



Appendix for Testreport

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.

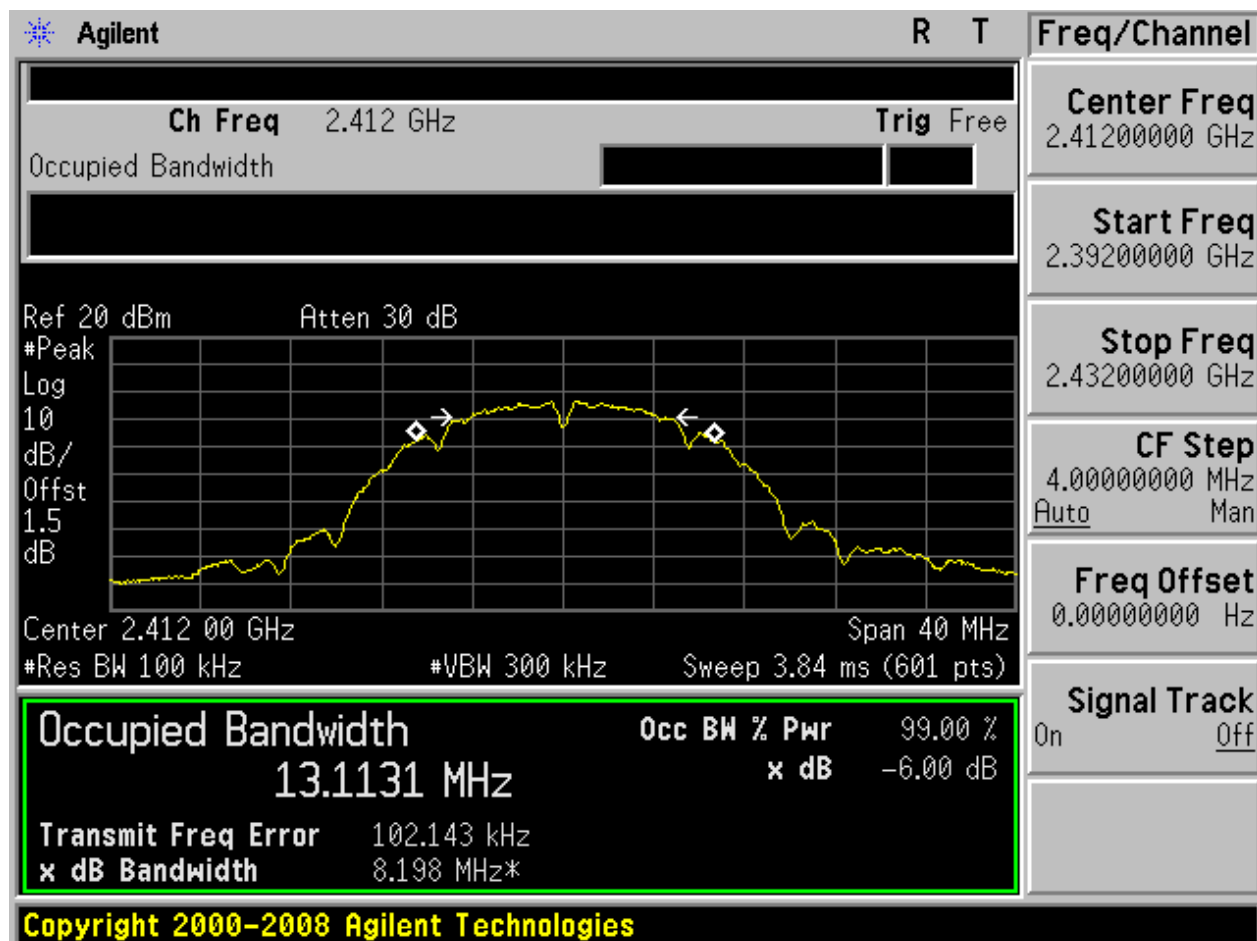
Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Ant	DTS6dBBW[MHz]	Verdict
11B	L	2412	Ant 1	8.20	pass
11B	M	2437	Ant 1	8.60	pass
11B	H	2462	Ant 1	8.08	pass
11G	L	2412	Ant 1	16.55	pass
11G	M	2437	Ant 1	16.58	pass
11G	H	2462	Ant 1	16.55	pass
11N20	L	2412	Ant 1	17.81	pass
11N20	M	2437	Ant 1	17.76	pass
11N20	H	2462	Ant 1	17.77	pass
11N40	L	2422	Ant 1	36.13	pass
11N40	M	2437	Ant 1	36.48	pass
11N40	H	2452	Ant 1	36.42	pass



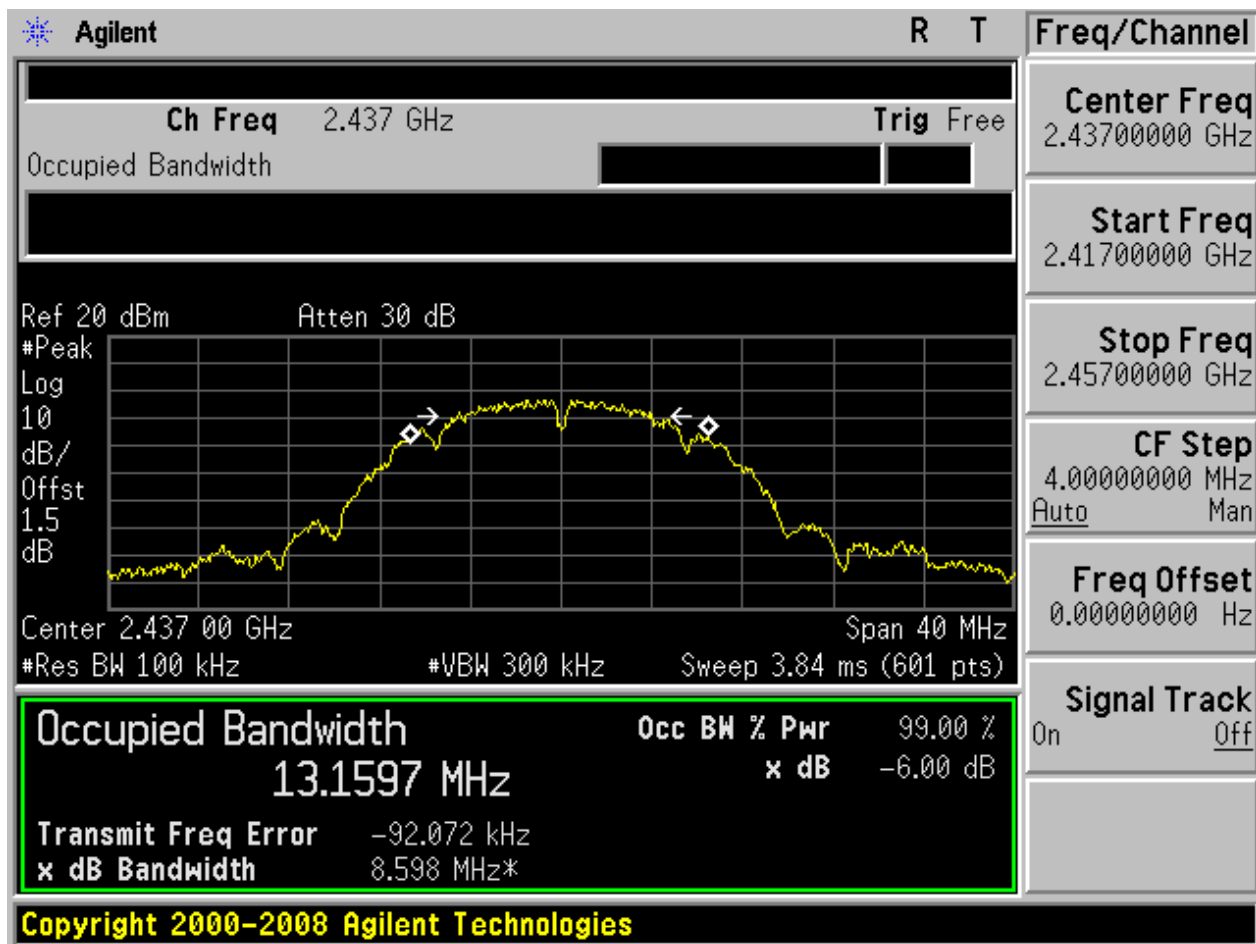
Part II - Test Plots

2.1 11B_L@Ant 1



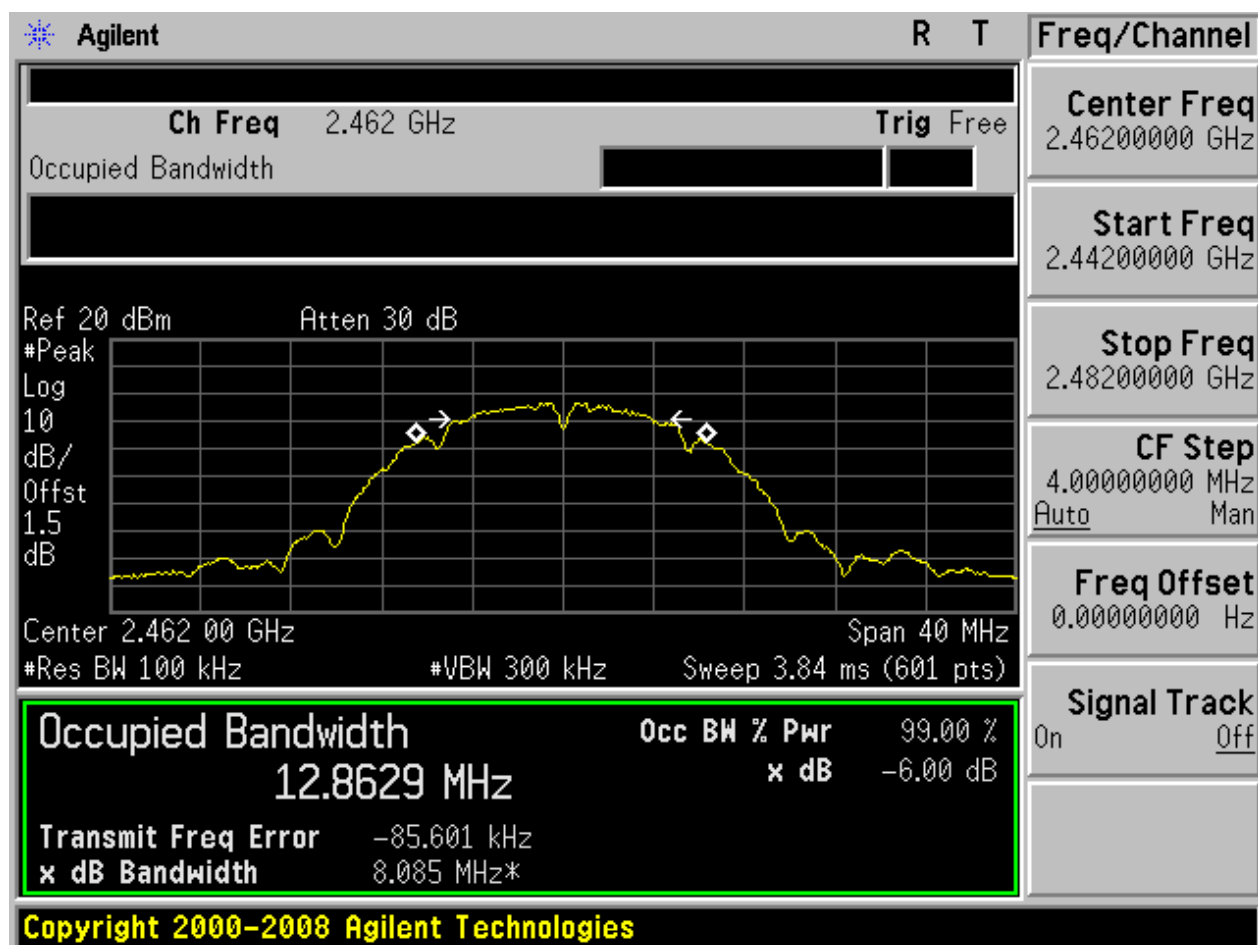


2.2 11B_M@Ant 1



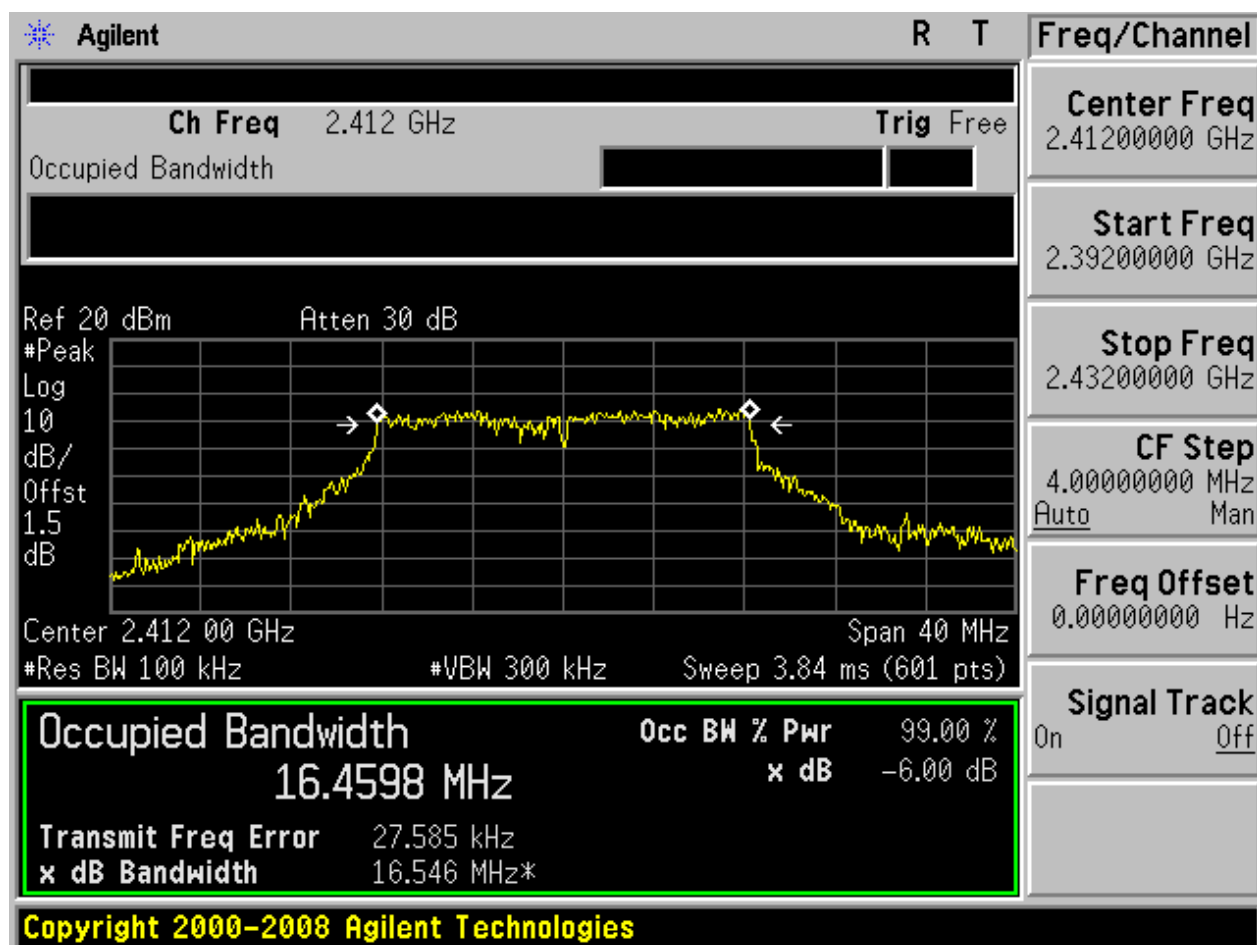


2.3 11B_H@Ant 1



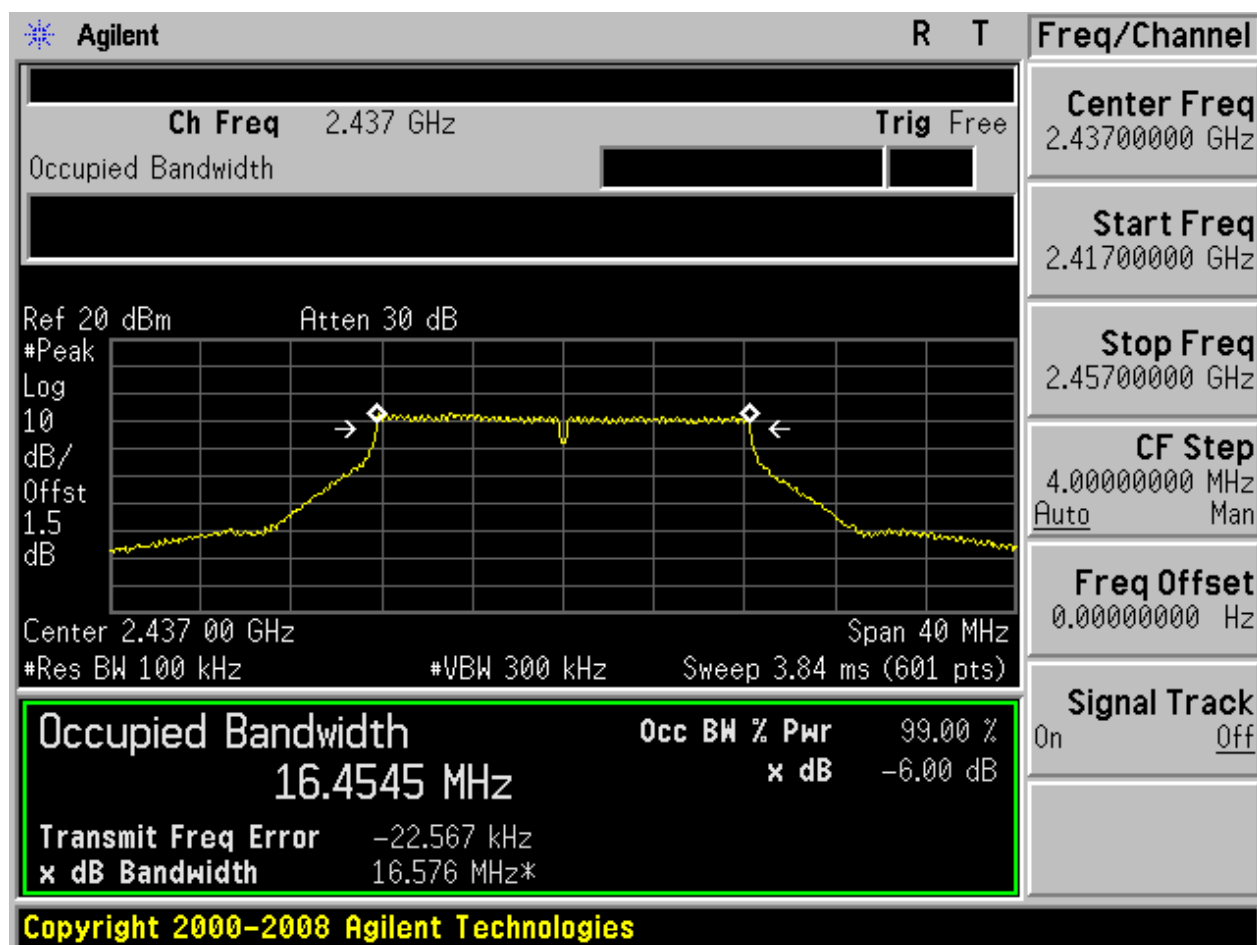


2.4 11G_L@Ant 1



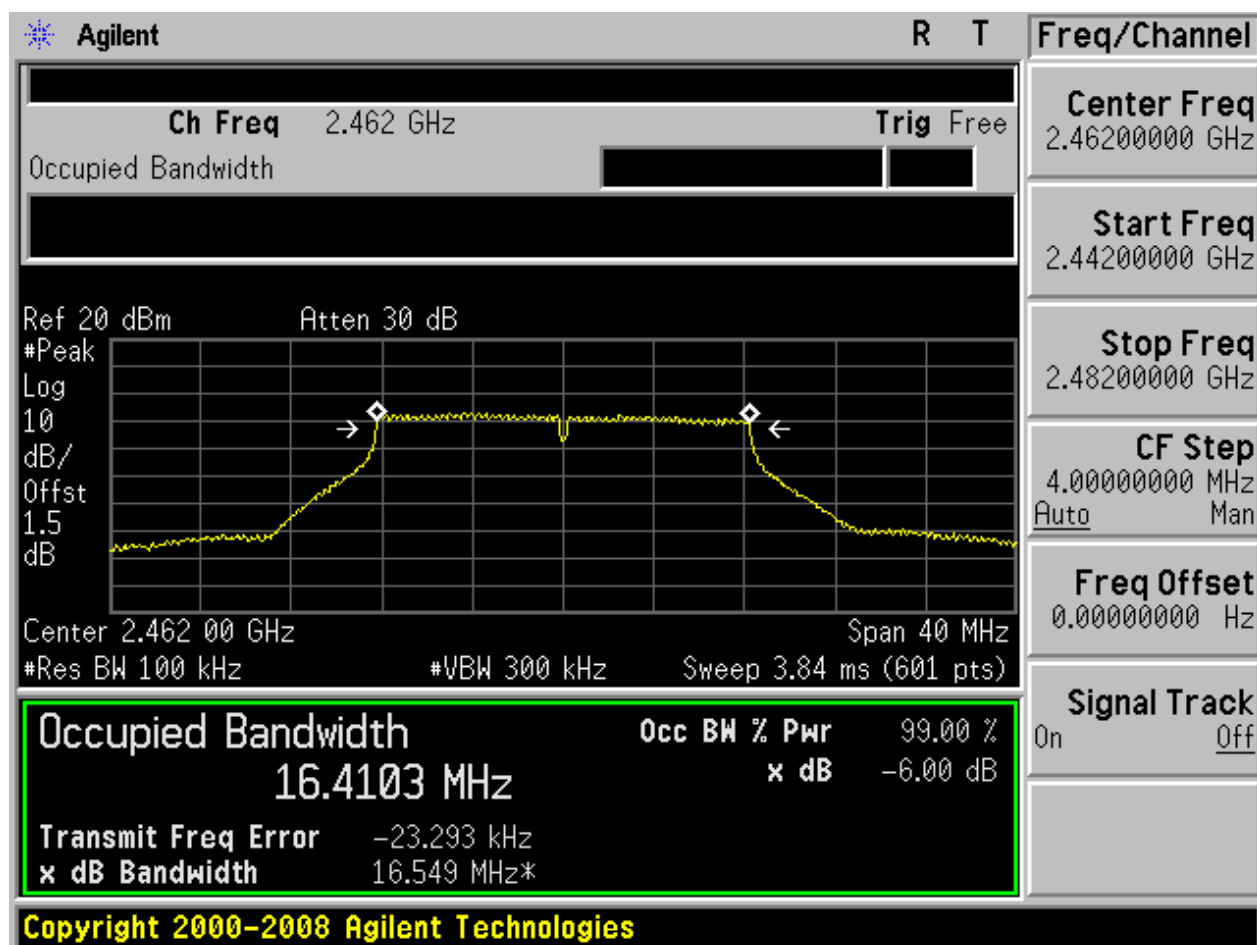


2.5 11G_M@Ant 1

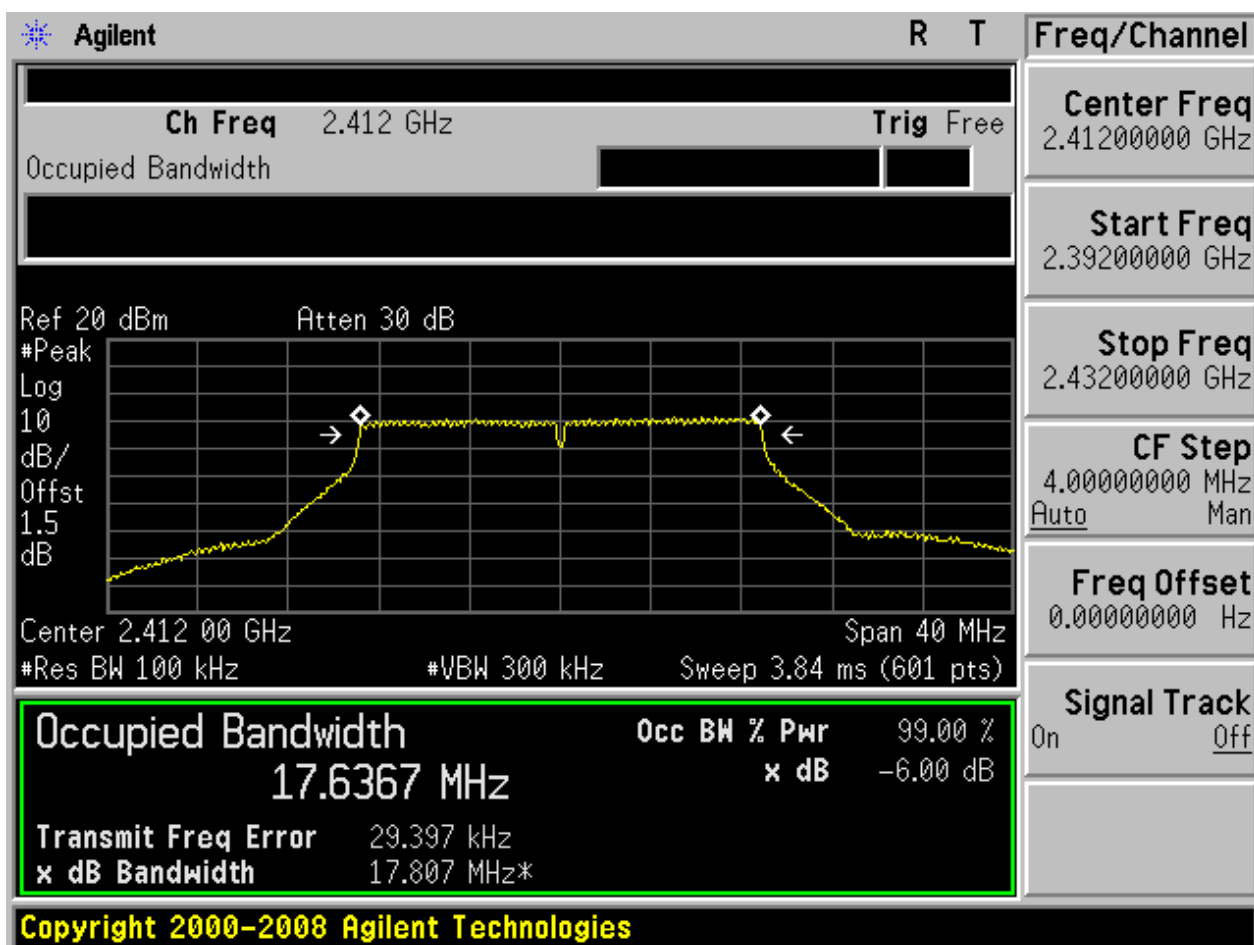




2.6 11G_H@Ant 1

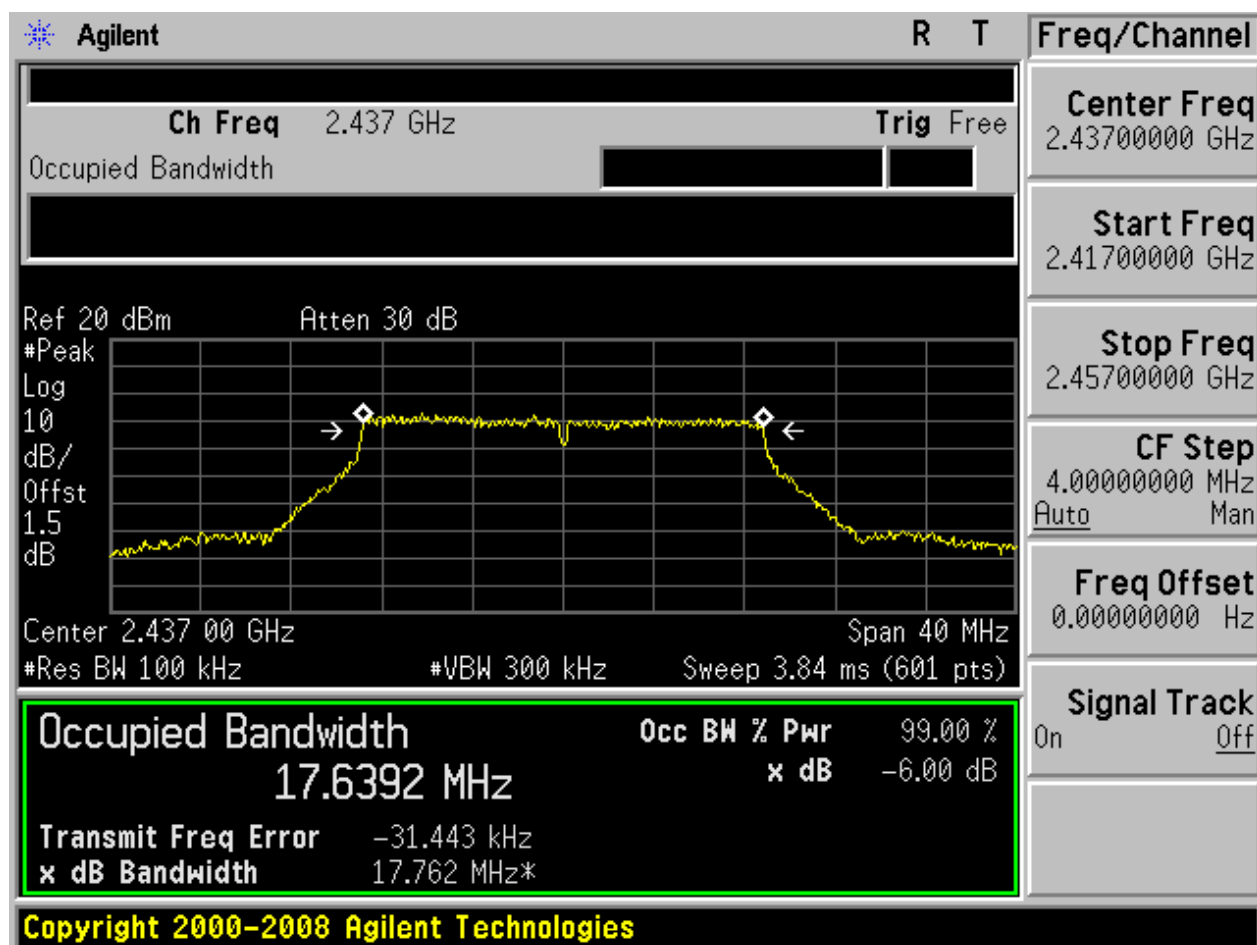


2.7 11N20_L@Ant 1



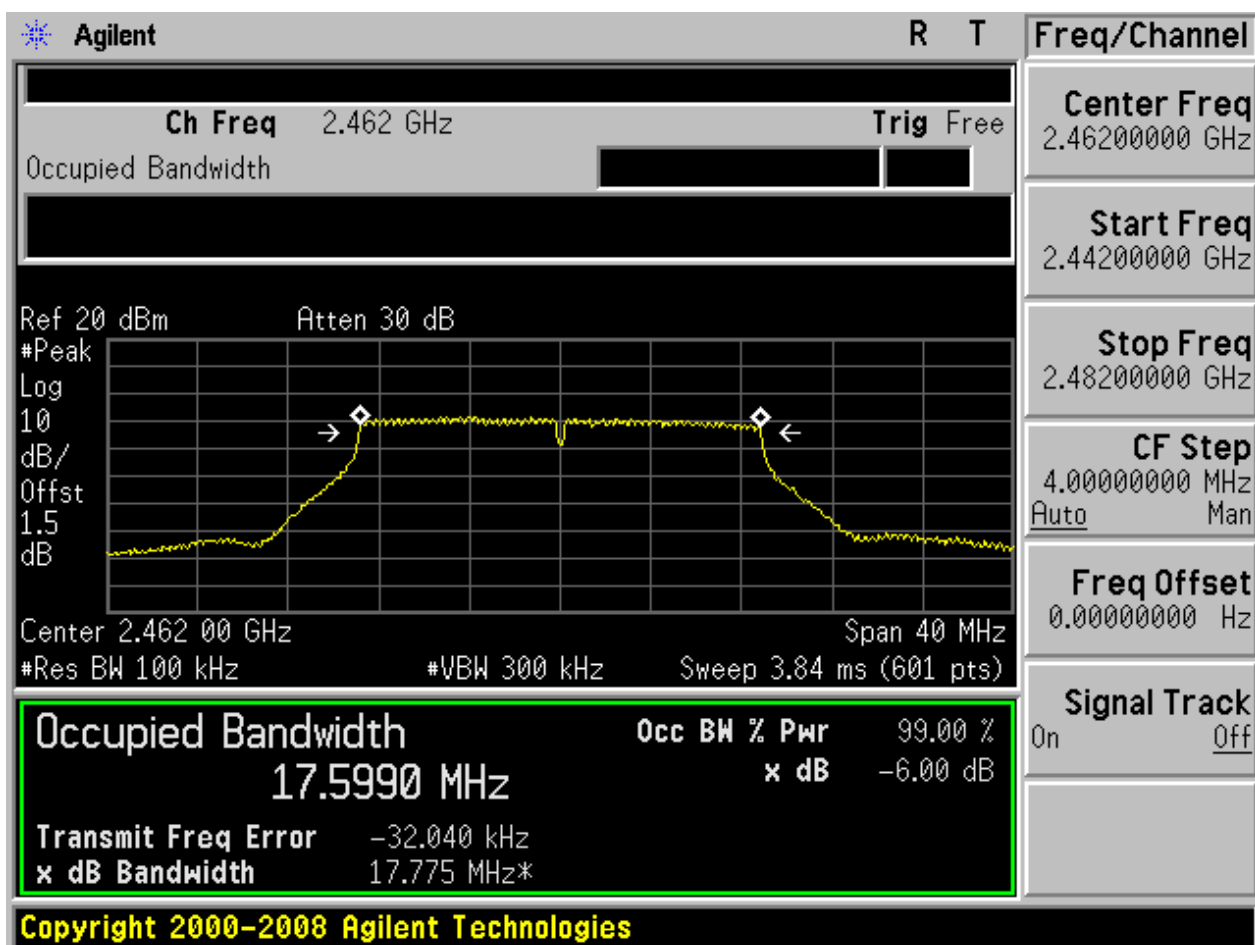


2.8 11N20_M@Ant 1



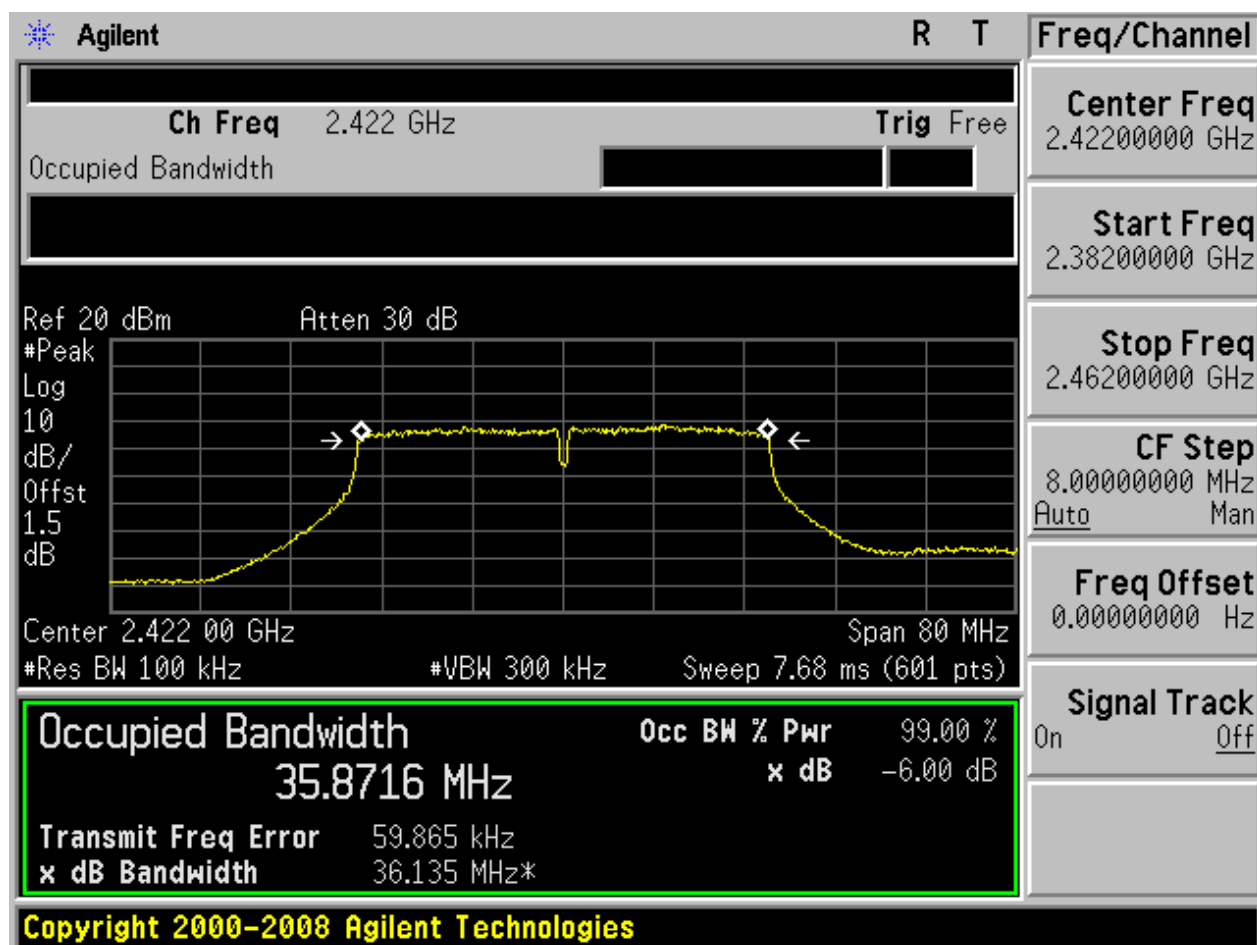


2.9 11N20_H@Ant 1



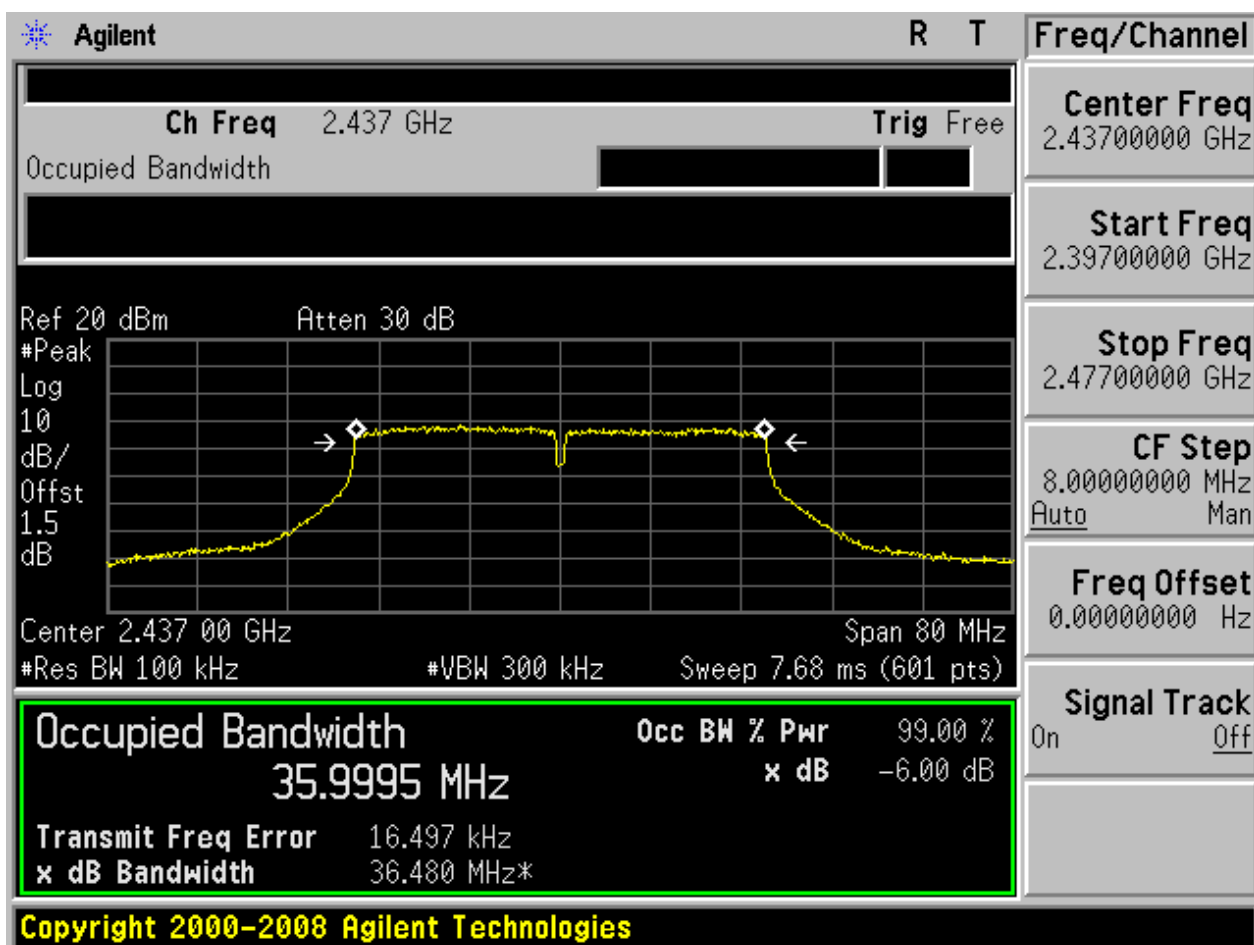


2.10 11N40_L@Ant 1



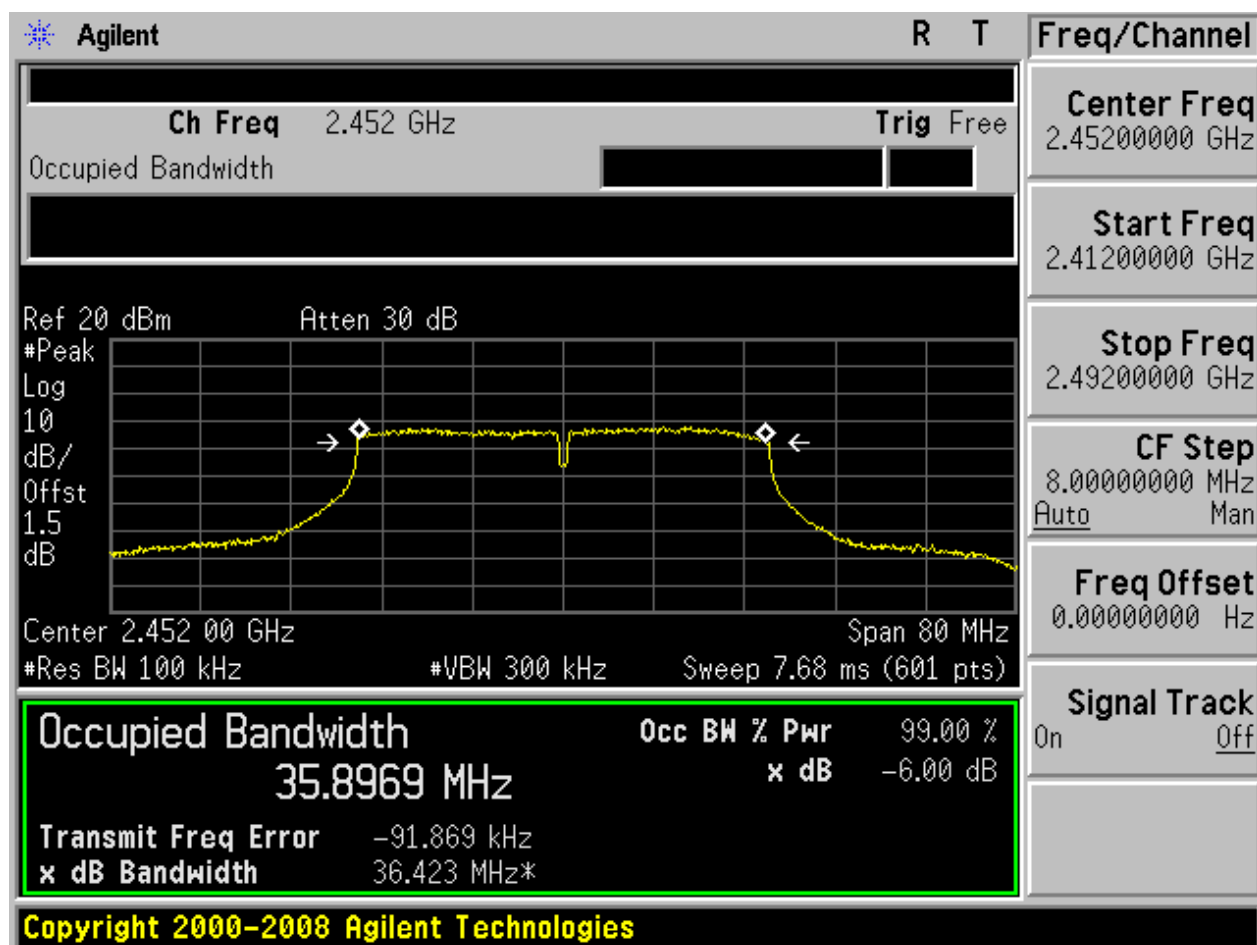


2.11 11N40_M@Ant 1





2.12 11N40_H@Ant 1



Appendix B: Occupied Bandwidth

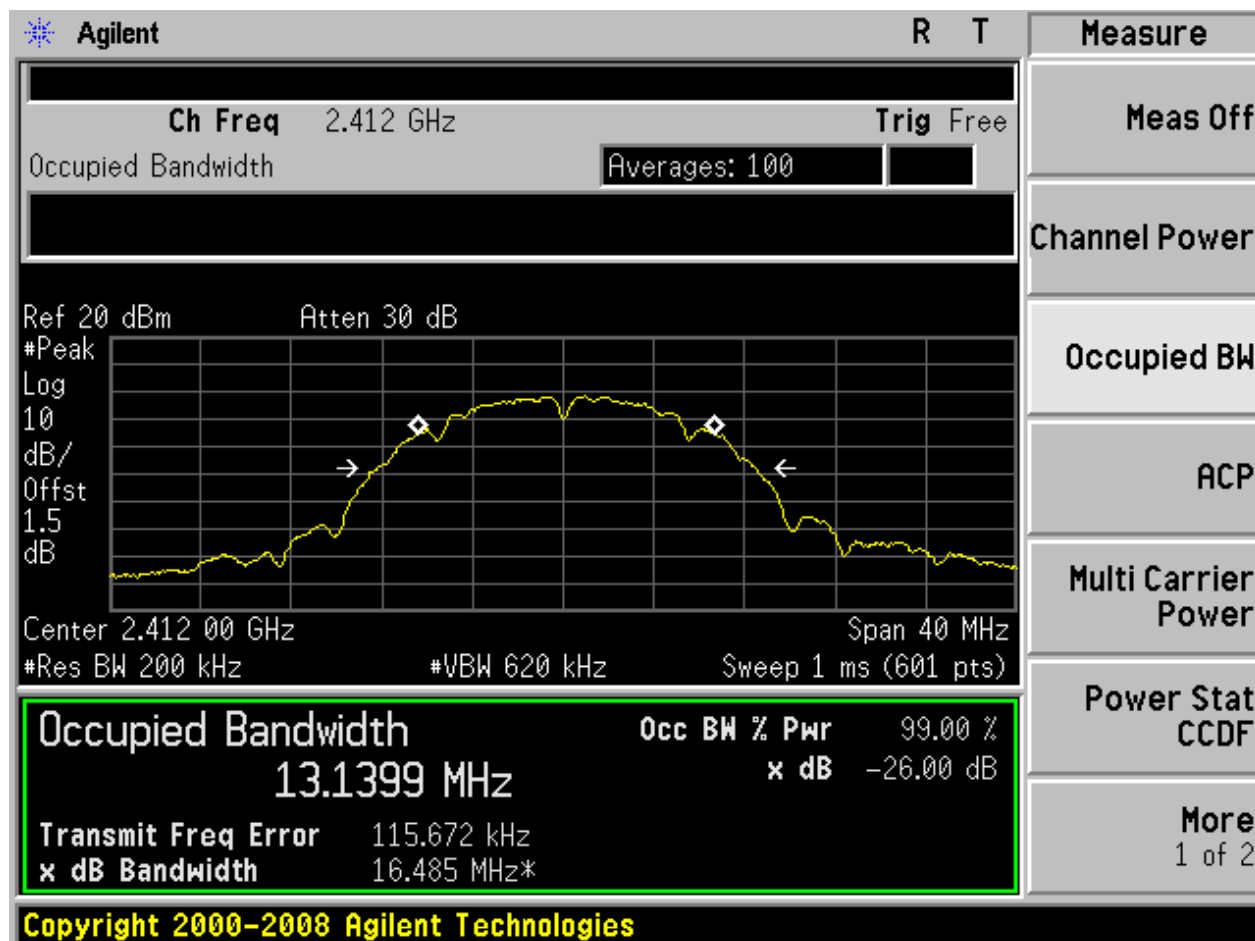
For measurements on smart antenna systems (devices with multiple transmit chains), the test is performed at each chain, and used as respective results for each chain.

Part I - Test Results

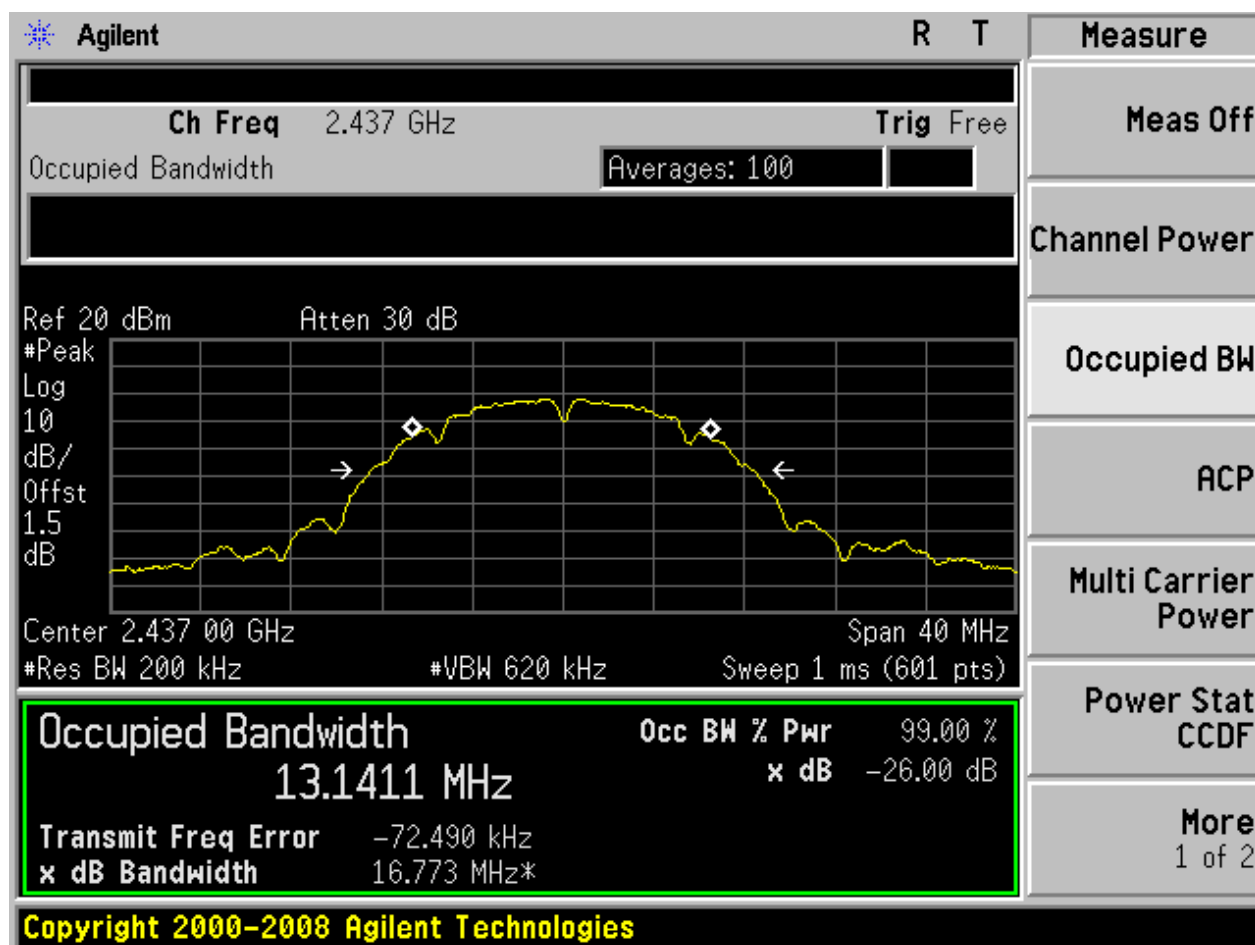
Test Mode	Test Channel	Frequency[MHz]	Ant	Occupied Bandwidth [MHz]	Verdict
11B	L	2412	Ant 1	13.14	pass
11B	M	2437	Ant 1	13.14	pass
11B	H	2462	Ant 1	12.81	pass
11G	L	2412	Ant 1	16.51	pass
11G	M	2437	Ant 1	16.48	pass
11G	H	2462	Ant 1	16.43	pass
11N20	L	2412	Ant 1	17.68	pass
11N20	M	2437	Ant 1	17.70	pass
11N20	H	2462	Ant 1	17.63	pass
11N40	L	2422	Ant 1	35.73	pass
11N40	M	2437	Ant 1	36.05	pass
11N40	H	2452	Ant 1	35.85	pass

