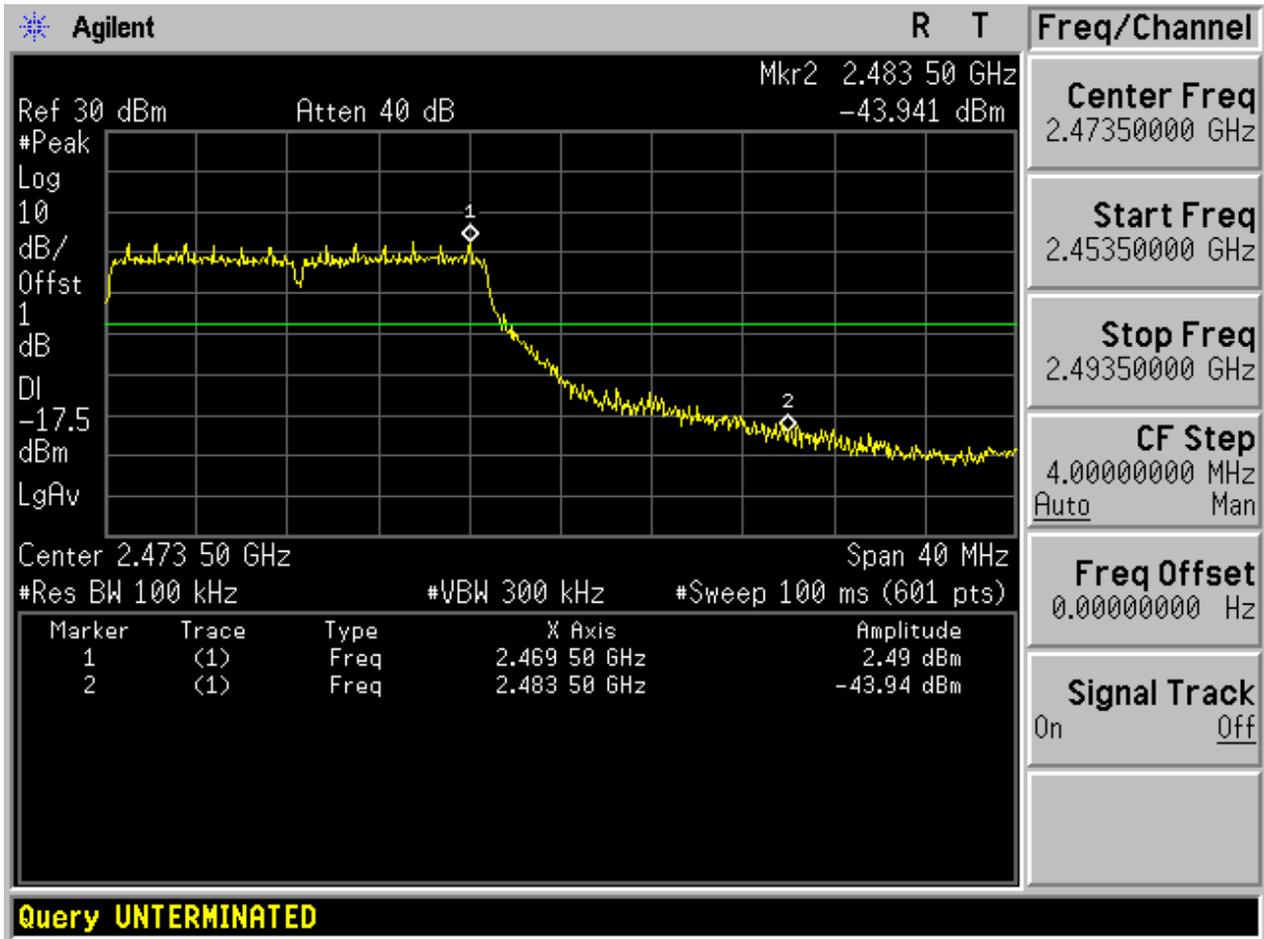
### 2.3 11B\_H



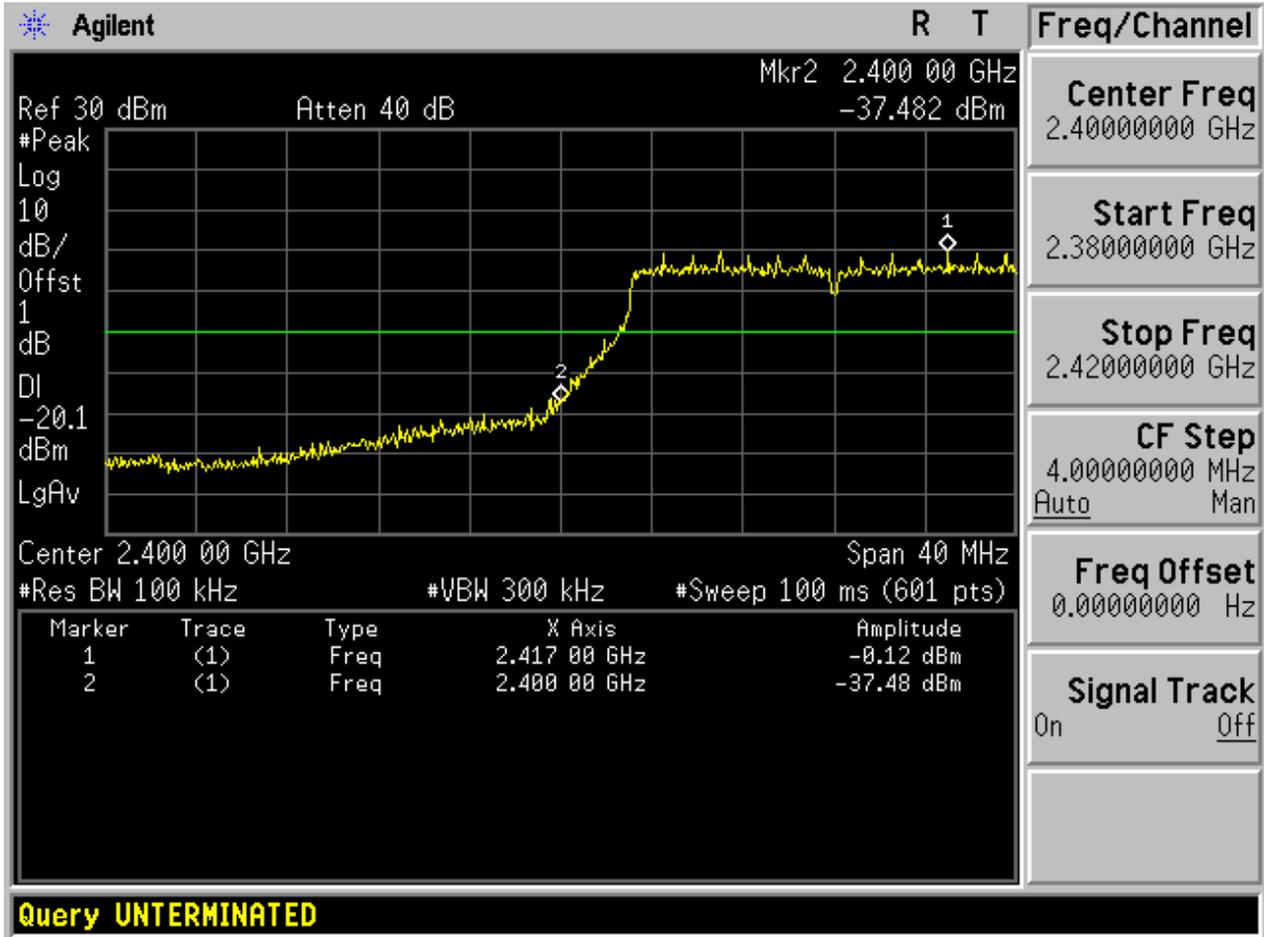
## 2.5 11G\_L



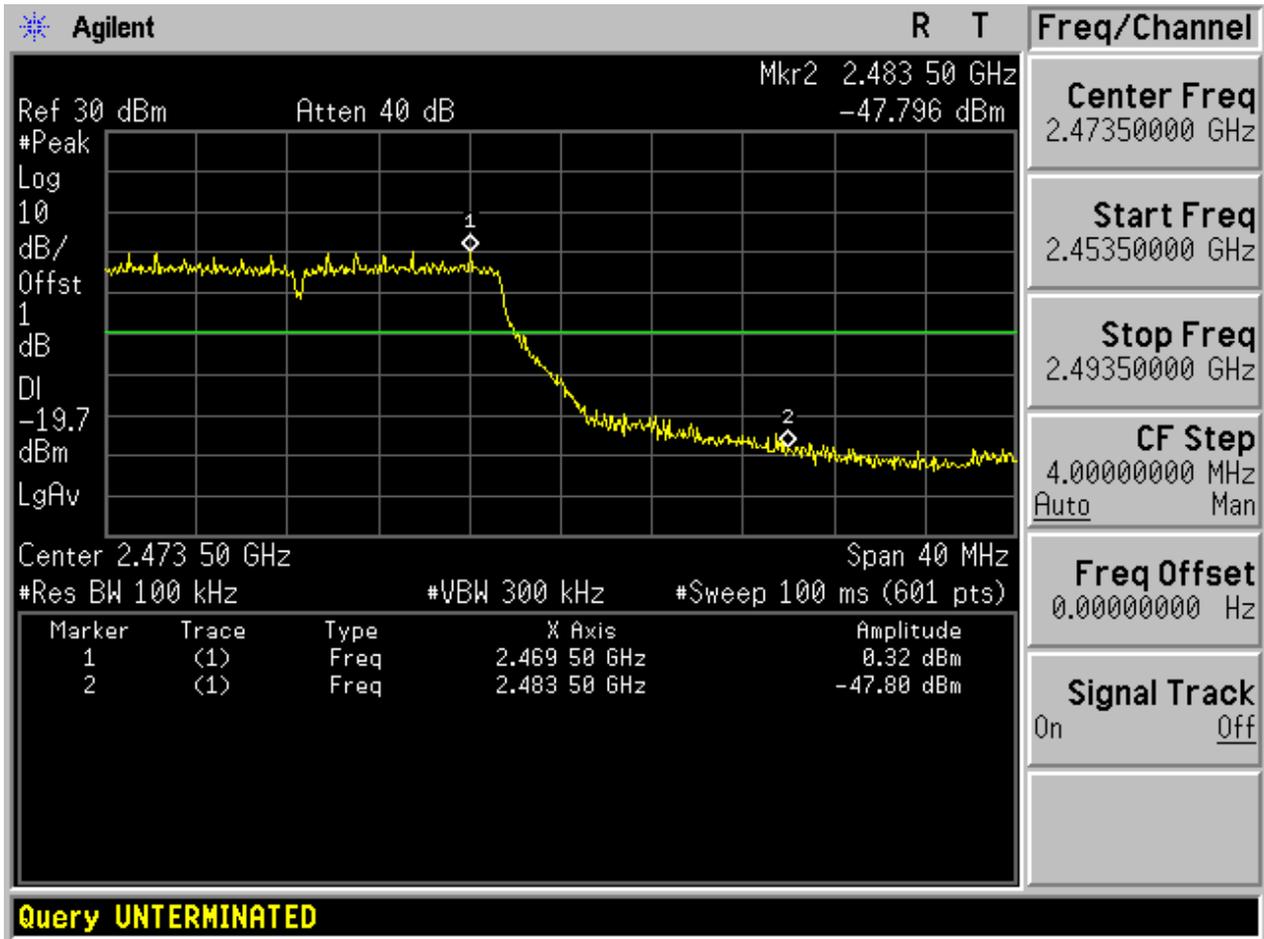
## 2.7 11G\_H



## 2.9 11N20\_L



## 2.11 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

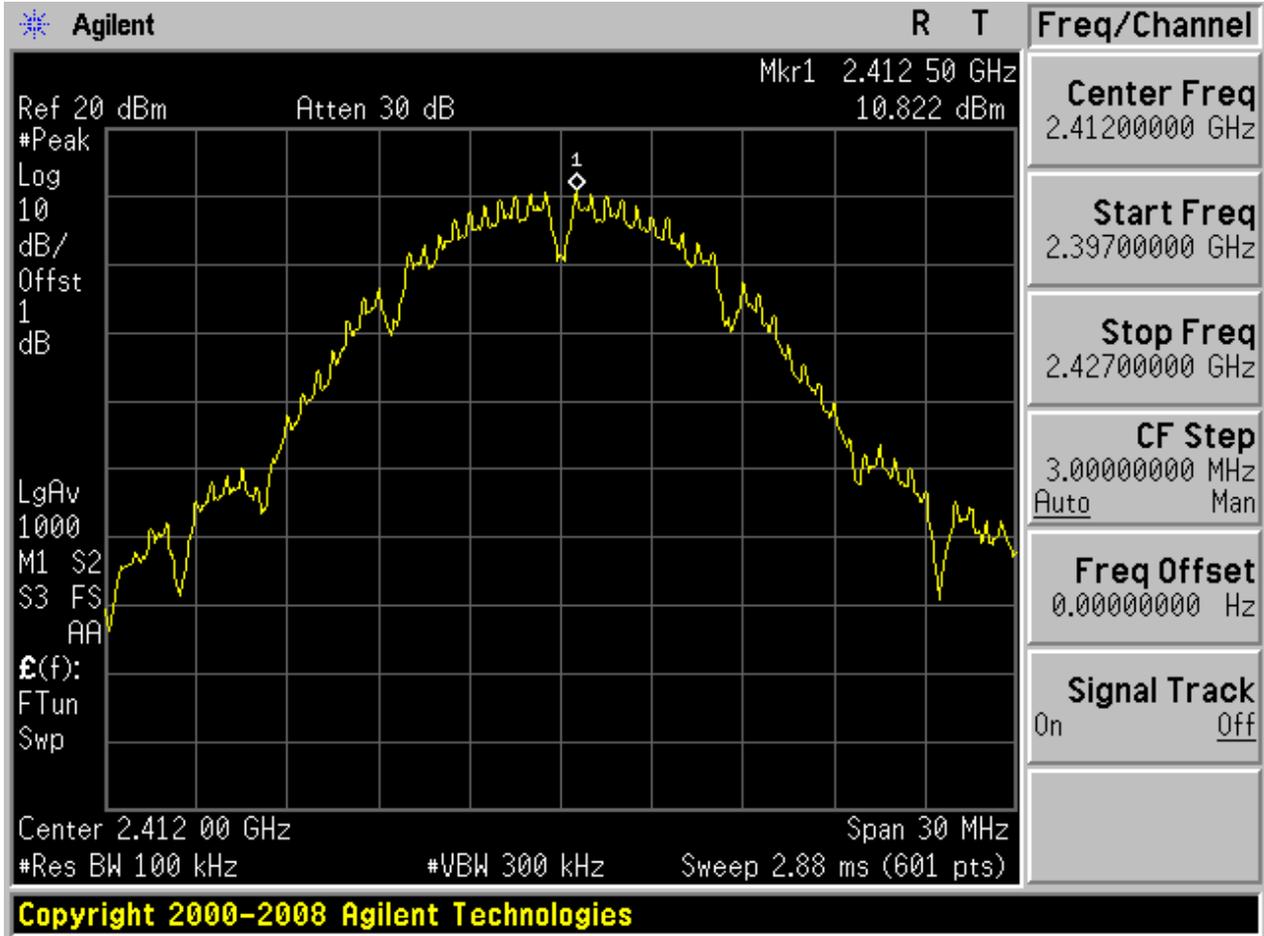
Test Mode	Test Channel	Frequency[MHz]	Ant	Pref[dBm]	Puw[dBm]	Verdict
11B	L	2412	Ant 1	10.82	<limit	pass
11B	M	2437	Ant 1	10.15	<limit	pass
11B	H	2462	Ant 1	11.29	<limit	pass
11G	L	2412	Ant 1	2	<limit	pass
11G	M	2437	Ant 1	1.22	<limit	pass
11G	H	2462	Ant 1	2.73	<limit	pass
11N20	L	2412	Ant 1	-0.14	<limit	pass
11N20	M	2437	Ant 1	-0.8	<limit	pass
11N20	H	2462	Ant 1	0.63	<limit	pass



## Part II - Test Plots

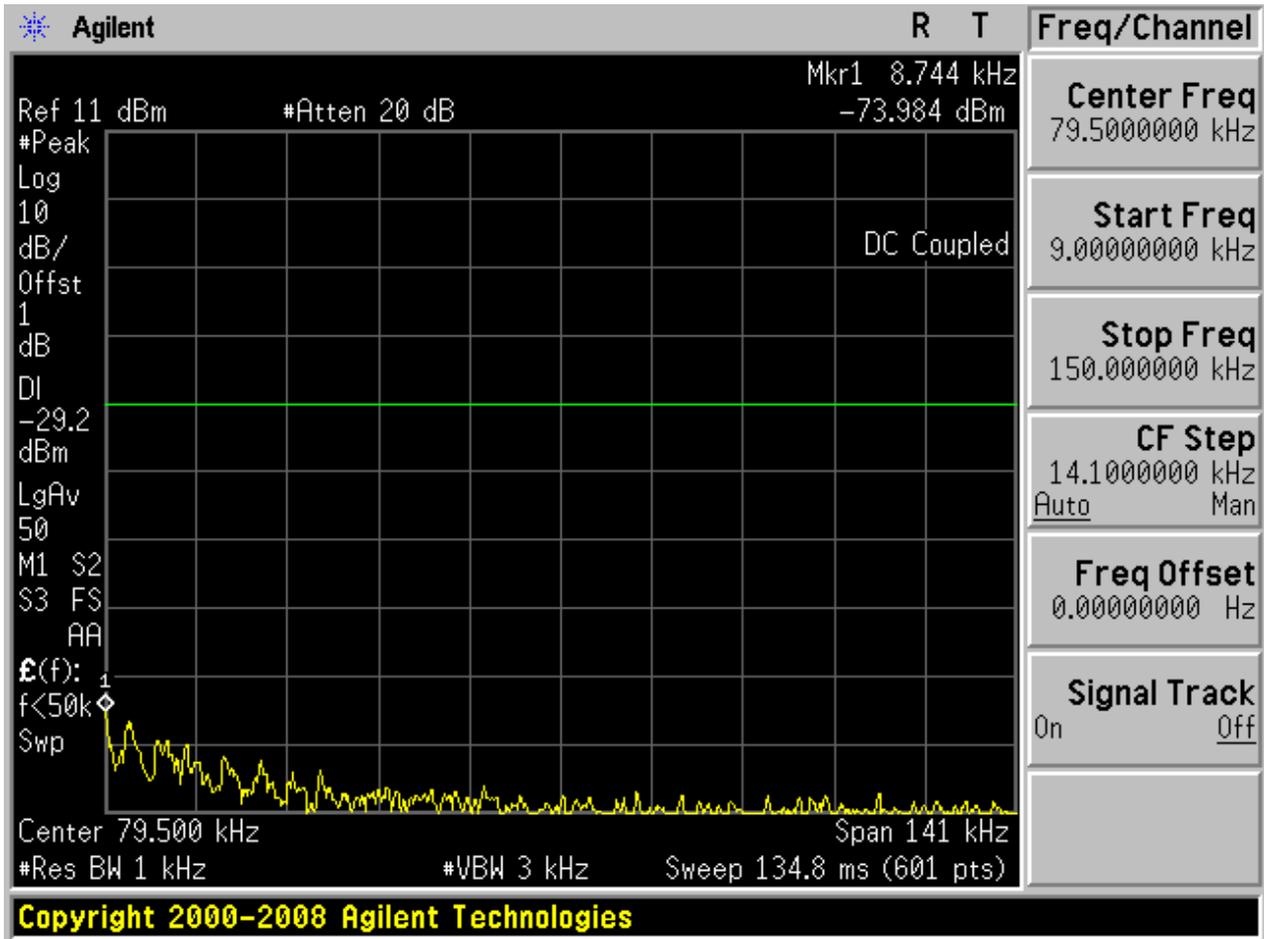
### 2.1 11B\_L

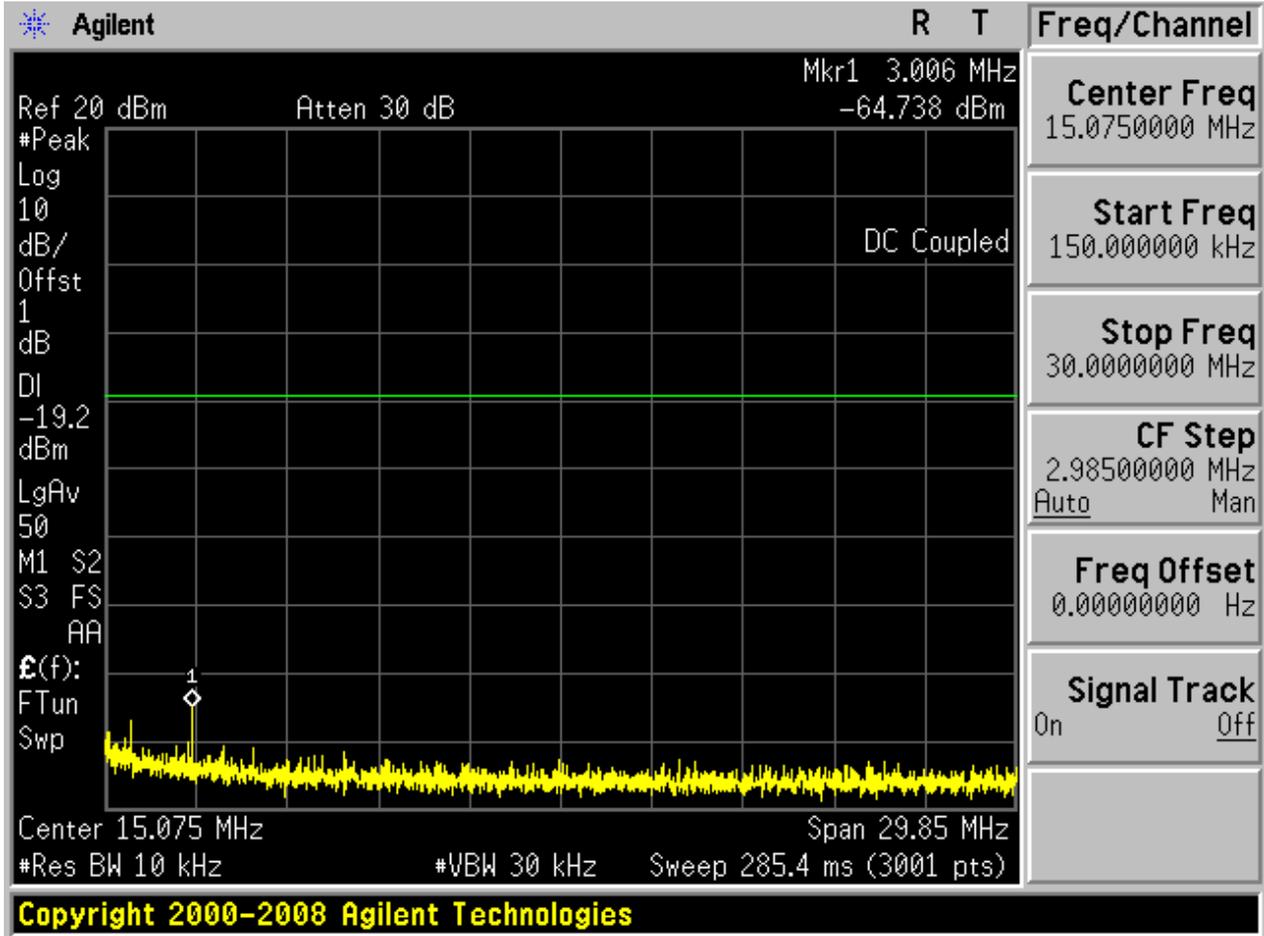
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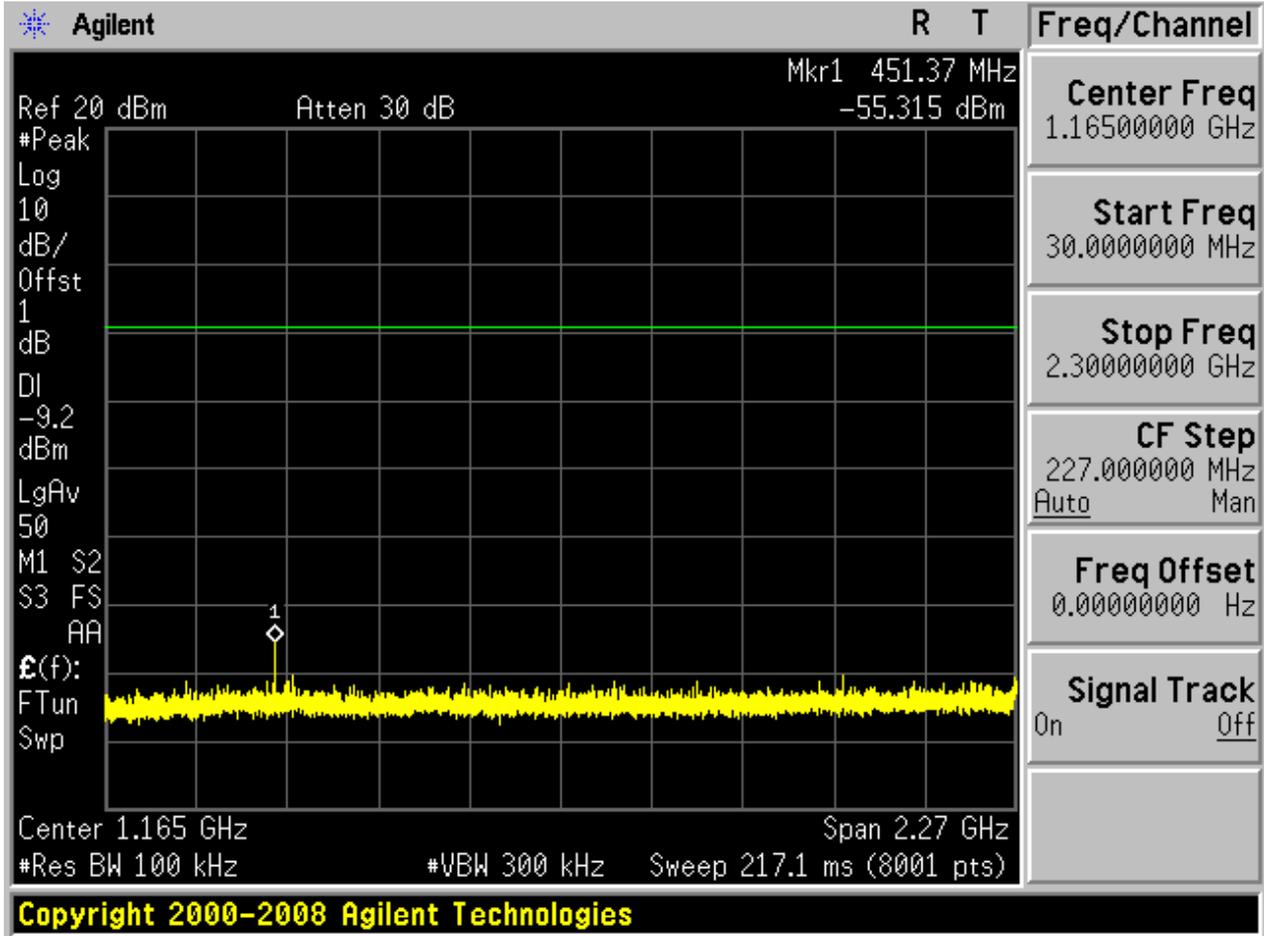


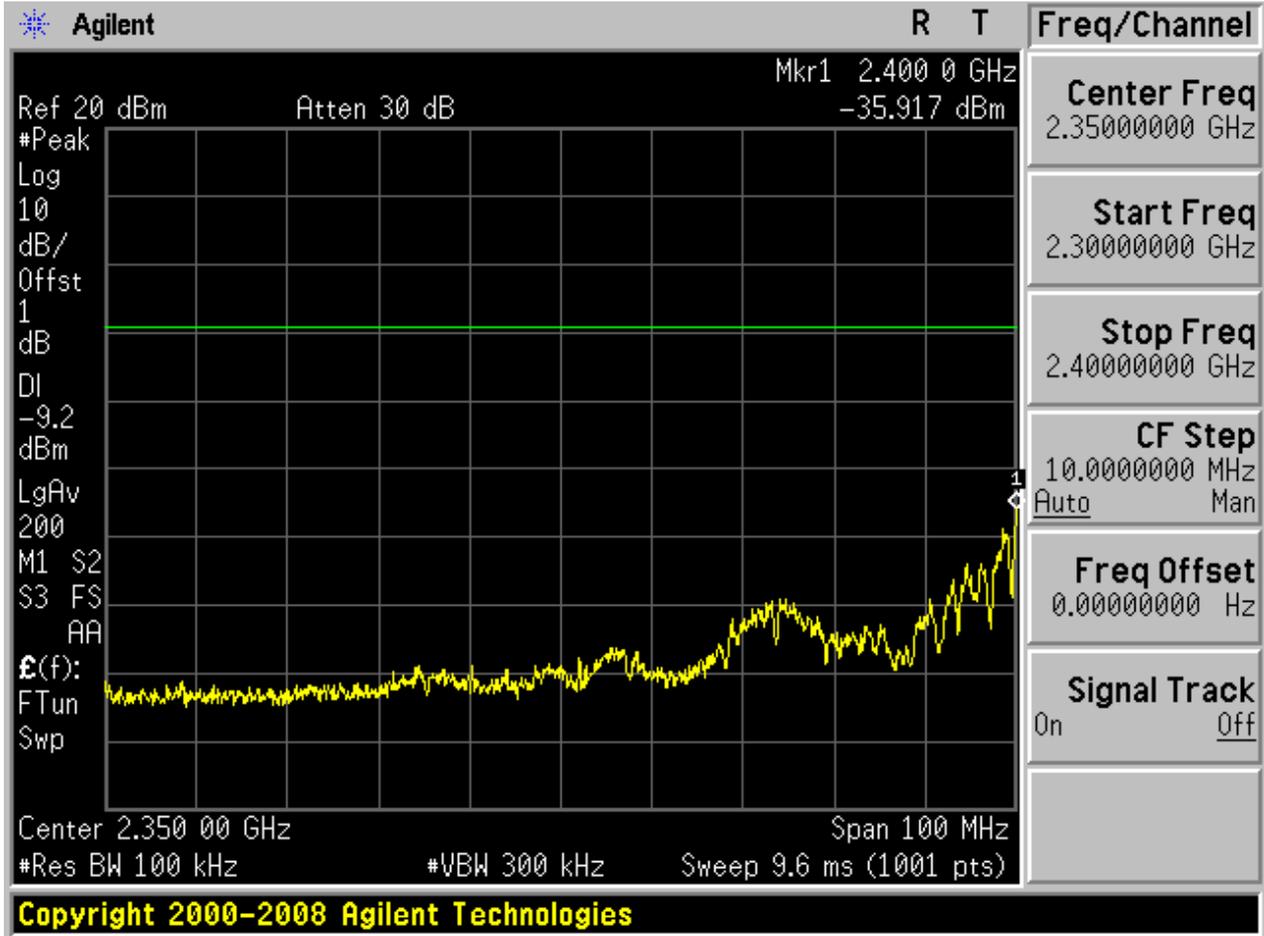


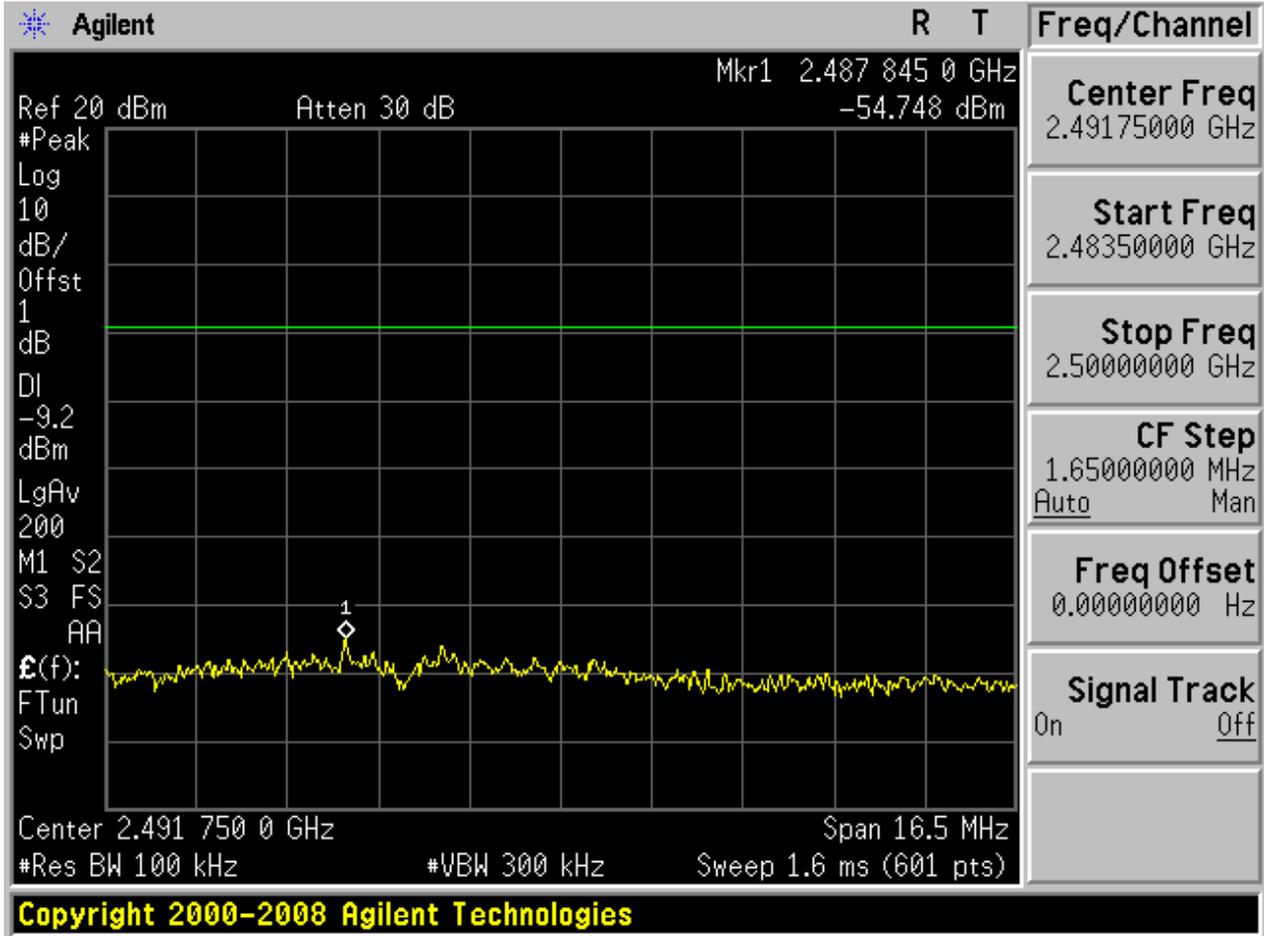
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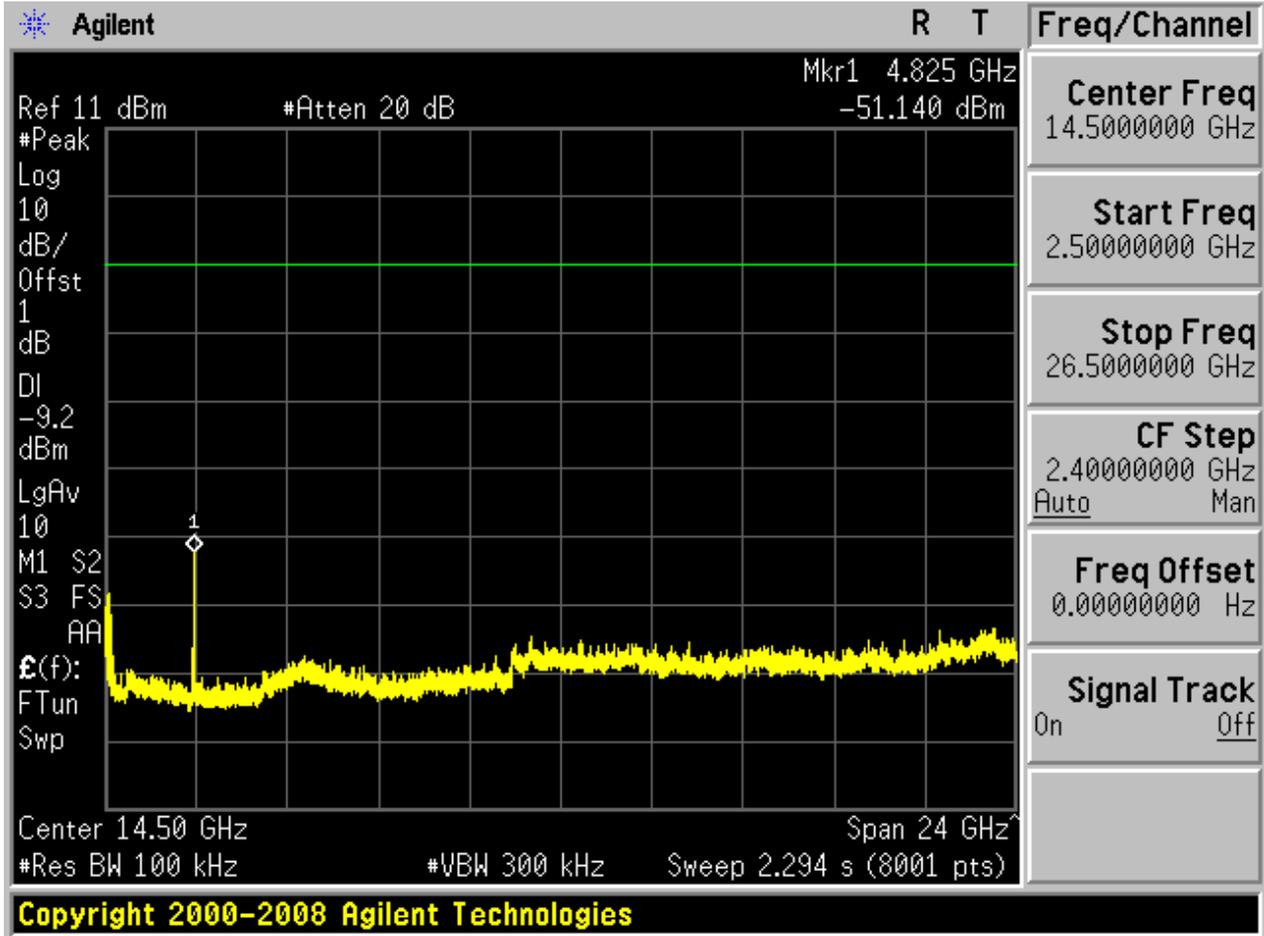








