

## **Appendix for Test report**



## Appendix A: DTS (6 dB) Bandwidth

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

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

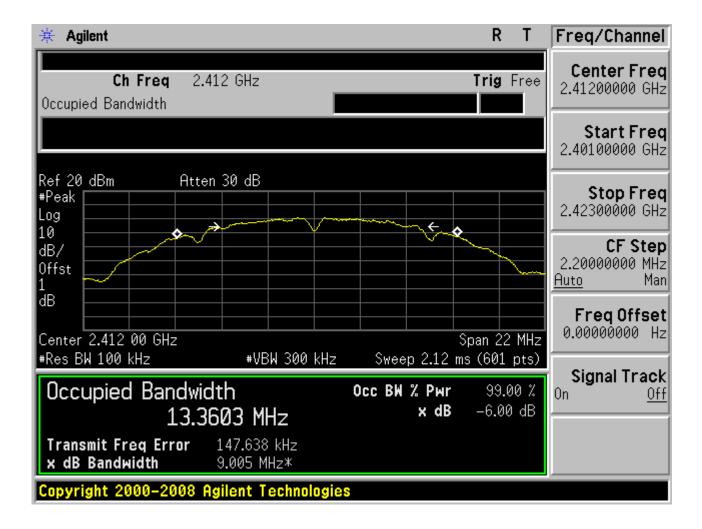
#### Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	DTS6dBBW[MHz]	Verdict
11B	L	2412	9.00	pass
11B	M	2437	8.85	pass
11B	Н	2462	8.85	pass
11G	L	2412	16.52	pass
11G	M	2437	16.56	pass
11G	Н	2462	16.60	pass
11N20	L	2412	17.78	pass
11N20	M	2437	17.80	pass
11N20	Н	2462	17.82	pass



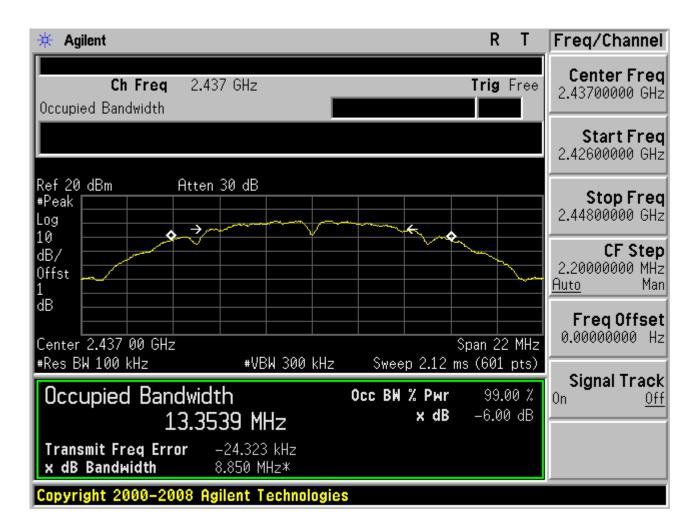
### Part II - Test Plots

#### 2.1 11B\_L



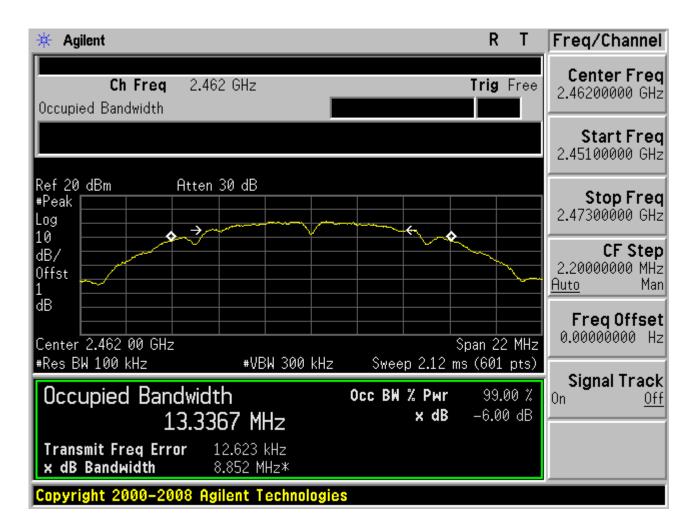


#### 2.2 11B\_M



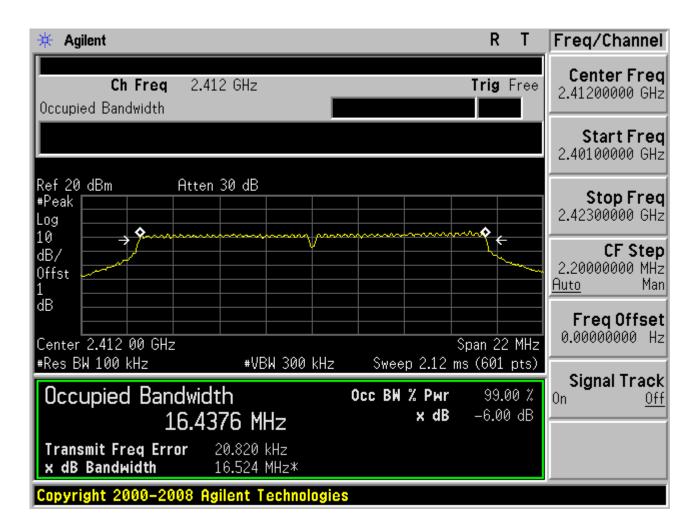


#### 2.3 11B\_H



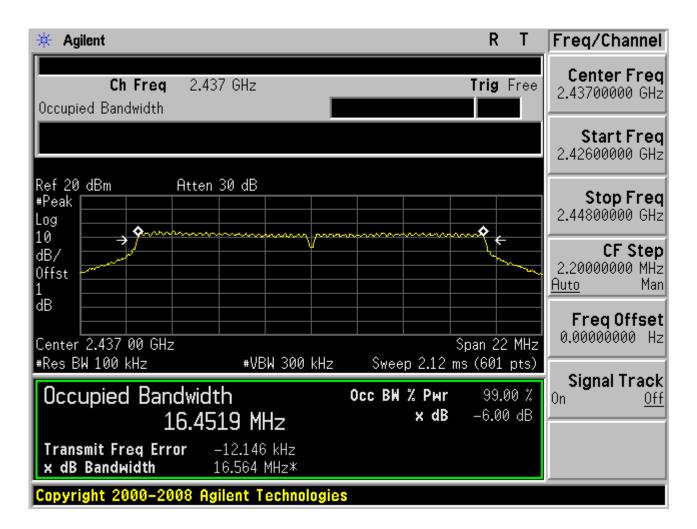


#### 2.4 11G\_L



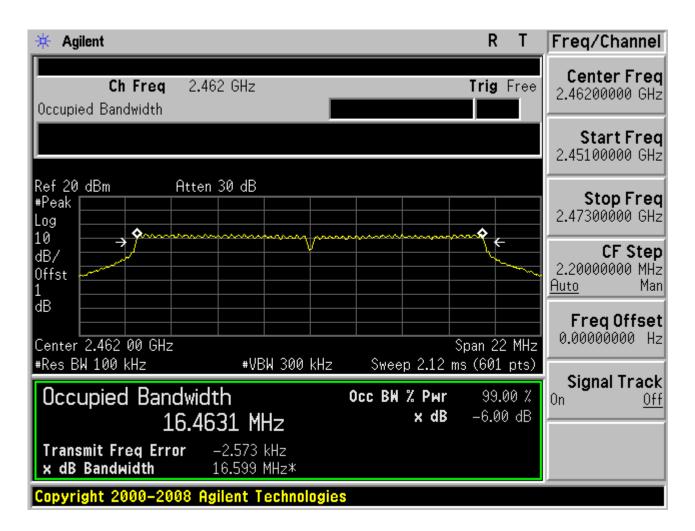


#### 2.5 11G\_M



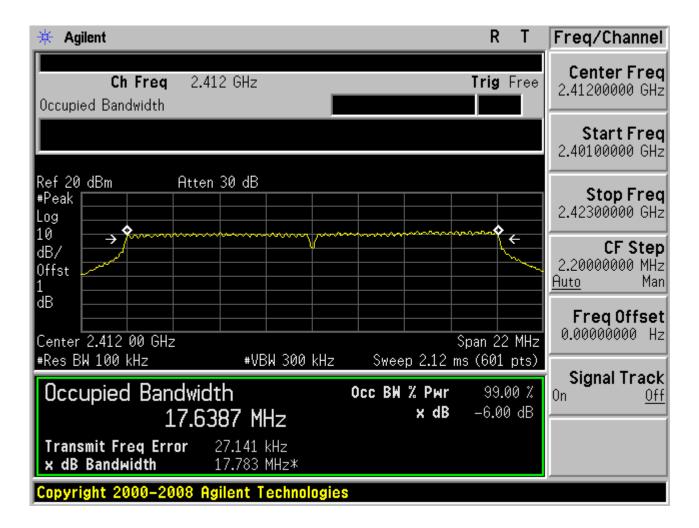


#### 2.6 11G\_H



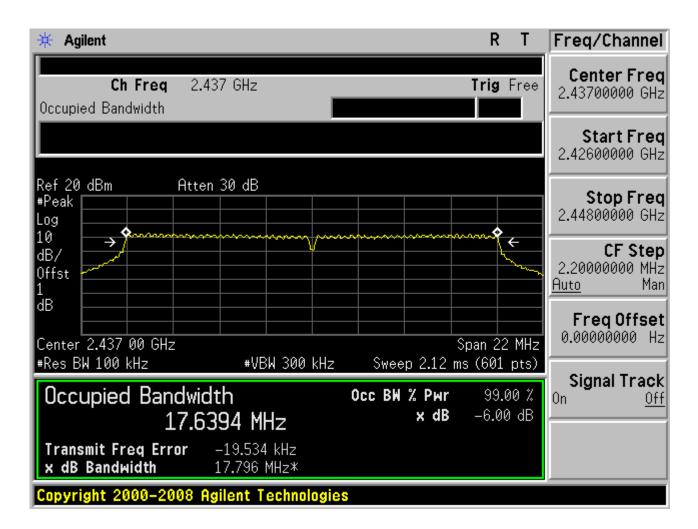


#### 2.7 11N20\_L



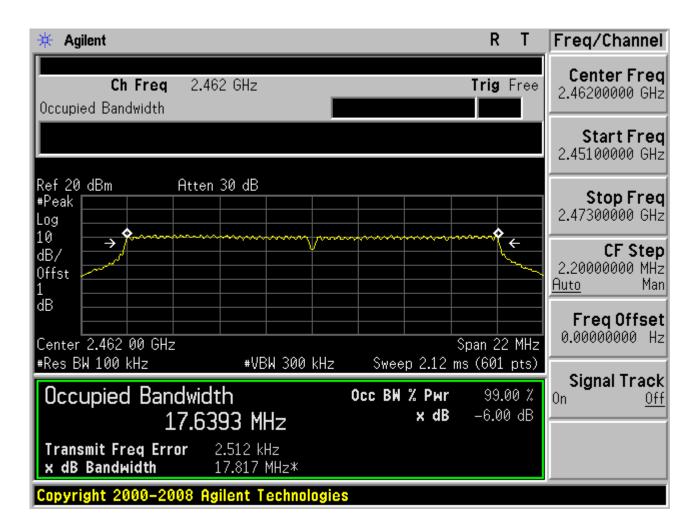


#### 2.8 11N20\_M





#### 2.9 11N20\_H





## **Appendix B: Maximum Conducted Power**

#### Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Meas. Level (Cond.) [dBm]	Verdict
11B	L	2412	16.666	pass
11B	M	2437	17.238	pass
11B	Н	2462	17.530	pass
11G	L	2412	12.129	pass
11G	M	2437	12.746	pass
11G	Н	2462	12.764	pass
11N20	L	2412	11.373	pass
11N20	М	2437	11.836	pass
11N20	Н	2462	11.557	pass



## **Appendix C: Maximum Power Spectral Density Level**

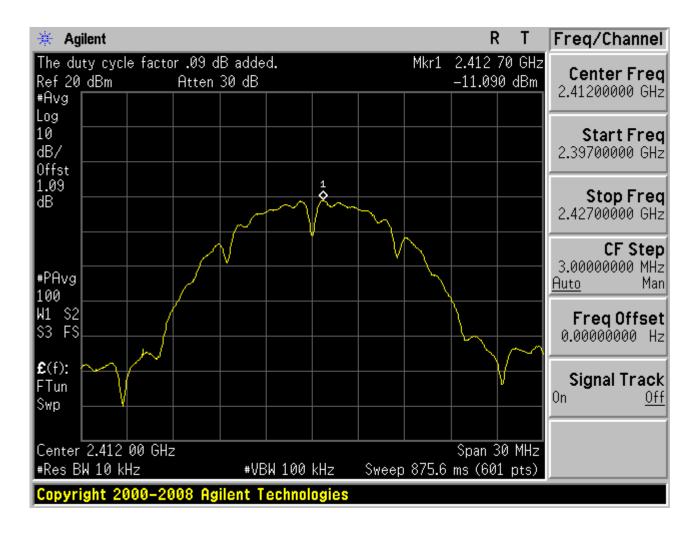
#### Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	PD[MHz]	Verdict
11B	L	2412	-11.090	pass
11B	M	2437	-10.073	pass
11B	Н	2462	-10.240	pass
11G	L	2412	-16.528	pass
11G	M	2437	-16.154	pass
11G	Н	2462	-16.856	pass
11N20	L	2412	-17.466	pass
11N20	М	2437	-17.340	pass
11N20	Н	2462	-18.380	pass



