



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.

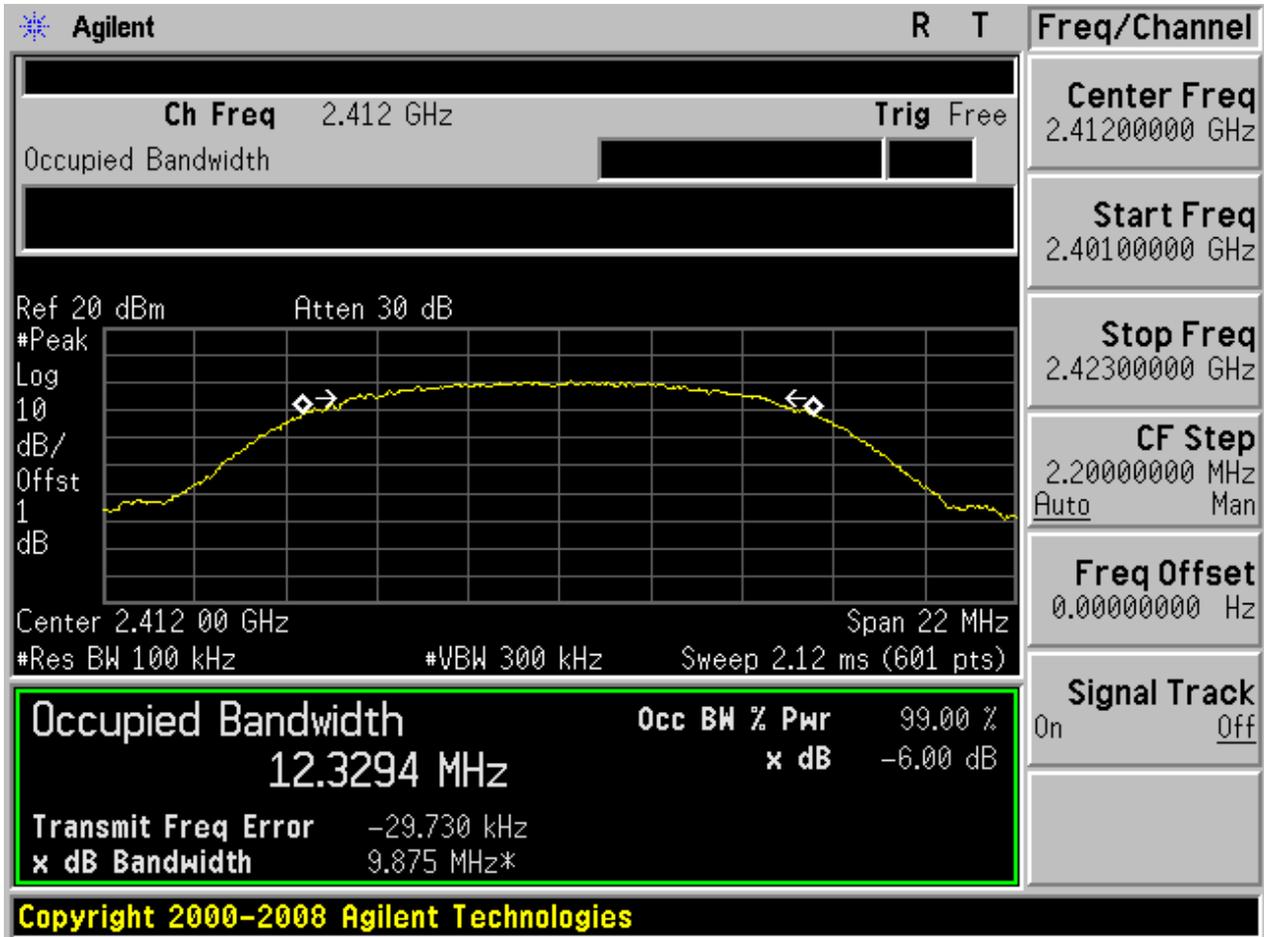
Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	DTS6dBBW[MHz]	Verdict
11B	L	2412	9.87	pass
11B	M	2437	9.94	pass
11B	H	2462	9.93	pass
11G	L	2412	16.42	pass
11G	M	2437	16.37	pass
11G	H	2462	16.39	pass
11N20	L	2412	17.58	pass
11N20	M	2437	17.26	pass
11N20	H	2462	17.29	pass



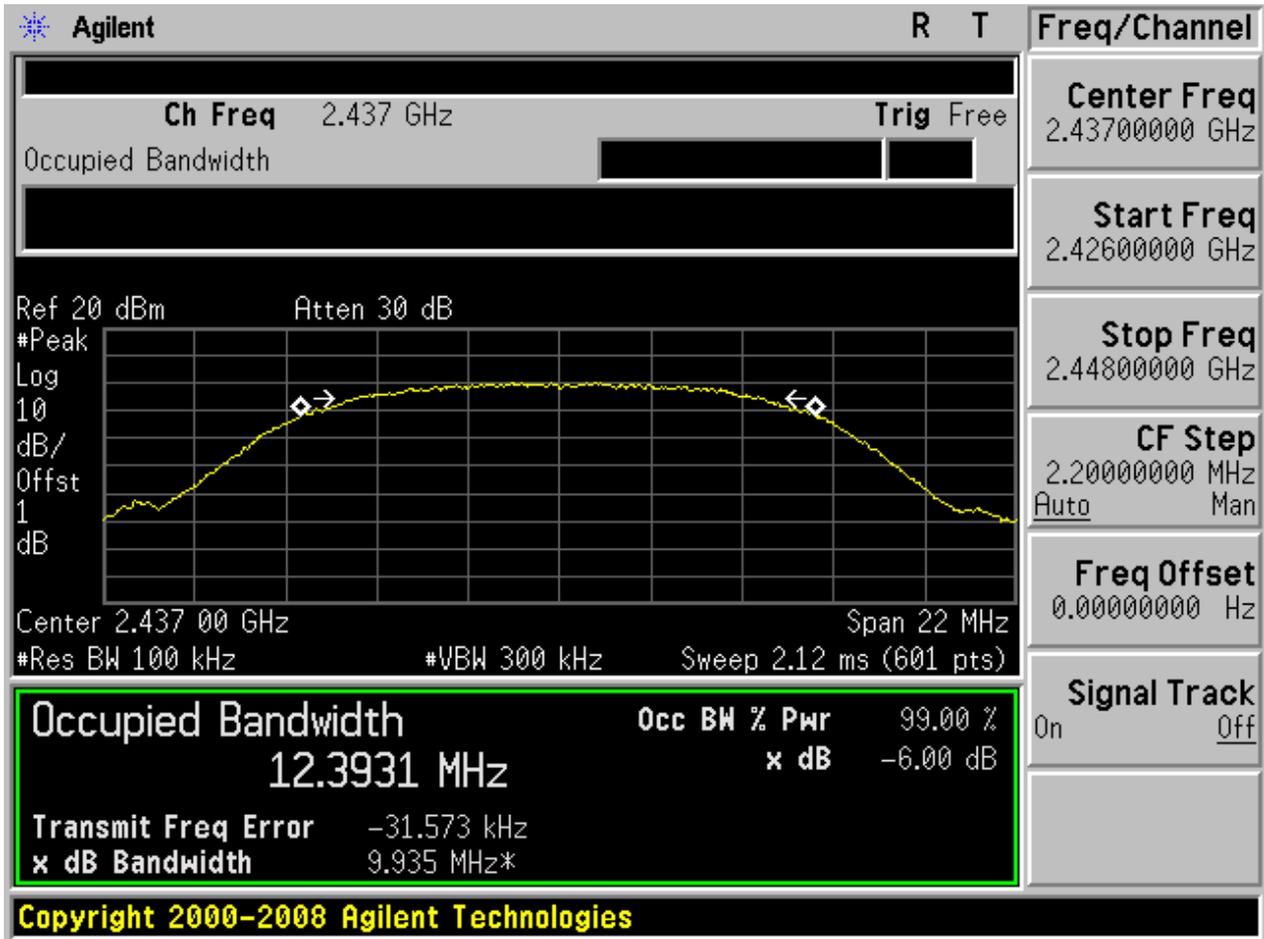
Part II - Test Plots

2.1 11B_L



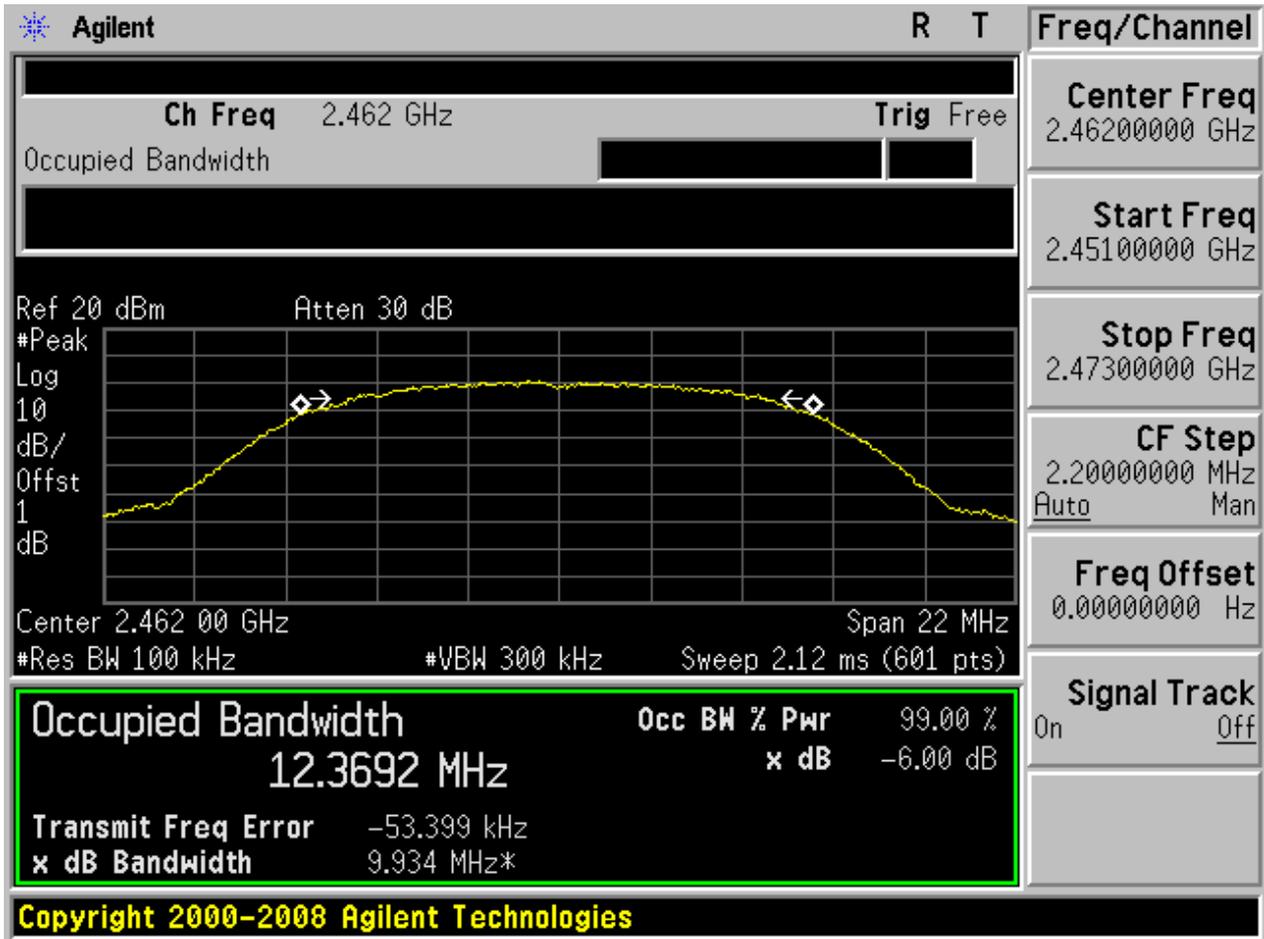


2.2 11B_M



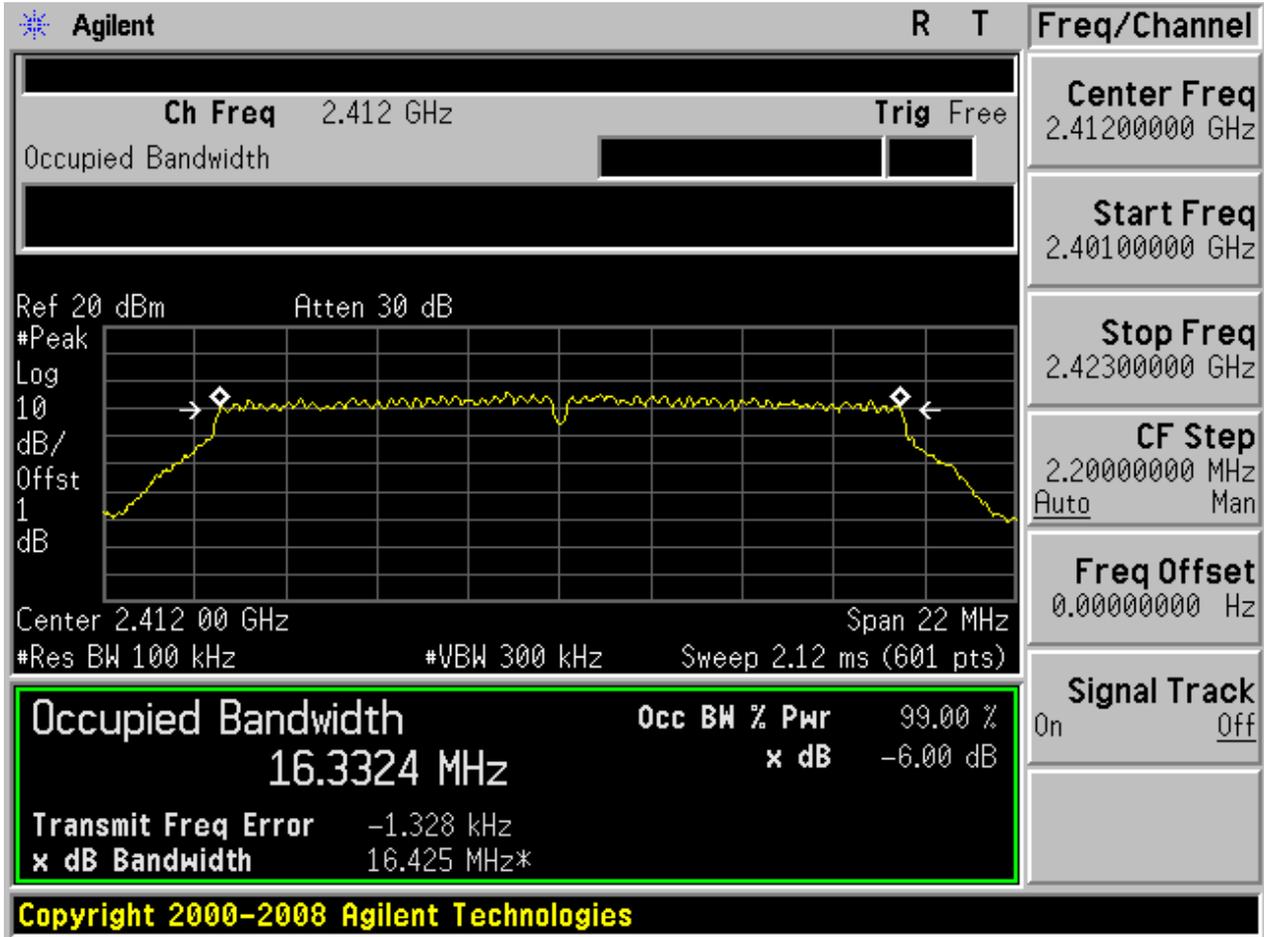


2.3 11B_H



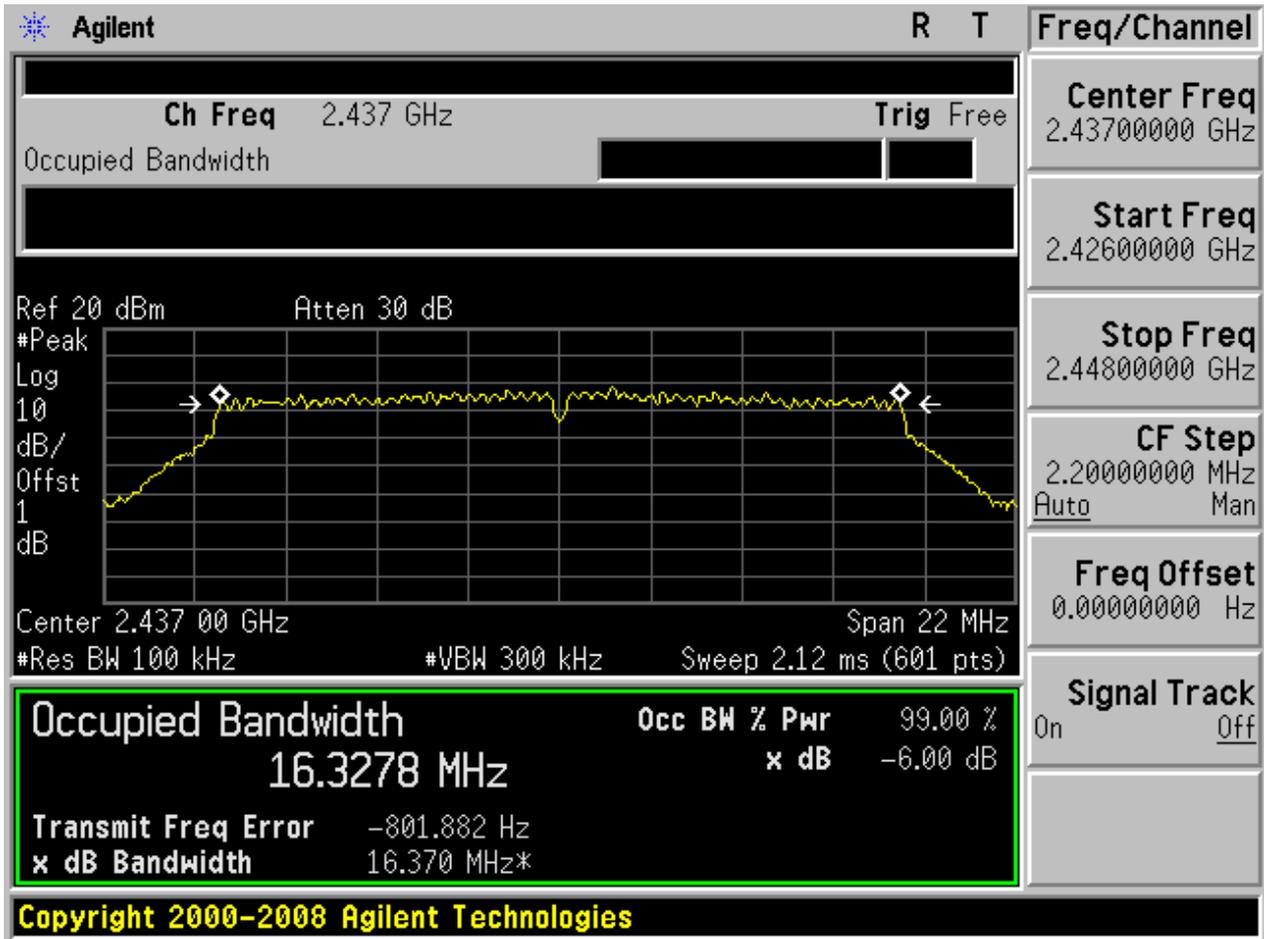


2.4 11G_L



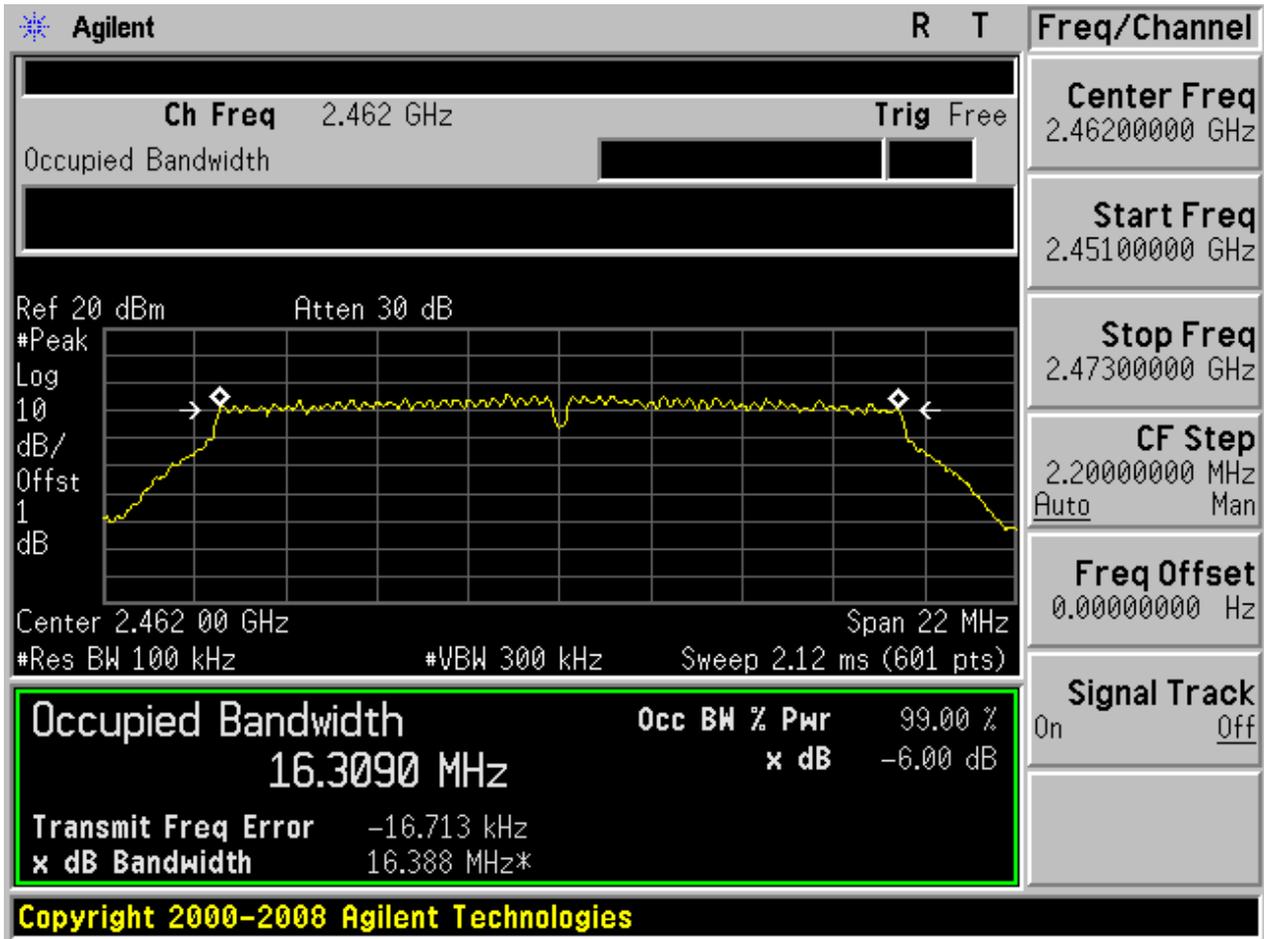


2.5 11G_M



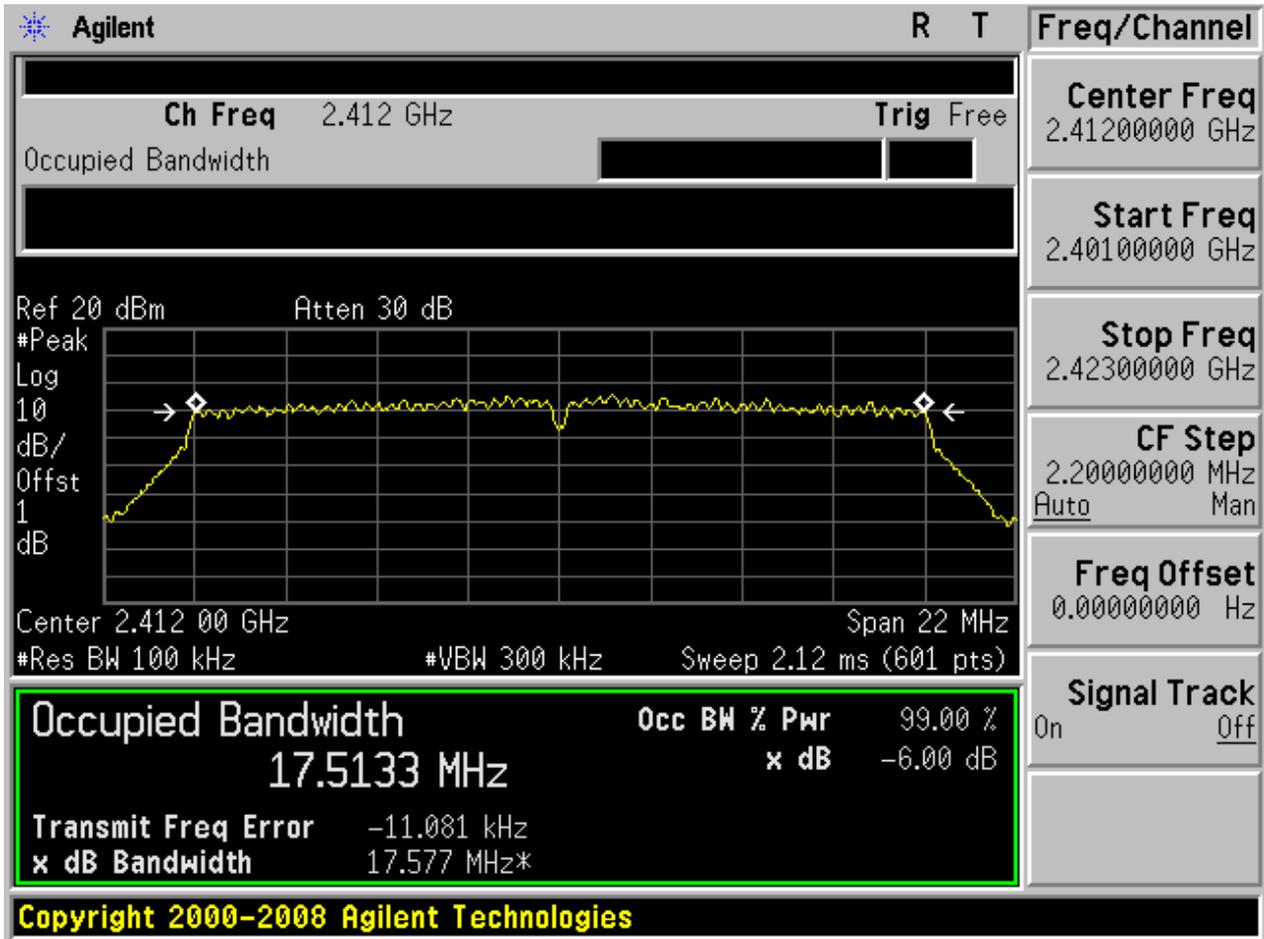


2.6 11G_H



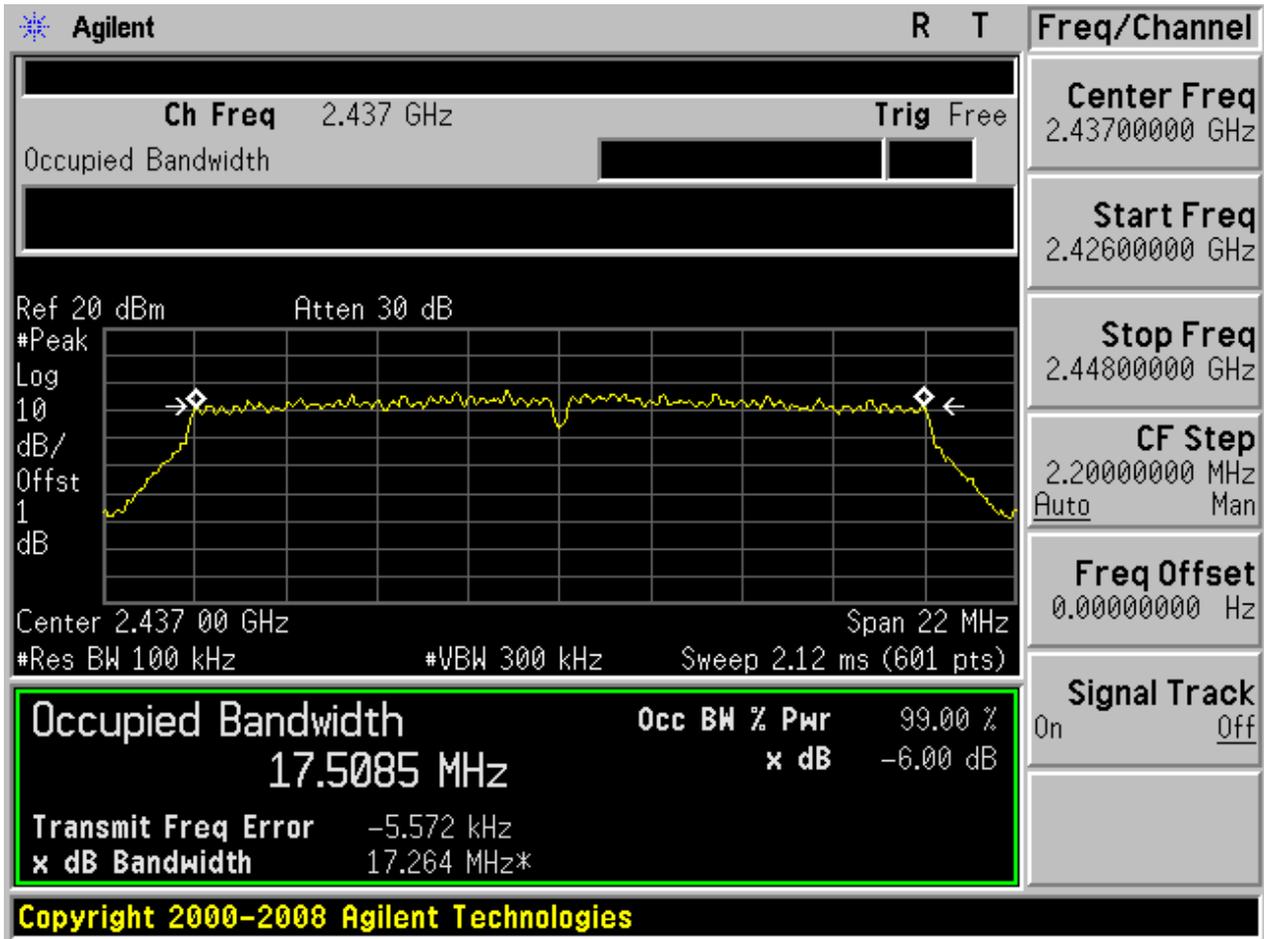


2.7 11N20_L



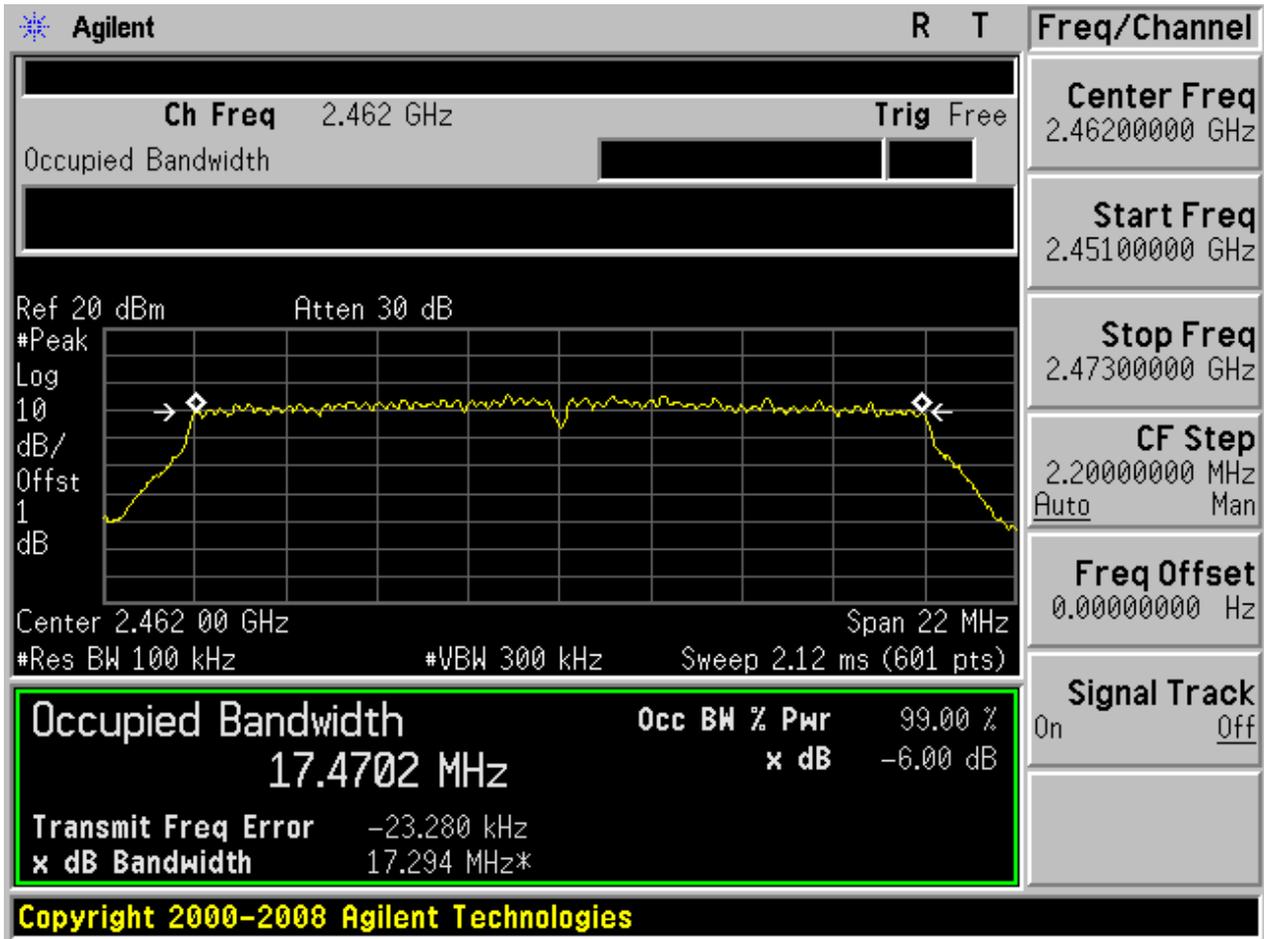


2.8 11N20_M





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	22.75	pass
11B	M	2437	22.98	pass
11B	H	2462	23.03	pass
11G	L	2412	23.61	pass
11G	M	2437	25.78	pass
11G	H	2462	24.06	pass
11N20	L	2412	23.54	pass
11N20	M	2437	24.59	pass
11N20	H	2462	24.01	pass



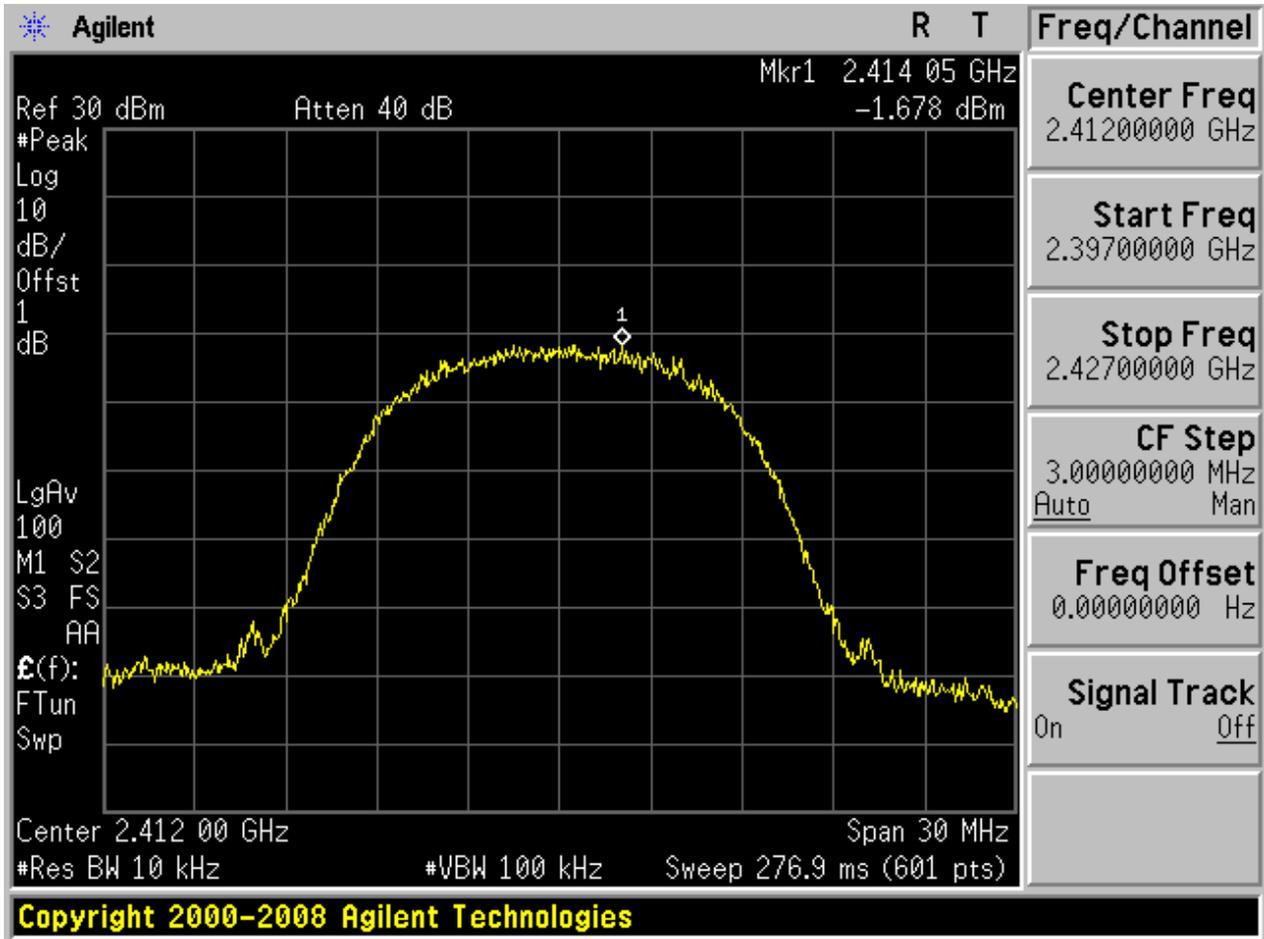
Appendix C: Maximum Power Spectral Density Level

Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	PD[MHz]	Verdict
11B	L	2412	-1.68	pass
11B	M	2437	0.2	pass
11B	H	2462	-0.82	pass
11G	L	2412	-4.14	pass
11G	M	2437	-2.23	pass
11G	H	2462	-3.51	pass
11N20	L	2412	-3.7	pass
11N20	M	2437	-2.02	pass
11N20	H	2462	-2.36	pass

