



Appendix for Test Report



Appendix A: DTS (6 dB) Bandwidth

In this document, the "DTS6dBBW" refers to the measured "DTS (6 dB) Bandwidth" value. In this Appendix, the "fc(DTS6dBBW)" refers to the centre of the measured "DTS6dBBW". The introduction of the "fc(DTS6dBBW)" is due to that other measurements use it as the spectrum analyzer setting.

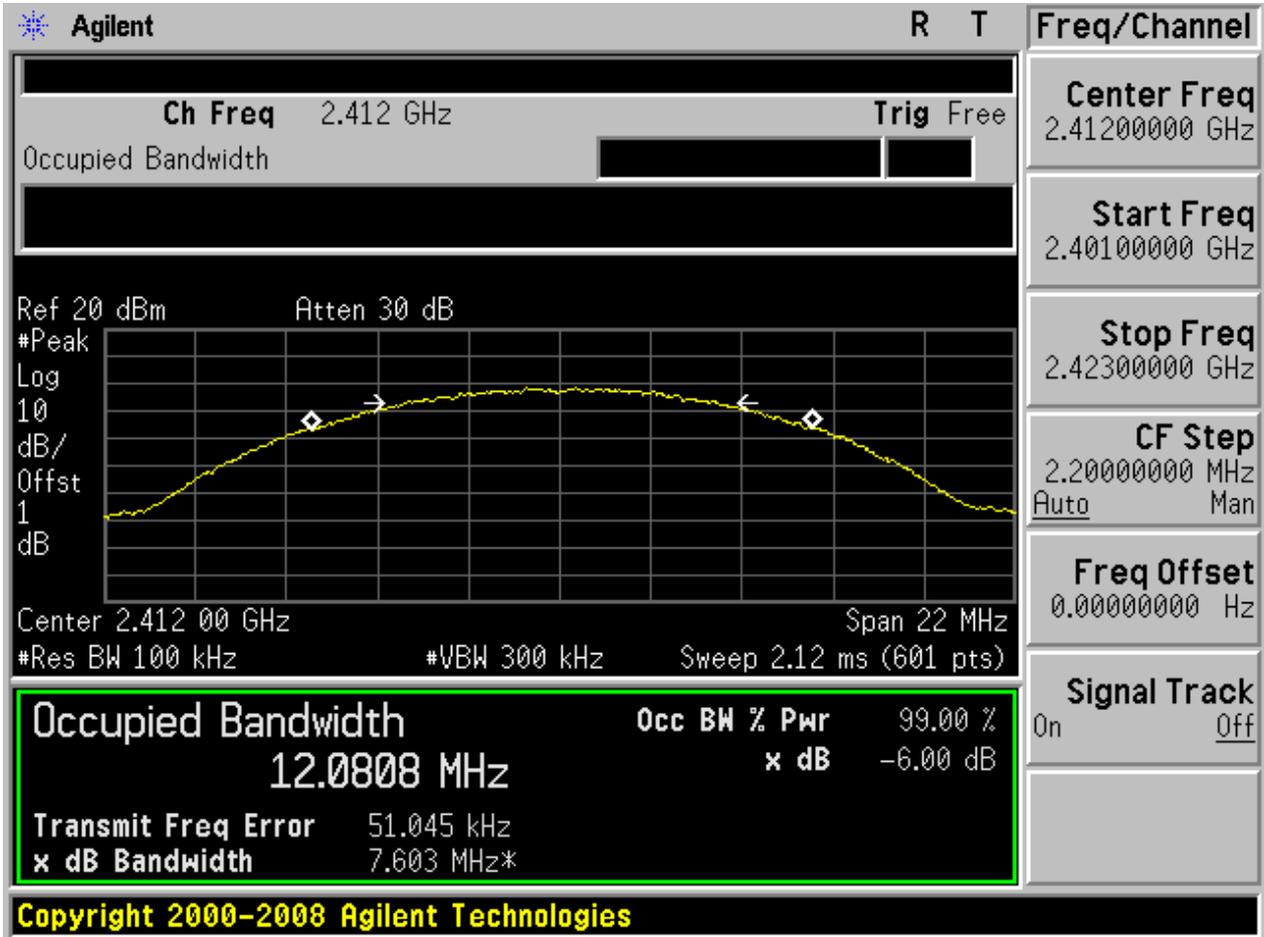
For measurements on smart antenna systems (devices with multiple transmit chains), the test is performed at each chain, and used as respective results for each chain.

Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Ant	DTS6dBBW[MHz]	Verdict
11B	L	2412	Ant 1	7.60	pass
11B	M	2437	Ant 1	7.66	pass
11B	H	2462	Ant 1	7.96	pass
11G	L	2412	Ant 1	16.46	pass
11G	M	2437	Ant 1	16.49	pass
11G	H	2462	Ant 1	16.51	pass
11N20	L	2412	Ant 1	17.69	pass
11N20	M	2437	Ant 1	17.73	pass
11N20	H	2462	Ant 1	17.71	pass

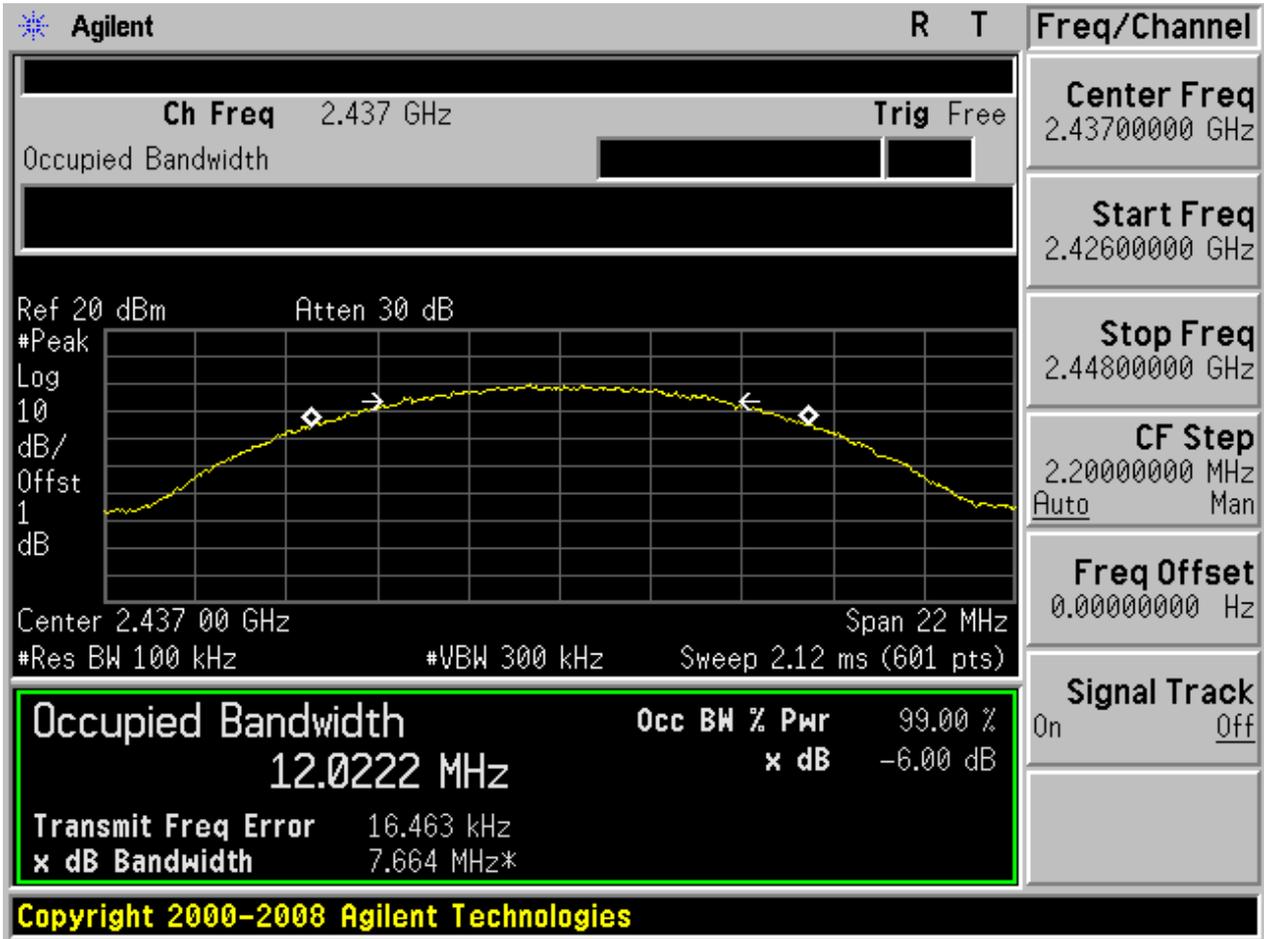
Part II - Test Plots

2.1 11B_L



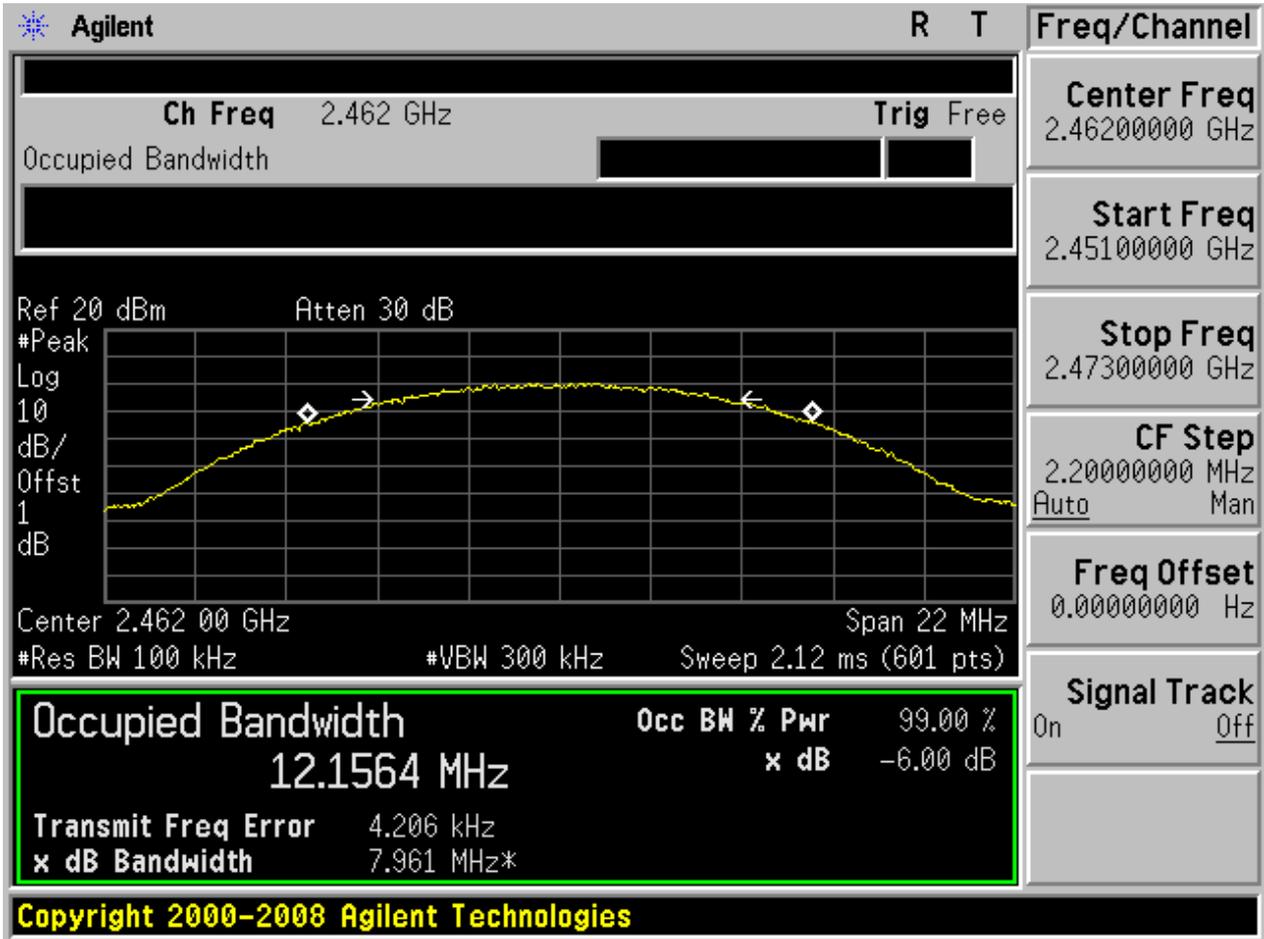


2.2 11B_M



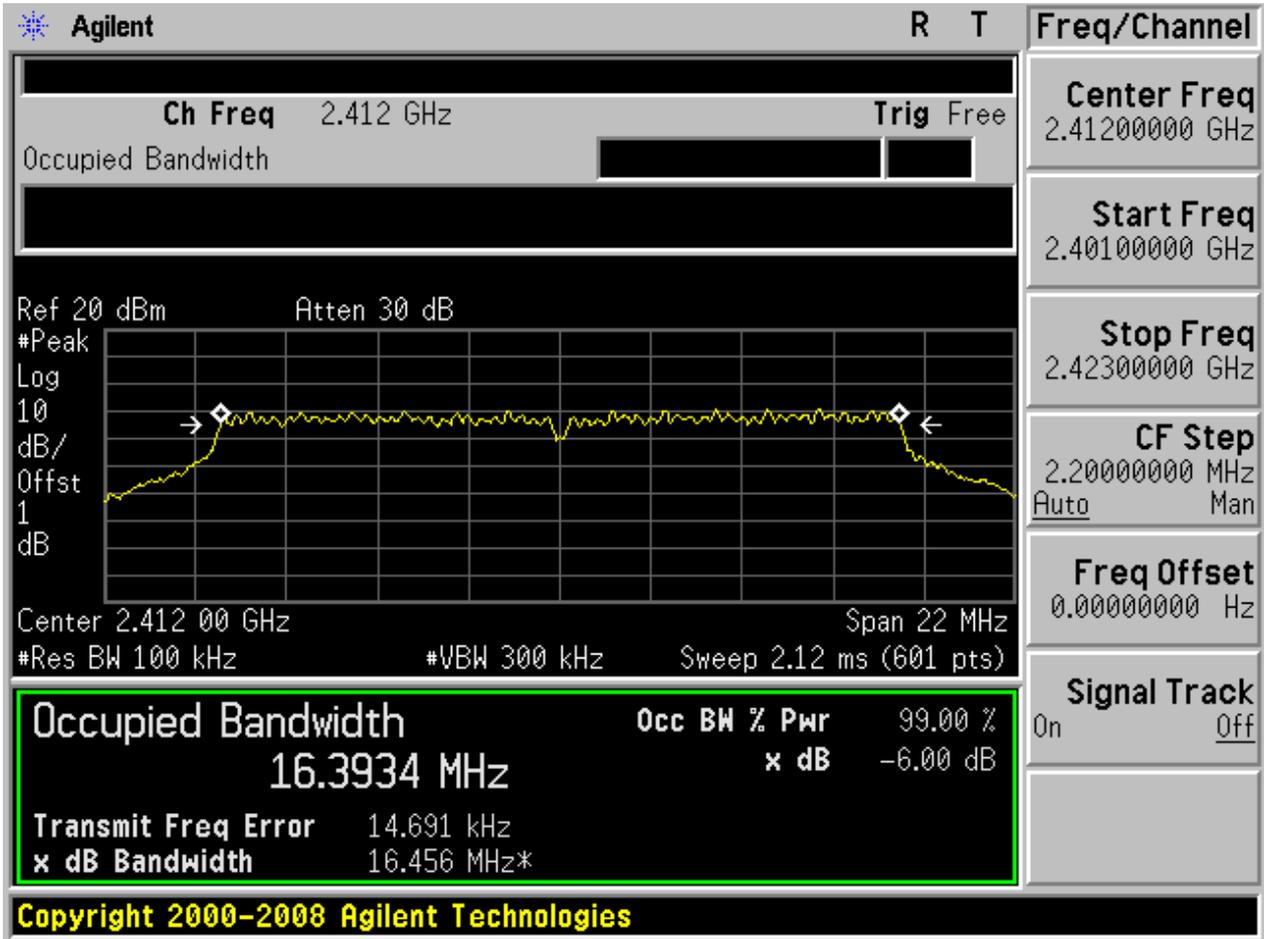


2.3 11B_H



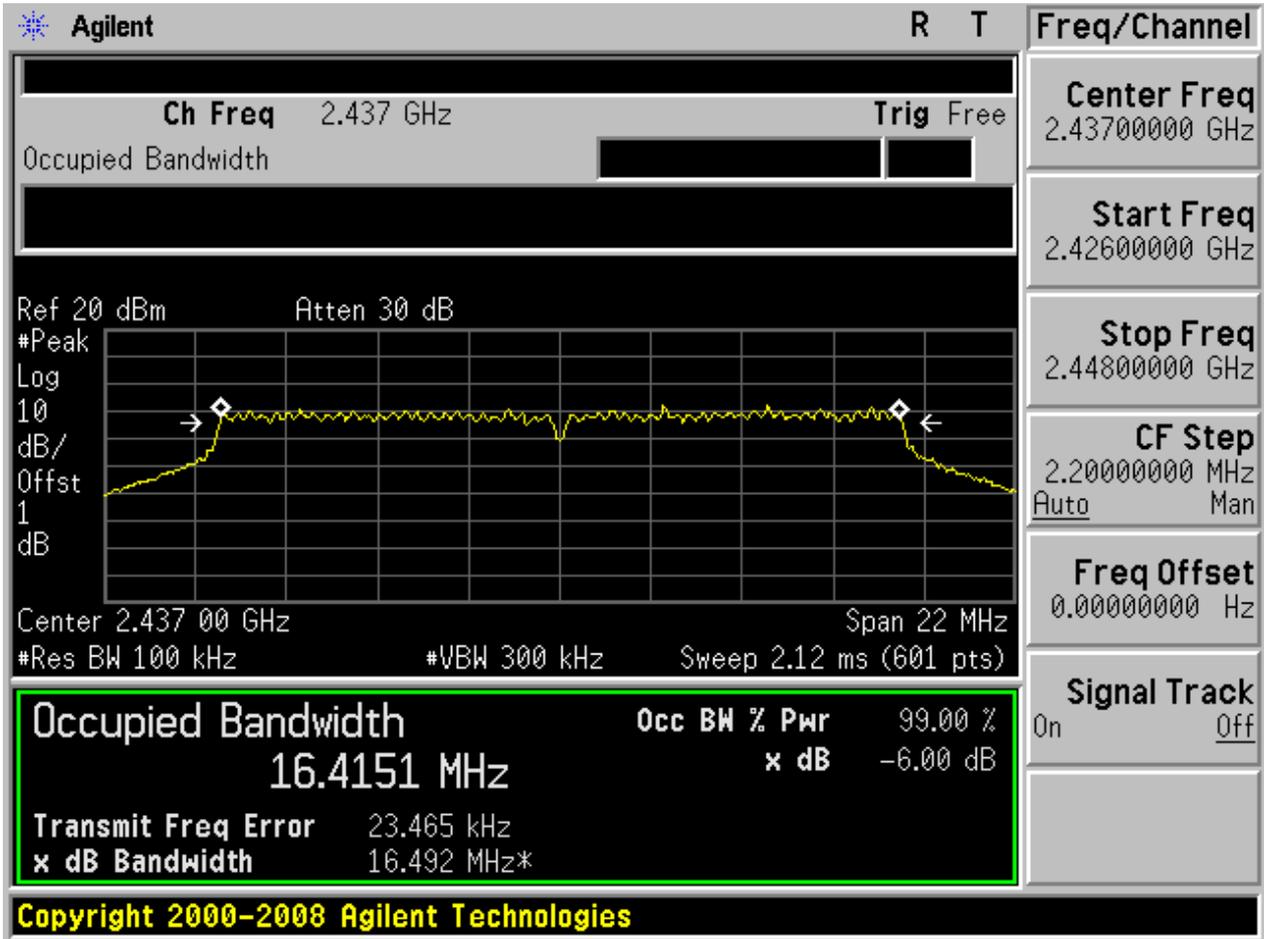


2.4 11G_L



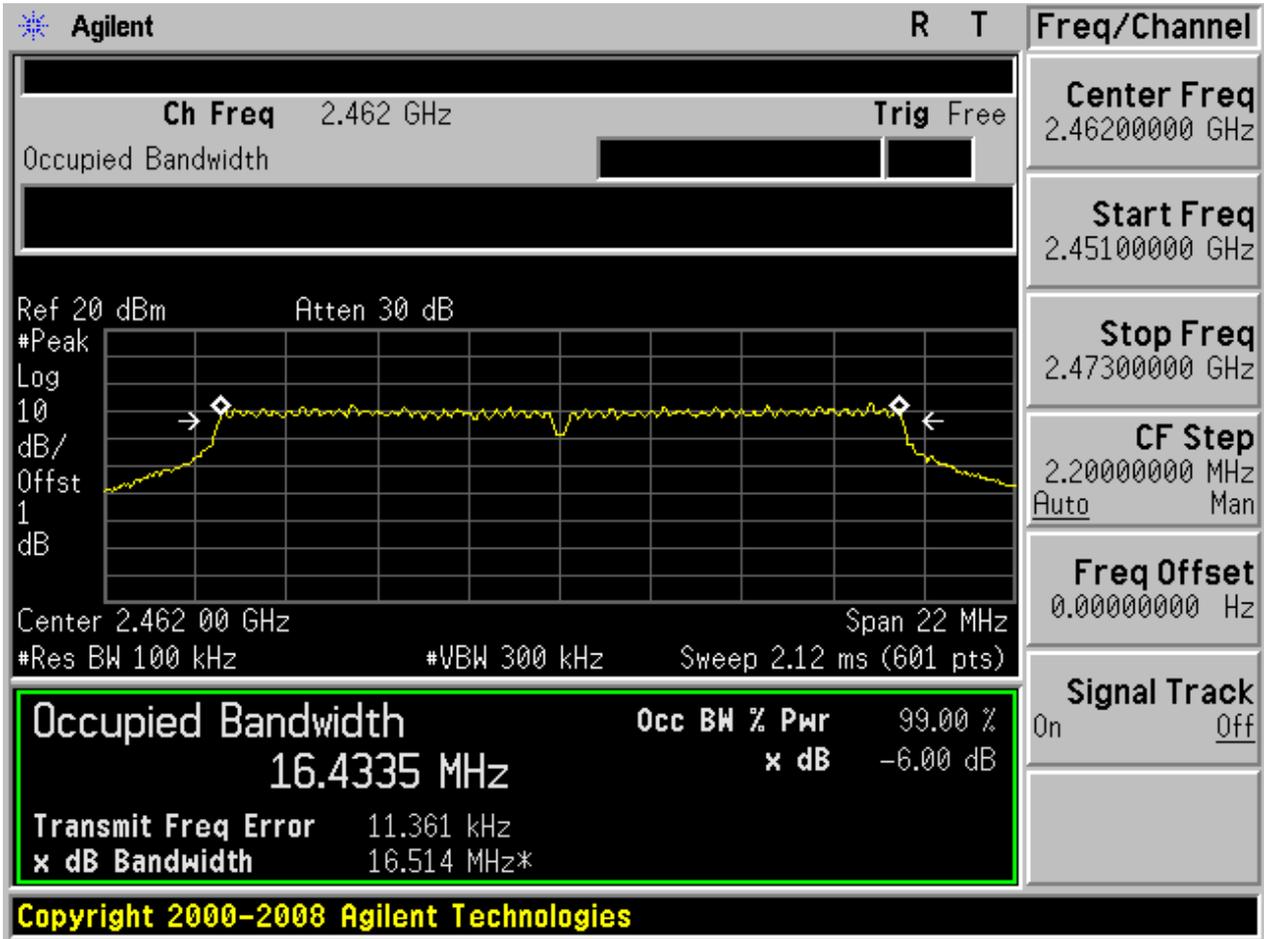


2.5 11G_M



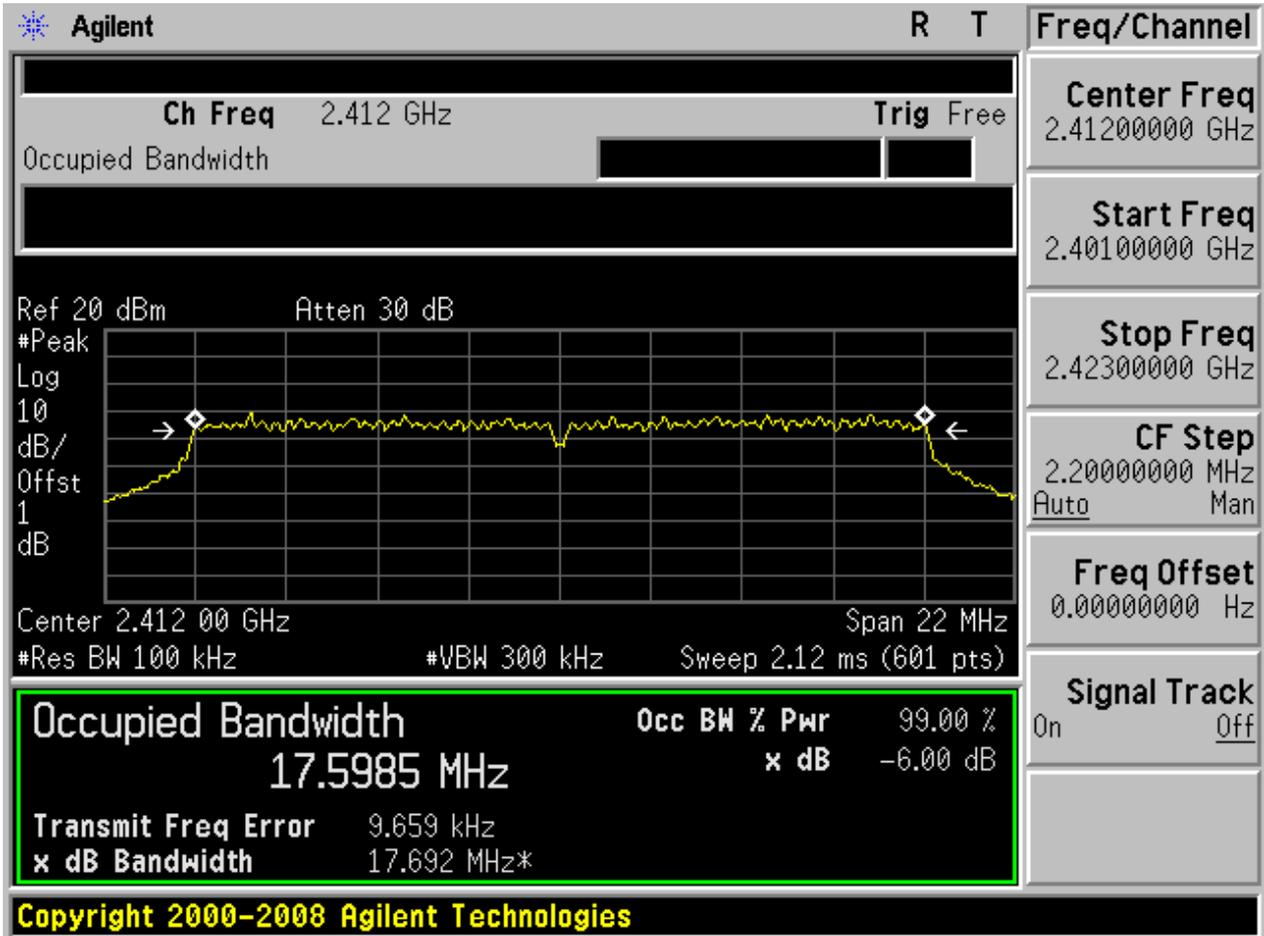


2.6 11G_H



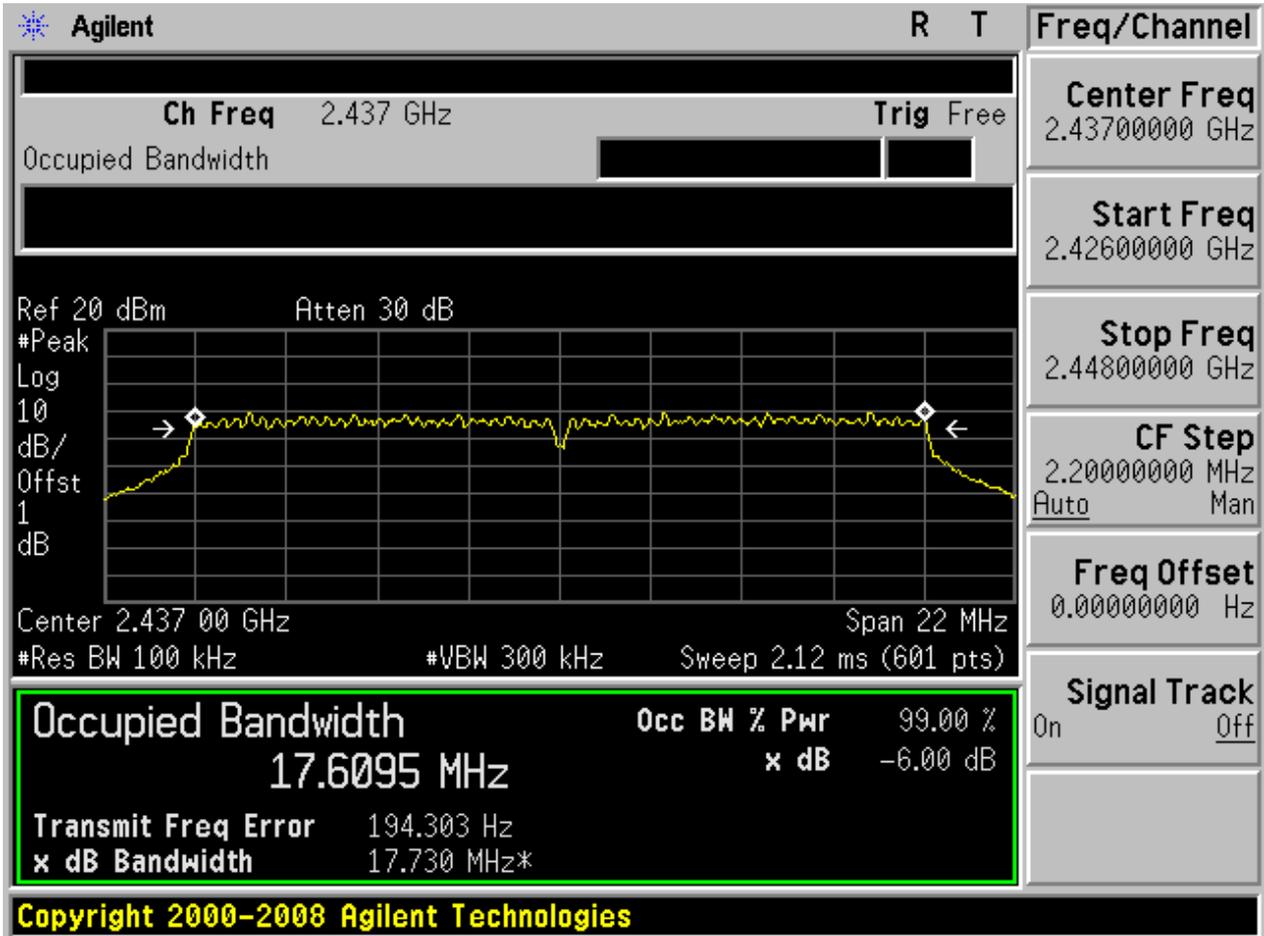


2.7 11N20_L



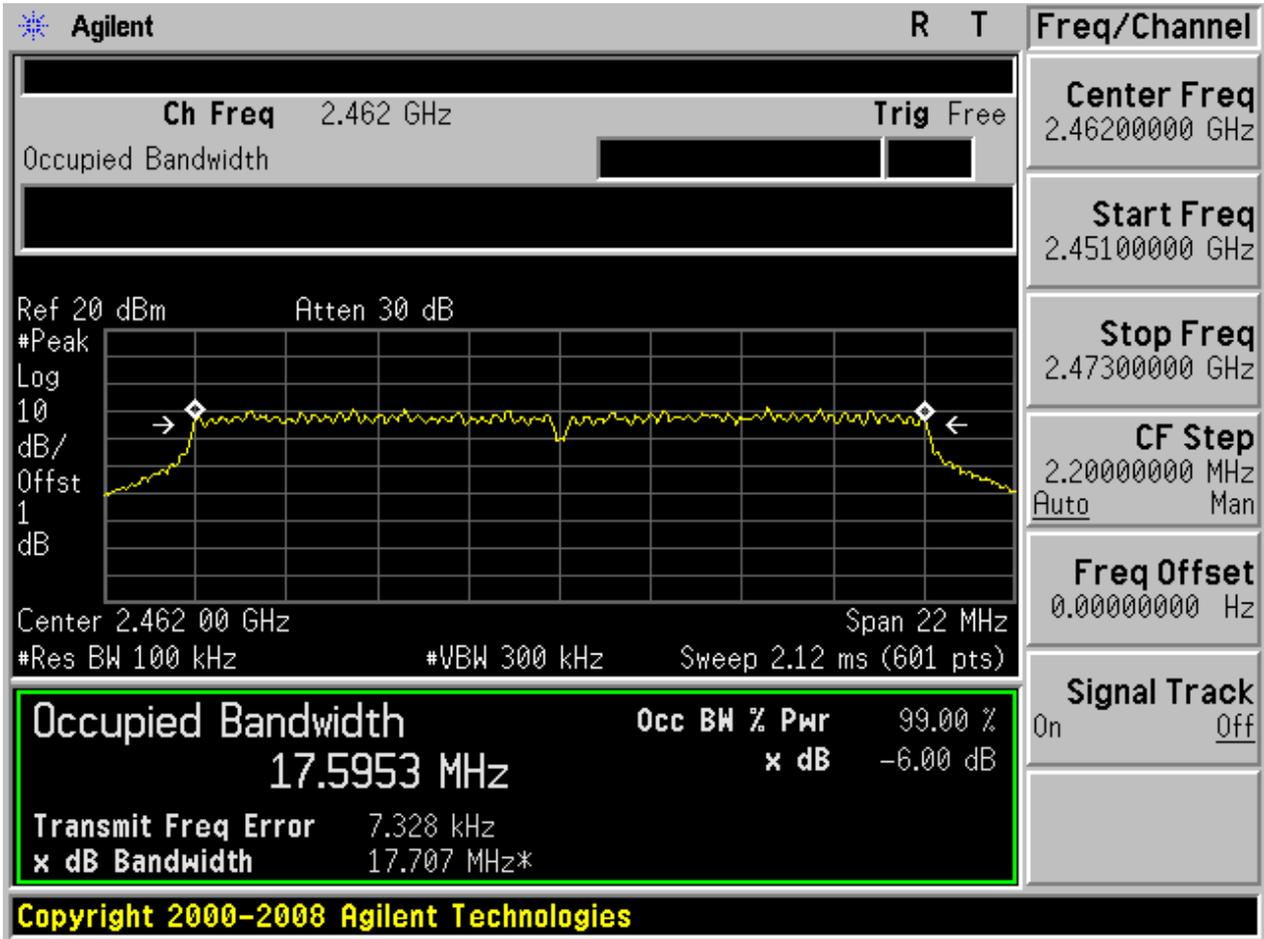


2.8 11N20_M





2.9 11N20_H





Appendix B: Maximum PEAK Power

Test Mode	Test Channel	Frequency[MHz]	Ant	Peak Power[MHz]	Verdict
11B	L	2412	Ant 1	20.34	pass
11B	M	2437	Ant 1	21.49	pass
11B	H	2462	Ant 1	22.34	pass
11G	L	2412	Ant 1	19.53	pass
11G	M	2437	Ant 1	20.35	pass
11G	H	2462	Ant 1	21.41	pass
11N20	L	2412	Ant 1	17.76	pass
11N20	M	2437	Ant 1	18.92	pass
11N20	H	2462	Ant 1	19.75	pass

Appendix C: Maximum Power Spectral Density Level

In this Appendix, the "PD" refers to the measured "Maximum Power Spectral Density" value with 100 kHz RBW. The final result "PD" within 3 kHz bandwidth, which is used to compare with the limit requirements, should be adjusted according to: $PD[\text{dBm}/3 \text{ kHz}] = PD^*[\text{dBm}/100\text{kHz}] - 15.2[\text{dB}]$.

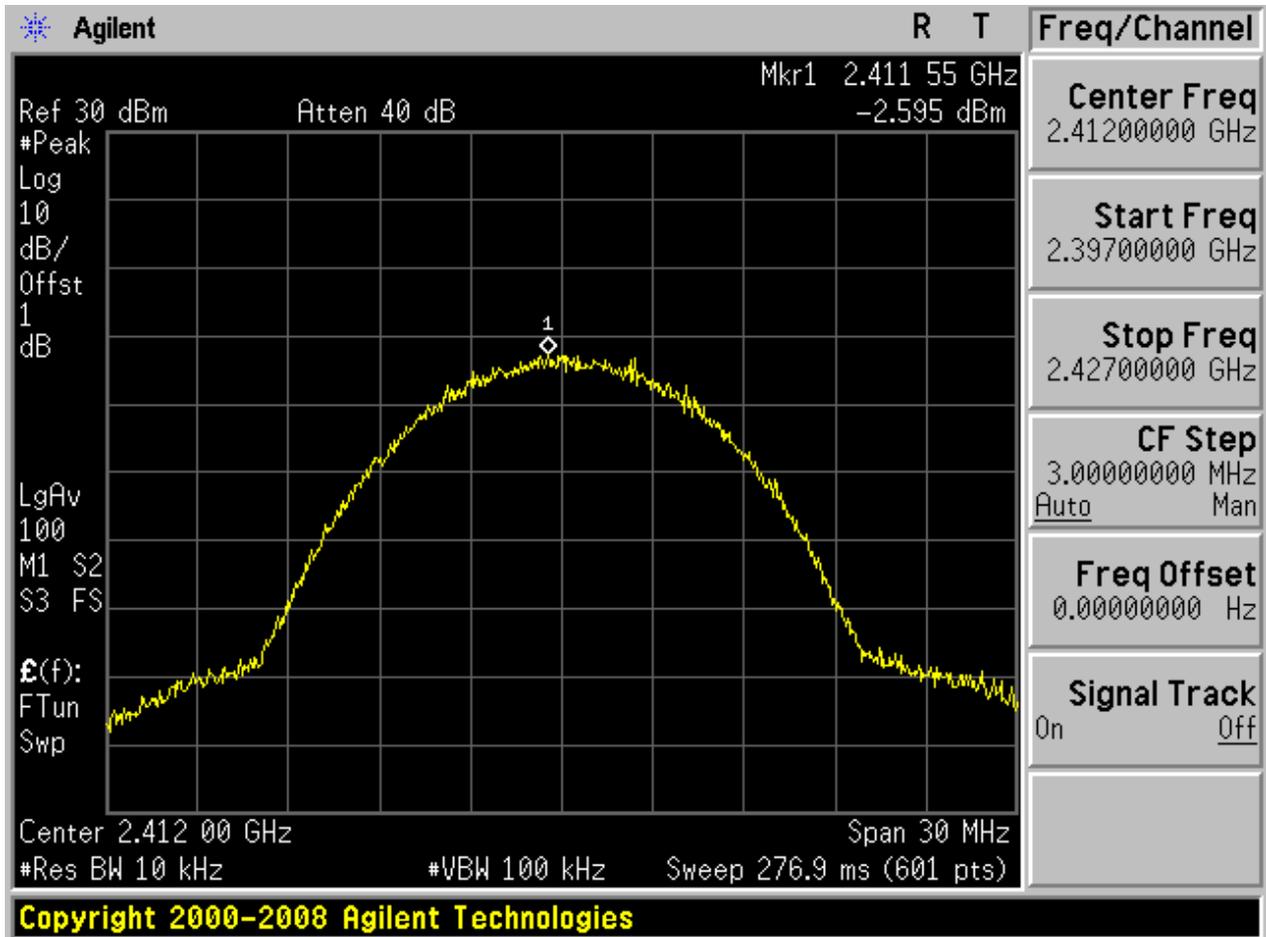
For measurements on smart antenna systems (devices with multiple transmit chains), the test is performed at each chain as "PD@i [dBm]", and then combined into the final result "PD [dBm]" to compare with the limit according to: $PD [\text{dBm}] = 10 \times \lg(10^{PD@1 [\text{dBm}] / 10} + \dots + 10^{PD@N [\text{dBm}] / 10})$ (the N denotes the antenna chains used by smart antenna systems). NOTE that the method is a stringent but convenient consideration, because each "PD@i [dBm]" may be located at different frequency occurrence. For the final judgment, the combination of the final result "PD [dBm]" (Trace#sum) should be performed frequency-by-frequency on the measured spectrum trace for each antenna chain (Trace#i). Unless otherwise specified, the method for final judgment will not be used.