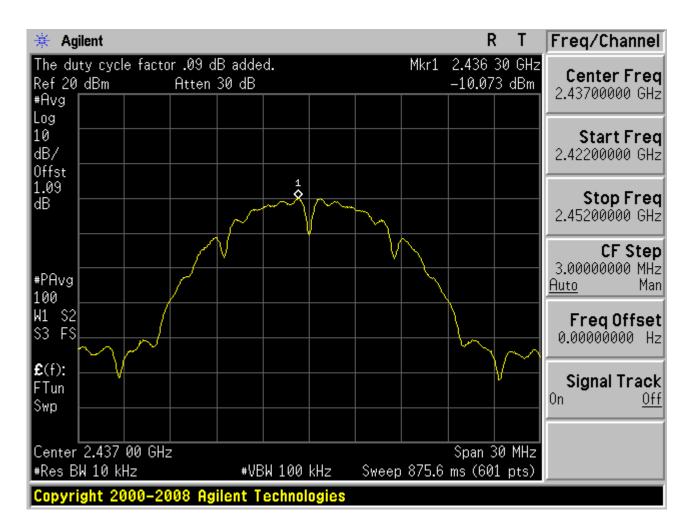
#### Part II - Test Plots

#### 2.1 11B\_L



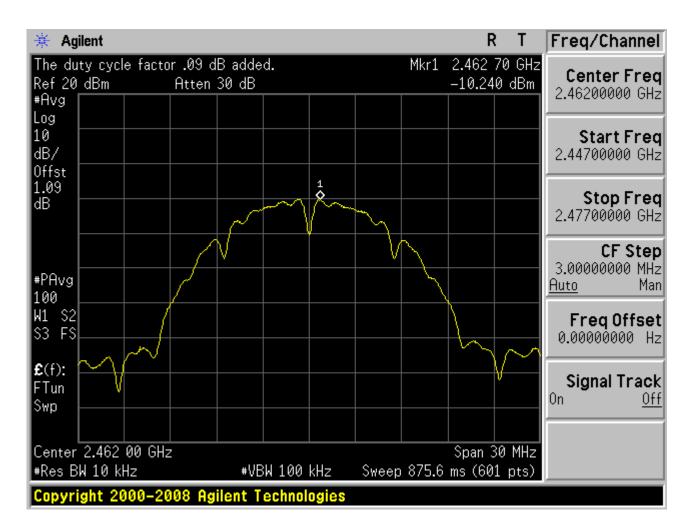


#### 2.2 11B\_M



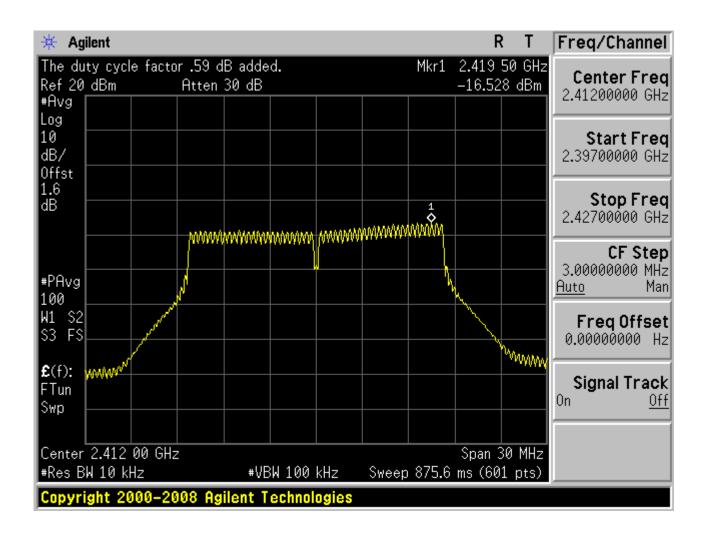


#### 2.3 11B\_H



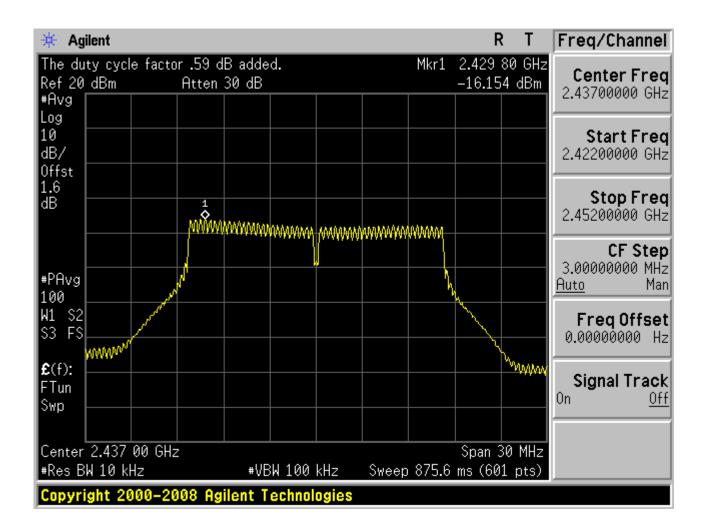


#### 2.4 11G\_L



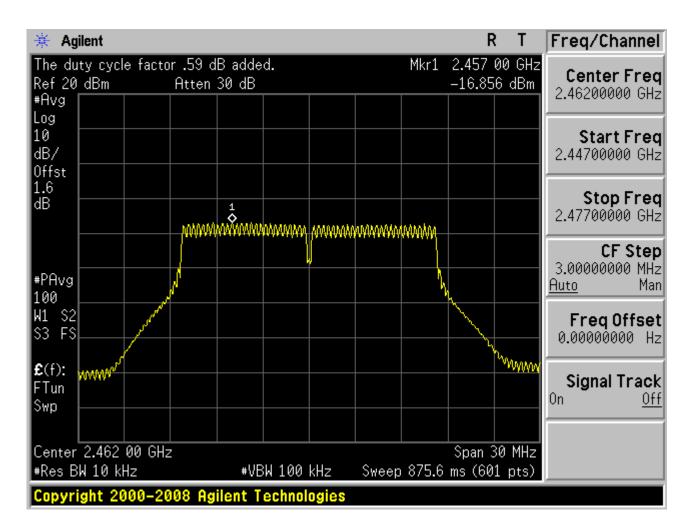


#### 2.5 11G\_M

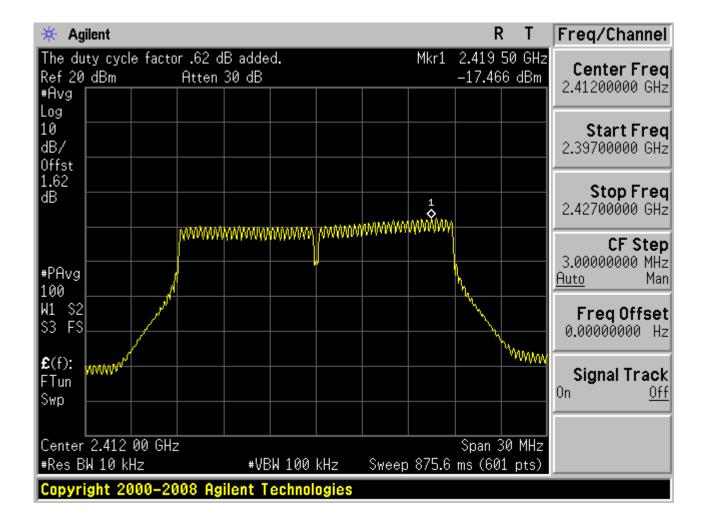




#### 2.6 11G\_H

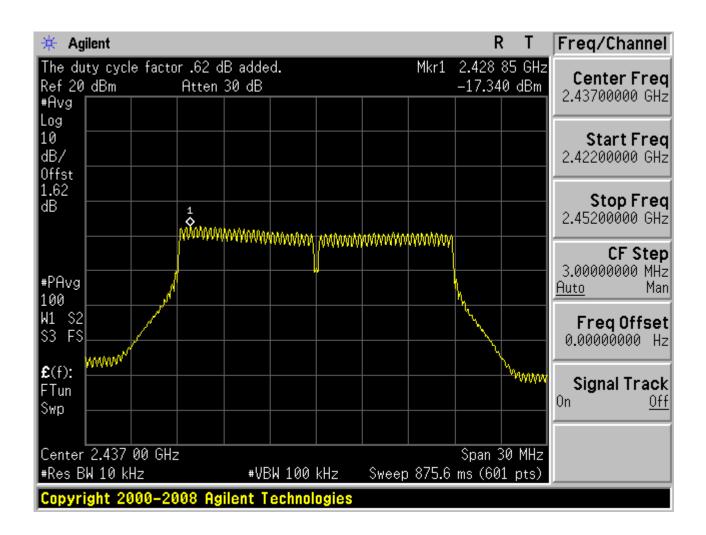






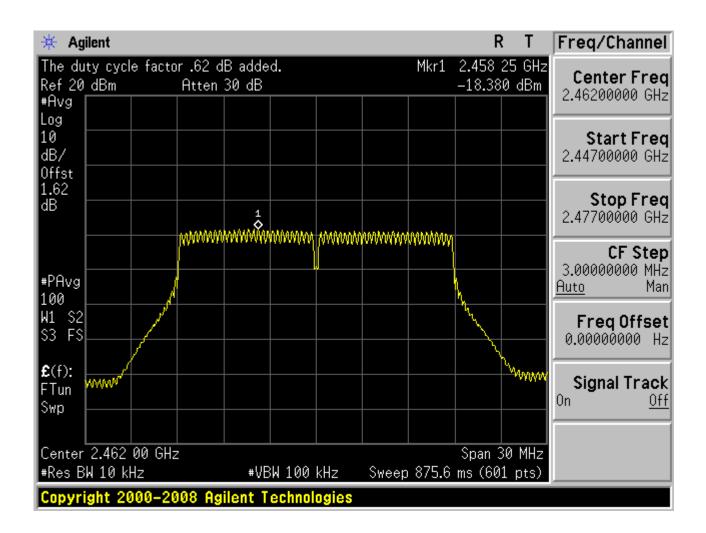


#### 2.7 11N20 L





#### 2.8 11N20 M





#### 2.9 11N20\_H



## **Appendix D: Band Edges Compliance**

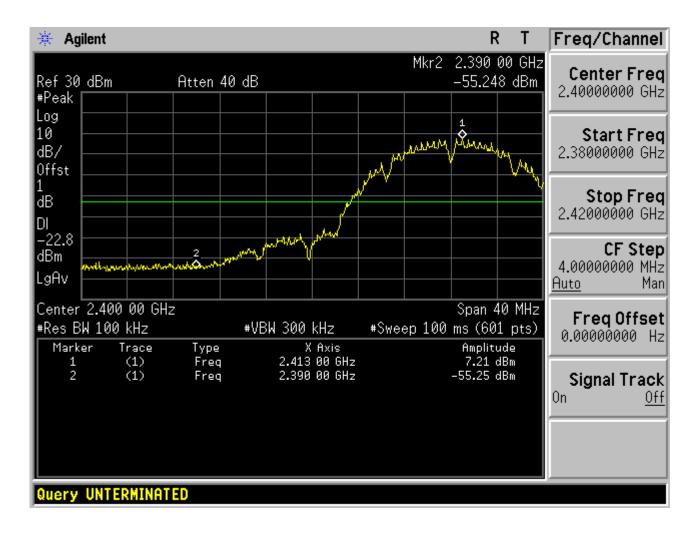
#### Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Carrier Power[dBm]	Max.Spurious Level[dBm]	Verdict
11B	L	2412	7.21	-55.25	pass
11B	Н	2462	7.50	-53.46	pass
11G	L	2412	1.07	-52.15	pass
11G	Н	2462	0.30	-50.32	pass
11N20	L	2412	0.10	-53.64	pass
11N20	Н	2462	-0.30	-51.46	pass



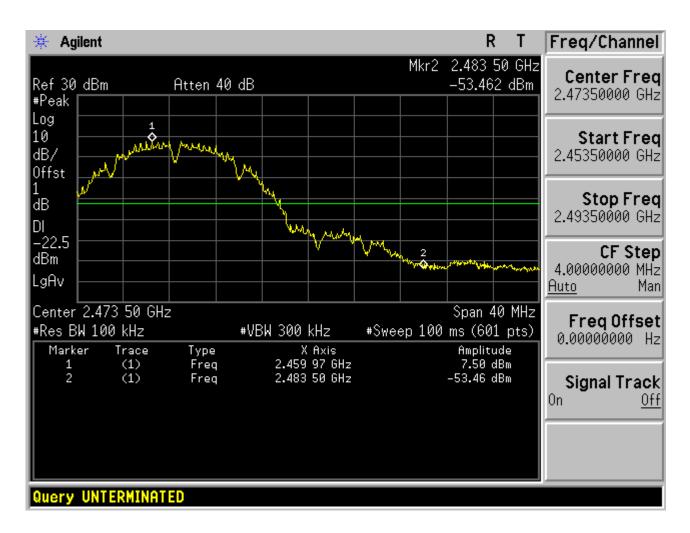
#### Part II - Test Plots

#### 2.1 11B\_L



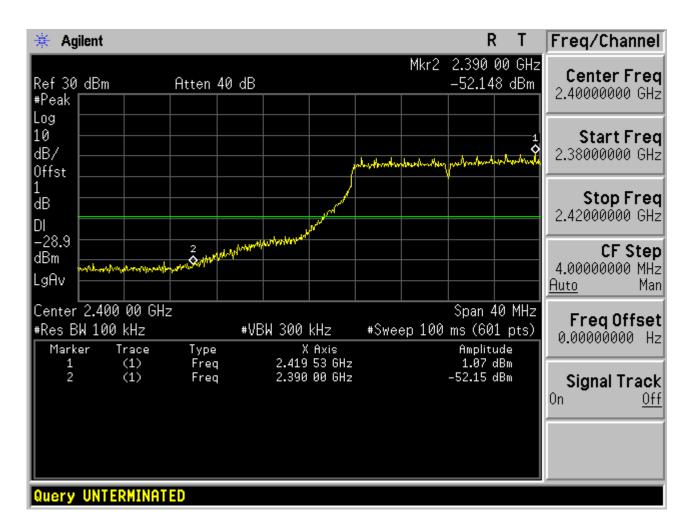


#### 2.2 11B\_H



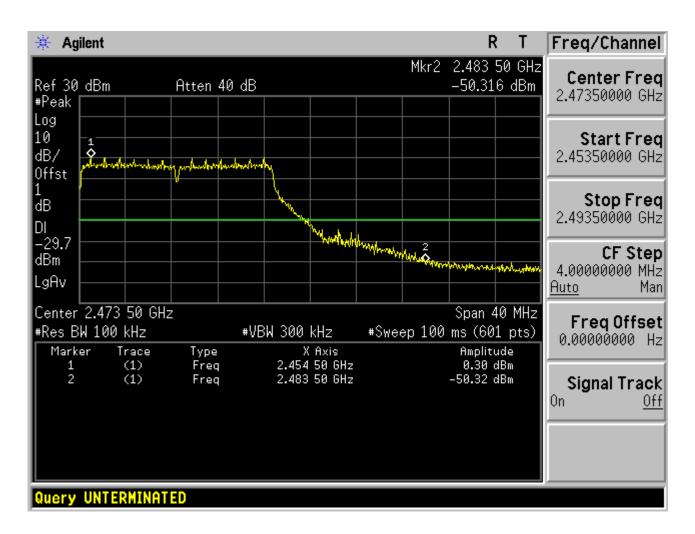


#### 2.3 11G\_L



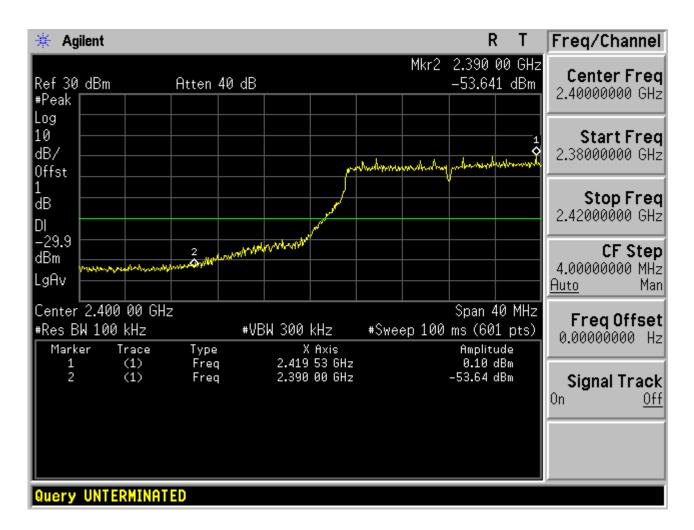


#### 2.4 11G H



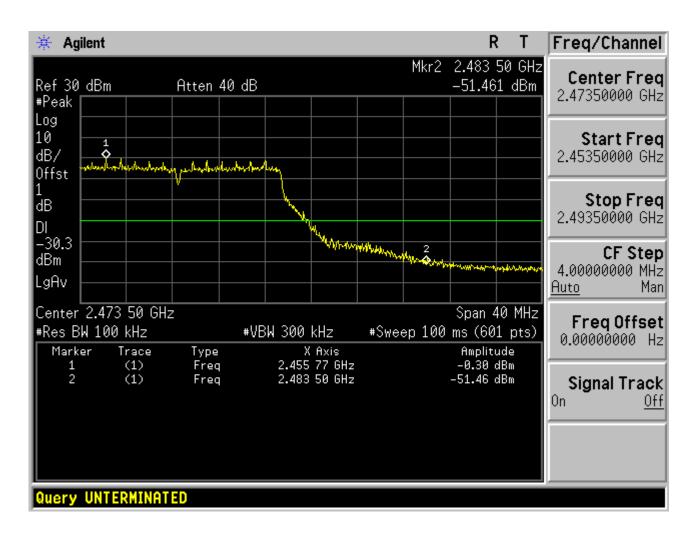


#### 2.5 11N20\_L





#### 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" referrers 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 x lg(100 [kHz]/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