Part II - Test Plots

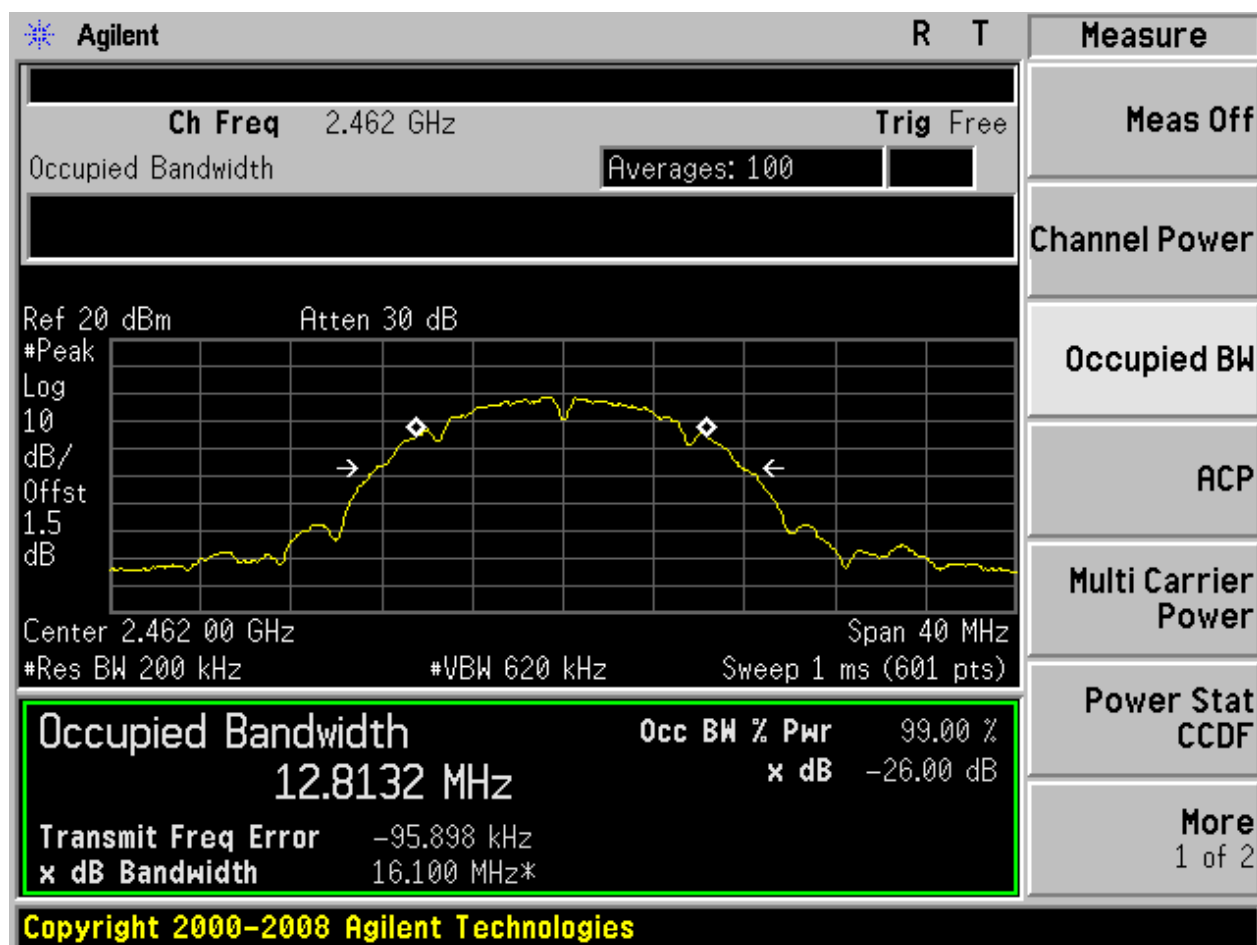
2.1 11B_L@Ant 1



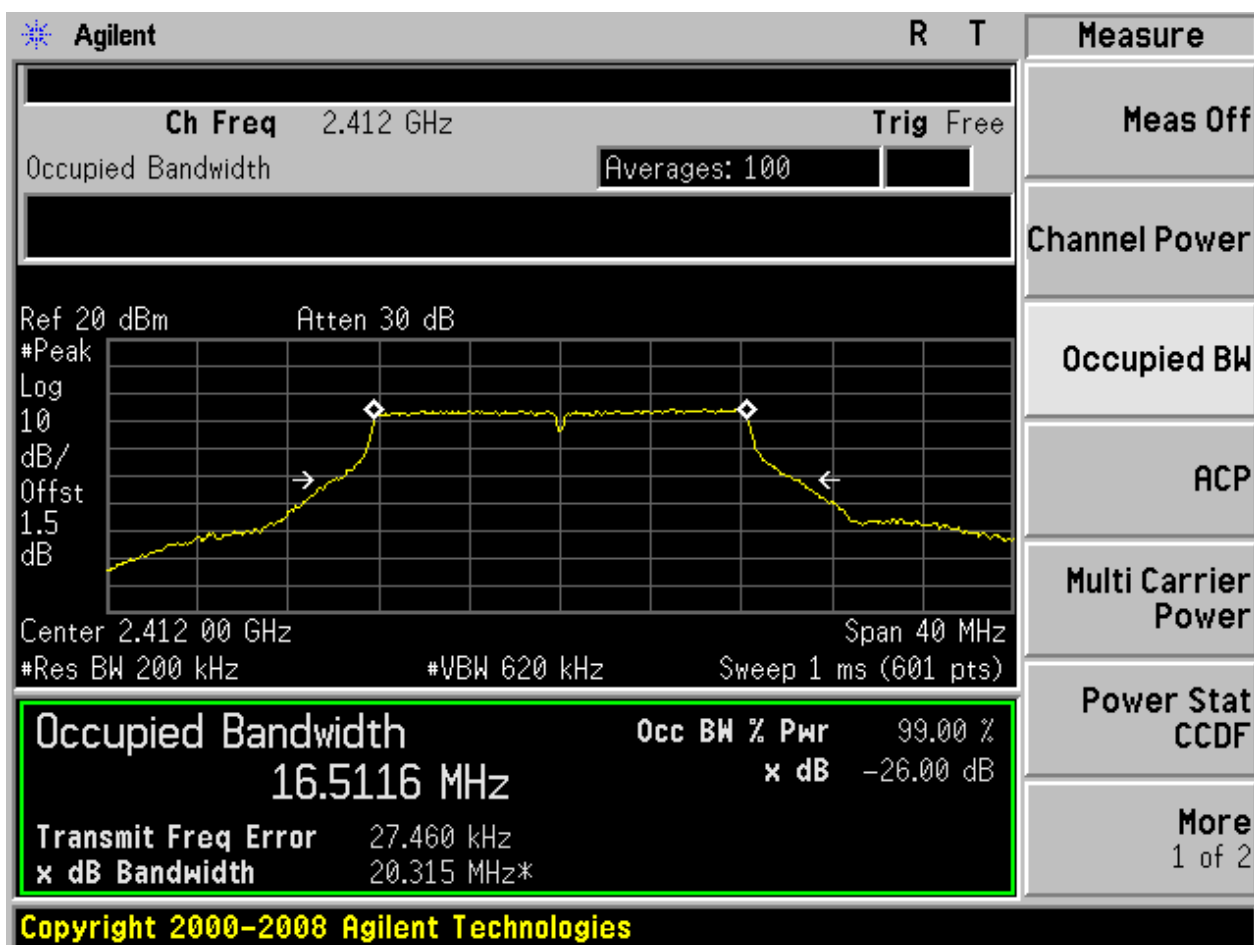
2.2 11B_M@Ant 1



2.3 11B_H@Ant 1

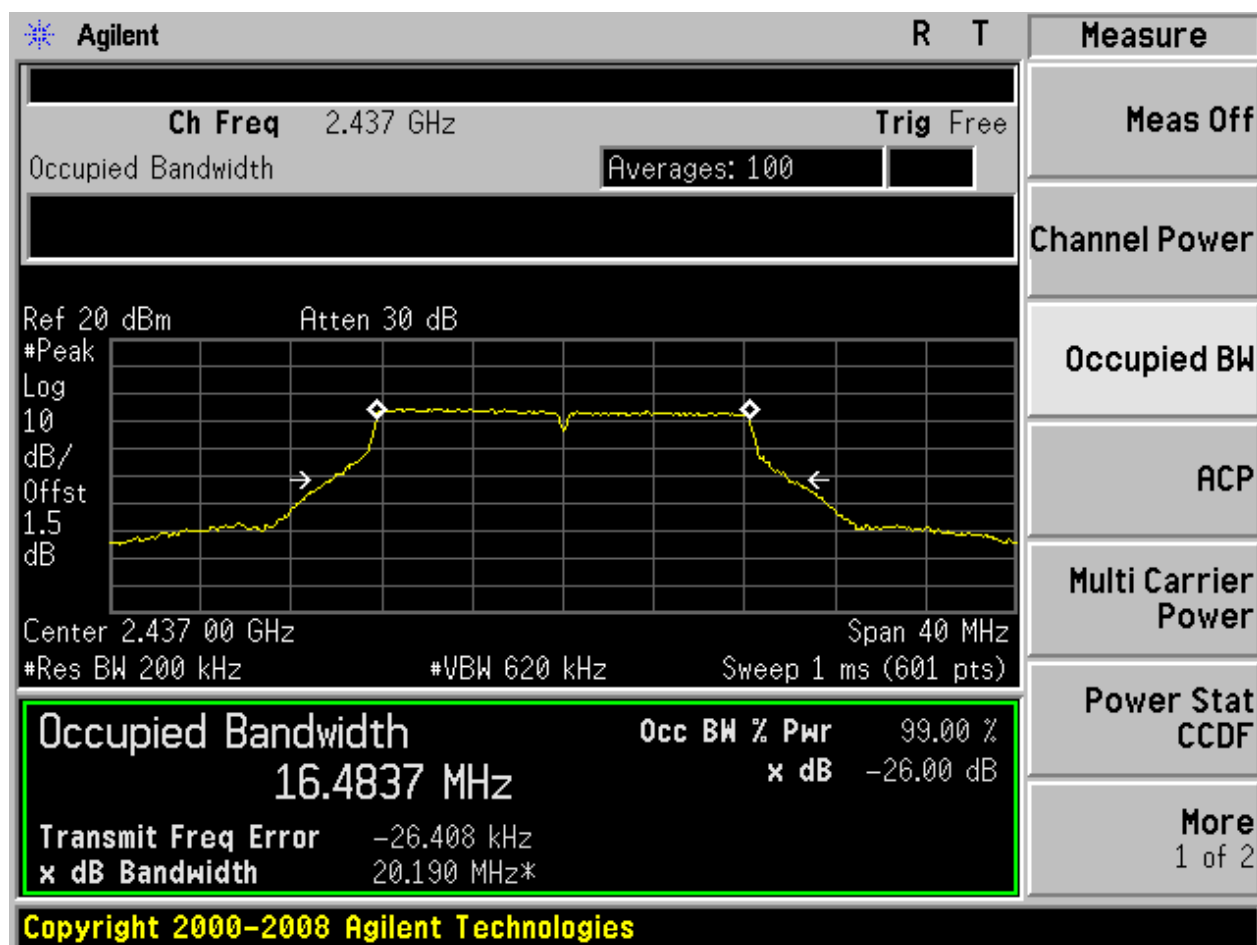


2.4 11G_L@Ant 1



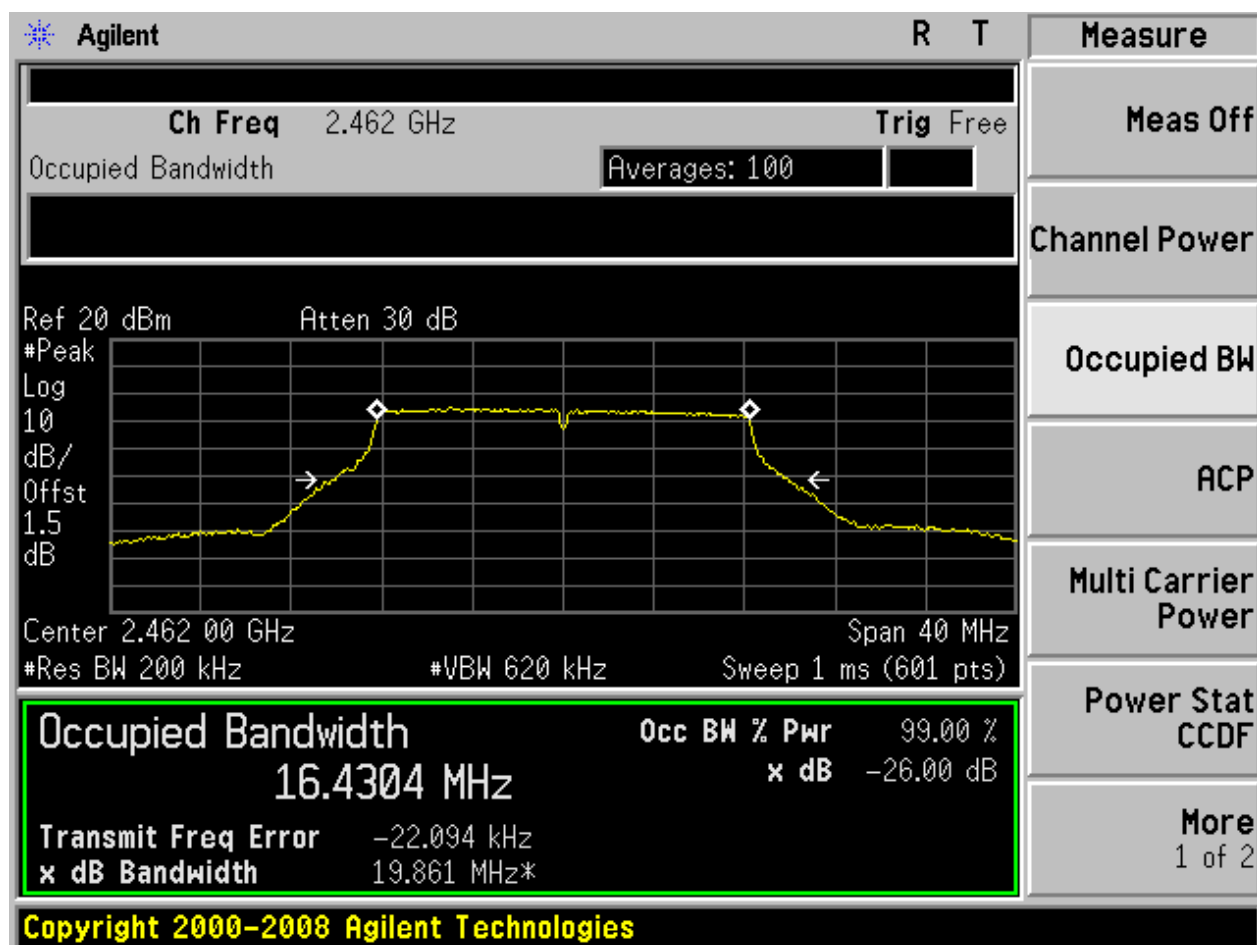


2.5 11G_M@Ant 1

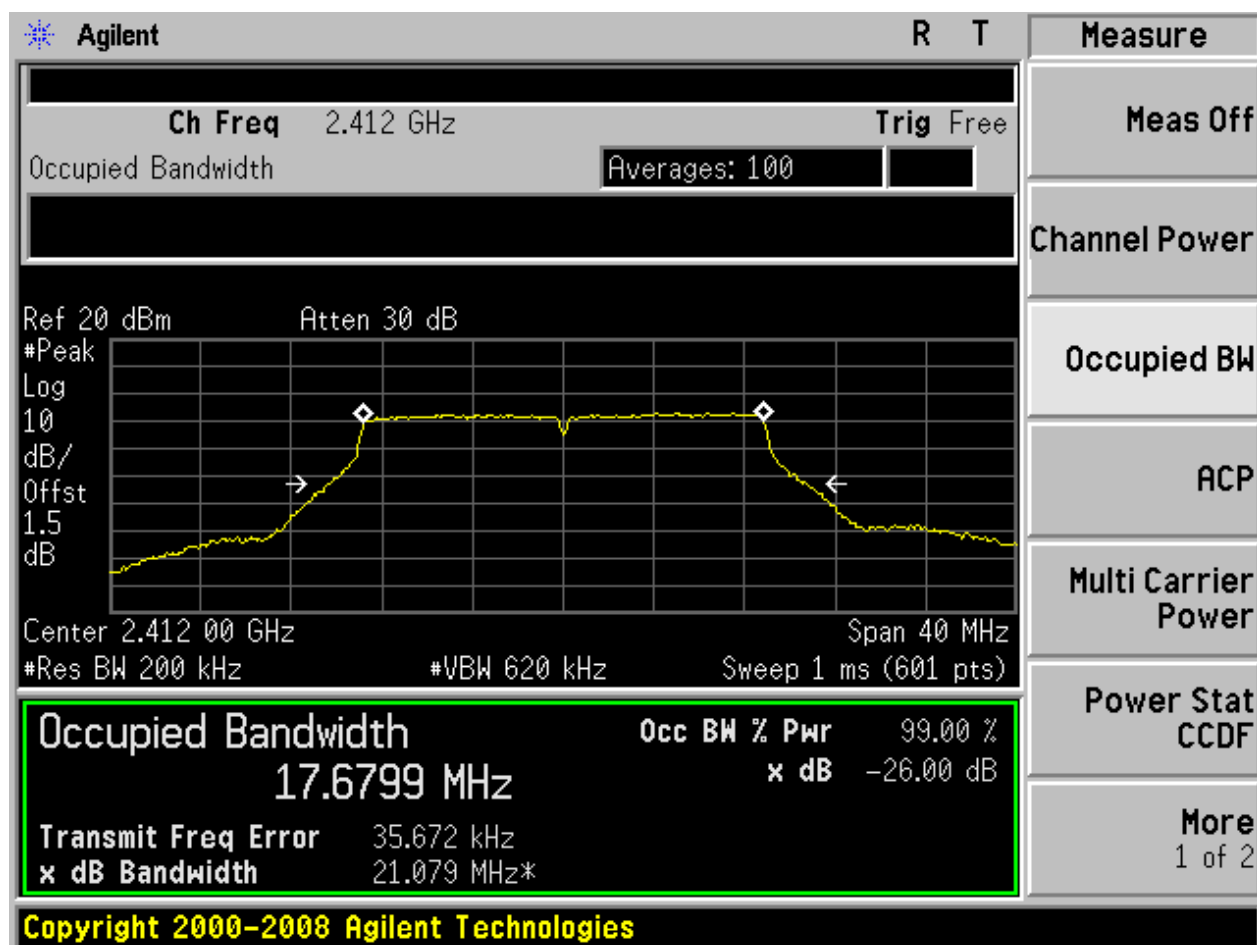




2.6 11G_H@Ant 1

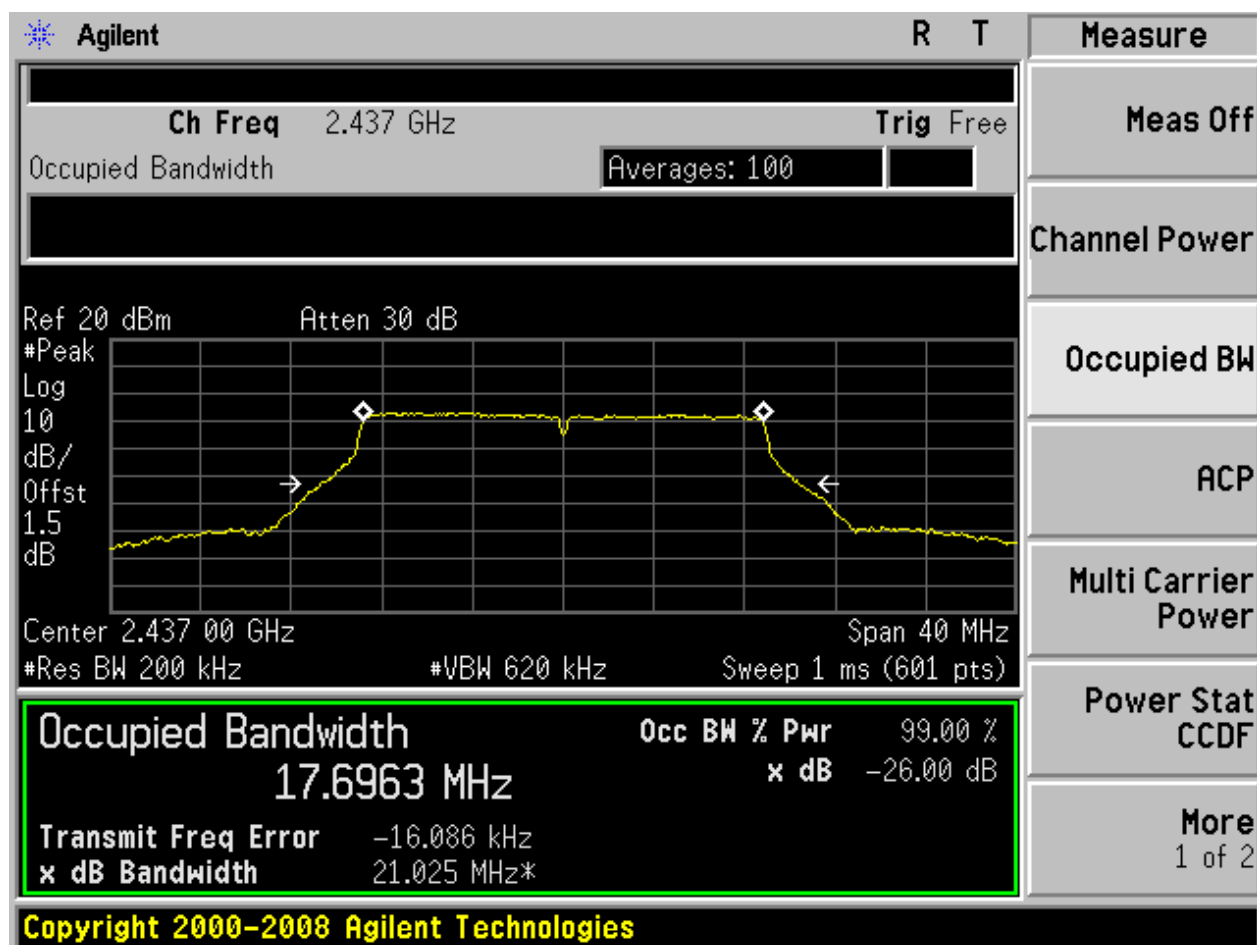


2.7 11N20_L@Ant 1

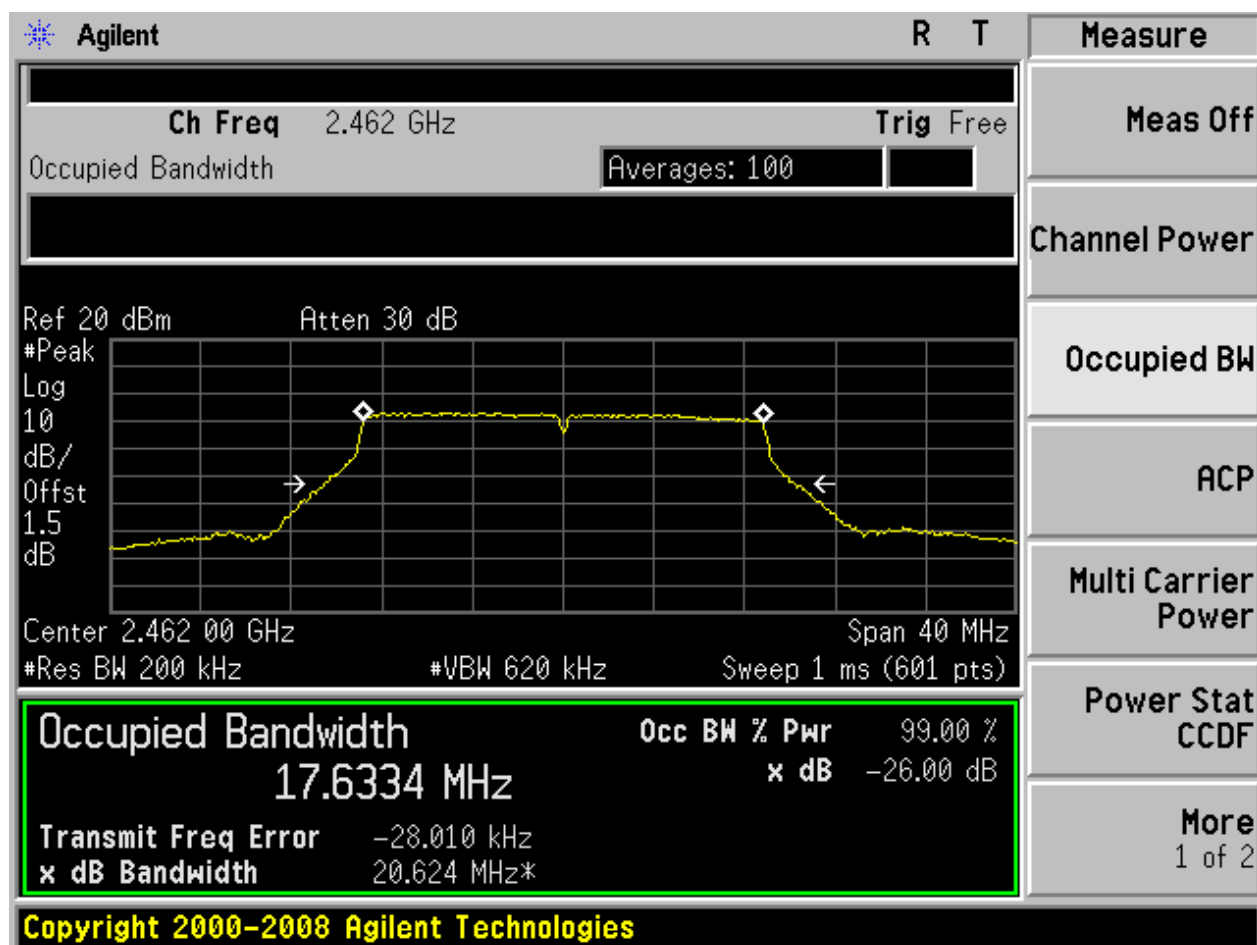




2.8 11N20_M@Ant 1

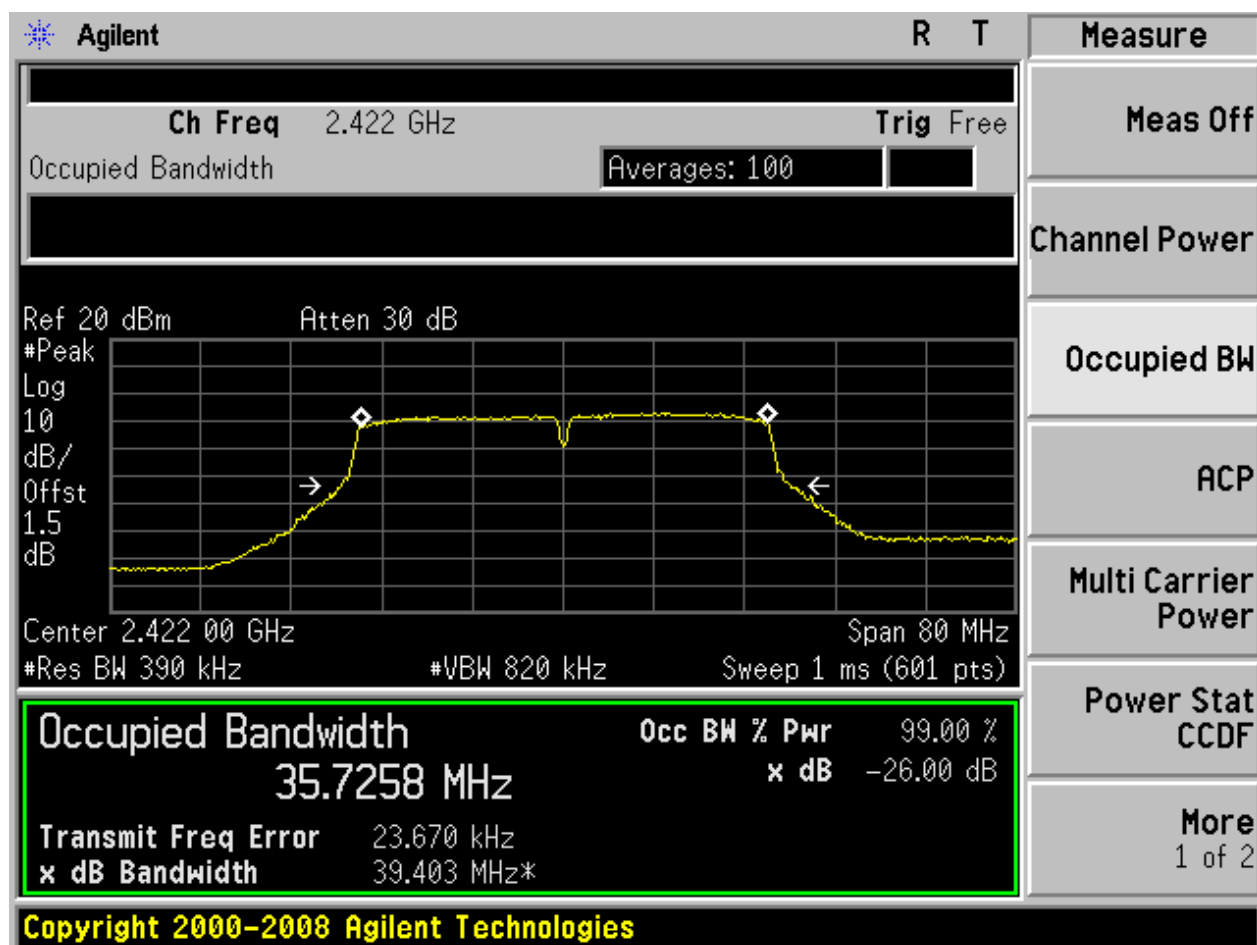


2.9 11N20_H@Ant 1

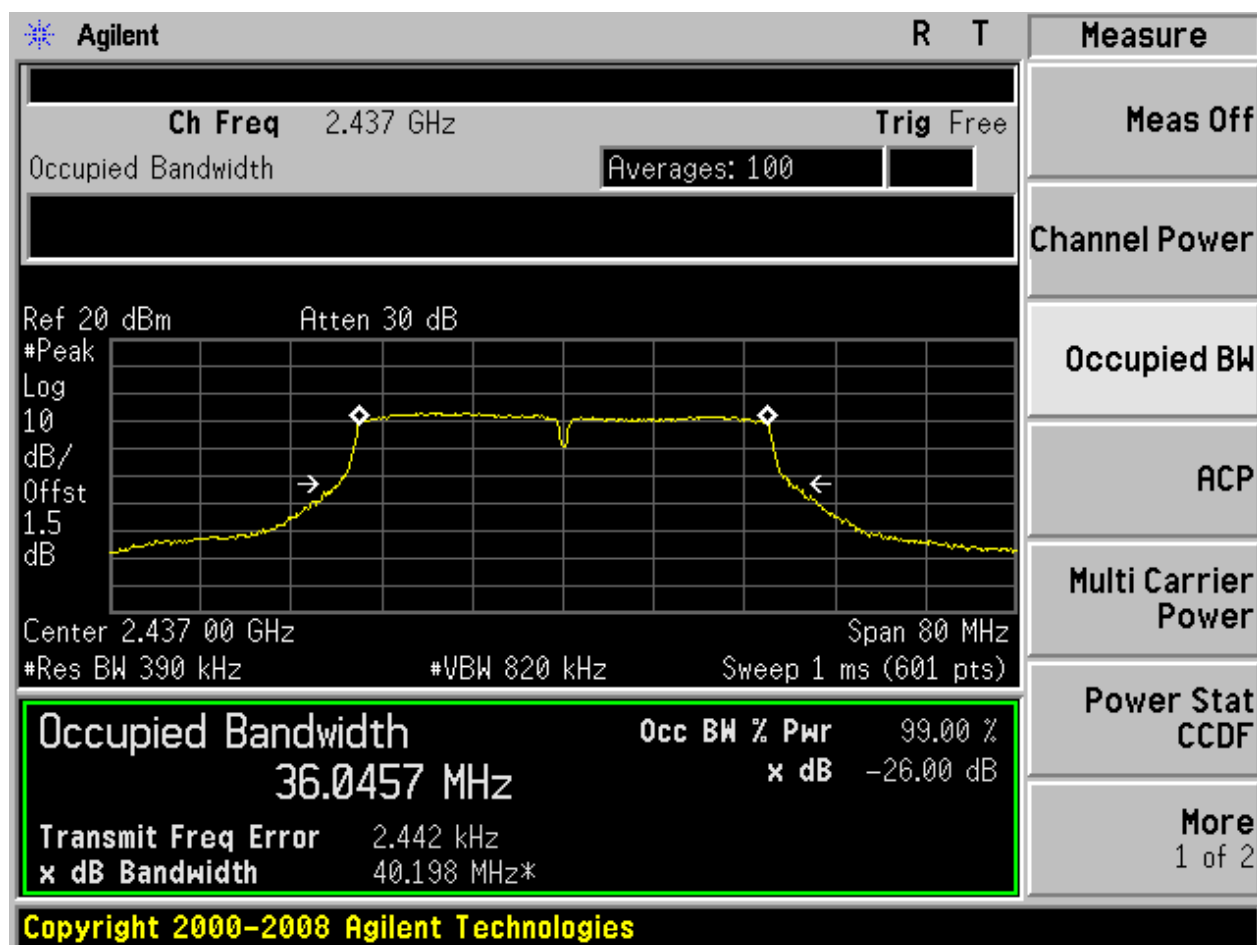




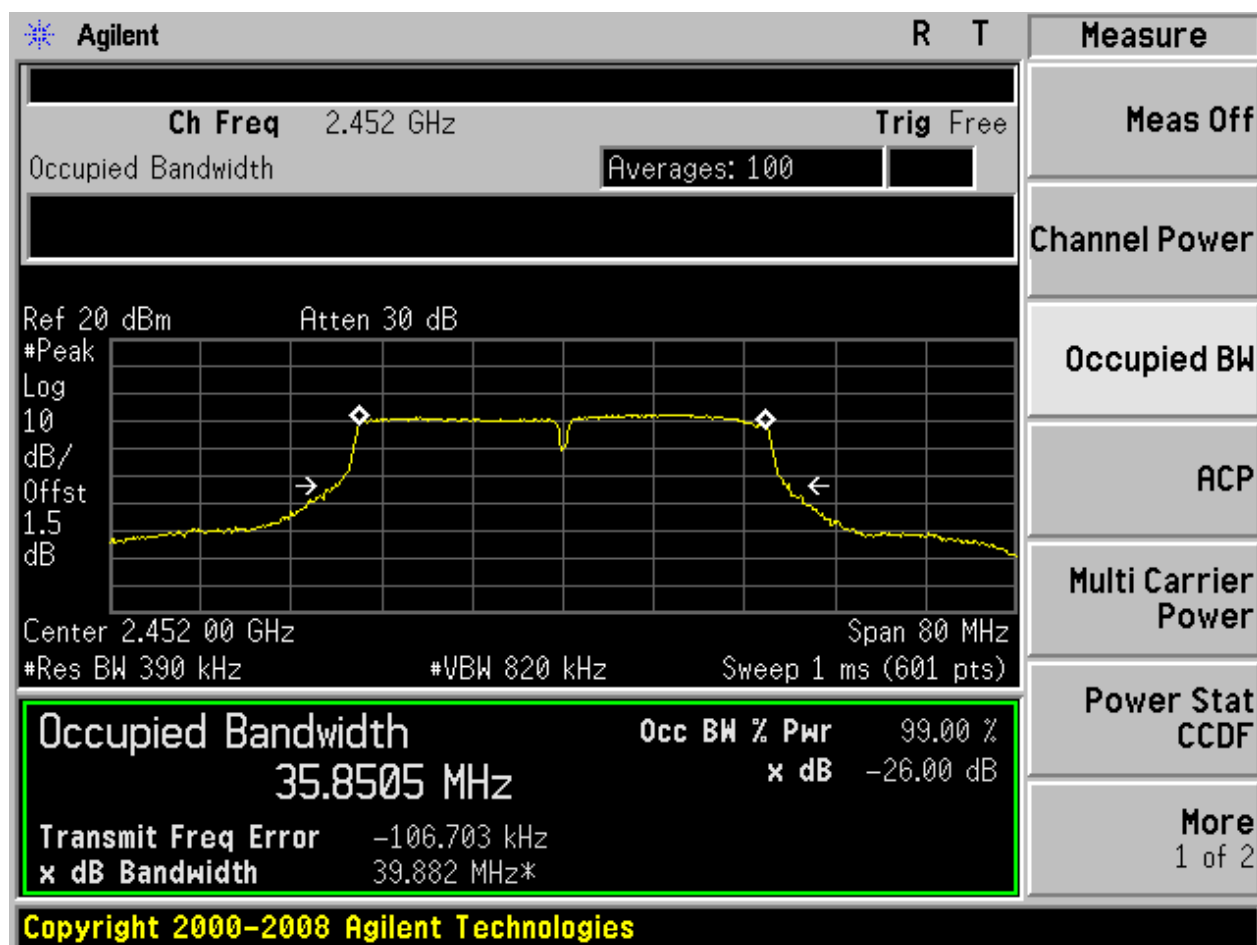
2.10 11N40_L@Ant 1



2.11 11N40_M@Ant 1



2.12 11N40_H@Ant 1



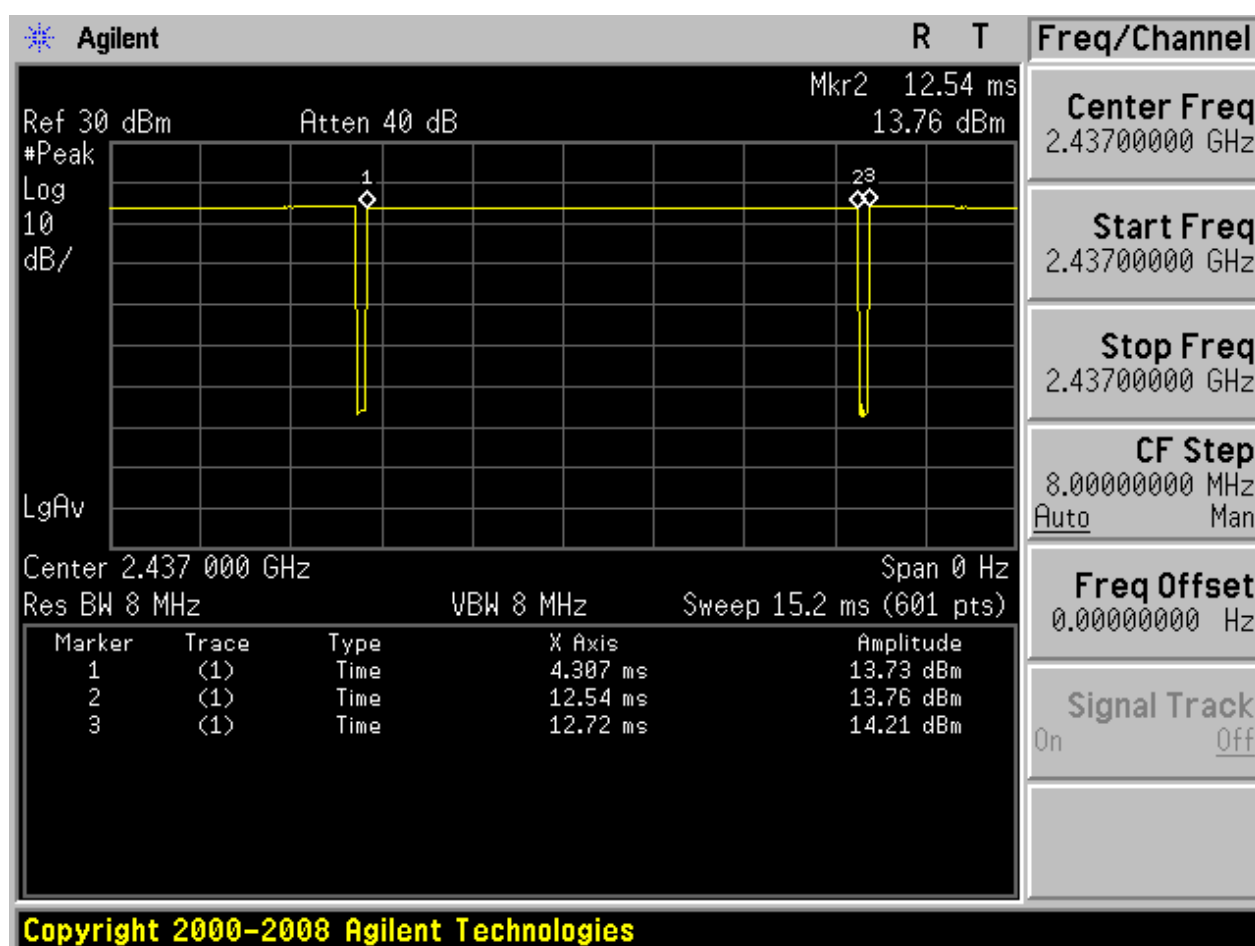
Appendix C: Duty Cycle

Part I - Test Results

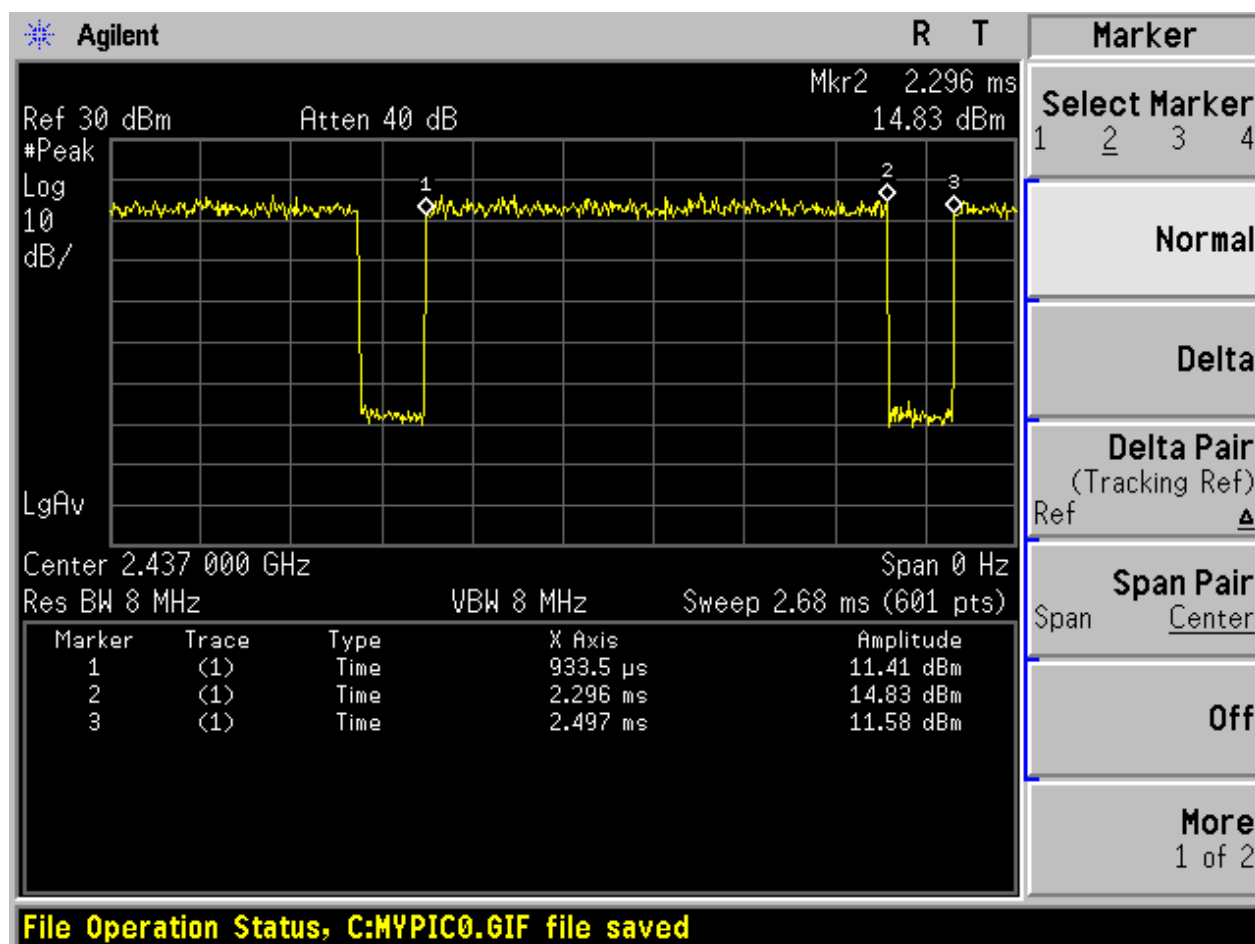
Test Mode	TX Freq. [MHz]	Duty cycle [%]
11B	Ant 1: CH1,CH6,CH11	98
11G	Ant 1: CH1,CH6,CH11	88
11N_20M_SISO	Ant 1: CH1,CH6,CH11	87
11N_40M_SISO	Ant 1: CH3,CH6,CH9	76

Part II - Test Plots

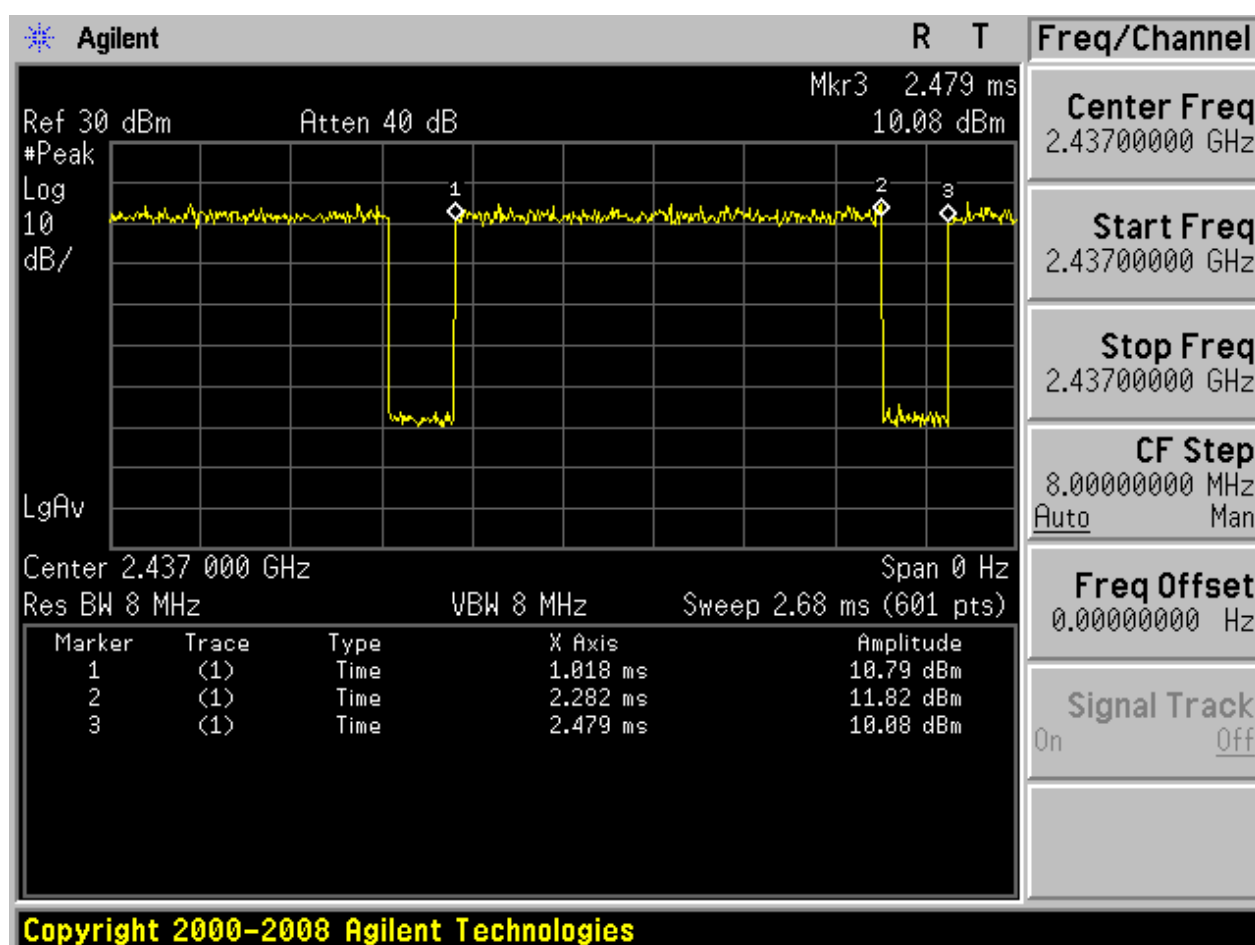
2.1 11B



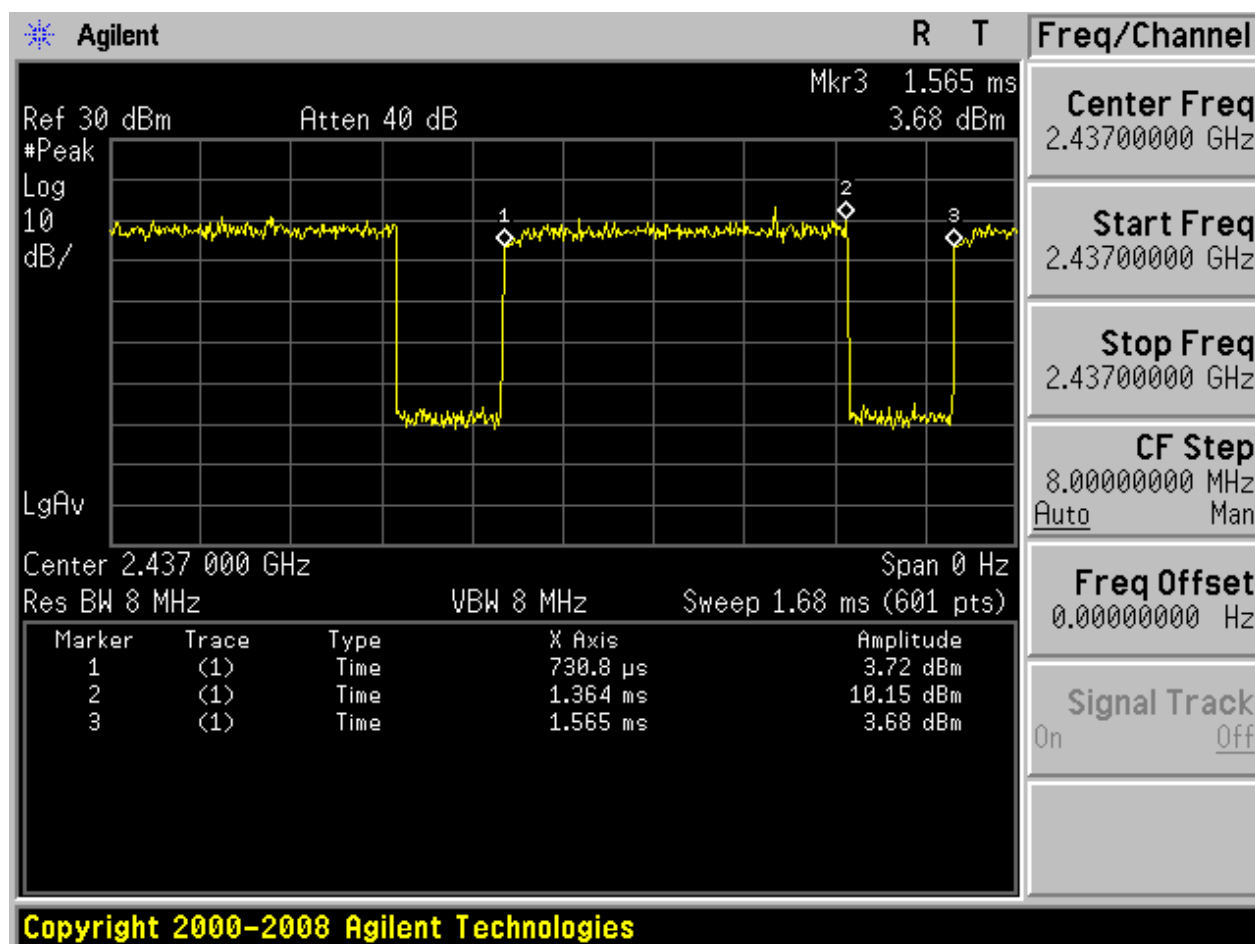
2.2 11G



2.3 11N20



2.4 11N40



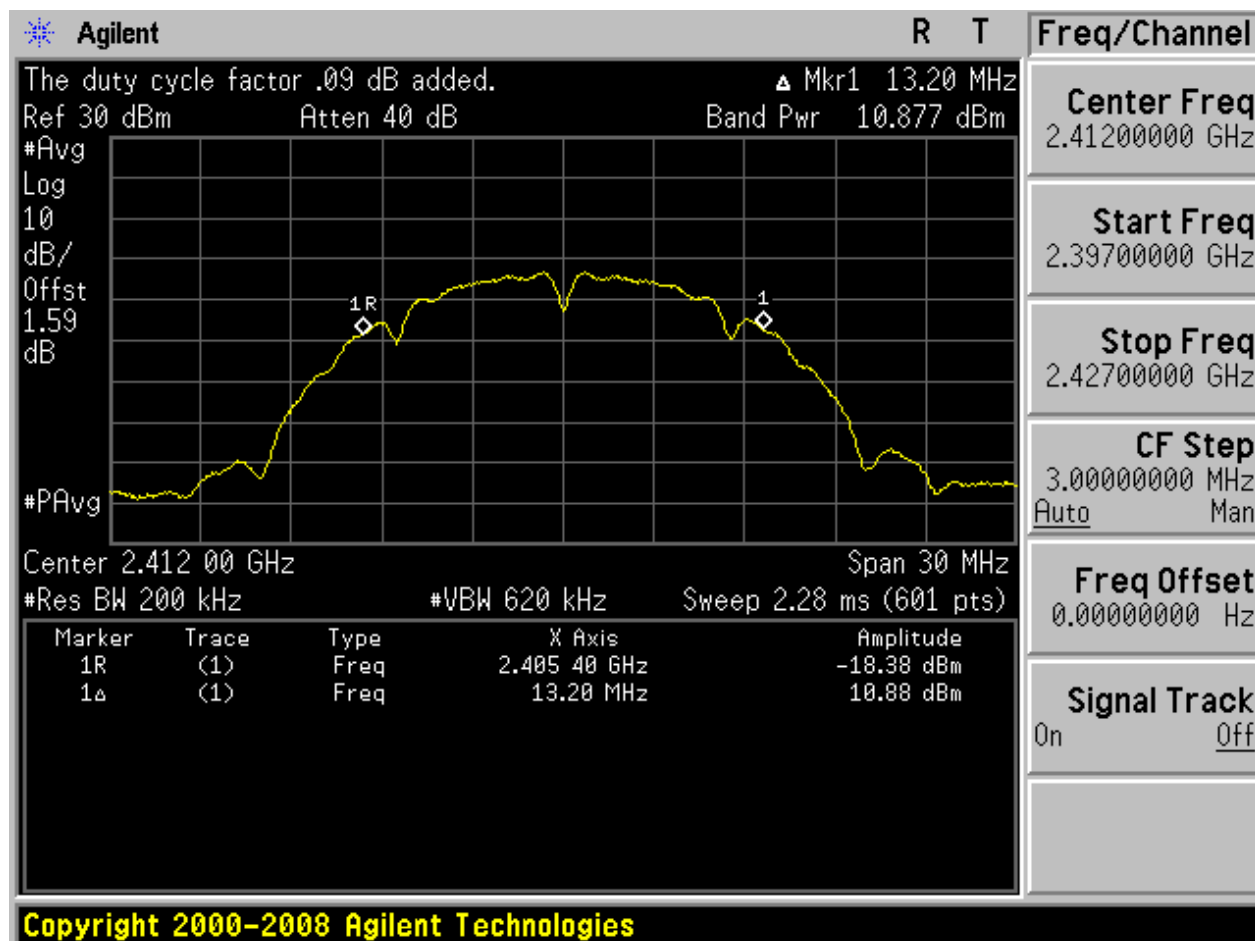
Appendix D: Maximum Conducted Average Output Power

Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Ant	Power[dBm]	Verdict
11B	L	2412	Ant 1	10.88	pass
11B	M	2437	Ant 1	10.83	pass
11B	H	2462	Ant 1	10.93	pass
11G	L	2412	Ant 1	11.05	pass
11G	M	2437	Ant 1	10.83	pass
11G	H	2462	Ant 1	11.05	pass
11N20	L	2412	Ant 1	9.96	pass
11N20	M	2437	Ant 1	10.07	pass
11N20	H	2462	Ant 1	10.04	pass
11N40	L	2422	Ant 1	9.47	pass
11N40	M	2437	Ant 1	9.41	pass
11N40	H	2452	Ant 1	9.01	pass