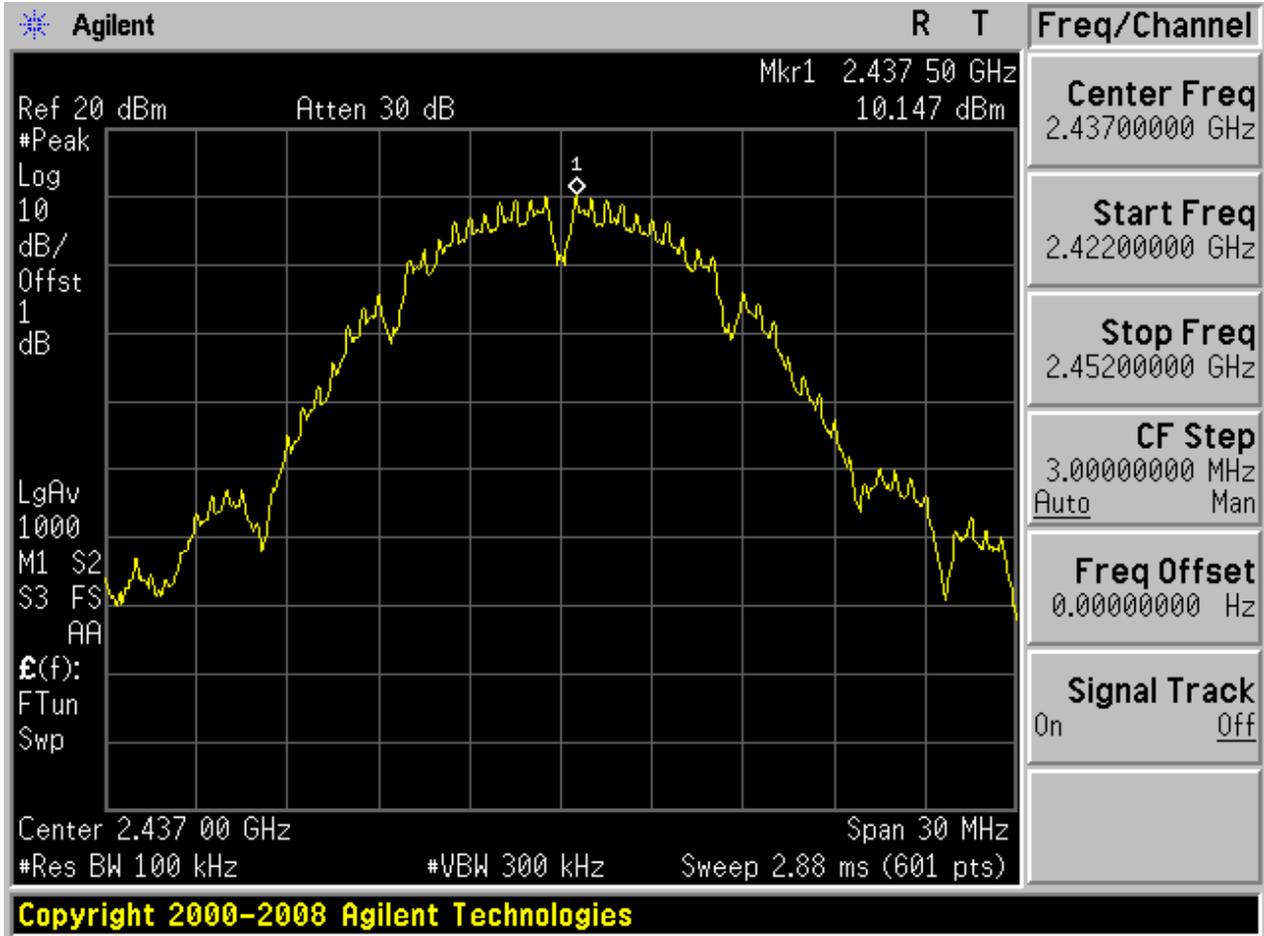






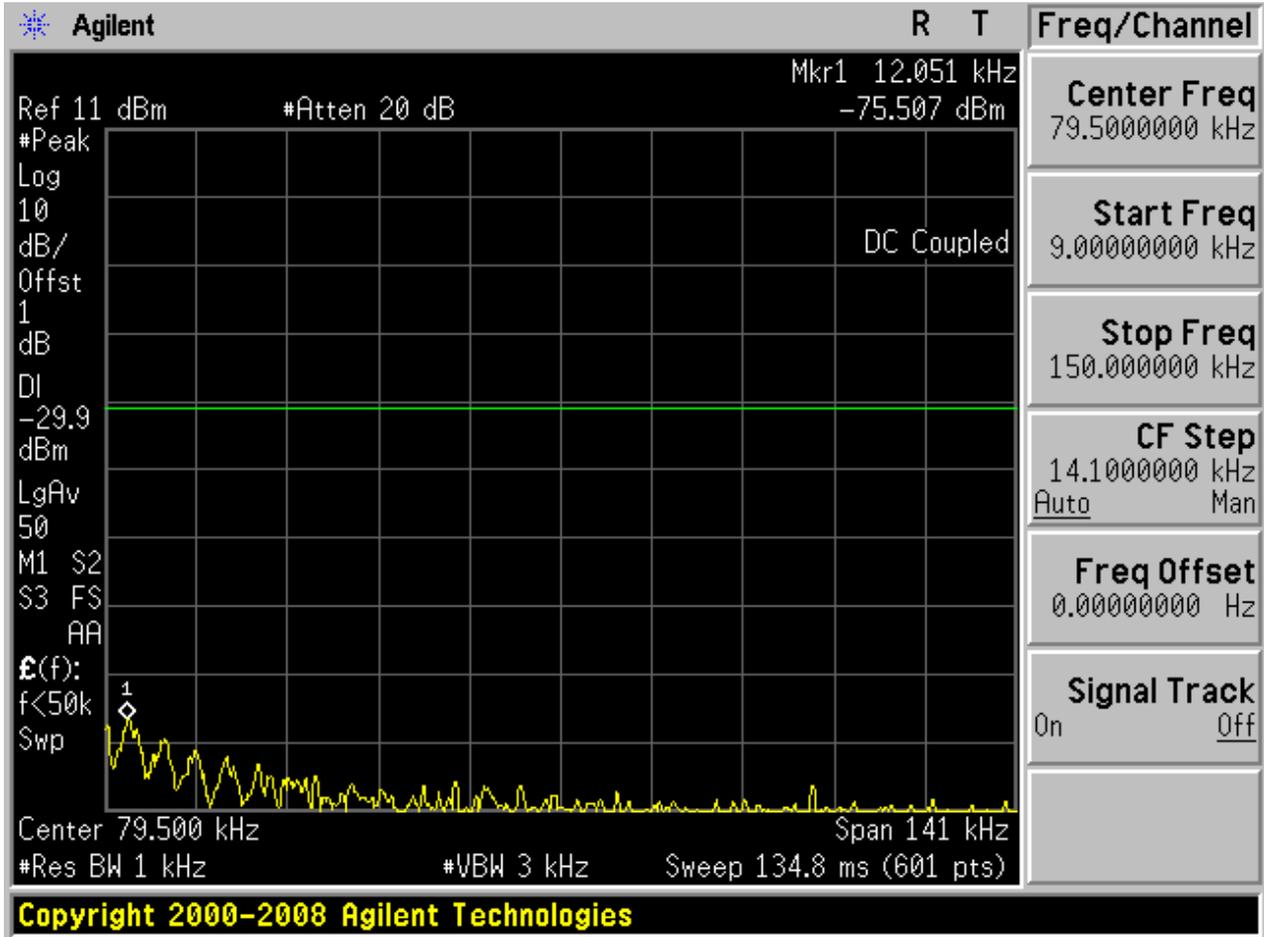
### 2.3 11B\_M

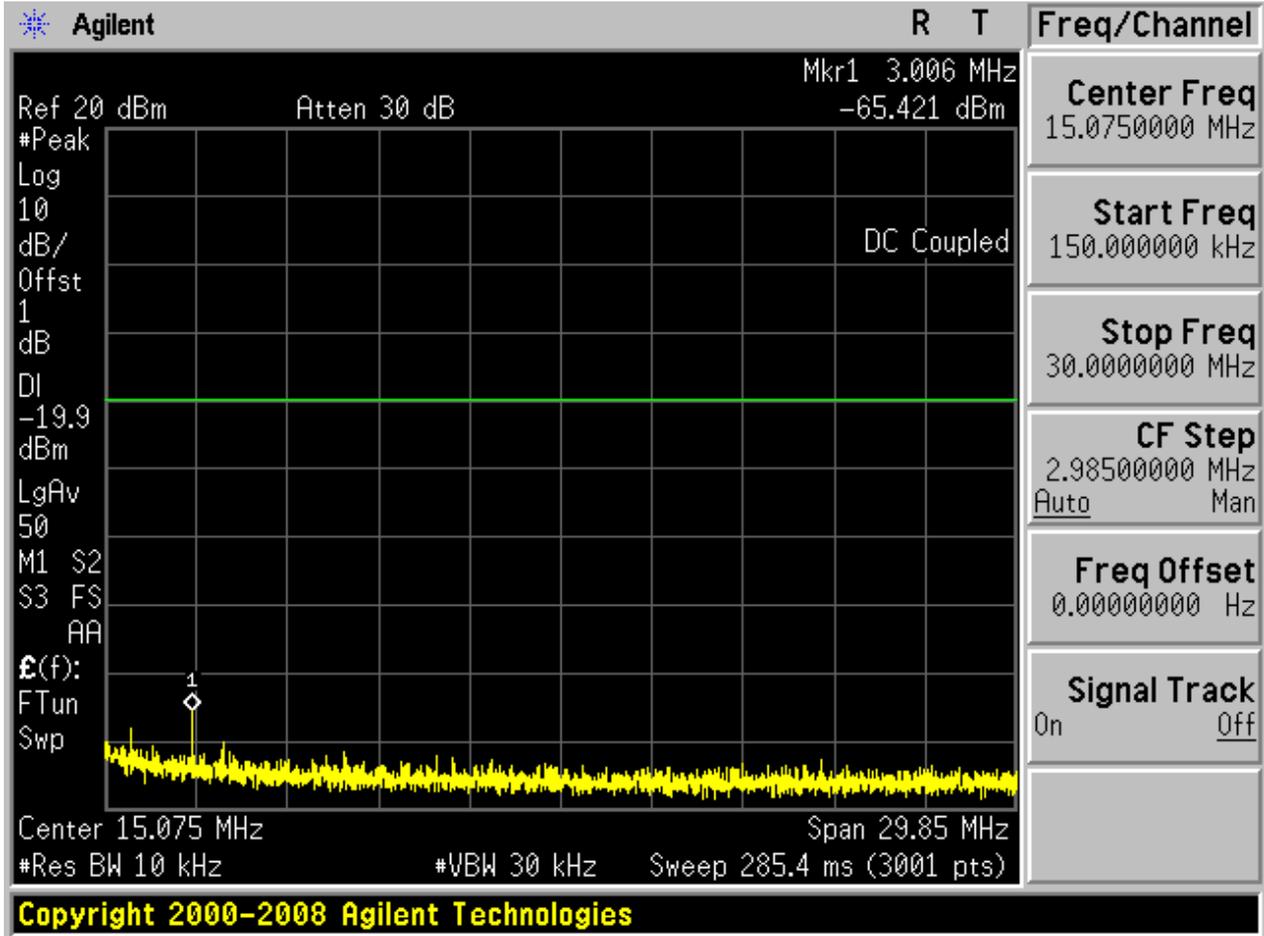
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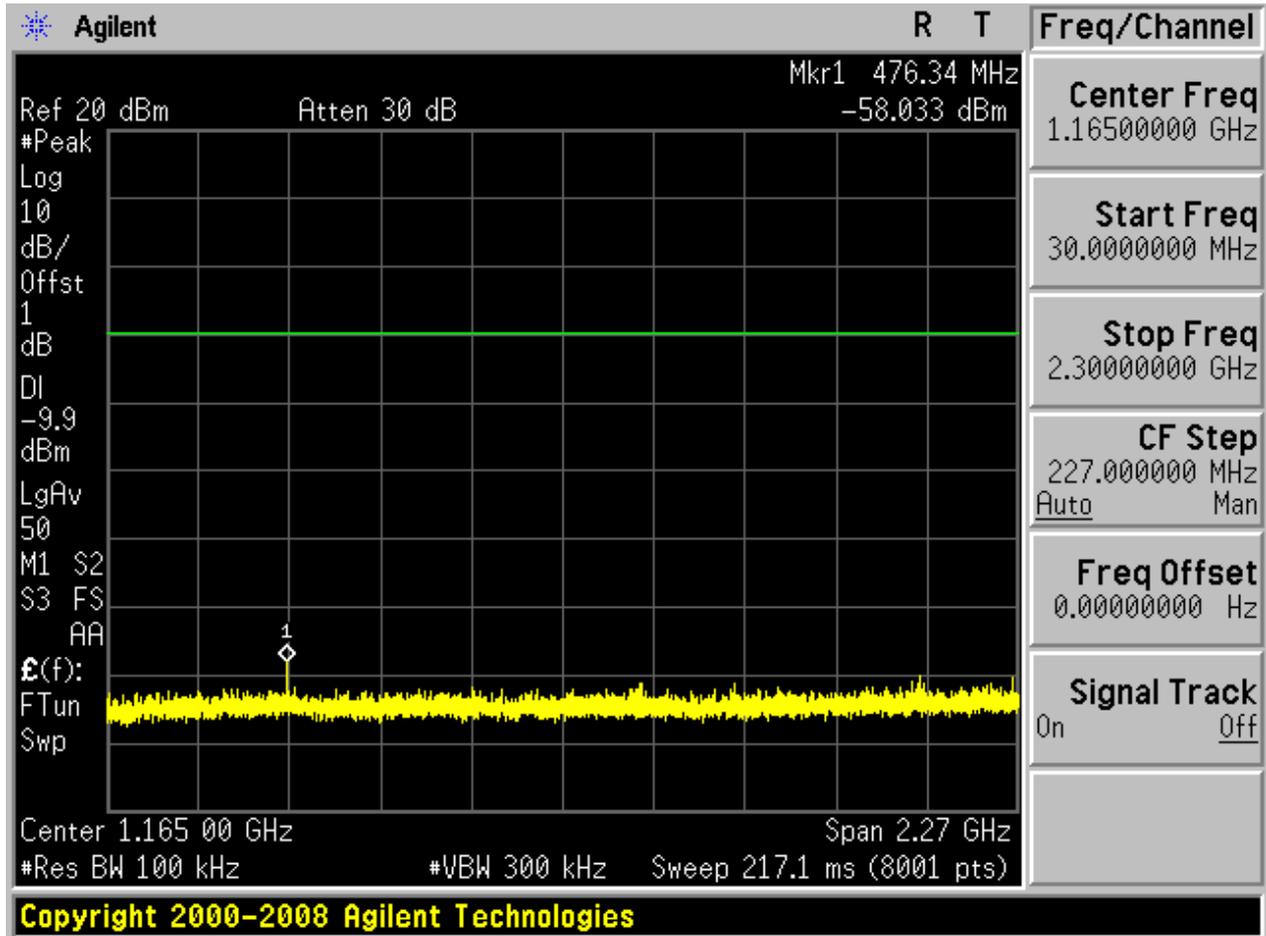


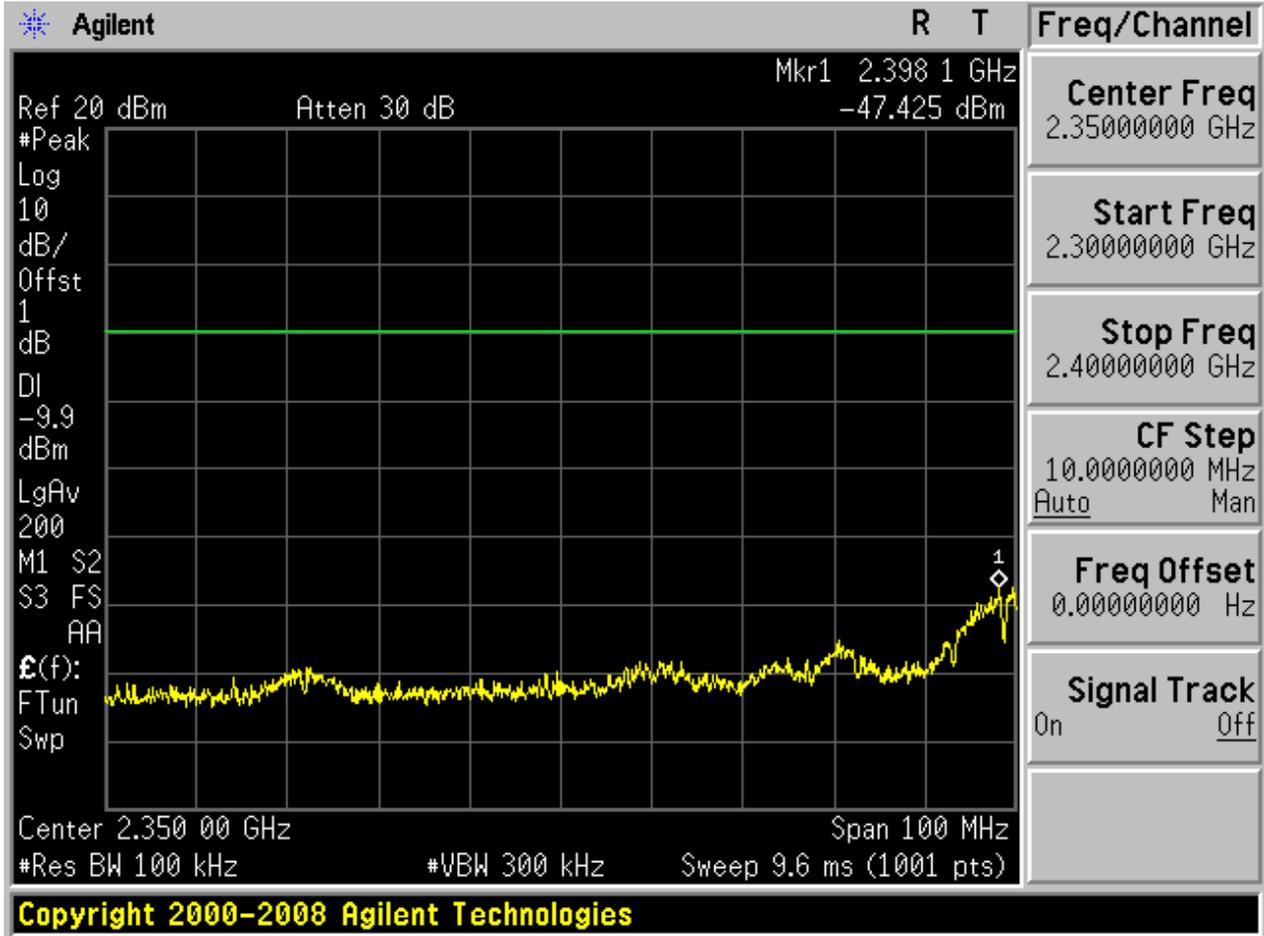


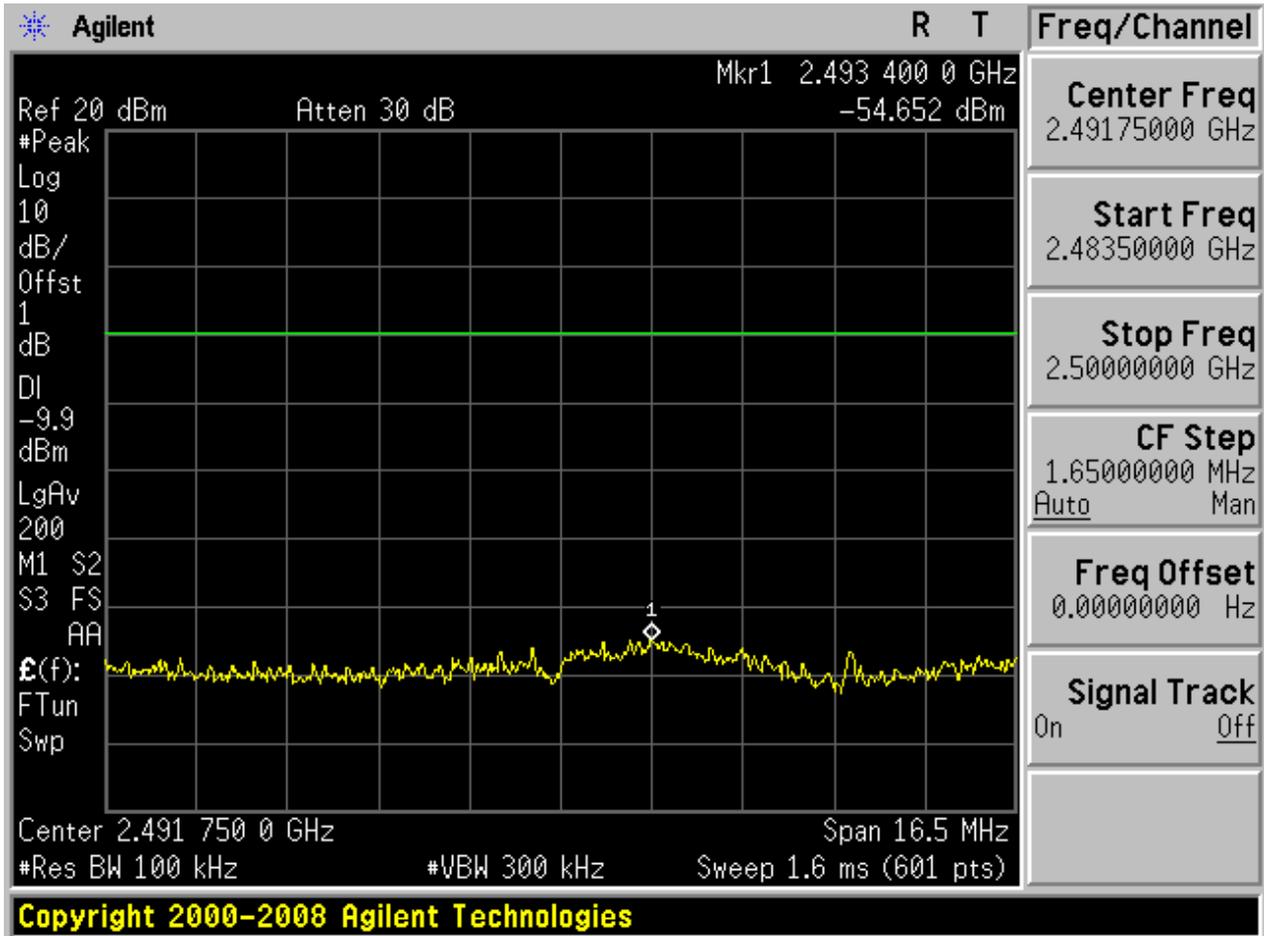
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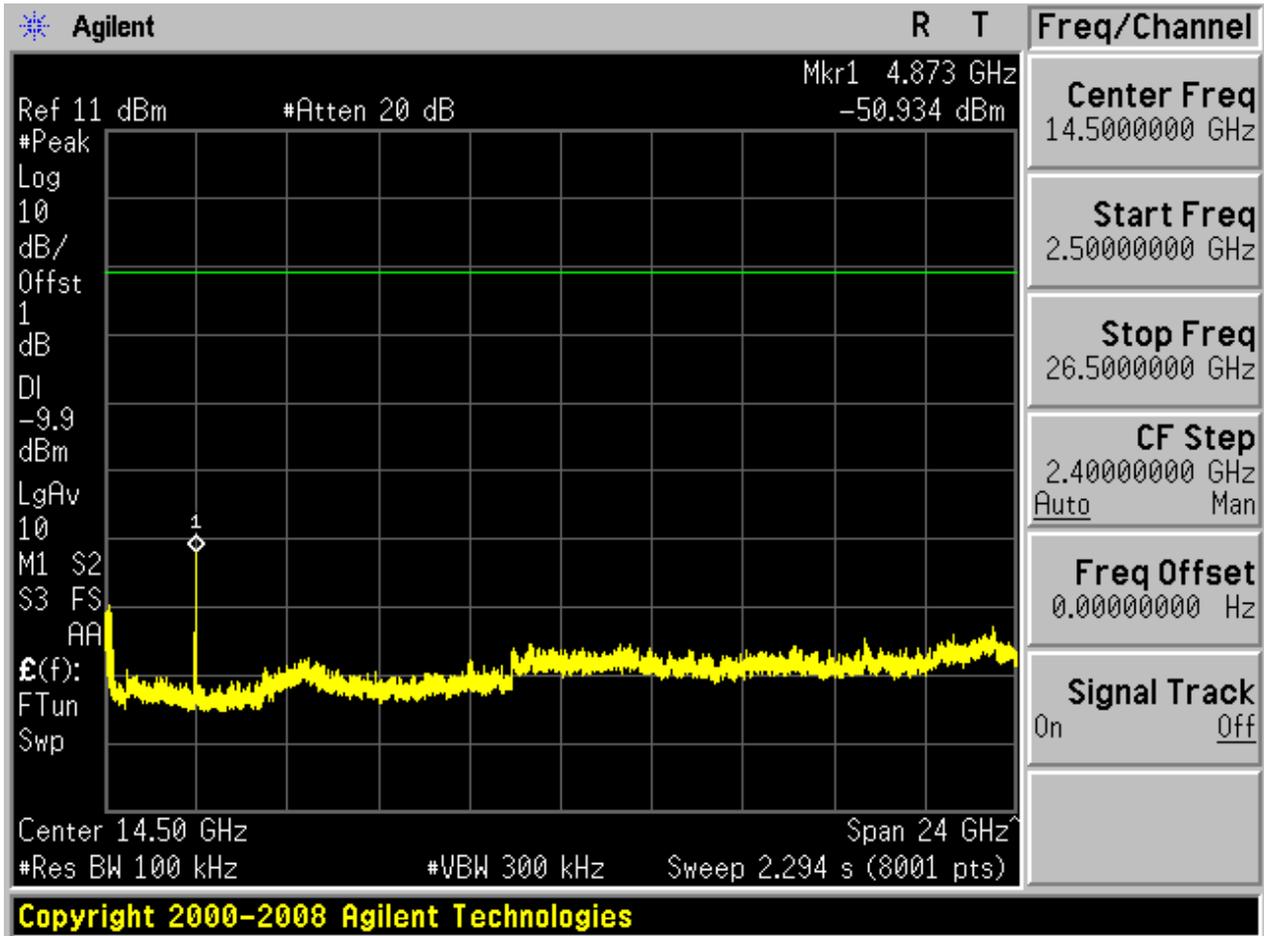








