



Appendix A: 20dB Emission Bandwidth (EBW)



1 Result Table

EUT Conf.	EBW [MHz]	Verdict
TM1_DH5_Ch0	0.863	Pass
TM1_DH5_Ch39	0.862	Pass
TM1_DH5_Ch78	0.865	Pass
TM2_2DH5_Ch0	1.277	Pass
TM2_2DH5_Ch39	1.278	Pass
TM2_2DH5_Ch78	1.278	Pass
TM3_3DH5_Ch0	1.279	Pass
TM3_3DH5_Ch39	1.280	Pass
TM3_3DH5_Ch78	1.280	Pass

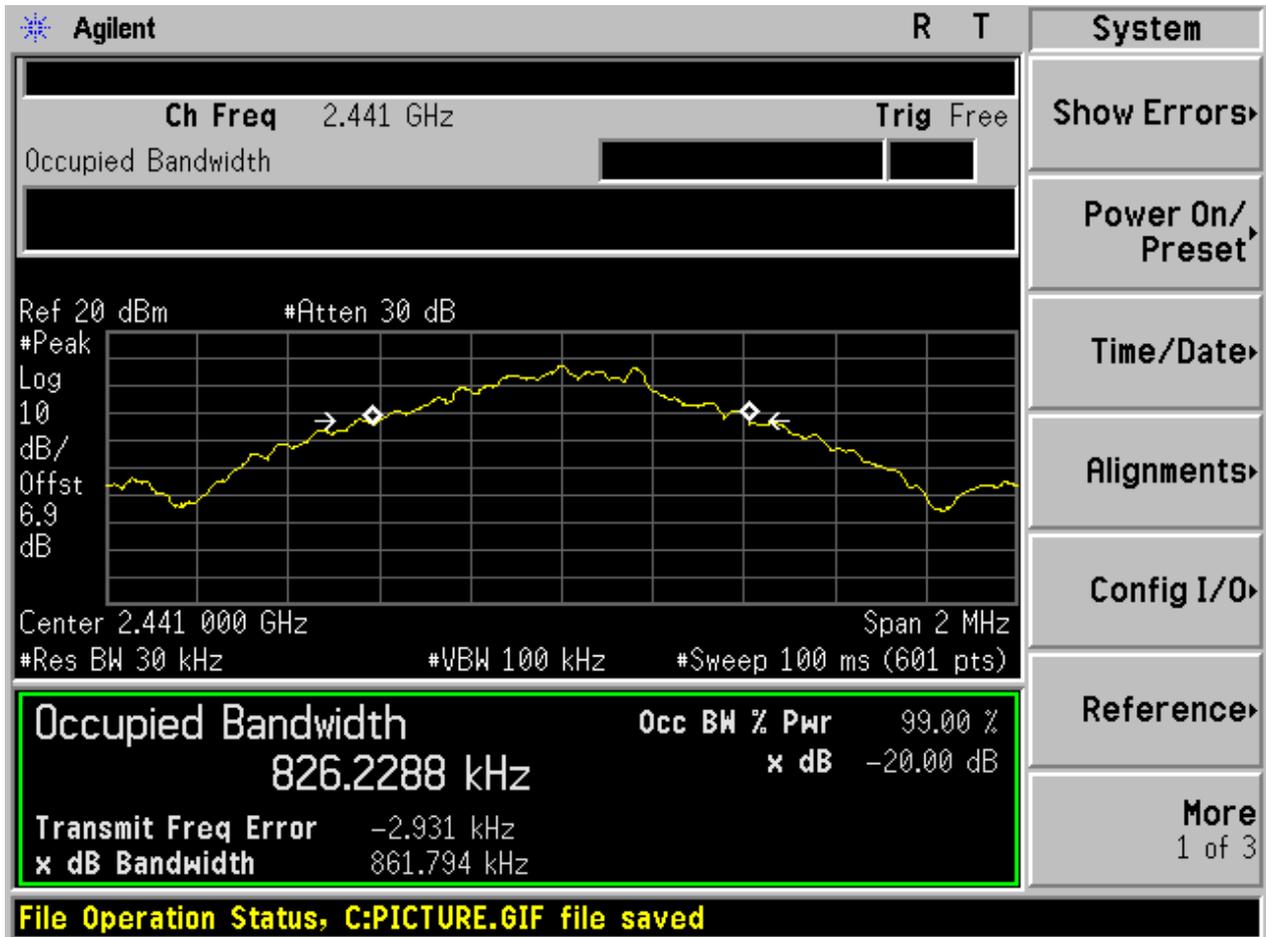


2 Test Plot

2.1 TM1_DH5_Ch0



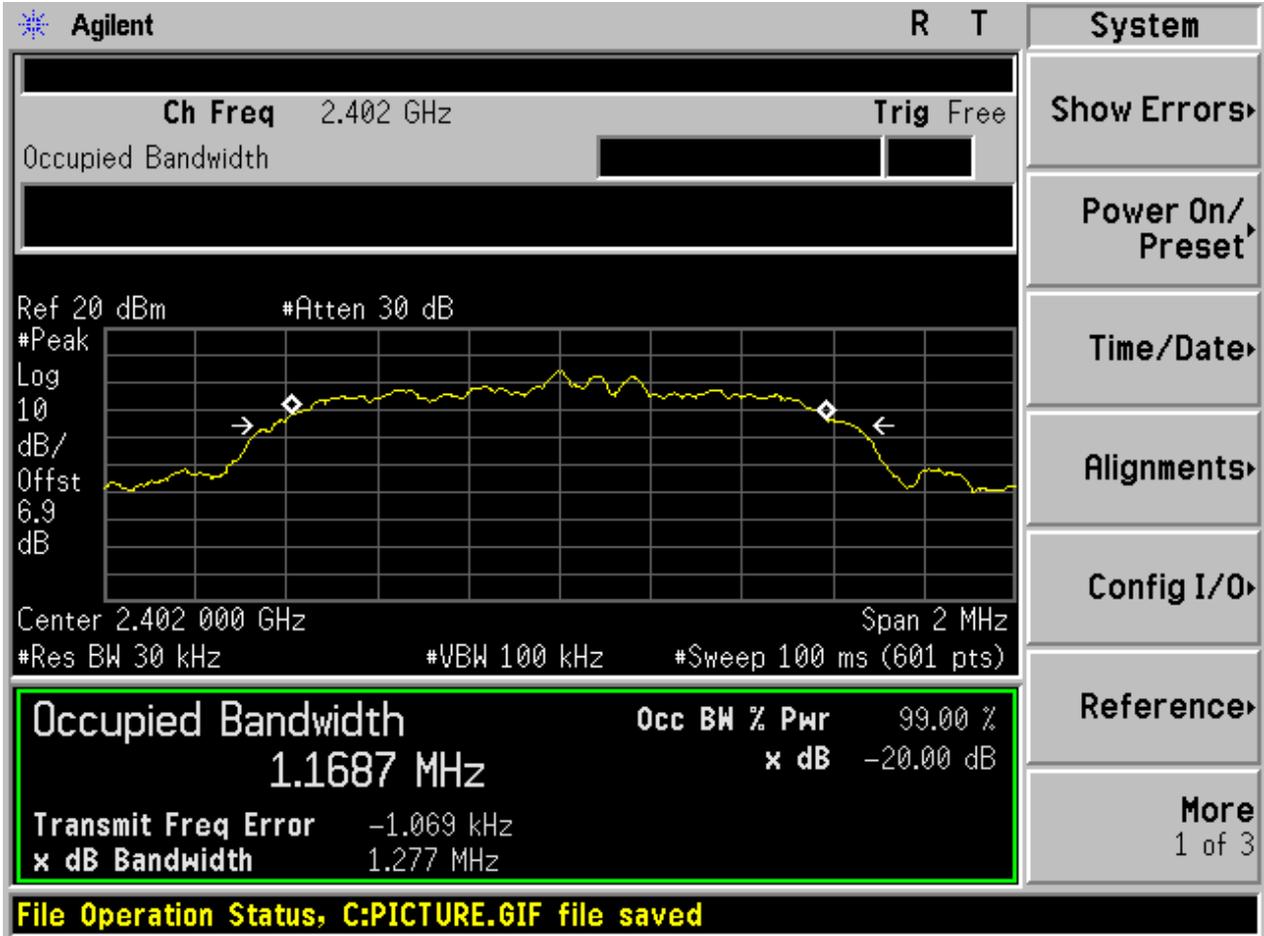
2.2 TM1_DH5_Ch39



2.3 TM1_DH5_Ch78

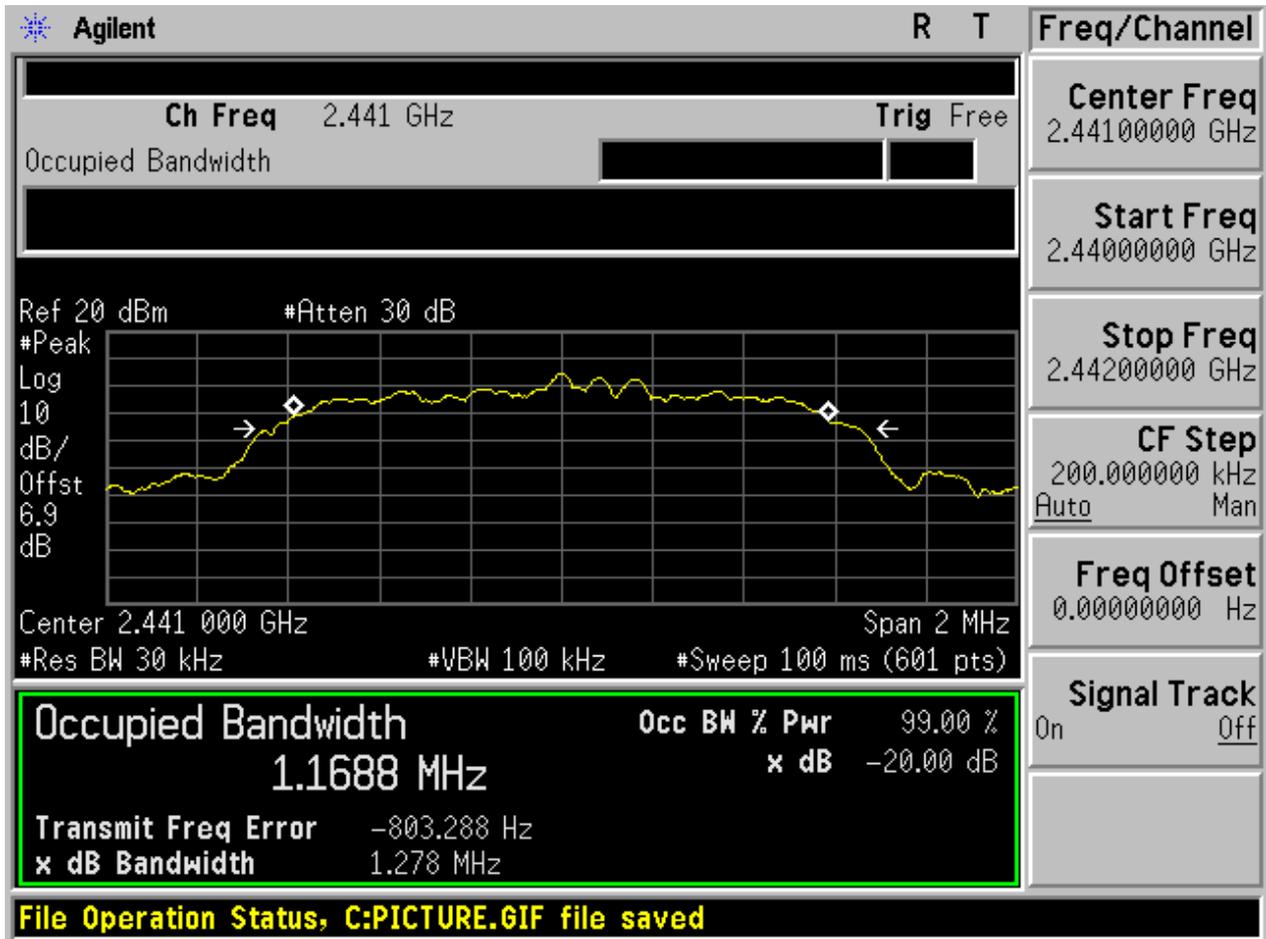


2.4 TM2_2DH5_Ch0





2.5 TM2_2DH5_Ch39





2.6 TM2_2DH5_Ch78

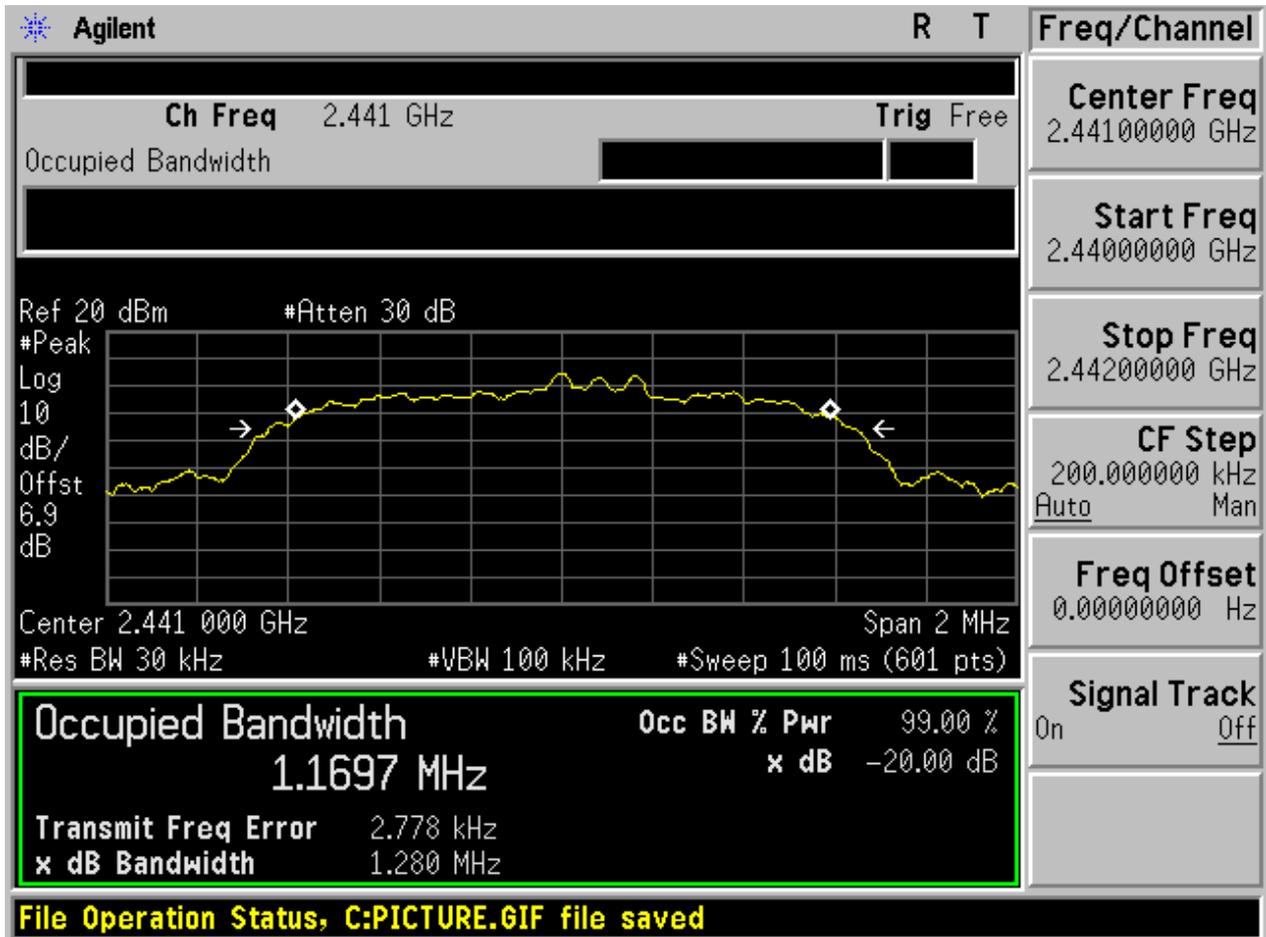




2.7 TM3_3DH5_Ch0



2.8 TM3_3DH5_Ch39





2.9 TM3_3DH5_Ch78

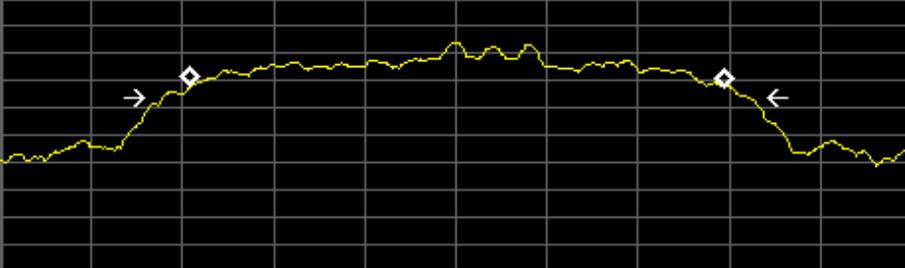
Agilent
R T

Ch Freq 2.48 GHz **Trig** Free

Occupied Bandwidth [Progress Bar]

Ref 20 dBm #Atten 30 dB

#Peak Log 10 dB/Offst 6.9 dB



Center 2.480 000 GHz Span 2 MHz

#Res BW 30 kHz #VBW 100 kHz #Sweep 100 ms (601 pts)

Center Freq	2.48000000 GHz
Start Freq	2.47900000 GHz
Stop Freq	2.48100000 GHz
CF Step	200.000000 kHz
	Auto Man
Freq Offset	0.00000000 Hz
Signal Track	On Off

Occupied Bandwidth	Occ BW % Pwr	99.00 %
1.1694 MHz	x dB	-20.00 dB
Transmit Freq Error	2.525 kHz	
x dB Bandwidth	1.280 MHz	

File Operation Status, C:PICTURE.GIF file saved



Appendix B: Carrier Frequency Separation

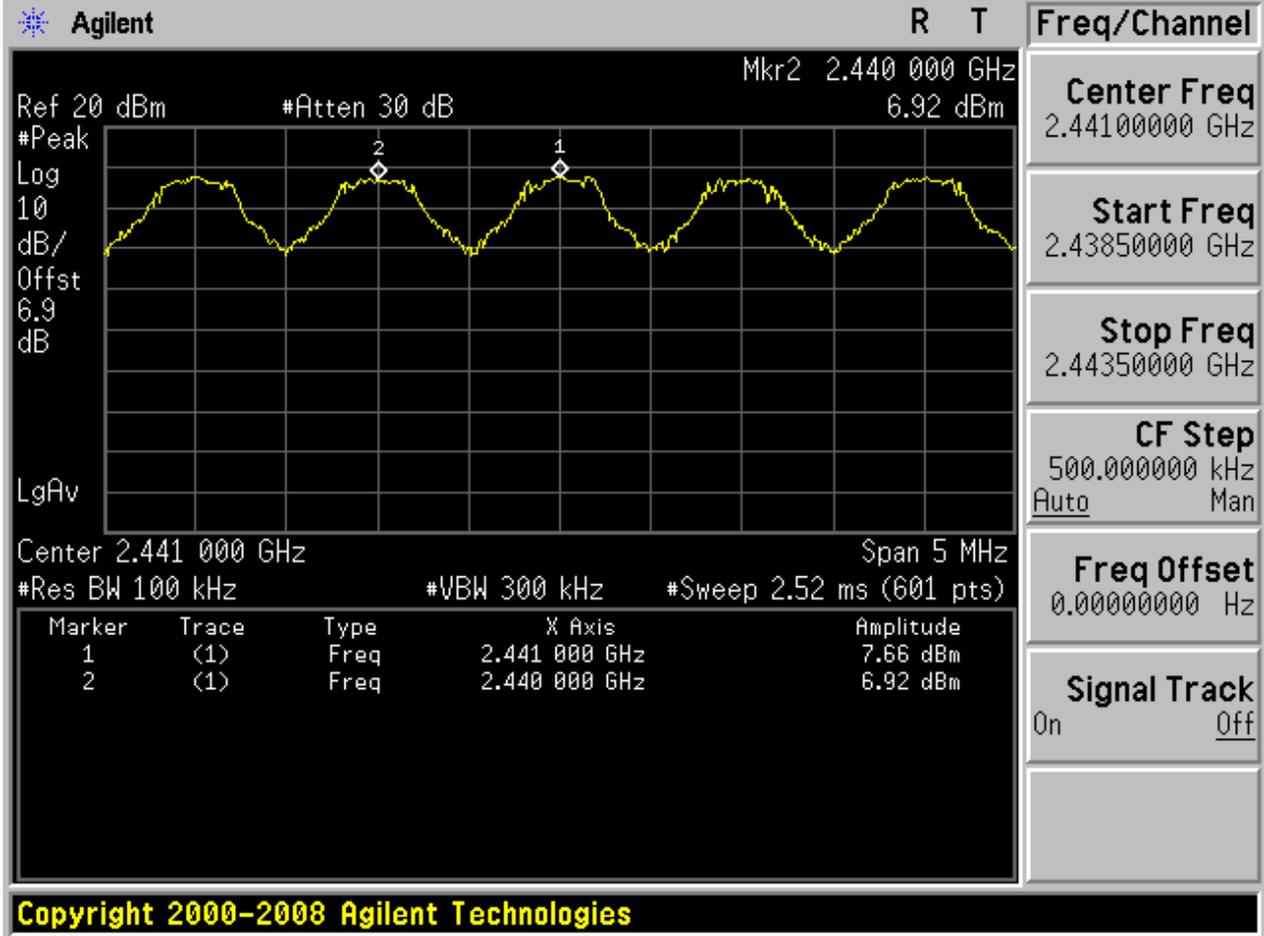


1 Result Table

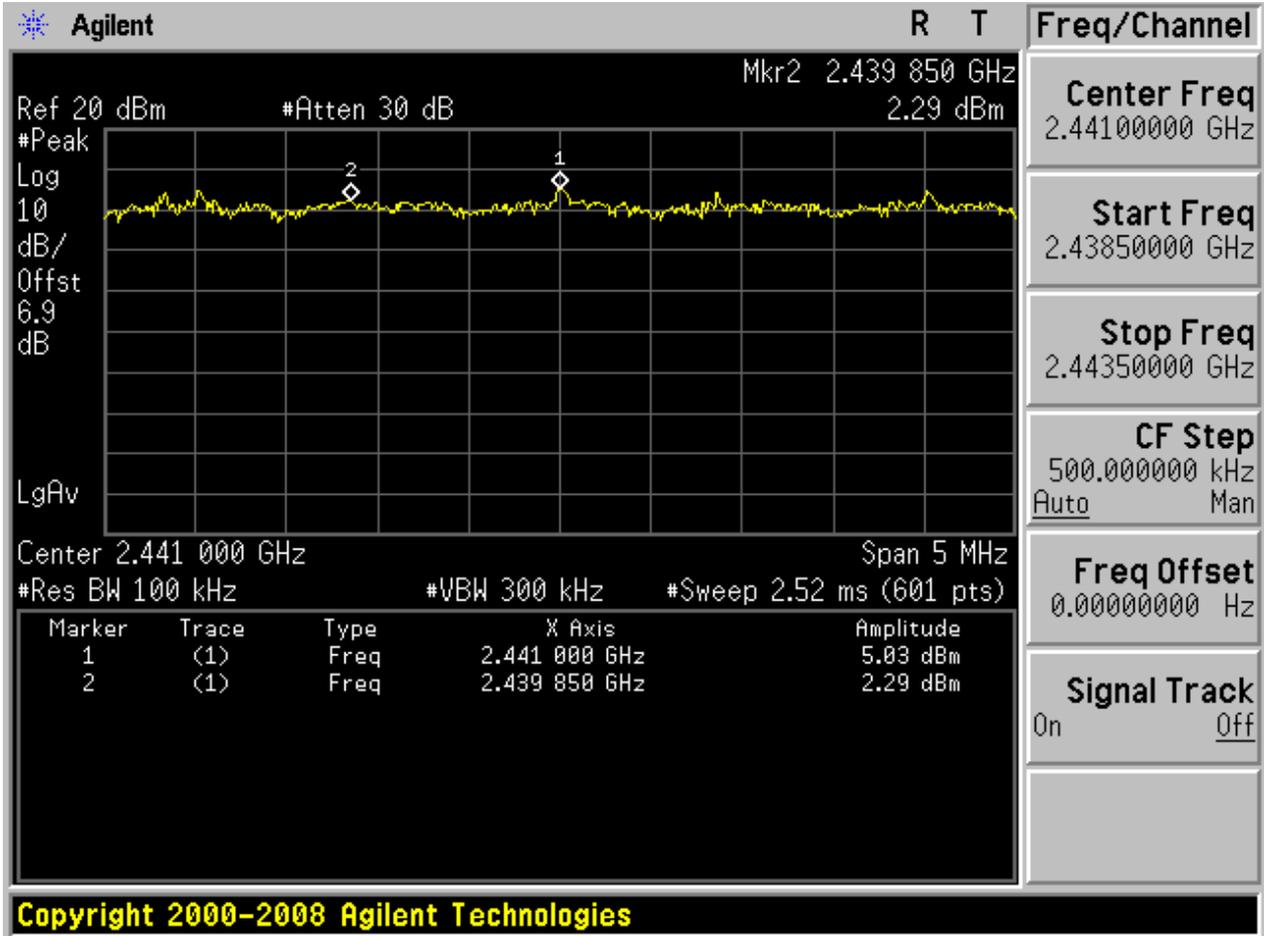
EUT Conf.	Carrier Frequency Separation [MHz]	Verdict
TM1_DH5_Hop	1.000	Pass
TM2_2DH5_Hop	1.150	Pass
TM3_3DH5_Hop	1.200	Pass

2 Test Plot

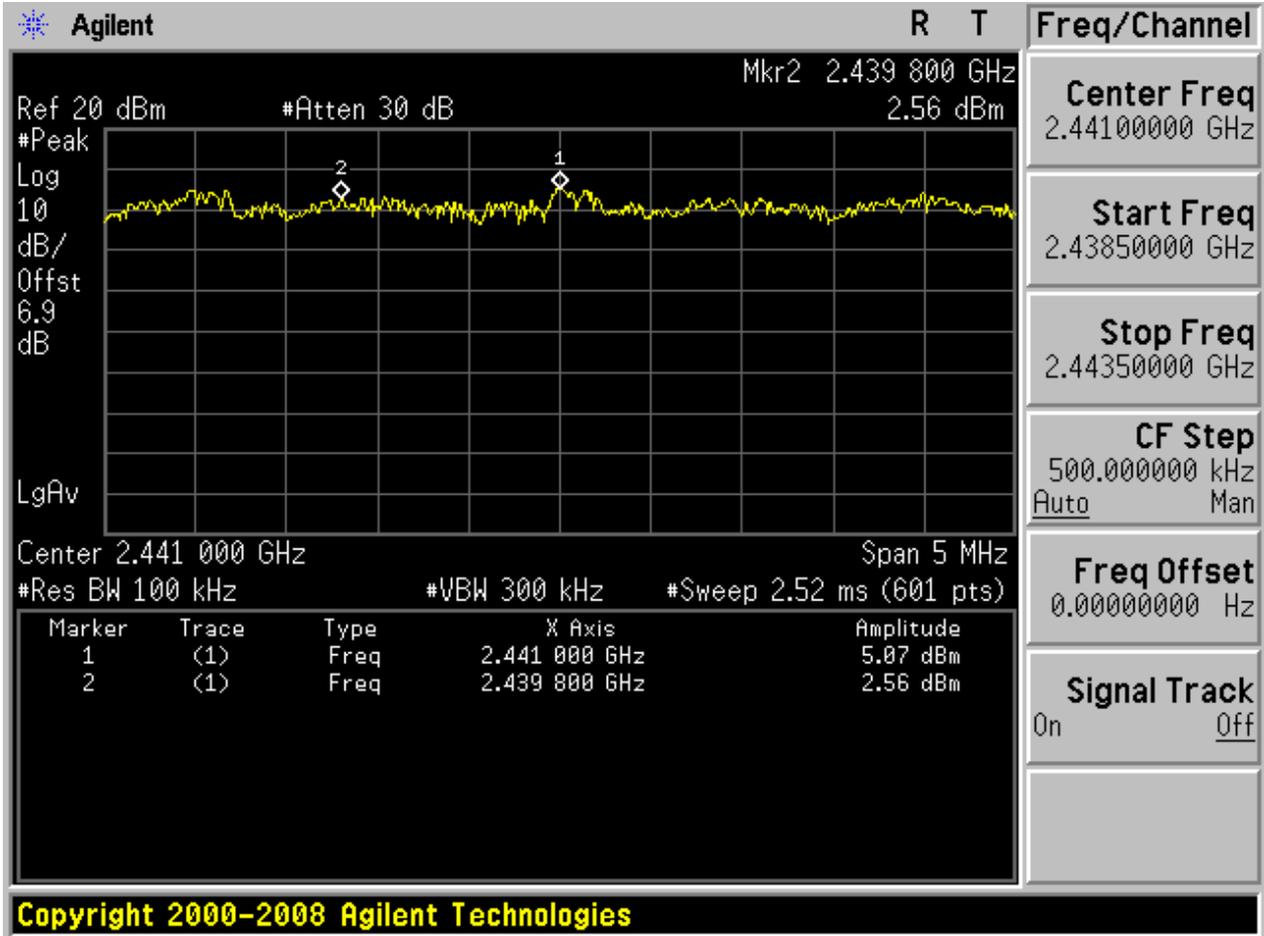
2.1 TM1_DH5_Hop



2.2 TM2_2DH5_Hop



2.3 TM3_3DH5_Hop





Appendix C: Number of Hopping Channel



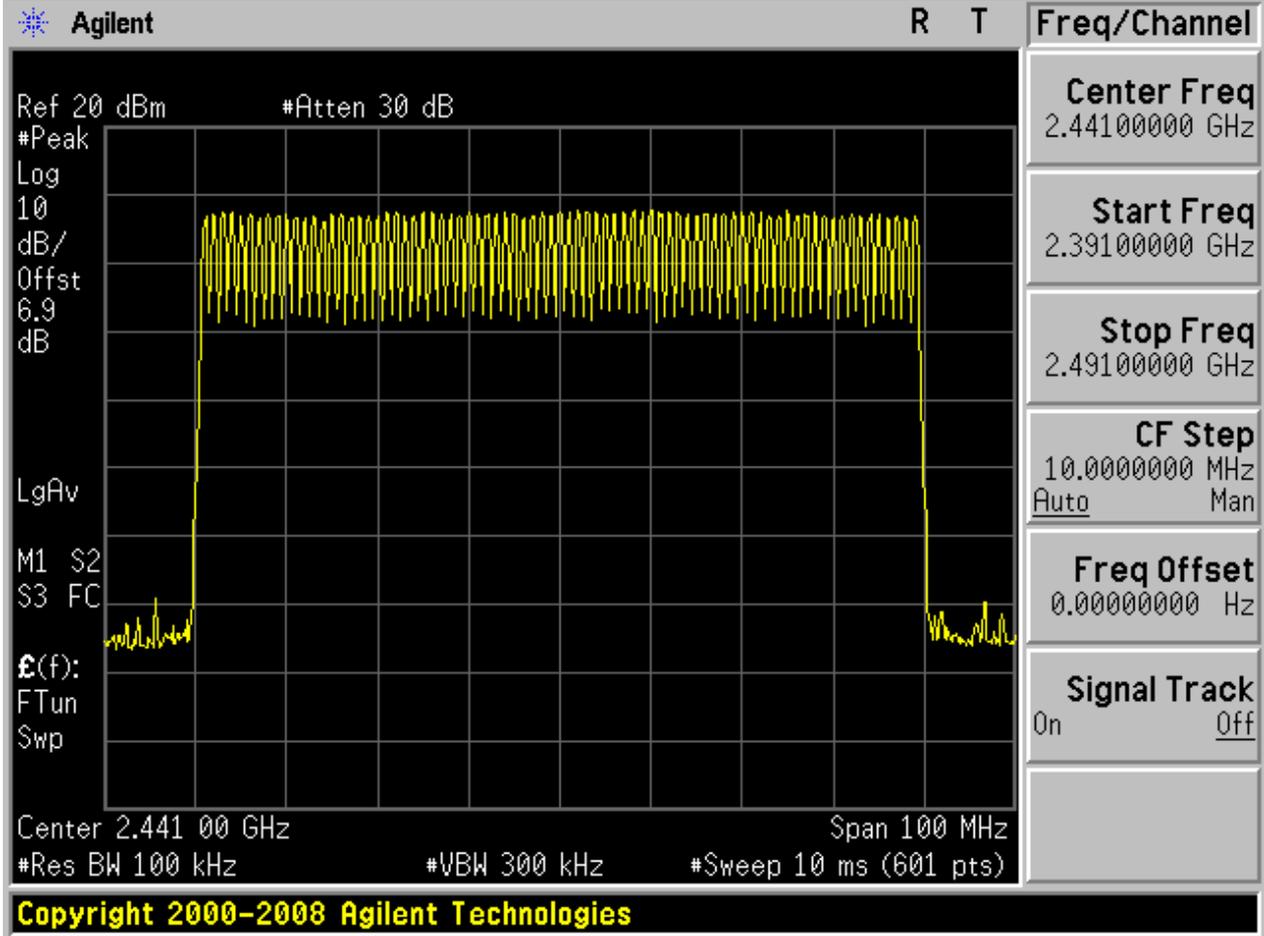
1 Result Table

EUT Conf.	Number of Hopping Channel	Verdict
TM1_DH5_Hop	78	Pass
TM2_2DH5_Hop	78	Pass
TM3_3DH5_Hop	78	Pass



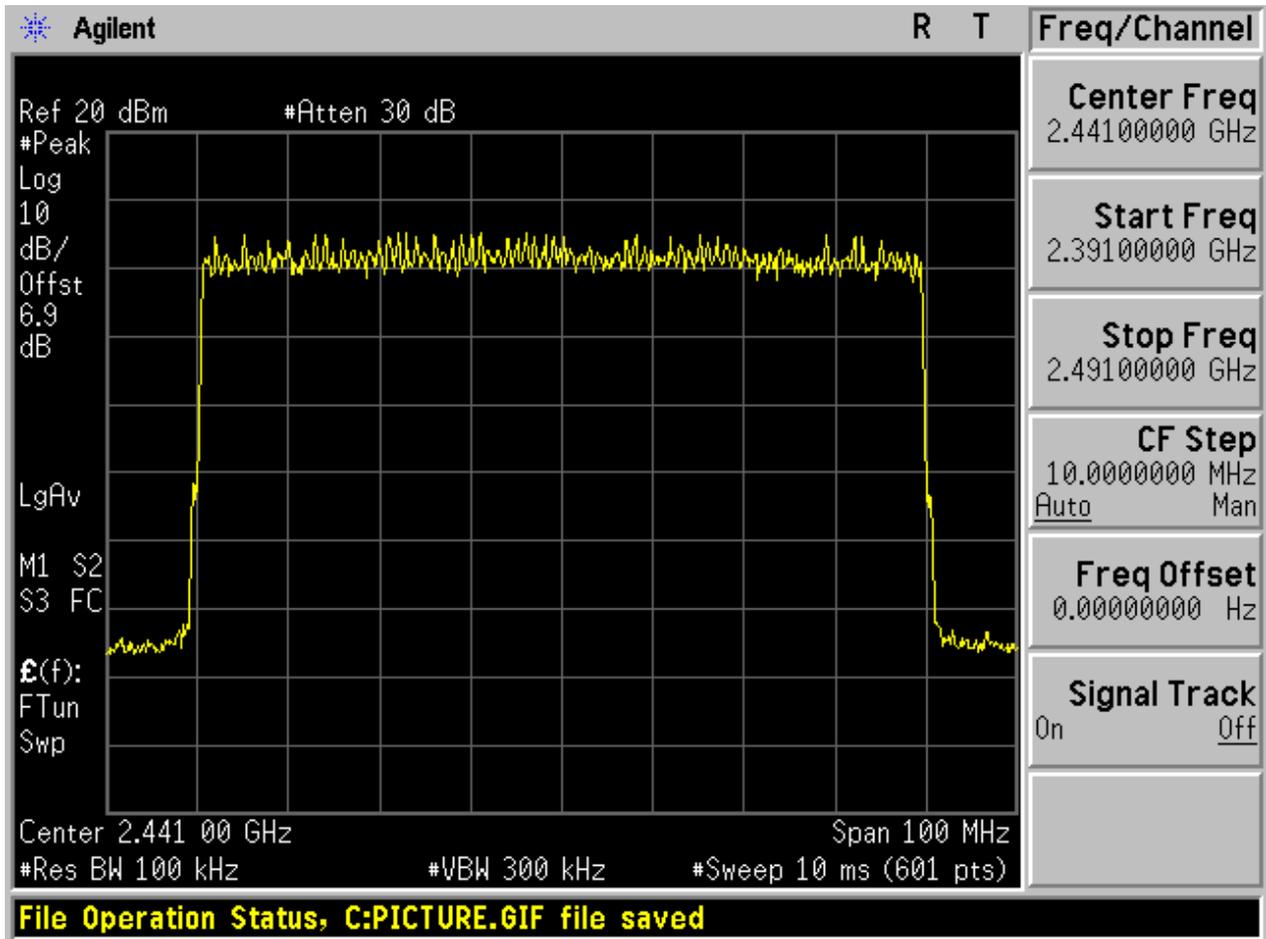
2 Test Plot

2.1 TM1_DH5_Hop

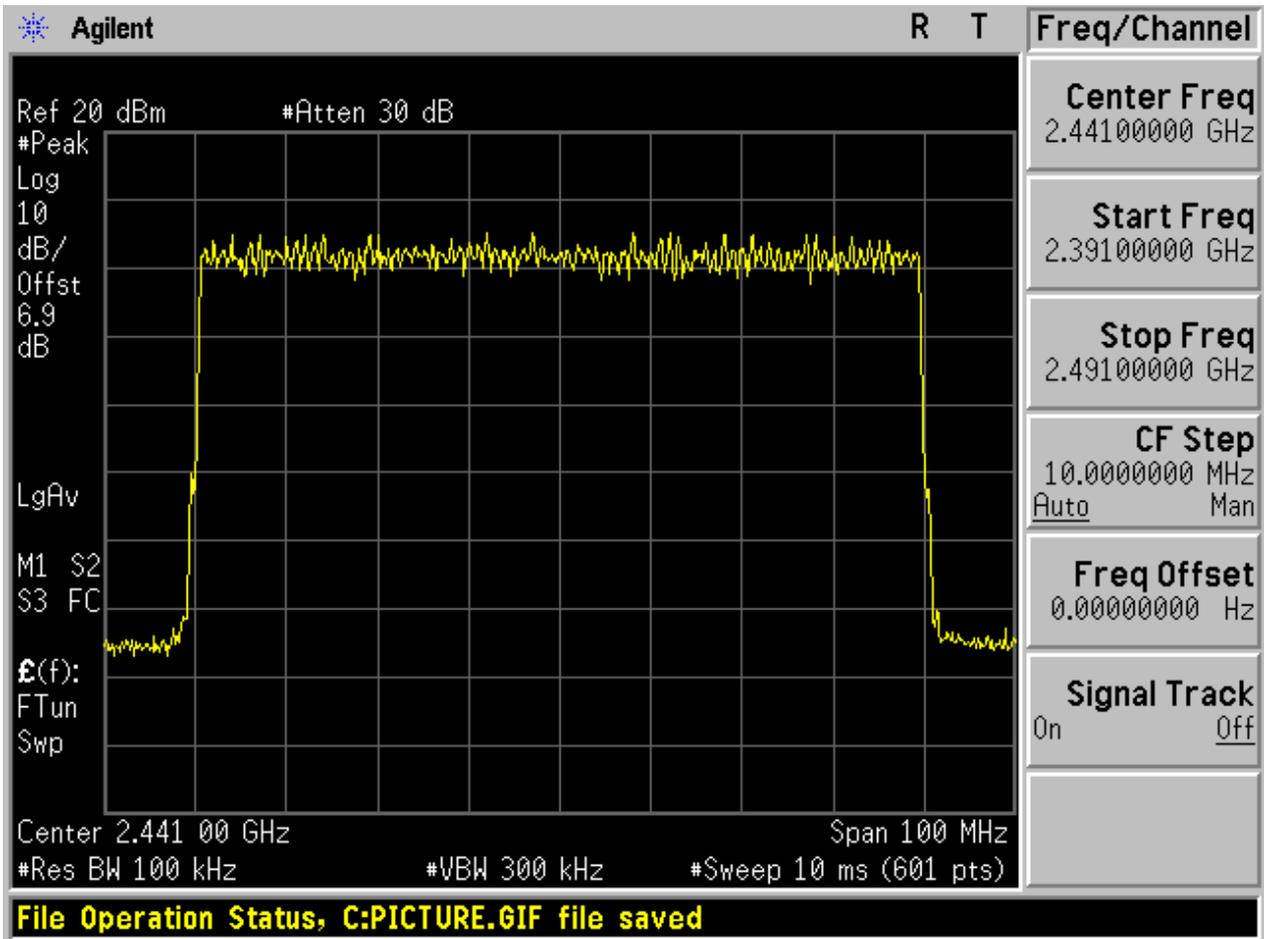




2.2 TM2_2DH5_Hop



2.3 TM3_3DH5_Hop





Appendix D: Time of Occupancy (Dwell Time)



1 Result Table

The Dwell Time = Burst Width * Total Hops. The detailed calculations are showed as follows:

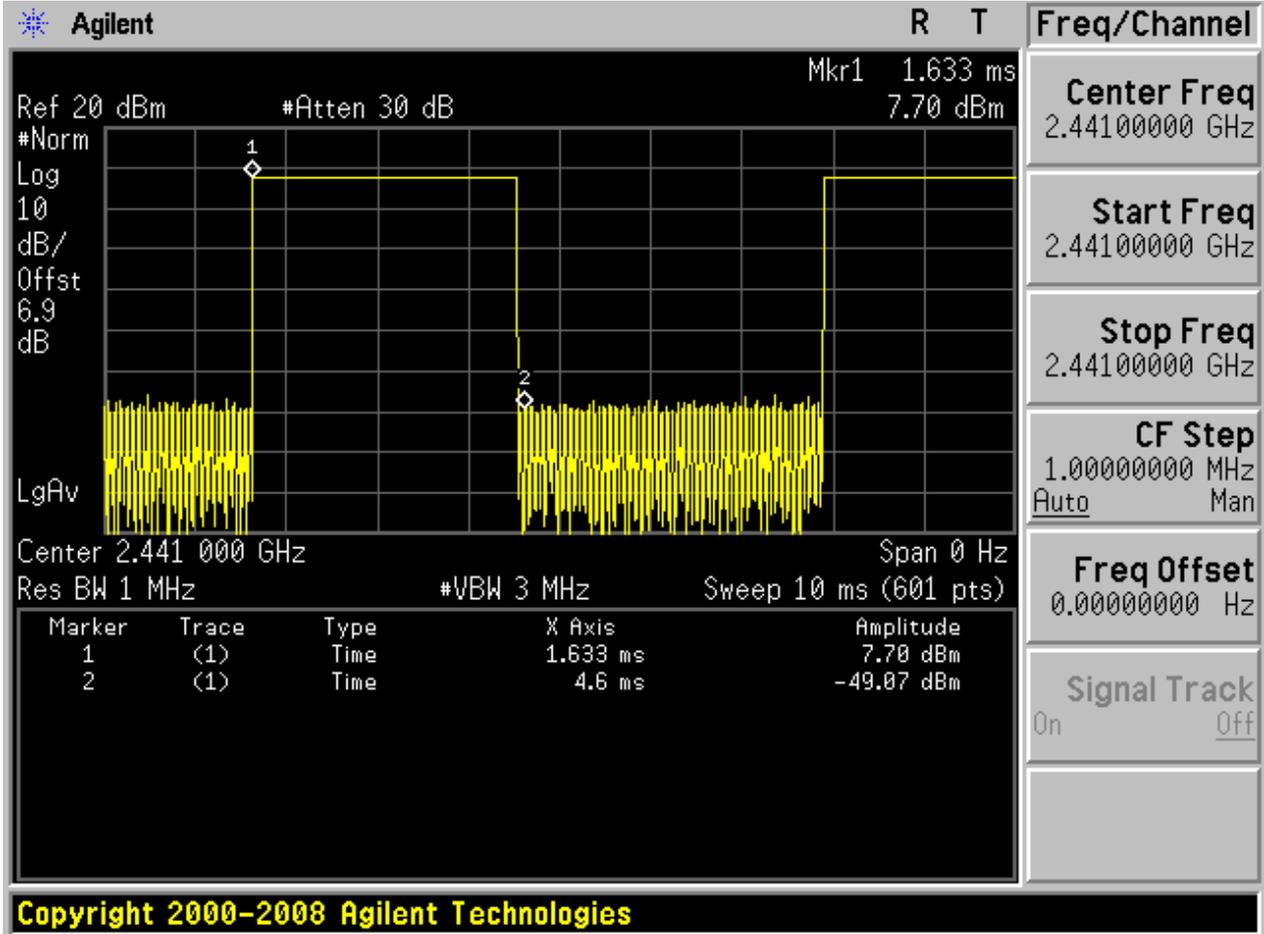
- The duration for dwell time calculation: $0.4 \text{ [s]} * \text{hopping number} = 0.4 \text{ [s]} * 79 \text{ [ch]} = 31.6 \text{ [s*ch]}$;
- The burst width [ms/hop/ch], which is directly measured, refers to the duration on one channel hop.
- The hops per second for all channels: The selected EUT Conf uses a slot type of 5-Tx&1-Rx and a hopping rate of 1600 [ch*hop/s] for all channels. So the final hopping rate for all channels is $1600 / 6 = 266.67 \text{ [ch*hop/s]}$;
- The hops per second on one channel: $266.67 \text{ [ch*hop/s]} / 79 \text{ [ch]} = 3.38 \text{ [hop/s]}$;
- The total hops for all channels within the dwell time calculation duration: $3.38 \text{ [hop/s]} * 31.6 \text{ [s*ch]} = 106.67 \text{ [hop*ch]}$;
- The dwell time for all channels hopping: $106.67 \text{ [hop*ch]} * \text{Burst Width [ms/hop/ch]}$.

EUT Conf.	Burst Width [ms/hop/ch]	Total Hops [hop*ch]	Dwell Time [ms]	Verdict
TM1_DH5_Ch39	2.600	106.67	0.277	Pass
TM2_2DH5_Ch39	2.900	106.67	0.309	Pass
TM3_3DH5_Ch39	2.950	106.67	0.315	Pass

2 Test Plot

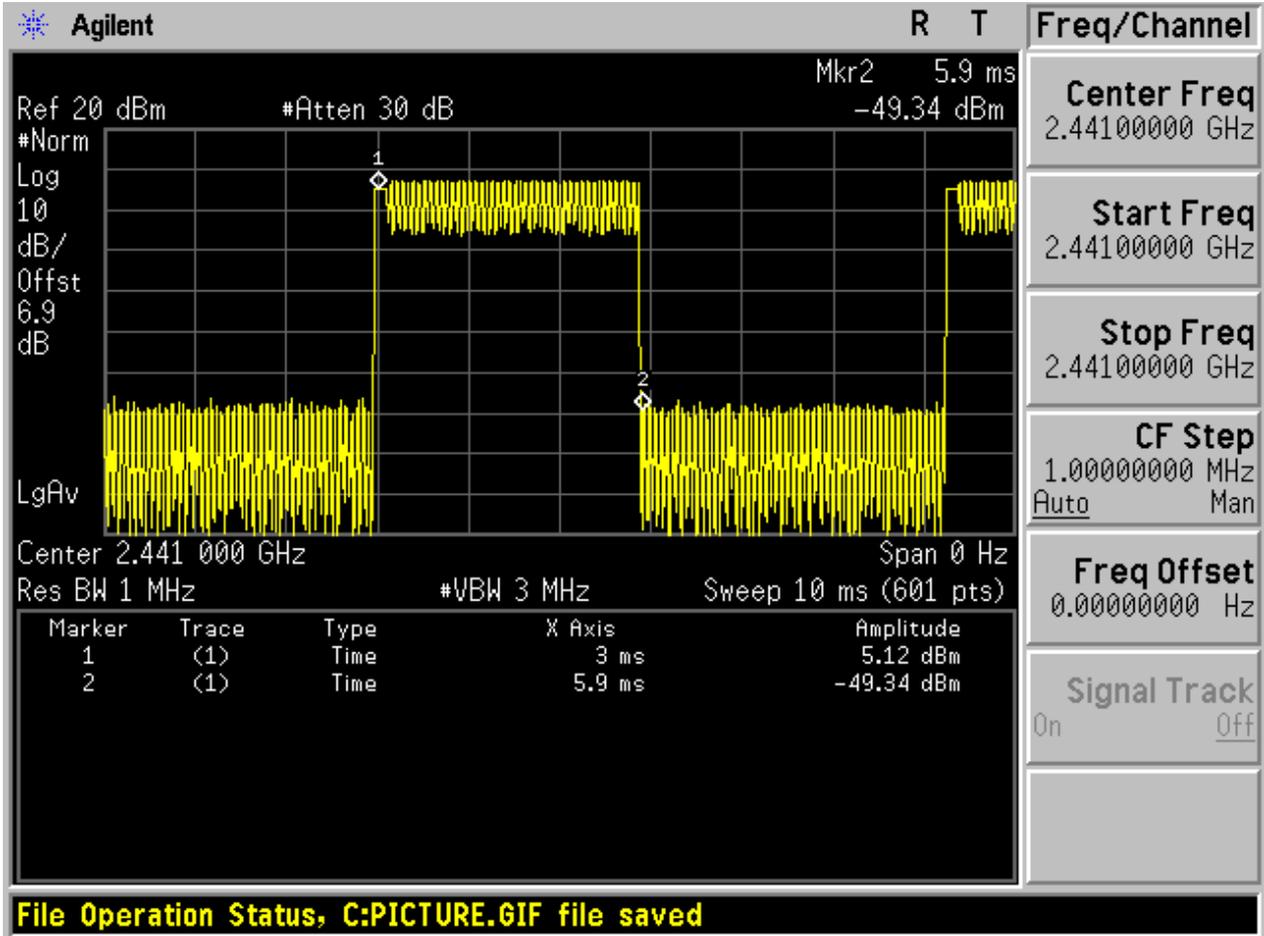
NOTE: The test plots are only for Burst Width measurements.