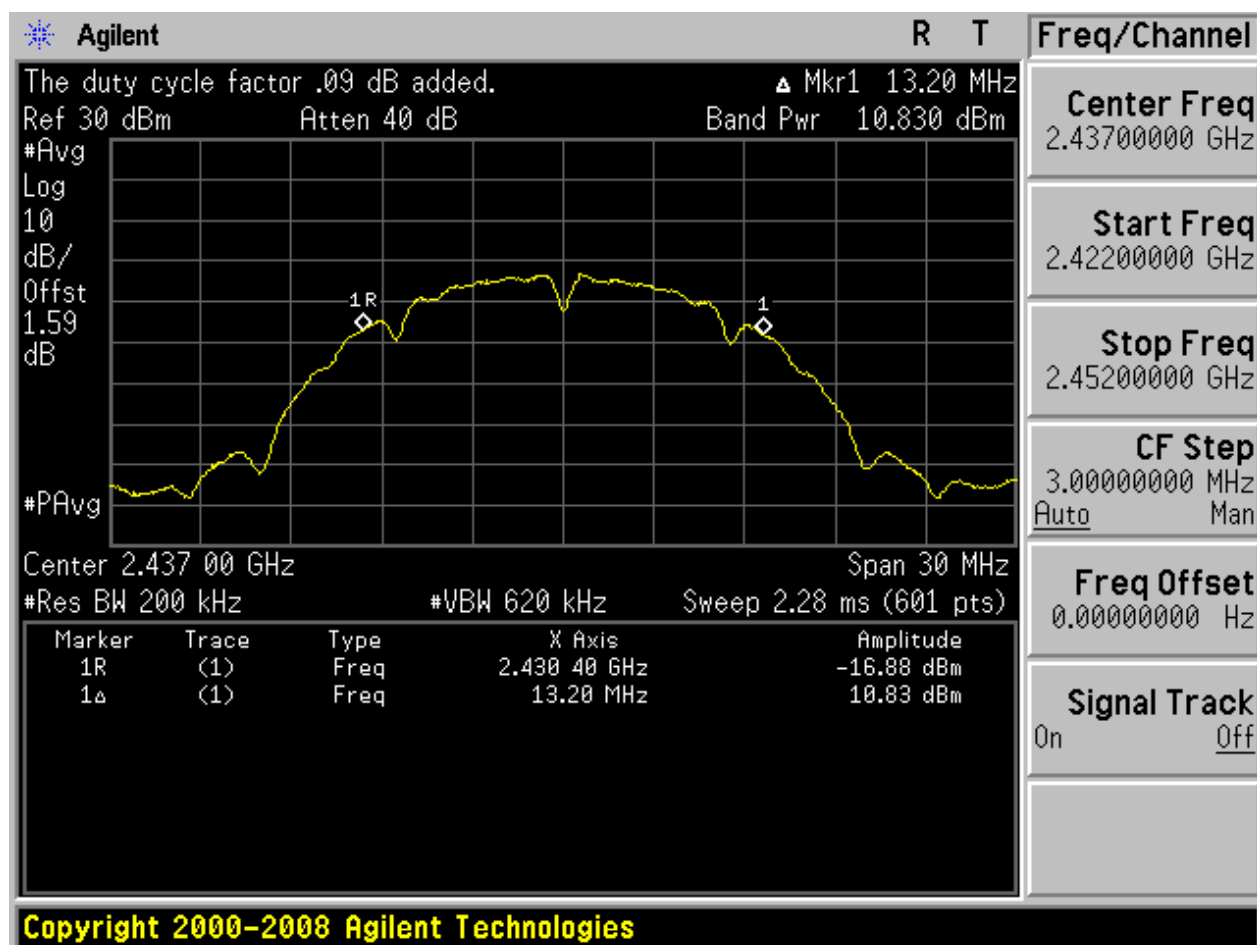
Part II - Test Plots

2.1 11B_L@Ant 1



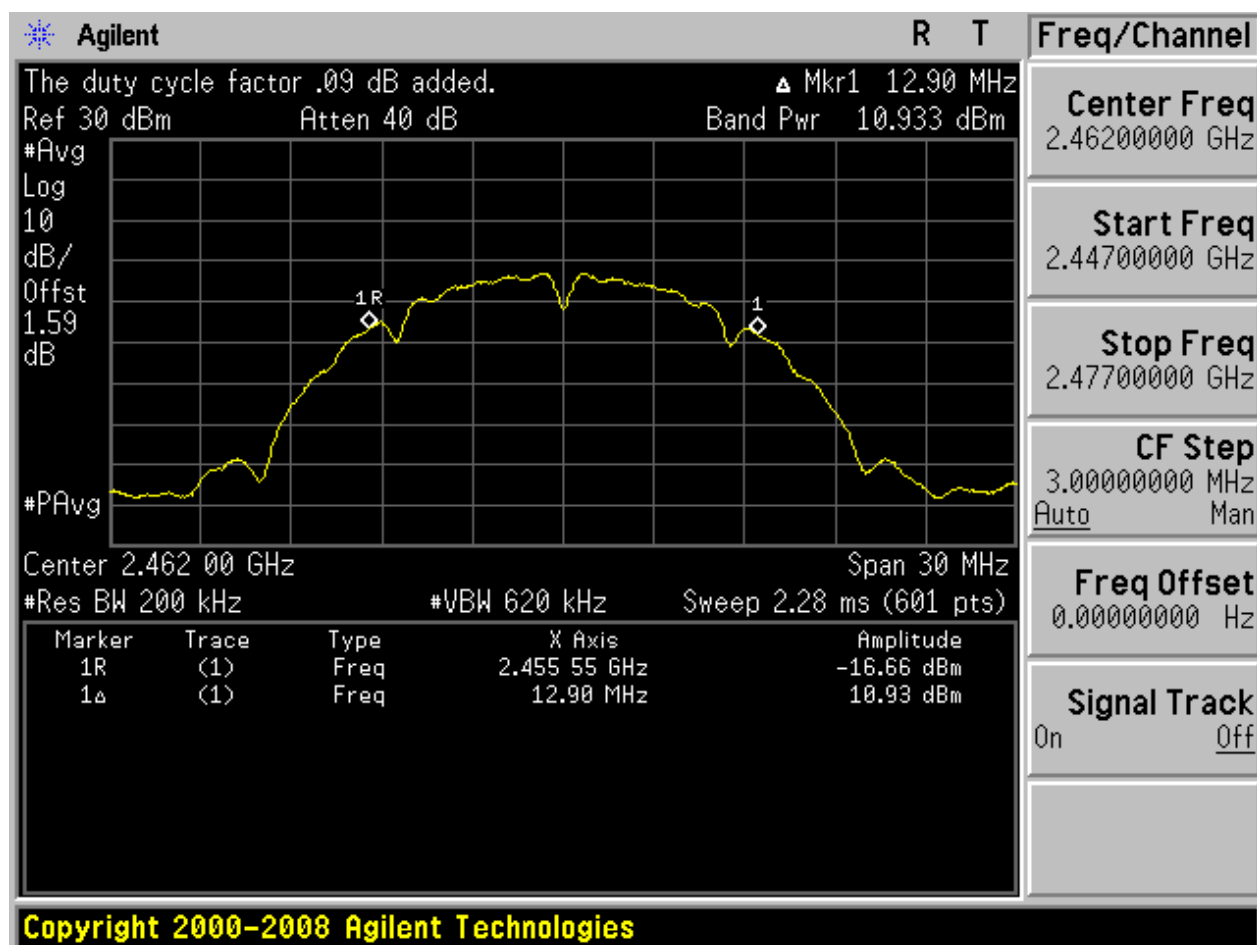


2.2 11B_M@Ant 1



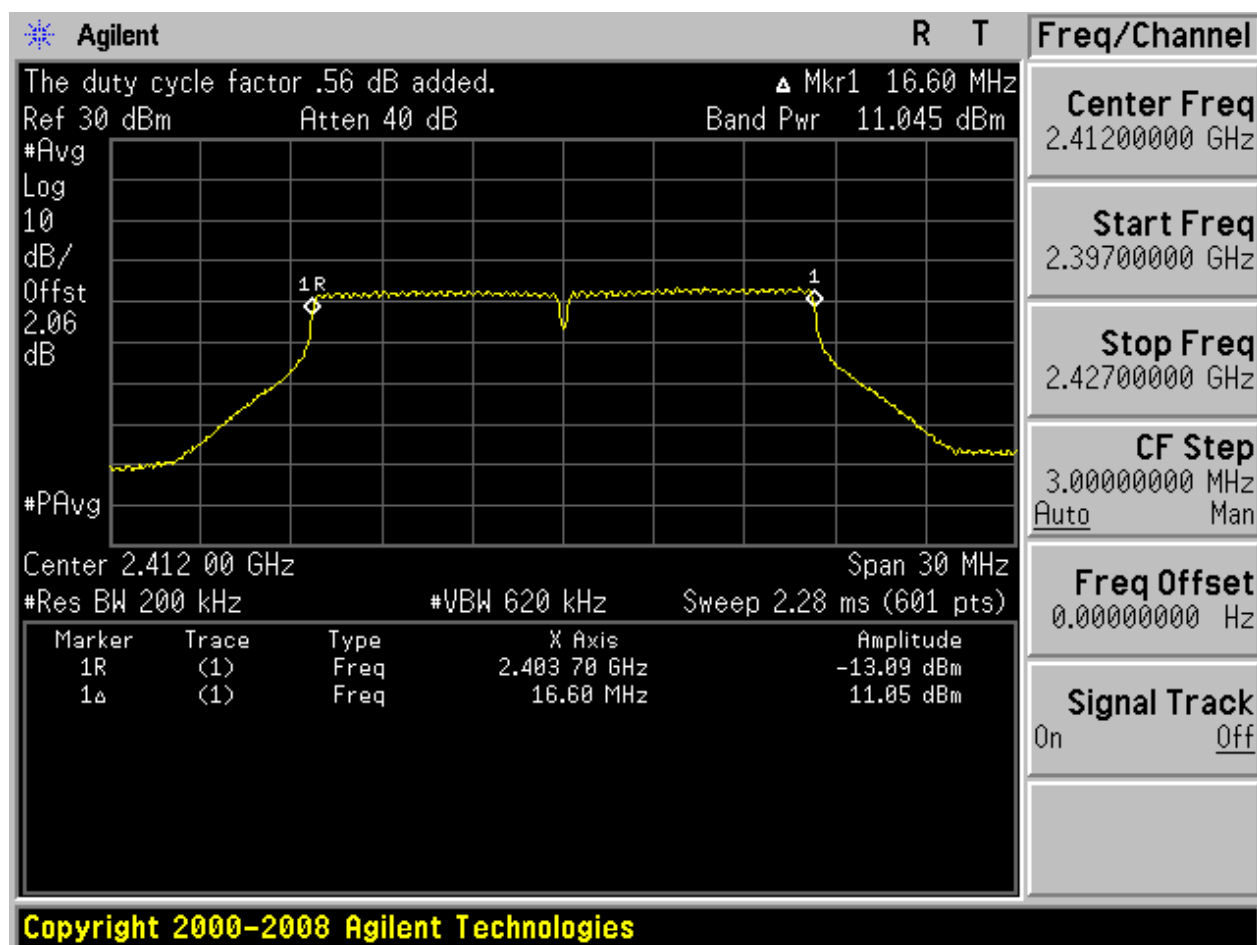


2.3 11B_H@Ant 1



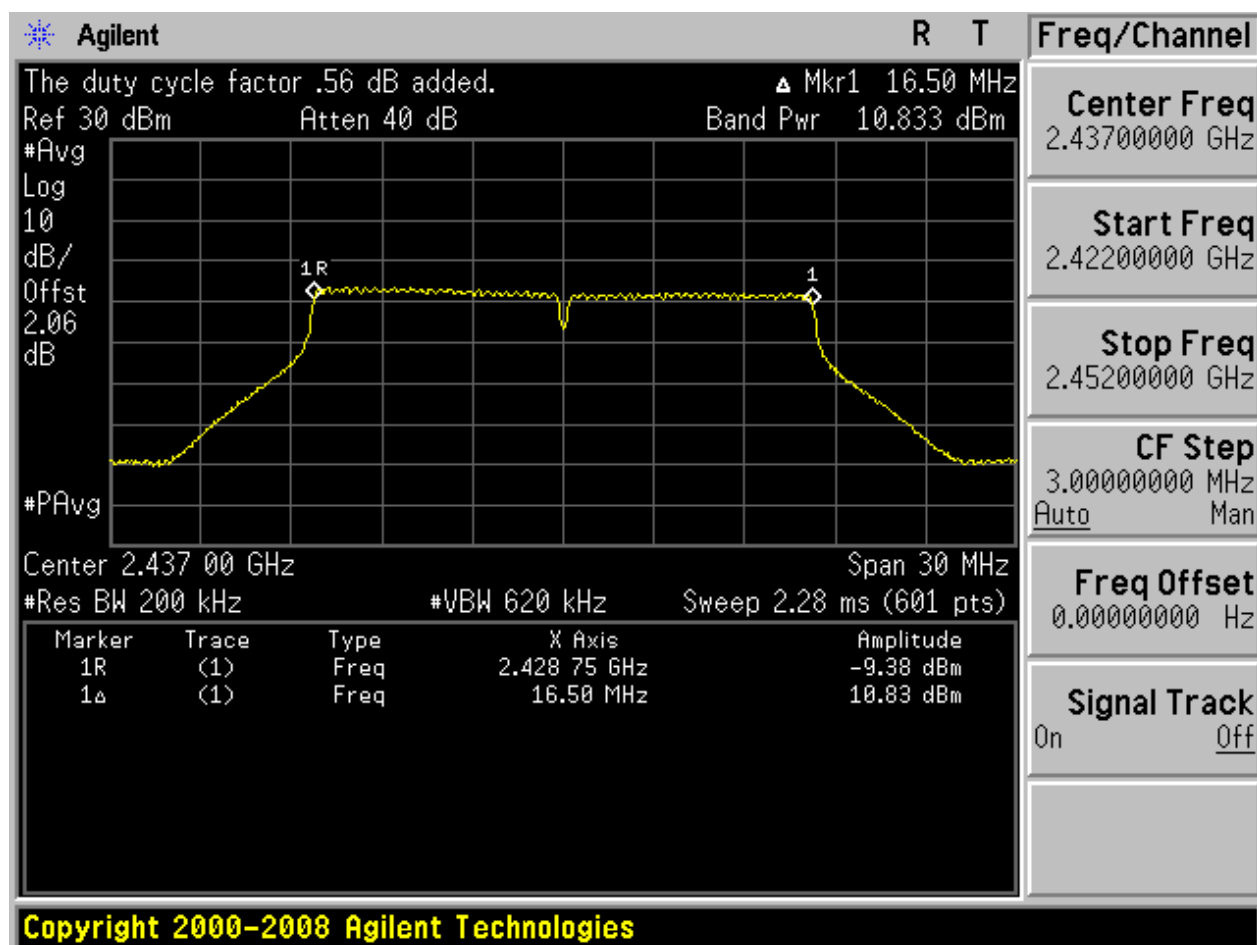


2.4 11G_L@Ant 1



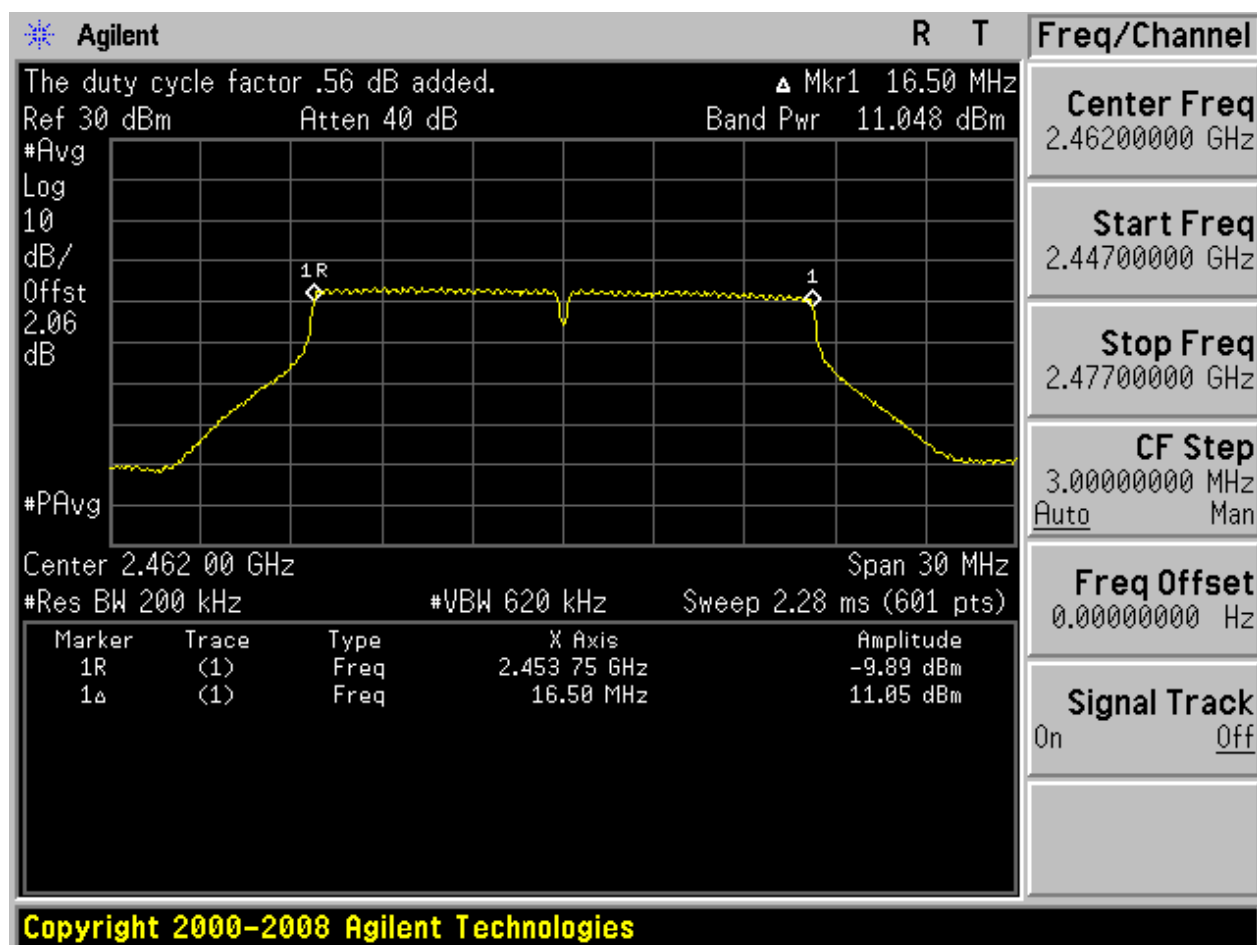


2.5 11G_M@Ant 1



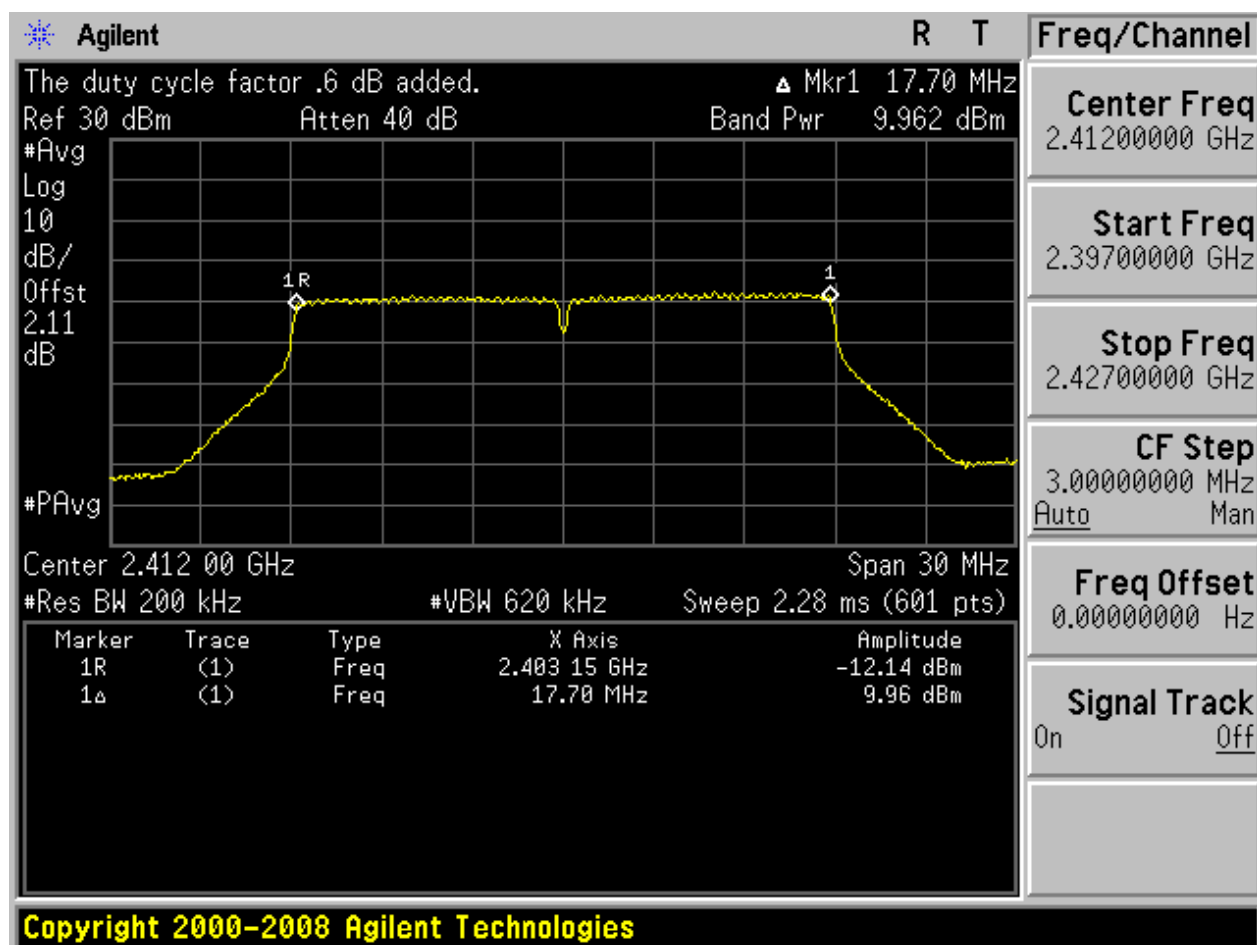


2.6 11G_H@Ant 1



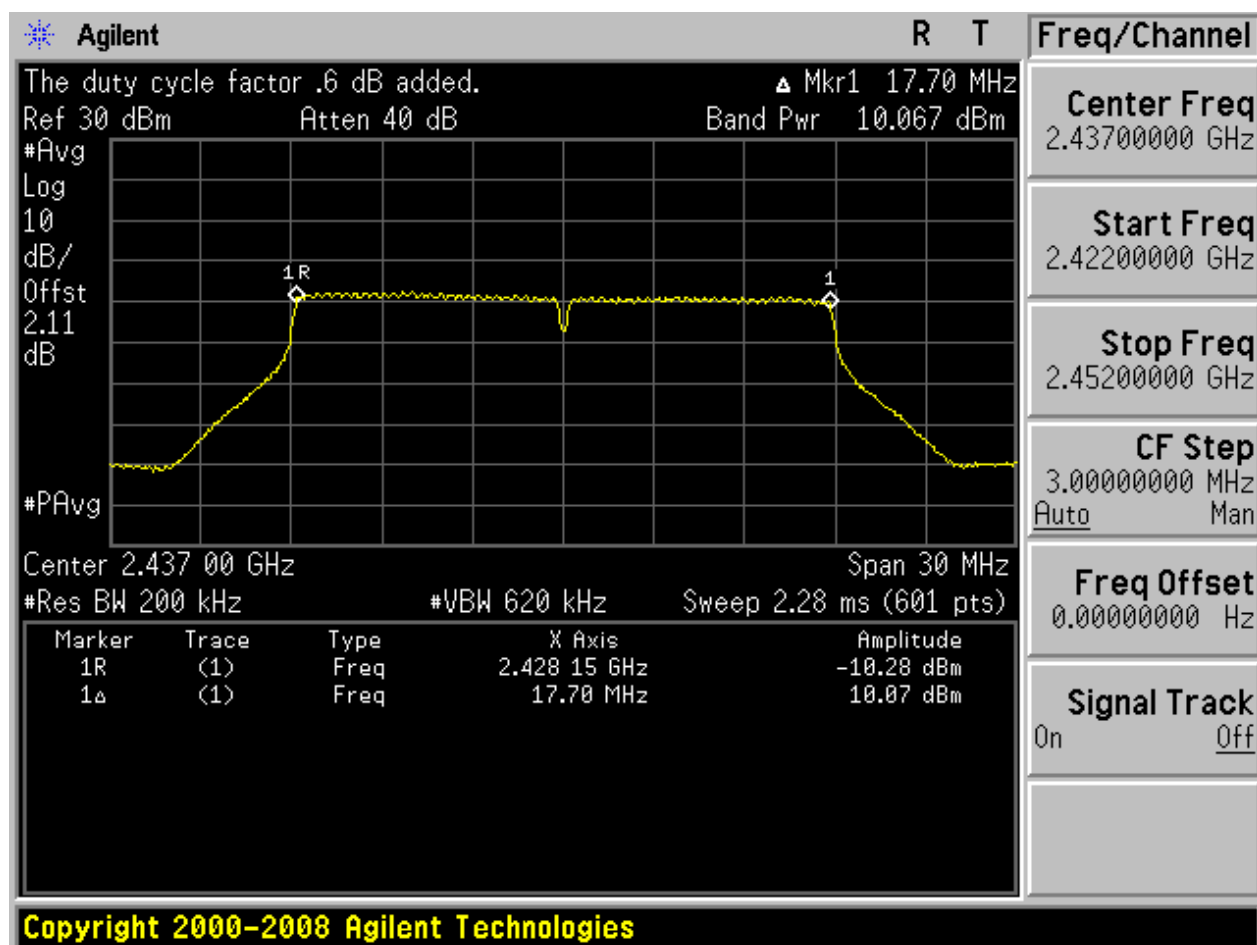


2.7 11N20_L@Ant 1



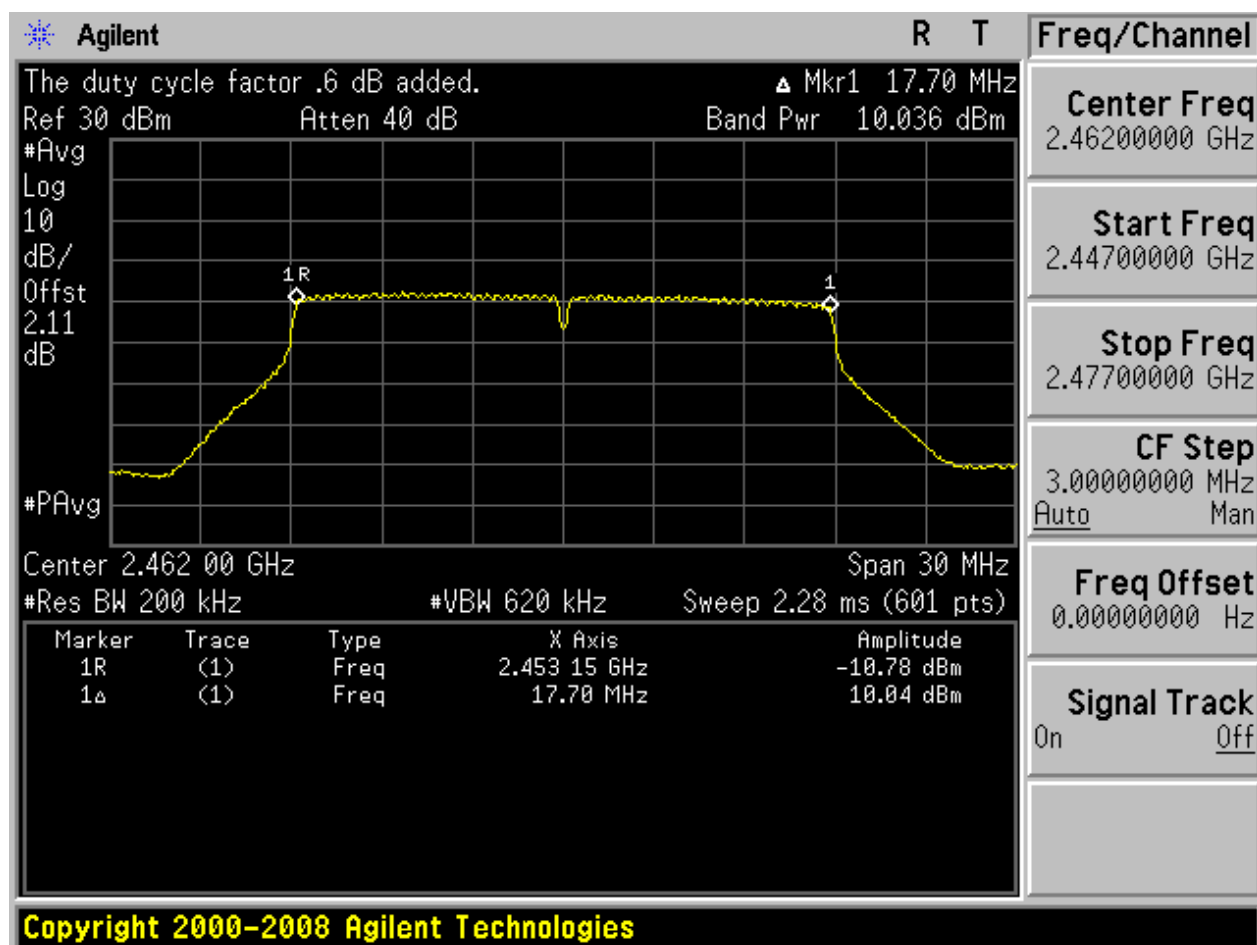


2.8 11N20_M@Ant 1



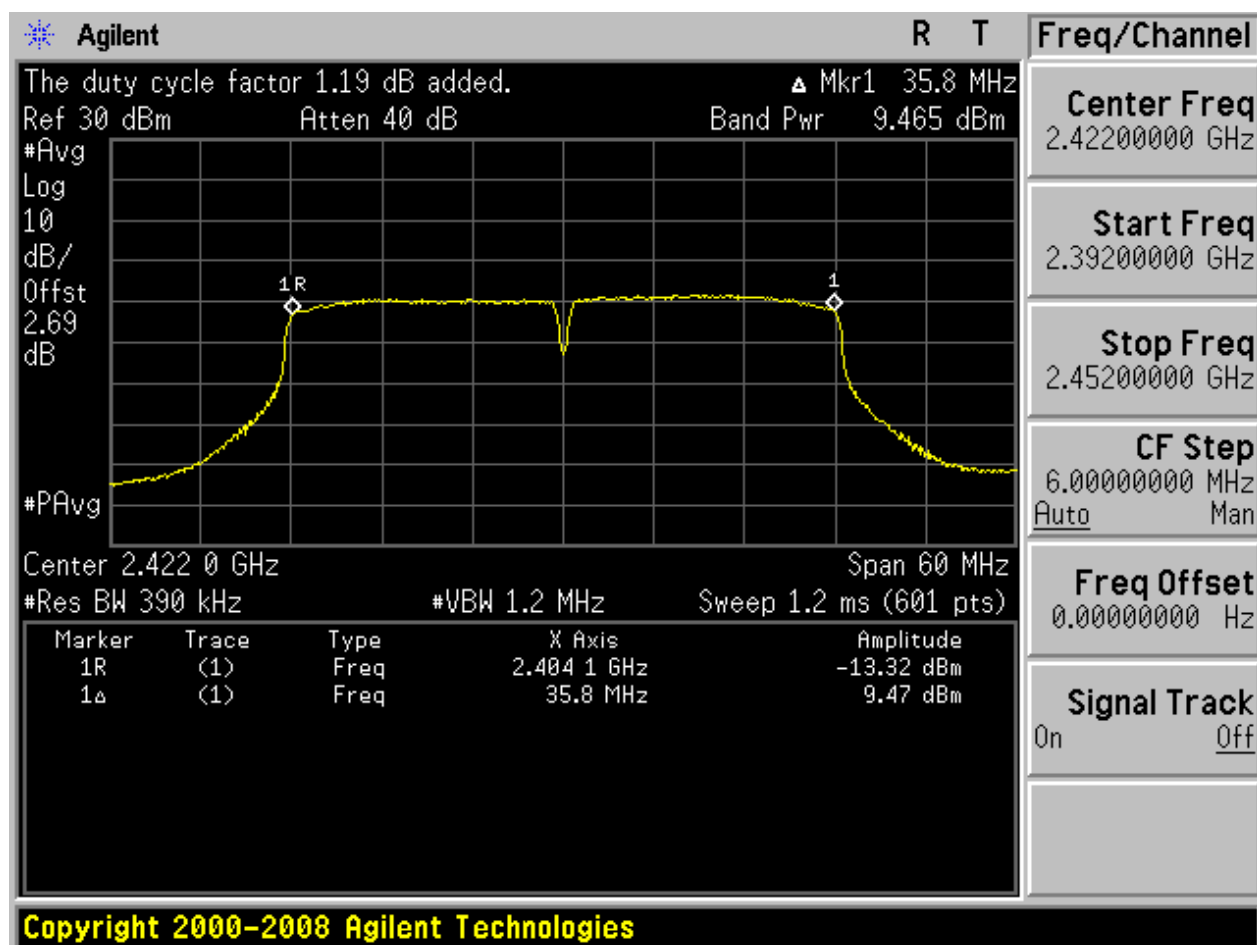


2.9 11N20_H@Ant 1



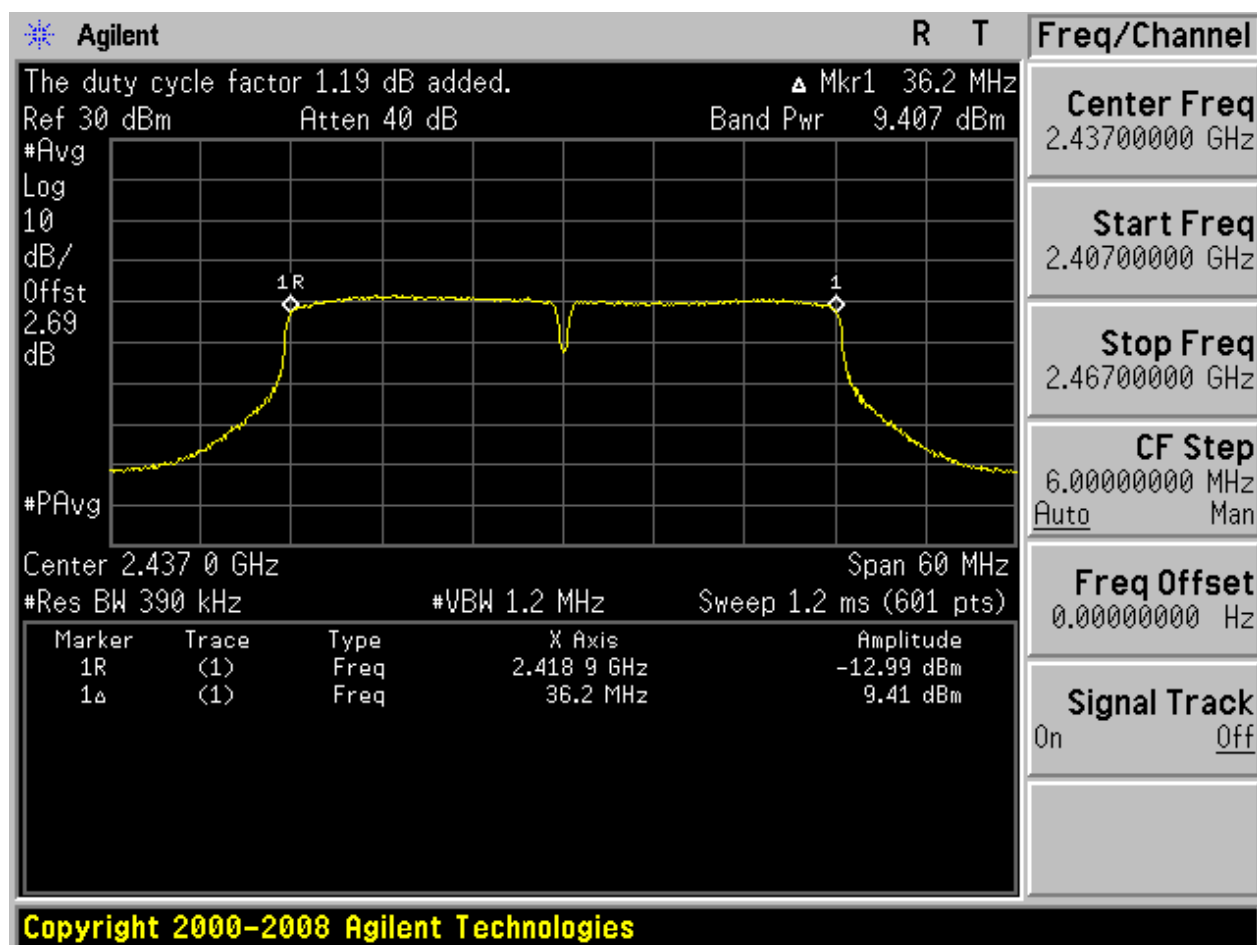


2.10 11N40_L@Ant 1



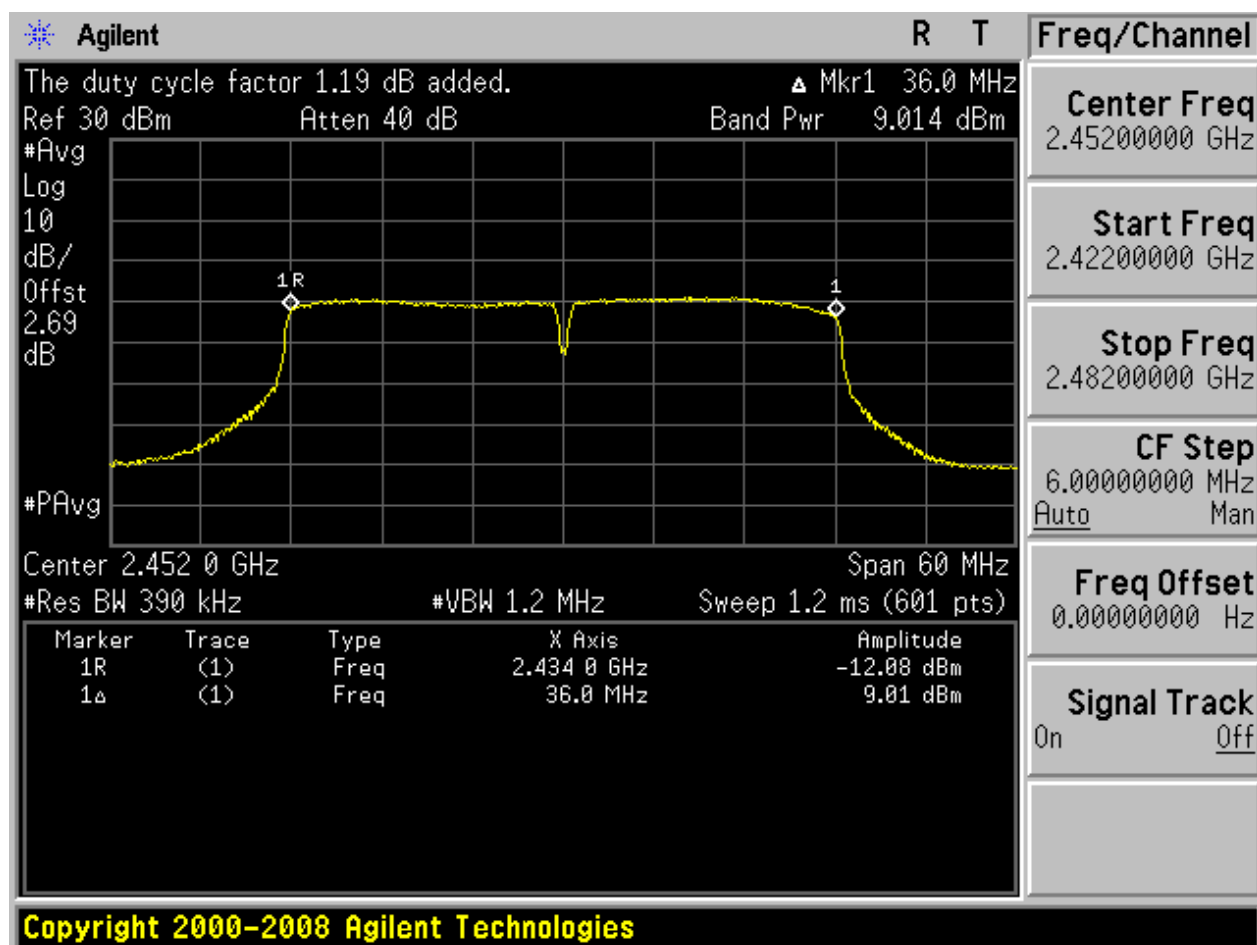


2.11 11N40_M@Ant 1





2.12 11N40_H@Ant 1



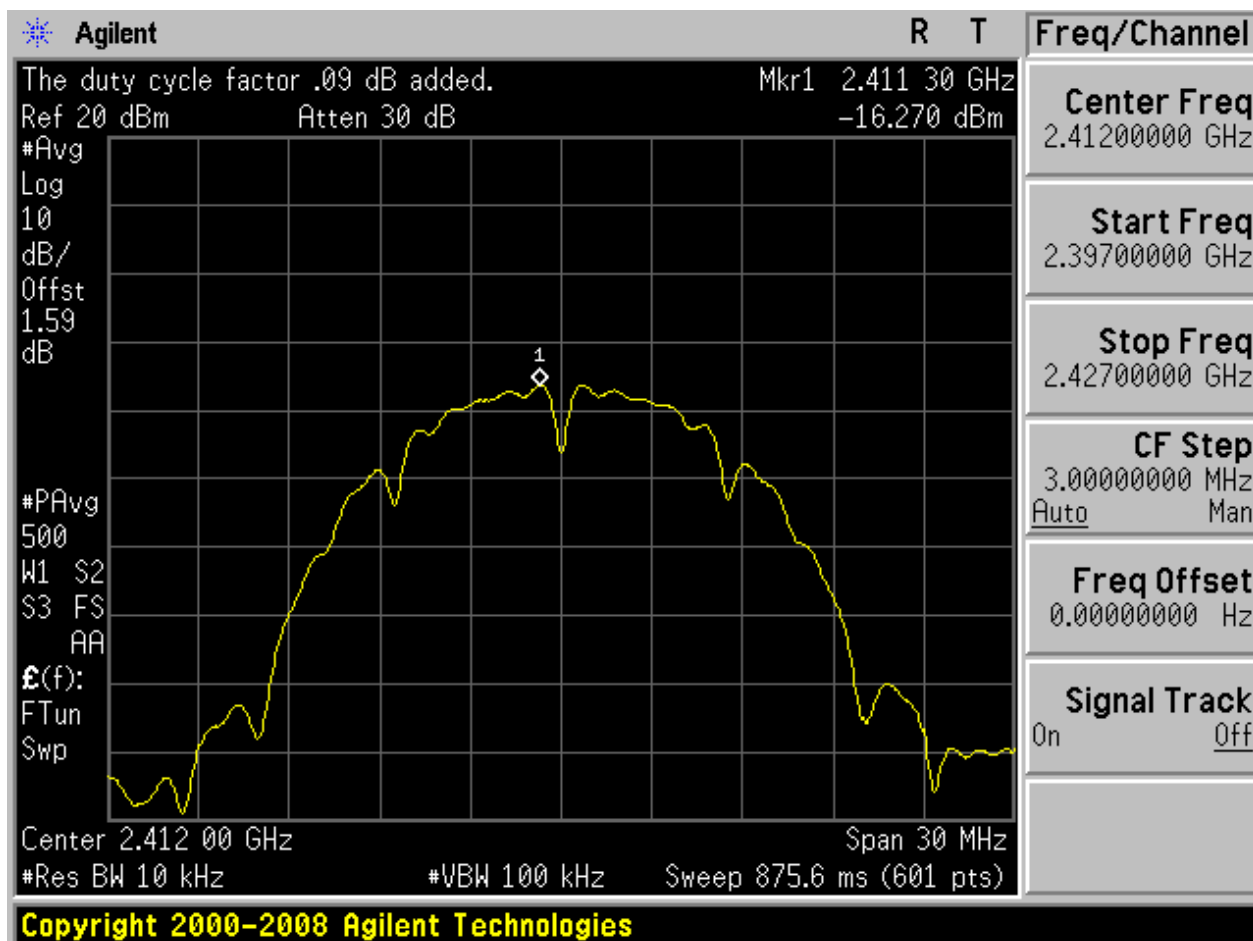
Appendix E: Maximum Power Spectral Density Level

Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Ant	PD[MHz]	Verdict
11B	L	2412	Ant 1	-16.27	pass
11B	M	2437	Ant 1	-16.17	pass
11B	H	2462	Ant 1	-15.96	pass
11G	L	2412	Ant 1	-18.51	pass
11G	M	2437	Ant 1	-18.53	pass
11G	H	2462	Ant 1	-18.41	pass
11N20	L	2412	Ant 1	-19.61	pass
11N20	M	2437	Ant 1	-19.56	pass
11N20	H	2462	Ant 1	-19.71	pass
11N40	L	2422	Ant 1	-23.12	pass
11N40	M	2437	Ant 1	-23.12	pass
11N40	H	2452	Ant 1	-23.59	pass

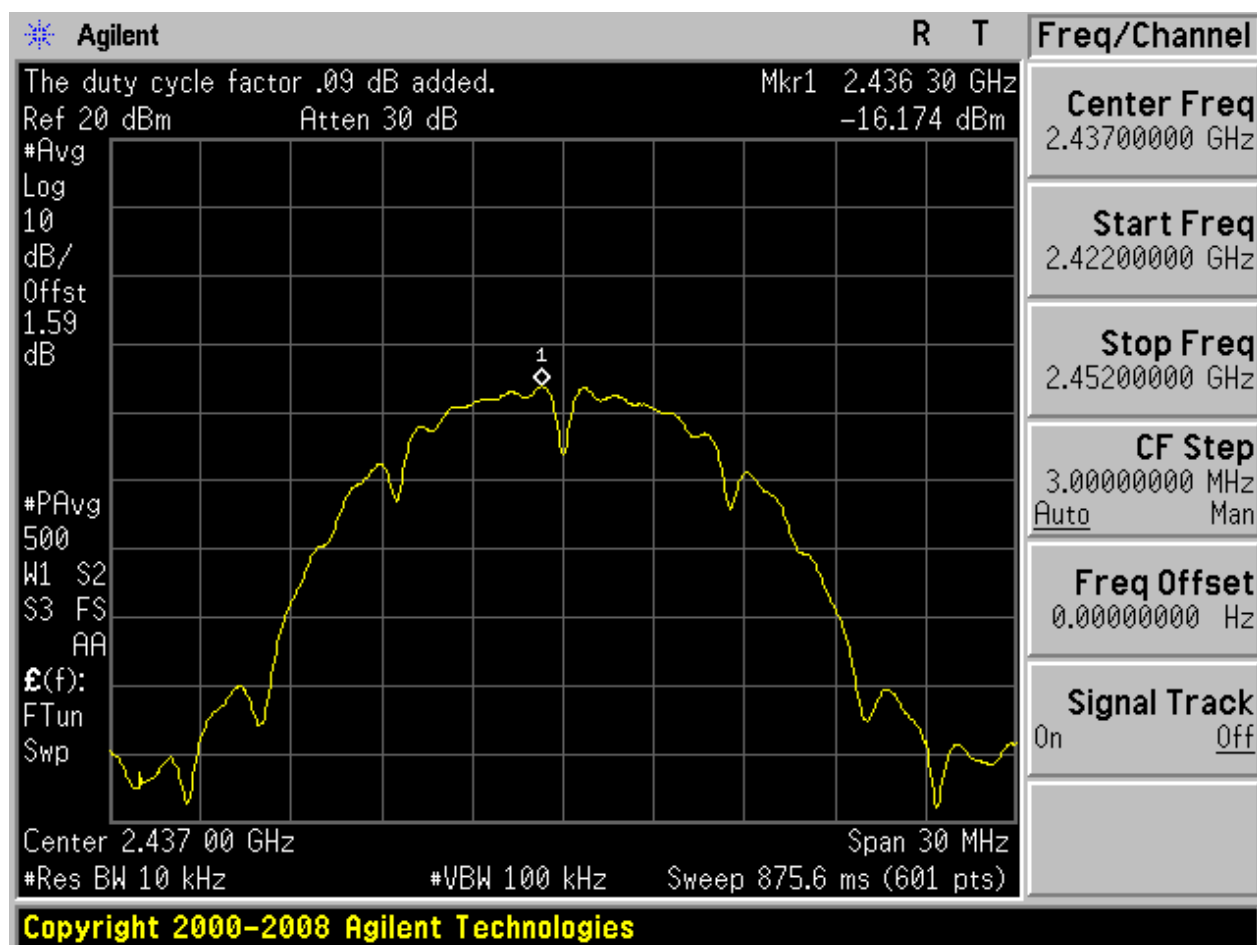
Part II - Test Plots

2.1 11B L@Ant 1

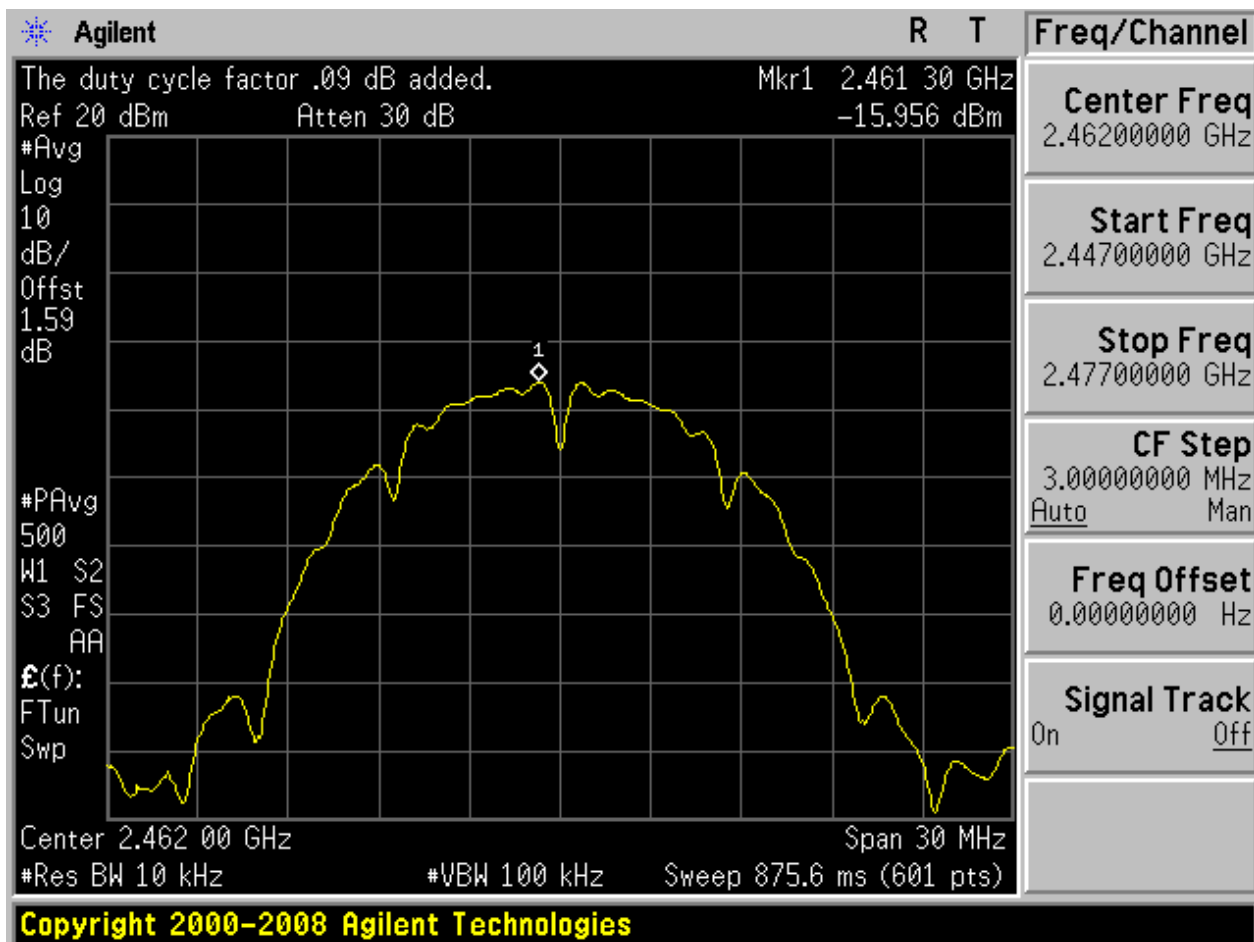




2.2 11B_M@Ant 1

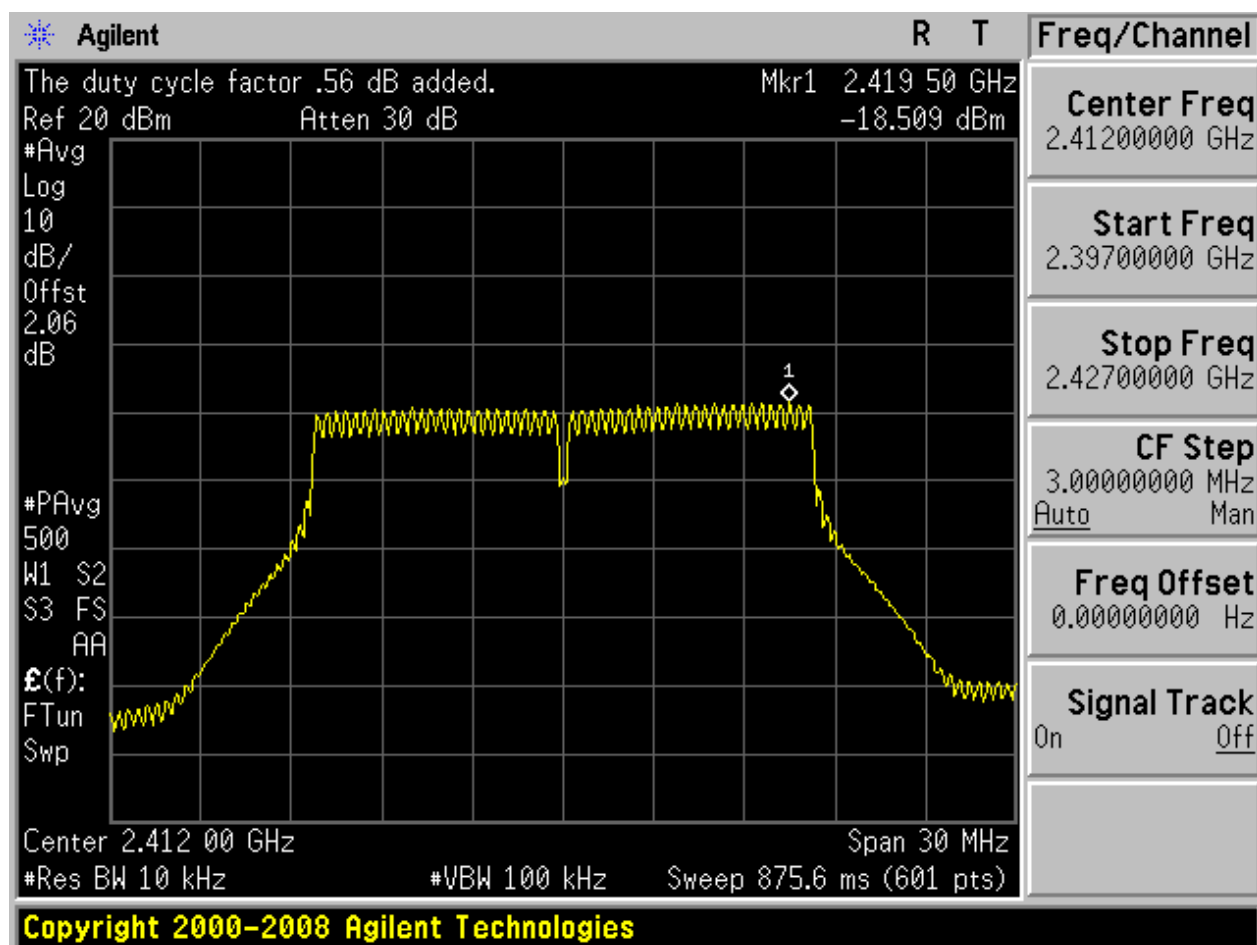


2.3 11B_H@Ant 1



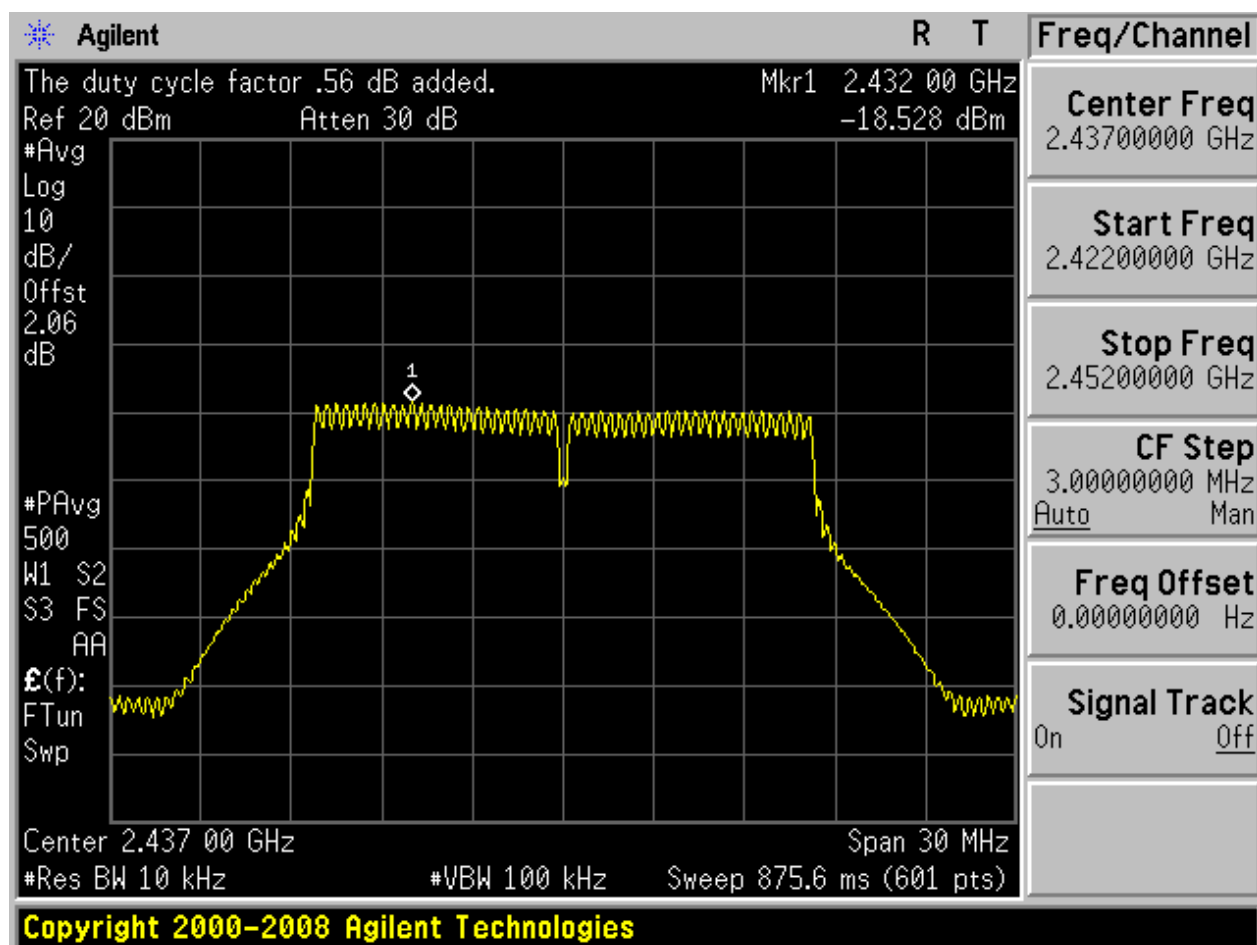


2.4 11G_L@Ant 1



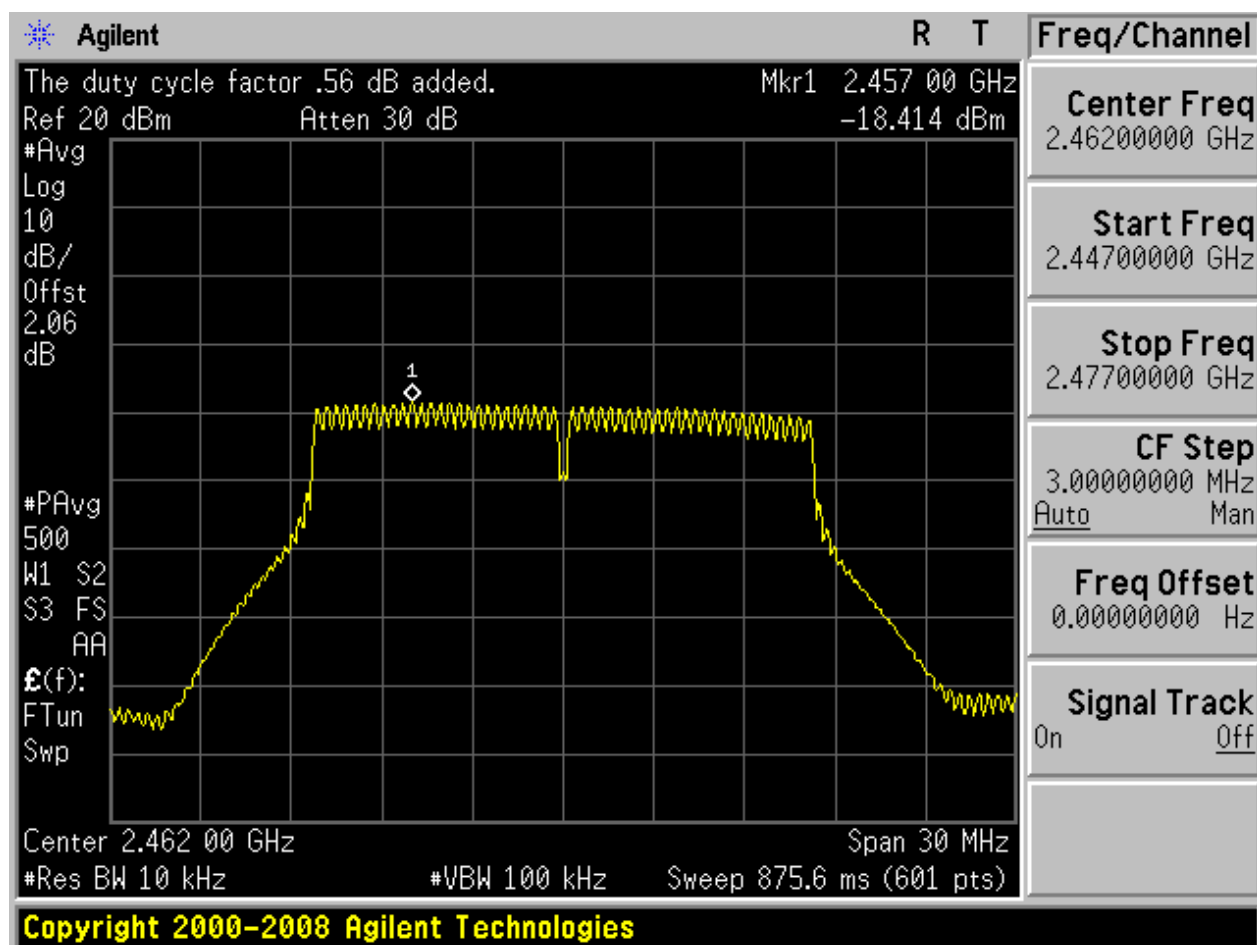


2.5 11G_M@Ant 1



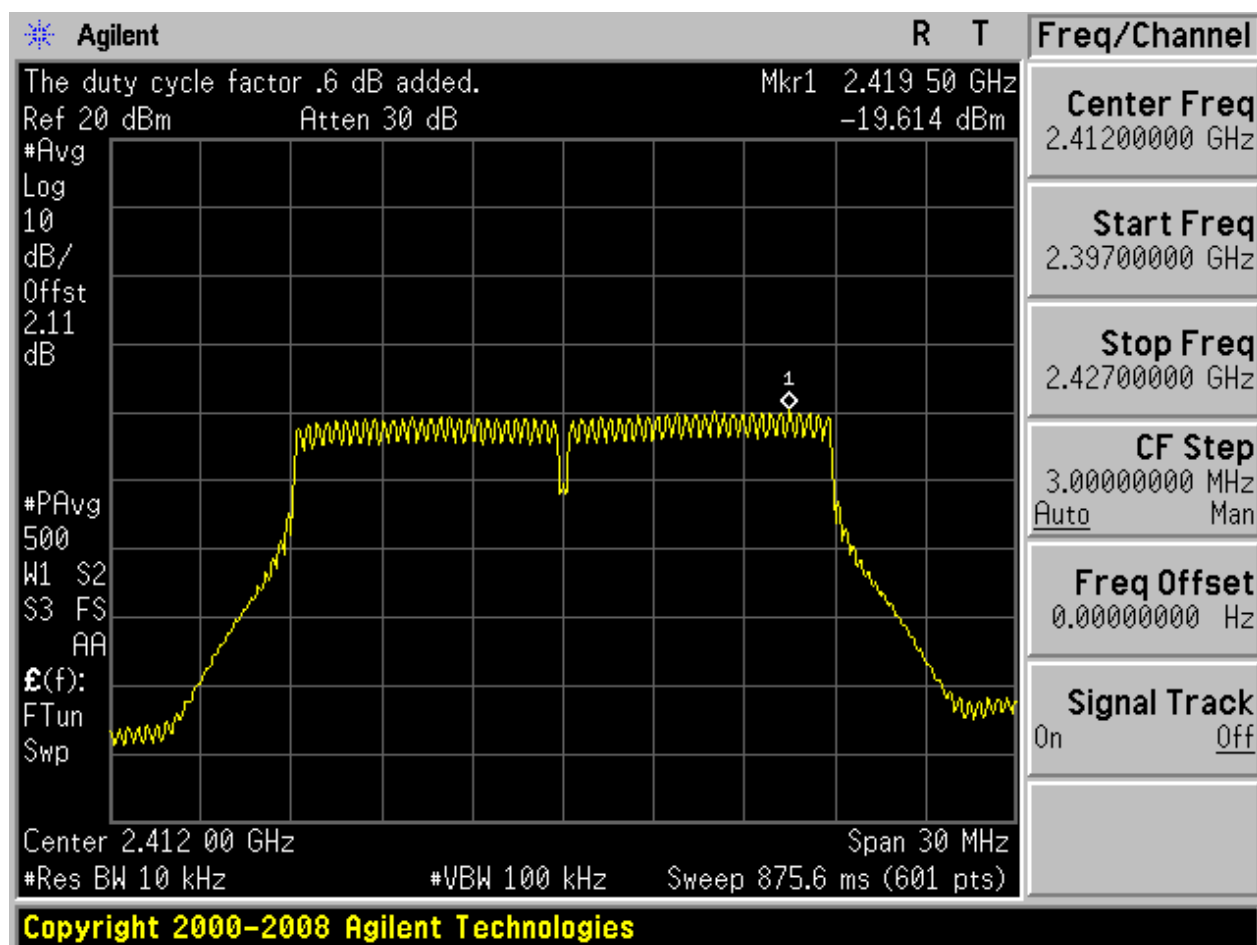


2.6 11G_H@Ant 1





2.7 11N20_L@Ant 1





The screenshot shows an Agilent Spectrum Analyzer interface. The main display is a grid with a yellow signal trace. A peak is marked with a '1' and a diamond symbol. The peak is labeled 'Mkr1 2.432 00 GHz' and '-19.563 dBm'. The signal is a narrowband carrier wave. The background is black with a white grid. The top bar is grey with the Agilent logo and 'Agilent' text. The bottom bar is yellow with 'Copyright 2000-2008 Agilent Technologies' text.

Agilent

The duty cycle factor .6 dB added.

Ref 20 dBm Atten 30 dB

Mkr1 2.432 00 GHz
-19.563 dBm

#Avg
Log
10
dB/
Offst
2.11
dB

#PAvg
500
W1 S2
S3 FS
AA
E(f):
FTun
Swp

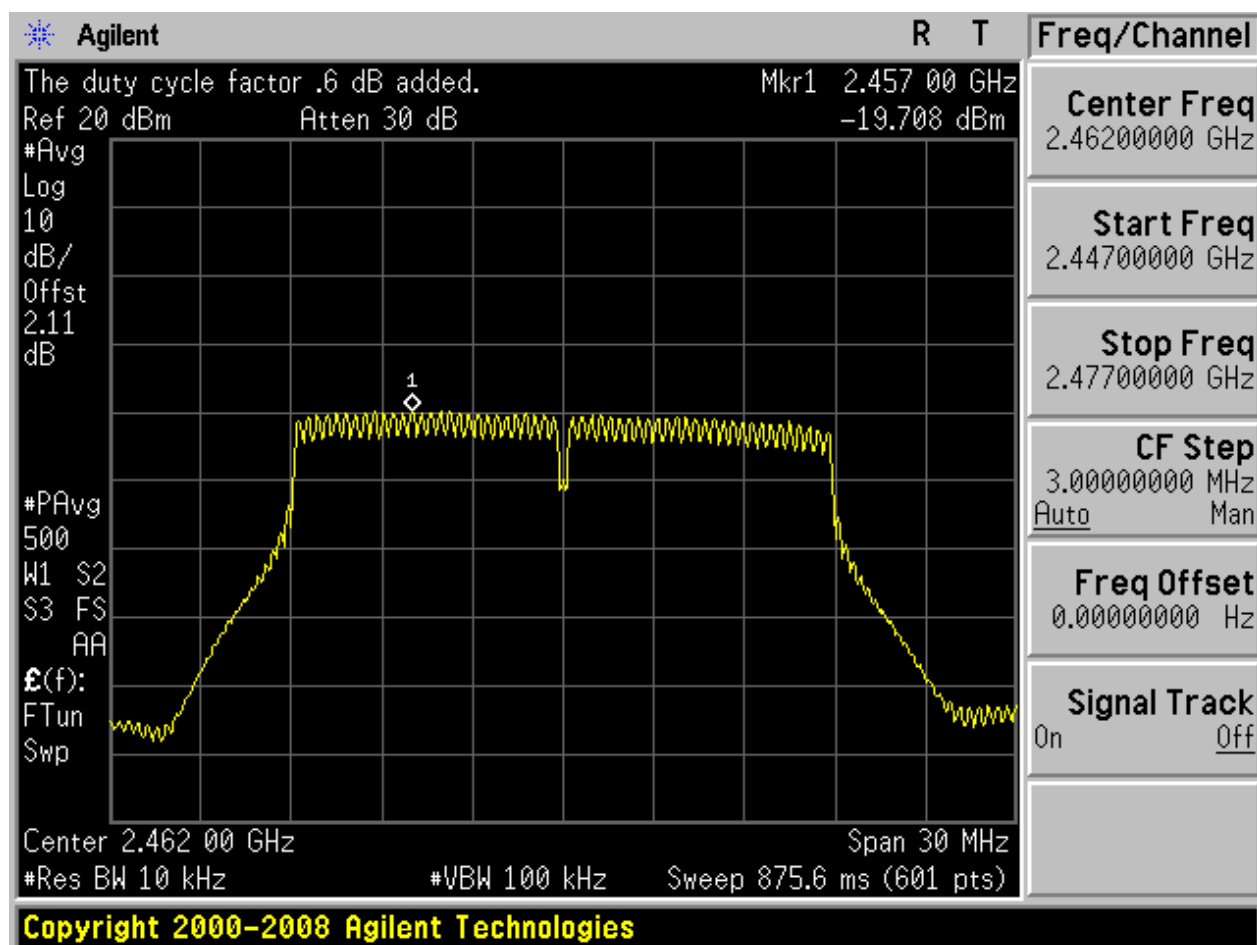
Center 2.437 00 GHz Span 30 MHz
#Res BW 10 kHz #VBW 100 kHz Sweep 875.6 ms (601 pts)

Copyright 2000-2008 Agilent Technologies

Freq/Channel
Center Freq
2.43700000 GHz
Start Freq
2.42200000 GHz
Stop Freq
2.45200000 GHz
CF Step
3.00000000 MHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off

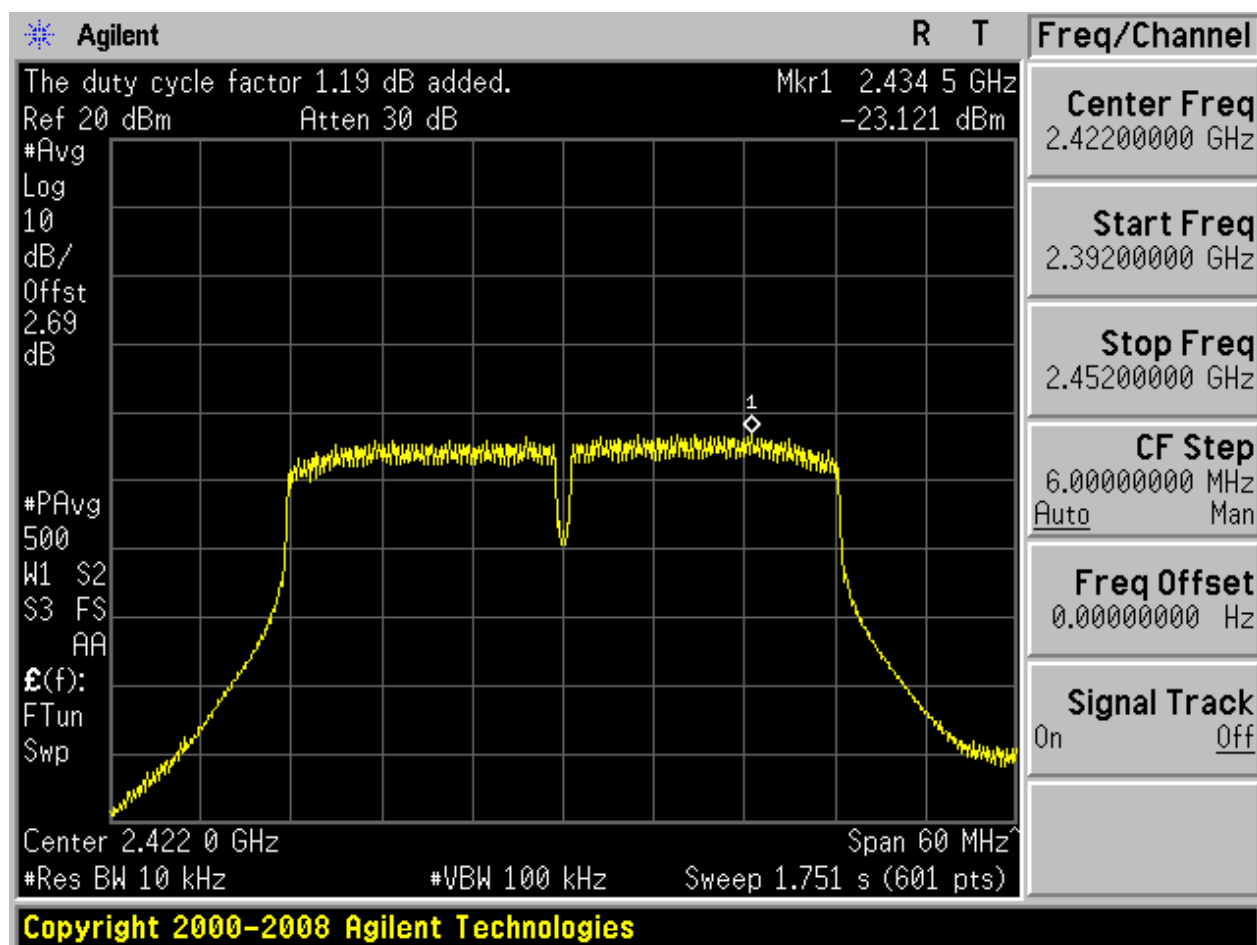


2.9 11N20_H@Ant 1



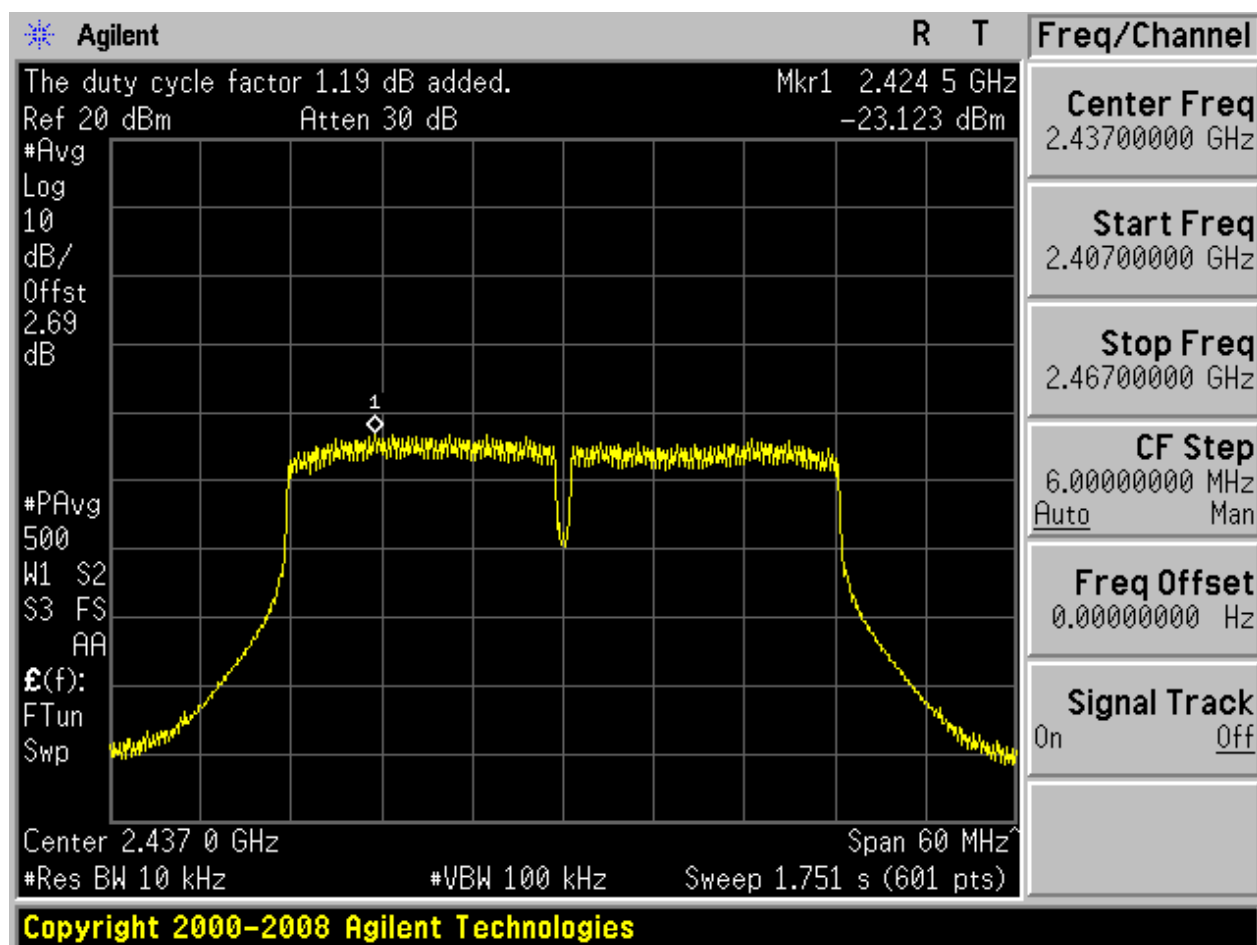


2.10 11N40_L@Ant 1



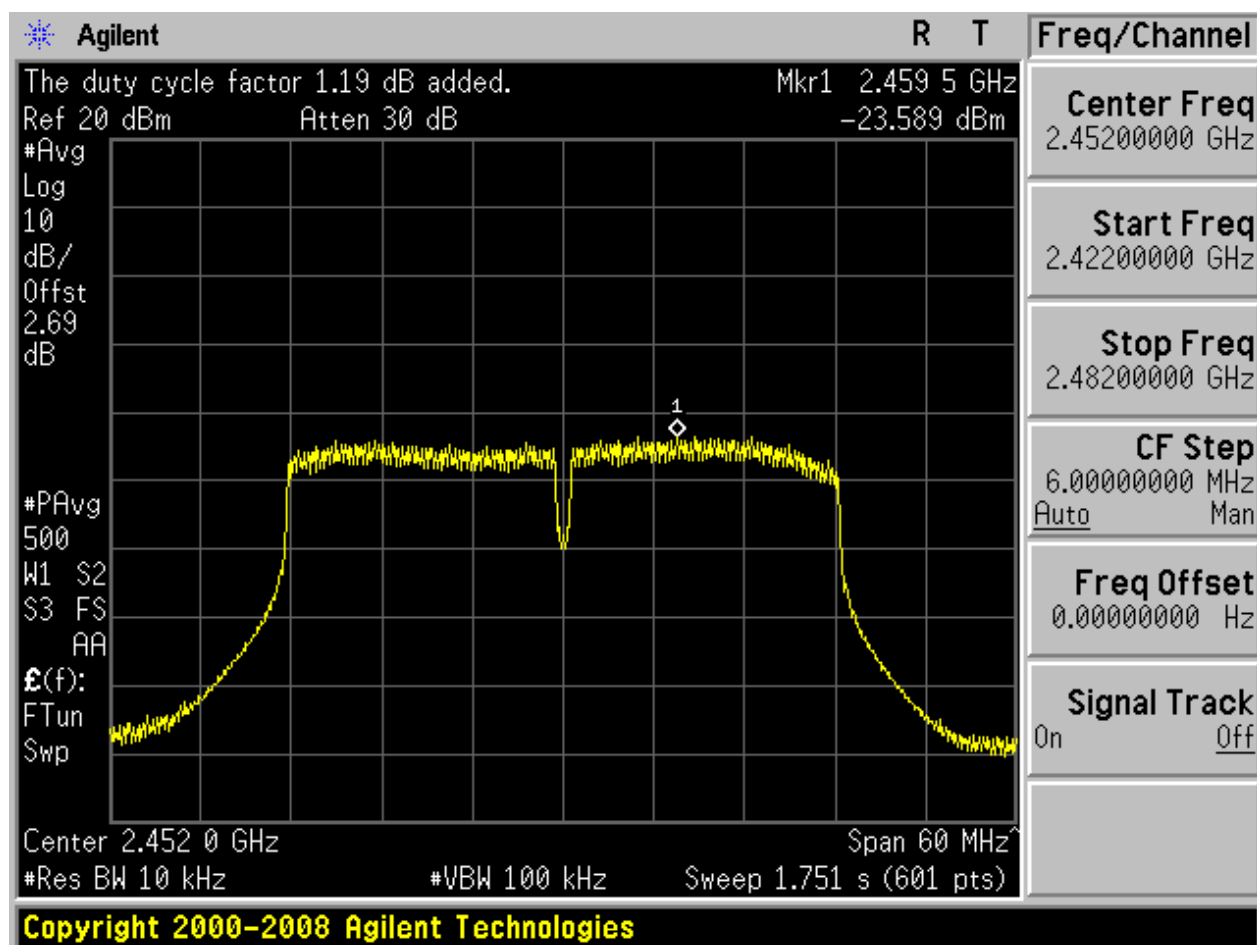


2.11 11N40_M@Ant 1





2.12 11N40_H@Ant 1



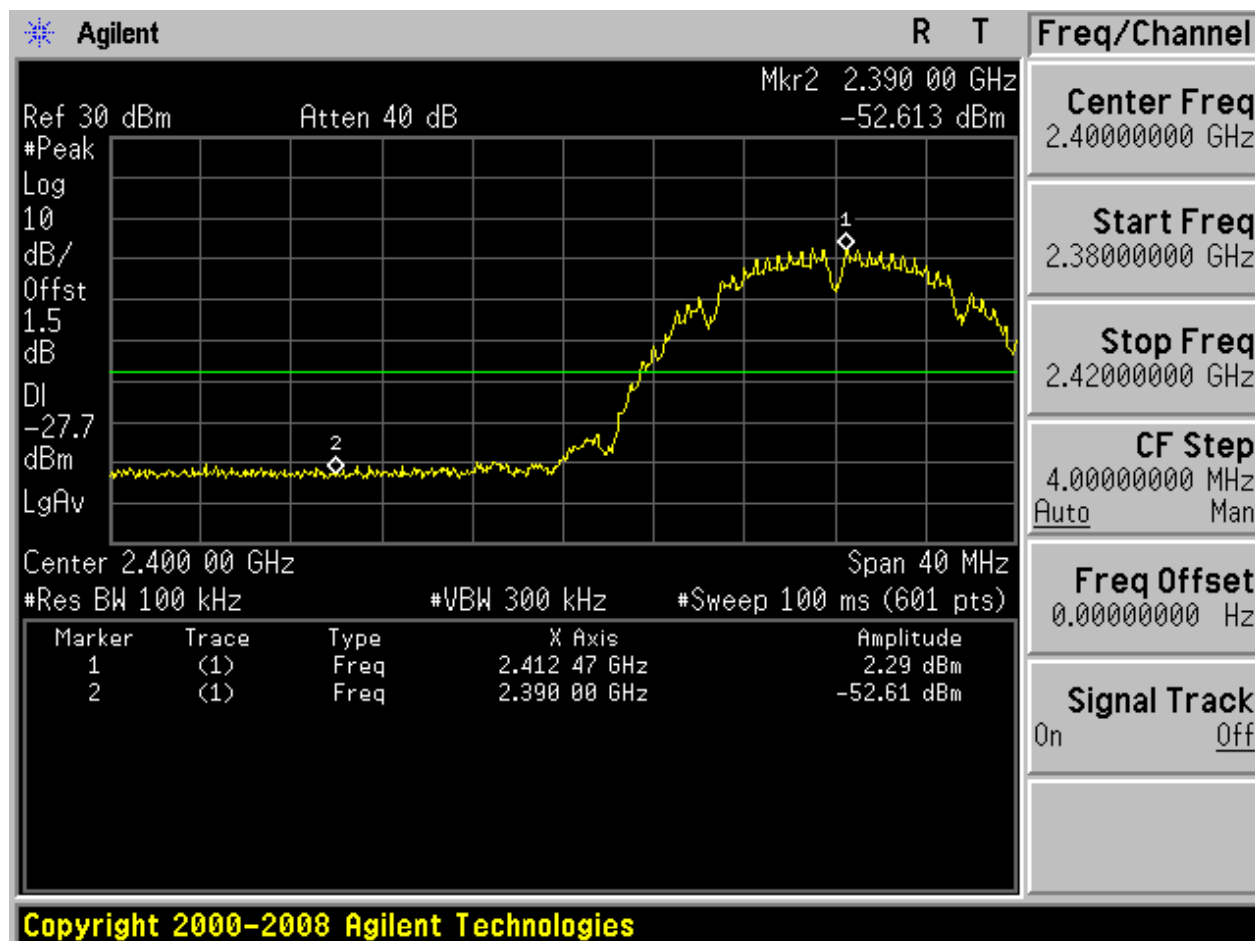
Appendix F: Band Edges Compliance

Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Ant	Carrier Power[dBm]	Max.Spurious Level[dBm]	Verdict
11B	L	2412	Ant 1	2.29	-52.61	pass
11B	H	2462	Ant 1	2.68	-50.75	pass
11G	L	2412	Ant 1	.12	-53.09	pass
11G	H	2462	Ant 1	.22	-47.66	pass
11N20	L	2412	Ant 1	-.92	-52.16	pass
11N20	H	2462	Ant 1	-.87	-48.05	pass
11N40	L	2422	Ant 1	-4.84	-53.62	pass
11N40	H	2452	Ant 1	-4.64	-47.21	pass