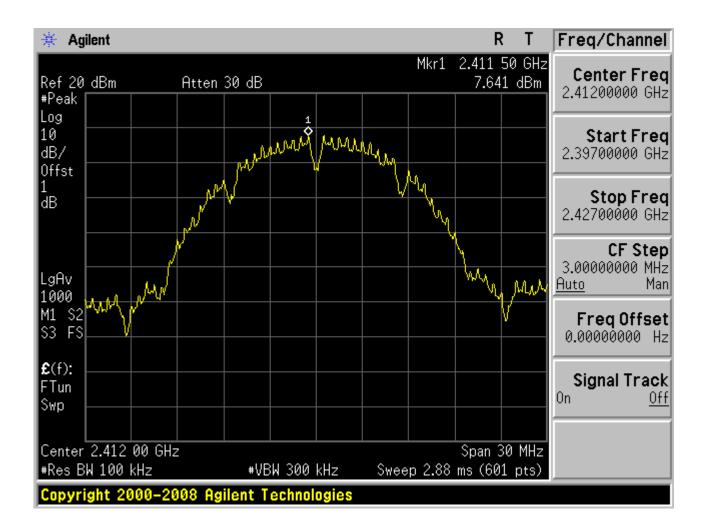
Test Mode	Test Channel	Frequency[MHz]	Pref[dBm]	Puw[dBm]	Verdict
11B	L	2412	7.641	<li>dimit</li>	pass
11B	M	2437	8.679	<li>dimit</li>	pass
11B	Н	2462	8.709	<li>dimit</li>	pass
11G	L	2412	1.662	<li>dimit</li>	pass
11G	M	2437	1.774	<li>dimit</li>	pass
11G	Н	2462	0.777	<li>dimit</li>	pass
11N20	L	2412	0.305	<li>dimit</li>	pass
11N20	M	2437	0.841	<li>limit</li>	pass
11N20	Н	2462	-0.334	<li>limit</li>	pass



#### Part II - Test Plots

#### 2.1 11B L

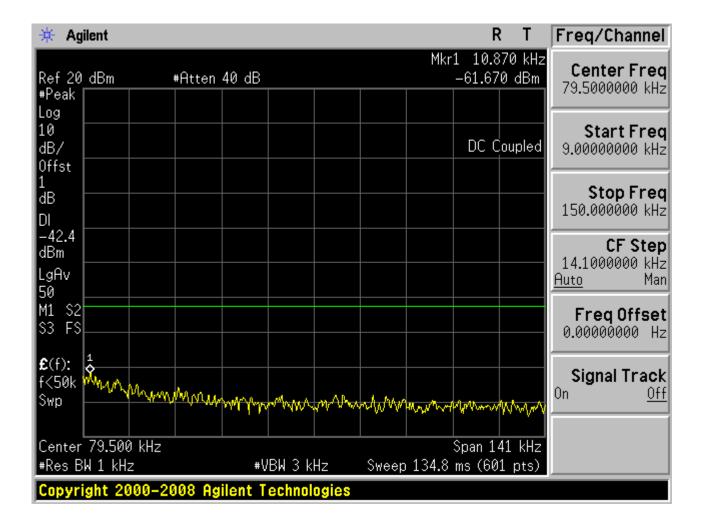
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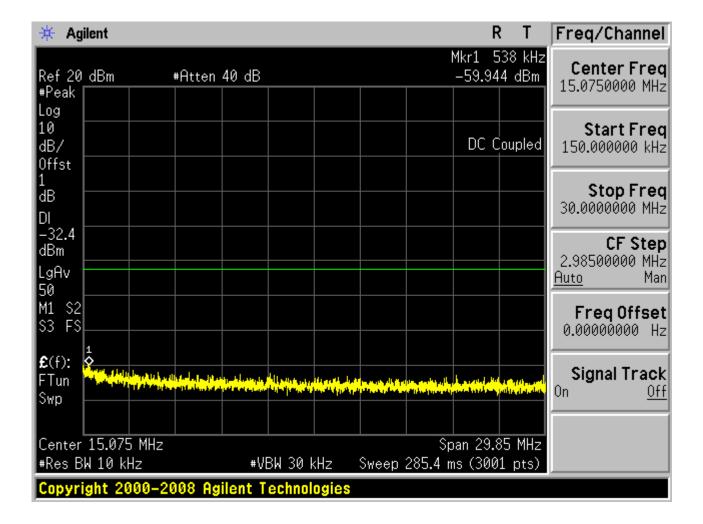


Puw:

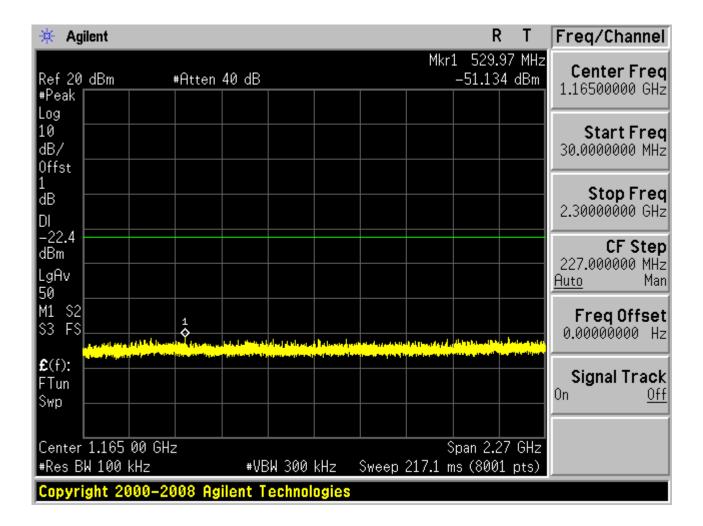




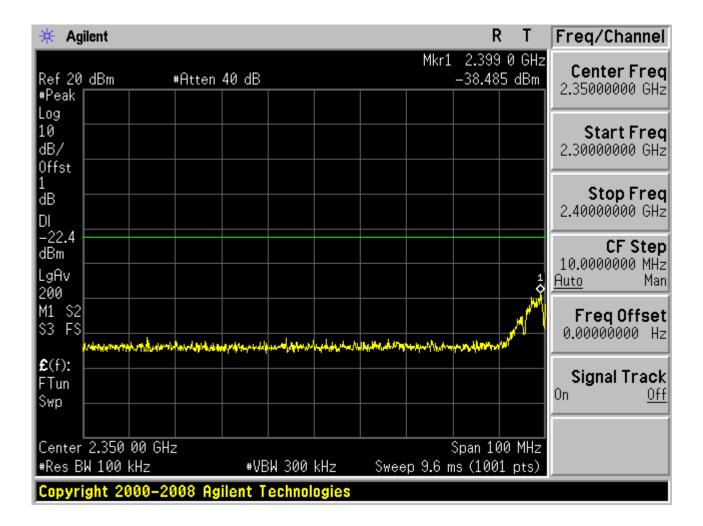




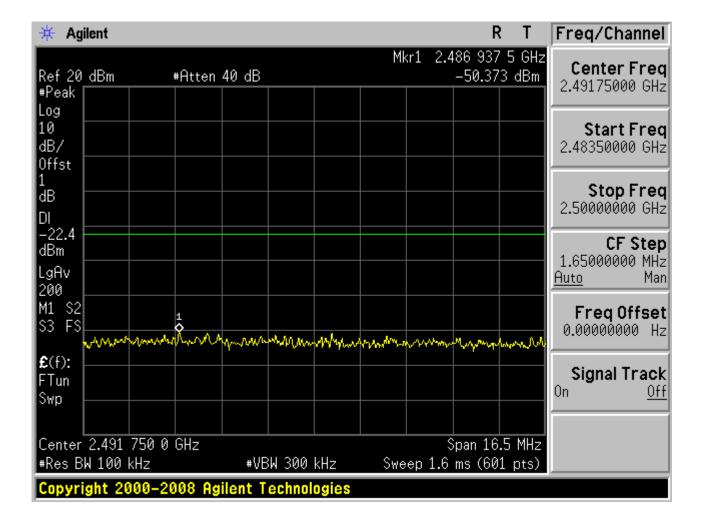




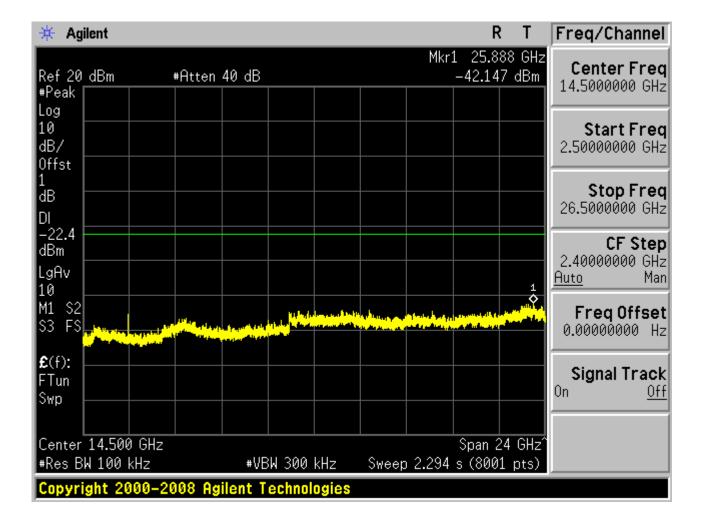






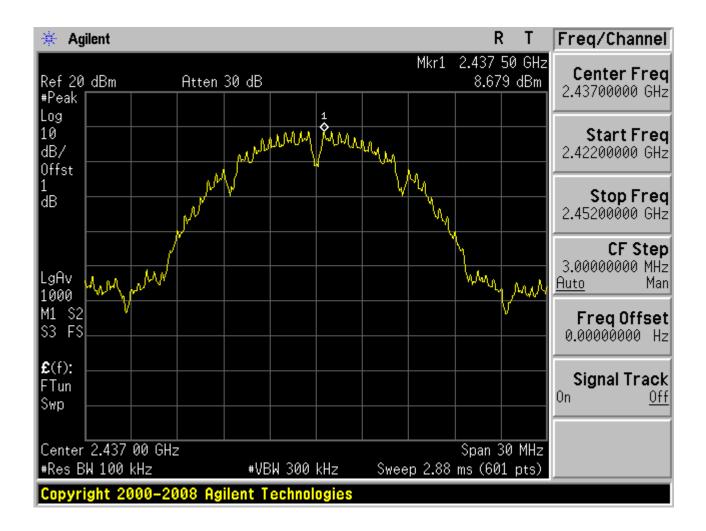




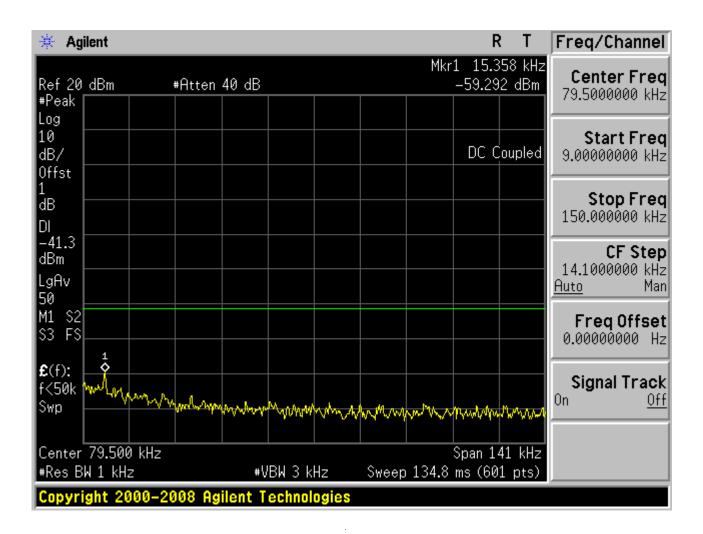




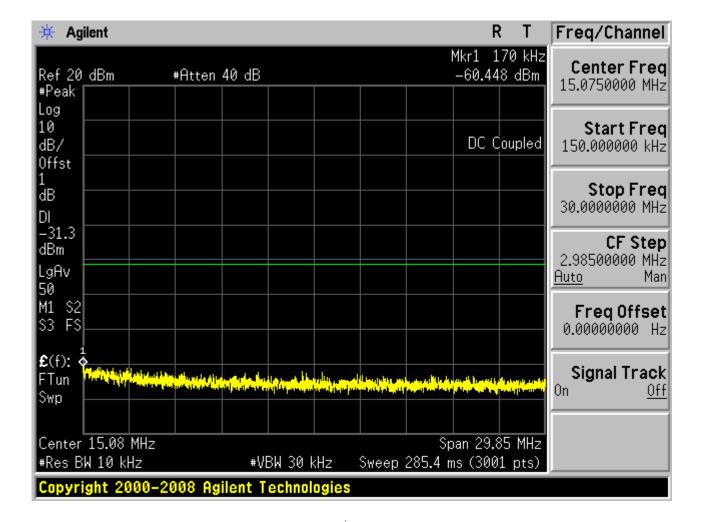
# 2.1 11B\_M



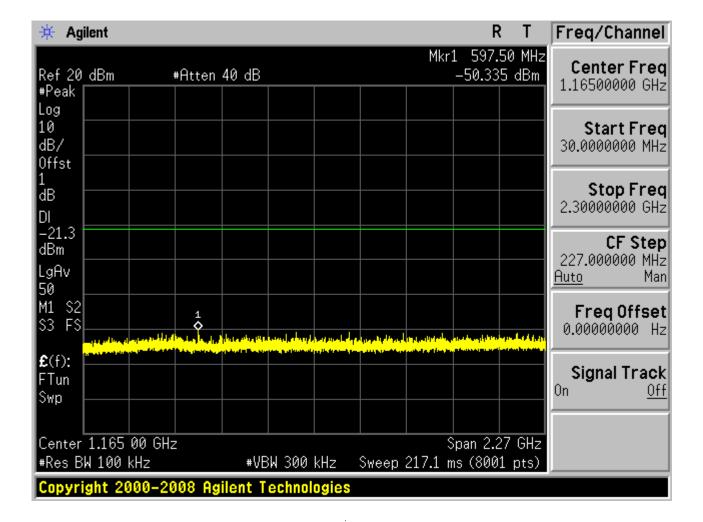




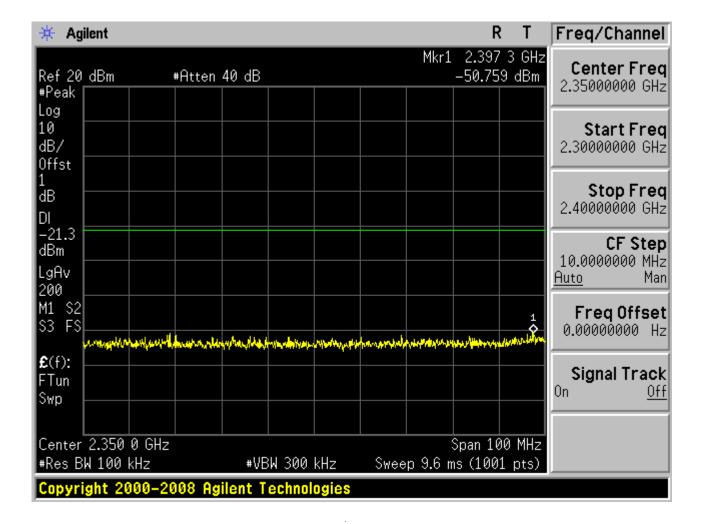




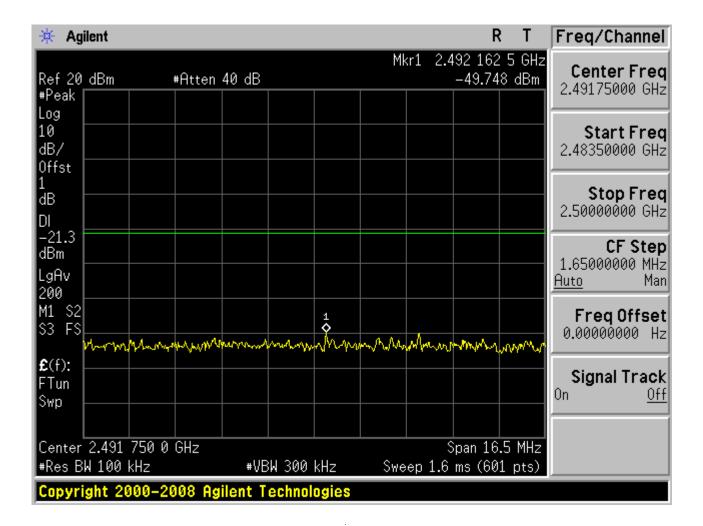




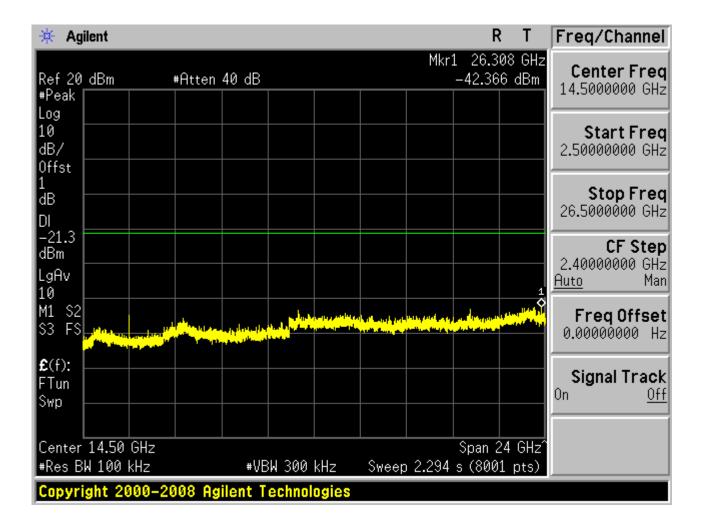






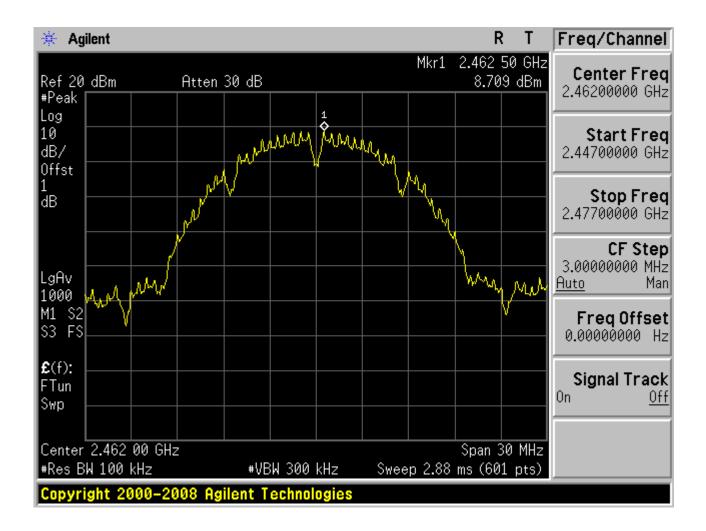




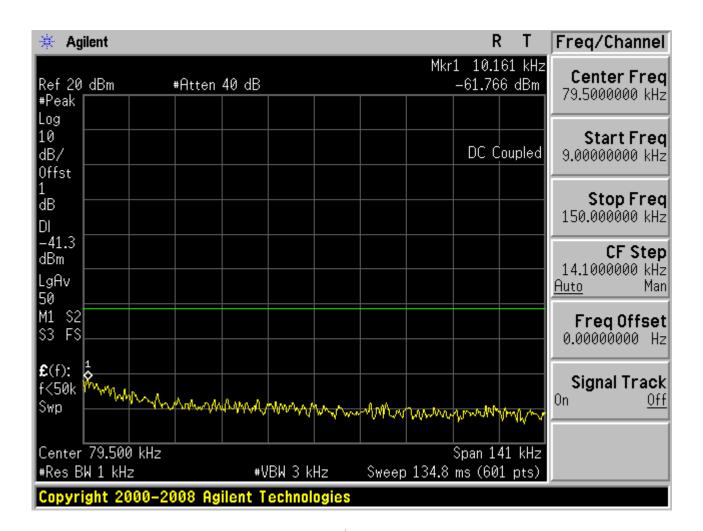




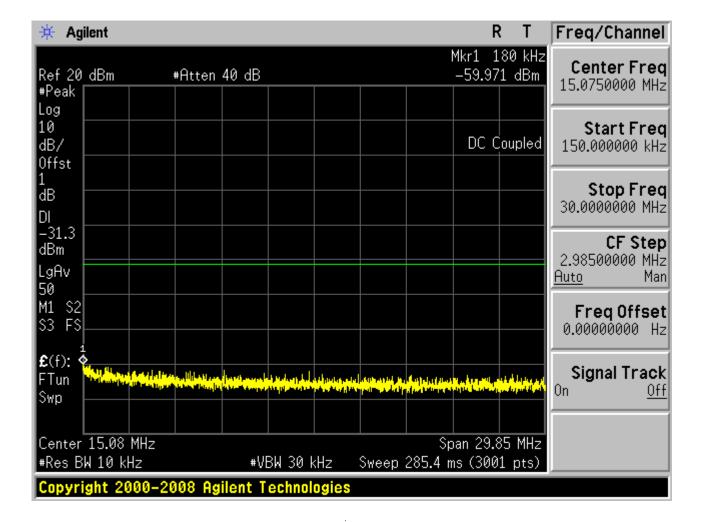
# 2.1 11B\_H



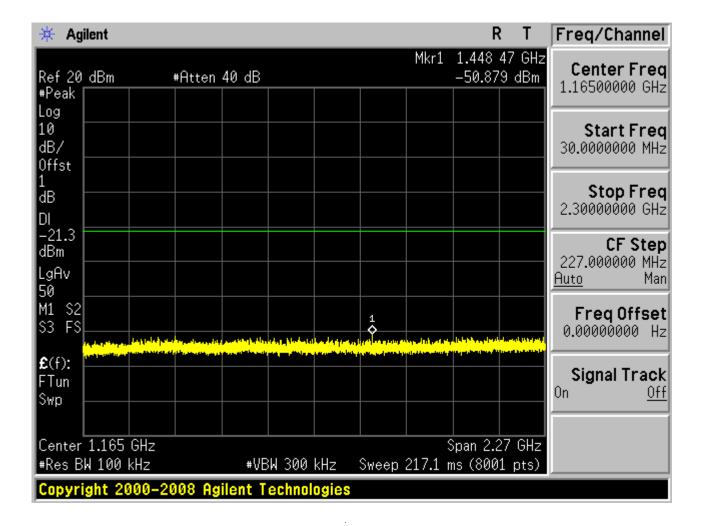