2.1 TM1_DH5_Ch39

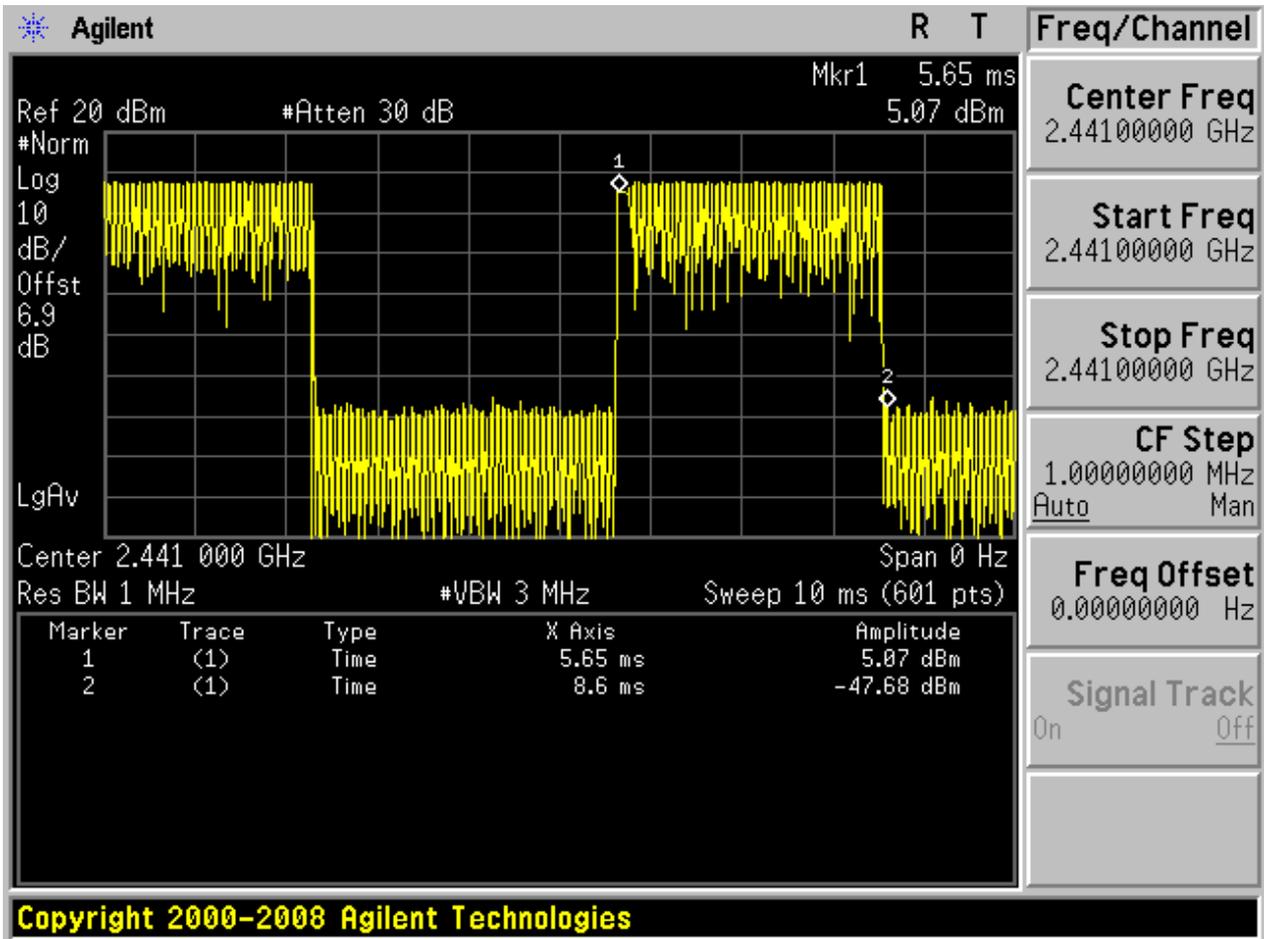




2.2 TM2_2DH5_Ch39



2.3 TM3_3DH5_Ch39





Appendix E: Maximum Peak Conducted Output Power



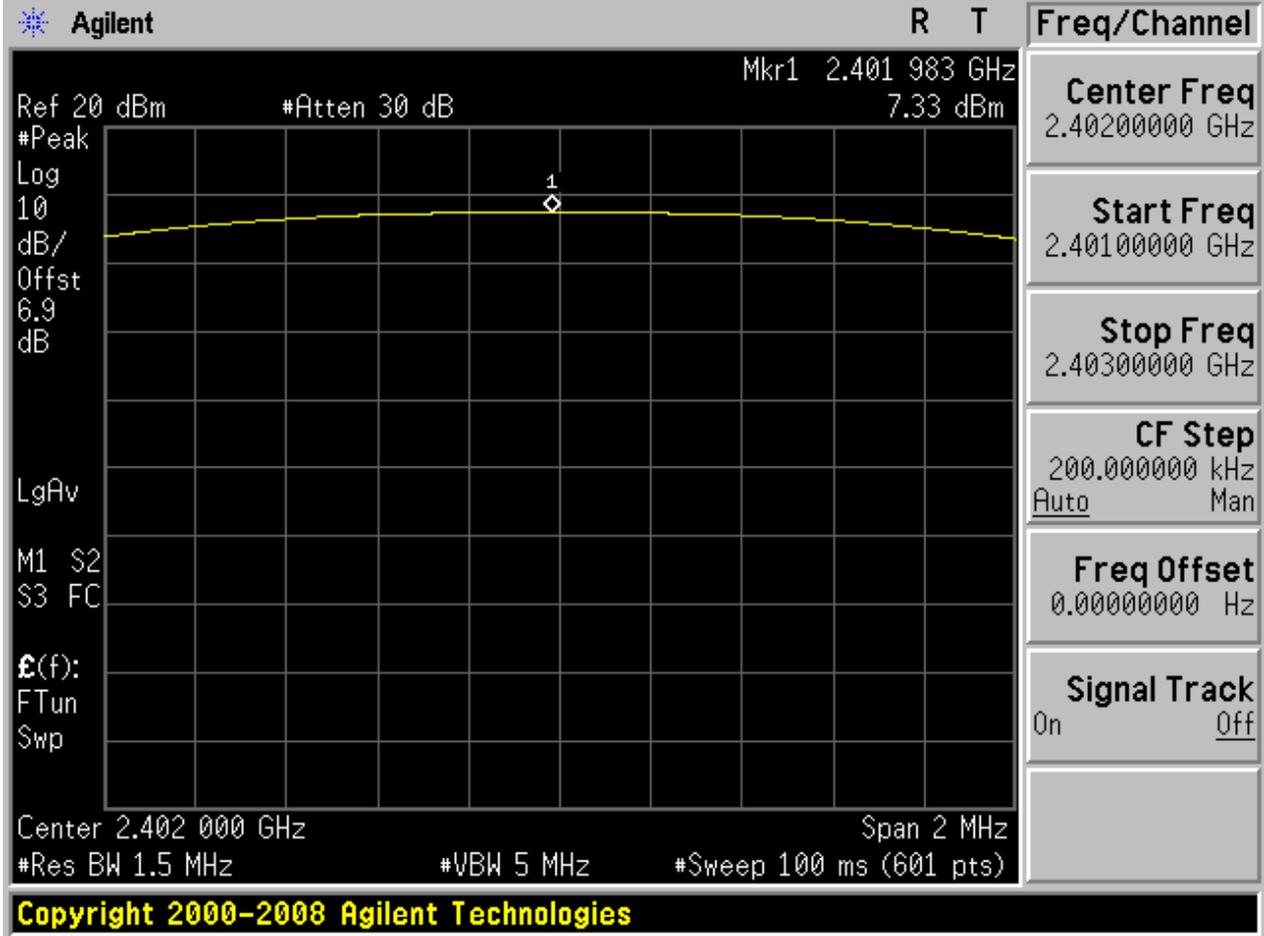
1 Result Table

EUT Conf.	Max. Peak Power [dBm]	Verdict
TM1_DH5_Ch0	7.33	Pass
TM1_DH5_Ch39	7.75	Pass
TM1_DH5_Ch78	7.11	Pass
TM2_2DH5_Ch0	7.06	Pass
TM2_2DH5_Ch39	7.46	Pass
TM2_2DH5_Ch78	6.83	Pass
TM3_3DH5_Ch0	7.71	Pass
TM3_3DH5_Ch39	8.10	Pass
TM3_3DH5_Ch78	7.47	Pass



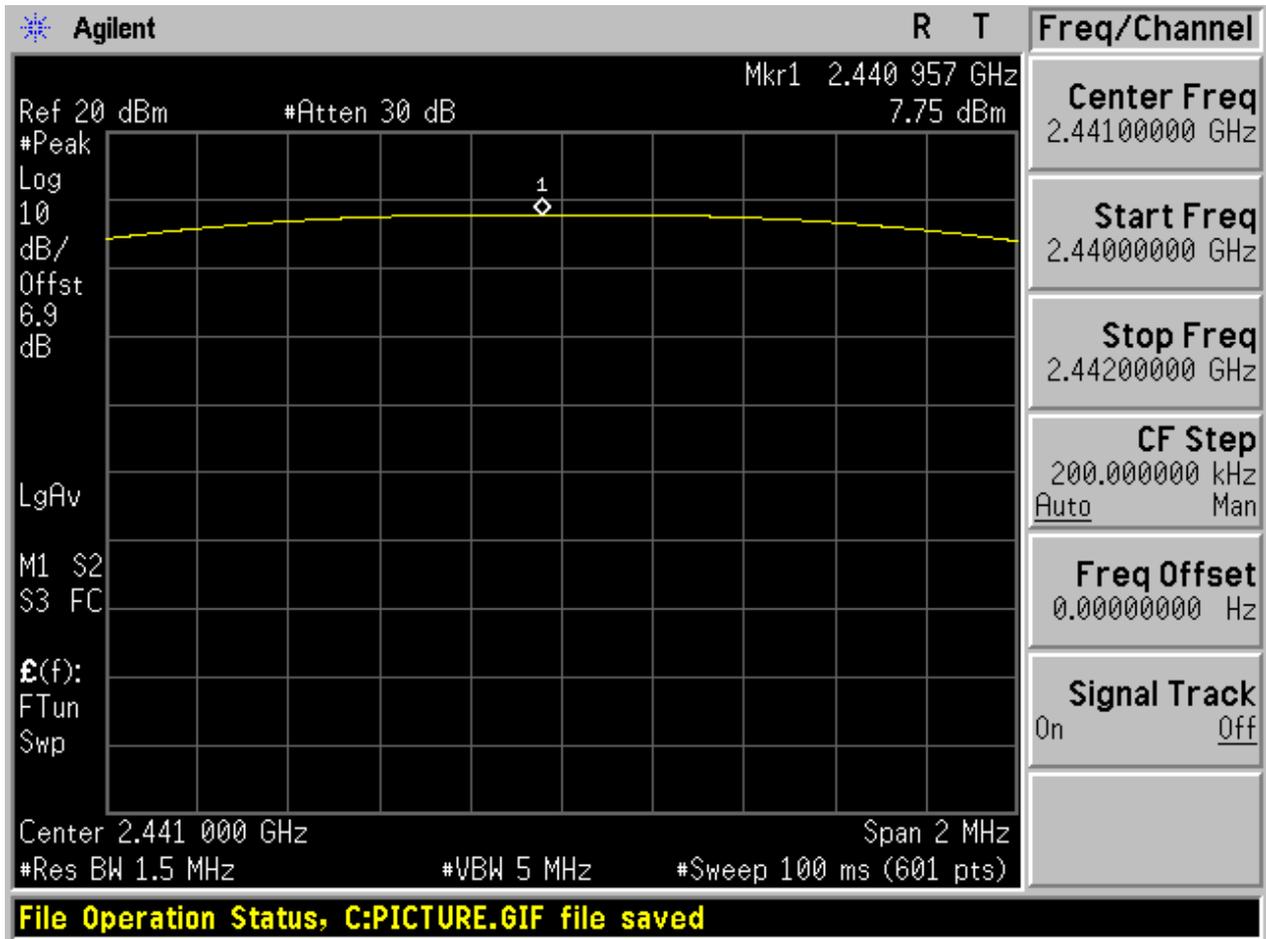
2 Test Plot

2.1 TM1_DH5_Ch0



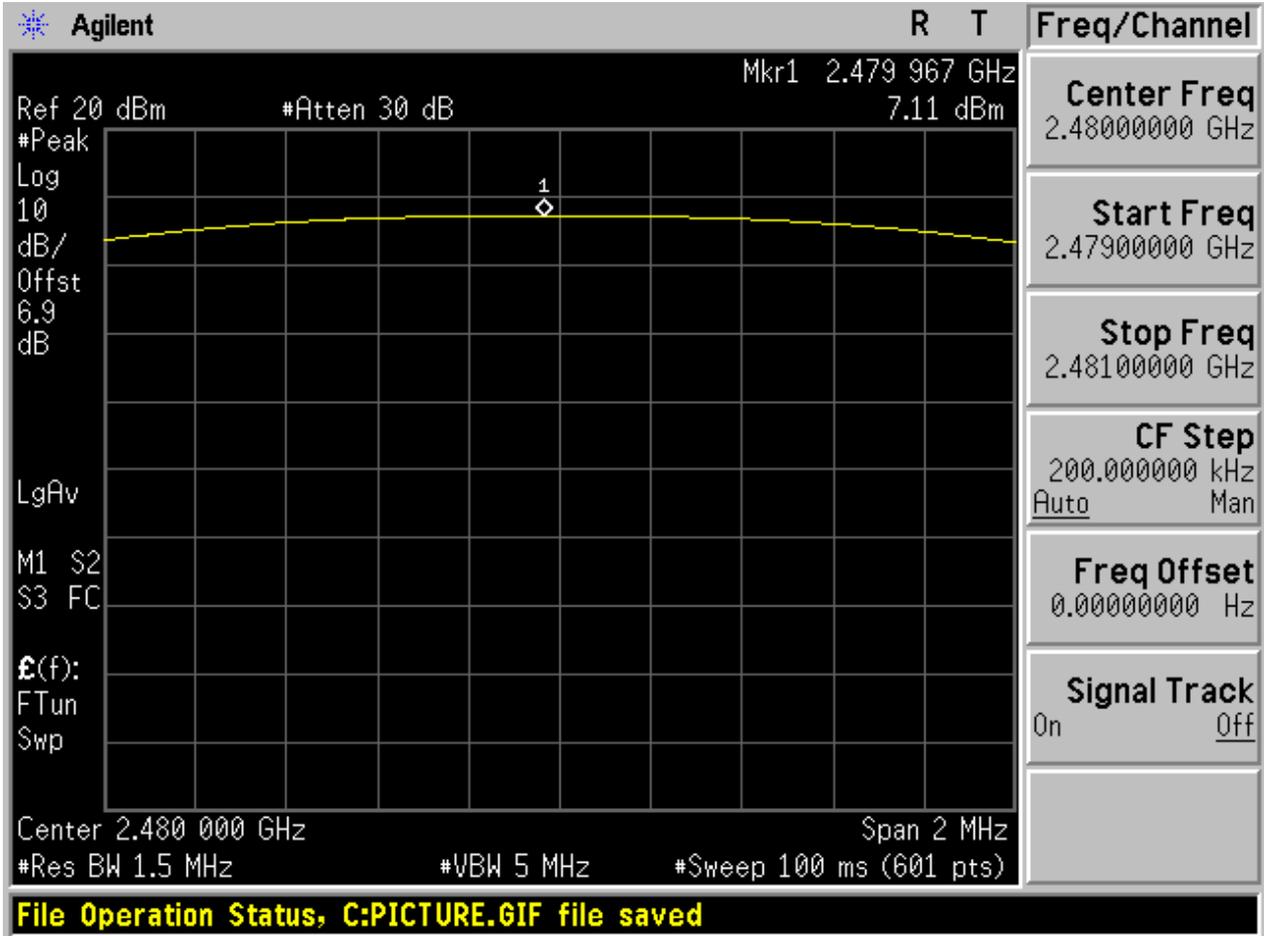


2.2 TM1_DH5_Ch39



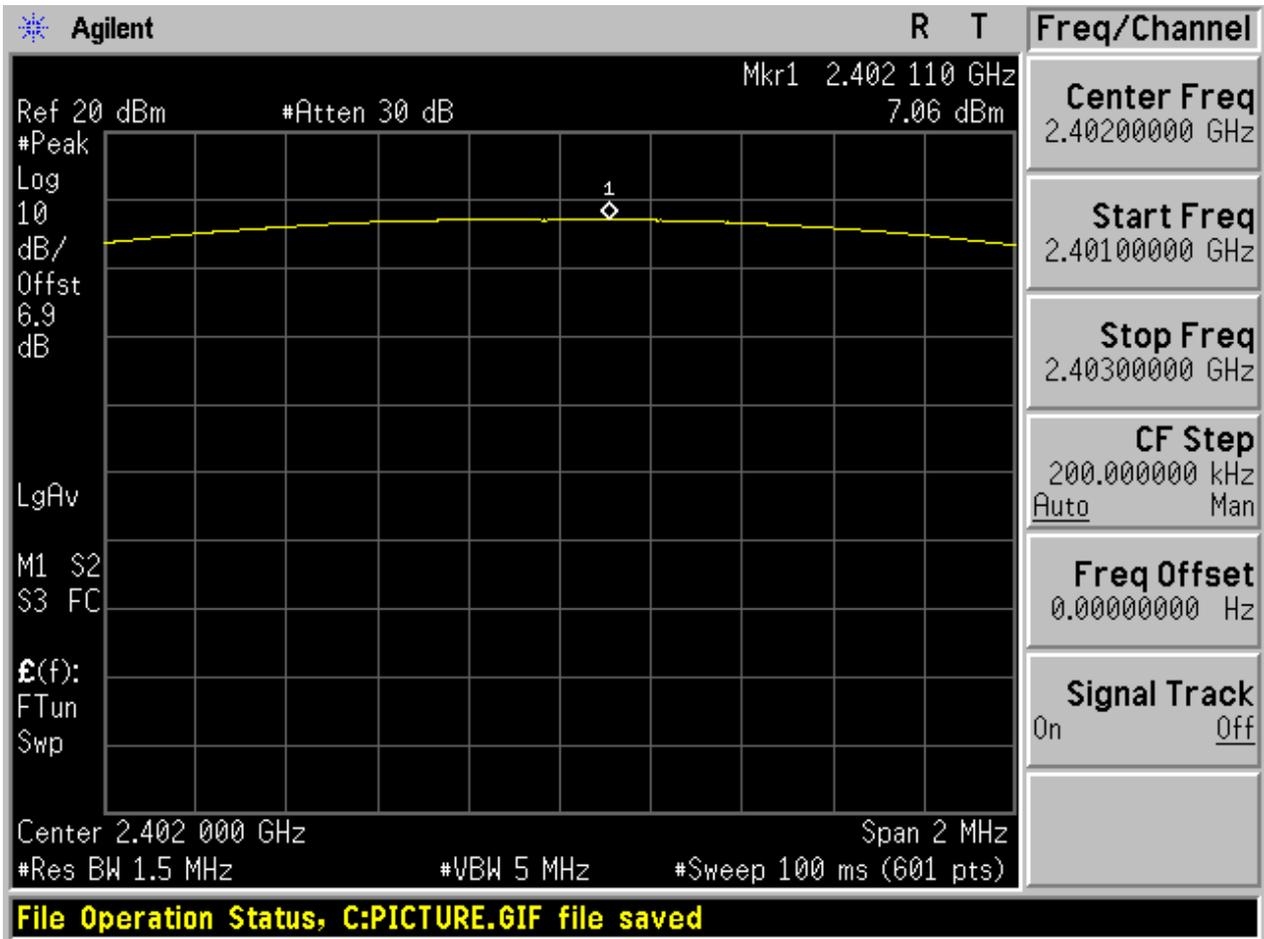


2.3 TM1_DH5_Ch78



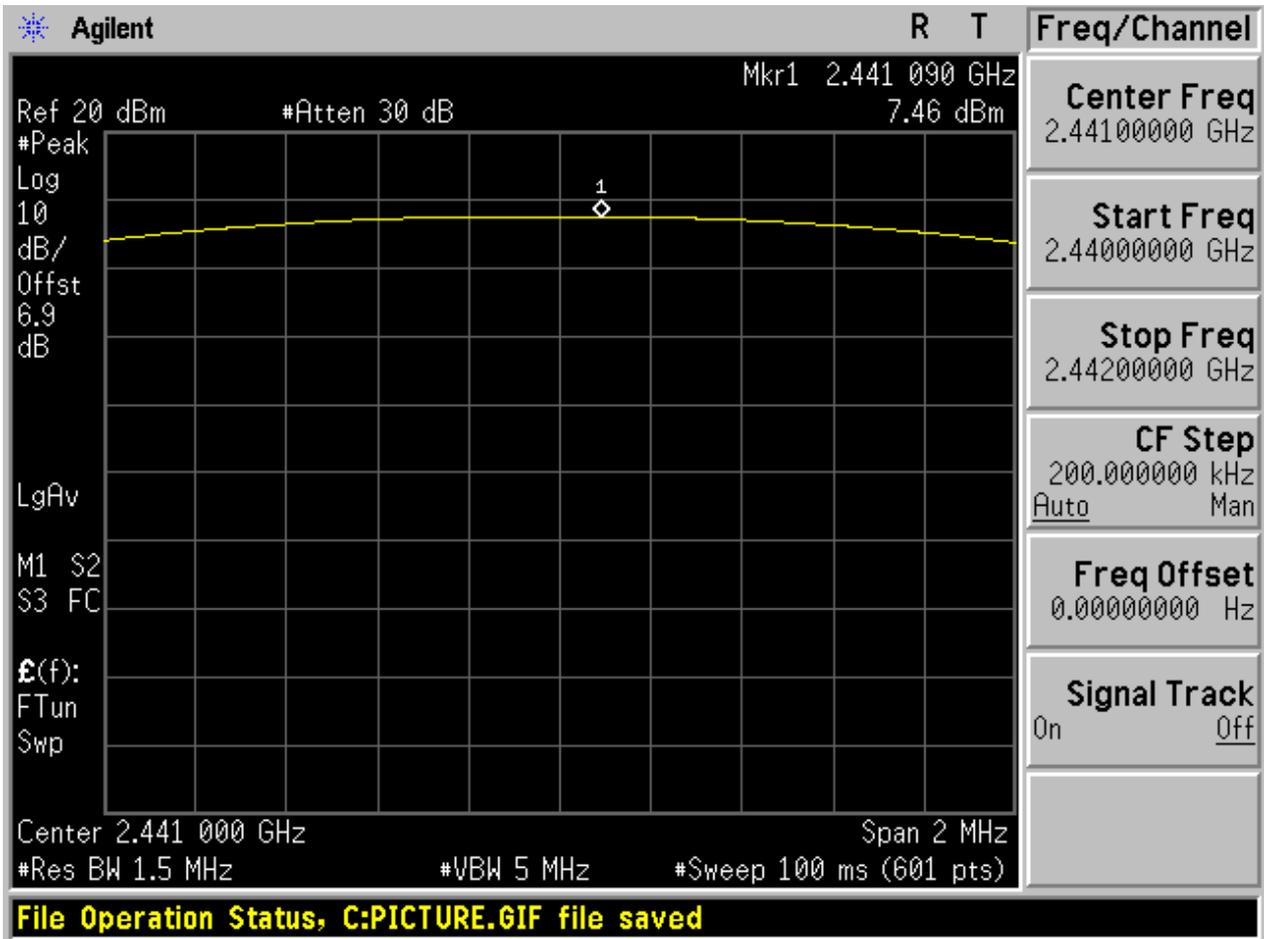


2.4 TM2_2DH5_Ch0



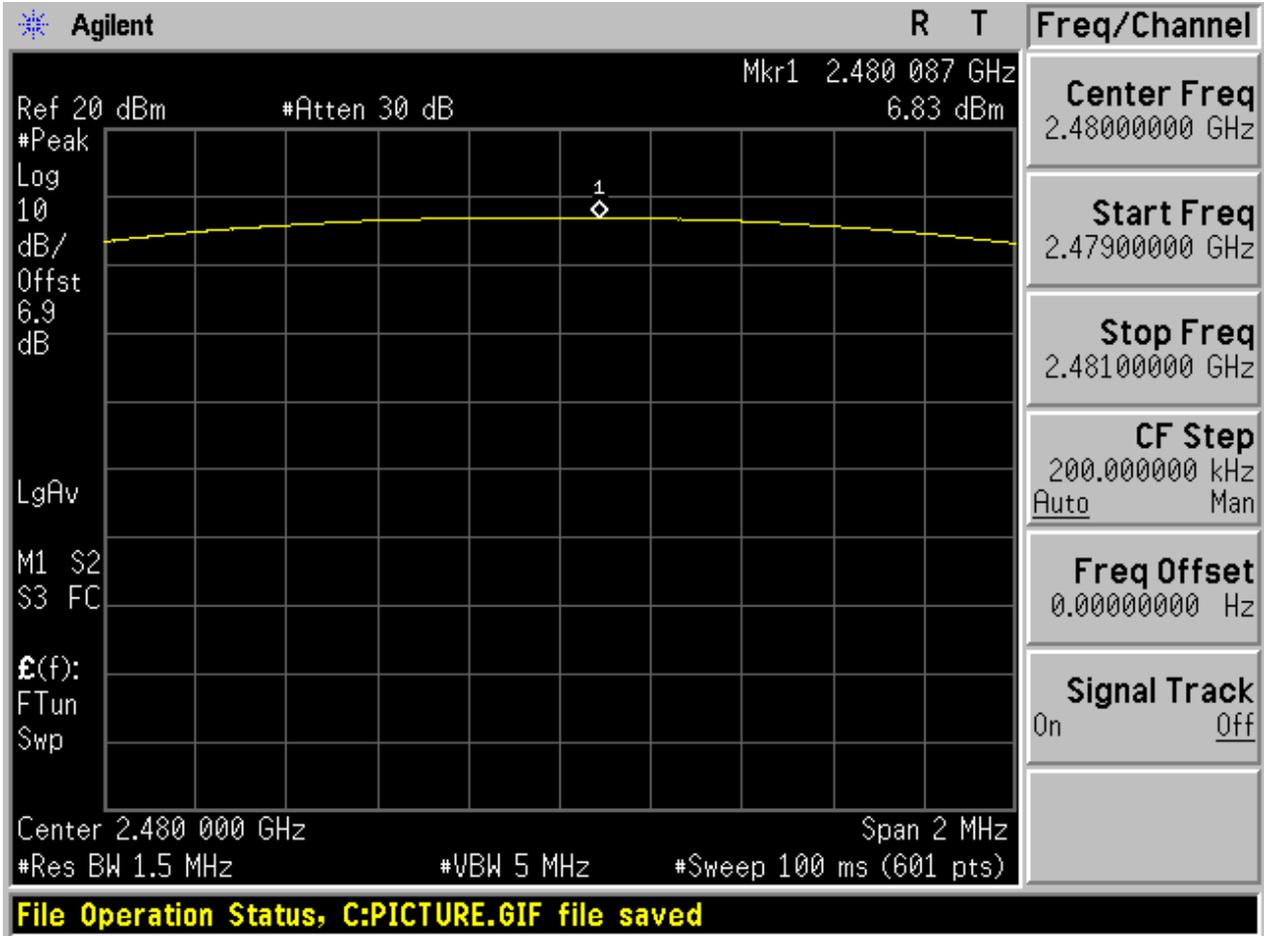


2.5 TM2_2DH5_Ch39



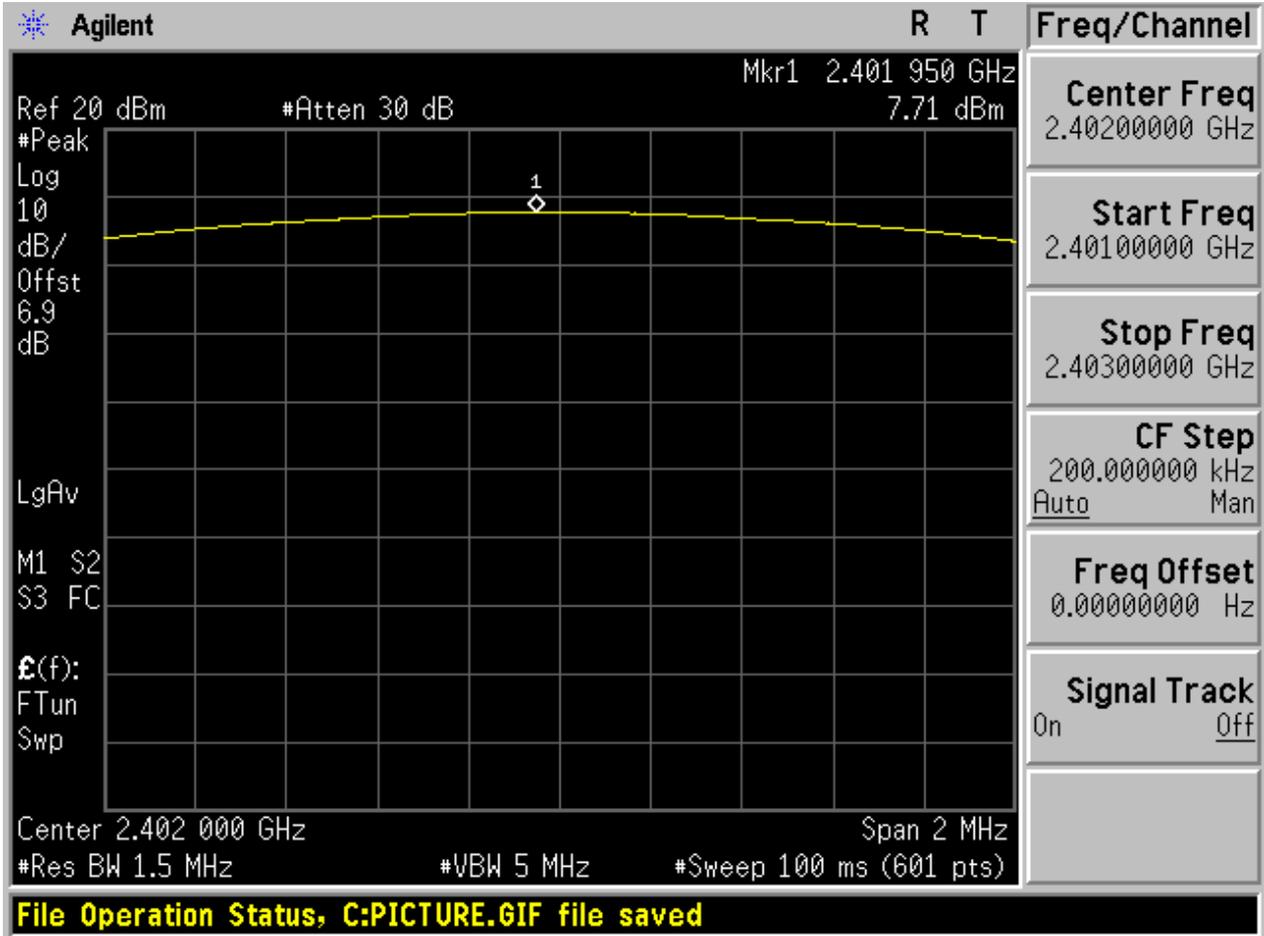


2.6 TM2_2DH5_Ch78



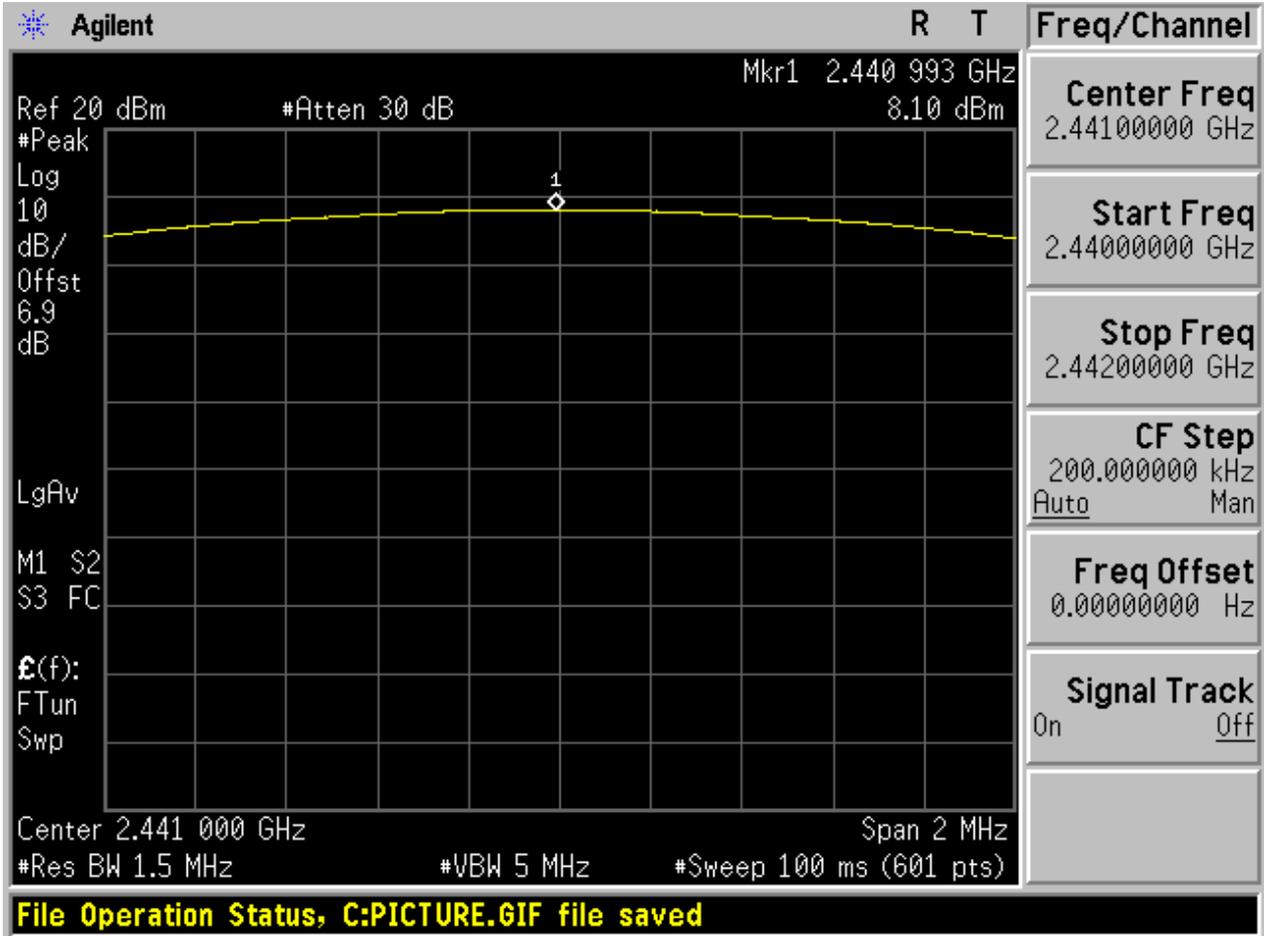


2.7 TM3_3DH5_Ch0



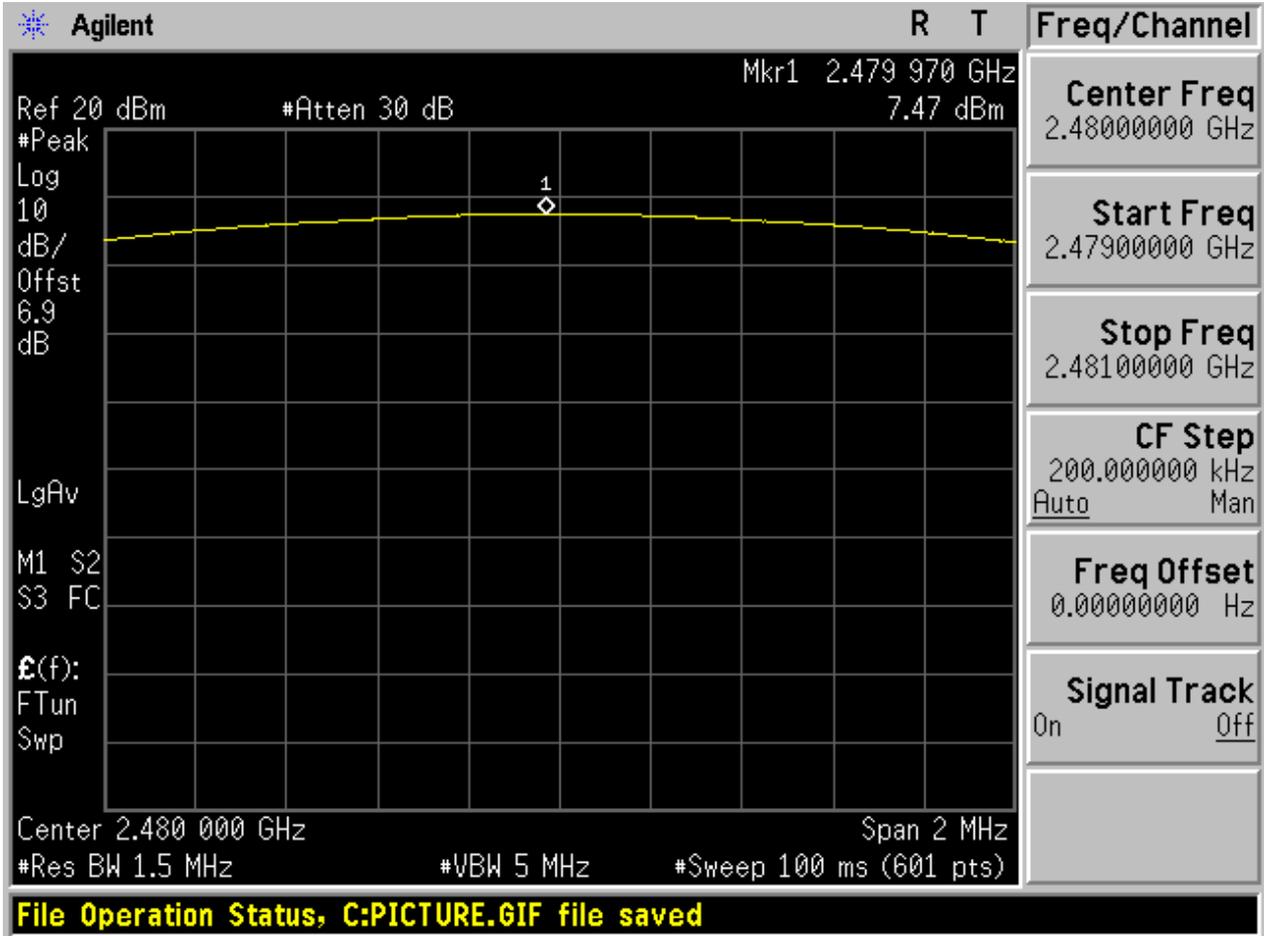


2.8 TM3_3DH5_Ch39





2.9 TM3_3DH5_Ch78





Appendix F: Band edge spurious emission



1 Result Table

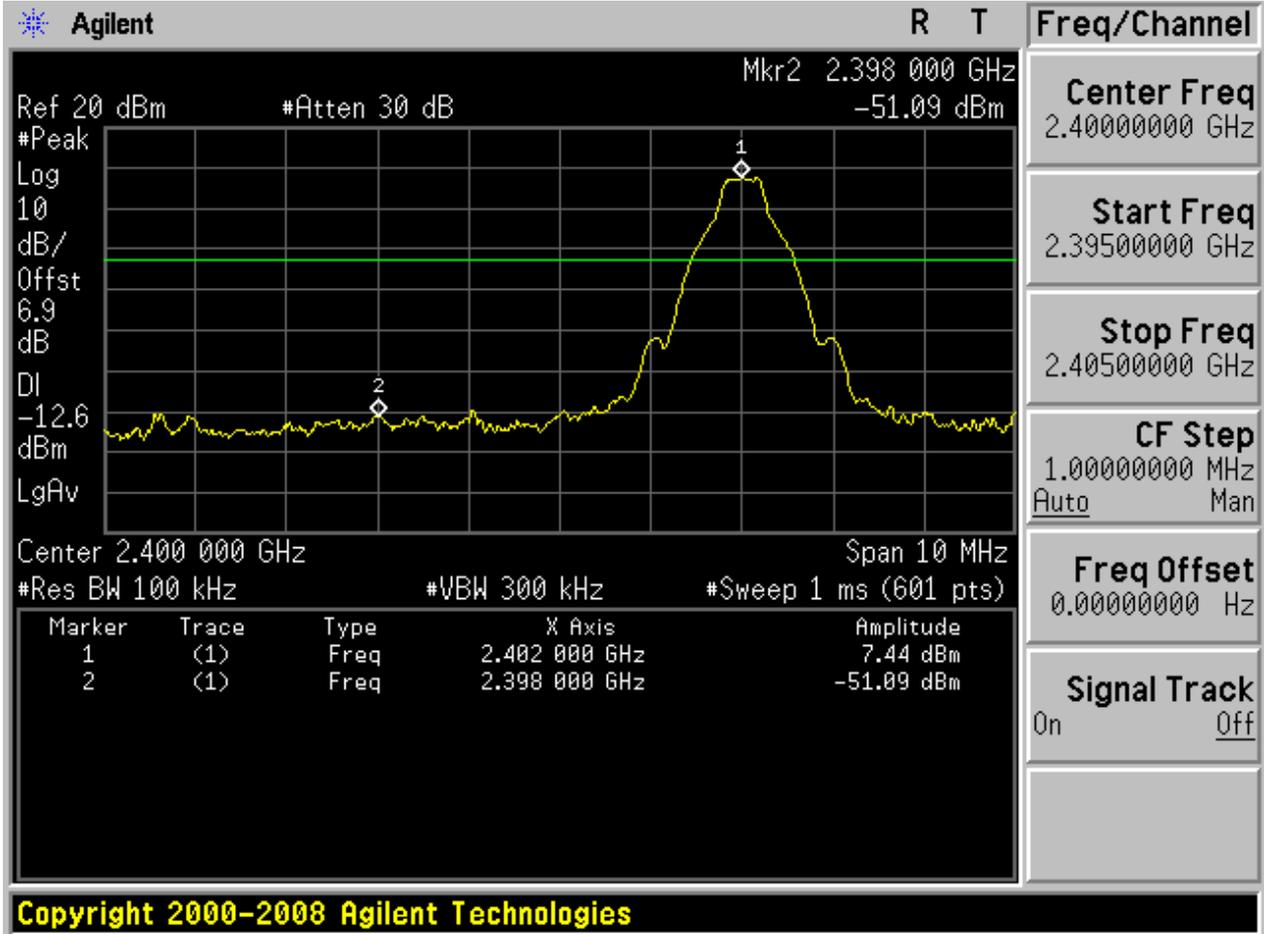
EUT Conf.	Channel No.	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max. Spurious Level [dBm]	Limit [dBm]	Result
TM1_DH5 _Ch0	0	2402	-51.09	Off	7.44	-12.56	Pass
	-	-	-52.37	On	7.27	-12.73	Pass
TM1_DH5 _Ch78	78	2480	-49.99	Off	7.20	-12.80	Pass
	-	-	-46.59	On	6.68	-13.32	Pass
TM2_2DH 5_Ch0	0	2402	-46.74	Off	4.79	-15.21	Pass
	-	-	-51.95	On	4.61	-15.39	Pass
TM2_2DH 5_Ch78	78	2480	-52.89	Off	4.60	-15.40	Pass
	-	-	-49.86	On	4.00	-16.00	Pass
TM3_3DH 5_Ch0	0	2402	-48.04	Off	4.79	-15.21	Pass
	-	-	-49.81	On	3.56	-16.44	Pass
TM3_3DH 5_Ch78	78	2480	-51.76	Off	4.61	-15.39	Pass
	-	-	-54.29	On	4.48	-15.52	Pass