Part I - Test Results

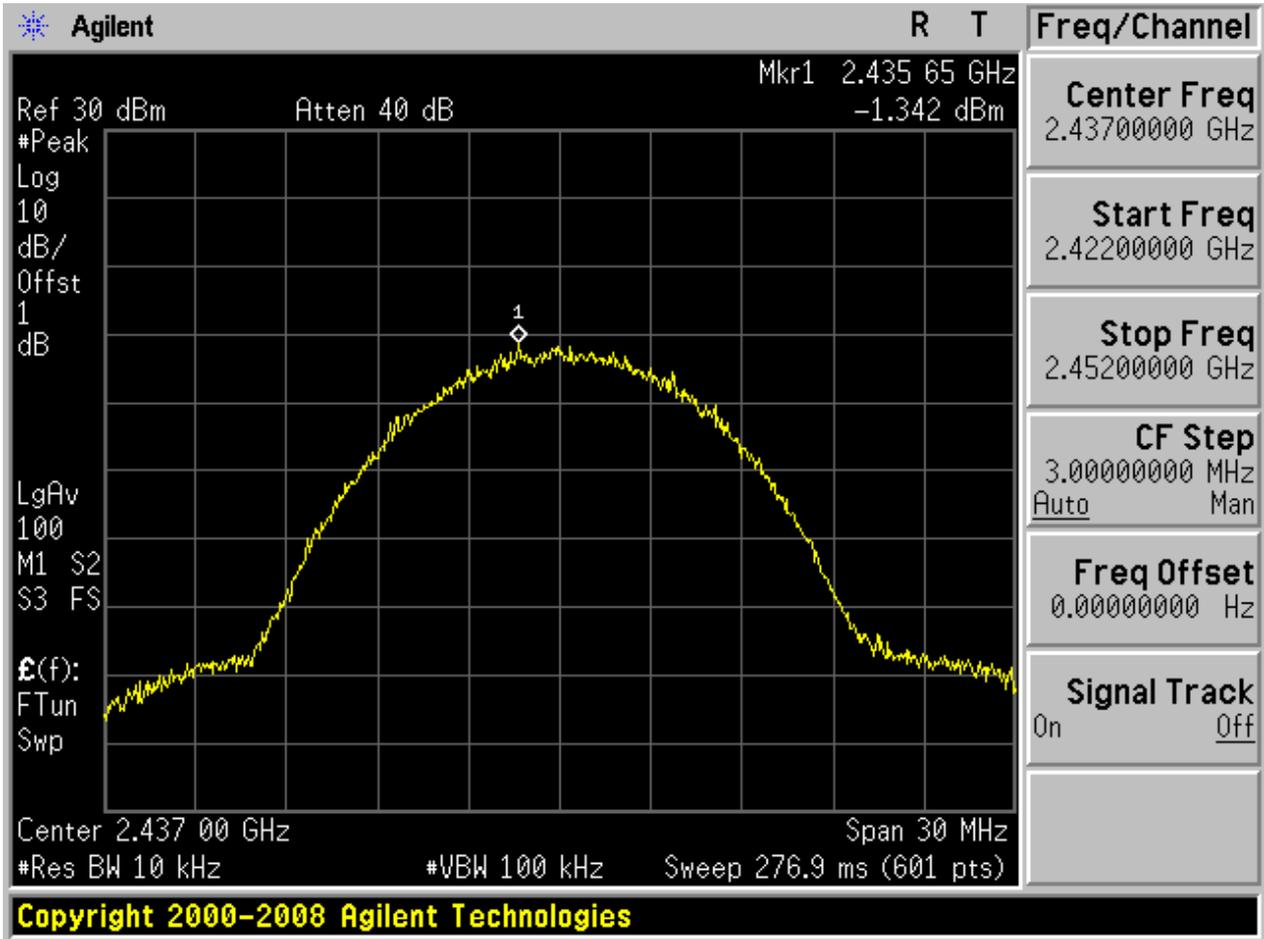
Test Mode	Test Channel	Frequency[MHz]	Ant	PD[MHz]	Verdict
11B	L	2412	Ant 1	-2.60	pass
11B	M	2437	Ant 1	-1.34	pass
11B	H	2462	Ant 1	-0.05	pass
11G	L	2412	Ant 1	-8.48	pass
11G	M	2437	Ant 1	-8.19	pass
11G	H	2462	Ant 1	-6.93	pass
11N20	L	2412	Ant 1	-9.43	pass
11N20	M	2437	Ant 1	-7.76	pass
11N20	H	2462	Ant 1	-7.91	pass

Part II - Test Plots

2.1 11B_L

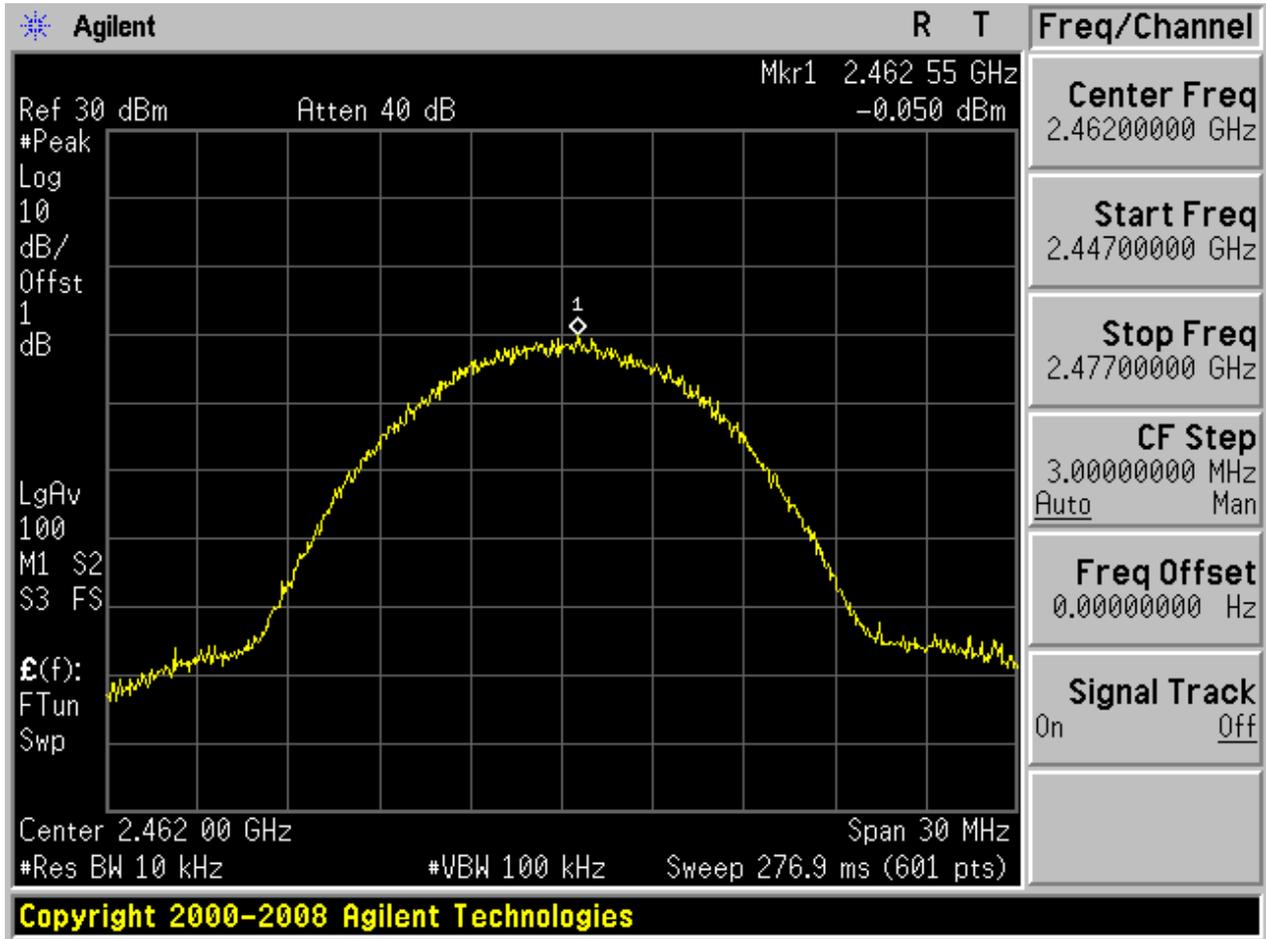


2.2 11B_M



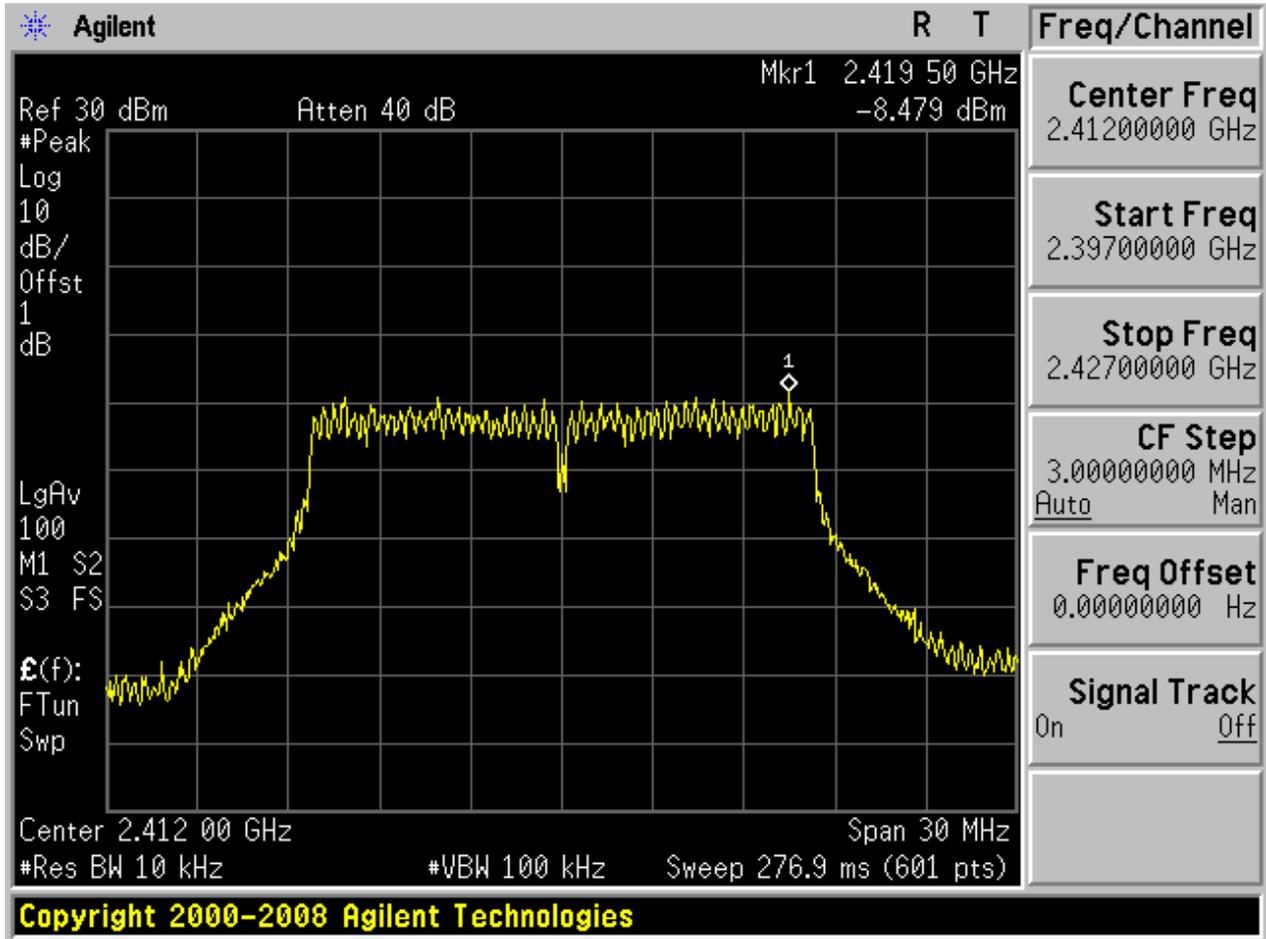


2.3 11B_H



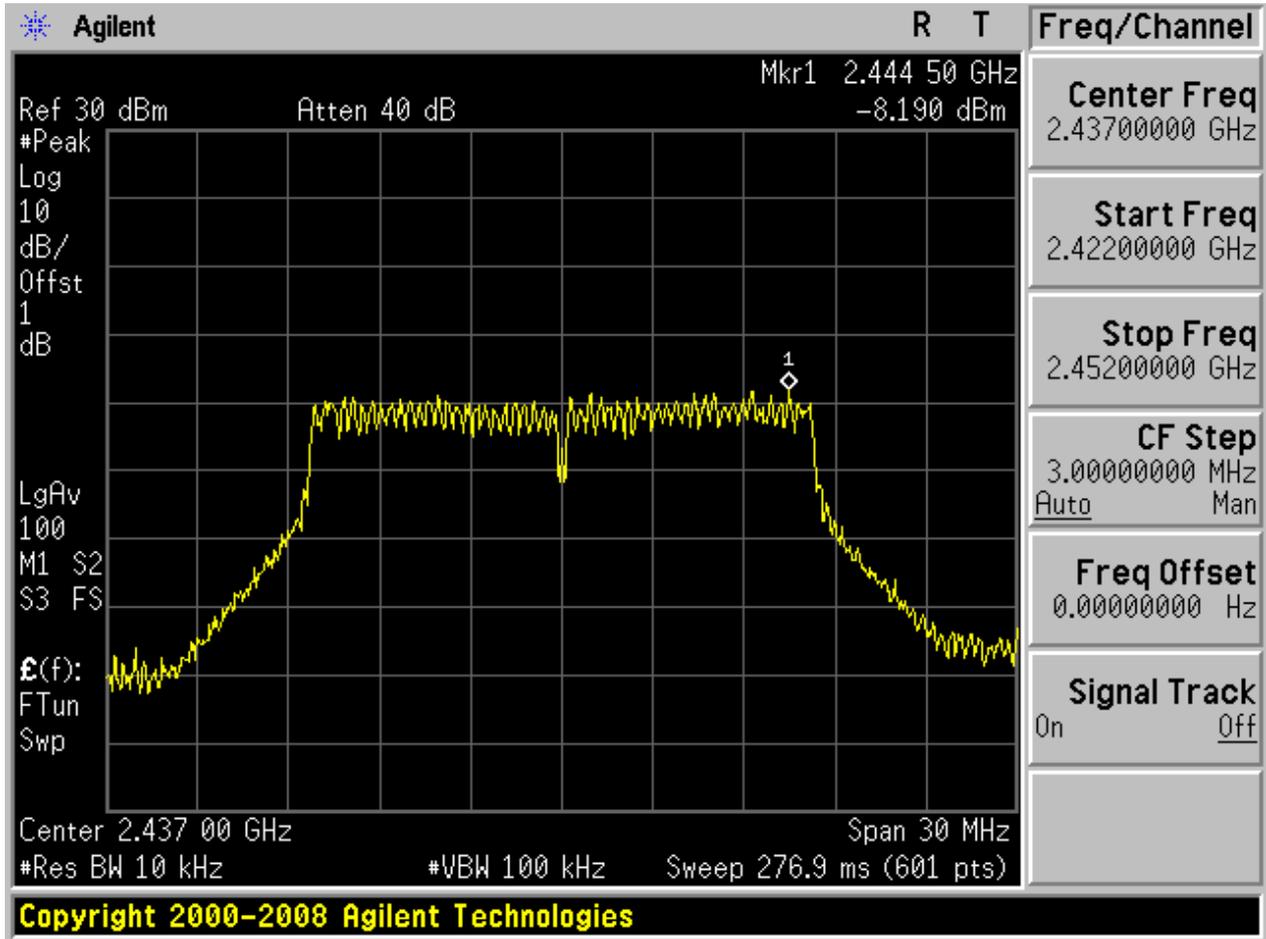


2.4 11G_L



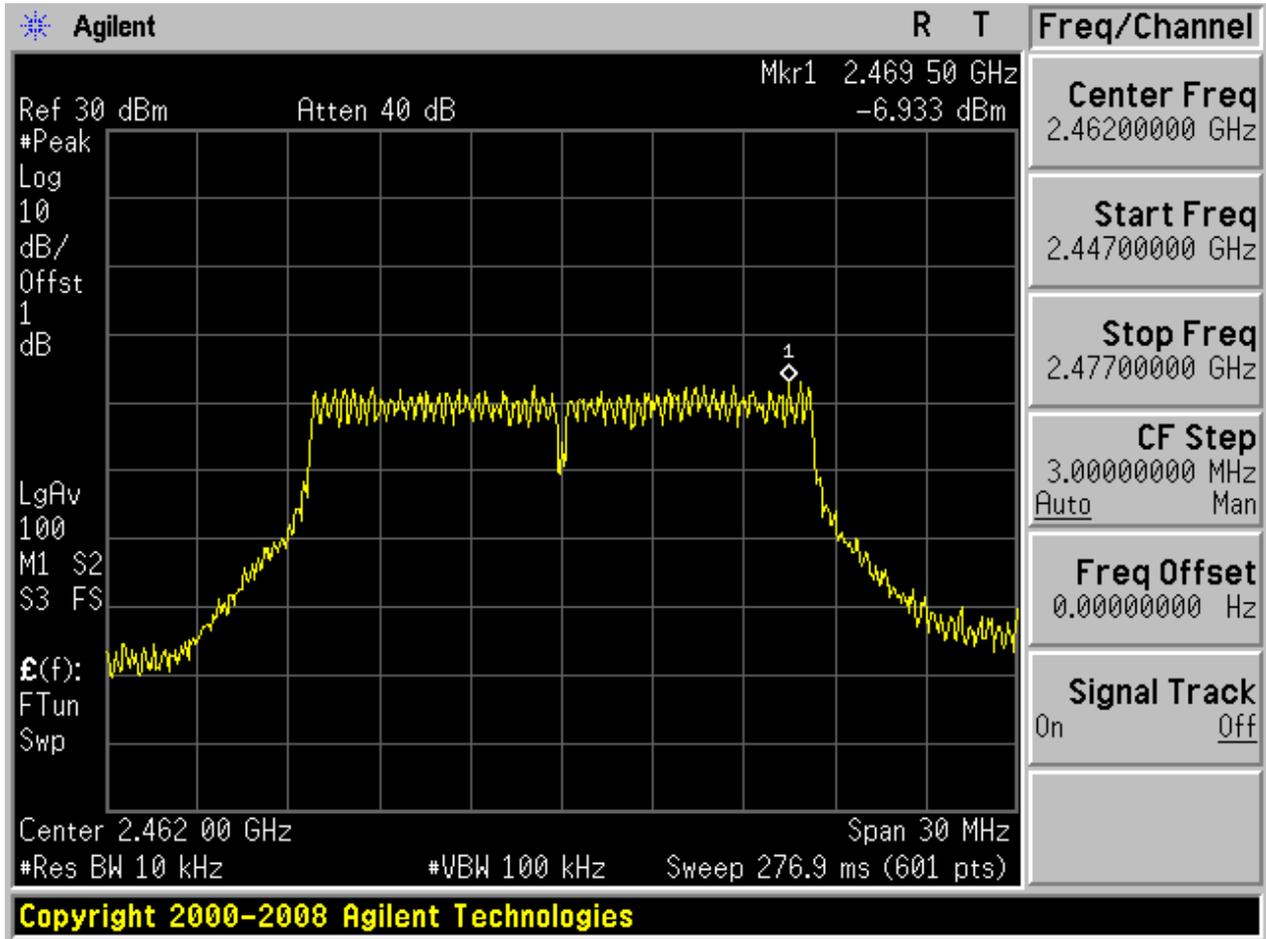


2.5 11G_M



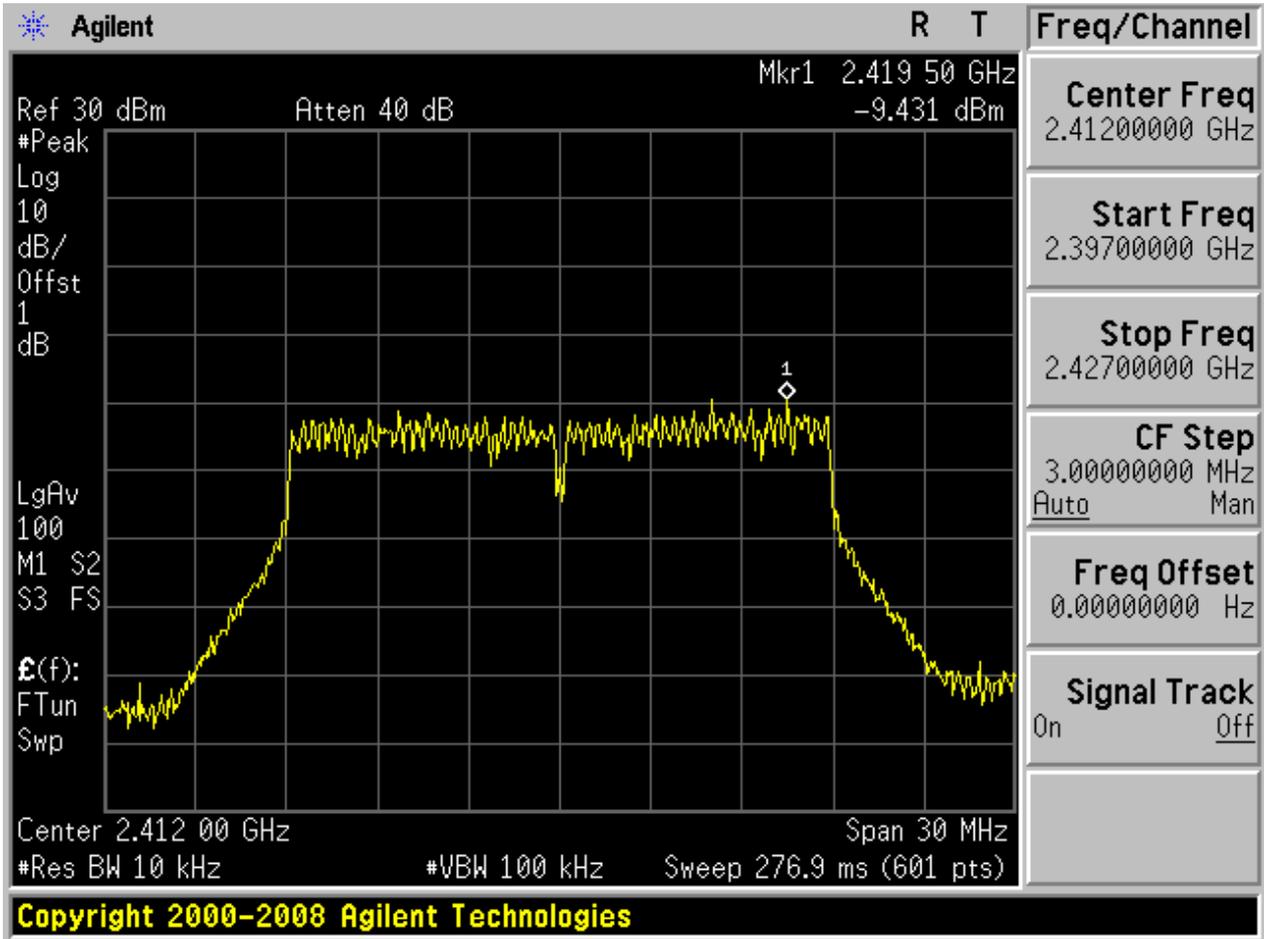


2.6 11G_H



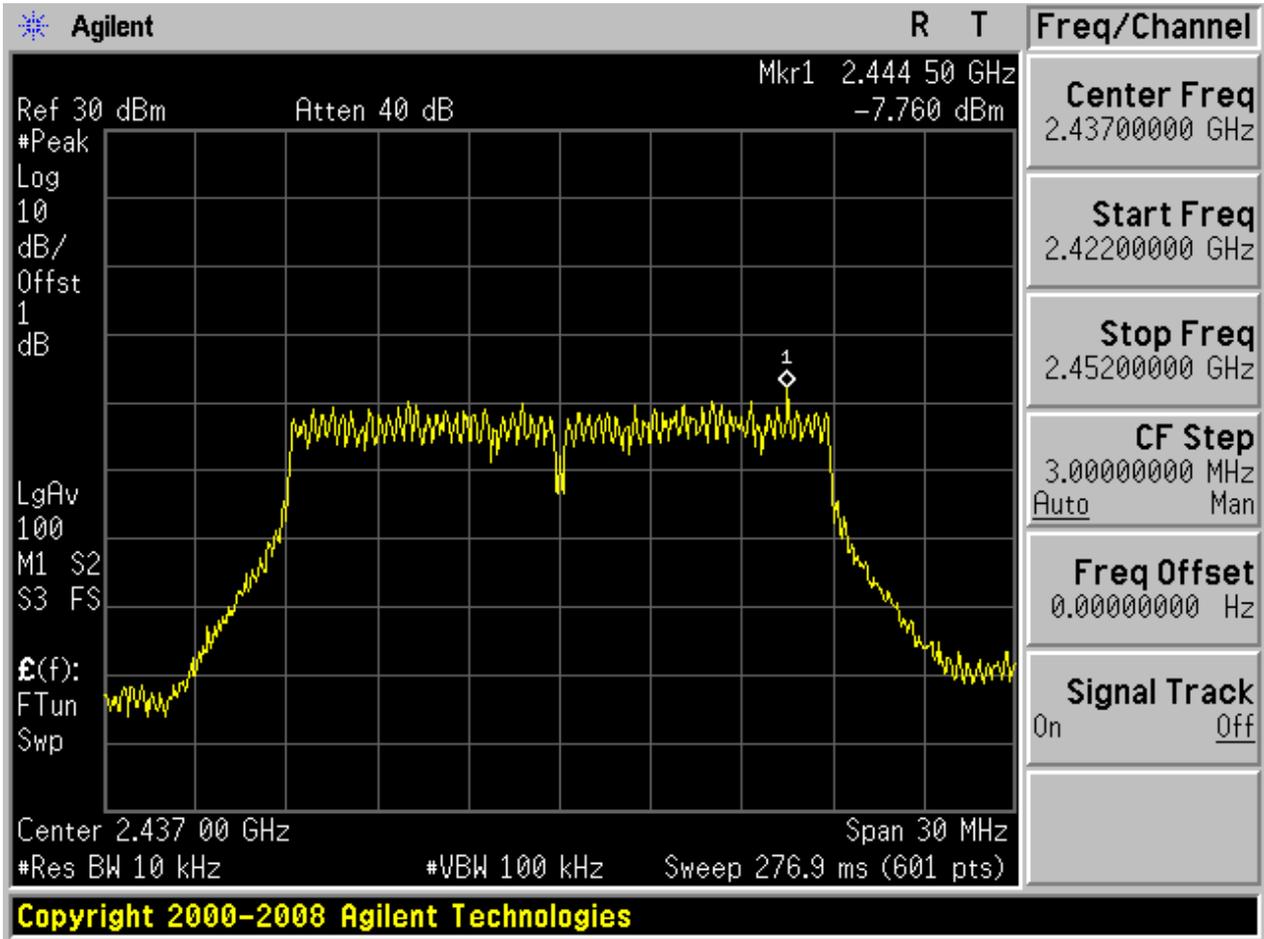


2.7 11N20_L



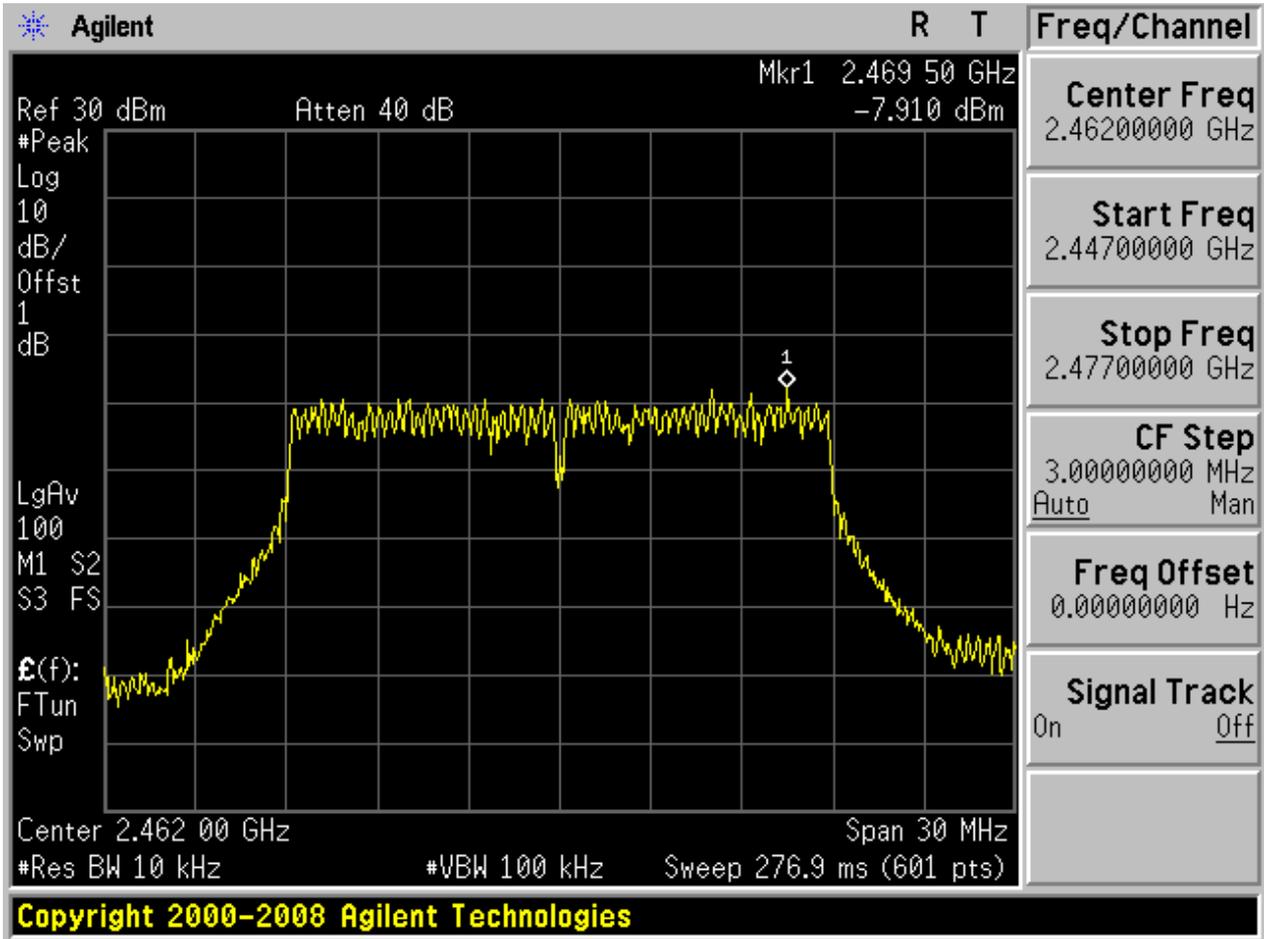


2.8 11N20_M





2.9 11N20_H



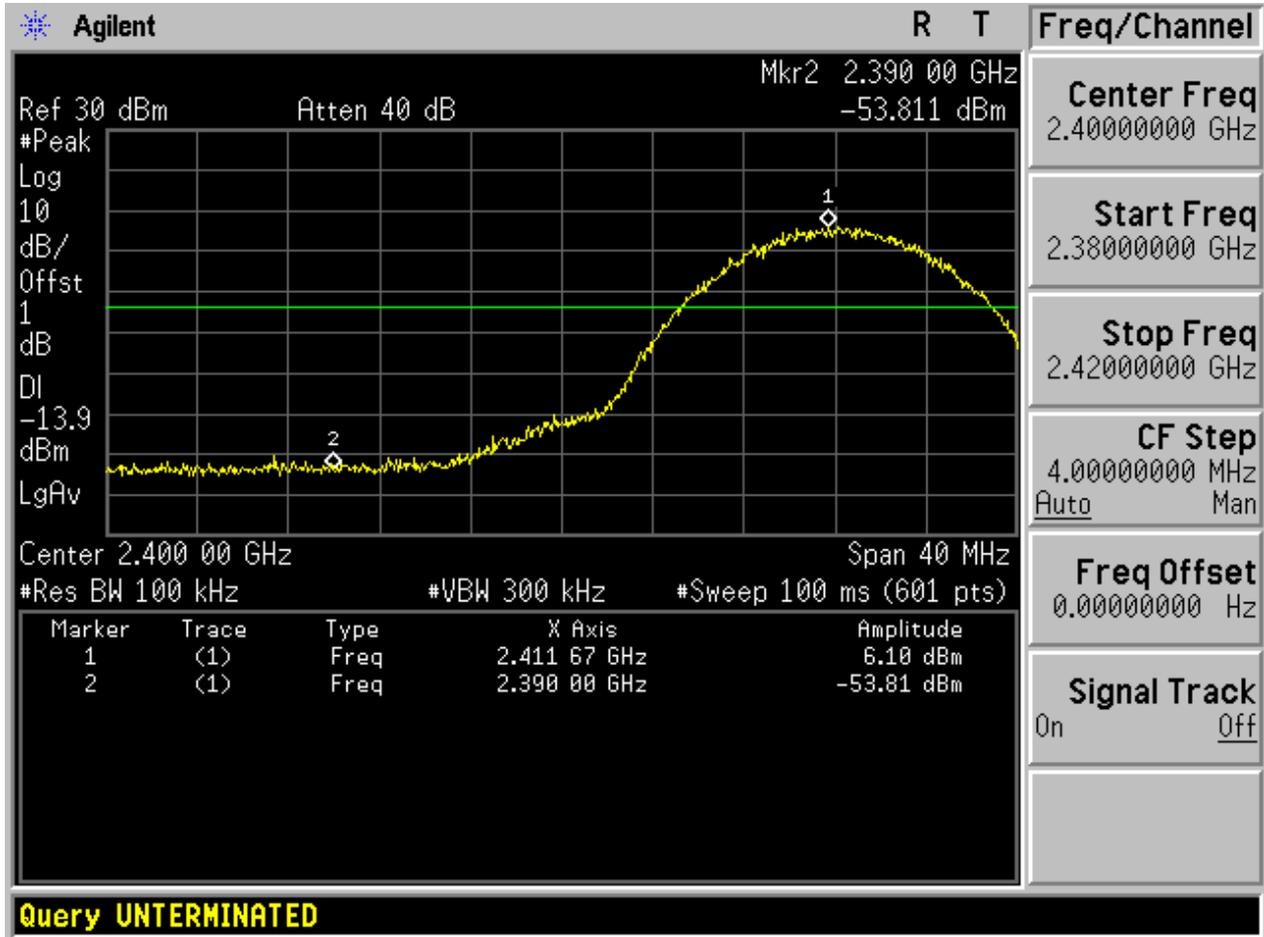
Appendix D: Band Edges Compliance

Part I - Test Results

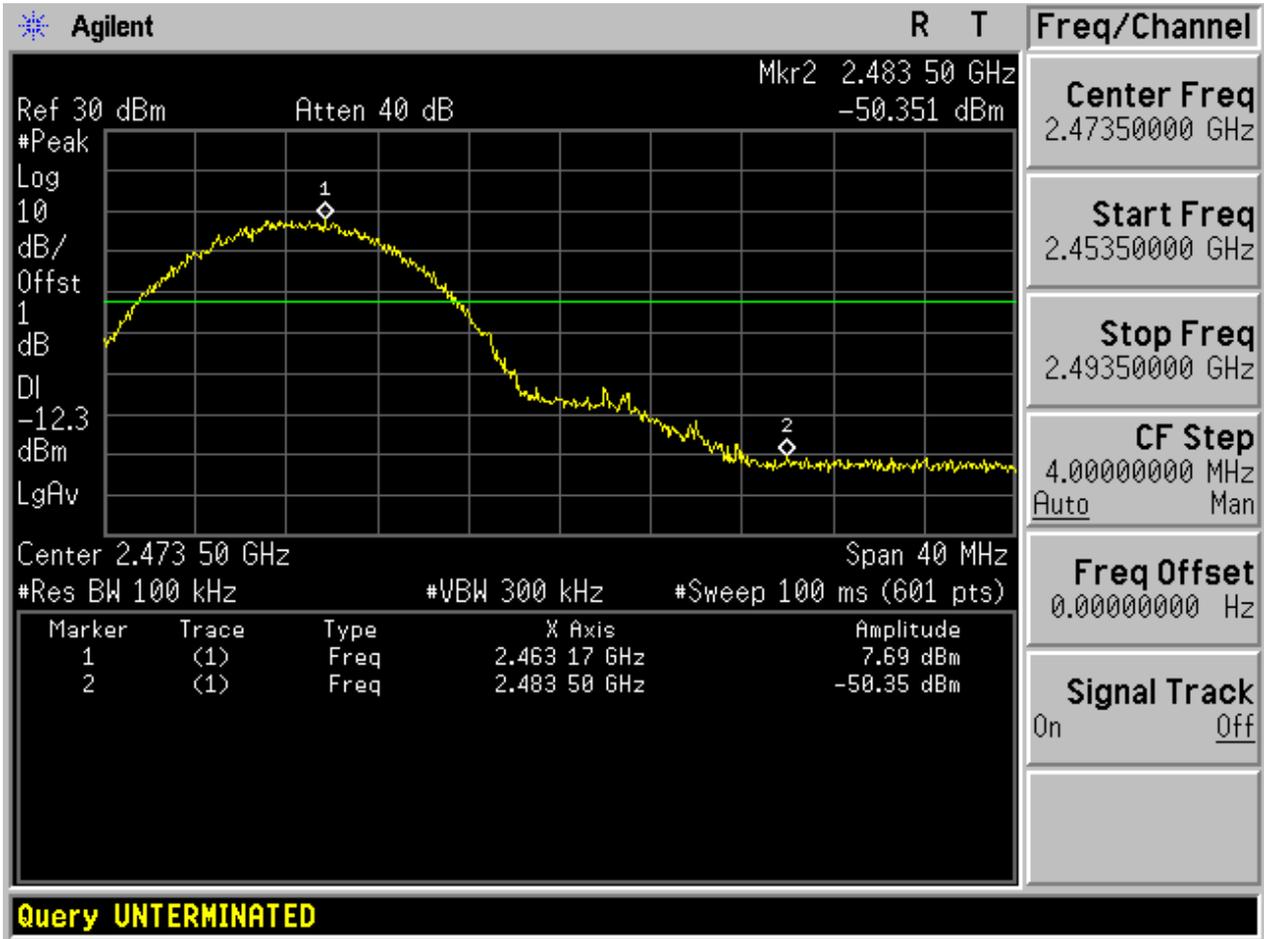
Test Mode	Test Channel	Frequency[MHz]	Ant	Carrier Power[dBm]	Max.Spurious Level[dBm]	Verdict
11B	L	2412	Ant 1	6.10	-53.81	pass
11B	H	2462	Ant 1	7.69	-50.35	pass
11G	L	2412	Ant 1	-0.47	-51.77	pass
11G	H	2462	Ant 1	1.55	-41.34	pass
11N20	L	2412	Ant 1	-1.99	-51.96	pass
11N20	H	2462	Ant 1	0.01	-41.29	pass