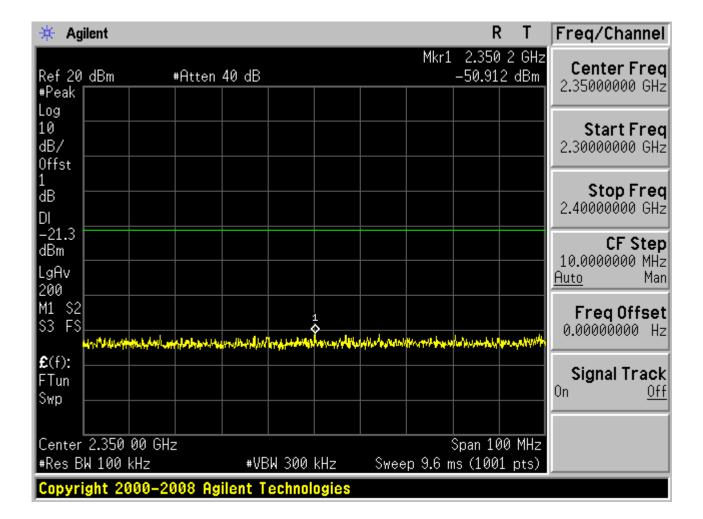




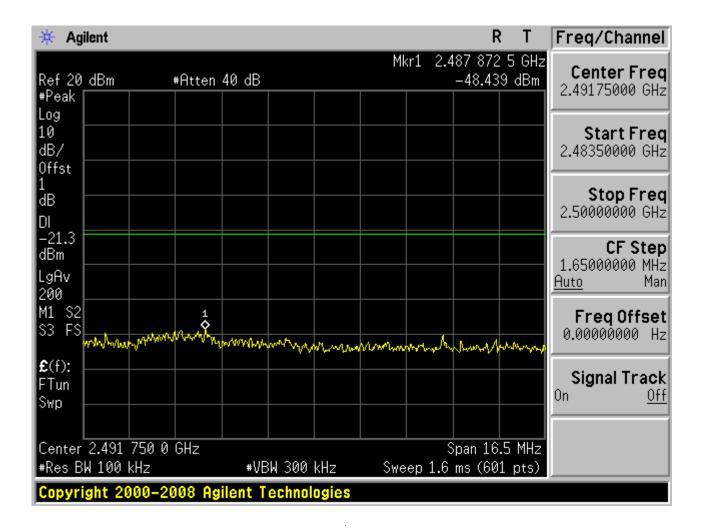




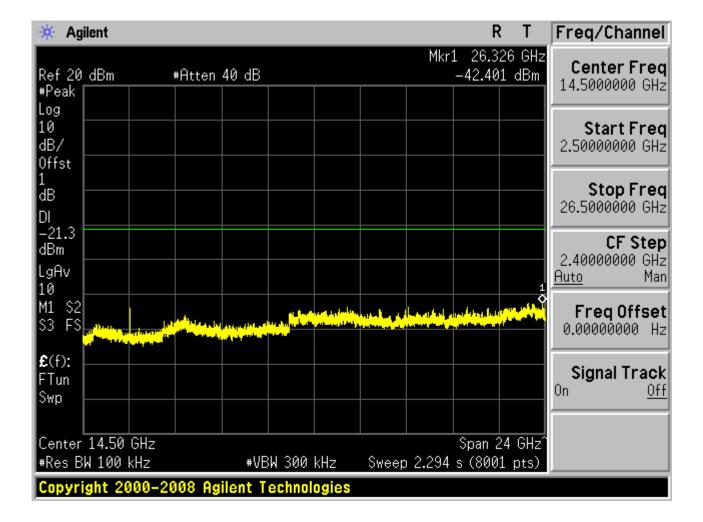






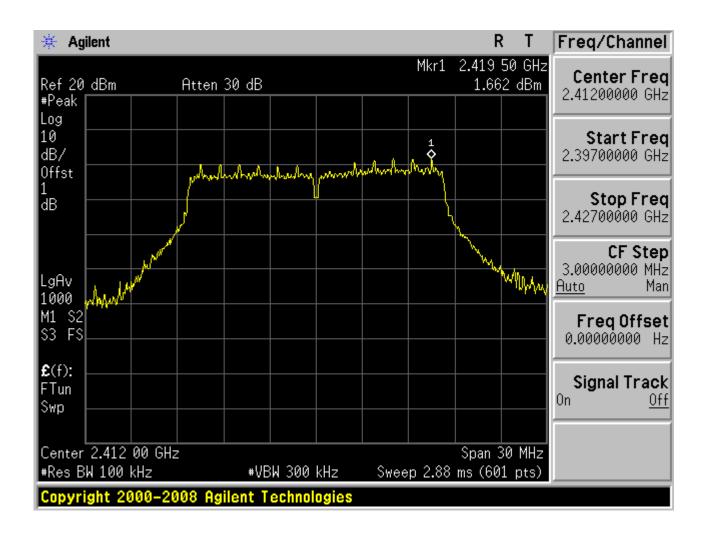




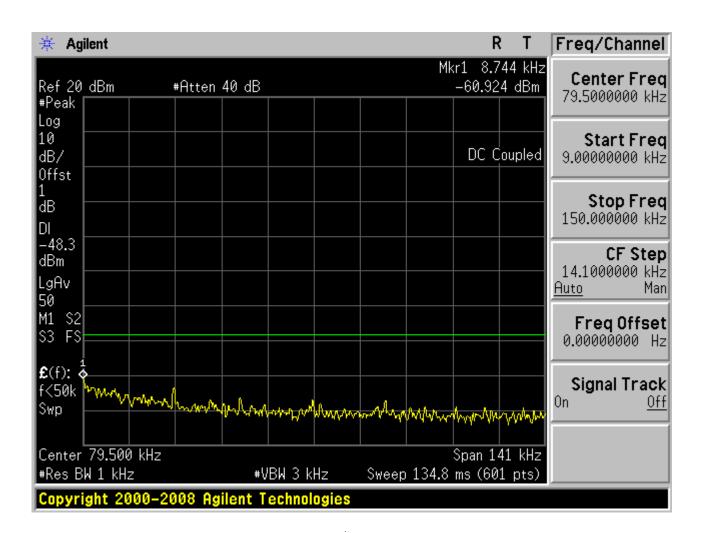




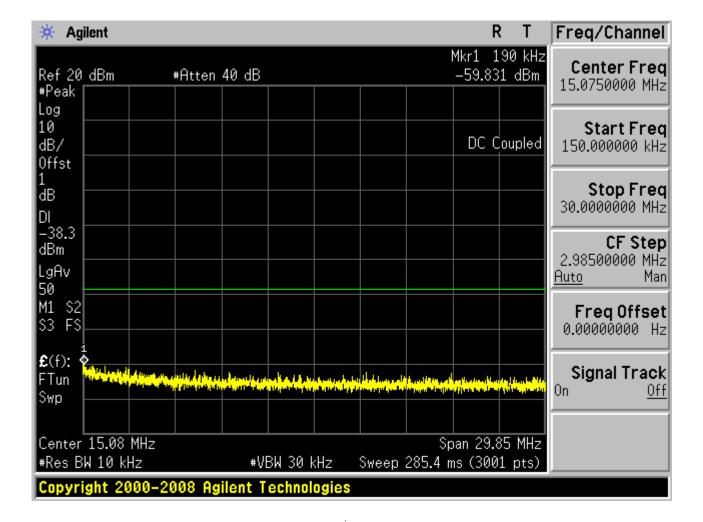
# 2.1 11G\_L



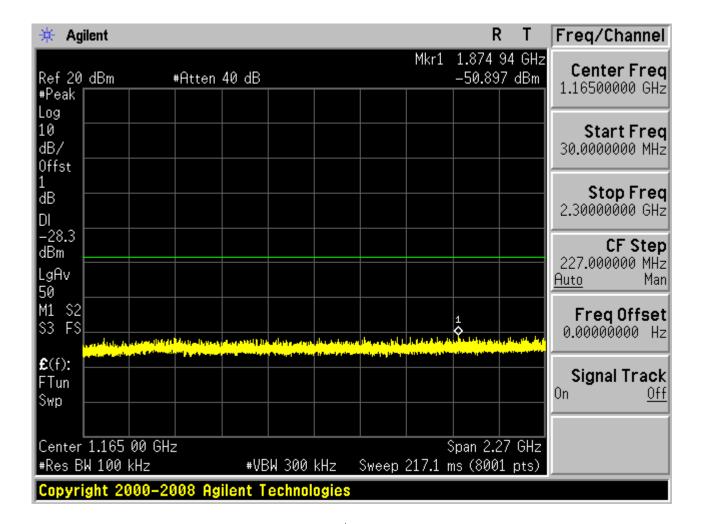




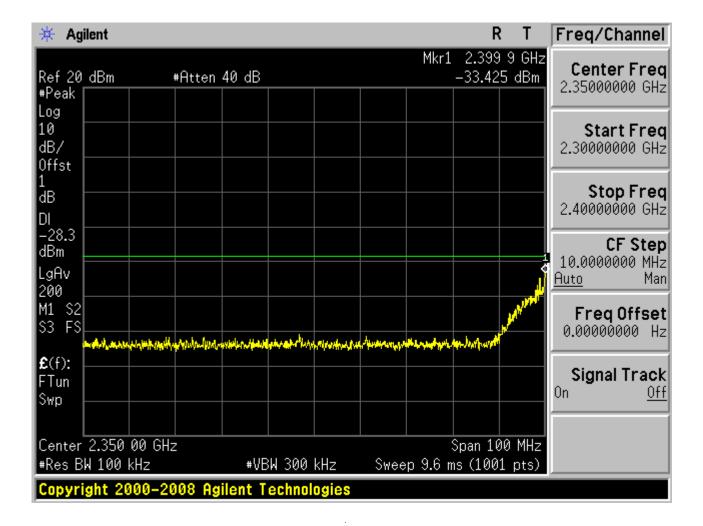




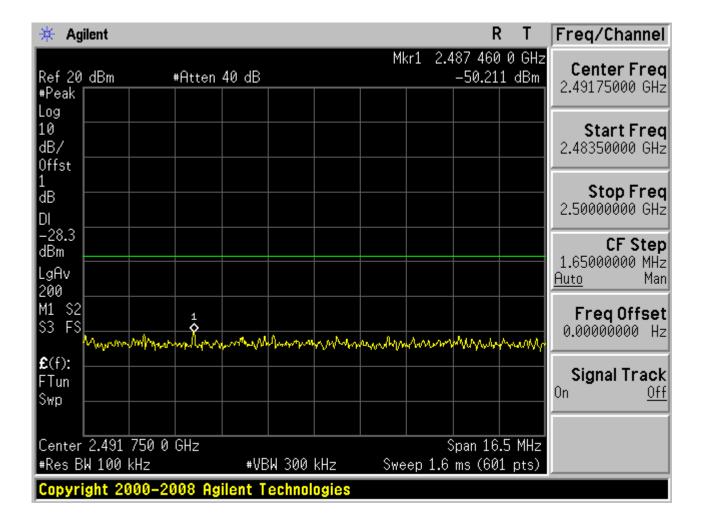




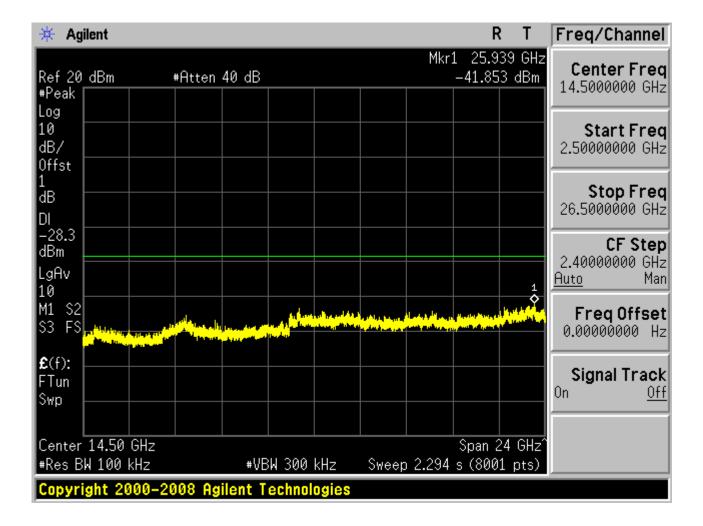






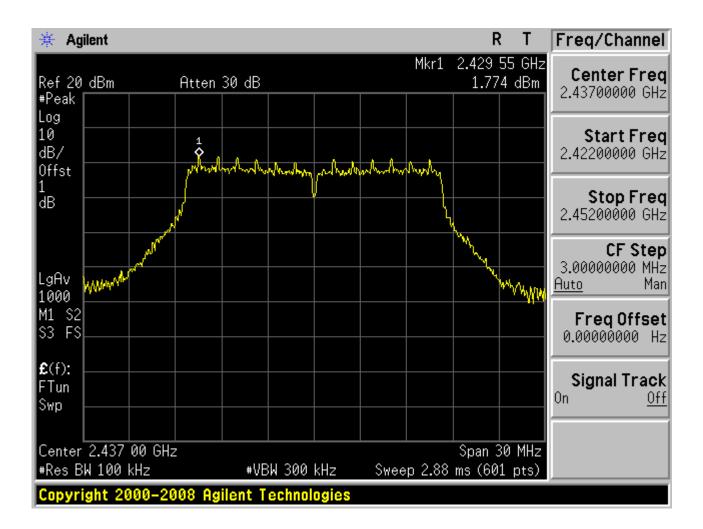




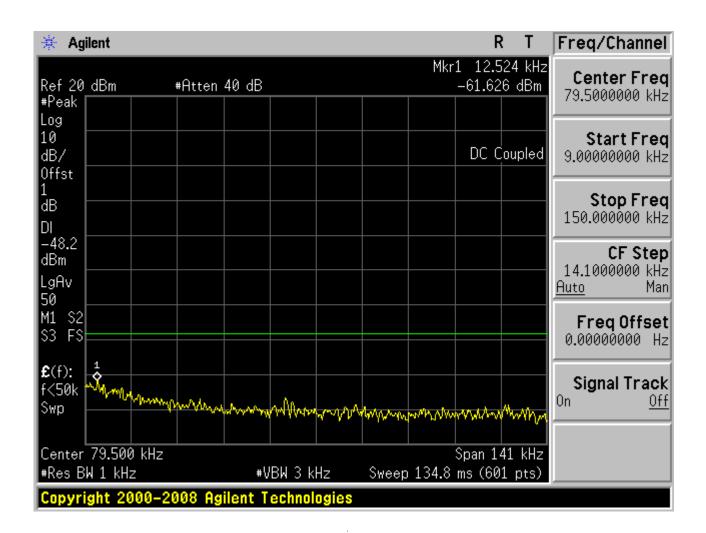




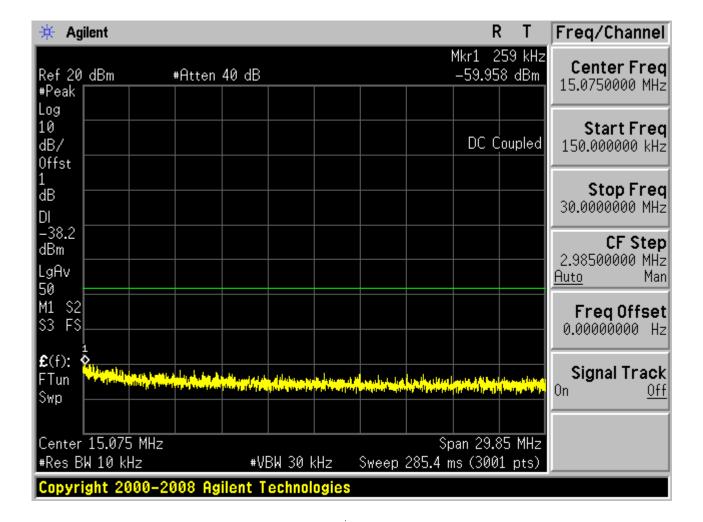
# 2.1 11G\_M



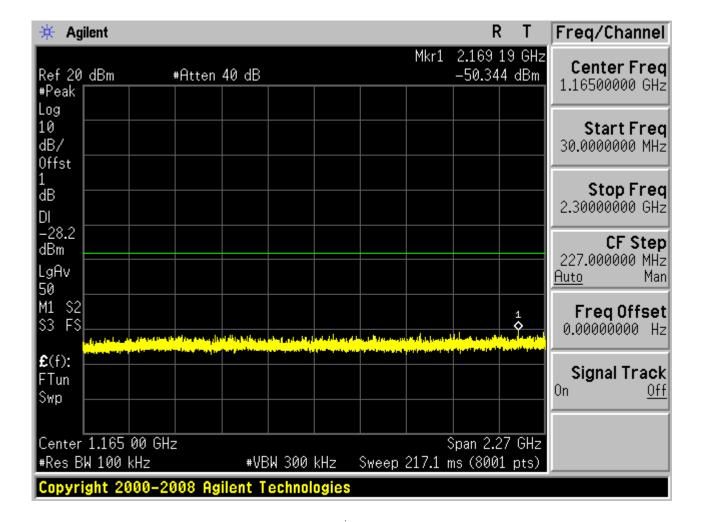




