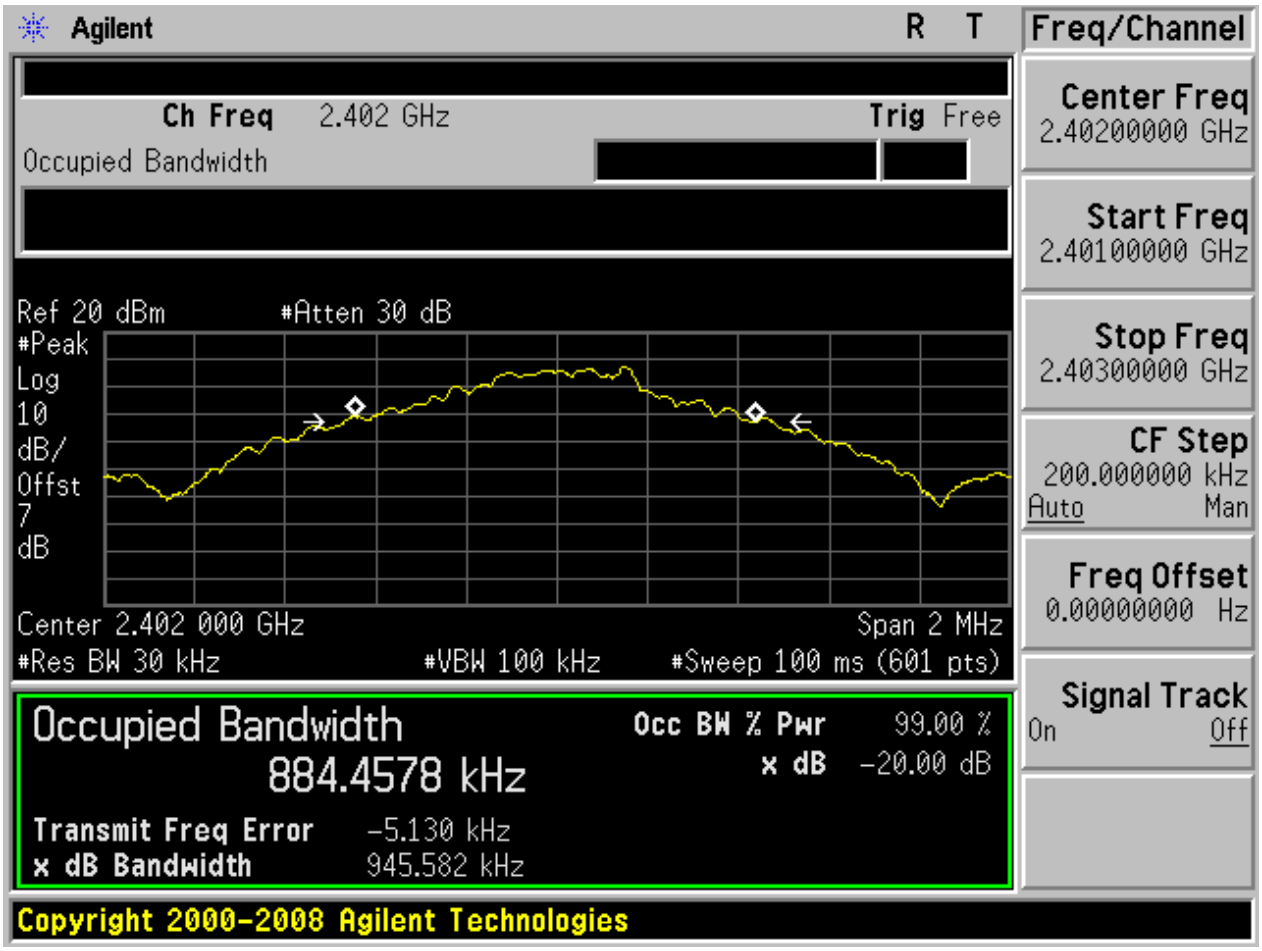
Appendix A: 20dB Emission Bandwidth (EBW)

1 Result Table

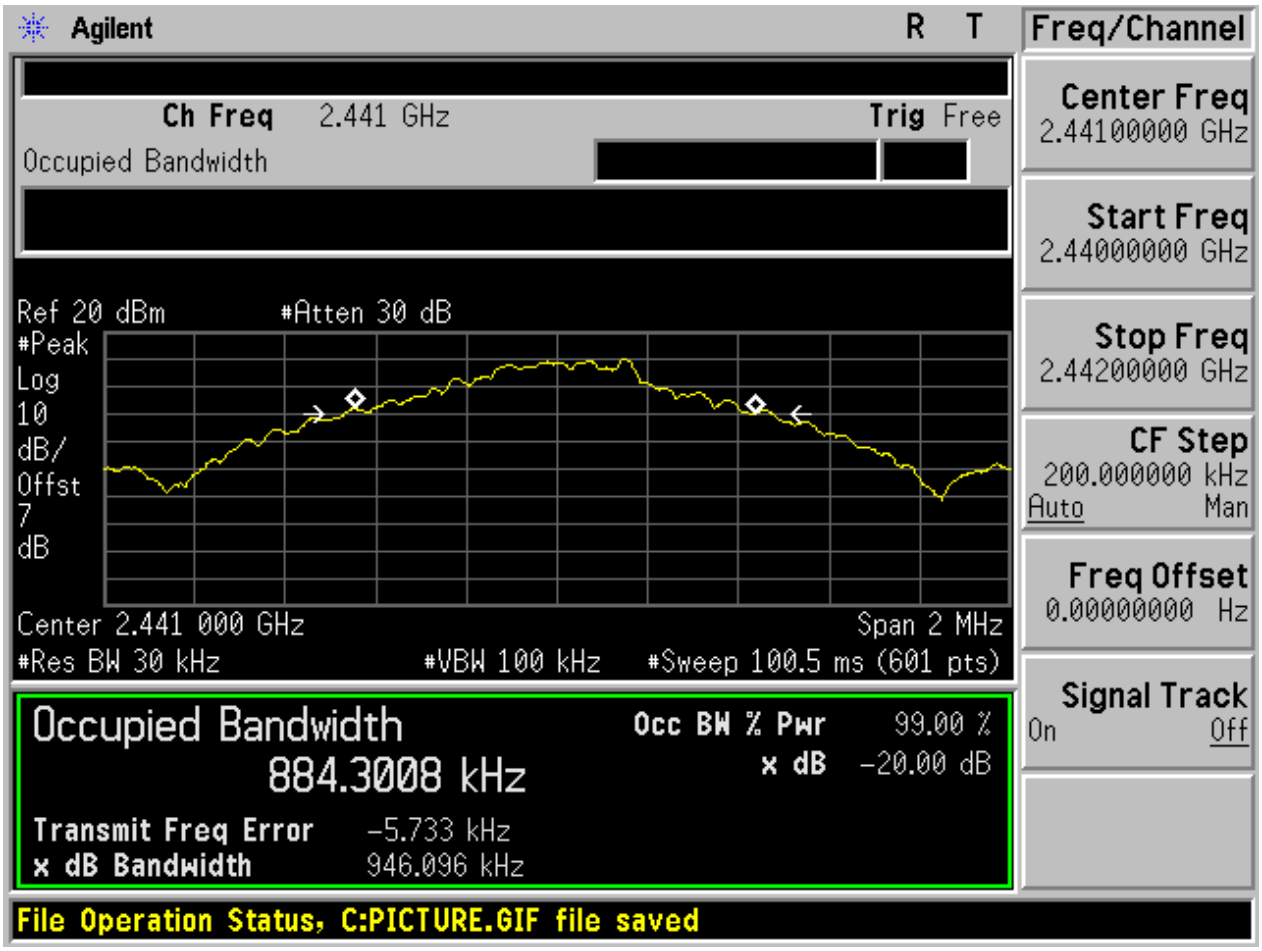
EUT Conf.	EBW [MHz]	Verdict
TM1_DH5_Ch0	0.946	Pass
TM1_DH5_Ch39	0.946	Pass
TM1_DH5_Ch78	0.946	Pass
TM2_2DH5_Ch0	1.284	Pass
TM2_2DH5_Ch39	1.284	Pass
TM2_2DH5_Ch78	1.285	Pass
TM3_3DH5_Ch0	1.281	Pass
TM3_3DH5_Ch39	1.282	Pass
TM3_3DH5_Ch78	1.279	Pass

2 Test Plot

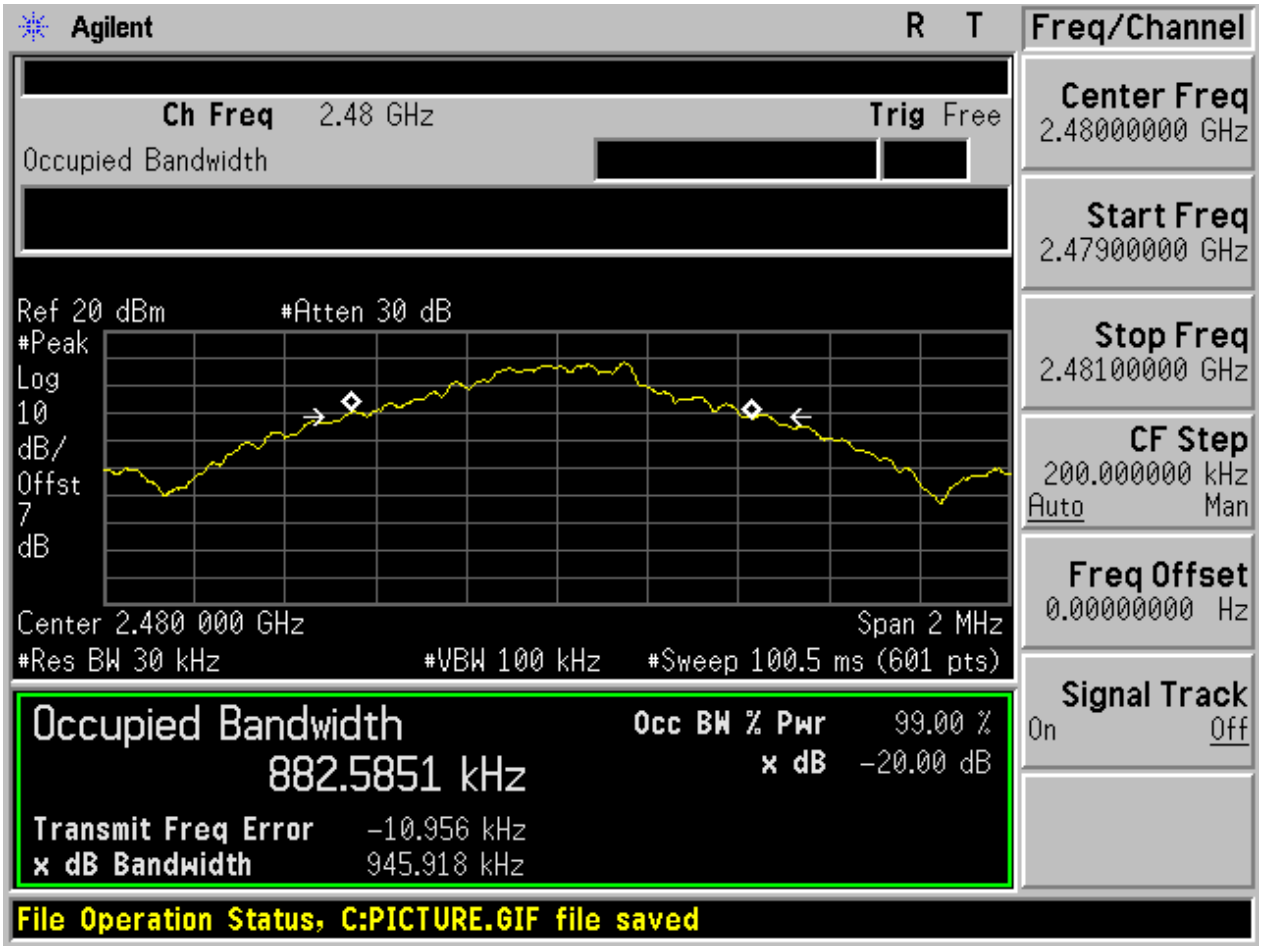
2.1 TM1_DH5_Ch0



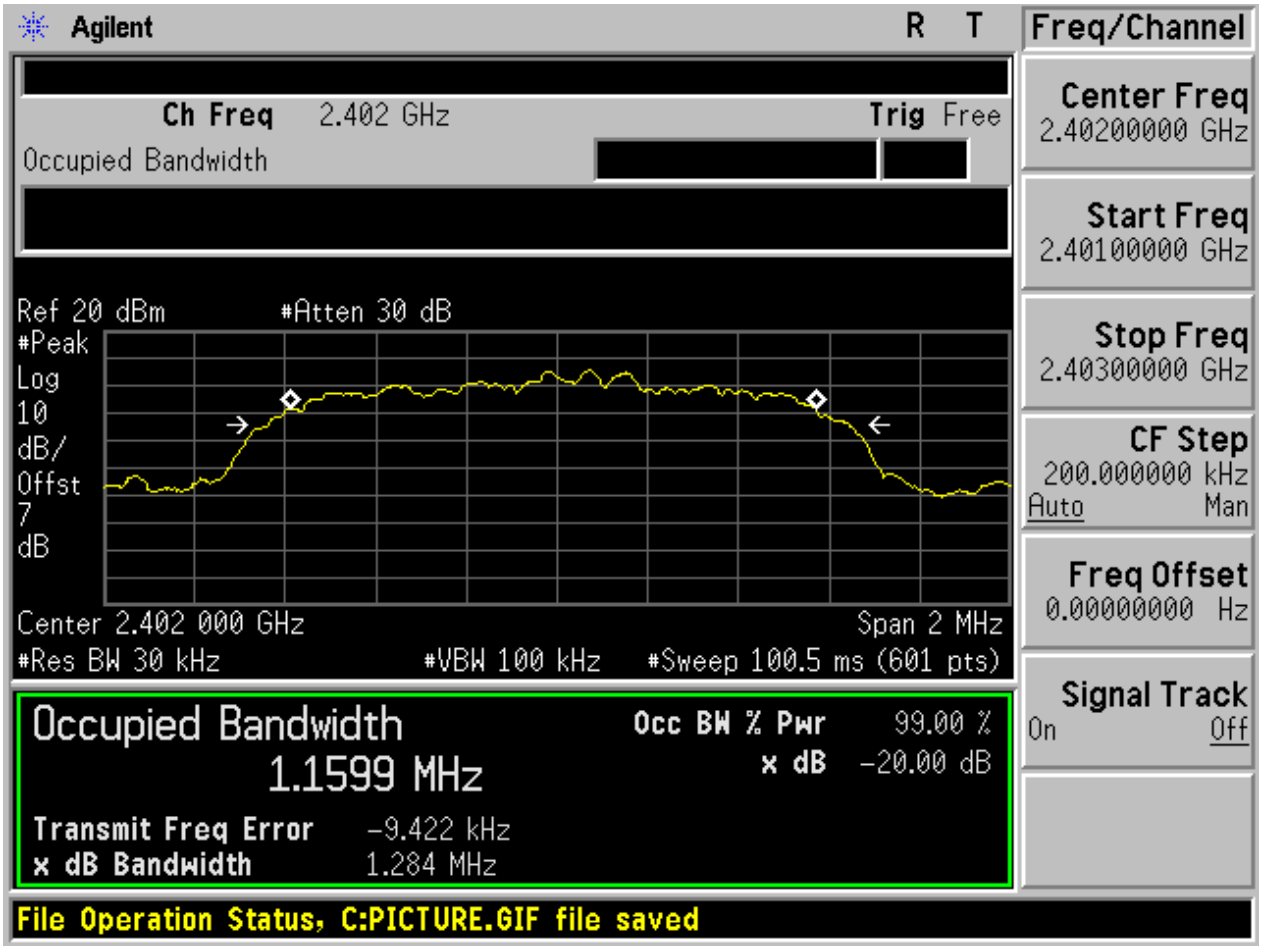
2.2 TM1_DH5_Ch39



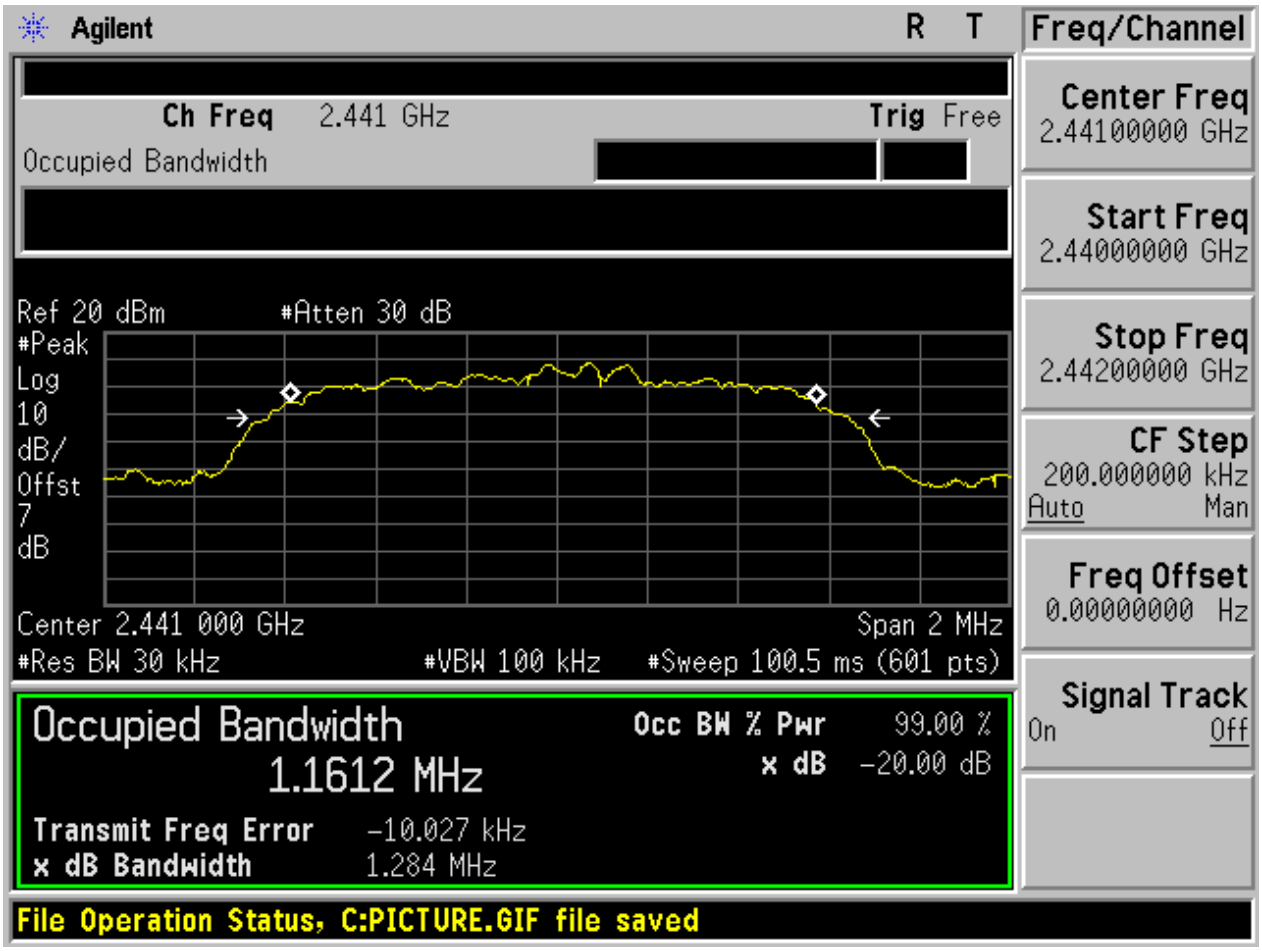
2.3 TM1_DH5_Ch78



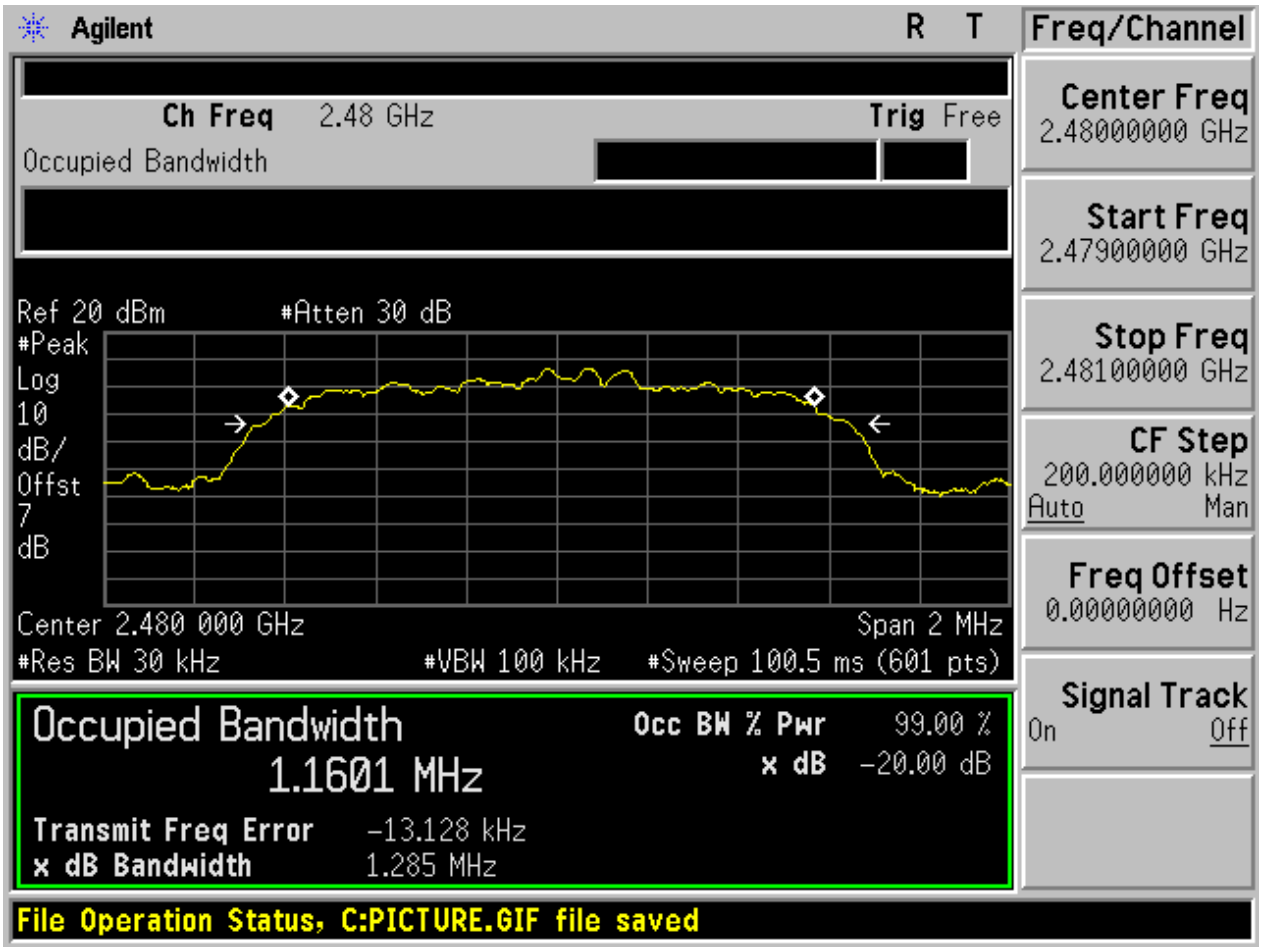
2.4 TM2_2DH5_Ch0



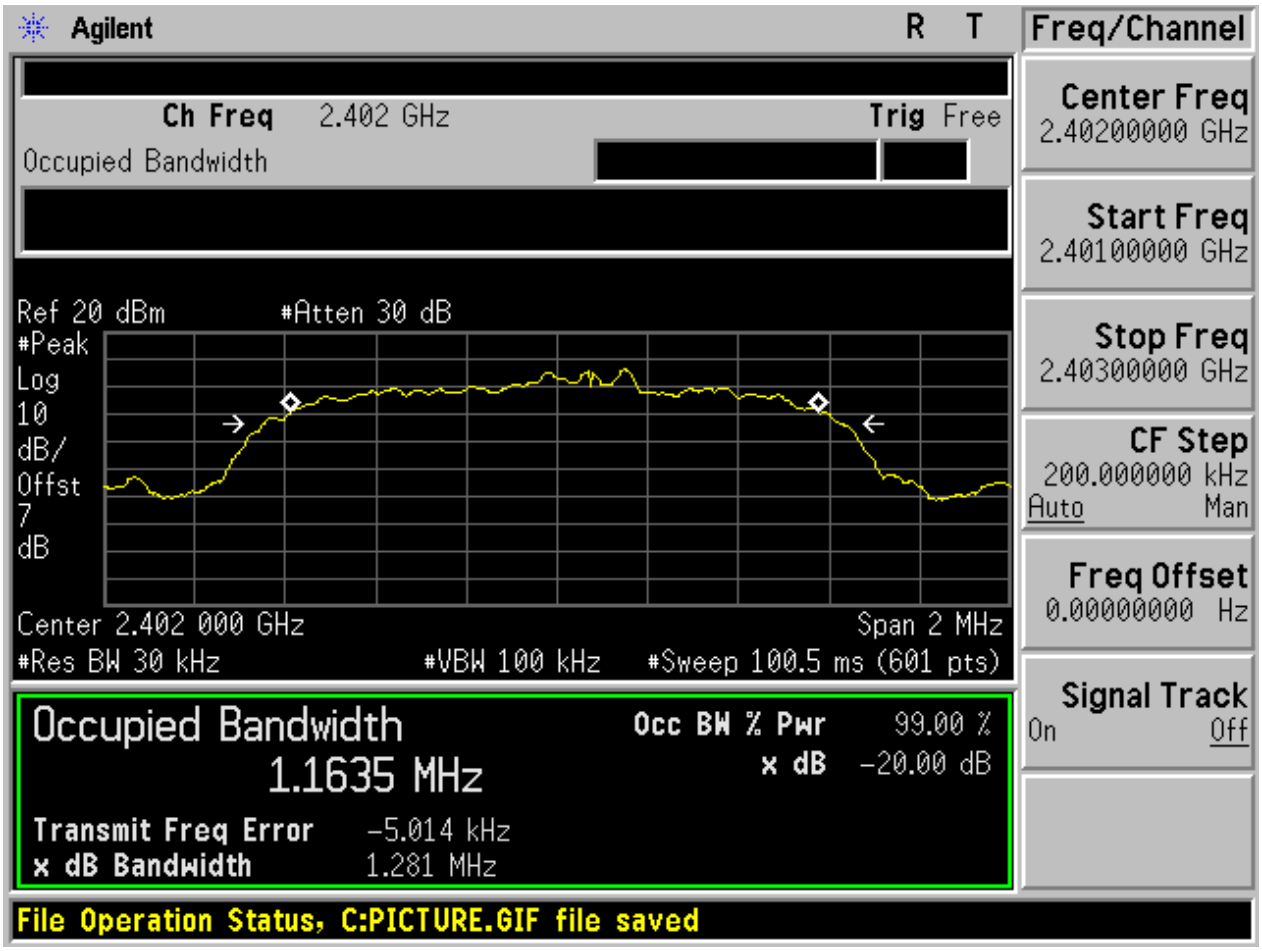
2.5 TM2_2DH5_Ch39



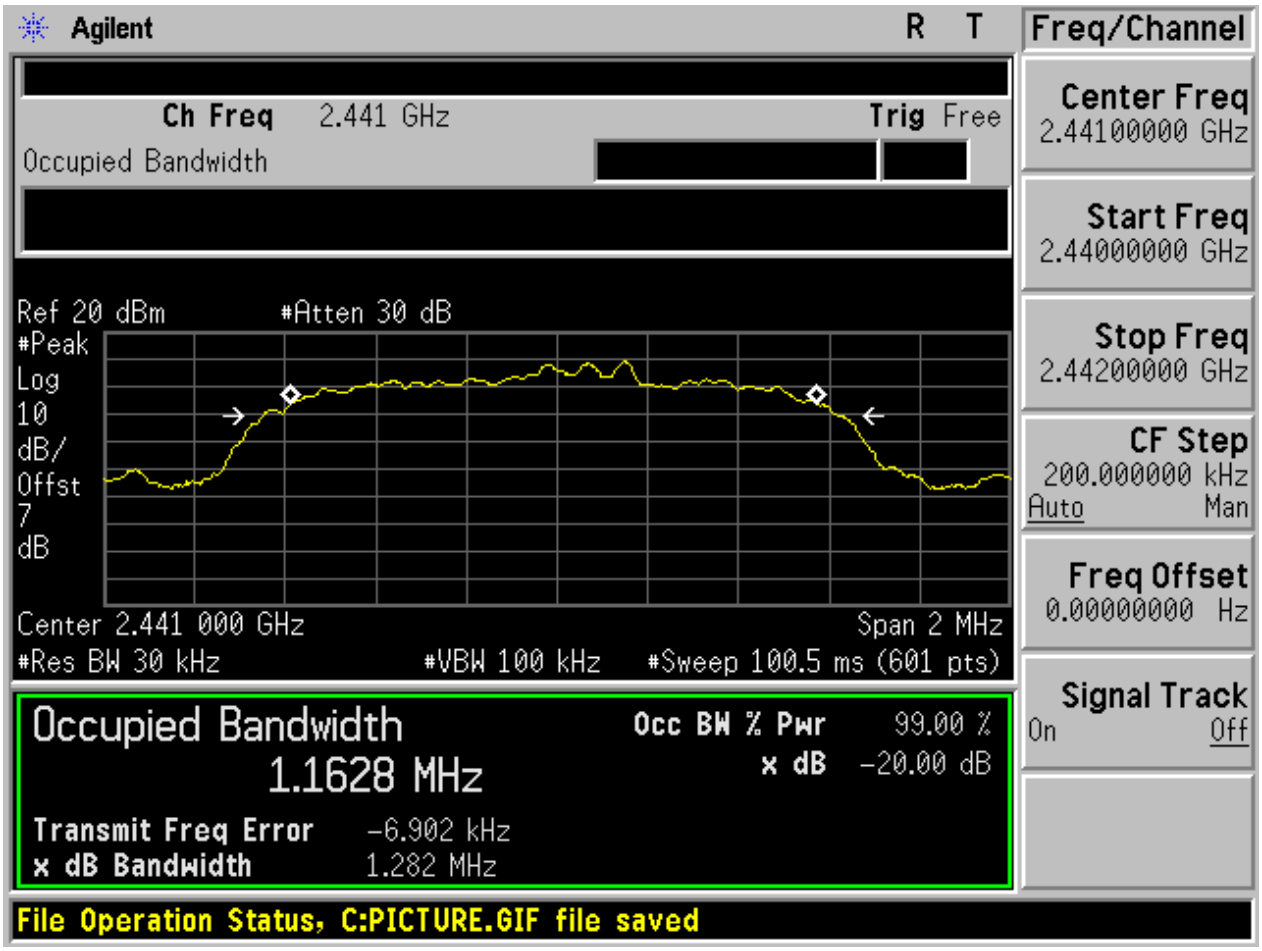
2.6 TM2_2DH5_Ch78



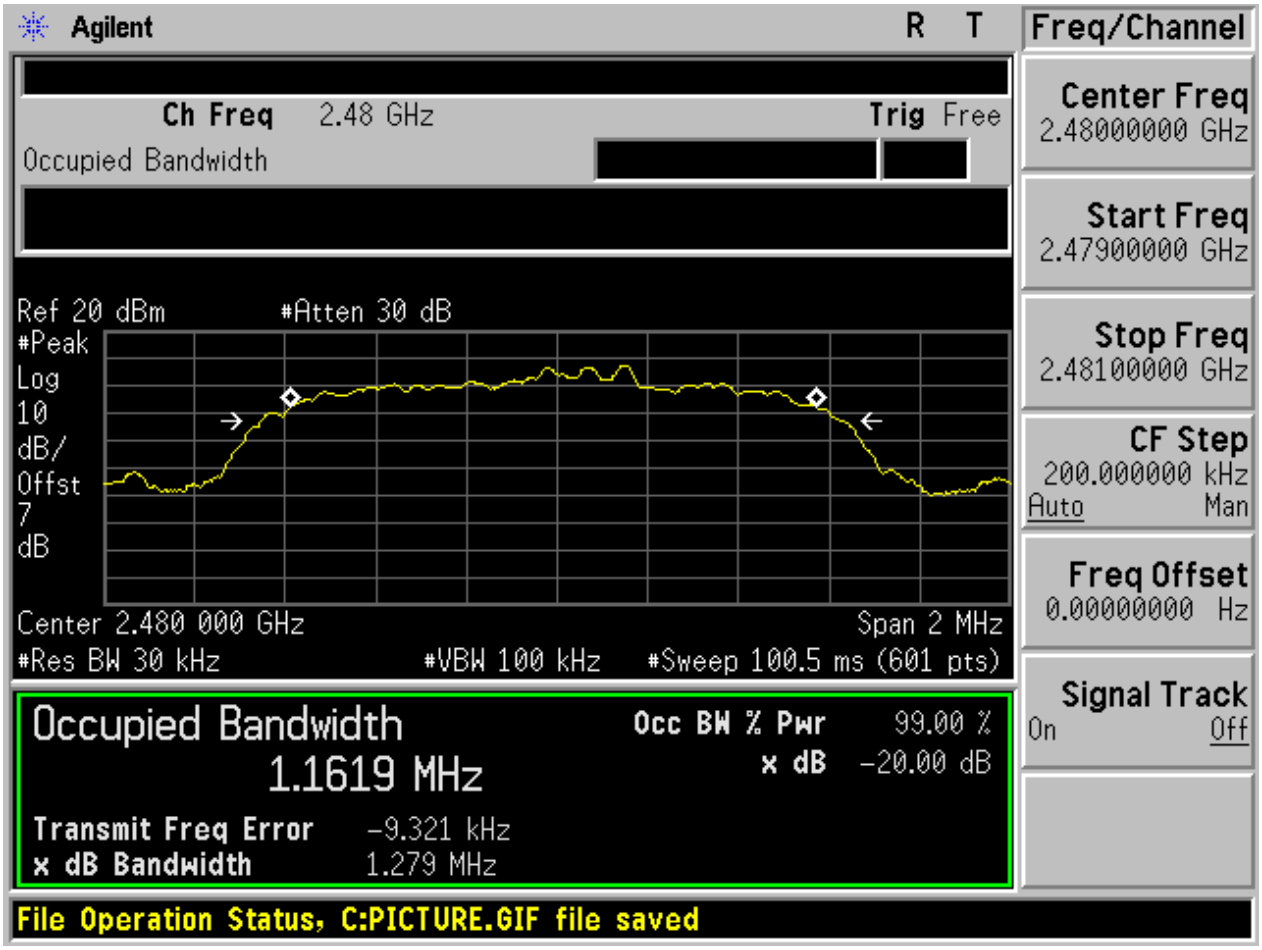
2.7 TM3_3DH5_Ch0



2.8 TM3_3DH5_Ch39



2.9 TM3_3DH5_Ch78



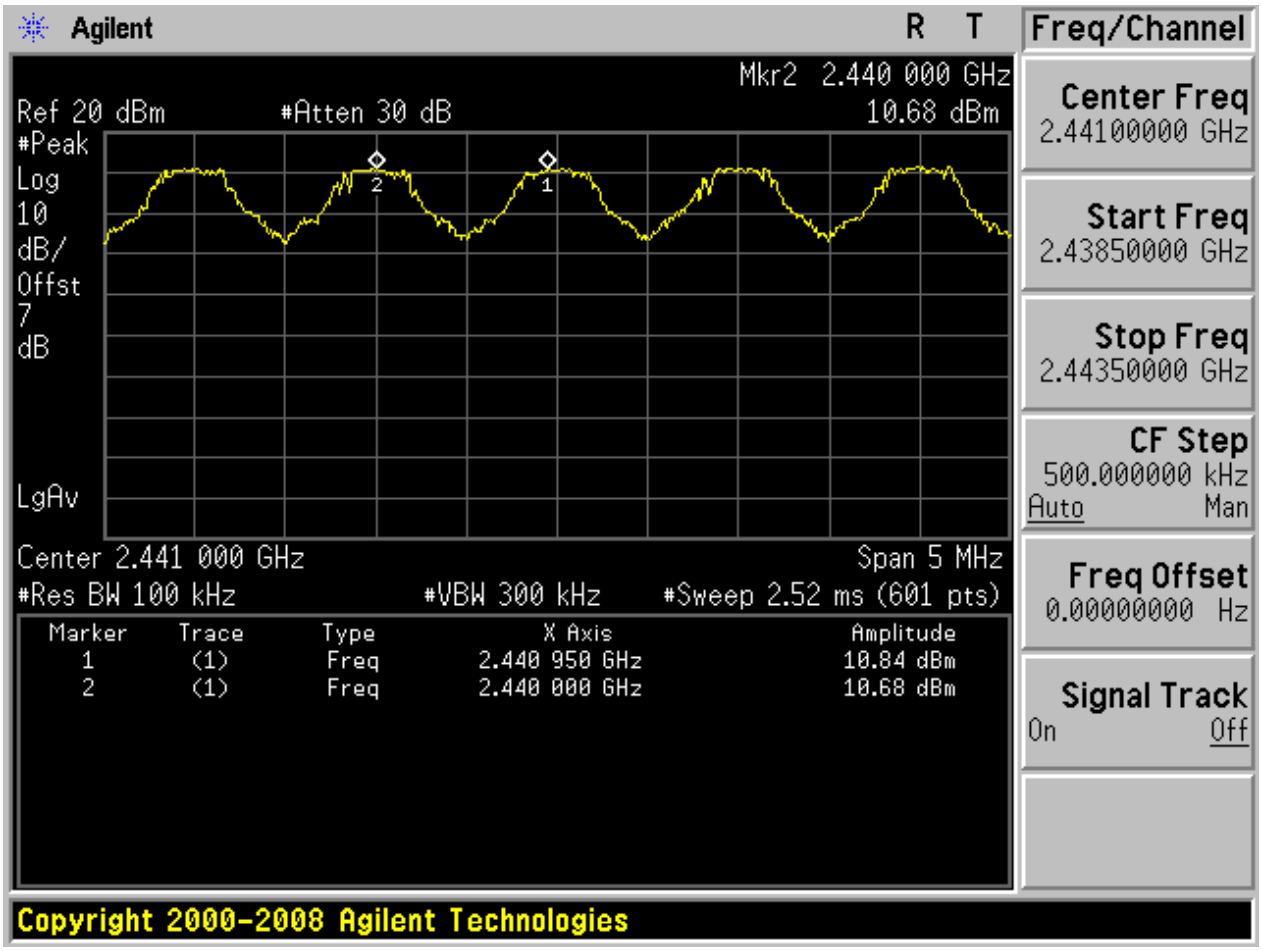
Appendix B: Carrier Frequency Separation

1 Result Table

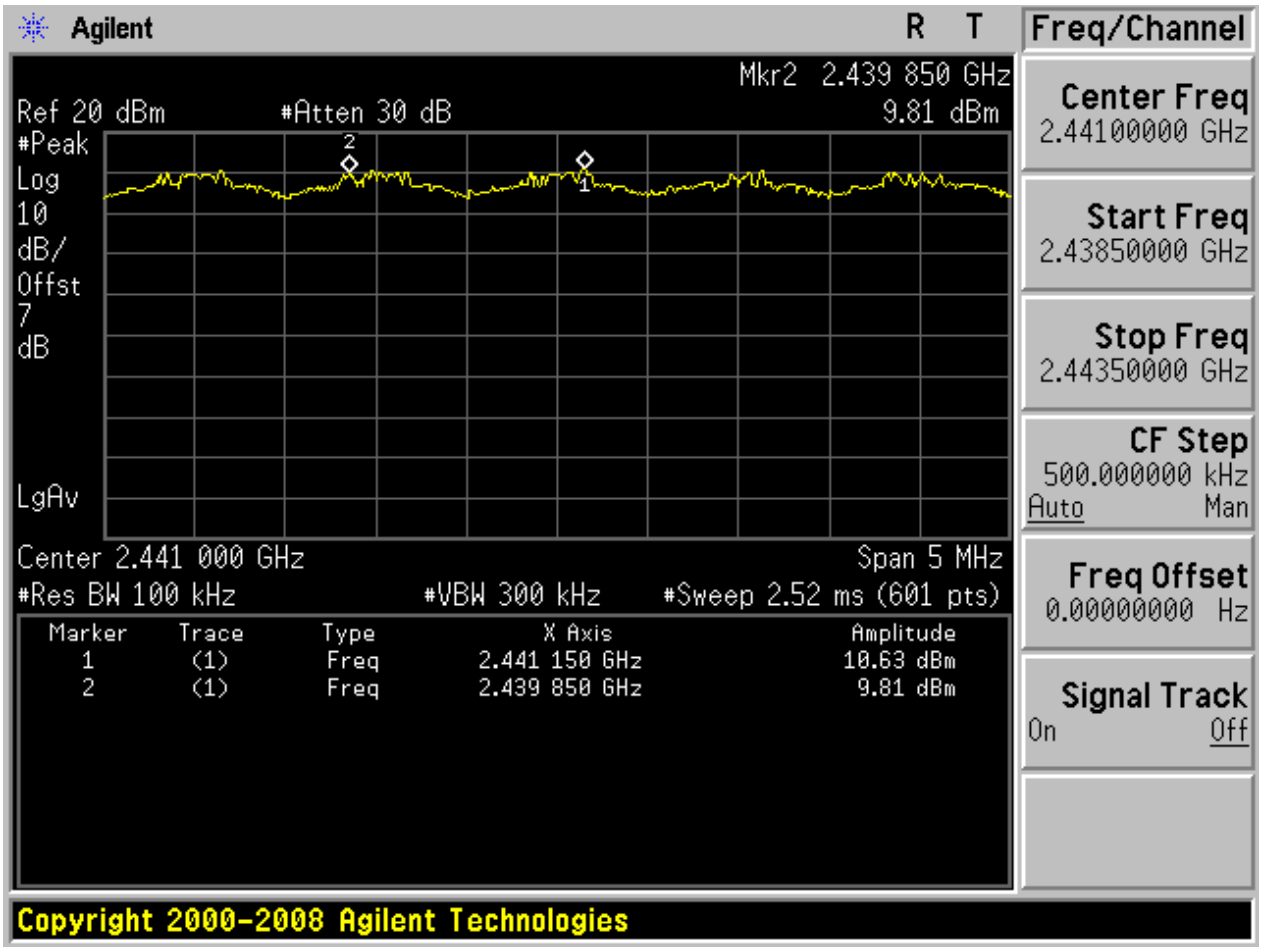
EUT Conf.	Carrier Frequency Separation [MHz]	Verdict
TM1_DH5_Hop	0.950	Pass
TM2_2DH5_Hop	1.300	Pass
TM3_3DH5_Hop	1.000	Pass

2 Test Plot

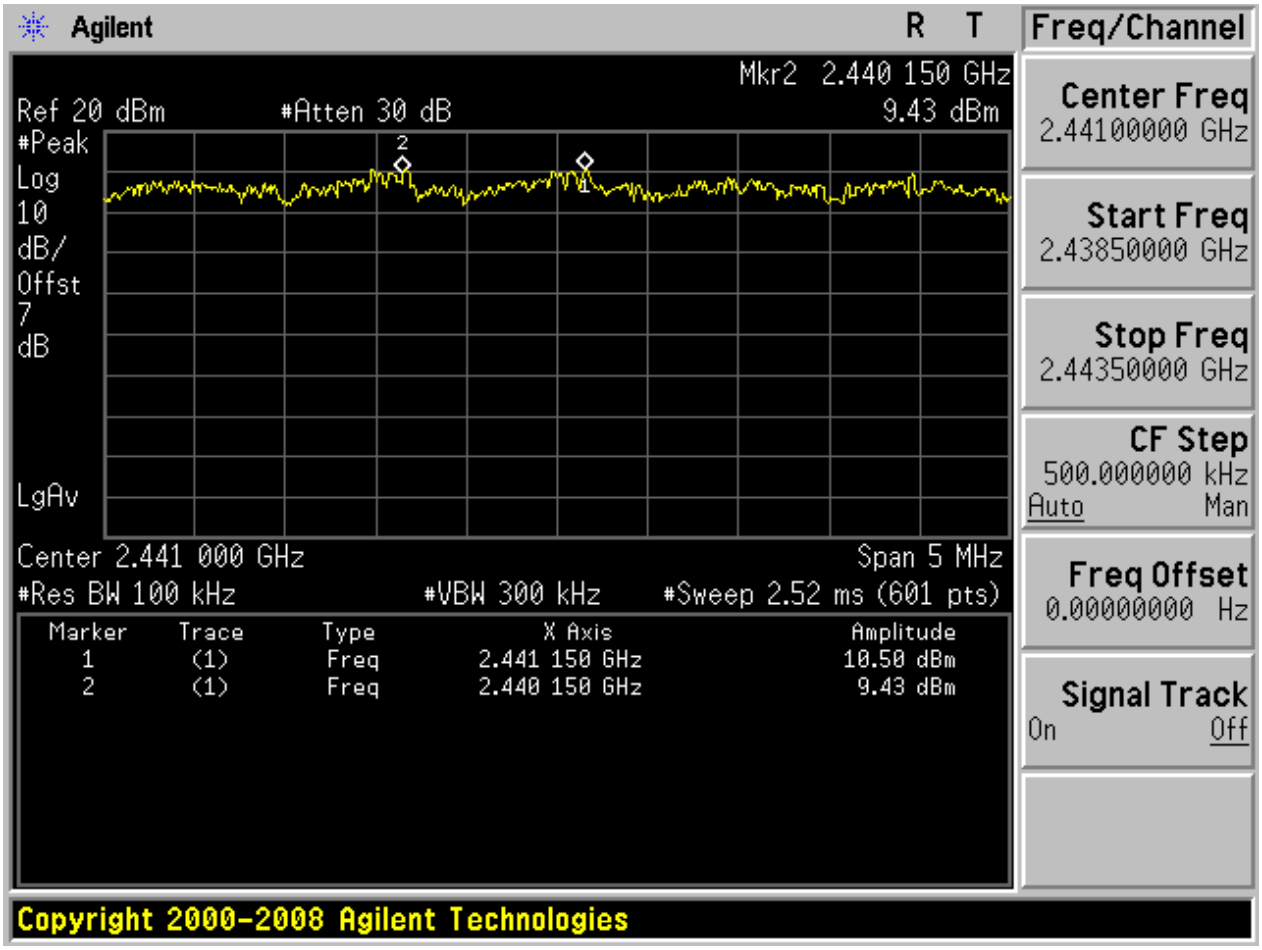
2.1 TM1_DH5_Hop



2.2 TM2_2DH5_Hop



2.3 TM3_3DH5_Hop



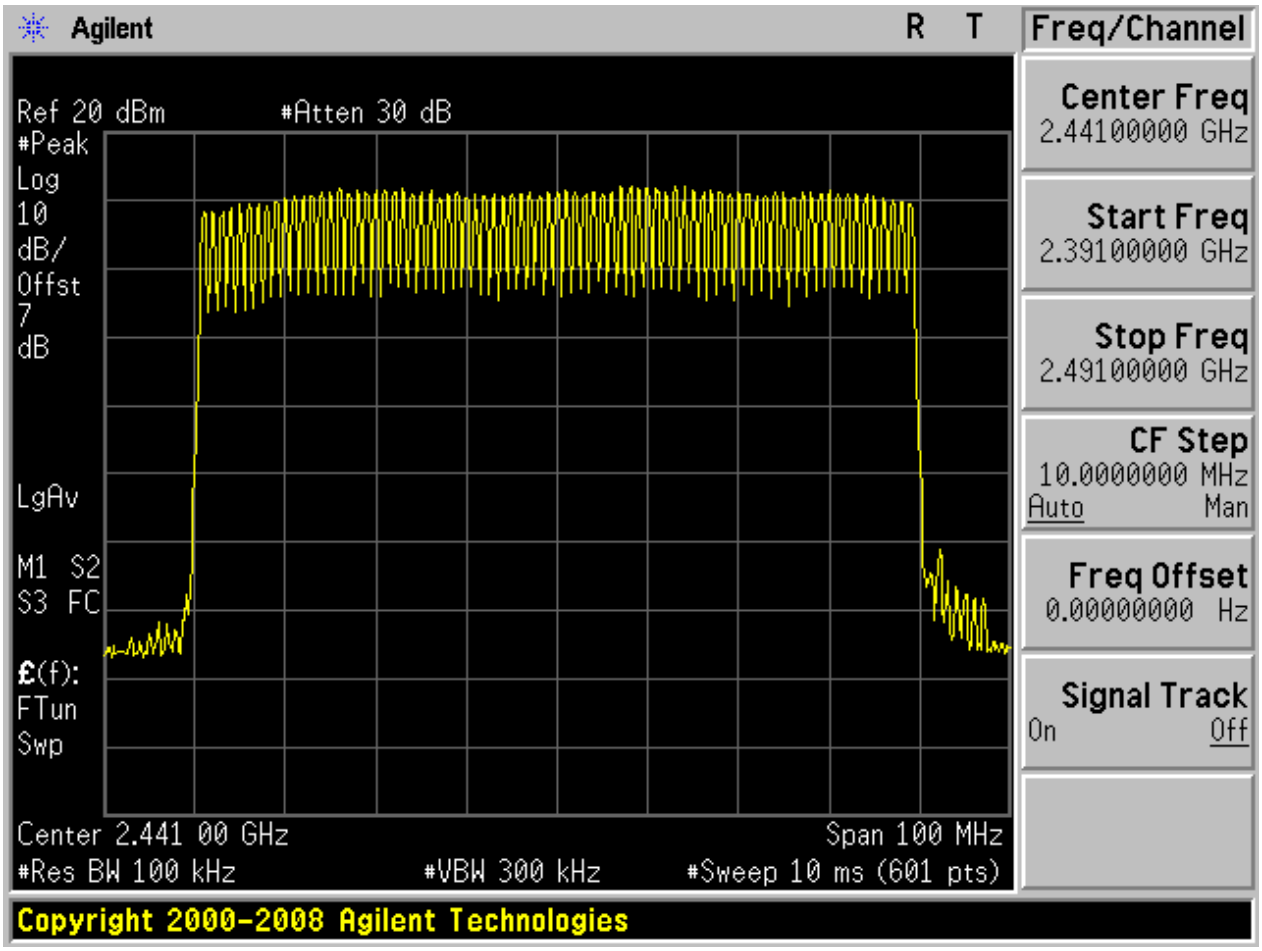
Appendix C: Number of Hopping Channel

1 Result Table

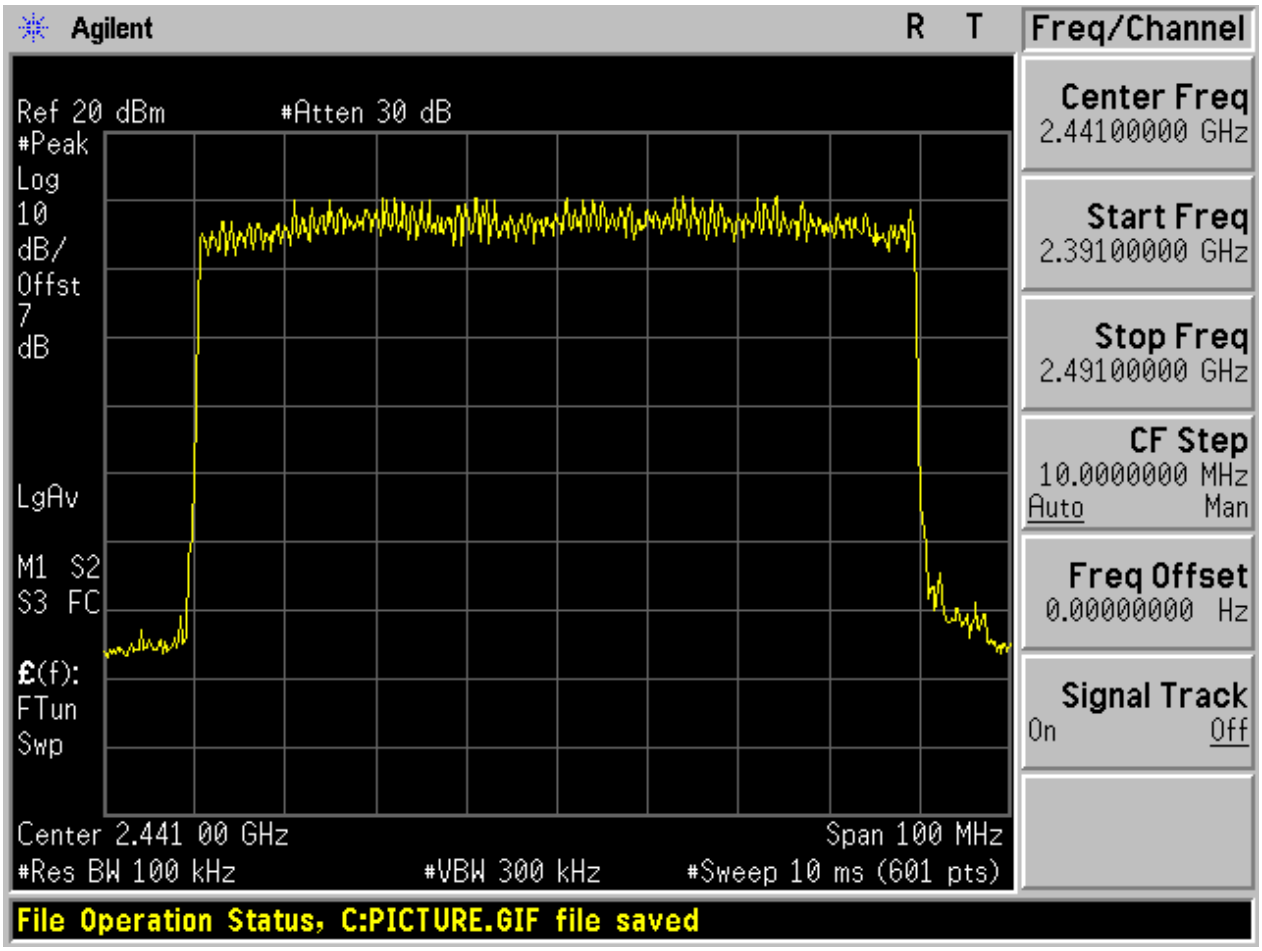
EUT Conf.	Number of Hopping Channel	Verdict
TM1_DH5_Hop	79	Pass
TM2_2DH5_Hop	79	Pass
TM3_3DH5_Hop	79	Pass