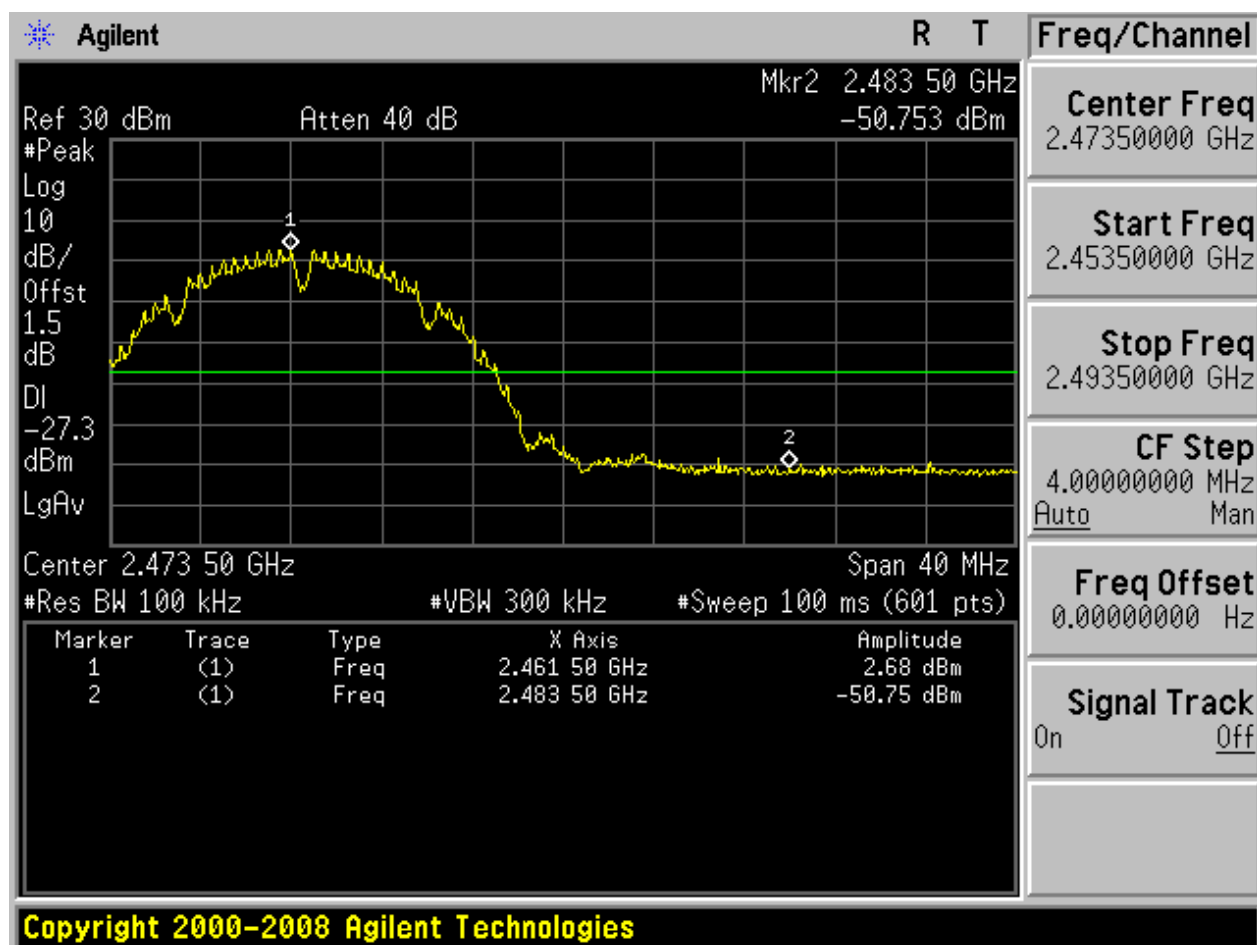
Part II - Test Plots

2.1 11B_L@Ant 1

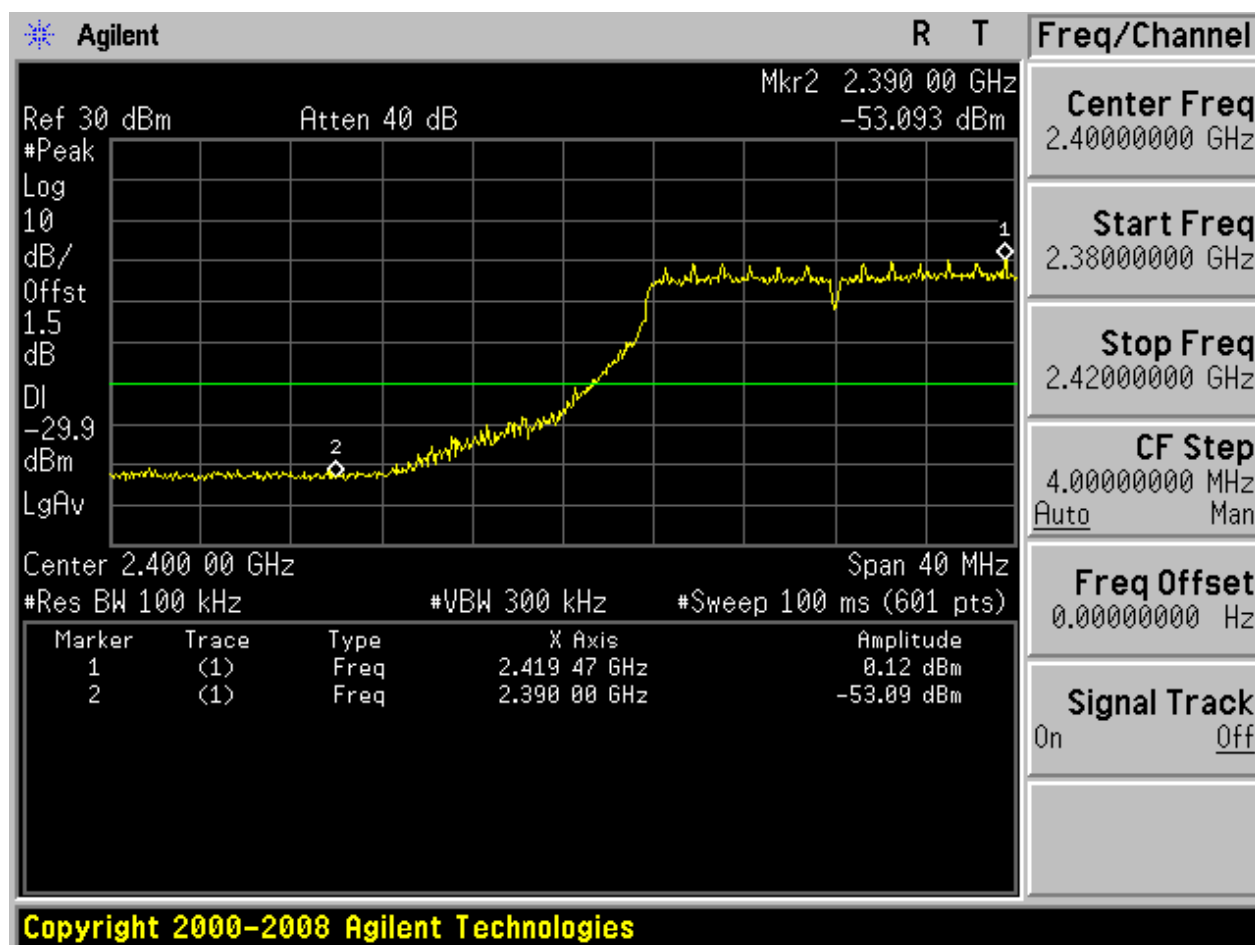




2.2 11B_H@Ant 1

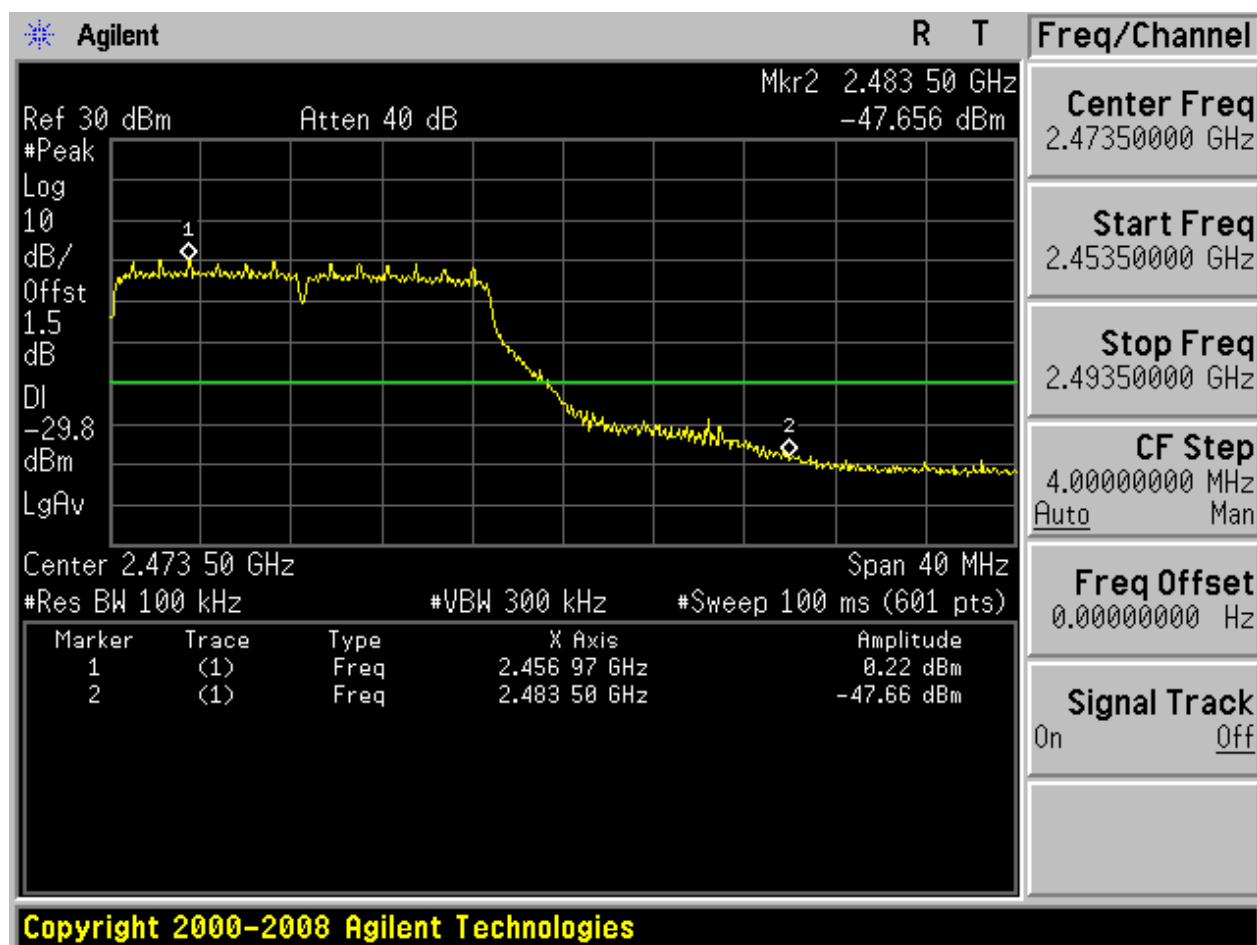


2.3 11G_L@Ant 1



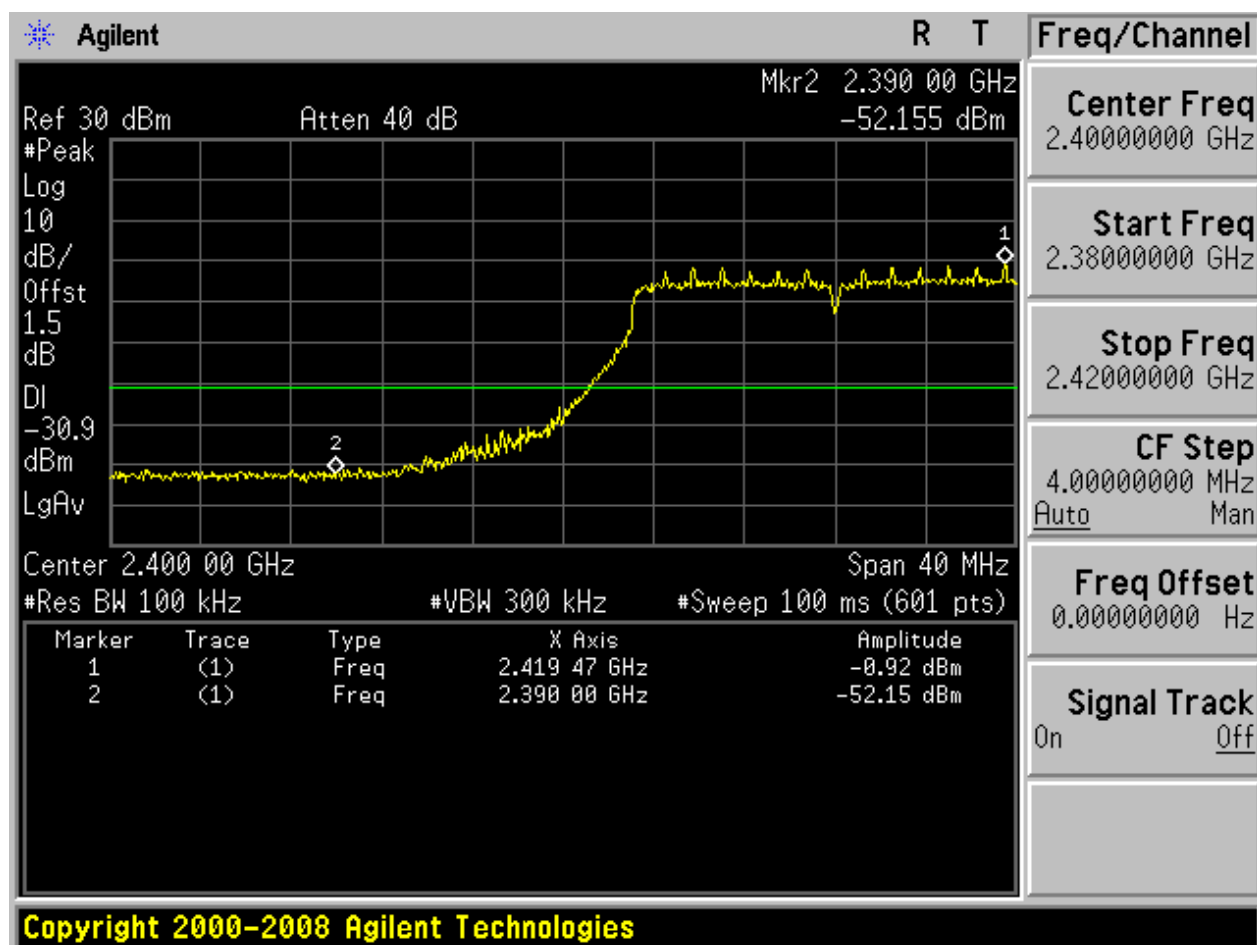


2.4 11G_H@Ant 1

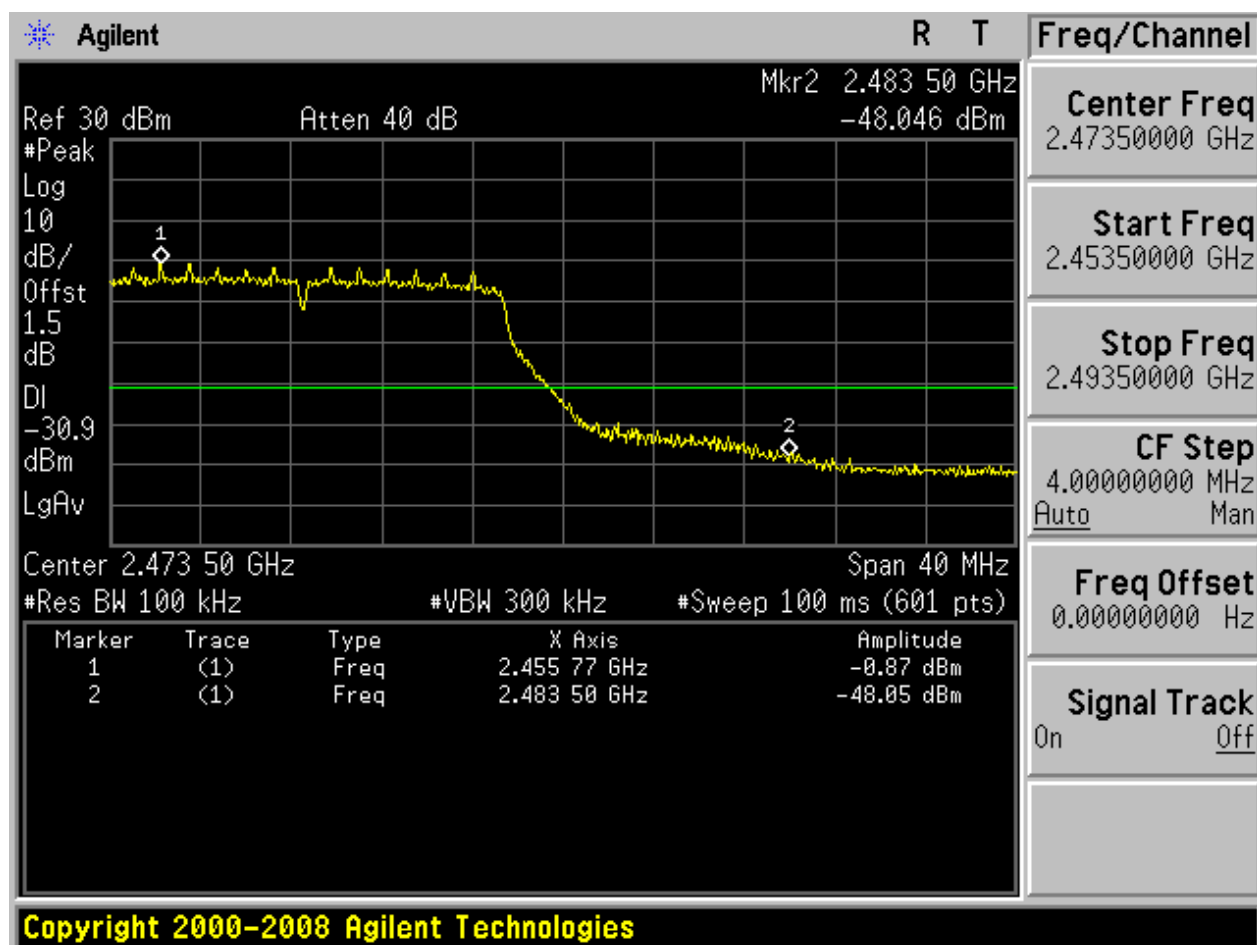




2.5 11N20_L@Ant 1

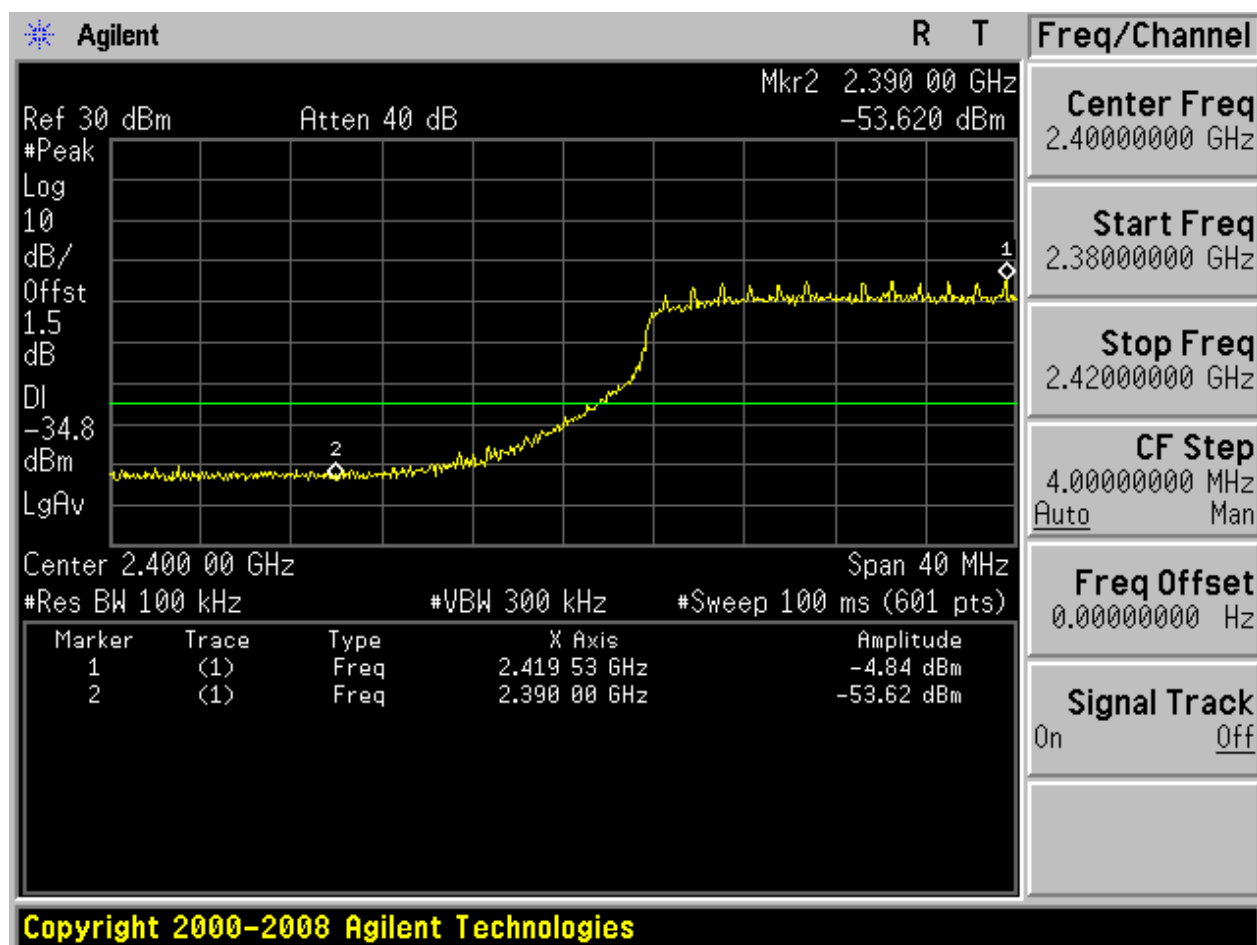


2.6 11N20_H@Ant 1



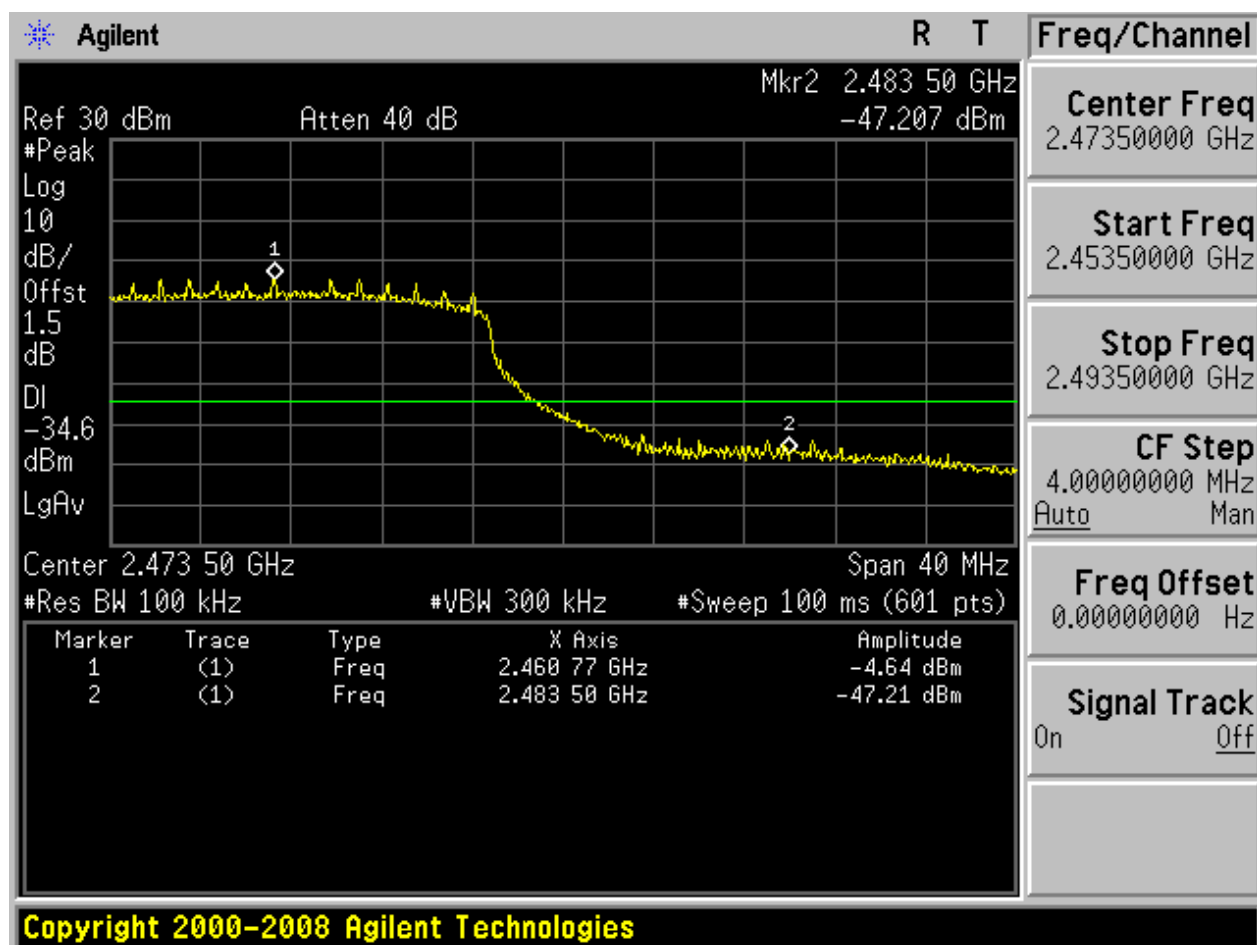


2.7 11N40_L@Ant 1





2.8 11N40_H@Ant 1



Appendix G: 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

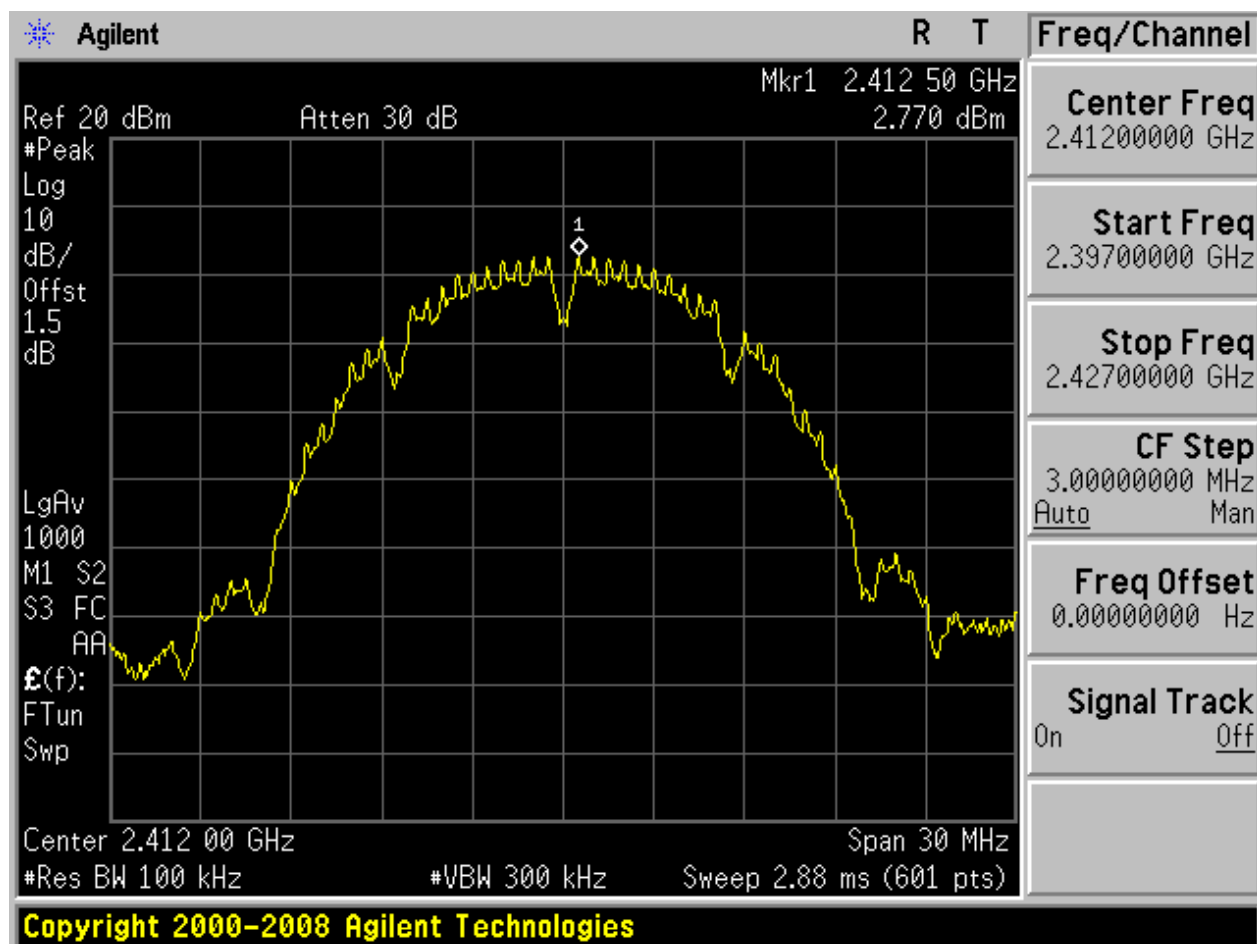
Test Mode	Test Channel	Frequency[MHz]	Ant	Pref[dBm]	Puw[dBm]	Verdict
11B	L	2412	Ant 1	2.77	<limit	pass
11B	M	2437	Ant 1	2.75	<limit	pass
11B	H	2462	Ant 1	3.17	<limit	pass
11G	L	2412	Ant 1	.34	<limit	pass
11G	M	2437	Ant 1	.29	<limit	pass
11G	H	2462	Ant 1	.34	<limit	pass
11N20	L	2412	Ant 1	-.72	<limit	pass
11N20	M	2437	Ant 1	-.20	<limit	pass
11N20	H	2462	Ant 1	-.75	<limit	pass
11N40	L	2422	Ant 1	-3.79	<limit	pass
11N40	M	2437	Ant 1	-3.79	<limit	pass
11N40	H	2452	Ant 1	-4.28	<limit	pass



Part II - Test Plots

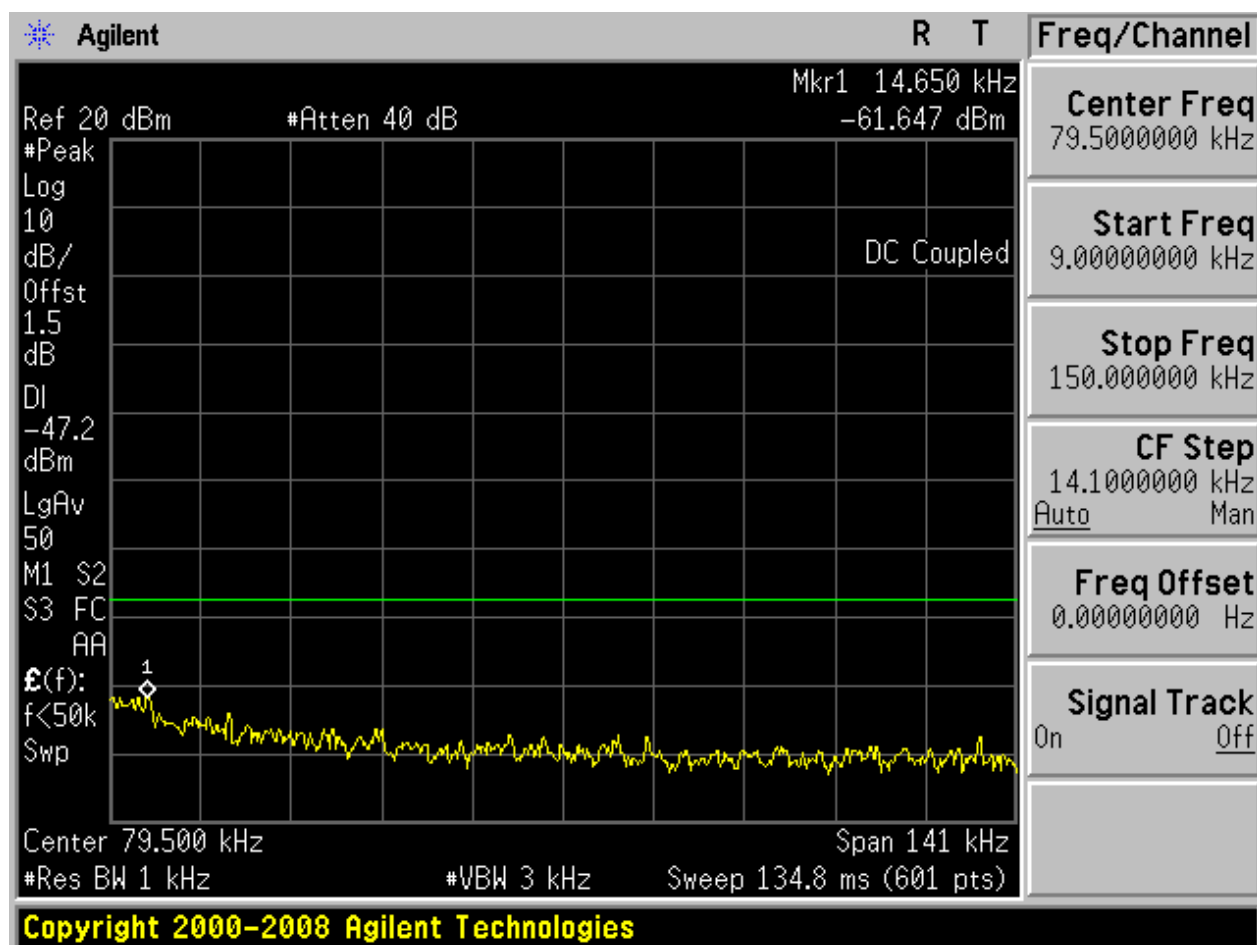
2.1 11B_L@Ant 1

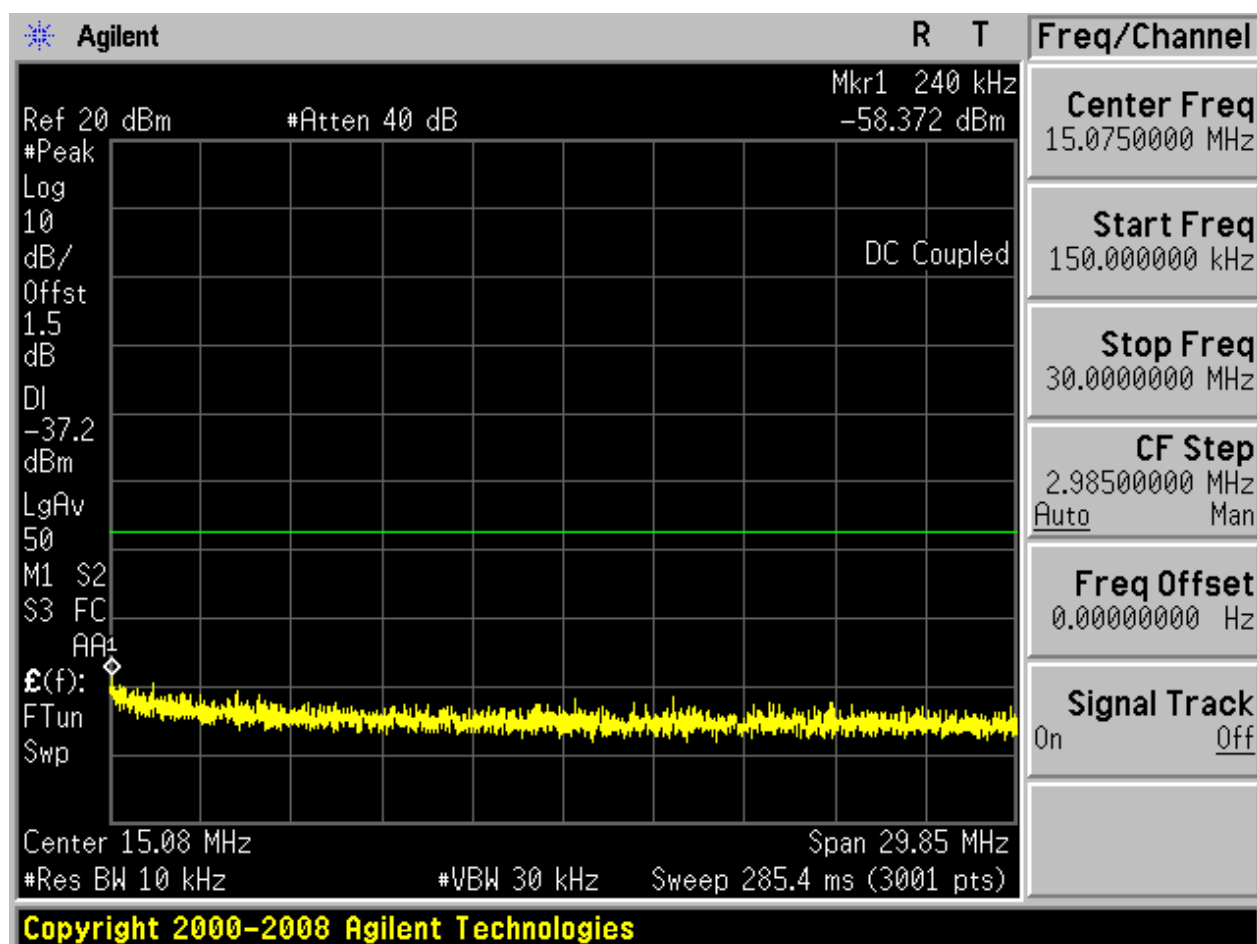
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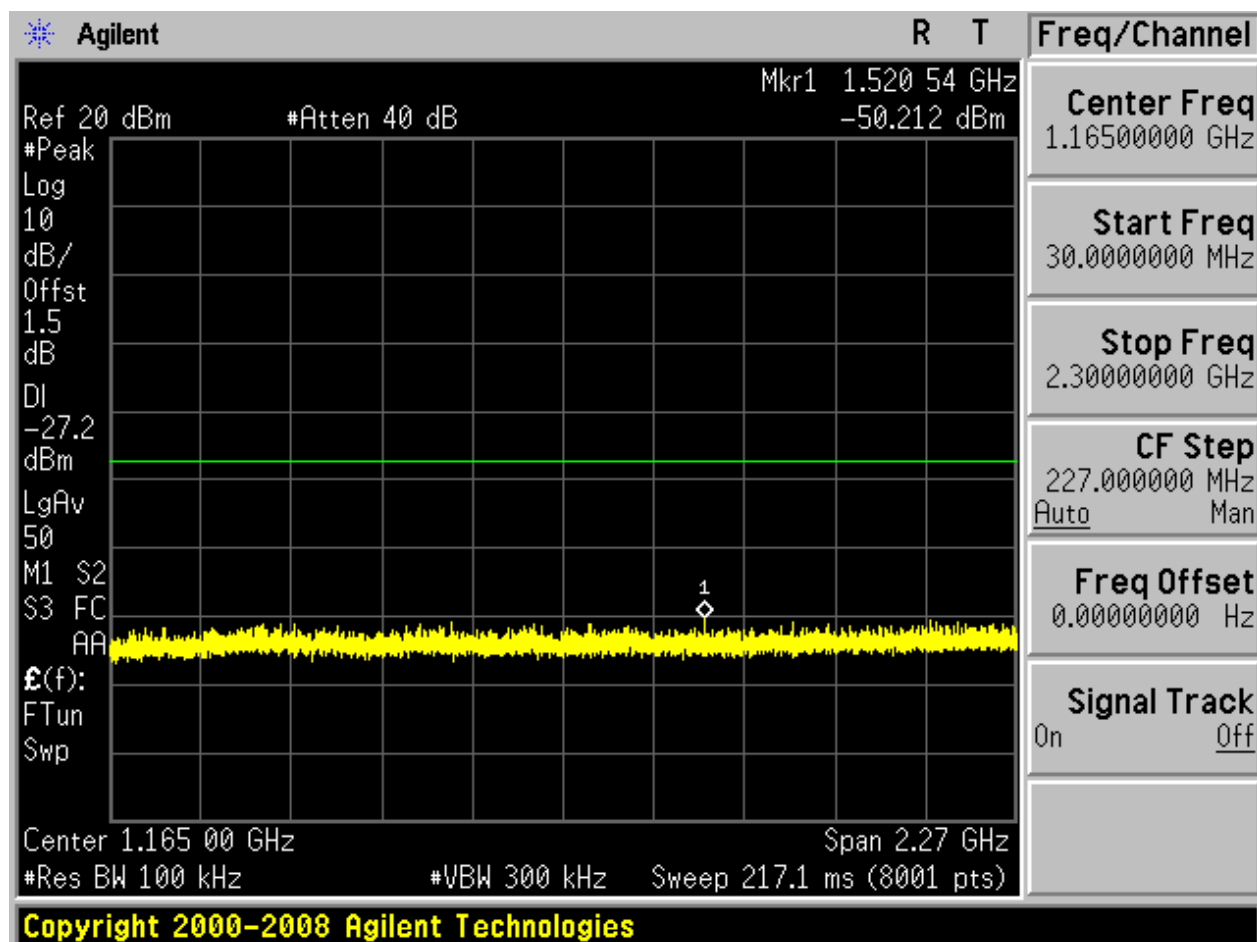


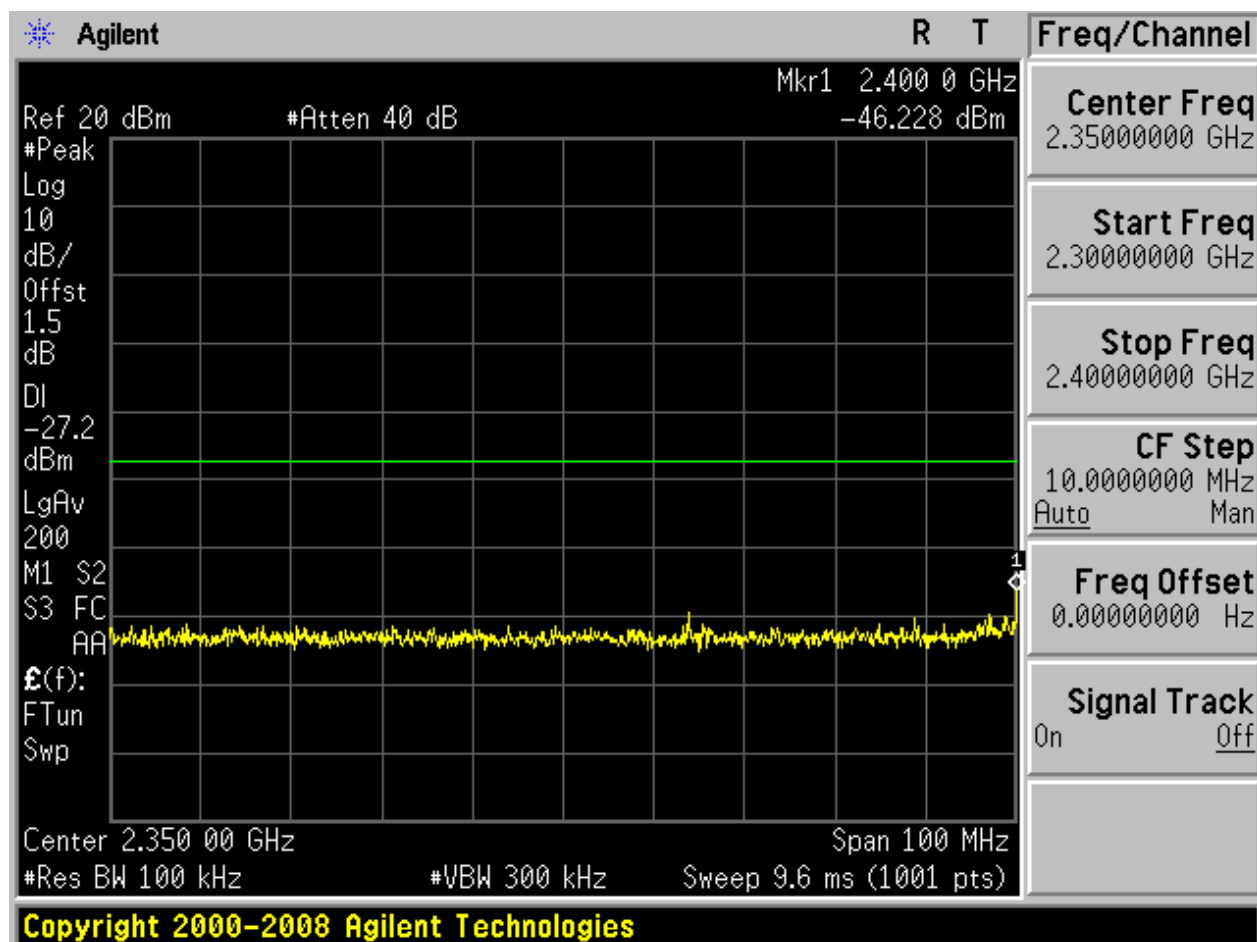


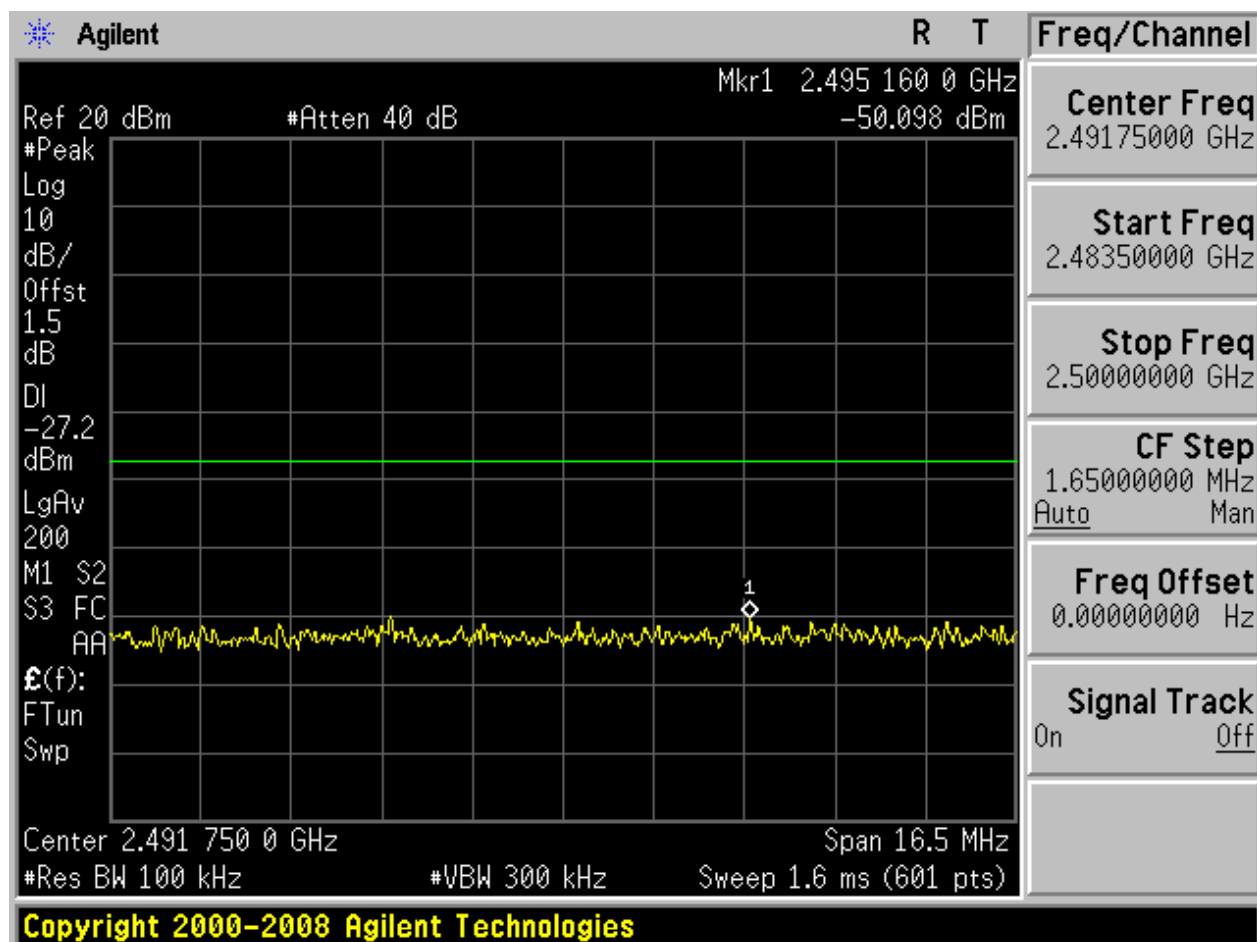
Puw:

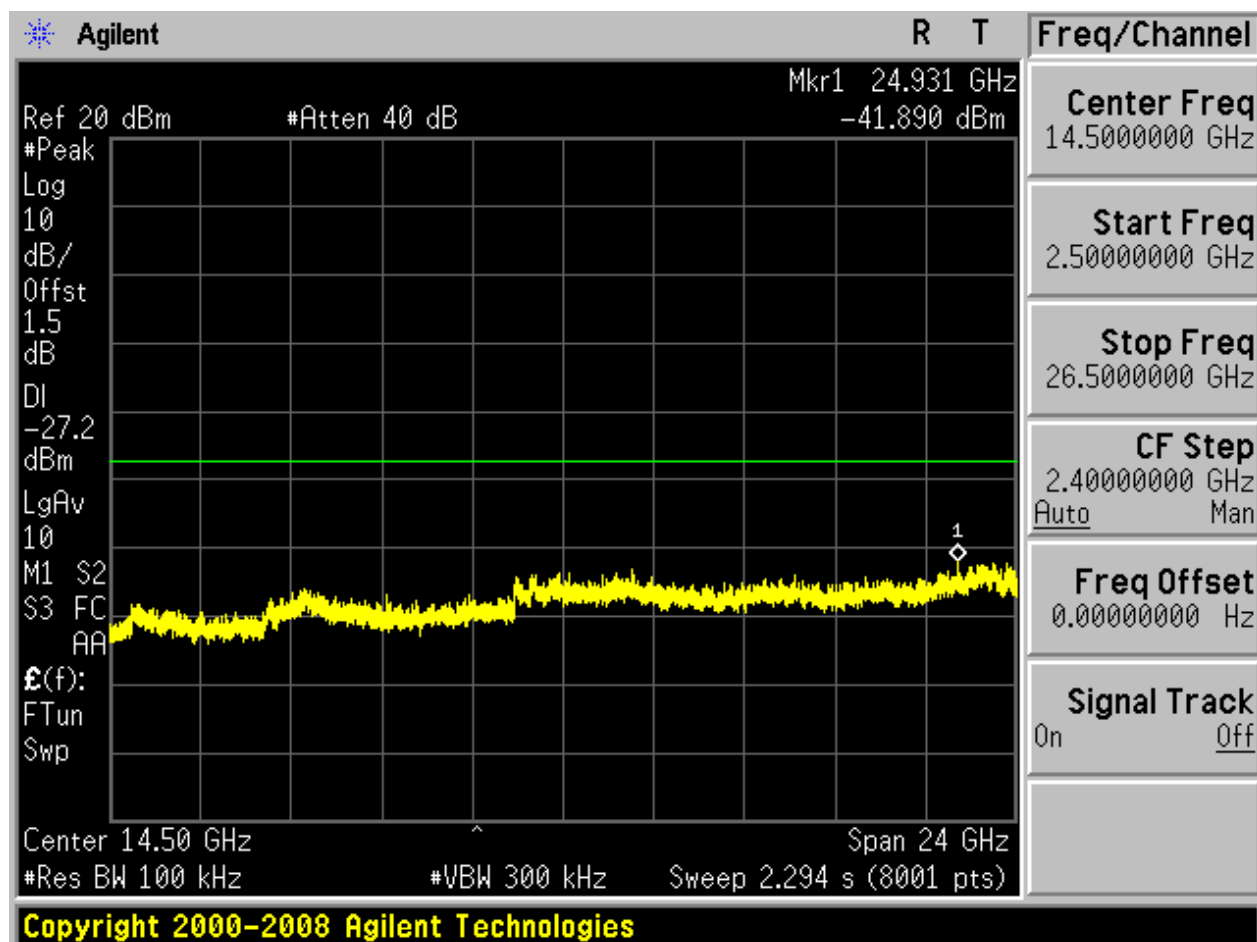








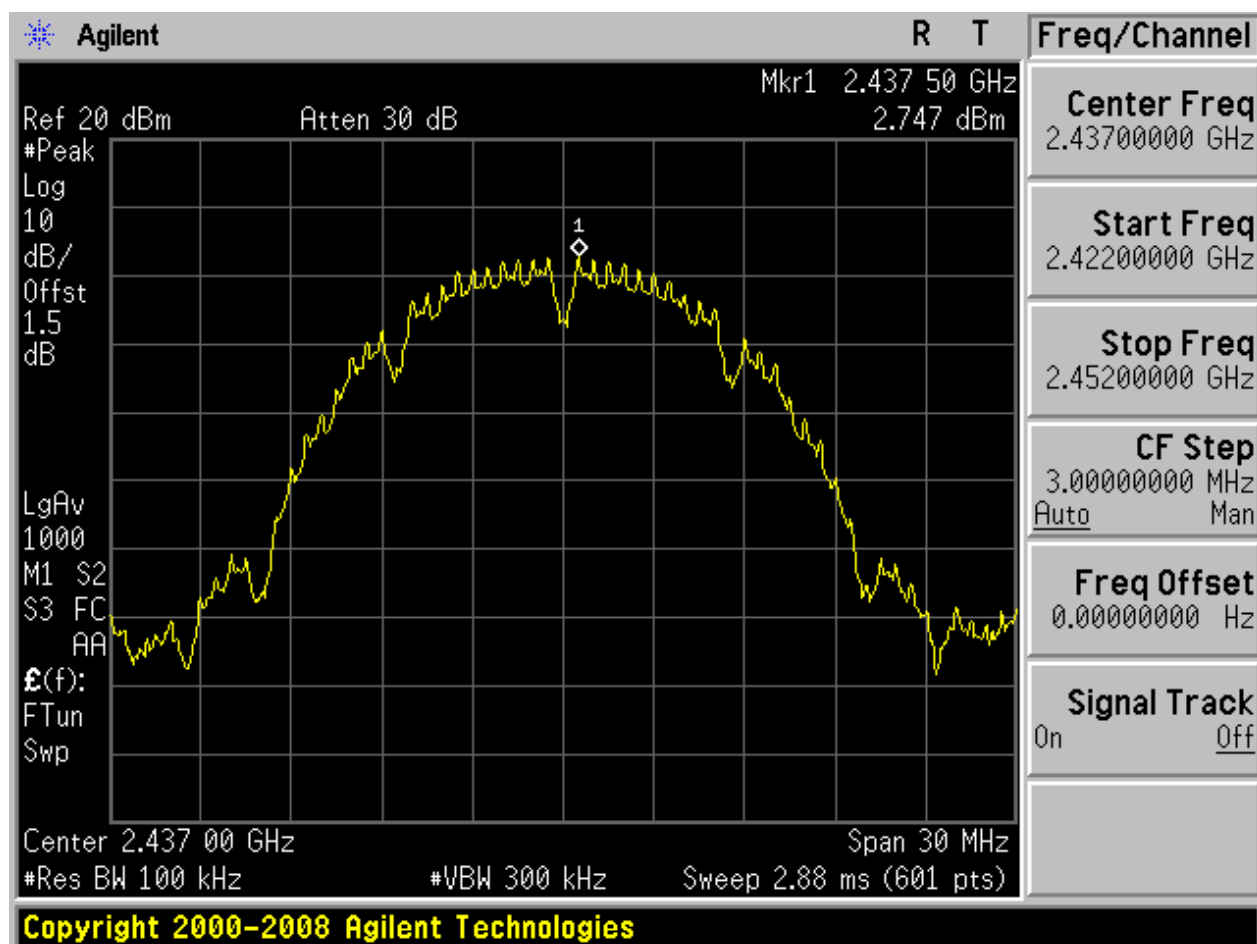






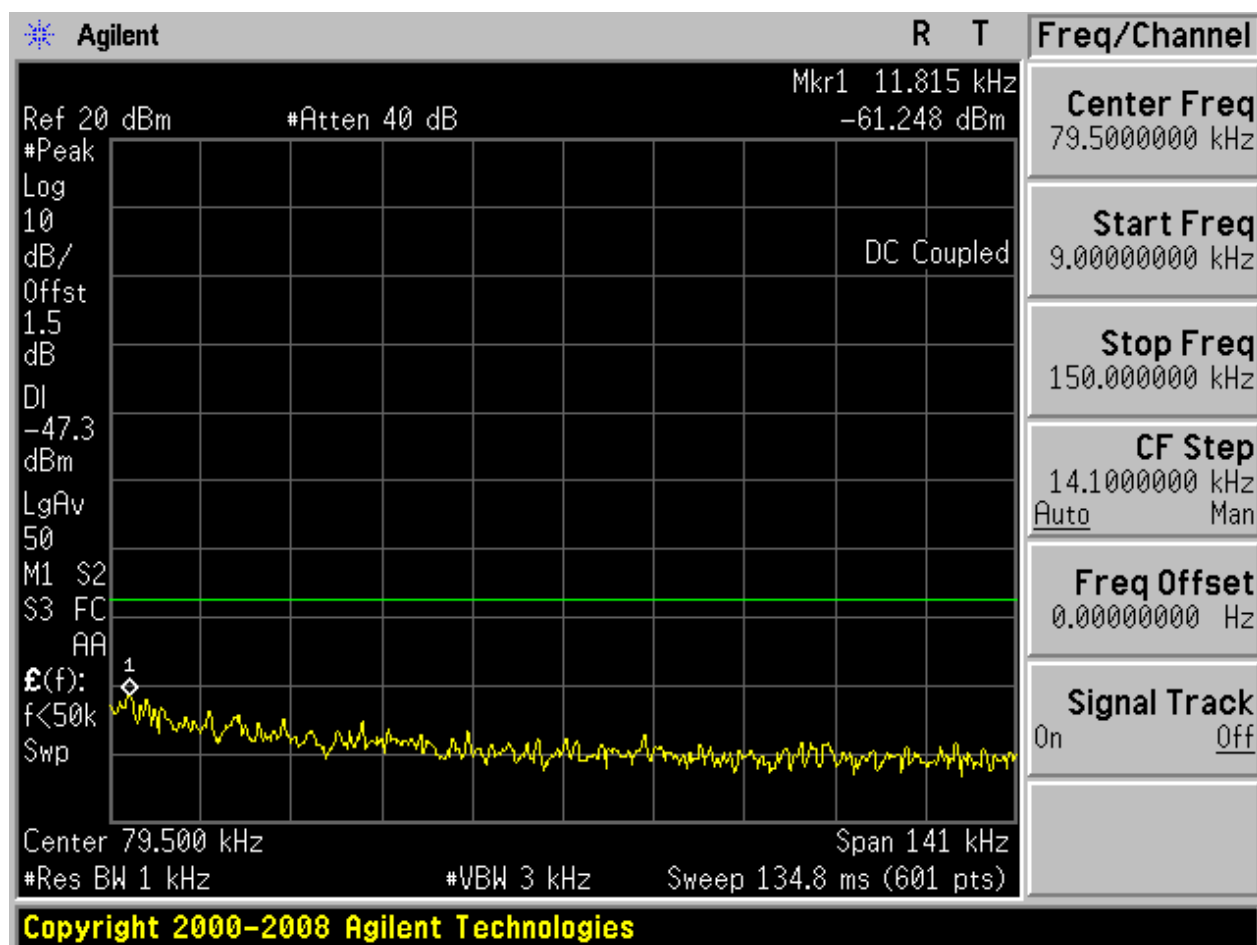
2.2 11B_M@Ant 1

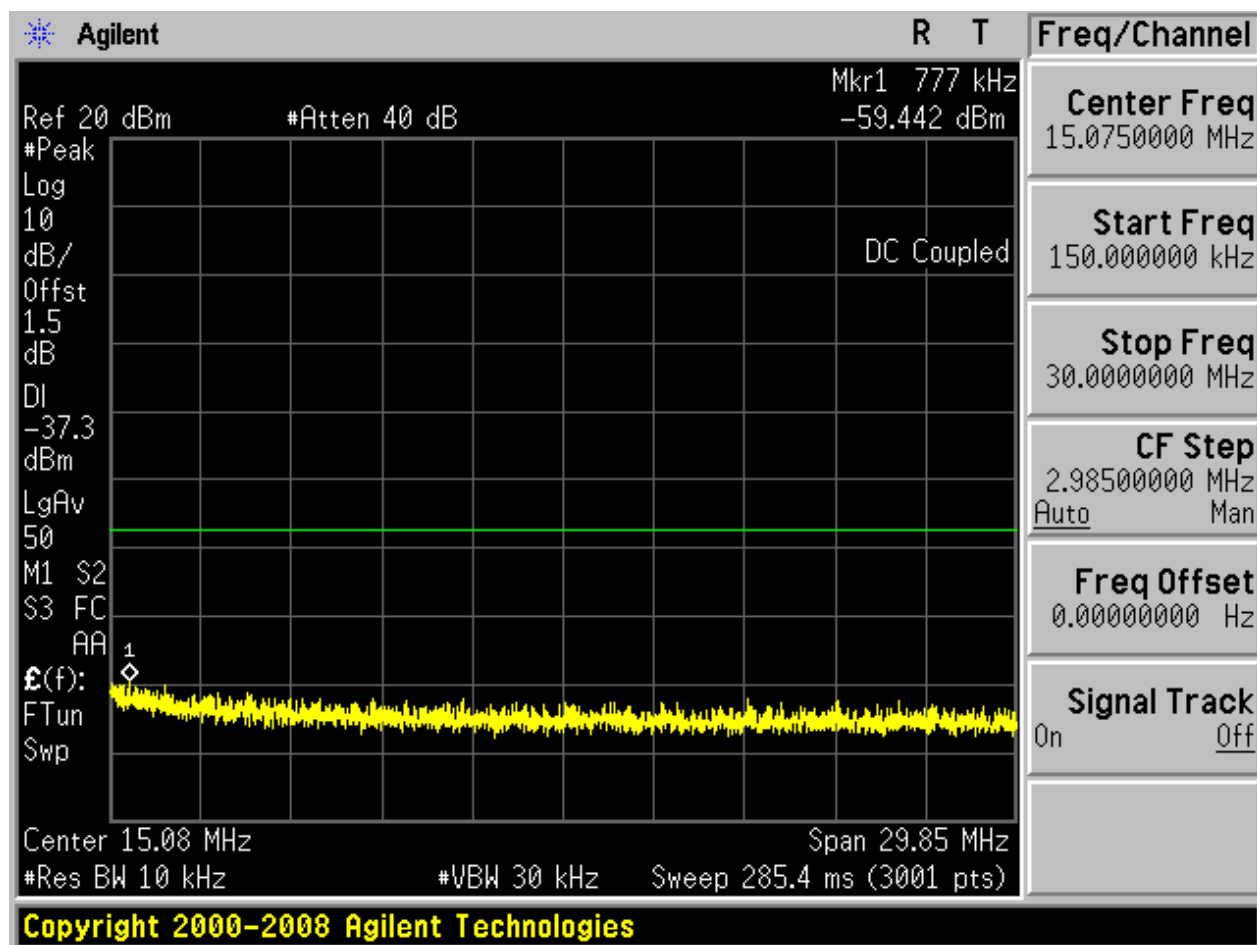
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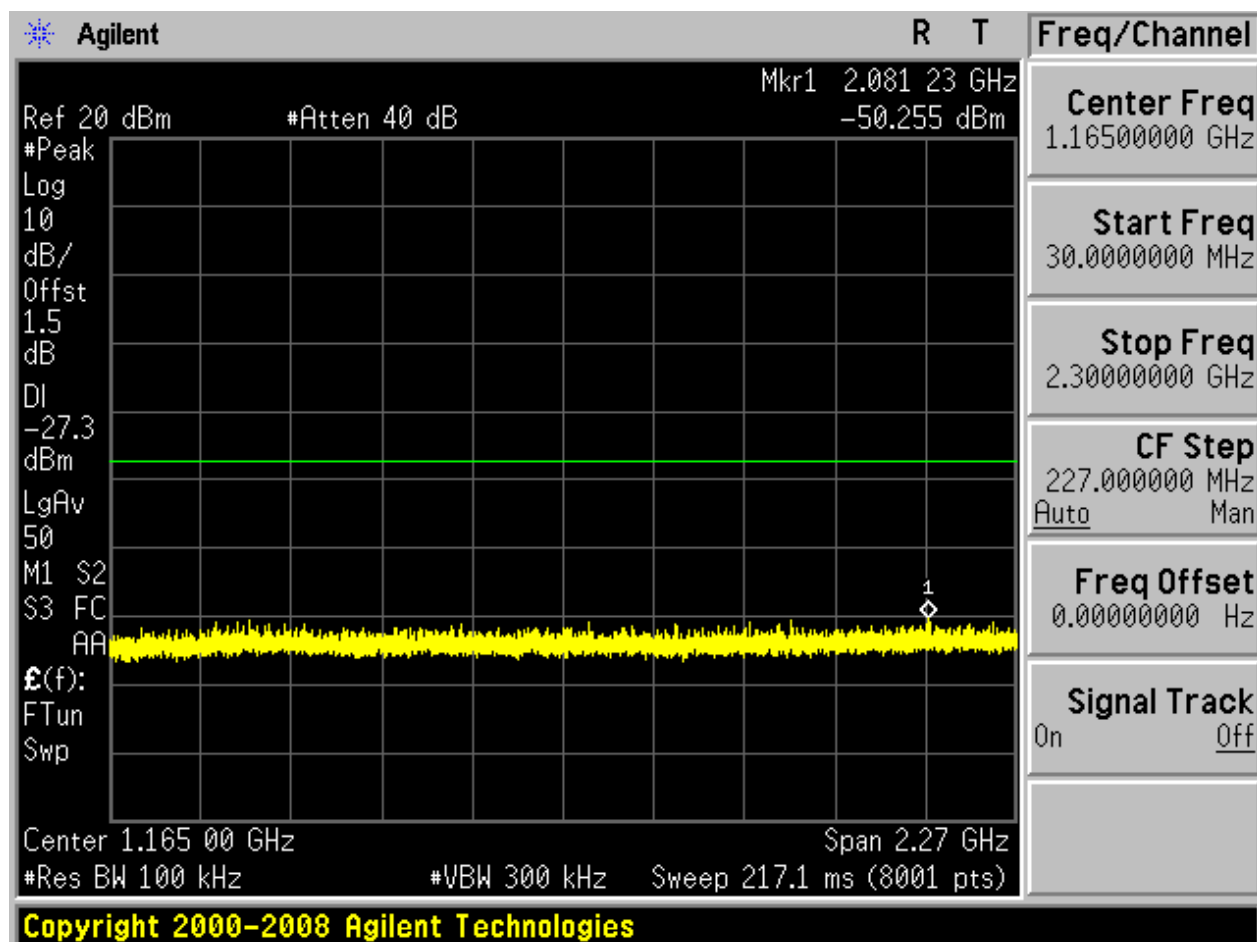


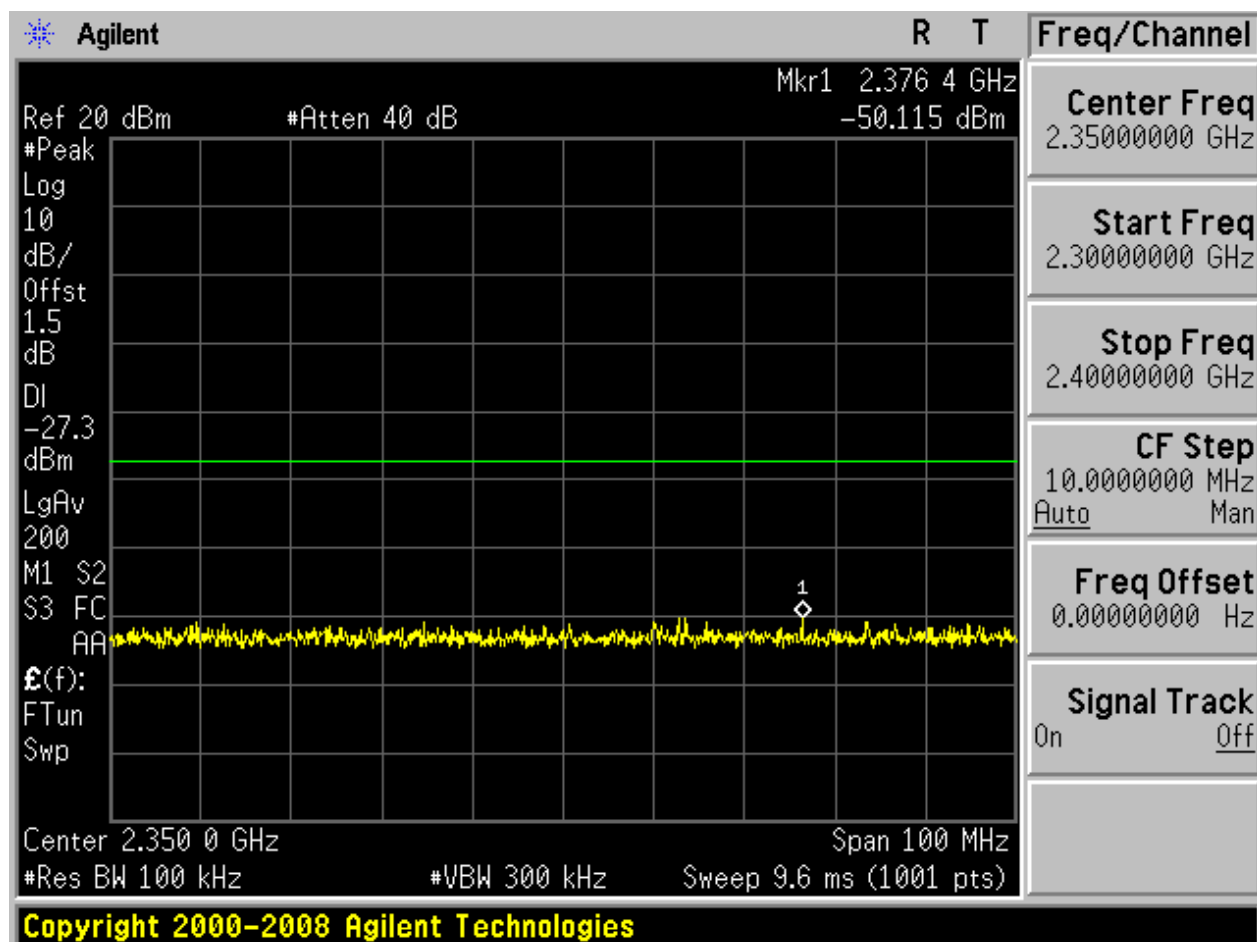


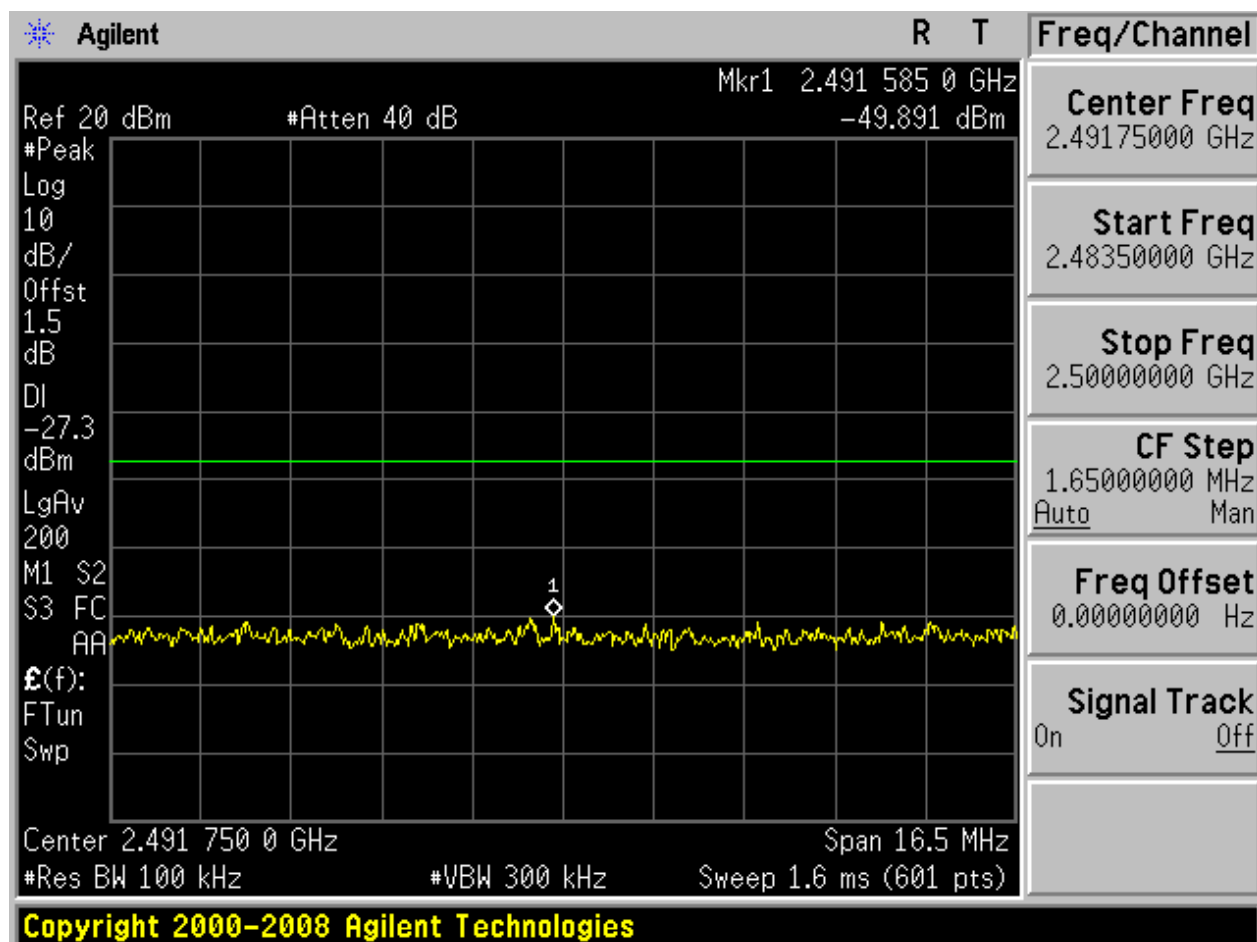
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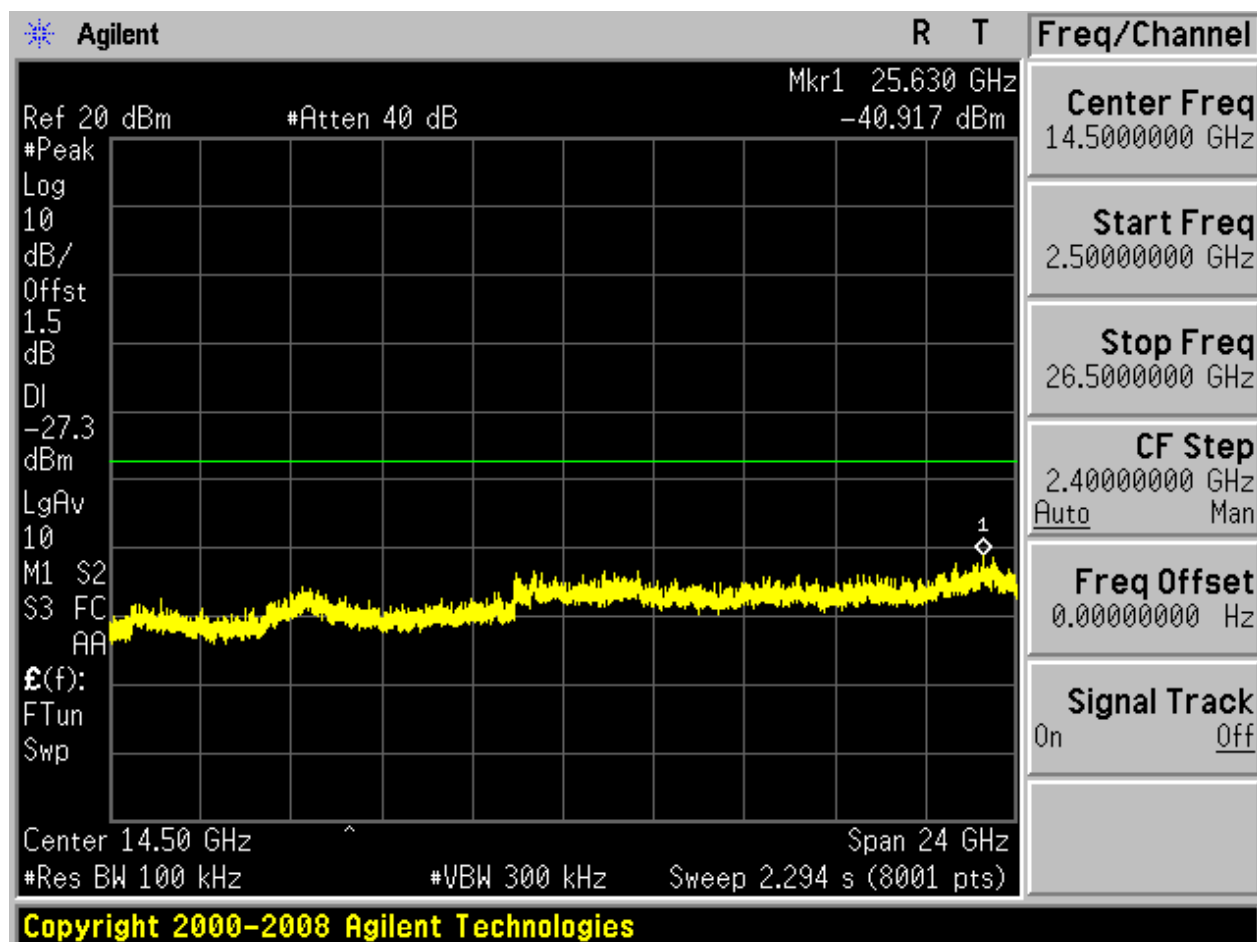