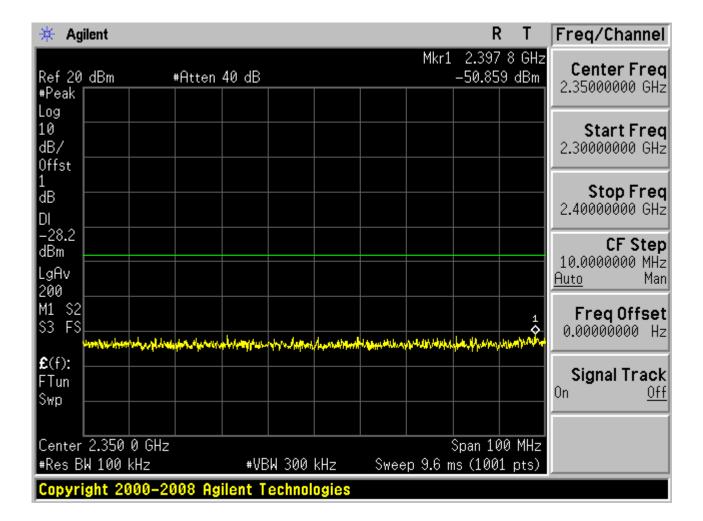




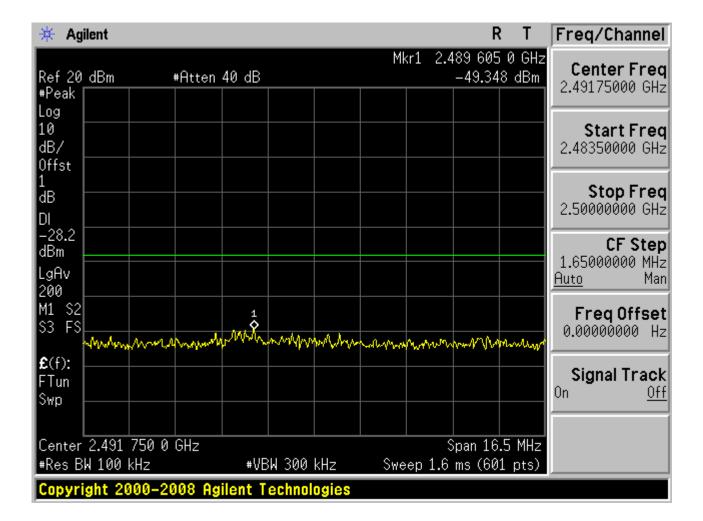




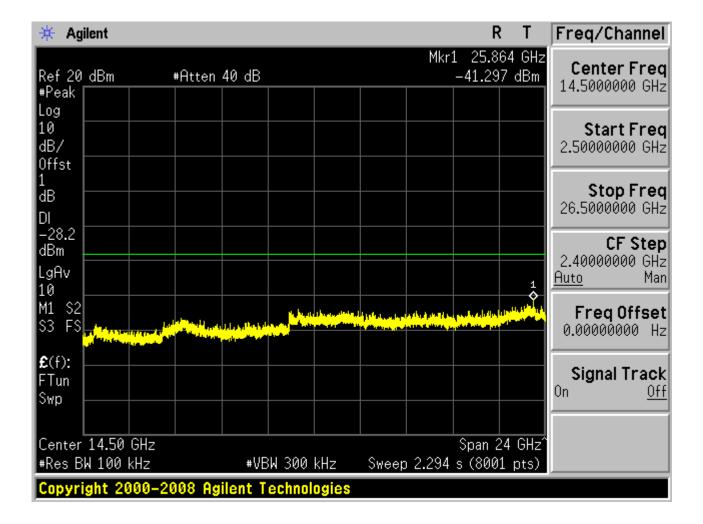






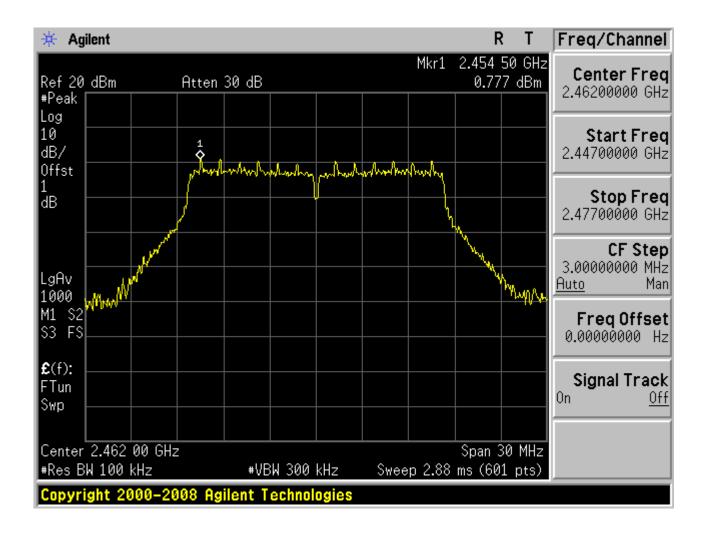




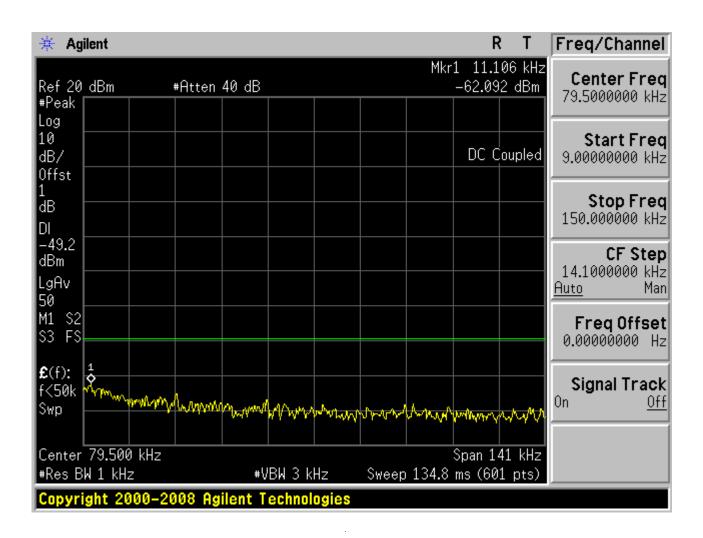




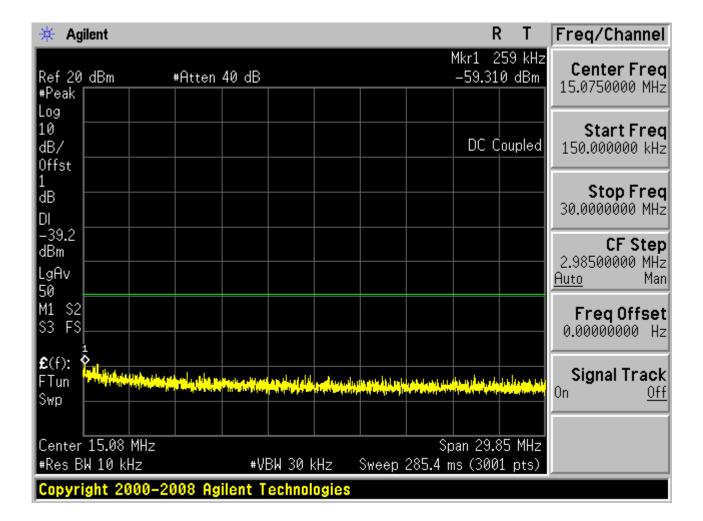
# 2.1 11G\_H



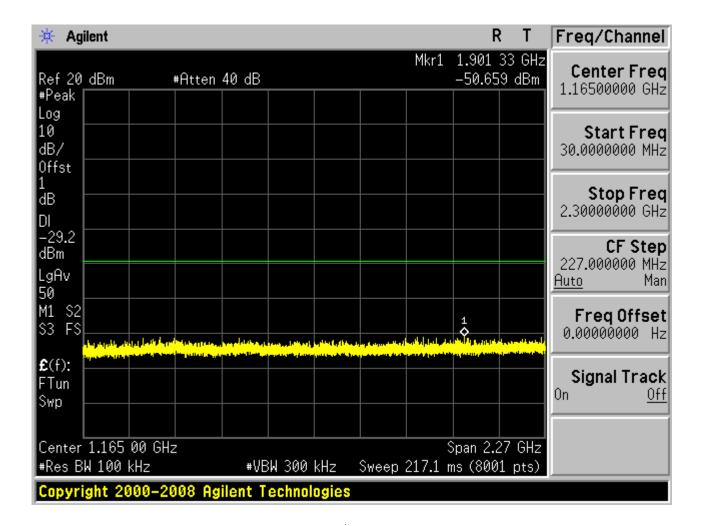




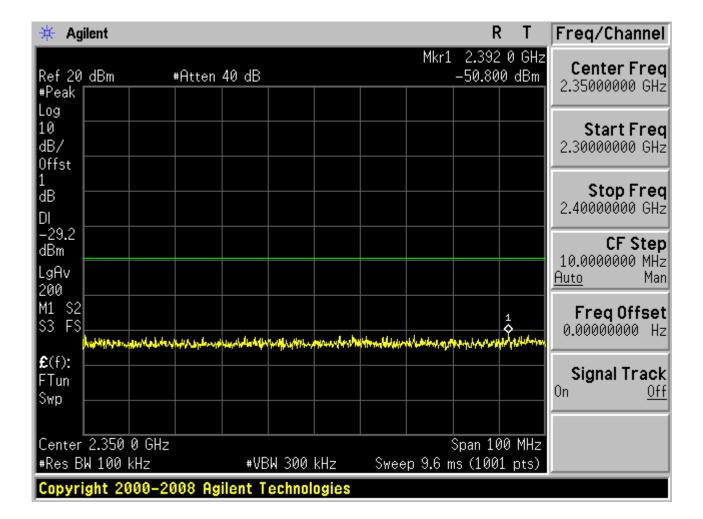




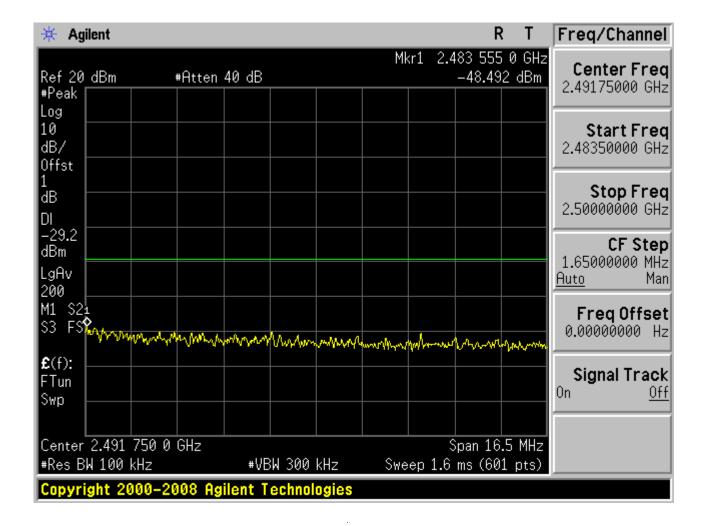




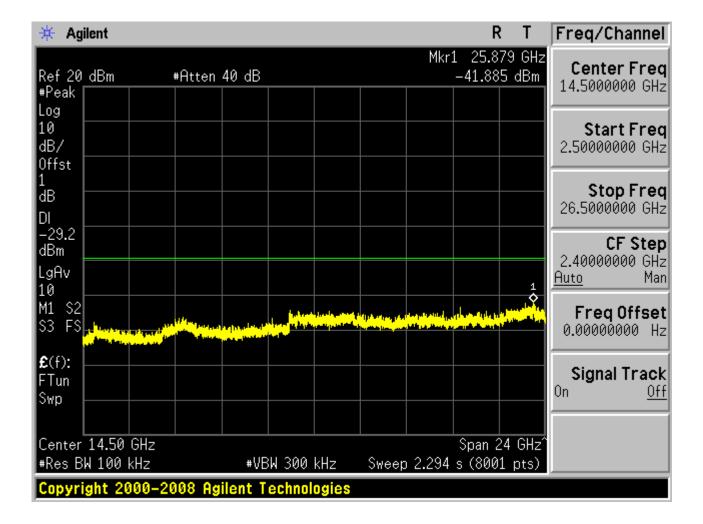








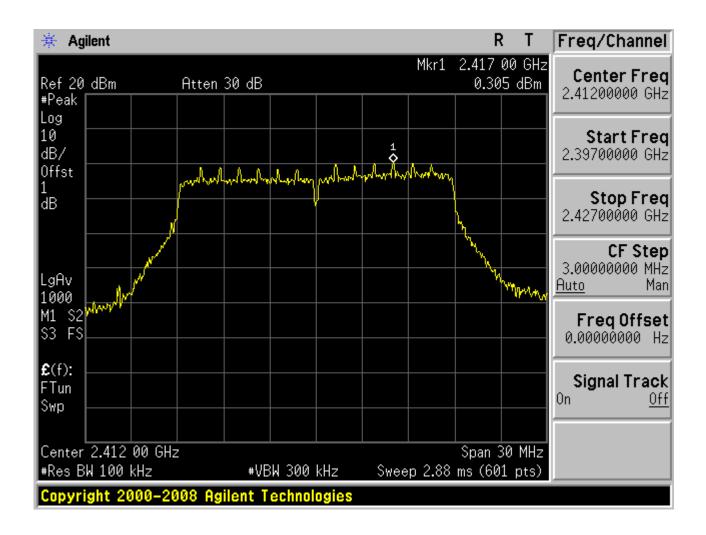






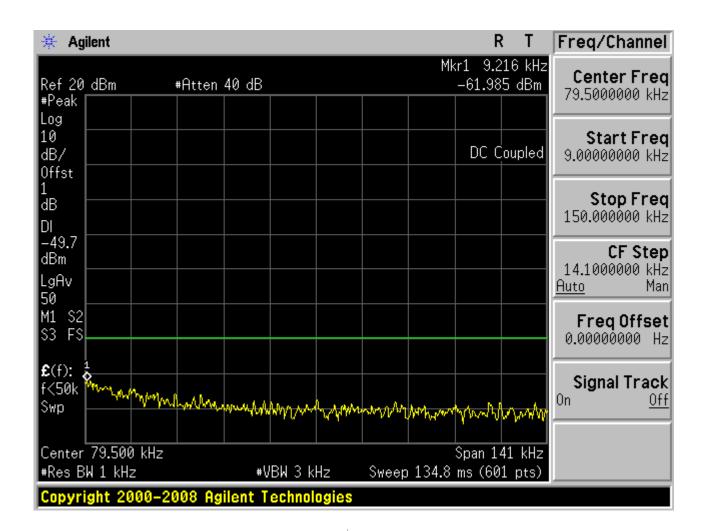
## 2.1 11N\_L

## Pref:

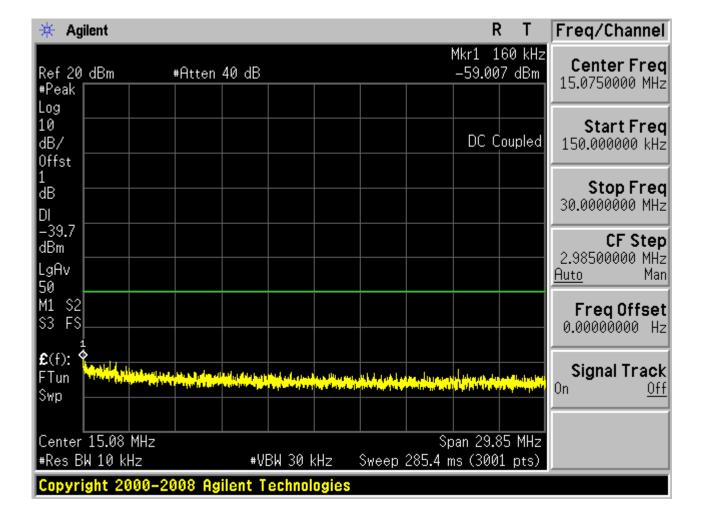




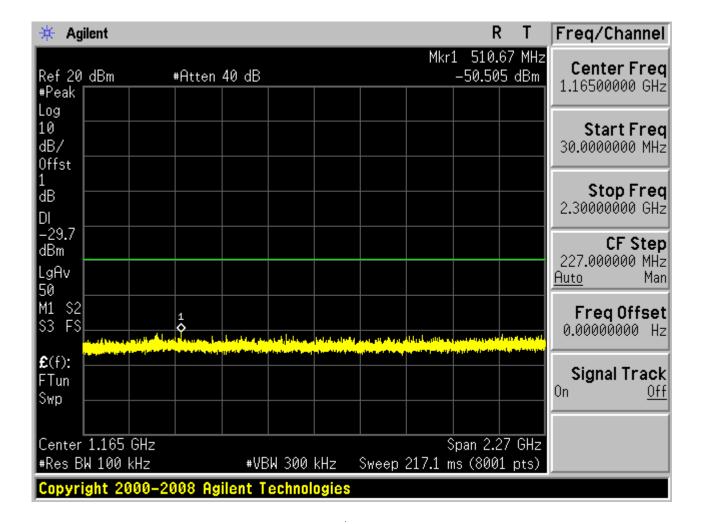
## Puw:



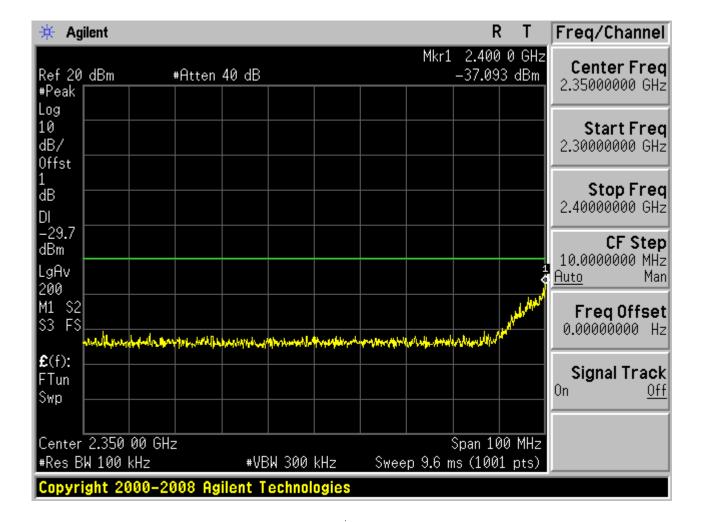




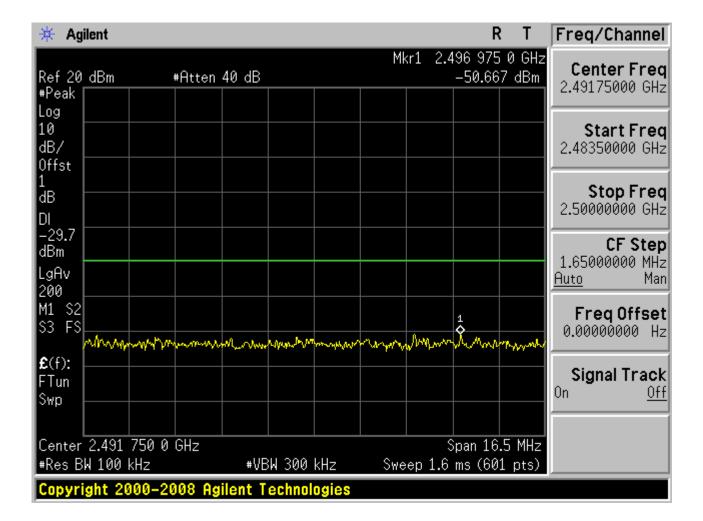




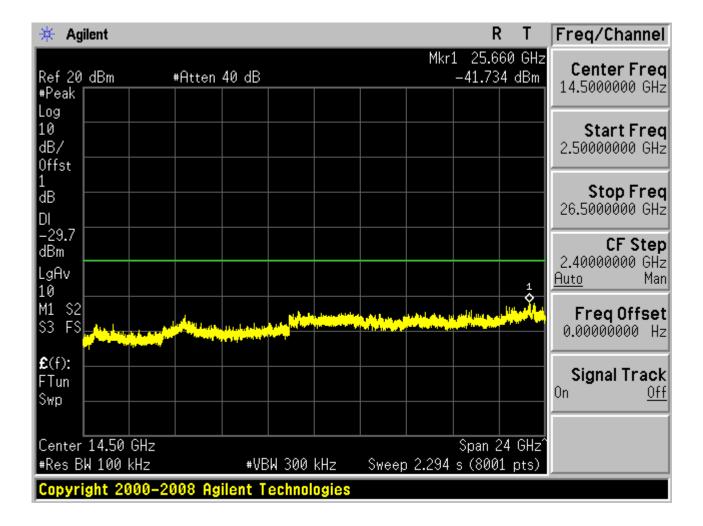








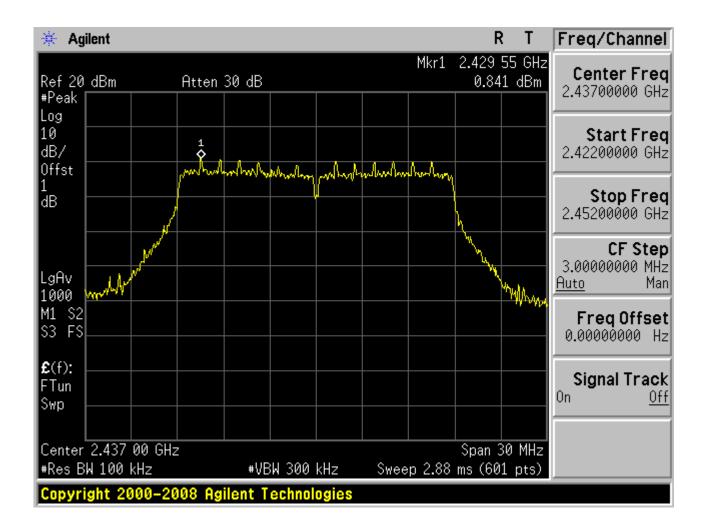






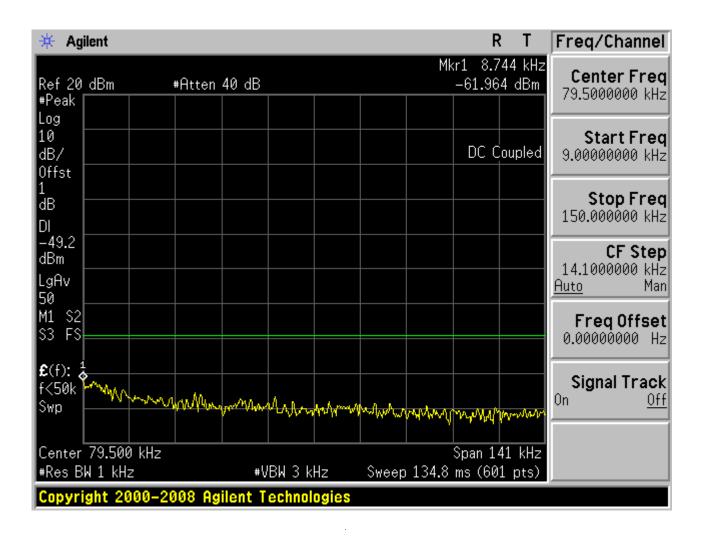
## 2.1 11N\_M

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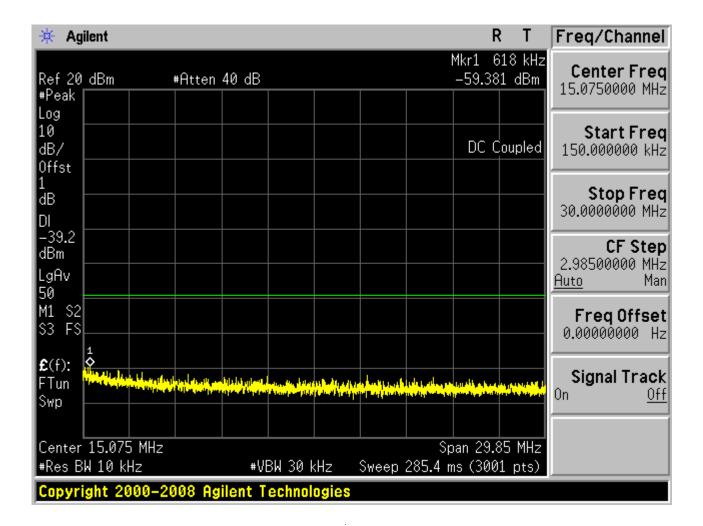




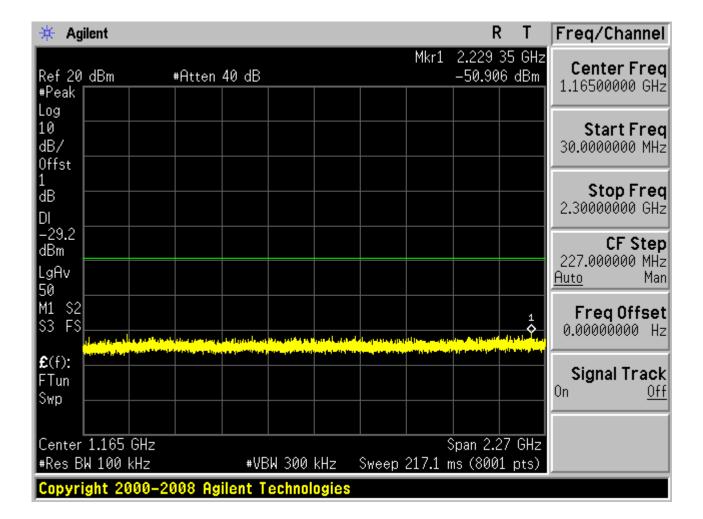
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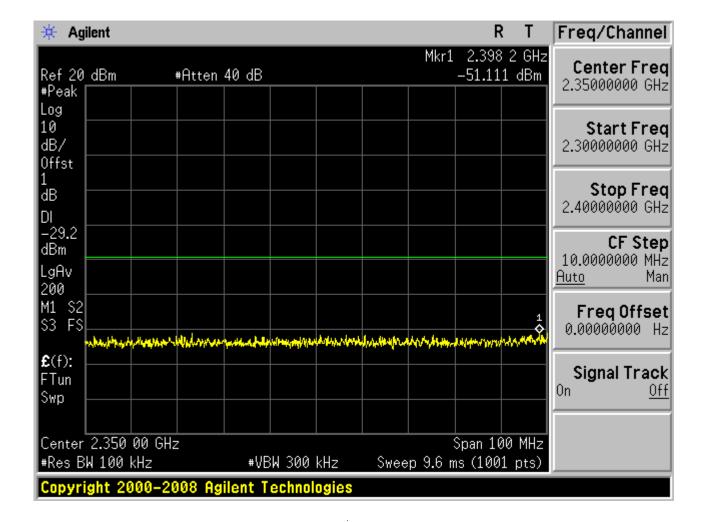




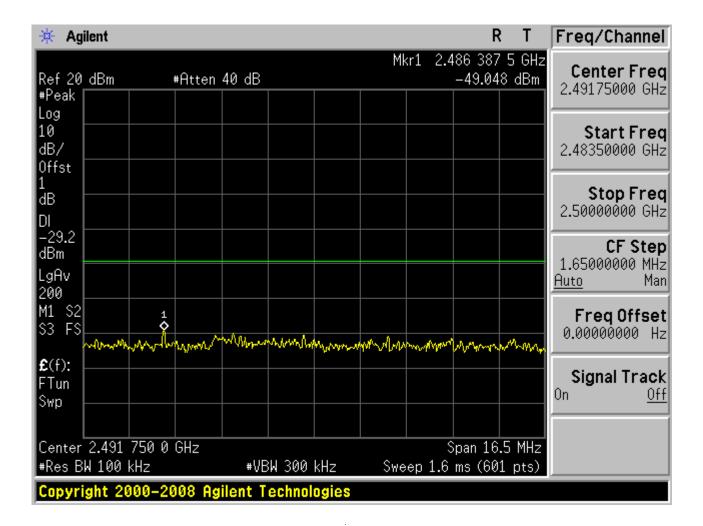




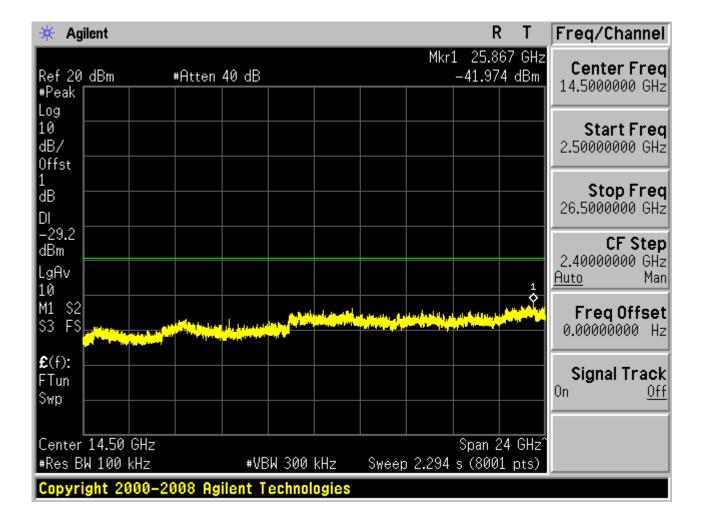








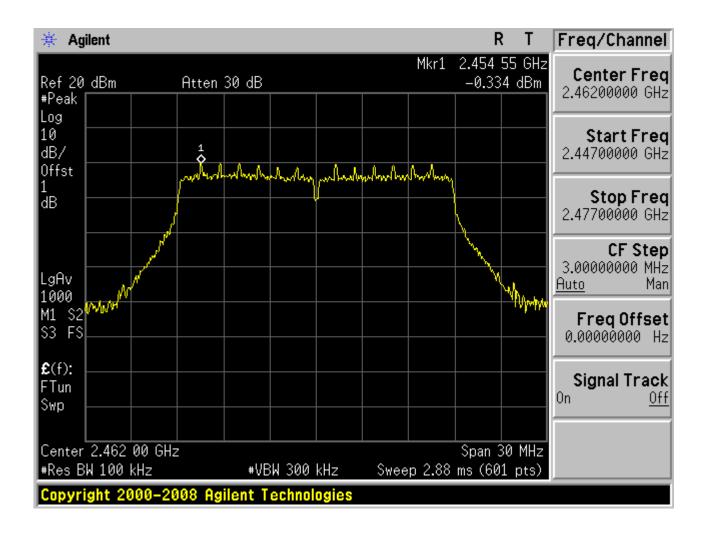






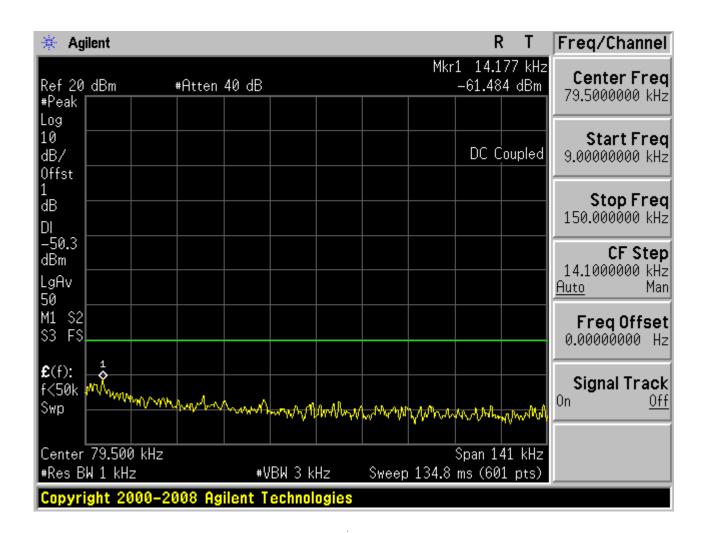
## 2.1 11N\_H

## Pref:

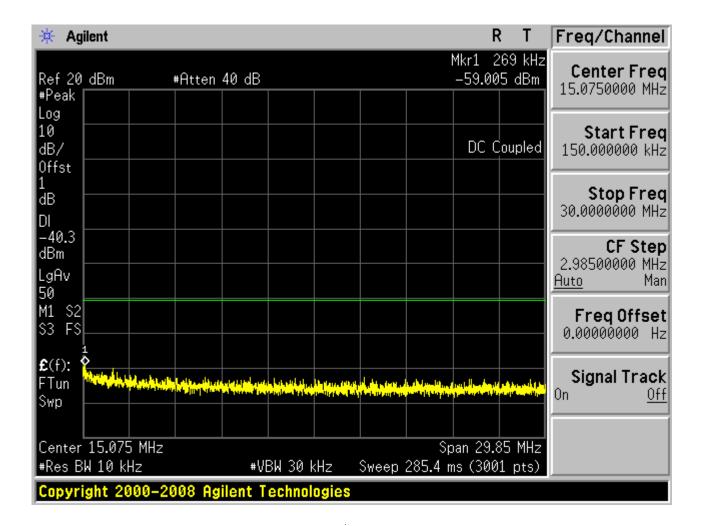




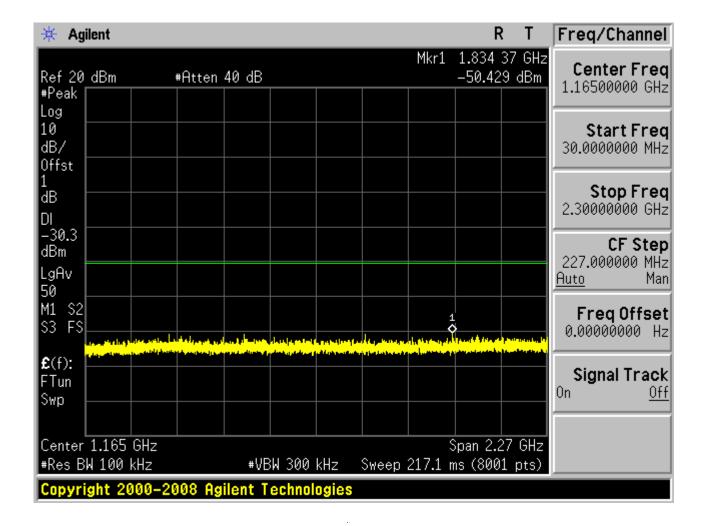
## Puw:



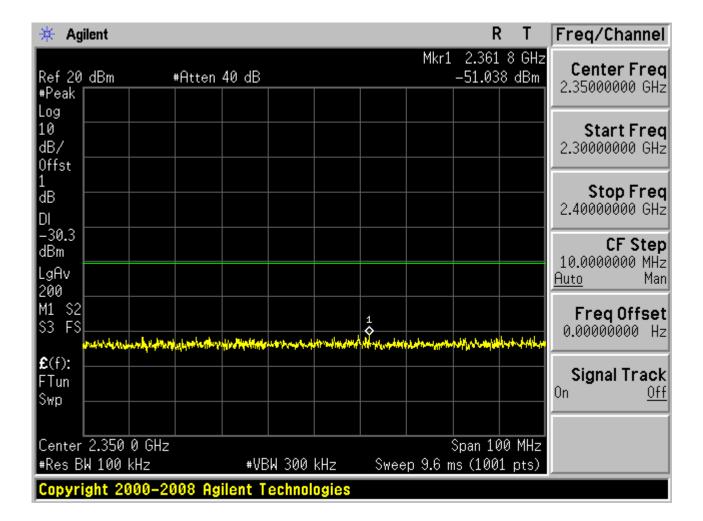




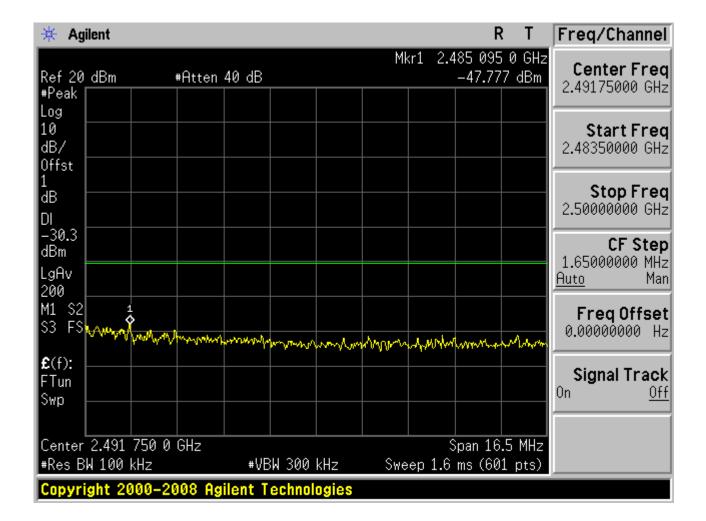




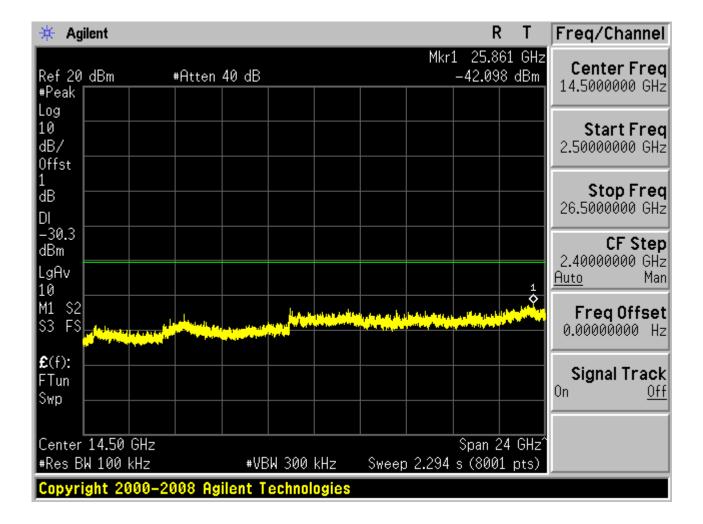














# Appendix F: Radiated Spurious Emission & Spurious in Restricted Band

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

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

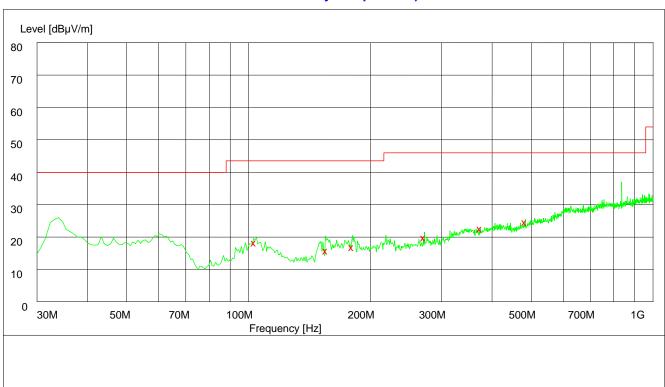


## Part 1: Testing Range of "30 MHz to 1 GHz"

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).