Part II - Test Plots

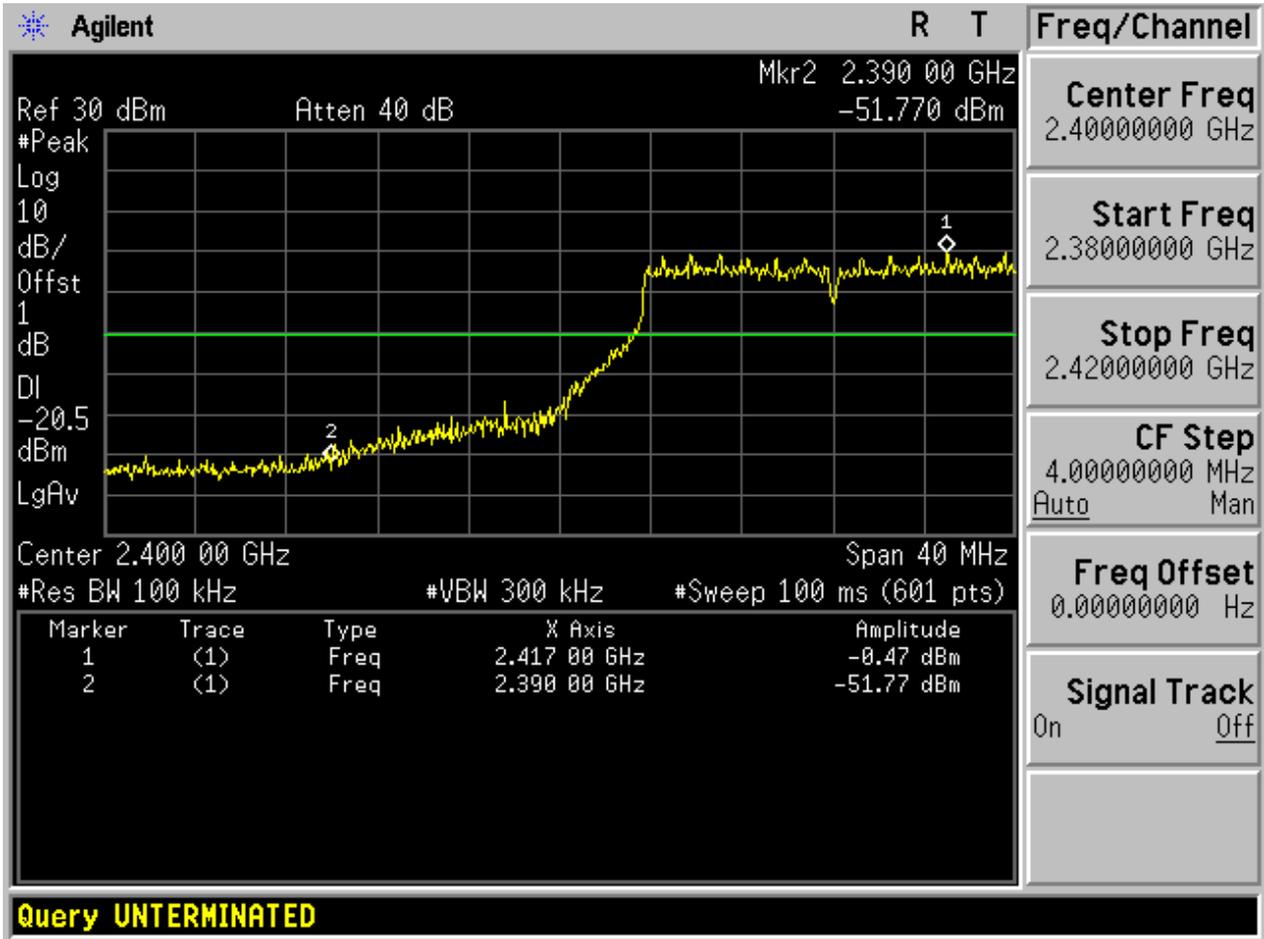
2.1 11B_L



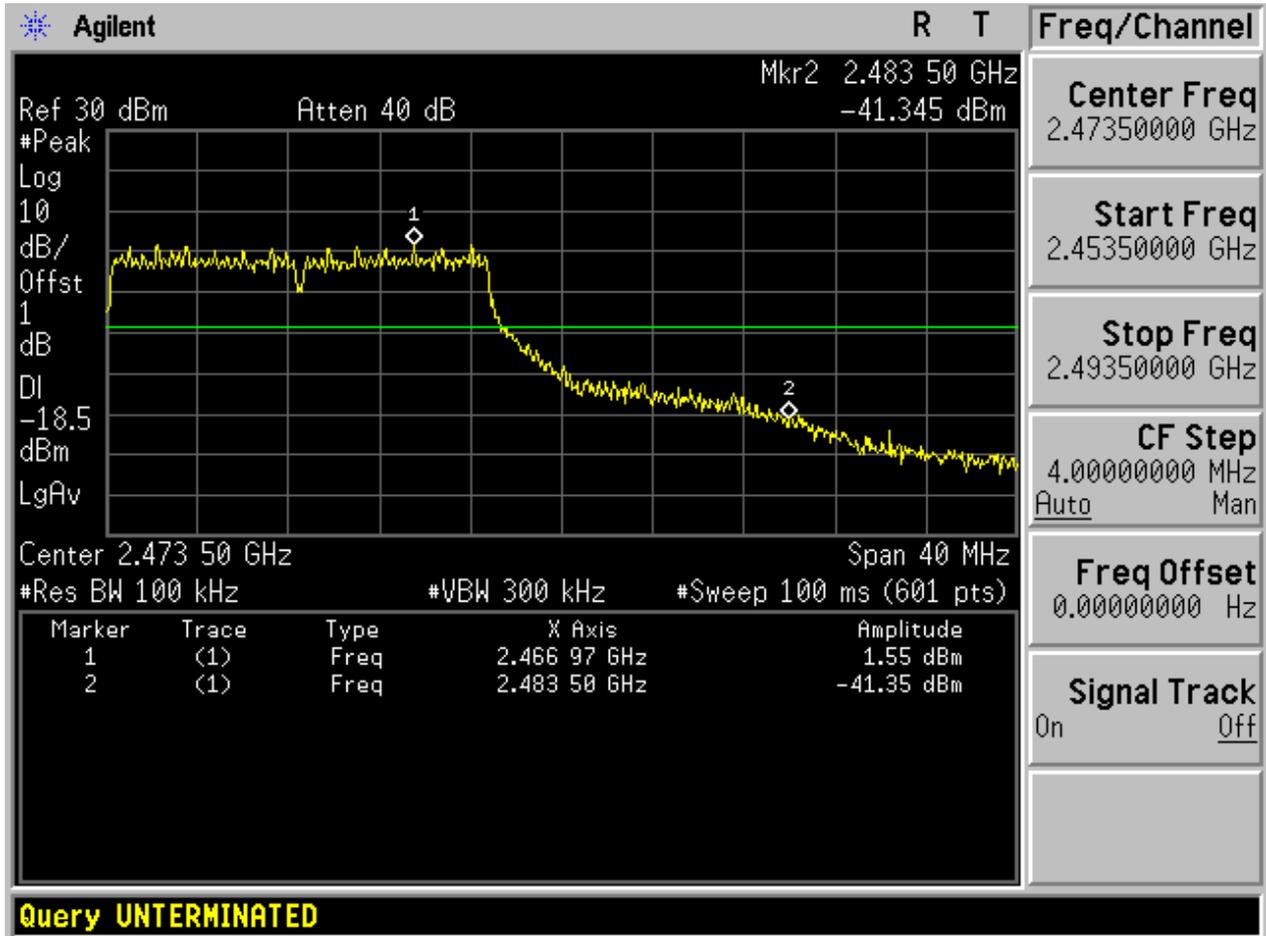
2.2 11B_H



2.3 11G_L

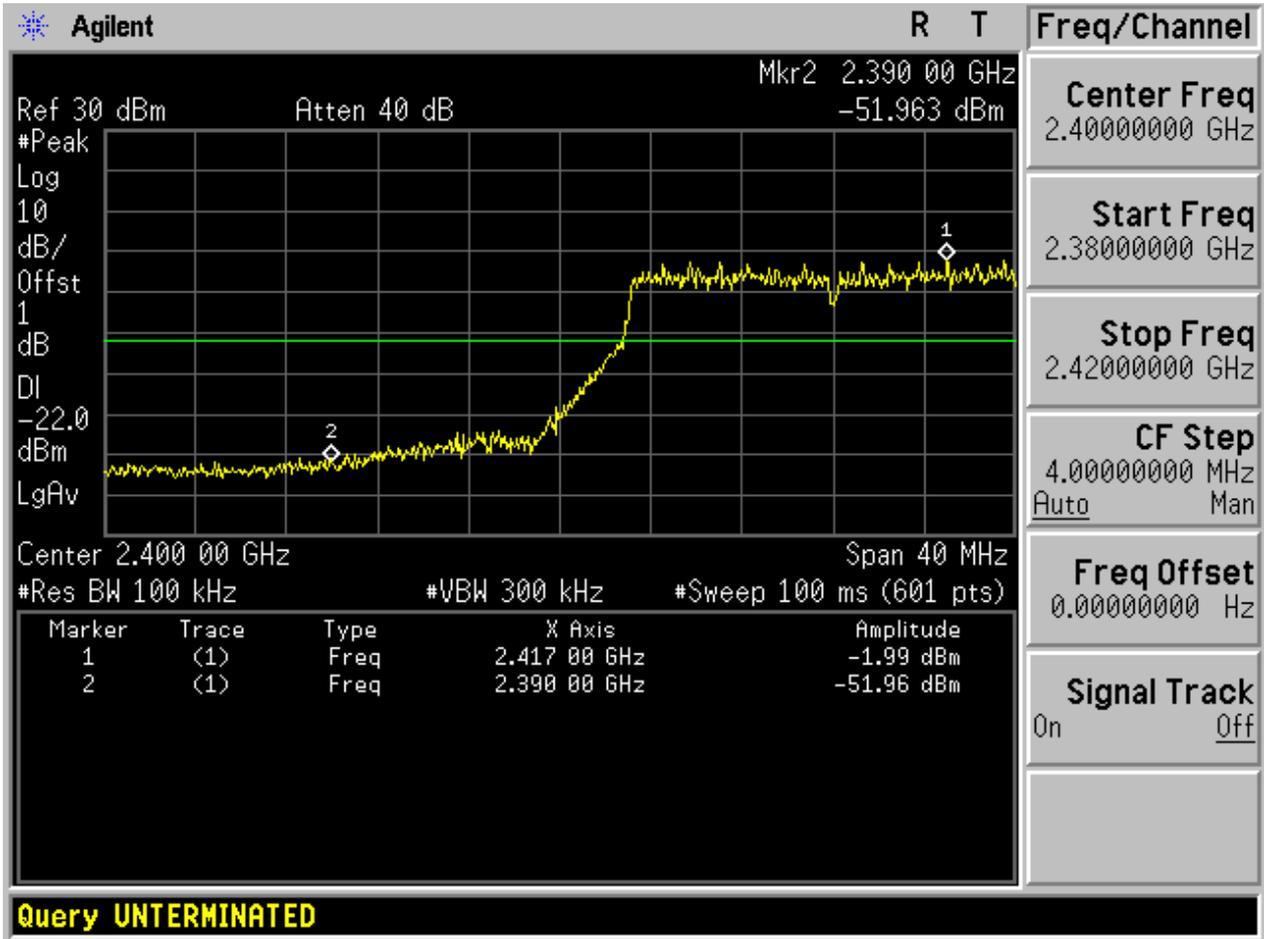


2.4 11G_H



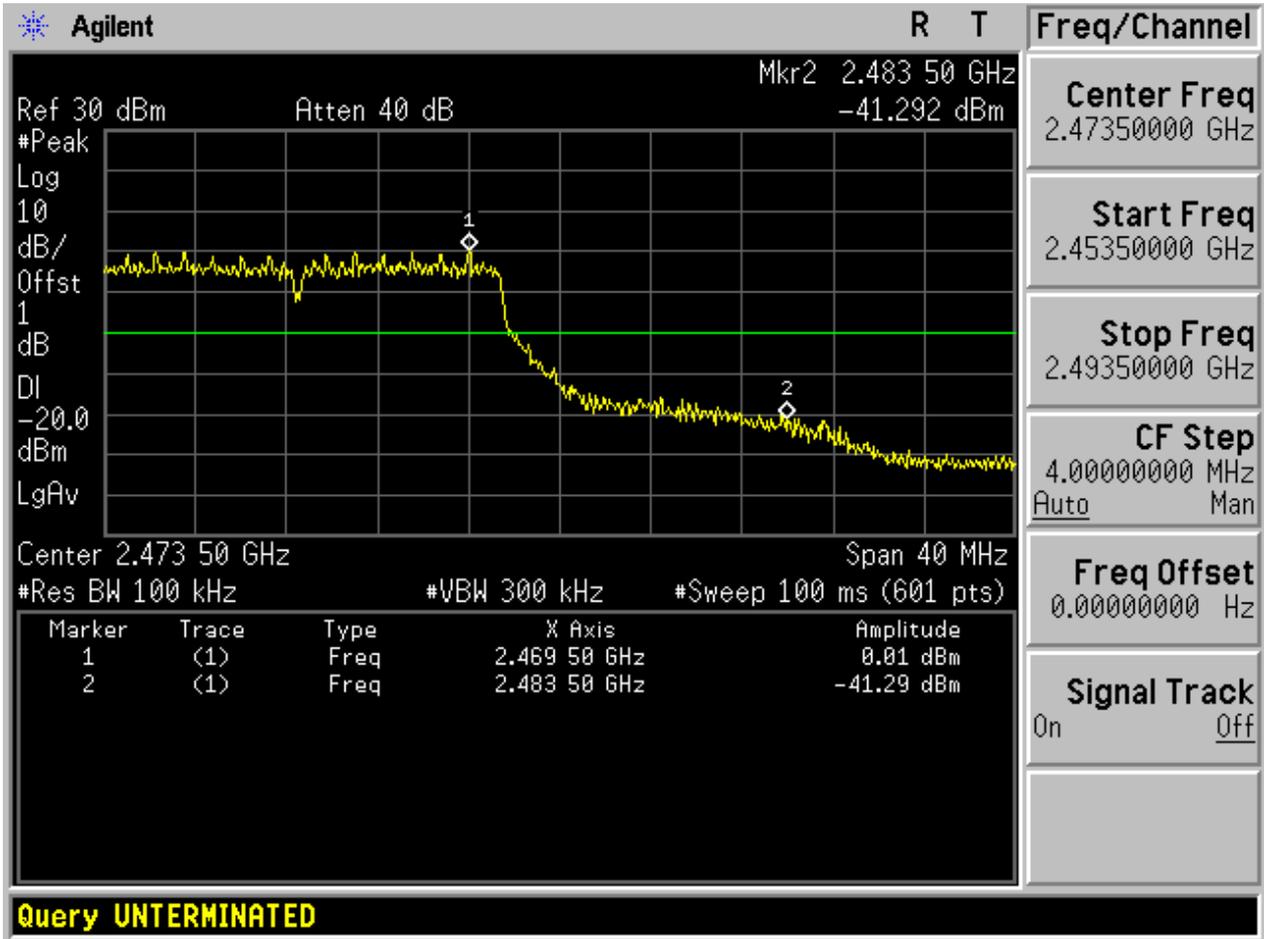


2.5 11N20_L





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

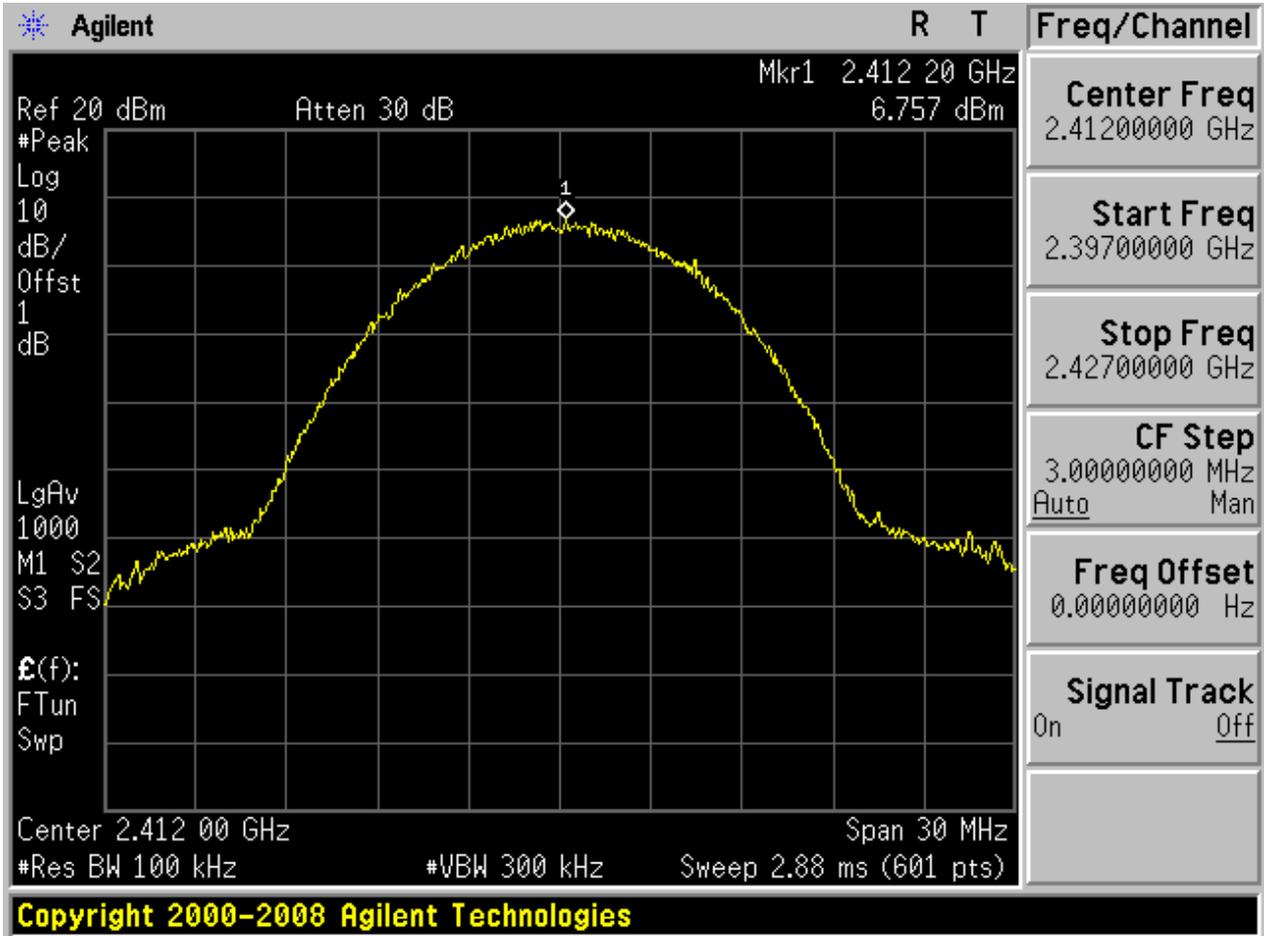
Test Mode	Test Channel	Frequency[MHz]	Ant	Pref[dBm]	Puw[dBm]	Verdict
11B	L	2412	Ant 1	6.76	<limit	pass
11B	M	2437	Ant 1	7.97	<limit	pass
11B	H	2462	Ant 1	9.30	<limit	pass
11G	L	2412	Ant 1	-0.31	<limit	pass
11G	M	2437	Ant 1	0.67	<limit	pass
11G	H	2462	Ant 1	1.78	<limit	pass
11N20	L	2412	Ant 1	-1.79	<limit	pass
11N20	M	2437	Ant 1	-0.81	<limit	pass
11N20	H	2462	Ant 1	0.21	<limit	pass



Part II - Test Plots

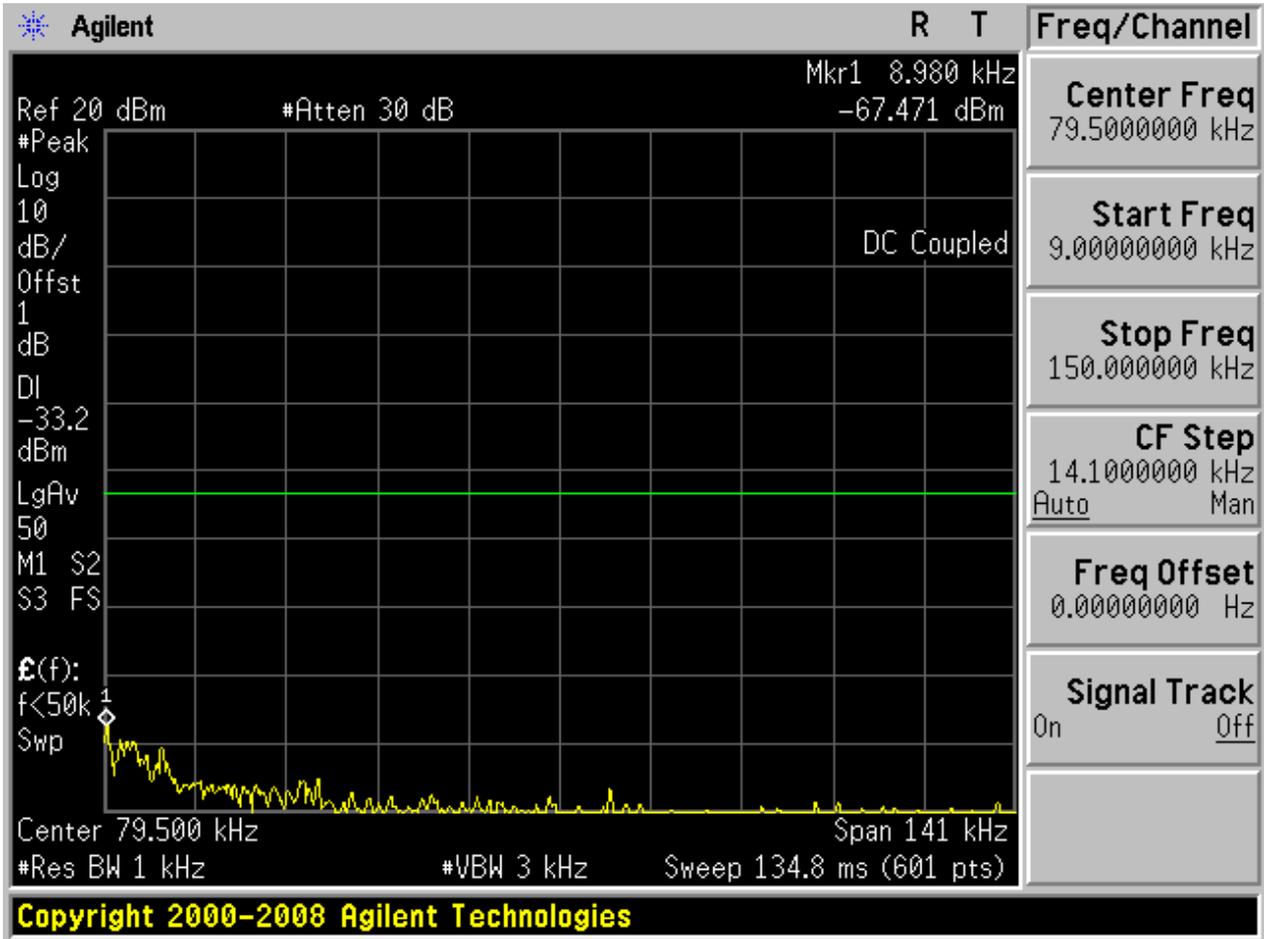
2.1 11B_L

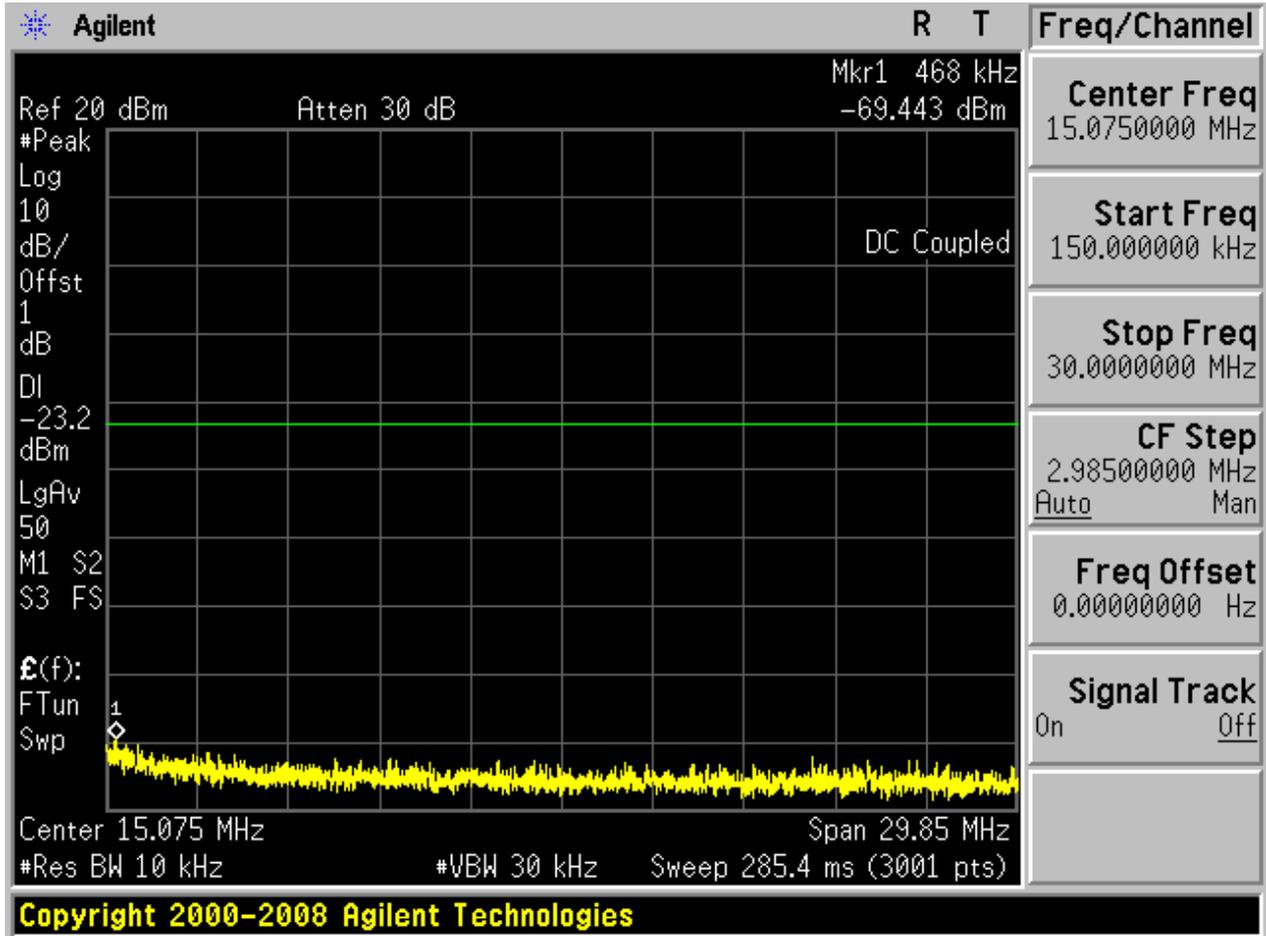
Pref:

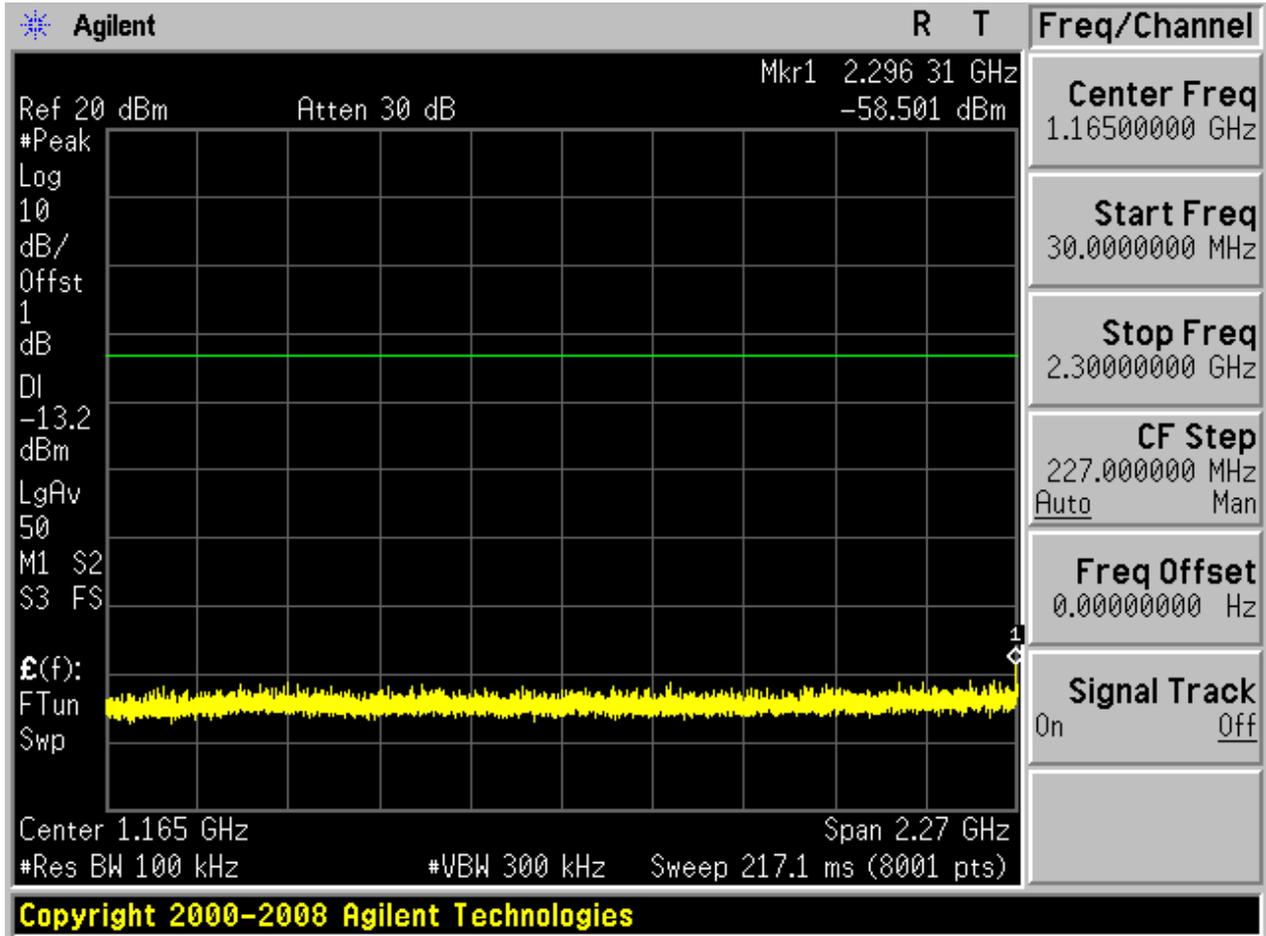


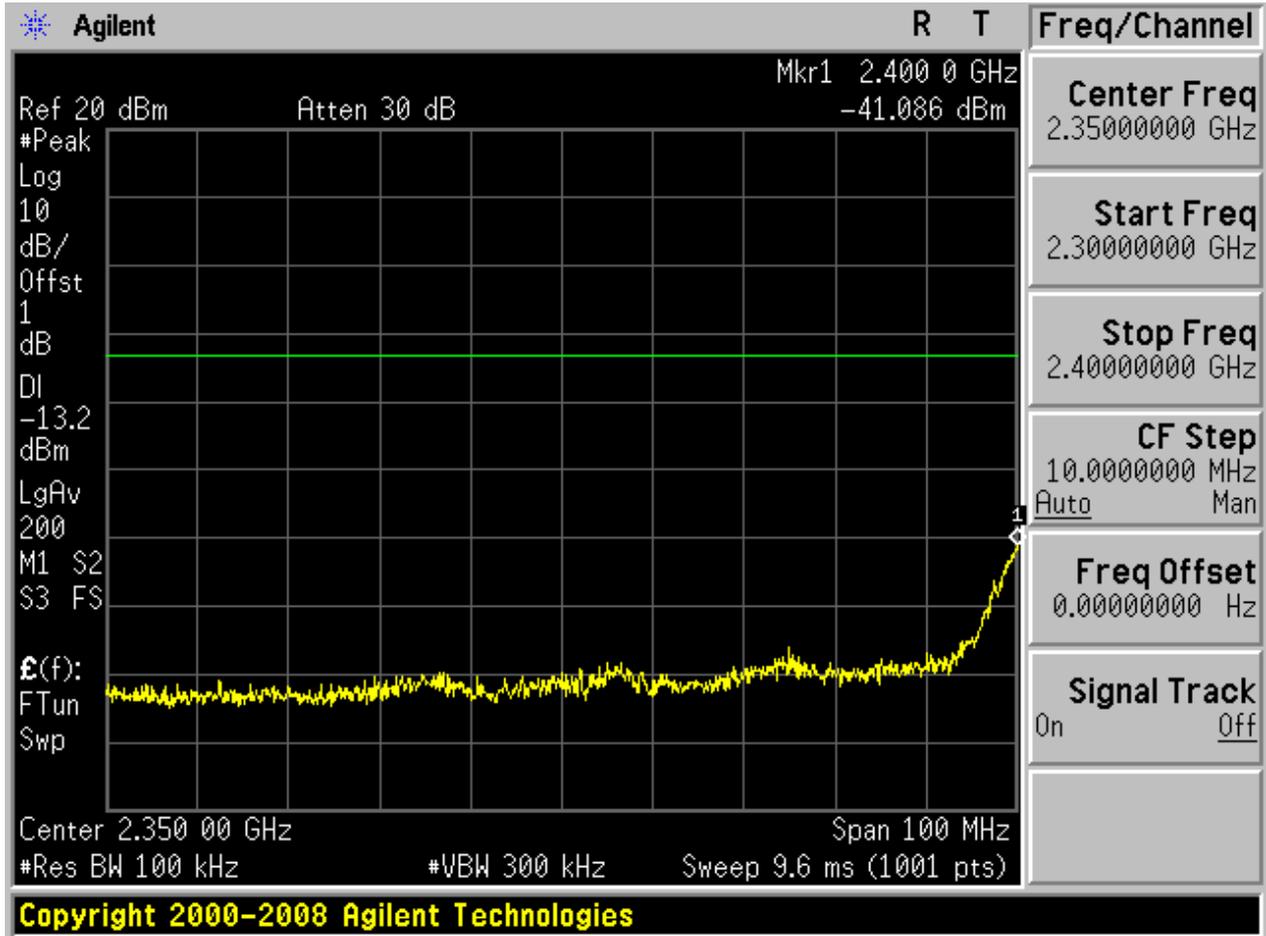


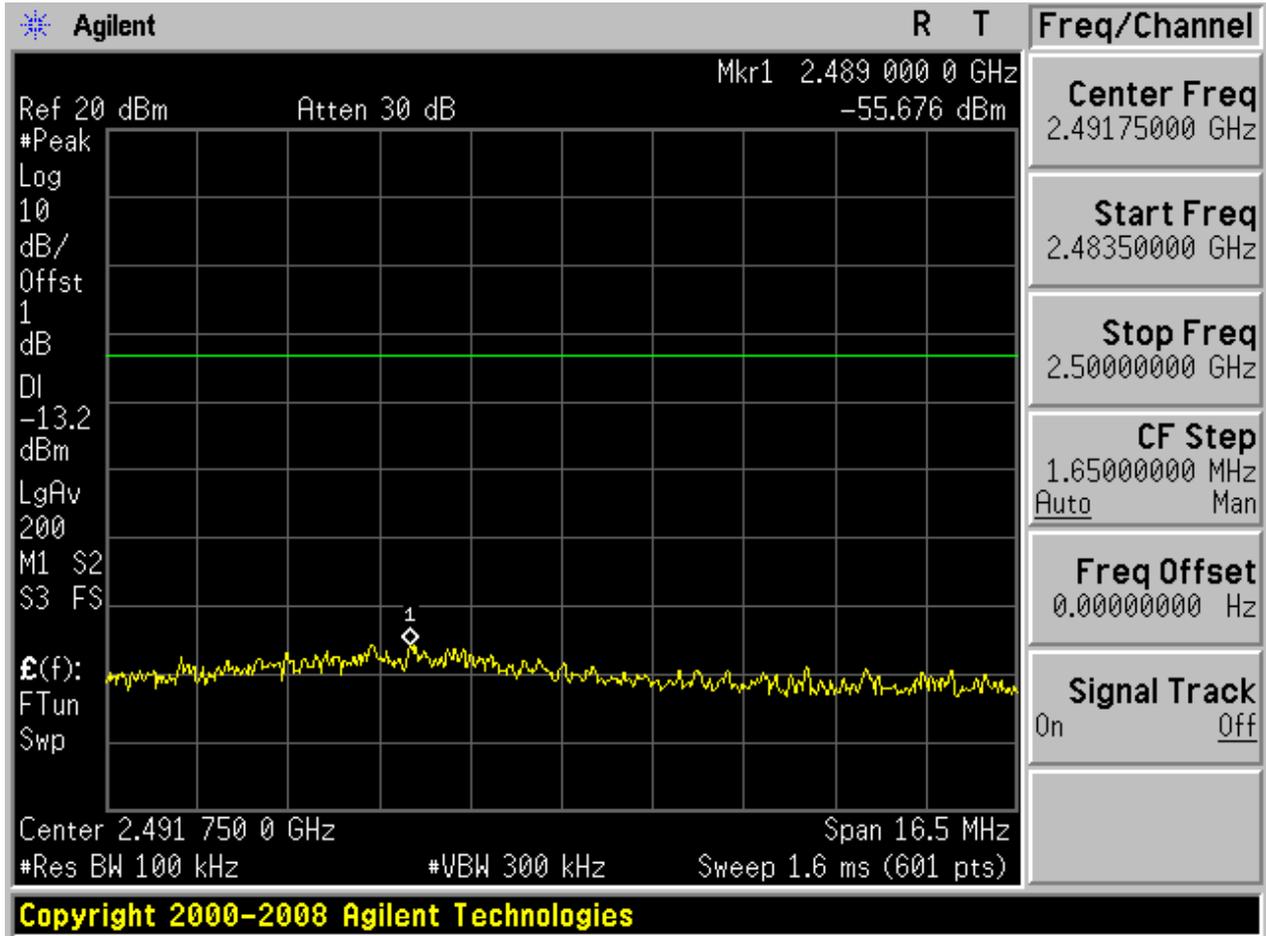
Puw:

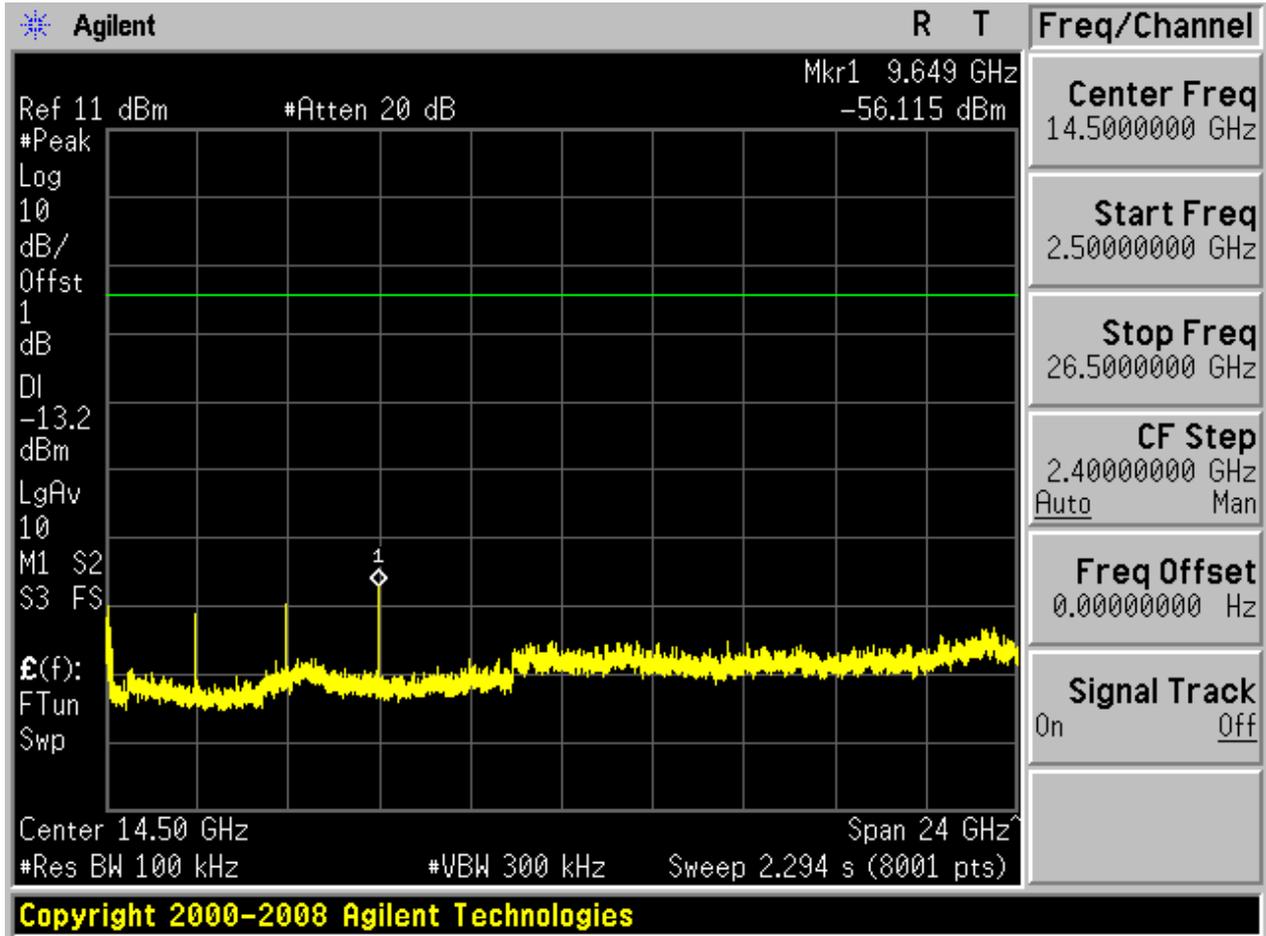








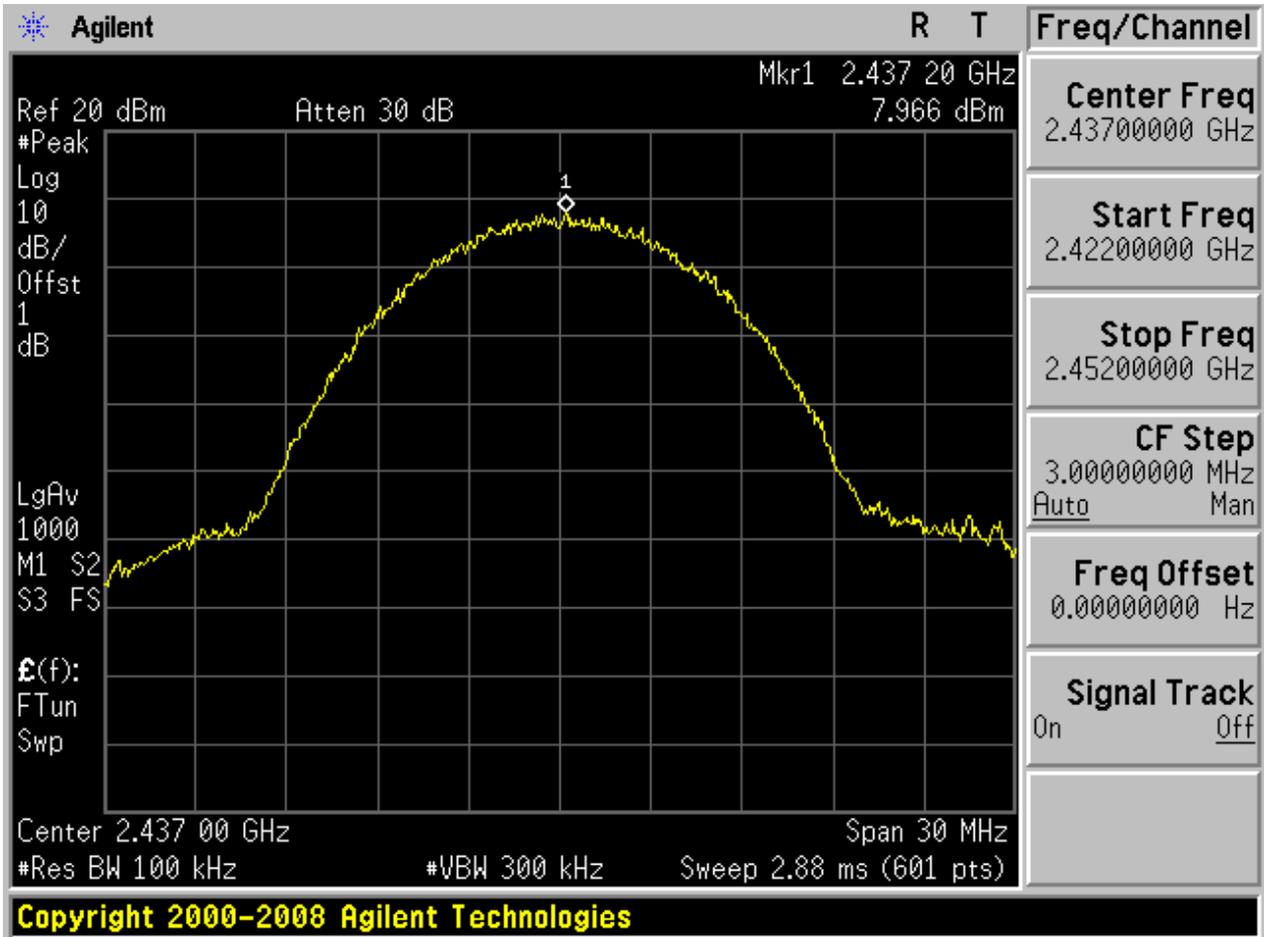






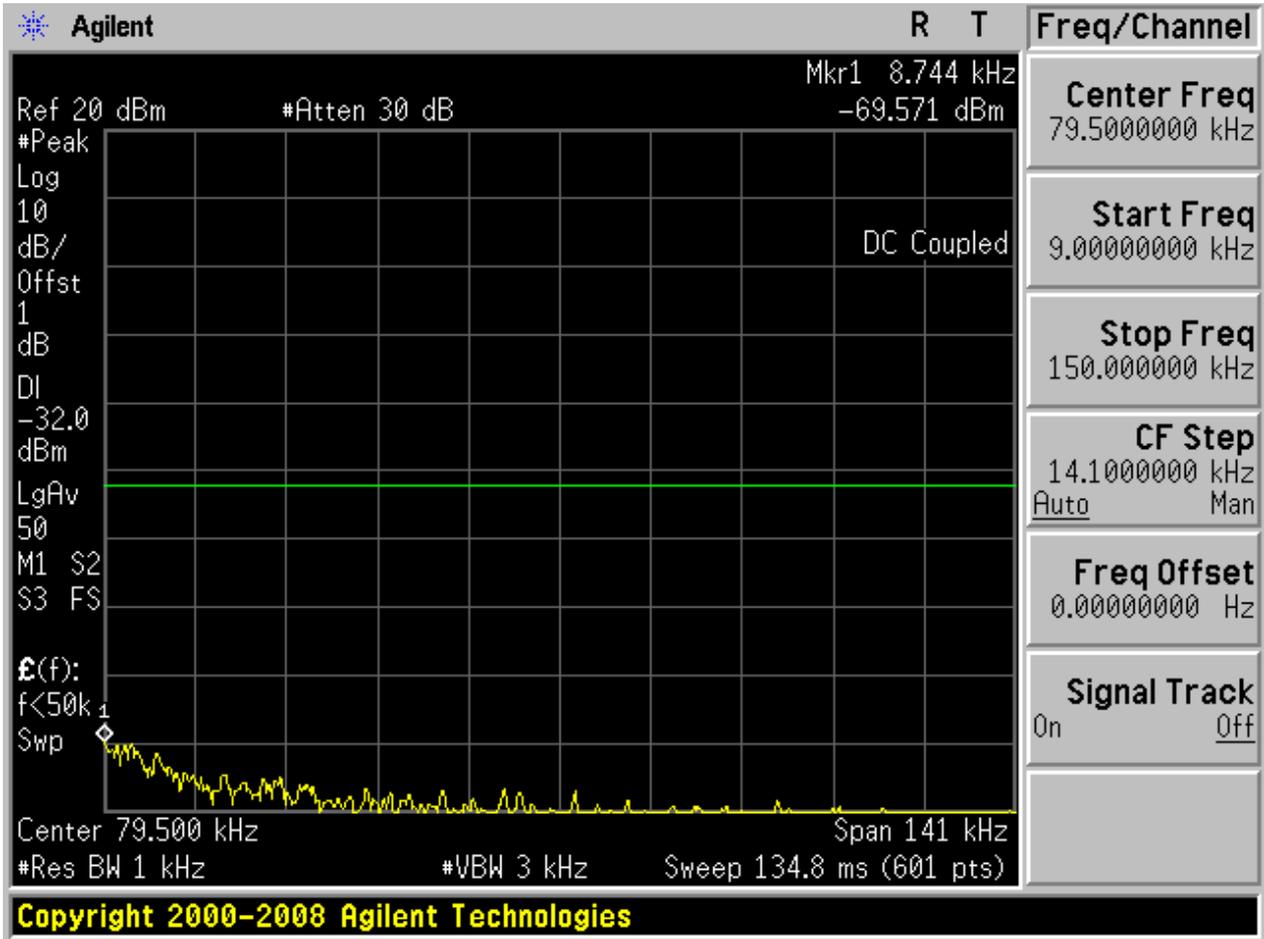
2.2 11B_M

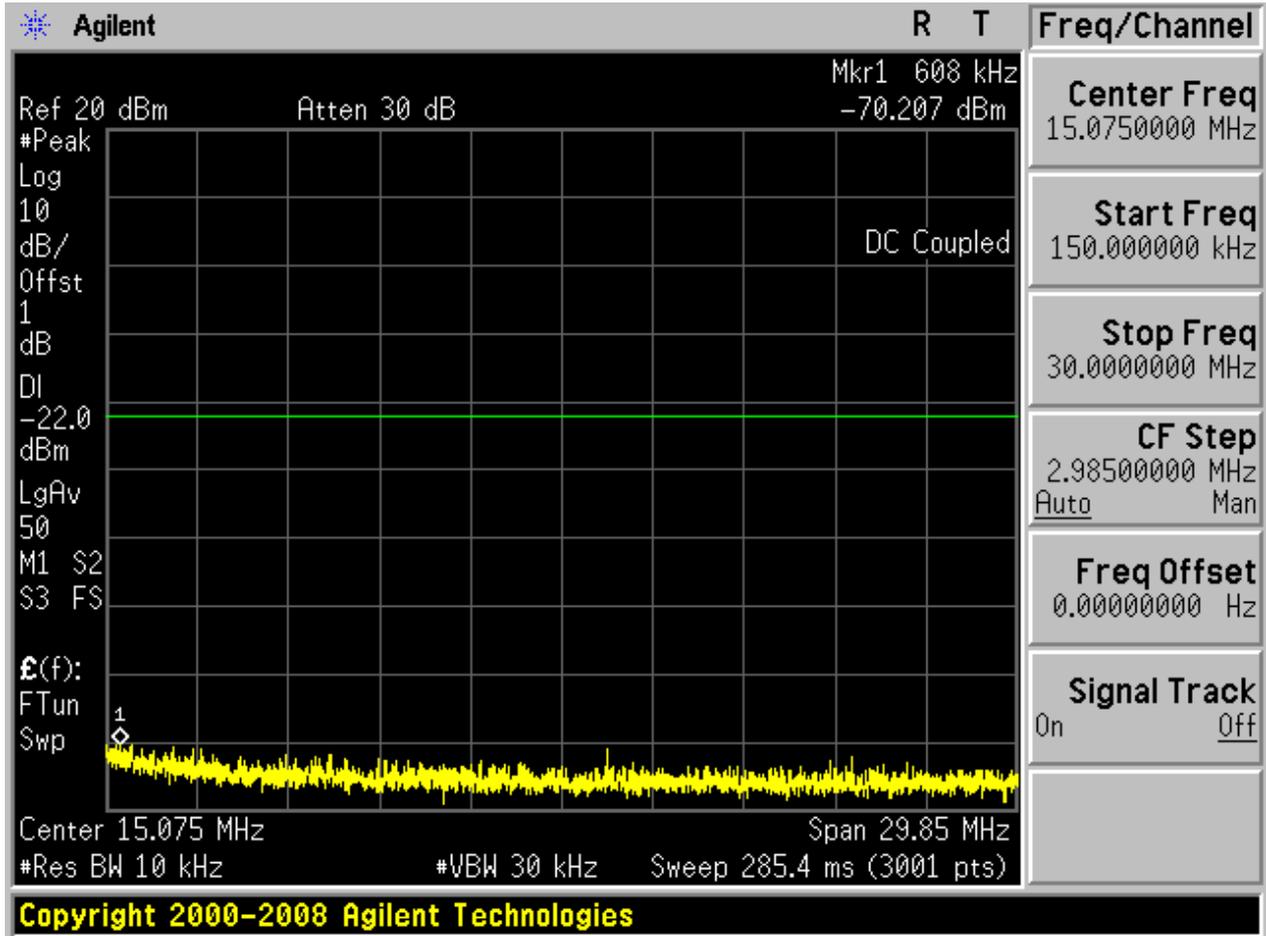
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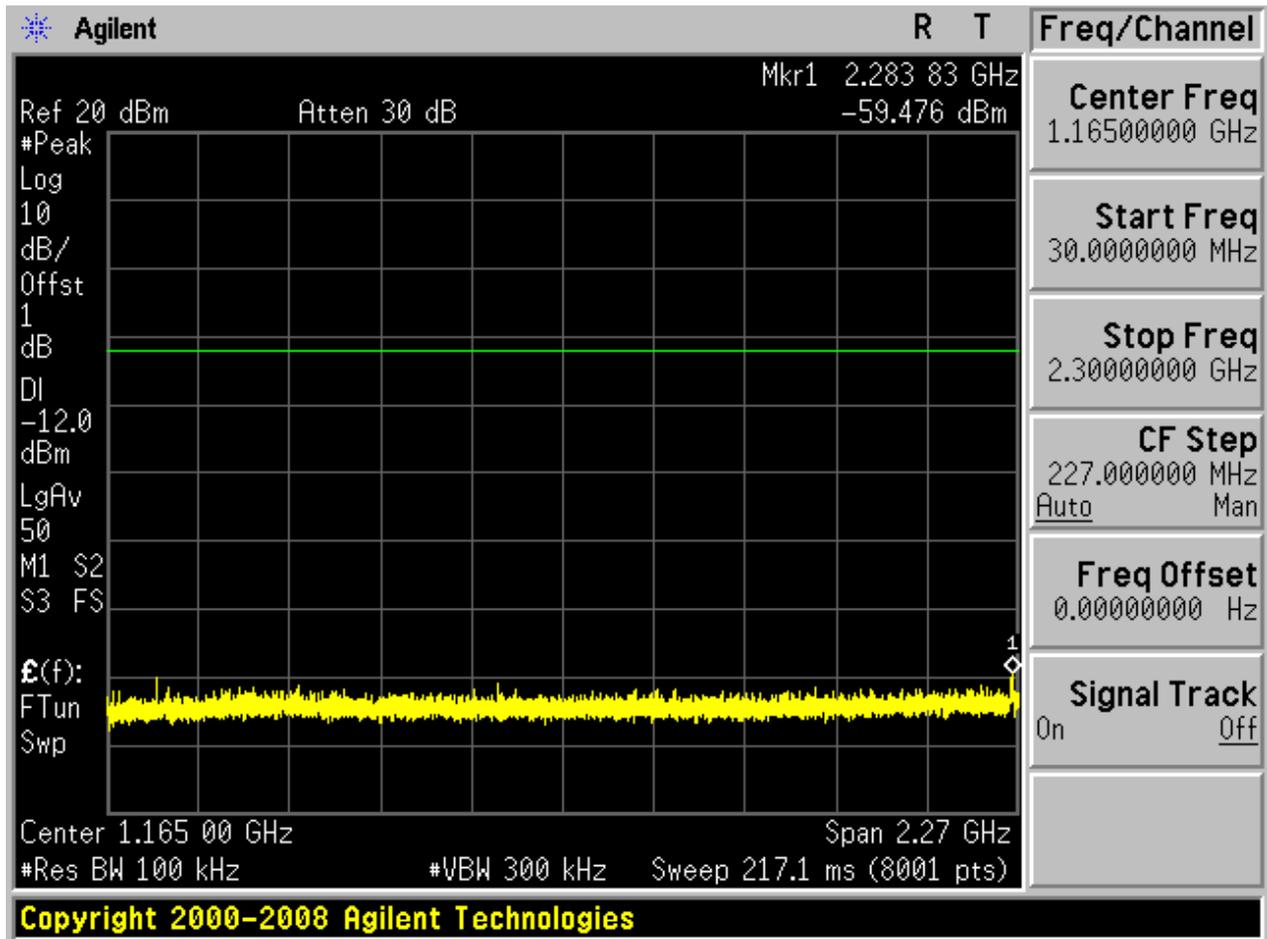