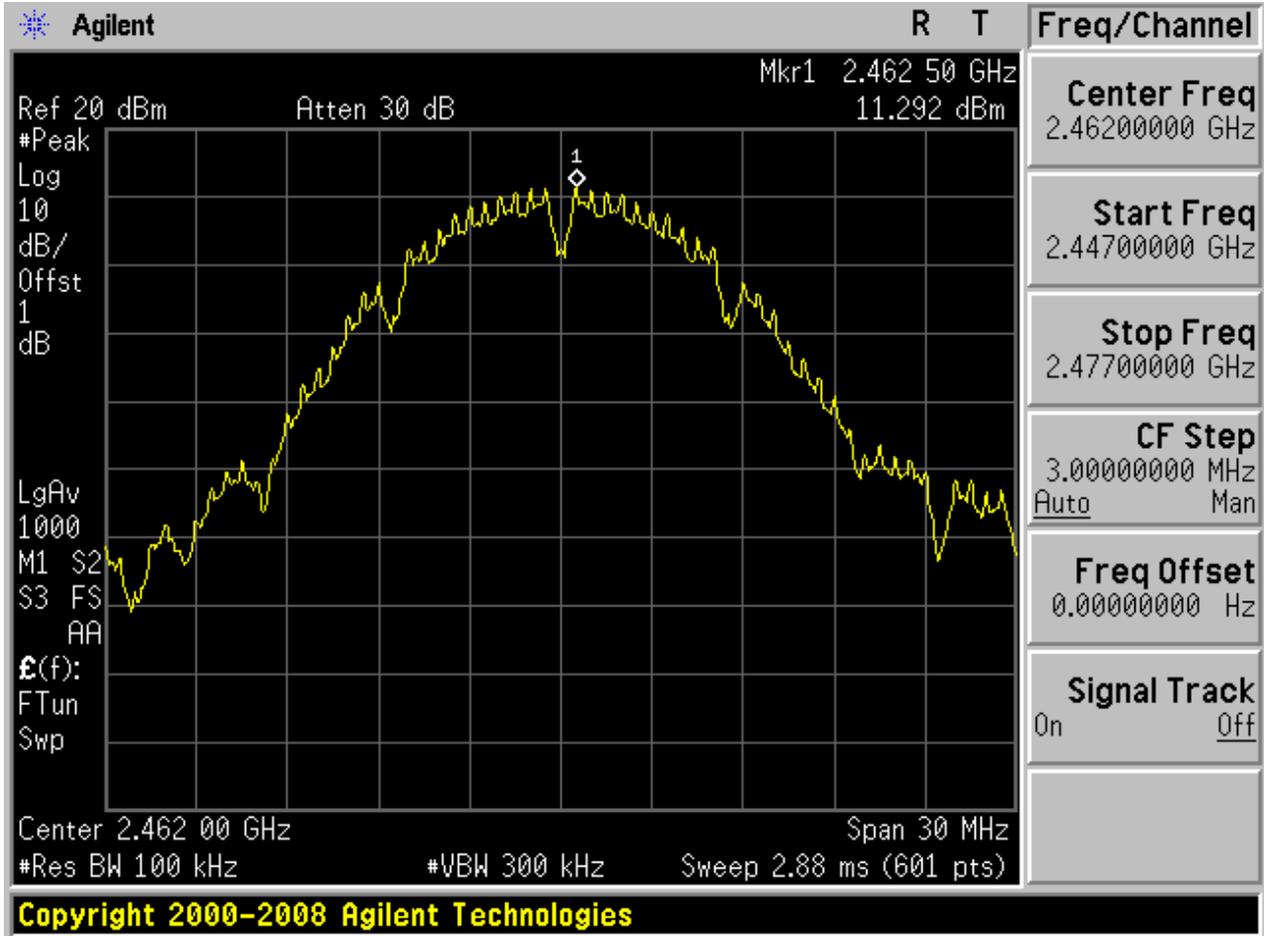






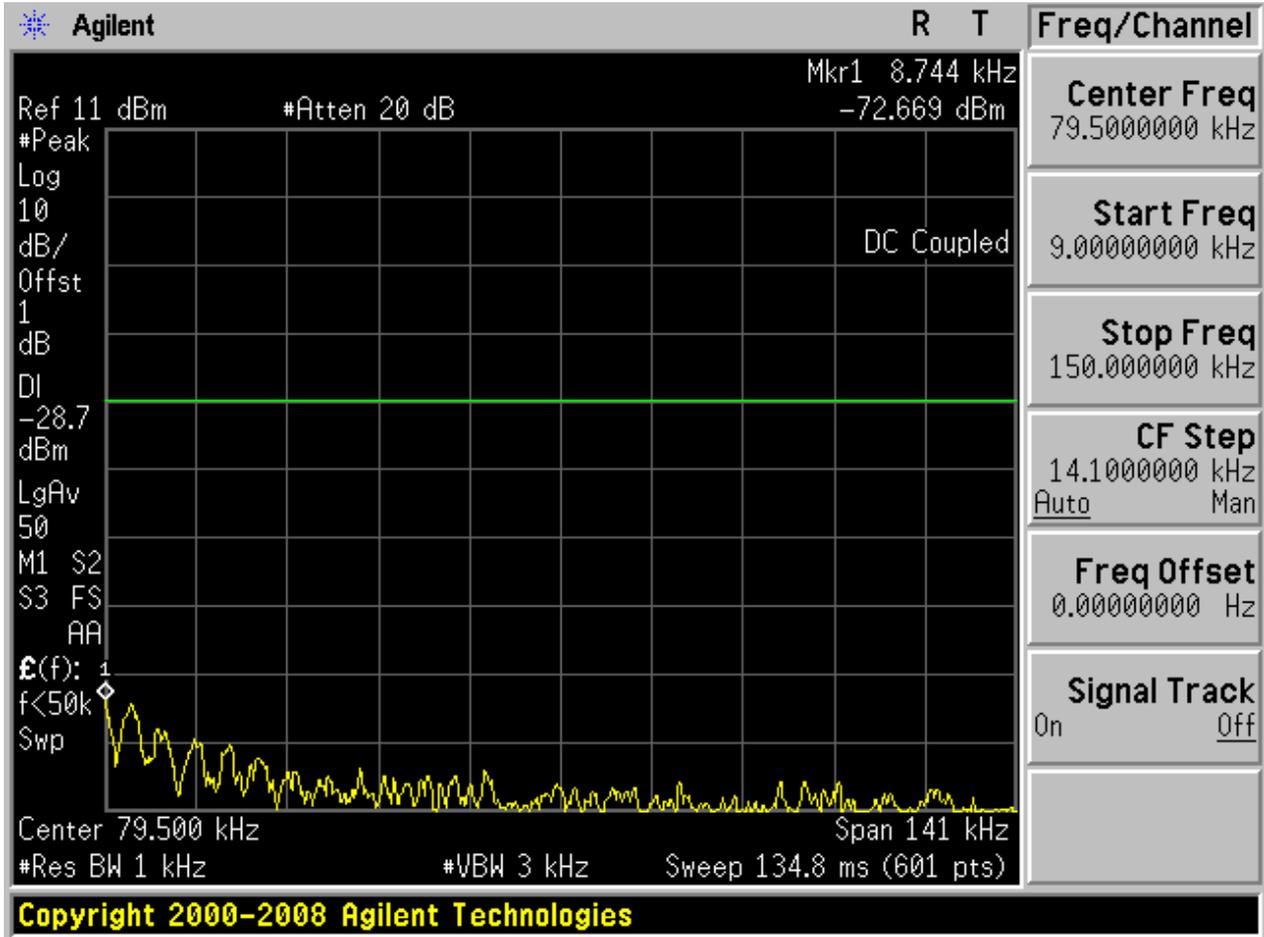
## 2.5 11B\_H

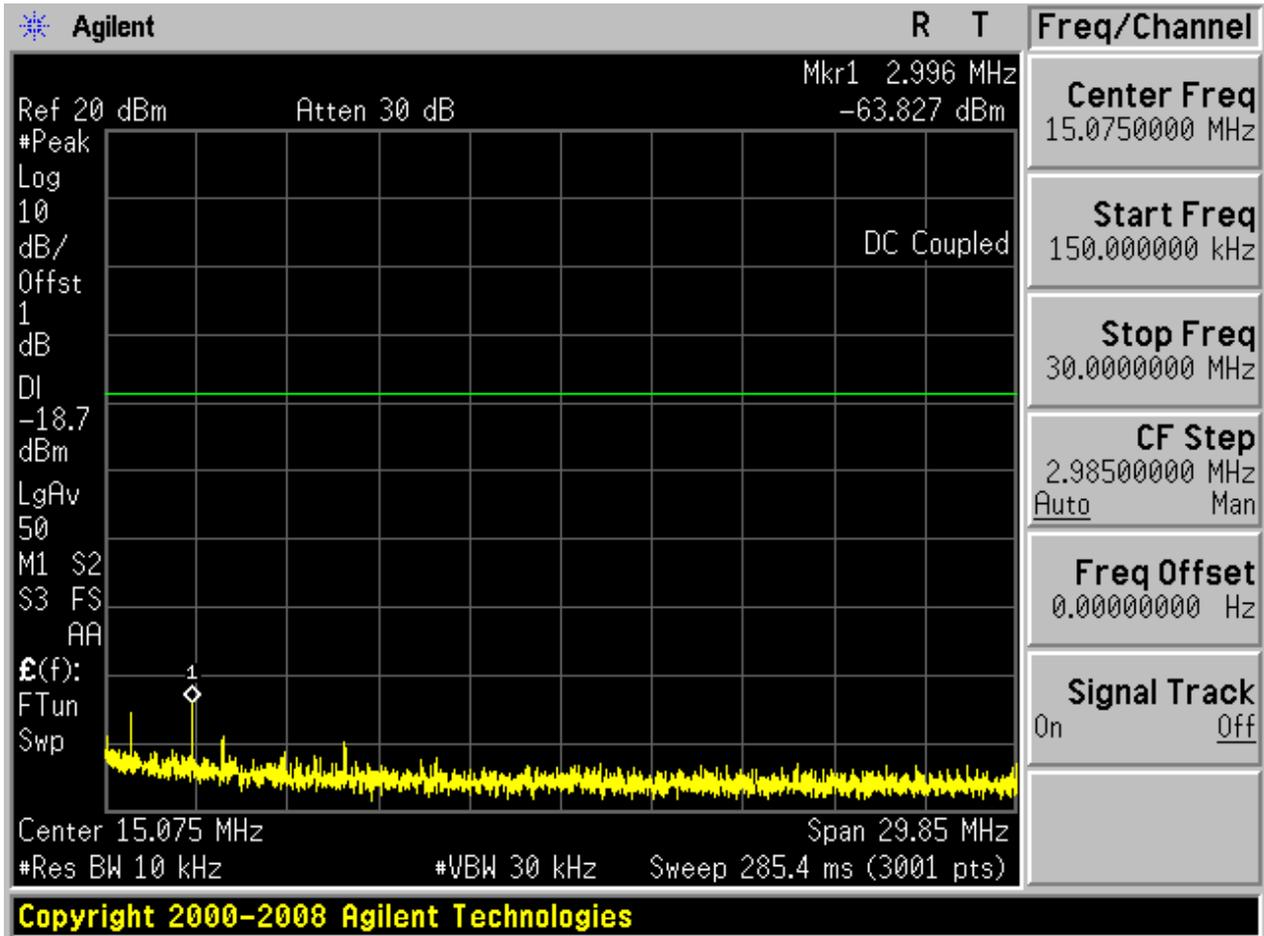
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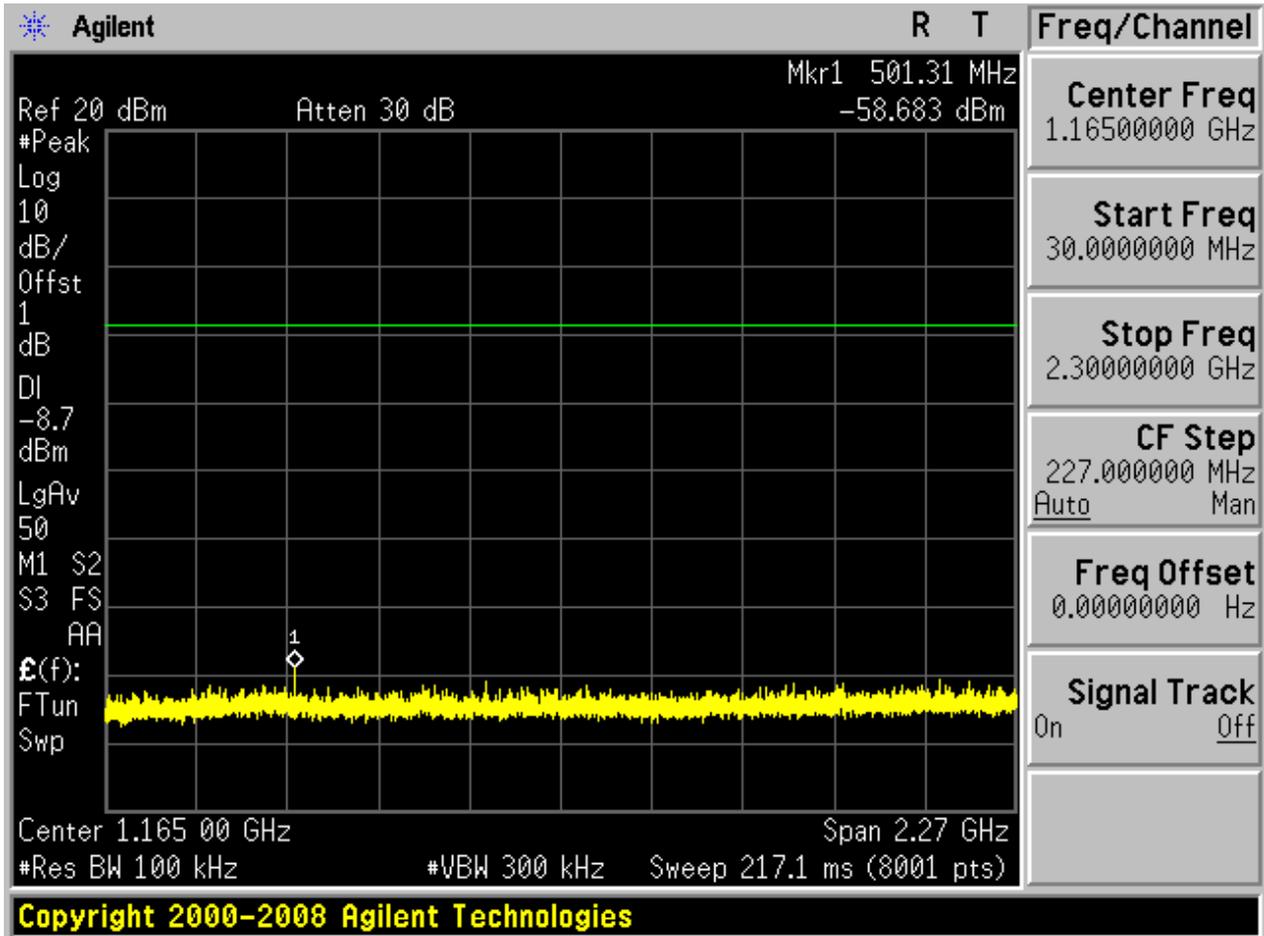


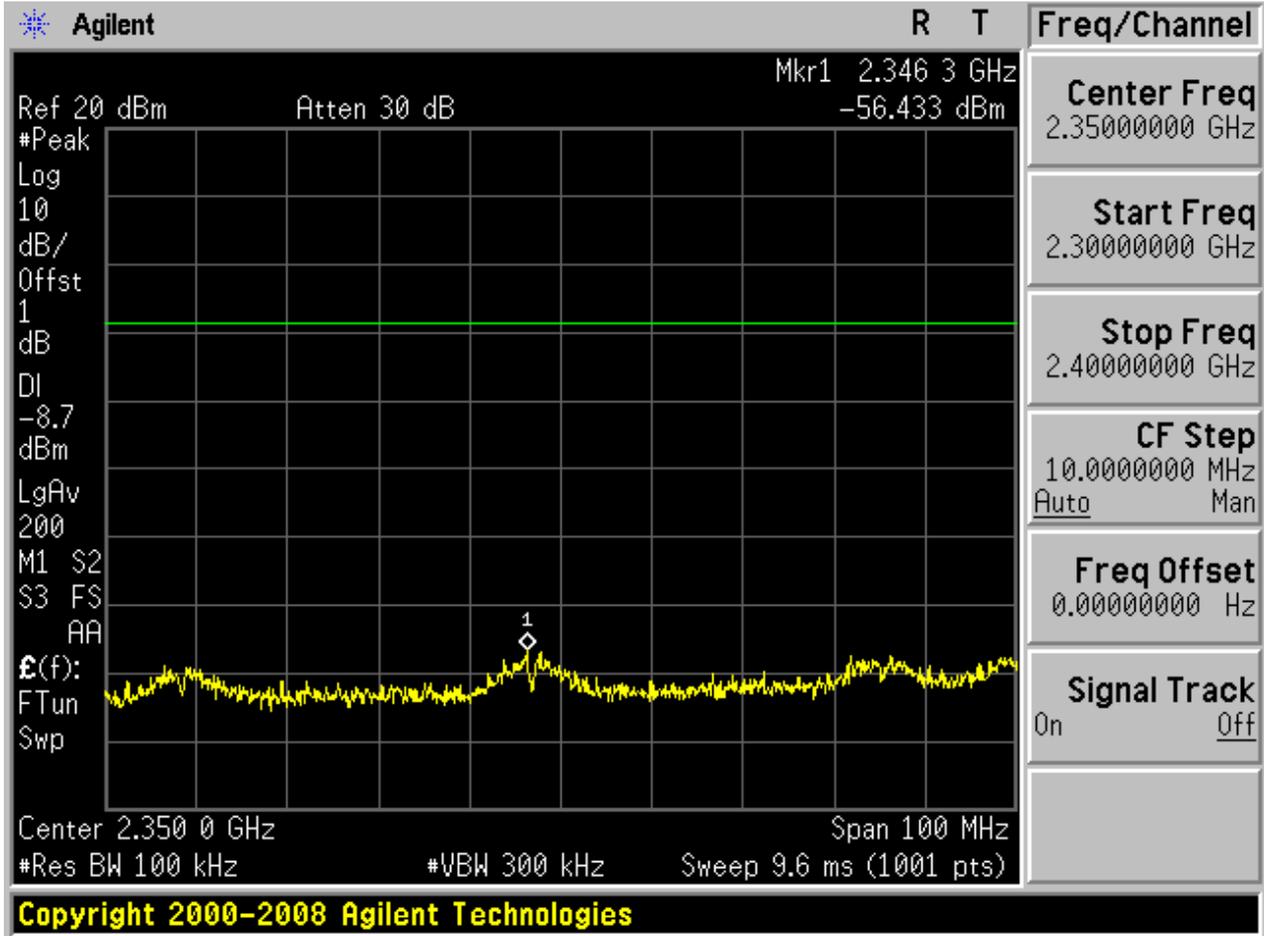


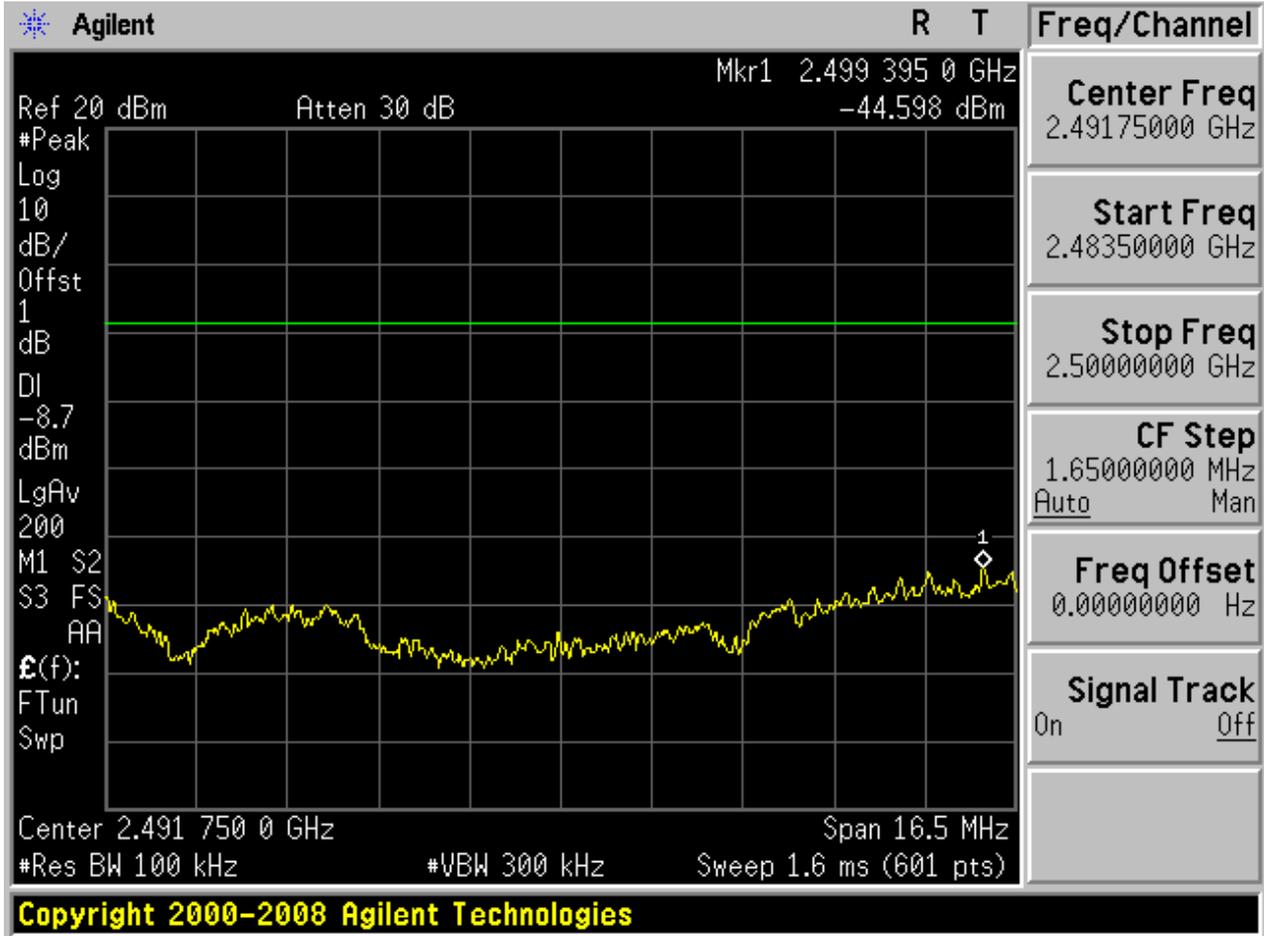
Puw:

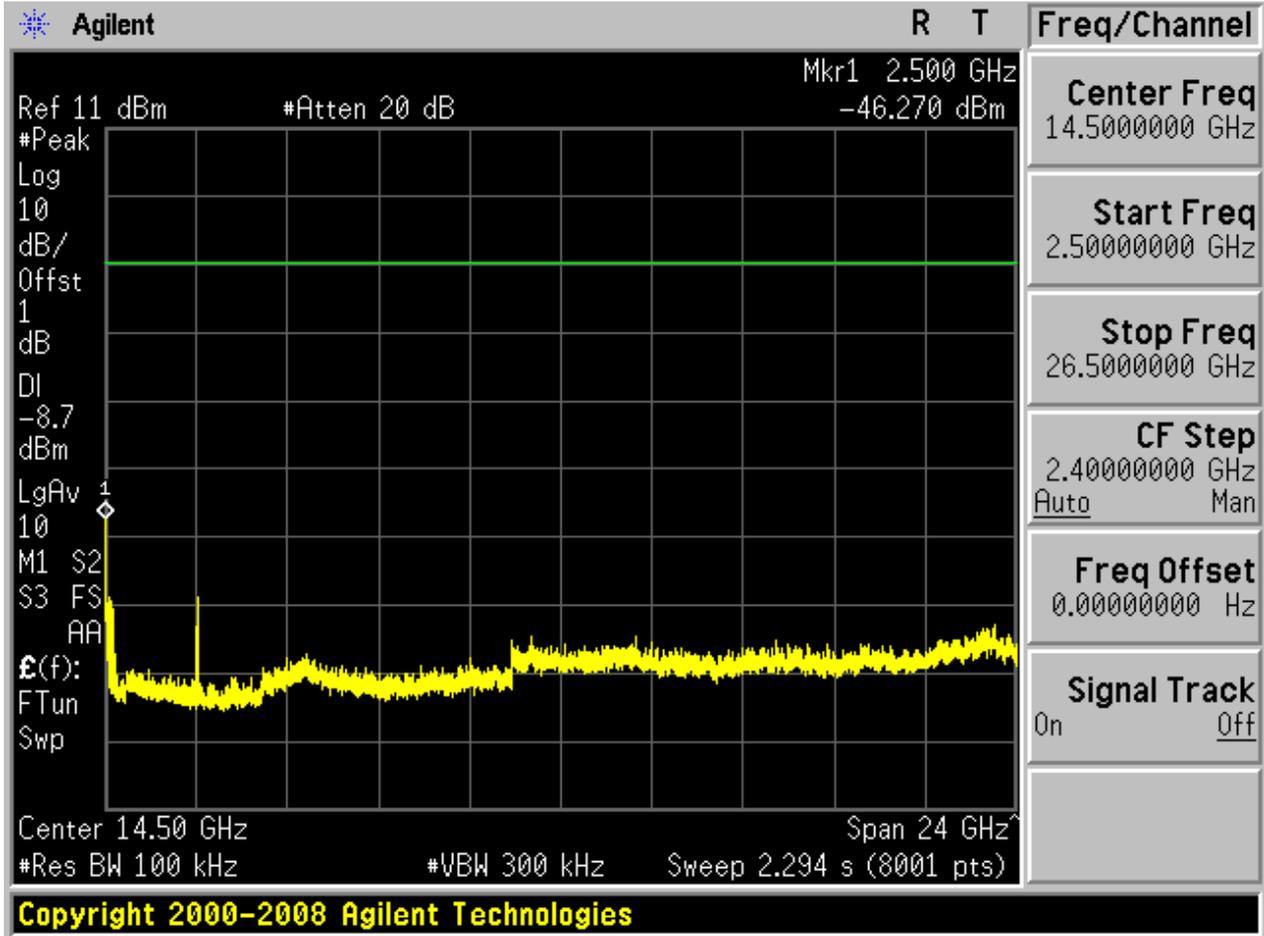








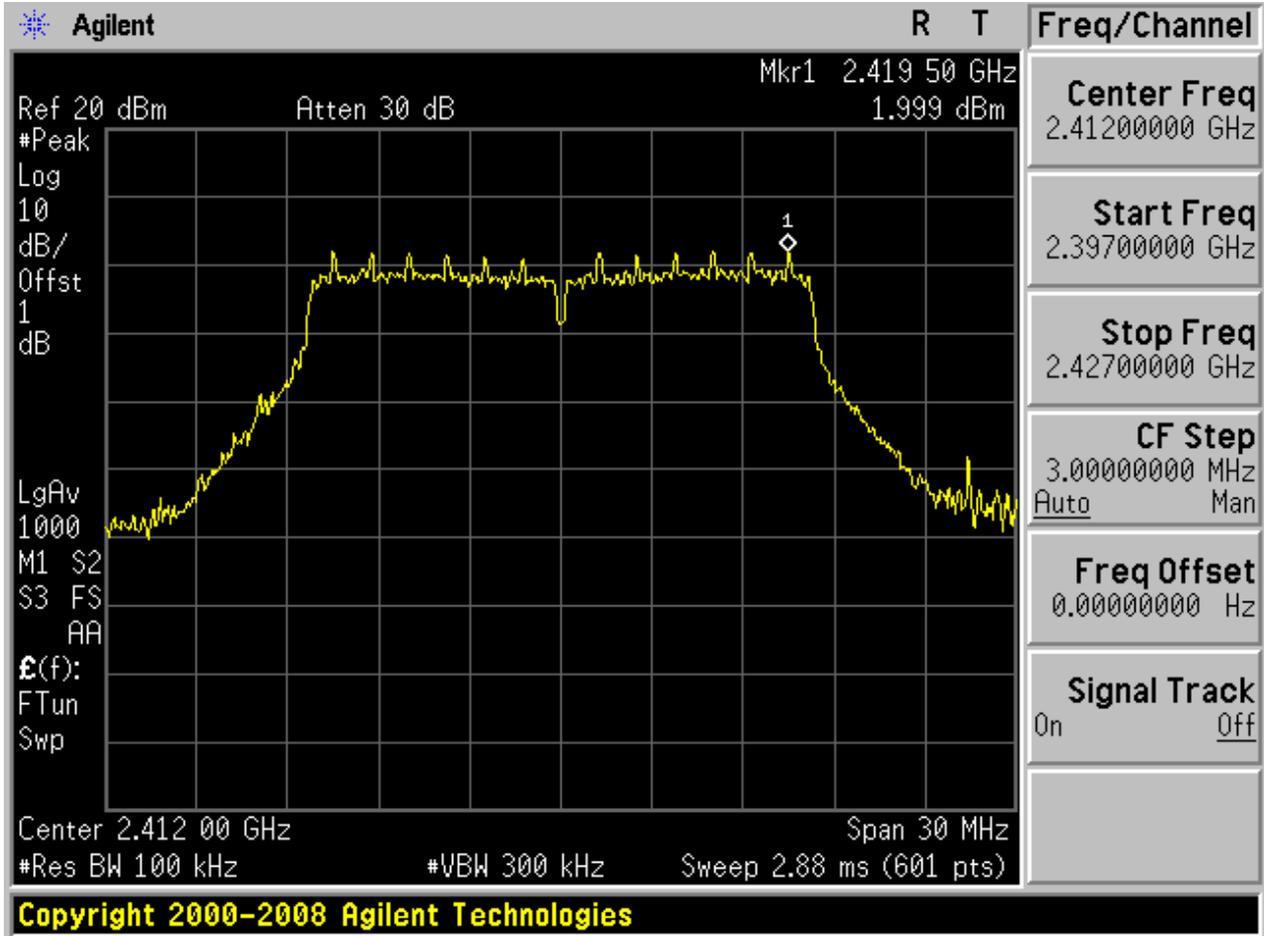






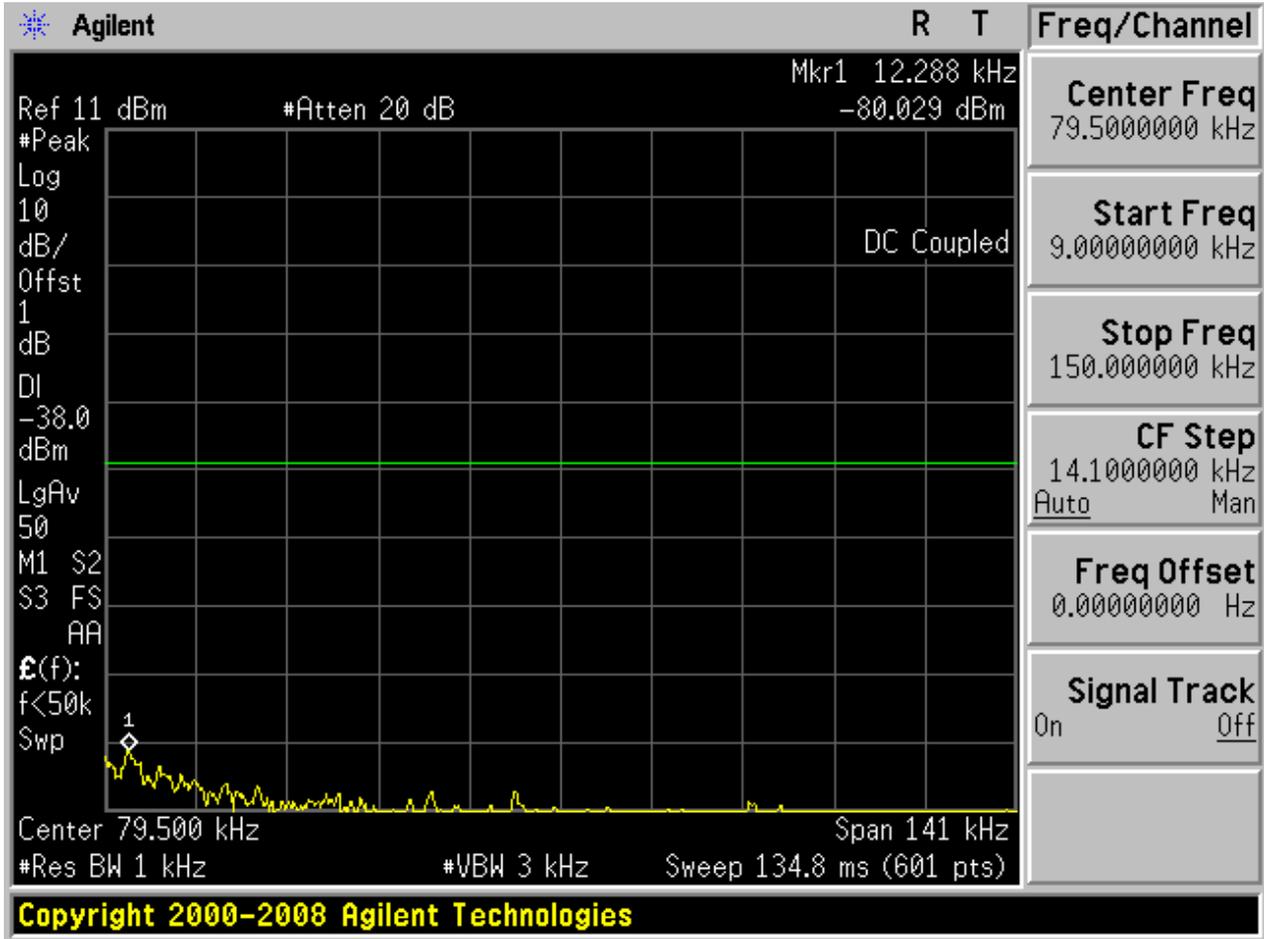
## 2.7 11G\_L

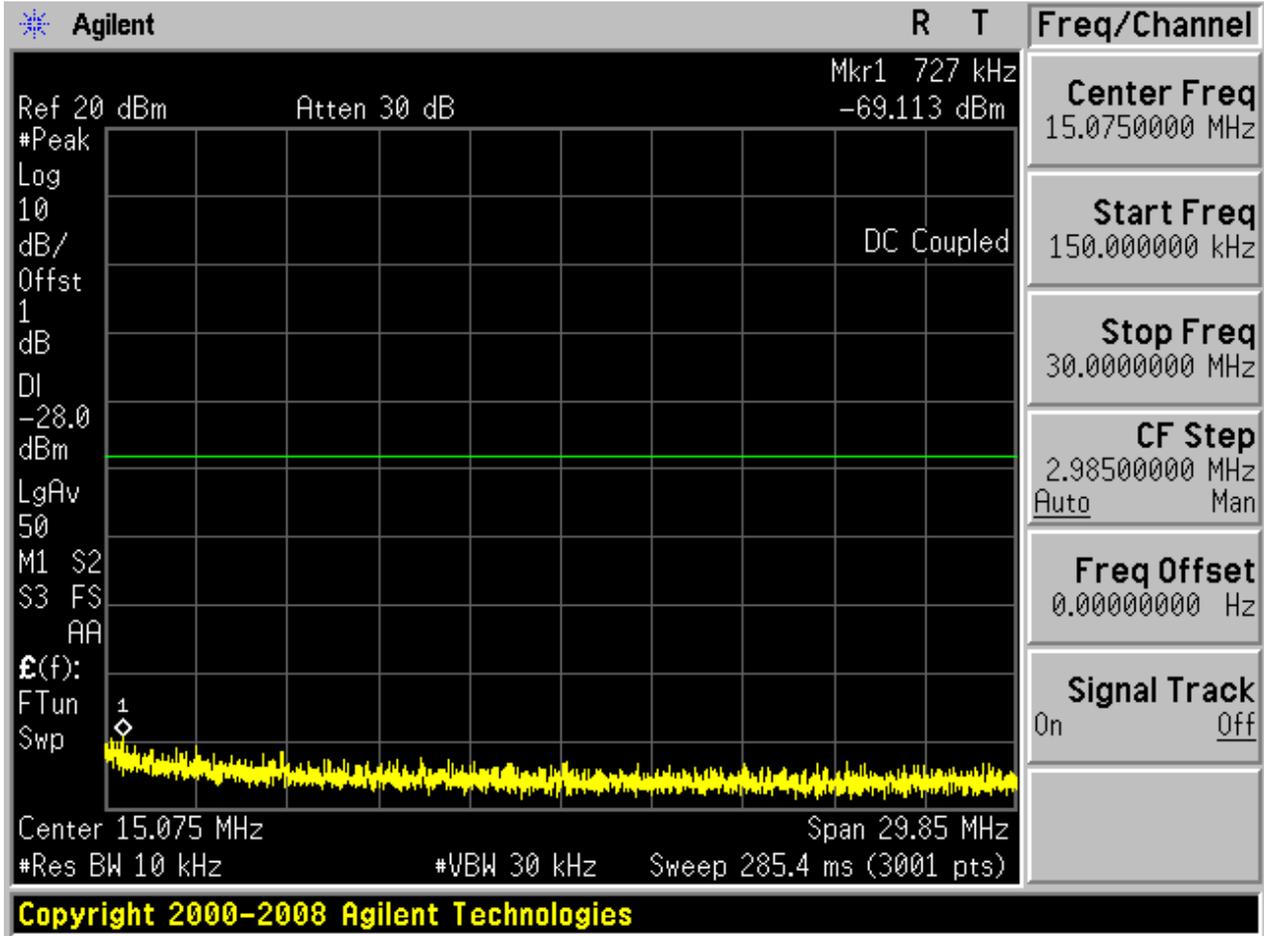
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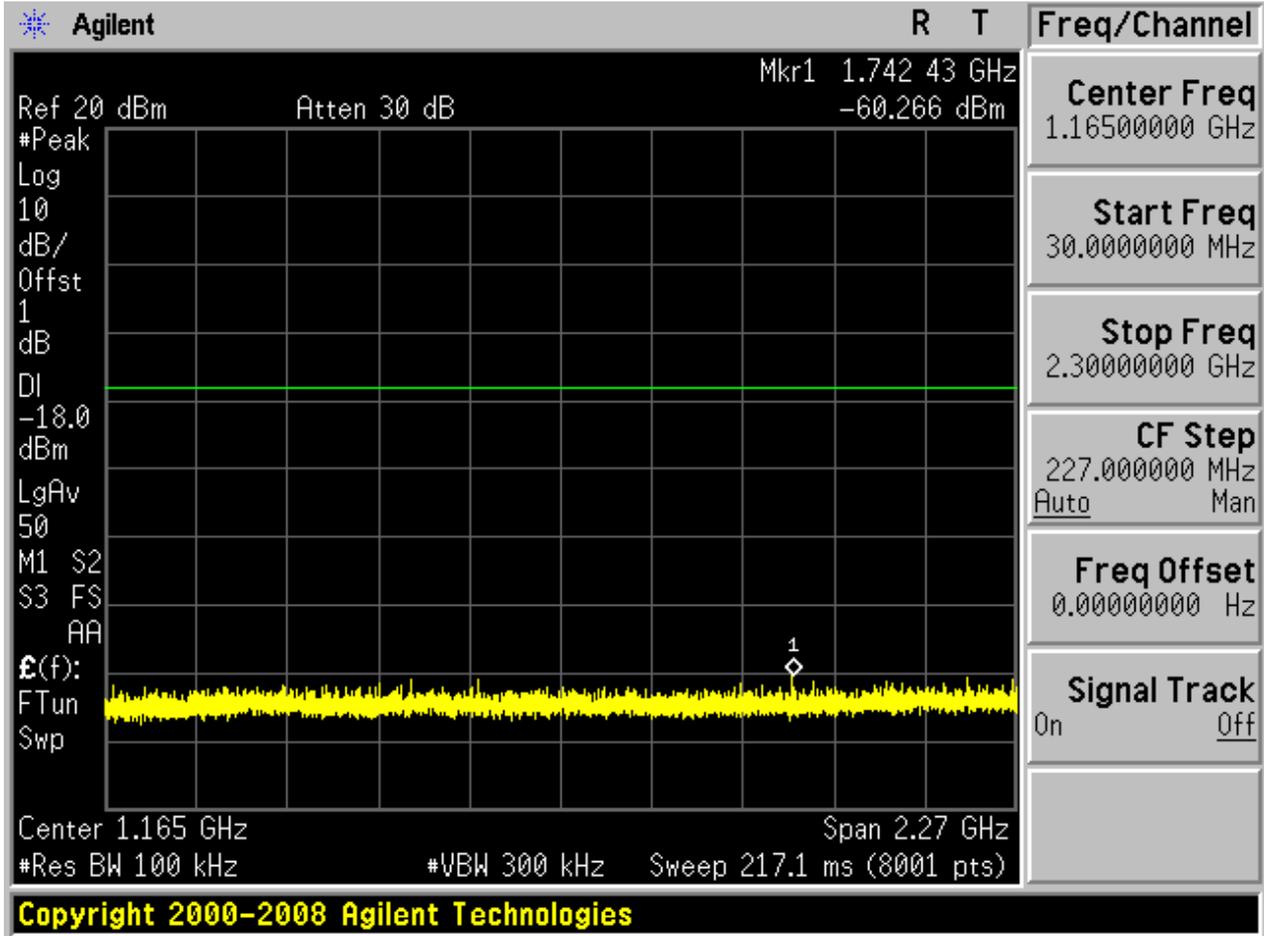