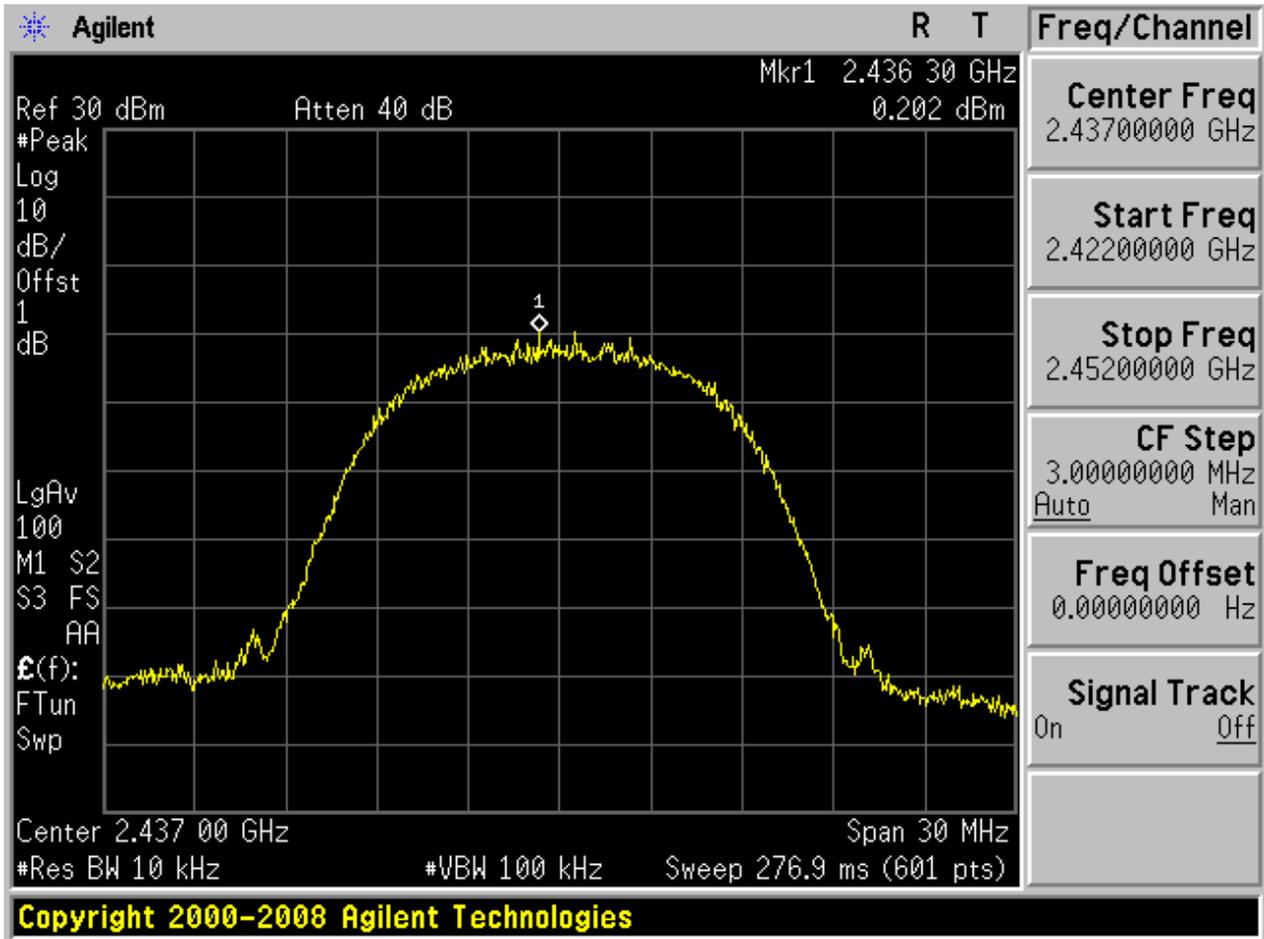
Part II - Test Plots

2.1 11B_L

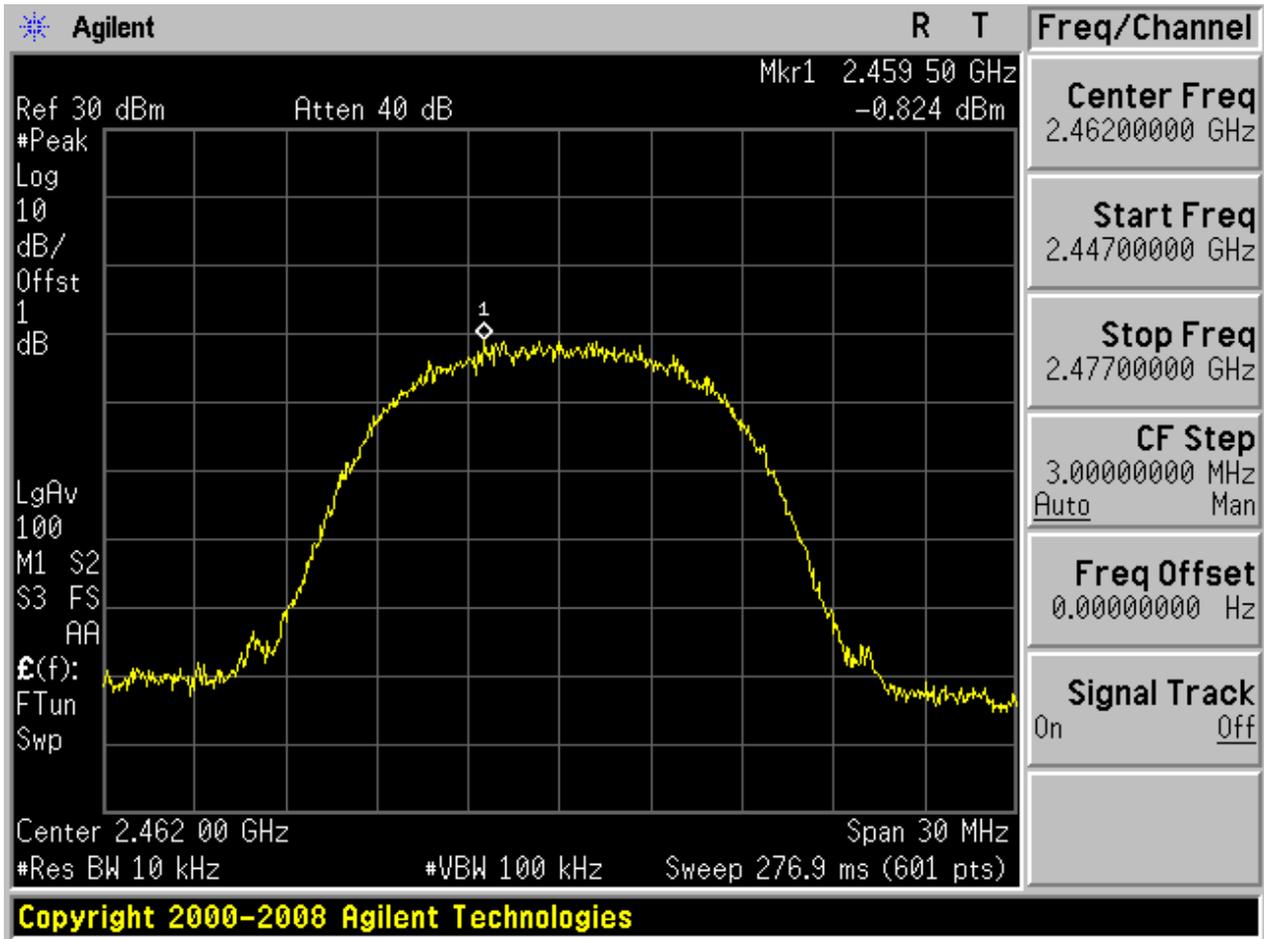




2.2 11B_M

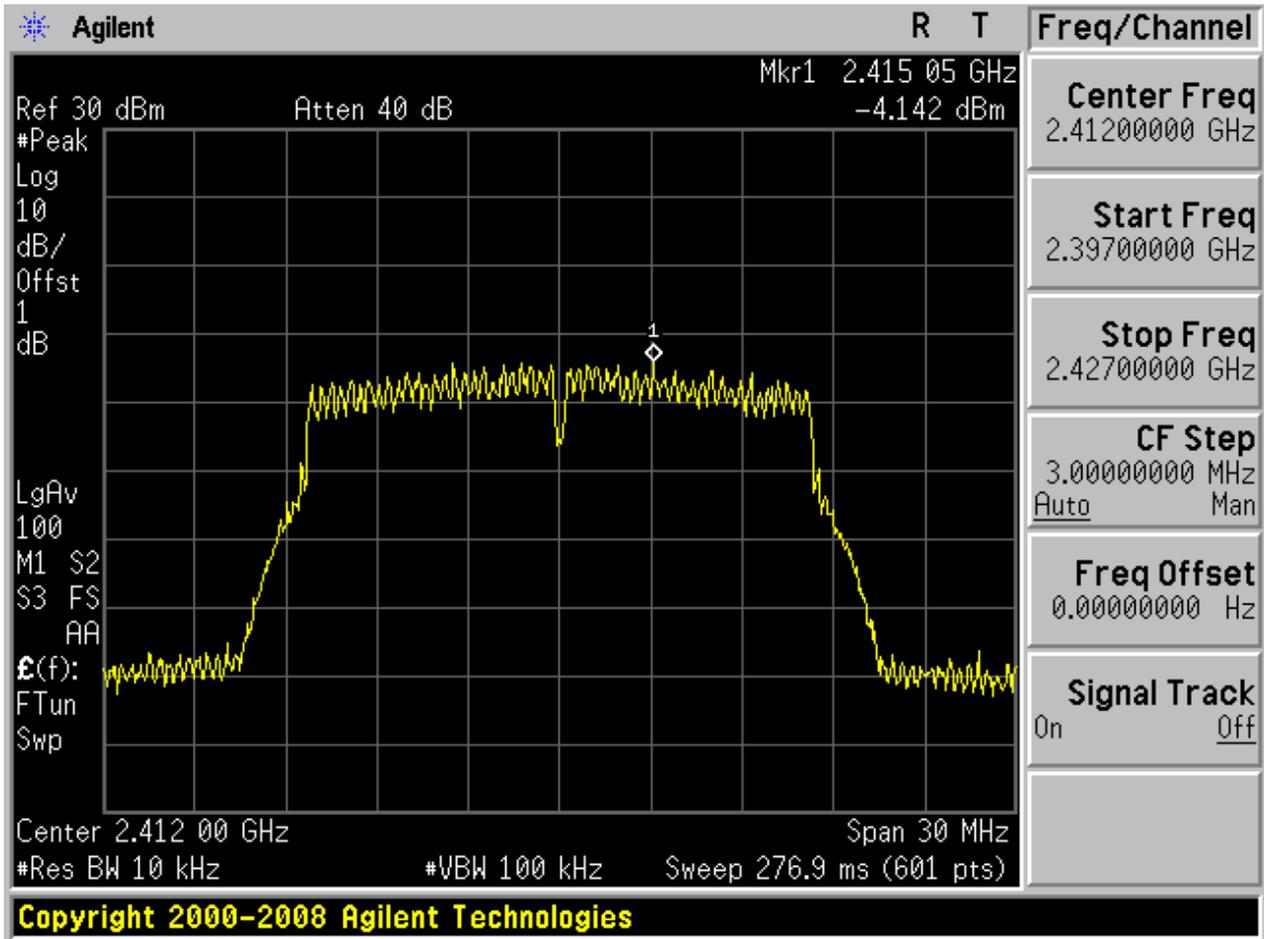


2.3 11B_H



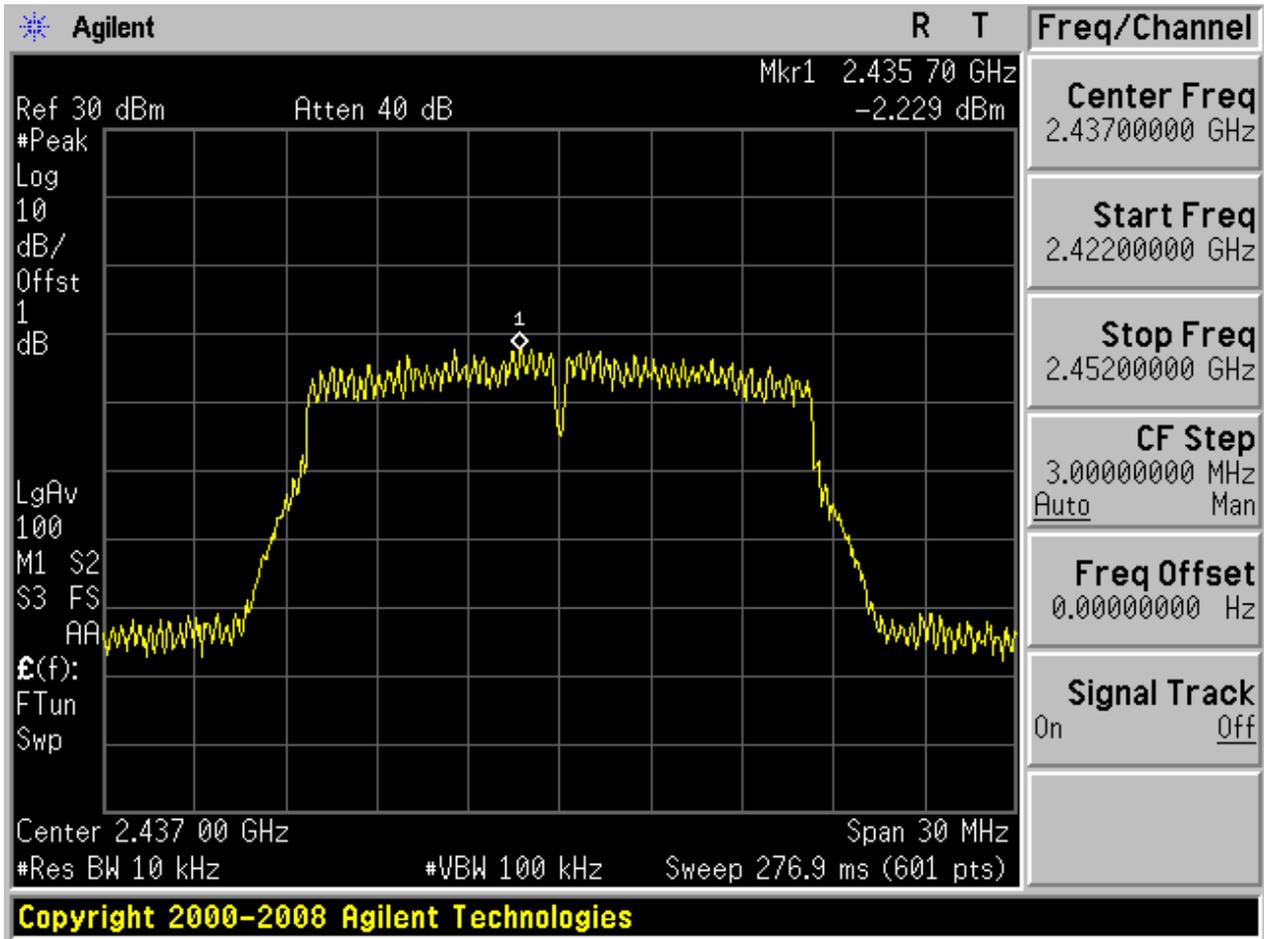


2.4 11G_L



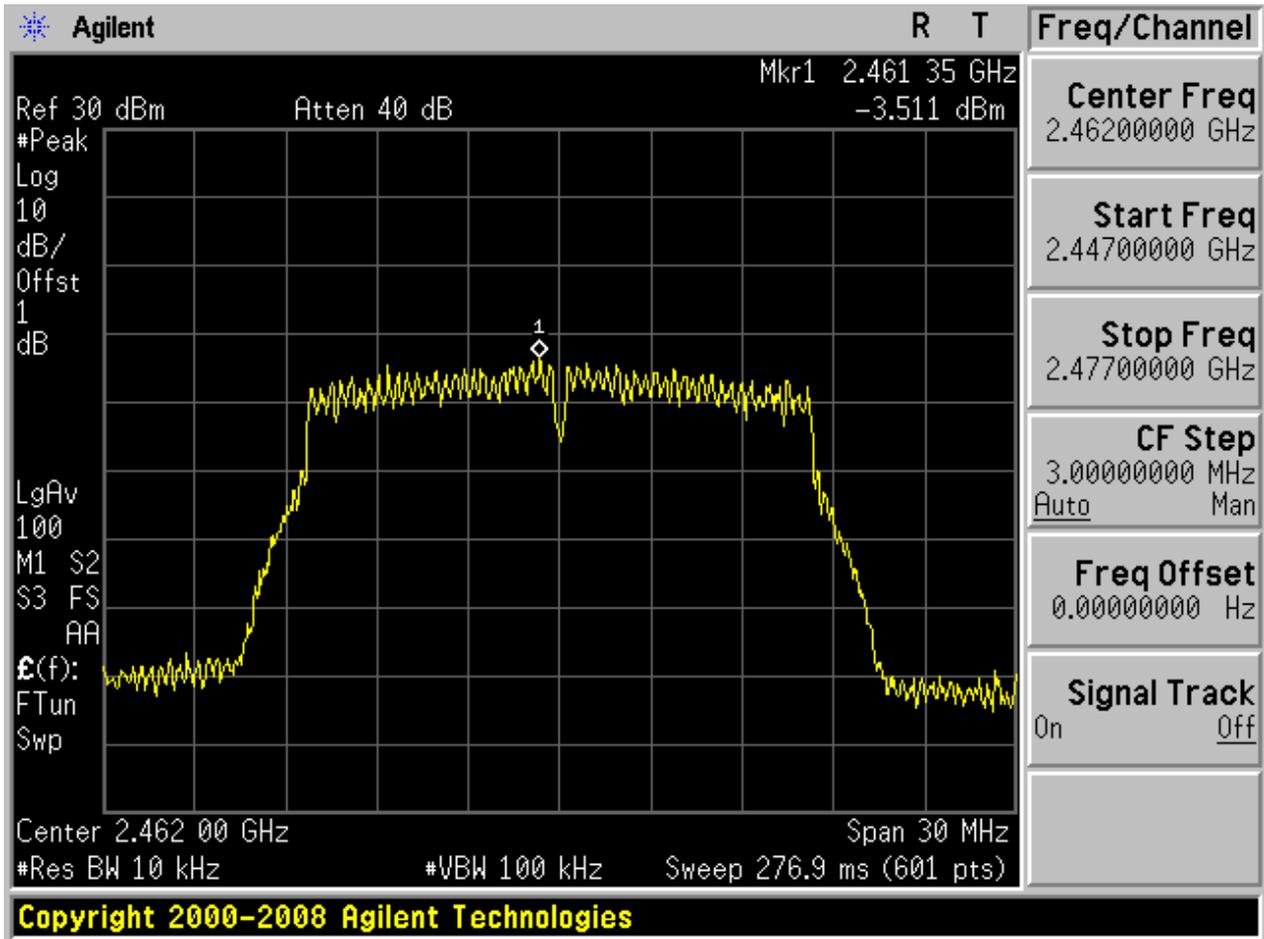


2.5 11G_M



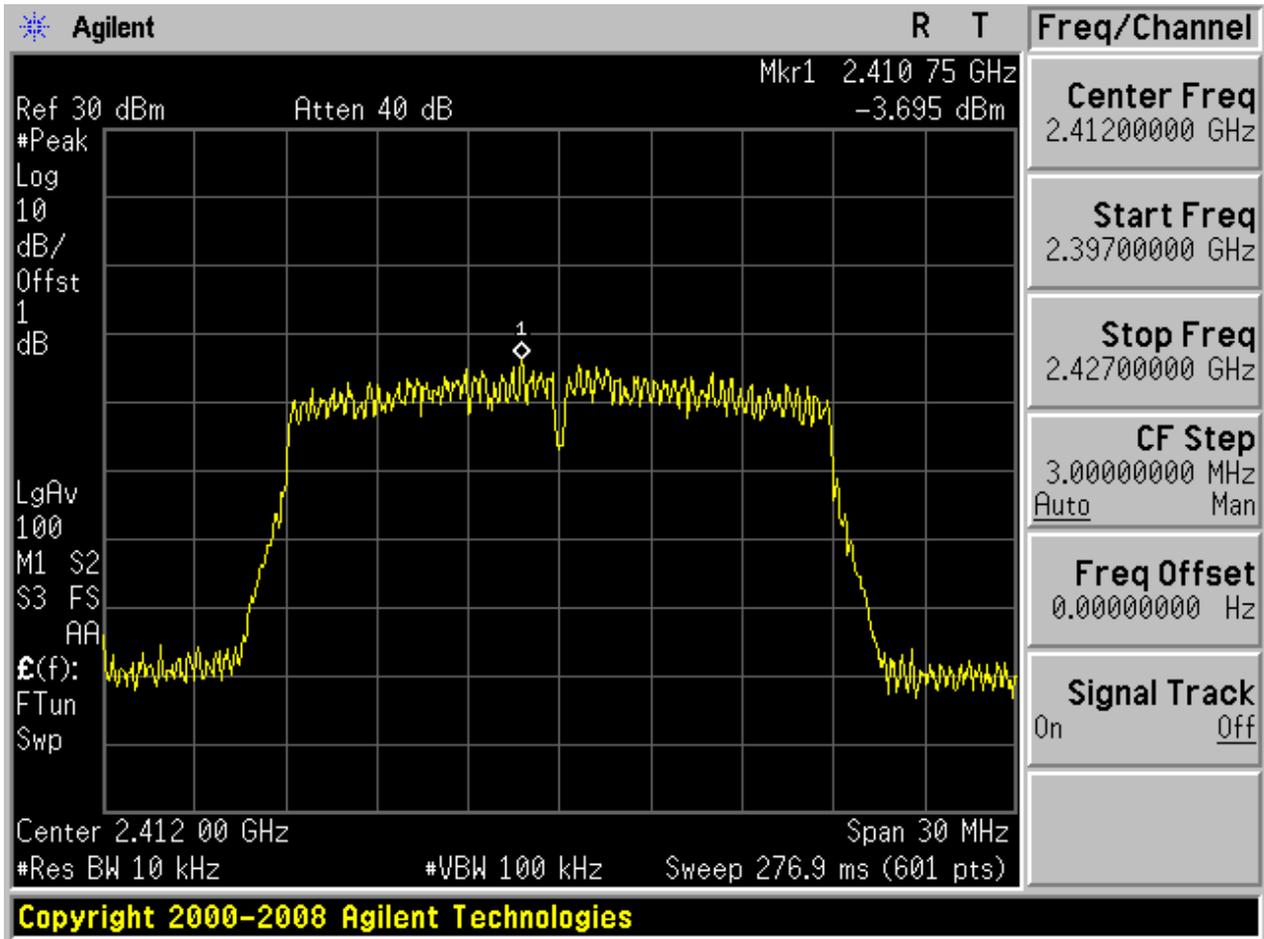


2.6 11G_H



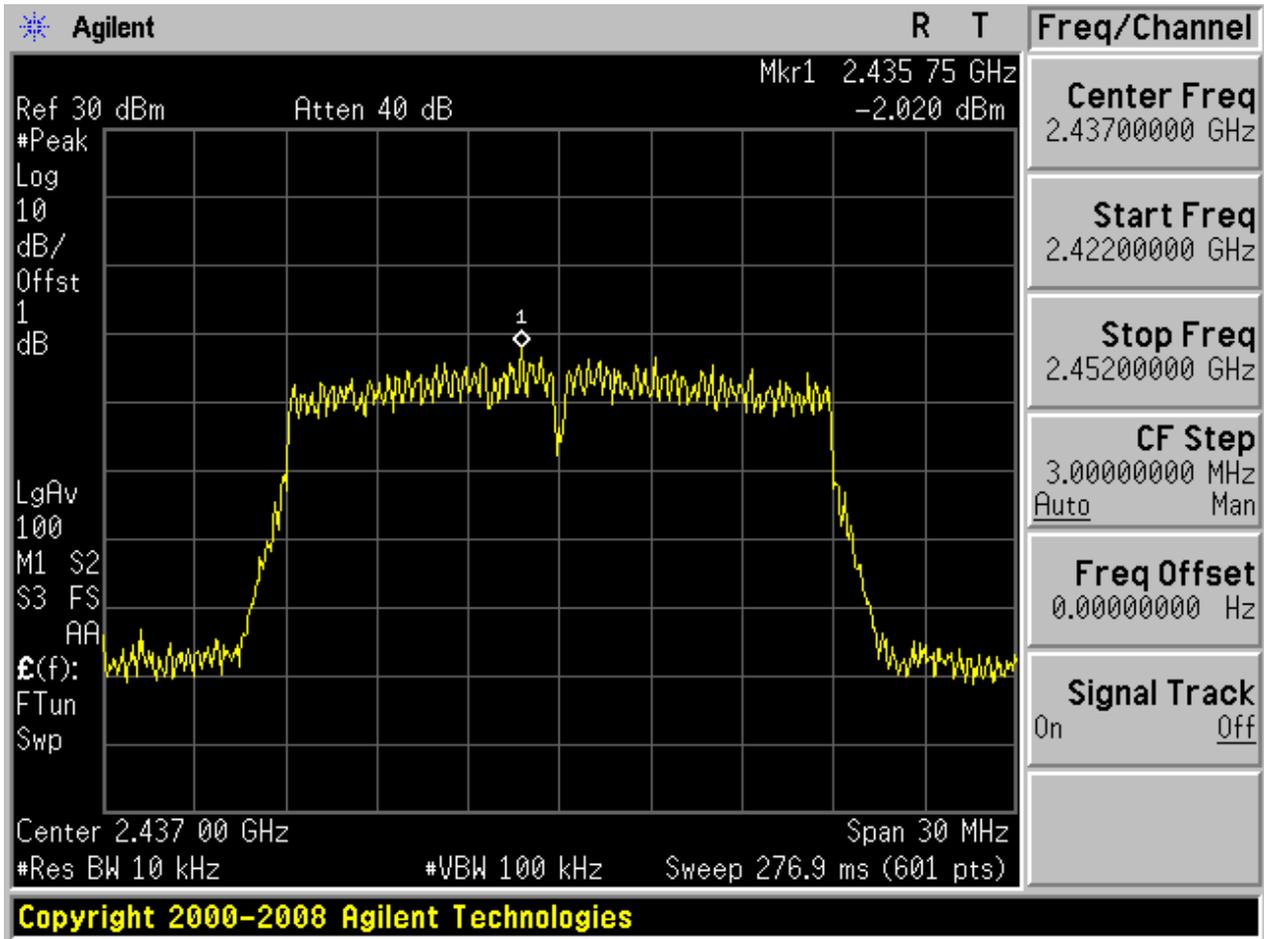


2.7 11N20_L



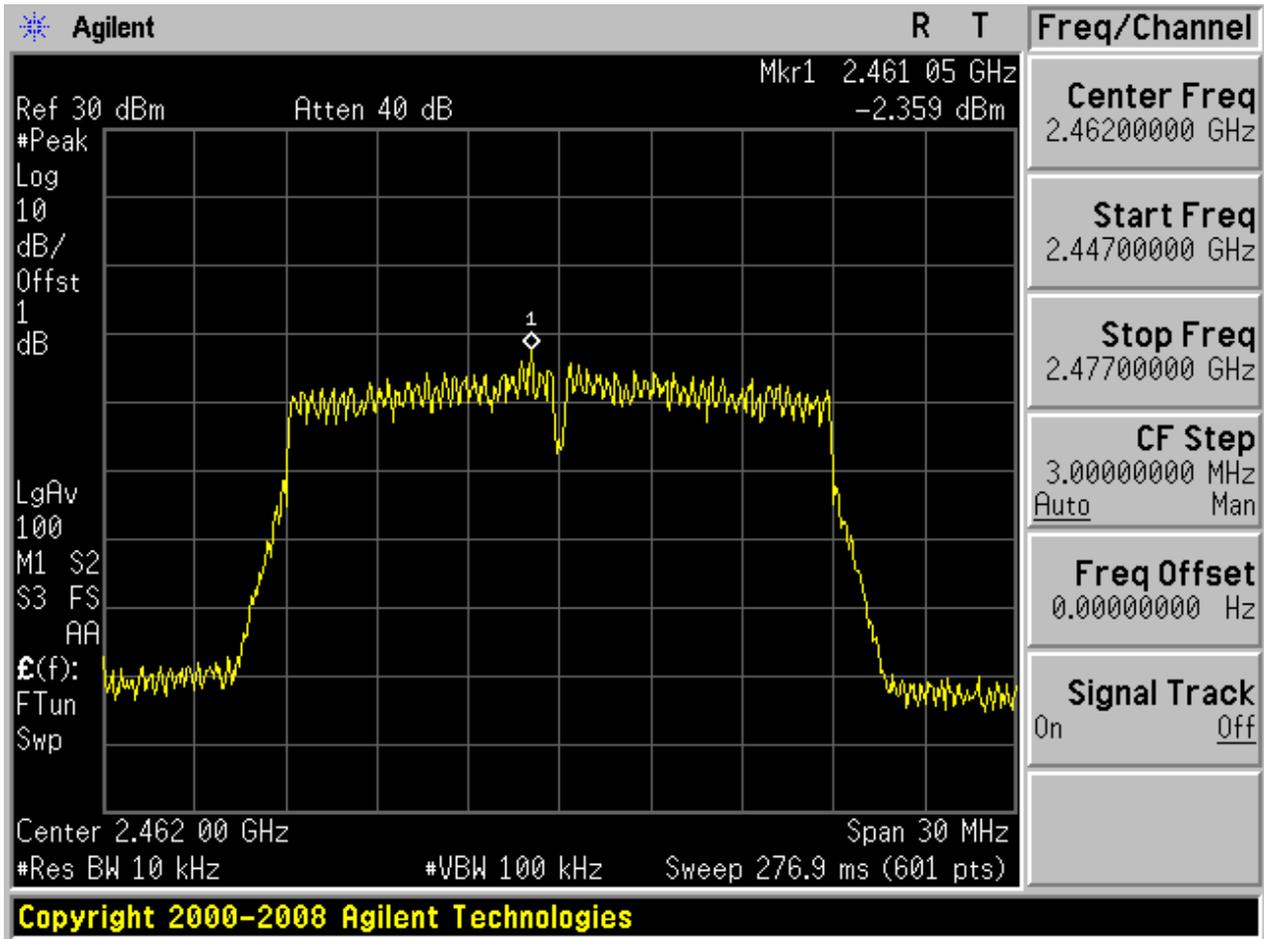


2.8 11N20_M





2.9 11N20_H





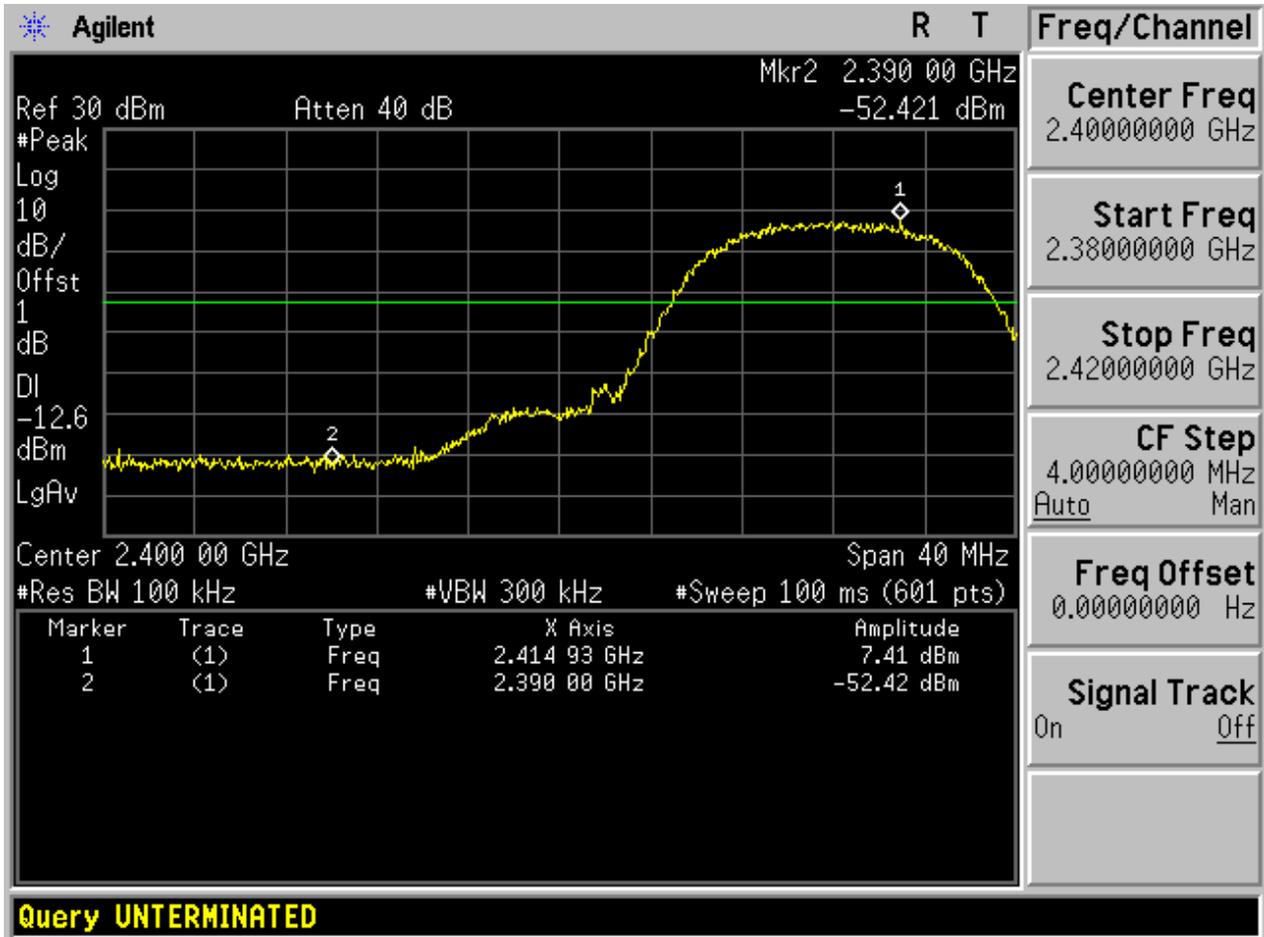
Appendix D: Band Edges Compliance

Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Carrier Power[dBm]	Max.Spurious Level[dBm]	Verdict
11B	L	2412	7.41	-52.42	pass
11B	H	2462	8.58	-52.43	pass
11G	L	2412	4.67	-45.59	pass
11G	H	2462	4.93	-45.39	pass
11N20	L	2412	4.58	-42.97	pass
11N20	H	2462	4.76	-44.63	pass

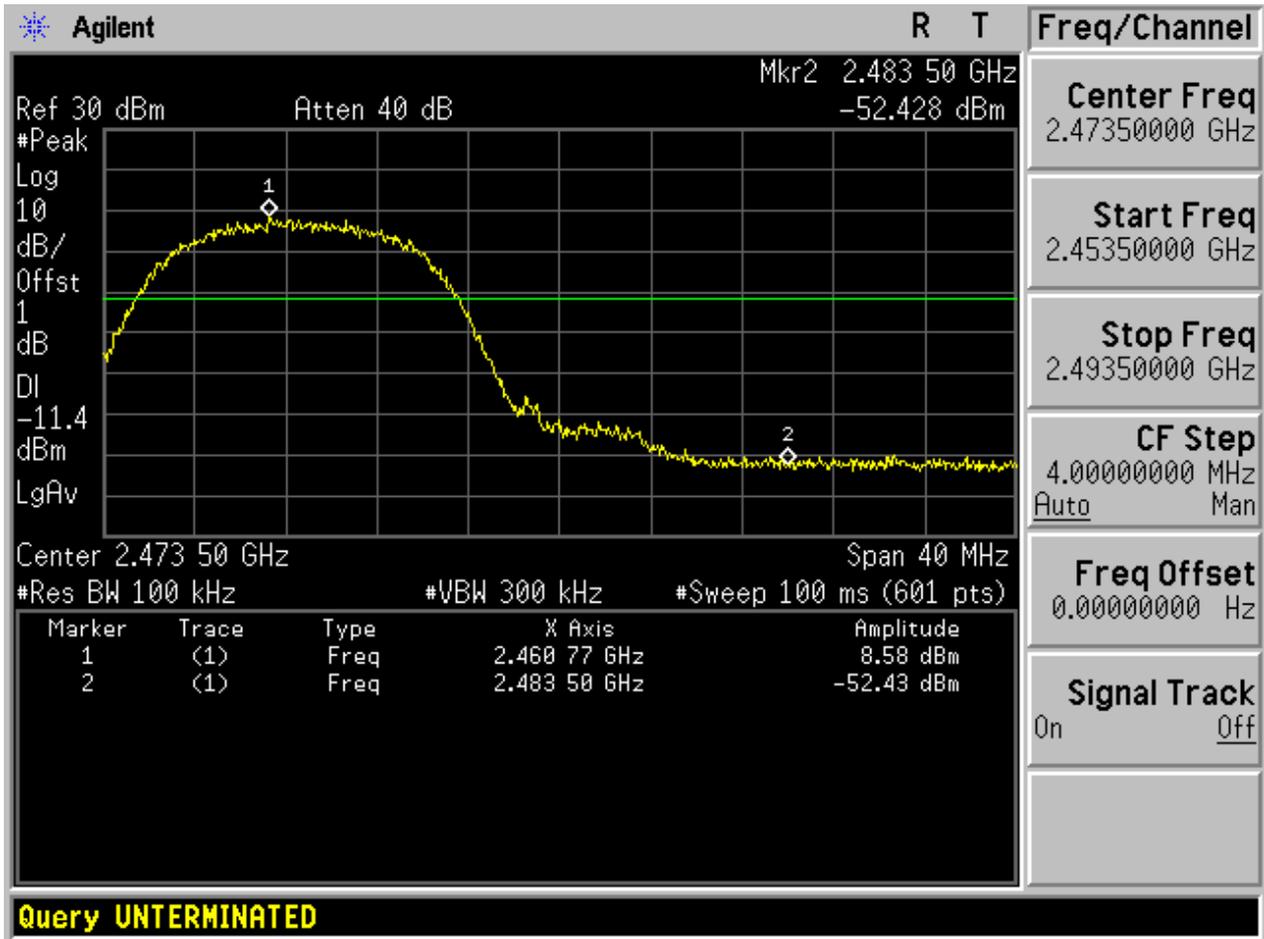
Part II - Test Plots

2.1 11B_L



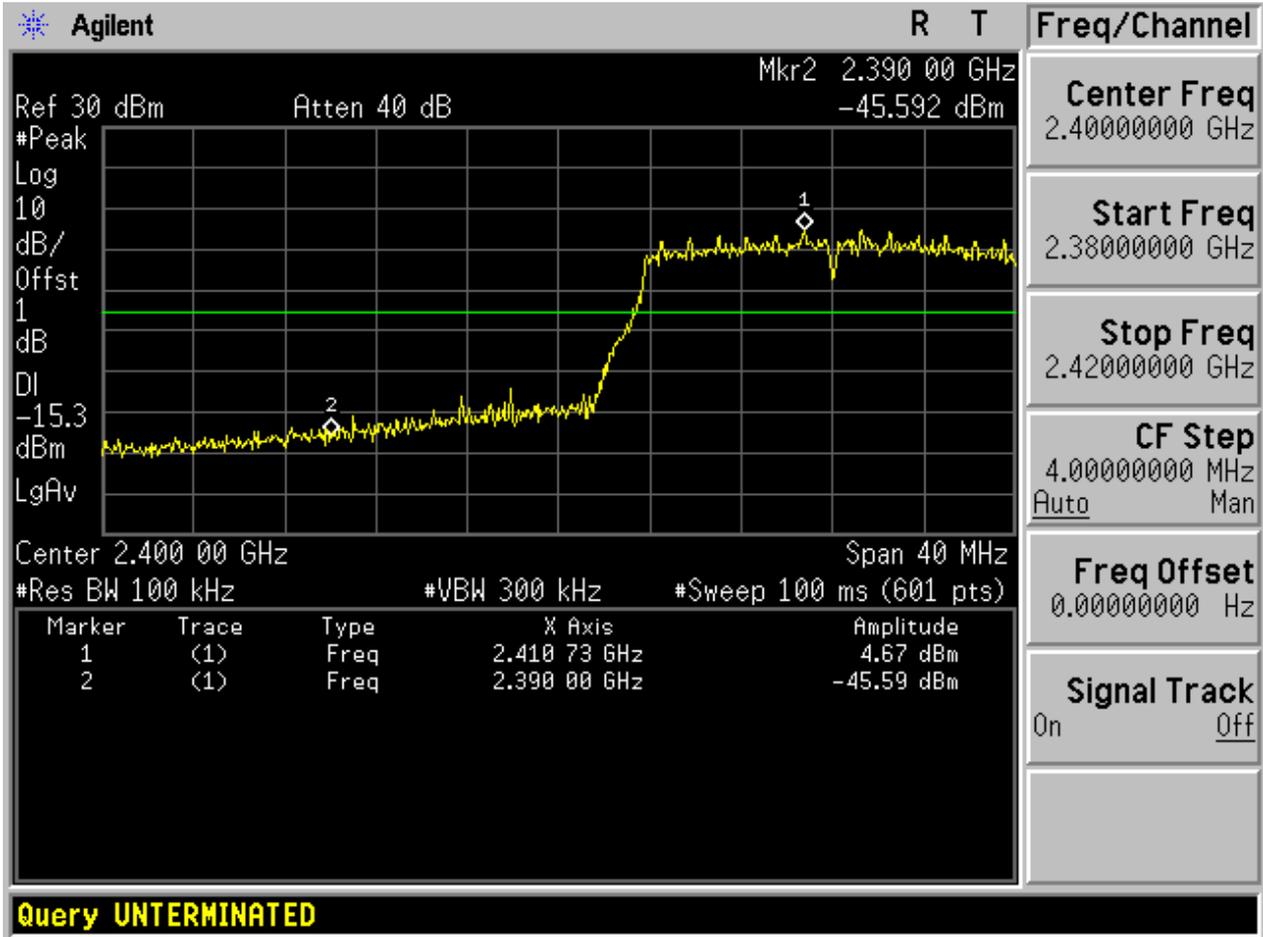


2.2 11B_H



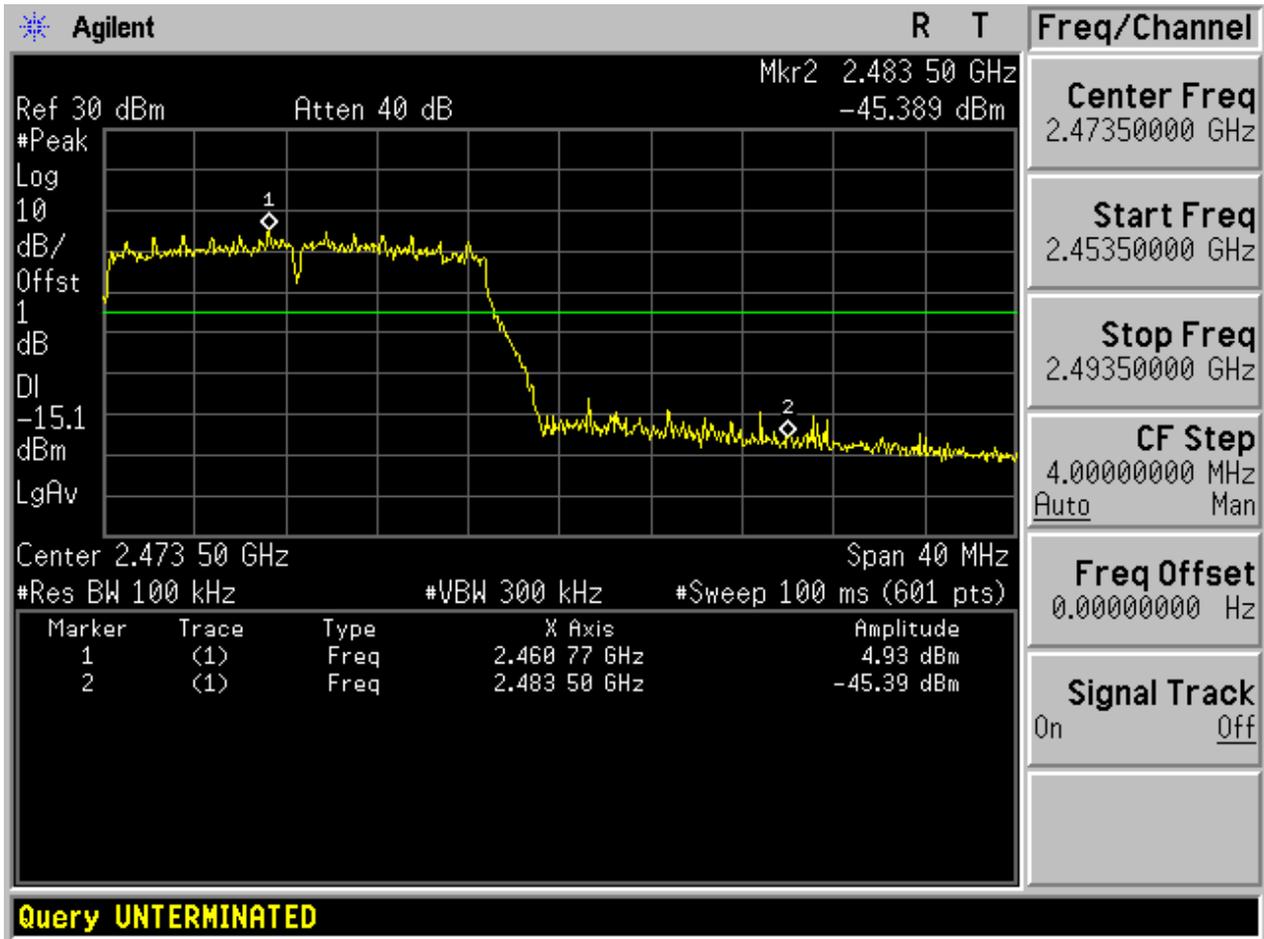


2.3 11G_L



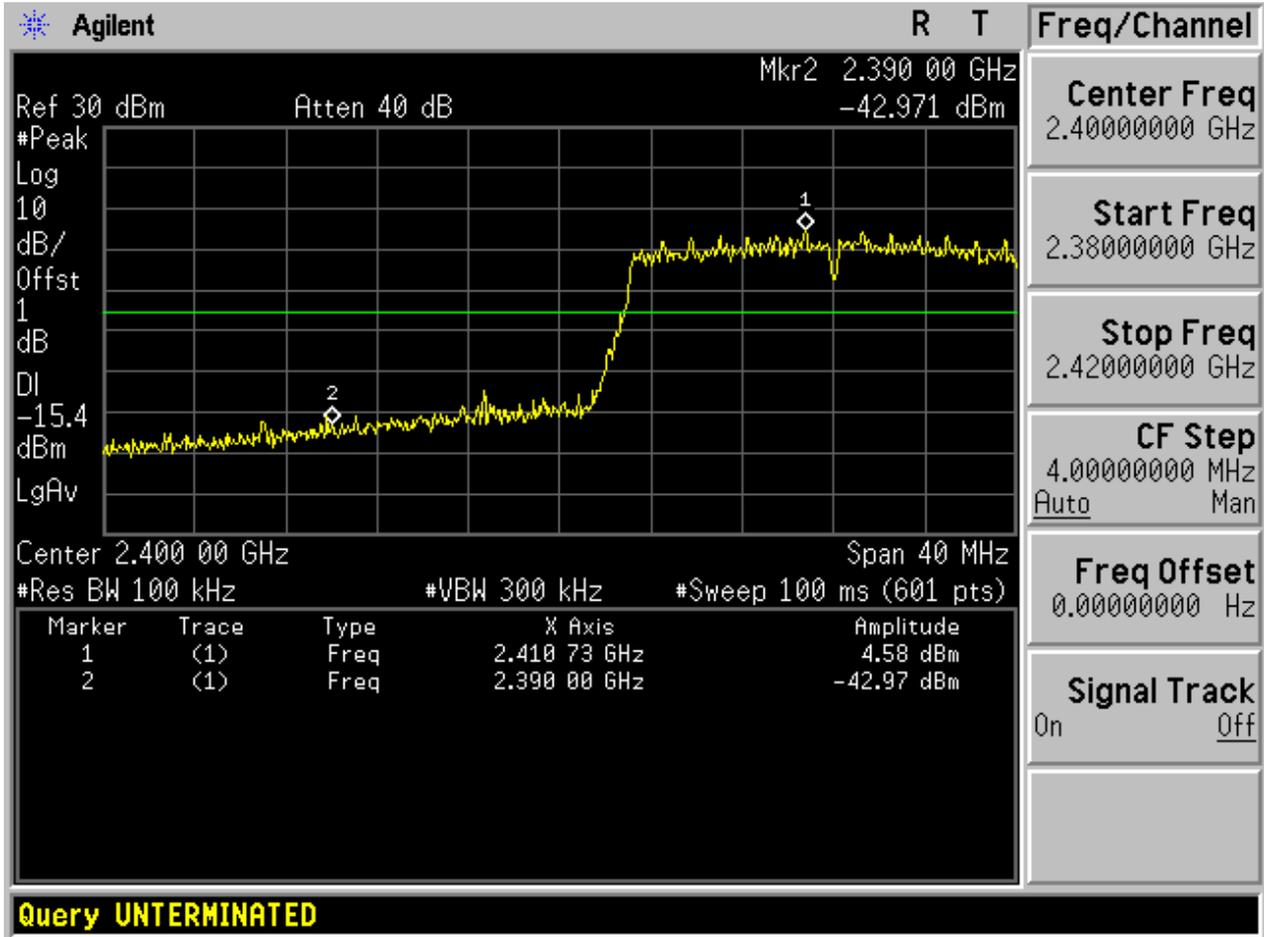


2.4 11G_H



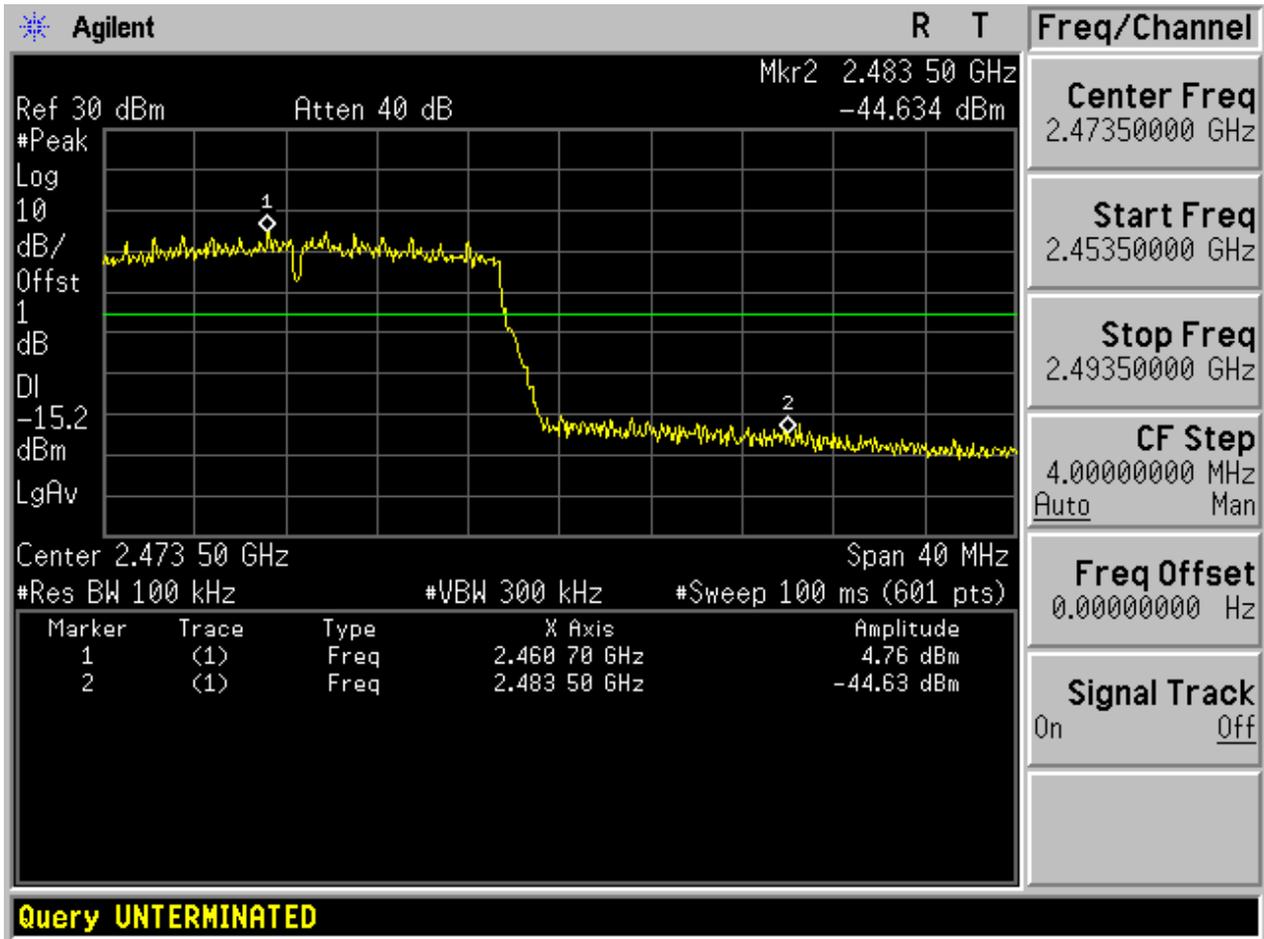


2.5 11N20_L





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".