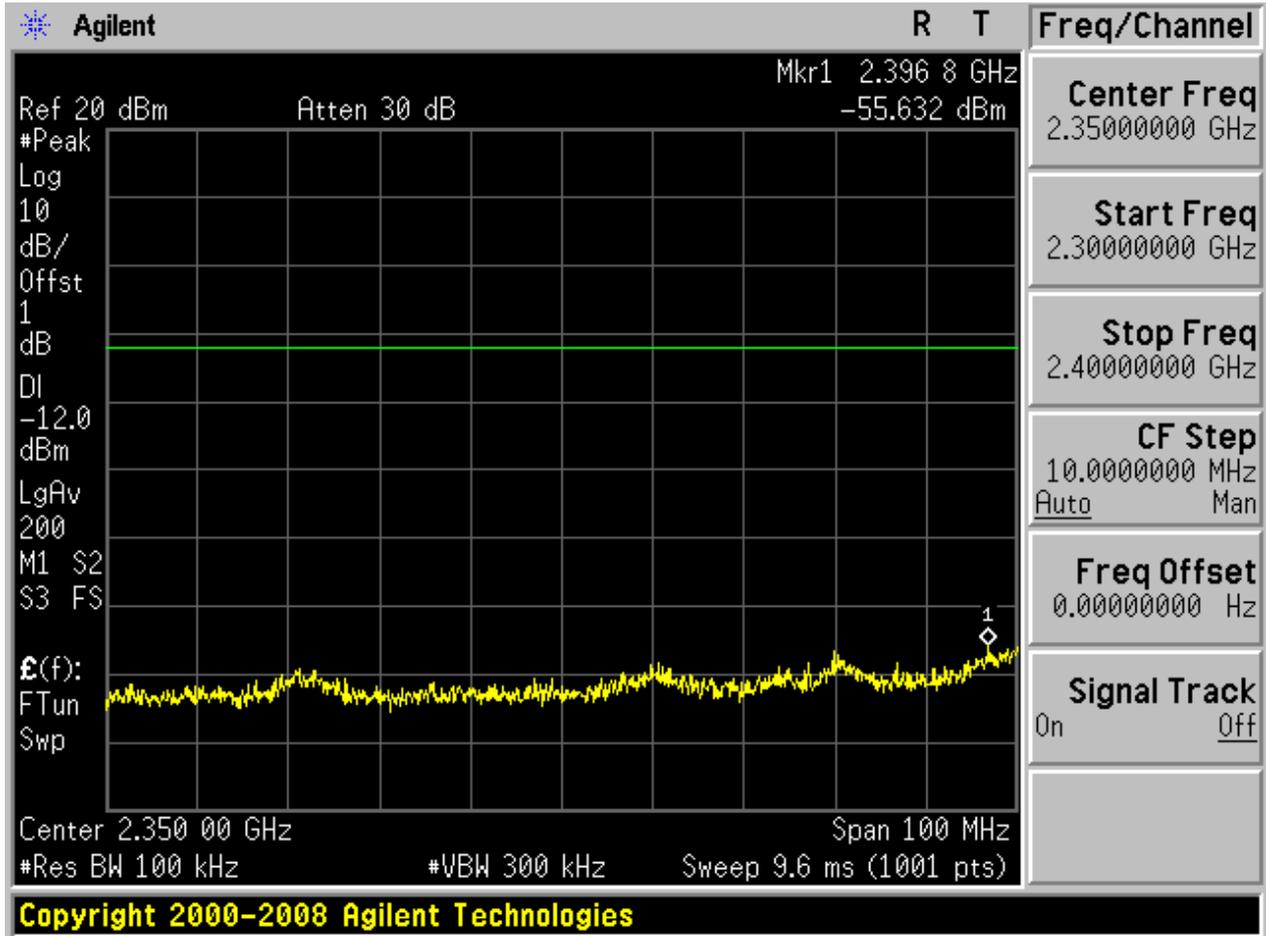


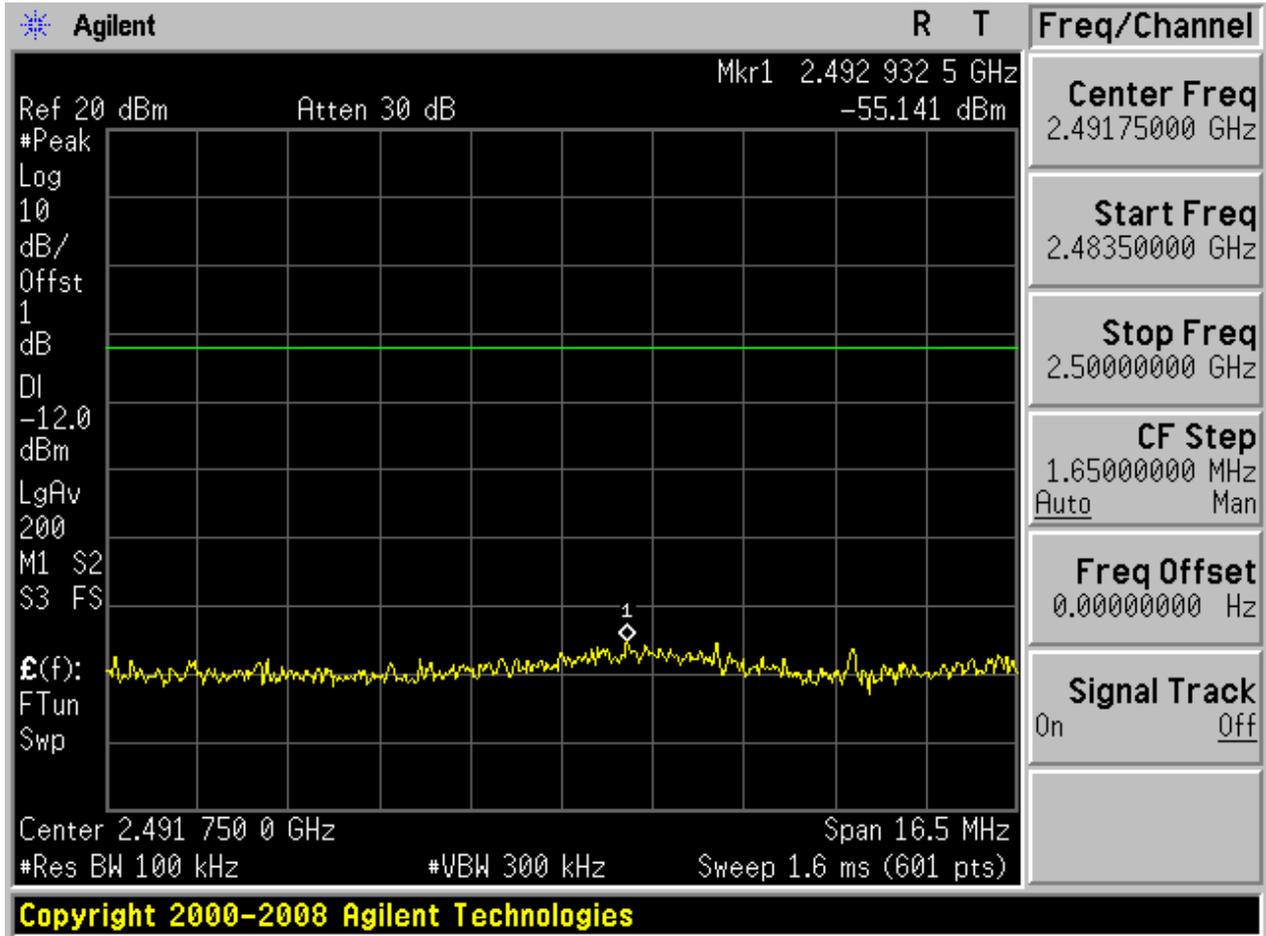
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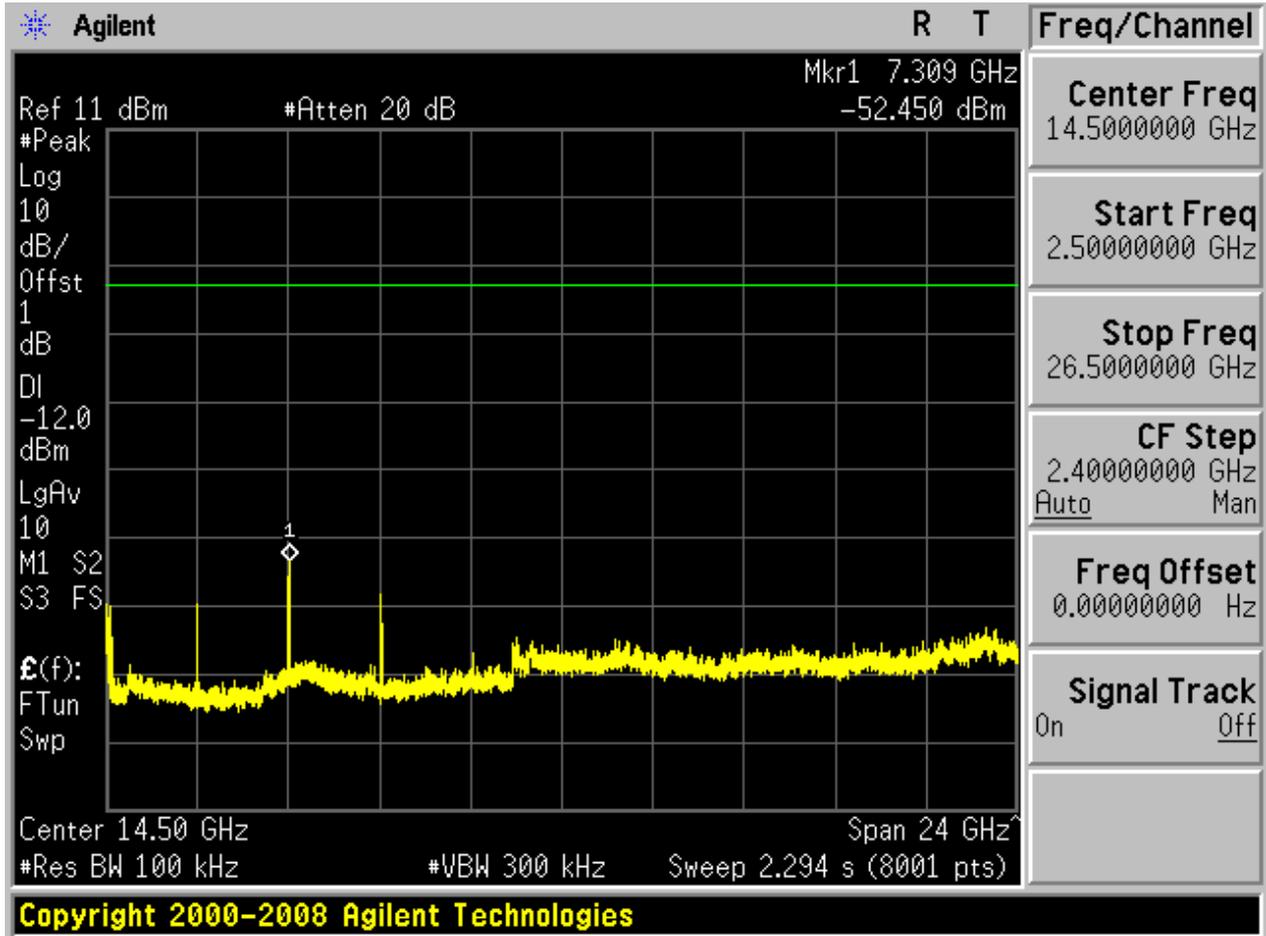






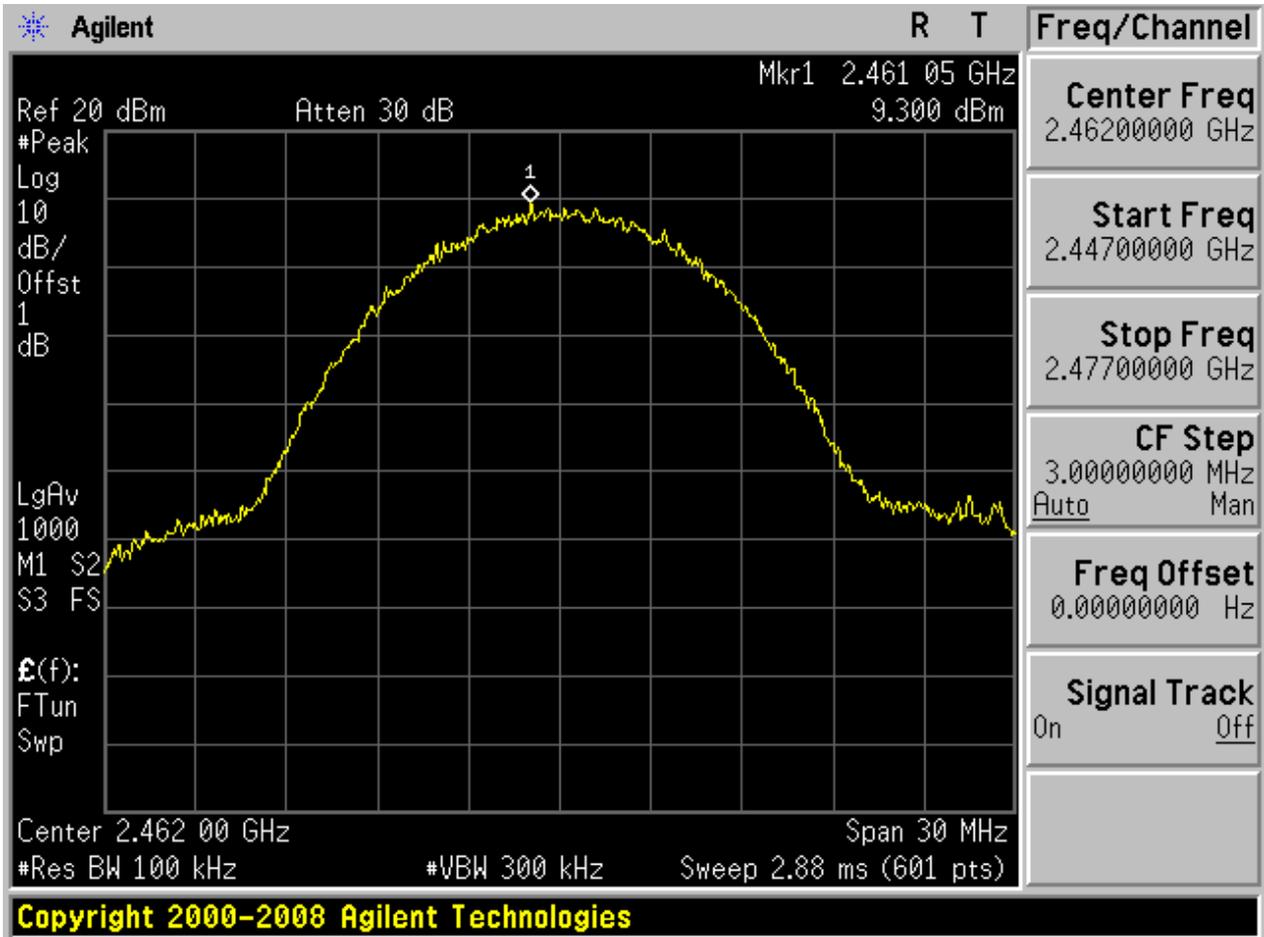






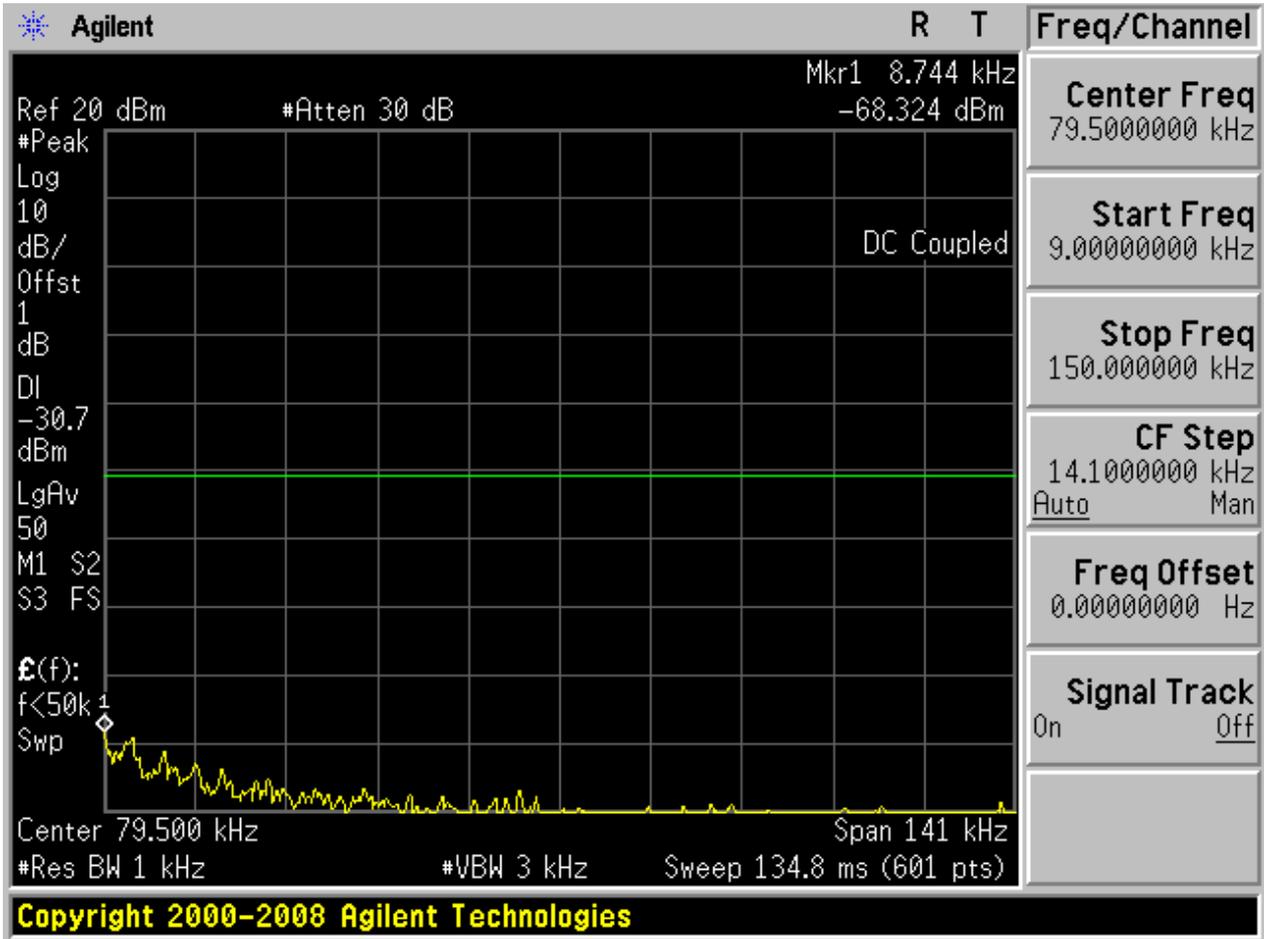
2.3 11B_H

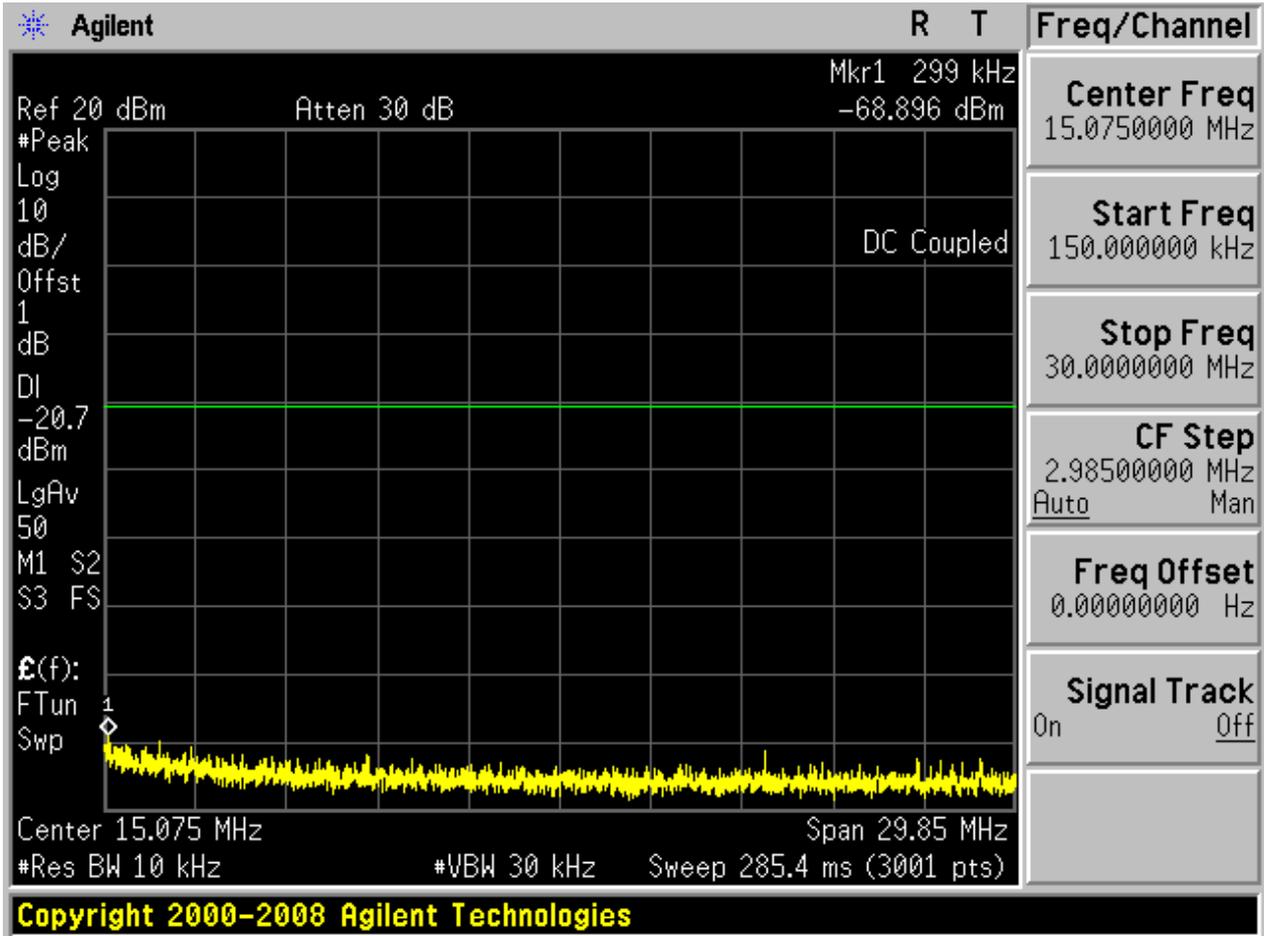
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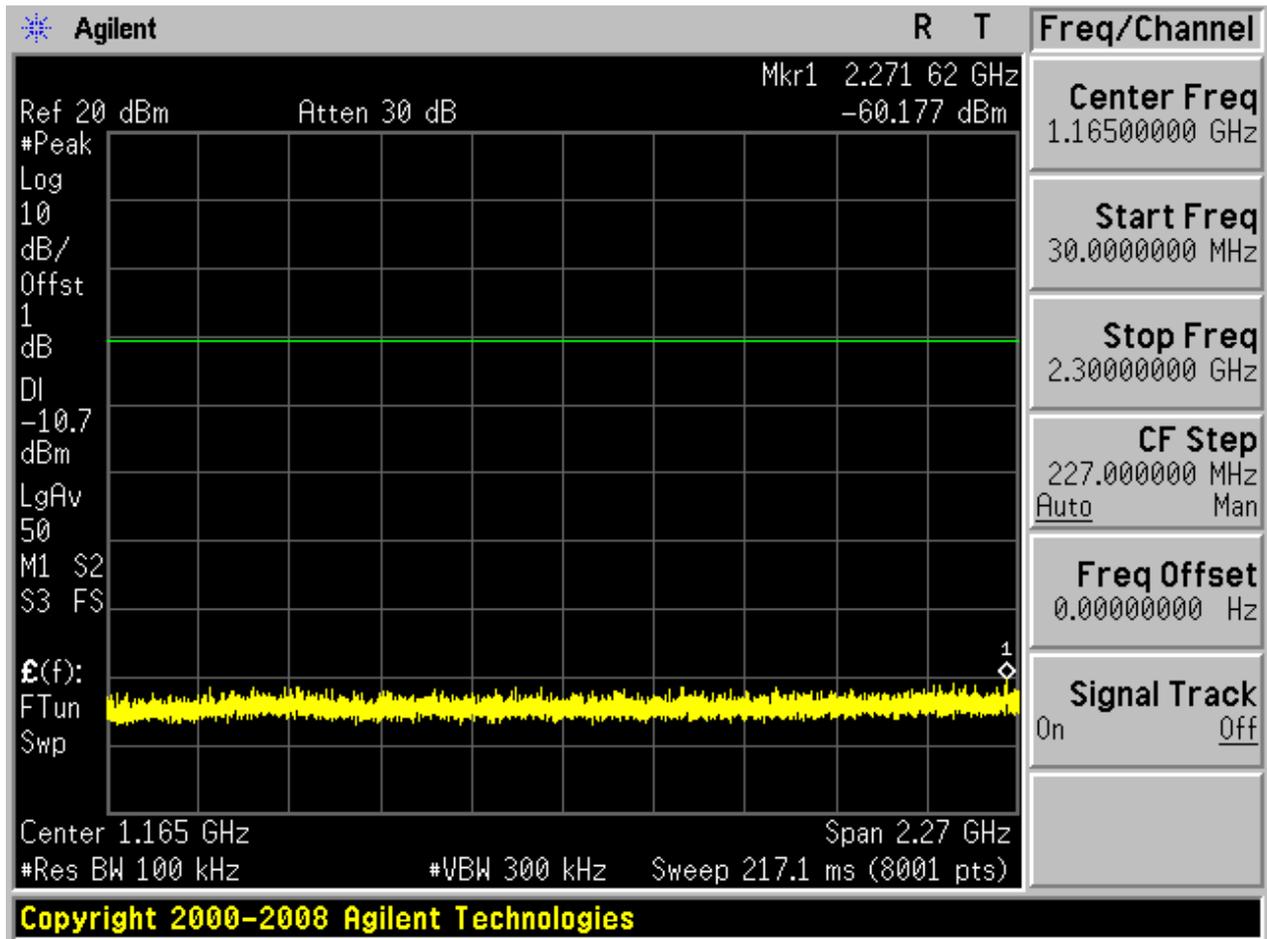


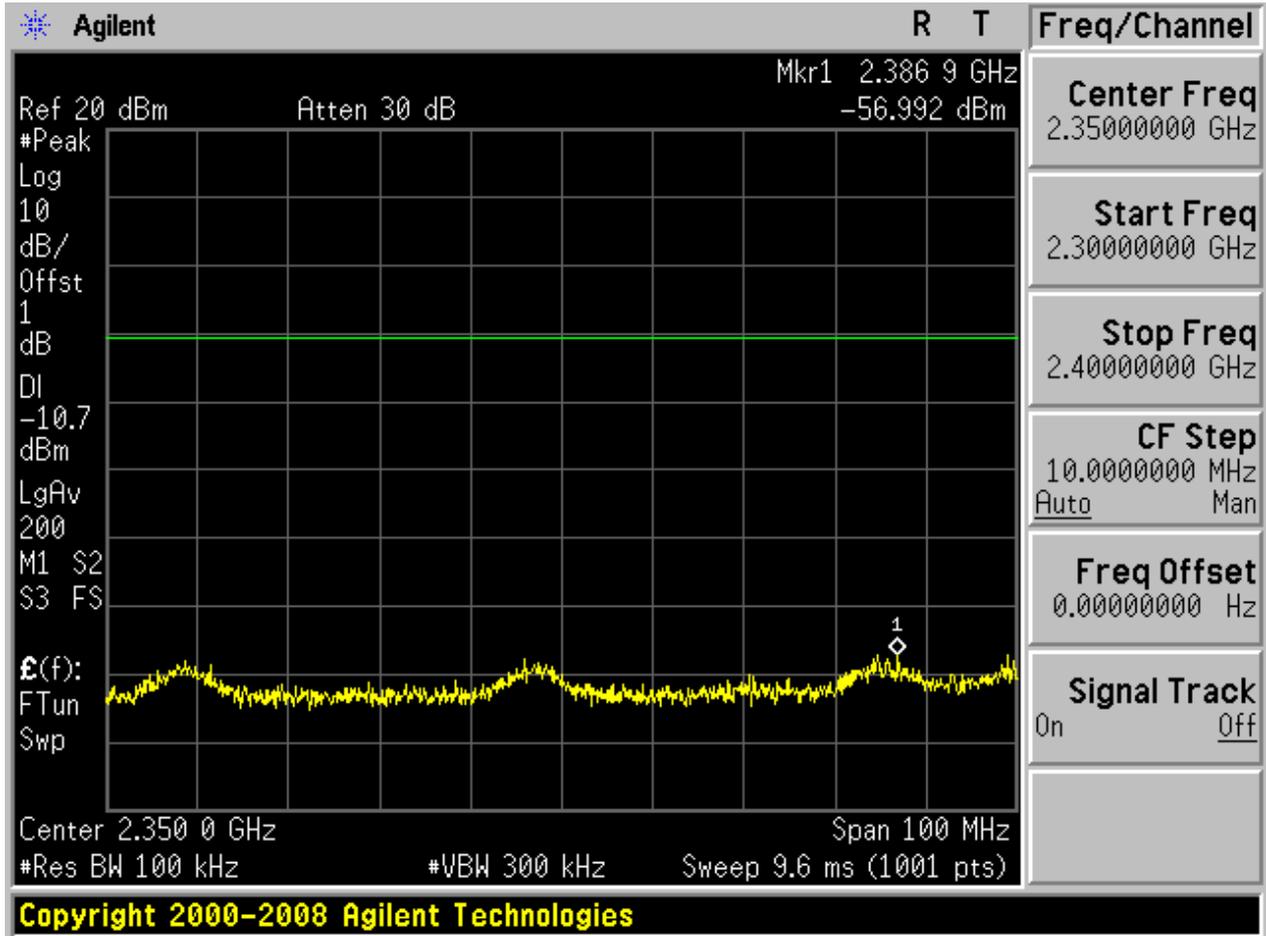


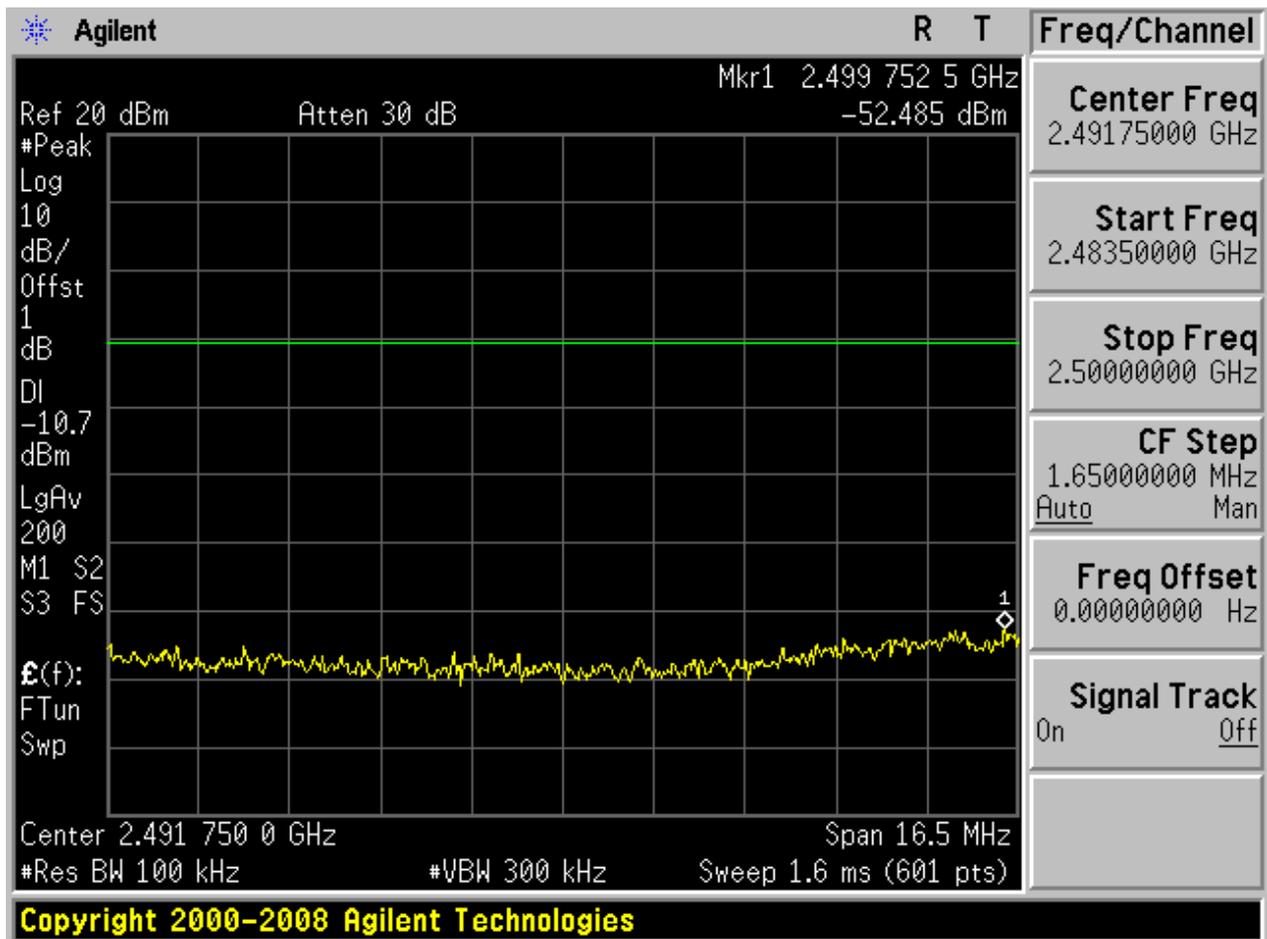
Puw:

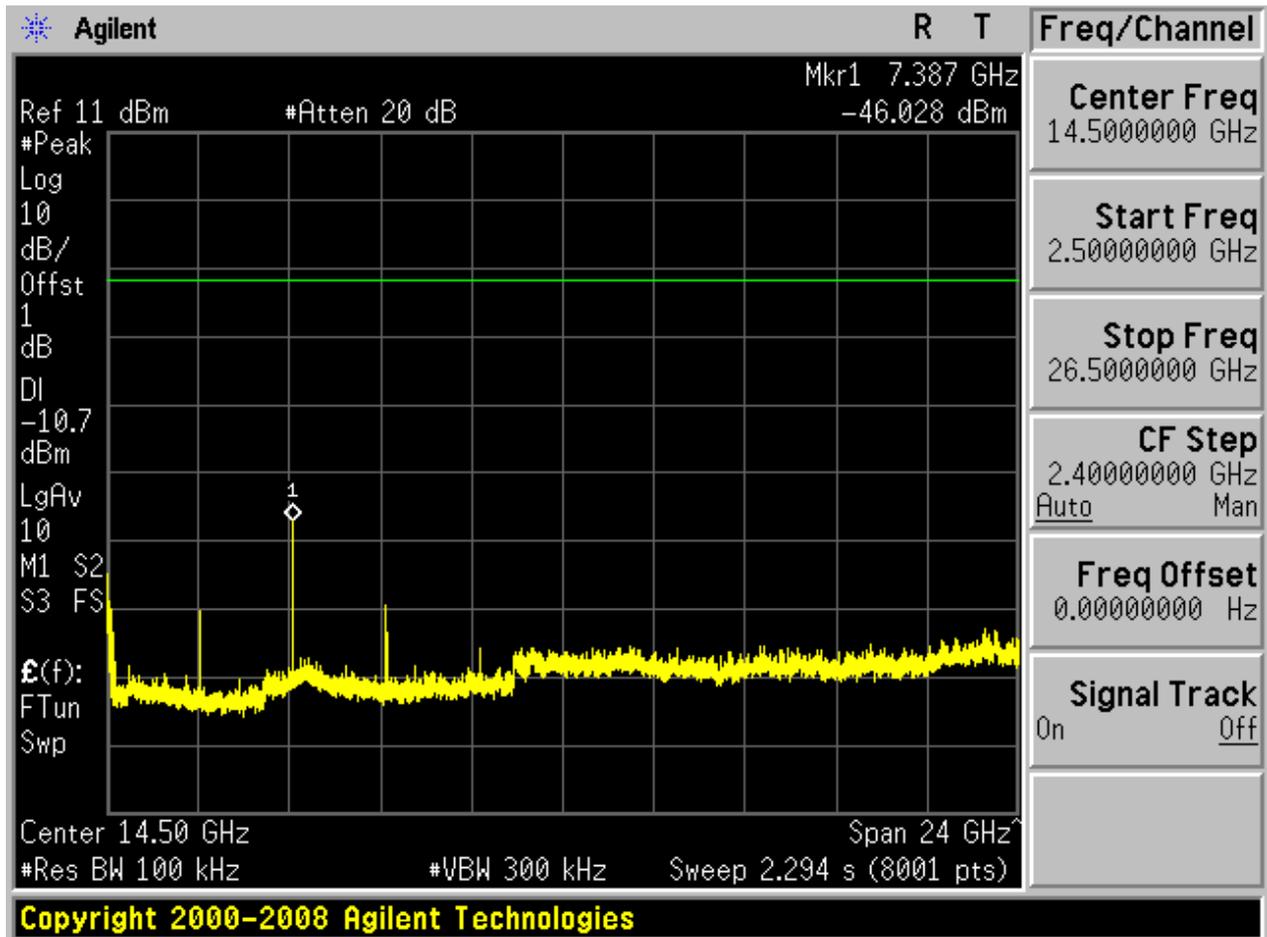








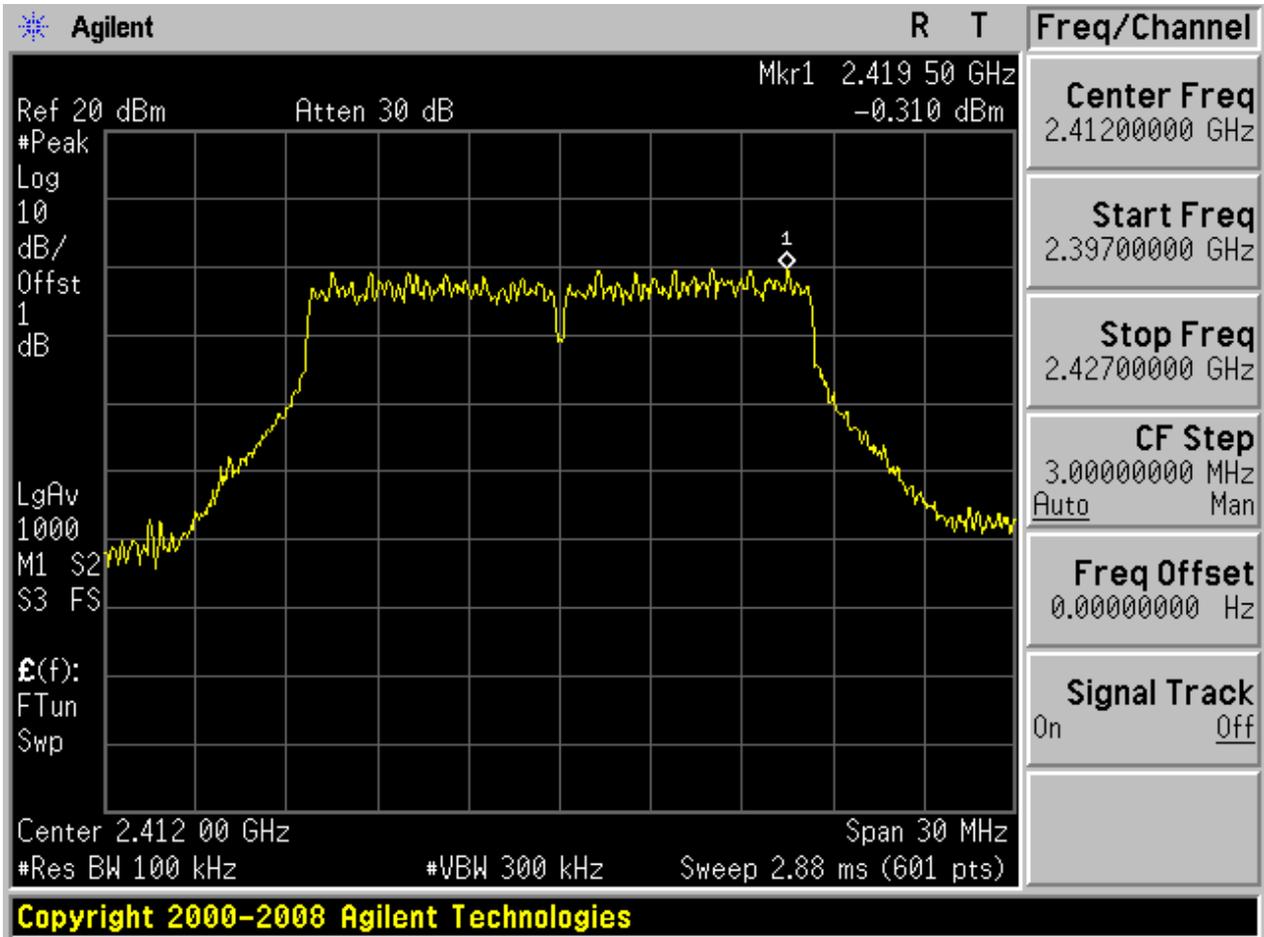






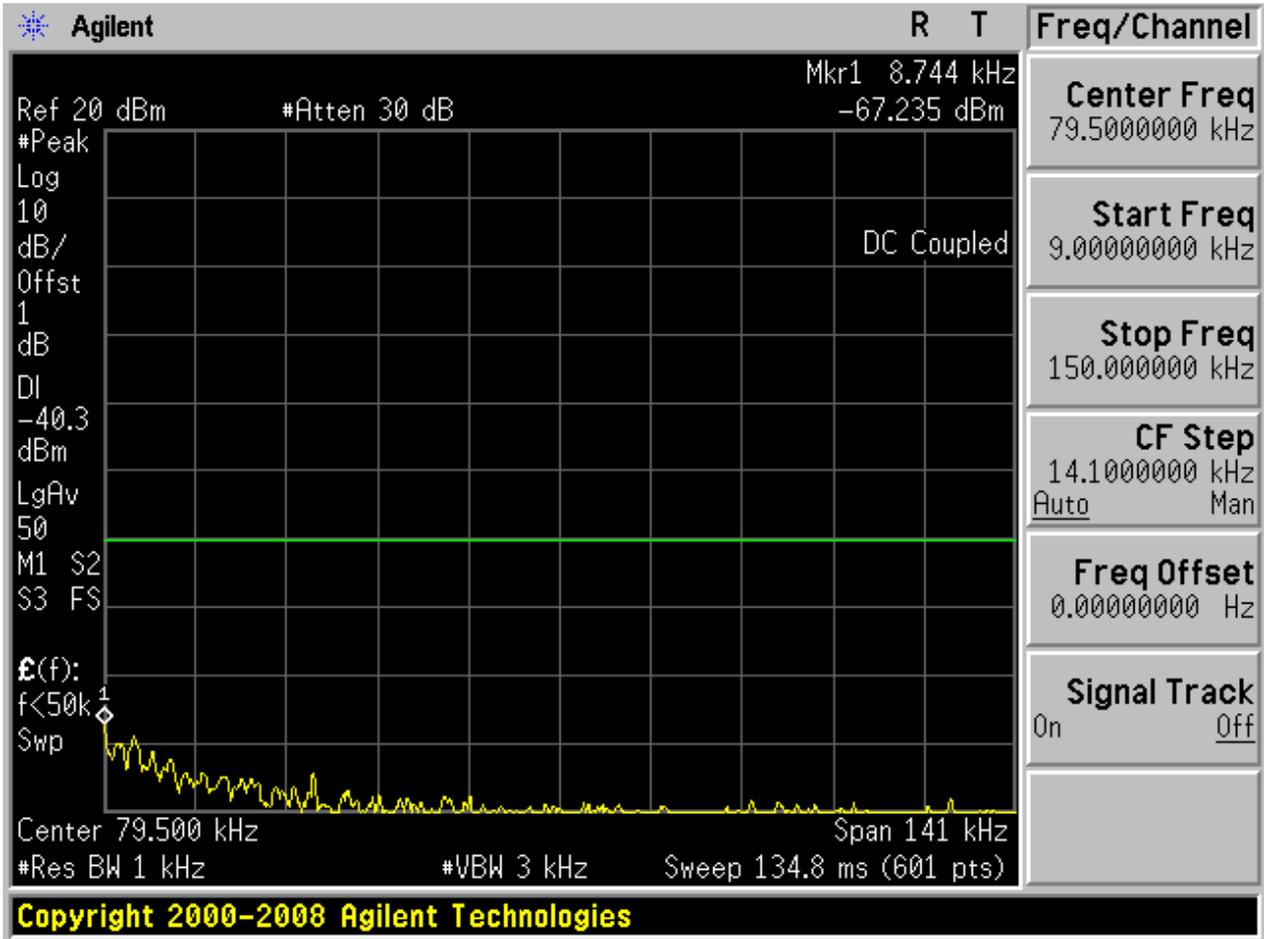
2.4 11G_L

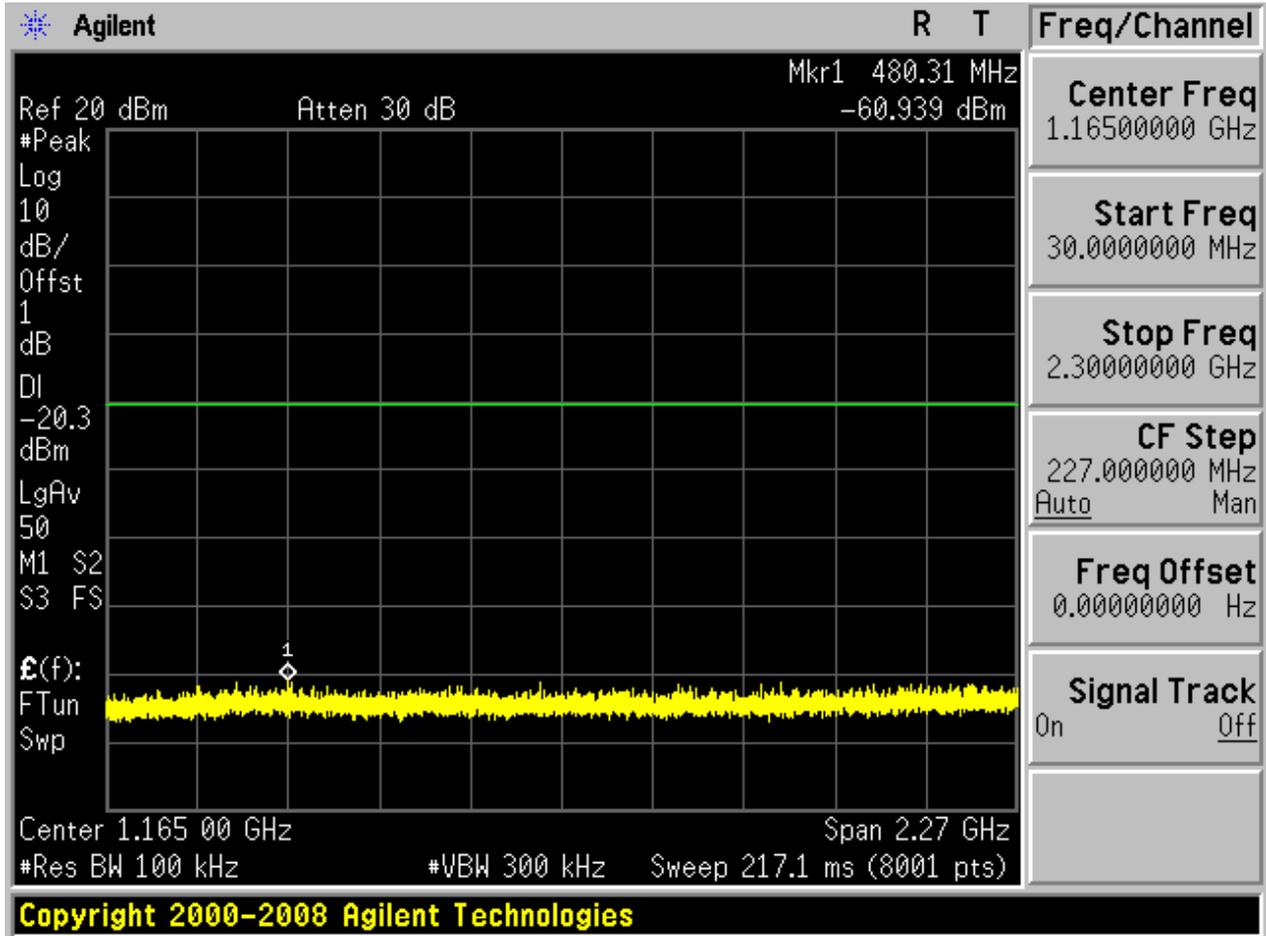
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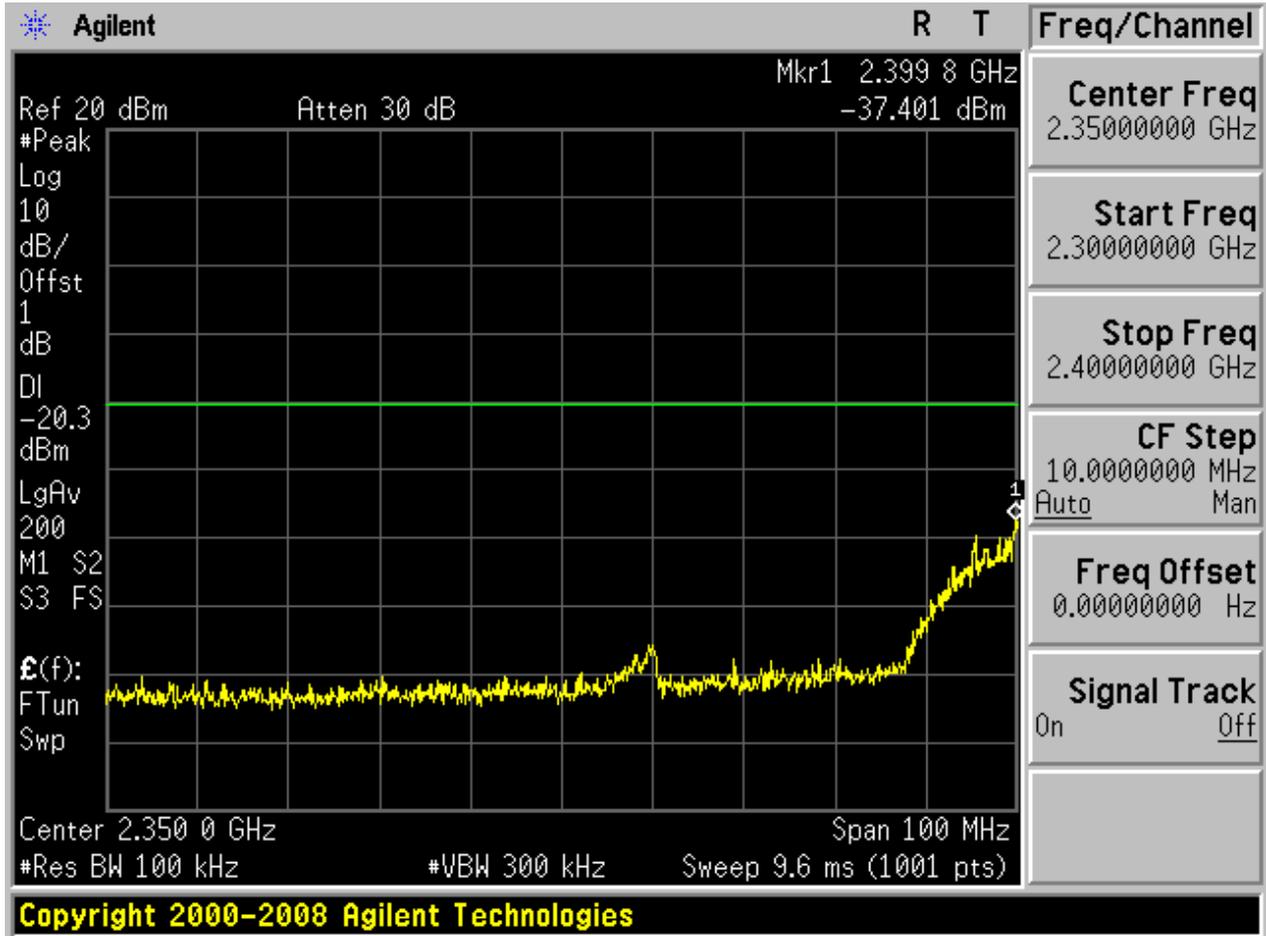


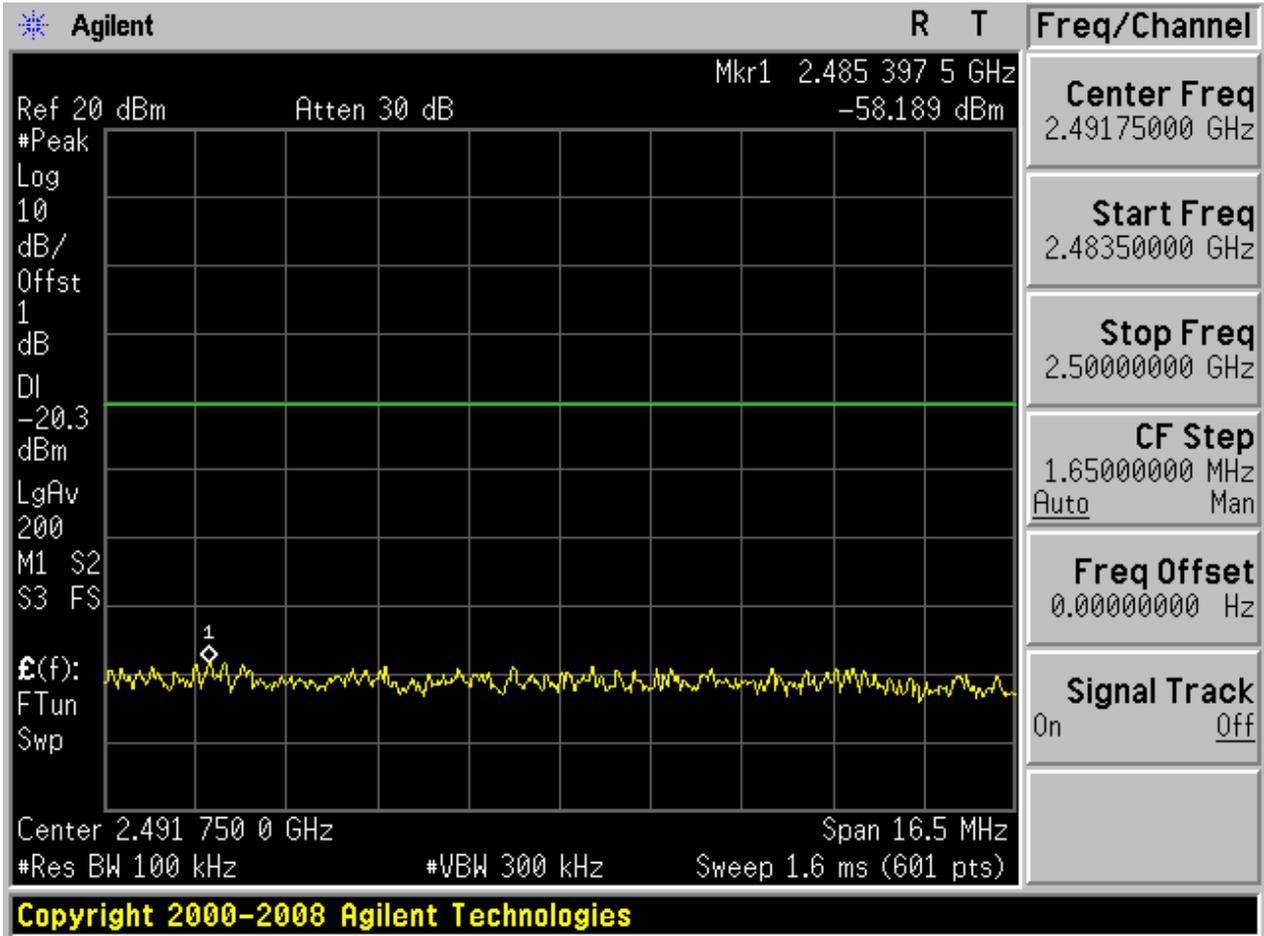


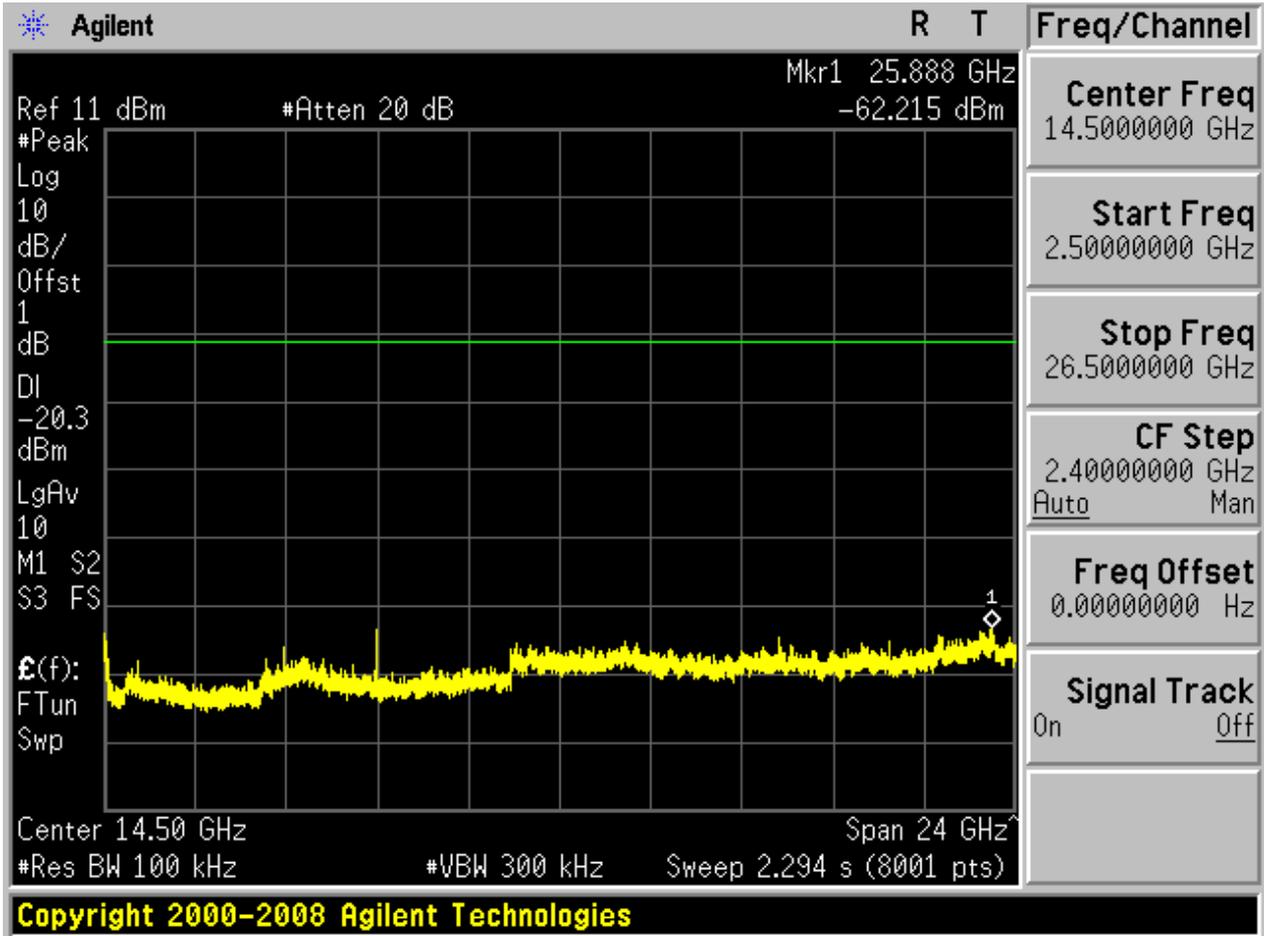
Puw:







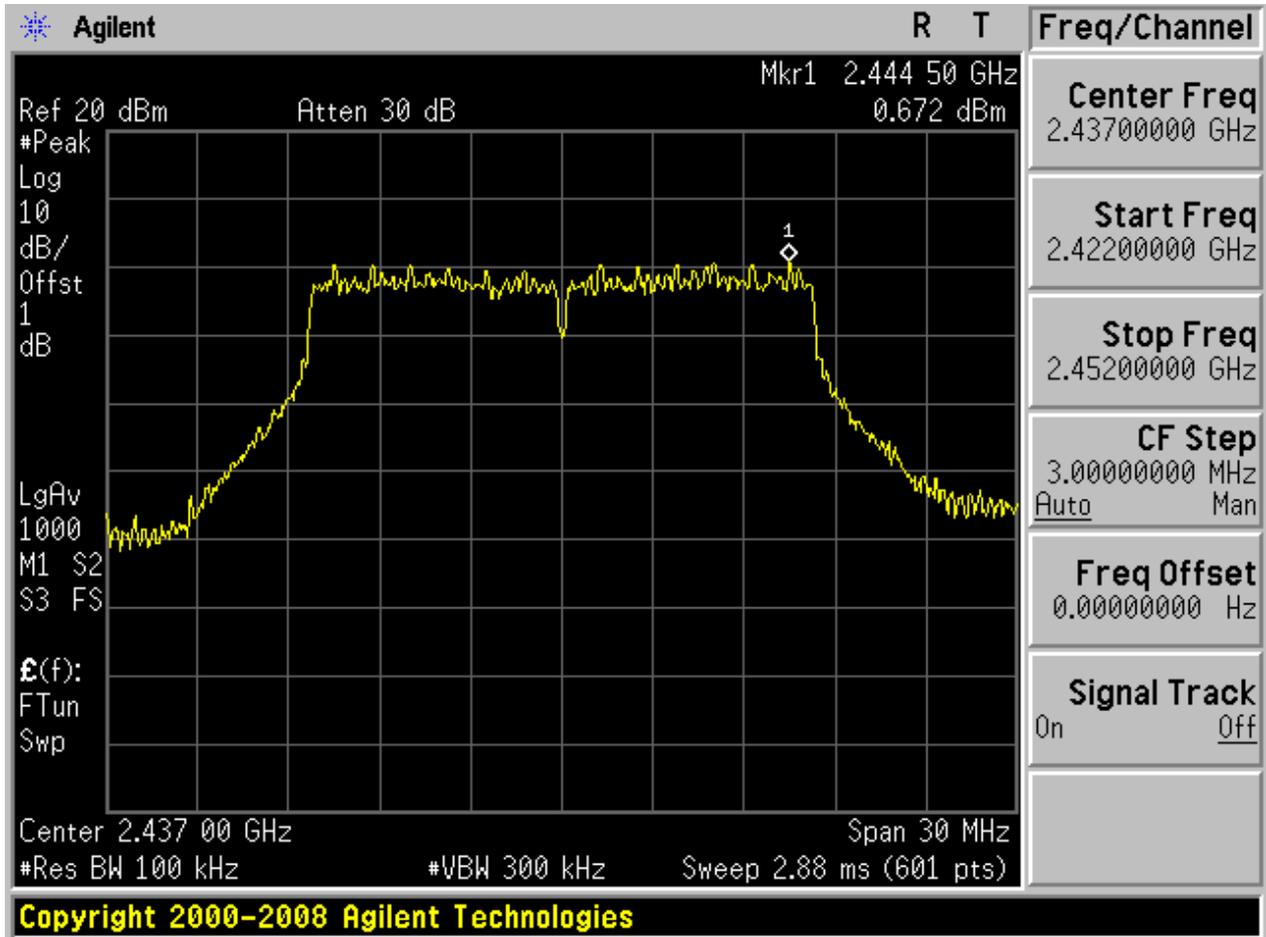






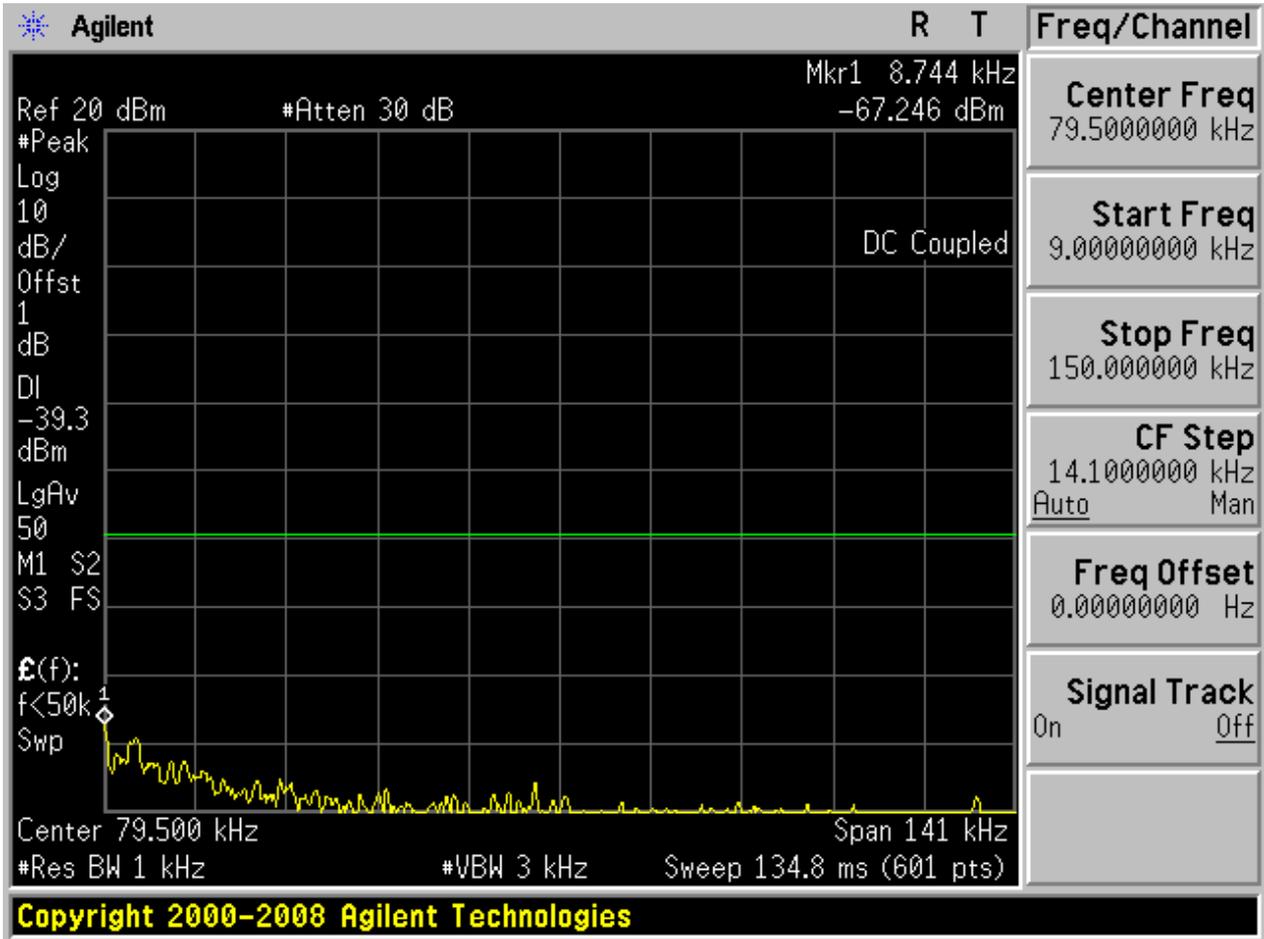
2.5 11G_M

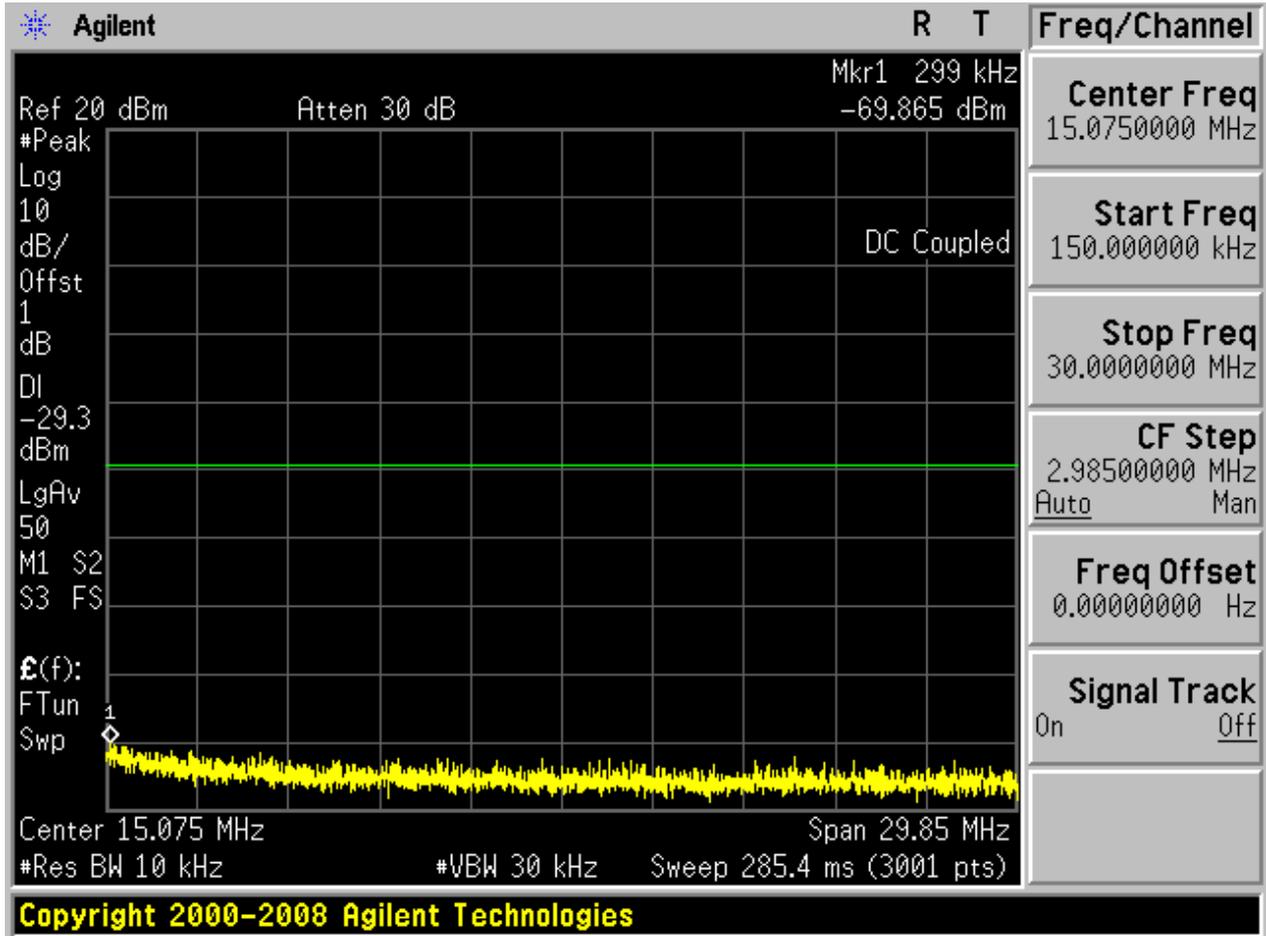
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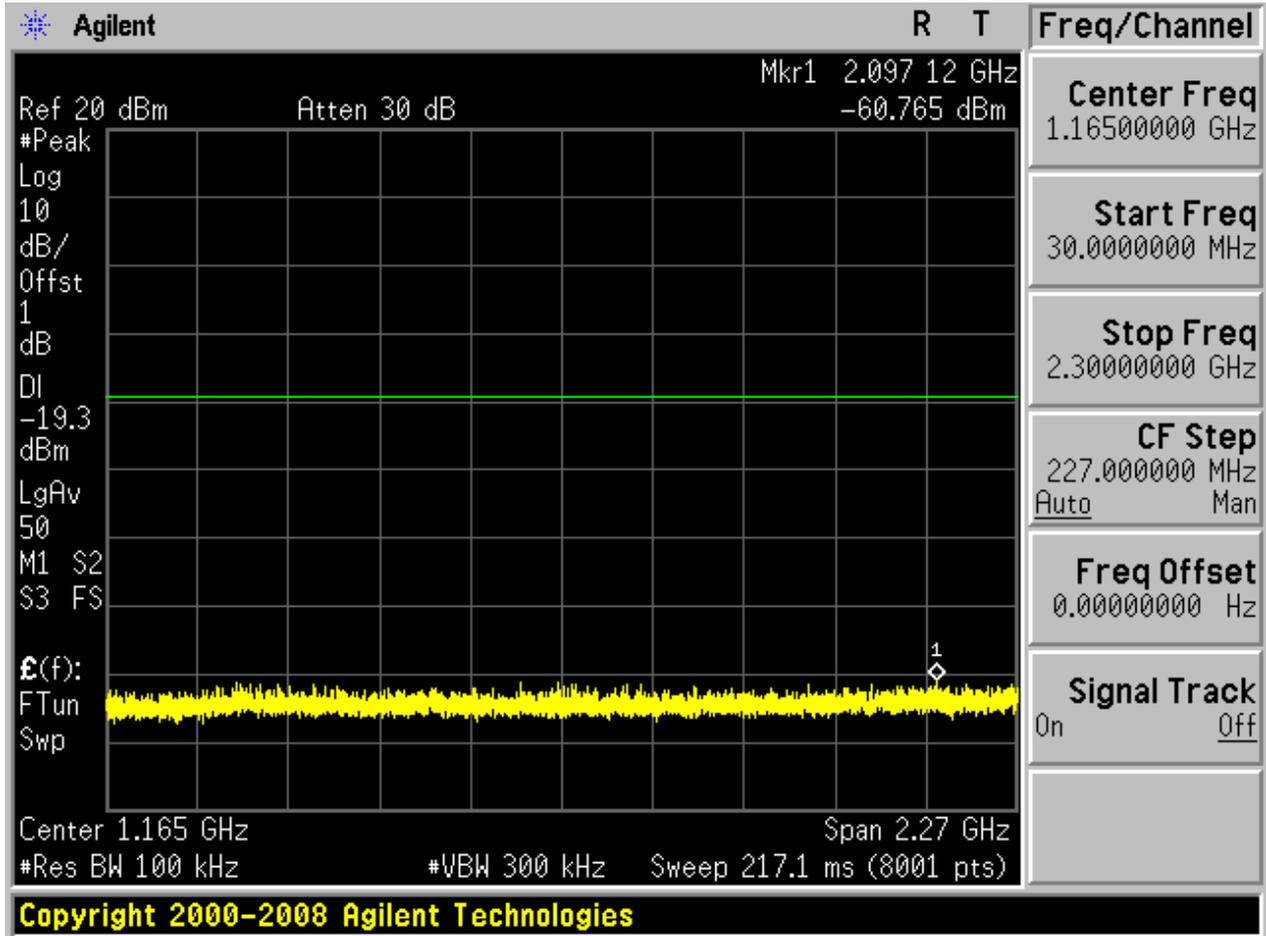


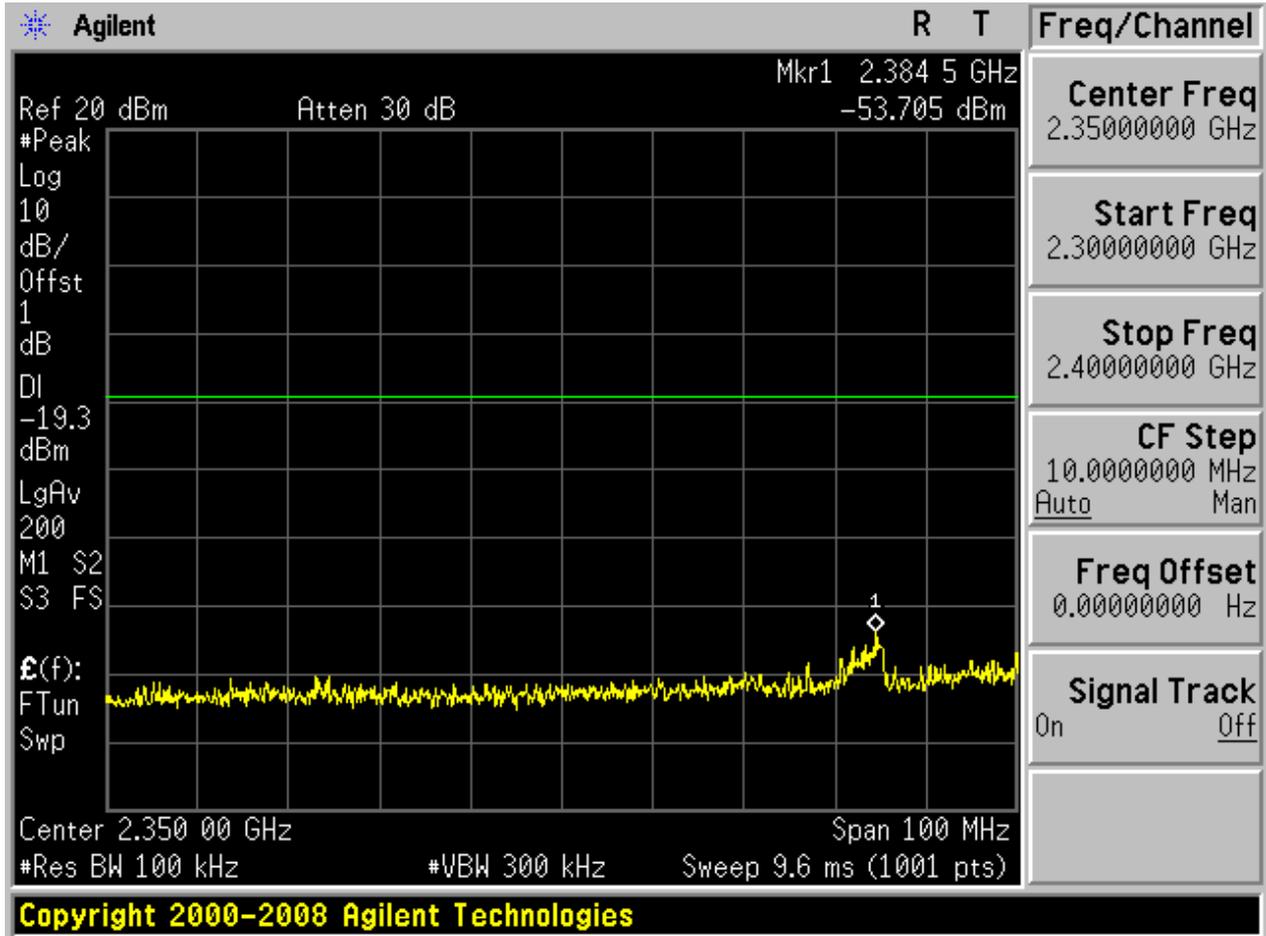


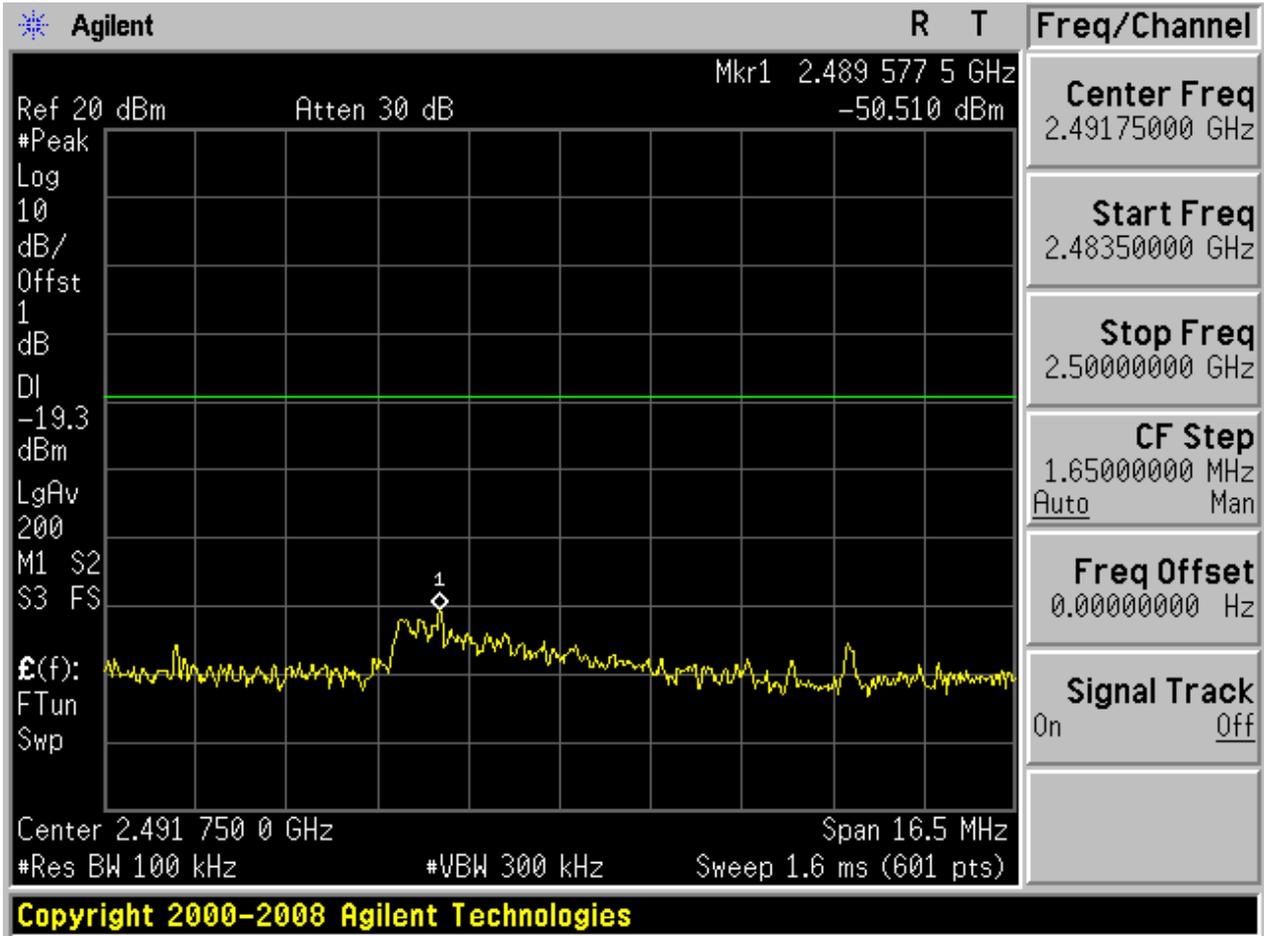
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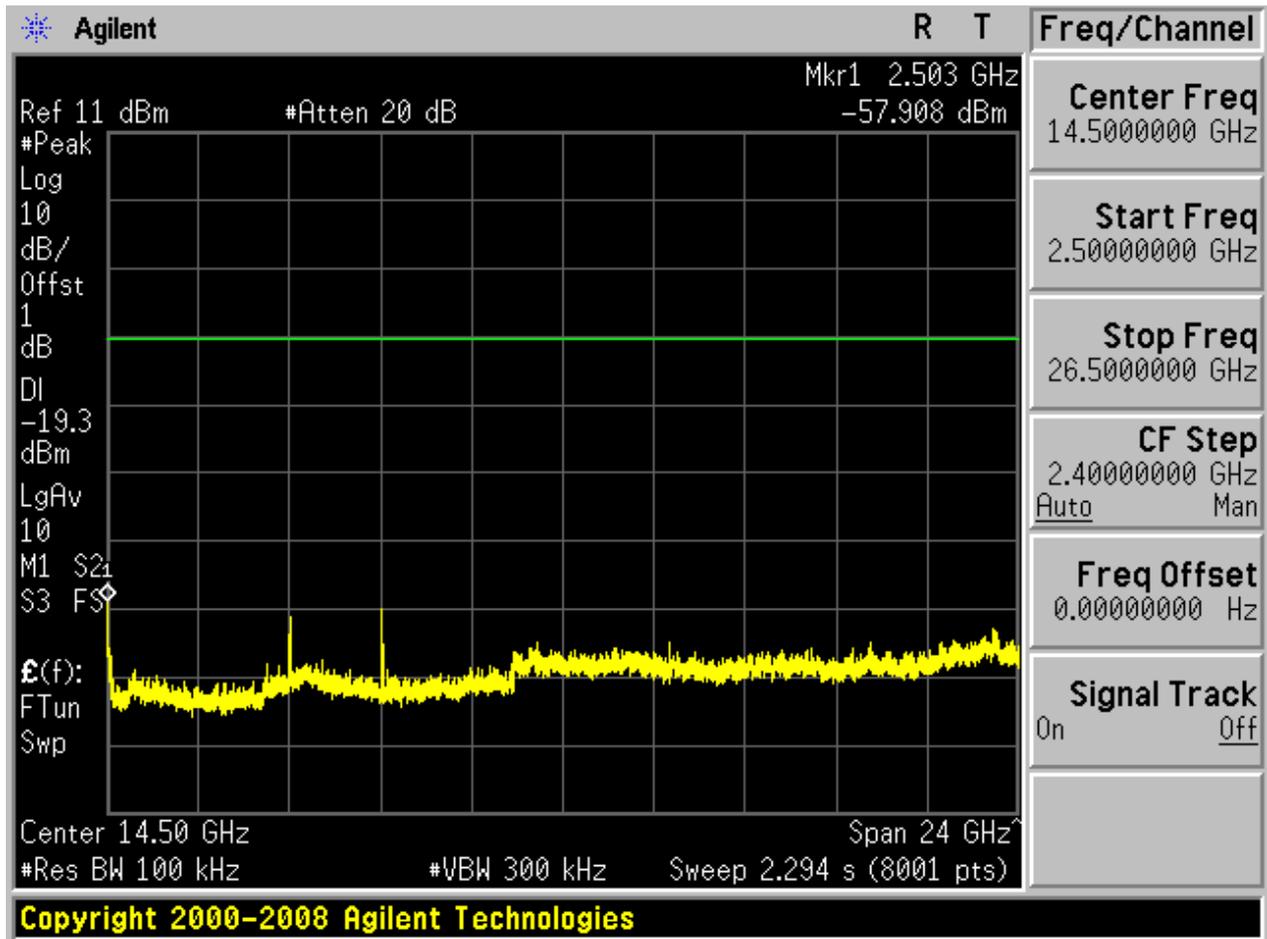