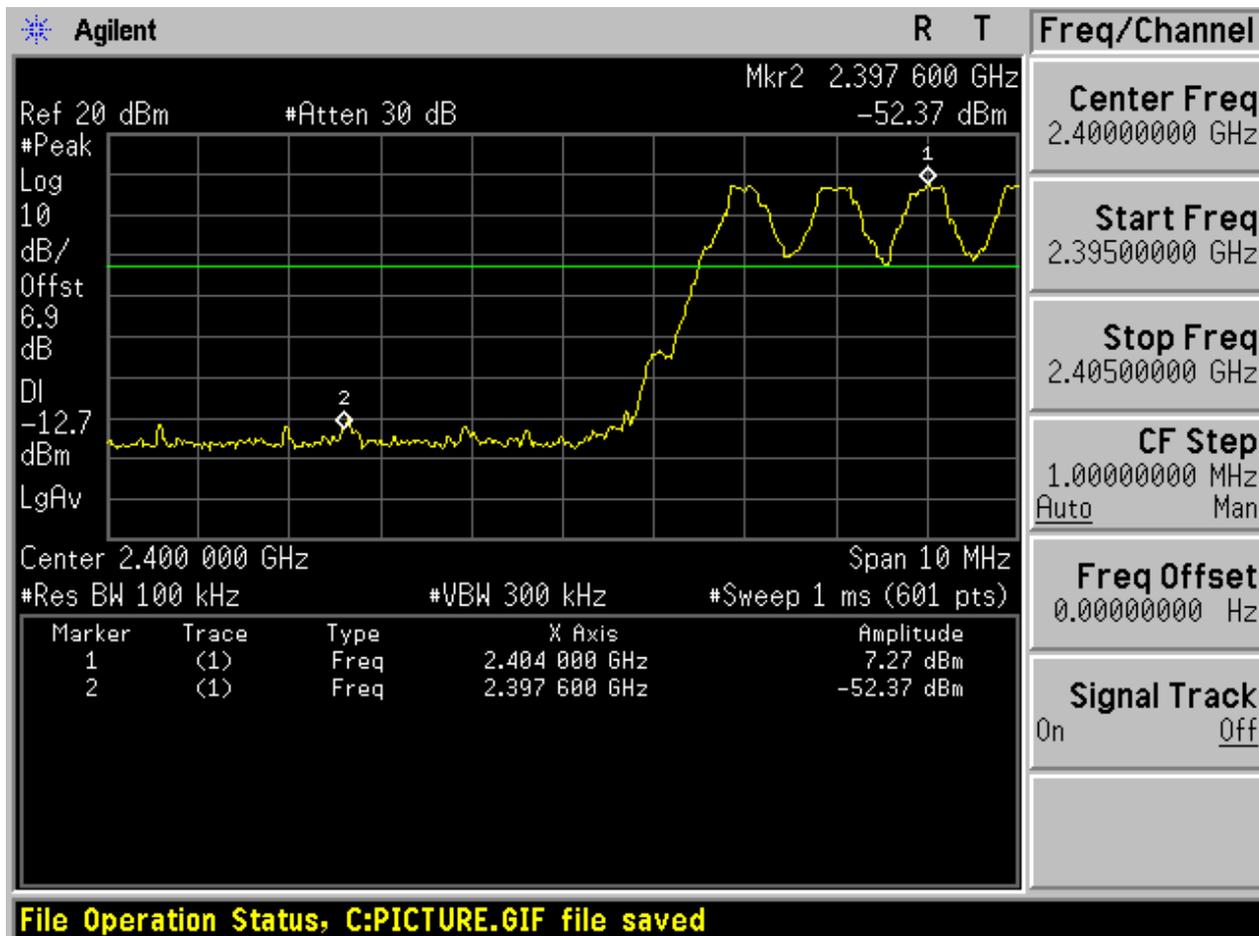
2 Test Plot

2.1 TM1_DH5_Ch0

No hopping

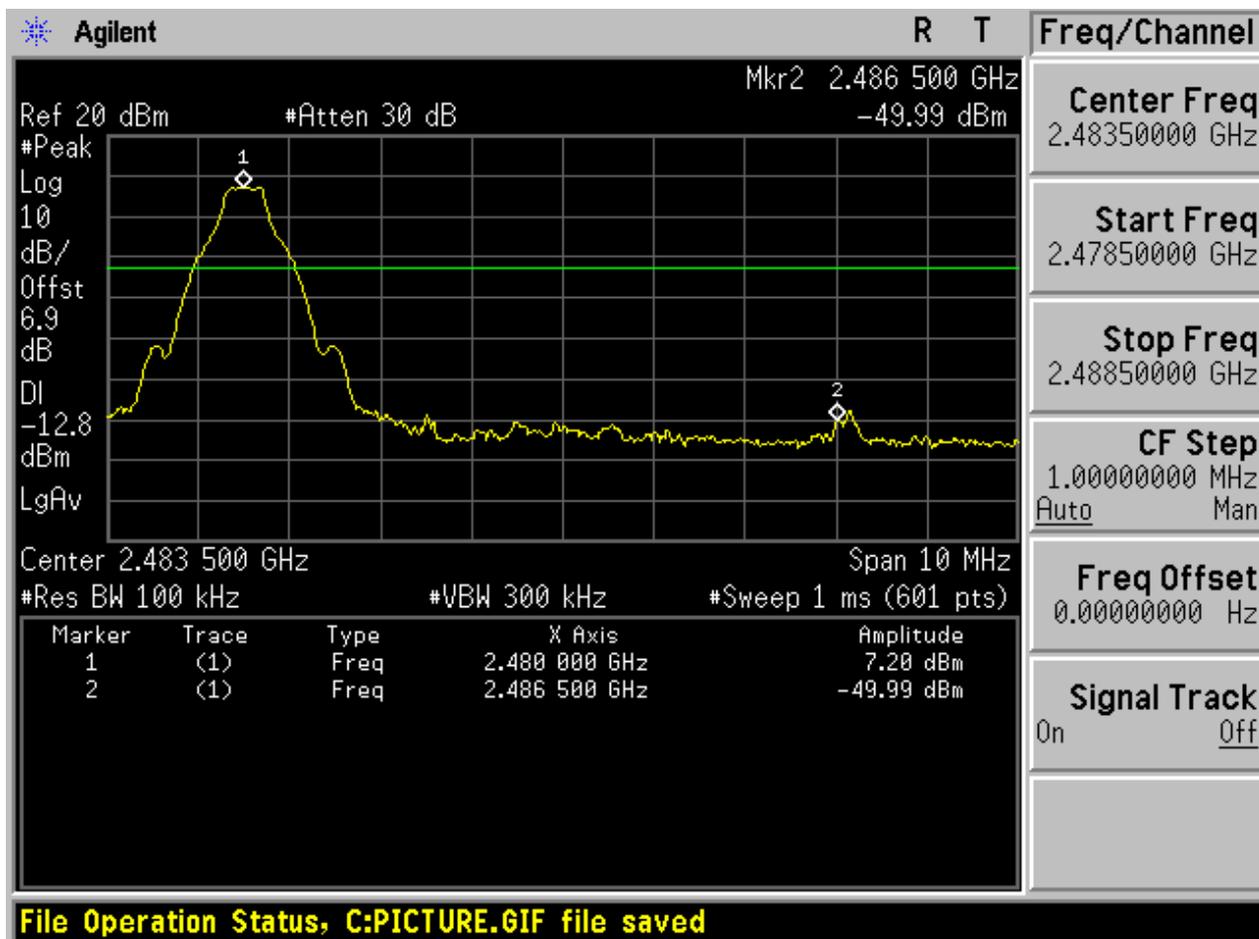


With hopping

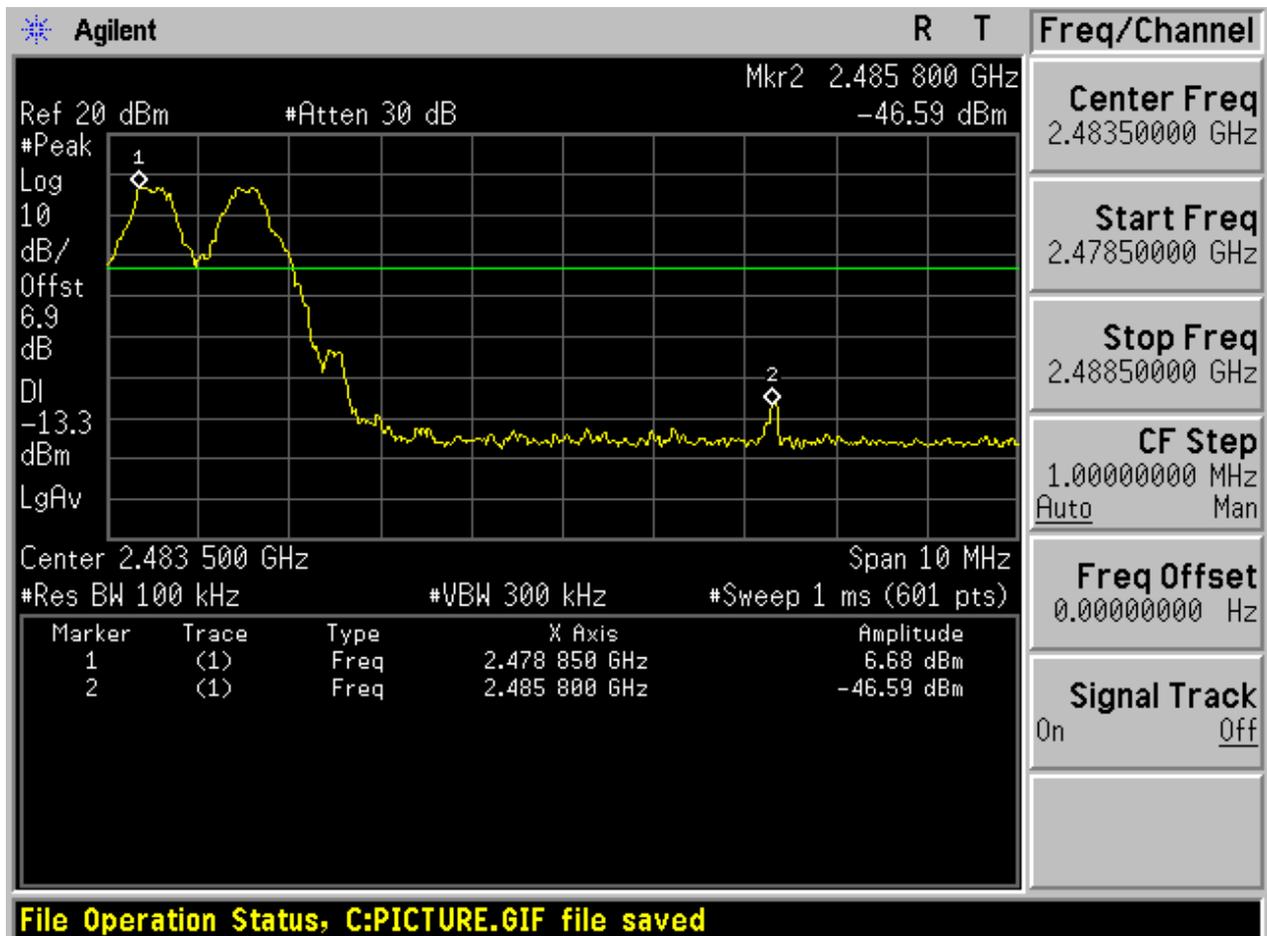


2.2 TM1_DH5_Ch78

No hopping

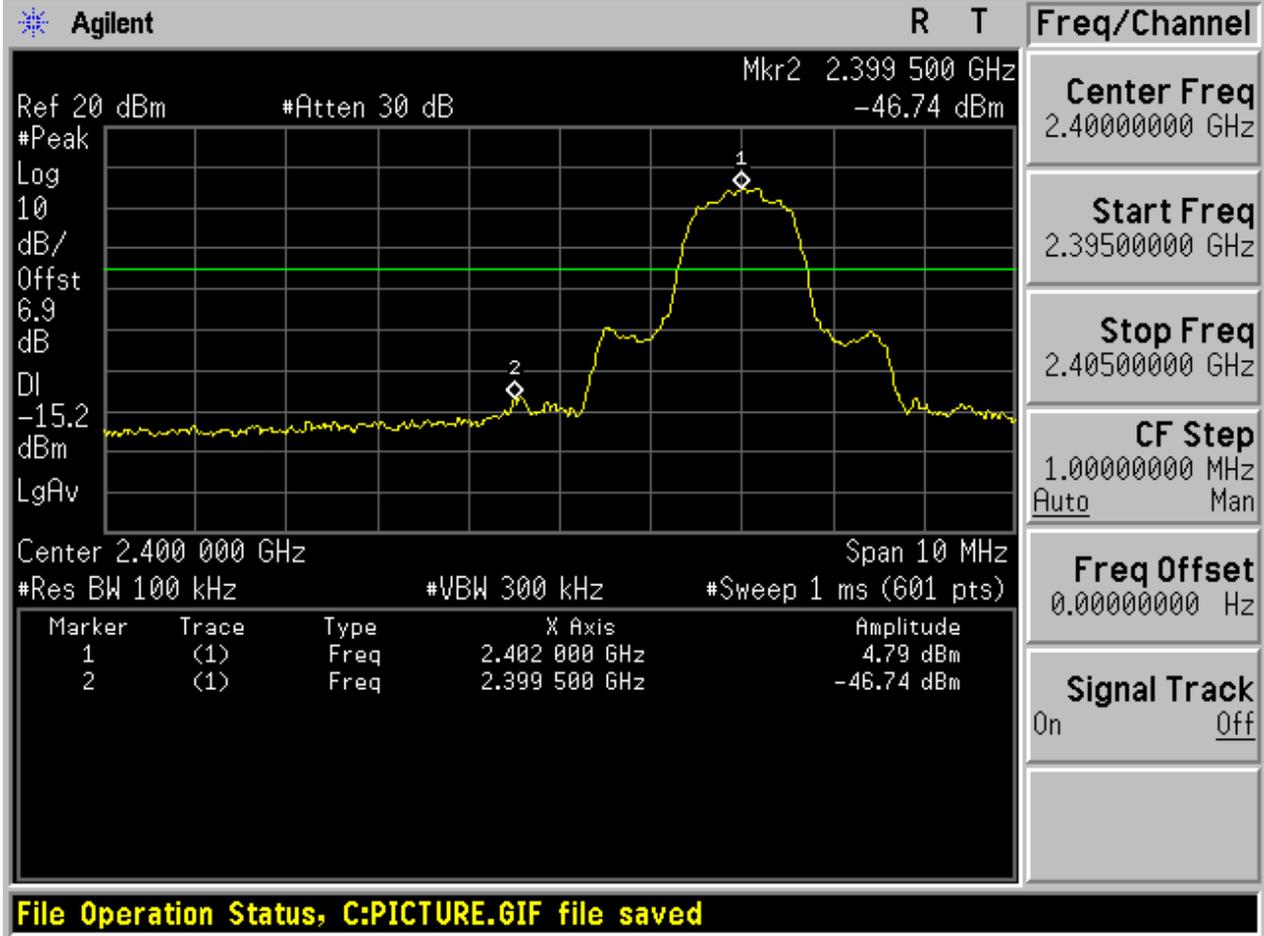


With hopping

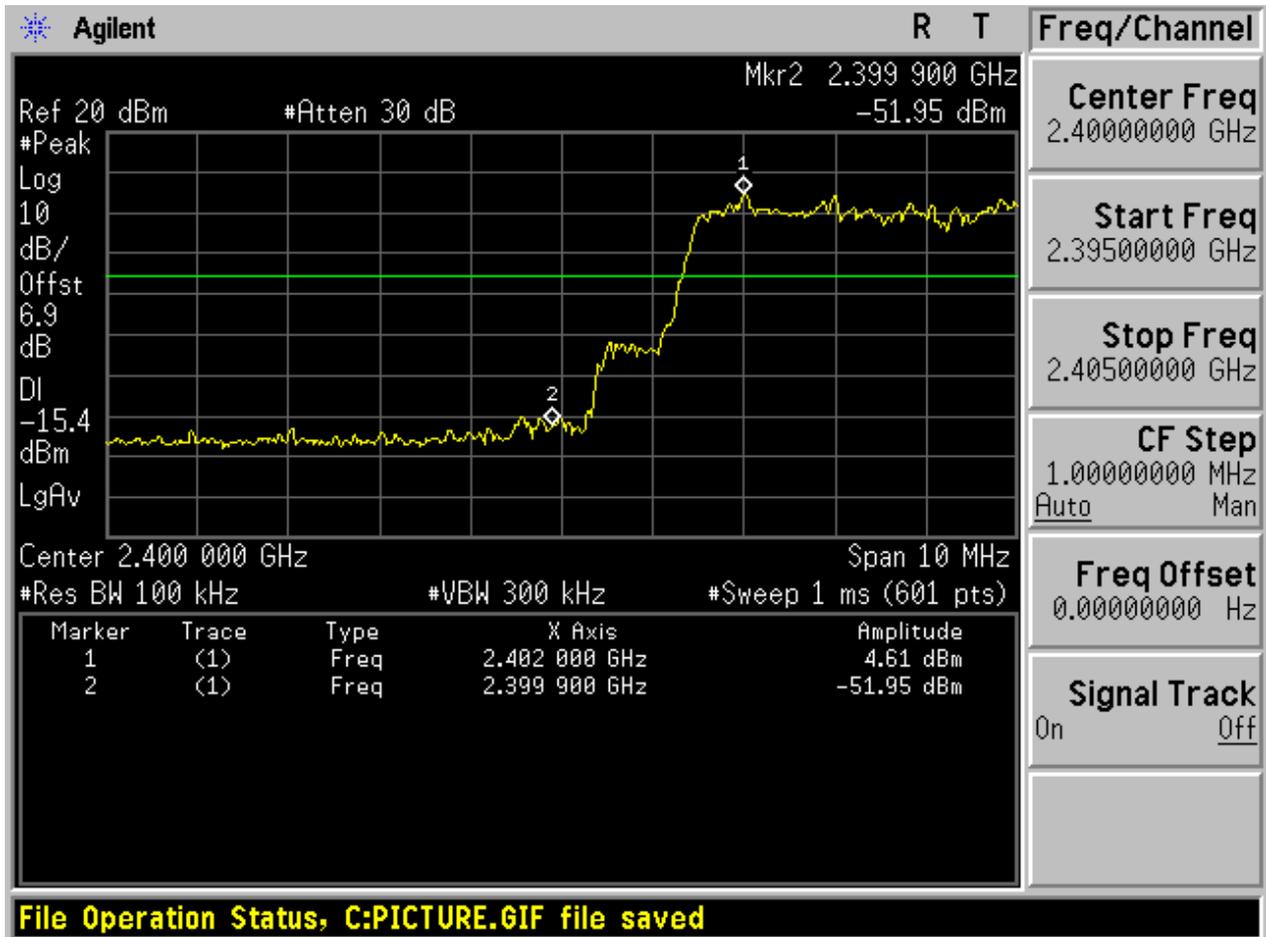


2.3 TM2_2DH5_Ch0

No hopping

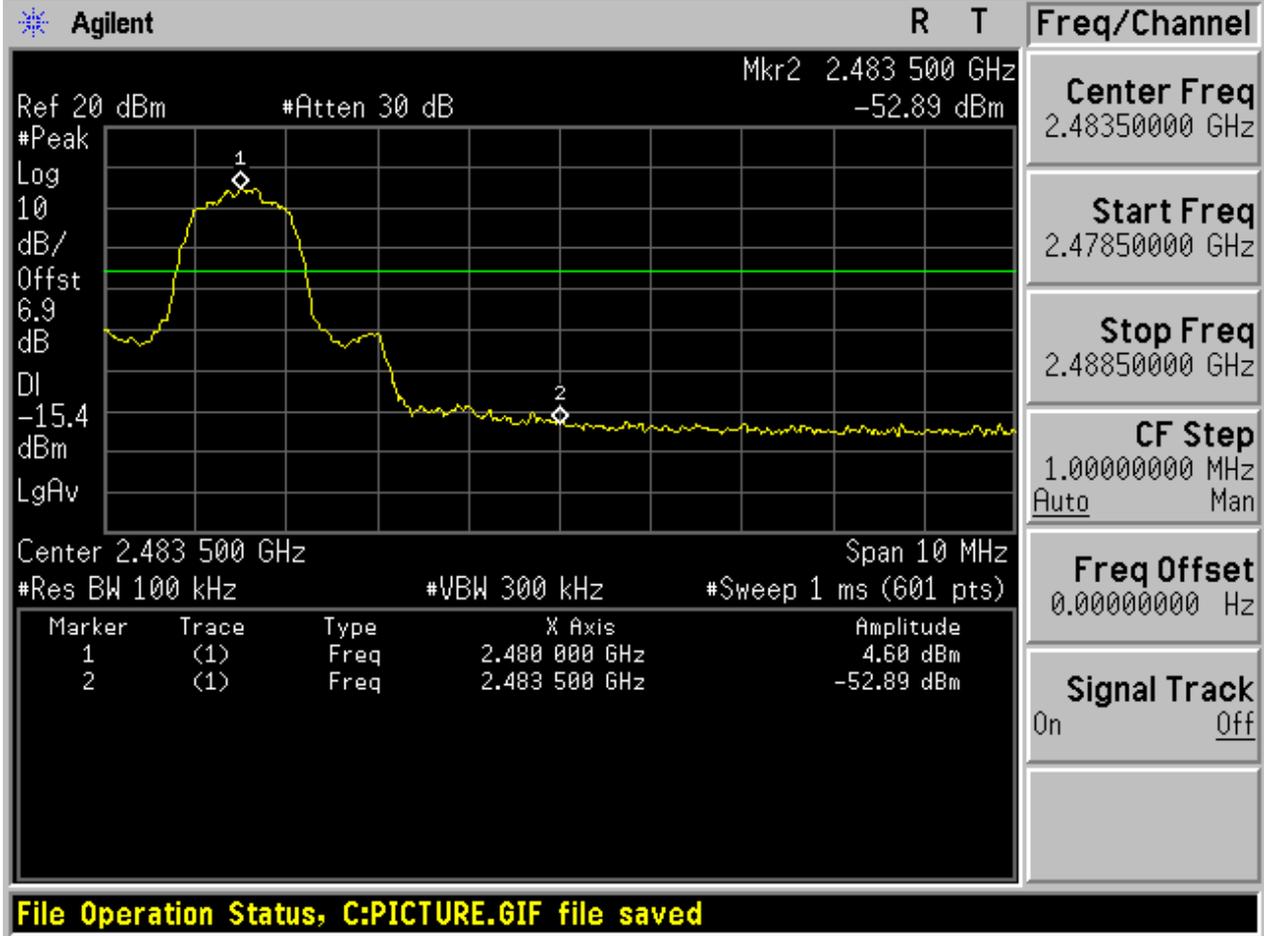


With hopping

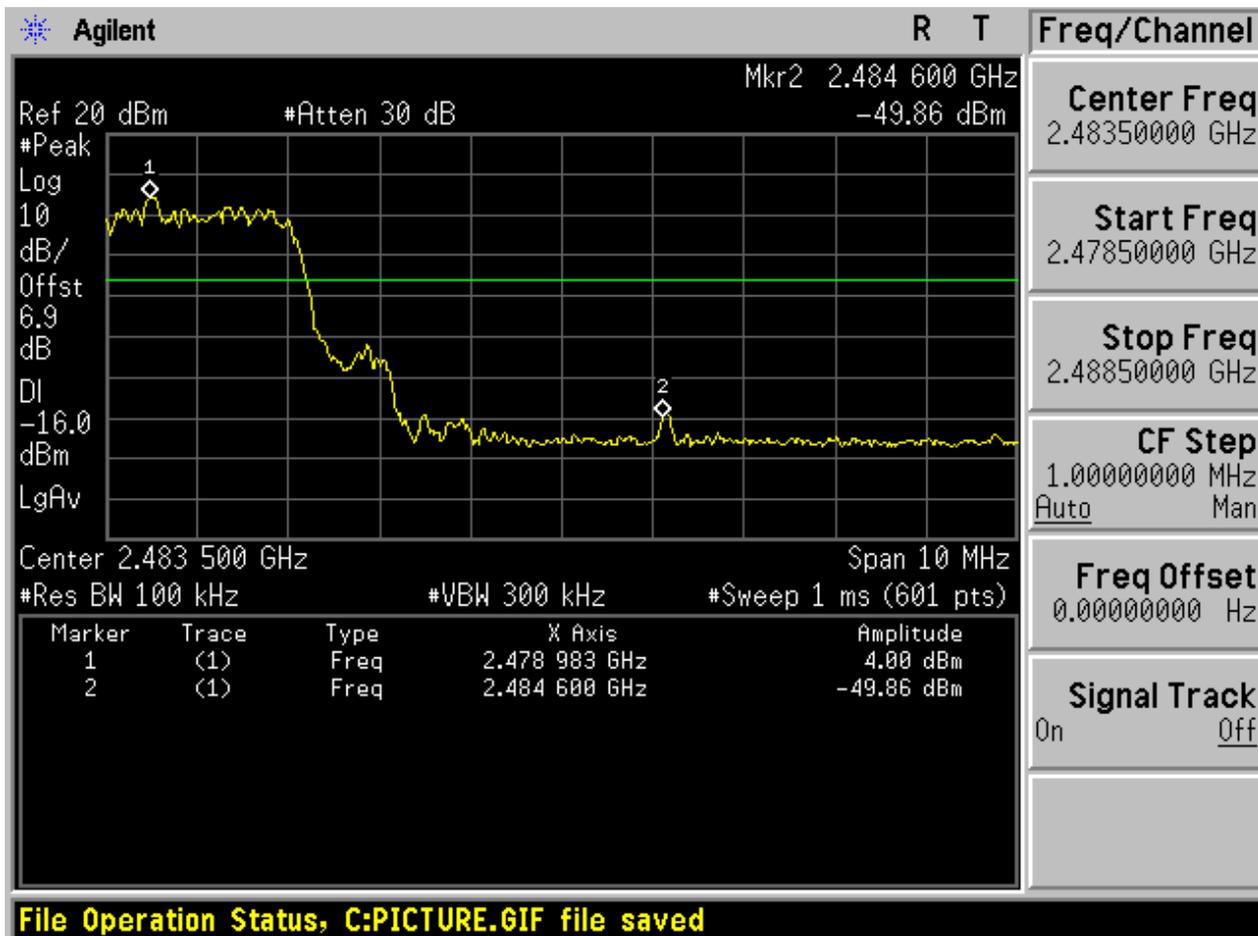


2.4 TM2_2DH5_Ch78

No hopping

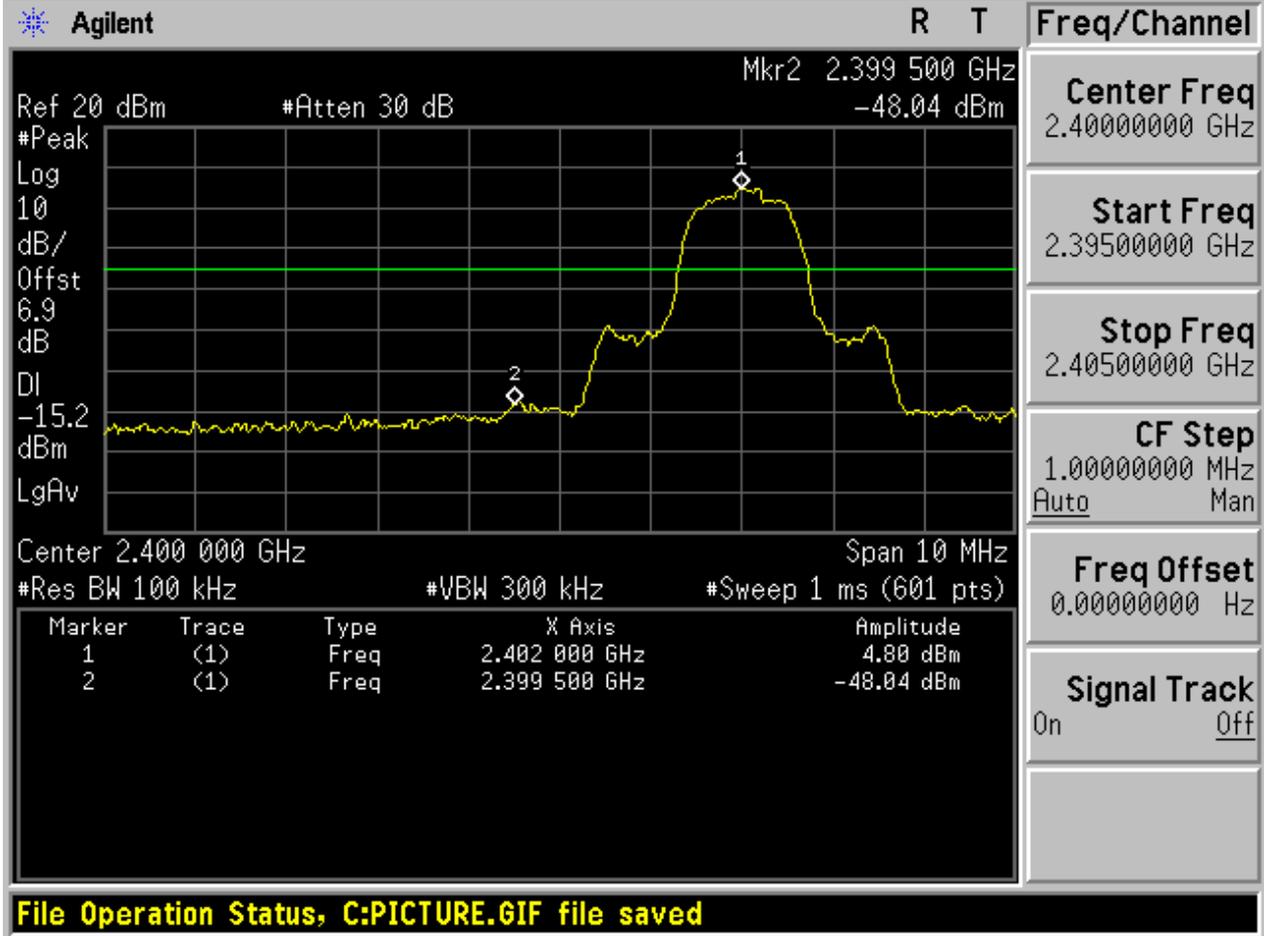


With hopping

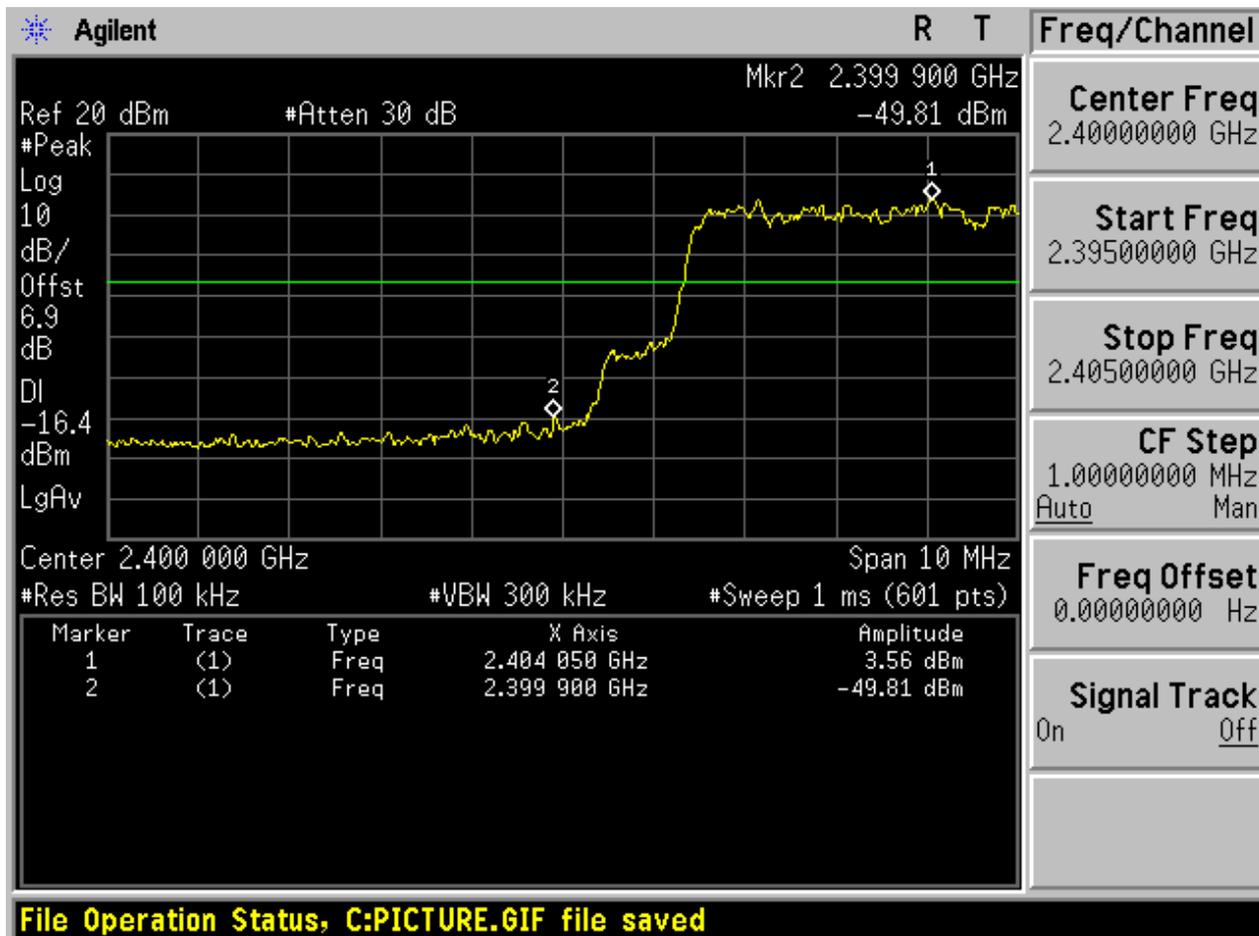


2.5 TM3_3DH5_Ch0

No hopping

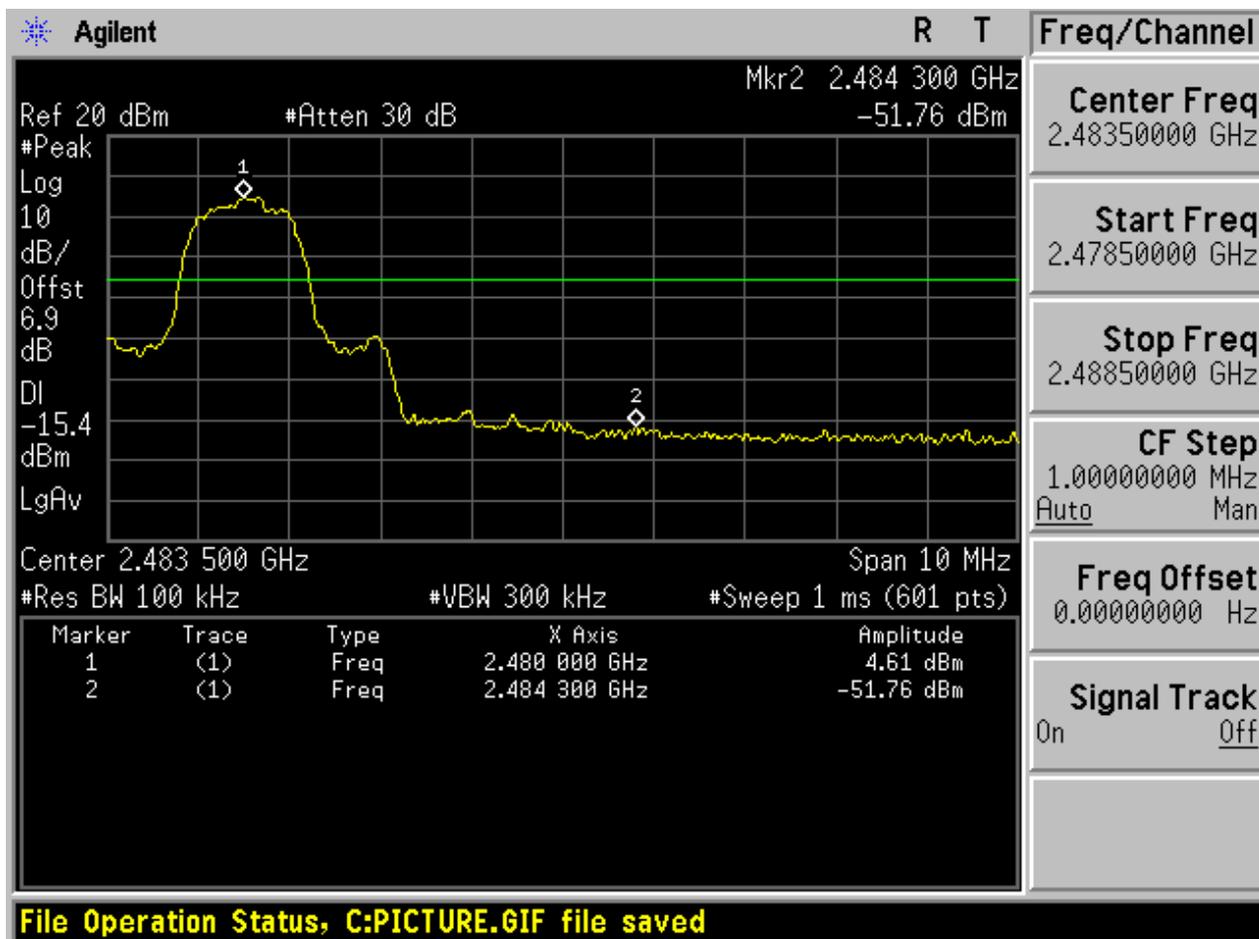


With hopping

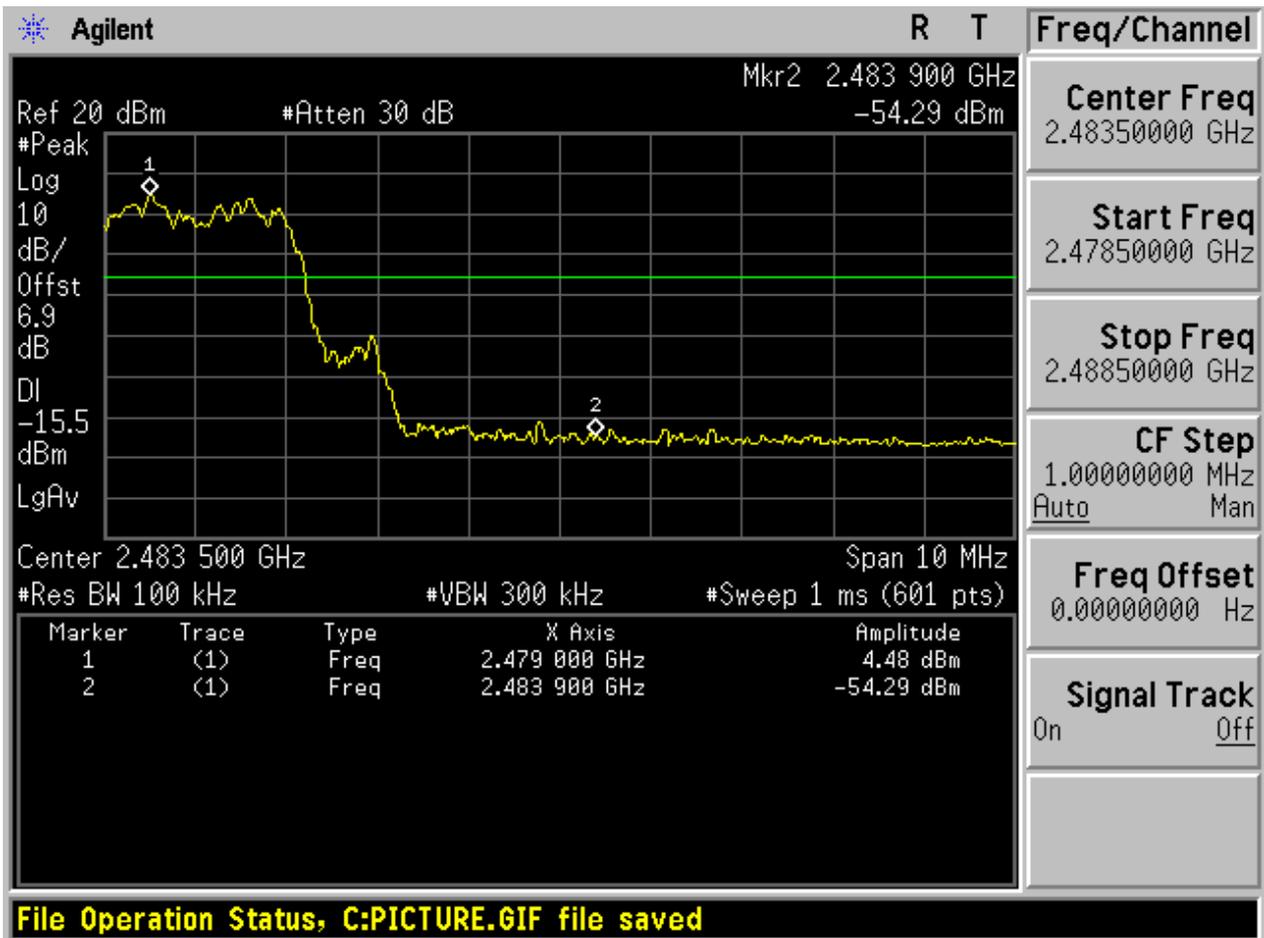


2.6 TM3_3DH5_Ch78

No hopping



With hopping





Appendix G: Conducted RF Spurious Emission



1 Result Table

In this Appendix, the “Pref” refers to the peak power level in any 100 kHz bandwidth within the fundamental emission which is used as the reference level, 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.

In the result table, the “< Limit” denotes that “The Puw [dBm] is less than Pref [dBm] - 20 [dB], see test plots for detailed”.

EUT Conf.	Pref [dBm/100 kHz]	Puw [dBm/100 kHz]	Verdict
TM1_DH5_Ch0	7.31	< Limit	Pass
TM1_DH5_Ch39	7.73	< Limit	Pass
TM1_DH5_Ch78	7.10	< Limit	Pass
TM2_2DH5_Ch0	4.68	< Limit	Pass
TM2_2DH5_Ch39	5.12	< Limit	Pass
TM2_2DH5_Ch78	4.51	< Limit	Pass
TM3_3DH5_Ch0	4.68	< Limit	Pass
TM3_3DH5_Ch39	5.12	< Limit	Pass
TM3_3DH5_Ch78	4.51	< Limit	Pass



