



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.

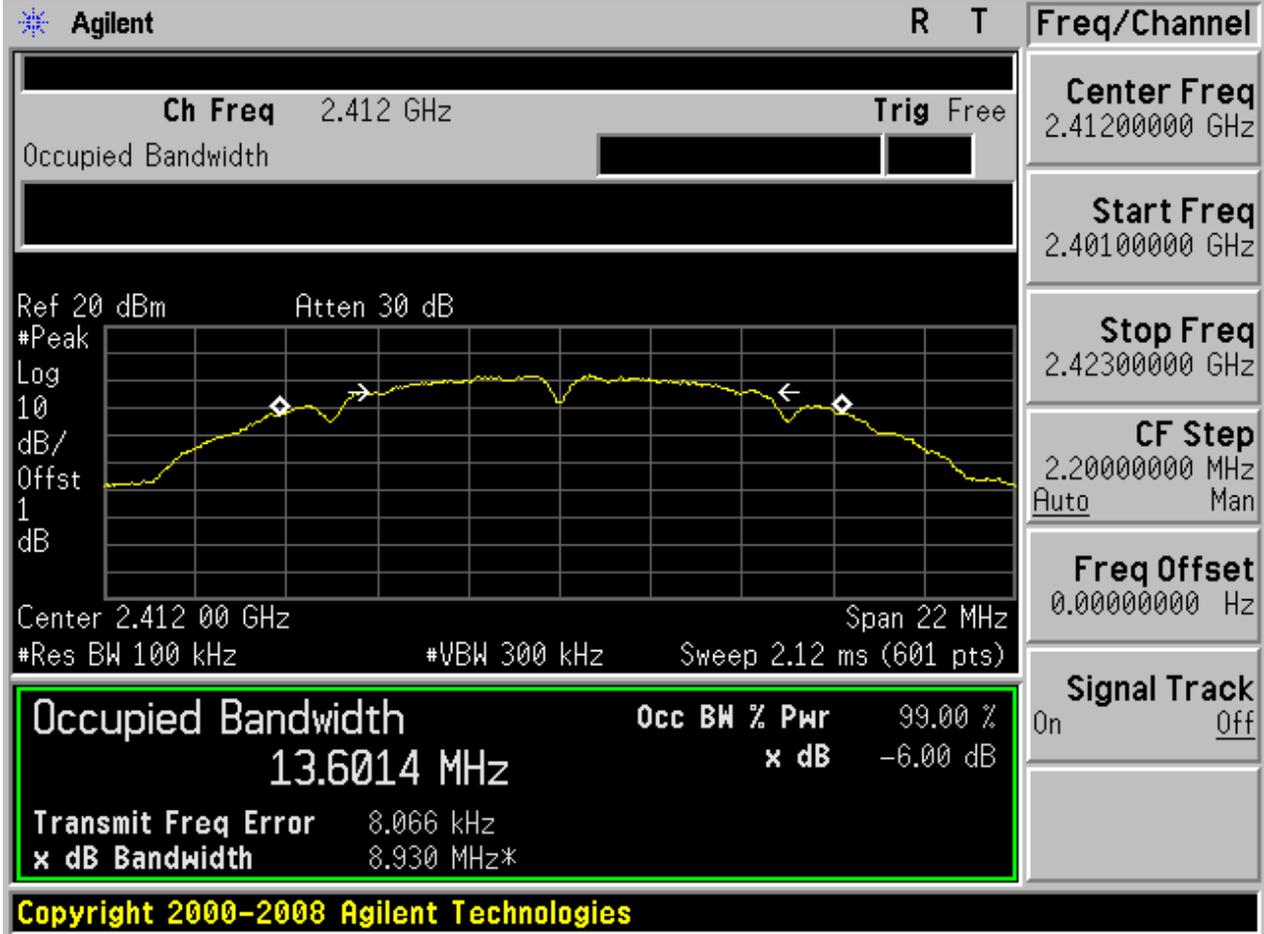
For measurements on smart antenna systems (devices with multiple transmit chains), the test is performed at each chain, and used as respective results for each chain.

Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	DTS6dBBW[MHz]	Verdict
11B	L	2412	8.93	pass
11B	M	2437	8.75	pass
11B	H	2462	8.18	pass
11G	L	2412	16.57	pass
11G	M	2437	16.57	pass
11G	H	2462	16.57	pass
11N20	L	2412	17.80	pass
11N20	M	2437	17.81	pass
11N20	H	2462	17.82	pass

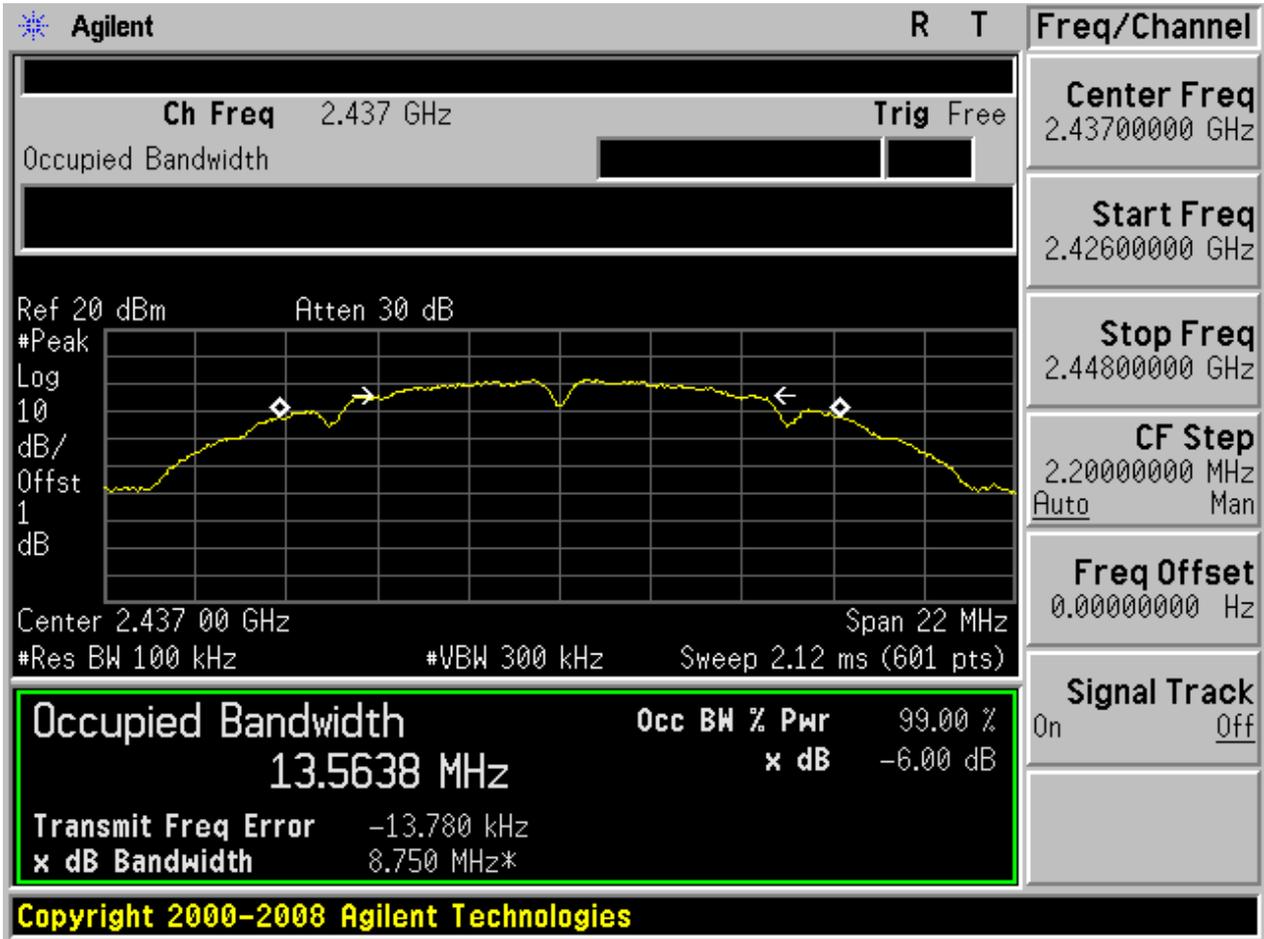
Part II - Test Plots

2.1 11B_L



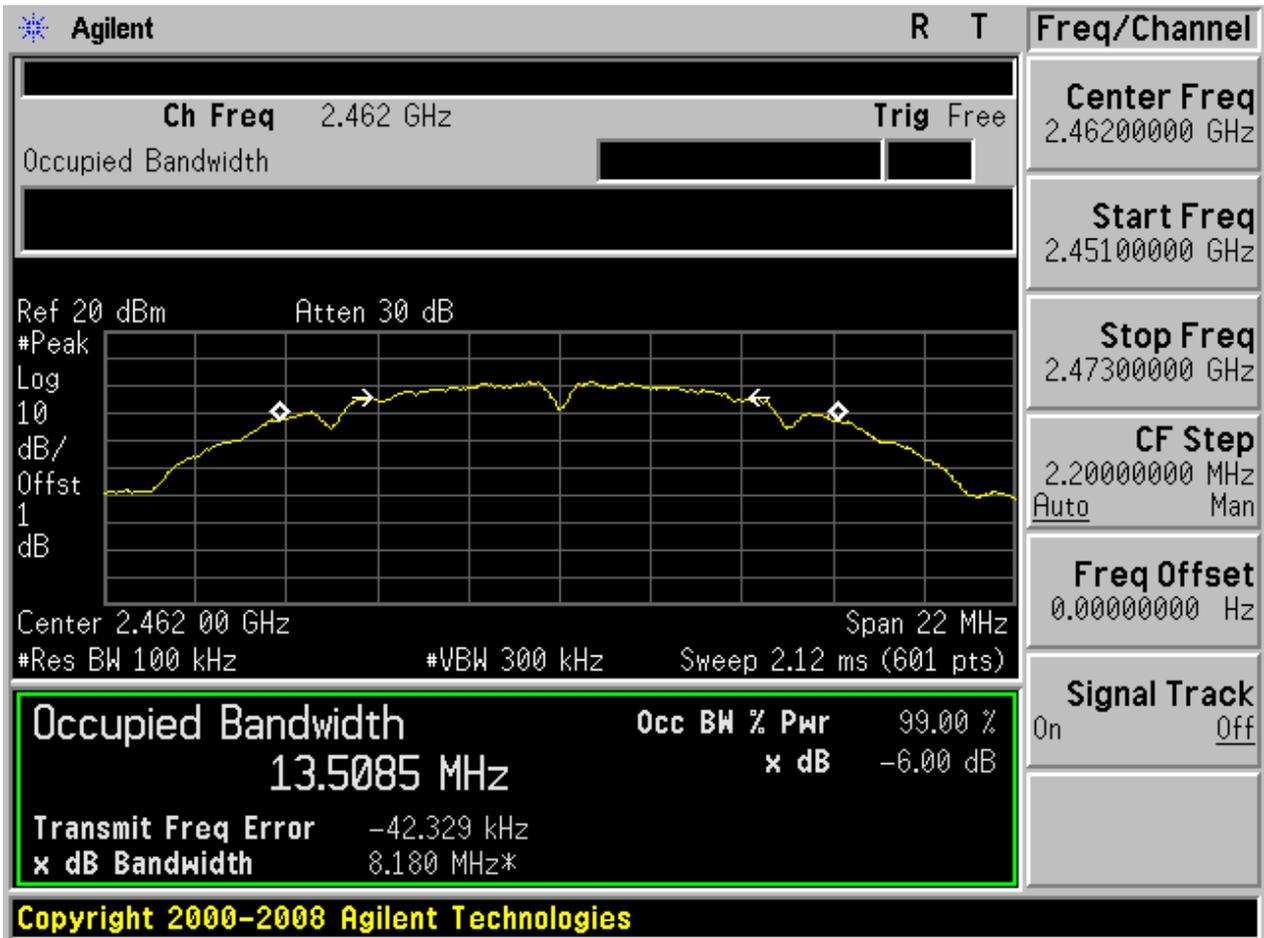


2.2 11B_M



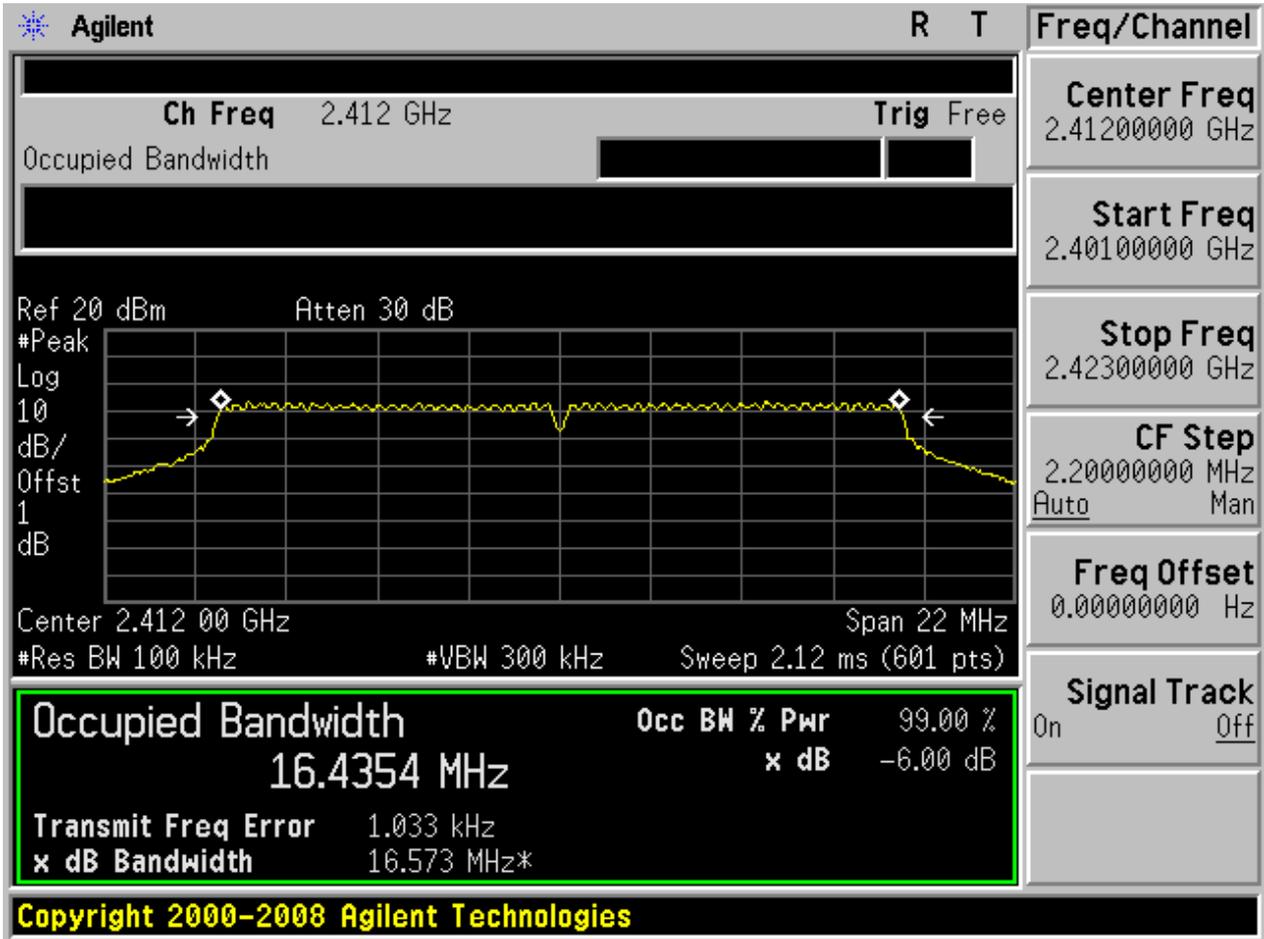


2.3 11B_H



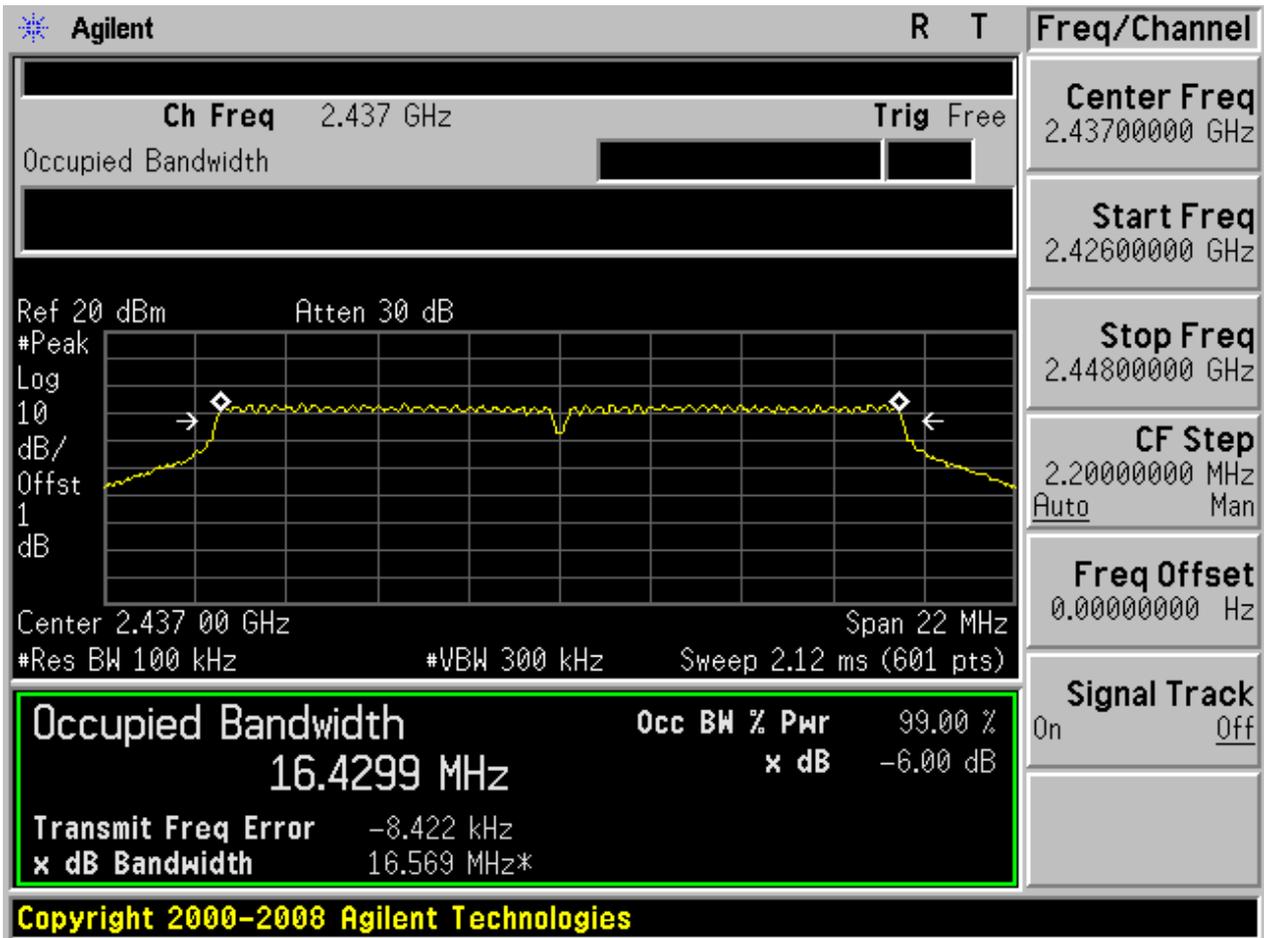


2.4 11G_L



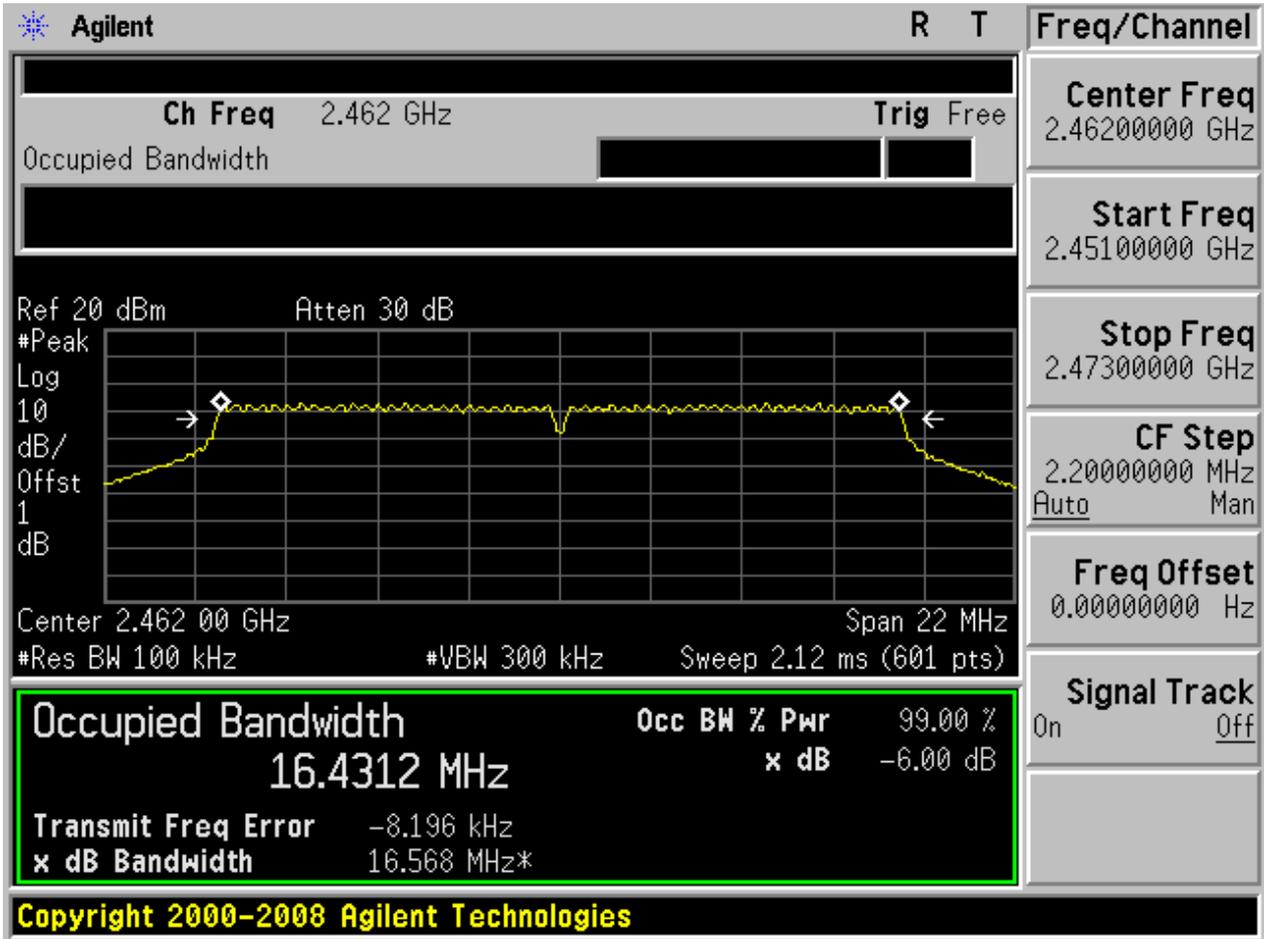


2.5 11G_M



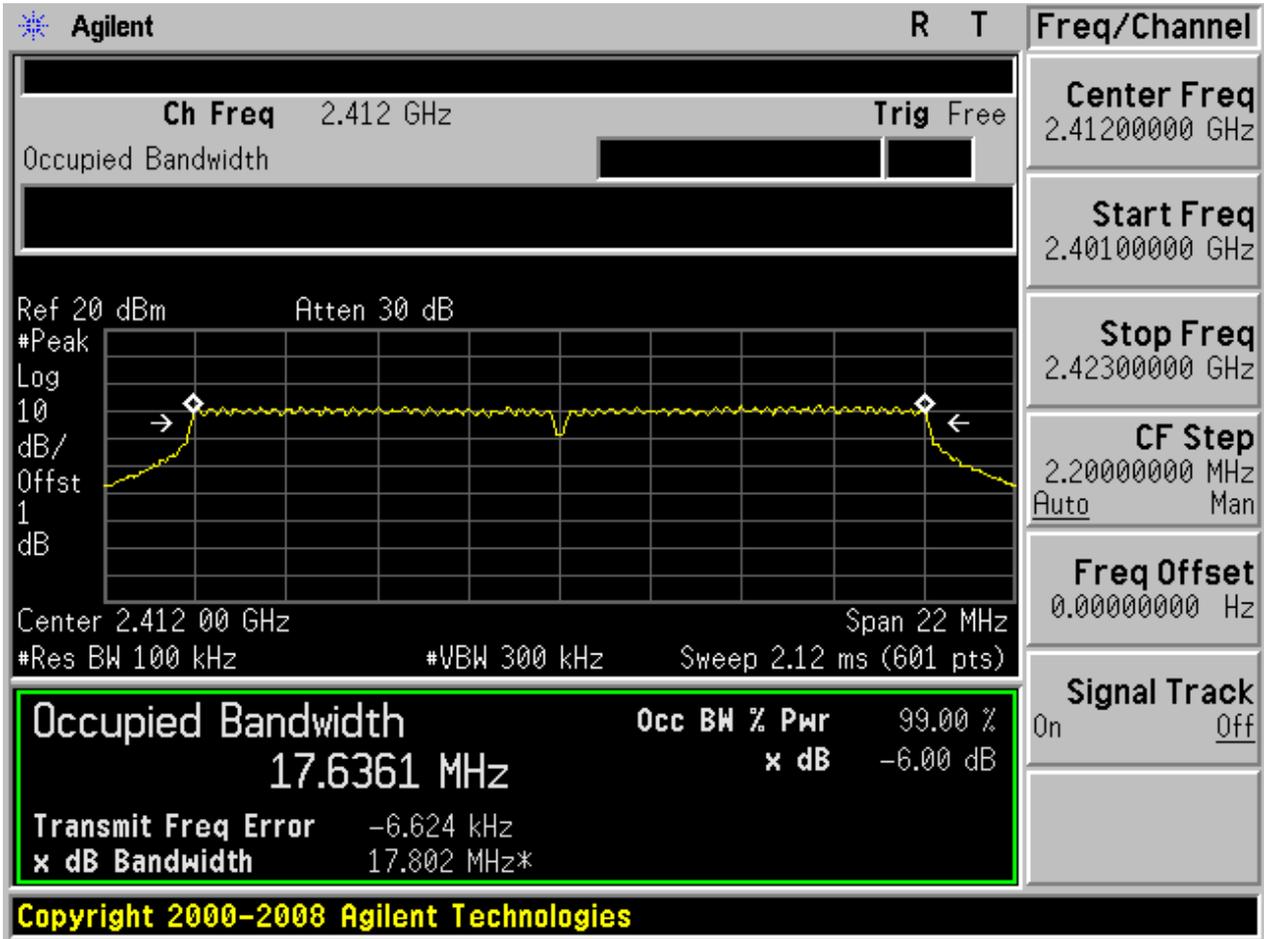


2.6 11G_H



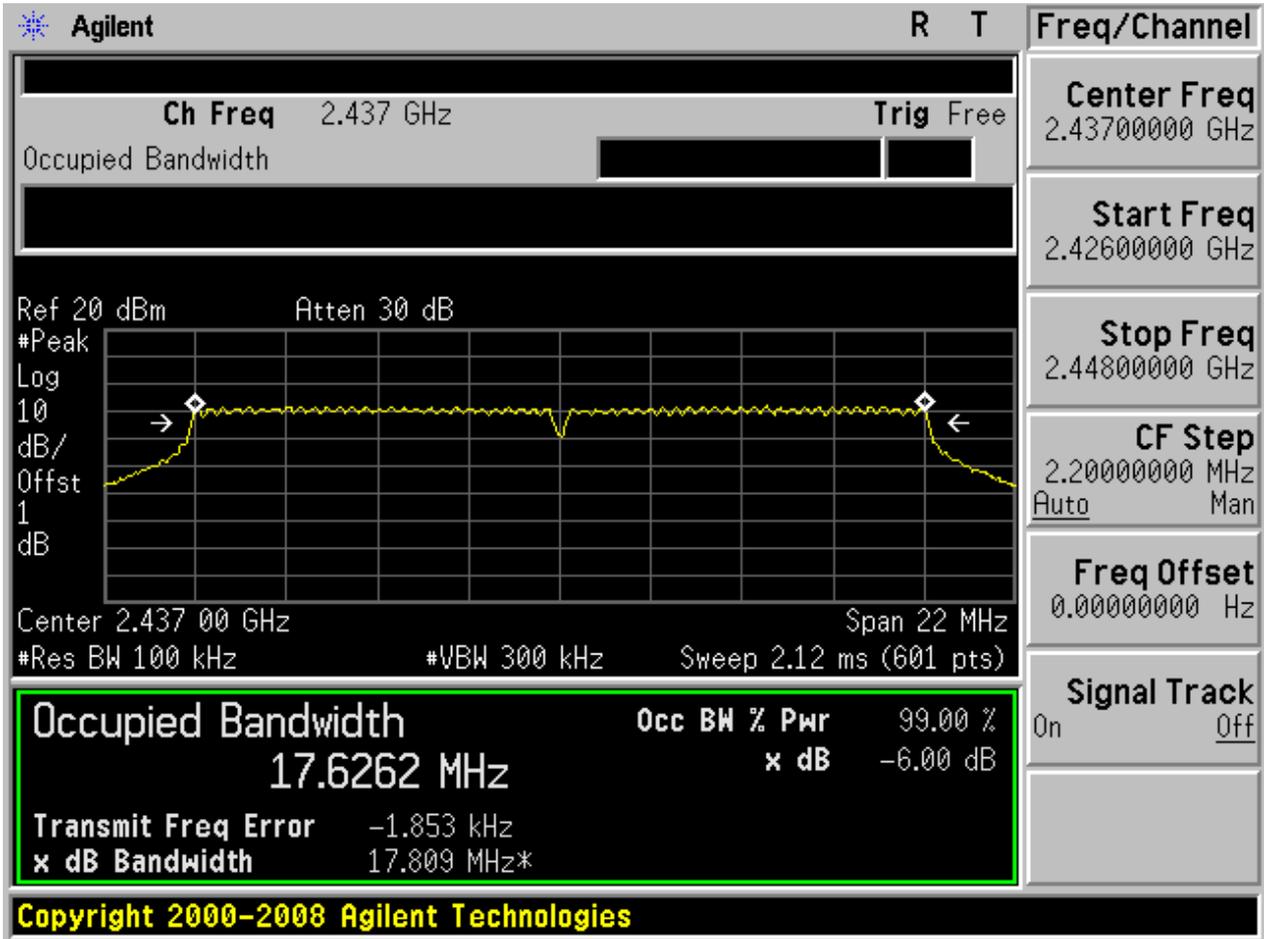


2.7 11N20_L



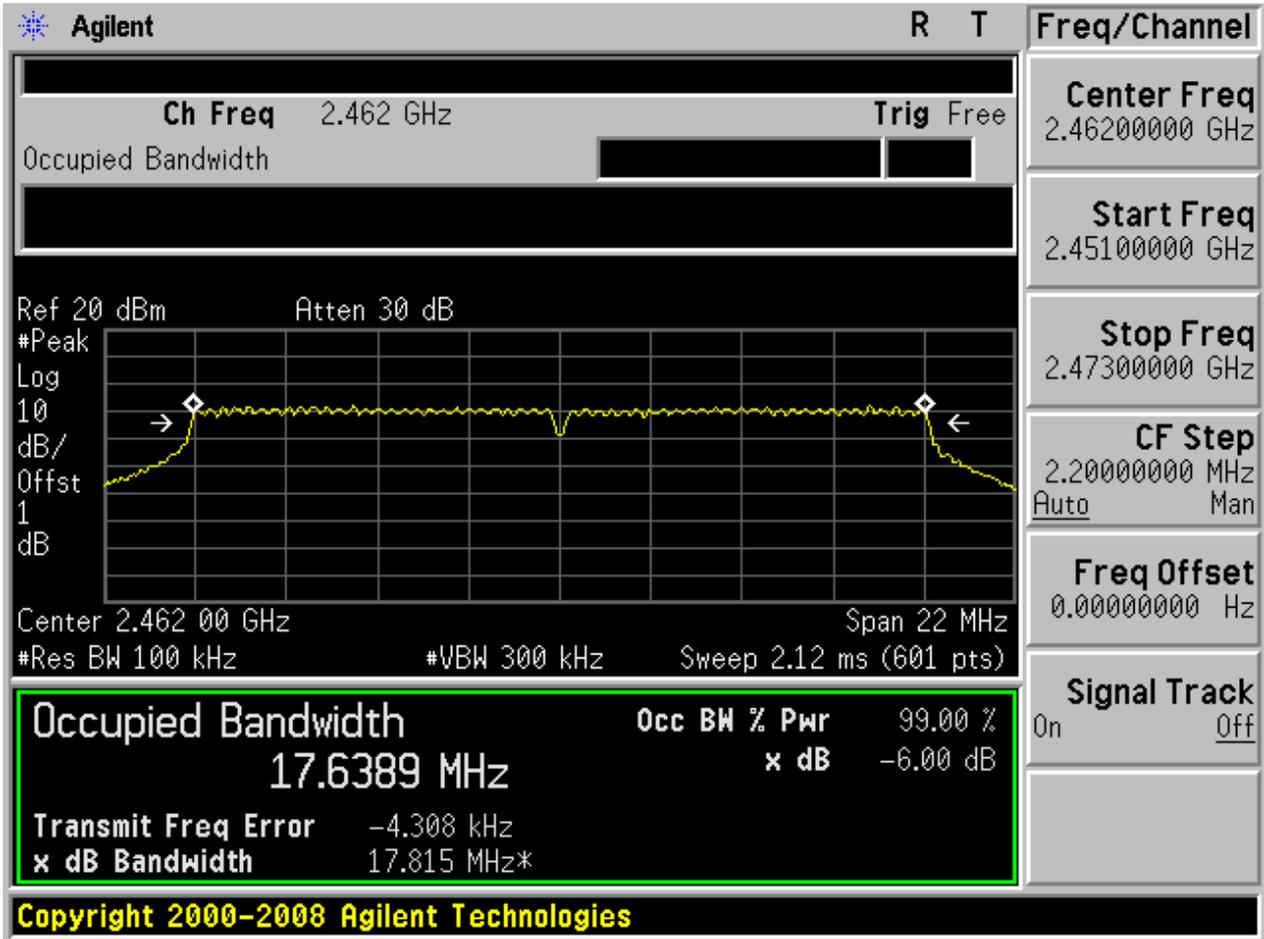


2.8 11N20_M





2.9 11N20_H





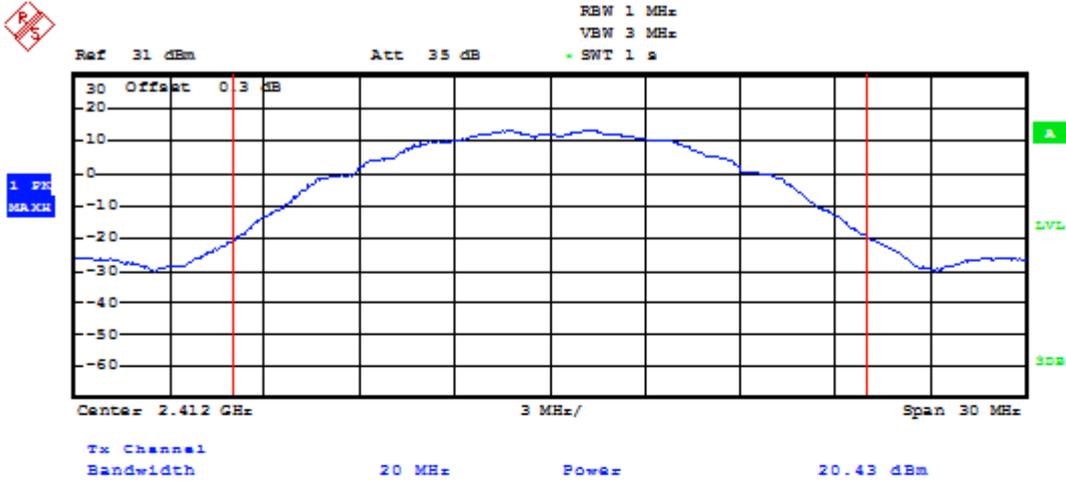
Appendix B: Maximum Peak Conducted Output Power

Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Meas. Level (Cond.) [dBm]	Verdict
11B	L	2412	20.43	pass
11B	M	2437	20.13	pass
11B	H	2462	19.82	pass
11G	L	2412	20.23	pass
11G	M	2437	20.45	pass
11G	H	2462	20.18	pass
11N20	L	2412	19.33	pass
11N20	M	2437	19.24	pass
11N20	H	2462	19.18	pass

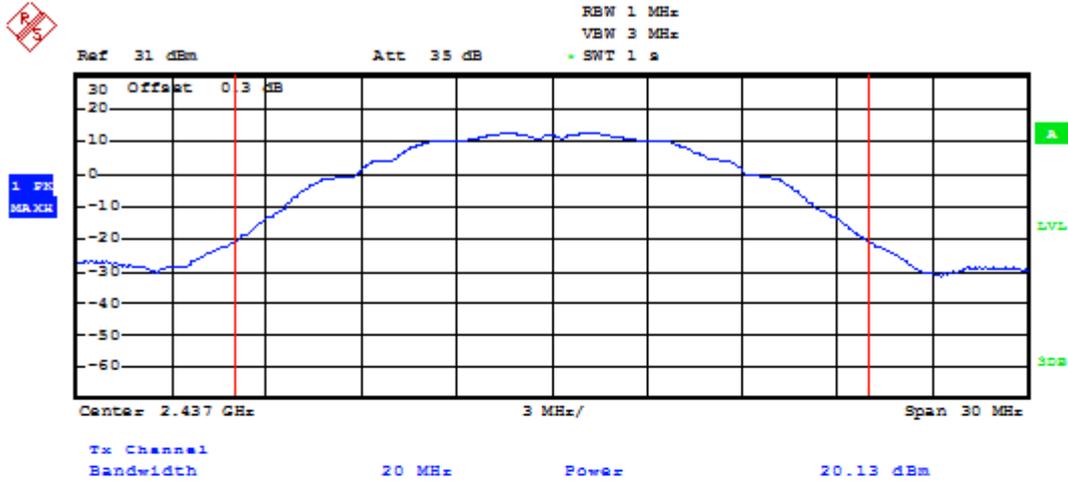
Part II - Test Plots

2.1 11B_L



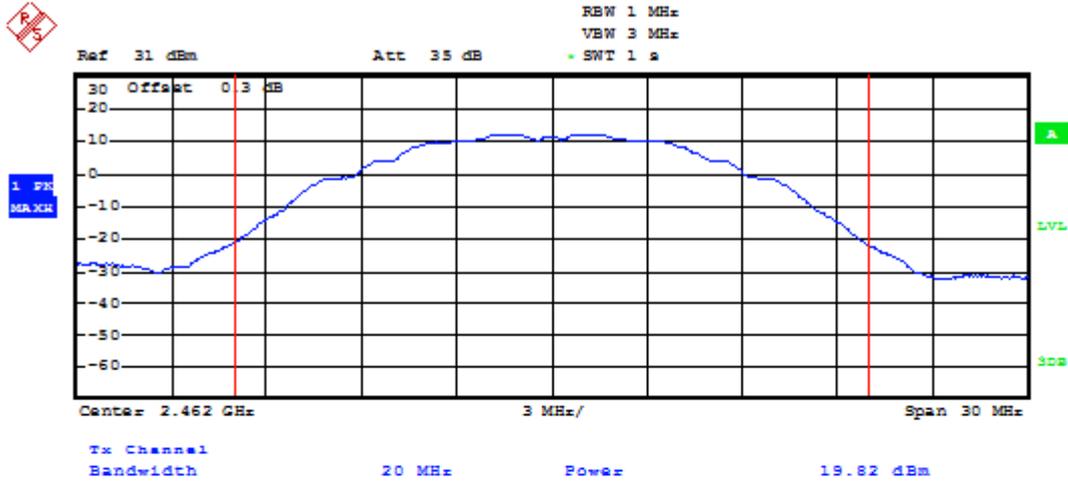
Date: 23. SEP. 2013 11:20:45

2.1 11B_M



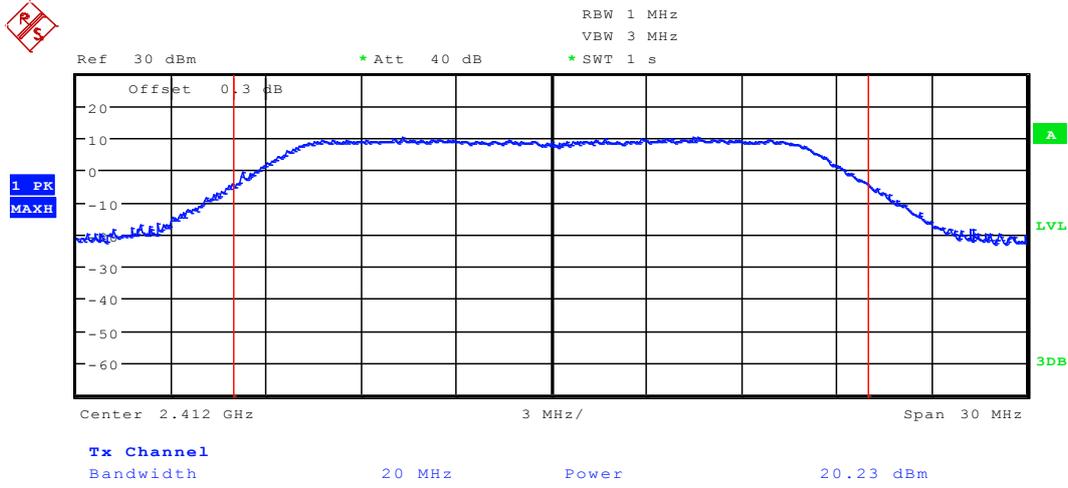
Date: 23.SEP.2013 11:22:28

2.1 11B_H



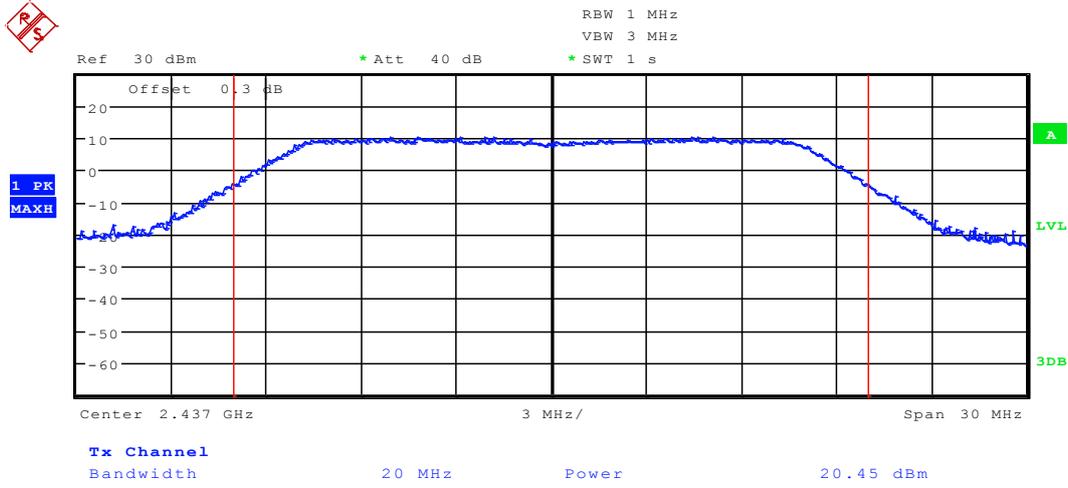
Date: 23.SEP.2013 11:24:08

2.1 11G_L



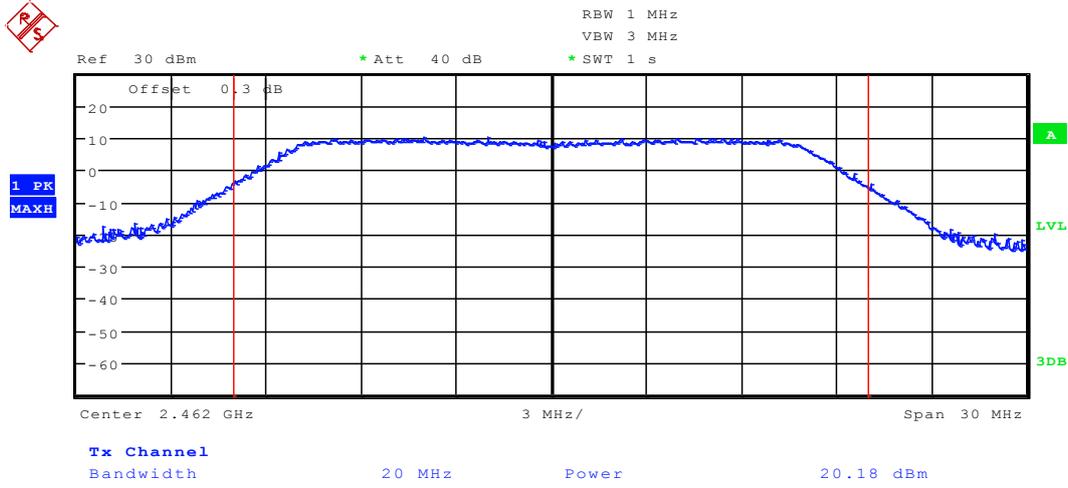
Date: 11.SEP.2013 19:39:56

2.1 11G_M



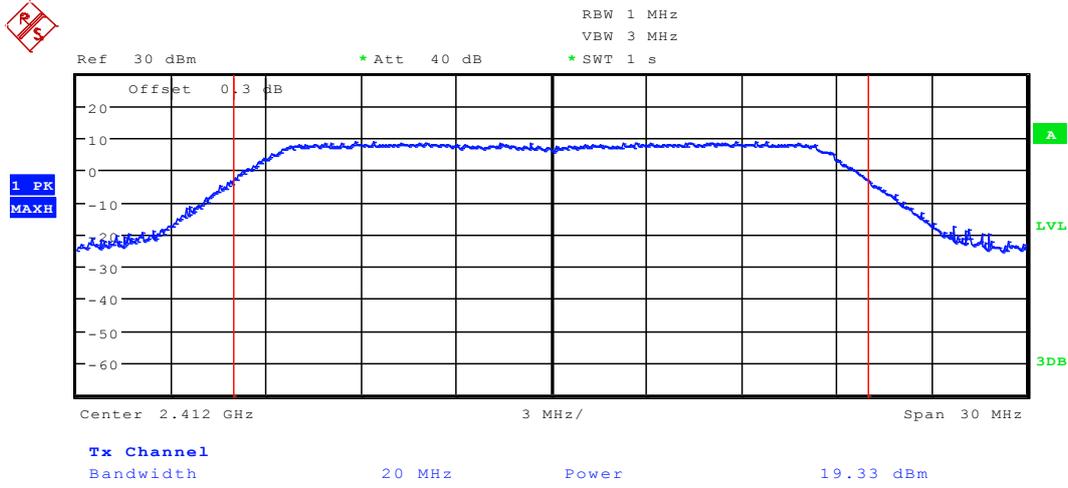
Date: 11.SEP.2013 19:40:27

2.1 11G_H



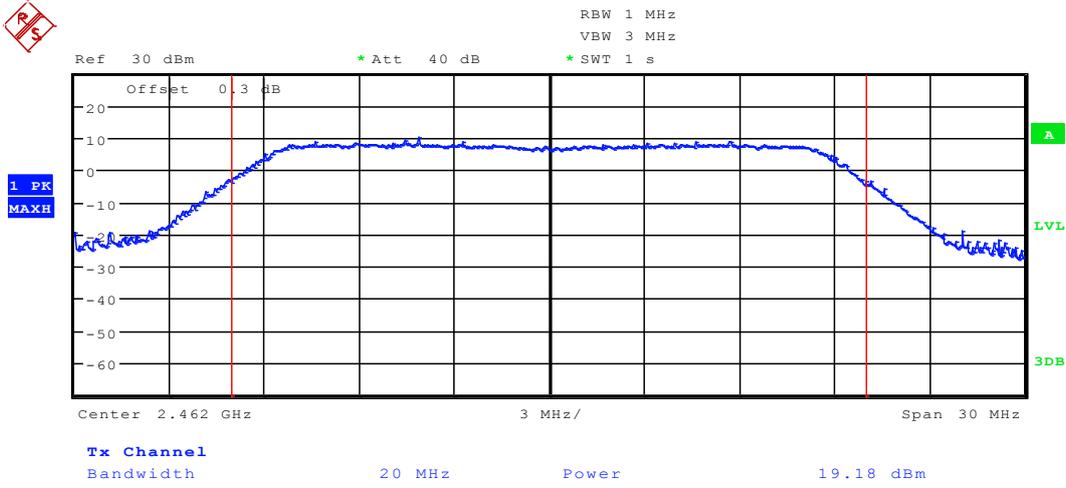
Date: 11.SEP.2013 19:40:59

2.1 11N_L



Date: 11.SEP.2013 19:42:02

2.1 11N_M



Date: 11.SEP.2013 19:42:52

Appendix C: Average Power

Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Average Power(dBm)
11B	L	2412	16.1
11B	M	2437	15.71
11B	H	2462	15.48
11G	L	2412	10.05
11G	M	2437	10.18
11G	H	2462	9.97
11N20	L	2412	9.24
11N20	M	2437	9.36
11N20	H	2462	9.12