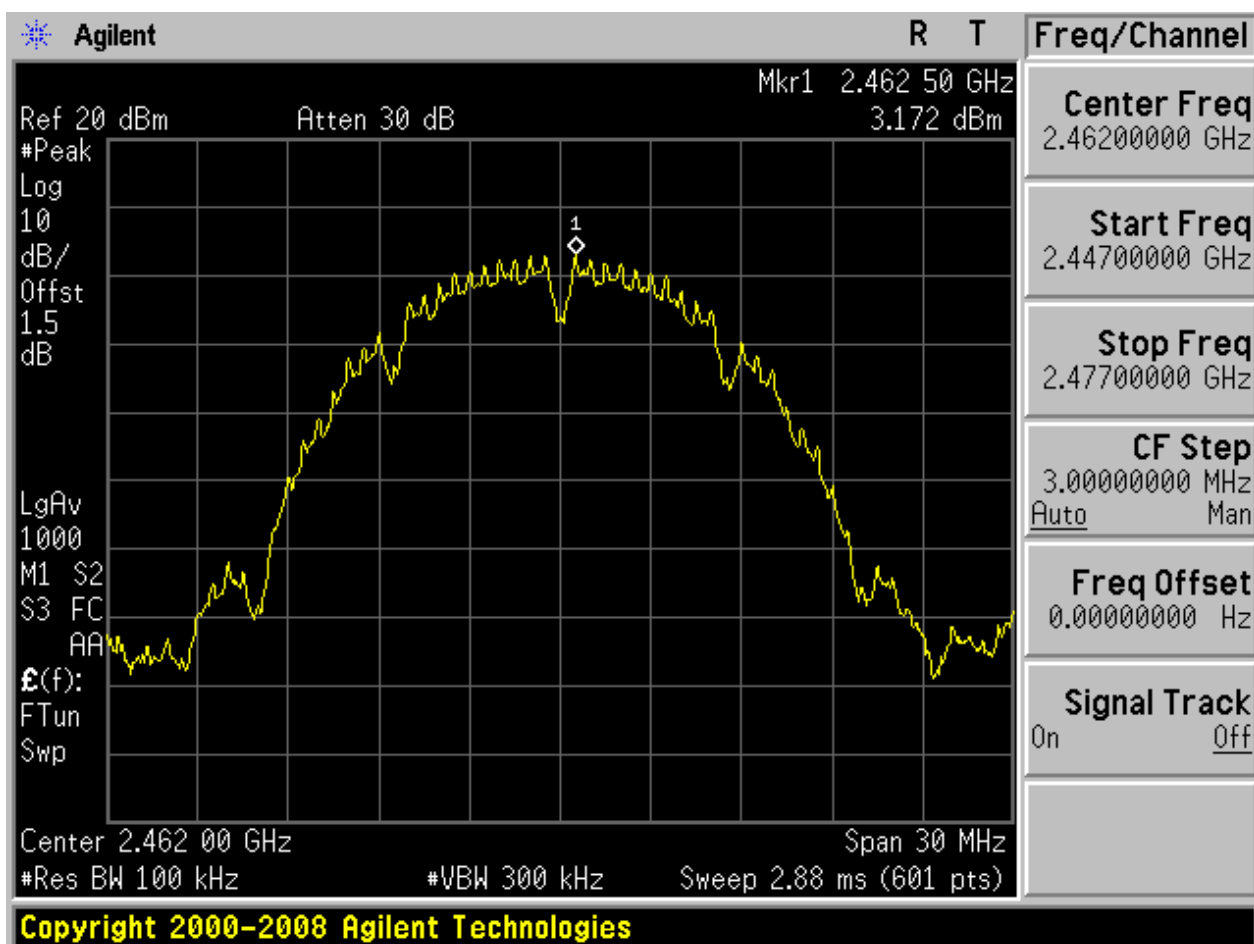






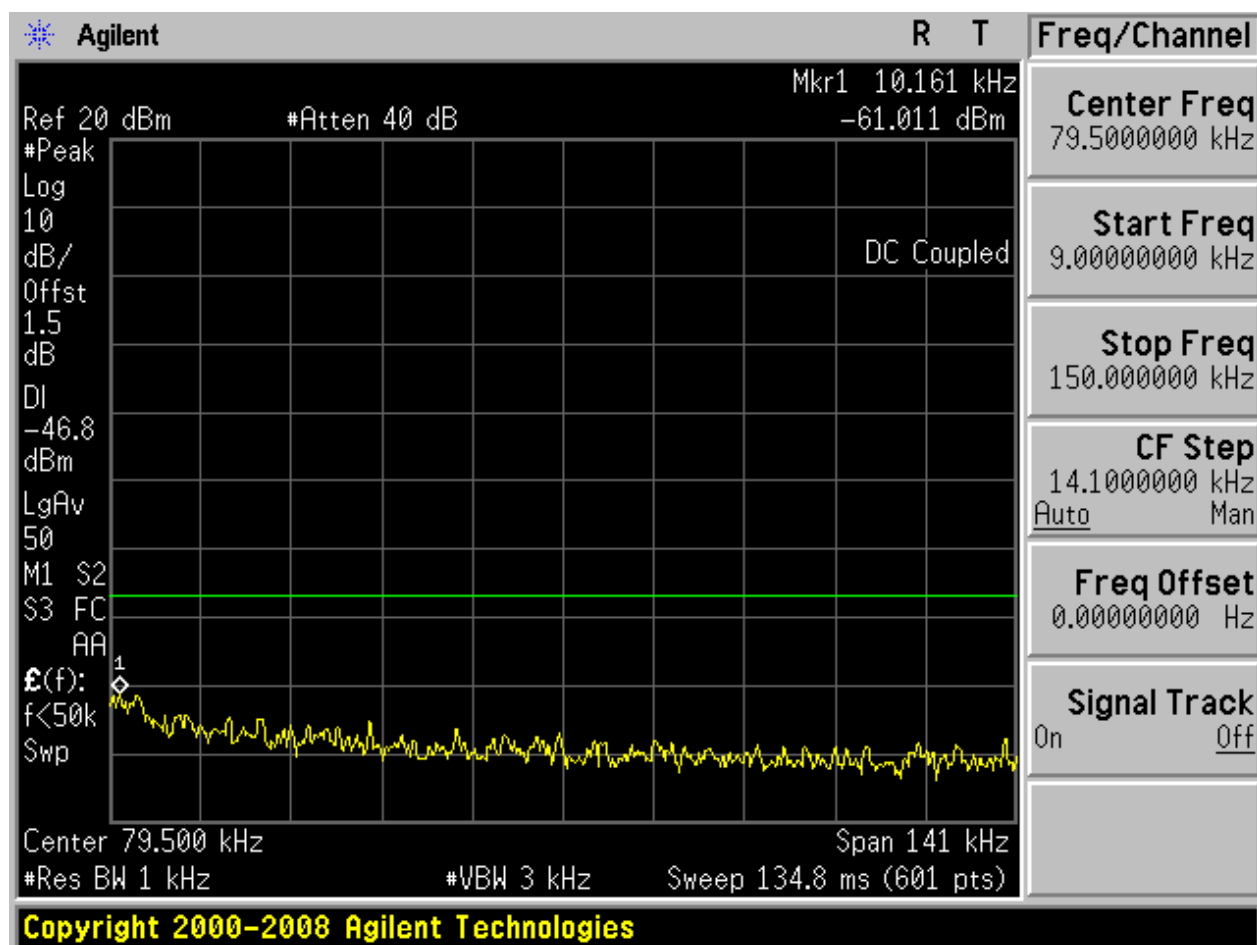
2.3 11B_H@Ant 1

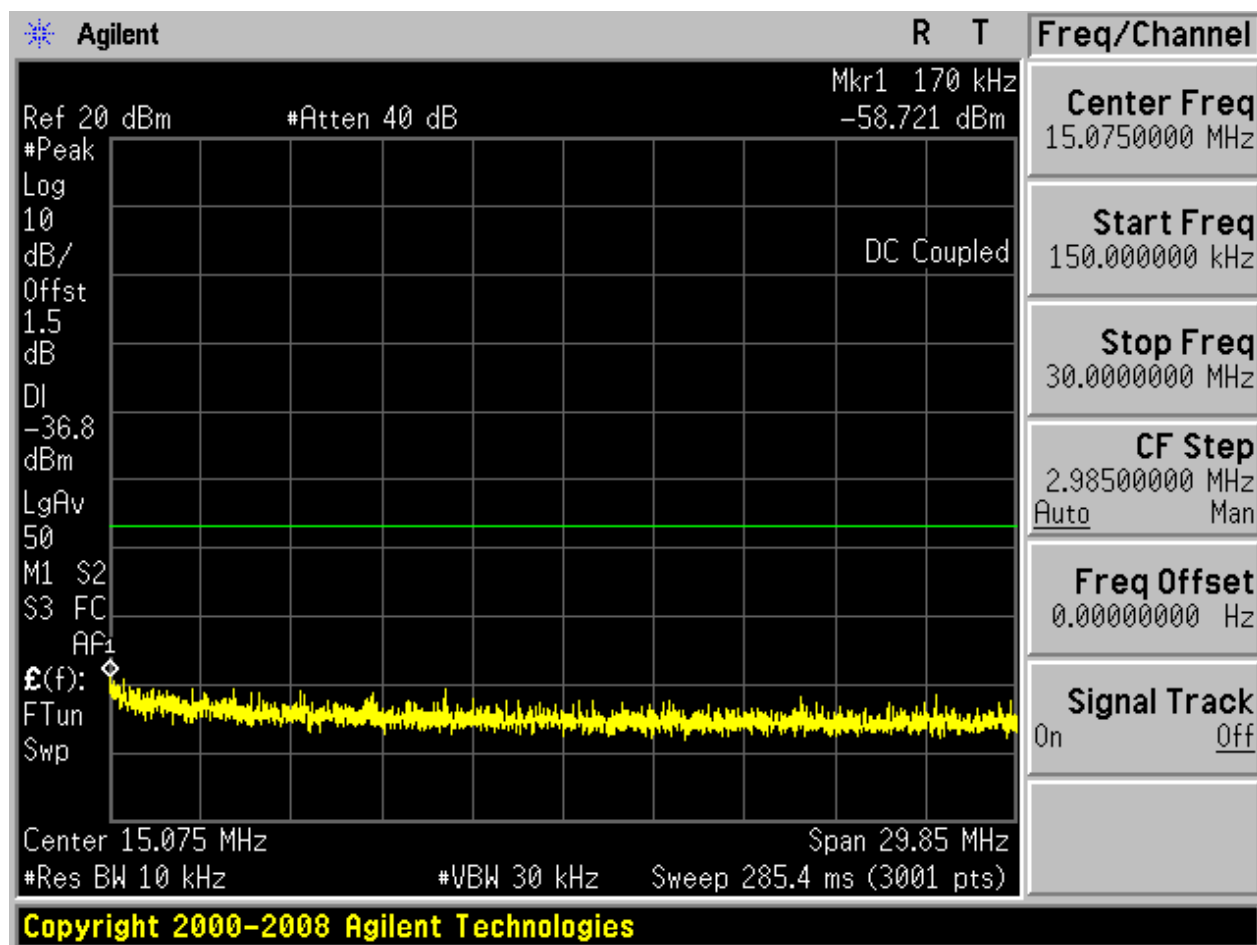
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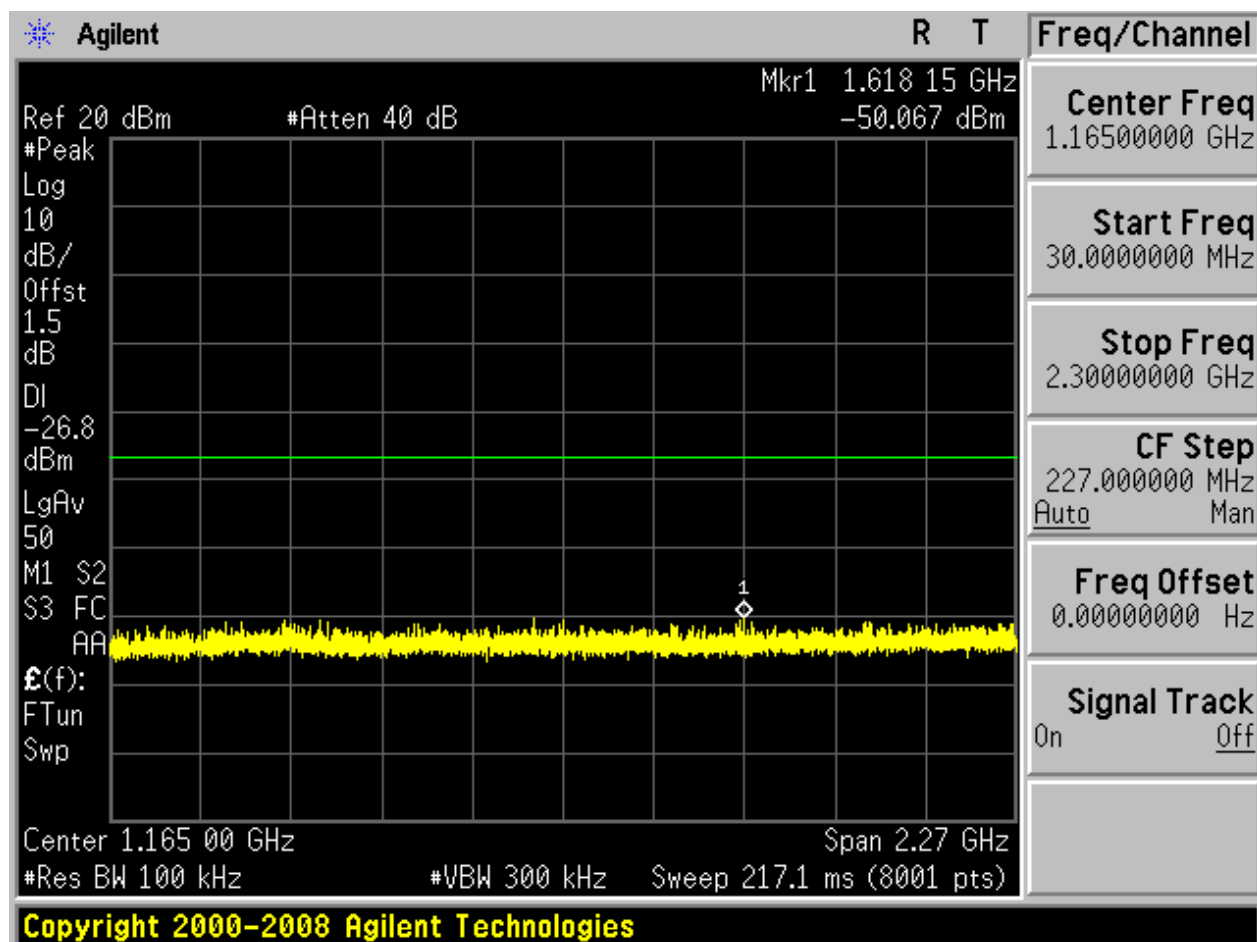


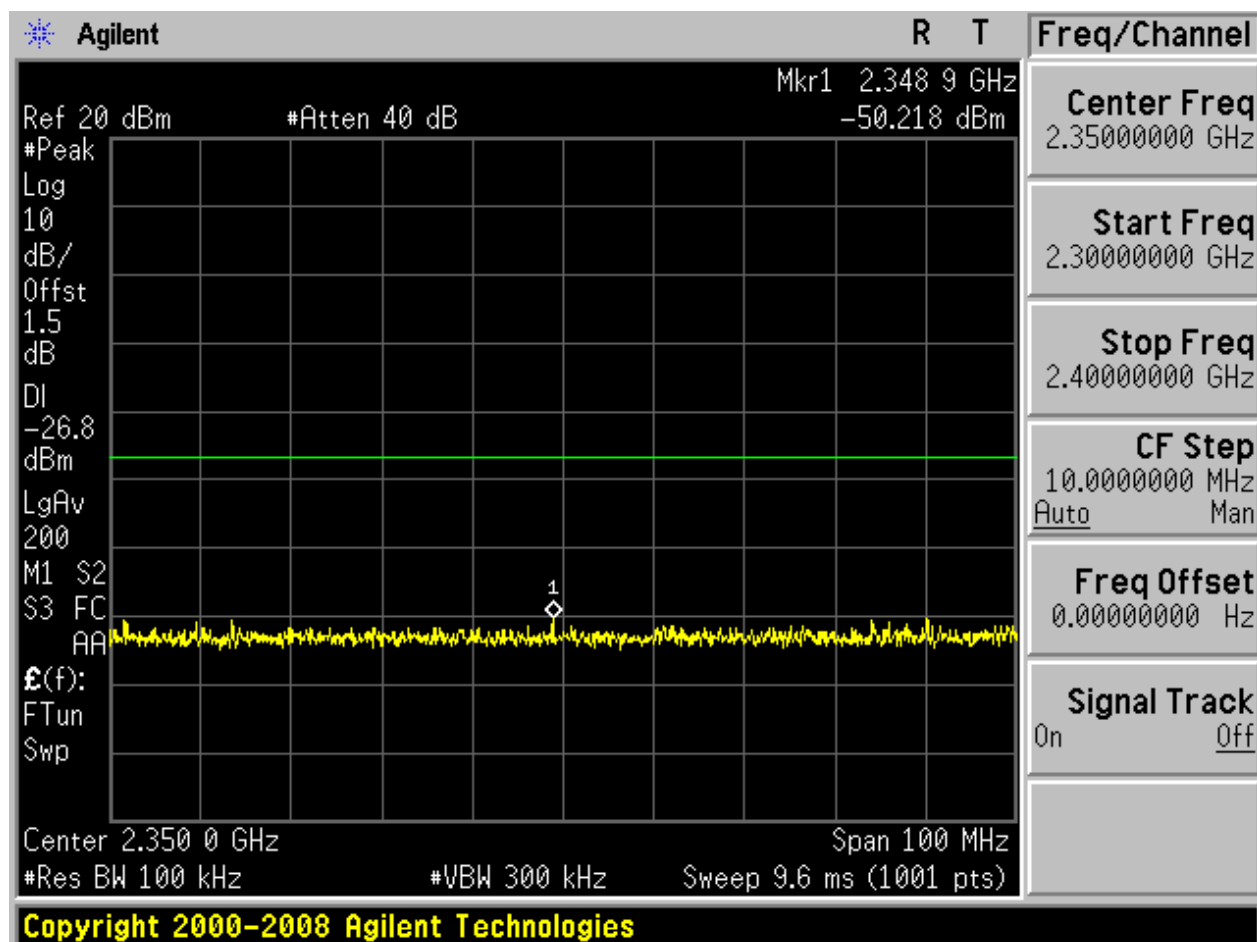


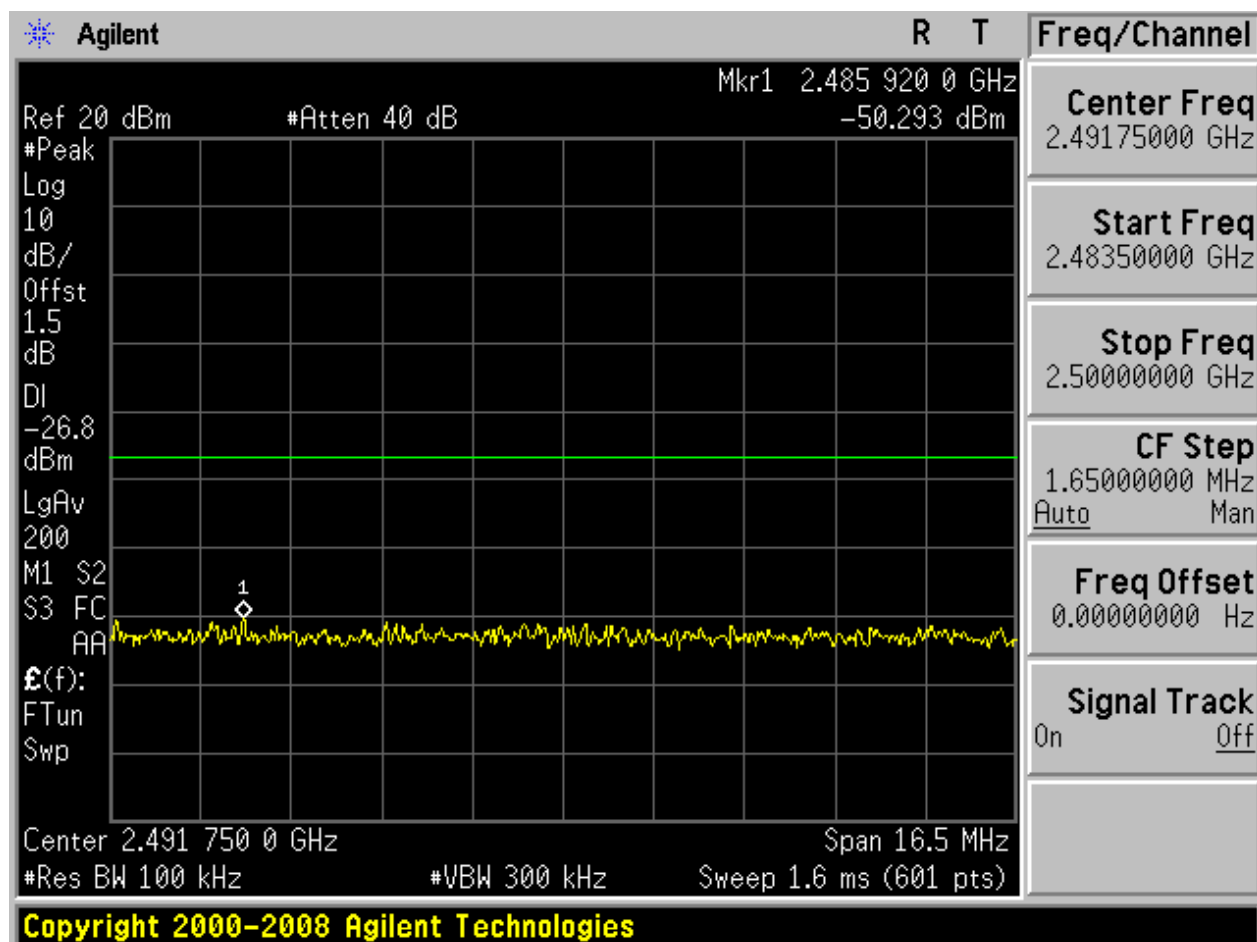
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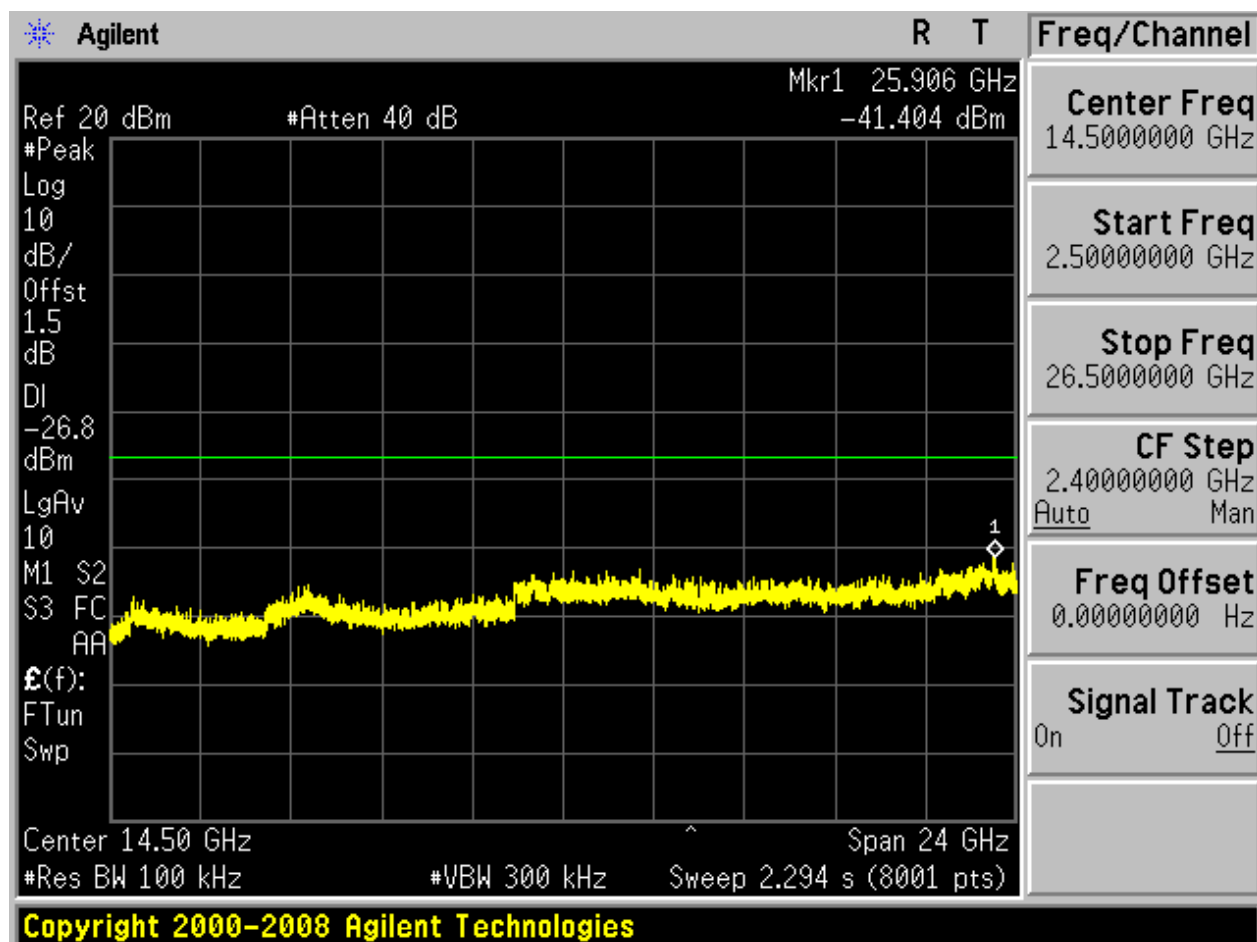








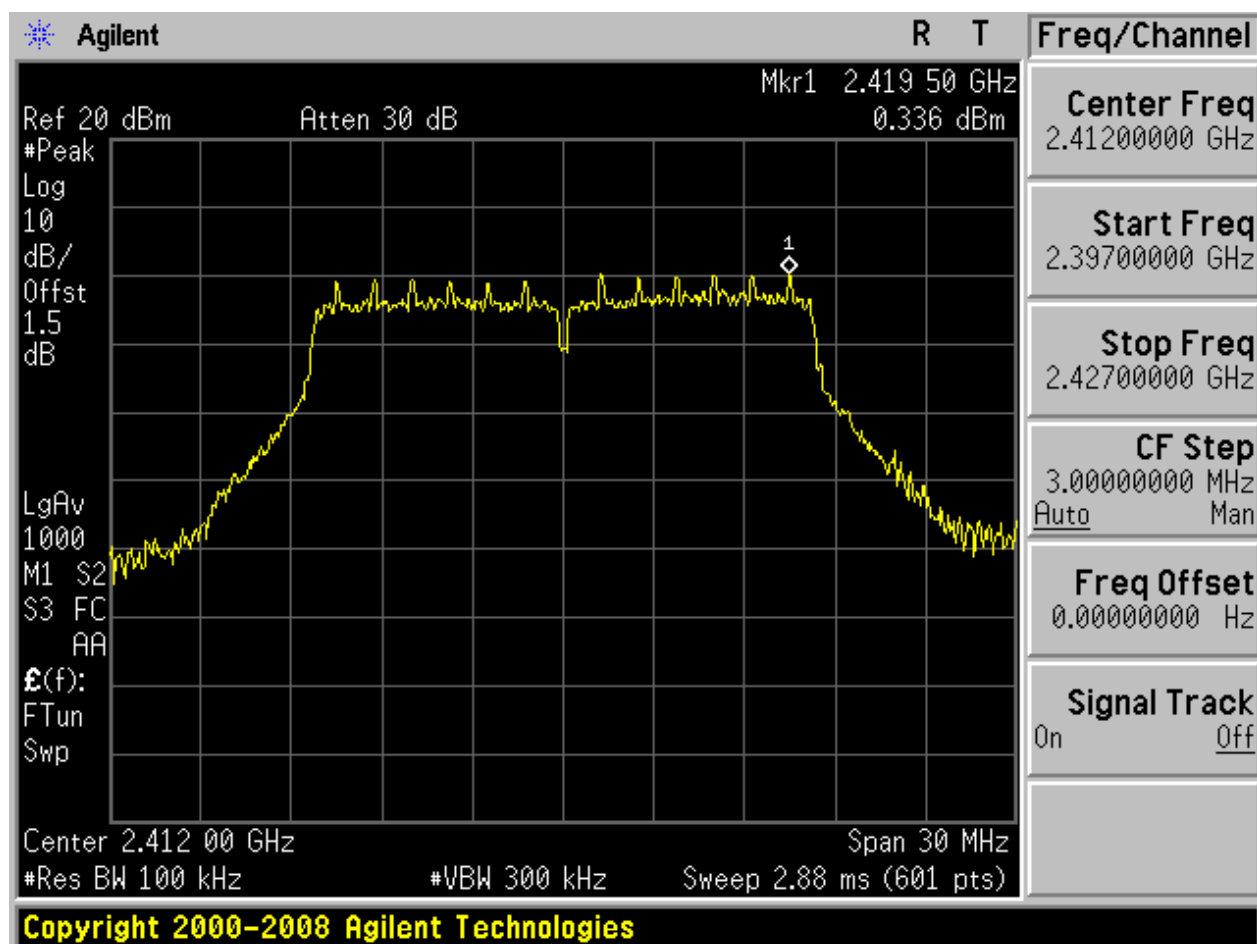






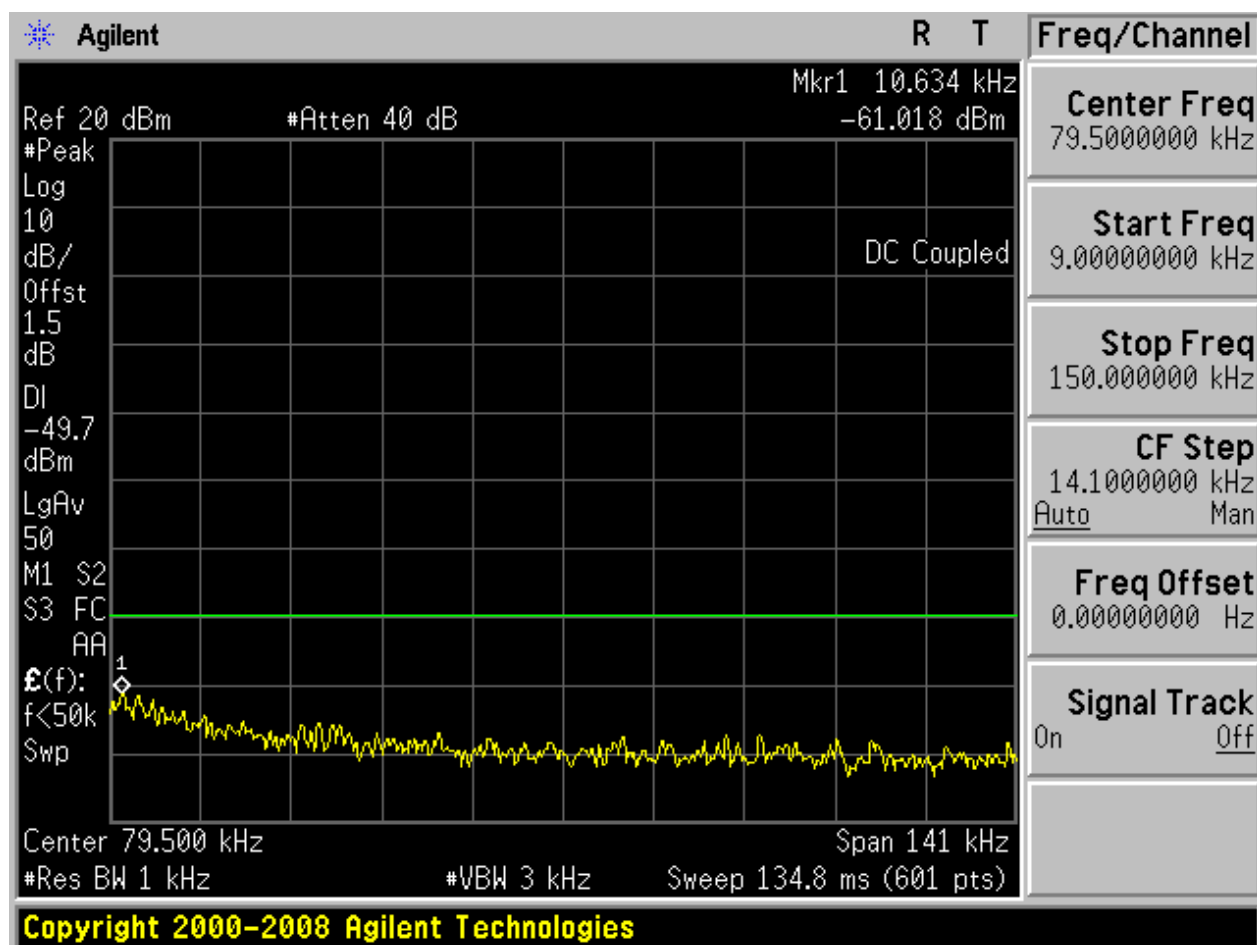
2.4 11G_L@Ant 1

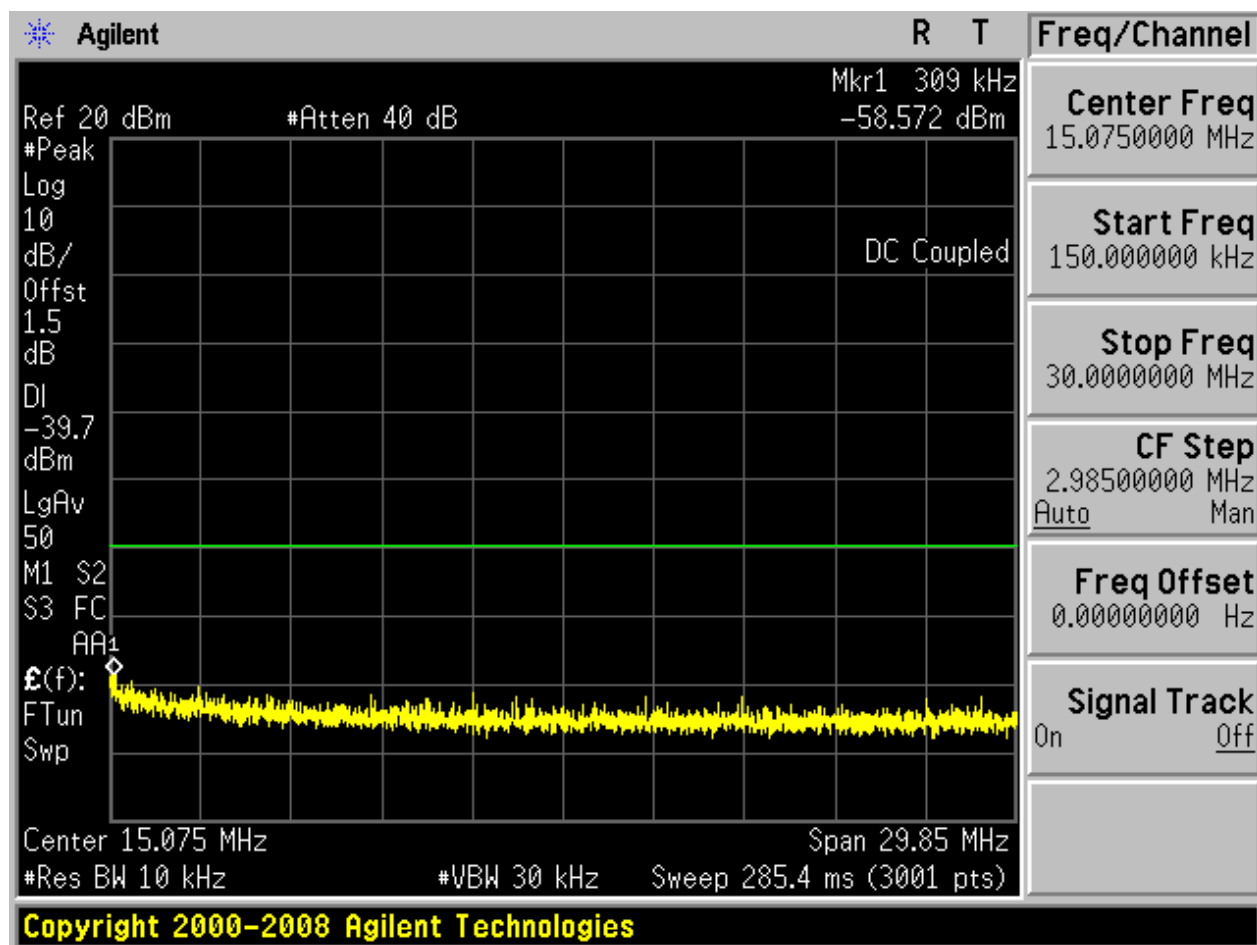
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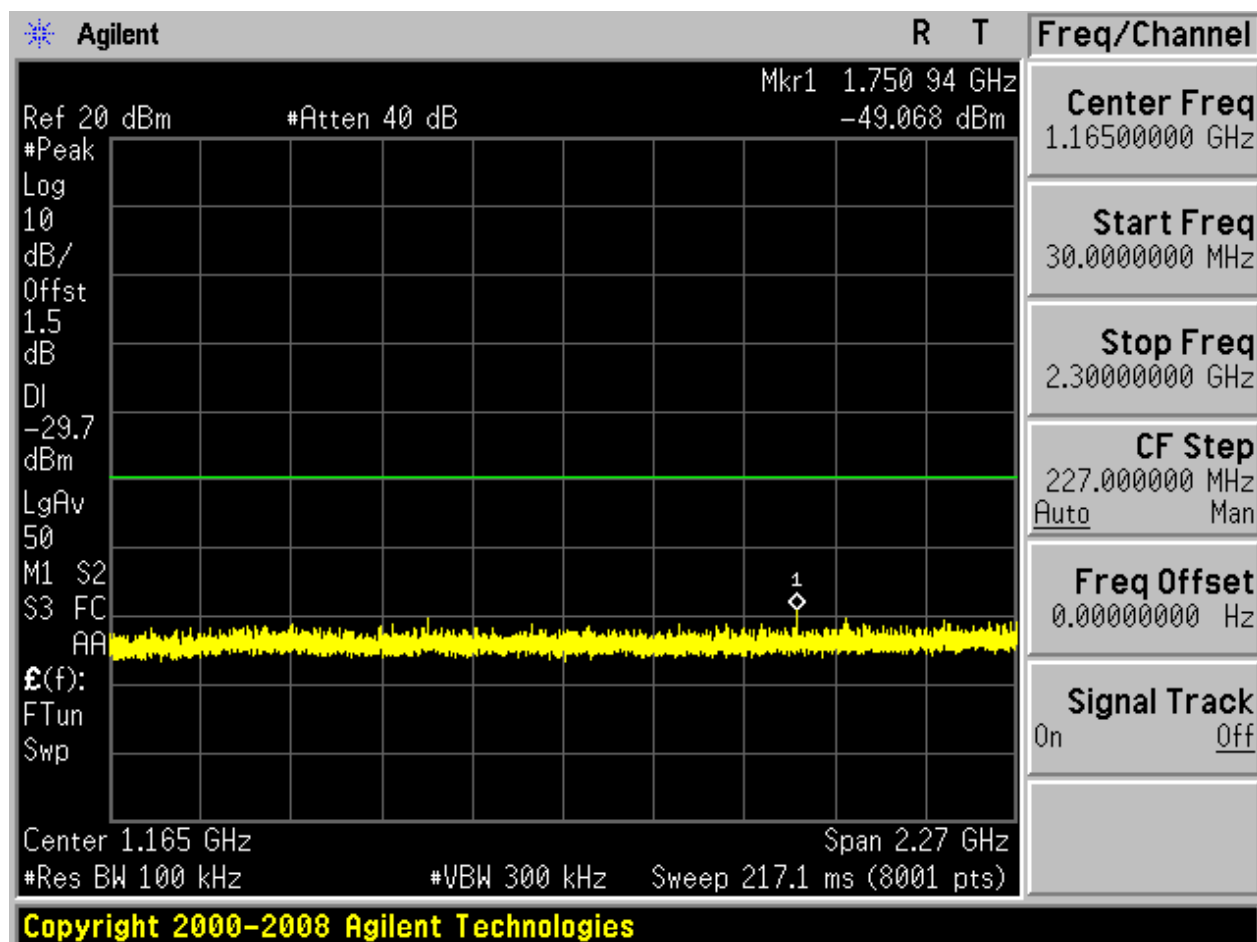


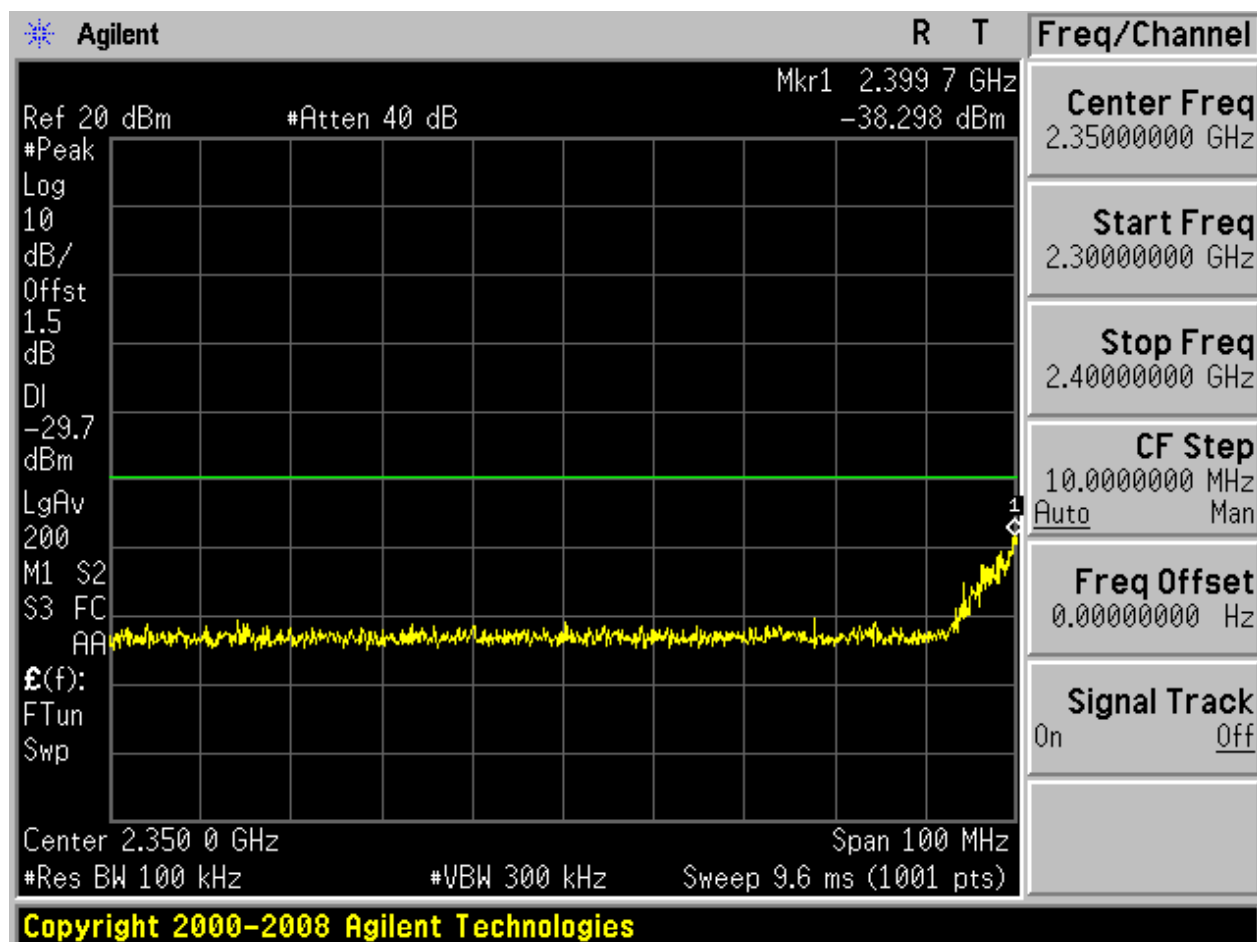


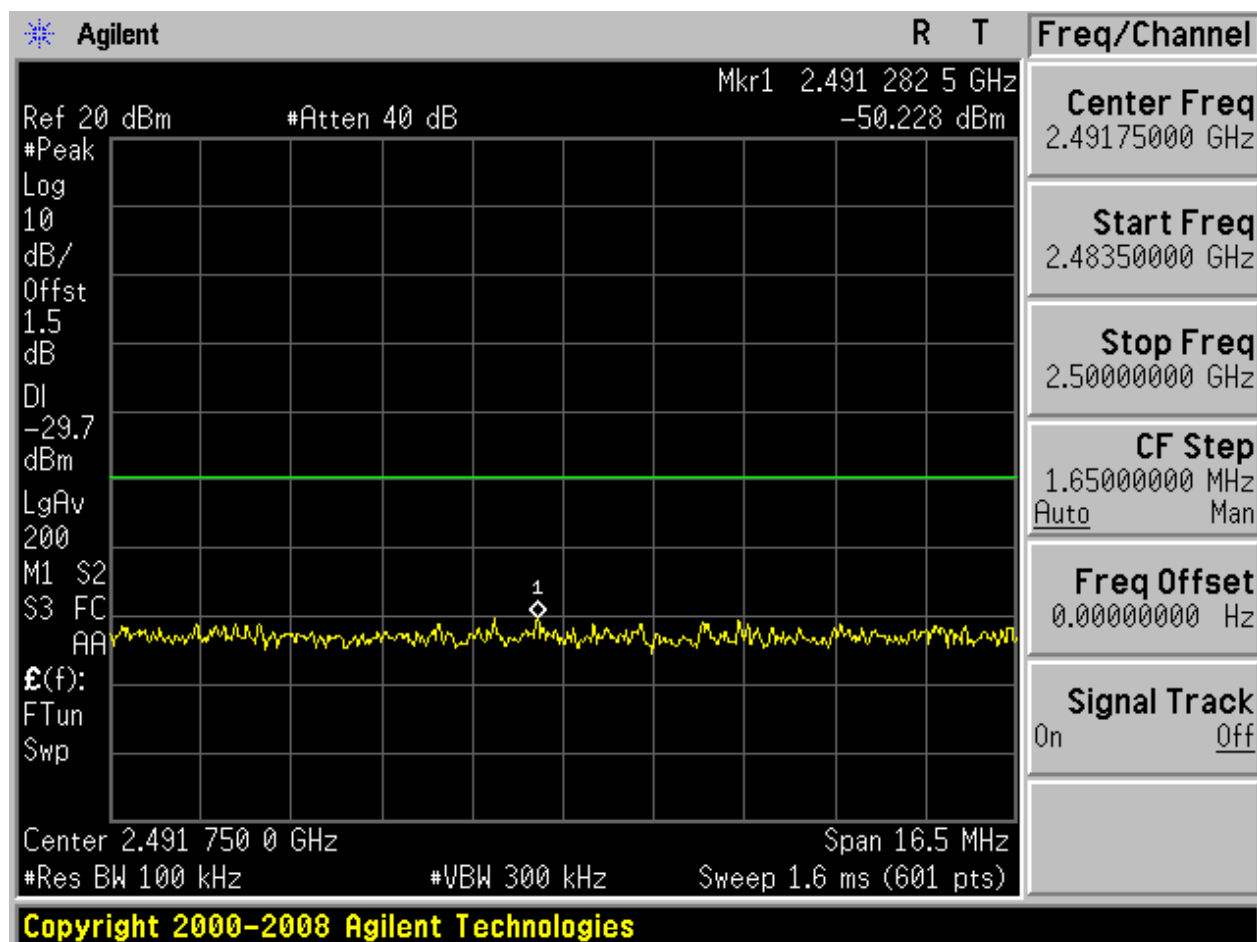
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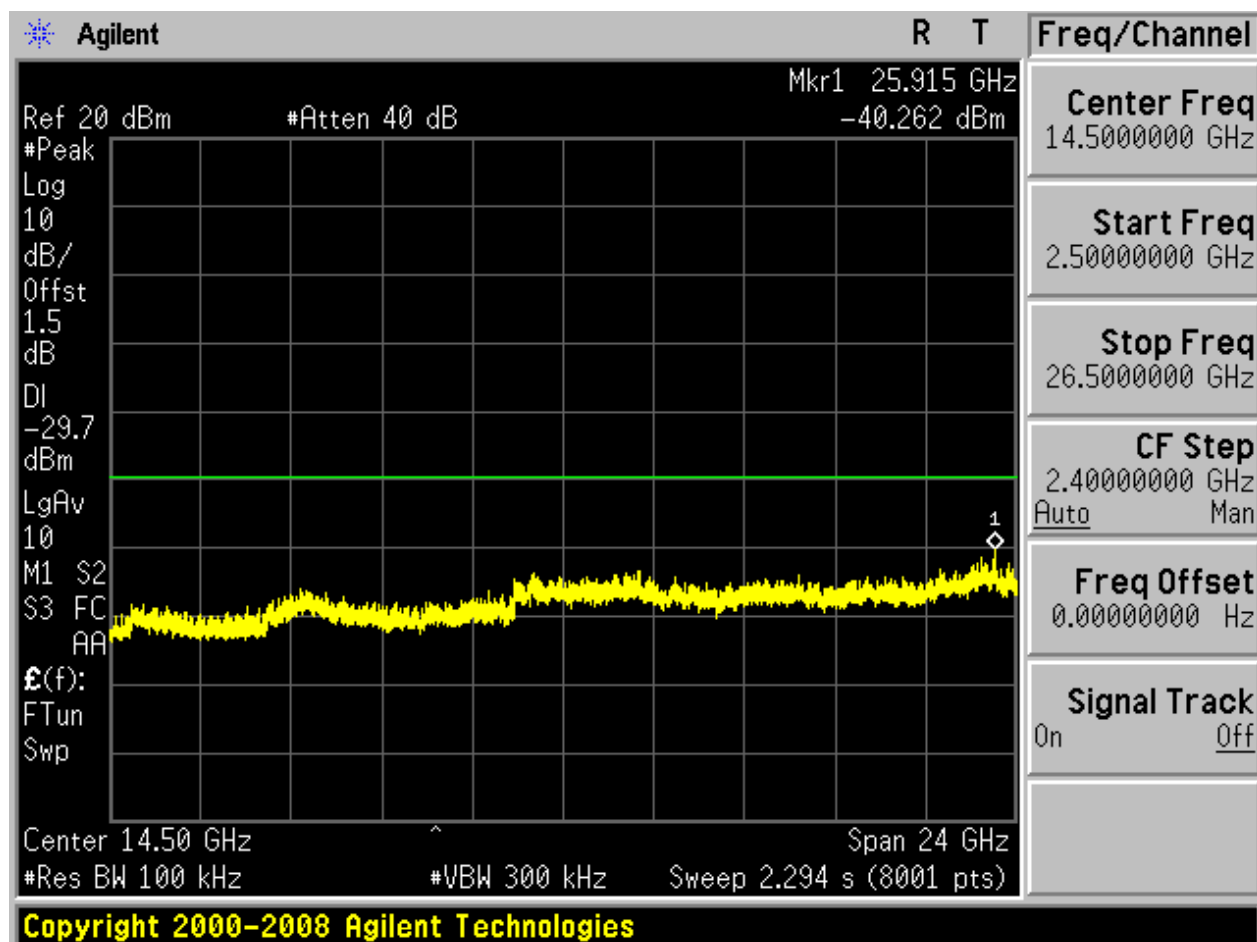






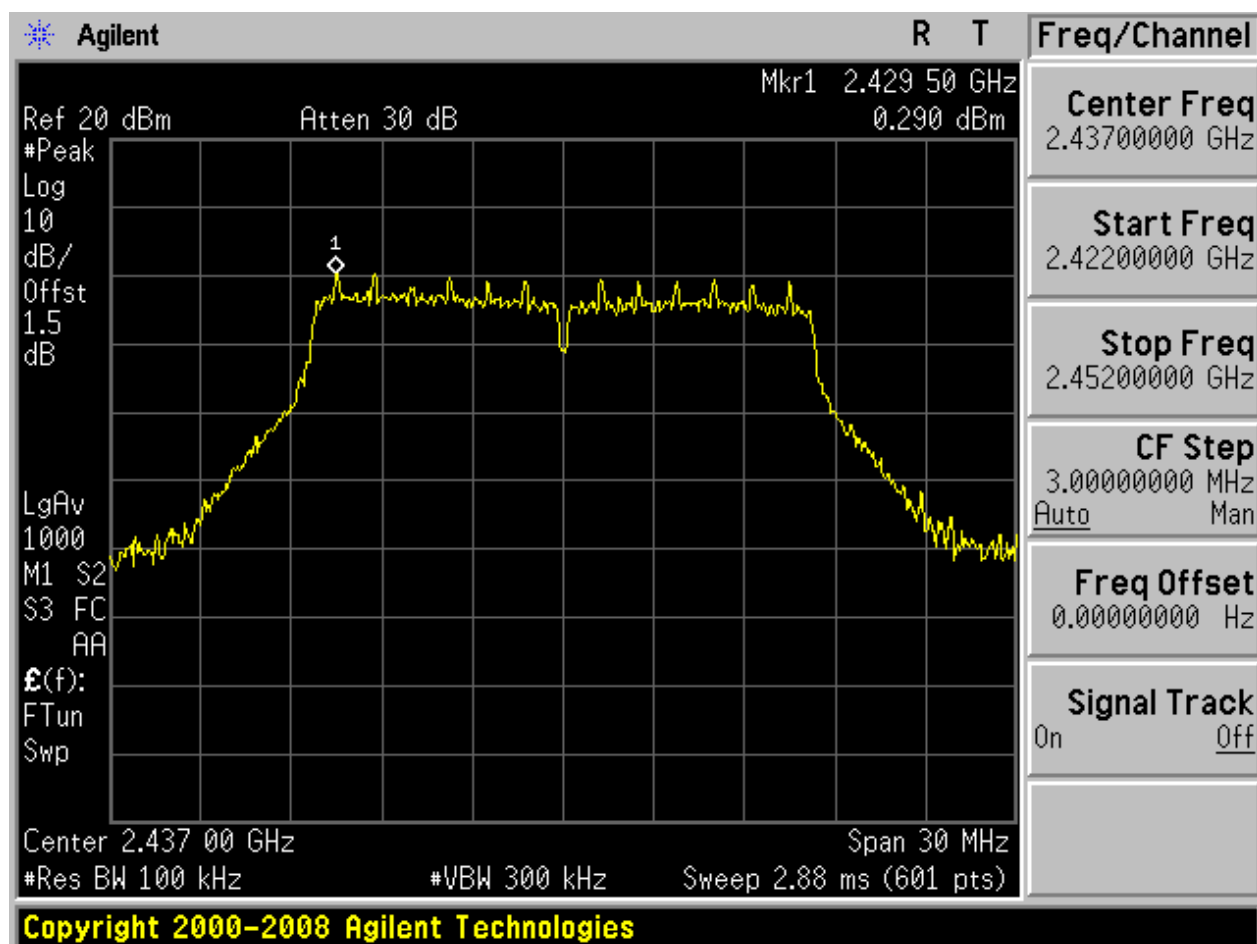






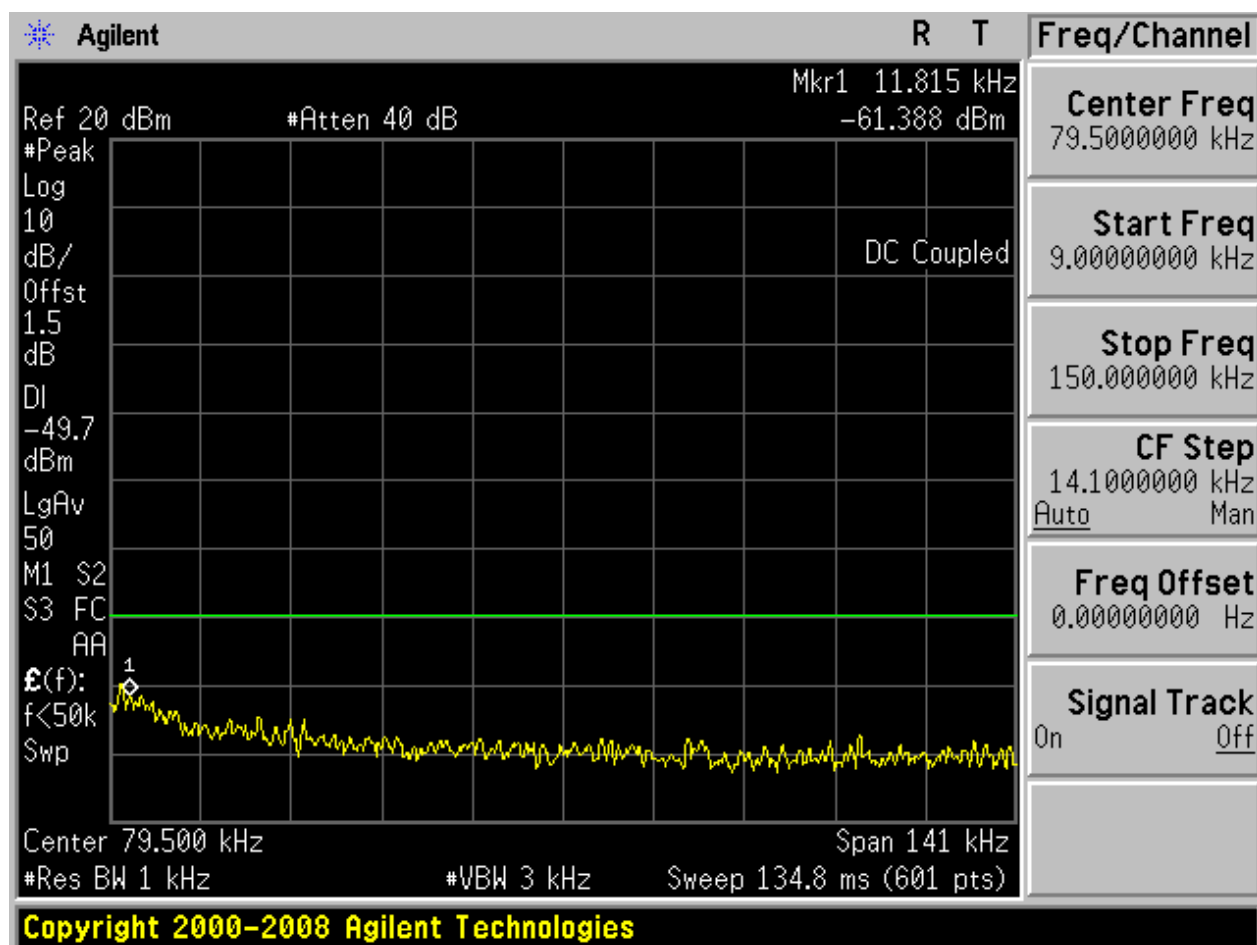
2.5 11G_M@Ant 1

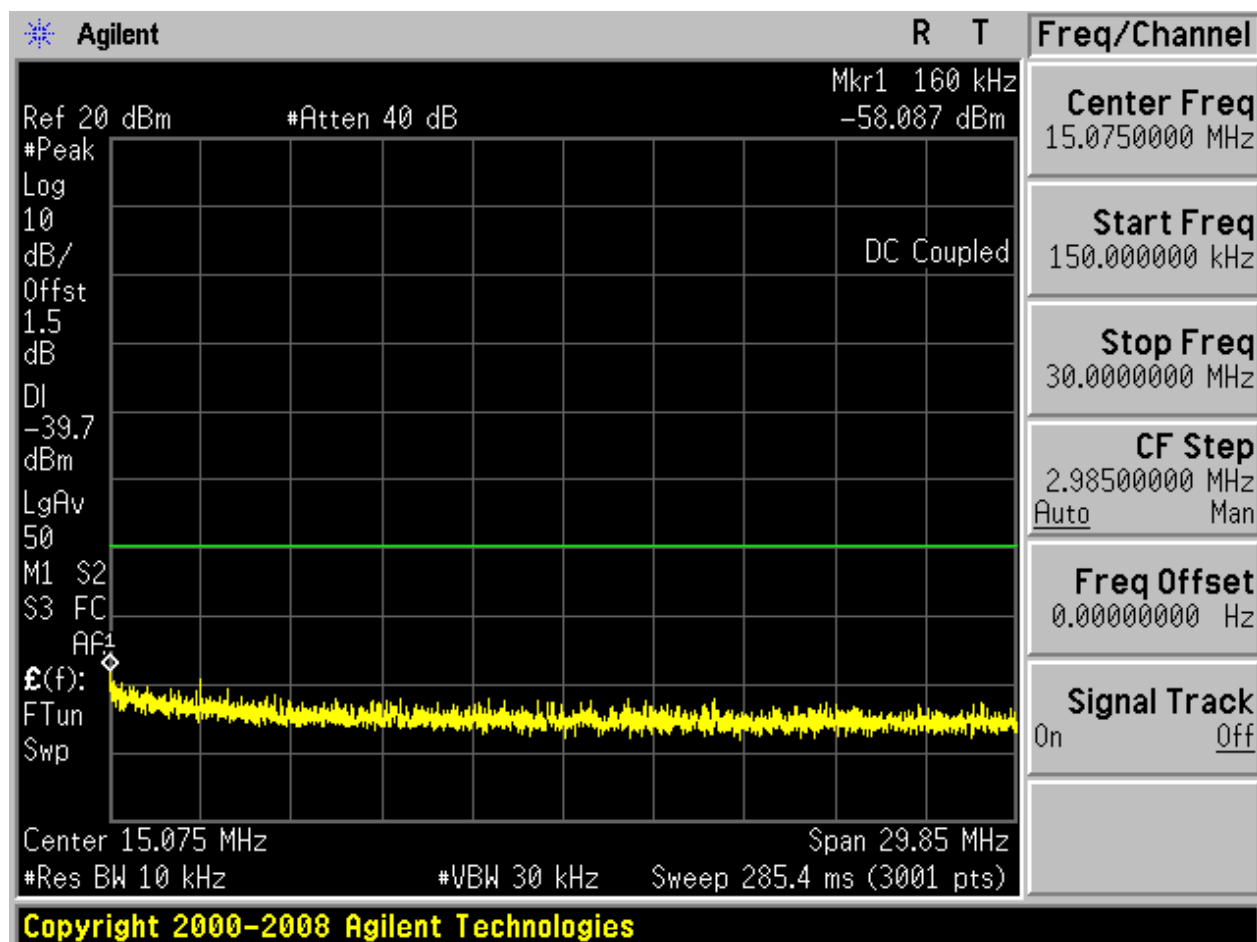
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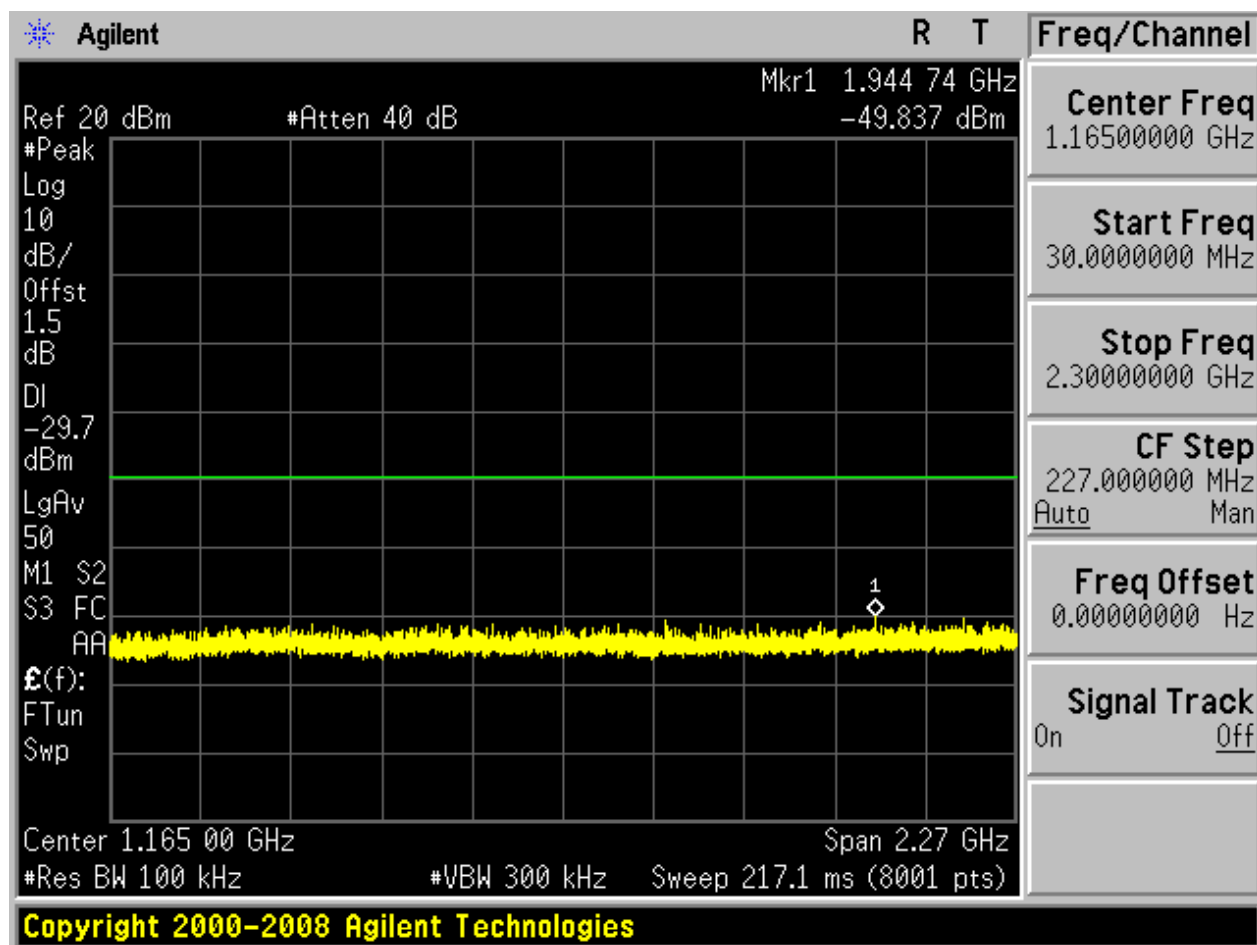


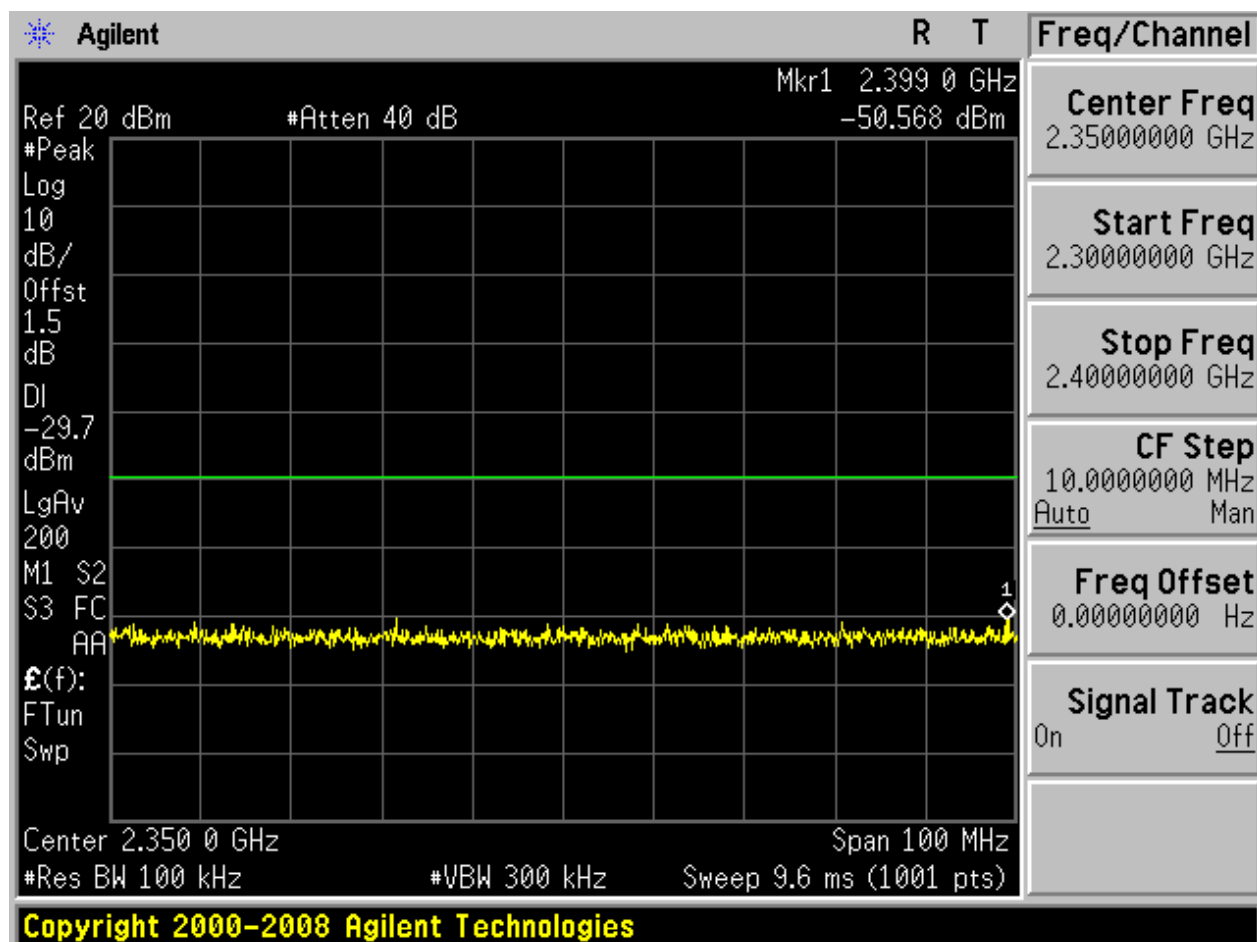


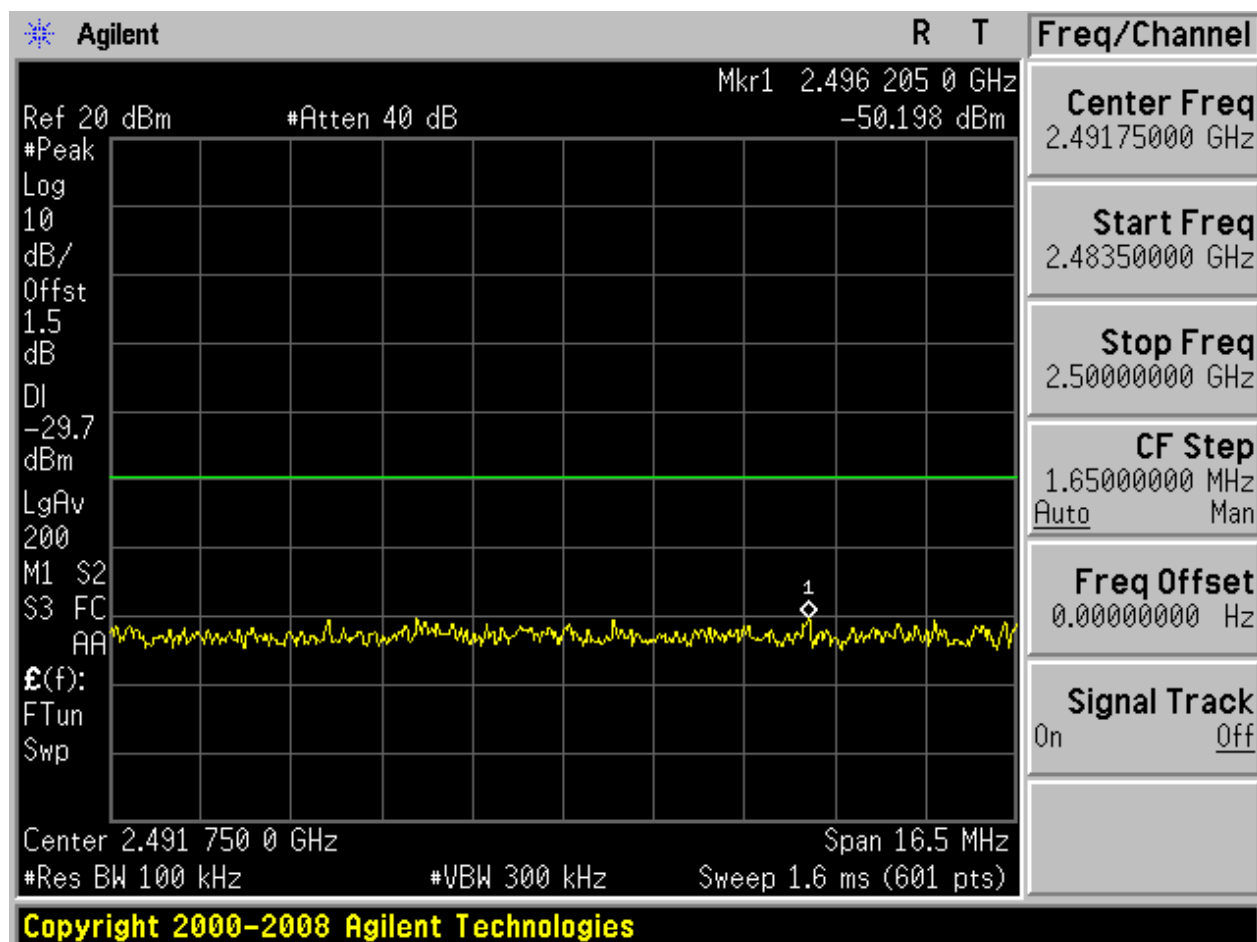
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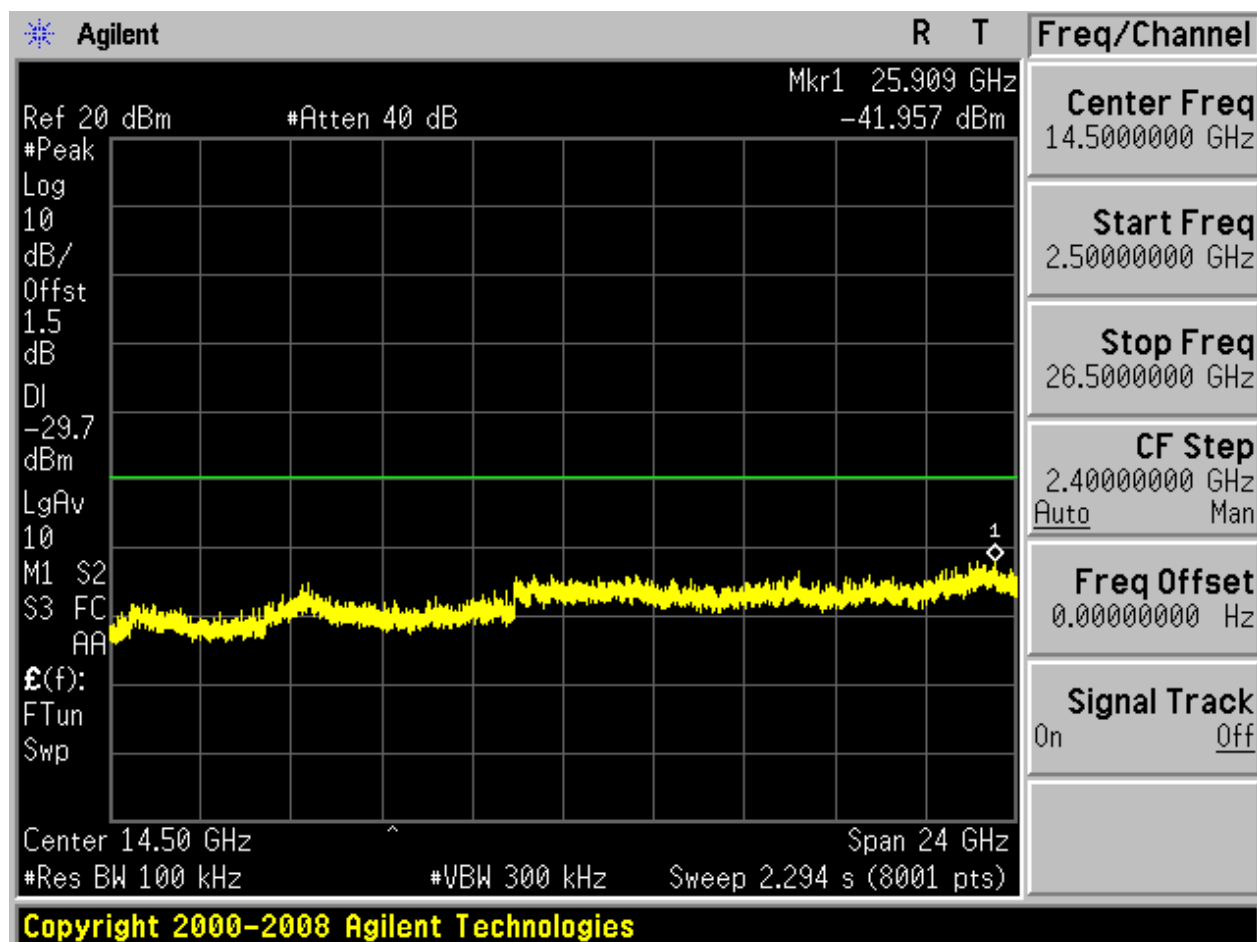






