



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.

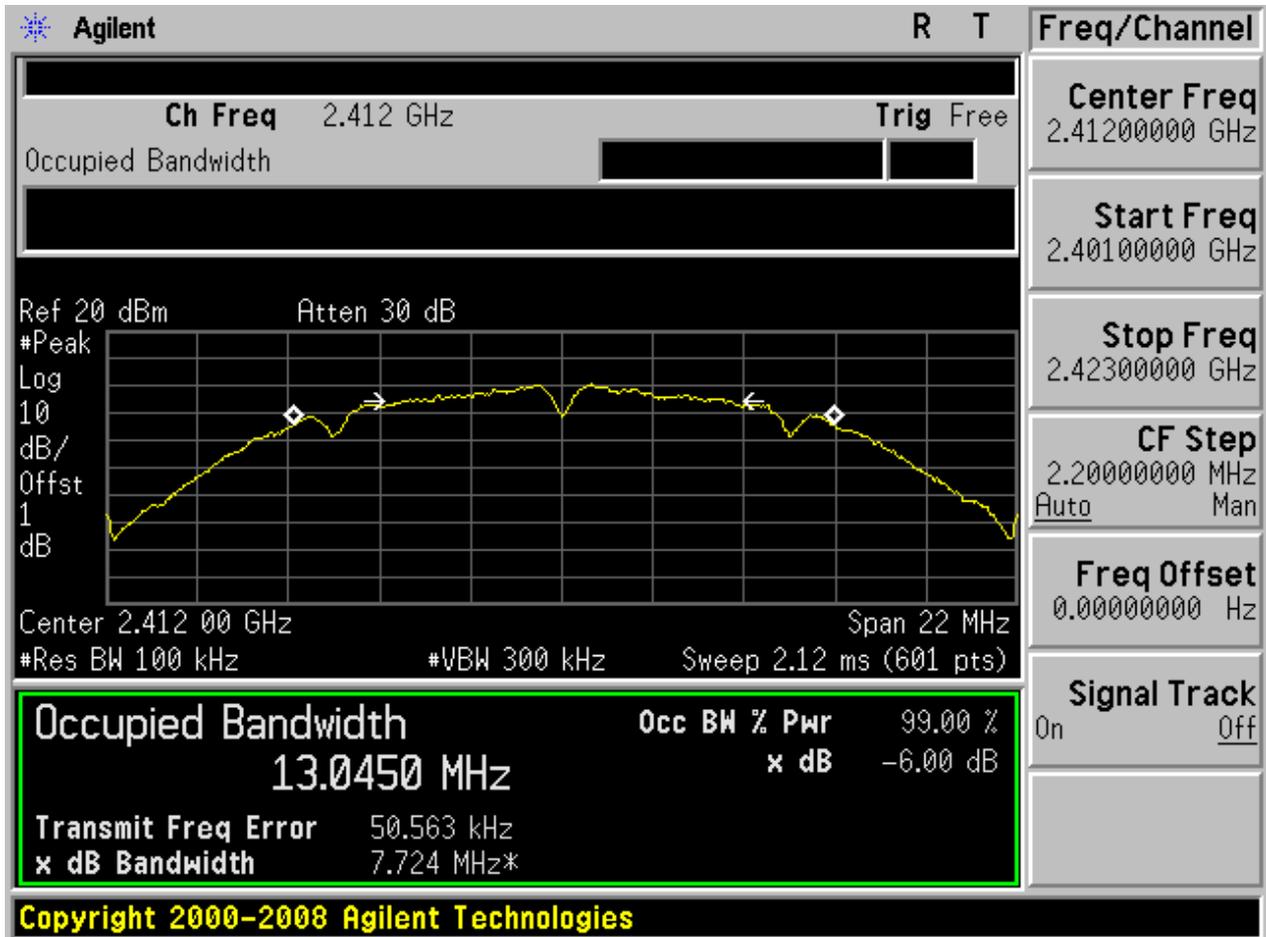
For measurements on smart antenna systems (devices with multiple transmit chains), the test is performed at each chain, and used as respective results for each chain.

Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	DTS6dBBW[MHz]	Verdict
11B	L	2412	7.72	pass
11B	M	2437	7.82	pass
11B	H	2462	7.90	pass
11G	L	2412	16.57	pass
11G	M	2437	16.58	pass
11G	H	2462	16.57	pass
11N20	L	2412	17.70	pass
11N20	M	2437	17.73	pass
11N20	H	2462	17.59	pass

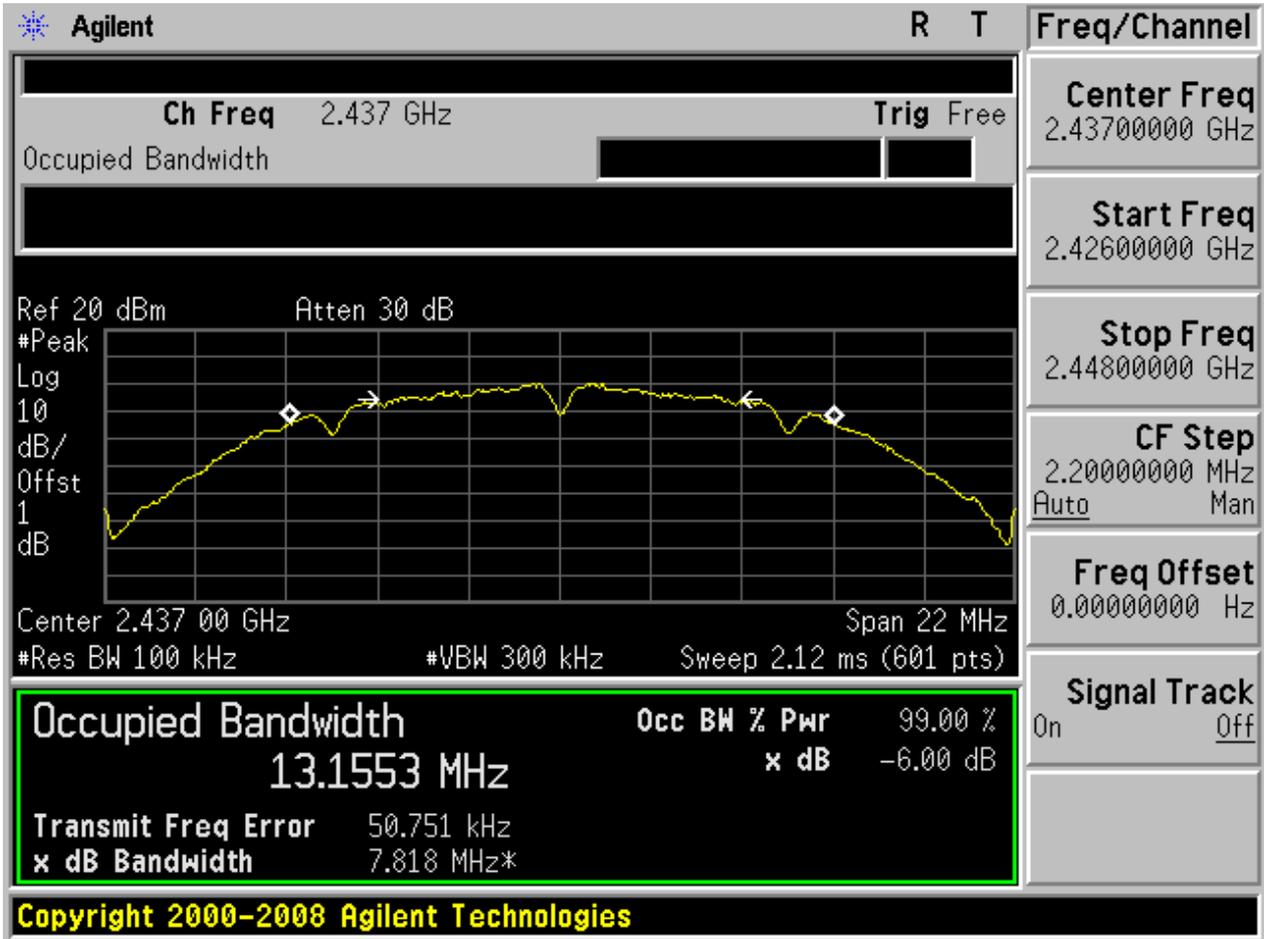
Part II - Test Plots

2.1 11B_L

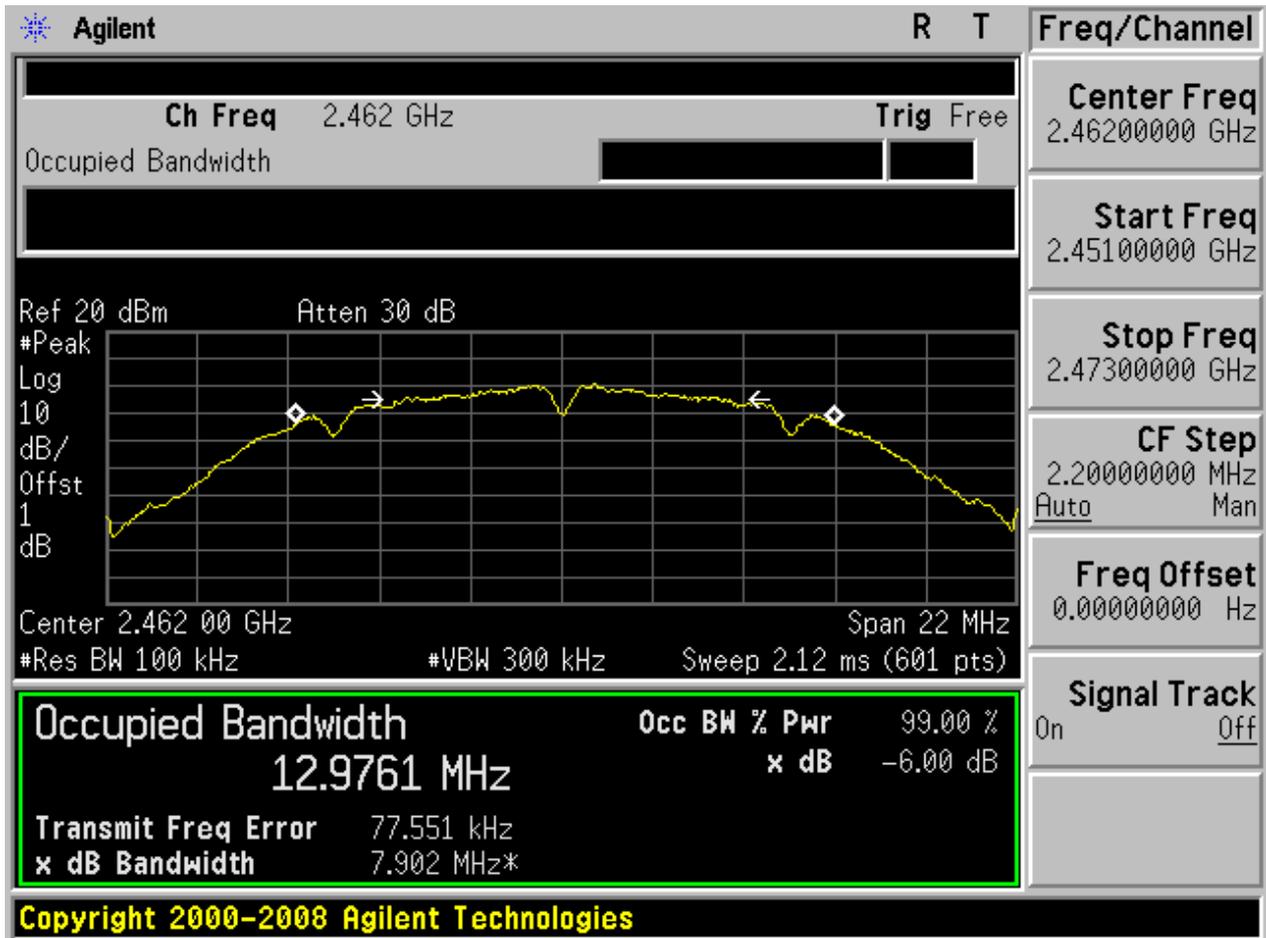




2.2 11B_M

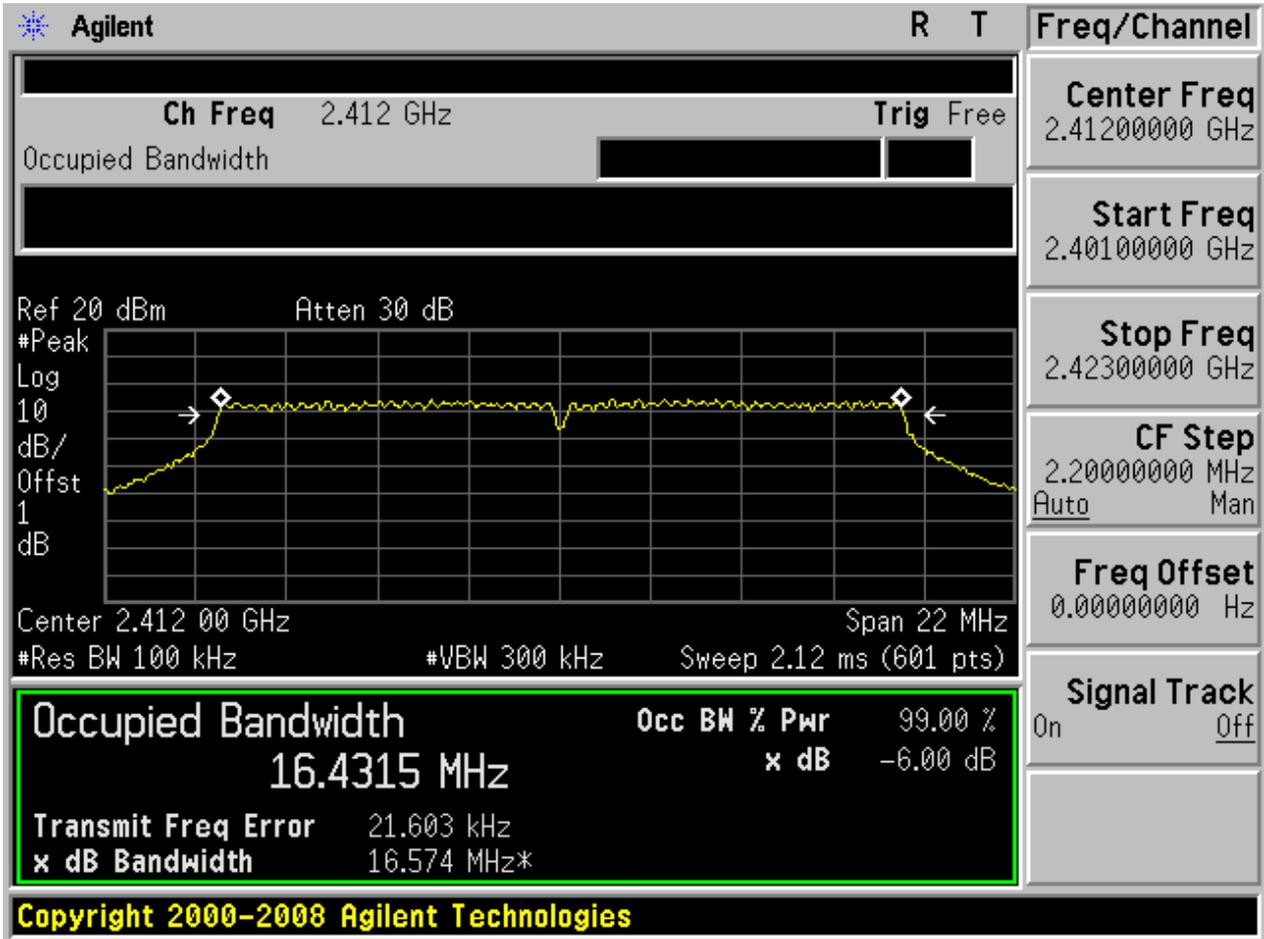


2.3 11B_H



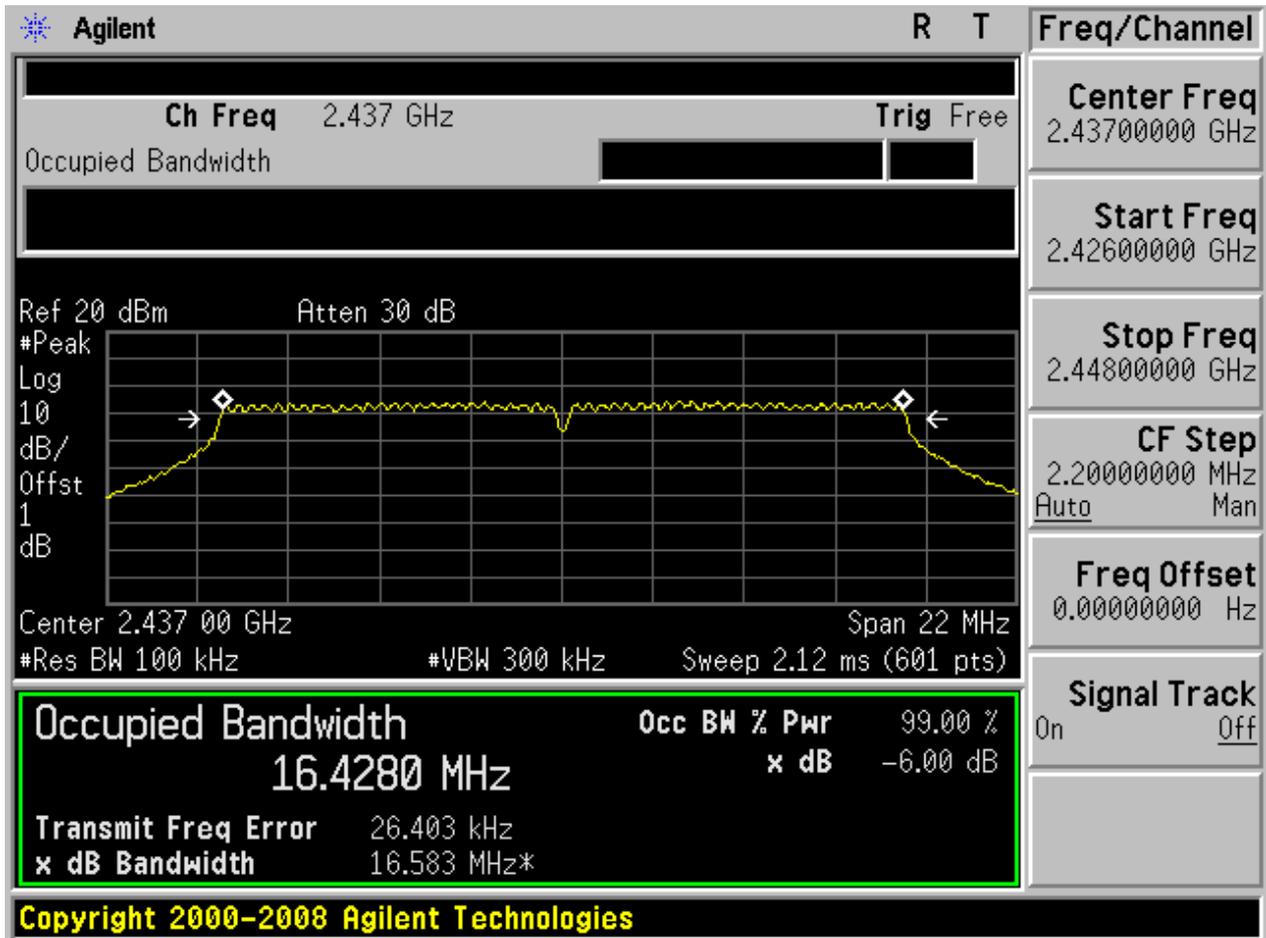


2.4 11G_L



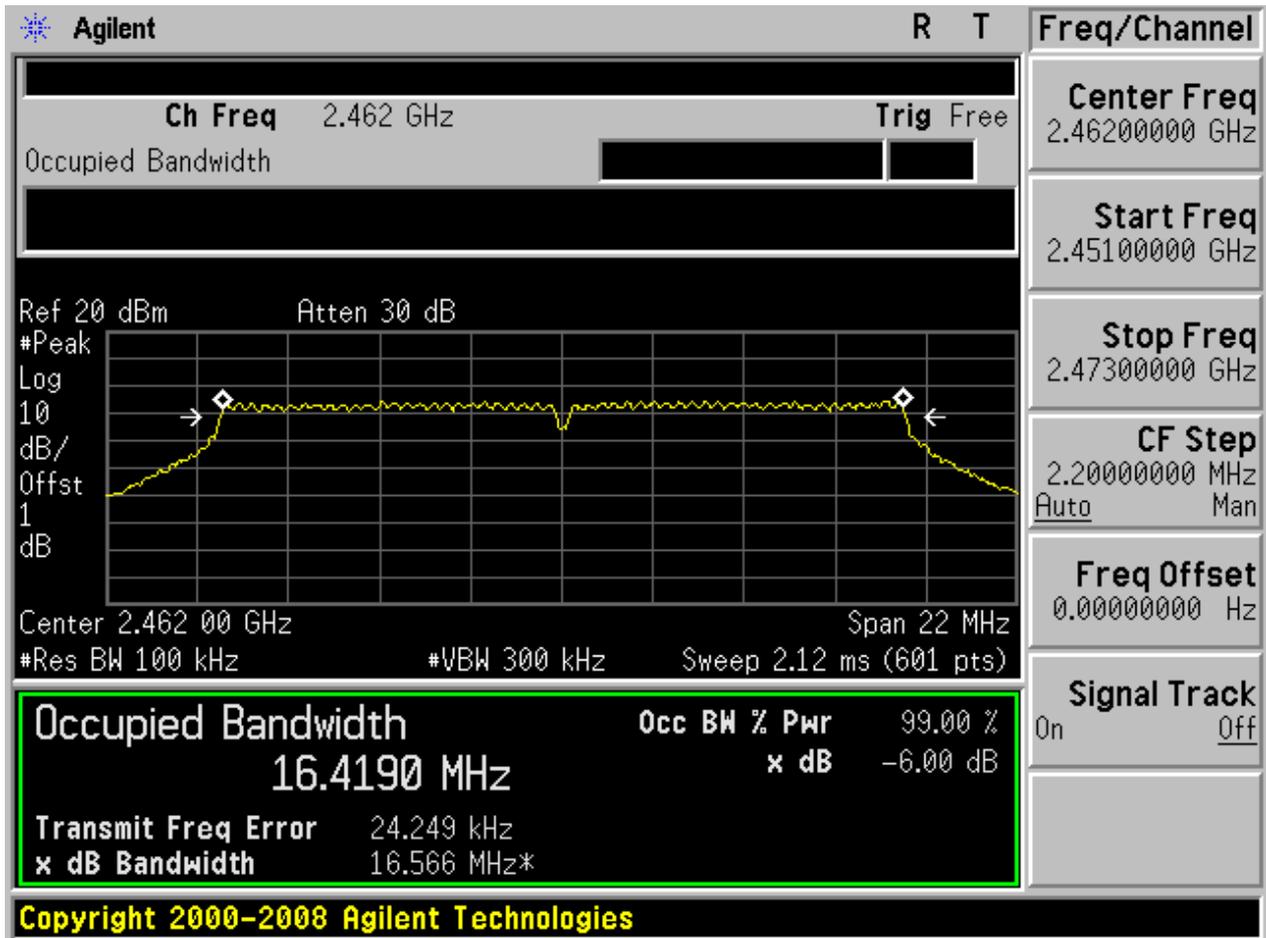


2.5 11G_M



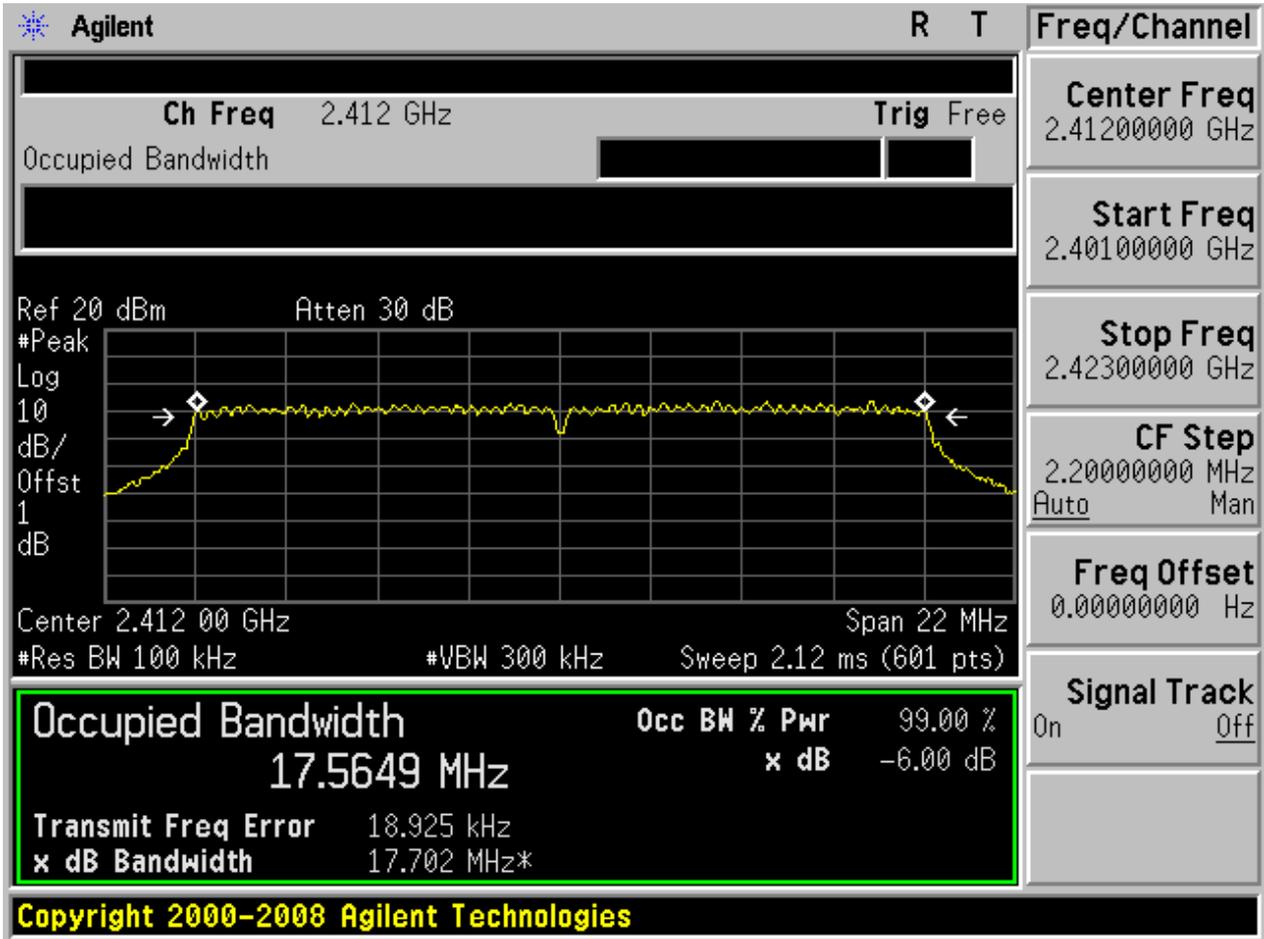


2.6 11G_H



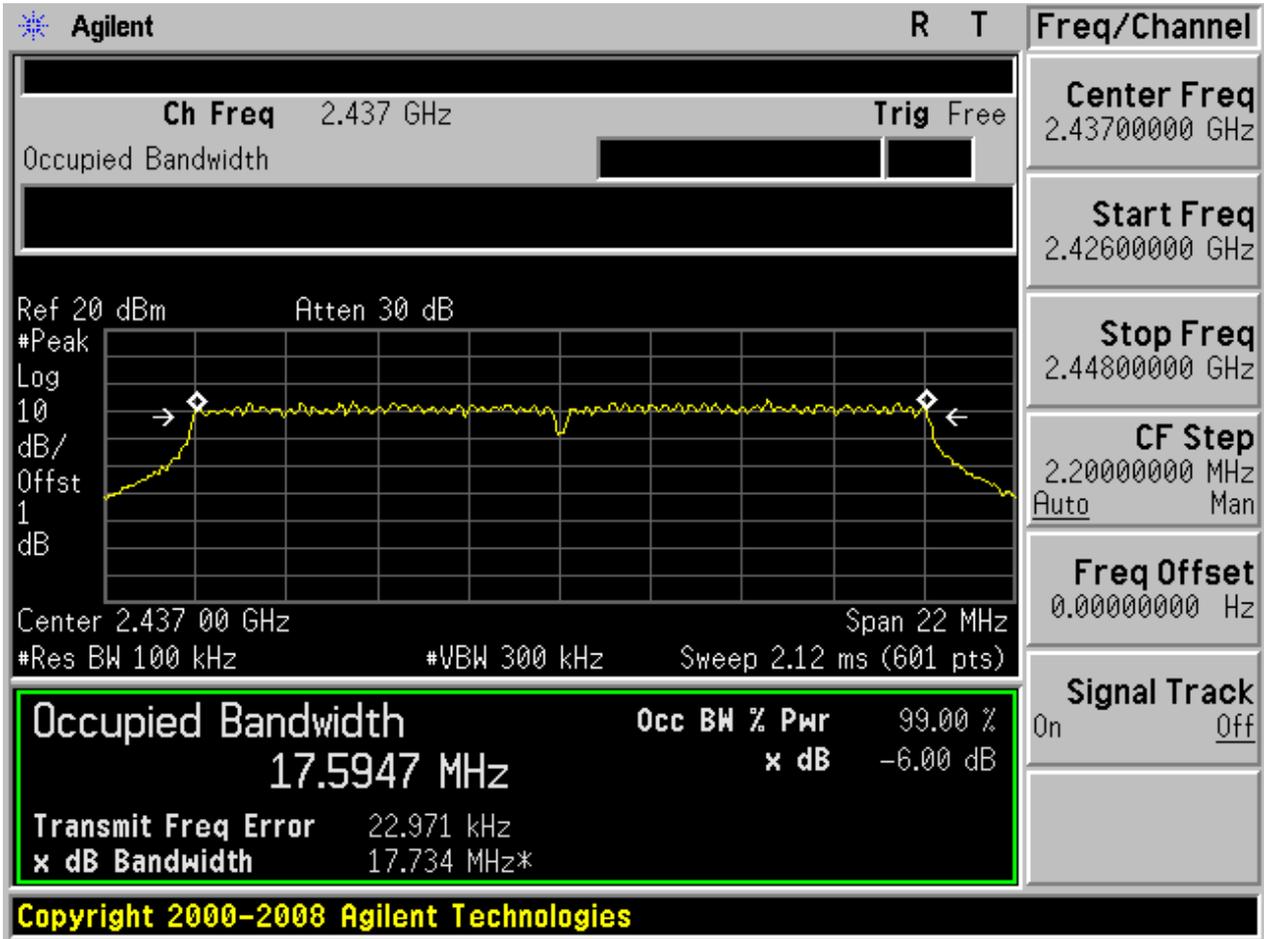


2.7 11N20_L



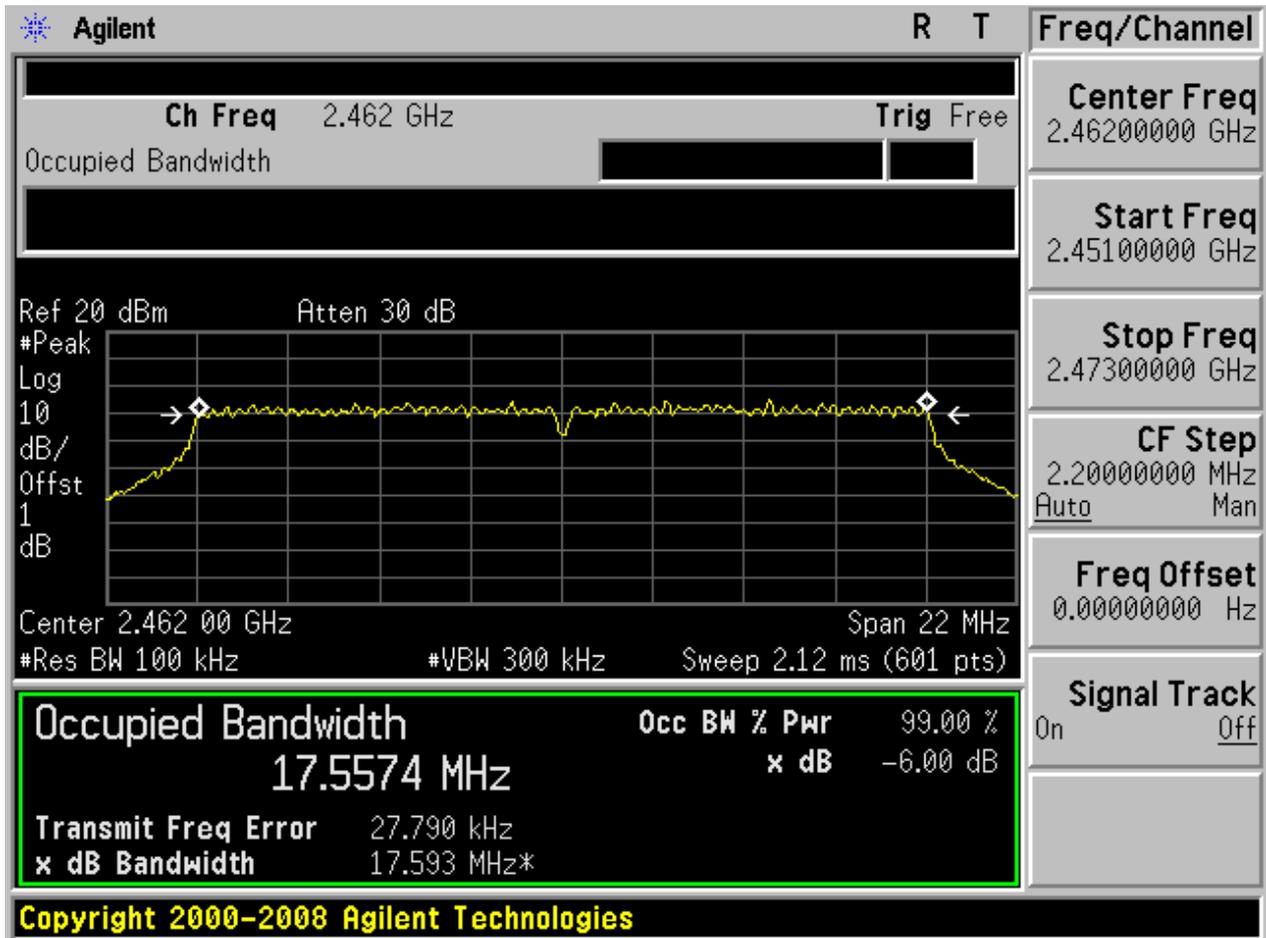


2.8 11N20_M





2.9 11N20_H





Appendix B: Maximum Peak Conducted Output Power

Test Mode	Test Channel	Frequency[MHz]	Meas. Level (Cond.) [dBm]	Verdict
11B	L	2412	20.44	pass
11B	M	2437	20.91	pass
11B	H	2462	21.06	pass
11G	L	2412	20.95	pass
11G	M	2437	21.79	pass
11G	H	2462	21.59	pass
11N20	L	2412	20.85	pass
11N20	M	2437	21.54	pass
11N20	H	2462	21.72	pass



Appendix C: Maximum Power Spectral Density Level

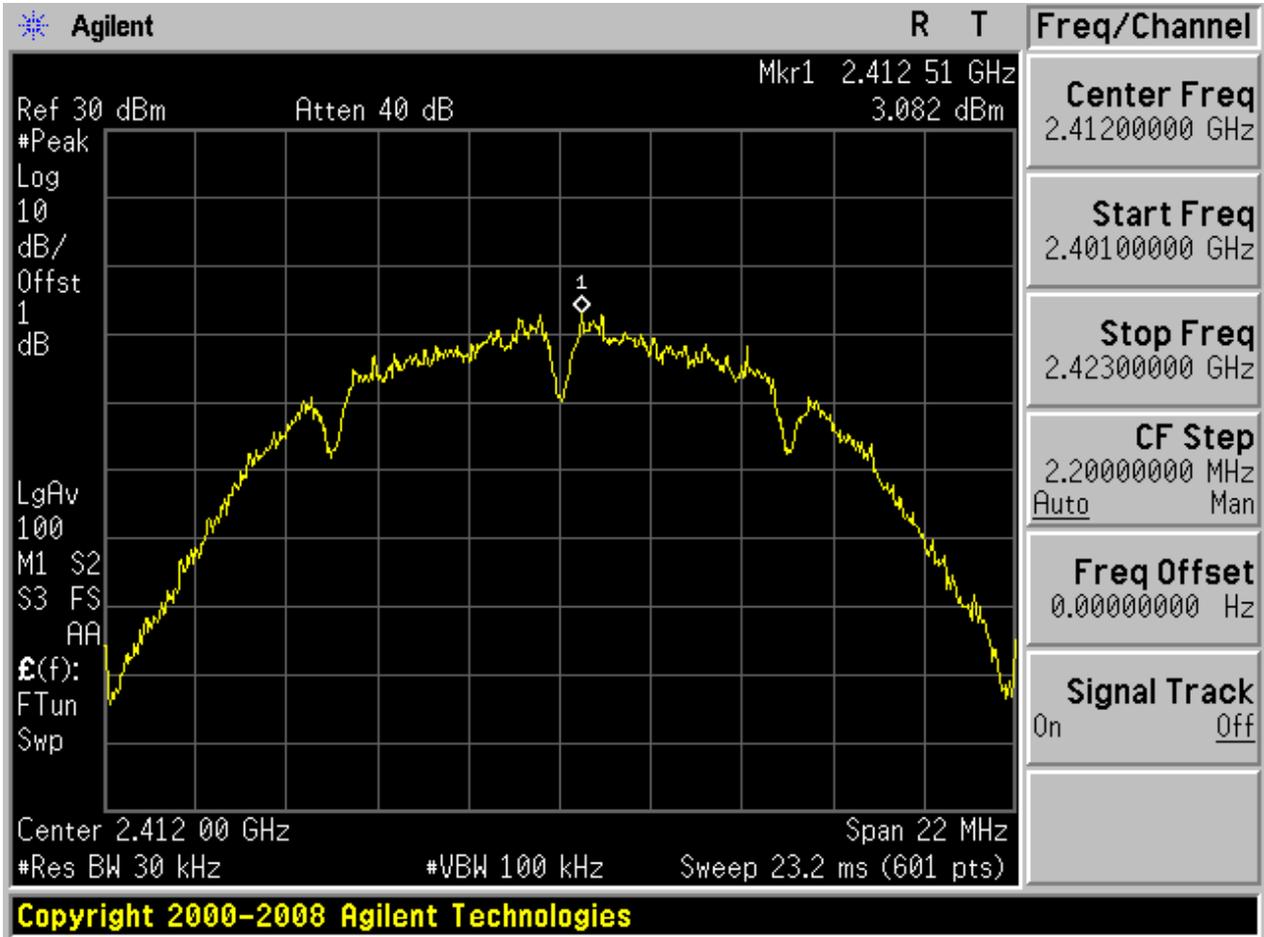
Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	PD[MHz]	Verdict
11B	L	2412	3.08	pass
11B	M	2437	4.27	pass
11B	H	2462	2.38	pass
11G	L	2412	-3.33	pass
11G	M	2437	-2.98	pass
11G	H	2462	-2.73	pass
11N20	L	2412	-2.41	pass
11N20	M	2437	-2.16	pass
11N20	H	2462	-1.76	pass