2 Test Plot

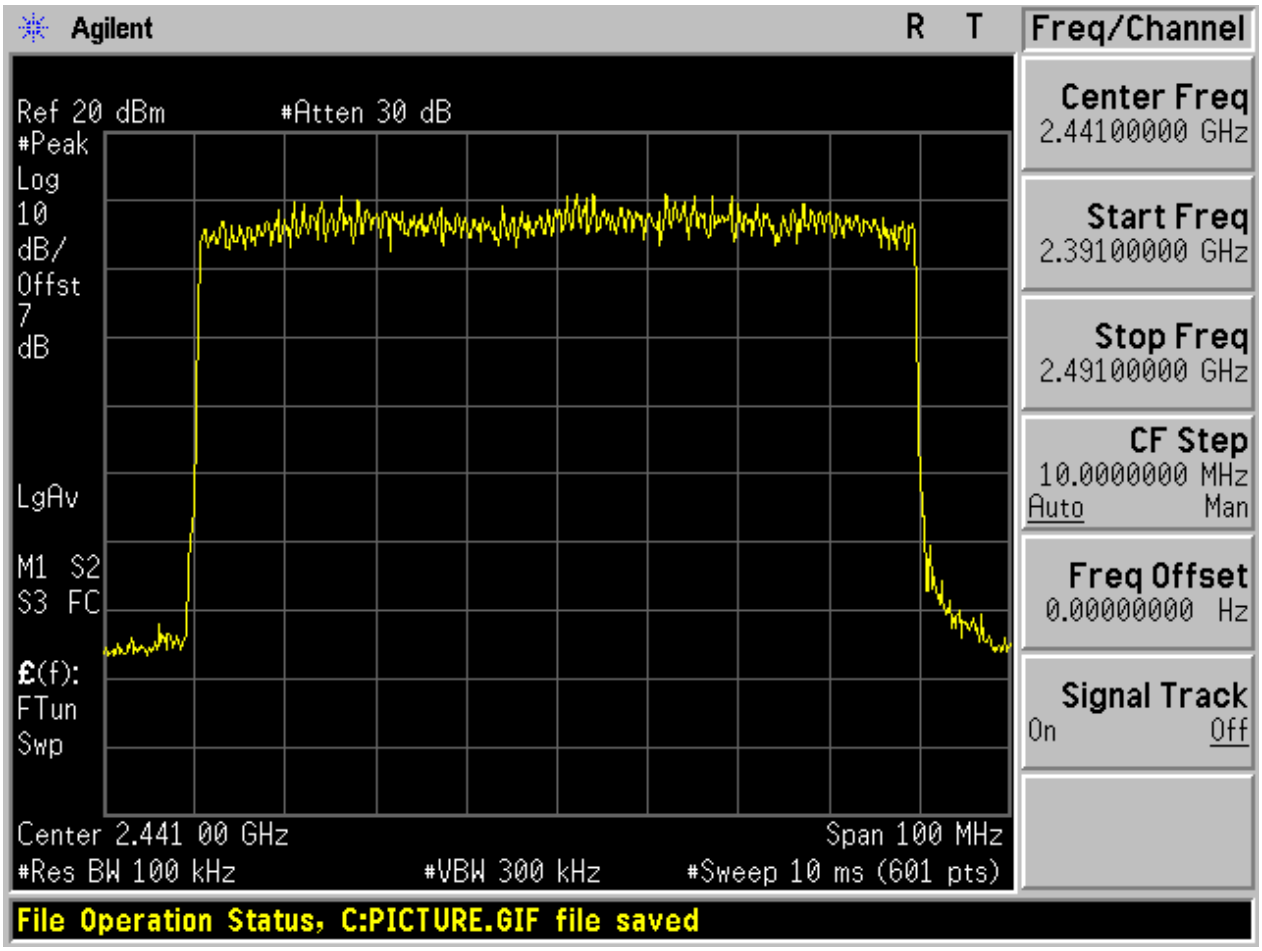
2.1 TM1_DH5_Hop



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:

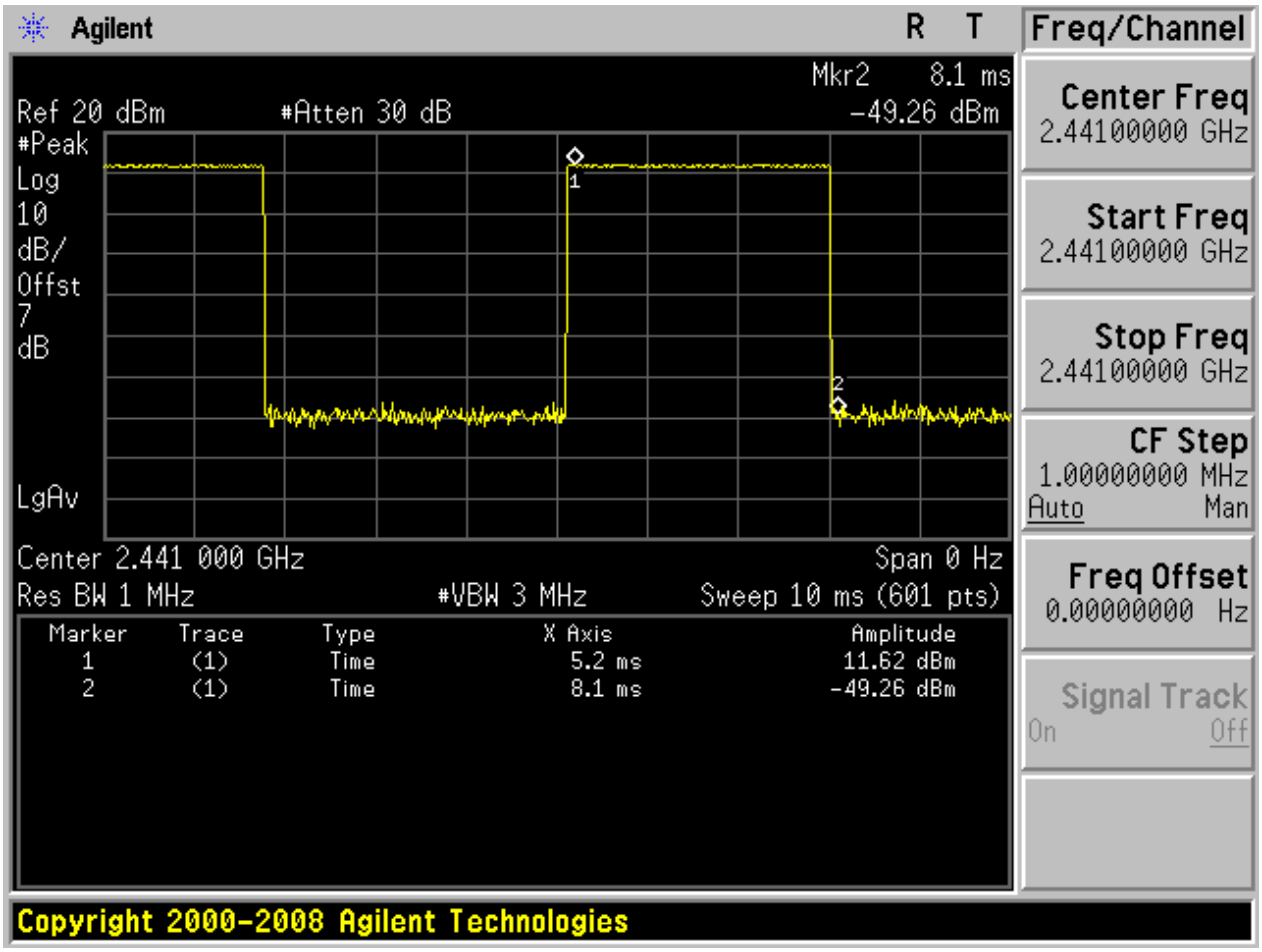
- The duration for dwell time calculation: 0.4 [s] * hopping number = 0.4 [s] * 79 [ch] = 31.6 [s*ch];
- The burst width [ms/hop/ch], which is directly measured, refers to the duration on one channel hop.
- The hops per second for all channels: The selected EUT Conf uses a slot type of 5-Tx&1-Rx and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

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

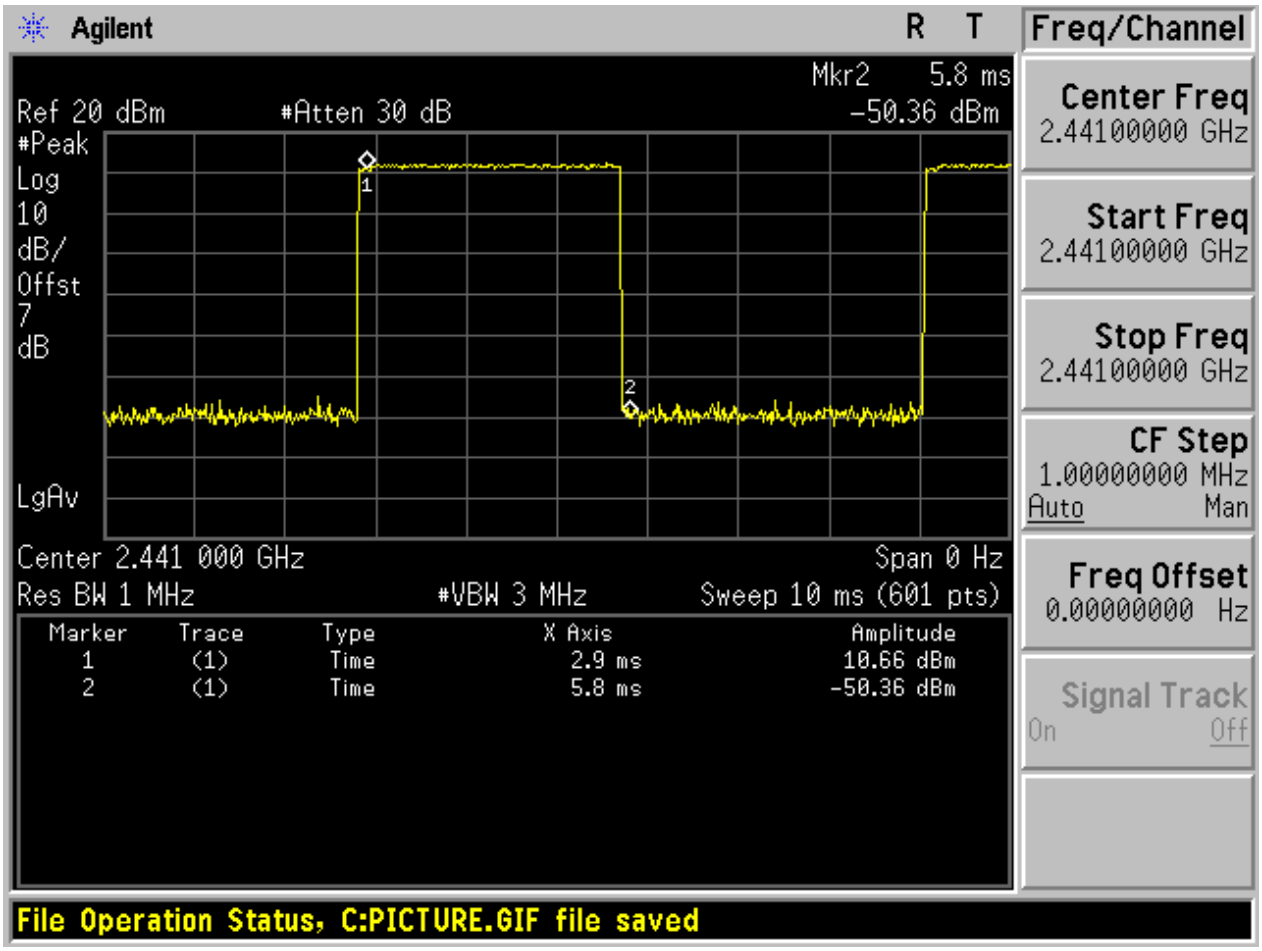
2 Test Plot

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

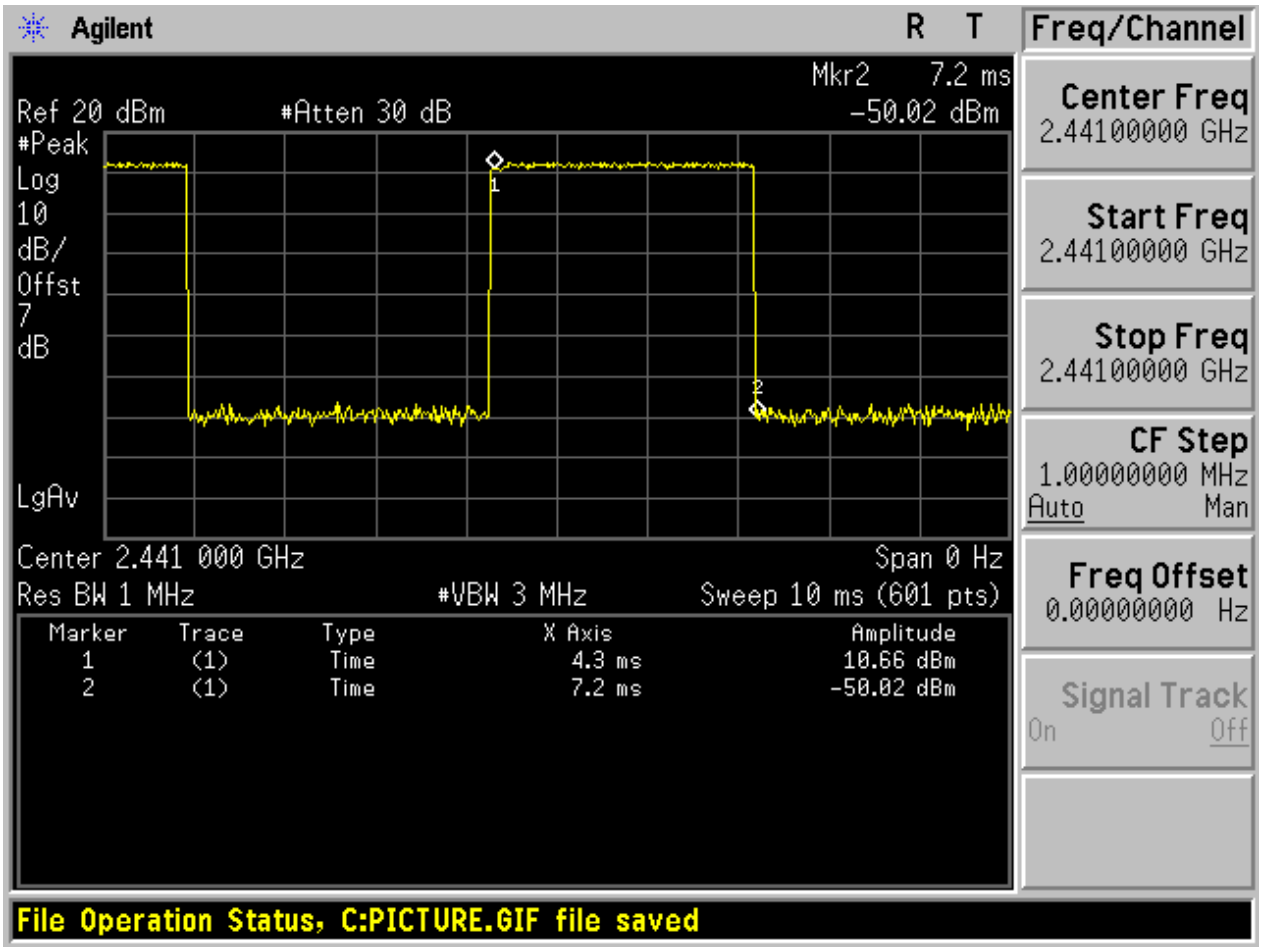
2.1 TM1_DH5_Ch39



2.2 TM2_2DH5_Ch39



2.3 TM3_3DH5_Ch39



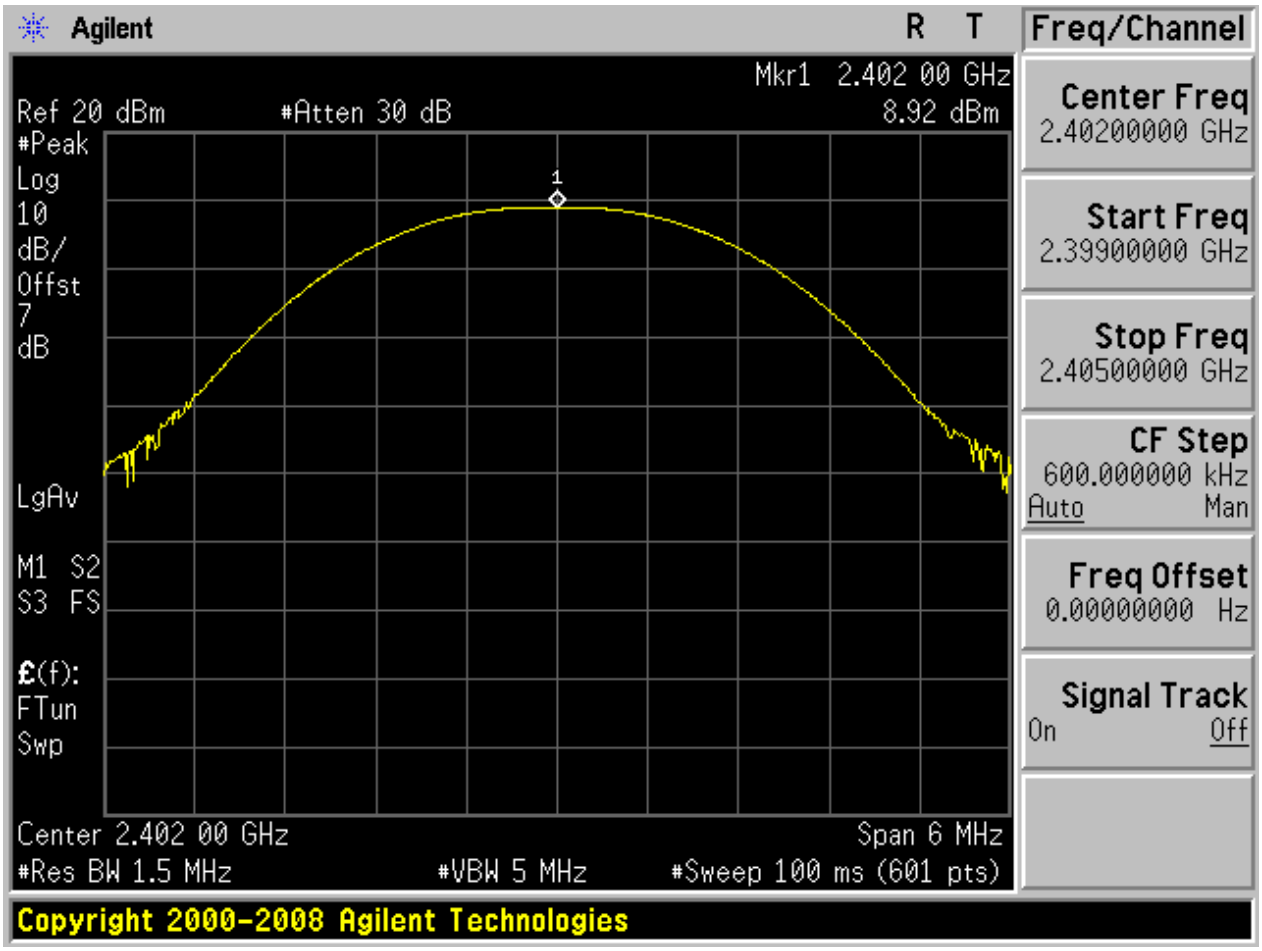
Appendix E: Maximum Peak Conducted Output Power

1 Result Table

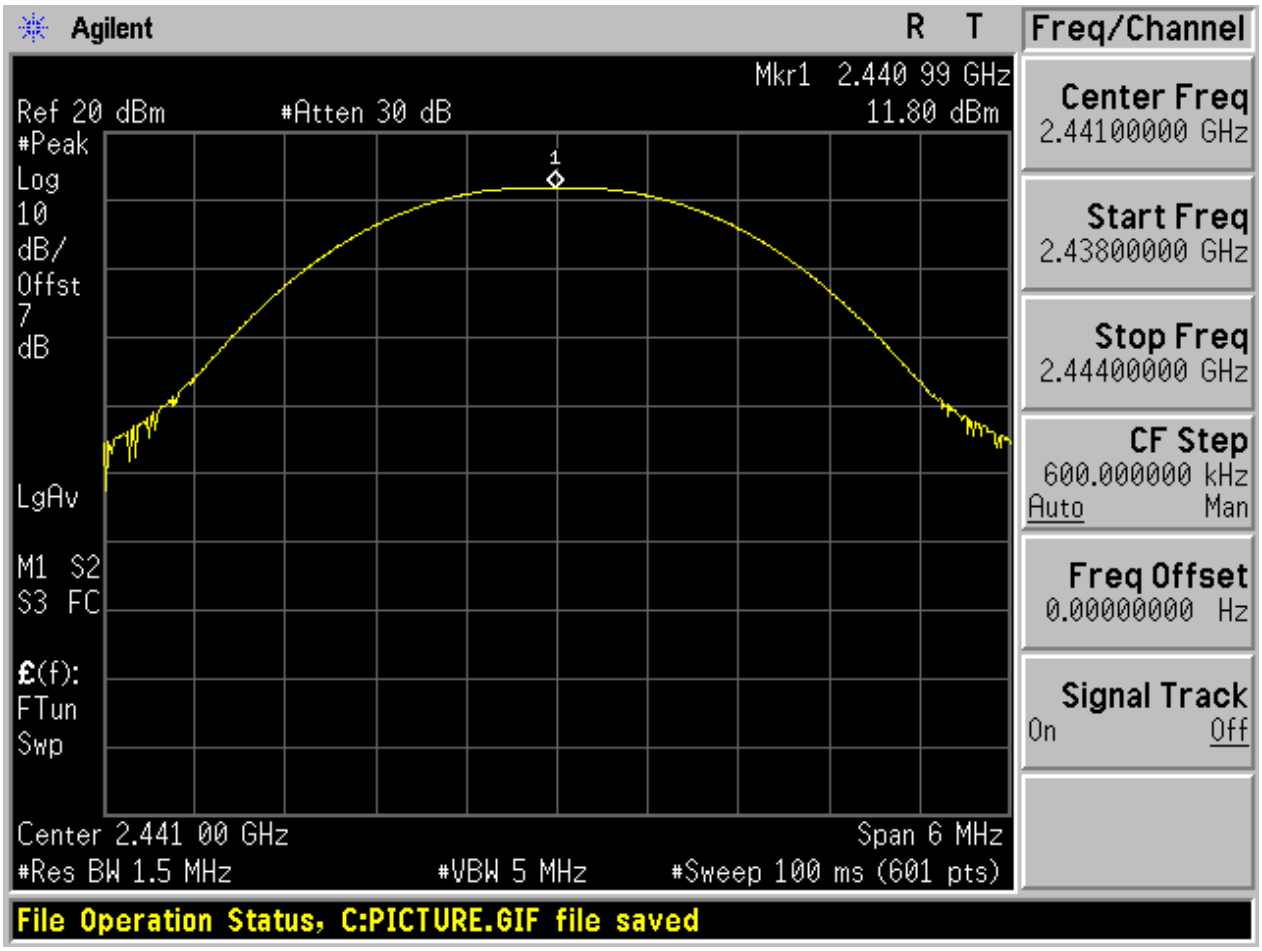
EUT Conf.	Max. Peak Power [dBm]	Verdict
TM1_DH5_Ch0	8.92	Pass
TM1_DH5_Ch39	11.8	Pass
TM1_DH5_Ch78	10.16	Pass
TM2_2DH5_Ch0	9.77	Pass
TM2_2DH5_Ch39	12.59	Pass
TM2_2DH5_Ch78	10.93	Pass
TM3_3DH5_Ch0	9.96	Pass
TM3_3DH5_Ch39	12.78	Pass
TM3_3DH5_Ch78	11.16	Pass

2 Test Plot

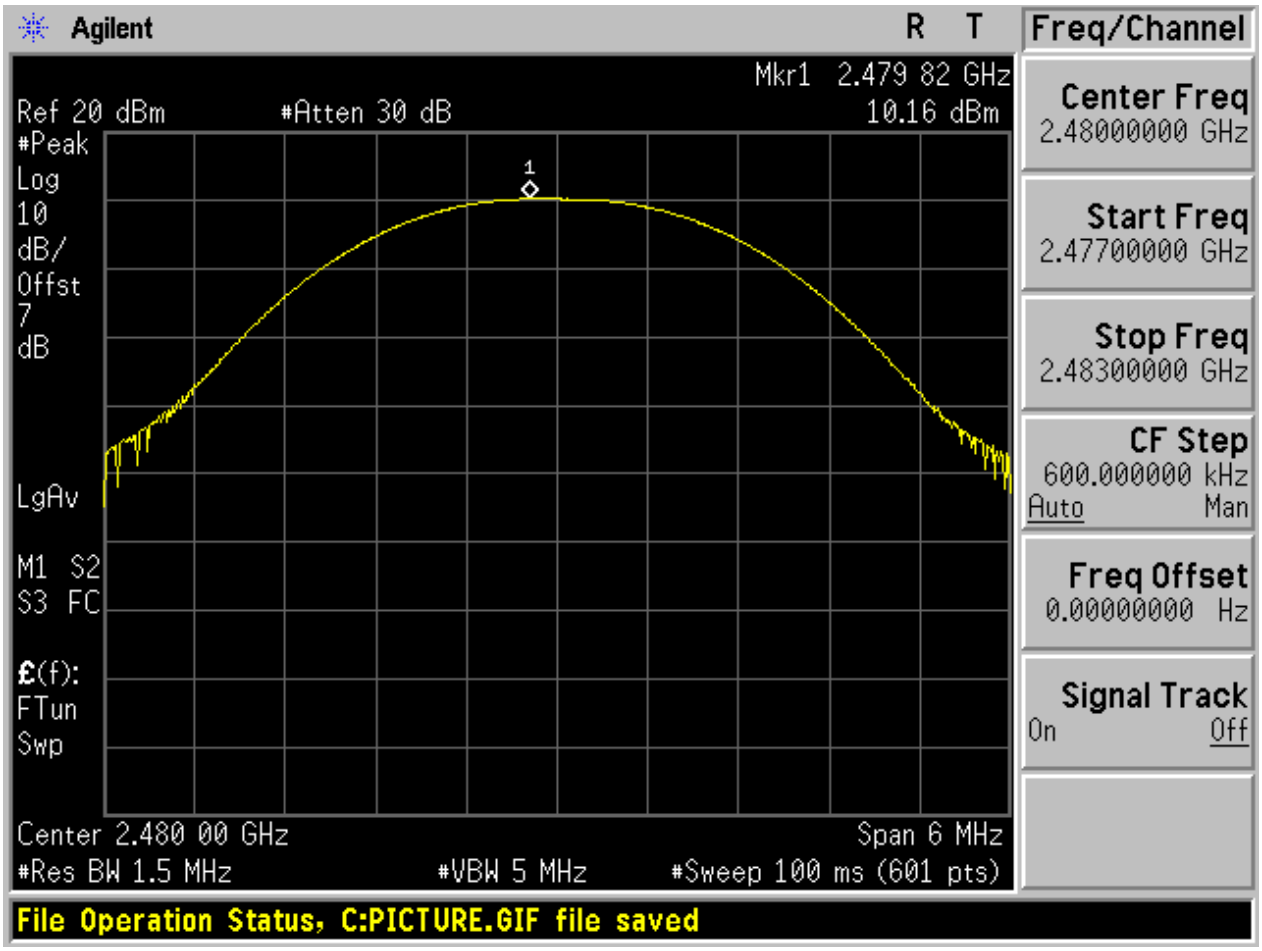
2.1 TM1_DH5_Ch0



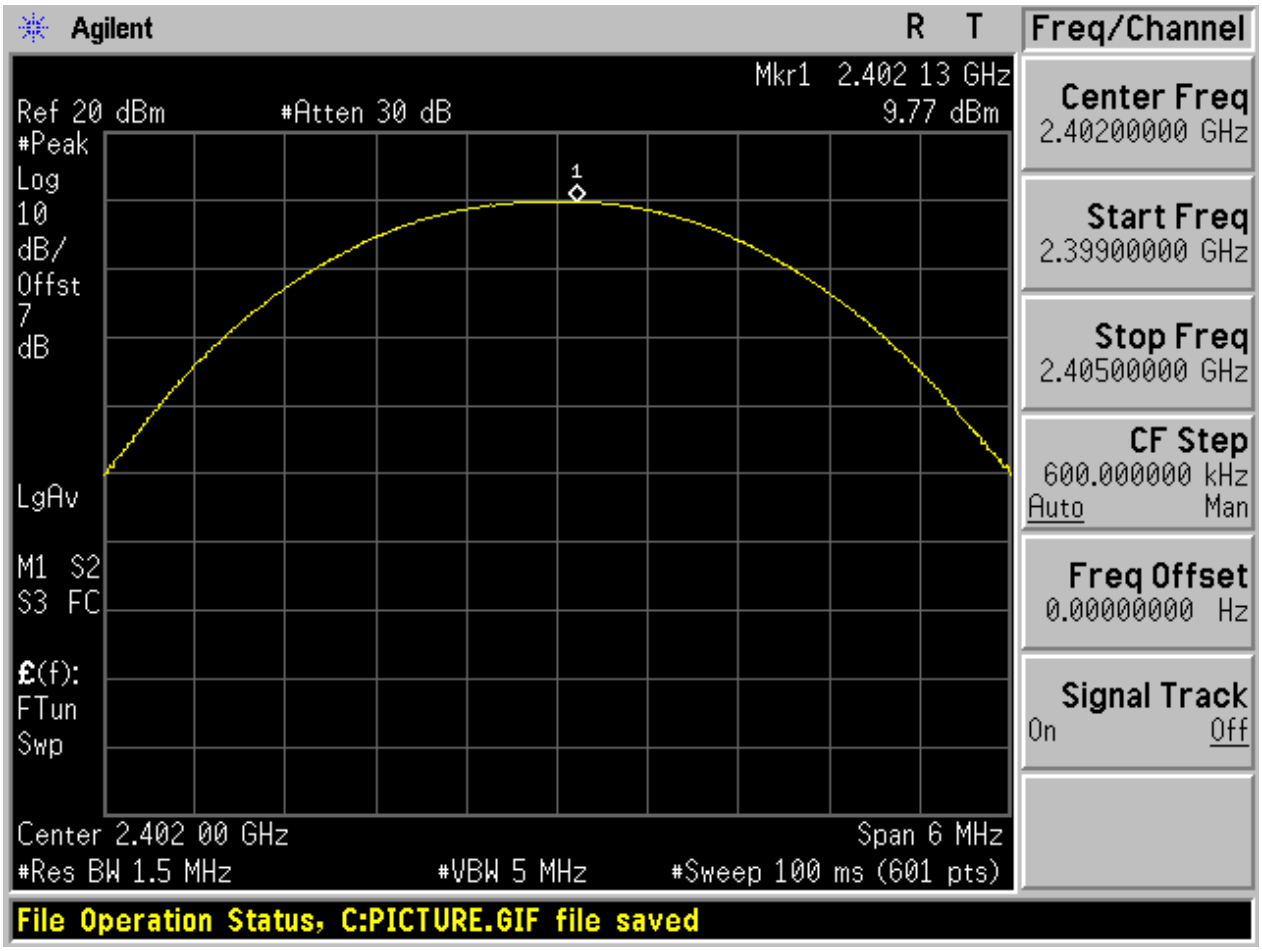
2.2 TM1_DH5_Ch39



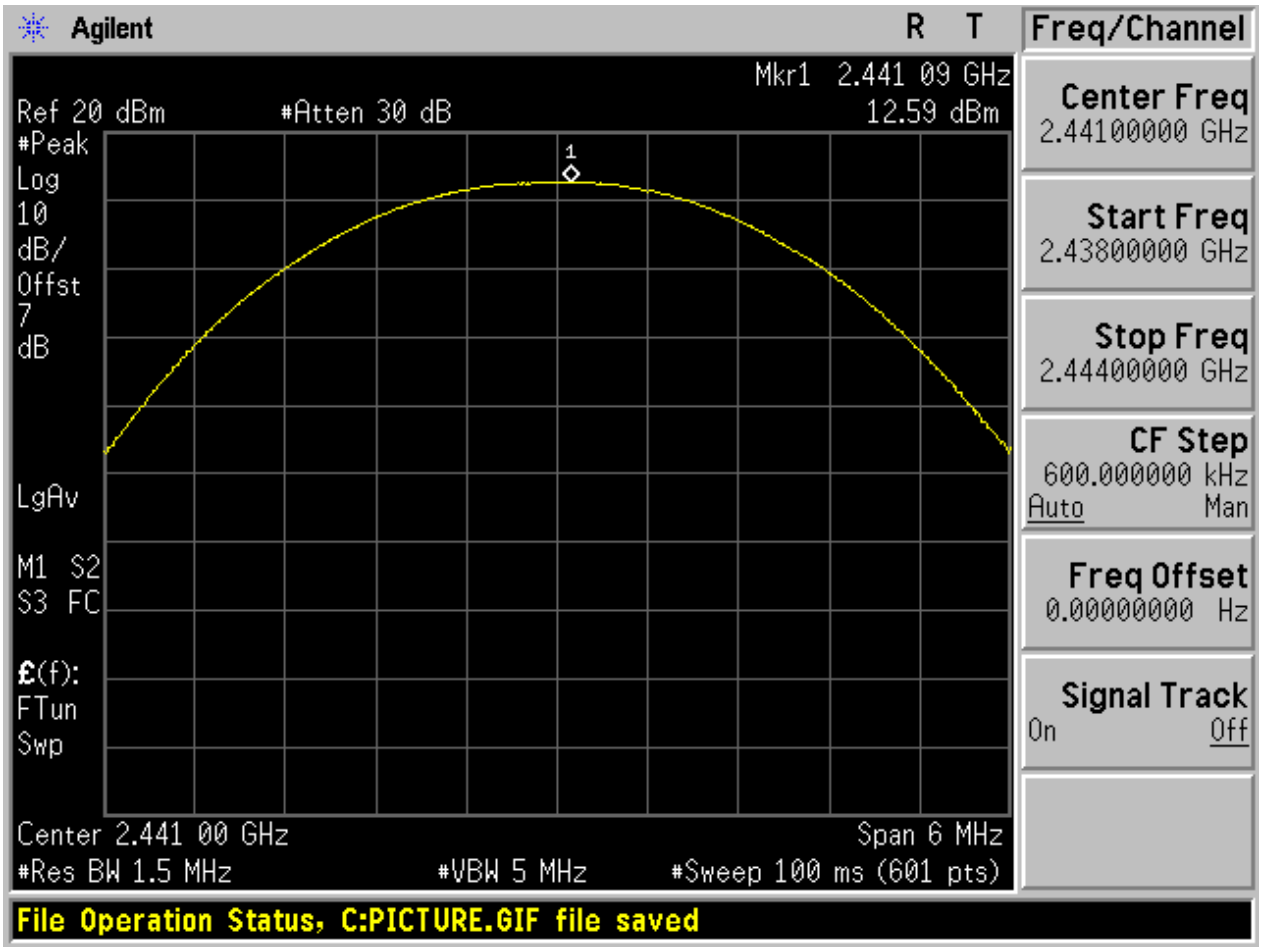
2.3 TM1_DH5_Ch78



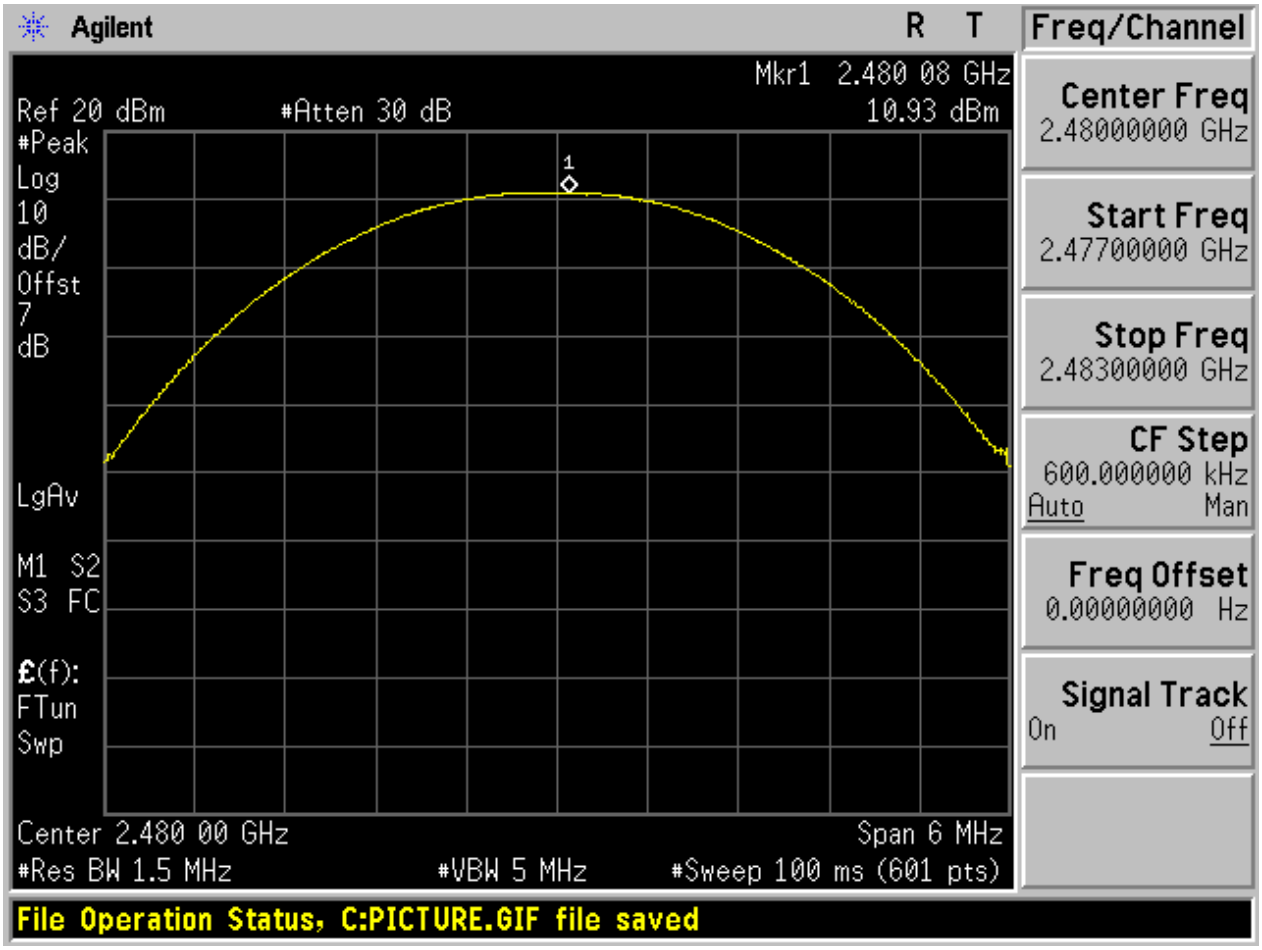
2.4 TM2_2DH5_Ch0



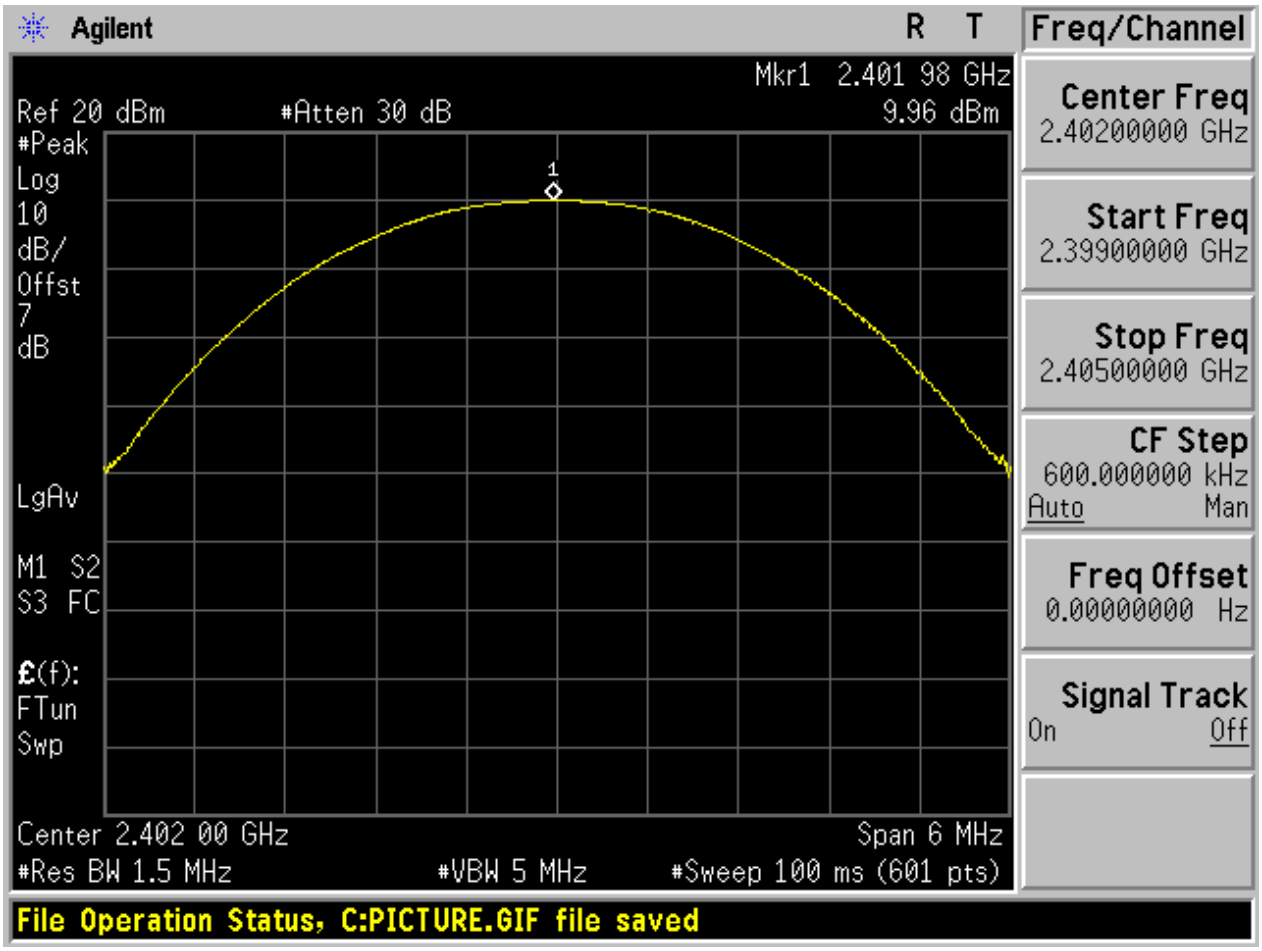
2.5 TM2_2DH5_Ch39



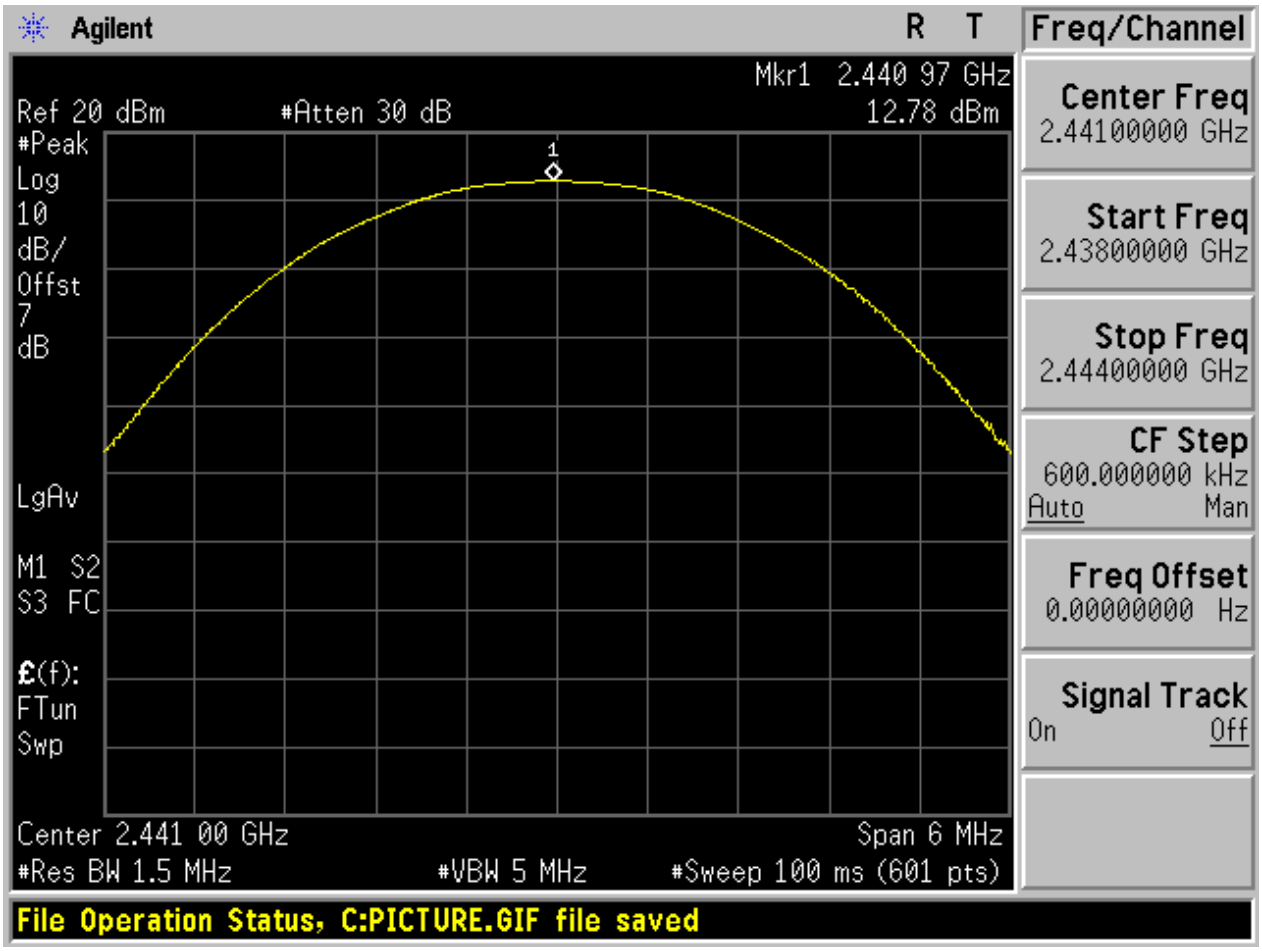
2.6 TM2_2DH5_Ch78



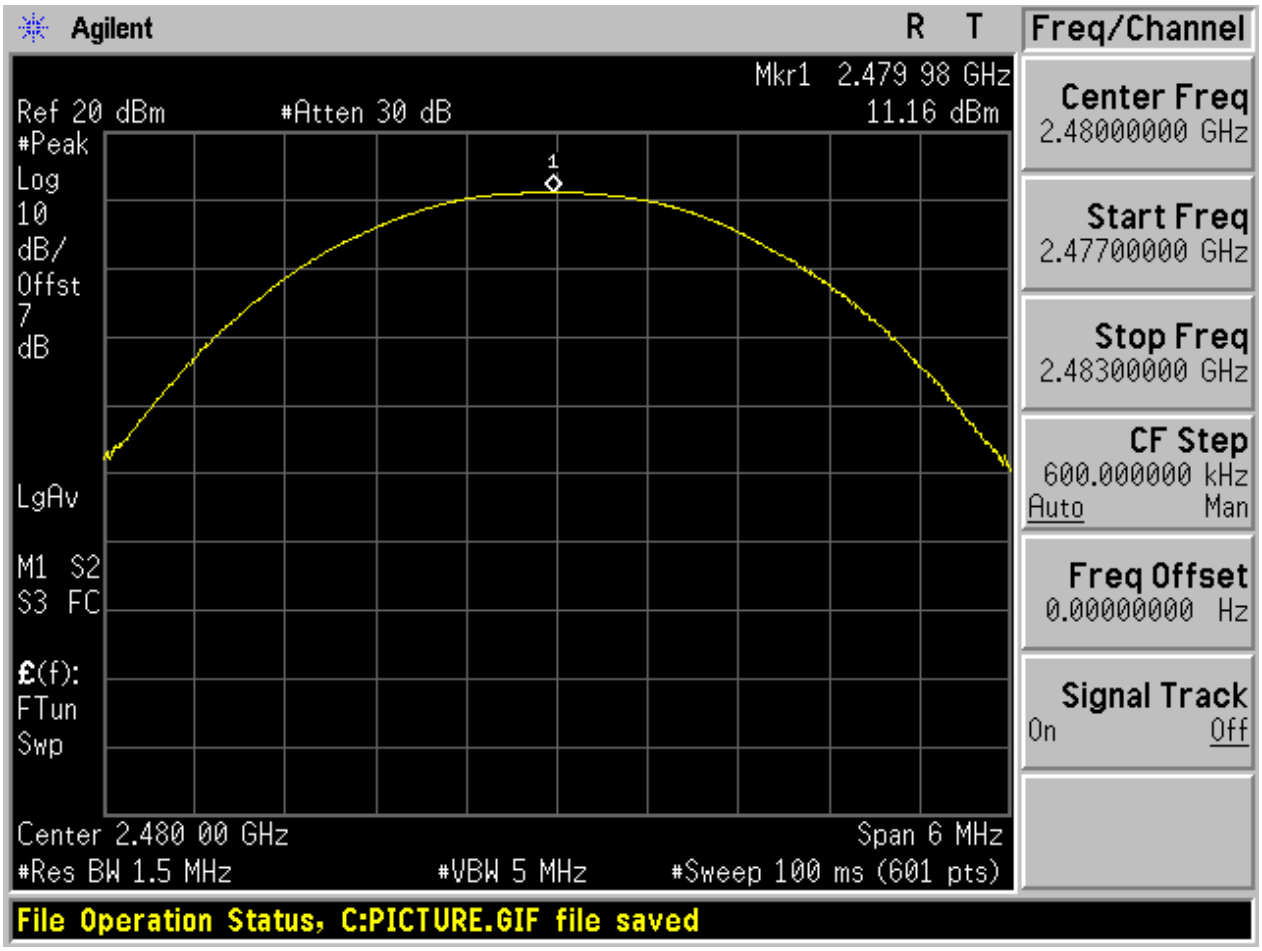
2.7 TM3_3DH5_Ch0



2.8 TM3_3DH5_Ch39



2.9 TM3_3DH5_Ch78



Appendix F: Band edge spurious emission

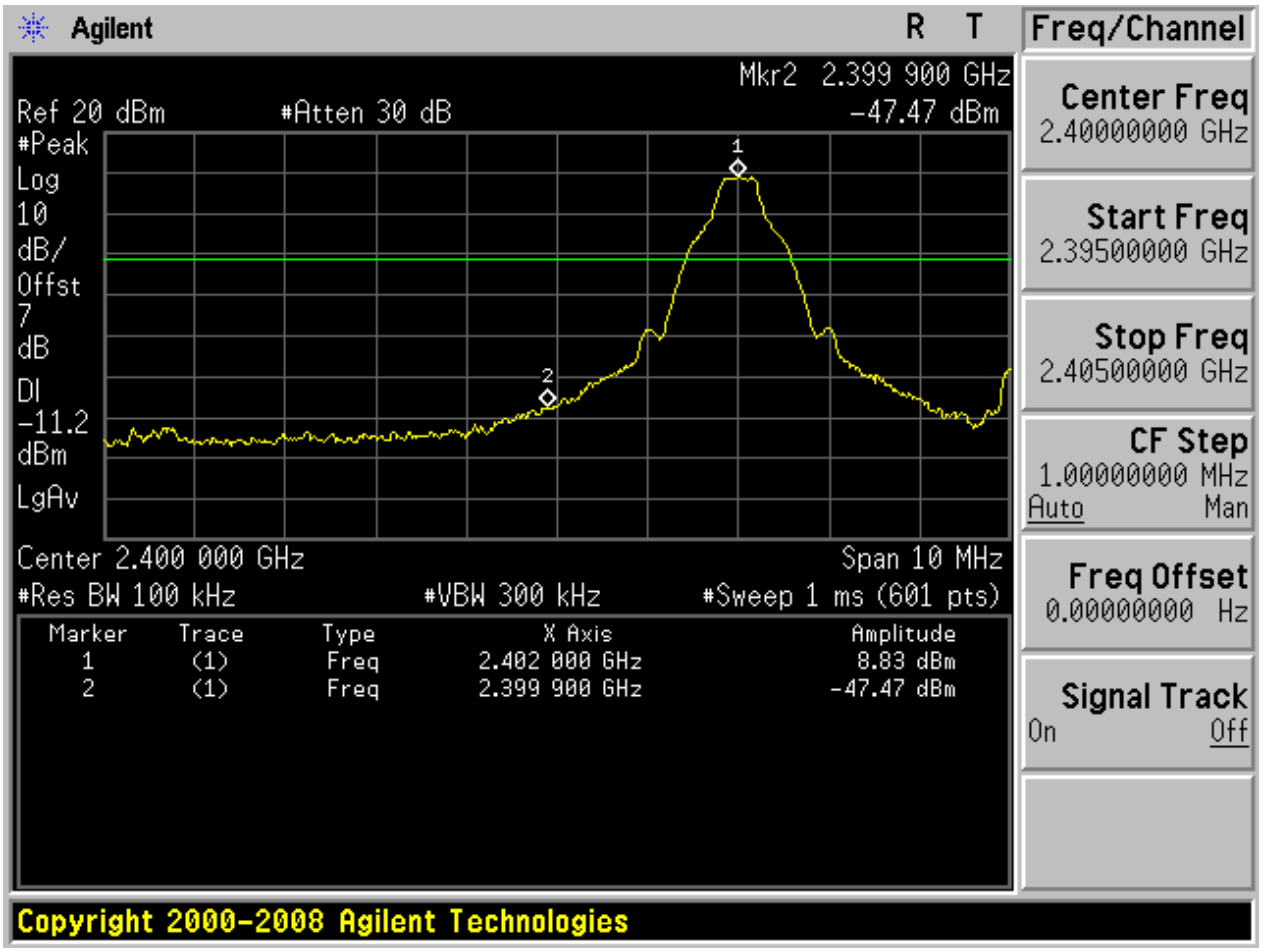
1 Result Table

EUT Conf.	Channel No.	Carrier Frequency [MHz]	Max. Spurious Level [dBm]	Frequency Hopping	Carrier Power [dBm]	Limit [dBm]	Result
TM1_DH5_Ch0	0	2402	-47.47	Off	8.83	-11.17	Pass
	-	-	-51.15	On	8.64	-11.36	Pass
TM1_DH5_Ch78	78	2480	-43.38	Off	9.97	-10.03	Pass
	-	-	-45.73	On	10.06	-9.94	Pass
TM2_2DH5_Ch0	0	2402	-48.99	Off	7.80	-12.2	Pass
	-	-	-49.63	On	7.23	-12.77	Pass
TM2_2DH5_Ch78	78	2480	-43.83	Off	9.00	-11	Pass
	-	-	-47.63	On	7.90	-12.1	Pass
TM3_3DH5_Ch0	0	2402	-48.75	Off	7.79	-12.21	Pass
	-	-	-51.81	On	5.67	-14.33	Pass
TM3_3DH5_Ch78	78	2480	-41.57	Off	9.04	-10.96	Pass
	-	-	-49.09	On	8.86	-11.14	Pass