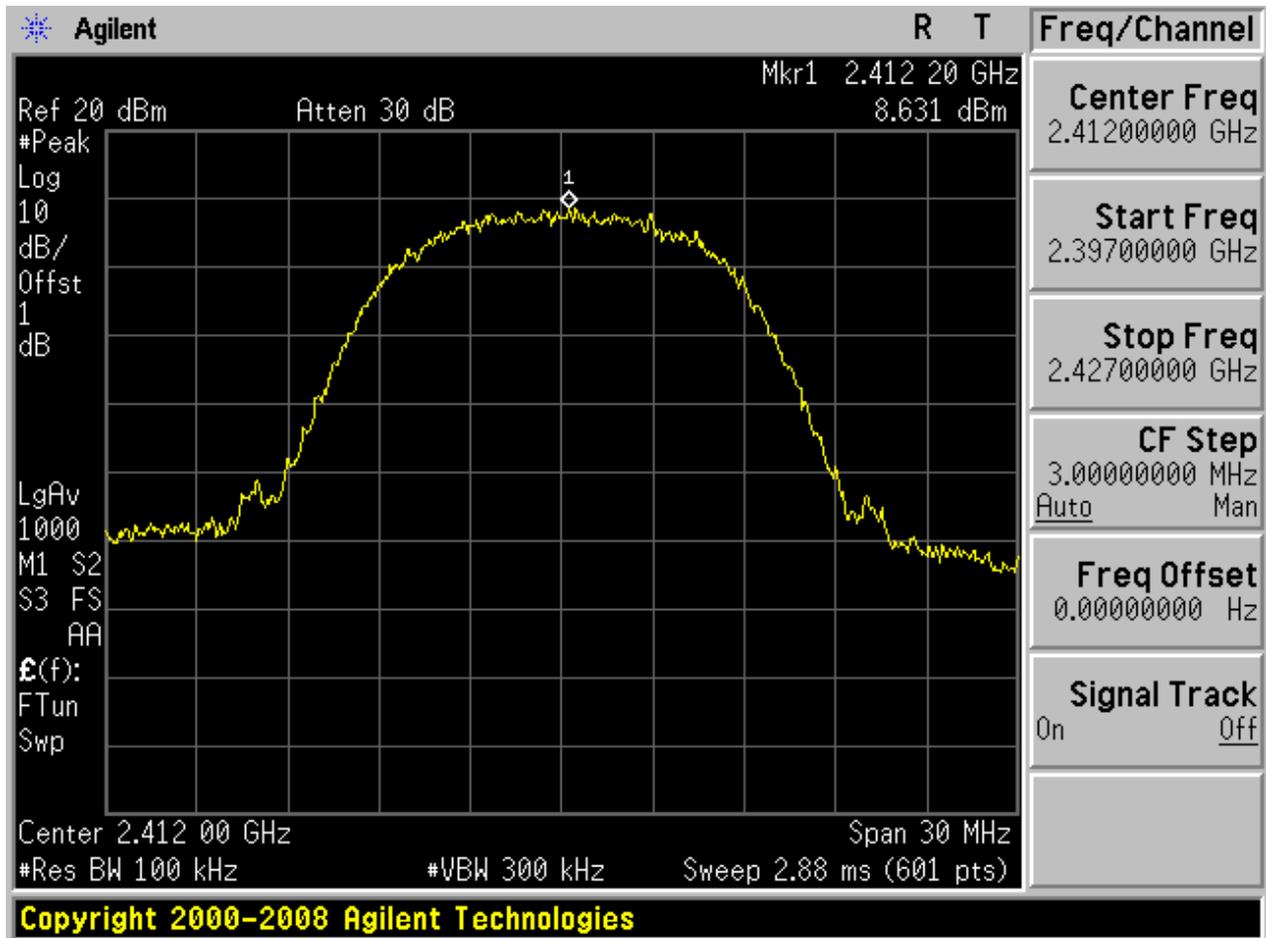
Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Pref[dBm]	Puw[dBm]	Verdict
11B	L	2412	8.63	<limit	pass
11B	M	2437	8.44	<limit	pass
11B	H	2462	8.92	<limit	pass
11G	L	2412	5.26	<limit	pass
11G	M	2437	7.39	<limit	pass
11G	H	2462	5.52	<limit	pass
11N20	L	2412	5.41	<limit	pass
11N20	M	2437	6.38	<limit	pass
11N20	H	2462	5.56	<limit	pass

Part II - Test Plots

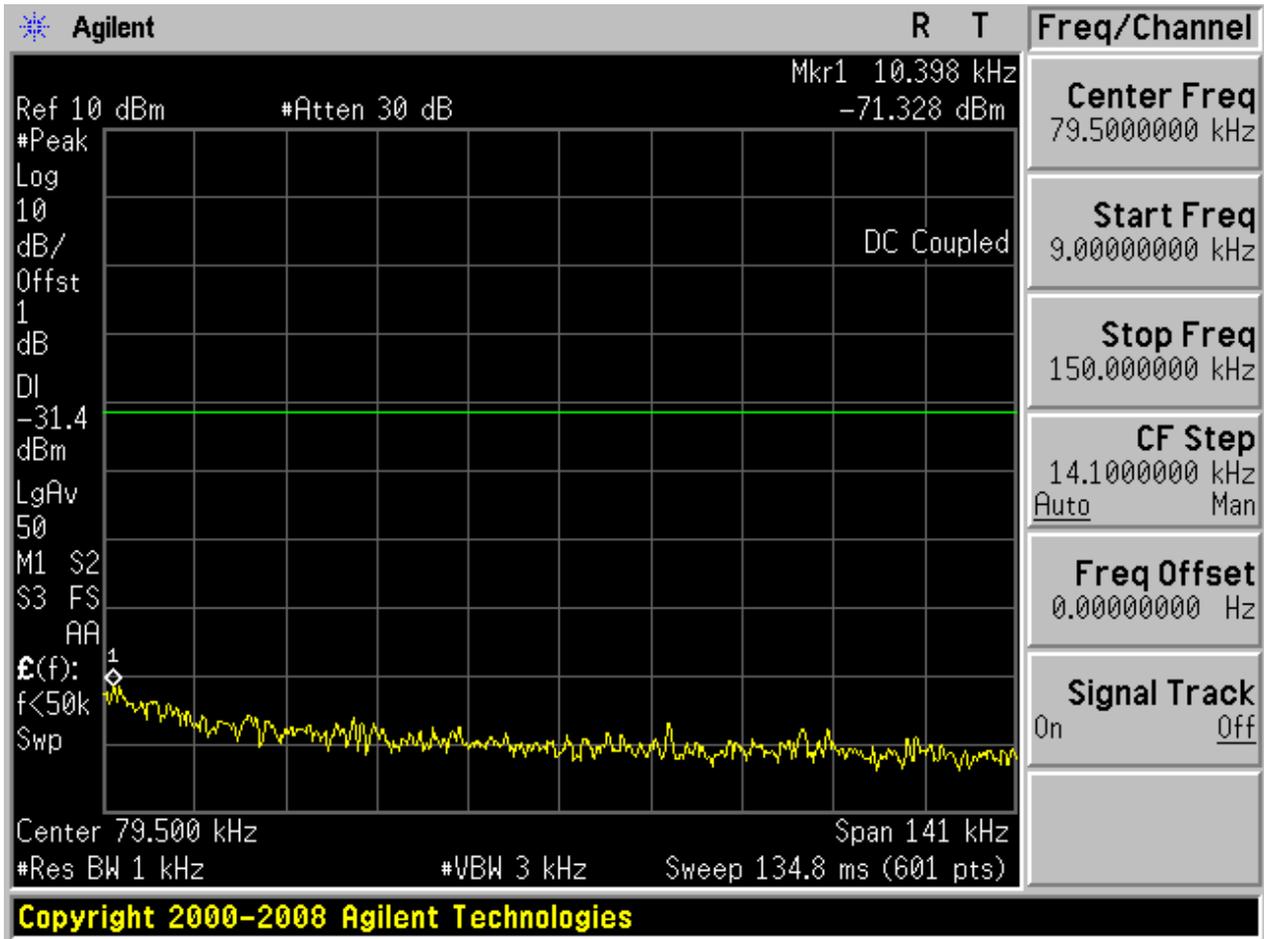
2.1 11B_L

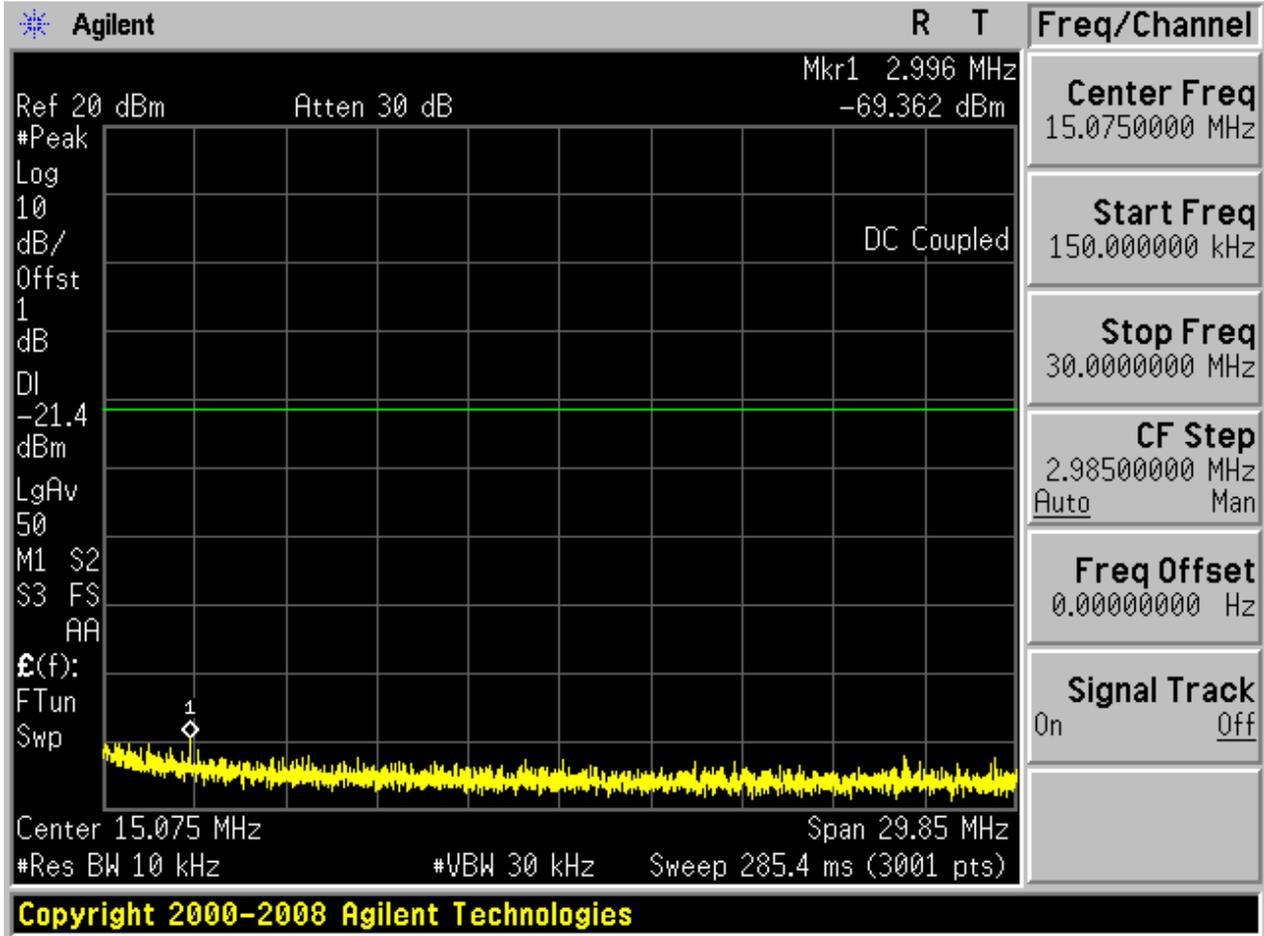
Pref:

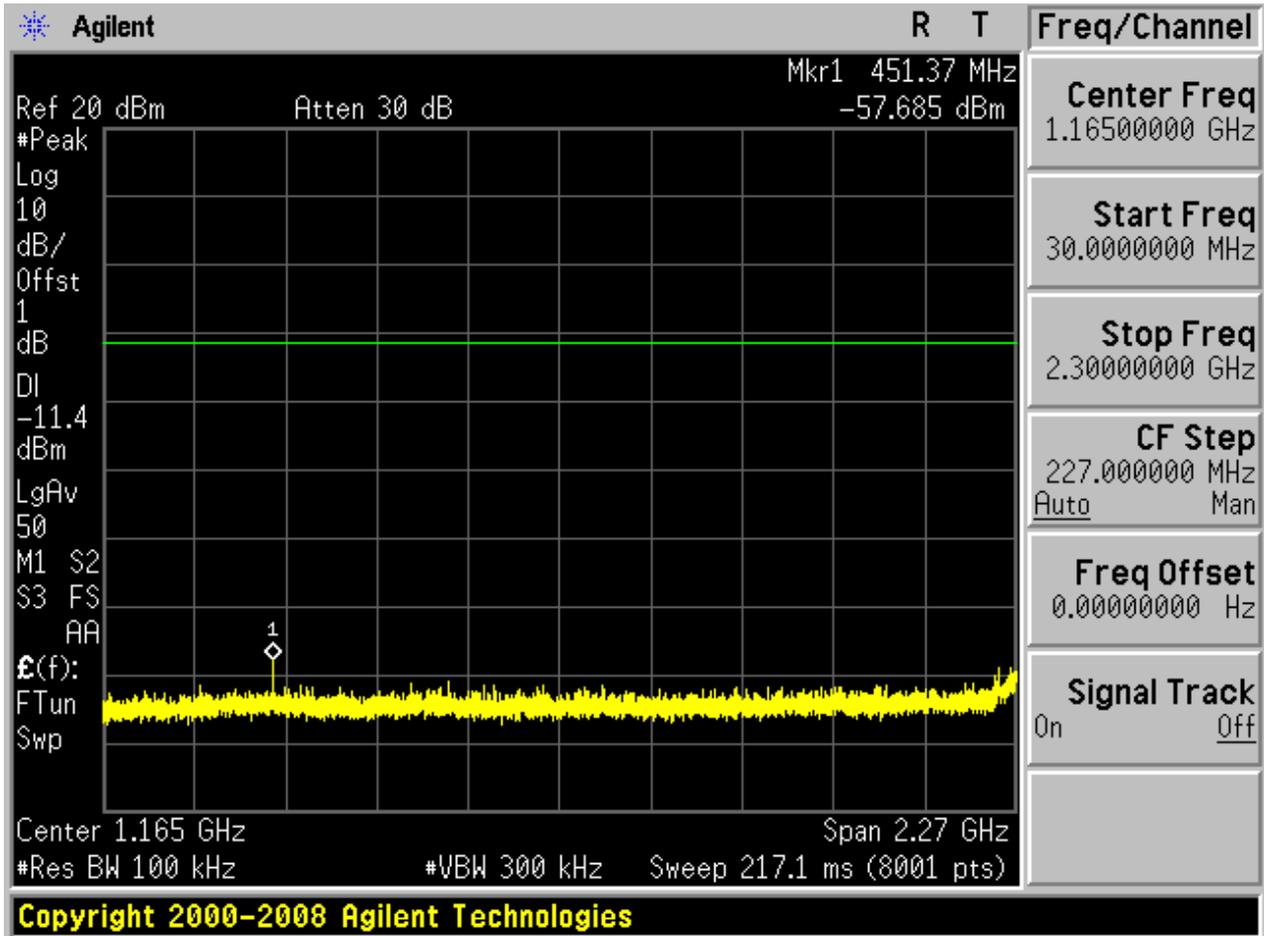


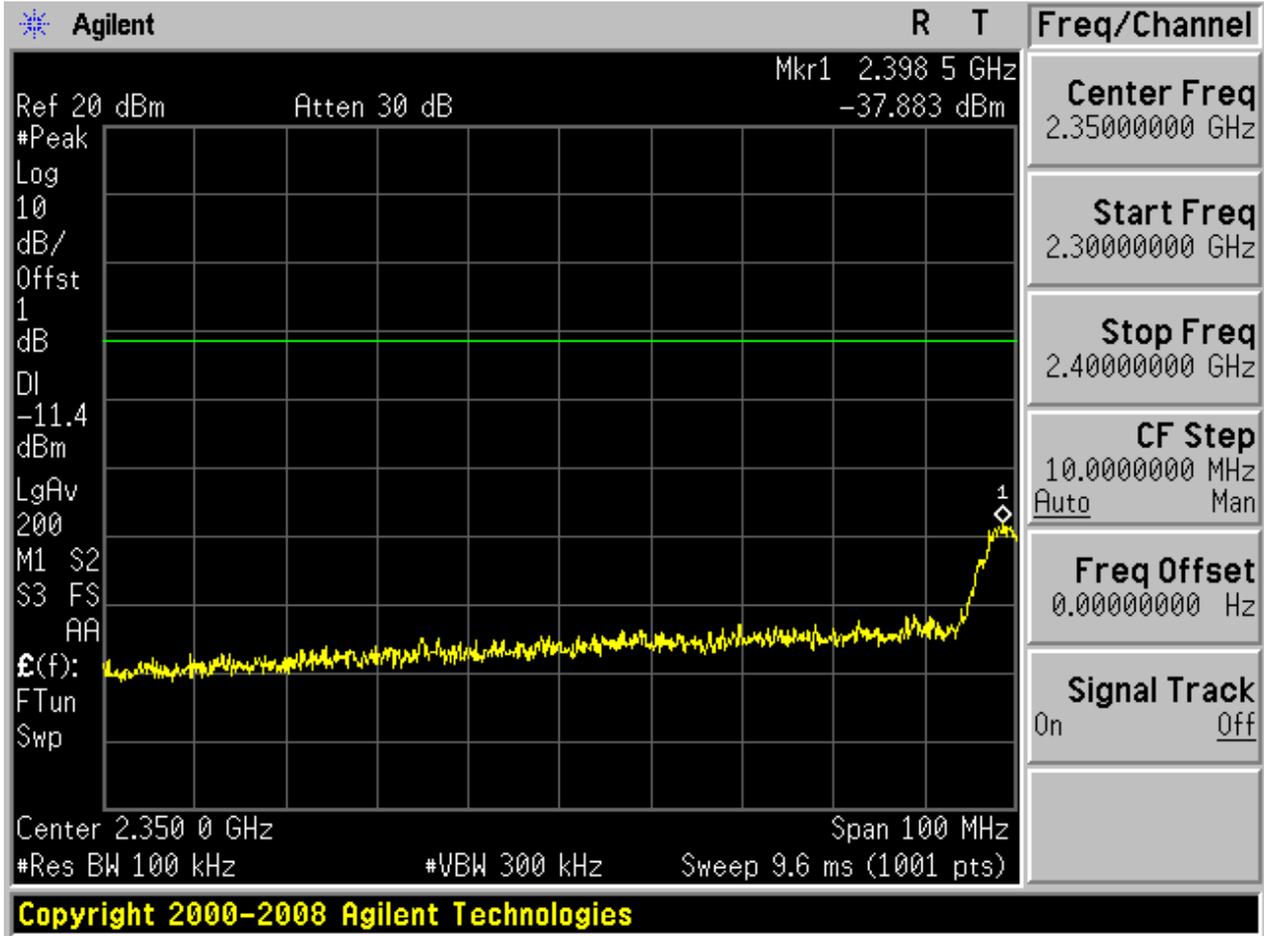


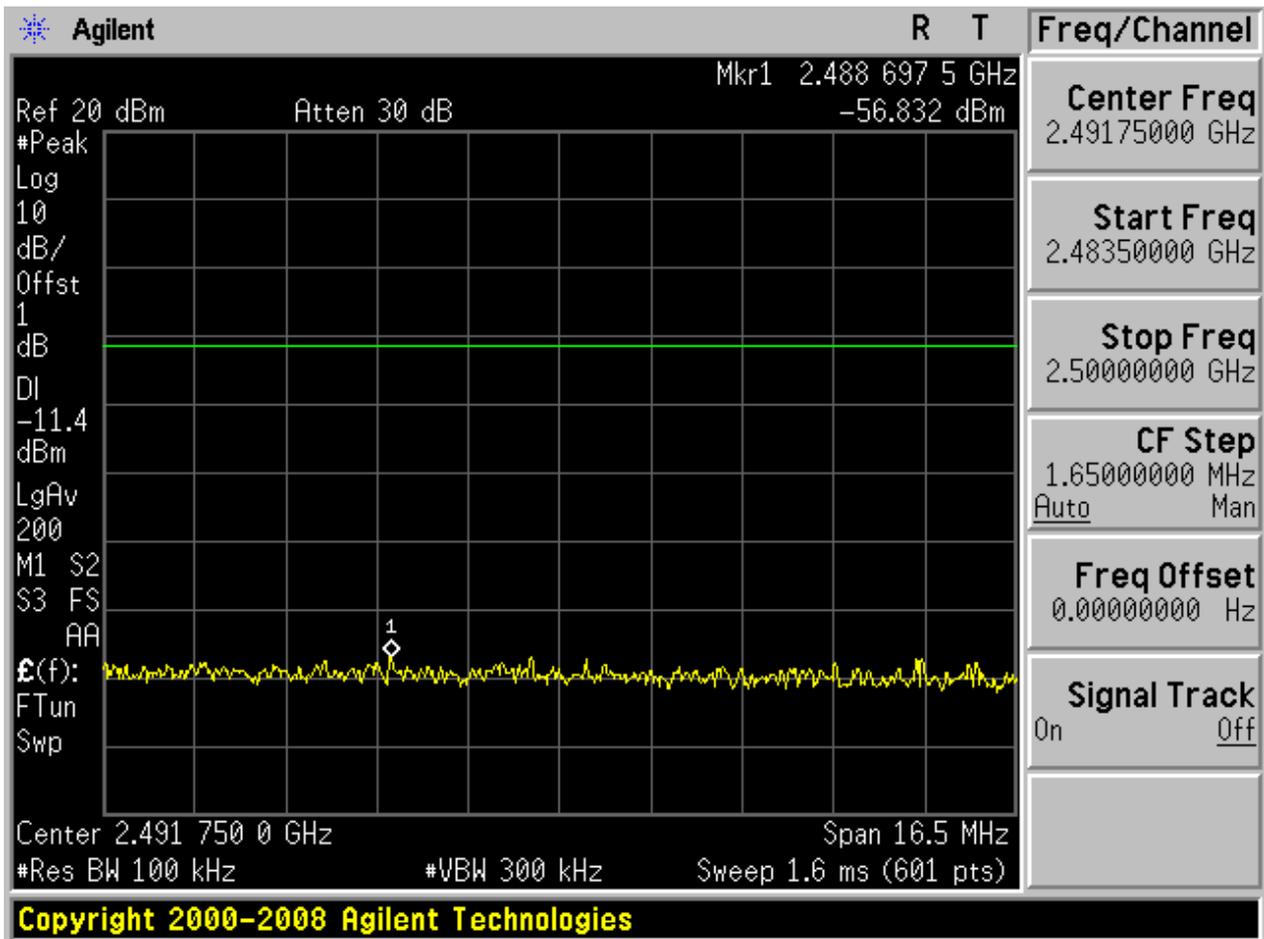
Puw:

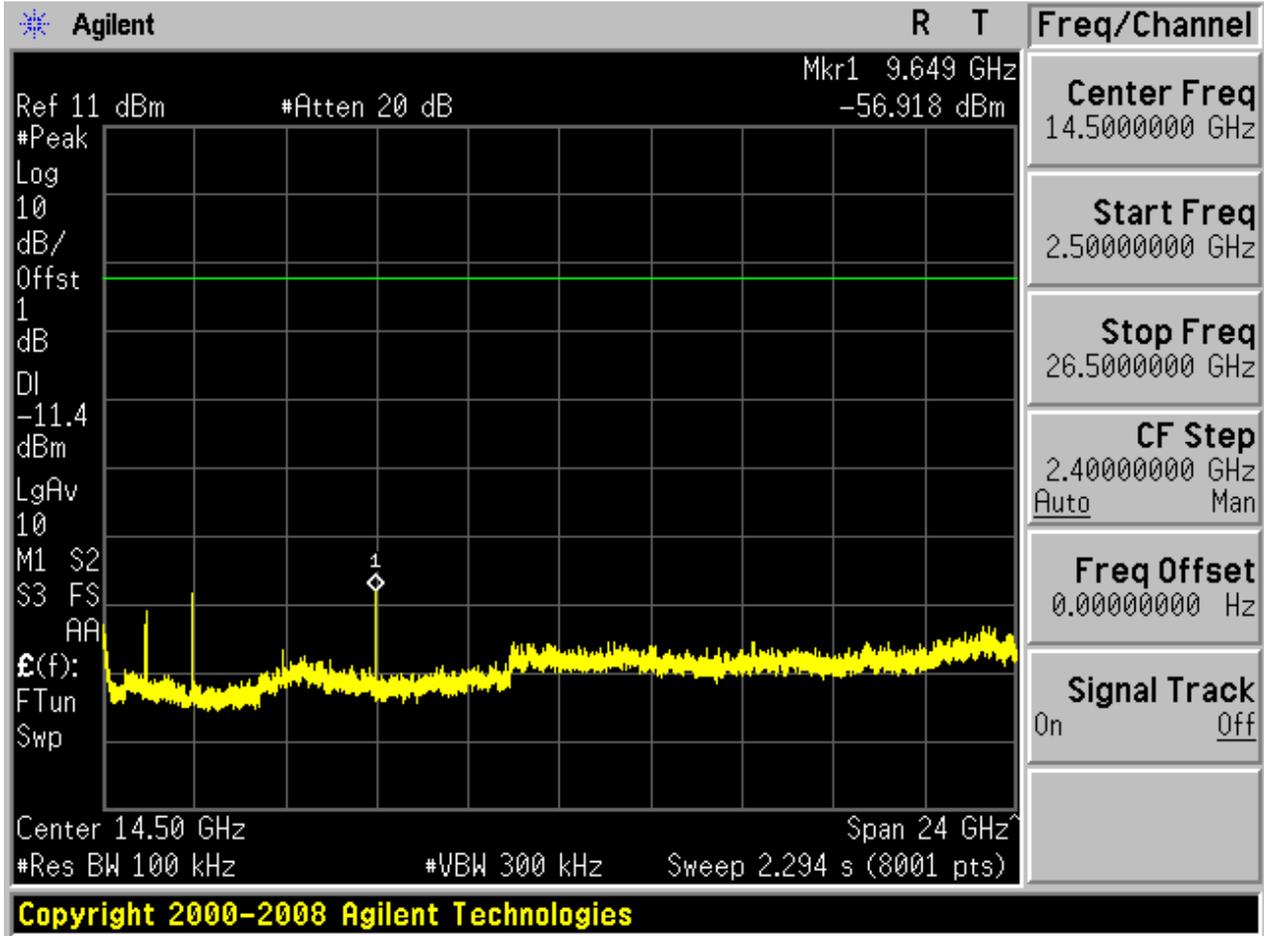






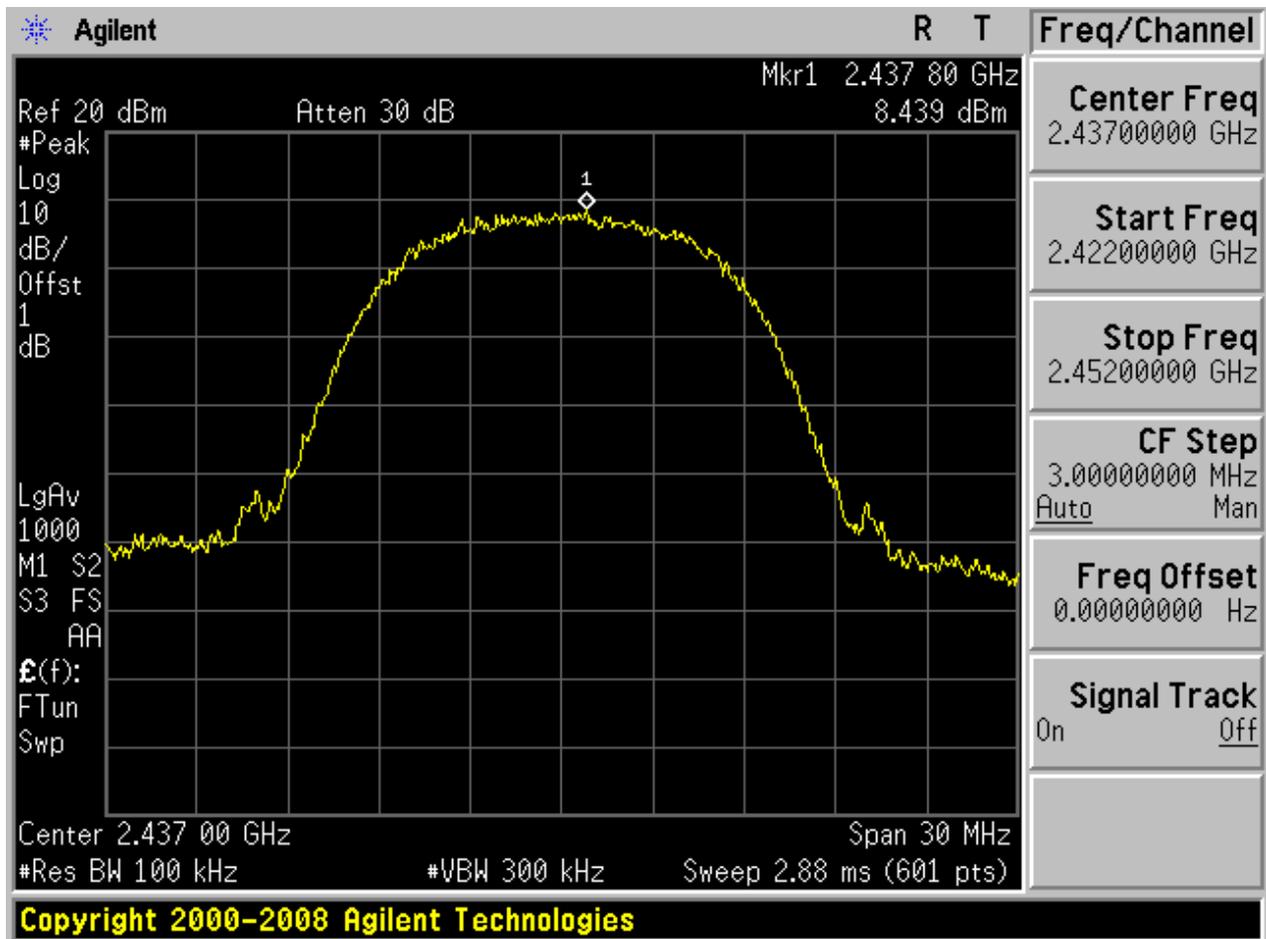






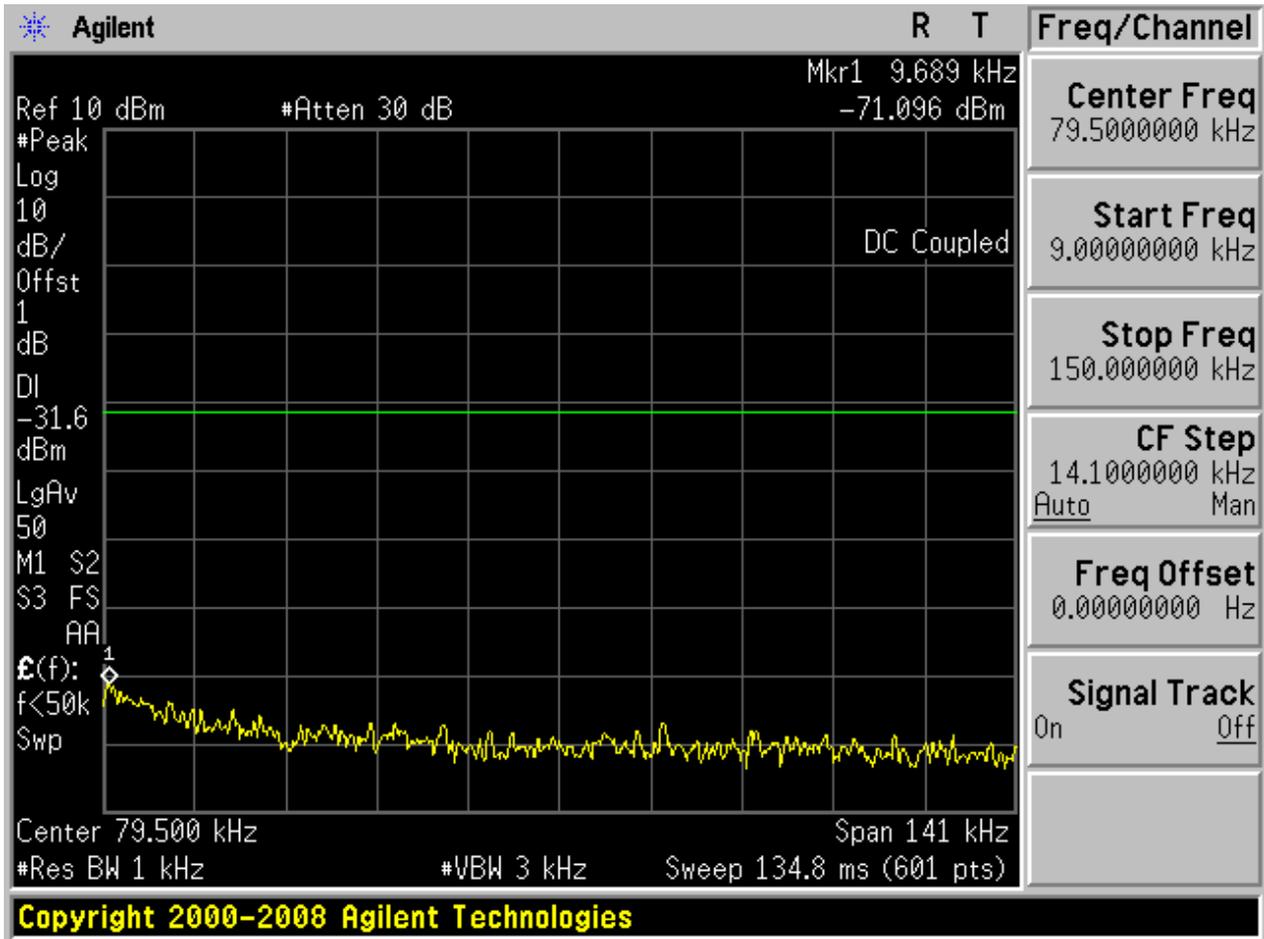
2.2 11B_M

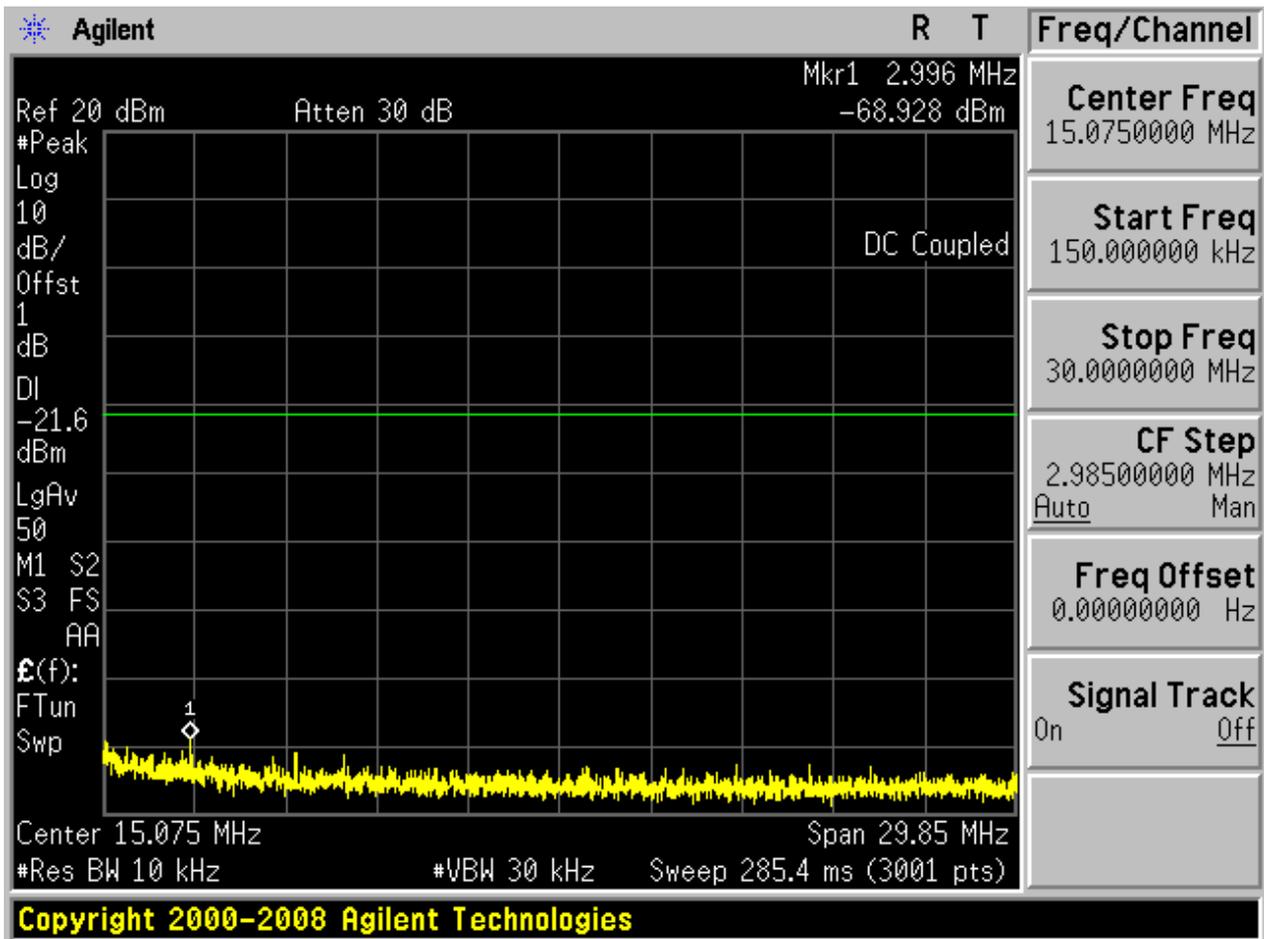
Pref:

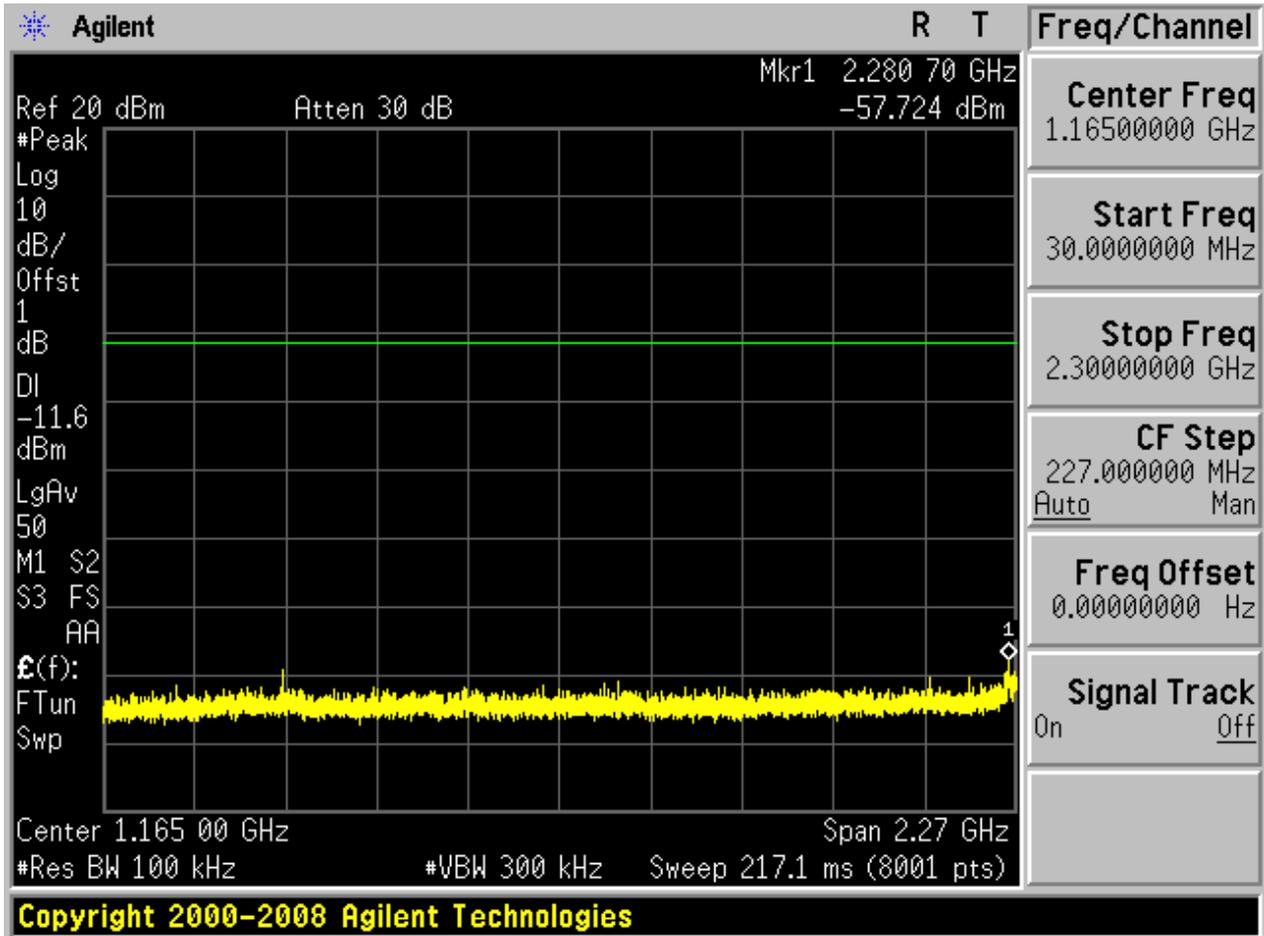


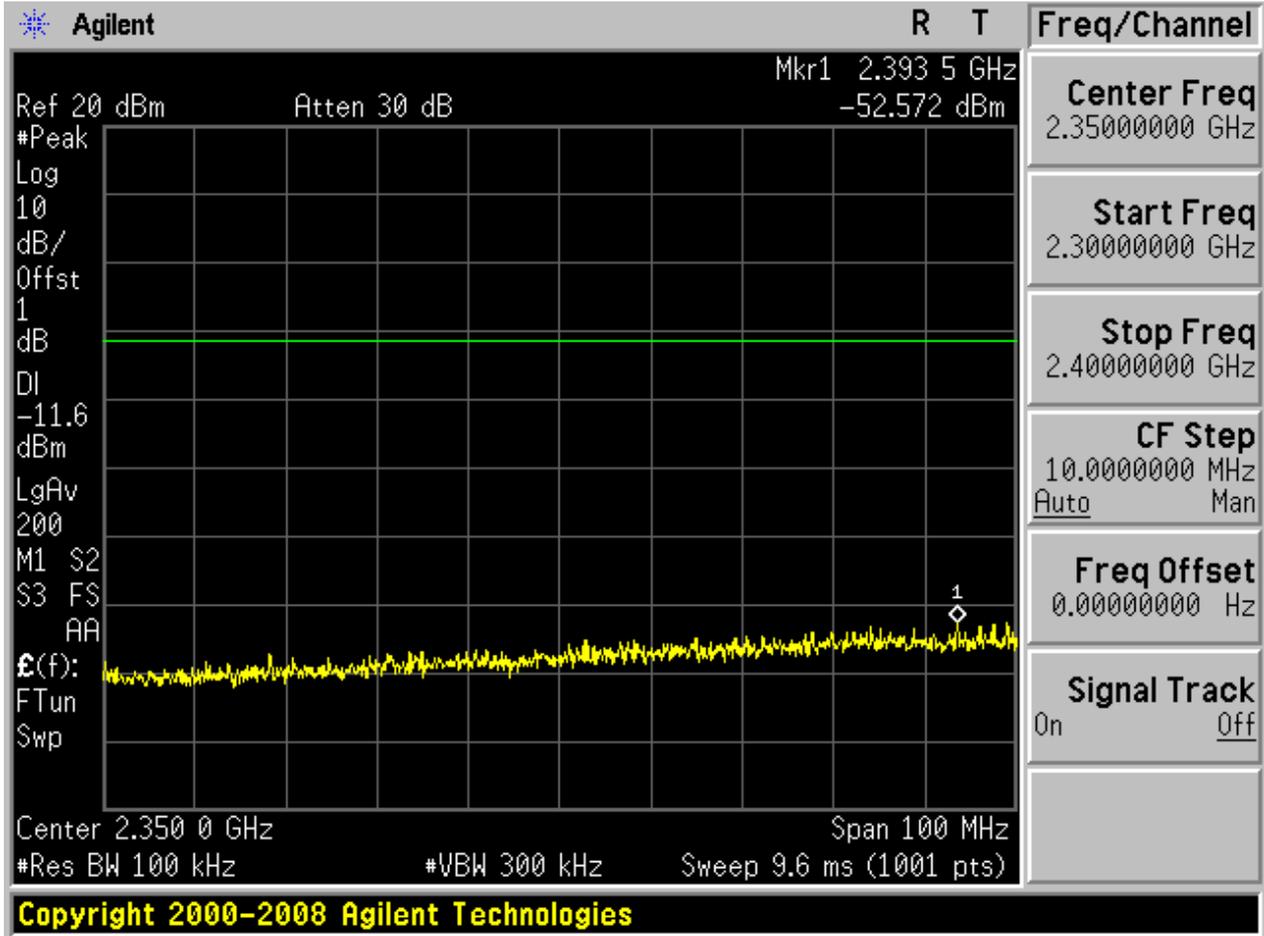


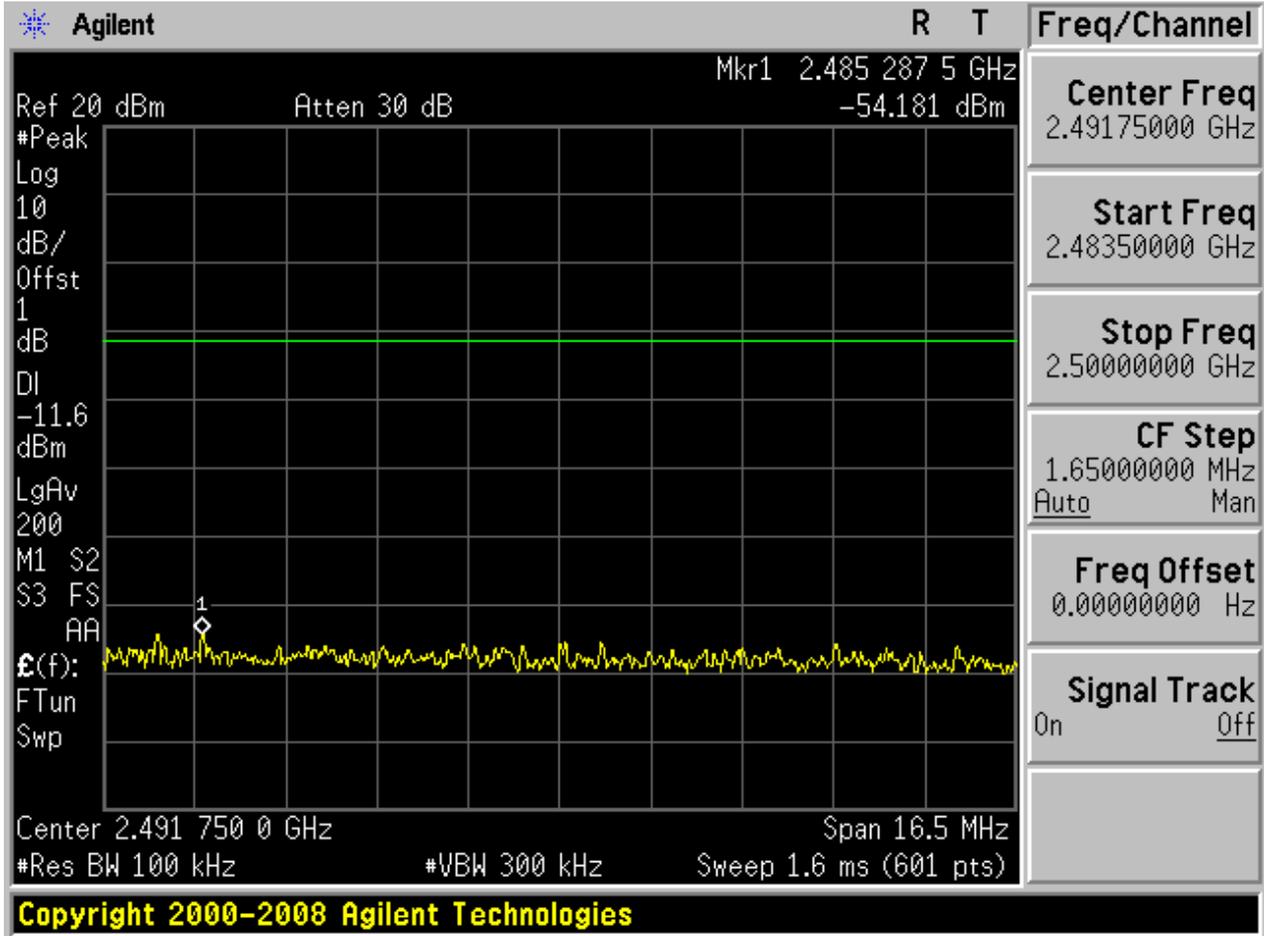
Puw:

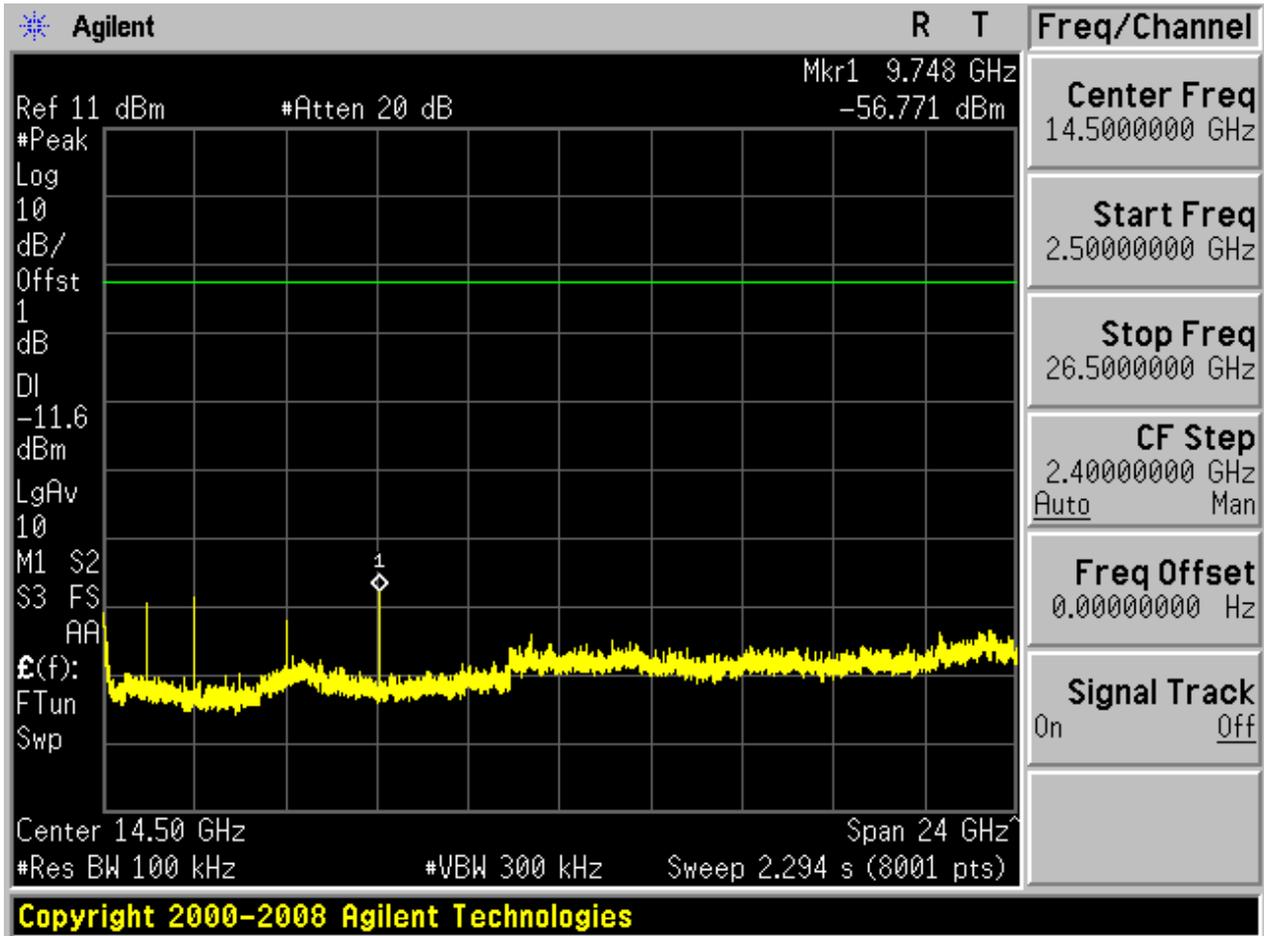






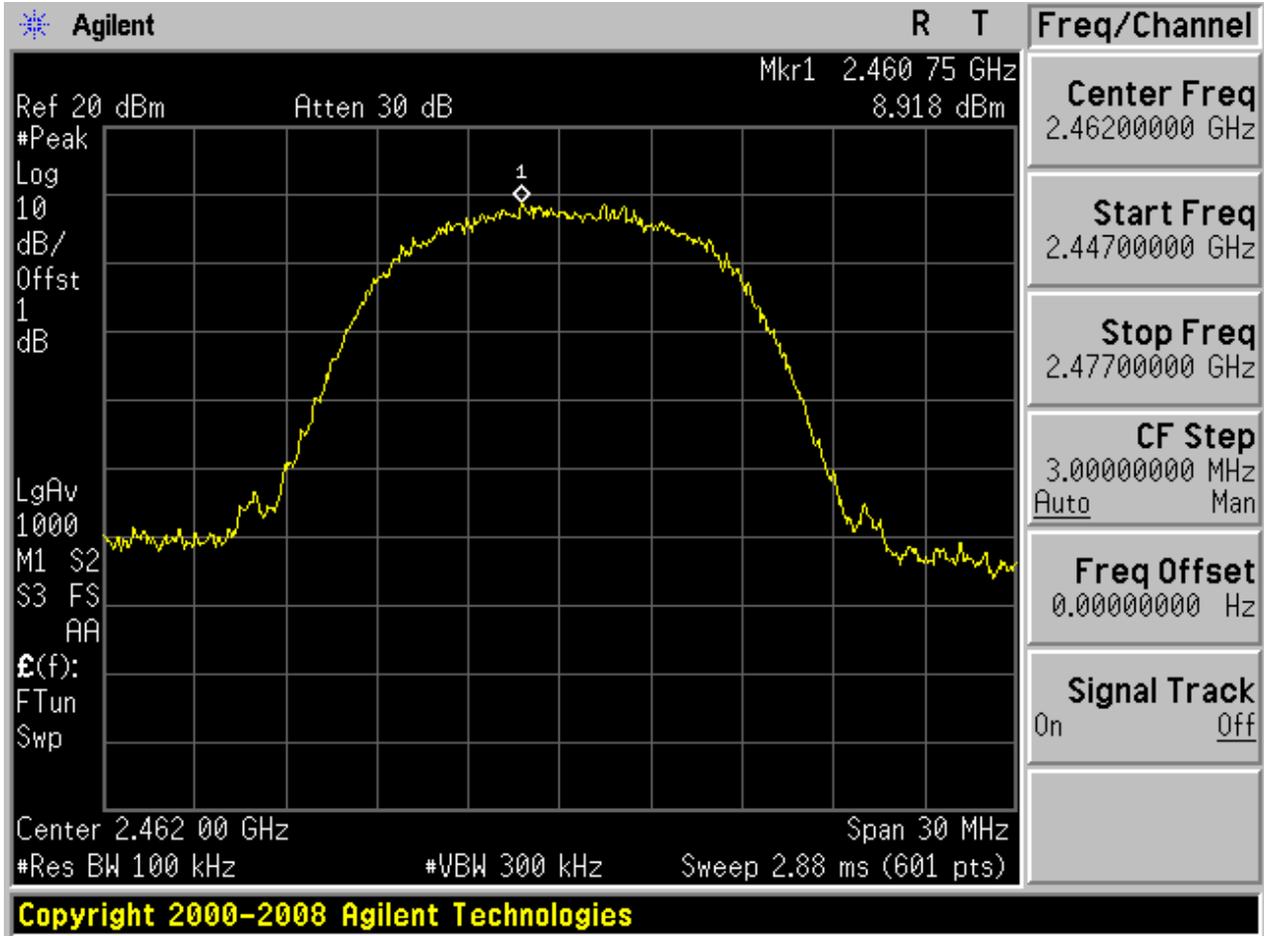






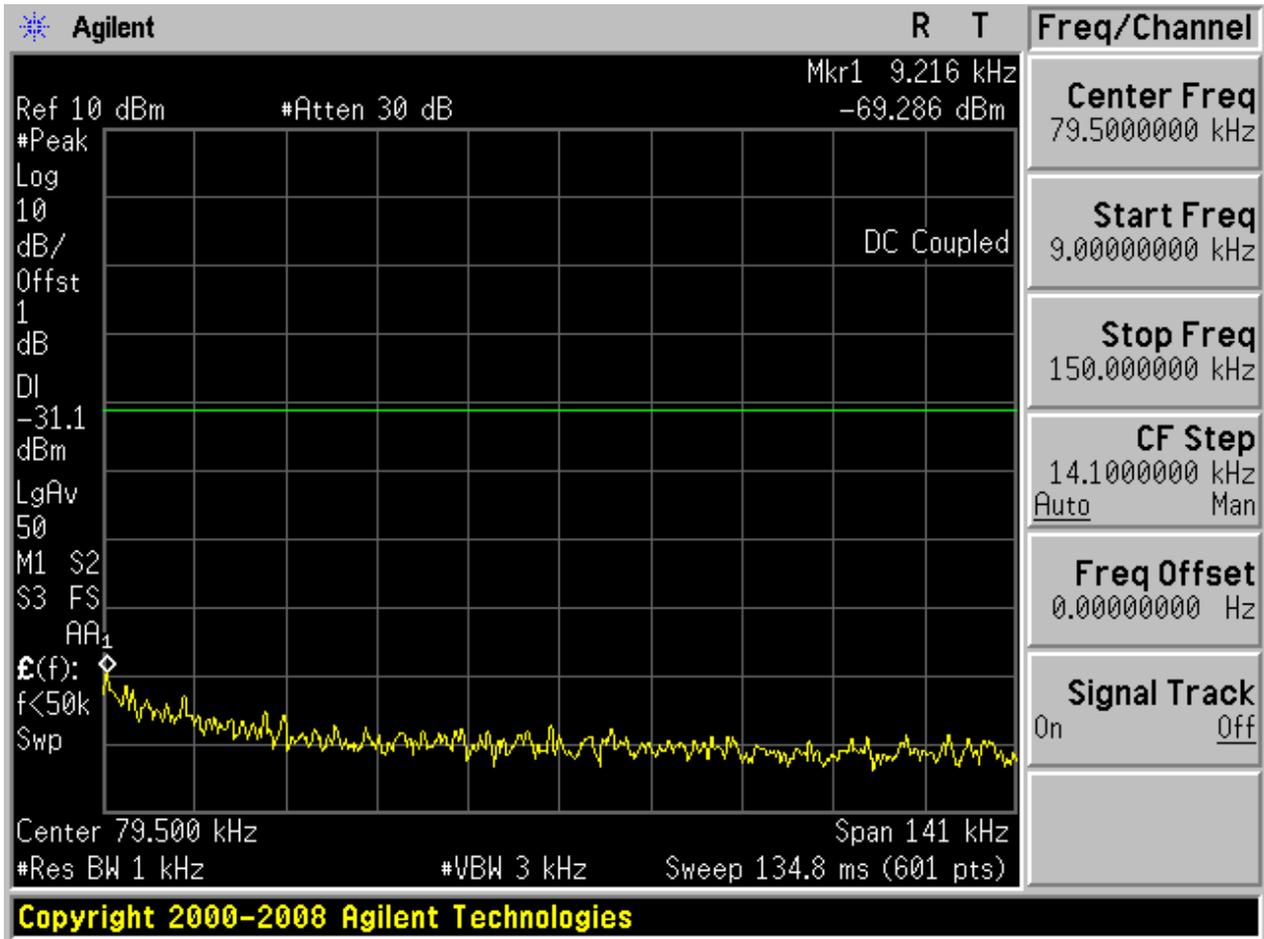
2.3 11B_H

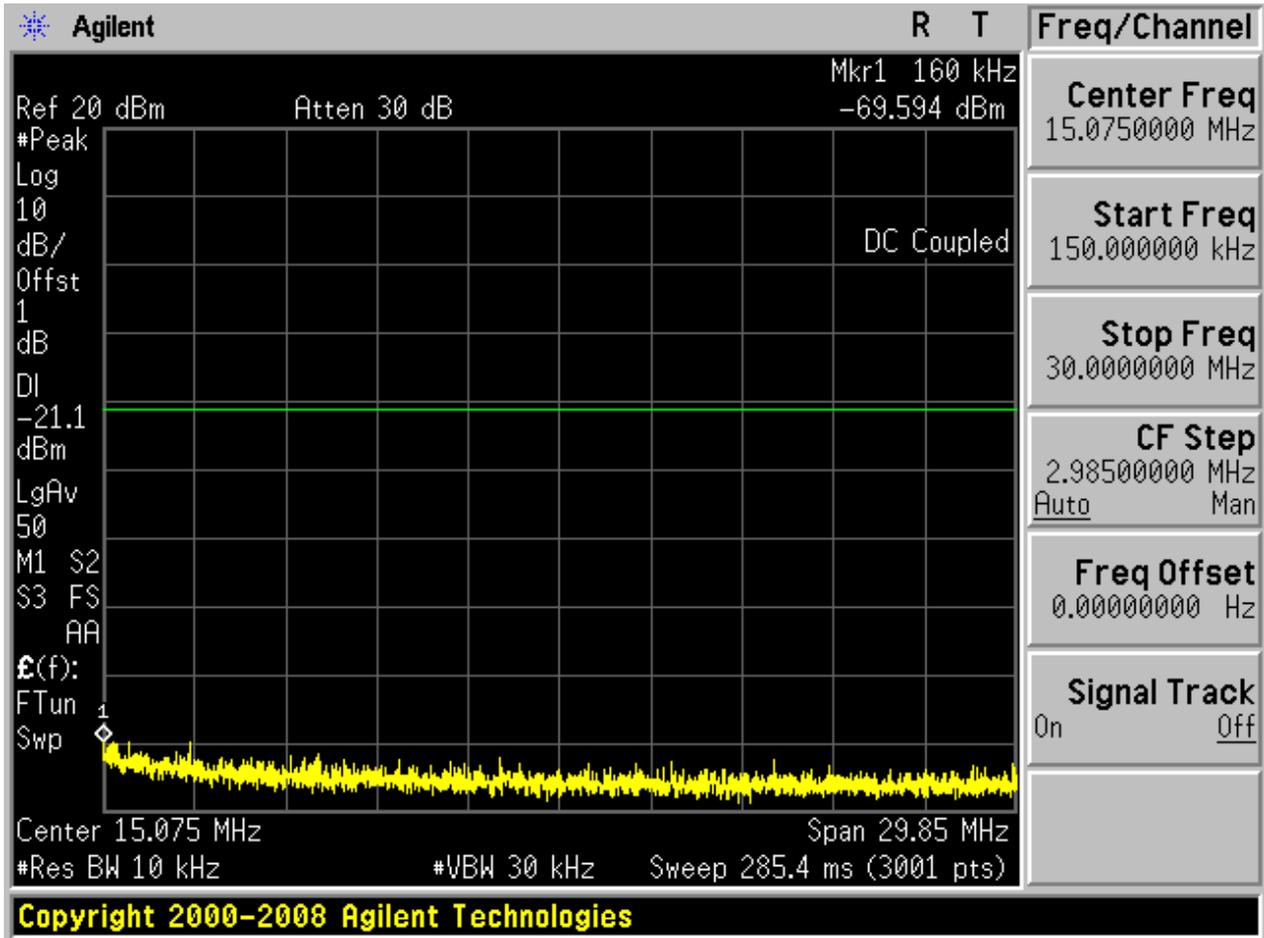
Pref:

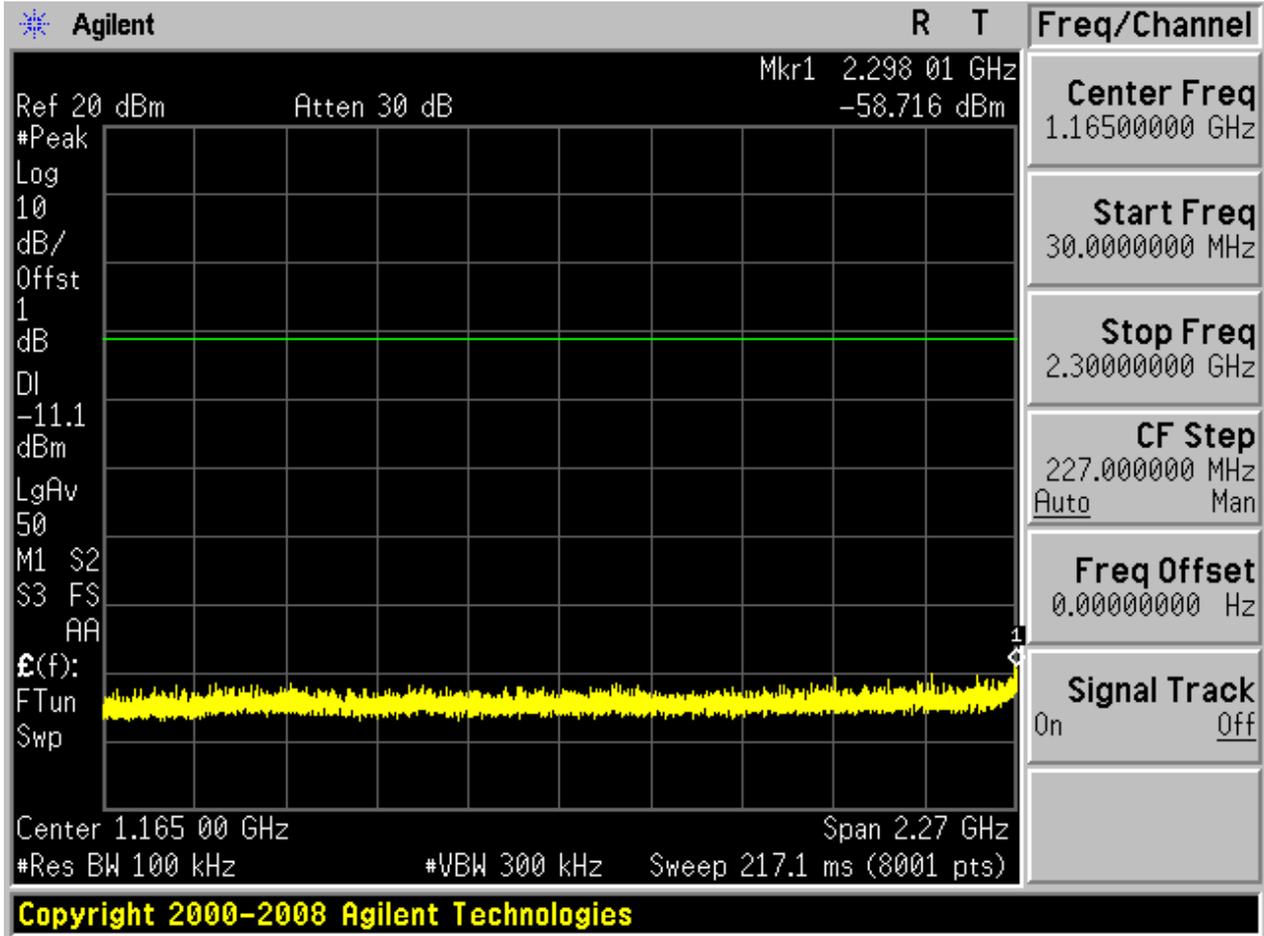


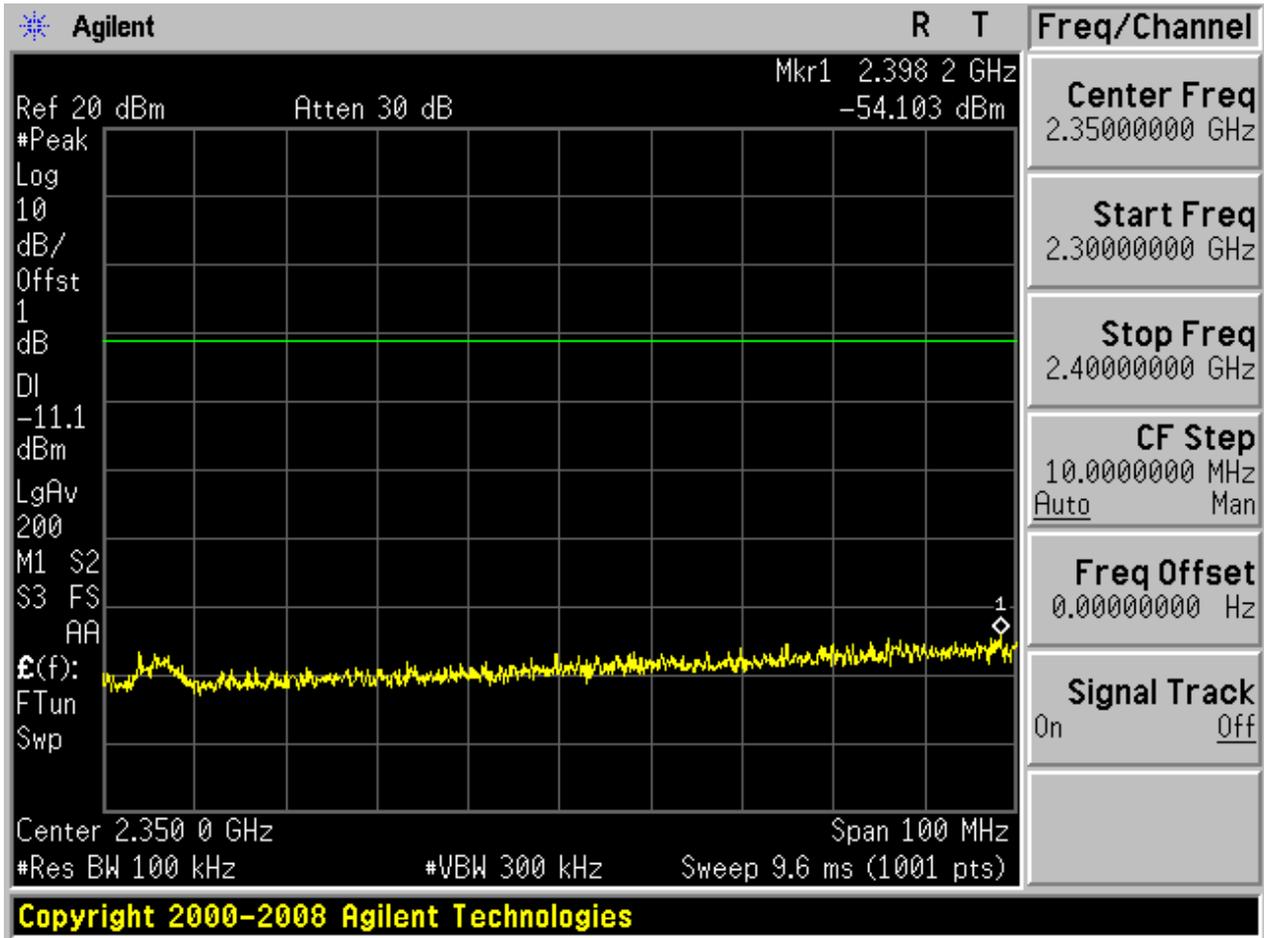


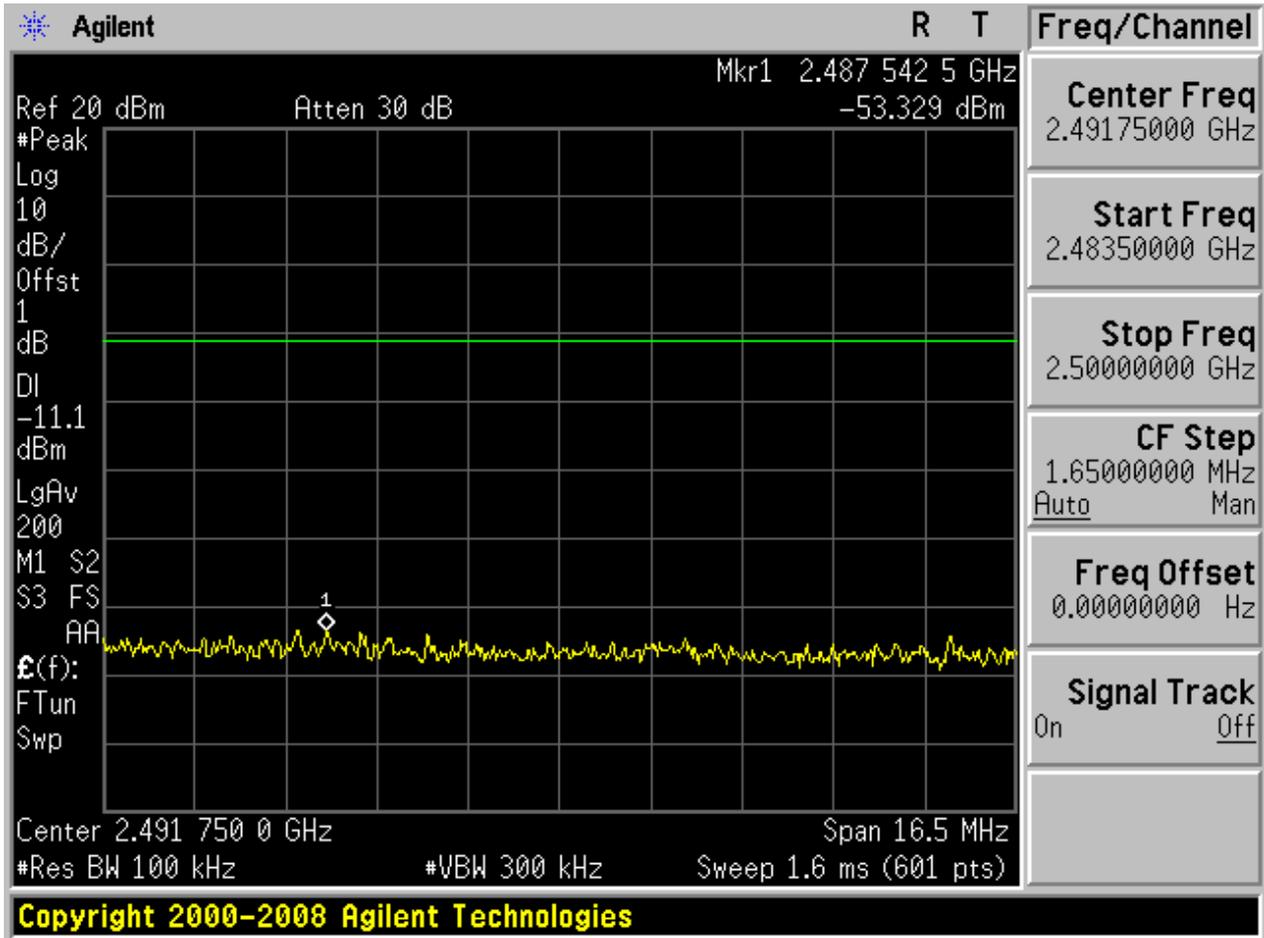
Puw:

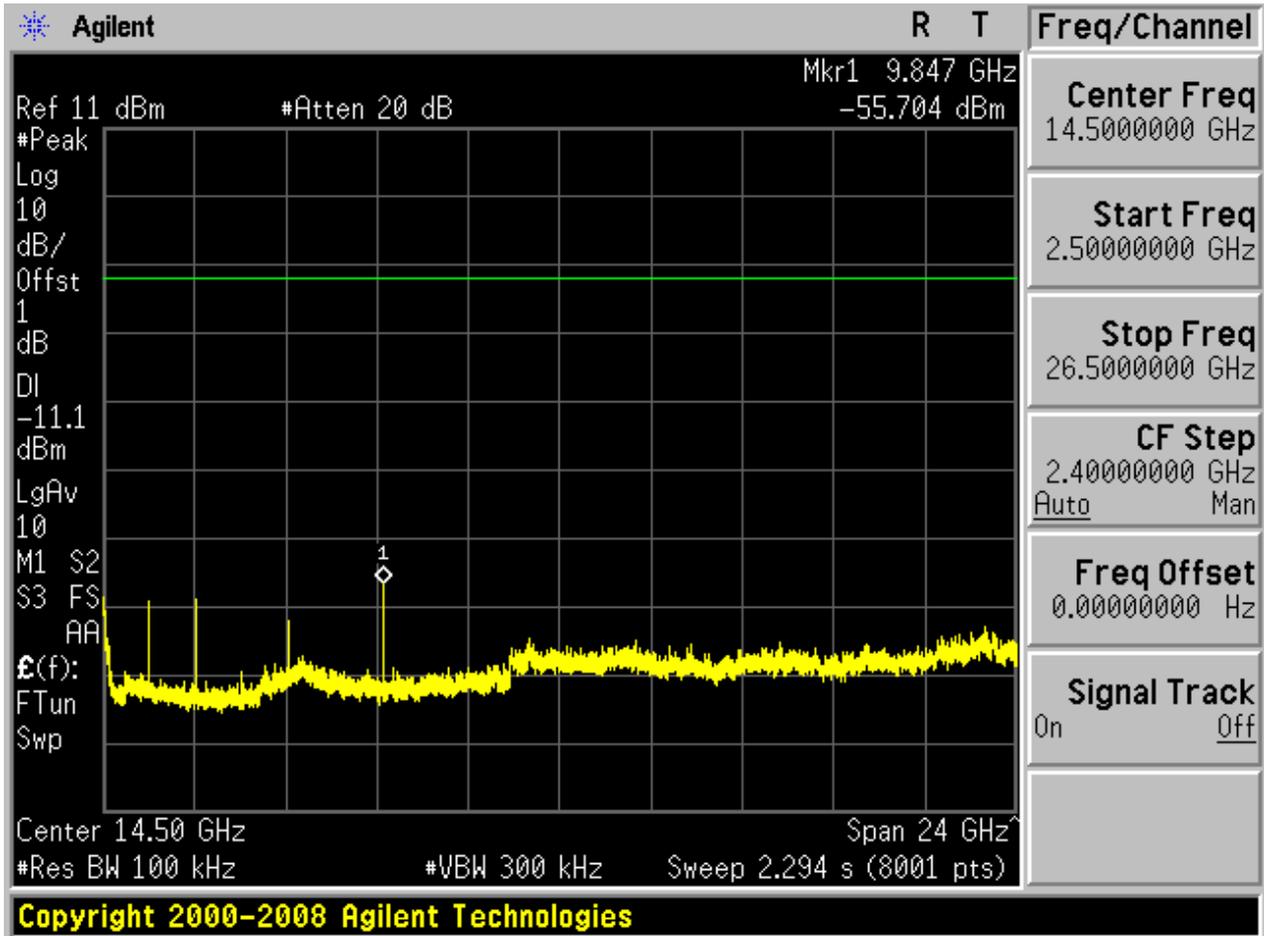






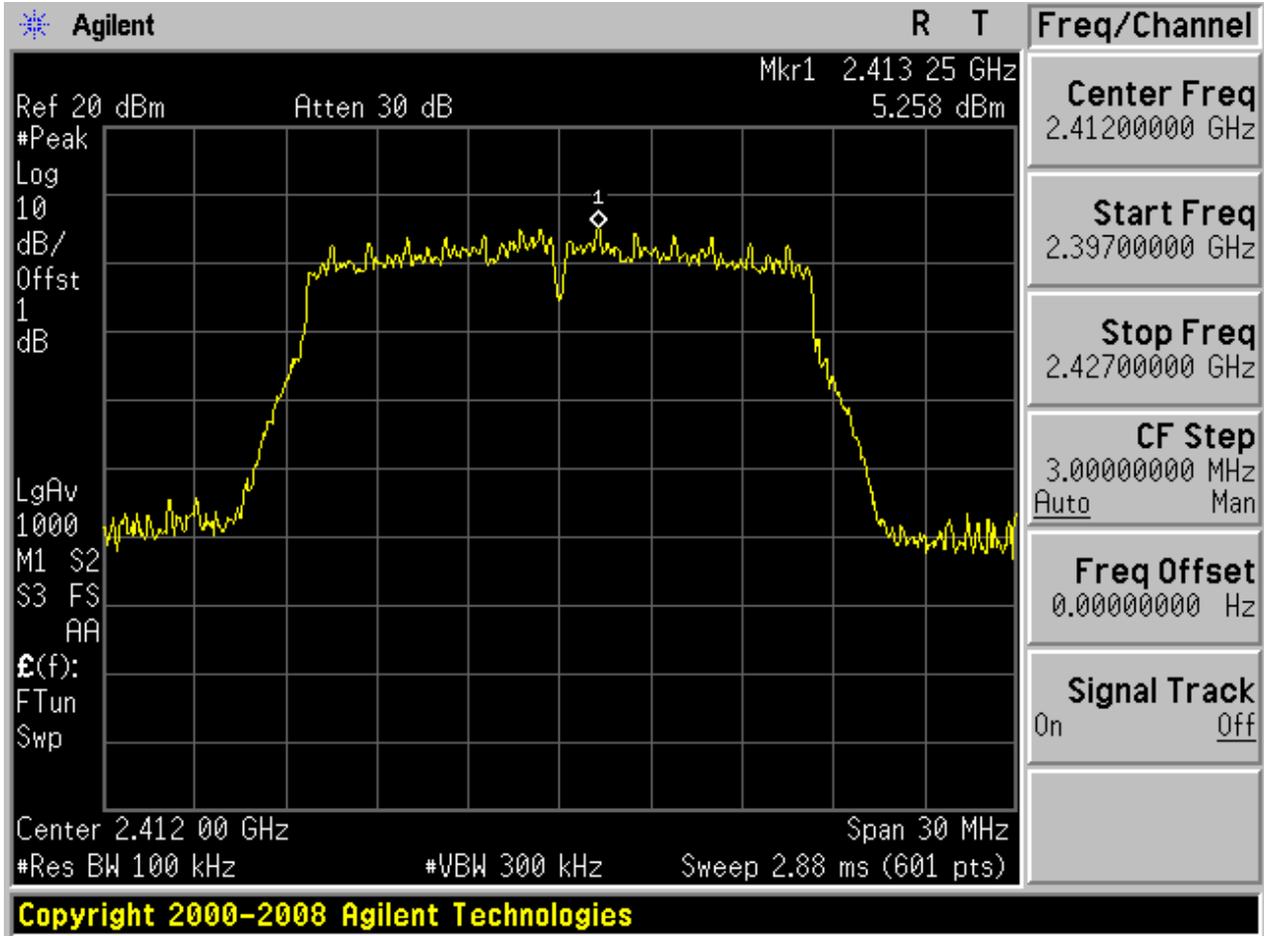






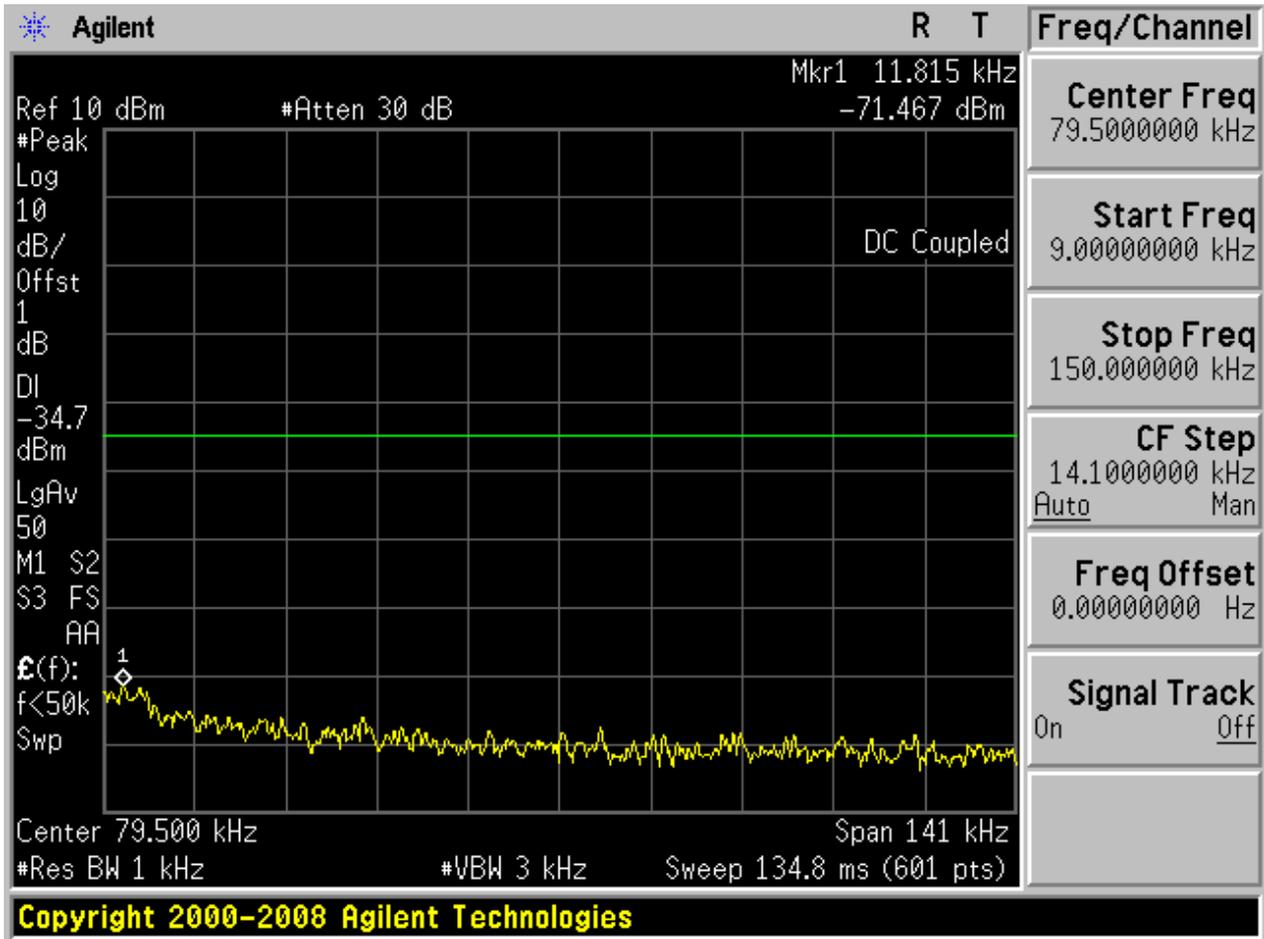
2.4 11G_L

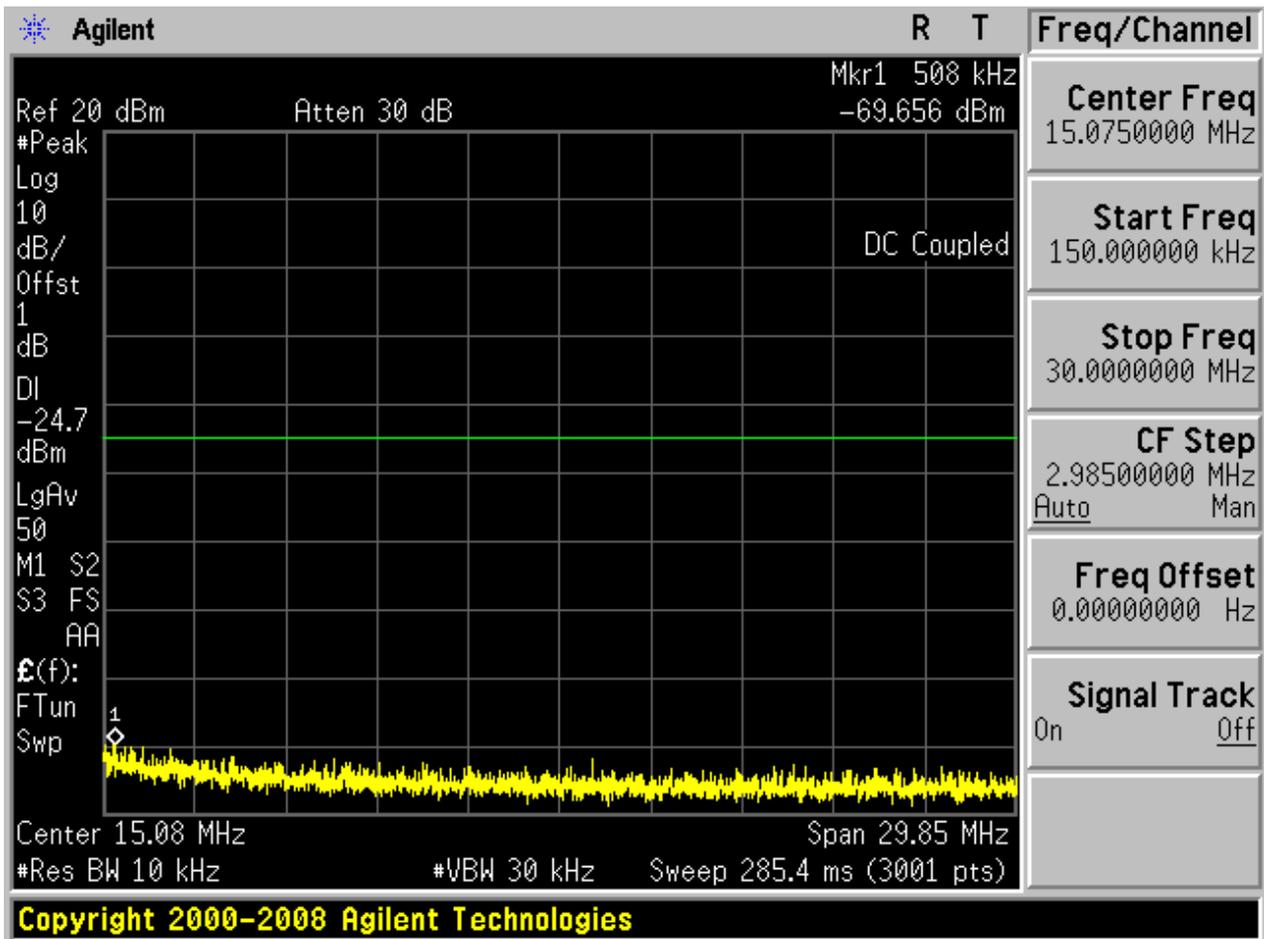
Pref:

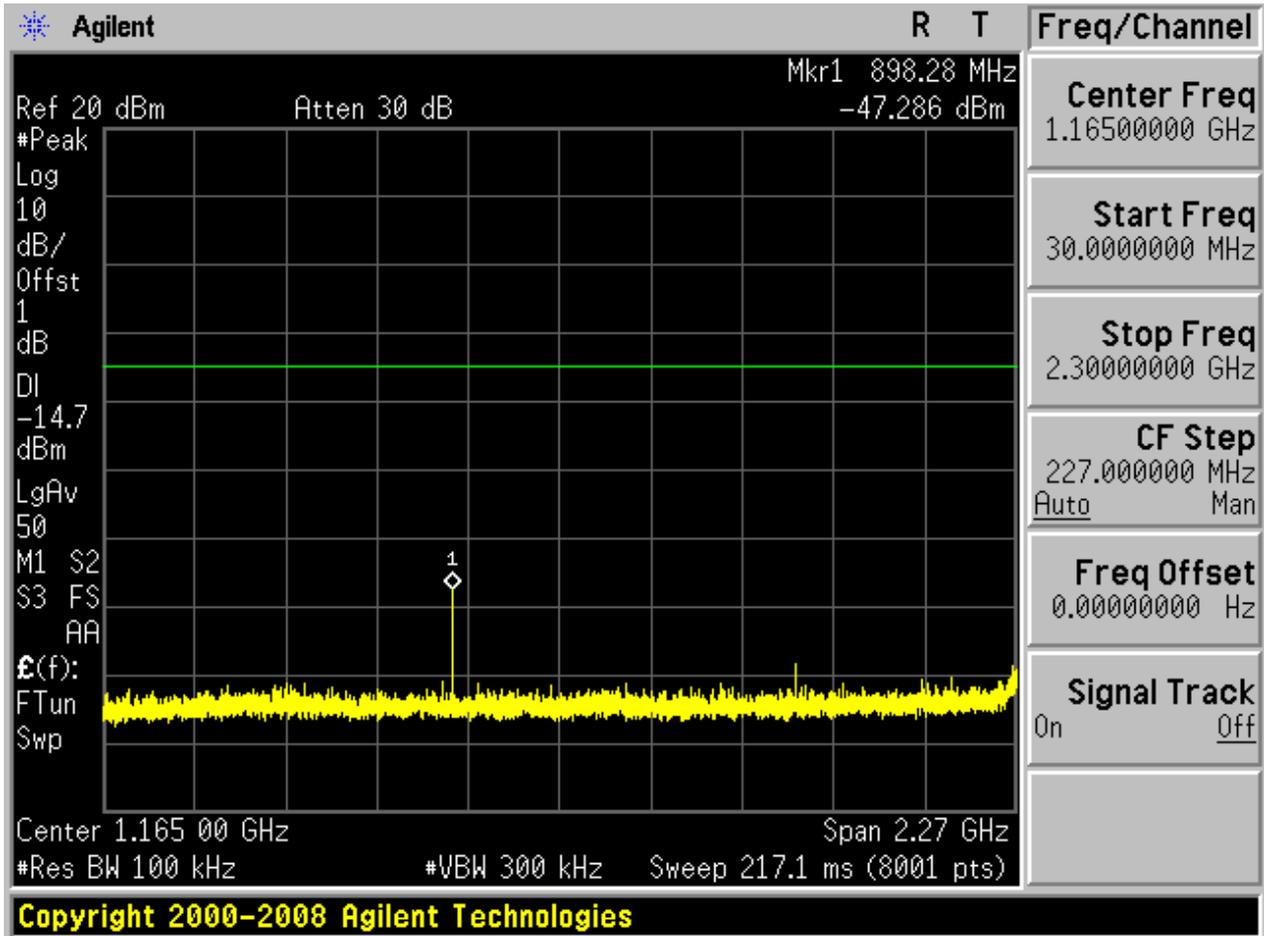


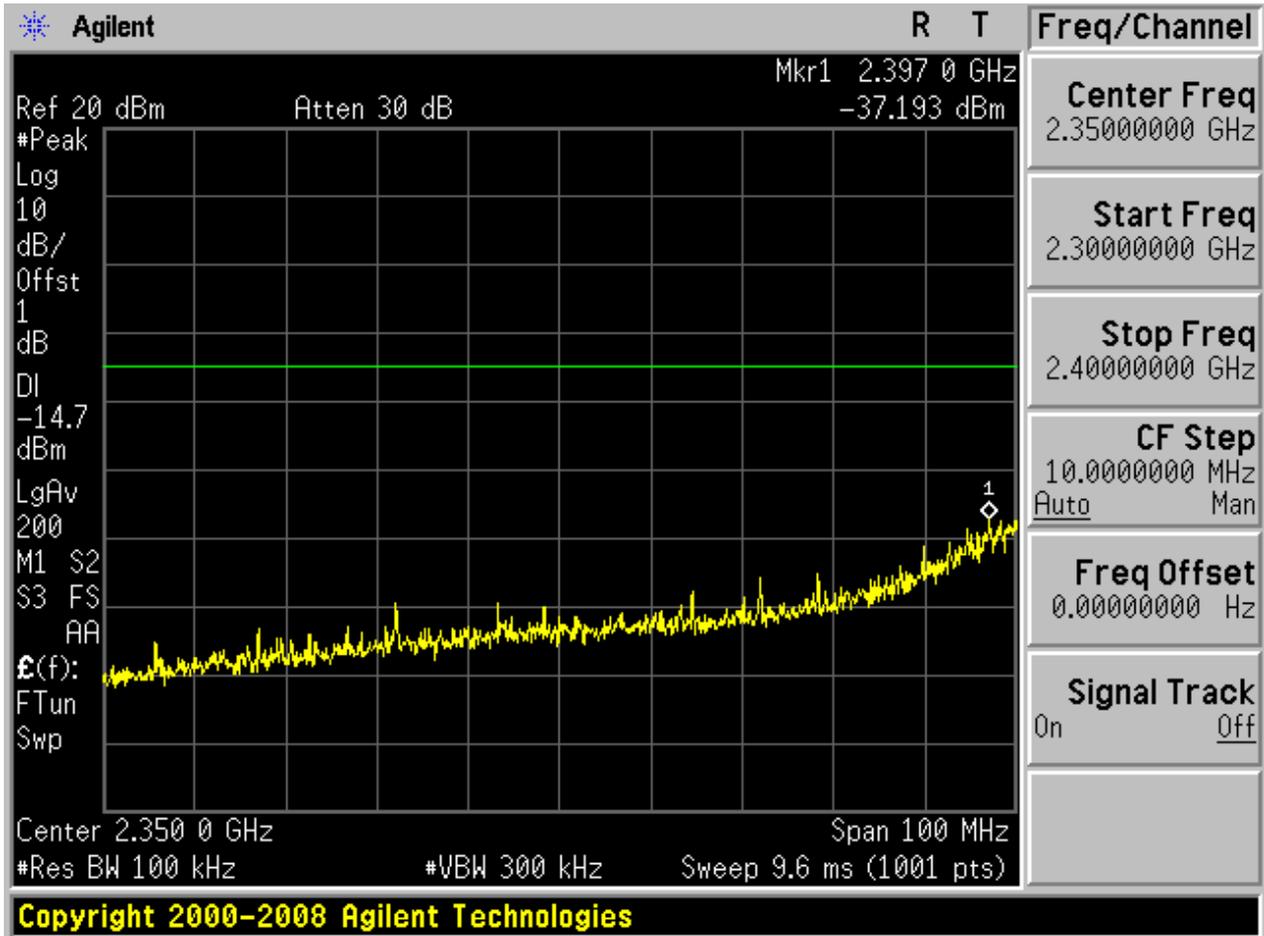


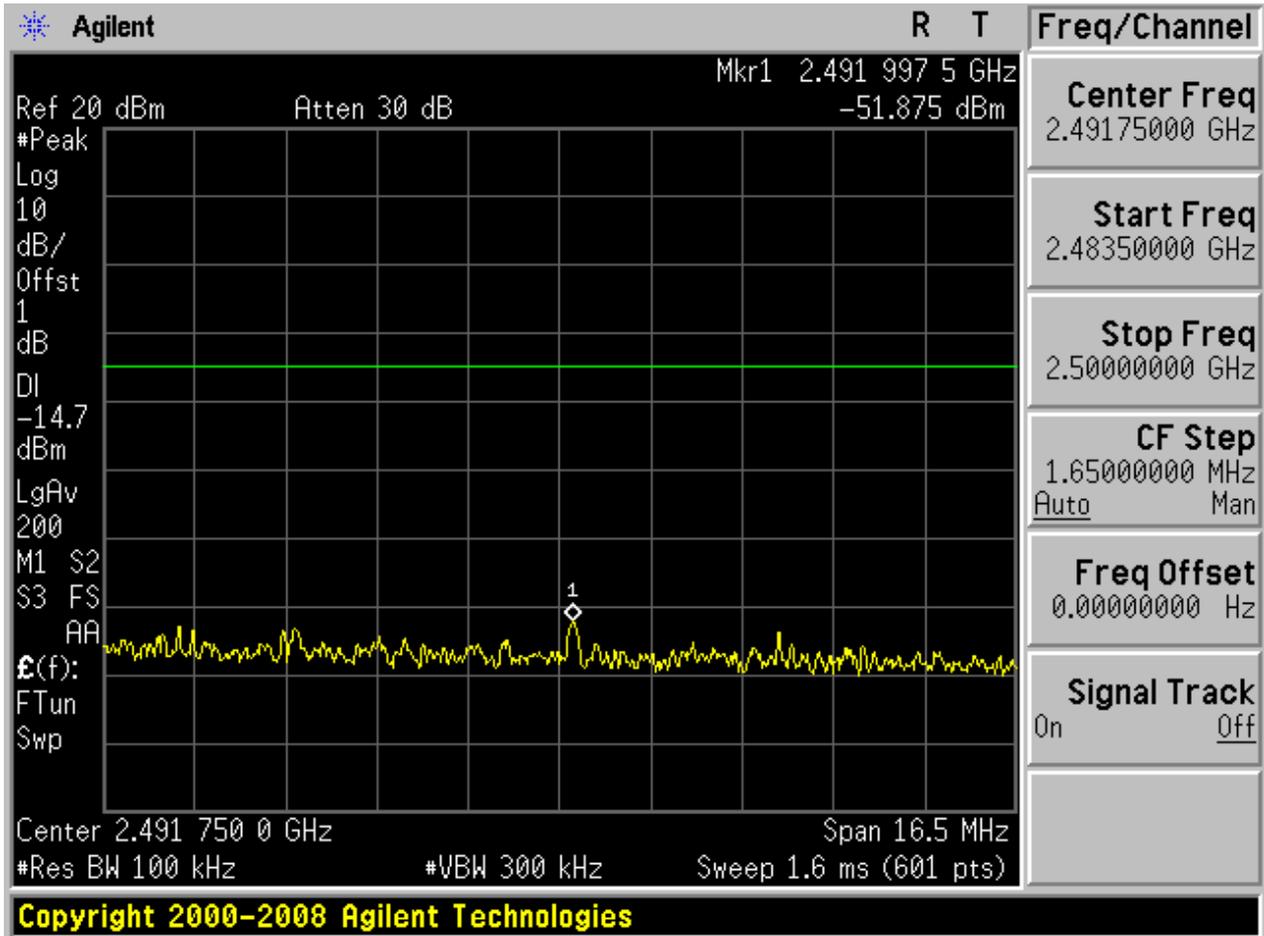
Puw:

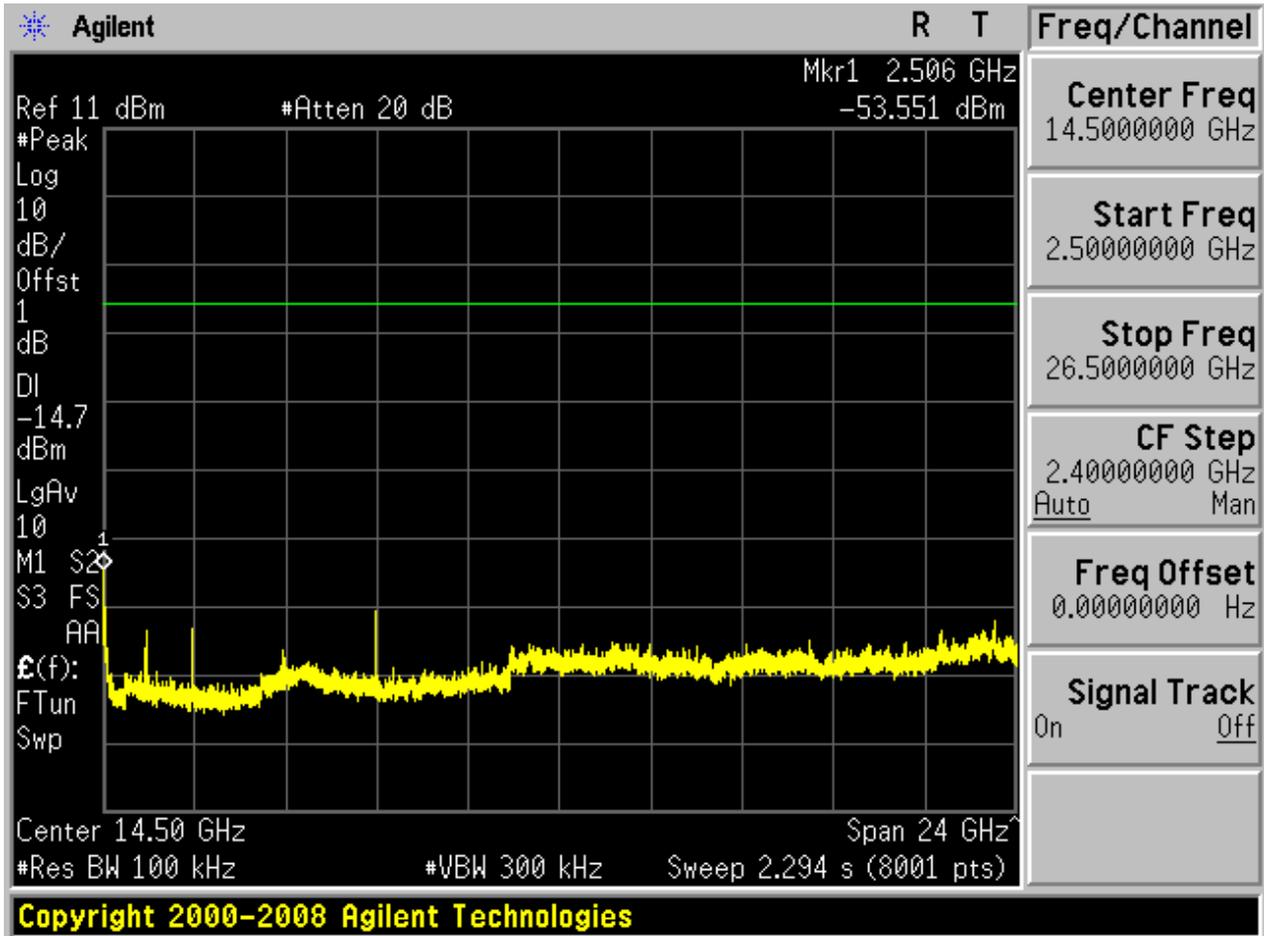








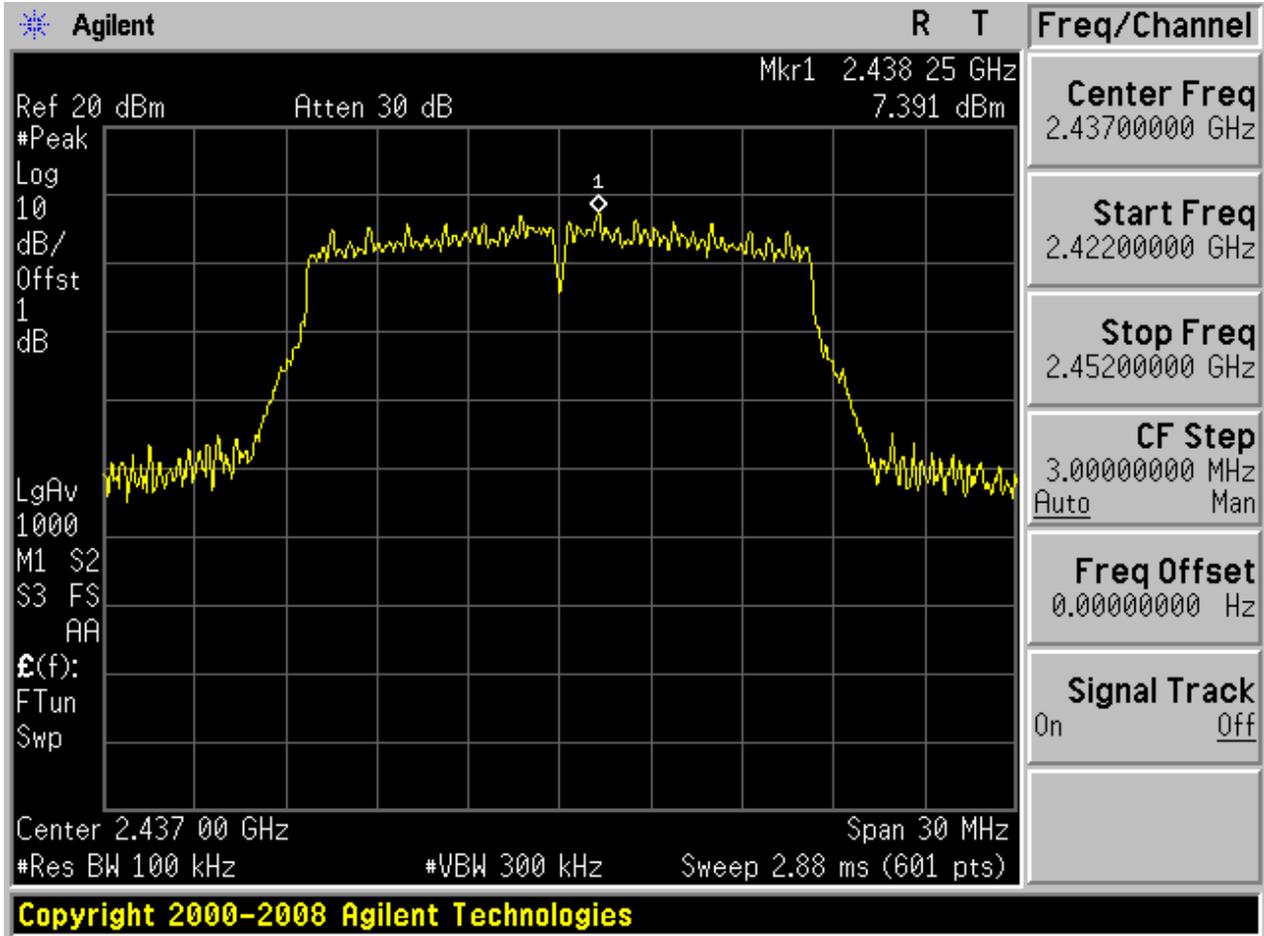






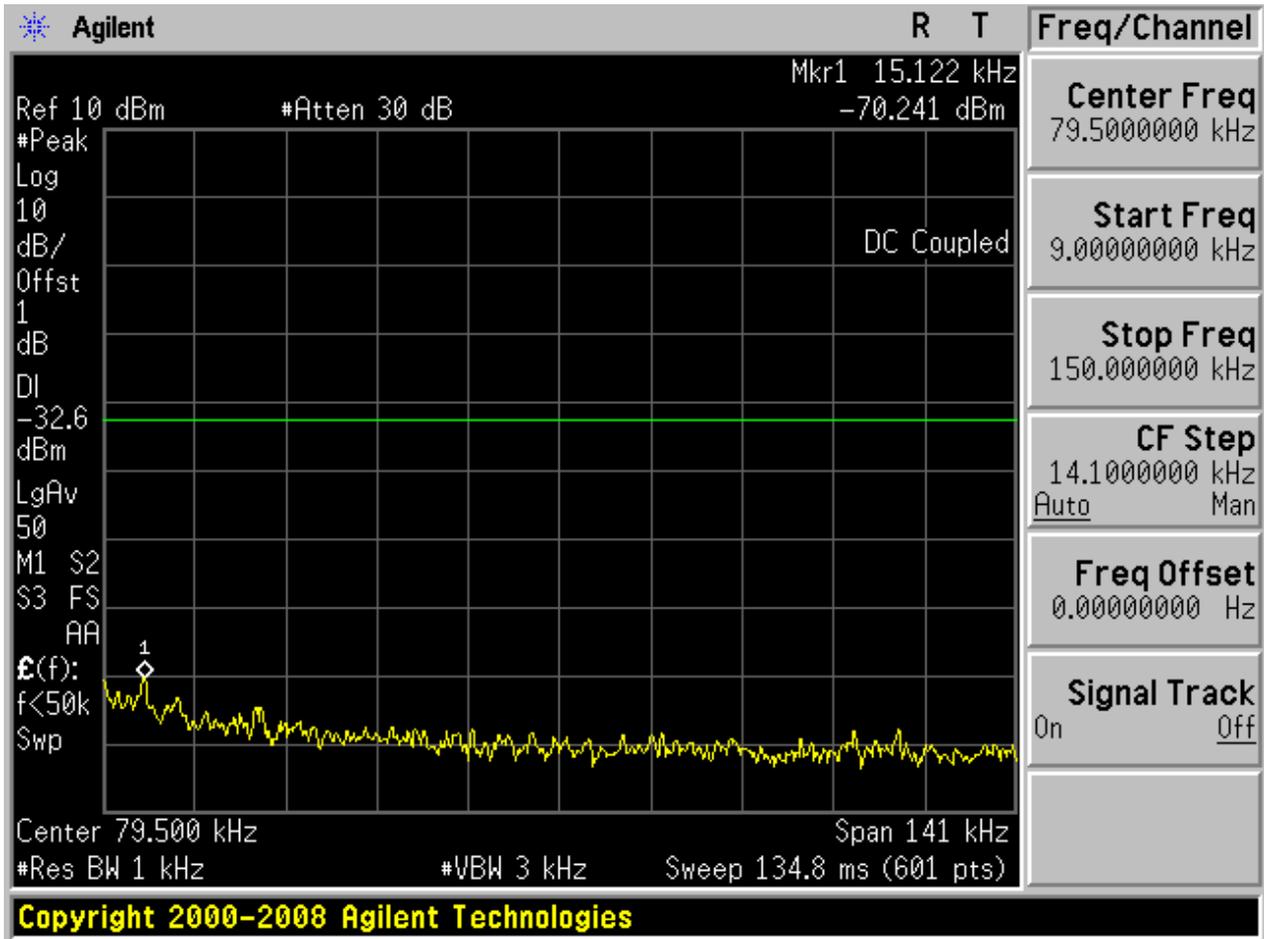
2.5 11G_M

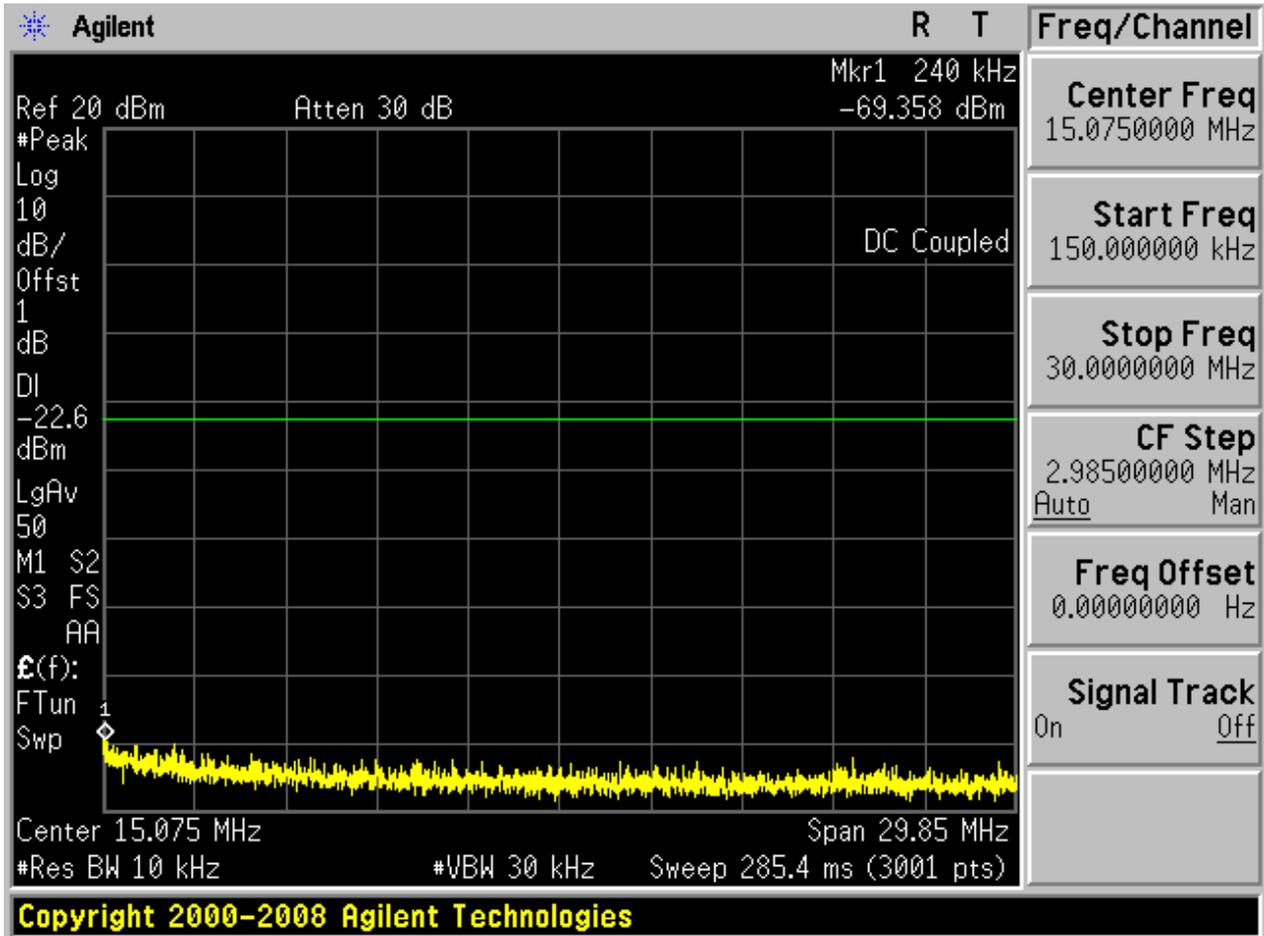
Pref:

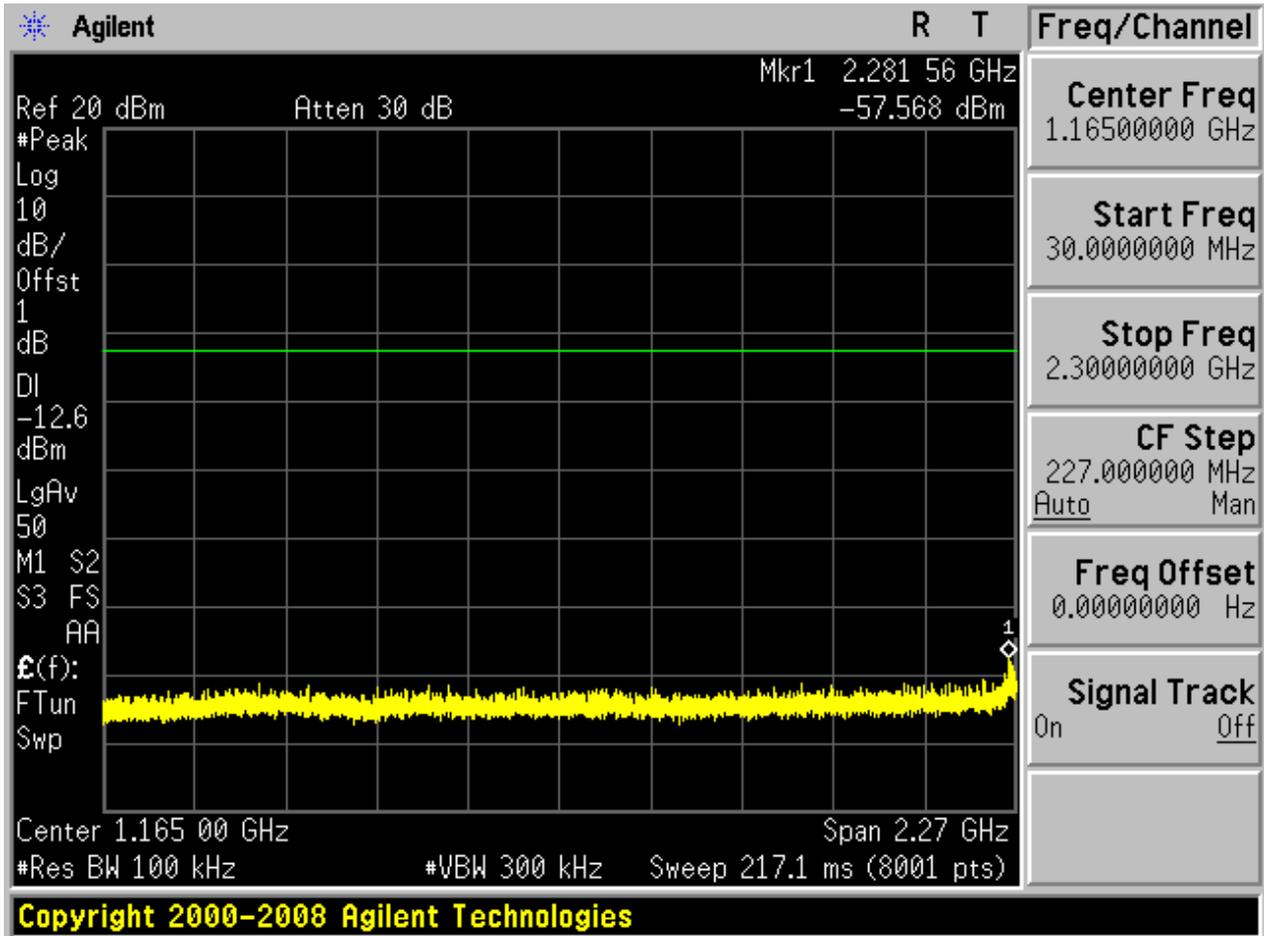


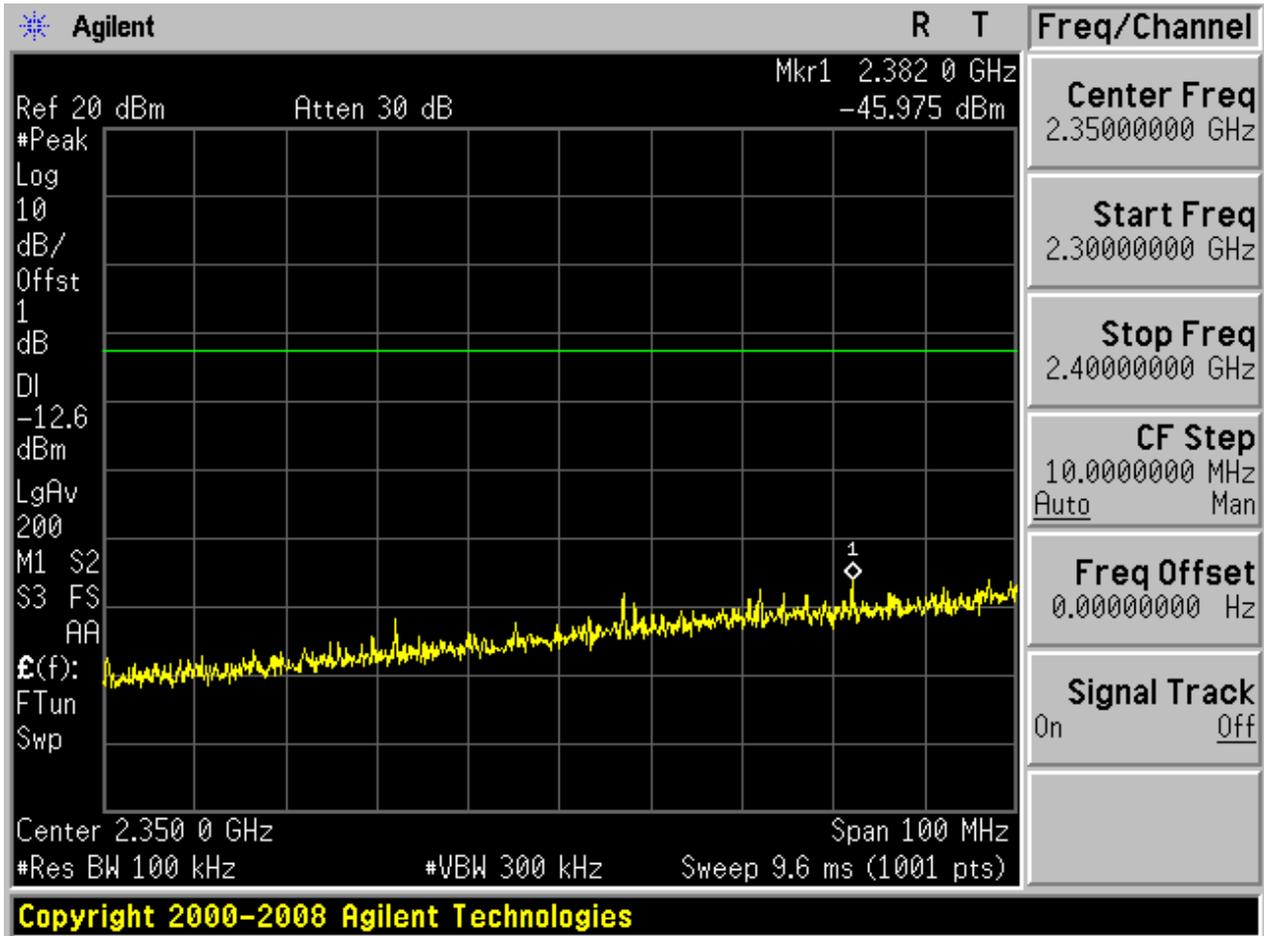


Puw:

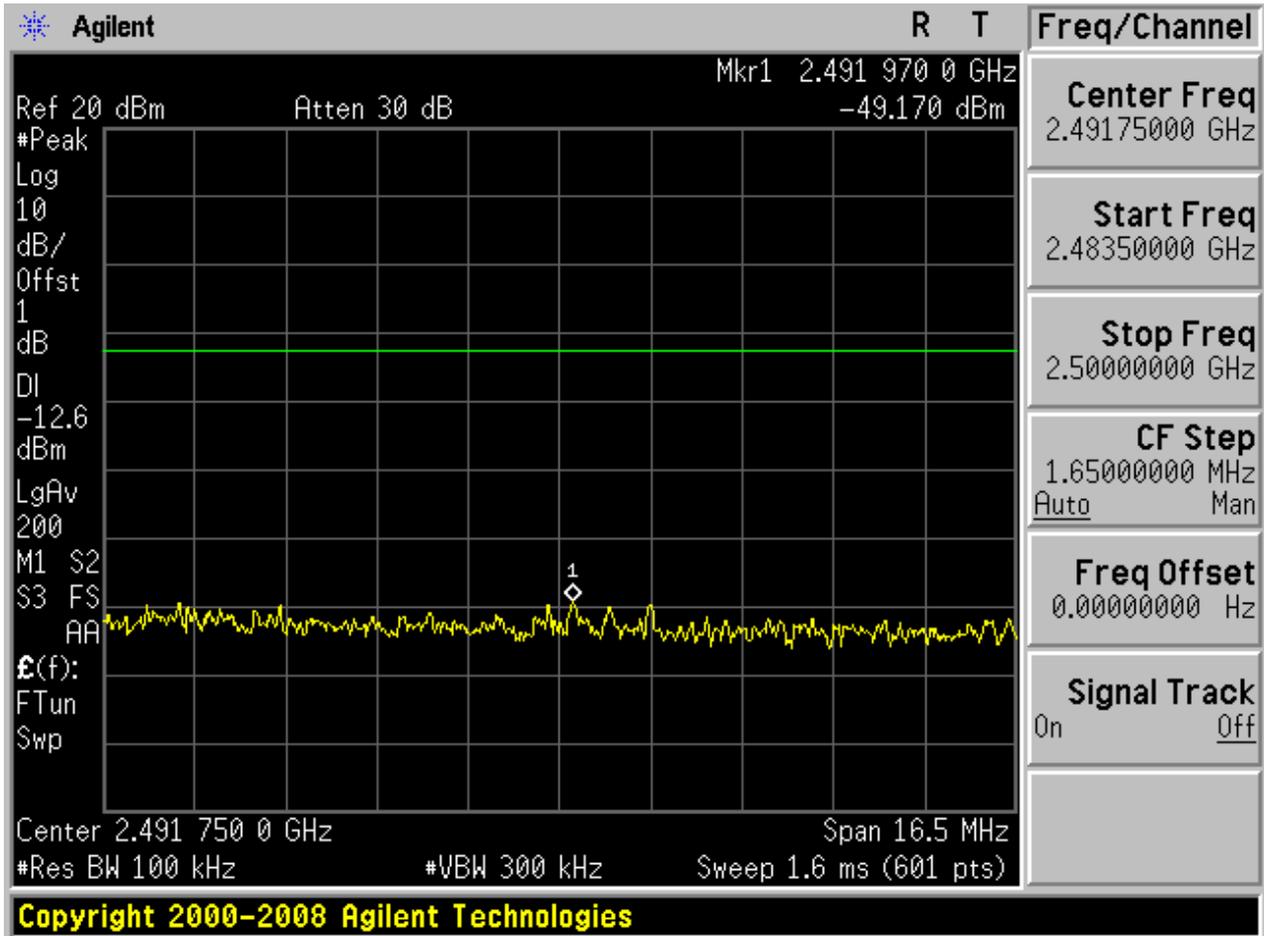


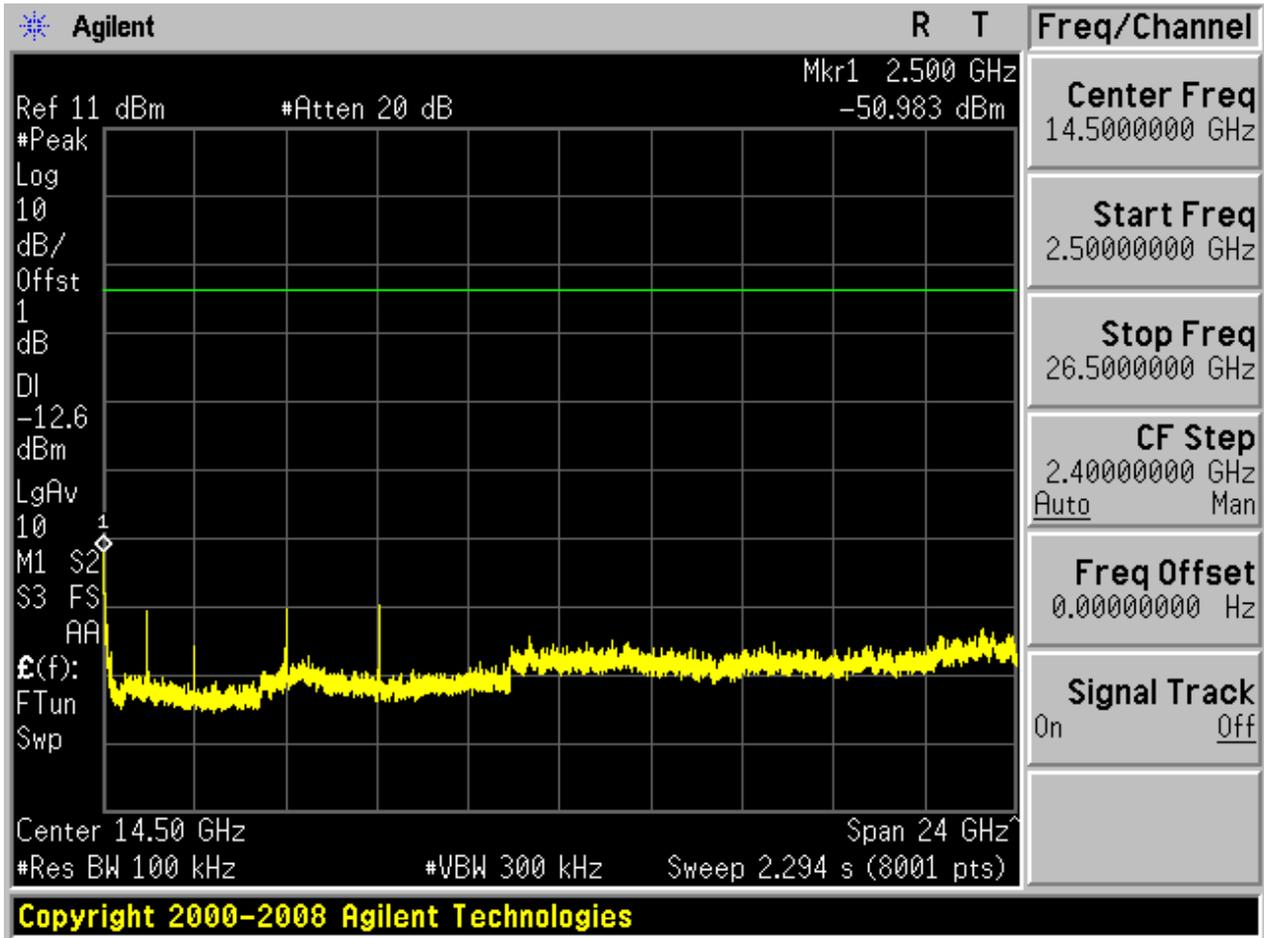






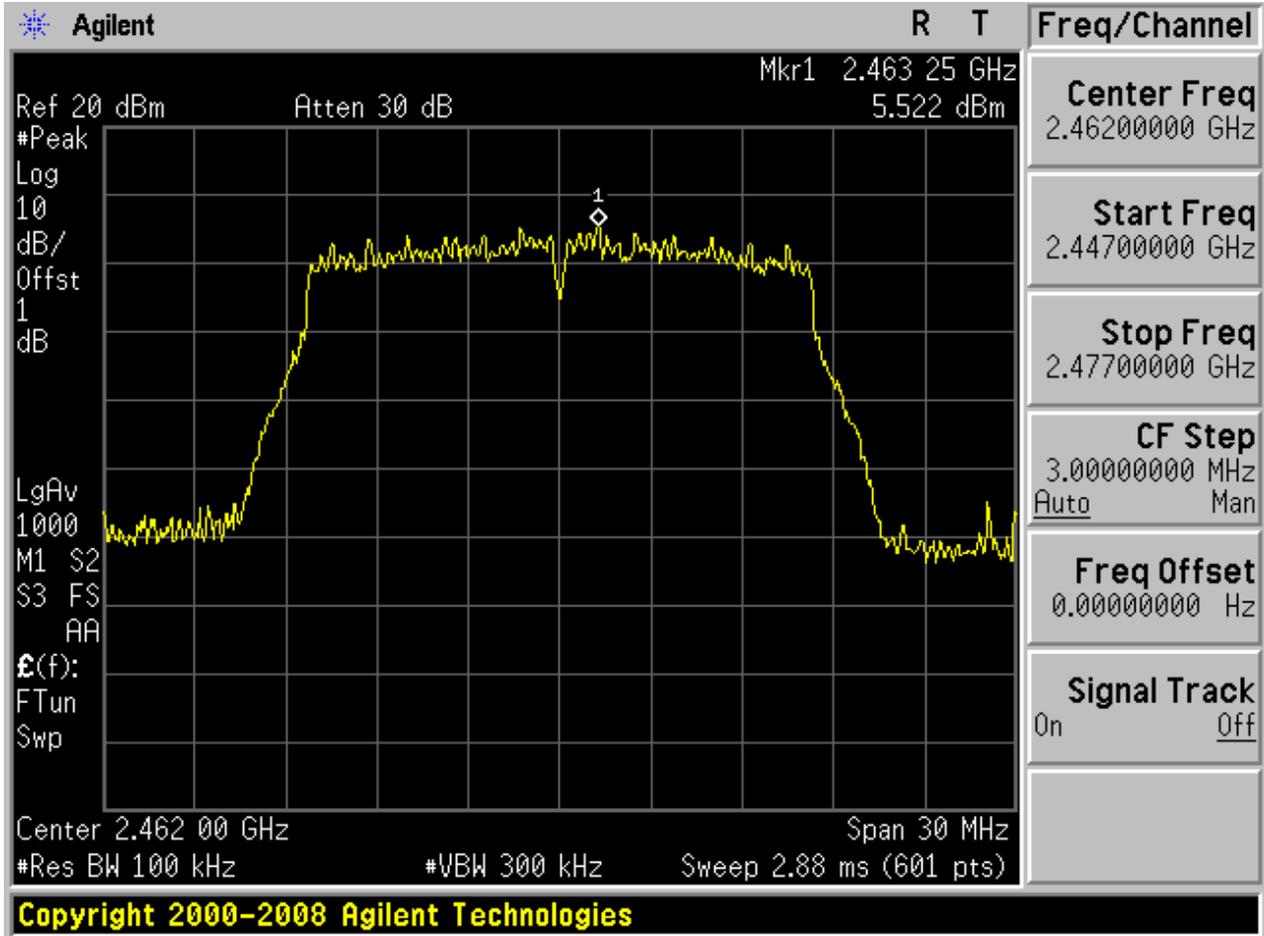
Copyright 2000-2008 Agilent Technologies