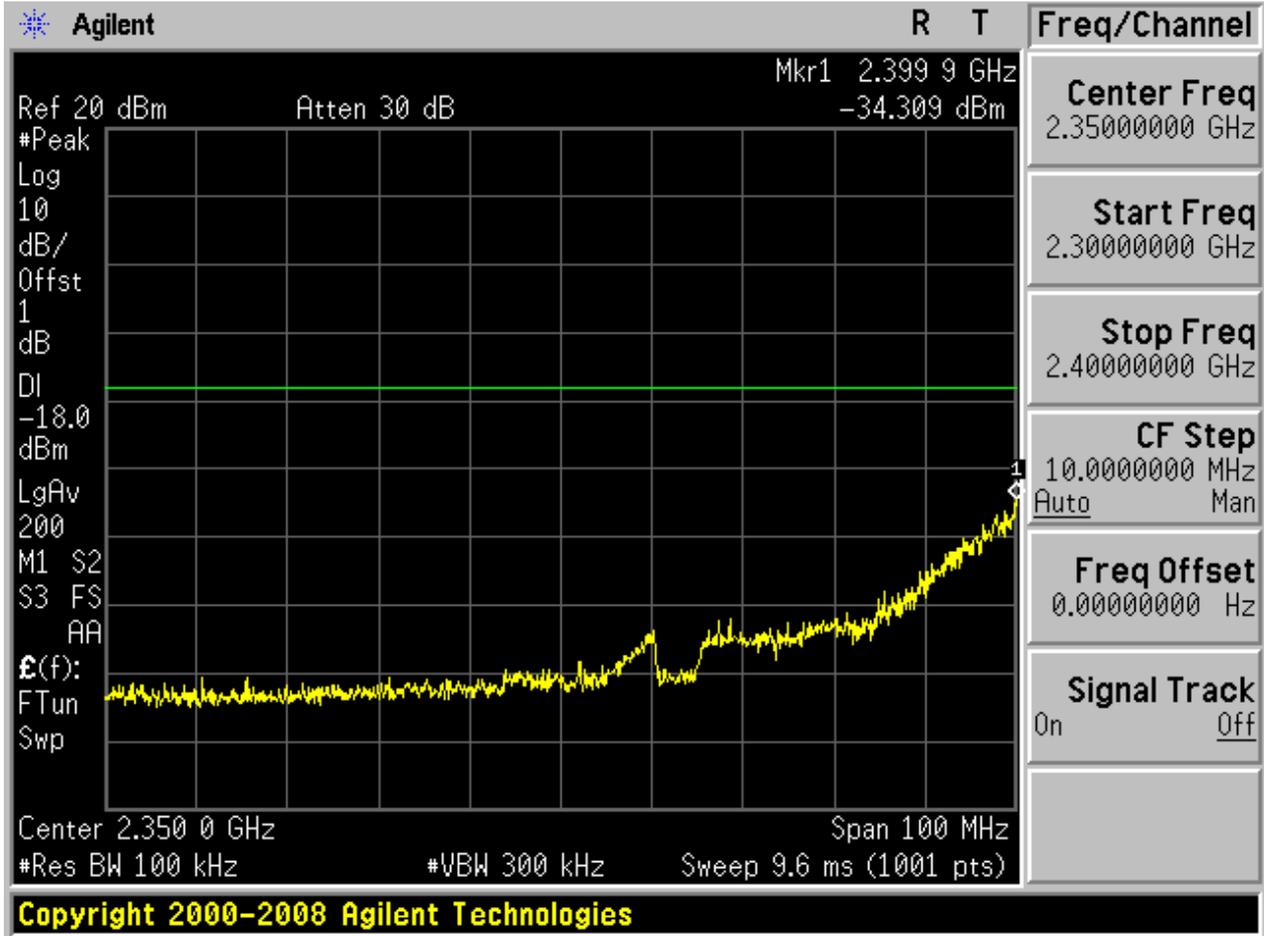


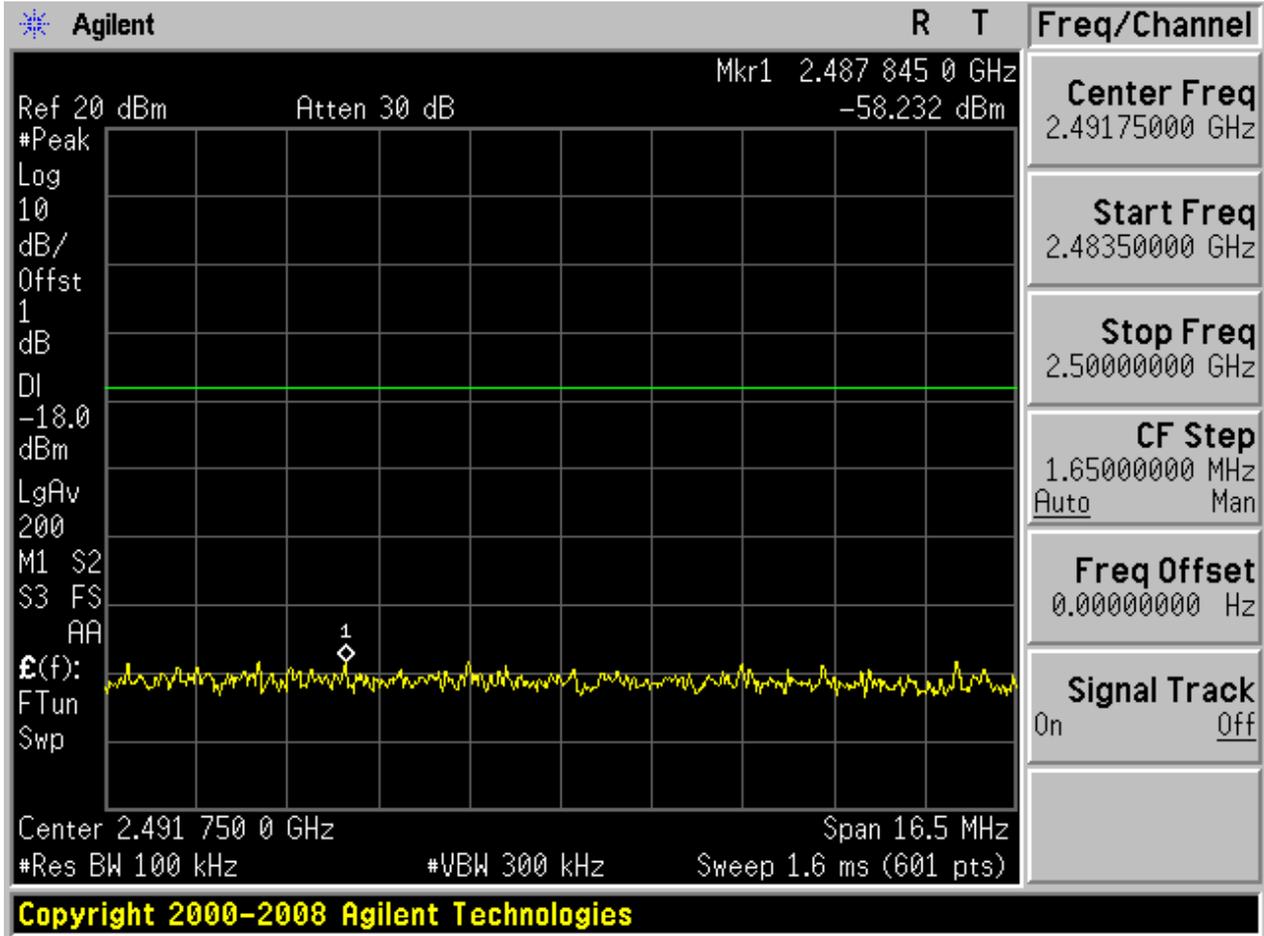
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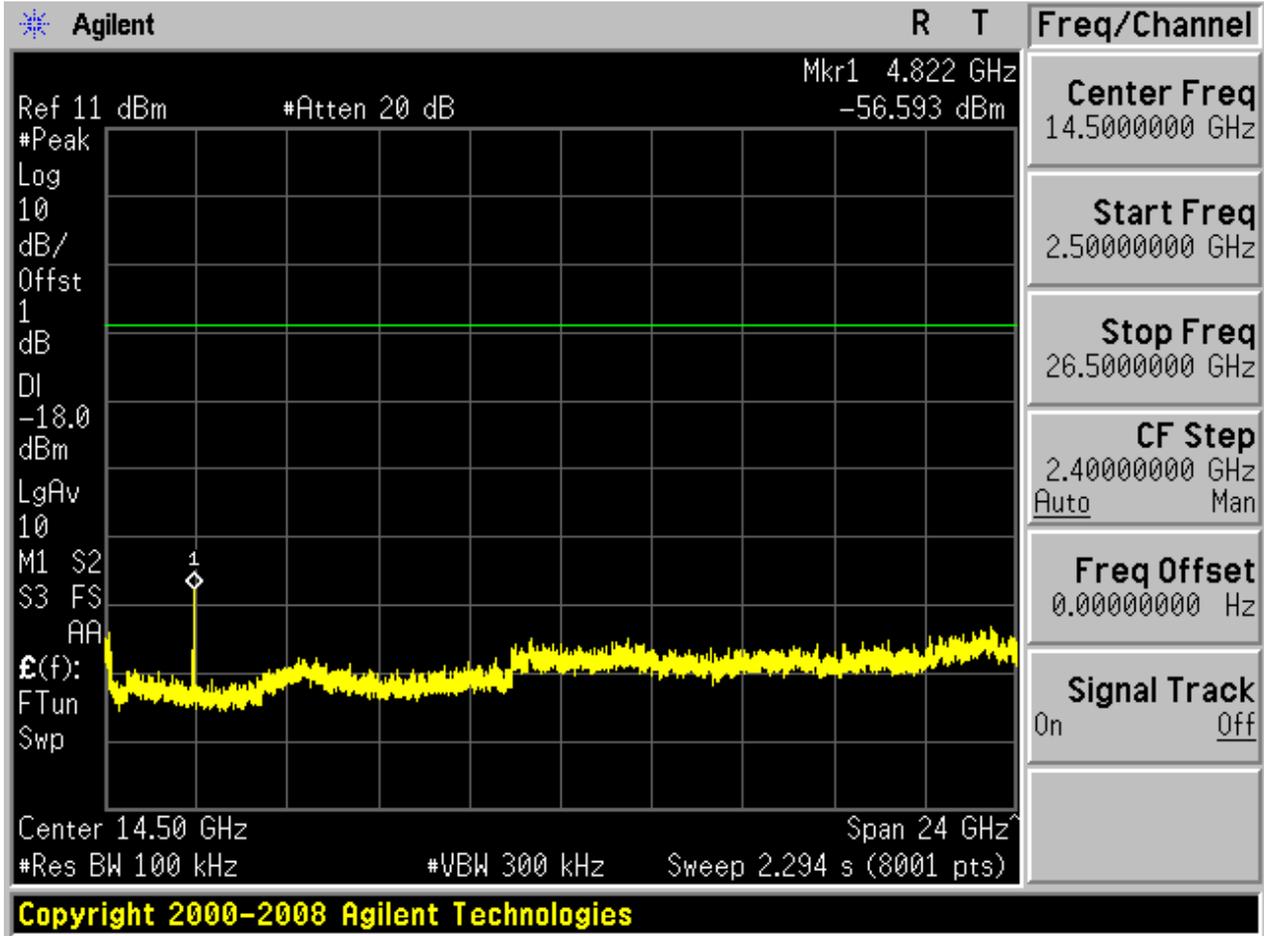








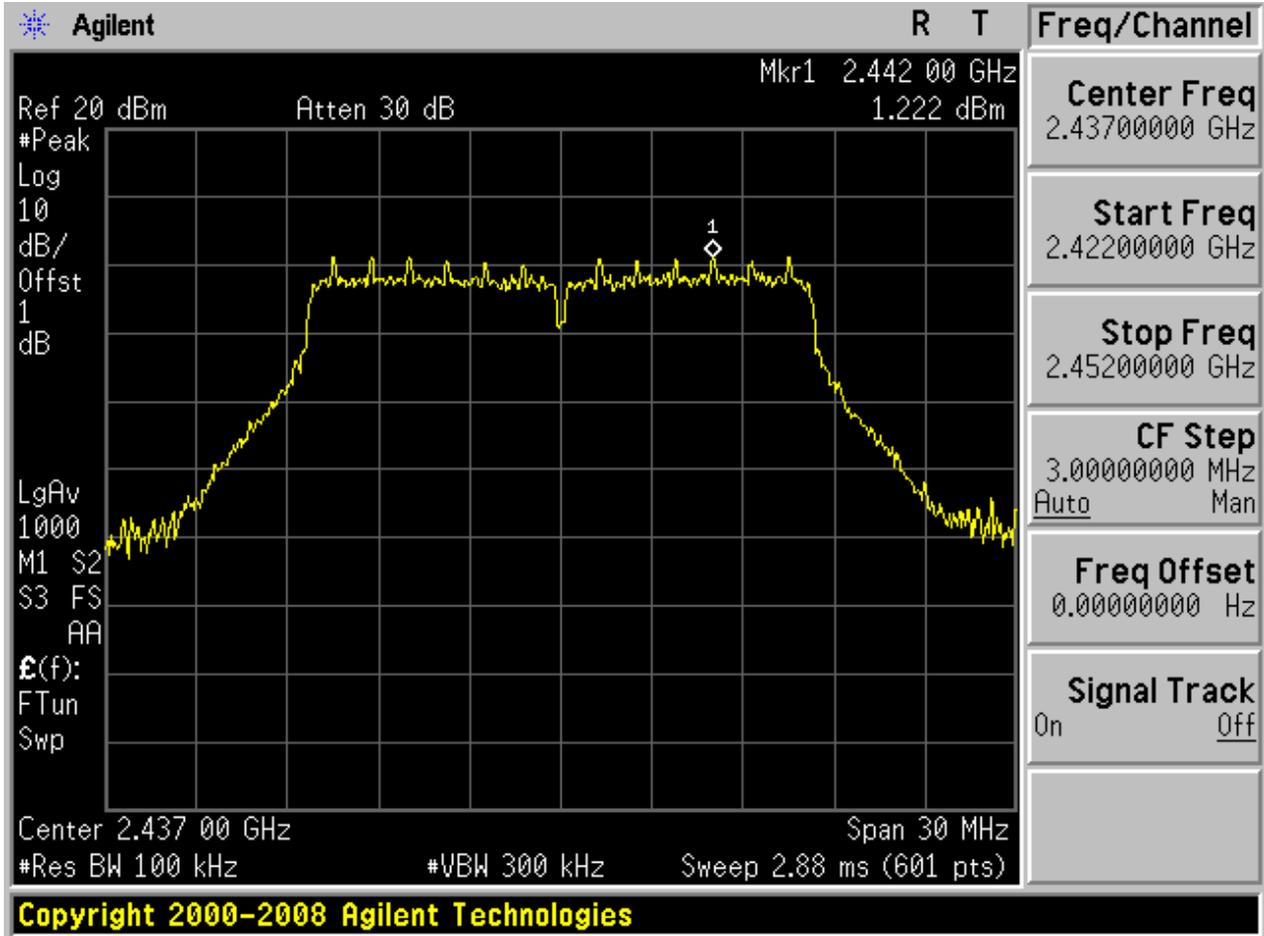






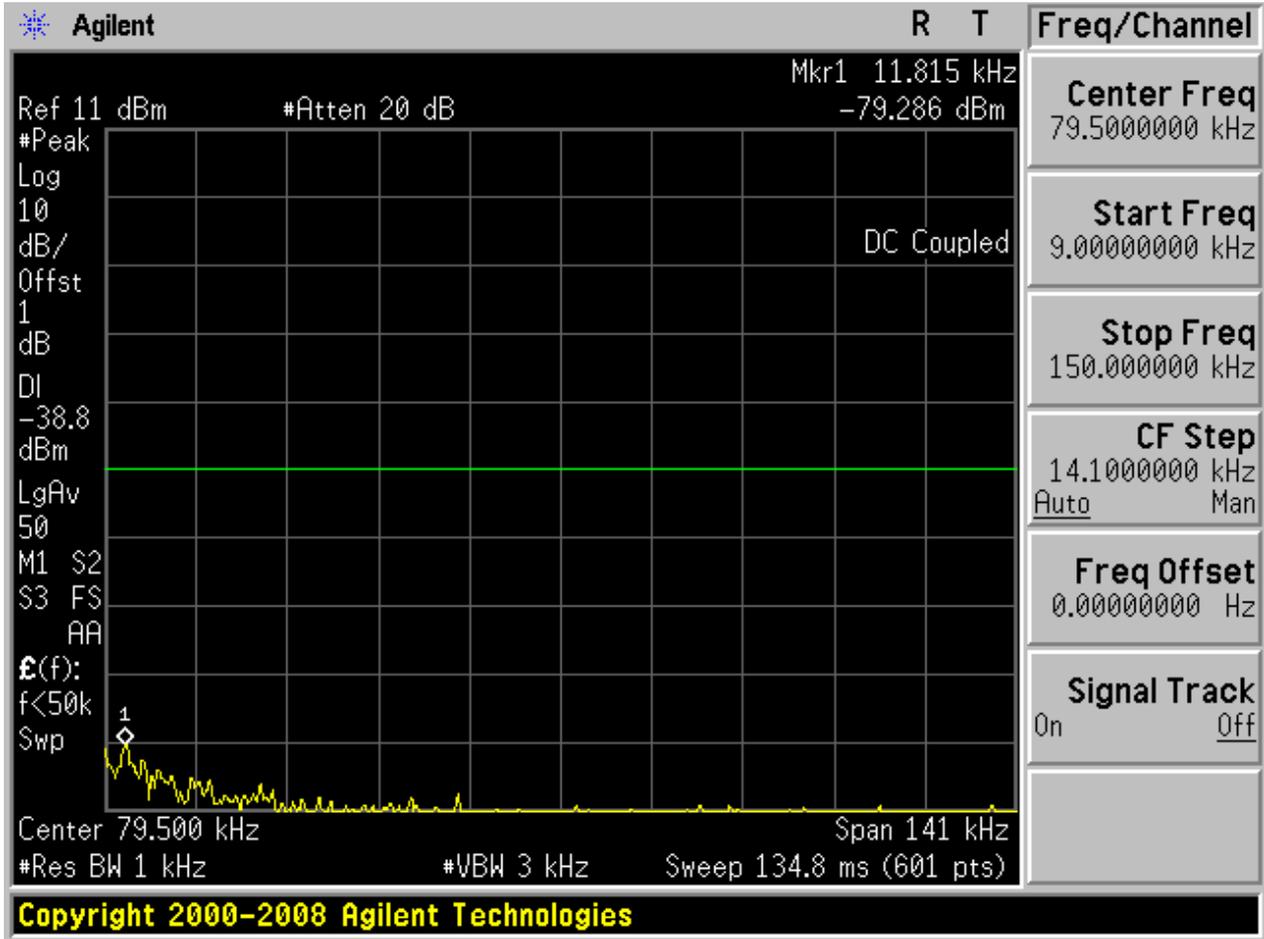
## 2.9 11G\_M

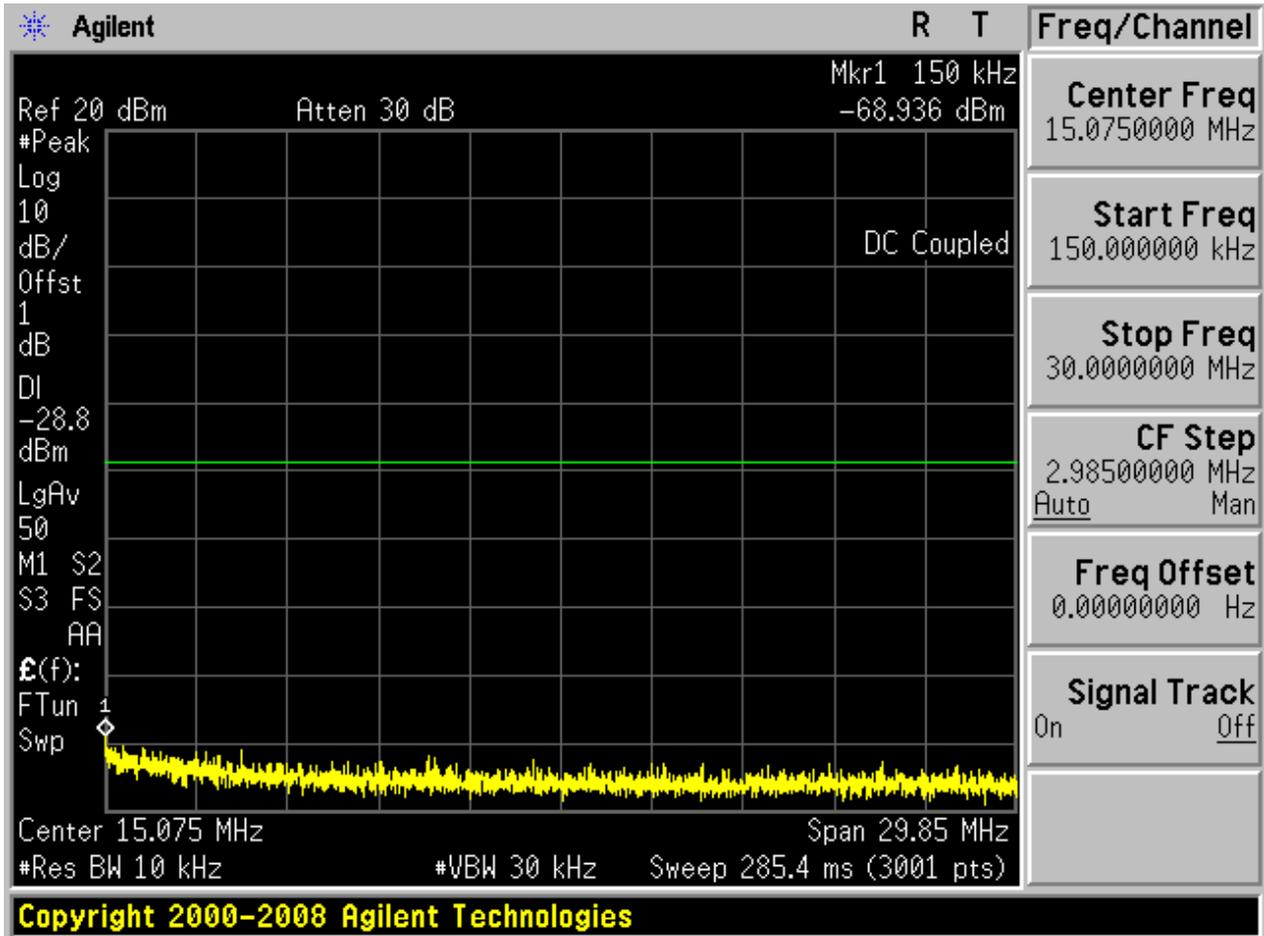
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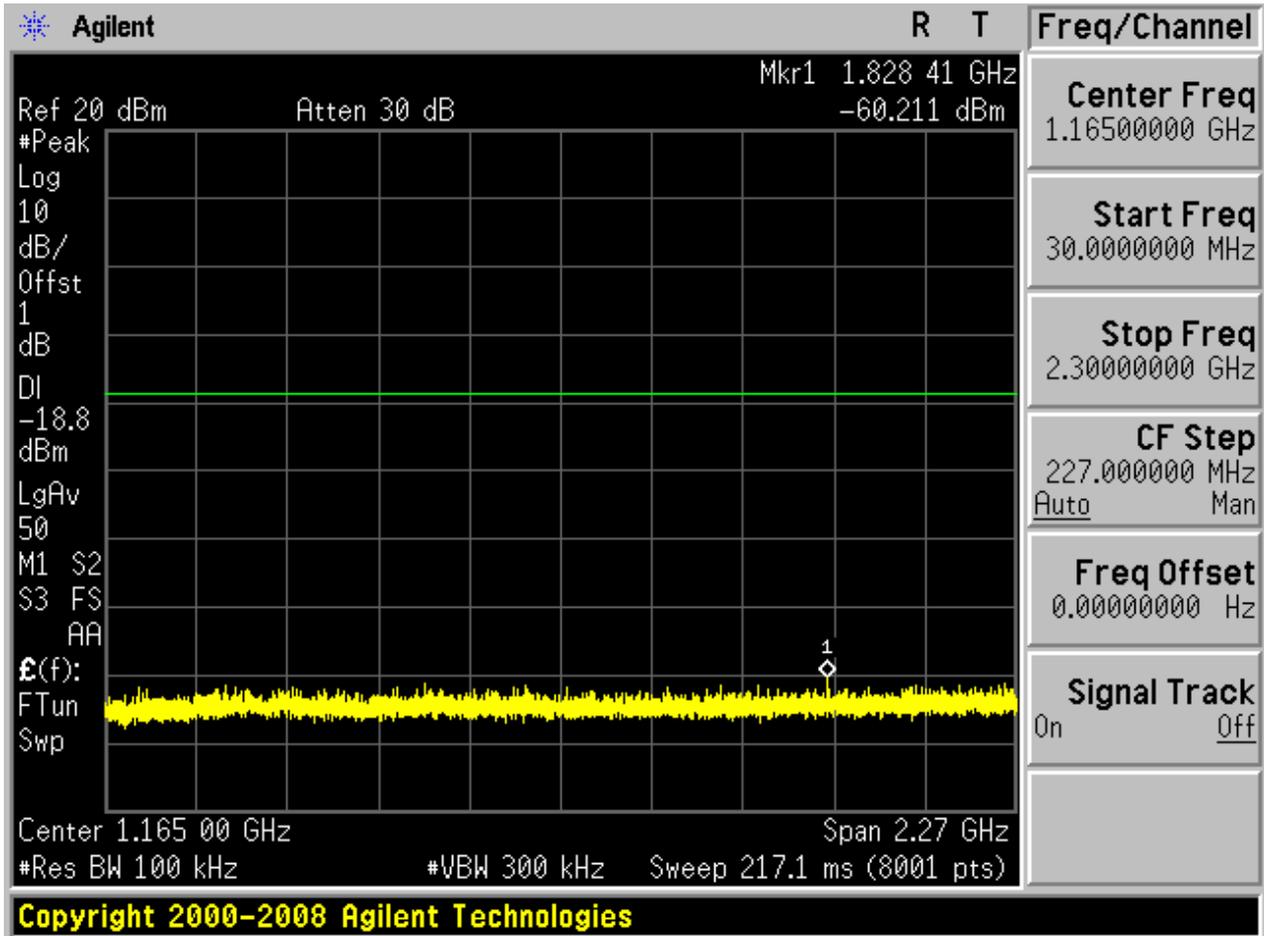


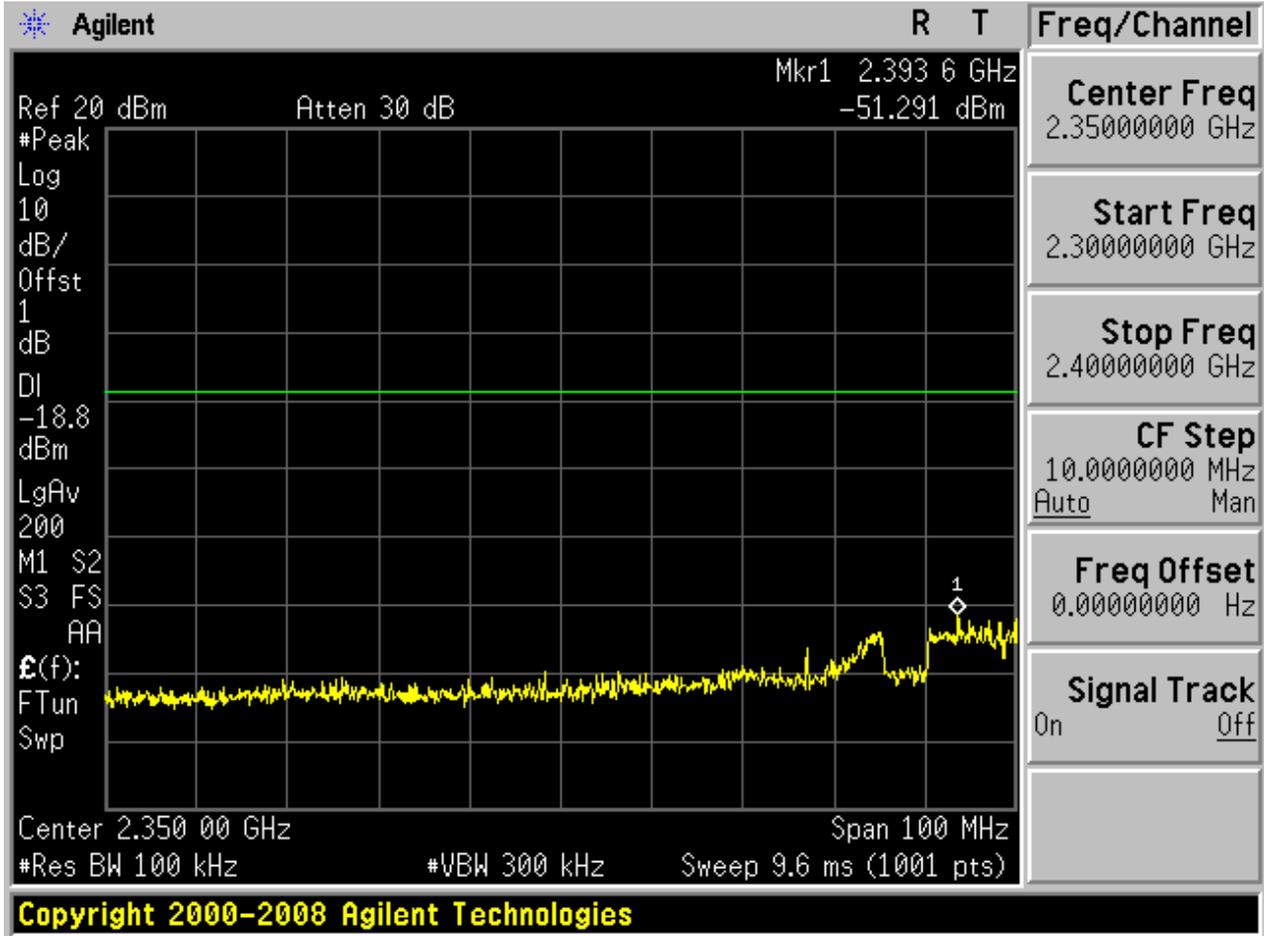


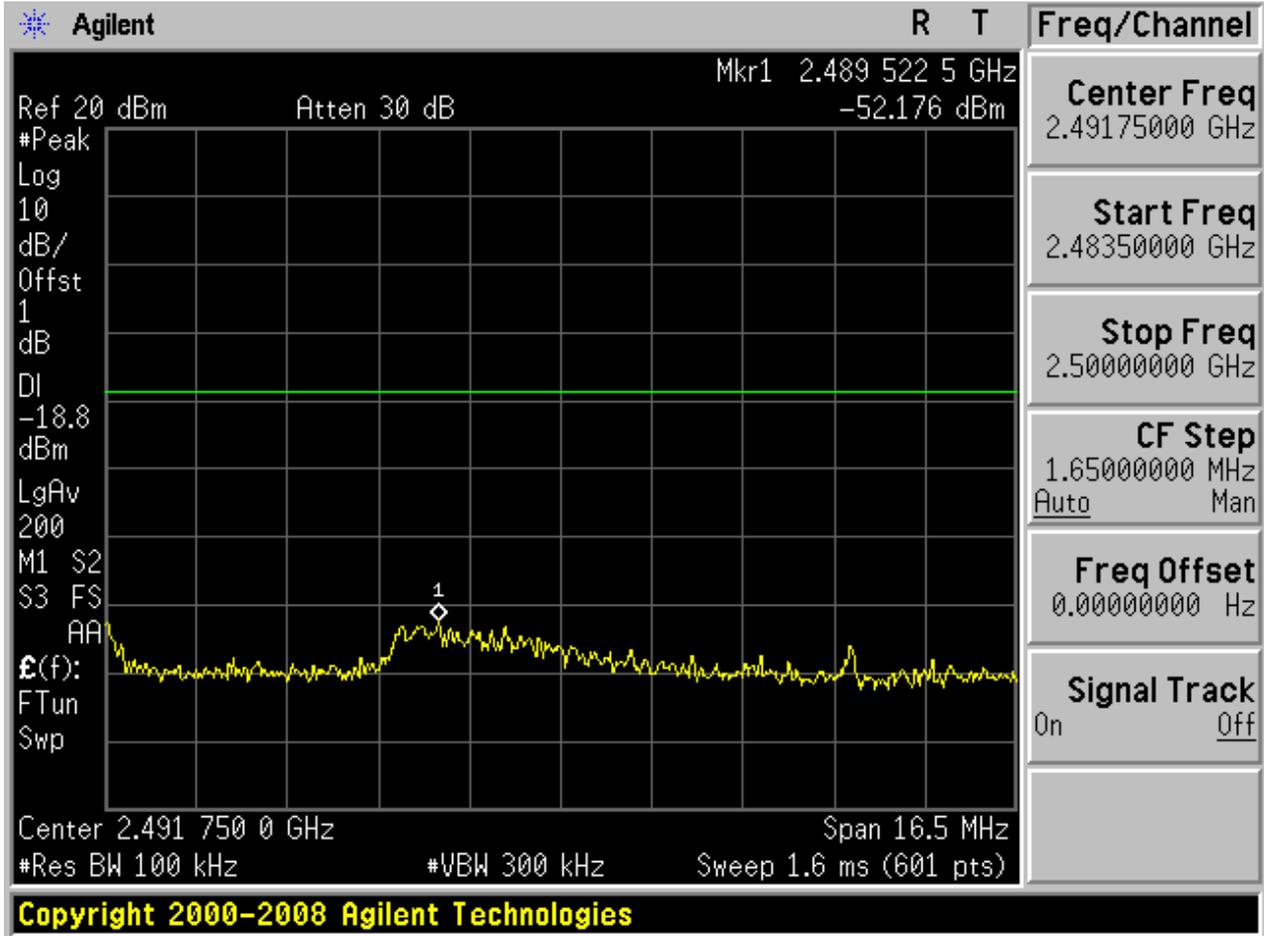
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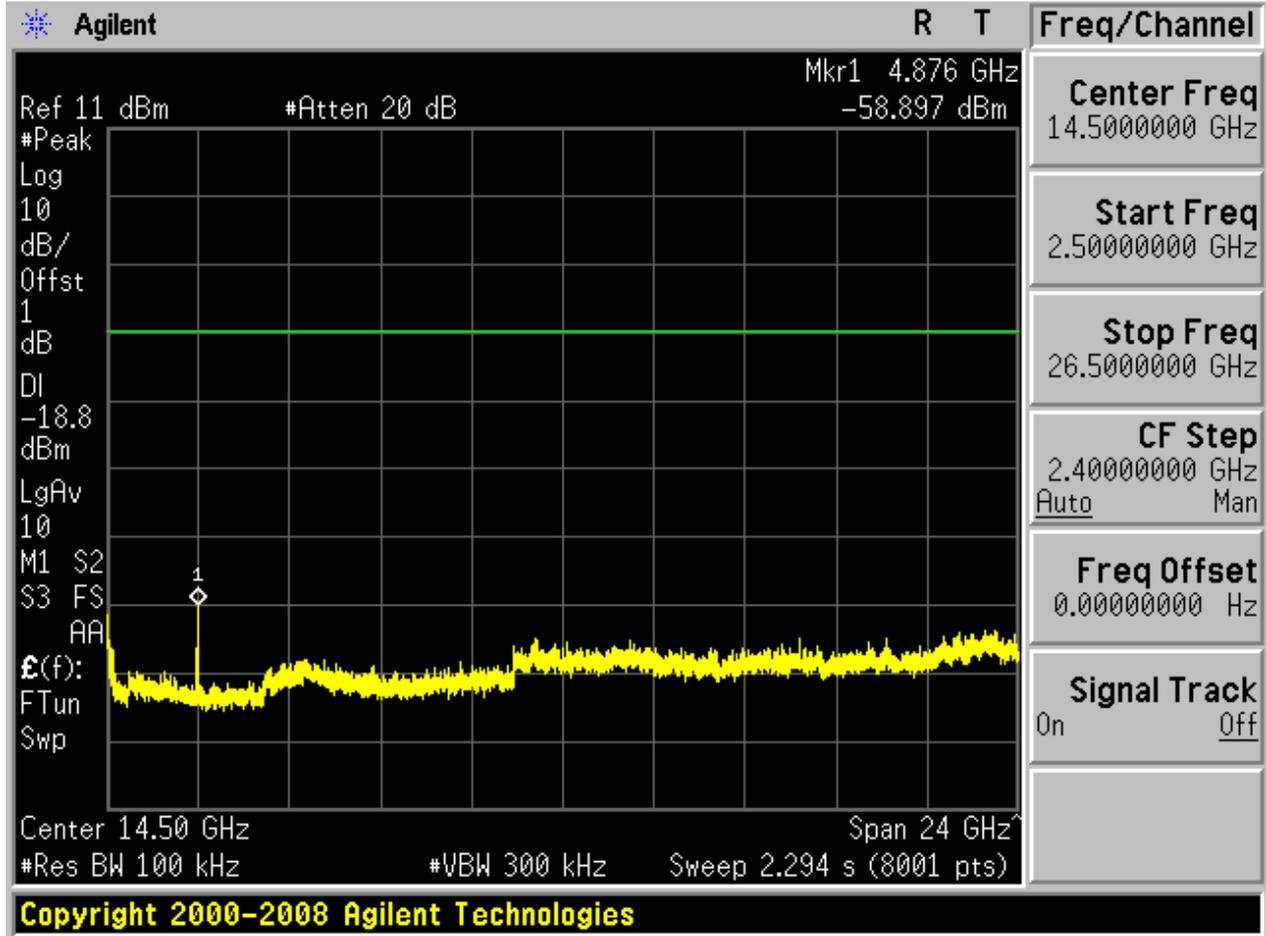