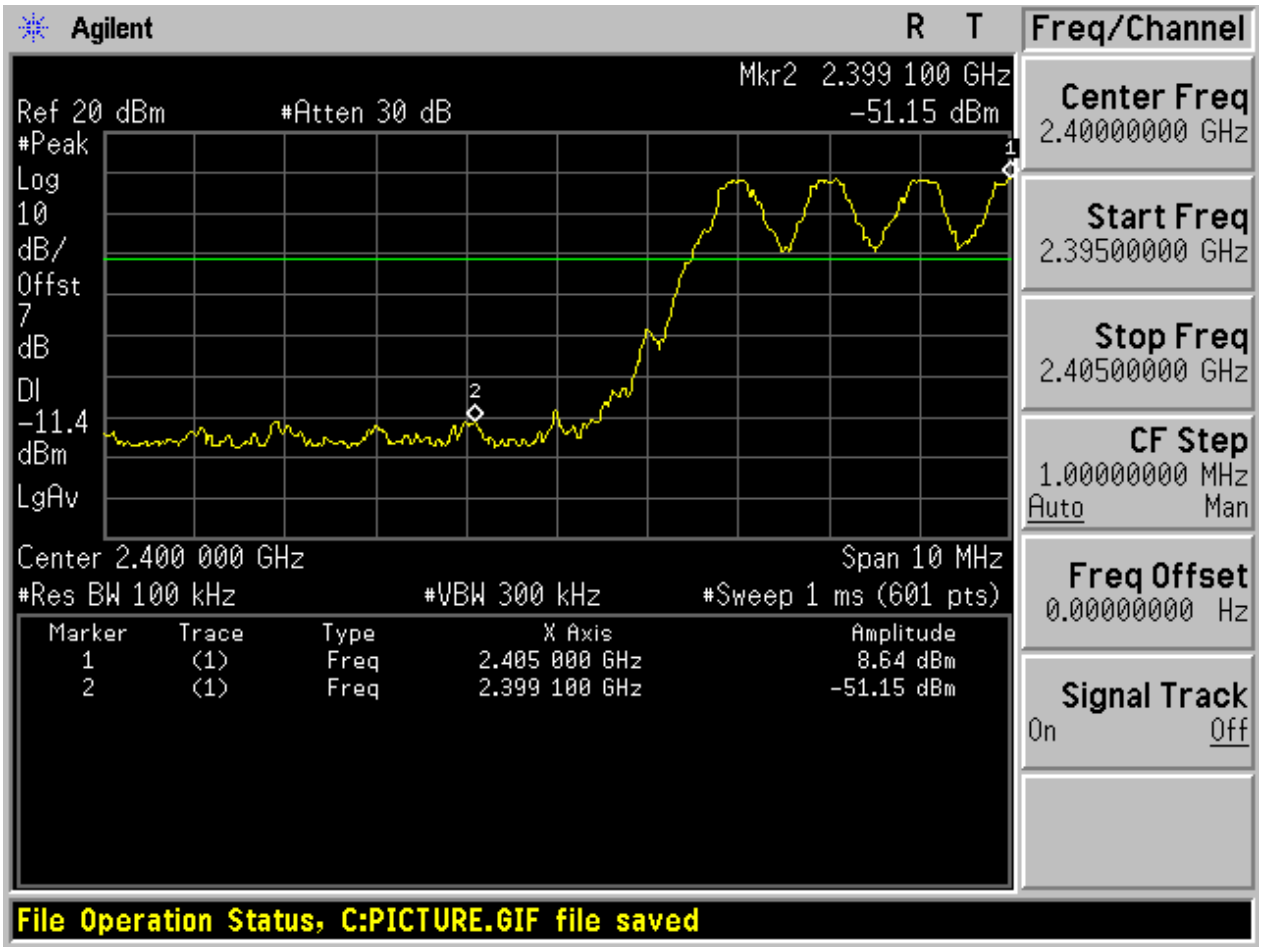
2 Test Plot

2.1 TM1_DH5_Ch0

No hopping

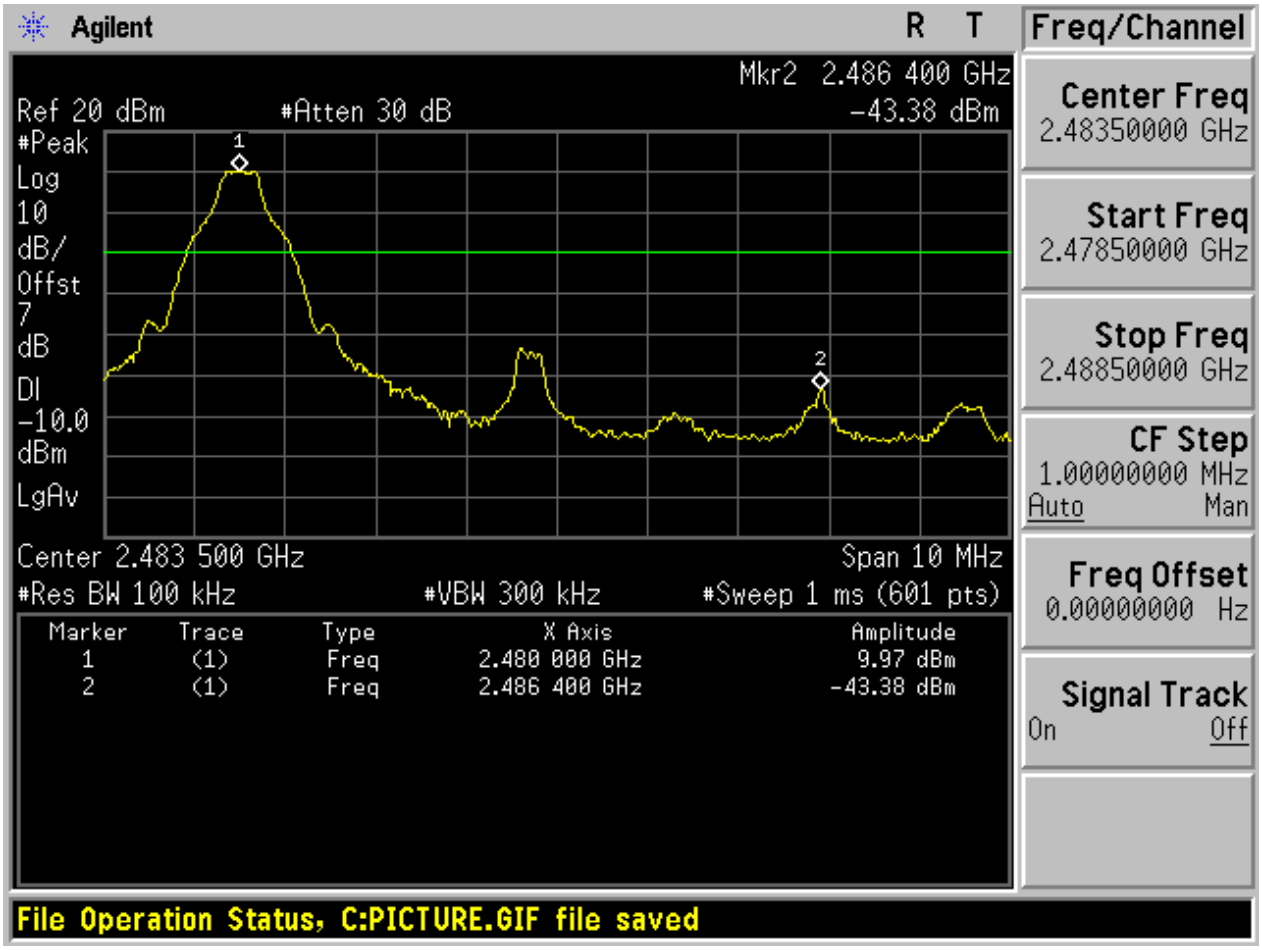


With hopping

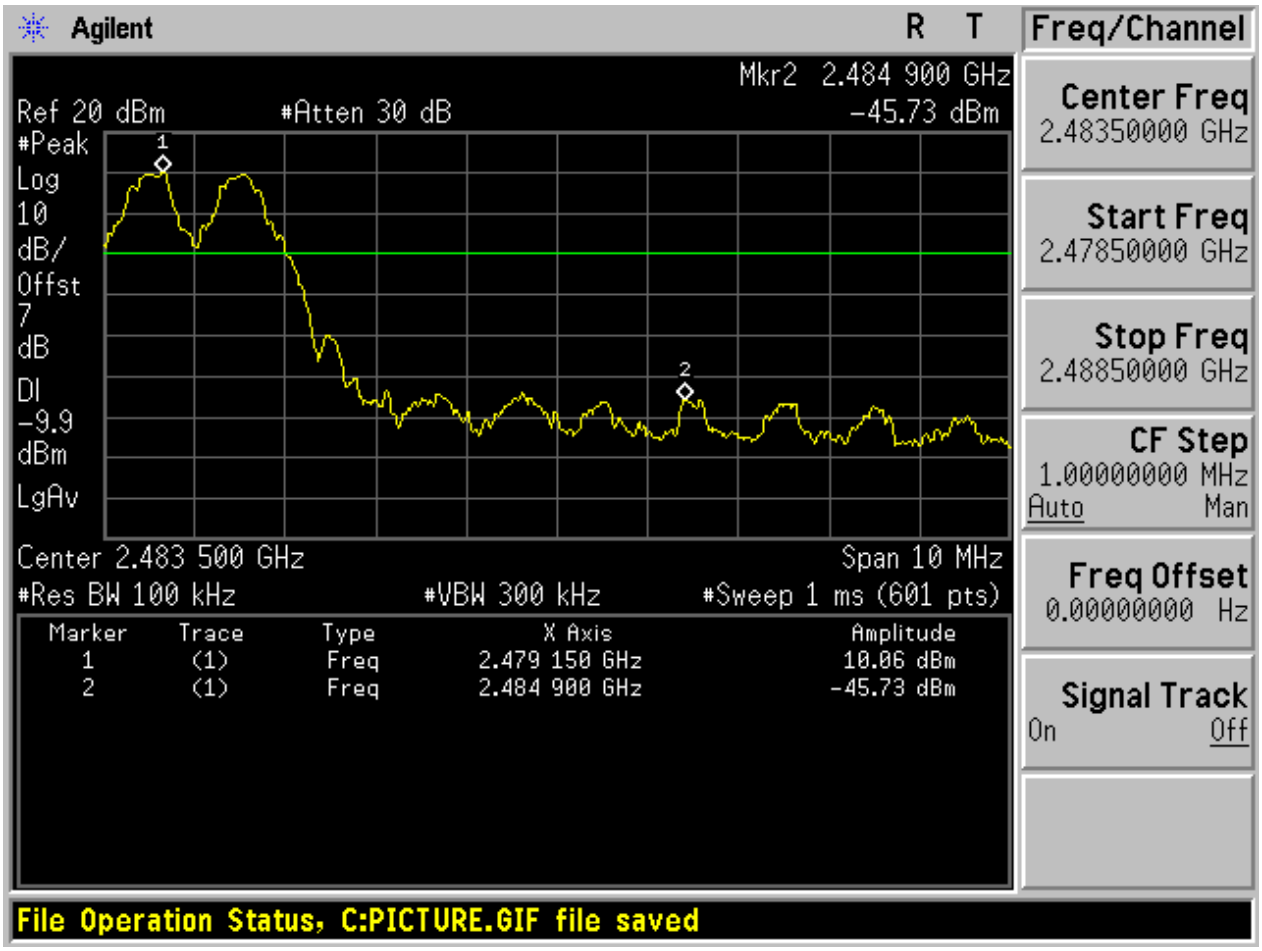


2.2 TM1_DH5_Ch78

No hopping

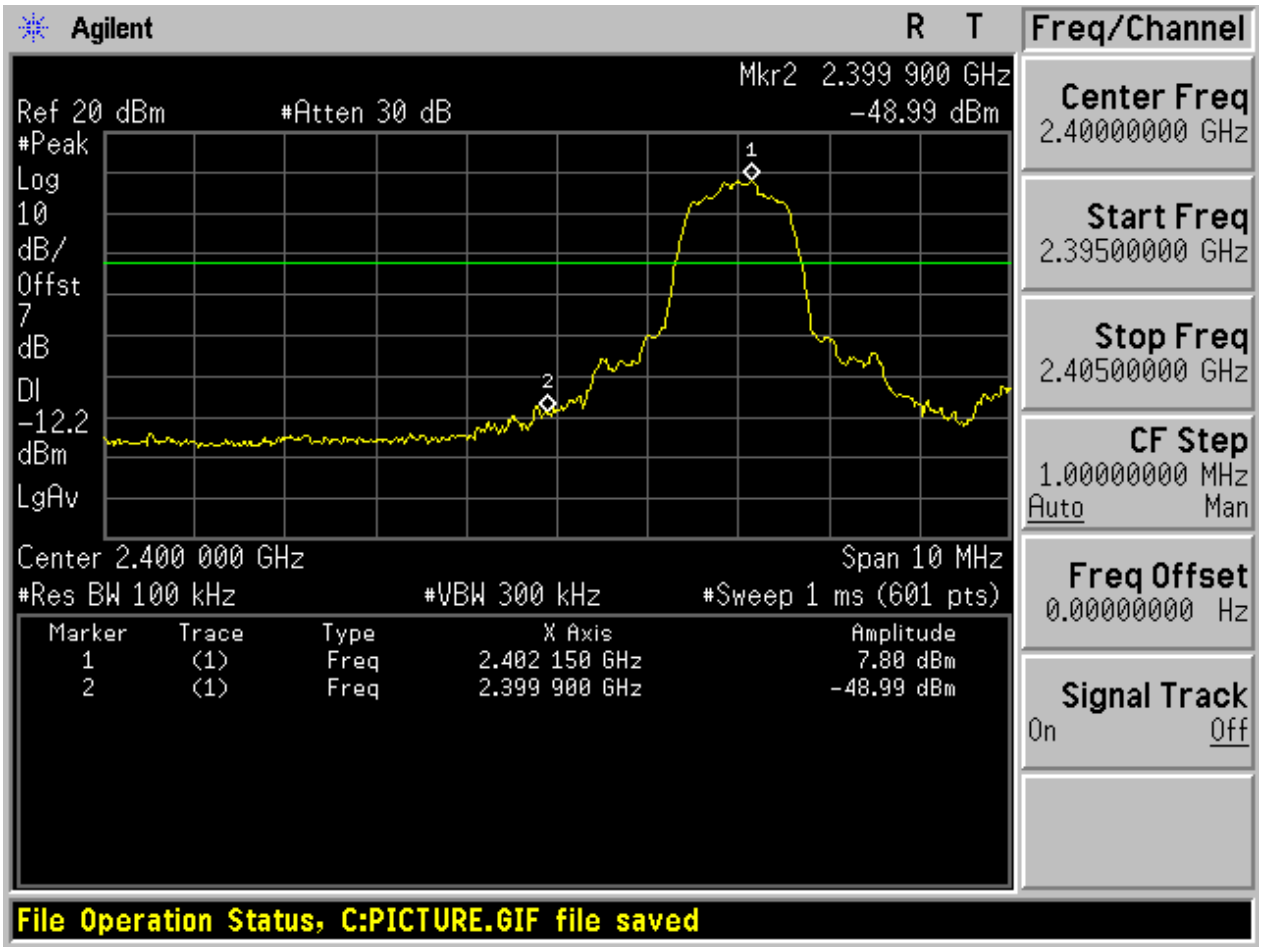


With hopping

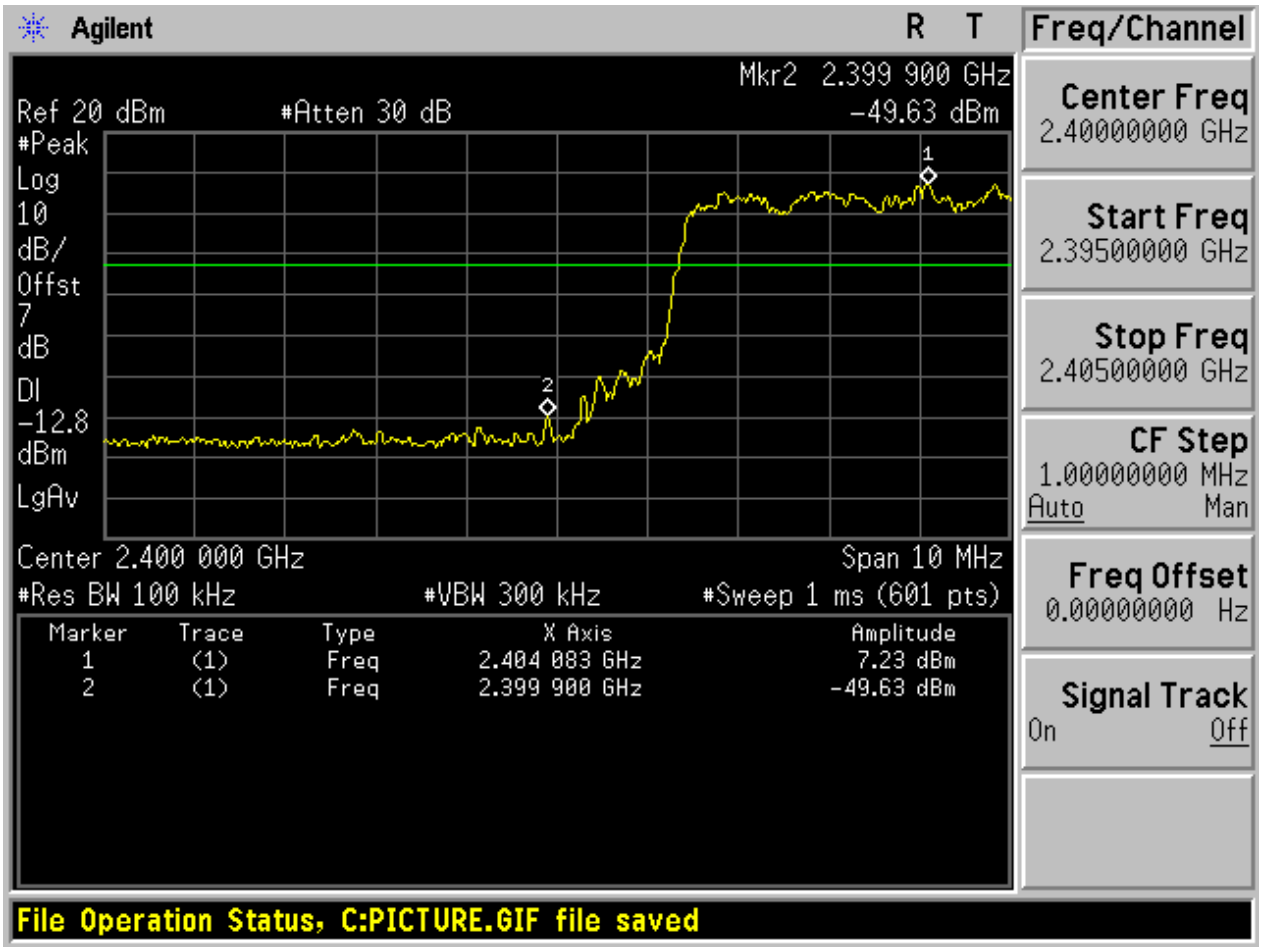


2.3 TM2_2DH5_Ch0

No hopping

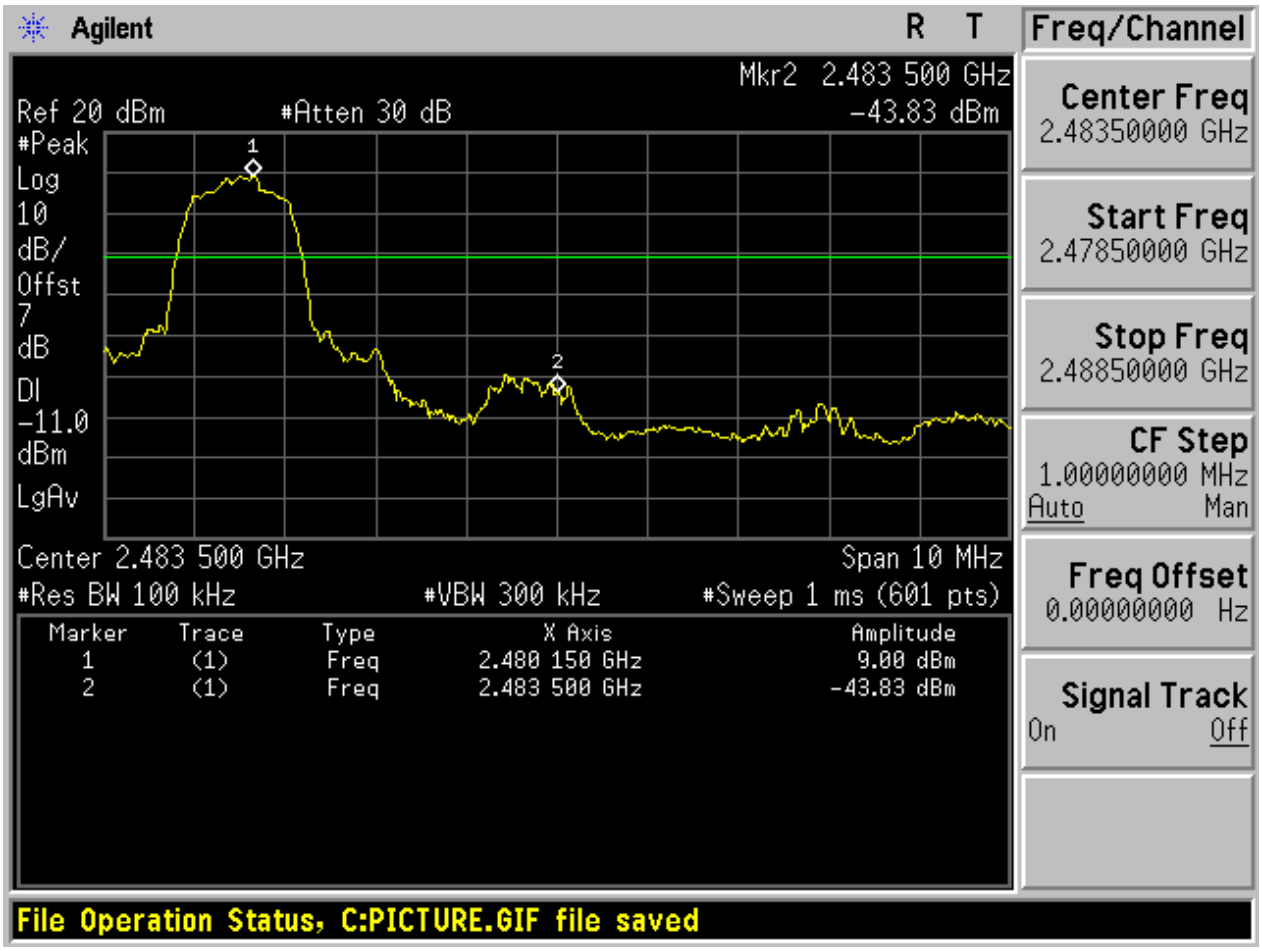


With hopping

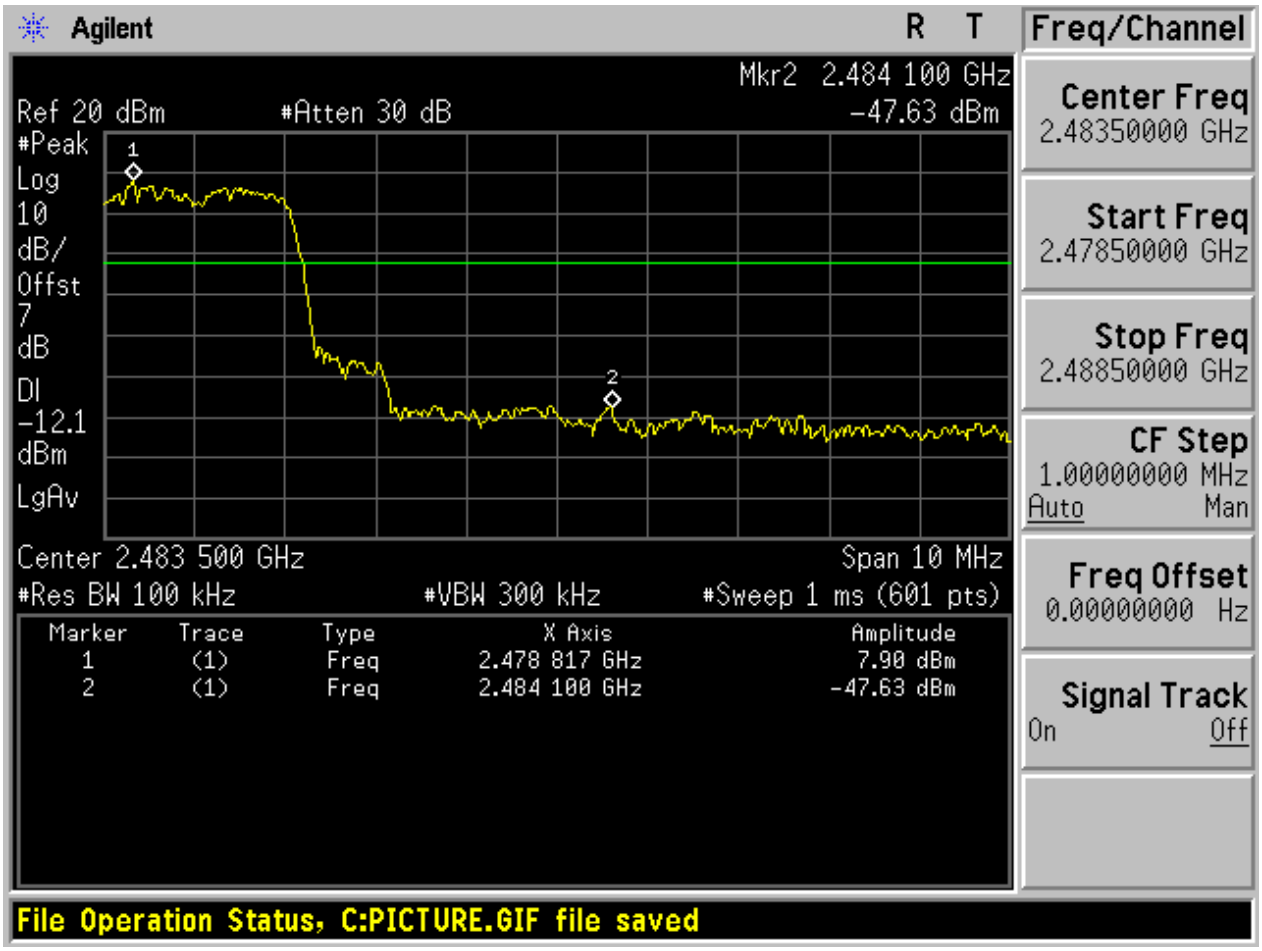


2.4 TM2_2DH5_Ch78

No hopping

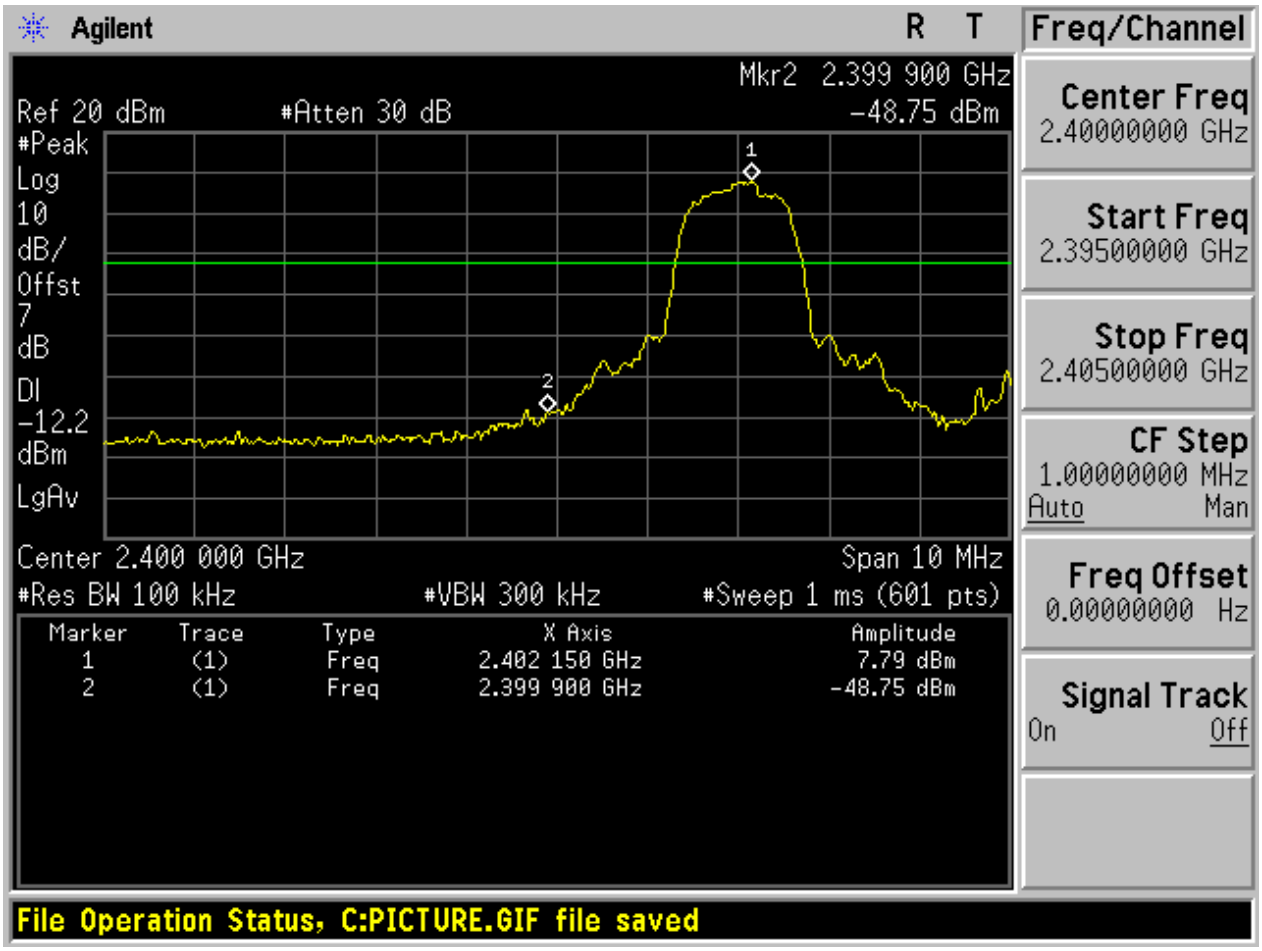


With hopping

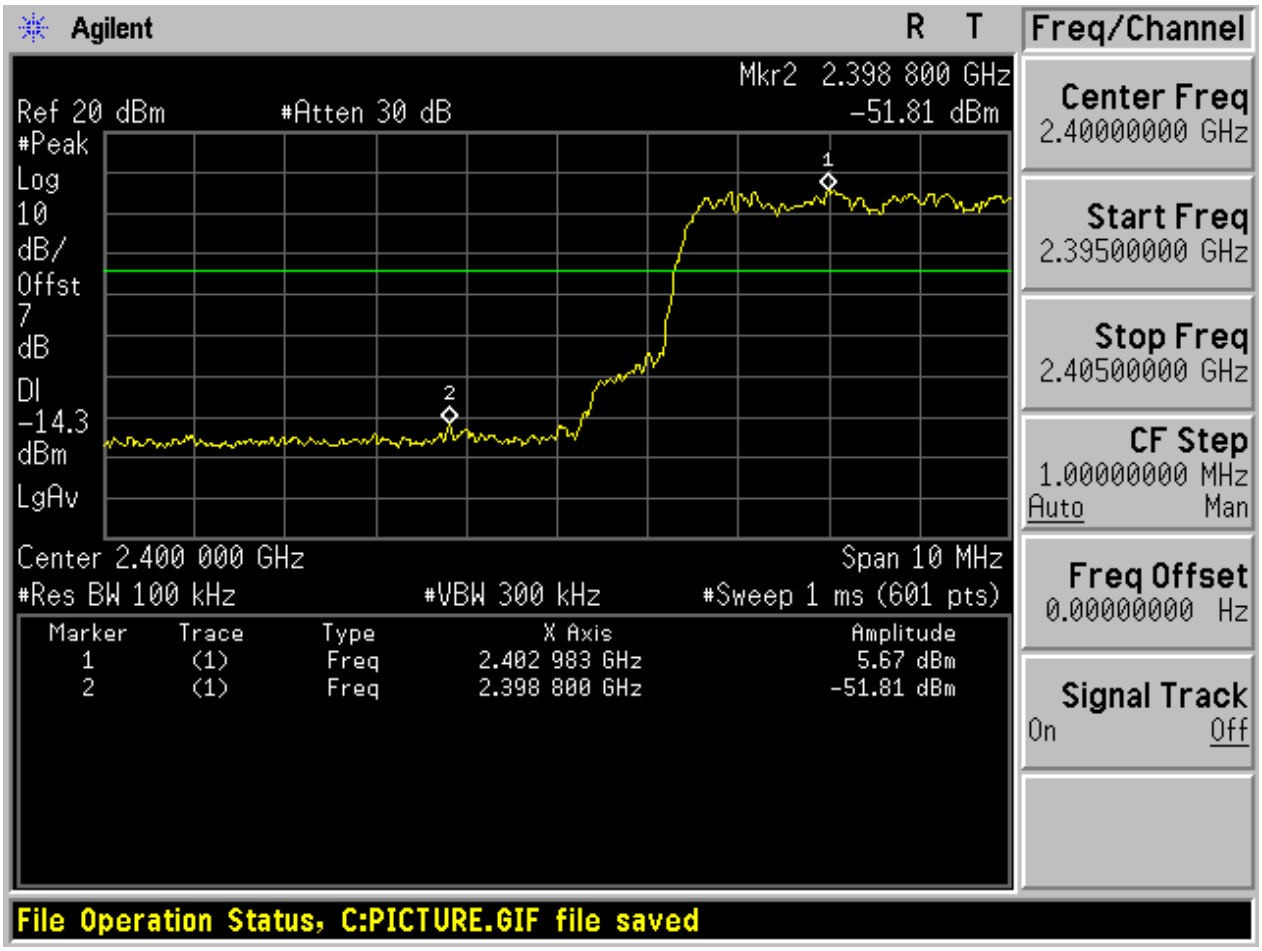


2.5 TM3_3DH5_Ch0

No hopping

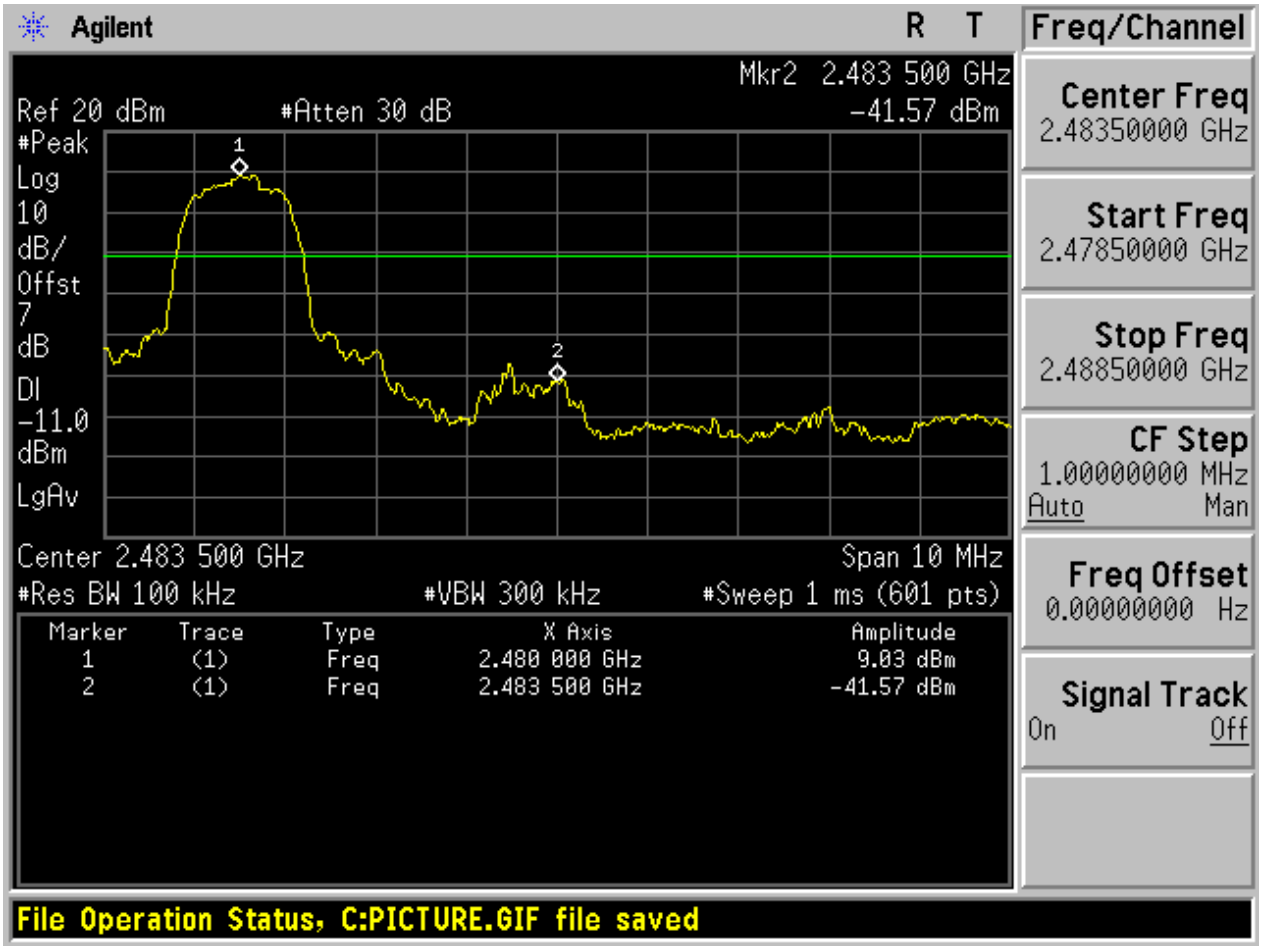


With hopping

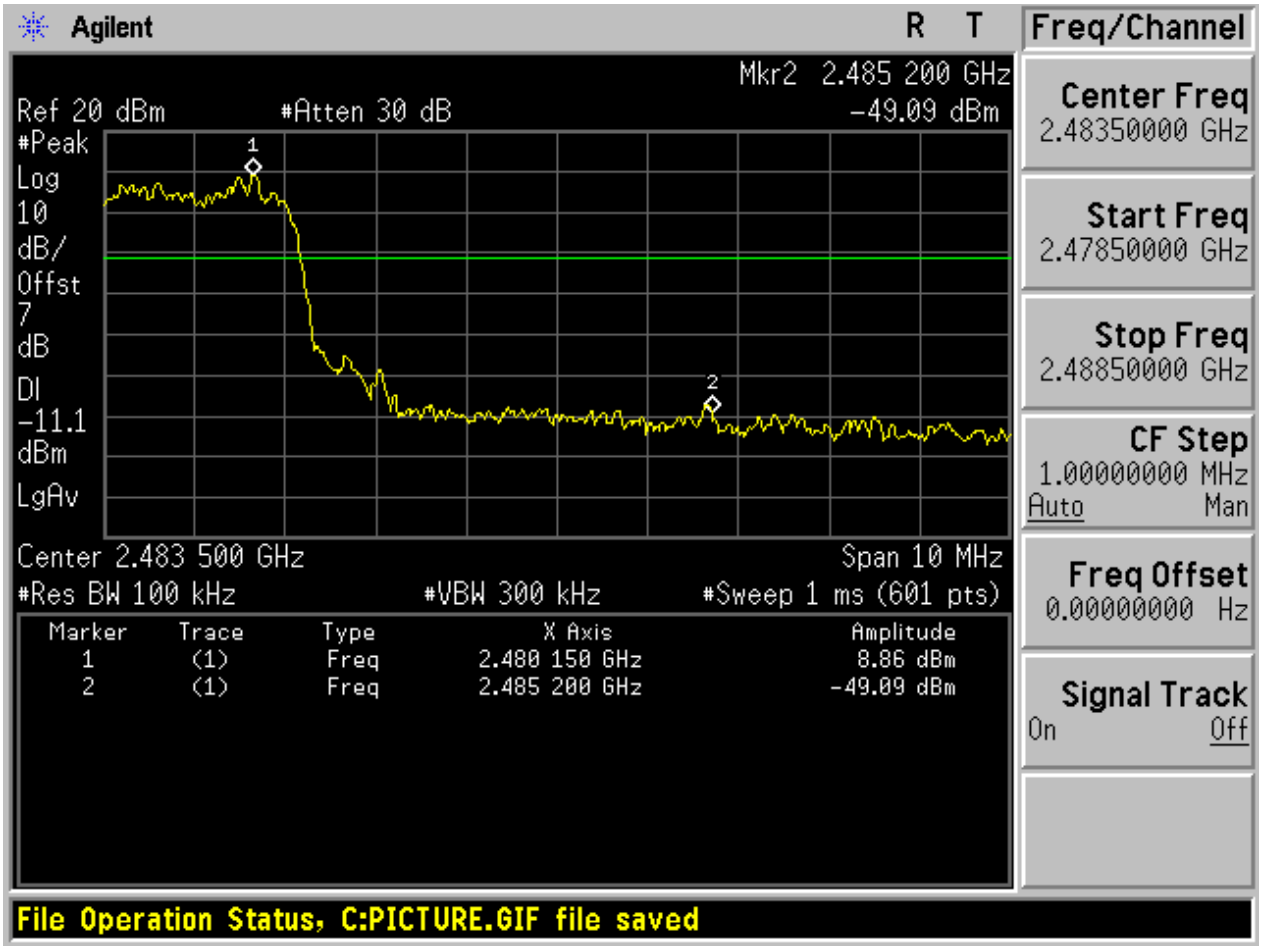


2.6 TM3_3DH5_Ch78

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” 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.

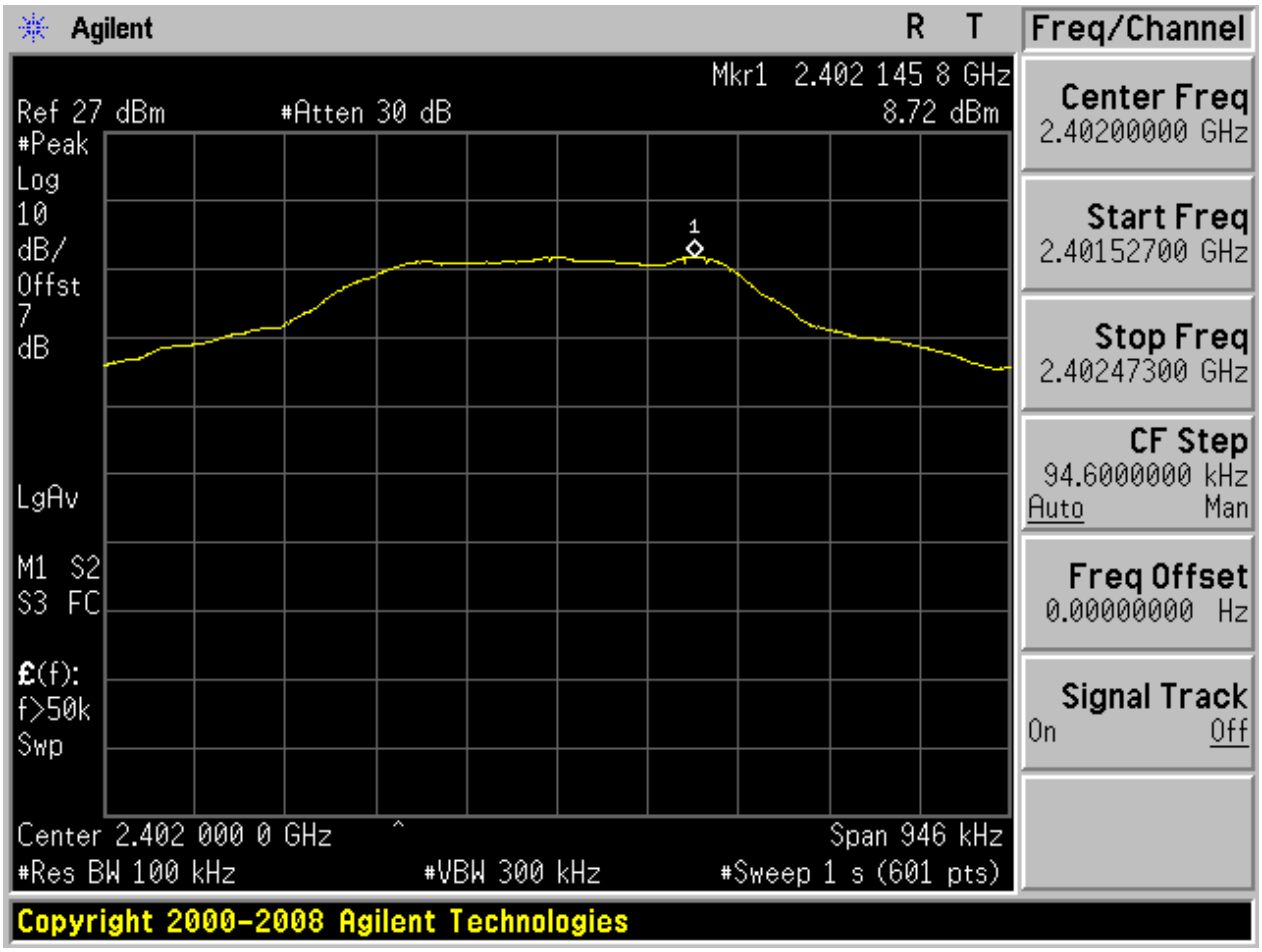
In the result table, the “< Limit” denotes that “The Puw [dBm] is less than Pref [dBm] - 20 [dB], see test plots for detailed”.