2 Test Plot

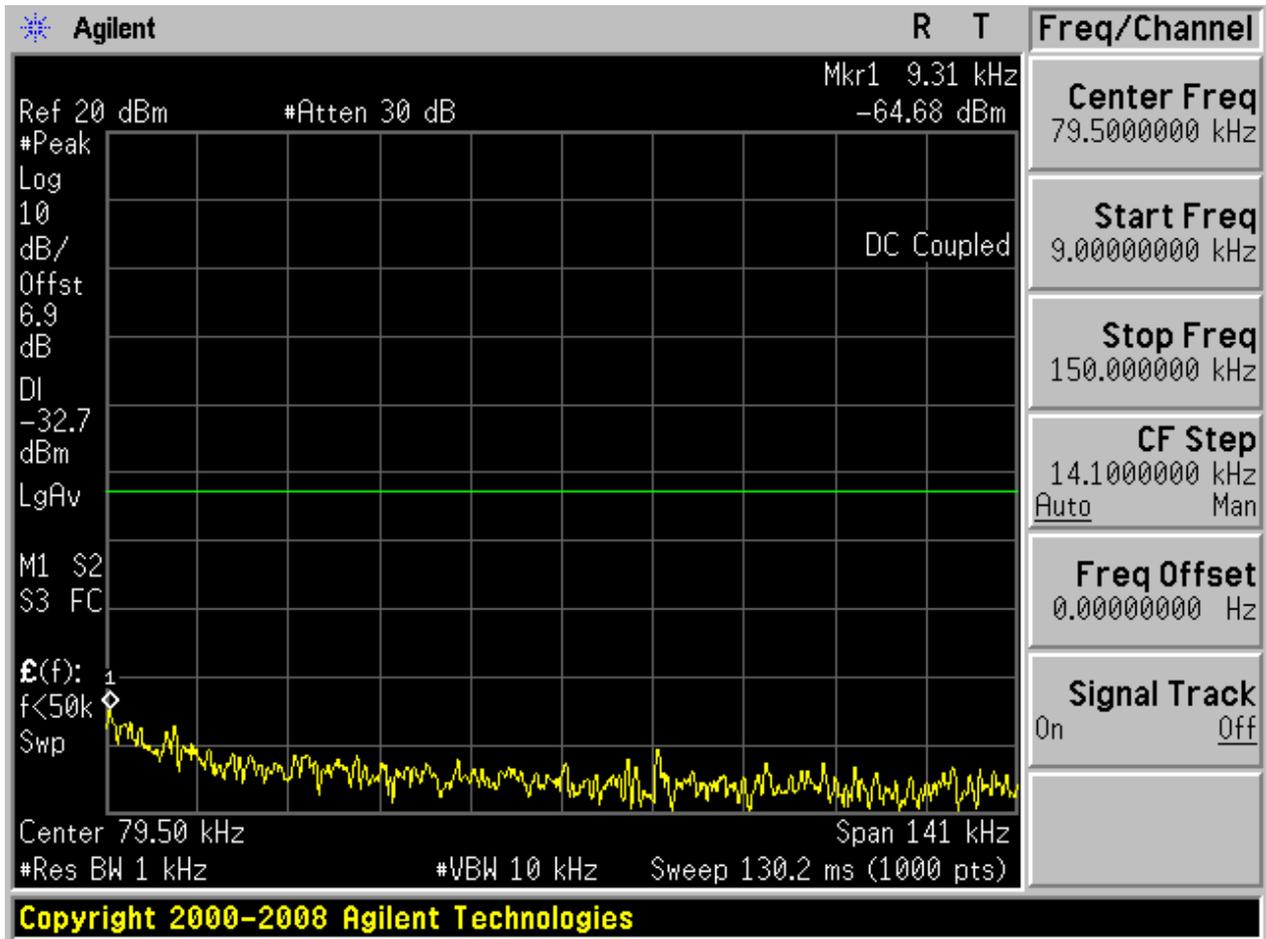
2.1 TM1_DH5_Ch0

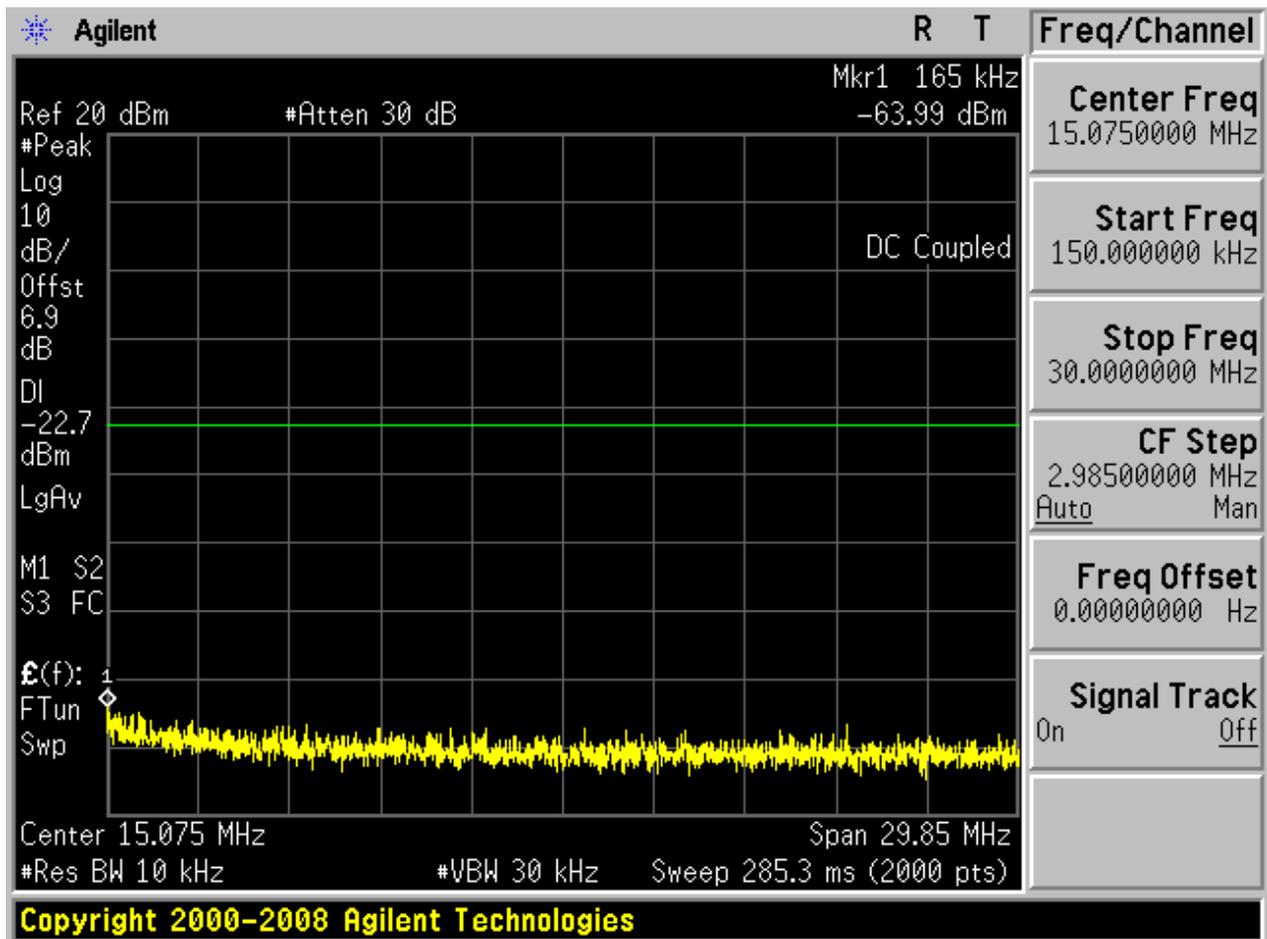
2.1.1 Pref

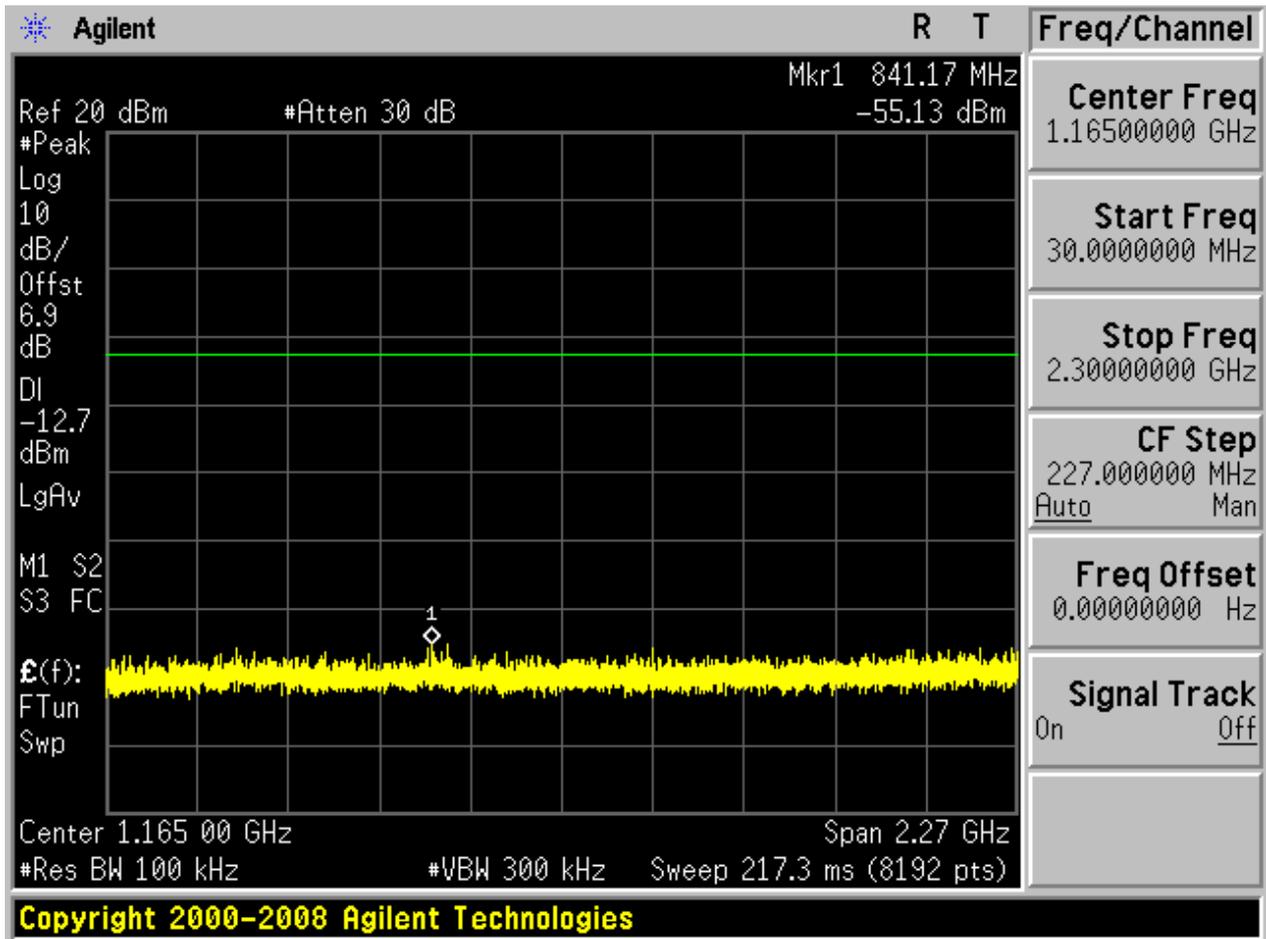


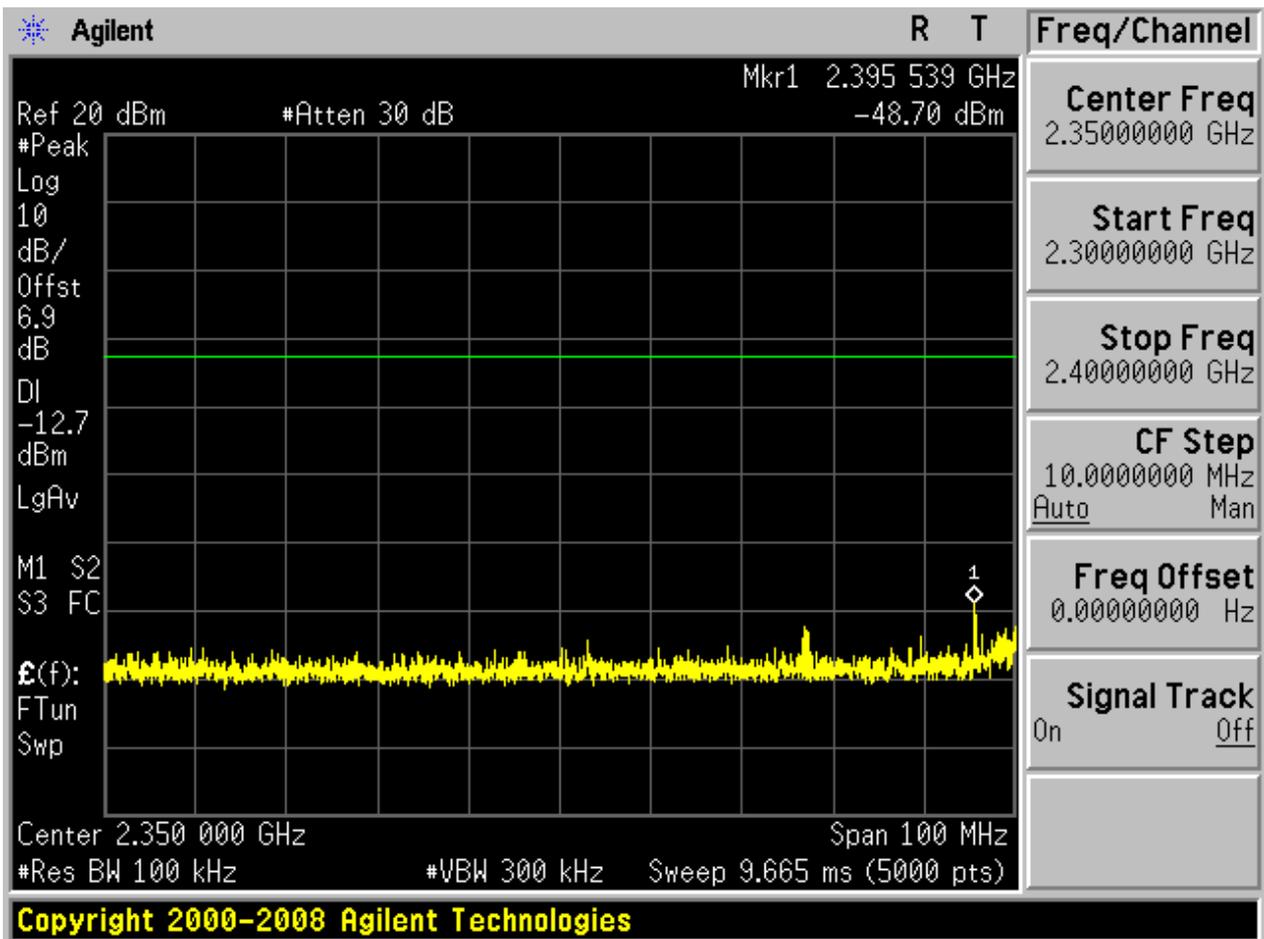


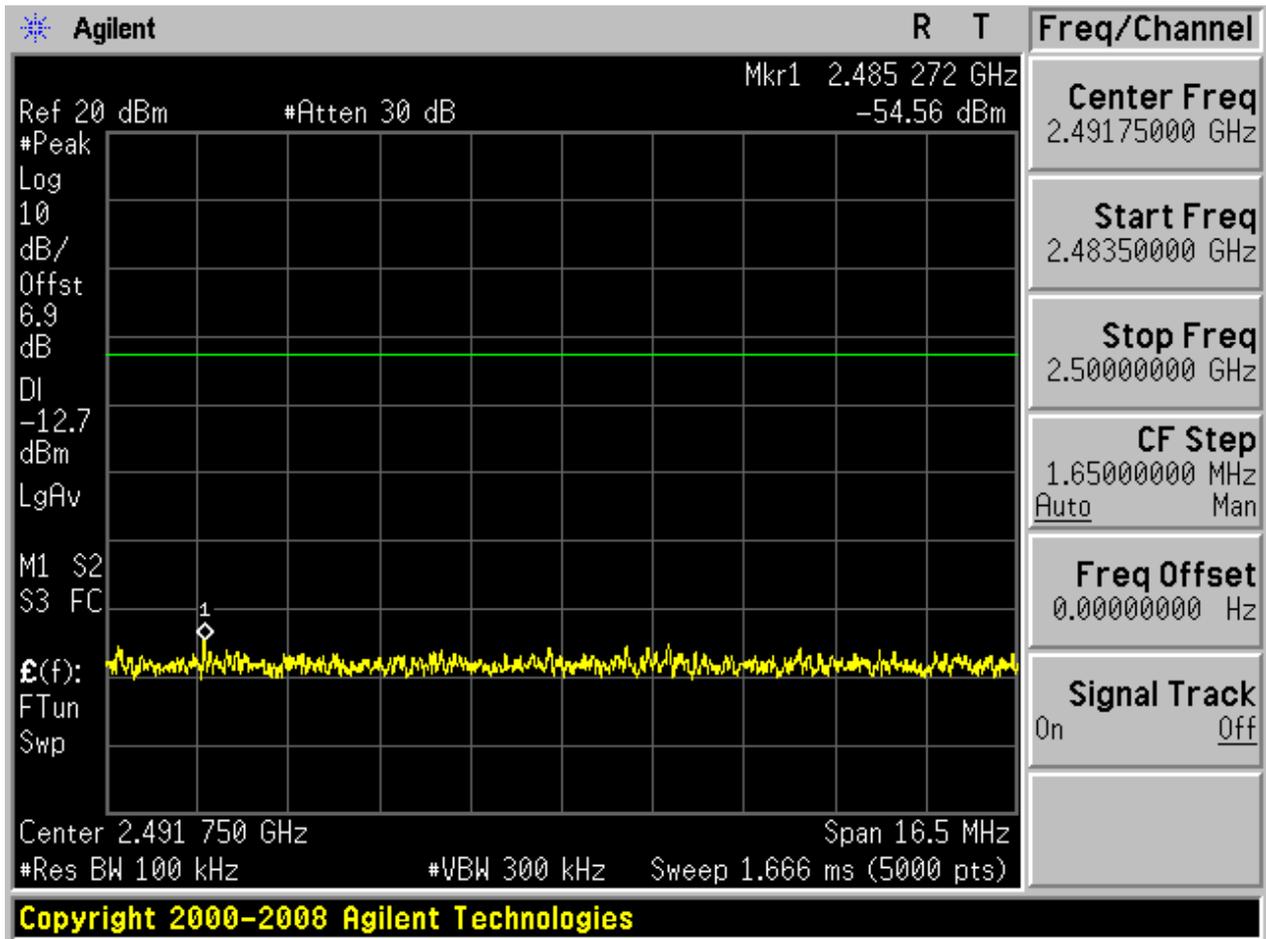
2.1.2 Puw

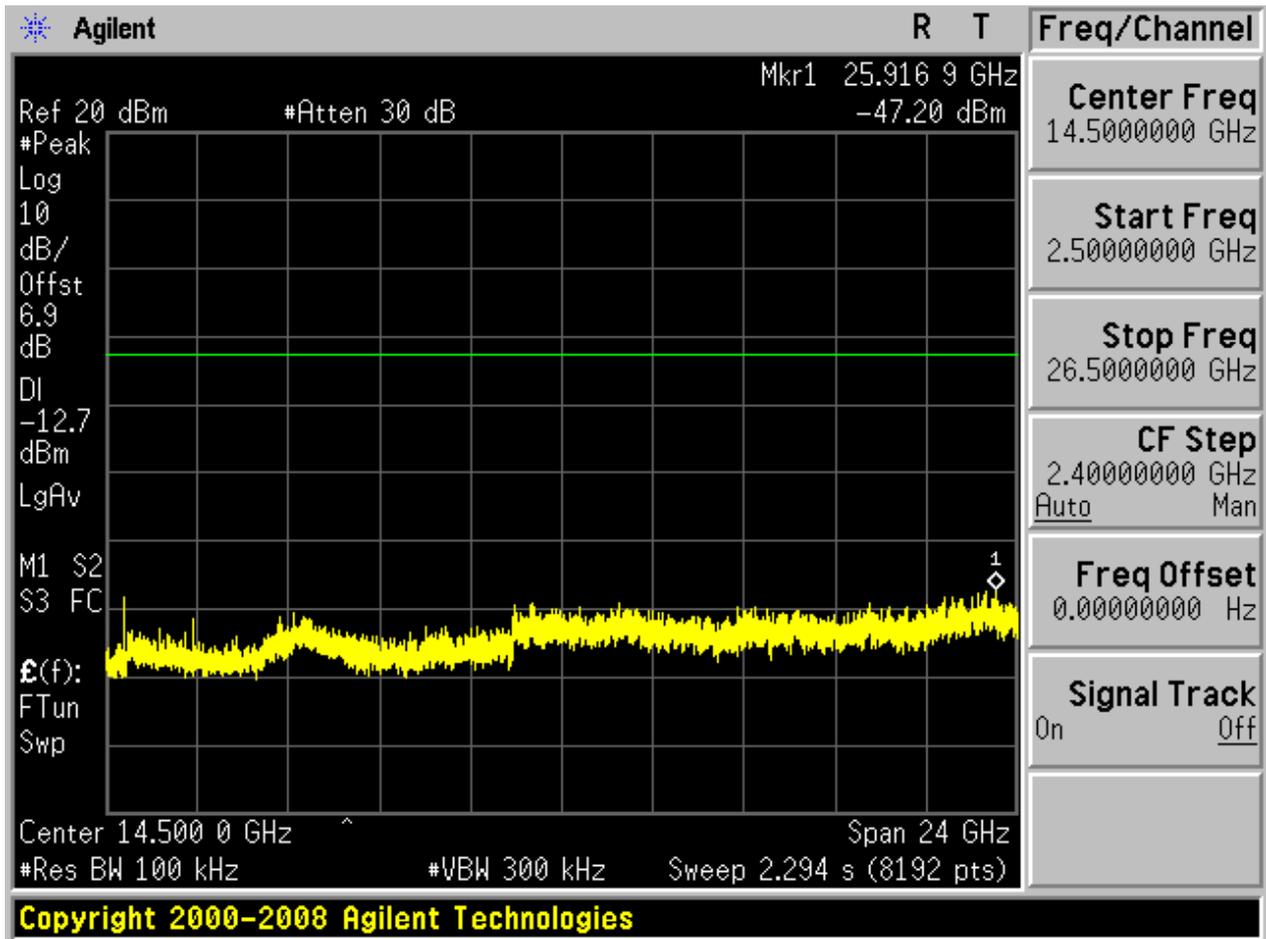








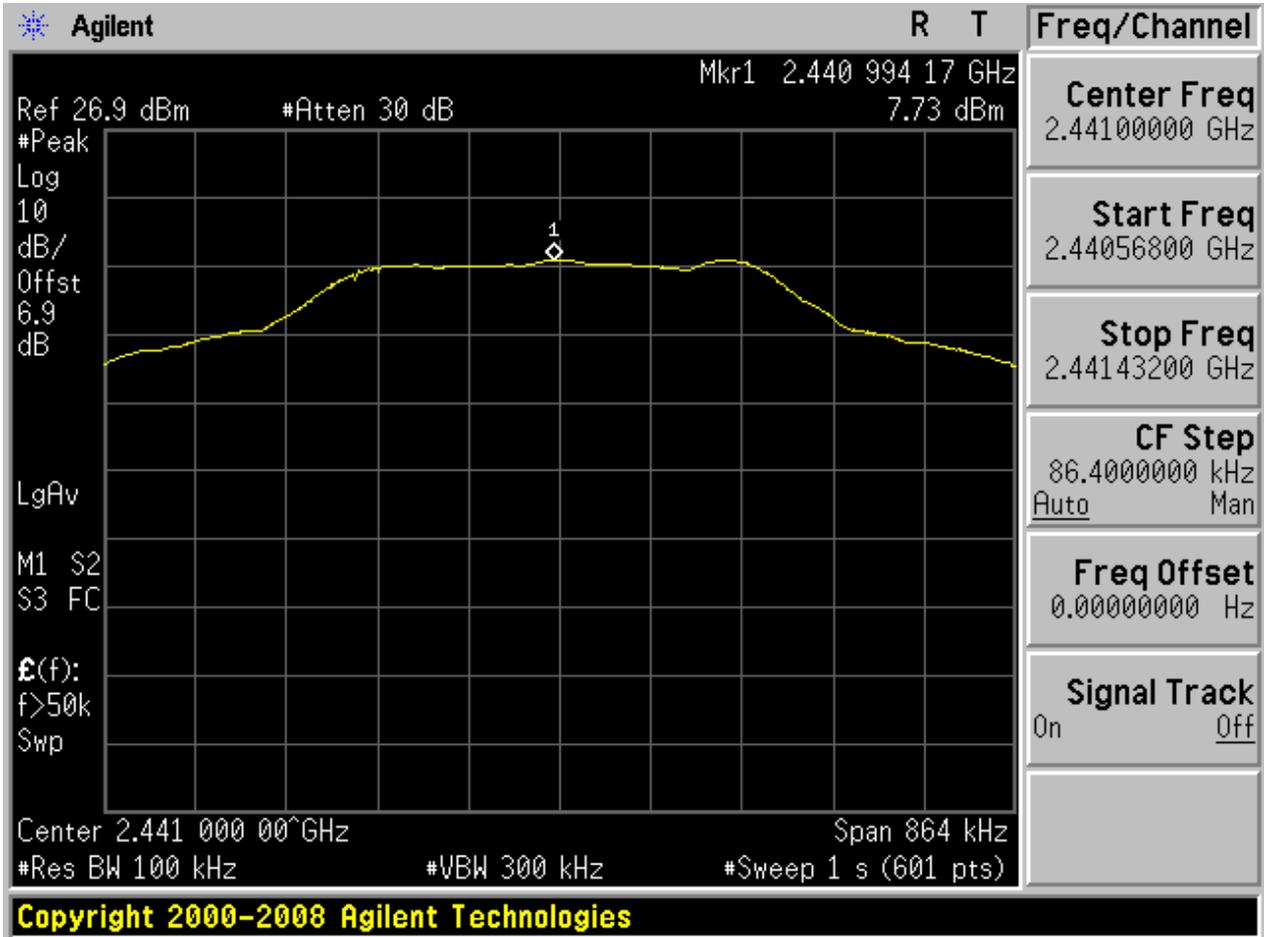




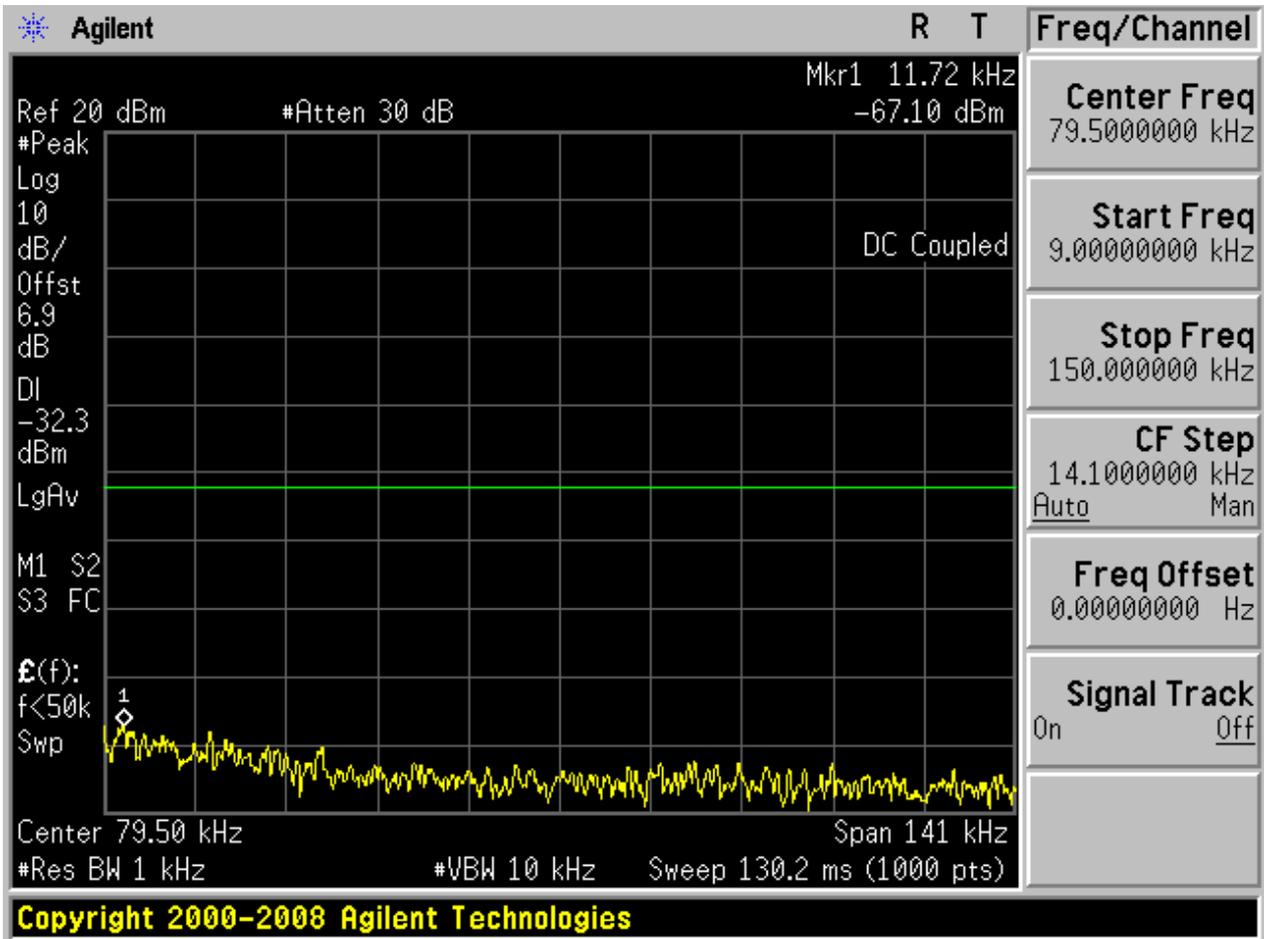


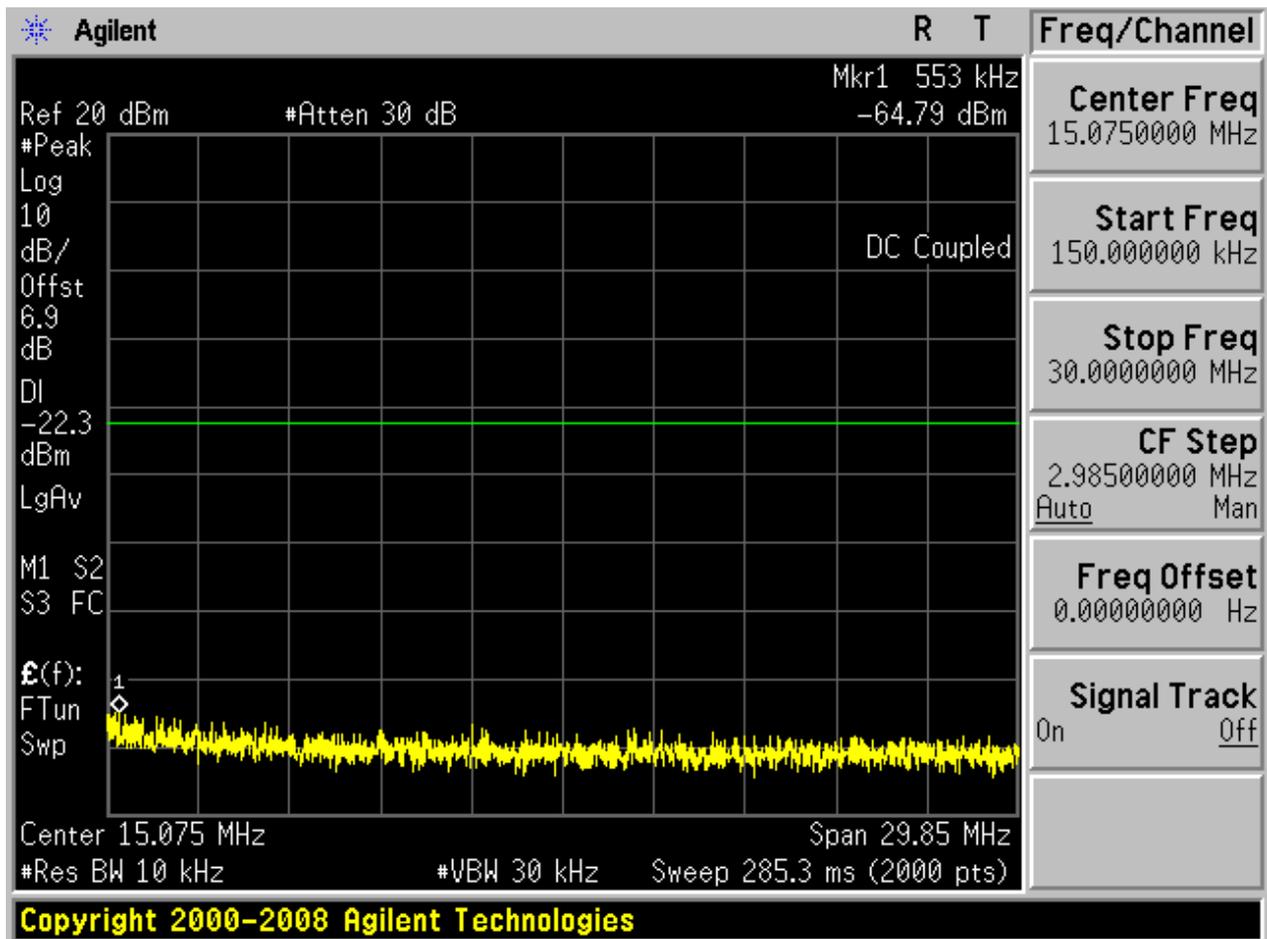
2.2 TM1_DH5_Ch39

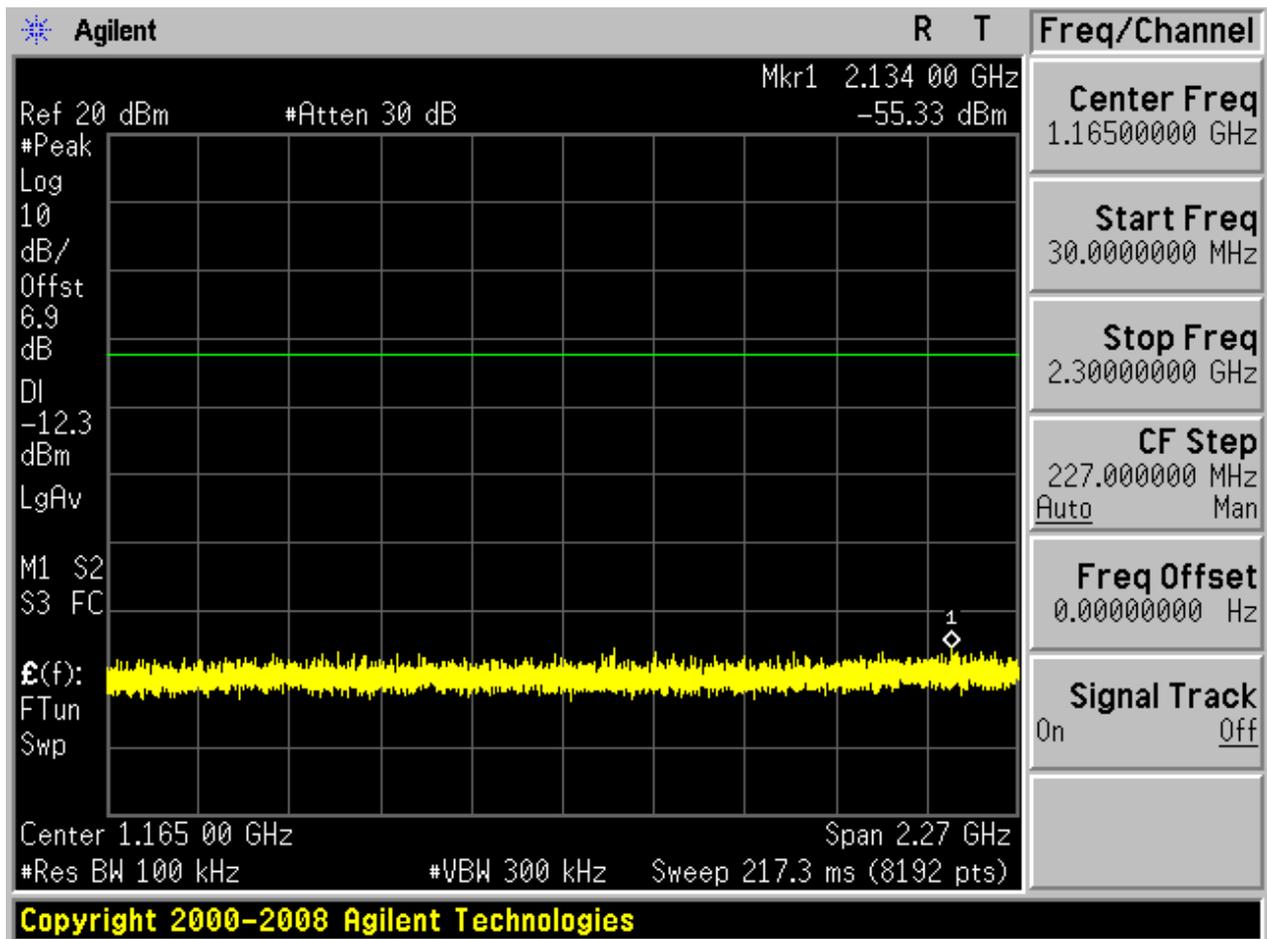
2.2.1 Pref

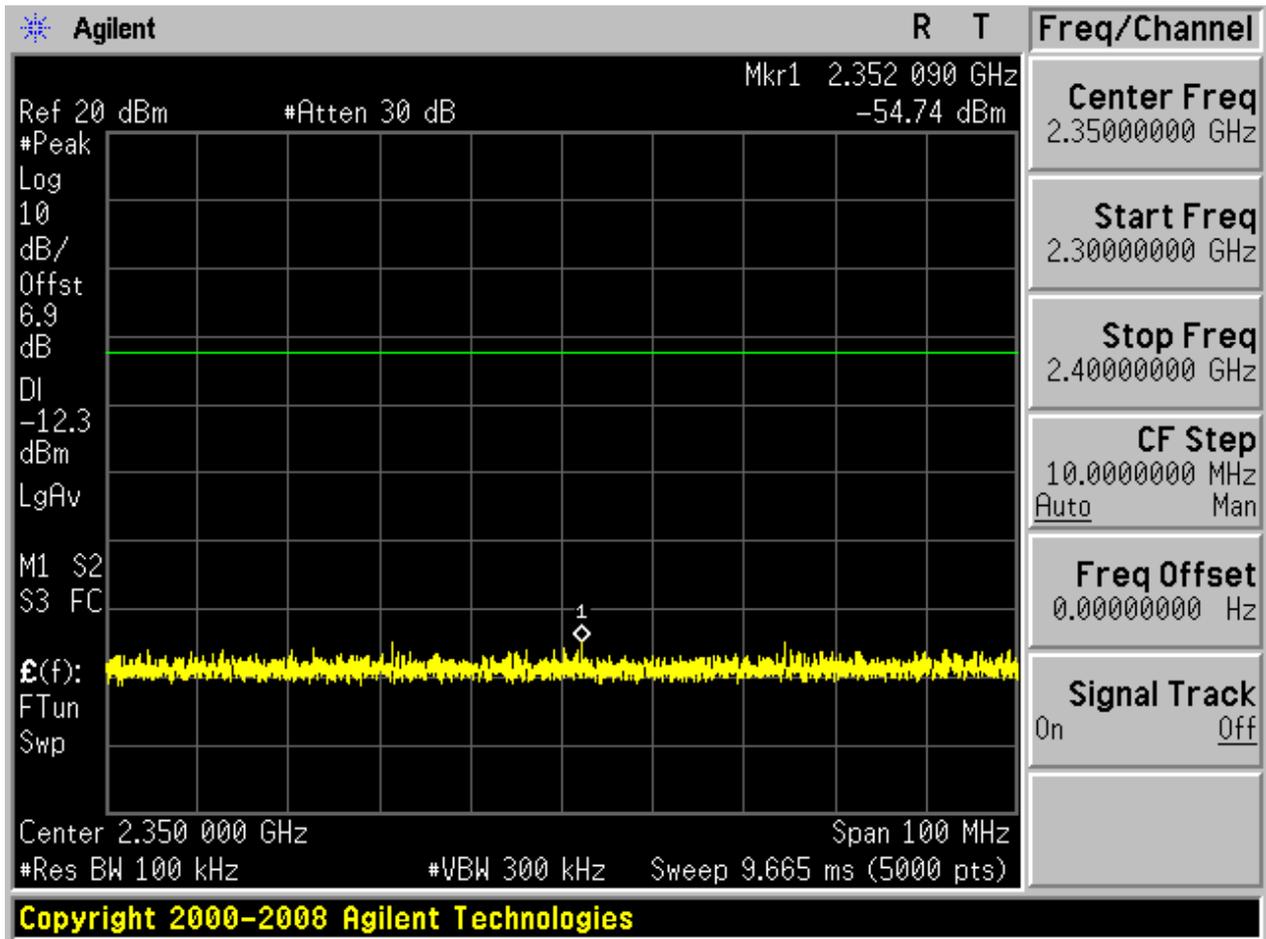


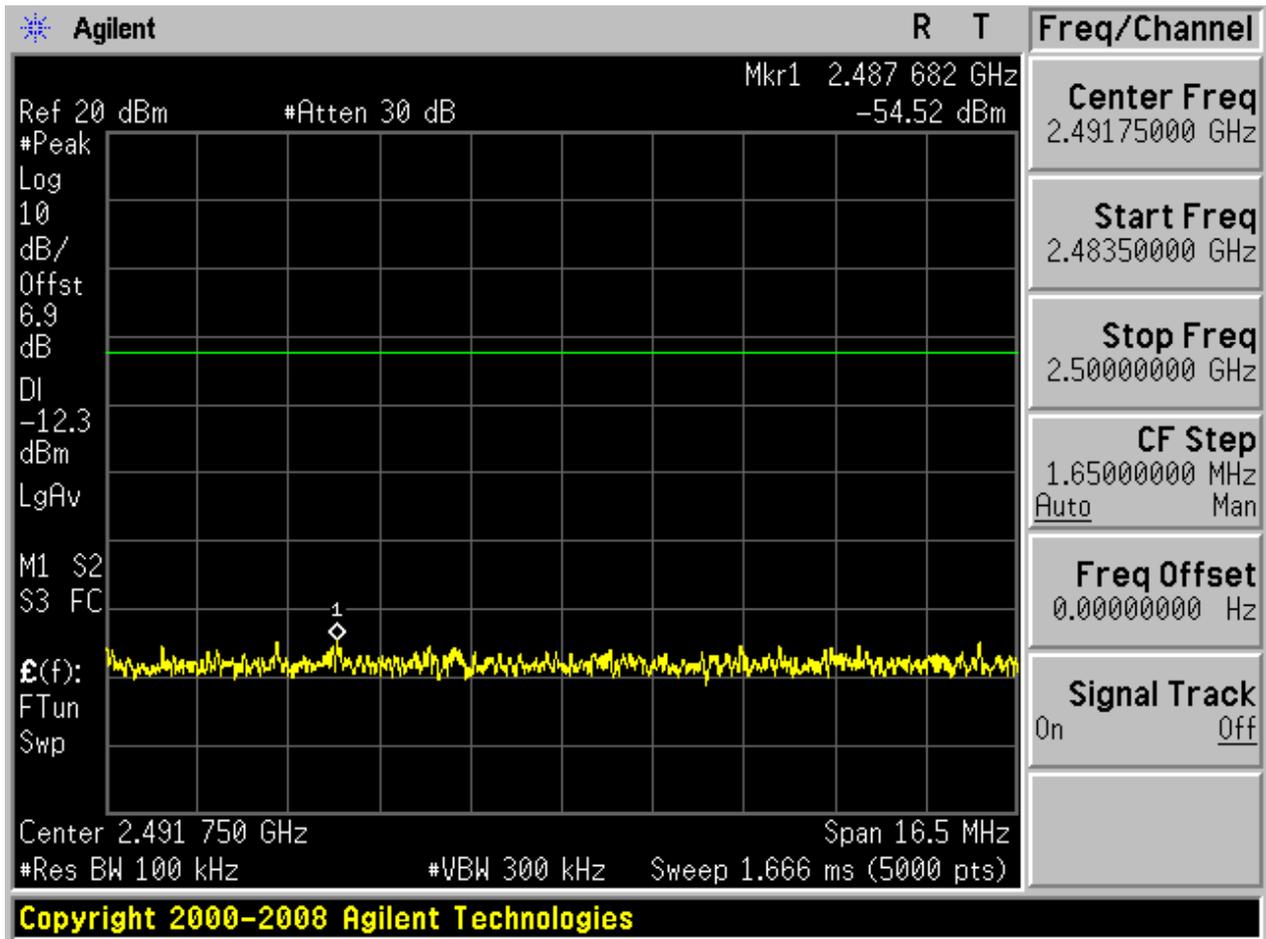
2.2.2 Puw

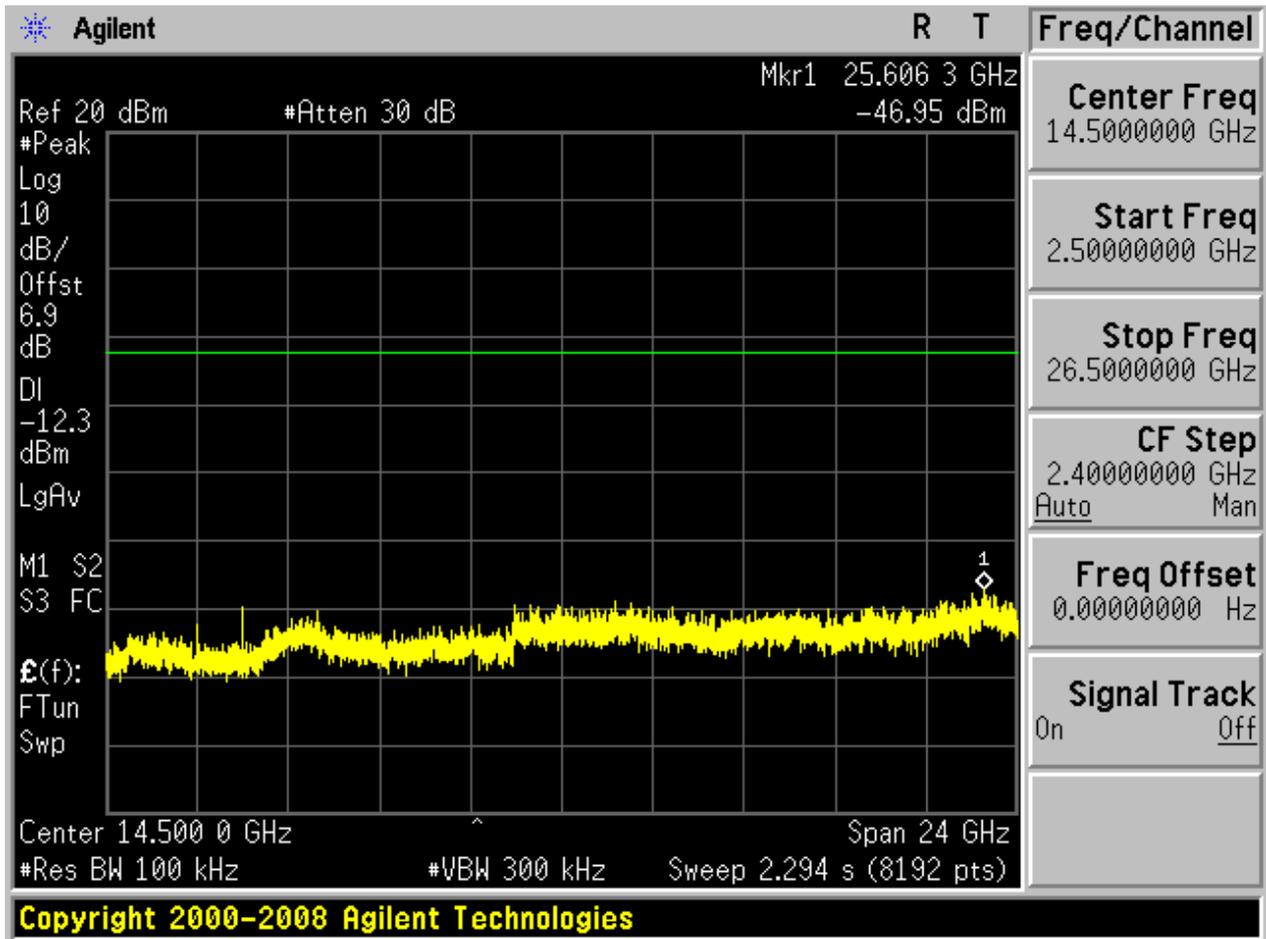








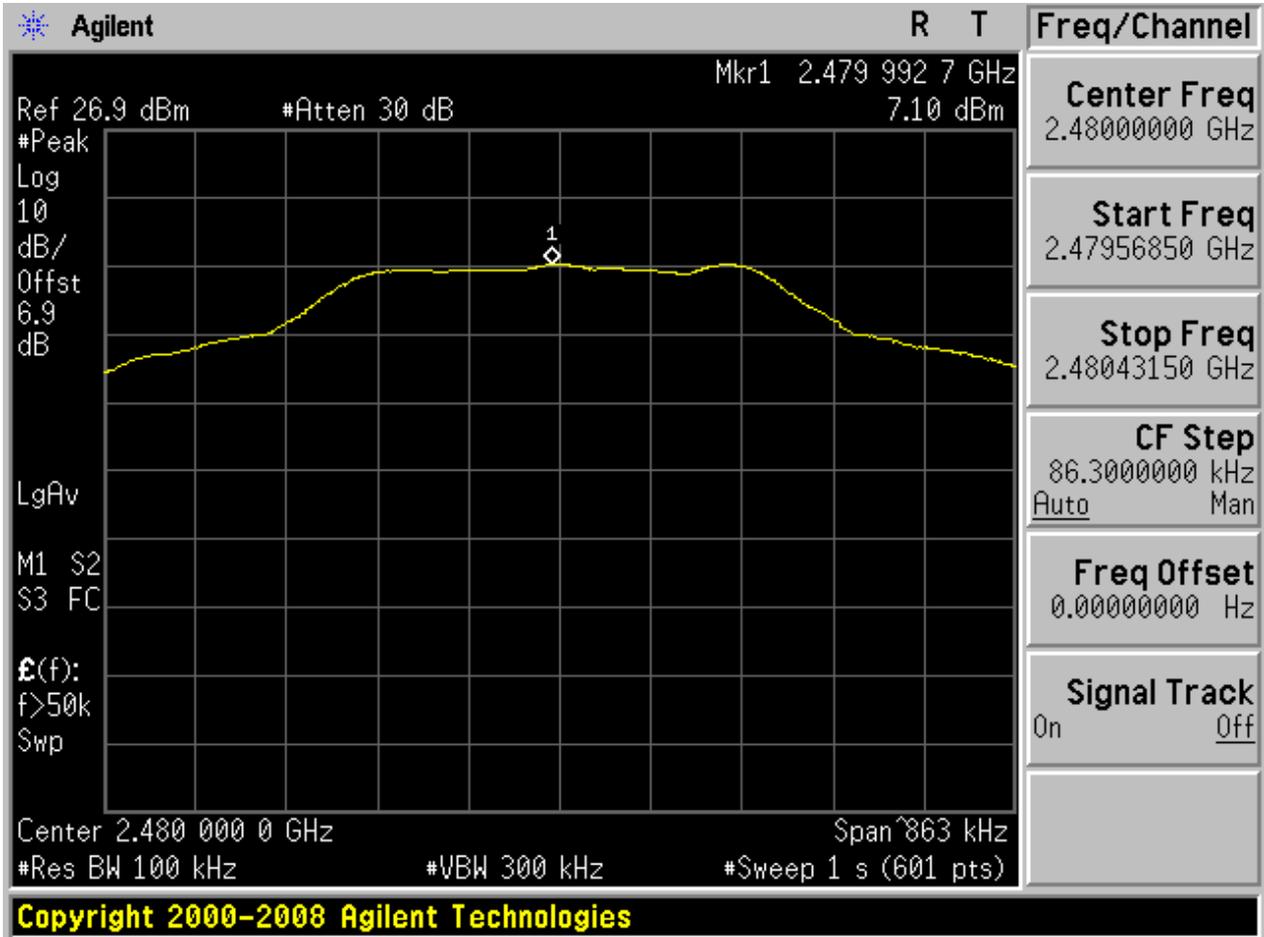






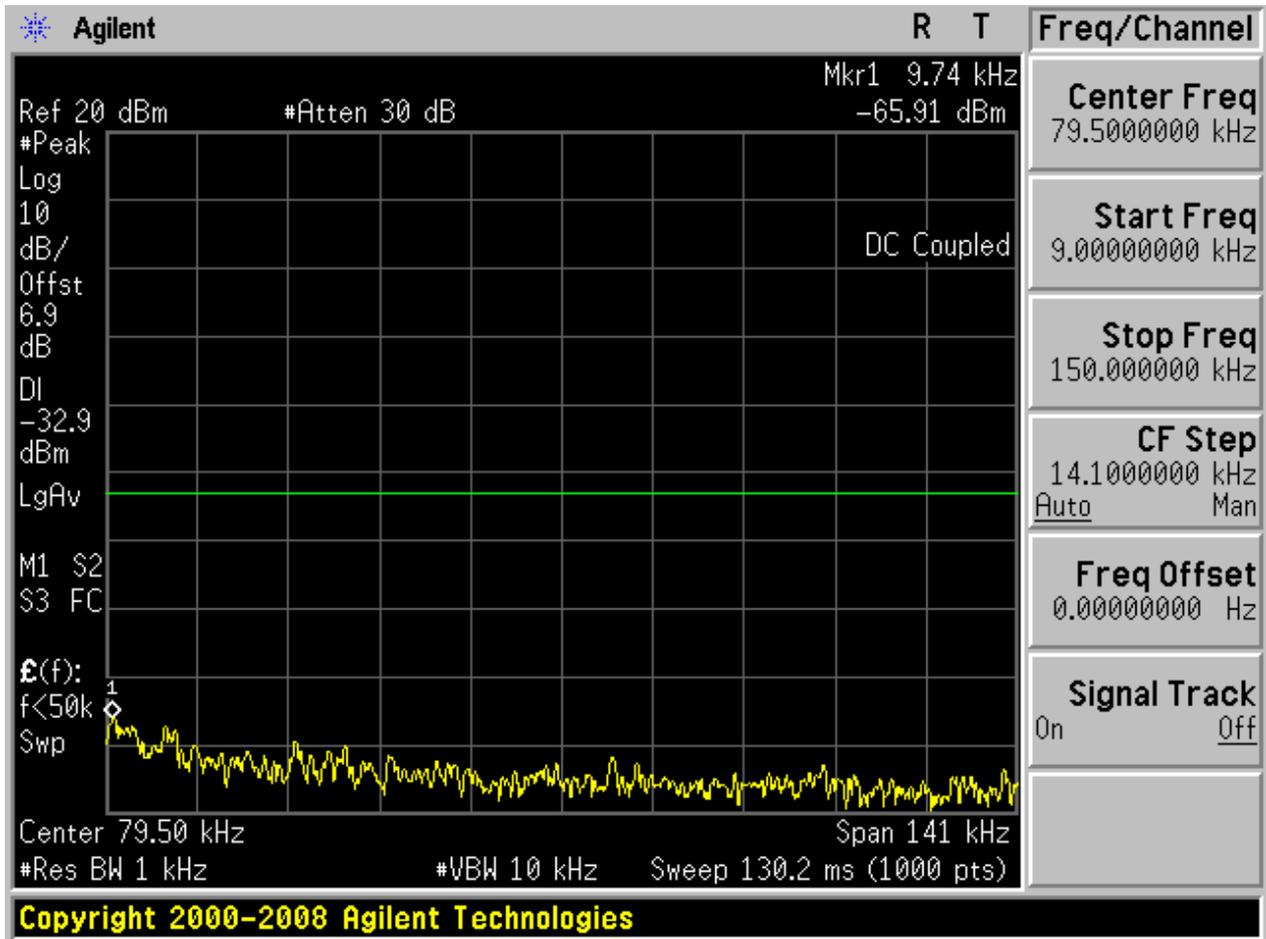
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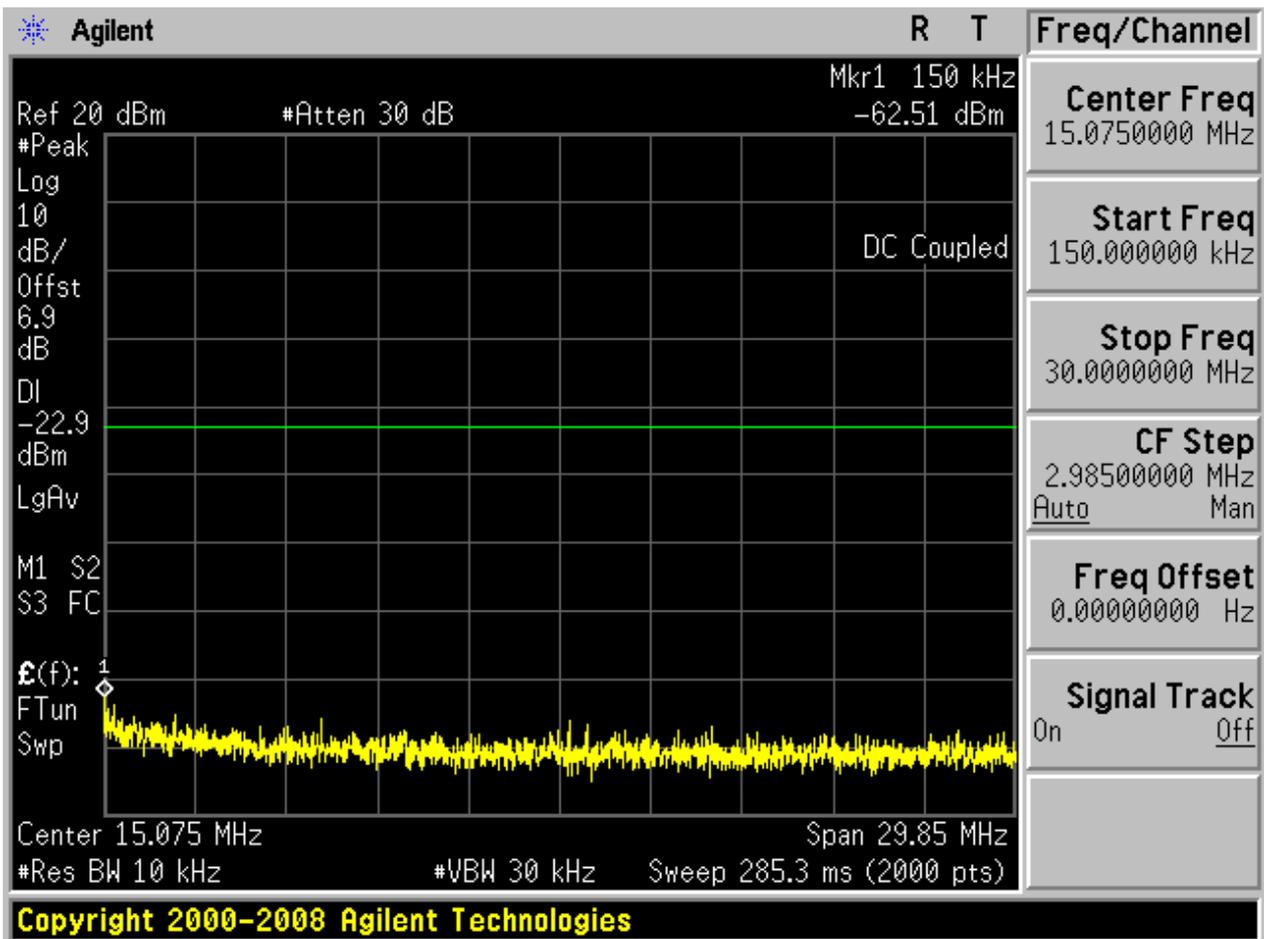
2.3.1 Pref