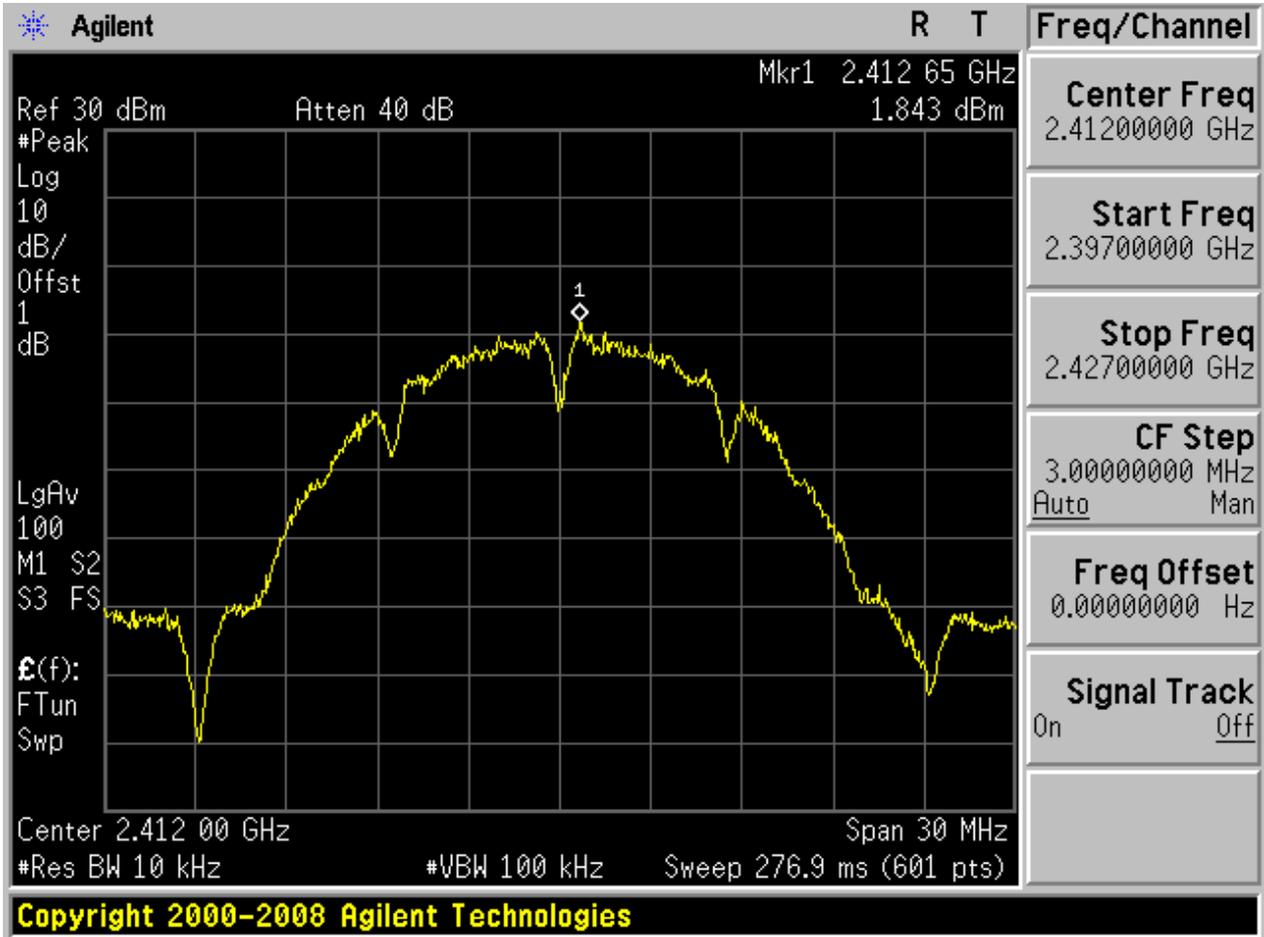
Appendix D: Maximum Power Spectral Density Level

Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	PD[MHz]	Verdict
11B	L	2412	1.84	pass
11B	M	2437	0.49	pass
11B	H	2462	1.23	pass
11G	L	2412	-6.52	pass
11G	M	2437	-6.59	pass
11G	H	2462	-6.38	pass
11N20	L	2412	-8.06	pass
11N20	M	2437	-8.53	pass
11N20	H	2462	-8.92	pass

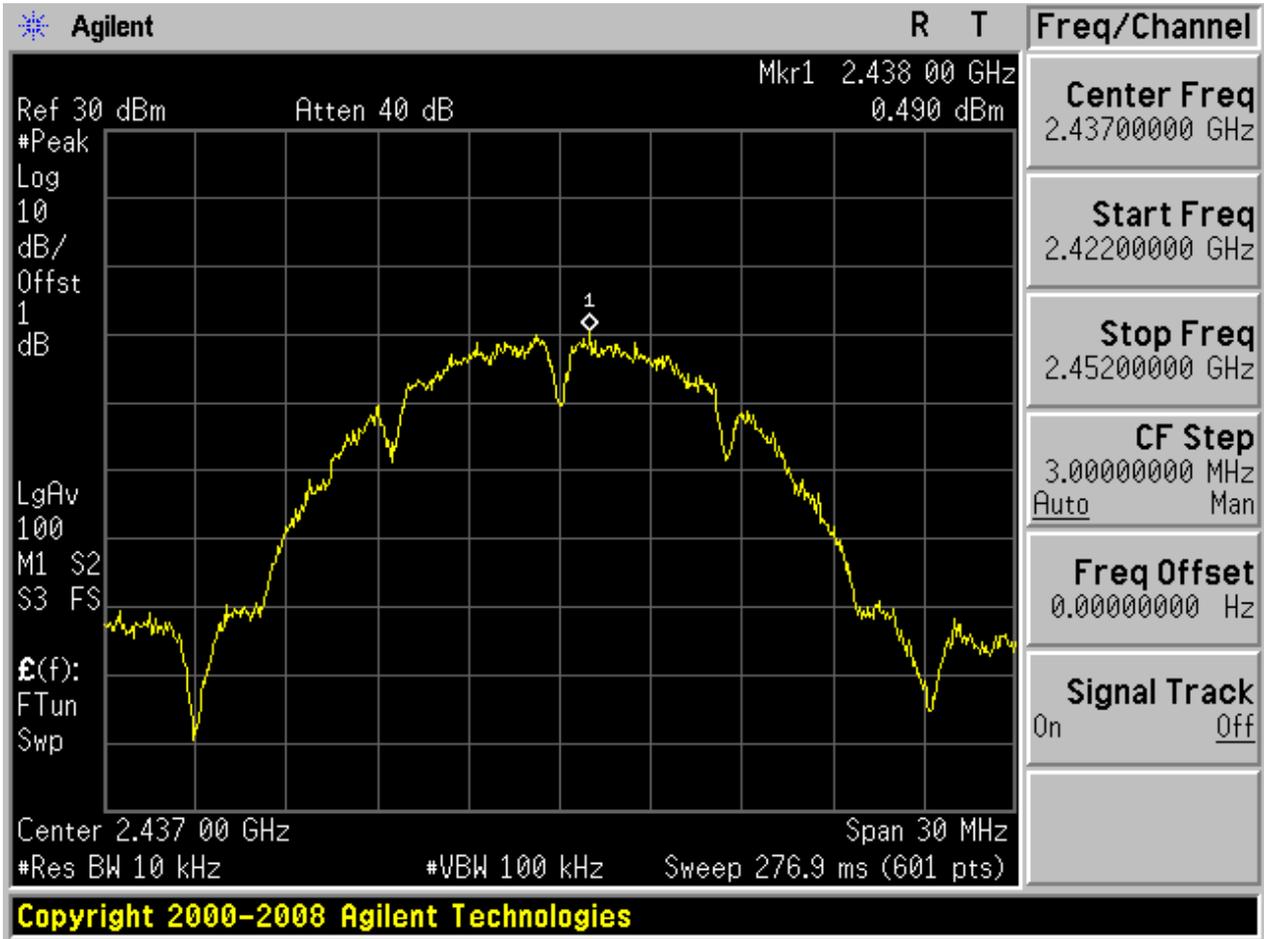
Part II - Test Plots

2.1 11B_L

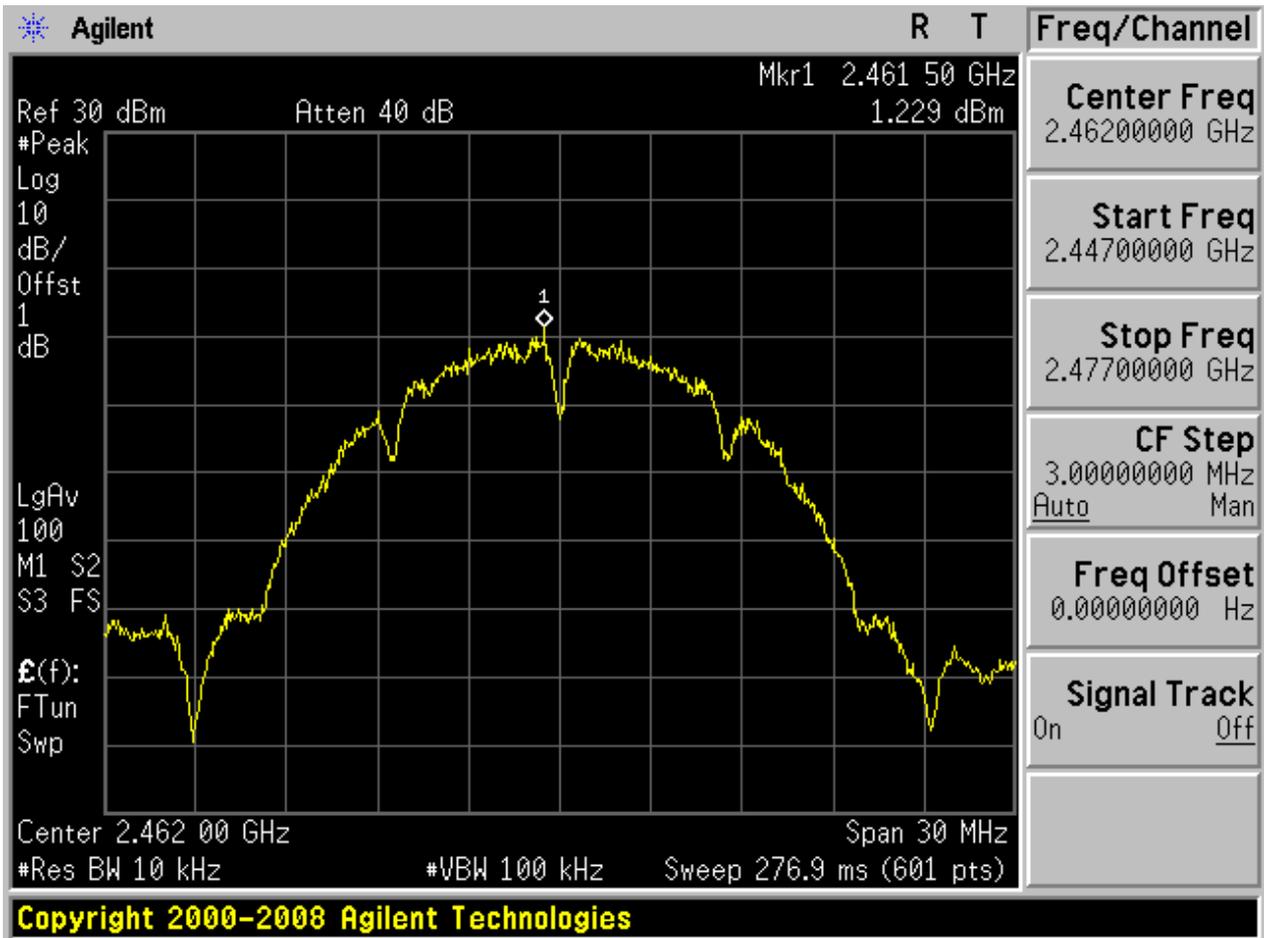




2.2 11B_M

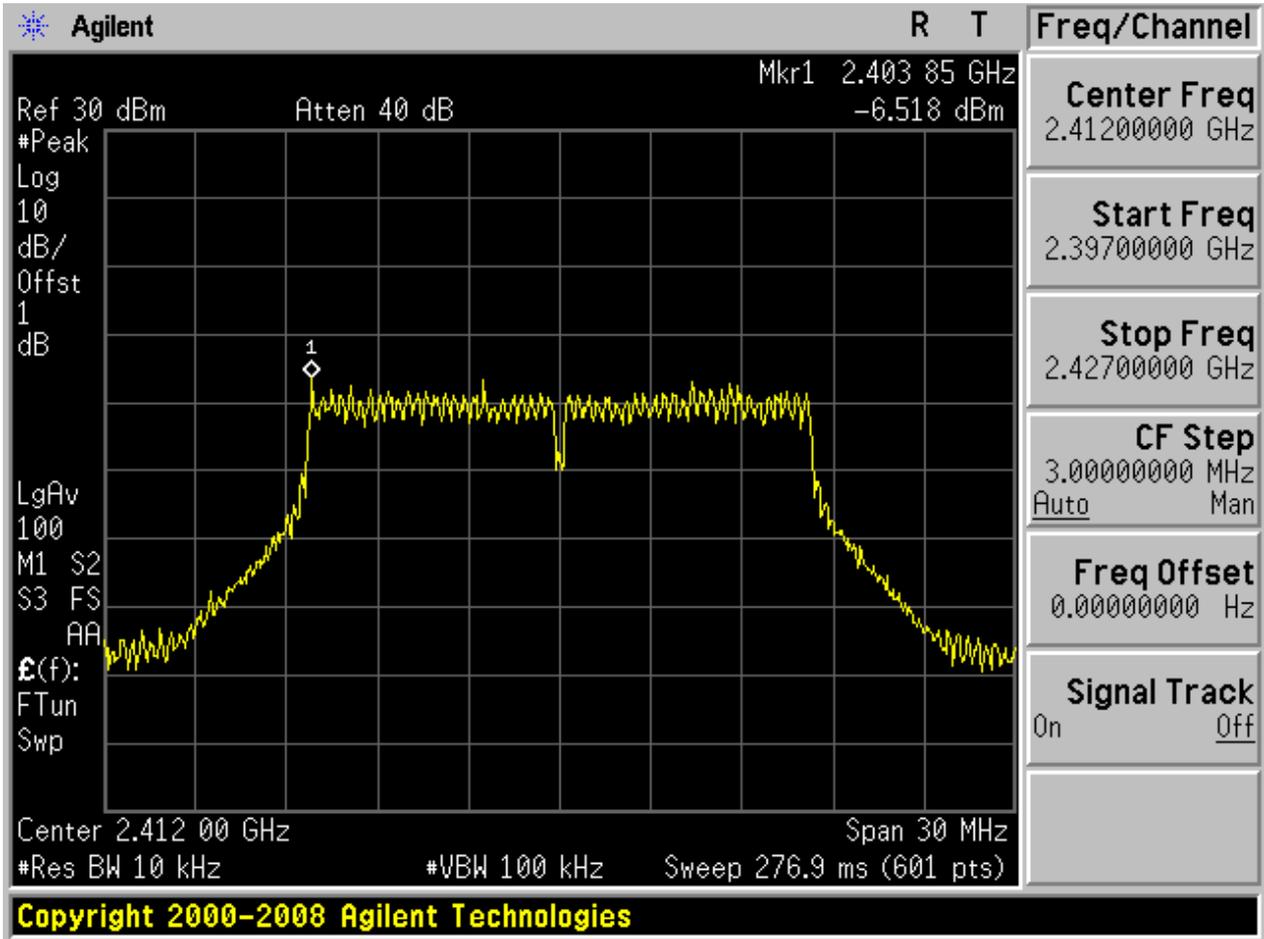


2.3 11B_H



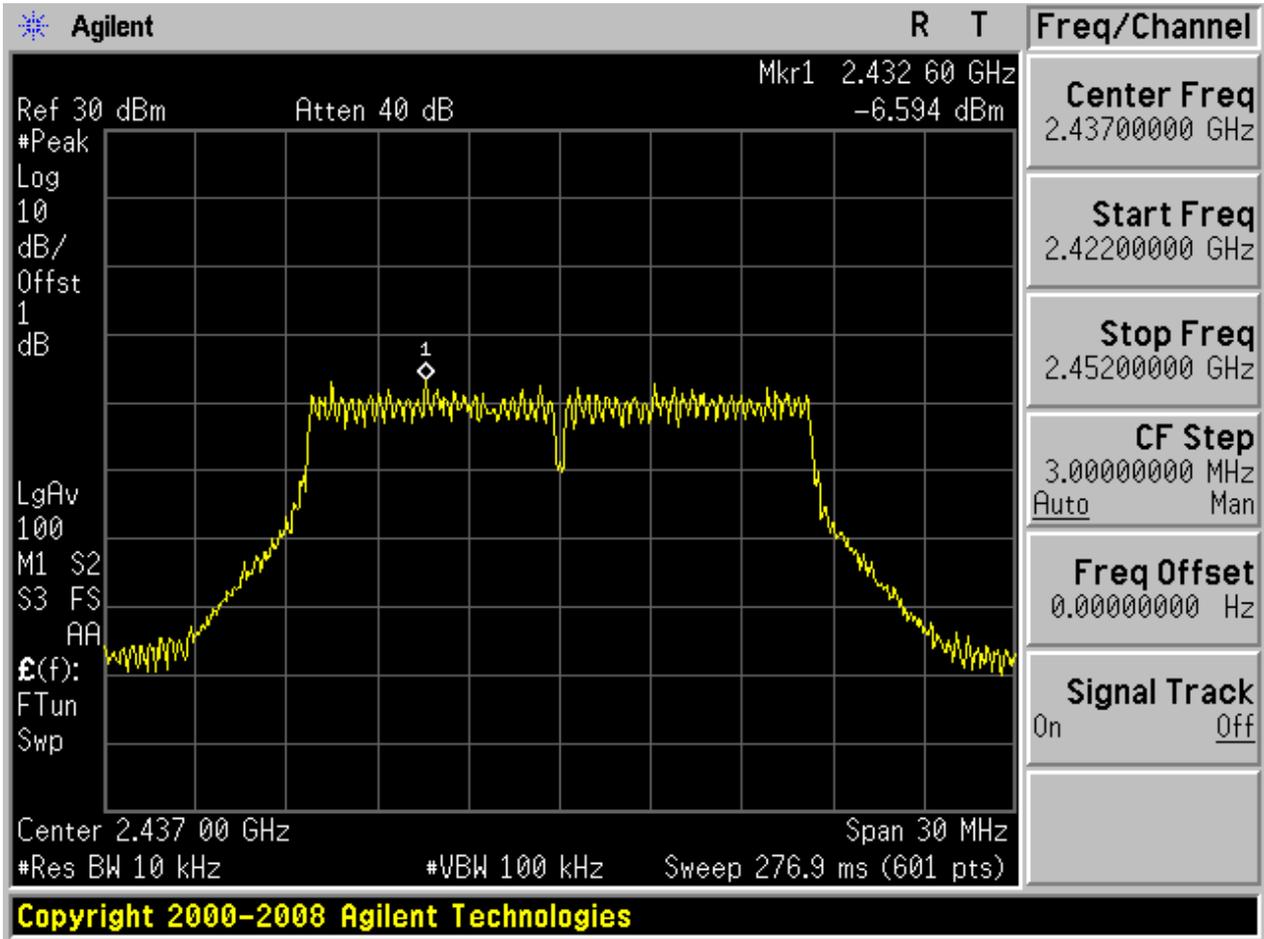


2.4 11G_L



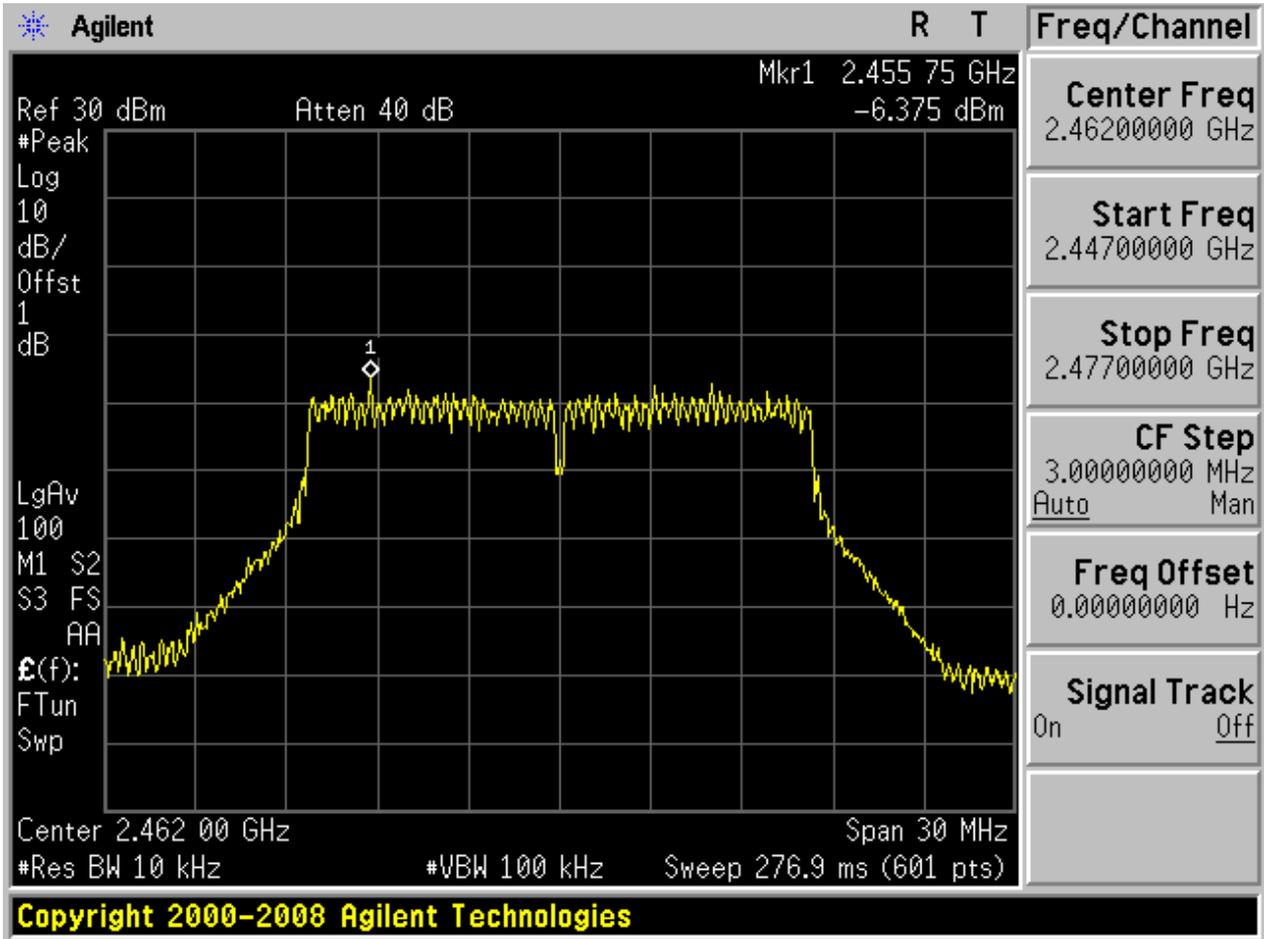


2.5 11G_M

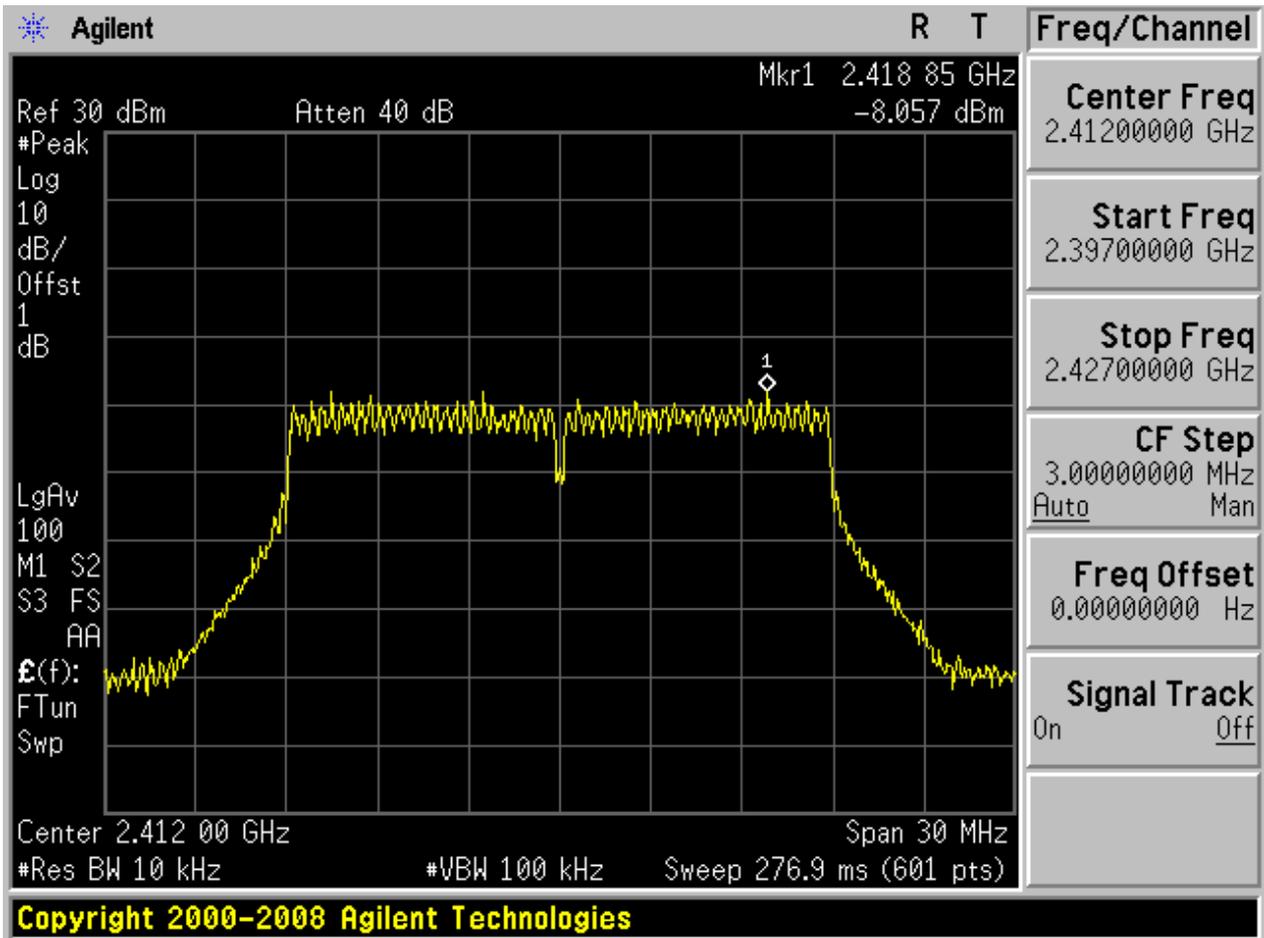




2.6 11G_H

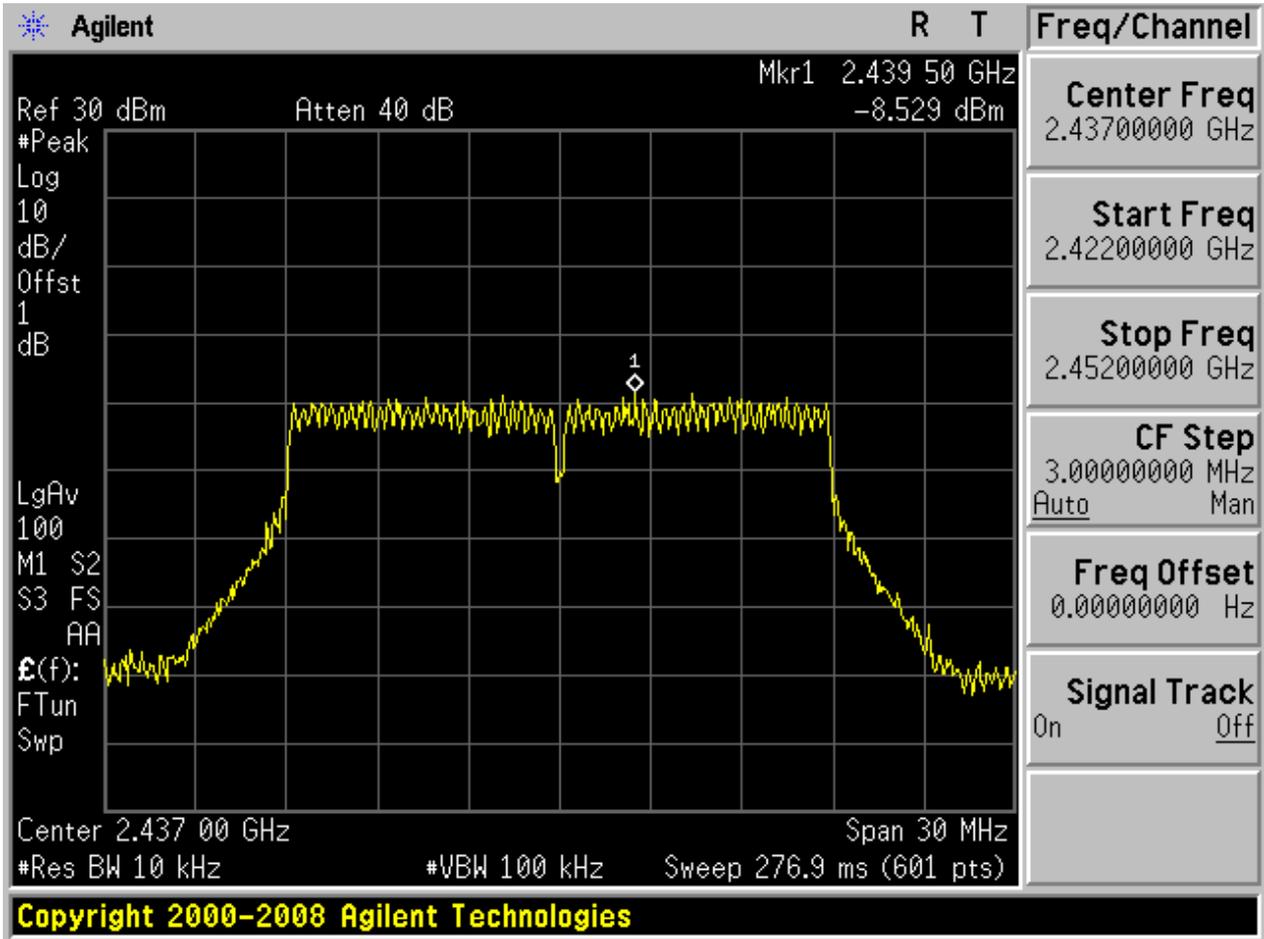


2.7 11N20_L



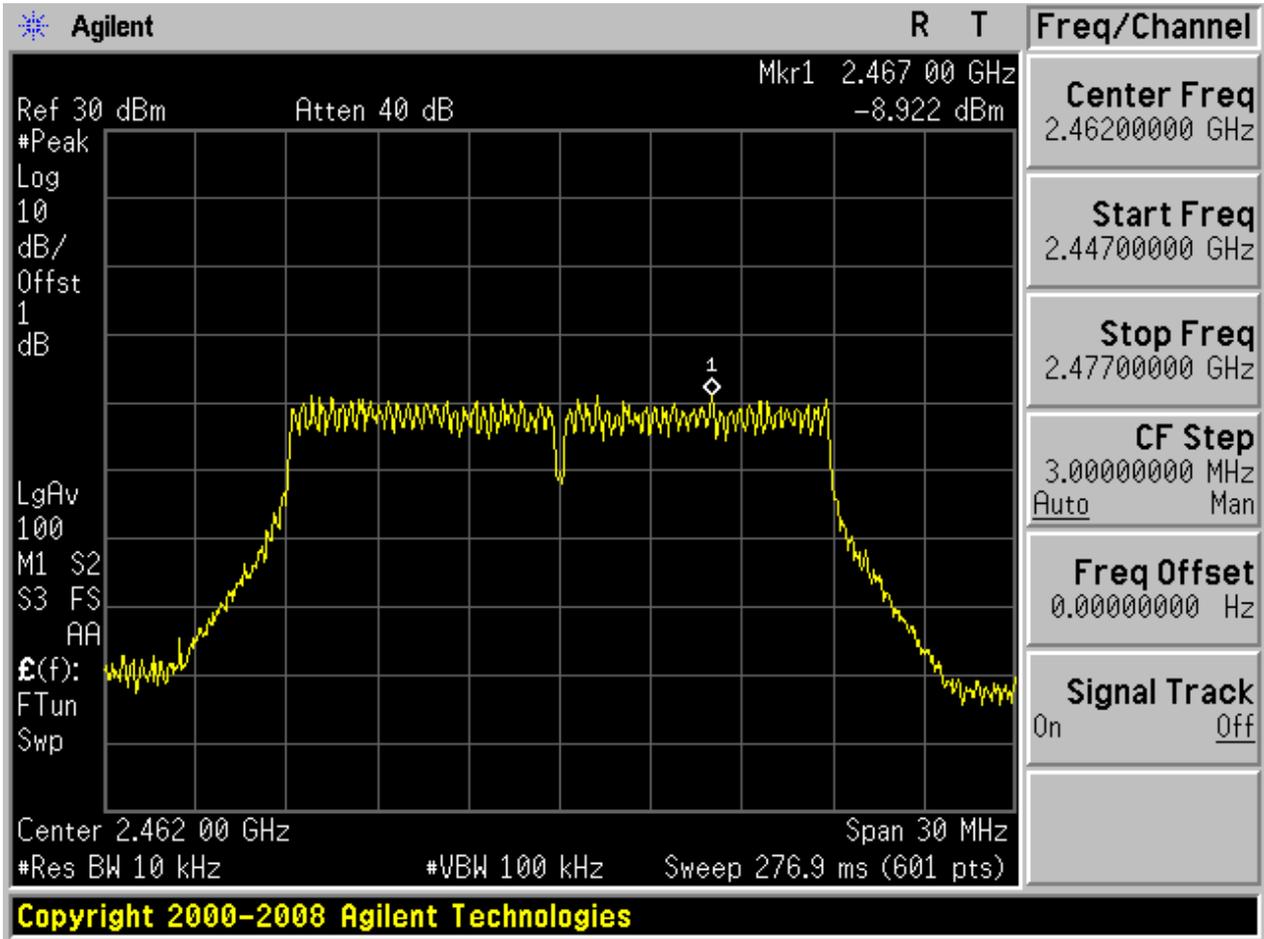


2.8 11N20_M





2.9 11N20_H



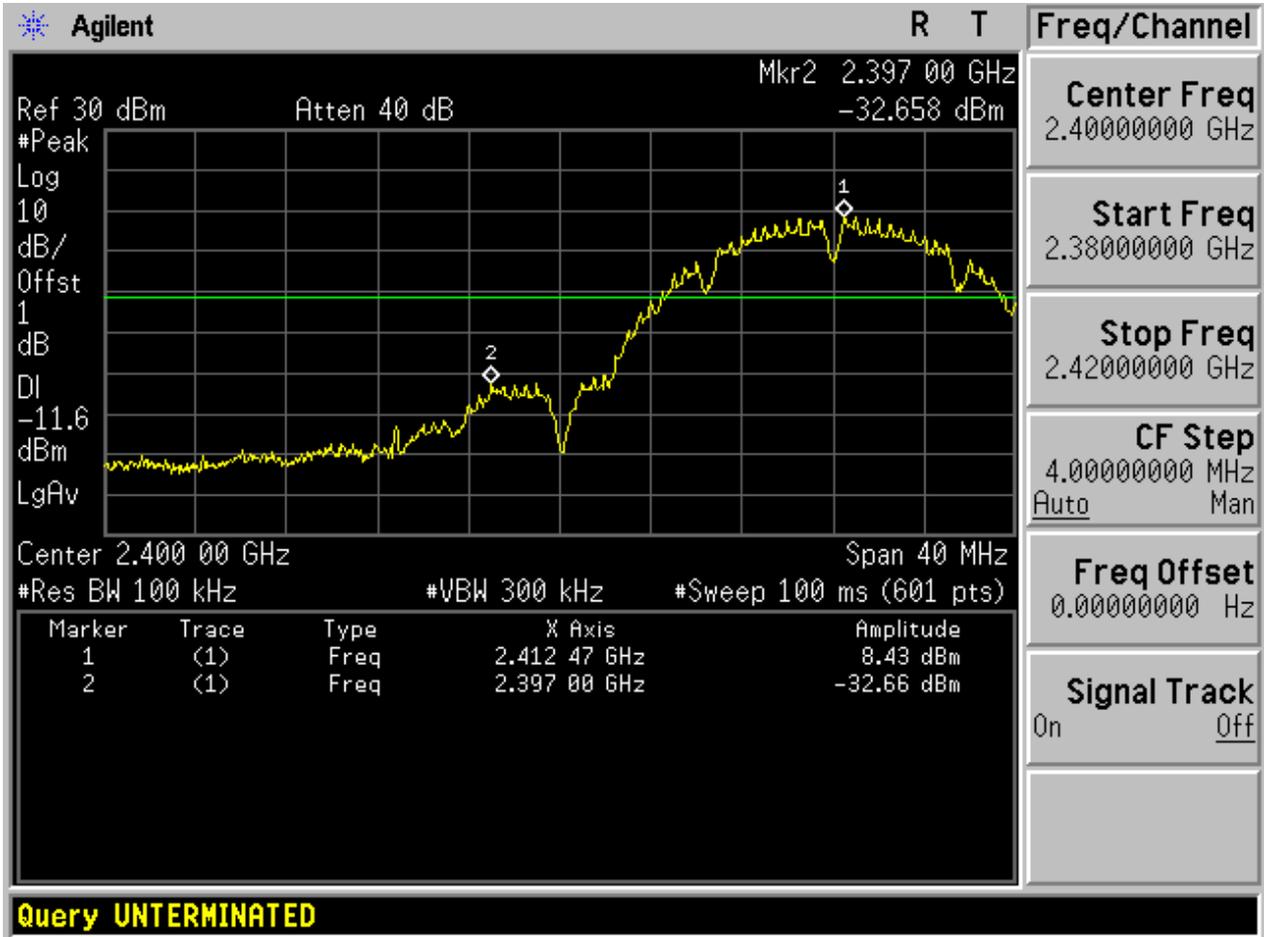
Appendix E: Band Edges Compliance

Part I - Test Results

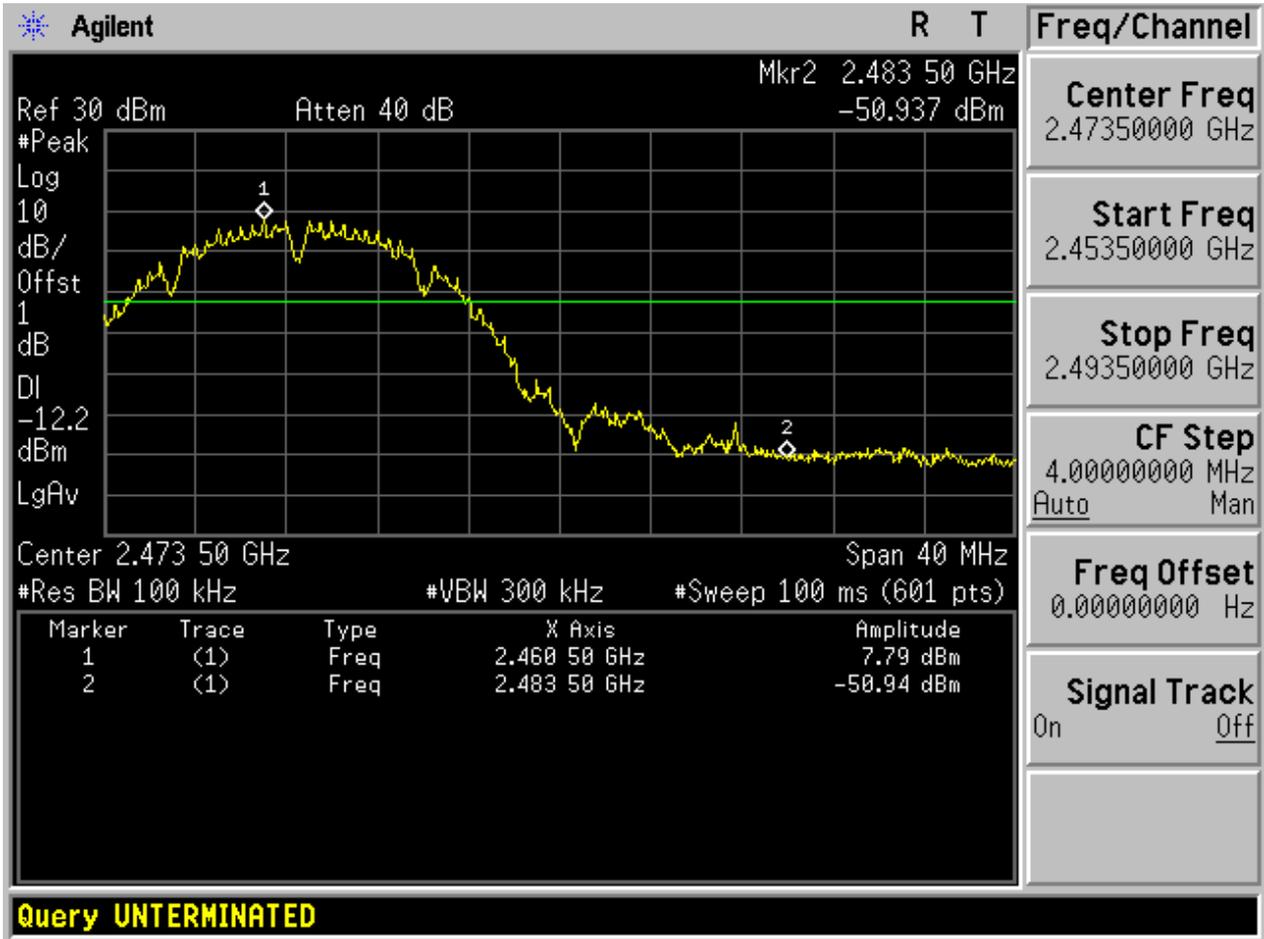
Test Mode	Test Channel	Frequency[MHz]	Carrier Power[dBm]	Max.Spurious Level[dBm]	Verdict
11B	L	2412	8.43	-32.66	pass
11B	H	2462	7.79	-50.94	pass
11G	L	2412	0.77	-31.42	pass
11G	H	2462	0.61	-48.38	pass
11N20	L	2412	-0.61	-34.91	pass
11N20	H	2462	-0.53	-50.06	pass