EUT Conf.	Pref [dBm/100 kHz]	Puw [dBm/100 kHz]	Verdict
TM1_DH5_Ch0	8.72	< Limit	Pass
TM1_DH5_Ch39	11.58	< Limit	Pass
TM1_DH5_Ch78	9.89	< Limit	Pass
TM2_2DH5_Ch0	7.76	< Limit	Pass
TM2_2DH5_Ch39	10.66	< Limit	Pass
TM2_2DH5_Ch78	8.95	< Limit	Pass
TM3_3DH5_Ch0	7.76	< Limit	Pass
TM3_3DH5_Ch39	10.66	< Limit	Pass
TM3_3DH5_Ch78	8.95	< Limit	Pass

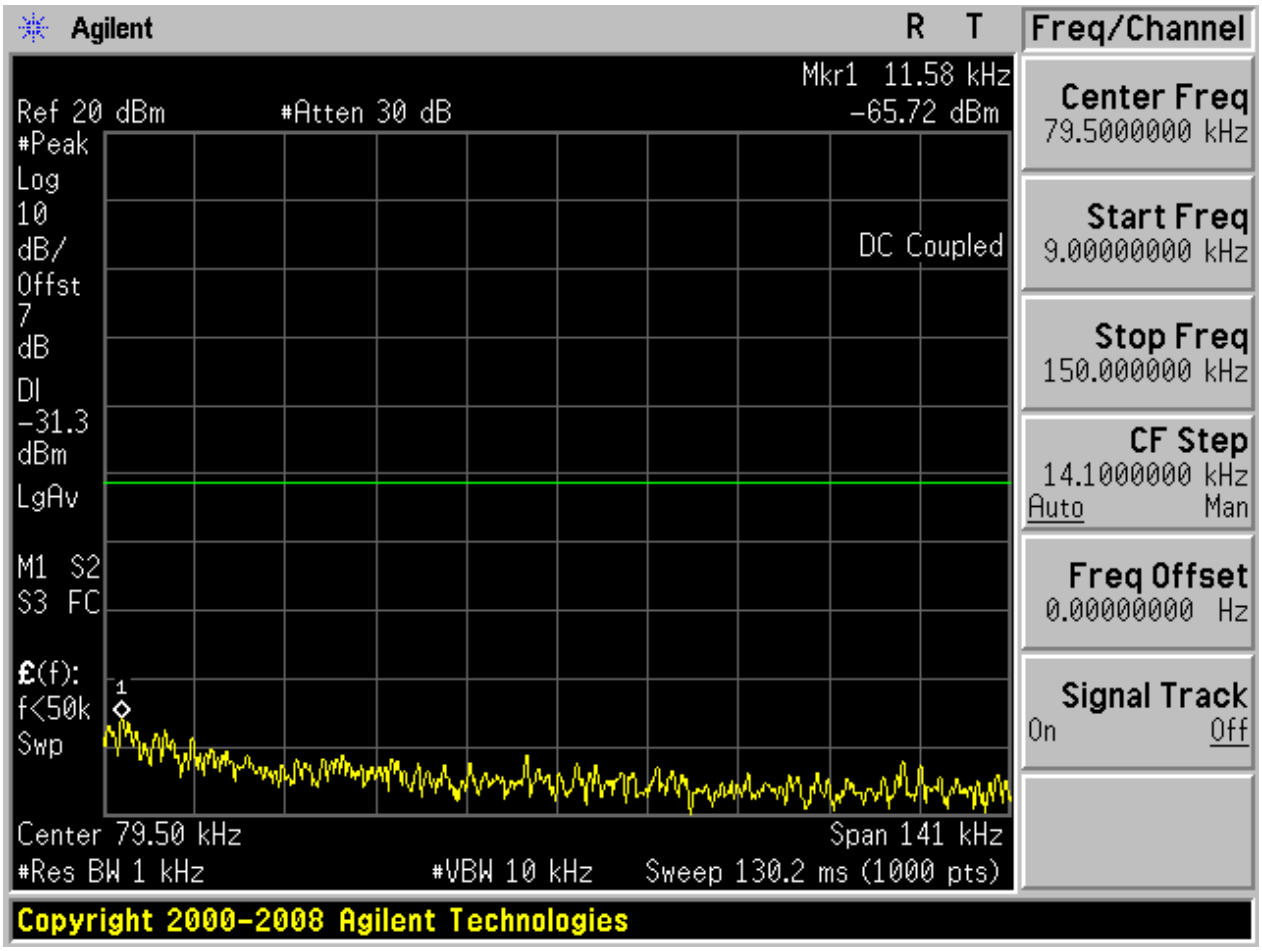
2 Test Plot

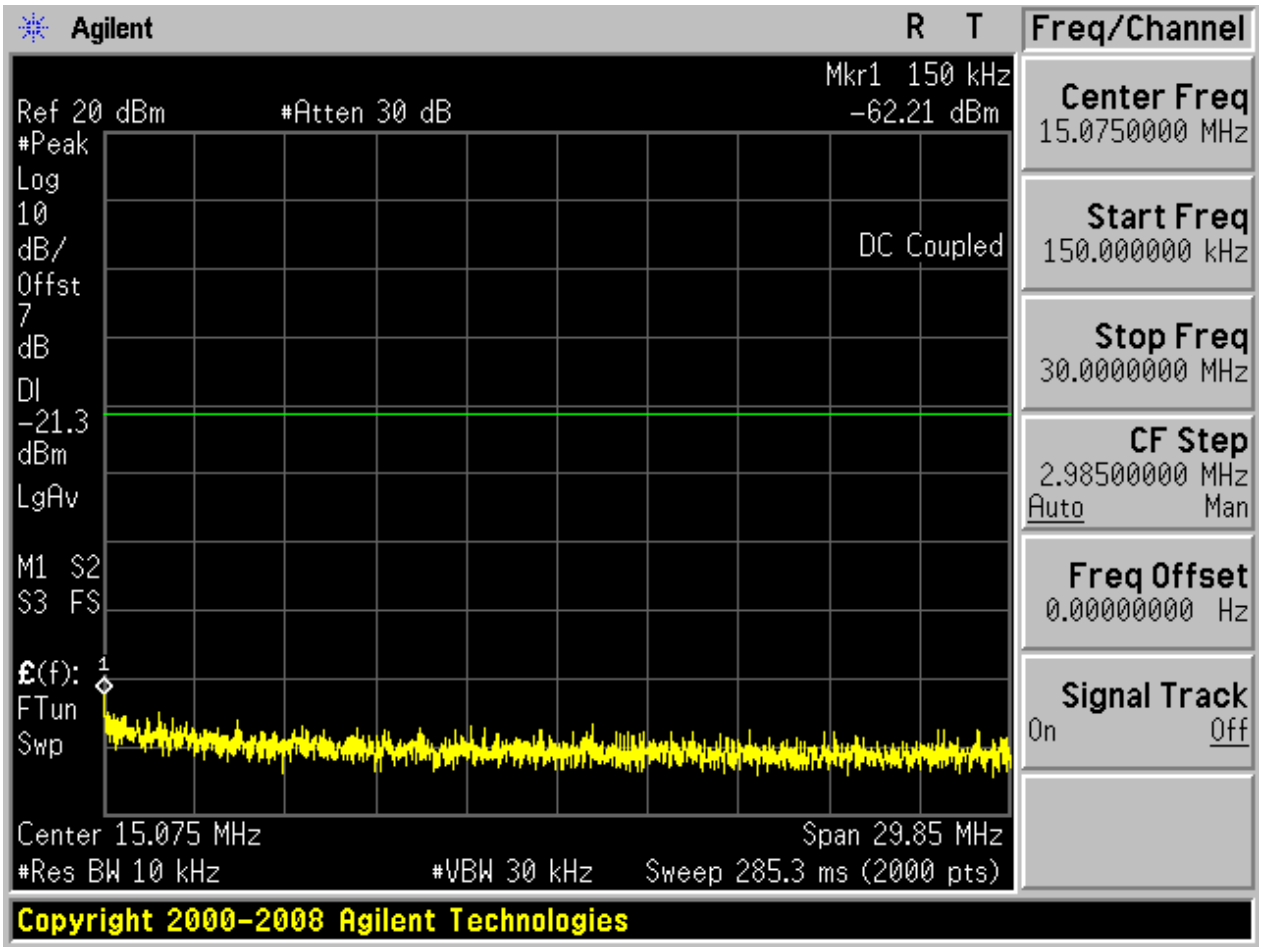
2.1 TM1_DH5_Ch0

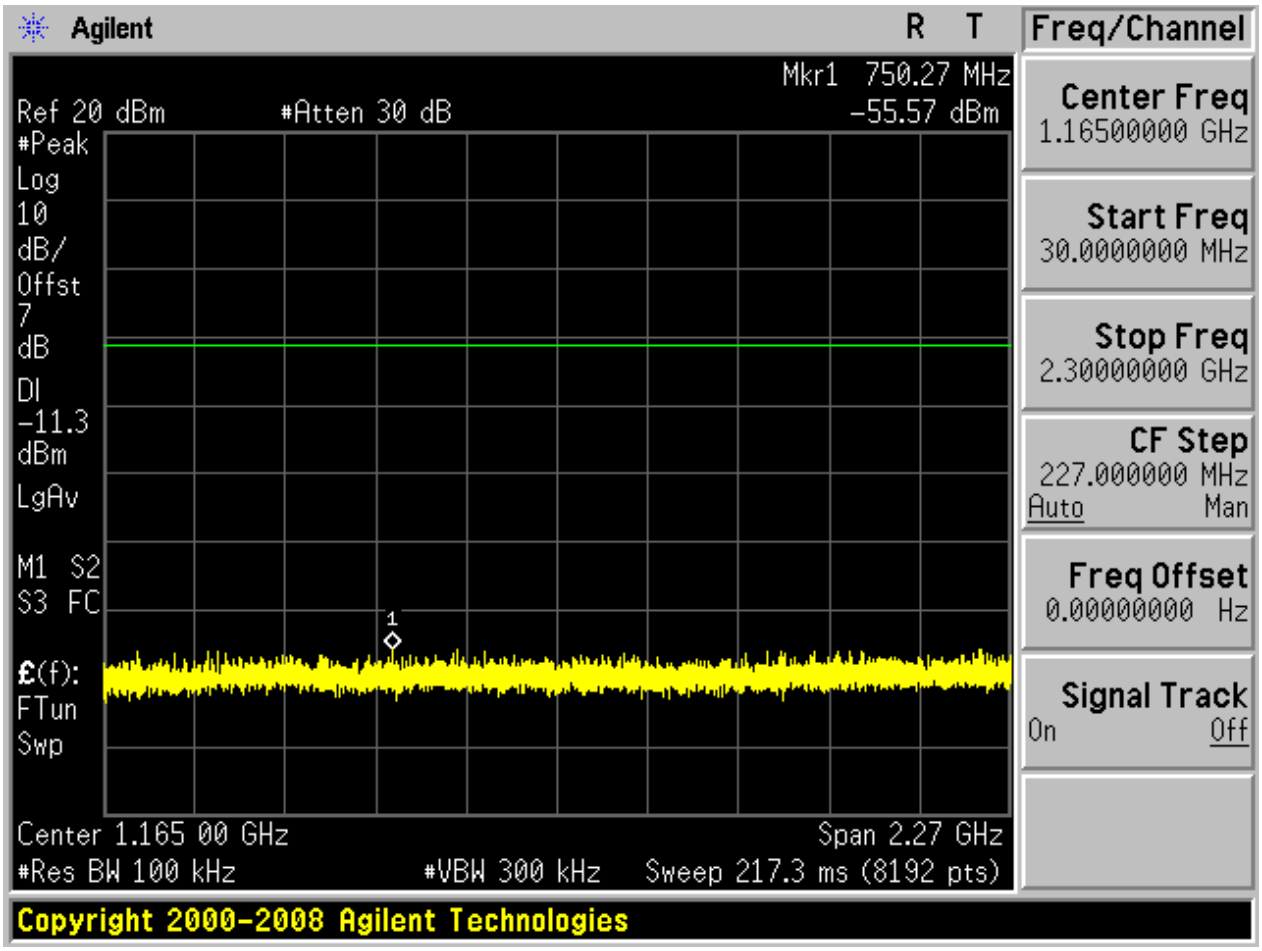
2.1.1 Pref

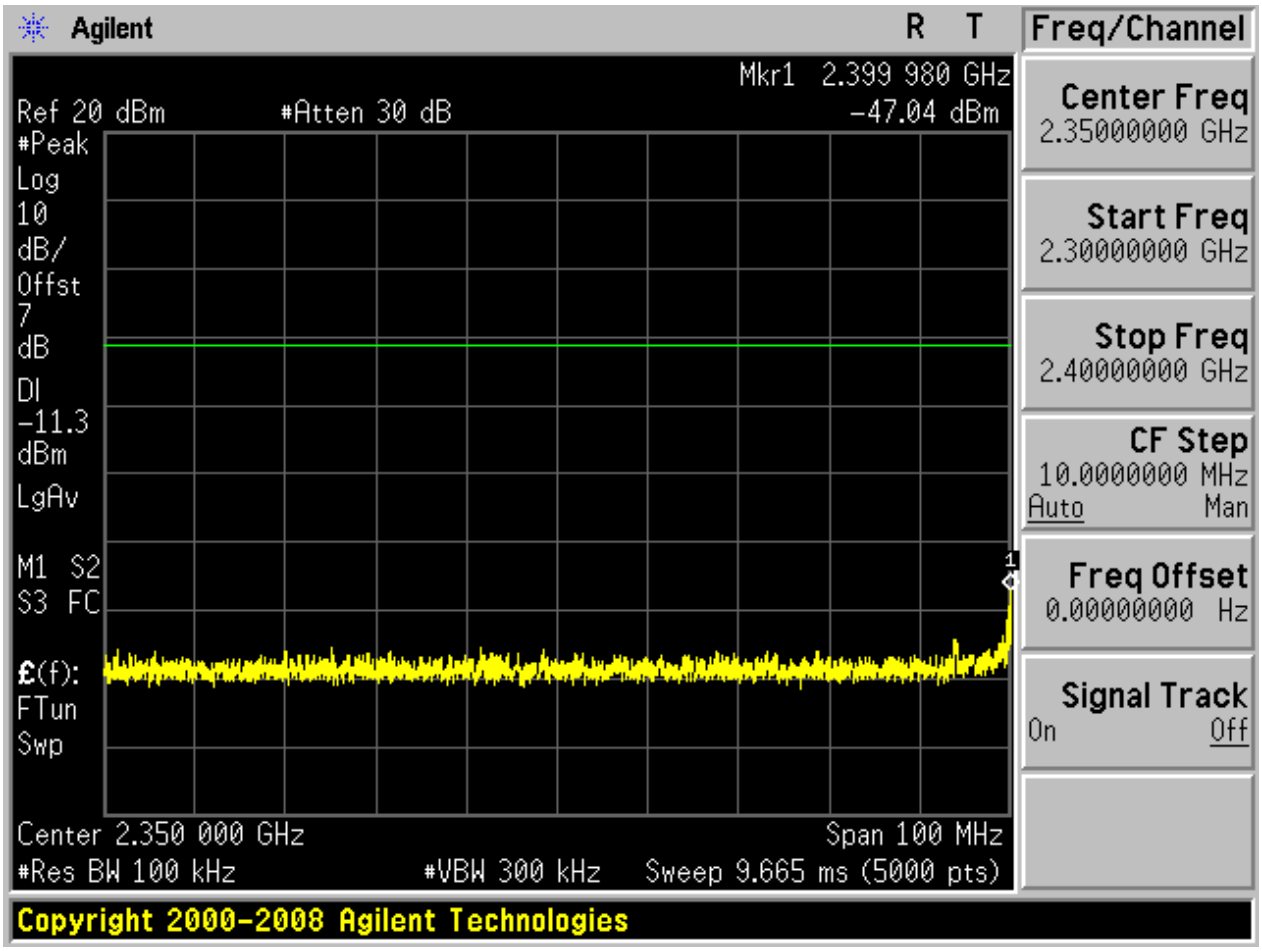


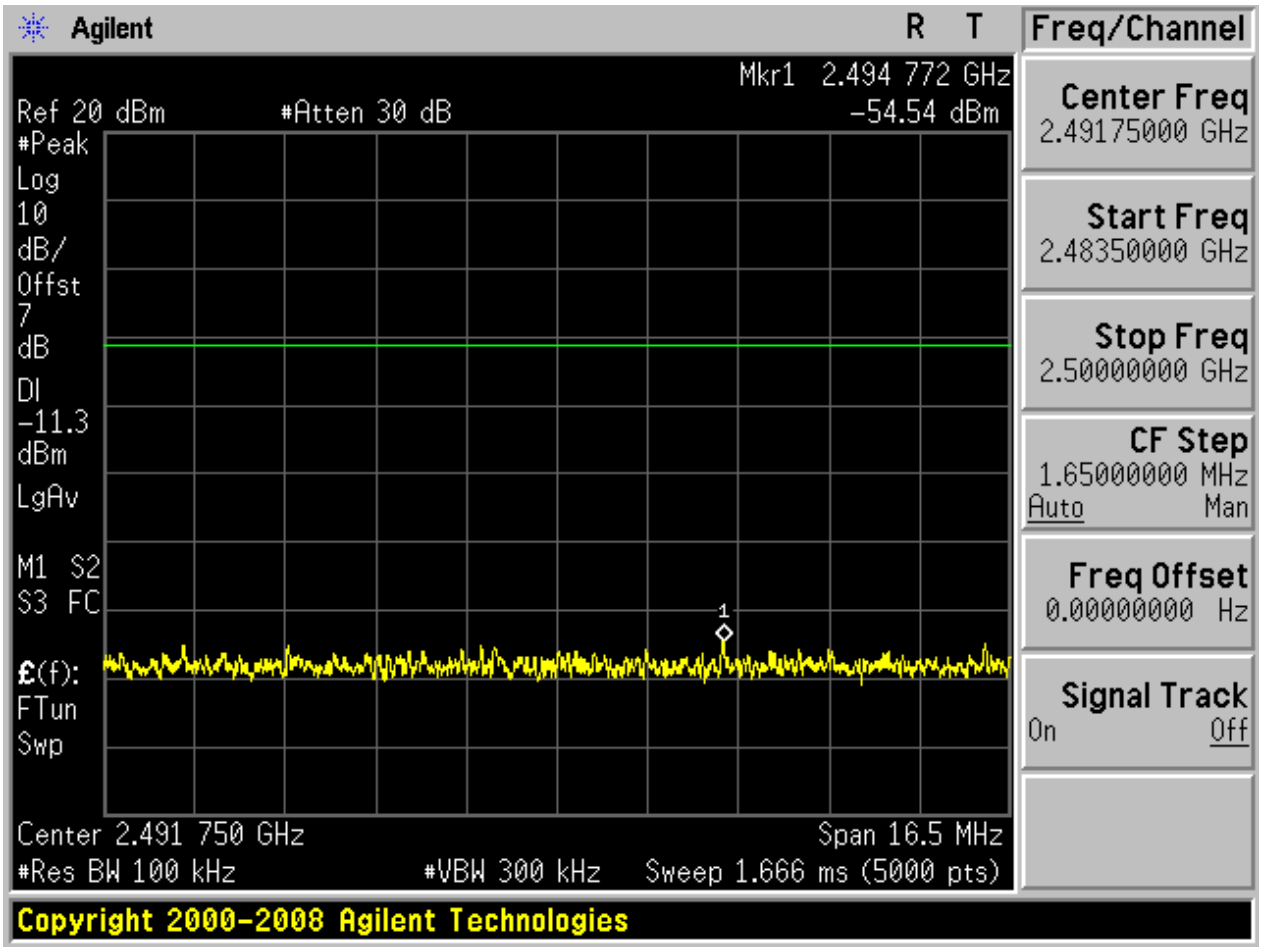
2.1.2 Puw

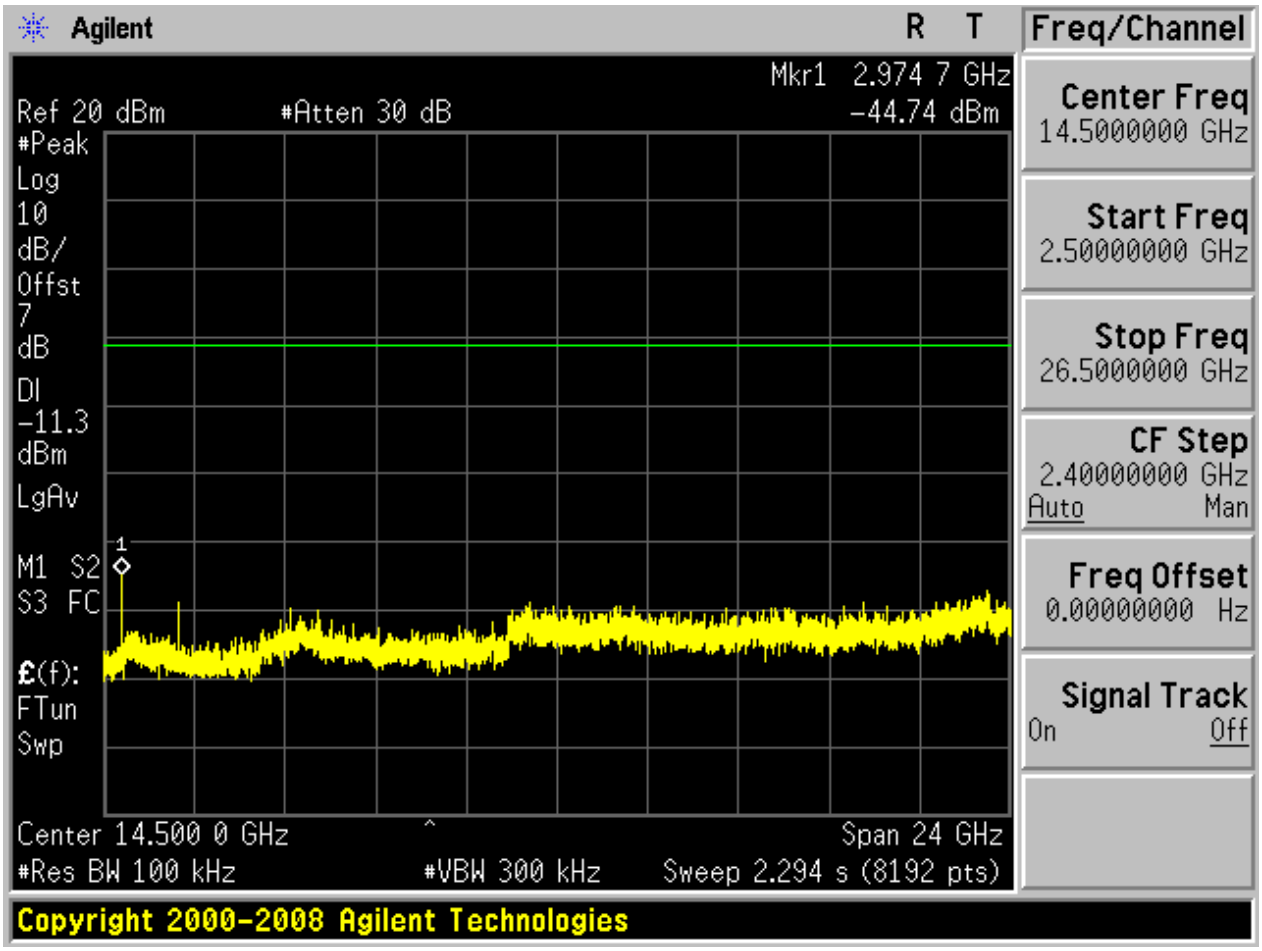






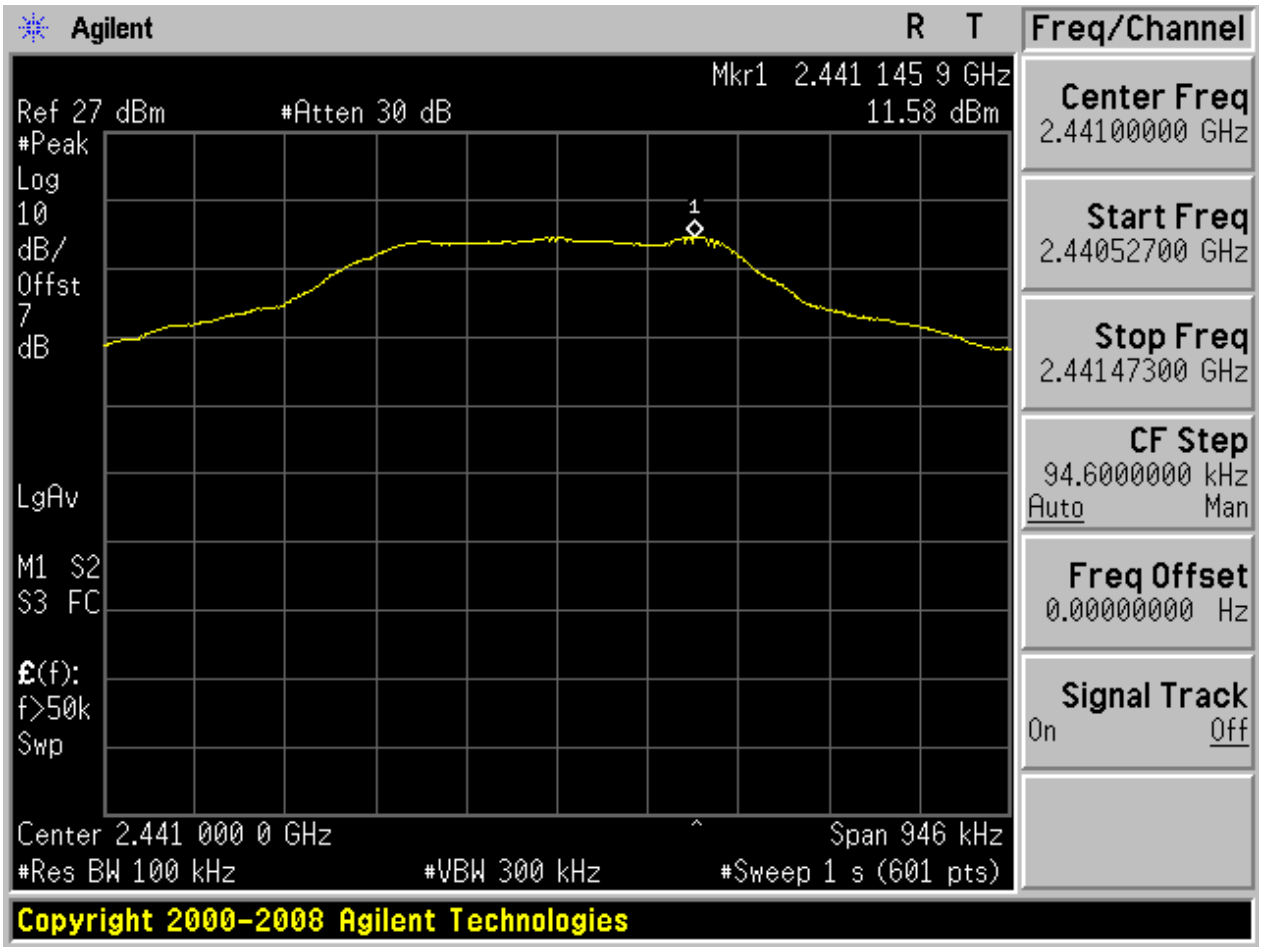




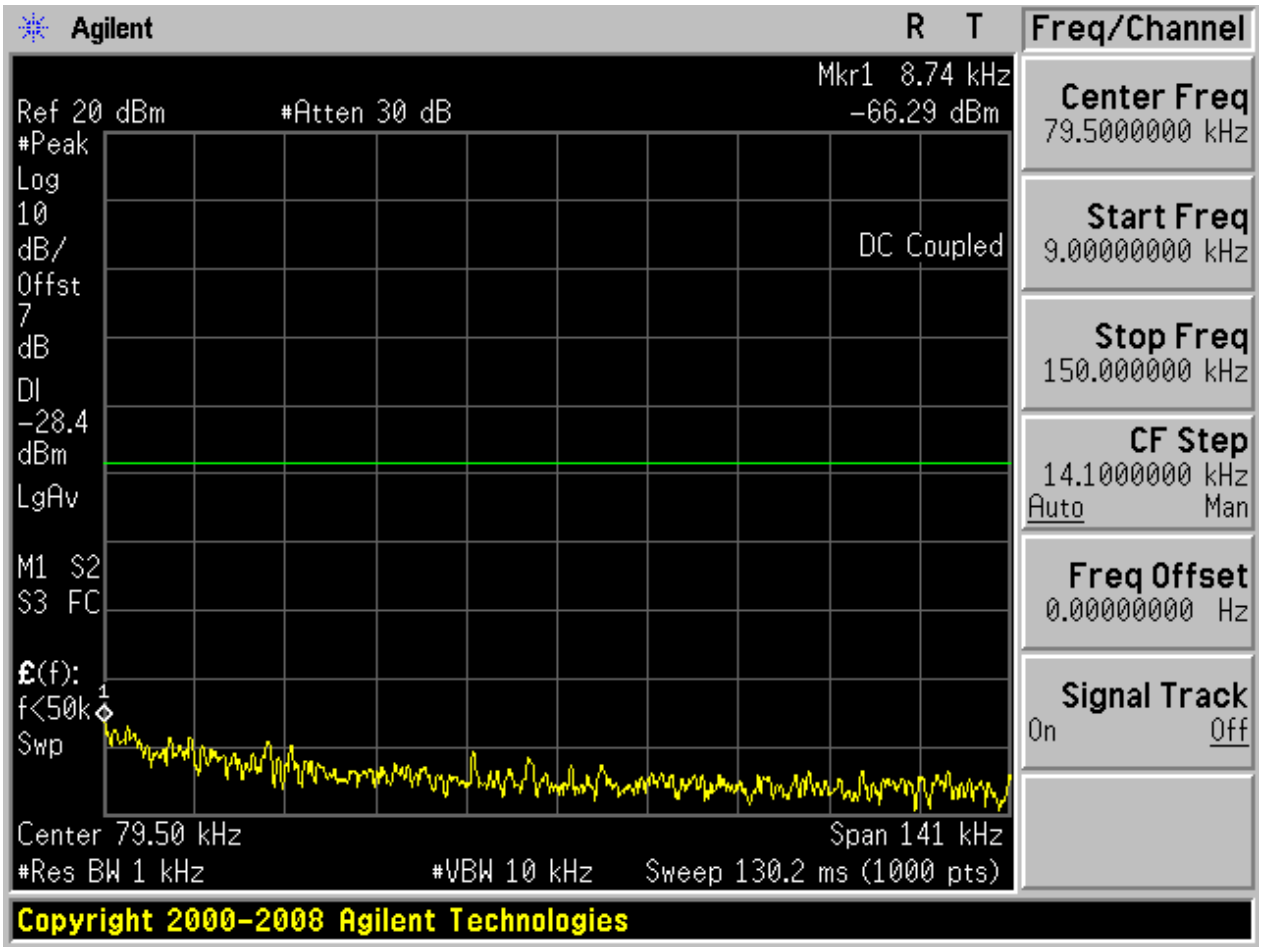


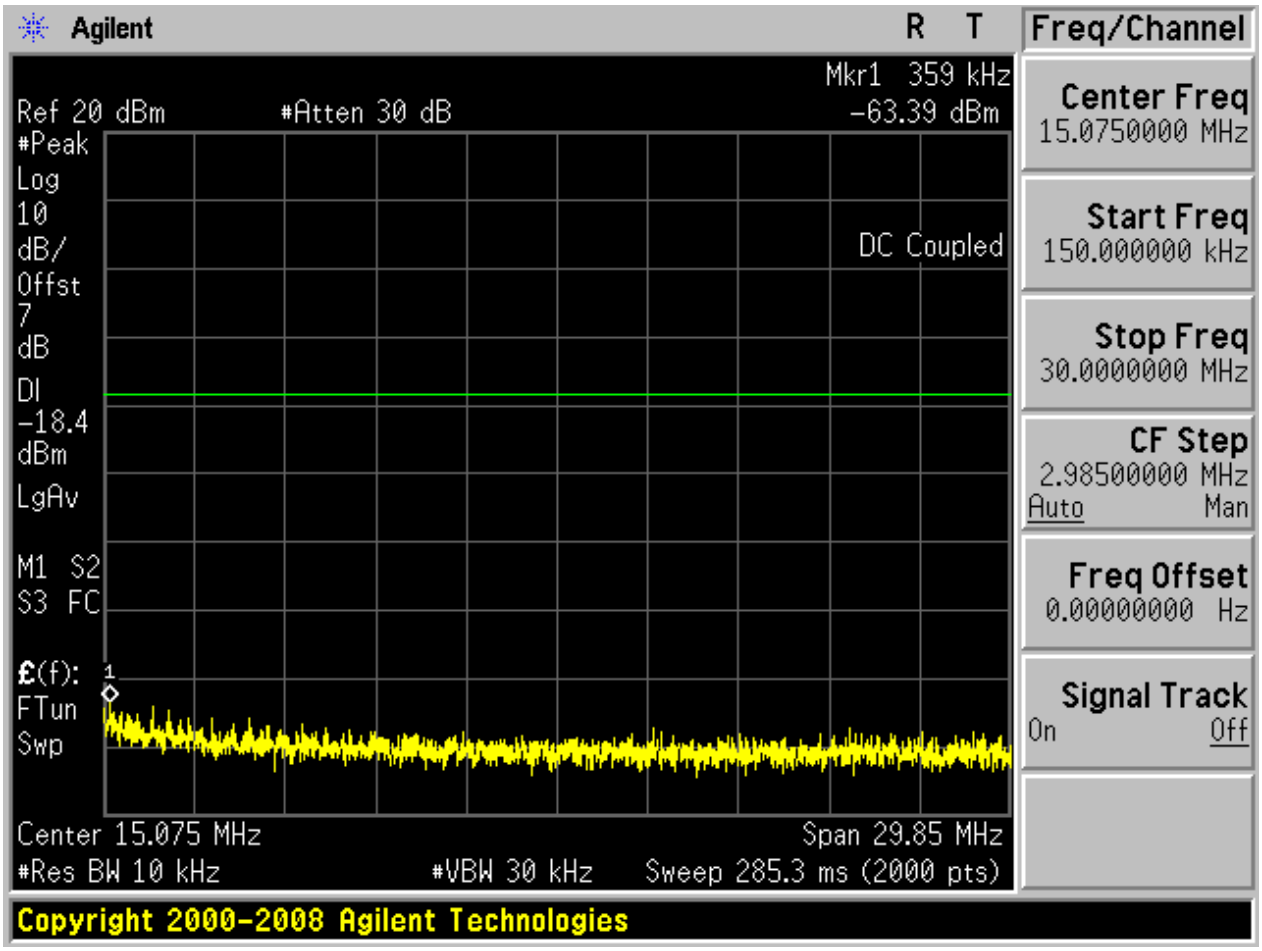
2.2 TM1_DH5_Ch39

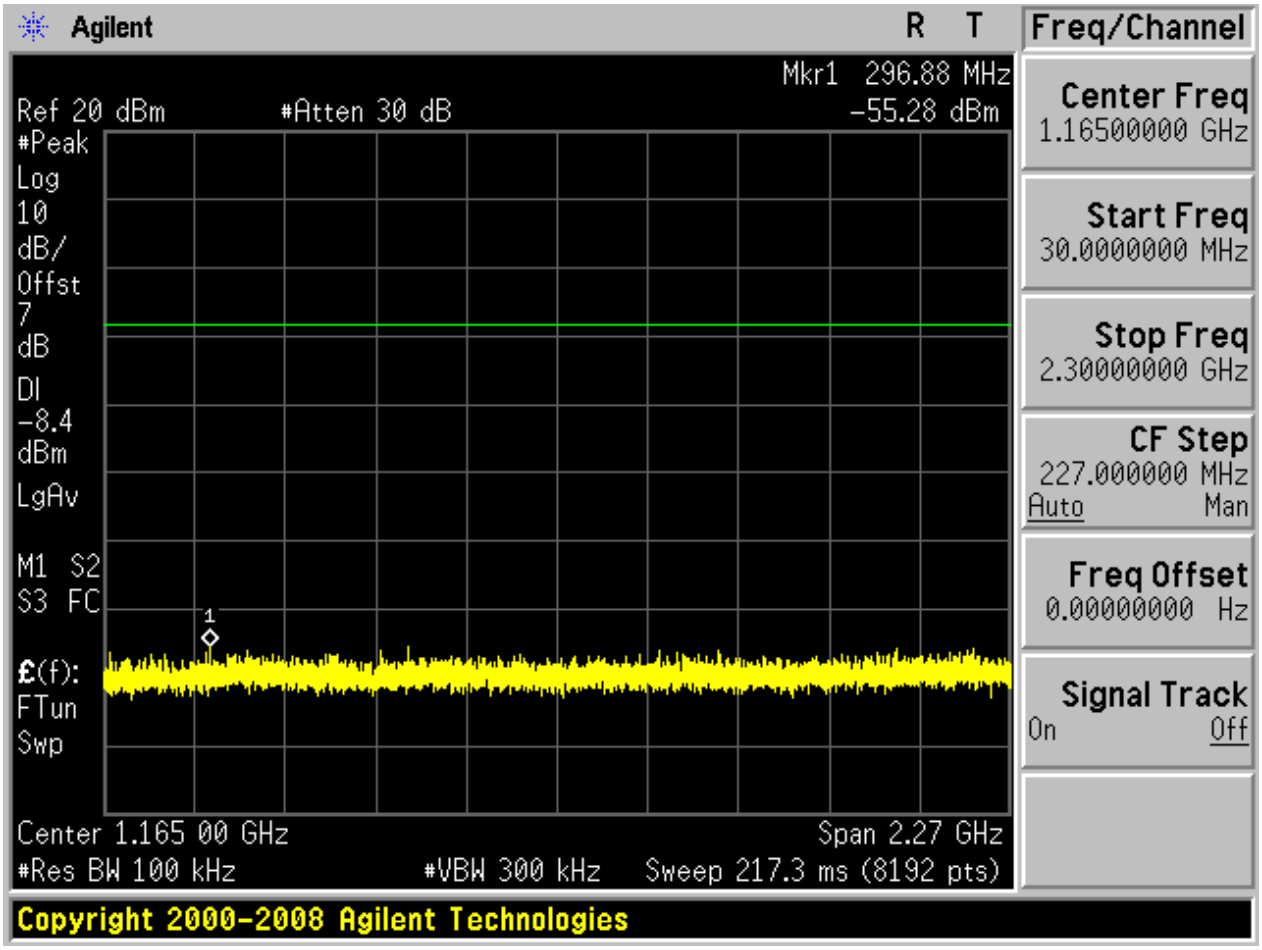
2.2.1 Pref

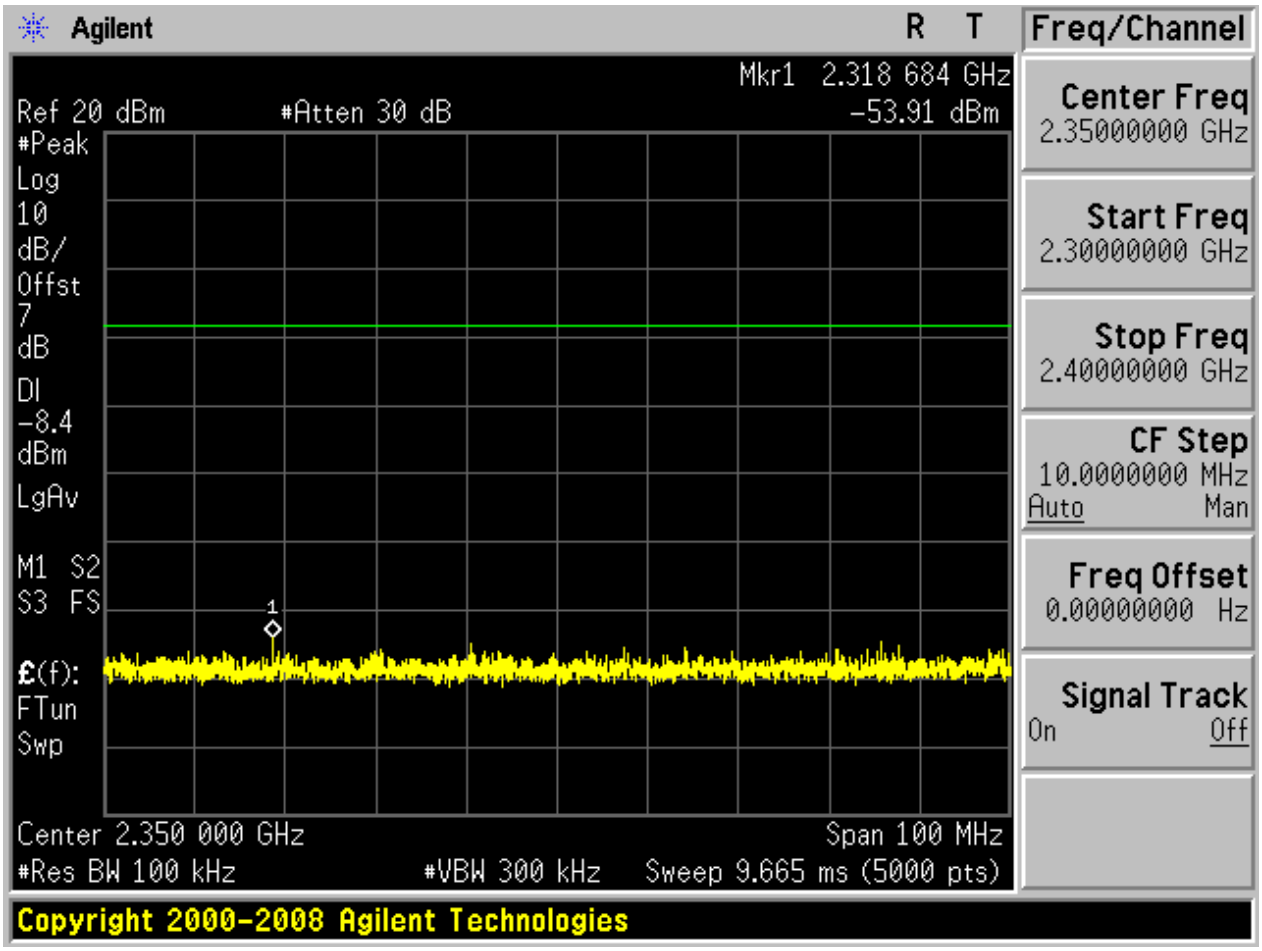


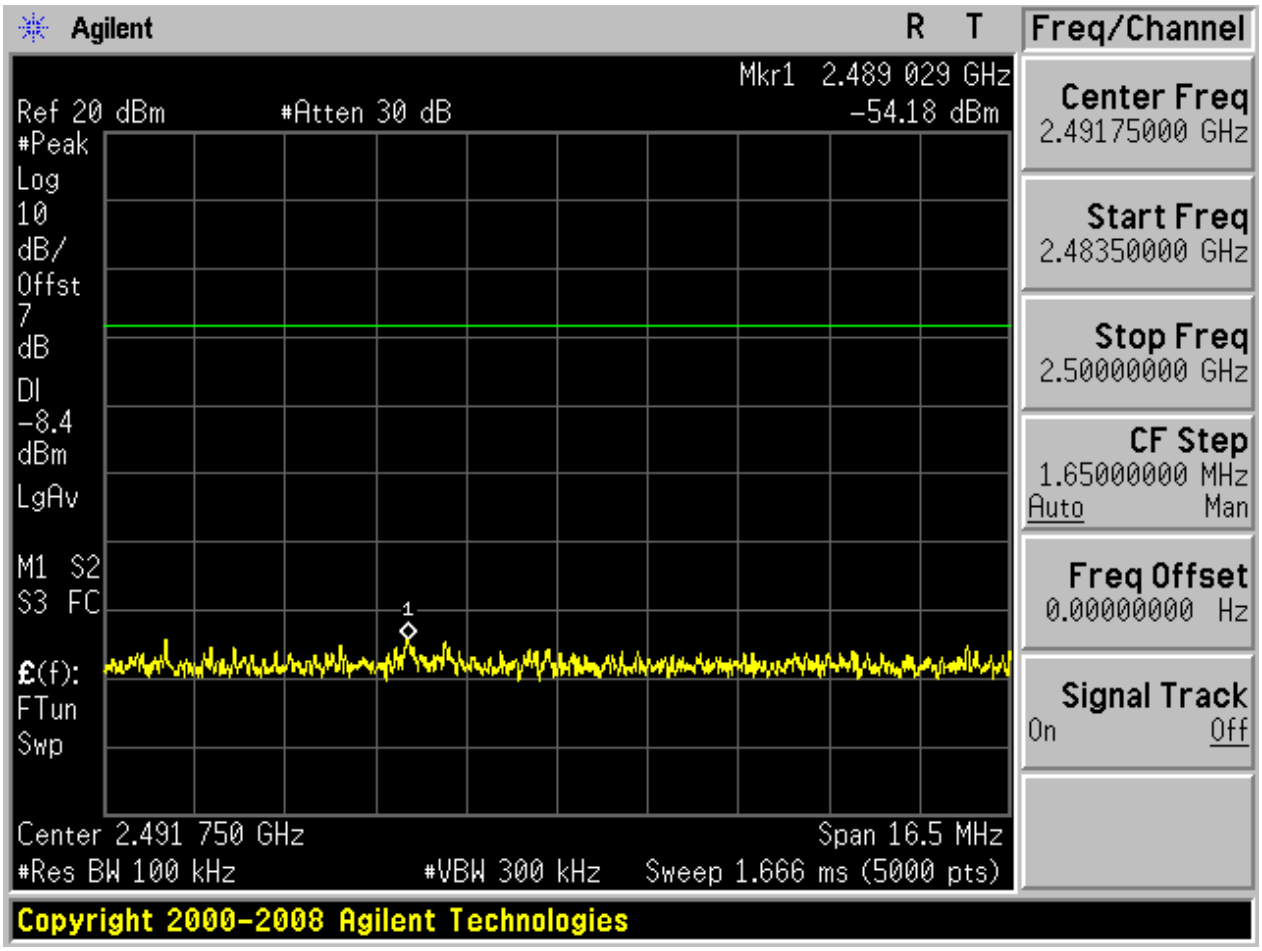
2.2.2 Puw

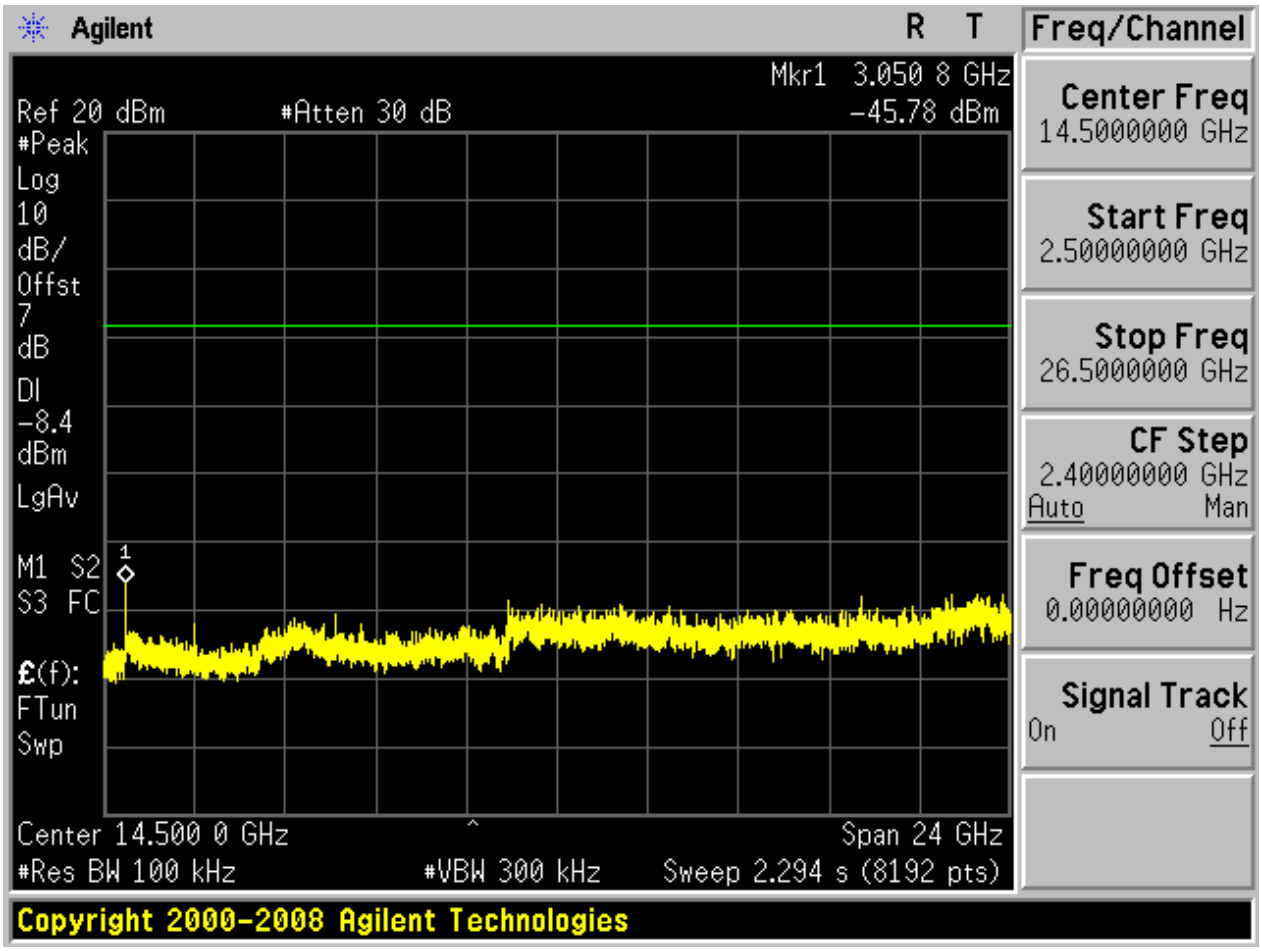






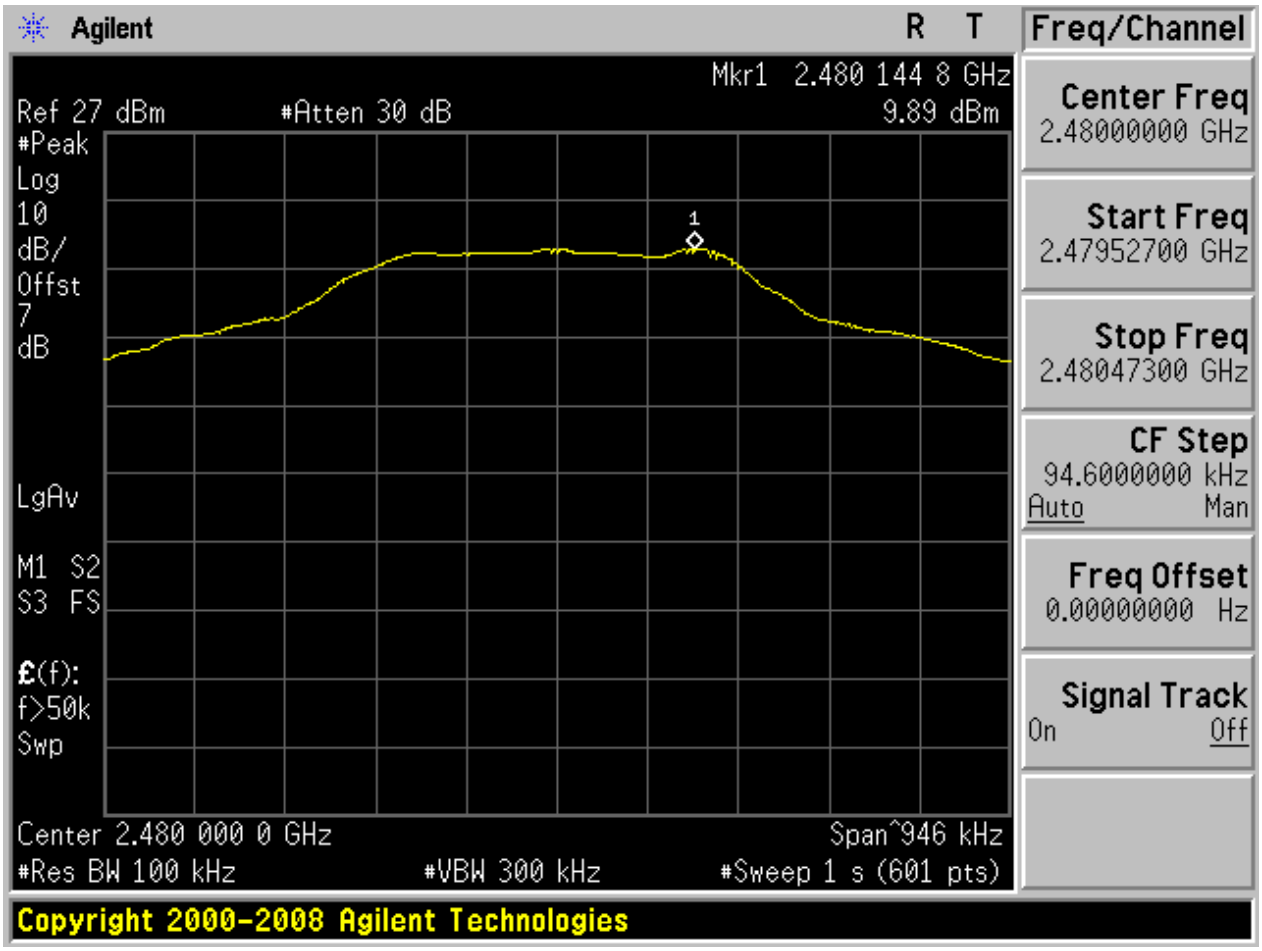




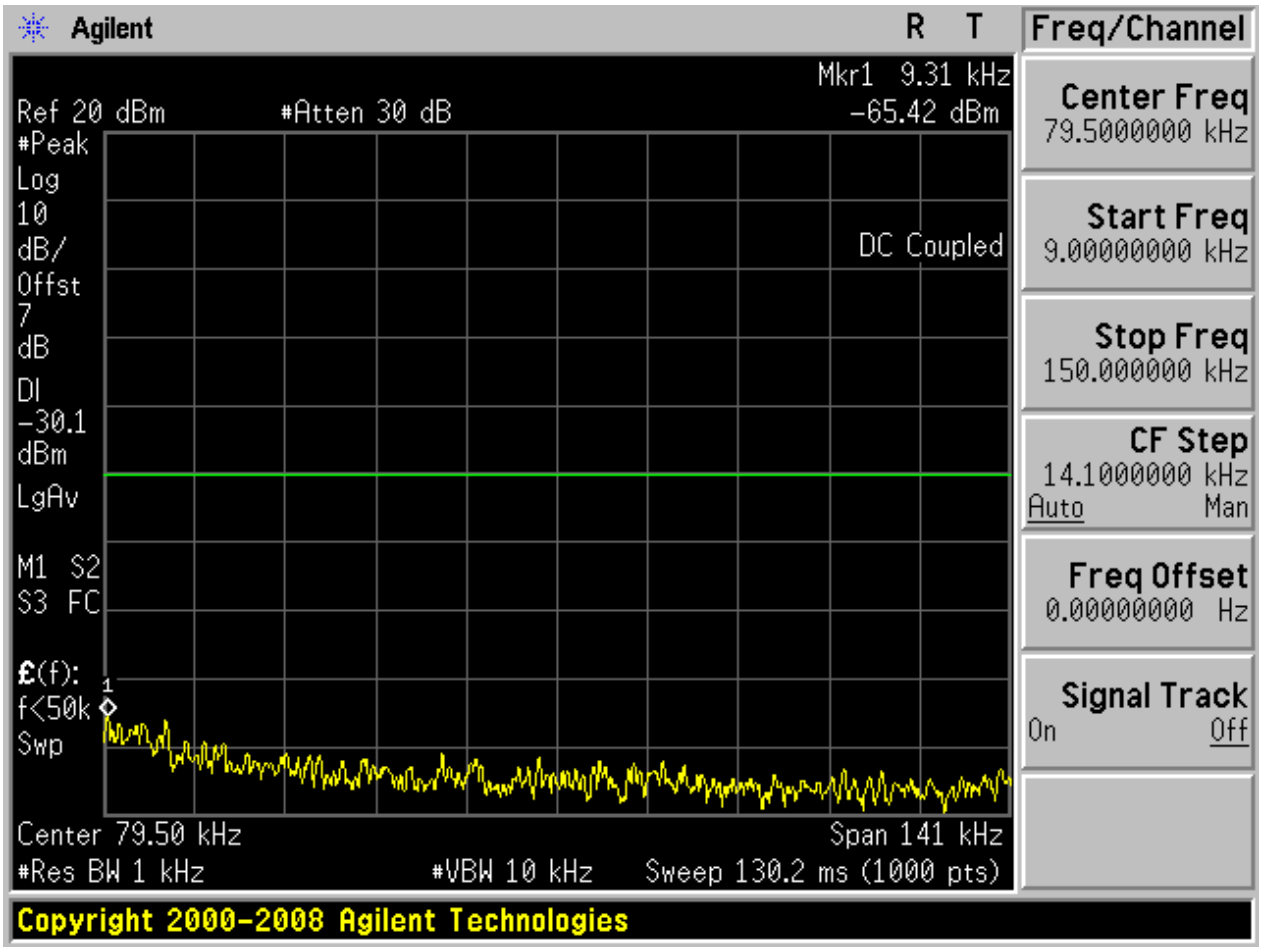


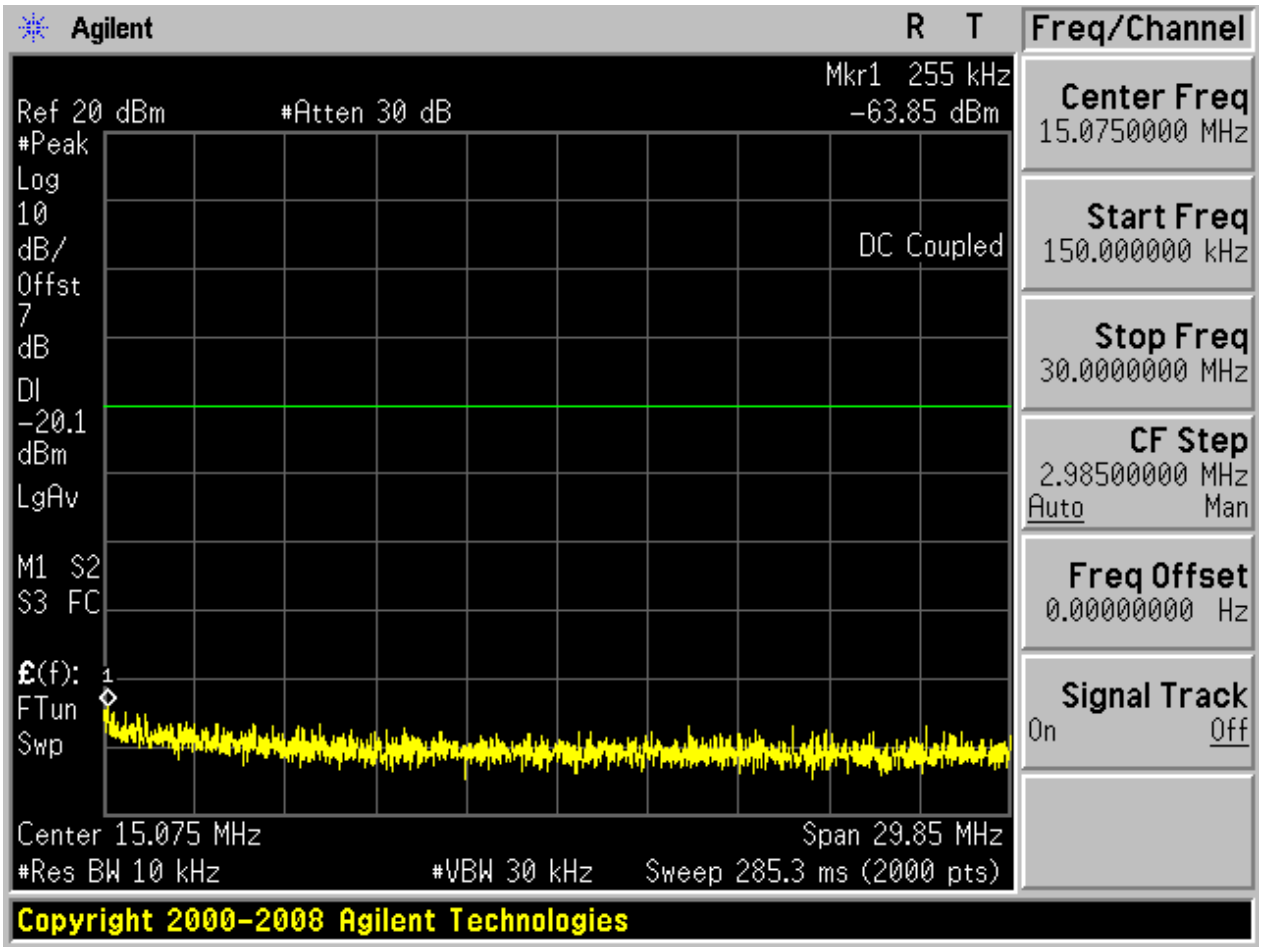
2.3 TM1_DH5_Ch78

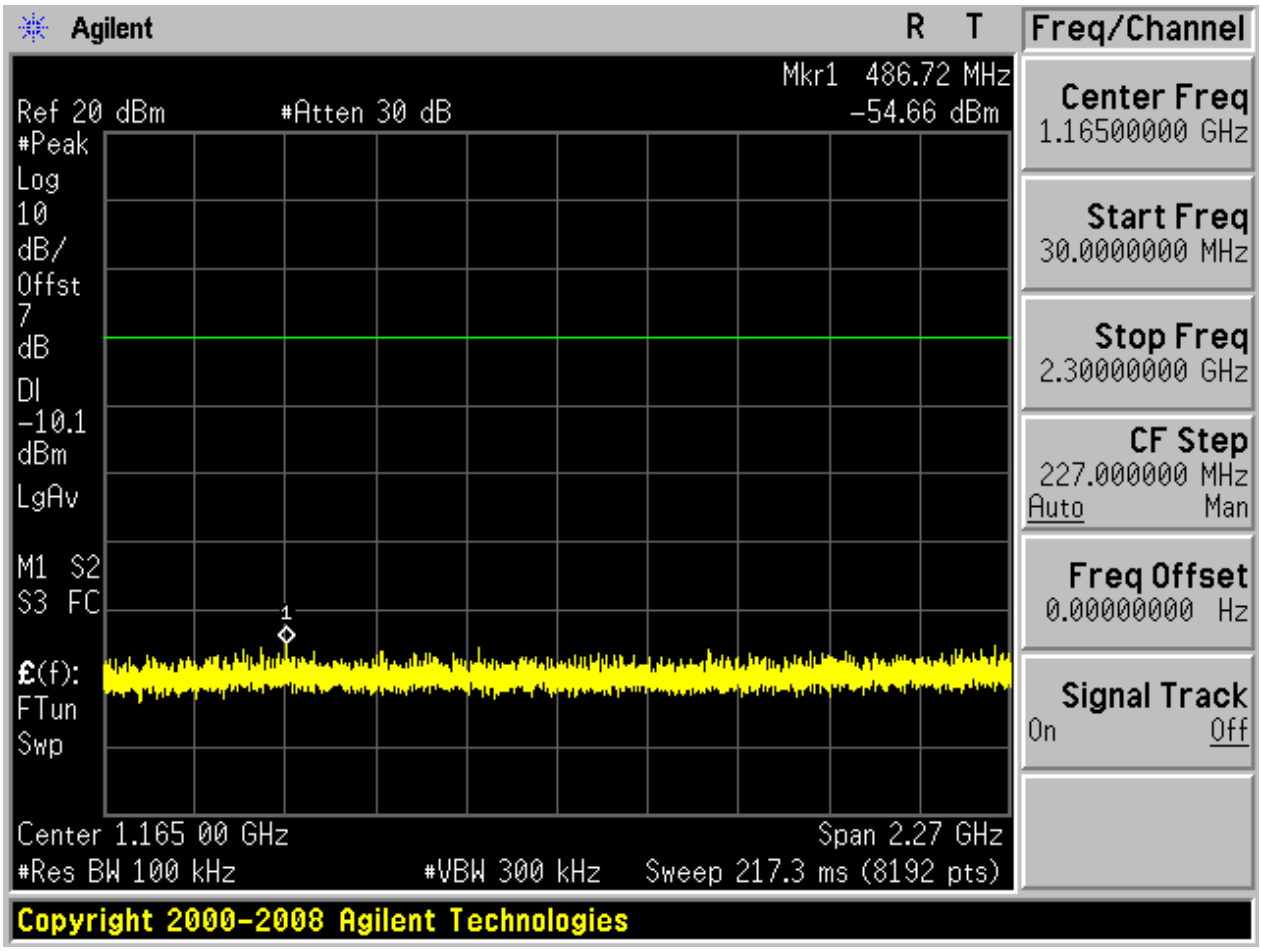
2.3.1 Pref

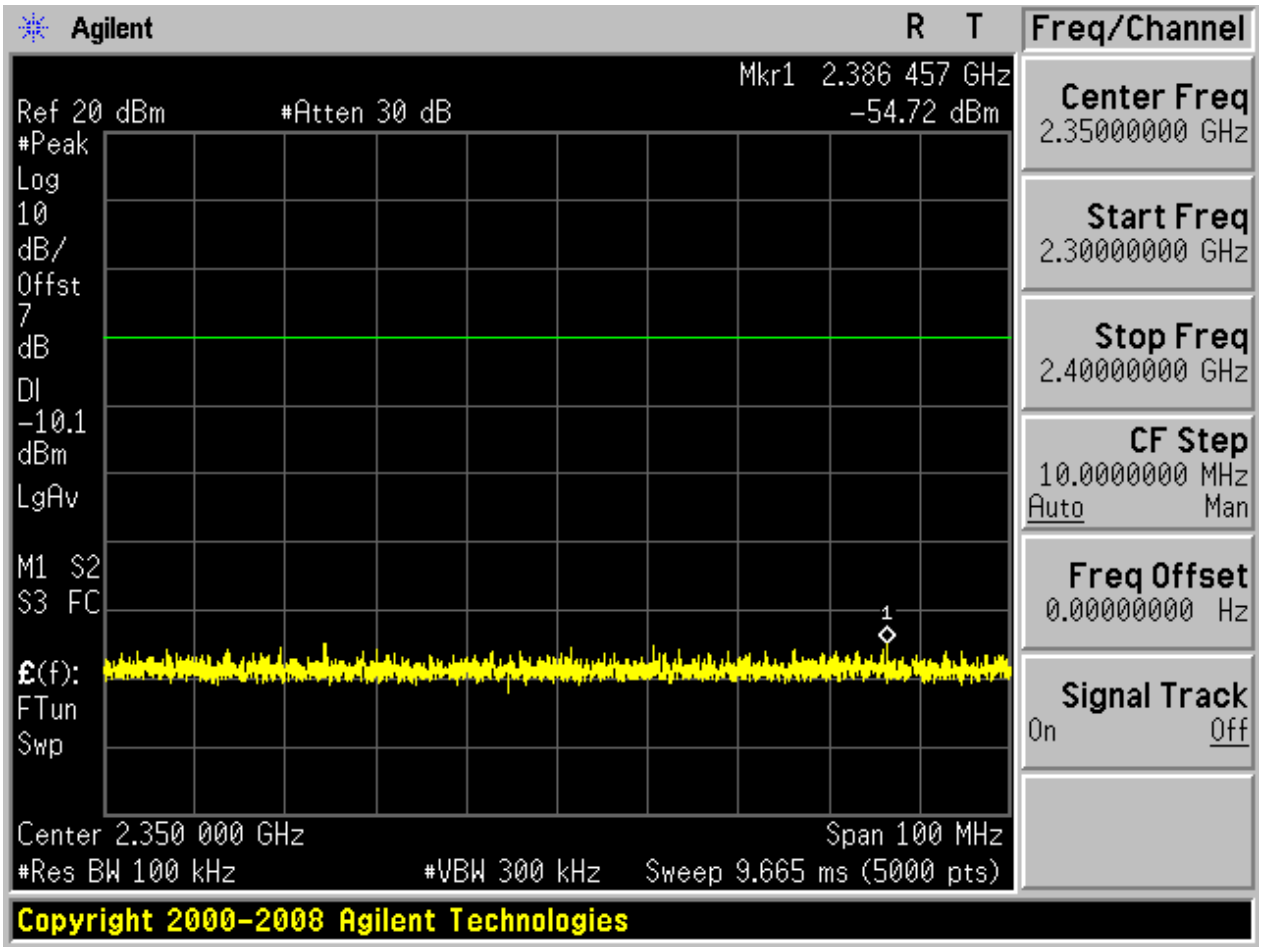


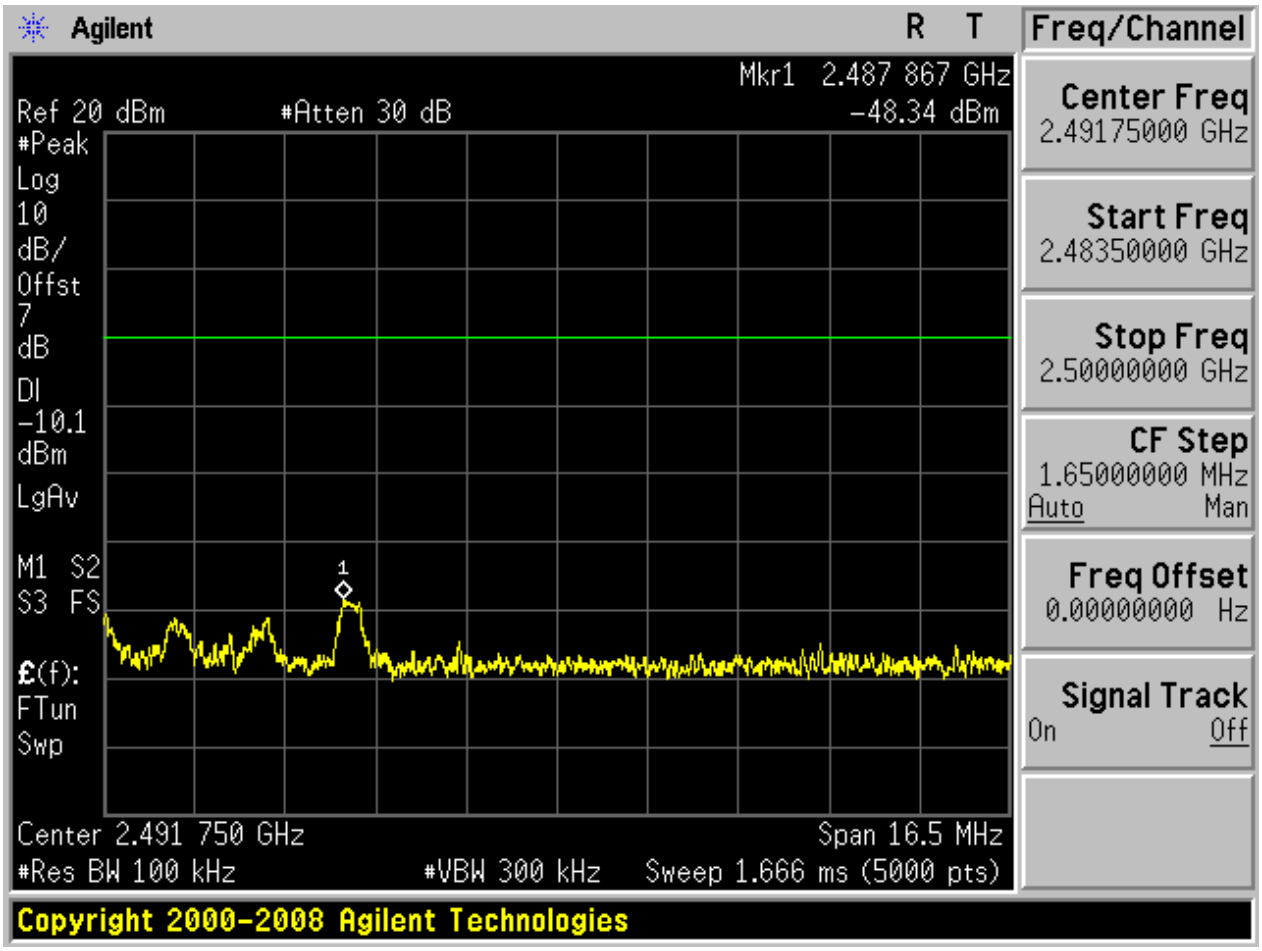