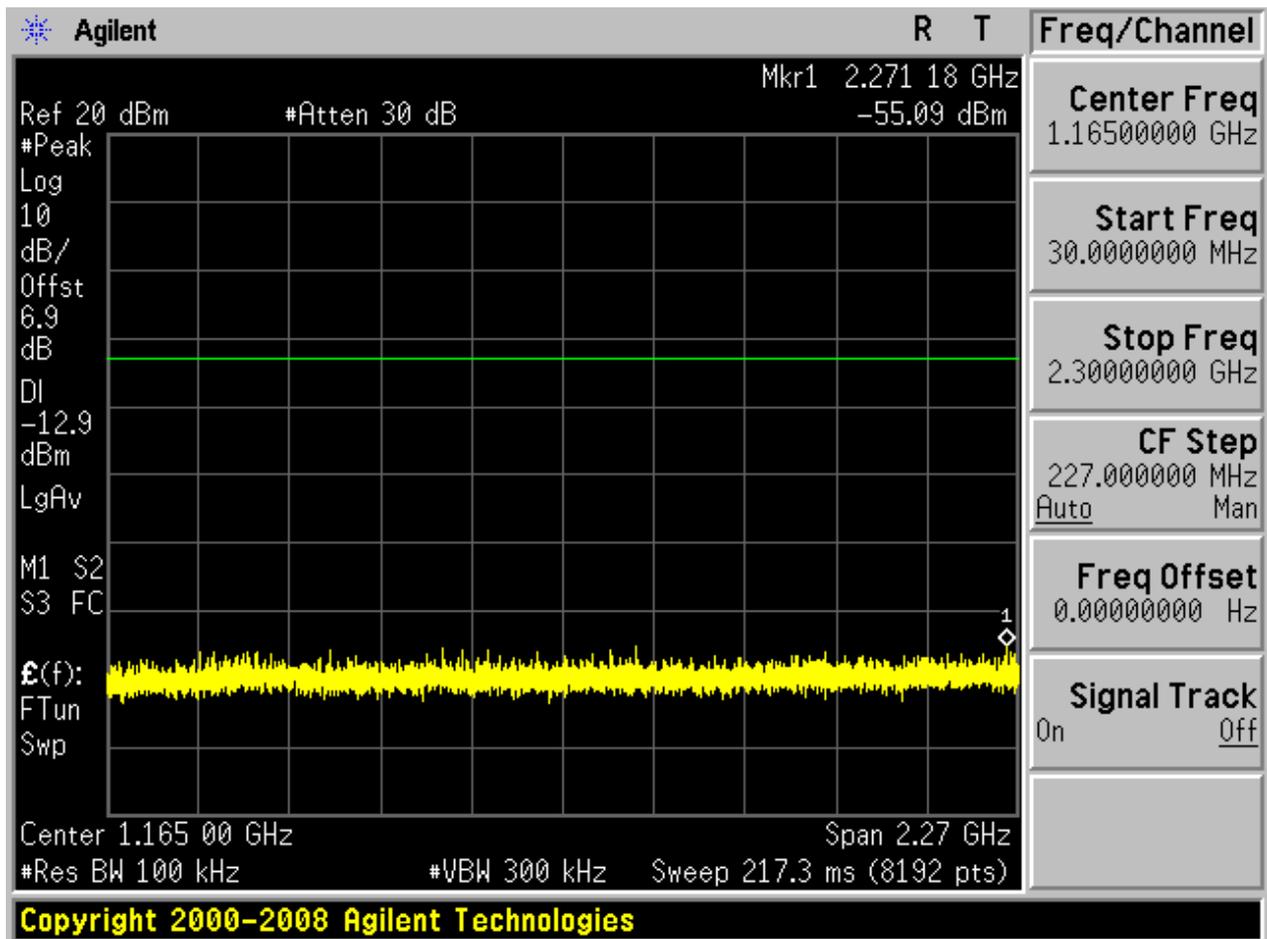


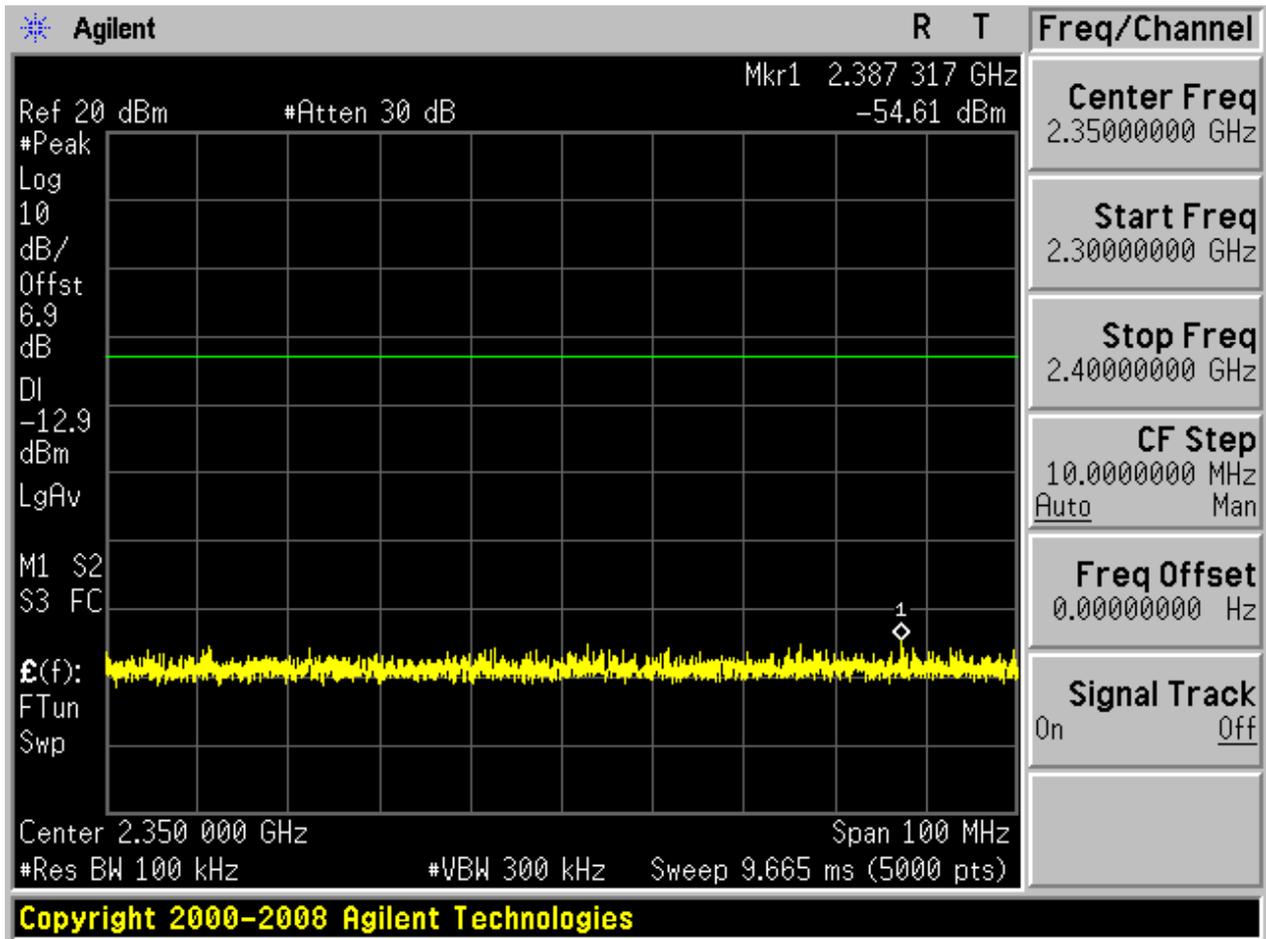


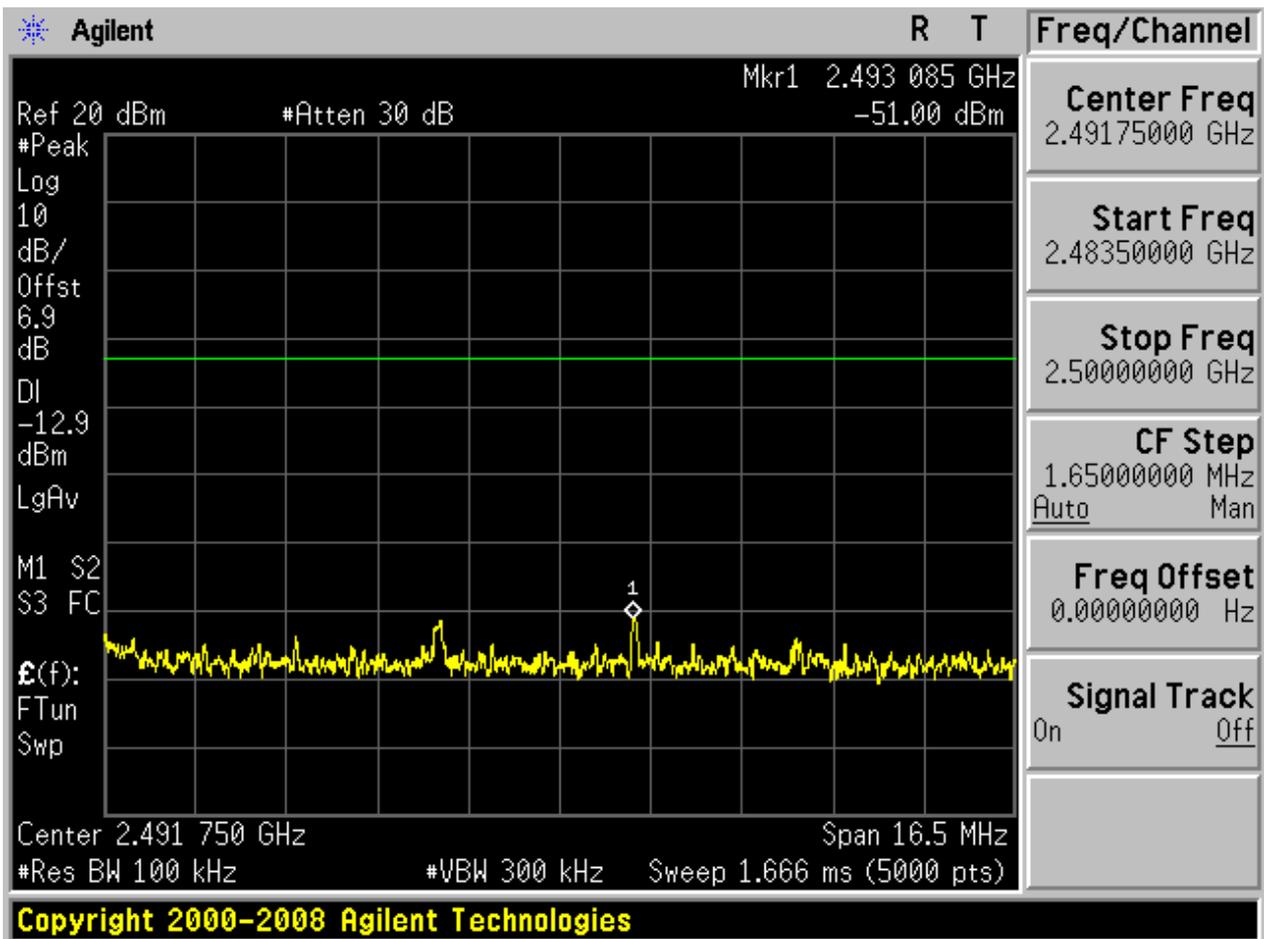
2.3.2 Puw

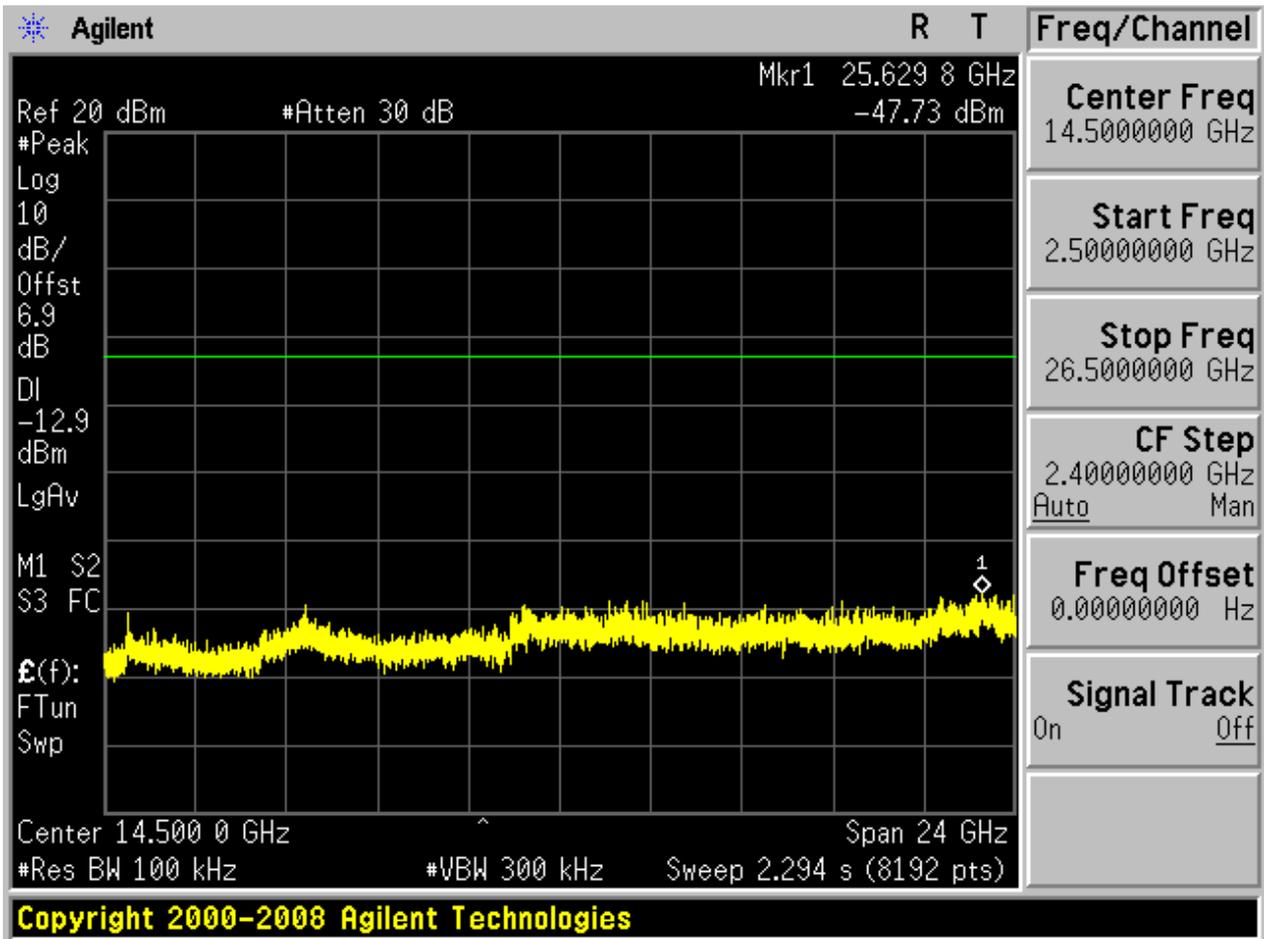








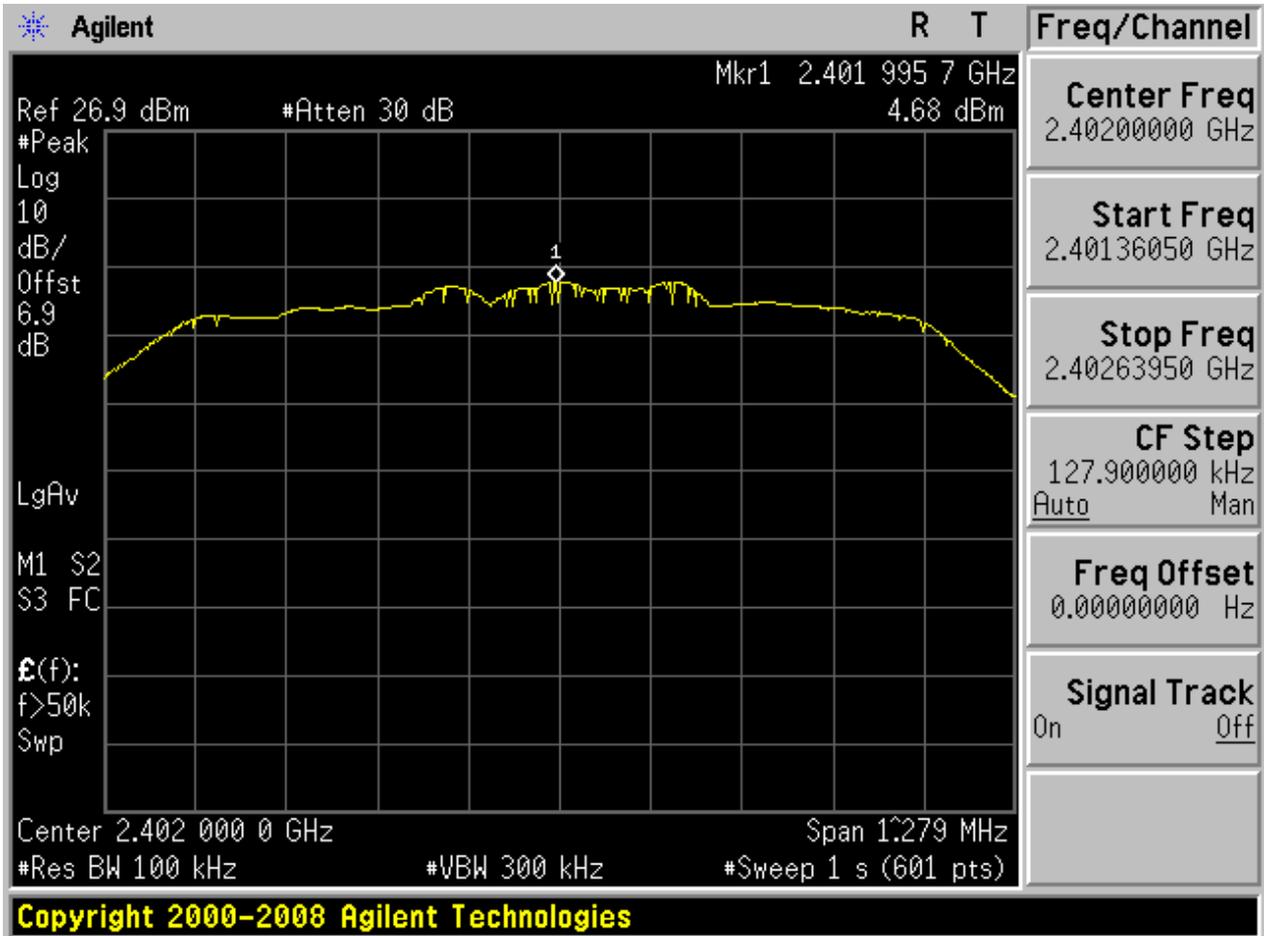






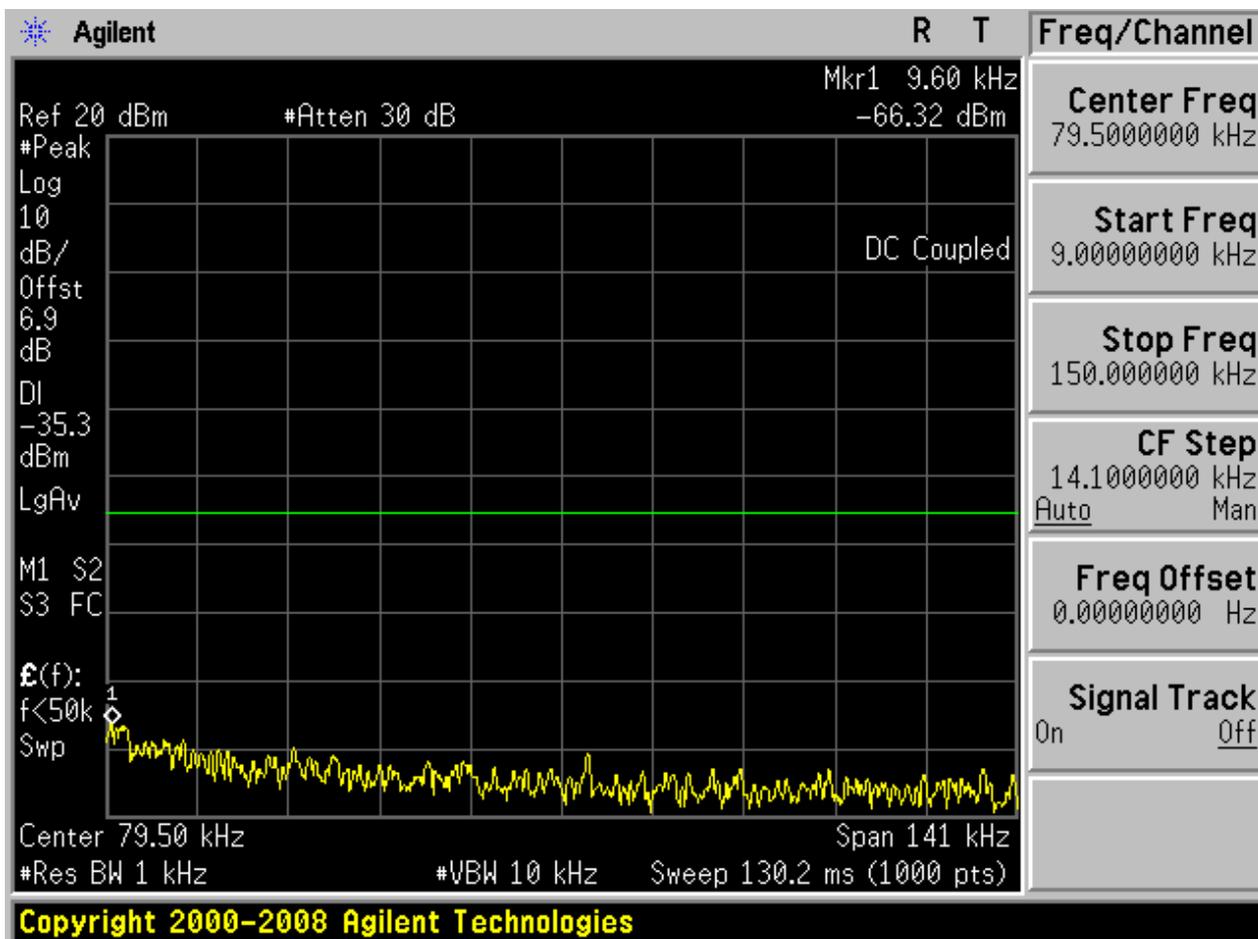
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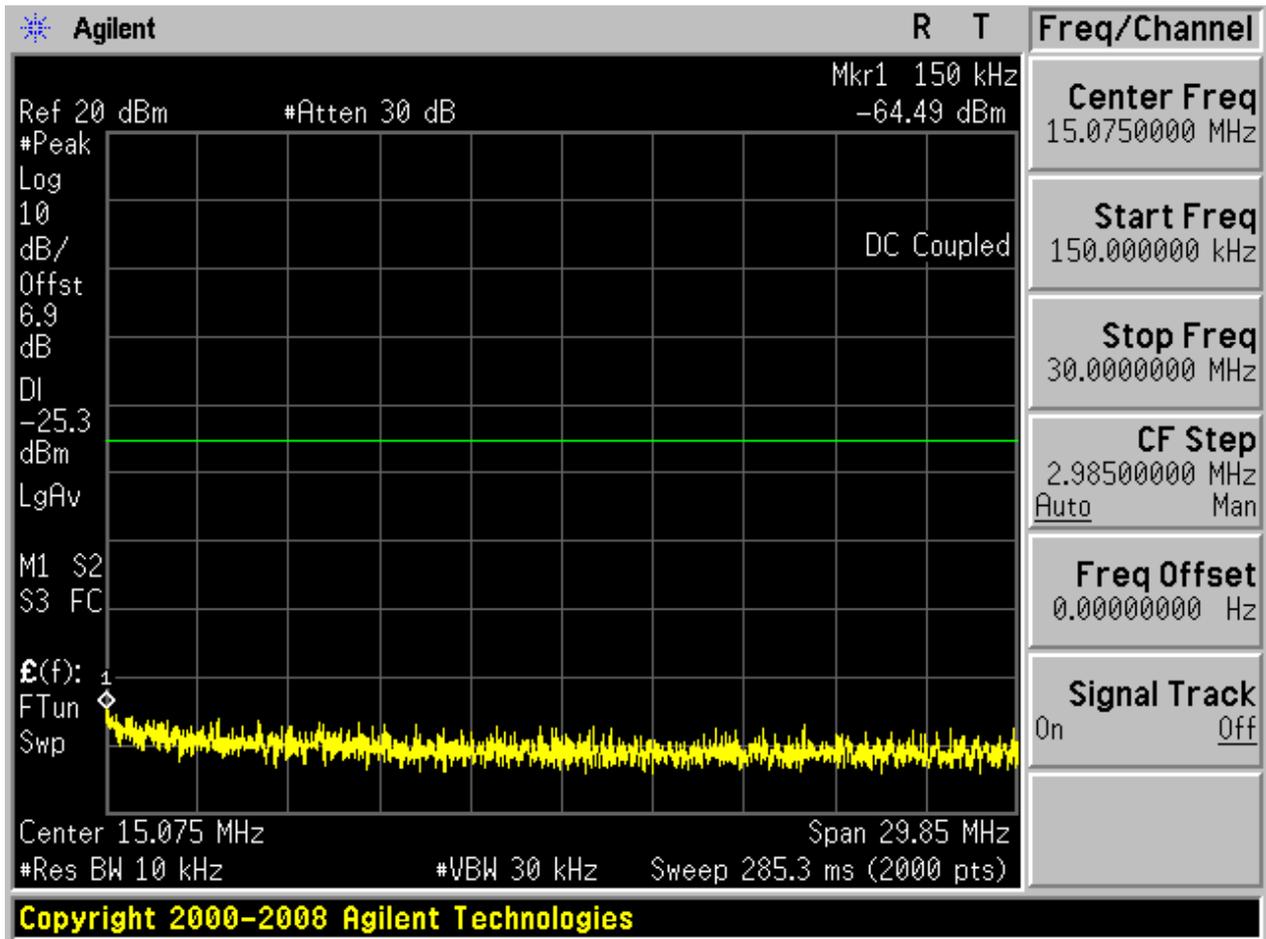
2.4.1 Pref