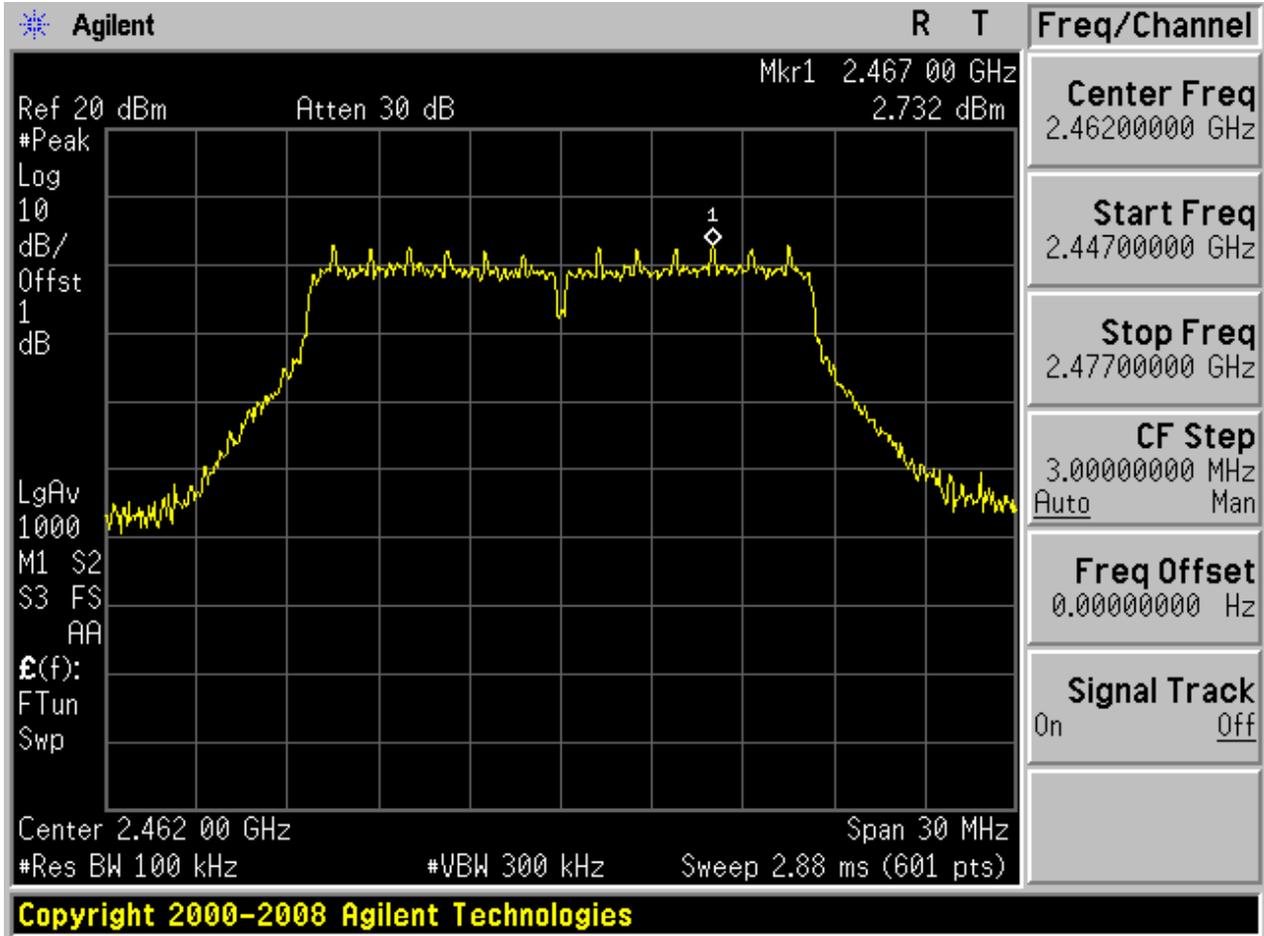






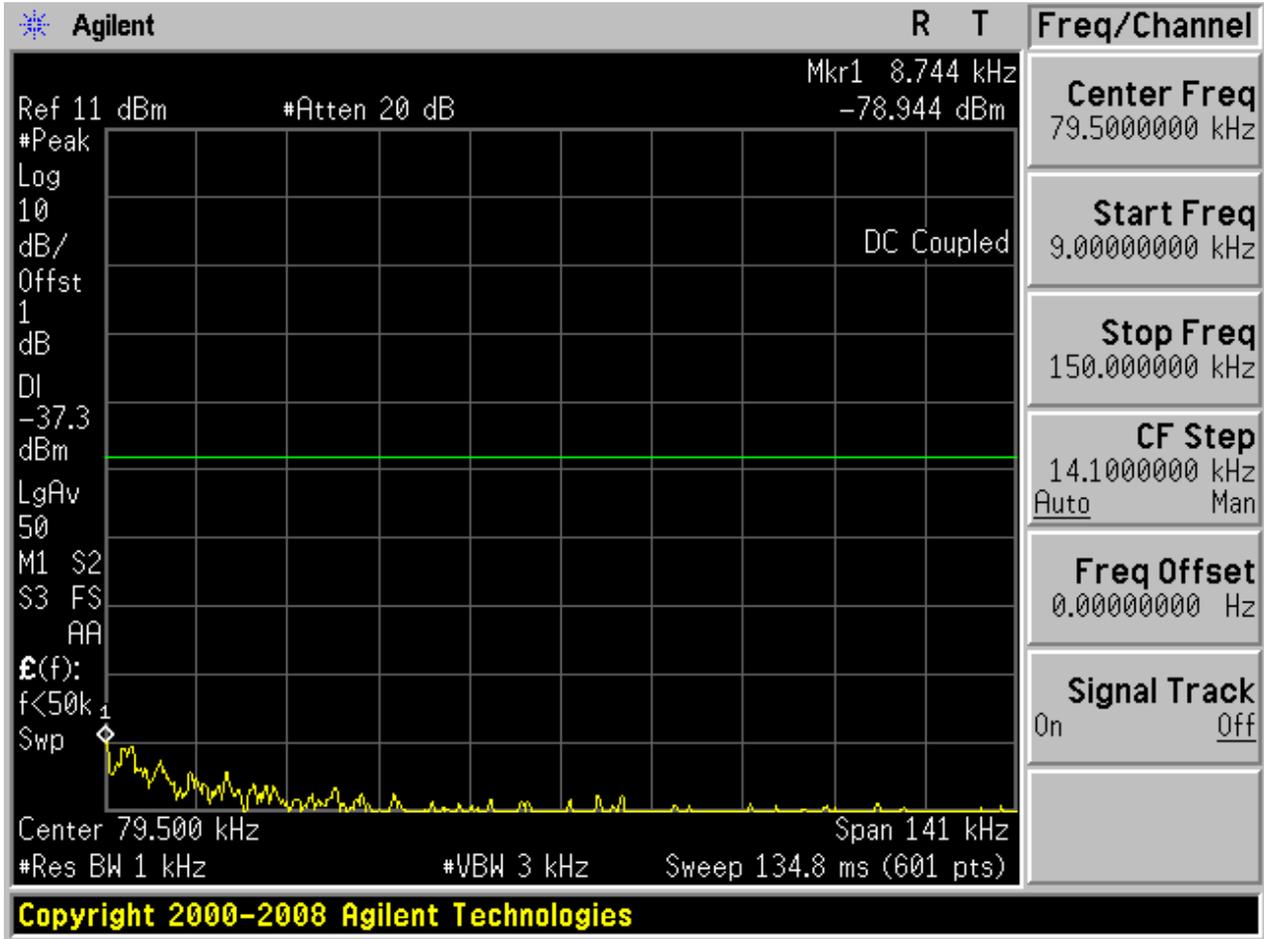
## 2.11 11G\_H

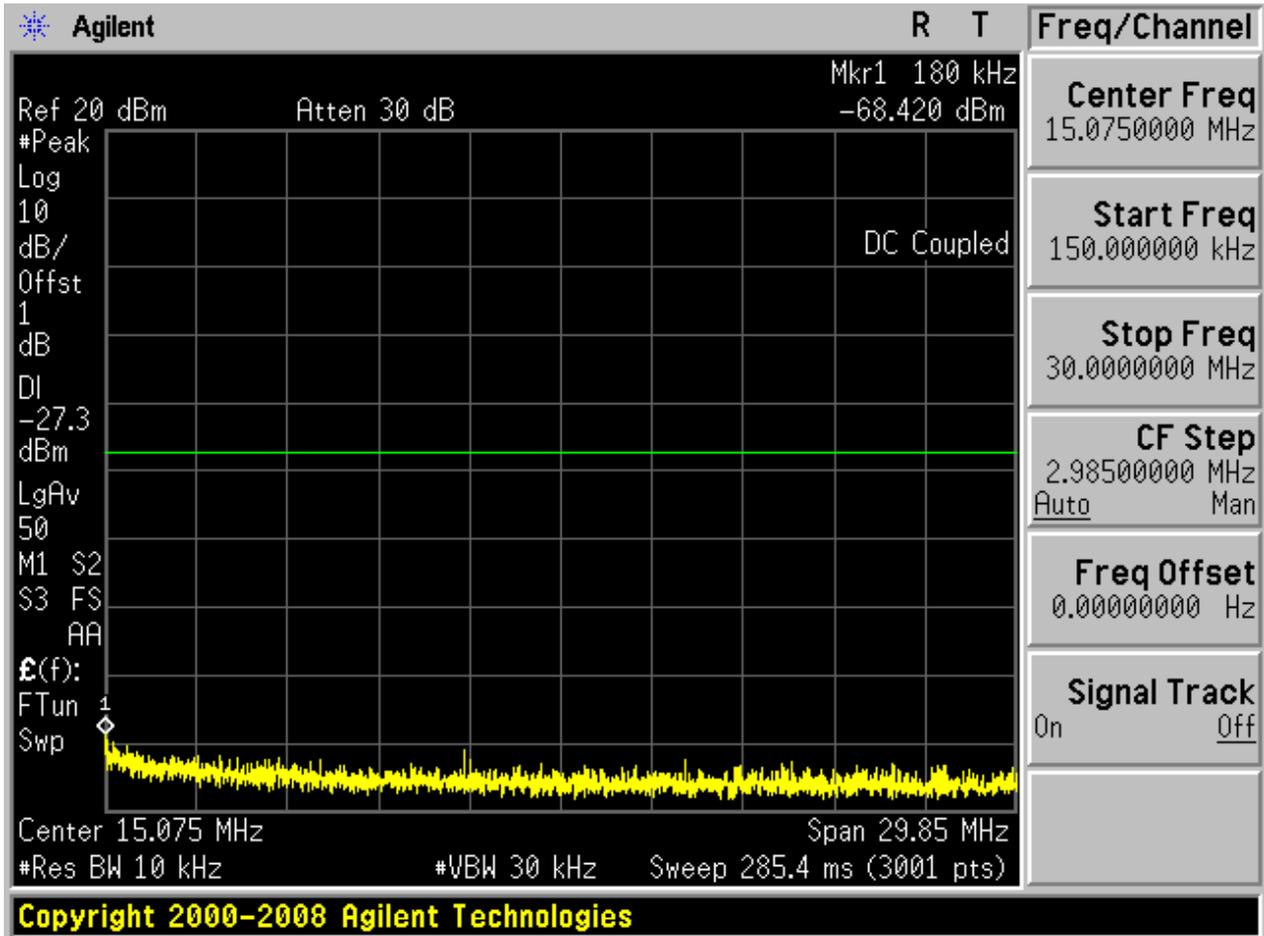
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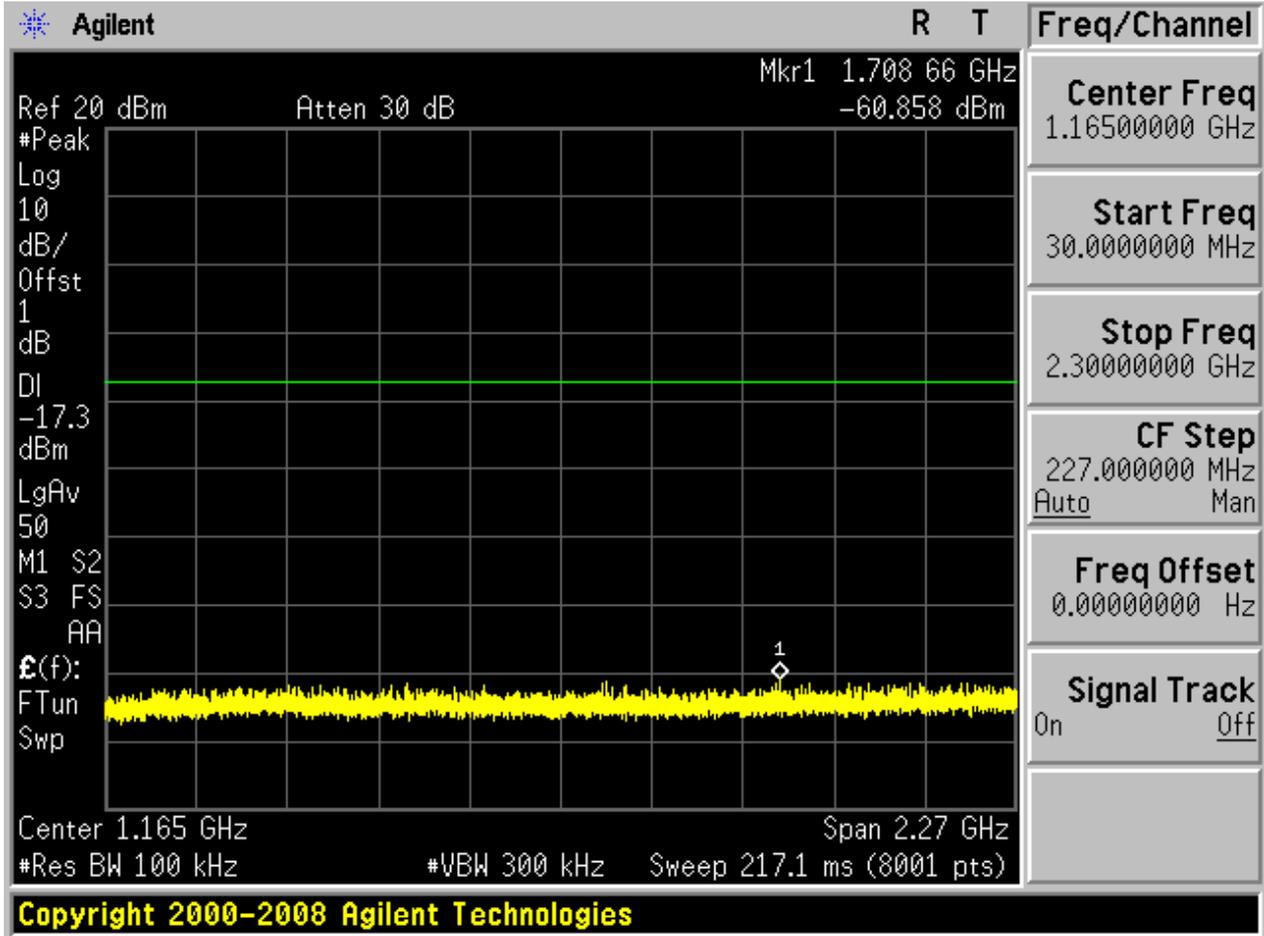


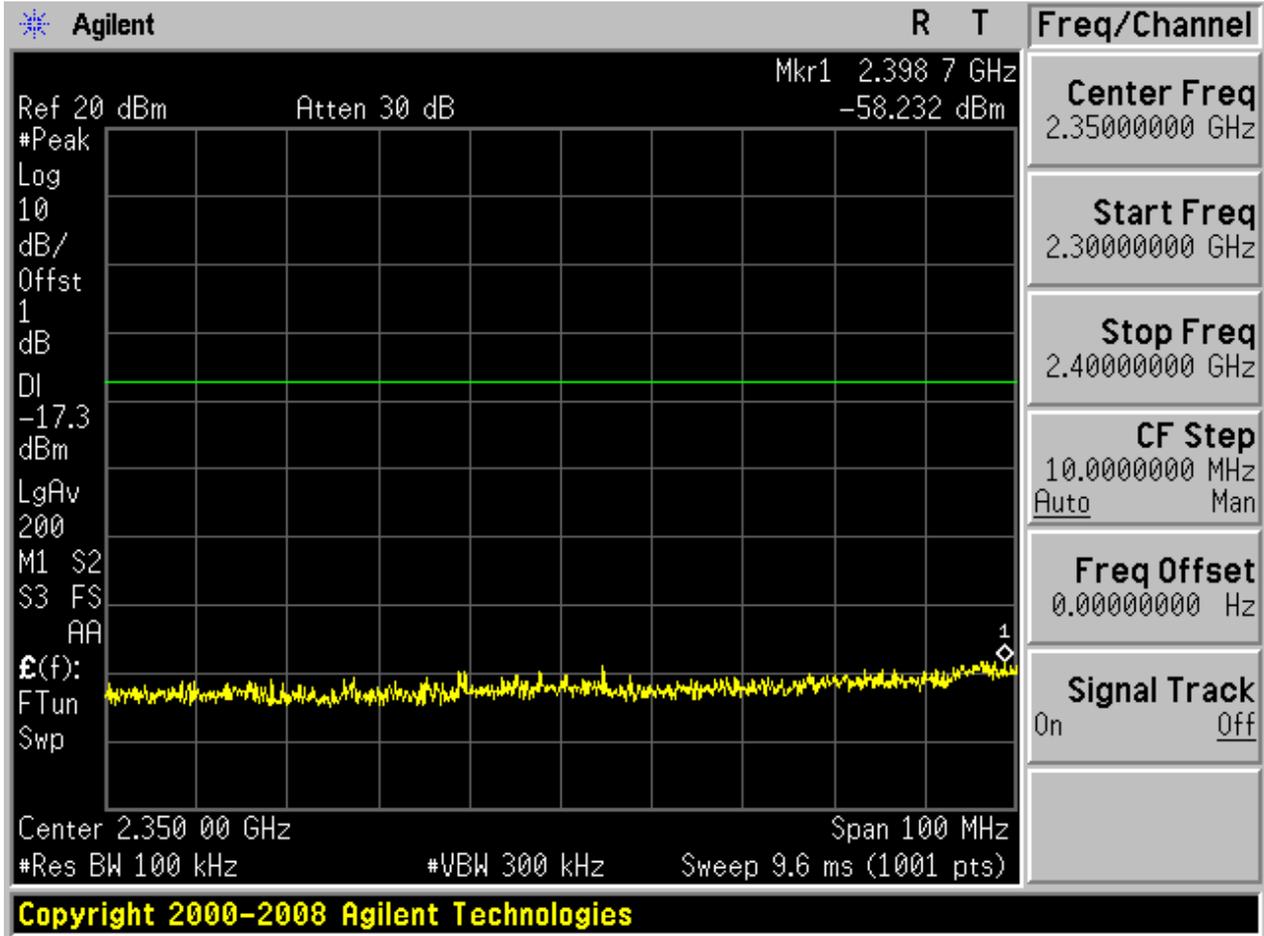


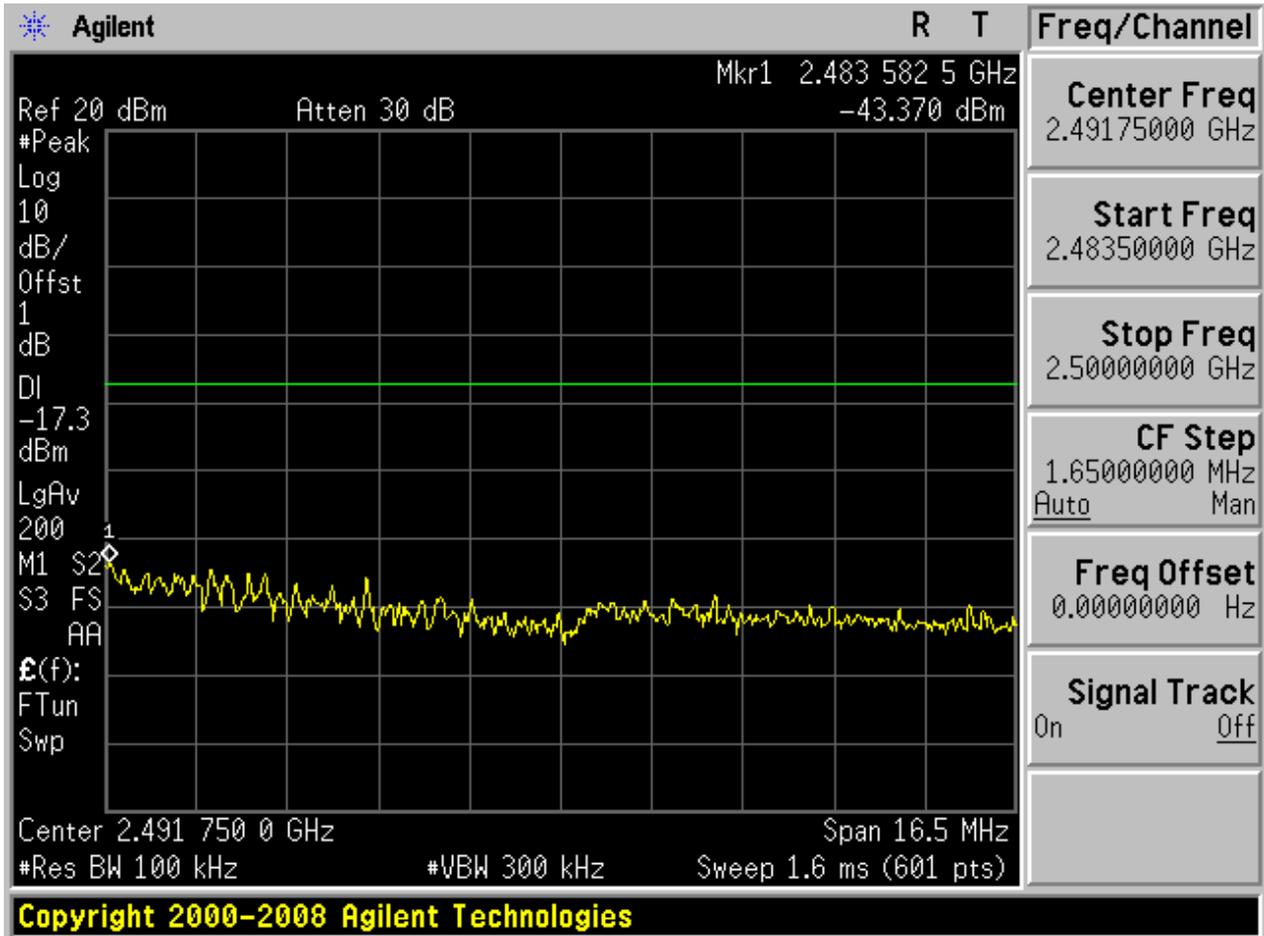
Puw:

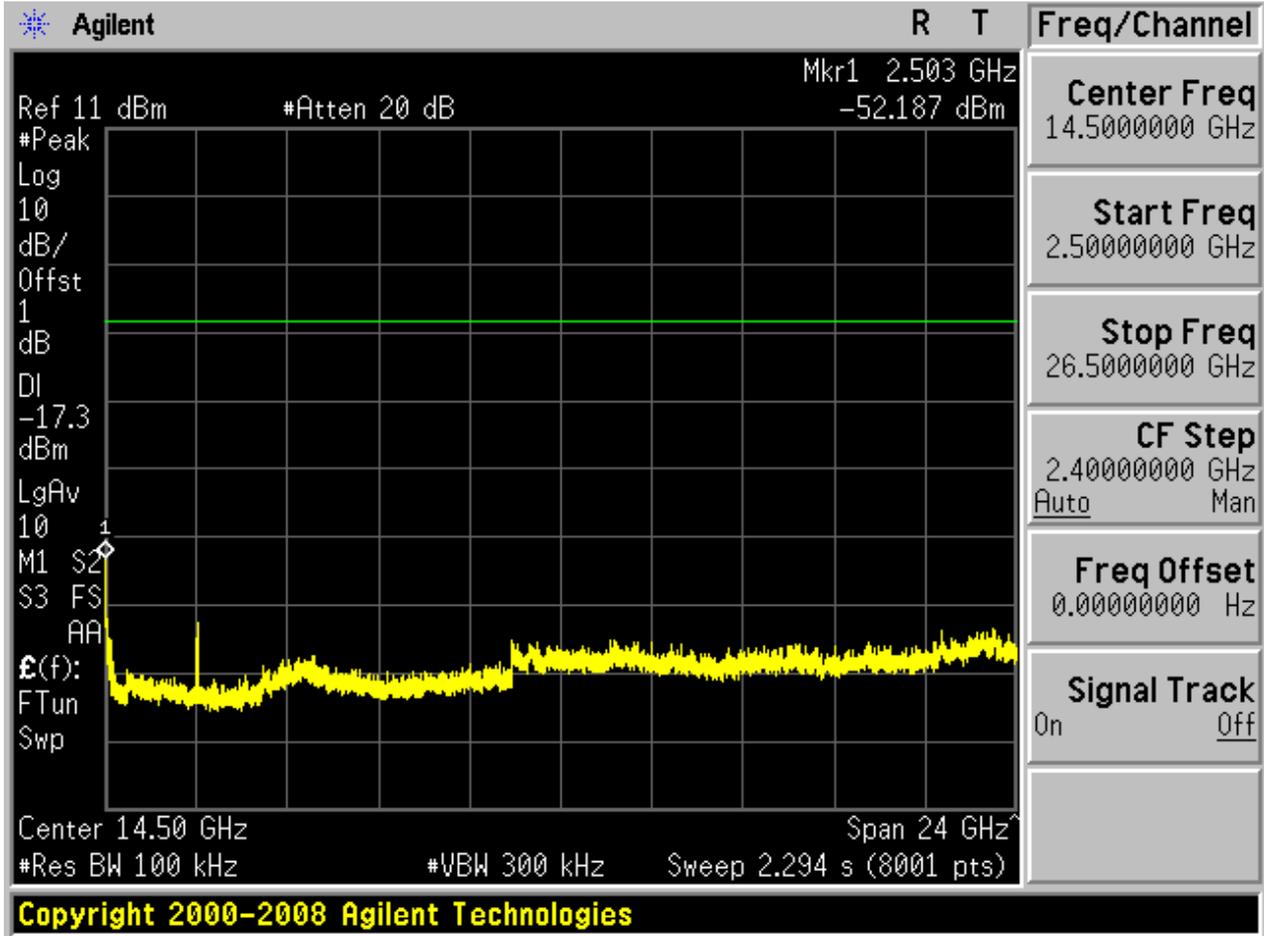








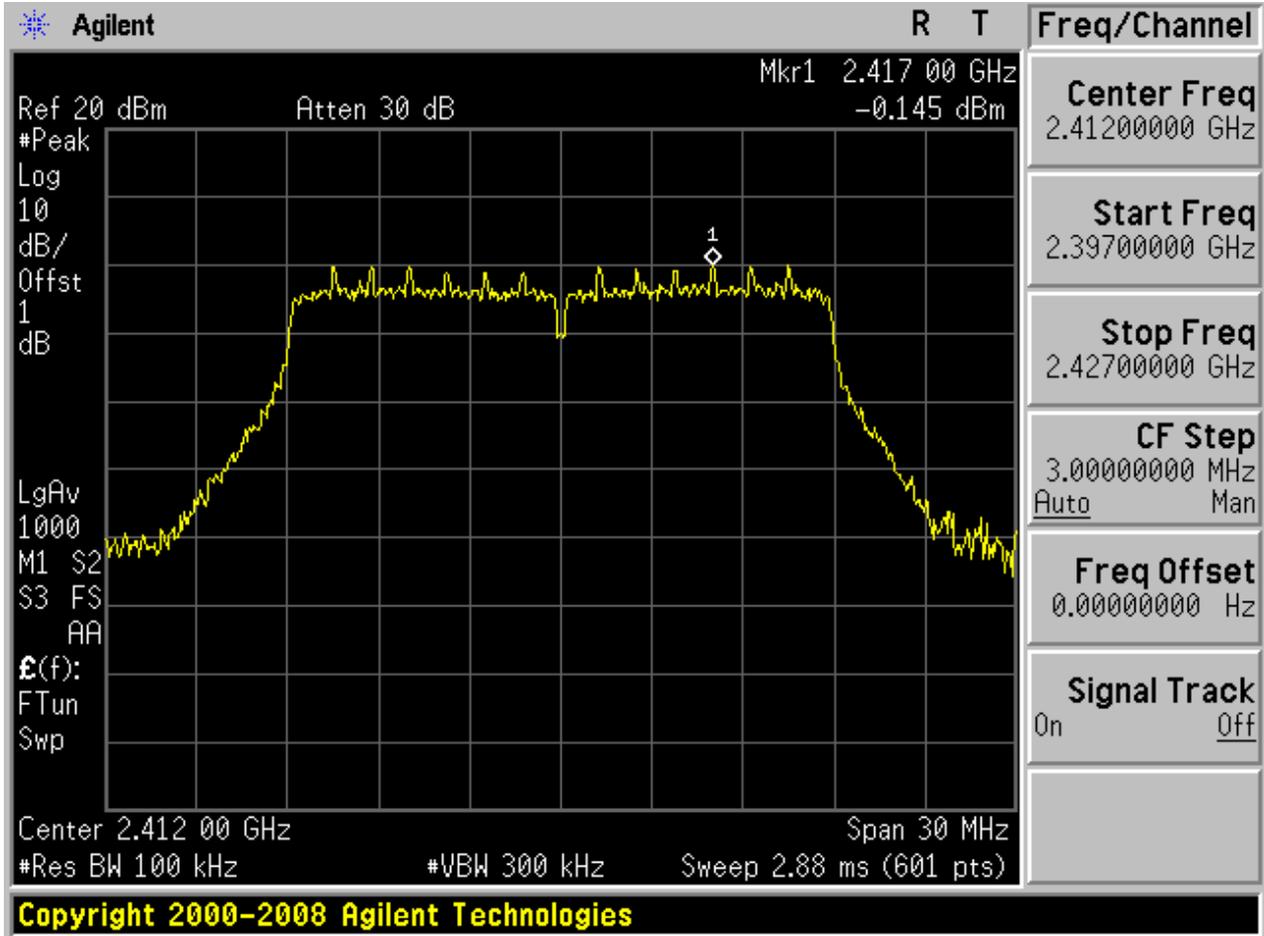






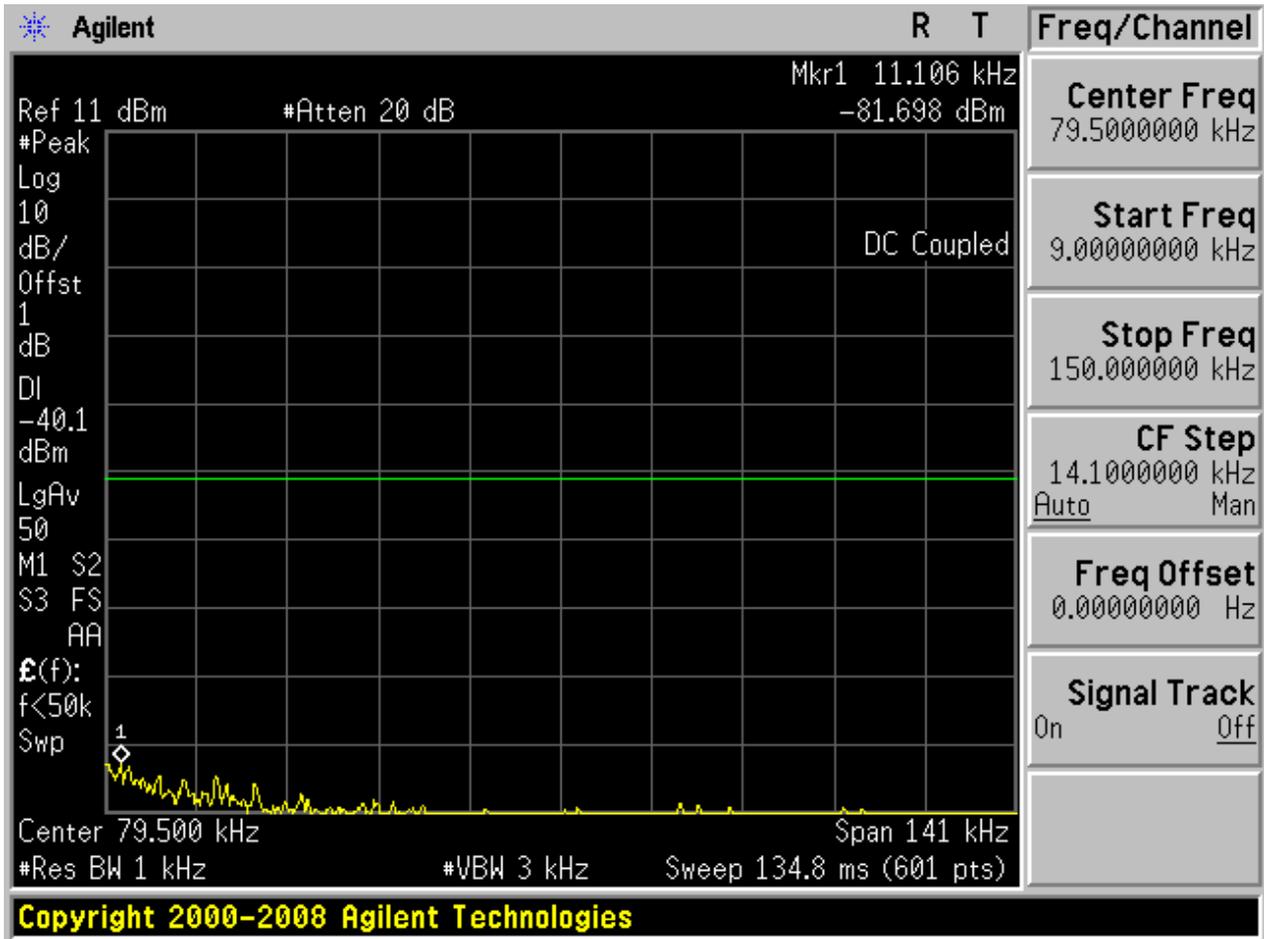
## 2.13 11N20\_L

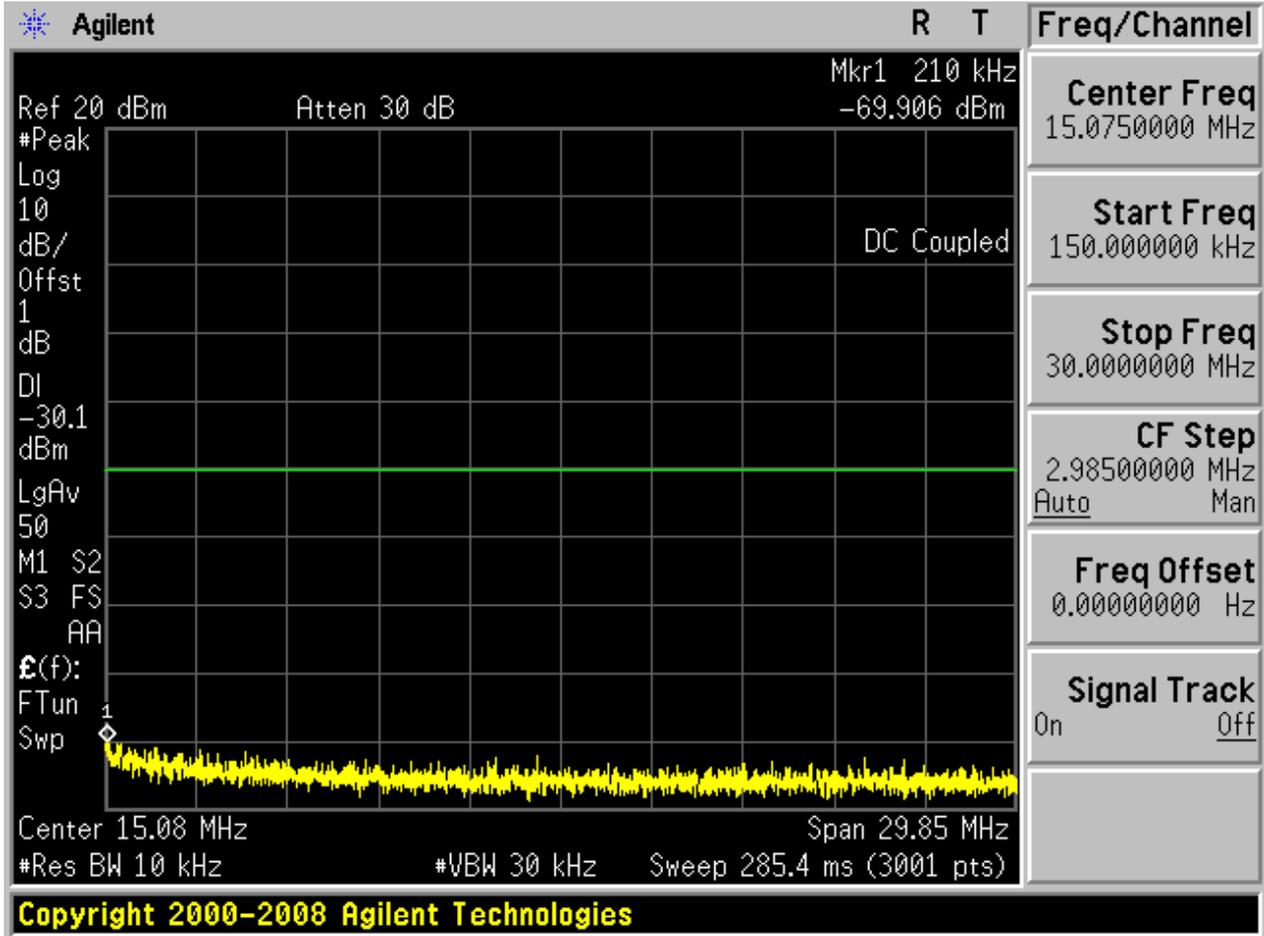
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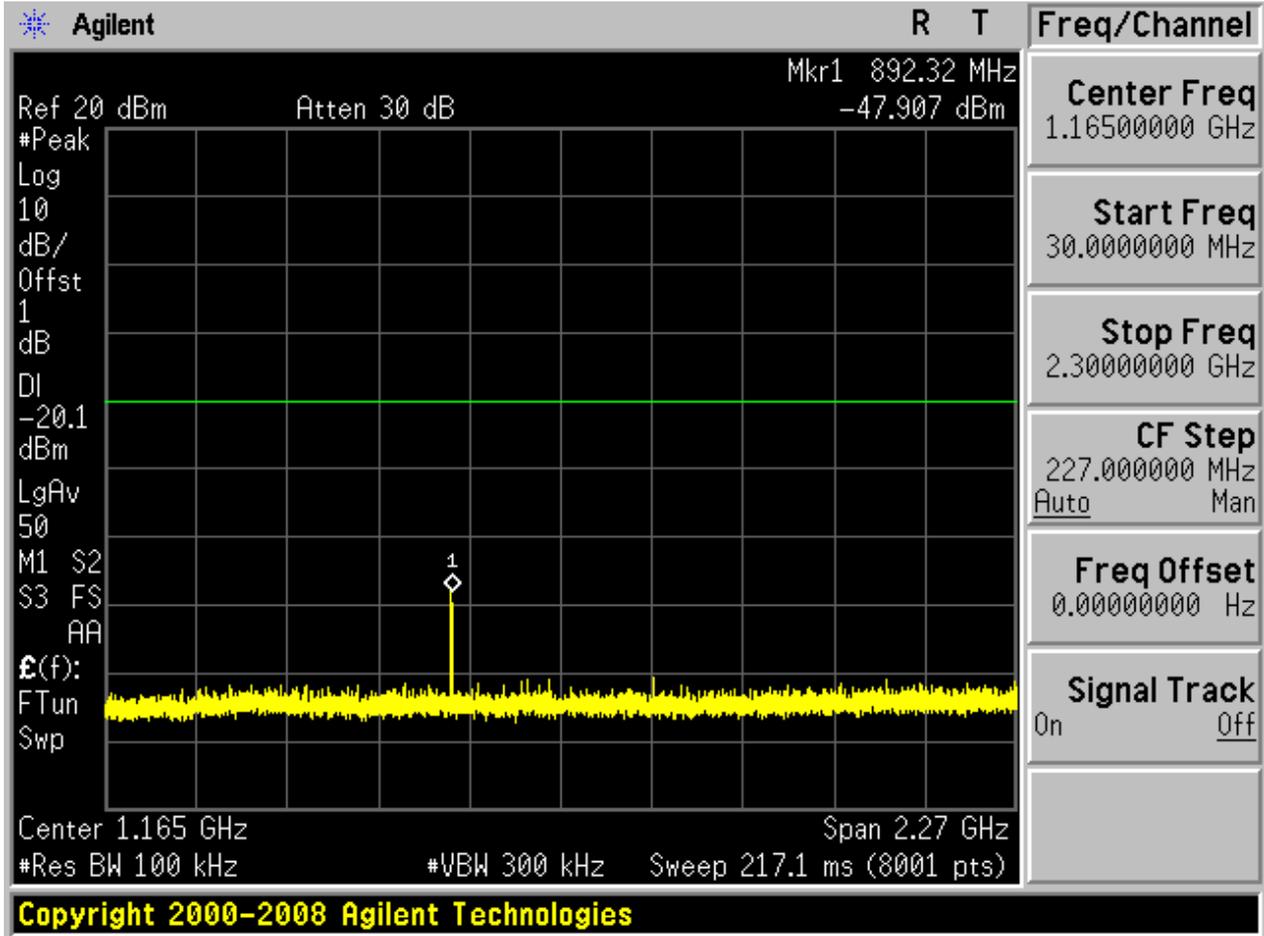


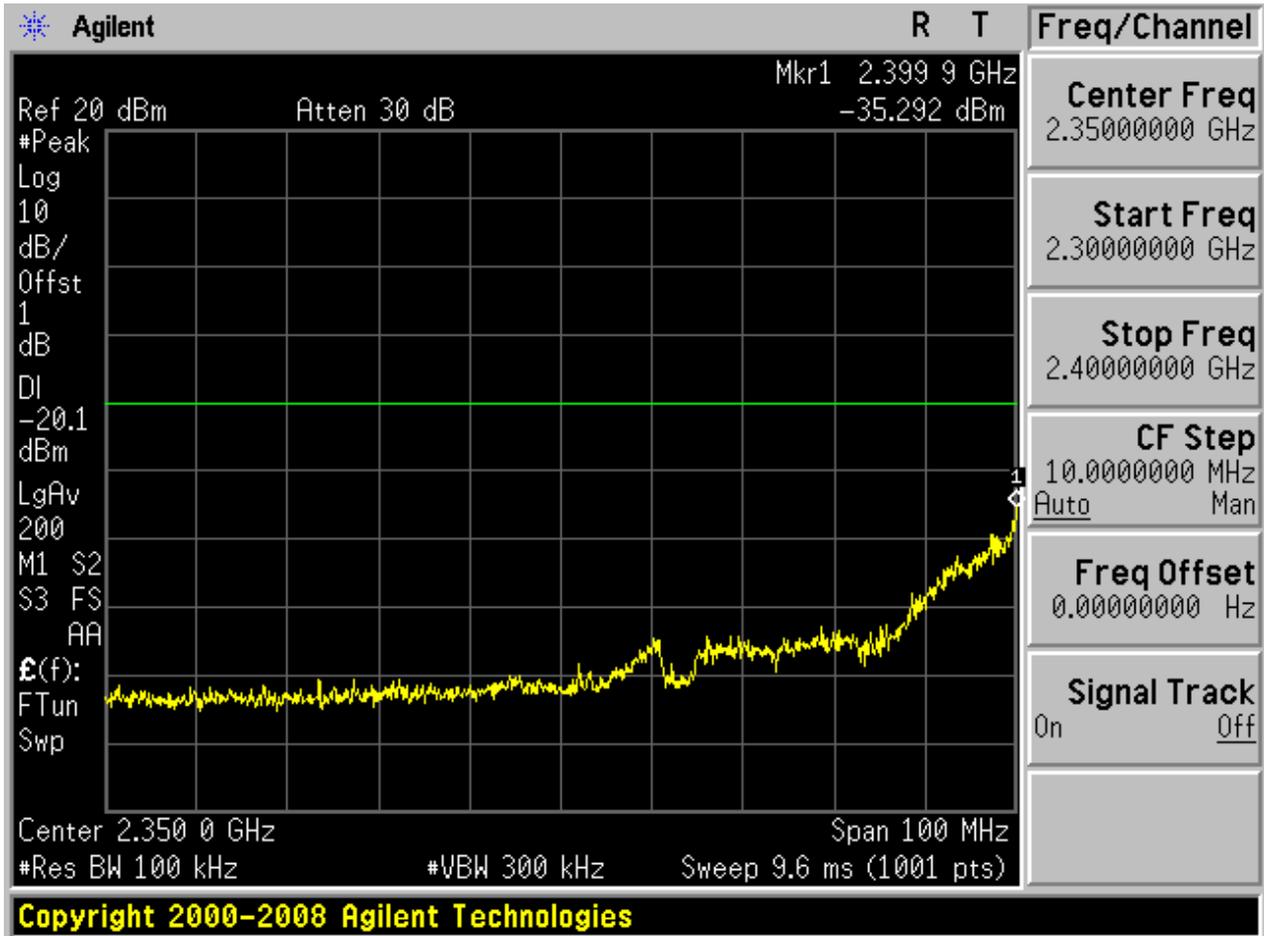


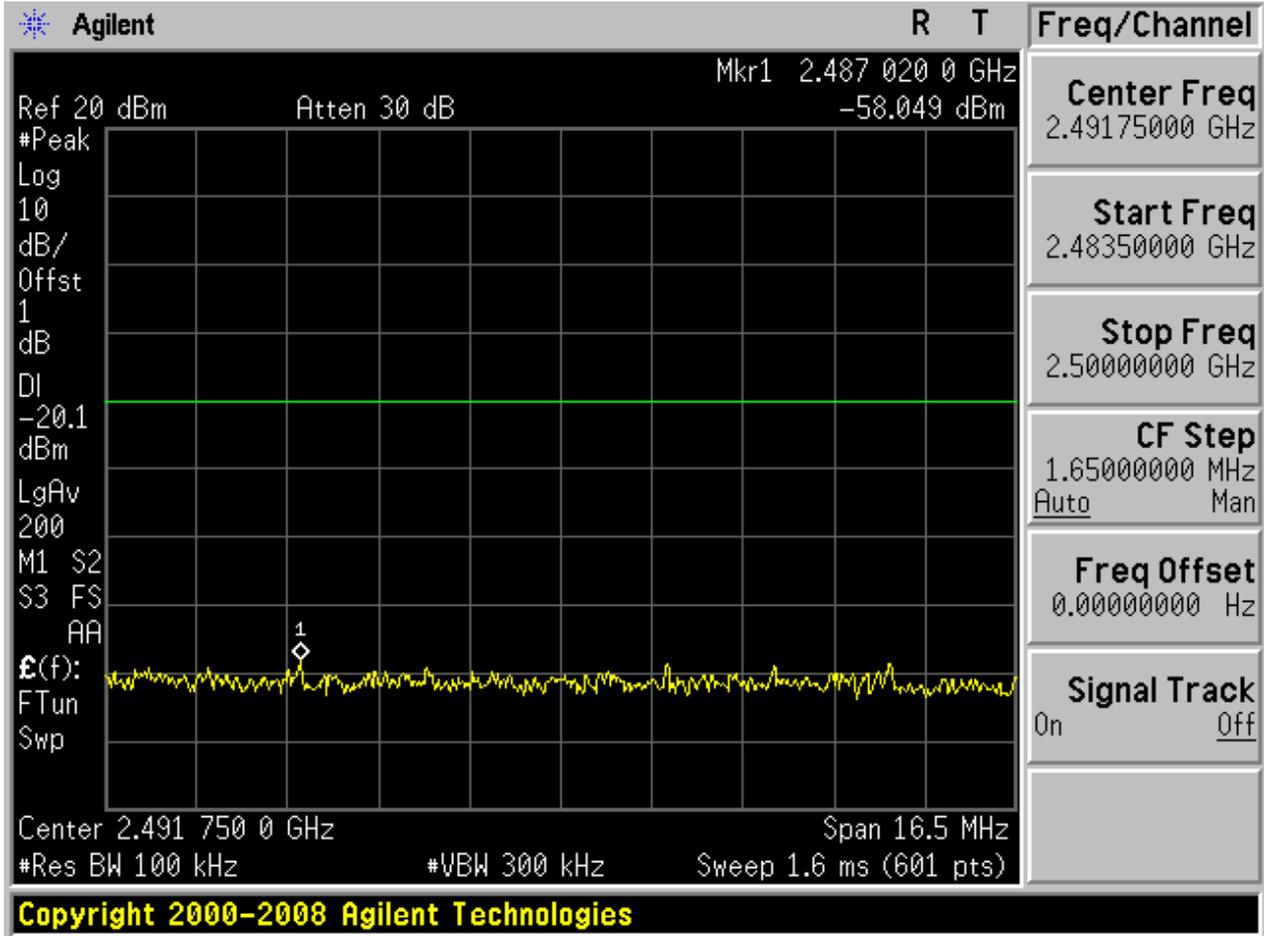
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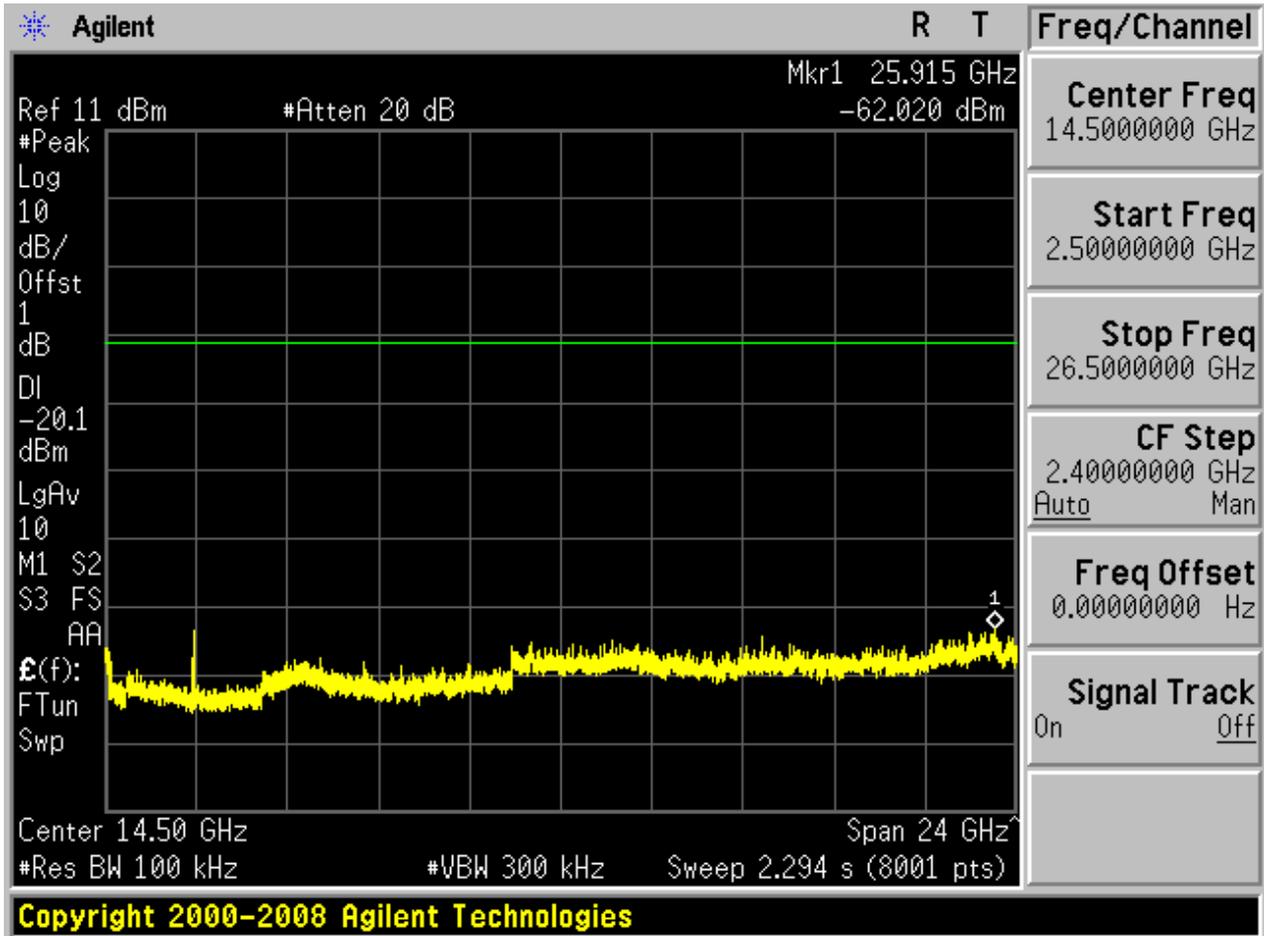








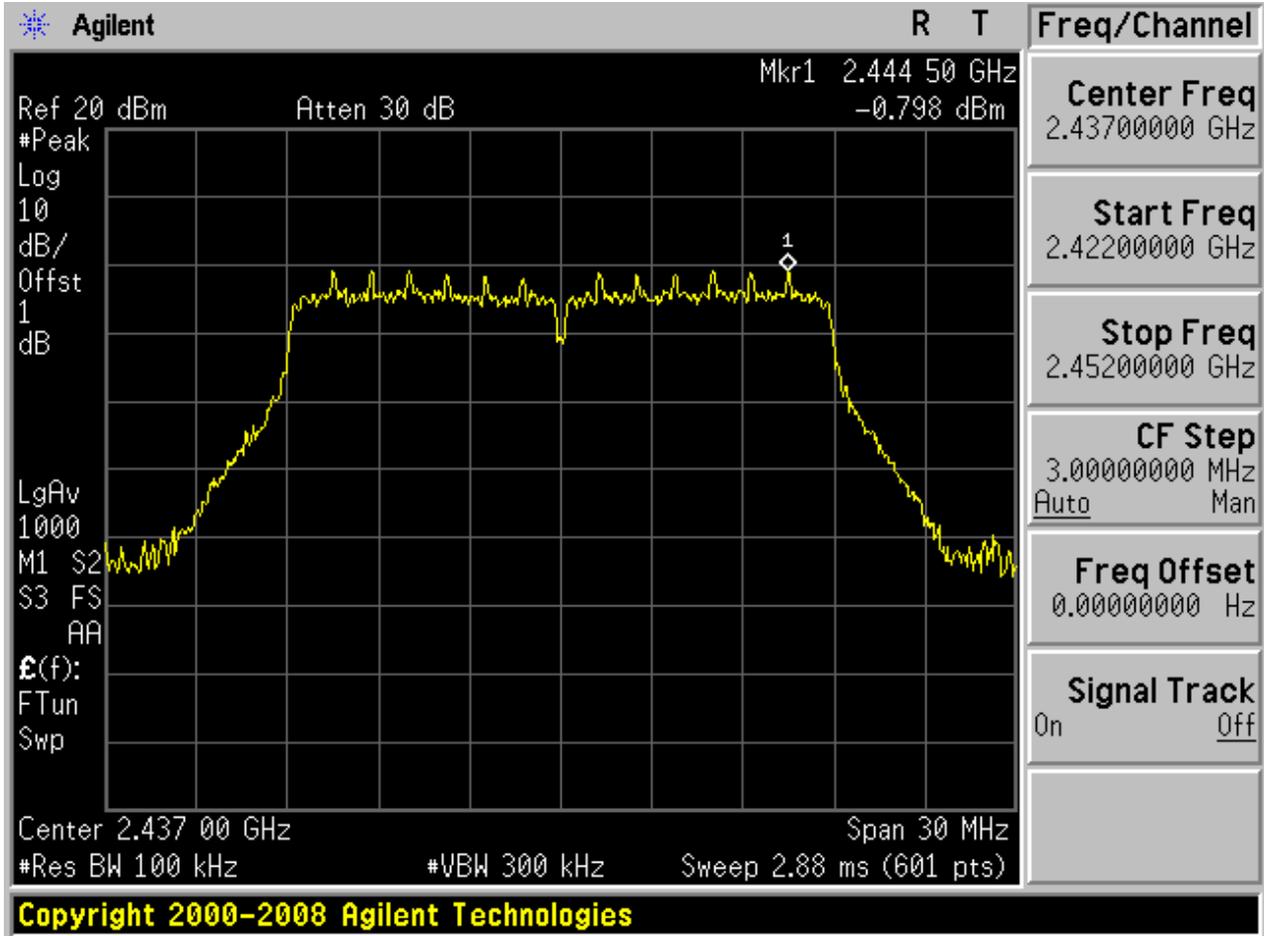






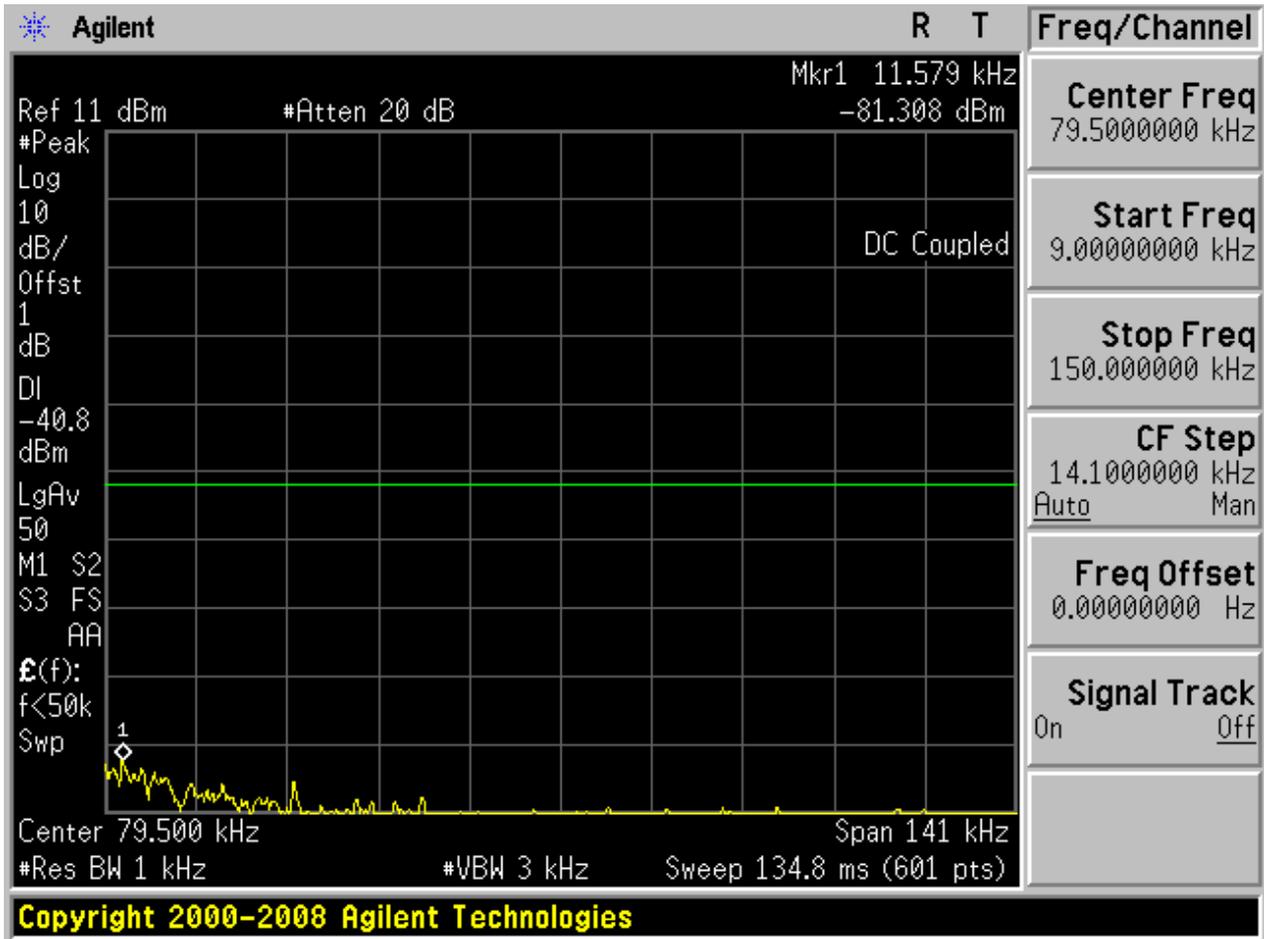
## 2.15 11N20\_M

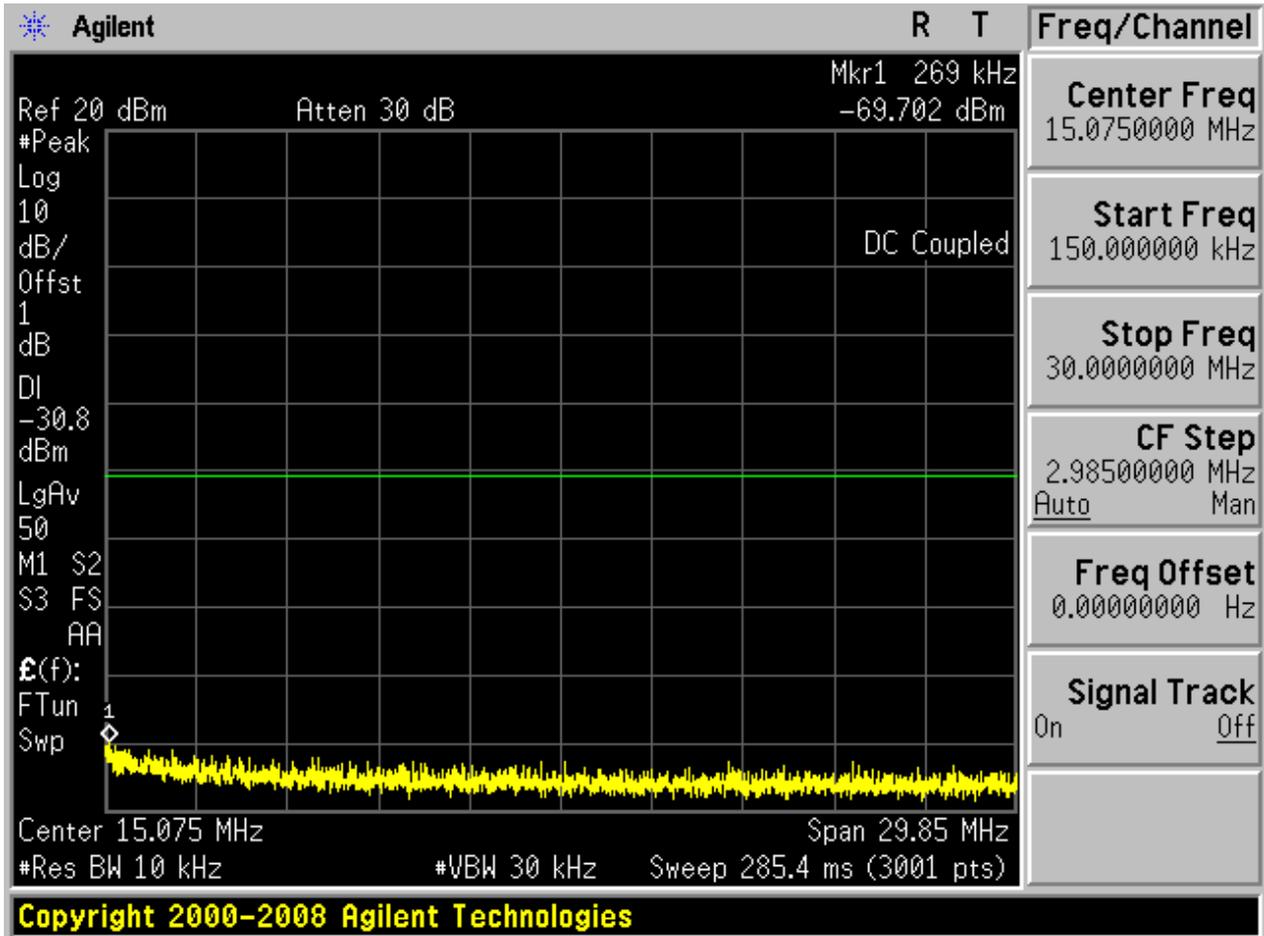
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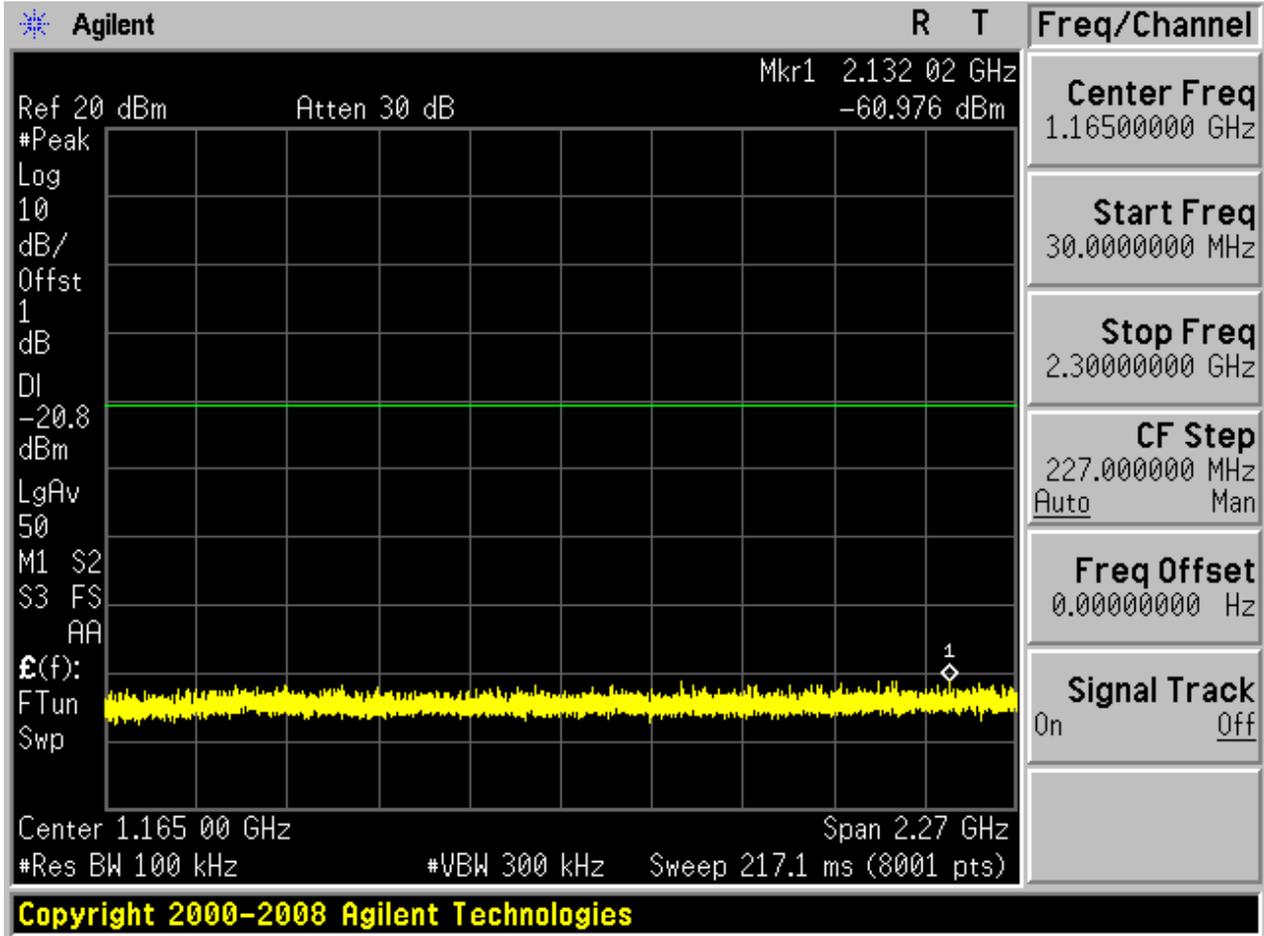