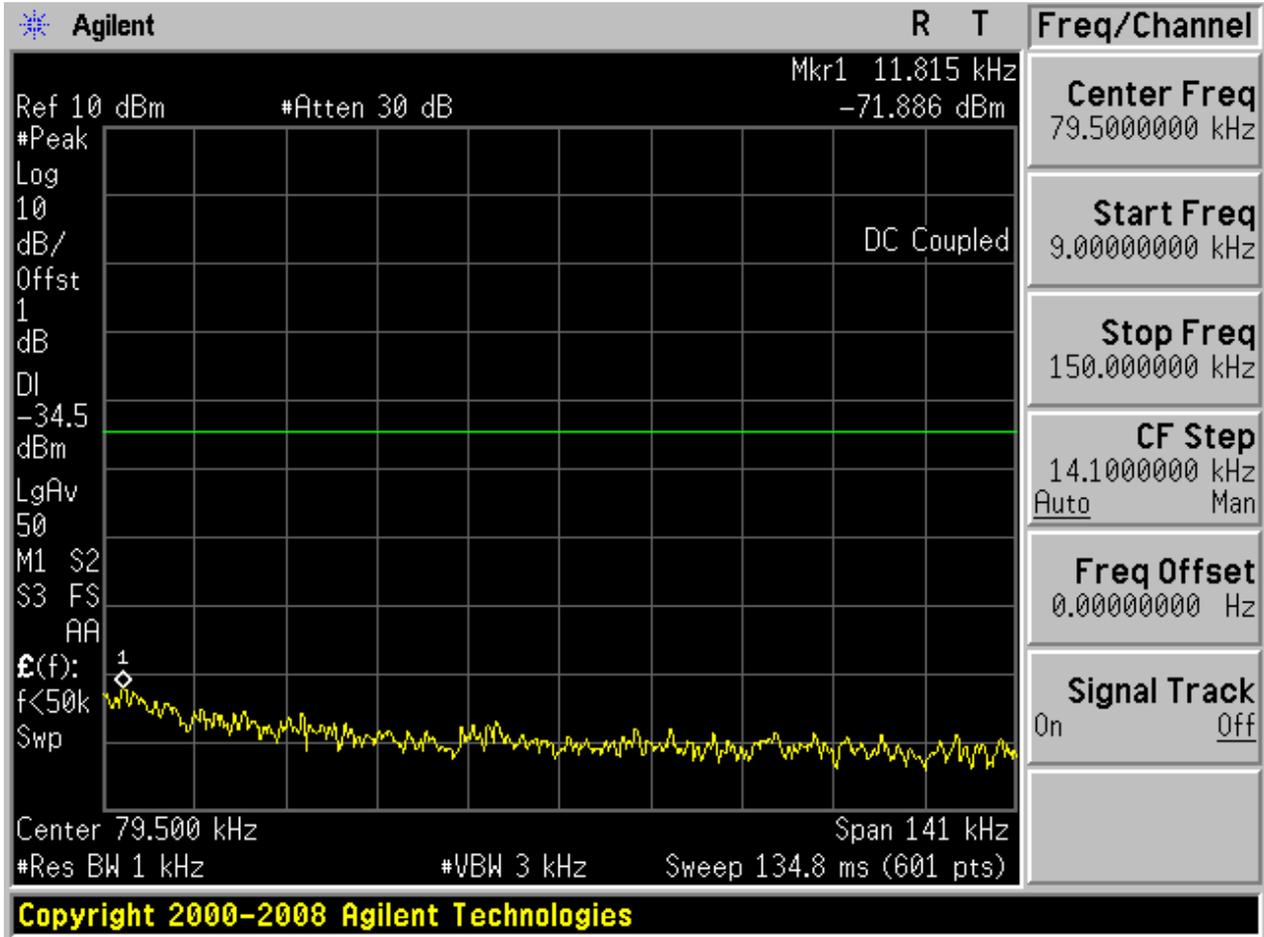
2.6 11G_H

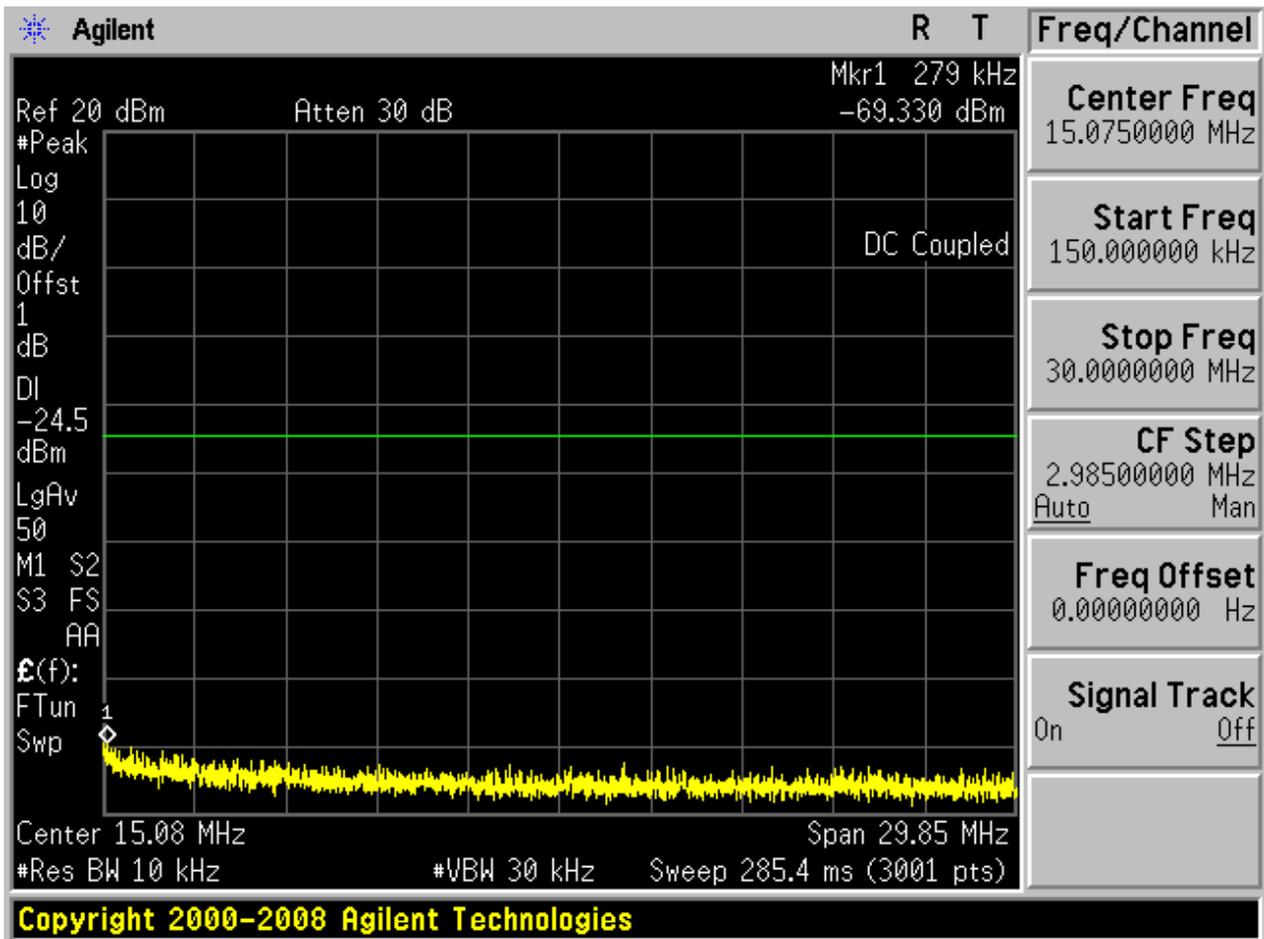
Pref:

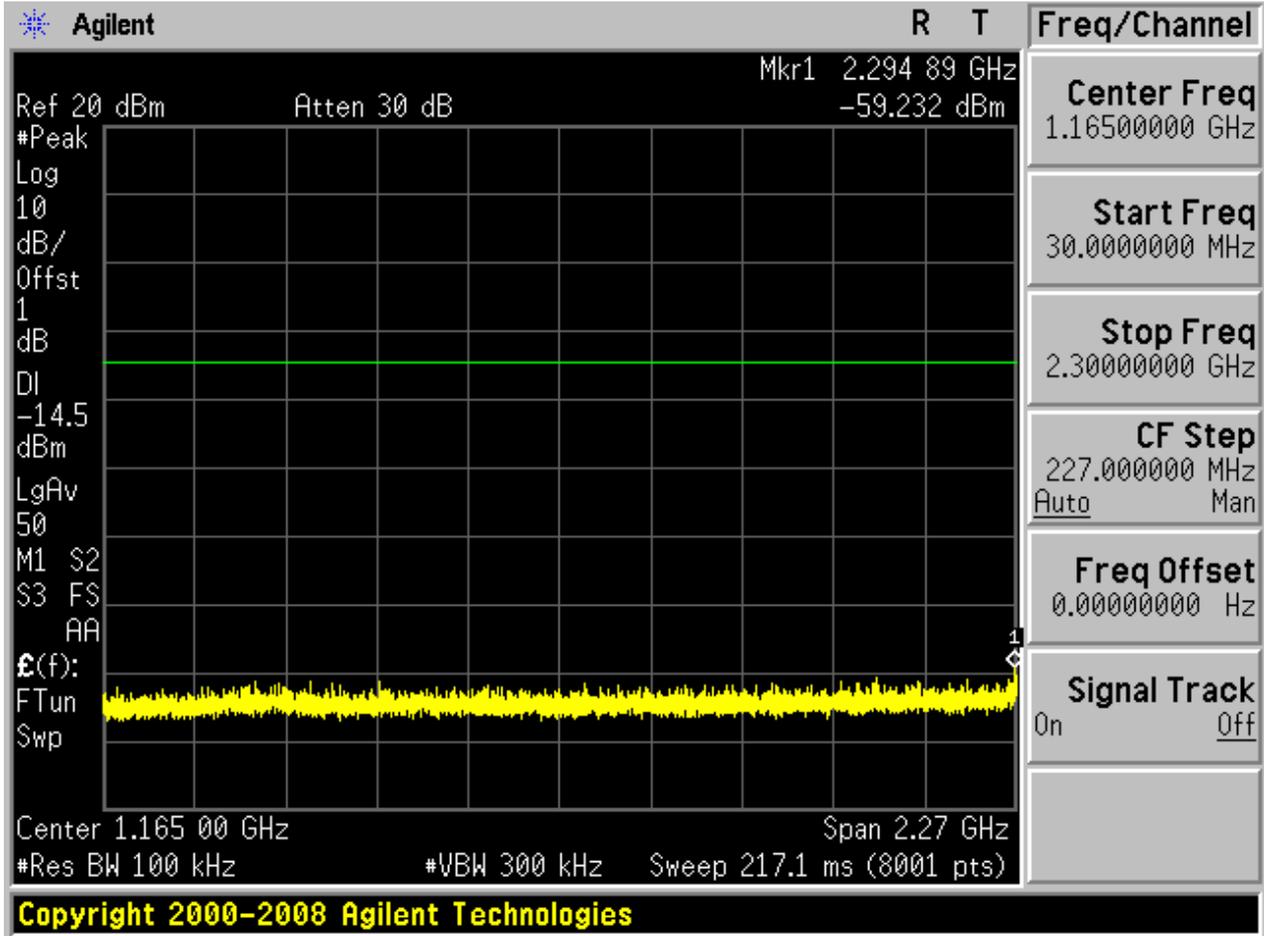


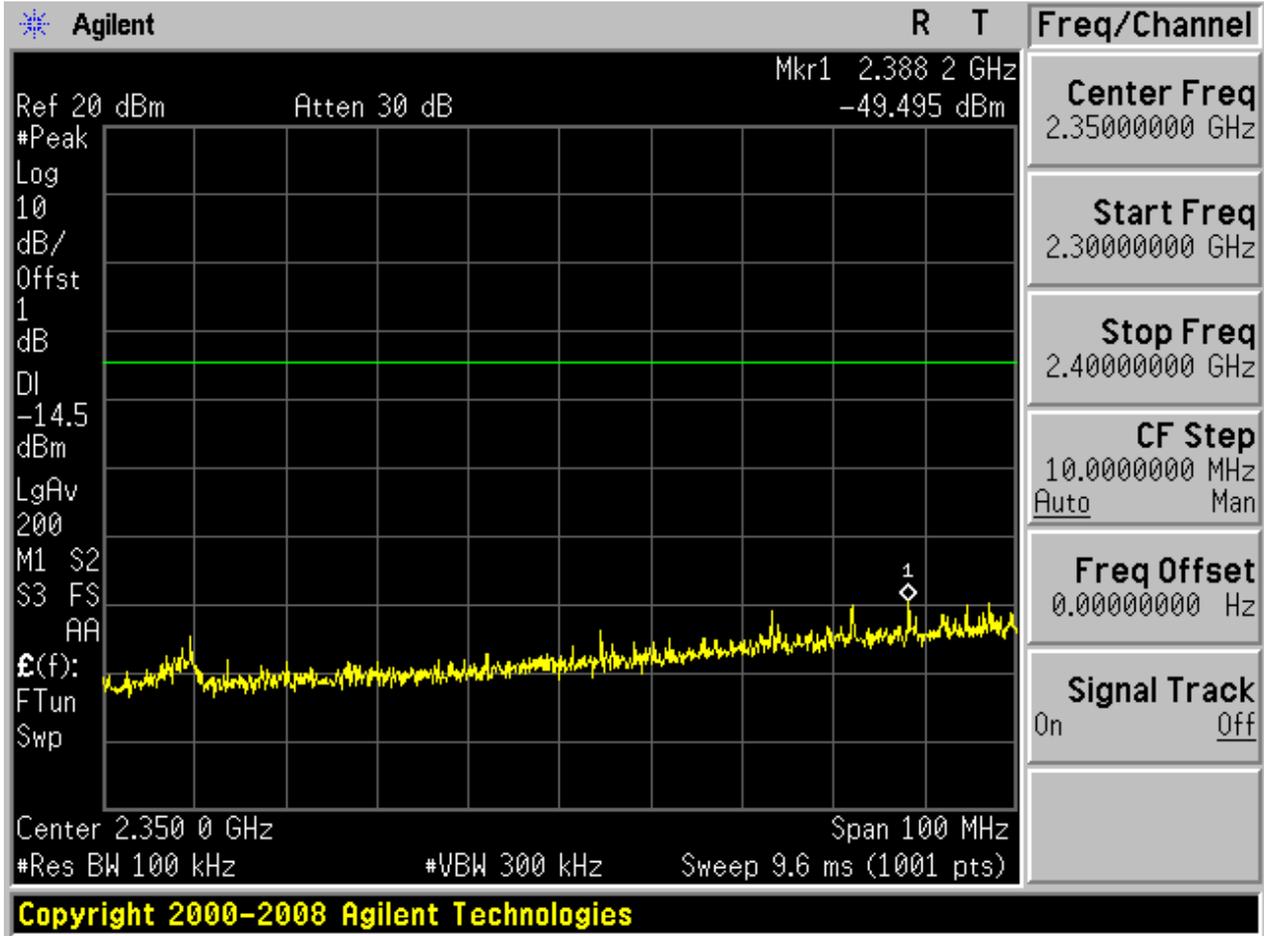


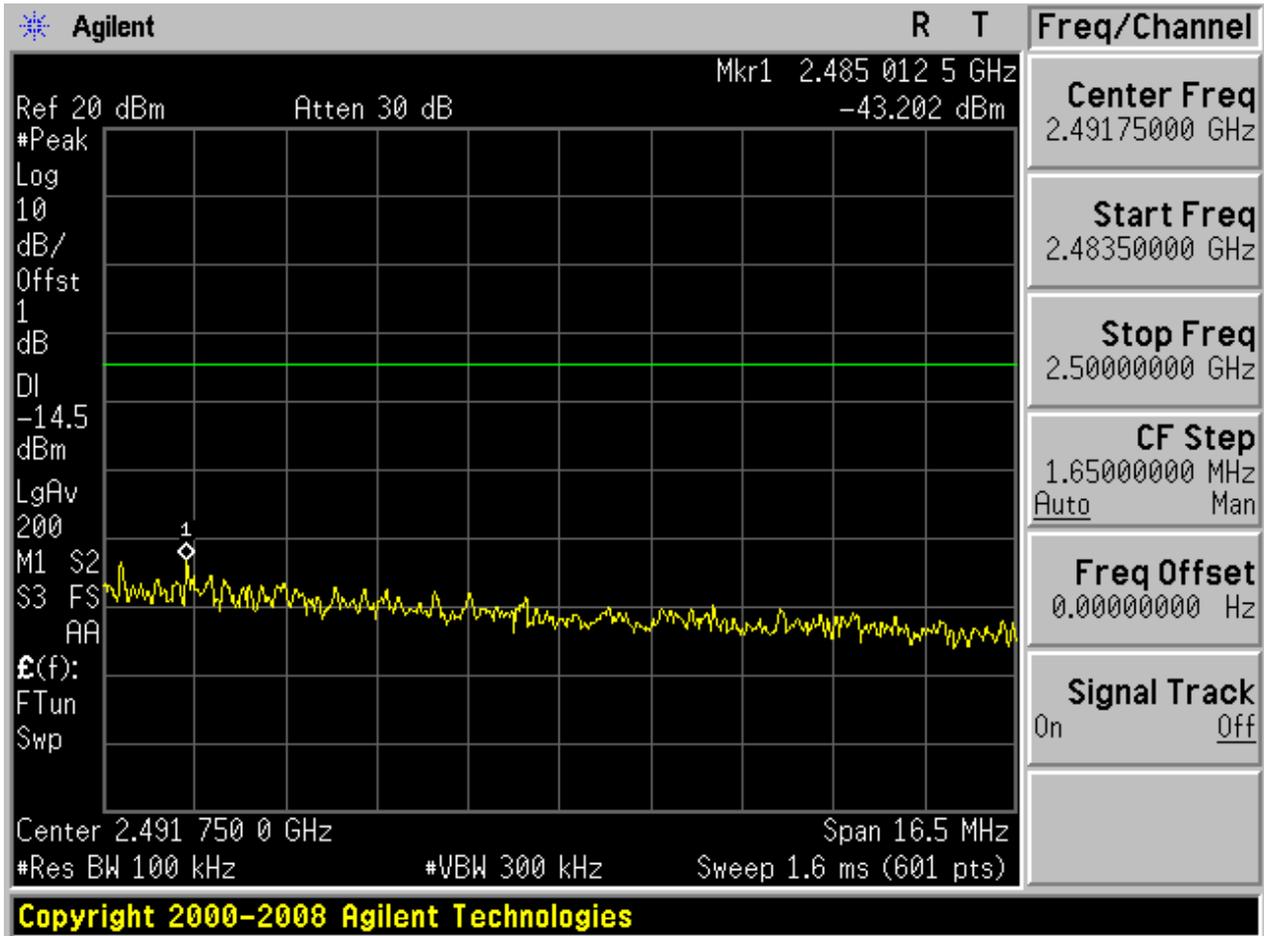
P_{uw}:

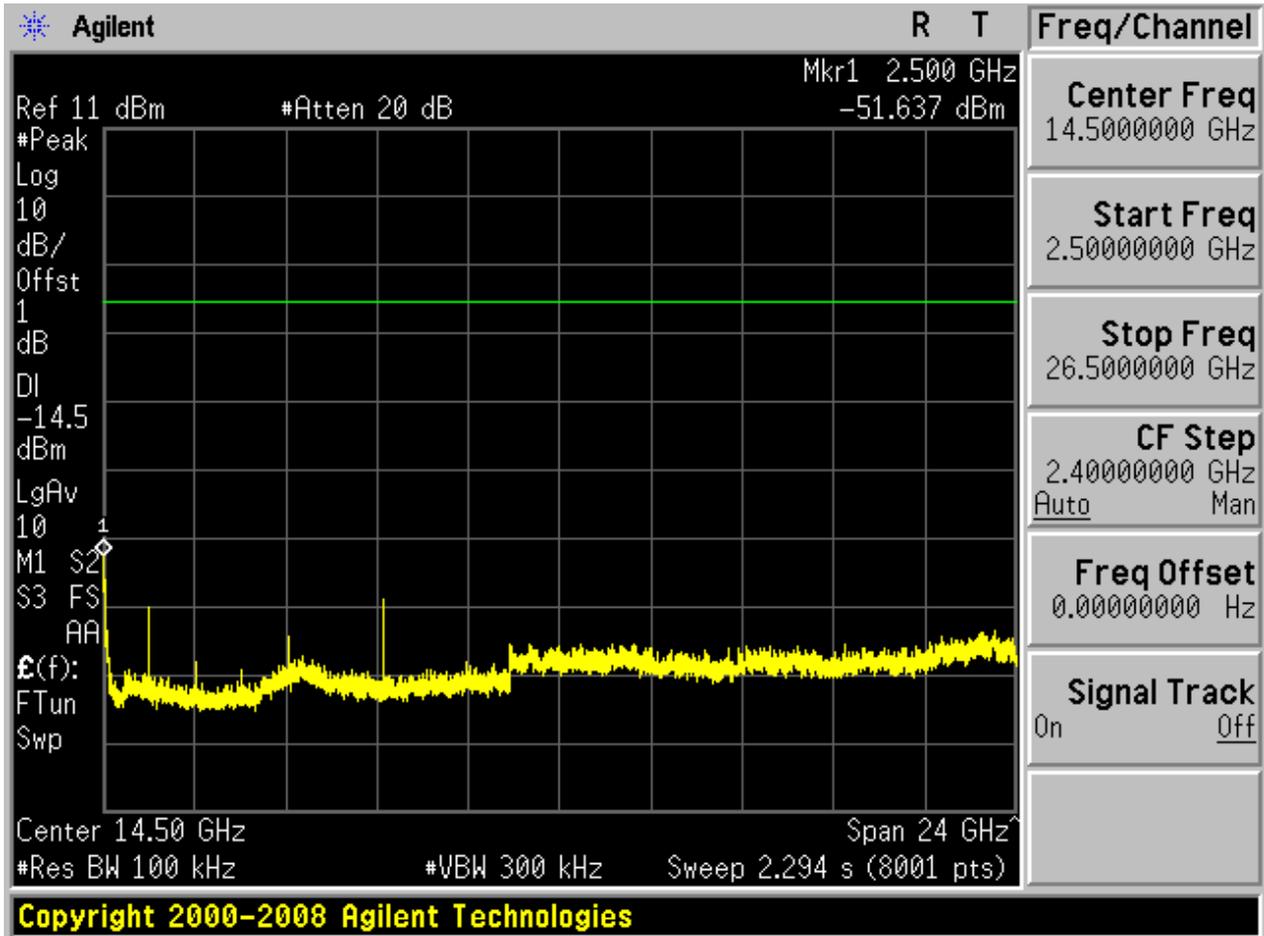






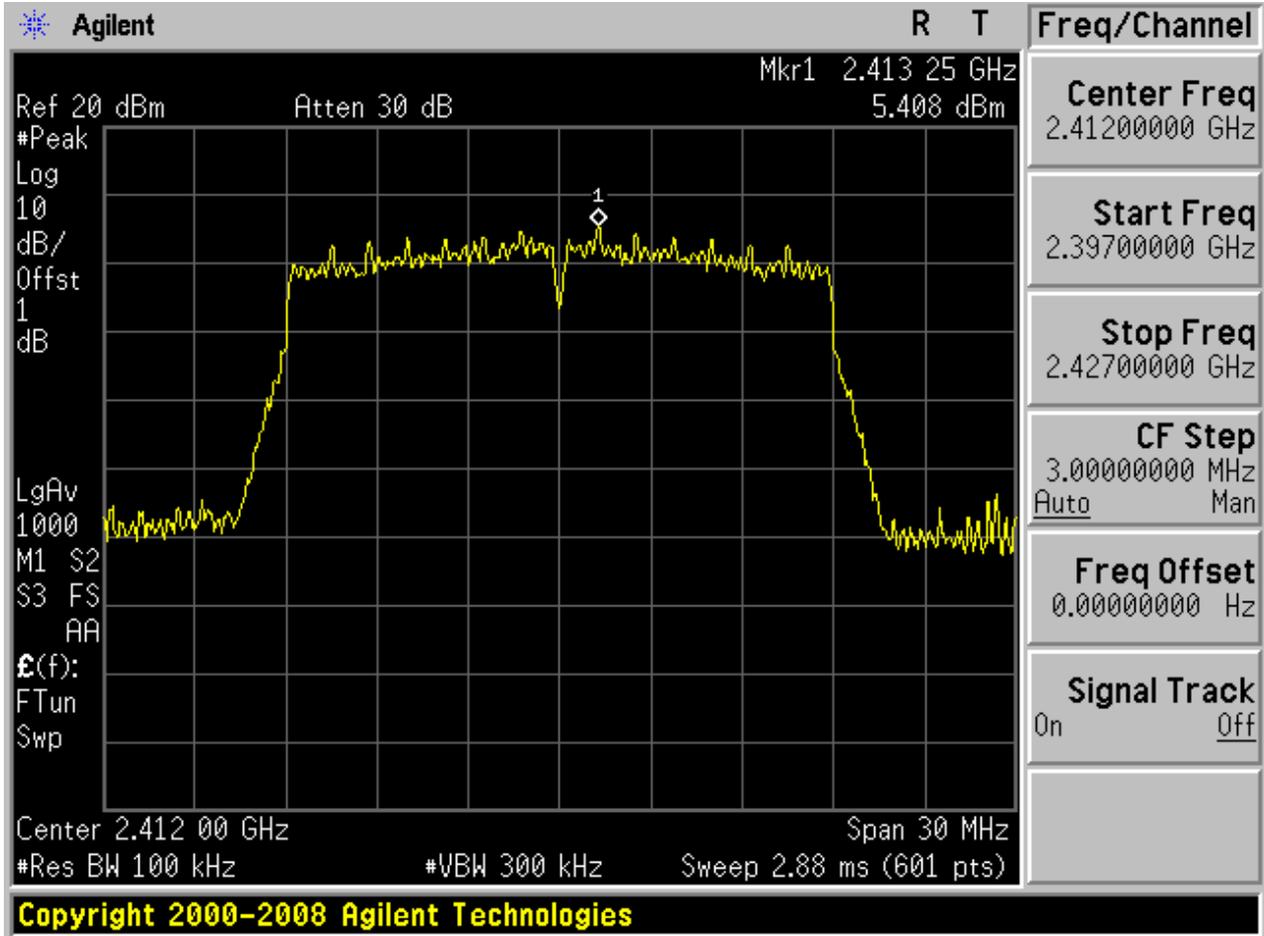






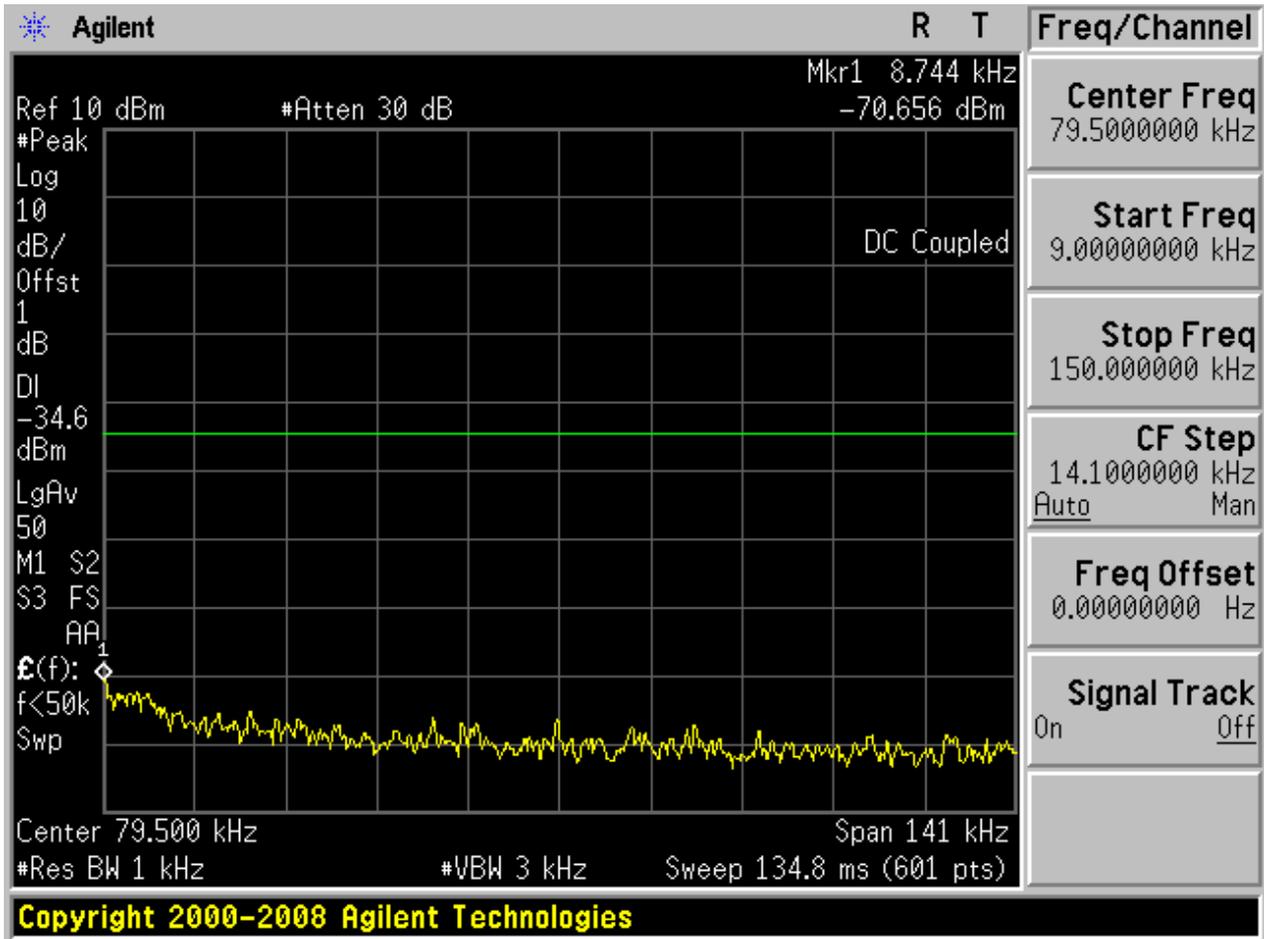
2.7 11N20_L

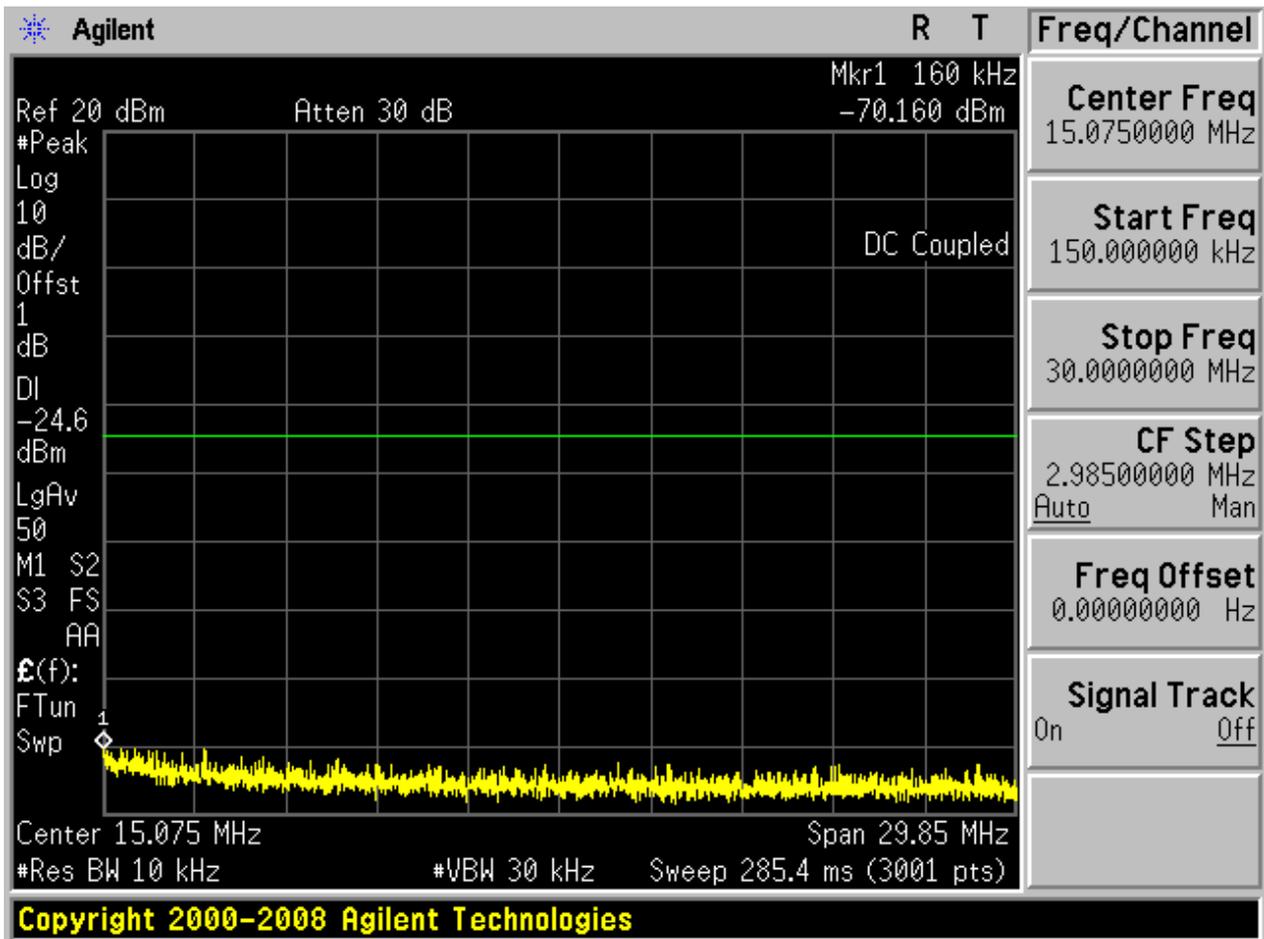
Pref:

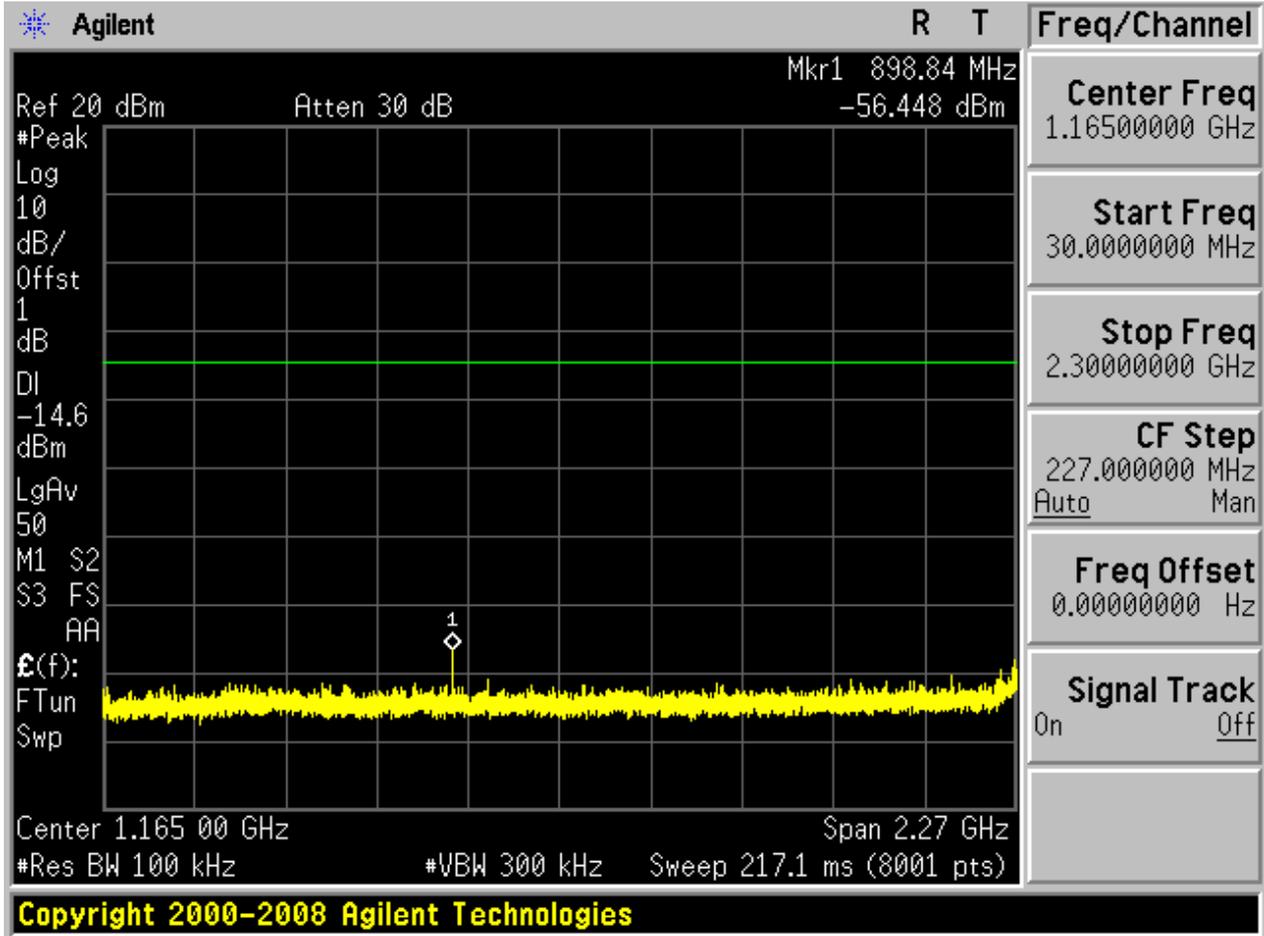


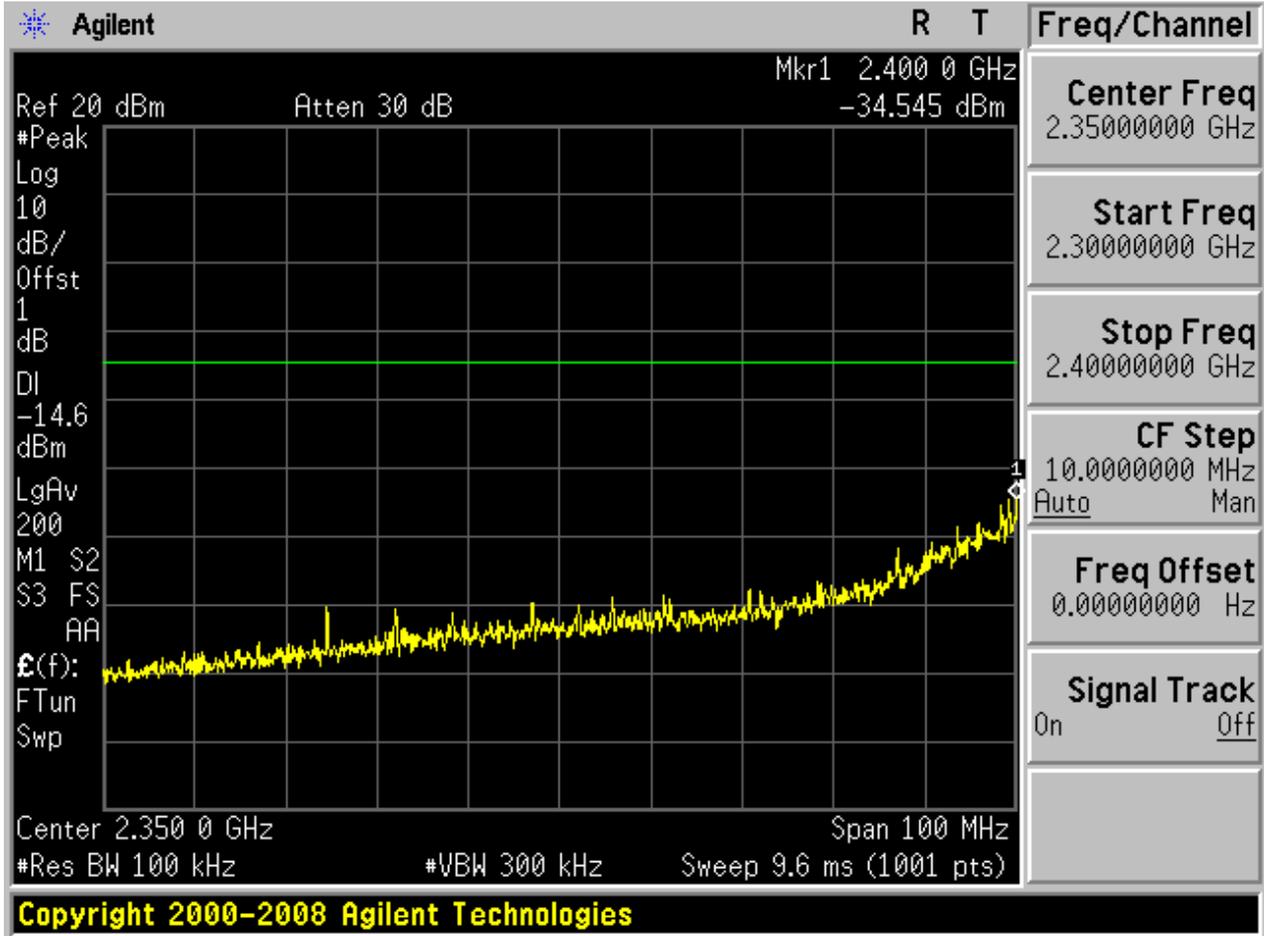


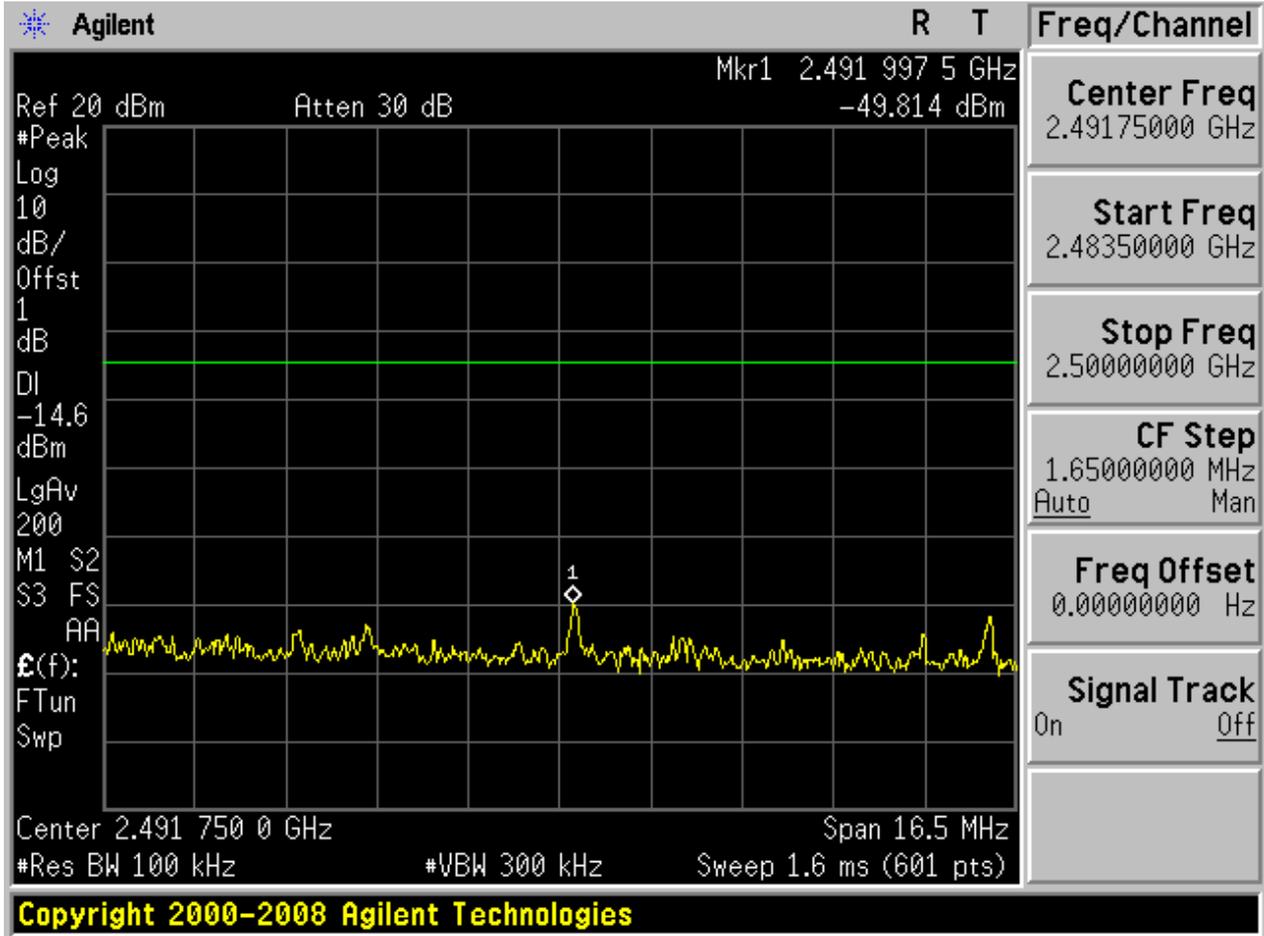
Puw:

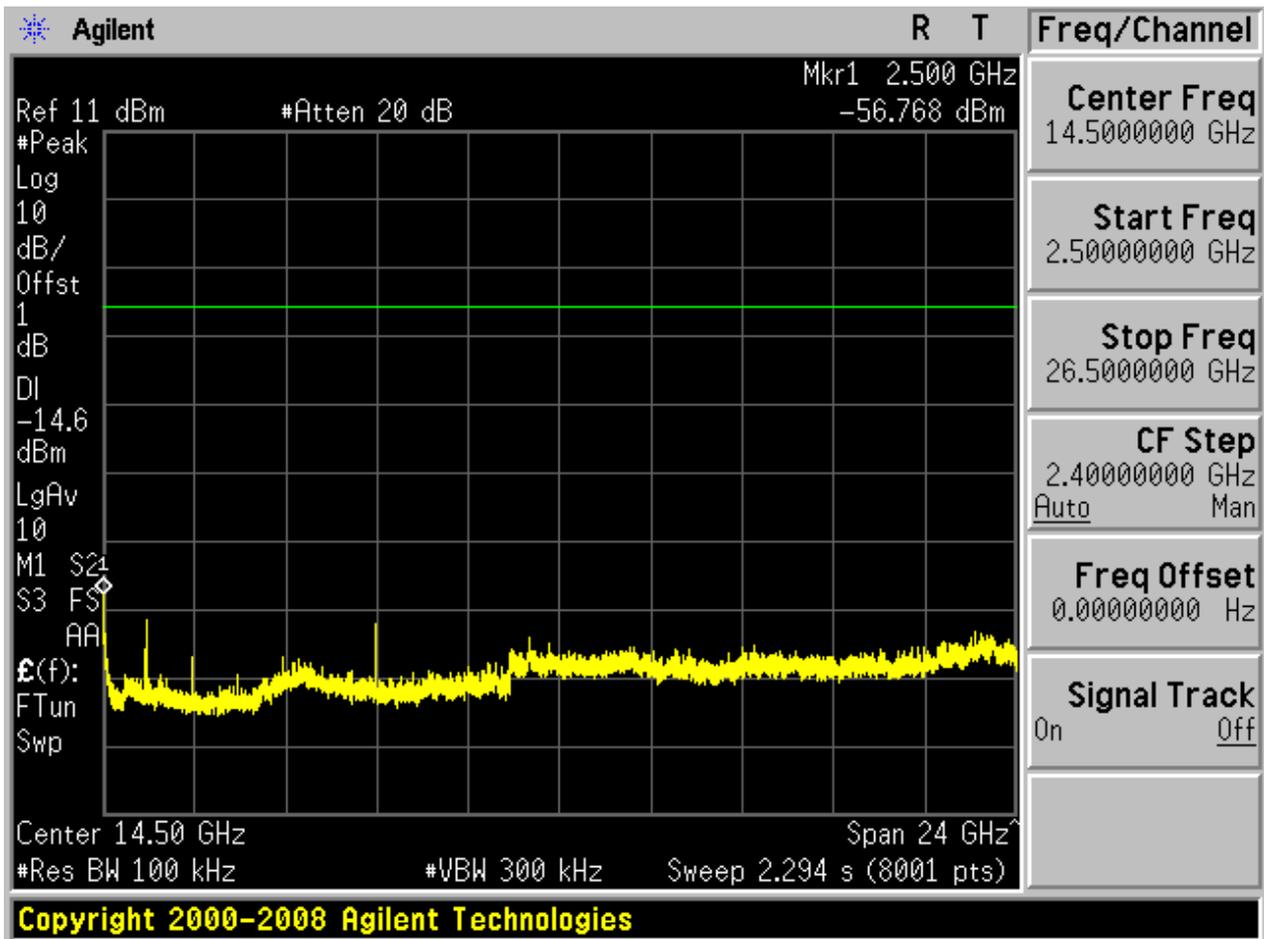








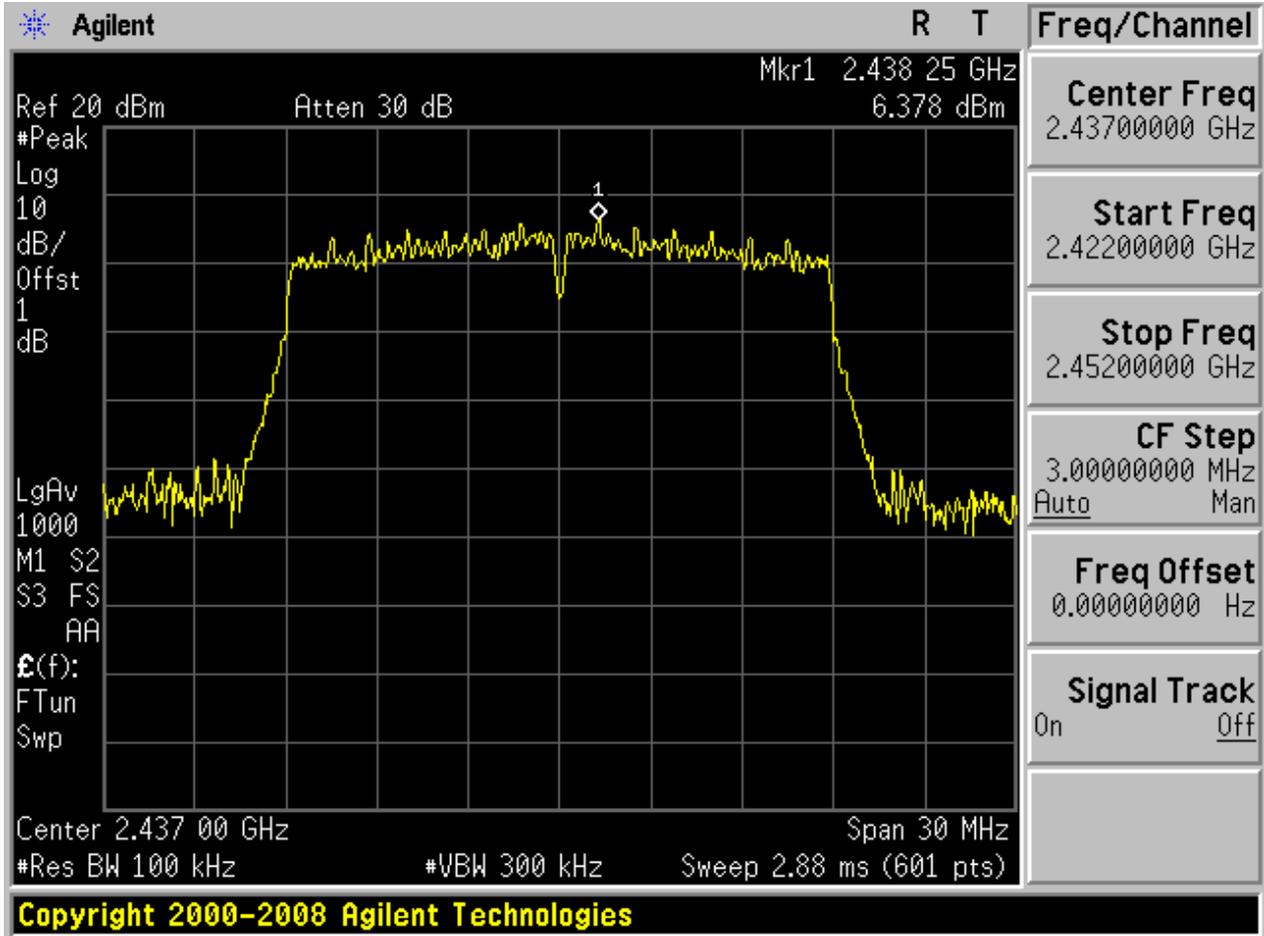






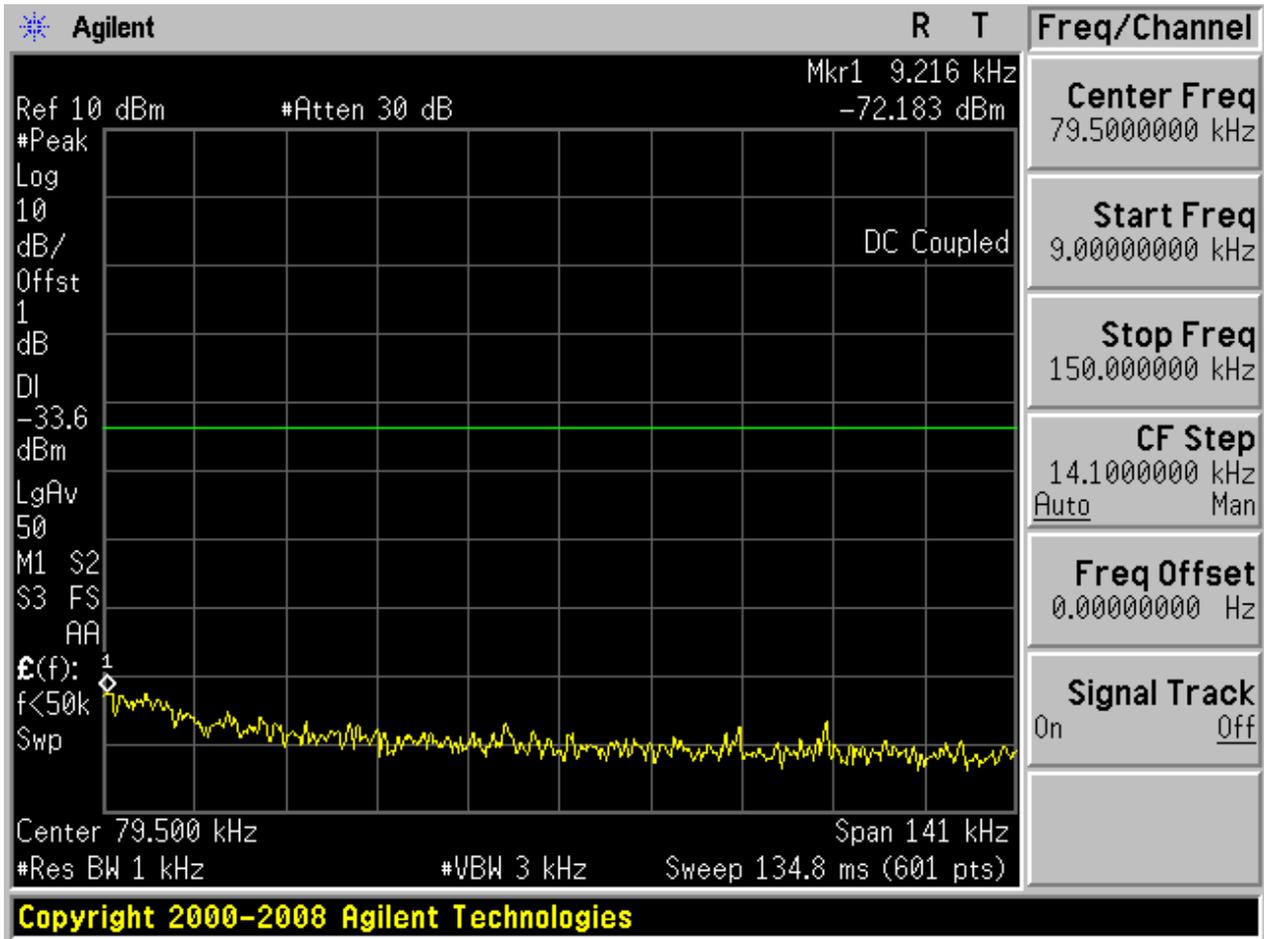
2.8 11N20_M

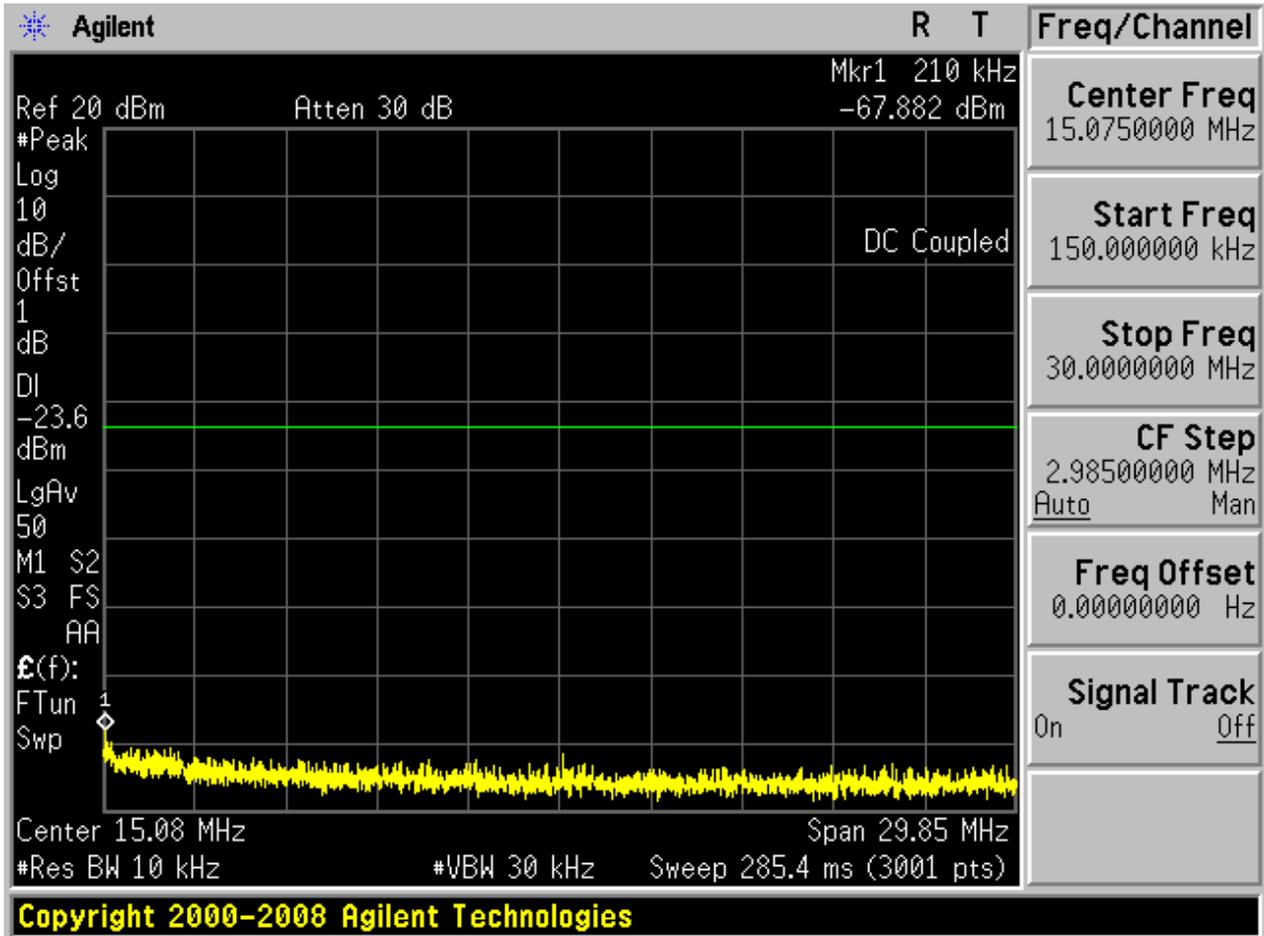
Pref:

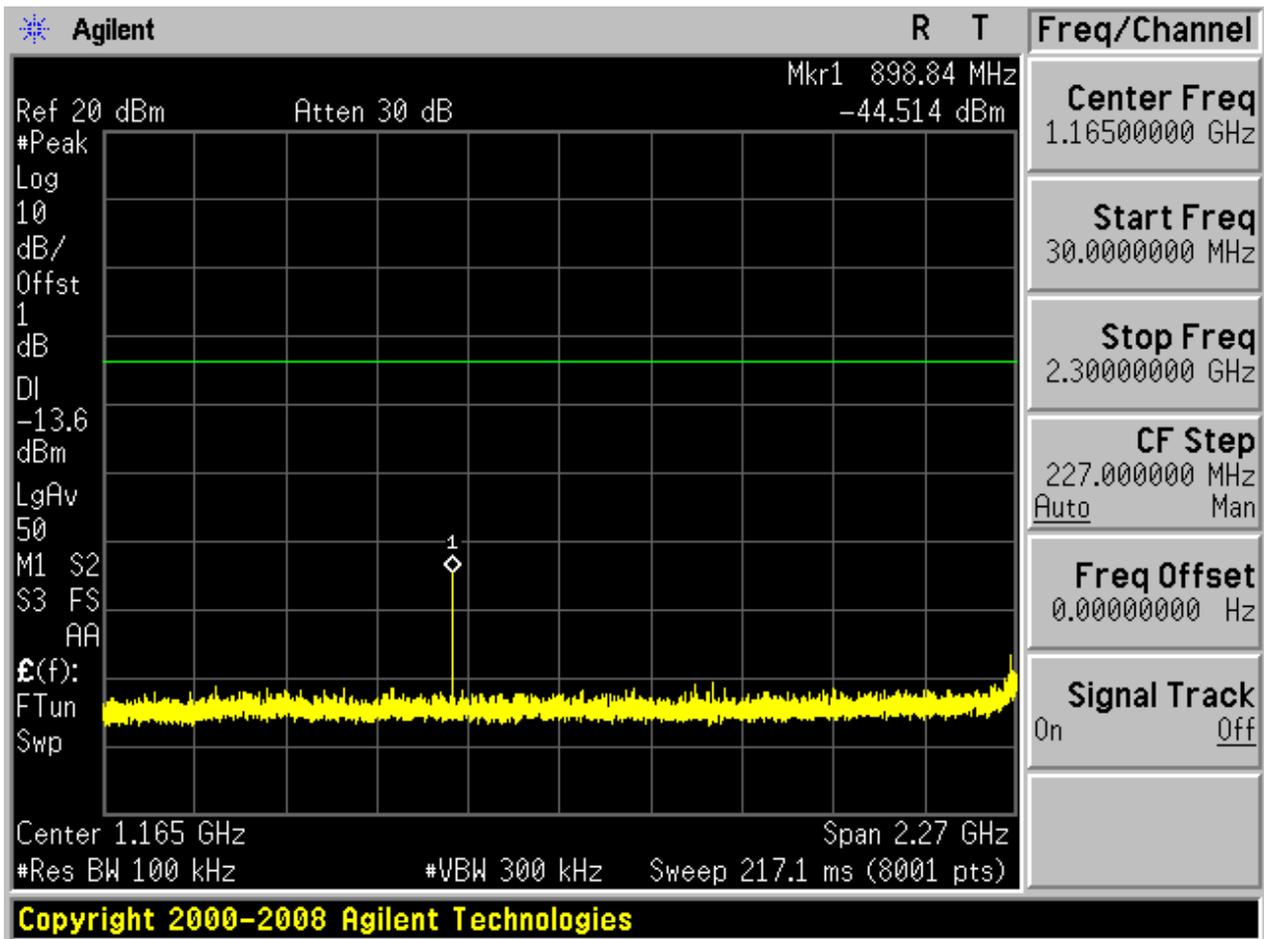


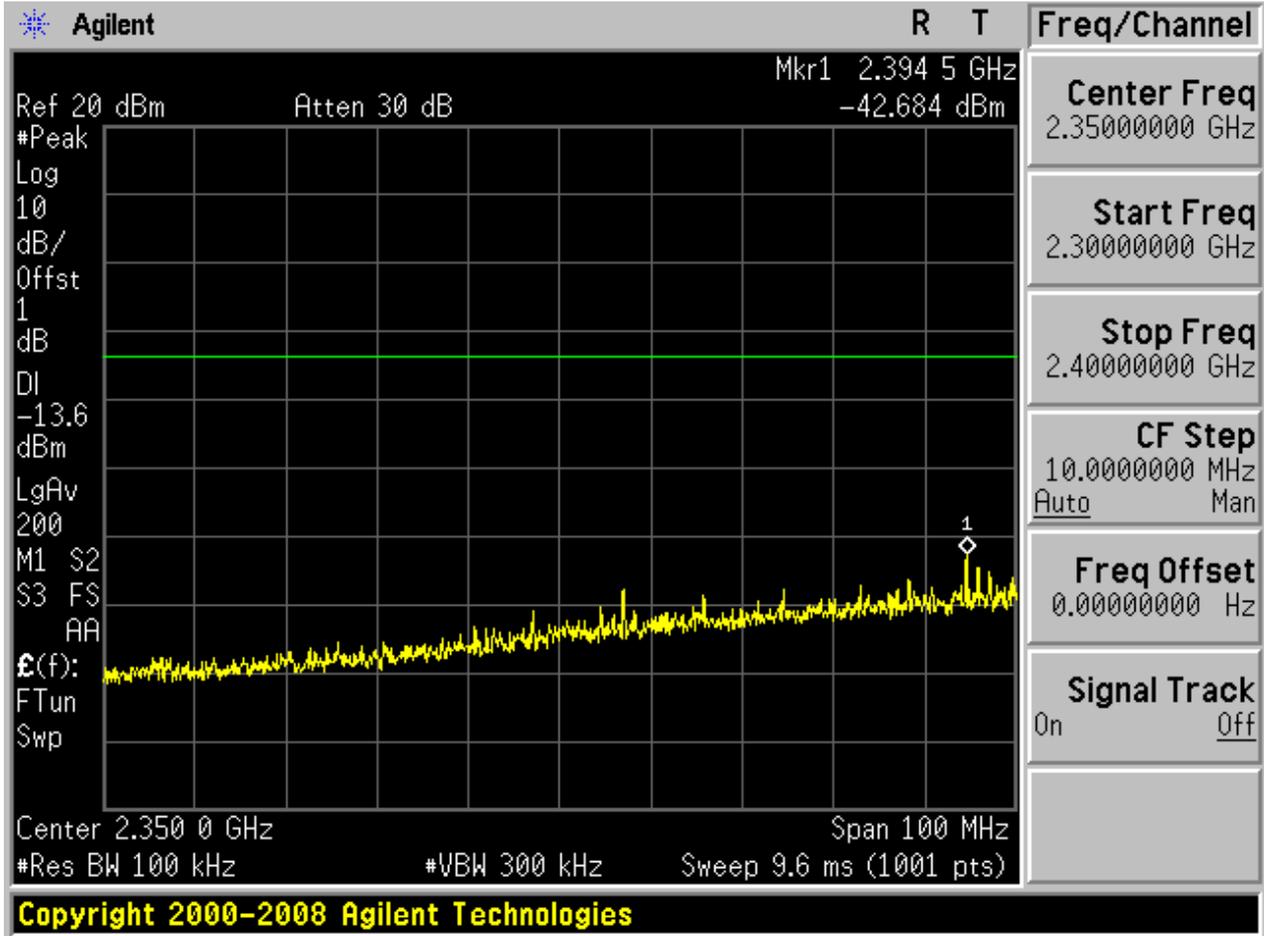


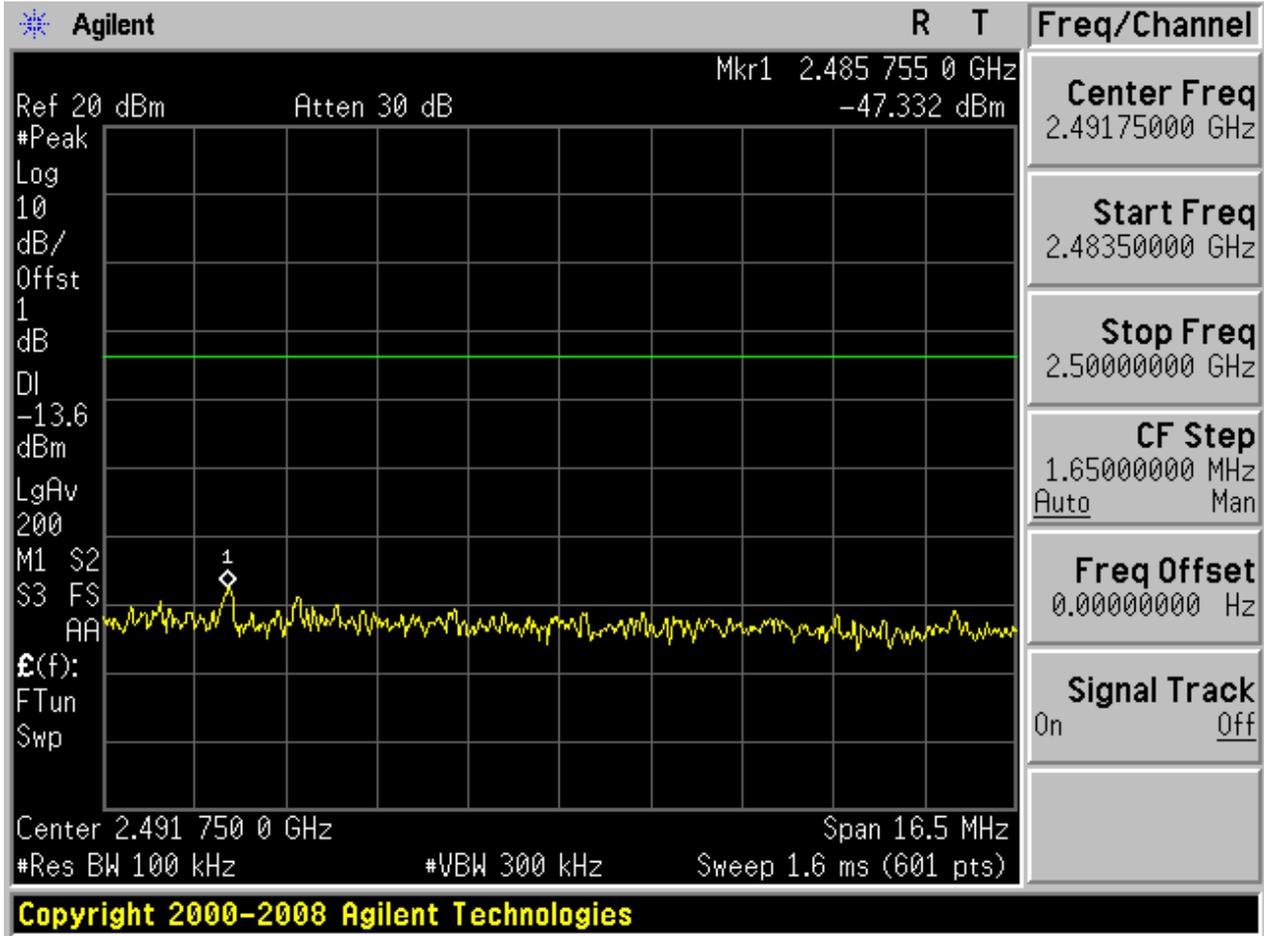
Puw:

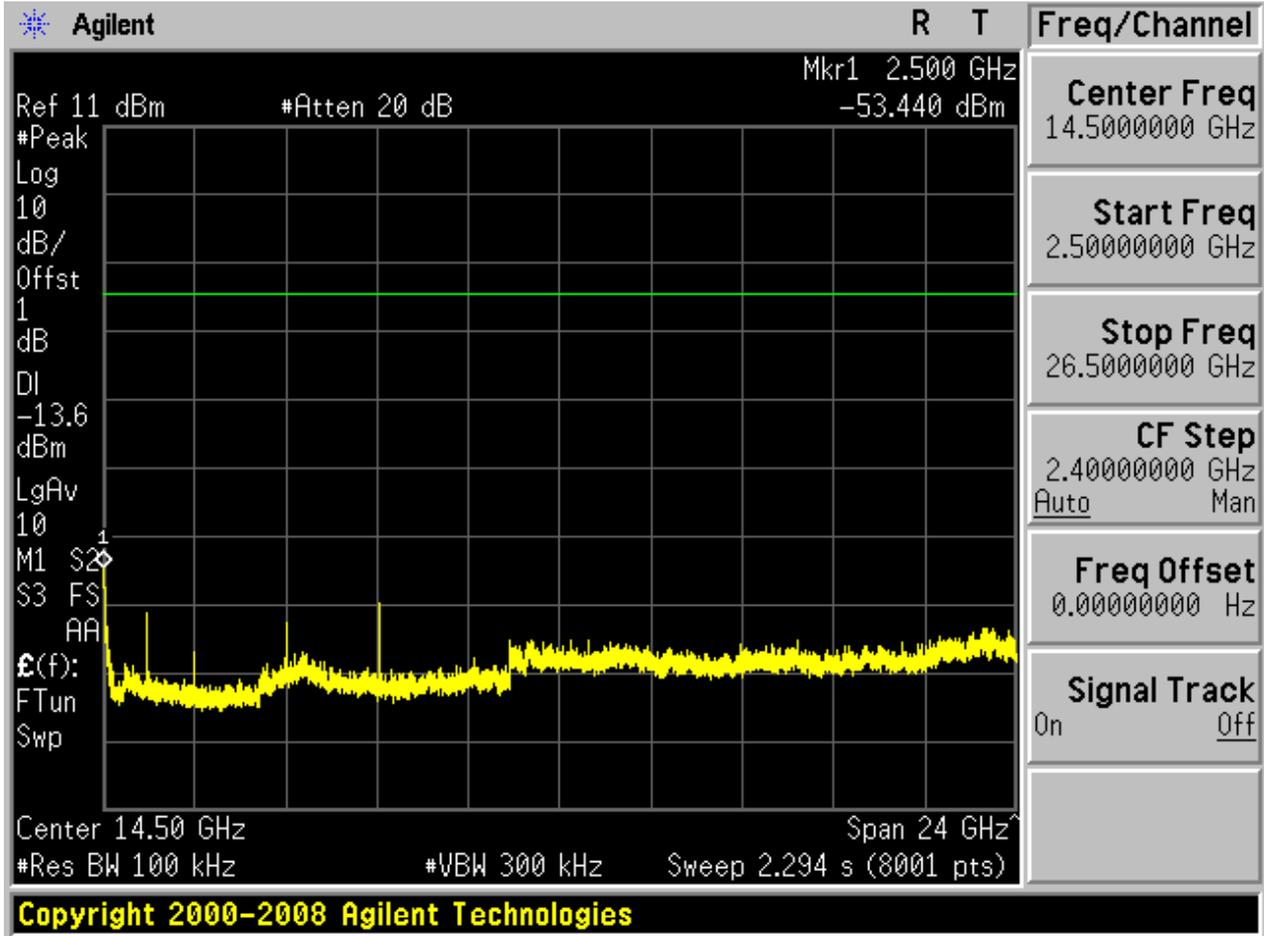






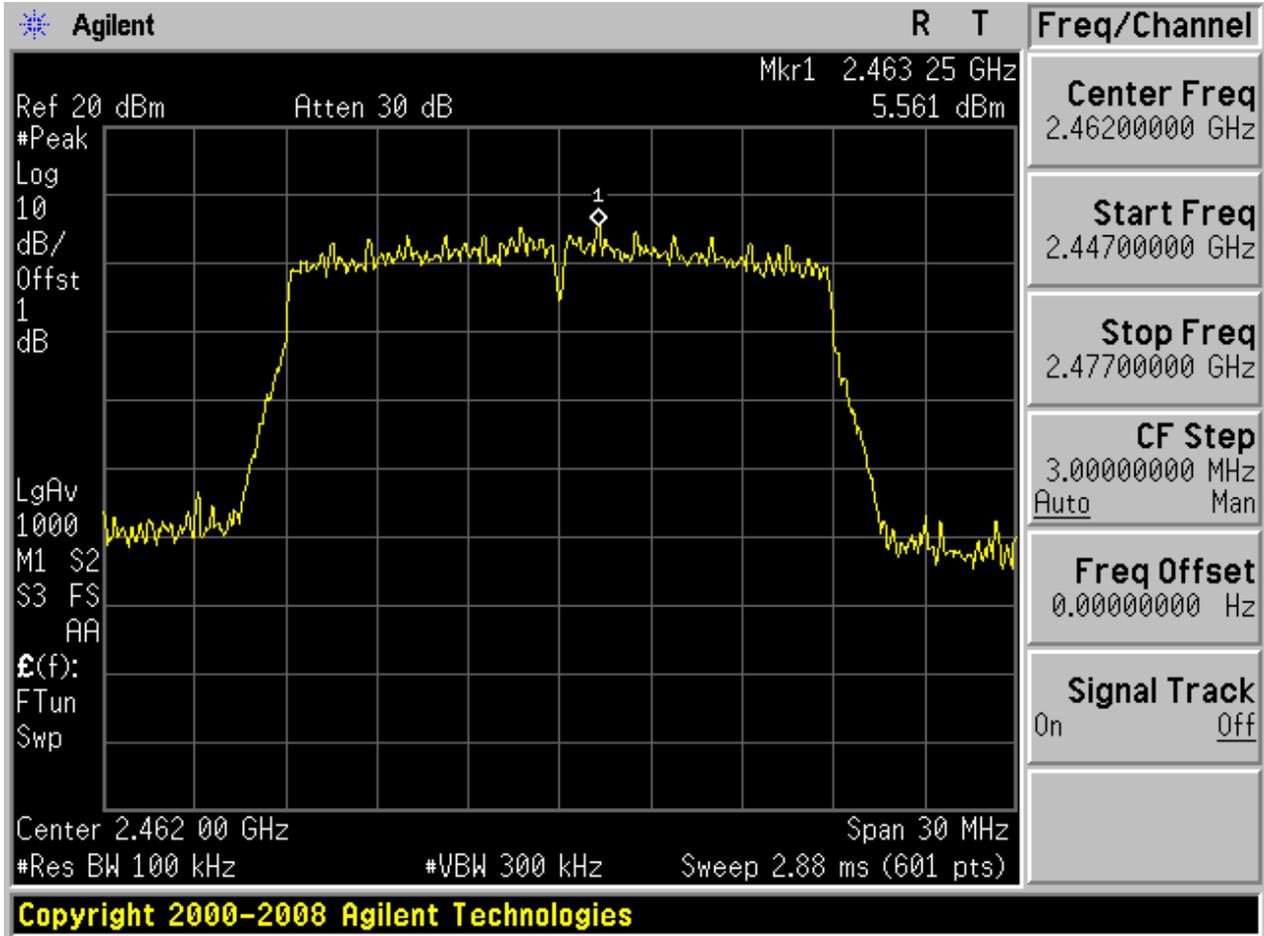




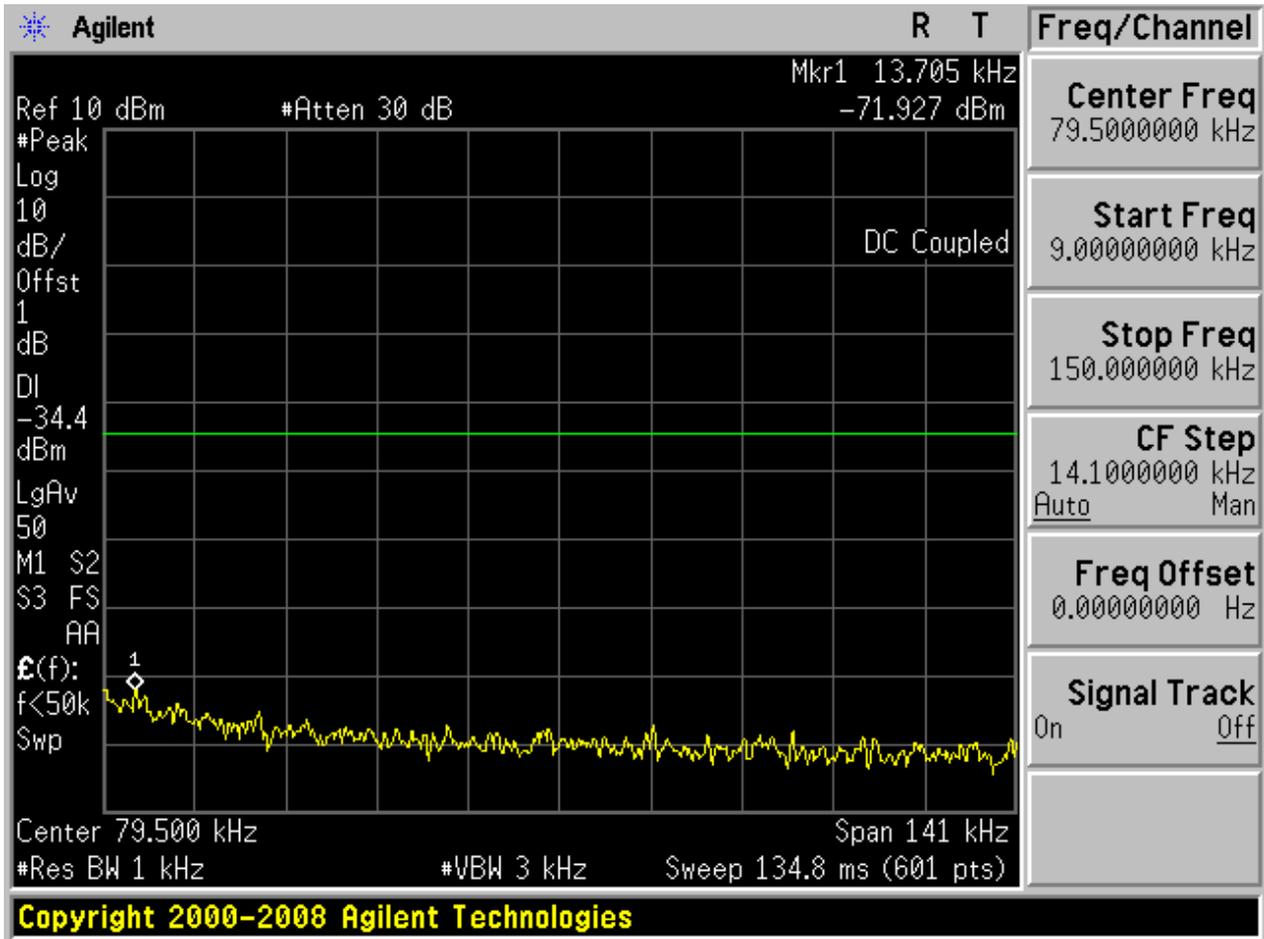


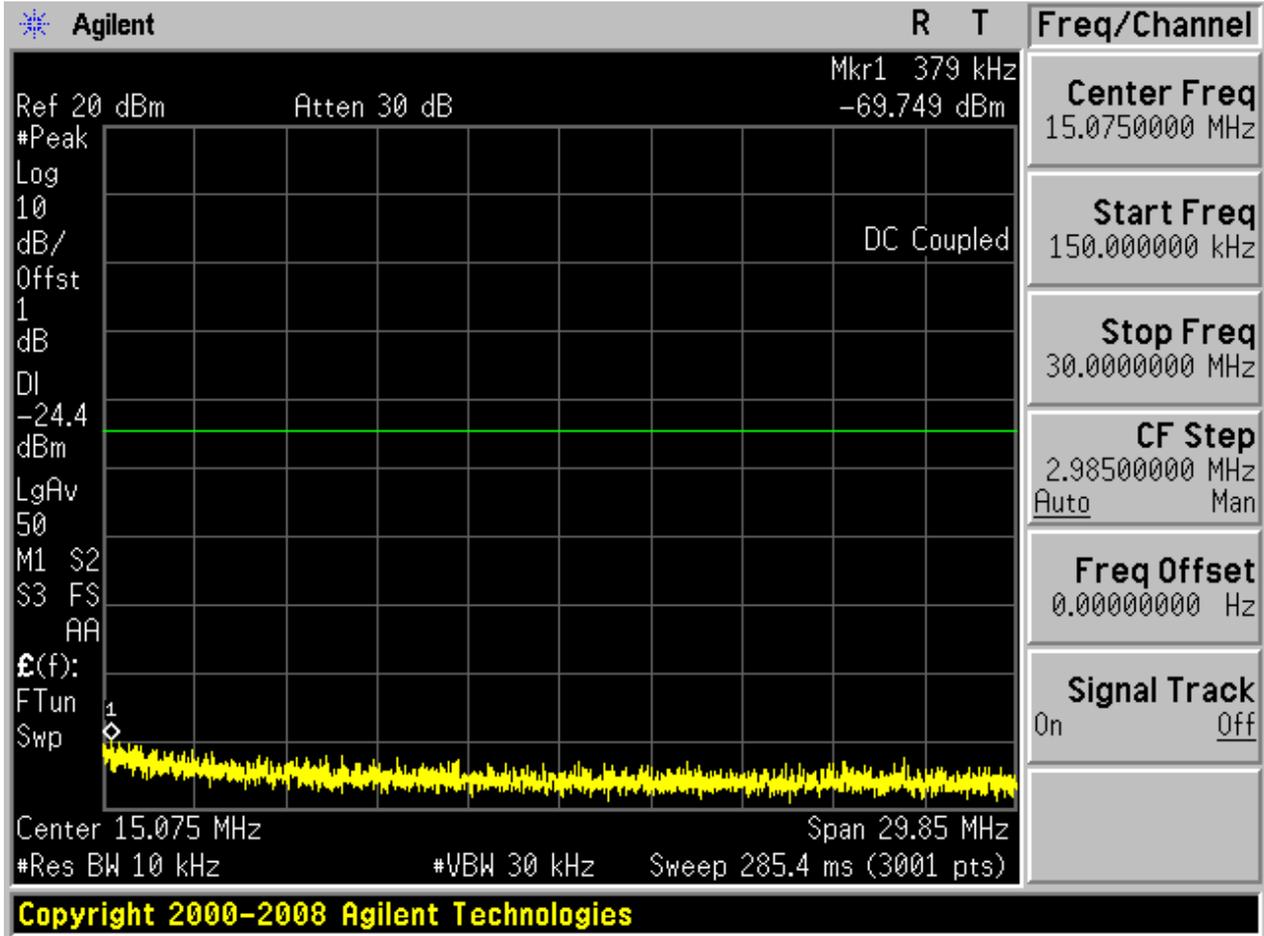
2.9 11N20_H

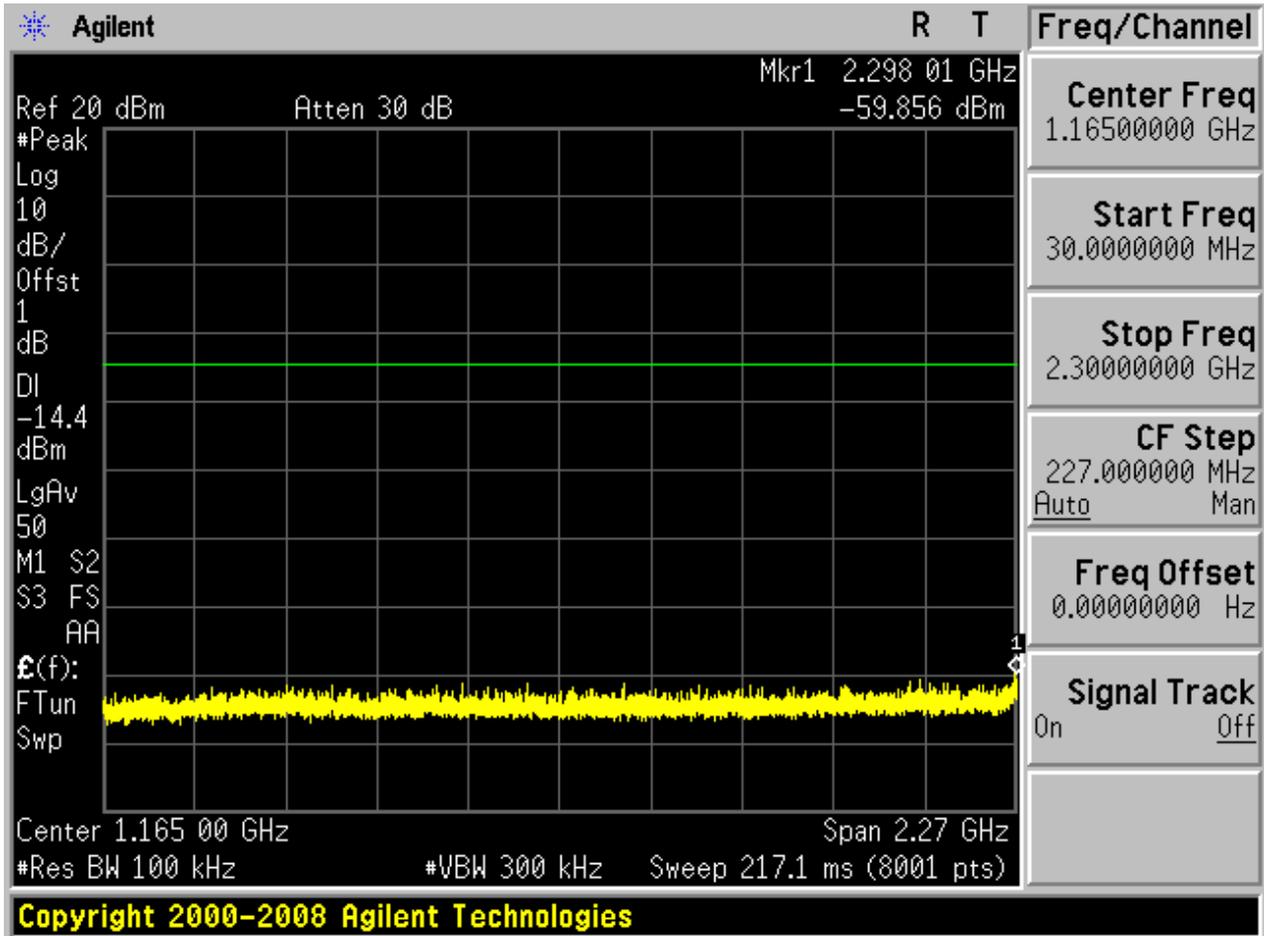
Pref:

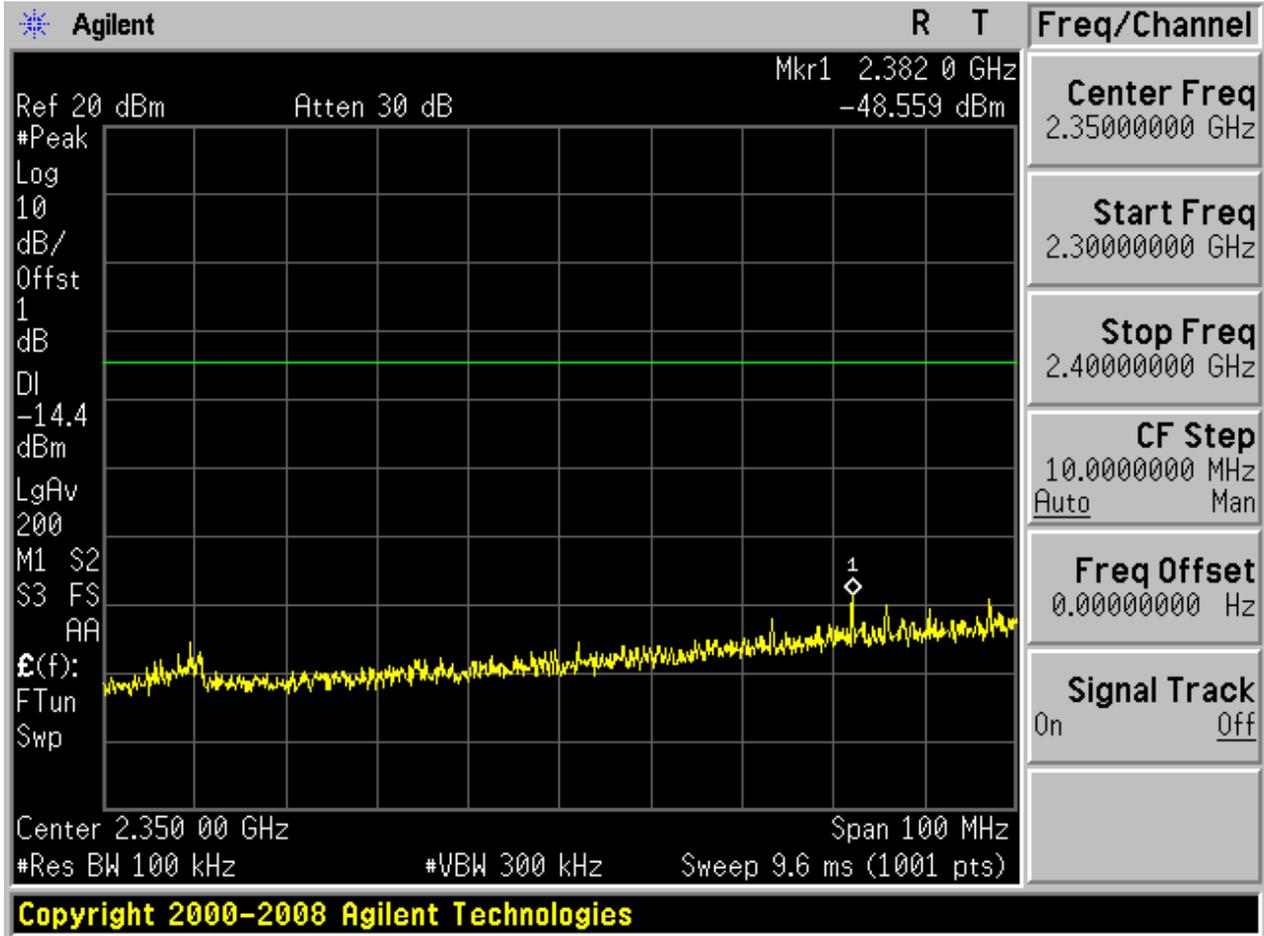


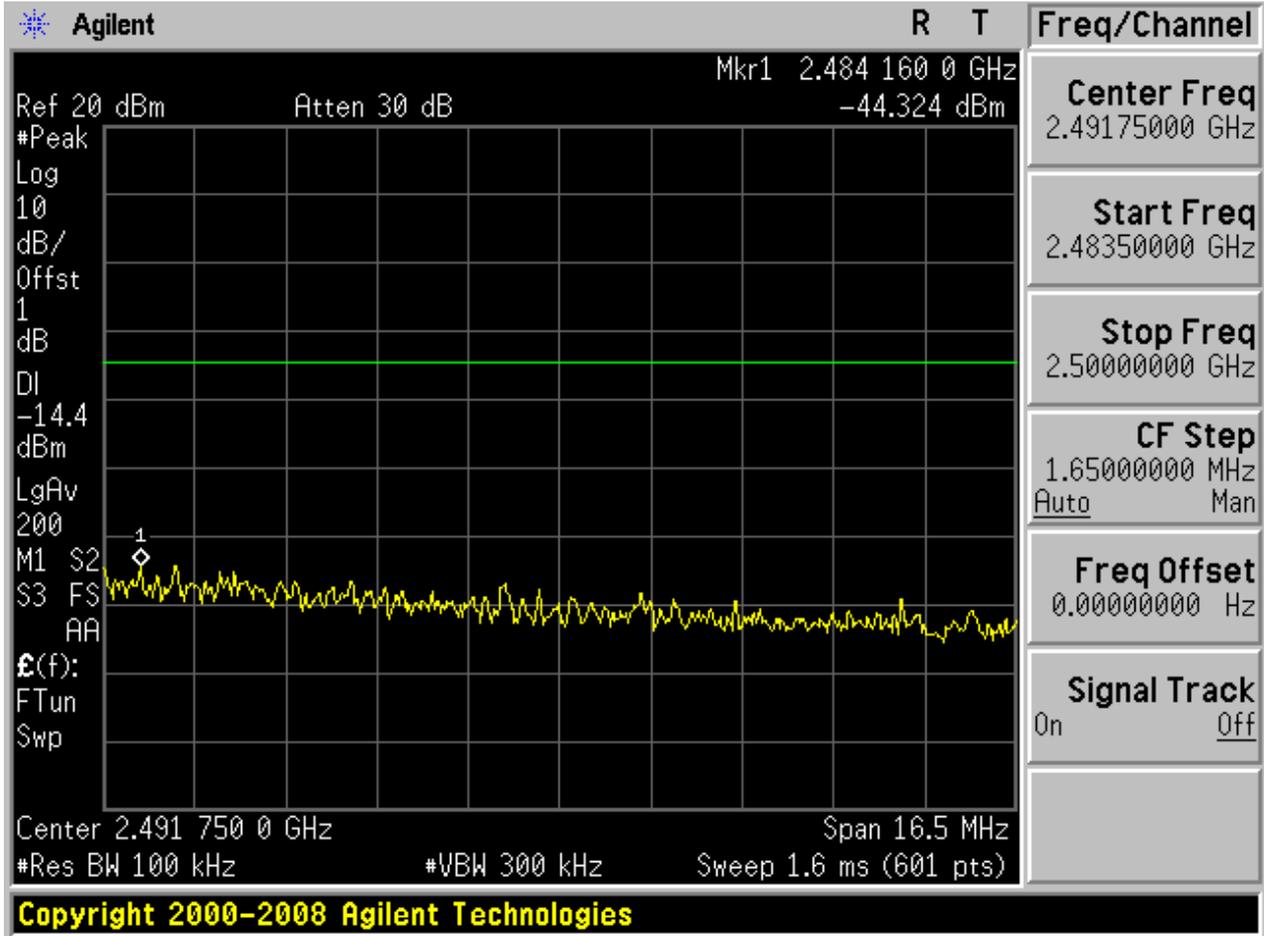
Puw:

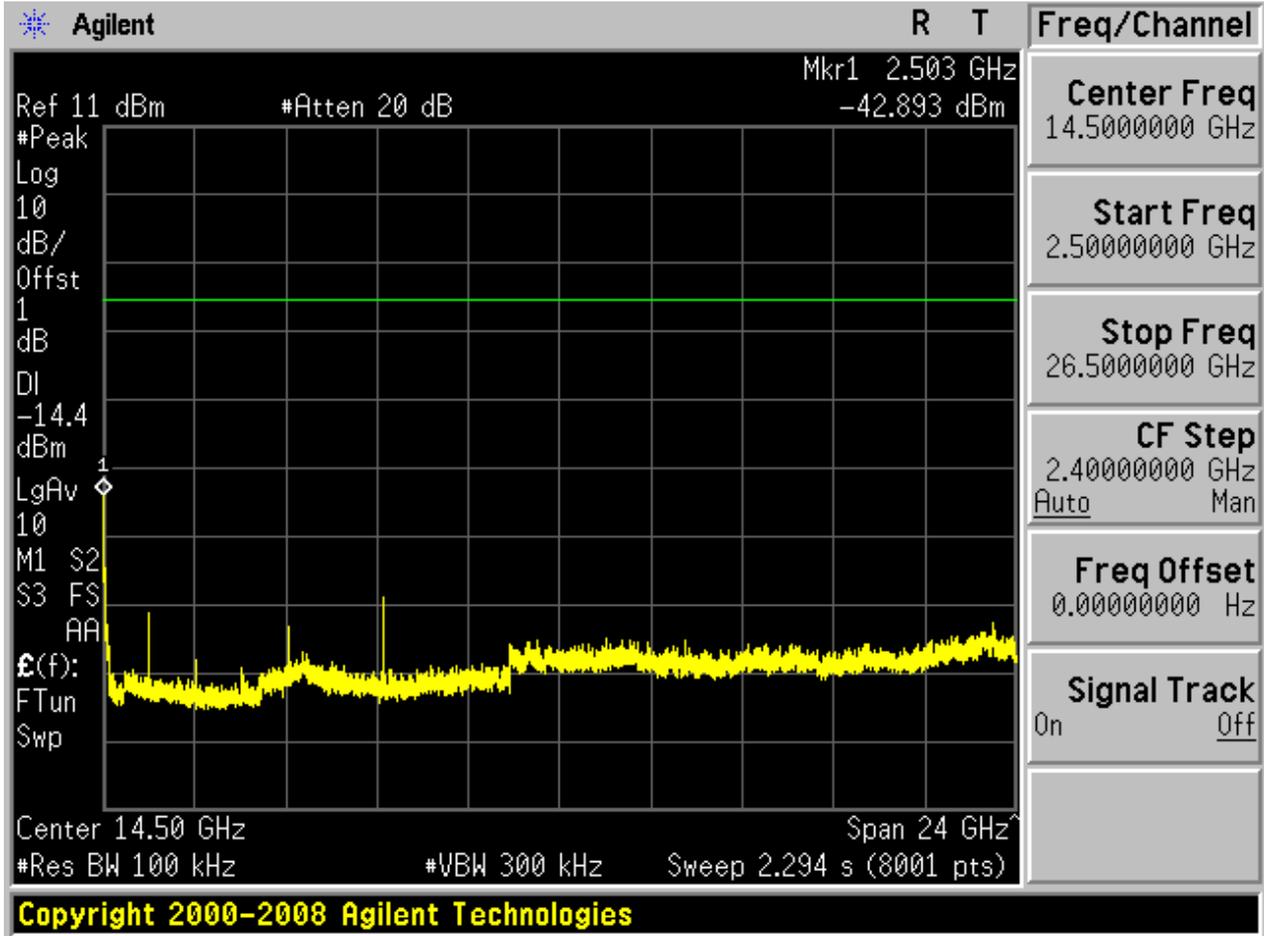














Appendix F: Radiated Spurious Emission & Spurious in Restricted Band

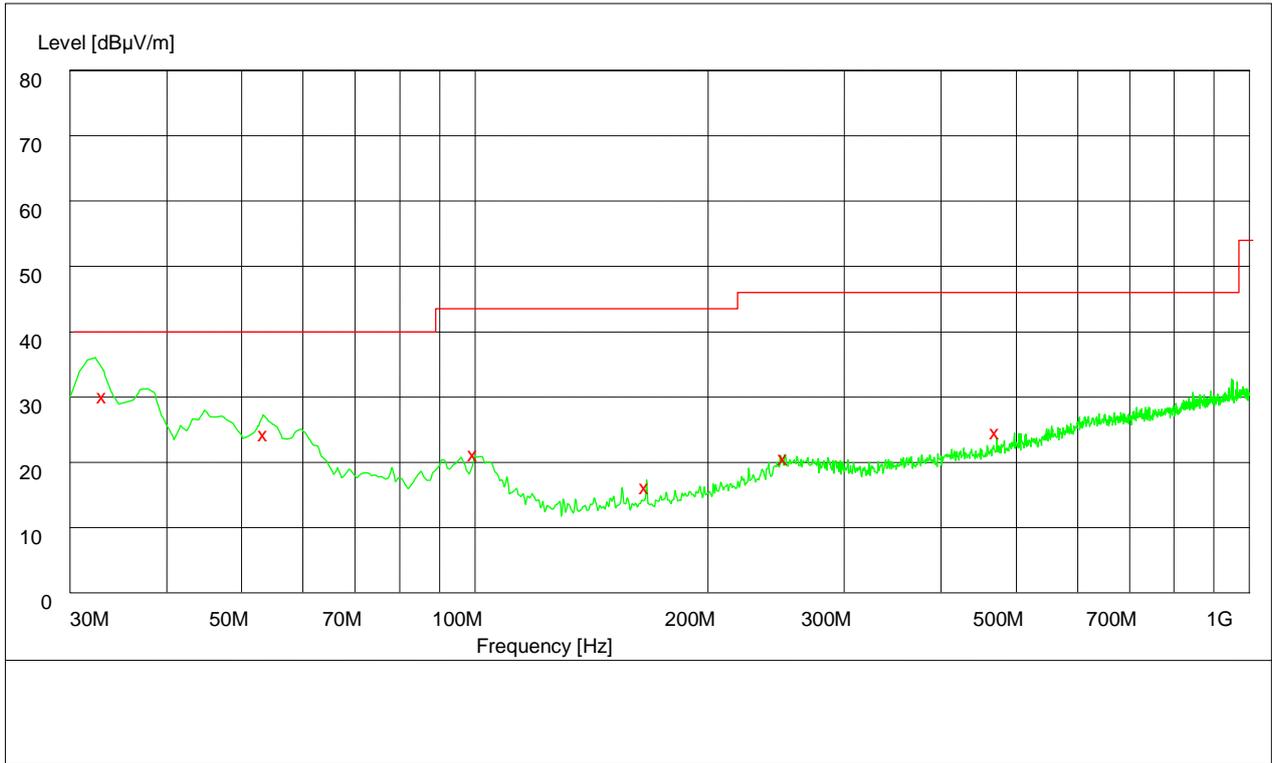
Note: Below 1GHz, RBW = 100 kHz, VBW = 300 kHz.

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

The simultaneous transmission has been considered

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

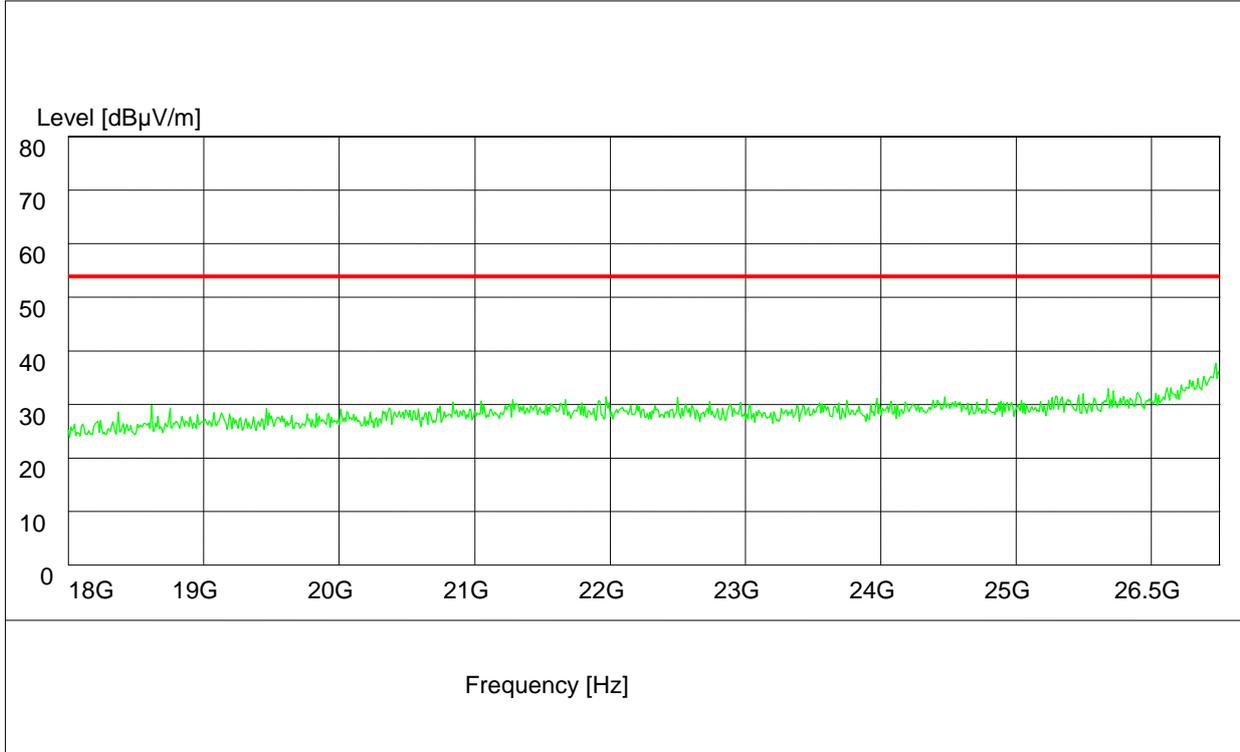
- Note 1: The test results and plot for testing range of “30 MHz to 1 GHz” showed as below is **the WORST case for all Test Modes and Channels**. This range will not be presented for each Test Mode and each Channel.
- Note 2: **The emissions in this range are mainly from the Platform Device (Notepad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



Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Plarization
33.180000	31.60	14.2	40.0	8.4	100.0	103.00	VERTICAL
53.700000	25.80	14.6	40.0	14.2	102.0	127.00	VERTICAL
100.020000	22.70	13.3	43.5	20.8	102.0	176.00	VERTICAL
166.680000	17.60	10.5	43.5	25.9	113.0	355.00	VERTICAL
251.700000	22.10	14.0	46.0	23.9	111.0	166.00	HORIZONTAL
473.220000	26.00	18.7	46.0	20.0	118.0	4.00	VERTICAL

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

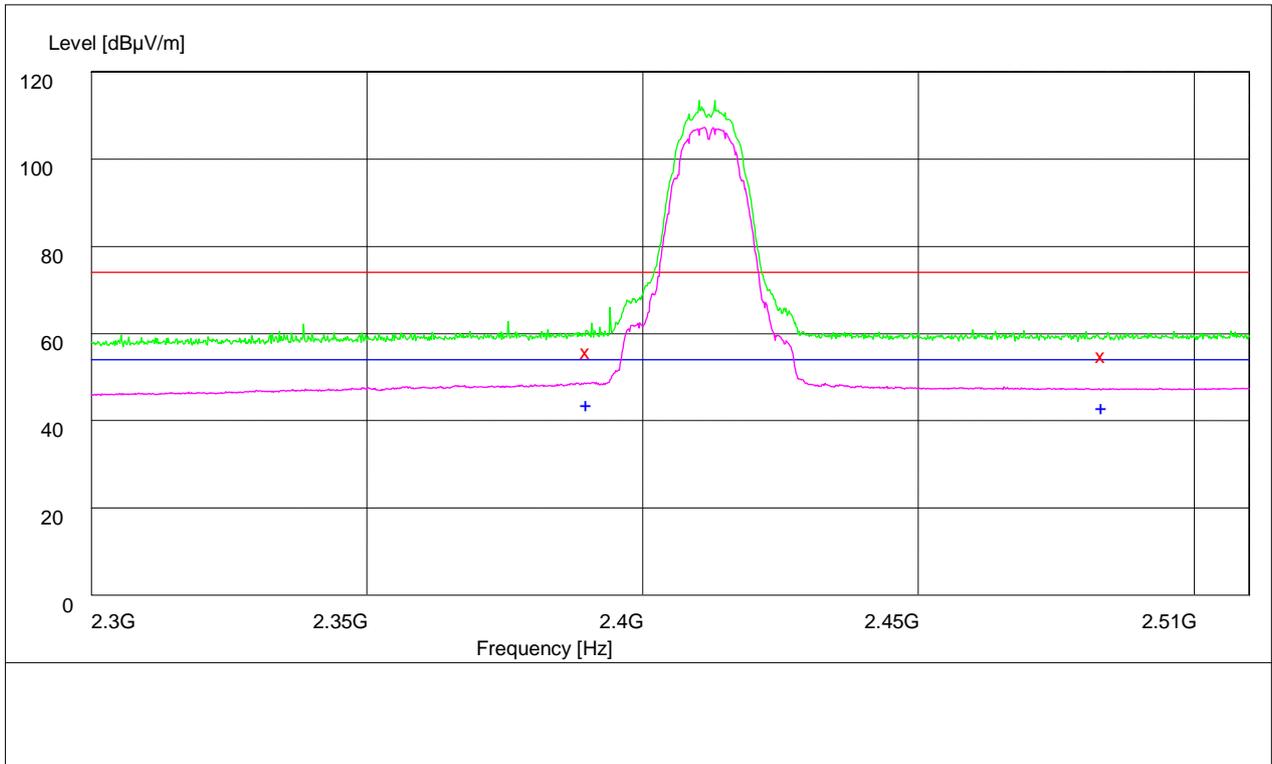
Note: No peak found in pre- test.

**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

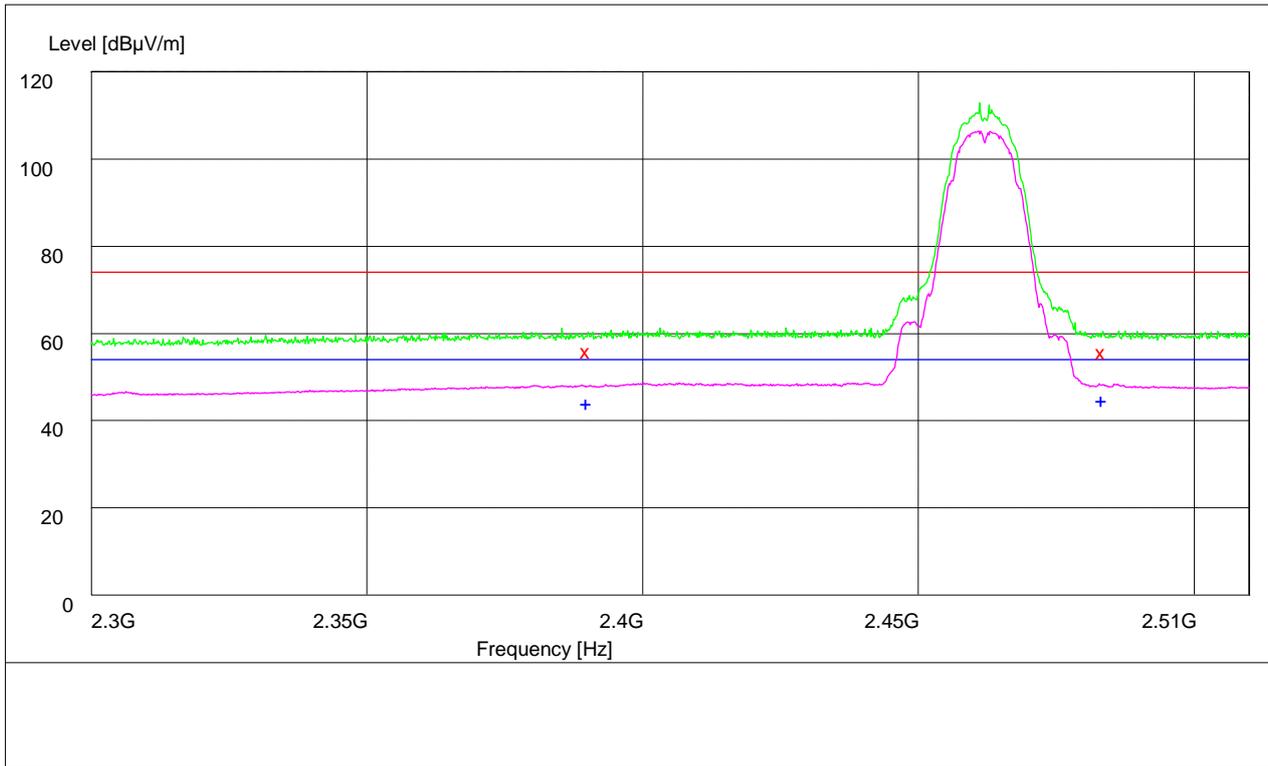
Frequency MHz	Level dB μ V/m	Transd dB	Limit dB μ V/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	57.90	34.7	74.0	16.1	100.0	256.00	HORIZONTAL
2483.500000	57.00	35.0	74.0	17.0	119.0	50.00	VERTICAL

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	46.00	34.7	54.0	8.0	100.0	243.00	HORIZONTAL

2483.500000	45.10	35.0	54.0	8.9	127.0	271.00	HORIZONTAL
-------------	-------	------	------	-----	-------	--------	------------

Channel 11



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

MEASUREMENT RESULT: PK Detector

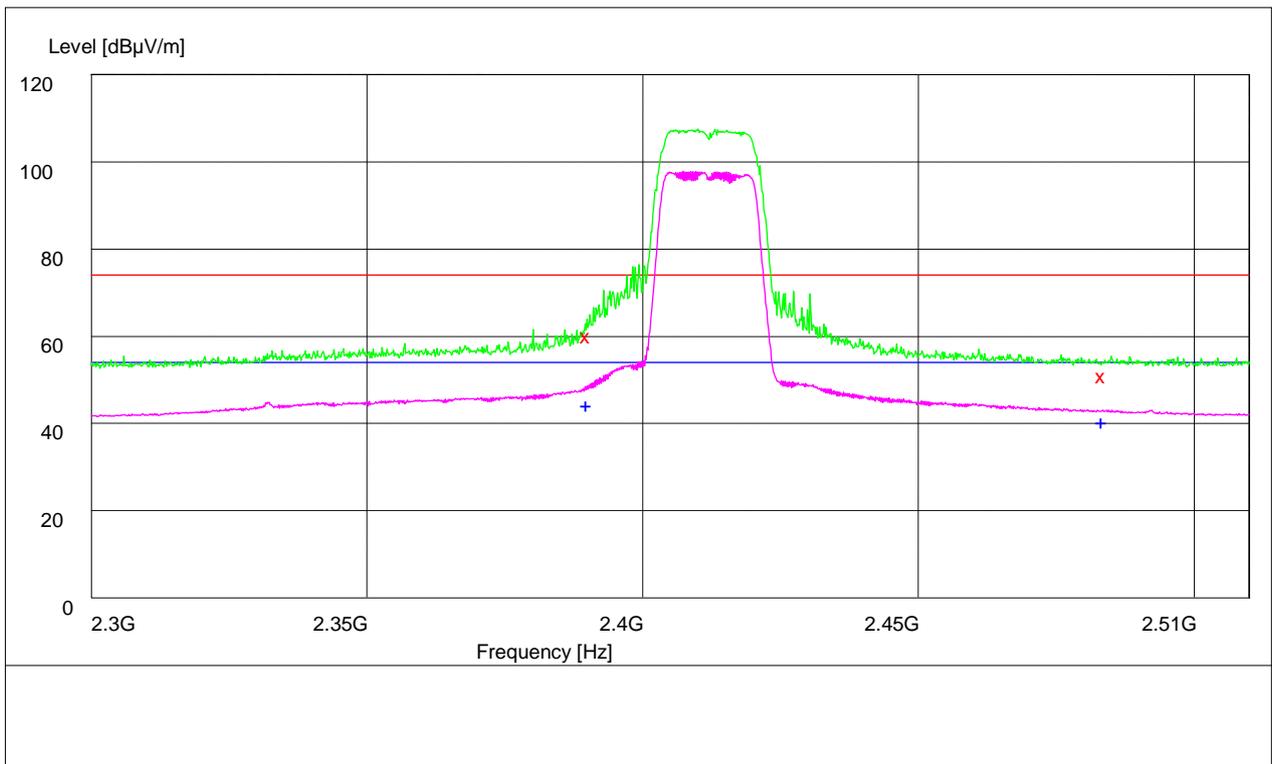
Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	57.90	34.7	74.0	16.1	158.0	0.00	VERTICAL
2483.500000	57.70	35.0	74.0	16.3	100.0	261.00	HORIZONTAL

MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	46.10	34.7	54.0	7.9	100.0	260.00	HORIZONTAL
2483.500000	46.80	35.0	54.0	7.2	100.0	239.00	HORIZONTAL

Test Mode: 11g

Channel 01



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

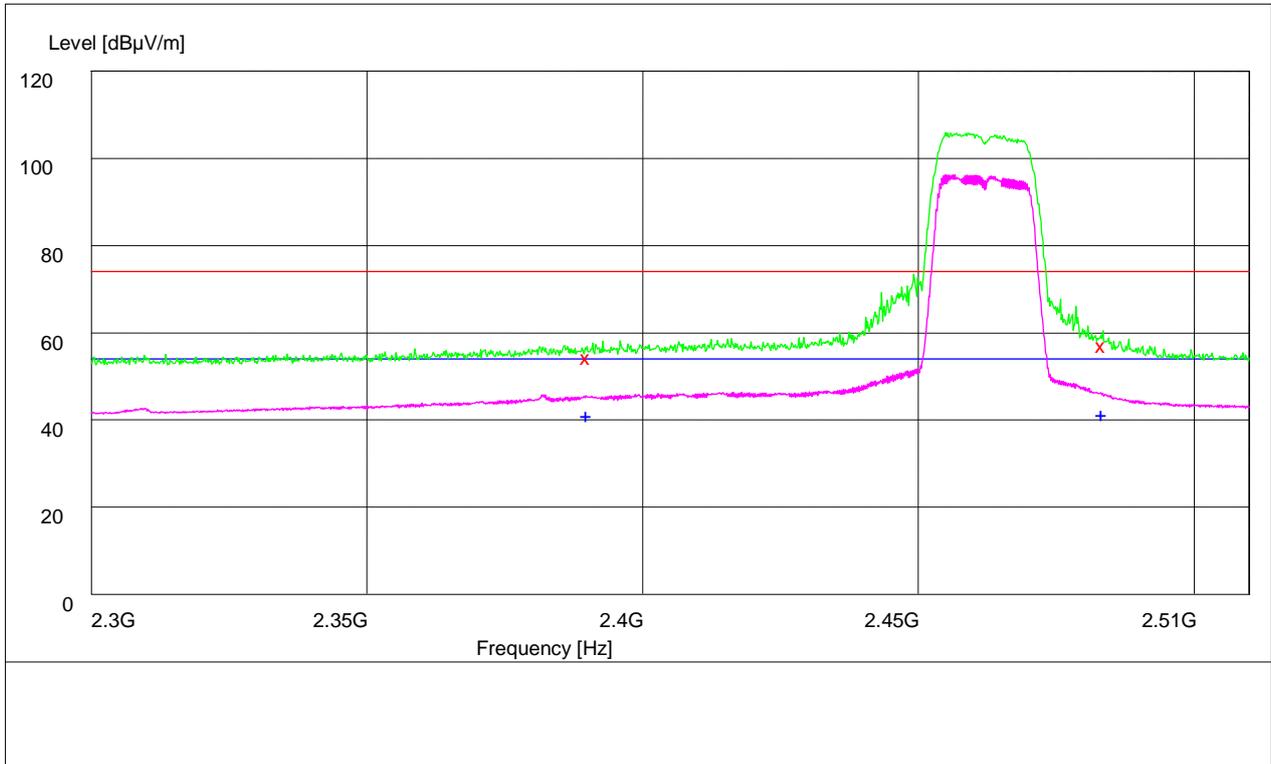
MEASUREMENT RESULT: PK Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	62.20	34.7	74.0	11.8	103.0	267.00	HORIZONTAL
2483.500000	52.90	35.0	74.0	21.1	104.0	250.00	HORIZONTAL

MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	46.40	34.7	54.0	7.6	104.0	262.00	HORIZONTAL
2483.500000	42.40	35.0	54.0	11.6	104.0	223.00	HORIZONTAL

Channel 11



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

MEASUREMENT RESULT: PK Detector

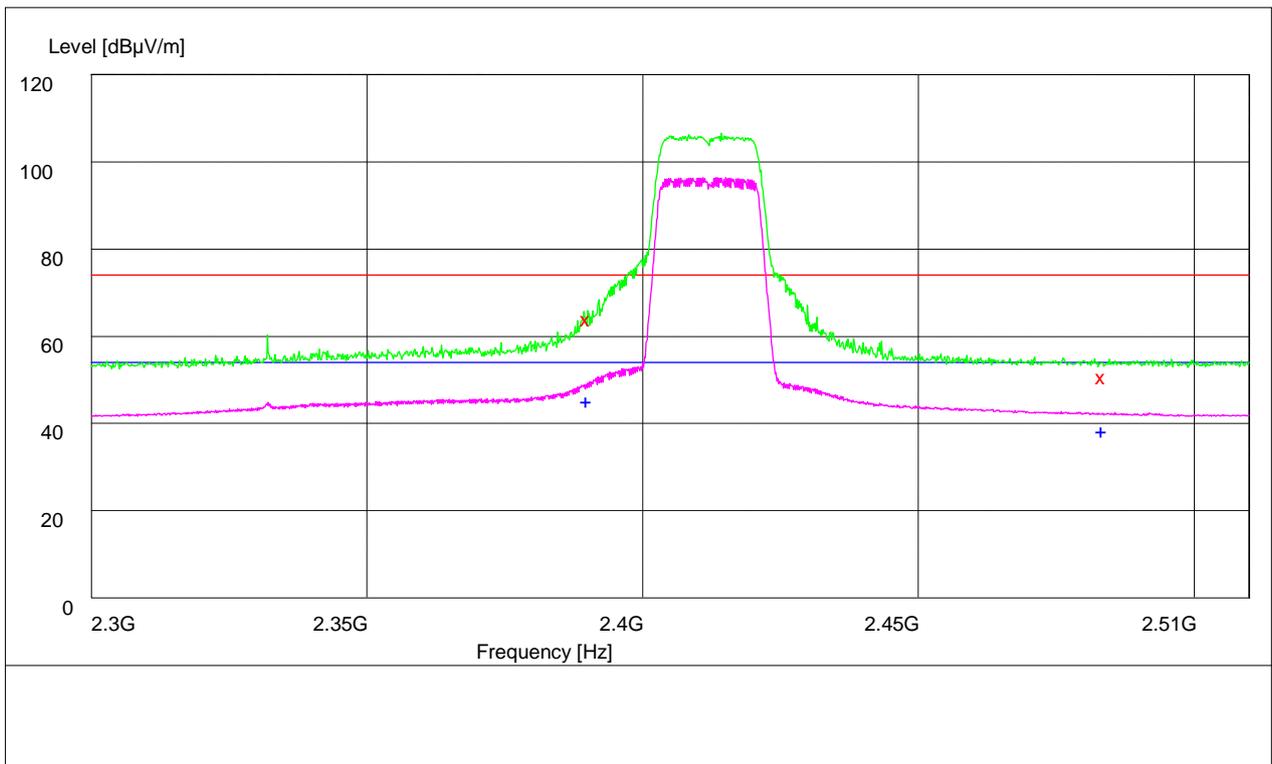
Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	56.40	34.7	74.0	17.6	100.0	256.00	HORIZONTAL
2483.500000	59.10	35.0	74.0	14.9	105.0	223.00	HORIZONTAL

MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	43.20	34.7	54.0	10.8	100.0	261.00	HORIZONTAL
2483.500000	43.40	35.0	54.0	10.6	100.0	218.00	HORIZONTAL

Test Mode: 11n

Channel 01



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

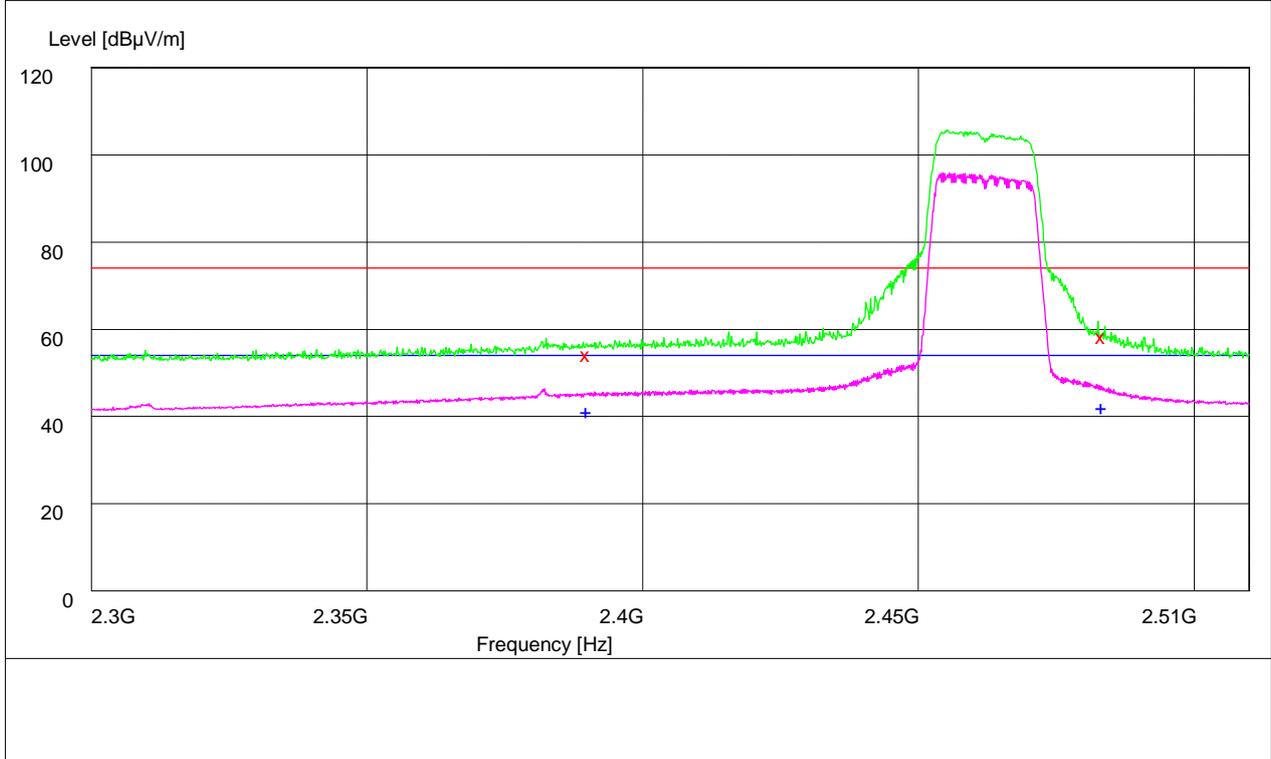
MEASUREMENT RESULT: PK Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	65.90	34.7	74.0	8.1	100.0	252.00	HORIZONTAL
2483.500000	52.70	35.0	74.0	21.3	163.0	212.00	HORIZONTAL

MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	47.30	34.7	54.0	6.7	100.0	260.00	HORIZONTAL
2483.500000	40.40	35.0	54.0	13.6	100.0	222.00	HORIZONTAL

Channel 11



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

MEASUREMENT RESULT: PK Detector

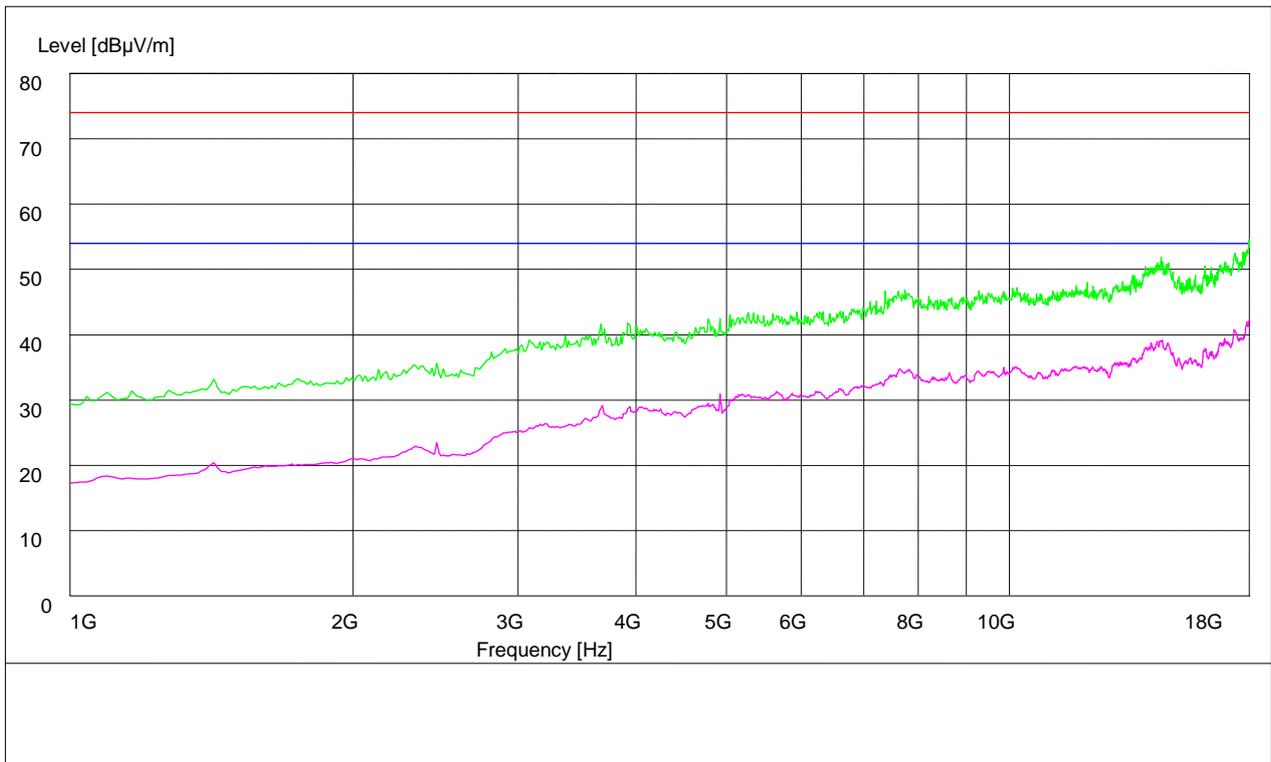
Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	56.20	34.7	74.0	17.8	100.0	244.00	HORIZONTAL
2483.500000	60.40	35.0	74.0	13.6	100.0	267.00	HORIZONTAL

MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	43.40	34.7	54.0	10.6	100.0	257.00	HORIZONTAL
2483.500000	44.30	35.0	54.0	9.7	100.0	220.00	HORIZONTAL

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

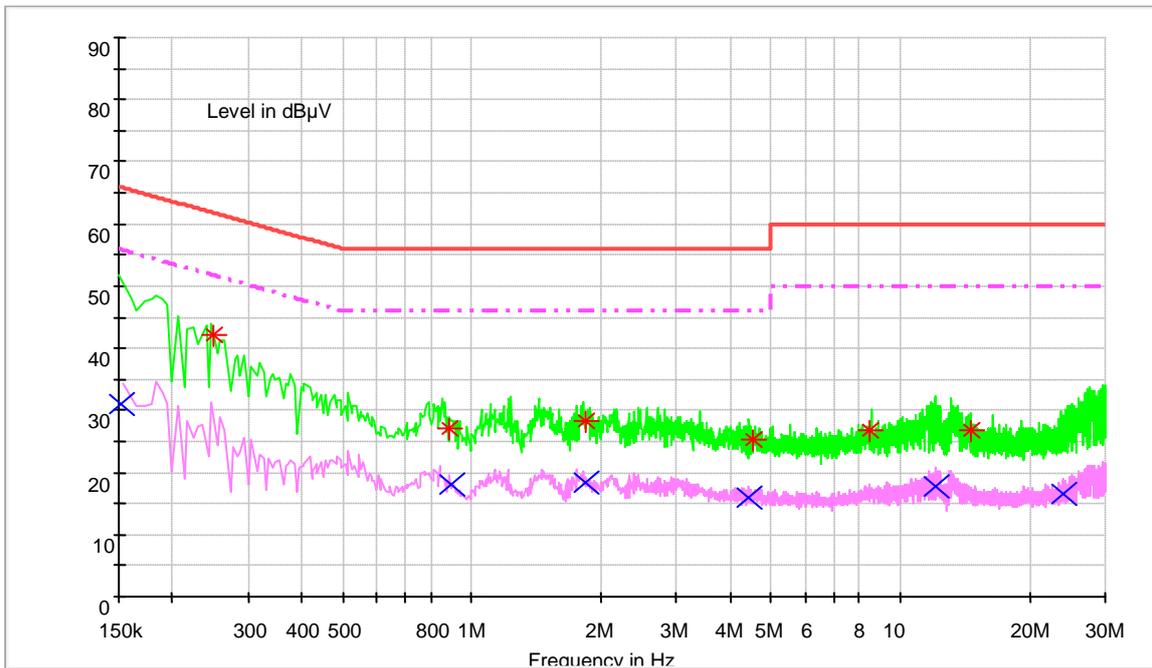
- Note 1: The test results and plot for testing range of “1 GHz to 18 GHz” showed as below is **the WORST case for all Test Modes and Channels**. This range will not be presented for each Test Mode and each Channel.
- Note 2: The testing range of “1 GHz to 18 GHz” is for checking radiated emissions located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



Appendix G: 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
0.248426	42.2	9.7	61.8	19.6	L1	FLO
0.88158	27.1	9.7	56	28.9	L1	FLO
1.84491	28.2	9.7	56	27.8	L1	FLO
4.544764	25.2	9.8	56	30.8	N	FLO
8.492167	26.7	9.9	60	33.3	N	FLO
14.61636	26.8	10.1	60	33.2	N	FLO



MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dB μ V	Transd dB	Limit dB μ V	Margin dB	Line	PE
0.151931	30.9	9.7	55.9	25	L1	FLO
0.891173	18.1	9.7	46	27.9	L1	FLO
1.835948	18.4	9.7	46	27.6	N	FLO
4.433021	15.8	9.8	46	30.2	N	FLO
12.08047	17.6	10	50	32.4	N	FLO
24.01677	16.5	10.3	50	33.5	N	FLO

END