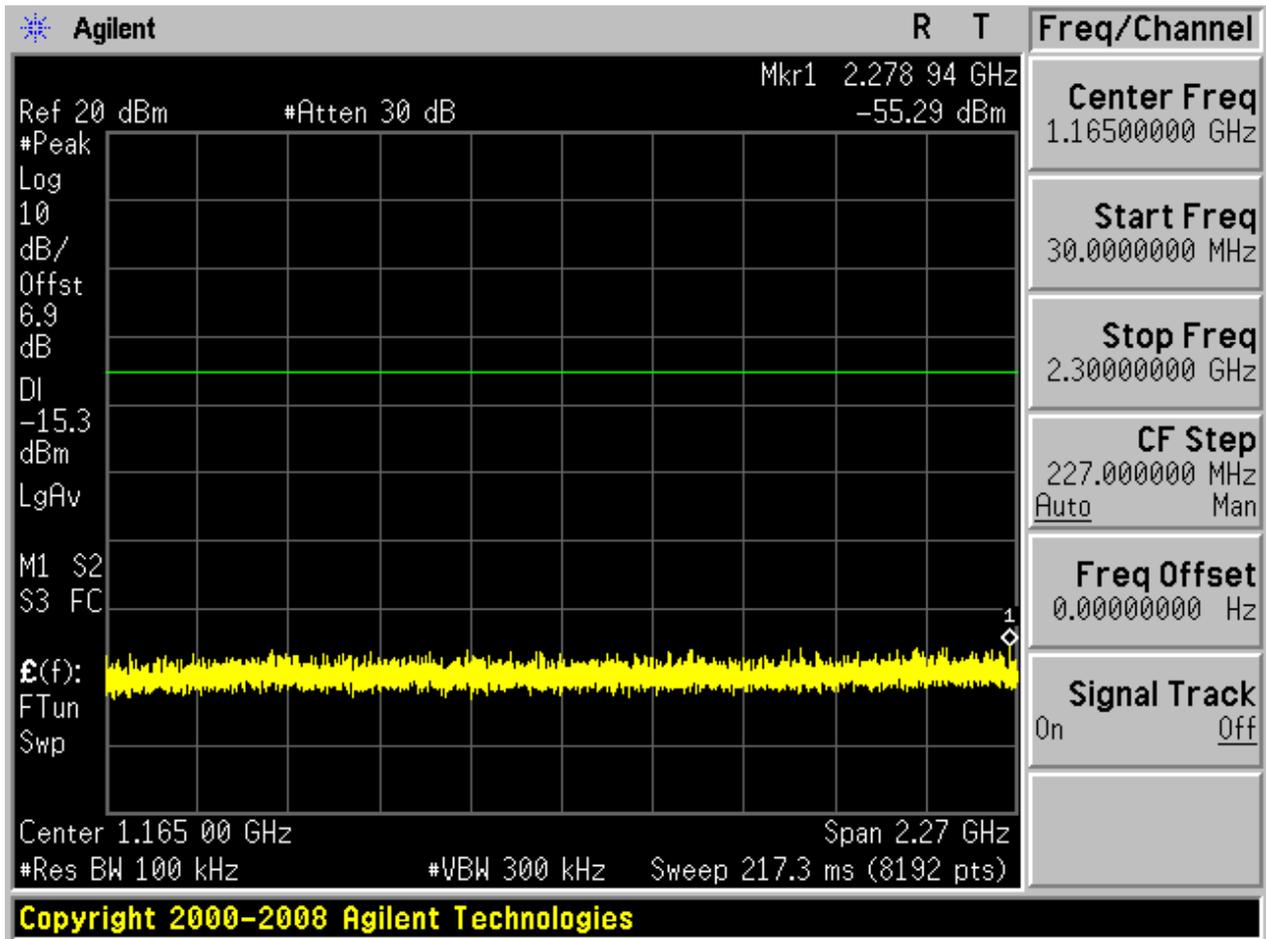


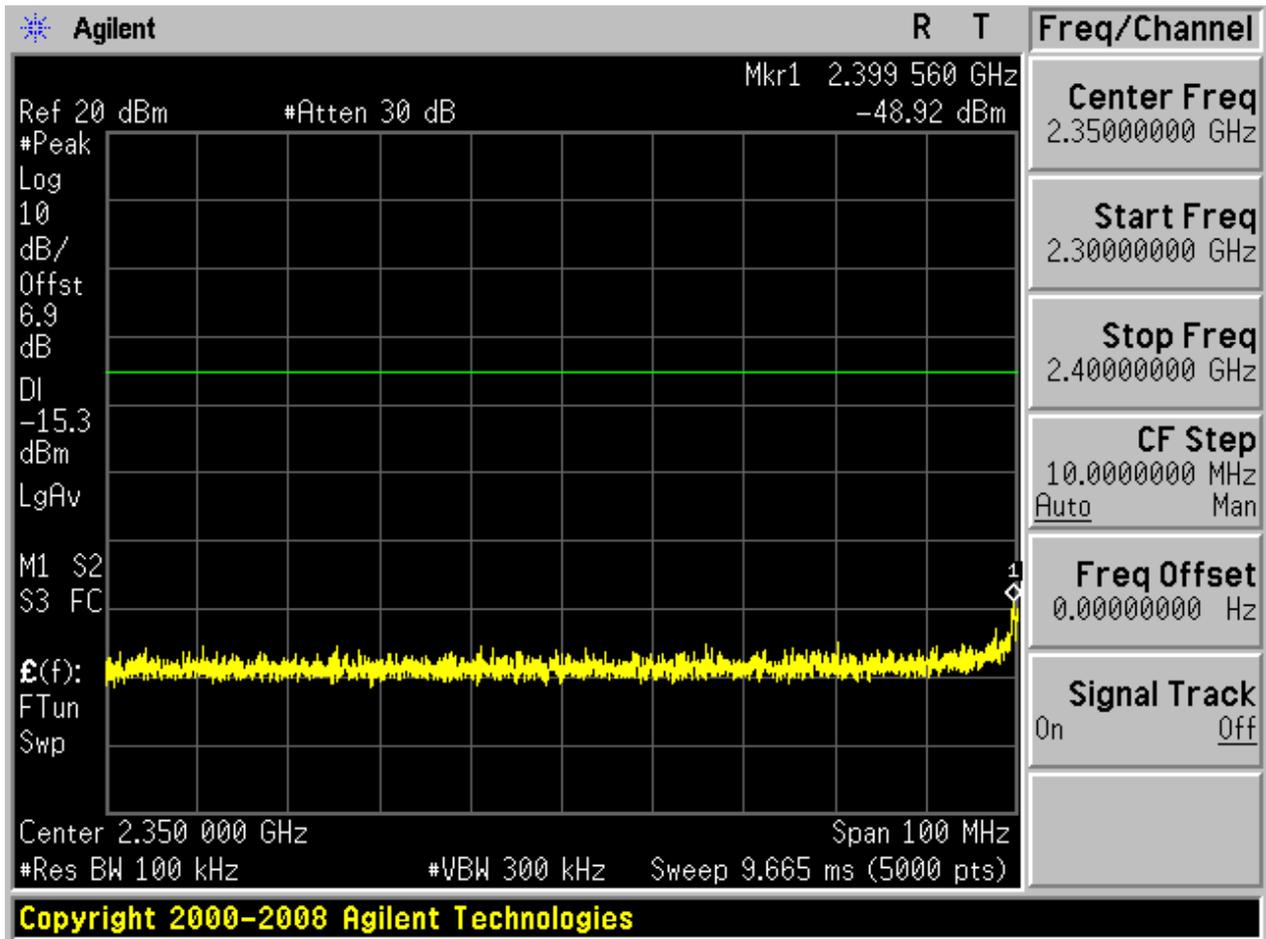


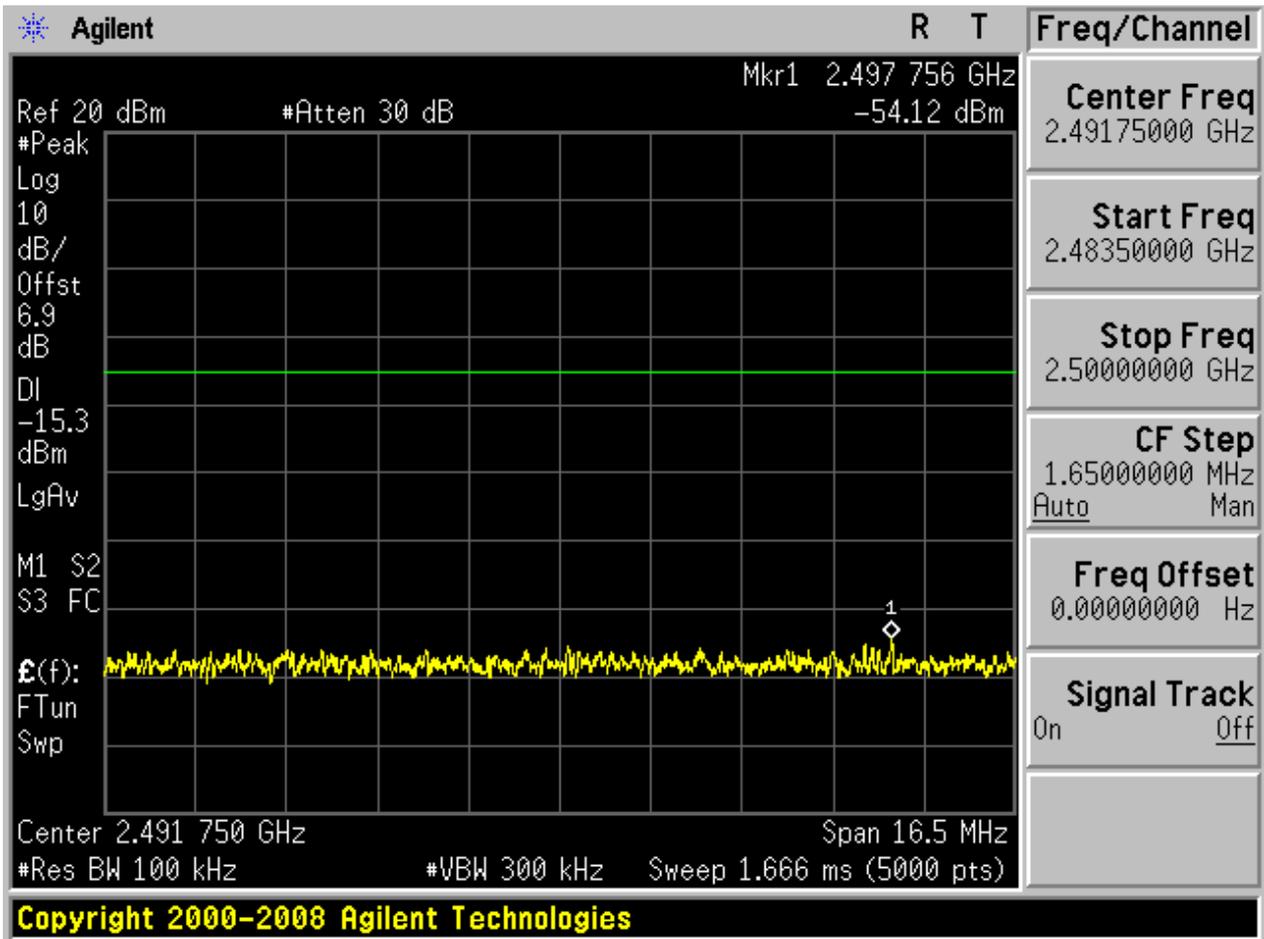
2.4.2 P_{uw}

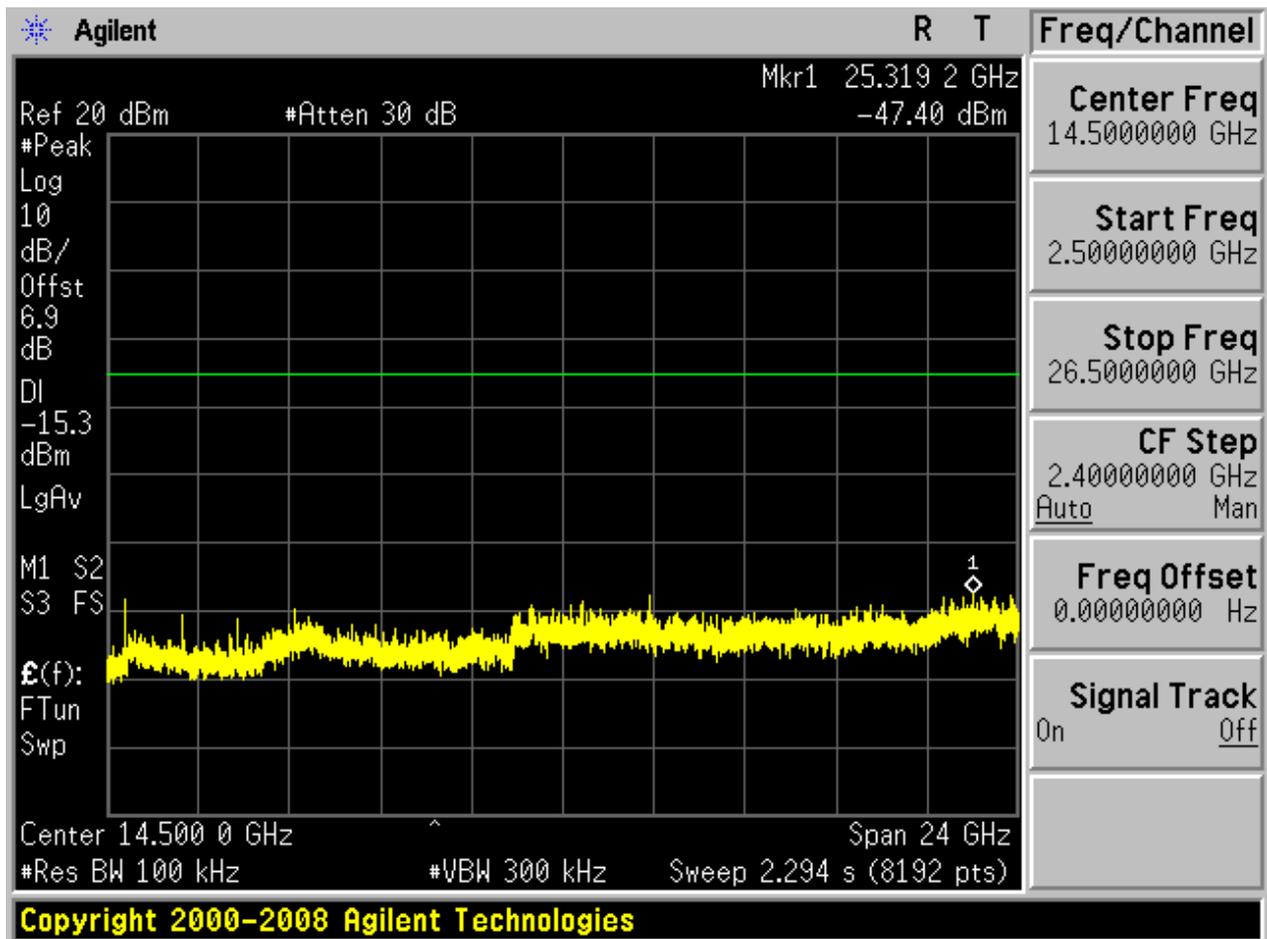








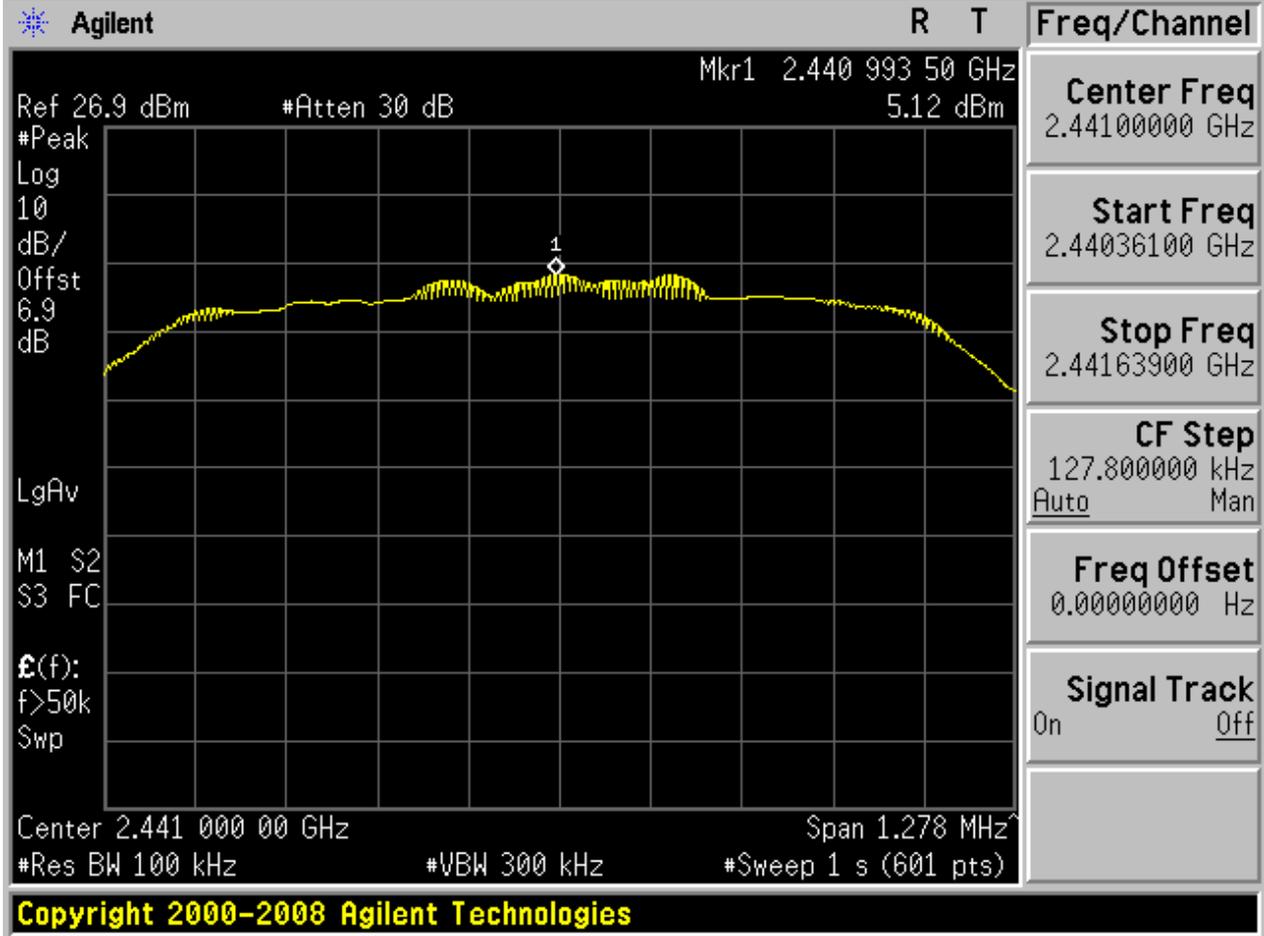






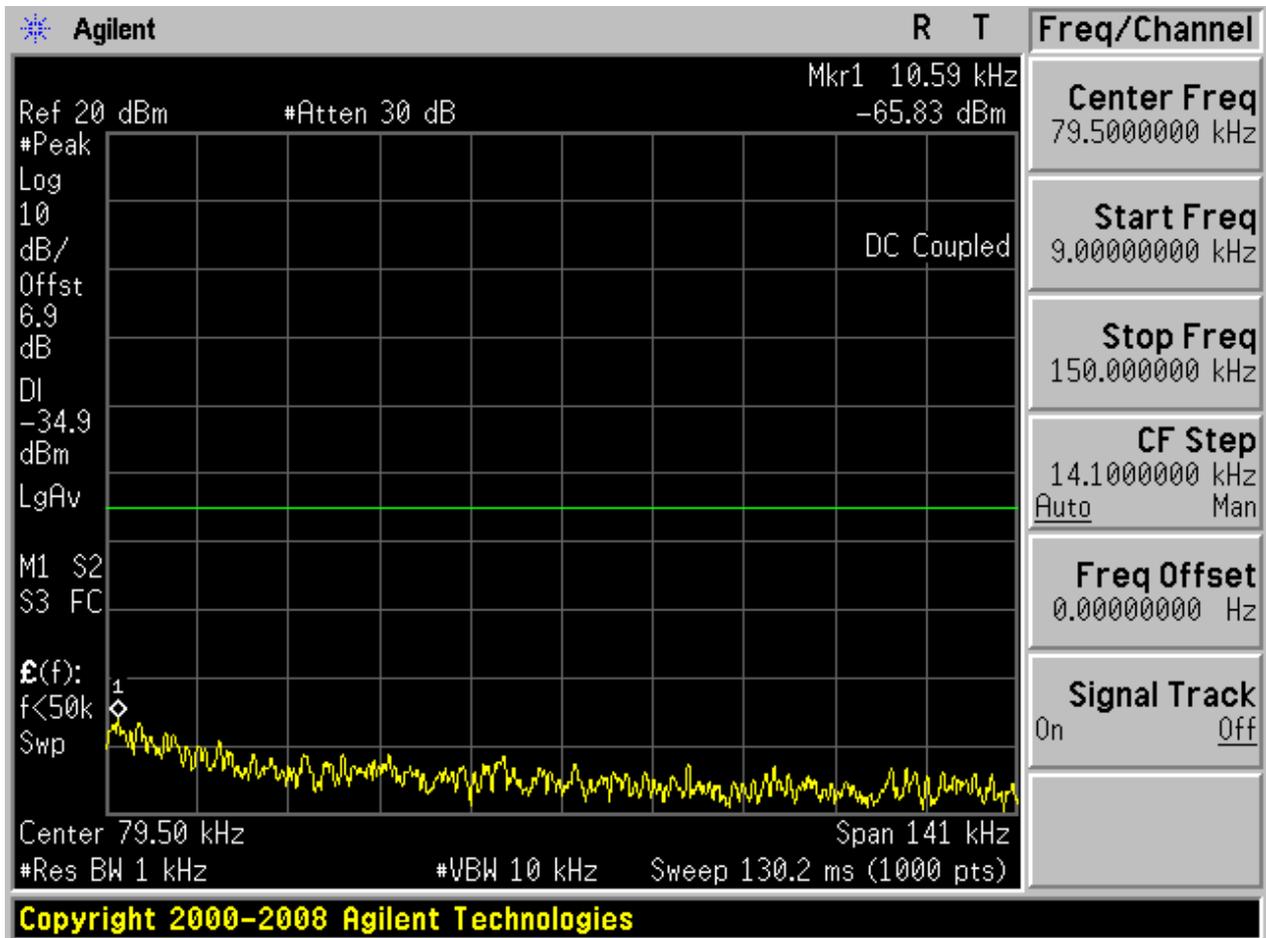
2.5 TM2_2DH5_Ch39

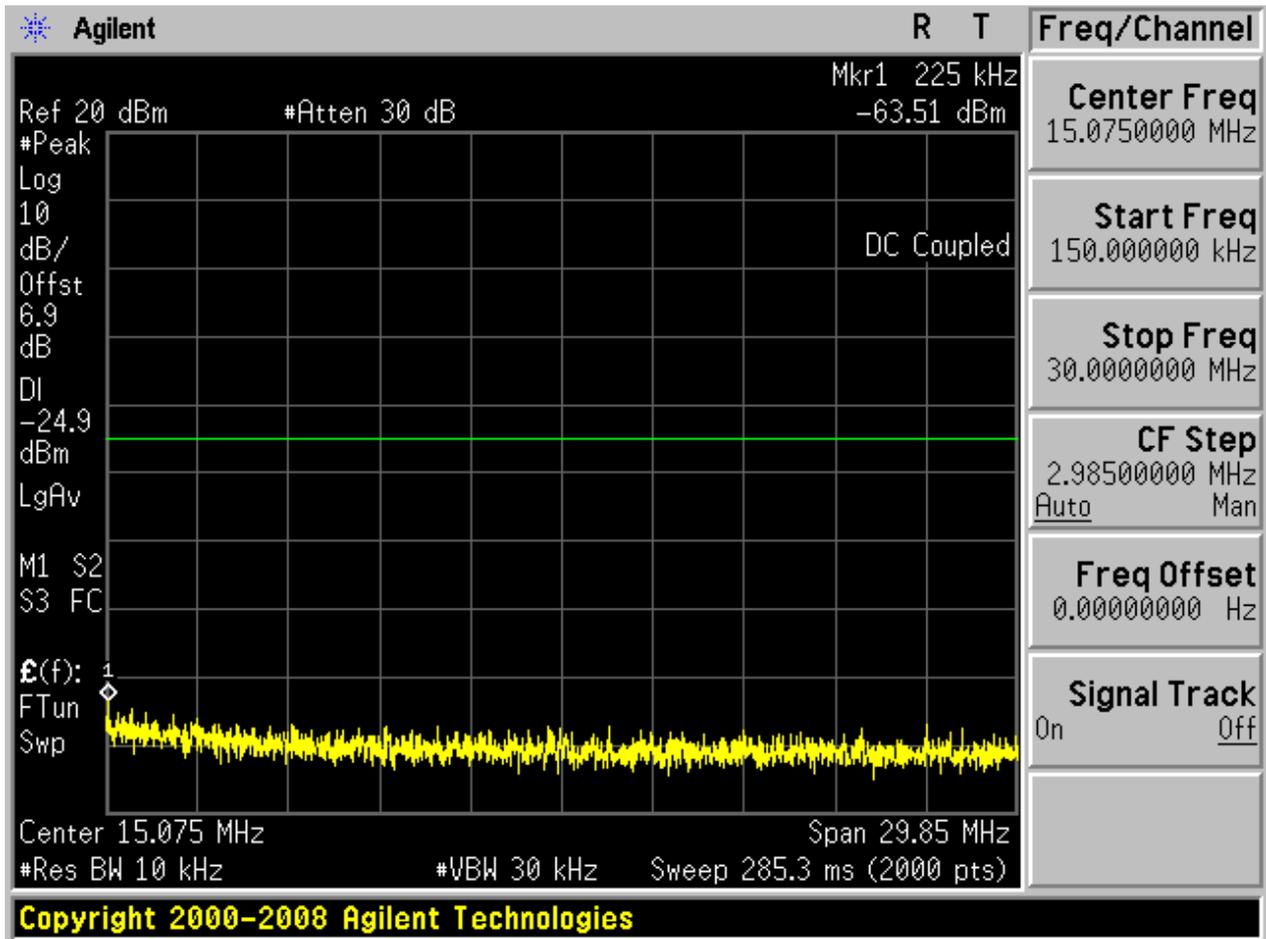
2.5.1 Pref

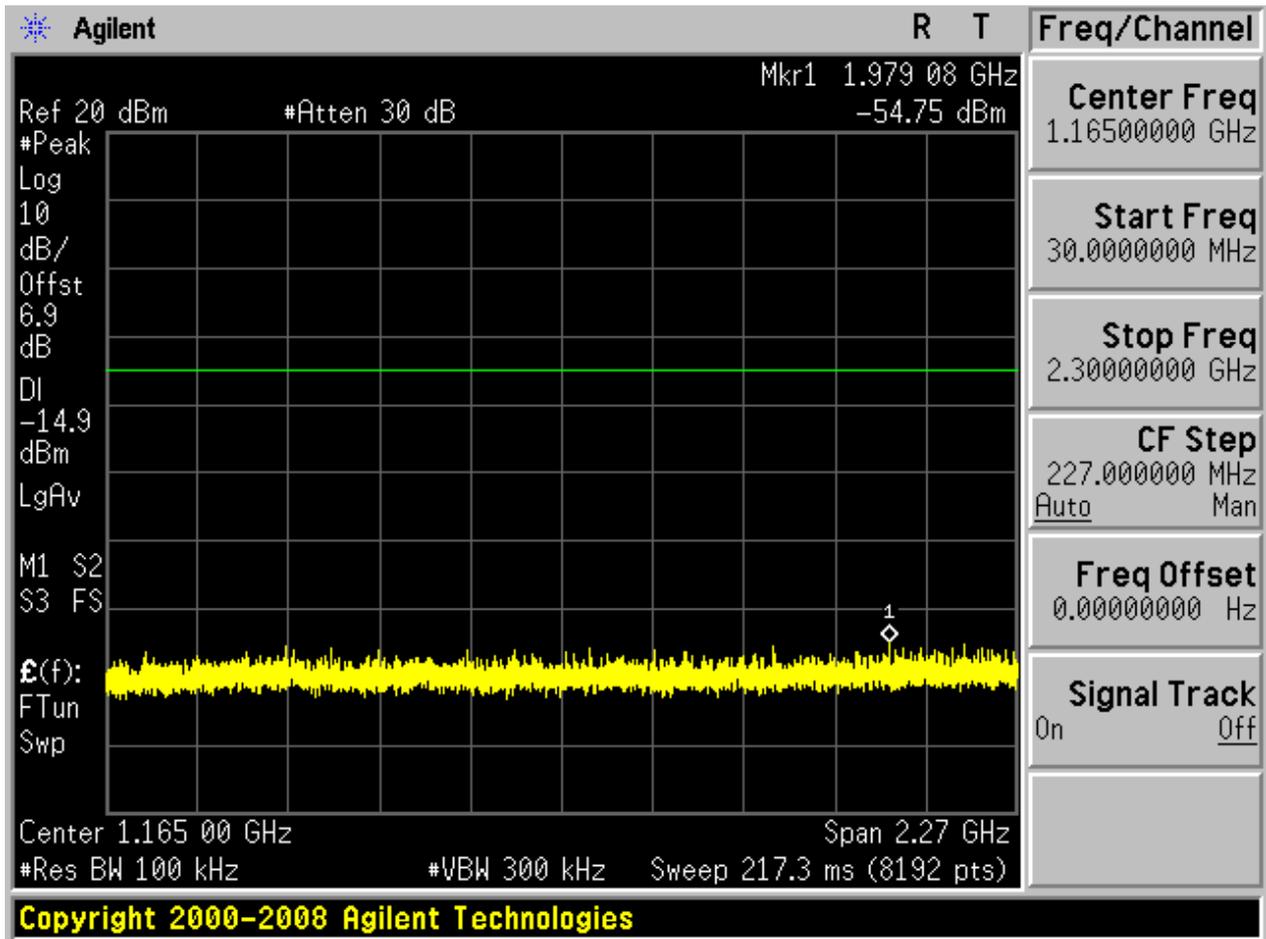


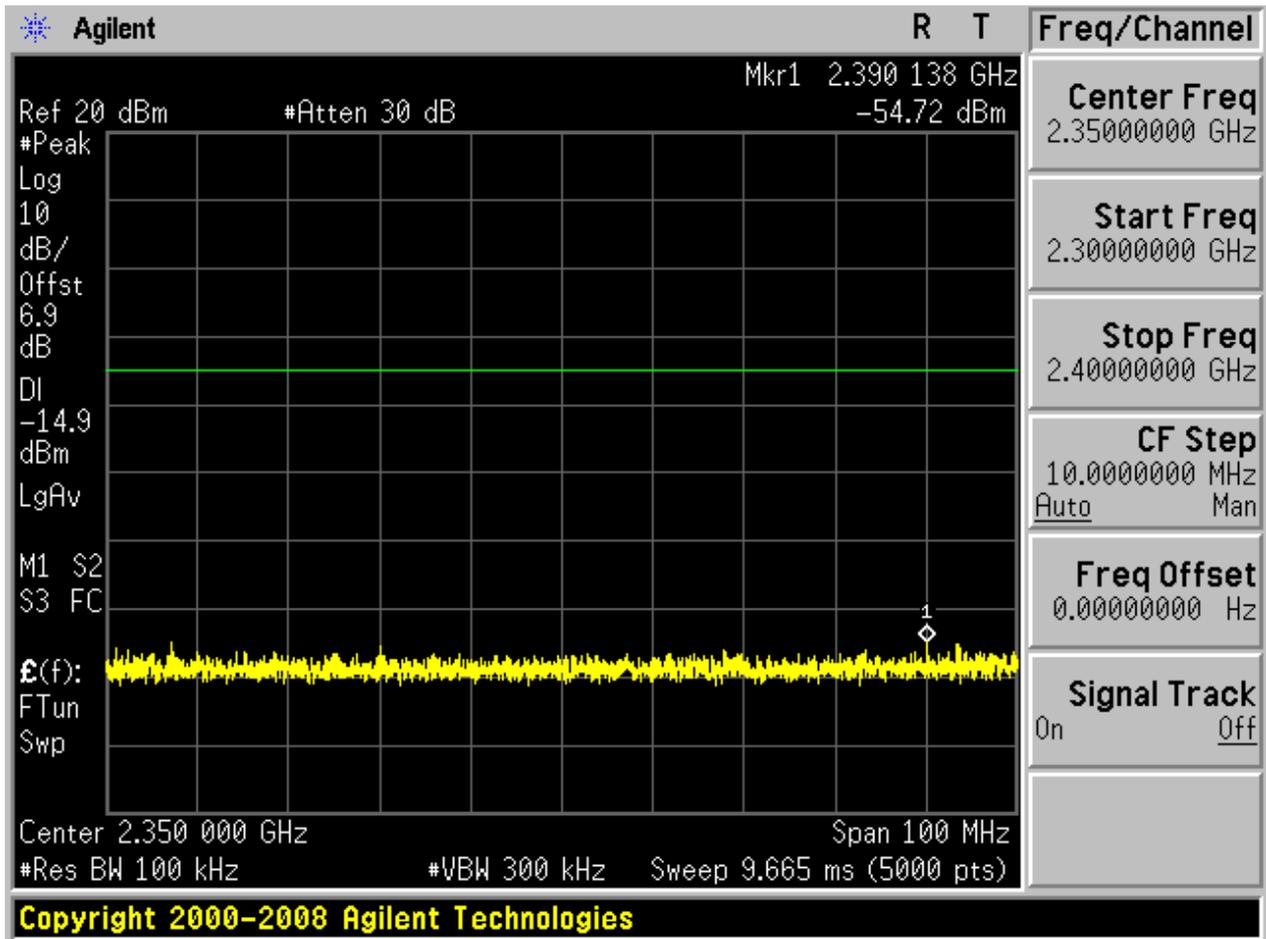


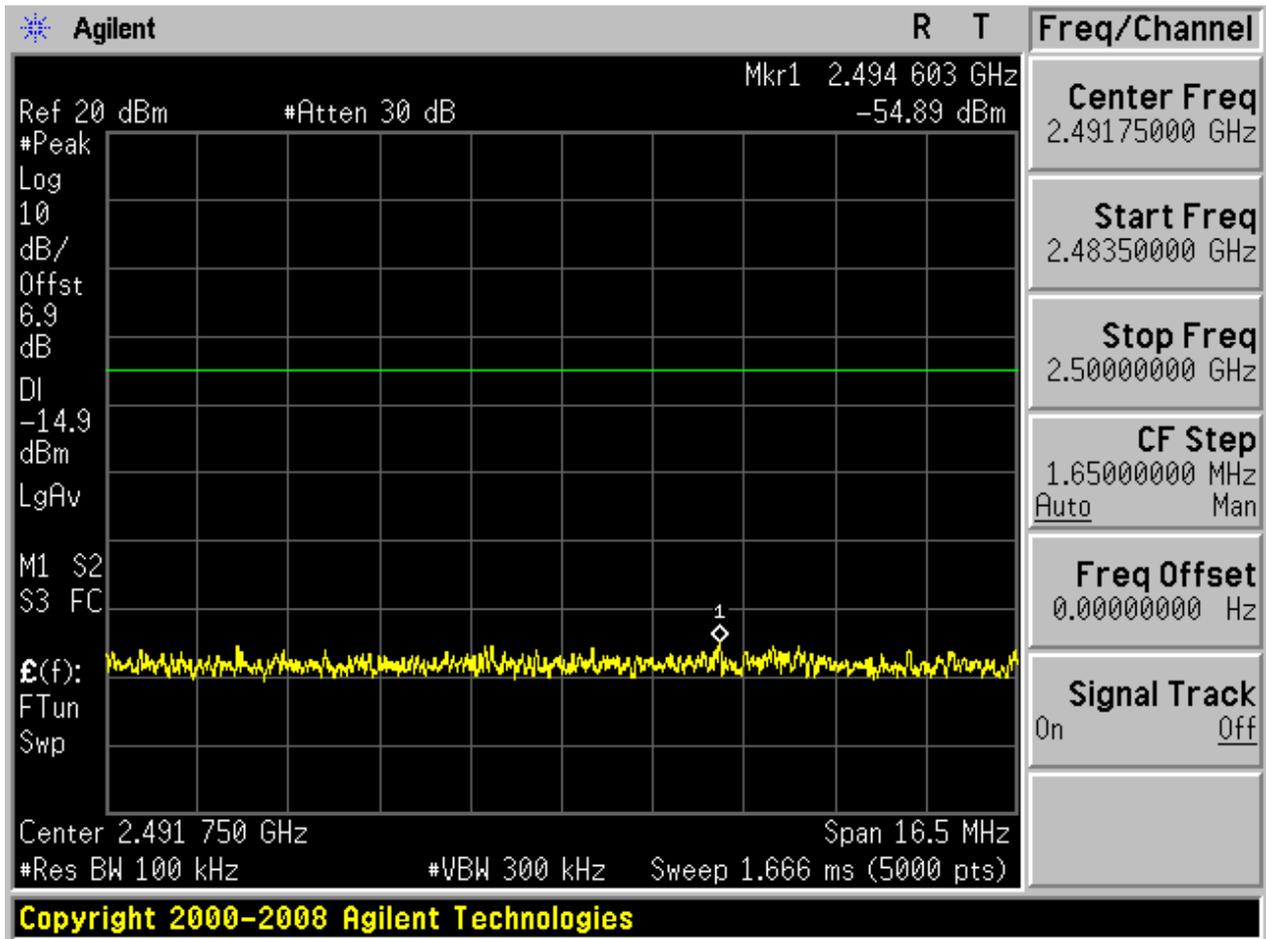
2.5.2 Puw

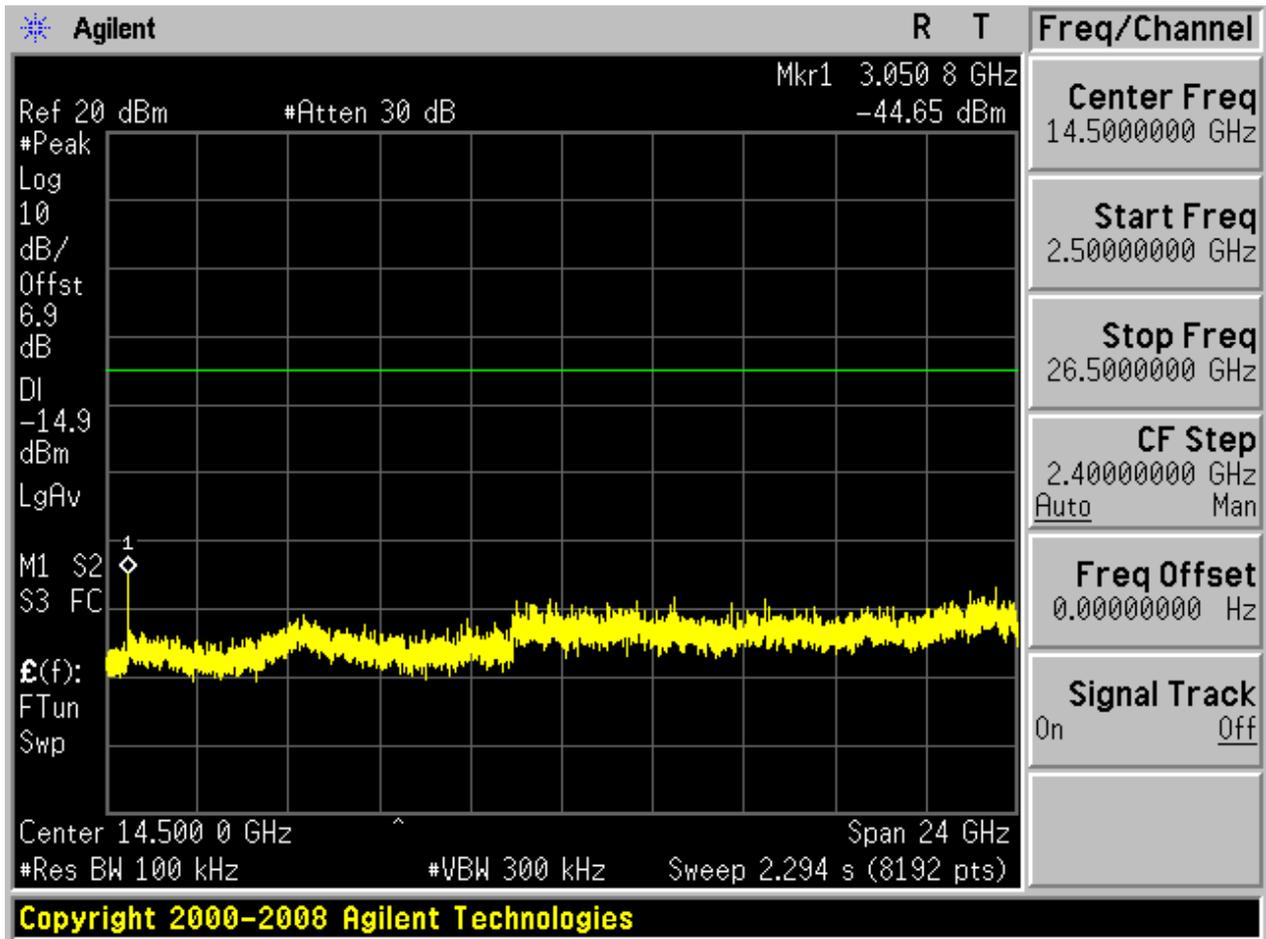








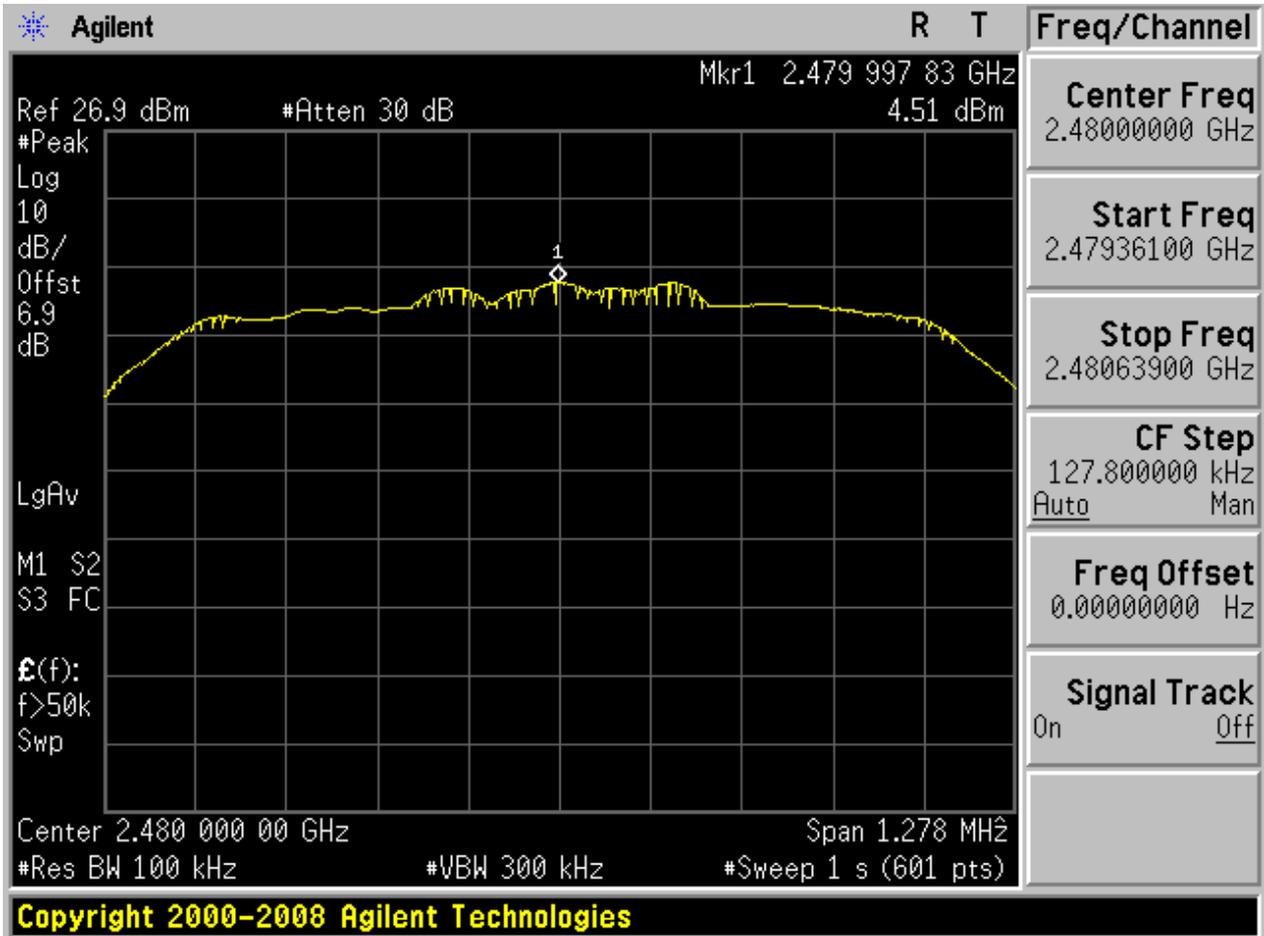






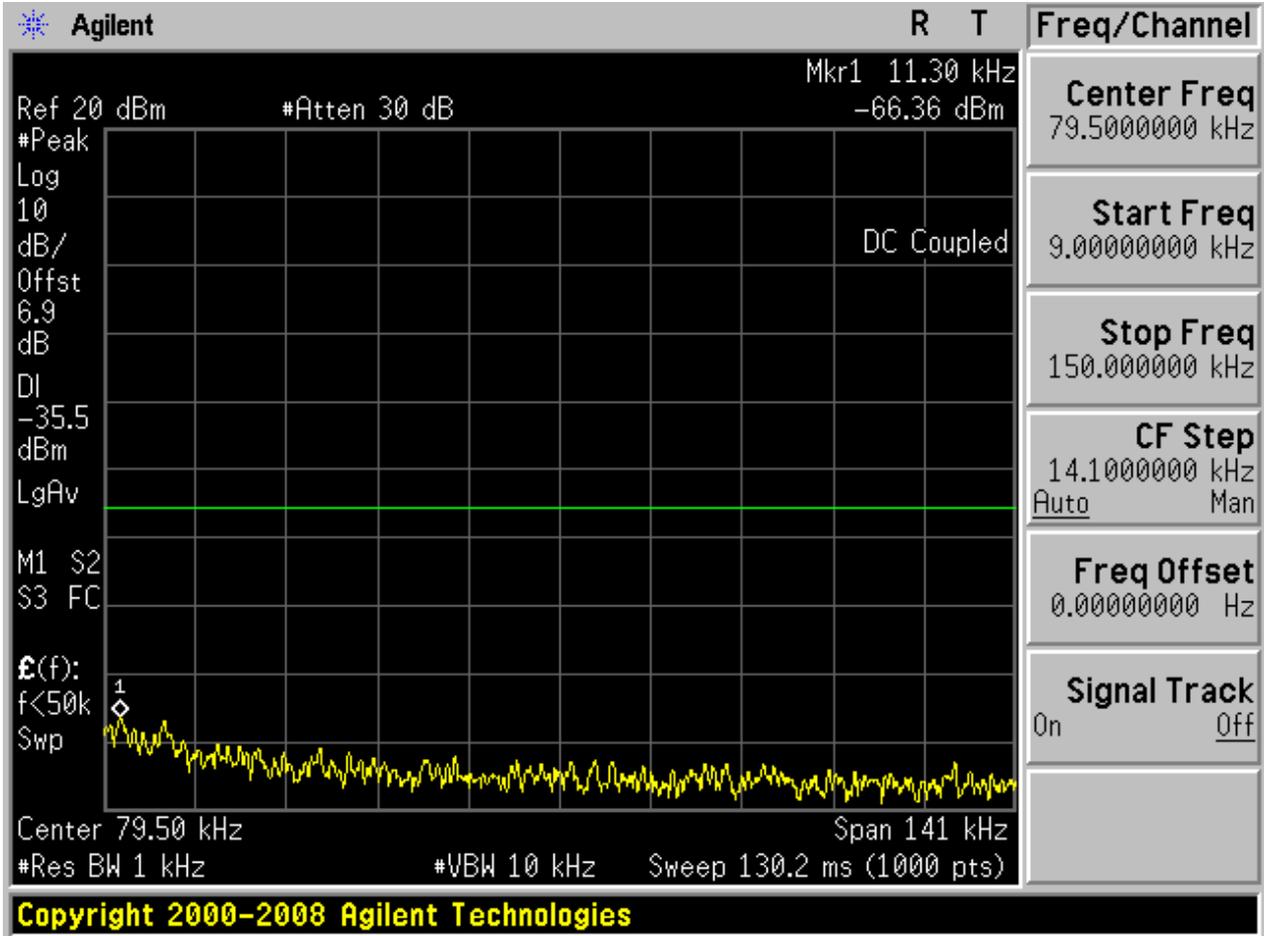
2.6 TM2_2DH5_Ch78

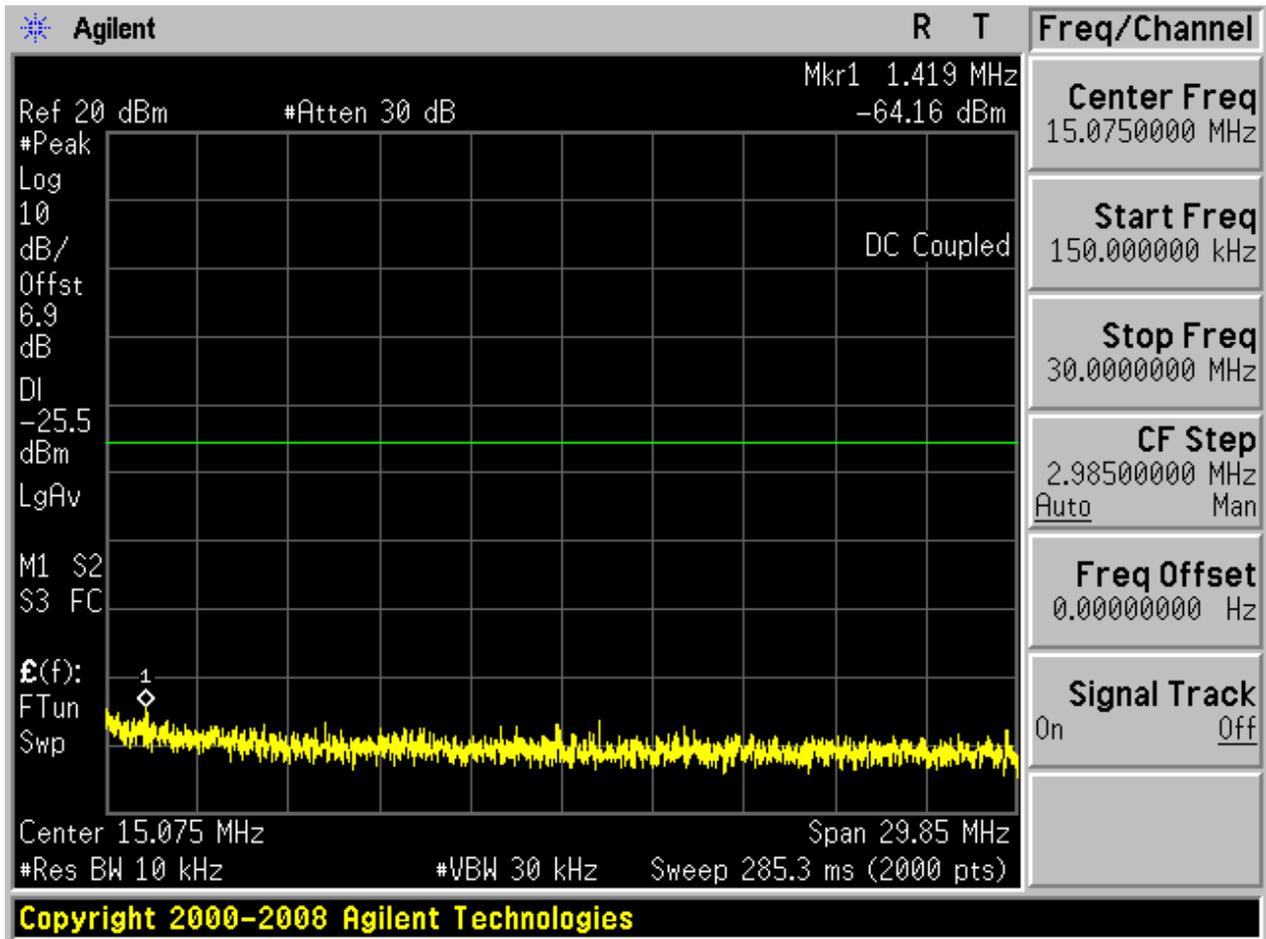
2.6.1 Pref

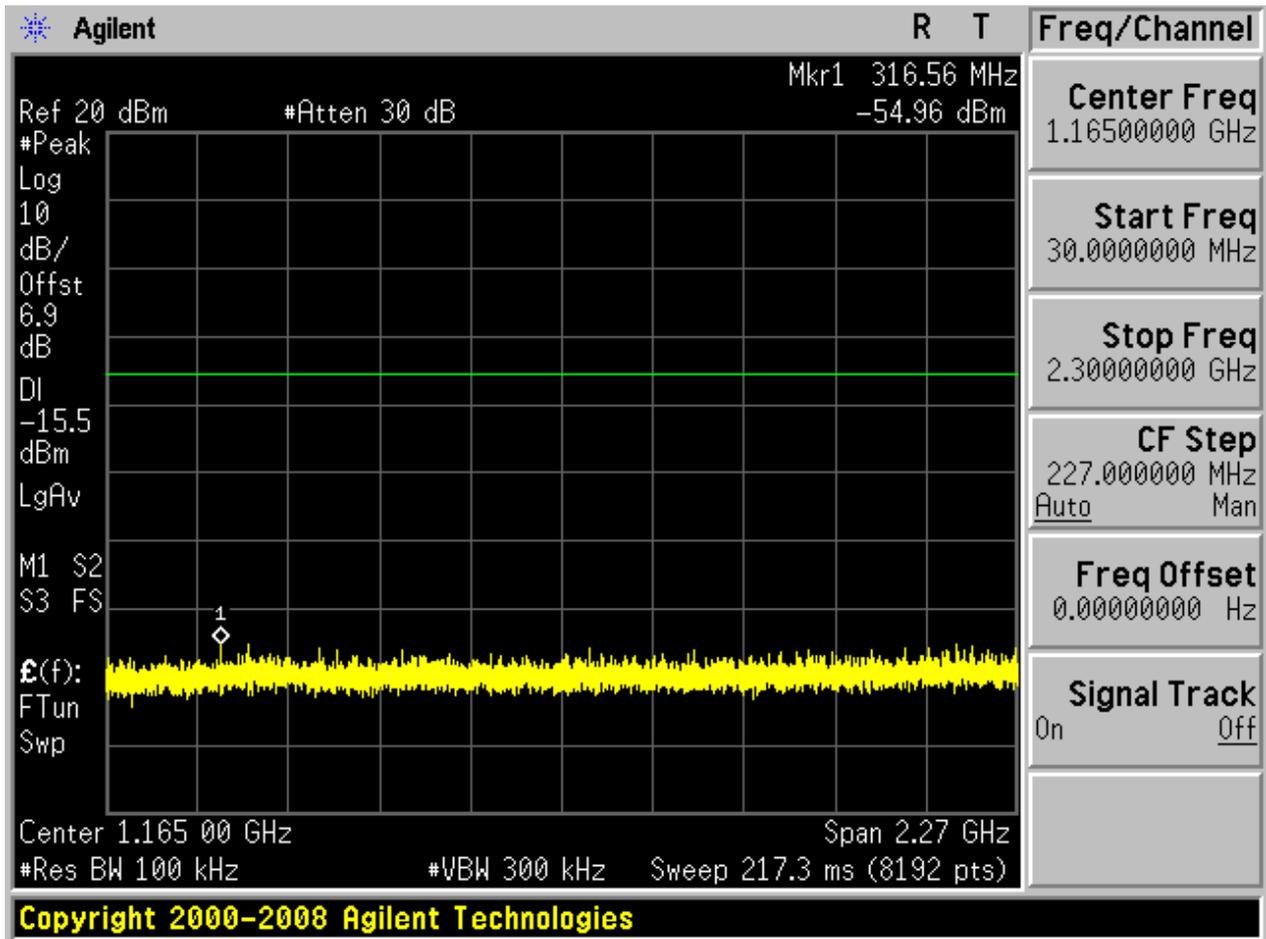


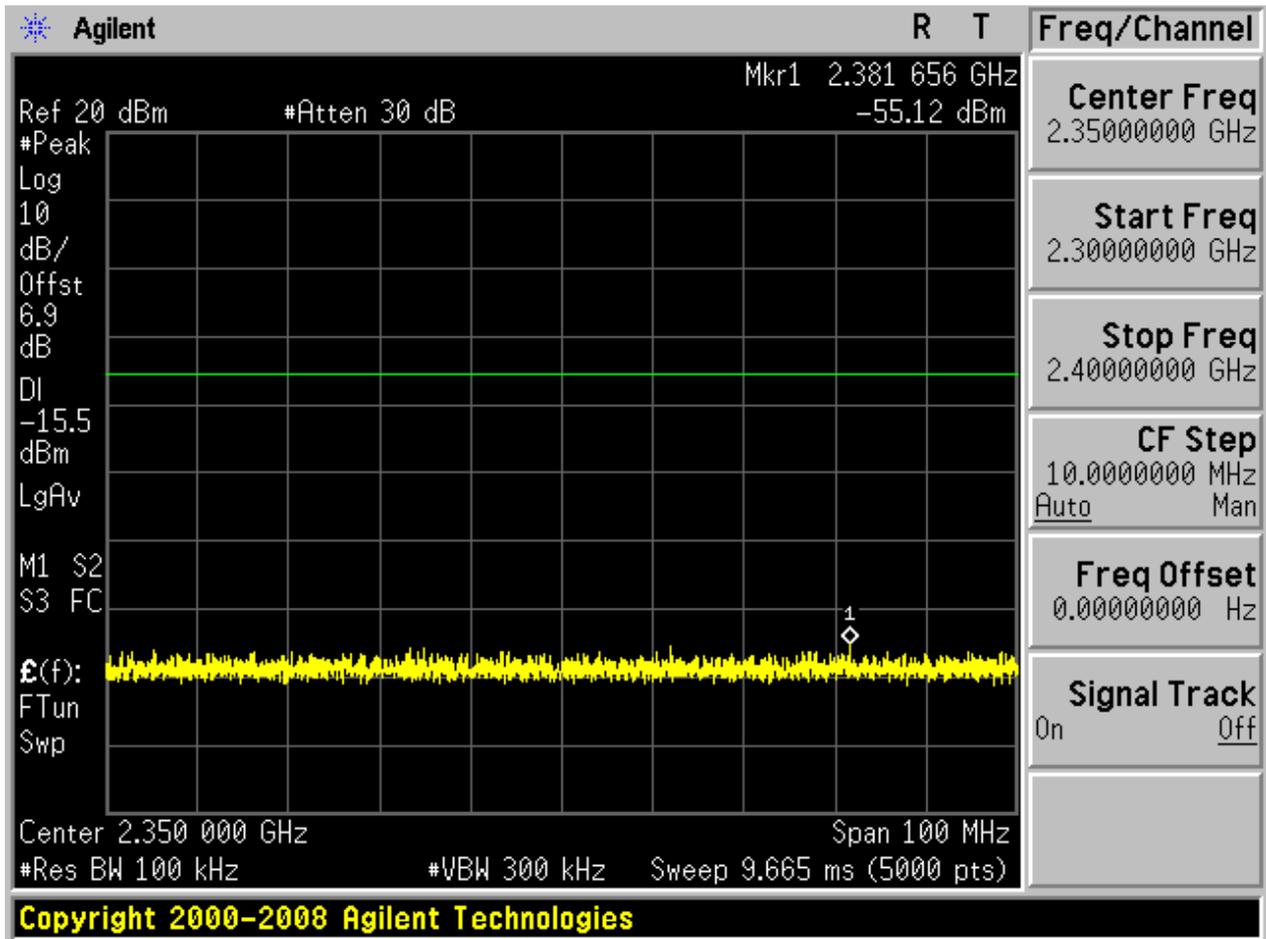


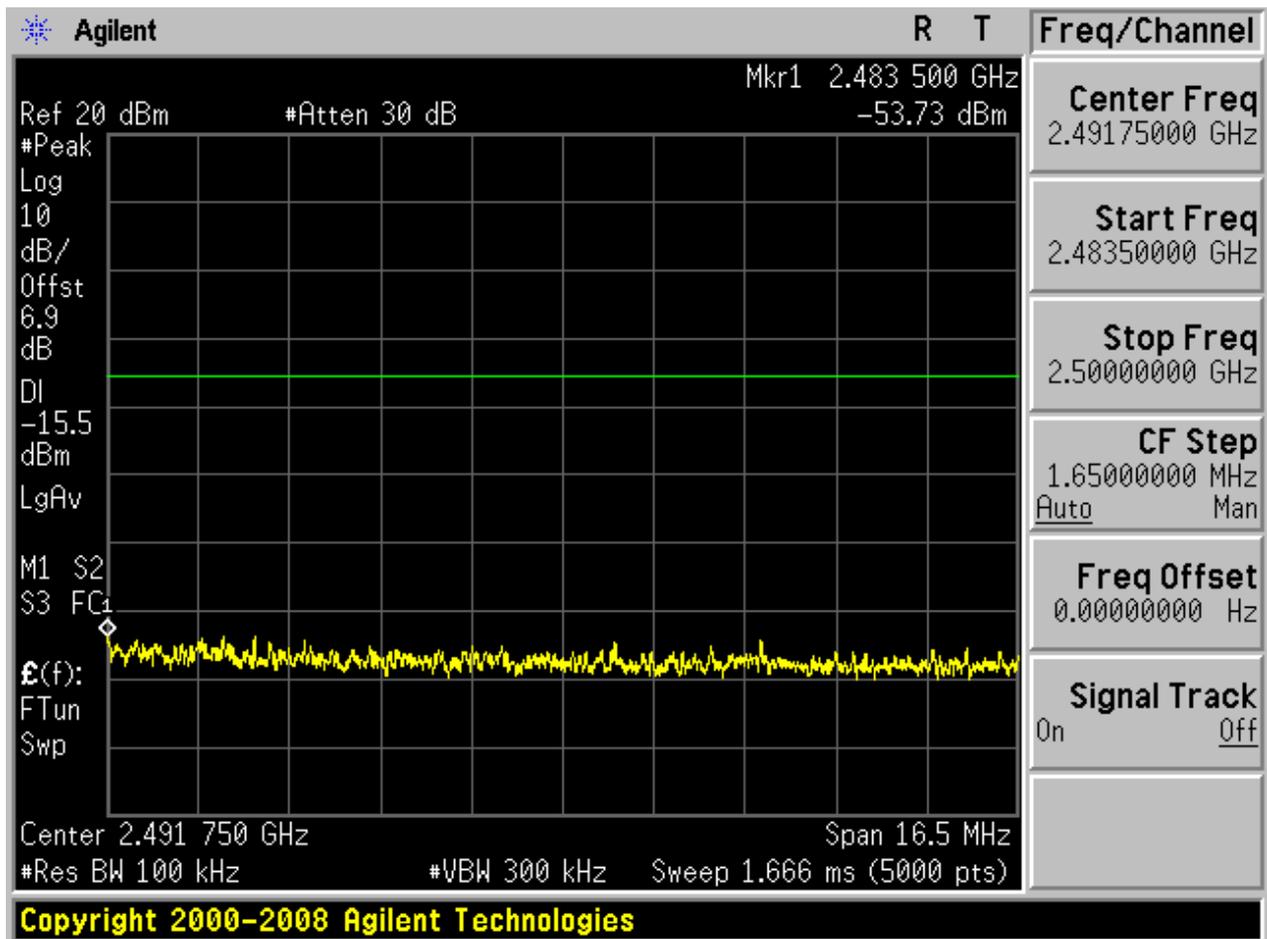
2.6.2 Puw

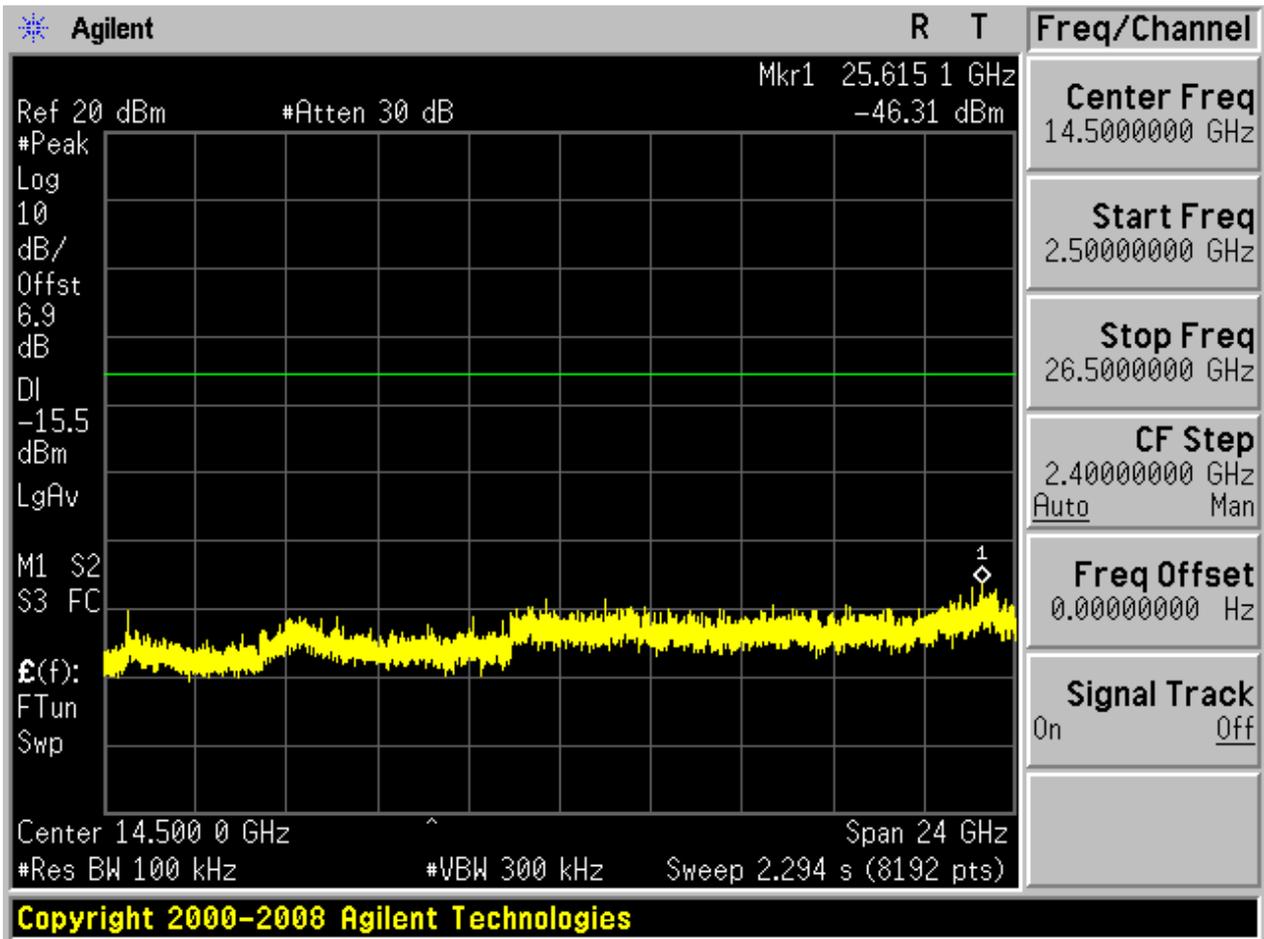








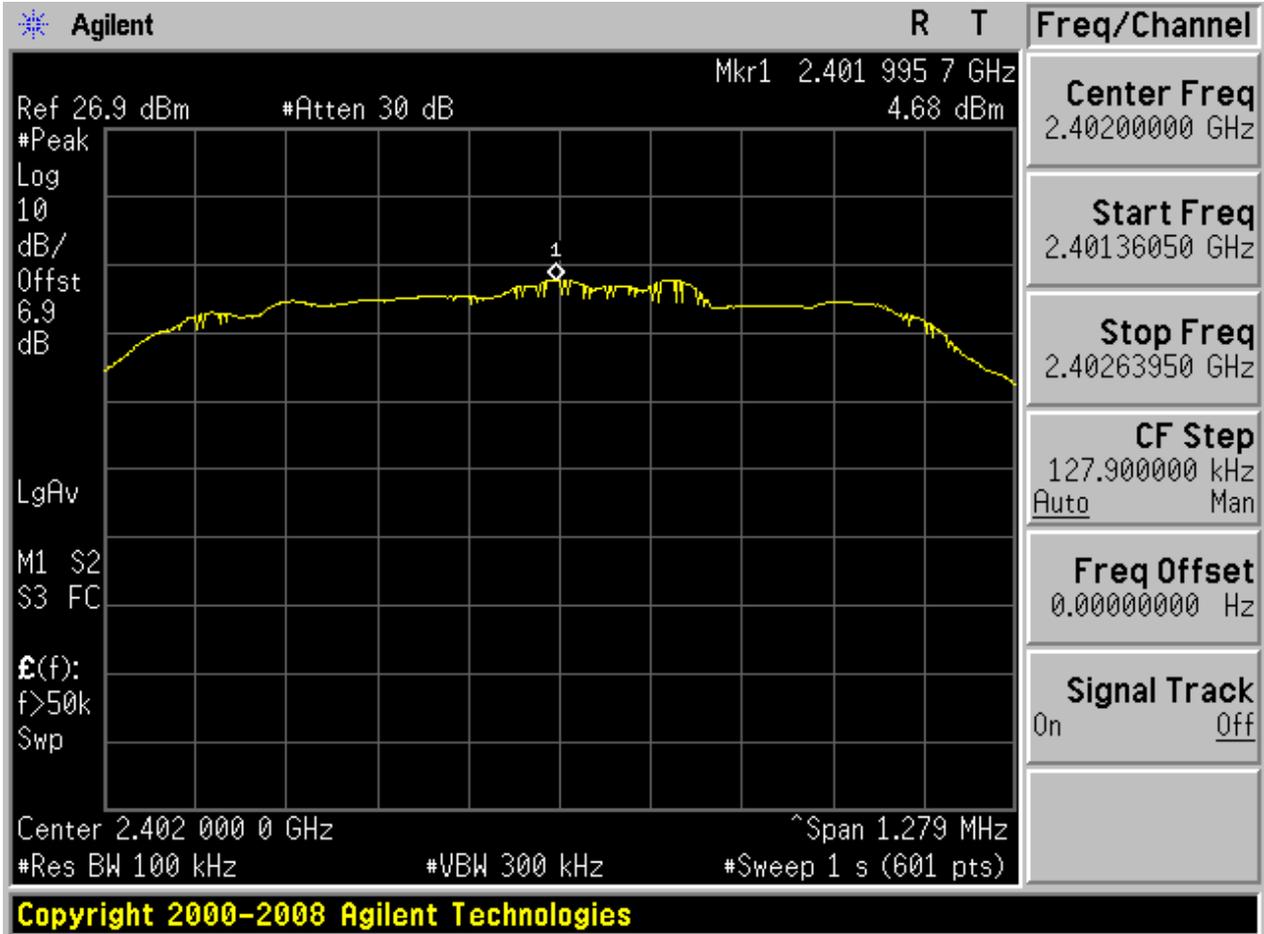






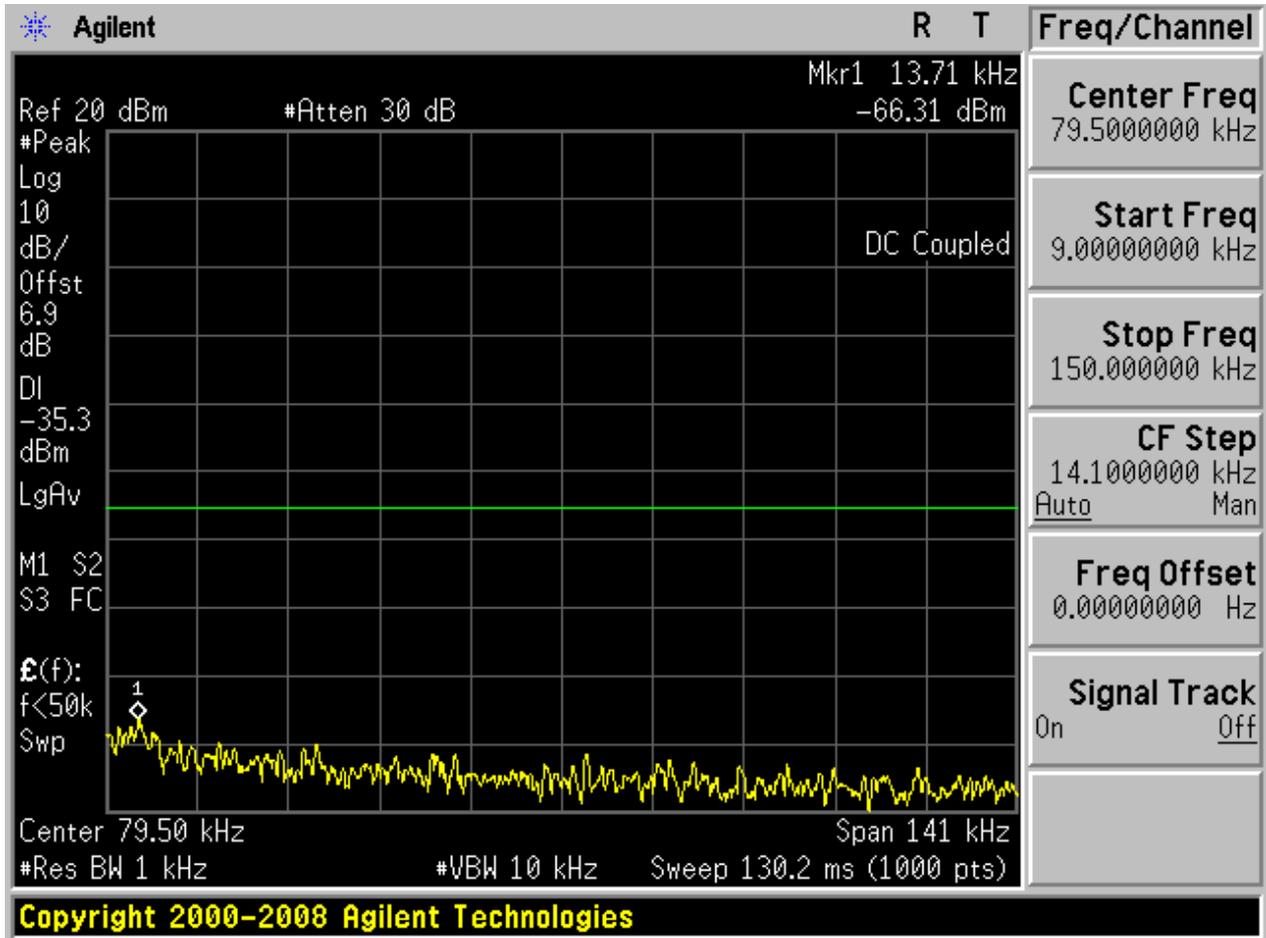
2.7 TM3_3DH5_Ch0

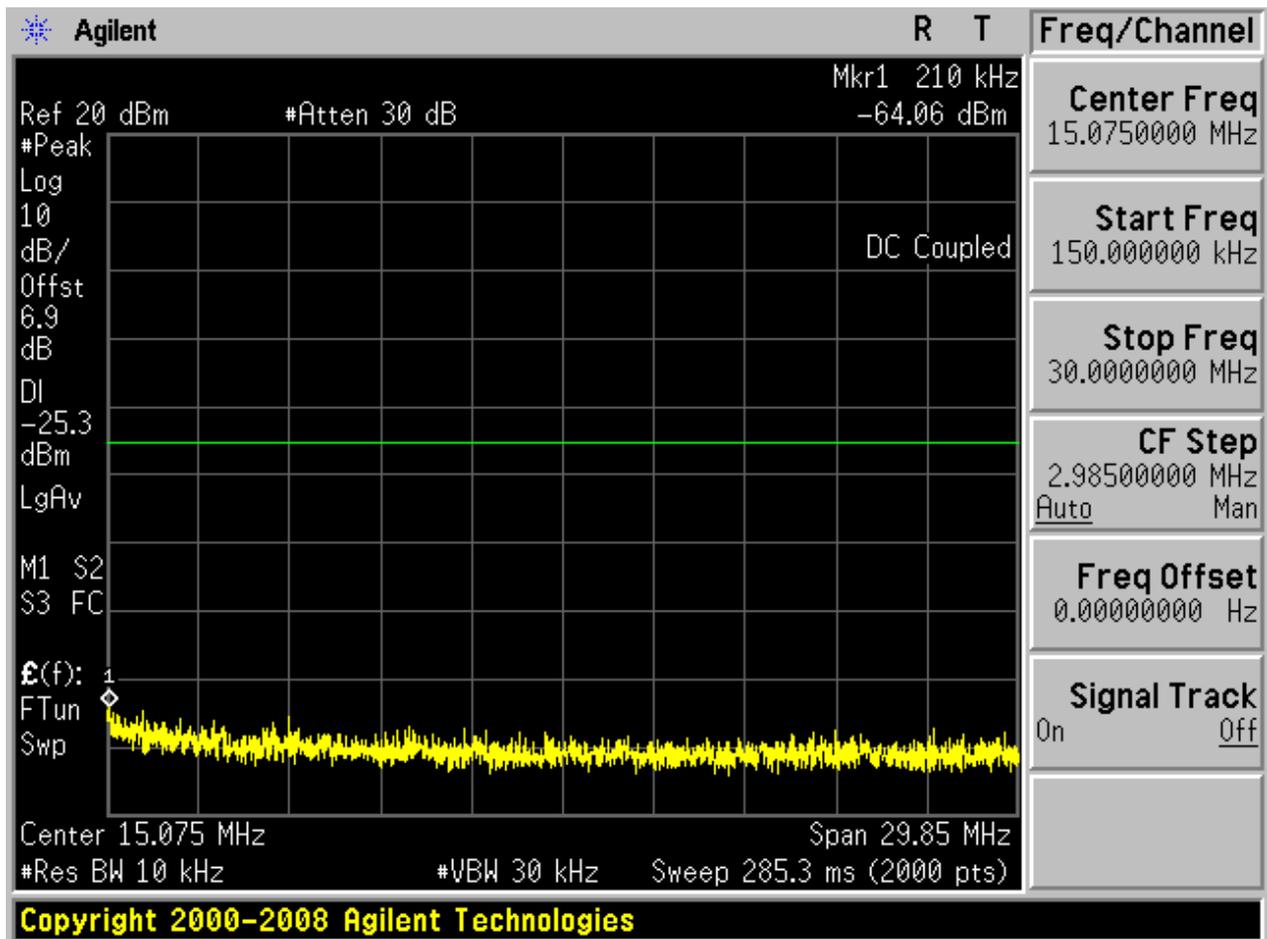
2.7.1 Pref

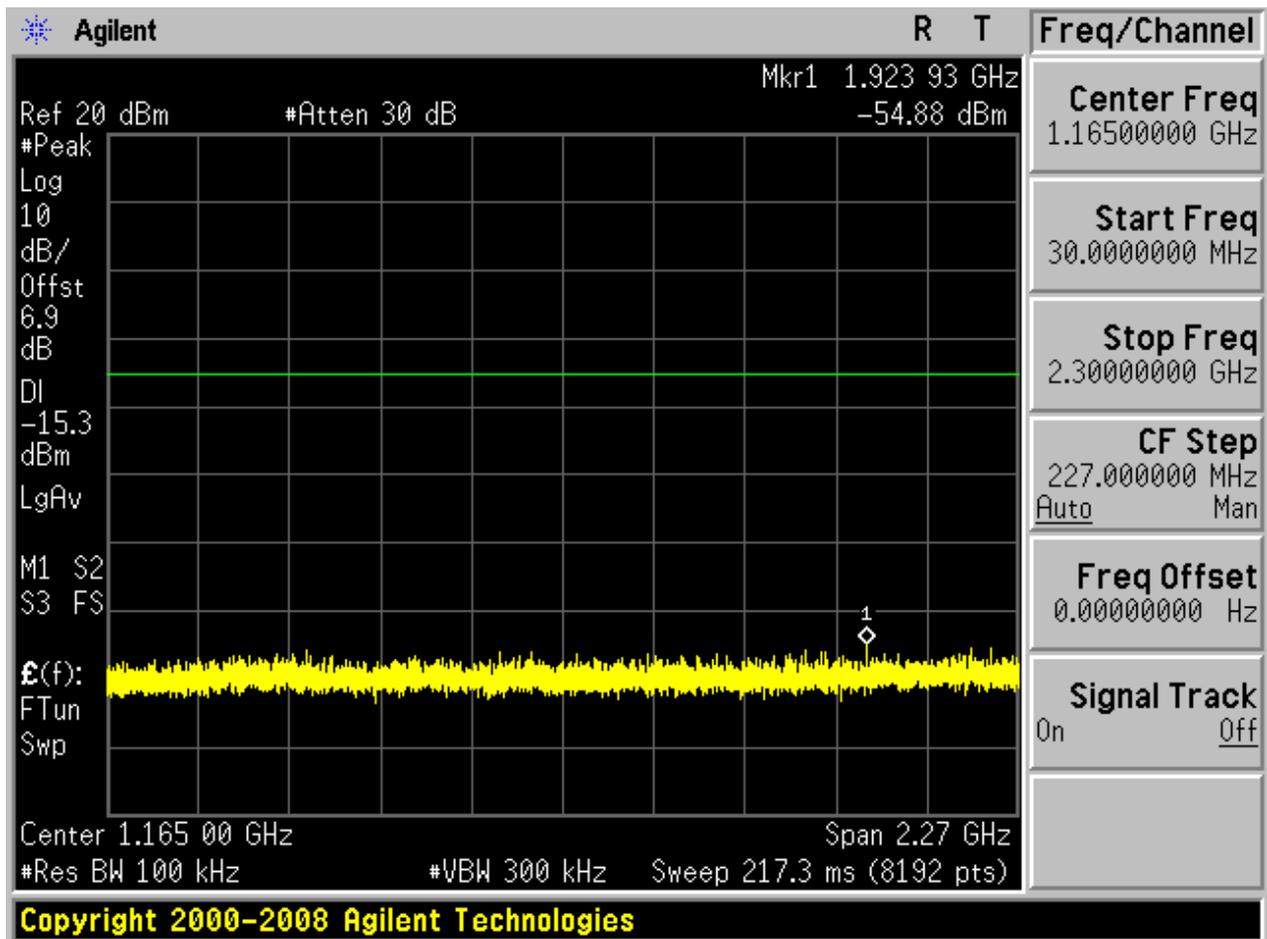


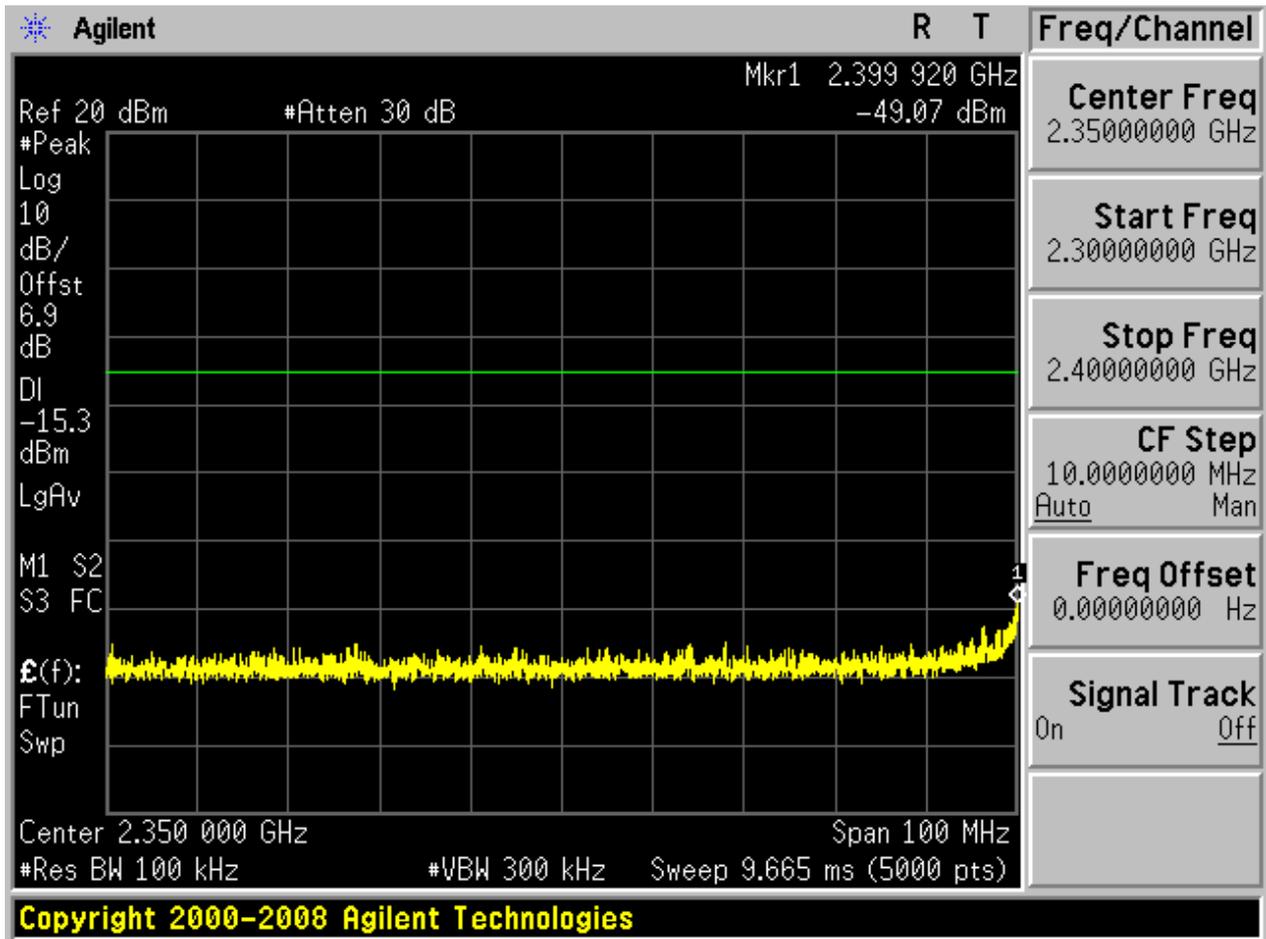


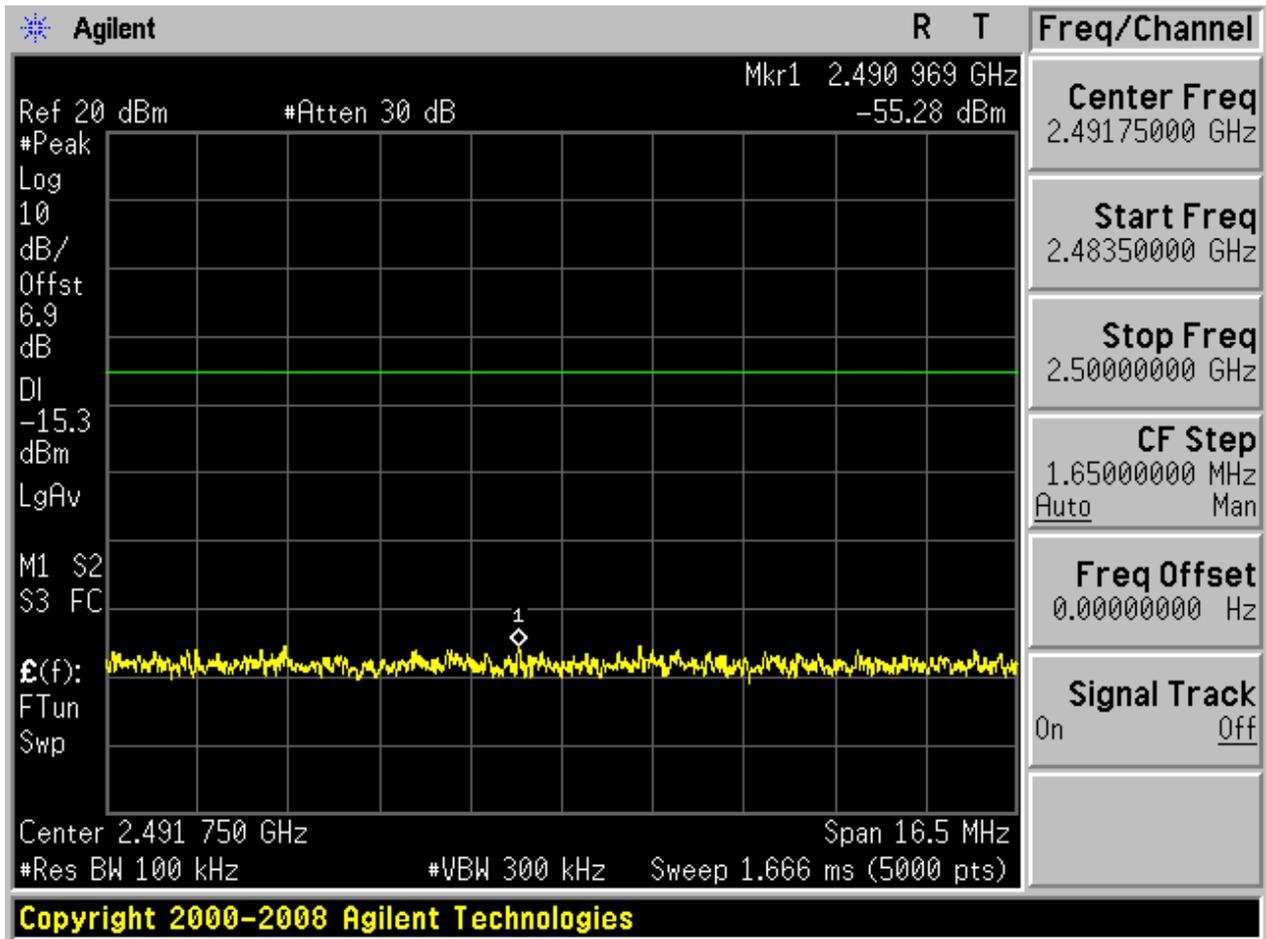
2.7.2 Puw

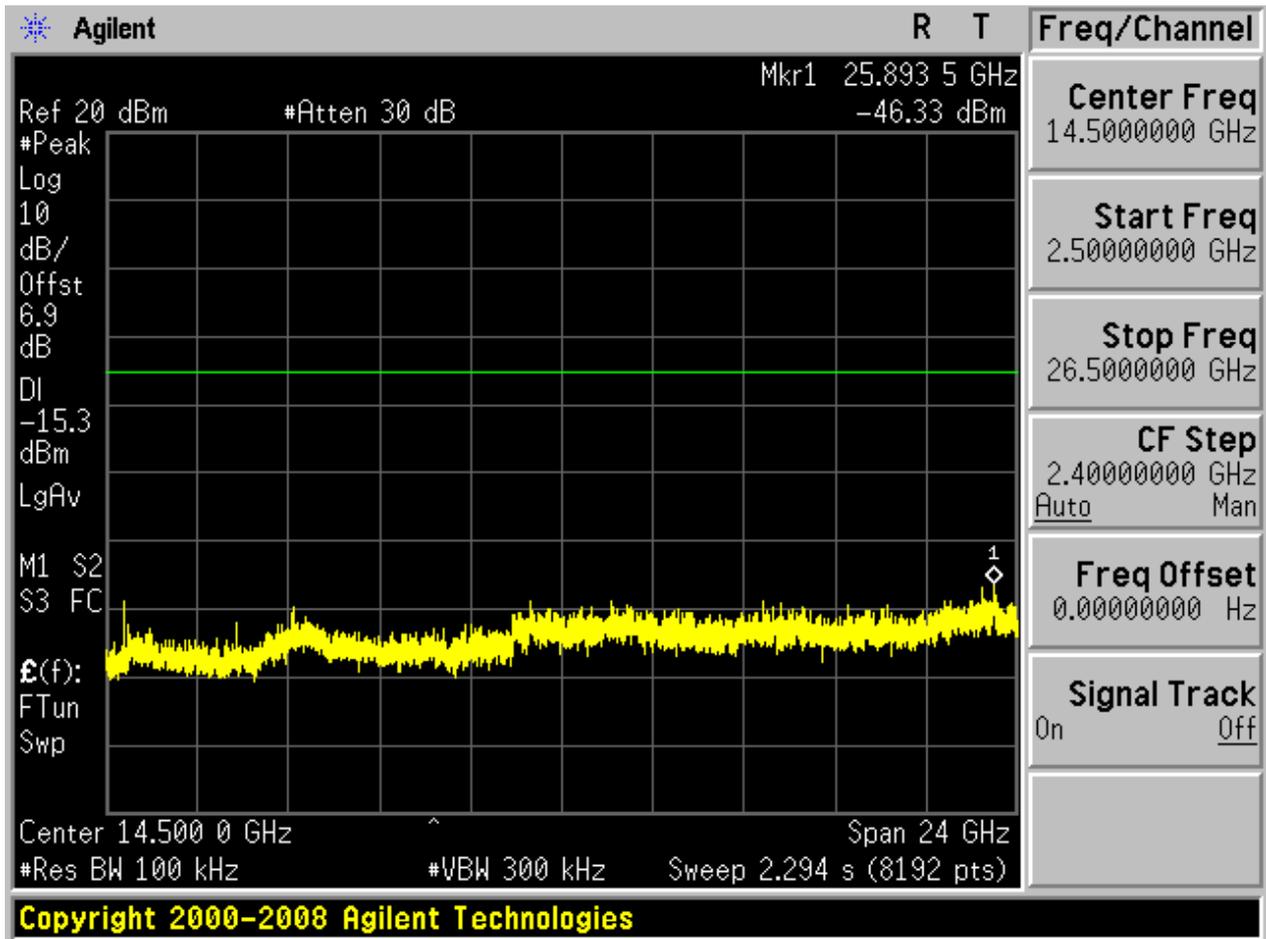








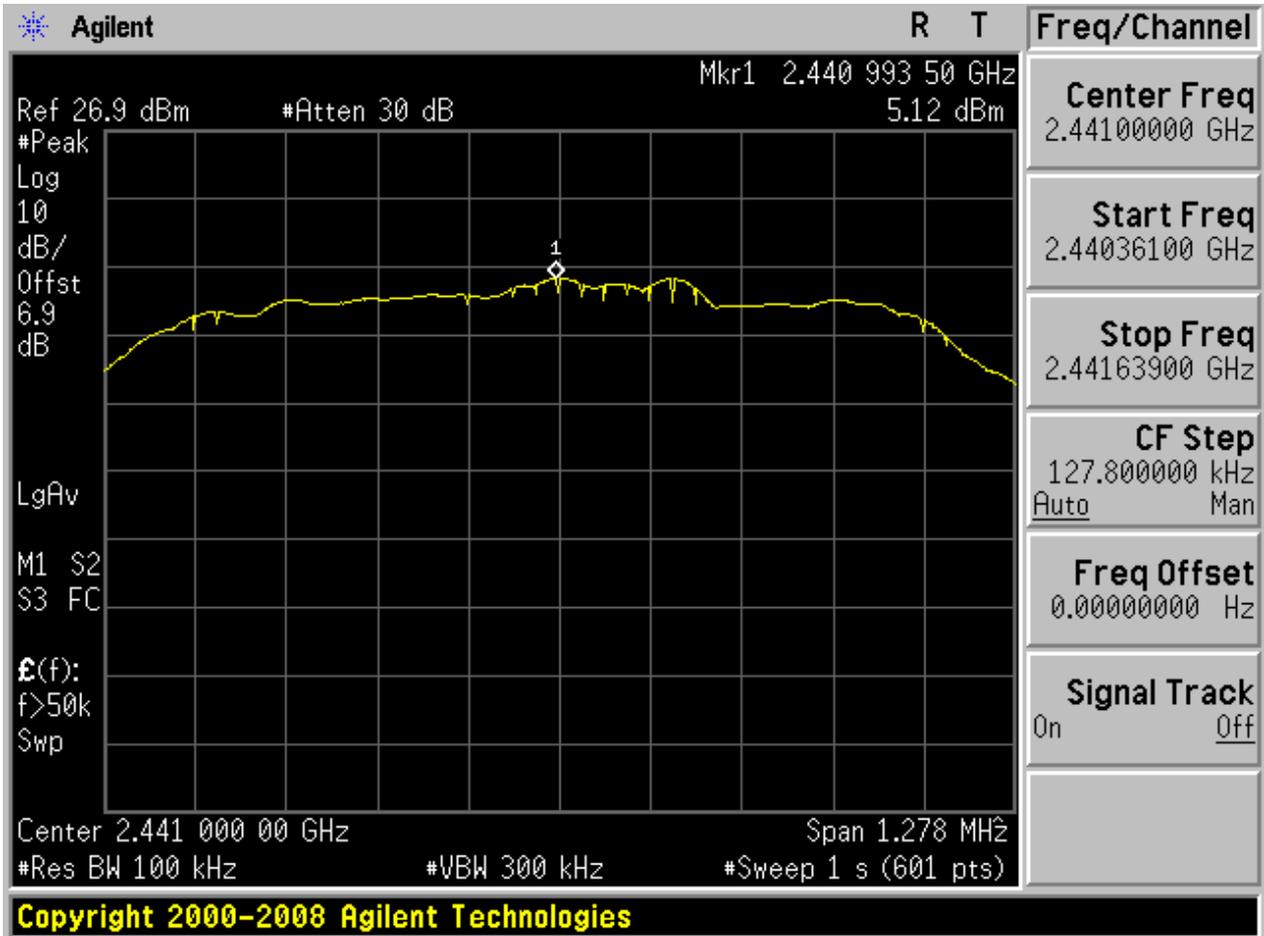






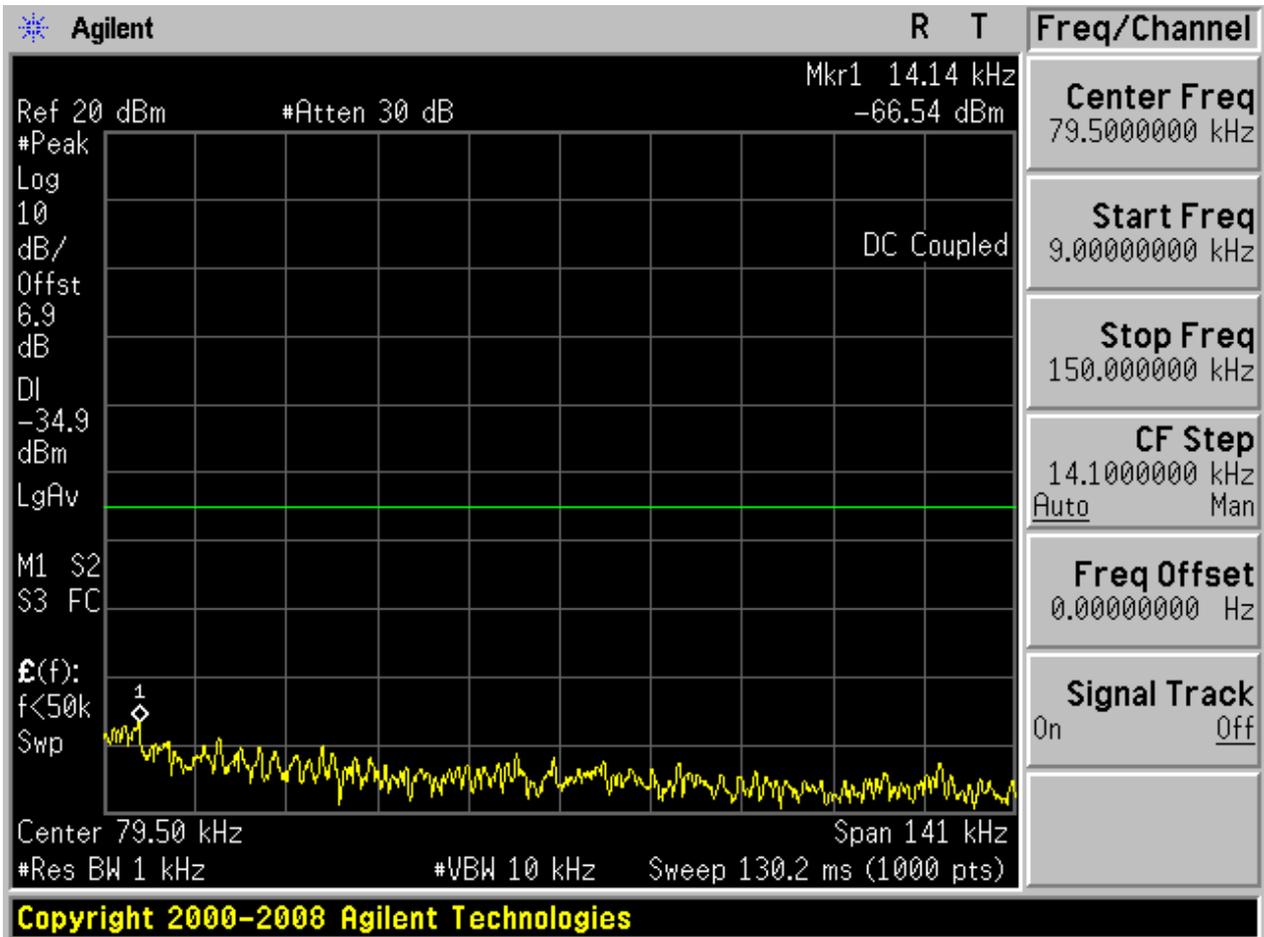
2.8 TM3_3DH5_Ch39

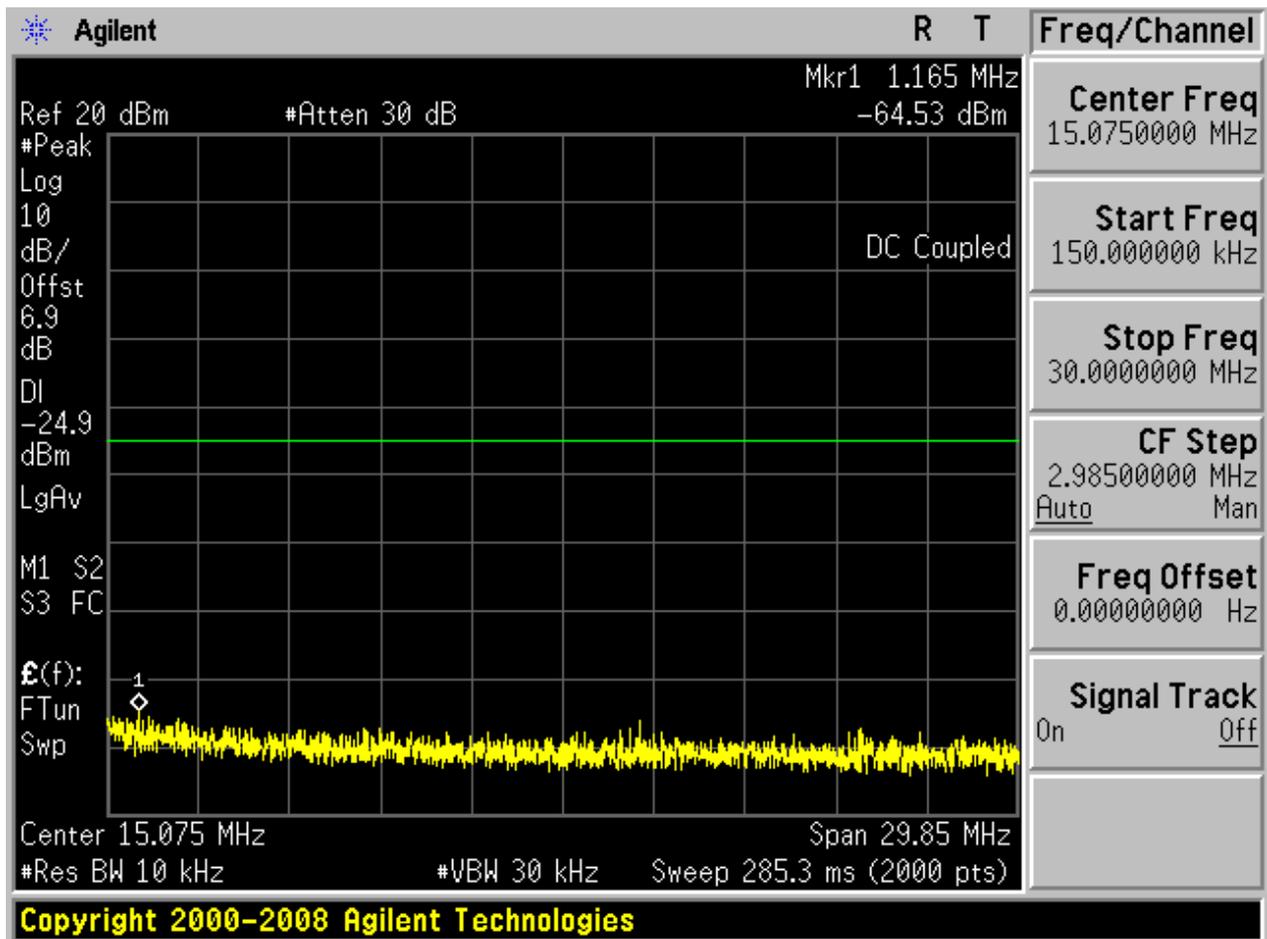
2.8.1 Pref

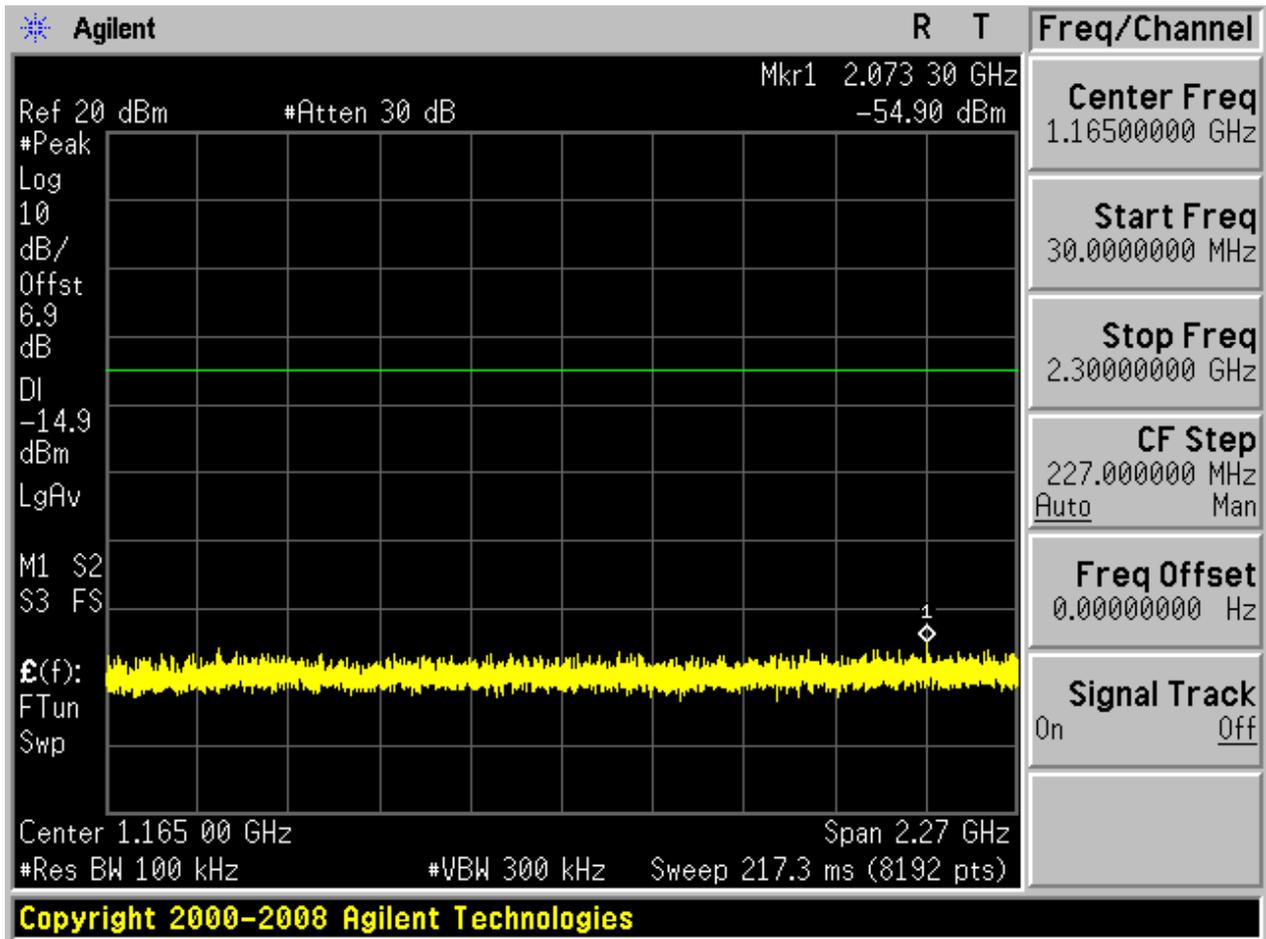


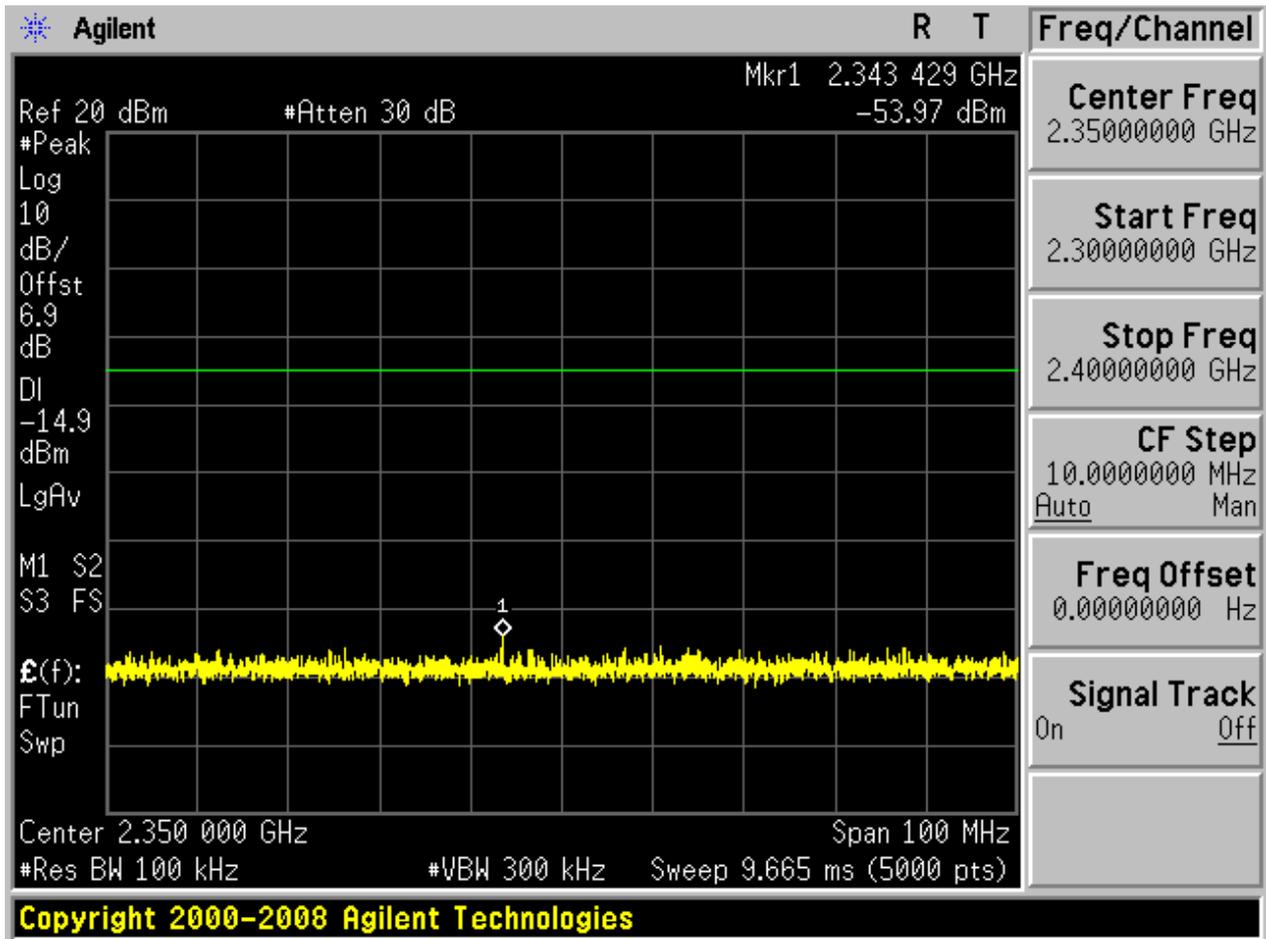


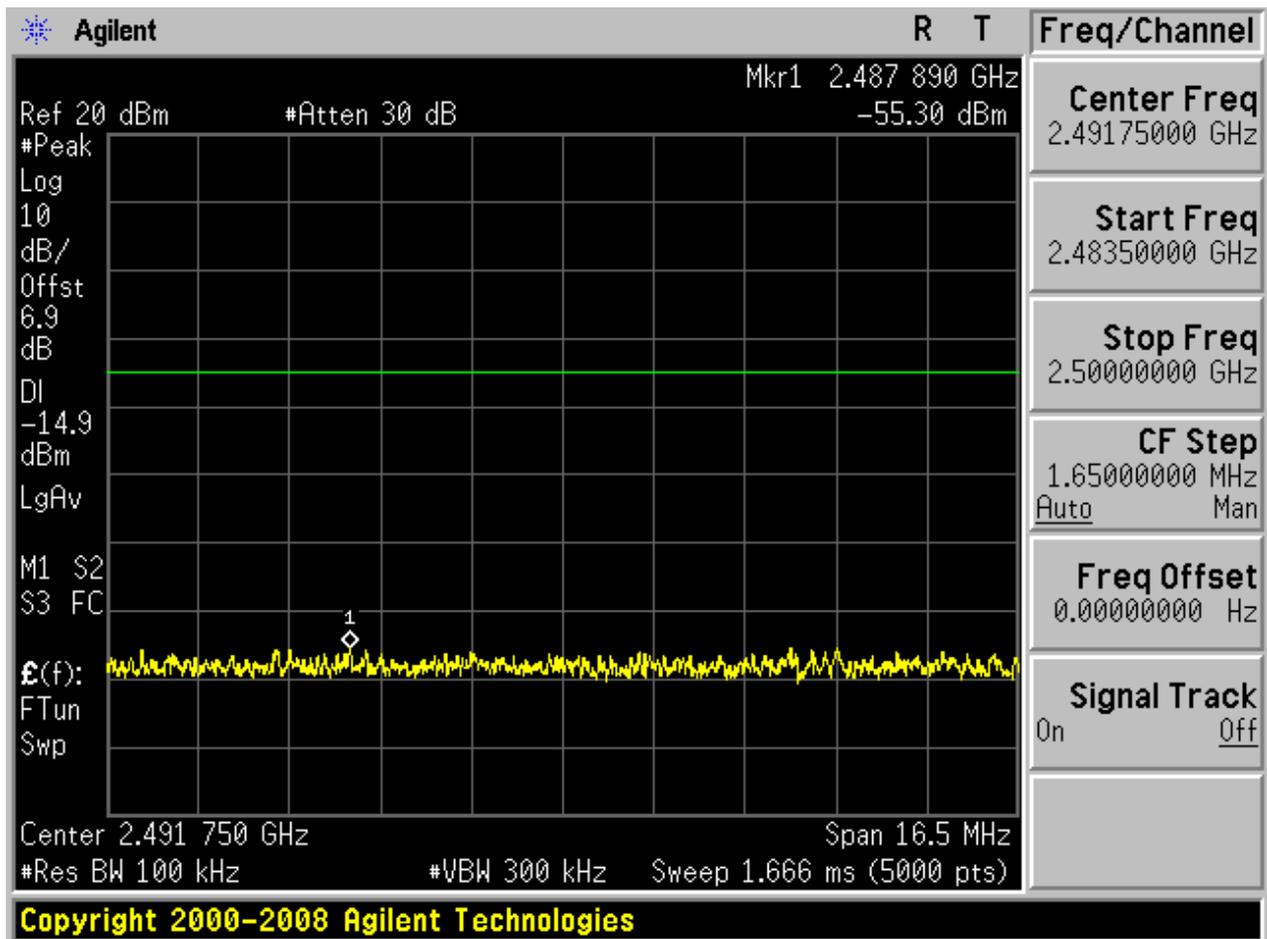
2.8.2 Puw

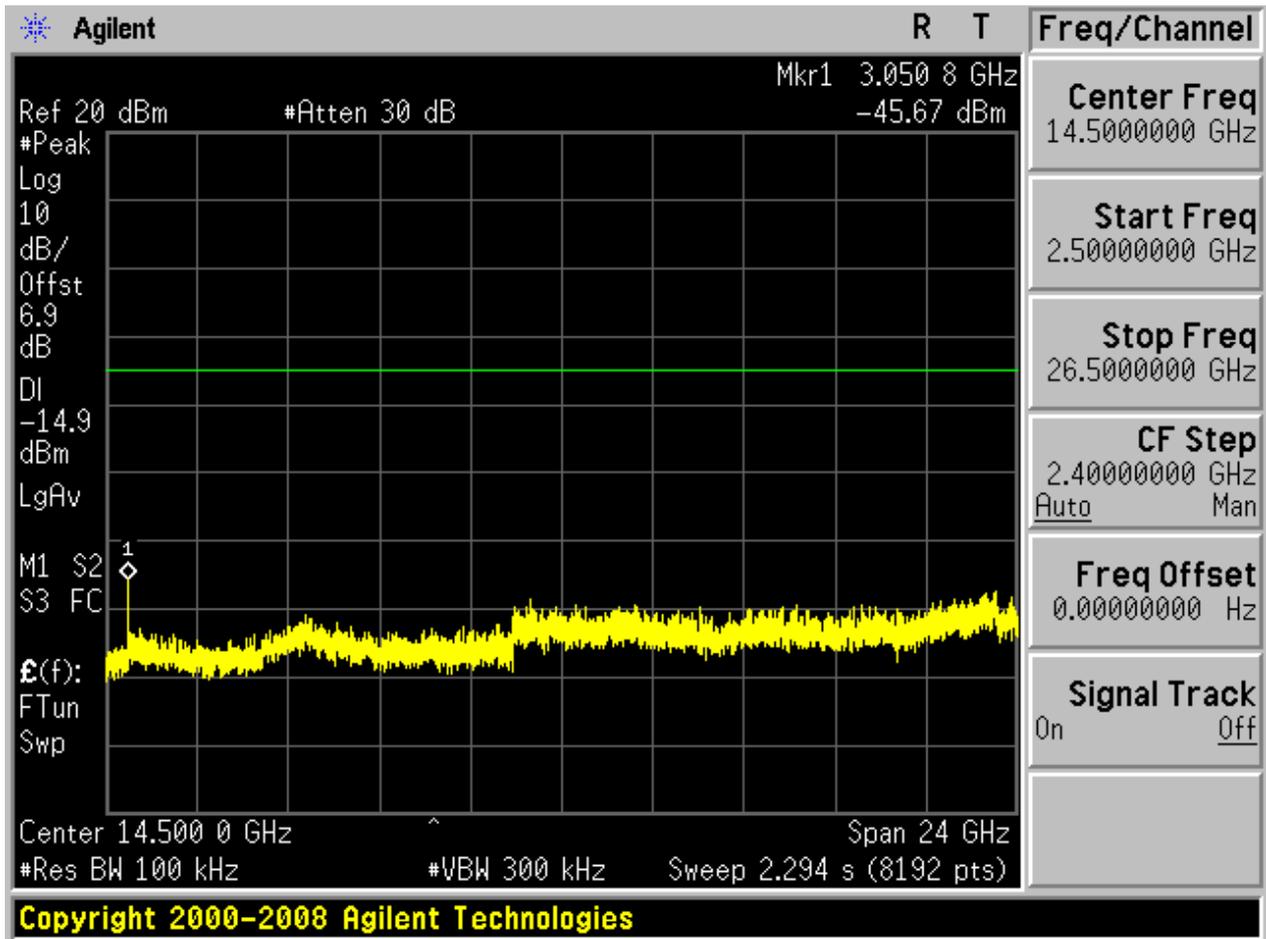








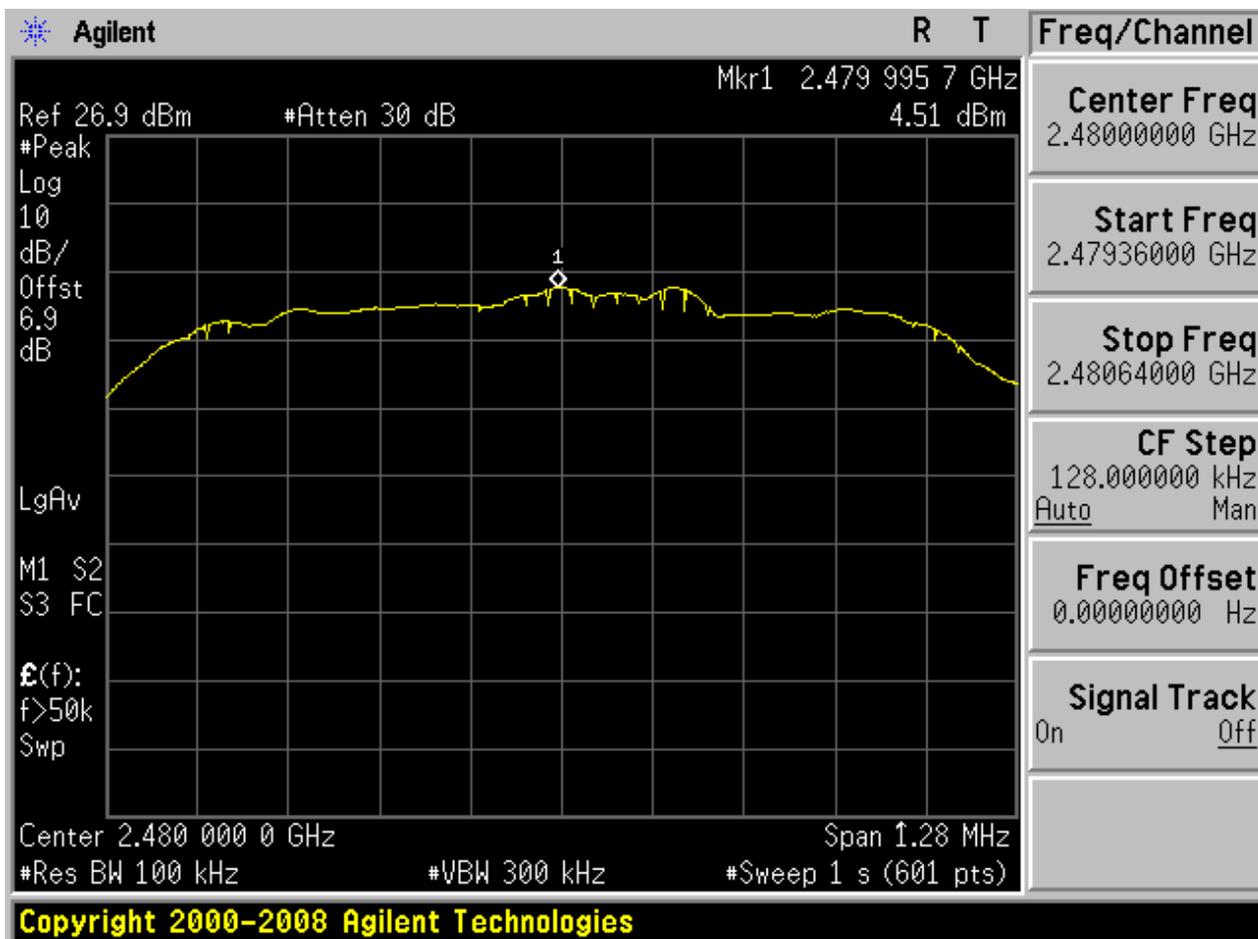






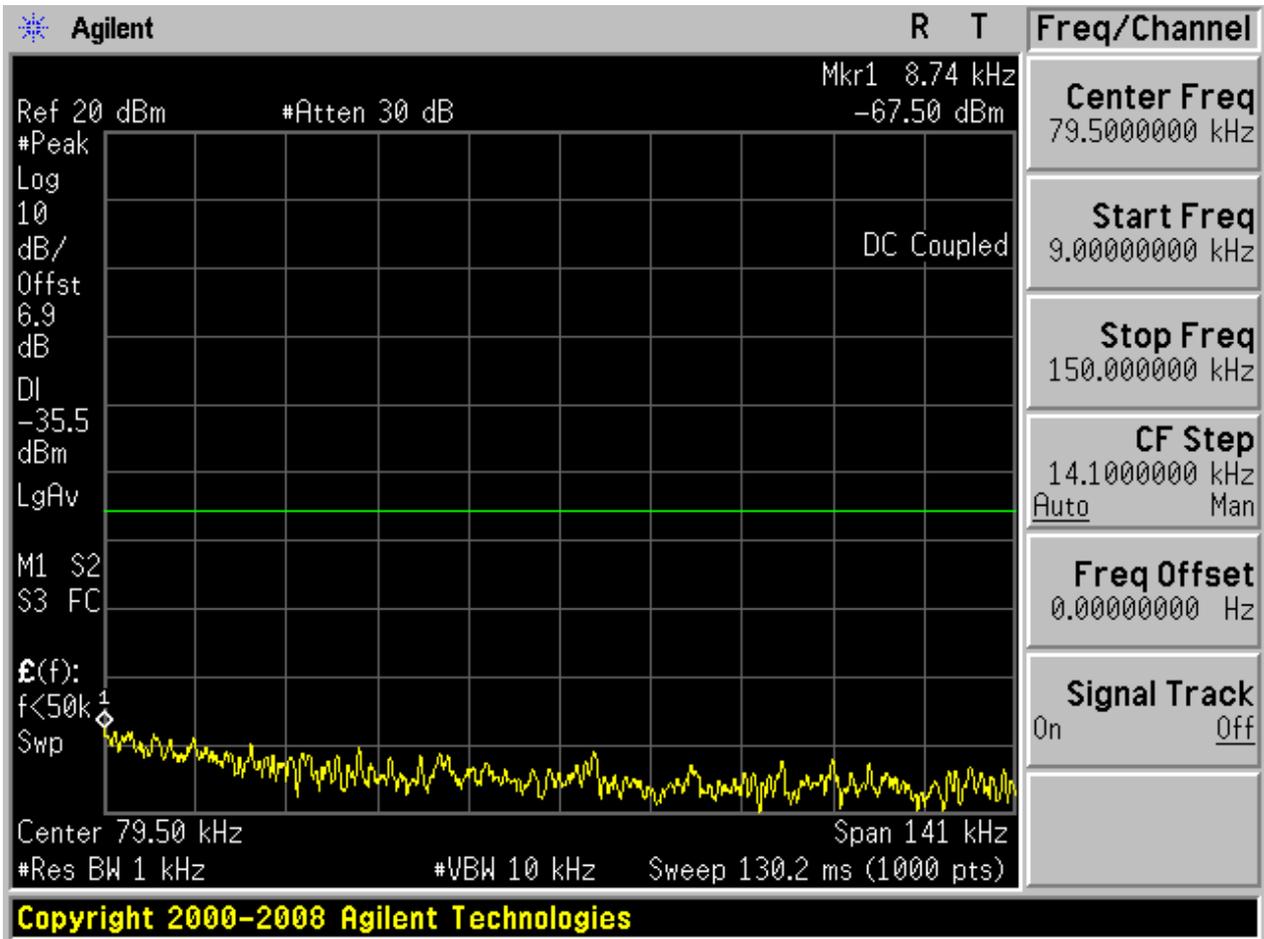
2.9 TM3_3DH5_Ch78

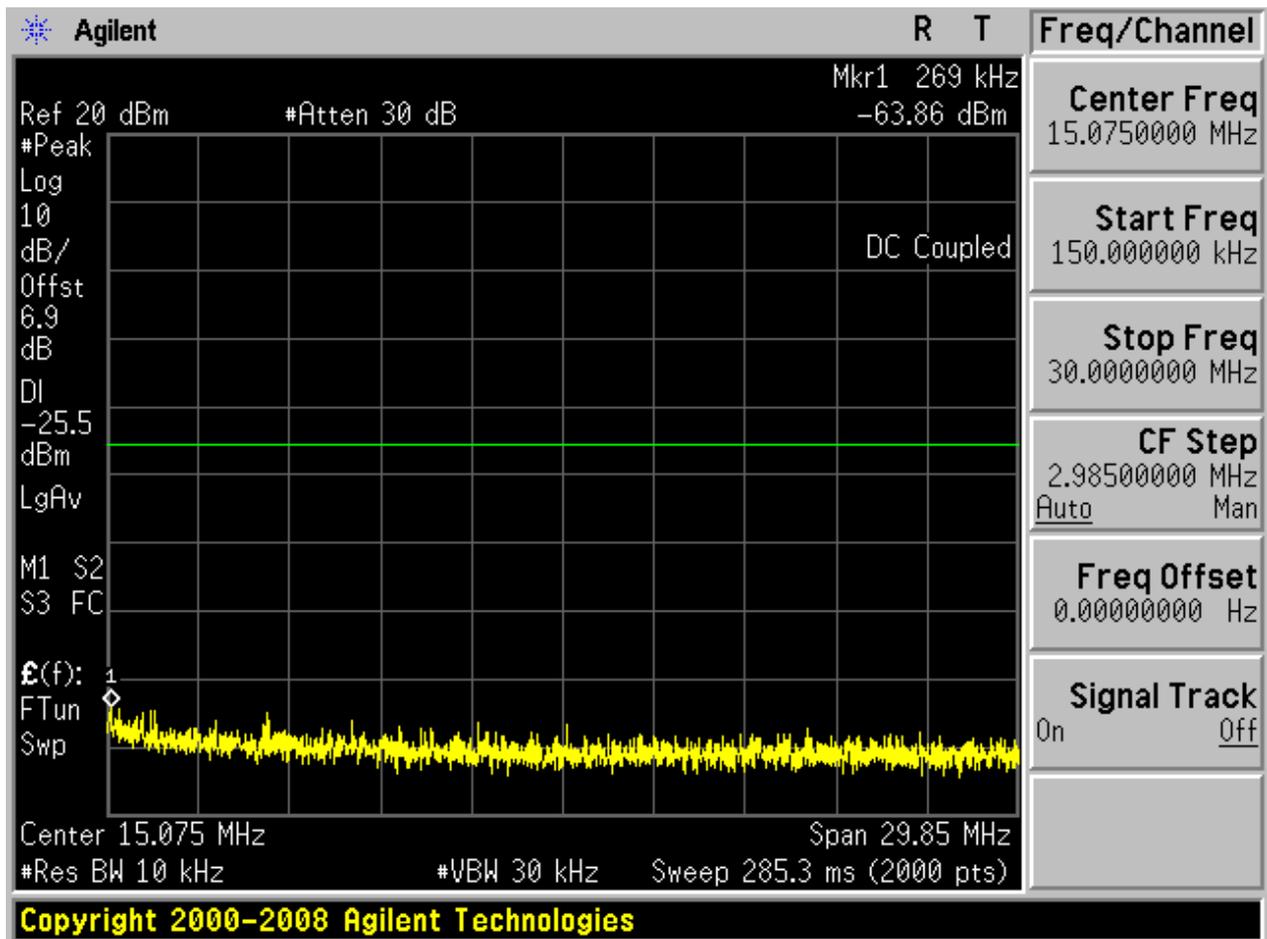
2.9.1 Pref

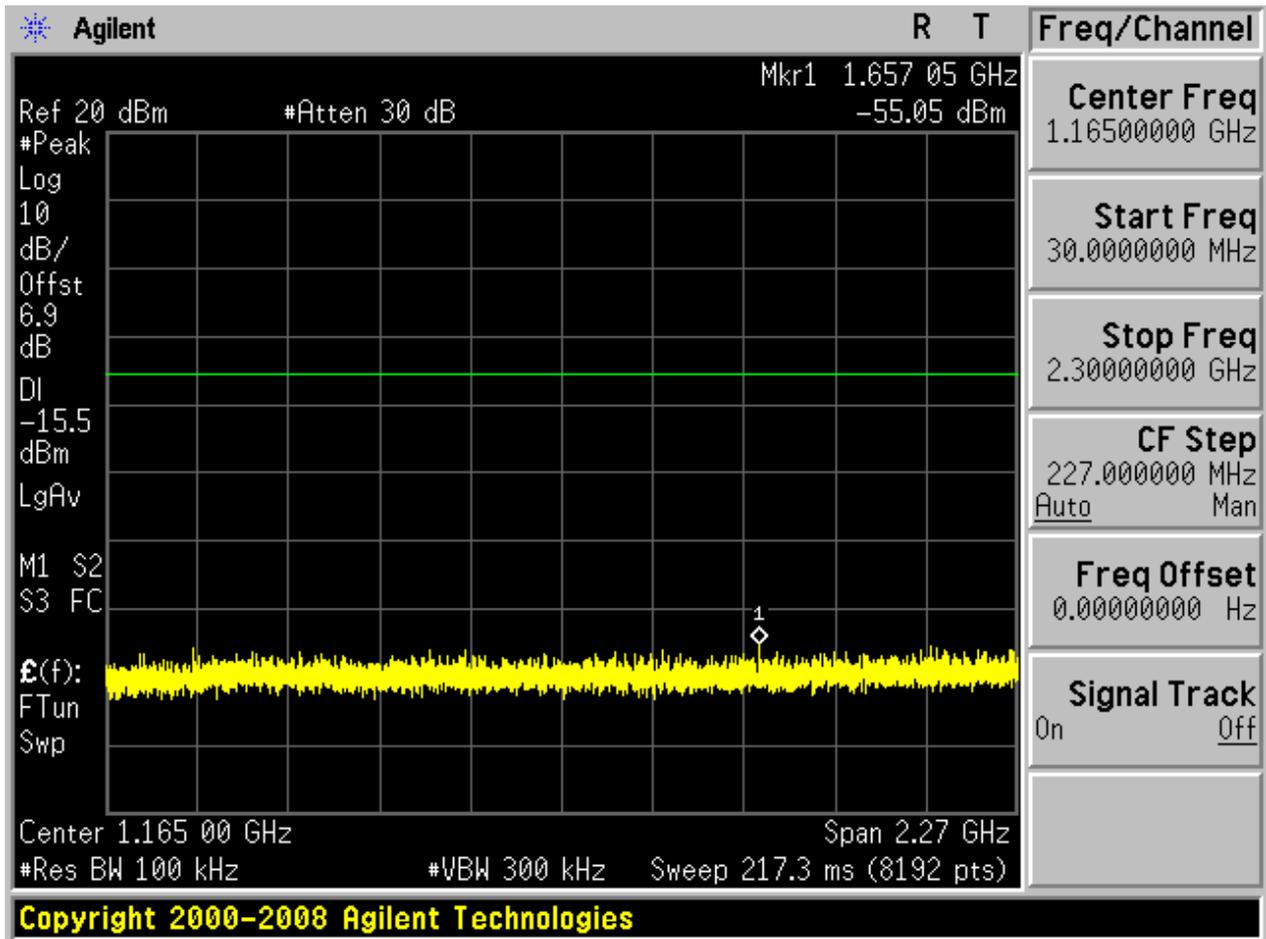


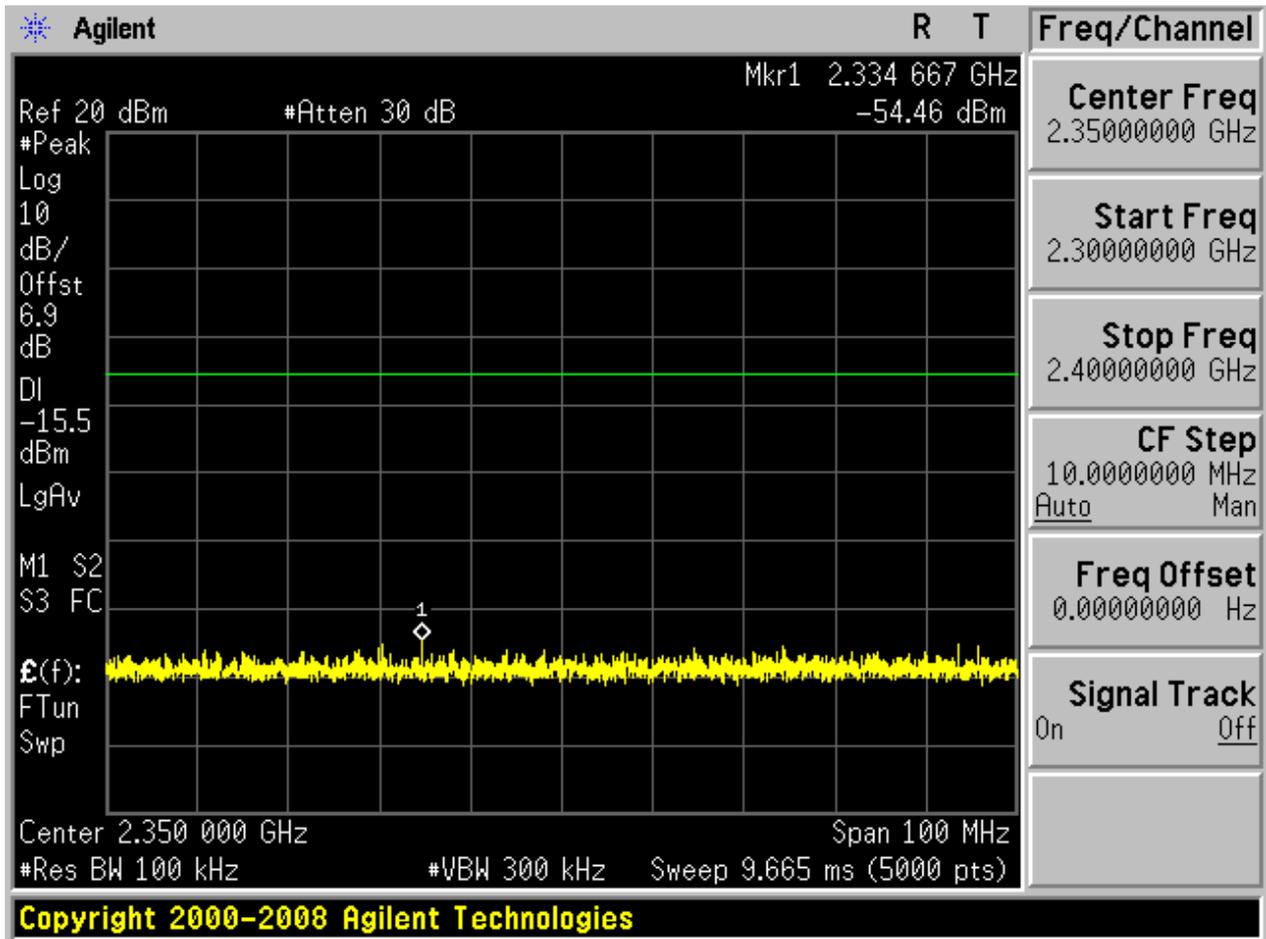


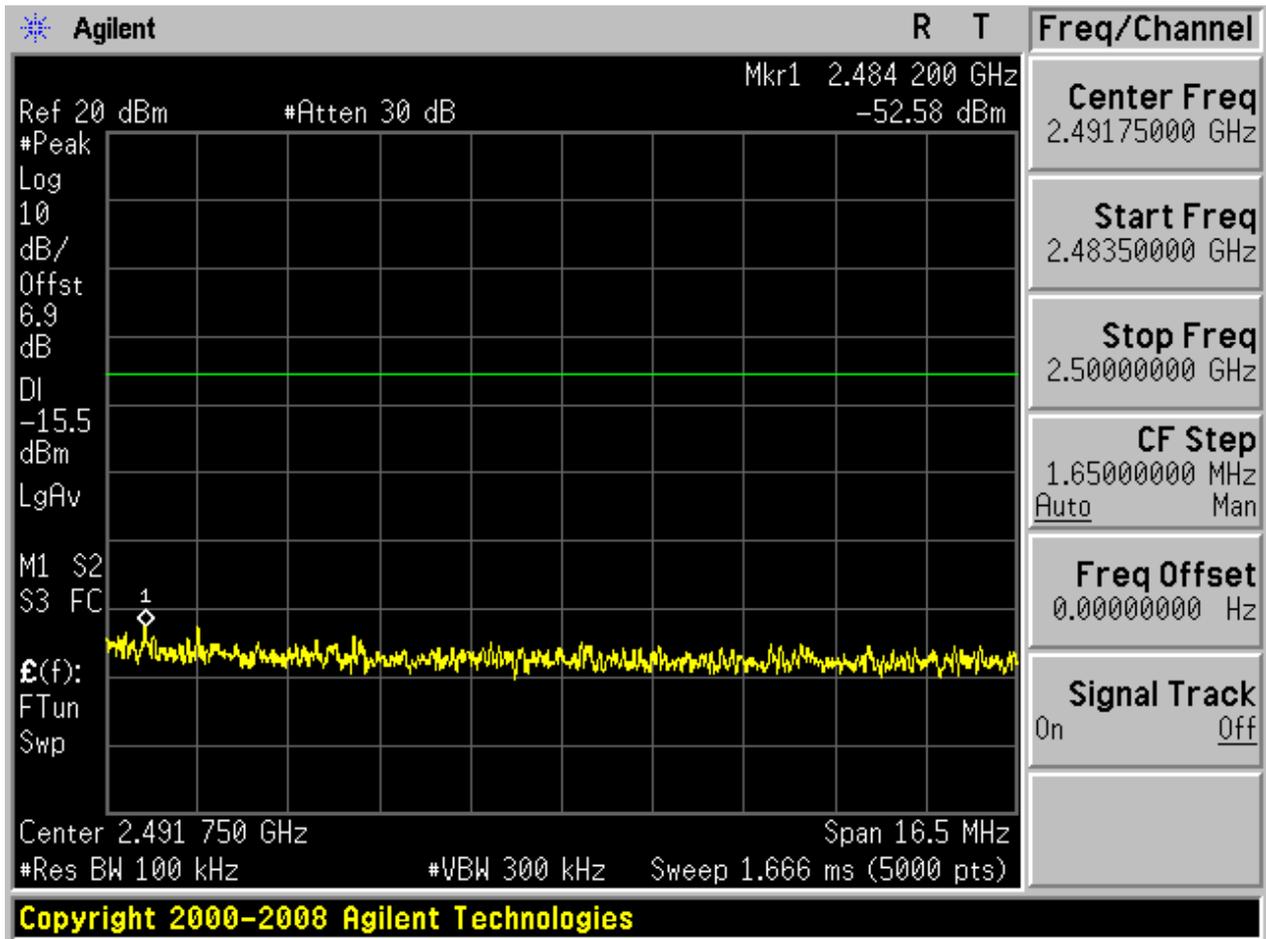
2.9.2 Puw

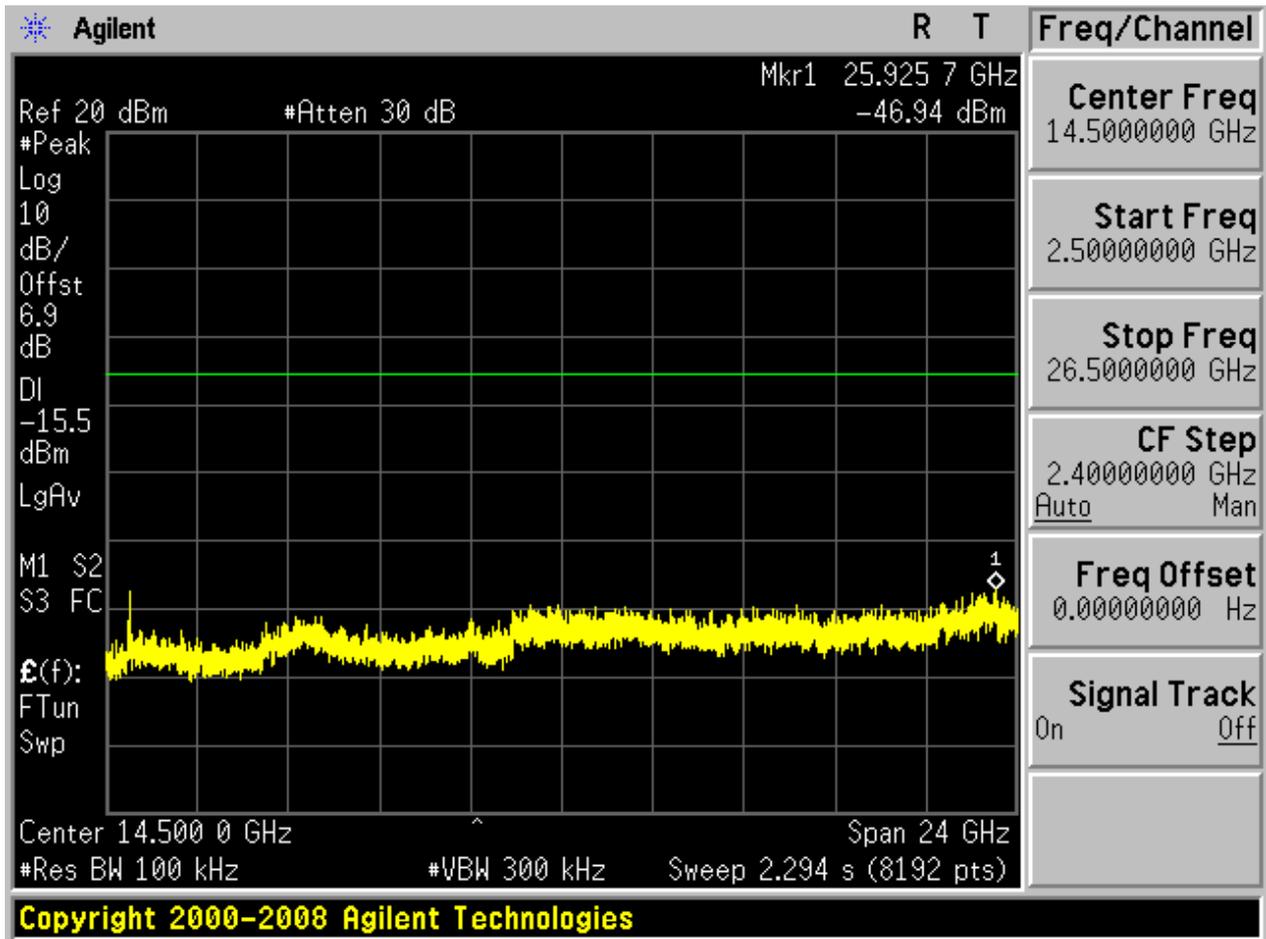














Appendix H: Radiated Emissions in the Restricted Bands



1 Result Table

The whole testing range is from “30 MHz to 26.5 GHz (10th harmonics)” is divided into 4 parts according to the test site settings, which are:

- (Part 1): Test range of “30 MHz to 1 GHz”,