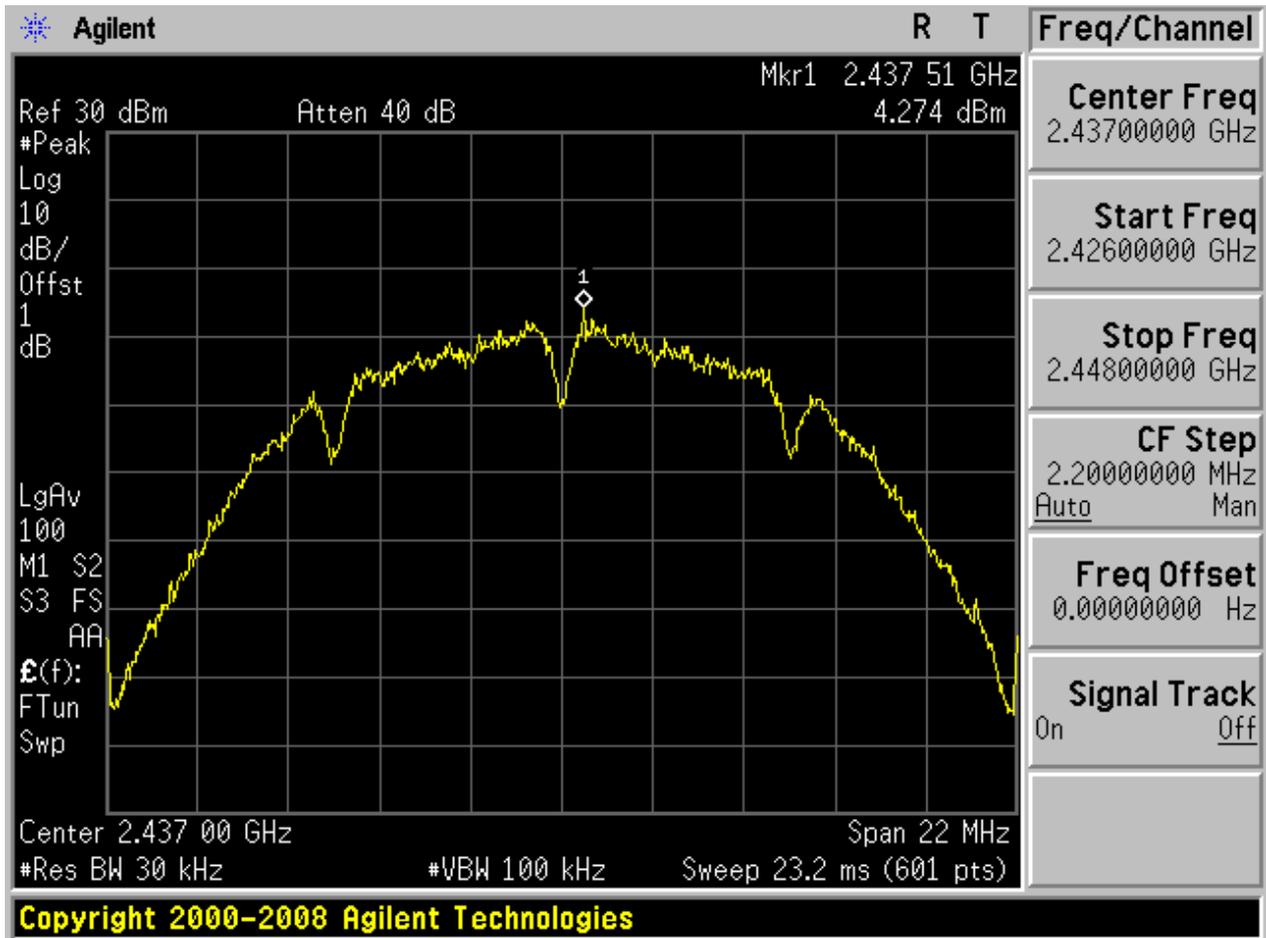
Part II - Test Plots

2.1 11B_L



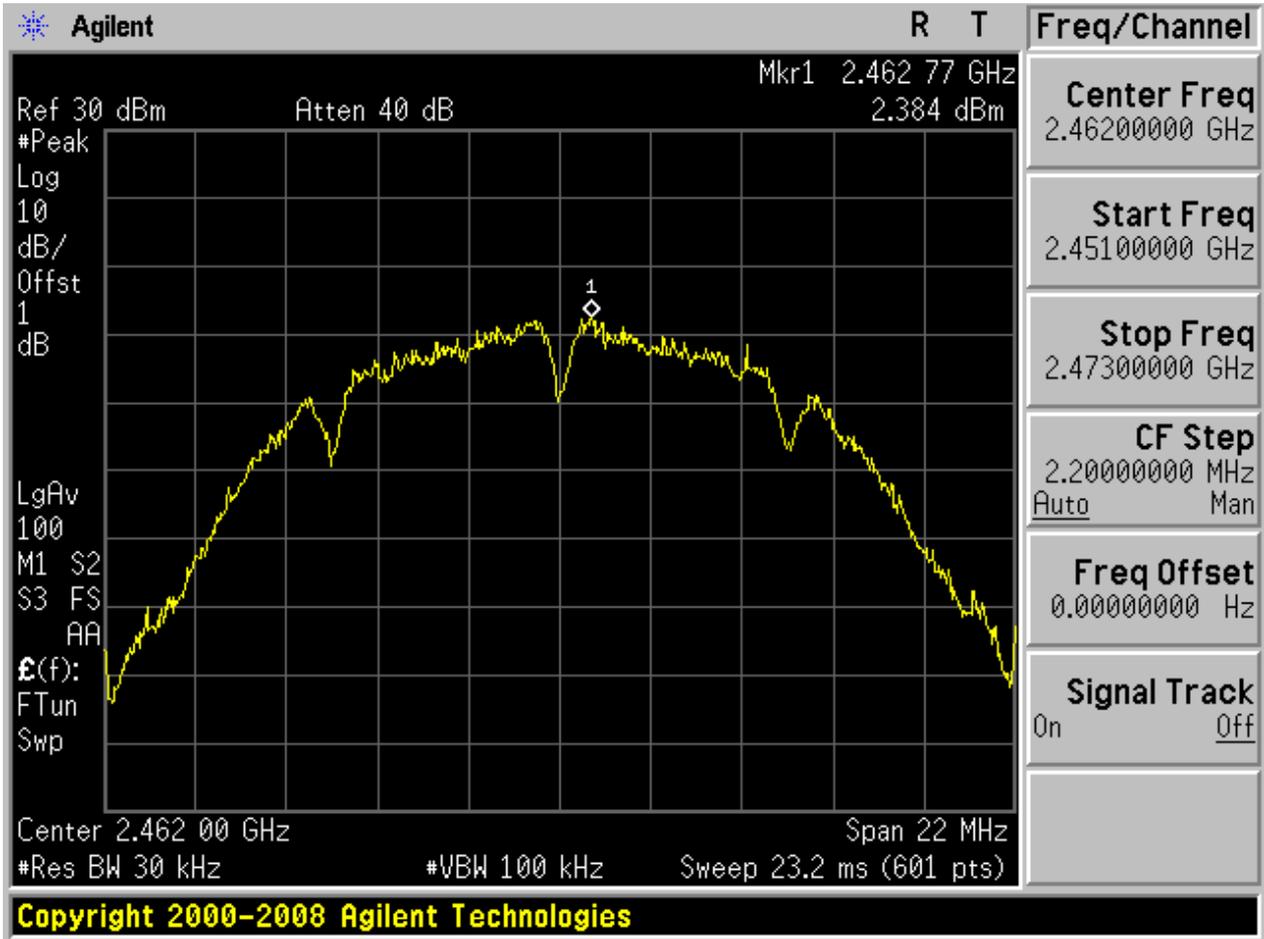


2.2 11B_M



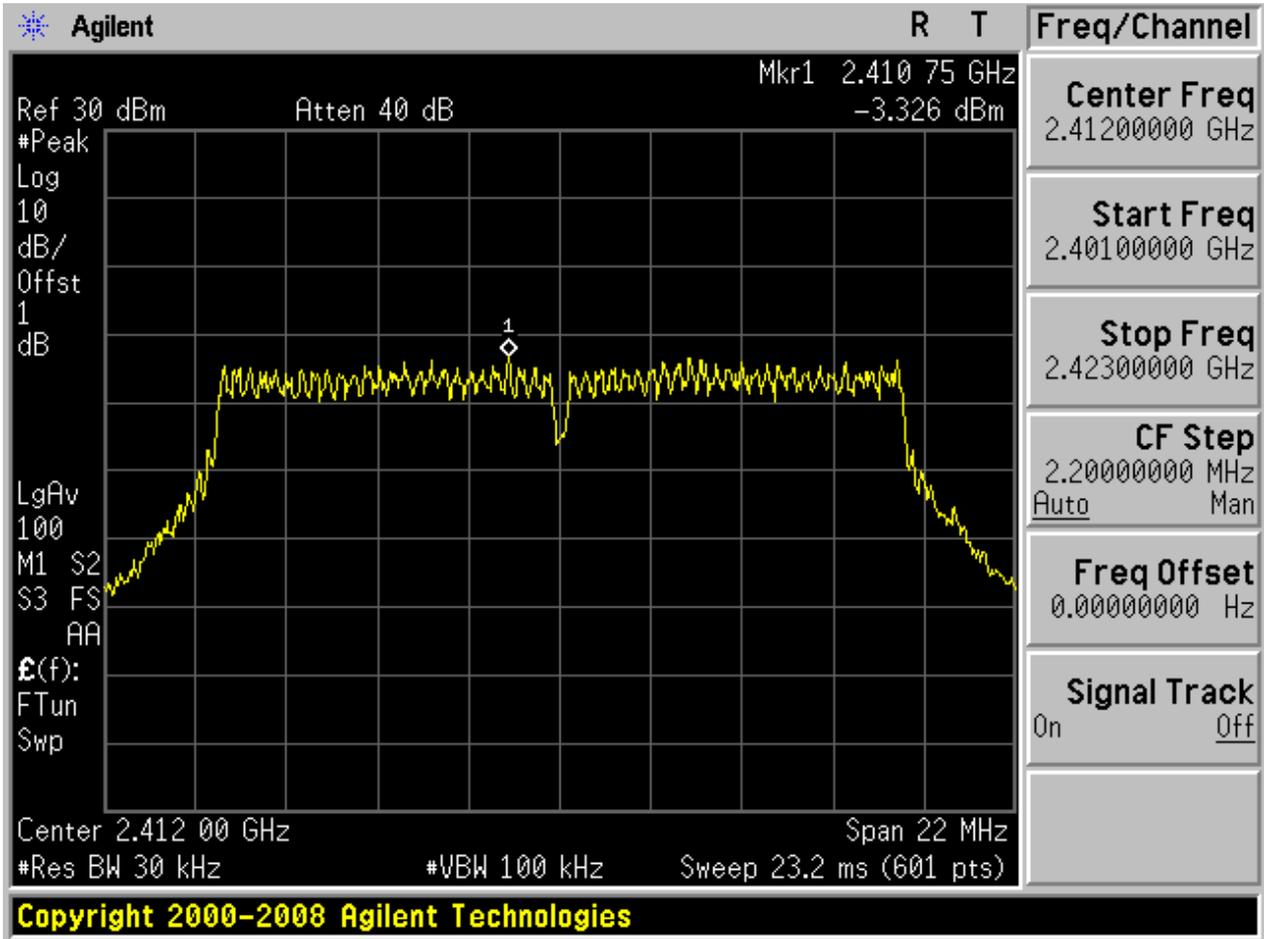


2.3 11B_H



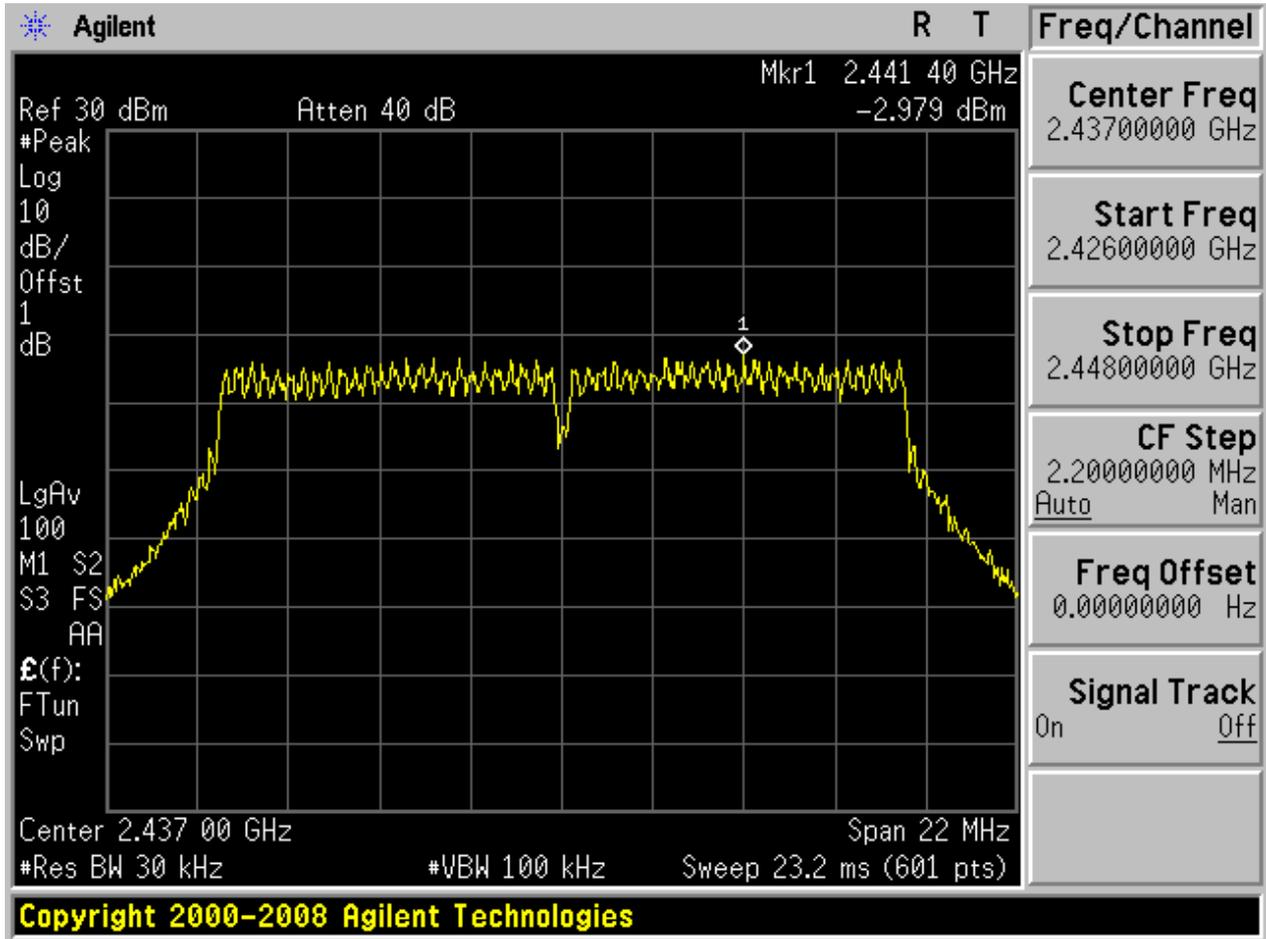


2.4 11G_L



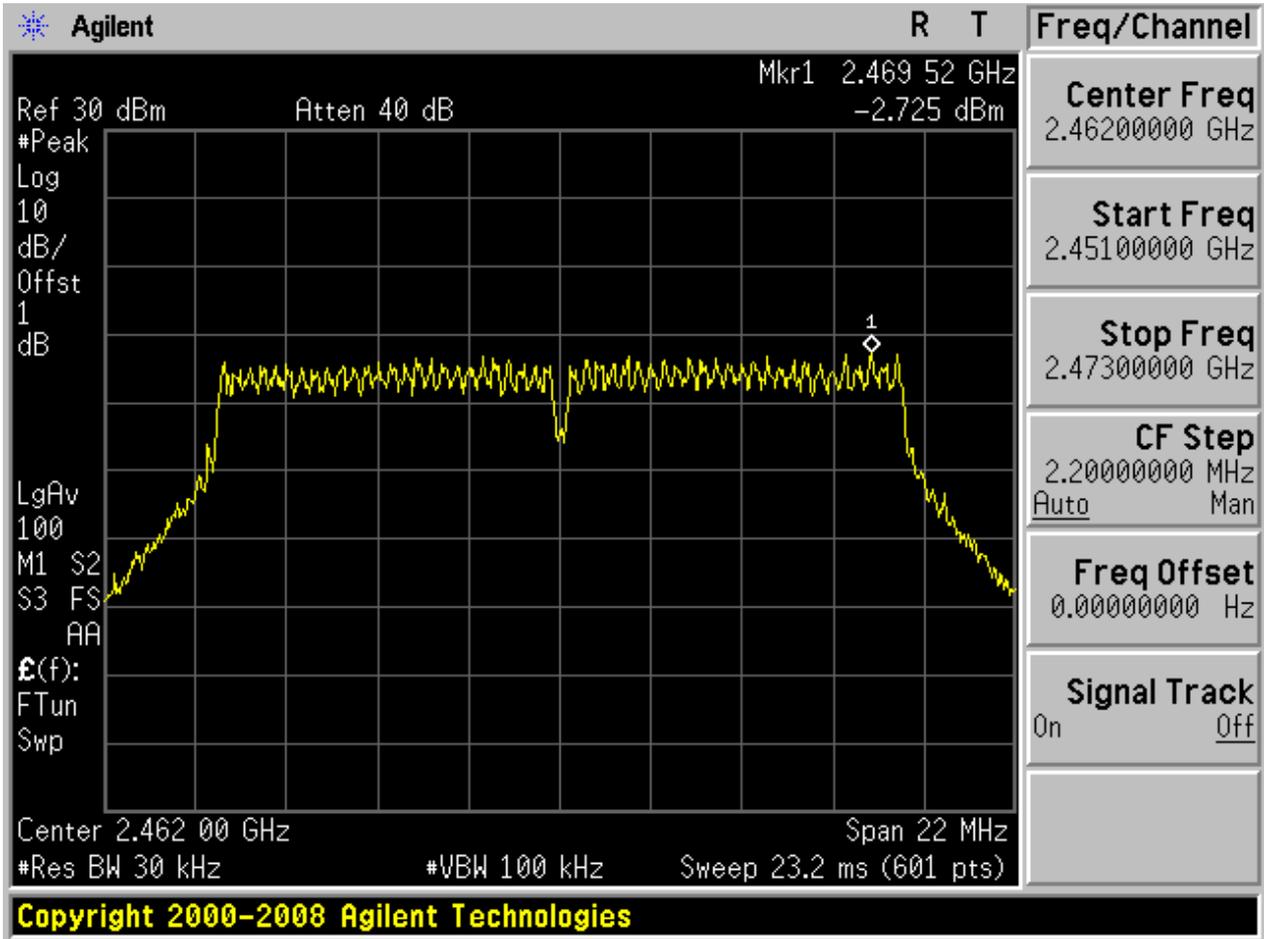


2.5 11G_M



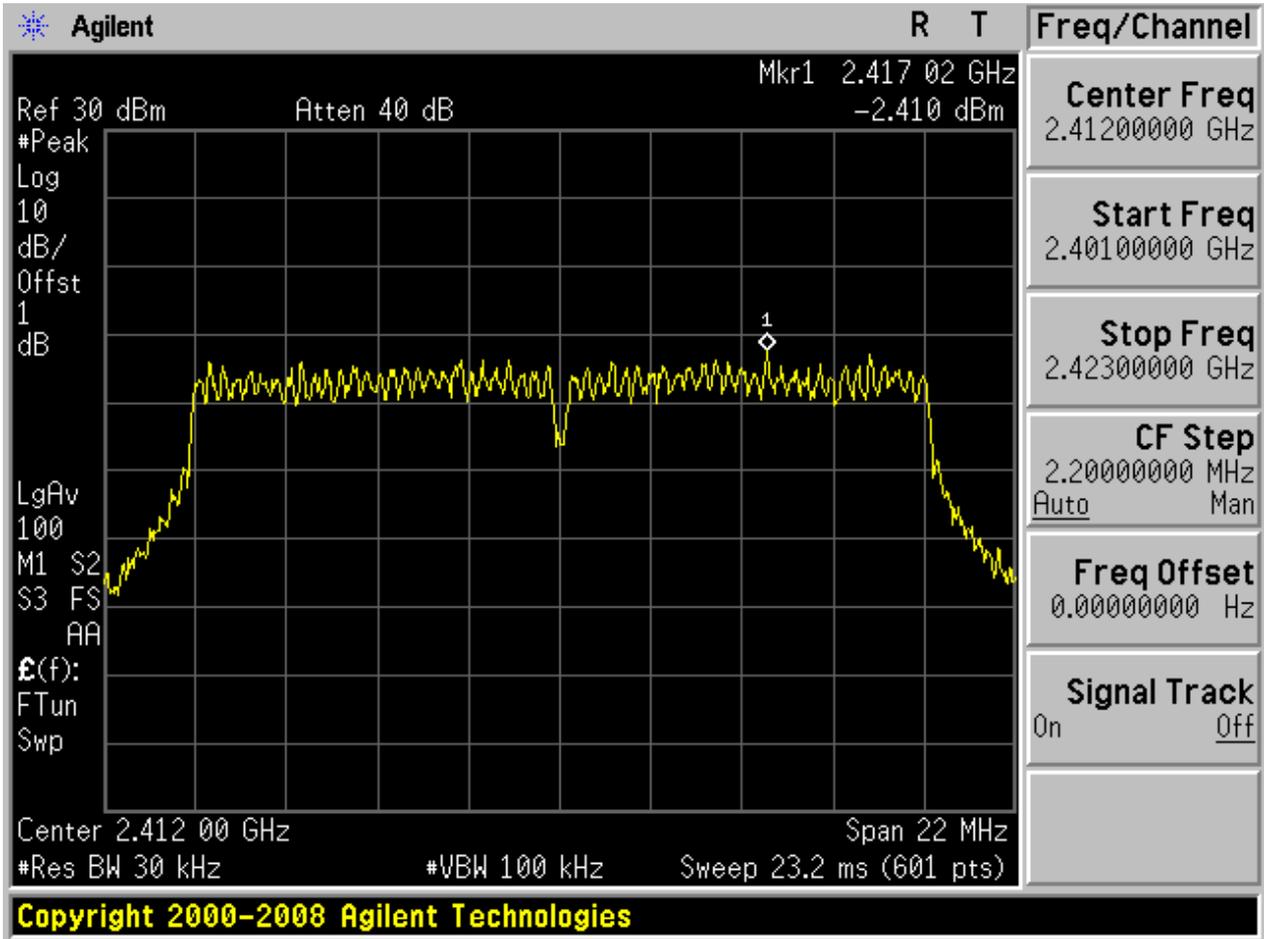


2.6 11G_H



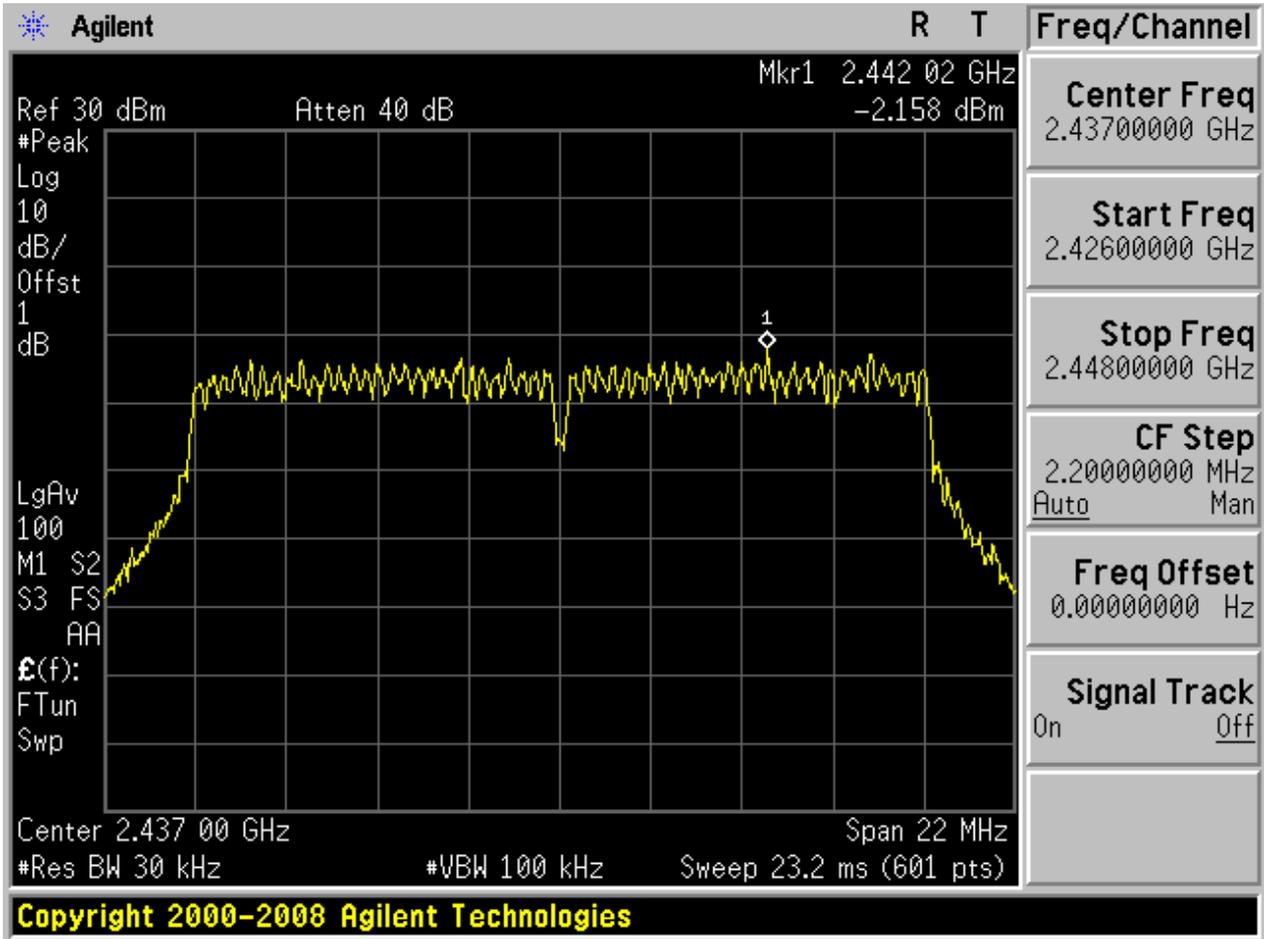


2.7 11N20_L



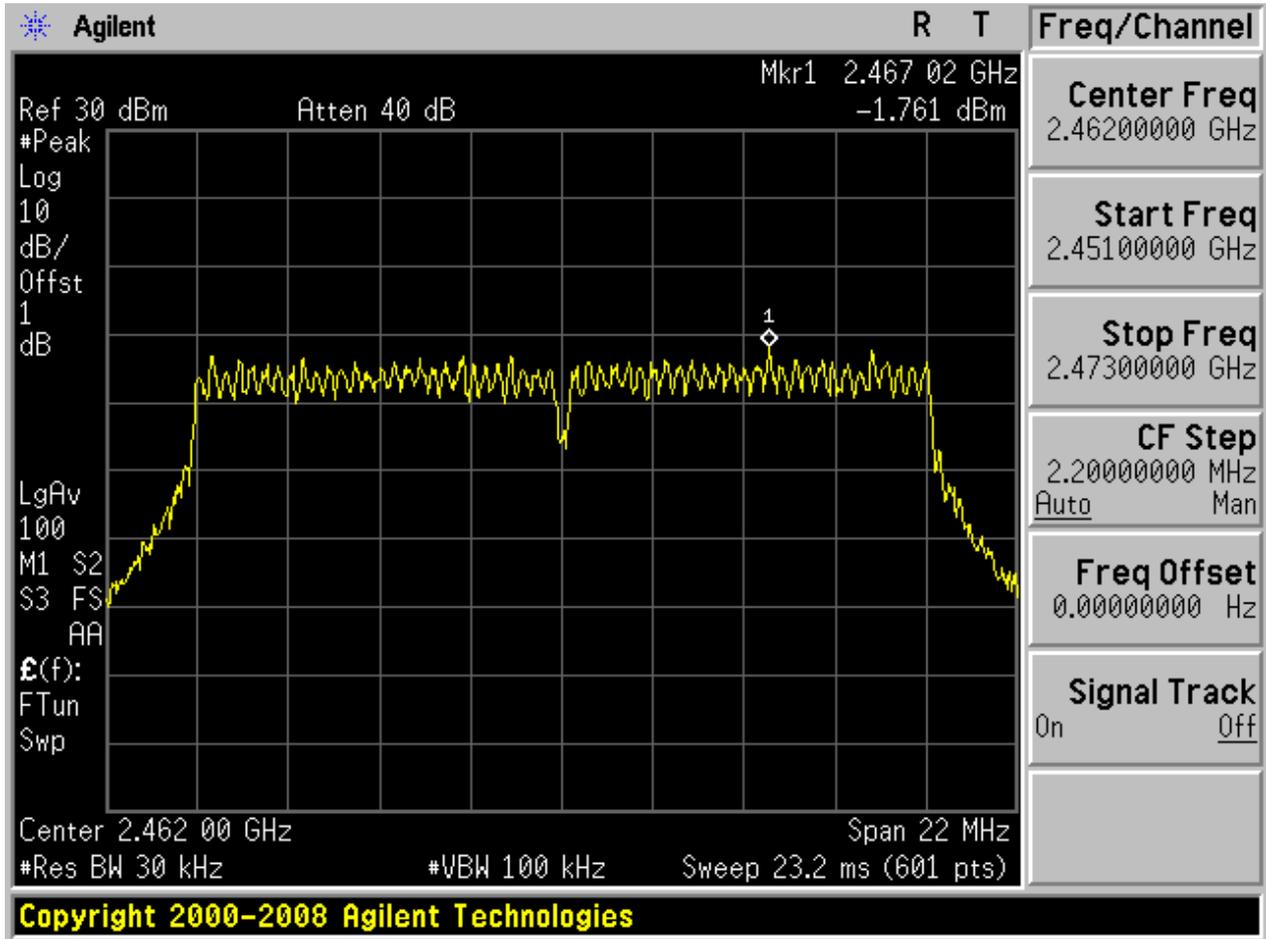


2.8 11N20_M





2.9 11N20_H





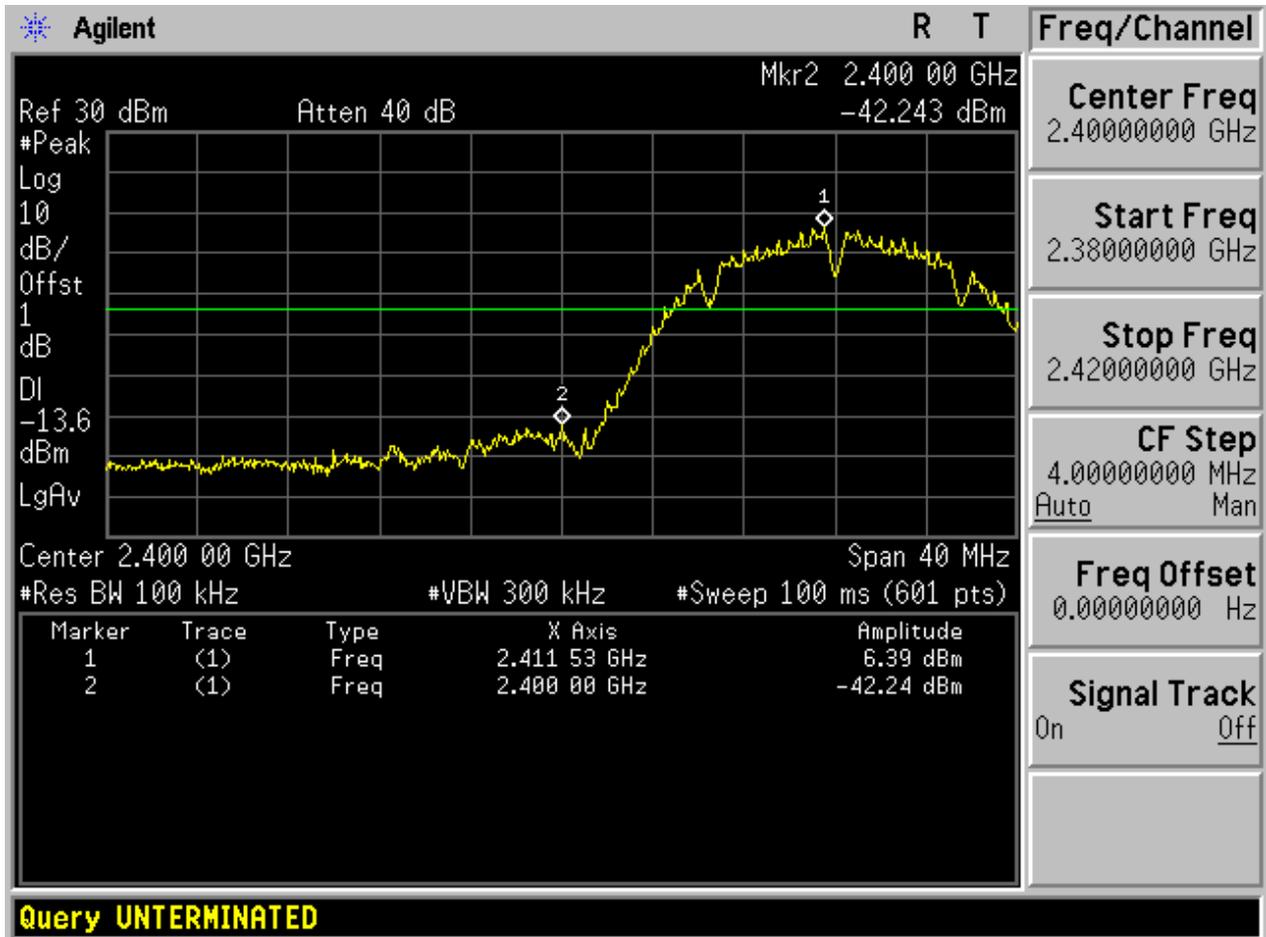
Appendix D: Band Edges Compliance

Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Carrier Power[dBm]	Max.Spurious Level[dBm]	Verdict
11B	L	2412	6.39	-42.24	pass
11B	H	2462	7.24	-51.84	pass
11G	L	2412	1.08	-35.30	pass
11G	H	2462	1.56	-47.36	pass
11N20	L	2412	1.22	-37.52	pass
11N20	H	2462	1.89	-45.32	pass