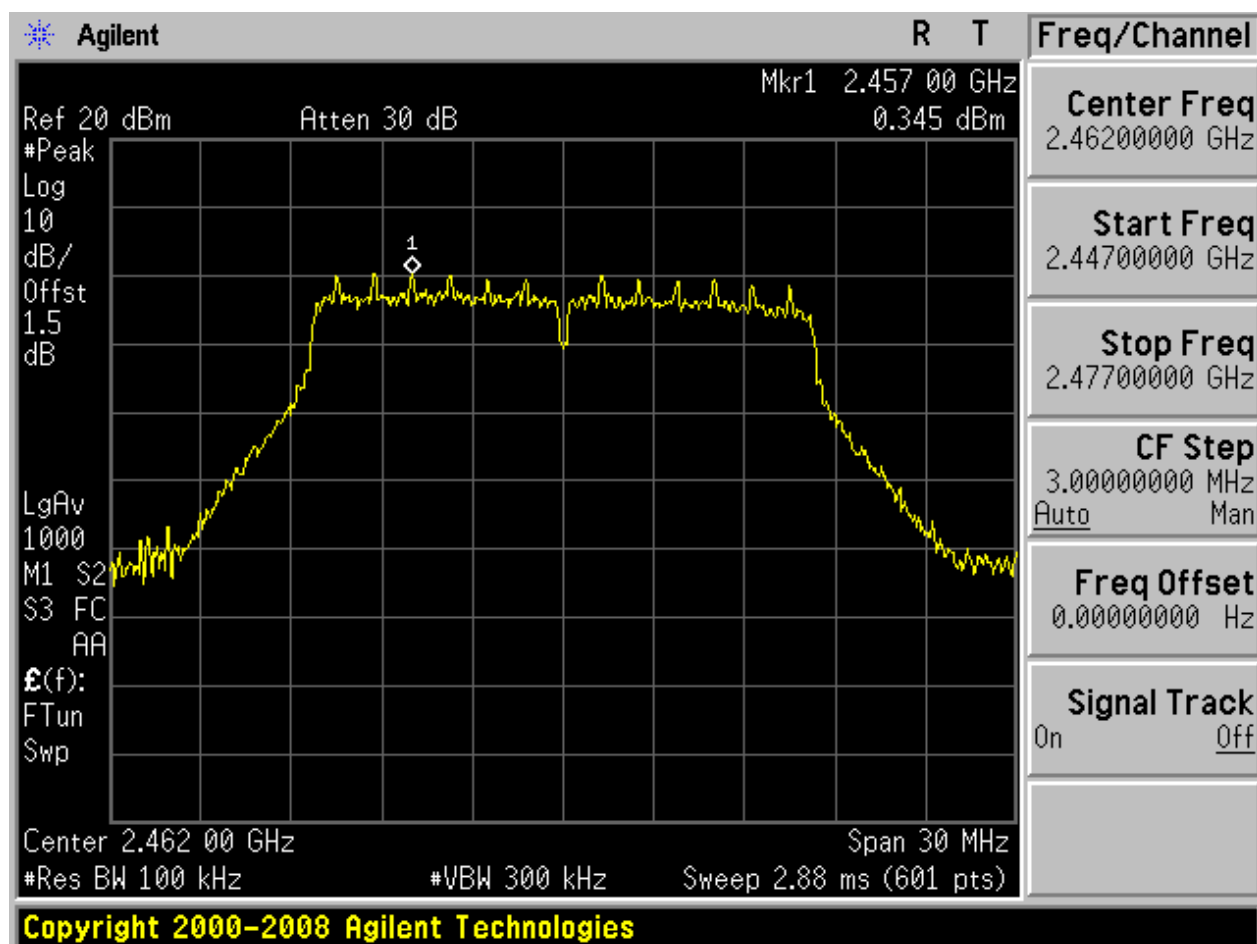






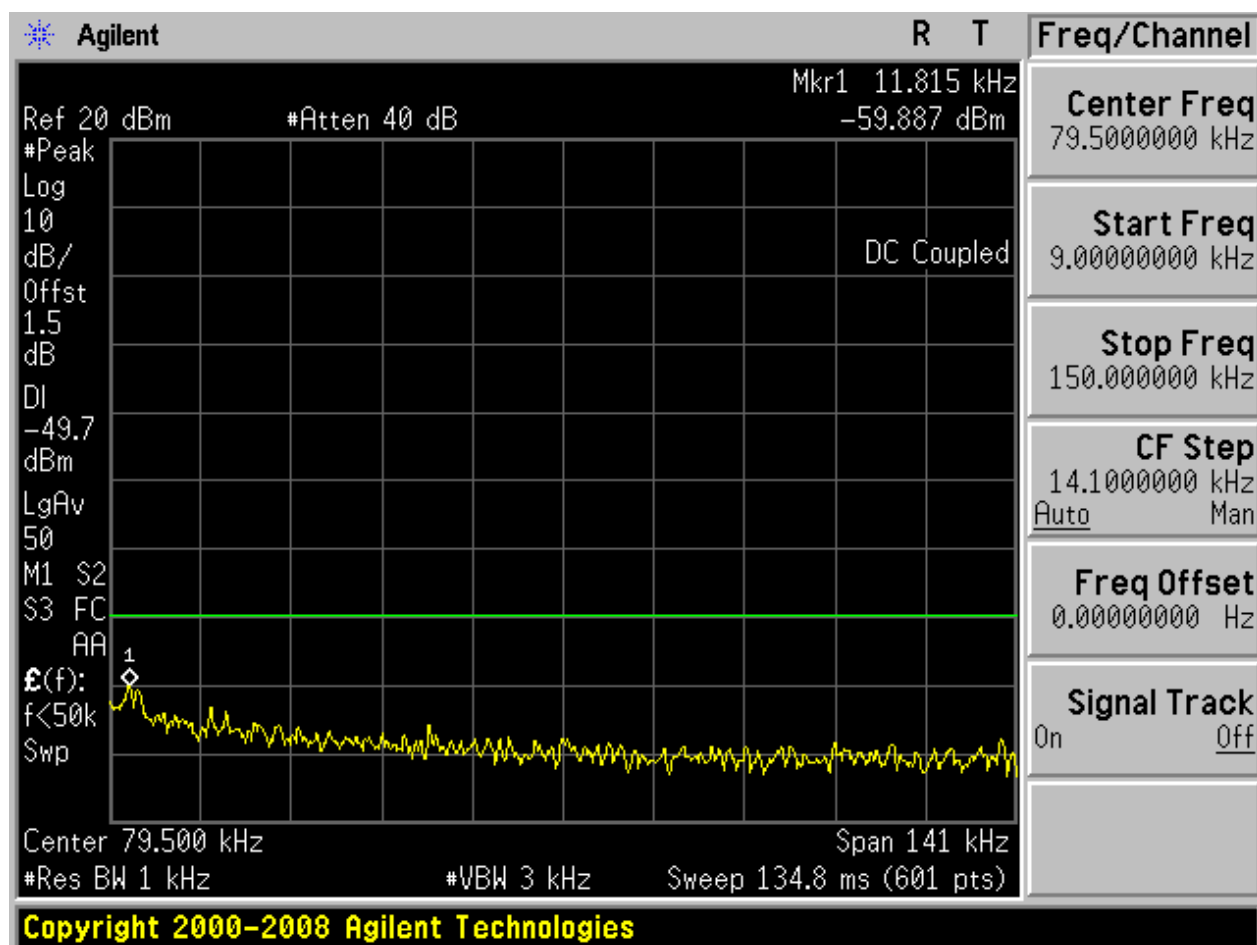
2.6 11G_H@Ant 1

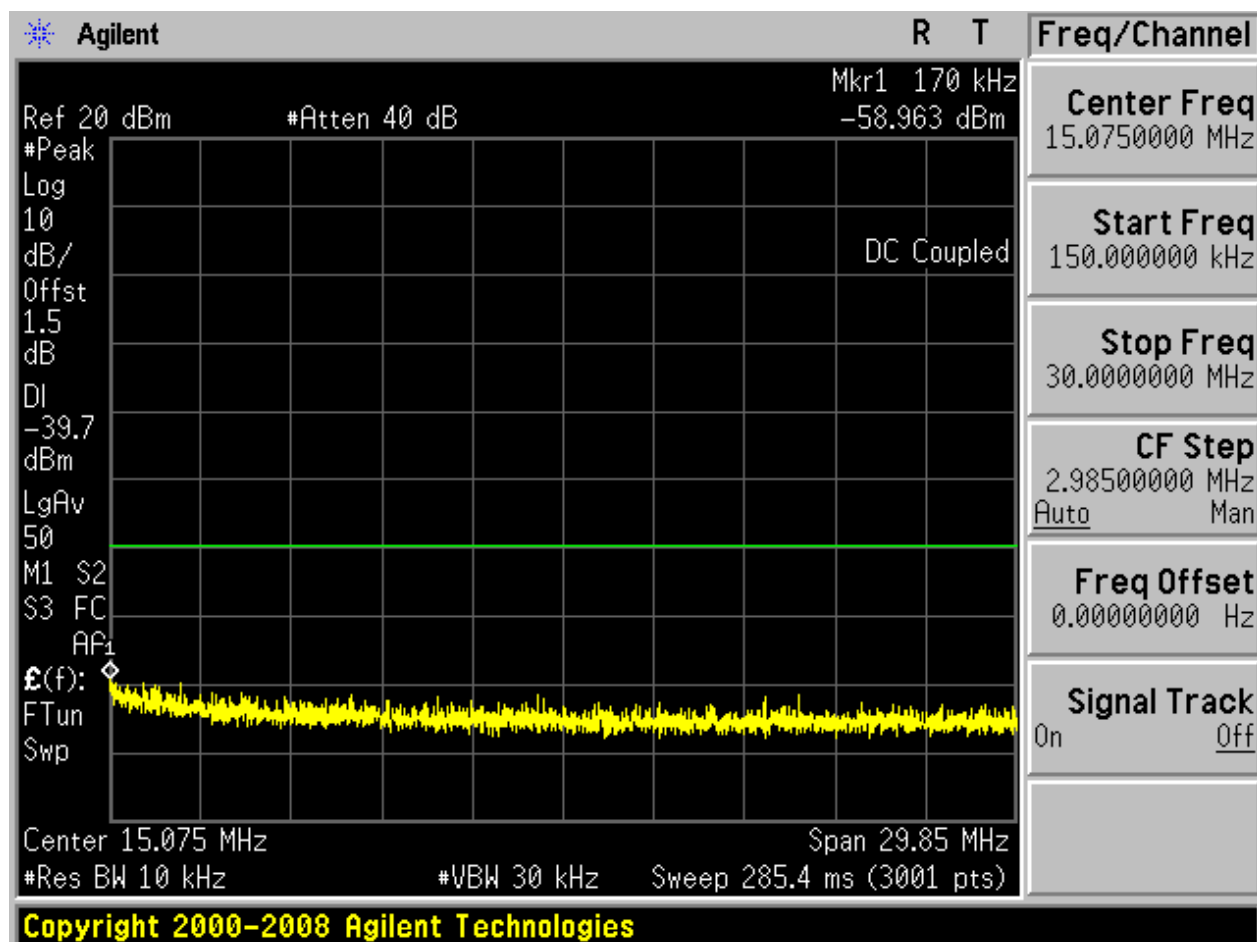
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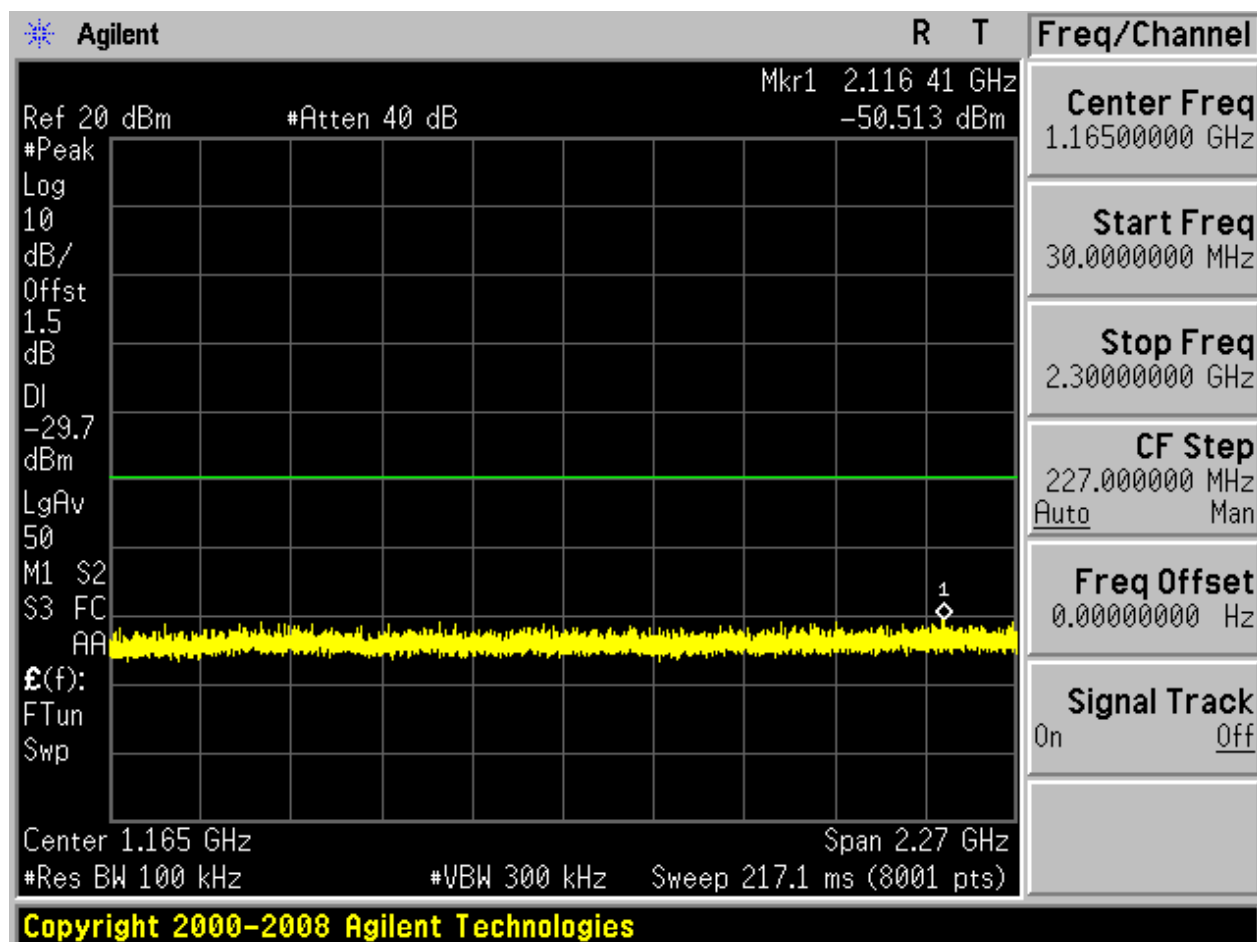


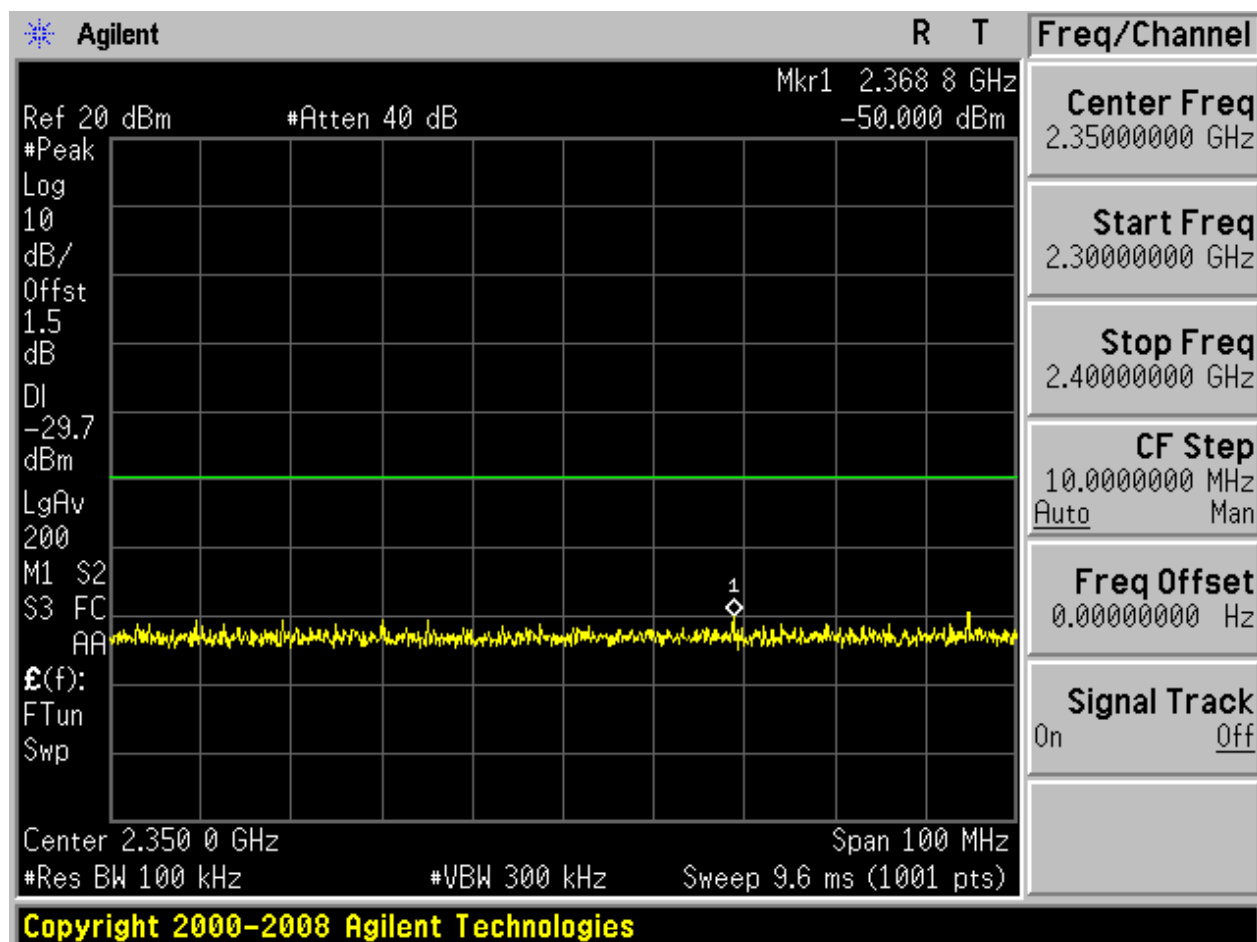


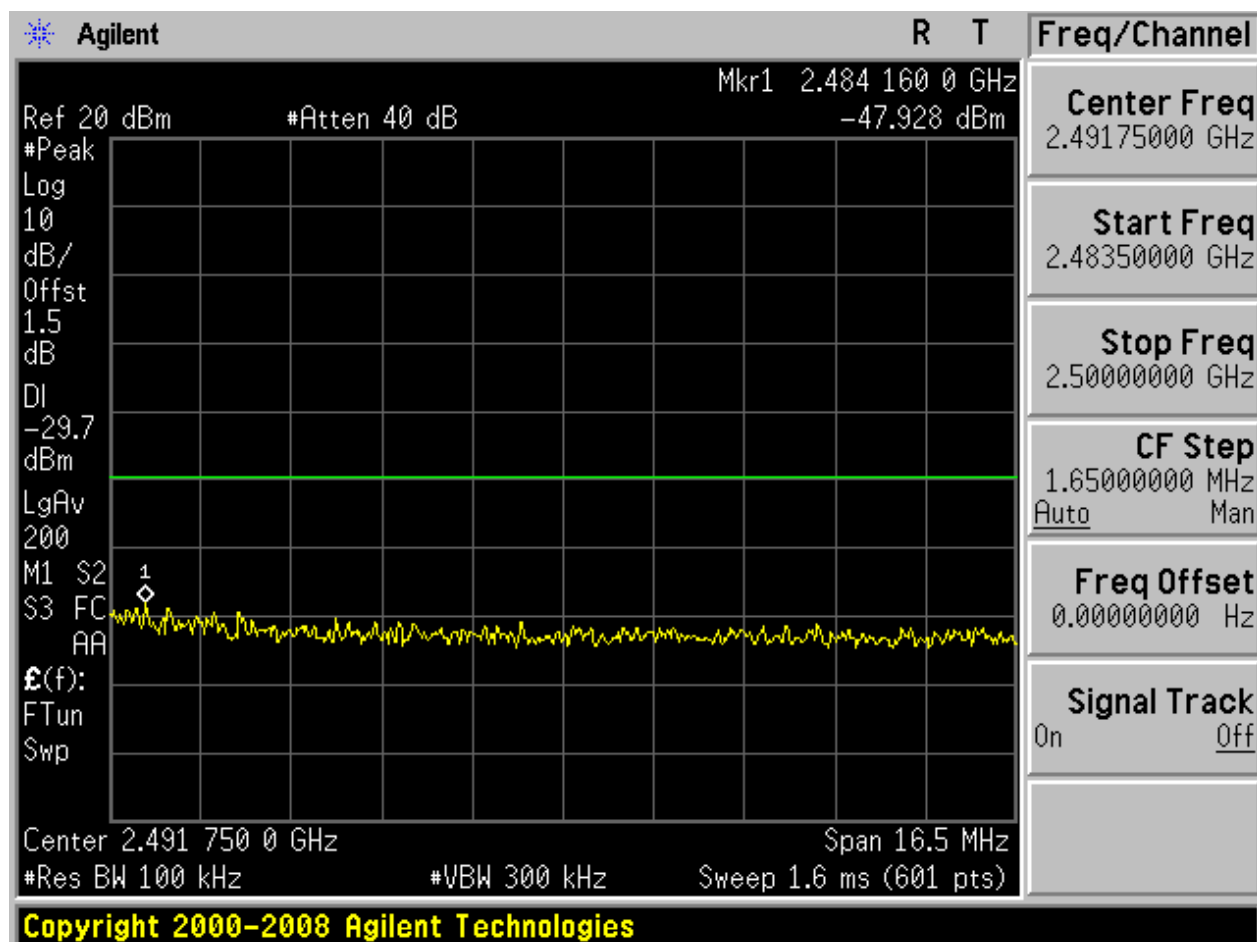
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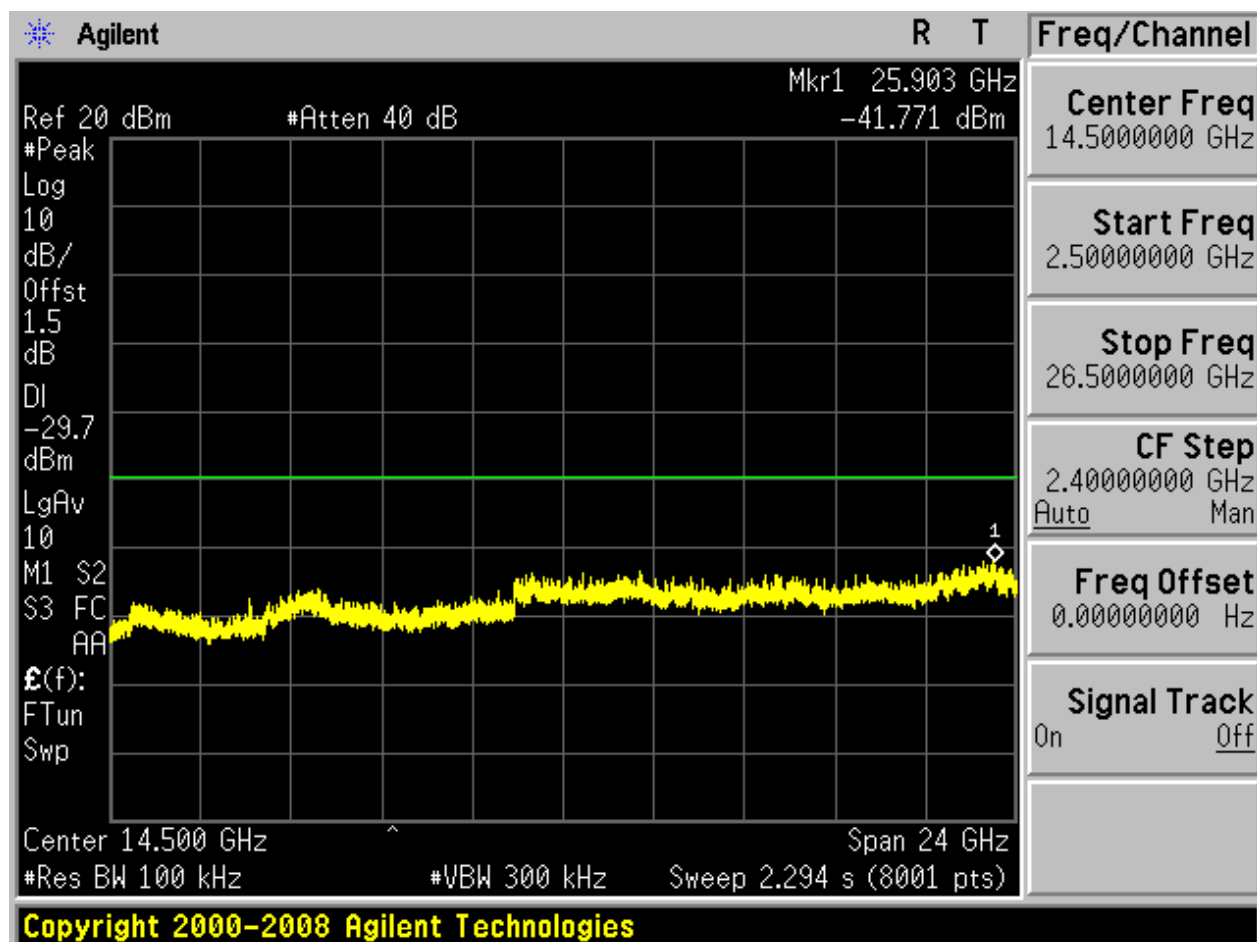








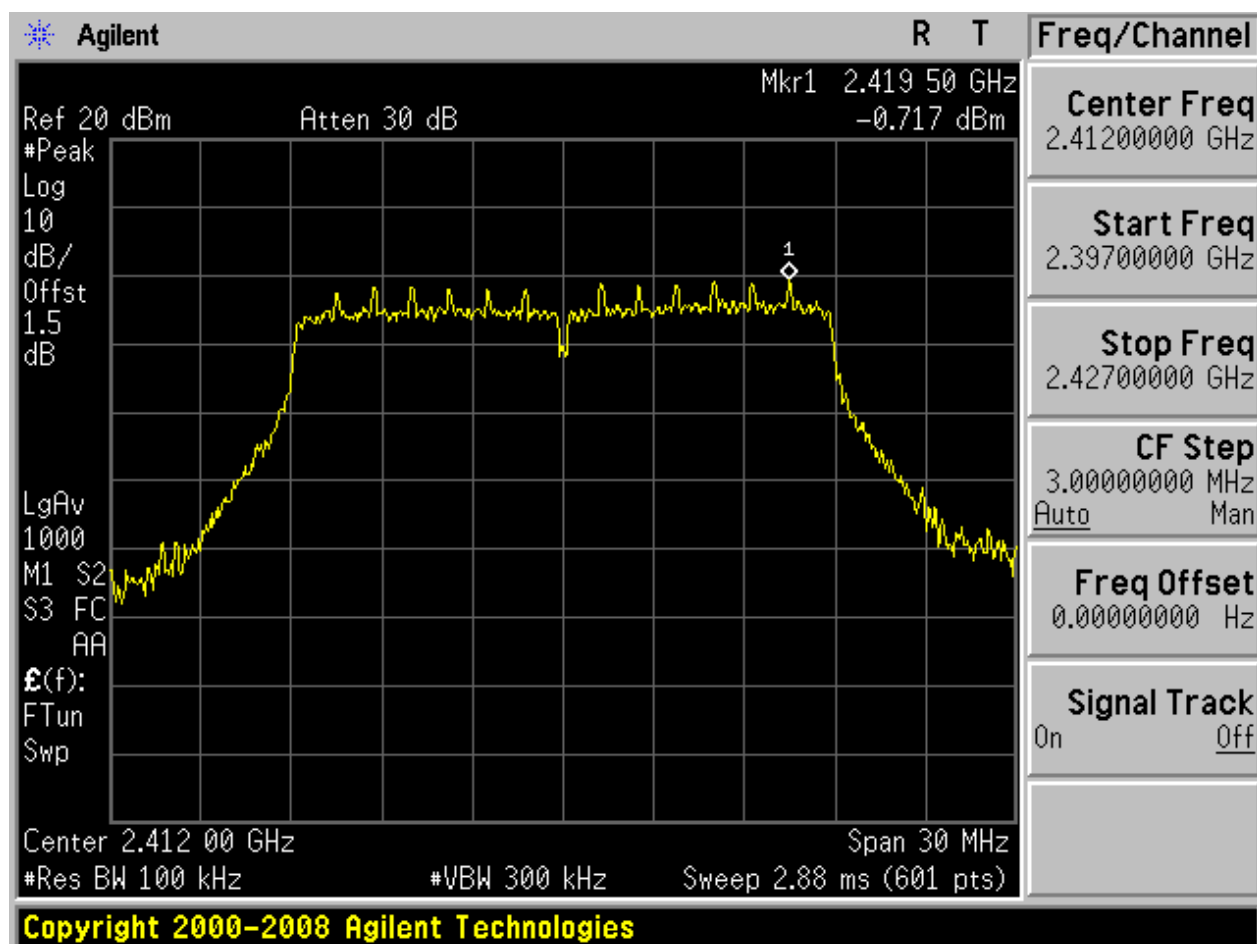






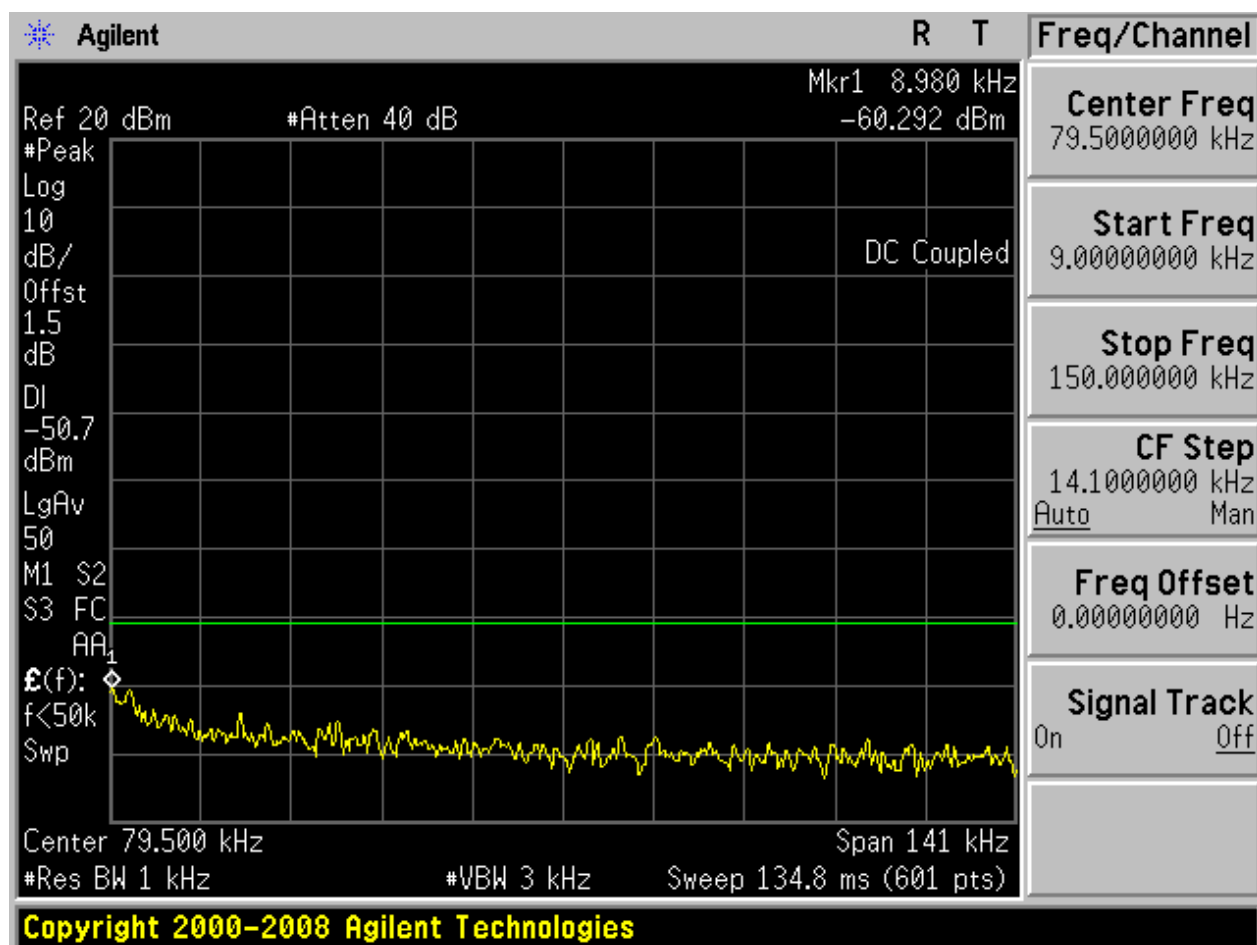
2.7 11N20_L@Ant 1

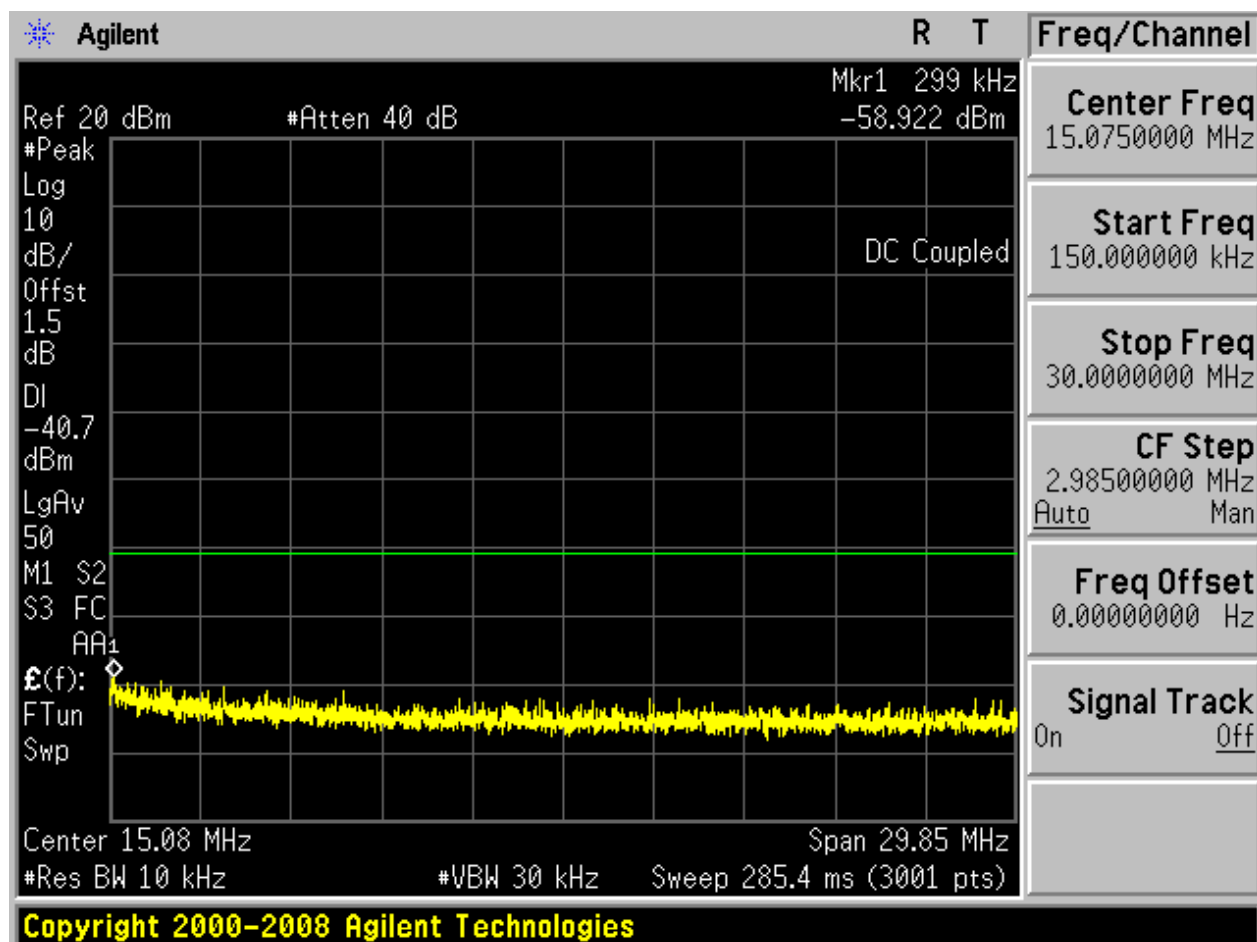
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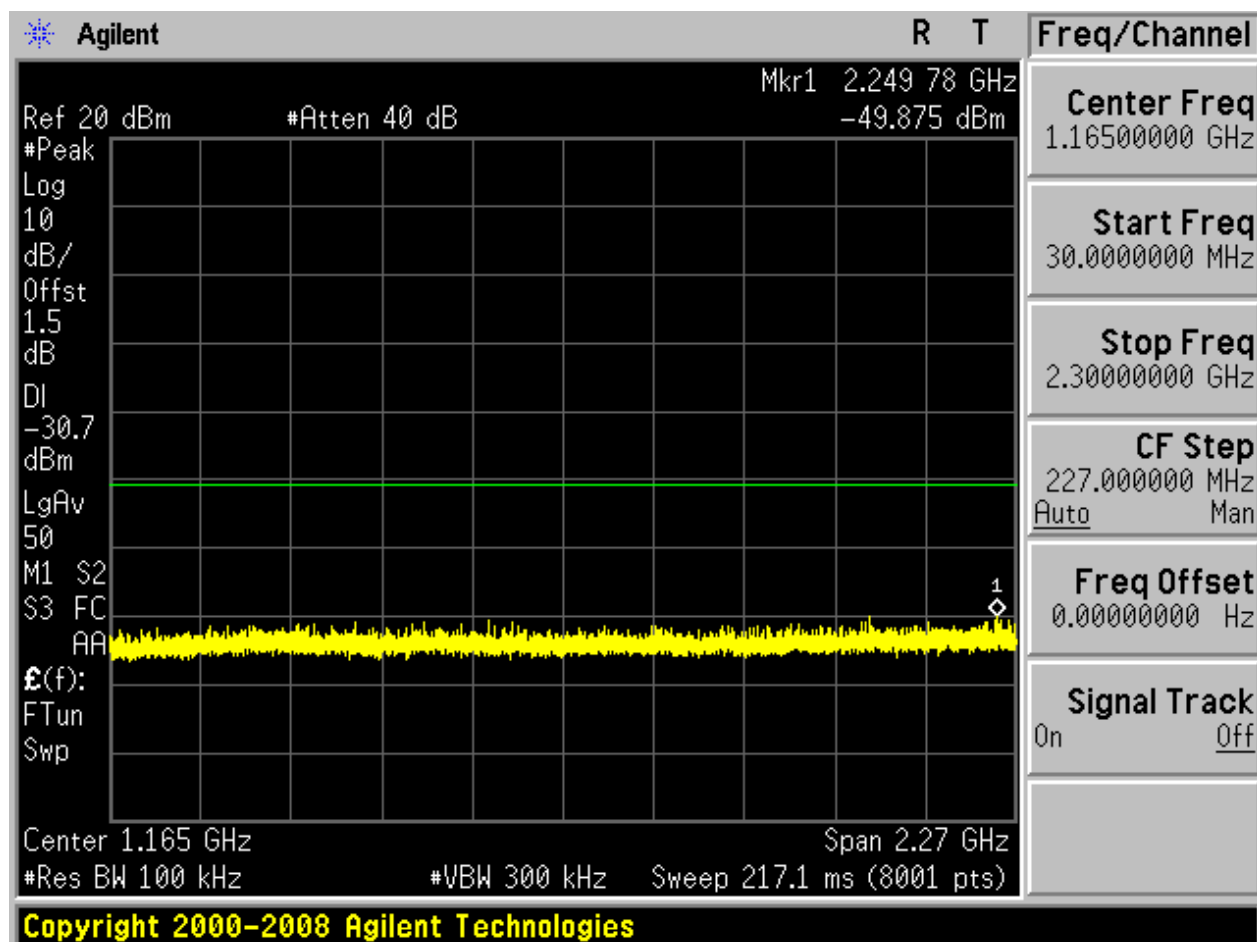


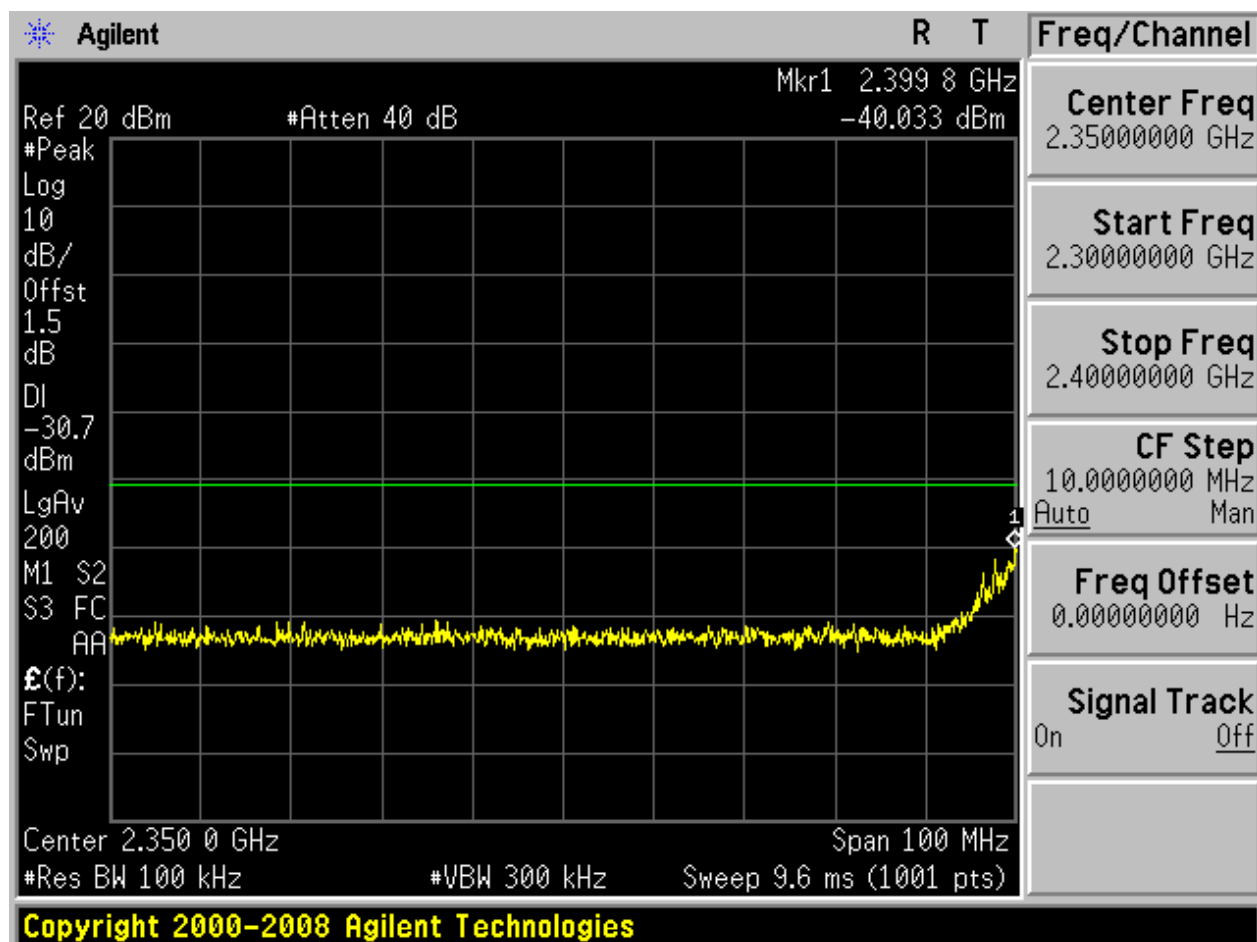


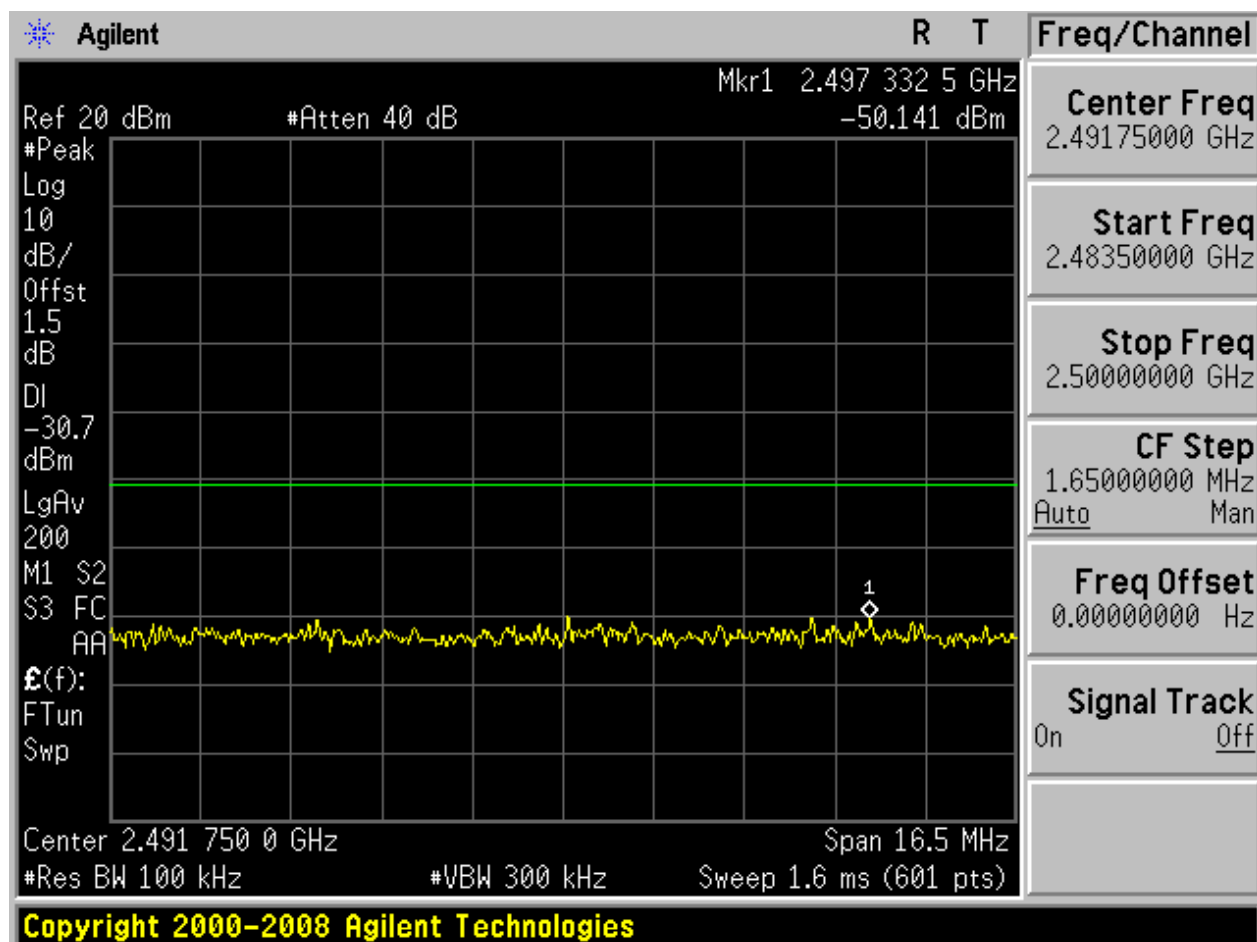
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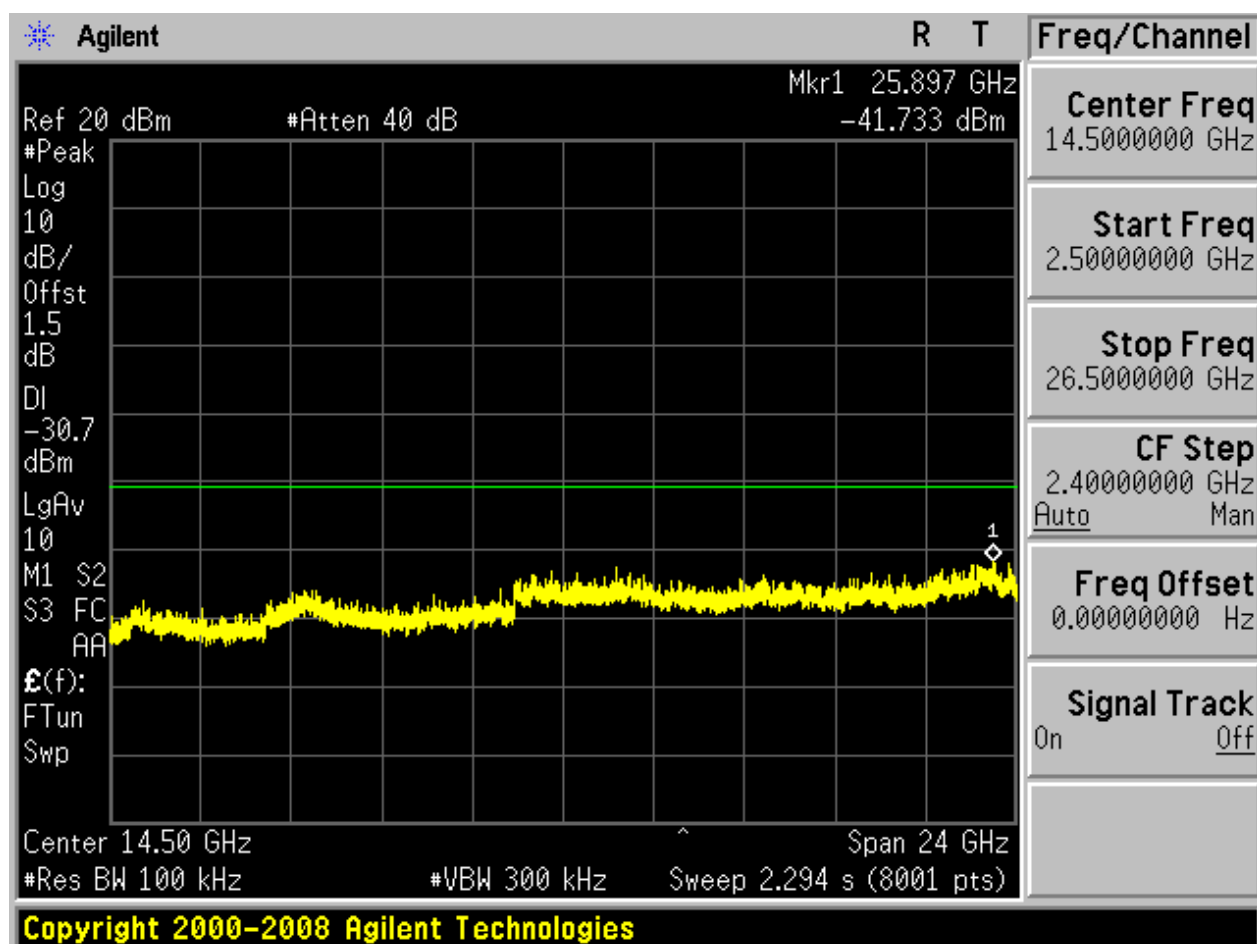








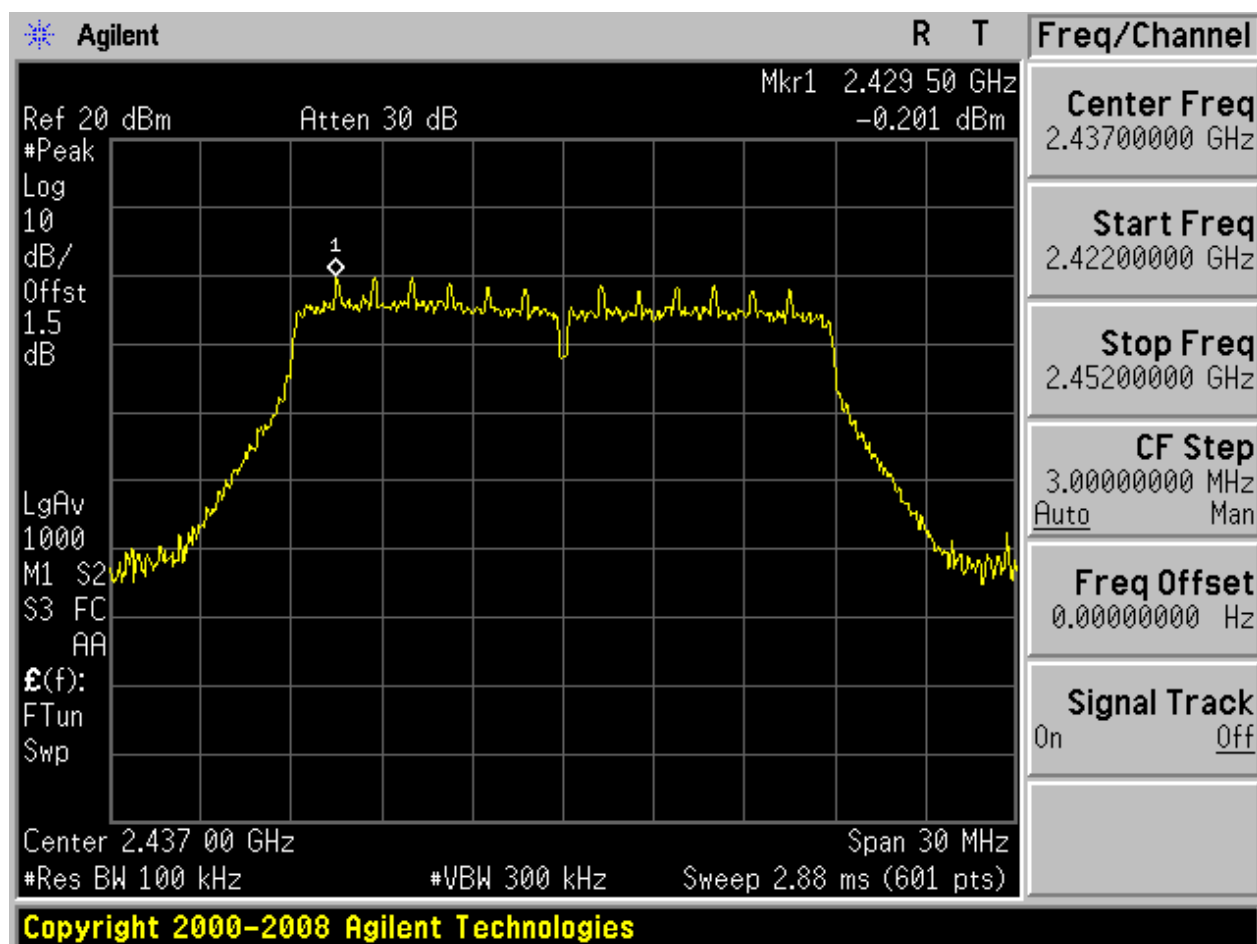






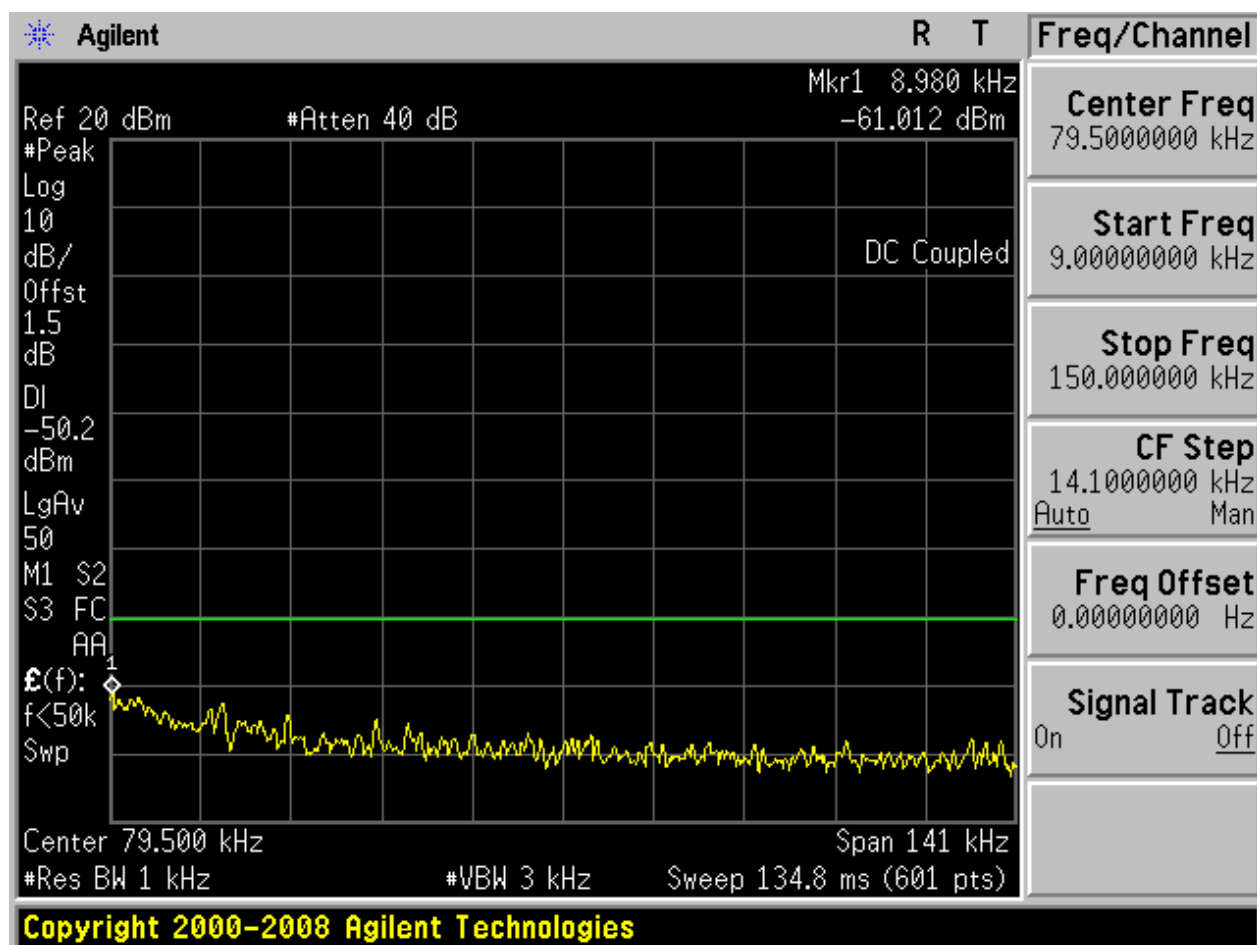
2.8 11N20_M@Ant 1

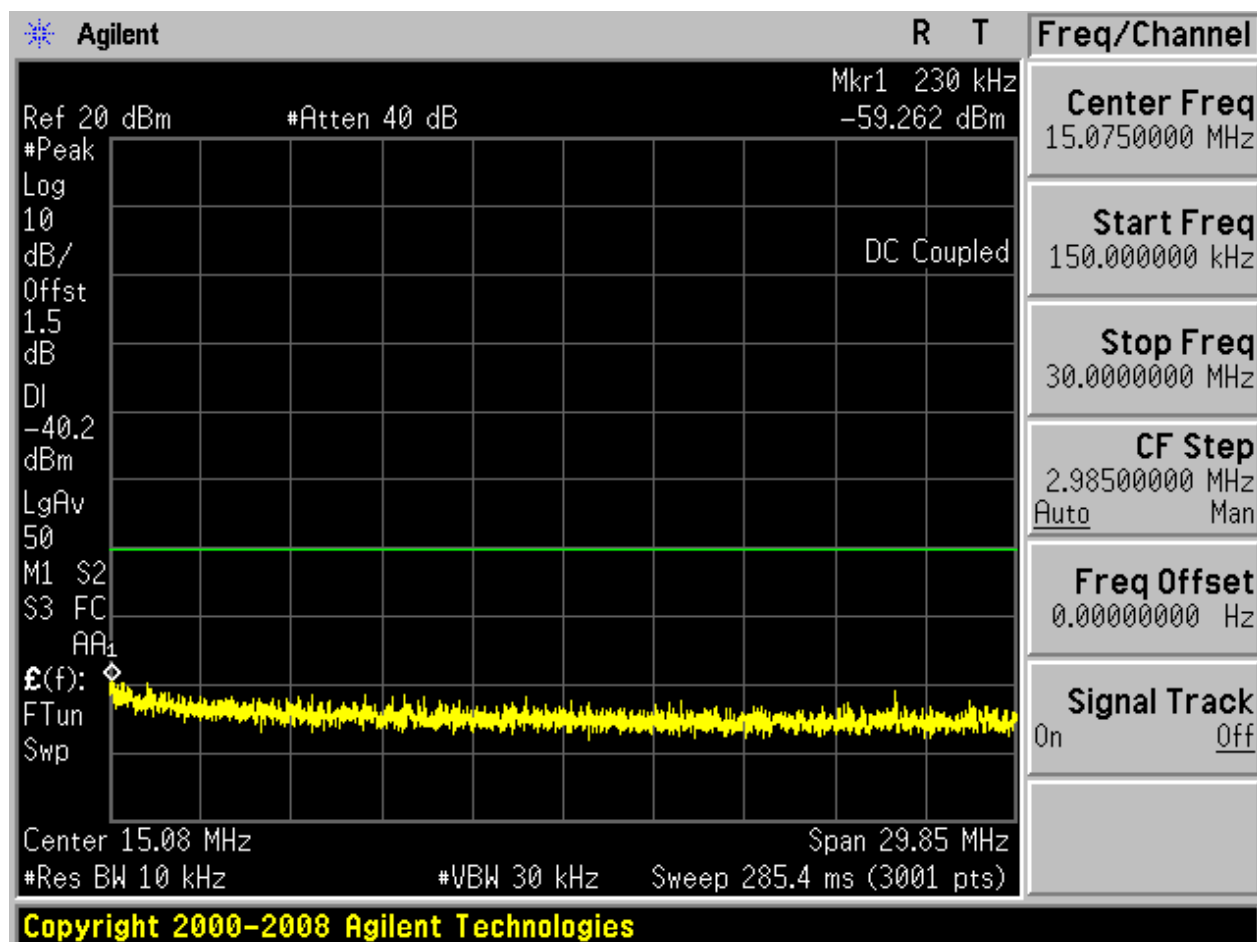
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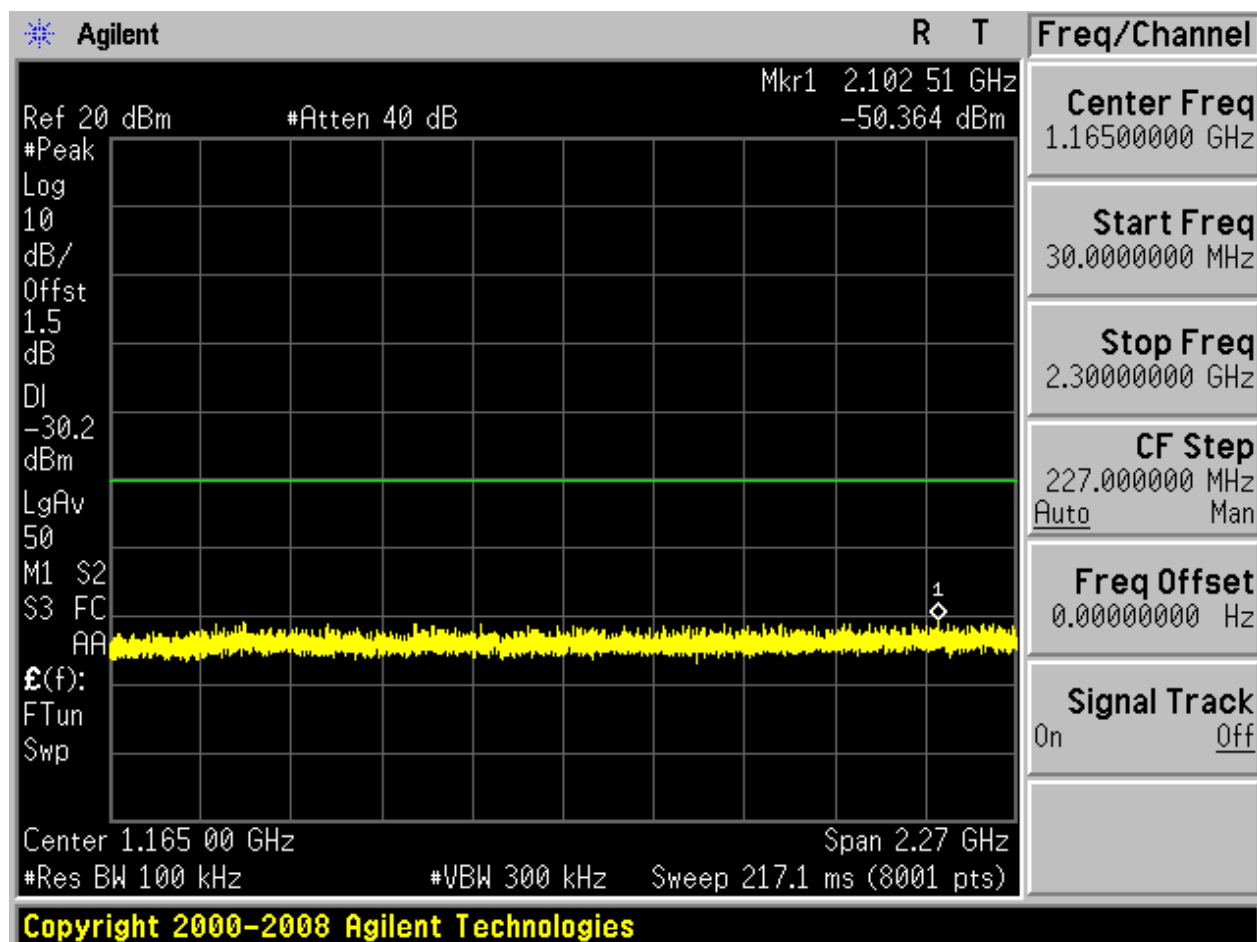