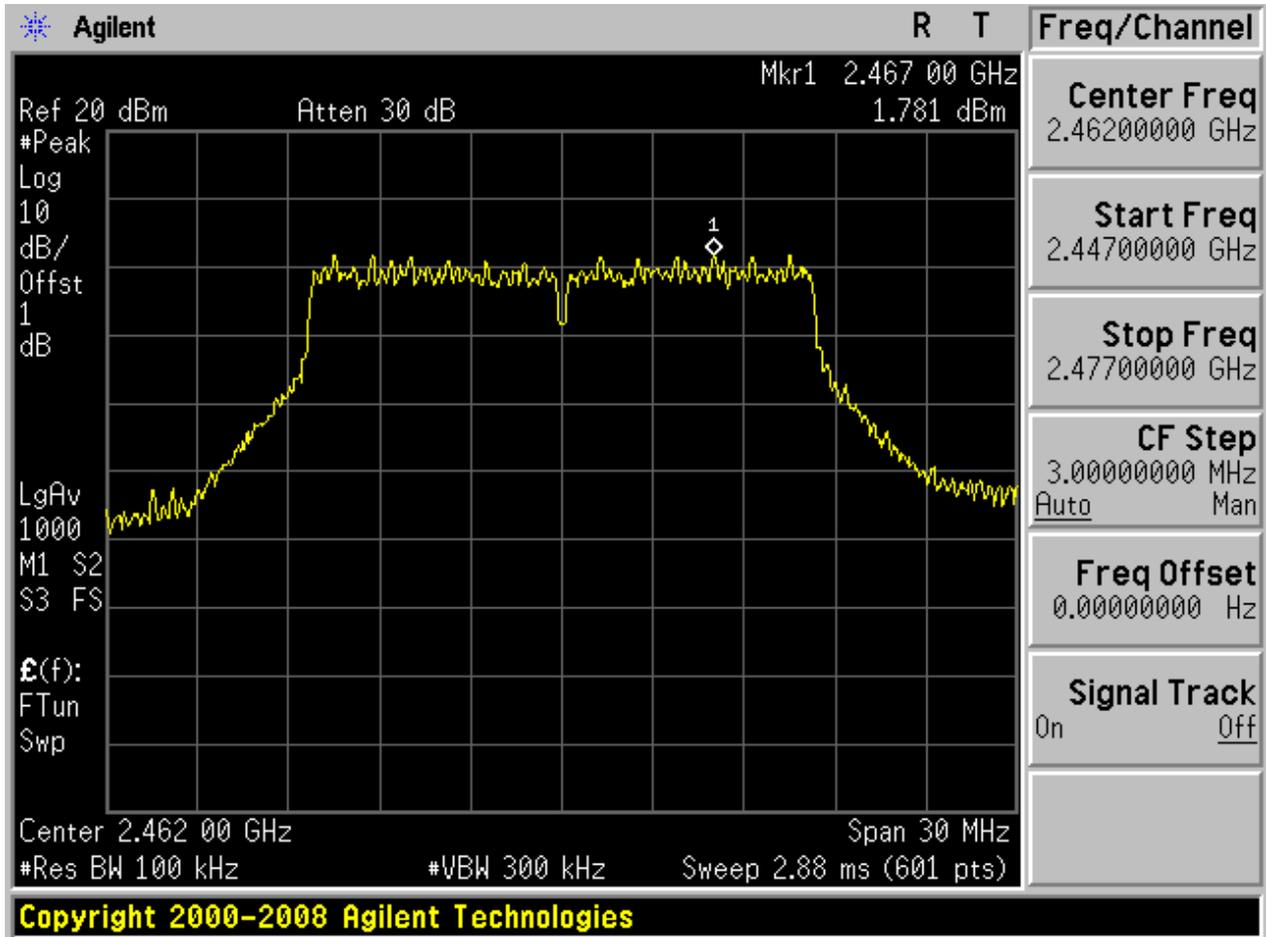






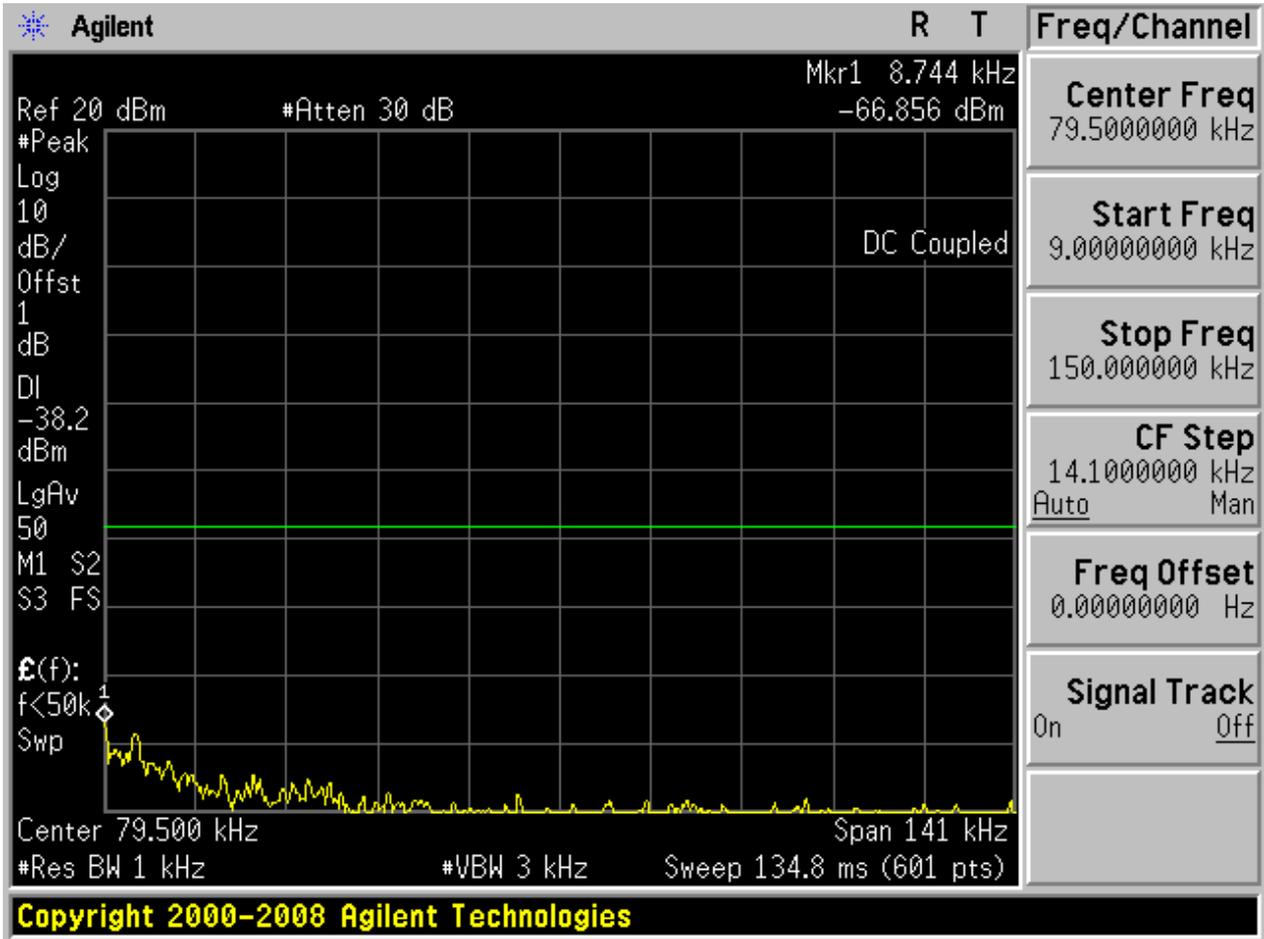
2.6 11G_H

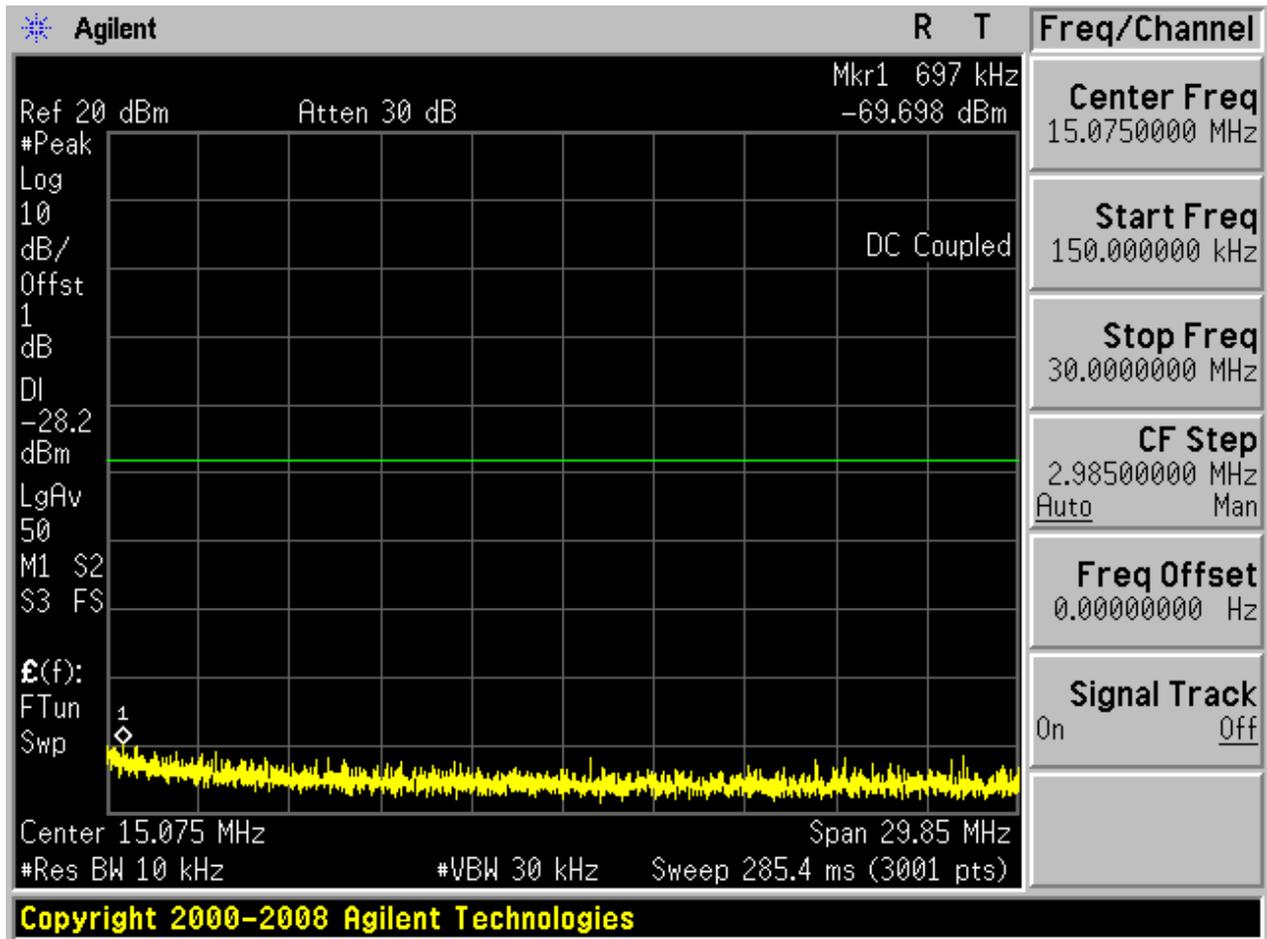
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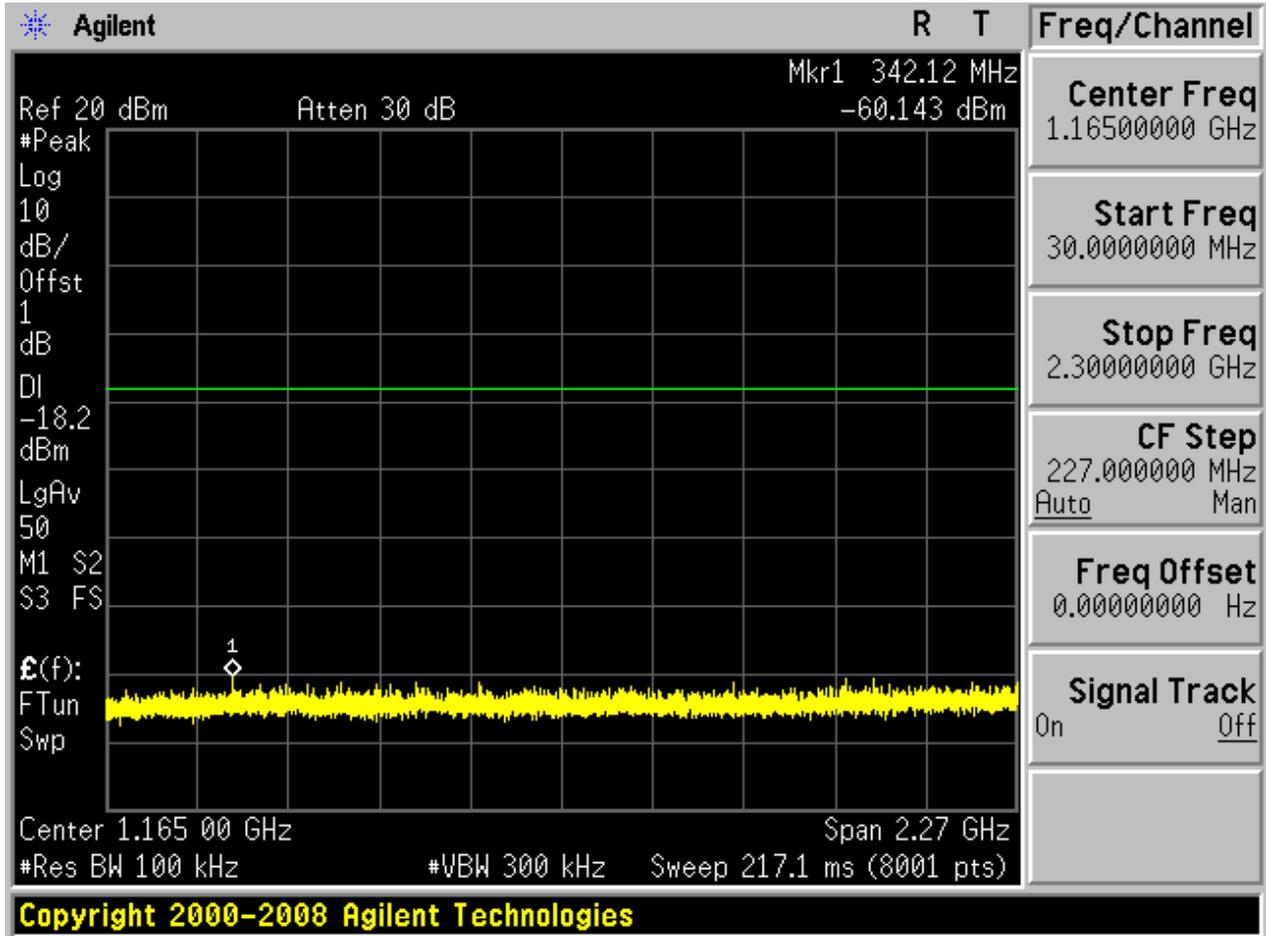


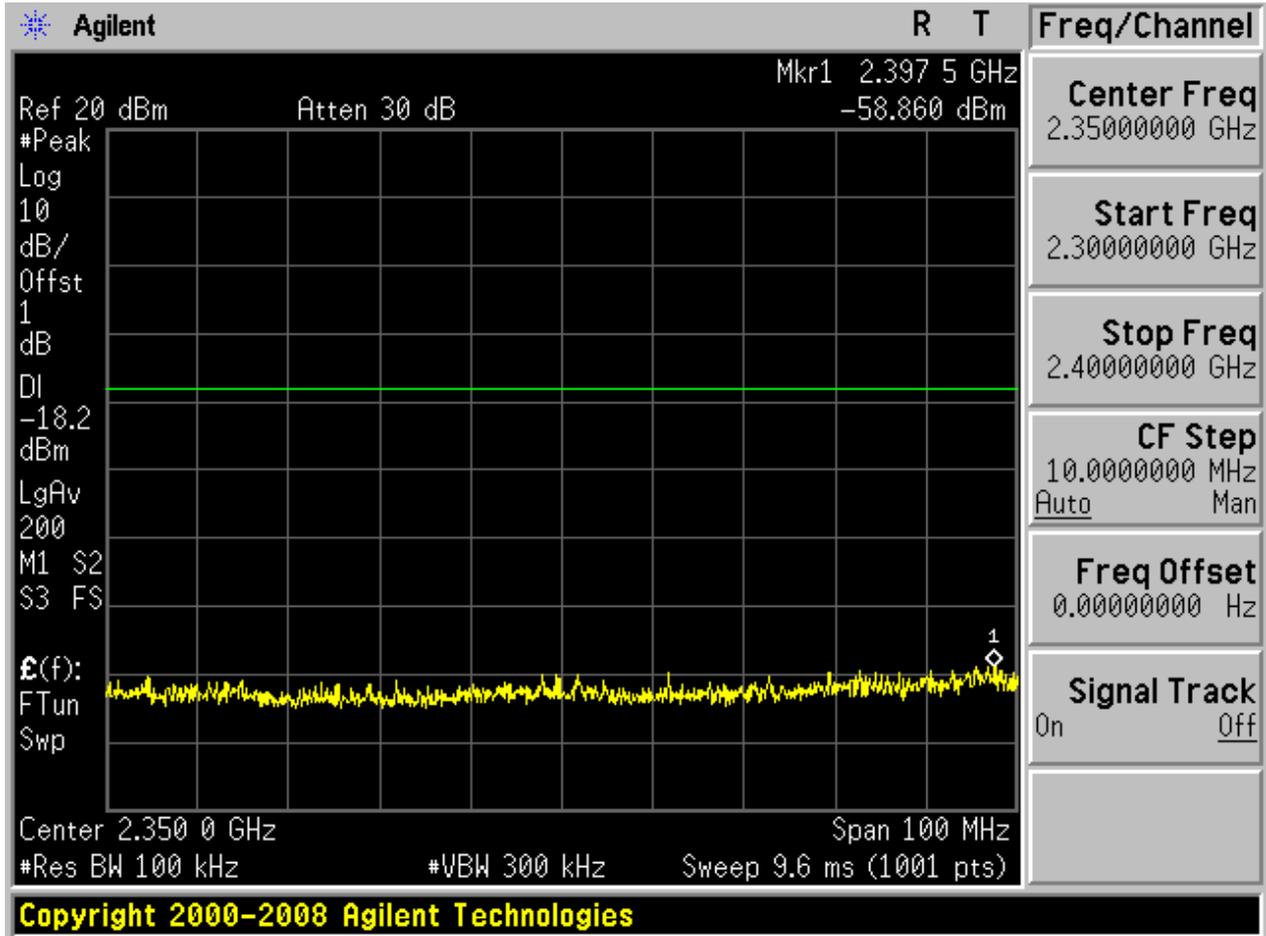


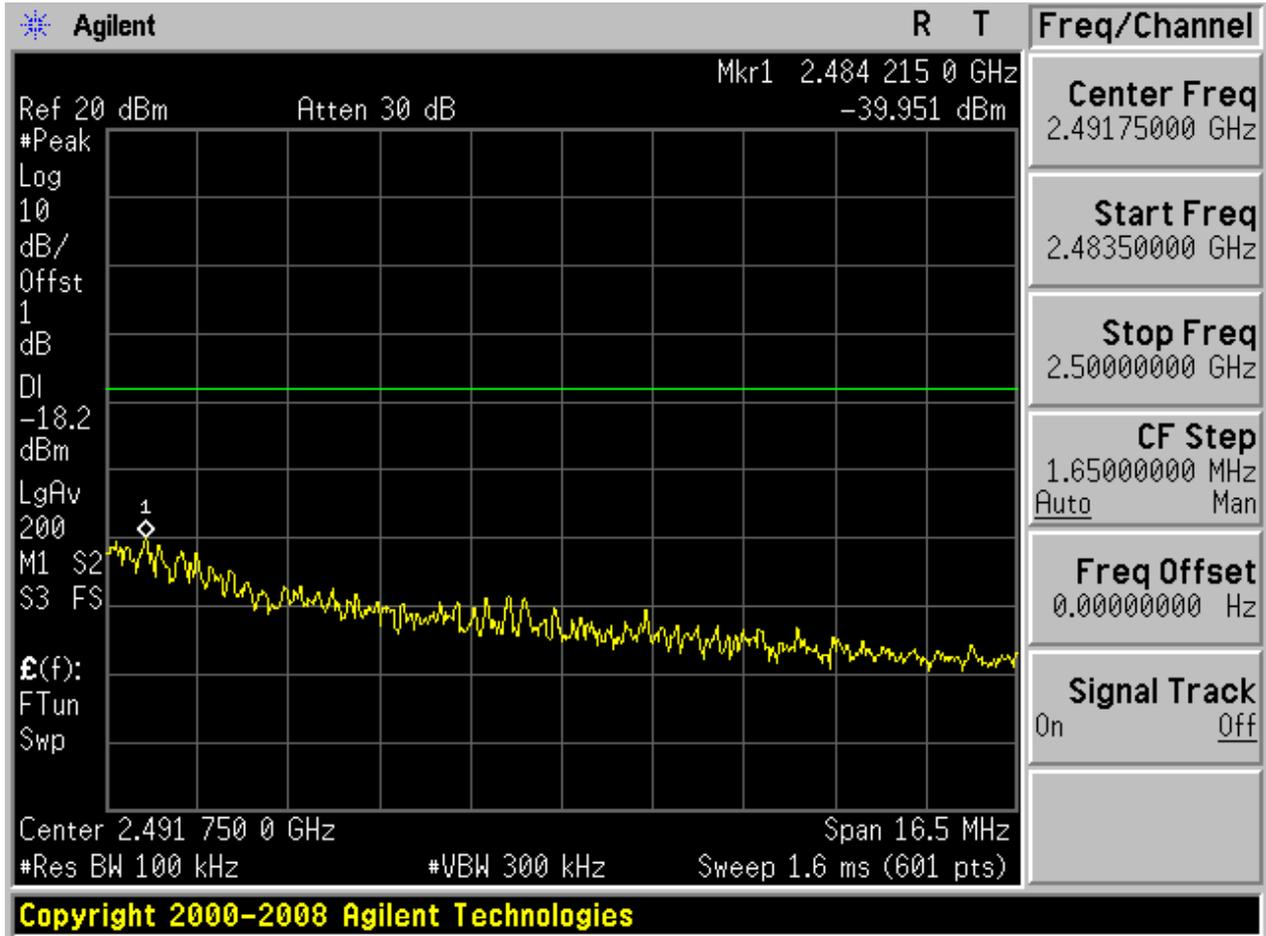
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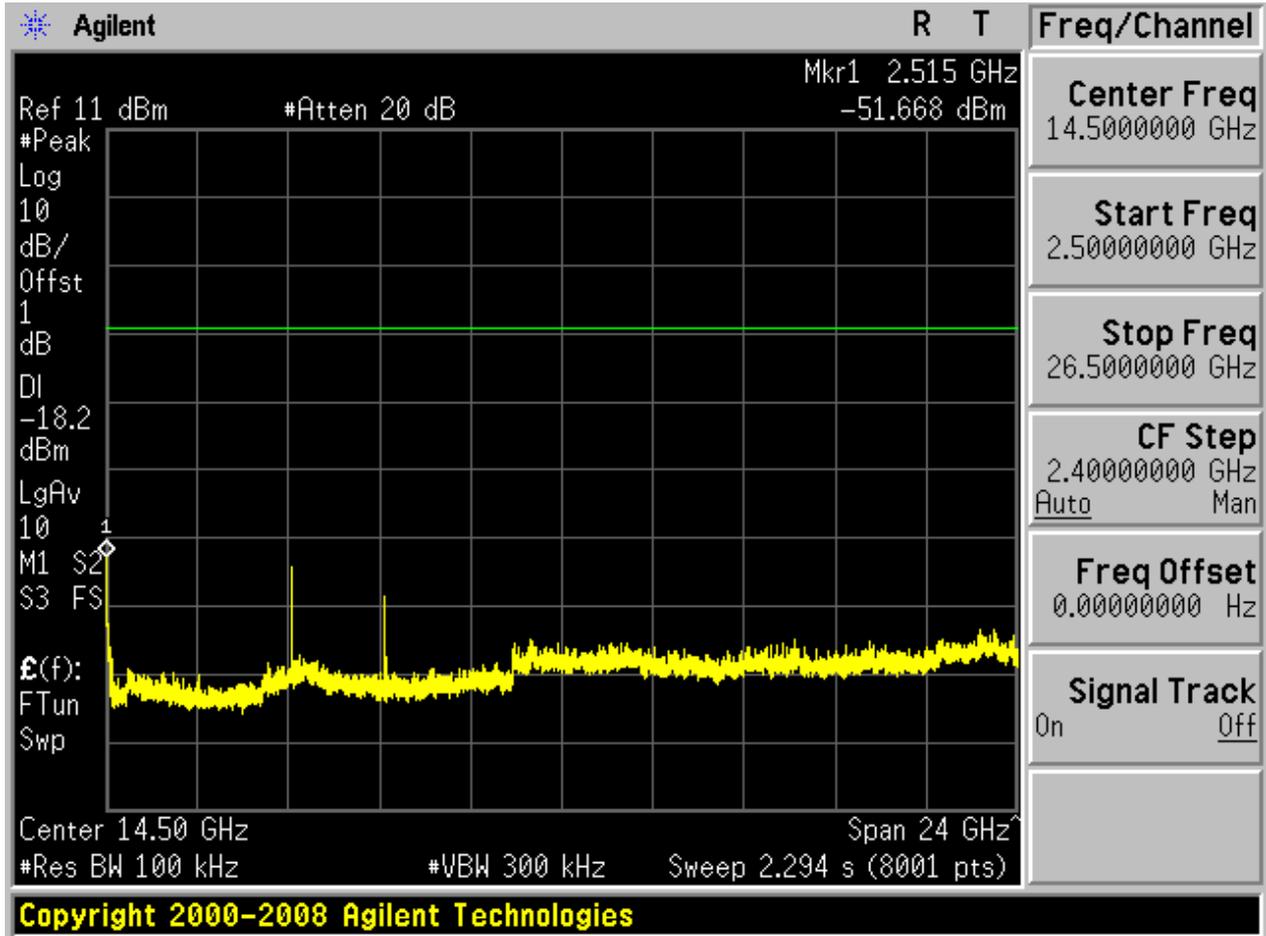








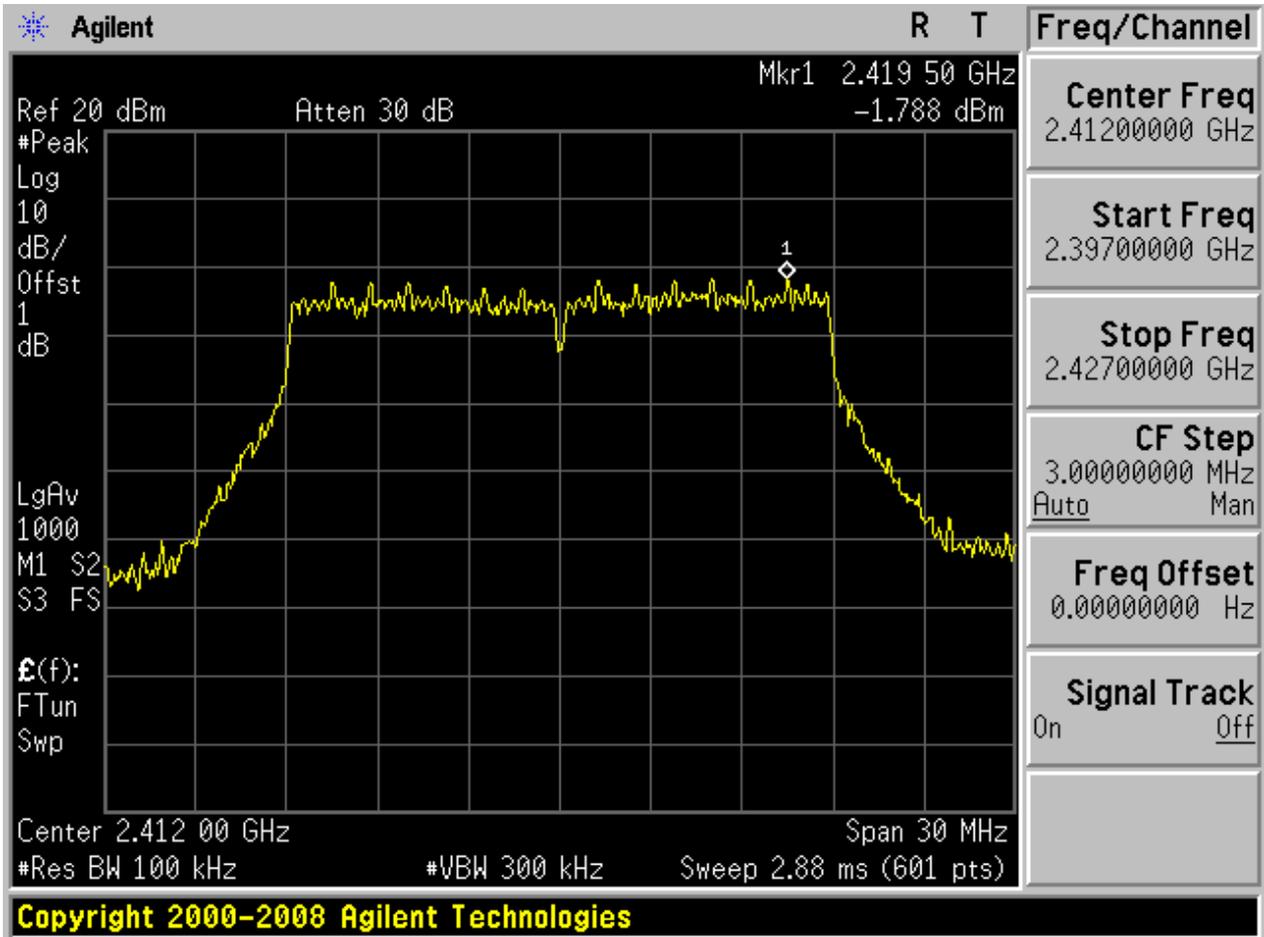






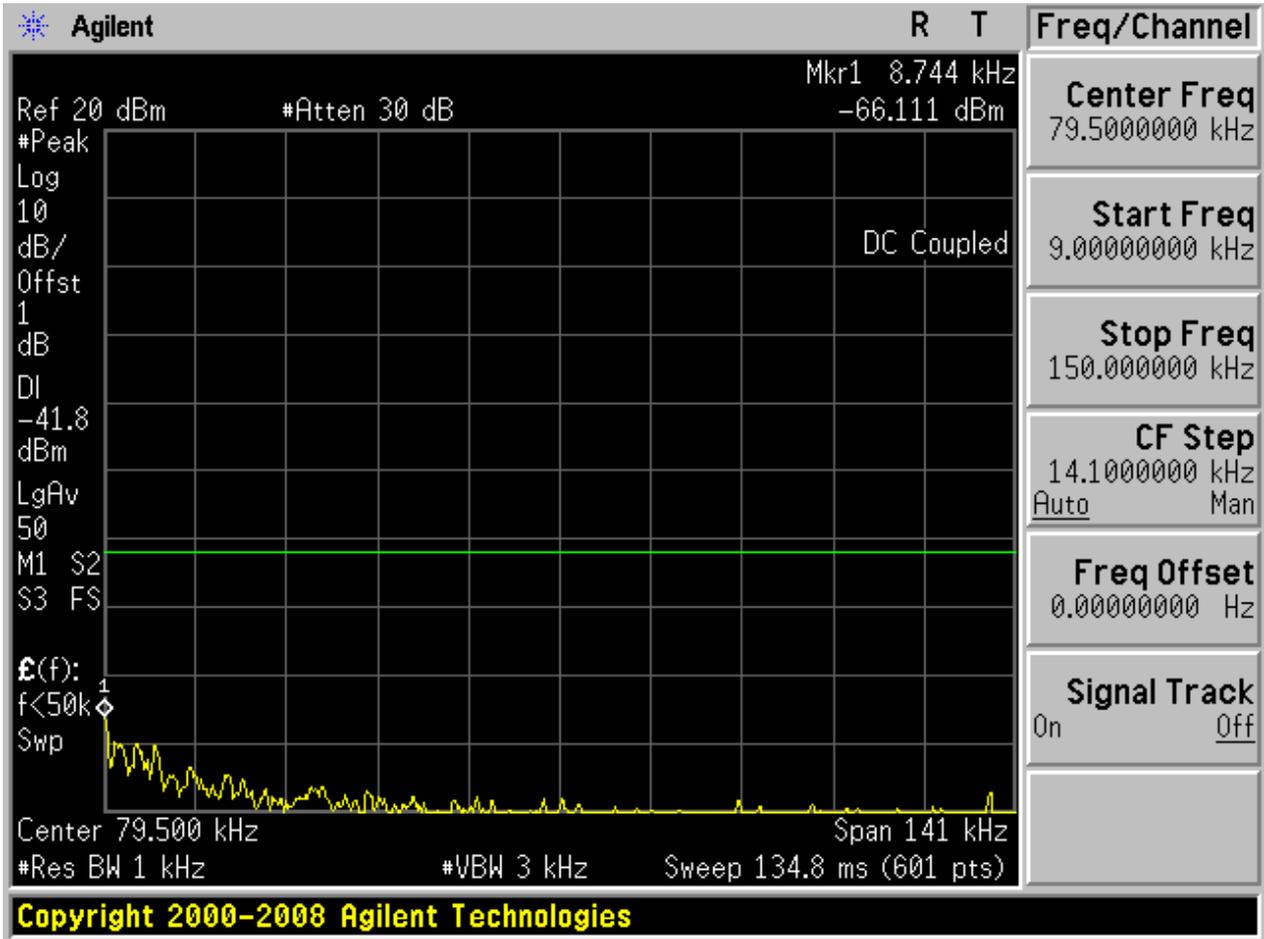
2.7 11N20_L

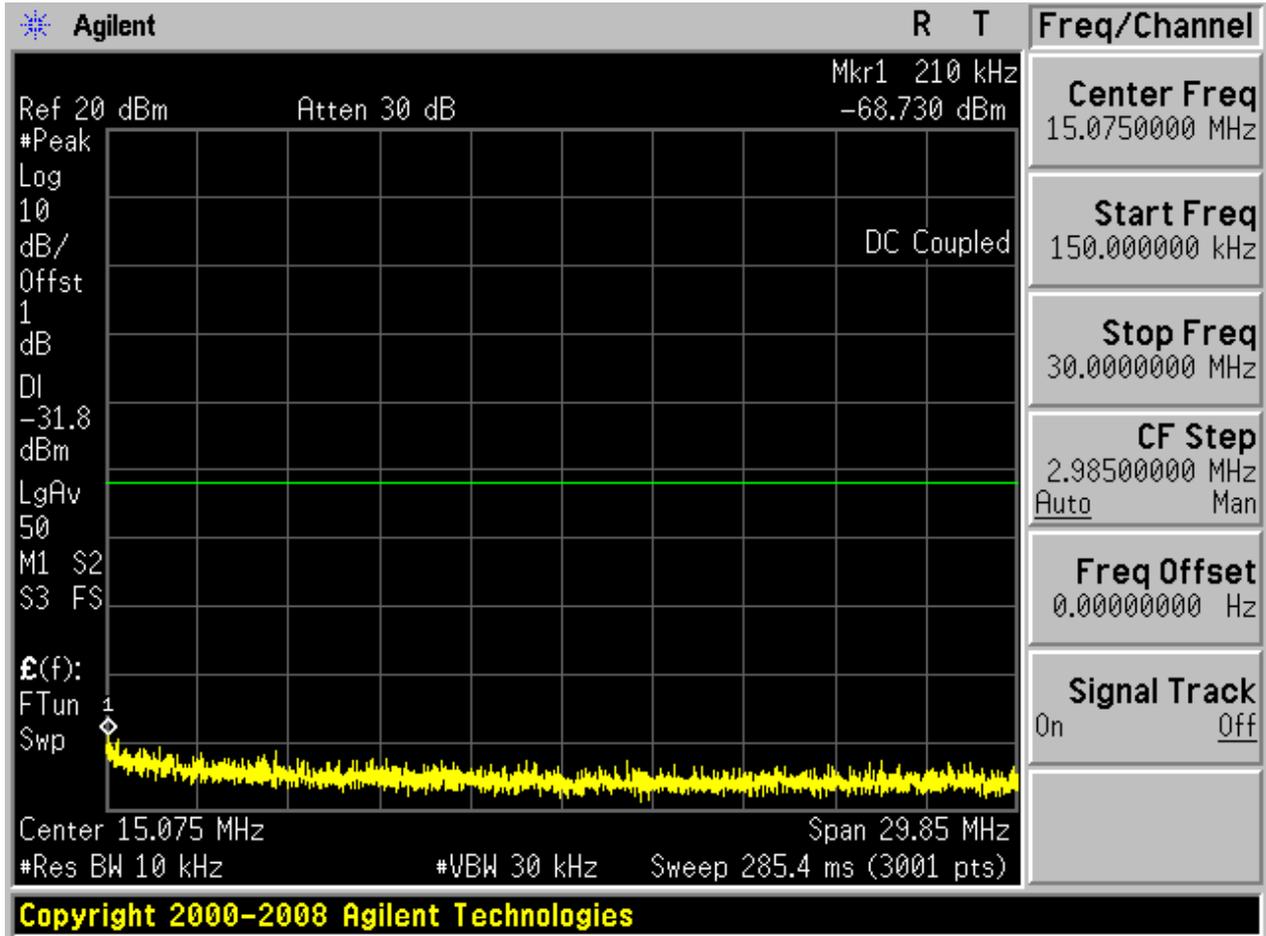
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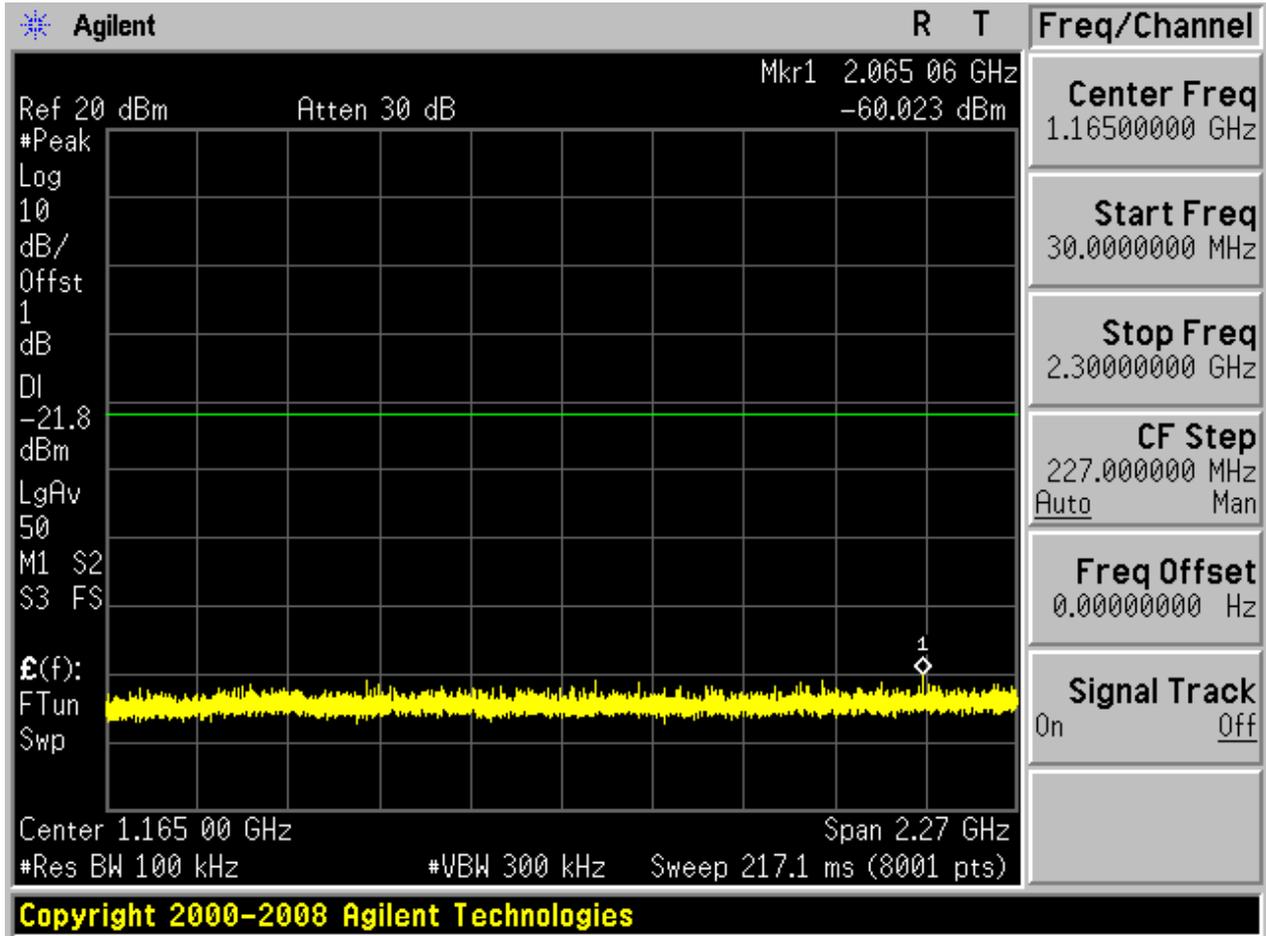


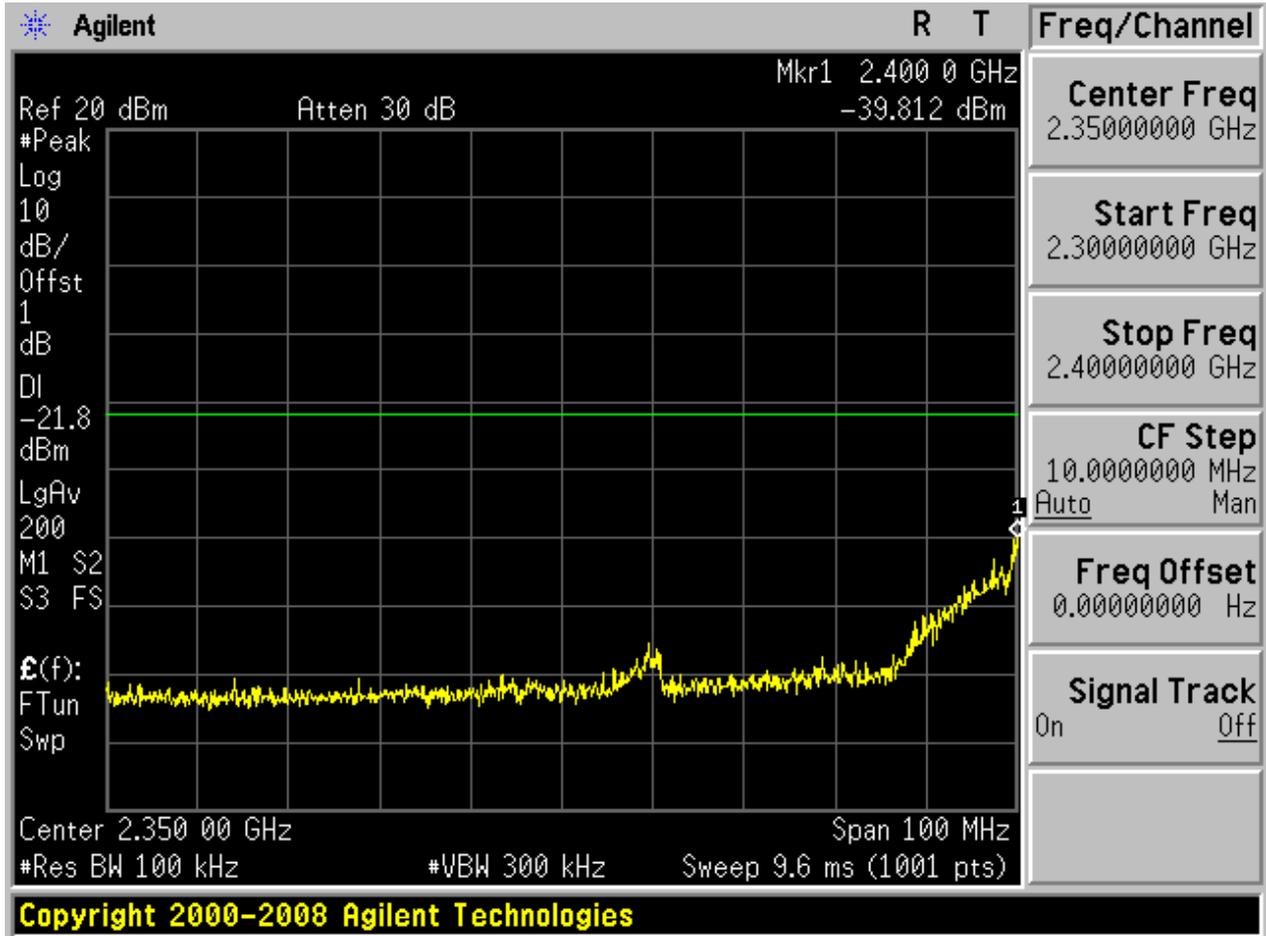


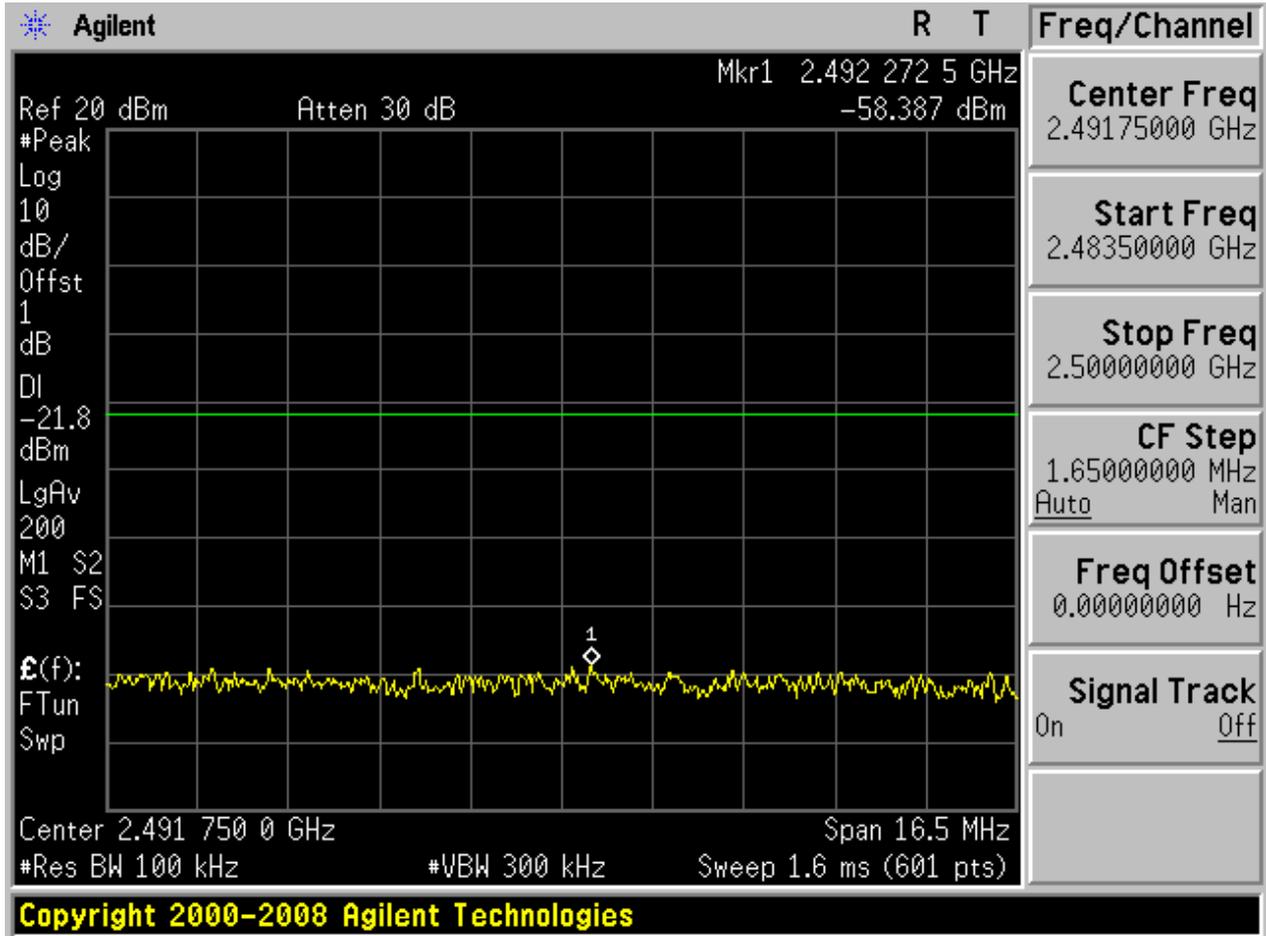
Puw:

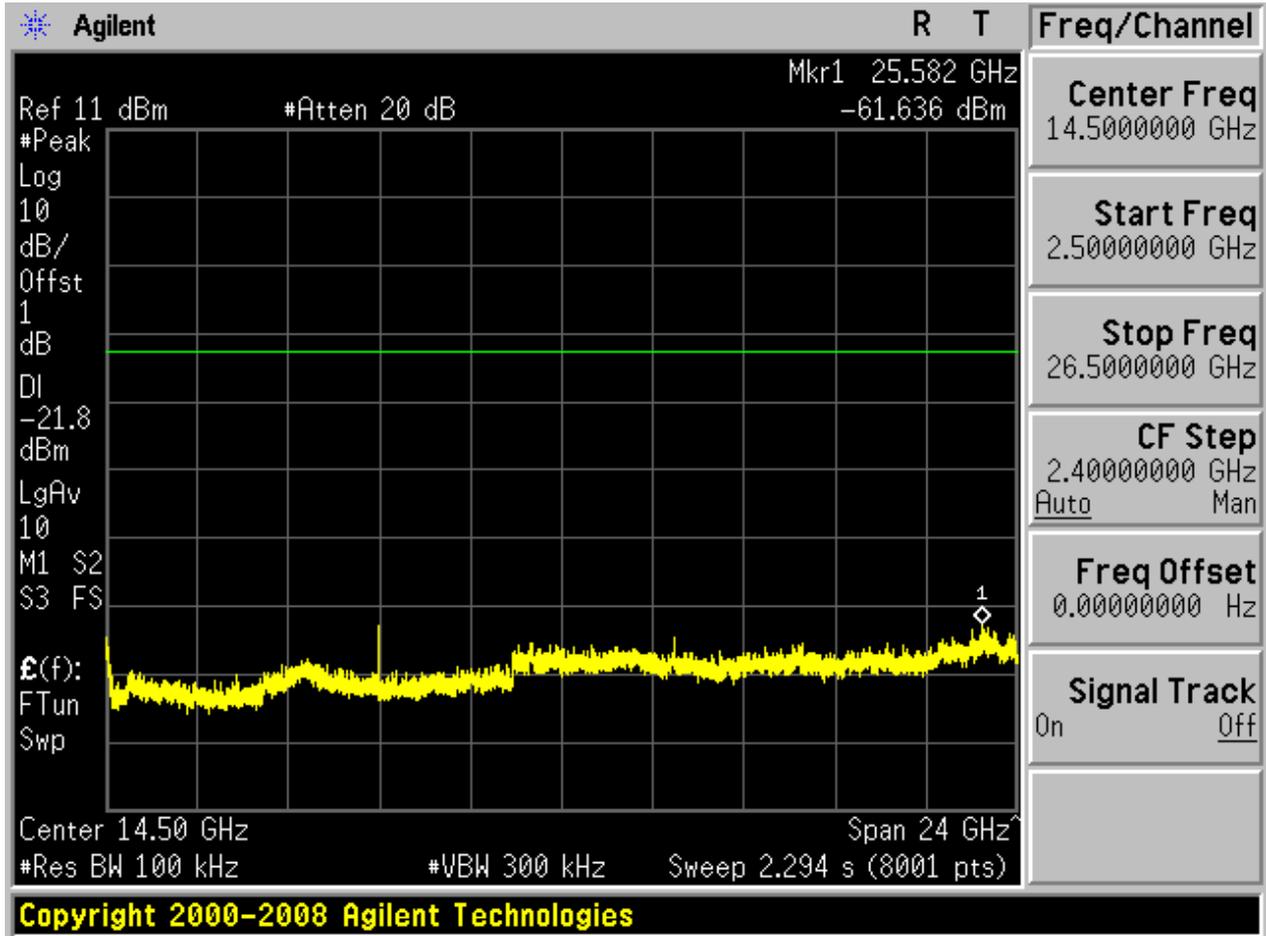








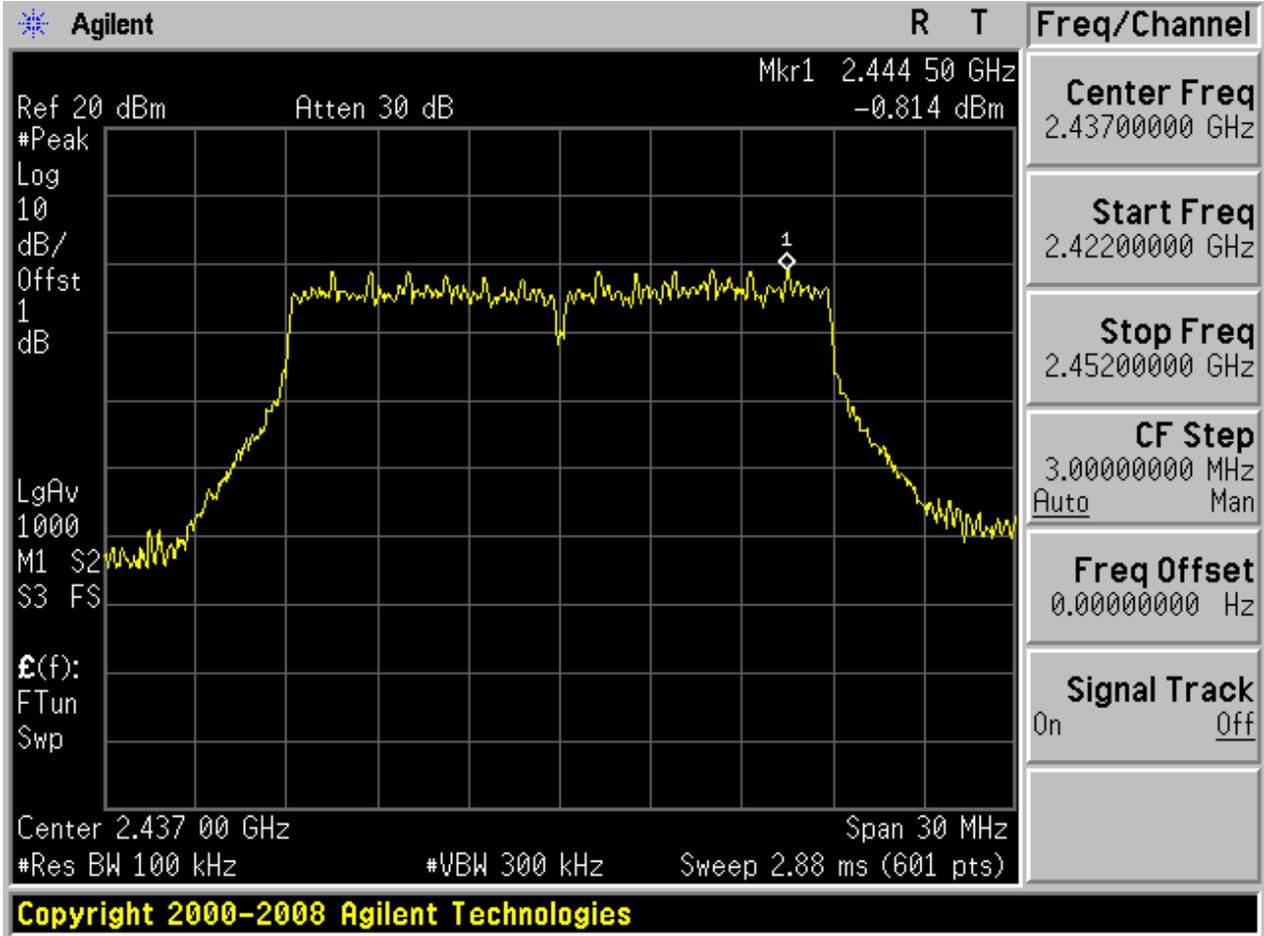






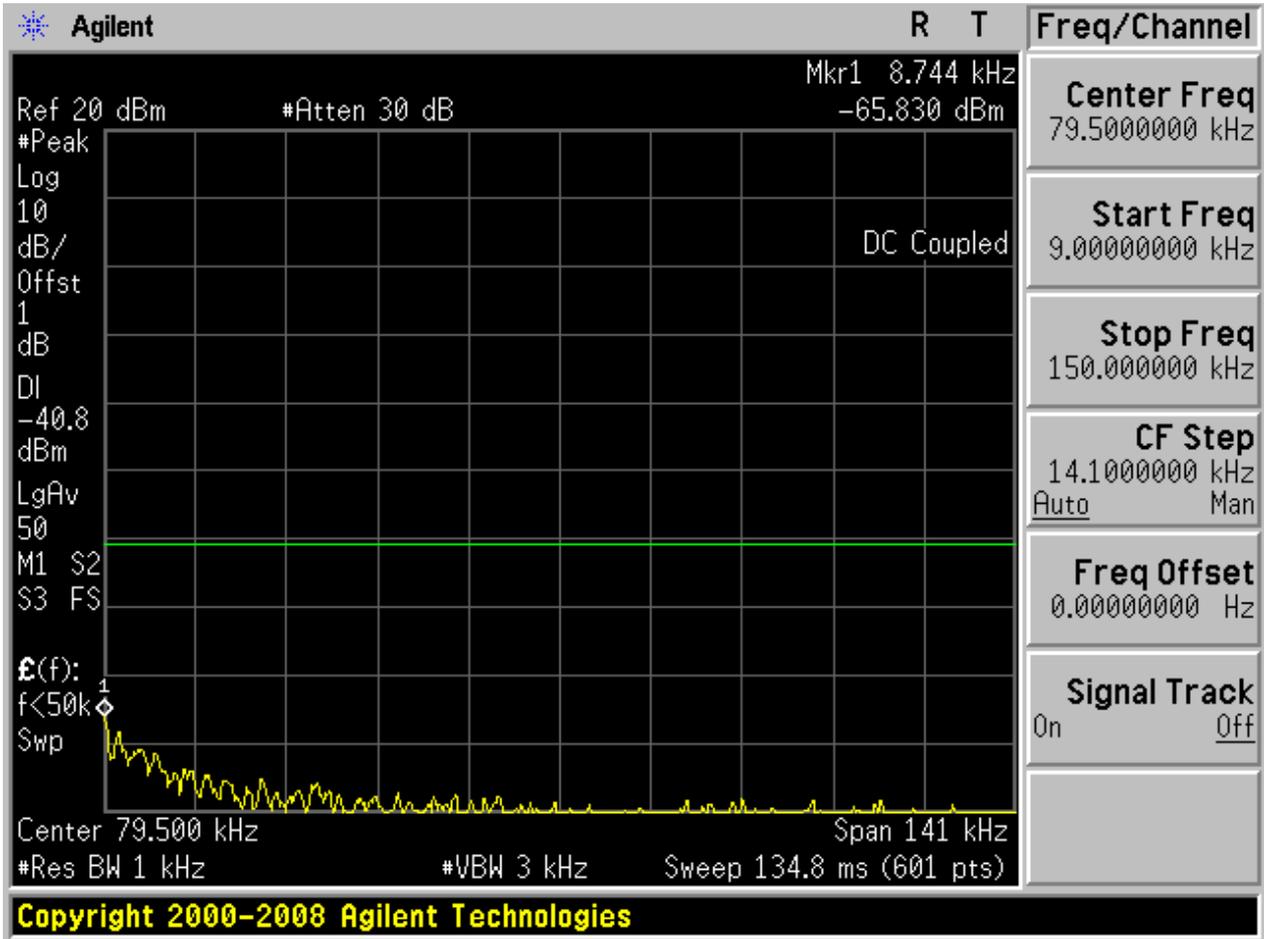
2.8 11N20_M

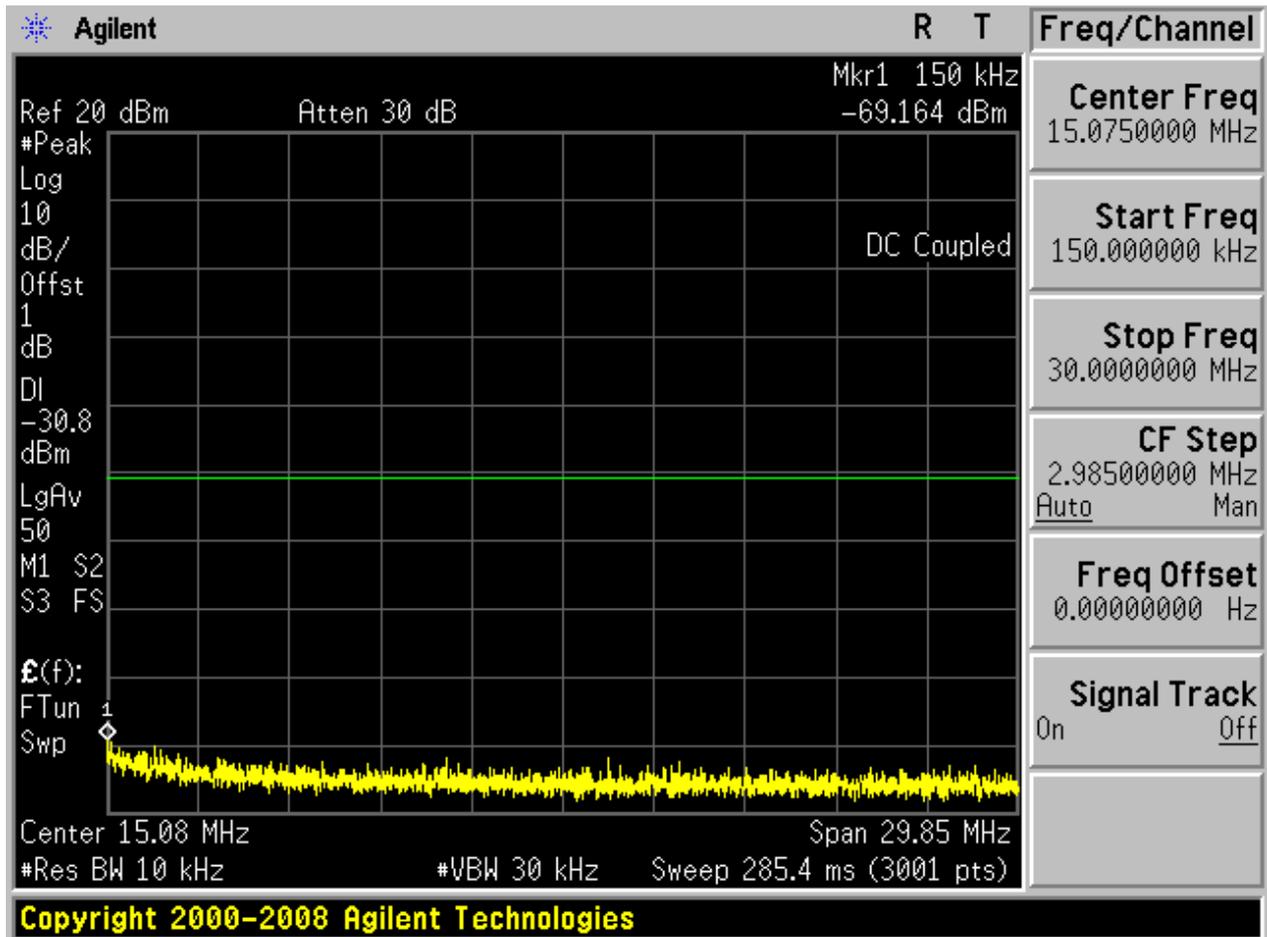
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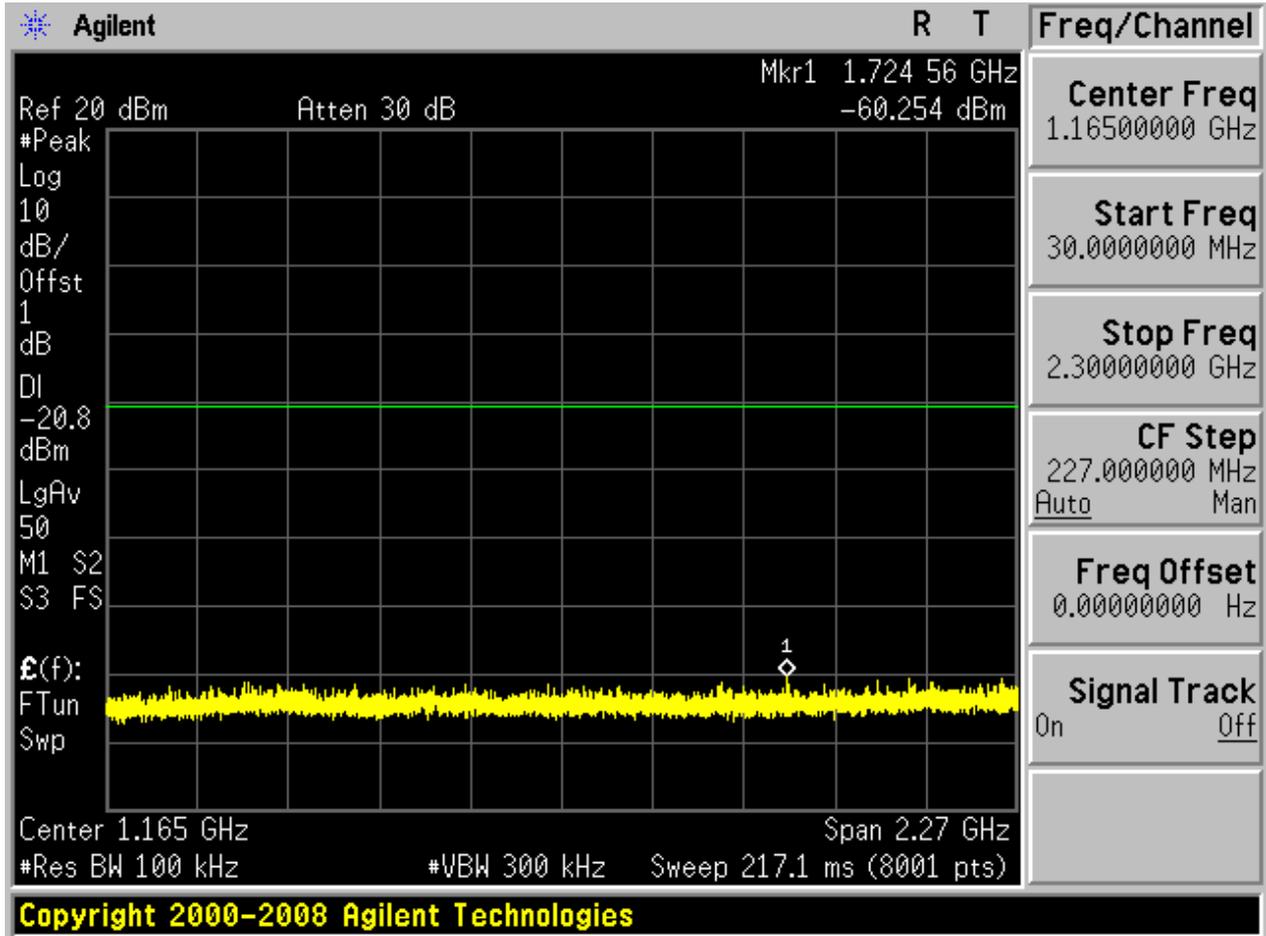


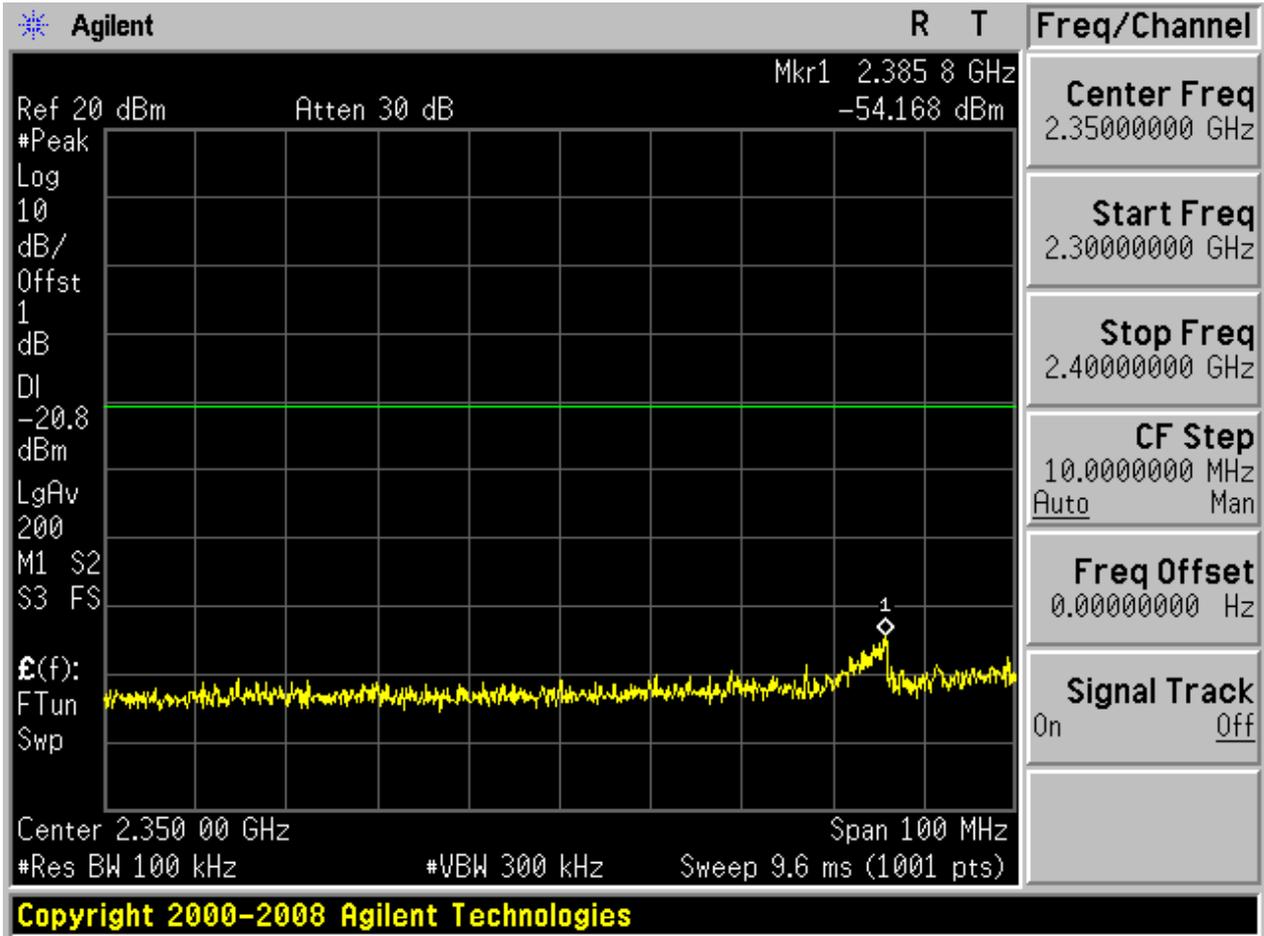


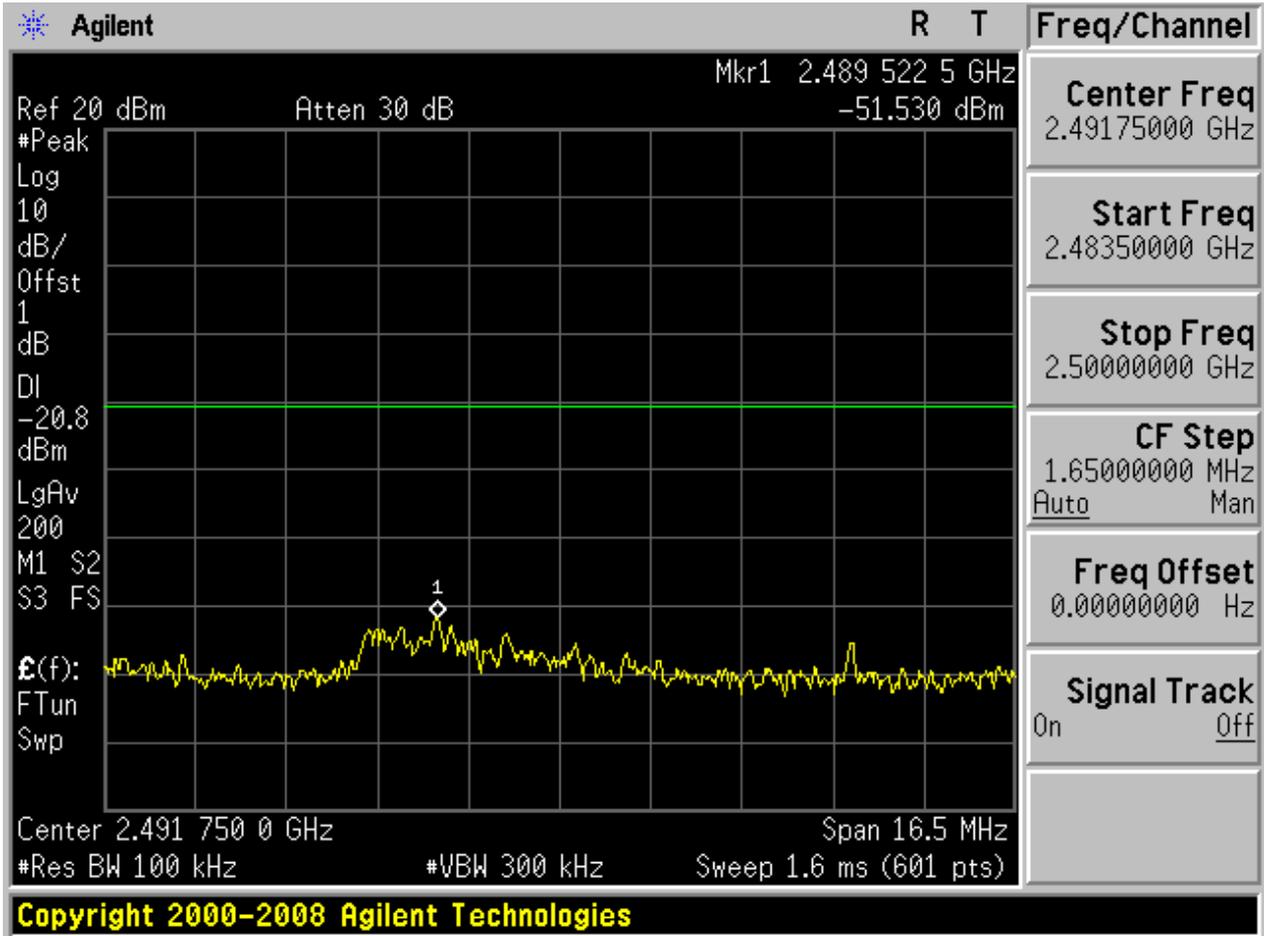
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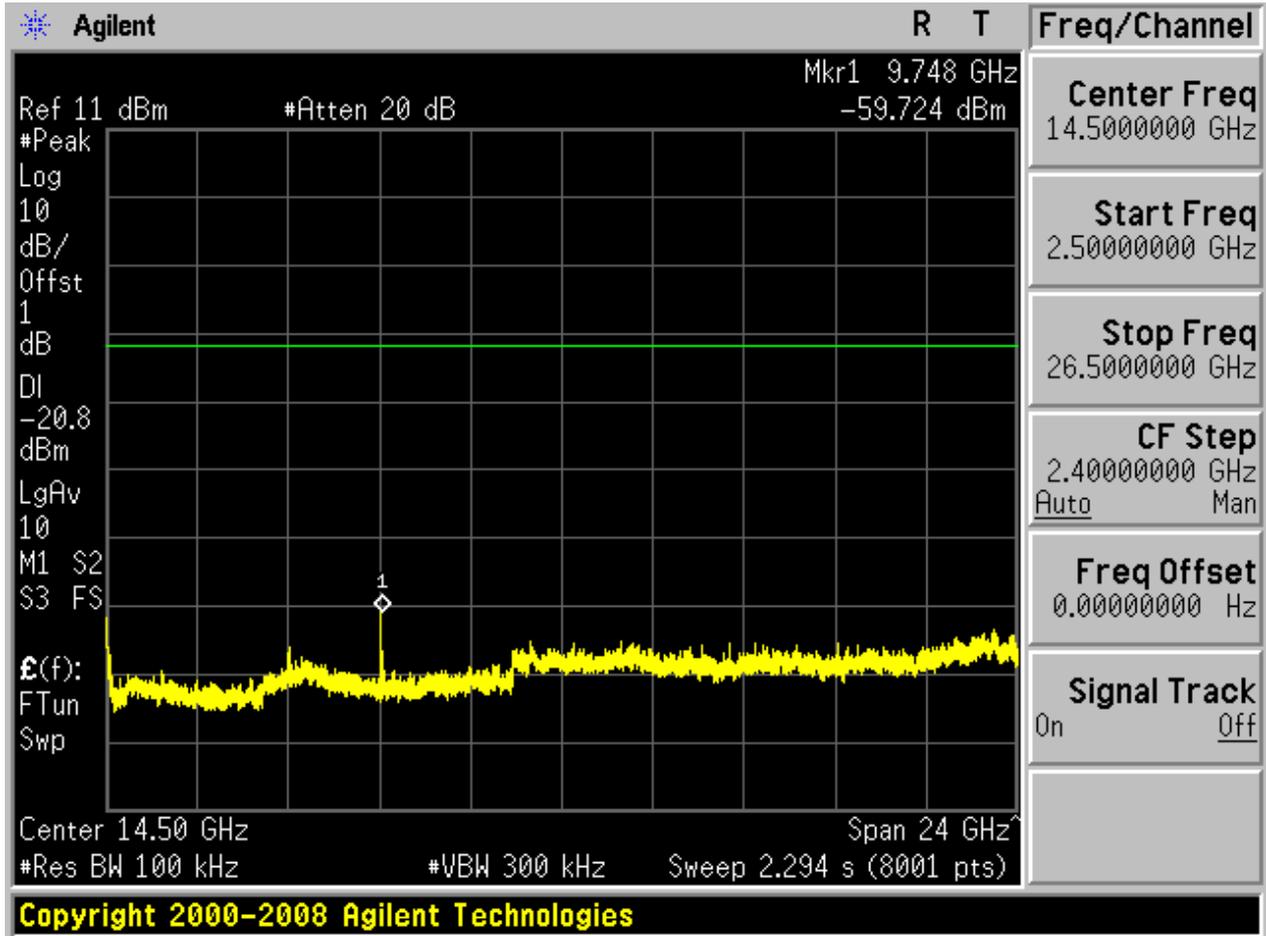








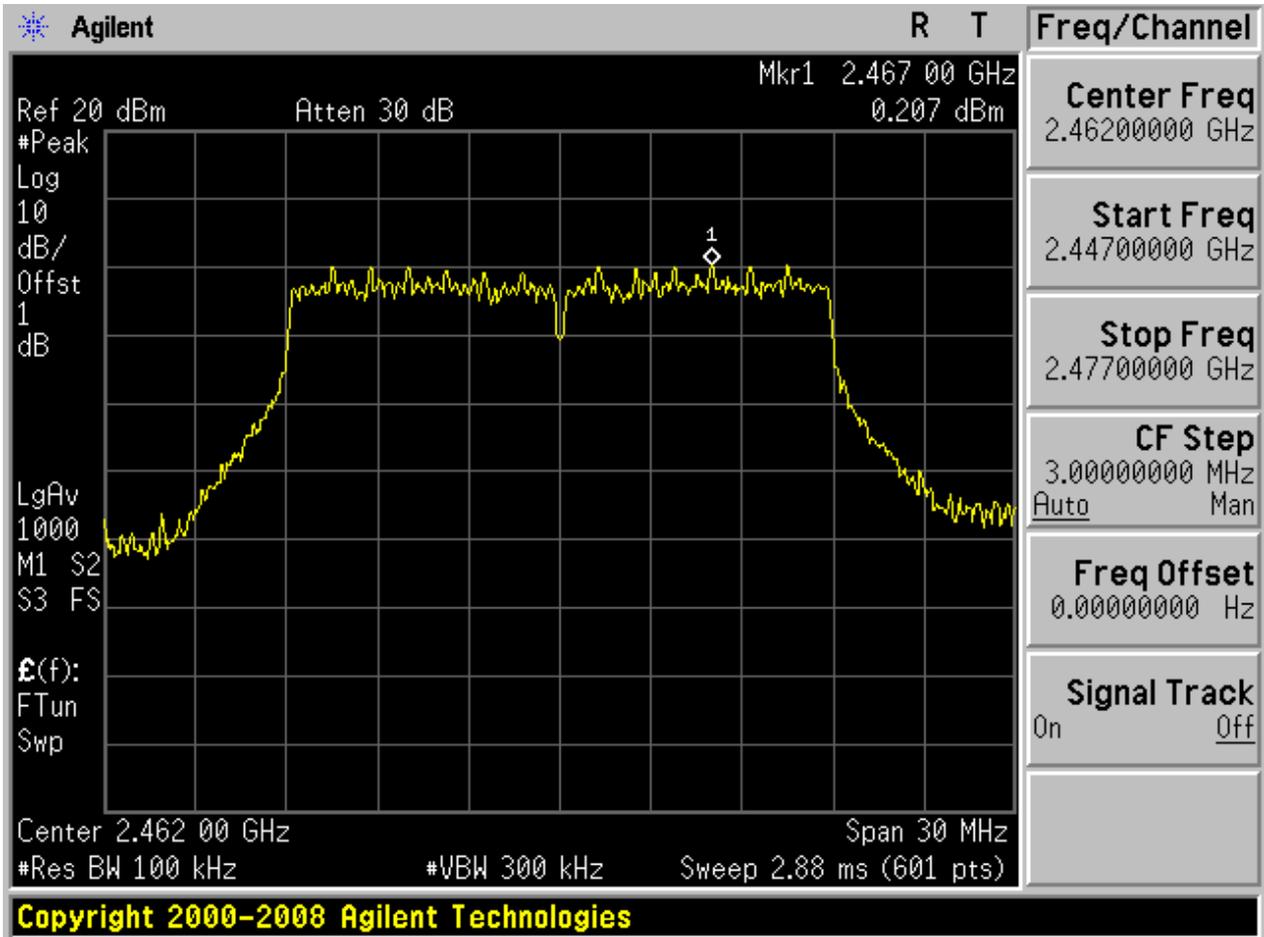






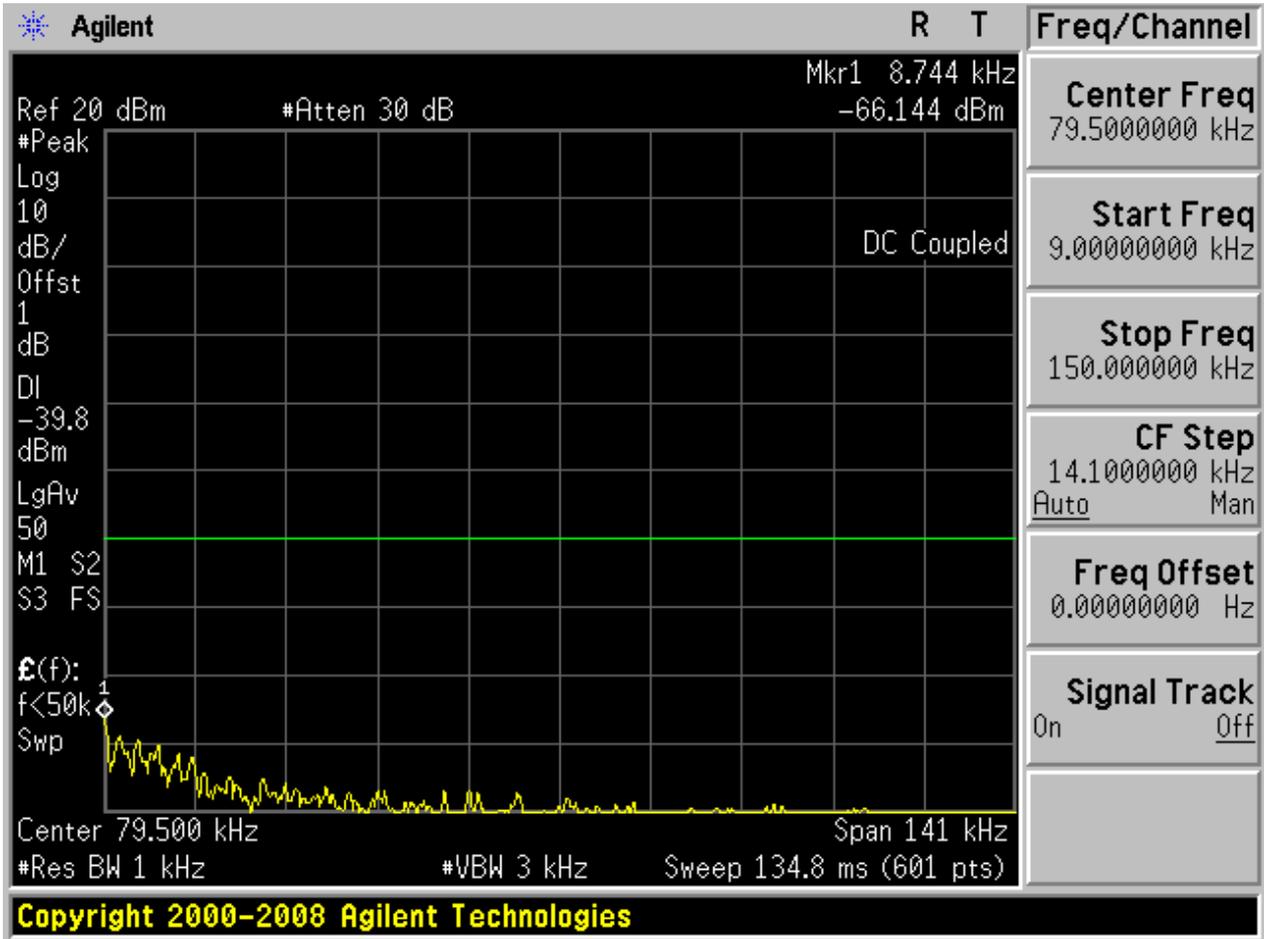
2.9 11N20_H

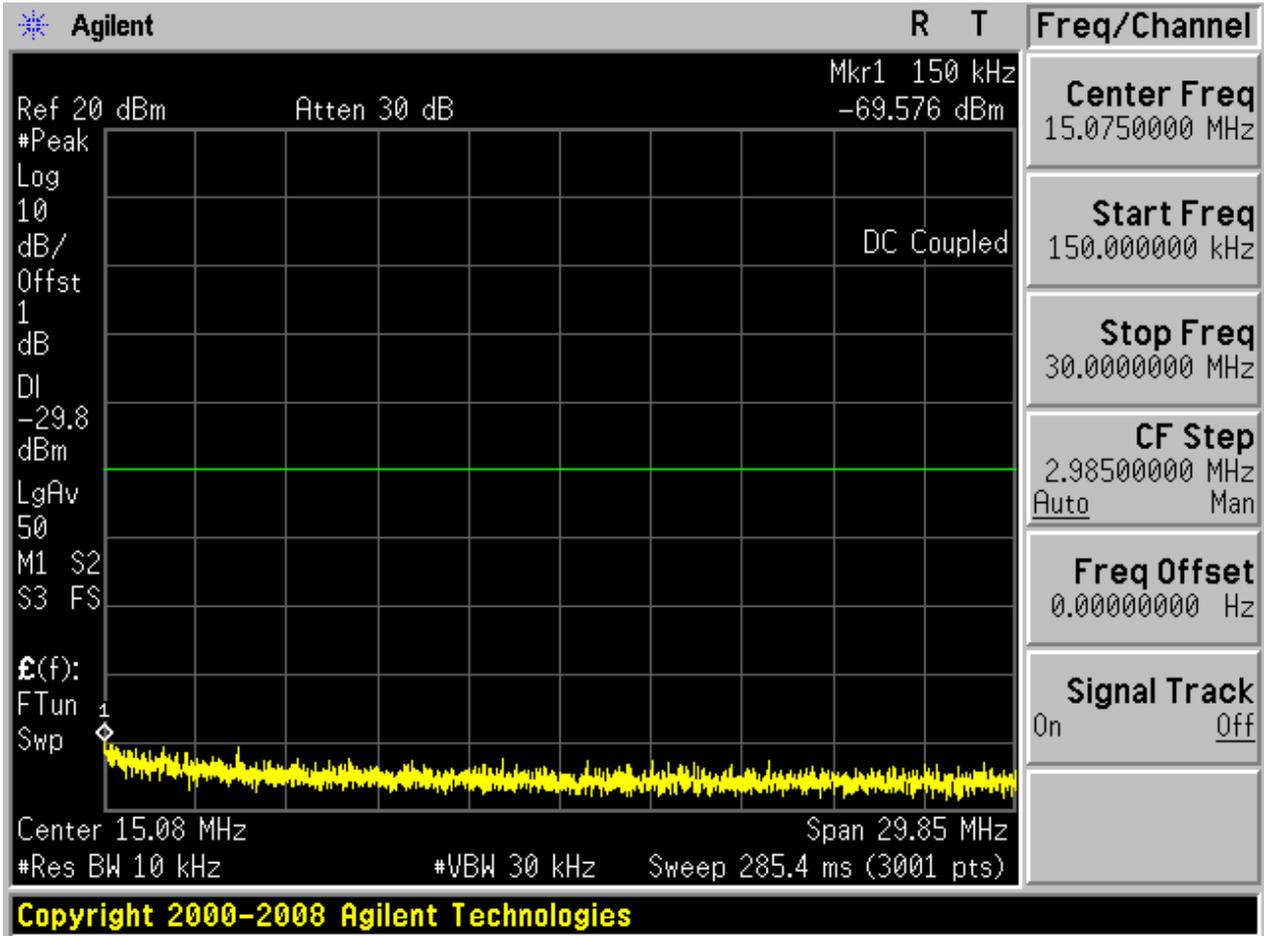
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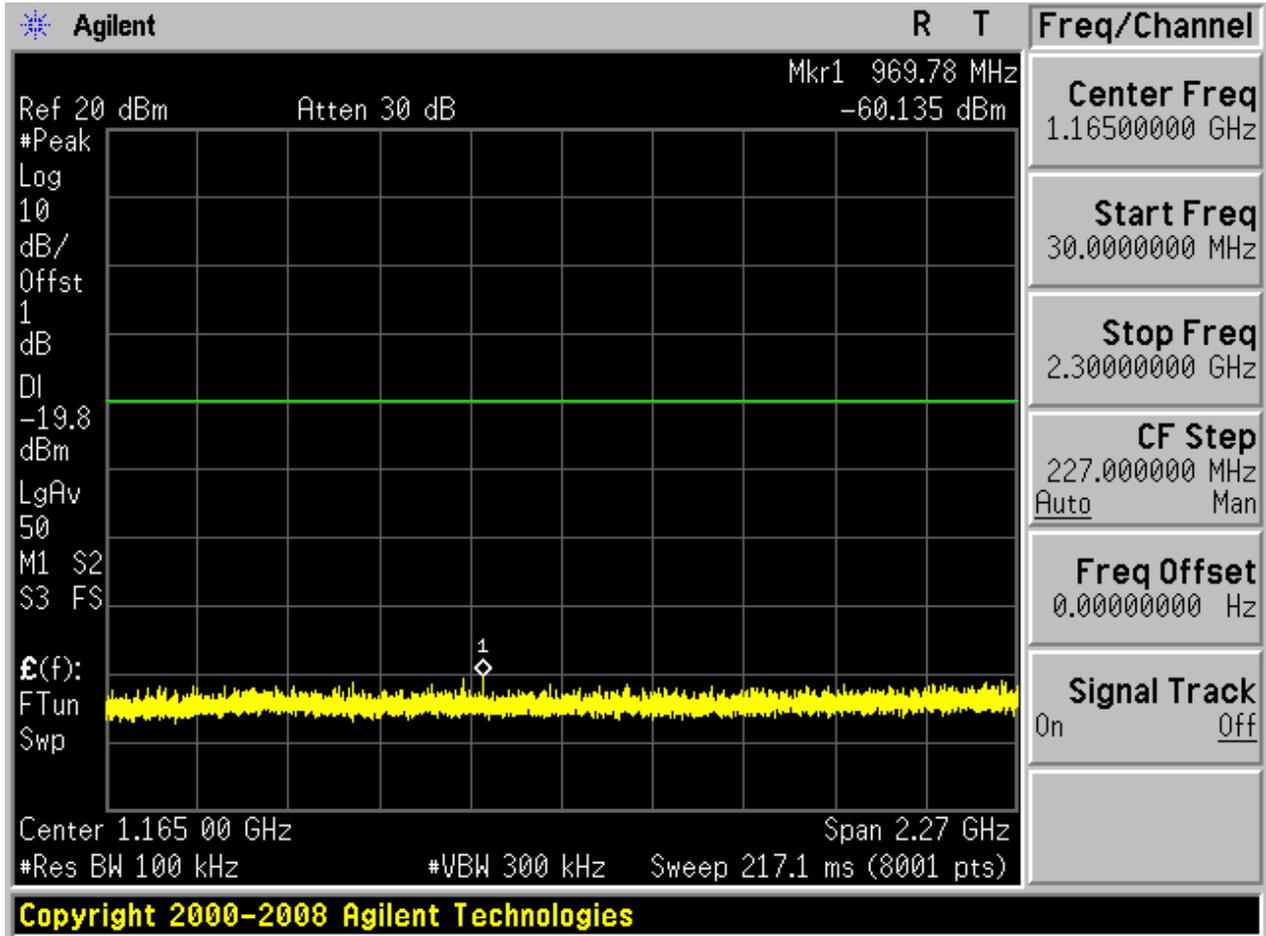