- (Part 2): Test range of “1 GHz to 3 GHz”,
- (Part 3): Test range of “3 GHz to 18 GHz”, and
- (Part 4): Test range of “18 GHz to 26.5 GHz”.

In this Appendix, only the test results and plots under the worst case can be reported. In the result table, the “< Limit” denotes that “Not found obvious spikes or see marked spikes on plots and listed emissions records”.

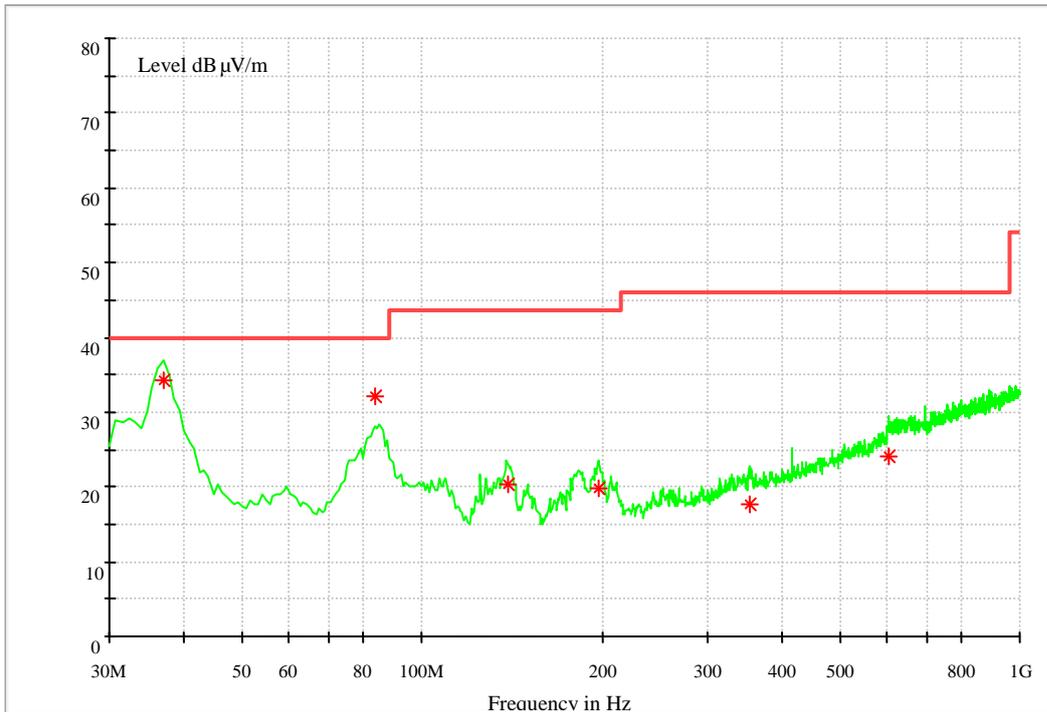
Test Range	EUT Conf.	Emissions	Verdict
30 MHz to 1 GHz	TM1_DH5_Ch0 (Worst Conf.)	< Limit	Pass
1 GHz to 3 GHz	TM1_DH5_Ch0	< Limit	Pass
	TM1_DH5_Ch78	< Limit	Pass
3 GHz to 18 GHz	TM1_DH5_Ch0 (Worse Conf.)	< Limit	Pass
18 GHz to 26.5 GHz	TM1_DH5_Ch0 (Worst Conf.)	< Limit	Pass

2 Result Plot

2.1 Test 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).



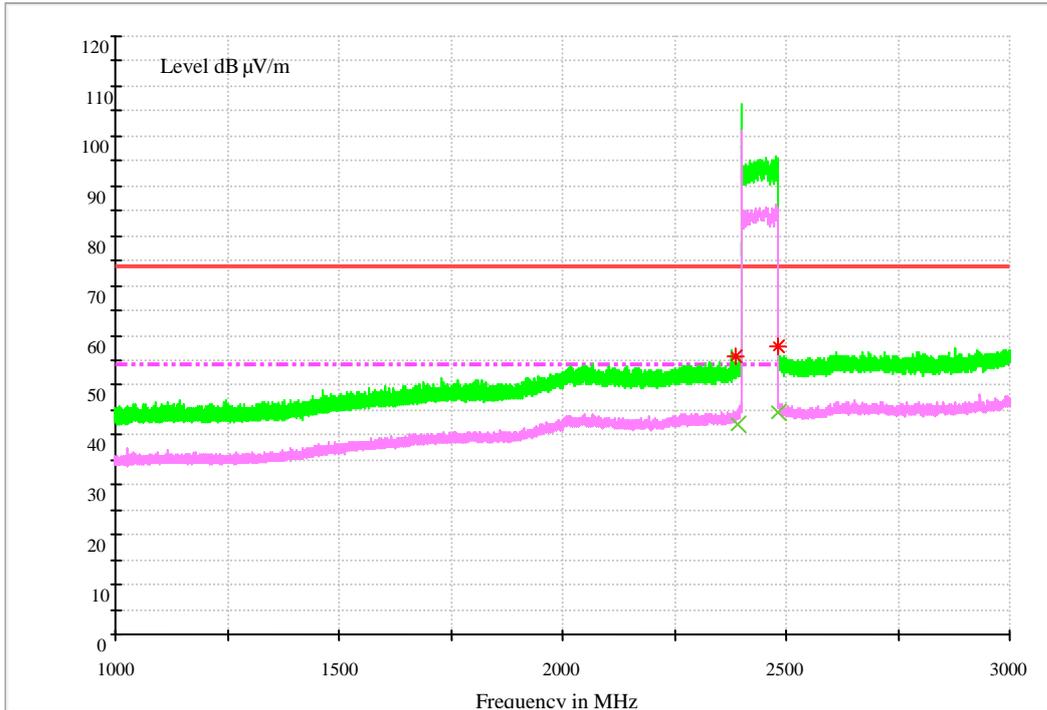
MEASUREMENT RESULT: QP Detector

Frequency MHz	Level dBµV/m	Transducer dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarisation
37.106880	34.2	12.5	40.0	5.8	100.0	160.0	VERTICAL
83.779840	32.2	10.0	40.0	7.8	214.0	109.0	HORIZONTAL
139.198720	20.3	9.2	43.5	23.2	100.0	58.0	VERTICAL
196.922880	19.9	12.2	43.5	23.6	100.0	11.0	VERTICAL
352.414720	17.7	17.4	46.0	28.3	100.0	112.0	HORIZONTAL
604.356800	24.0	23.2	46.0	22.0	114.0	36.0	VERTICAL

2.2 Test range of “1 GHz to 3 GHz”

- Note 1: The testing range of “1 GHz to 3 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.

2.2.1 TM1_DH5_Ch0



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

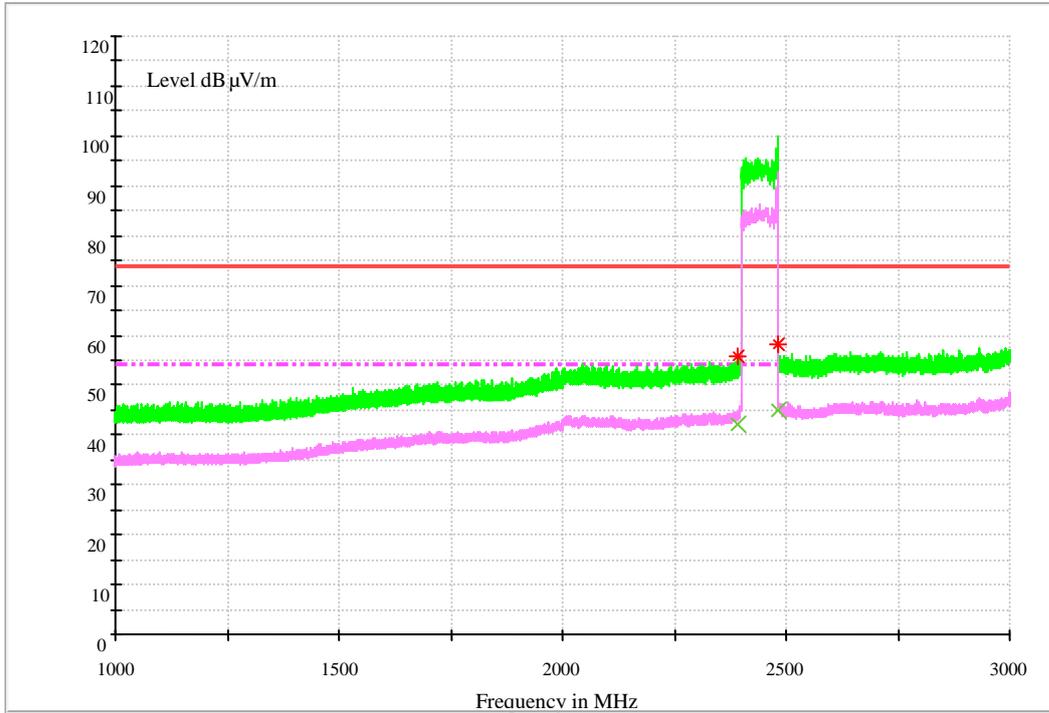
MEASUREMENT RESULT: PK Detector

Frequency MHz	Level dB μ V/m	Transd dB	Limit dB μ V/m	Margin dB	Height cm	Azimuth deg	Polarization
2389.630333	55.9	38.3	74.0	18.1	194.0	330.0	VERTICAL
2483.653767	57.9	40.3	74.0	16.1	100.0	314.0	VERTICAL

MEASUREMENT RESULT: AVDetector

Frequency MHz	Level dB μ V/m	Transd dB	Limit dB μ V/m	Margin dB	Height cm	Azimuth deg	Polarization
2389.774467	42.1	38.3	54.0	11.9	100.0	136.0	HORIZONTAL
2483.513934	44.4	40.3	54.0	9.6	100.0	314.0	VERTICAL

2.2.2 TM1_DH5_Ch78



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

MEASUREMENT RESULT: PK Detector

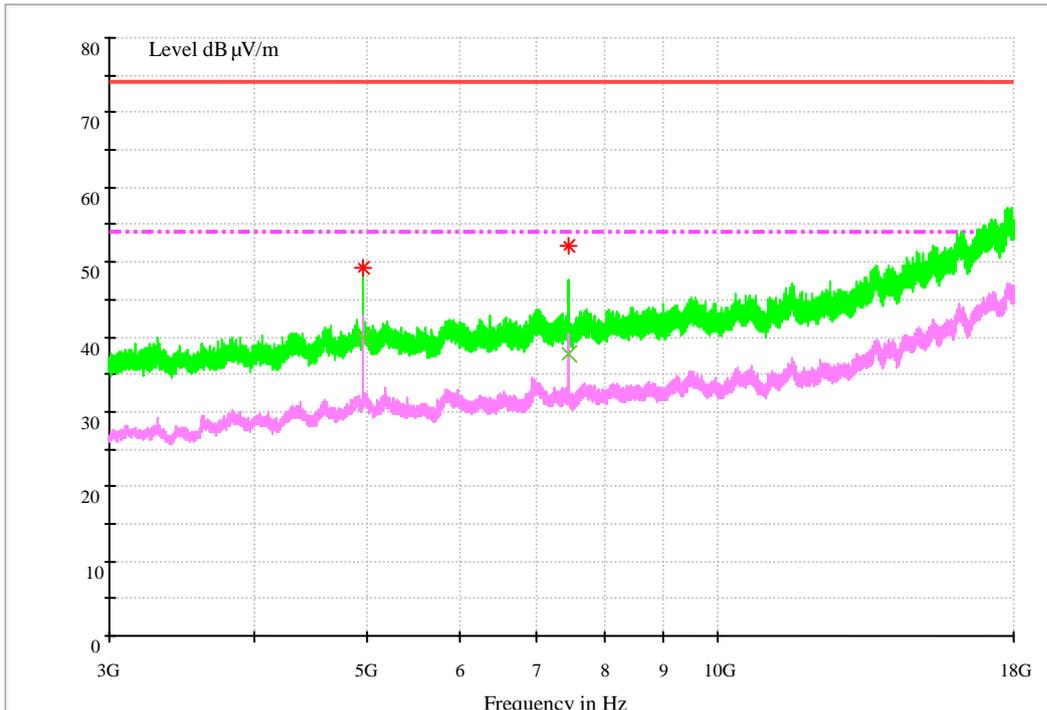
Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2389.650933	55.8	38.3	74.0	18.2	100.0	174.0	VERTICAL