2.3.2 Puw

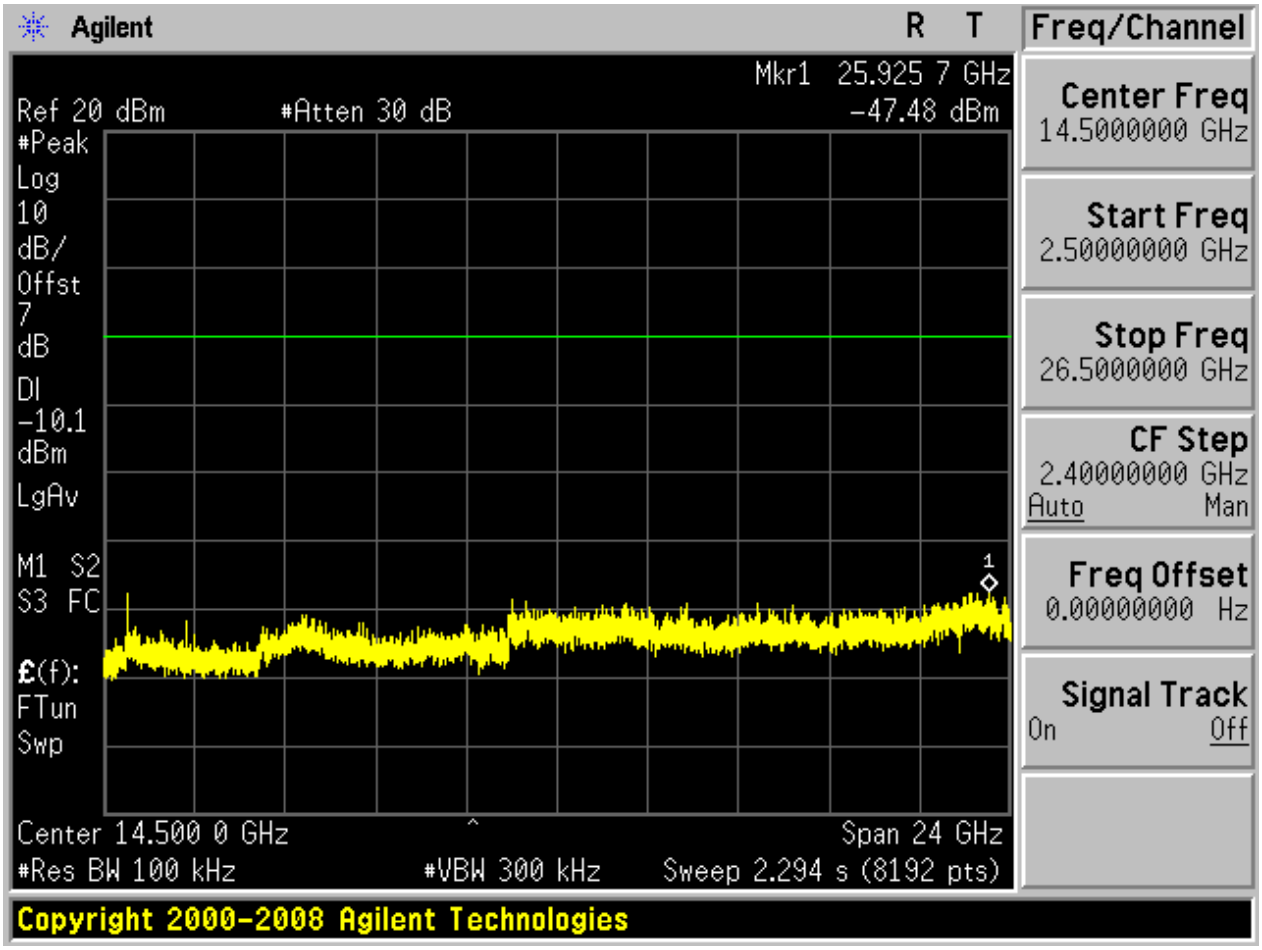

Agilent
R T
Freq/Channel
Mkr1 9.31 kHz
Ref 20 dBm
#Atten 30 dB
-65.42 dBm
#Peak
Log
10
dB/
Offst
7
dB
Dl
-30.1
dBm
LgAv
DC Coupled
M1 S2
S3 FC
£(f):
f<50k
Swp
Center Freq
79.5000000 kHz
Start Freq
9.000000000 kHz
Stop Freq
150.000000 kHz
CF Step
14.1000000 kHz
Auto Man
Freq Offset
0.000000000 Hz
Signal Track
On Off
Center 79.50 kHz
Span 141 kHz
#Res BW 1 kHz
#VBW 10 kHz
Sweep 130.2 ms (1000 pts)
Copyright 2000-2008 Agilent Technologies





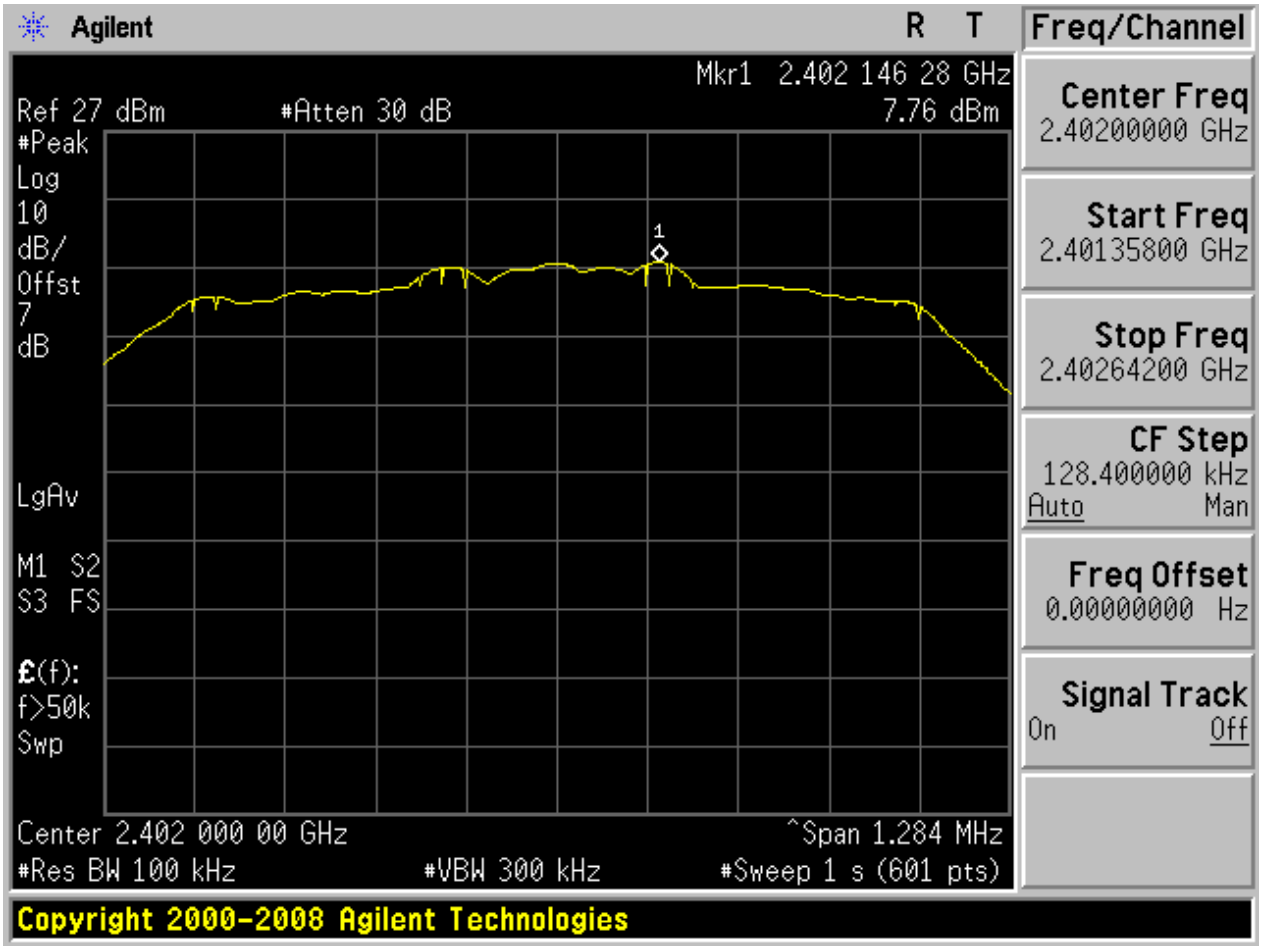




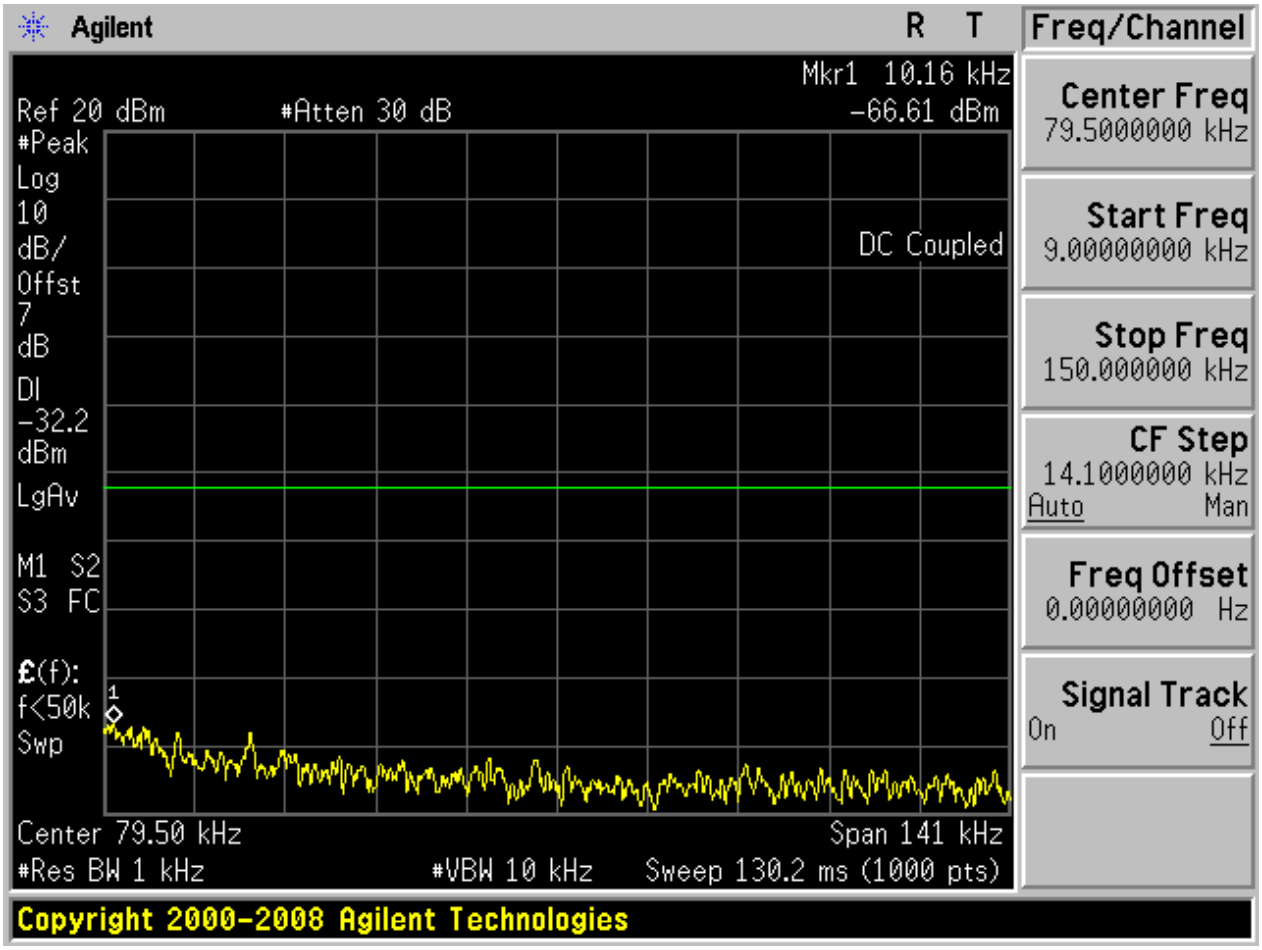


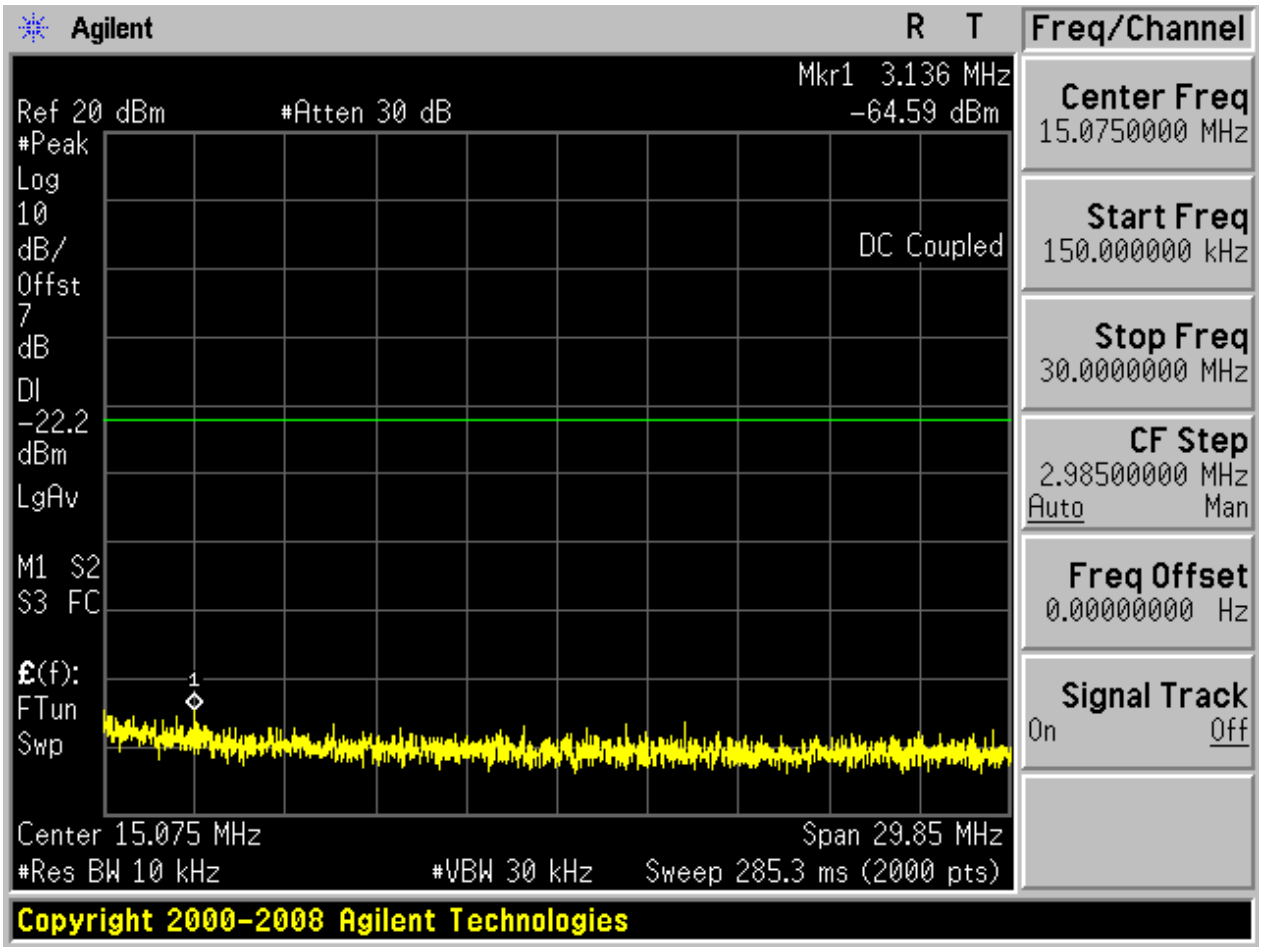
2.4 TM2_2DH5_Ch0

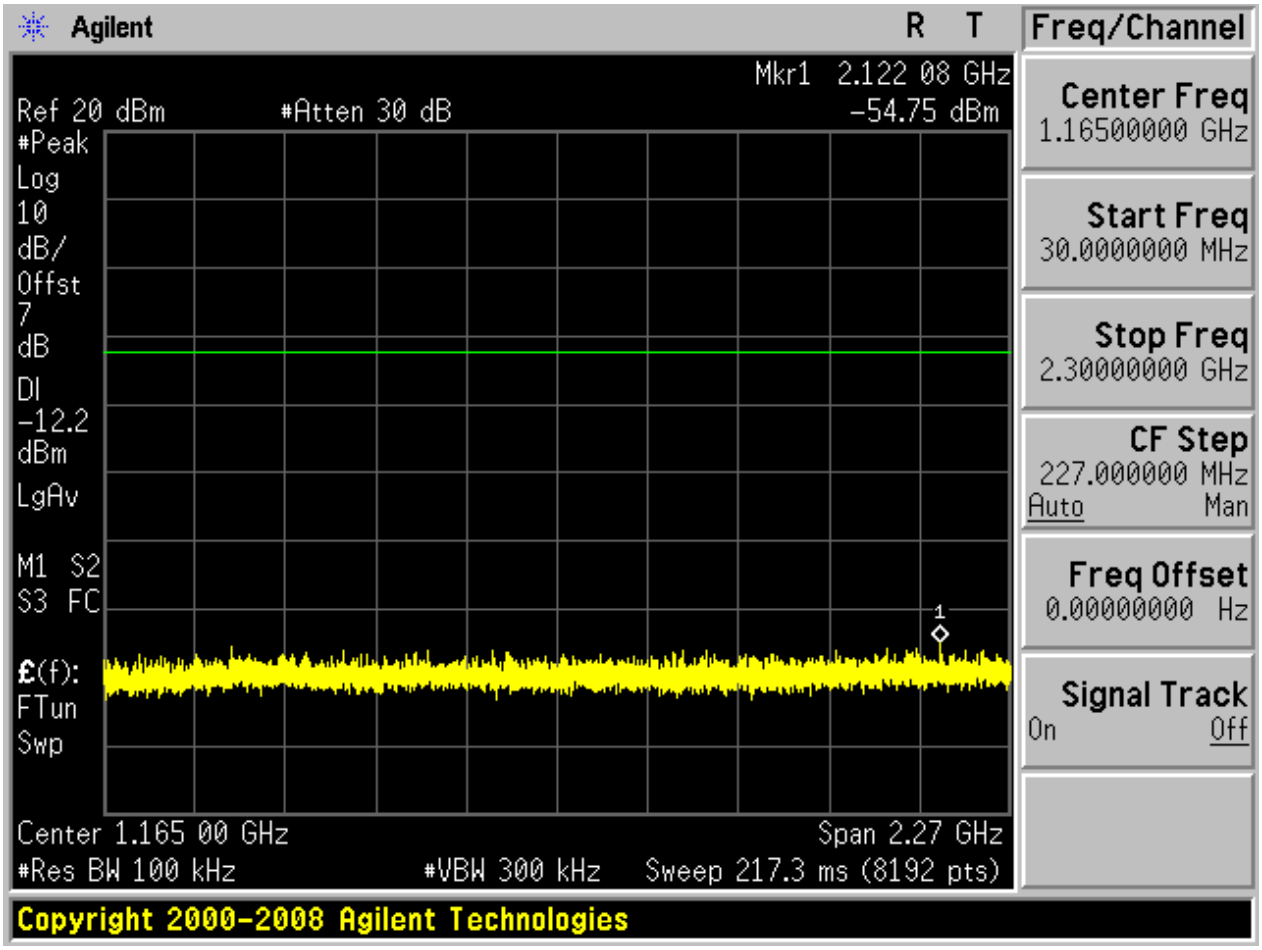
2.4.1 Pref

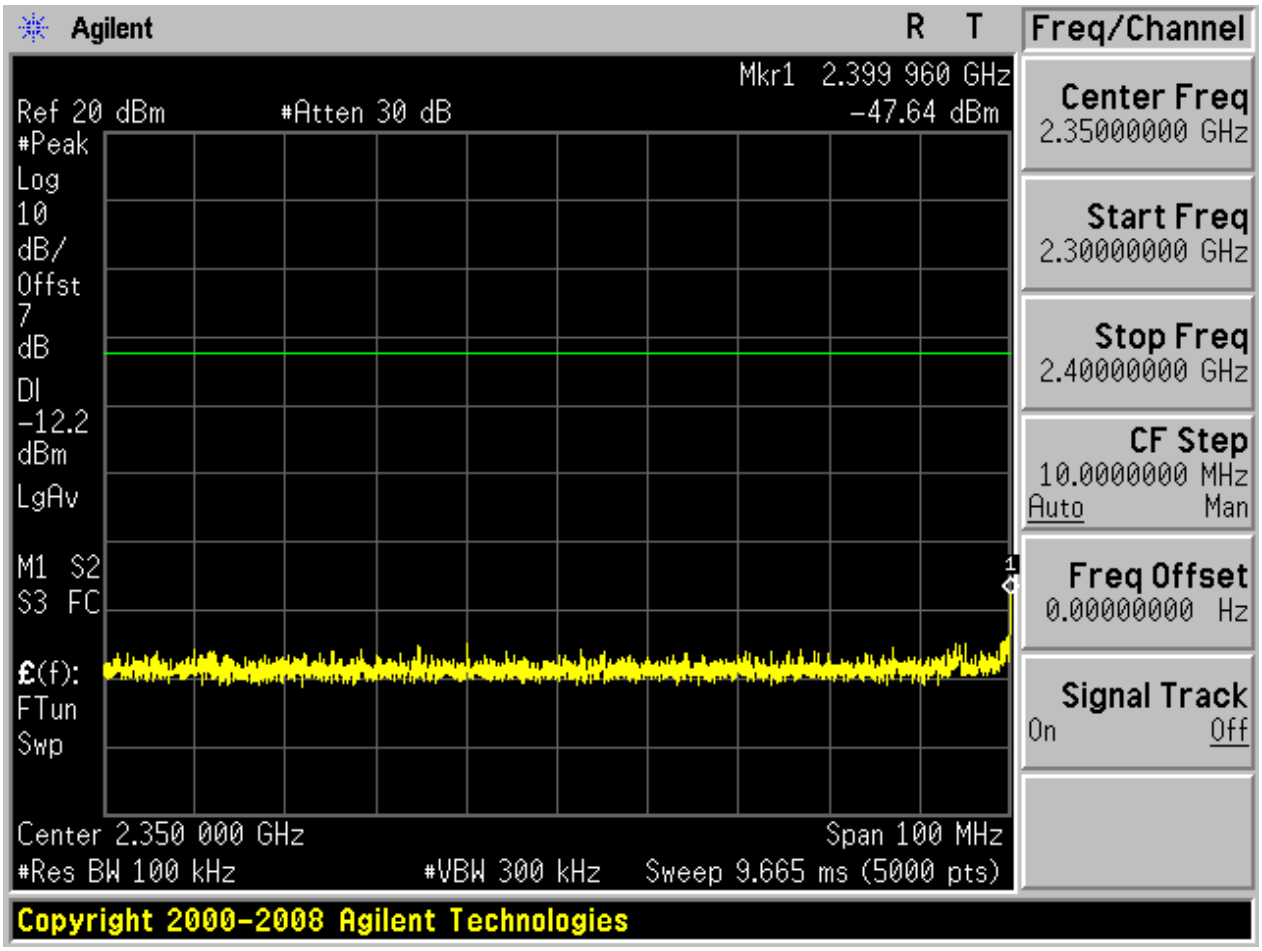


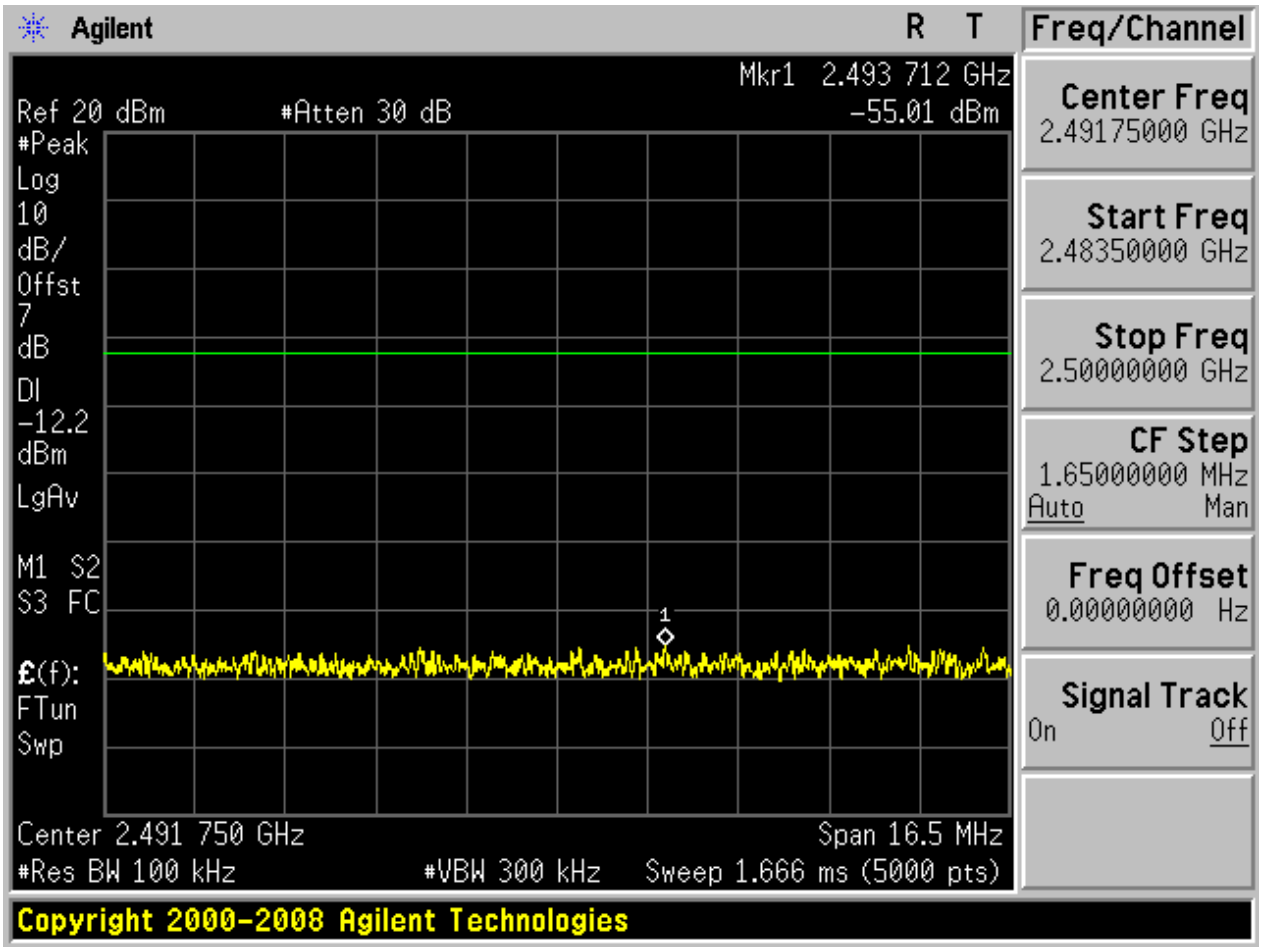
2.4.2 Puw

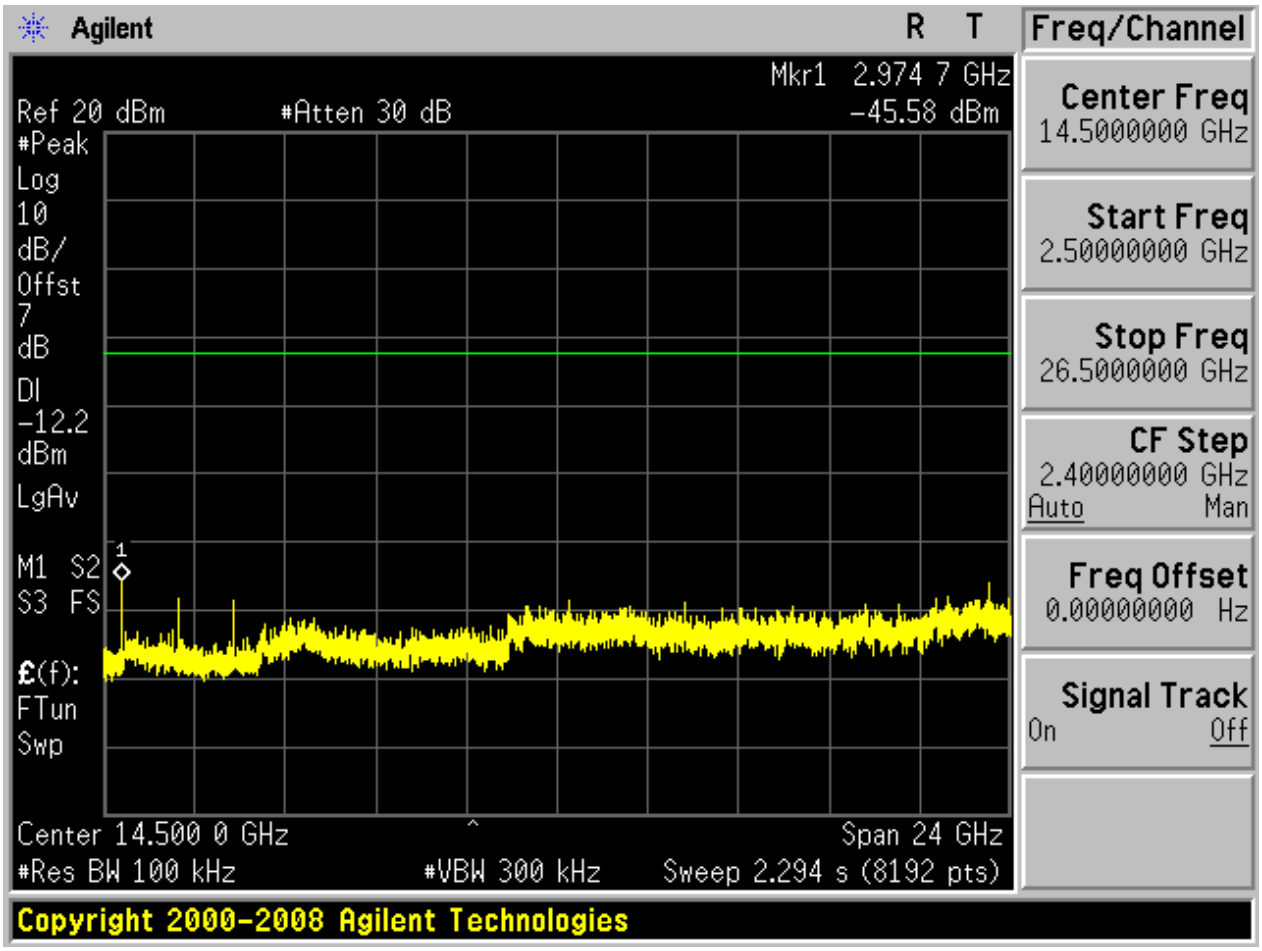

Agilent
R T
Freq/Channel
Mkr1 10.16 kHz
Ref 20 dBm
#Atten 30 dB
-66.61 dBm
#Peak
Log
10
dB/
Offst
7
dB
Dl
-32.2
dBm
LgAv
DC Coupled
M1 S2
S3 FC
£(f):
f<50k
Swp
Center Freq
79.5000000 kHz
Start Freq
9.000000000 kHz
Stop Freq
150.000000 kHz
CF Step
14.1000000 kHz
Auto Man
Freq Offset
0.000000000 Hz
Signal Track
On Off
Center 79.50 kHz
Span 141 kHz
#Res BW 1 kHz
#VBW 10 kHz
Sweep 130.2 ms (1000 pts)
Copyright 2000-2008 Agilent Technologies





