

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.

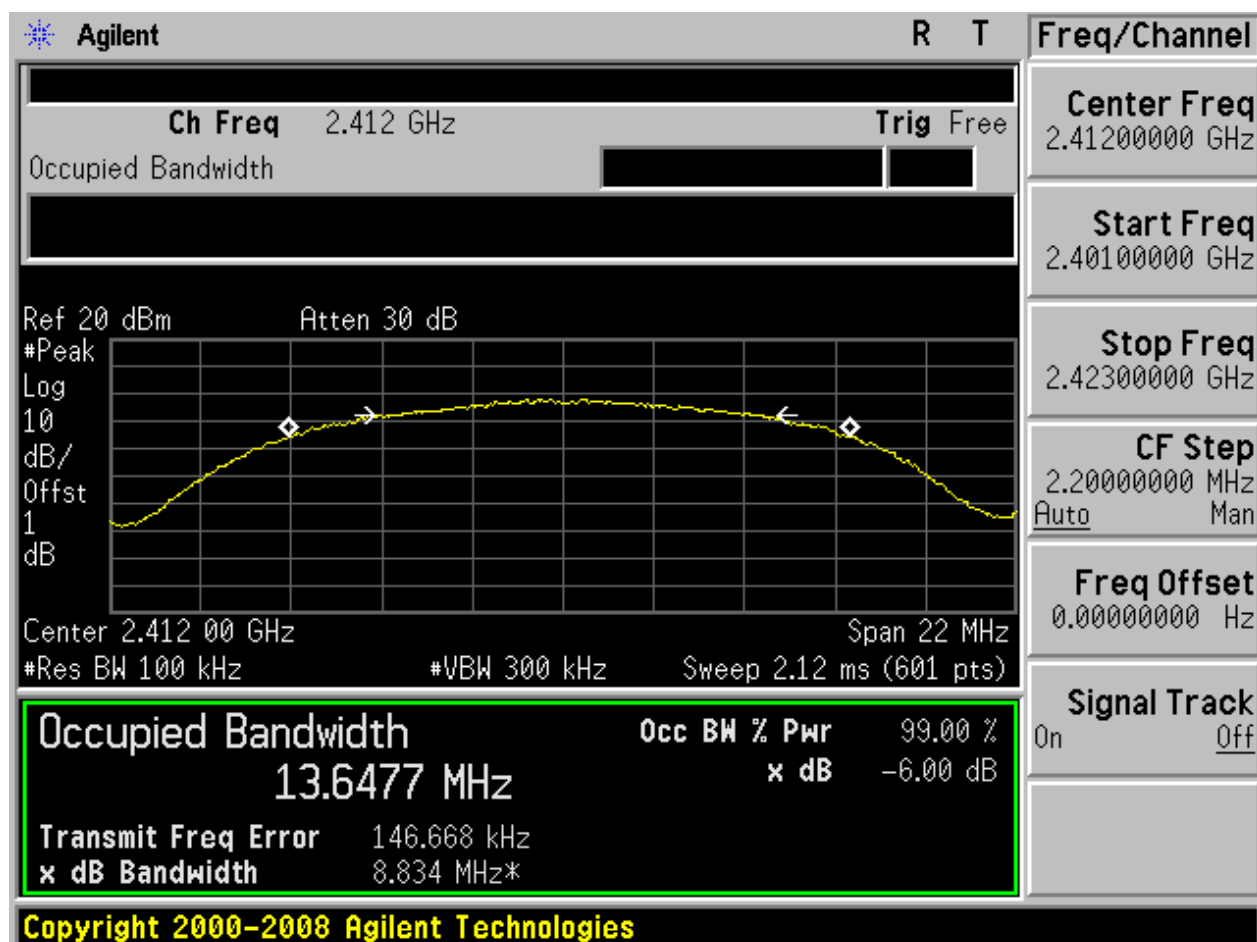
Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	DTS6dBBW[MHz]	Verdict
11B	L	2412	8.83	pass
11B	M	2437	9.32	pass
11B	H	2462	9.06	pass
11G	L	2412	16.47	pass
11G	M	2437	16.54	pass
11G	H	2462	16.49	pass
11N20	L	2412	17.24	pass
11N20	M	2437	17.73	pass
11N20	H	2462	17.66	pass

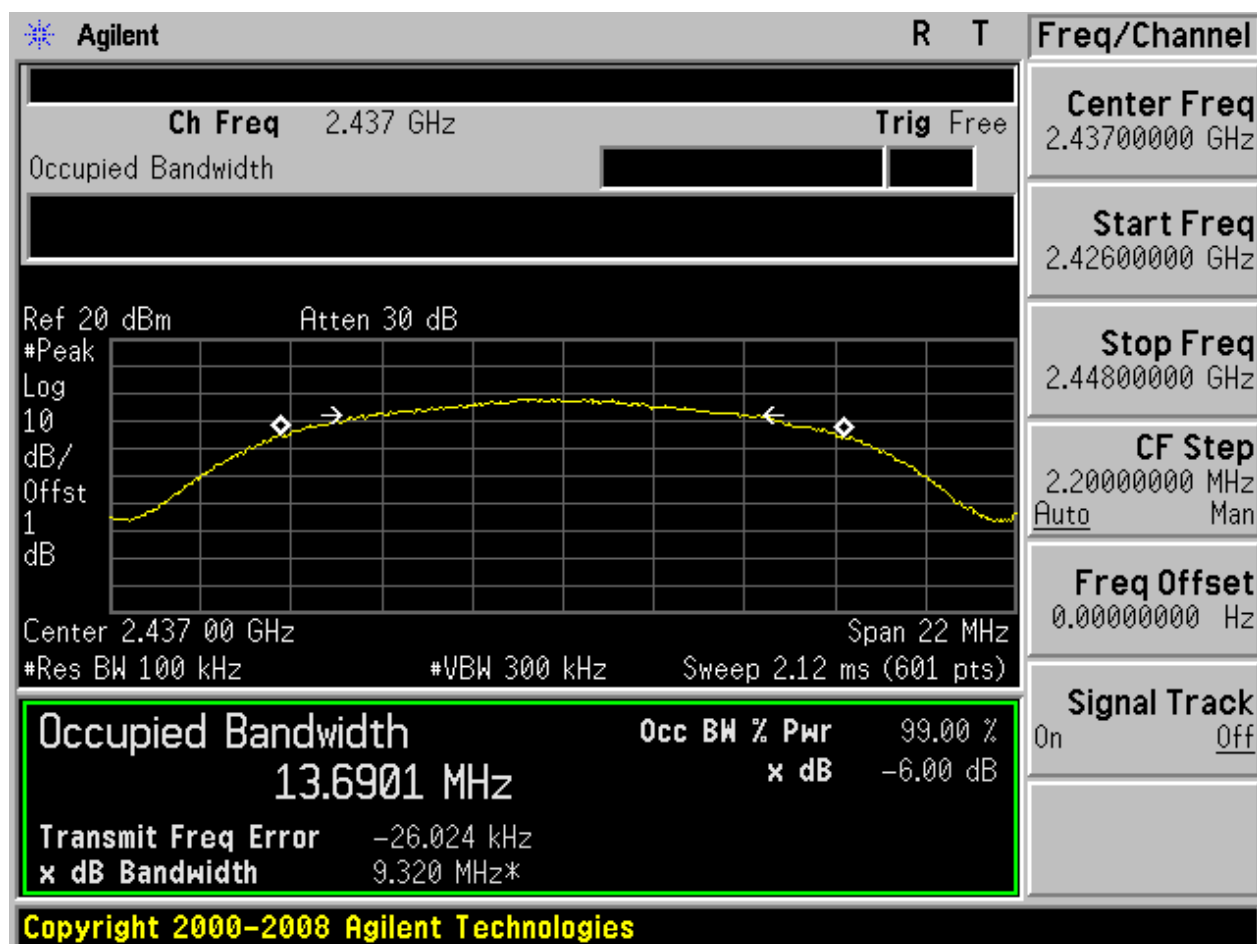


Part II - Test Plots

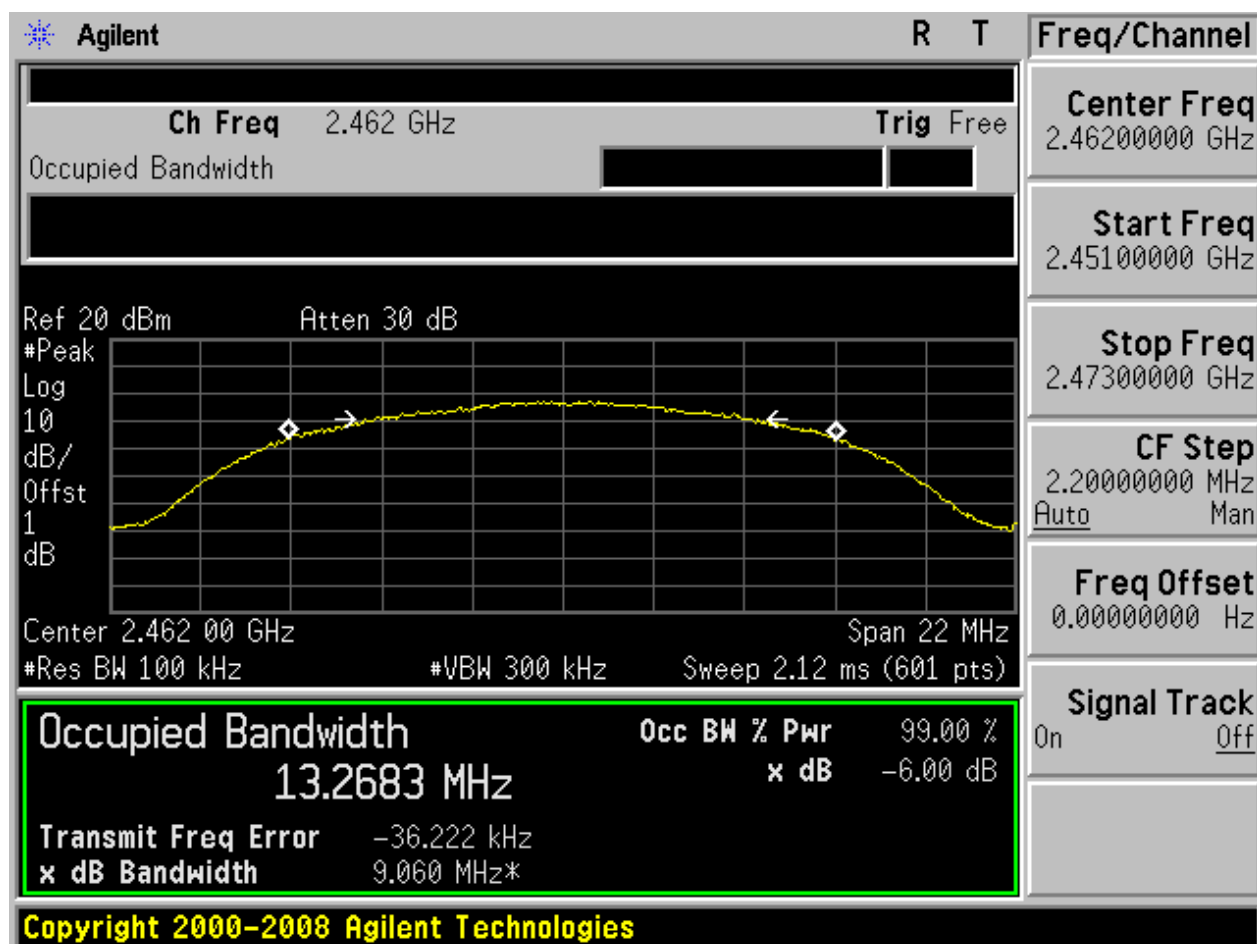
2.1 11B_L



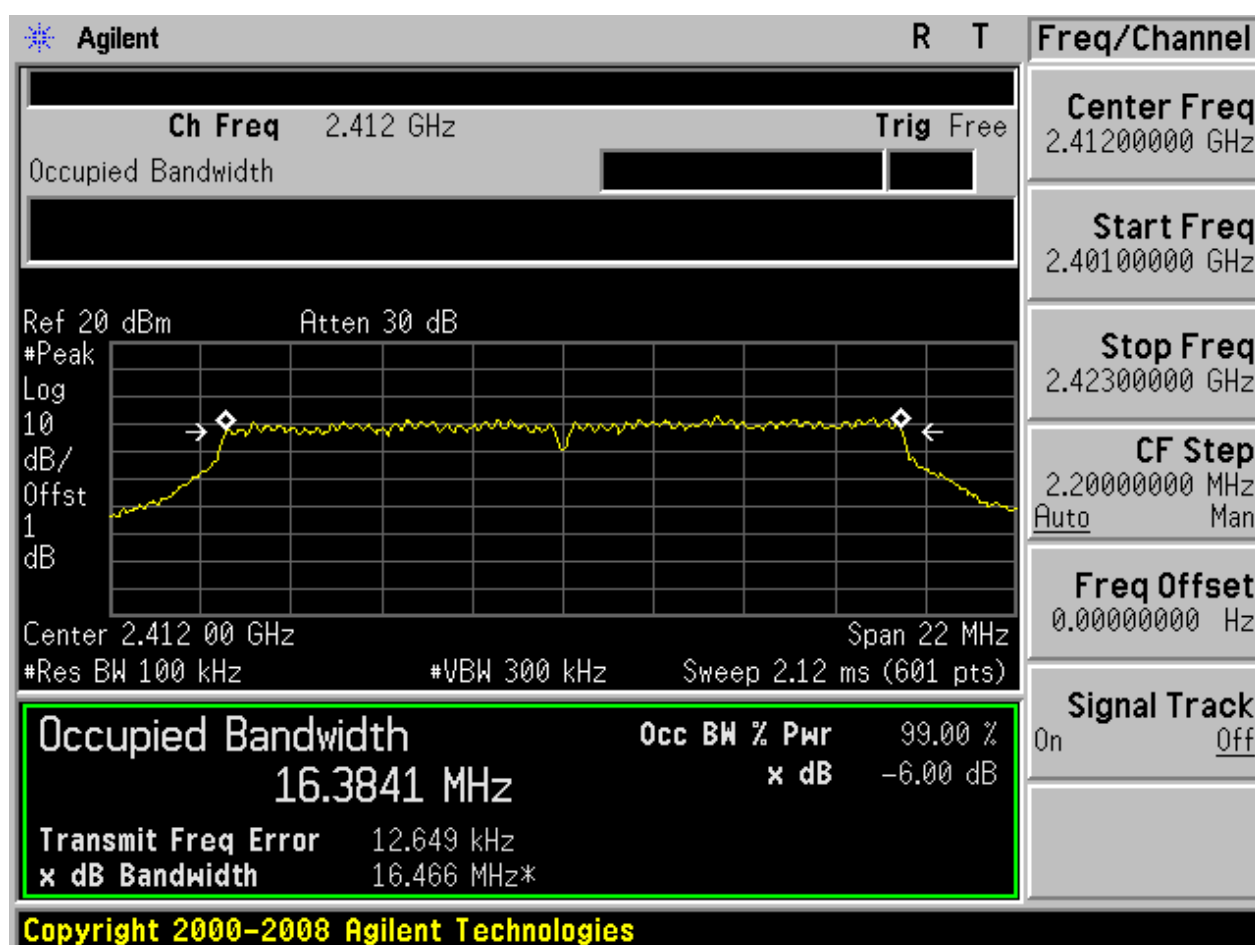
2.2 11B_M



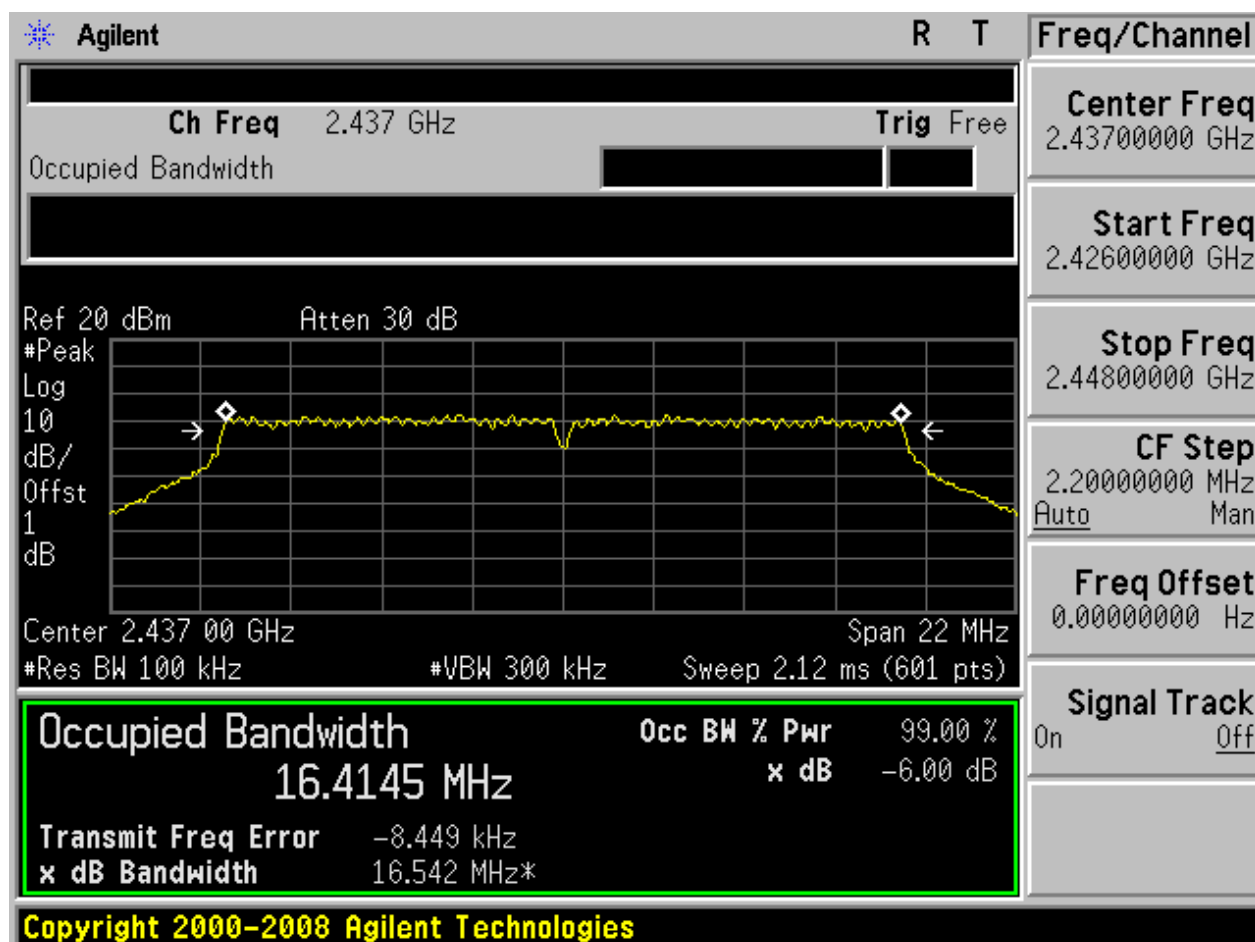
2.3 11B_H



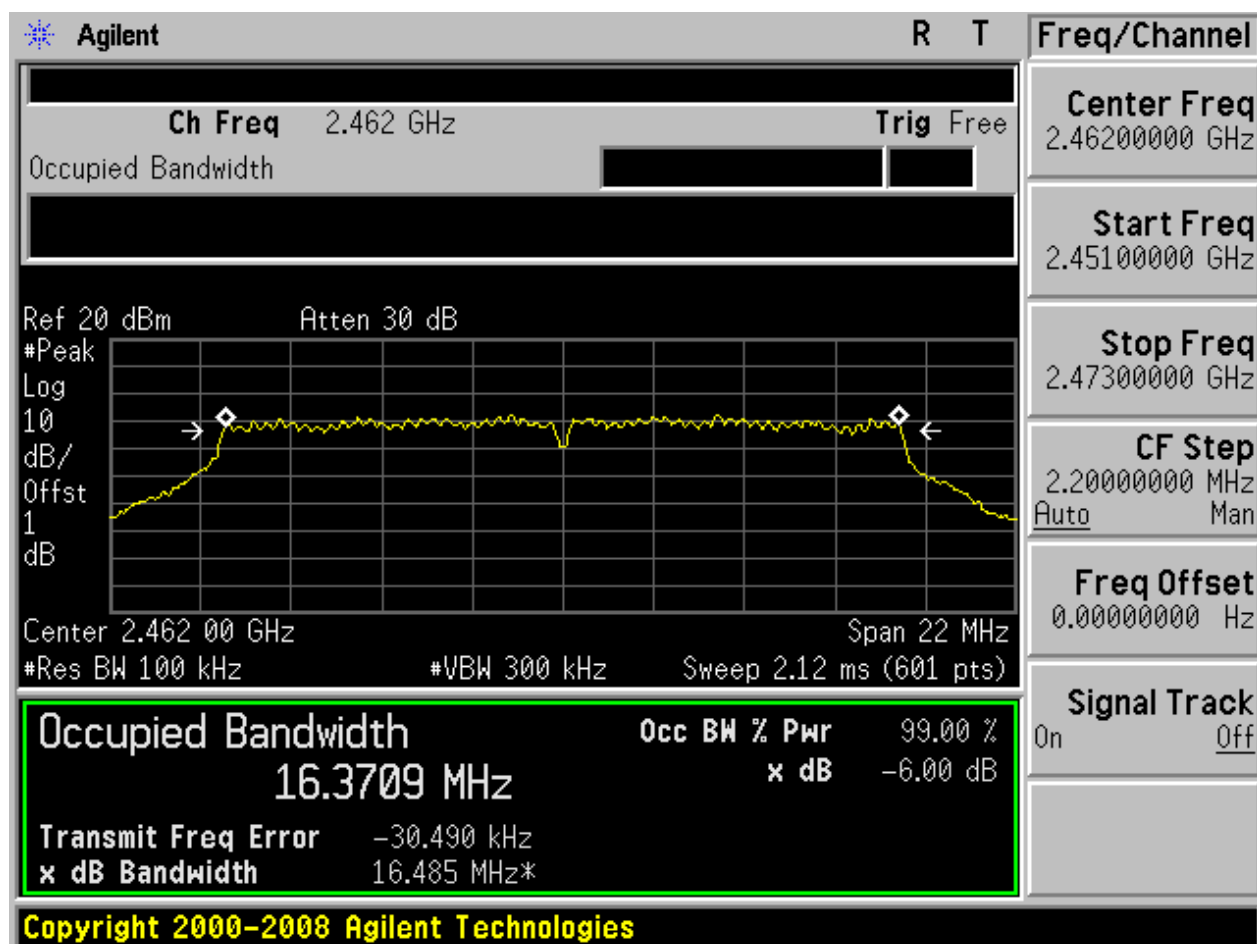
2.4 11G_L



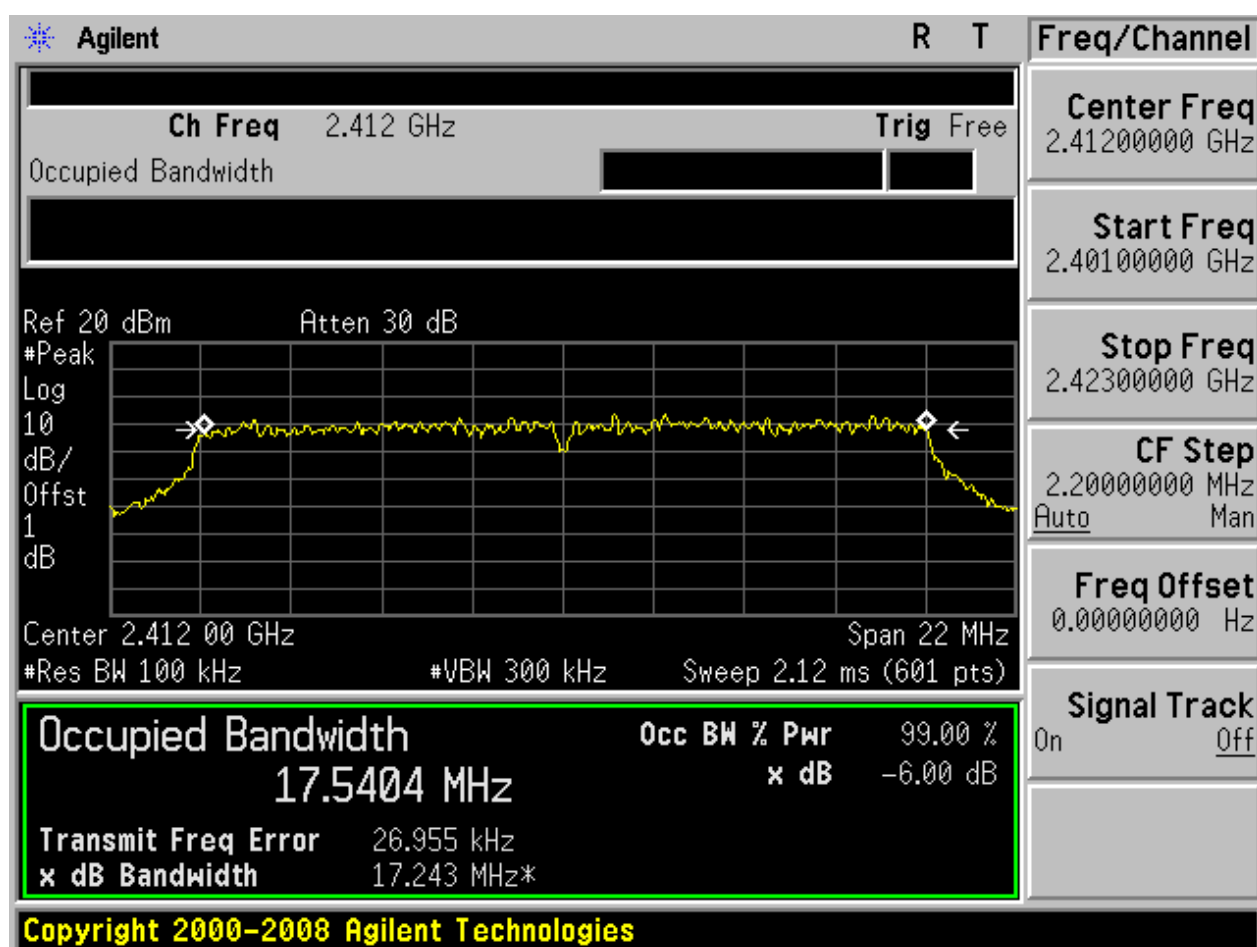
2.5 11G_M



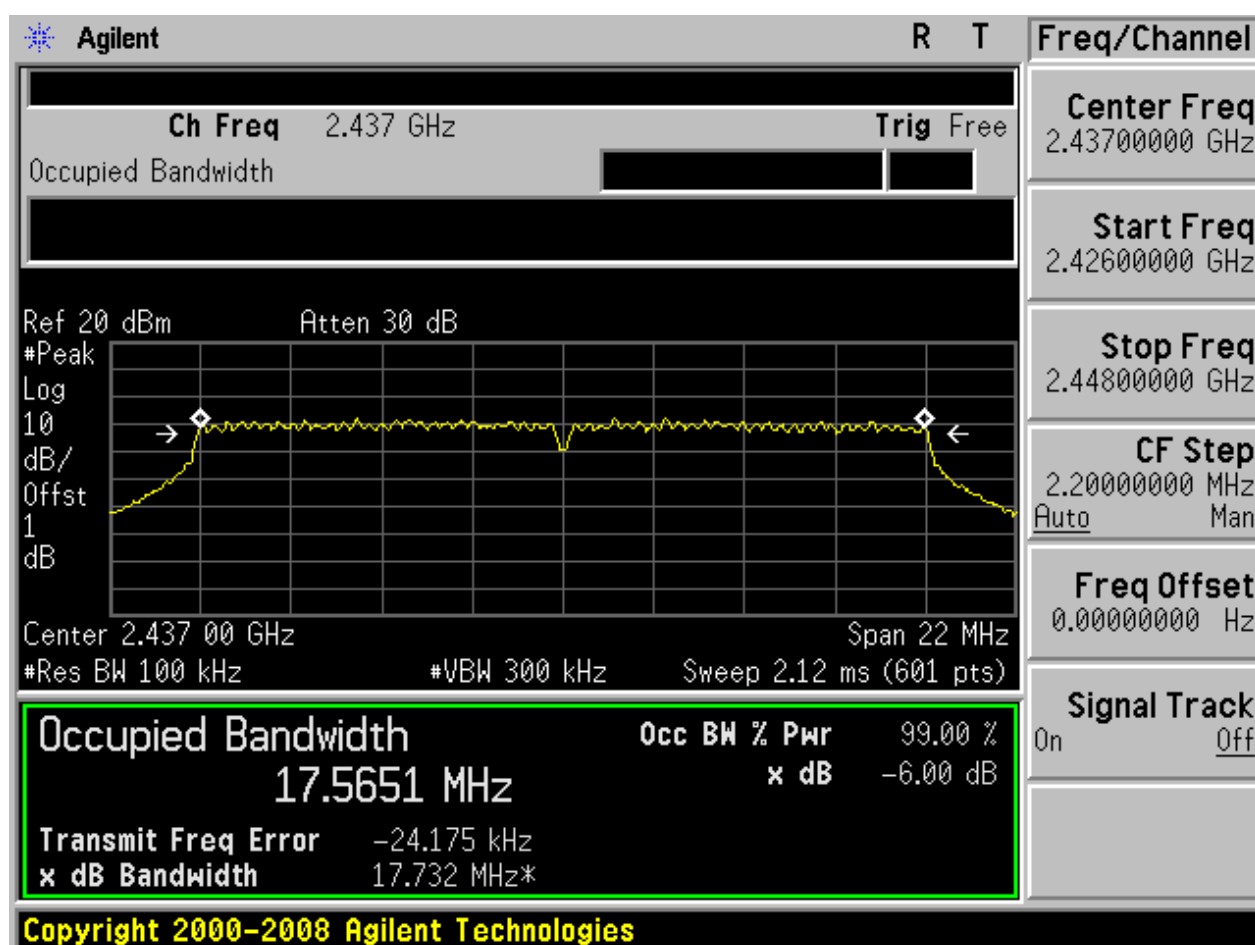
2.6 11G_H



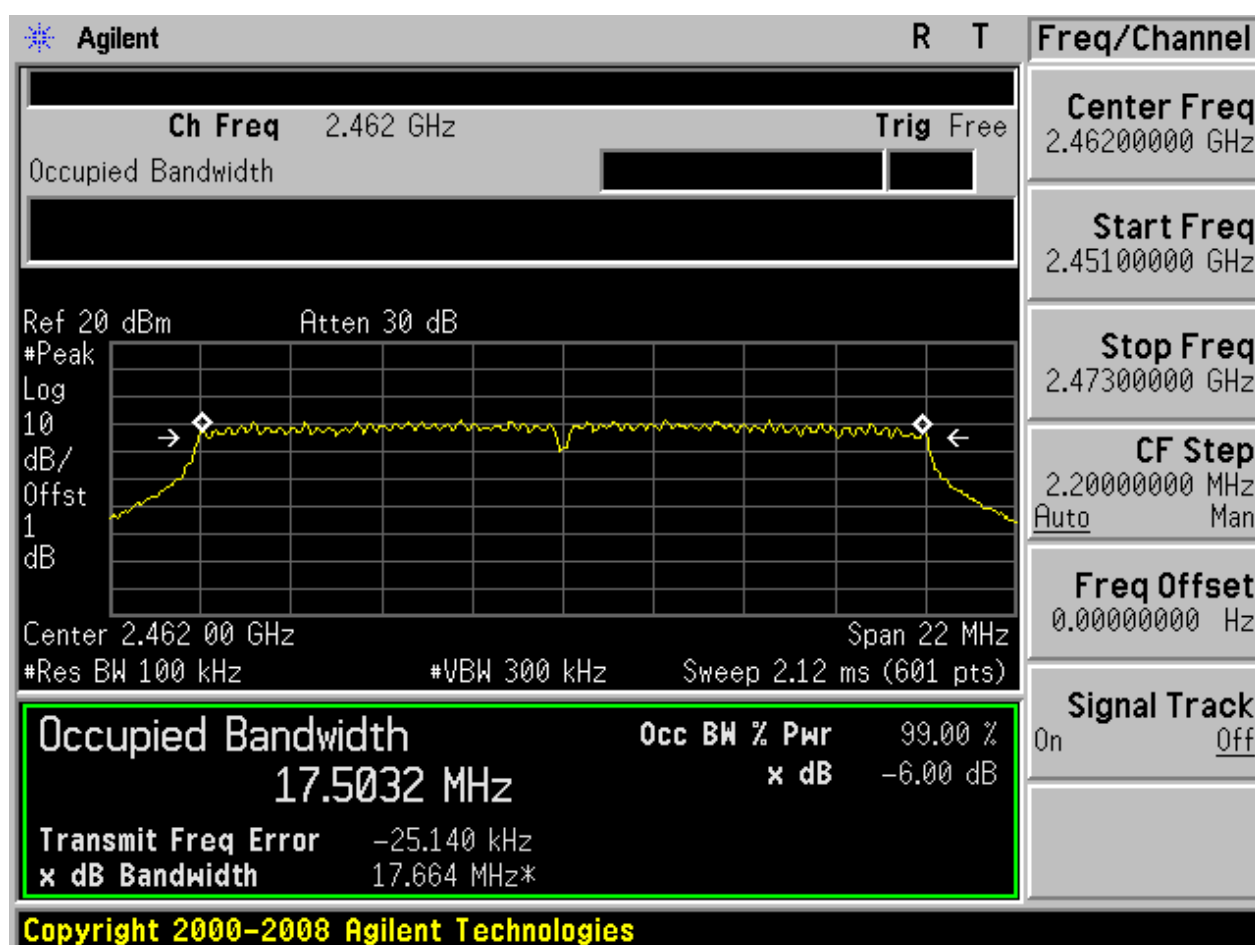
2.7 11N20_L



2.8 11N20_M



2.9 11N20_H



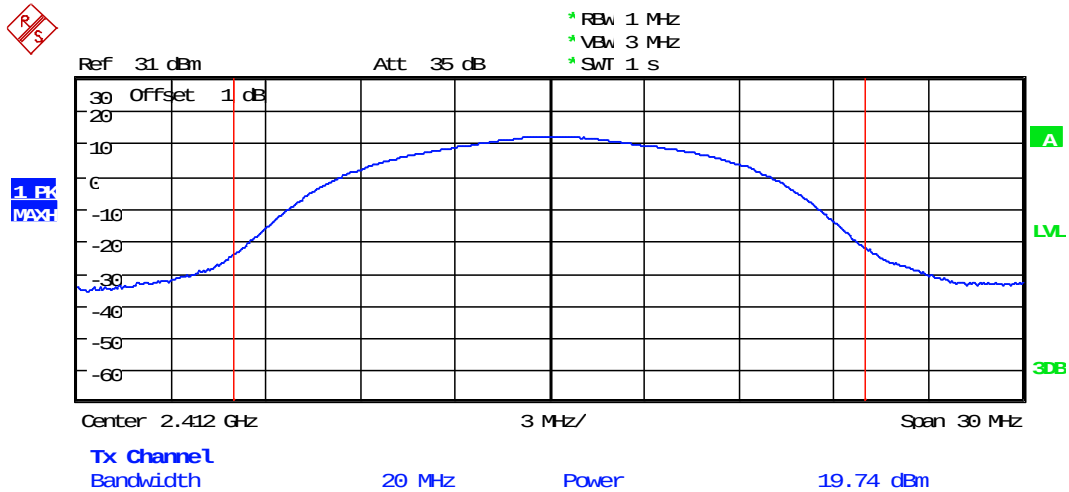
Appendix B: Maximum Peak Conducted Output Power

Part I - Test Results

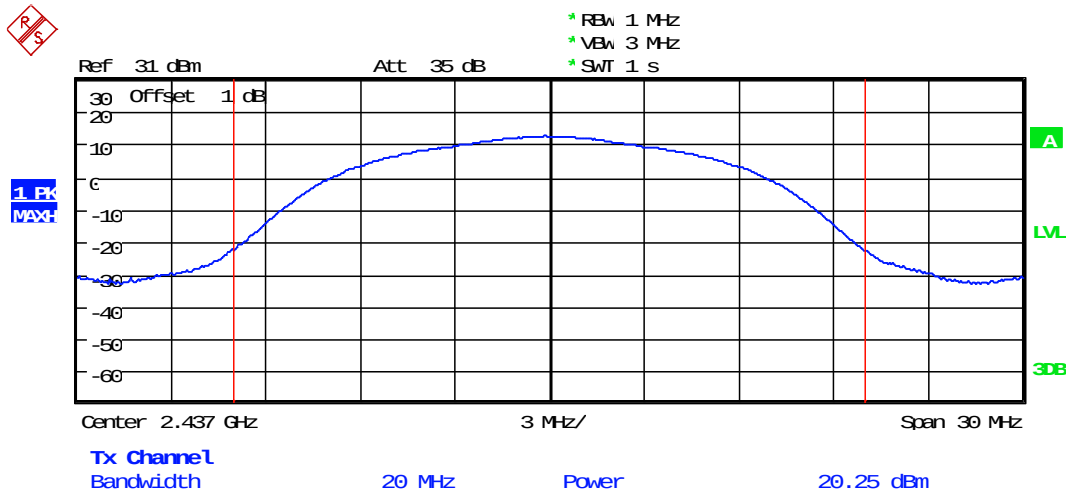
Test Mode	Test Channel	Frequency[MHz]	Meas. Level (Cond.) [dBm]	Verdict
11B	L	2412	19.74	pass
11B	M	2437	20.25	pass
11B	H	2462	19.56	pass
11G	L	2412	19.97	pass
11G	M	2437	20.47	pass
11G	H	2462	19.87	pass
11N20	L	2412	19.81	pass
11N20	M	2437	20.30	pass
11N20	H	2462	19.76	pass