2483.080234	58.4	40.3	74.0	15.6	100.0	241.0	VERTICAL

MEASUREMENT RESULT: AVDetector

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Height cm	Azimuth deg	Polarization
2389.646533	42.0	38.3	54.0	12.0	100.0	152.0	HORIZONTAL
2483.002000	44.9	40.3	54.0	9.1	100.0	0.0	HORIZONTAL

2.3 Test range of “3 GHz to 18 GHz”

- Note 1: The test results and plot for testing range of “3 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 “3 GHz to 18 GHz” is for checking radiated emissions located in restricted bands far away 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).



MEASUREMENT RESULT: PK Detector

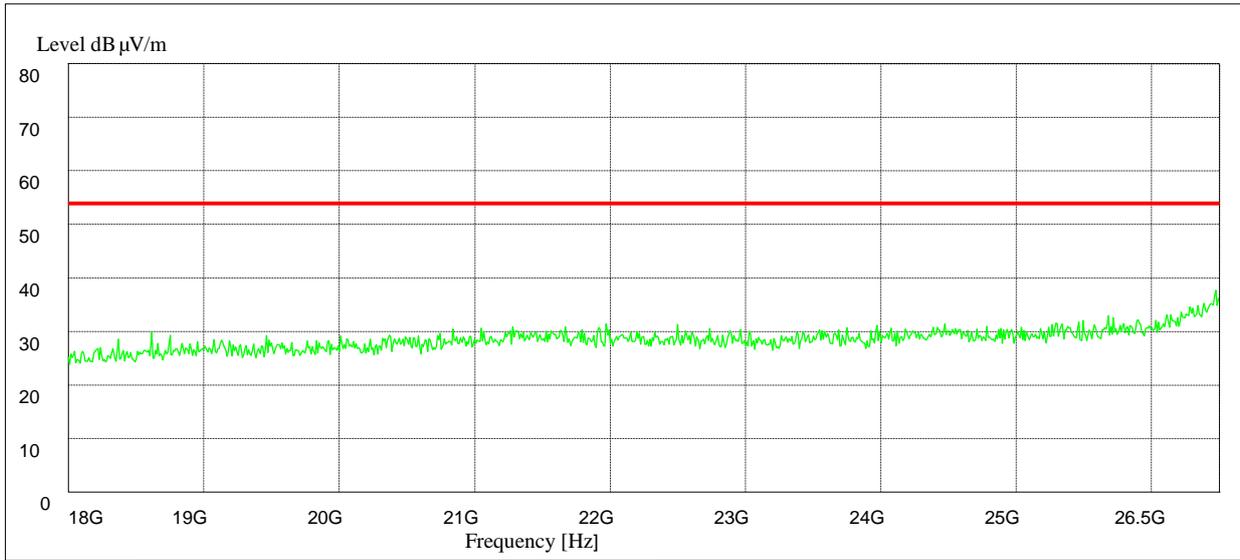
Frequency MHz	Level dB μ V/m	Transd dB	Limit dB μ V/m	Margin dB	Height cm	Azimuth deg	Polarization
4959.664667	49.3	1.7	74.0	24.7	122.0	69.0	VERTICAL
7439.322000	52.1	6.2	74.0	21.9	100.0	266.0	VERTICAL

MEASUREMENT RESULT: AVDetector

Frequency MHz	Level dB μ V/m	Transd dB	Limit dB μ V/m	Margin dB	Height cm	Azimuth deg	Polarization
4959.992667	40.0	1.7	54.0	14.0	100.0	72.0	VERTICAL
7440.045333	37.8	6.2	54.0	16.2	100.0	266.0	VERTICAL



2.4 Test range of “1 GHz to 3 GHz”



Note: No peak found in pre- test.



Appendix I: AC Power Line Conducted Emissions



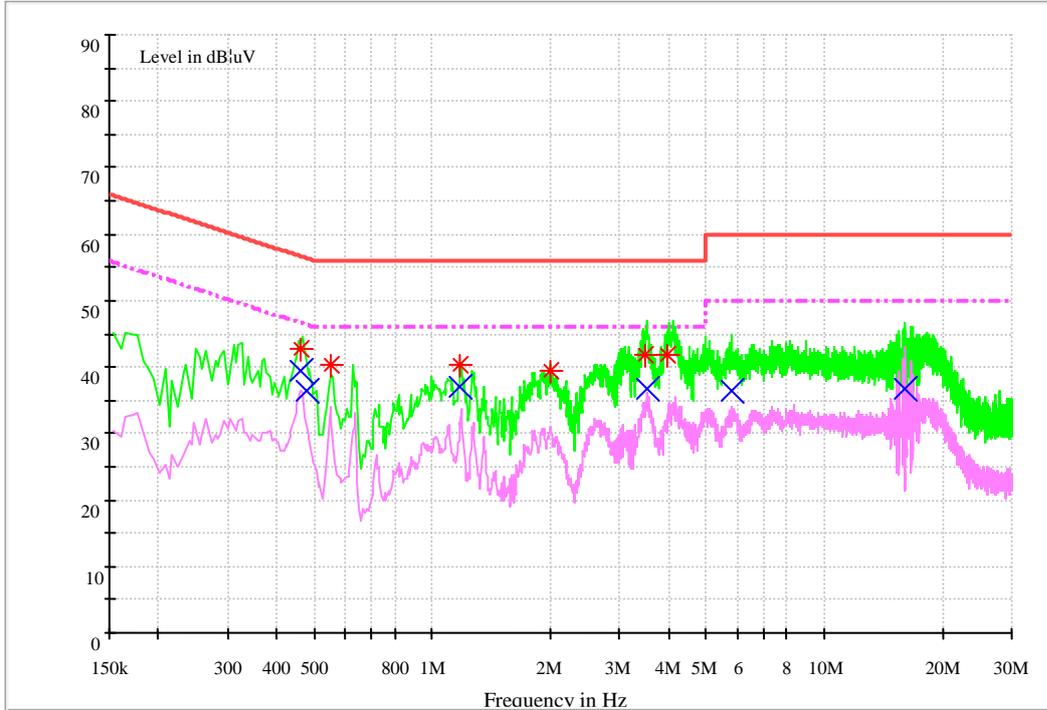
1 Result Table

In this Appendix, only the test results and plots under the worst case can be reported.

EUT Conf.	Maximum Emissions	Verdict
TM1_DH5_Ch39	Not found obvious spikes or see marked spikes on plots and listed emissions records.	Pass

2 Result Plot

2.1 TM1_DH5_Ch39



MEASUREMENT RESULT: QP Detector

Frequency	Level	Transducer	Limit	Margin	Line	PE
MHz	dBµV	dB	dBµV	dB		
0.462184	42.7	9.7	56.7	14.0	N	FLO
0.550628	40.3	9.7	56.0	15.7	N	FLO
1.181058	40.2	9.7	56.0	15.8	L1	FLO
1.997419	39.5	9.7	56.0	16.5	L1	FLO
3.491542	41.7	9.7	56.0	14.3	N	FLO
3.976695	41.9	9.8	56.0	14.1	L1	FLO

MEASUREMENT RESULT: AV Detector

Frequency	Level	Transducer	Limit	Margin	Line	PE
MHz	dBµV	dB	dBµV	dB		
0.461108	39.5	9.7	46.7	7.2	N	FLO
0.479314	36.5	9.7	46.4	9.9	L1	FLO
1.178606	37.0	9.7	46.0	9.0	L1	FLO
3.507948	36.7	9.7	46.0	9.3	N	FLO
5.785954	36.4	9.8	50.0	13.6	L1	FLO
16.01047	36.6	10.0	50.0	13.4	L1	FLO

END