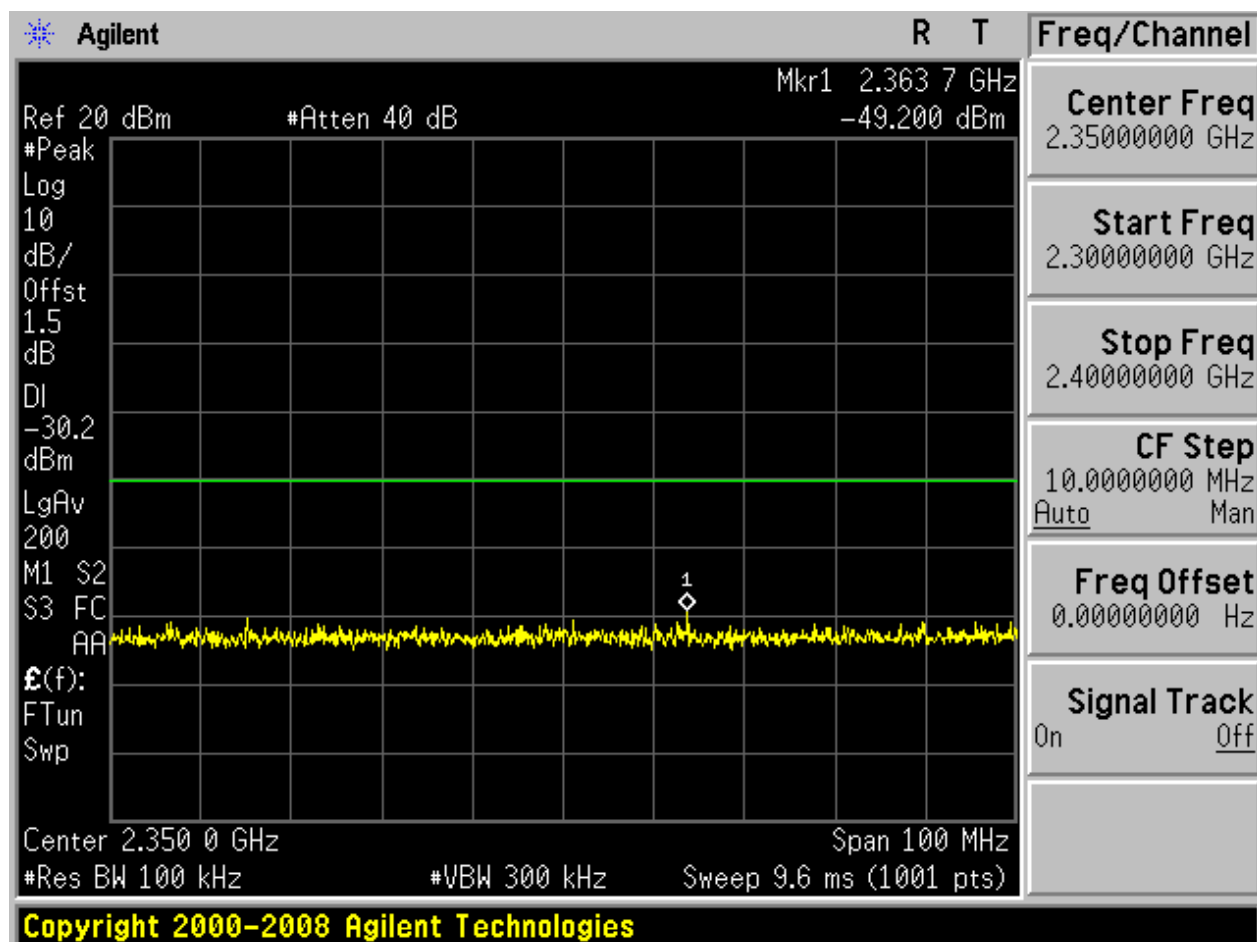


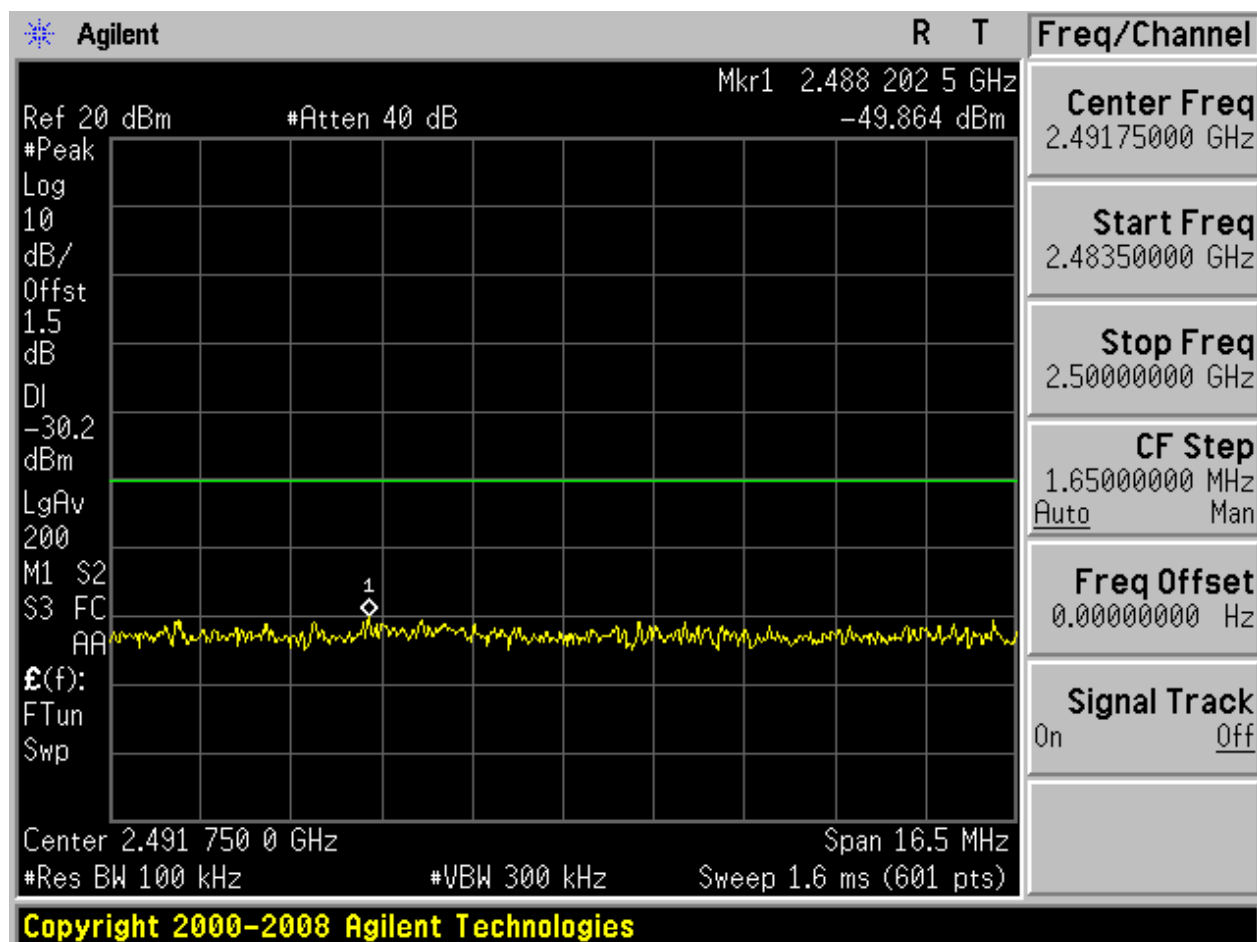
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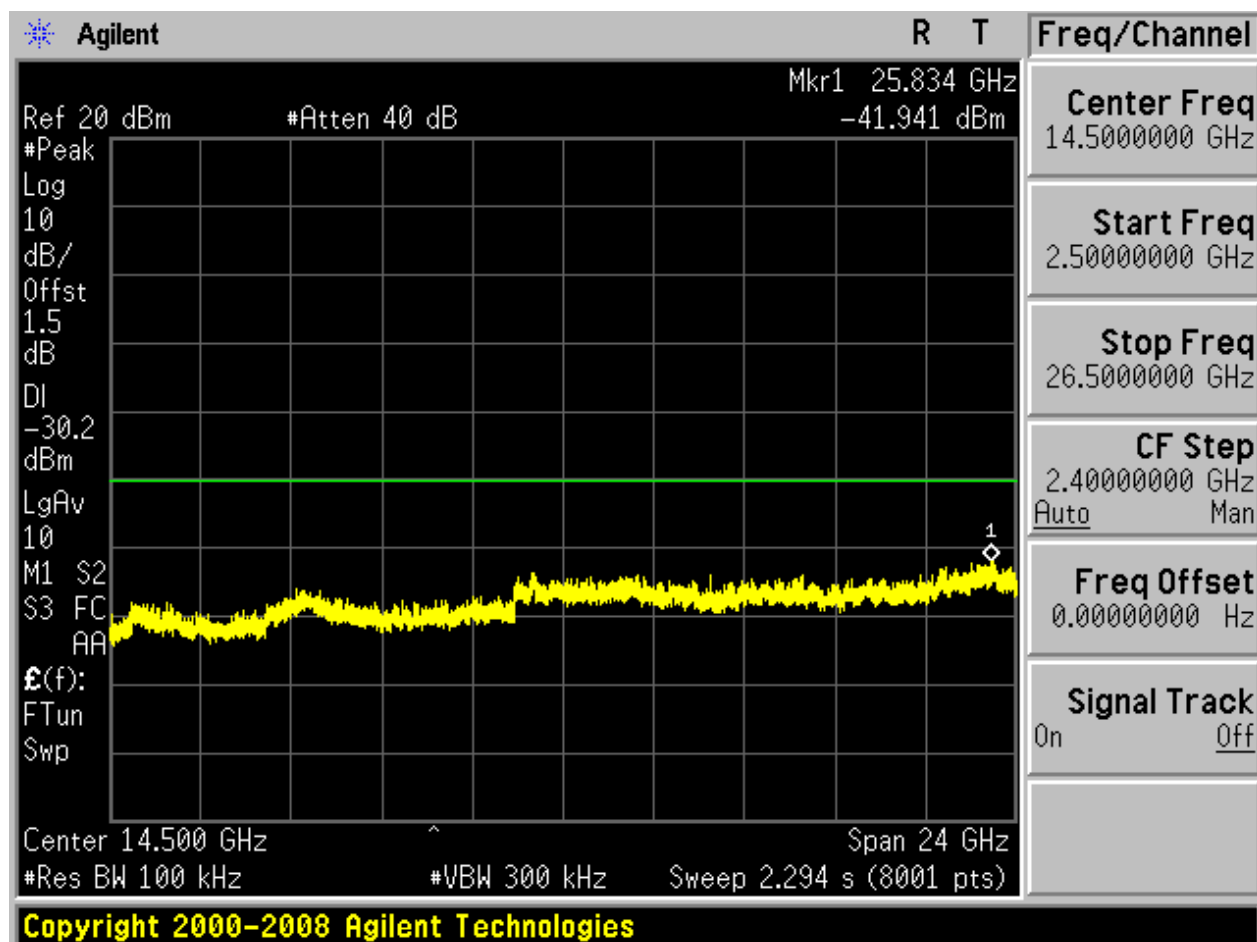






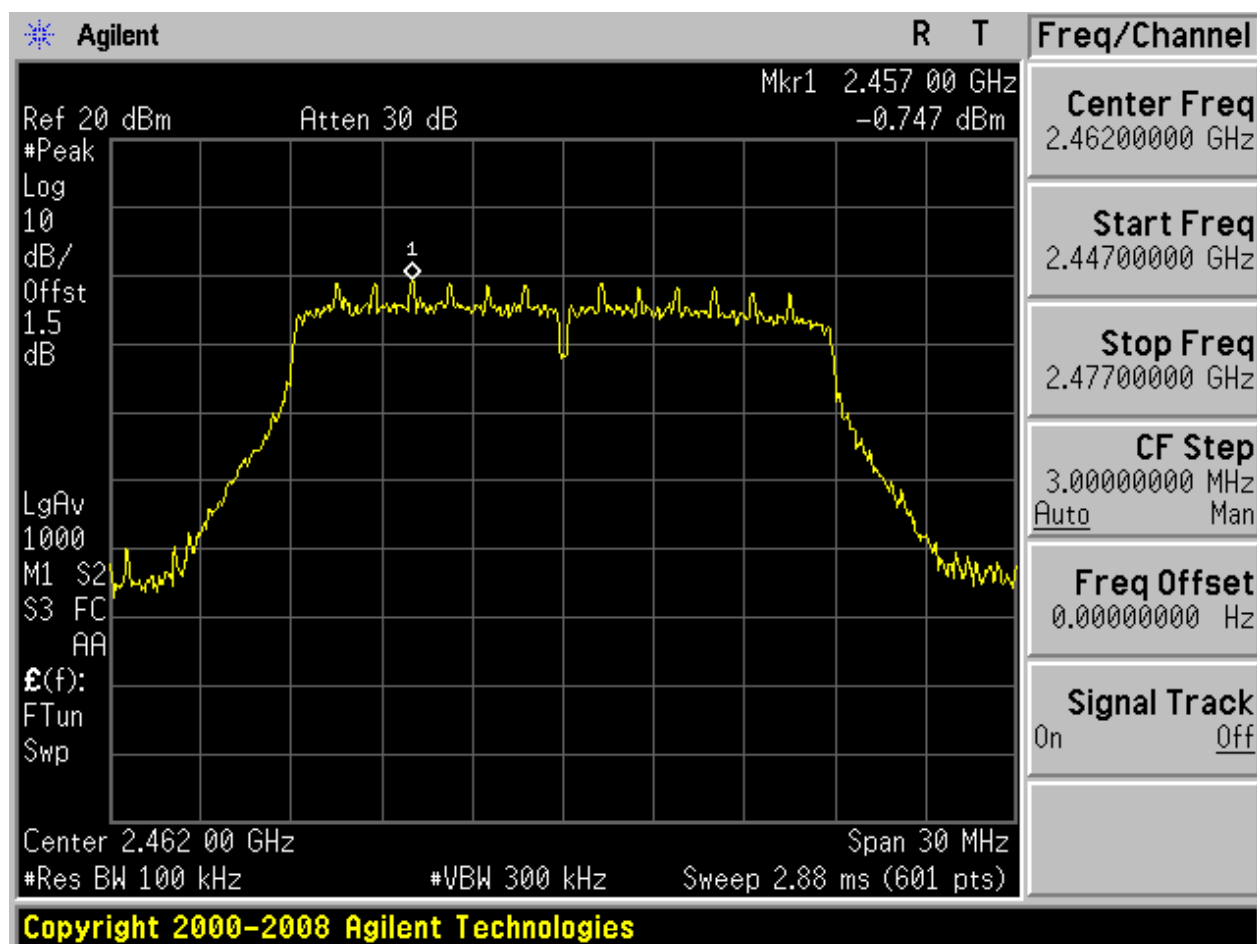






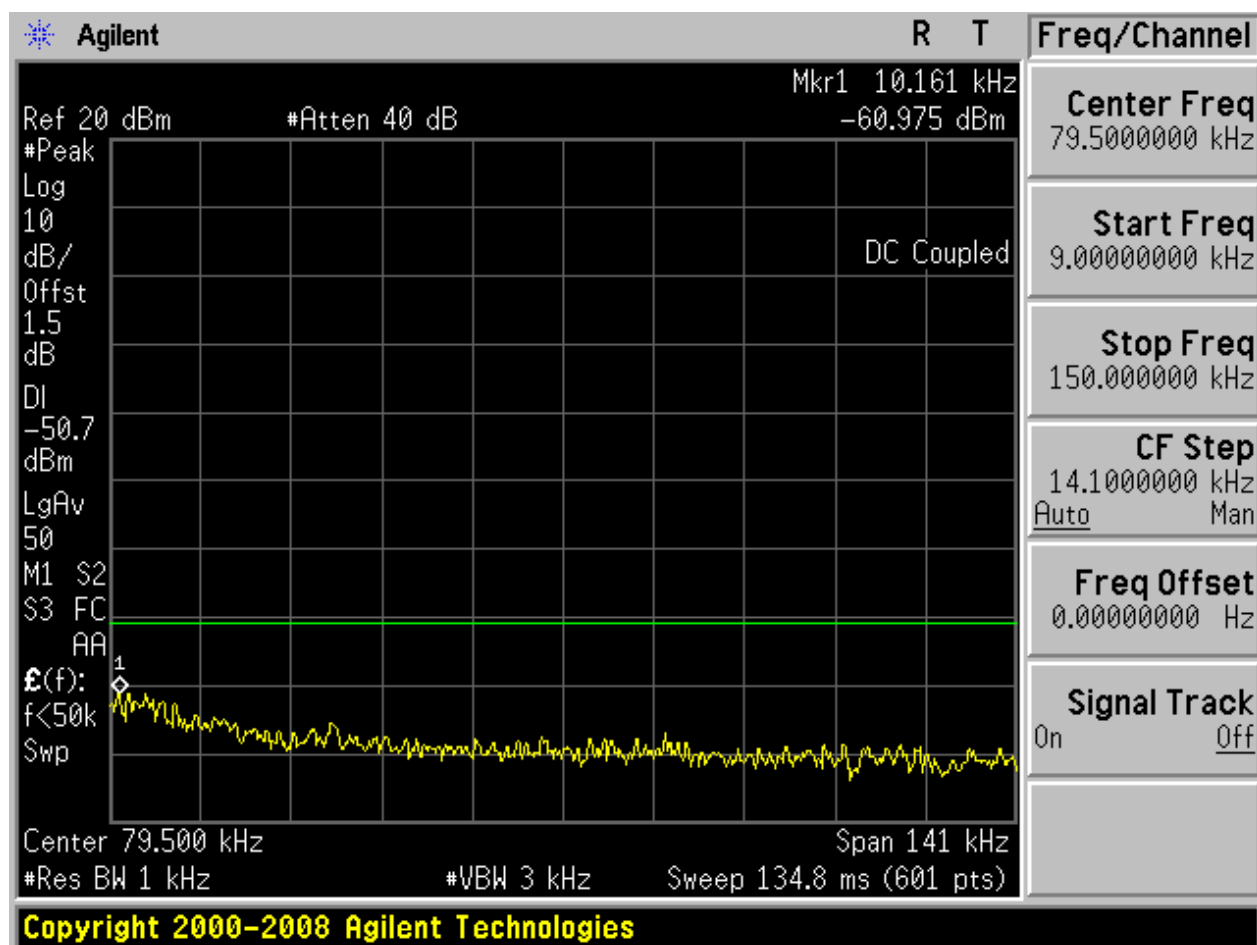
2.9 11N20_H@Ant 1

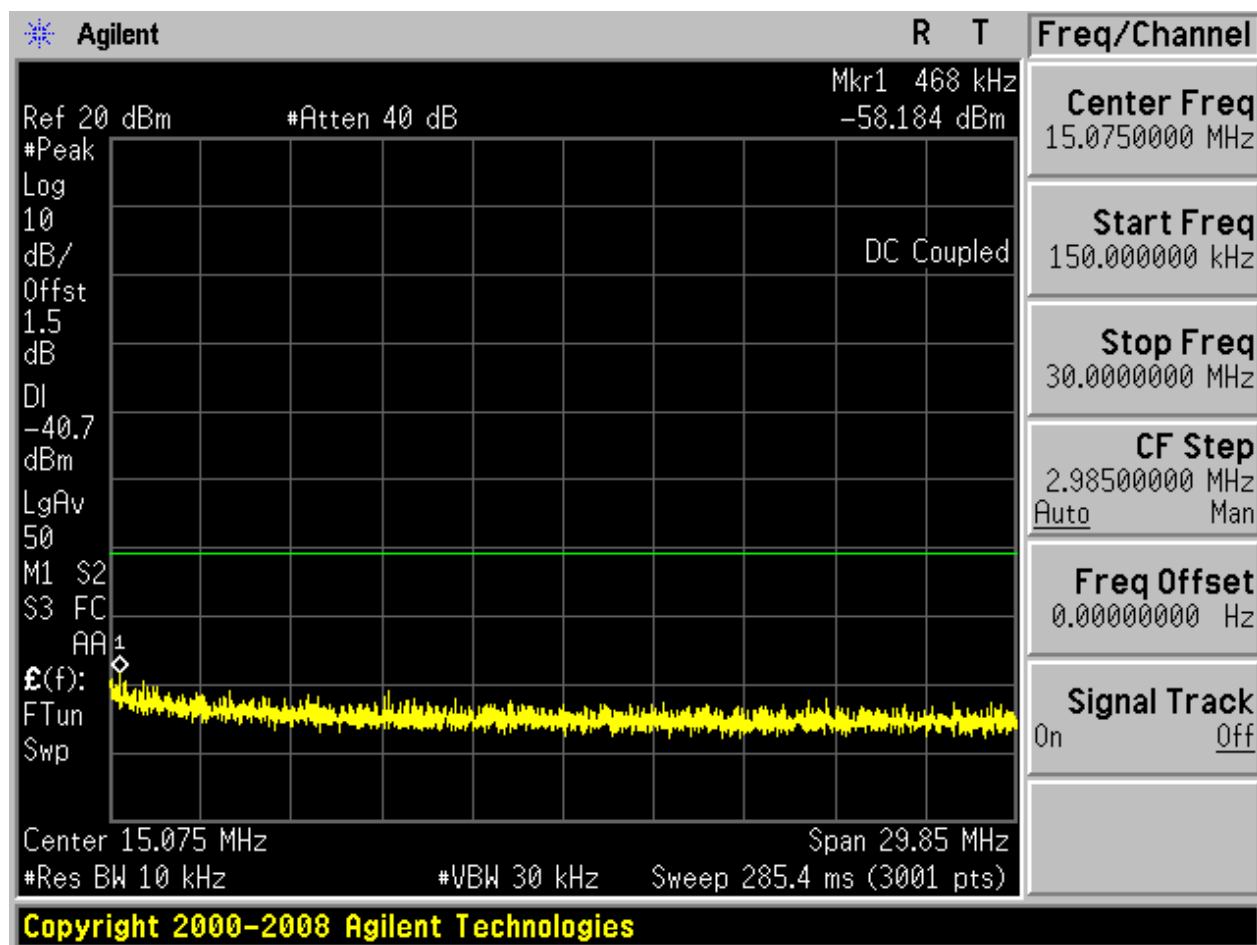
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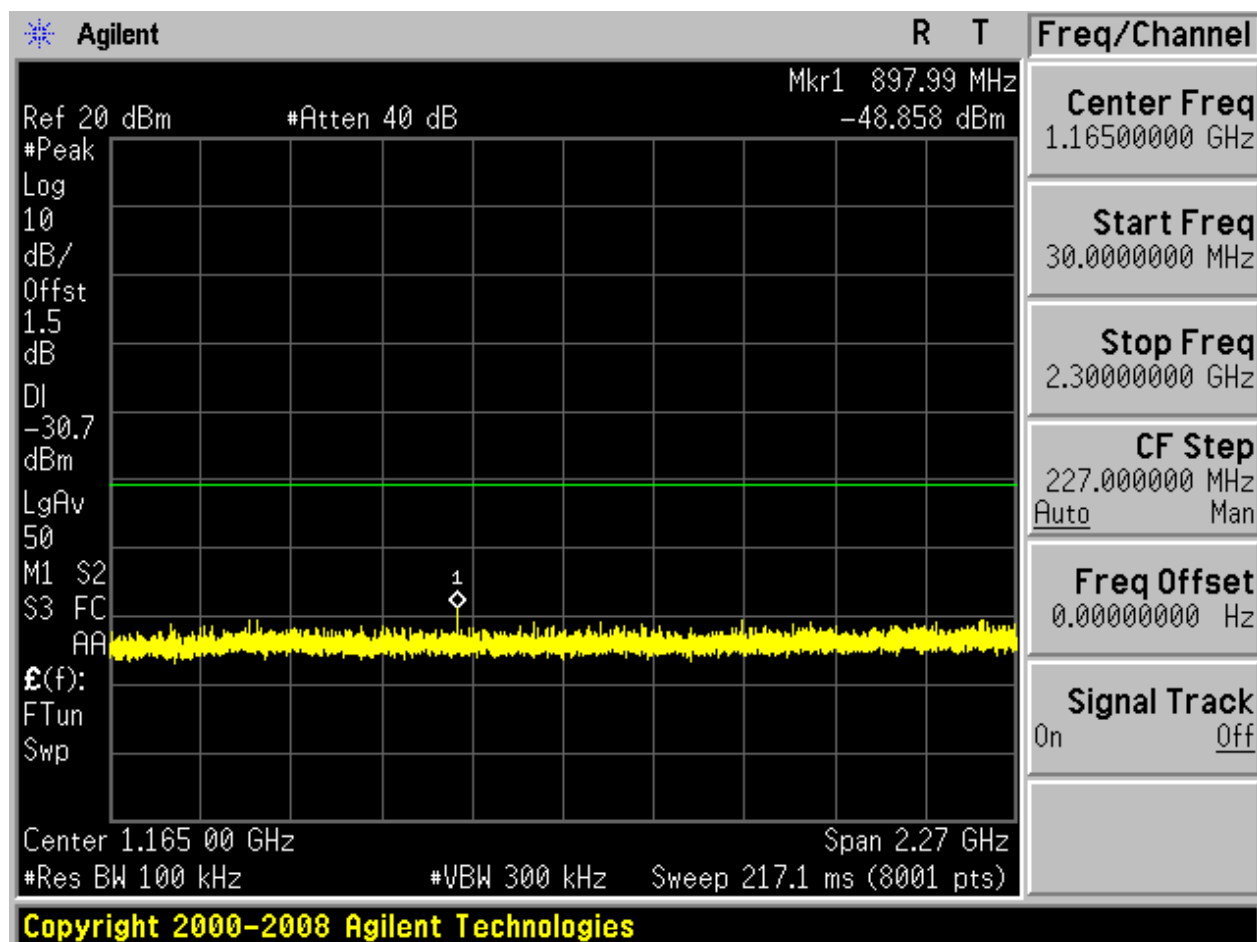


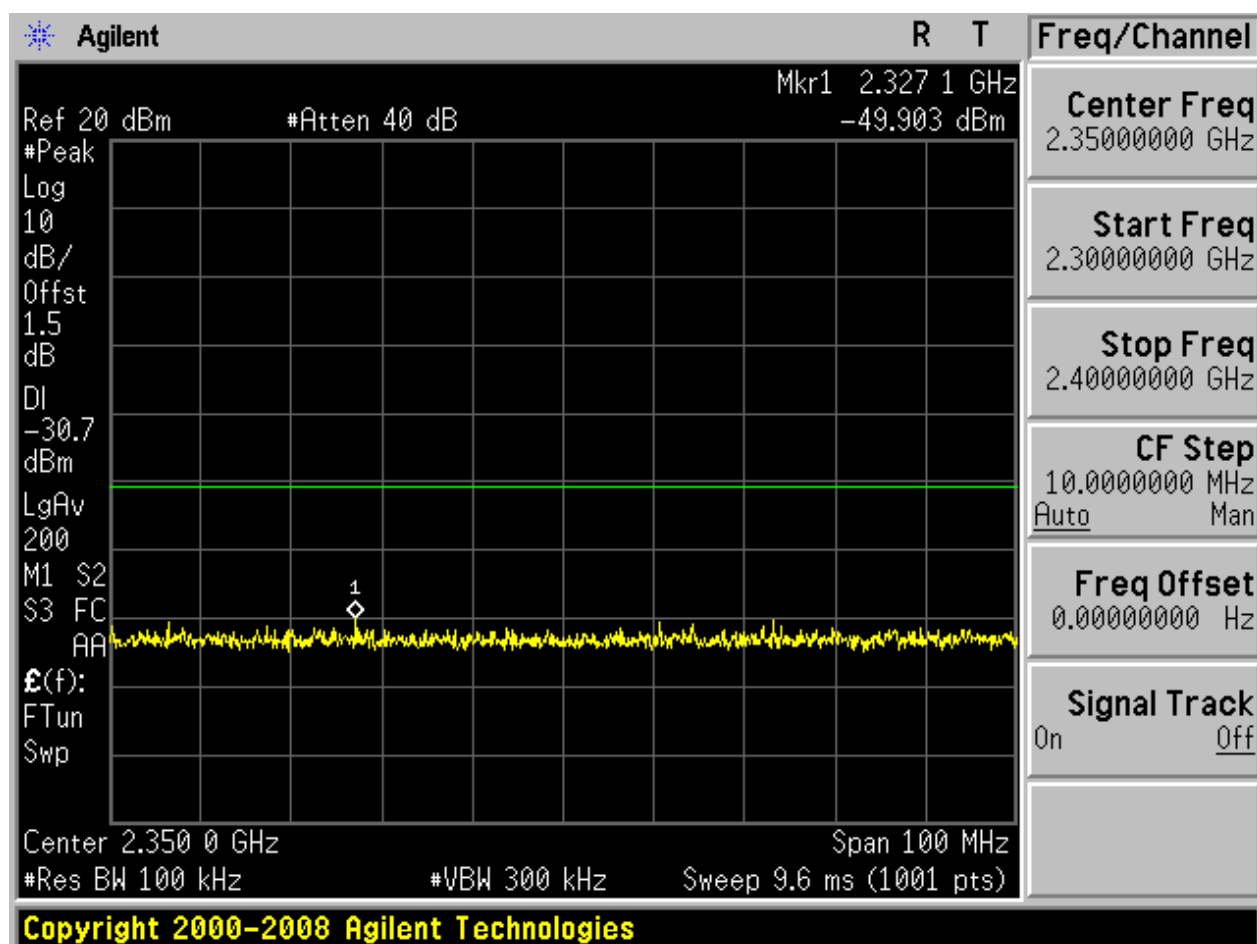


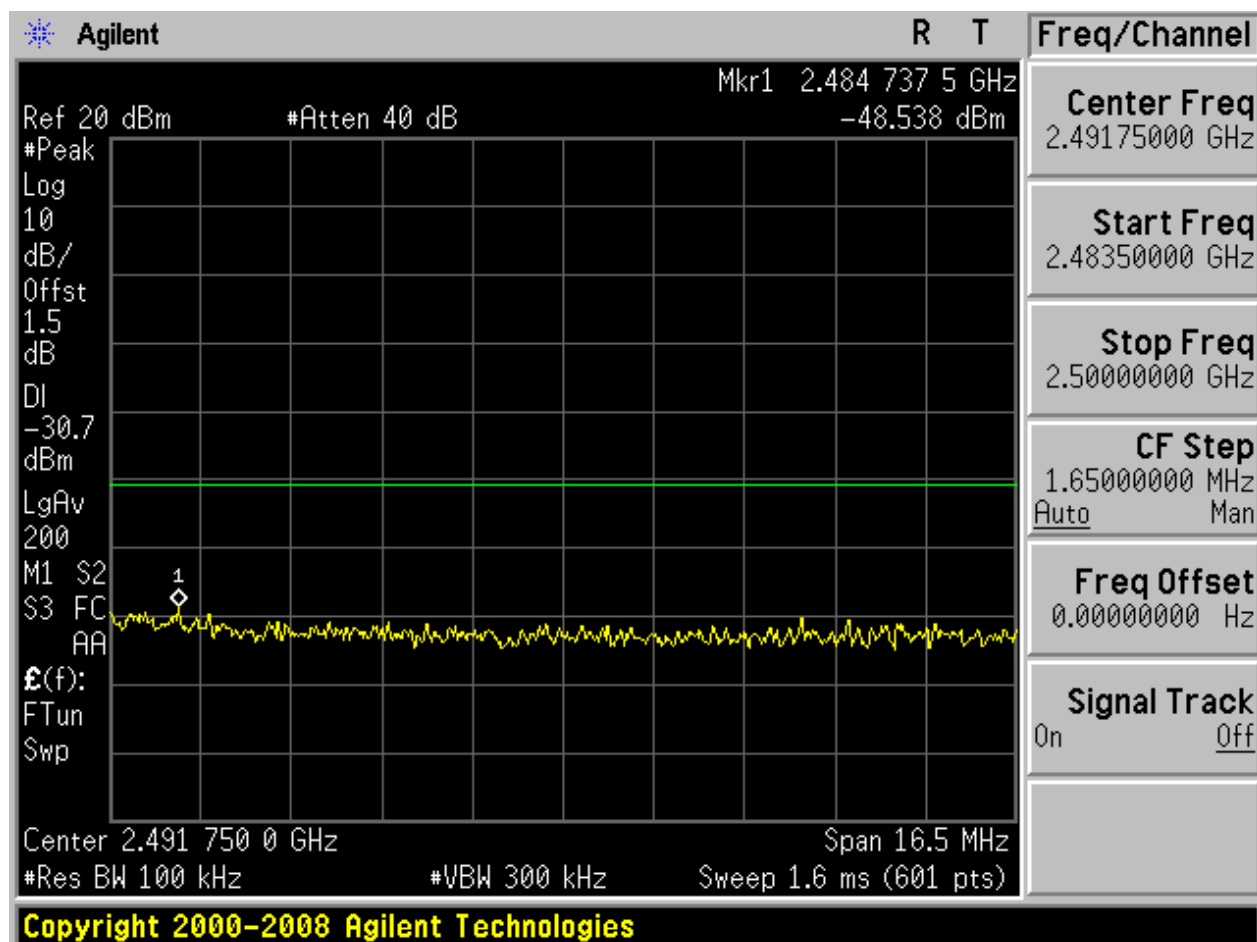
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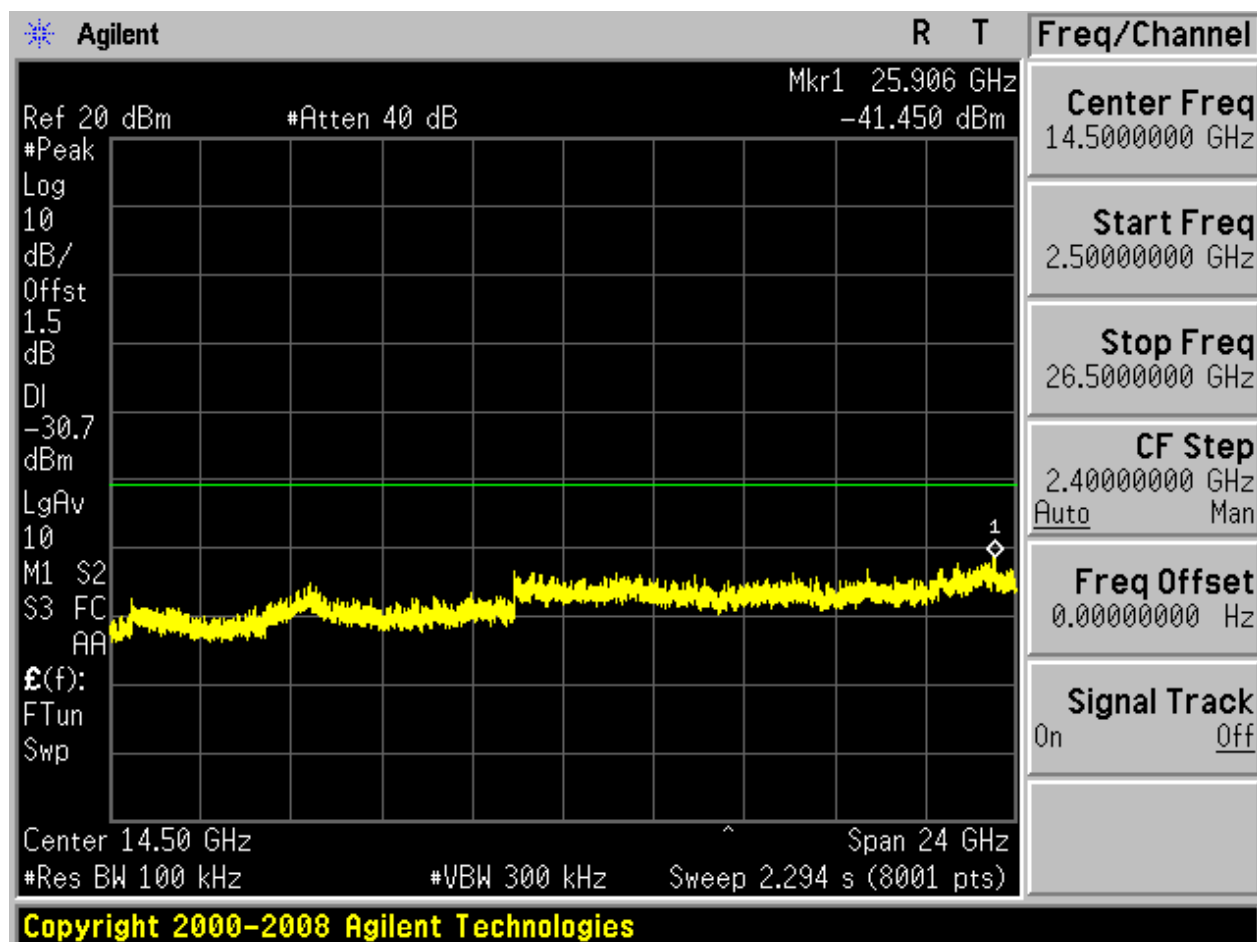






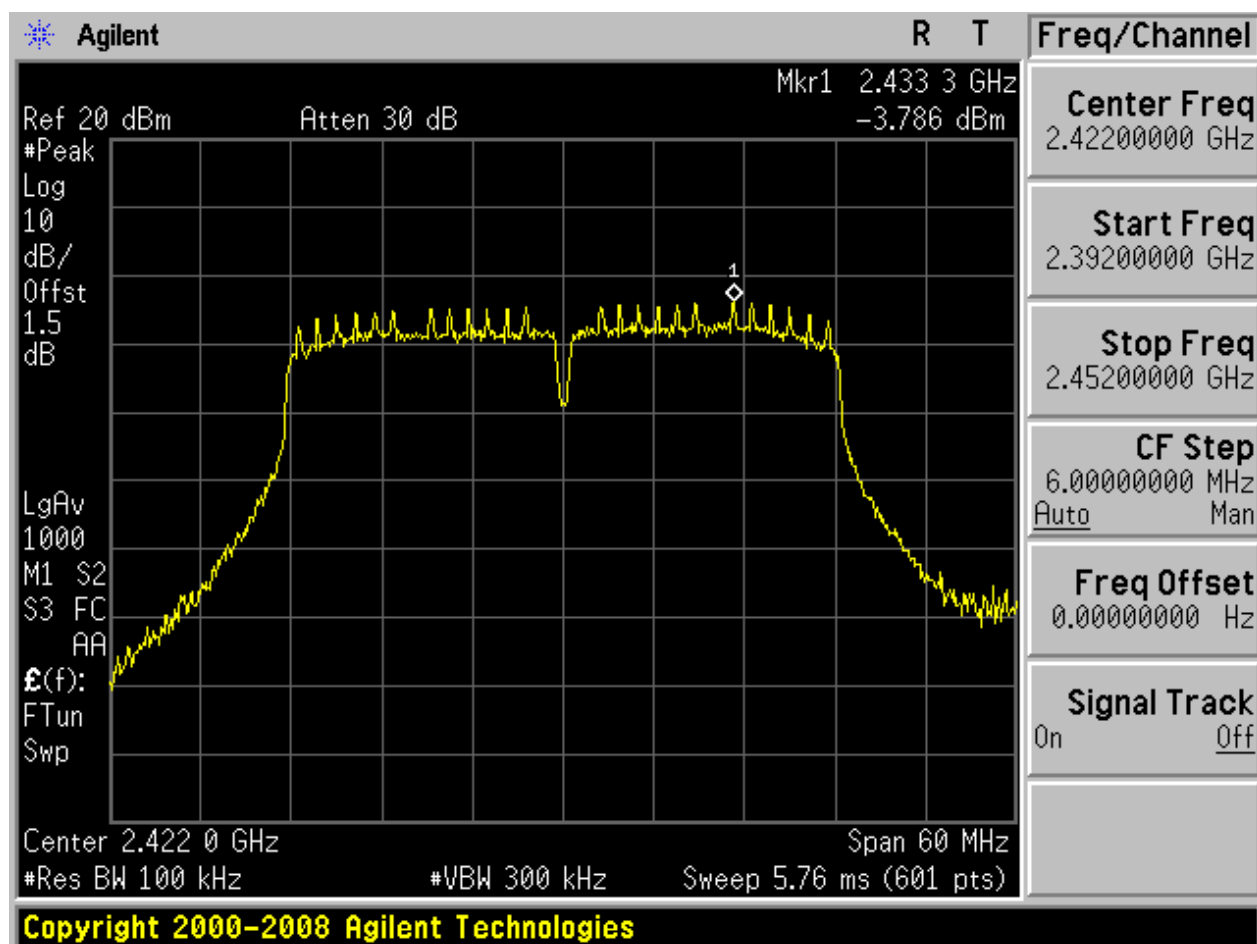






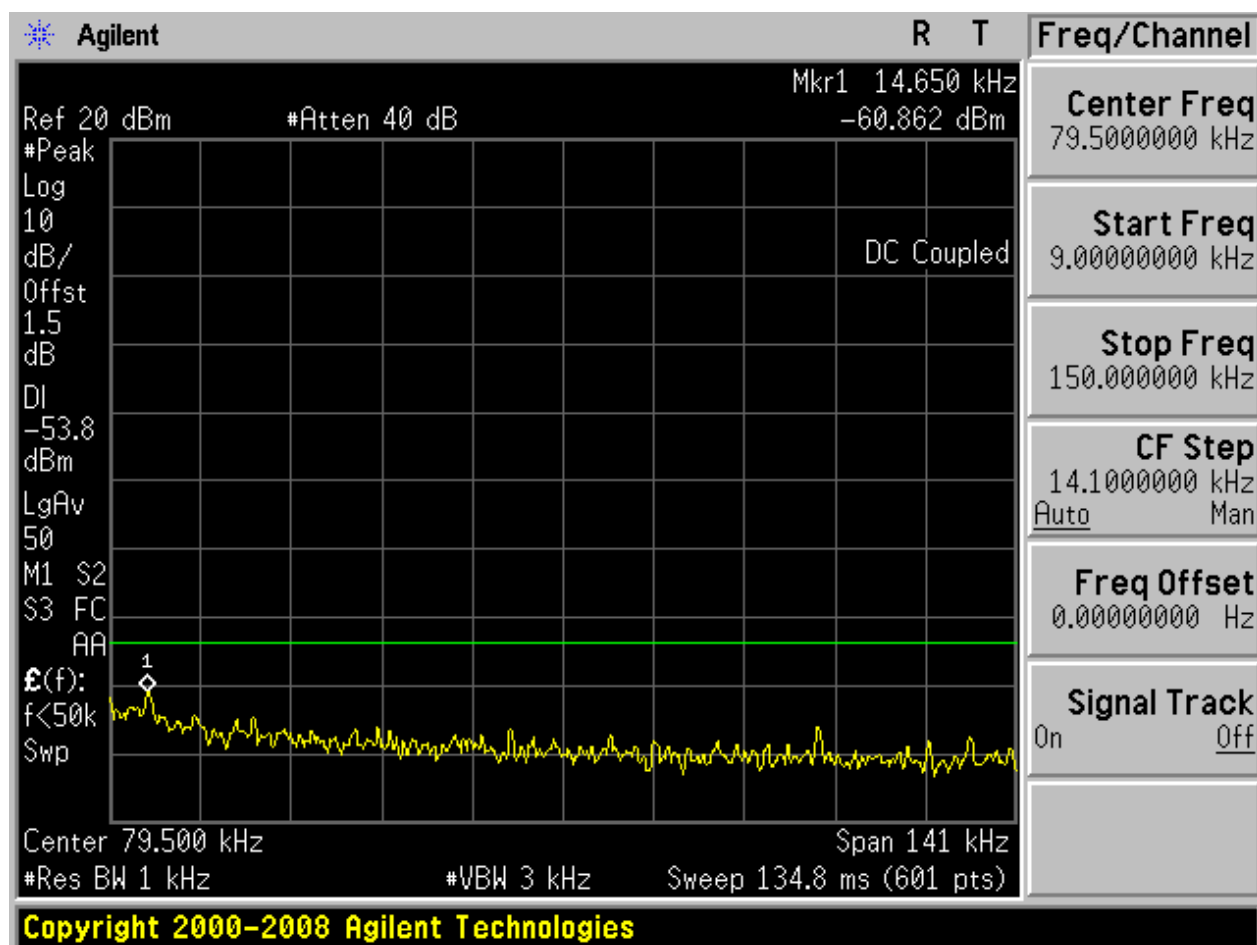
2.10 11N40_L@Ant 1

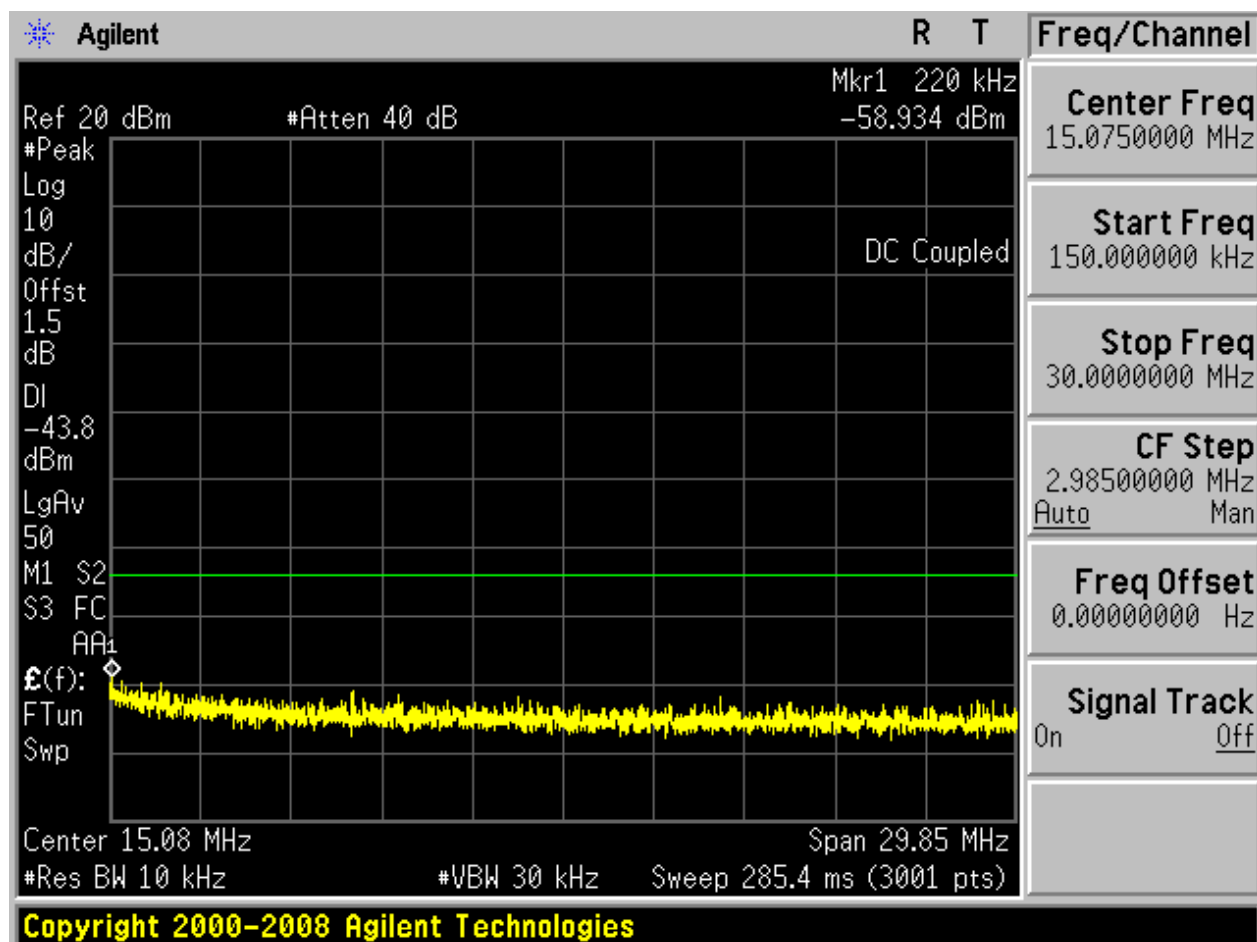
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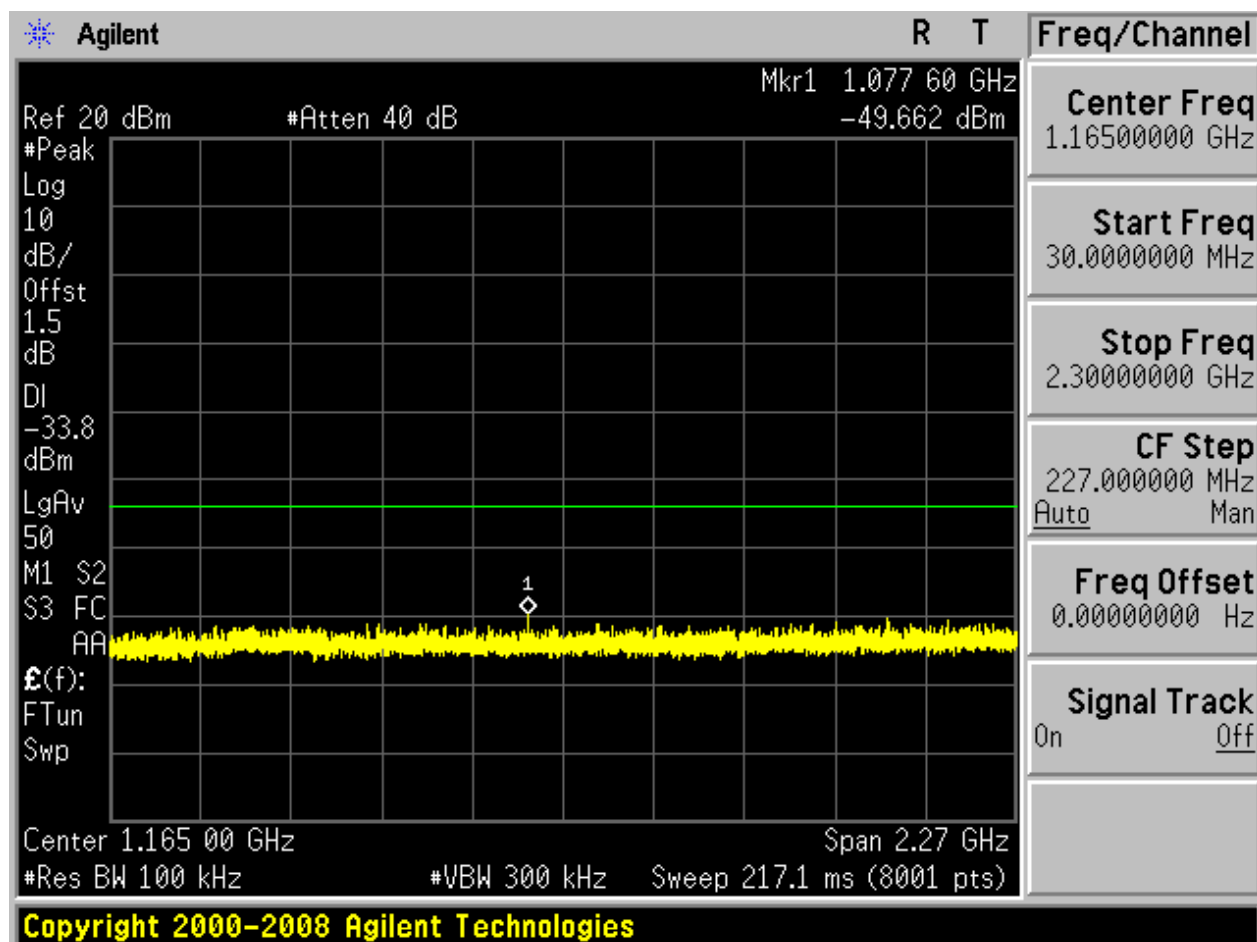


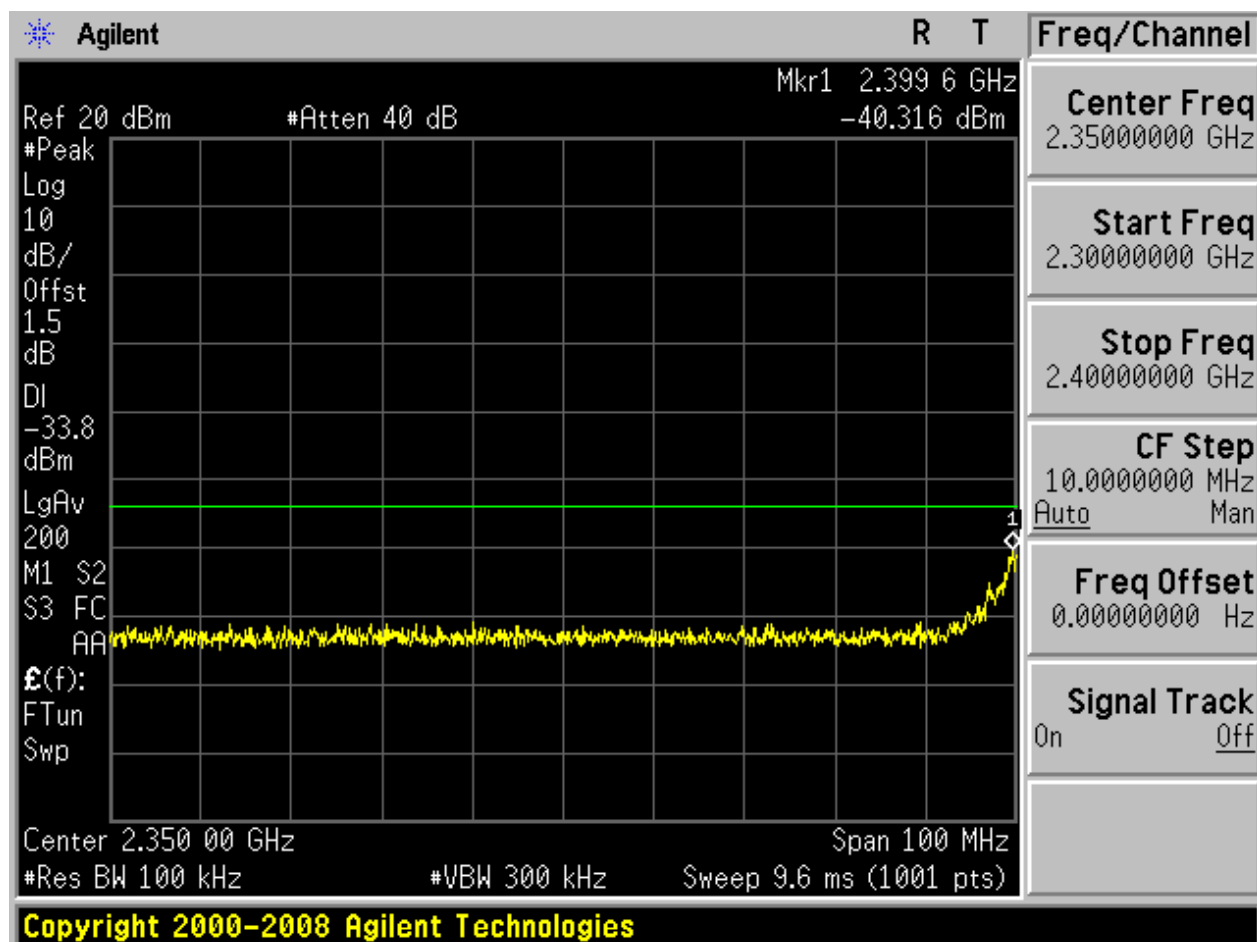


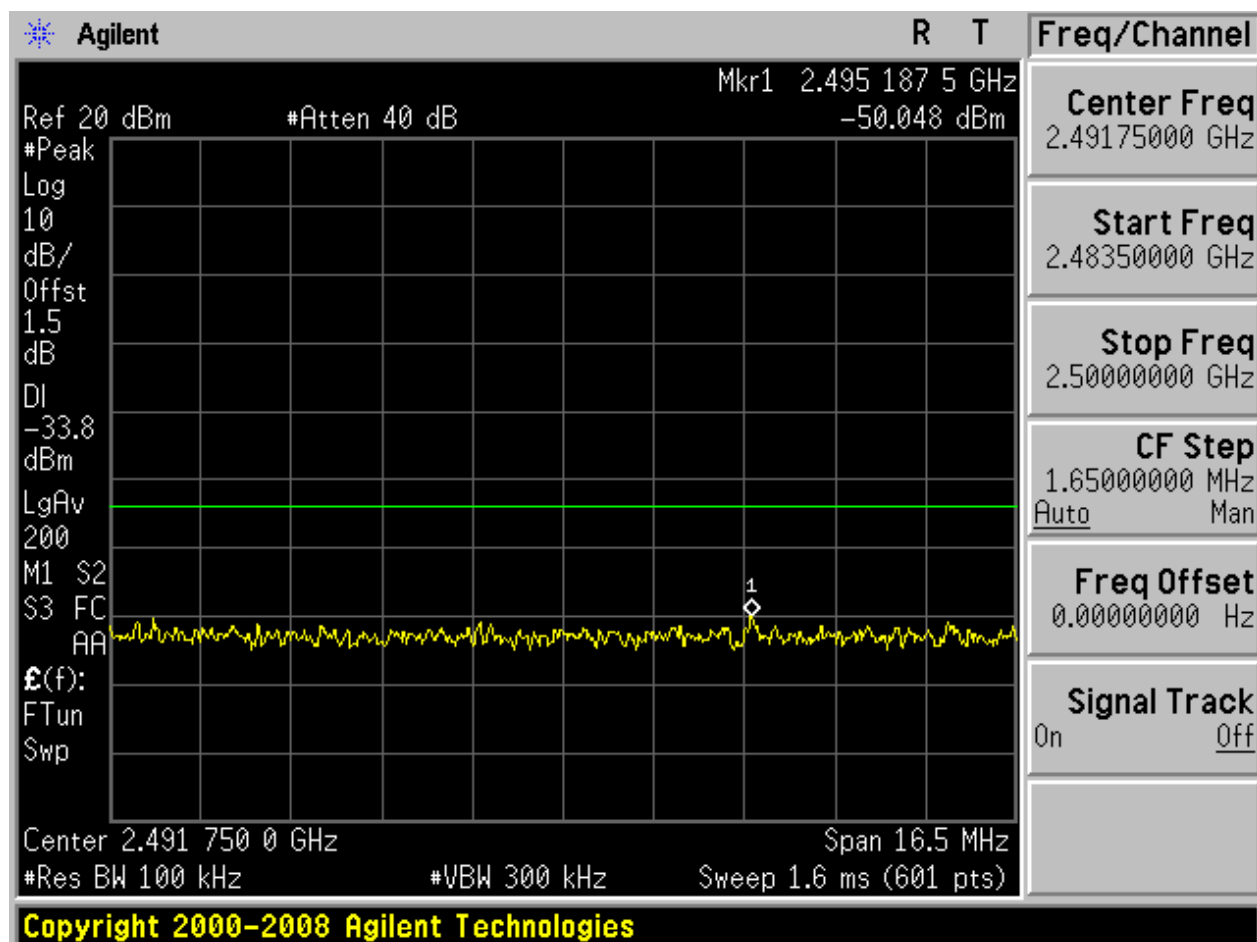
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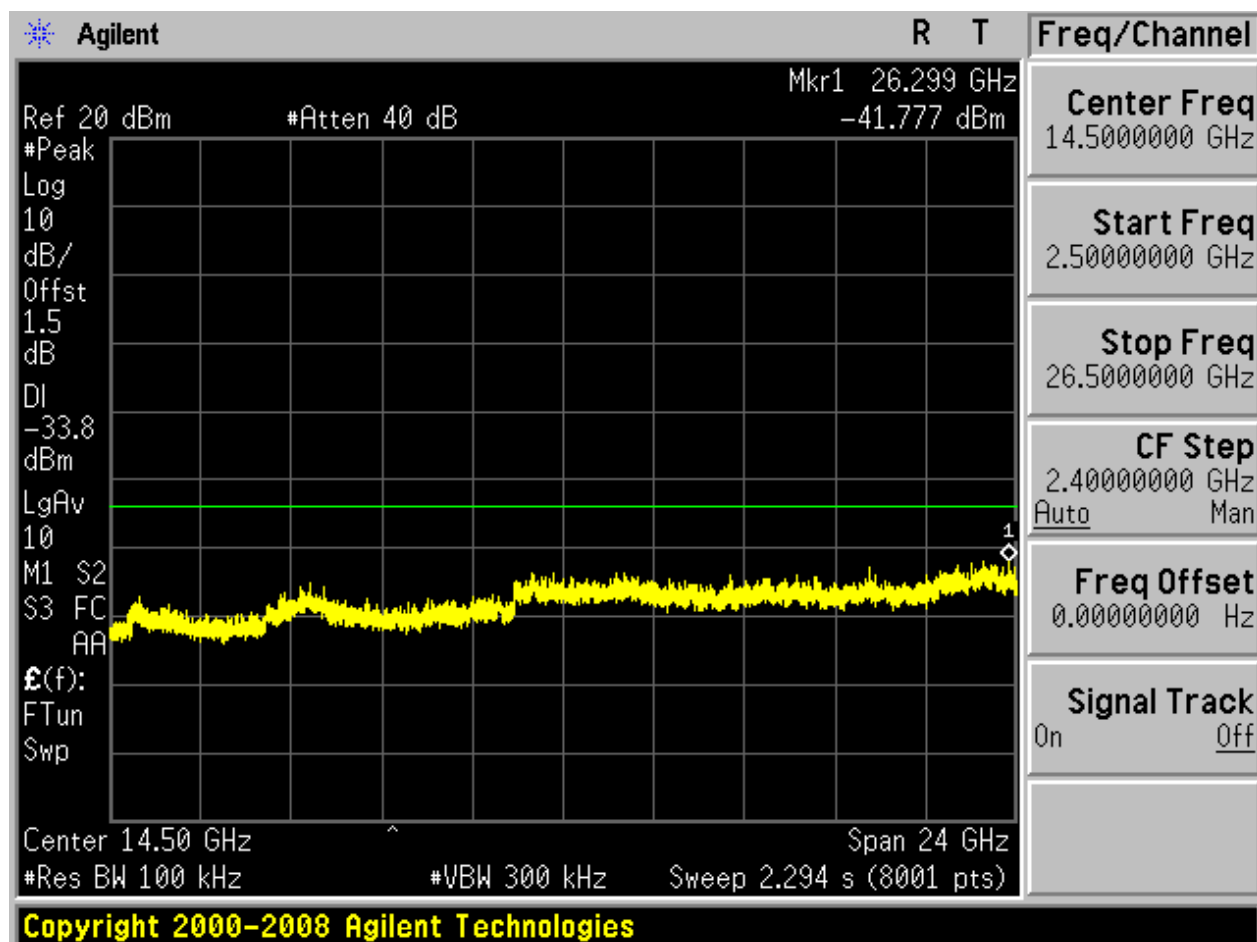








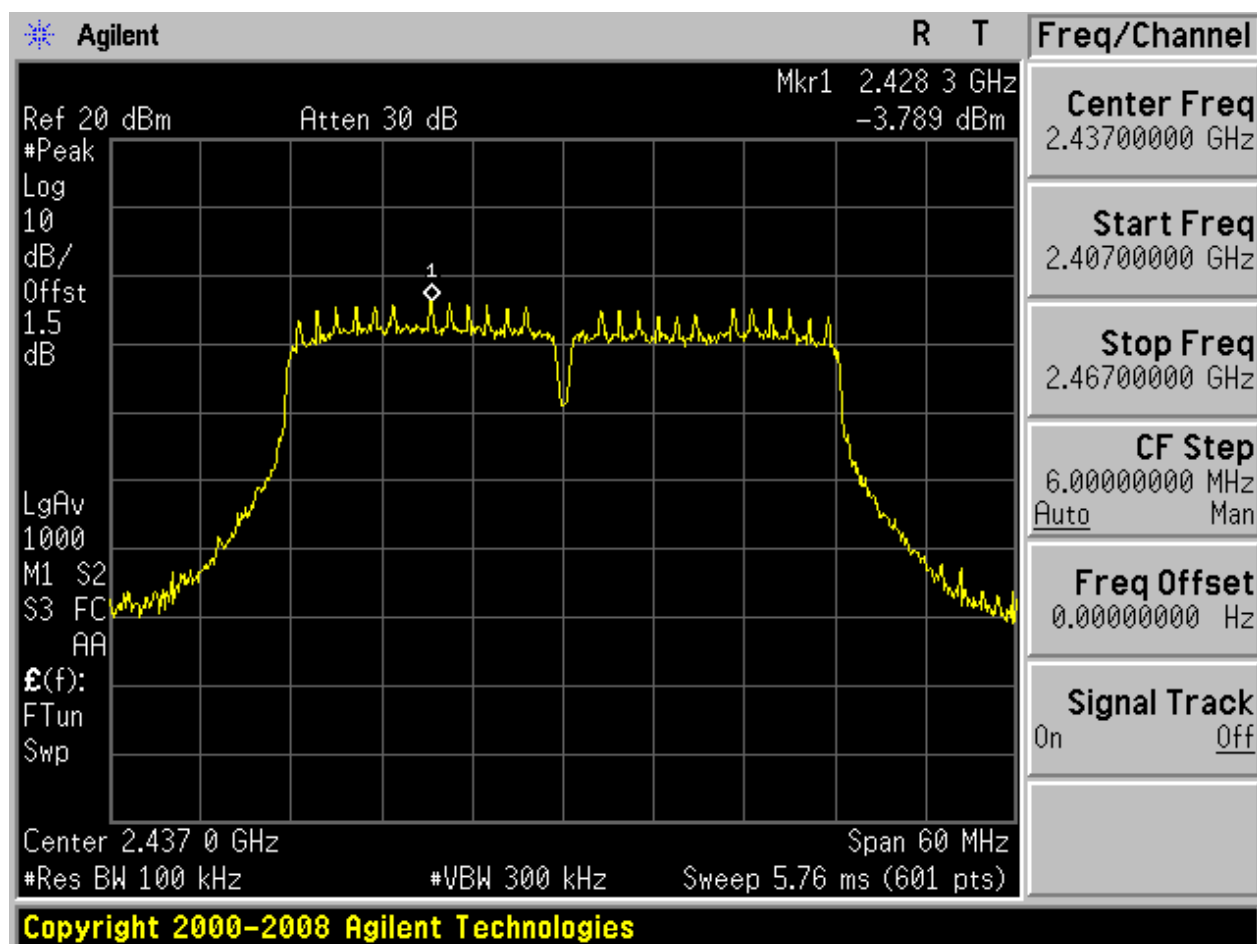






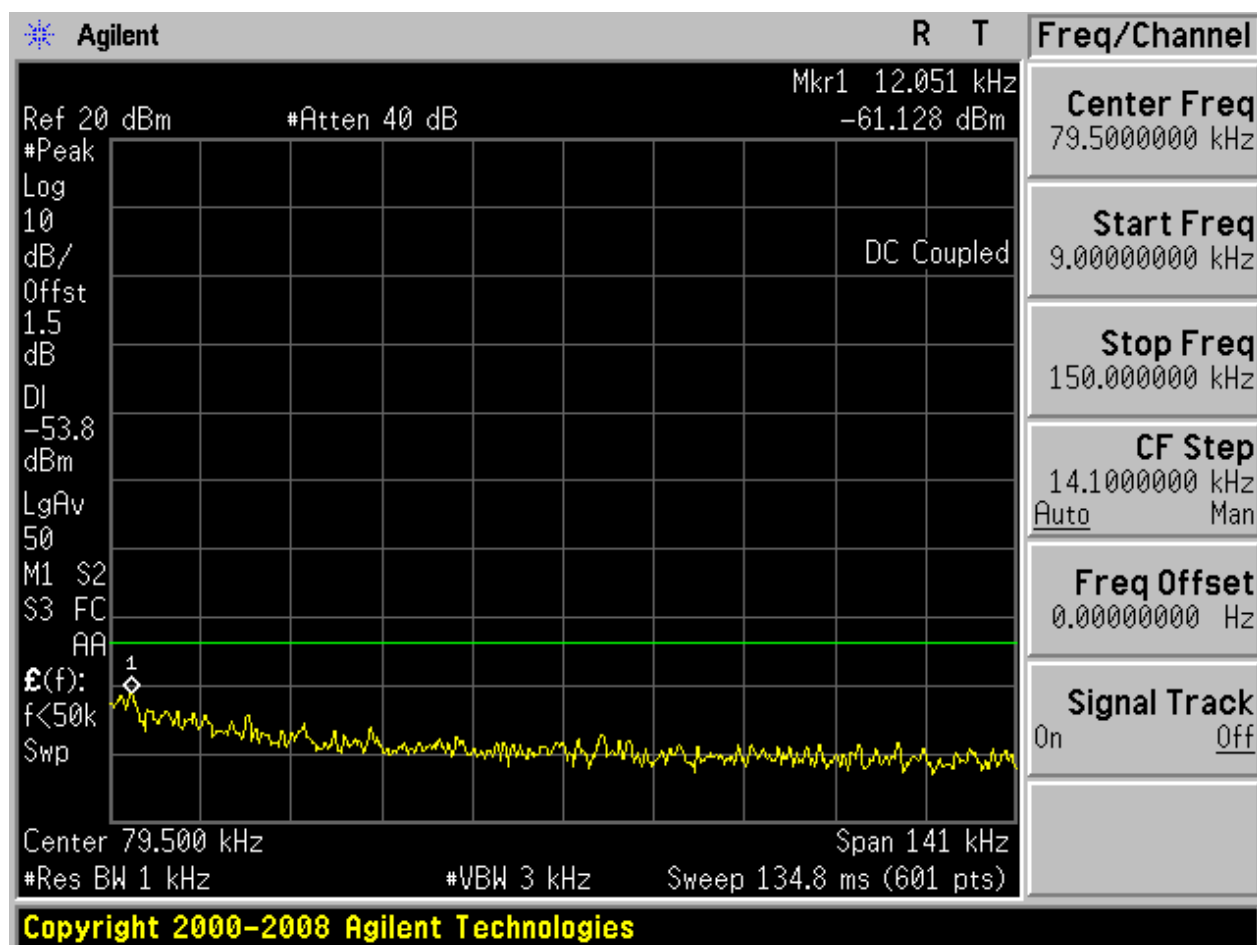
2.11 11N40_M@Ant 1

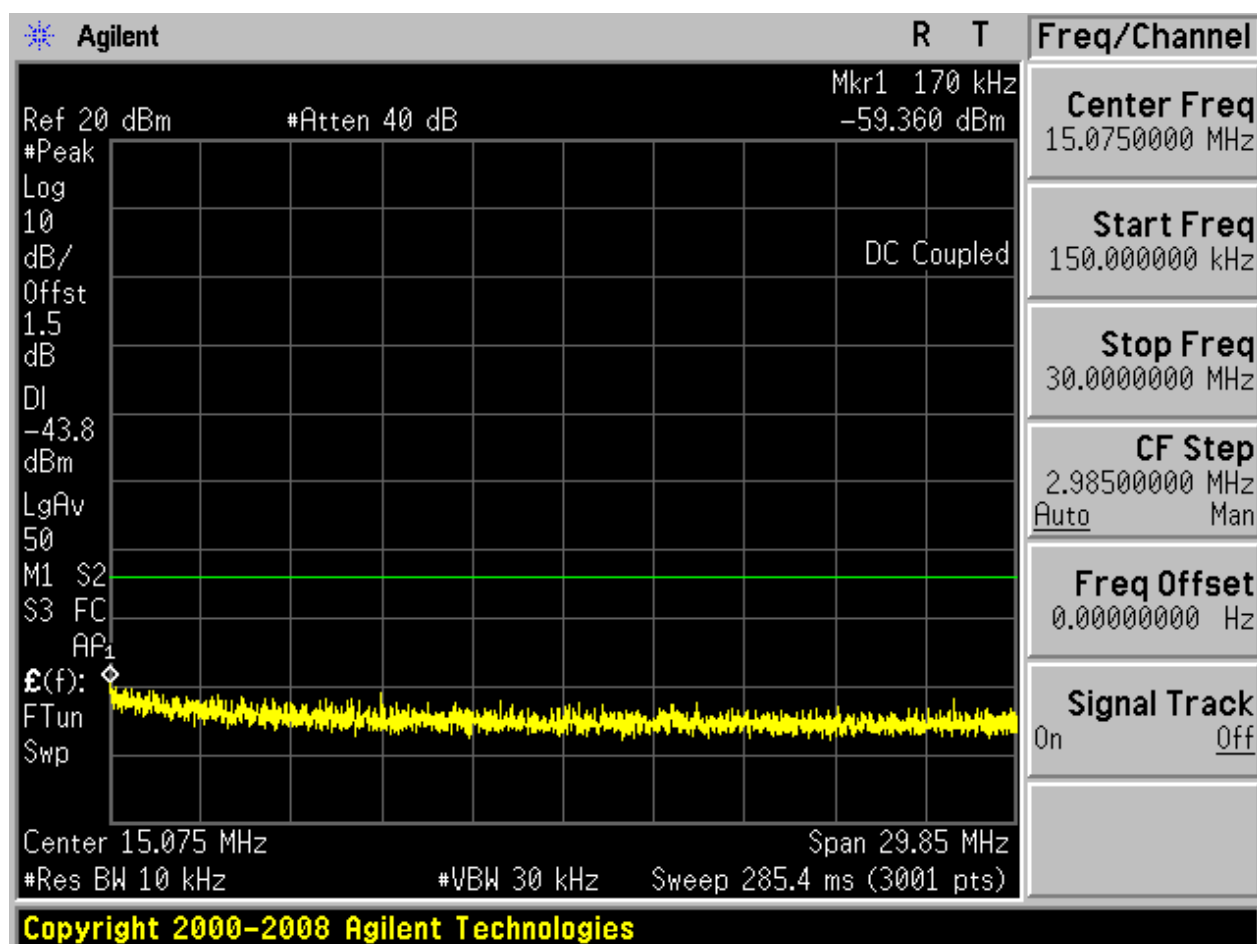
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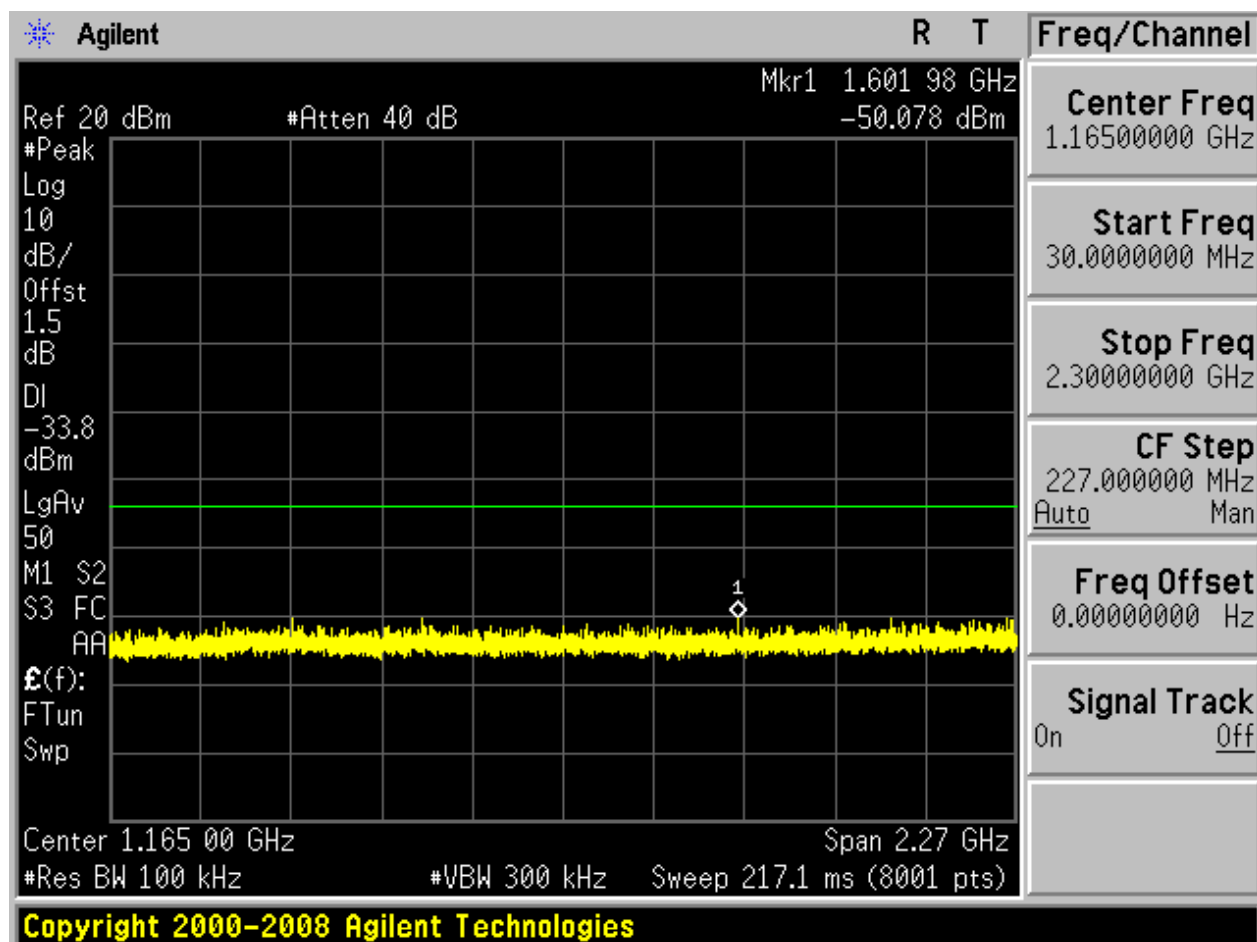