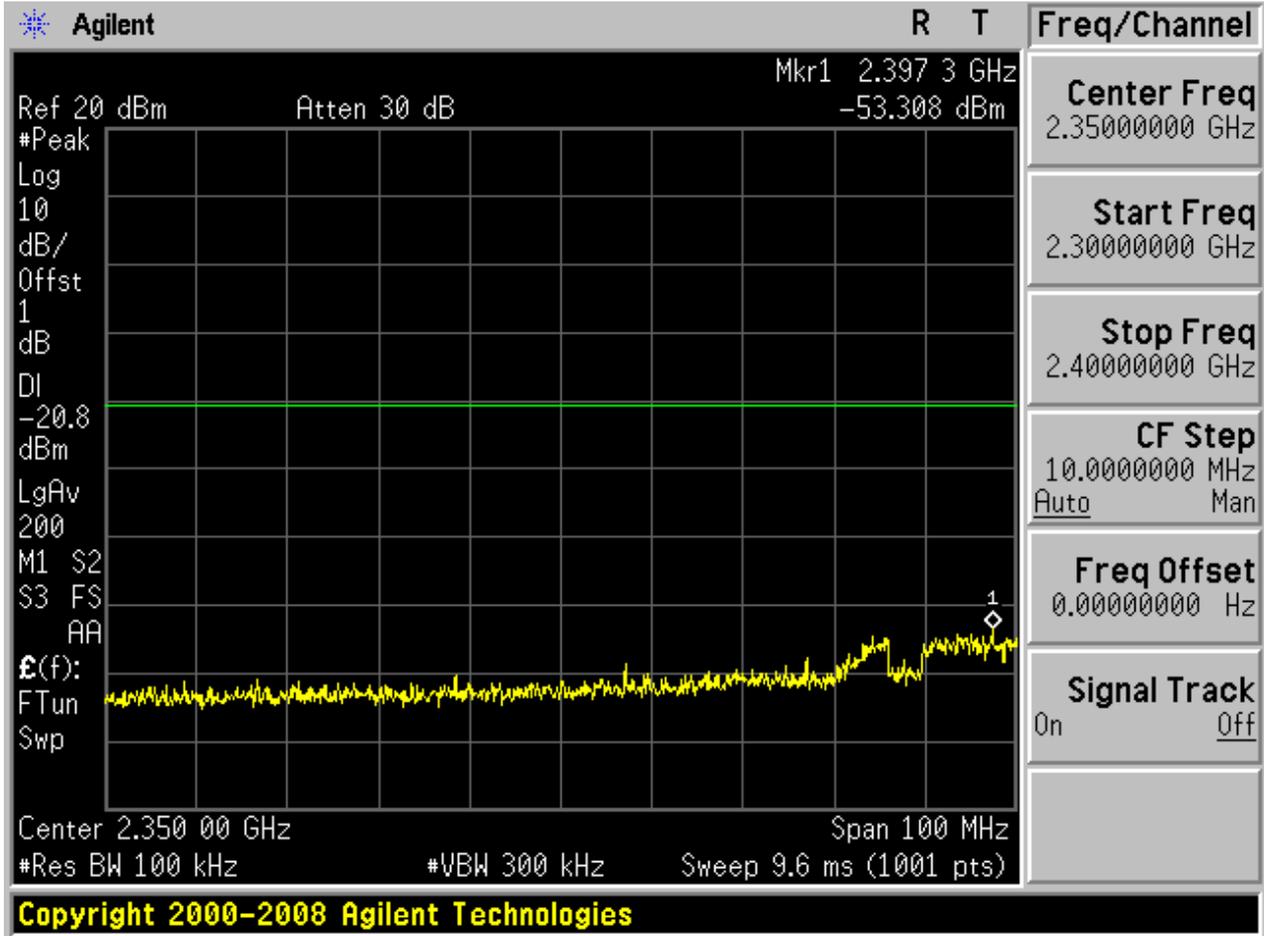


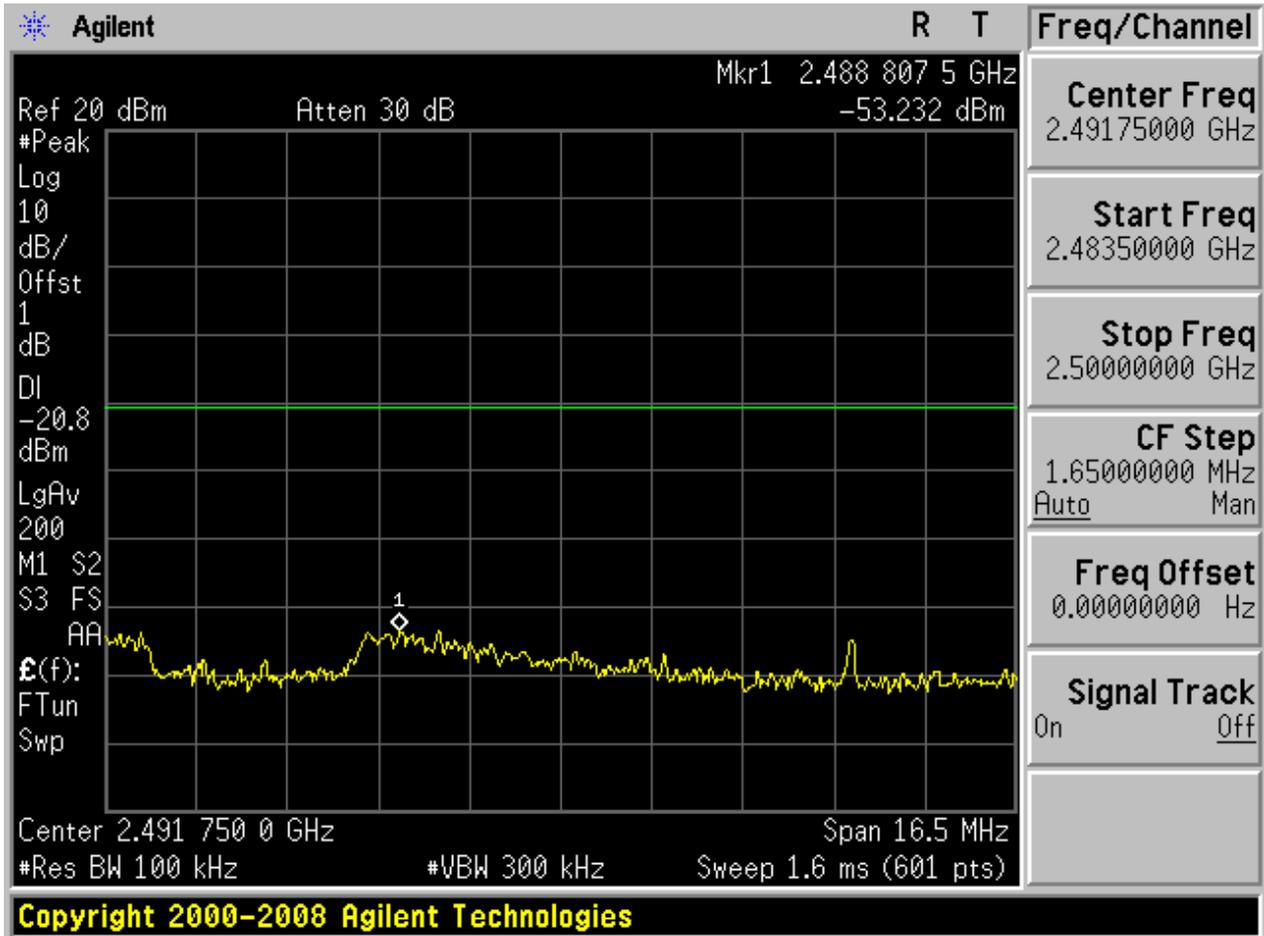
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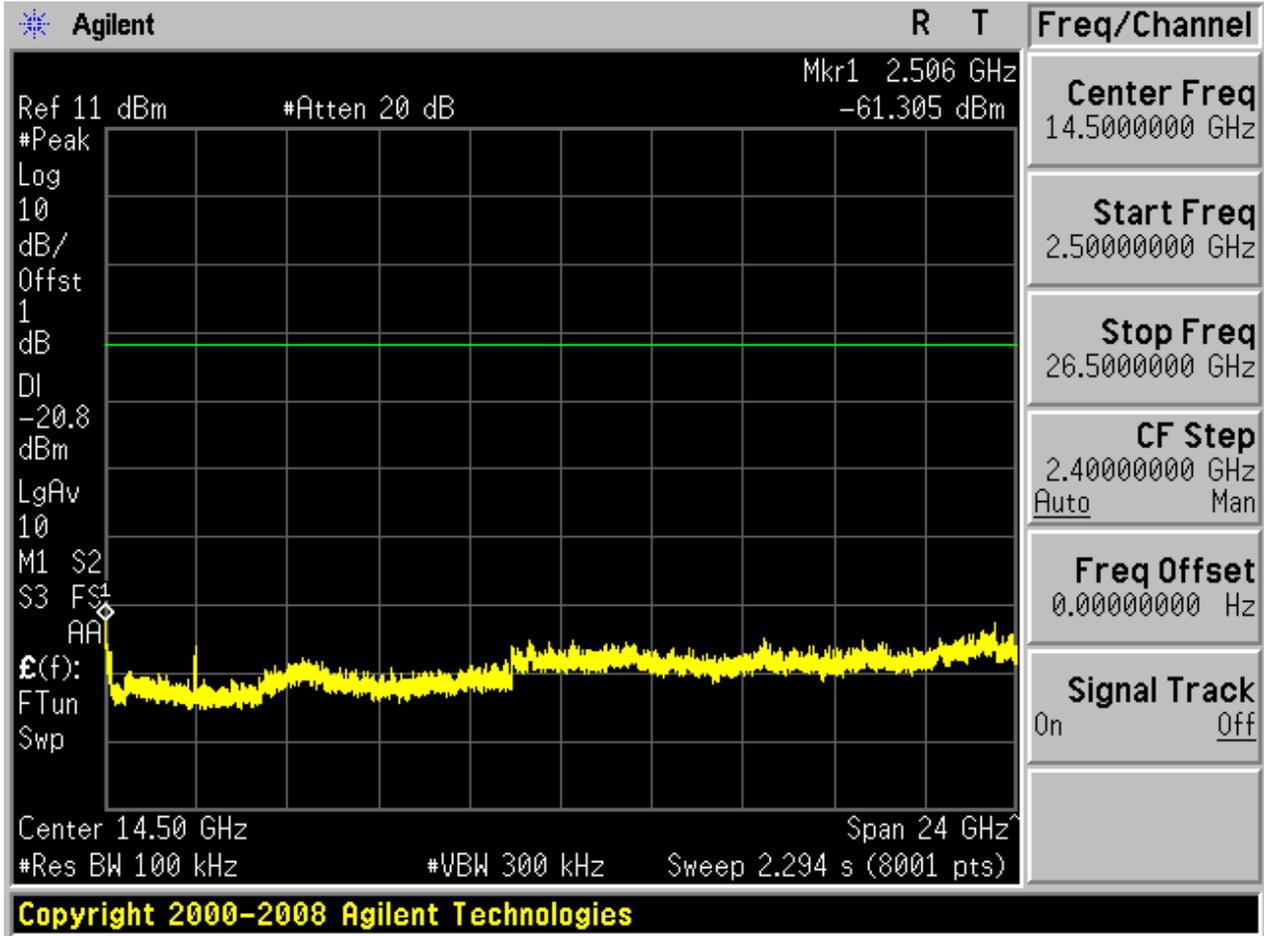








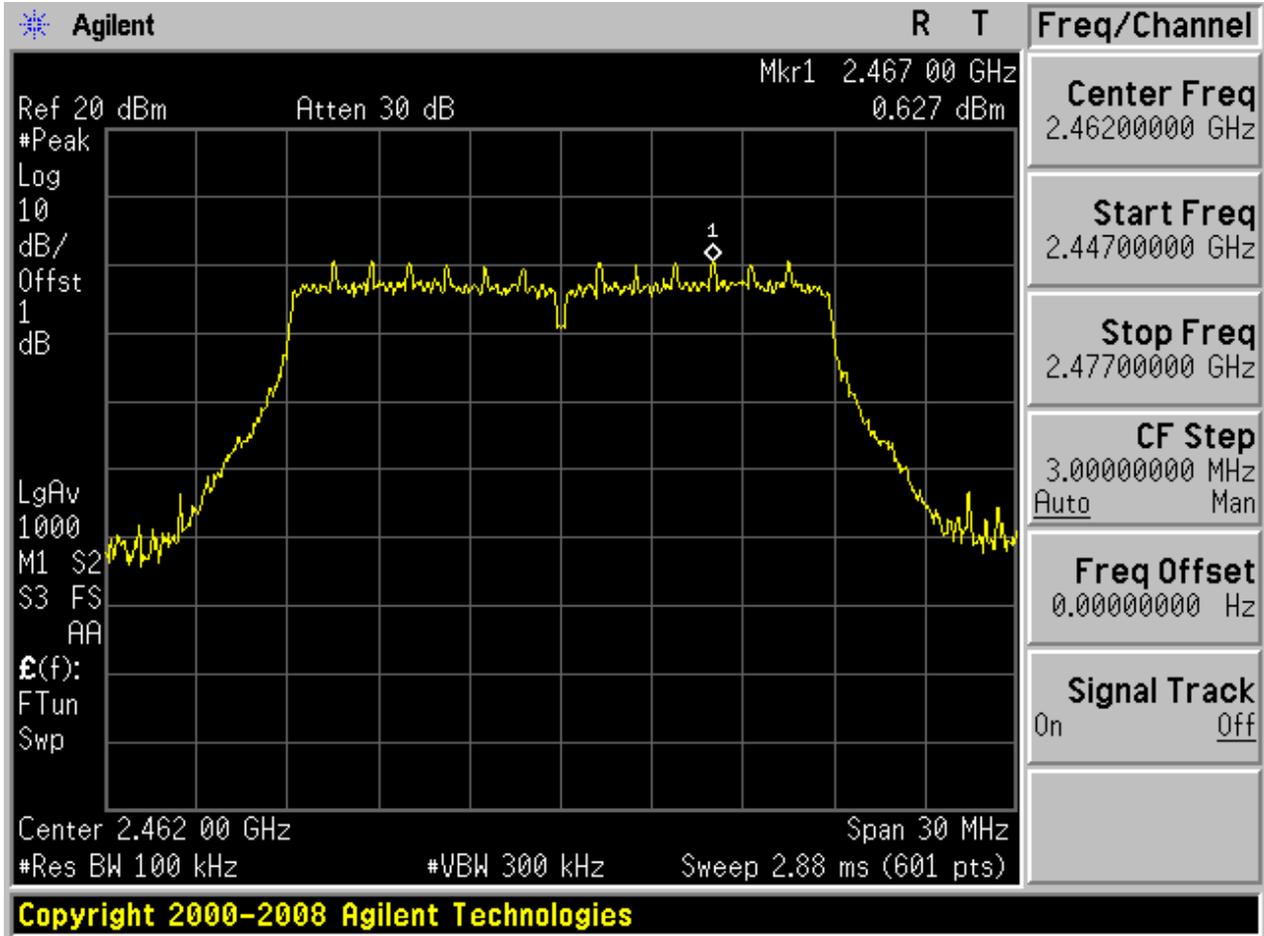






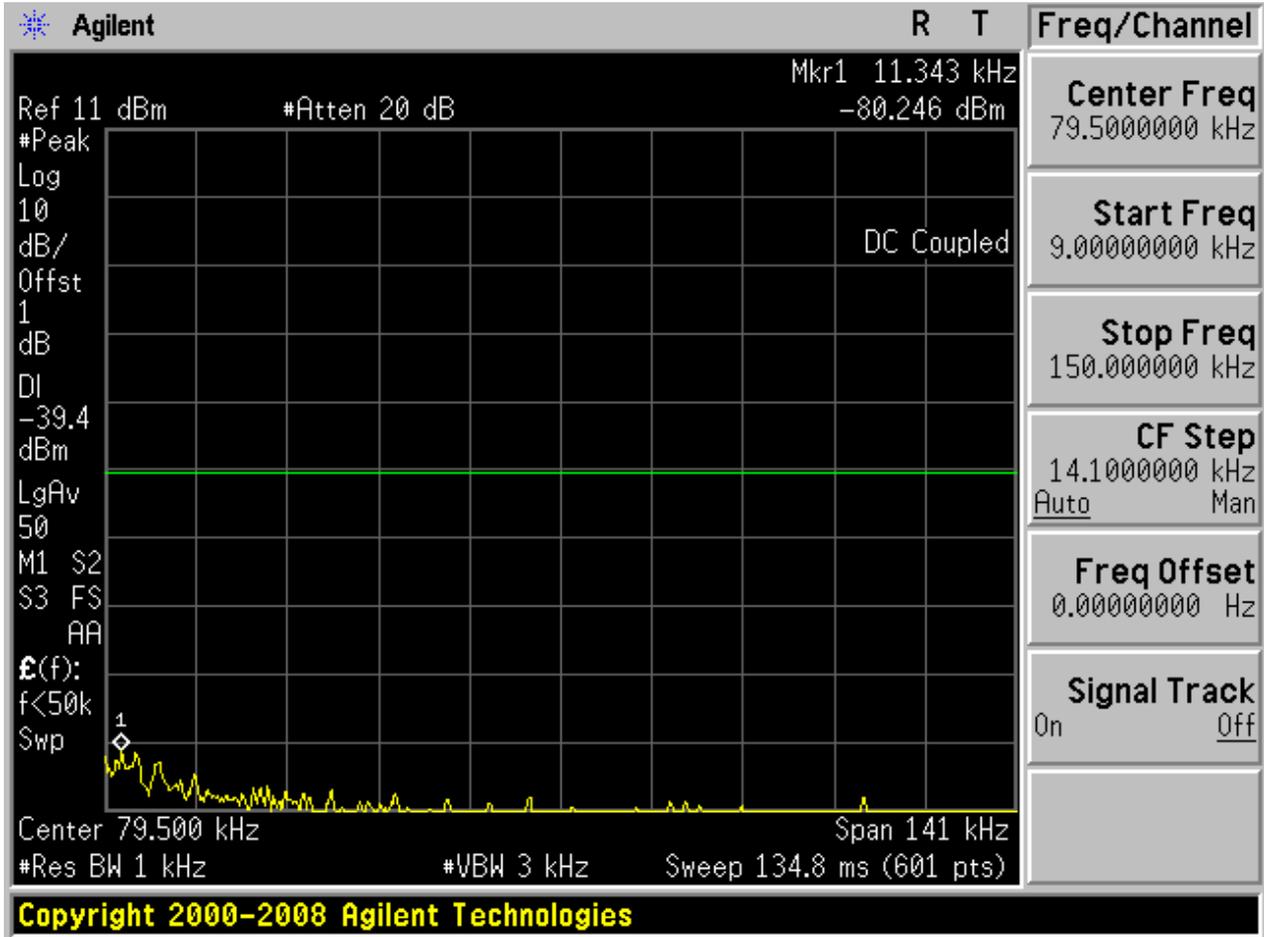
## 2.17 11N20\_H

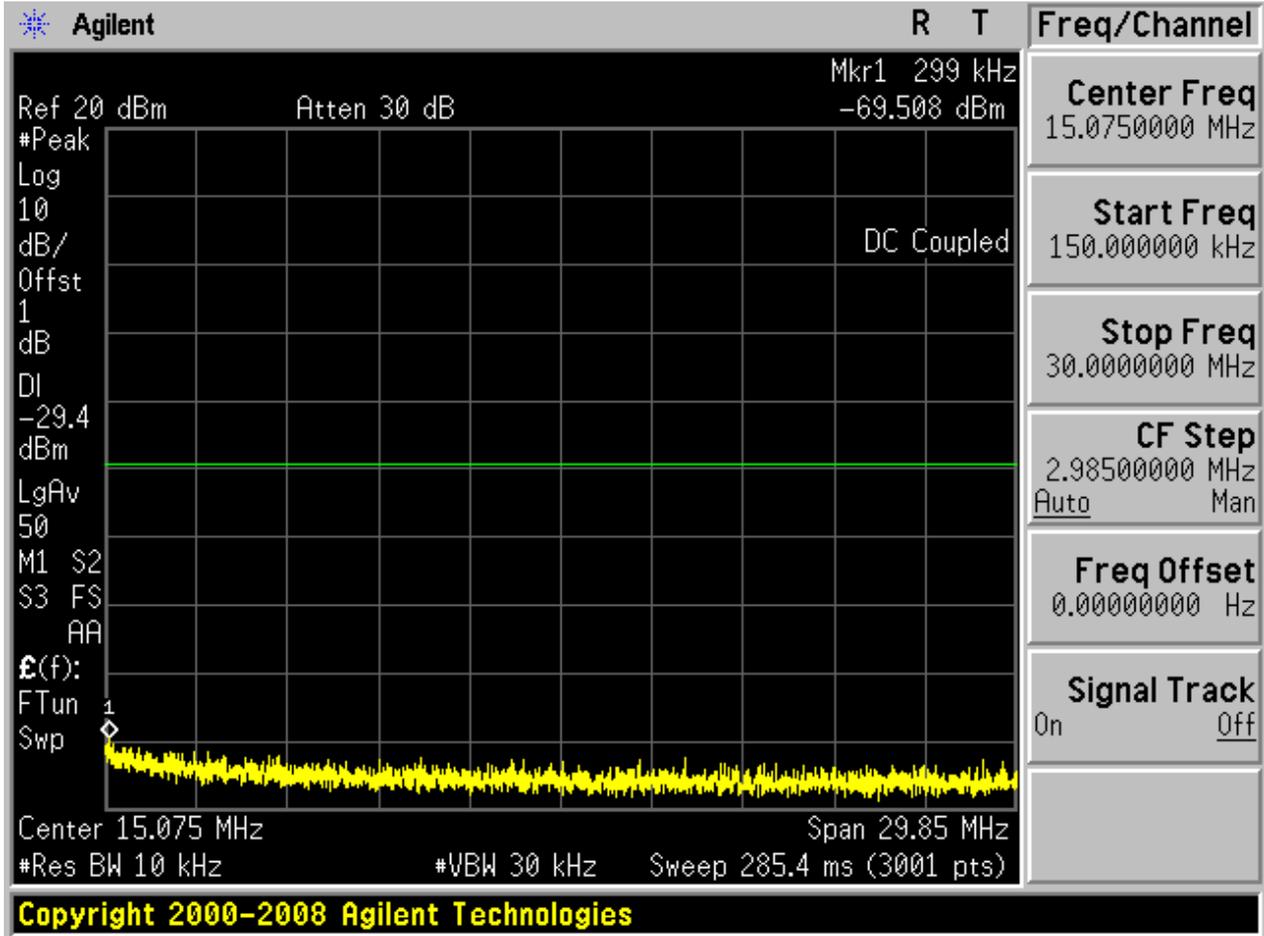
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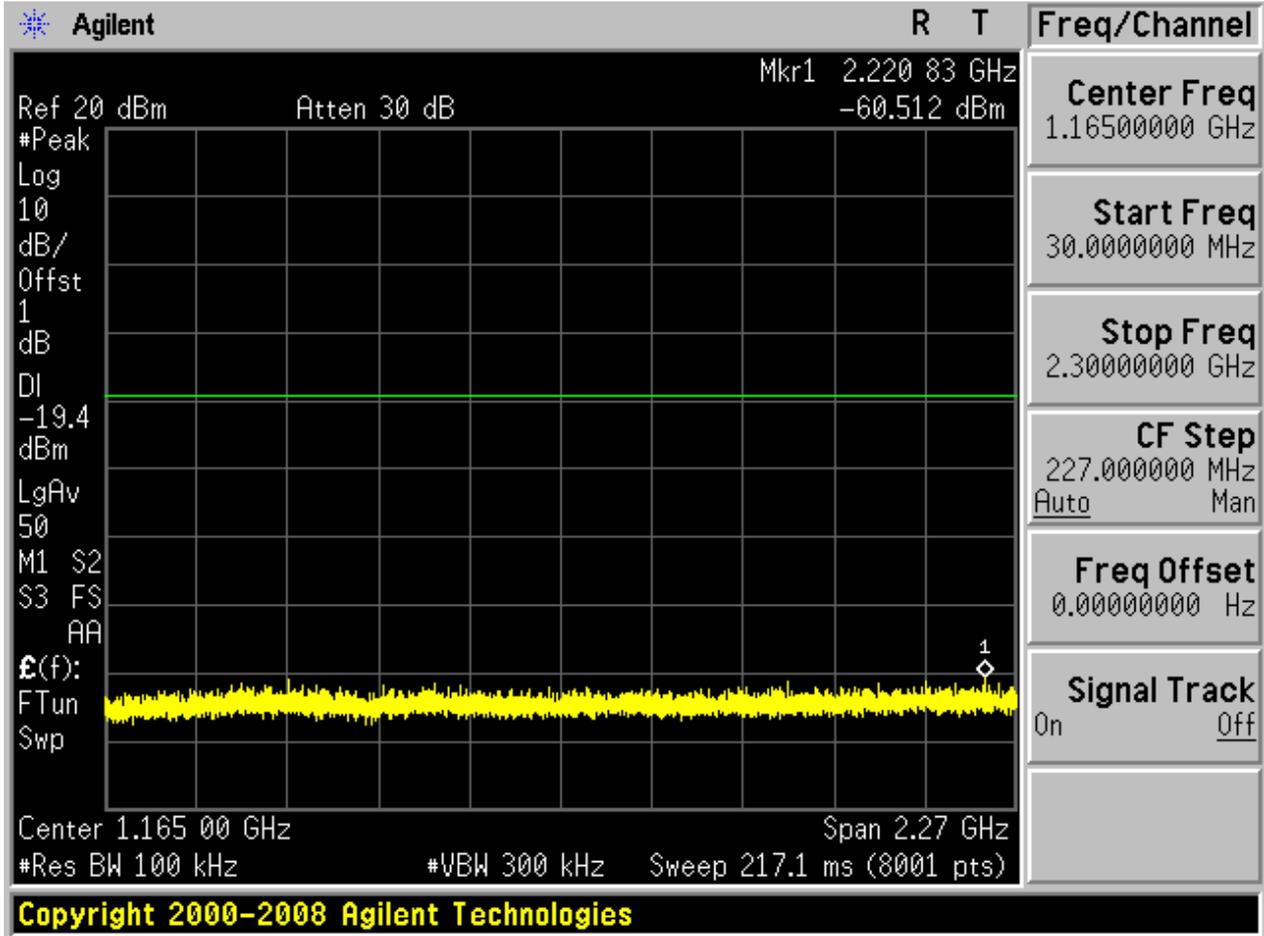


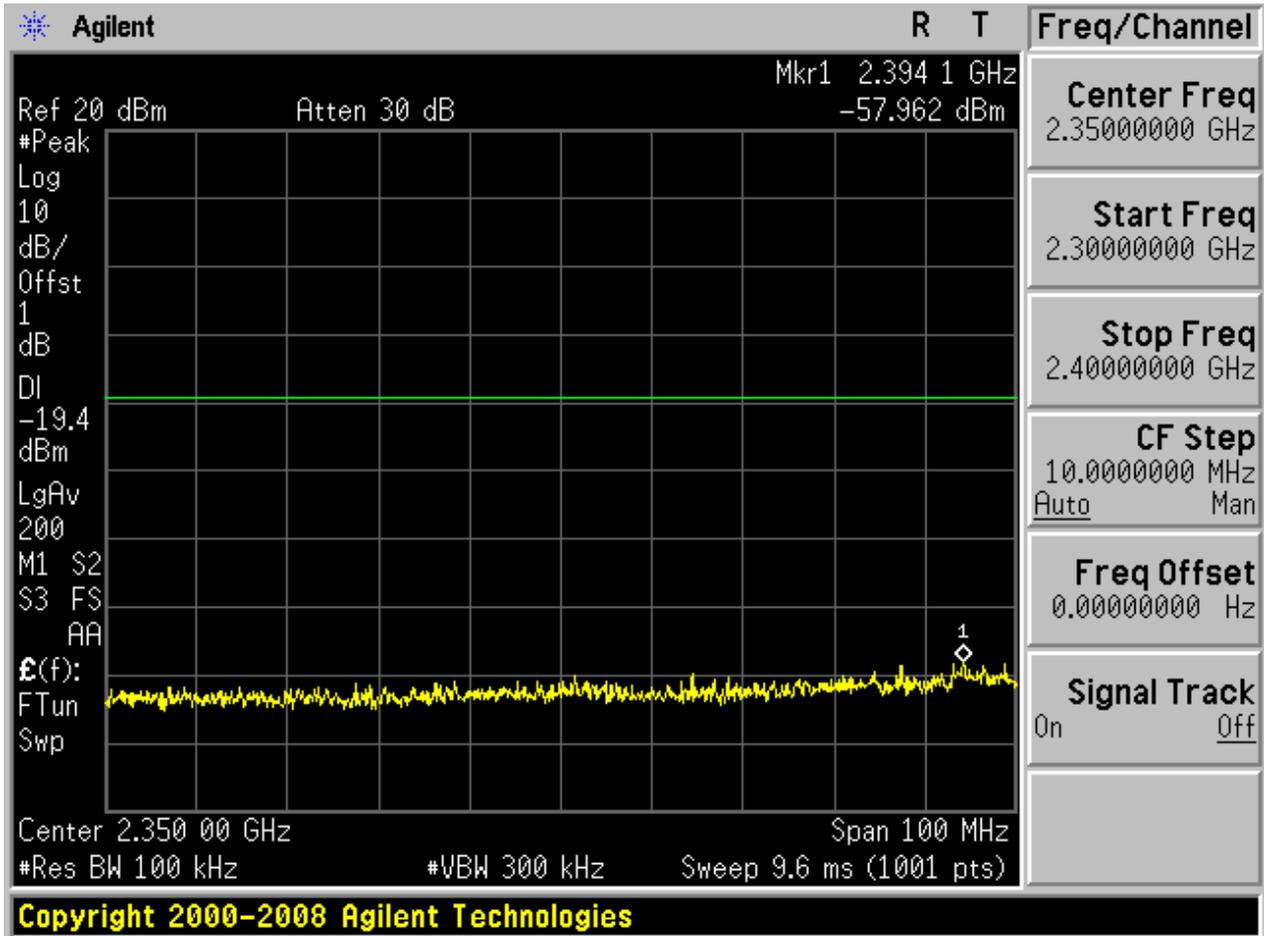


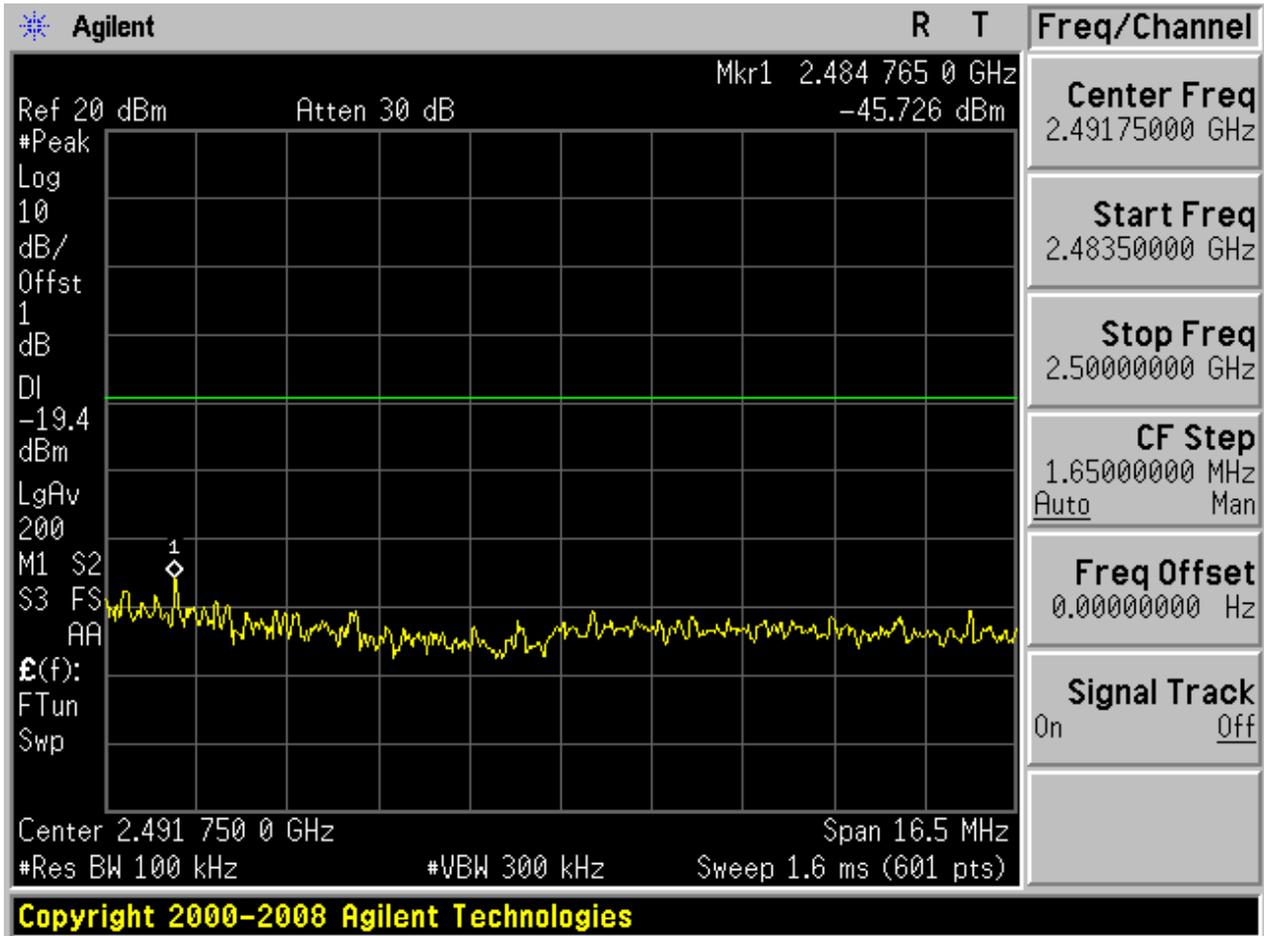
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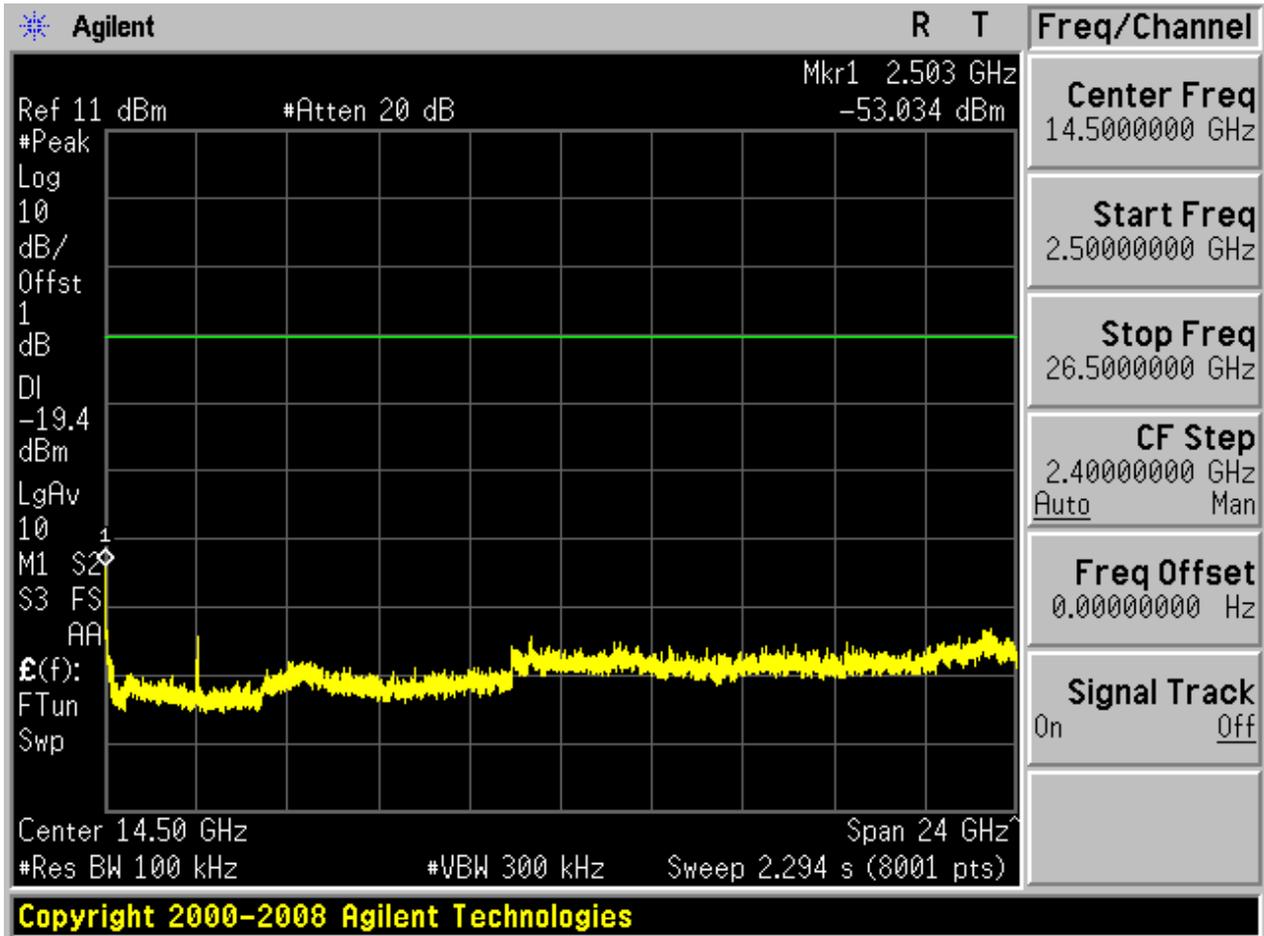