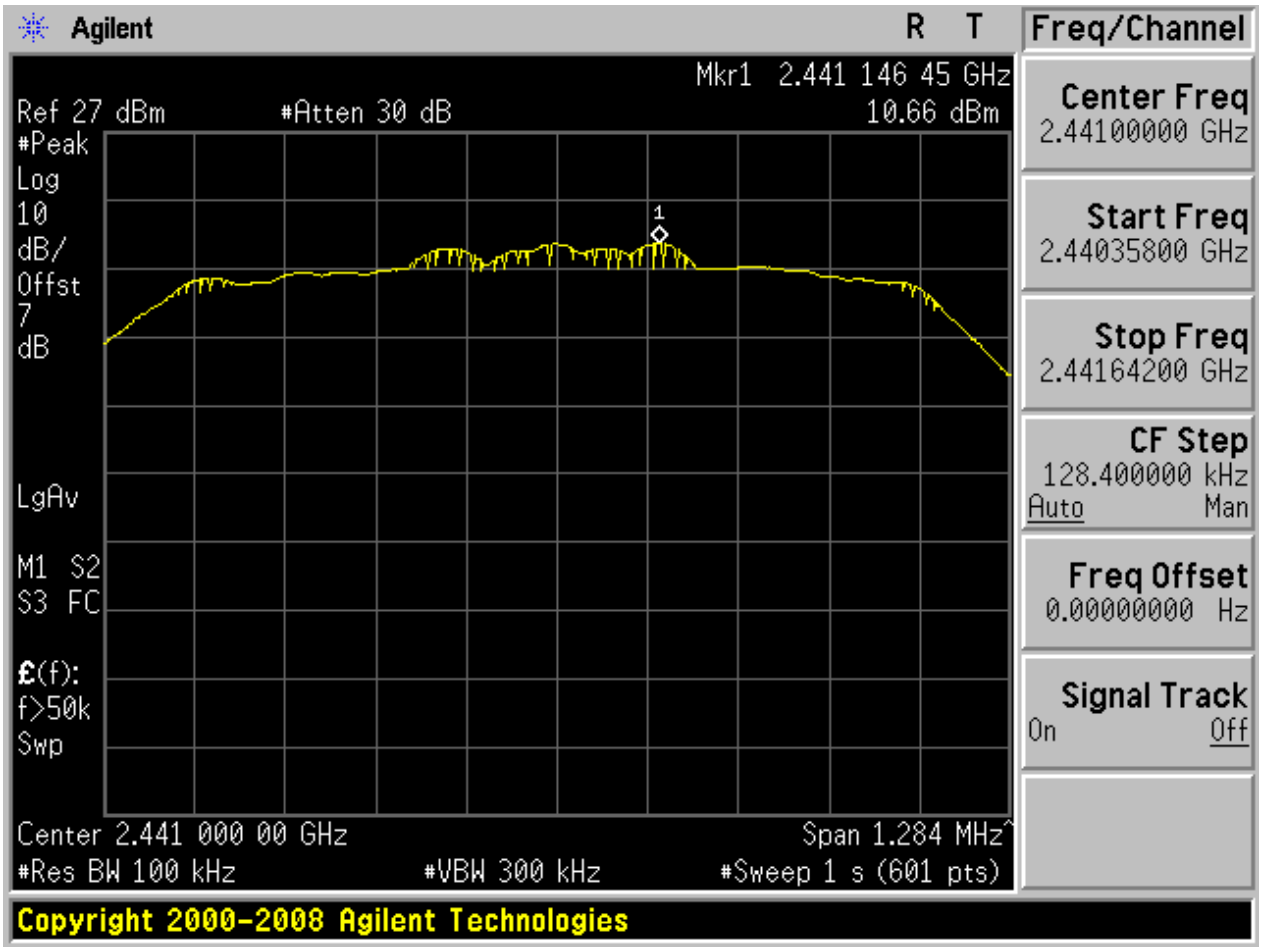




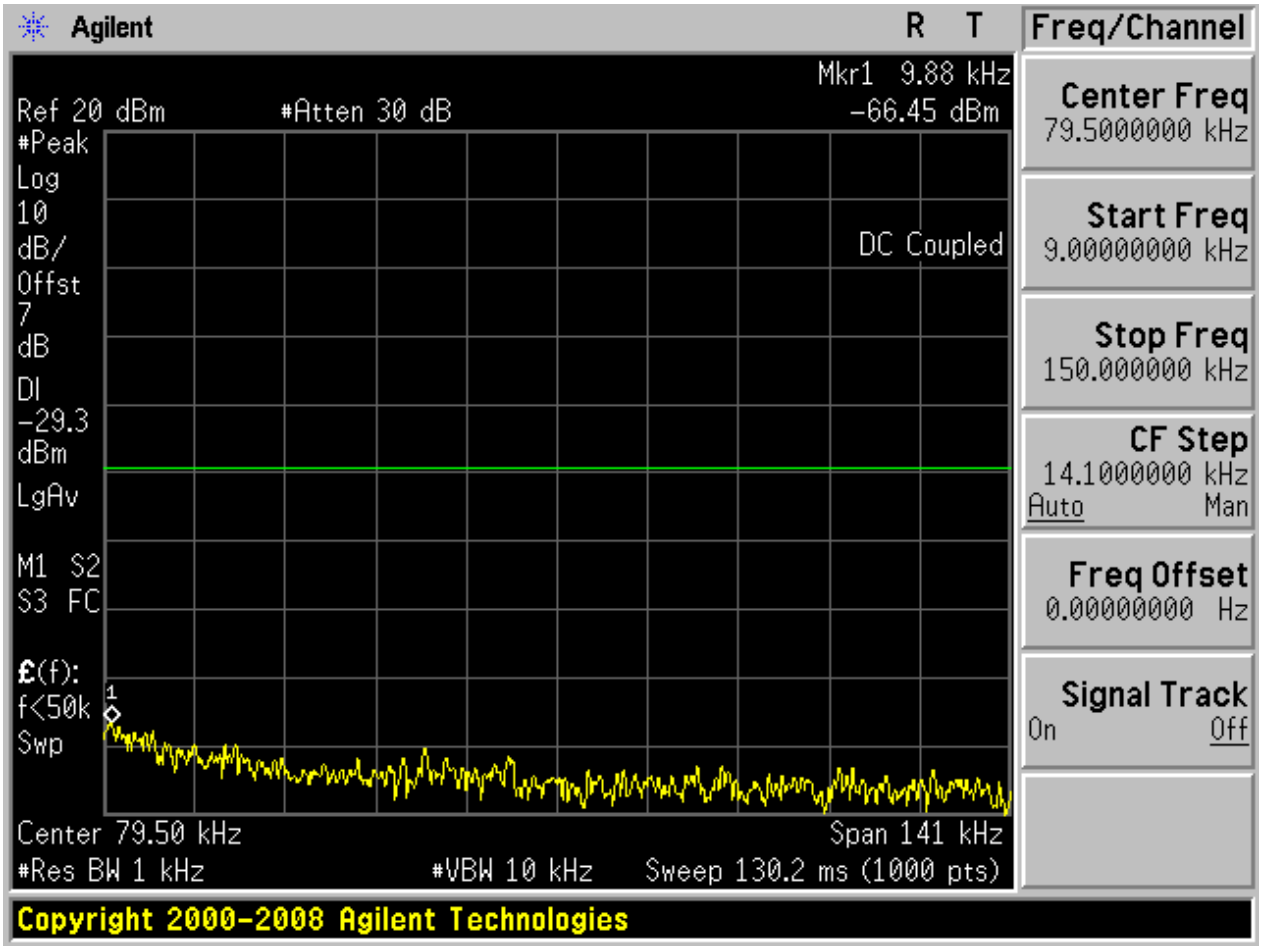


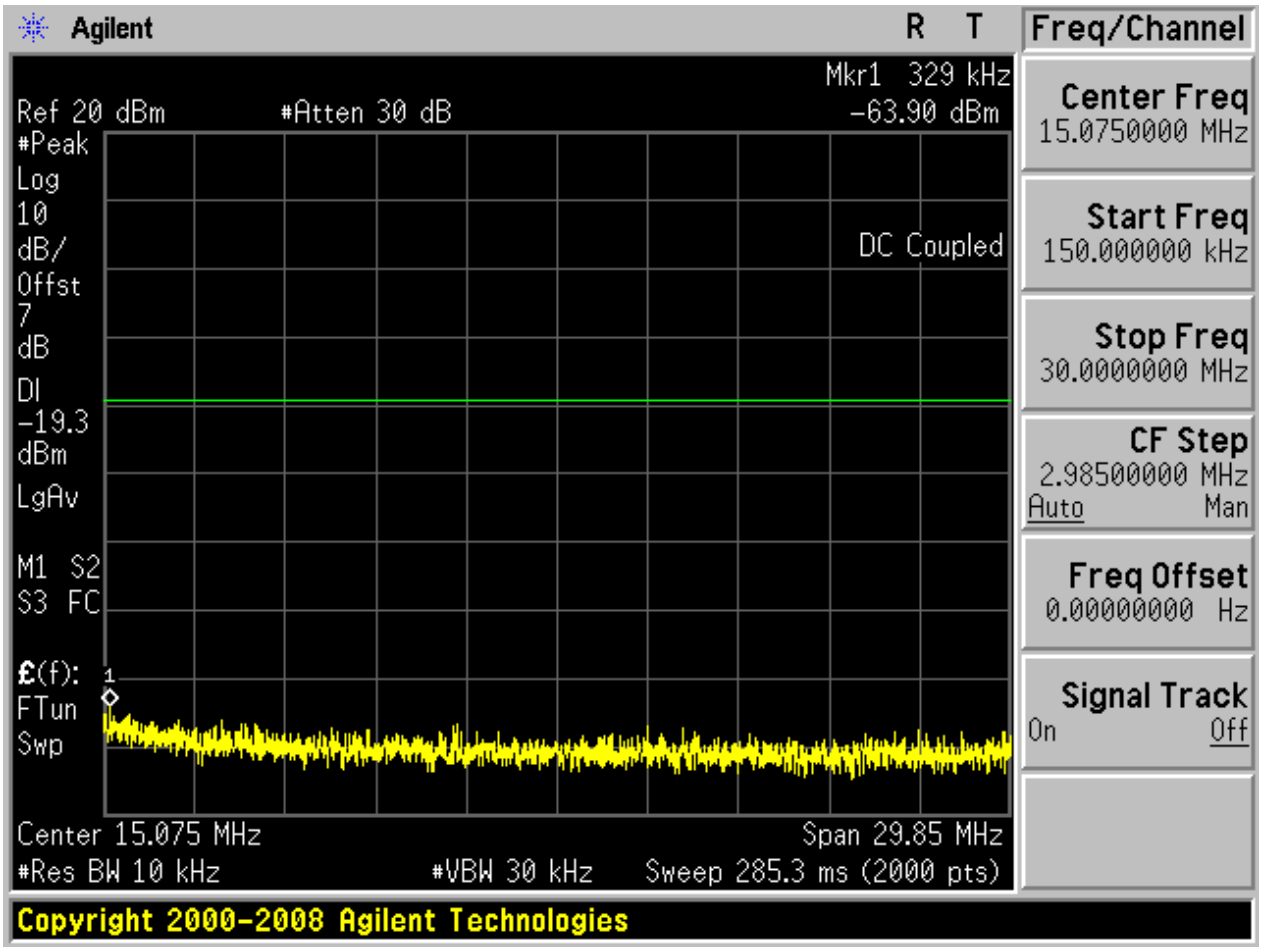
2.5 TM2_2DH5_Ch39

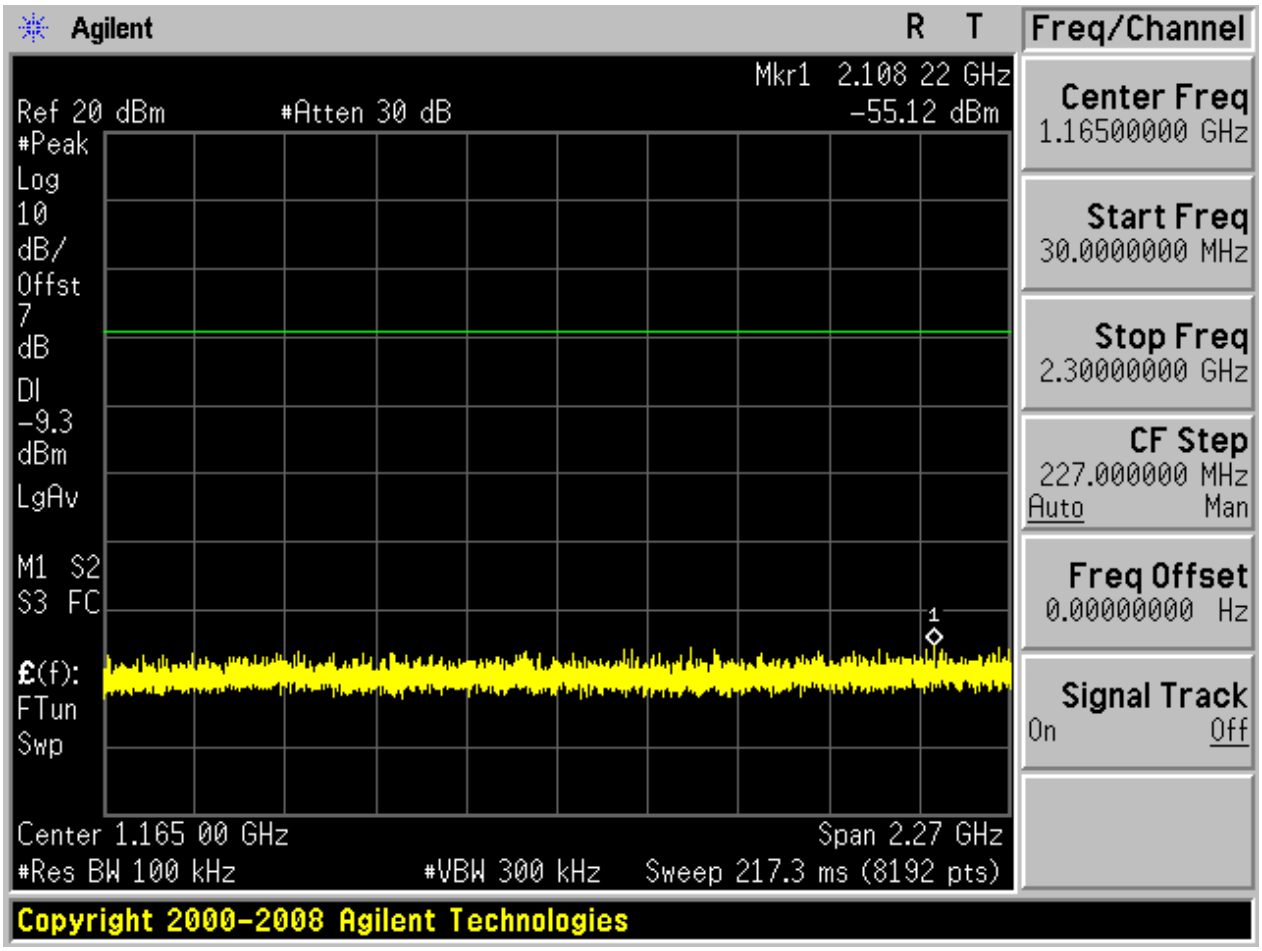
2.5.1 Pref

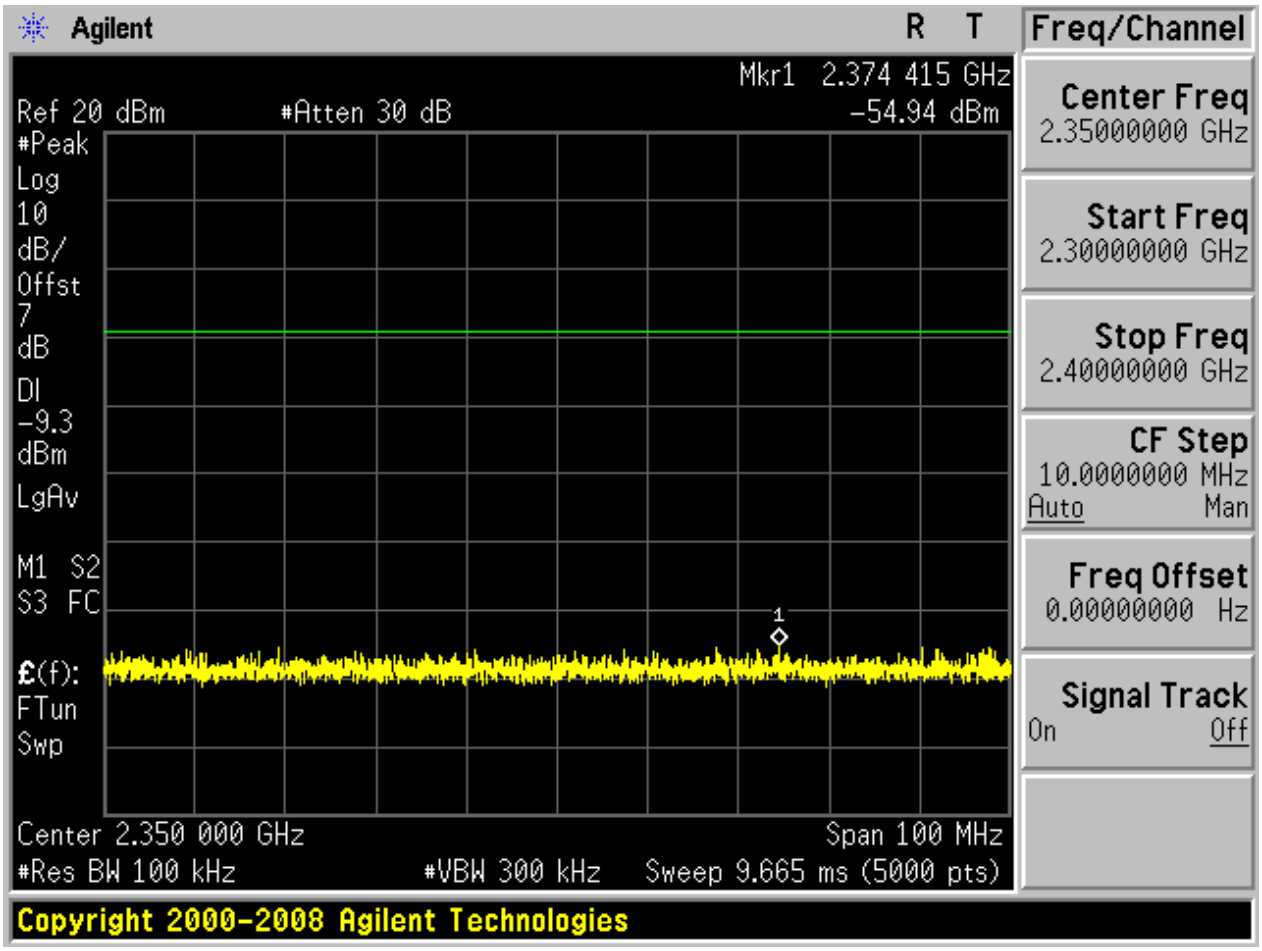


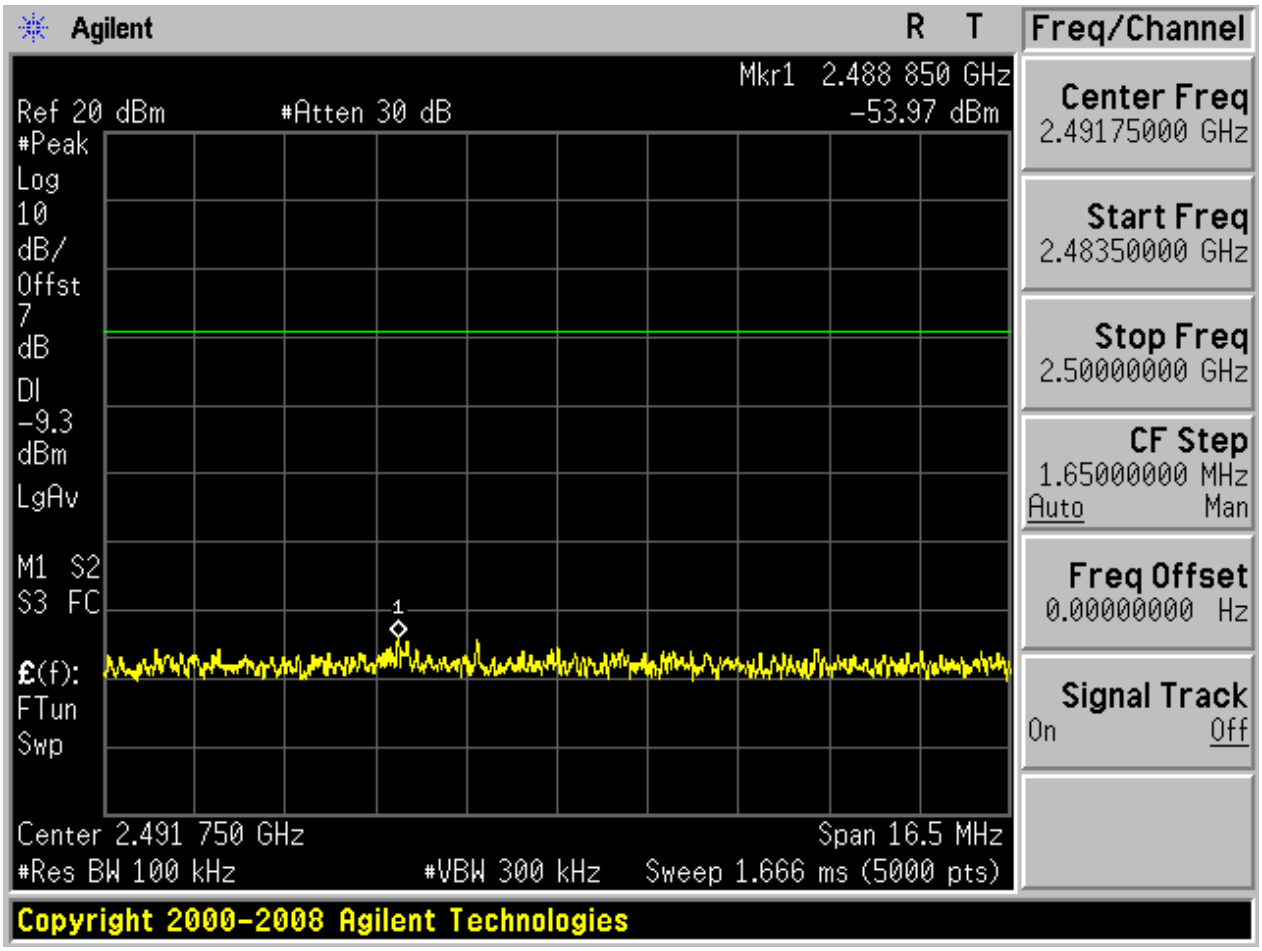
2.5.2 Puw

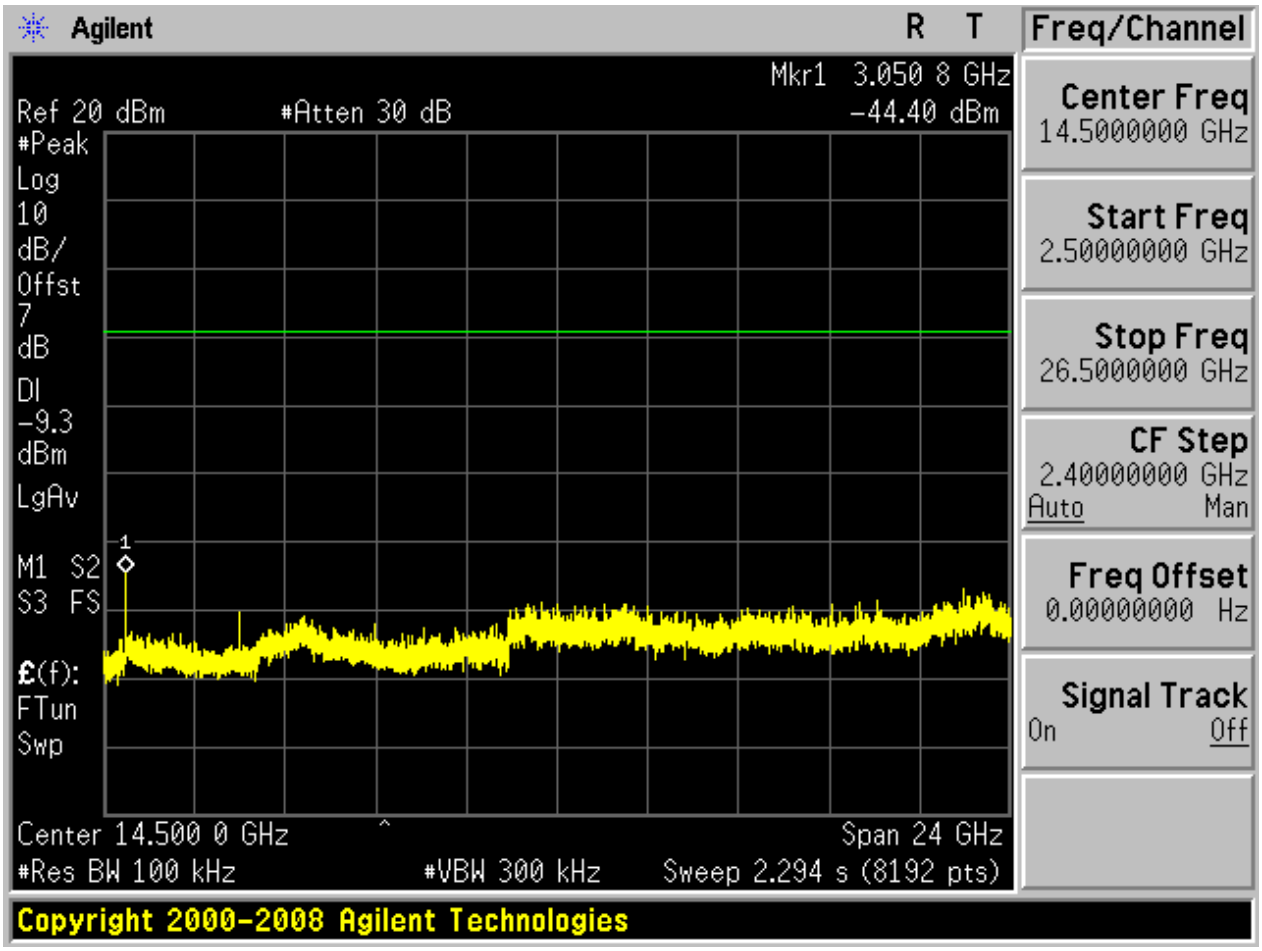






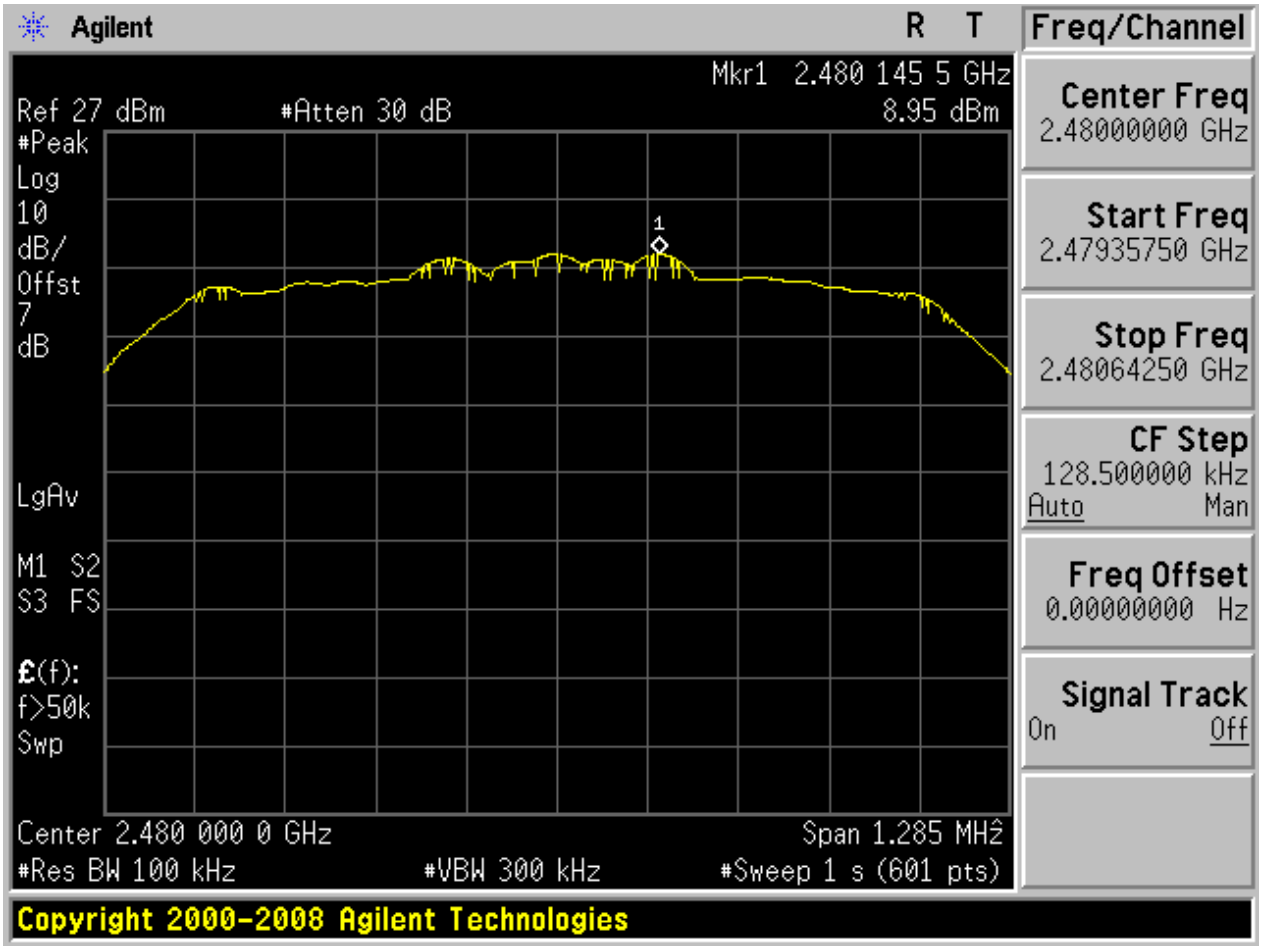




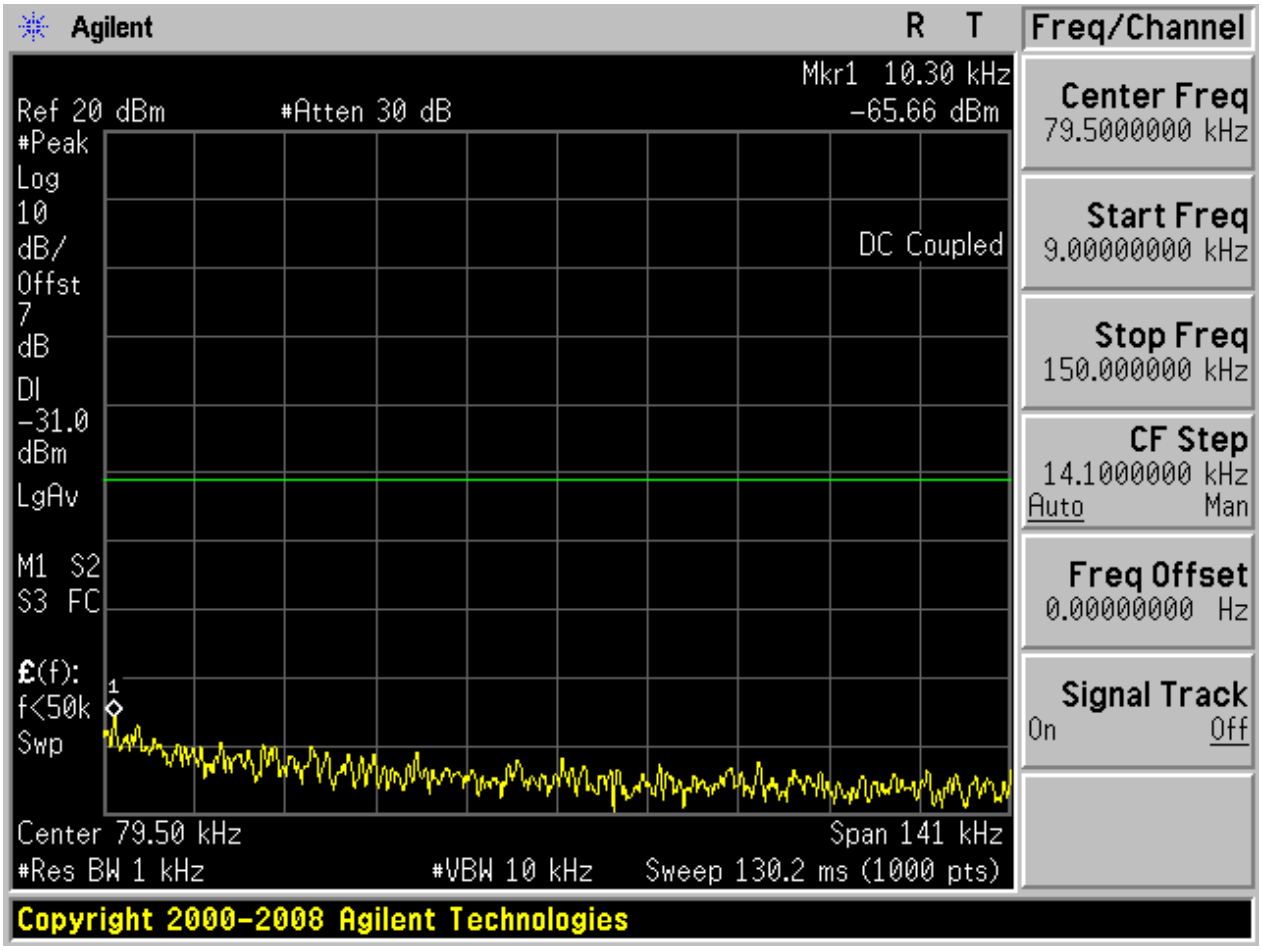


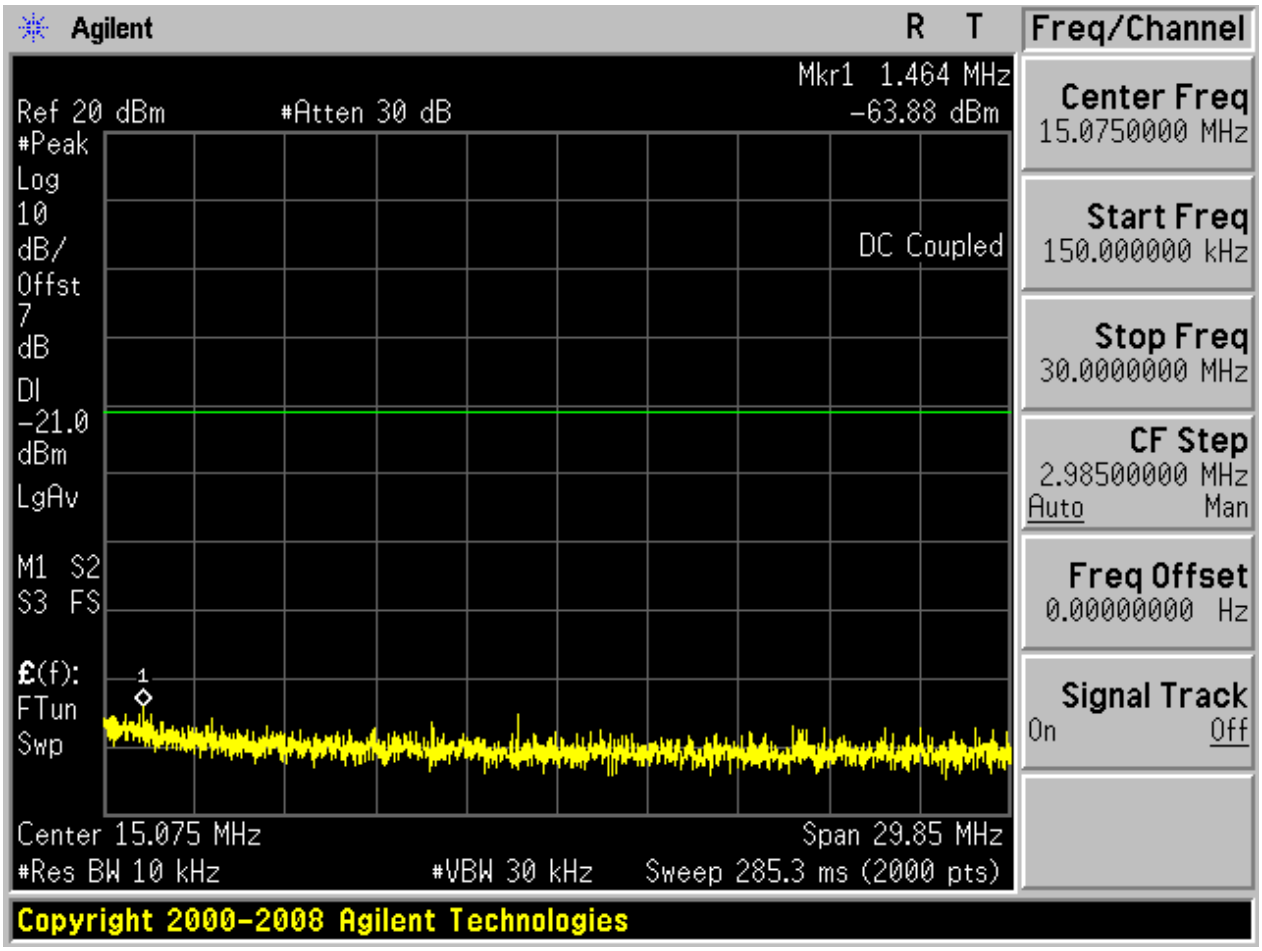
2.6 TM2_2DH5_Ch78

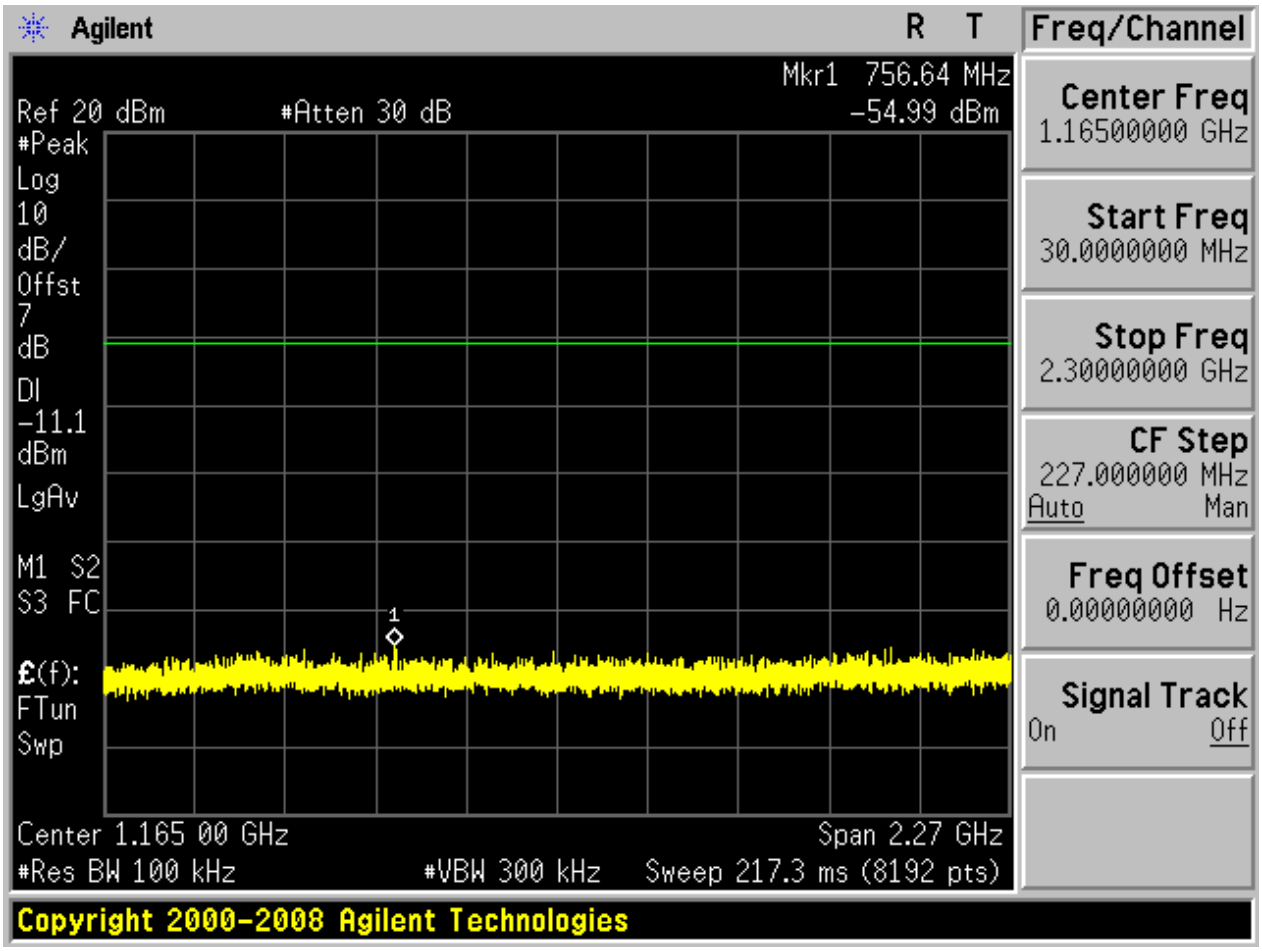
2.6.1 Pref

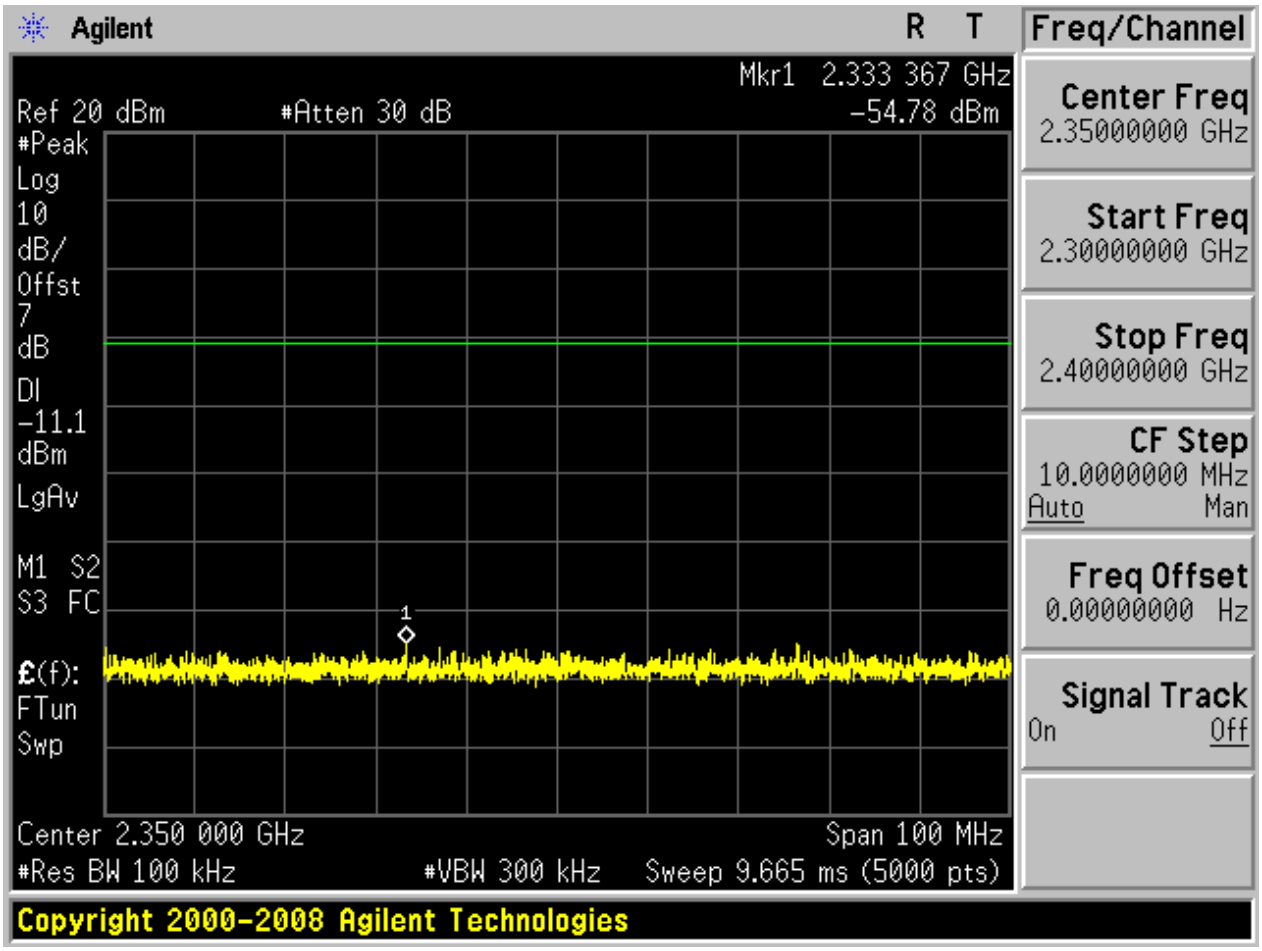


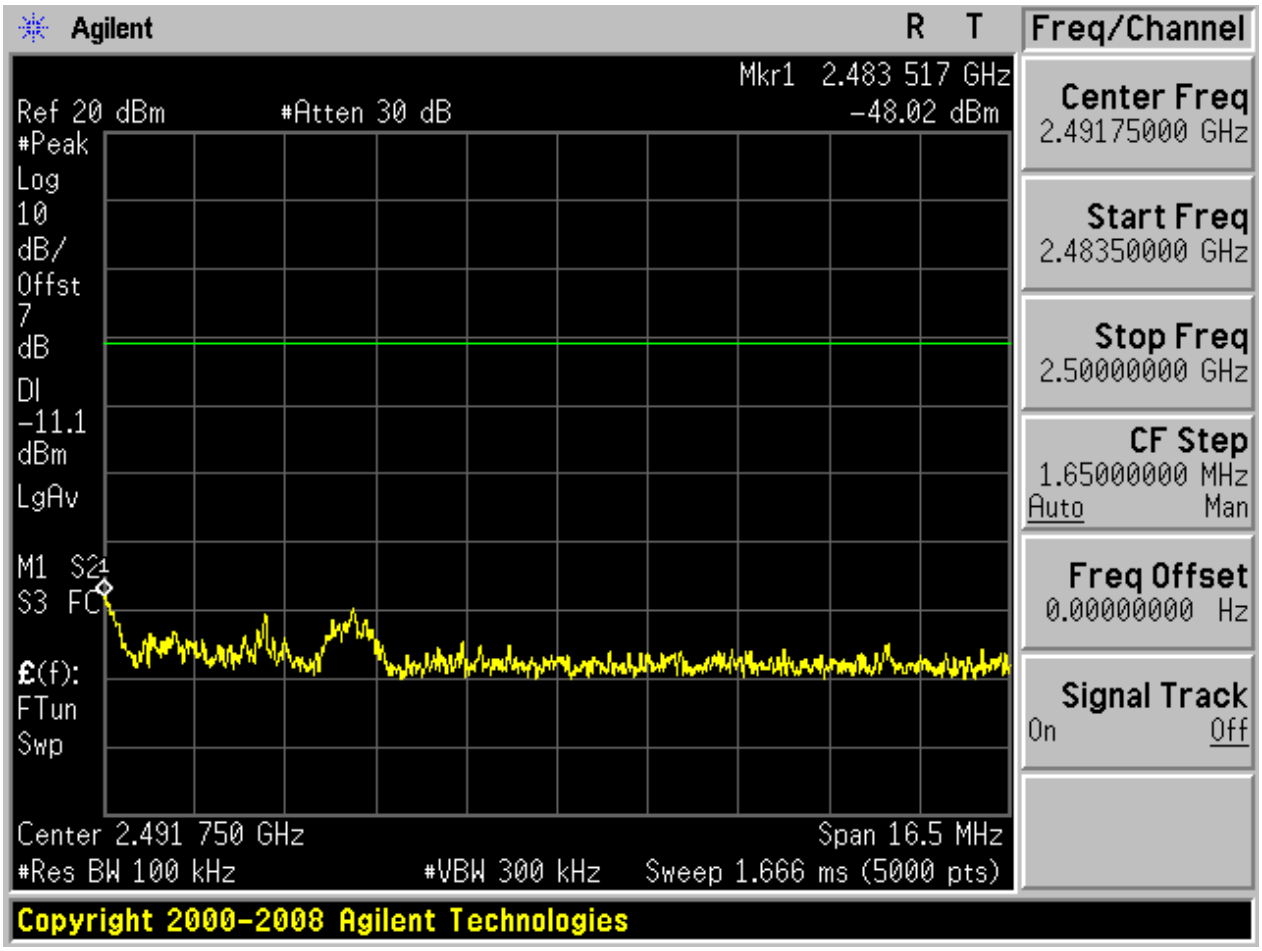
2.6.2 Puw

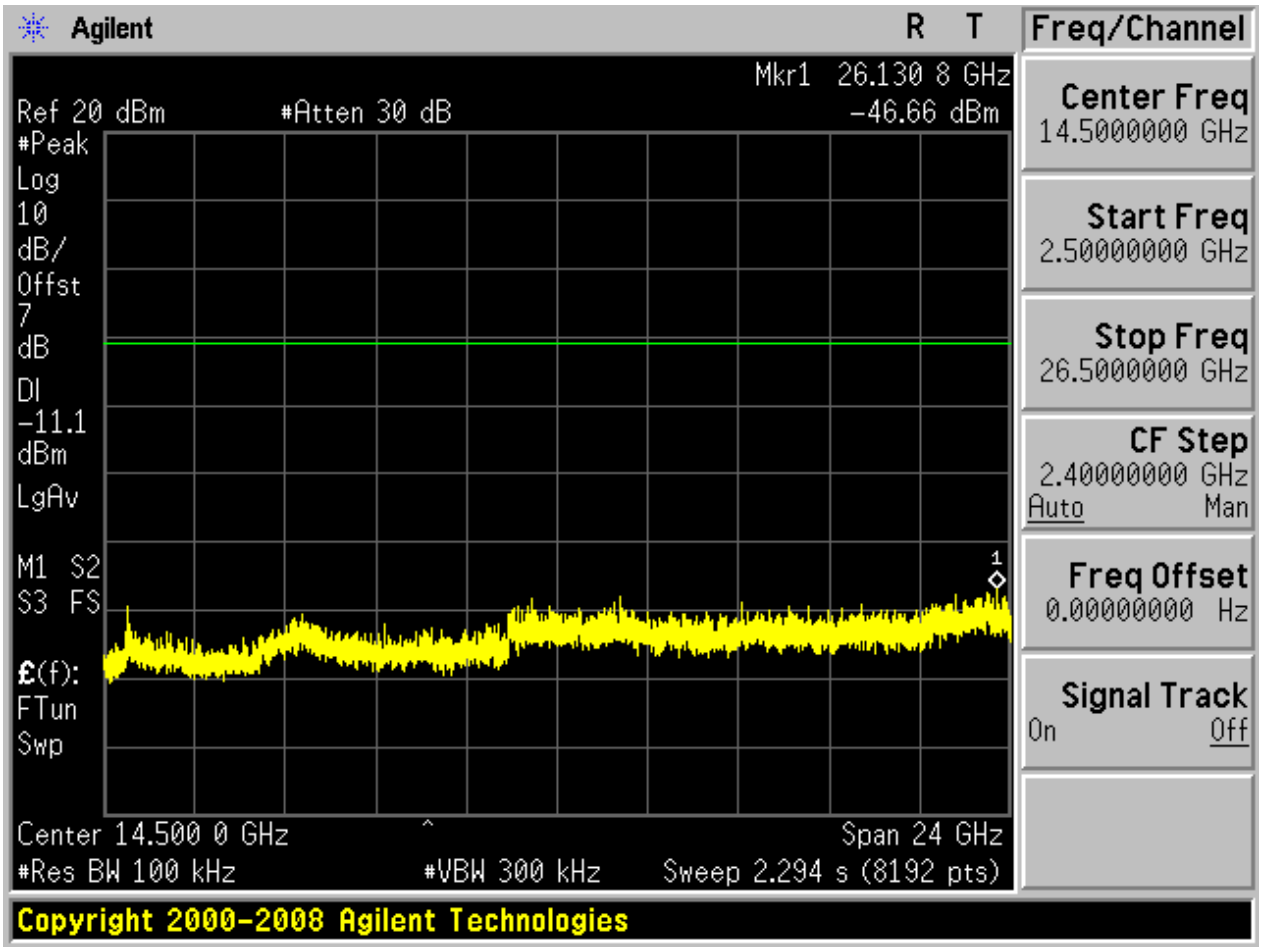






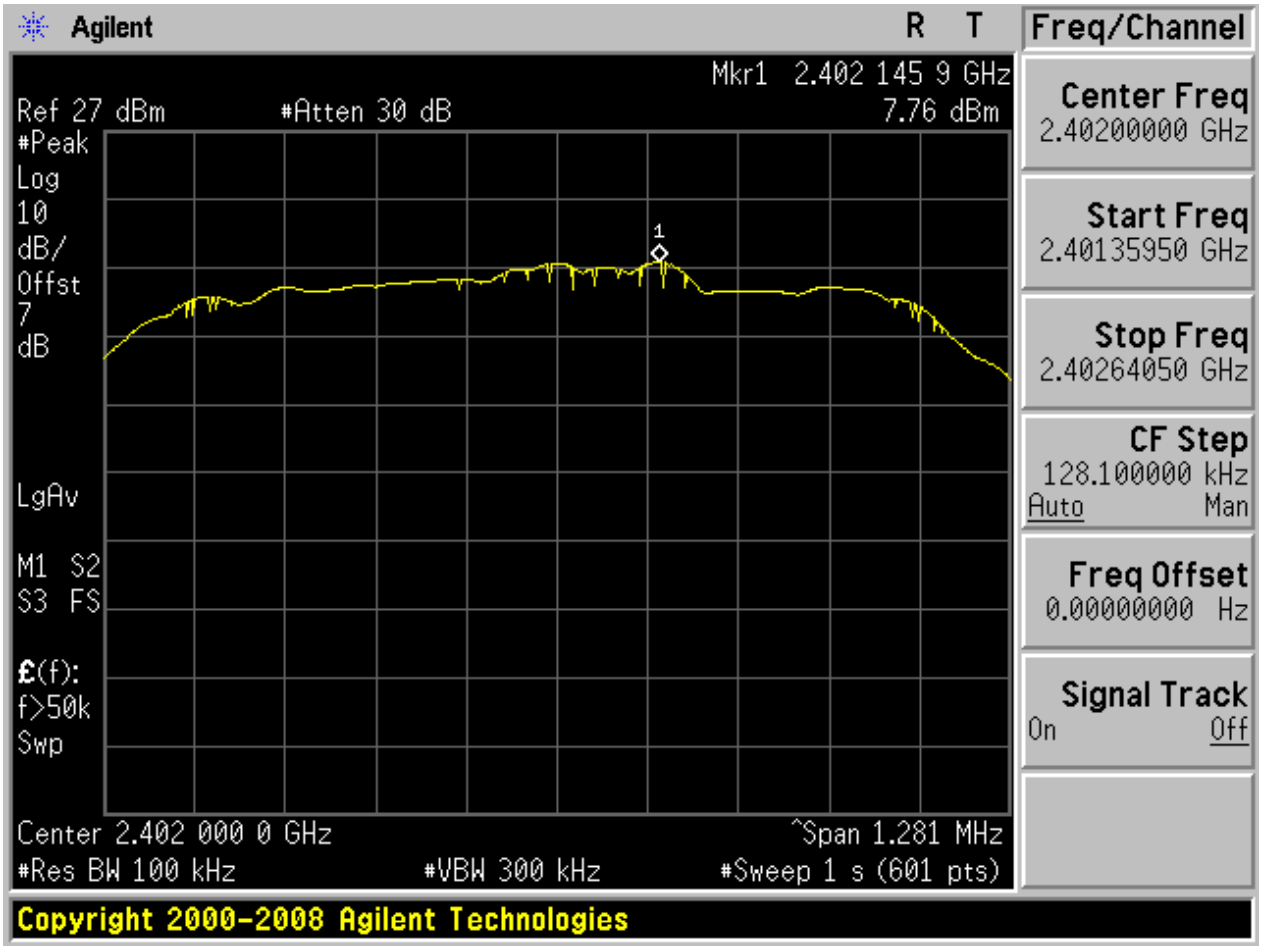




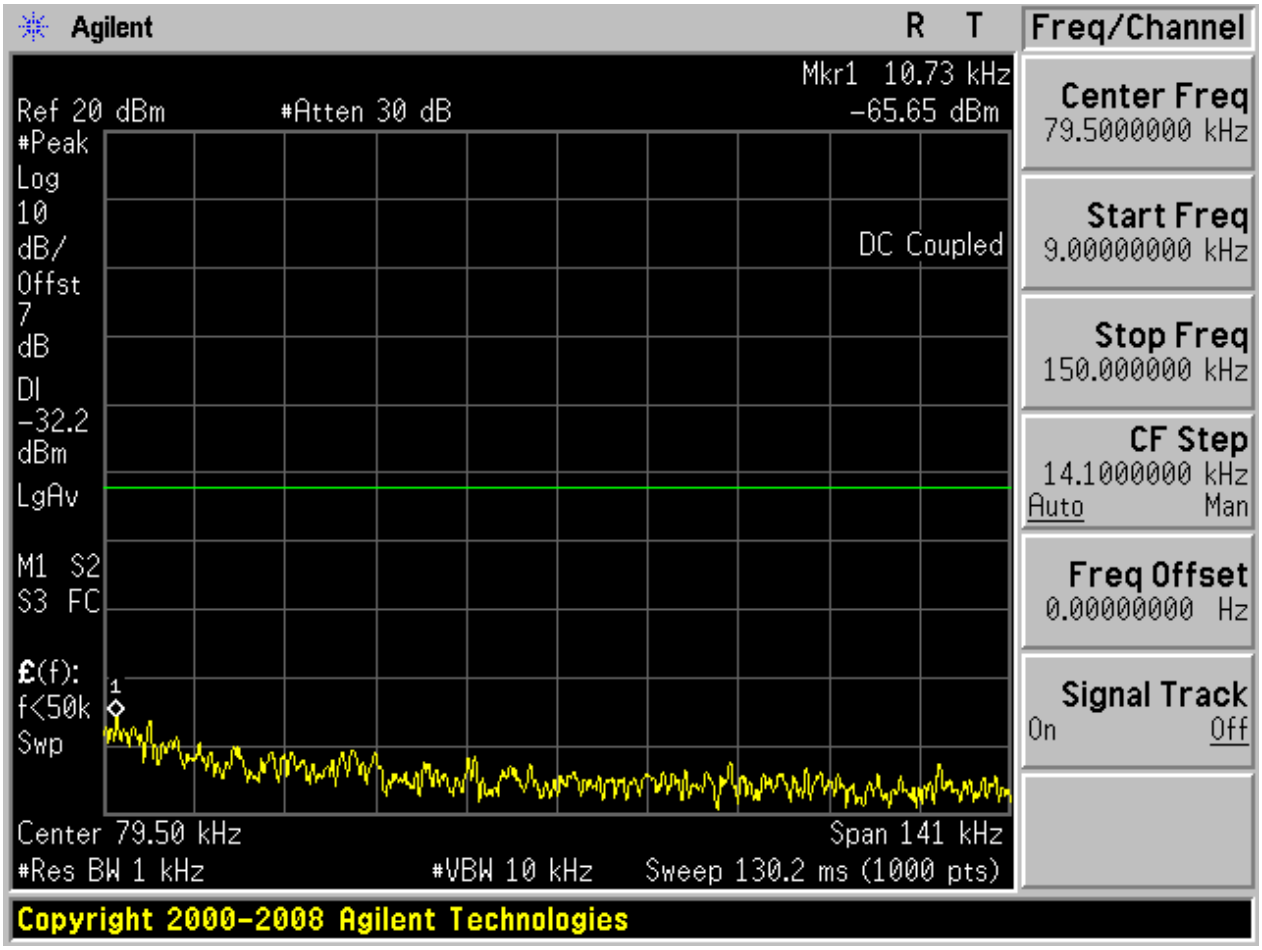


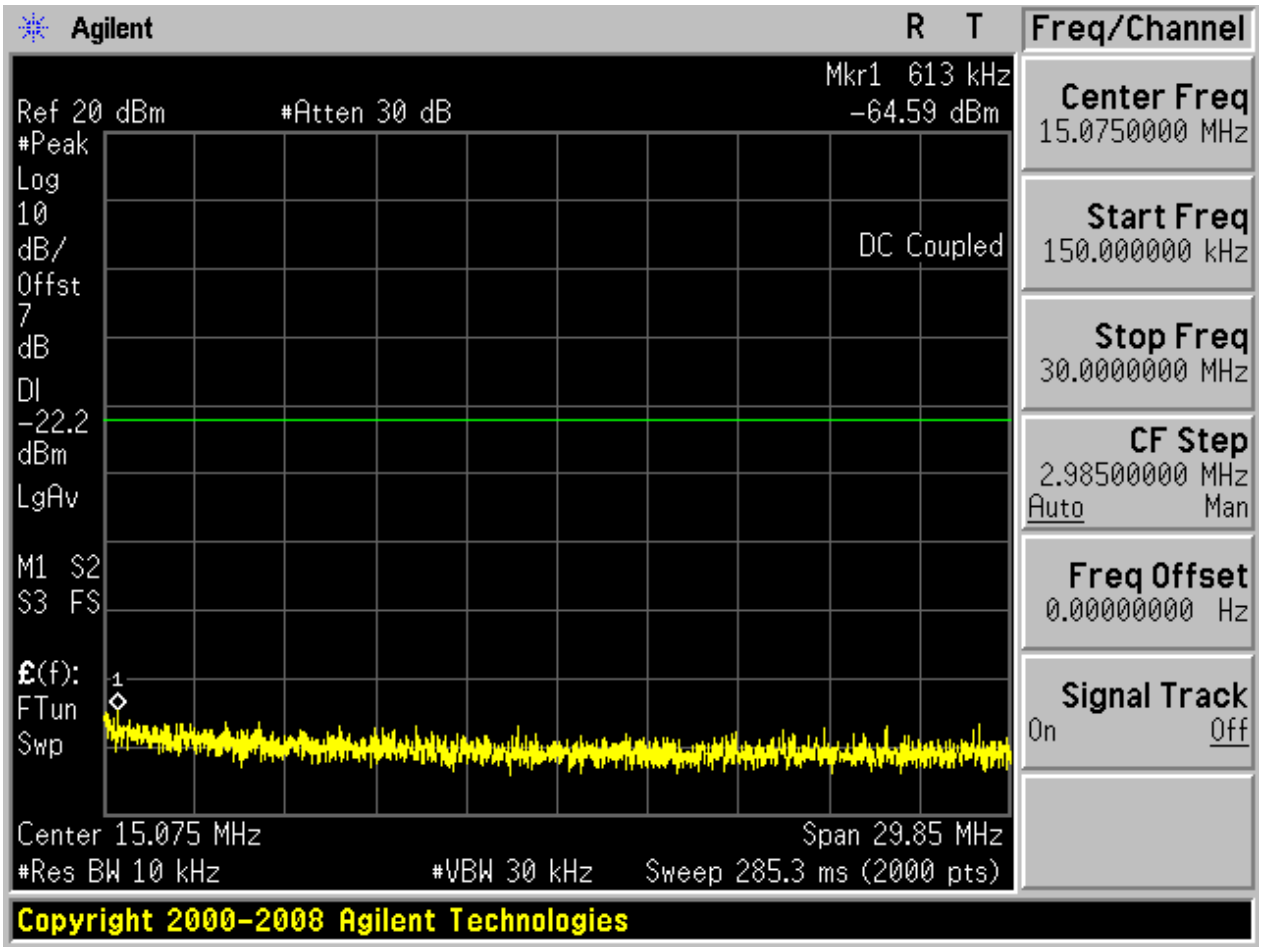
2.7 TM3_3DH5_Ch0

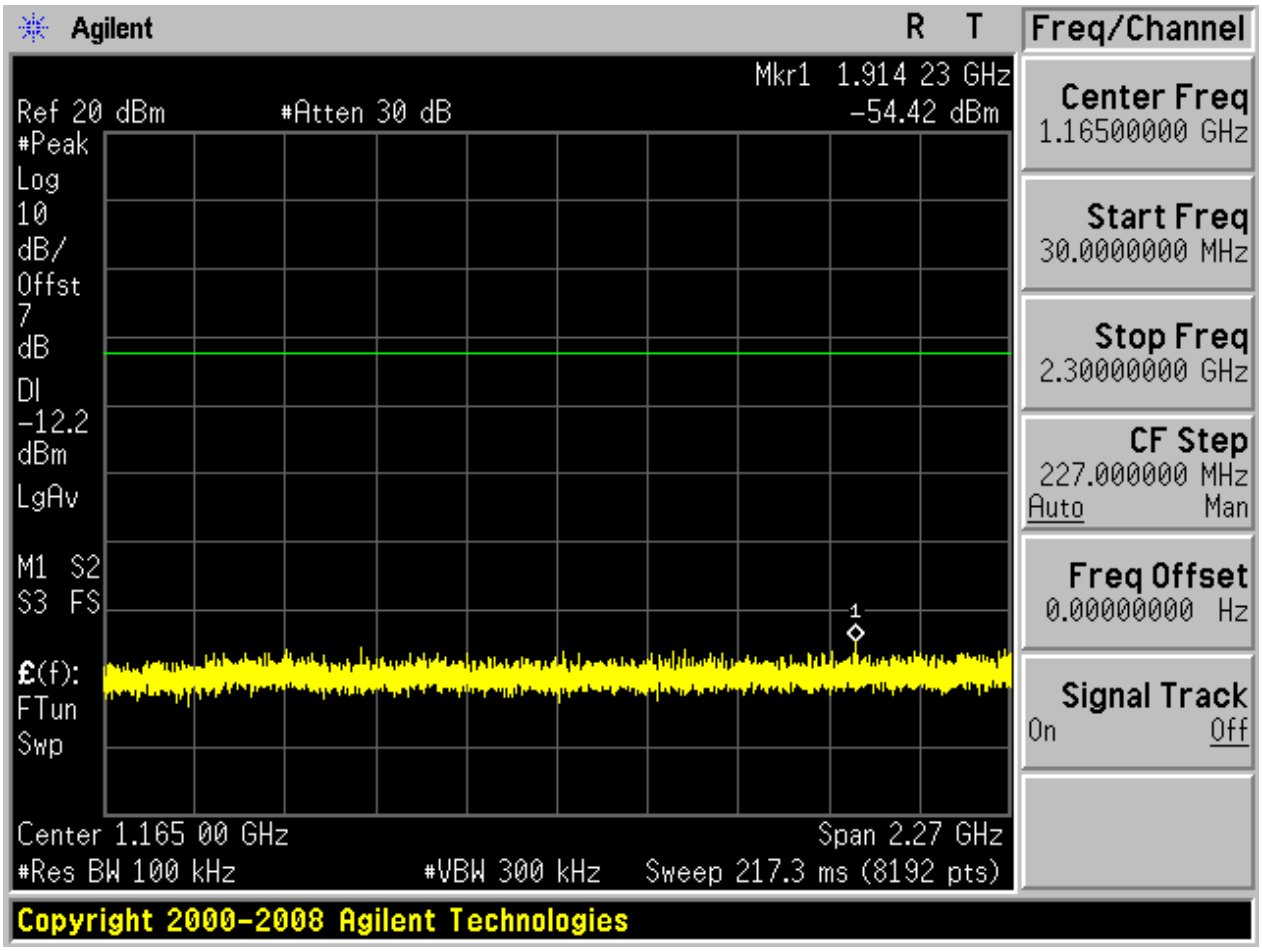
2.7.1 Pref

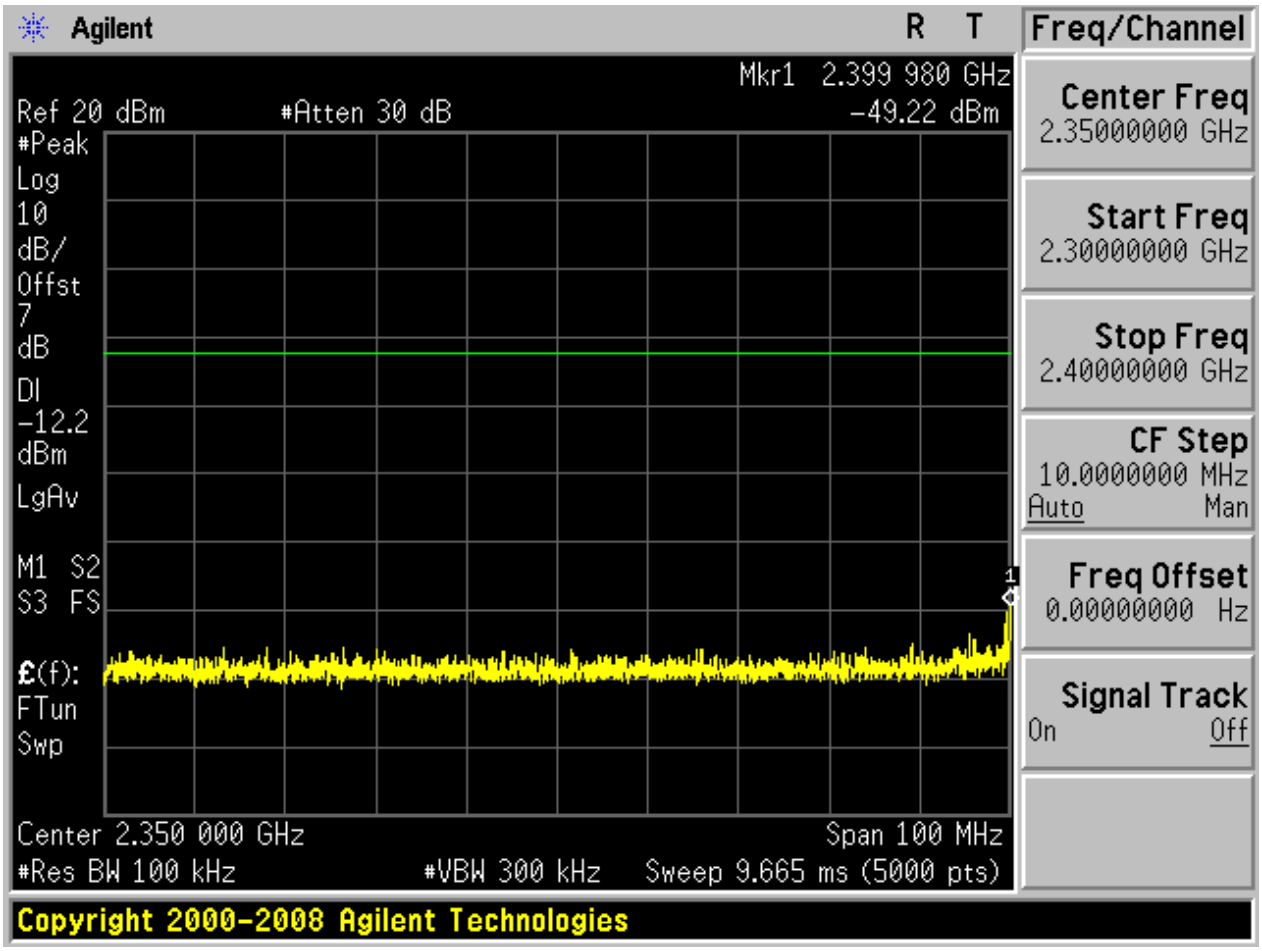


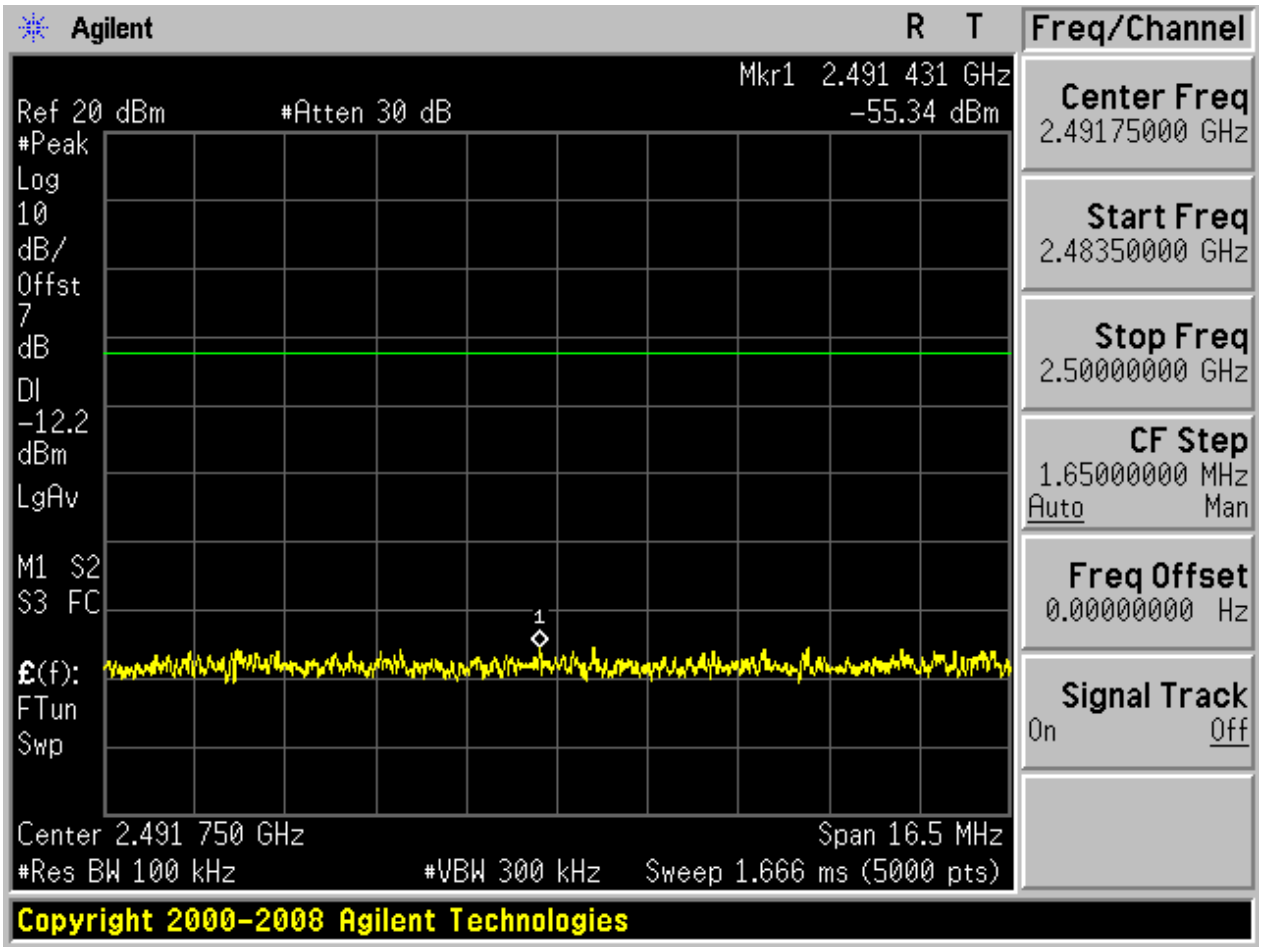
2.7.2 Puw

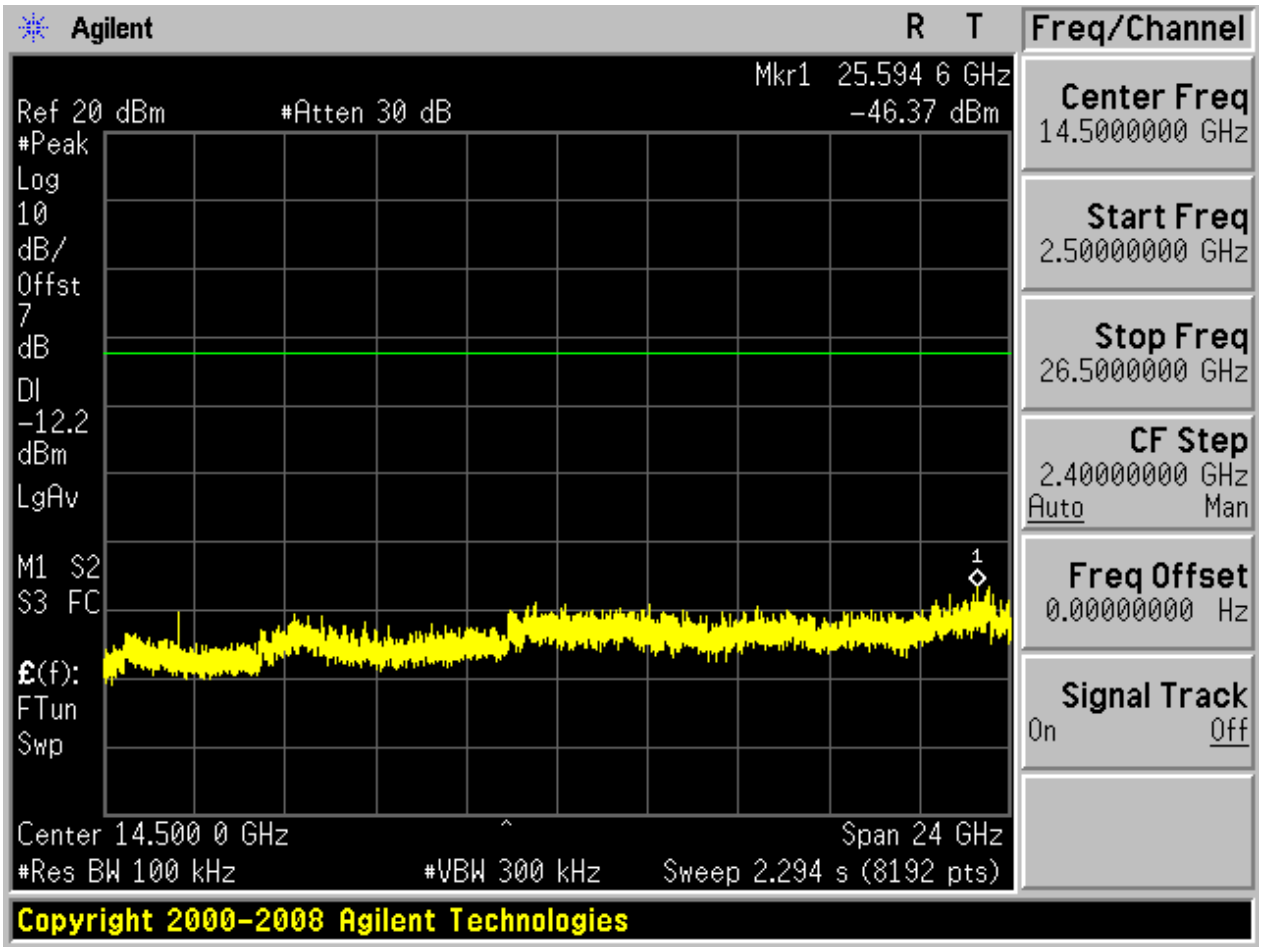






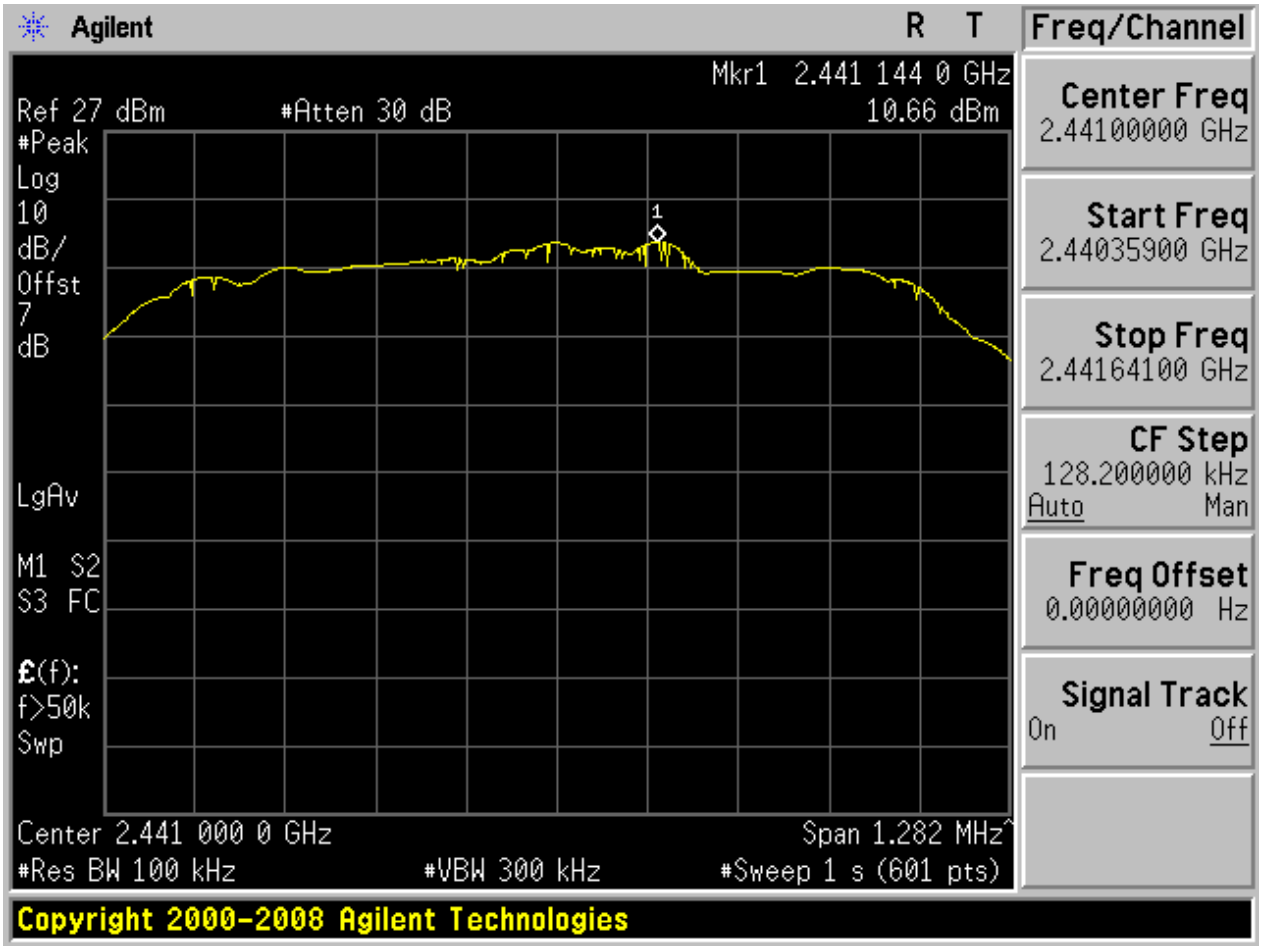




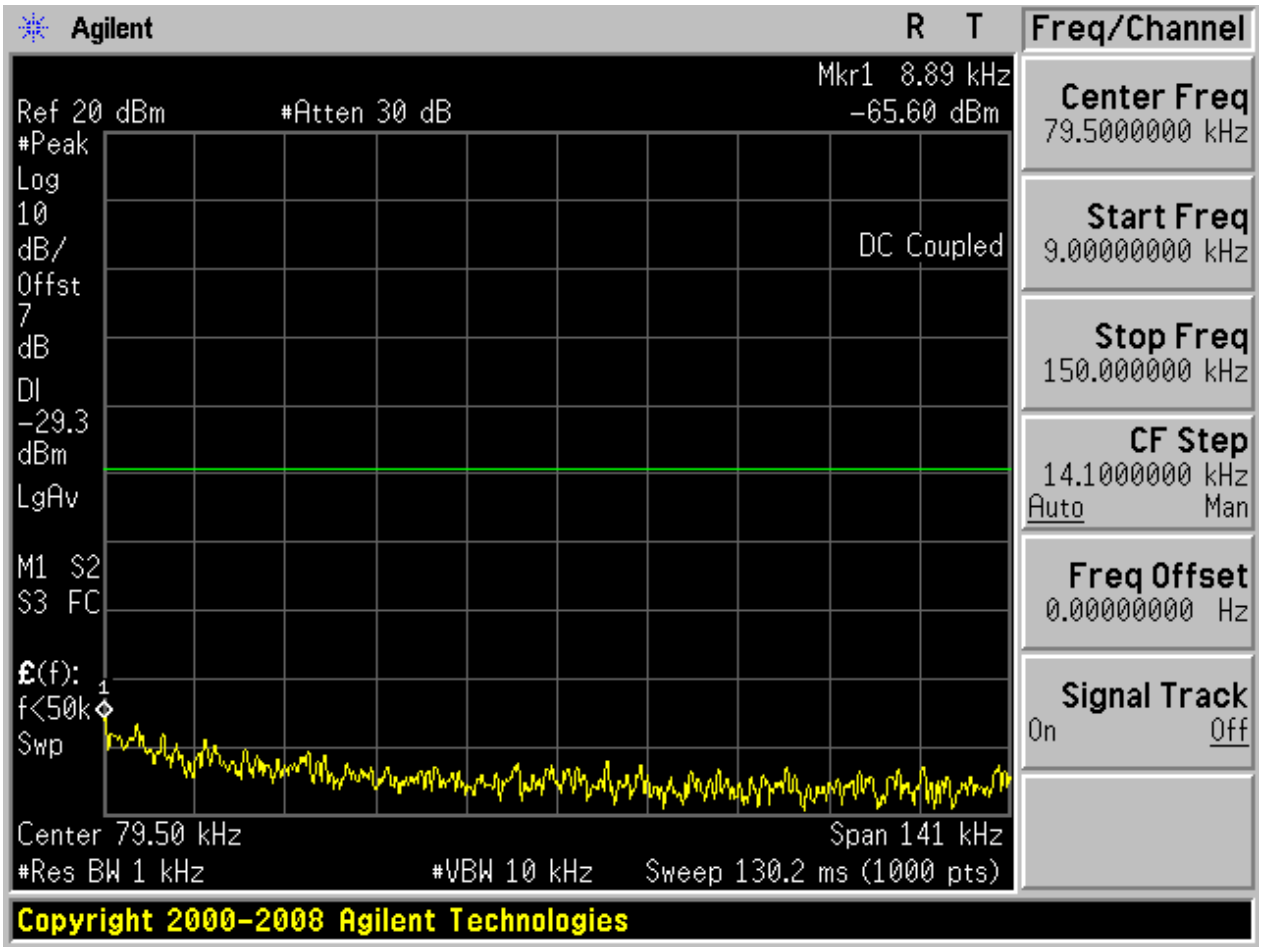


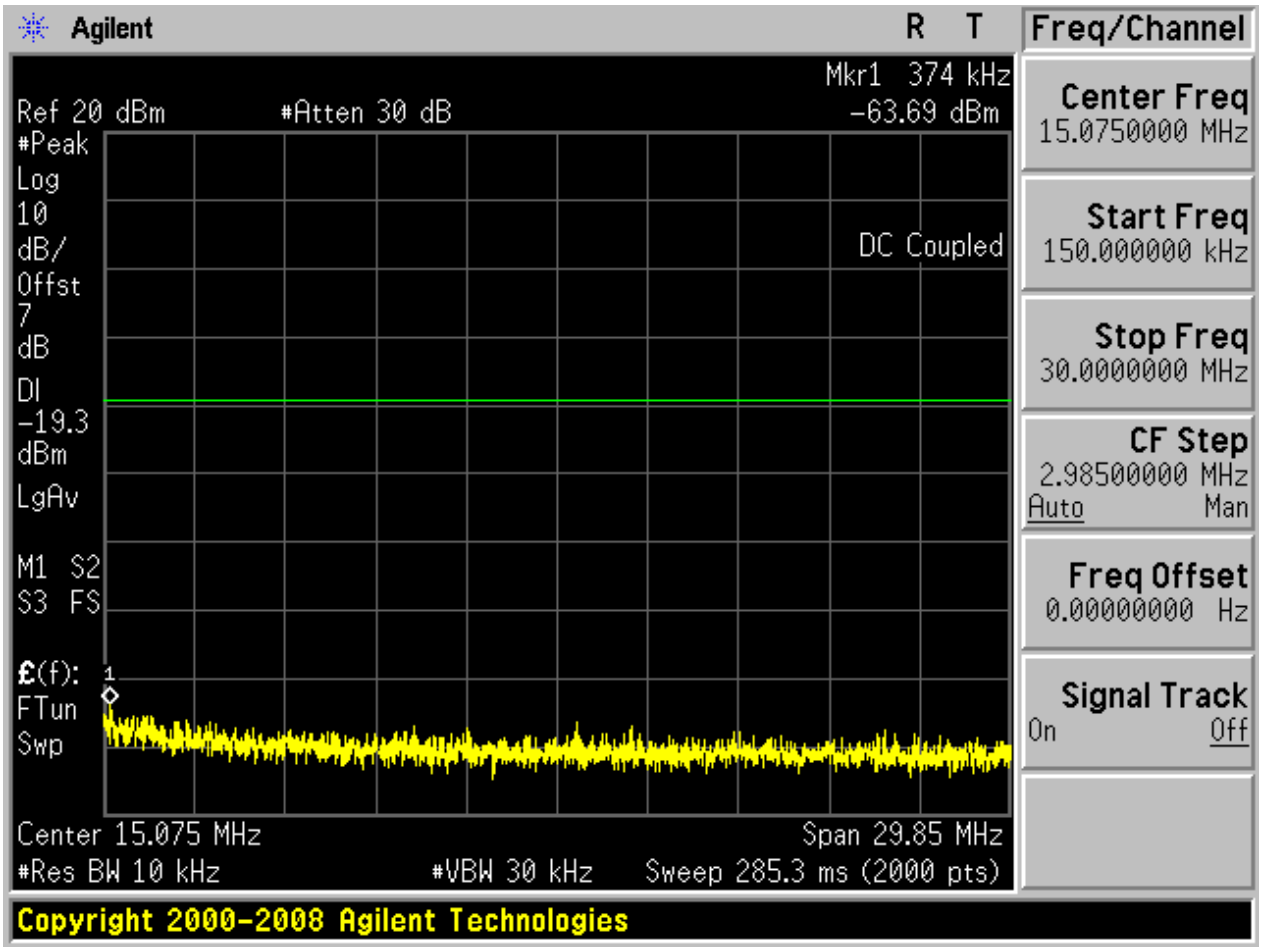
2.8 TM3_3DH5_Ch39

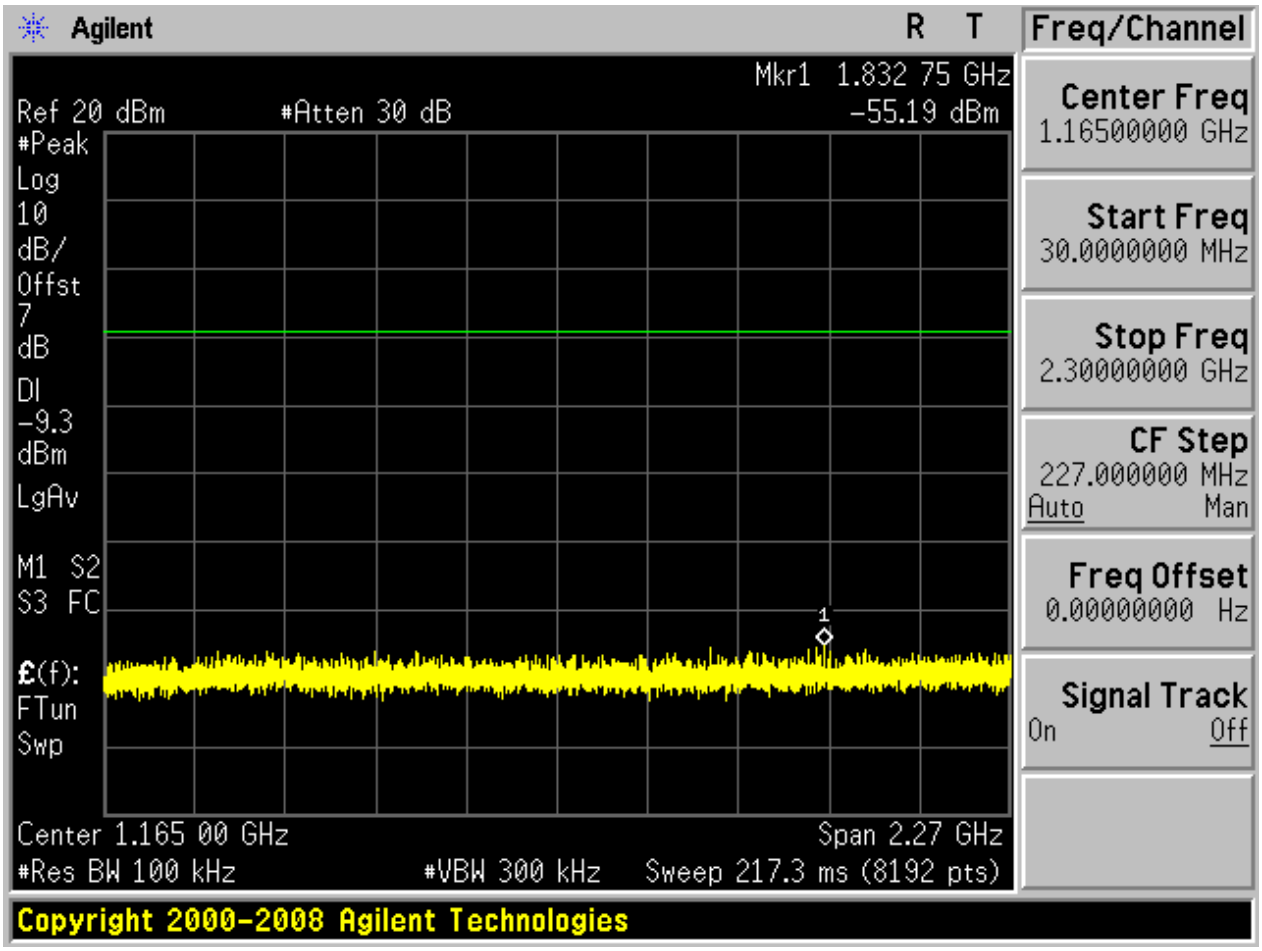
2.8.1 Pref

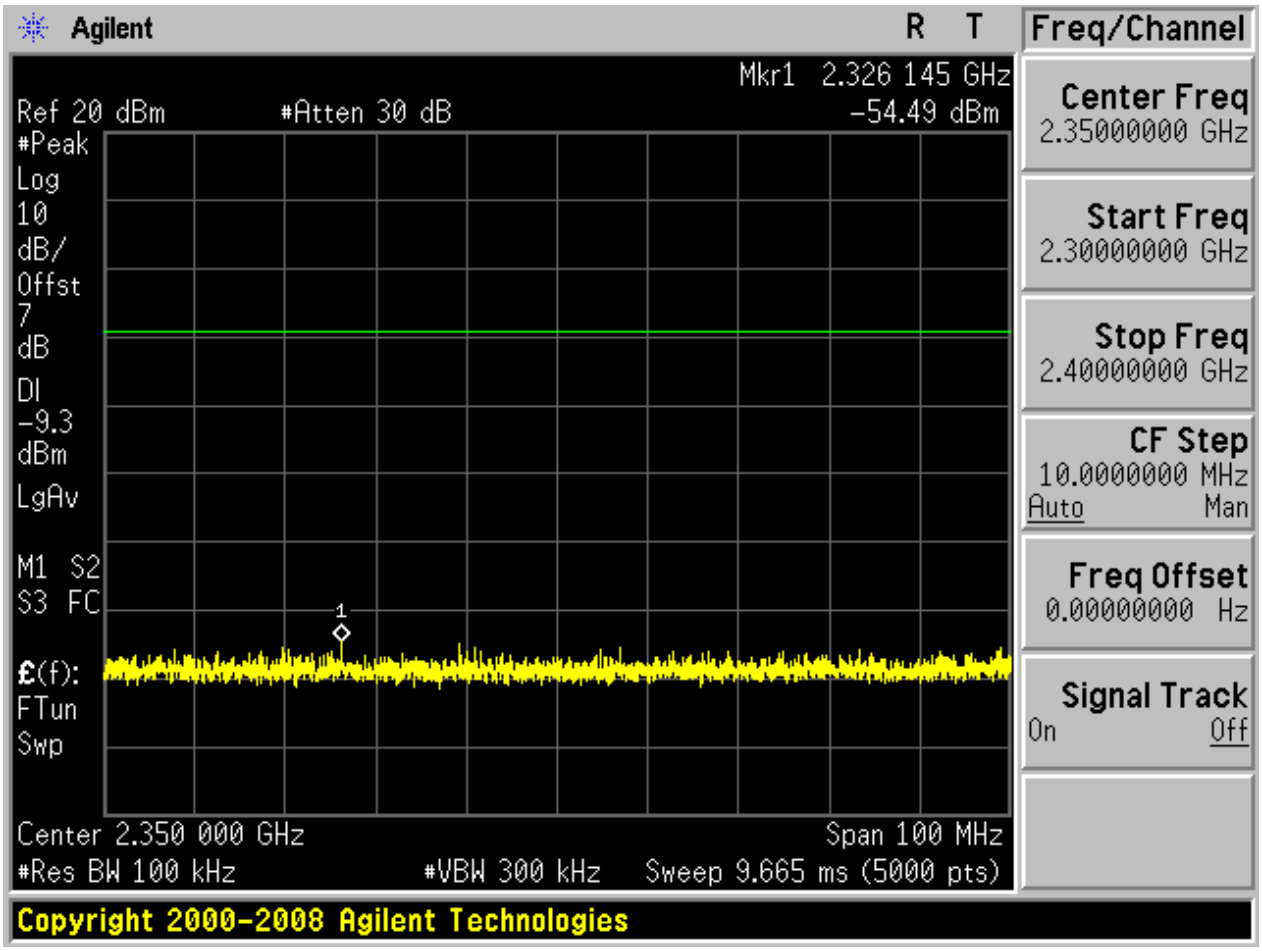


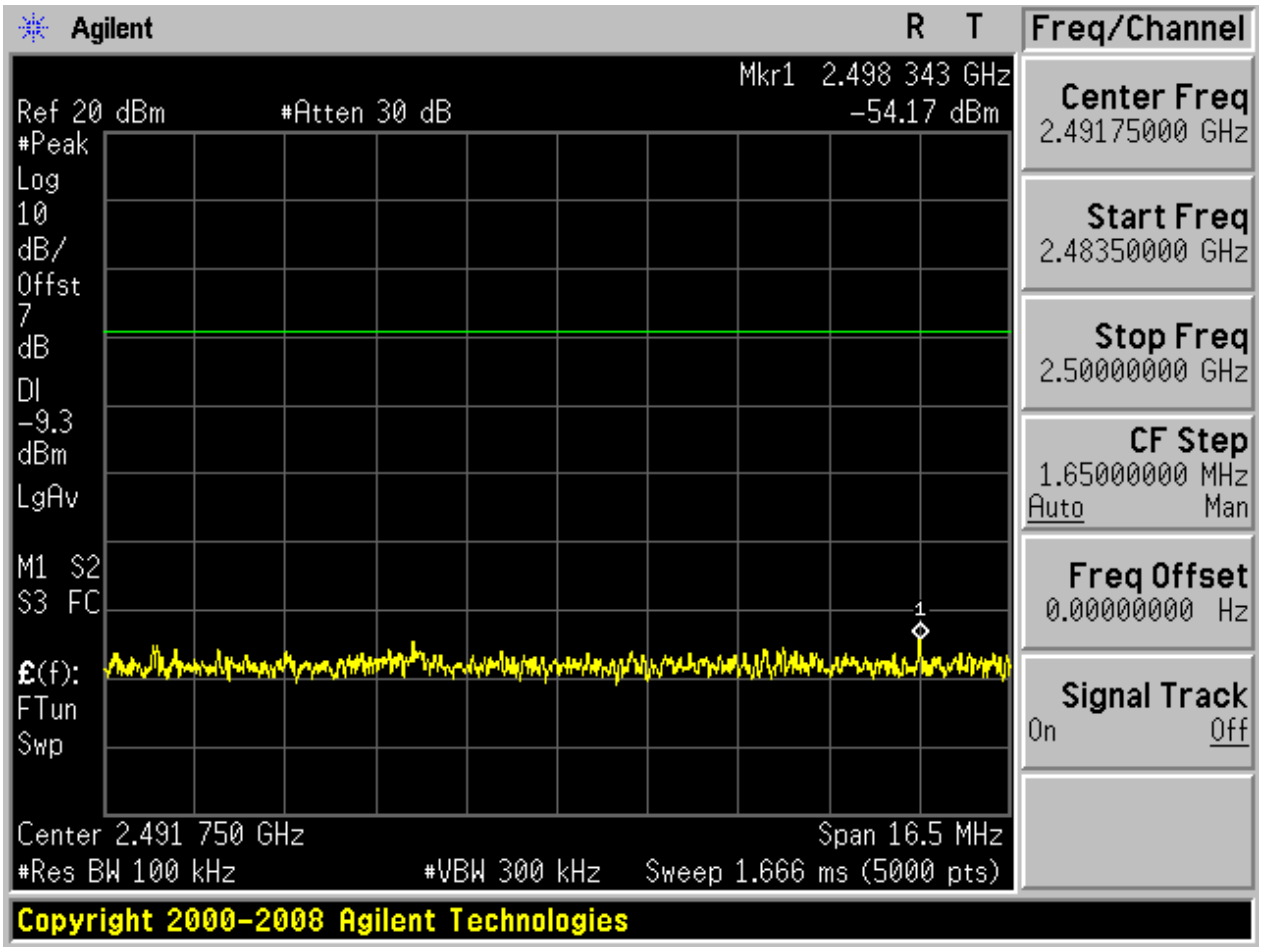
2.8.2 Puw

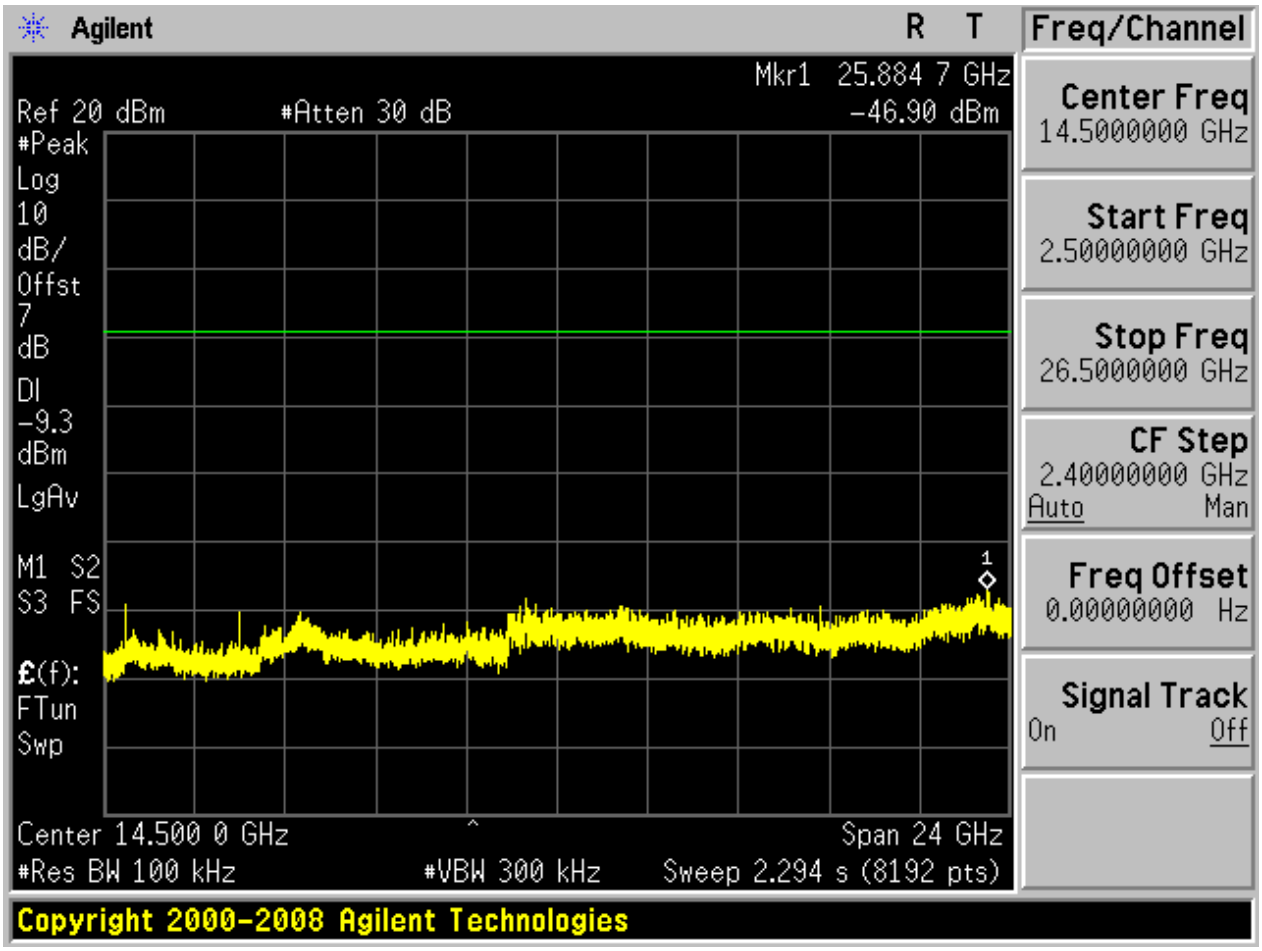






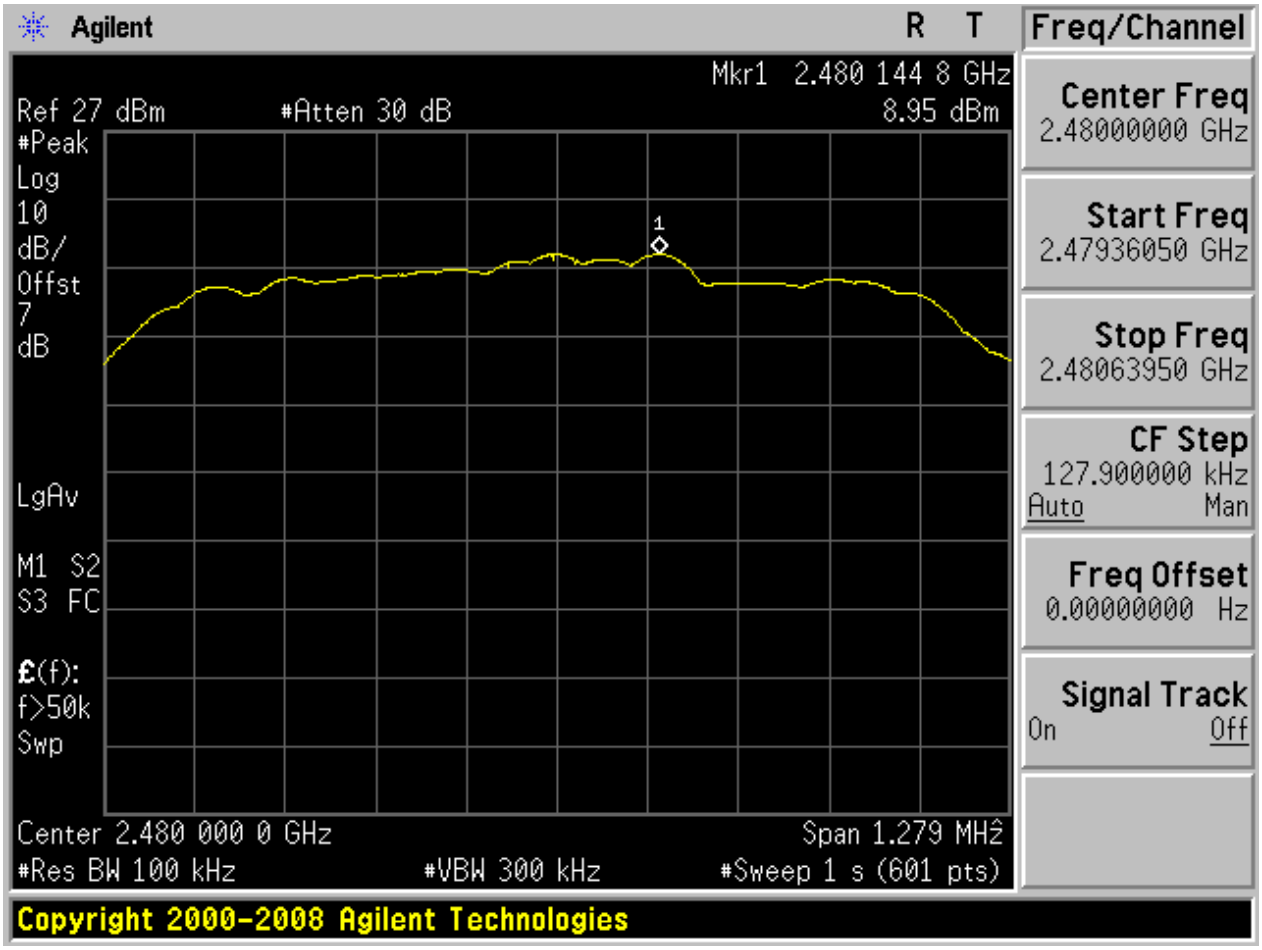




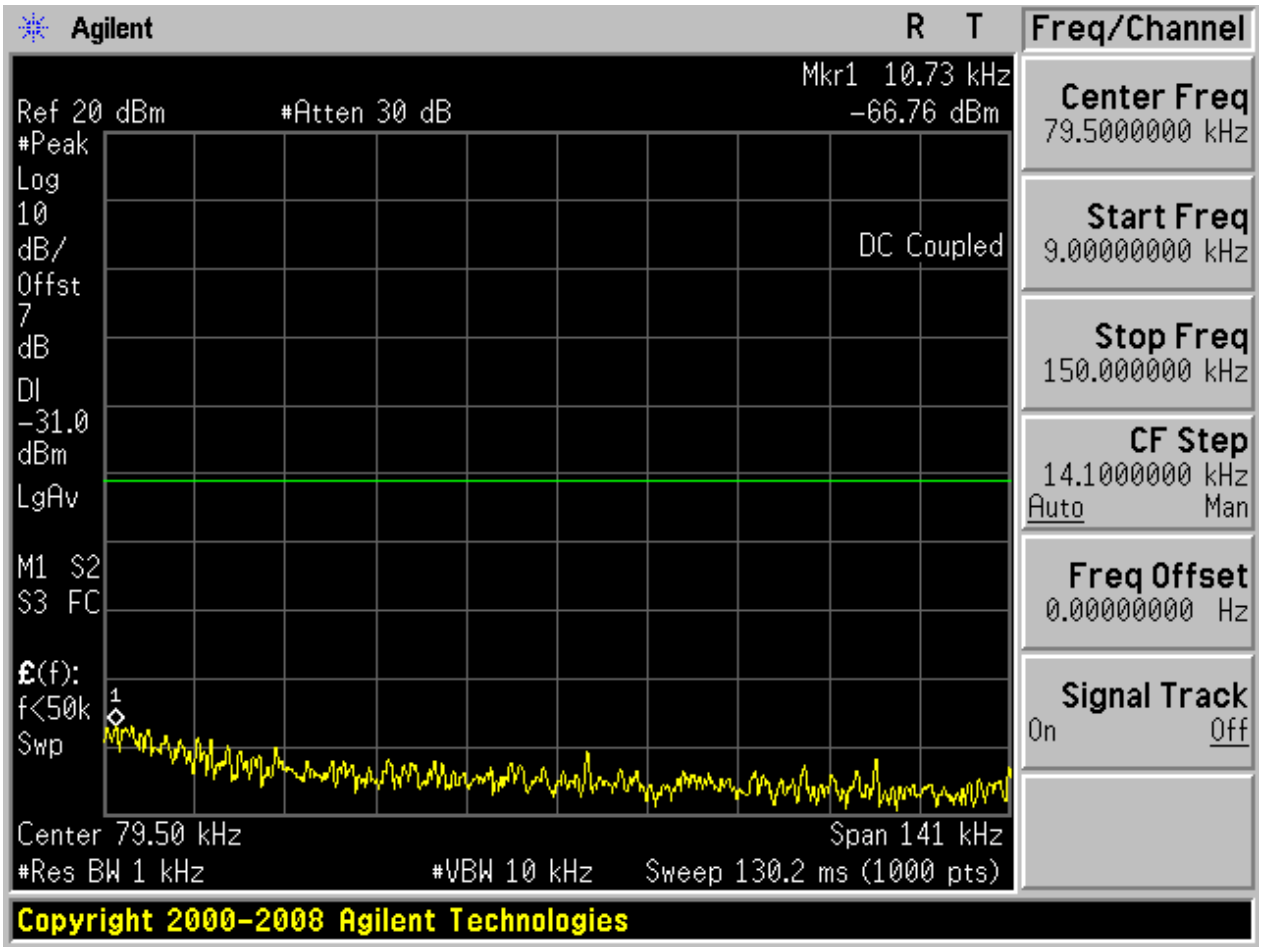


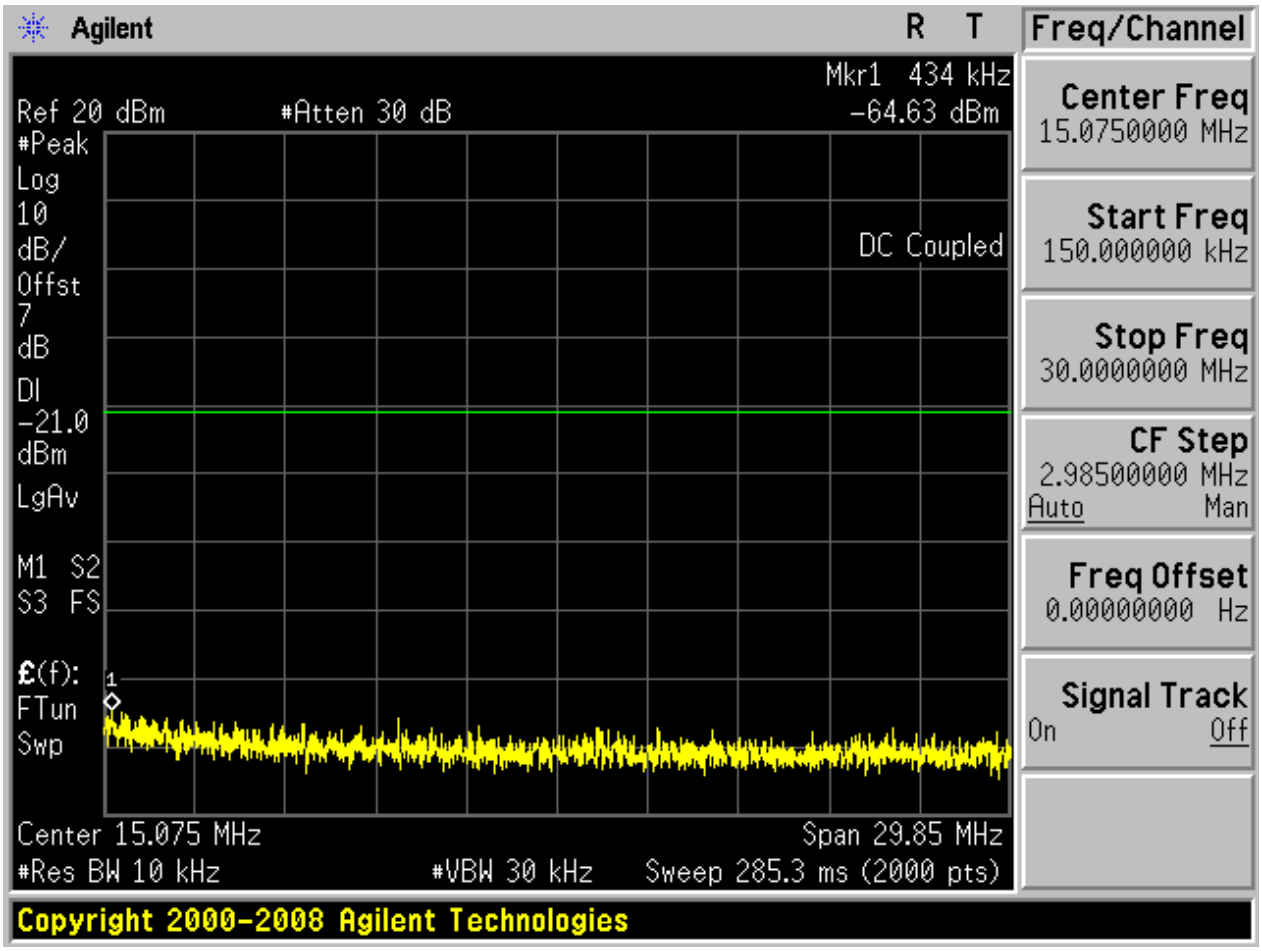
2.9 TM3_3DH5_Ch78

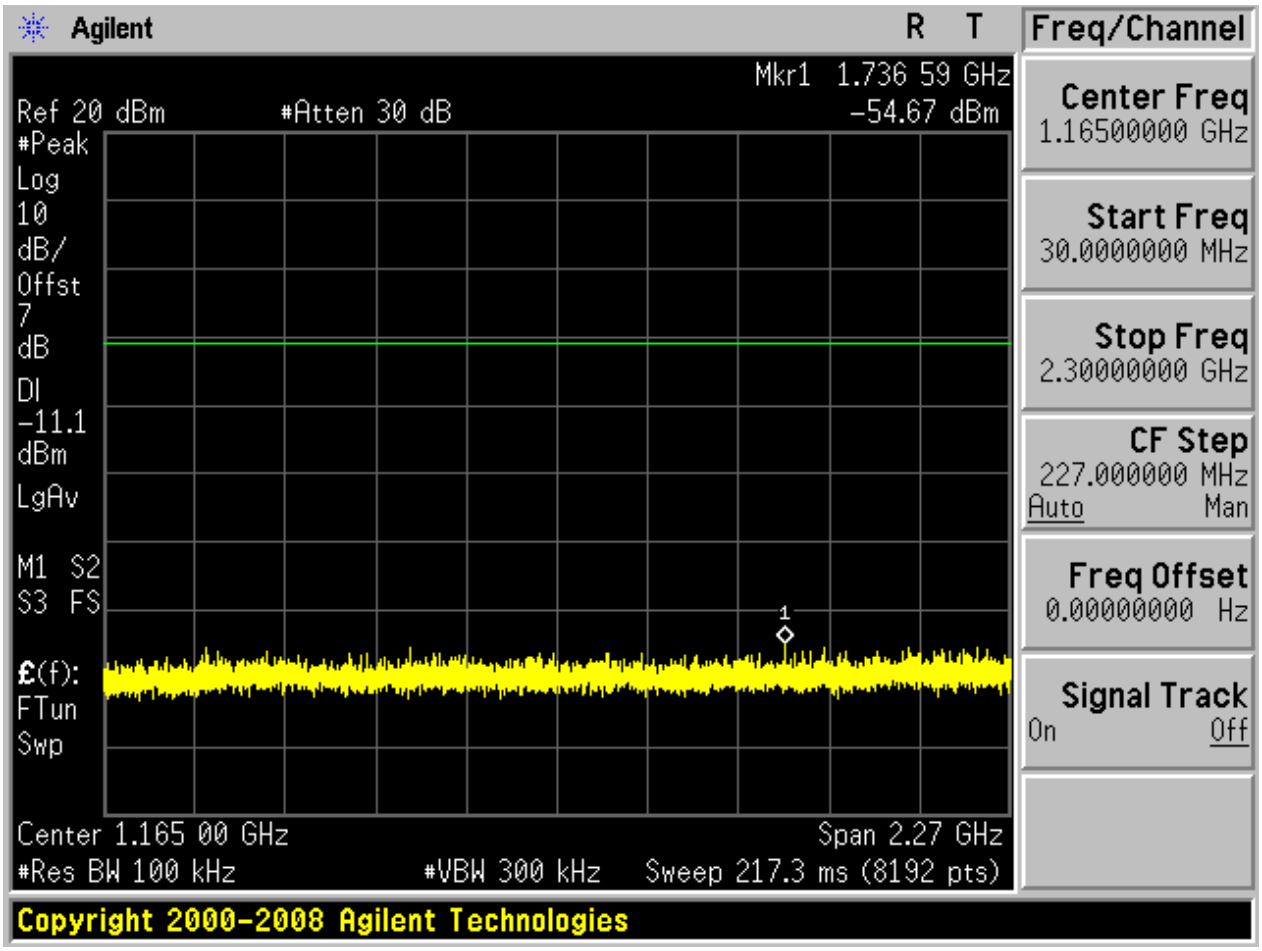
2.9.1 Pref

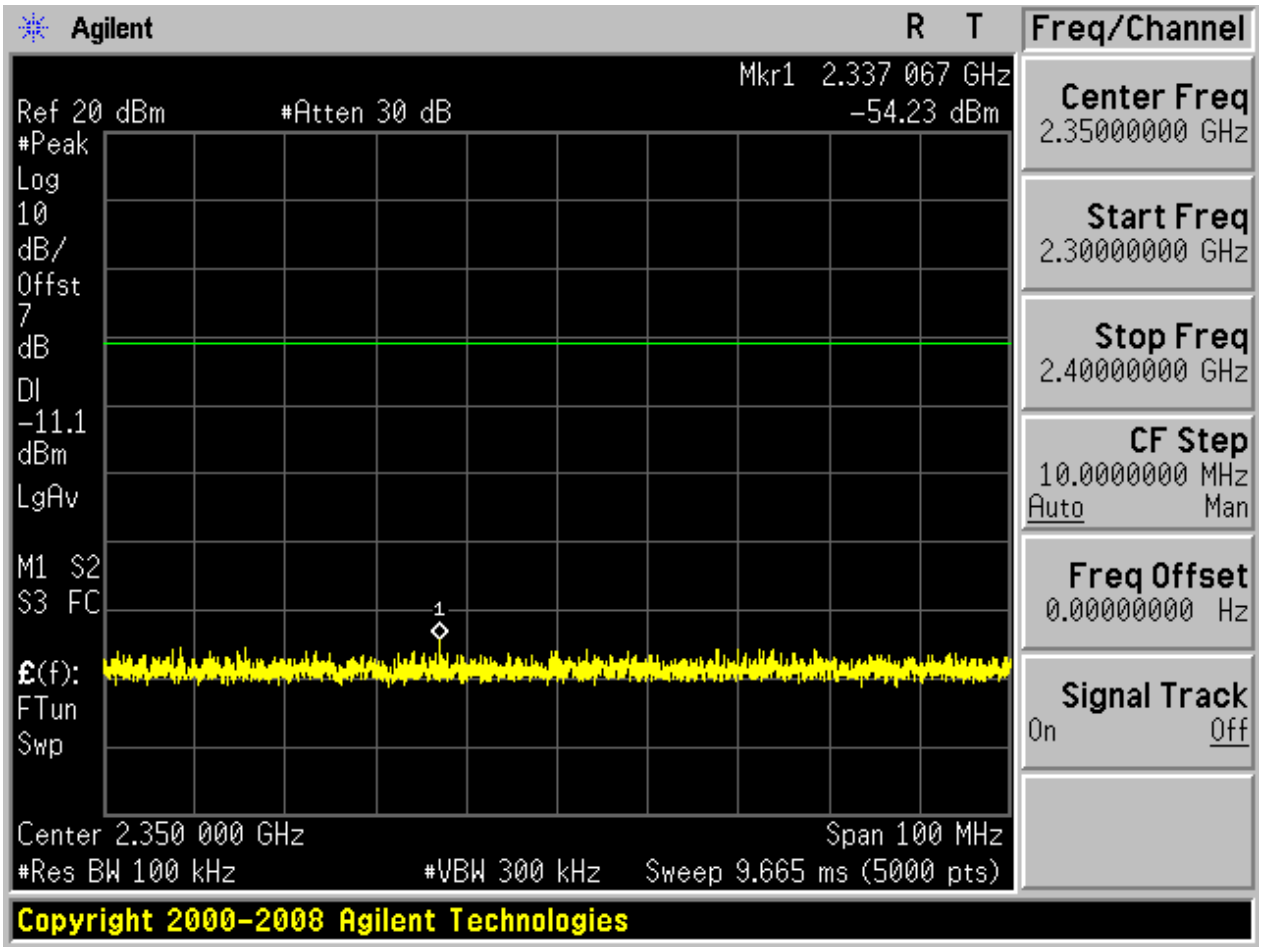