Part II - Test Plots

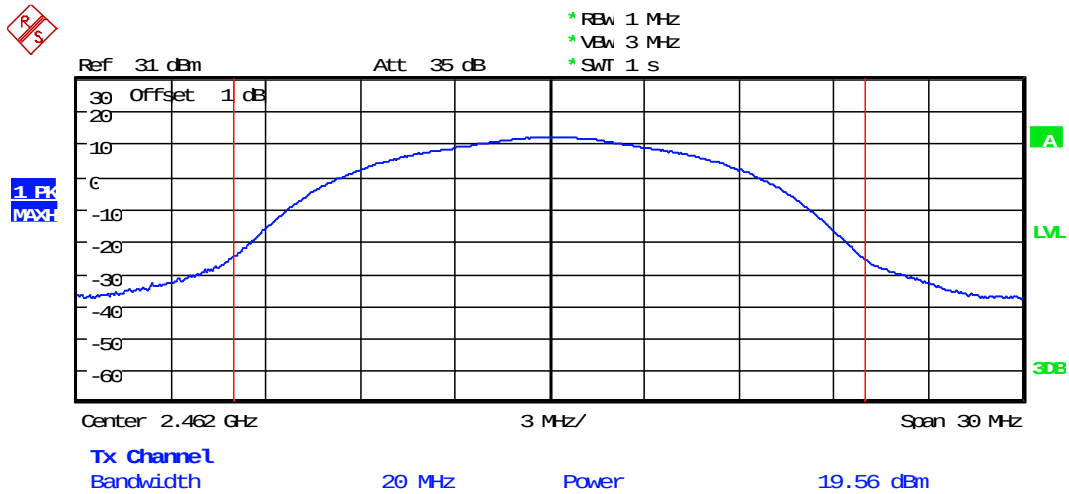
2.1 11B_L



2.2 11B_M



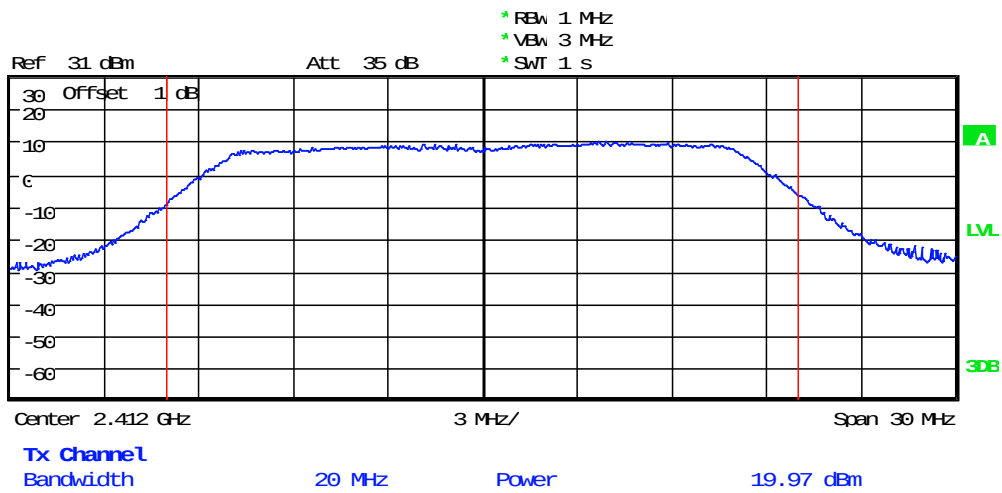
2.3 11B_H



2.4 11G_L



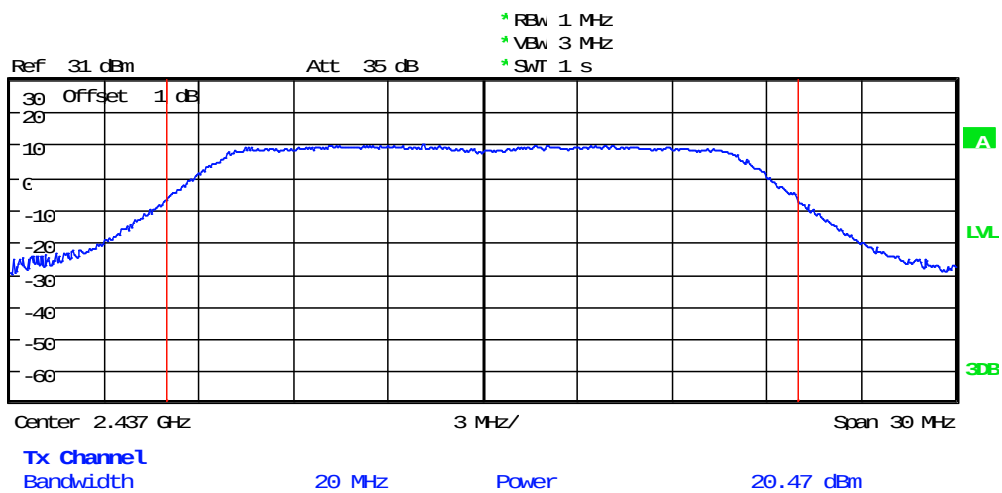
1 PK
MAX



2.5 11G_M



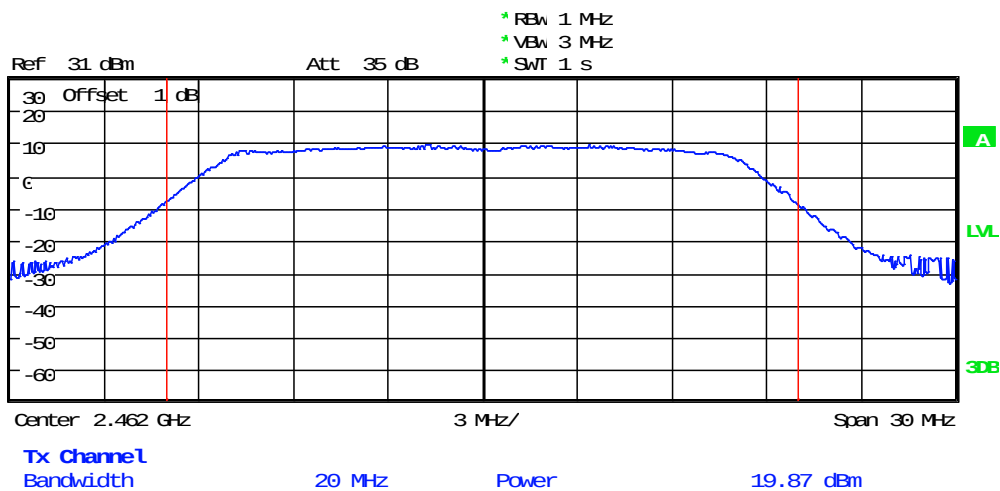
1 Pk
MAX



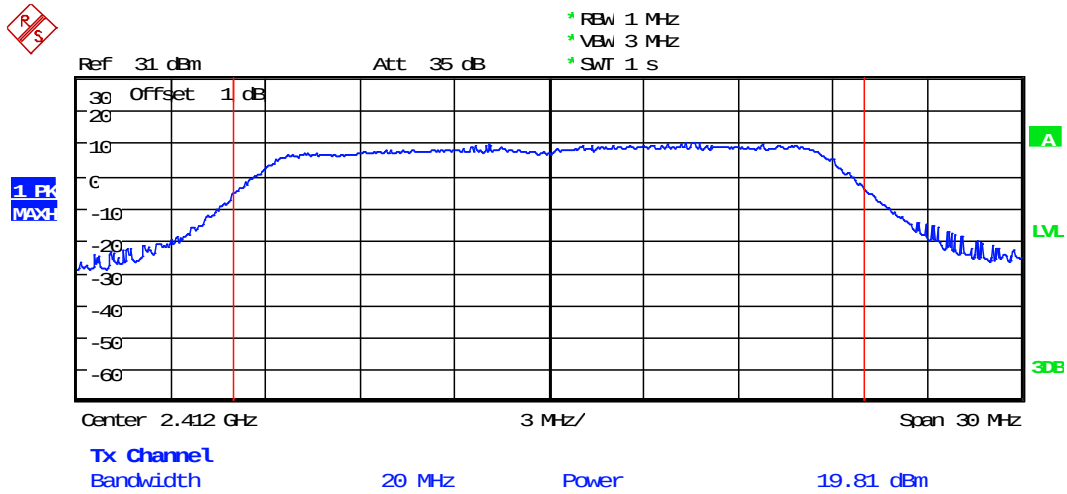
2.6 11G_H



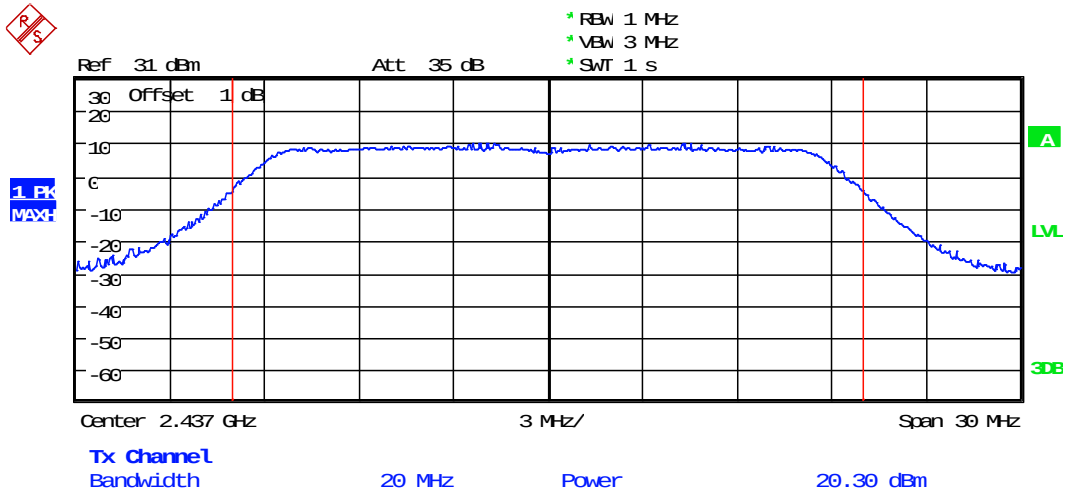
1 Pk
MAX



2.7 11N20_L



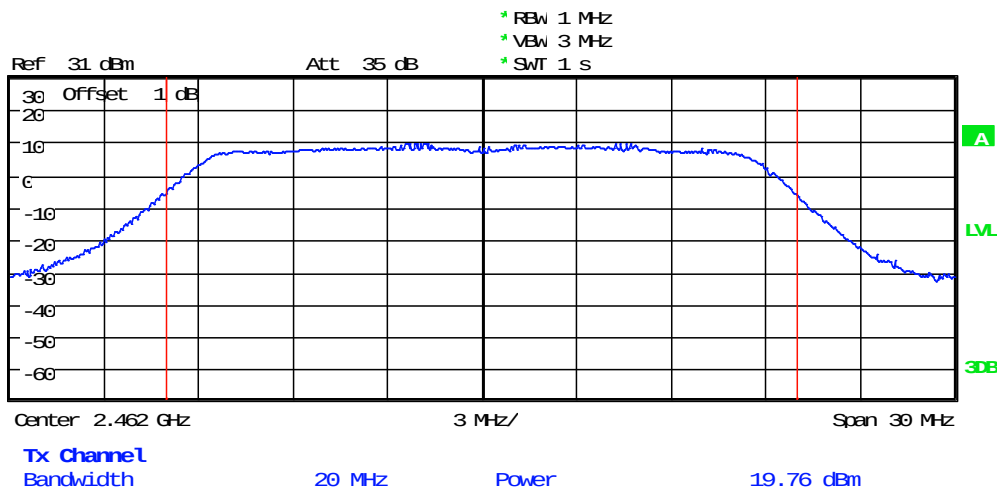
2.8 11N20_M



2.9 11N20_H



1 PK
MAX



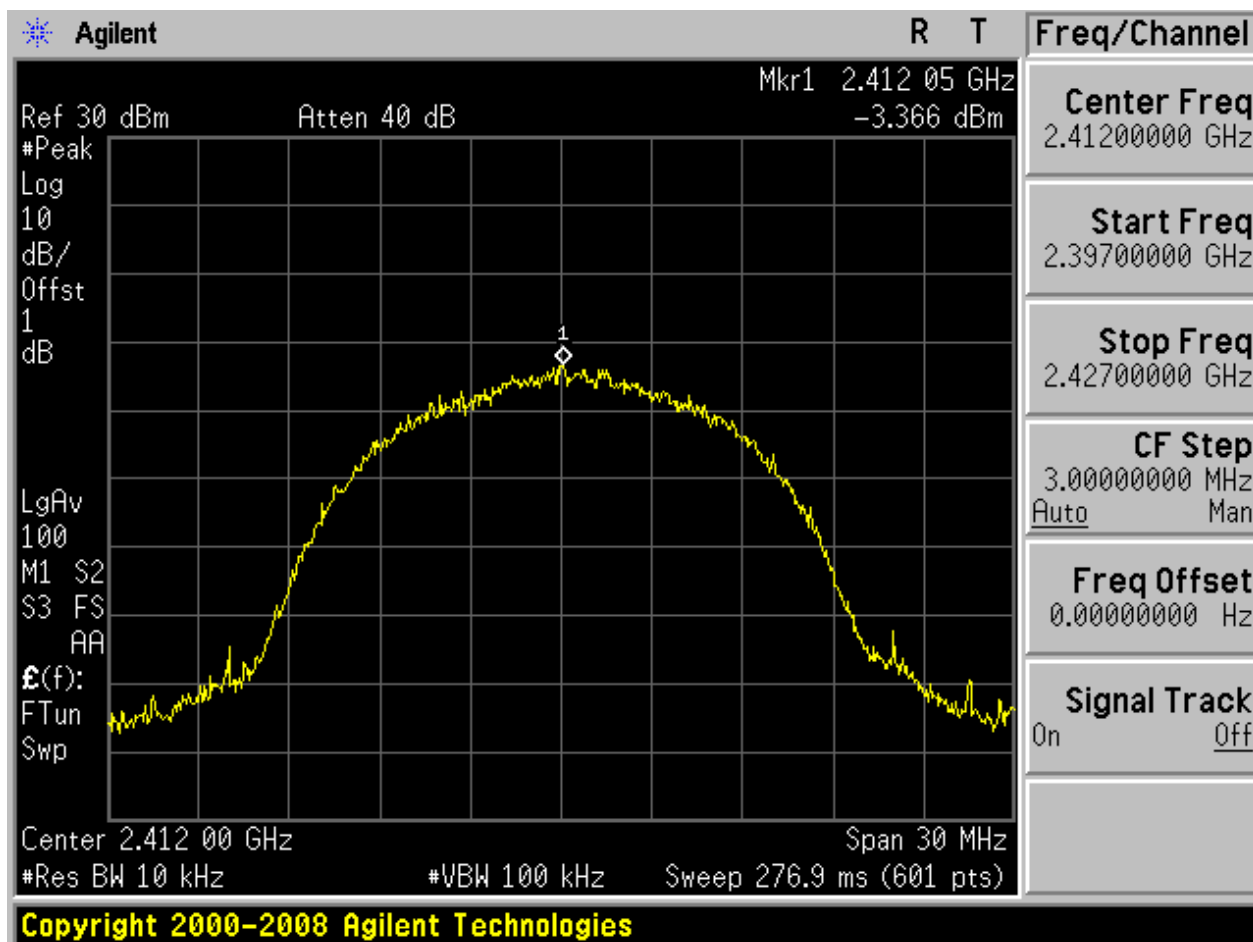
Appendix C: Maximum Power Spectral Density Level

Part I - Test Results

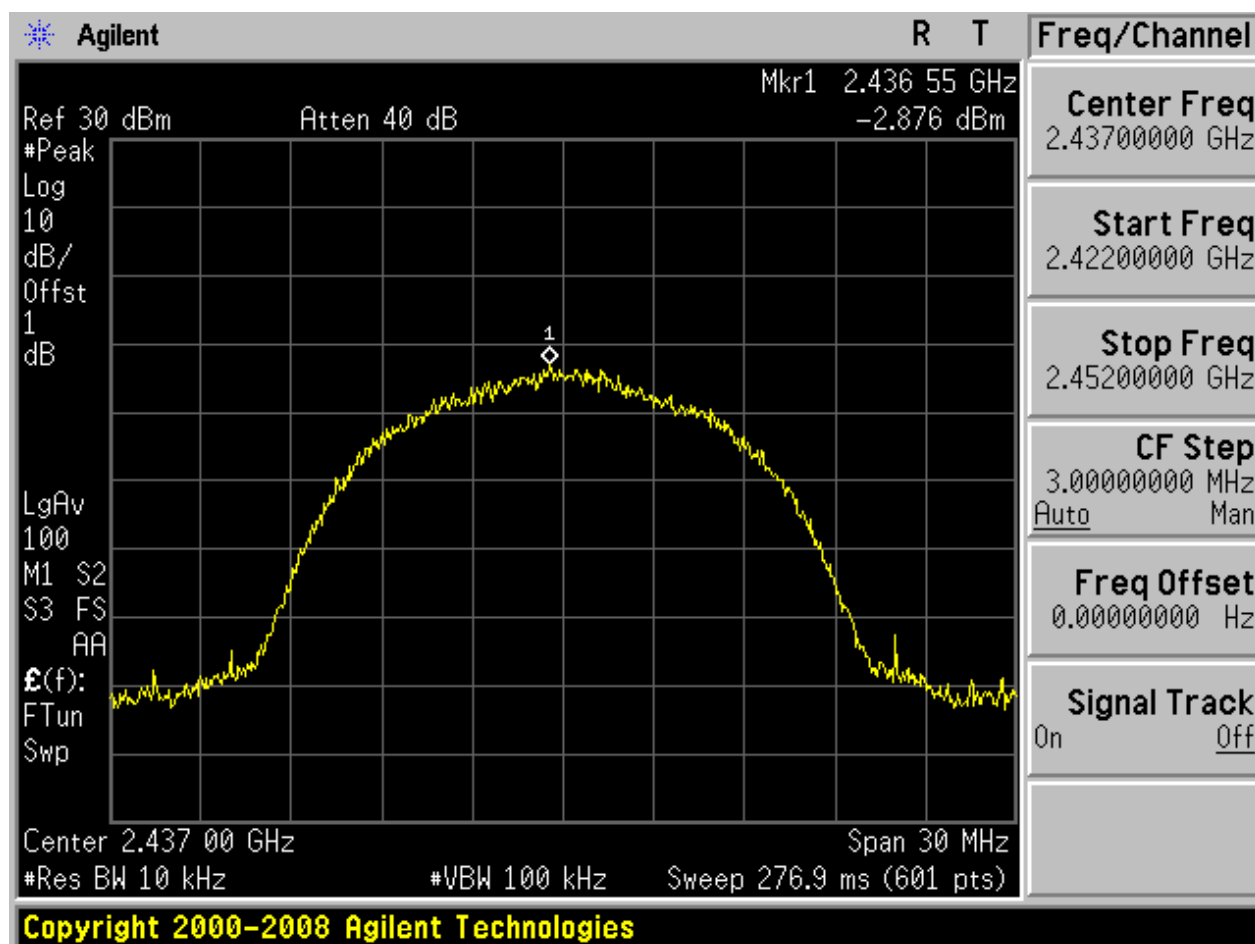
Test Mode	Test Channel	Frequency[MHz]	PD[MHz]	Verdict
11B	L	2412	-3.37	pass
11B	M	2437	-2.88	pass
11B	H	2462	-3.79	pass
11G	L	2412	-8.68	pass
11G	M	2437	-7.64	pass
11G	H	2462	-8.22	pass
11N20	L	2412	-8.25	pass
11N20	M	2437	-7.72	pass
11N20	H	2462	-8.11	pass

Part II - Test Plots

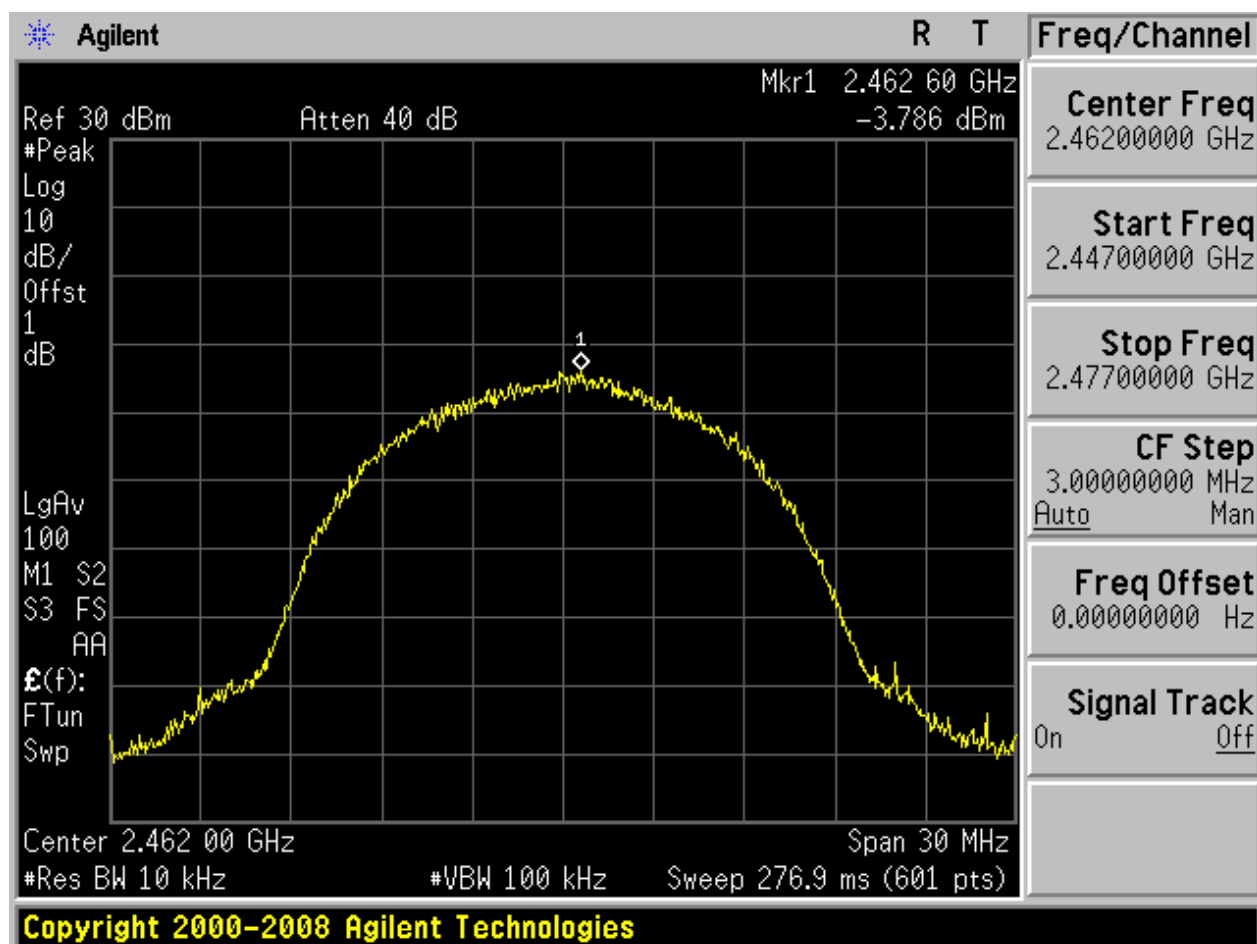
2.1 11B_L



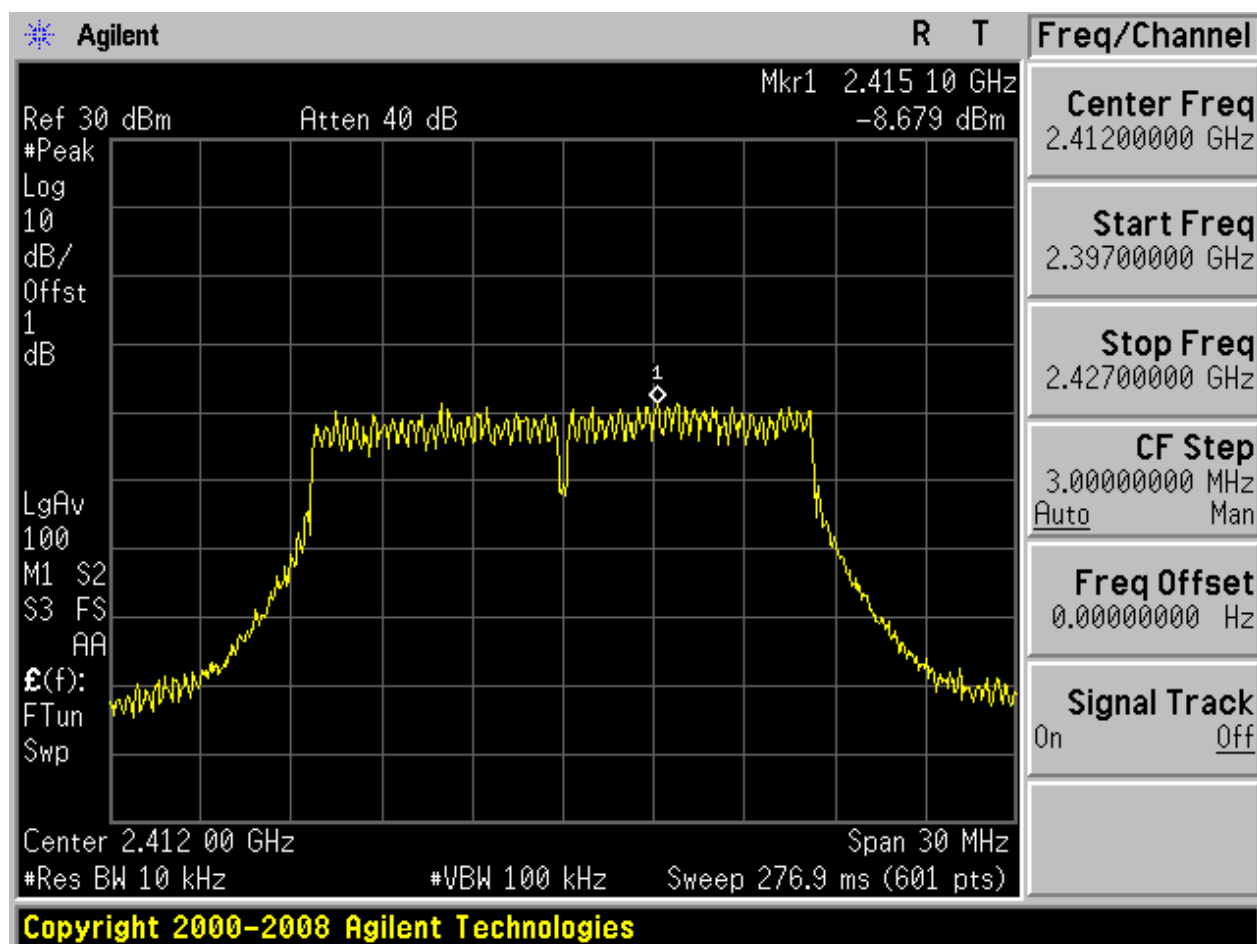
2.2 11B_M



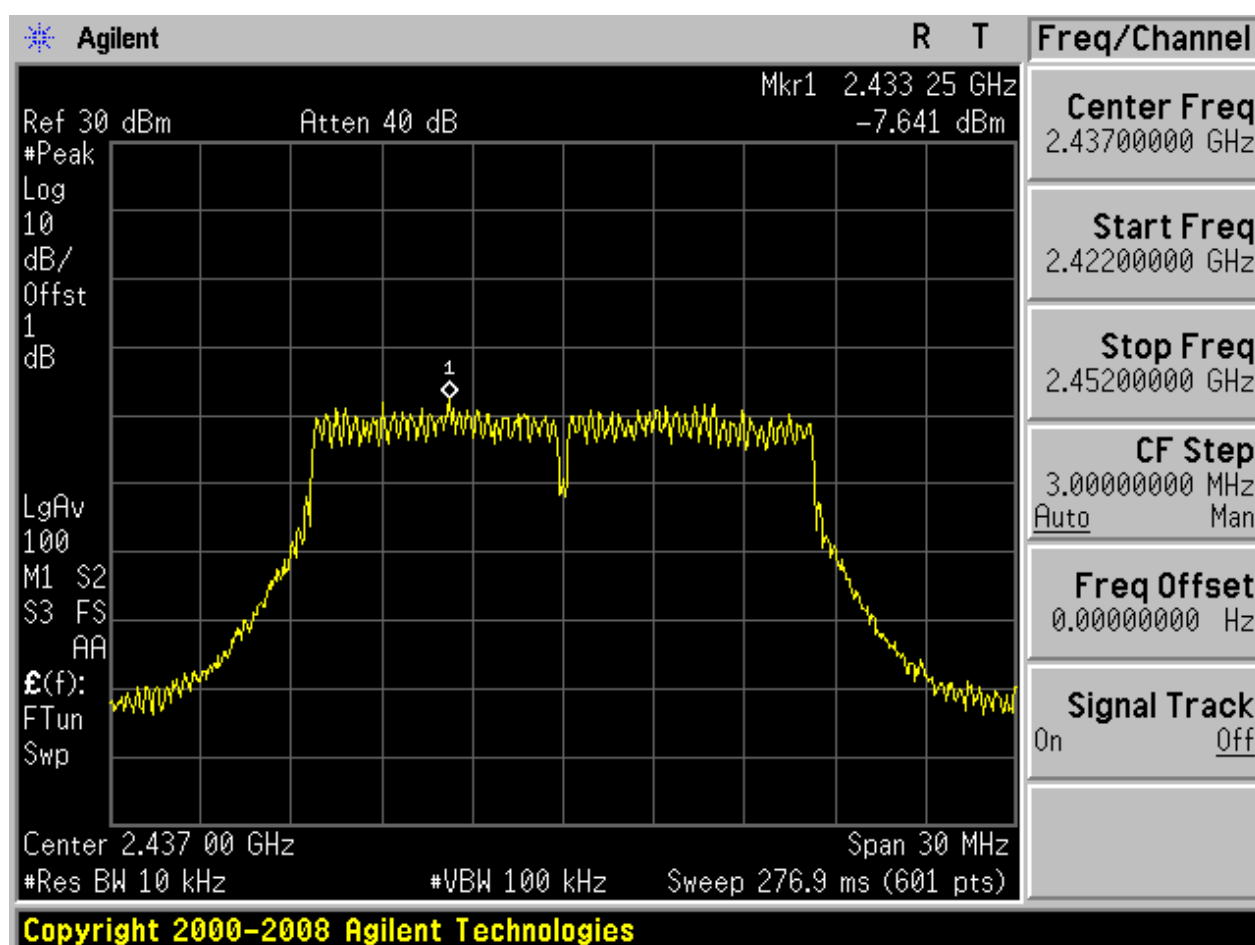
2.3 11B_H



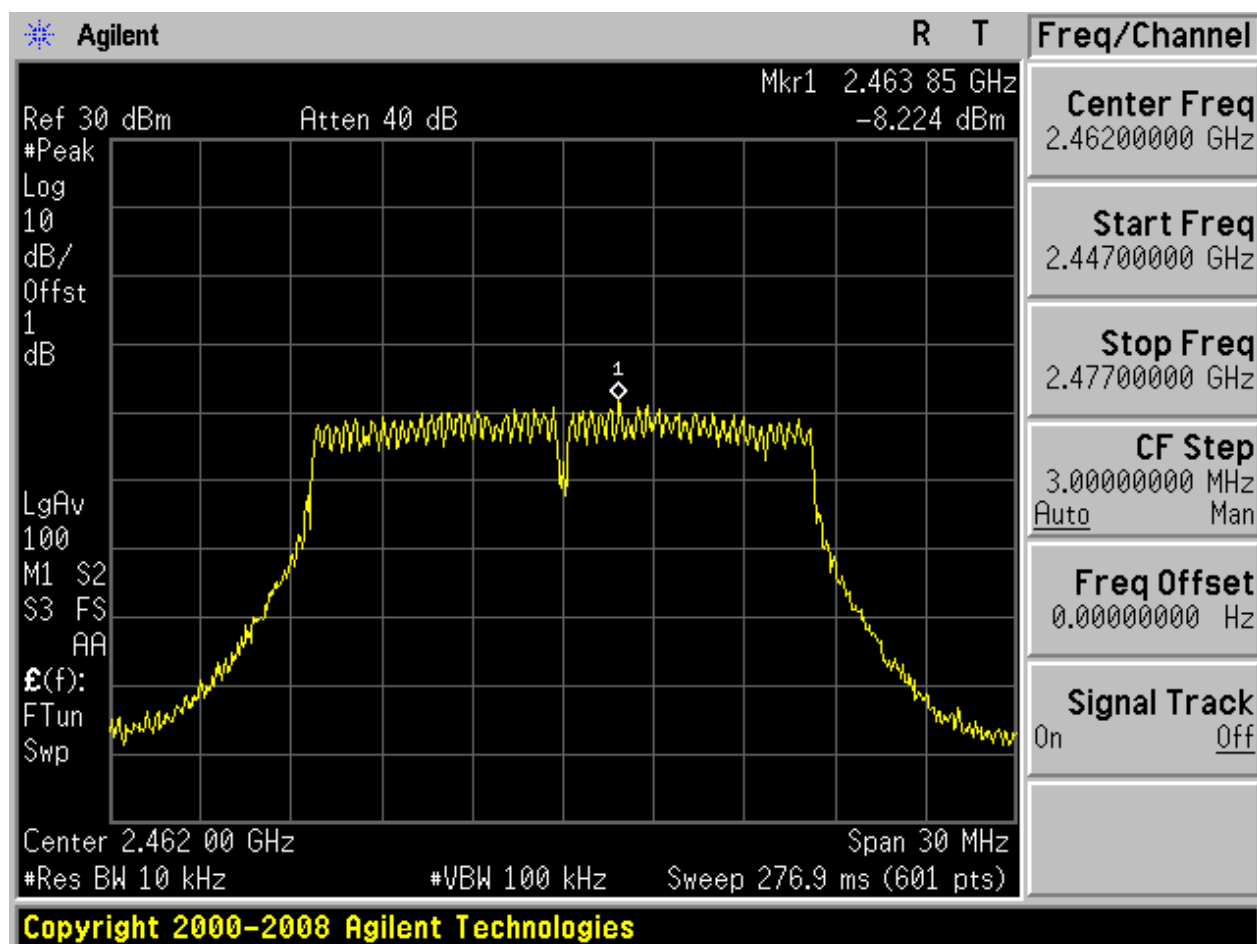
2.4 11G_L



2.5 11G_M

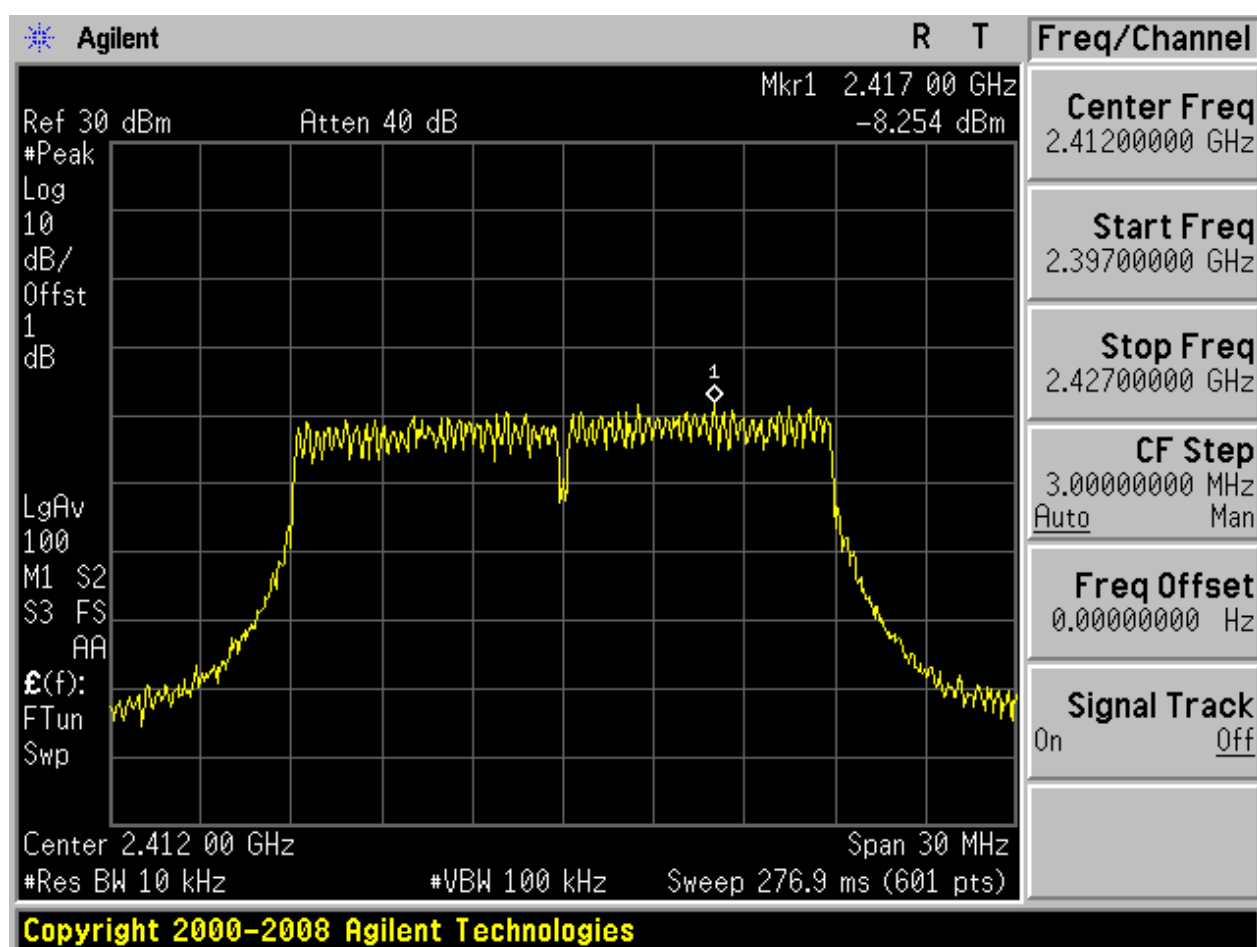


2.6 11G_H

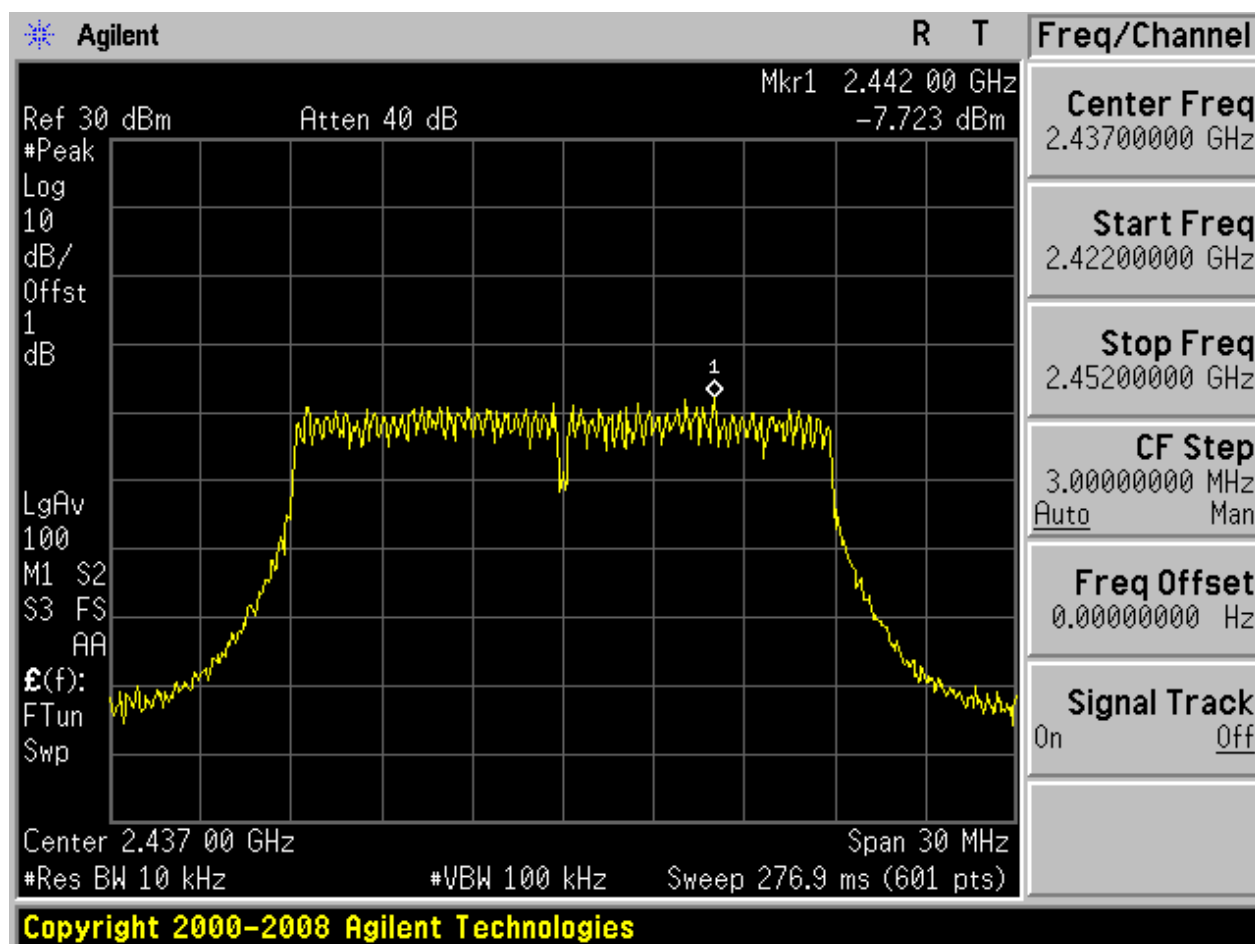




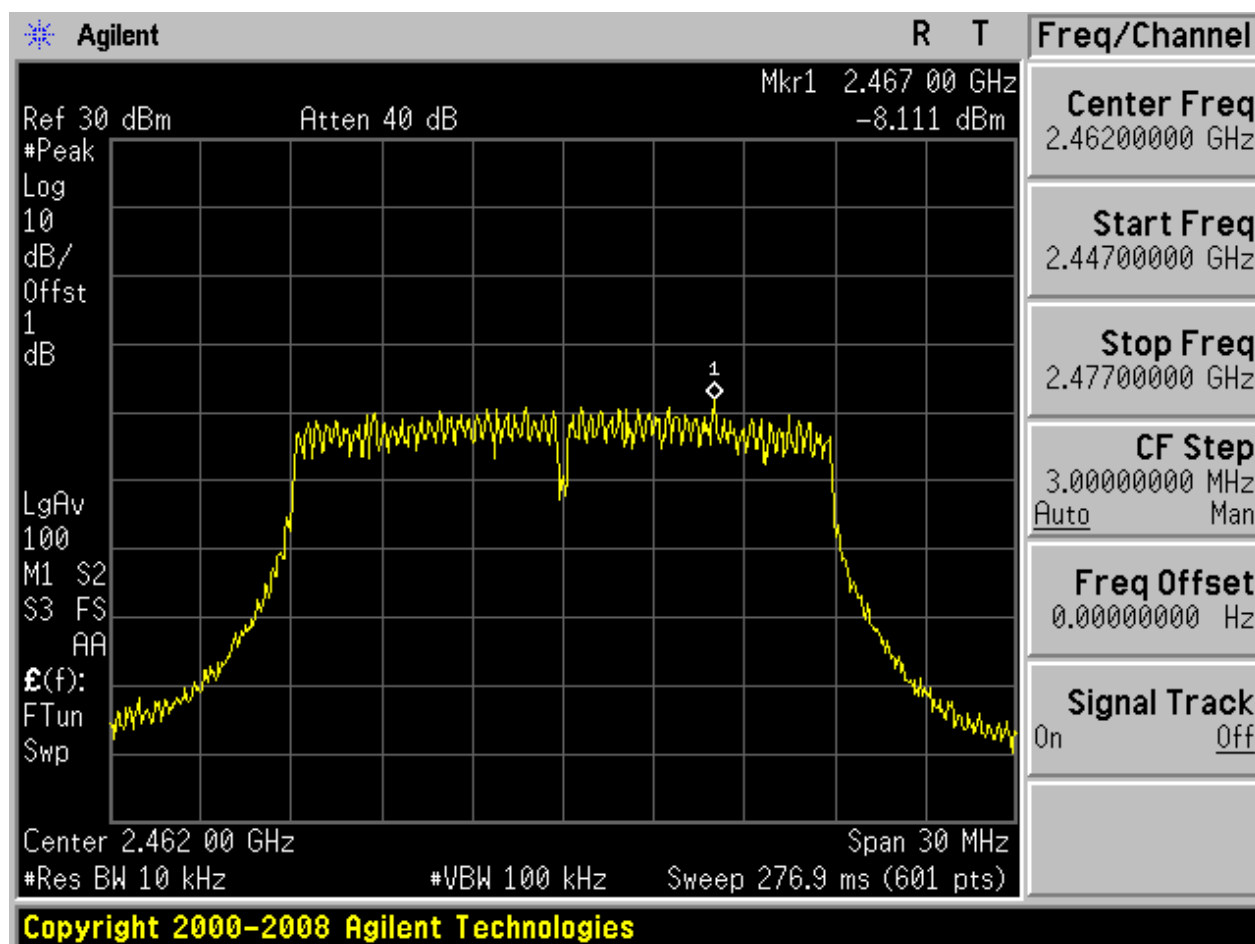
2.7 11N20_L



2.8 11N20_M



2.9 11N20_H



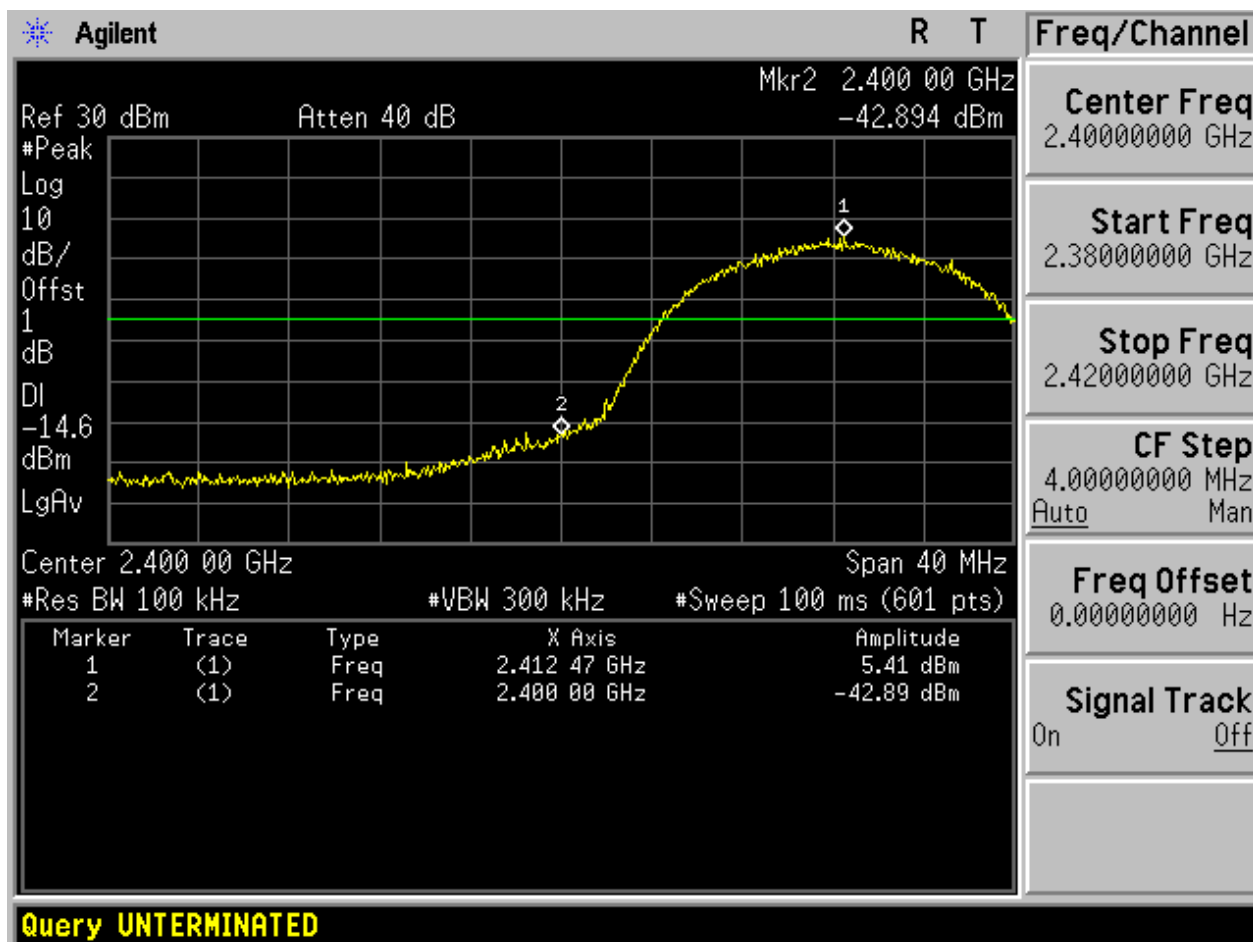
Appendix D: Band Edges Compliance

Part I - Test Results

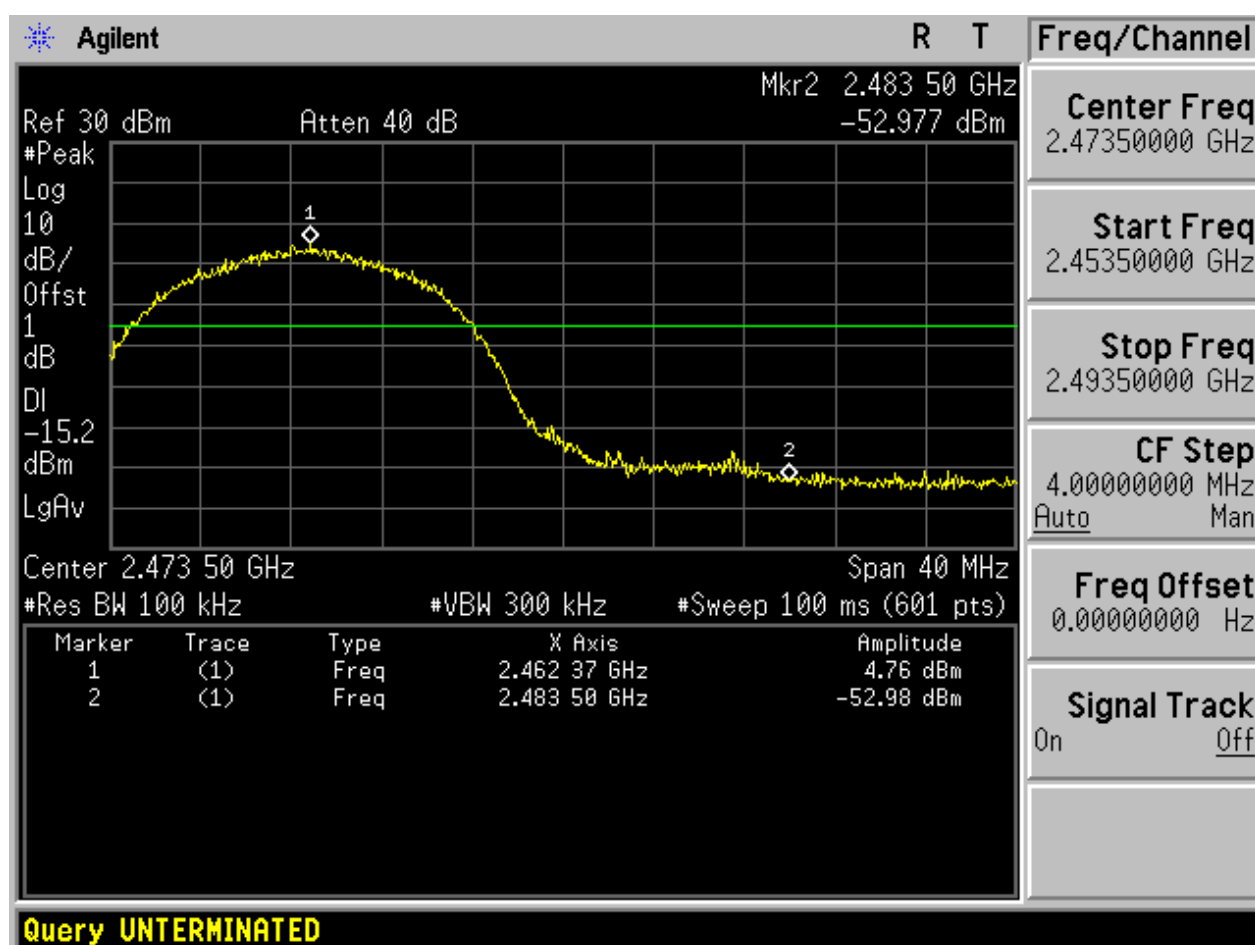
Test Mode	Test Channel	Frequency[MHz]	Carrier Power[dBm]	Max.Spurious Level[dBm]	Verdict
11B	L	2412	5.41	-42.89	pass
11B	H	2462	4.76	-52.98	pass
11G	L	2412	-0.06	-40.64	pass
11G	H	2462	-0.42	-53.98	pass
11N20	L	2412	0.14	-41.51	pass
11N20	H	2462	-0.44	-52.58	pass