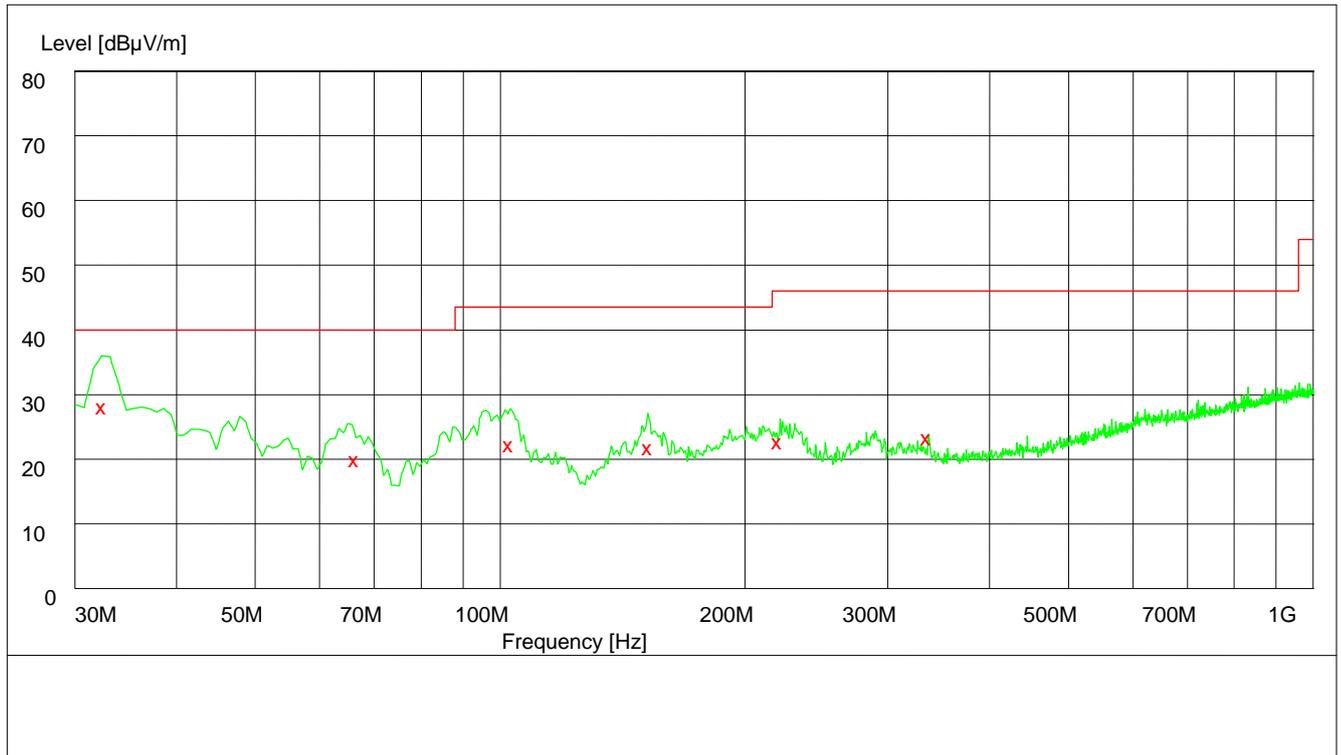




## **Appendix F: Radiated Spurious Emission & Spurious in Restricted Band**

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

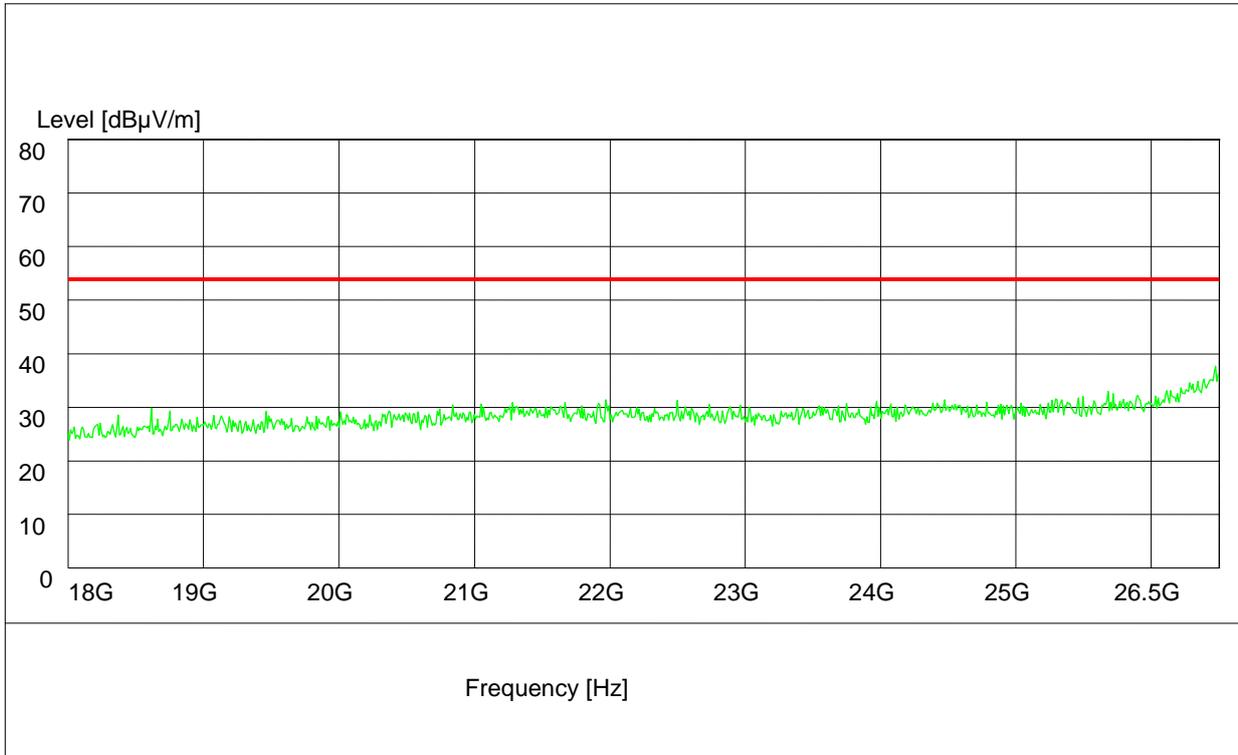
- Note 1: The test results and plot for testing range of “30 MHz to 1 GHz” showed as below is **the WORST case for all Test Modes and Channels**. This range will not be presented for each Test Mode and each Channel.
- Note 2: **The emissions in this range are mainly from the Platform Device (Notepad PC and its ancillary components).**



Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Plarization
32.520000	29.60	14.1	40.0	10.4	110.0	271.00	VERTICAL
66.540000	21.30	11.3	40.0	18.7	200.0	78.00	VERTICAL
103.200000	23.70	13.2	43.5	19.8	103.0	192.00	VERTICAL
152.880000	23.30	10.0	43.5	20.2	100.0	102.00	VERTICAL
220.800000	24.10	13.0	46.0	21.9	152.0	102.00	HORIZONTAL
336.000000	24.80	16.2	46.0	21.2	100.0	43.00	HORIZONTAL

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

Note: No peak found in pre- test.

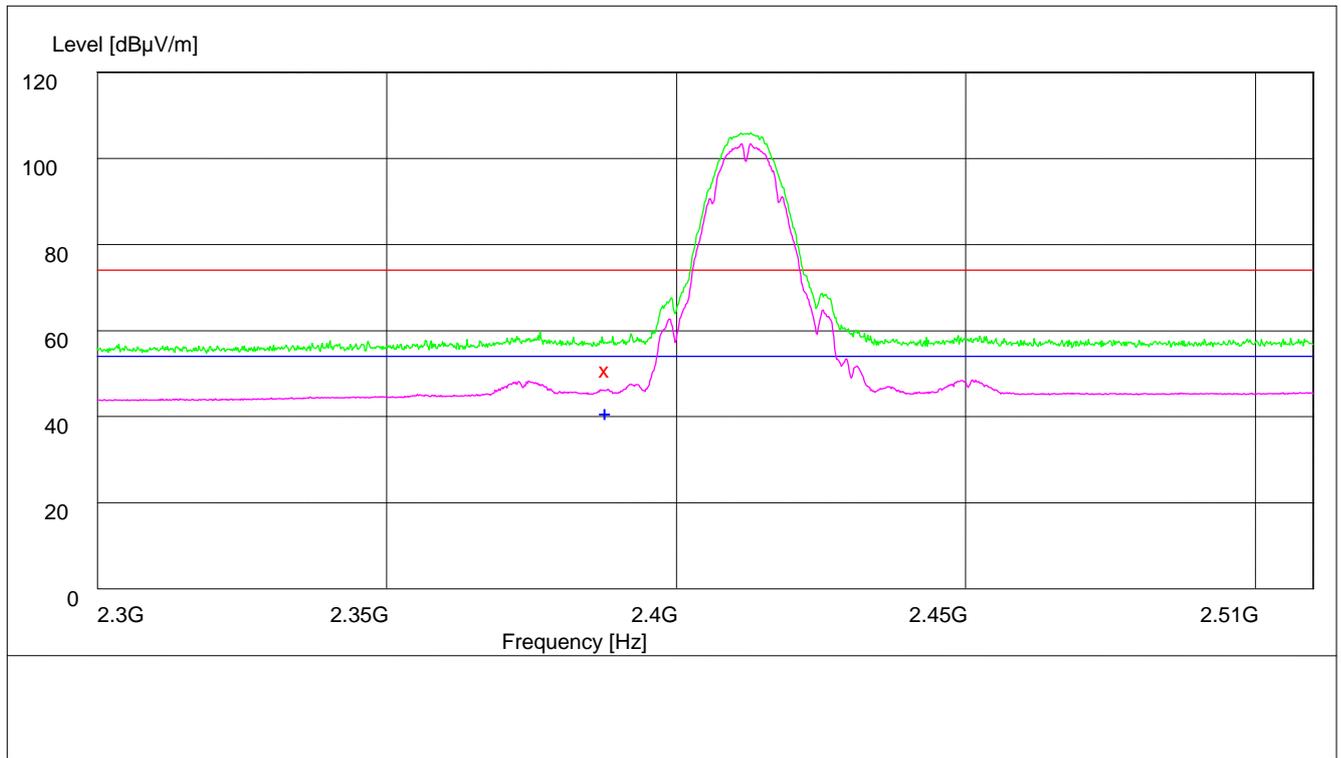


**Part 3: Testing Range of “2.3GHz to 2.5GHz”**

- 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 dBμV/m) and Average Limit (54 dBμV/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

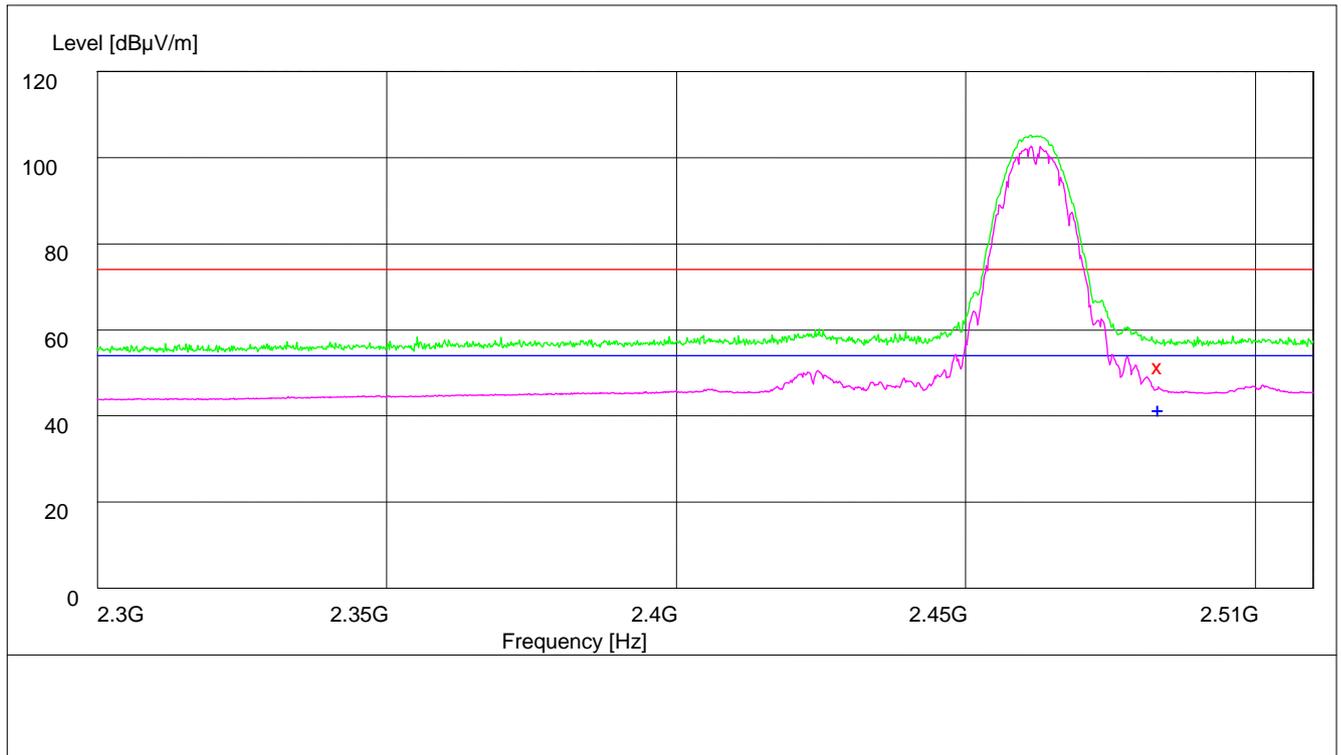
Frequency MHz	Level dBμV/m	Transd dB	Limit dBμV/m	Margin dB	Height cm	Azimuth deg	Polarization
2388.000000	53.10	34.7	74.0	20.9	100.0	10.00	VERTICAL

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
2388.000000	43.20	34.7	54.0	10.8	100.0	246.00	HORIZONTAL

### Channel 11



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

MEASUREMENT RESULT: PK Detector

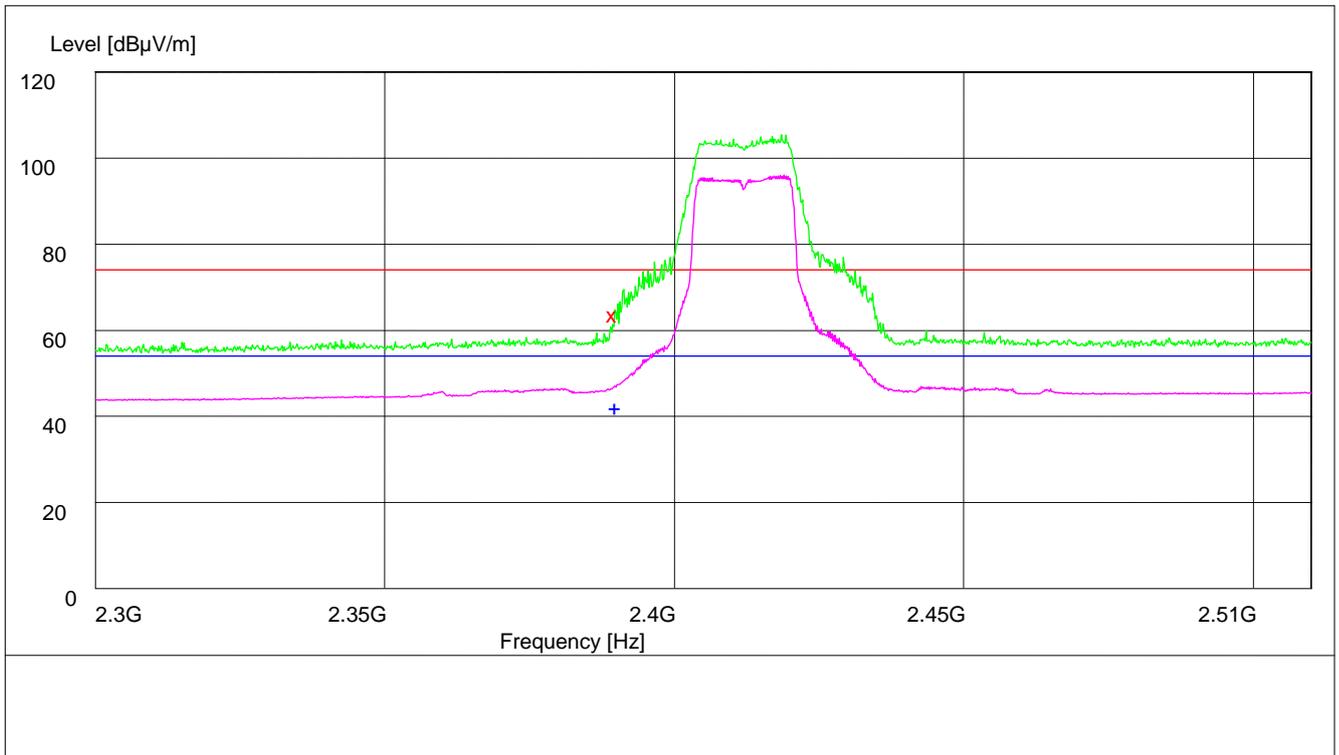
Frequency MHz	Level dB $\mu$ V/m	Transd dB	Limit dB $\mu$ V/m	Margin dB	Height cm	Azimuth deg	Polarization
2483.500000	53.60	35.0	74.0	20.4	100.0	280.00	HORIZONTAL

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
2483.500000	43.70	35.0	54.0	10.3	100.0	248.00	HORIZONTAL

# Test Mode: 11g

## Channel 01



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

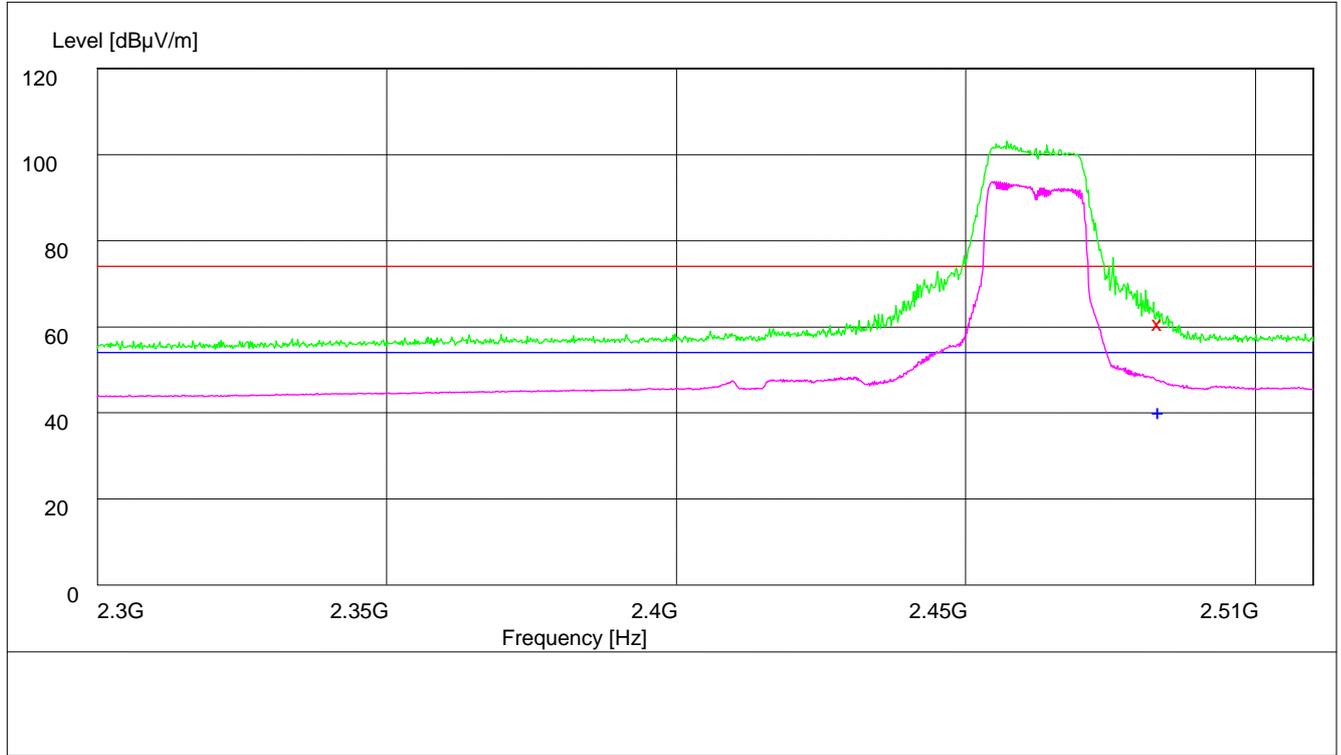
### MEASUREMENT RESULT: PK Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2389.500000	65.70	34.7	74.0	8.3	152.0	23.00	HORIZONTAL

### MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	44.30	34.7	54.0	9.7	100.0	245.00	HORIZONTAL

## Channel 11



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

MEASUREMENT RESULT: PK Detector

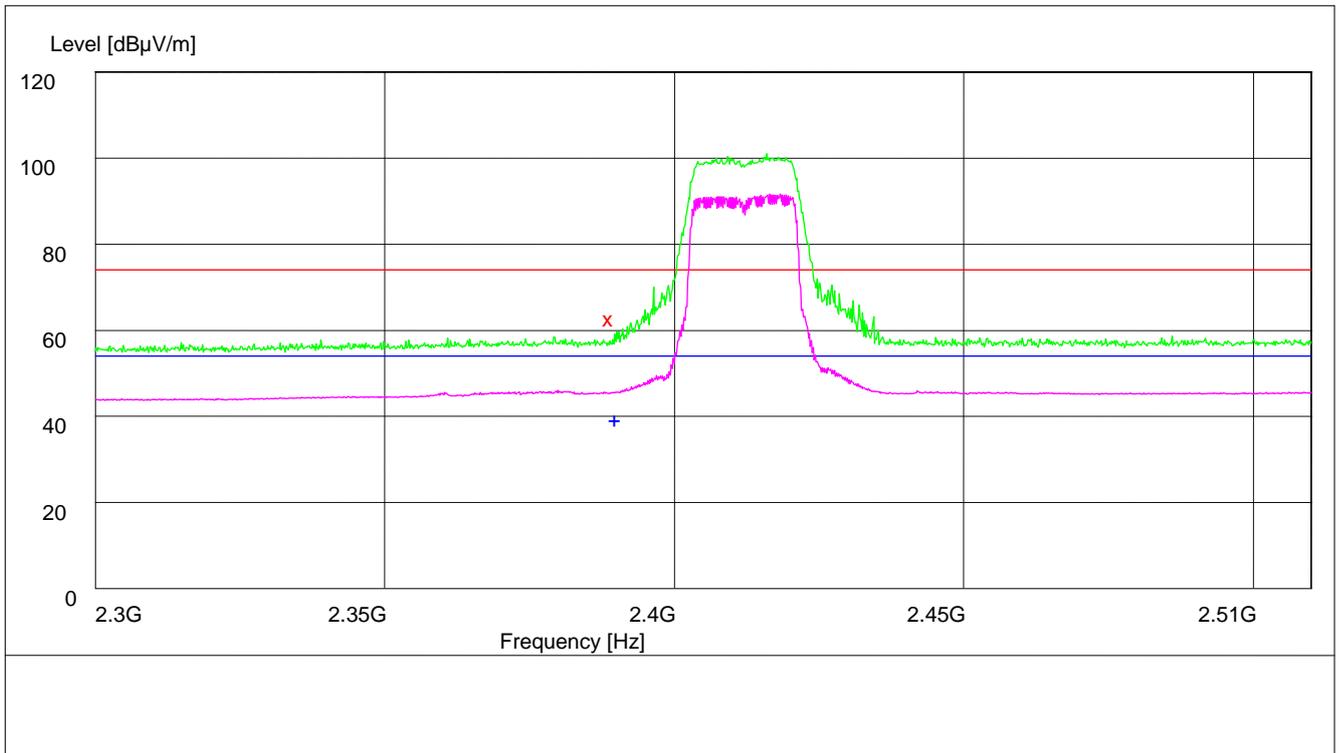
Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2483.500000	62.90	35.0	74.0	11.1	100.0	184.00	HORIZONTAL

MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2483.500000	42.30	35.0	54.0	11.7	100.0	245.00	HORIZONTAL

# Test Mode: 11n

## Channel 01



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

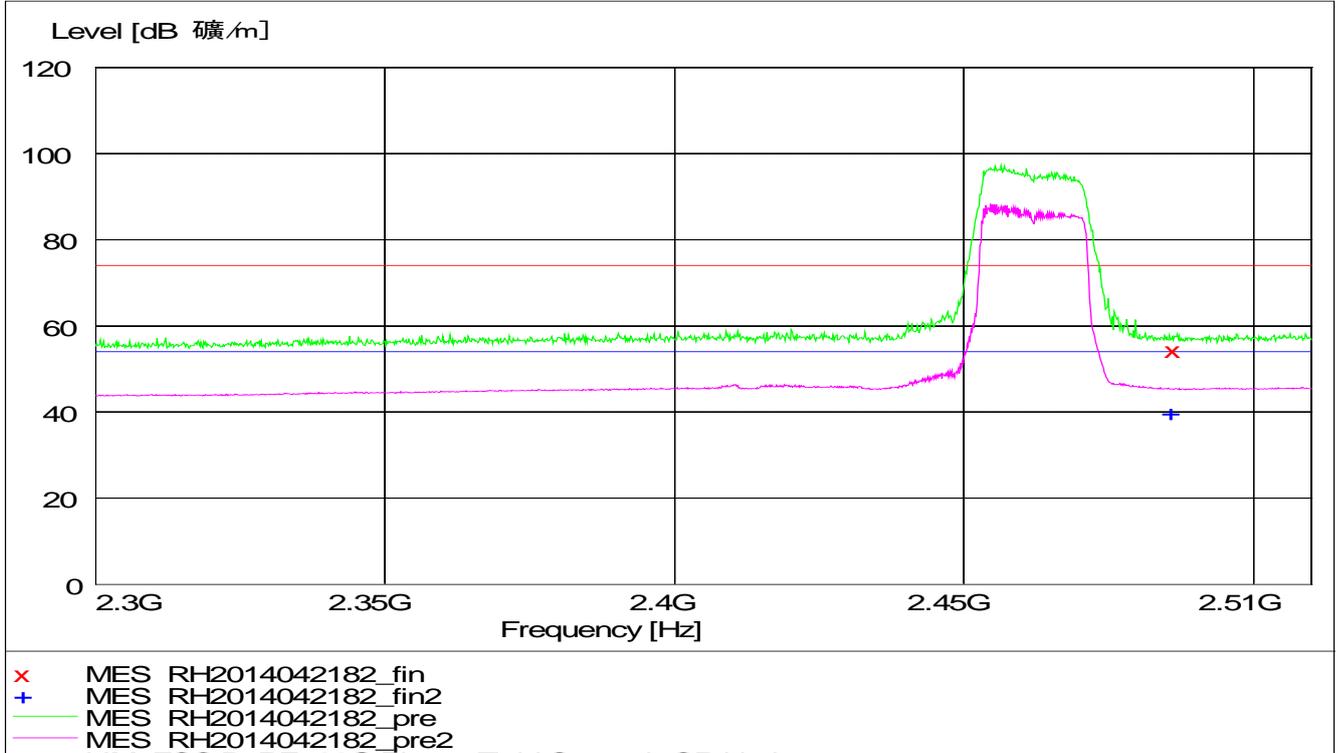
### MEASUREMENT RESULT: PK Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2389.000000	64.70	34.7	74.0	9.3	114.0	14.00	HORIZONTAL

### MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	41.40	34.7	54.0	12.6	100.0	247.00	HORIZONTAL

## Channel 11



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

MEASUREMENT RESULT: PK Detector

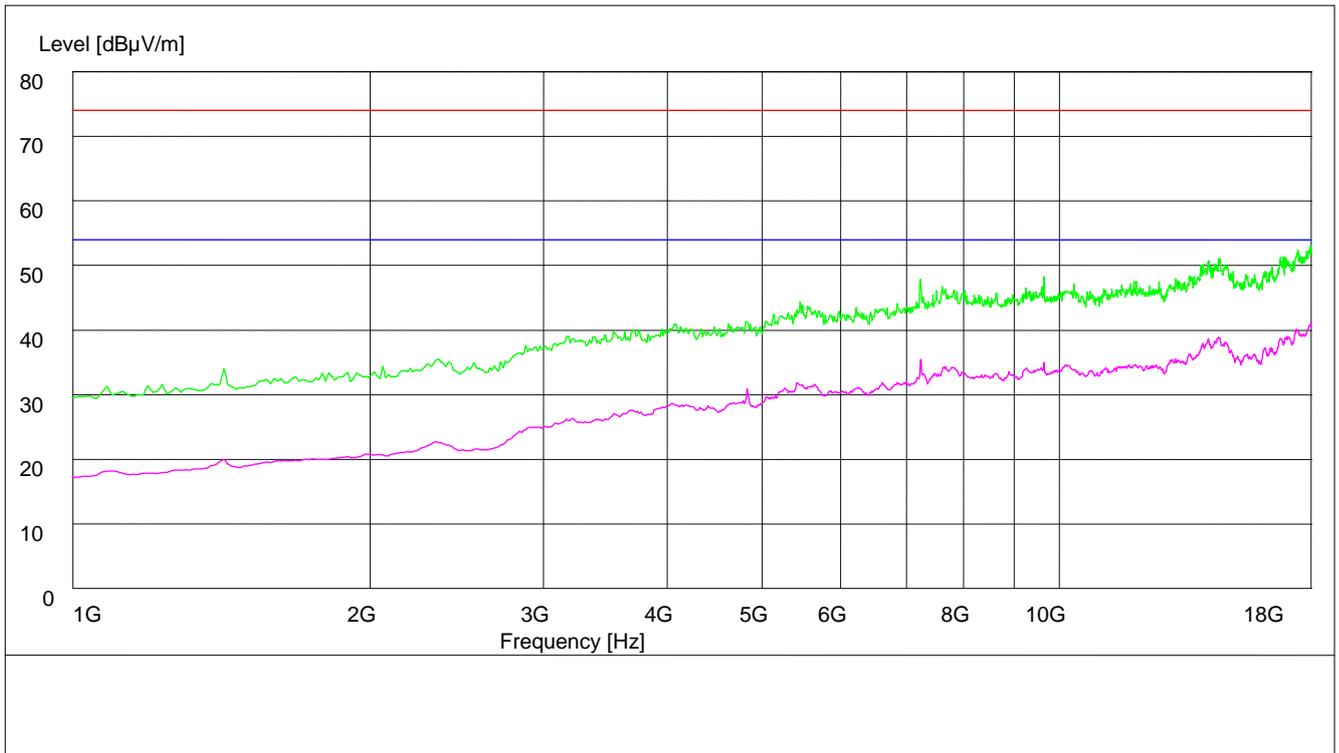
Frequency MHz	Level dB $\mu$ V/m	Transd dB	Limit dB $\mu$ V/m	Margin dB	Height cm	Azimuth deg	Polarization
2486.000000	54.80	35.0	74.0	19.2	100.0	191.00	HORIZONTAL

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
2485.500000	40.10	35.0	54.0	13.9	100.0	186.00	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).



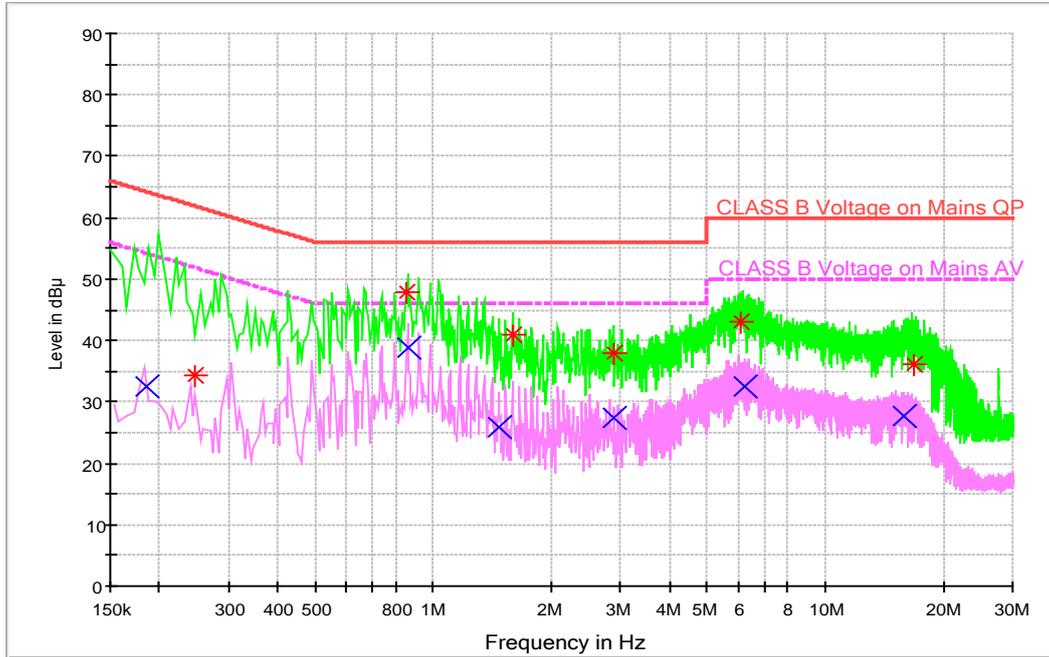


## Appendix G: Conducted Emission at Power Port

Note: RBW = 9 kHz, VBW = 30 kHz

# Channel 6

CLASS B Voltage with ENV216



MEASUREMENT RESULT: QP Detector

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.245483	34.4	9.7	61.9	27.5	L1	FLO
0.858016	47.8	9.7	56.0	8.2	N	FLO
1.594094	41.0	9.7	56.0	15.0	N	FLO
2.878278	37.8	9.7	56.0	18.2	N	FLO
6.097646	42.9	9.8	60.0	17.1	N	FLO
16.847862	36.3	10.1	60.0	23.7	N	FLO

MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.185004	32.5	9.7	54.3	21.8	N	FLO
0.860063	38.9	9.7	46.0	7.1	N	FLO
1.477766	25.9	9.7	46.0	20.1	L1	FLO
2.877821	27.4	9.7	46.0	18.6	N	FLO
6.204172	32.6	9.8	50.0	17.4	N	FLO
15.861468	27.7	10.1	50.0	22.3	N	FLO

END