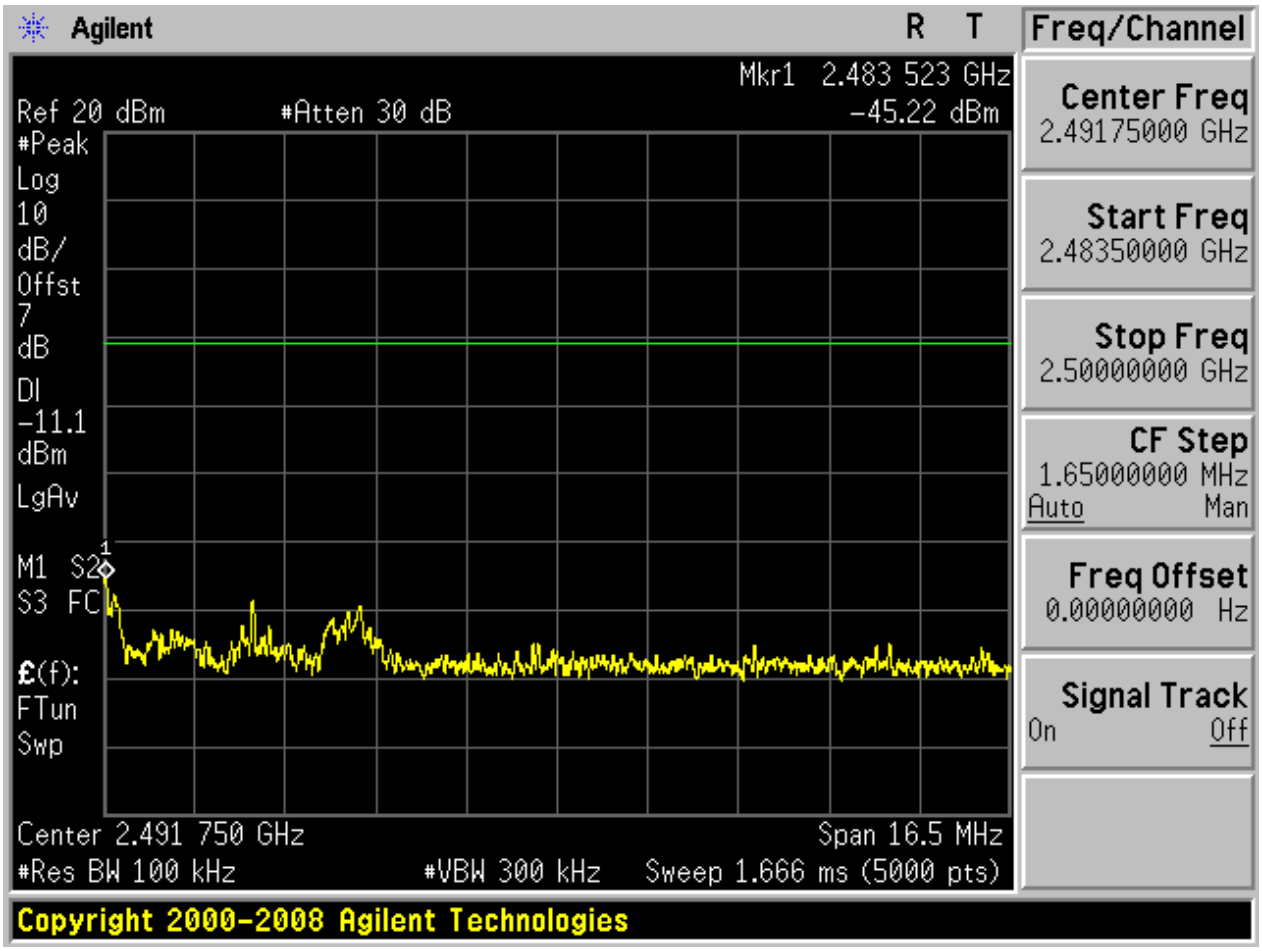
2.9.2 Puw

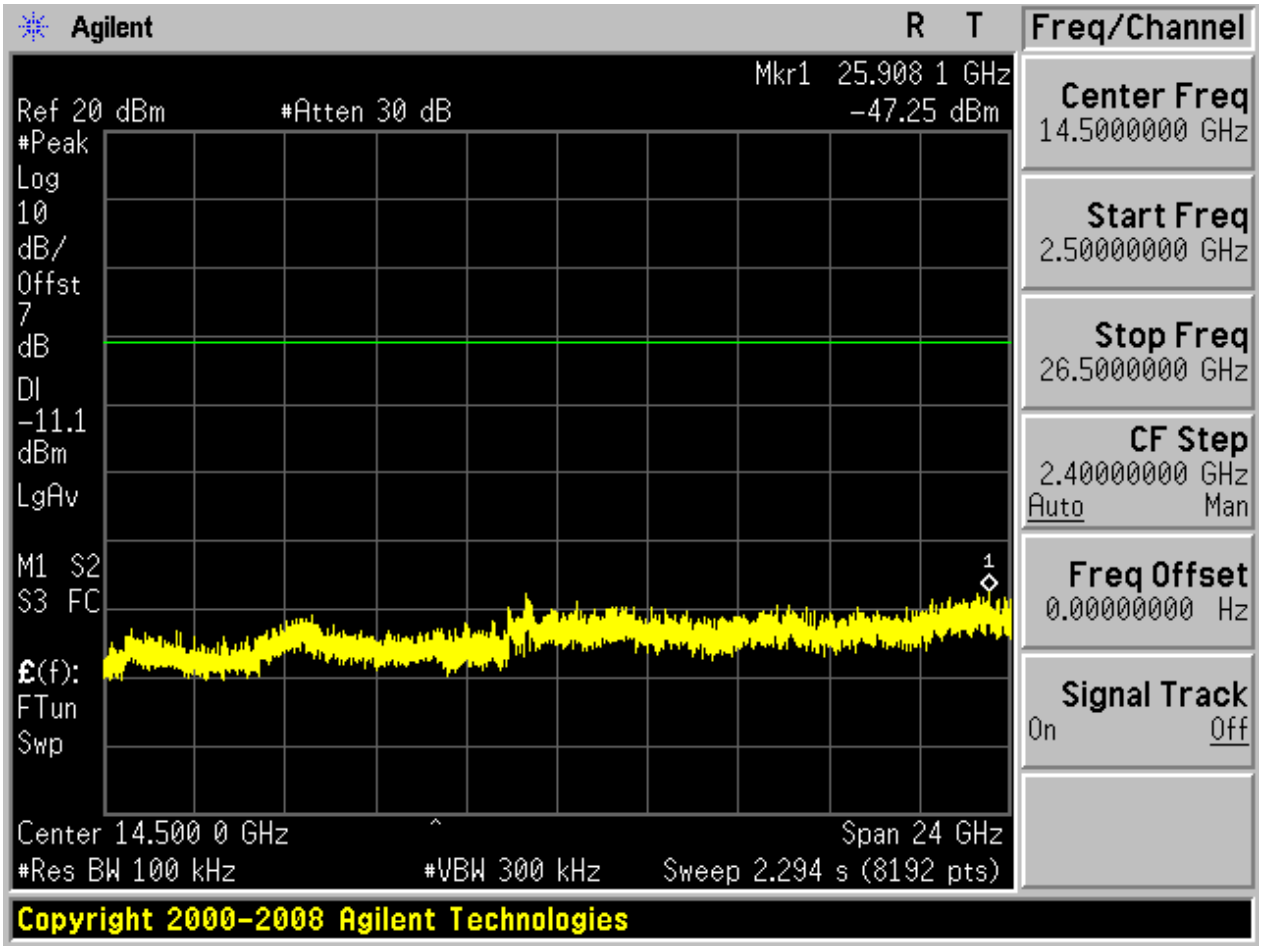












Appendix H: Radiated Emissions in the Restricted Bands

Note: We tested all modes, but the data presented below is the worst case.

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 “9 KHz to 30 MHz”,
  (Part 2): Test range of “30 MHz to 1 GHz”,
- (Part 3): Test range of “18 GHz to 26.5 GHz”.
- (Part 4): Test range of “2.3 GHz to 2.5 GHz”, and
- (Part 5): Test range of “1 GHz to 18 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
18 GHz to 26.5 GHz	TM1_DH5_Ch0 (Worst Conf.)	< Limit	Pass
	TM1_DH5_Ch78 (Worst Conf.)	< Limit	Pass
2.3 GHz to 2.5 GHz	TM1_DH5_Ch0 (Worse Conf.)	< Limit	Pass
1 GHz to 18 GHz	TM1_DH5_Ch0 (Worst Conf.)	< Limit	Pass

2 Result Plot

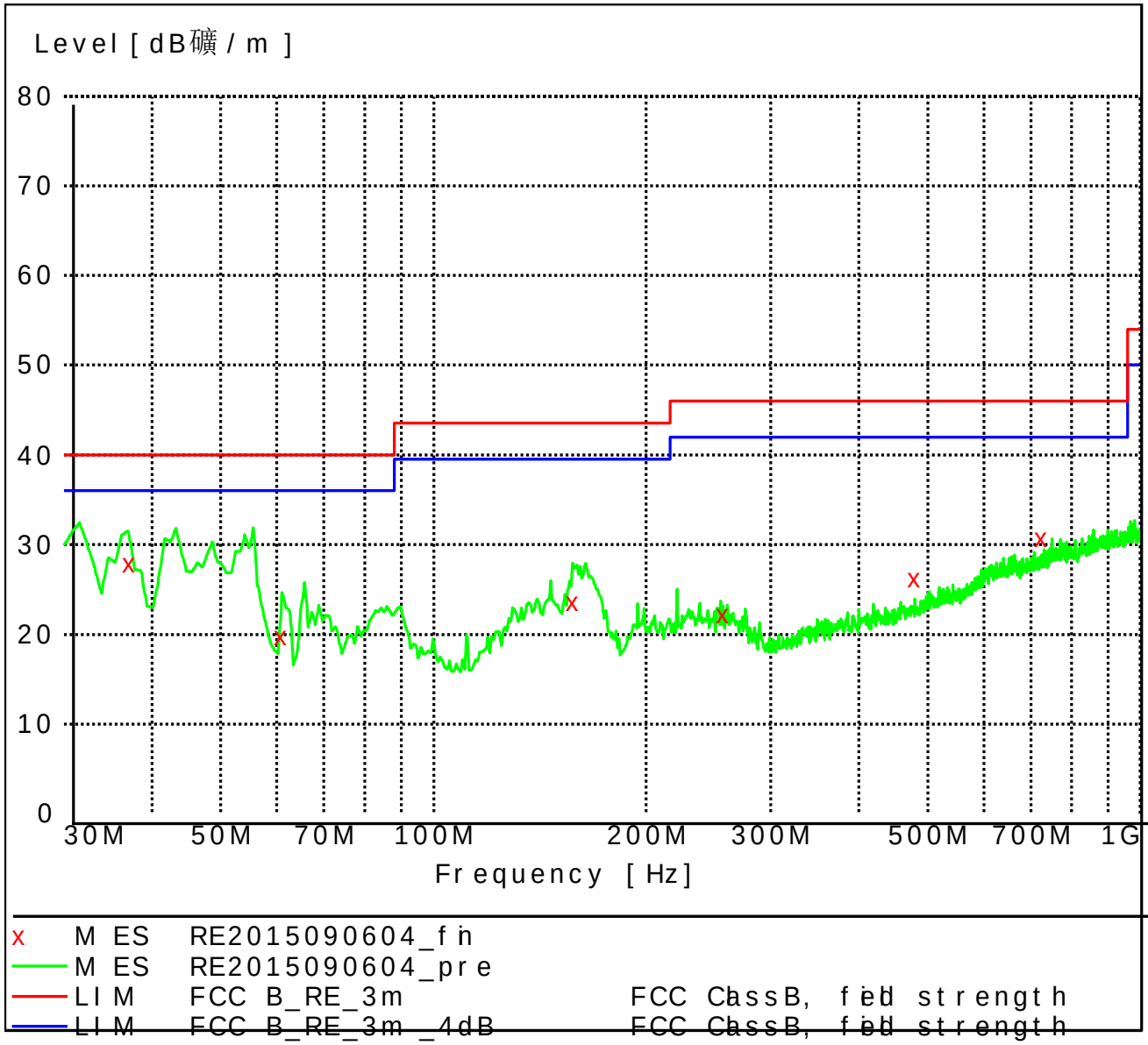
2.1.1 Part 1: Testing Range of “9 kHz to 30MHz”

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

2.1.2 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	Level	Transd	Limit	Margin	Det.	Height	Azimuth	Polarization
MHz	dBμV/m	dB	dBμV/m	dB		cm	deg	
37.164000	27.90	15.2	40.0	12.1	QP	100.0	360.00	VERTICAL
60.916000	19.80	12.8	40.0	20.2	QP	299.0	319.00	VERTICAL
157.440000	23.60	10.1	43.5	19.9	QP	100.0	328.00	VERTICAL
256.768000	22.20	14.1	46.0	23.8	QP	115.0	257.00	HORIZONTAL
479.956000	26.20	18.9	46.0	19.8	QP	137.0	150.00	HORIZONTAL
724.396000	30.70	22.9	46.0	15.3	QP	103.0	284.00	VERTICAL

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

NOTE1: No peak found in the Test Range of “18 GHz to 26.5GHz”

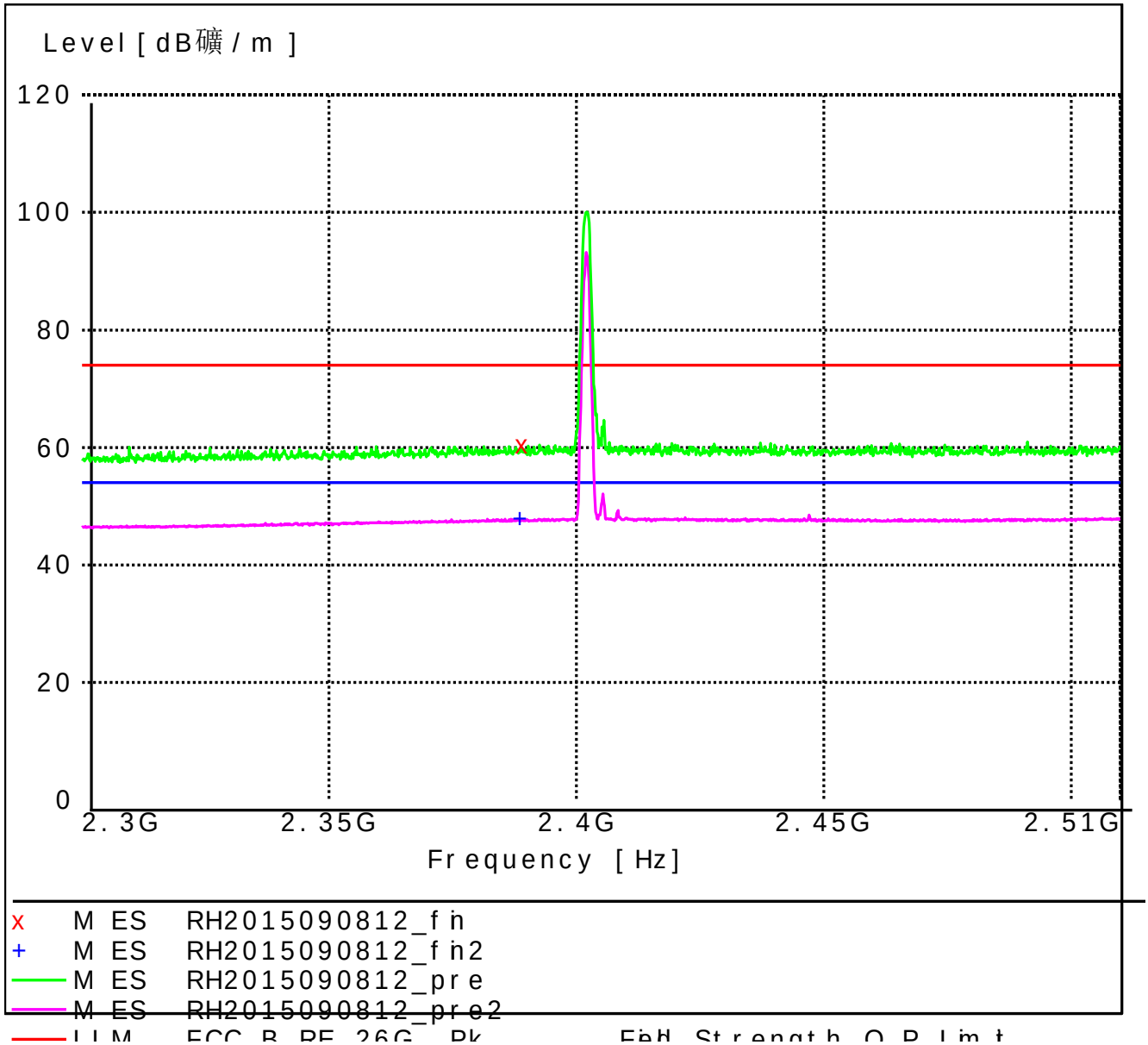