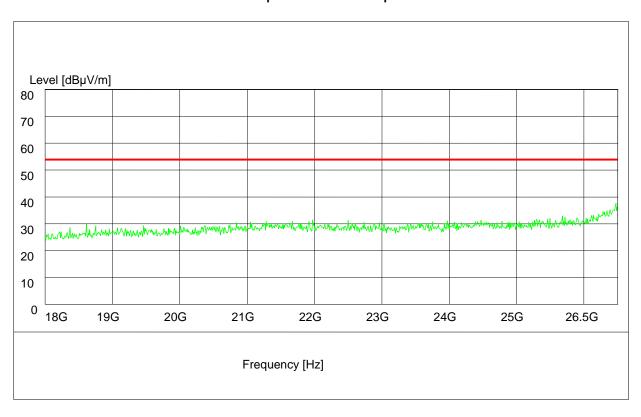


Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Plarization
103.596000	19.70	13.2	43.5	23.8	128.0	360.00	VERTICAL
155.776000	17.30	10.1	43.5	26.2	100.0	96.00	VERTICAL
180.784000	18.30	11.4	43.5	25.2	118.0	127.00	VERTICAL
271.632000	21.20	14.5	46.0	24.8	147.0	78.00	HORIZONTAL
374.124000	24.00	16.9	46.0	22.0	100.0	27.00	HORIZONTAL
483.484000	26.00	18.9	46.0	20.0	100.0	165.00	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"

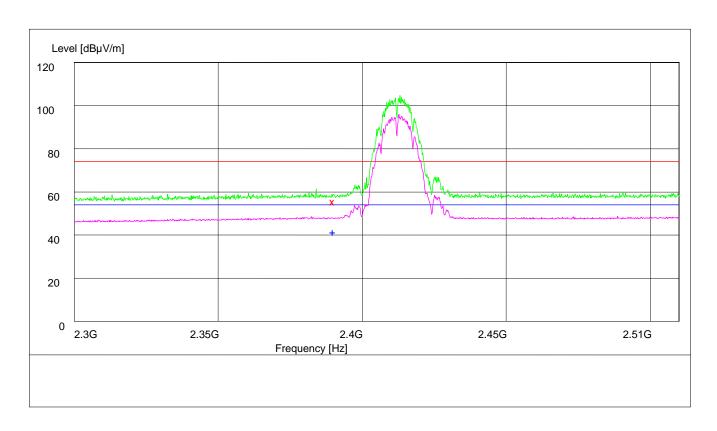
Note 1: The testing range of "2.3 GHz to 2.5 GHz" is for checking radiated emissions located in restricted bands near the EUT operating bands.

Note 2: Two limits are required in the testing range above 1 GHz, that is Peak limit (74 dB $\mu$ V/m) and Average Limit (54 dB $\mu$ V/m).

Note 3: The peak spike exceeds the limit line is EUT's operating frequency.

## **Test Mode: 11b**

## Channel 01



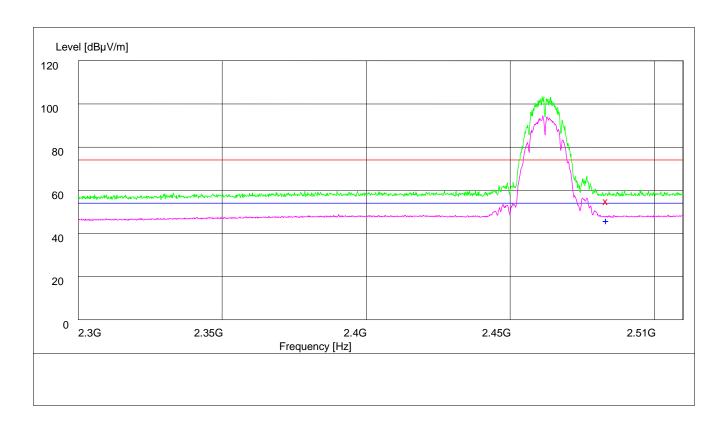
Note: The peak exceeds the limit line is carrier frequency.

#### MEASUREMENT RESULT: PK Detector

Frequency	Level	Transd	Limit	Margin	Height	Azimuth	Polarization
MHz	dBµV/m	dB	dBµV/m	dB	cm	deg	
2390.000000	57.50	34.8	74.0	16.5	197.0	283.00	HORIZONTAL



Frequency	Level	Transd	Limit	Margin	Height	Azimuth	Polarization
MHz	dBµV/m	dB	dBµV/m	dB	cm	deg	
2390.000000	43.60	34.8	54.0	10.4	200.0	18.00	VERTICAL



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

## MEASUREMENT RESULT: PK Detector

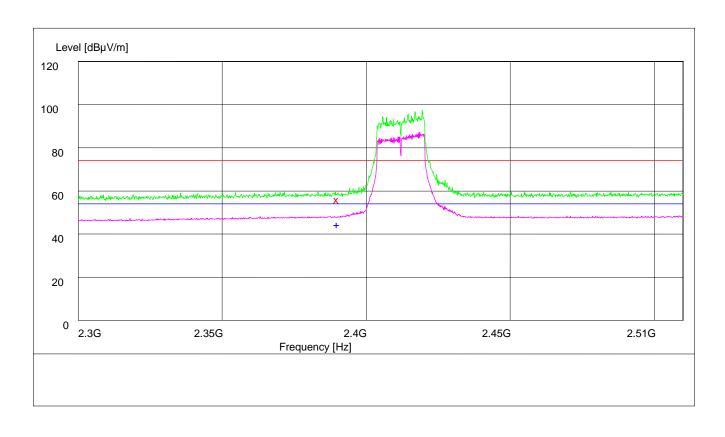
Frequency	Level	Transd	Limit	Margin	Height	Azimuth	Polarization
MHz	dBµV/m	dB	dBµV/m	dB	cm	deg	
2483.500000	57.00	35.1	74.0	17.0	197.0	127.00	HORIZONTAL

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2483.500000	48.00	35.1	54.0	6.0	100.0	218.00	HORIZONTAL



# Test Mode: 11g

## **Channel 01**



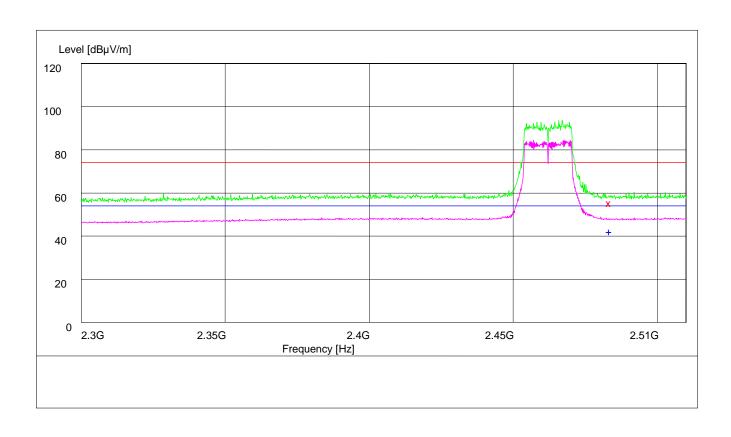
## Note: The peak exceeds the limit line is carrier frequency.

## MEASUREMENT RESULT: PK Detector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	58.10	34.8	74.0	15.9	135.0	130.00	HORIZONTAL

Frequency	Level	Transd	Limit	Margin	Height	Azimuth	Polarization
MHz	dBµV/m	dB	dBµV/m	dB	cm	deg	
2390.000000	46.60	34.8	54.0	7.4	100.0	249.00	VERTICAL





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

#### MEASUREMENT RESULT: PK Detector

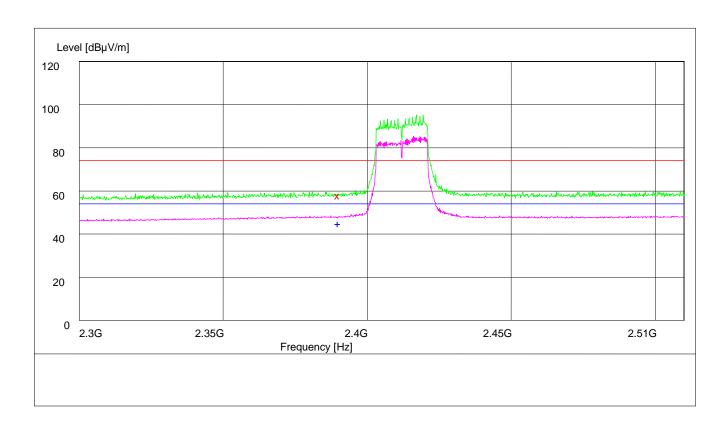
Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2483.500000	57.30	35.1	74.0	16.7	165.0	171.00	HORIZONTAL

Frequency	Level	Transd	Limit	Margin	Height	Azimuth	Polarization
MHz	dBµV/m	dB	dBµV/m	dB	cm	deg	
2483.500000	44.20	35.1	54.0	9.8	100.0	232.00	HORIZONTAL



# Test Mode: 11n

## **Channel 01**



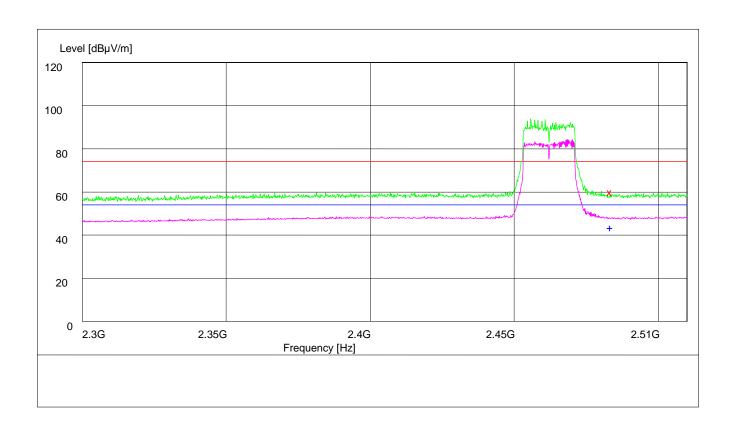
## Note: The peak exceeds the limit line is carrier frequency.

## MEASUREMENT RESULT: PK Detector

Frequency	Level	Transd	Limit	Margin	Height	Azimuth	Polarization
MHz	dBµV/m	dB	dBµV/m	dB	cm	deg	
2390.000000	60.00	34.8	74.0	14.0	100.0	162.00	HORIZONTAL

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2390.000000	47.20	34.8	54.0	6.8	100.0	321.00	VERTICAL





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

### MEASUREMENT RESULT: PK Detector

Frequency	Level	Transd	Limit	Margin	Height	Azimuth	Polarization
MHz	dBµV/m	dB	dBµV/m	dB	cm	deg	
2483.500000	62.10	35.1	74.0	11.9	100.0	226.00	HORIZONTAL

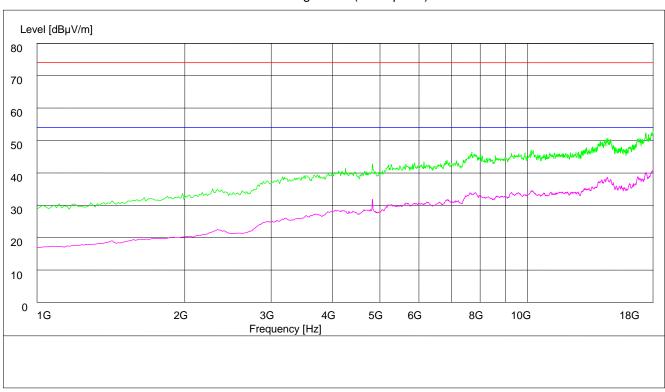
Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2483.500000	45.70	35.1	54.0	8.3	100.0	15.00	VERTICAL



## Part 4: Testing Range of "1 GHz to 18 GHz"

- Note 1: The test results and plot for testing range of "1 GHz to 18 GHz" showed as below is **the WORST case for all Test Modes and Channels**. This range will not be presented for each Test Mode

  and each Channel.
- Note 2: The testing range of "1 GHz to 18 GHz" is for checking radiated emissions located in restricted bands faraway from the EUT operating bands.
- Note 3: Two limits are required in the testing range above 1 GHz, that is Peak limit (74 dB $\mu$ V/m) and Average Limit (54 dB $\mu$ V/m).

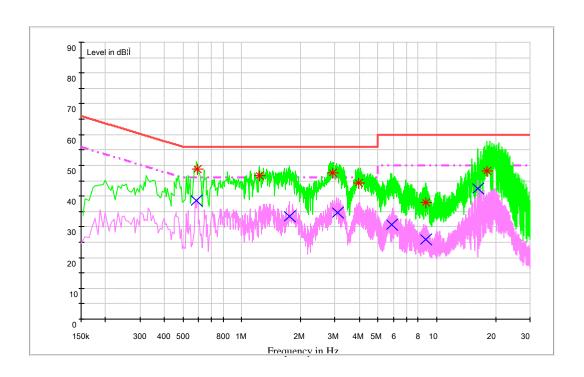




# **Appendix G: Conducted Emission at Power Port**

Note: RBW =9 kHz, VBW = 30 kHz





## MEASUREMENT RESULT: QP Detector

Frequency	Level	Transd	Limit	Margin	Line	PE		
MHz	dΒμV	dB	dΒμV	dB				
0.588626	48.8	N	9.7	7.2	56.0	FLO		
1.234602	46.5	N	9.7	9.5	56.0	FLO		
2.922676	47.7	N	9.7	8.3	56.0	FLO		
3.972106	44.4	N	9.8	11.6	56.0	FLO		
8.764336	37.8	N	9.9	22.2	60.0	FLO		
18.097732	48.1	N	10.1	11.9	60.0	FLO		

Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dΒμV	dB	dΒμV	dB		
0.586036	38.4	N	9.7	7.6	46.0	FLO
1.762253	33.3	N	9.7	12.7	46.0	FLO
3.101534	34.6	N	9.7	11.4	46.0	FLO
5.850548	30.8	N	9.8	19.2	50.0	FLO
8.802990	25.9	N	9.9	24.1	50.0	FLO
16.309590	42.6	N	10.1	7.4	50.0	FLO