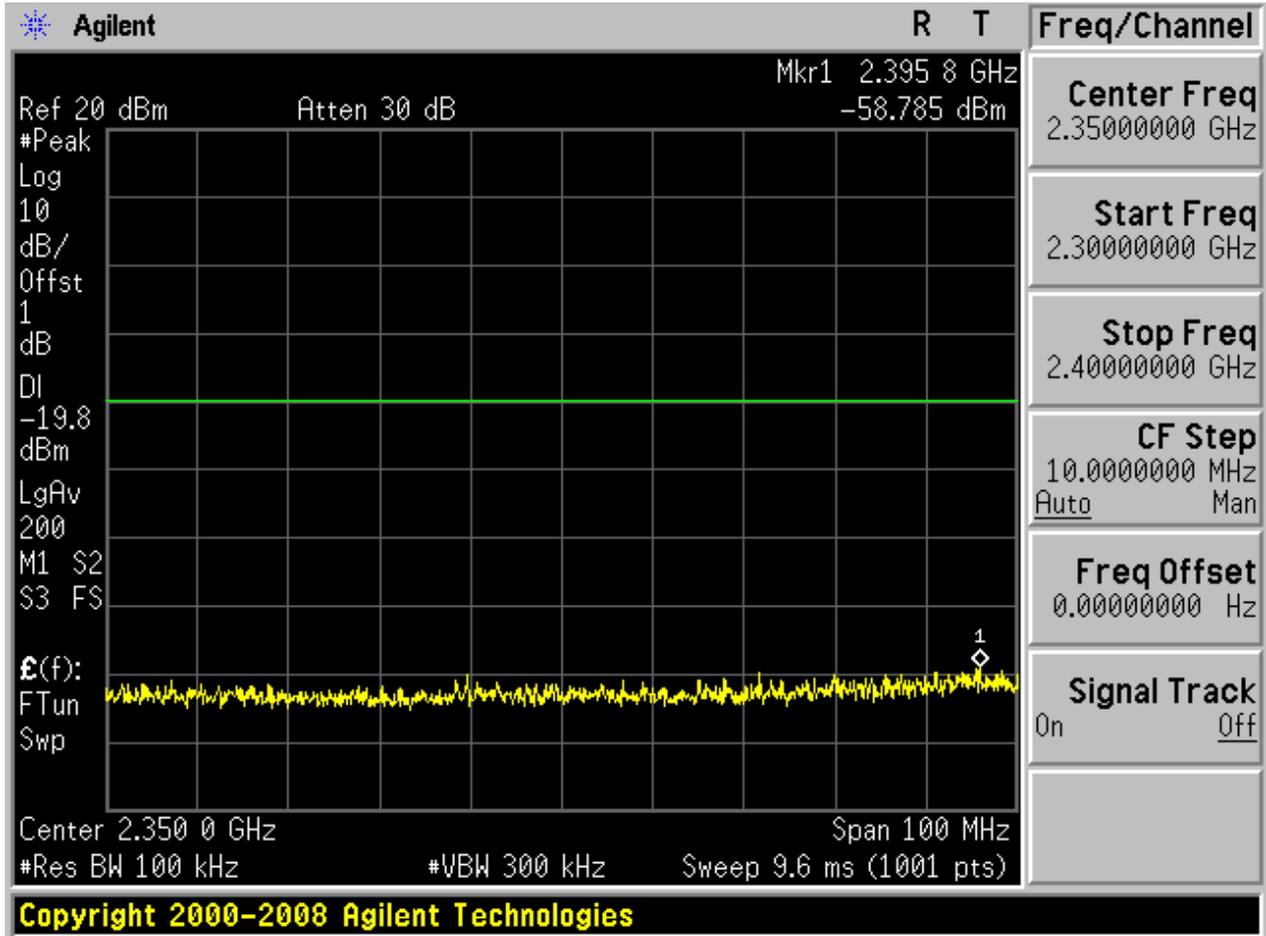


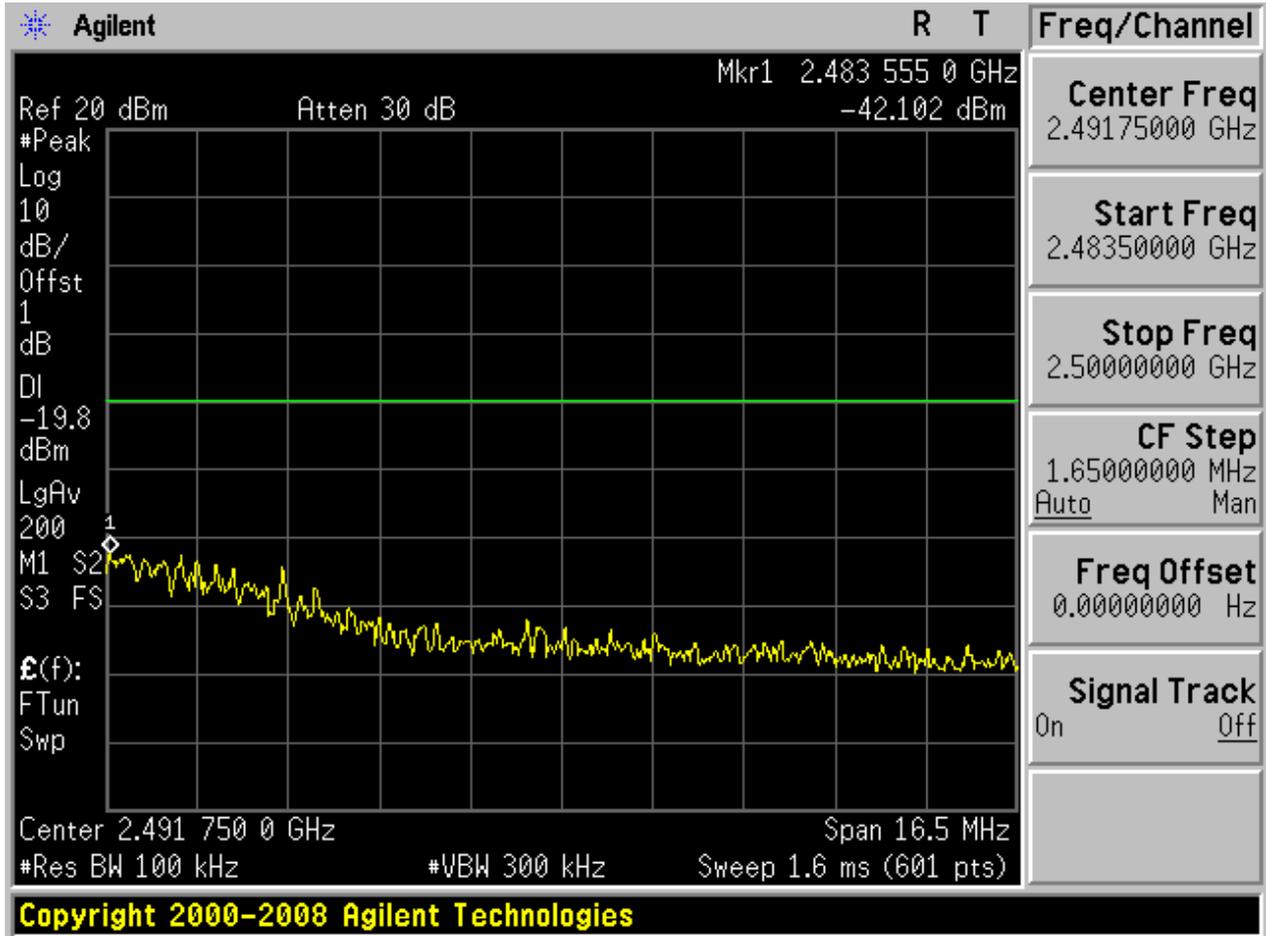
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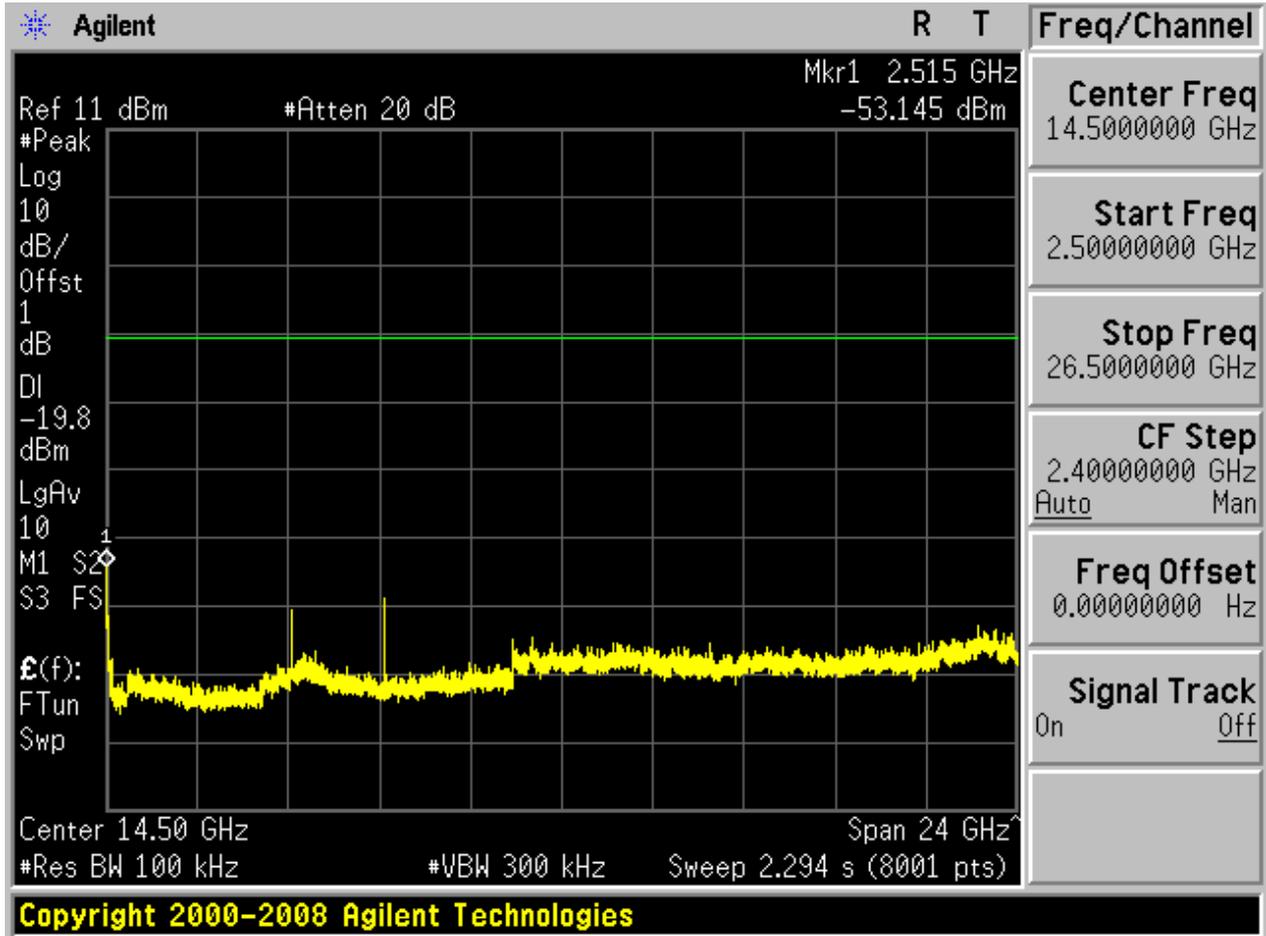










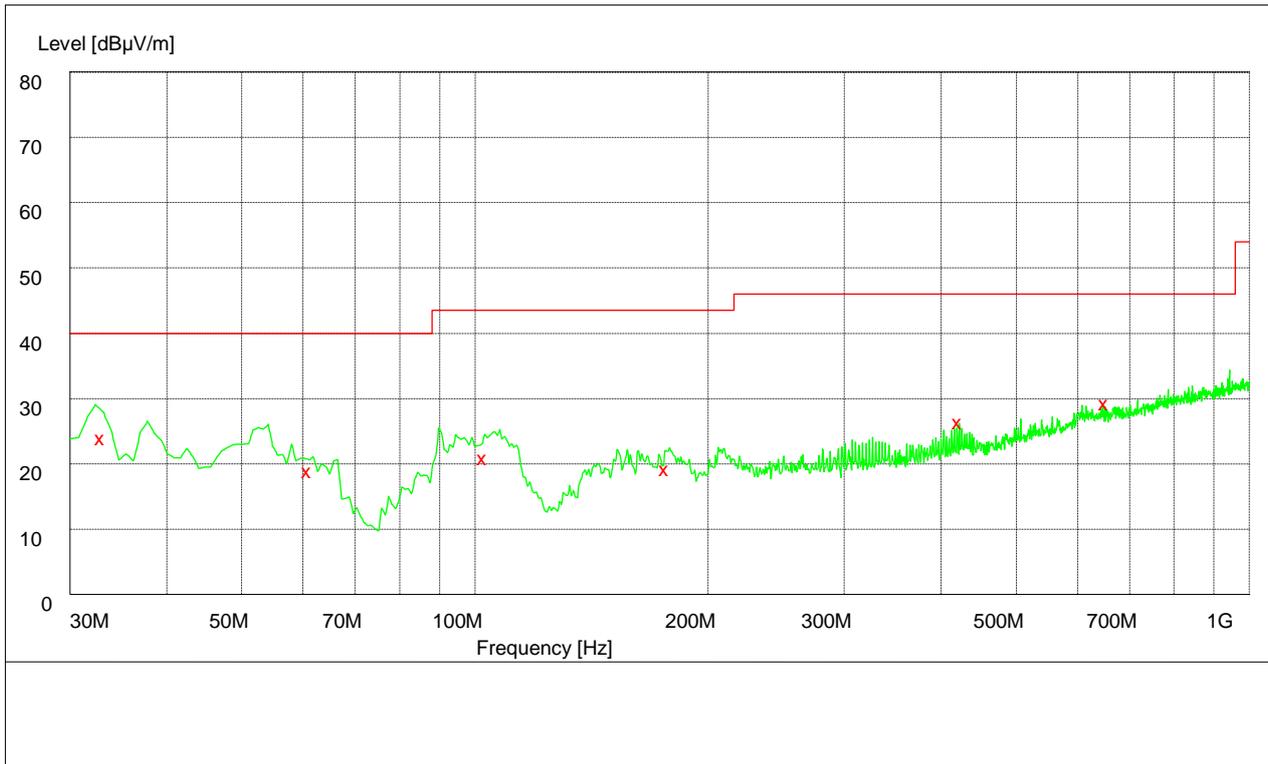


Appendix F: Radiated Spurious Emission & Spurious in Restricted Band

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

Note 1: The test results and plot for testing range of “30 MHz to 1 GHz” showed as below is **the WORST case for all Test Modes and Channels**. This range will not be presented for each Test Mode and each Channel.

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



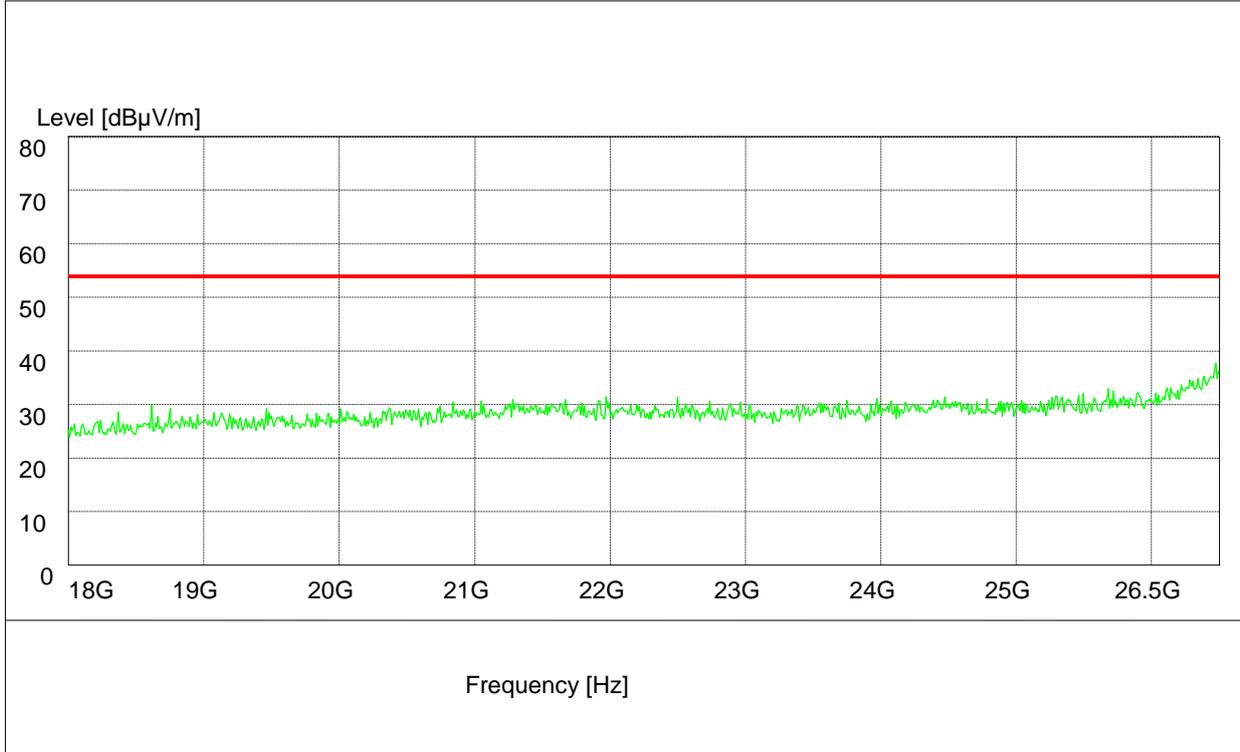
Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Plarization
33.000000	25.40	11.8	40.0	14.6	100.0	108.00	VERTICAL
60.960000	20.30	12.0	40.0	19.7	100.0	355.00	VERTICAL
102.840000	22.30	12.9	43.5	21.2	100.0	64.00	VERTICAL
176.760000	20.60	10.7	43.5	22.9	100.0	317.00	HORIZONTAL



422.400000	27.80	18.8	46.0	18.2	100.0	167.00	VERTICAL
652.020000	30.70	23.1	46.0	15.3	100.0	132.00	HORIZONTAL

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

Note: No peak found in pre- test.

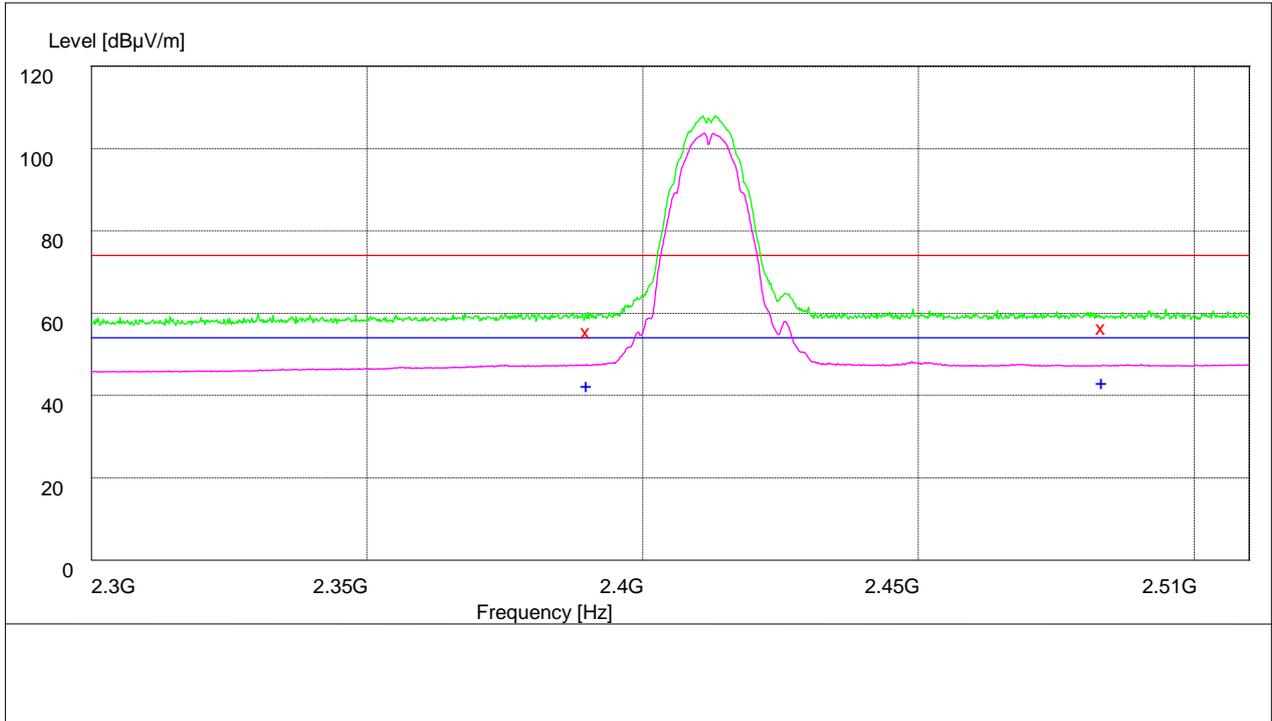


Part 3: Testing Range of “2.3GHz to 2.5GHz”

- Note 1: The testing range of “2.3 GHz to 2.5 GHz” is for checking radiated emissions located in restricted bands near the EUT operating bands.
- Note 2: Two limits are required in the testing range above 1 GHz, that is Peak limit (74 dBμV/m) and Average Limit (54 dBμV/m).
- Note 3: The peak spike exceeds the limit line is EUT’s operating frequency.

Test Mode: 11b

Channel 01



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

MEASUREMENT RESULT: PK Detector

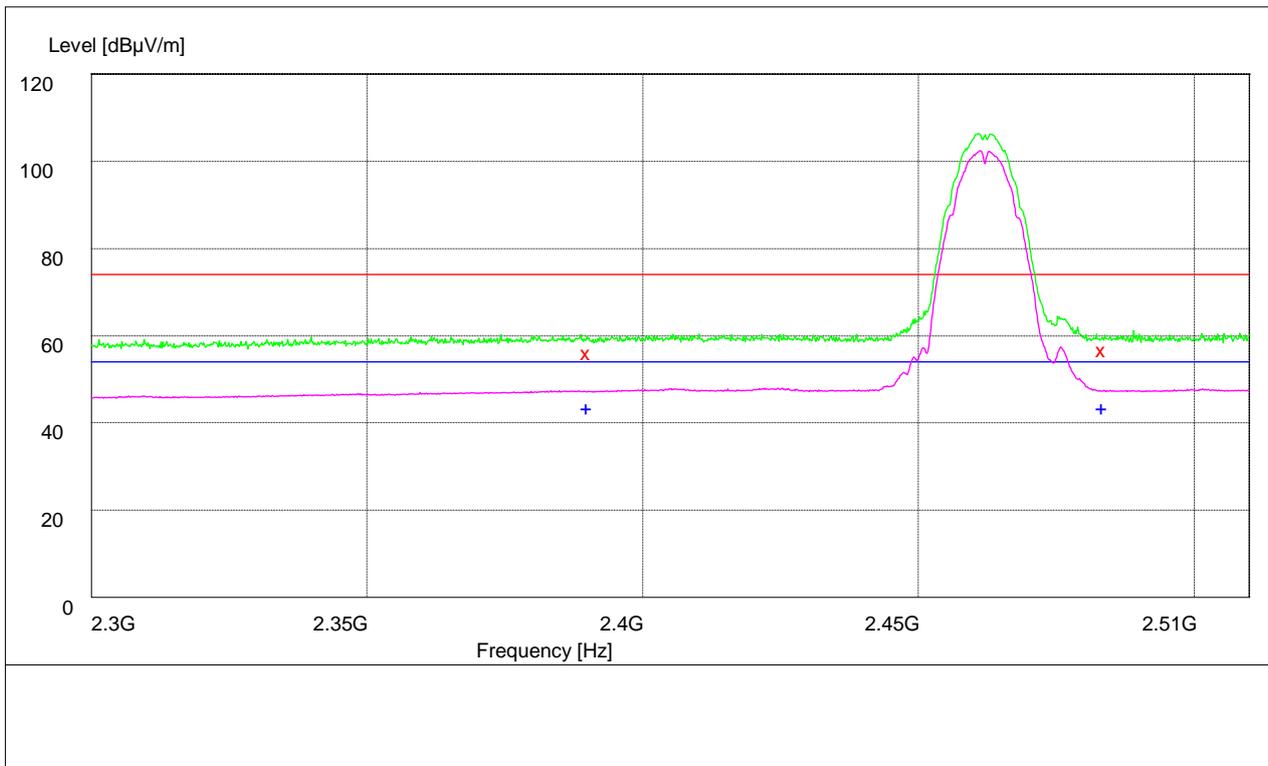
Frequency MHz	Level dBμV/m	Transd dB	Limit dBμV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	58.00	34.7	74.0	16.0	199.0	296.00	VERTICAL
2483.500000	58.80	35.0	74.0	15.2	200.0	293.00	VERTICAL

MEASUREMENT RESULT: AV Detector



Frequency MHz	Level dBμV/m	Transd dB	Limit dBμV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	45.00	34.7	54.0	9.0	100.0	155.00	HORIZONTAL
2483.500000	45.70	35.0	54.0	8.3	169.0	3.00	HORIZONTAL

Channel 11



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

MEASUREMENT RESULT: PK Detector

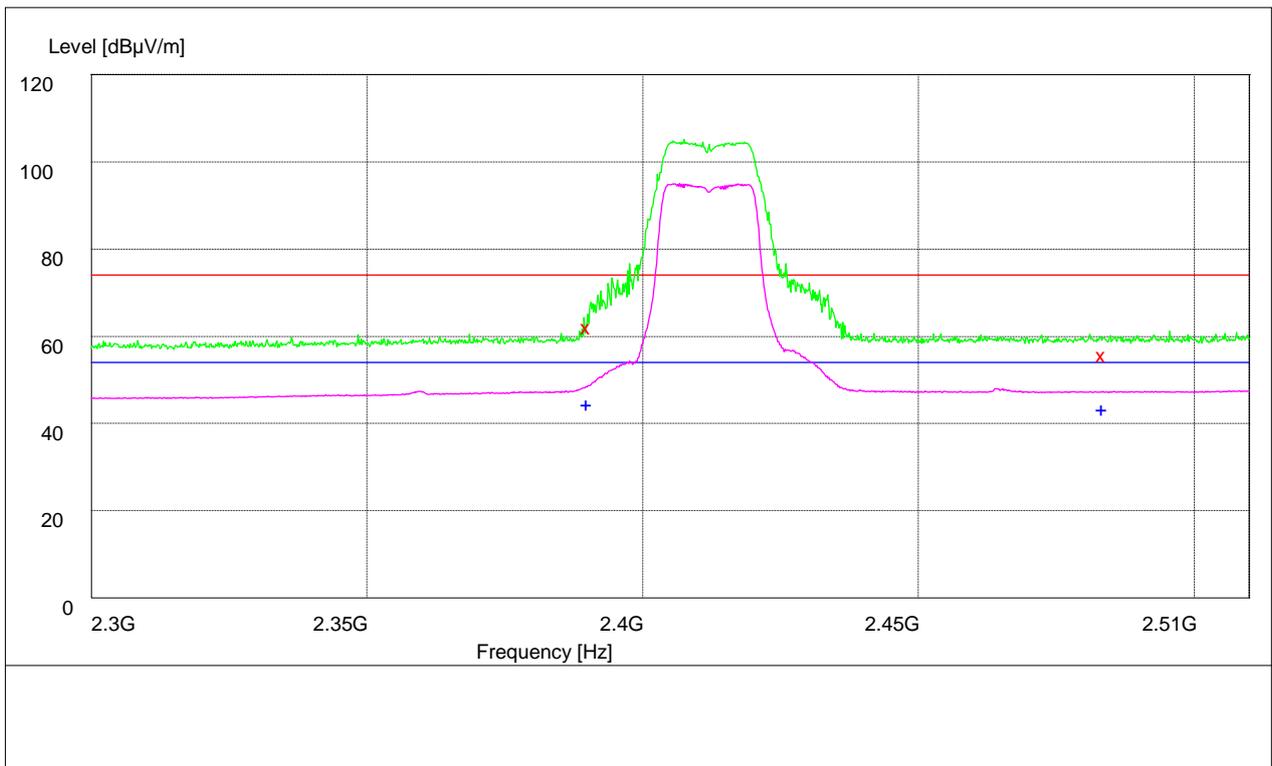
Frequency MHz	Level dBμV/m	Transd dB	Limit dBμV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	58.20	34.7	74.0	15.8	178.0	52.00	HORIZONTAL
2483.500000	58.80	35.0	74.0	15.2	186.0	33.00	VERTICAL

MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBμV/m	Transd dB	Limit dBμV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	45.70	34.7	54.0	8.3	100.0	0.00	VERTICAL
2483.500000	45.60	35.0	54.0	8.4	200.0	324.00	VERTICAL

Test Mode: 11g

Channel 01



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

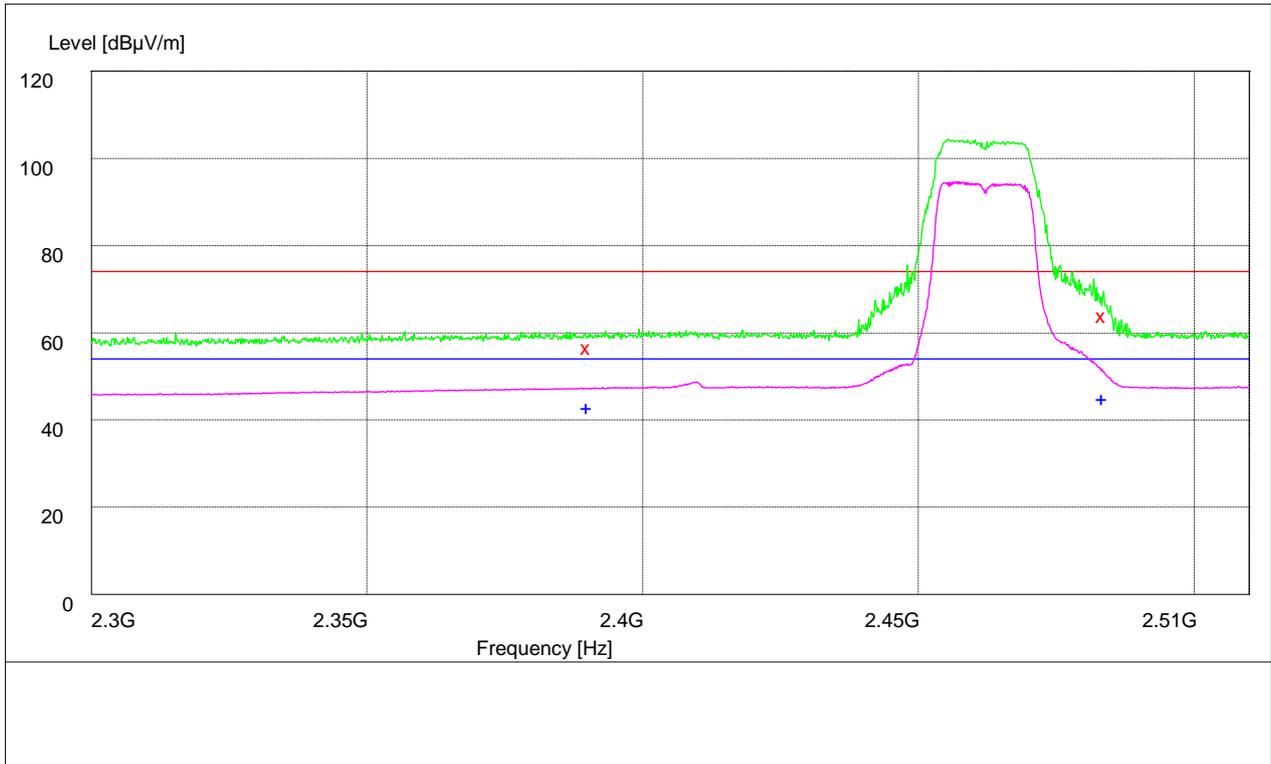
MEASUREMENT RESULT: PK Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	64.30	34.7	74.0	9.7	100.0	143.00	HORIZONTAL
2483.500000	58.00	35.0	74.0	16.0	106.0	71.00	VERTICAL

MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	46.50	34.7	54.0	7.5	100.0	147.00	HORIZONTAL
2483.500000	45.60	35.0	54.0	8.4	193.0	234.00	VERTICAL

Channel 11



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

MEASUREMENT RESULT: PK Detector

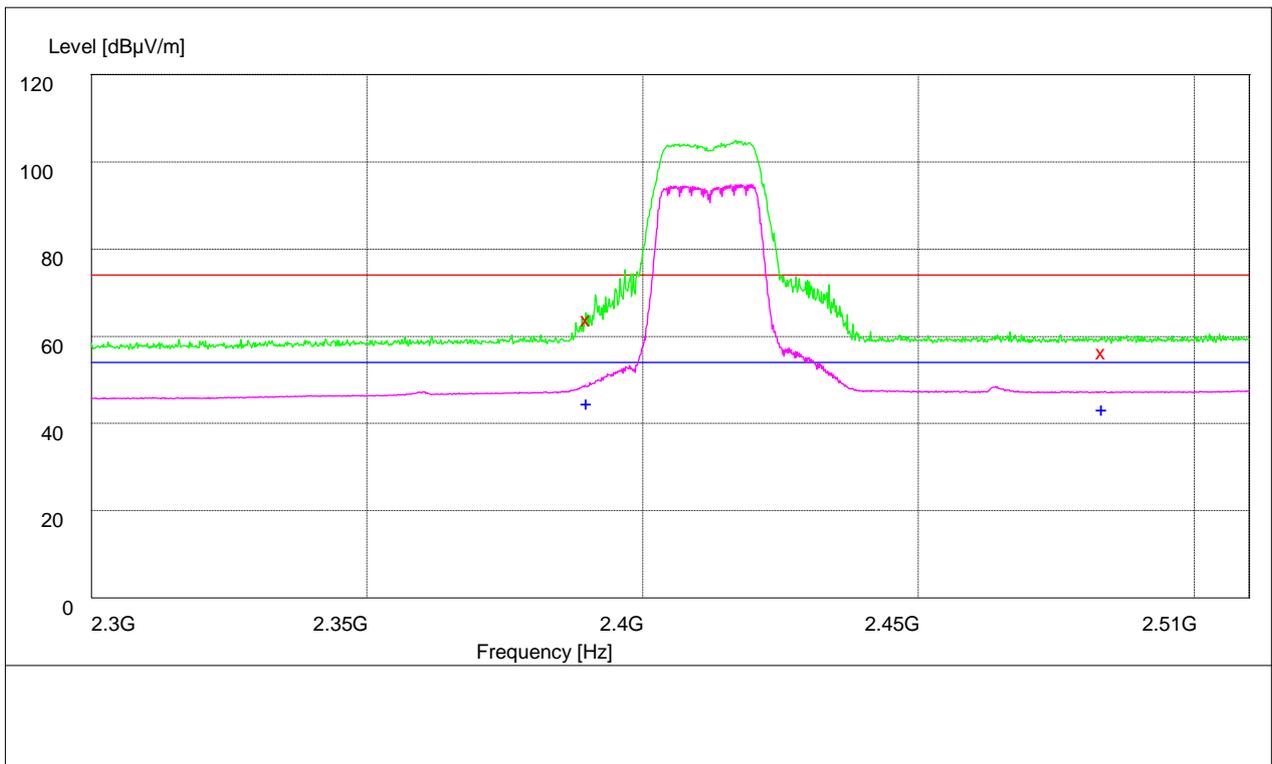
Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	58.60	34.7	74.0	15.4	163.0	119.00	VERTICAL
2483.500000	66.20	35.0	74.0	7.8	100.0	165.00	HORIZONTAL

MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	45.10	34.7	54.0	8.9	100.0	157.00	HORIZONTAL
2483.500000	47.20	35.0	54.0	6.8	100.0	149.00	HORIZONTAL

Test Mode: 11n

Channel 01



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

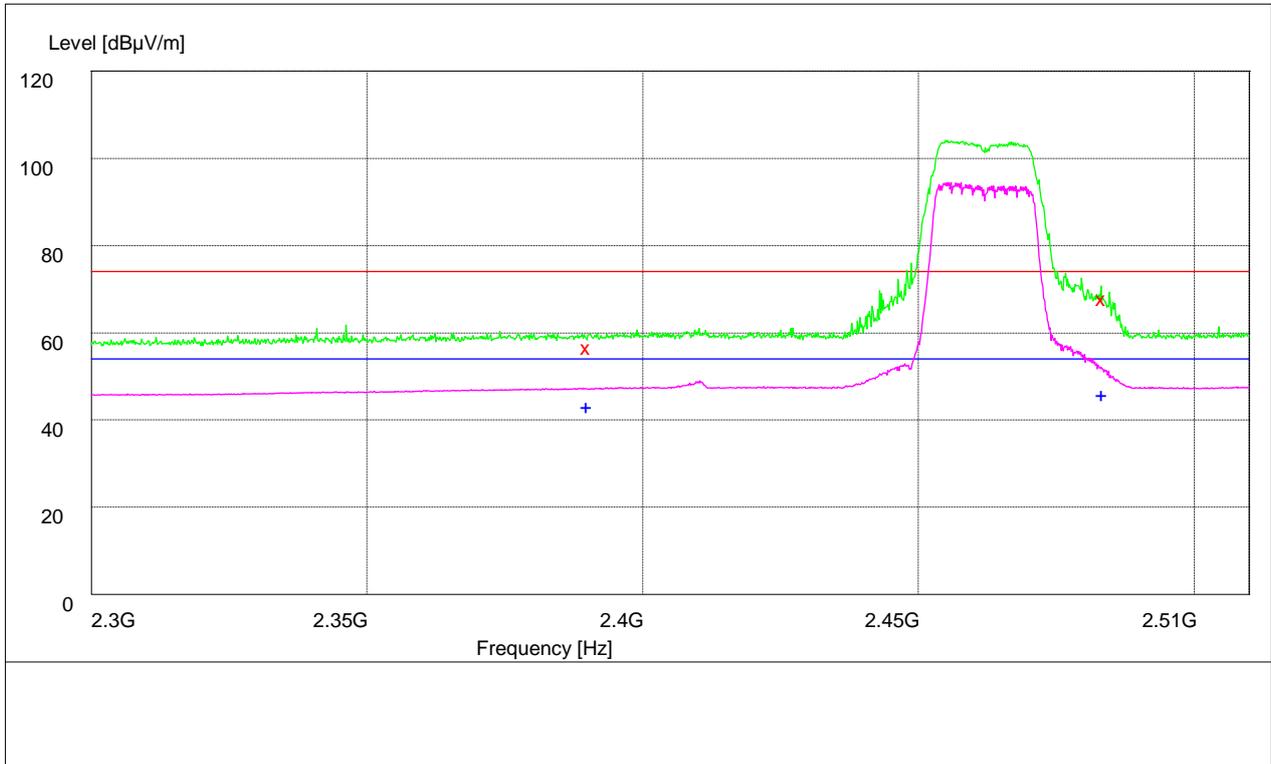
MEASUREMENT RESULT: PK Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	66.00	34.7	74.0	8.0	100.0	153.00	HORIZONTAL
2483.500000	58.50	35.0	74.0	15.5	200.0	360.00	VERTICAL

MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	46.90	34.7	54.0	7.1	100.0	163.00	HORIZONTAL
2483.500000	45.60	35.0	54.0	8.4	193.0	318.00	HORIZONTAL

Channel 11



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

MEASUREMENT RESULT: PK Detector

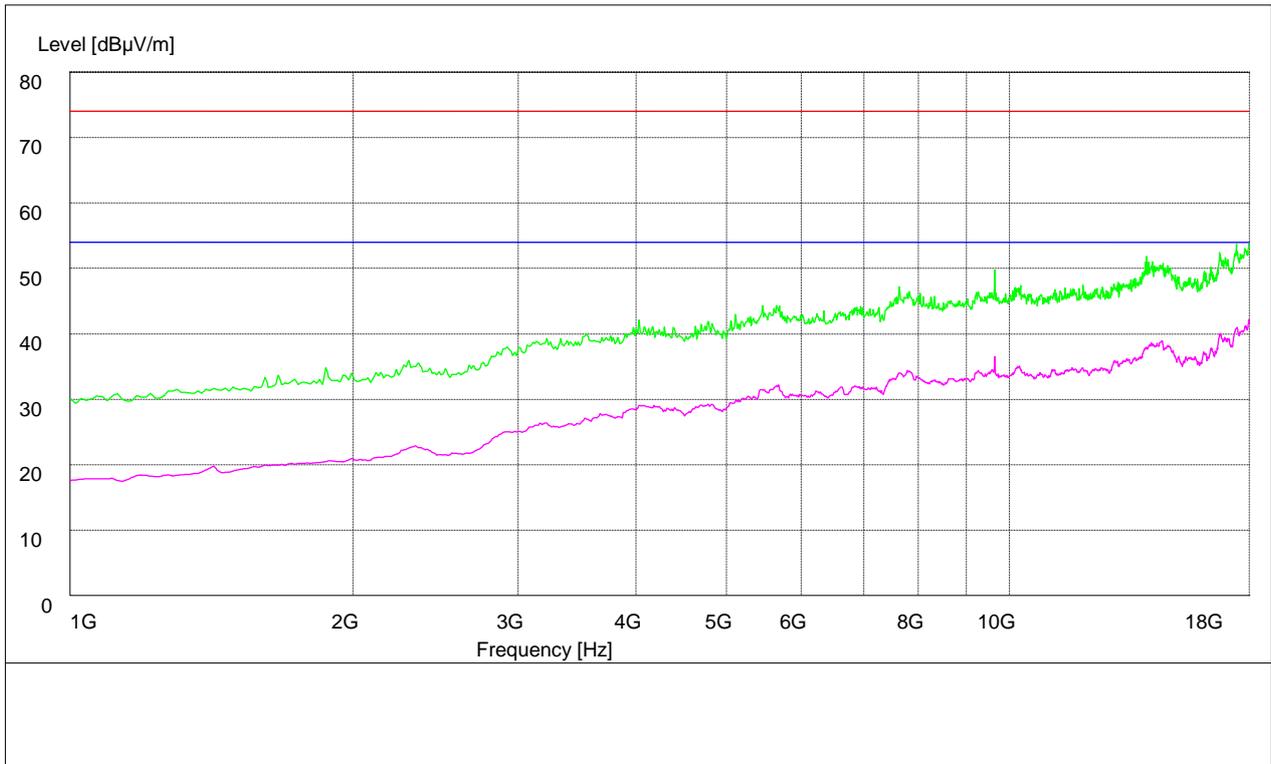
Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	58.70	34.7	74.0	15.3	155.0	164.00	HORIZONTAL
2483.500000	69.90	35.0	74.0	4.1	100.0	154.00	HORIZONTAL

MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	45.20	34.7	54.0	8.8	100.0	147.00	HORIZONTAL
2483.500000	48.00	35.0	54.0	6.0	100.0	151.00	HORIZONTAL

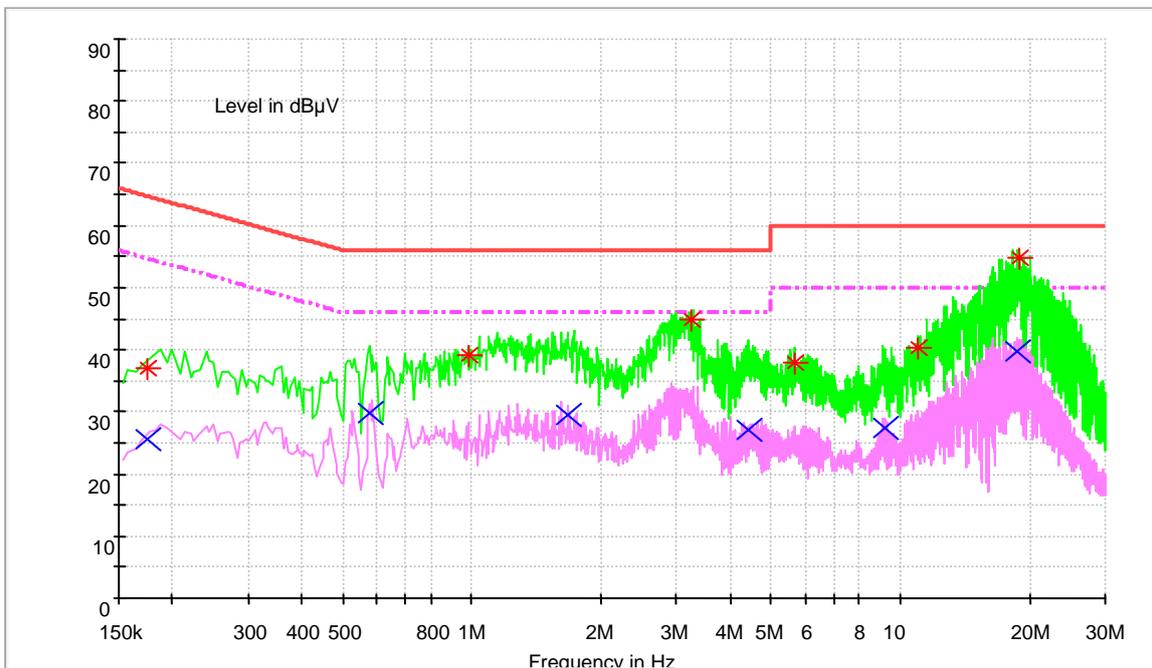
Part 4: Testing Range of “1 GHz to 18 GHz”

- 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

Channel 6



MEASUREMENT RESULT: QP Detector

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.174568	36.9	9.7	64.7	27.8	L1	FLO
0.984158	39.2	9.7	56	16.8	N	FLO
3.235034	44.7	9.7	56	11.3	N	FLO
5.638009	37.8	9.8	60	22.2	N	FLO
11.02918	40.5	9.9	60	19.5	N	FLO
18.82032	54.8	10.1	60	5.2	N	FLO

MEASUREMENT RESULT: AV Detector



Frequency MHz	Level dB μ V	Transd dB	Limit dB μ V	Margin dB	Line	PE
0.174957	25.6	9.7	54.7	29.1	L1	FLO
0.579326	29.7	9.7	46	16.3	L1	FLO
1.677304	29.6	9.7	46	16.4	N	FLO
4.392401	27	9.8	46	19	N	FLO
9.175601	27.5	9.9	50	22.5	N	FLO
18.6973	39.9	10.1	50	10.1	N	FLO

END