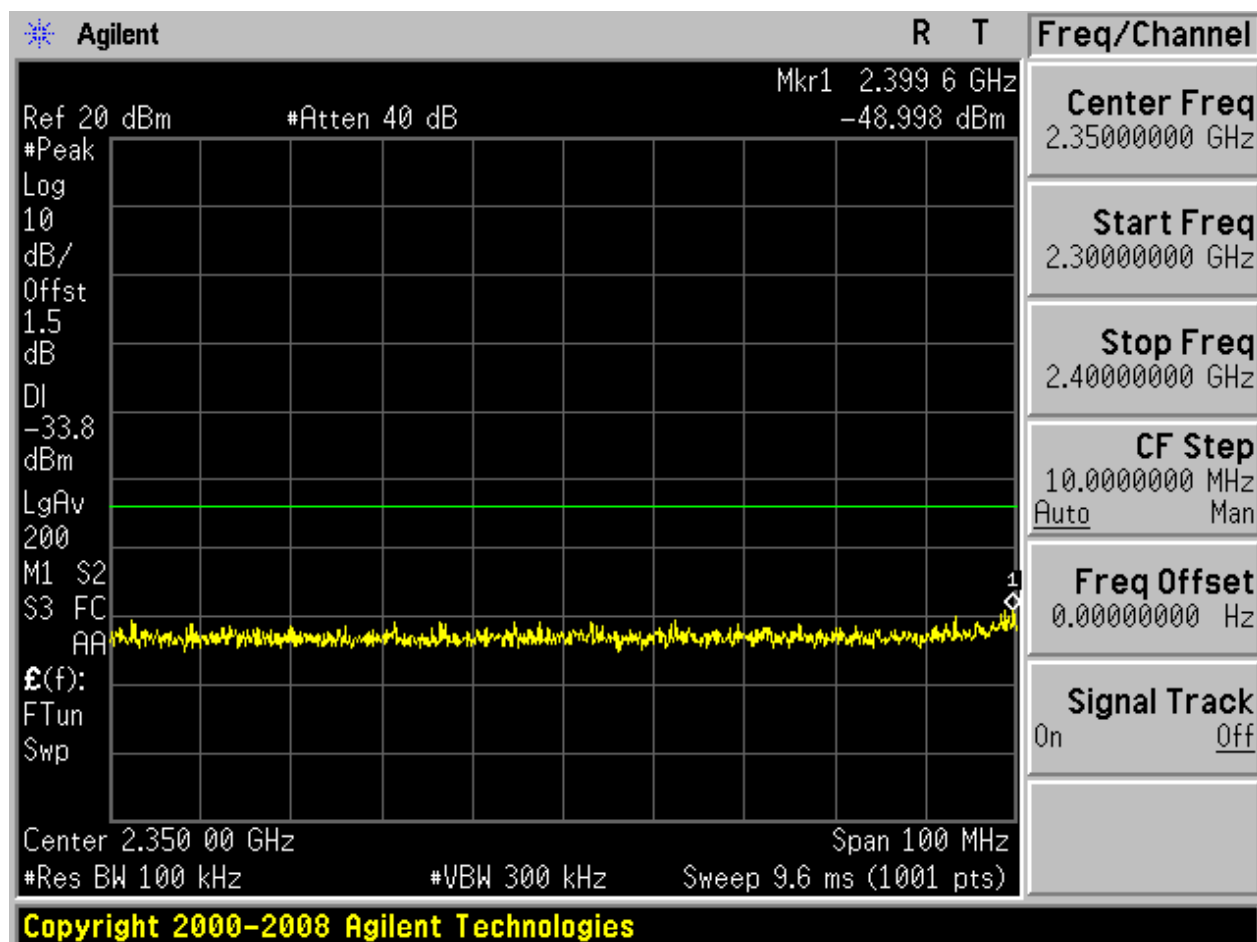


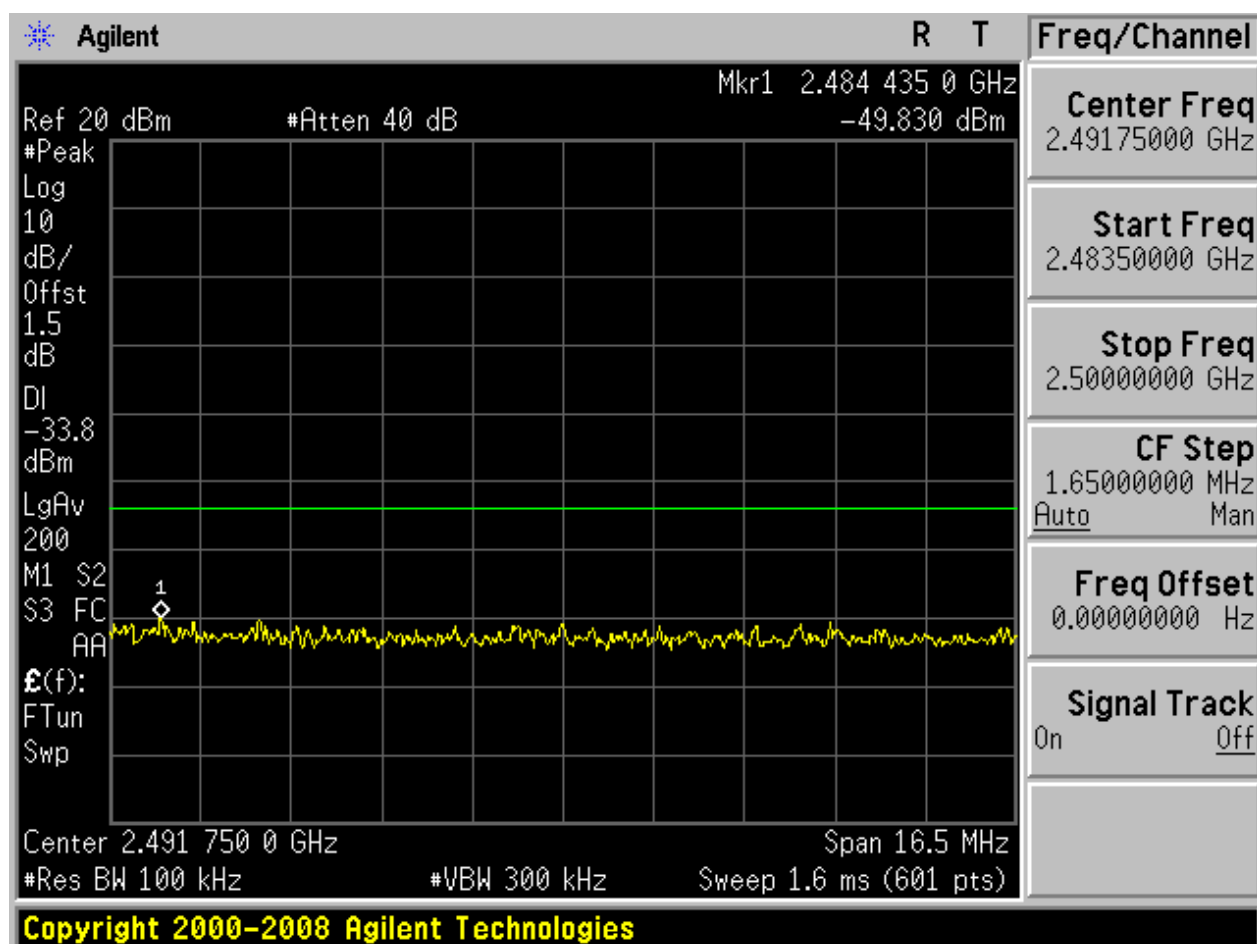
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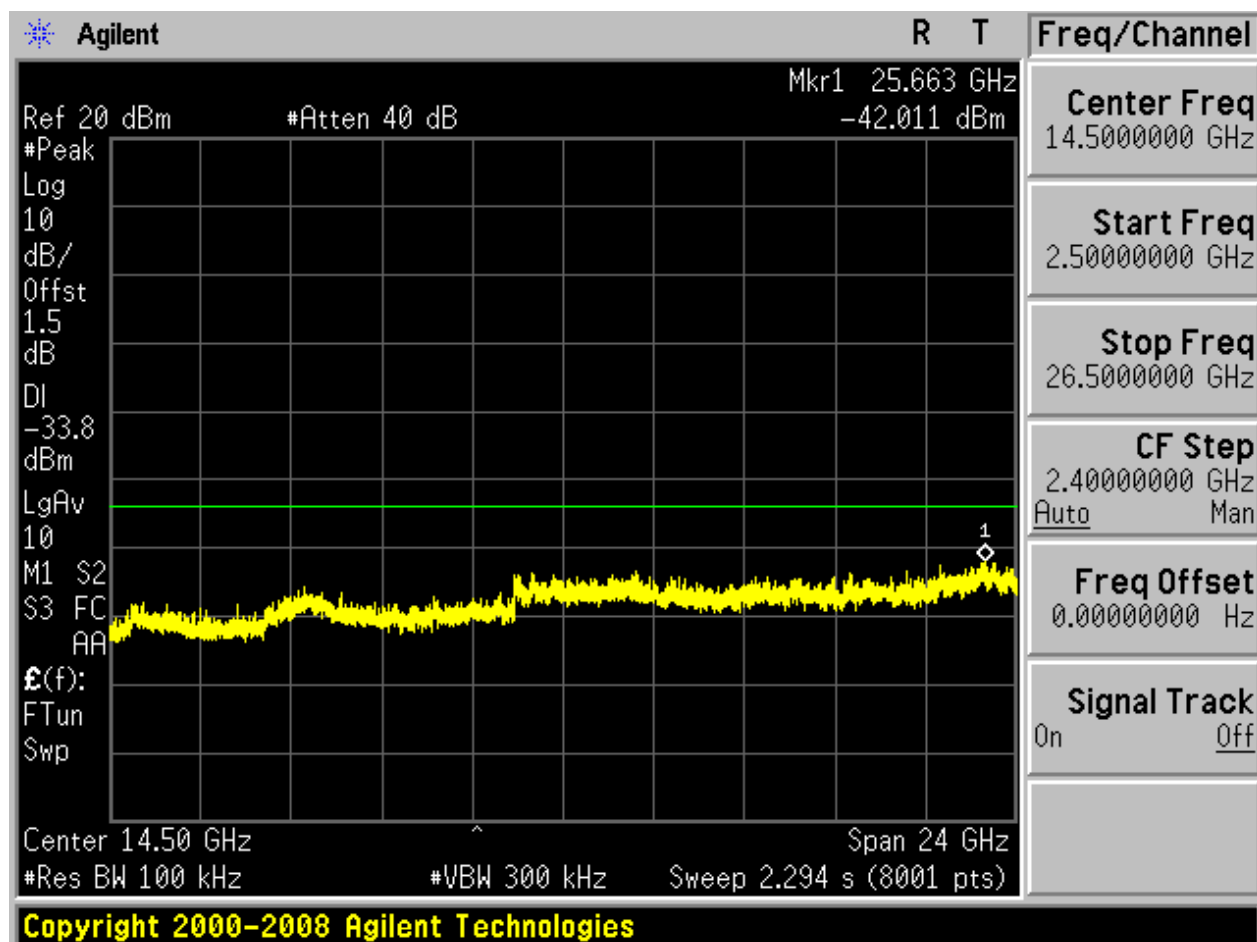








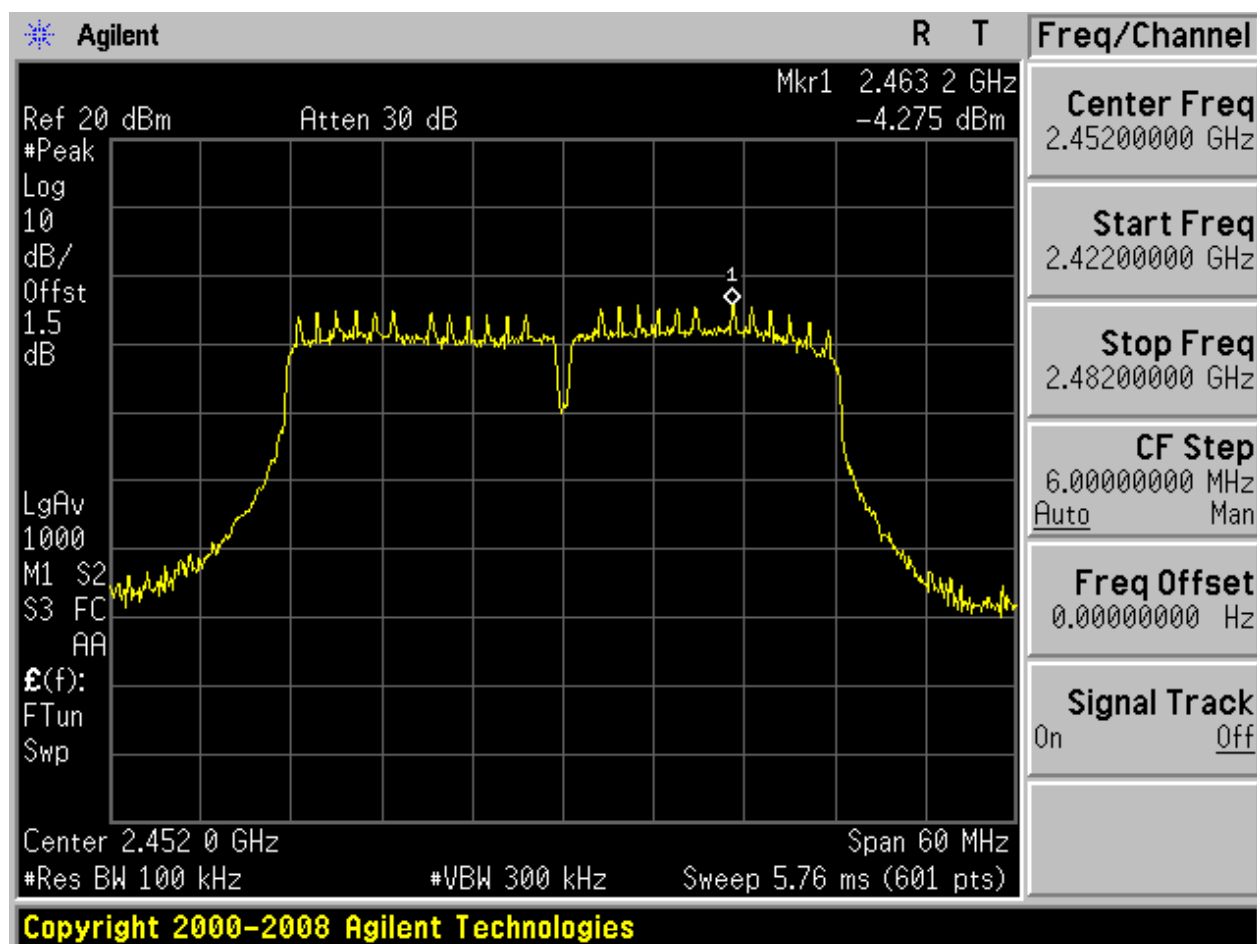






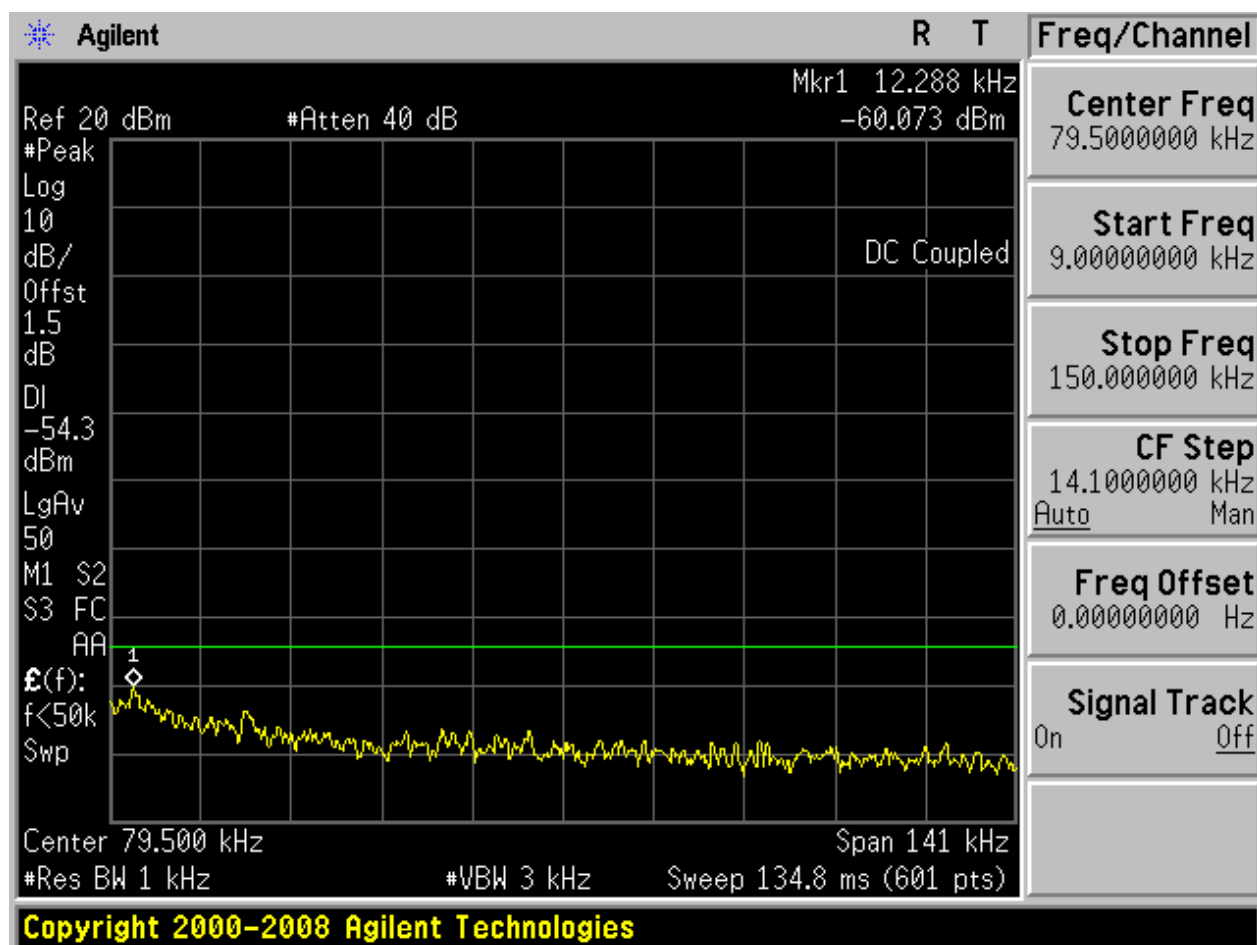
2.12 11N40_H@Ant 1

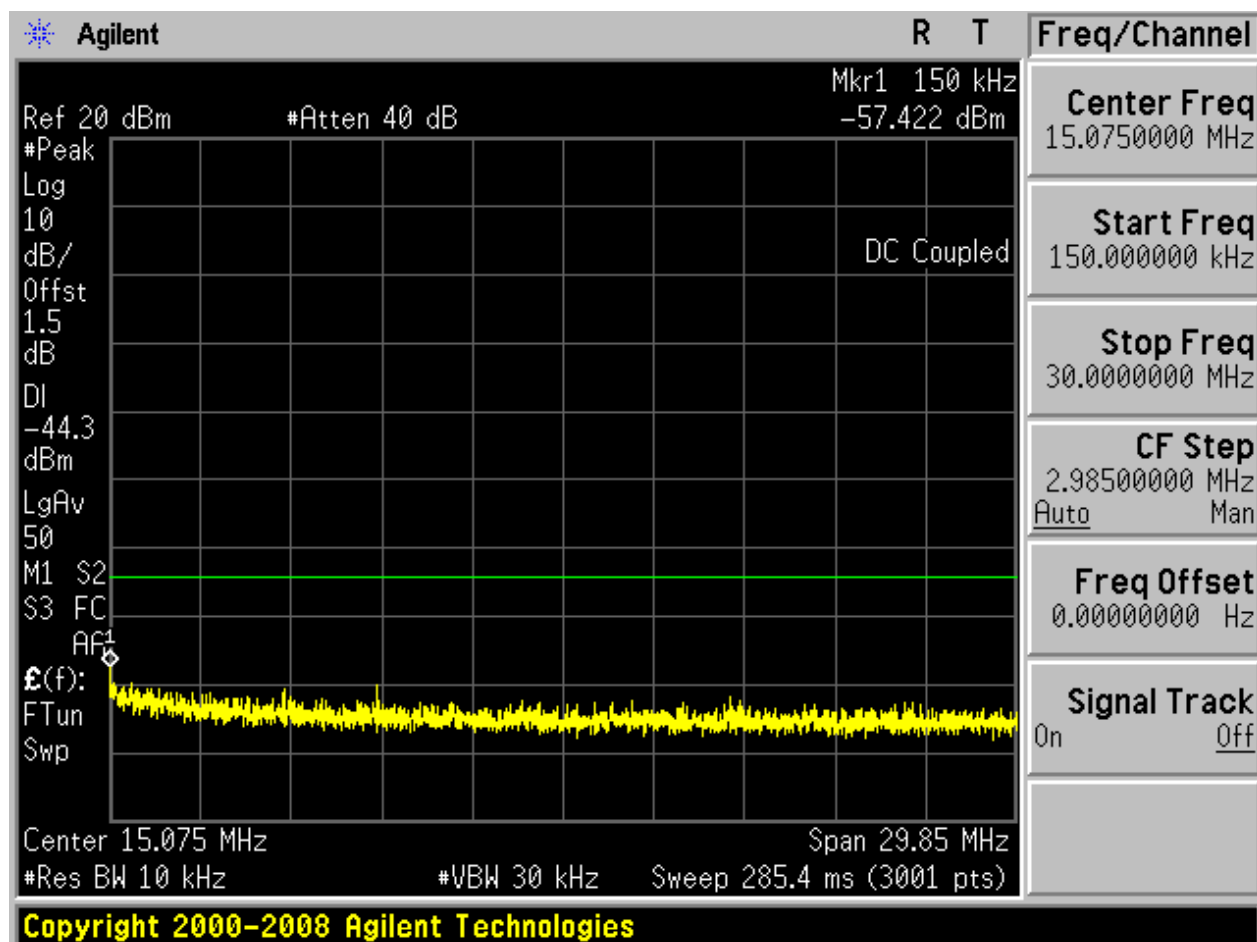
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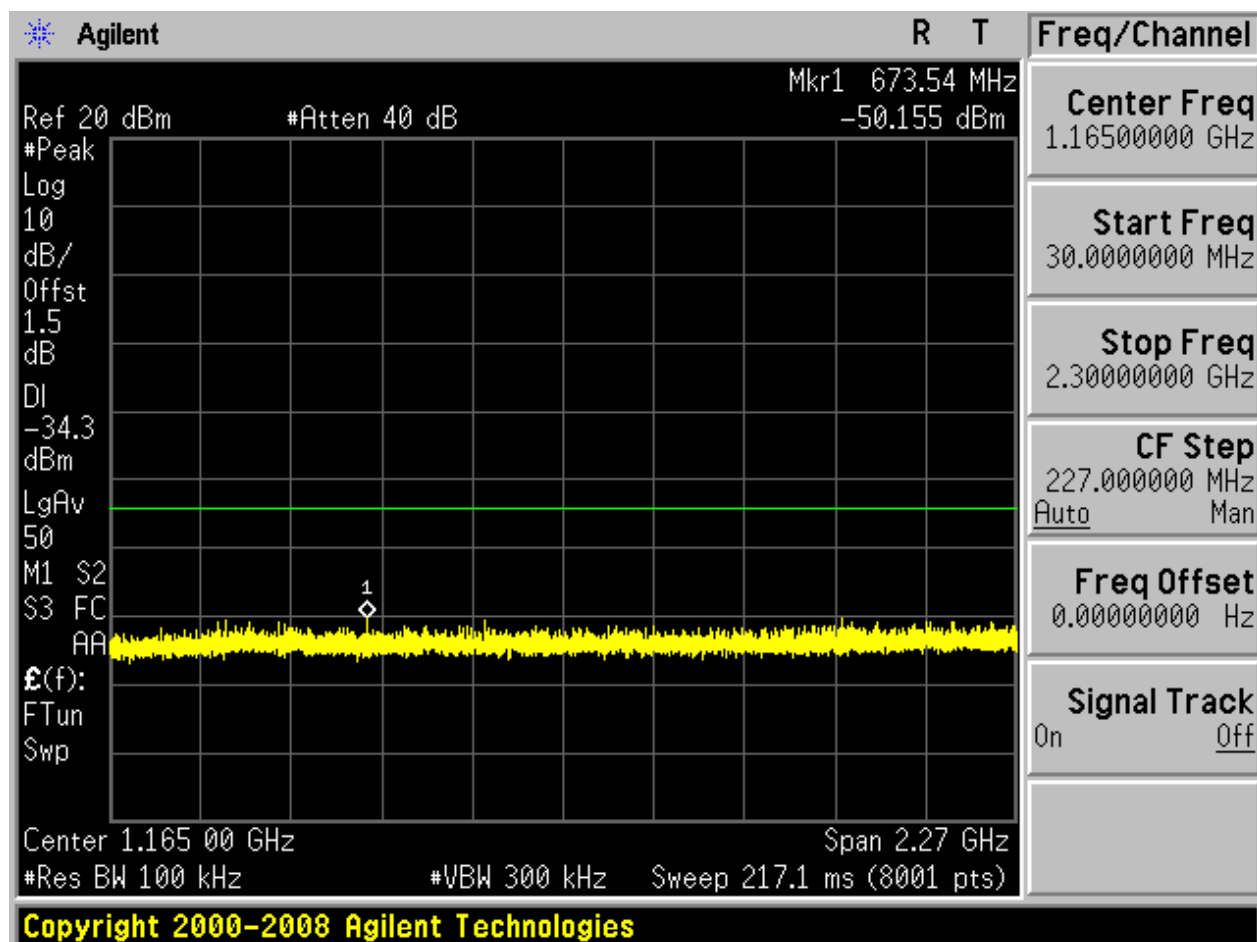


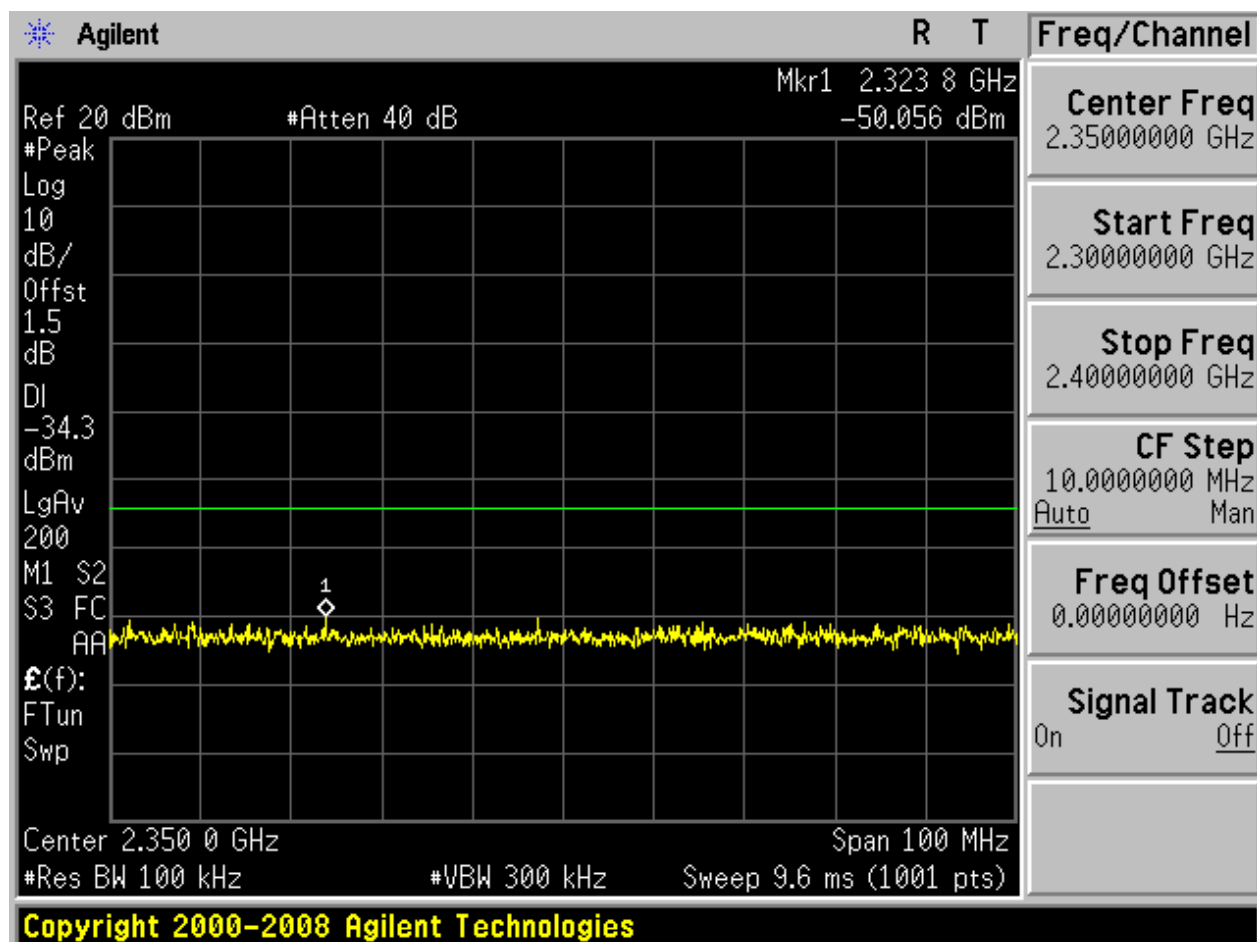


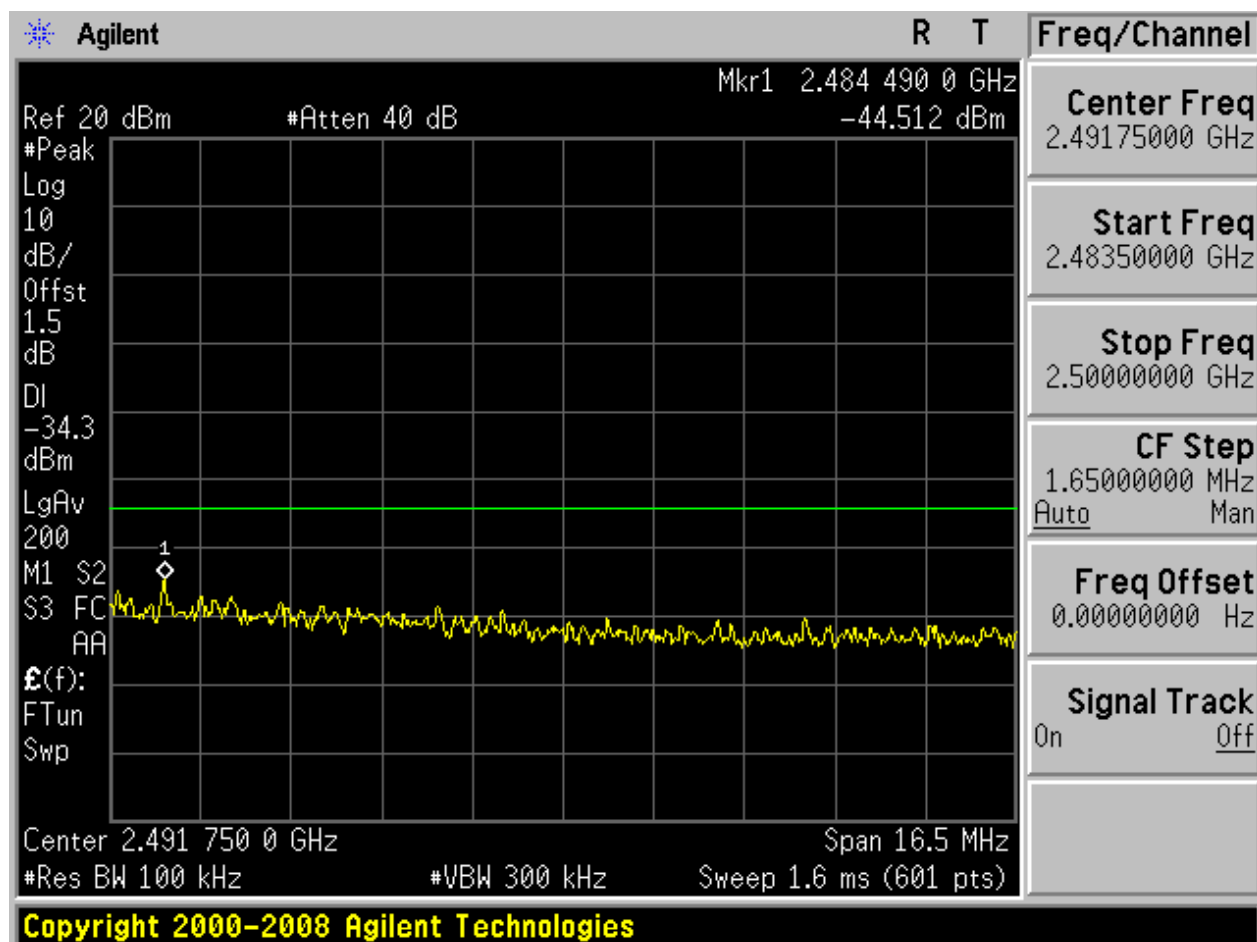
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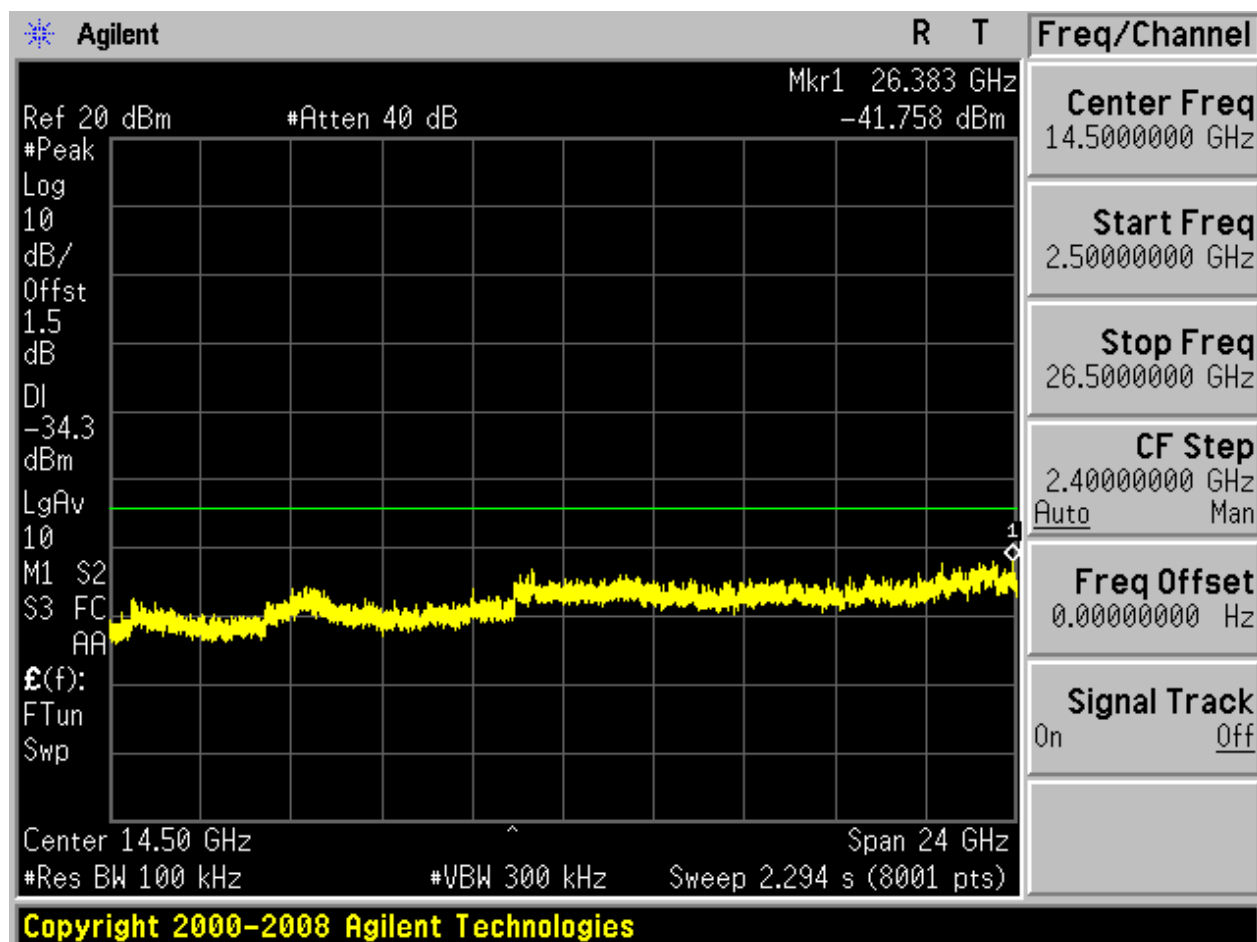












Appendix H: Radiated Spurious Emission & Spurious in Restricted Band

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

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

The simultaneous transmission has been considered

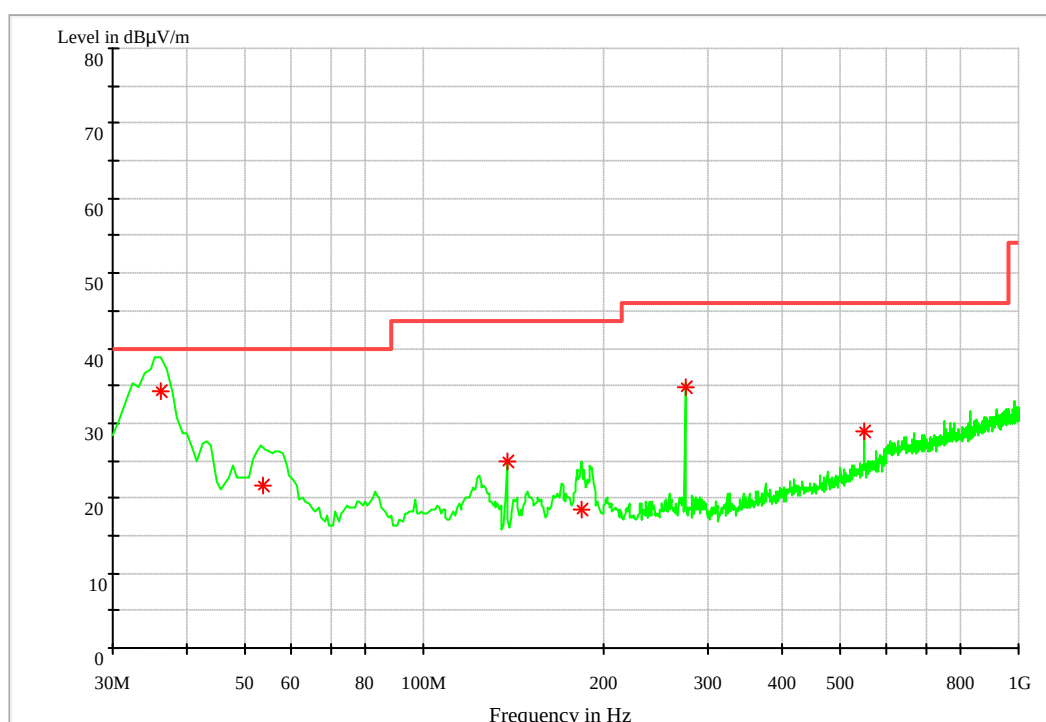
Part 1: Testing Range of “9 kHz to 30MHz”

NOTE1: No peak found in the Test Range of “9 kHz to 30MHz”

Part 2: 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.

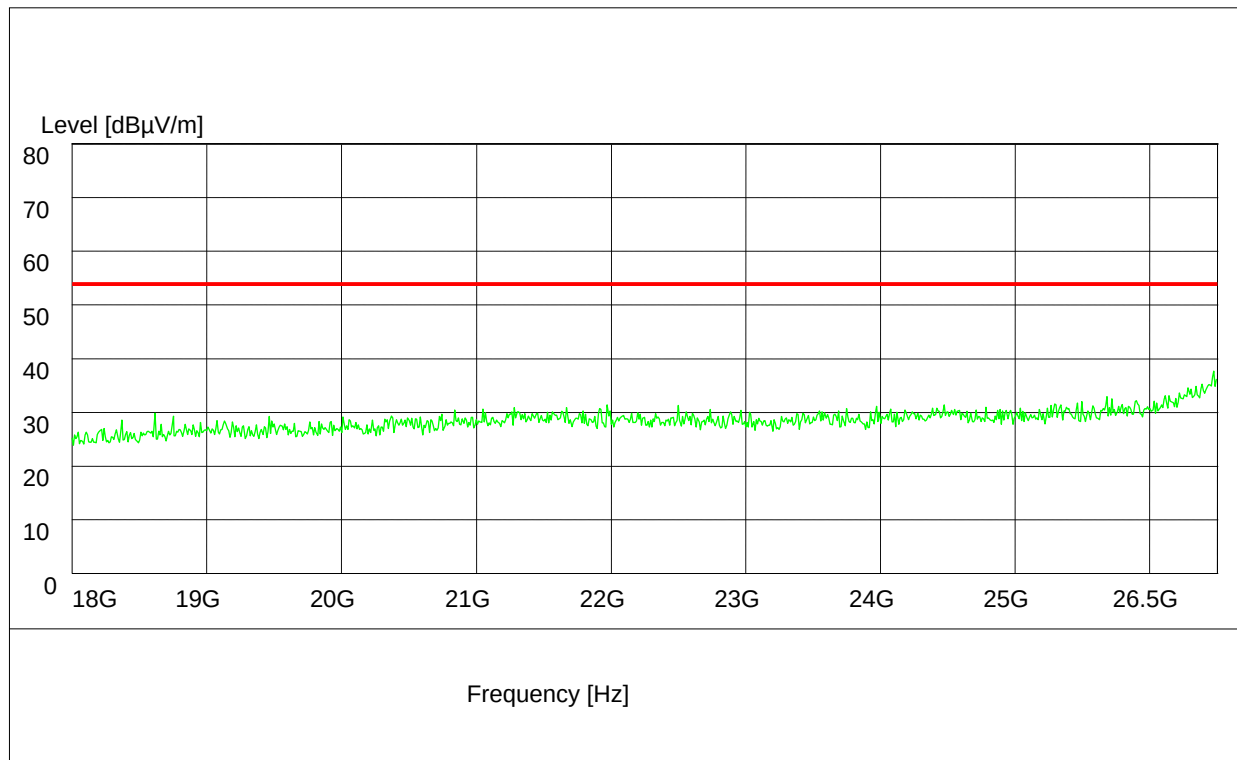
Note 2: **The emissions in this range are mainly from the Platform Device (Notepad PC and its ancillary components).**



Frequency MHz	Level dBμV/m	Transducer dB	Limit dBμV/m	Margin dB	Height cm	Azimuth deg	Polarisation
36.161600	34.2	14.8	40.0	5.8	100.0	205.0	VERTICAL
53.520000	21.8	14.7	40.0	18.2	100.0	173.0	VERTICAL
137.808320	25.0	10.5	43.5	18.5	100.0	333.0	VERTICAL
184.076160	18.6	12.0	43.5	24.9	180.0	184.0	HORIZONTAL
275.631040	34.9	15.0	46.0	11.1	100.0	228.0	HORIZONTAL
551.237760	28.8	20.9	46.0	17.2	100.0	223.0	VERTICAL

Part 3: Testing Range of “18 GHz to 26.5 GHz”

Note: No peak found in pre- test.

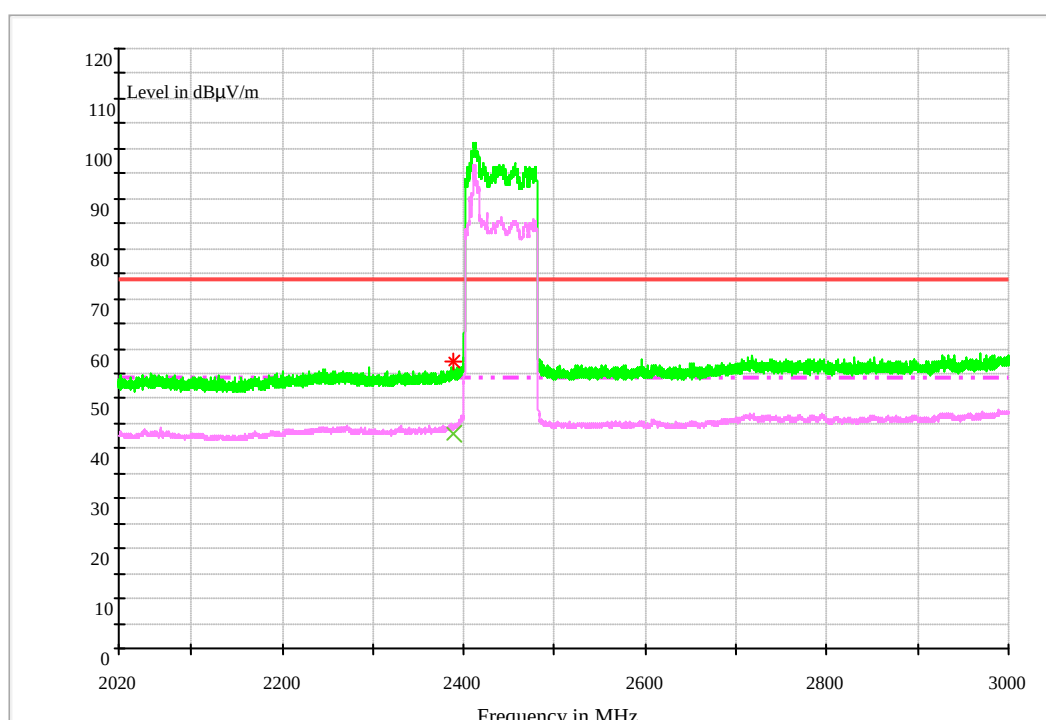


Part 4: Testing Range of “2.3GHz to 2.5GHz”

- 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

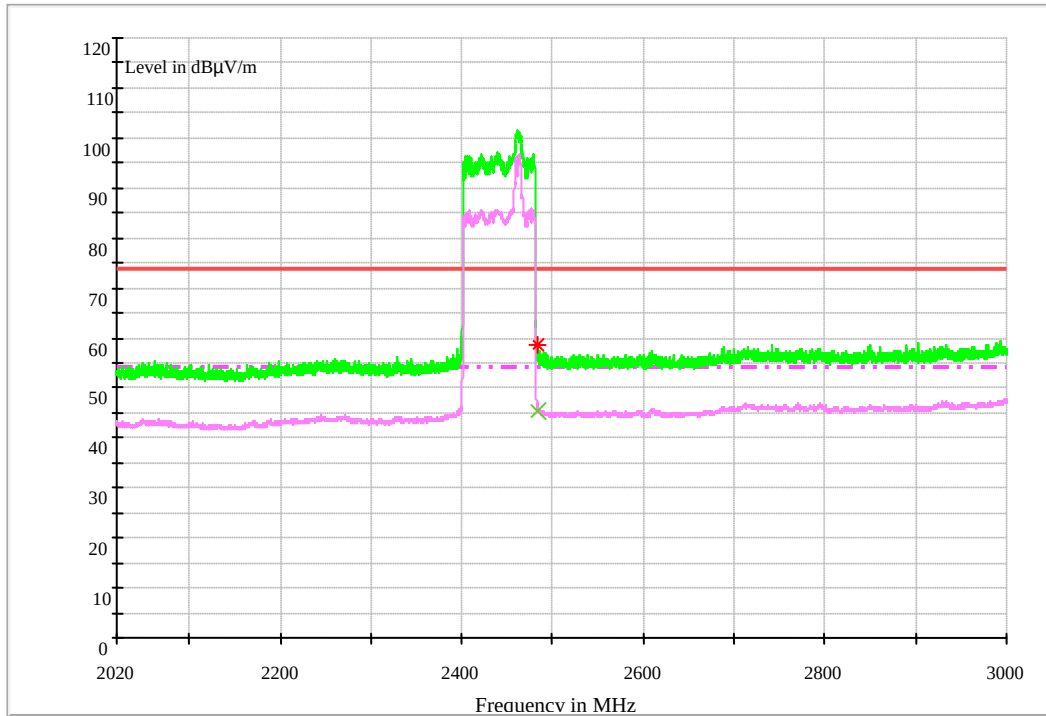
Frequency MHz	Level dB μ V/m	Transd dB	Limit dB μ V/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	57.5	38.3	74.0	16.5	100.0	221.0	HORIZONTAL

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
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2390.000000	43.1	38.3	54.0	10.9	100.0	266.0	HORIZONTAL
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Channel 11



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

MEASUREMENT RESULT: PK Detector

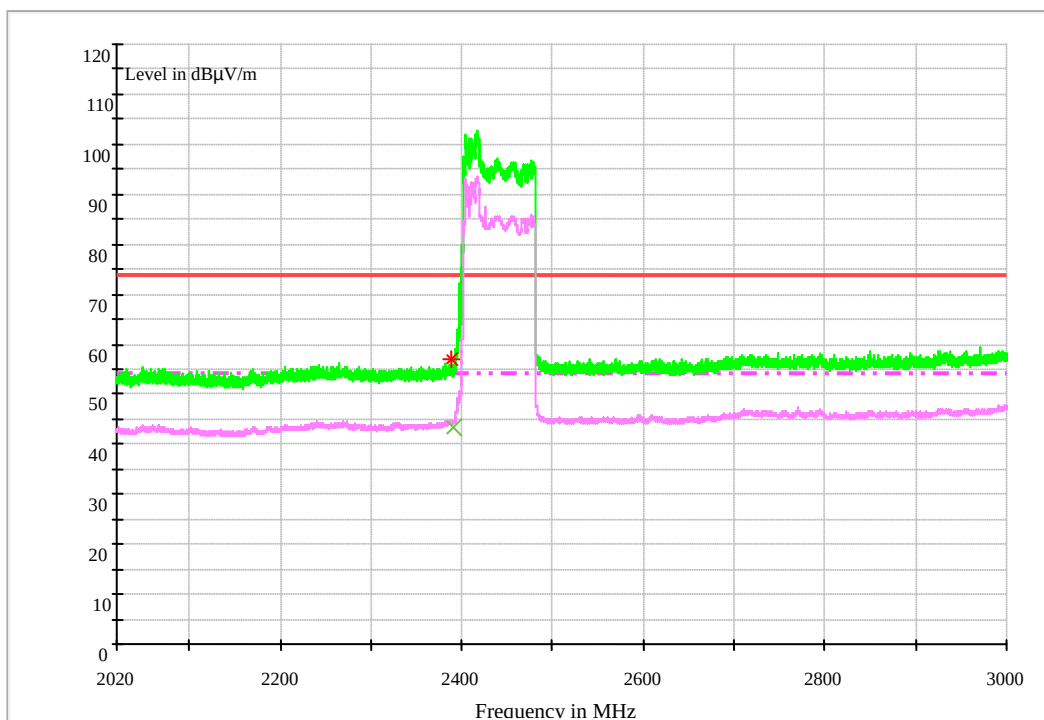
Frequency MHz	Level dBμV/m	Transd dB	Limit dBμV/m	Margin dB	Height cm	Azimuth deg	Polarization
2483.500000	58.7	40.7	74.0	15.3	121.0	209.0	VERTICAL

MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBμV/m	Transd dB	Limit dBμV/m	Margin dB	Height cm	Azimuth deg	Polarization
2483.500000	45.5	41.0	54.0	8.5	100.0	245.0	VERTICAL

Test Mode: 11g

Channel 1



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

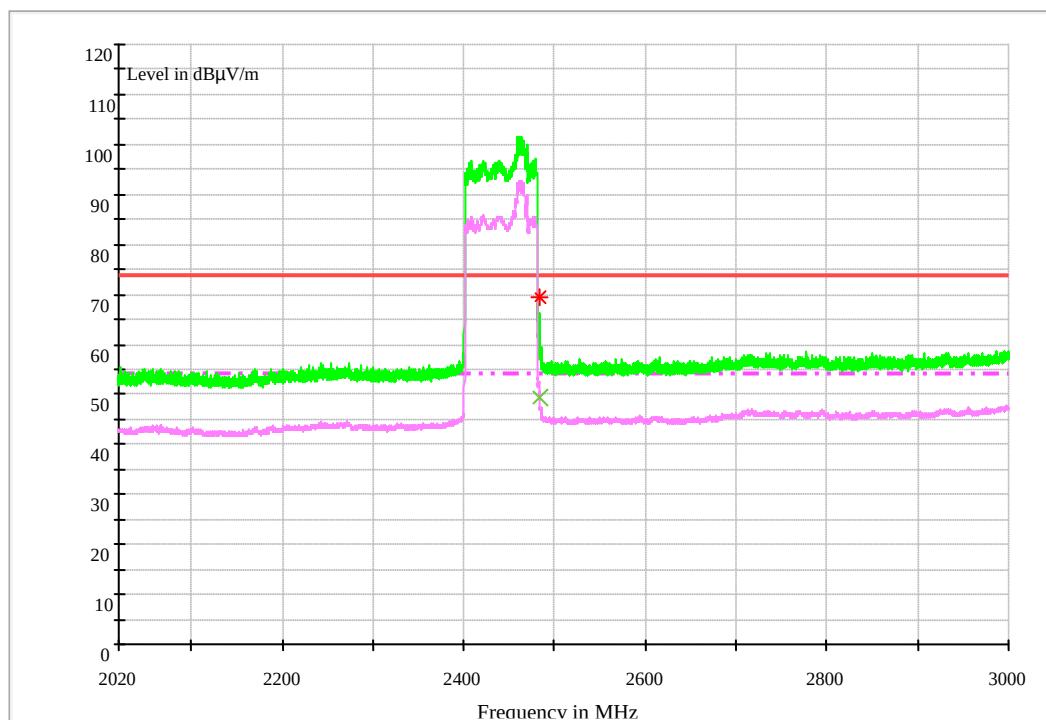
MEASUREMENT RESULT: PK Detector

Frequency MHz	Level dBμV/m	Transd dB	Limit dBμV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	56.9	38.3	74.0	17.1	100.0	160.0	VERTICAL

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	290.0	VERTICAL

Channel 11



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

MEASUREMENT RESULT: PK Detector

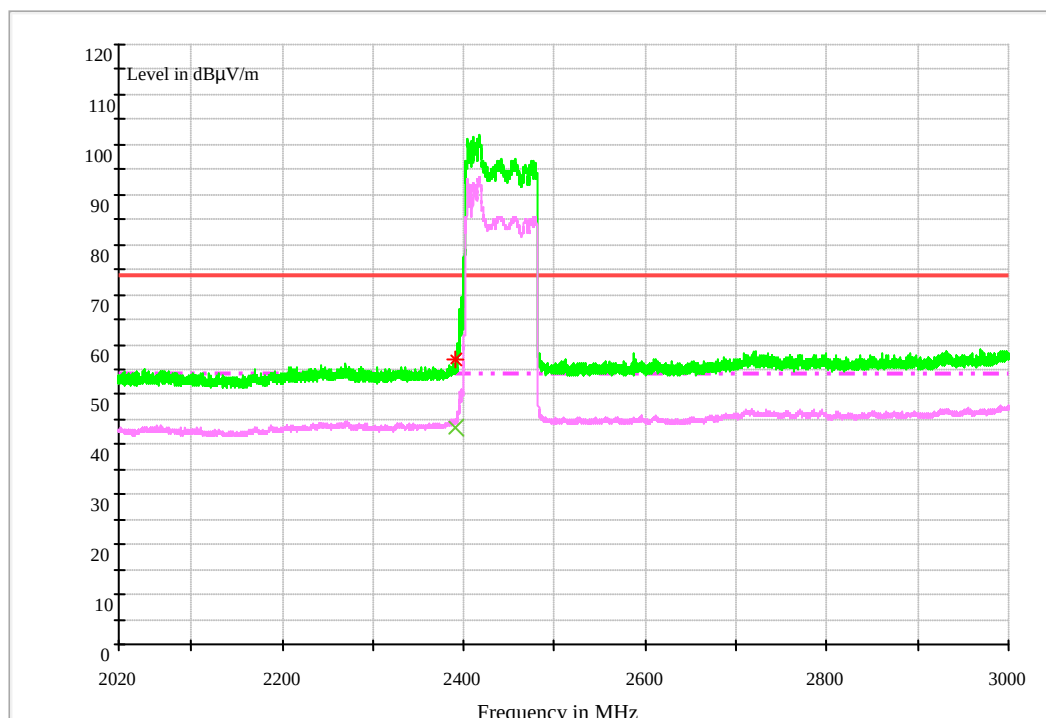
Frequency MHz	Level dBμV/m	Transd dB	Limit dBμV/m	Margin dB	Height cm	Azimuth deg	Polarization
2483.500000	69.5	40.6	74.0	4.5	100.0	169.0	HORIZONTAL

MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBμV/m	Transd dB	Limit dBμV/m	Margin dB	Height cm	Azimuth deg	Polarization
2483.500000	49.2	40.7	54.0	4.8	100.0	169.0	HORIZONTAL

Test Mode: 11N20

Channel 1



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

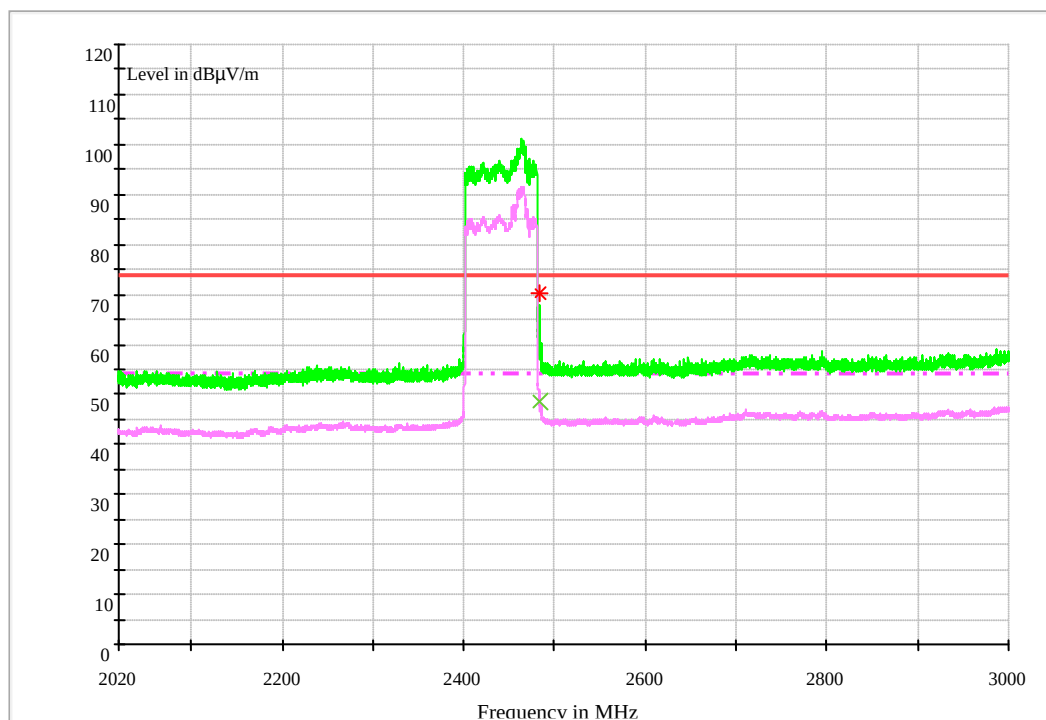
MEASUREMENT RESULT: PK Detector

Frequency MHz	Level dBμV/m	Transd dB	Limit dBμV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	56.8	38.3	74.0	17.2	100.0	313.0	VERTICAL

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	23.0	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
2483.500000	70.0	40.2	74.0	4.0	100.0	179.0	HORIZONTAL

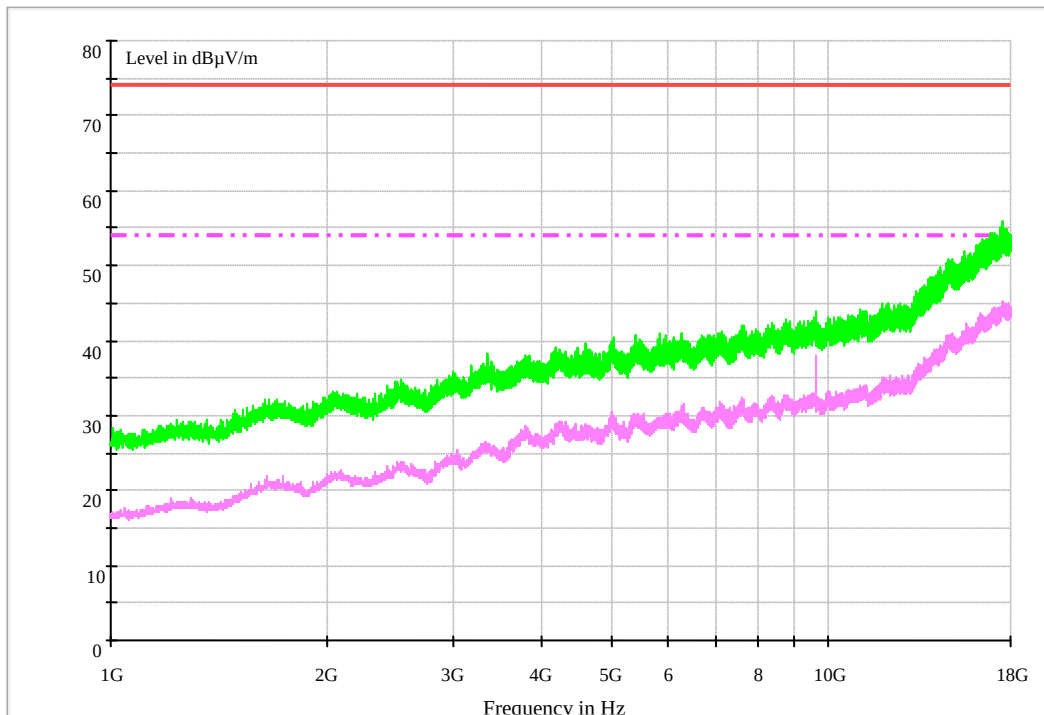
MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBμV/m	Transd dB	Limit dBμV/m	Margin dB	Height cm	Azimuth deg	Polarization
2483.500000	48.7	40.5	54.0	5.3	100.0	176.0	HORIZONTAL

Part 5: 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).

FCC CLASS B RE 1GHz-18GHz

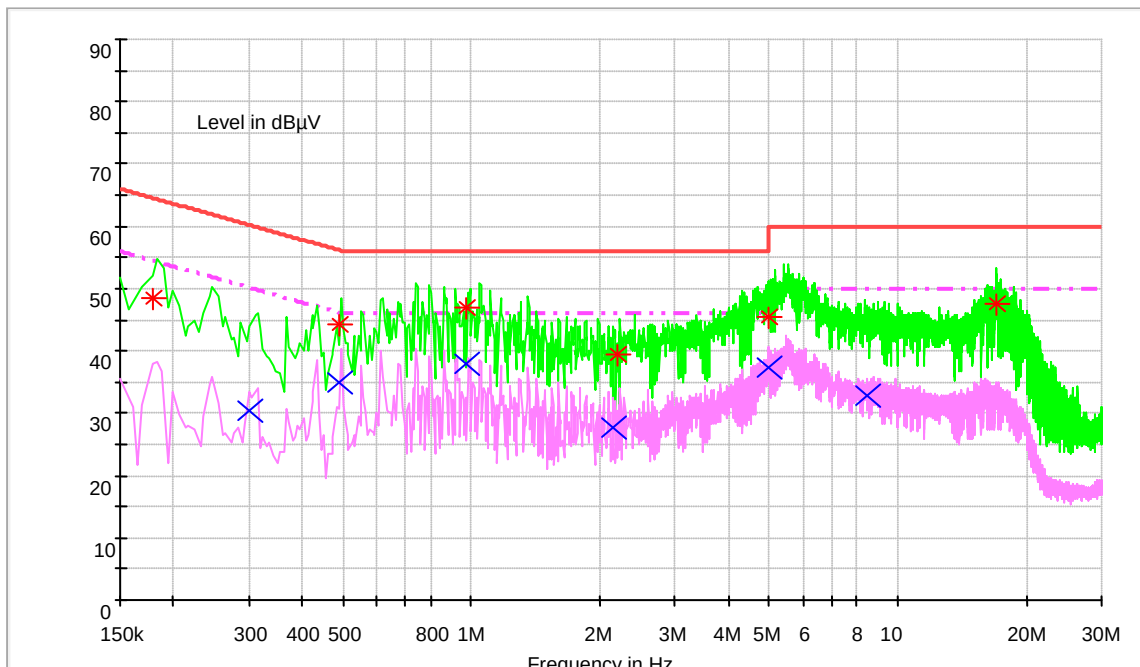




Appendix I: Conducted Emission at Power Port

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
0.180074	48.4	9.7	64.5	16.1	L1	FLO
0.488595	44.1	9.7	56.2	12.1	N	FLO
0.975881	47.1	9.7	56	8.9	N	FLO
2.199978	39.6	9.7	56	16.4	N	FLO
4.951676	45.5	9.8	56	10.5	N	FLO
17.09941	47.7	10.1	60	12.3	L1	FLO

MEASUREMENT RESULT: AV Detector

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.303082	30.4	9.7	50.2	19.8	L1	FLO
0.4881	34.9	9.7	46.2	11.3	N	FLO
0.97653	38	9.7	46	8	N	FLO
2.139994	27.8	9.7	46	18.2	N	FLO
4.985561	37.3	9.8	46	8.7	N	FLO
8.442158	32.9	9.9	50	17.1	N	FLO

END