Part II - Test Plots

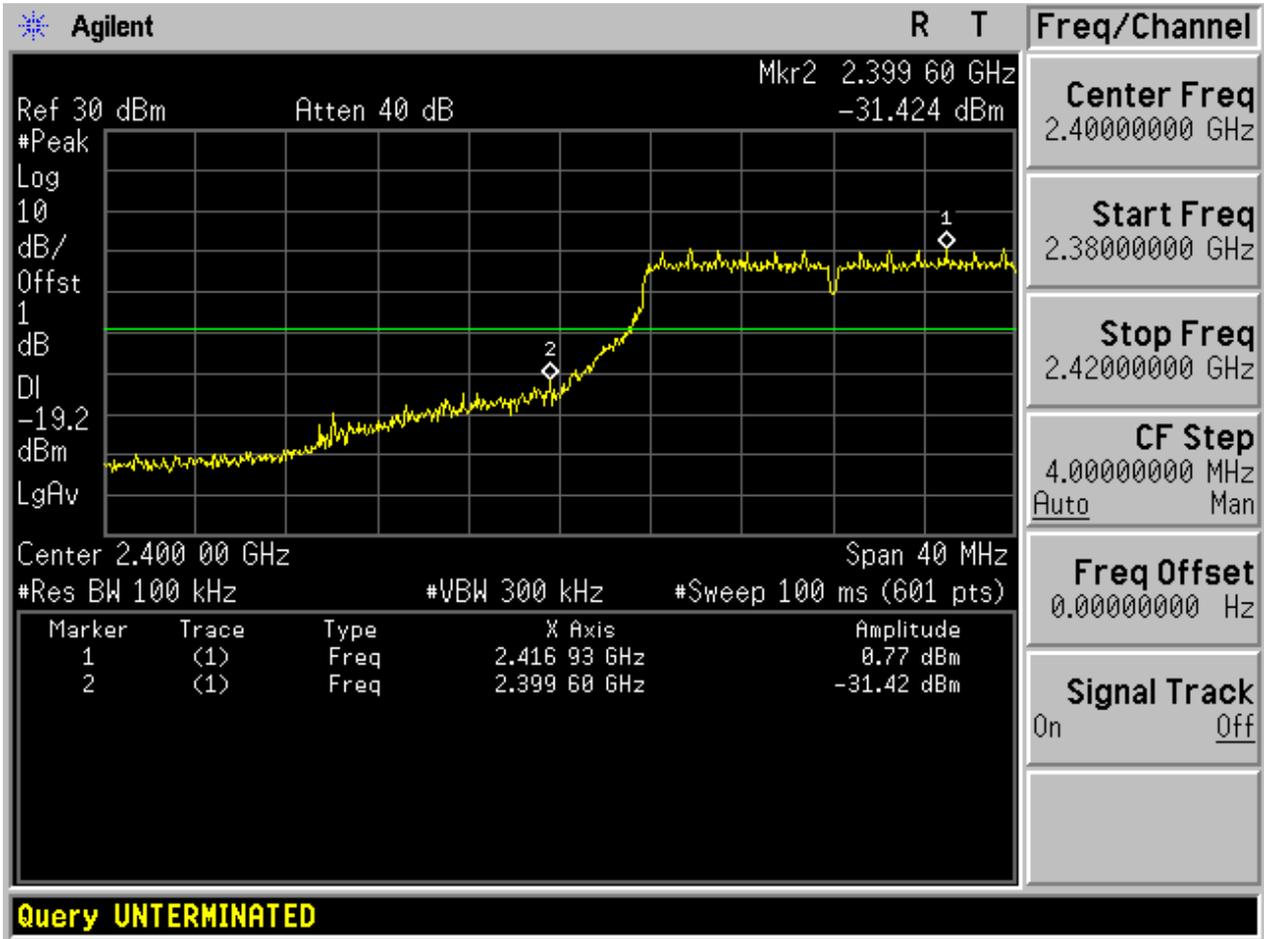
2.1 11B_L



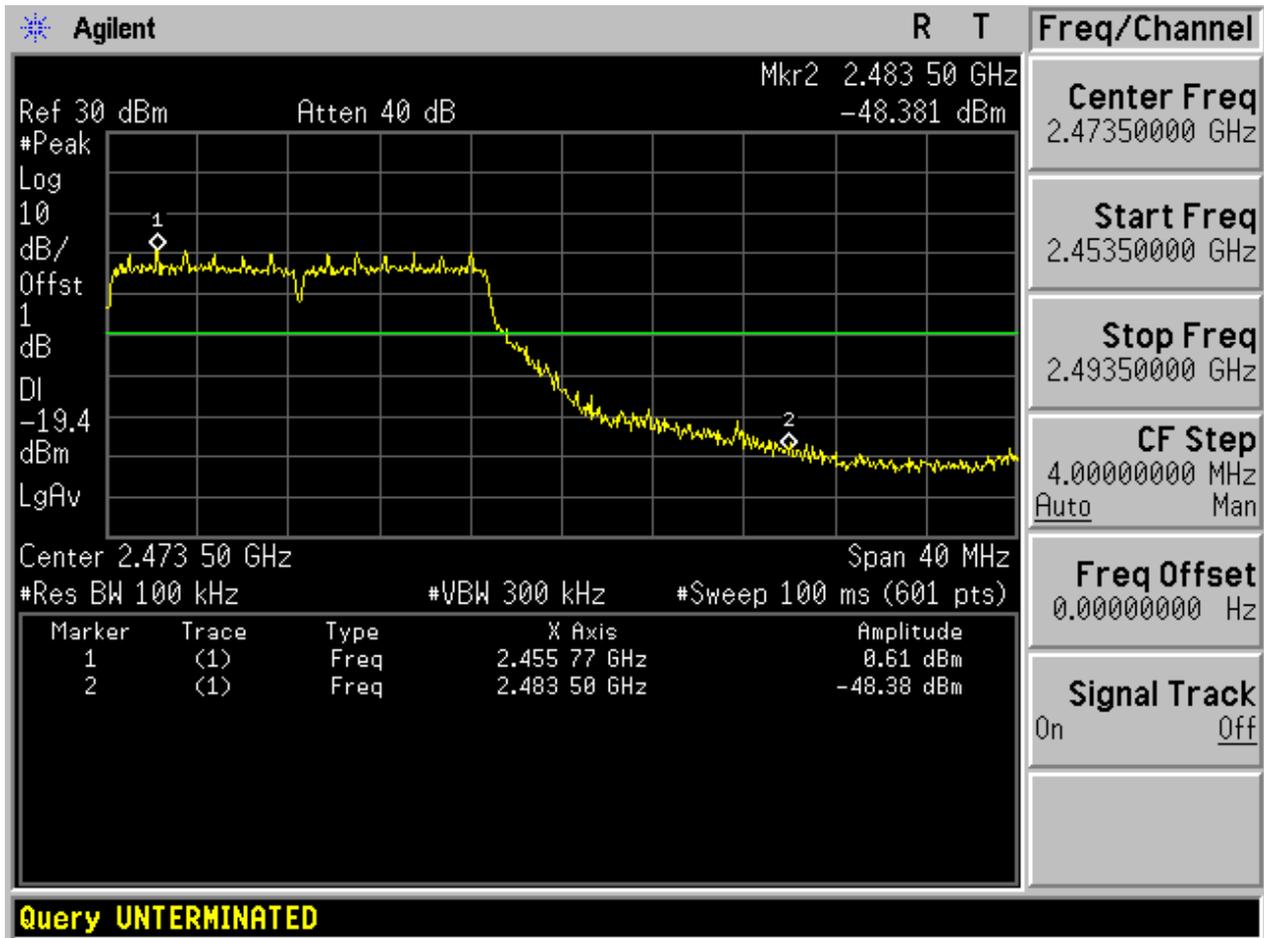
2.2 11B_H



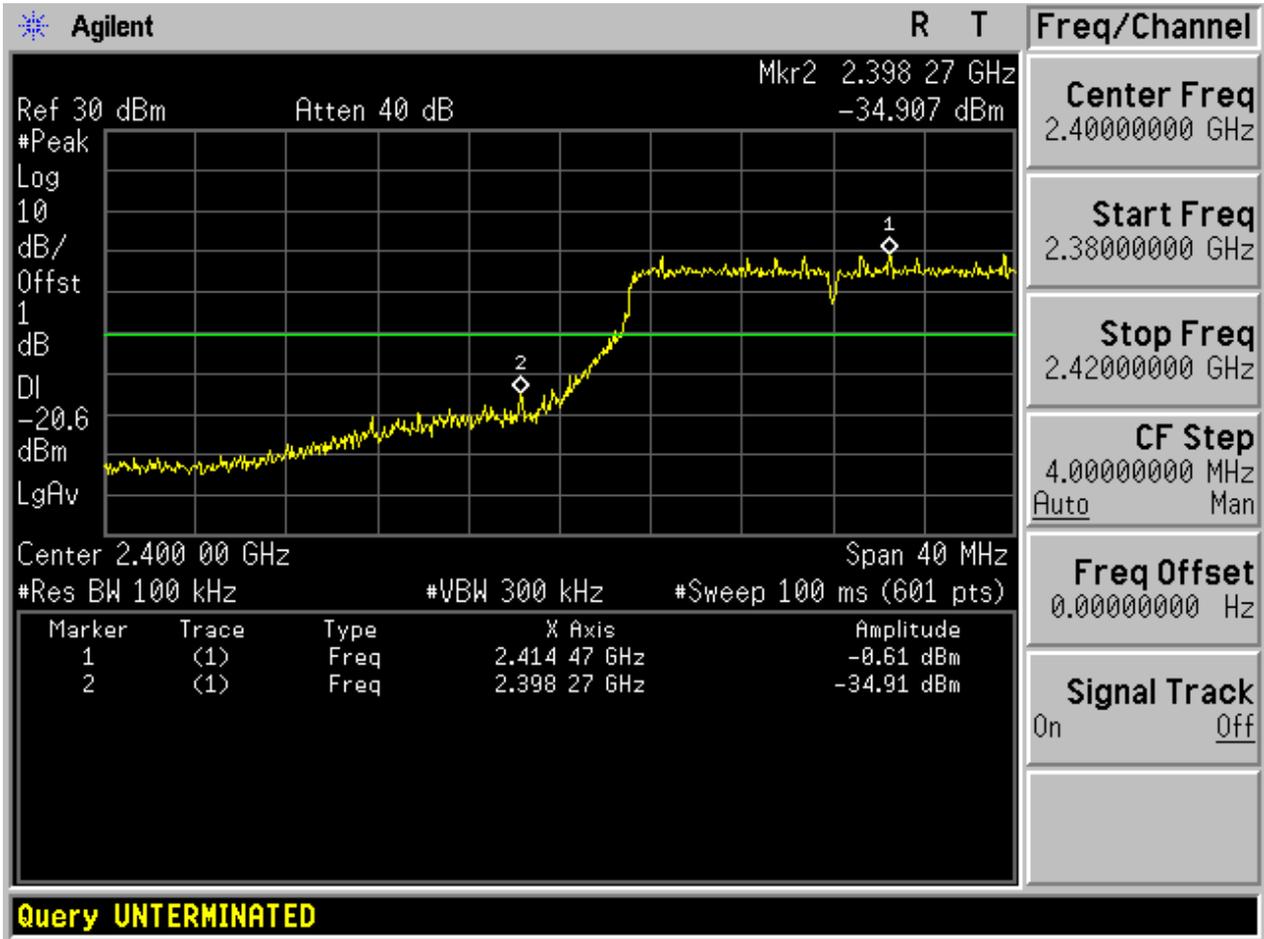
2.3 11G_L



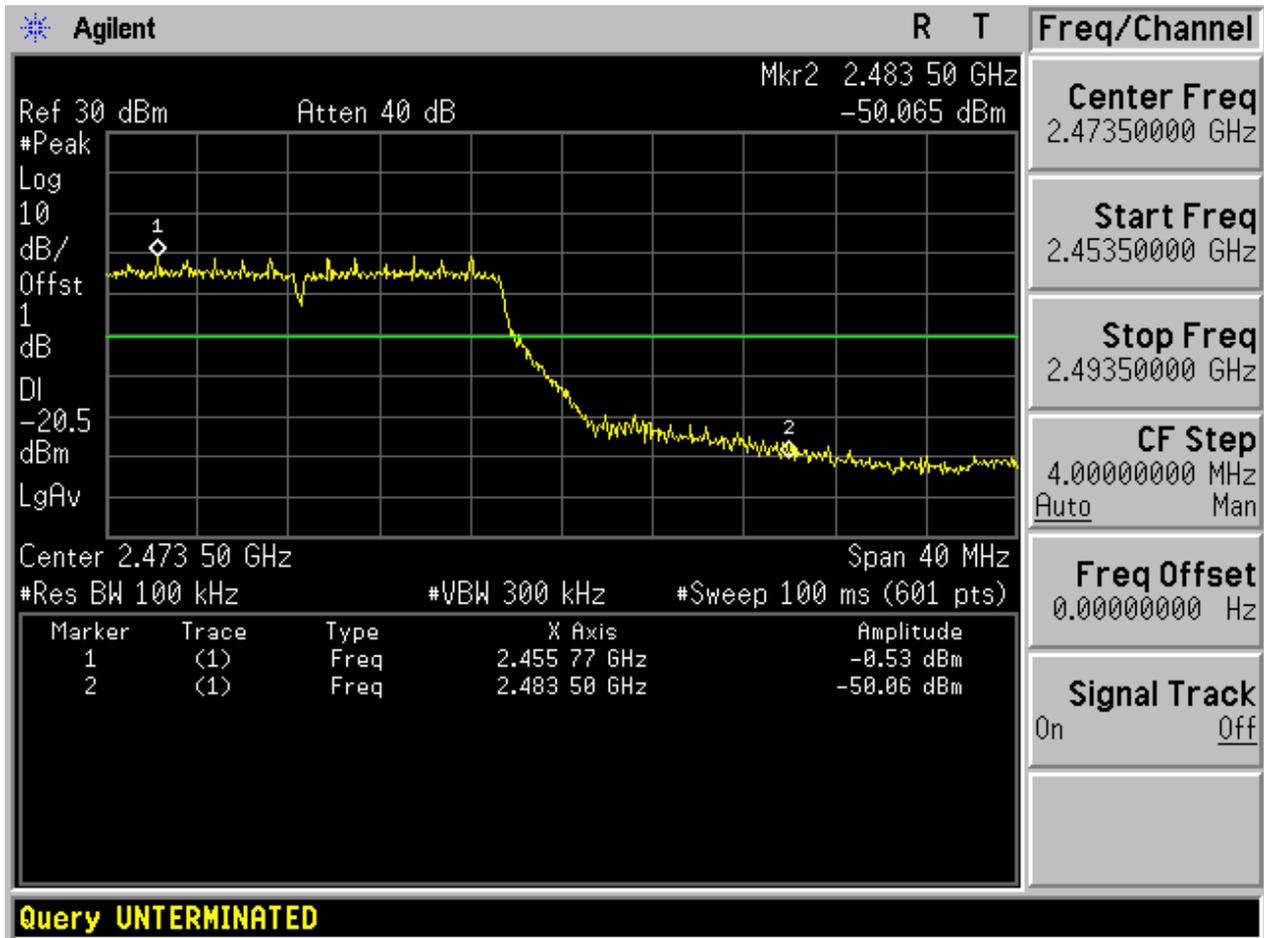
2.4 11G_H



2.5 11N20_L



2.6 11N20_H



Appendix F: Unwanted Emissions into Non-Restricted Frequency

Bands

In this Appendix, the "Pref", which is used as the reference level, refers to the peak power level in any 100 kHz bandwidth within the fundamental emission, the "Puw" refers to the maximum emission power in 100 kHz band segments outside of the authorized frequency band.

Considering that the higher ratio of RBW to the span for the frequency ranges below 30 MHz makes the results determination be complicated, a narrower RBW other than 100 kHz is used for these ranges. The measured value should add a RBW correction factor (RBWCF) where $RBWCF [dB] = 10 \times \lg(100 [kHz]/\text{narrower RBW [kHz]})$. As to this Appendix, the narrower RBW is 1 kHz and RBWCF is 20 dB for the frequency 9 kHz to 150 kHz, and the narrower RBW is 10 kHz and RBWCF is 10 dB for the frequency 150 kHz to 30 MHz.

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

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

Part I - Test Results

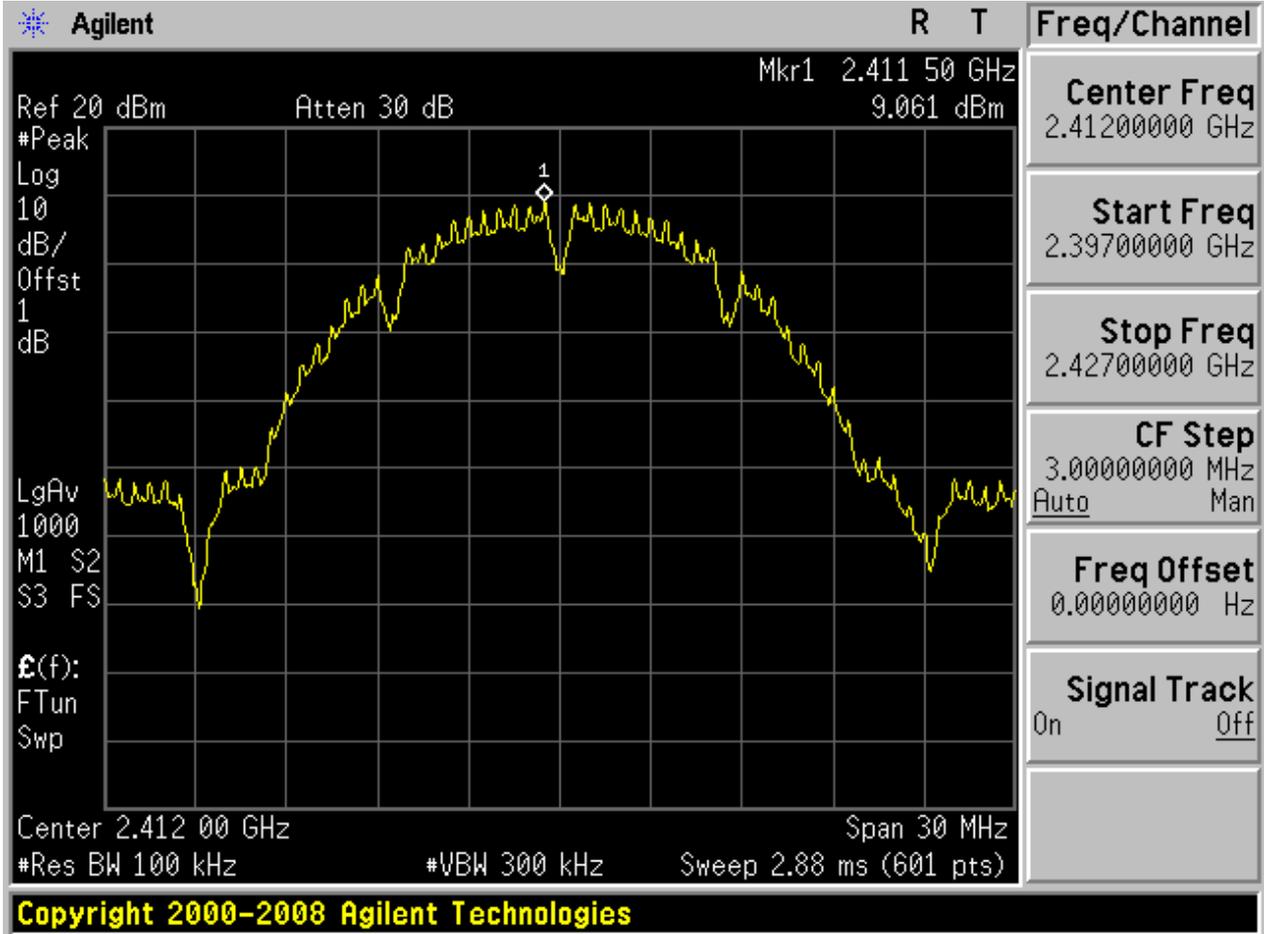
Test Mode	Test Channel	Frequency[MHz]	Pref[dBm]	Puw[dBm]	Verdict
11B	L	2412	9.06	<limit	pass
11B	M	2437	8.74	<limit	pass
11B	H	2462	8.39	<limit	pass
11G	L	2412	1.43	<limit	pass
11G	M	2437	1.30	<limit	pass
11G	H	2462	1.12	<limit	pass
11N20	L	2412	0.11	<limit	pass
11N20	M	2437	0.24	<limit	pass
11N20	H	2462	0.12	<limit	pass



Part II - Test Plots

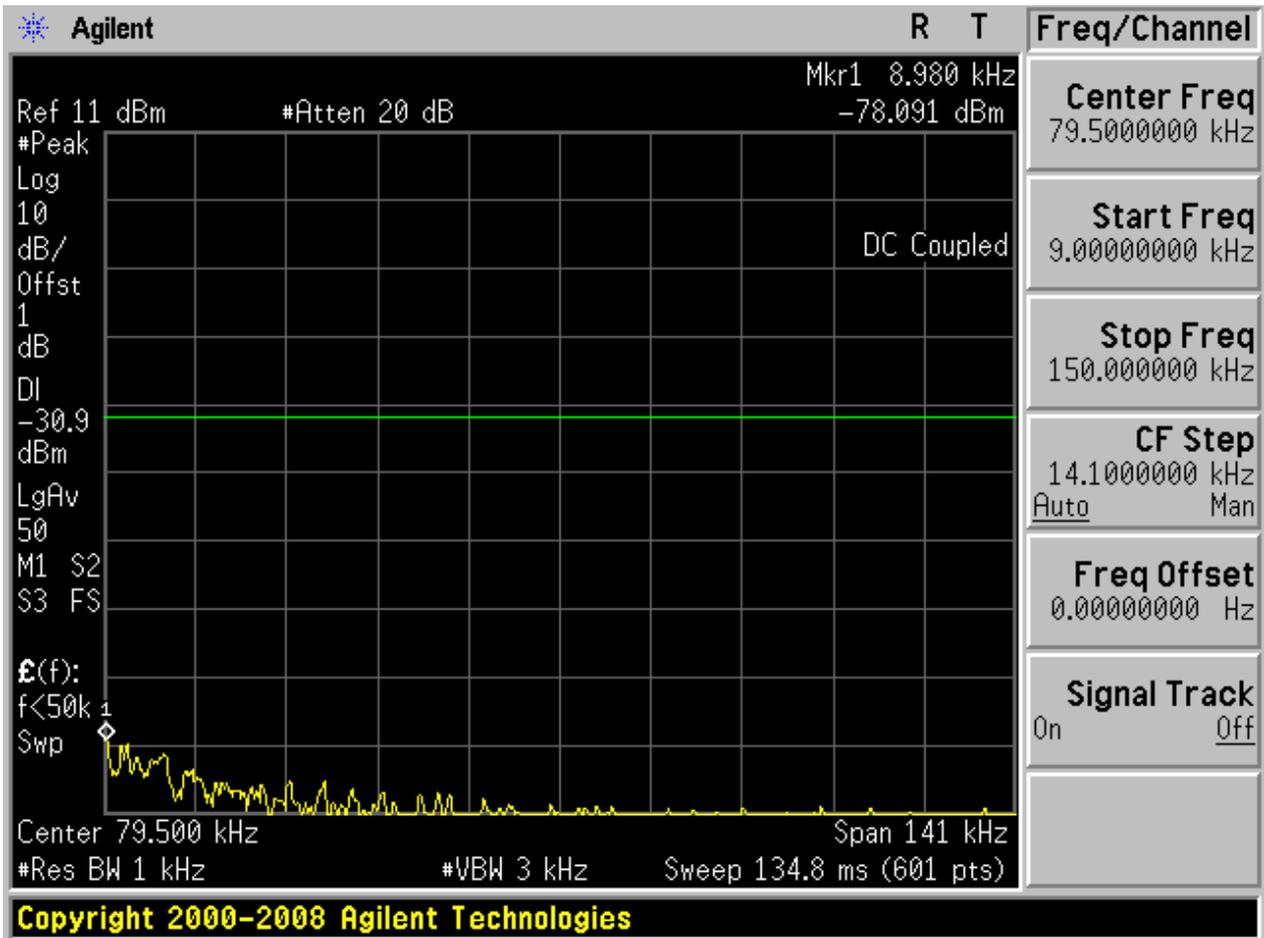
2.1 11B_L

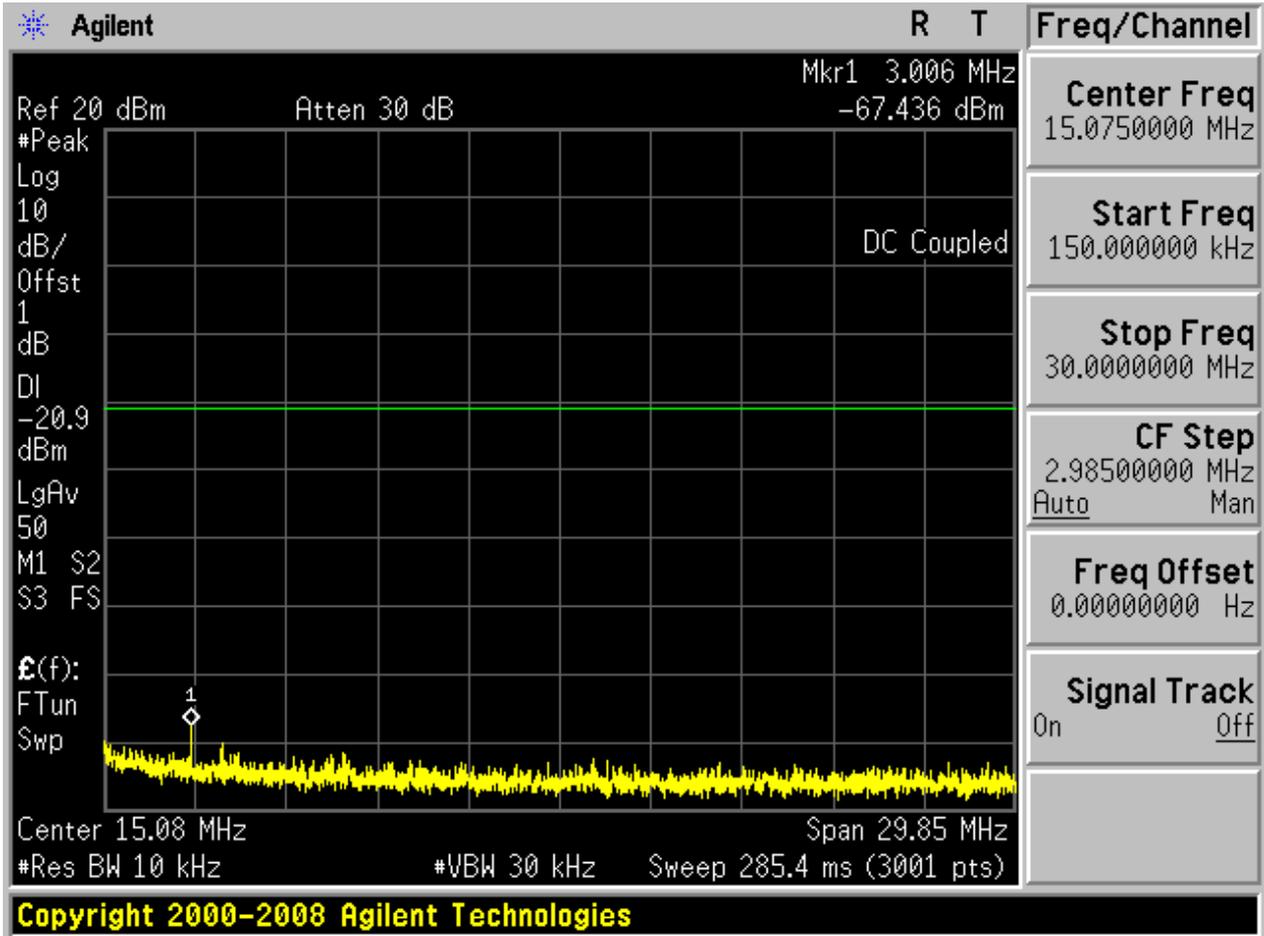
Pref:

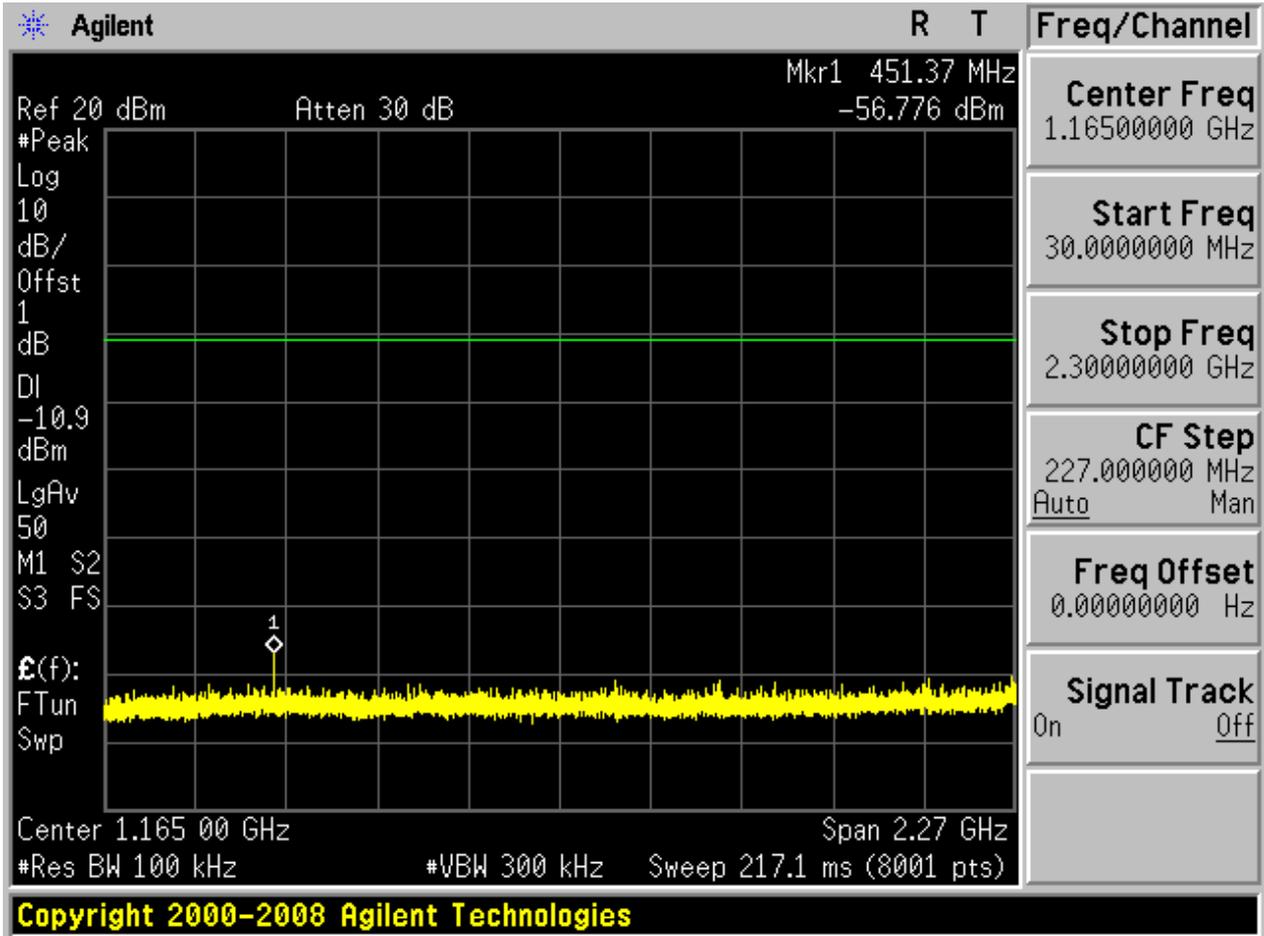


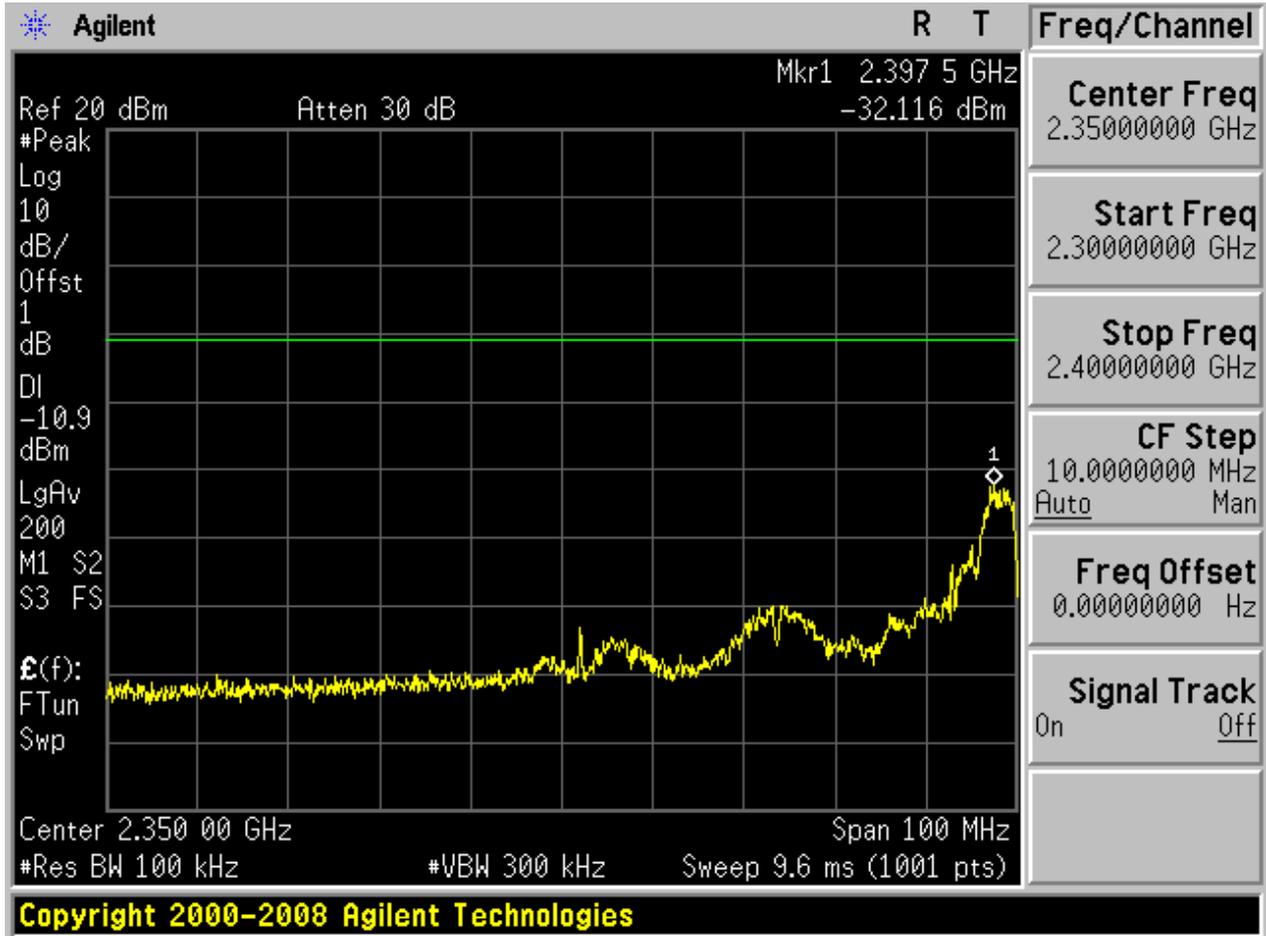


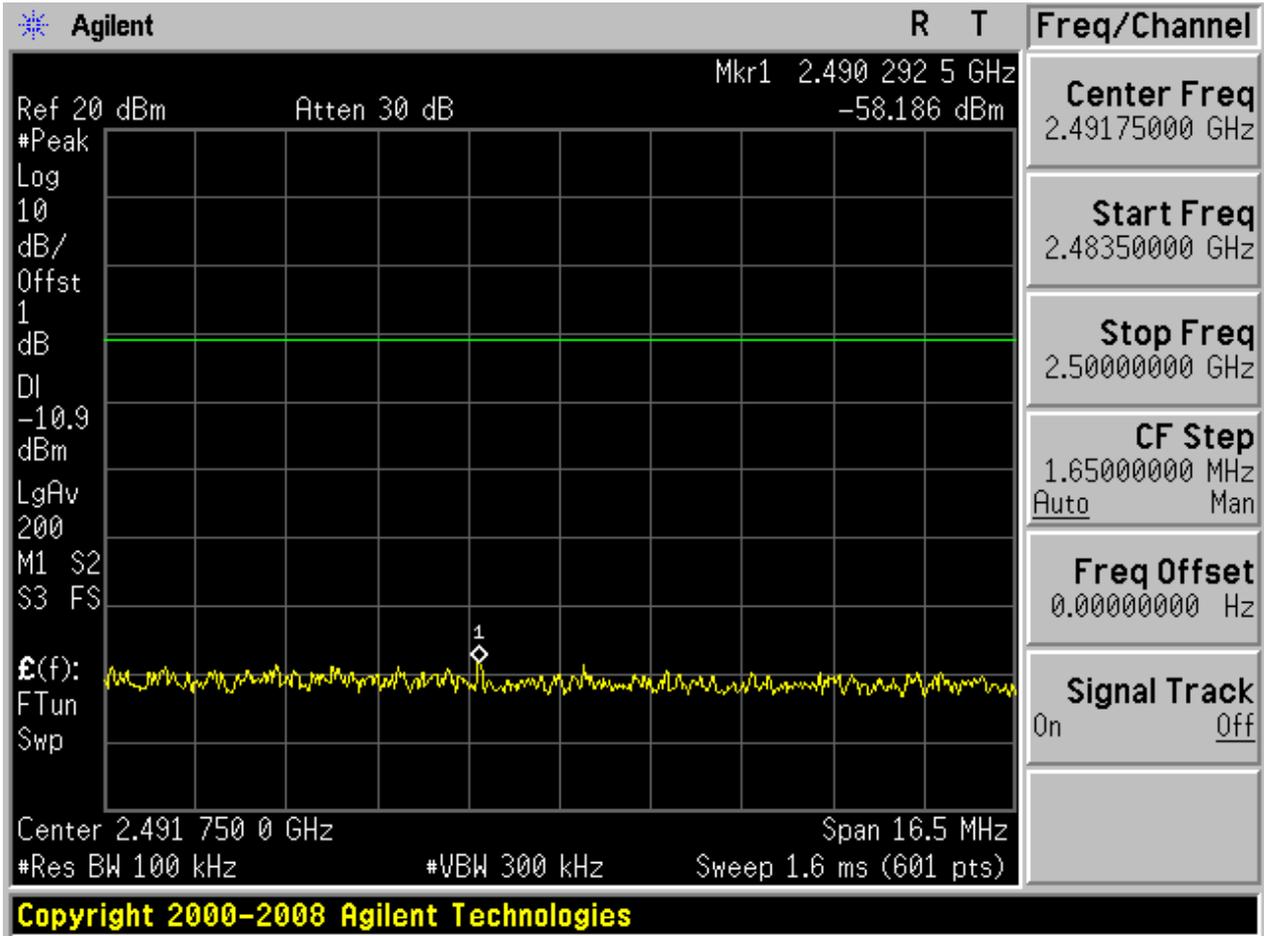
Puw:

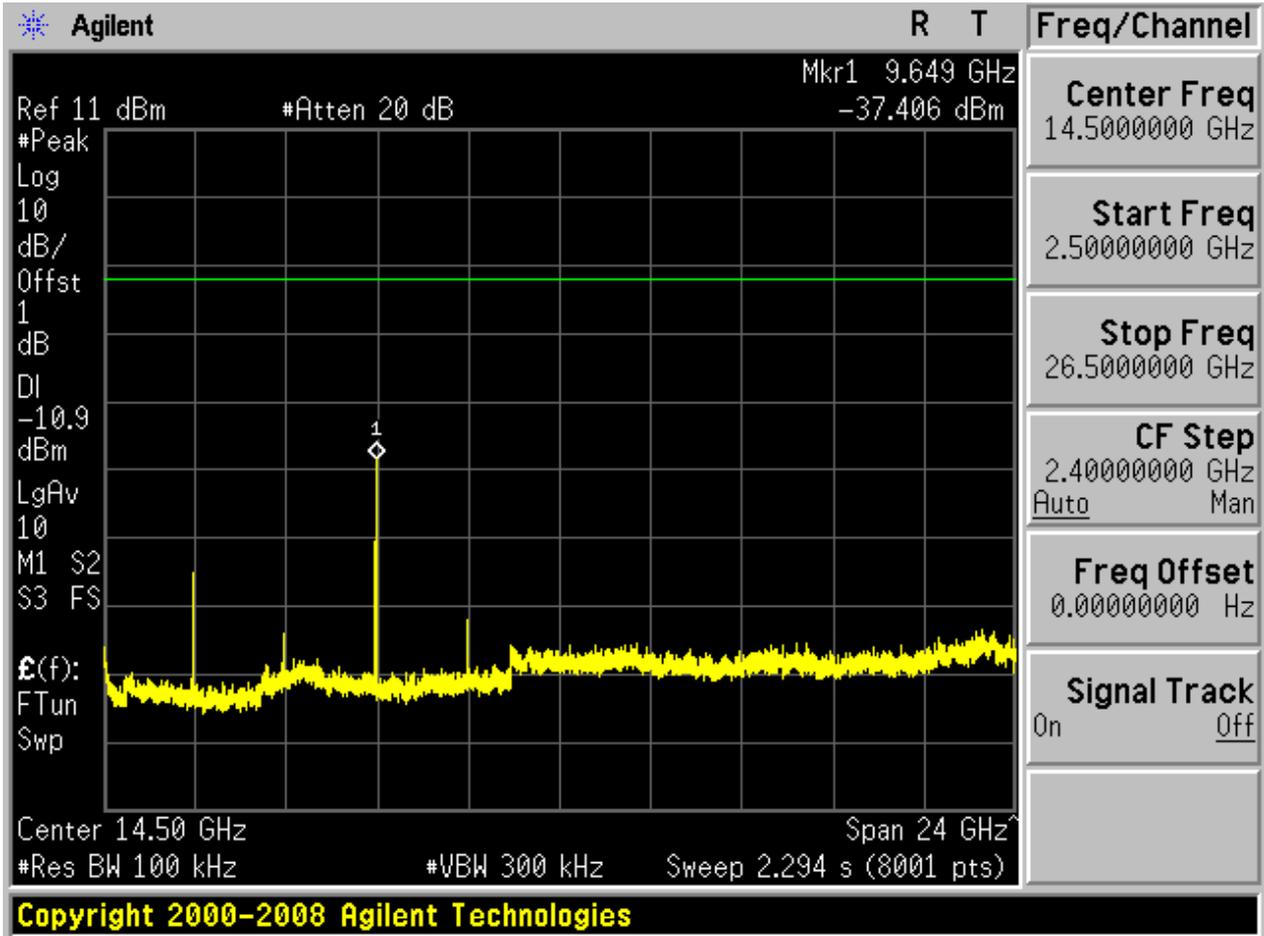








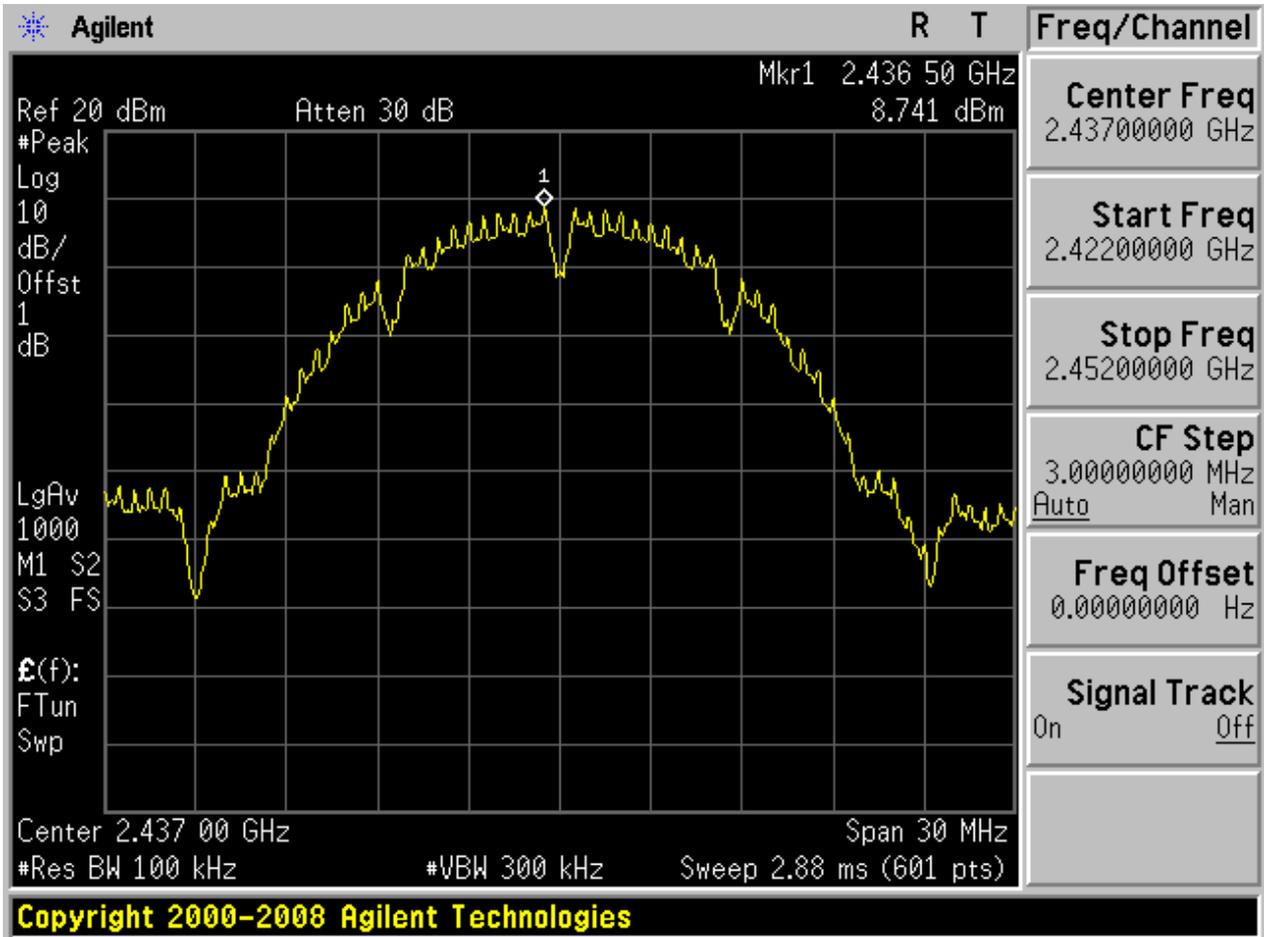






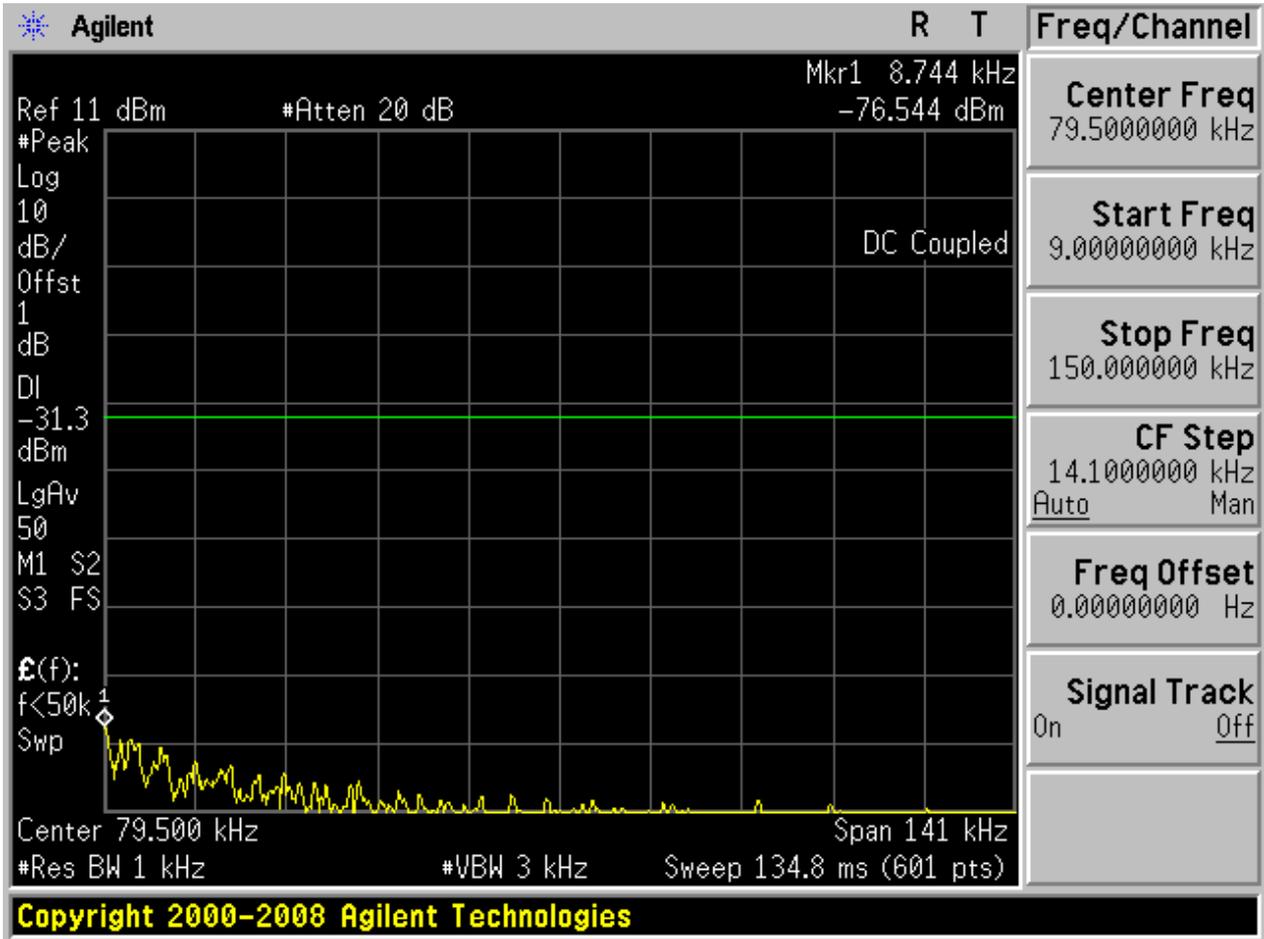
2.2 11B_M

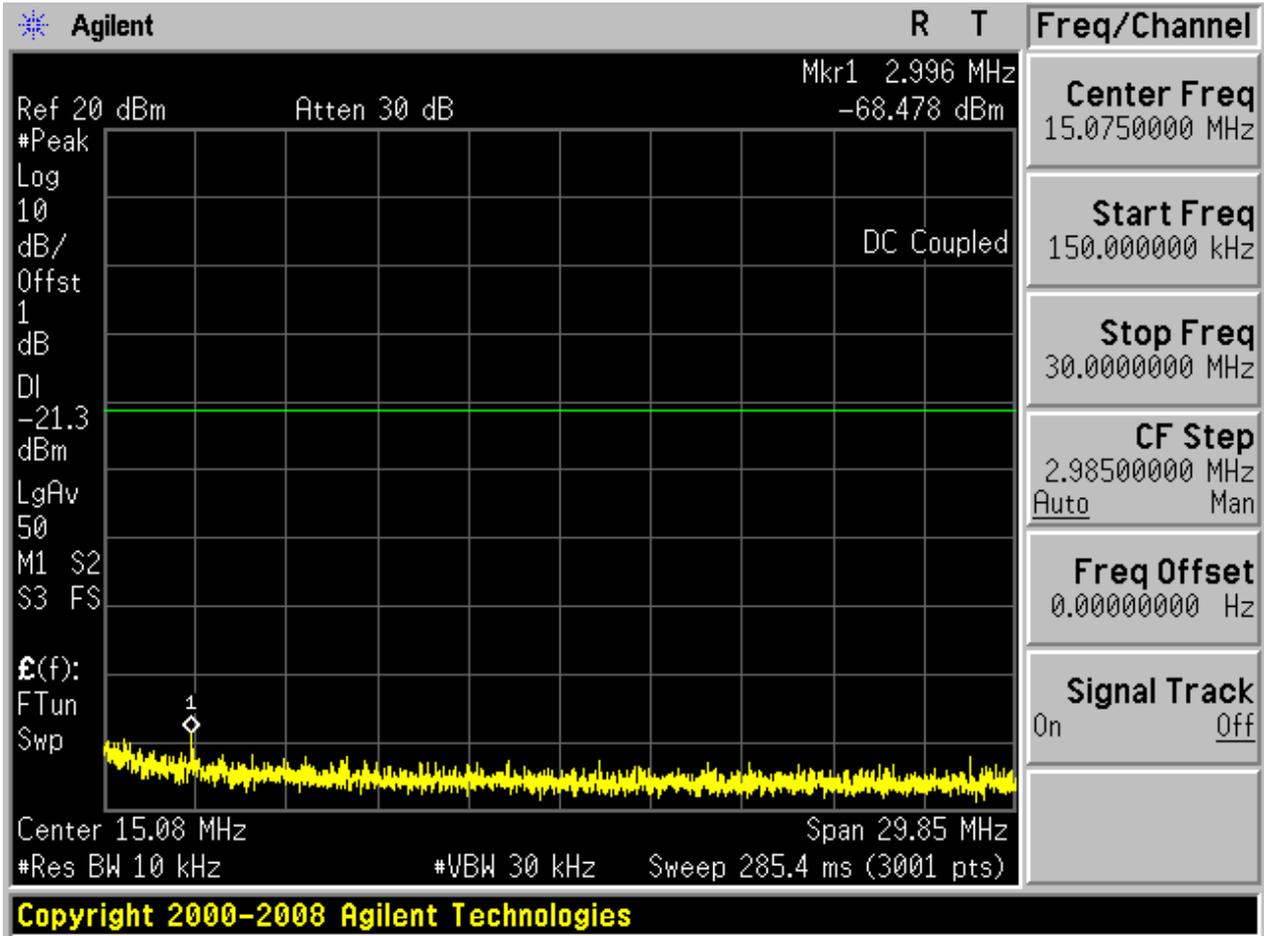
Pref:

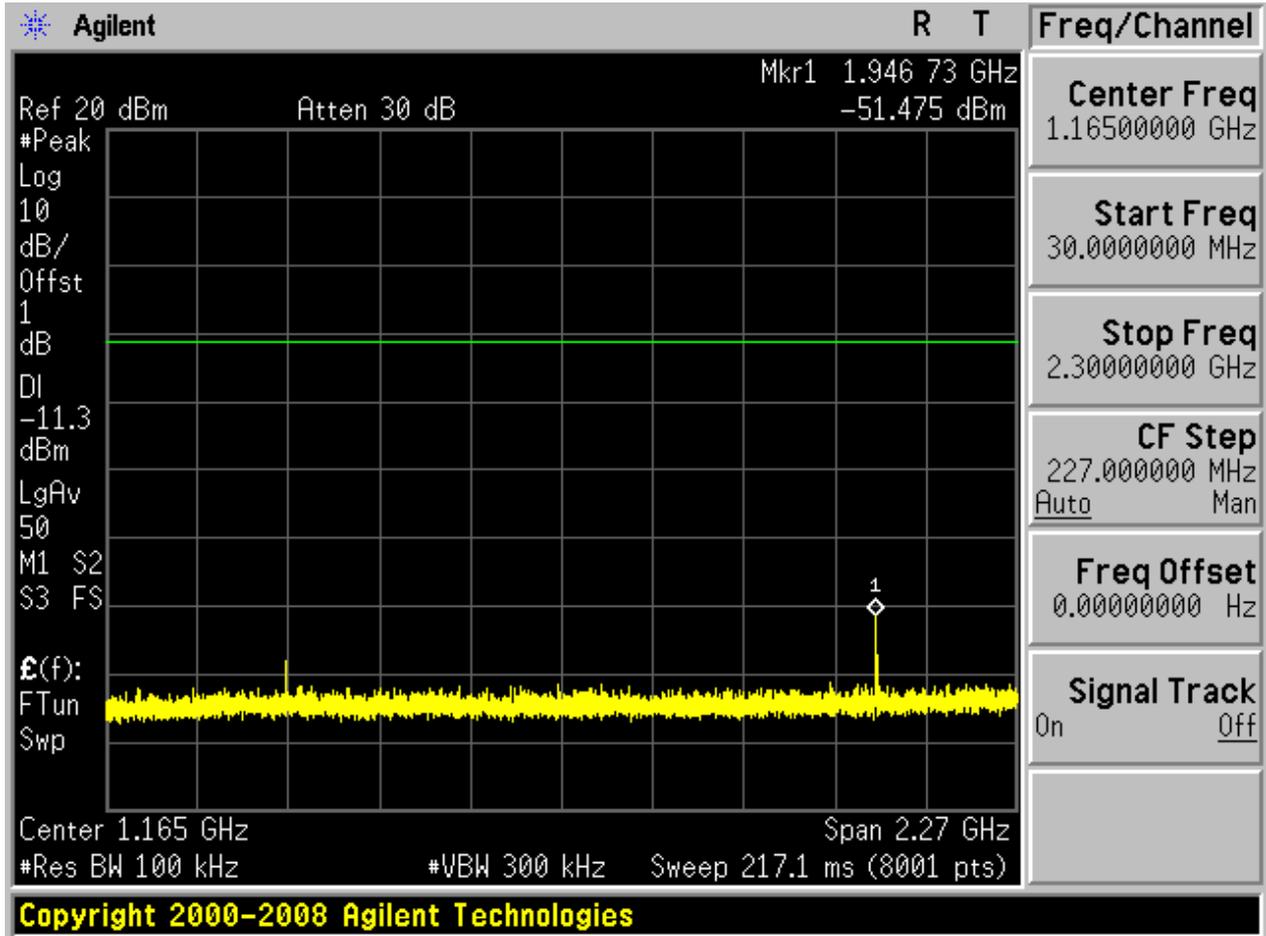


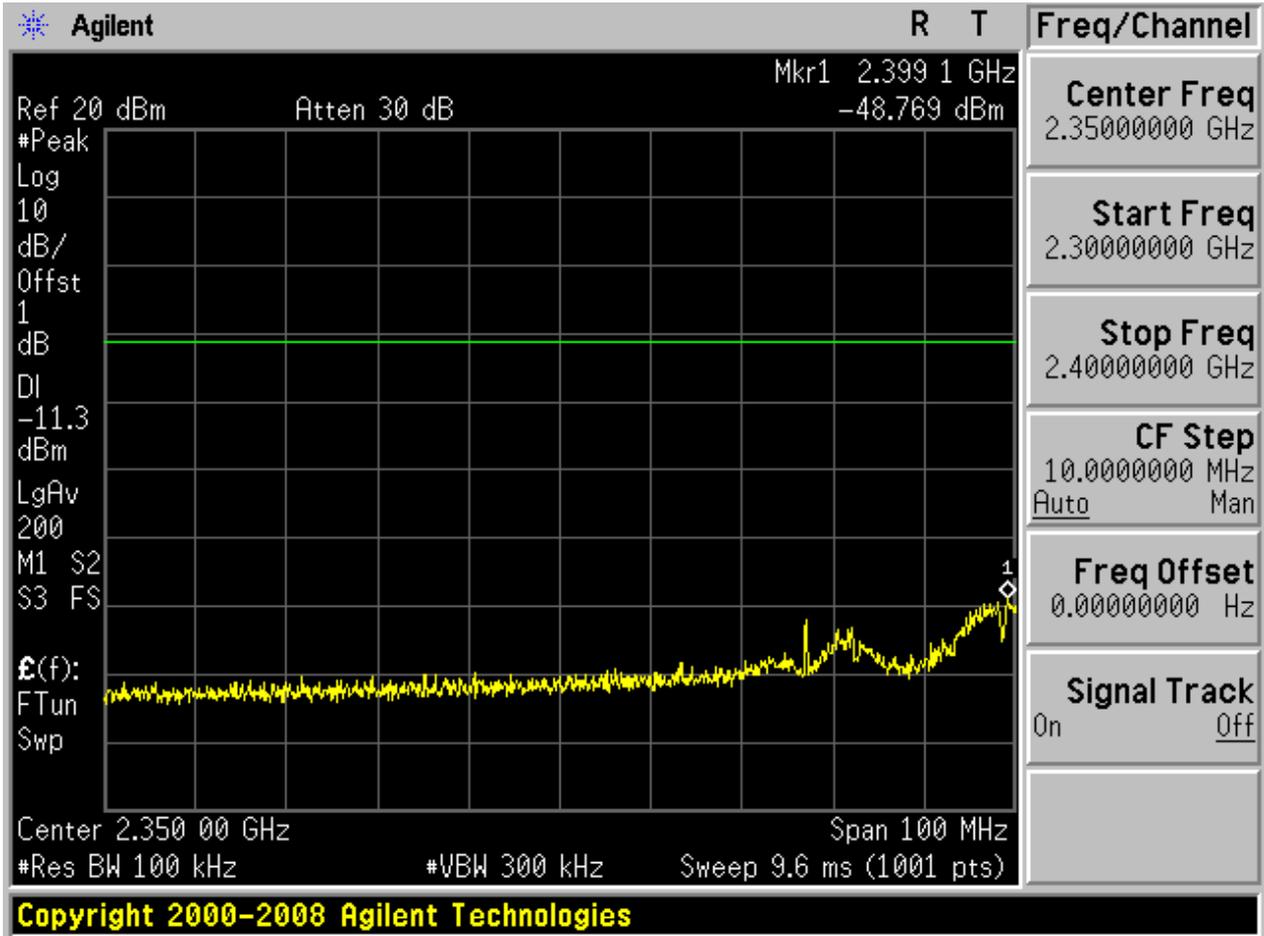


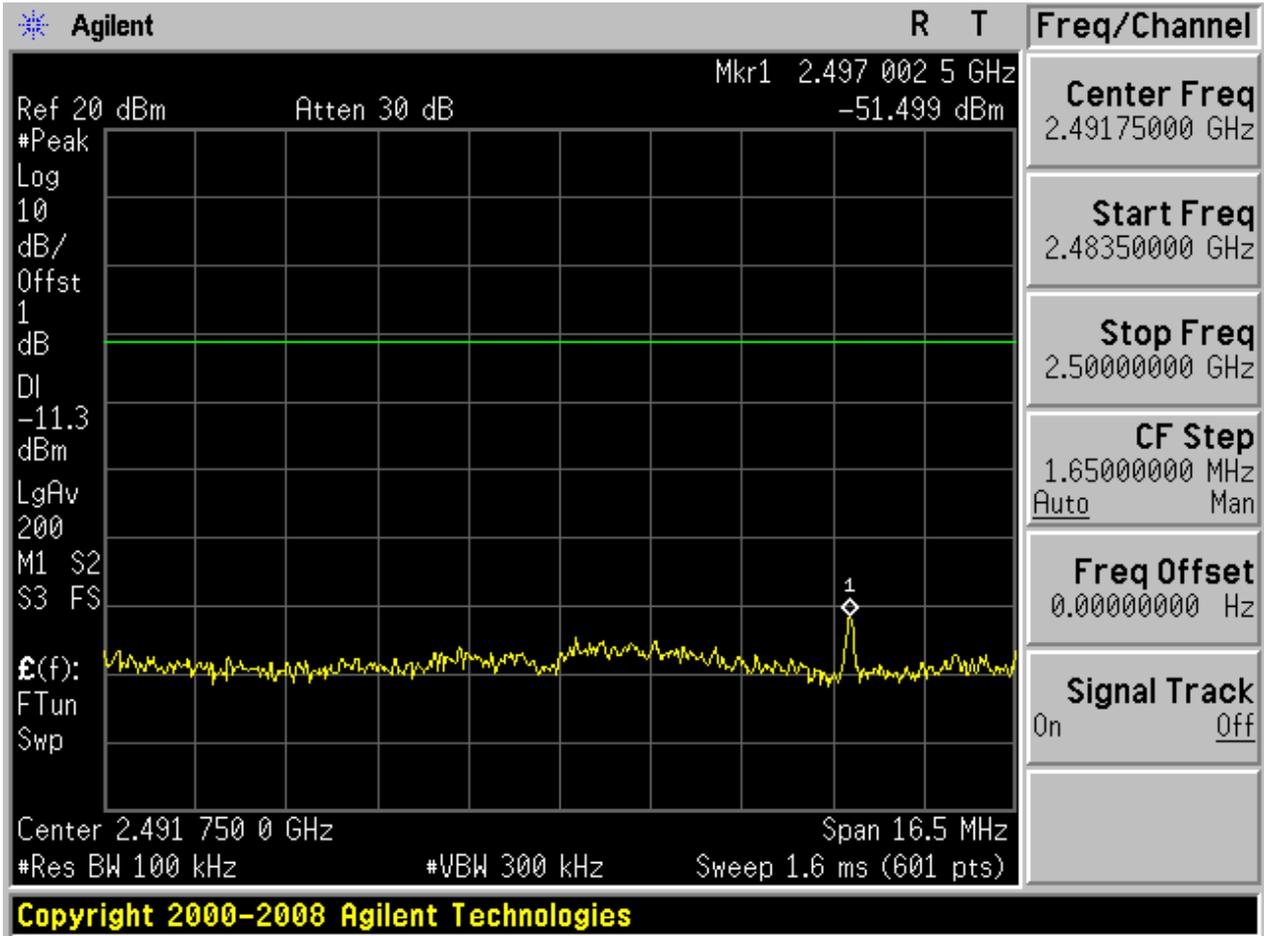
Puw:

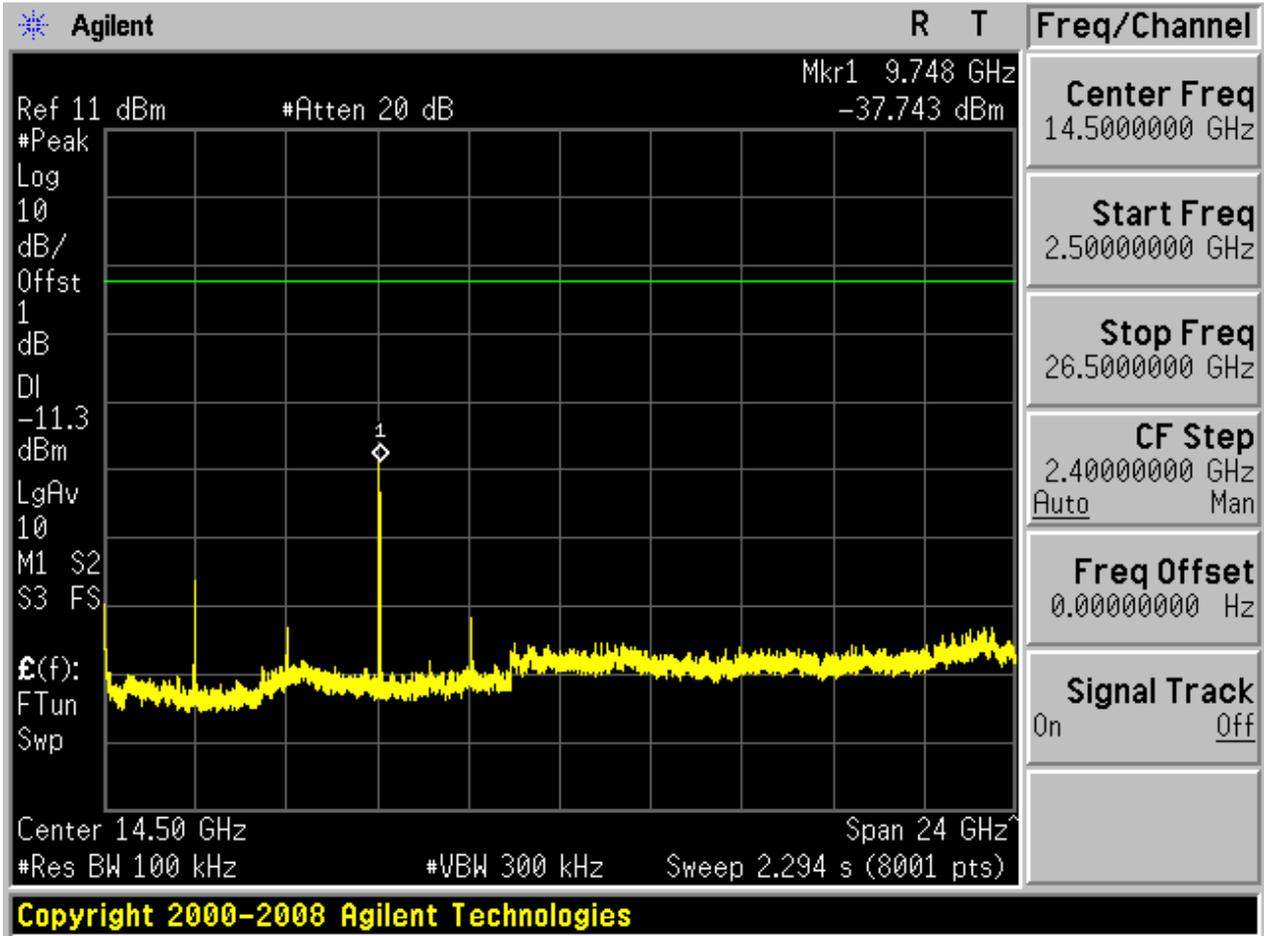








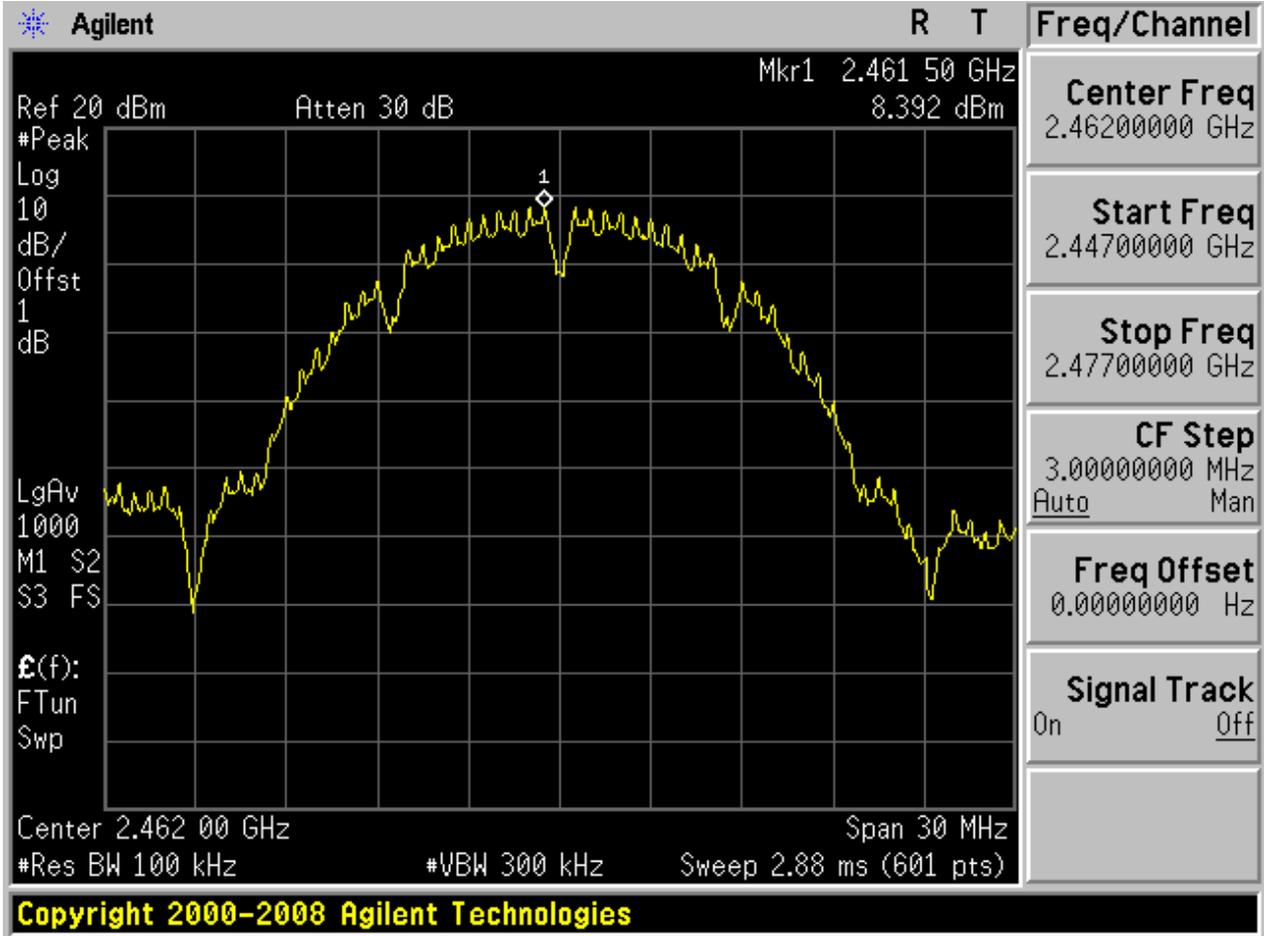






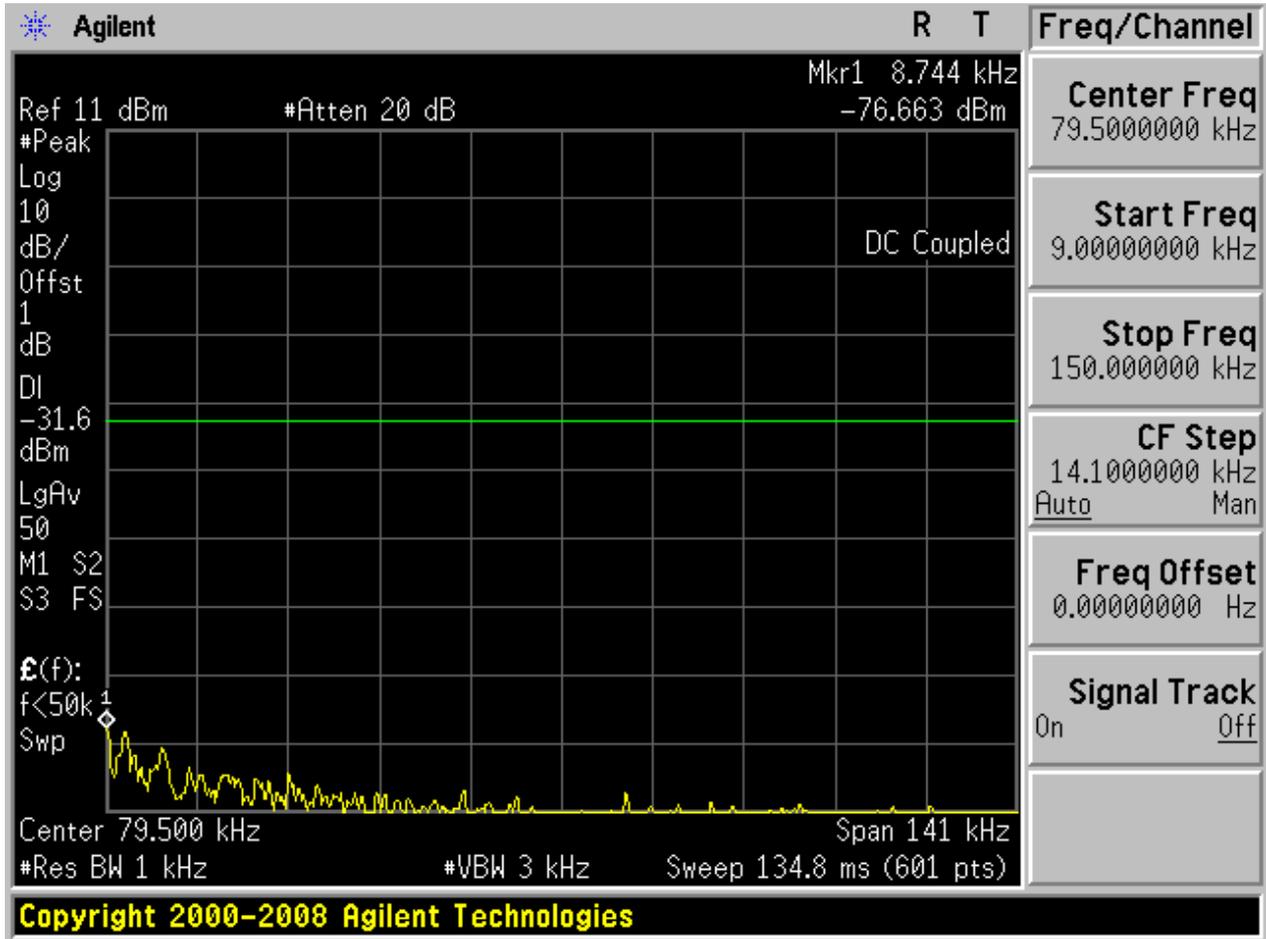
2.3 11B_H

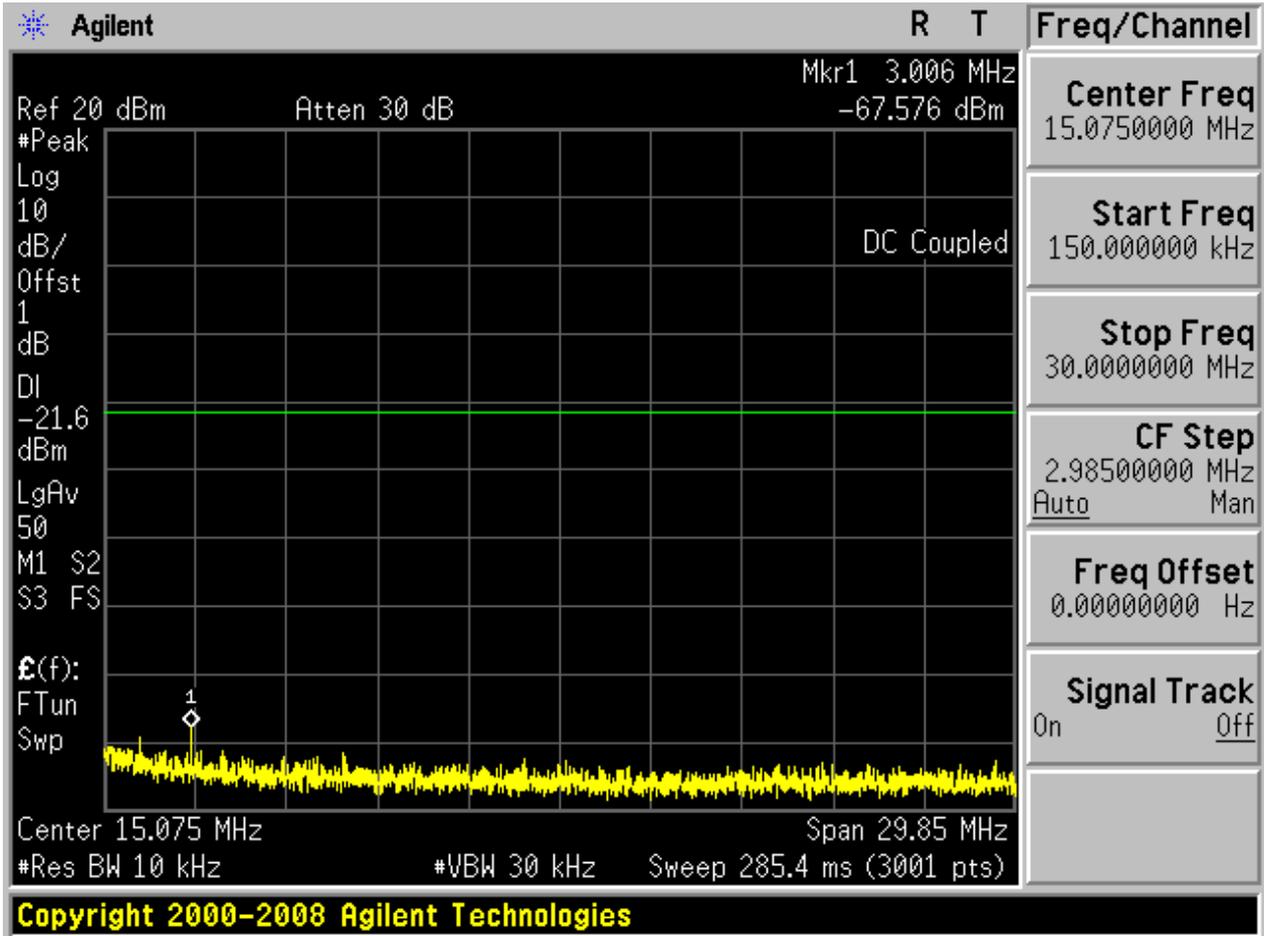
Pref:

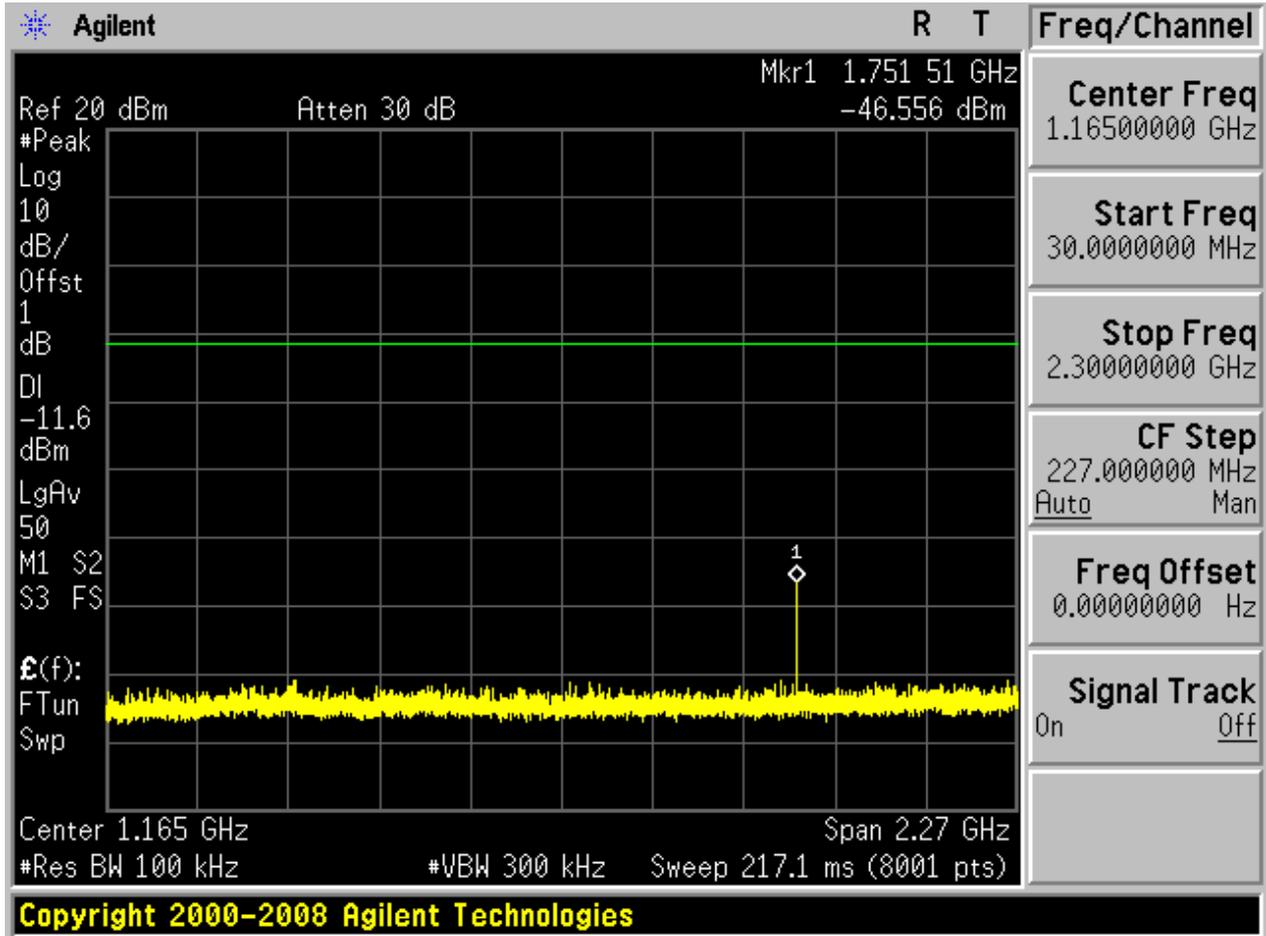


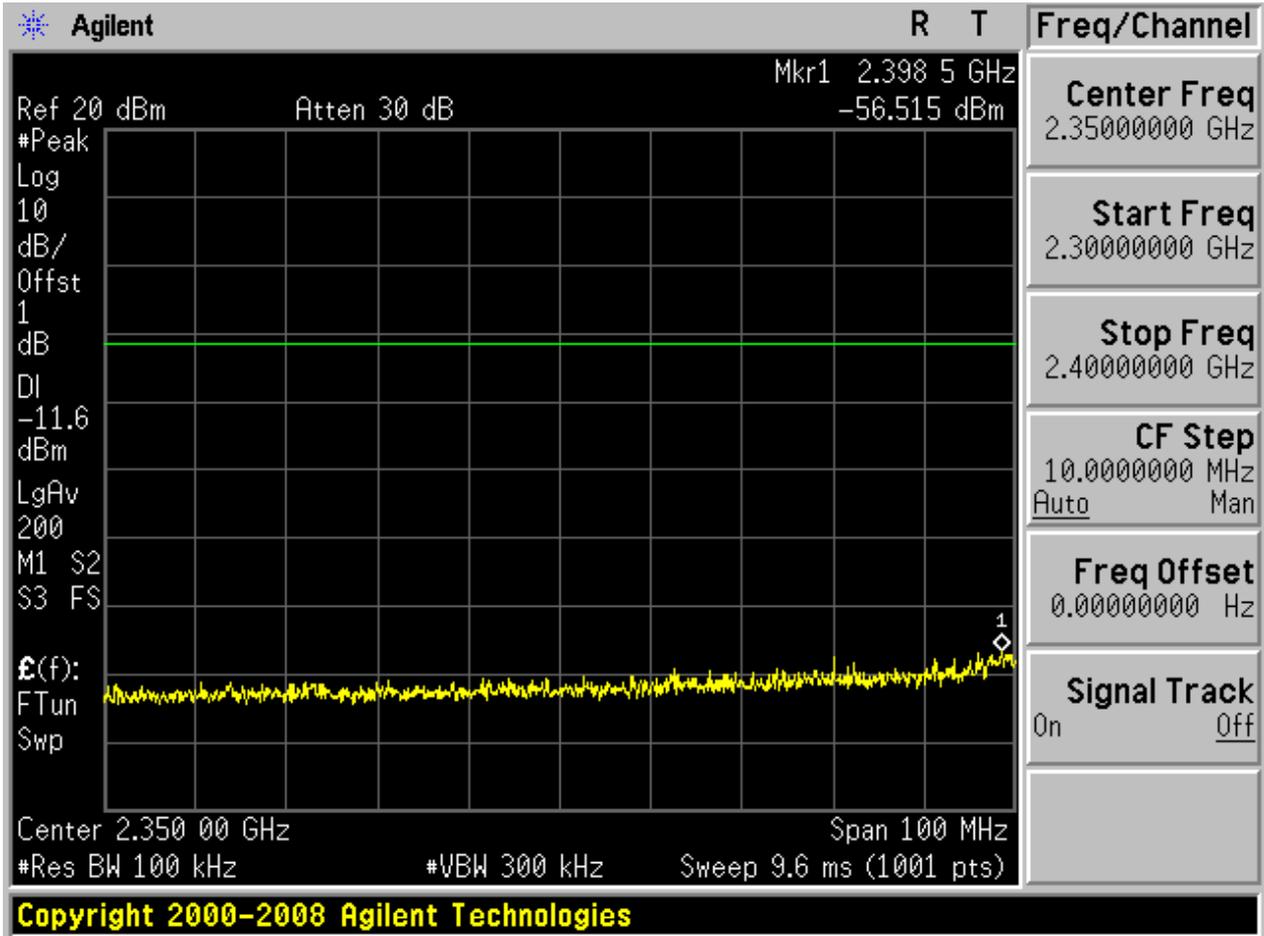


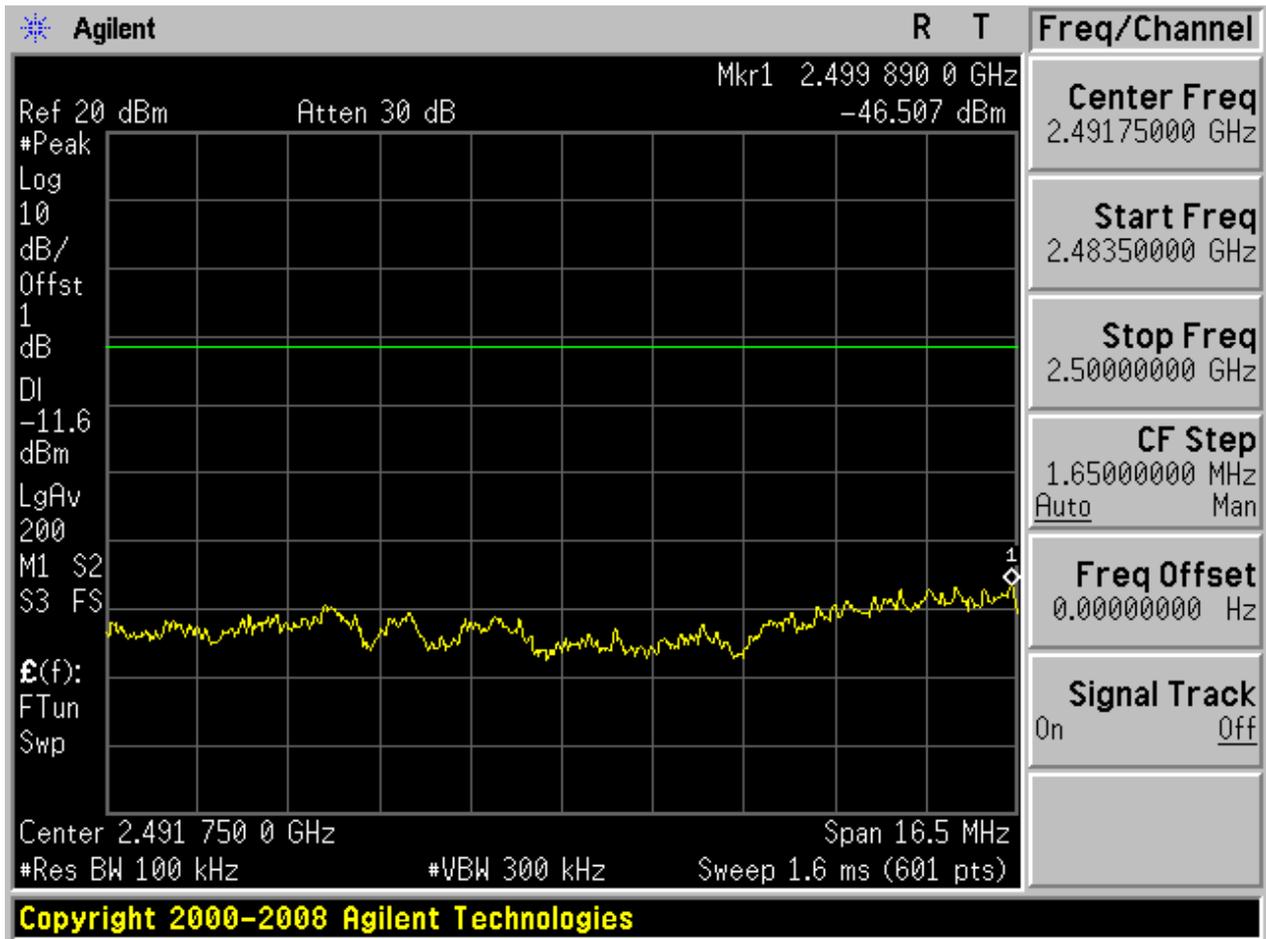
Puw:

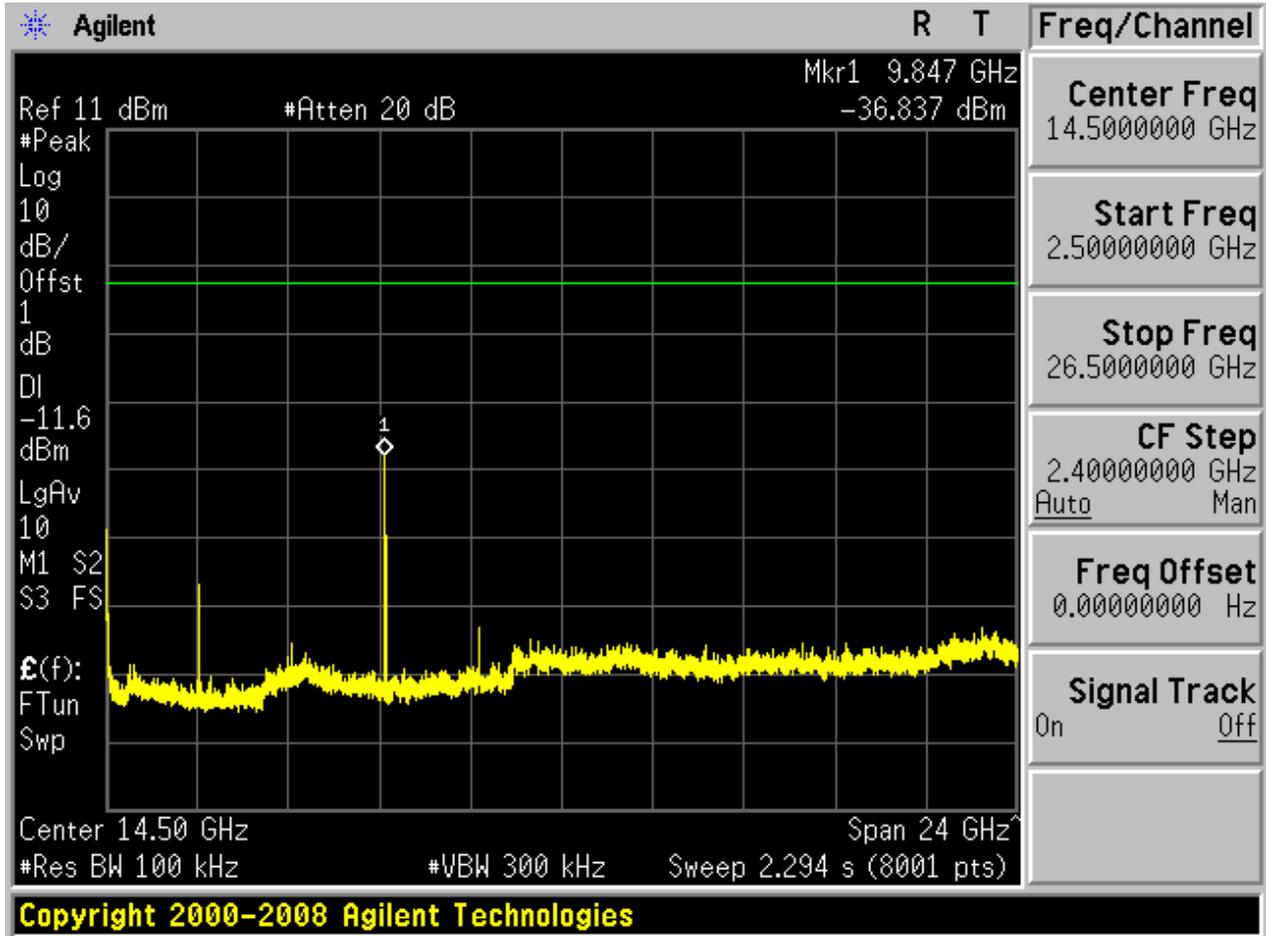








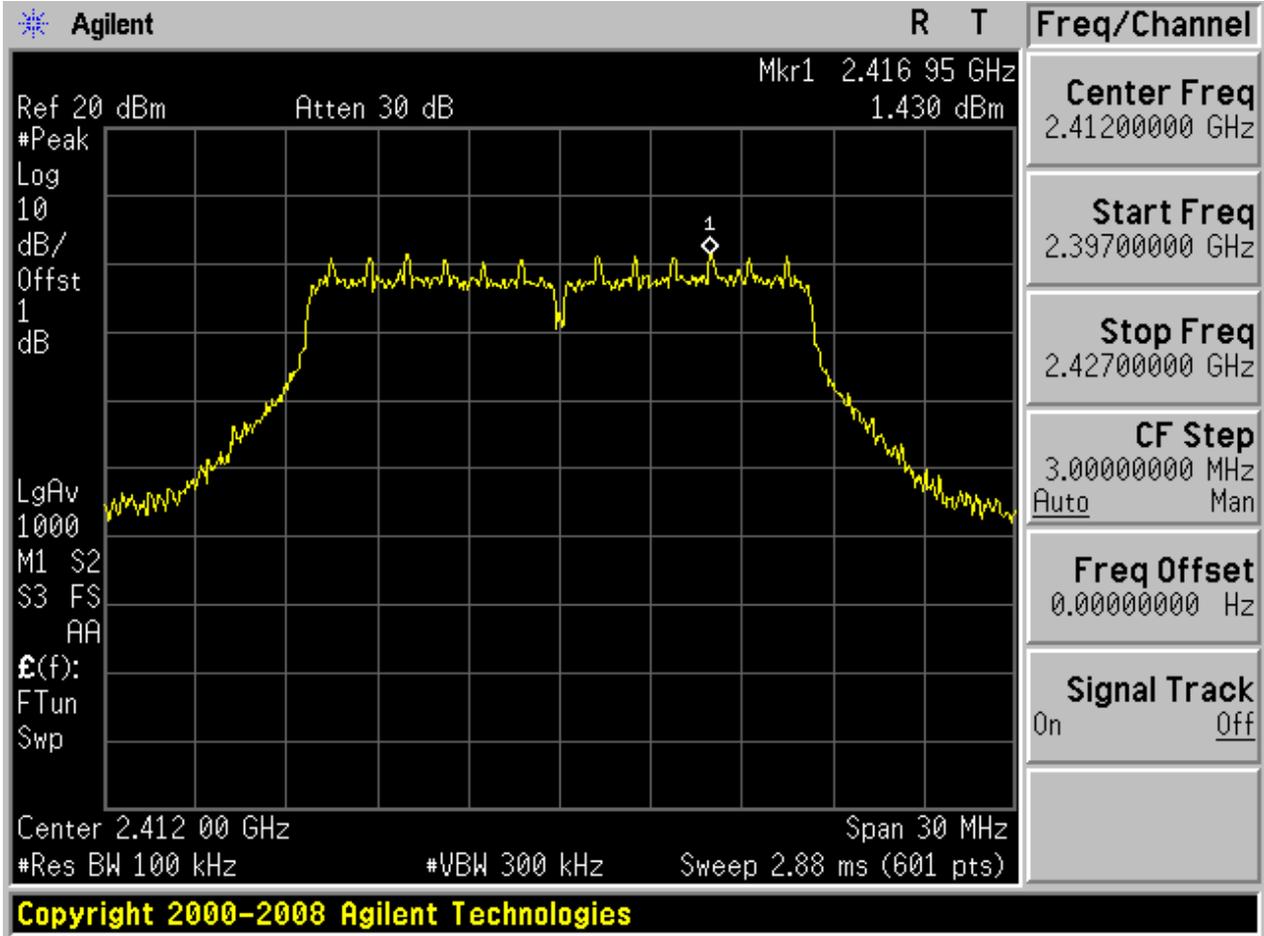






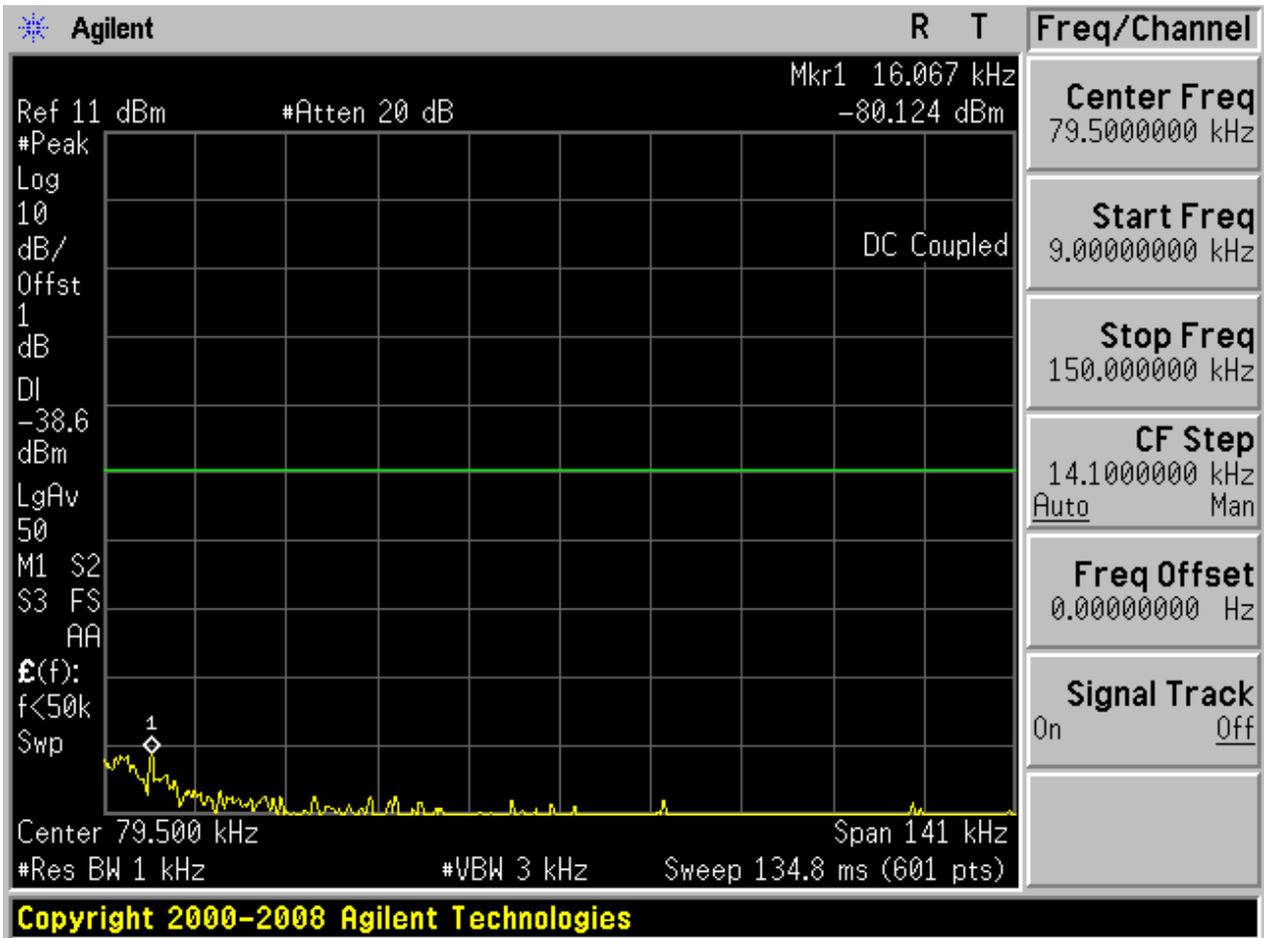
2.4 11G_L

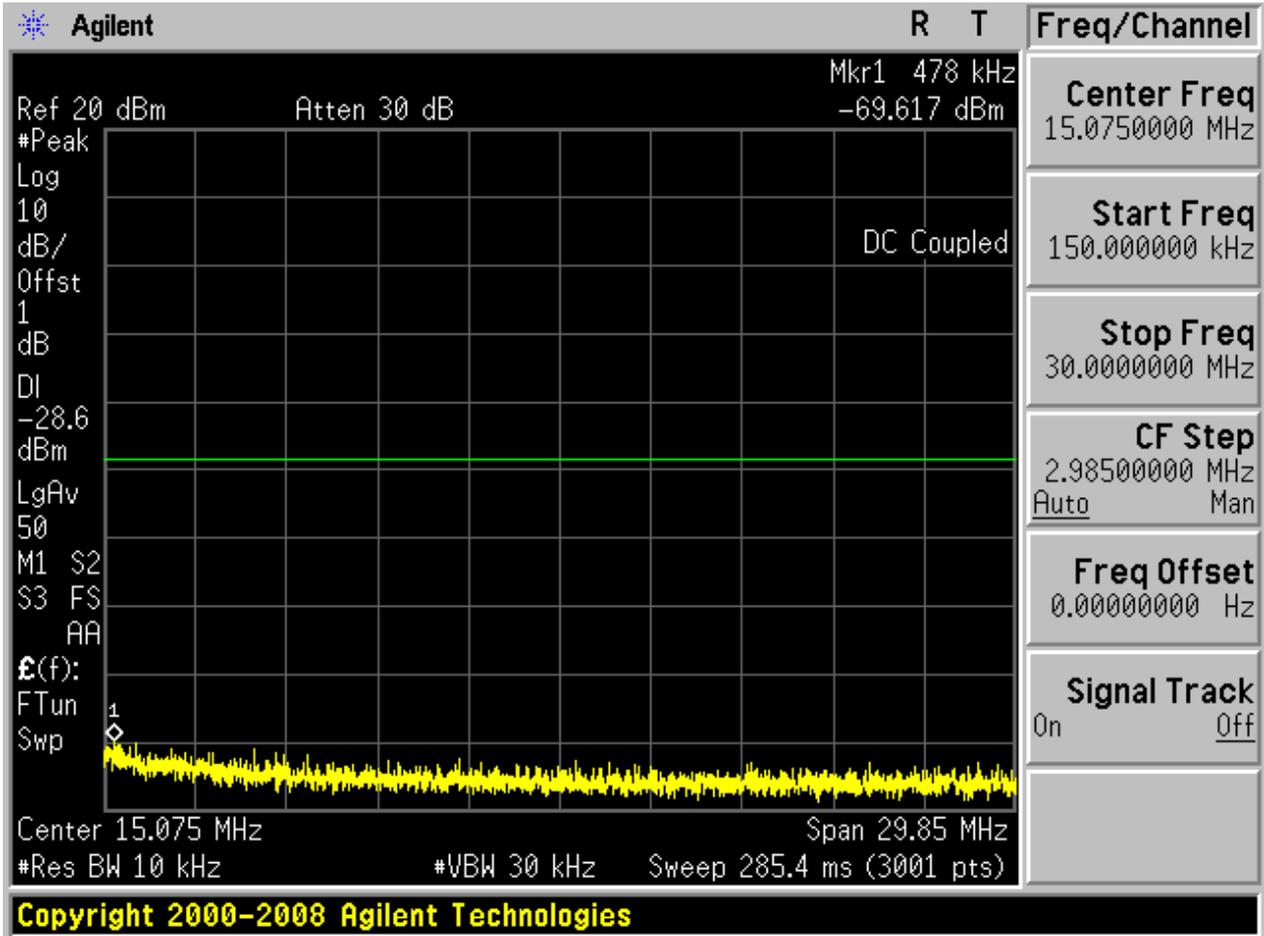
Pref:

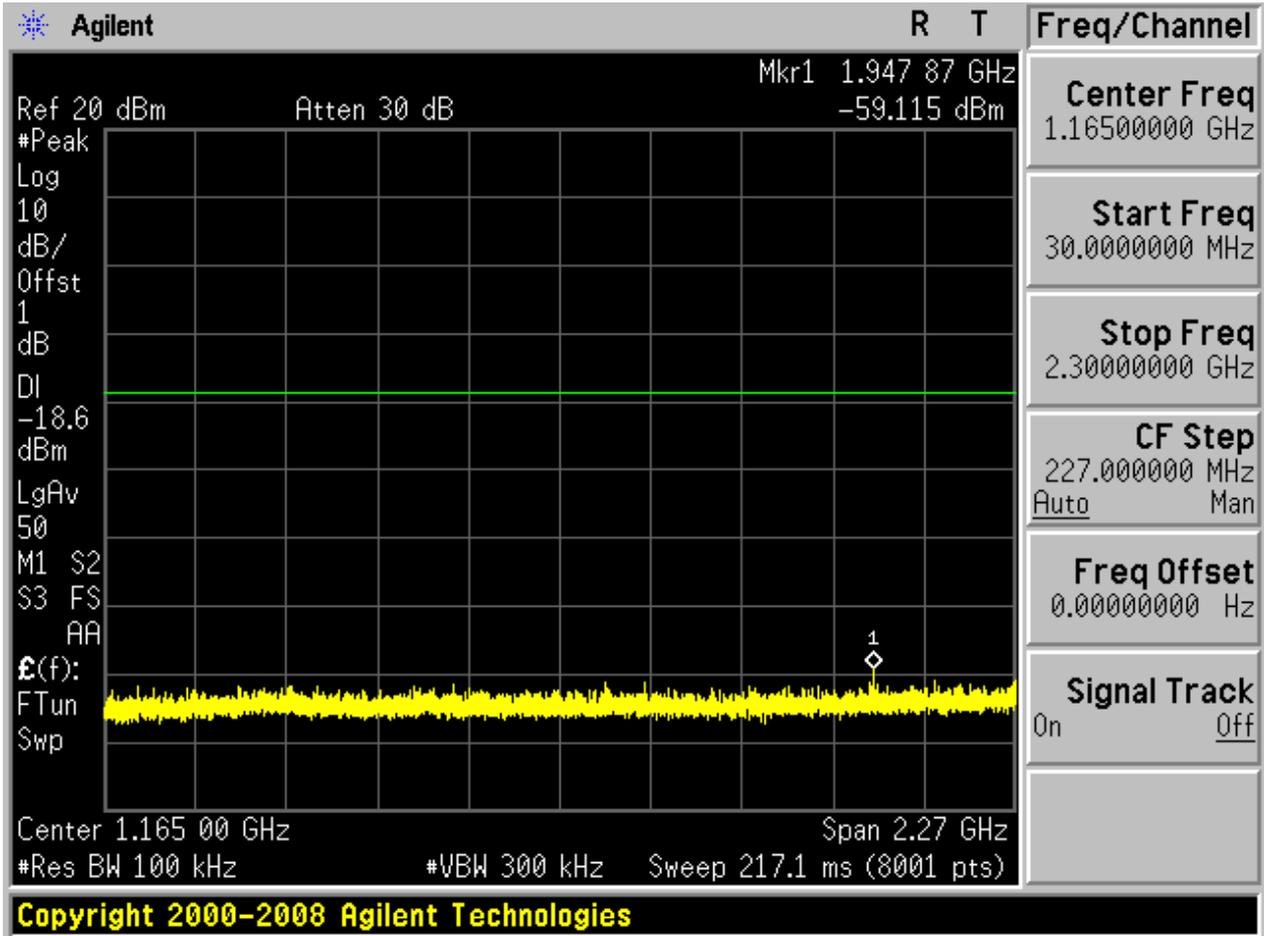


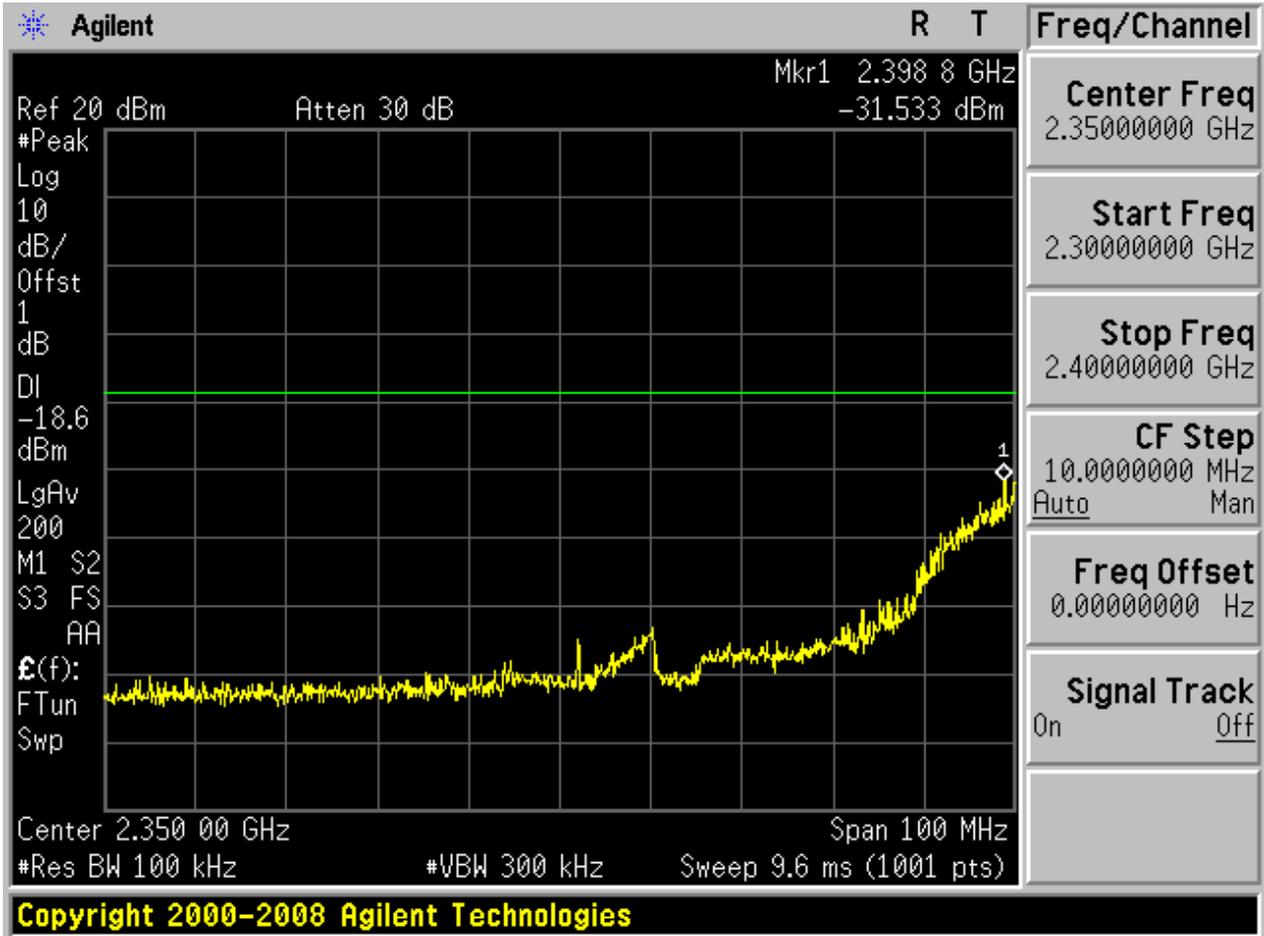


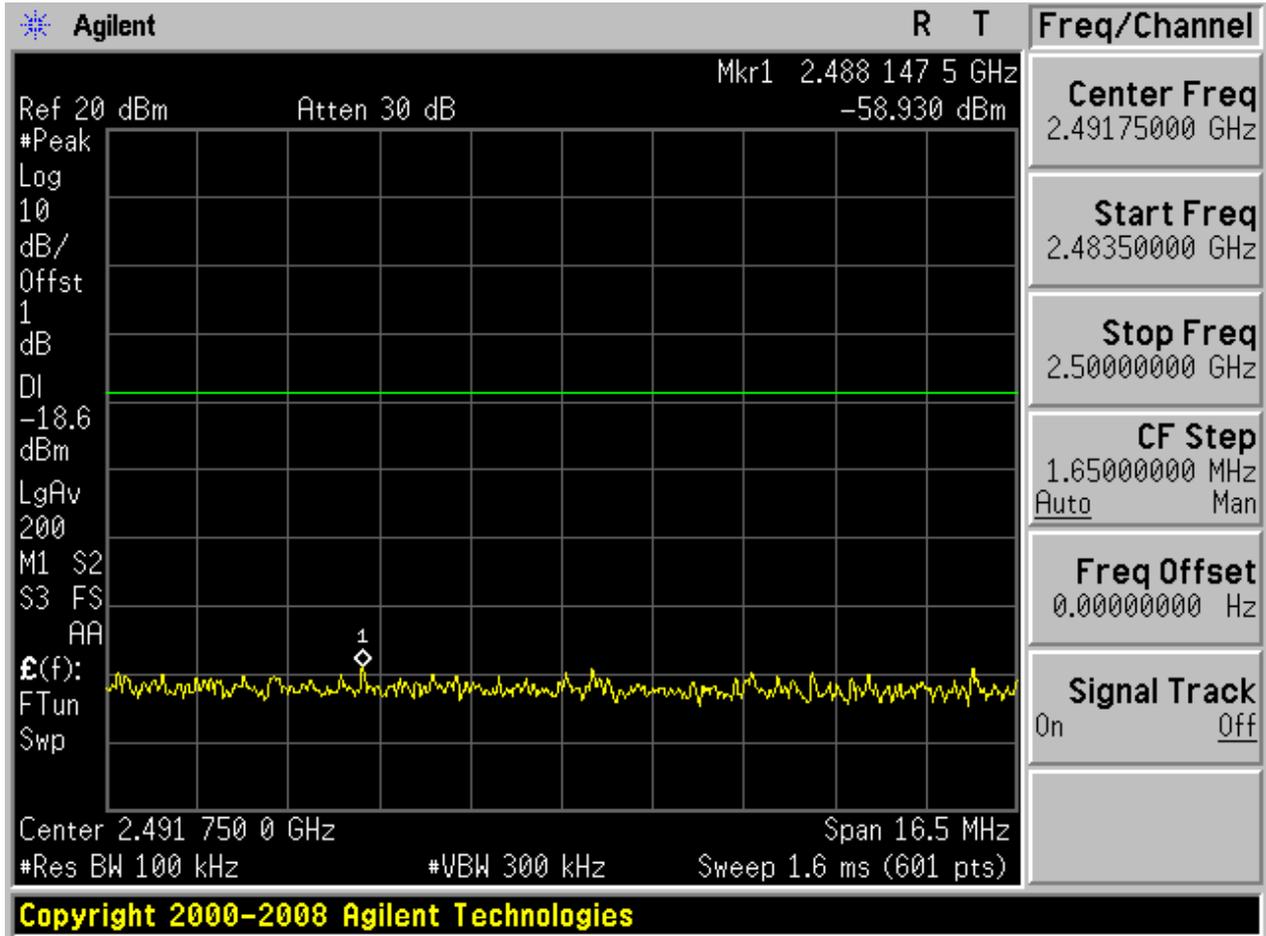
Puw:

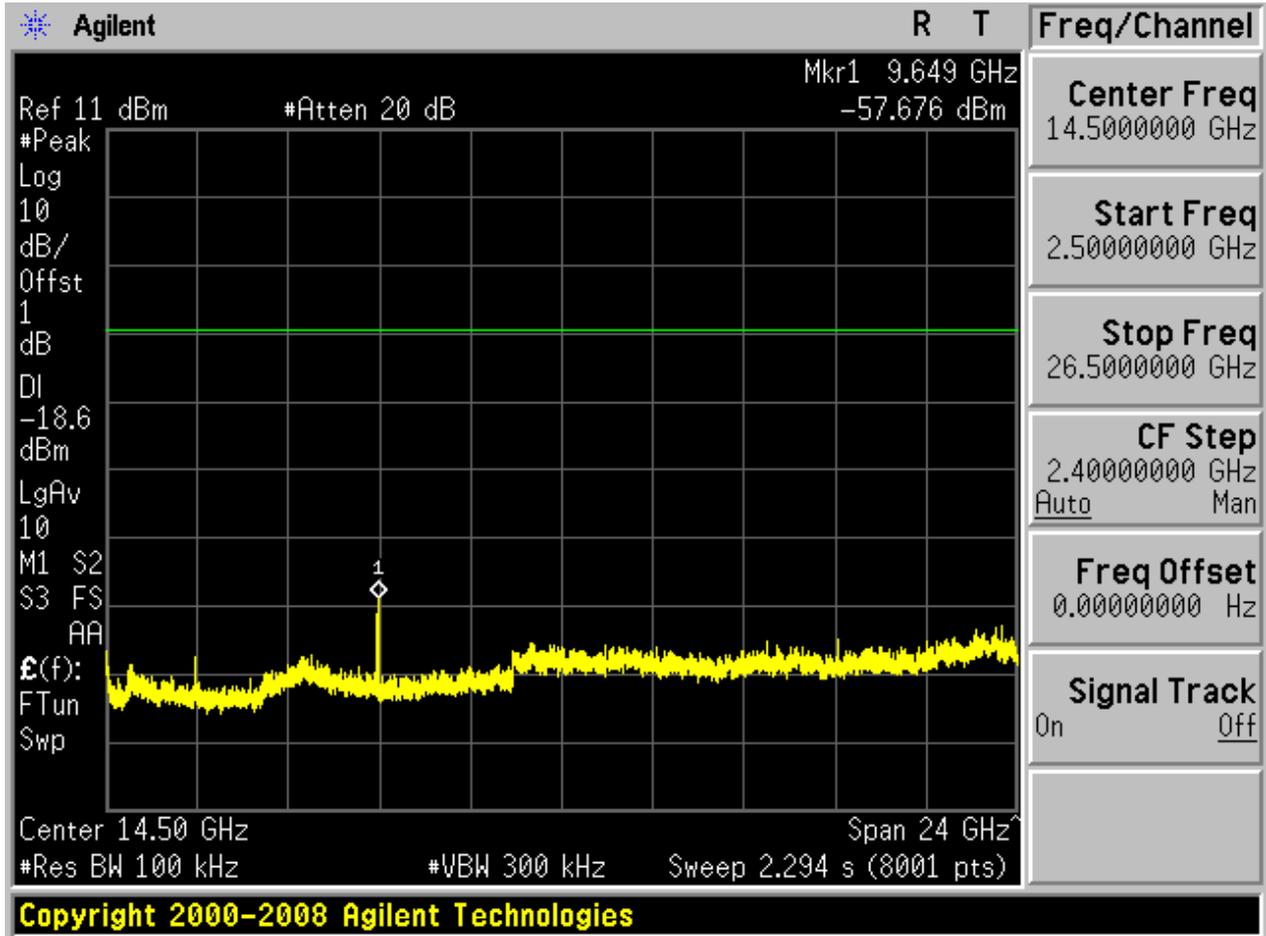






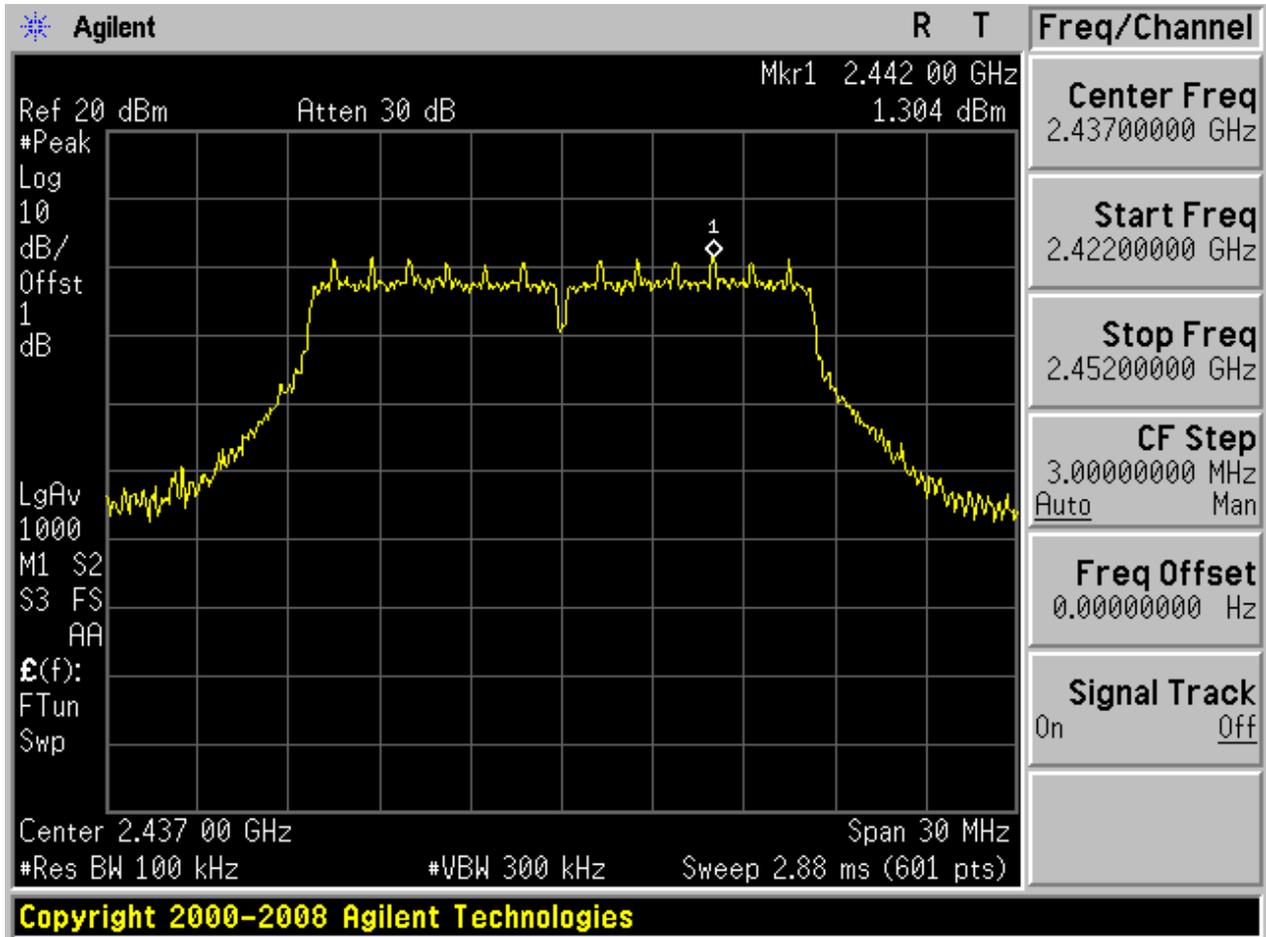






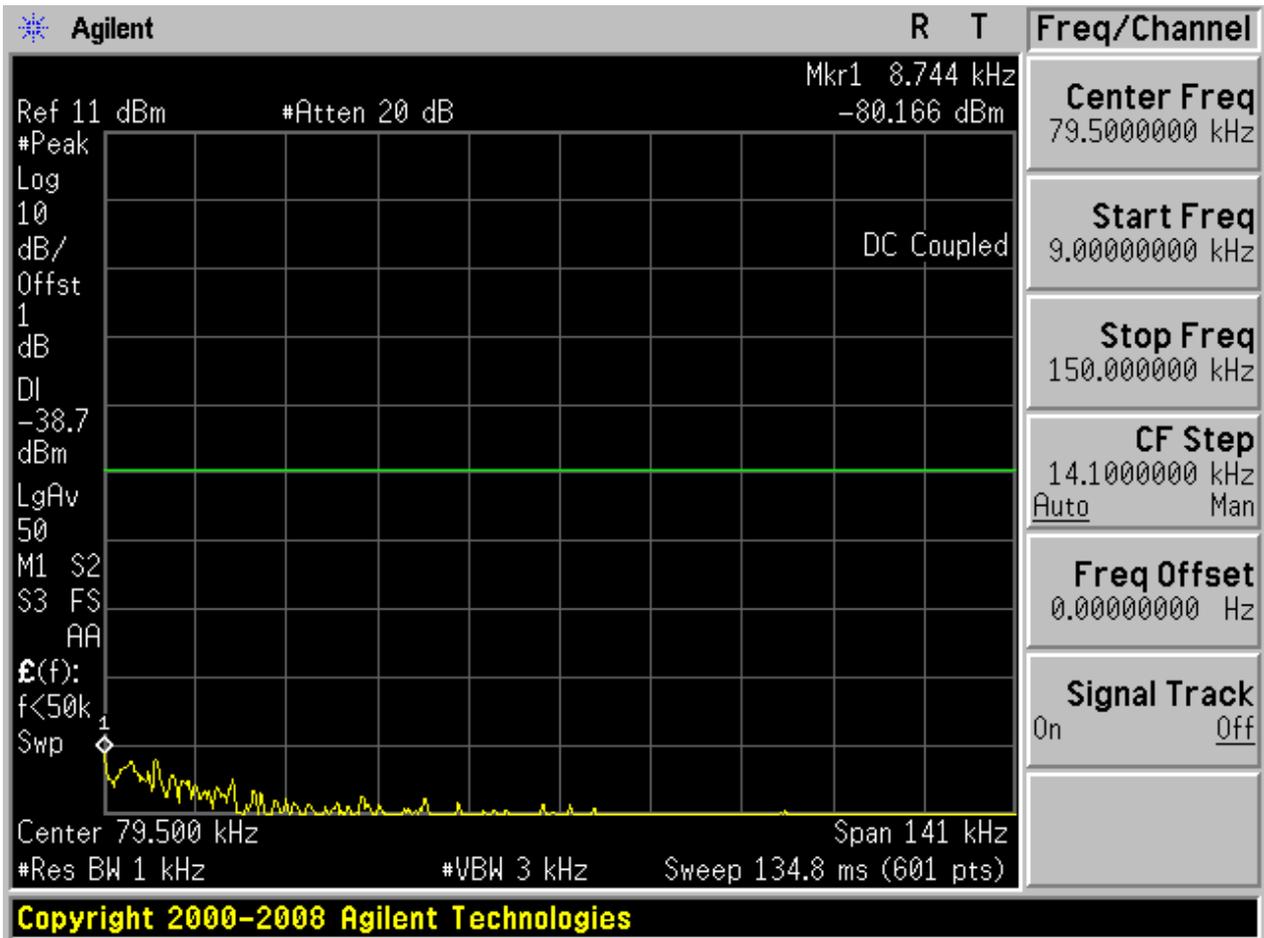
2.5 11G_M

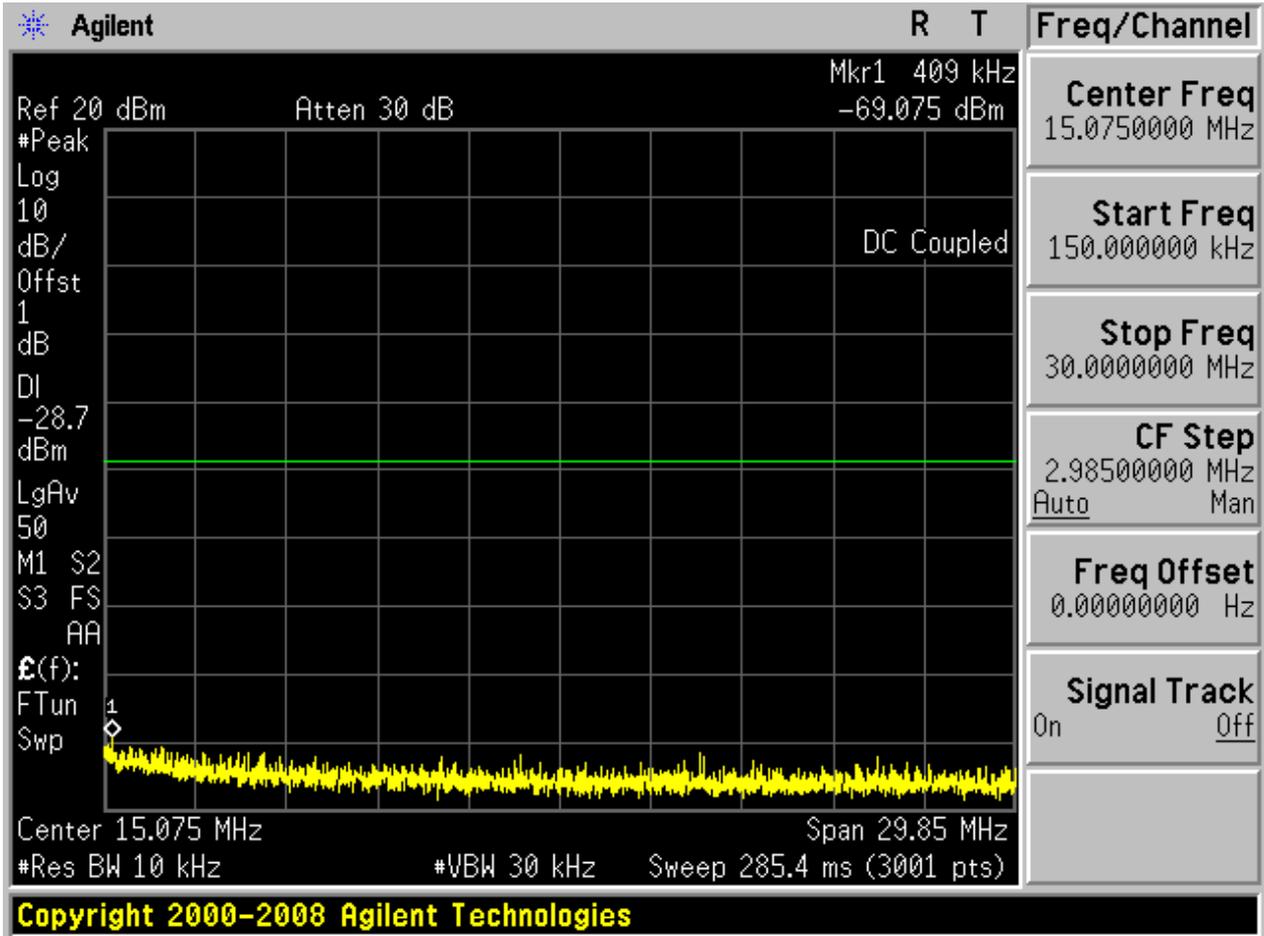
Pref:

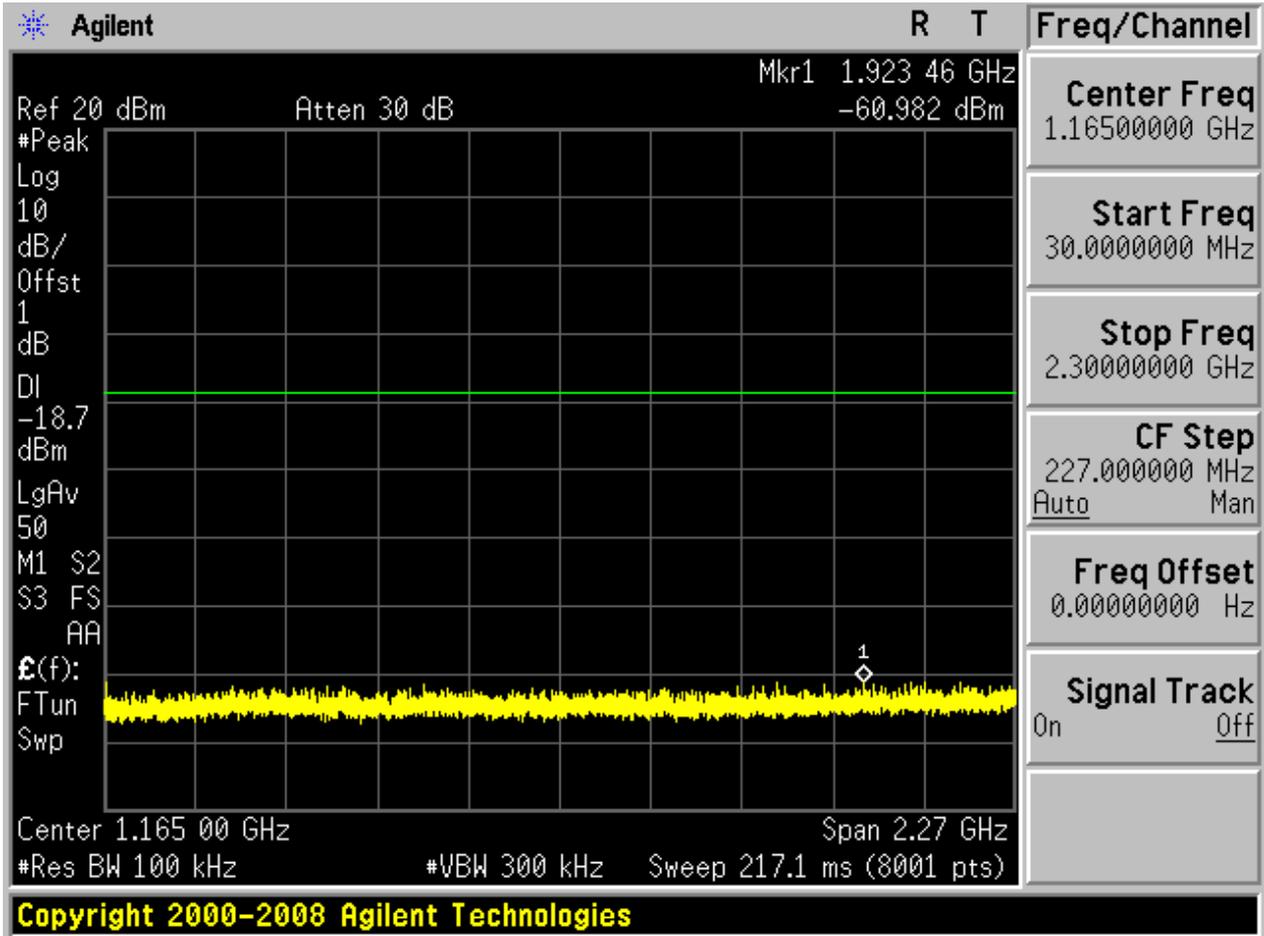


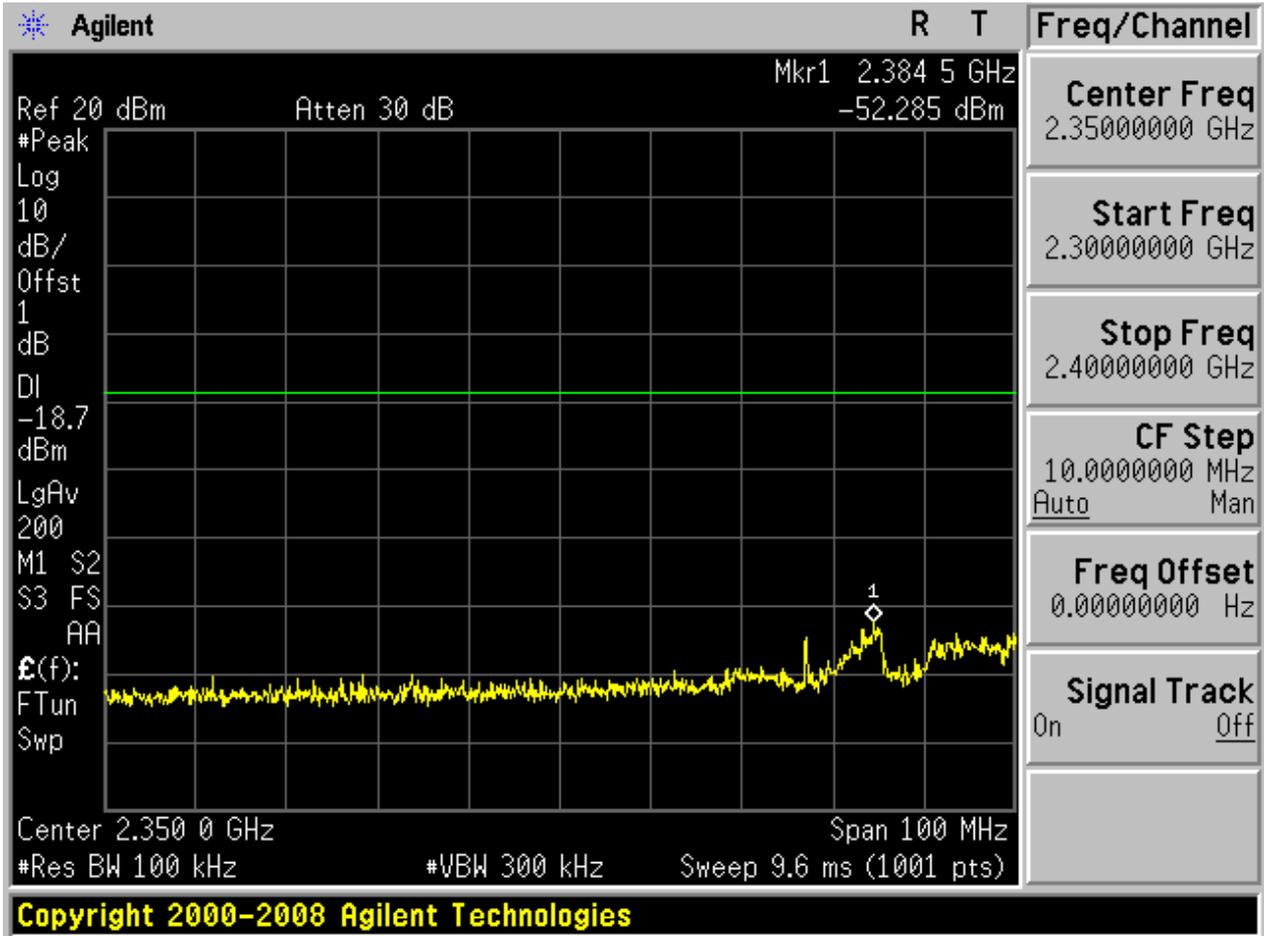


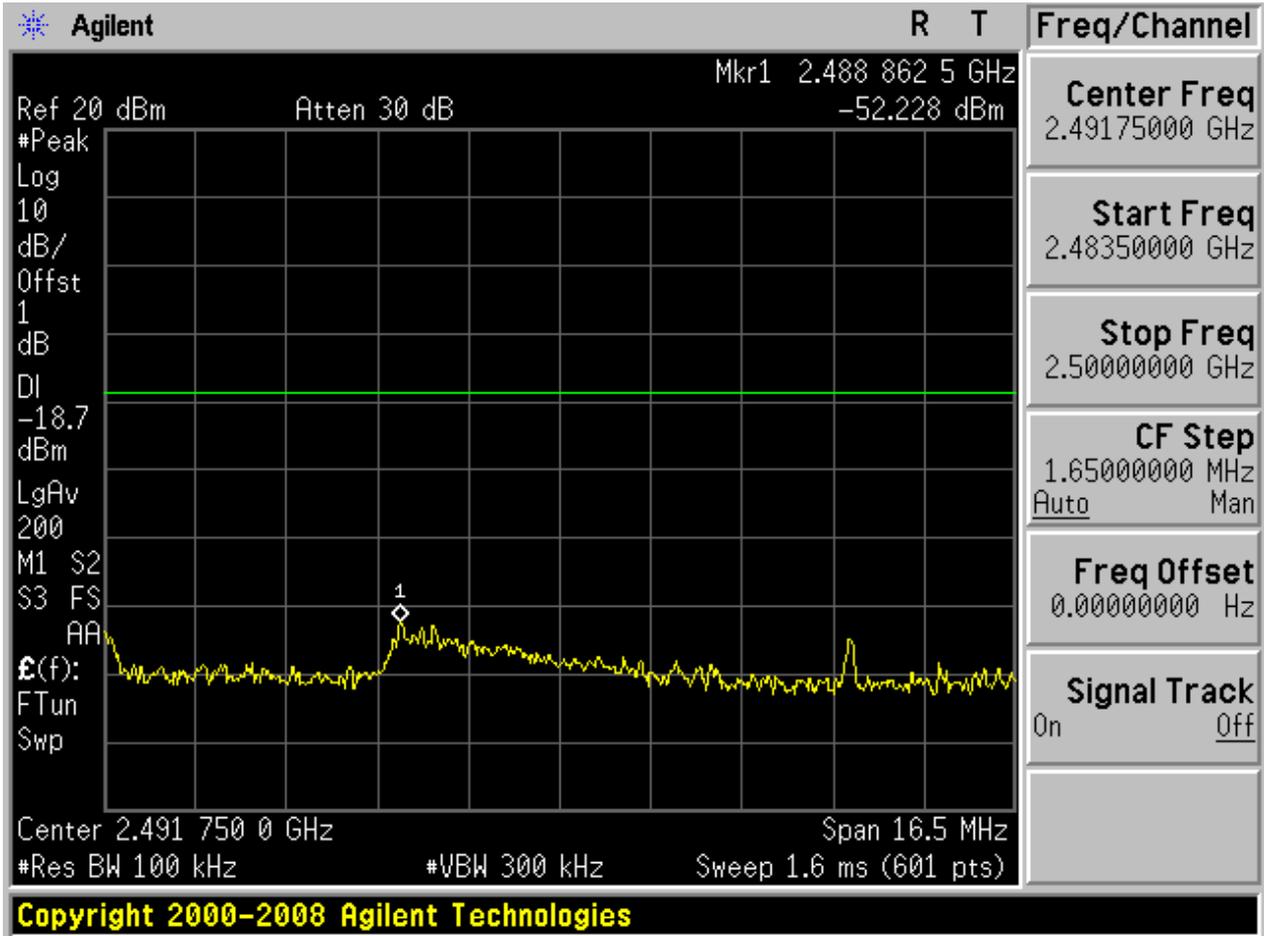
Puw:

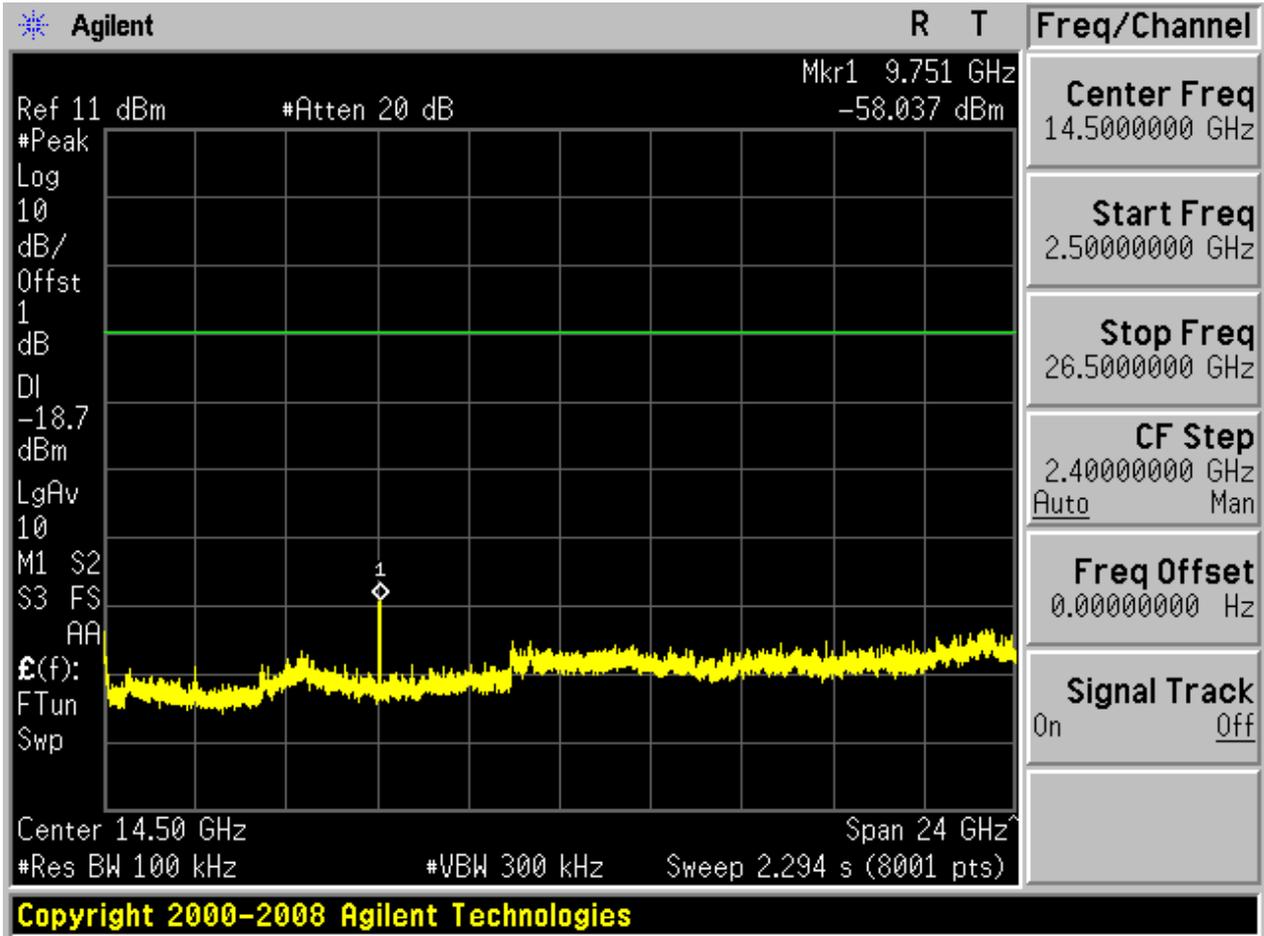








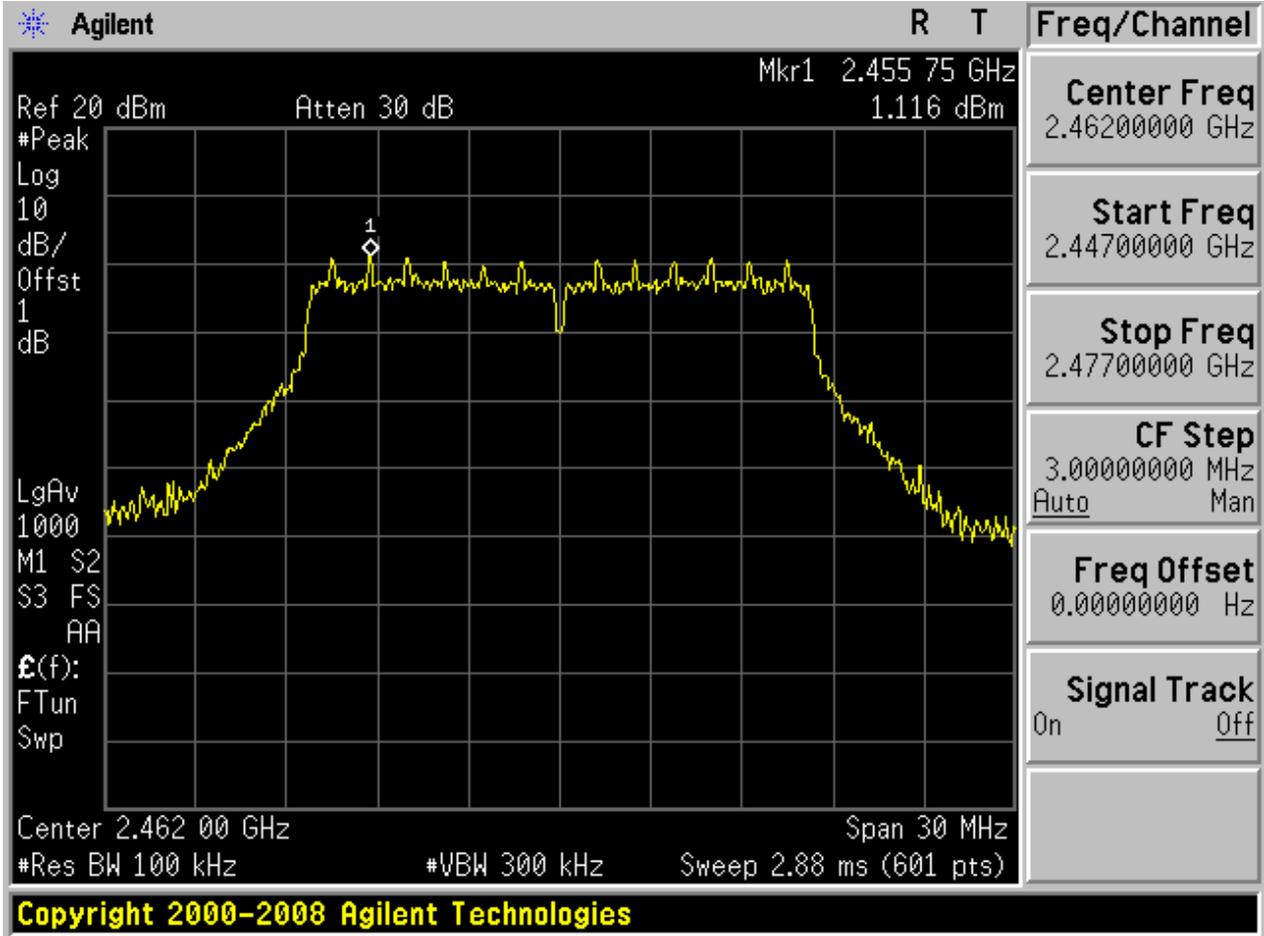






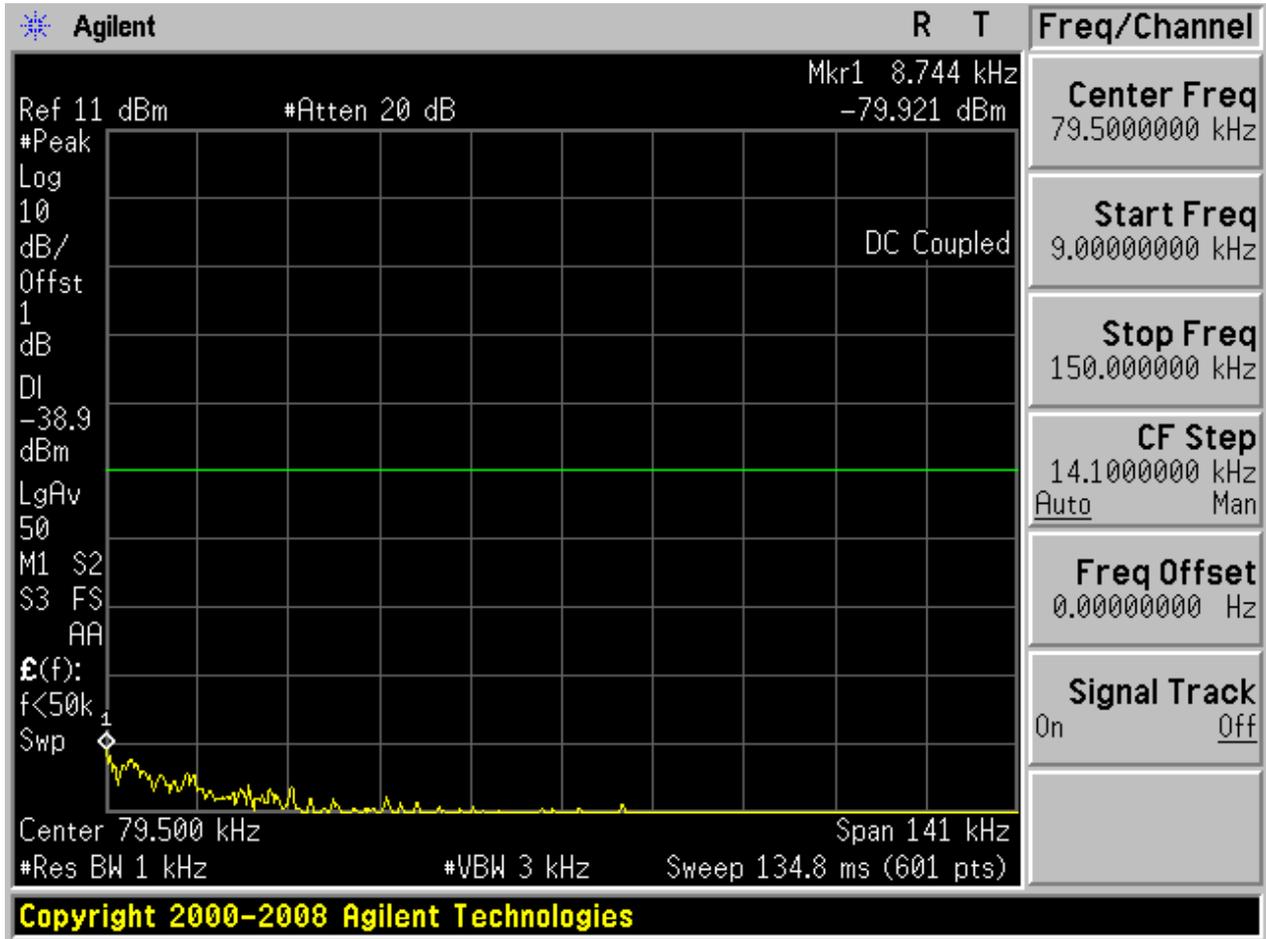
2.6 11G_H

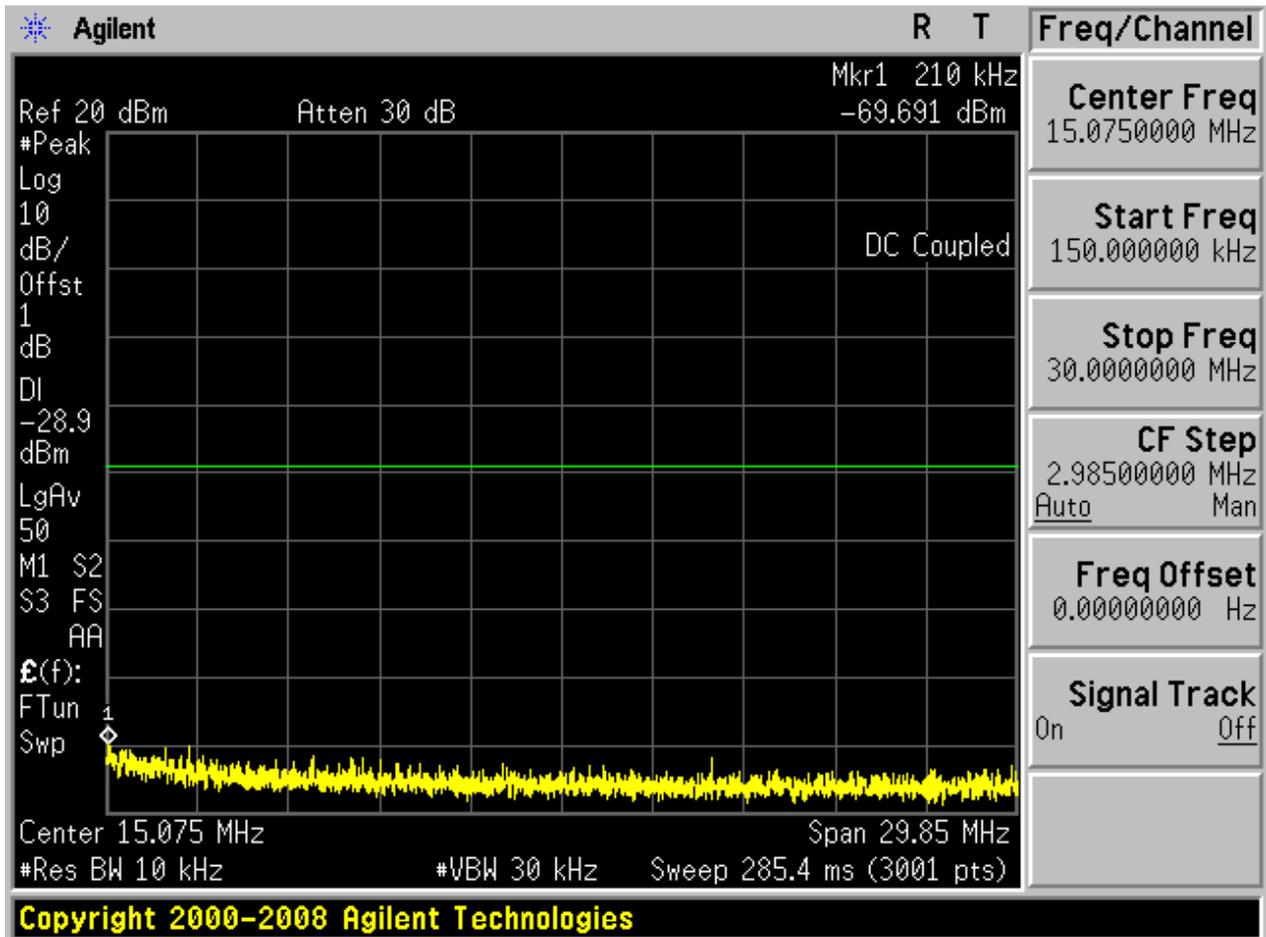
Pref:

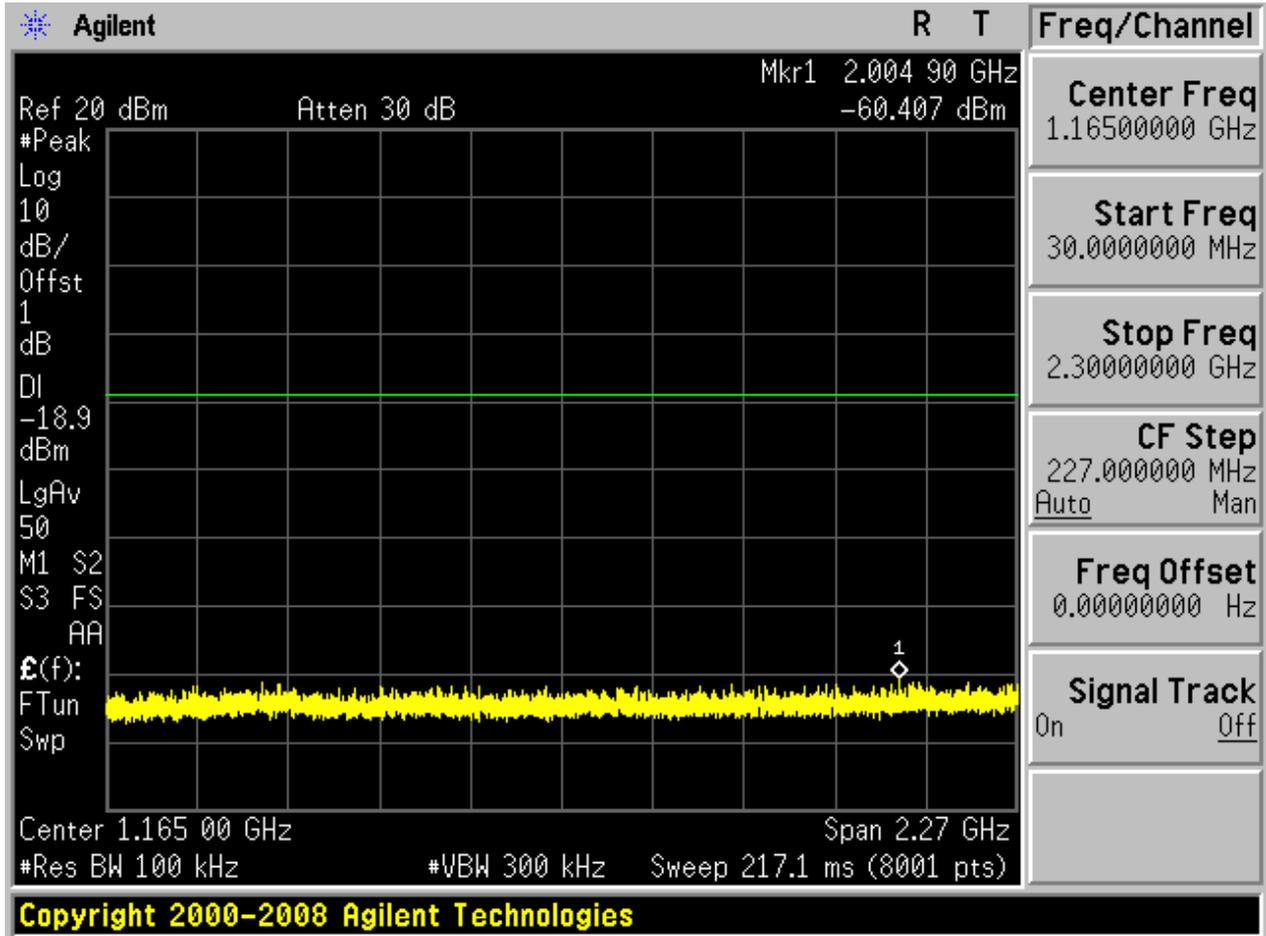


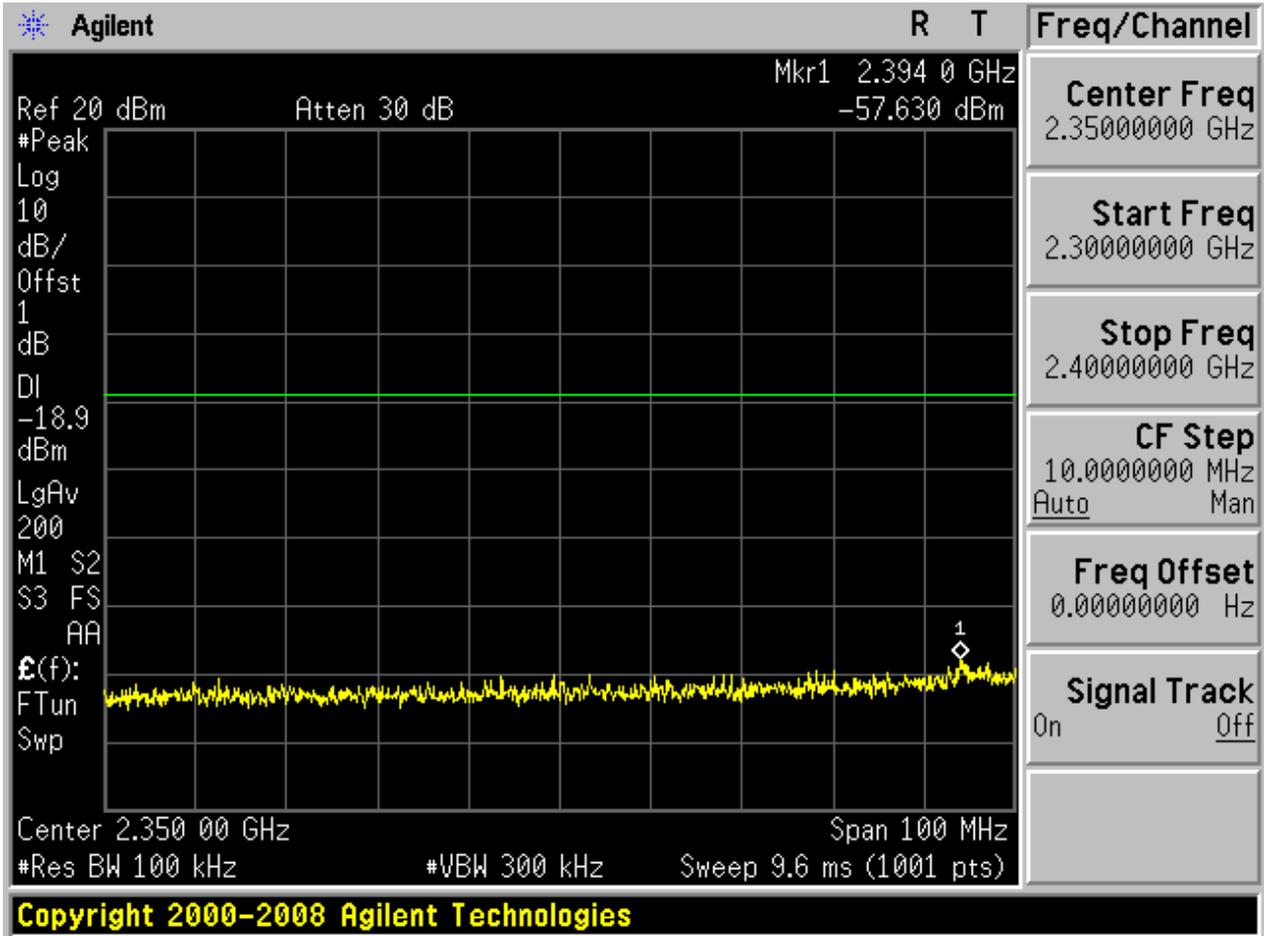


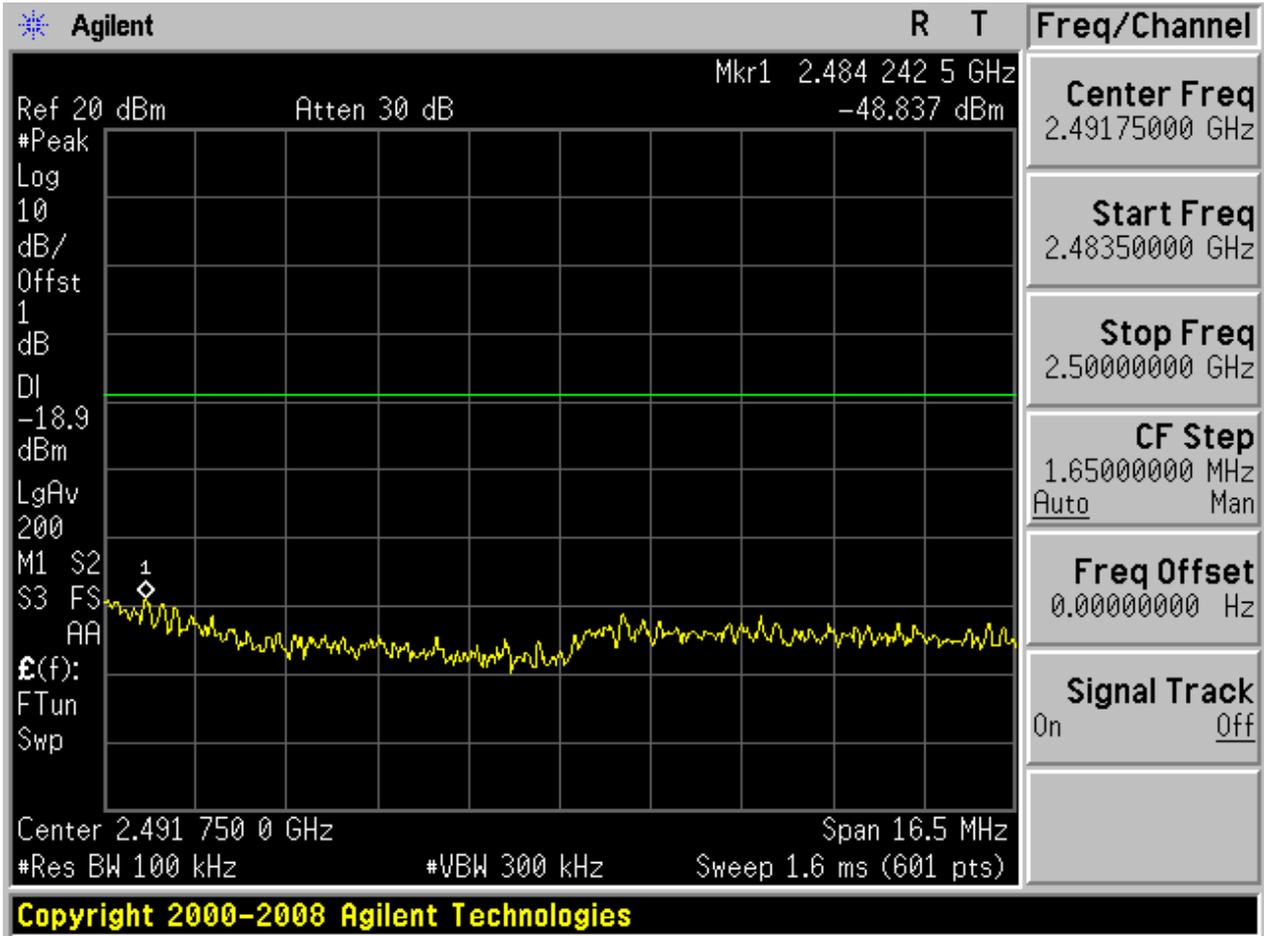
Puw:

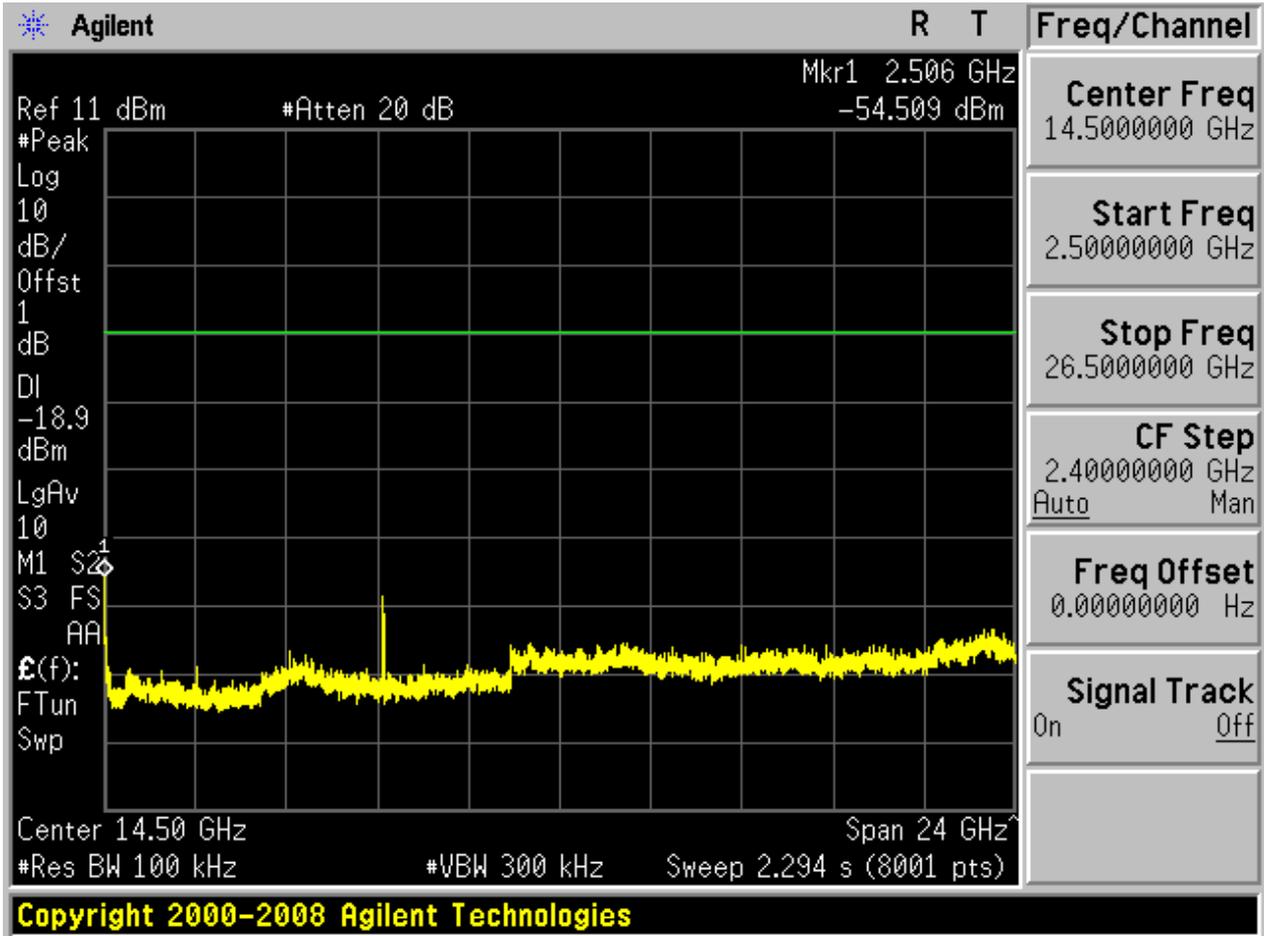








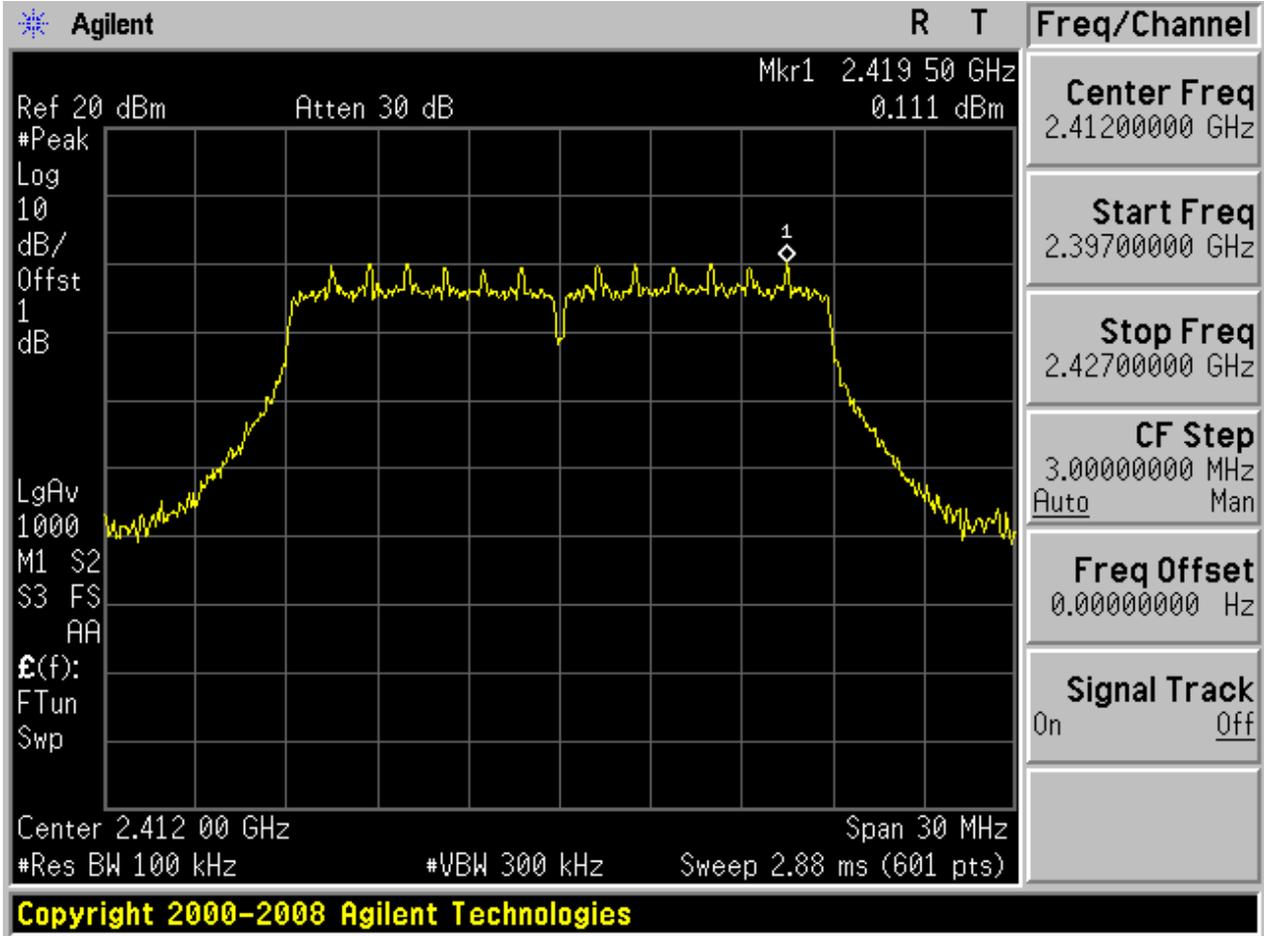






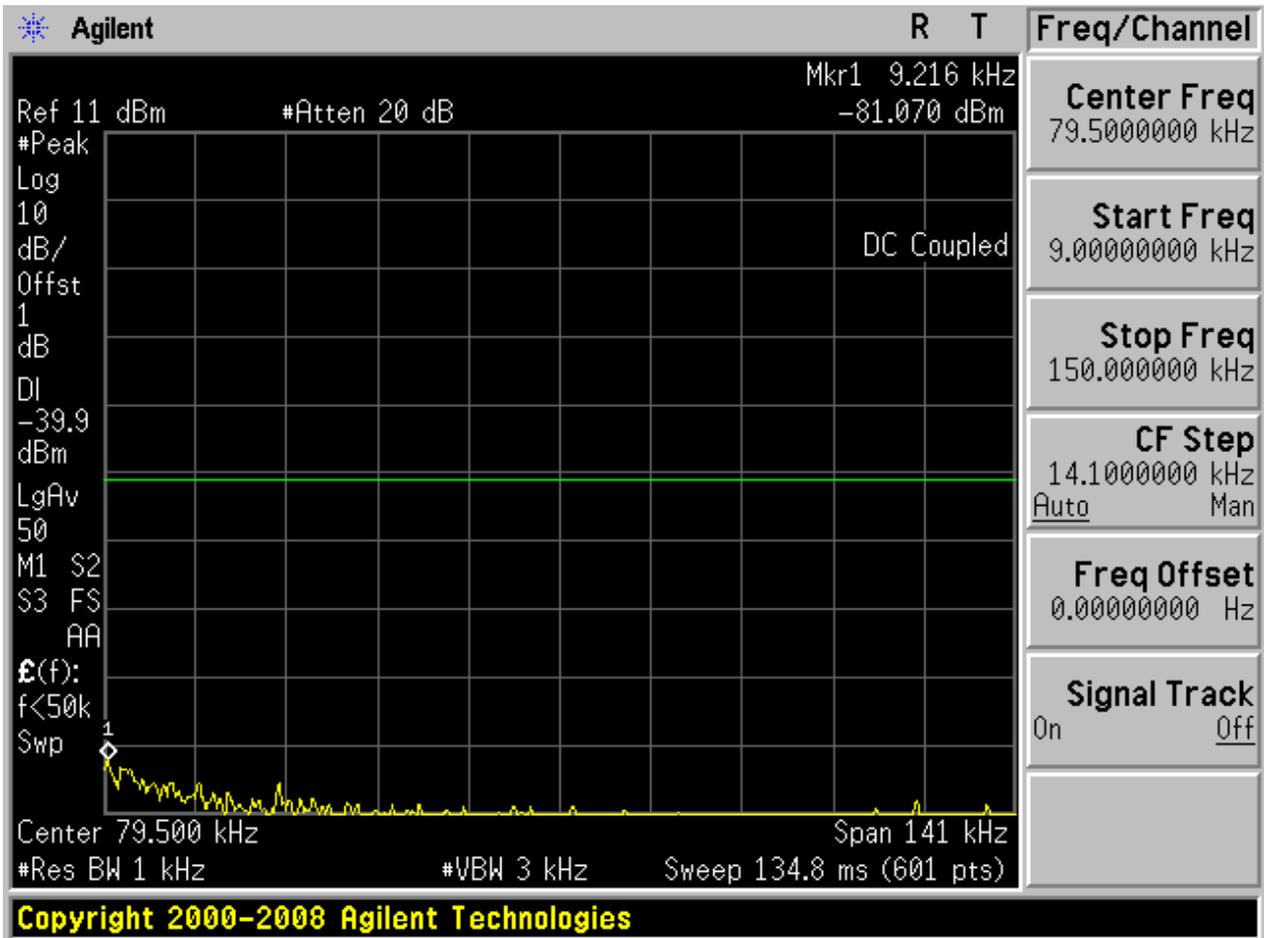
2.7 11N20_L

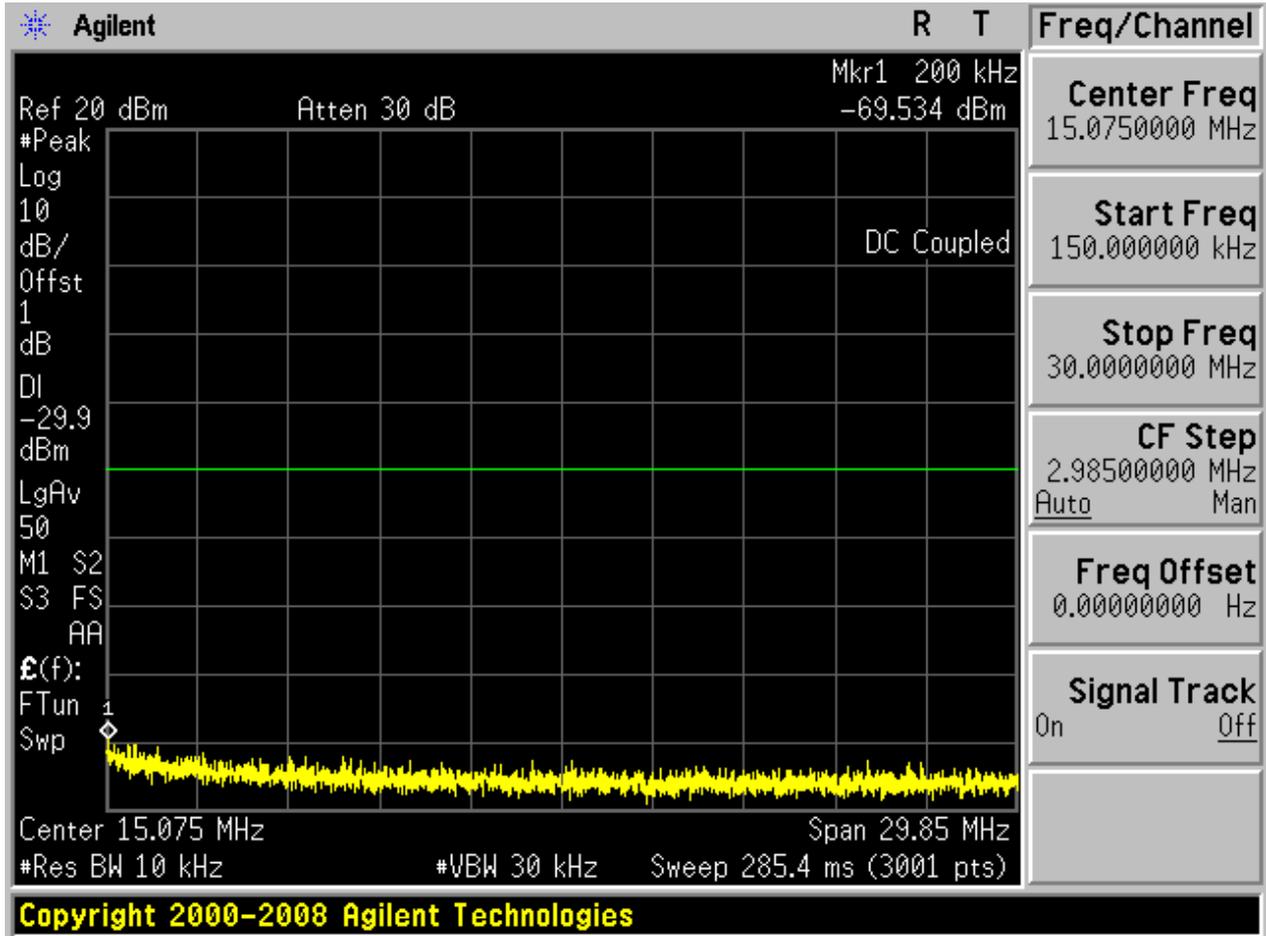
Pref:

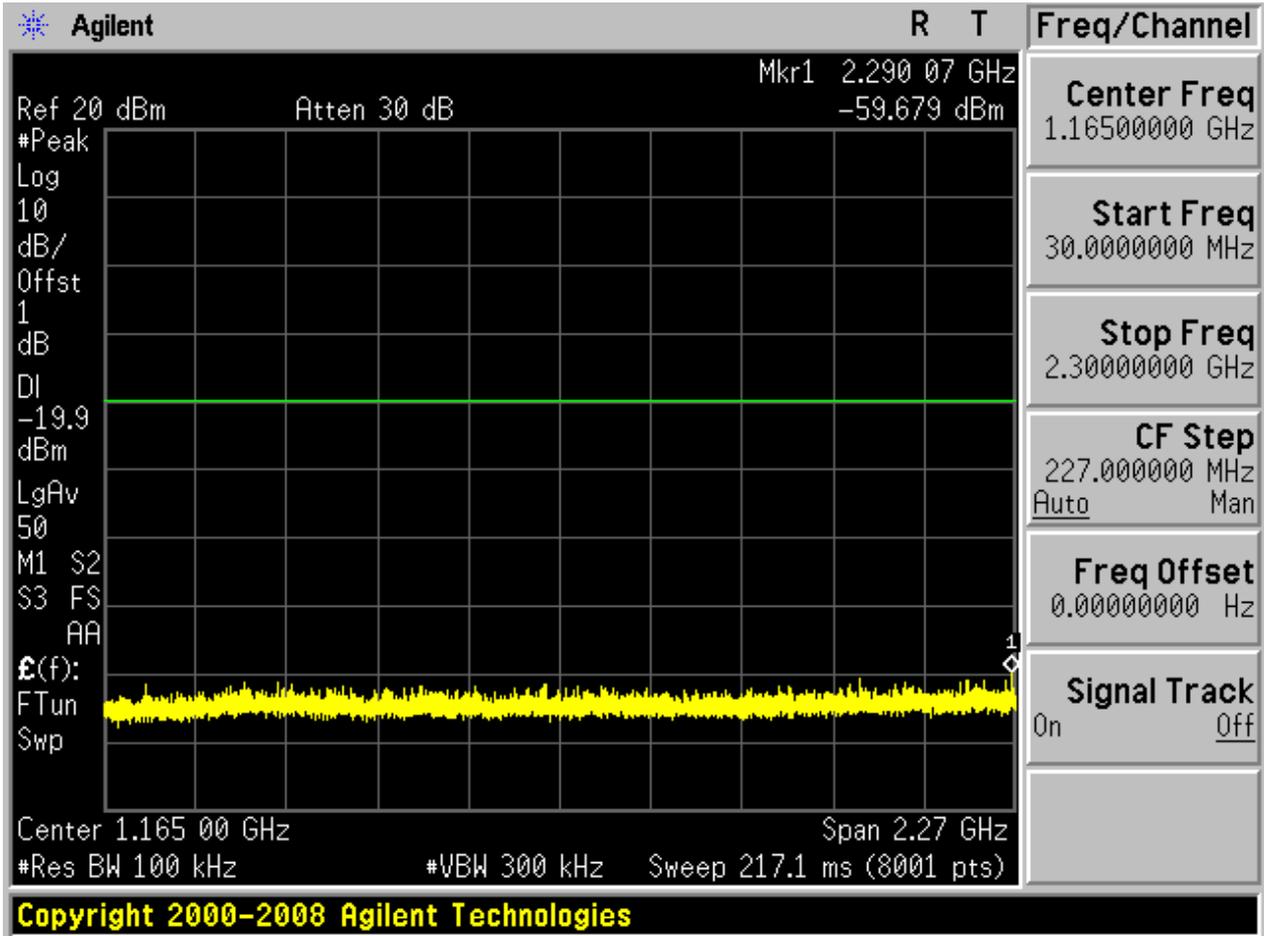


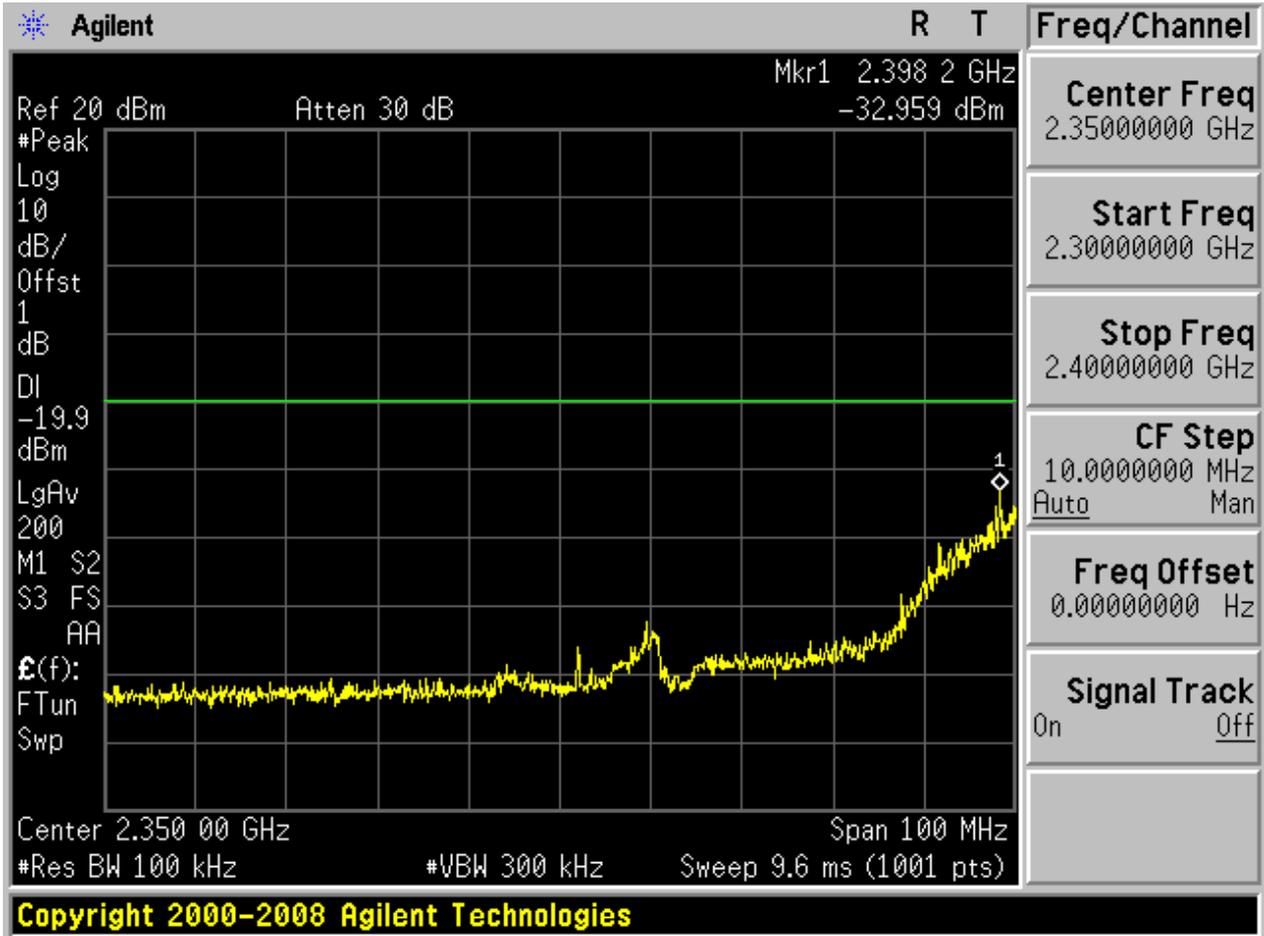


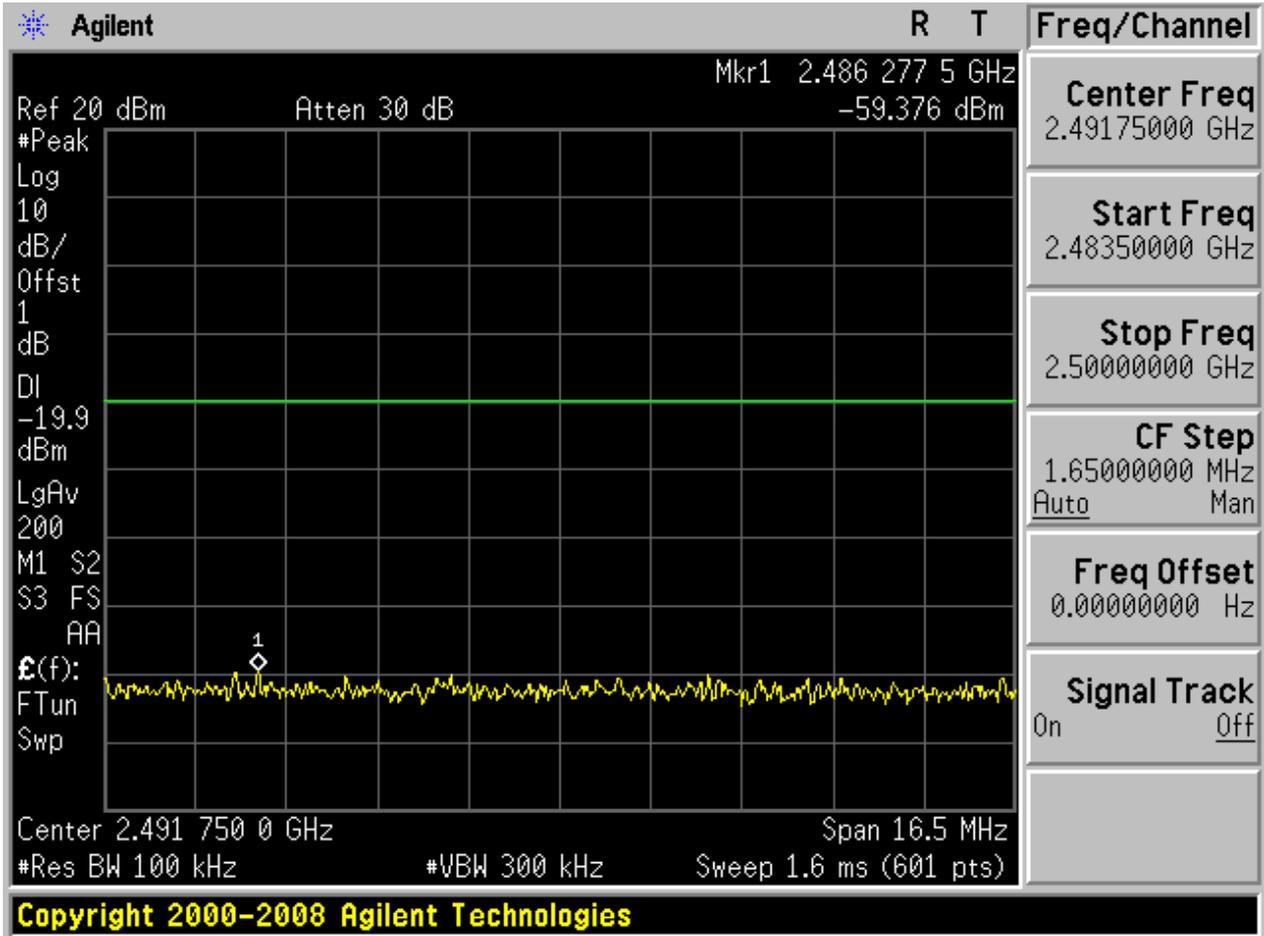
Puw:

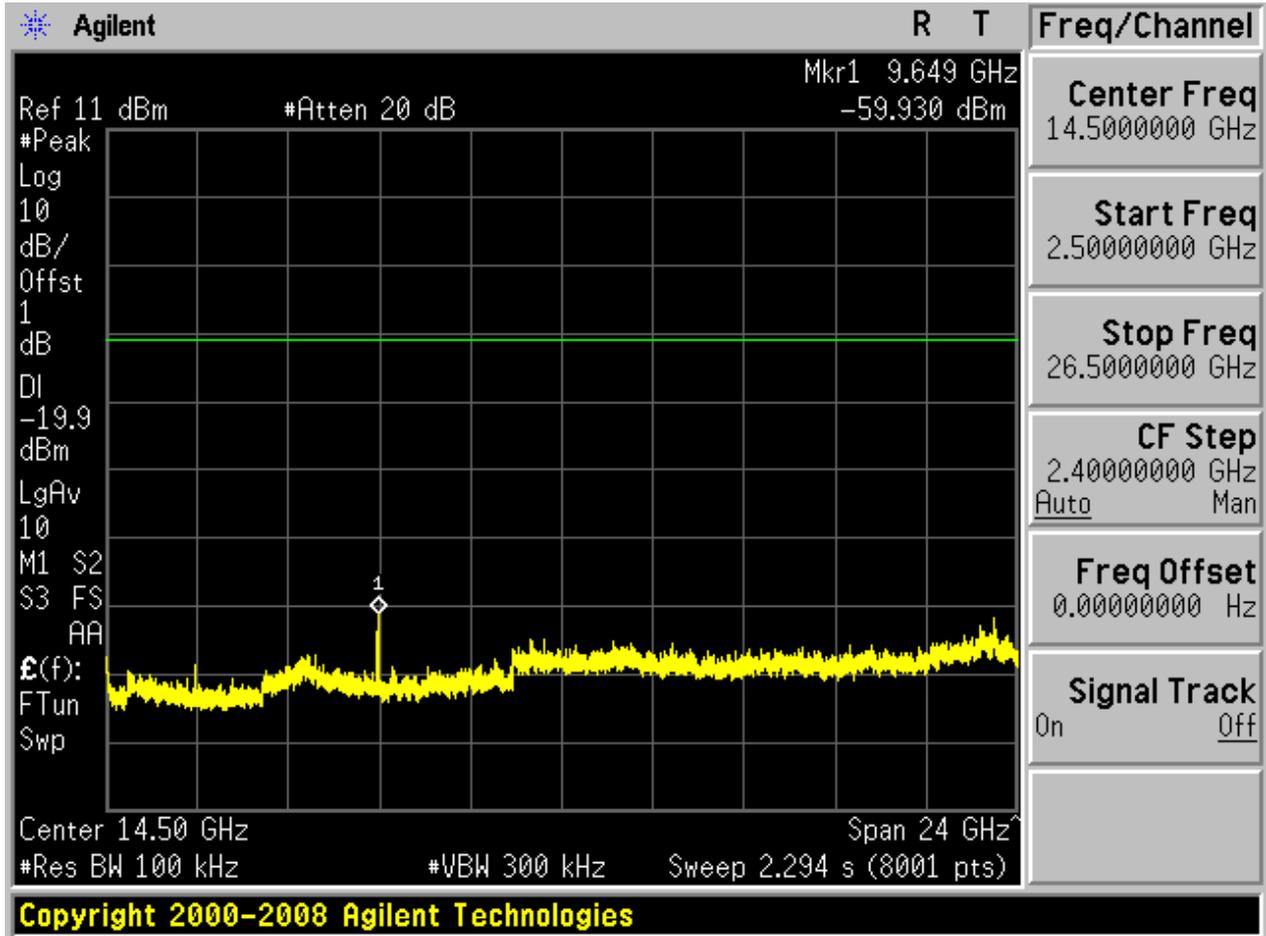








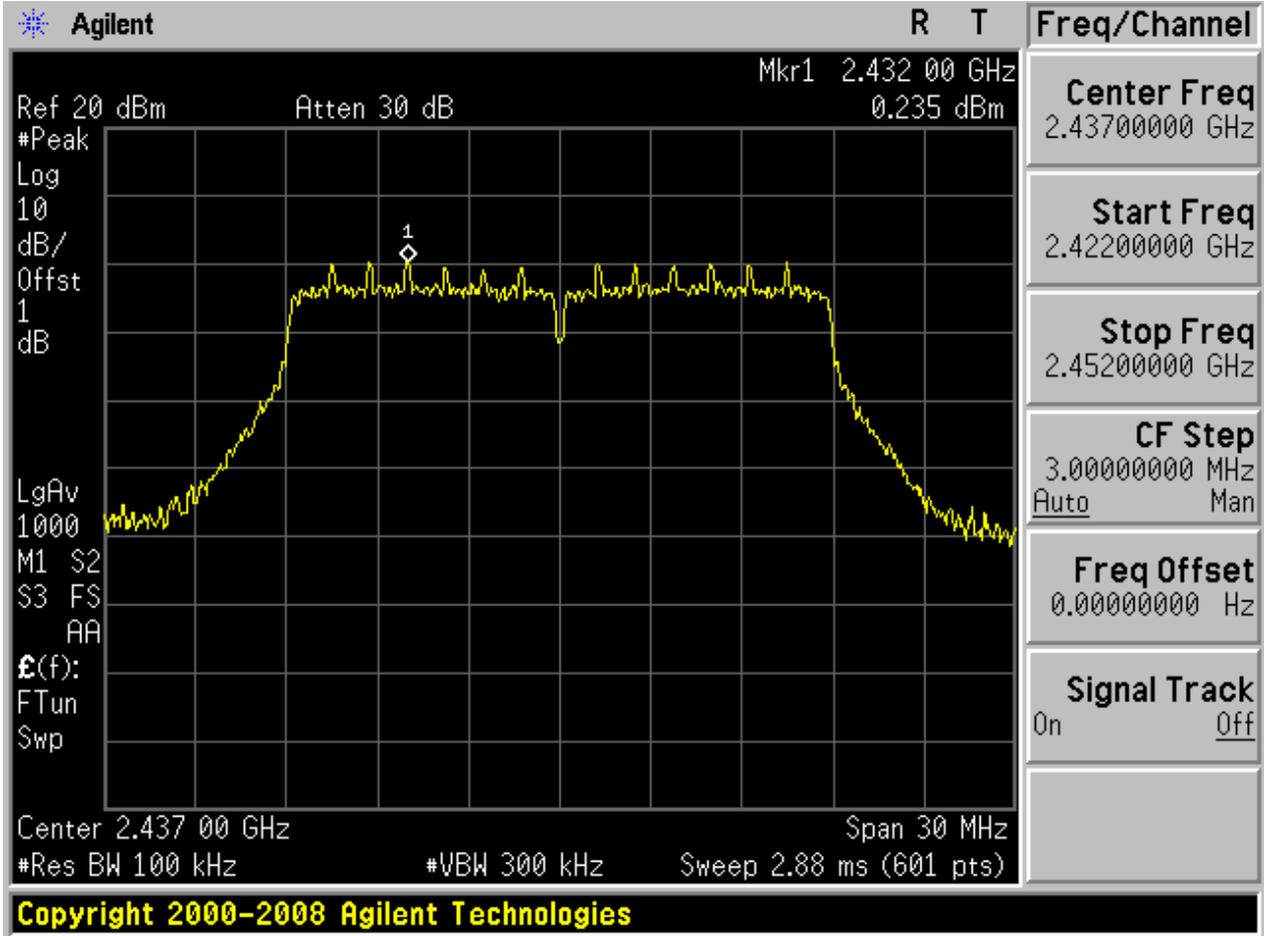






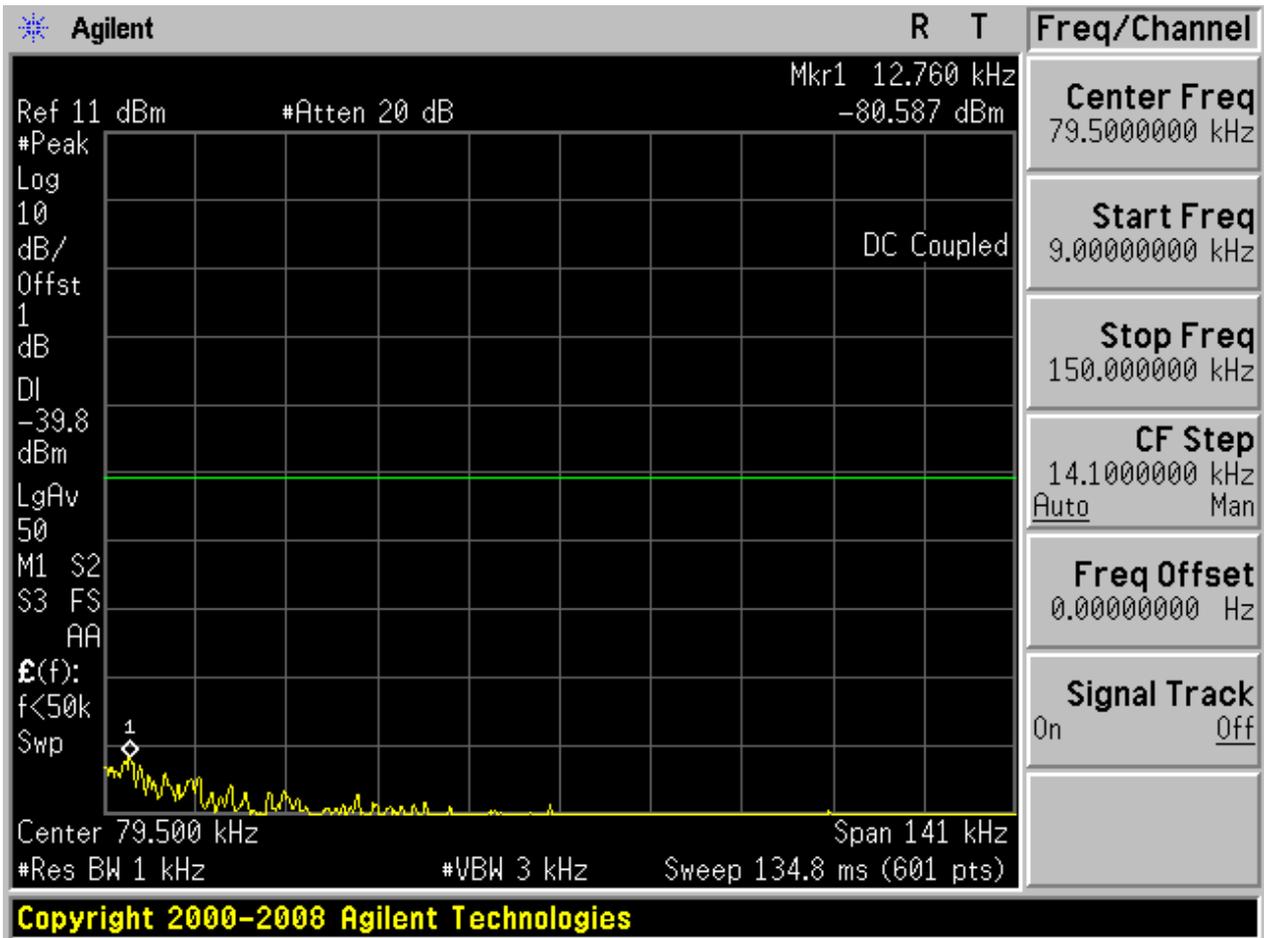
2.8 11N20_M

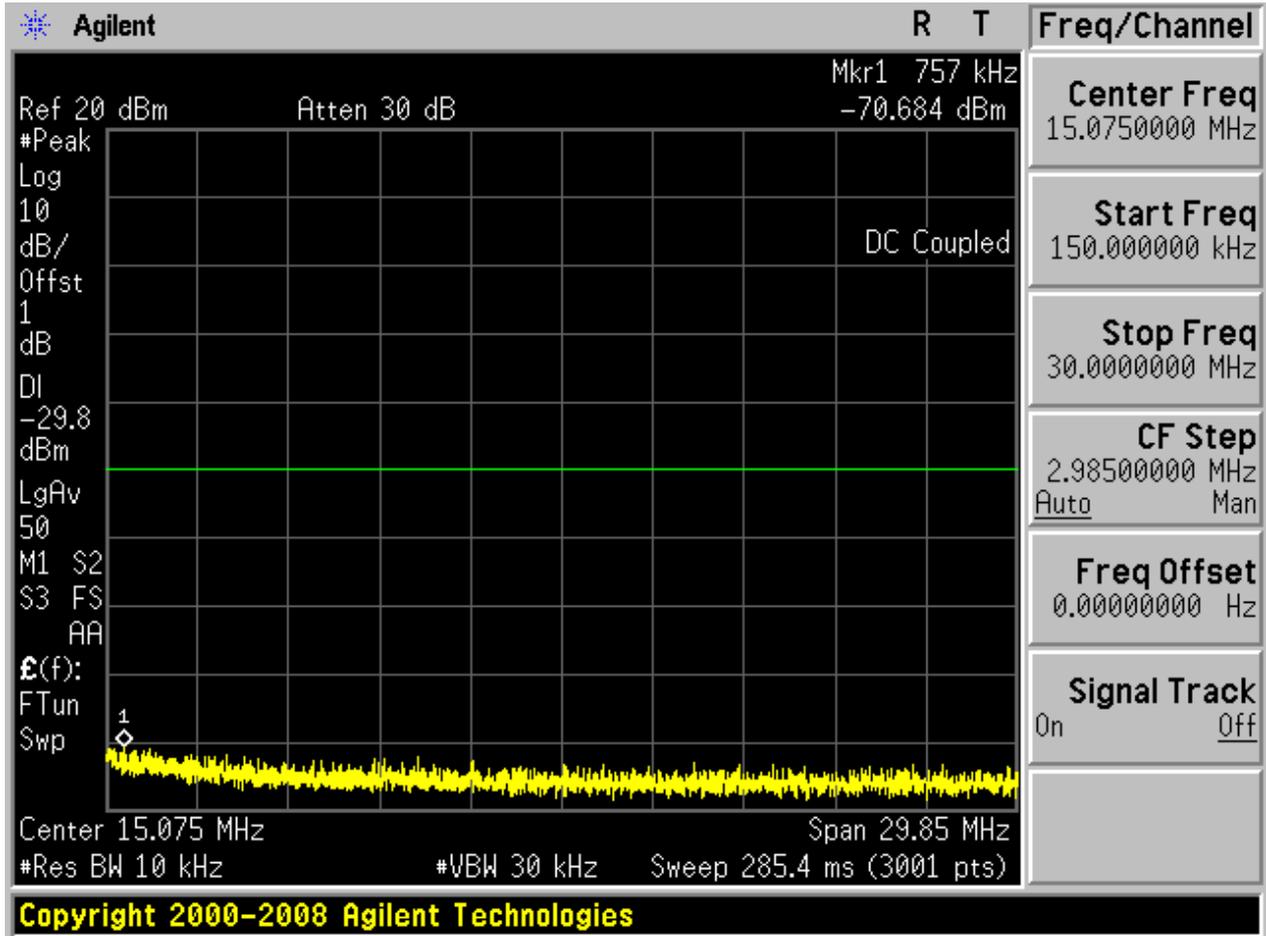
Pref:

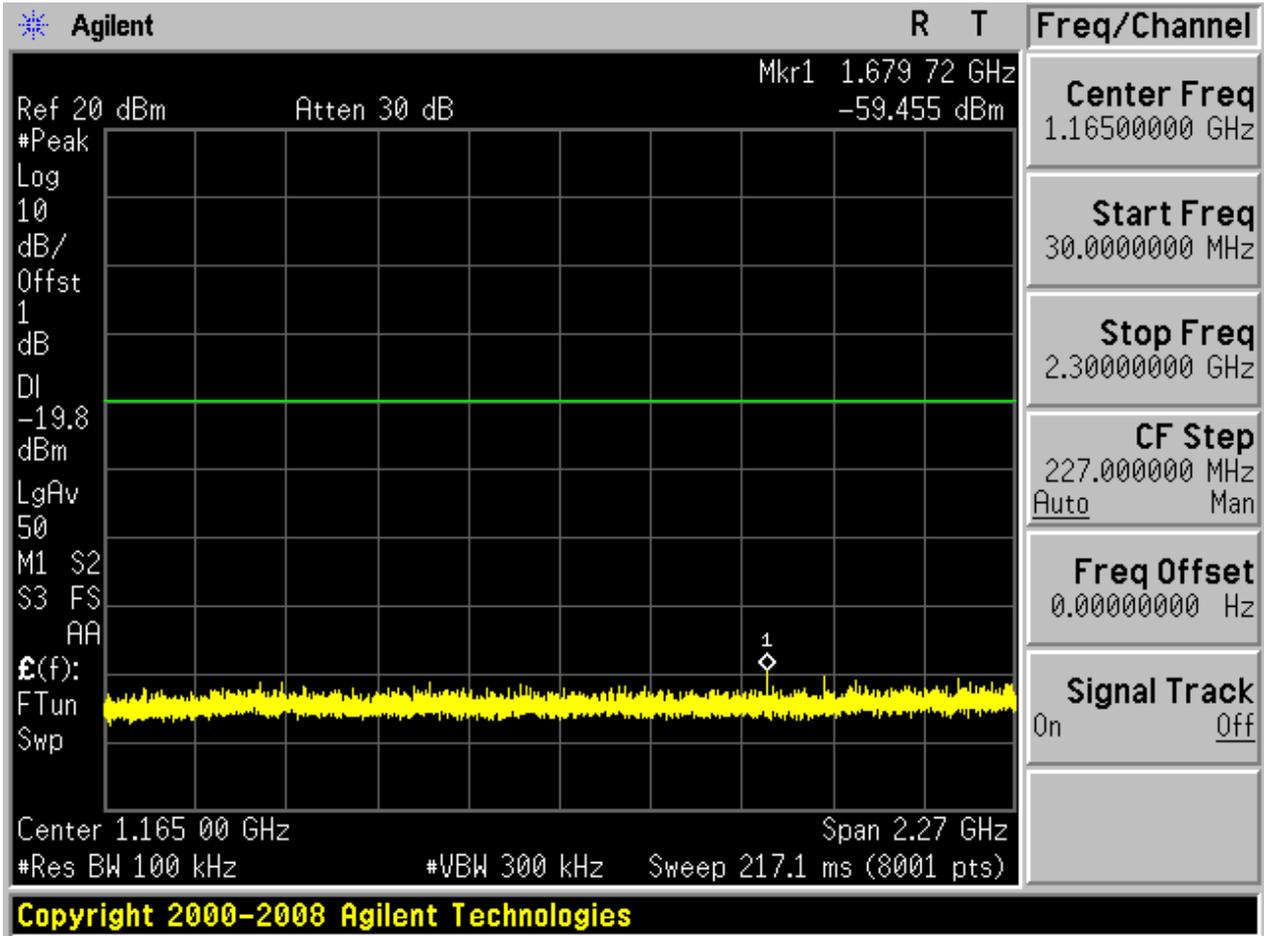


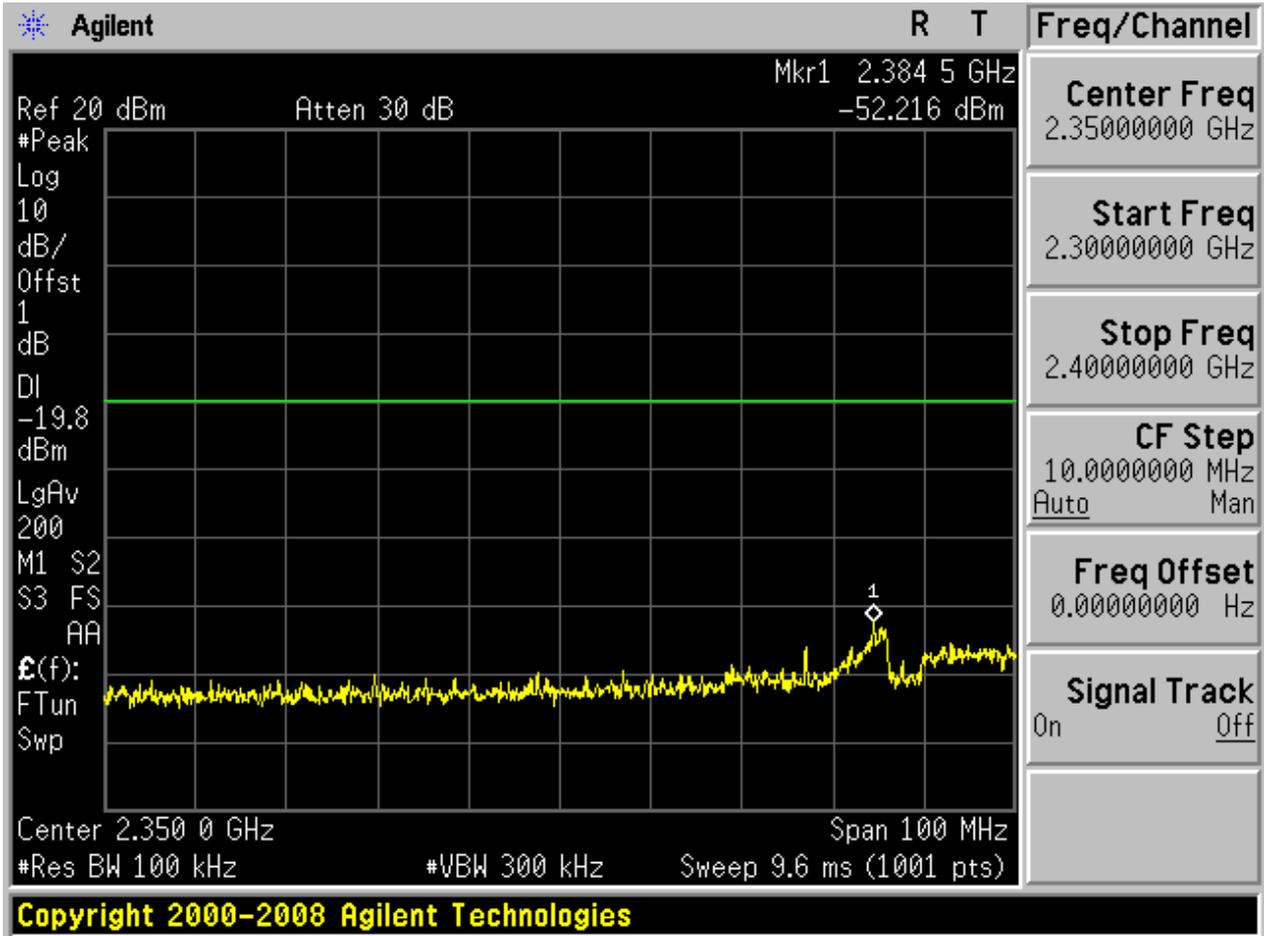


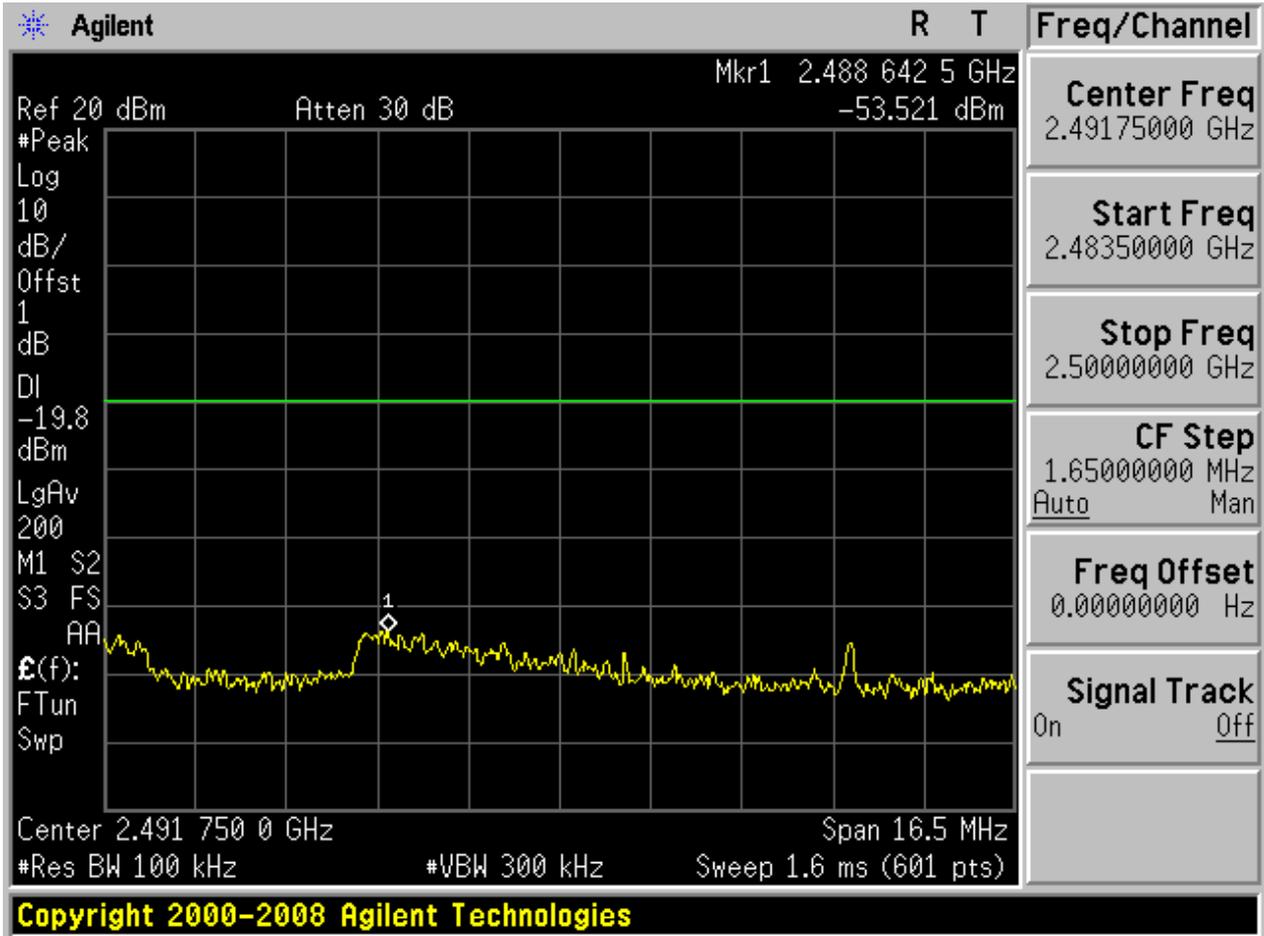
Puw:

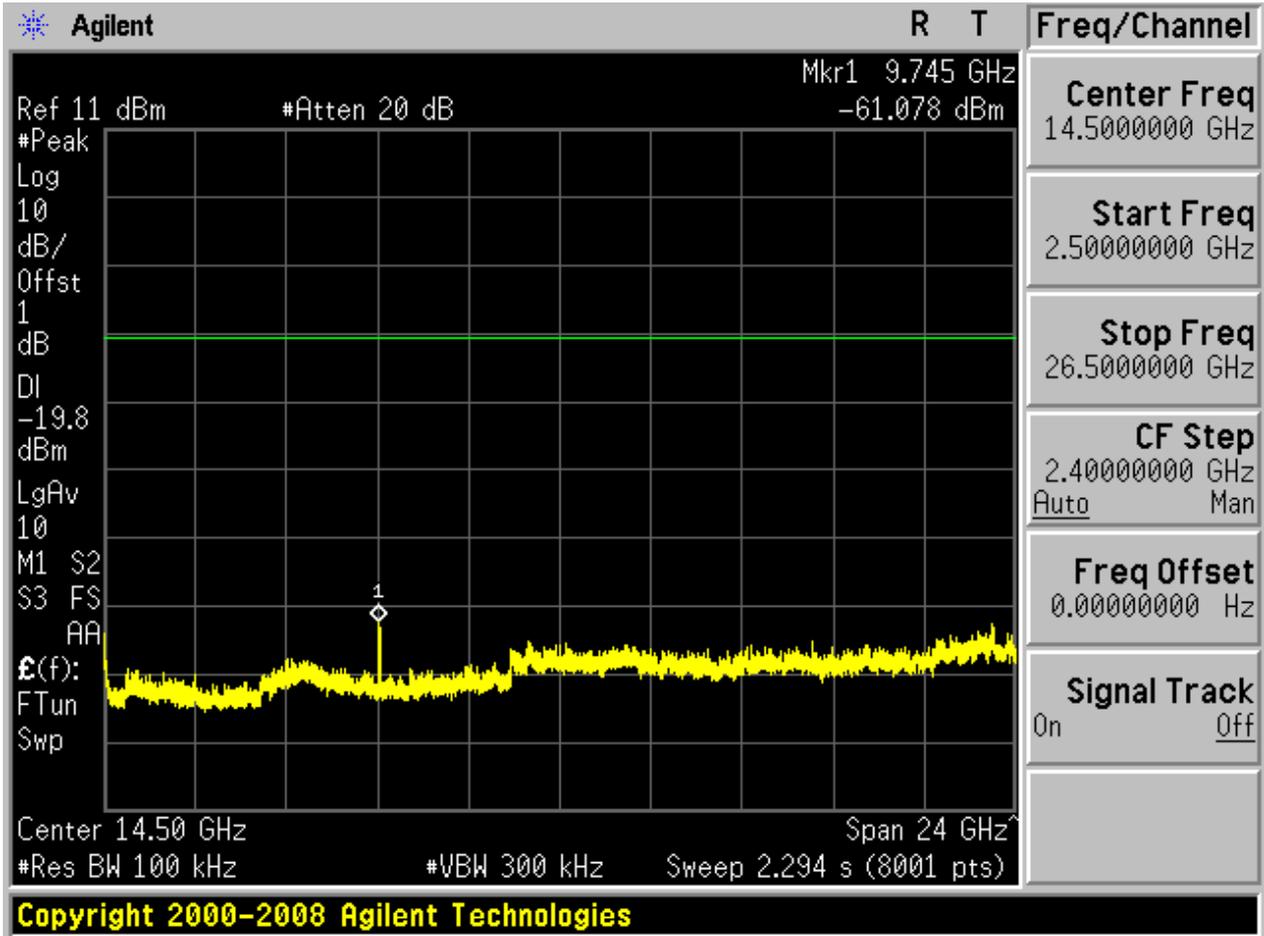








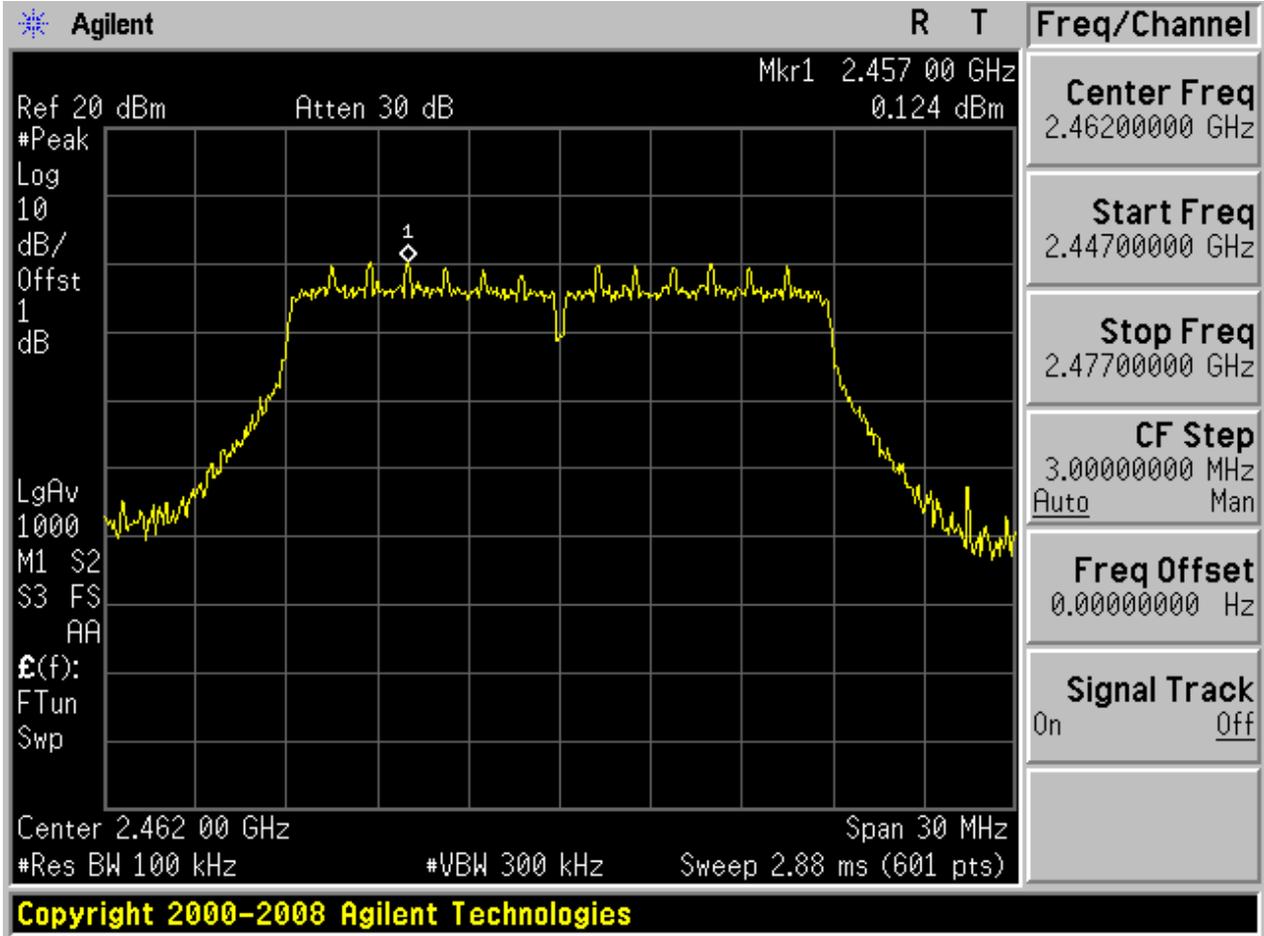






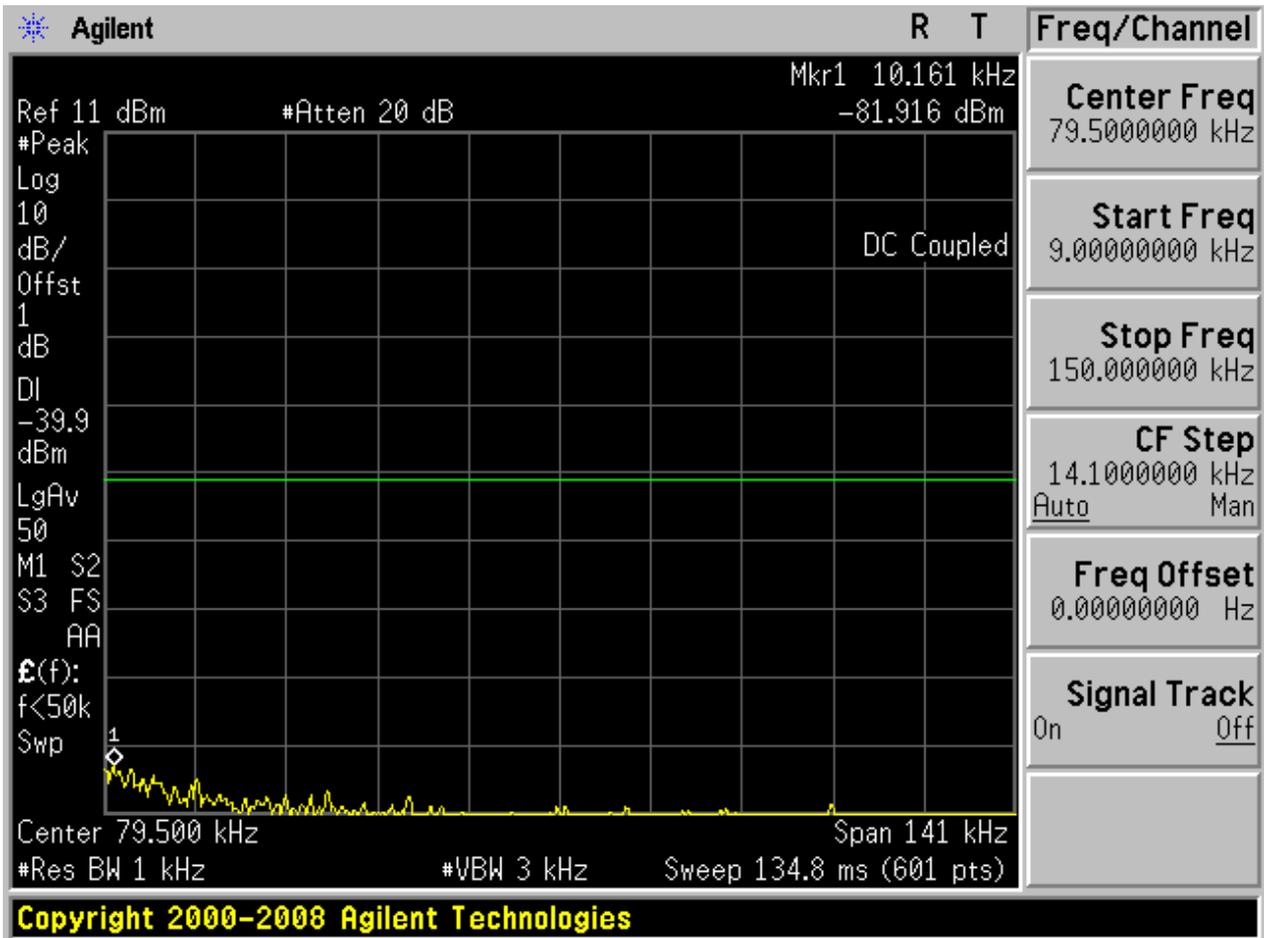
2.9 11N20_H

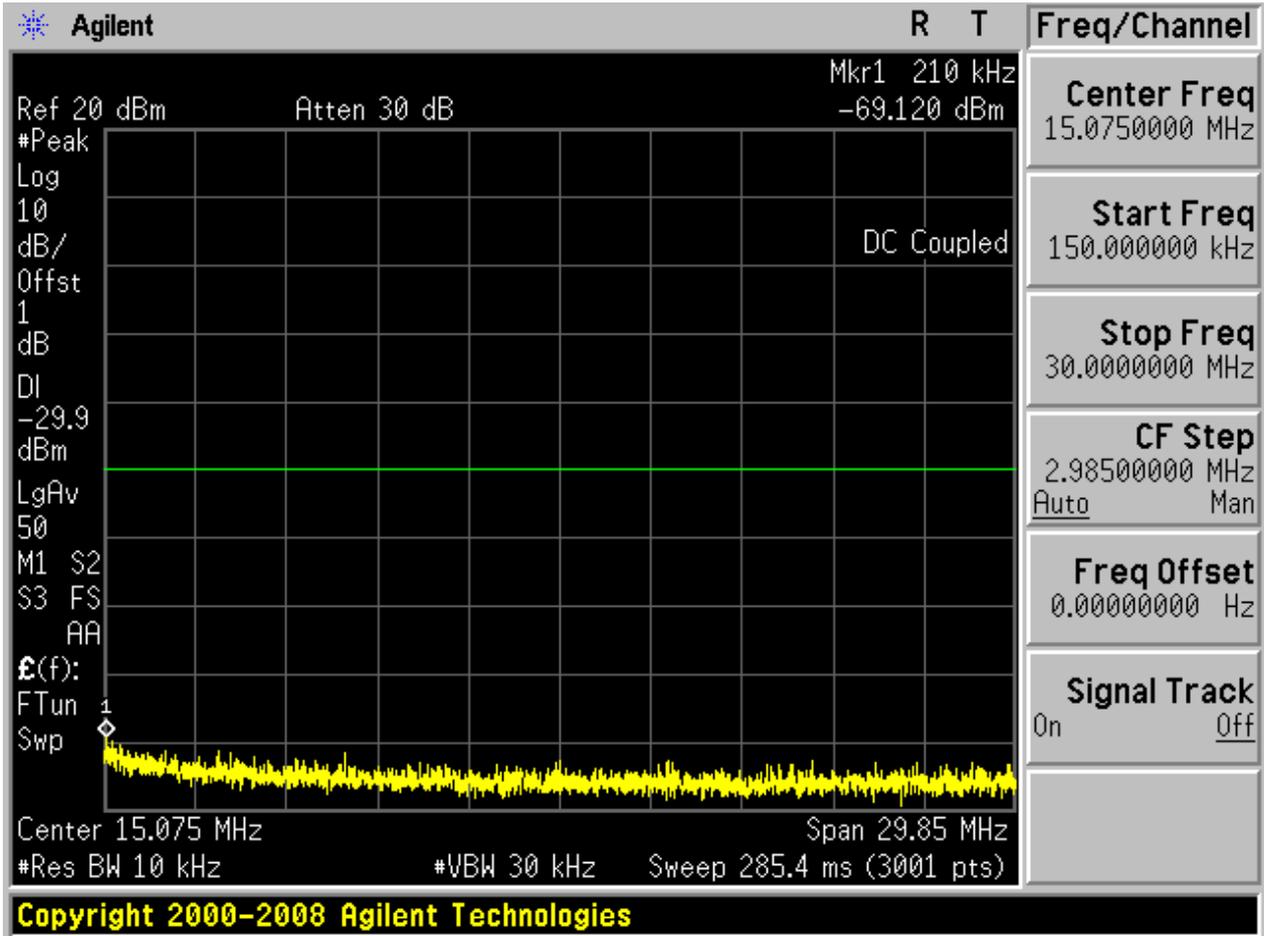
Pref:

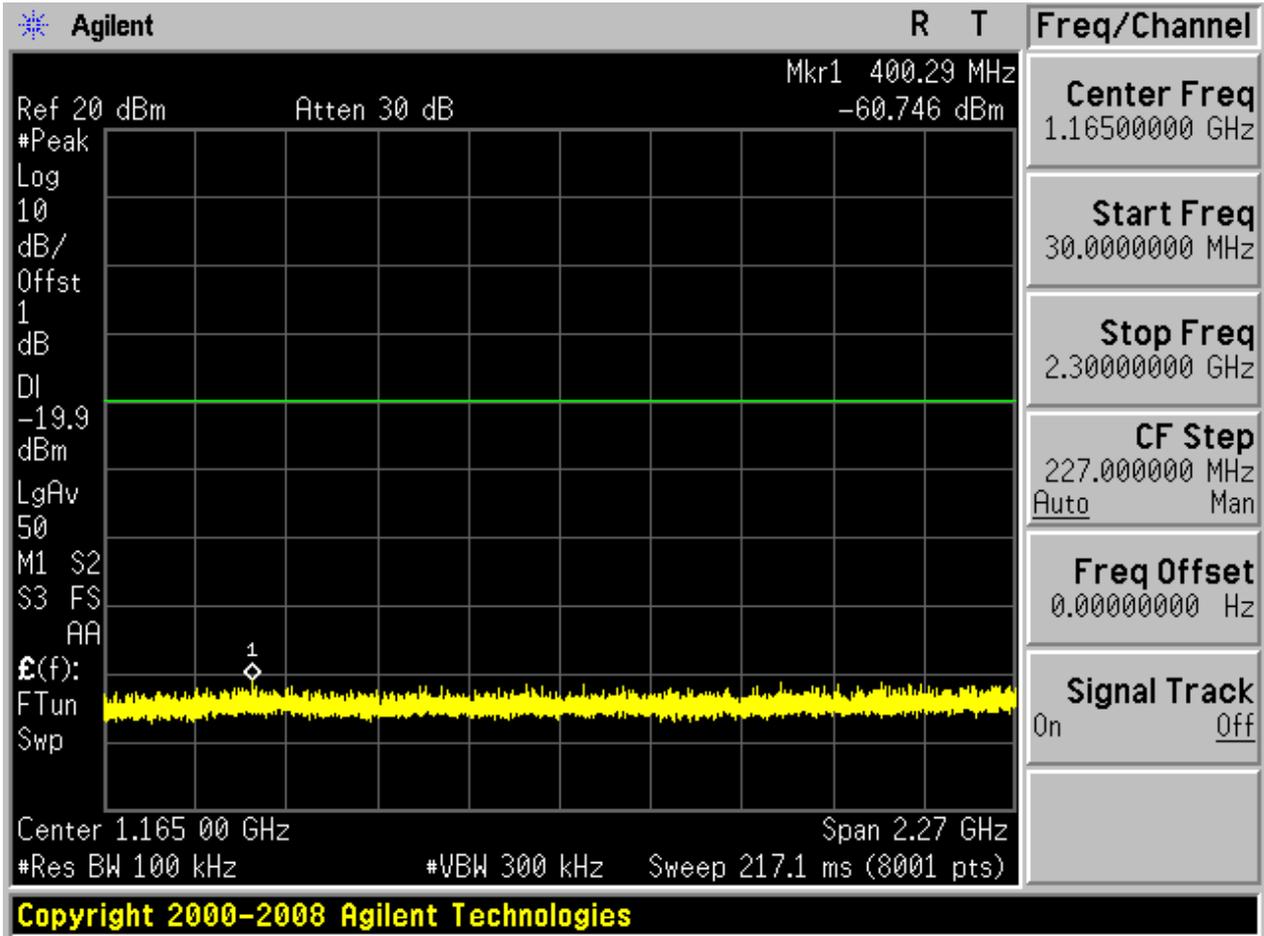


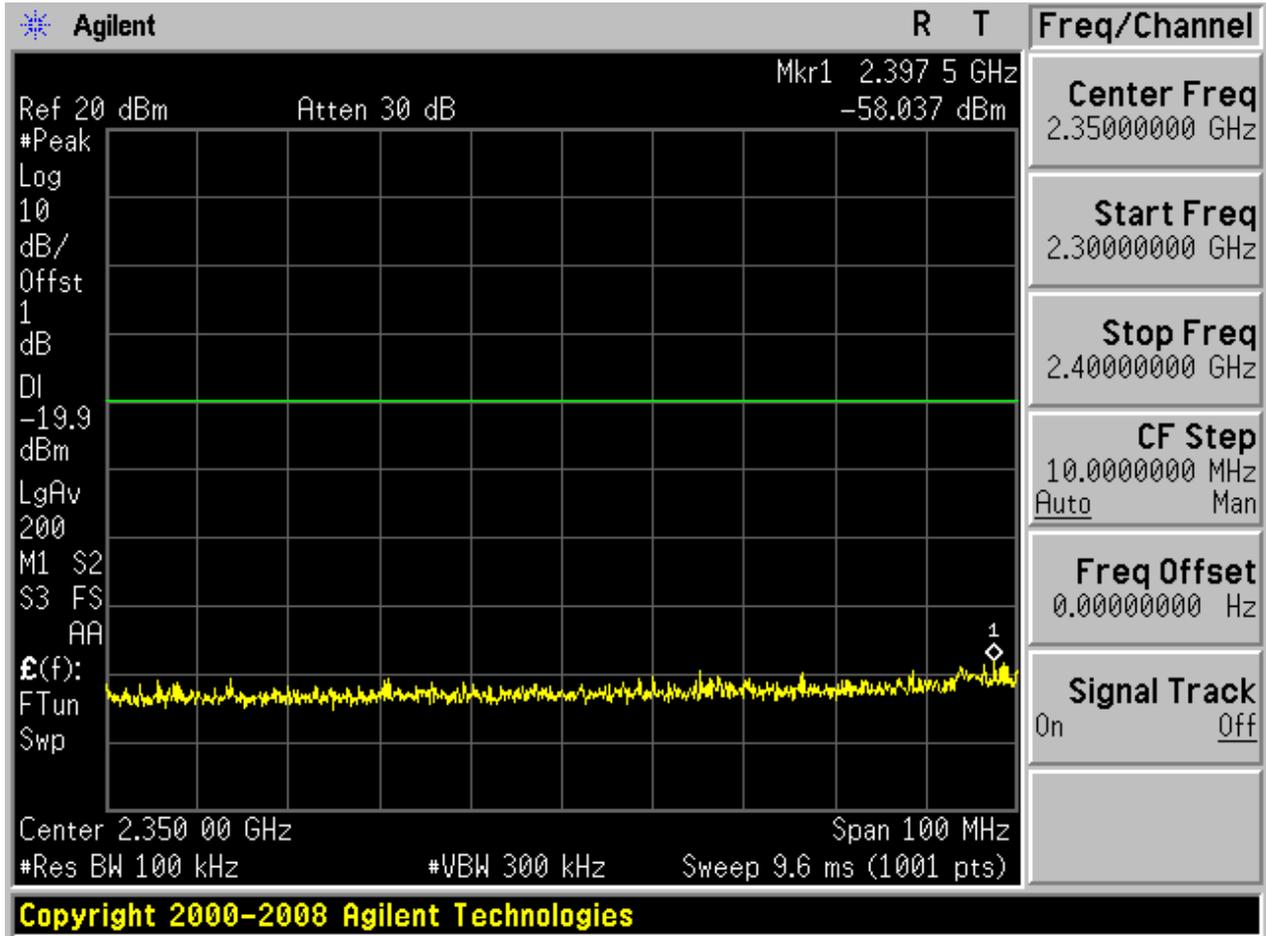


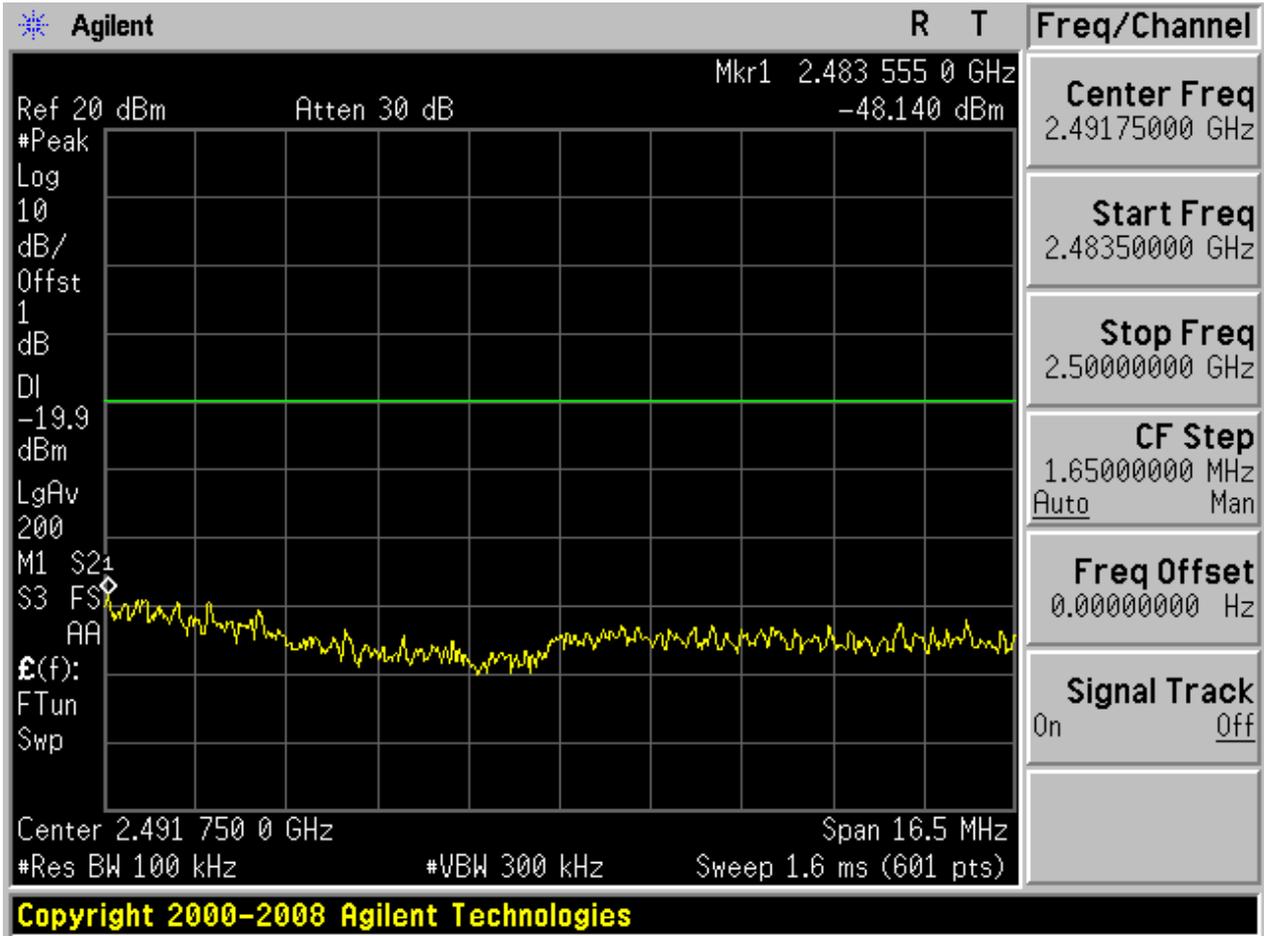
Puw:

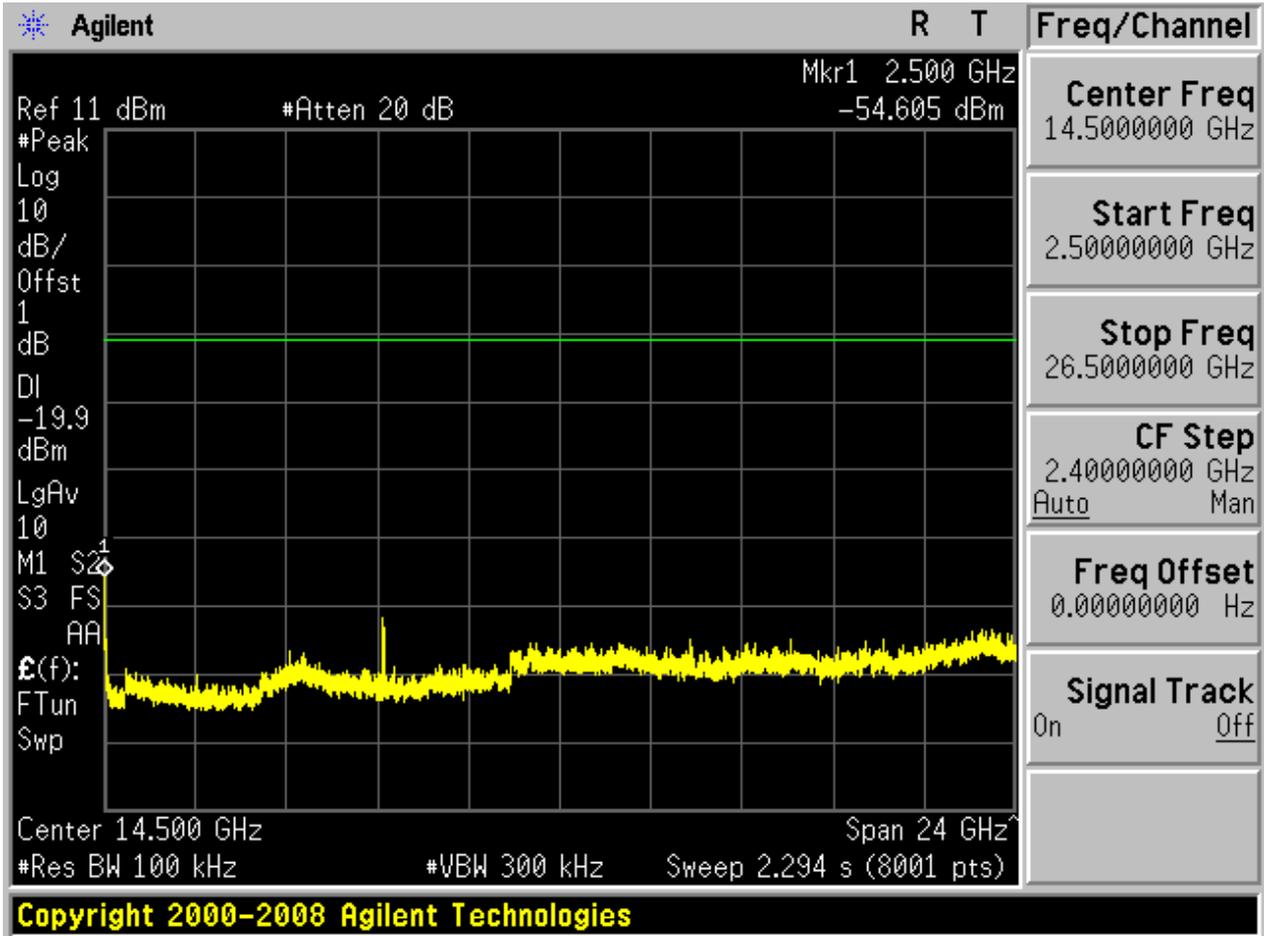












Appendix G: Radiated Spurious Emission & Spurious in Restricted Band

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

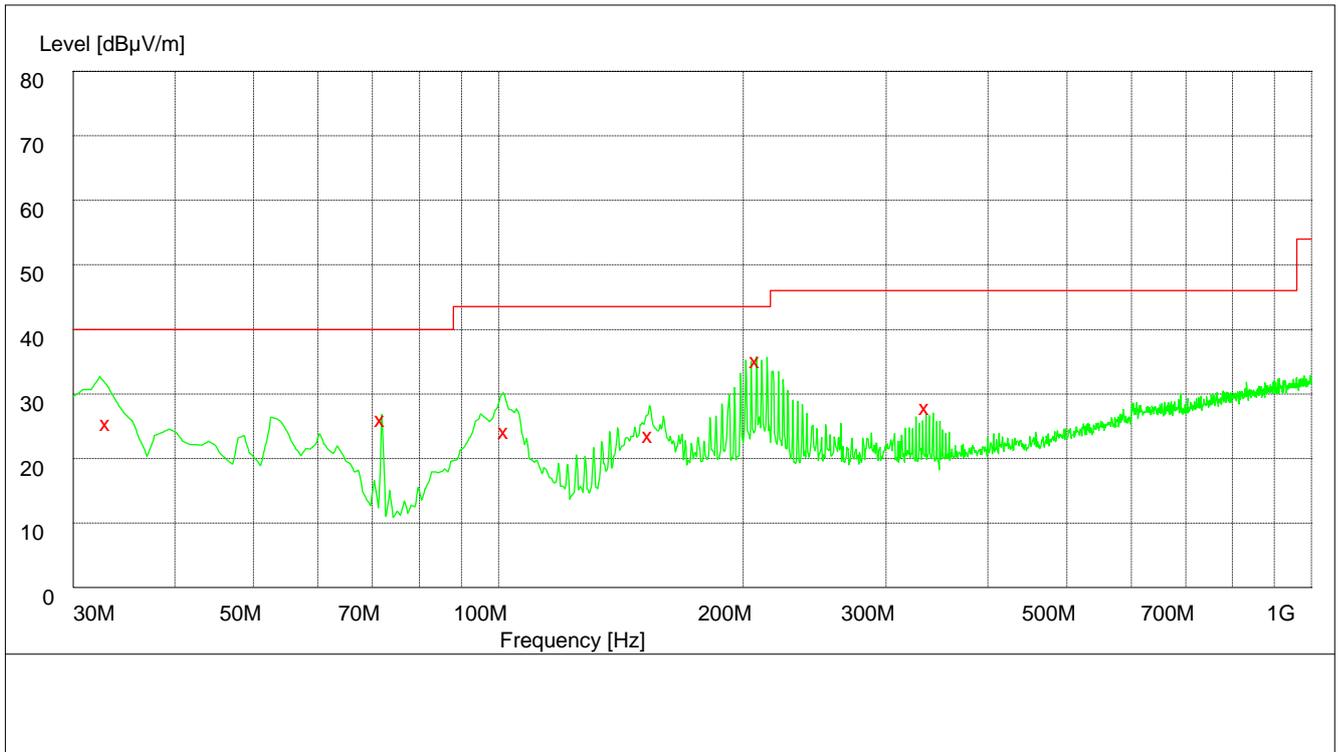
Above 1GHz, RBW = 1 MHz, VBW = 3 MHz.

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).**



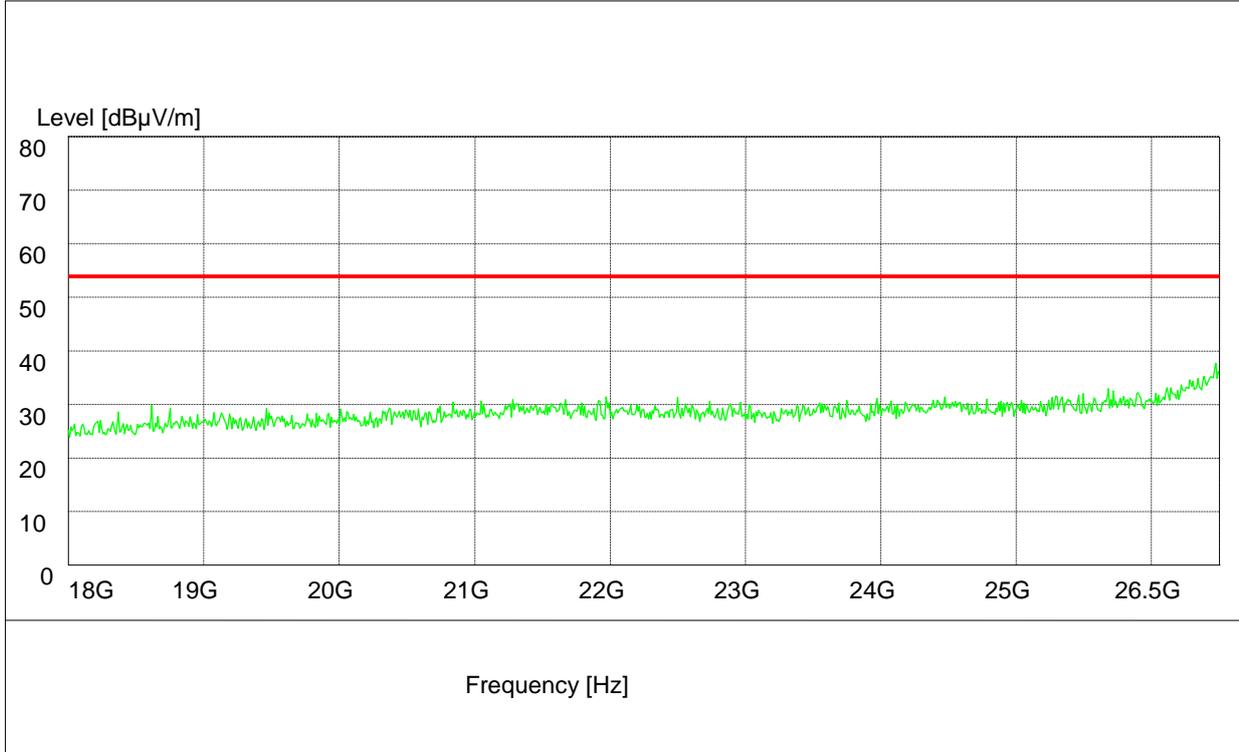
Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Plarization
33.060000	26.90	11.8	40.0	13.1	100.0	18.00	HORIZONTAL



72.000000	27.50	8.1	40.0	12.5	100.0	360.00	HORIZONTAL
102.180000	25.70	12.9	43.5	17.8	100.0	346.00	HORIZONTAL
153.600000	25.10	9.3	43.5	18.4	100.0	5.00	HORIZONTAL
208.020000	36.60	12.5	43.5	6.9	100.0	360.00	HORIZONTAL
336.000000	29.40	16.8	46.0	16.6	100.0	29.00	VERTICAL

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

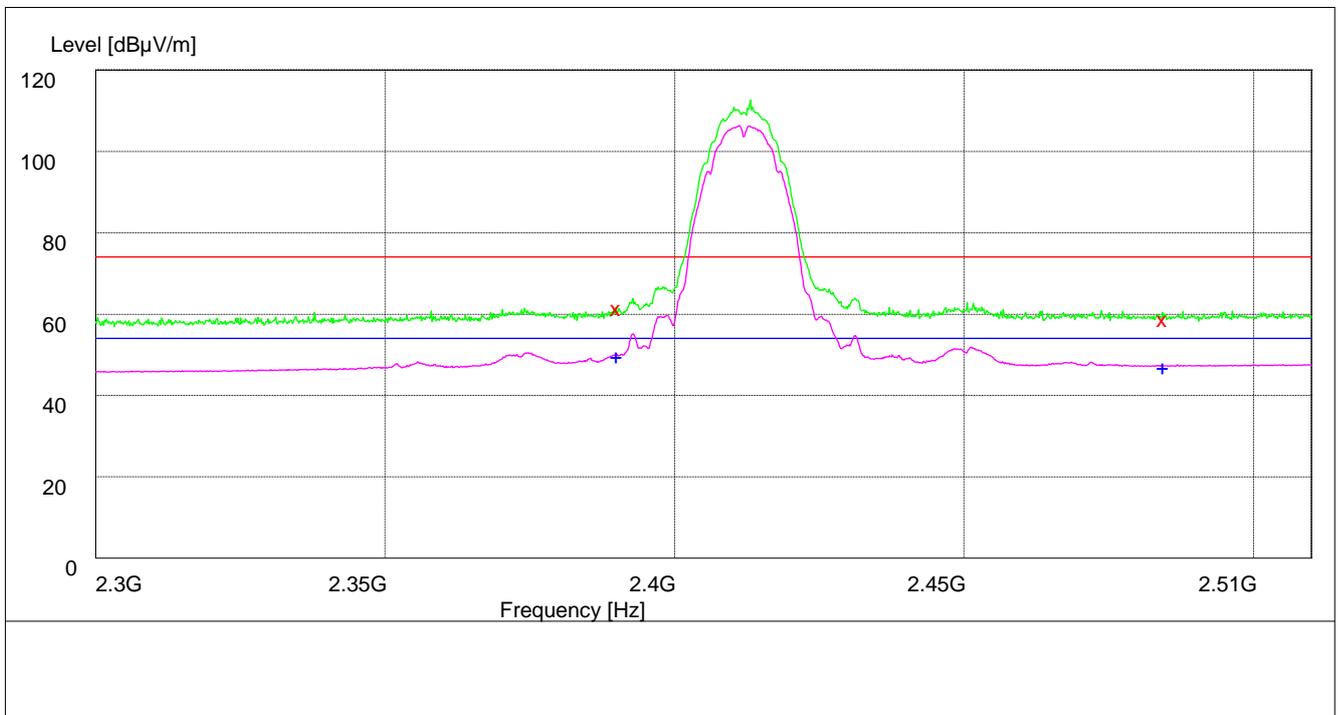
Note: No peak found in pre- test.

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

- Note 1: The testing range of “2.3 GHz to 2.5 GHz” is for checking radiated emissions located in restricted bands near the EUT operating bands.
- Note 2: Two limits are required in the testing range above 1 GHz, that is Peak limit (74 dB μ V/m) and Average Limit (54 dB μ 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

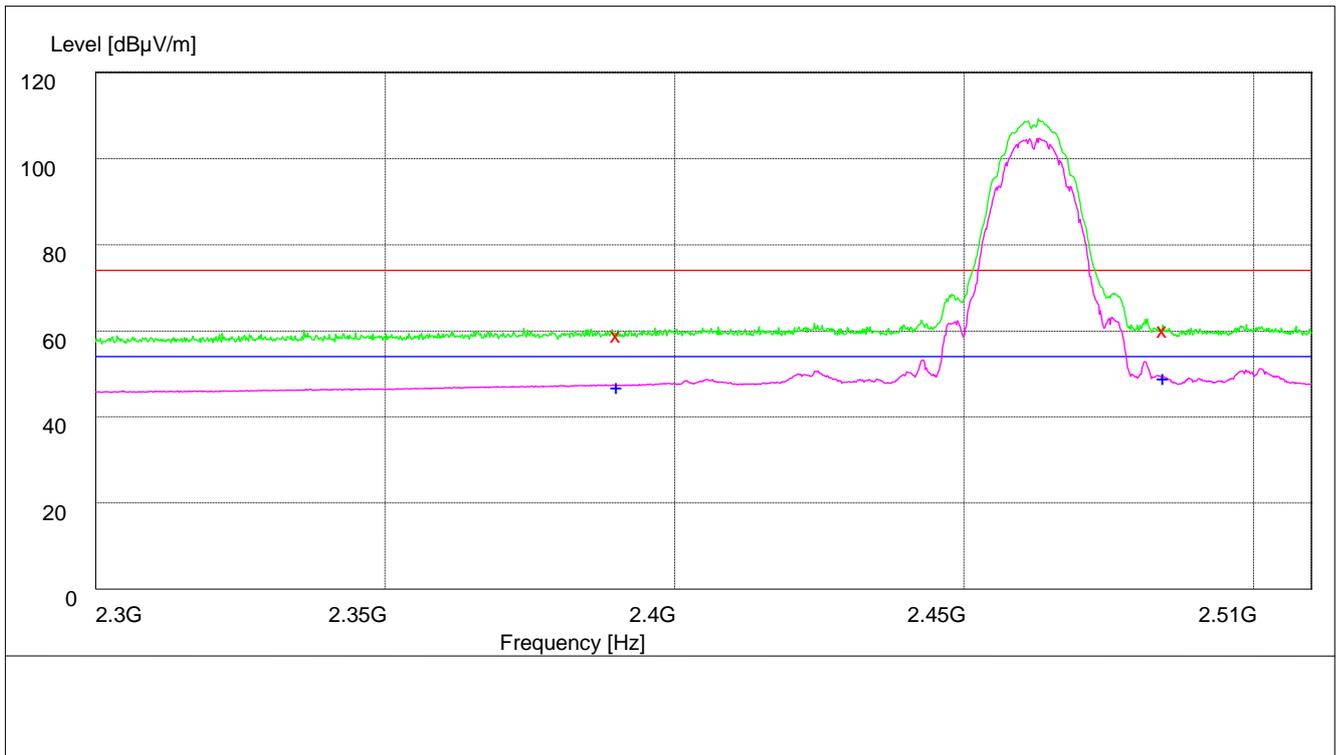
Frequency MHz	Level dB μ V/m	Transd dB	Limit dB μ V/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	61.20	34.8	74.0	12.8	100.0	82.00	HORIZONTAL
2483.500000	59.20	35.1	74.0	14.8	100.0	112.00	VERTICAL

MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dB μ V/m	Transd dB	Limit dB μ V/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	48.60	34.8	54.0	5.4	100.0	127.00	HORIZONTAL

2483.500000	47.30	35.1	54.0	6.7	104.0	241.00	VERTICAL
-------------	-------	------	------	-----	-------	--------	----------

Channel 11



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

MEASUREMENT RESULT: PK Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	58.90	34.8	74.0	15.1	107.0	38.00	VERTICAL
2483.500000	60.30	35.1	74.0	13.4	114.0	261.00	VERTICAL

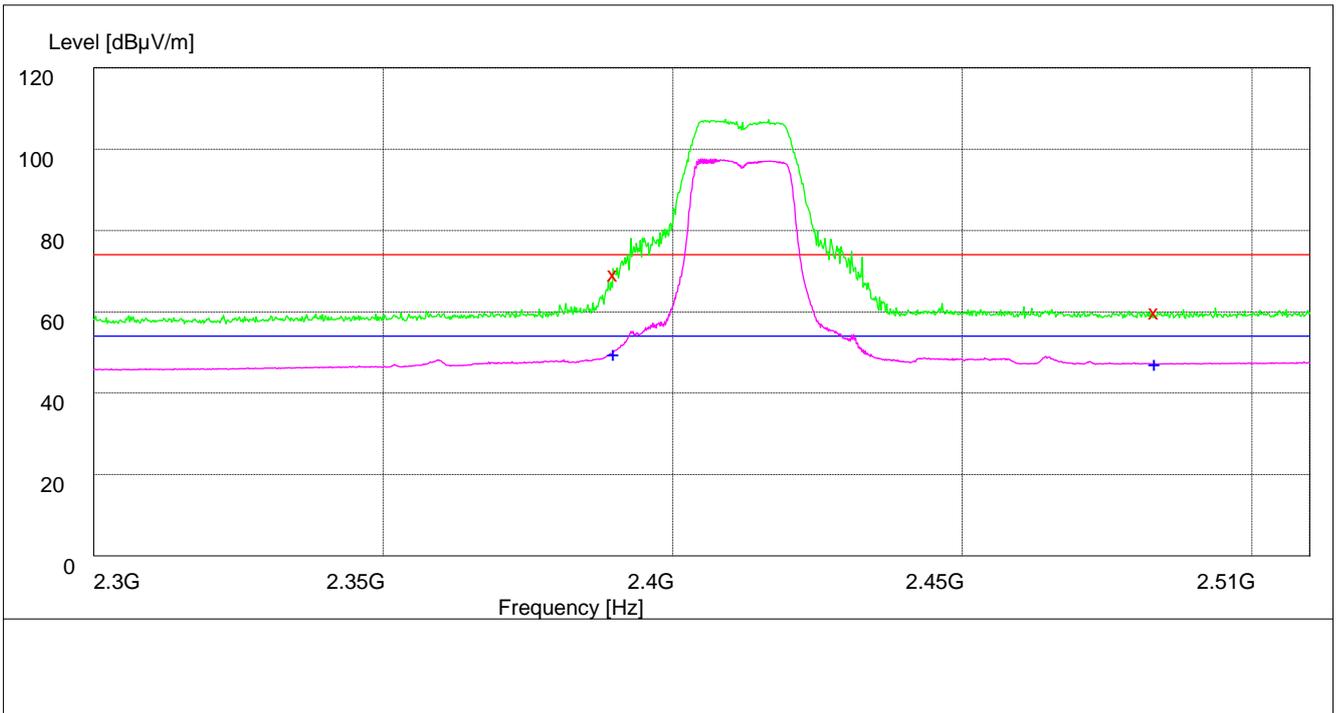
MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	47.60	34.8	54.0	6.4	100.0	58.00	HORIZONTAL
2483.500000	48.80	35.1	54.0	5.2	100.0	222.00	HORIZONTAL



Test Mode: 11g

Channel 01



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

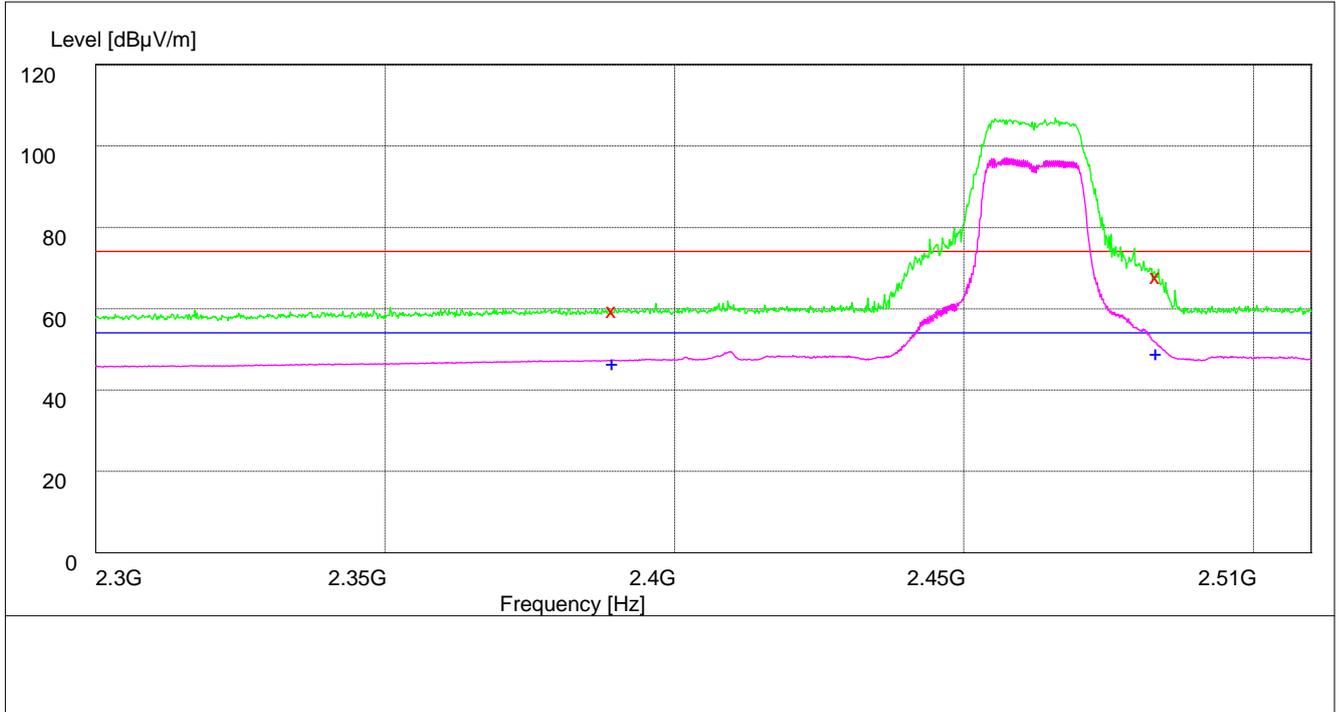
MEASUREMENT RESULT: PK Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	69.60	34.8	74.0	4.4	101.0	124.00	HORIZONTAL
2483.500000	59.60	35.1	74.0	6.4	106.0	210.00	VERTICAL

MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	48.80	34.8	54.0	5.2	101.0	264.00	HORIZONTAL
2483.500000	47.30	35.1	54.0	6.7	106.0	86.00	VERTICAL

Channel 11



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

MEASUREMENT RESULT: PK Detector

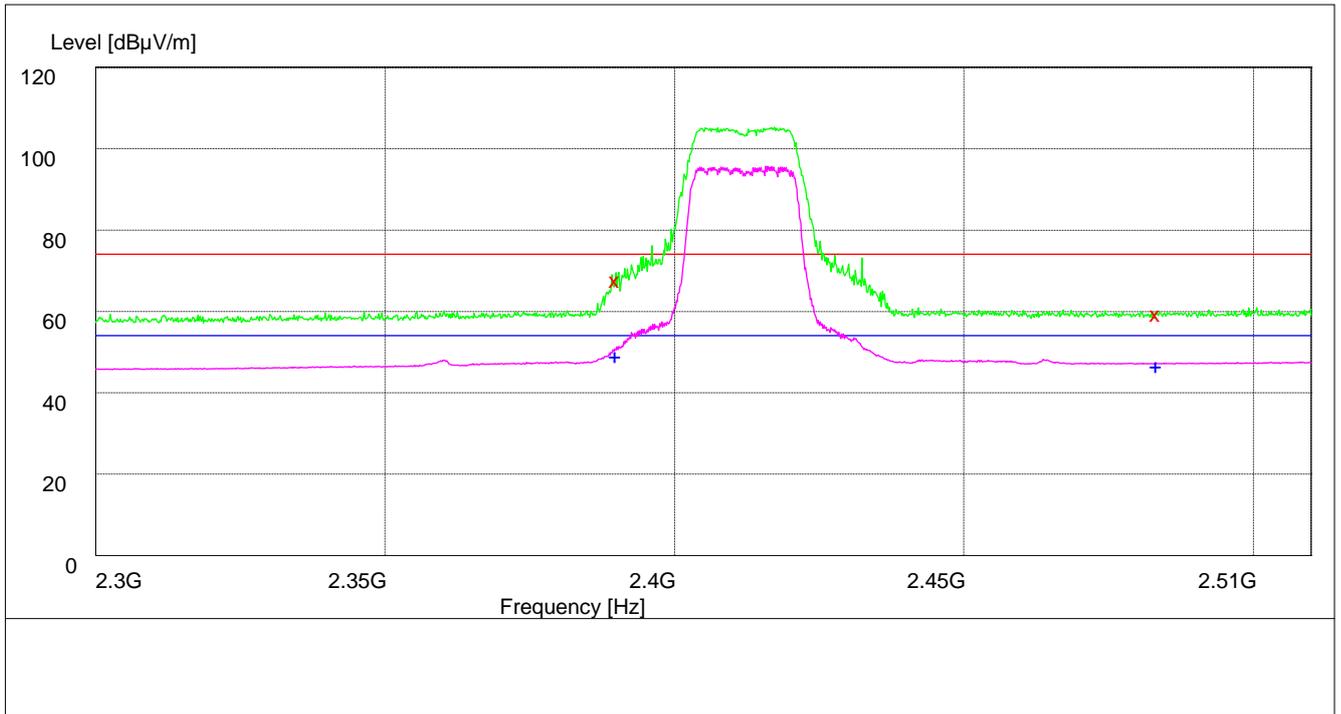
Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	59.00	34.8	74.0	15.0	100.0	217.00	VERTICAL
2483.500000	68.00	35.1	74.0	6.0	100.0	135.00	VERTICAL

MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	47.00	34.8	54.0	7.0	104.0	22.00	HORIZONTAL
2483.500000	49.10	35.1	54.0	4.9	100.0	224.00	VERTICAL

Test Mode: 11n

Channel 01



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

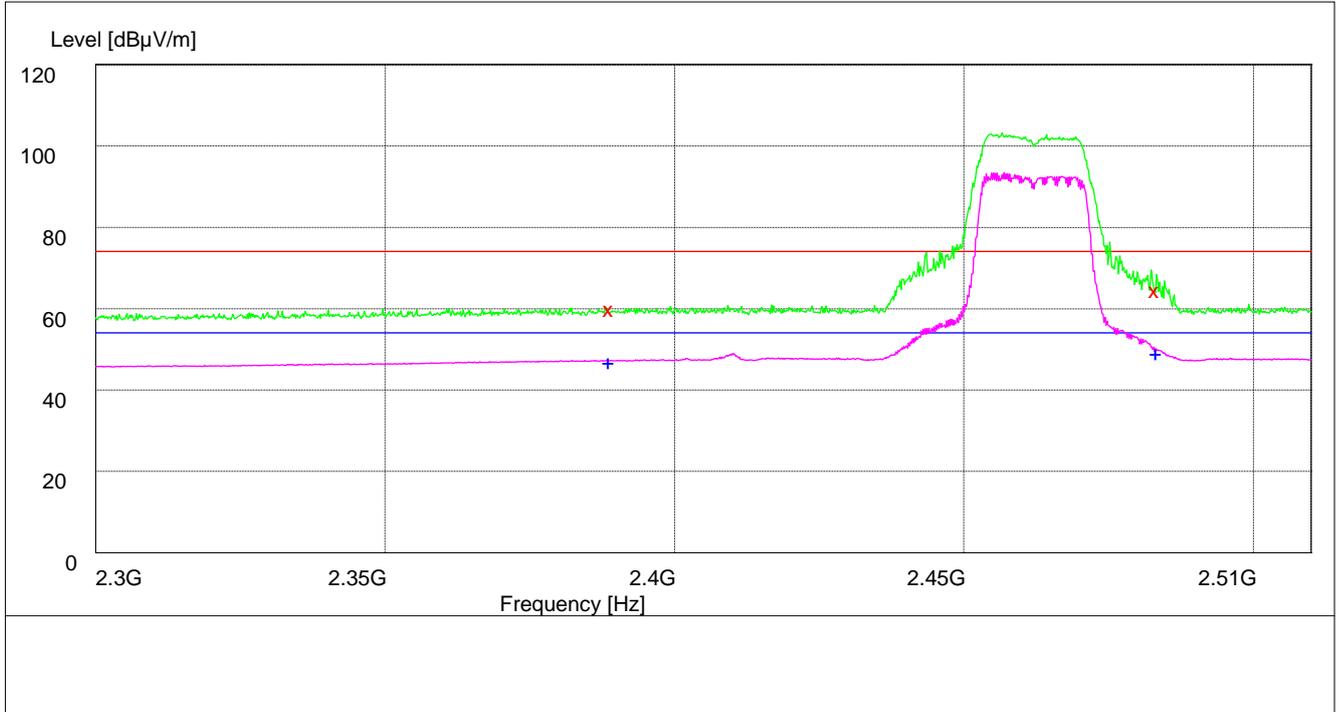
MEASUREMENT RESULT: PK Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	67.70	34.8	74.0	6.3	104.0	258.00	VERTICAL
2483.500000	59.50	35.1	74.0	14.5	101.0	107.00	HORIZONTAL

MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	48.50	34.8	54.0	5.5	104.0	141.00	VERTICAL
2483.500000	47.50	35.1	54.0	6.5	103.0	29.00	HORIZONTAL

Channel 11



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

MEASUREMENT RESULT: PK Detector

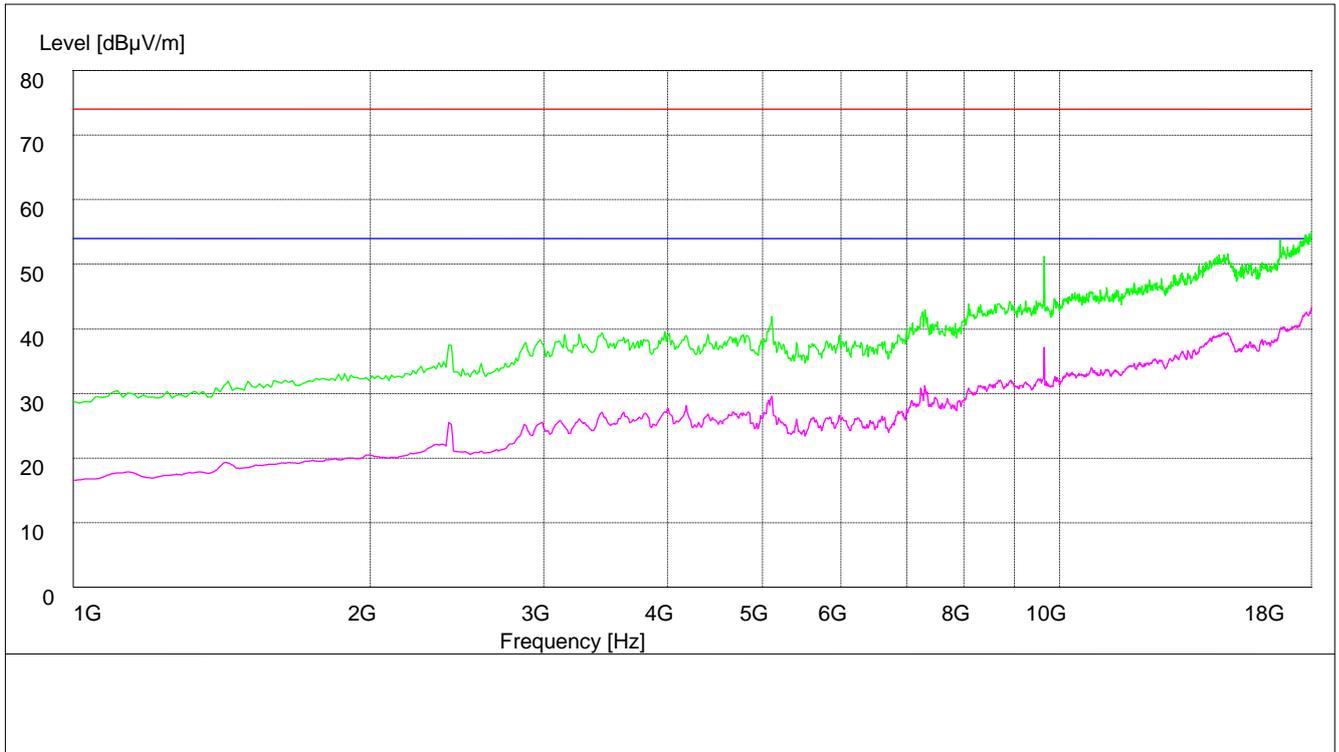
Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	59.40	34.8	74.0	14.6	100.0	37.00	HORIZONTAL
2483.500000	64.30	35.1	74.0	9.7	104.0	223.00	VERTICAL

MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	47.40	34.8	54.0	6.6	107.0	48.00	VERTICAL
2483.500000	48.60	35.1	54.0	5.4	119.0	271.00	VERTICAL

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

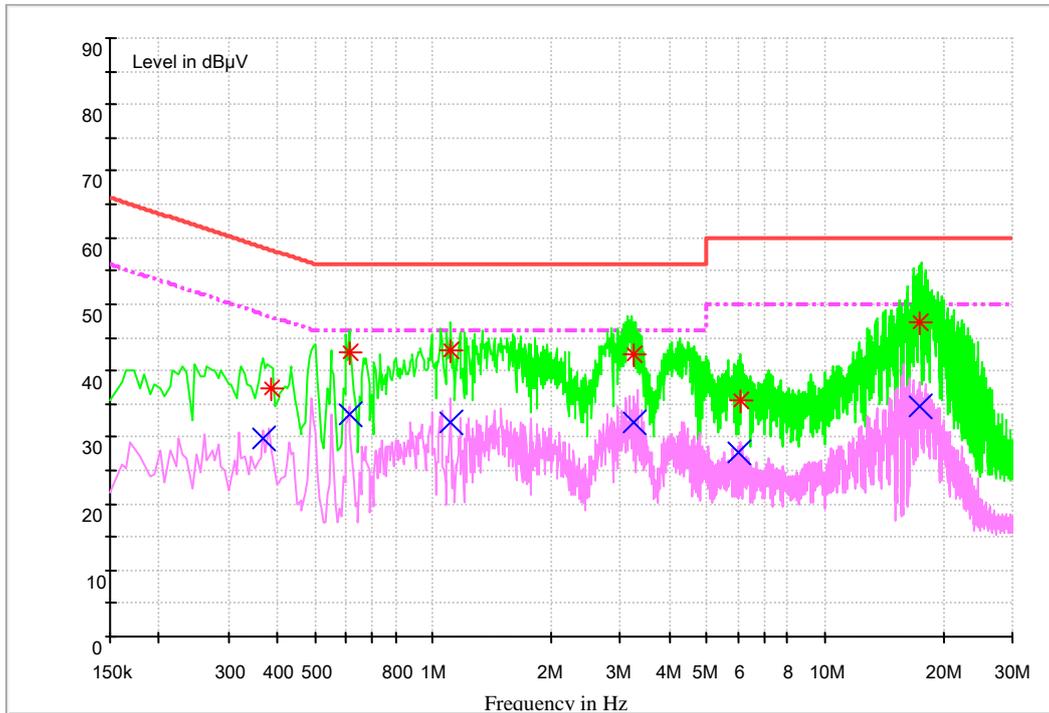
- Note 1: The test results and plot for testing range of “1 GHz to 18 GHz” showed as below is **the WORST case for all Test Modes and Channels**. This range will not be presented for each Test Mode and each Channel.
- Note 2: The testing range of “1 GHz to 18 GHz” is for checking radiated emissions located 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 μ V/m) and Average Limit (54 dB μ V/m).



Appendix H: Conducted Emission at Power Port

Note: RBW =9 kHz, VBW = 30 kHz

Channel 6



MEASUREMENT RESULT: QP Detector

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.386074	37.2	9.7	58.1	20.9	N	FLO
0.610672	42.8	9.7	56.0	13.2	N	FLO
1.108004	43.0	9.7	56.0	13.0	N	FLO
3.259920	42.4	9.7	56.0	13.6	N	FLO
6.061582	35.4	9.8	60.0	24.6	N	FLO
17.512242	47.3	10.1	60.0	12.7	L1	FLO

MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.368074	29.8	9.7	48.5	18.7	N	FLO



0.609998	33.4	9.7	46.0	12.6	N	FLO
1.109264	32.3	9.7	46.0	13.7	N	FLO
3.265816	32.2	9.7	46.0	13.8	N	FLO
6.034762	27.6	9.8	50.0	22.4	N	FLO
17.439252	34.6	10.1	50.0	15.4	L1	FLO

END