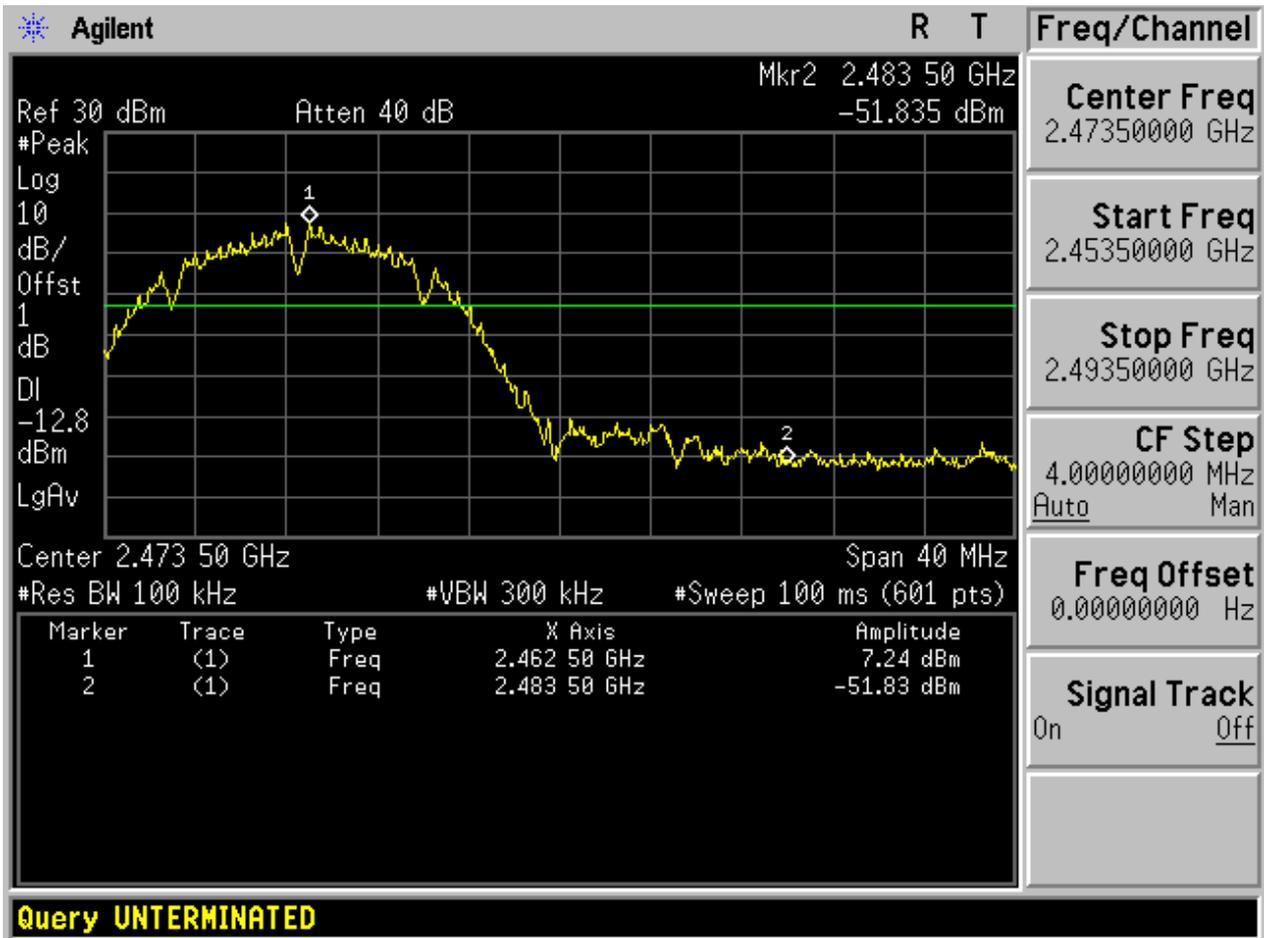
Part II - Test Plots

2.1 11B_L



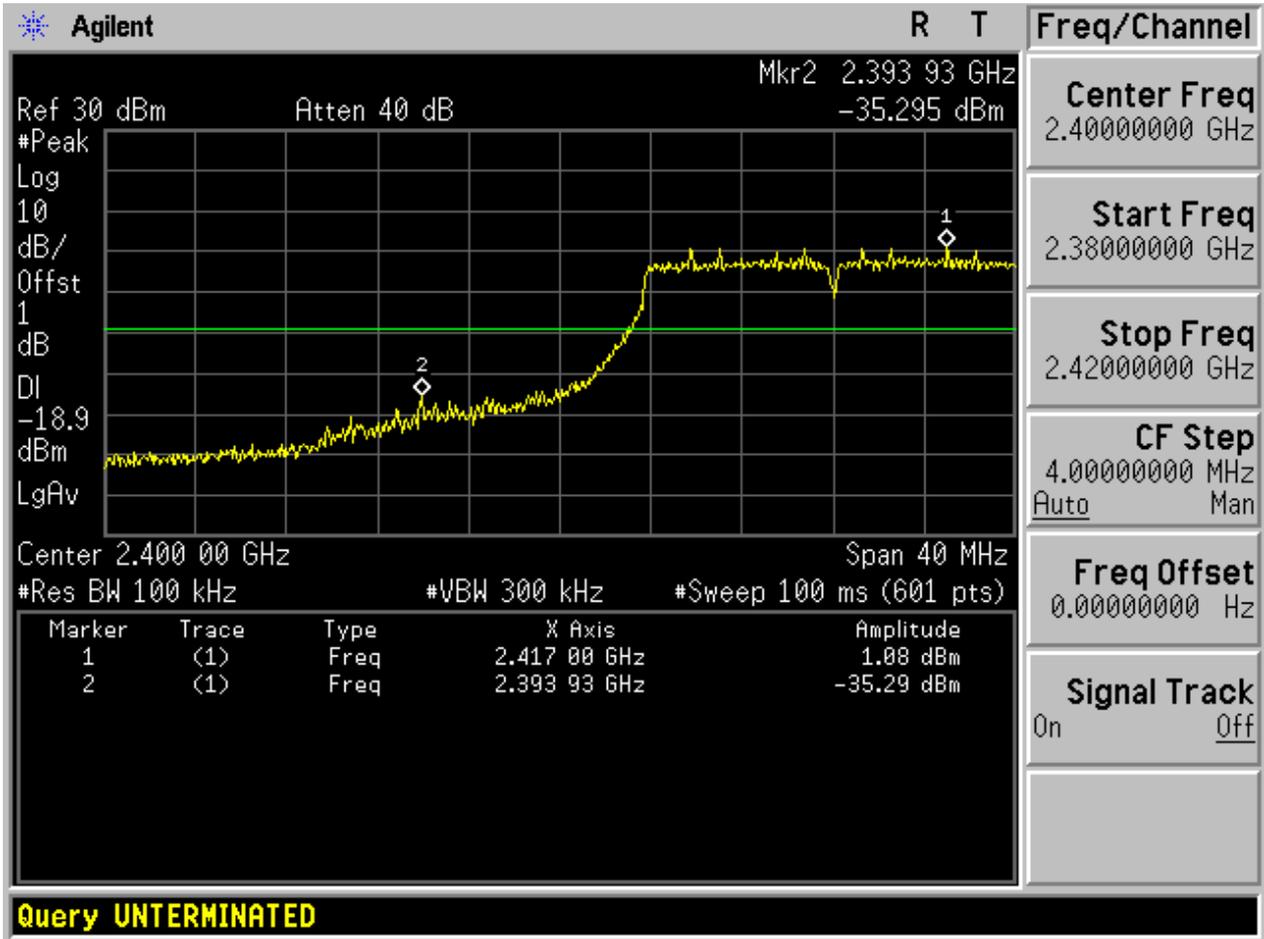


2.2 11B_H



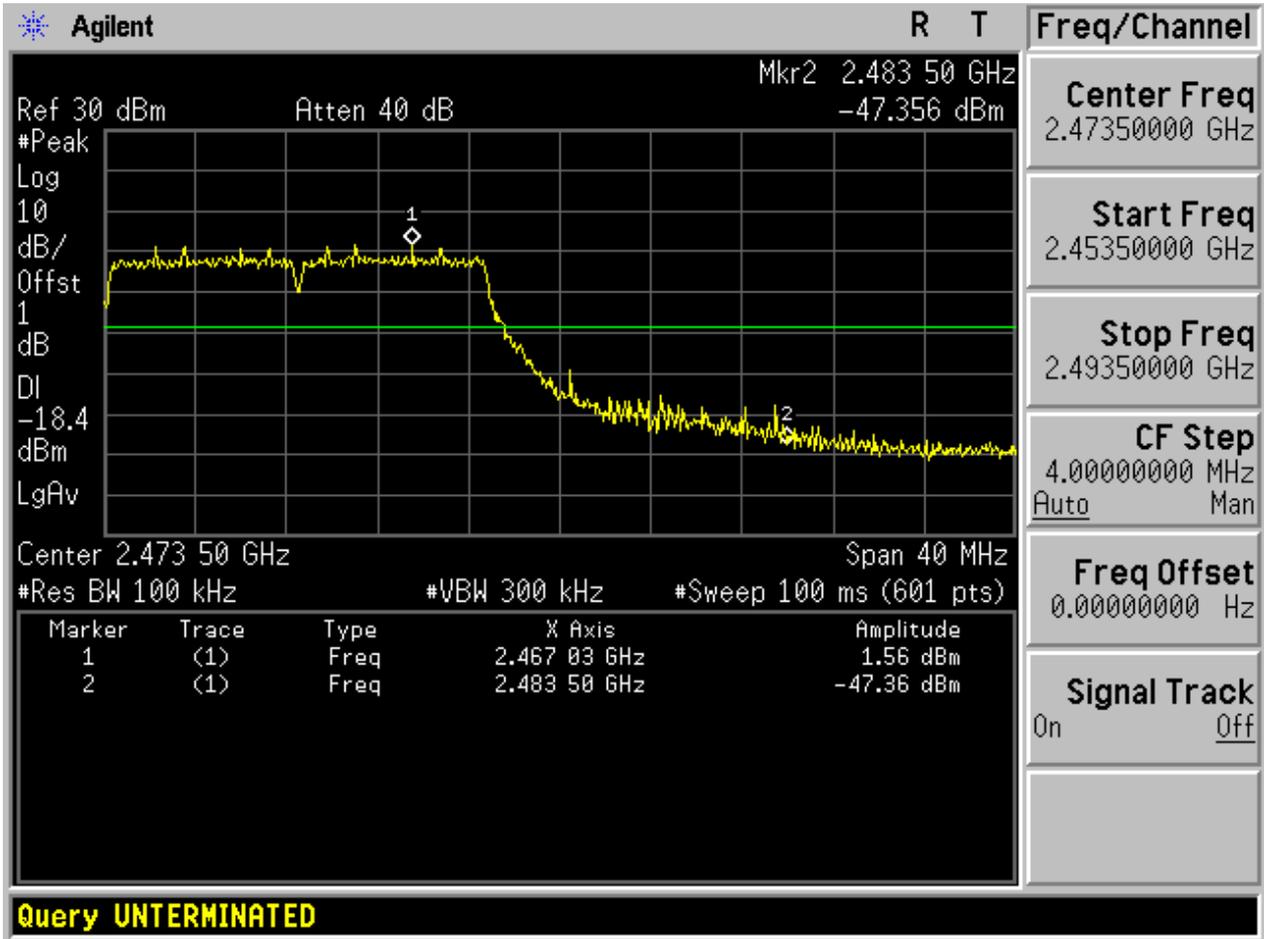


2.3 11G_L

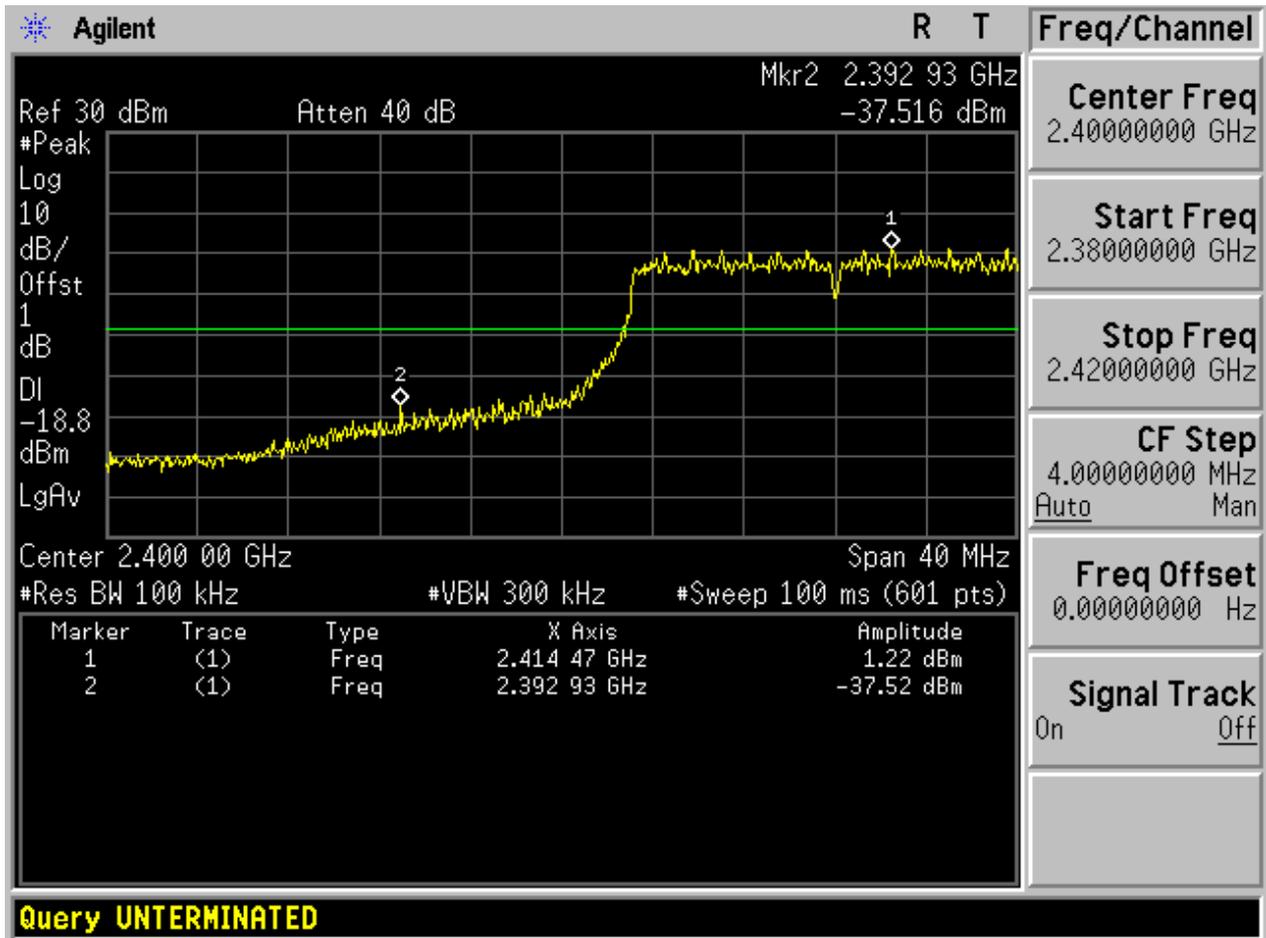




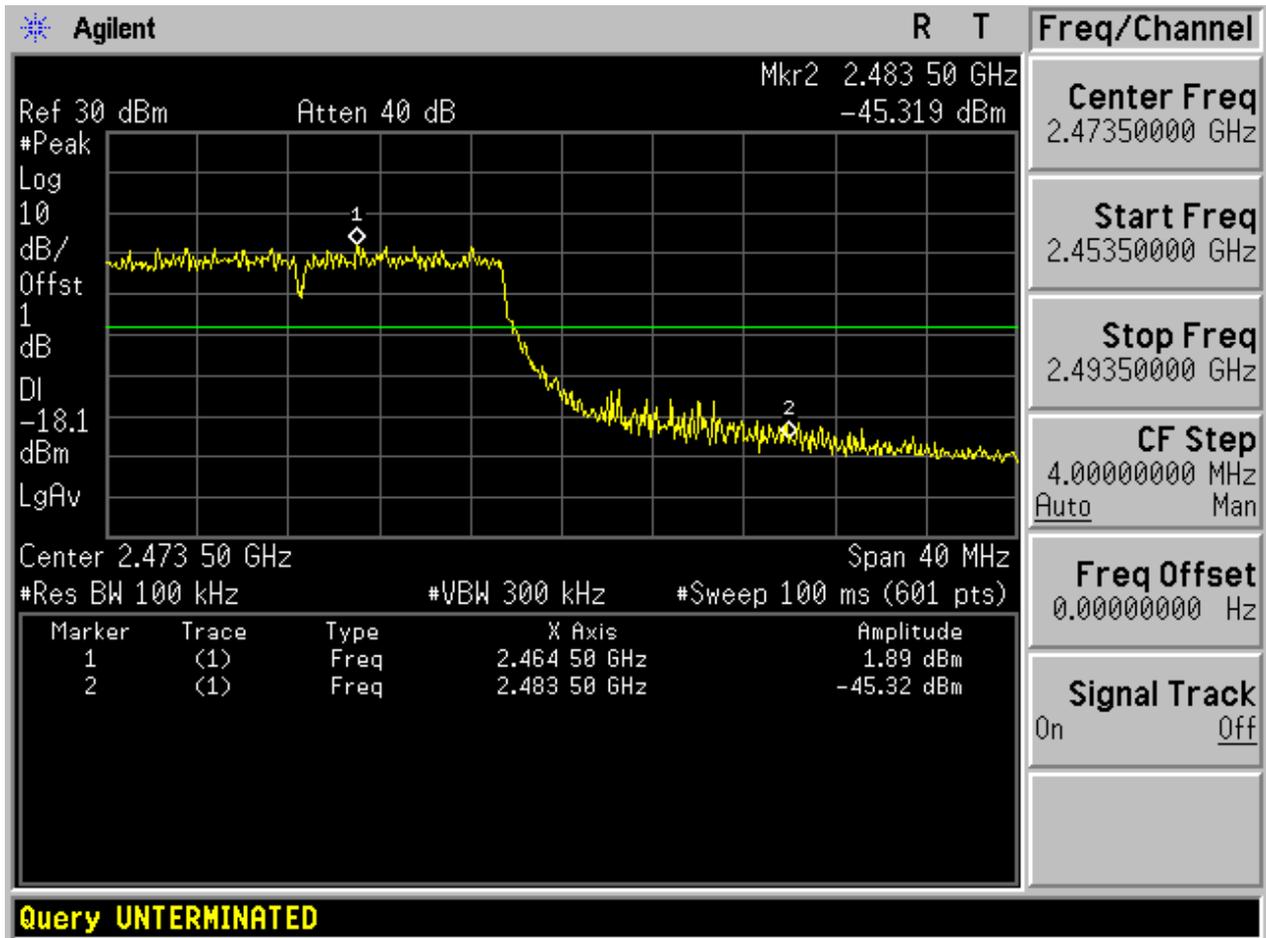
2.4 11G_H



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

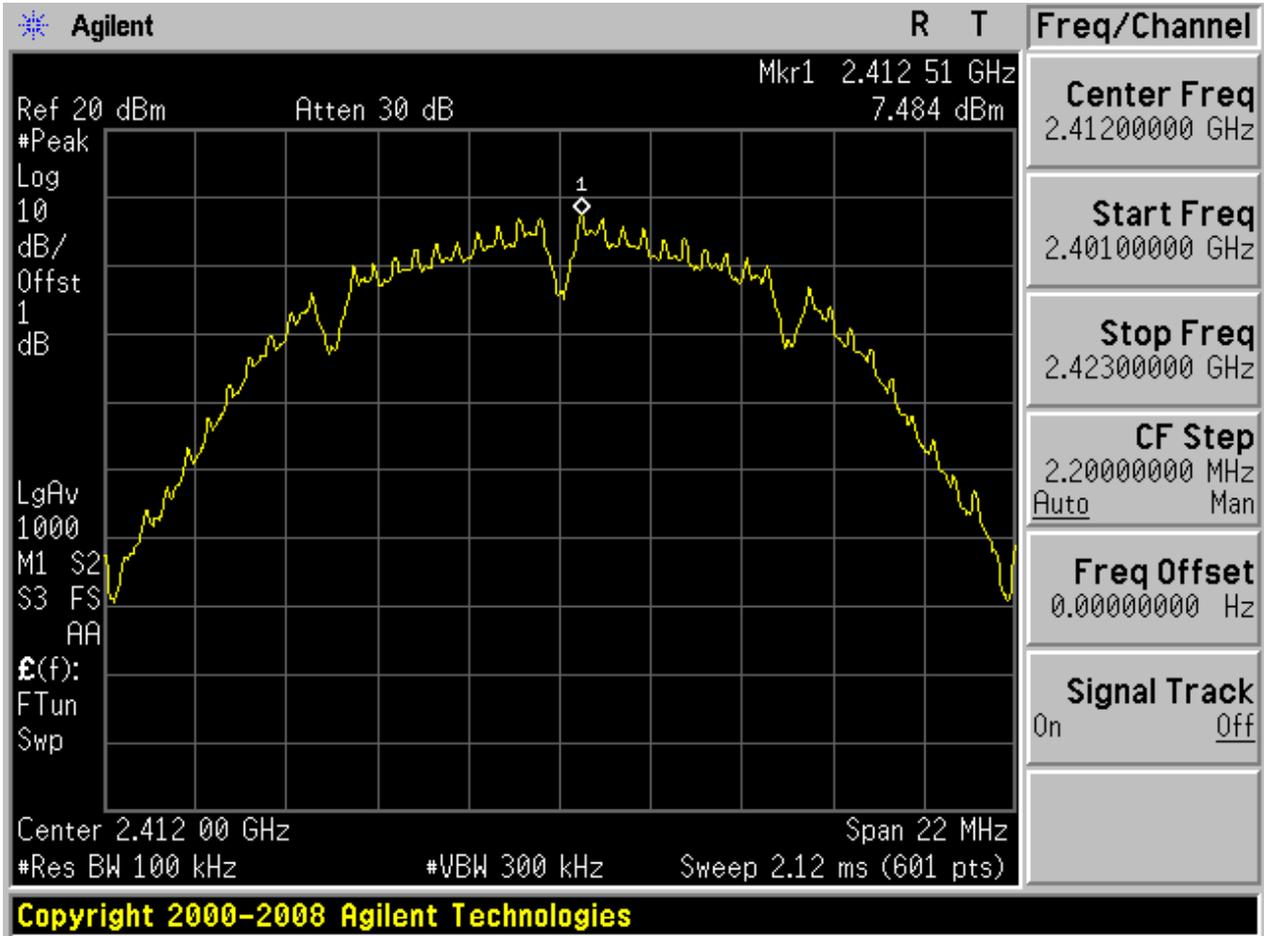
Test Mode	Test Channel	Frequency[MHz]	Pref[dBm]	Puw[dBm]	Verdict
11B	L	2412	7.48	<limit	pass
11B	M	2437	7.44	<limit	pass
11B	H	2462	7.20	<limit	pass
11G	L	2412	1.42	<limit	pass
11G	M	2437	1.64	<limit	pass
11G	H	2462	1.94	<limit	pass
11N20	L	2412	1.54	<limit	pass
11N20	M	2437	1.58	<limit	pass
11N20	H	2462	2.00	<limit	pass



Part II - Test Plots

2.1 11B_L

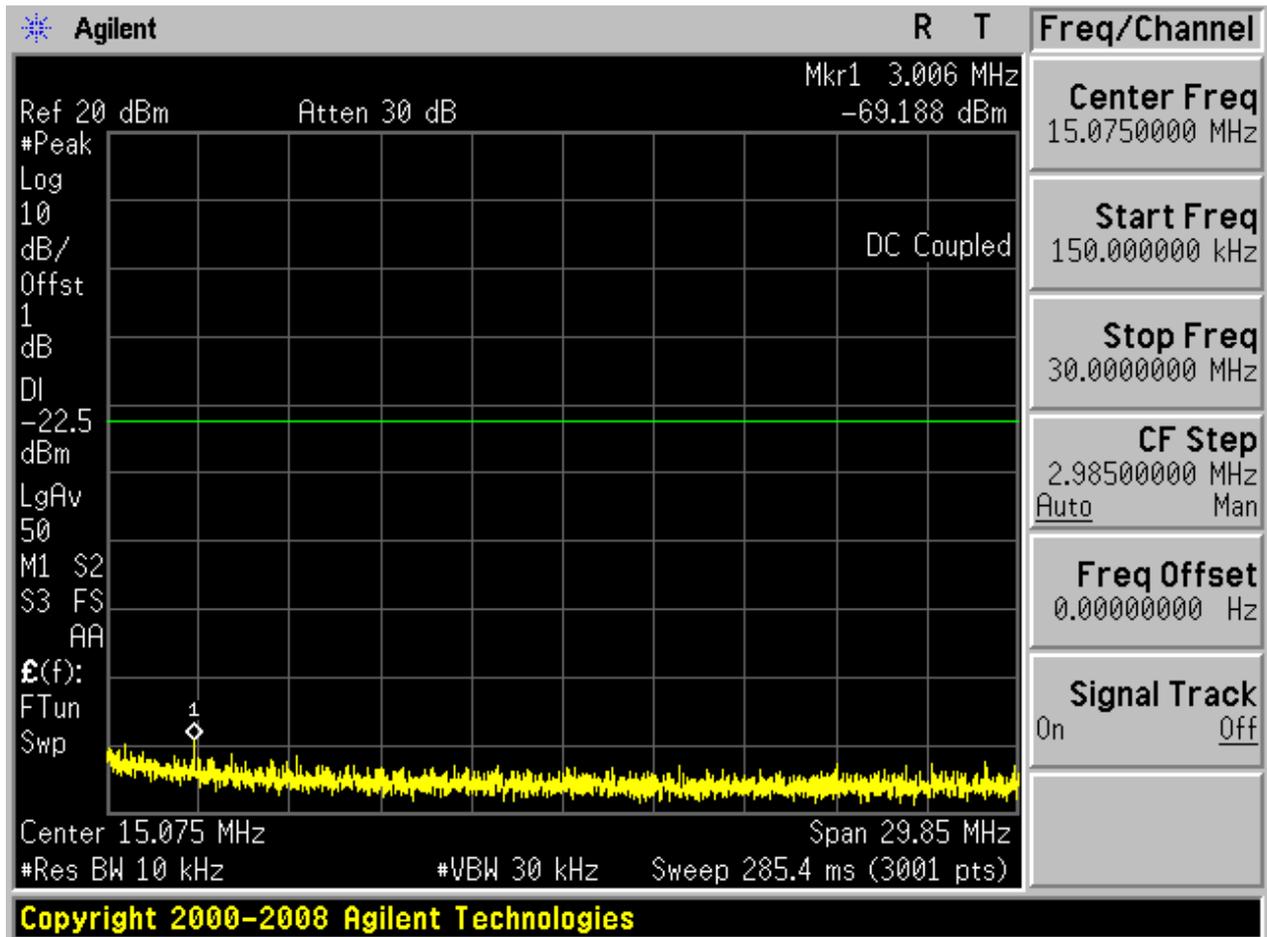
Pref:

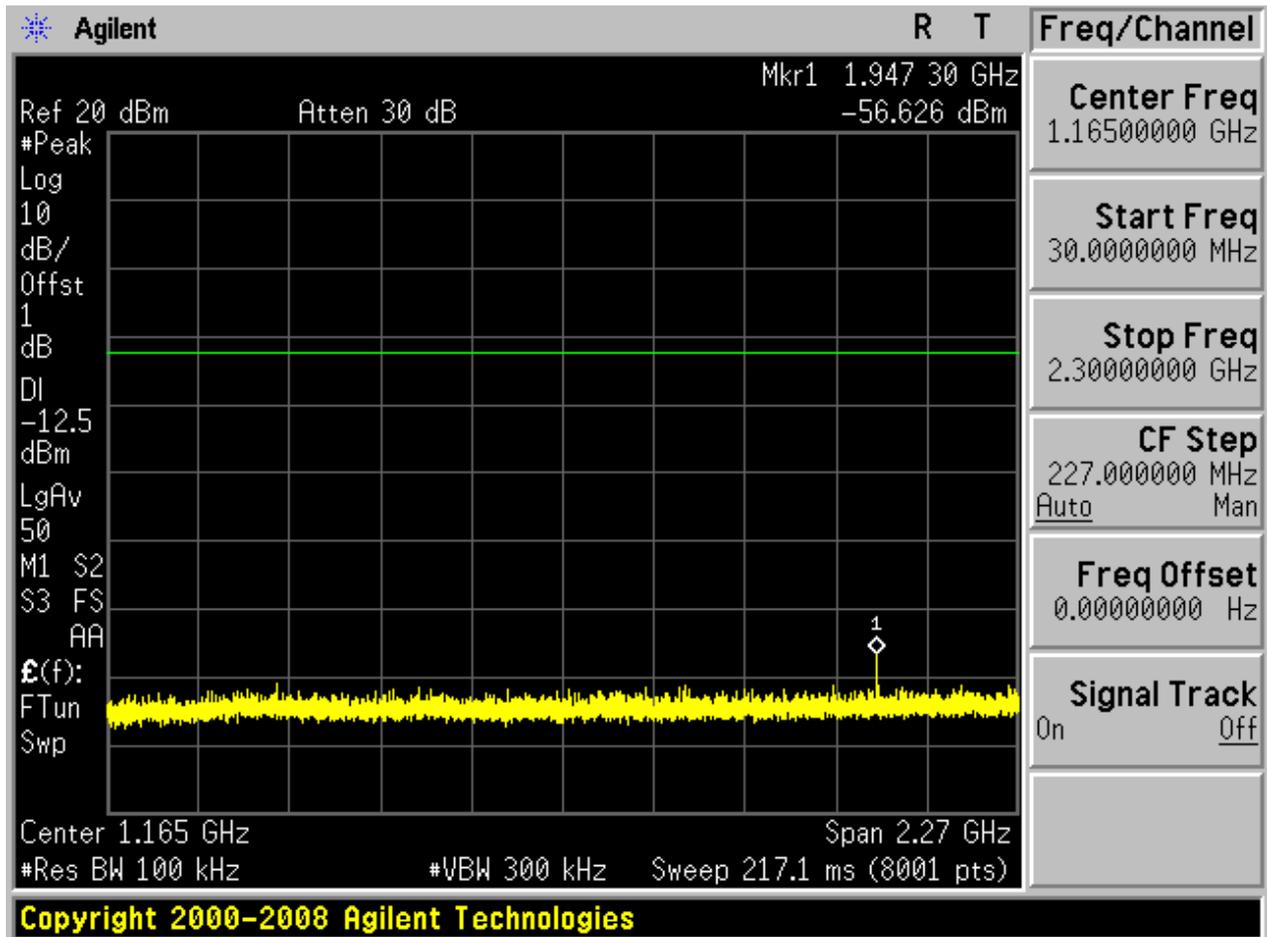


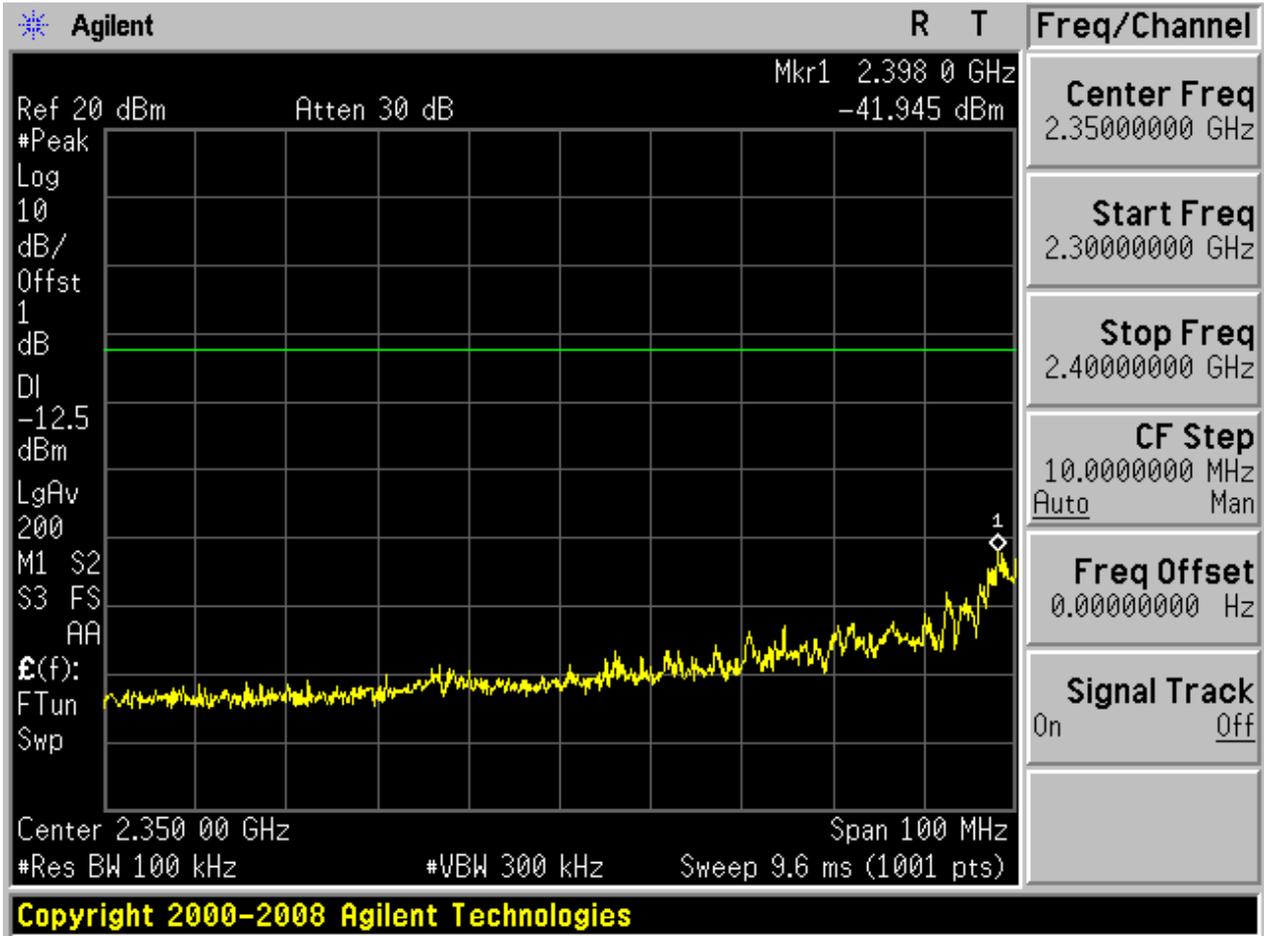


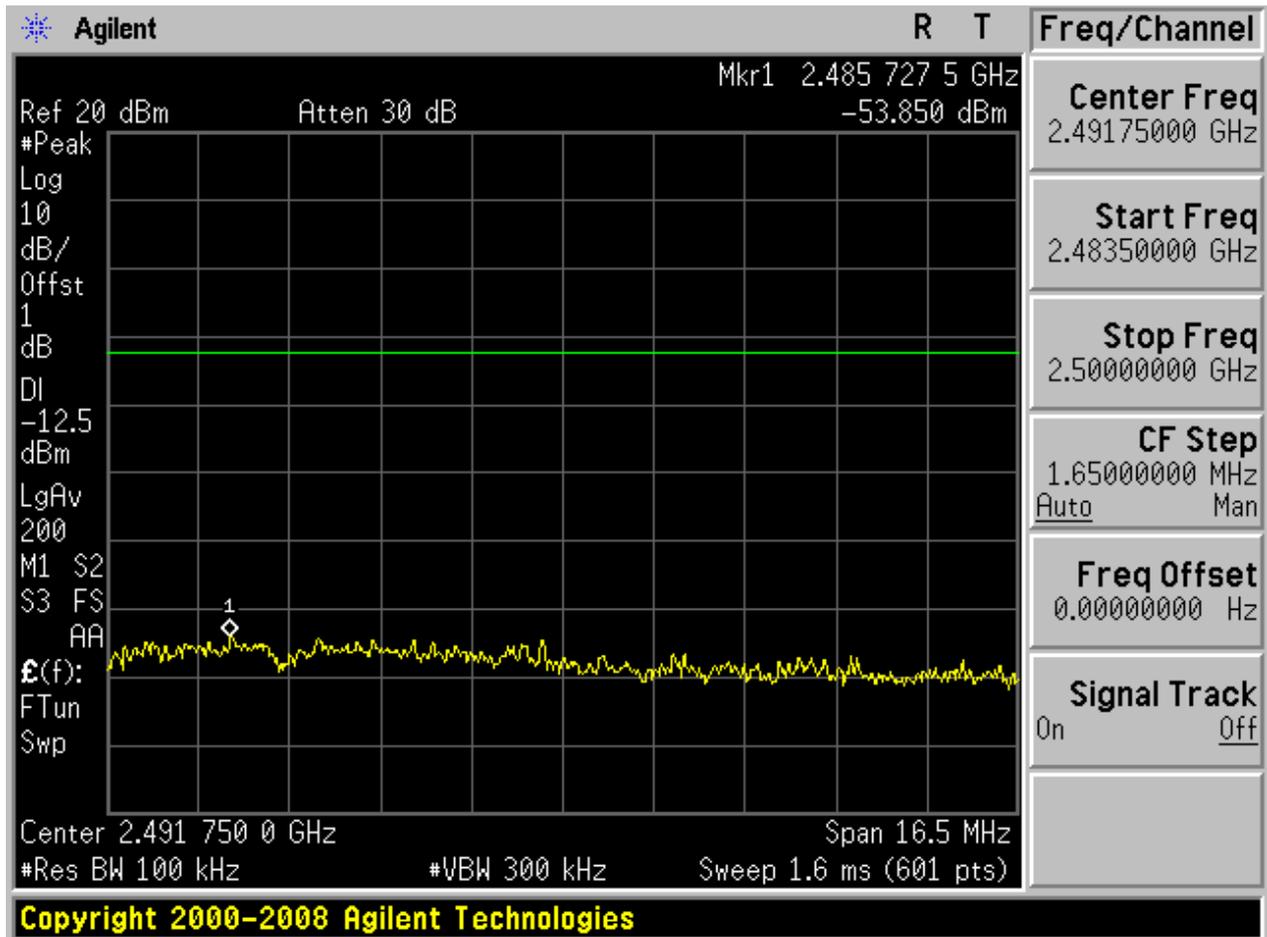
Puw:

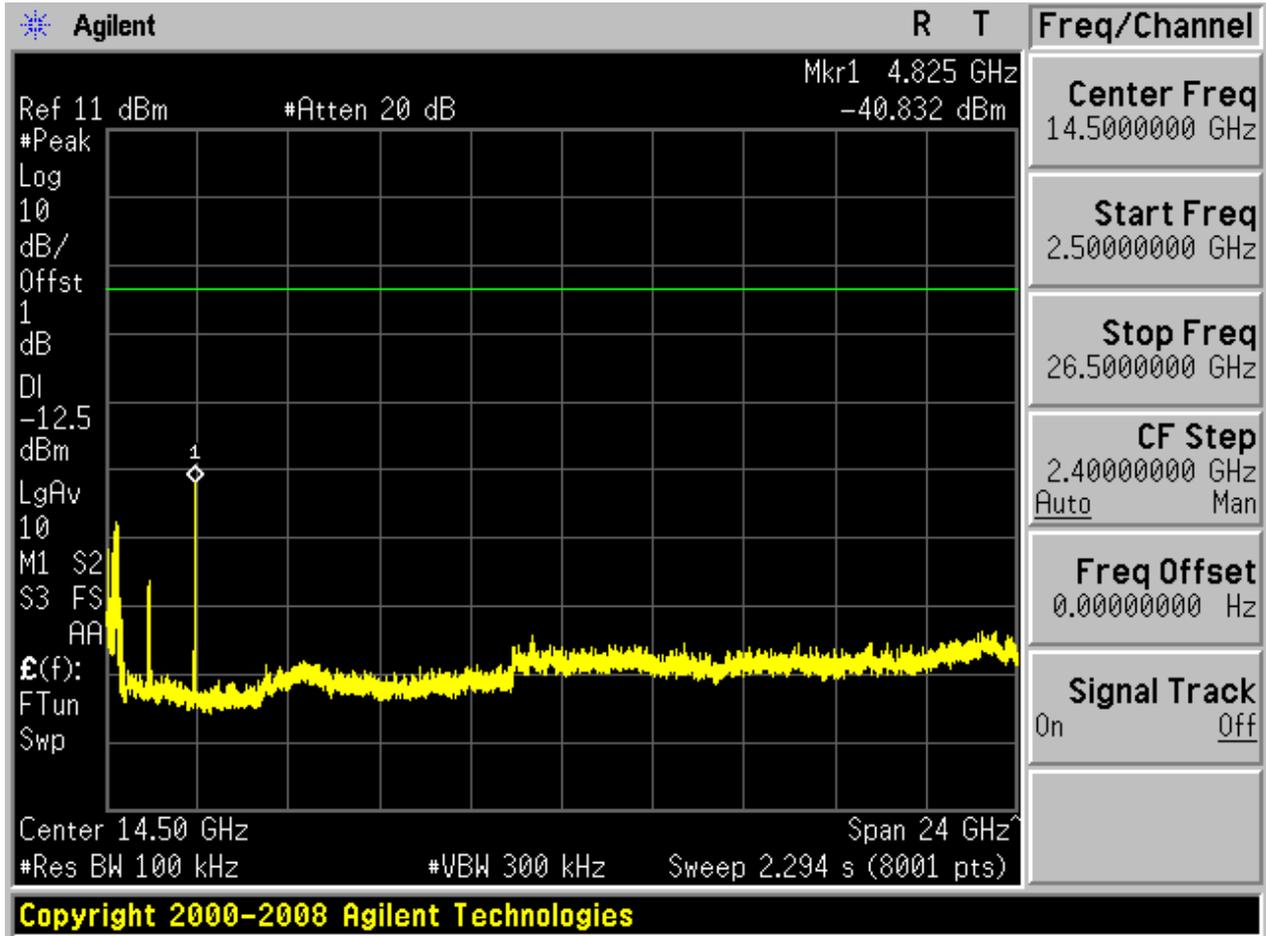






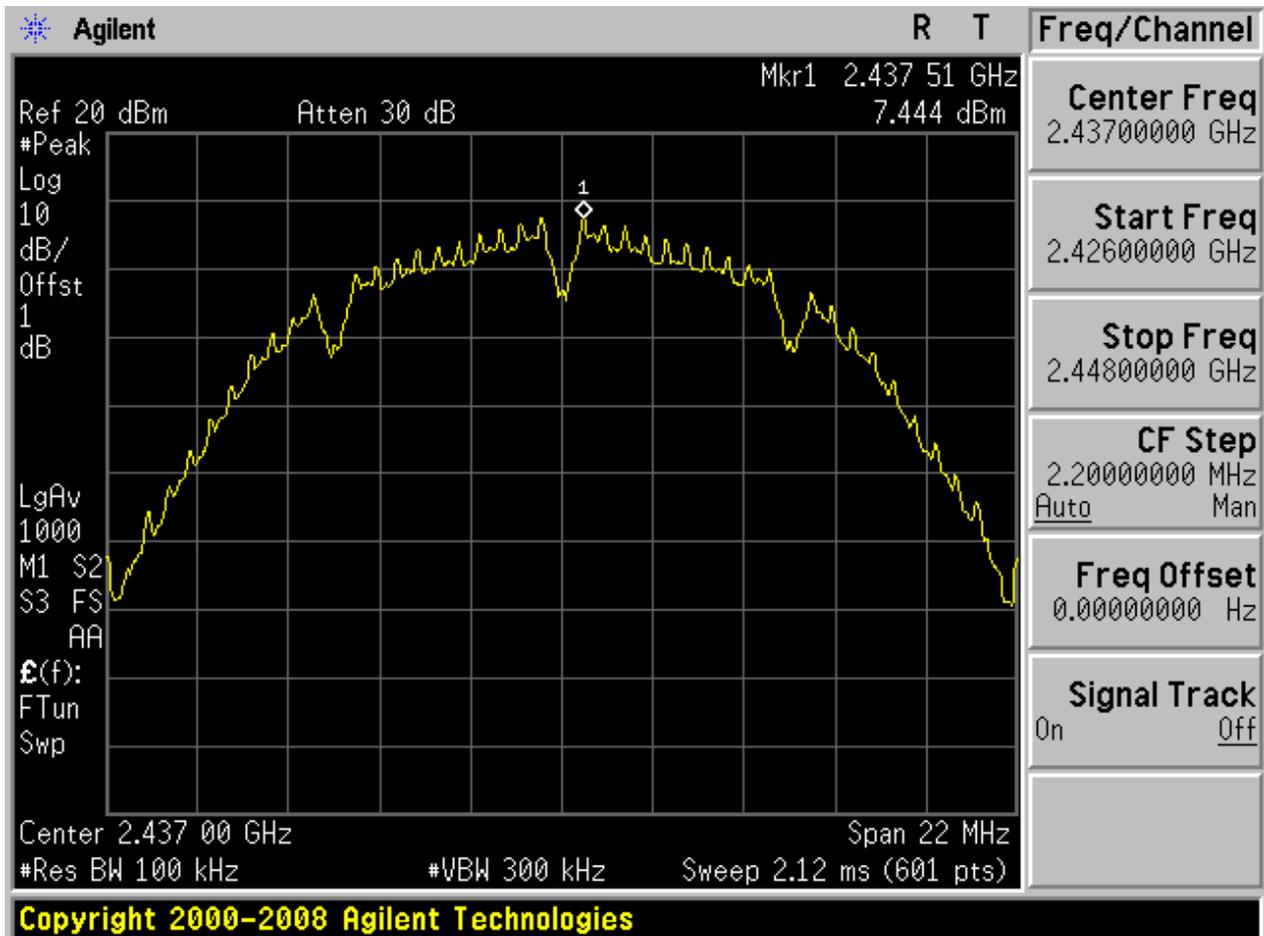






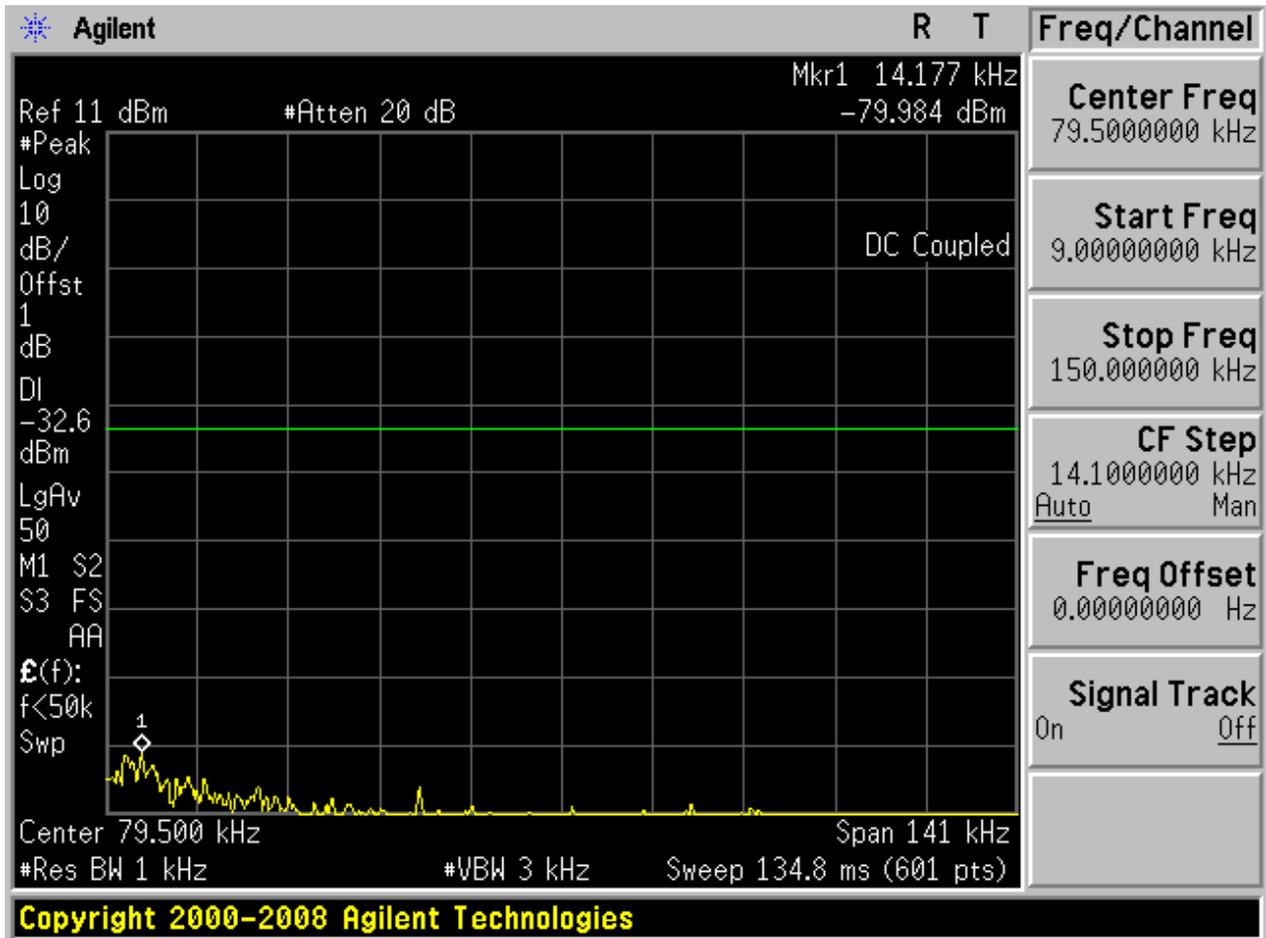
2.2 11B_M

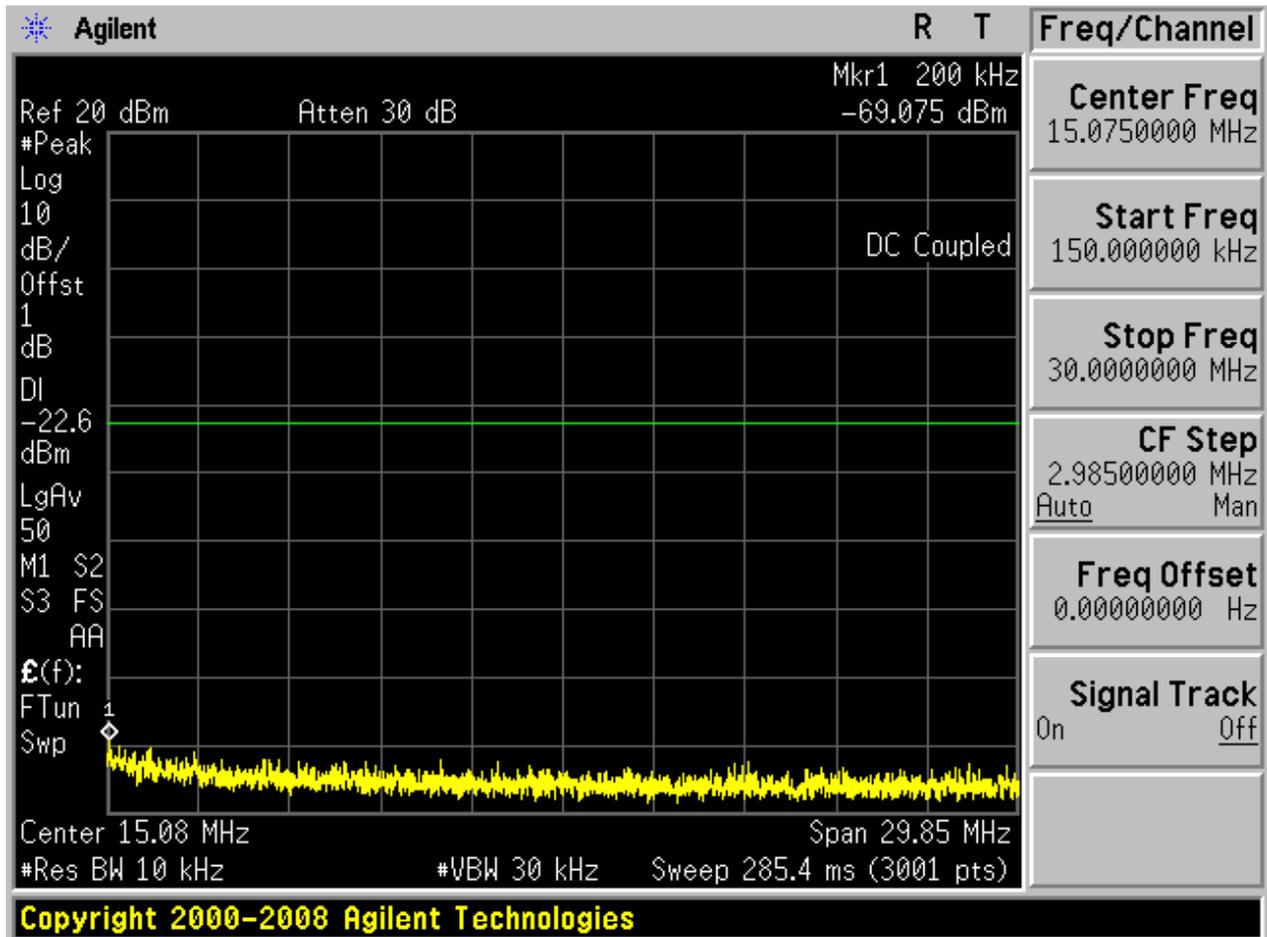
Pref:

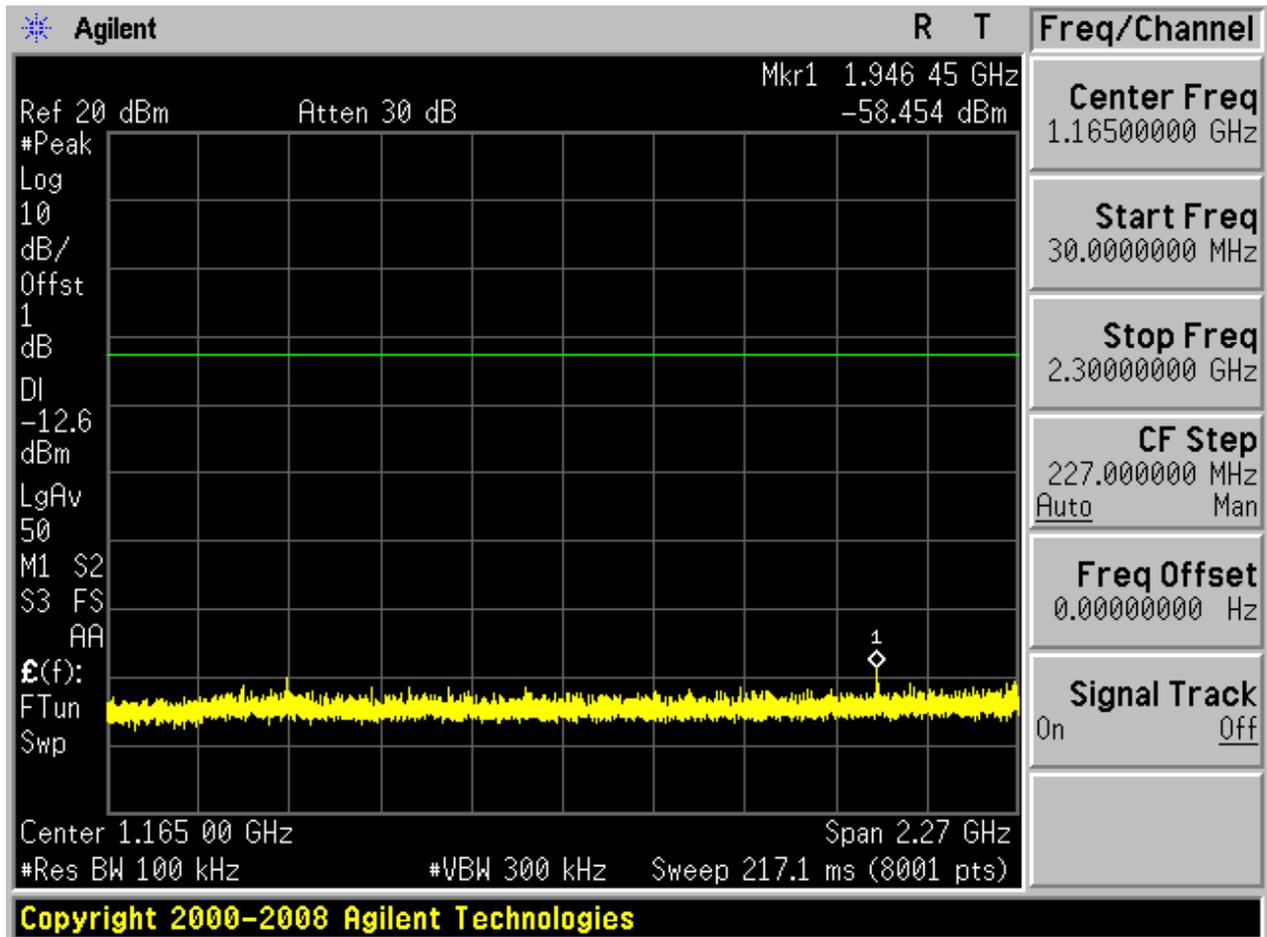


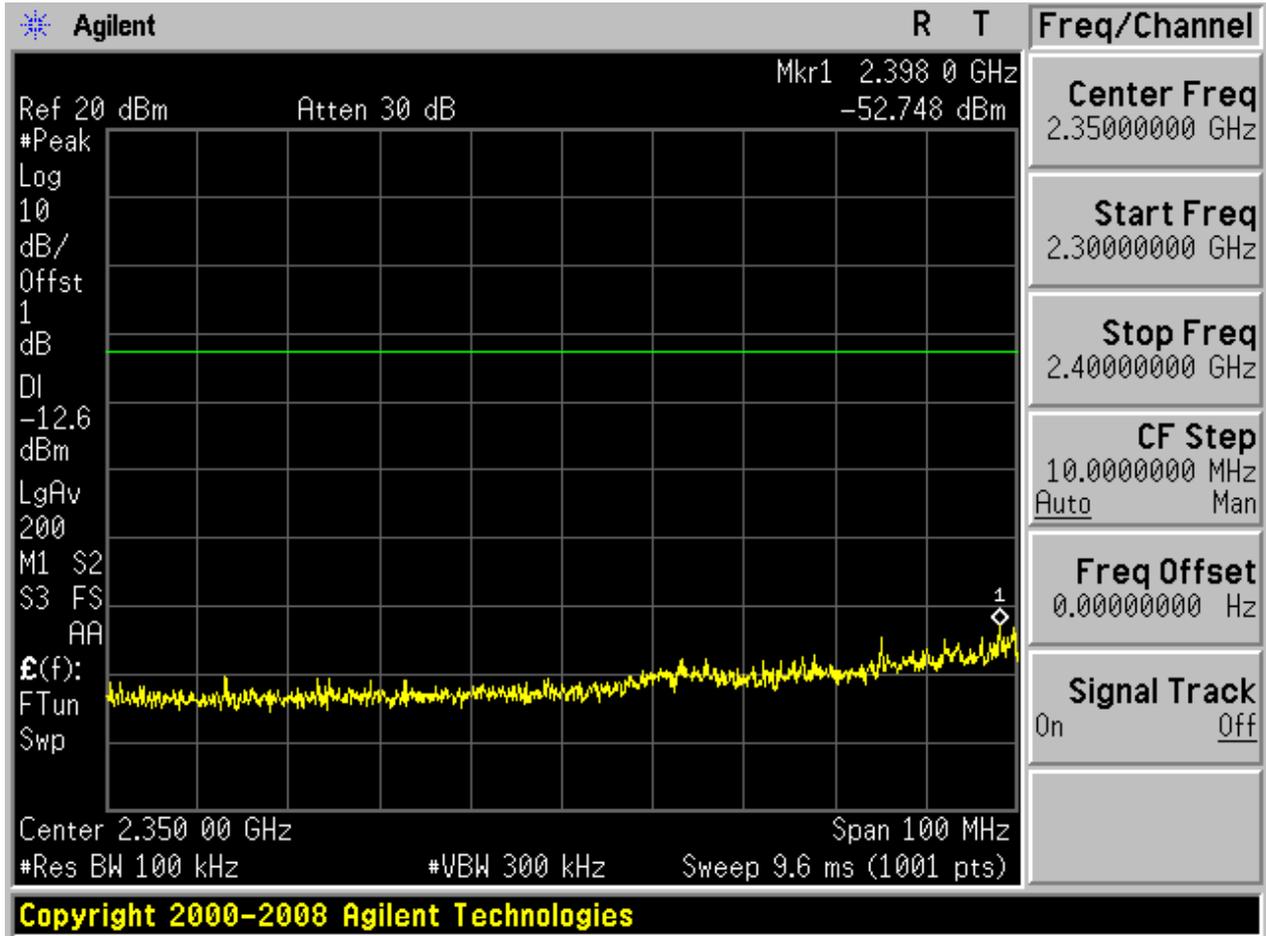


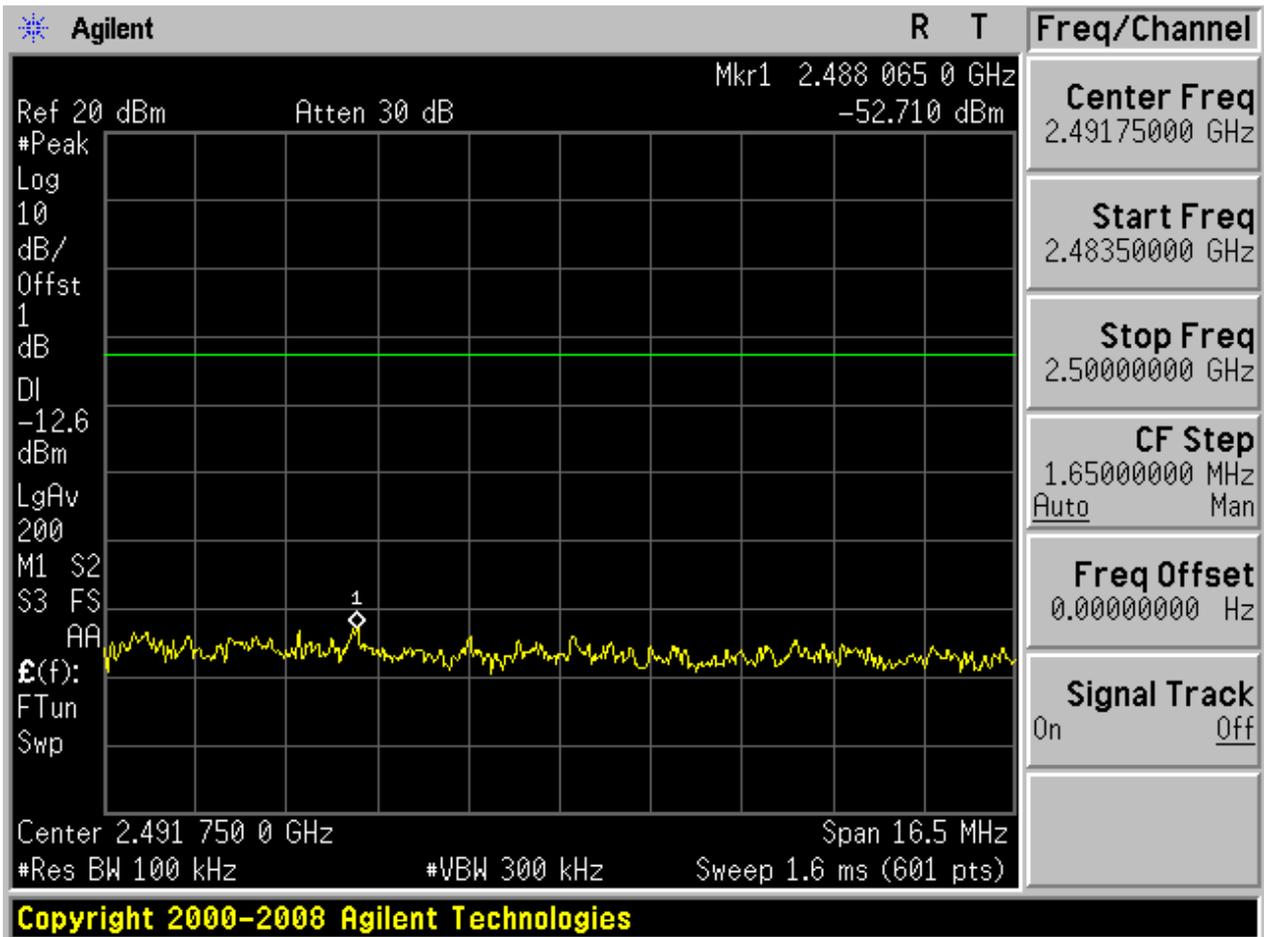
Puw:

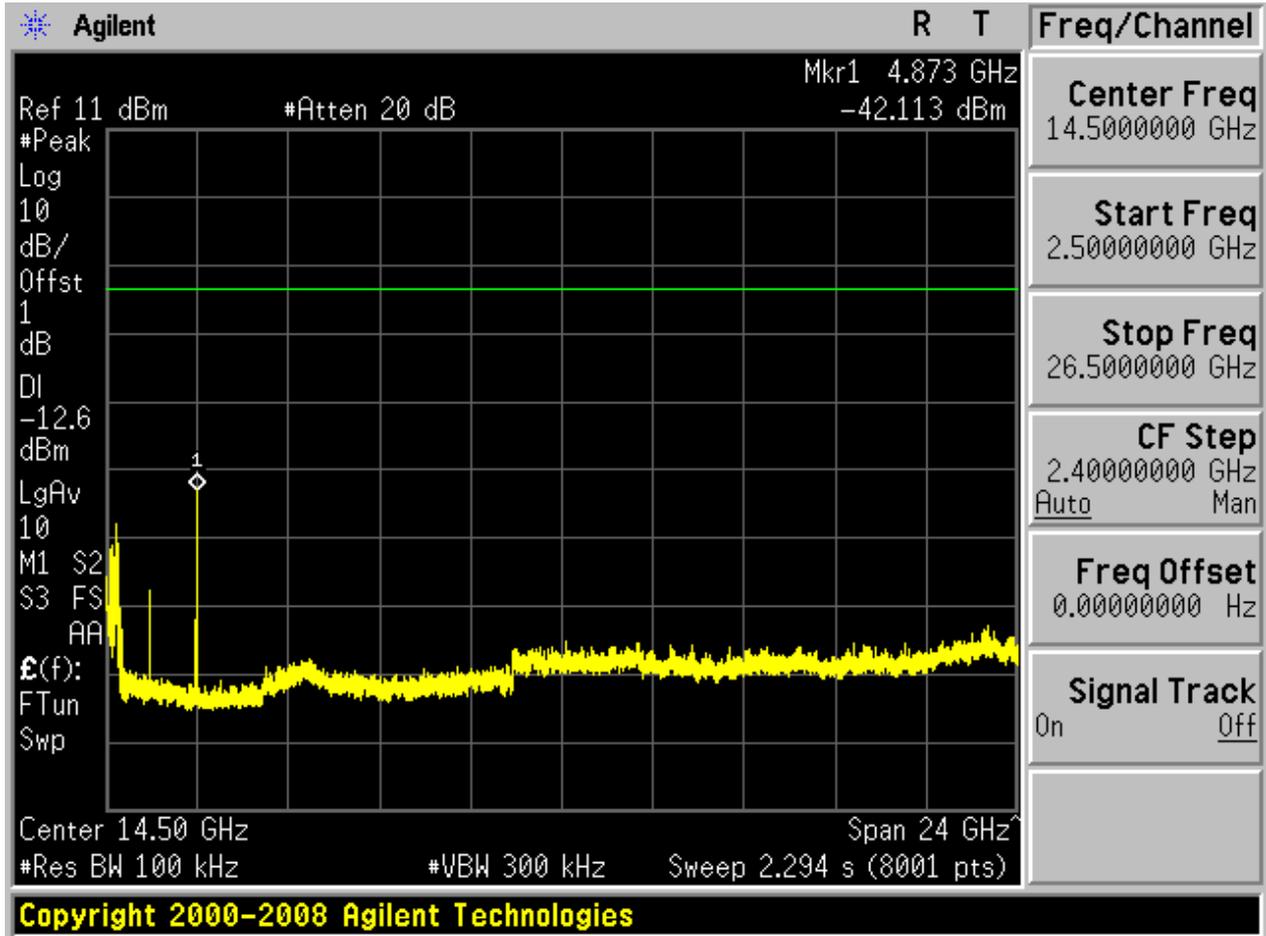






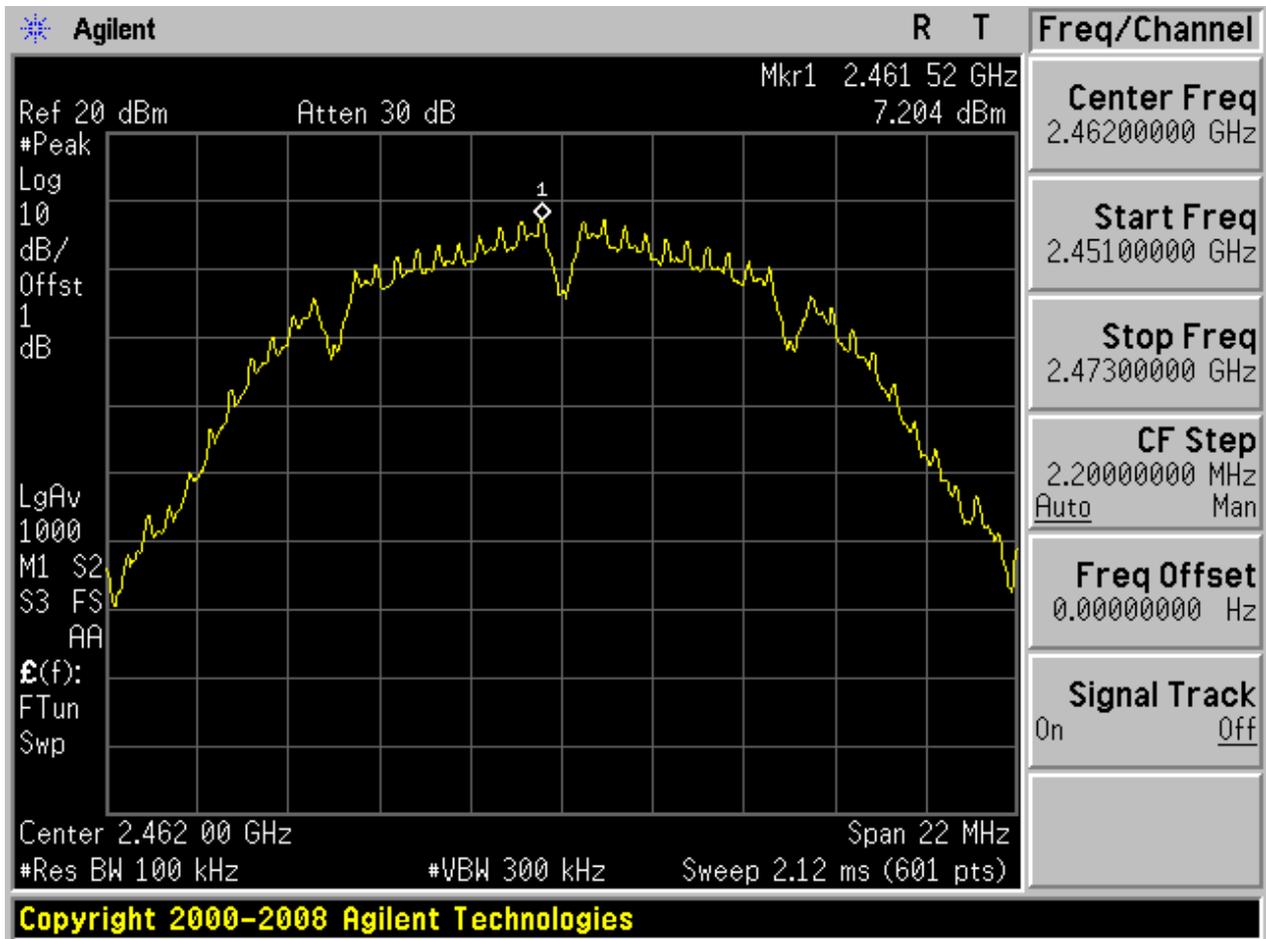






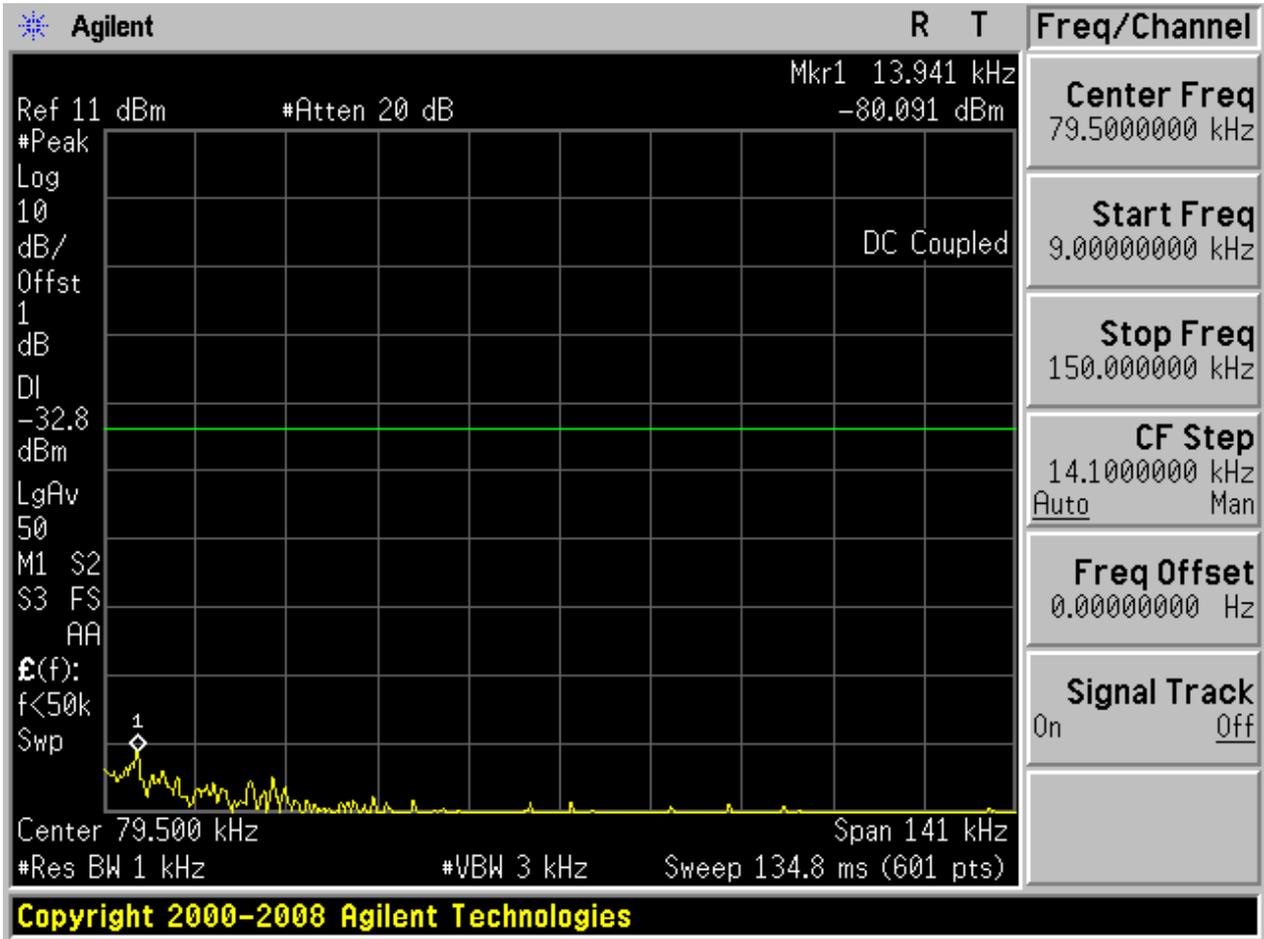
2.3 11B_H

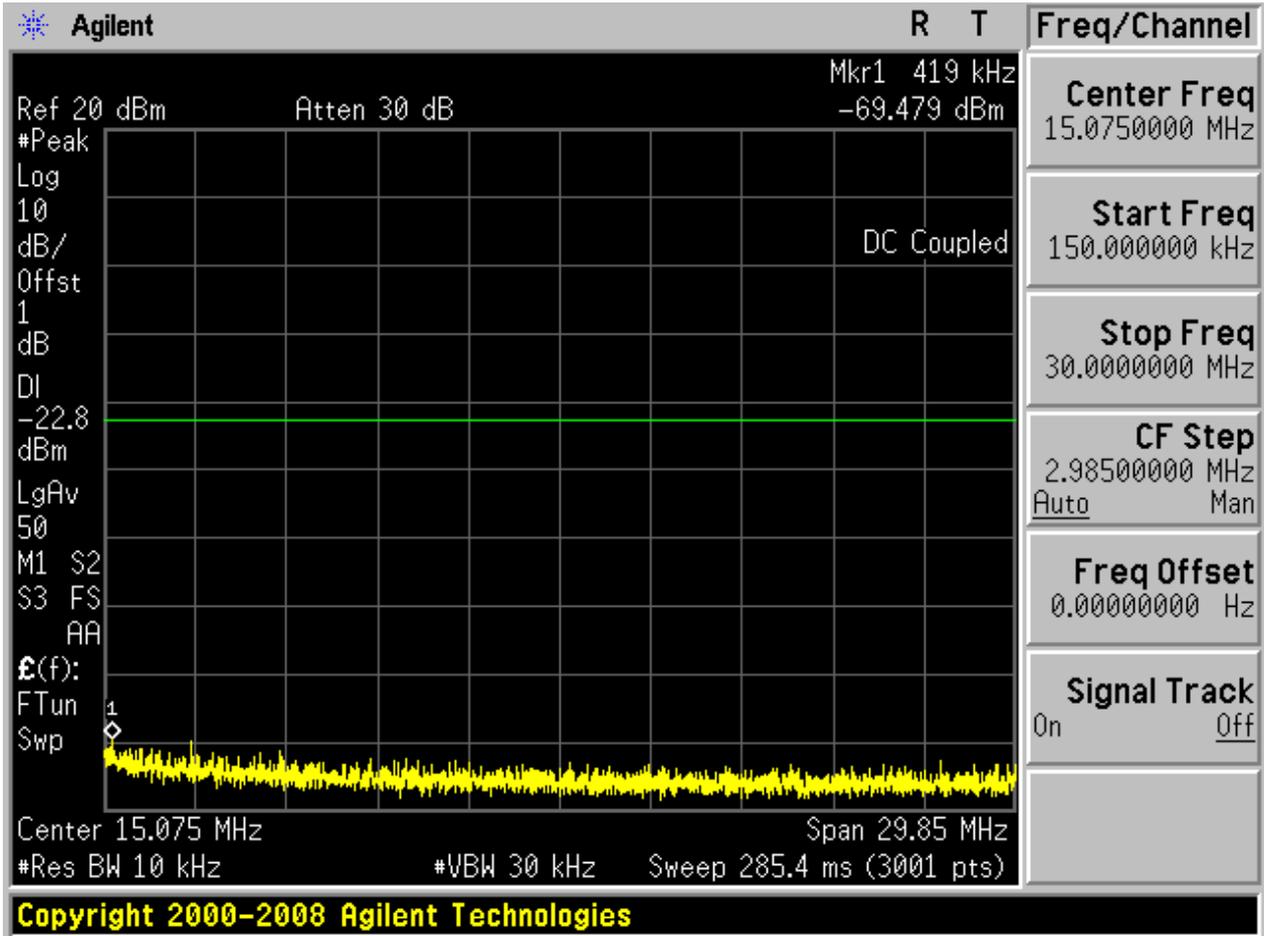
Pref:

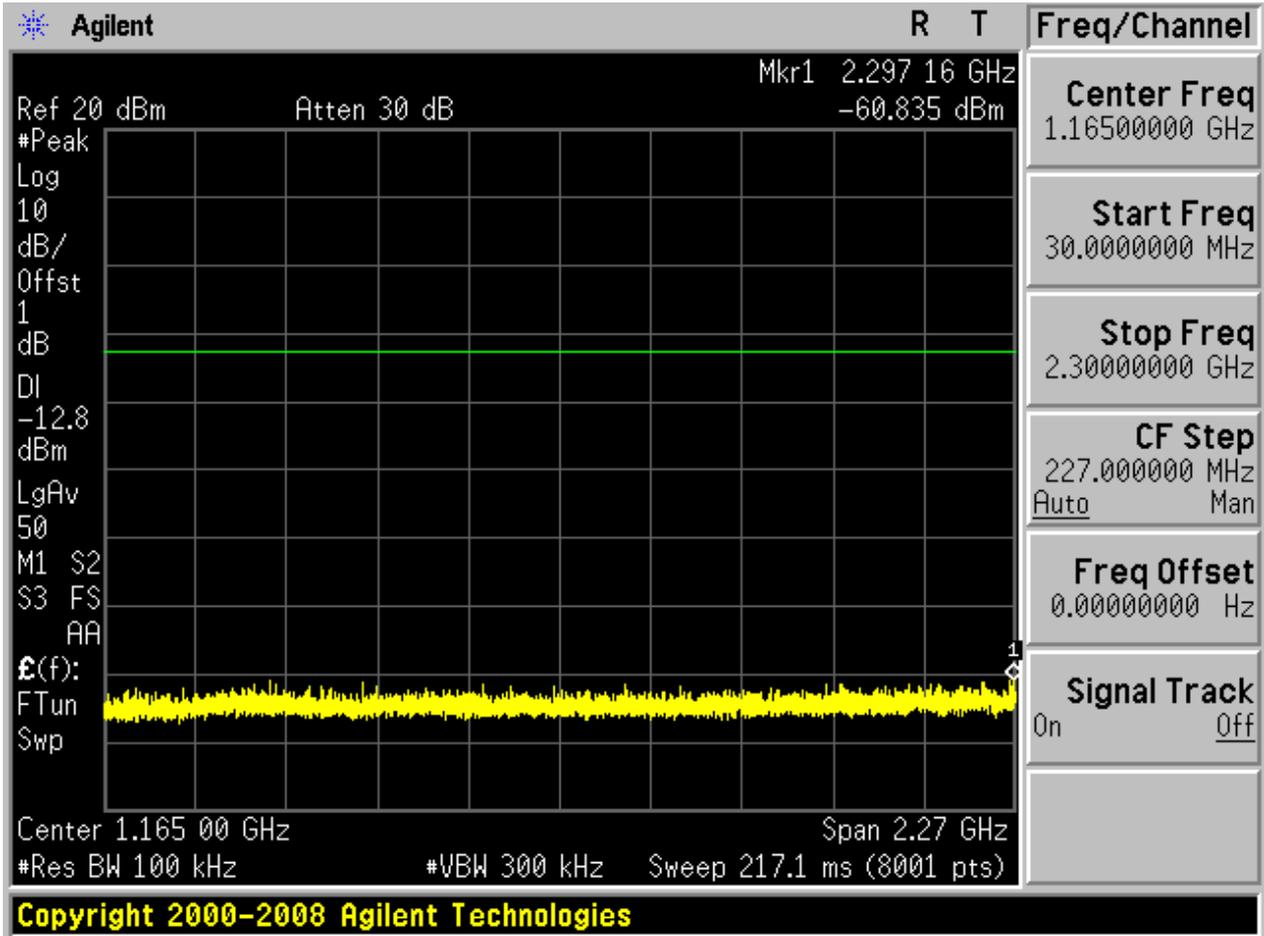


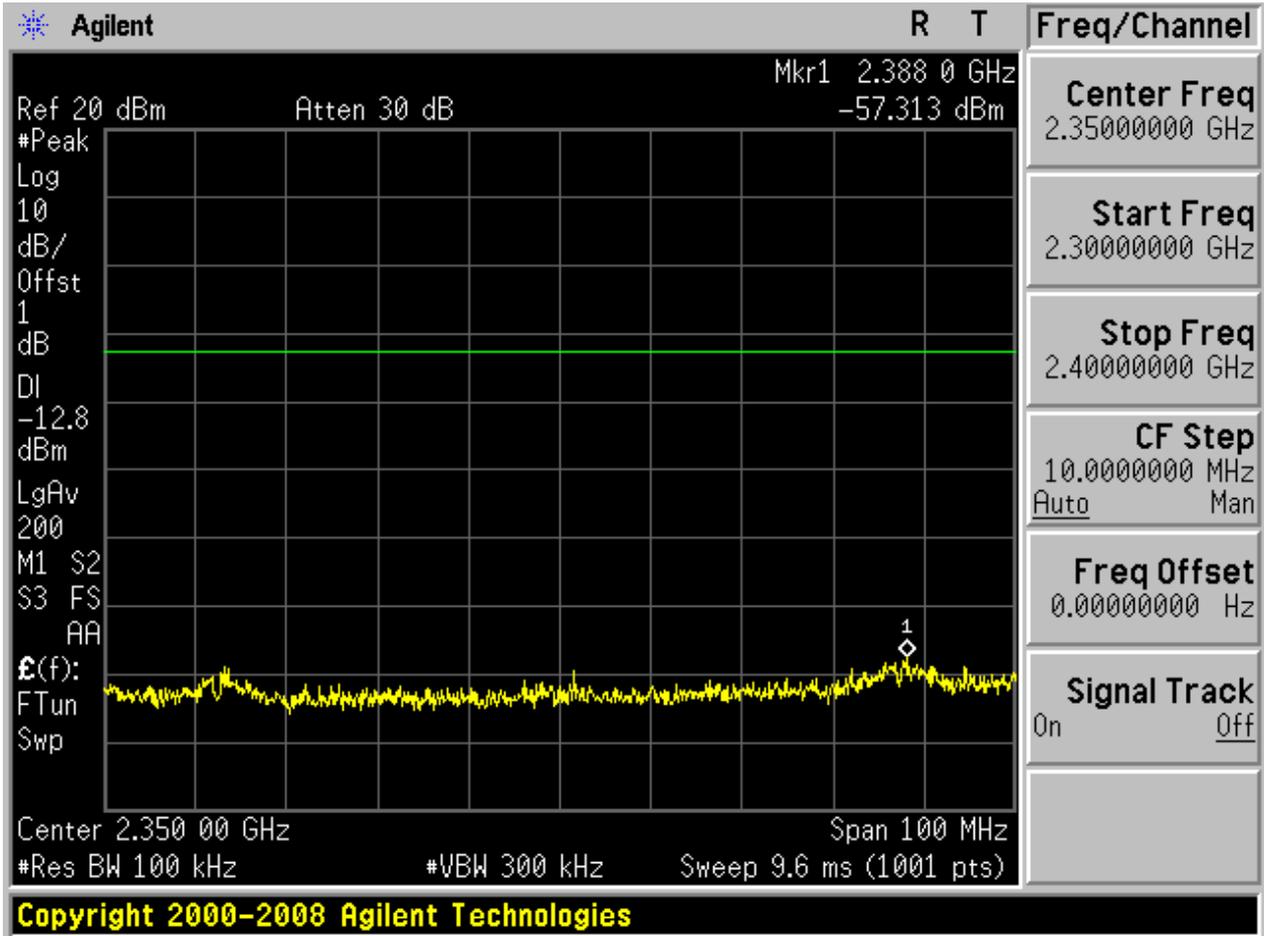


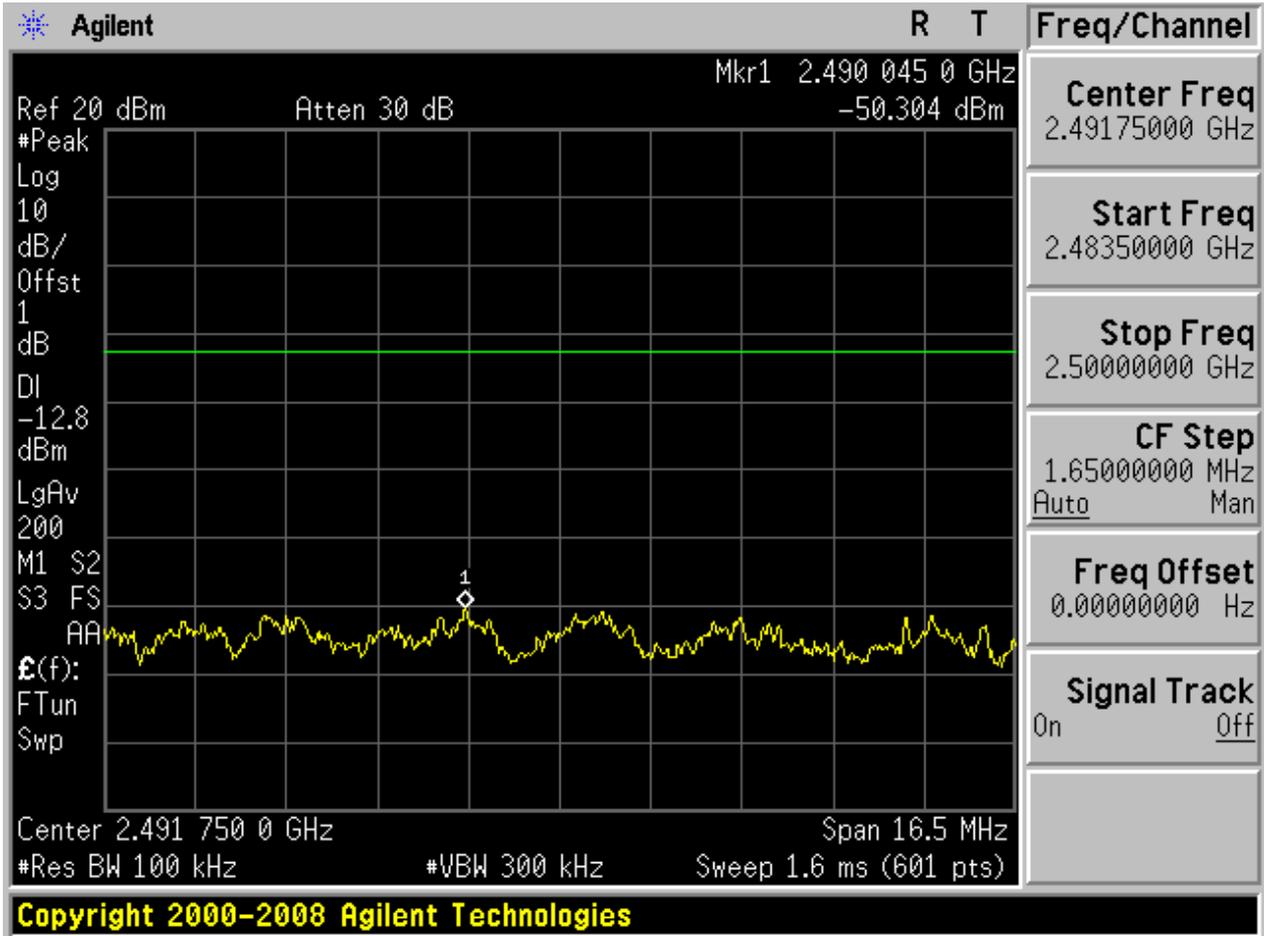
Puw:

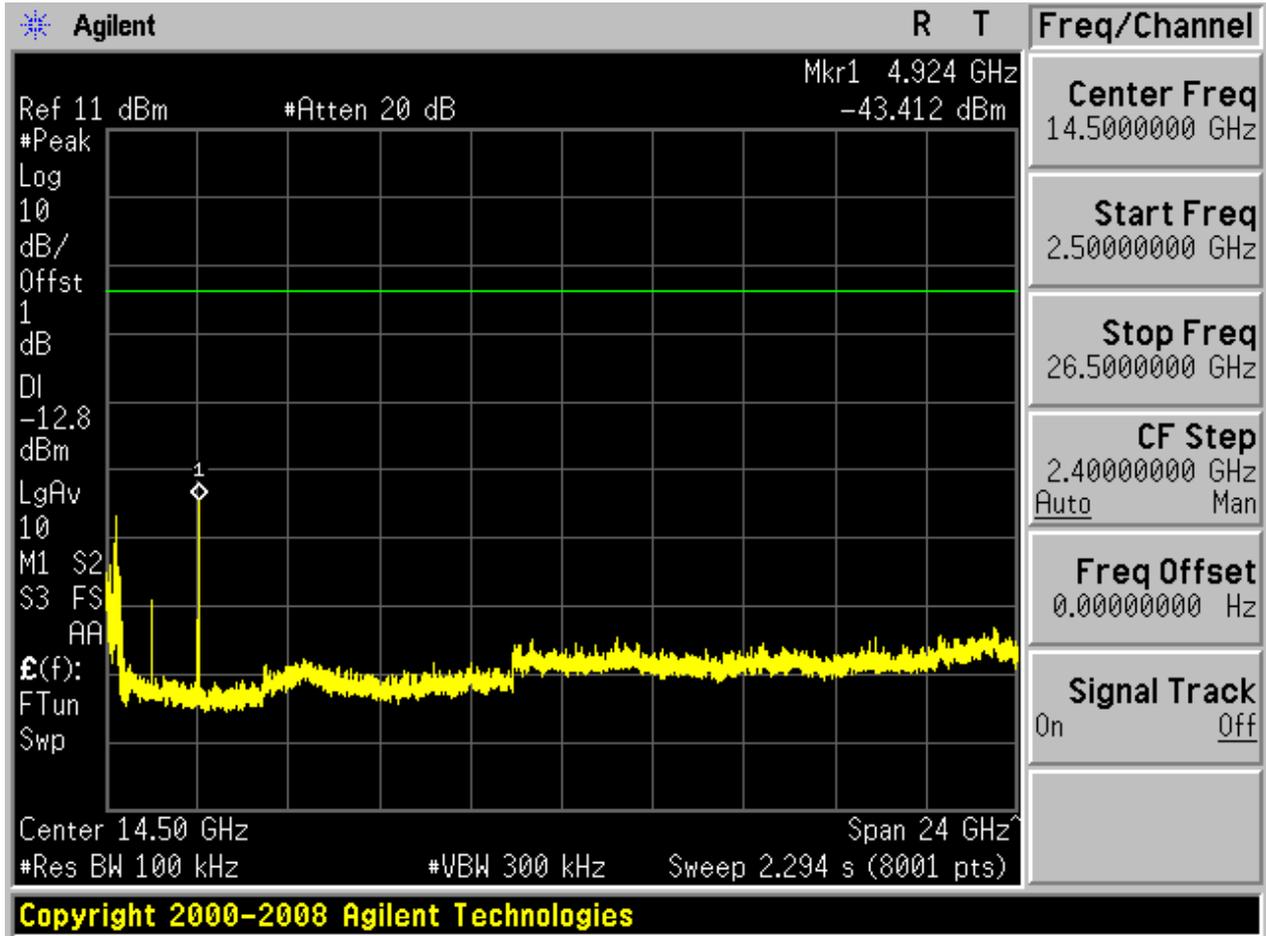






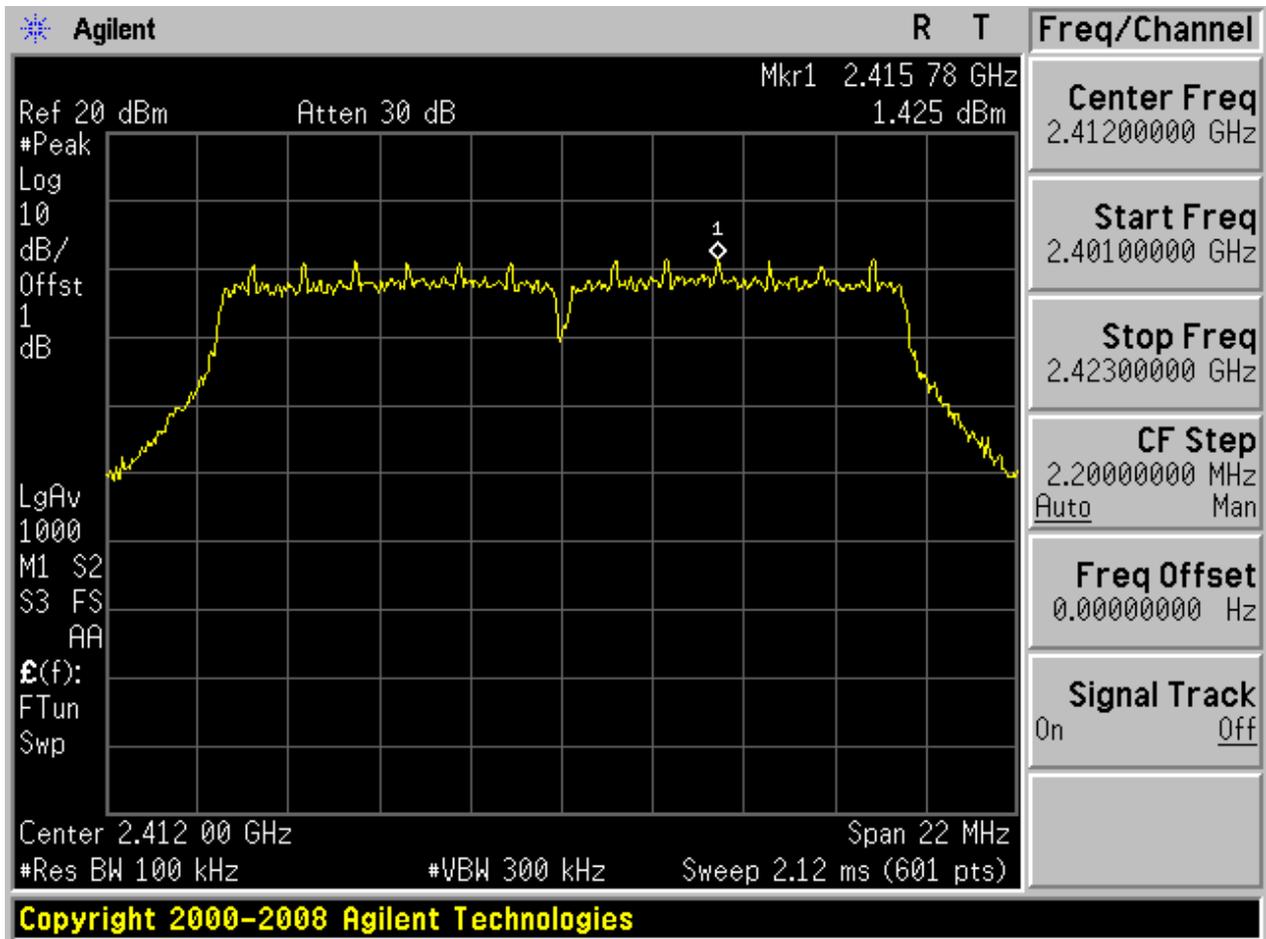






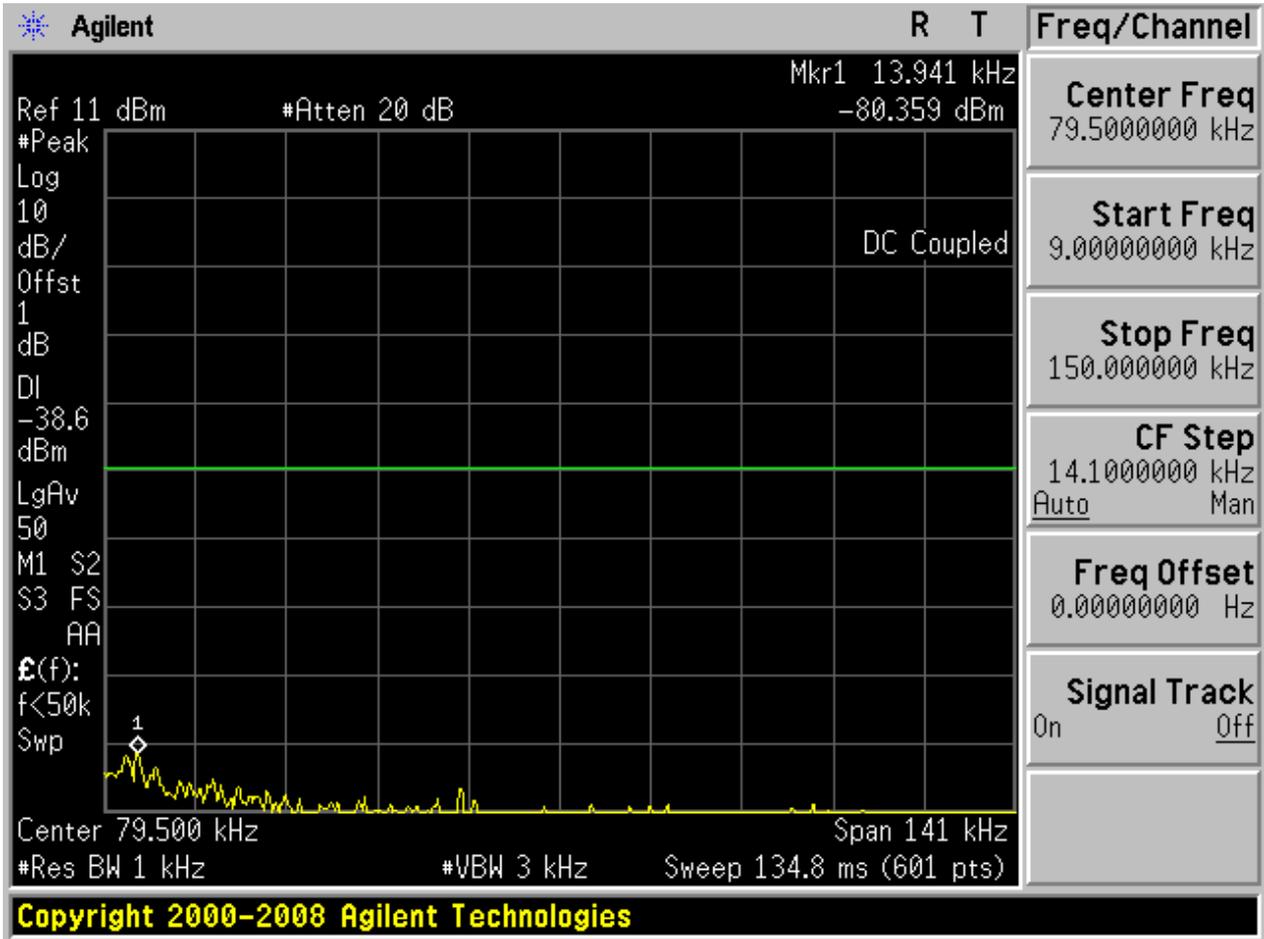
2.4 11G_L

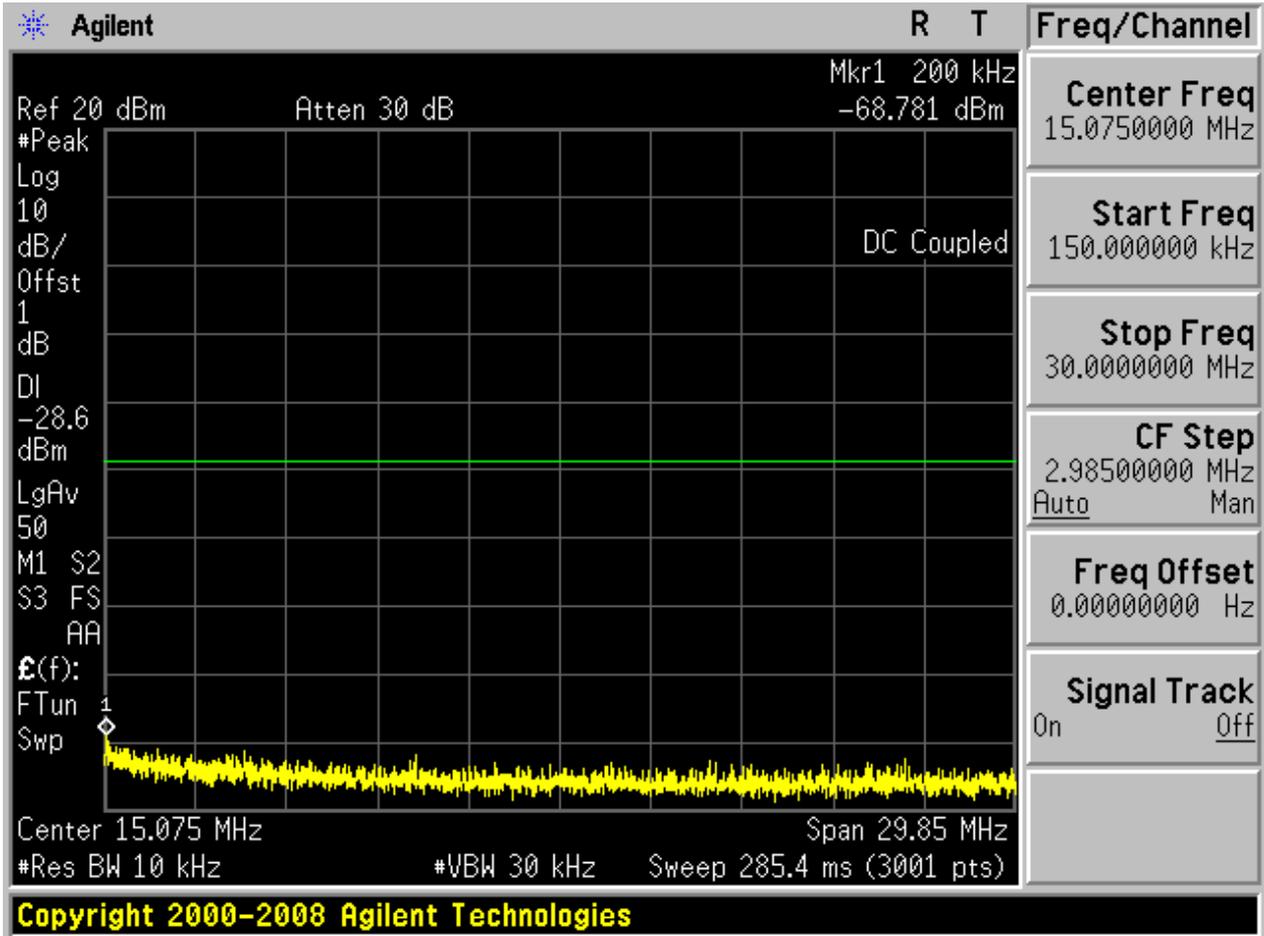
Pref:

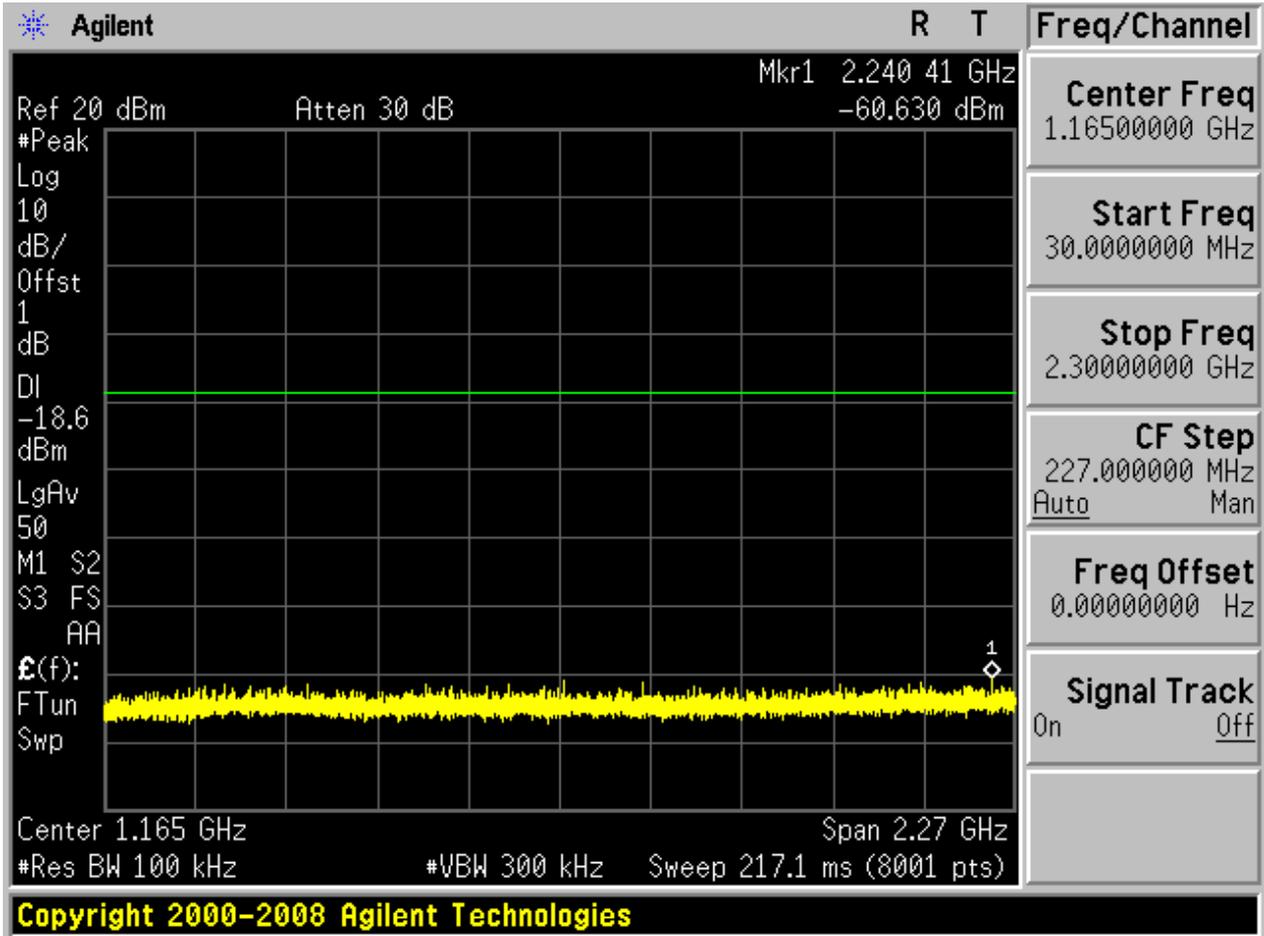


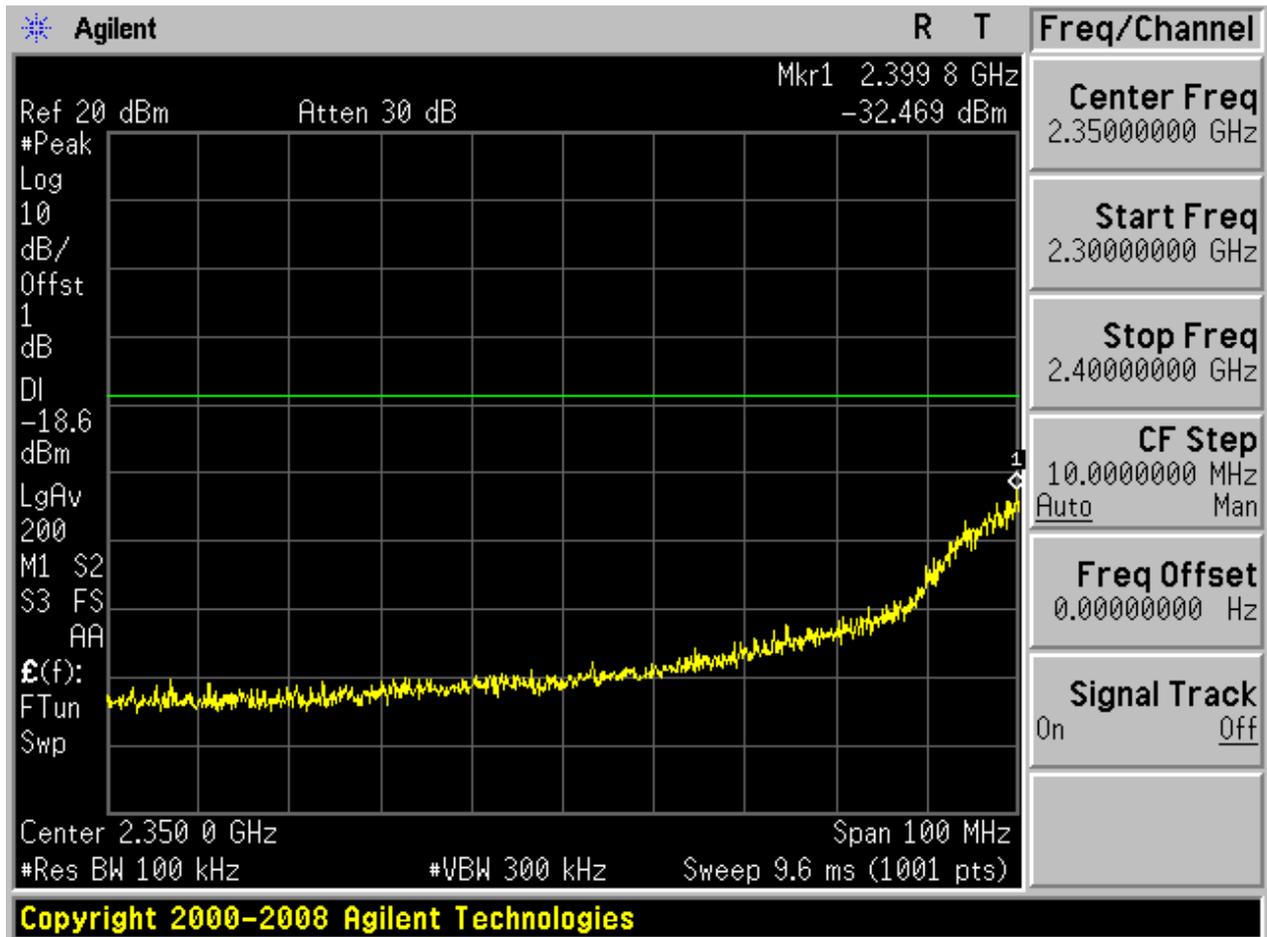


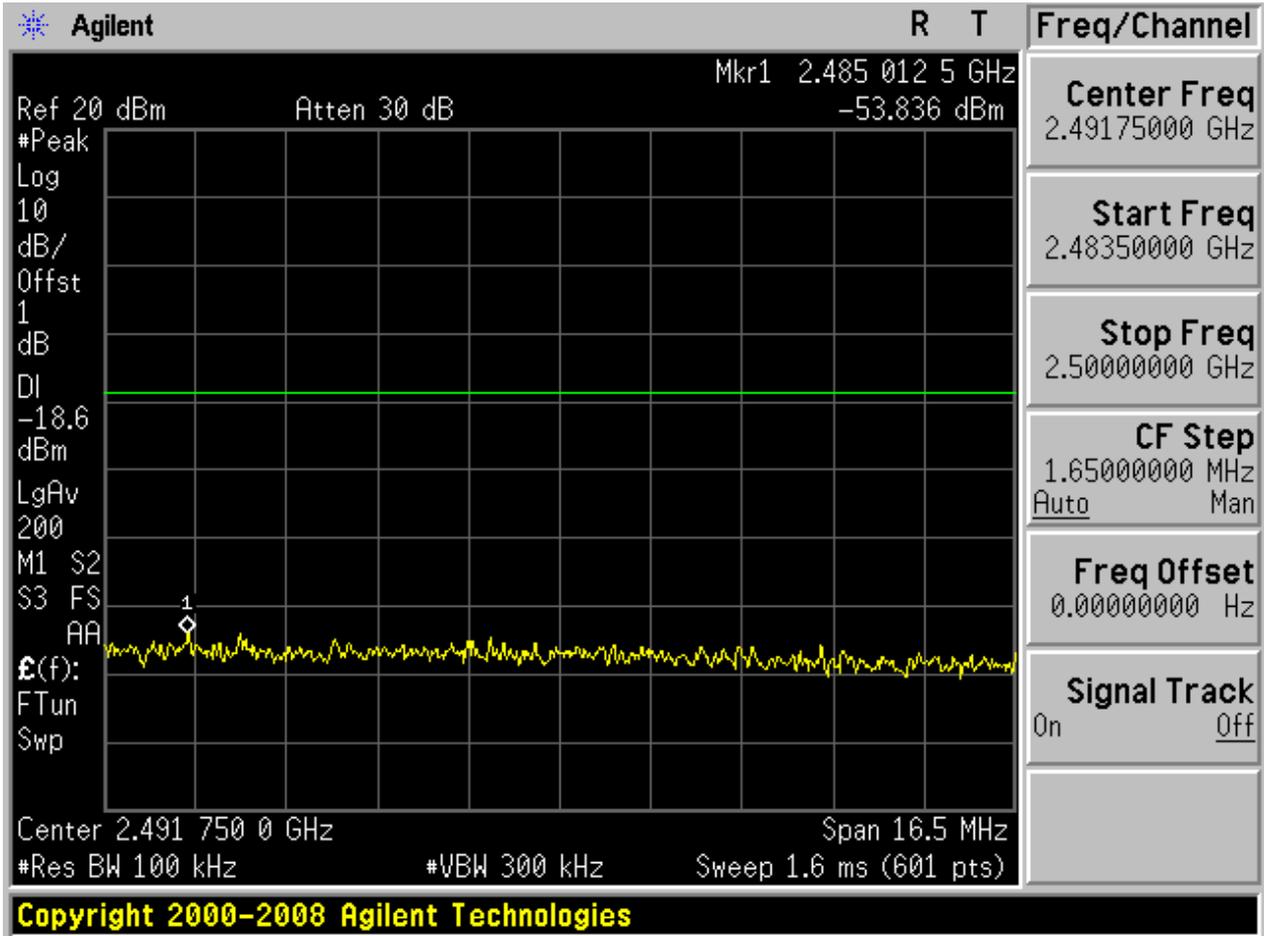
Puw:

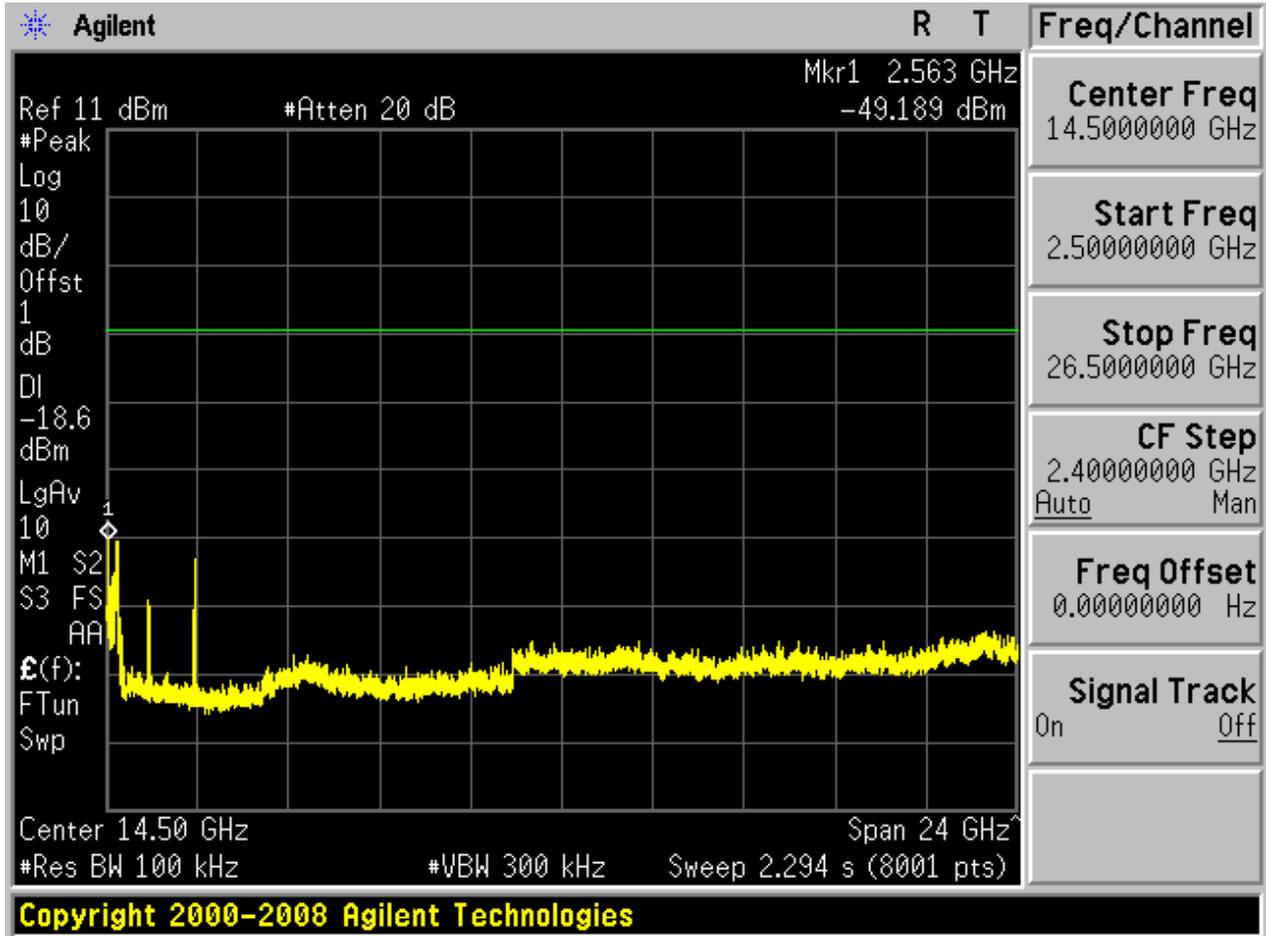








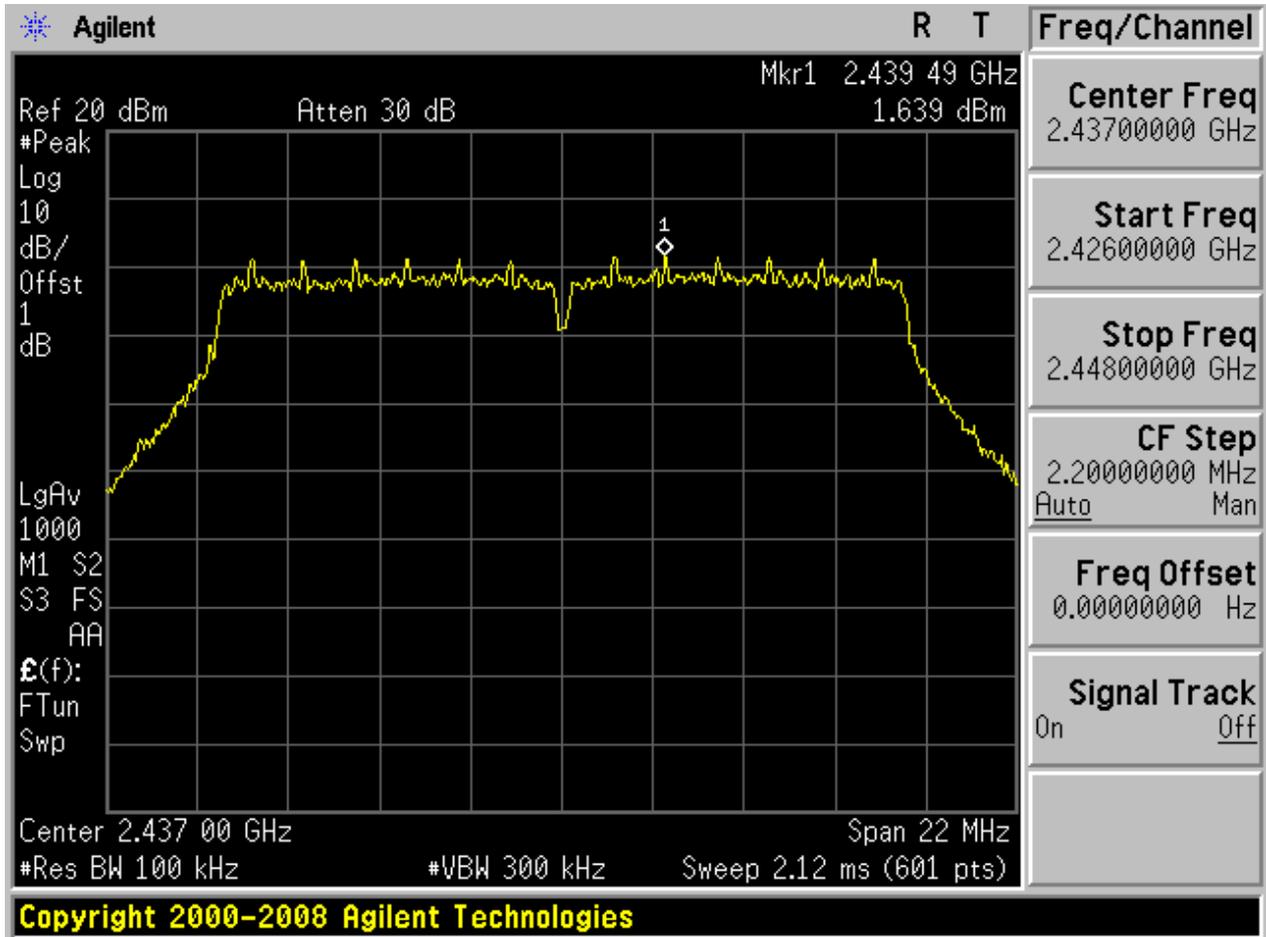






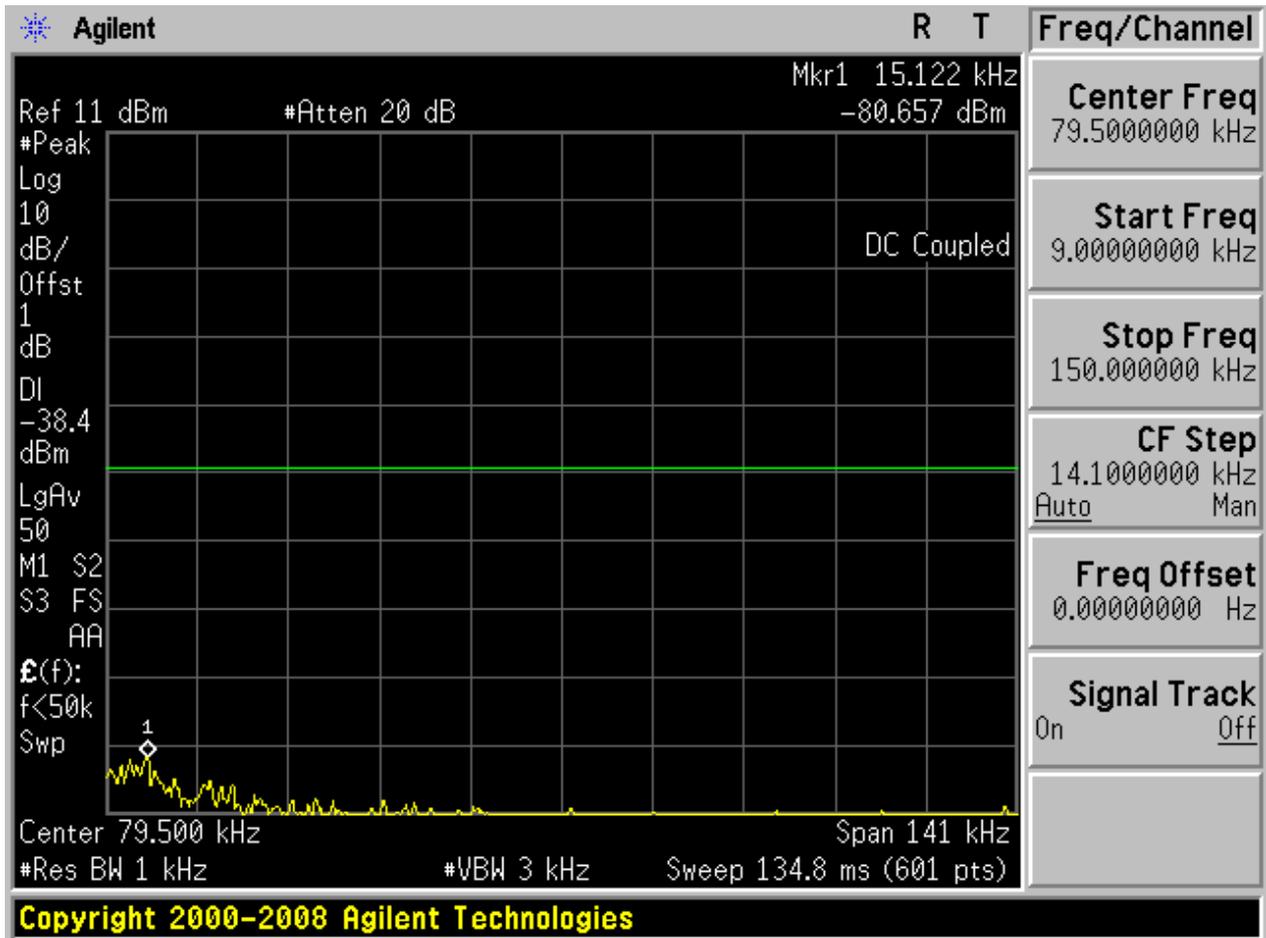
2.5 11G_M

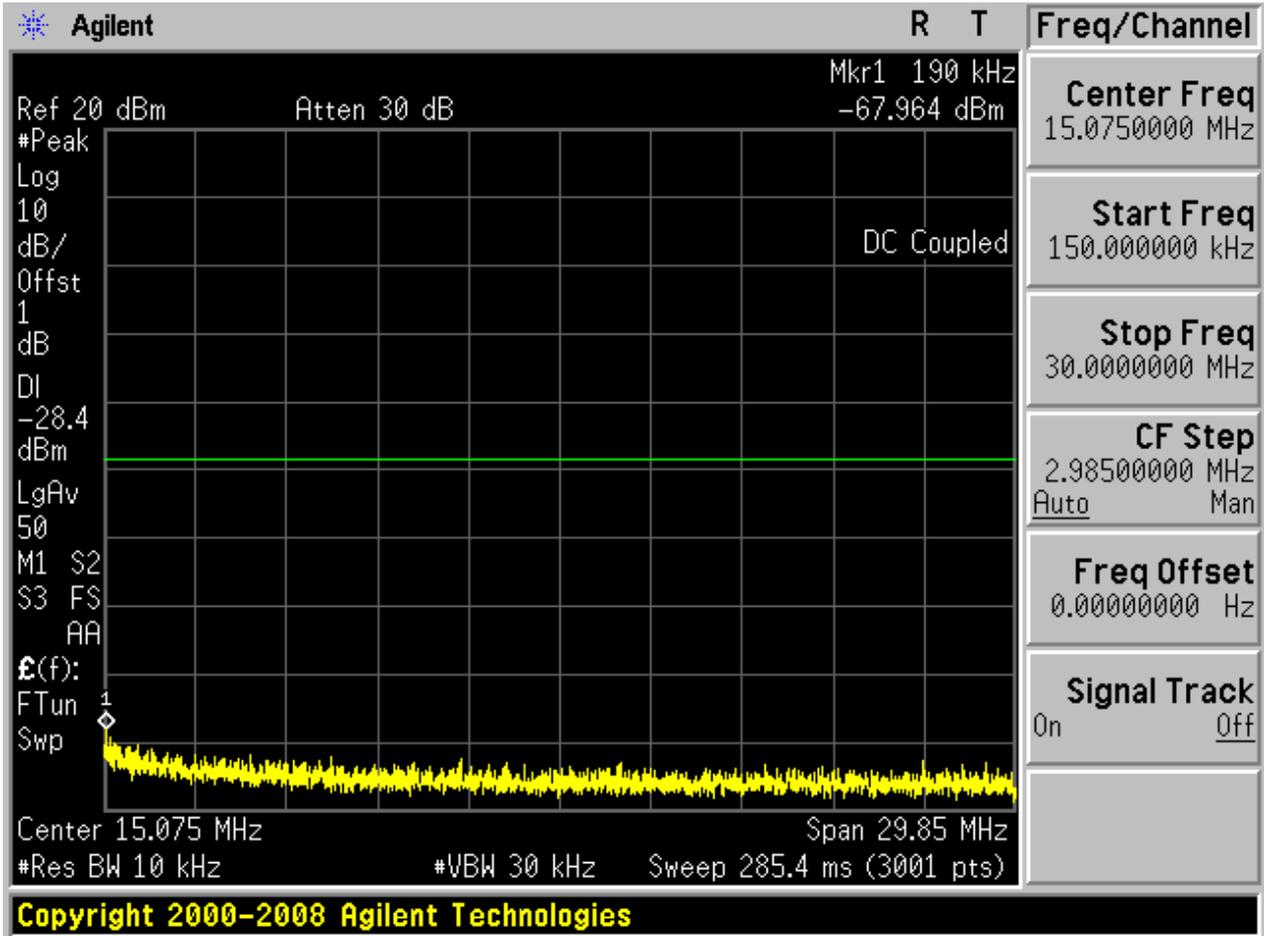
Pref:

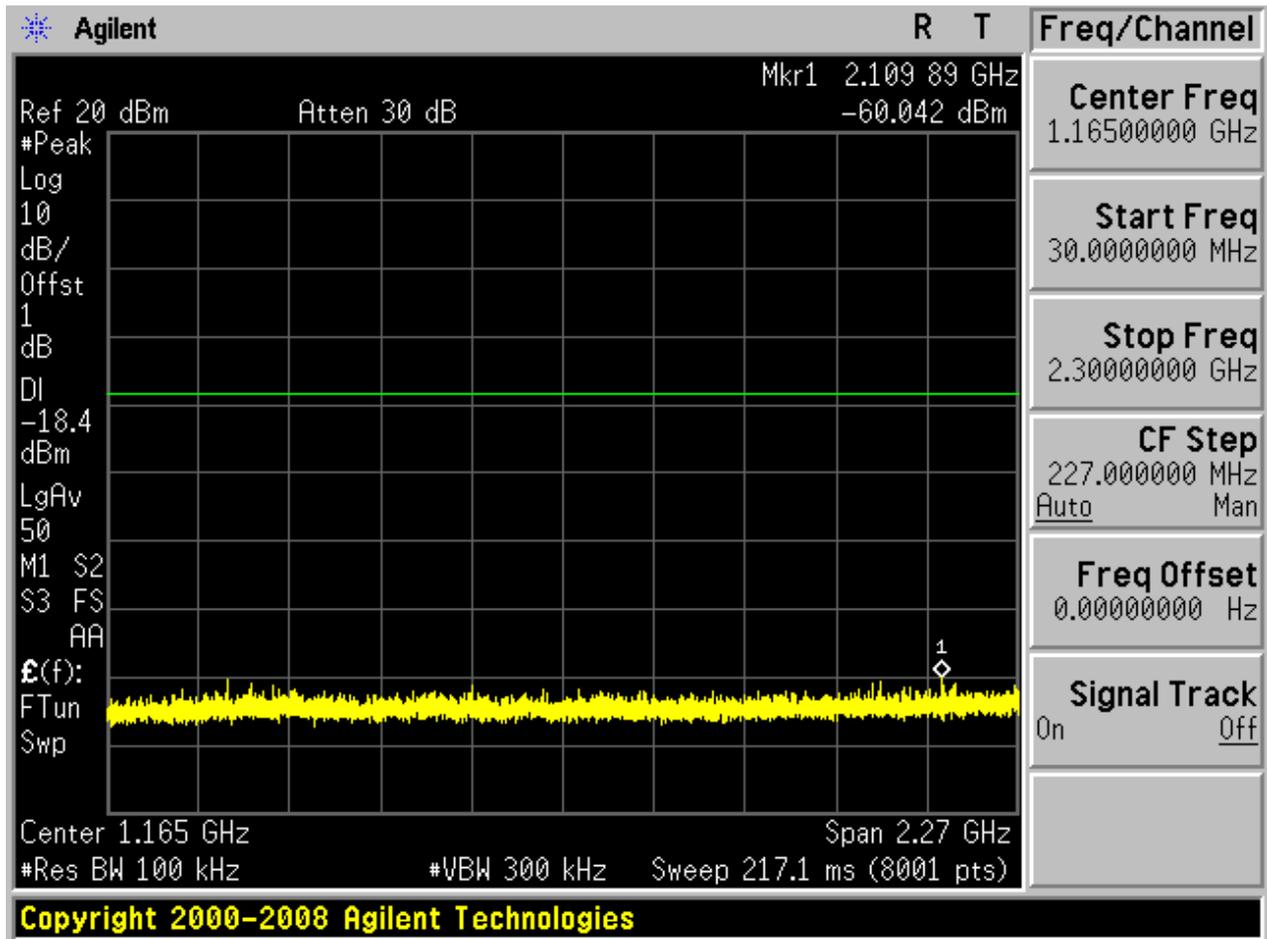


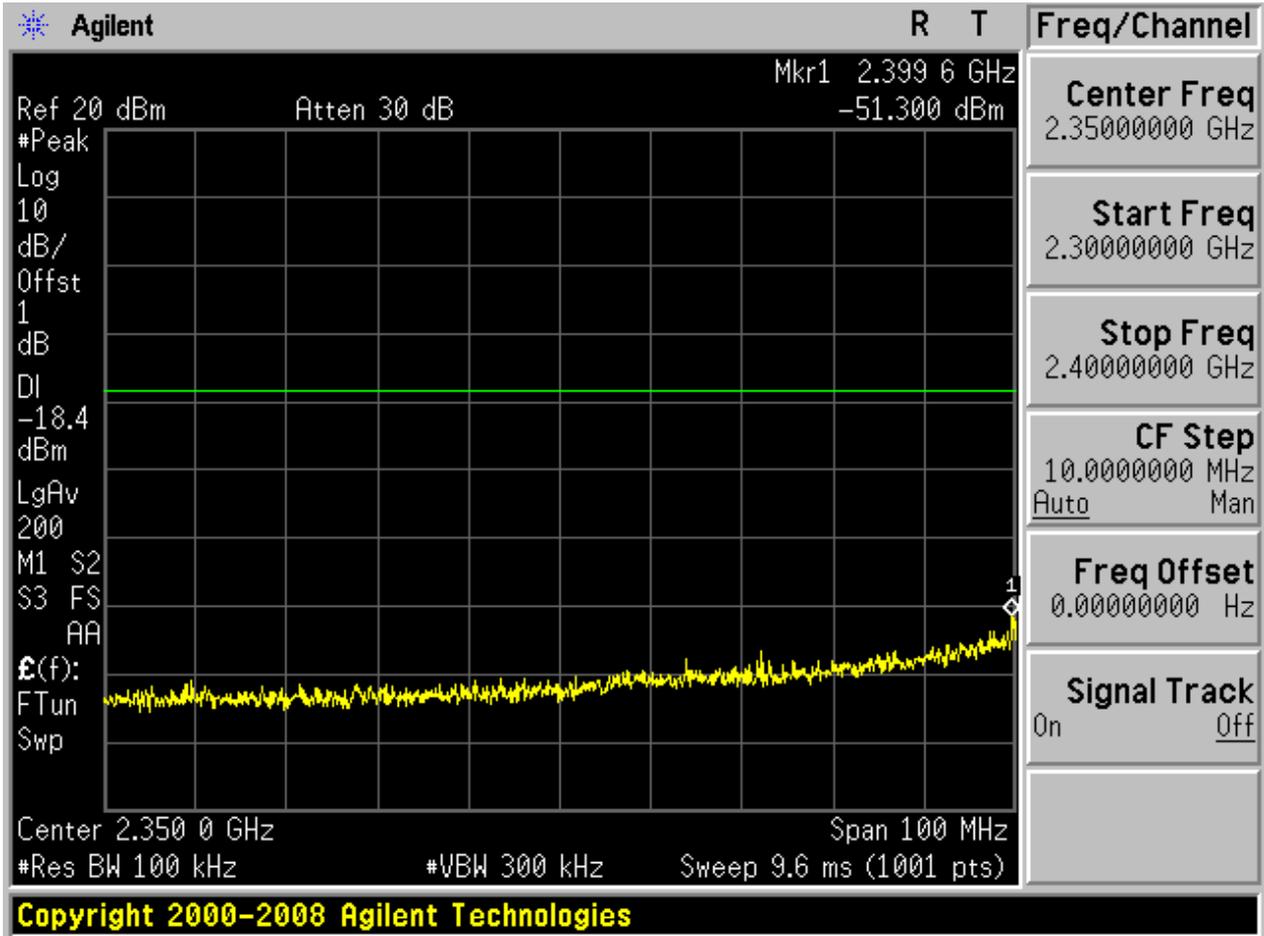


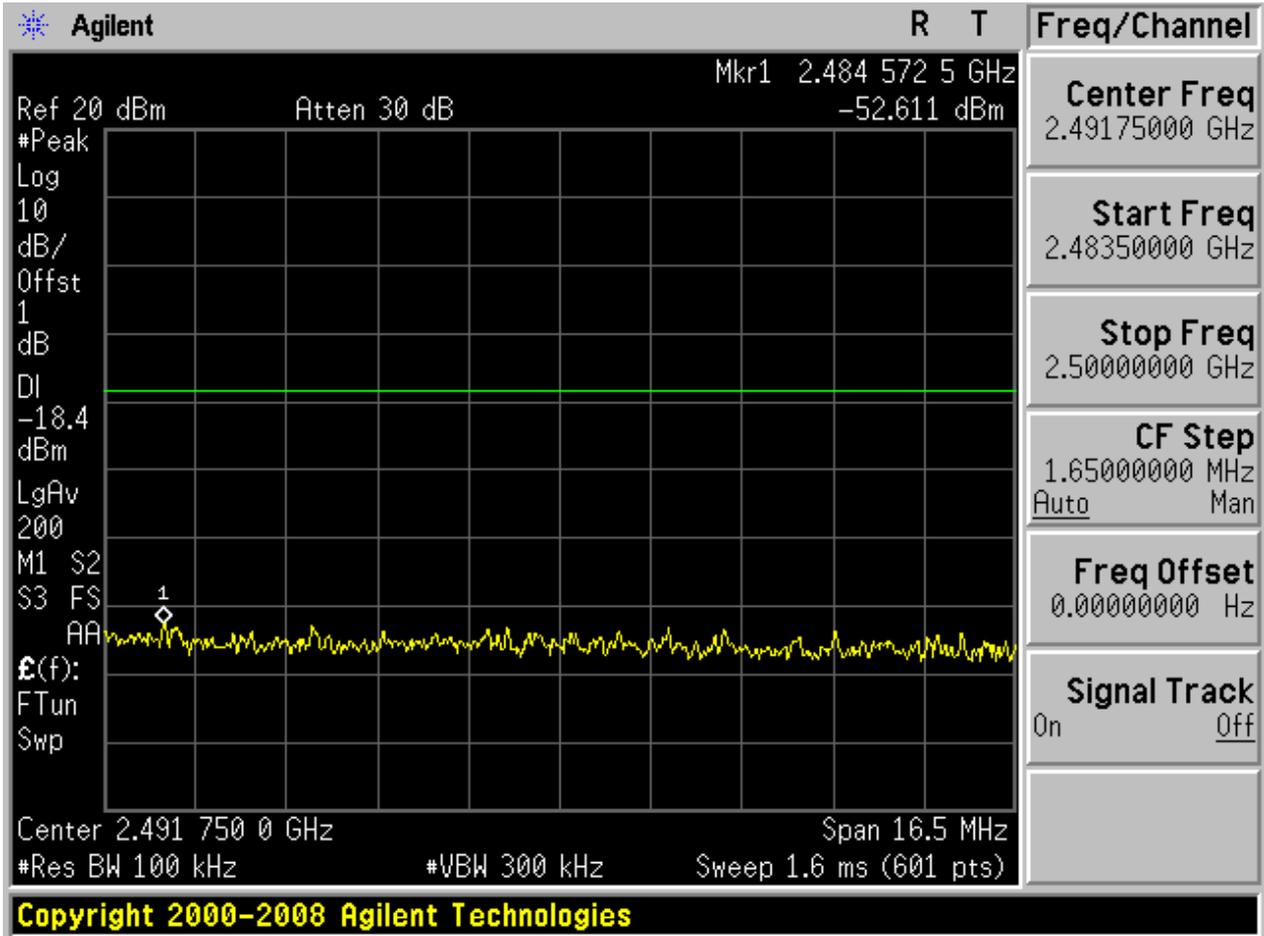
Puw:

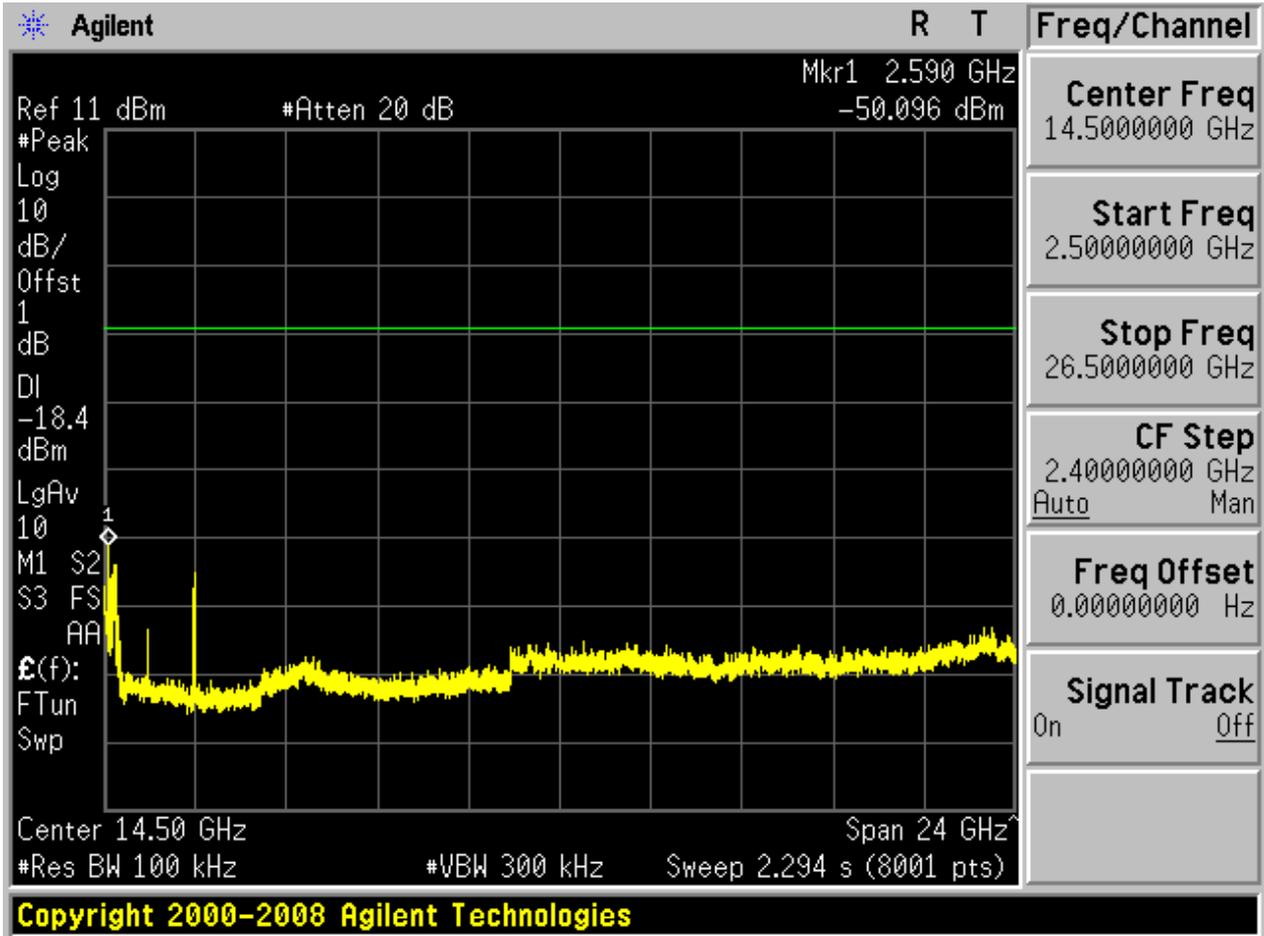








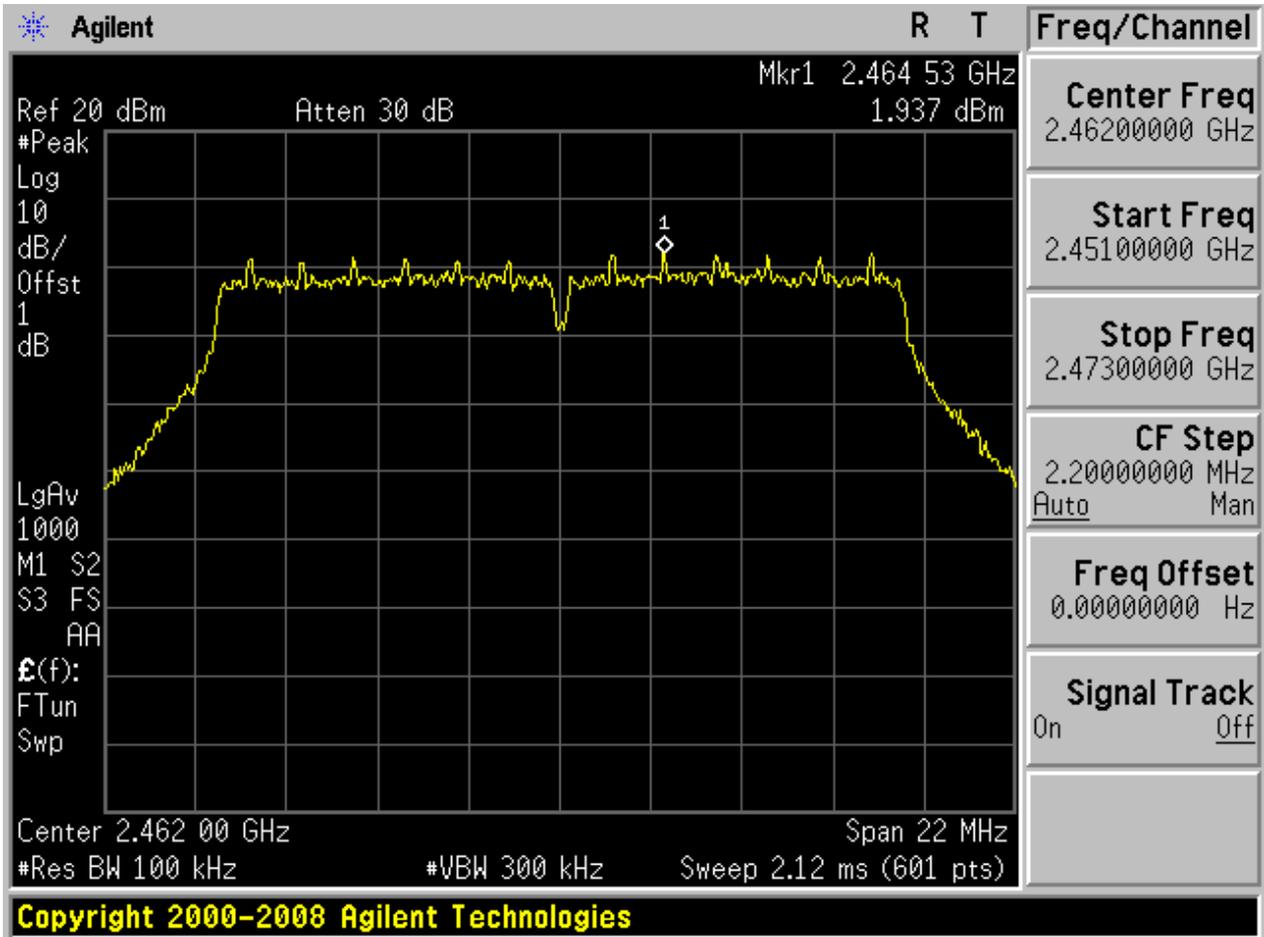






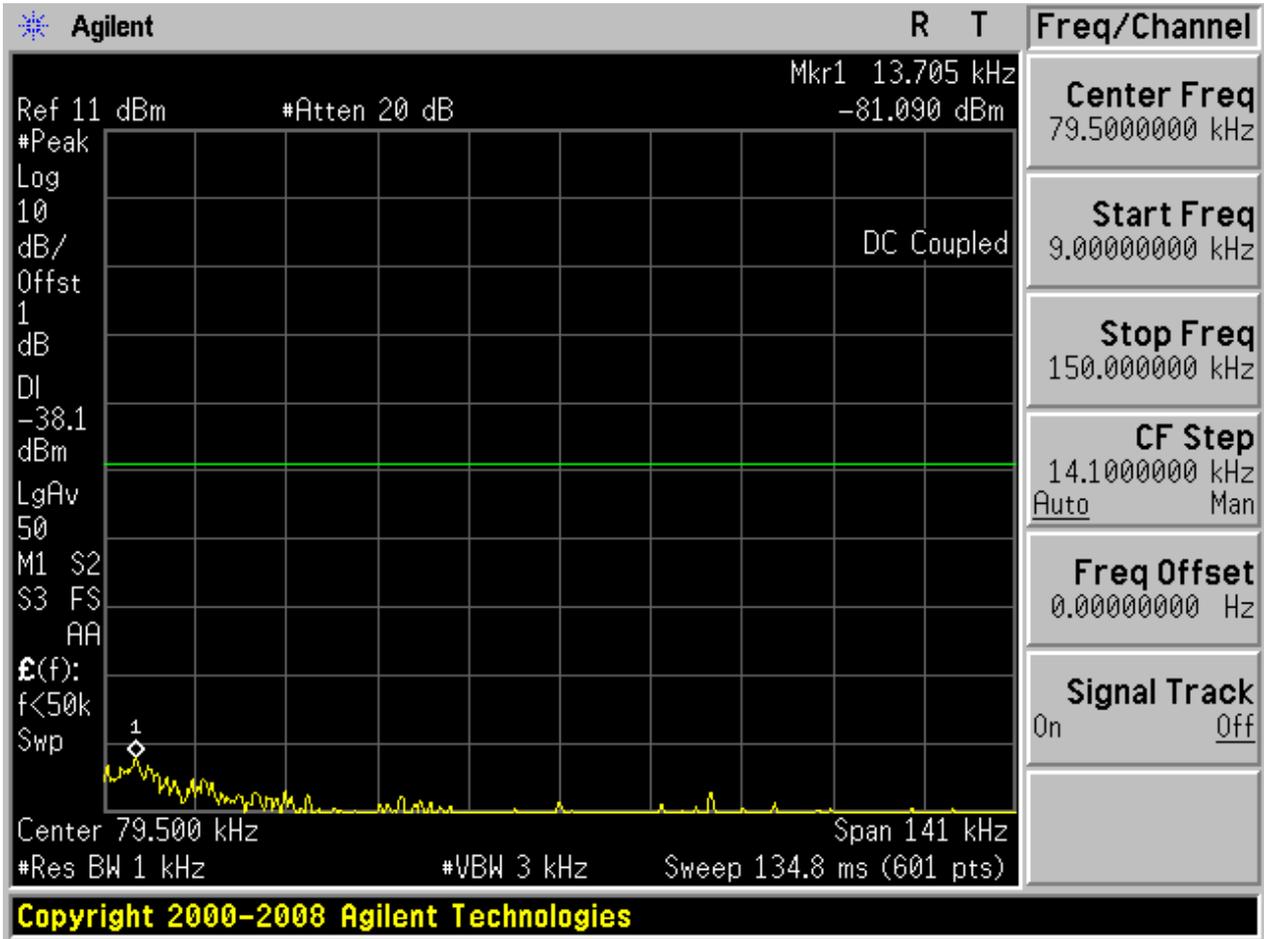
2.6 11G_H

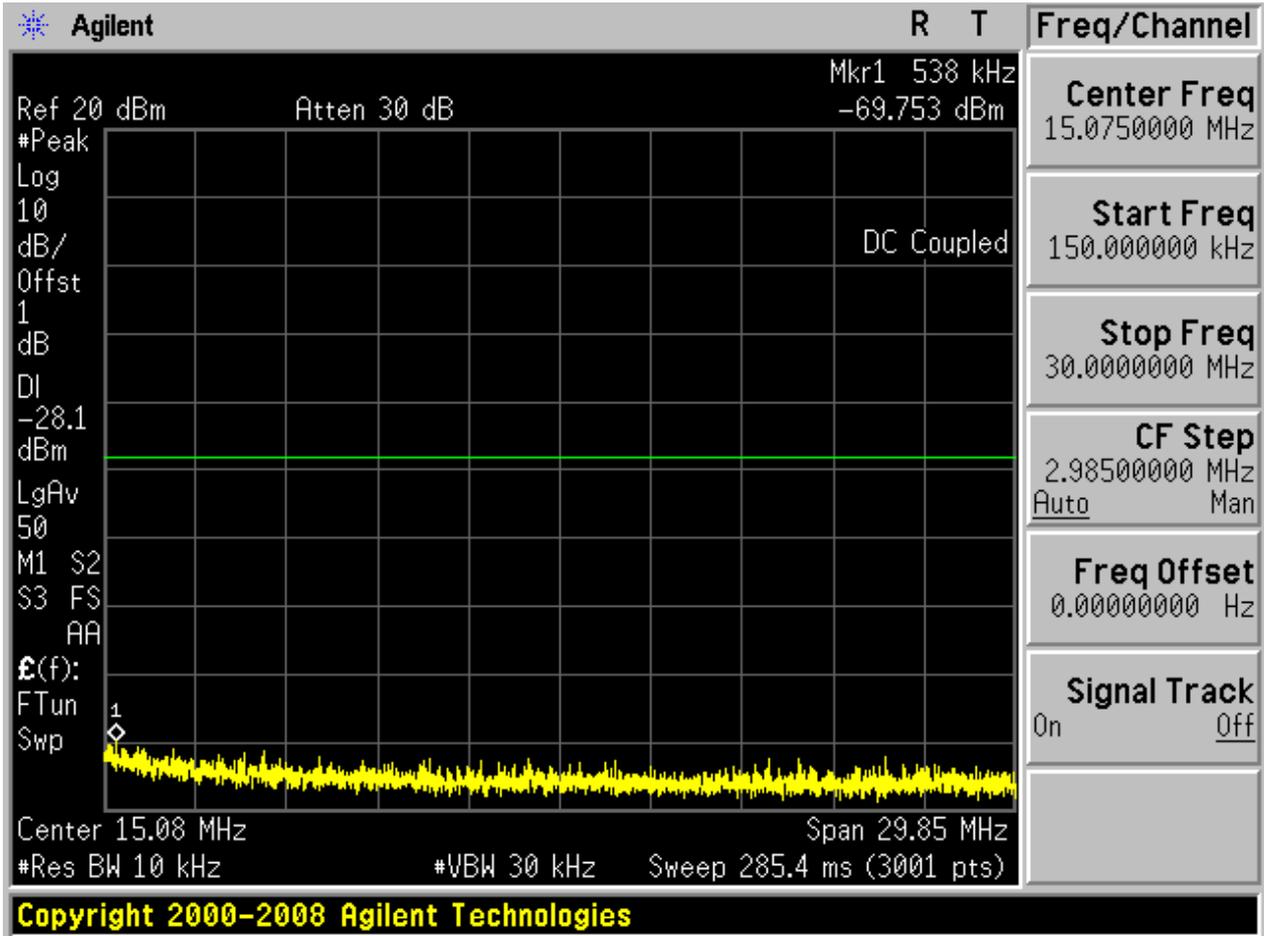
Pref:

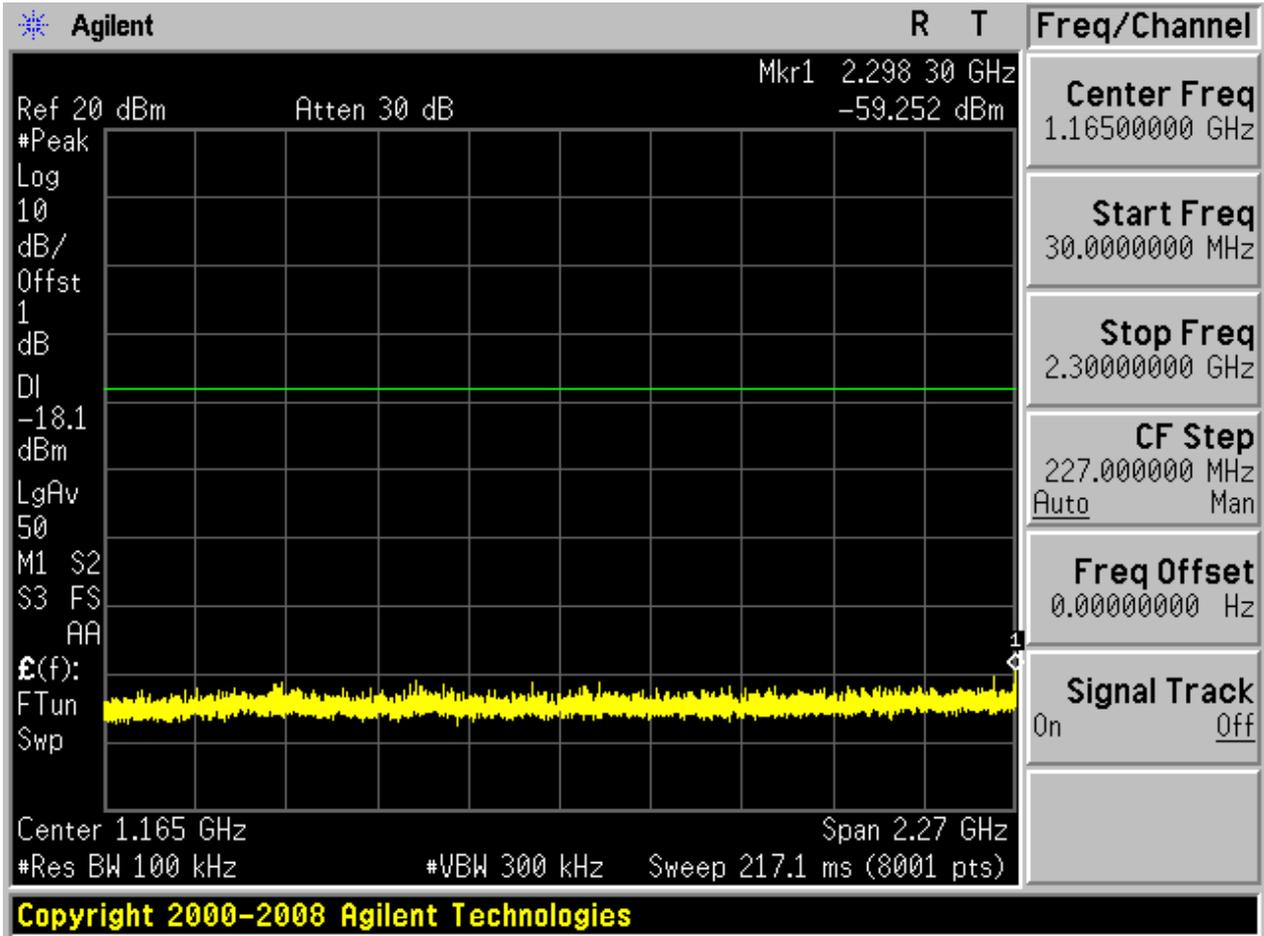


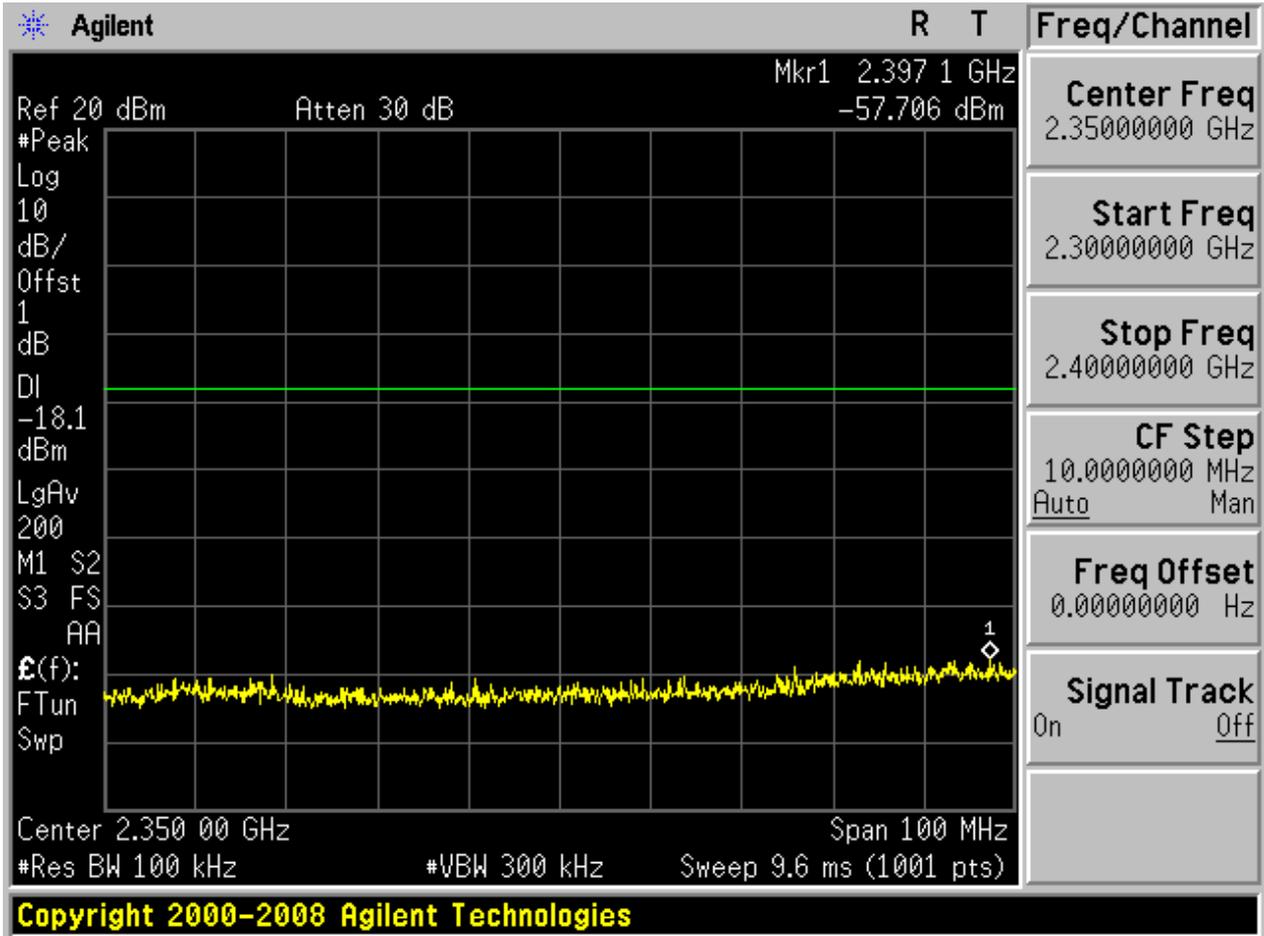


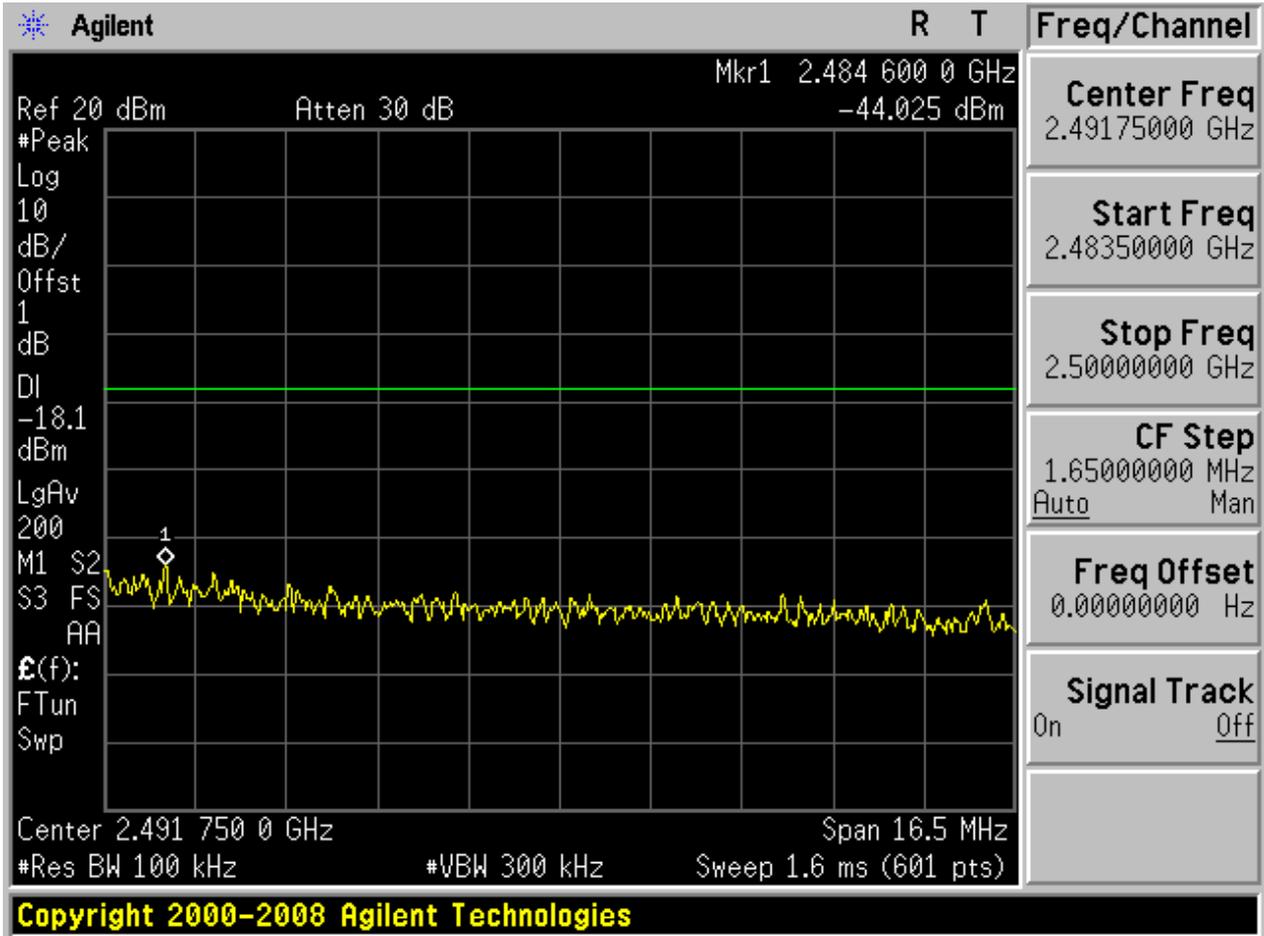
Puw:

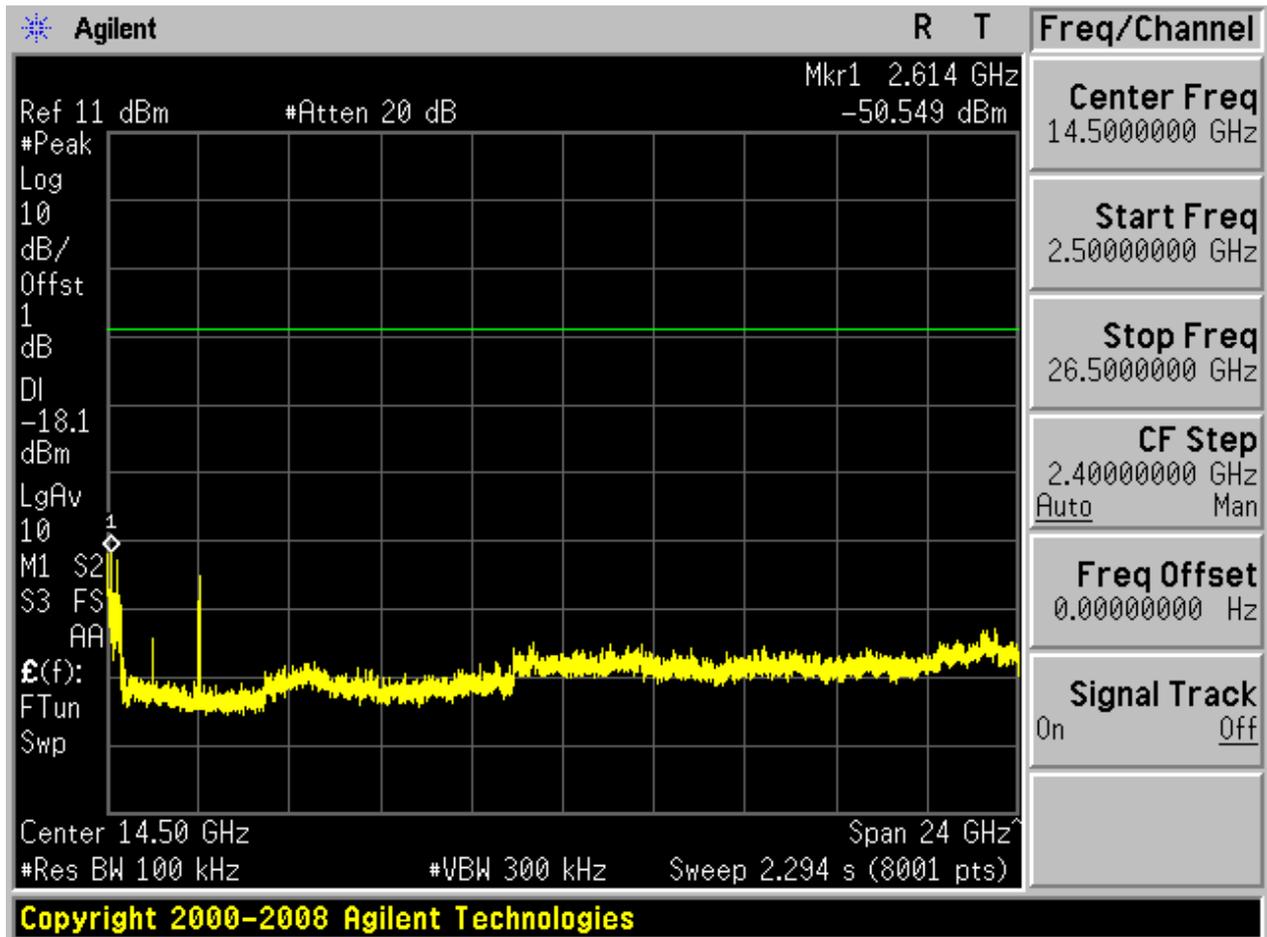






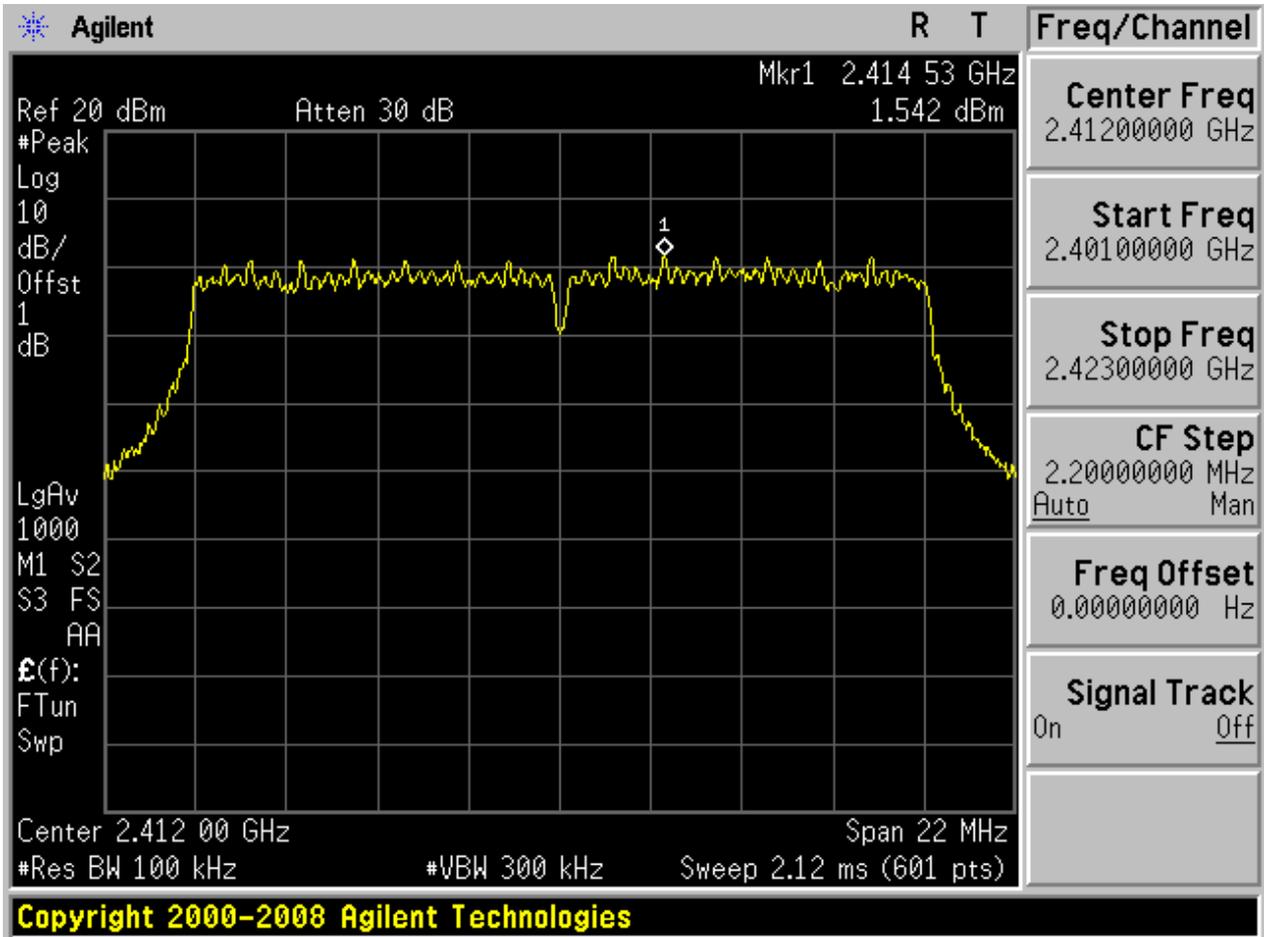






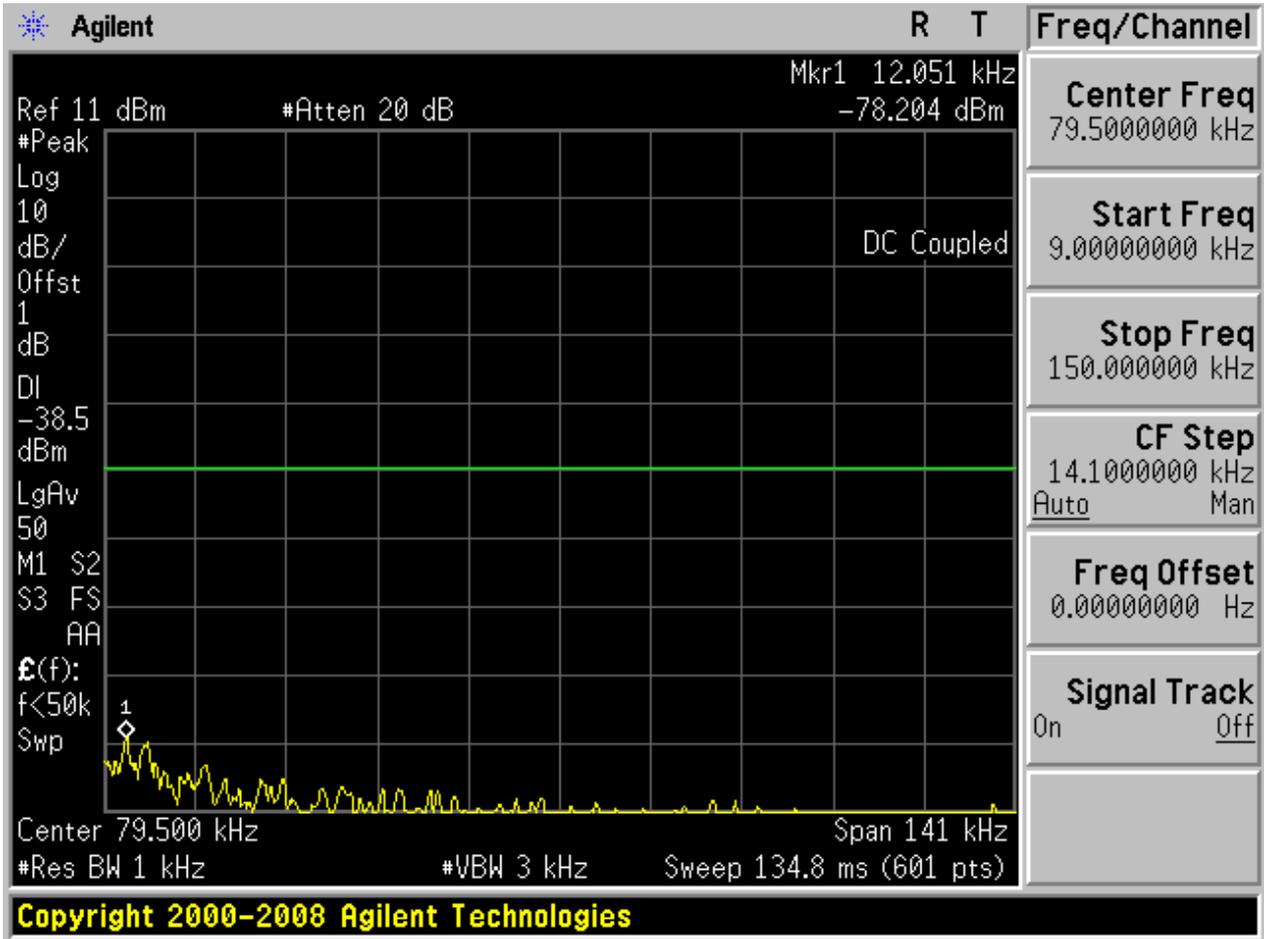
2.7 11N20_L

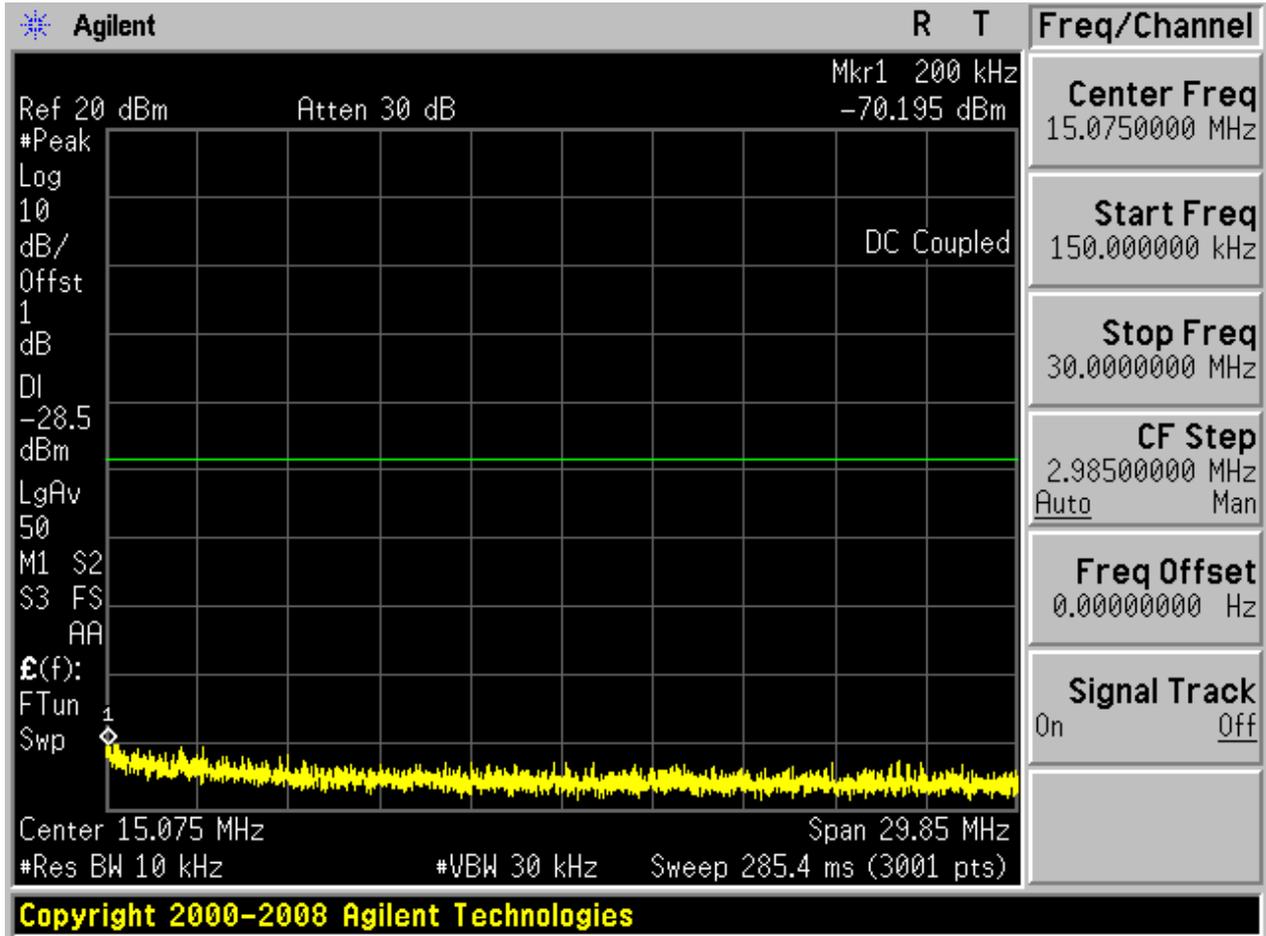
Pref:

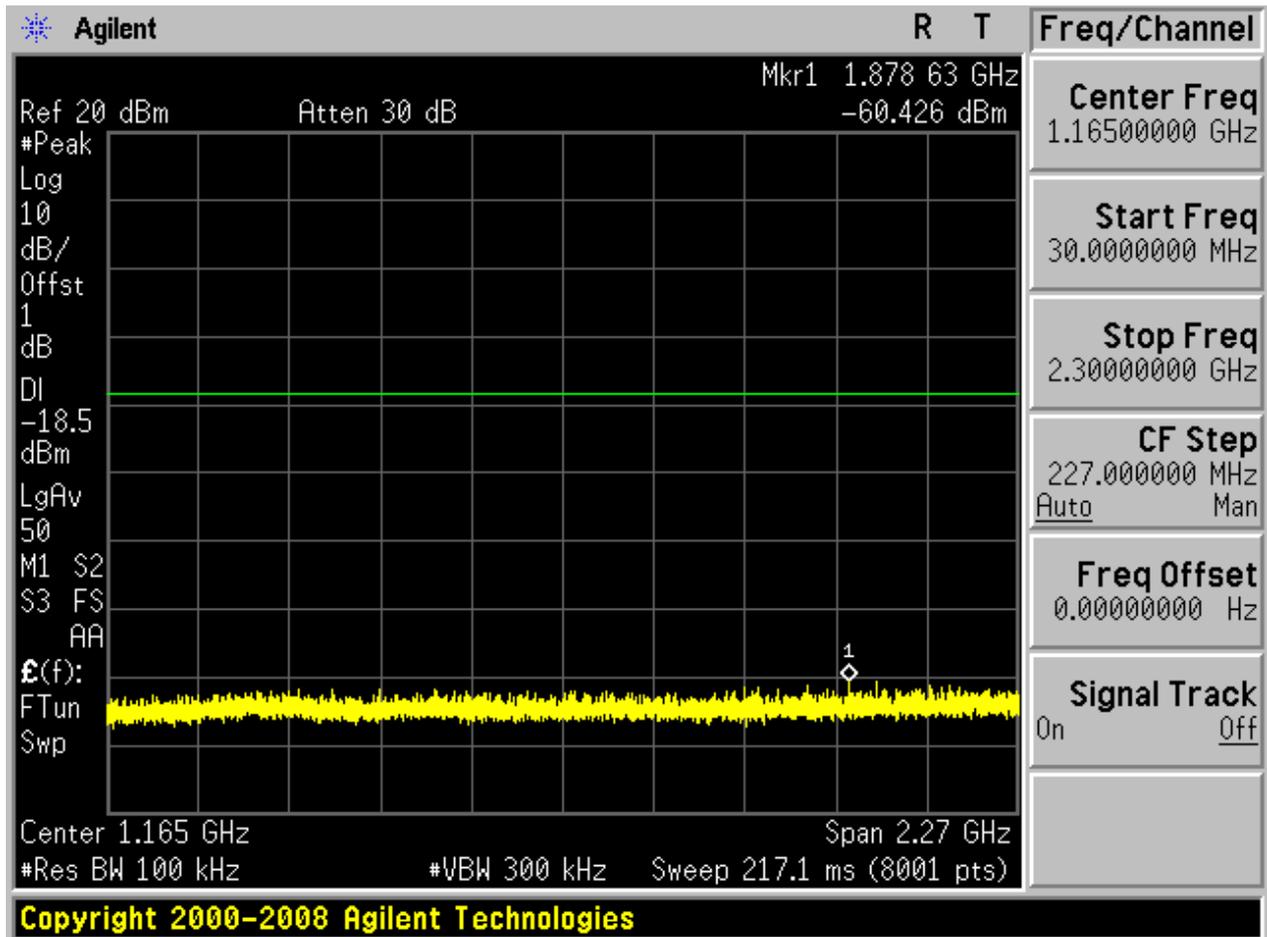


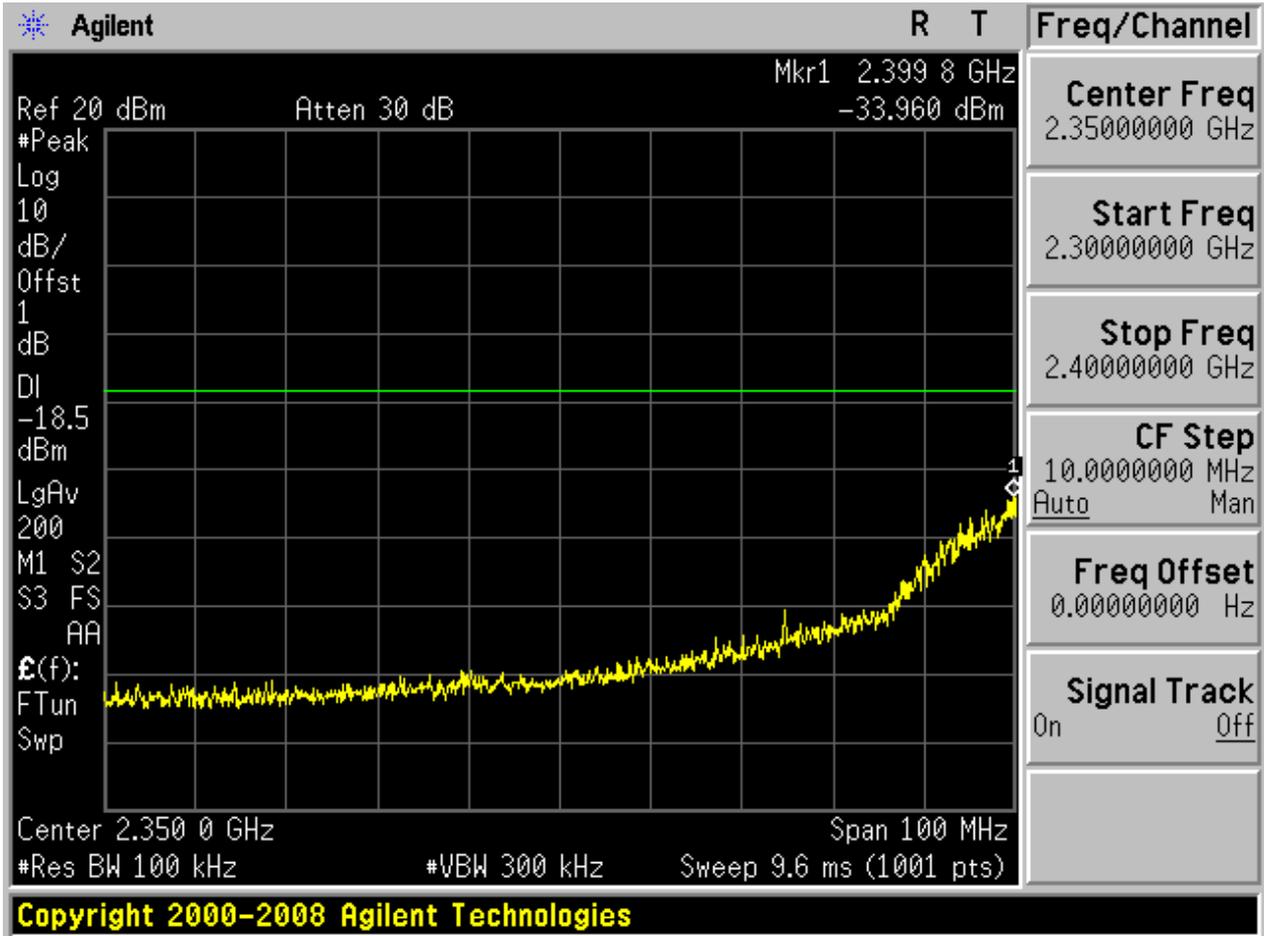


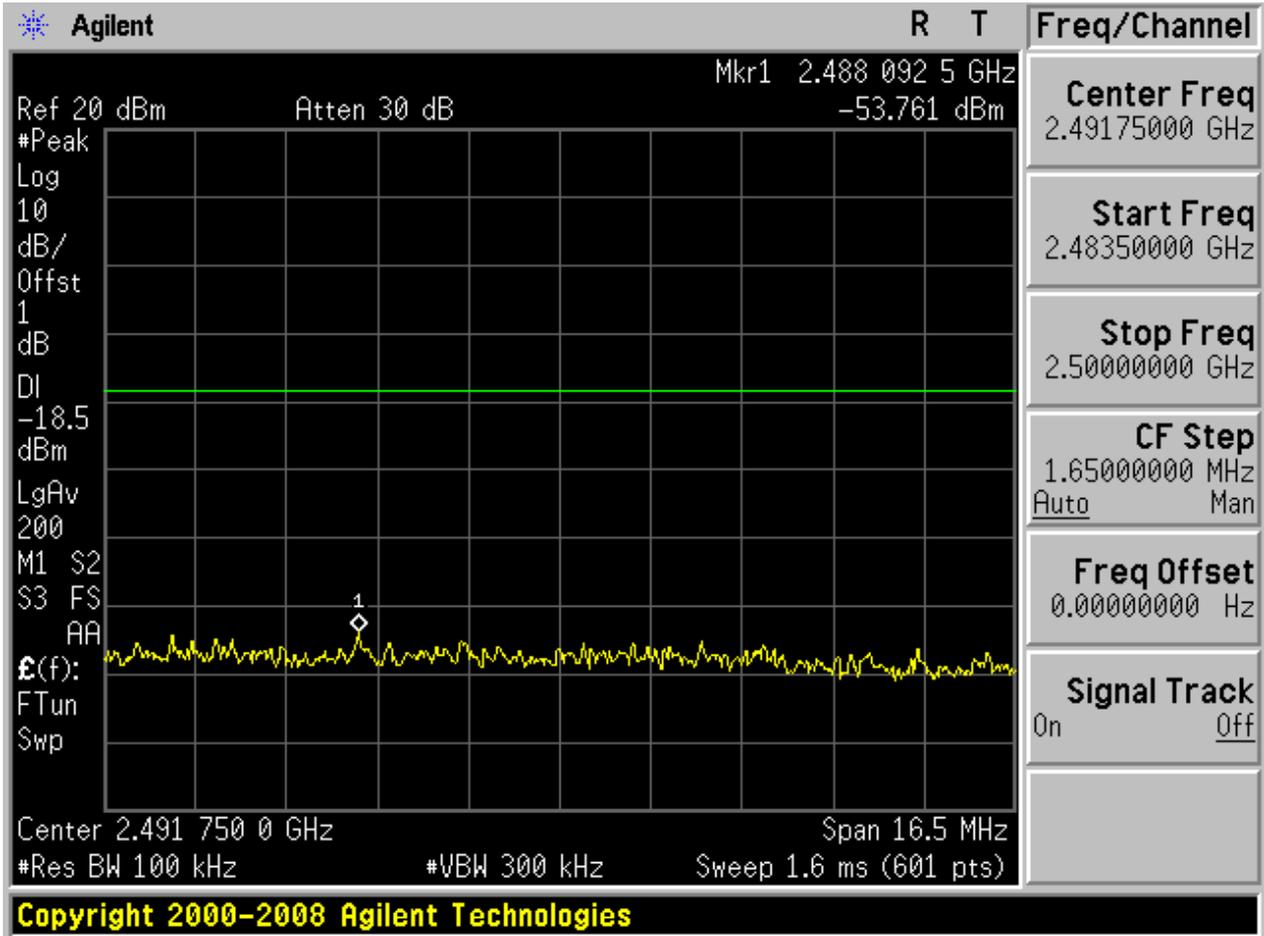
Puw:

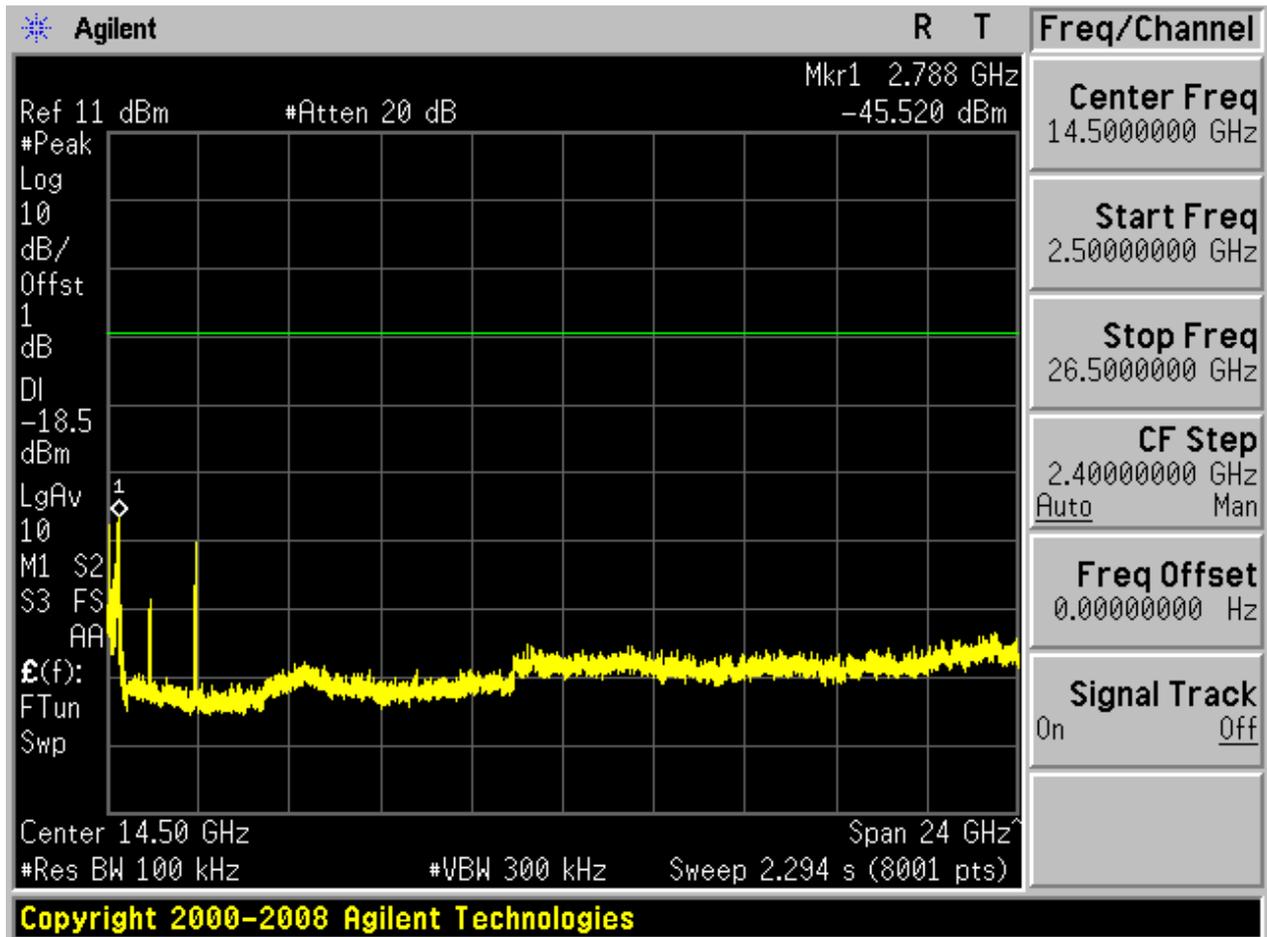






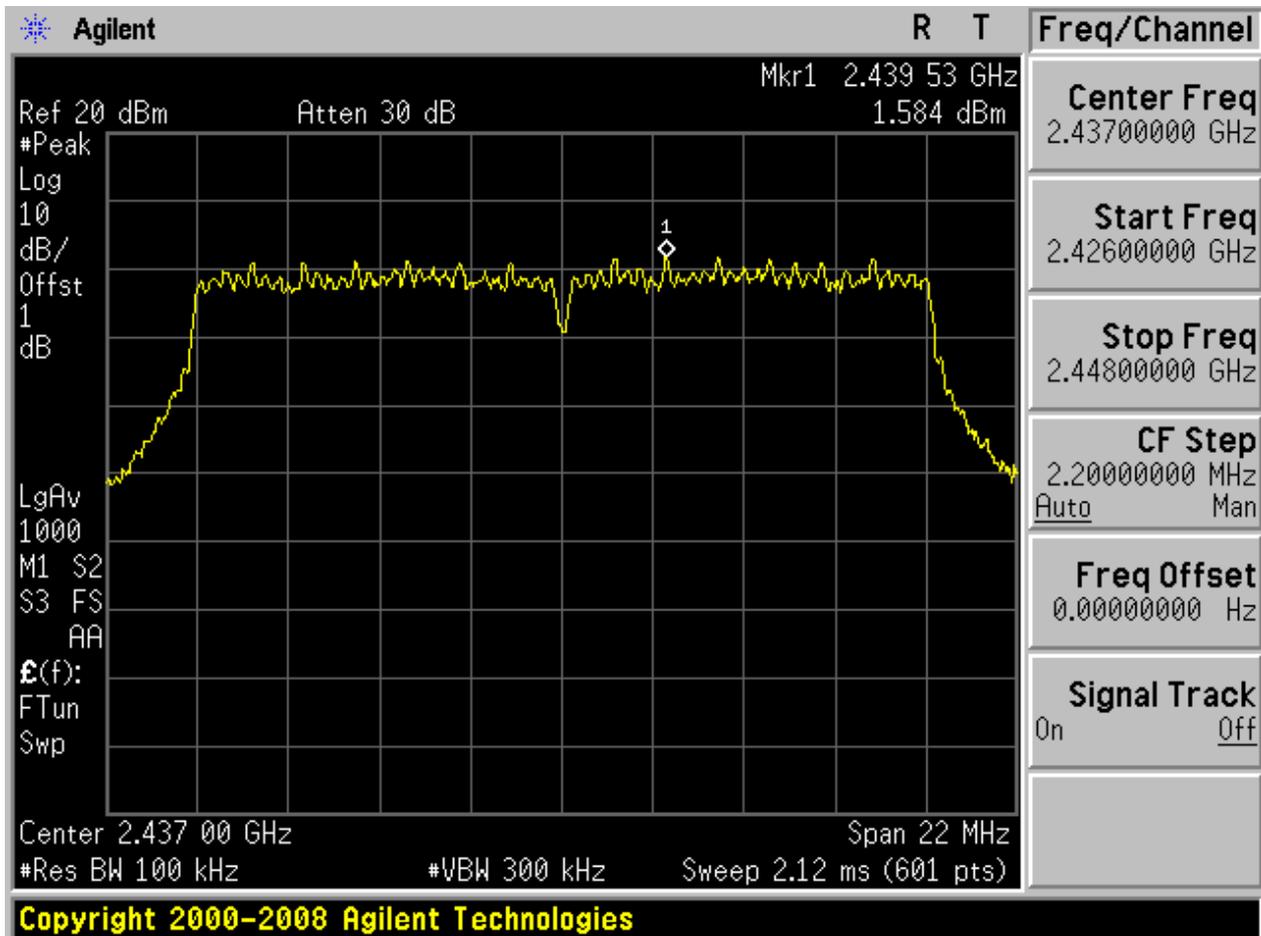






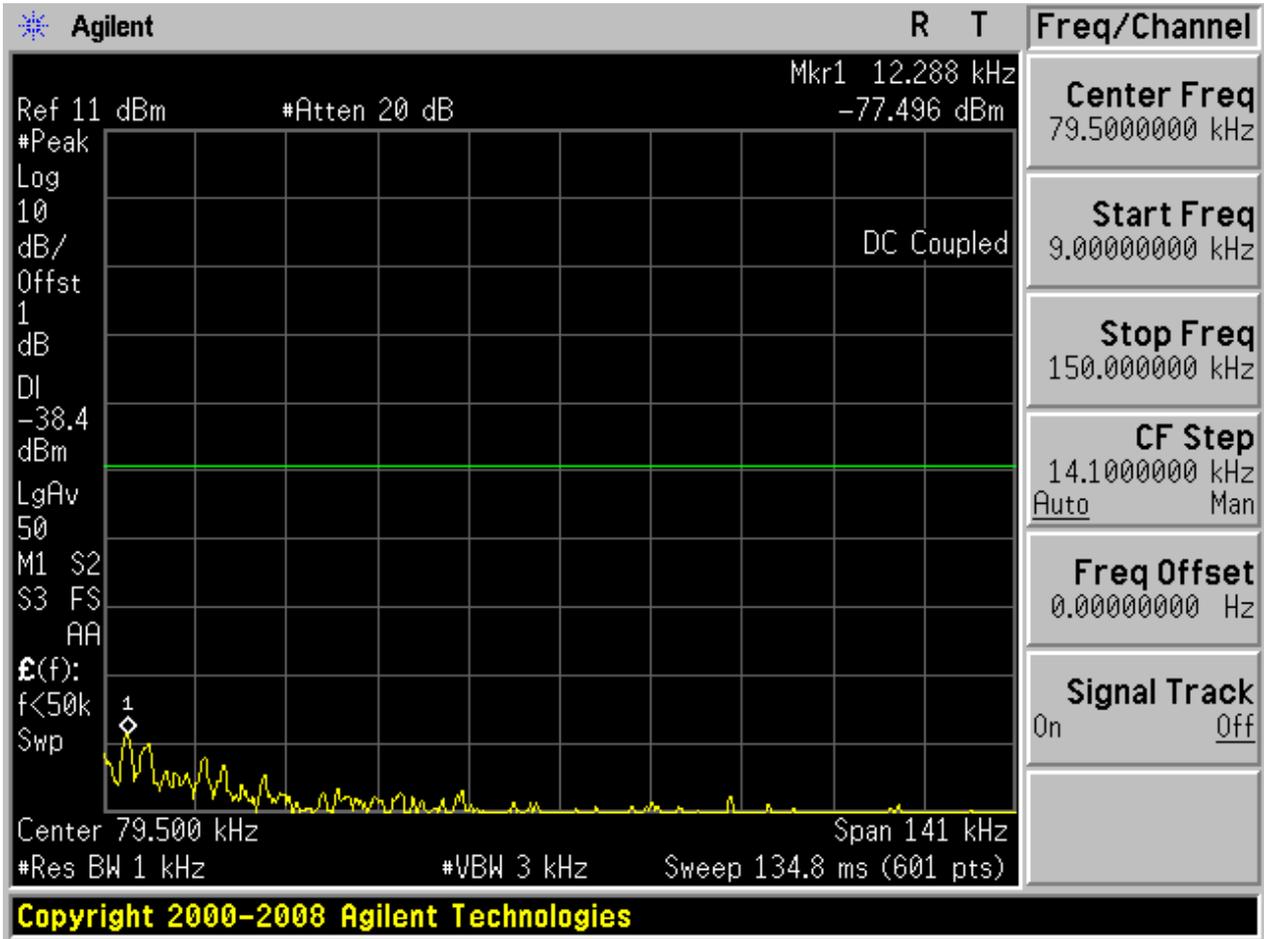
2.8 11N20_M

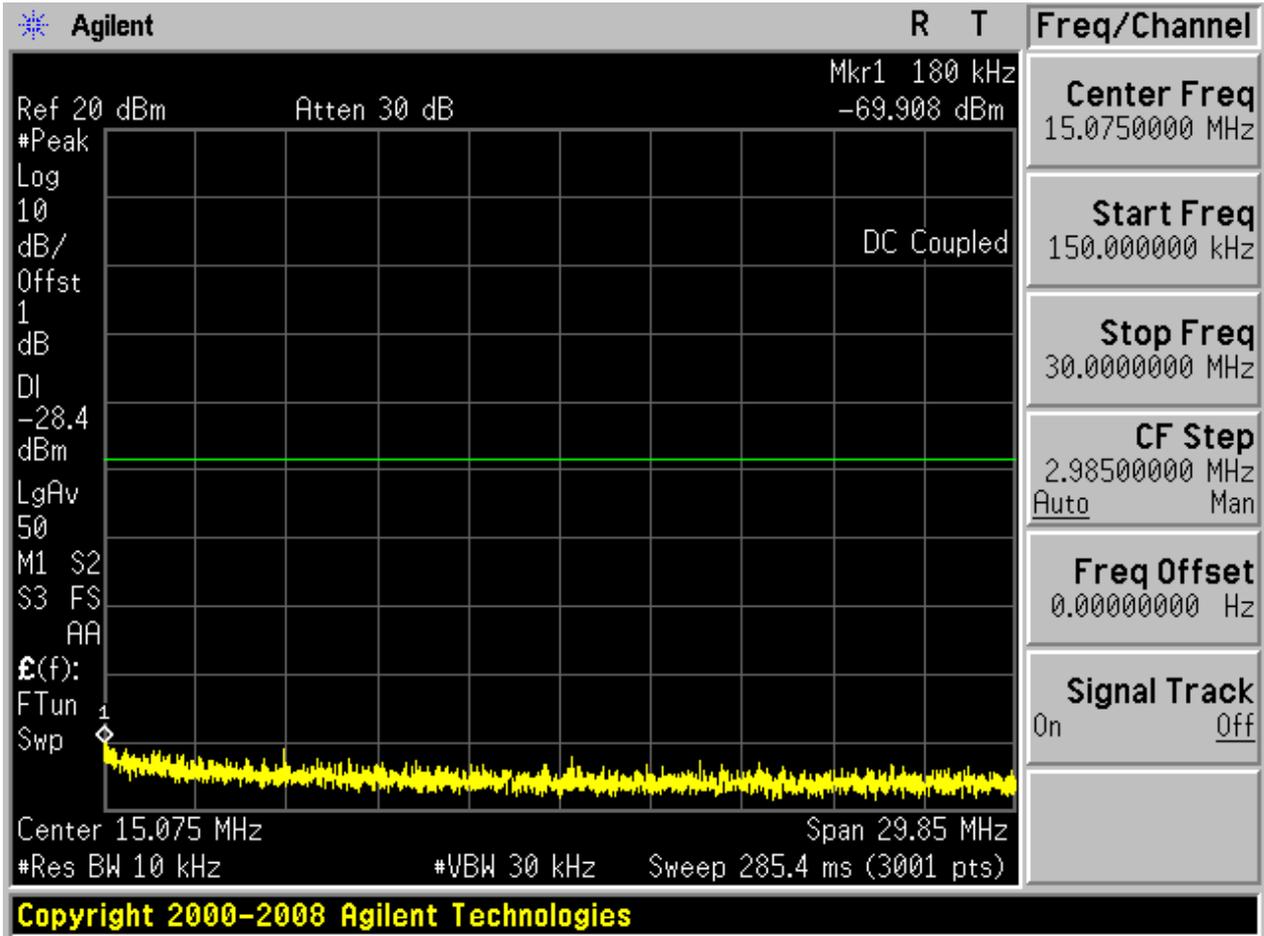
Pref:

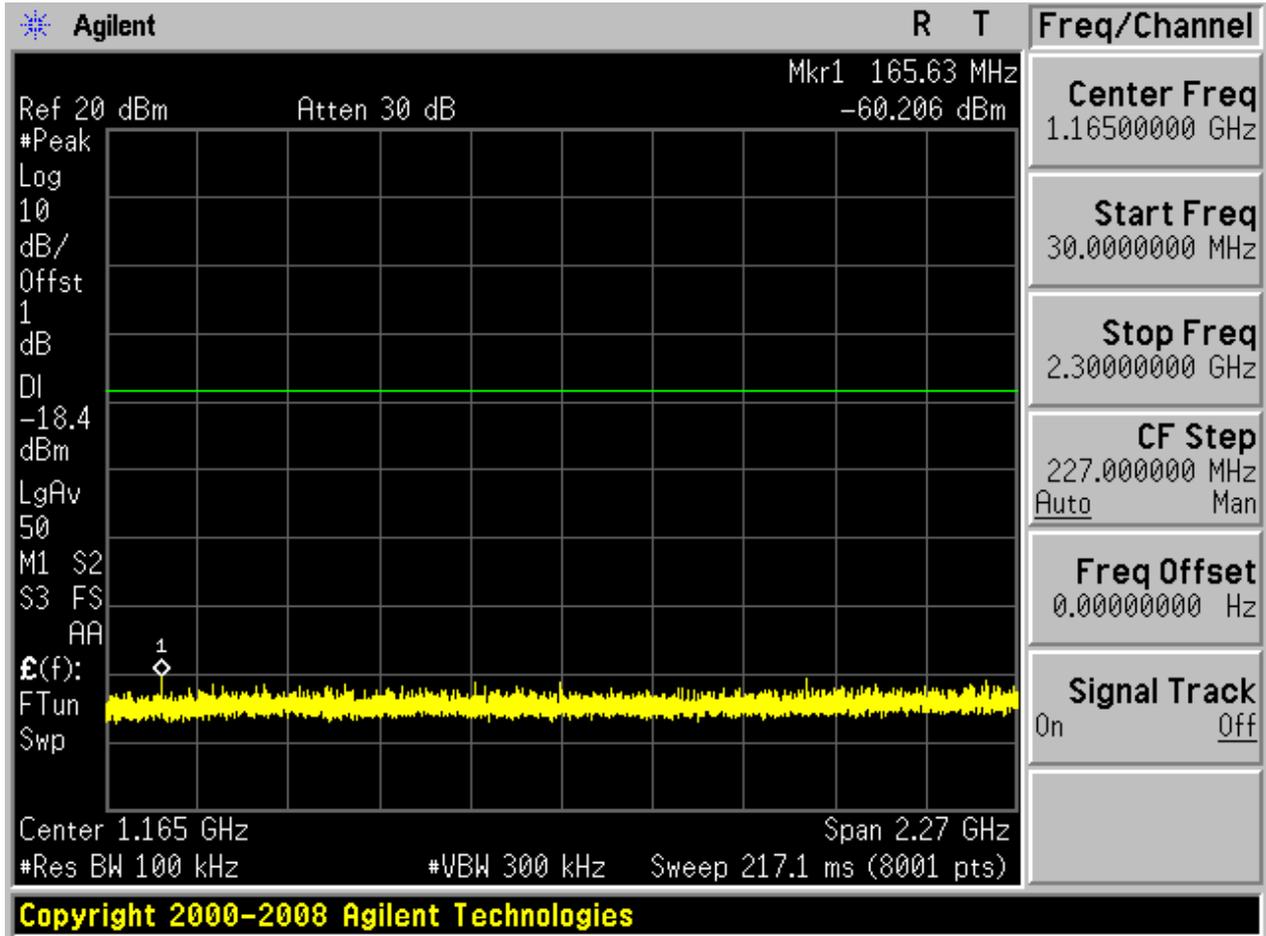


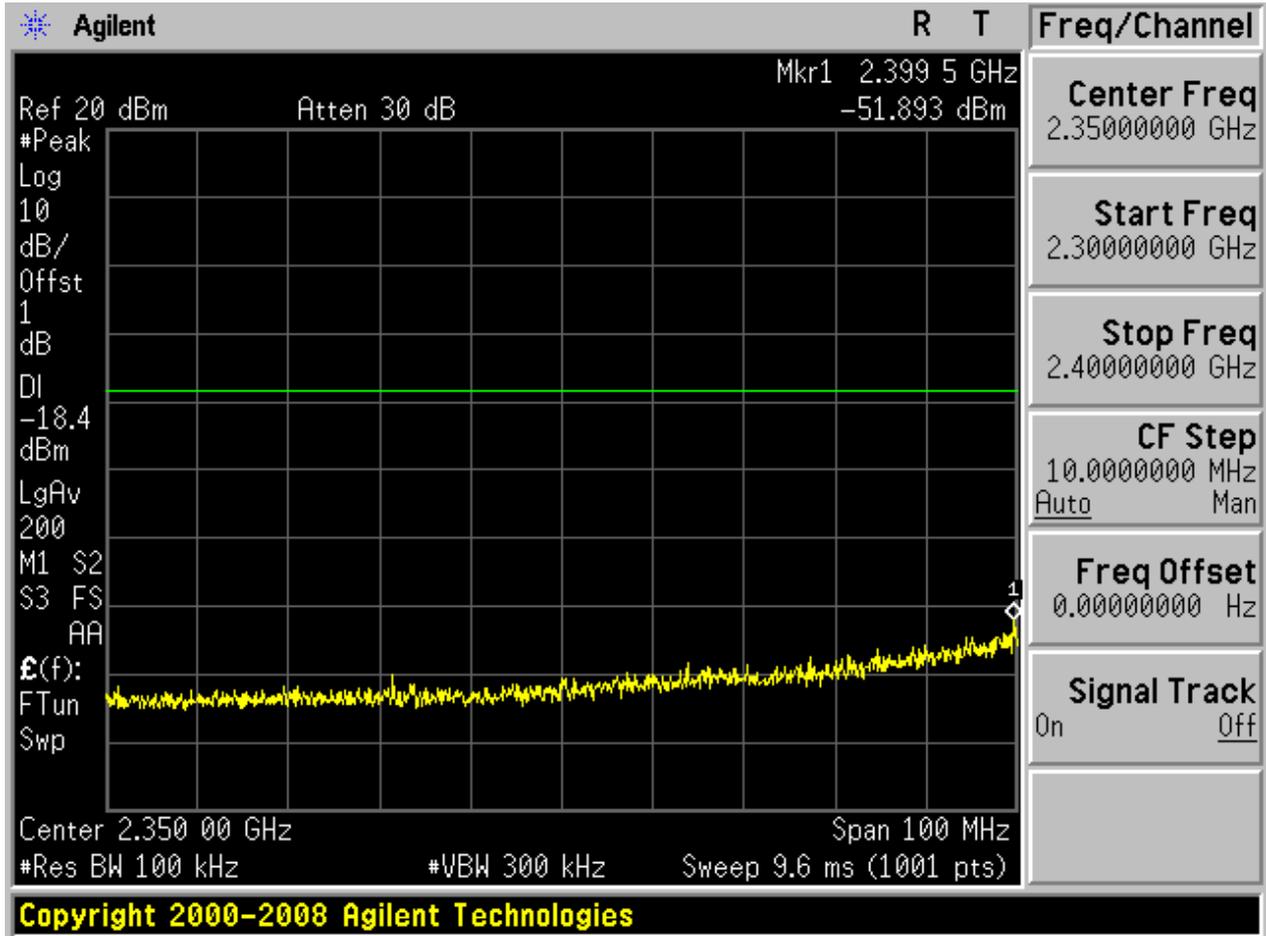


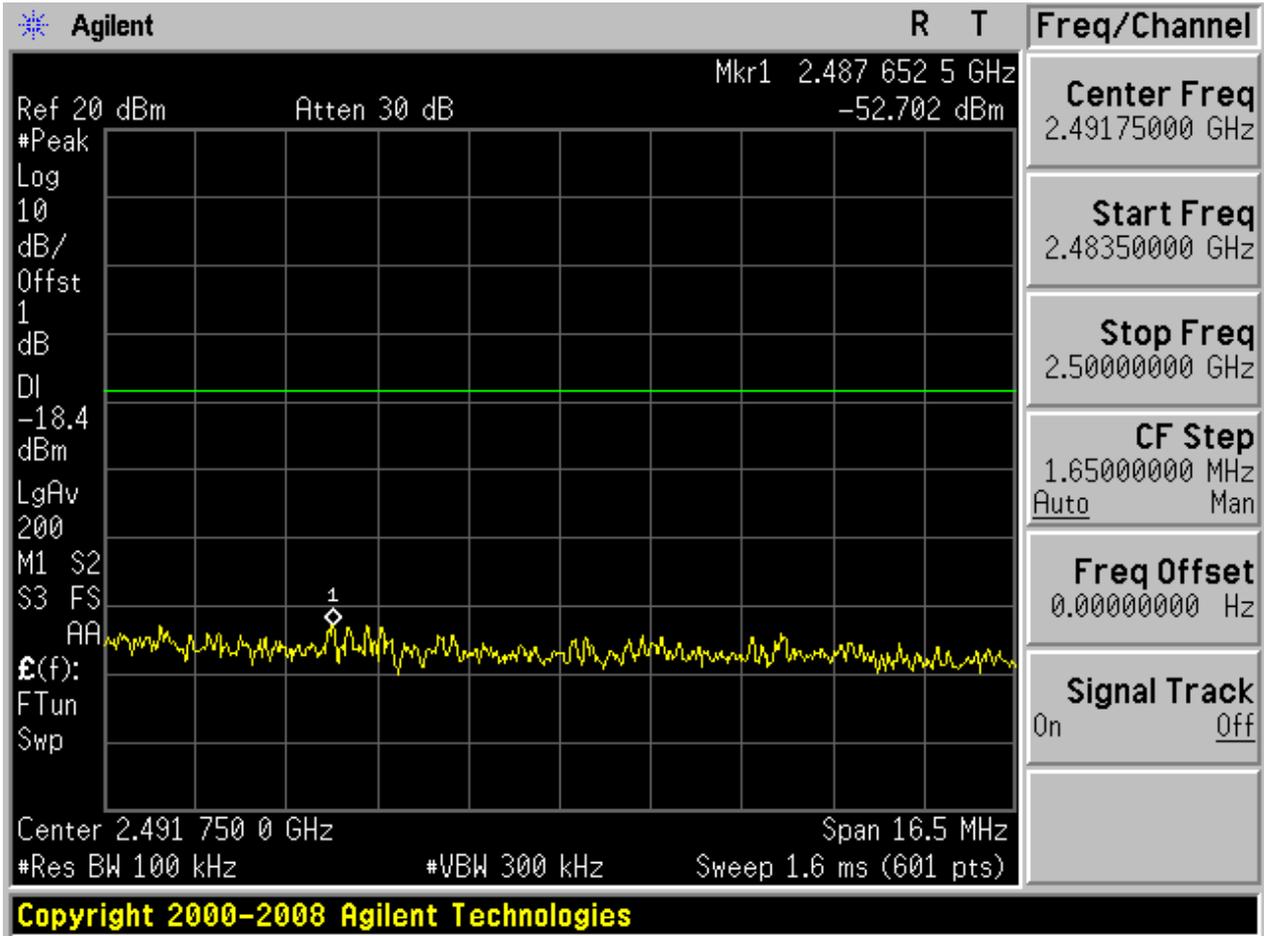
Puw:

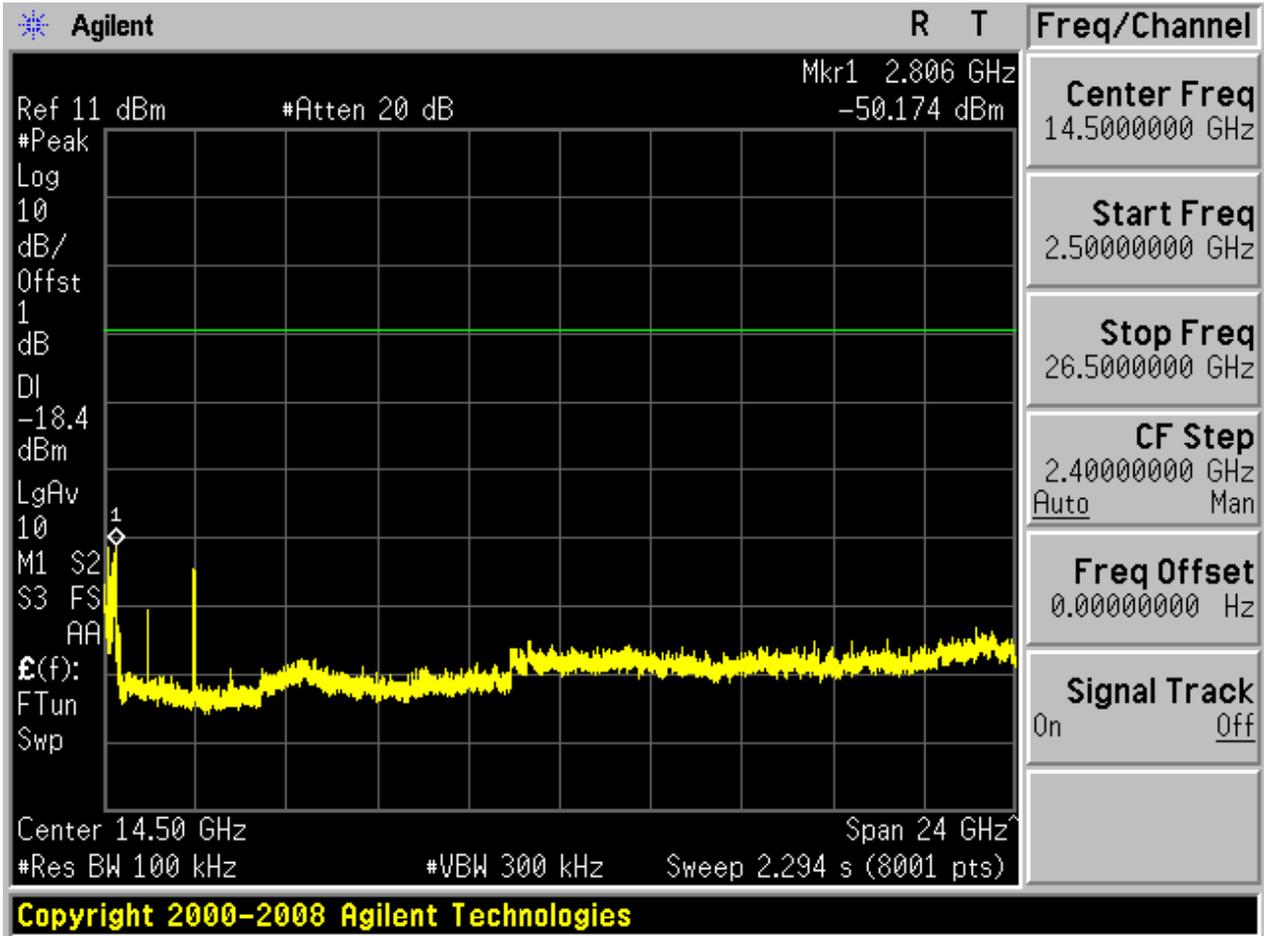






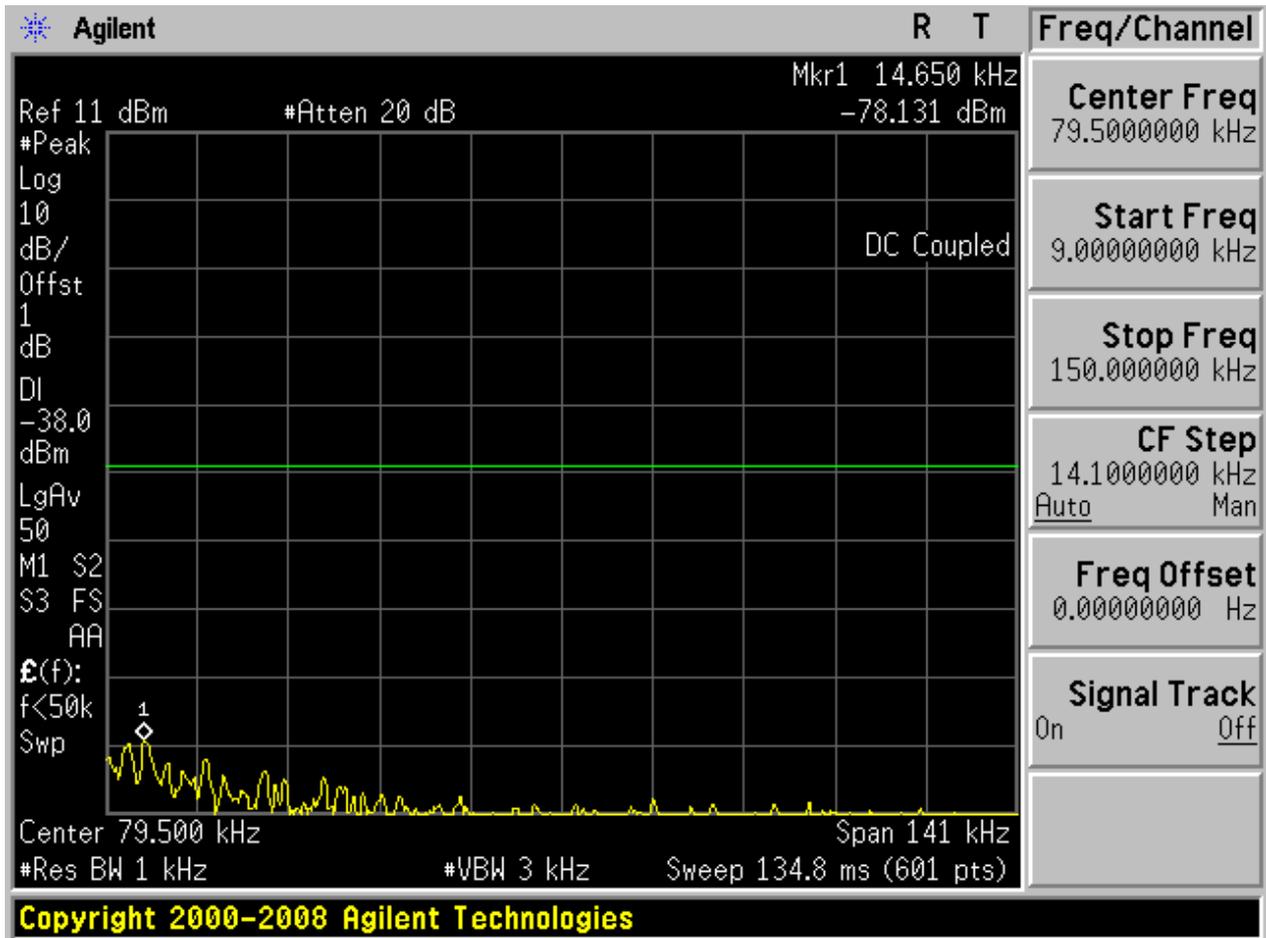


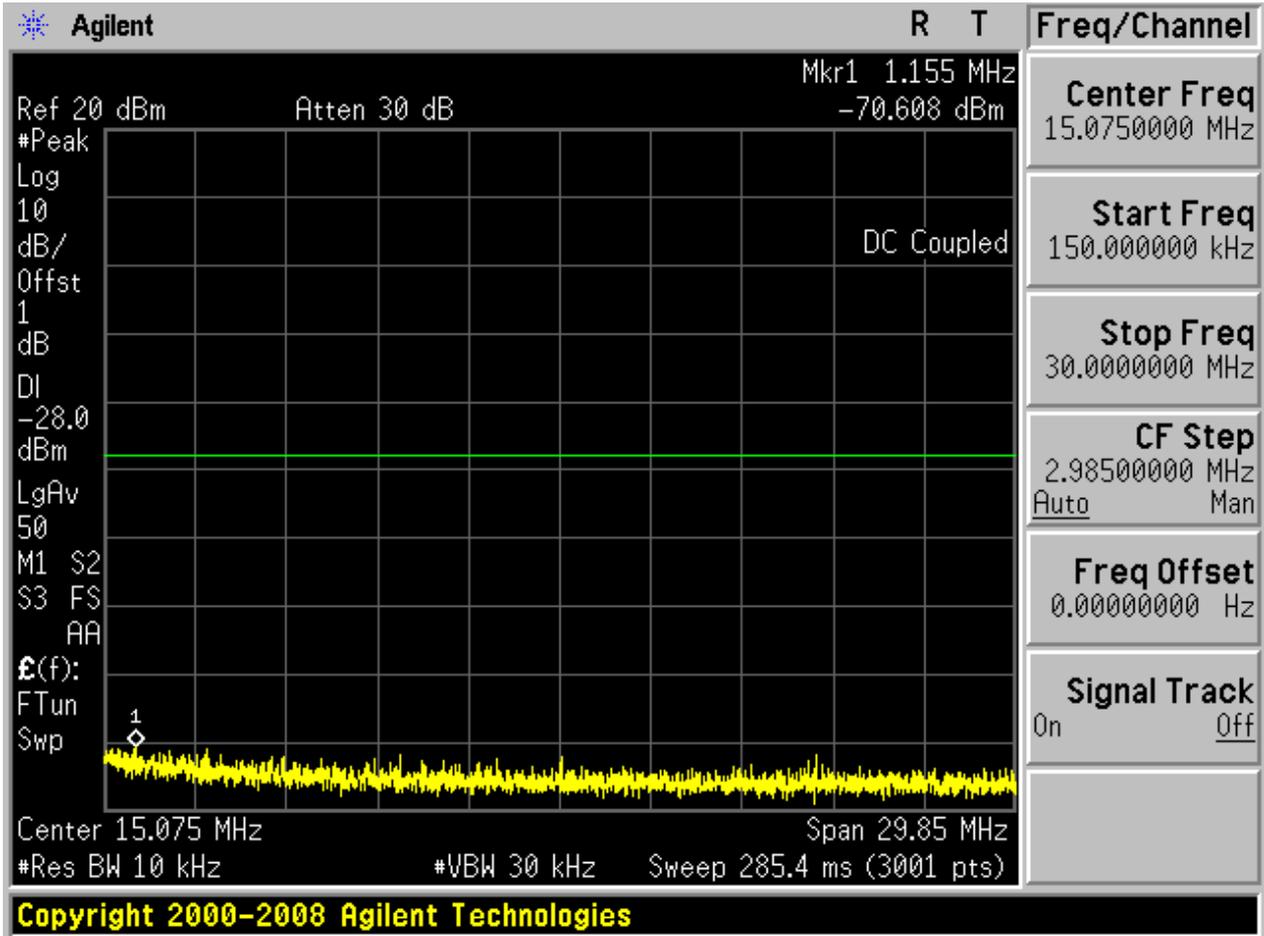


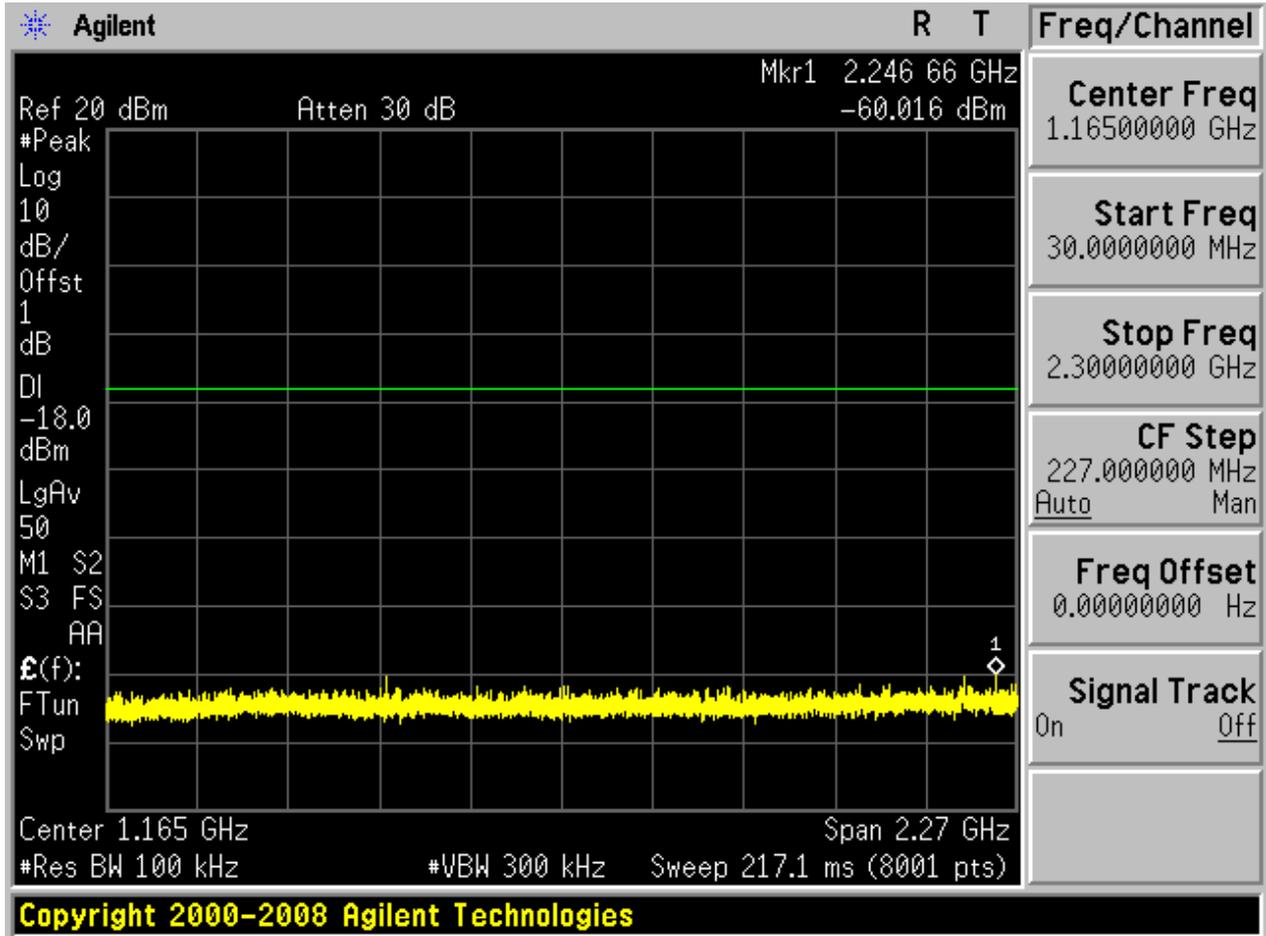


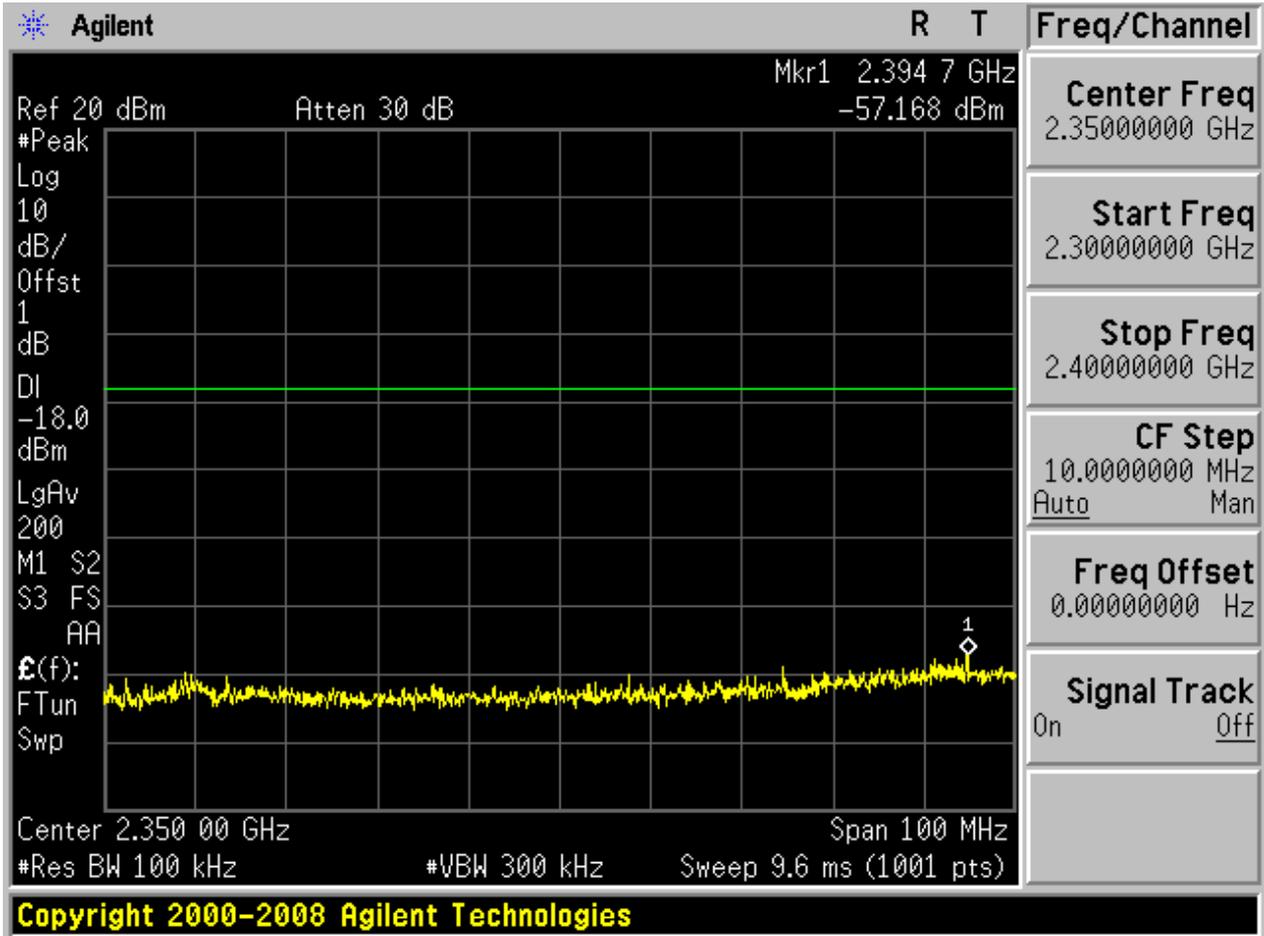


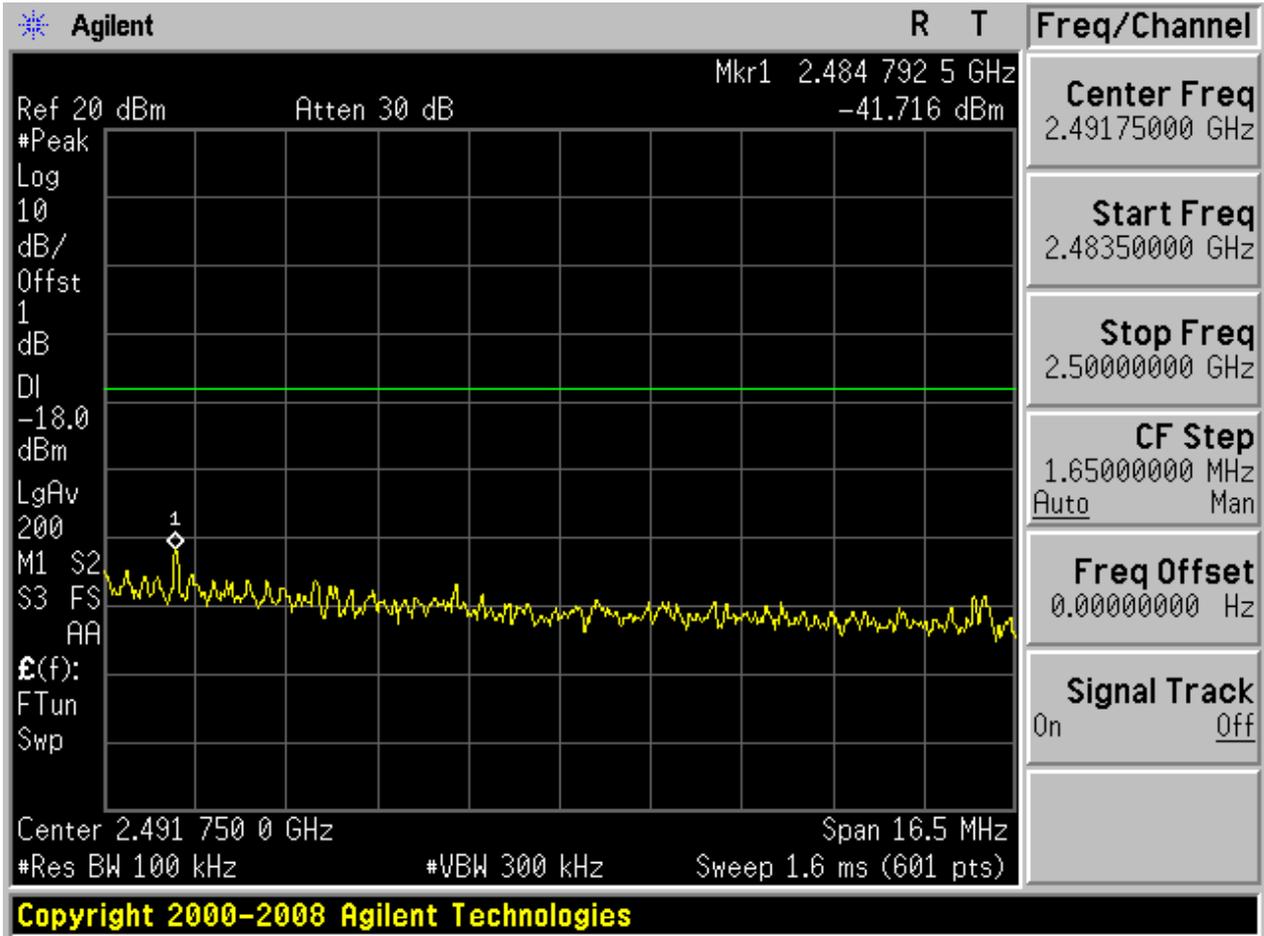
Puw:

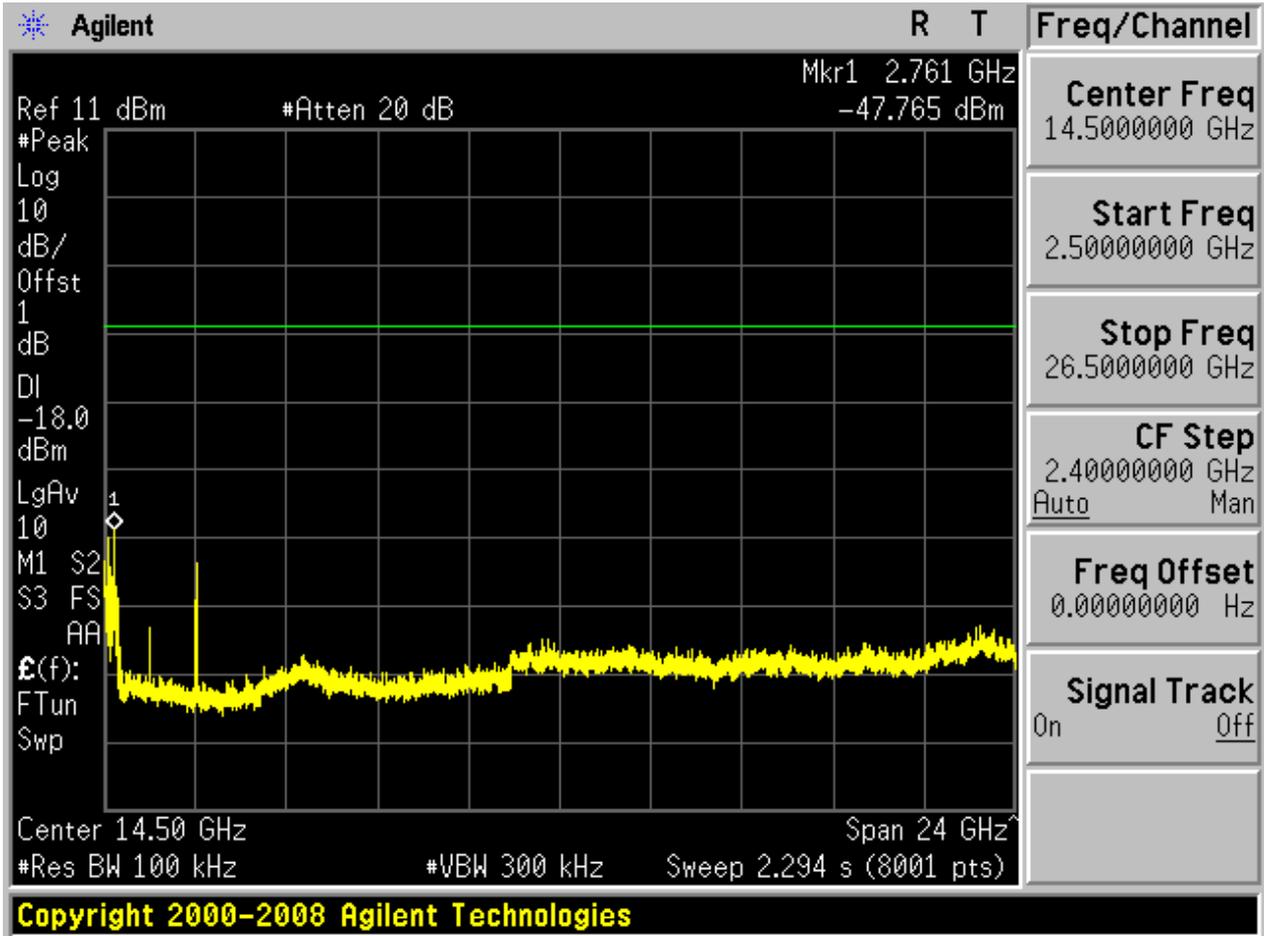












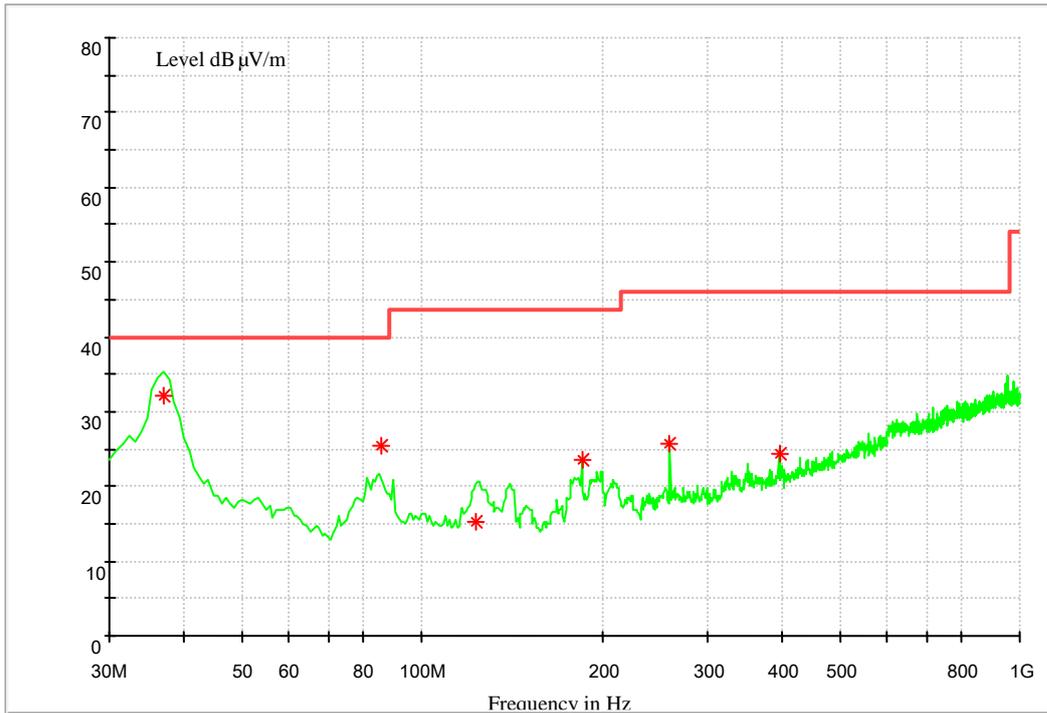


Appendix F

Radiated Spurious Emission & Spurious in Restricted Band (according to FCC Part 15.247(d) & 15.205 & 15.209)

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

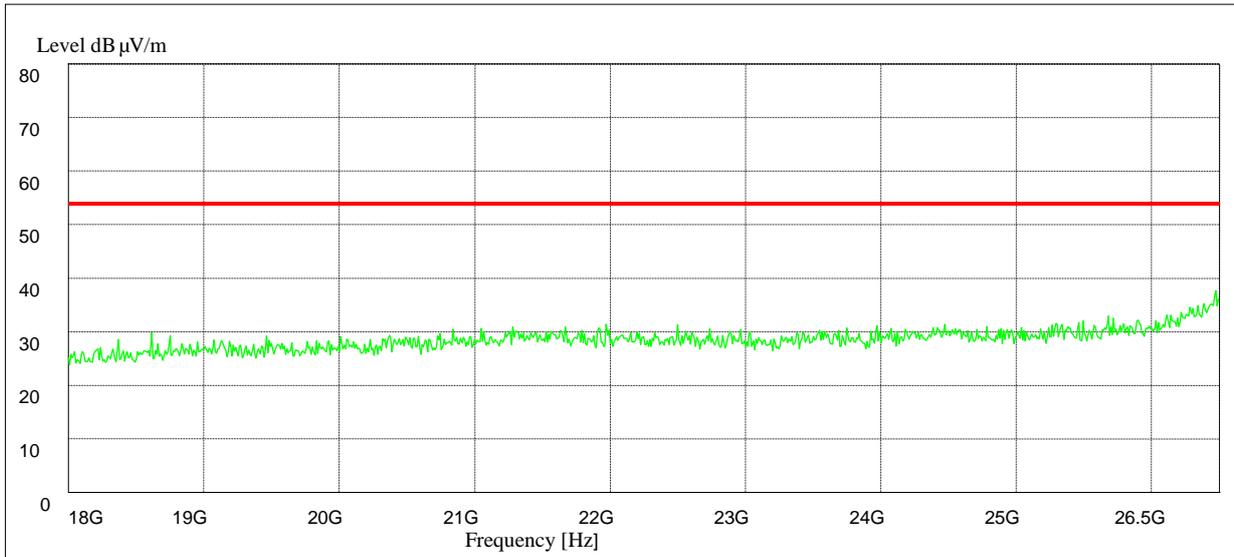
- Note 1: The test results and plot for testing range of “30 MHz to 1 GHz” showed as below is the **WORST case for all Test Modes and Channels**. This range will not be presented for each Test Mode and each Channel.
- Note 2: The emissions in this range are mainly from the Platform Device (Notepad PC 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
36.911040	32.0	12.5	40.0	8.0	100.0	198.0	VERTICAL
85.721920	25.3	10.6	40.0	14.7	196.0	121.0	HORIZONTAL
123.431040	15.3	10.5	43.5	28.2	100.0	108.0	VERTICAL
185.626240	23.4	11.5	43.5	20.1	178.0	248.0	HORIZONTAL
259.870720	25.7	14.9	46.0	20.3	100.0	238.0	HORIZONTAL
395.982080	24.4	18.6	46.0	21.6	100.0	128.0	HORIZONTAL

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



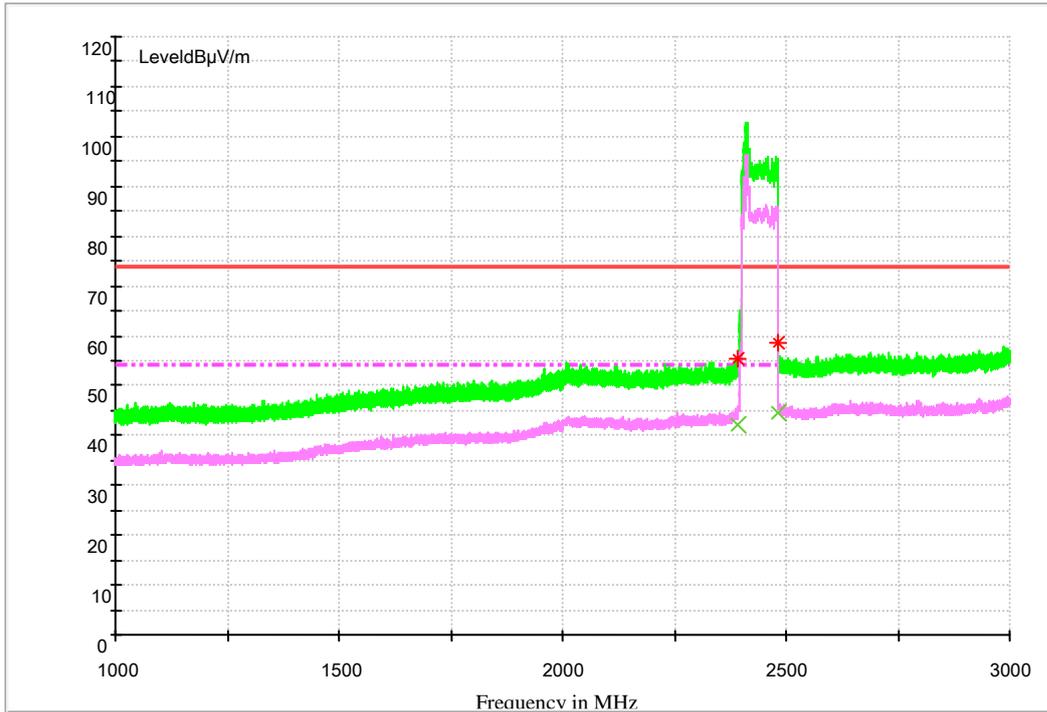
Note: No peak found in pre- test.

Part 3: Testing Range of “1GHz to3GHz”

- Note 1: The testing range of “1GHz to 3 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 L



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

MEASUREMENT RESULT: PK Detector

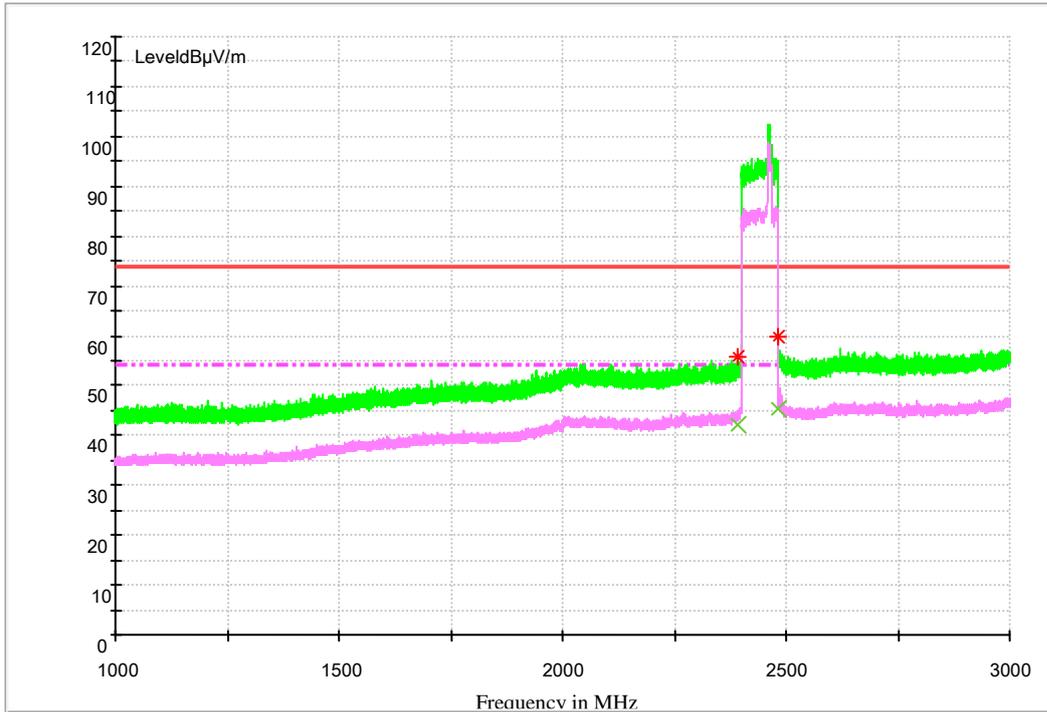
Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	56.1	38.3	74.0	17.9	100.0	167.0	VERTICAL
2483.500000	58.9	40.7	74.0	15.1	100.0	268.0	HORIZONTAL

MEASUREMENT RESULT: AVDetector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	43.0	38.3	54.0	11.0	100.0	55.0	HORIZONTAL
2483.500000	44.6	40.7	54.0	9.4	100.0	305.0	VERTICAL

Channel H

FCC CLASS B WIFI 1GHz-3GHz



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

MEASUREMENT RESULT: PK Detector

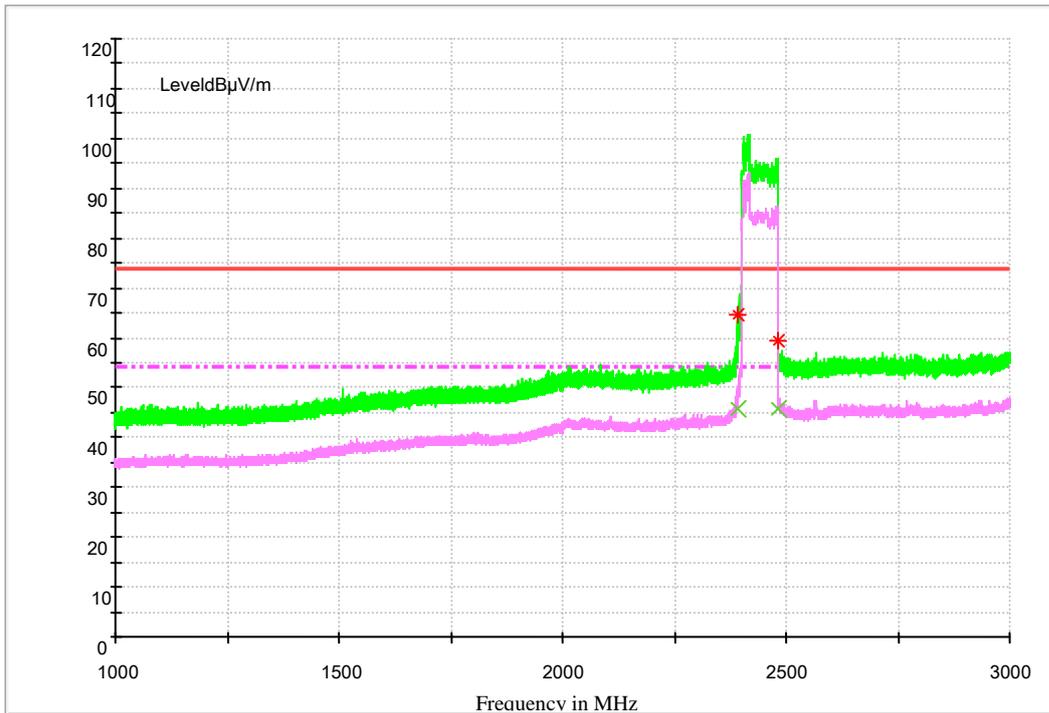
Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	56.1	38.3	74.0	17.9	100.0	0.0	HORIZONTAL
2483.500000	60.0	40.7	74.0	14.0	100.0	130.0	HORIZONTAL

MEASUREMENT RESULT: AVDetector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	42.2	38.3	54.0	11.8	100.0	135.0	HORIZONTAL
2483.500000	44.9	40.7	54.0	9.1	100.0	0.0	VERTICAL

Test Mode: 11G

Channel L



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

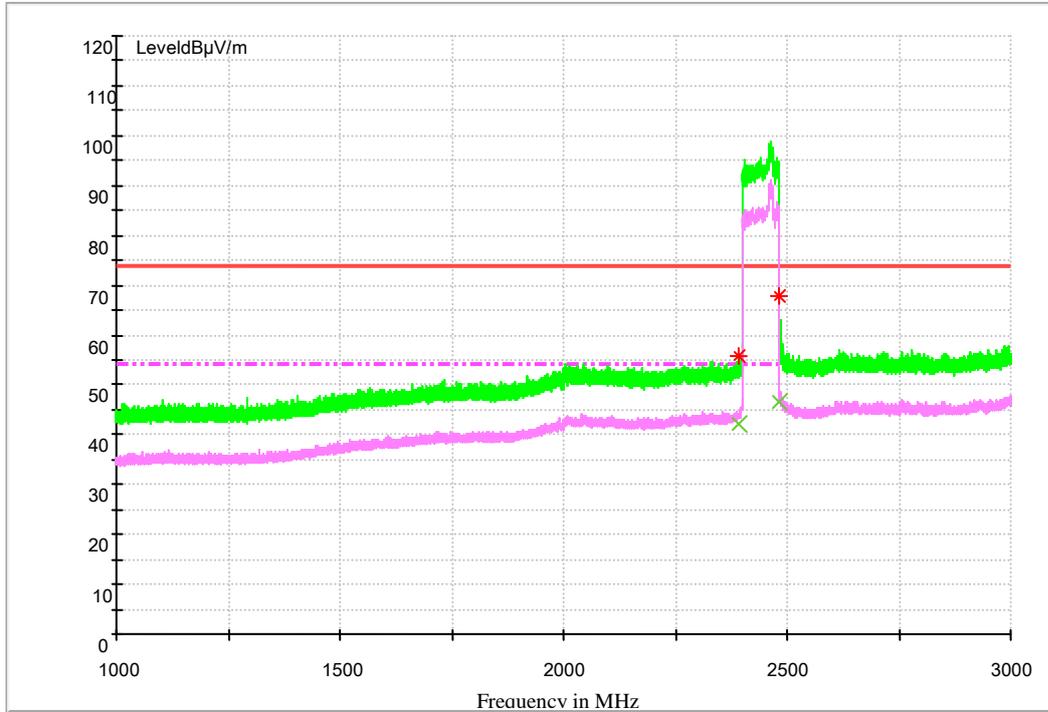
MEASUREMENT RESULT: PK Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	64.8	38.3	74.0	9.2	100.0	167.0	HORIZONTAL
2483.500000	59.3	40.7	74.0	14.7	100.0	166.0	HORIZONTAL

MEASUREMENT RESULT: AVDetector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	45.8	38.3	54.0	8.2	100.0	54.0	HORIZONTAL
2483.500000	45.8	40.7	54.0	8.2	100.0	150.0	HORIZONTAL

Channel H



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

MEASUREMENT RESULT: PK Detector

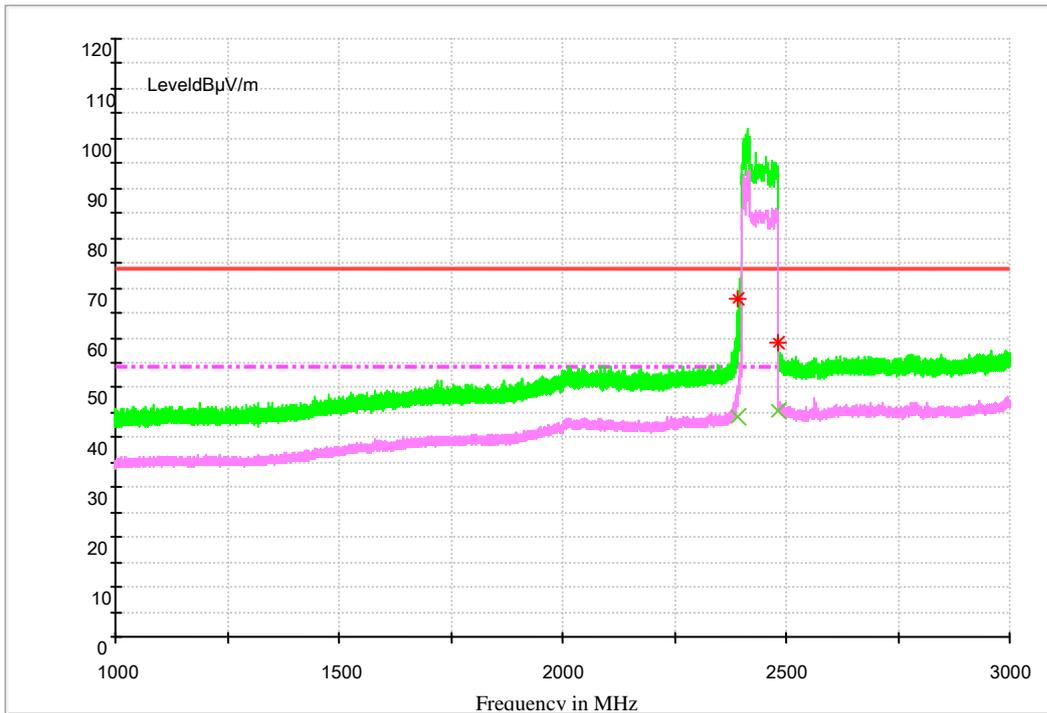
Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	55.8	38.3	74.0	18.2	100.0	144.0	VERTICAL
2483.500000	67.9	40.7	74.0	6.1	121.0	141.0	HORIZONTAL

MEASUREMENT RESULT: AVDetector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	42.0	38.3	54.0	12.0	100.0	337.0	VERTICAL
2483.500000	46.7	40.7	54.0	7.3	100.0	134.0	HORIZONTAL

Test Mode: 11N

Channel L



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

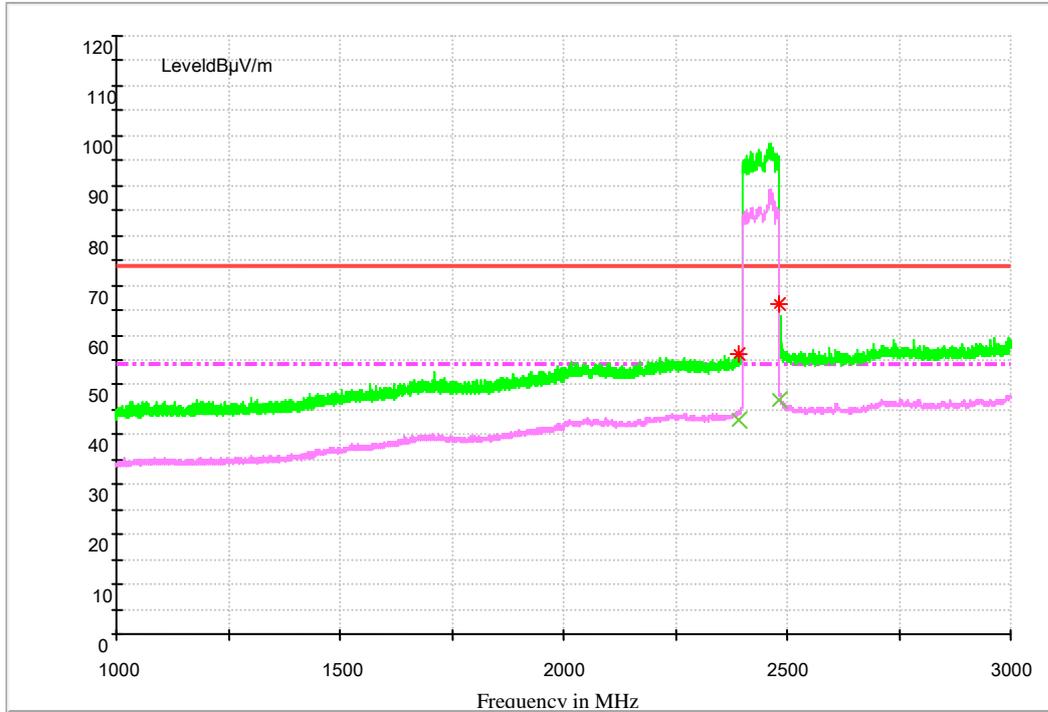
MEASUREMENT RESULT: PK Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	67.9	38.3	74.0	6.1	100.0	242.0	HORIZONTAL
2483.500000	58.8	40.7	74.0	15.2	100.0	147.0	HORIZONTAL

MEASUREMENT RESULT: AVDetector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	44.3	38.3	54.0	9.8	100.0	150.0	HORIZONTAL
2483.500000	45.3	40.7	54.0	8.7	100.0	134.0	HORIZONTAL

Channel H



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

MEASUREMENT RESULT: PK Detector

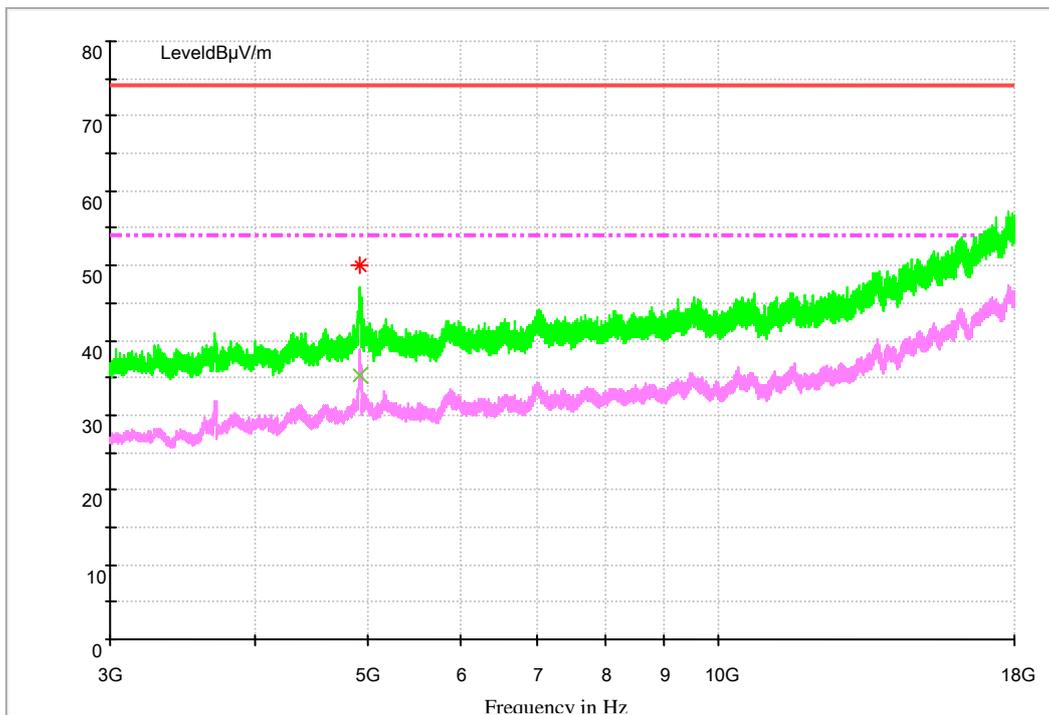
Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	56.3	38.3	74.0	17.7	100.0	175.0	VERTICAL
2483.500000	66.1	40.7	74.0	7.9	127.0	100.0	HORIZONTAL

MEASUREMENT RESULT: AVDetector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	43.1	38.3	54.0	10.9	100.0	168.0	HORIZONTAL
2483.500000	46.9	40.7	54.0	7.1	100.0	100.0	HORIZONTAL

Part 4: Testing Range of “3GHz to 18 GHz”

- Note 1: The test results and plot for testing range of “3GHz 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 “3GHz to 18 GHz” is for checking radiated emissions located in restricted bands far away from the EUT operating bands.
- Note 3: 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: 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
4926.275333	50.1	1.7	74.0	23.9	100.0	311.0	VERTICAL

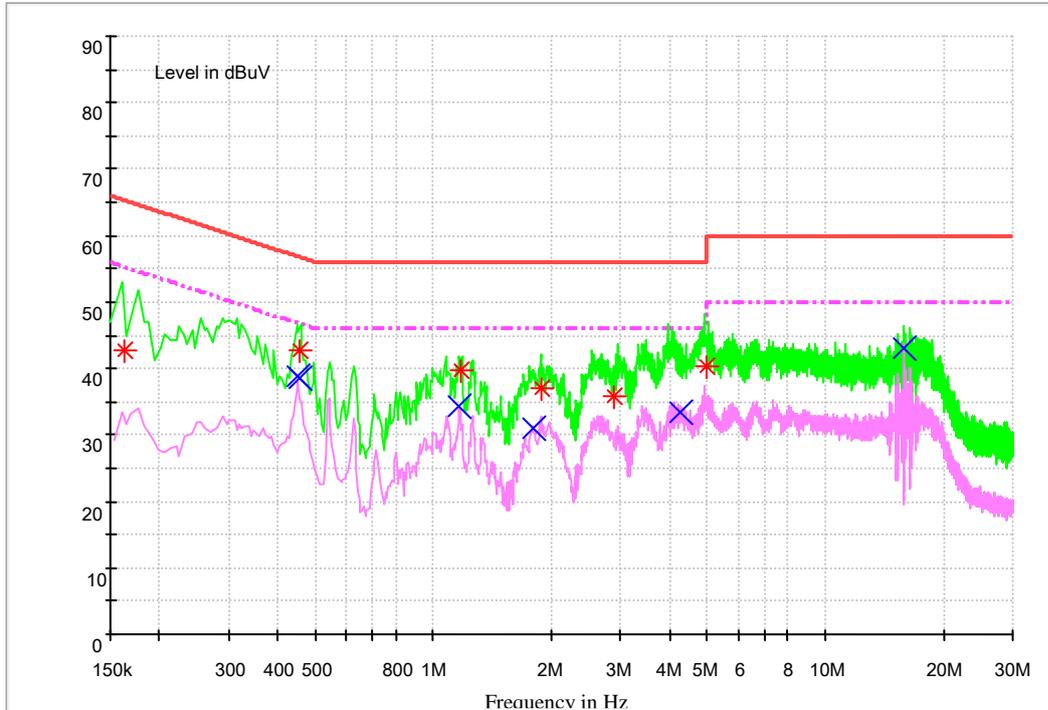
MEASUREMENT RESULT: AVDetector

Frequency MHz	Level dBμV/m	Transd dB	Limit dBμV/m	Margin dB	Height cm	Azimuth deg	Polarization
4925.020667	35.4	1.7	54.0	18.6	100.0	185.0	HORIZONTAL



Appendix G: Conducted Emission at Power Port

Channel 6



MEASUREMENT RESULT: QP Detector

Frequency	Level	Transducer	Limit	Margin	Line	PE
MHz	dB μ V	dB	dB μ V	dB		
0.163702	42.6	9.7	65.3	22.7	L1	FLO
0.458512	42.7	9.7	56.7	14.0	N	FLO
1.167942	39.6	9.7	56.0	16.4	L1	FLO
1.889854	37.0	9.7	56.0	19.0	L1	FLO
2.889942	35.8	9.7	56.0	20.2	N	FLO
4.964142	40.2	9.8	56.0	15.8	L1	FLO

MEASUREMENT RESULT: AV Detector

Frequency	Level	Transducer	Limit	Margin	Line	PE
MHz	dB μ V	dB	dB μ V	dB		
0.450750	38.8	9.7	46.9	8.1	L1	FLO
0.453806	38.5	9.7	46.8	8.3	L1	FLO
1.166880	34.3	9.7	46.0	11.7	L1	FLO
1.802194	31.1	9.7	46.0	14.9	L1	FLO
4.260708	33.6	9.8	46.0	12.4	L1	FLO
15.860865	43.1	10.0	50.0	6.9	L1	FLO

END