Part II - Test Plots

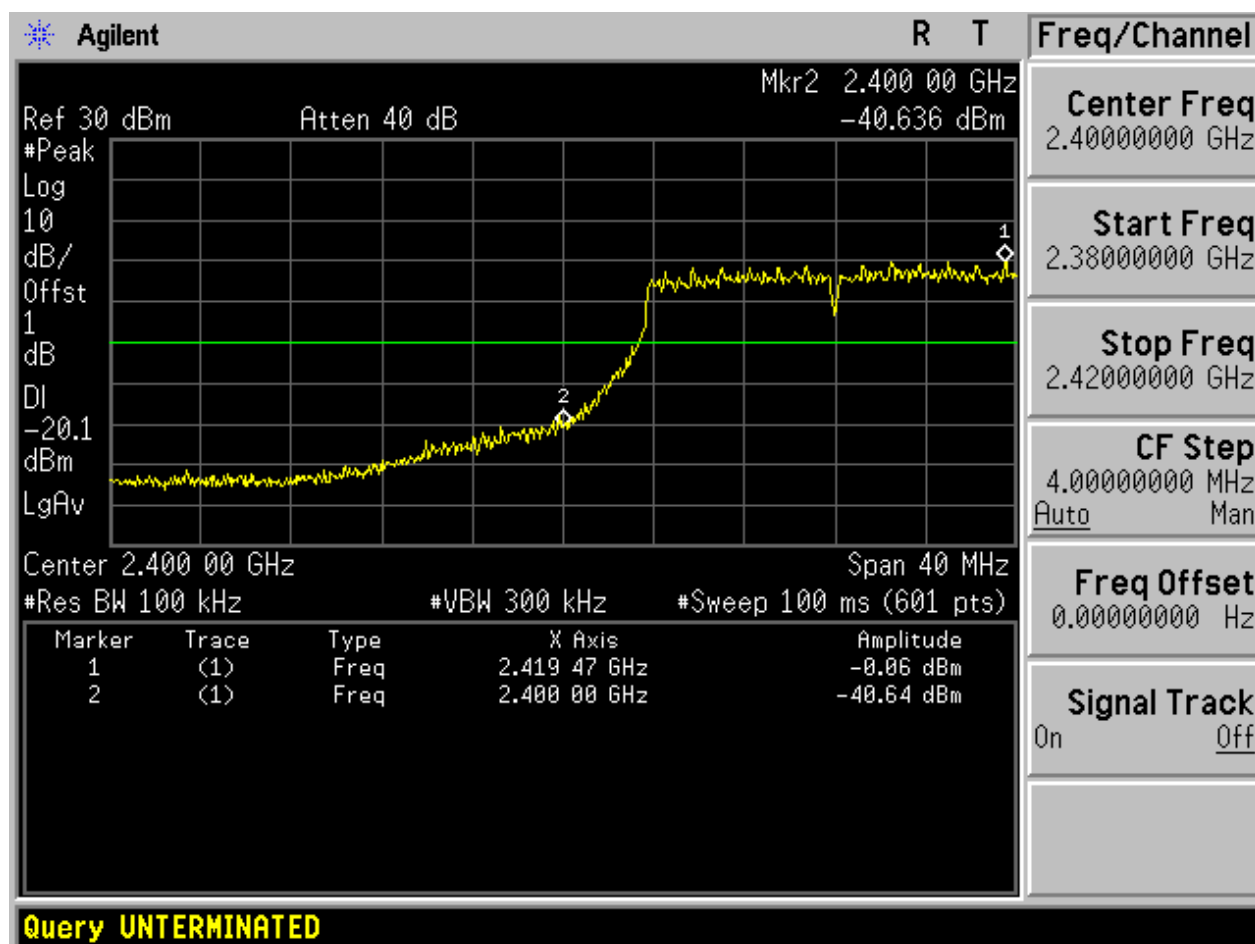
2.1 11B_L



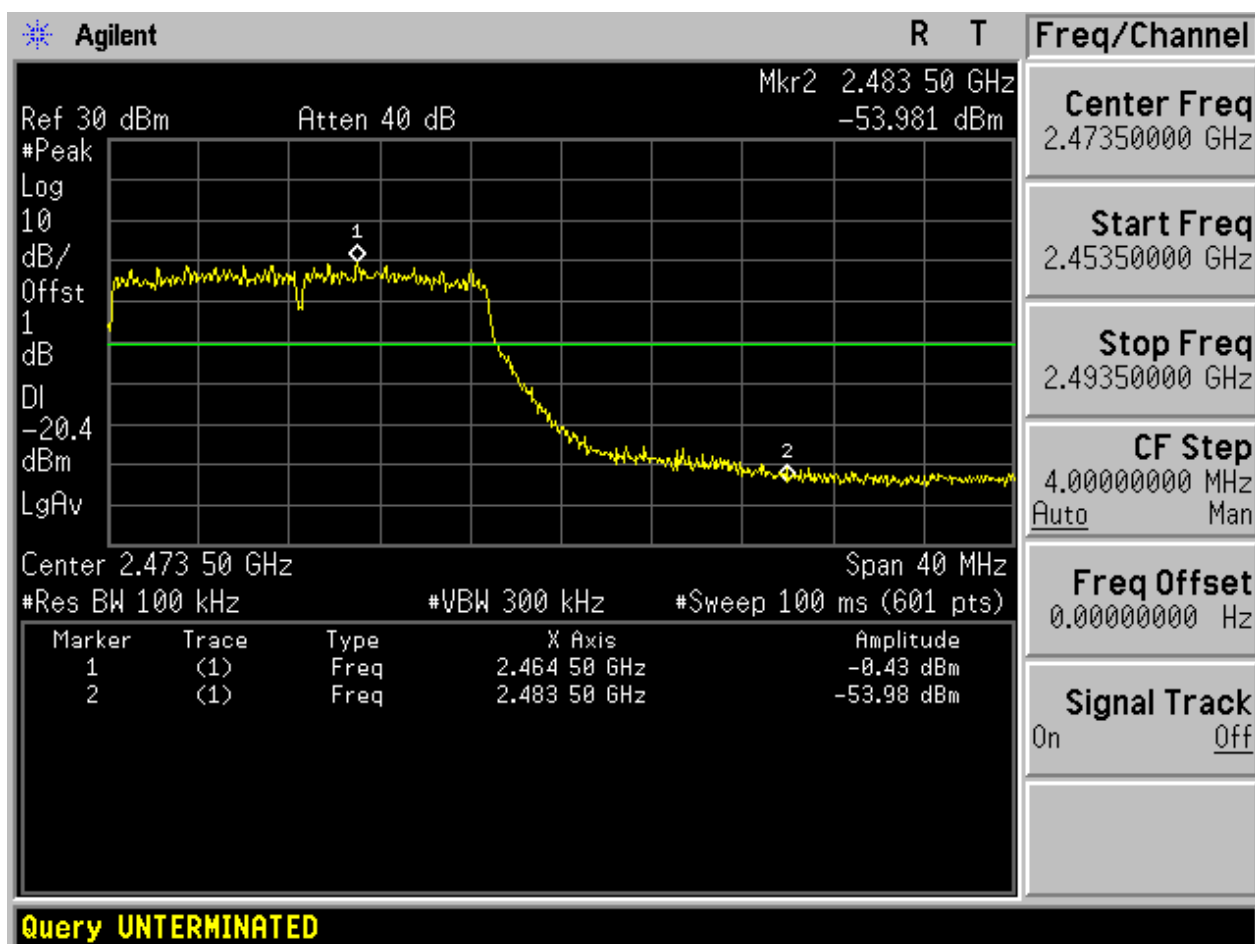
2.2 11B_H



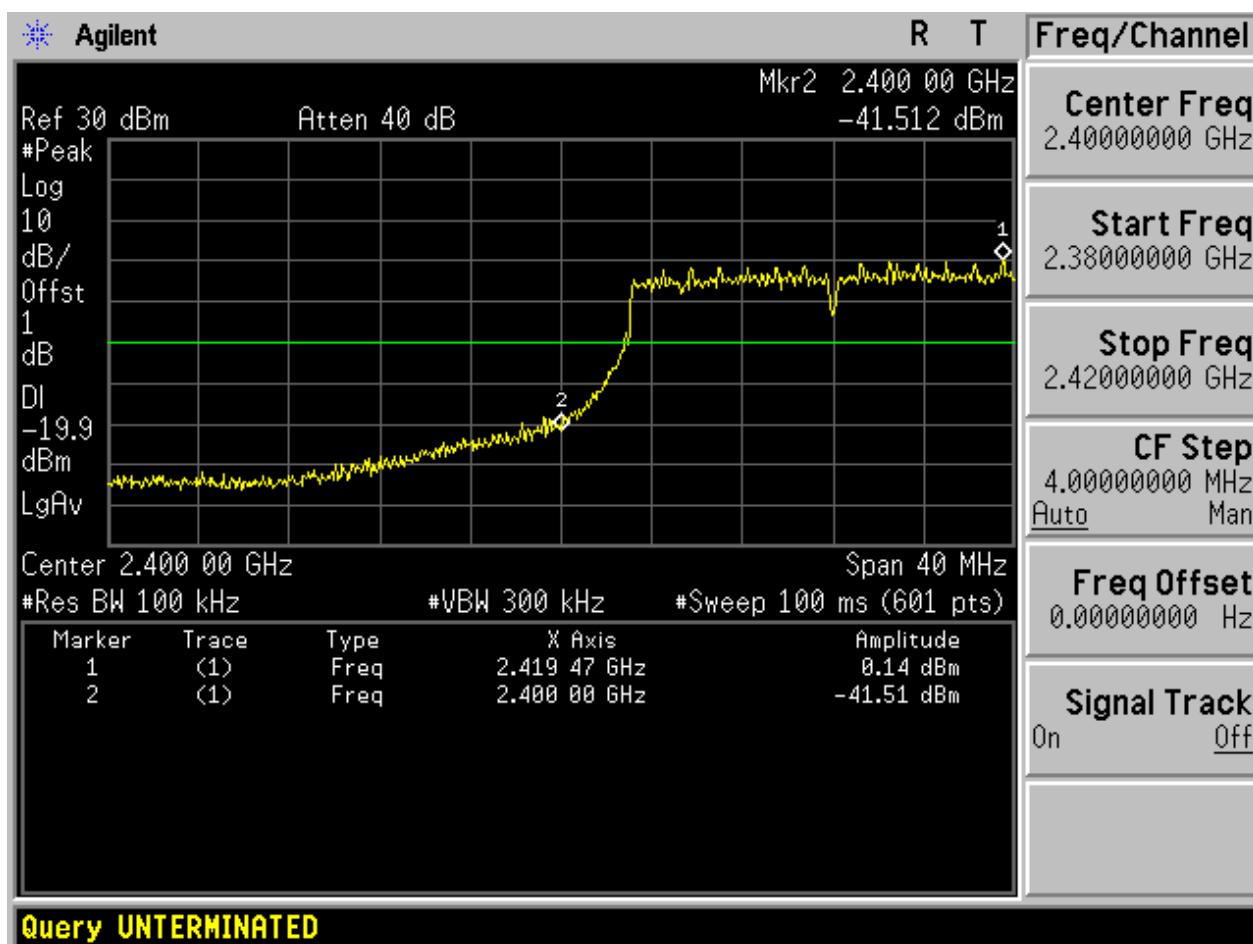
2.3 11G_L



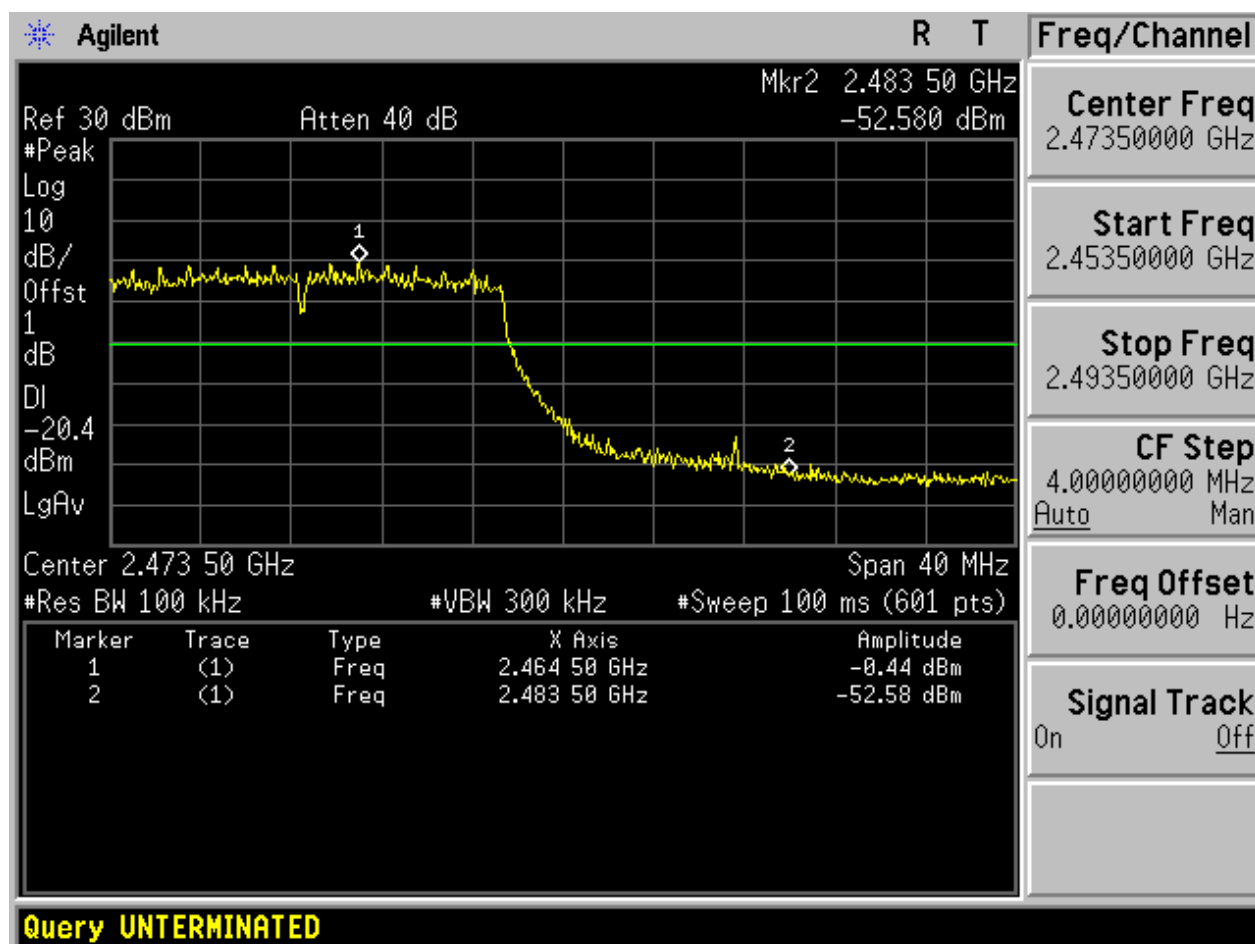
2.4 11G_H



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".

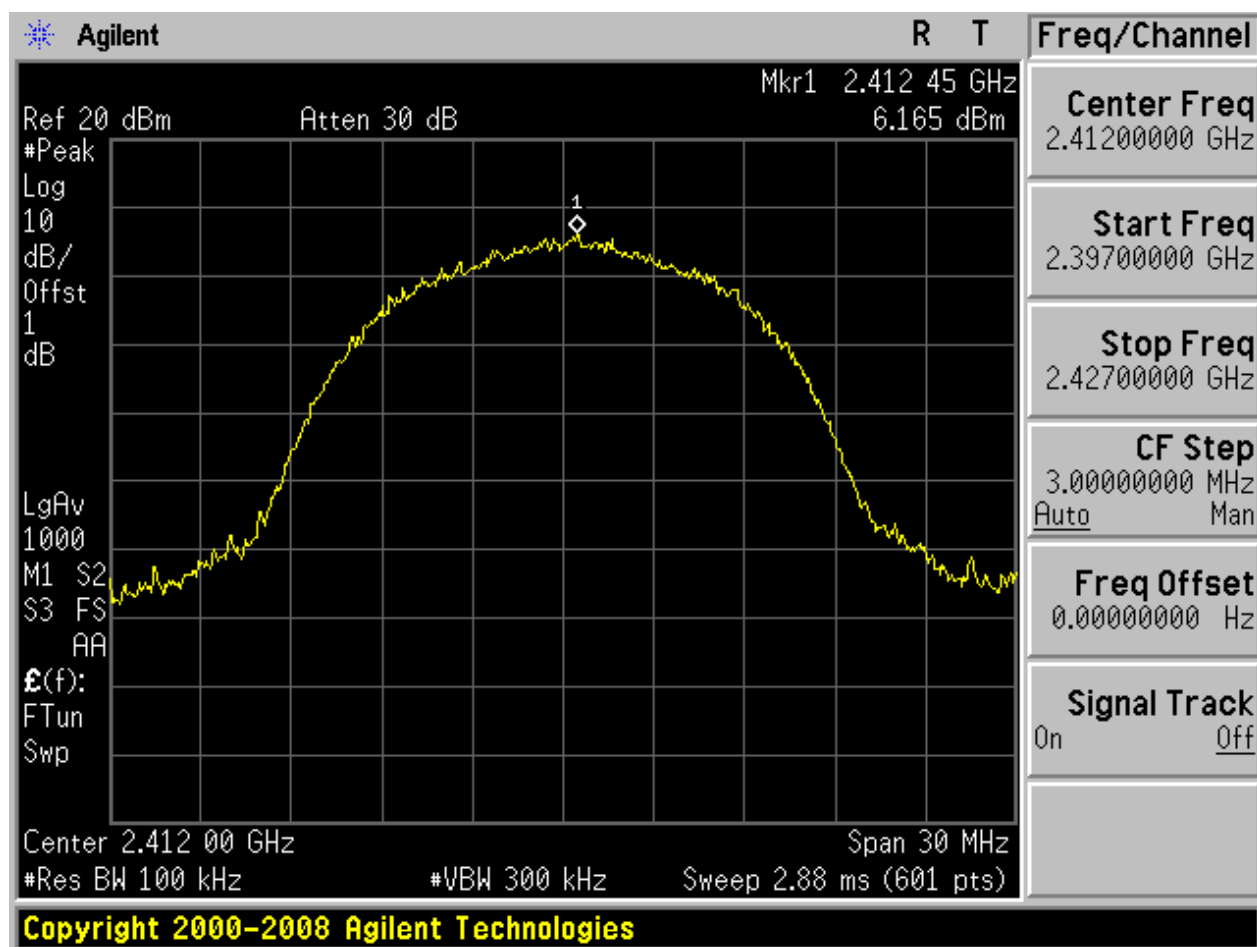
Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Pref[dBm]	Puw[dBm]	Verdict
11B	L	2412	6.16	<limit	pass
11B	M	2437	6.22	<limit	pass
11B	H	2462	5.11	<limit	pass
11G	L	2412	-0.02	<limit	pass
11G	M	2437	-0.03	<limit	pass
11G	H	2462	-0.10	<limit	pass
11N20	L	2412	0.17	<limit	pass
11N20	M	2437	-0.04	<limit	pass
11N20	H	2462	-0.20	<limit	pass

Part II - Test Plots

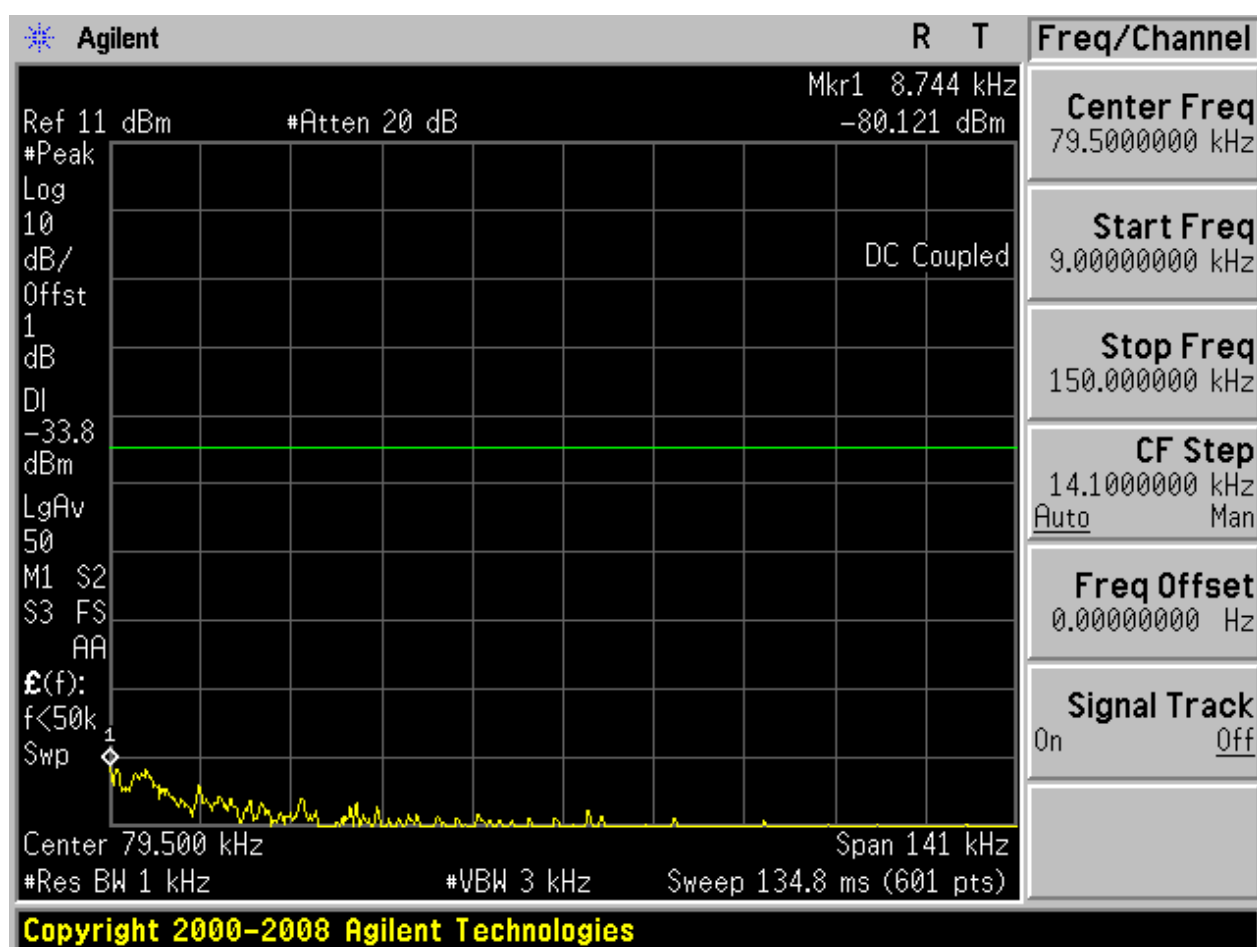
2.1 11B_L

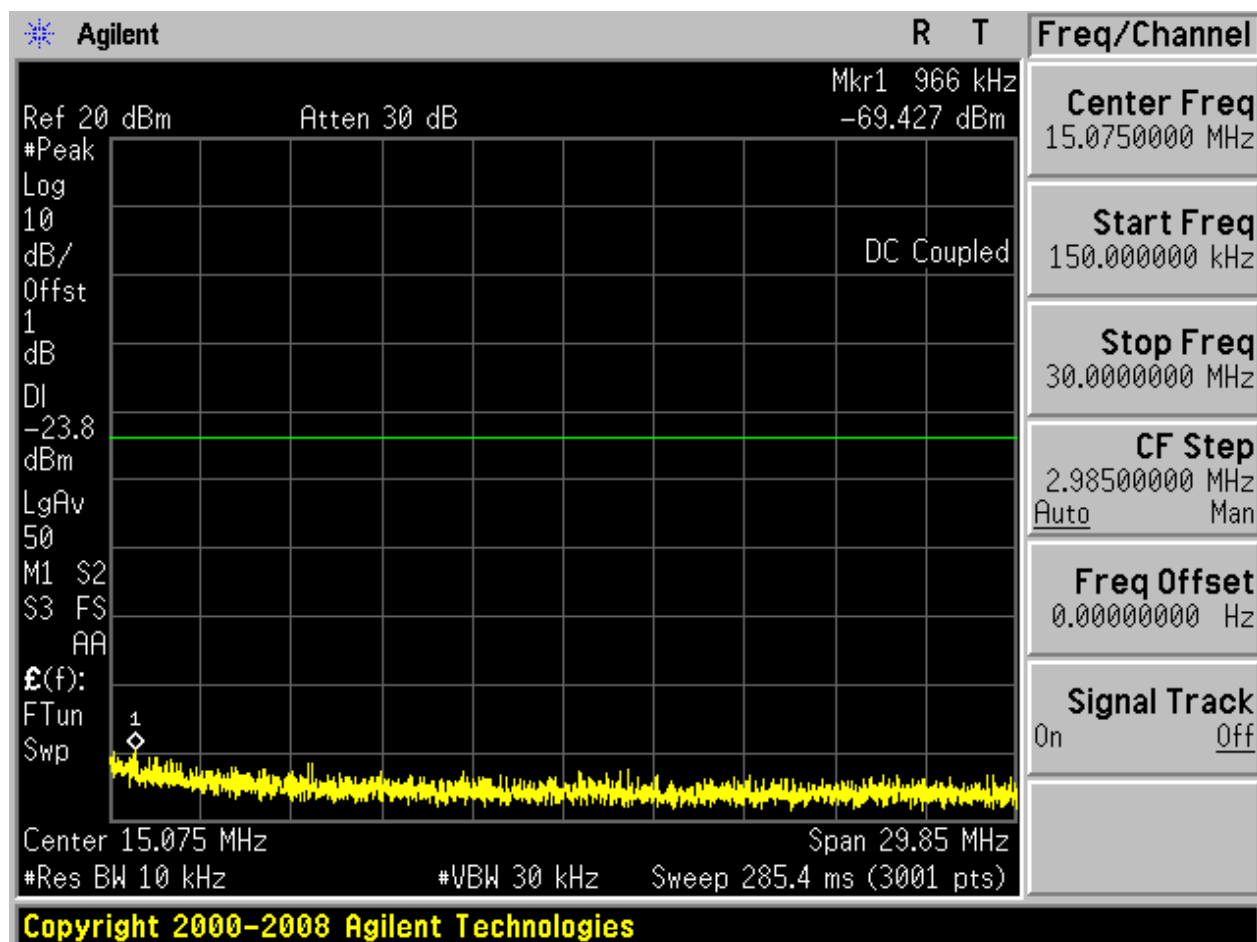
Pref:

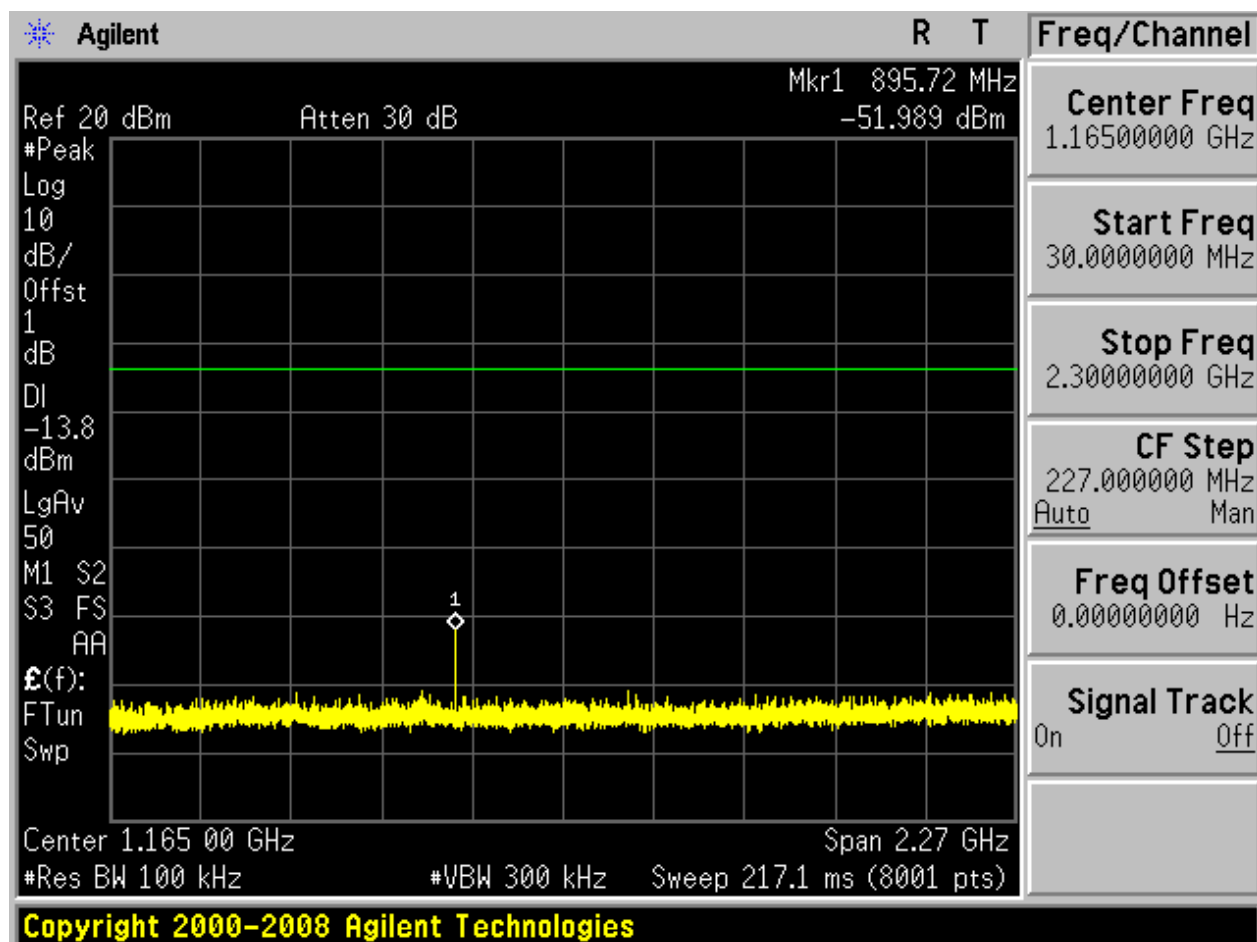


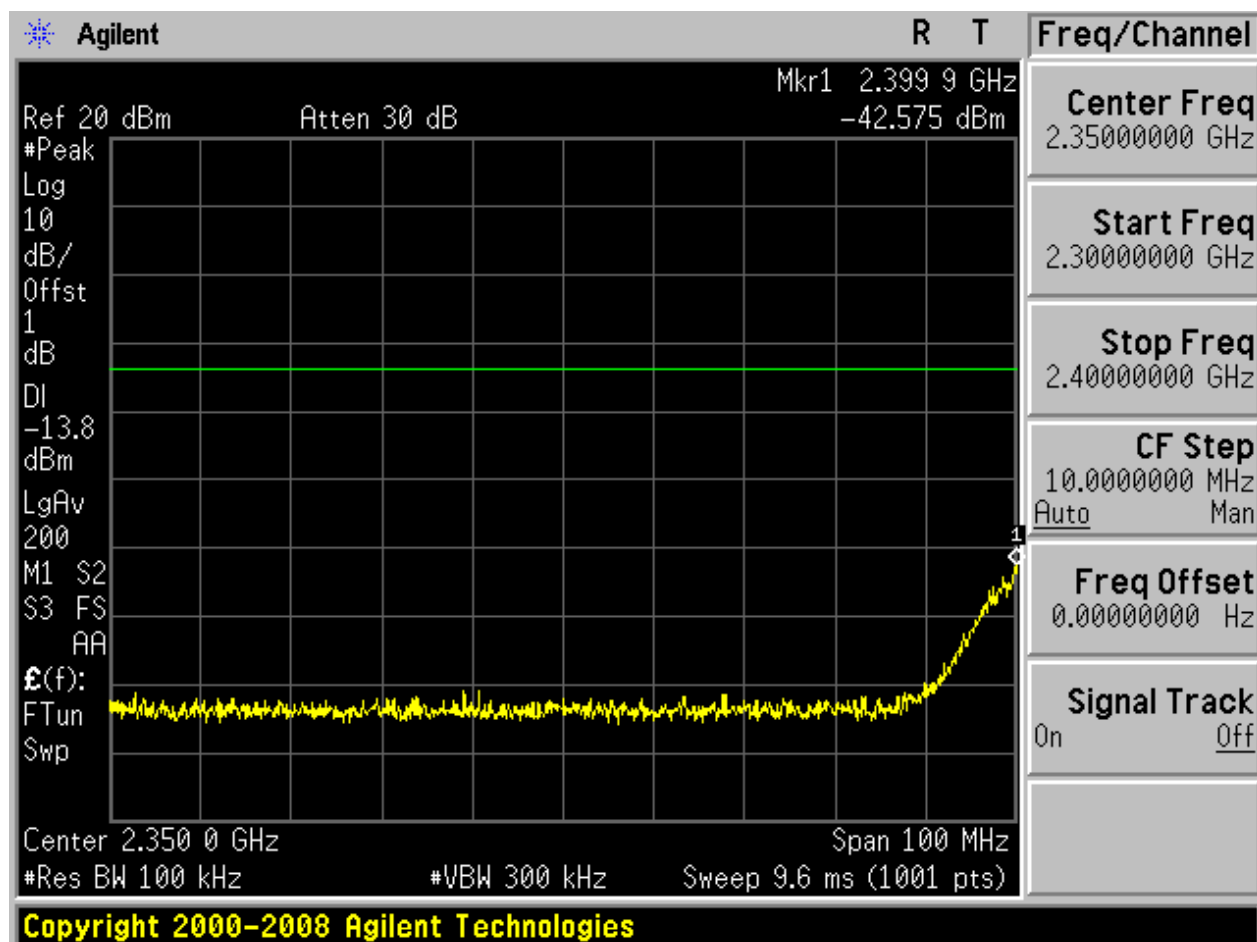


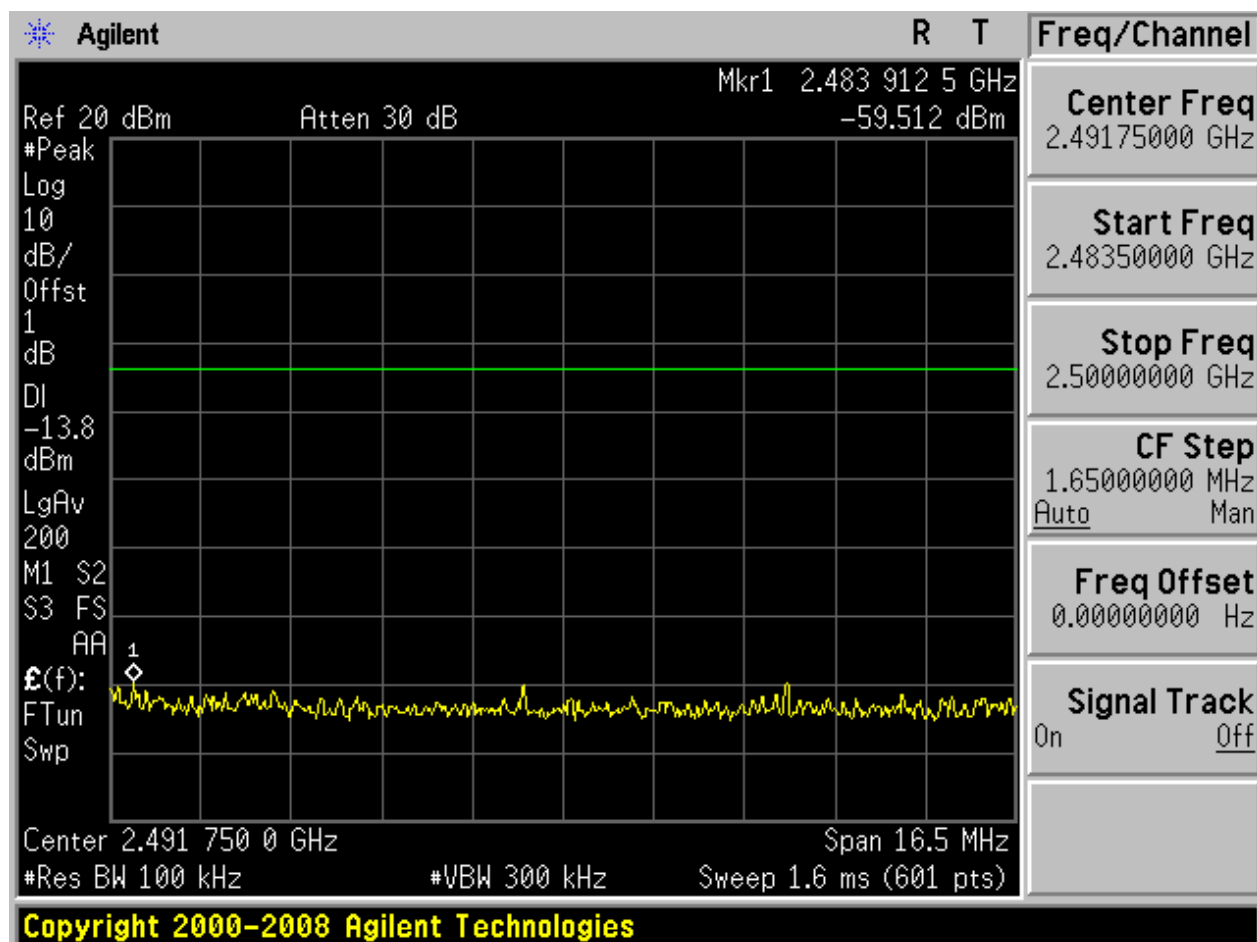
Puw:

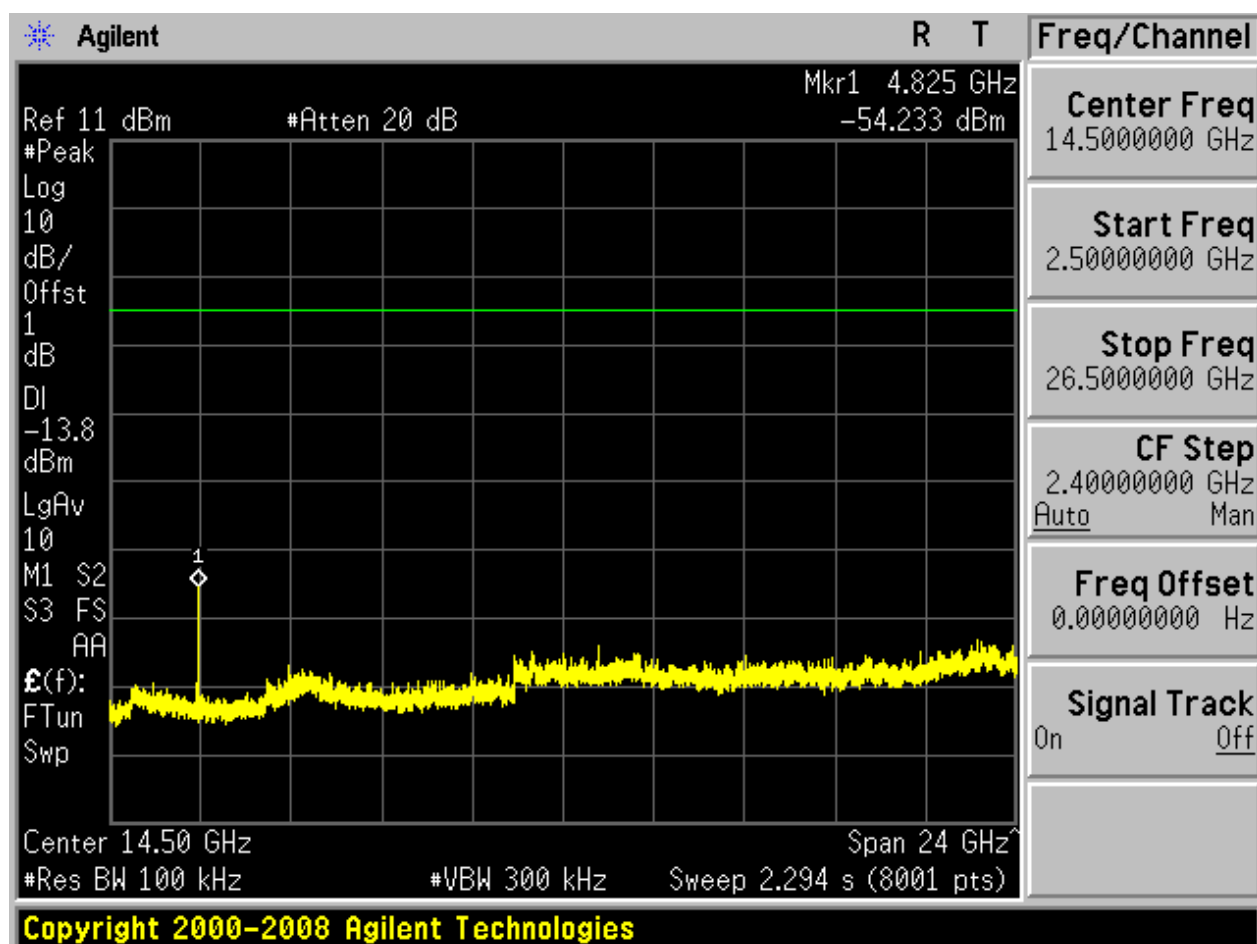






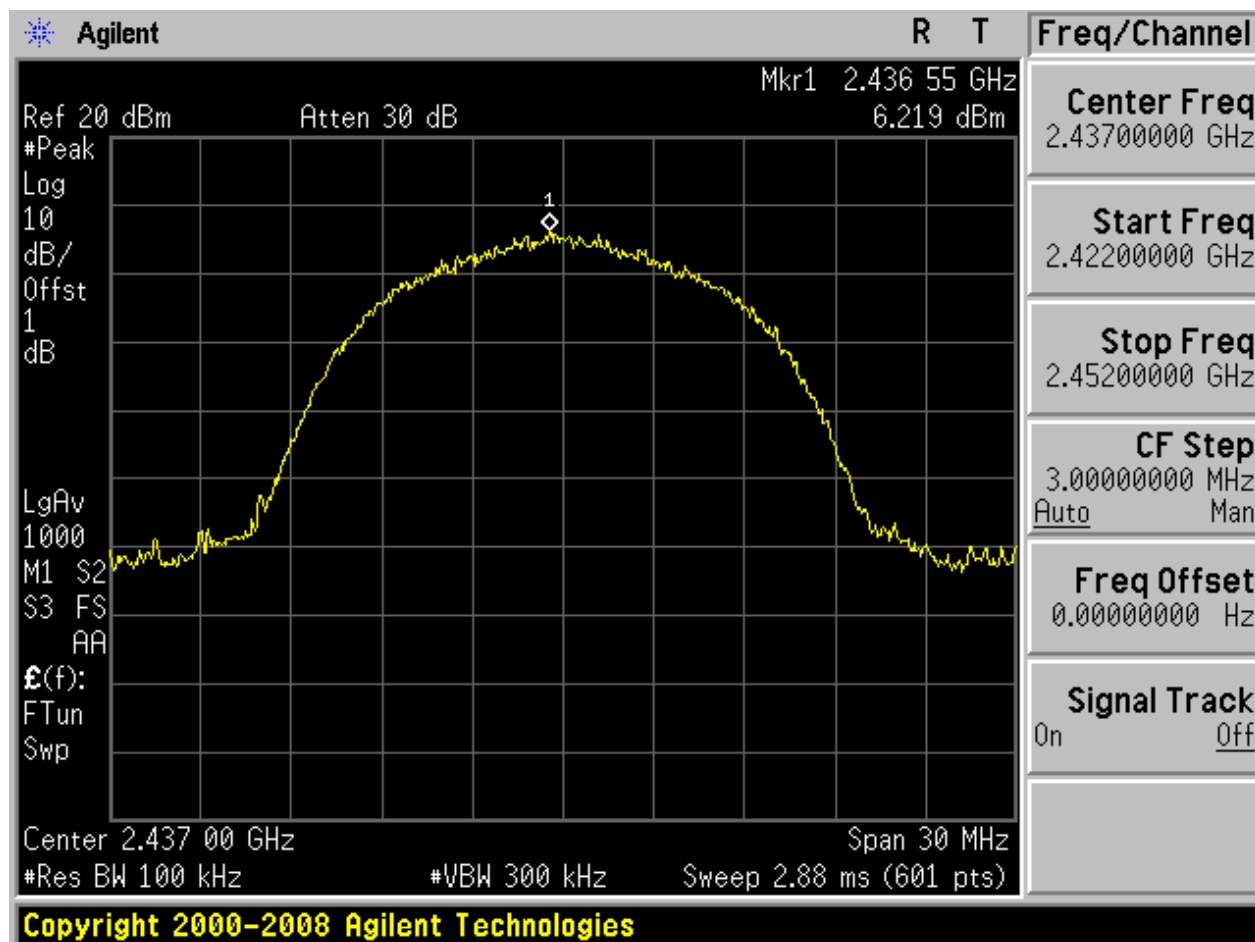




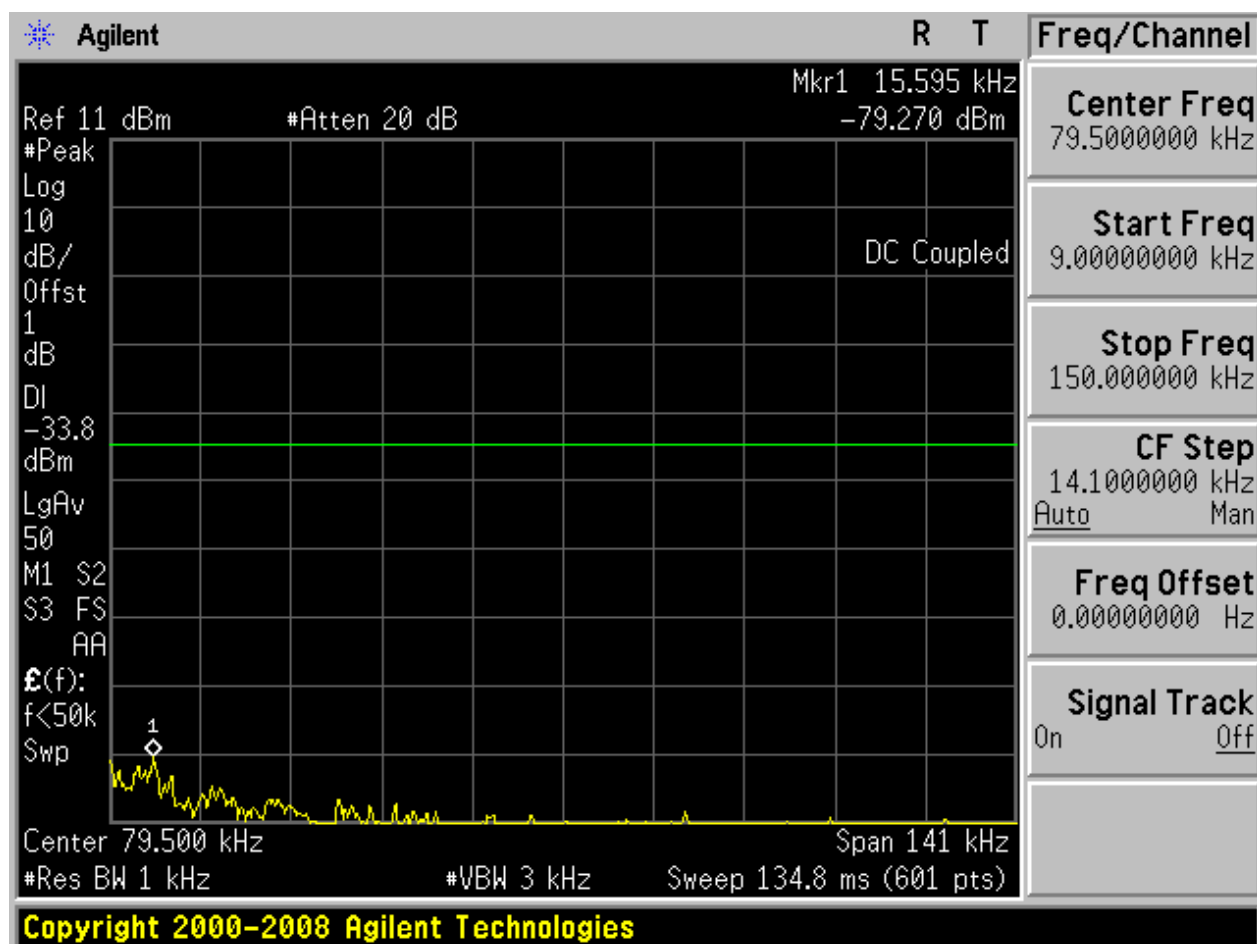


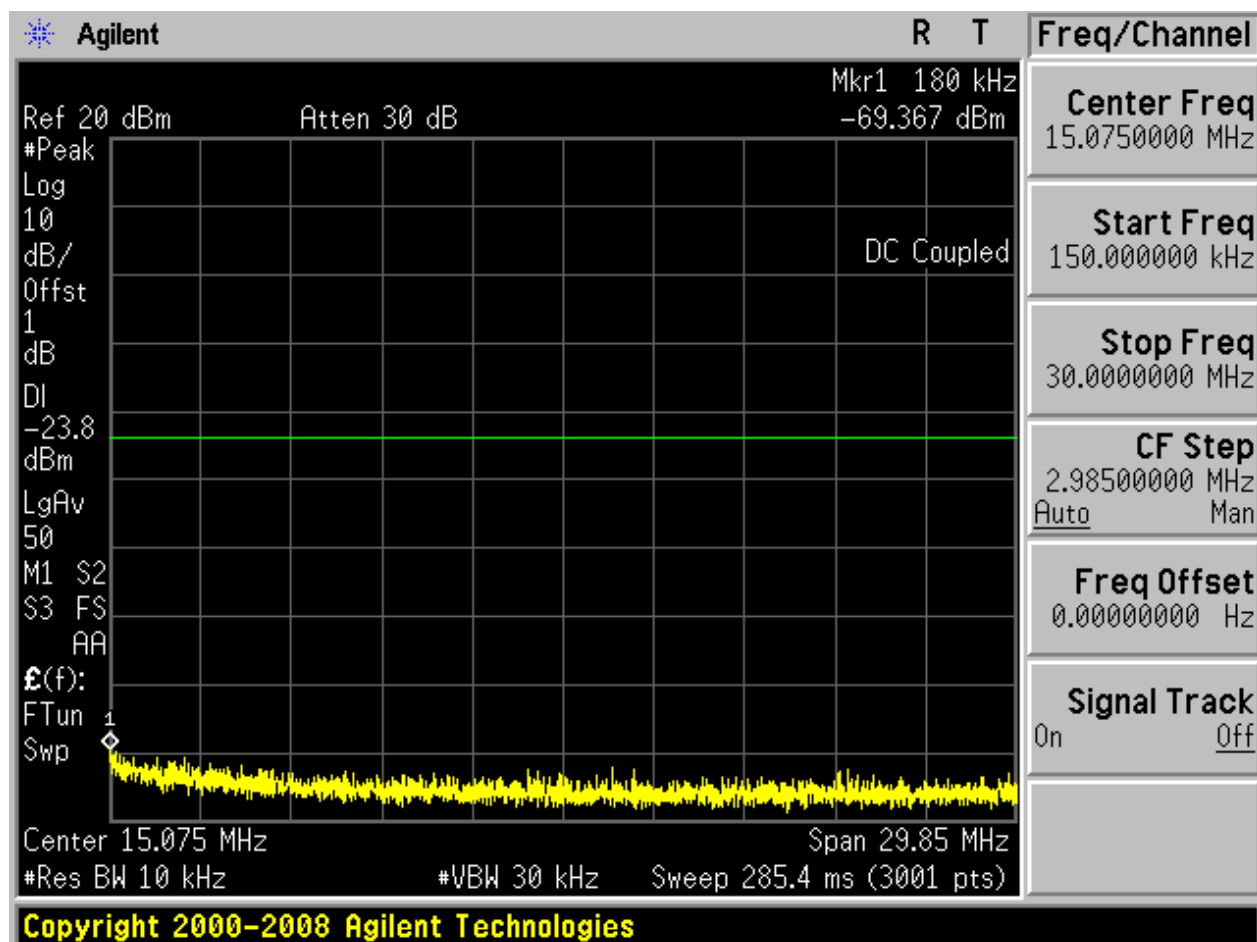
2.2 11B_M

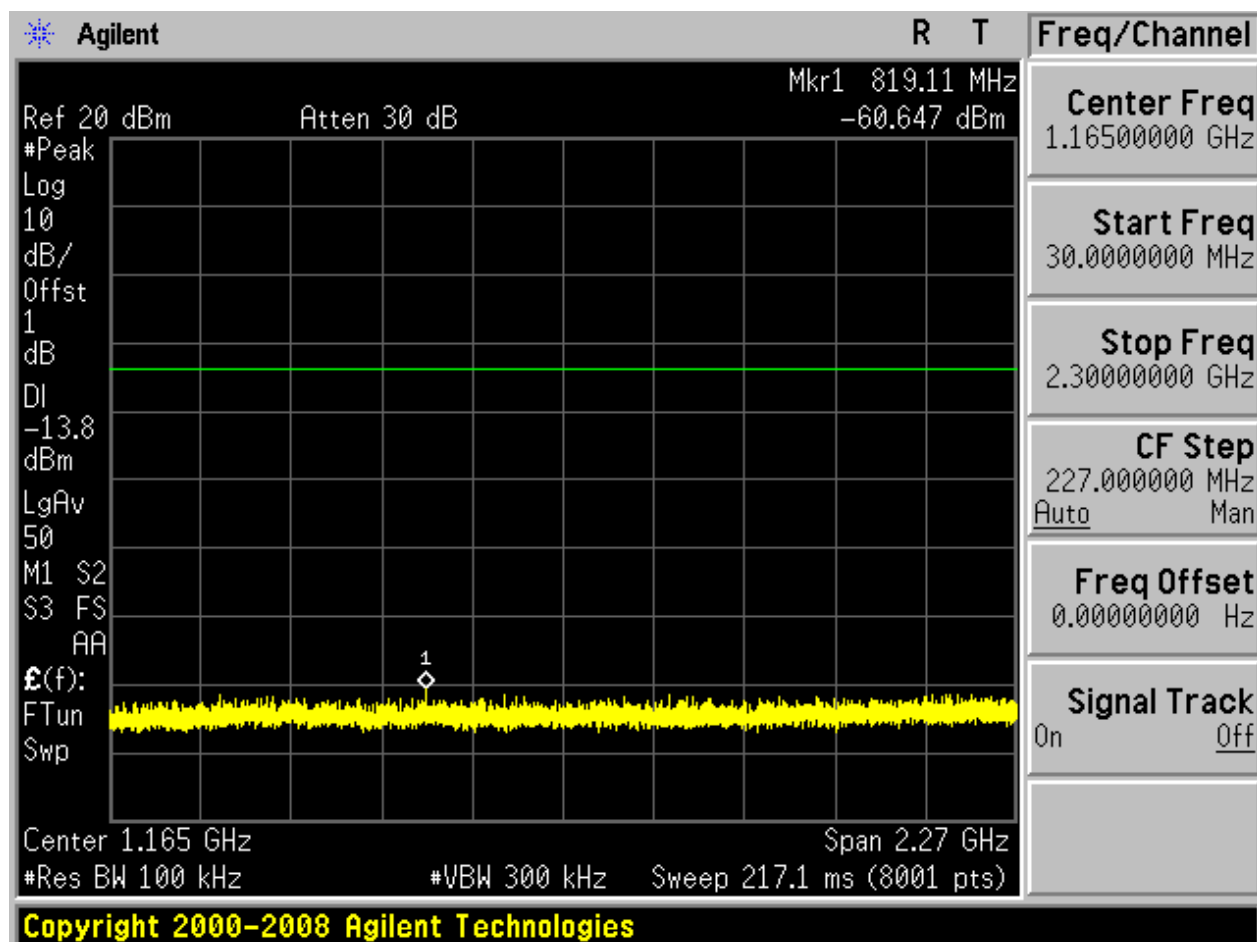
Pref:

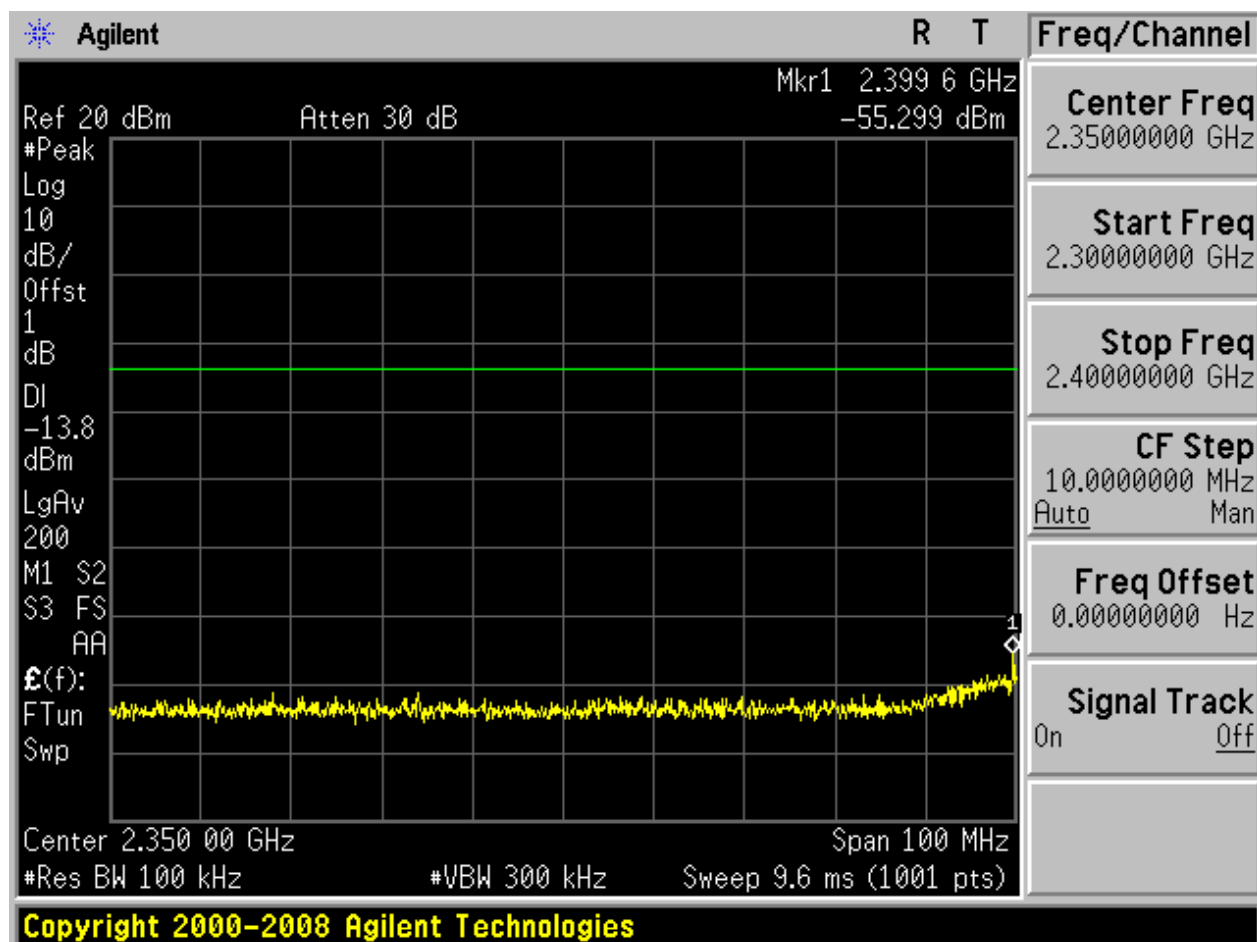


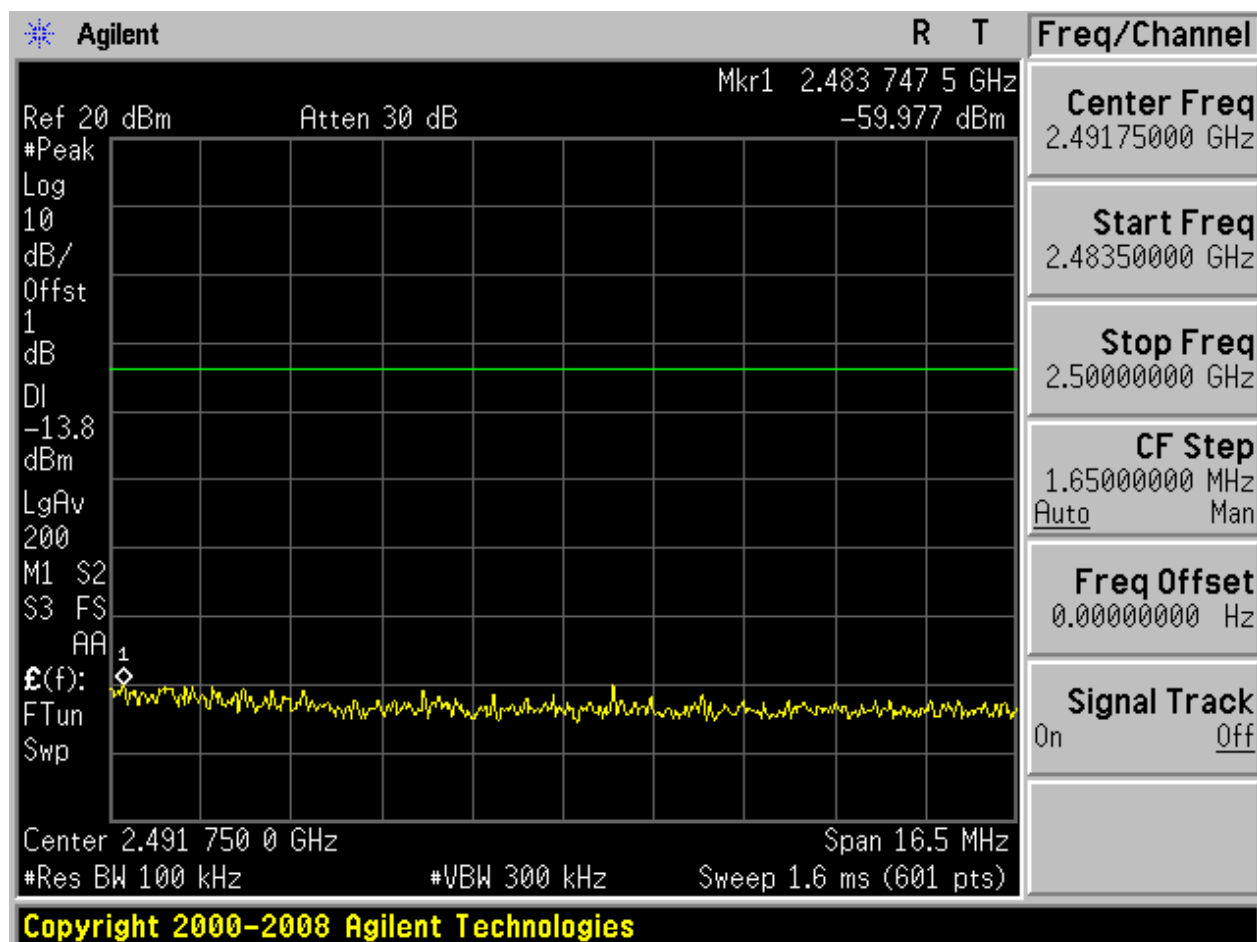
Puw:

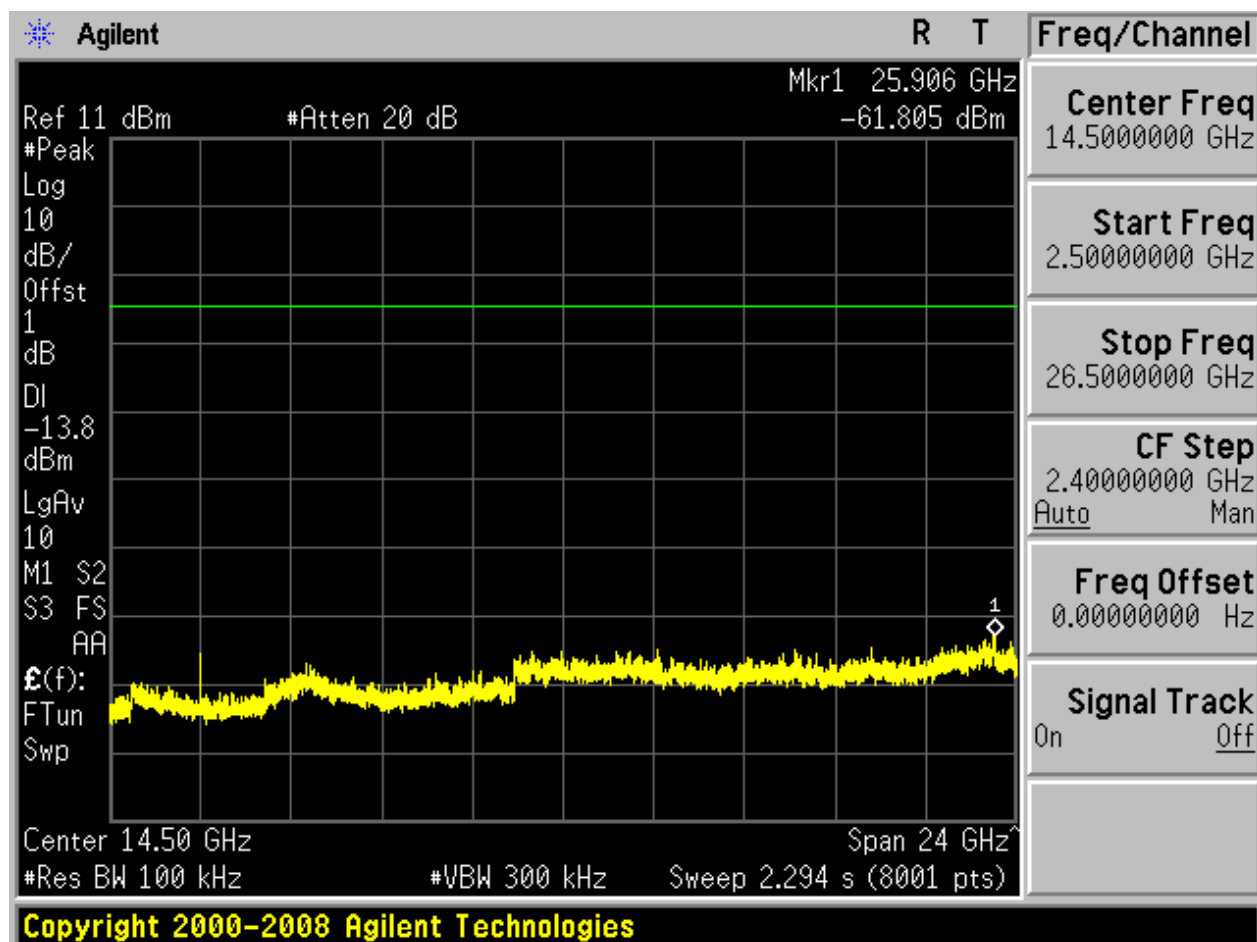






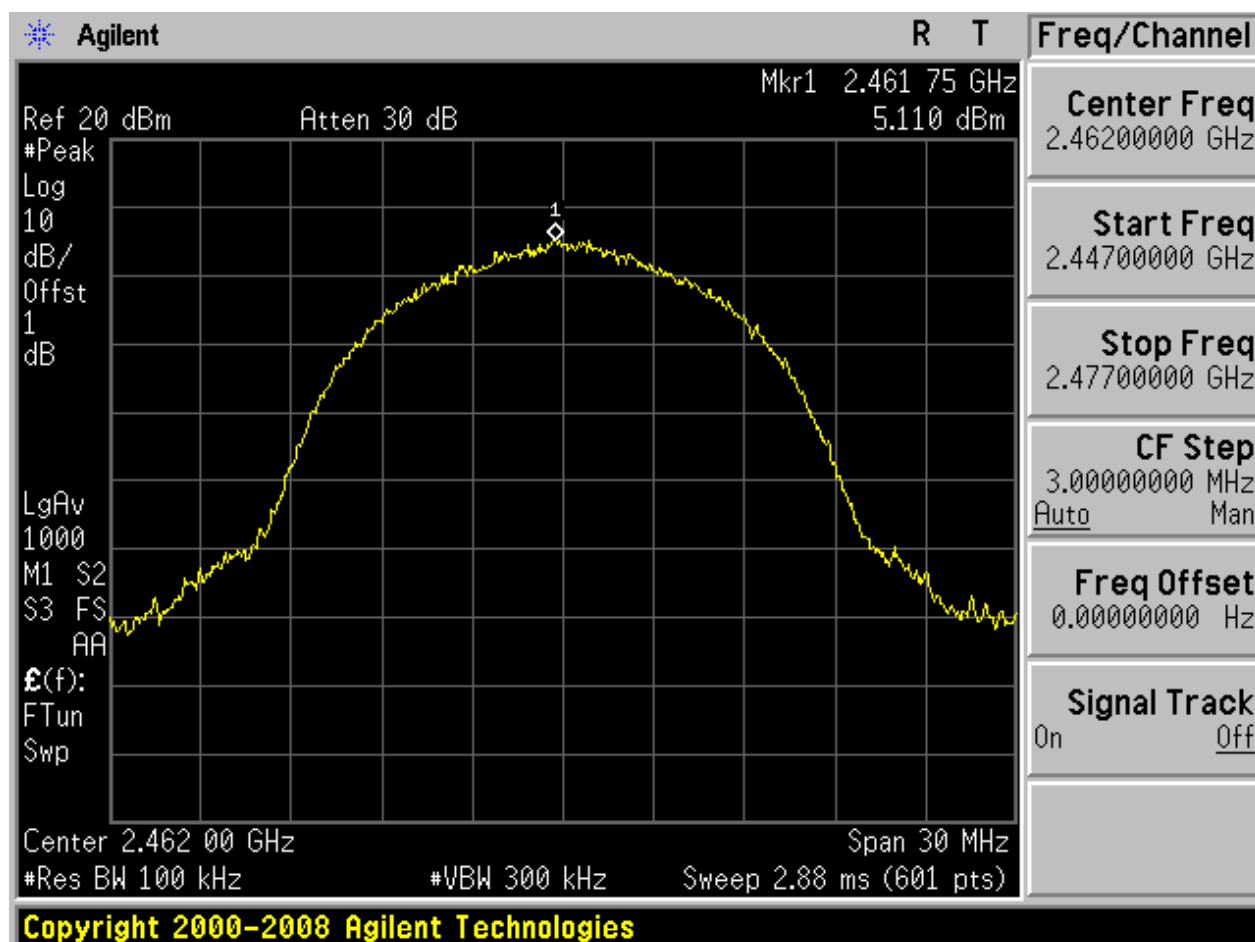




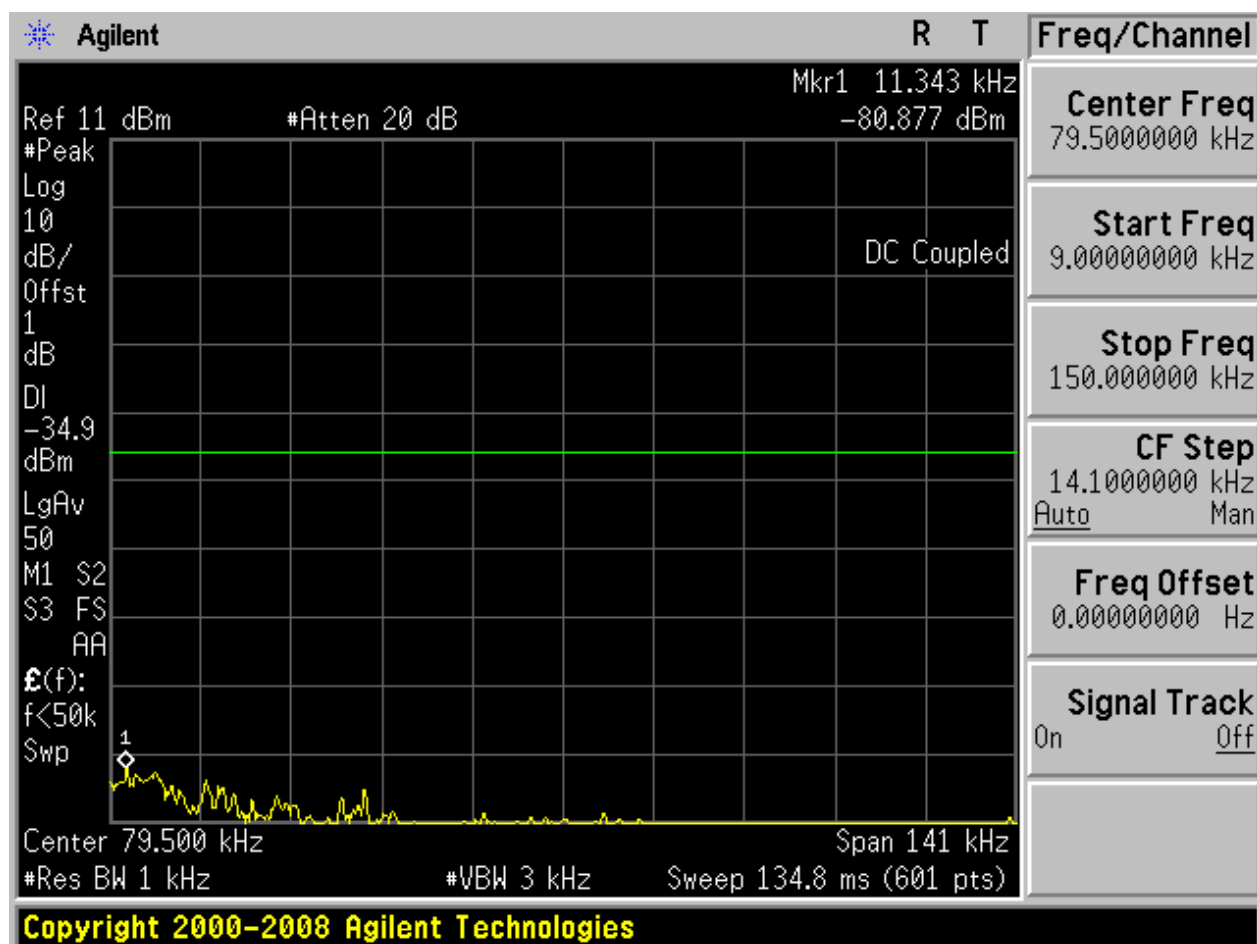


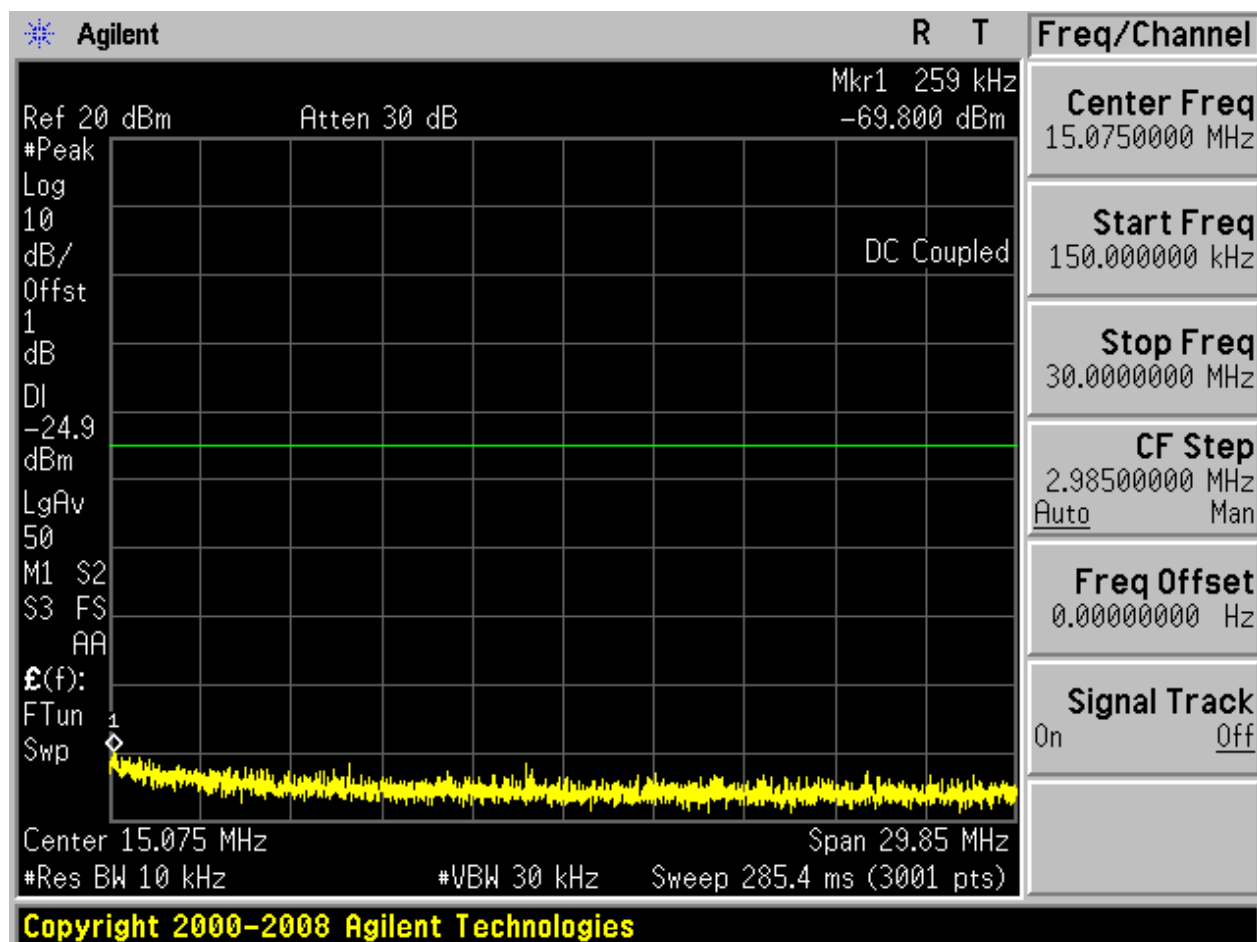
2.3 11B_H

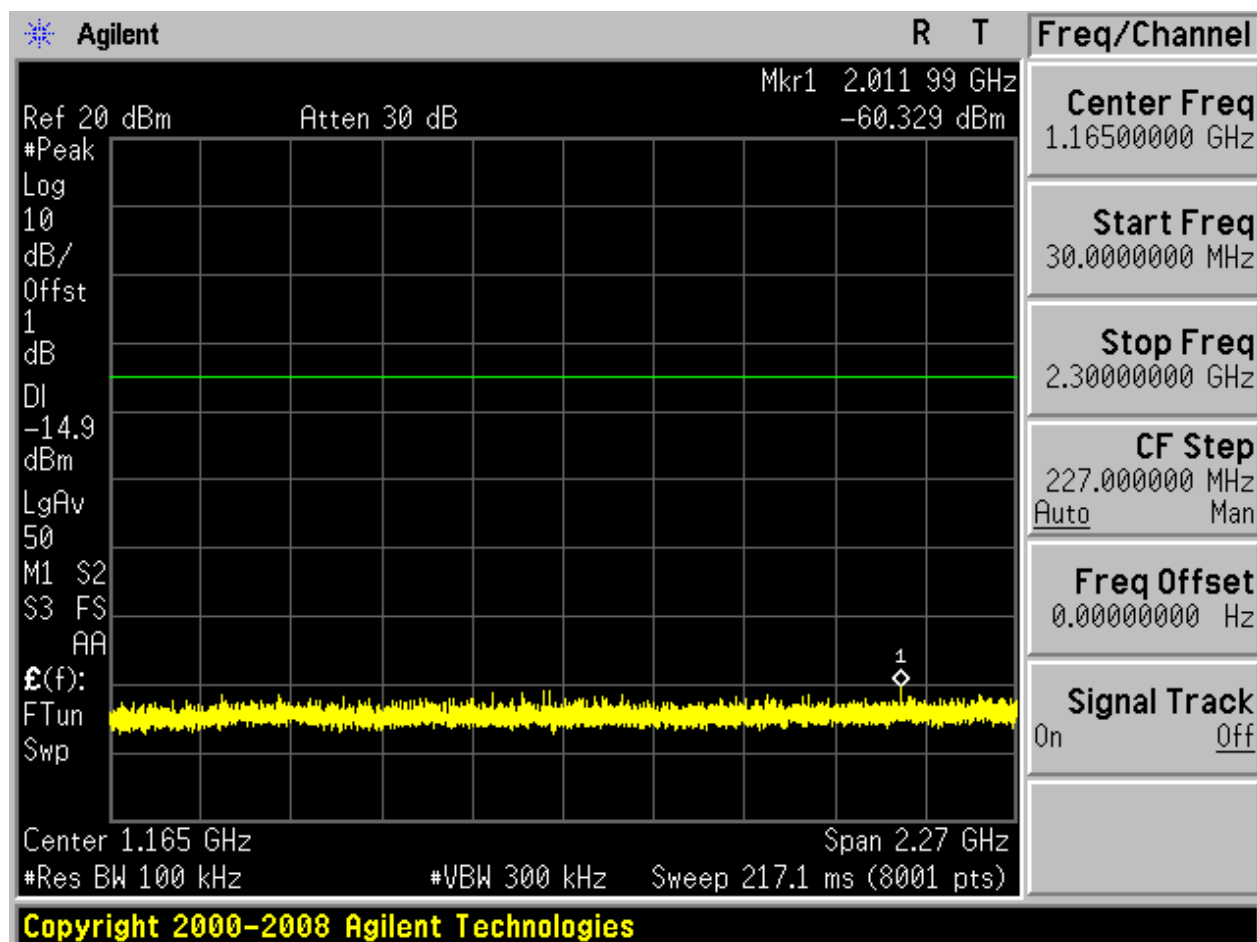
Pref:

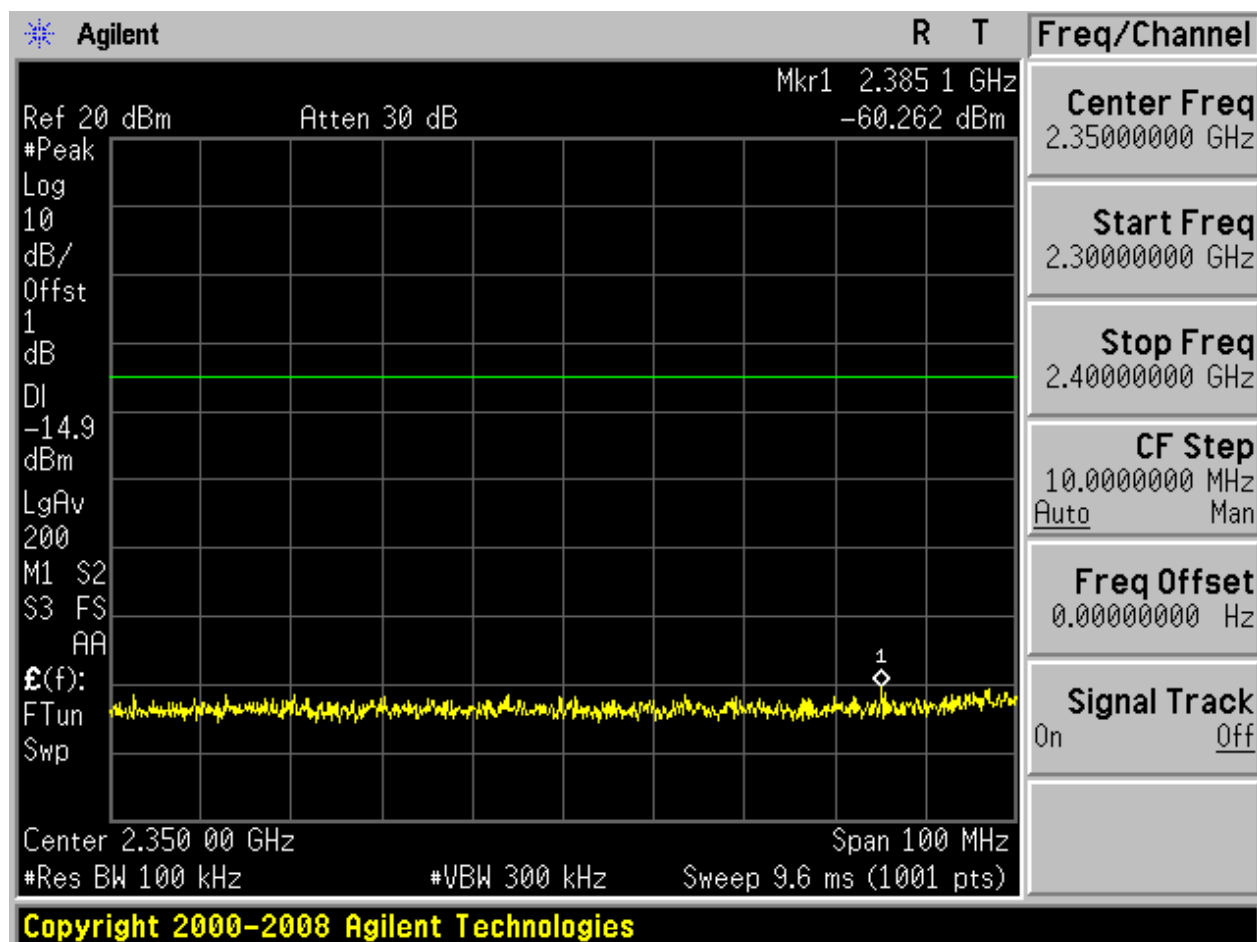


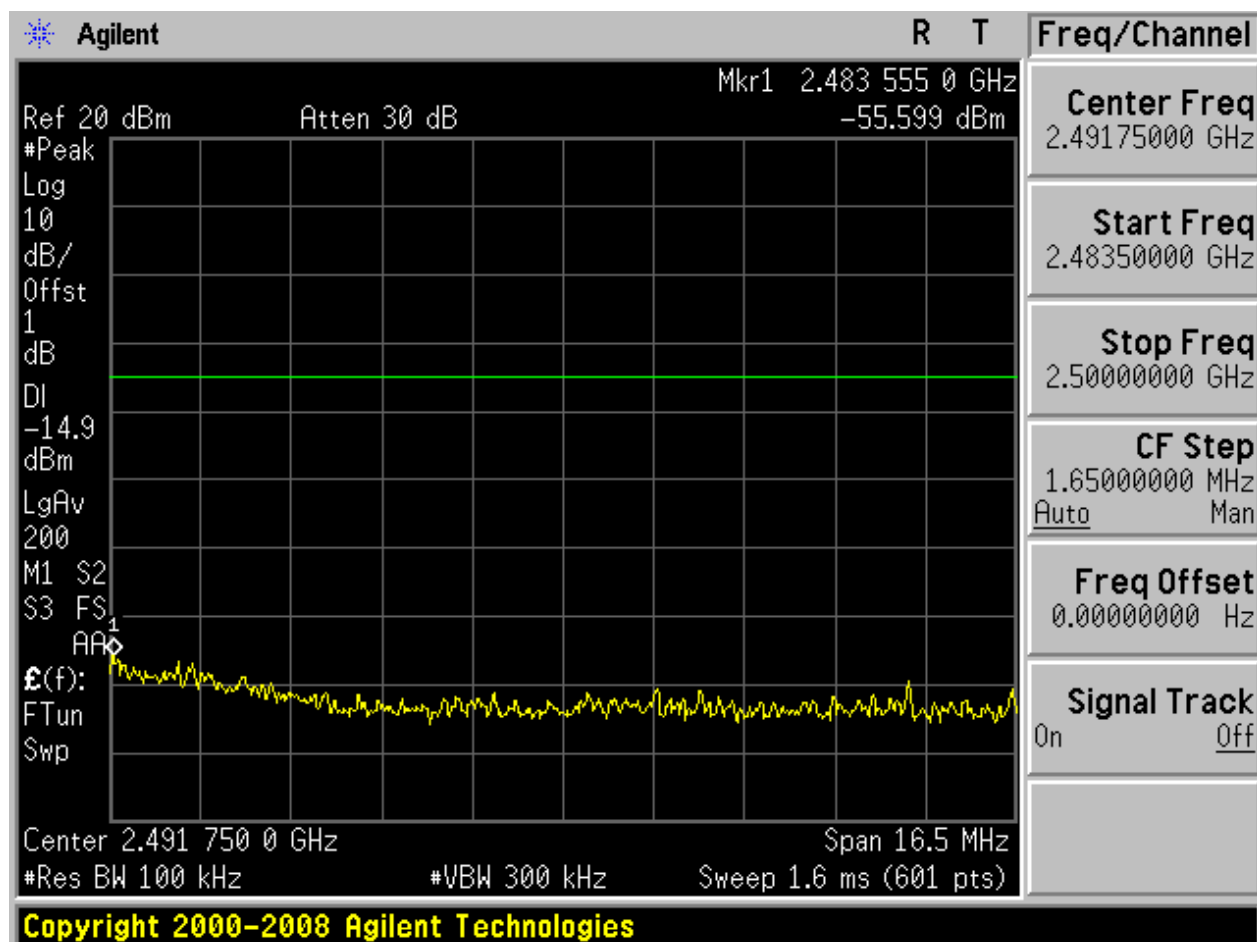
Puw:

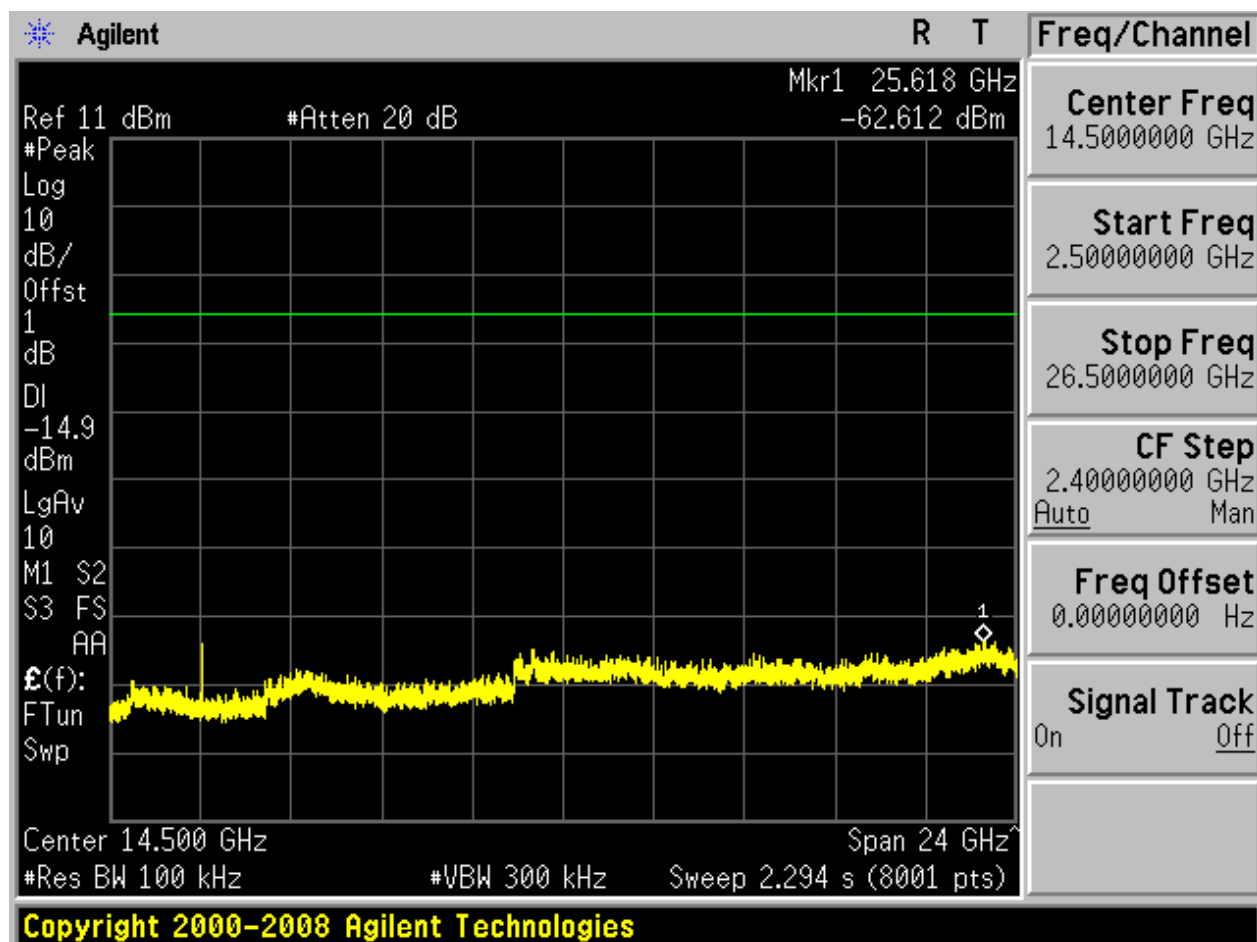






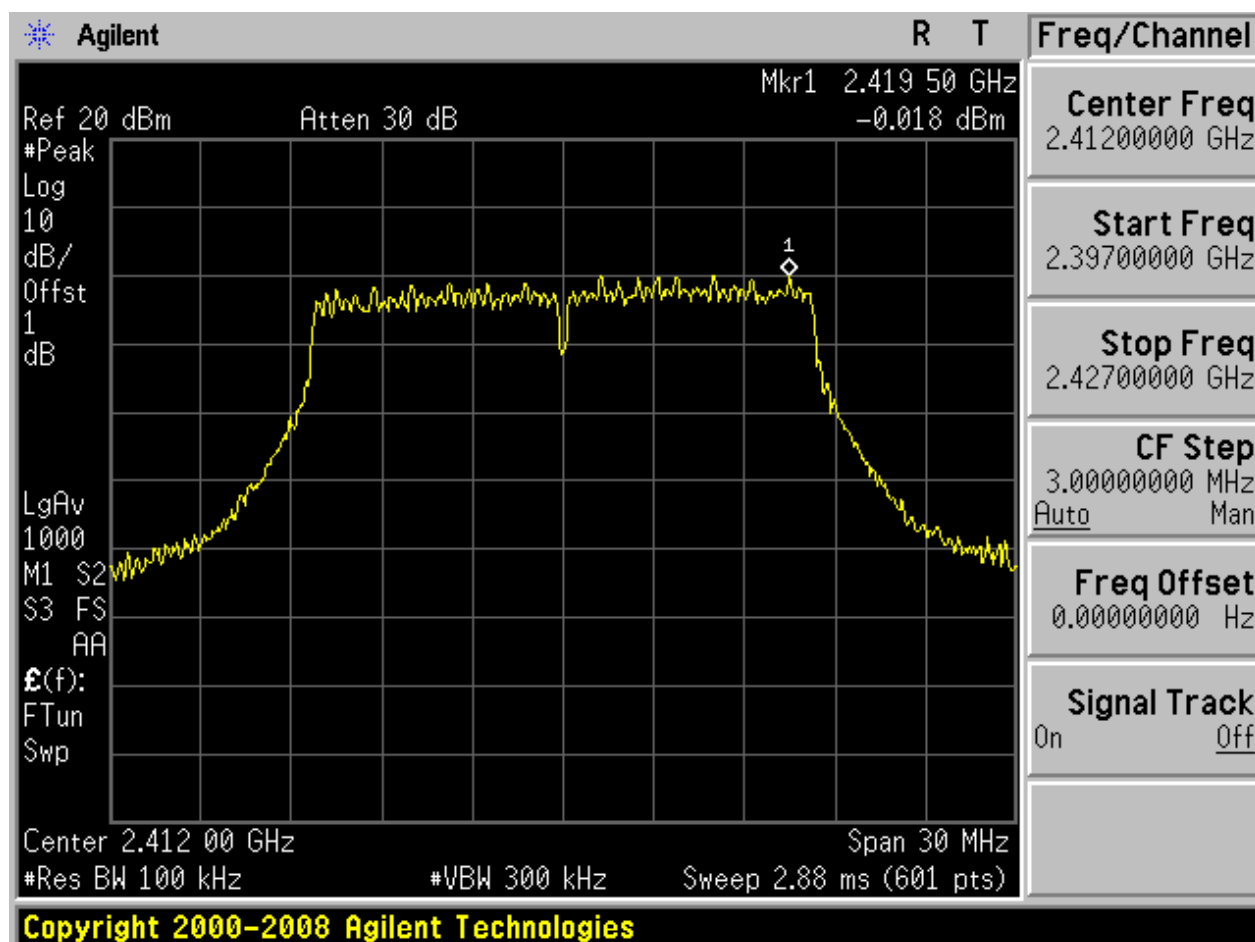




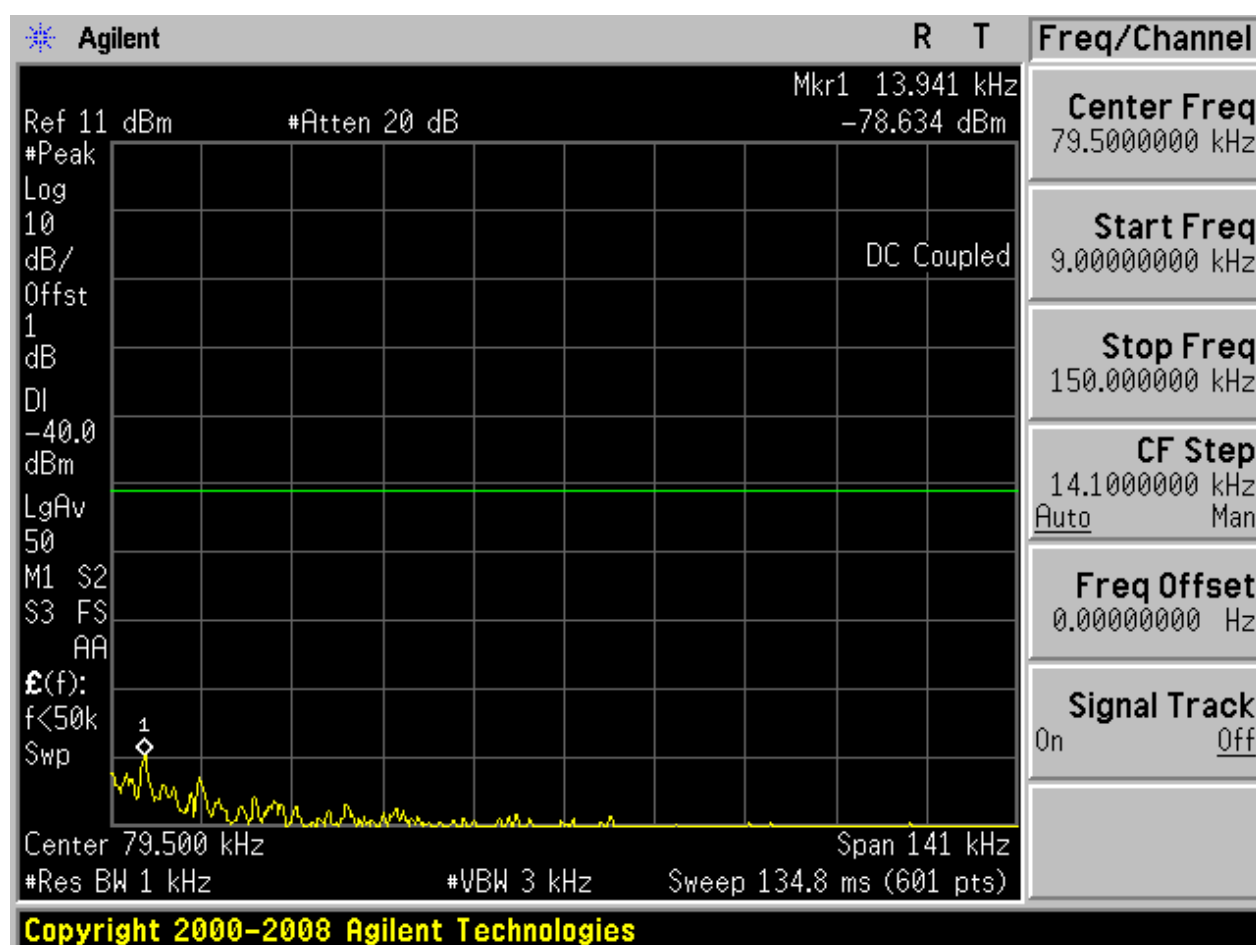


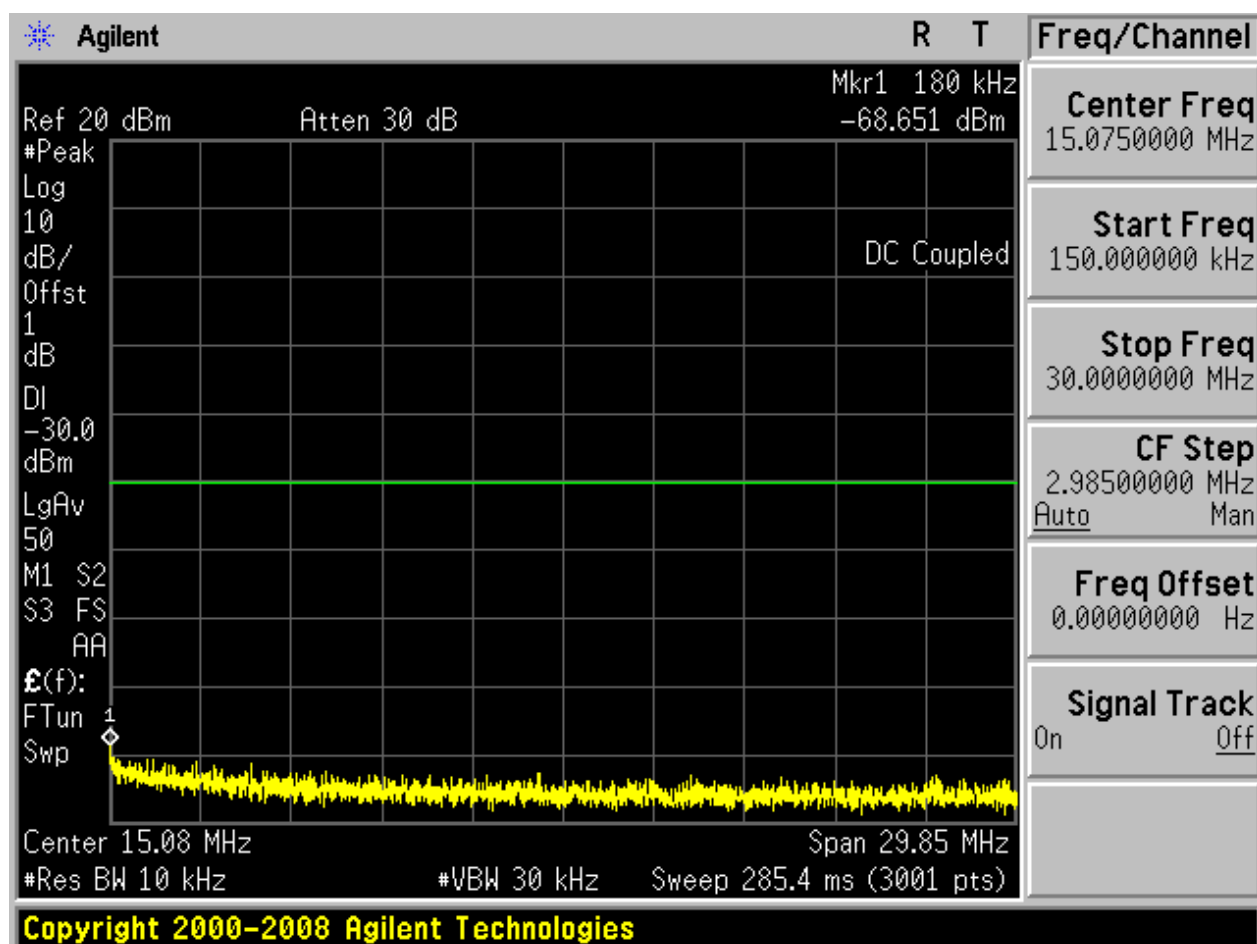
2.4 11G_L

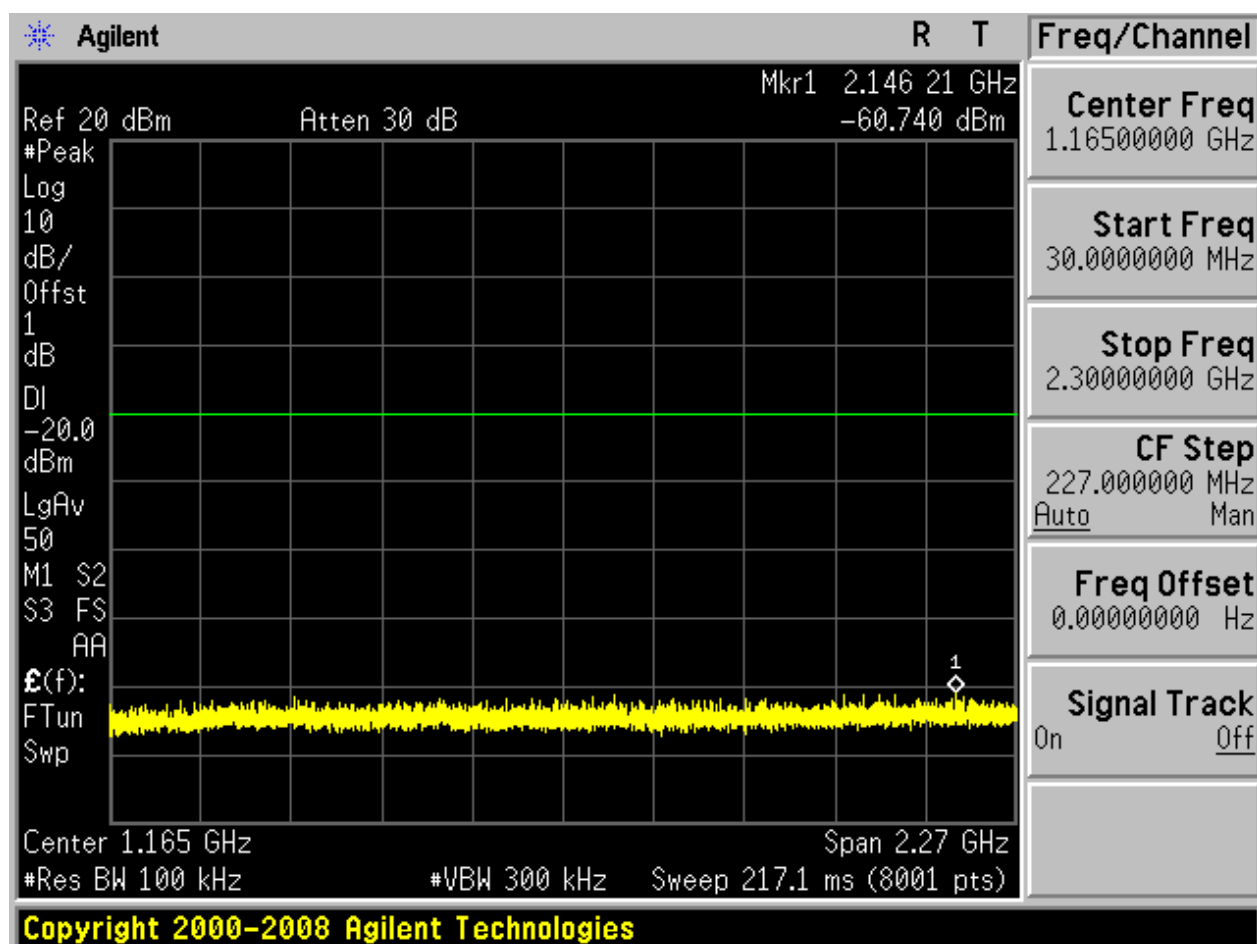
Pref:

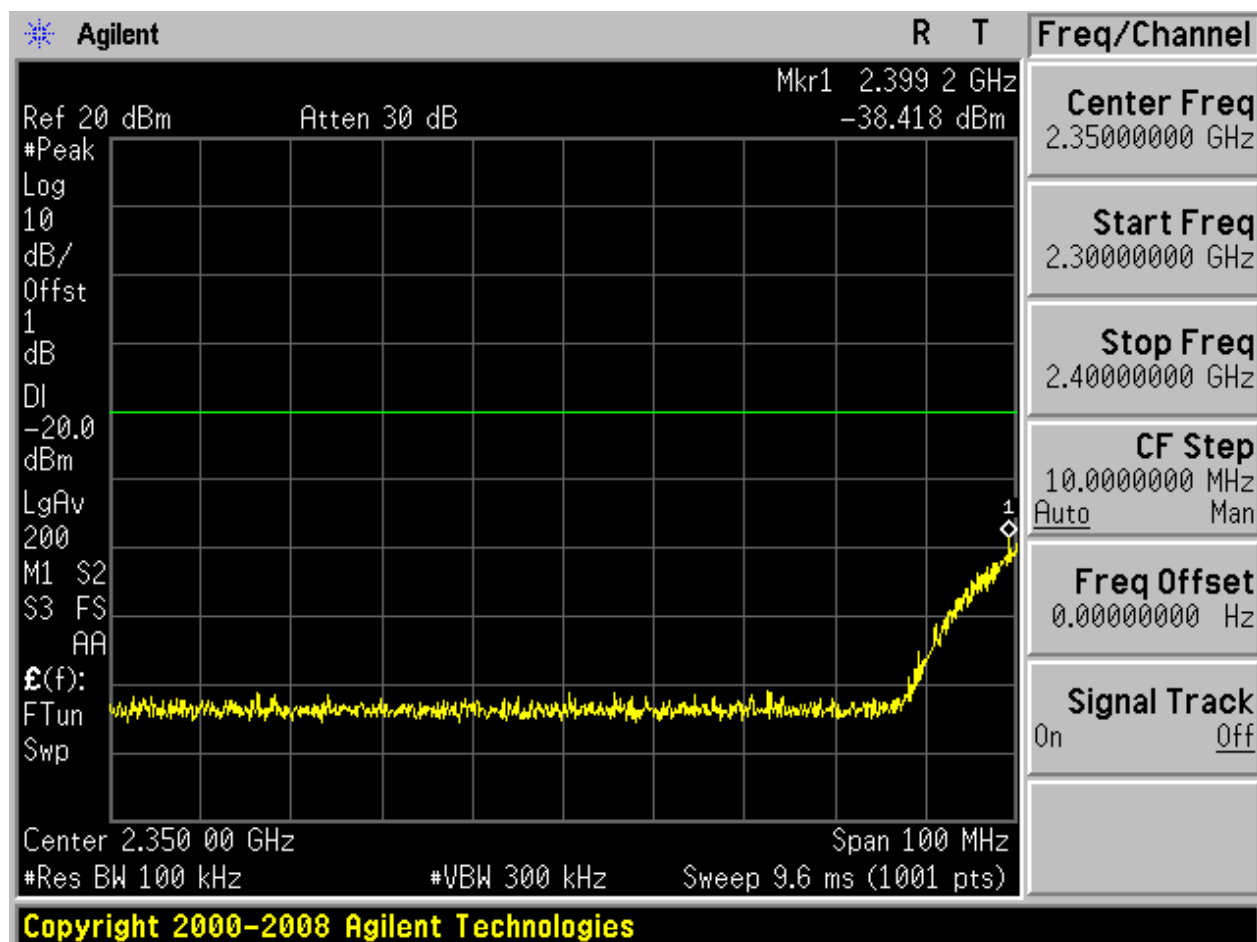


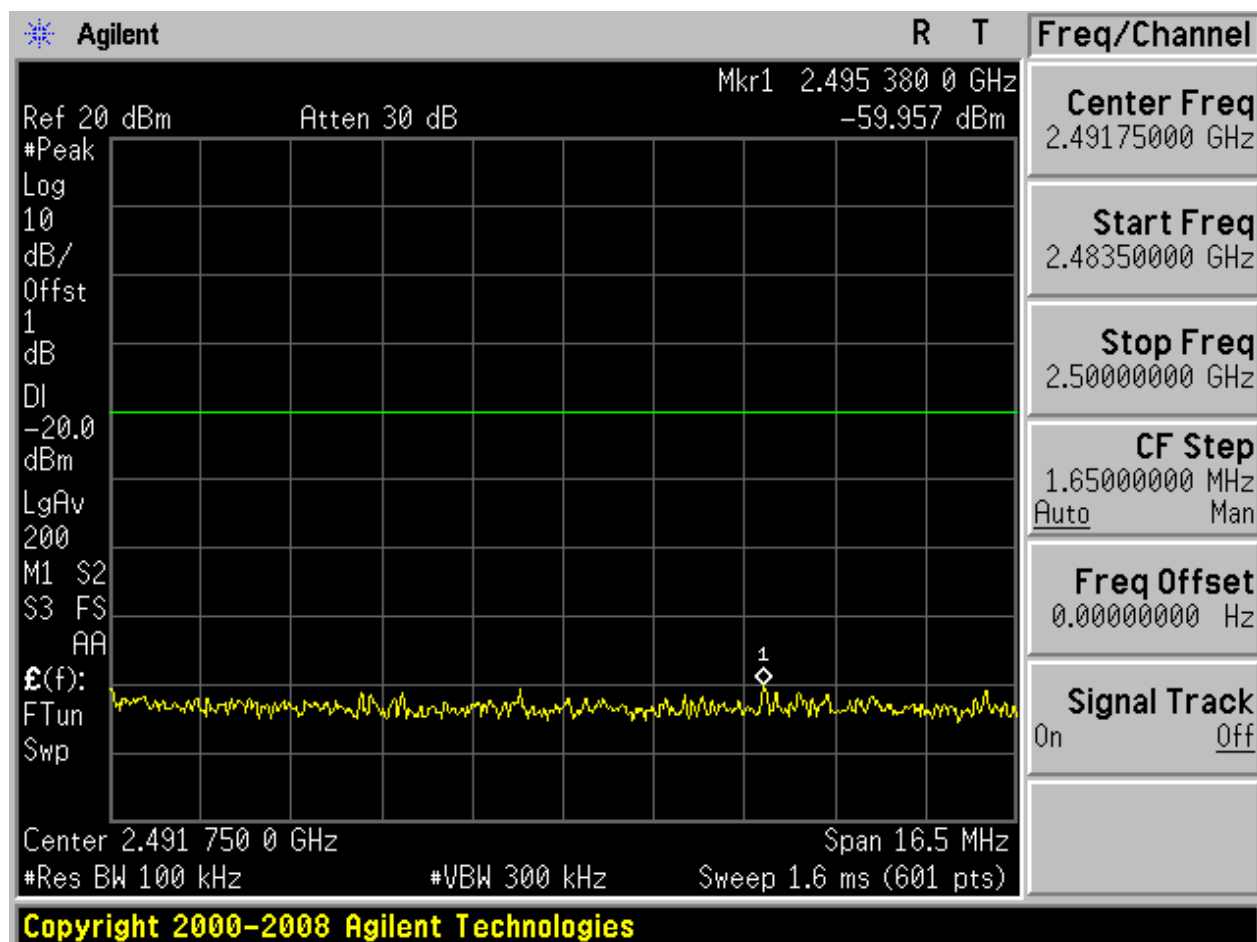
Puw:

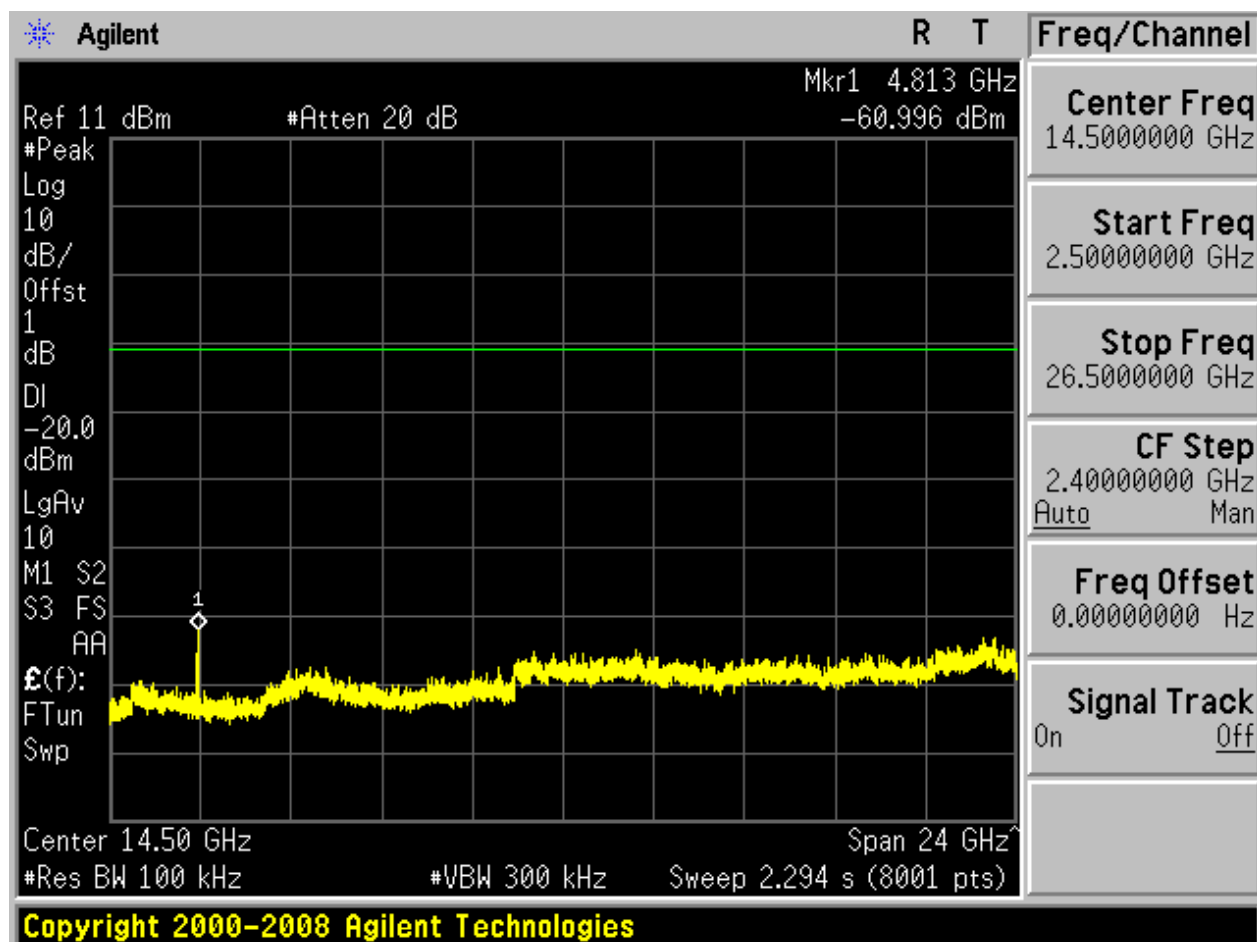






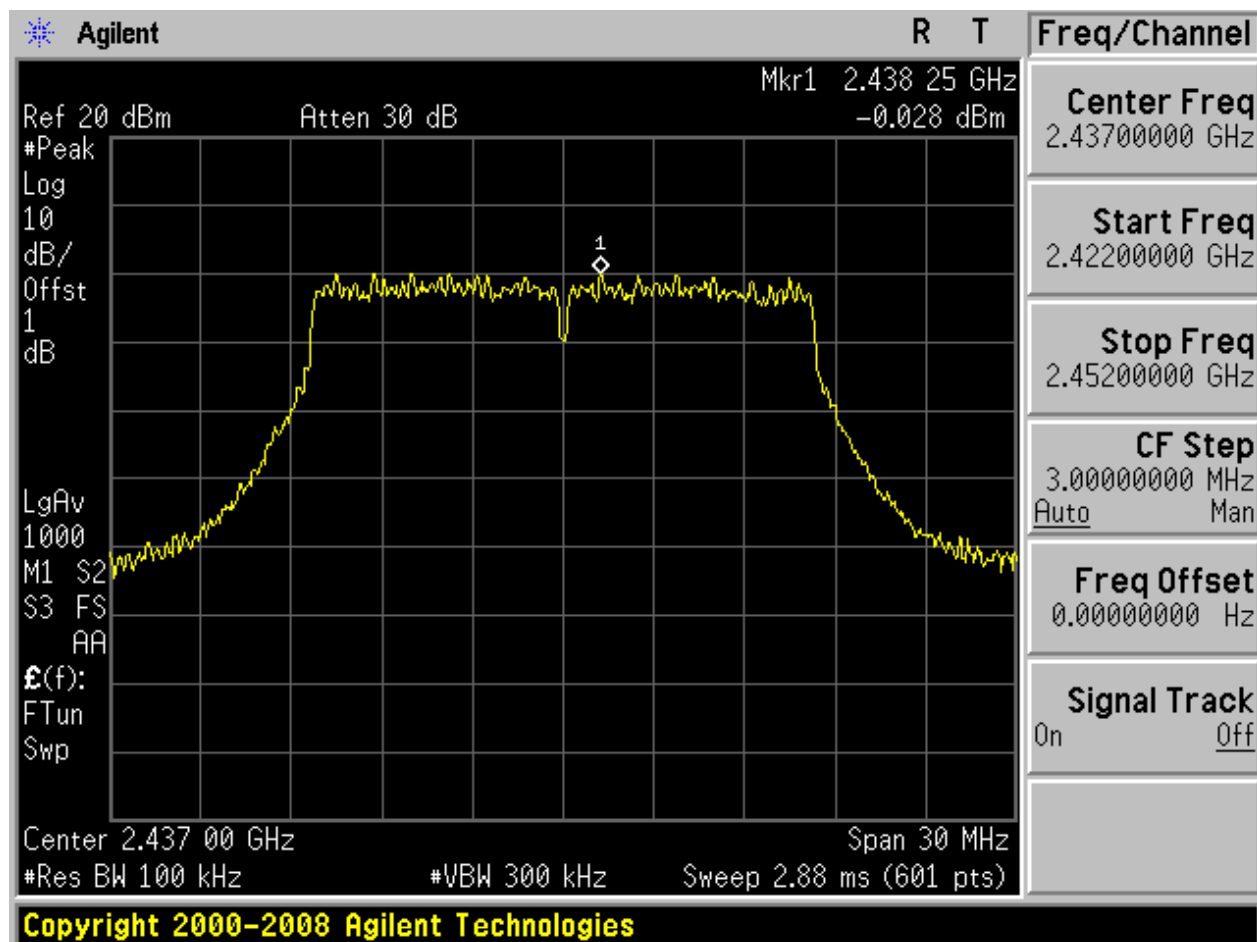




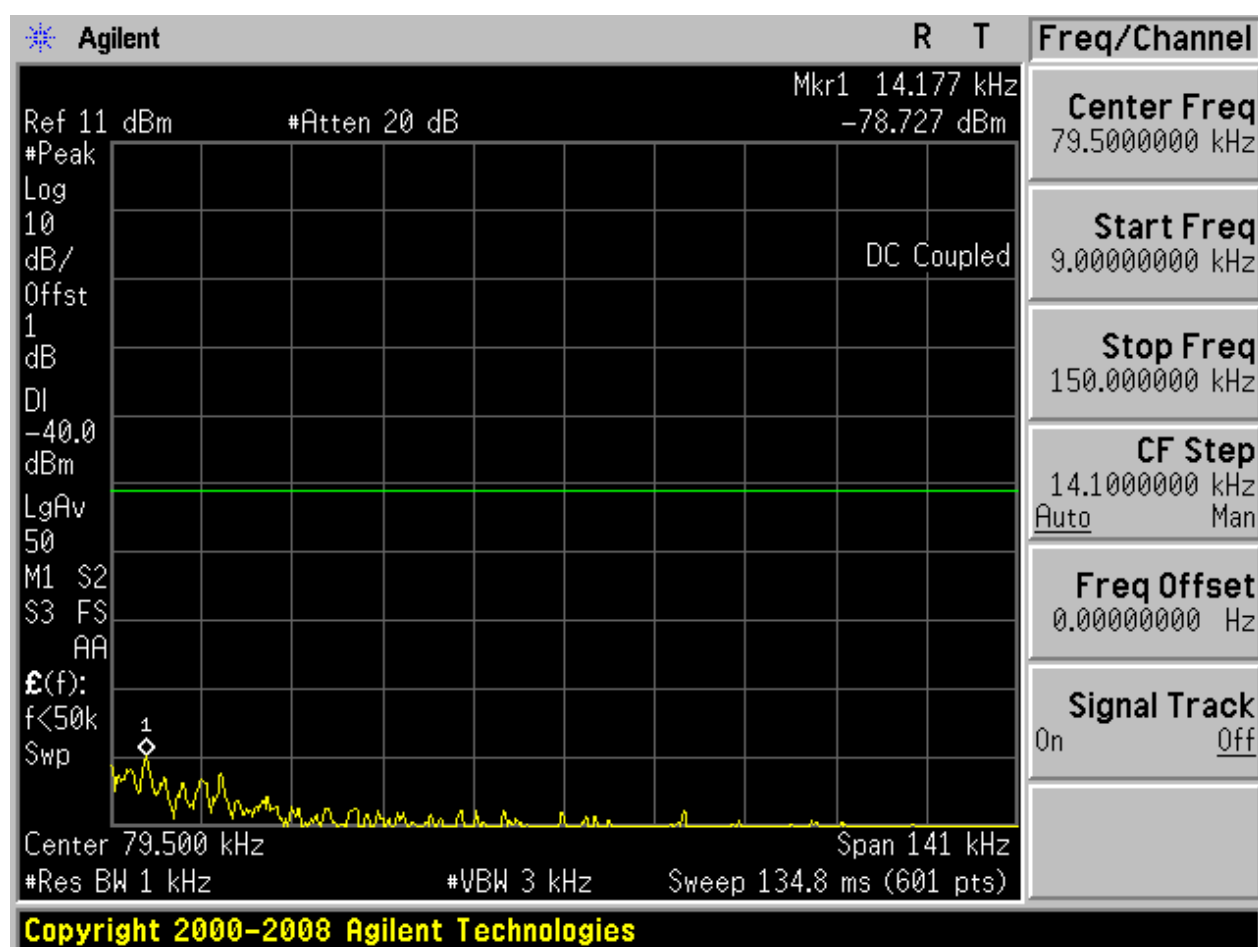


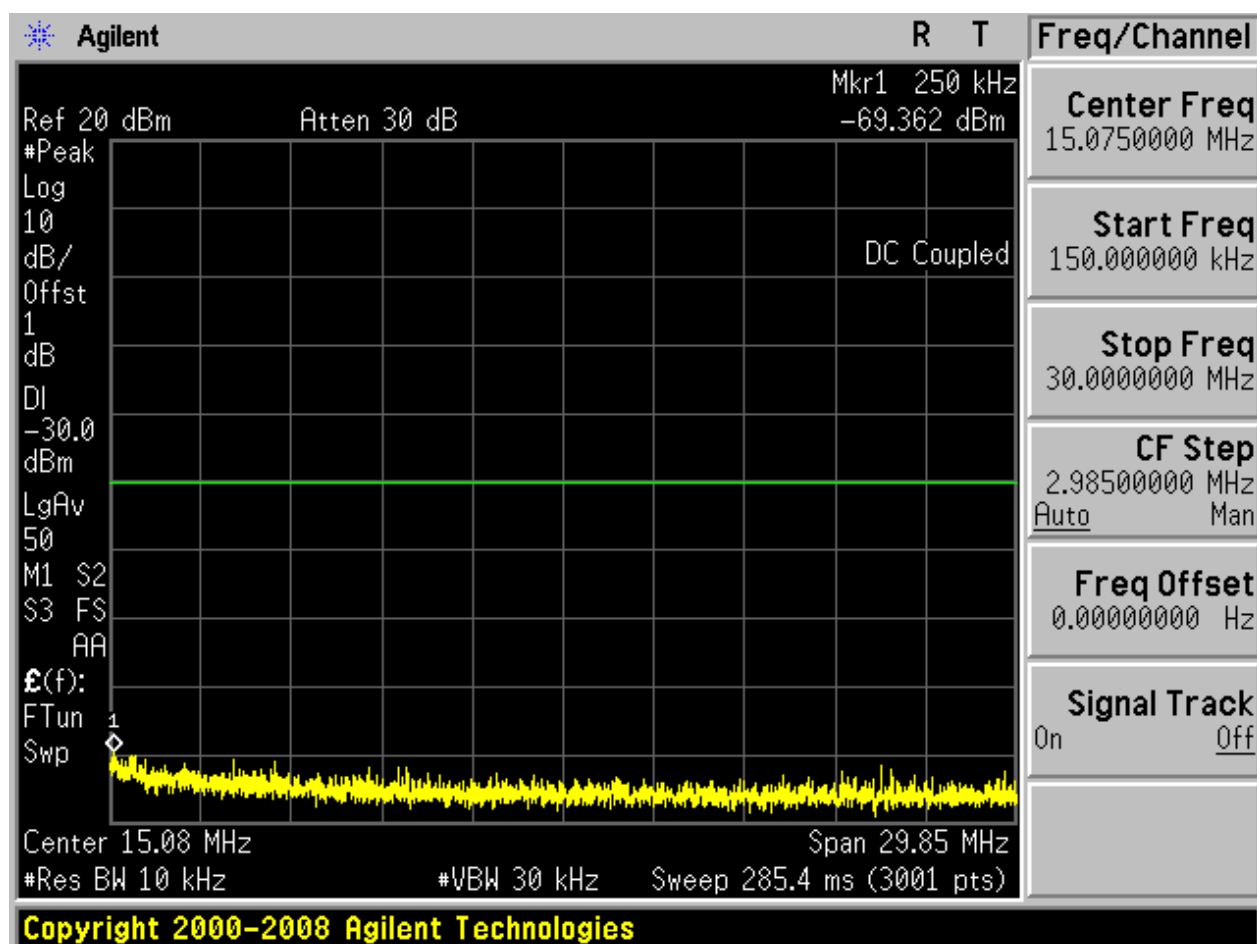
2.5 11G_M

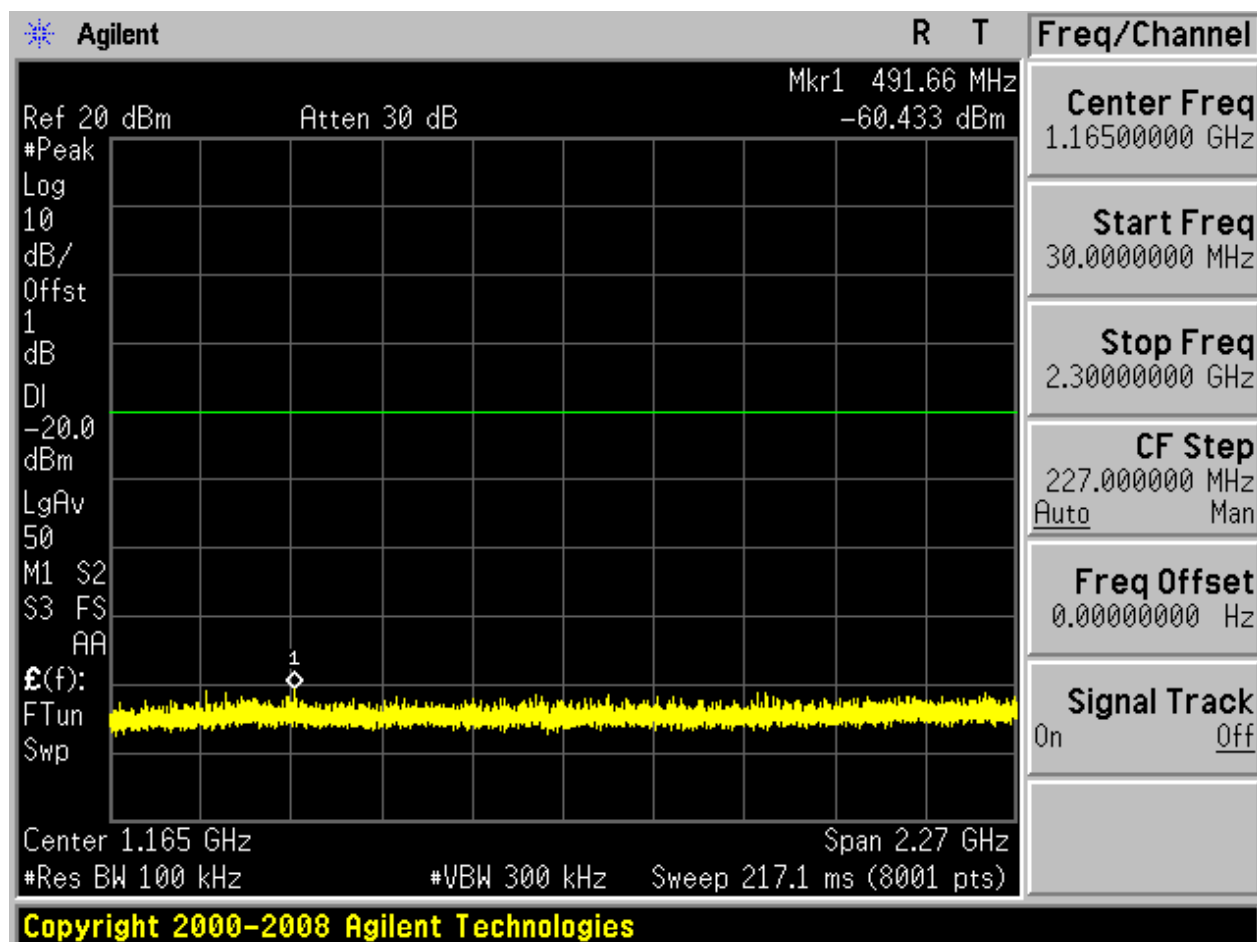
Pref:

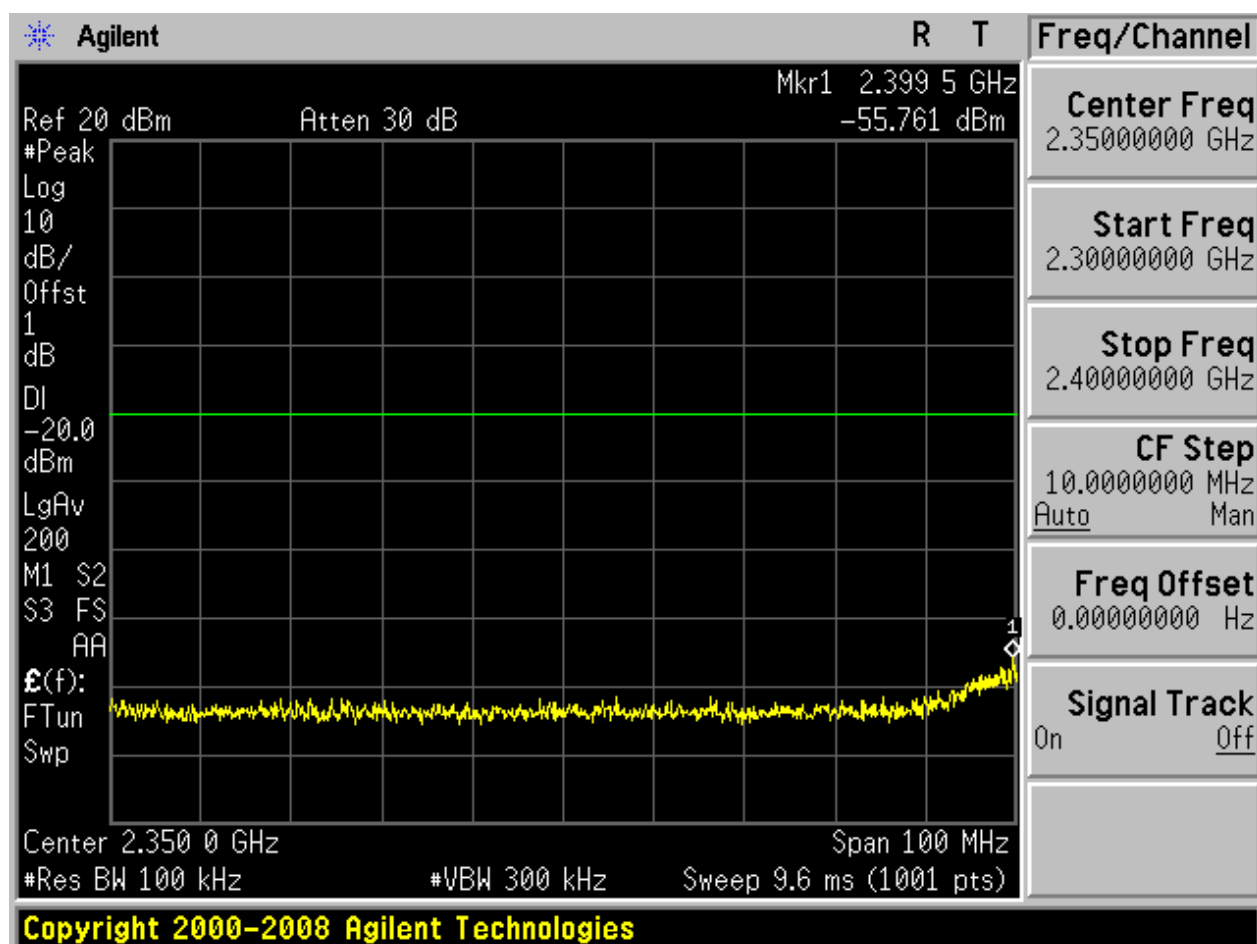


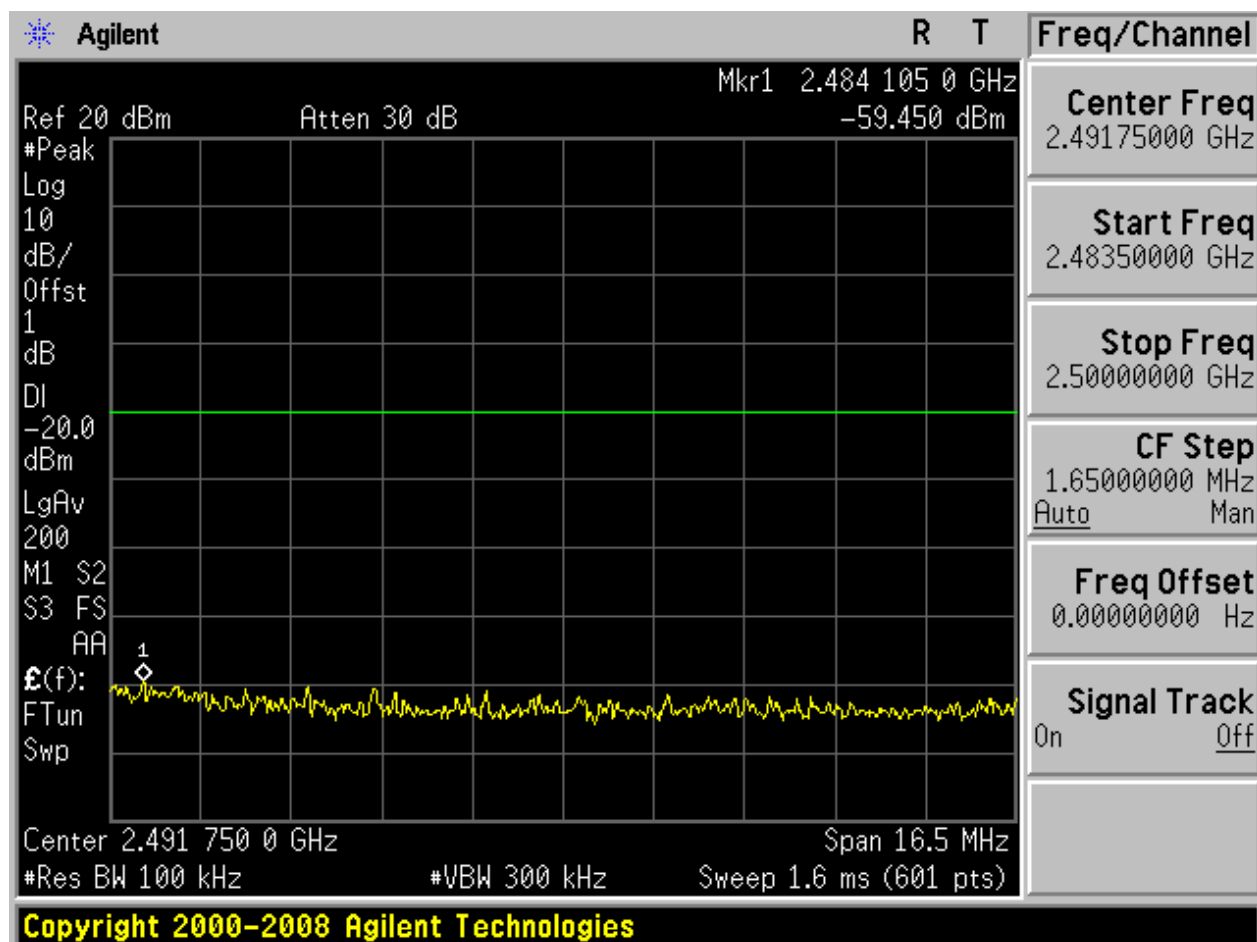
Puw:

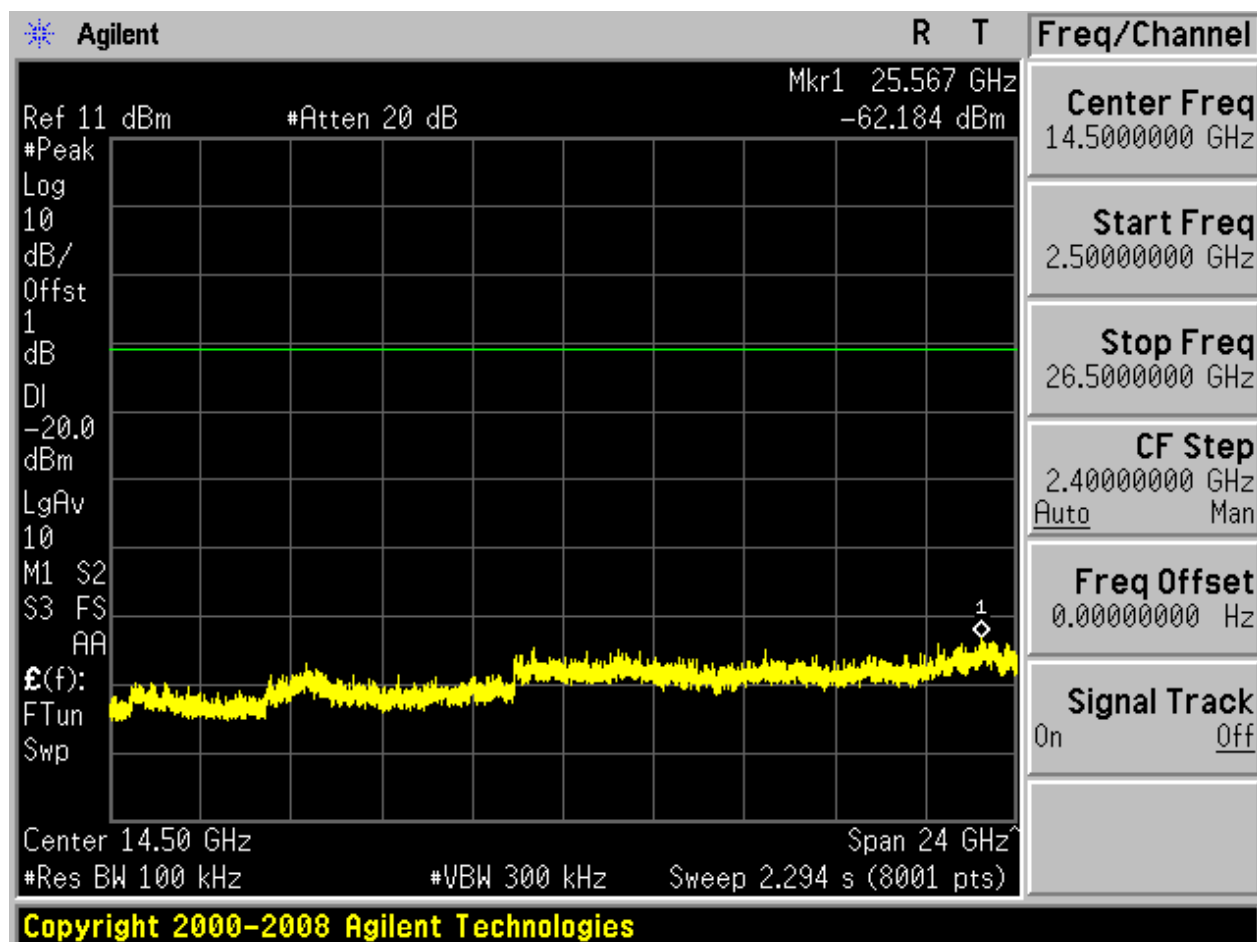








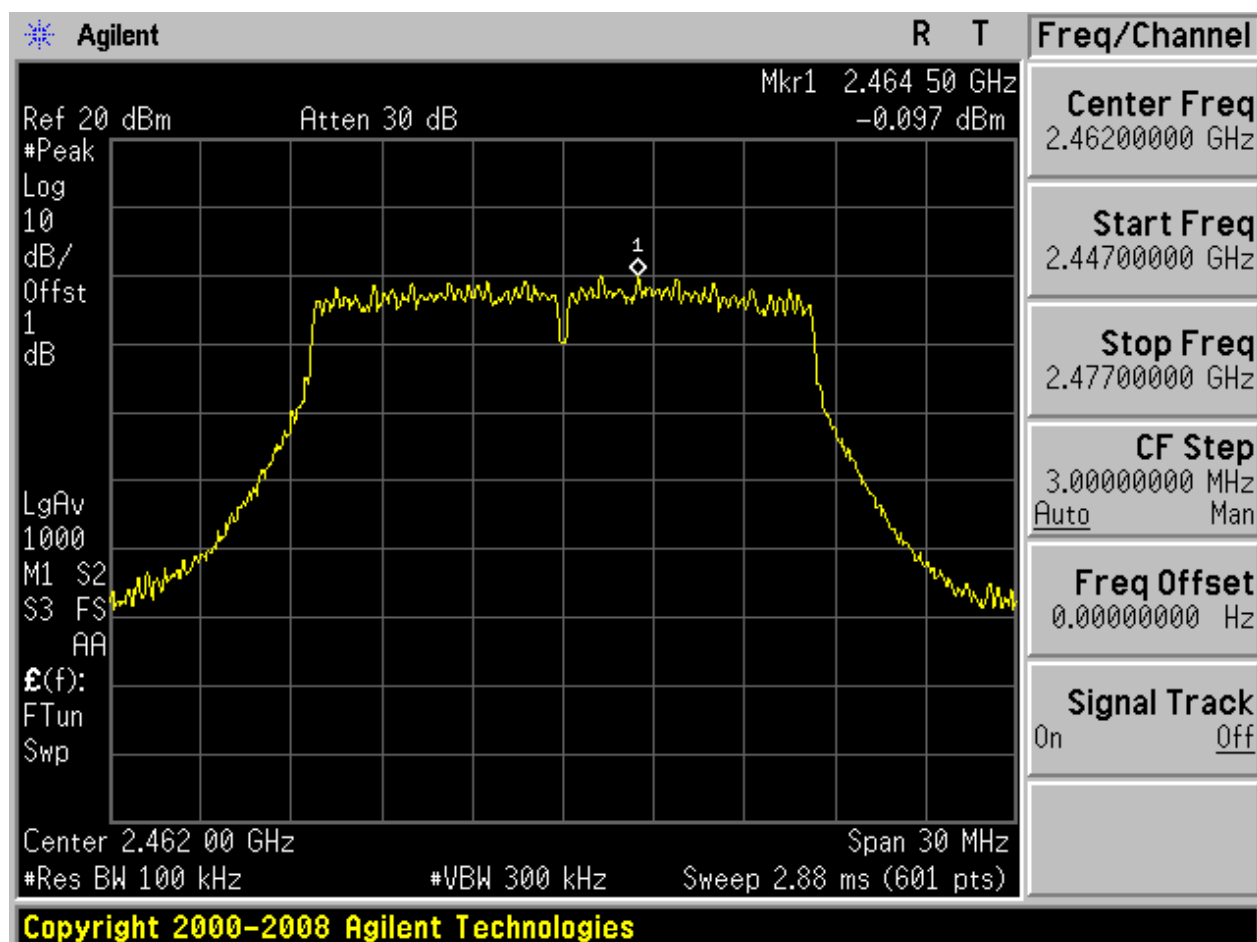




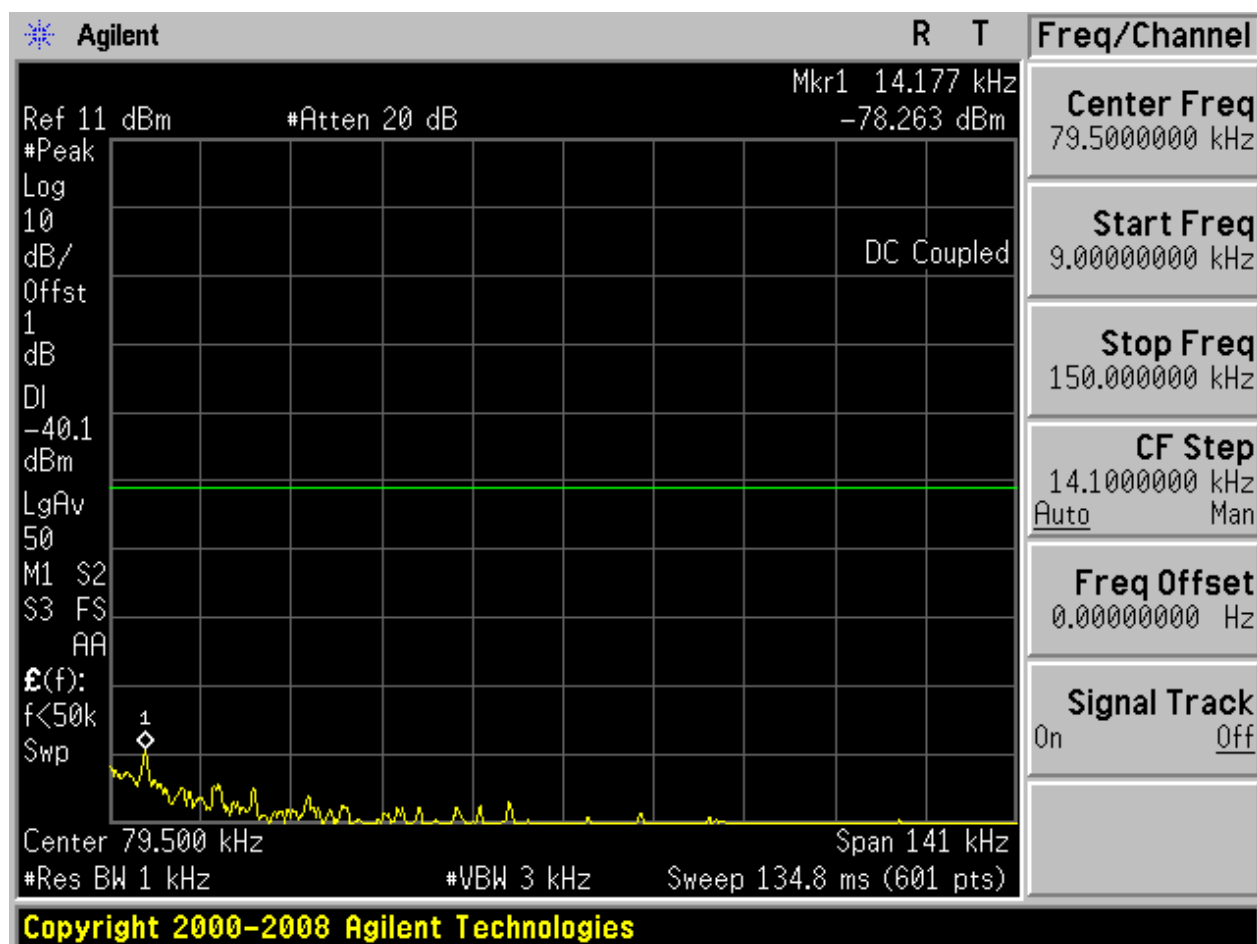


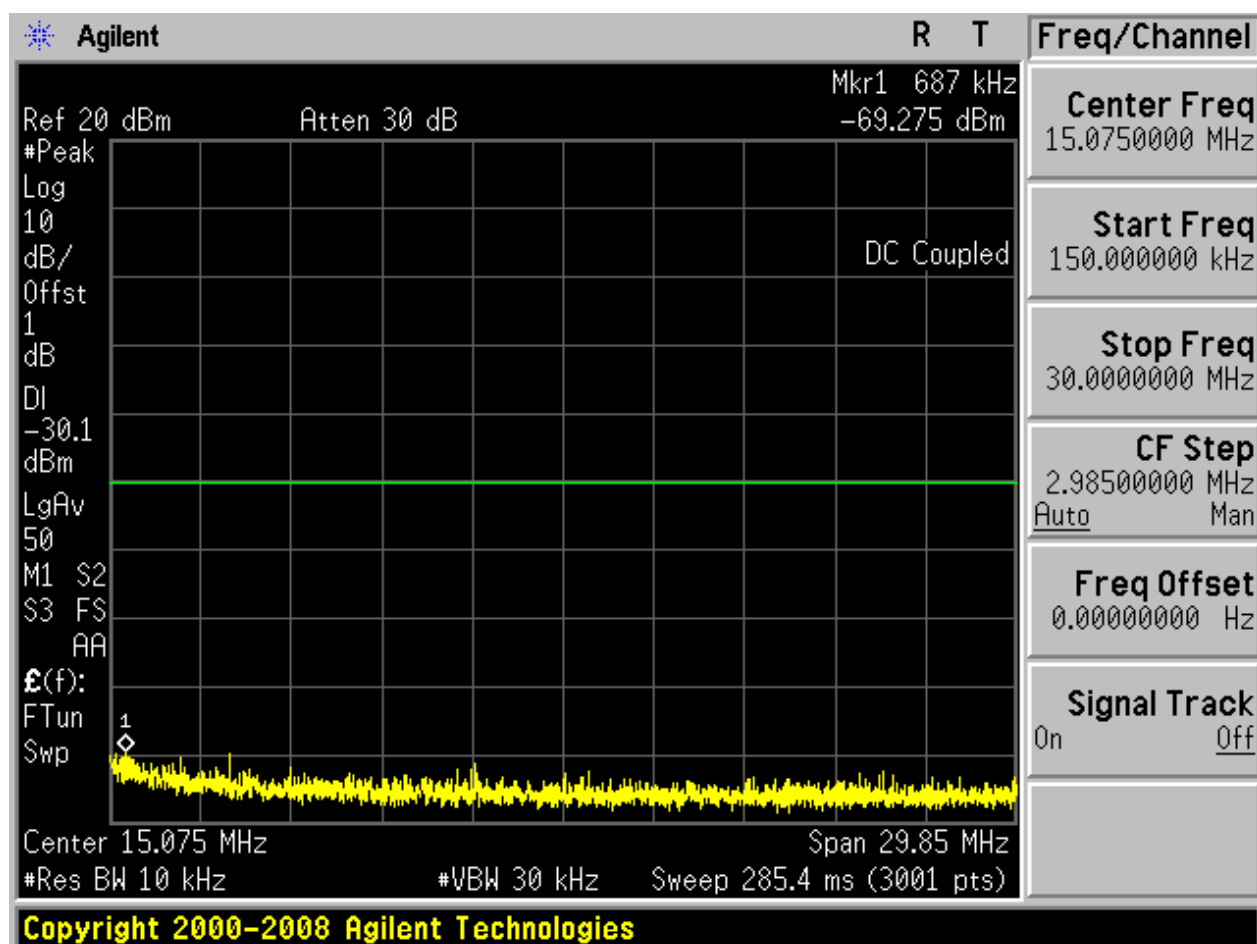
2.6 11G_H

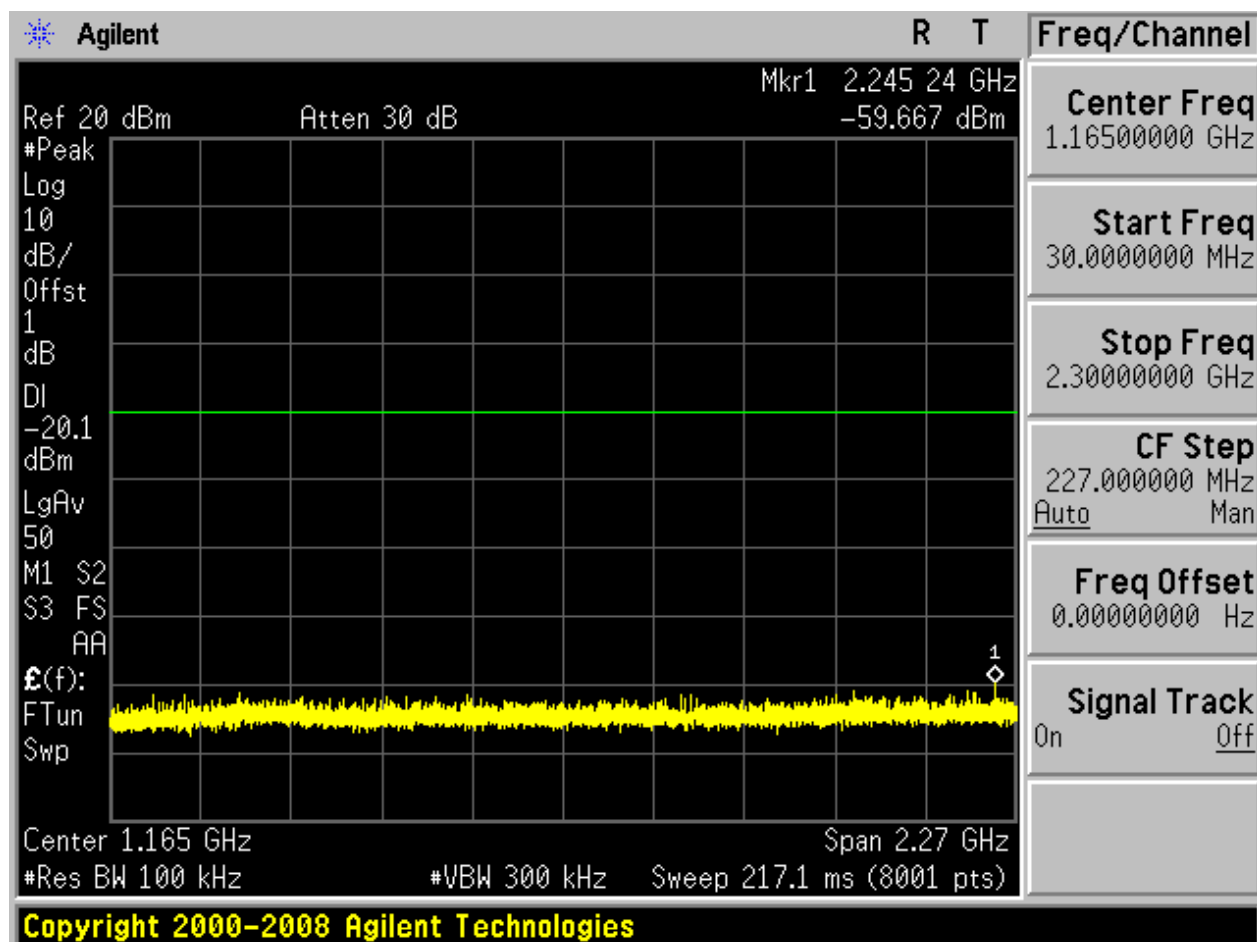
Pref:

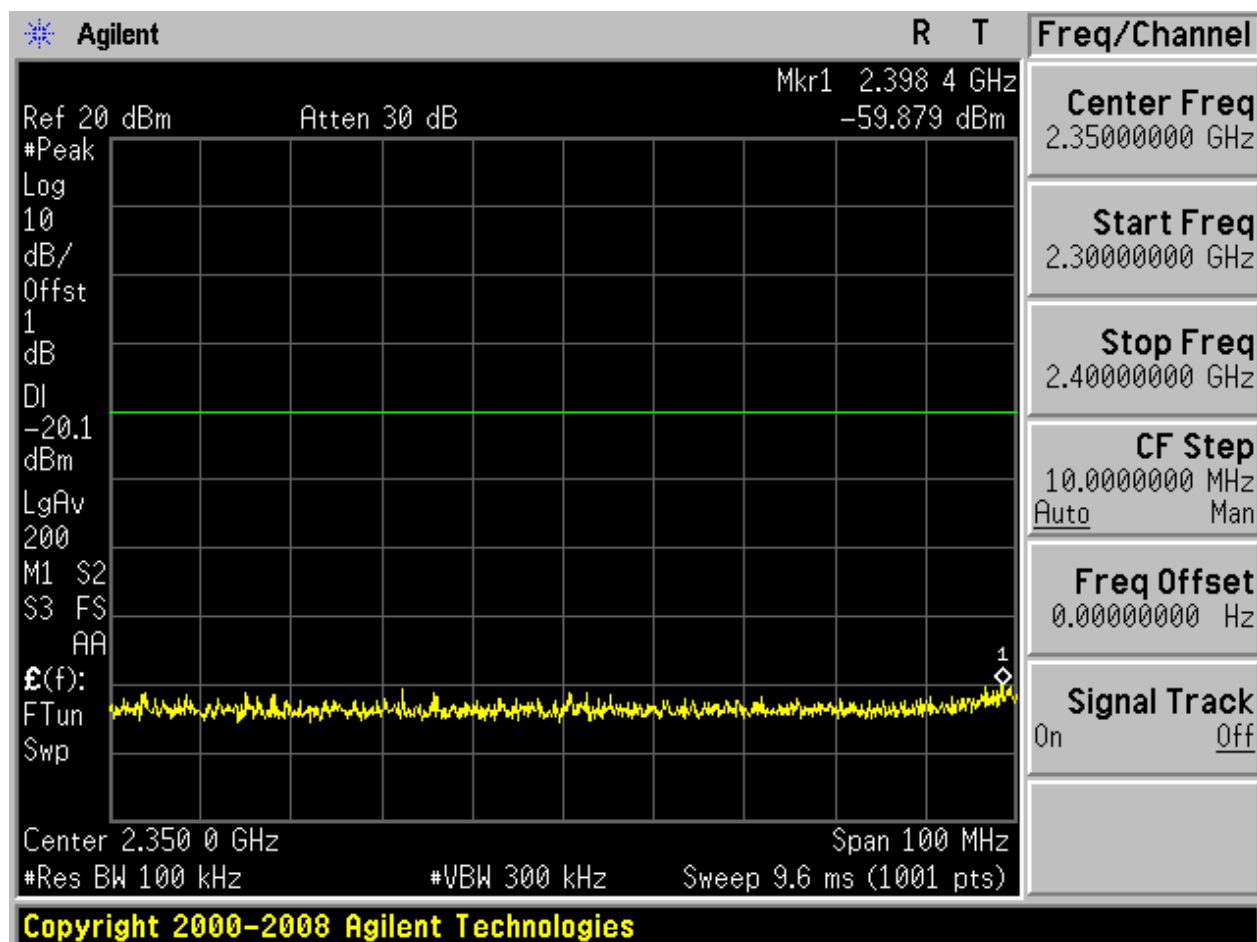


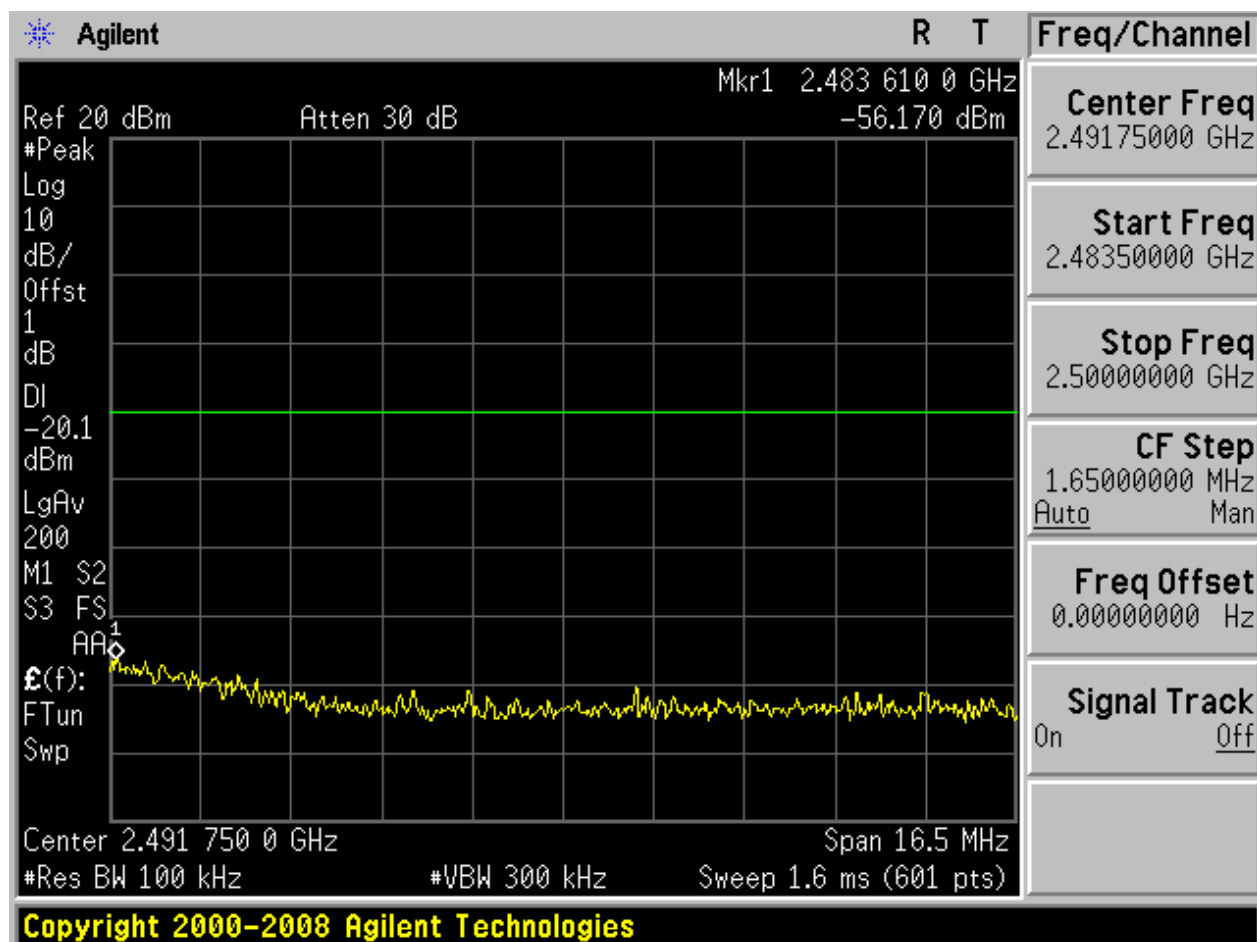
Puw:

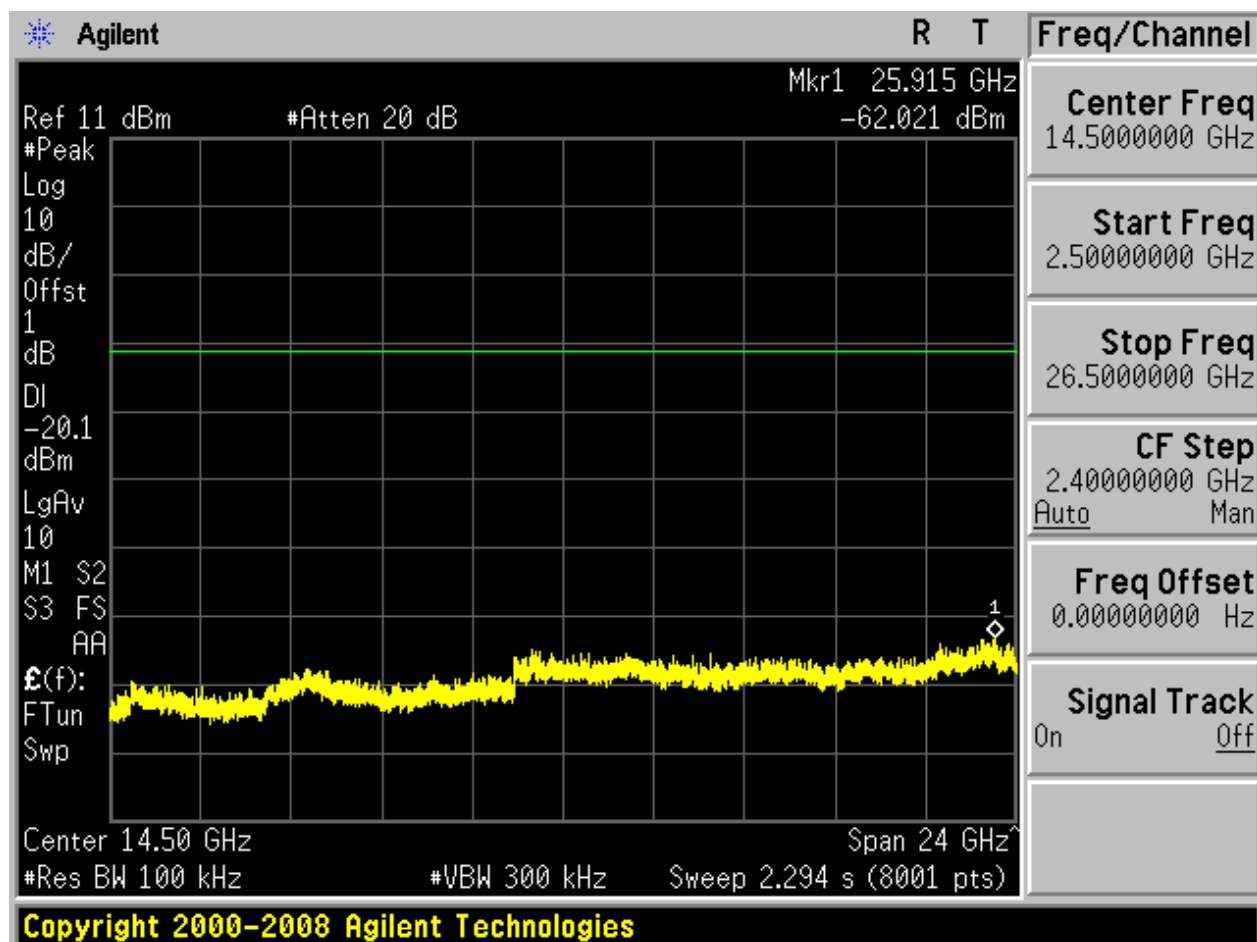






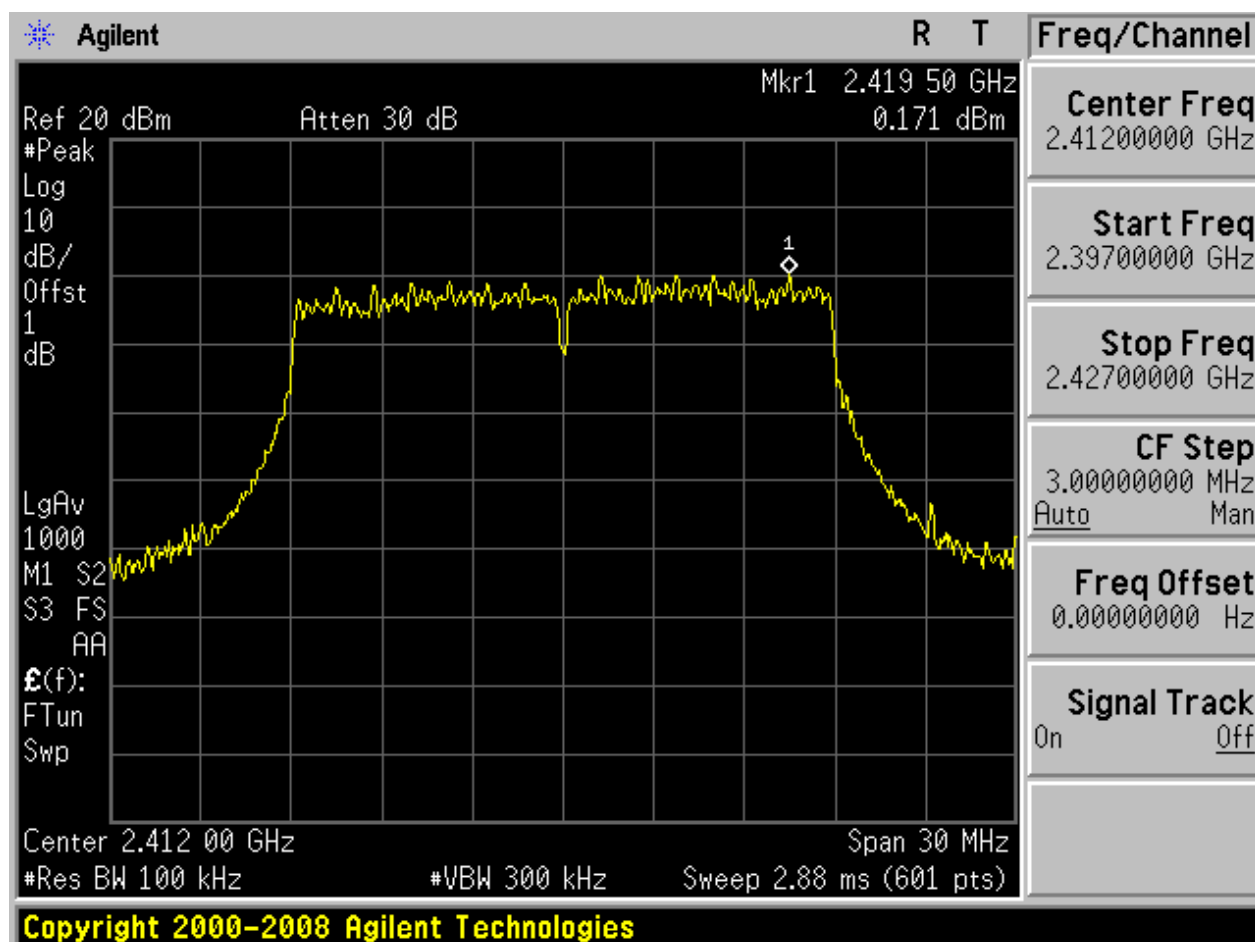






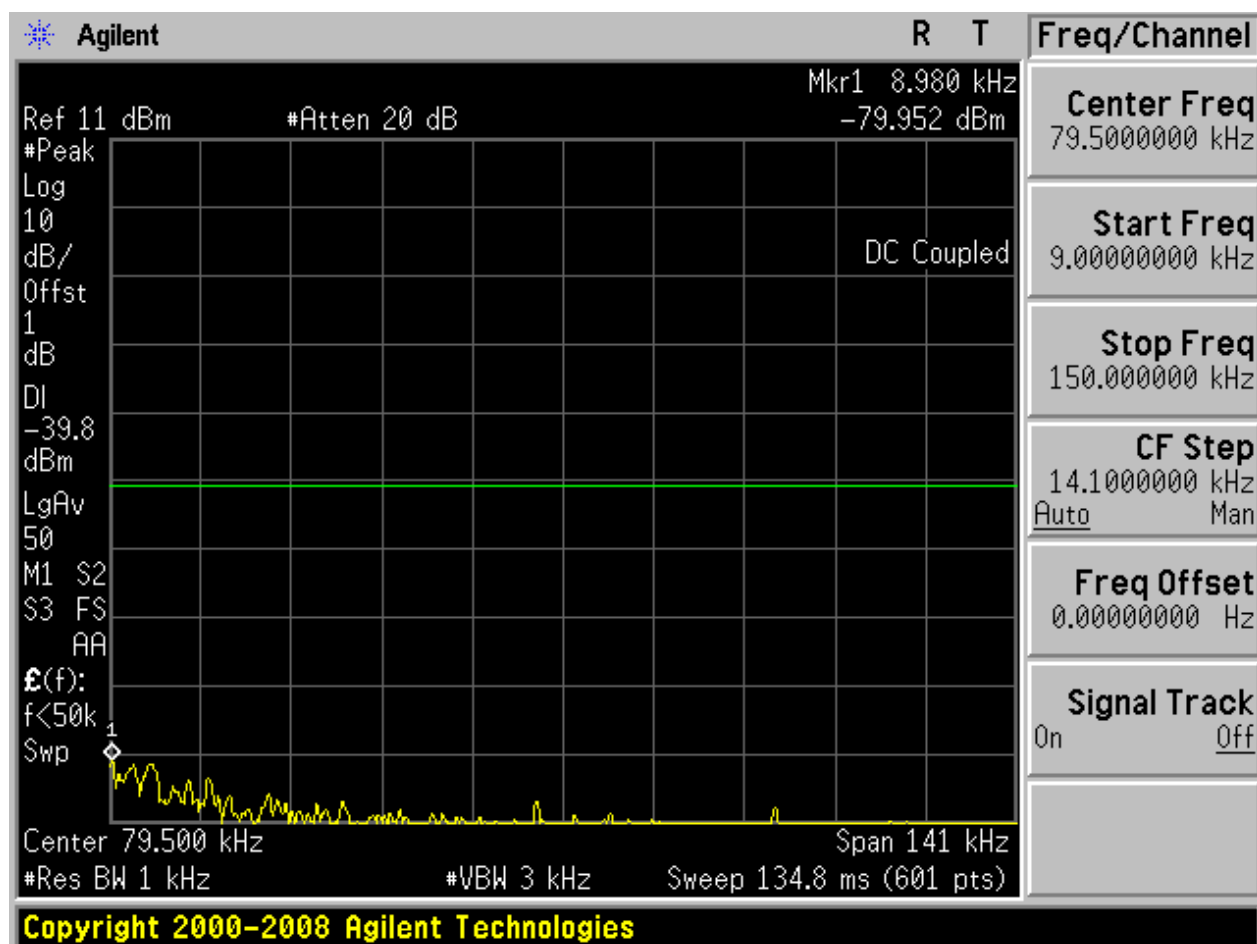
2.7 11N20_L

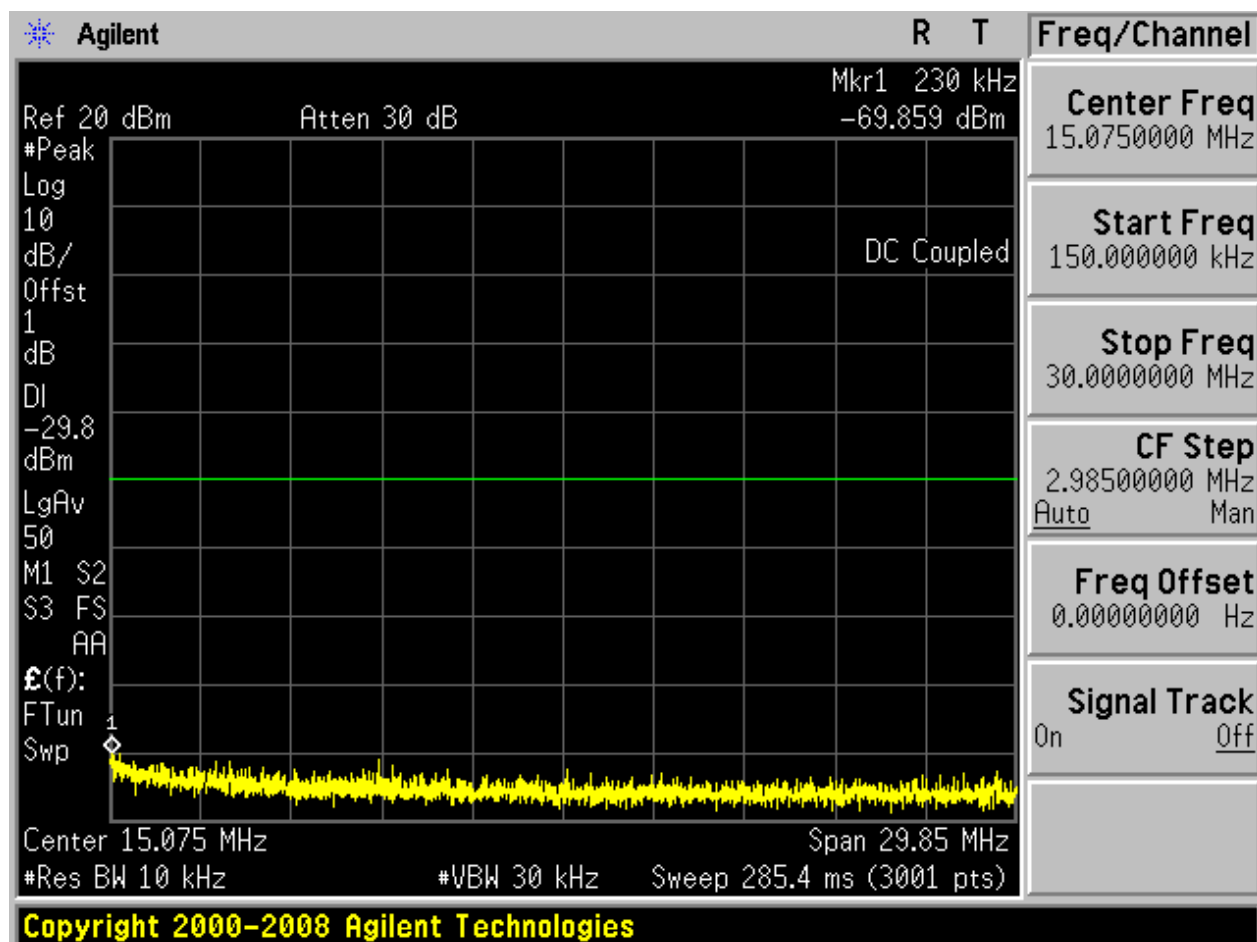
Pref:

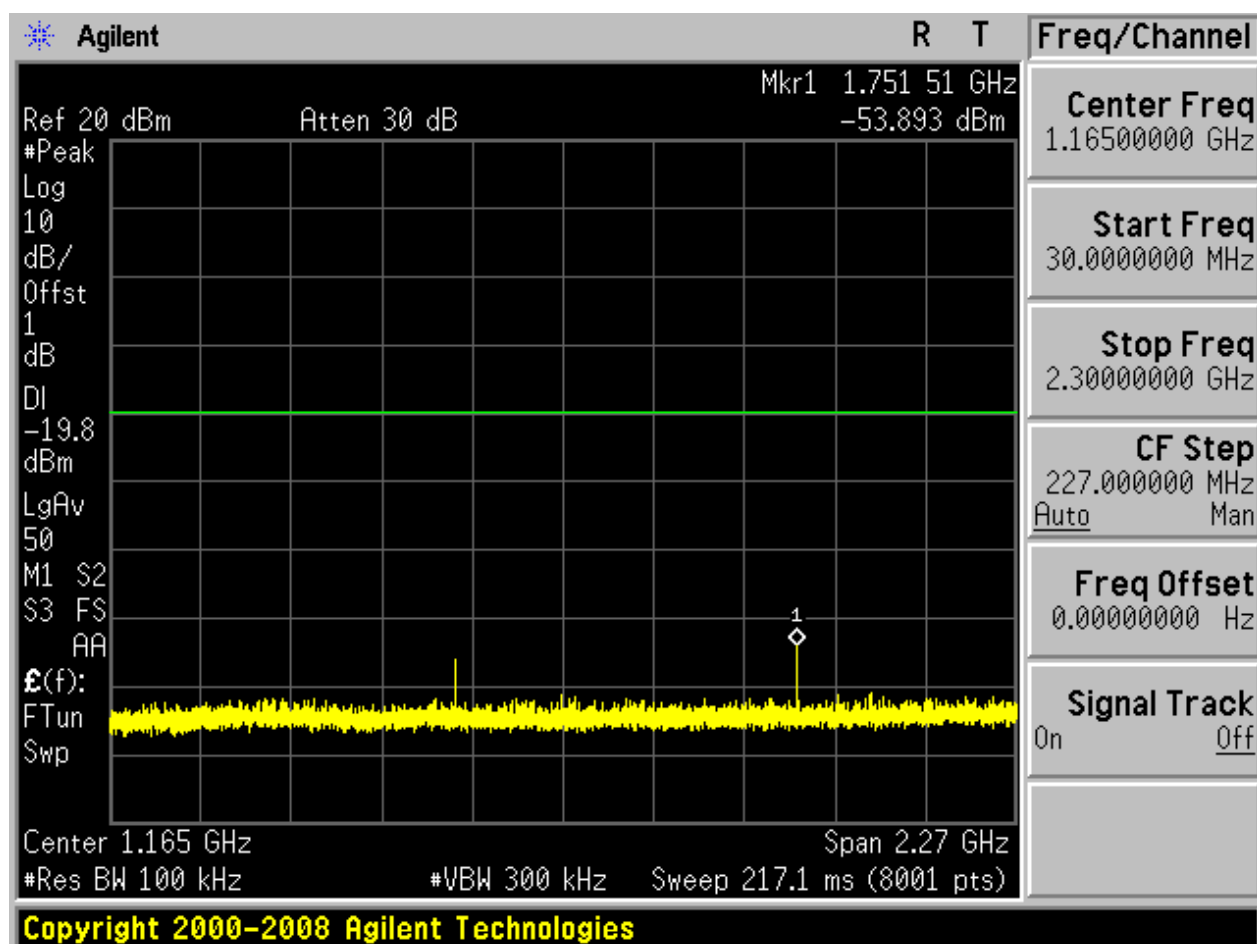


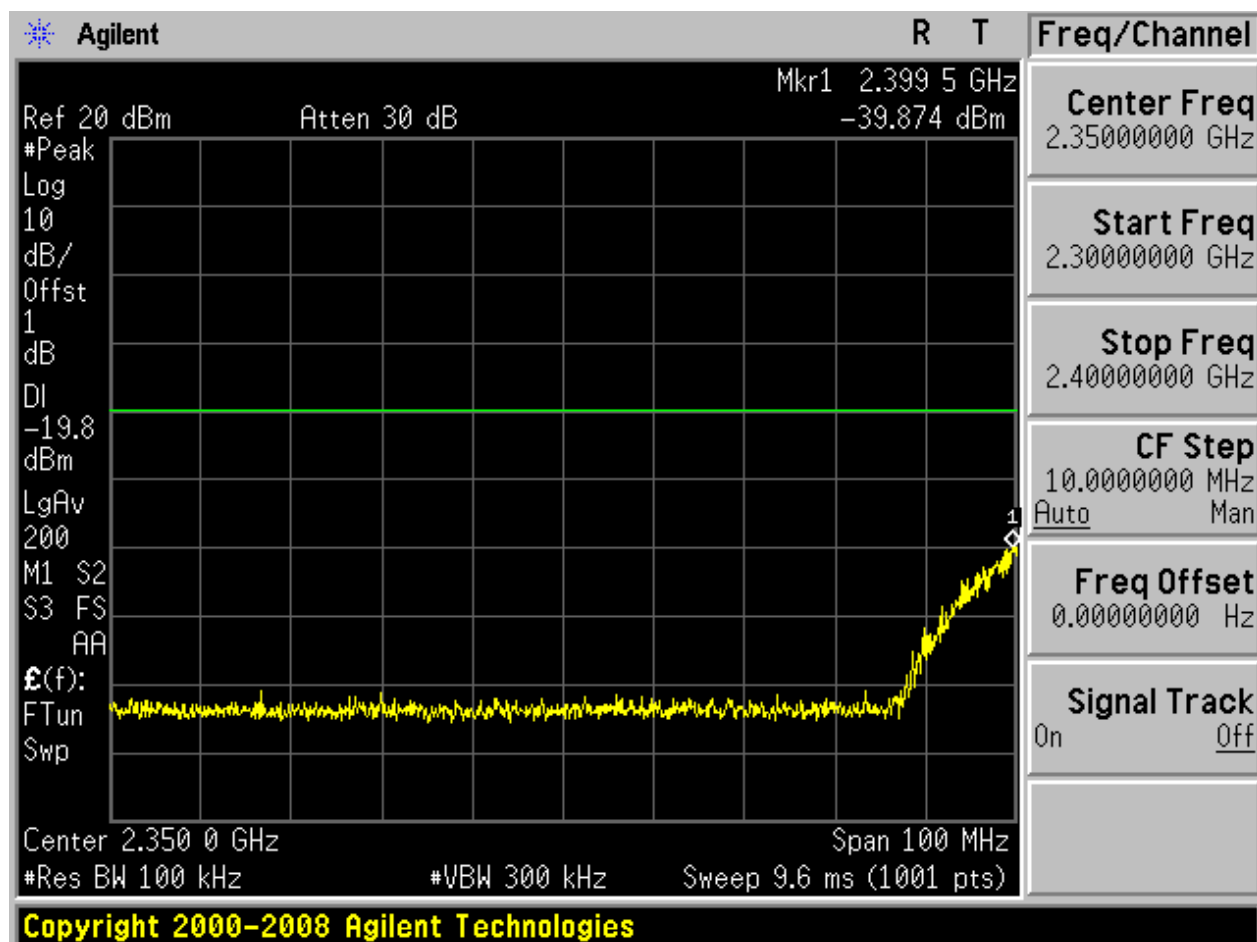


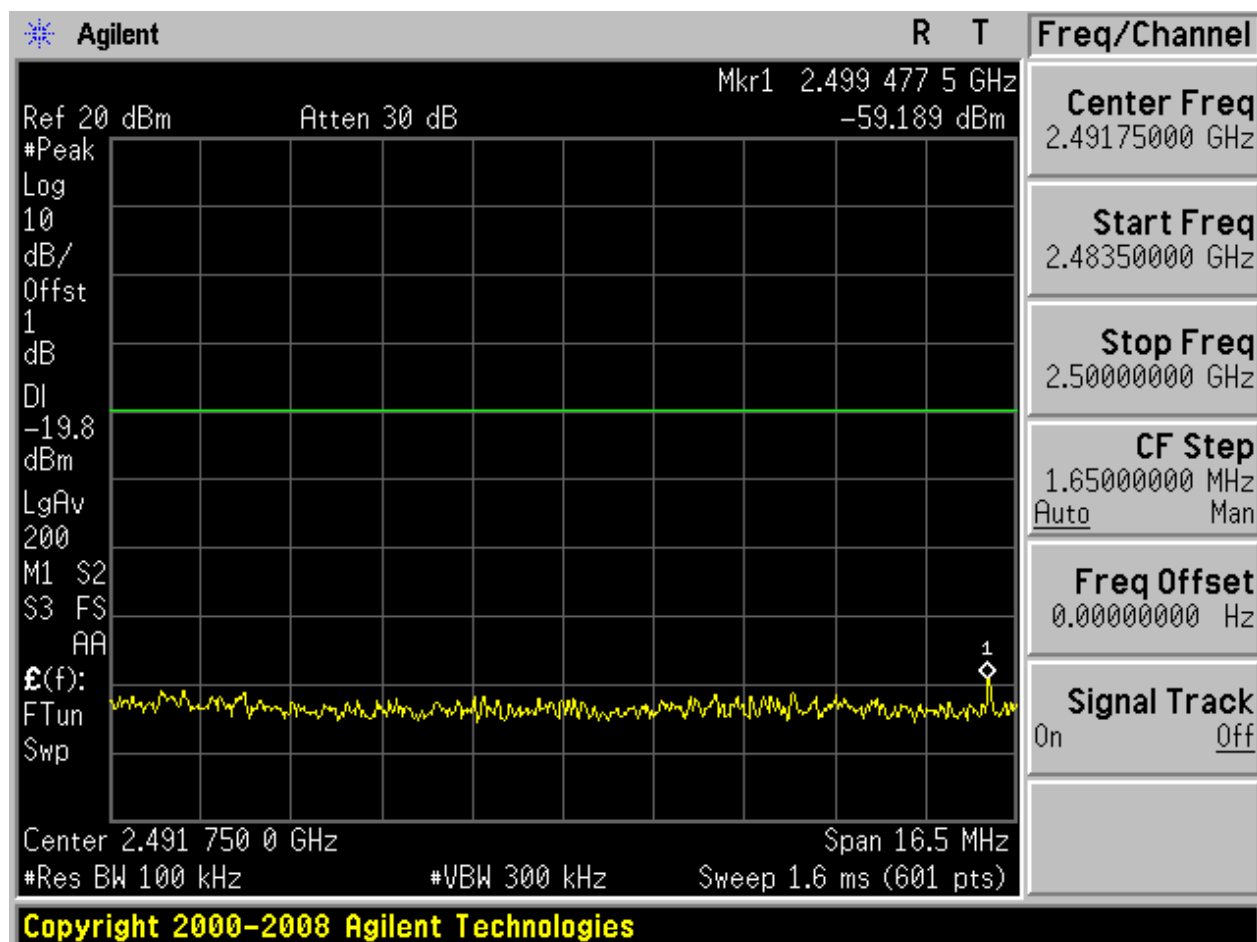
Puw:

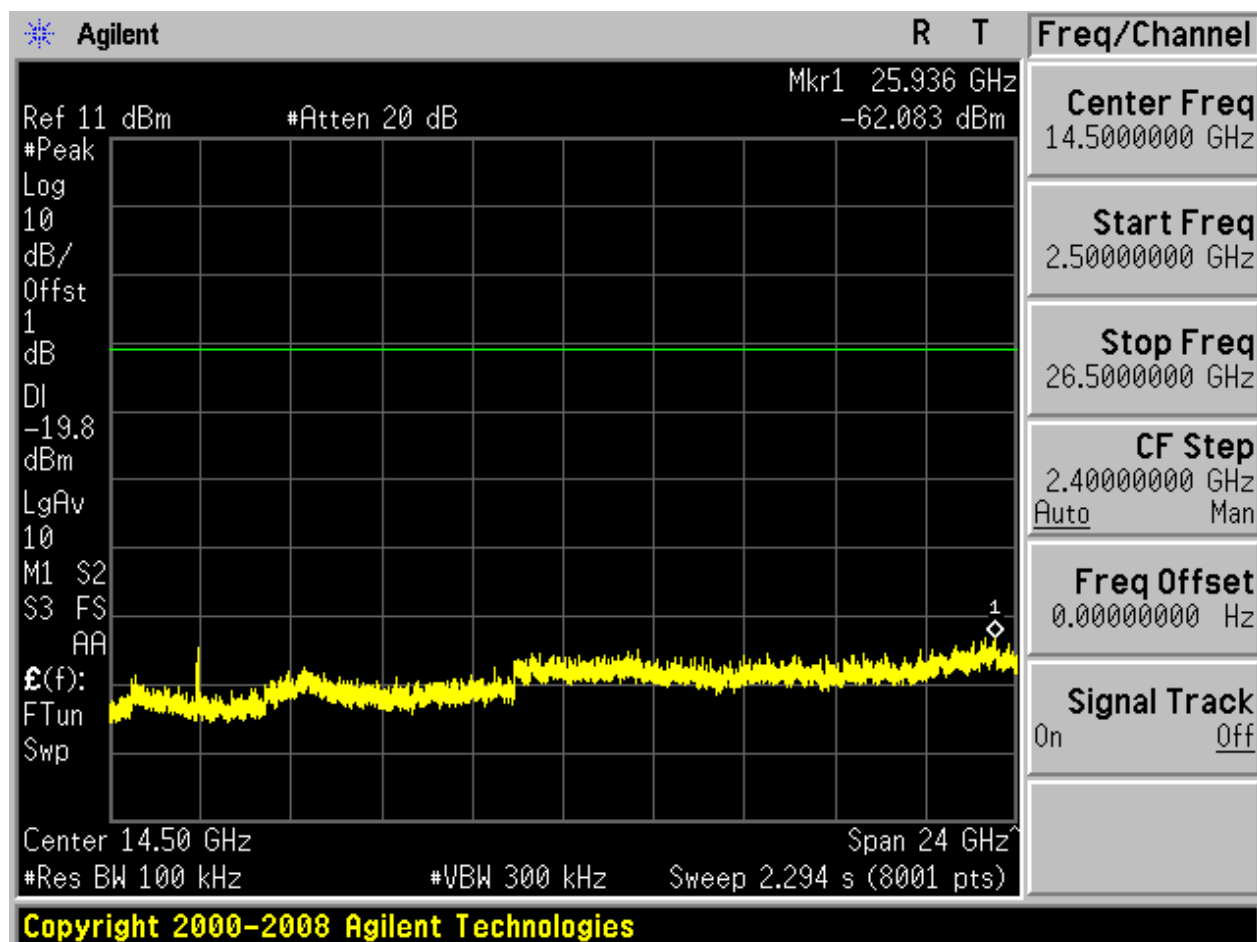






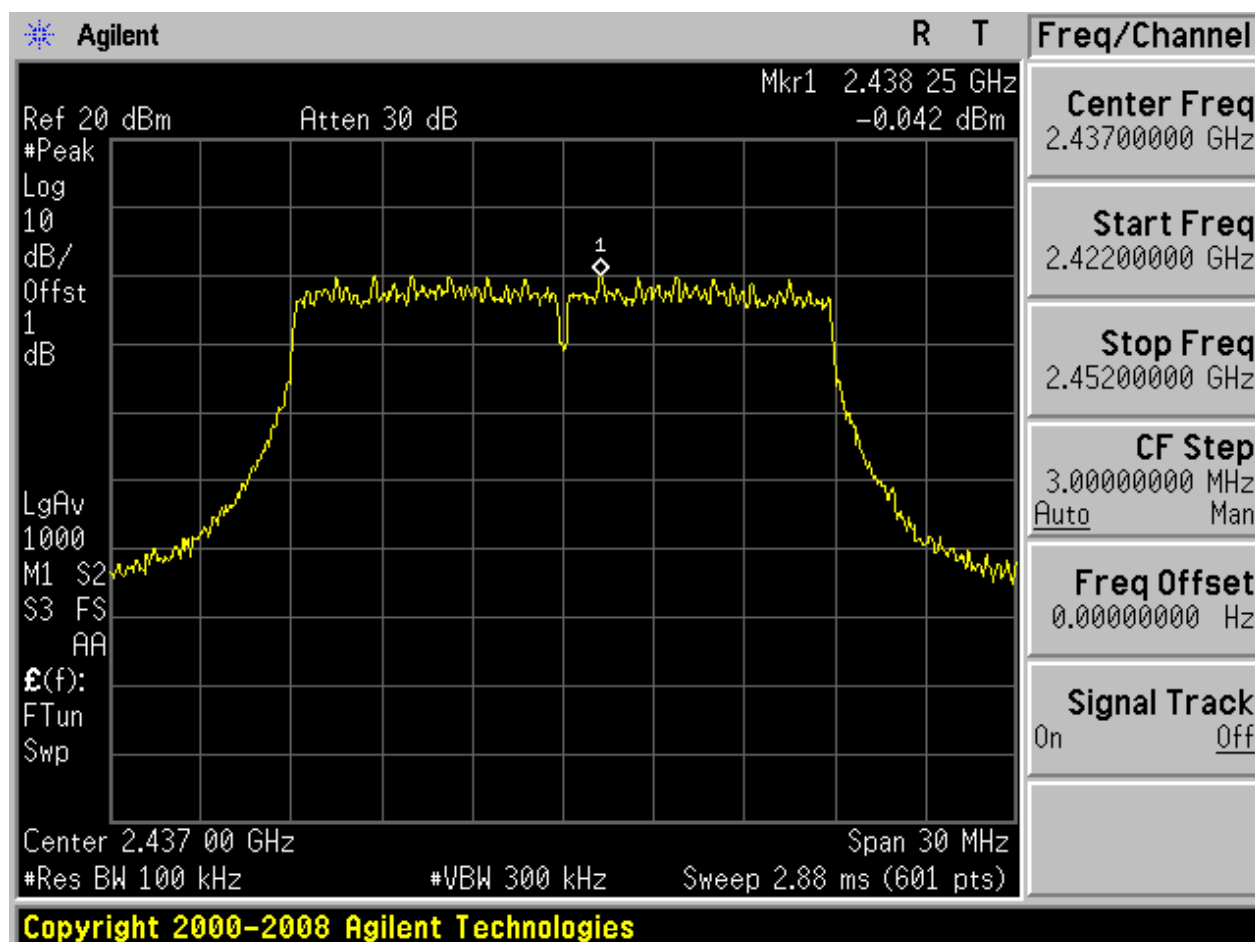






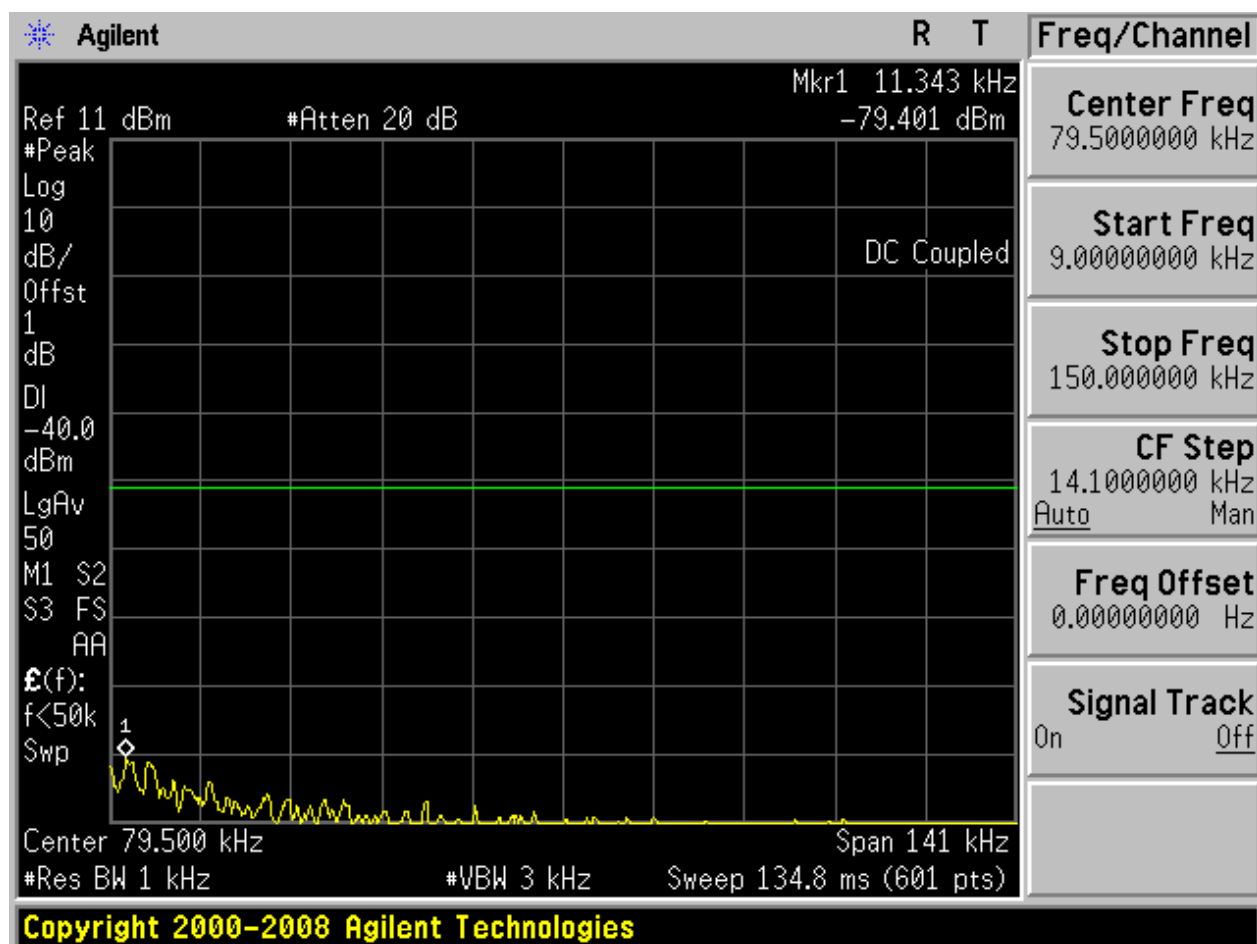
2.8 11N20_M

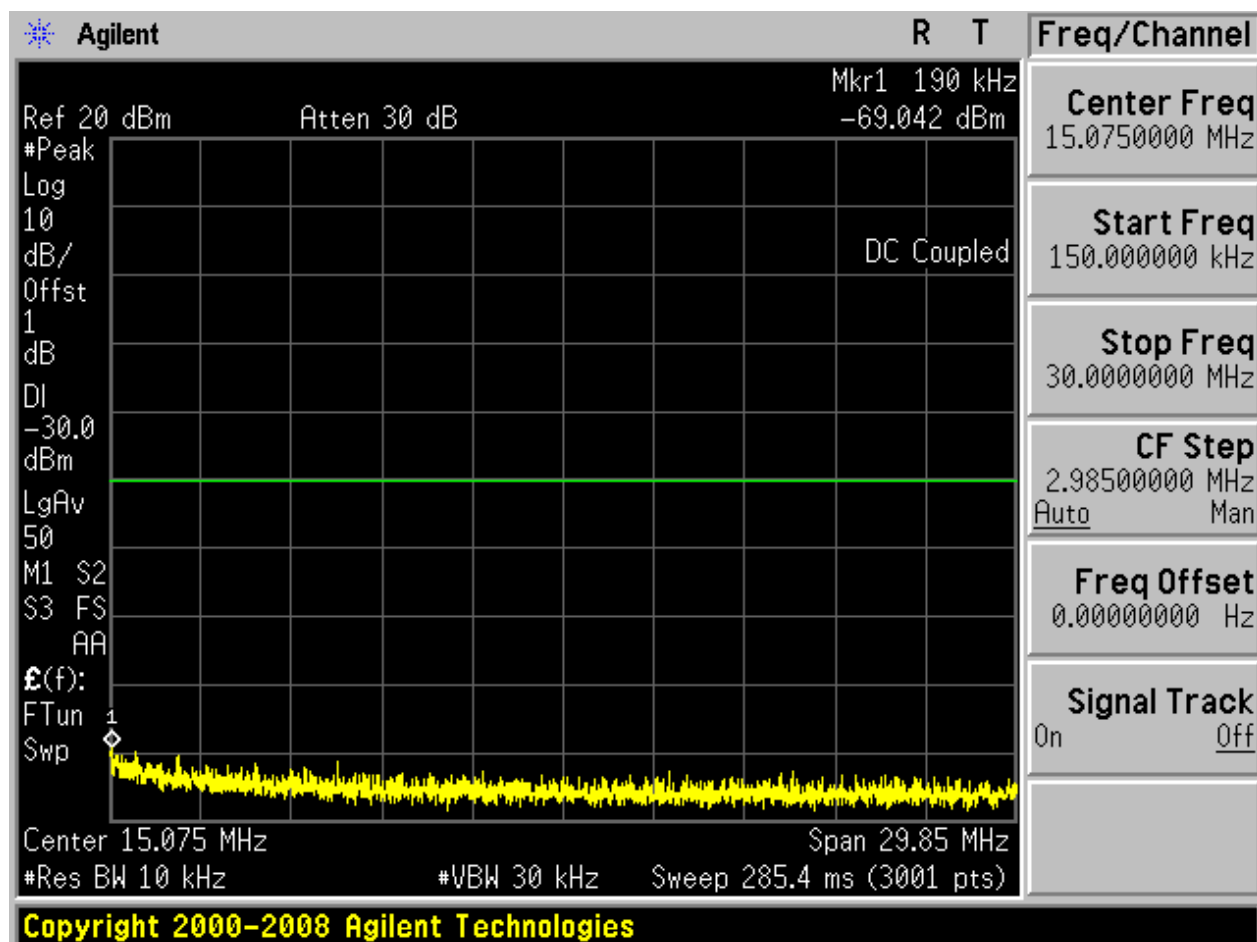
Pref:

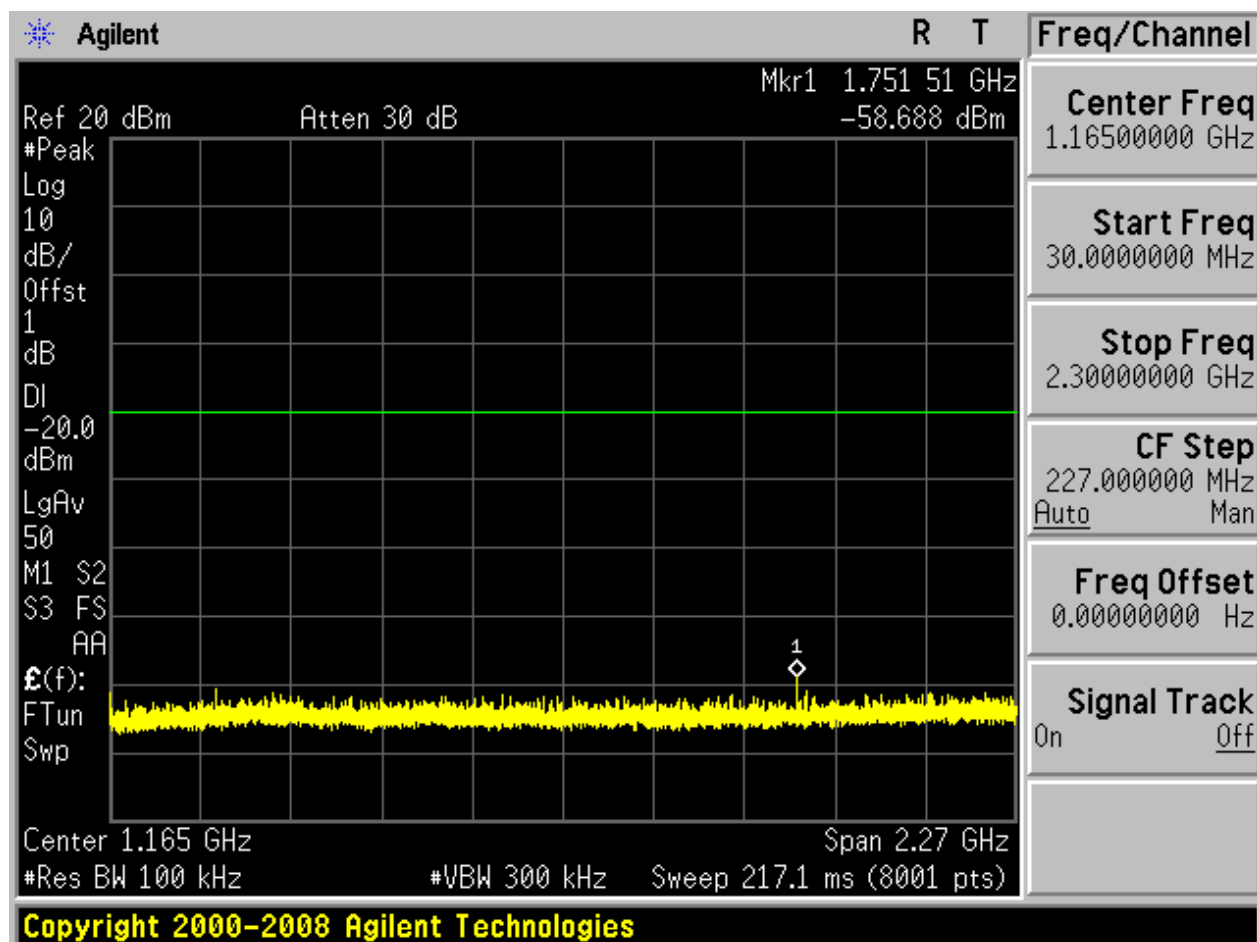


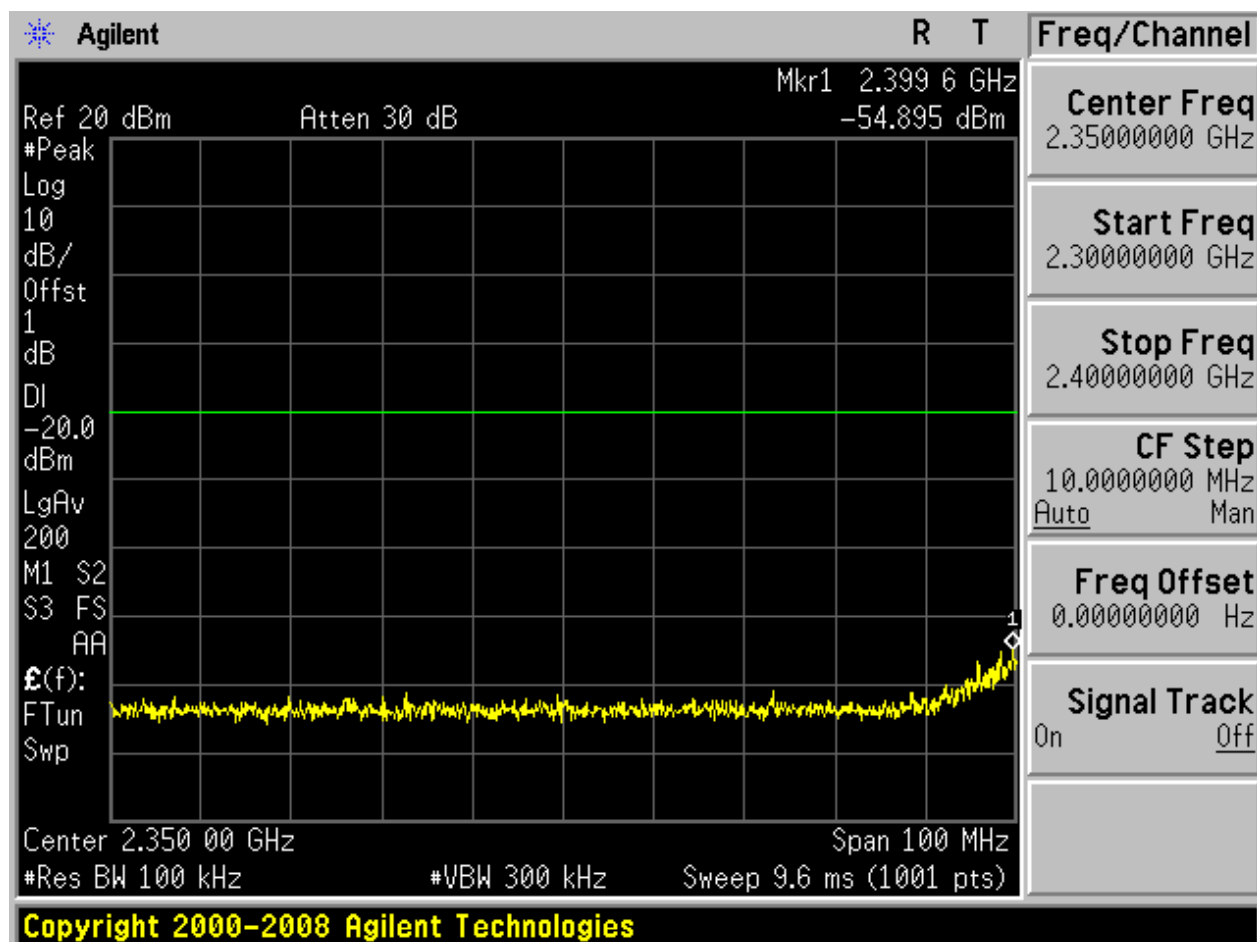


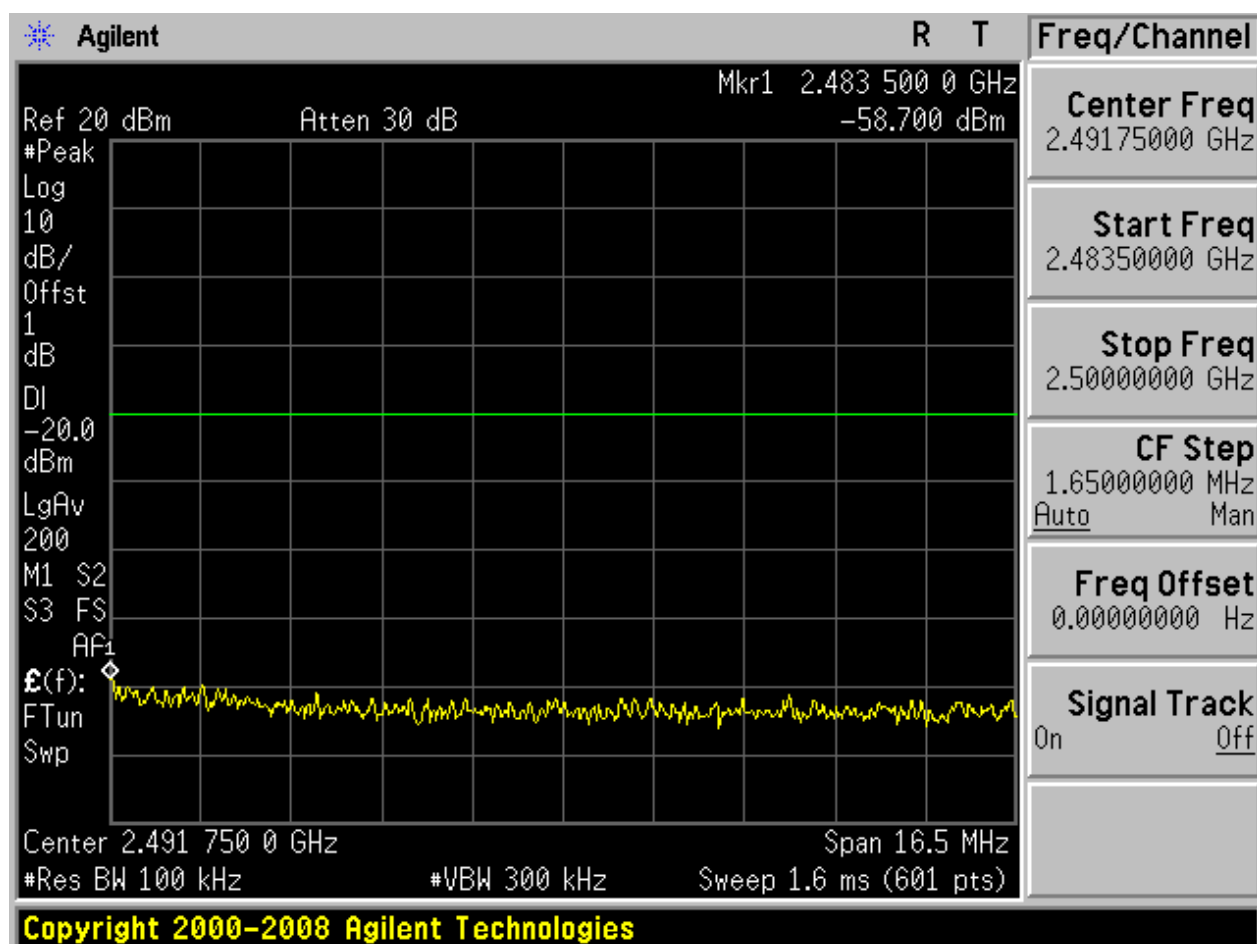
Puw:

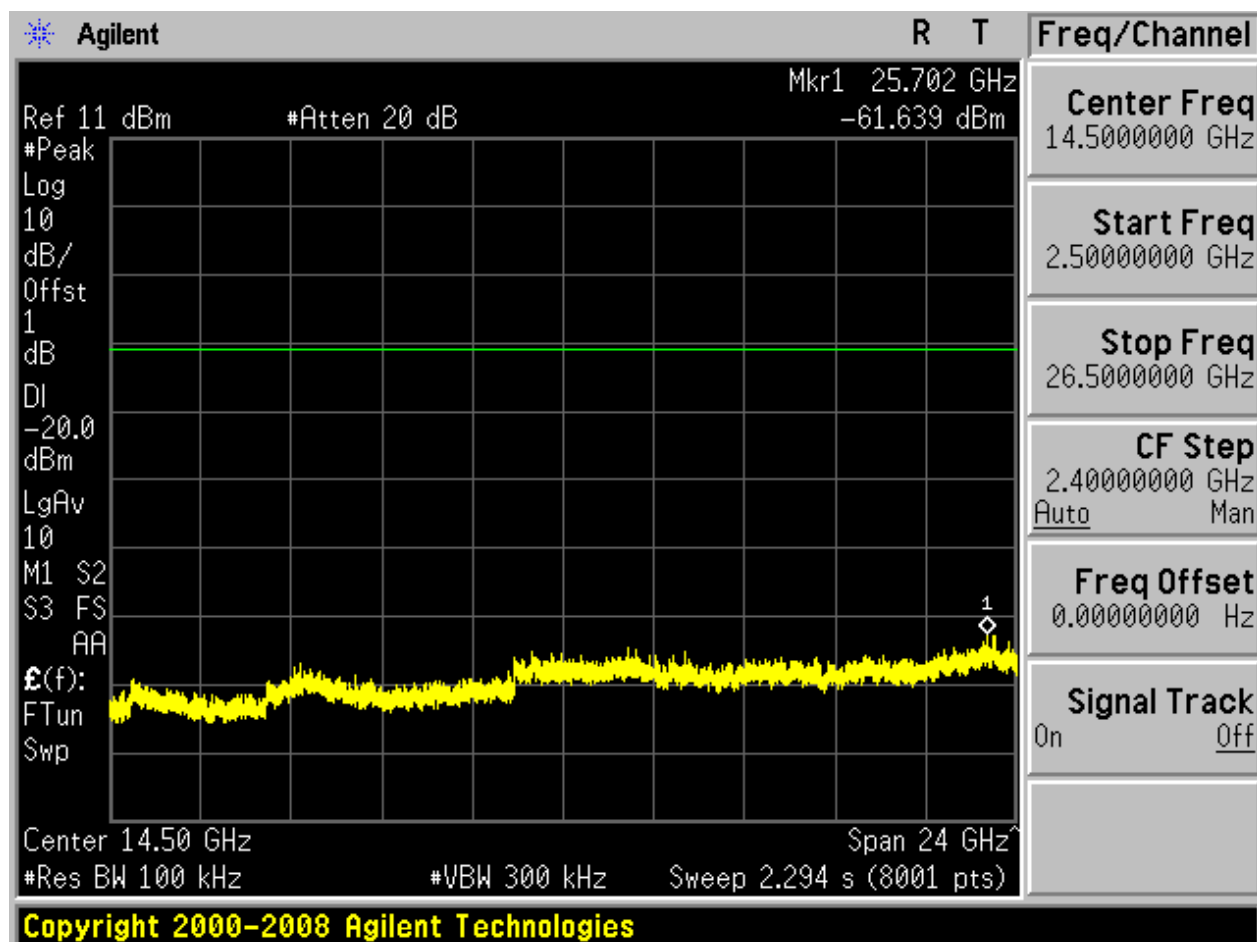






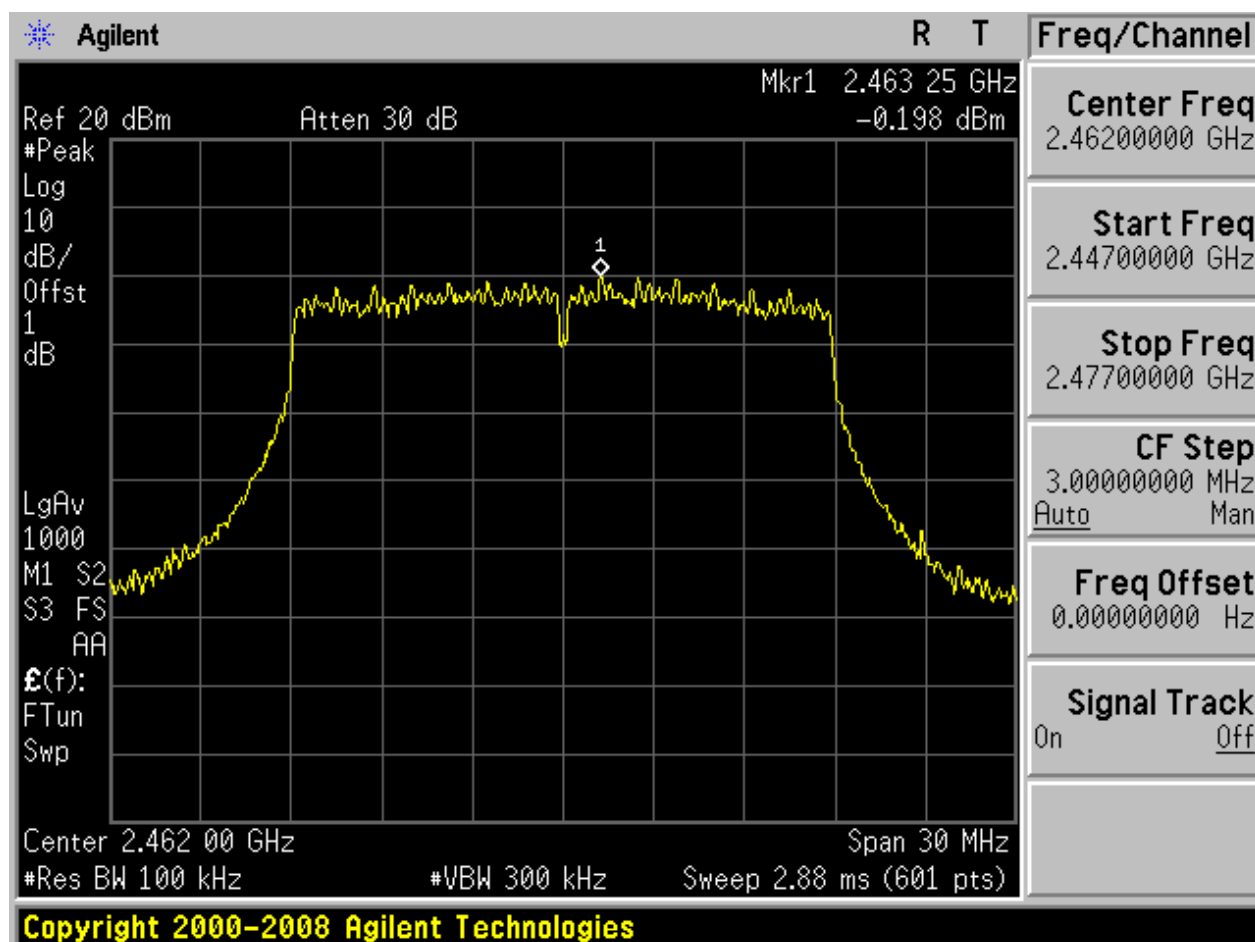




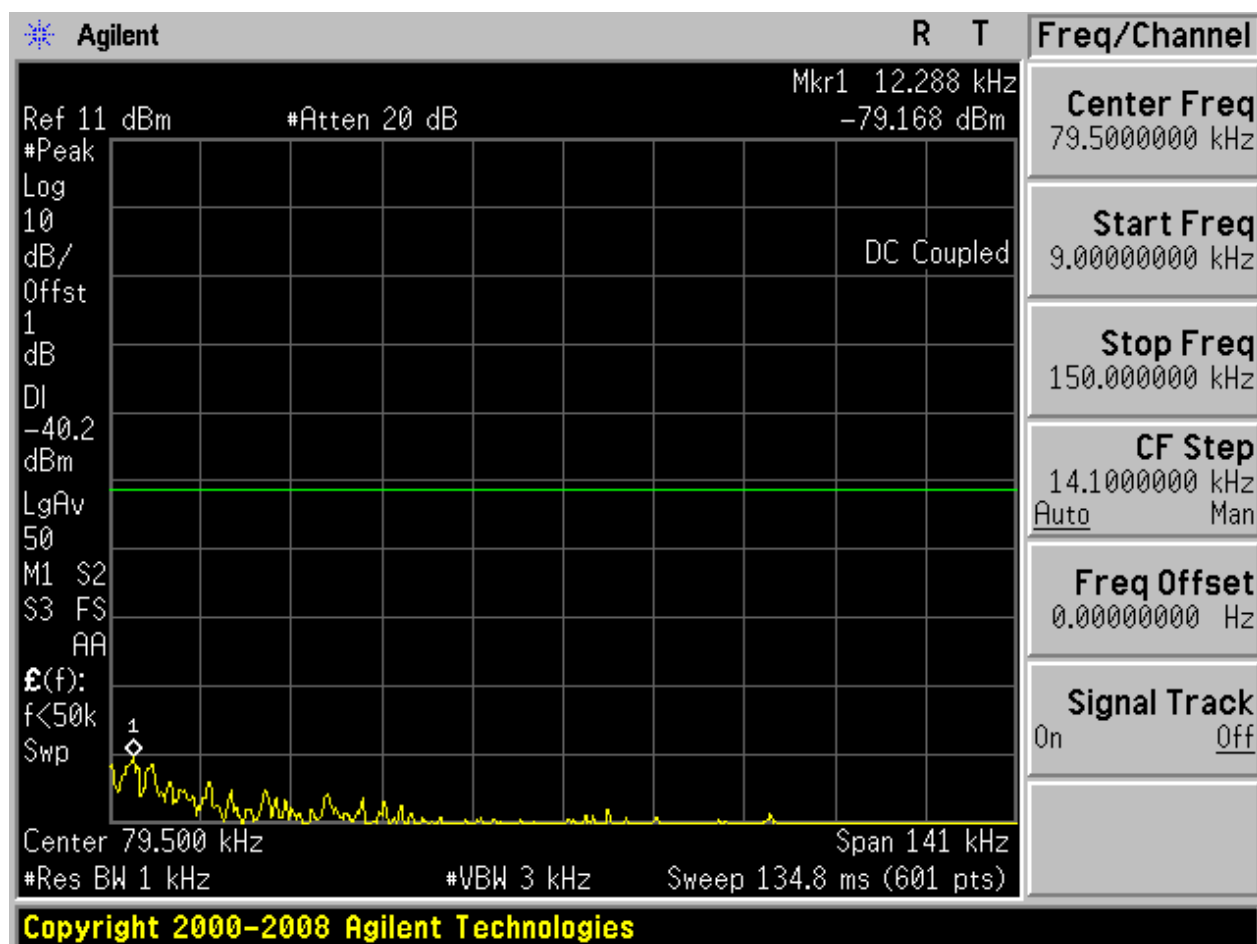


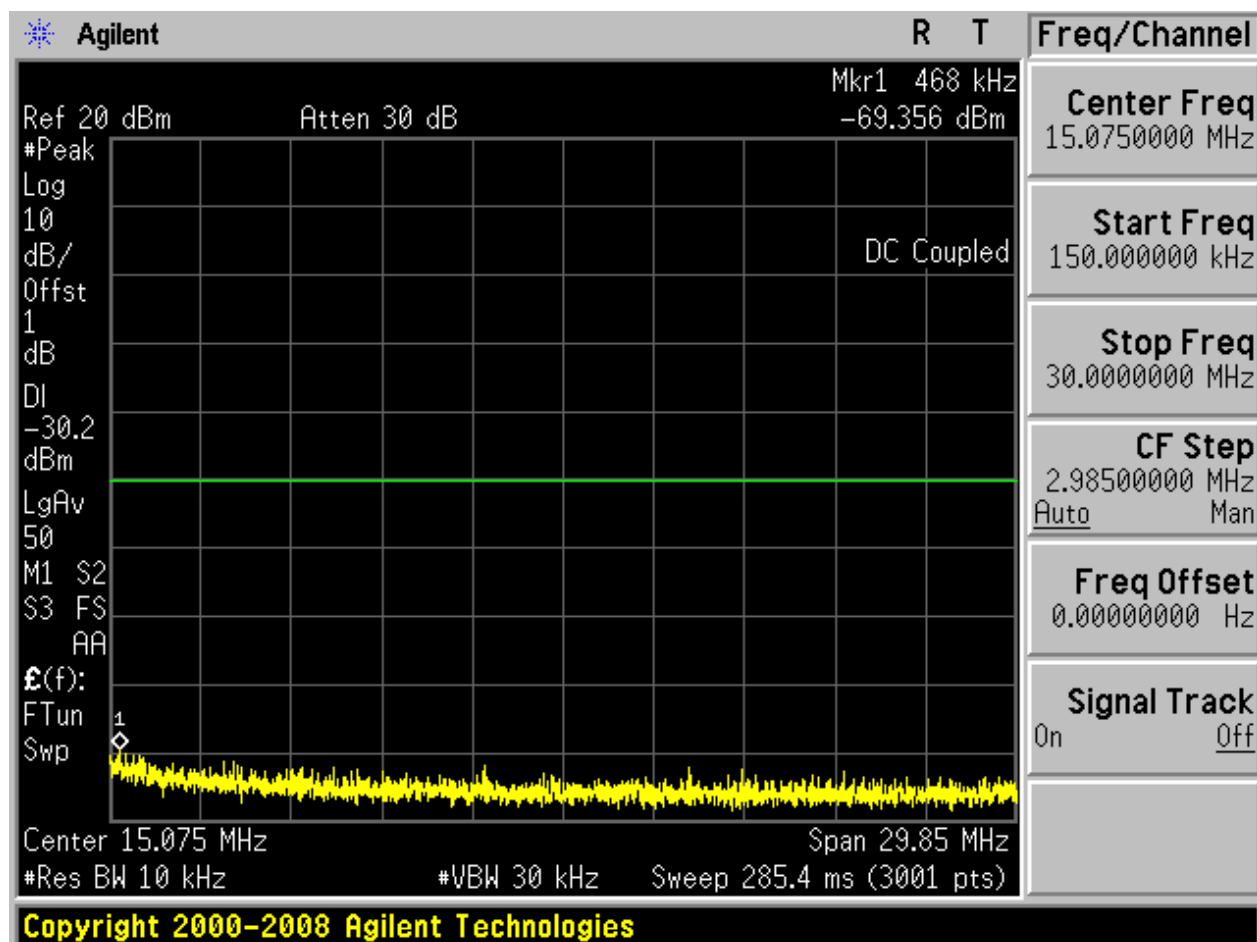
2.9 11N20_H

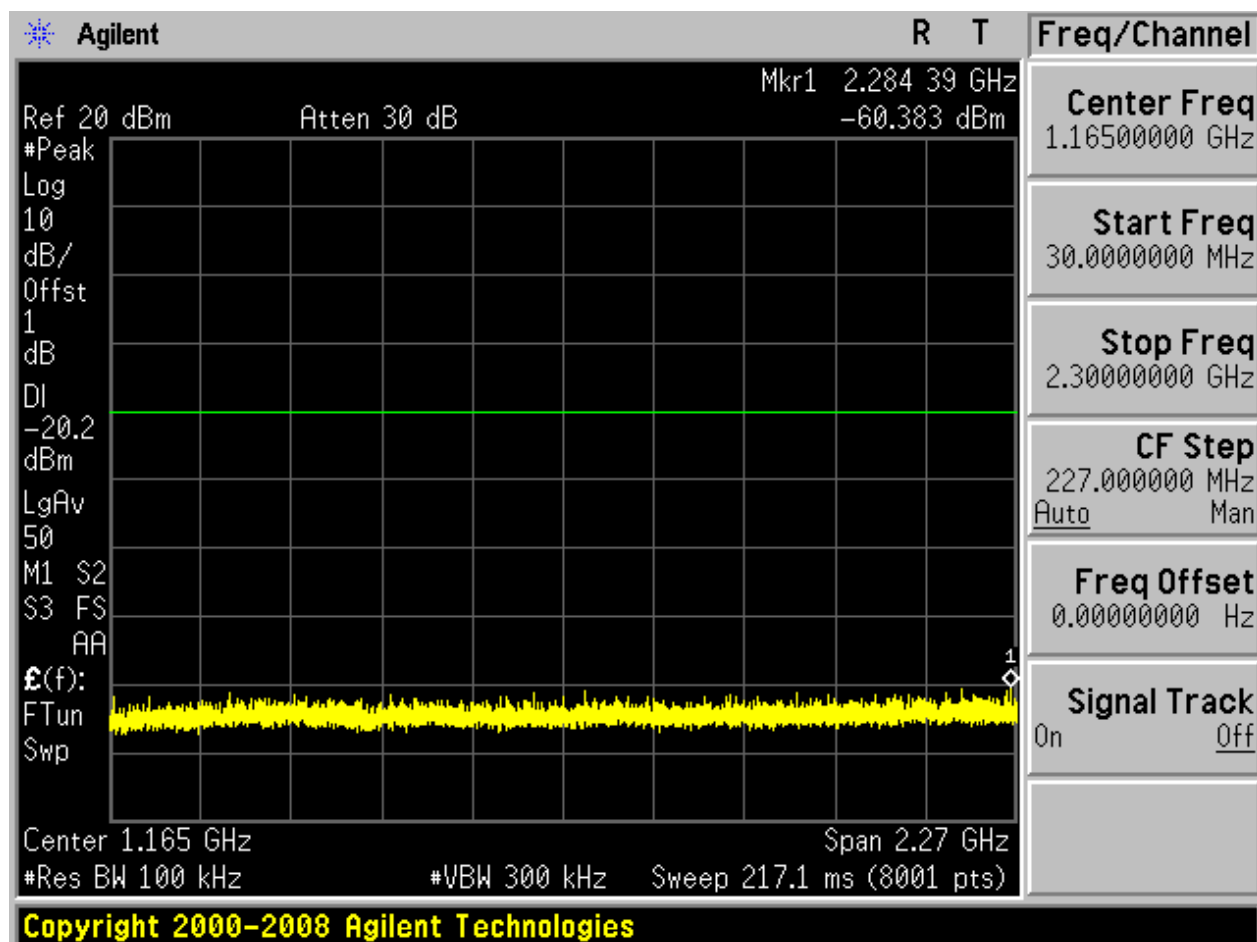
Pref:

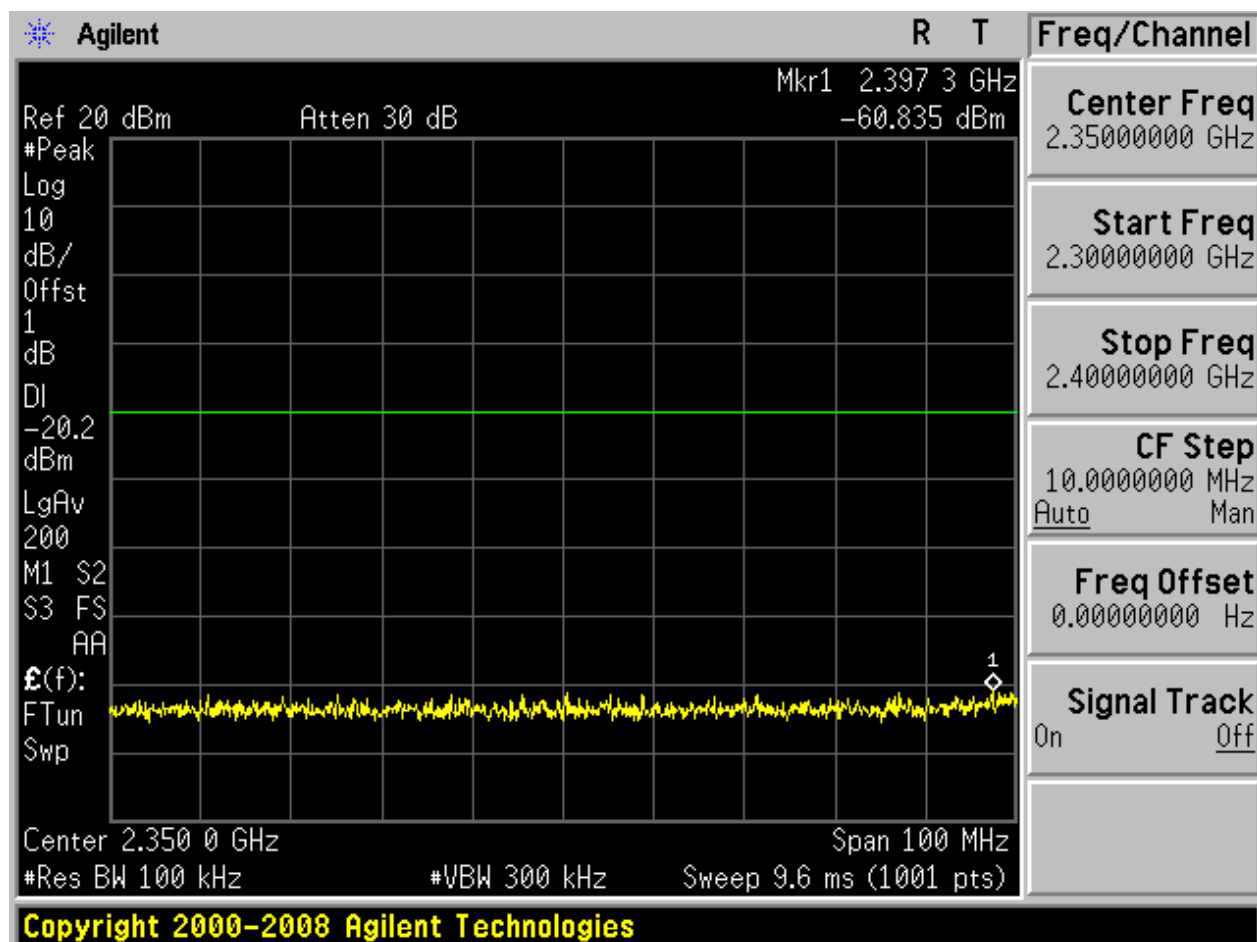


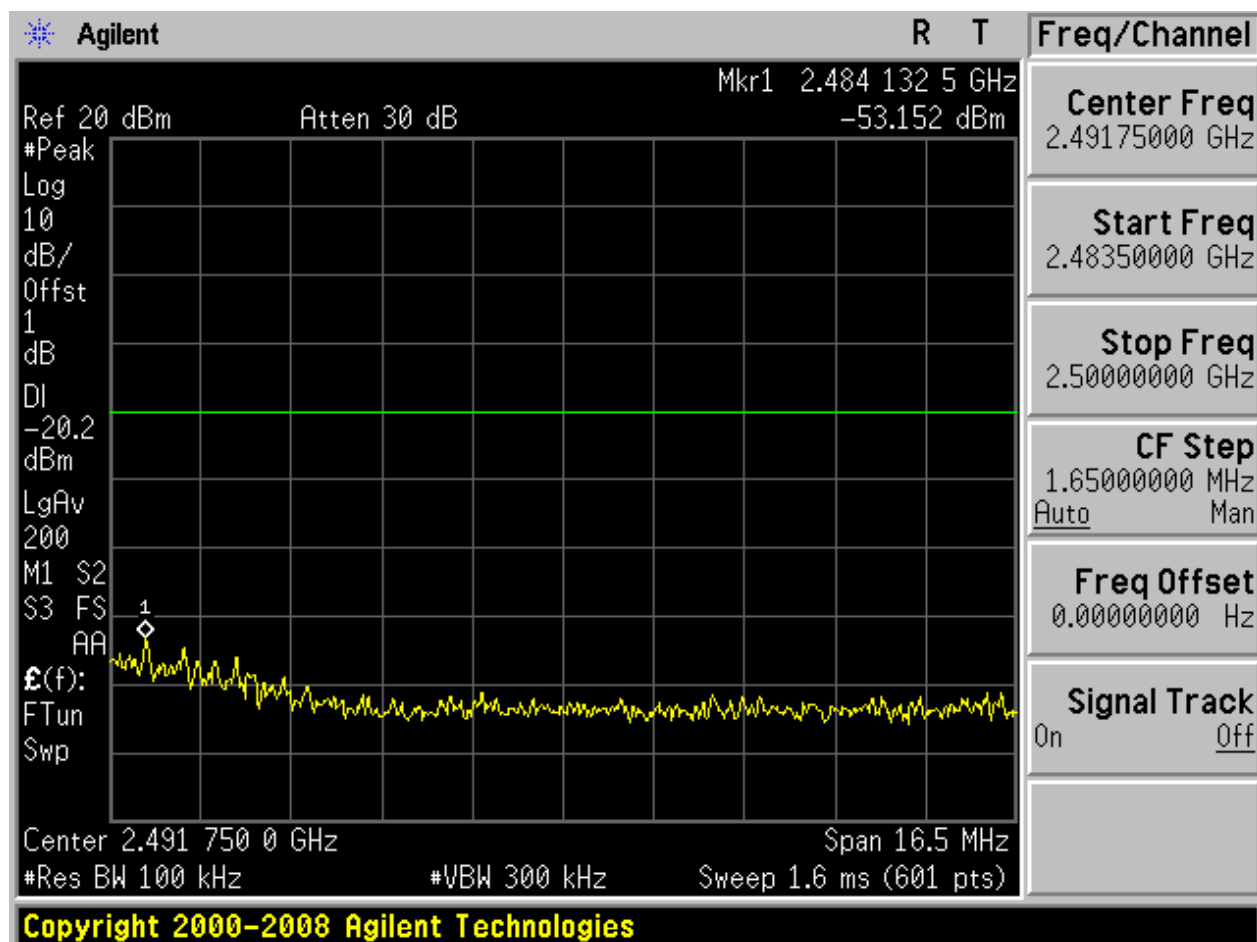
Puw:

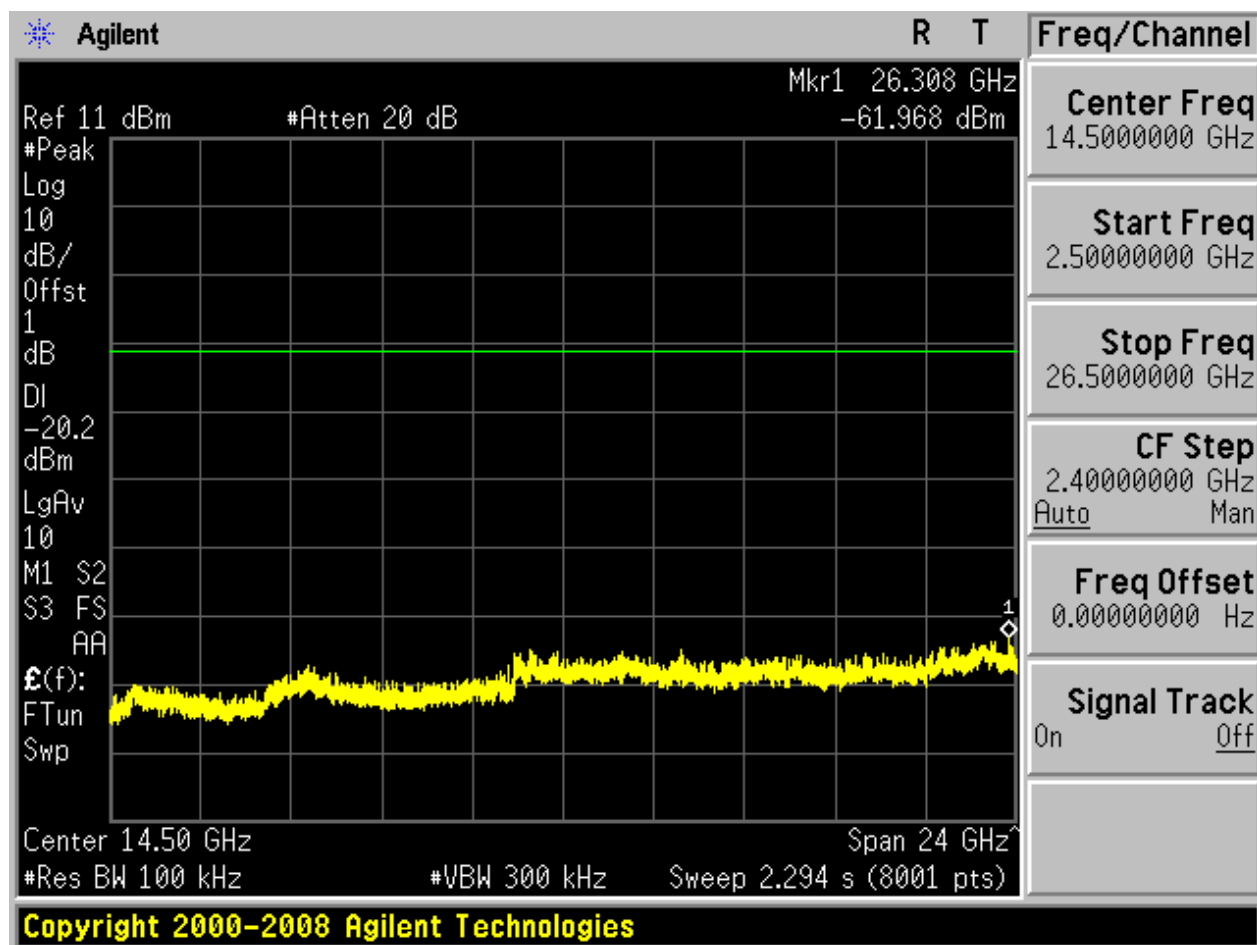












Appendix F: Radiated Spurious Emission & Spurious in Restricted Band

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

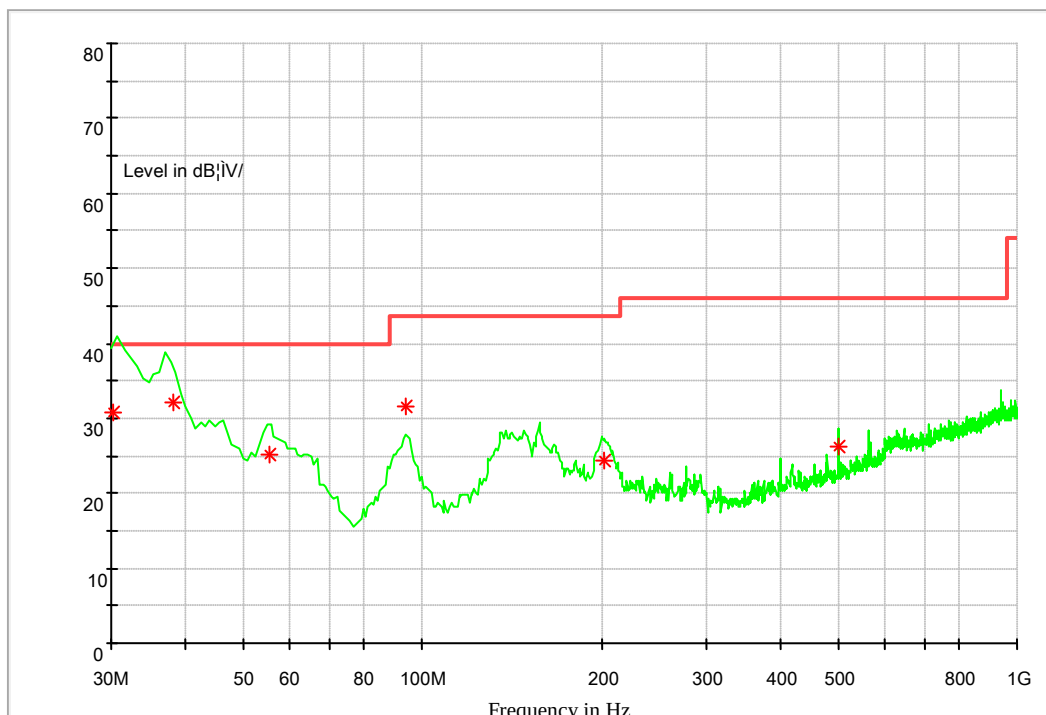
Above 1GHz, RBW = 1 MHz, VBW = 3 MHz.

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.

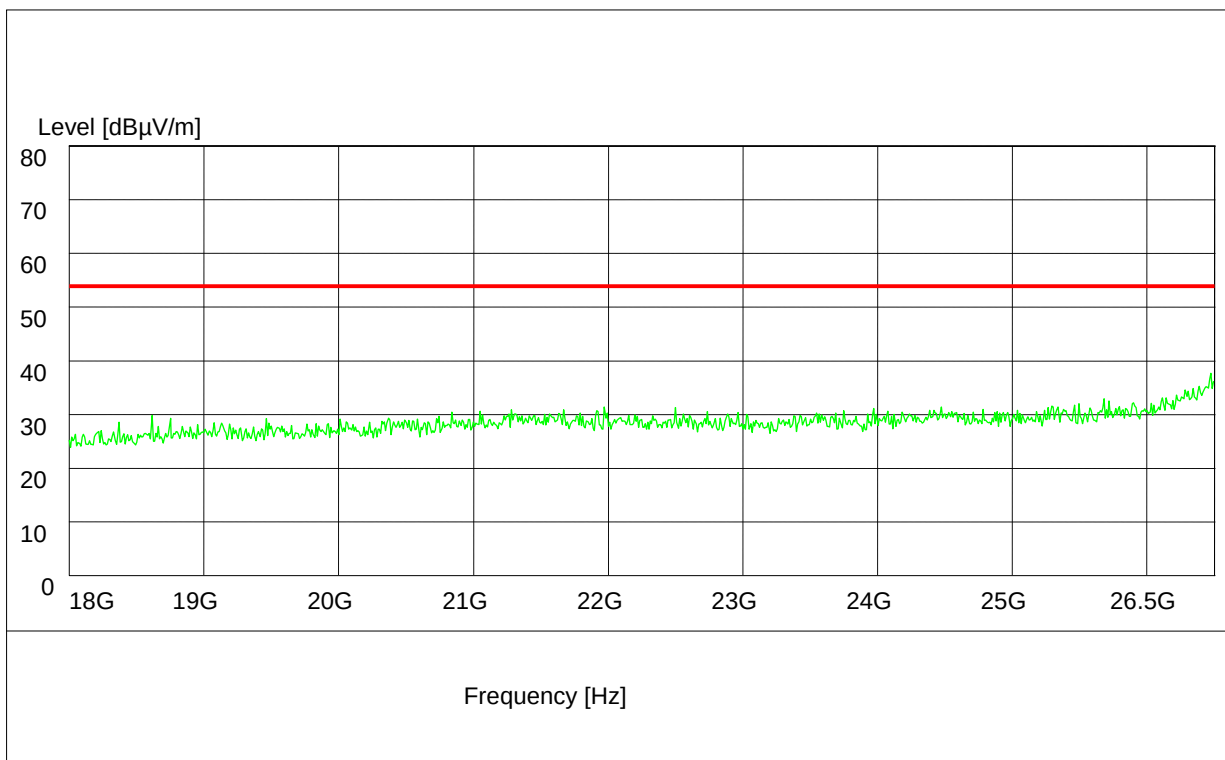
Note 2: **The emissions in this range are mainly from the Platform Device (Notepad PC and its ancillary components).**



Frequency MHz	Level dBμV/m	Transd dB	Limit dBμV/m	Margin dB	Height cm	Azimuth deg	Plarization
30.219731	30.9	13.8	40.0	9.1	100.0	100.0	VERTICAL
38.049600	32.1	15.0	40.0	7.9	100.0	174.0	VERTICAL
55.413760	25.1	14.3	40.0	14.9	100.0	171.0	VERTICAL
94.115840	31.6	12.7	43.5	11.9	219.0	264.0	HORIZONTAL
202.370240	24.5	12.9	43.5	19.0	100.0	24.0	VERTICAL
500.042880	26.2	19.8	46.0	19.8	400.0	172.0	HORIZONTAL

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

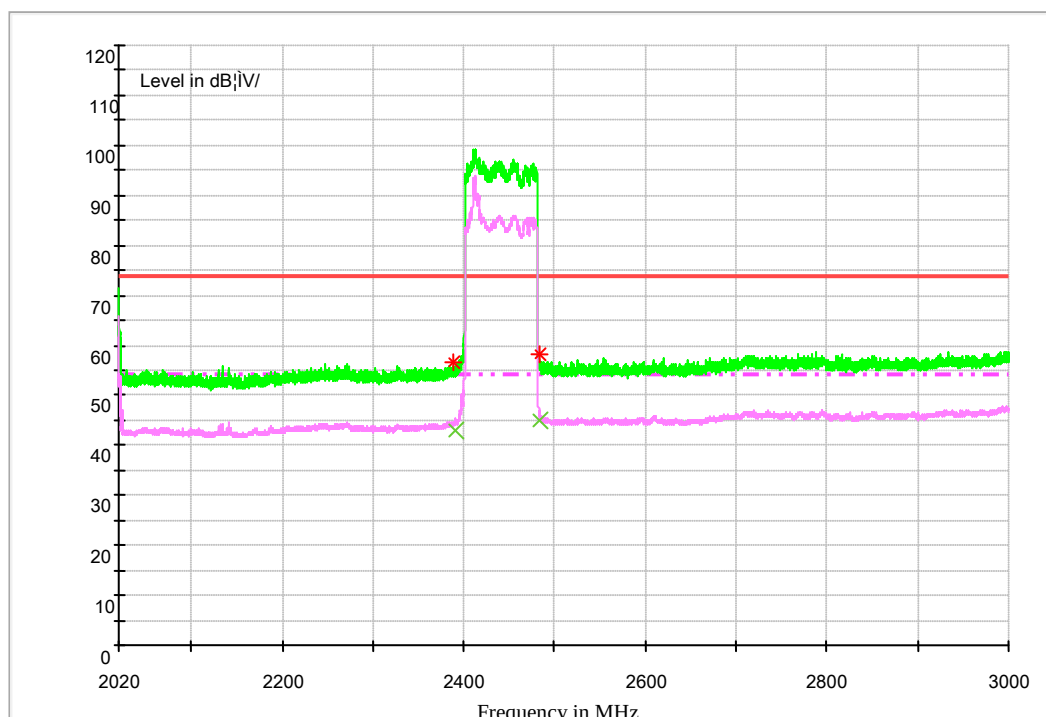
Note: No peak found in pre- test.

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

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



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

MEASUREMENT RESULT: PK Detector

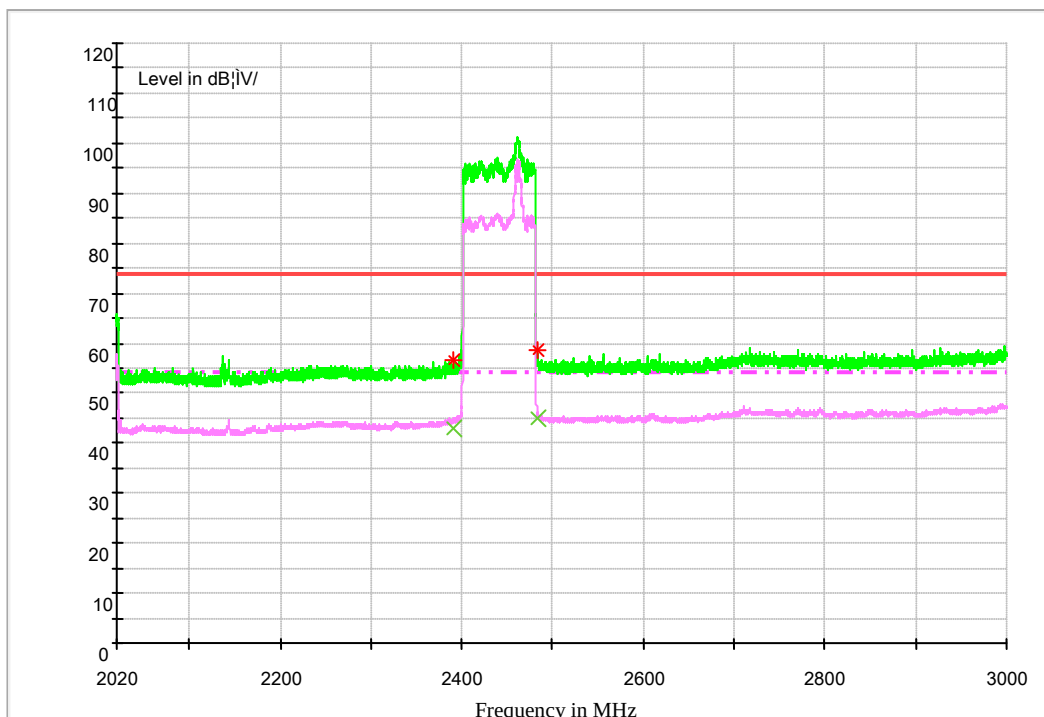
Frequency MHz	Level dB μ V/m	Transd dB	Limit dB μ V/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	56.6	38.3	74.0	17.4	100.0	-37.0	HORIZONTAL
2483.500000	58.4	40.7	74.0	15.6	100.0	37.0	HORIZONTAL

MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBμV/m	Transd dB	Limit dBμV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	43.1	38.3	54.0	10.9	100.0	287.0	VERTICA
2483.500000	45.1	40.7	54.0	8.9	100.0	37.0	HORIZONTAL

Test Mode: 11b

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	56.6	38.3	74.0	17.4	100.0	153.0	VERTICA
2483.500000	58.6	40.5	74.0	15.4	100.0	140.0	HORIZONTAL

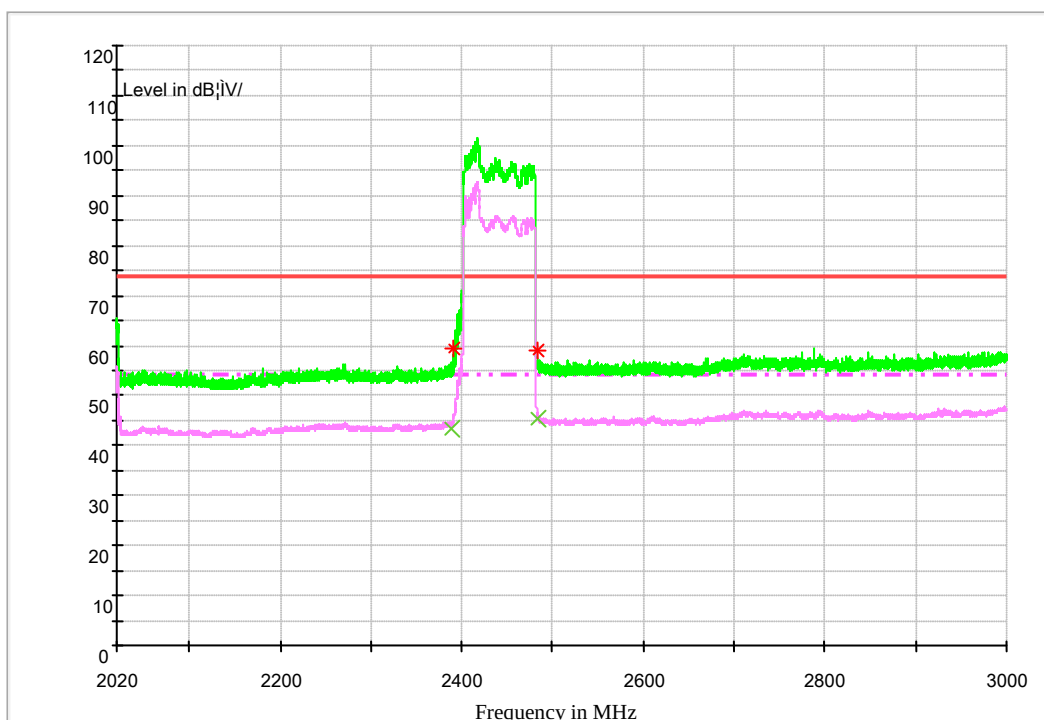
MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBμV/m	Transd dB	Limit dBμV/m	Margin dB	Height cm	Azimuth deg	Polarization
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2390.000000	43.1	38.3	54.0	10.9	100.0	251.0	VERTICA
2483.500000	45.1	40.7	54.0	8.8	100.0	319.0	VERTICA

Test Mode: 11g

Channel 1



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

MEASUREMENT RESULT: PK Detector

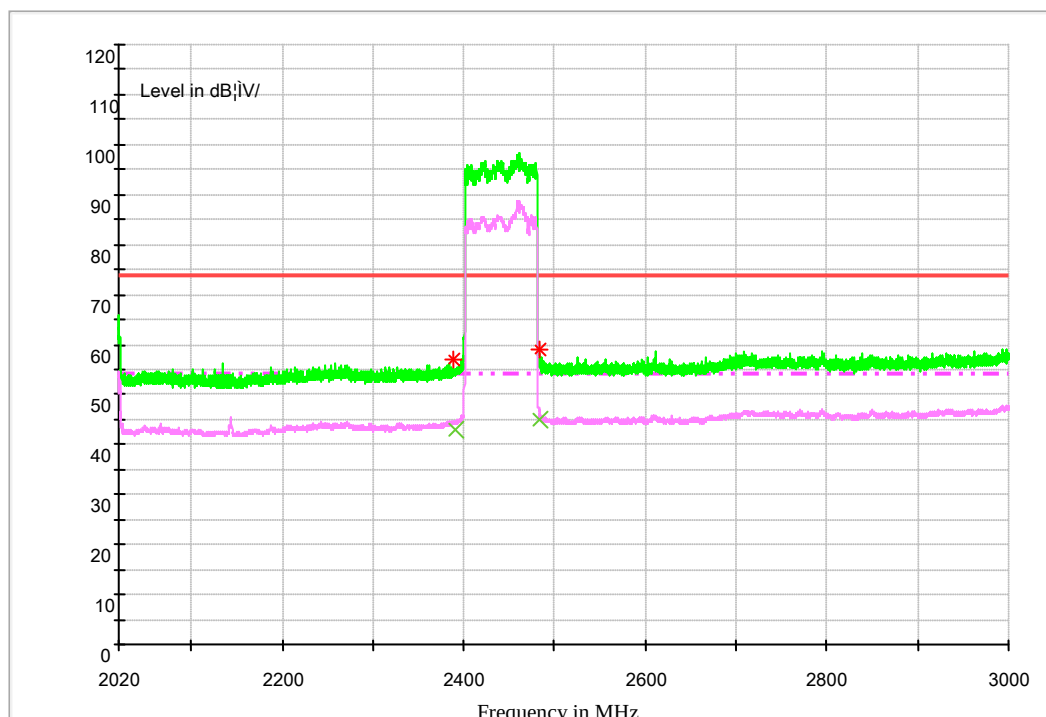
Frequency MHz	Level dBμV/m	Transd dB	Limit dBμV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	59.4	38.3	74.0	14.6	100.0	228.0	HORIZONTAL
2483.500000	59.0	40.6	74.0	15.0	100.0	183.0	VERTICA

MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBμV/m	Transd dB	Limit dBμV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	43.2	38.3	54.0	10.8	100.0	92.0	HORIZONTAL
2483.500000	45.2	40.7	54.0	8.8	100.0	152.0	HORIZONTAL

Test Mode: 11g

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	57.1	38.3	74.0	16.9	100.0	3.0	HORIZONTAL
2483.500000	58.9	40.4	74.0	15.1	113.0	107.0	HORIZONTAL

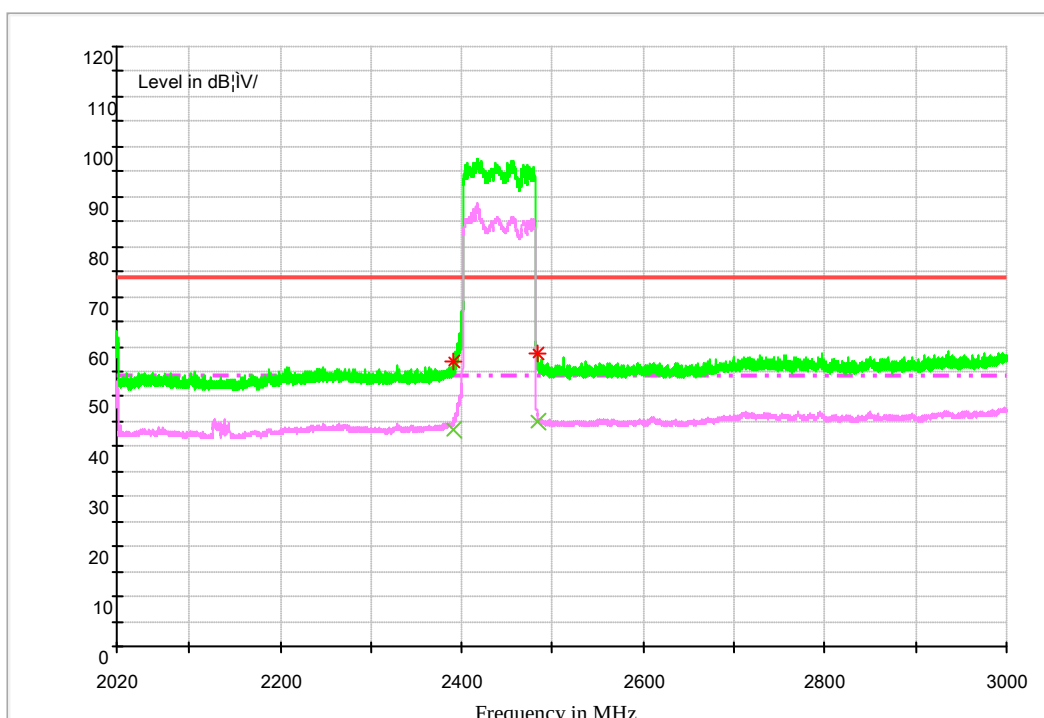
MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBμV/m	Transd dB	Limit dBμV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	43.1	38.3	54.0	10.9	100.0	357.0	VERTICA

2483.500000	45.1	40.7	54.0	8.9	100.0	139.0	HORIZONTAL
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Test Mode: 11N20

Channel 1



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

MEASUREMENT RESULT: PK Detector

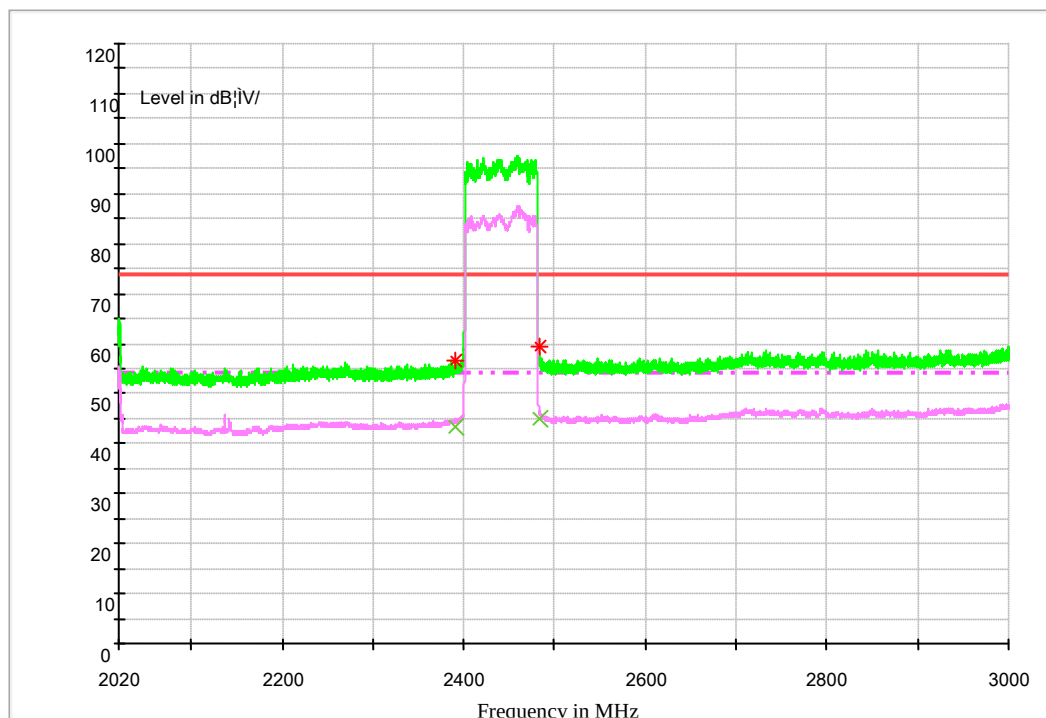
Frequency MHz	Level dBμV/m	Transd dB	Limit dBμV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	57.0	38.3	74.0	17.0	121.0	229.0	VERTICA
2483.500000	58.7	40.6	74.0	15.3	100.0	245.0	VERTICA

MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBμV/m	Transd dB	Limit dBμV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	43.4	38.3	54.0	10.6	100.0	34.0	HORIZONTAL
2483.500000	45.1	40.7	54.0	8.9	100.0	0.0	HORIZONTAL

Test Mode: 11N20

Channel 11



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

MEASUREMENT RESULT: PK Detector

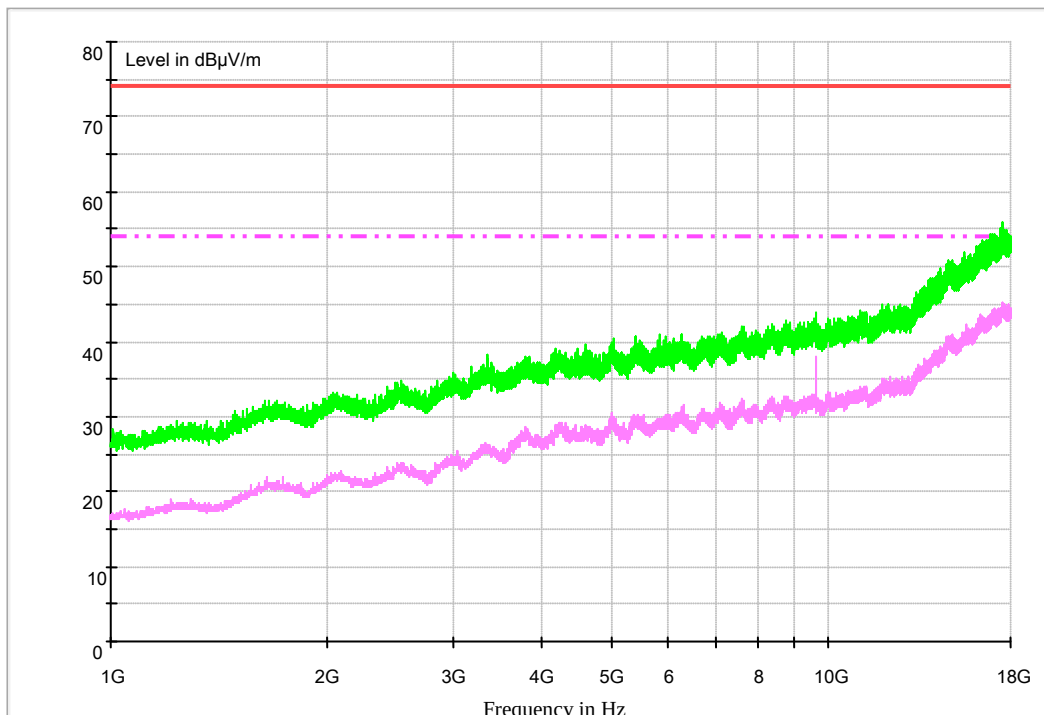
Frequency MHz	Level dBμV/m	Transd dB	Limit dBμV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	56.8	38.3	74.0	17.2	100.0	32.0	HORIZONTAL
2483.500000	59.2	40.8	74.0	14.8	100.0	186.0	HORIZONTAL

MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBμV/m	Transd dB	Limit dBμV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	43.2	38.3	54.0	10.8	100.0	32.0	HORIZONTAL
2483.500000	45.1	40.6	54.0	8.9	100.0	186.0	HORIZONTAL

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

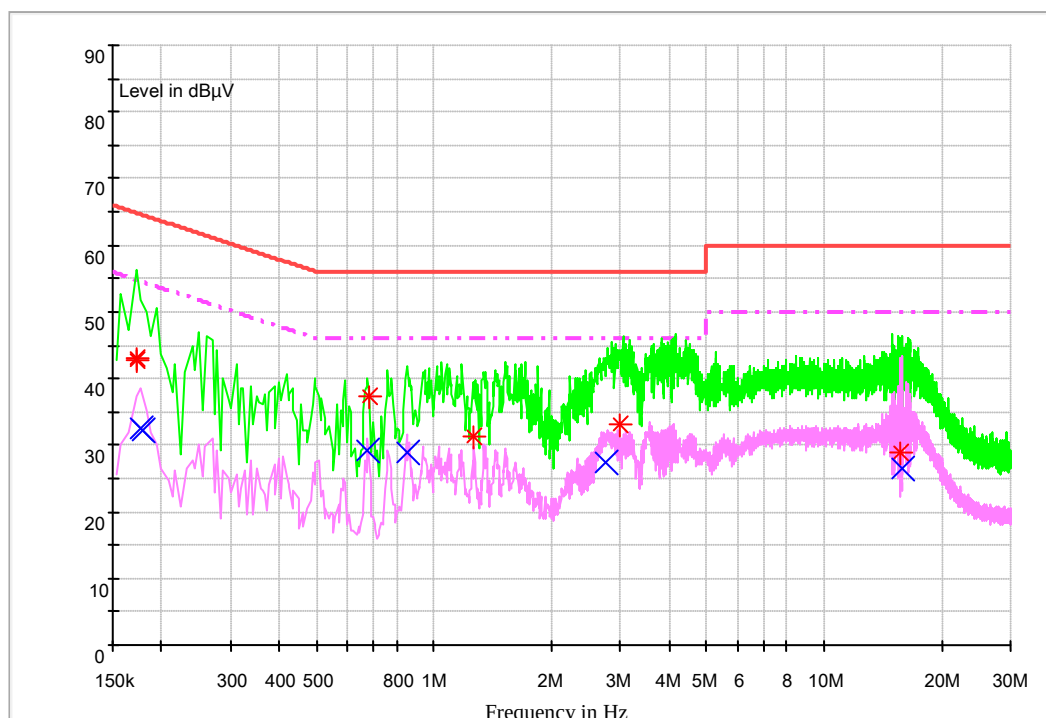
- Note 1: The test results and plot for testing range of “1 GHz to 18 GHz” showed as below is **the WORST case for all Test Modes and Channels**. This range will not be presented for each Test Mode and each Channel.
- Note 2: The testing range of “1 GHz to 18 GHz” is for checking radiated emissions located 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
0.173068	42.8	9.7	64.8	22.0	L1	FLO
0.173614	42.9	9.7	64.8	21.9	L1	FLO
0.678581	37.2	9.7	56.0	18.8	N	FLO
1.263368	31.2	9.7	56.0	24.8	L1	FLO
2.988004	33.2	9.7	56.0	22.8	N	FLO
15.669252	28.8	10.1	60.0	31.2	N	FLO

MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.176954	32.5	9.7	54.6	22.1	N	FLO

0.179738	32.3	9.7	54.5	22.2	N	FLO
0.672281	29.1	9.7	46.0	16.9	N	FLO
0.849810	28.8	9.7	46.0	17.2	N	FLO
2.766728	27.3	9.7	46.0	18.7	N	FLO
15.759476	26.4	10.1	50.0	23.6	N	FLO

END