2.1.4 Part 4: Testing Range of “2.3GHz to 2.5GHz”

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 dBµV/m) and Average Limit (54 dBµV/m).

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

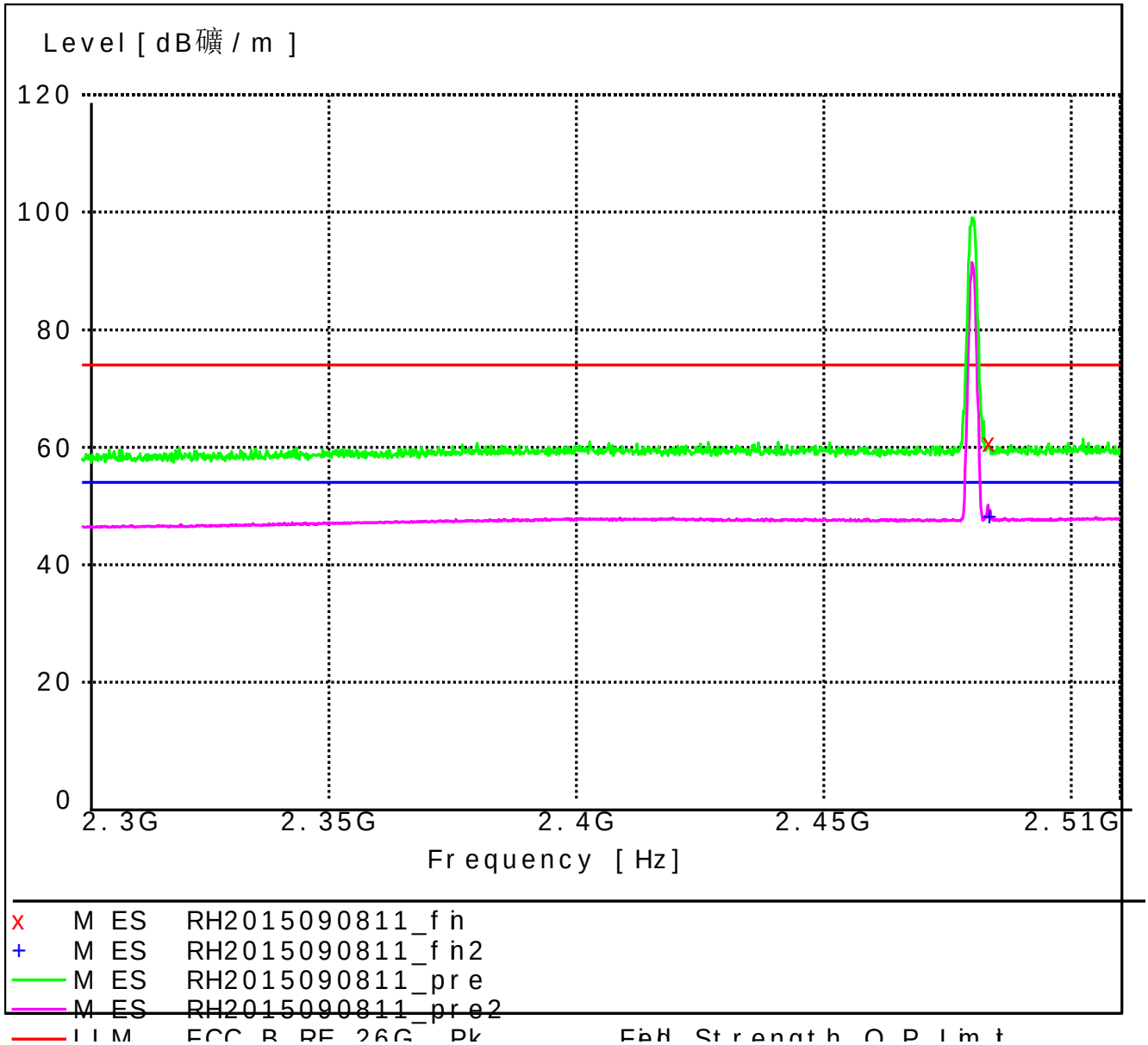
Channel 0



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

No.MK.	Frequency	Level	Transd	Limit	Margin	Det.	Height	Azimuth	Polarization
	MHz	dBµV/m	dB	dBµV/m	dB		cm	deg	
1.	2389.000000	60.60	34.8	74.0	13.4	PK	200.0	124.00	HORIZONTAL
2.	2388.500000	47.80	34.8	54.0	6.2	AV	161.0	330.00	HORIZONTAL

Channel 78



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

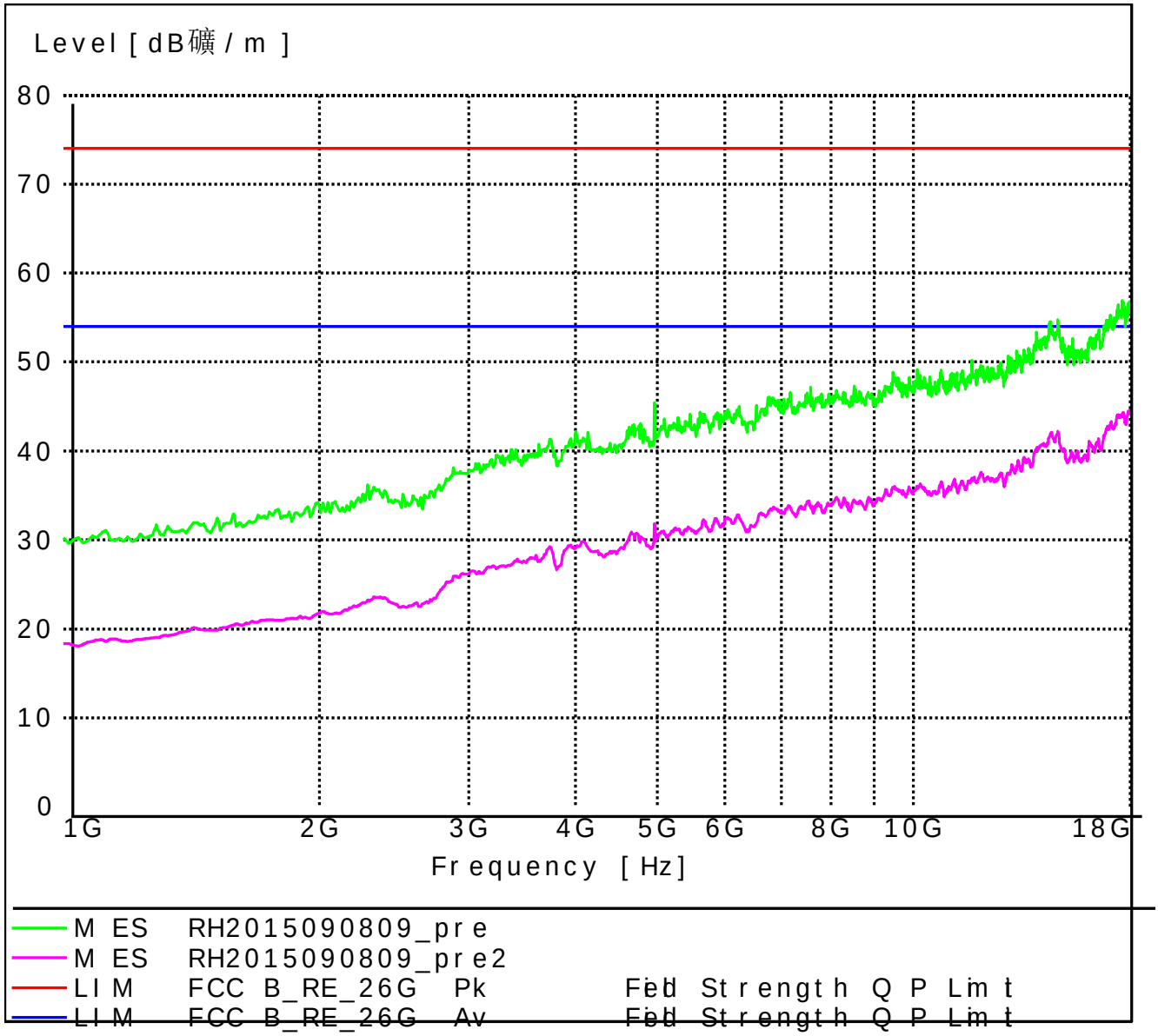
No.MK.	Frequency	Level	Transd	Limit	Margin	Det.	Height	Azimuth	Polarization
	MHz	dBµV/m	dB	dBµV/m	dB		cm	deg	
1.	2483.500000	60.80	35.1	74.0	13.2	PK	121.0	150.00	HORIZONTAL
2.	2483.500000	48.10	35.1	54.0	5.9	AV	101.0	66.00	HORIZONTAL

2.1.5 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 dBμV/m) and Average Limit (54 dBμV/m).



Appendix I: AC Power Line Conducted Emissions

1 Result Table

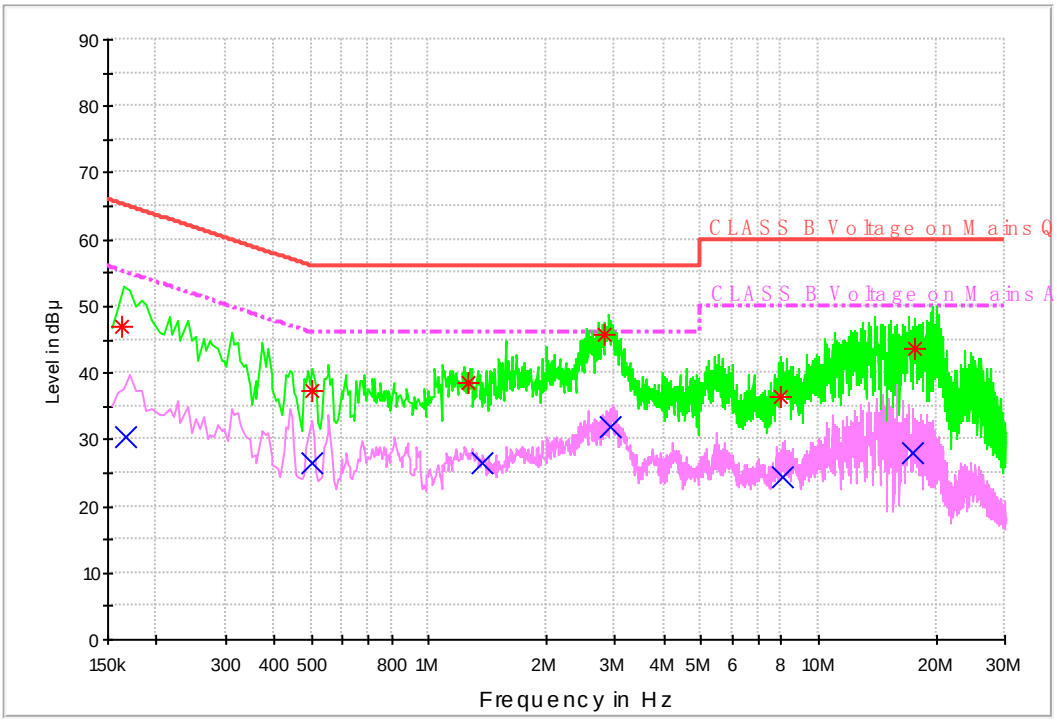
In this Appendix, only the test results and plots under the worst case can be reported.

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

Channel 39

CLASS B Voltage with ENV216



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Correct Factor dB	Limit dBuV	Margin dB	Line
0.163434	47.1	9.8	65.3	18.2	L1
0.498918	37.3	9.8	56.0	18.7	L1
1.265445	38.6	9.7	56.0	17.4	L1
2.831727	45.7	9.8	56.0	10.3	L1
7.981131	36.4	10.1	60.0	23.6	L1
17.577180	43.6	10.2	60.0	16.4	L1

Final Result 2

Frequency (MHz)	Average (dBμV)	Correct Factor dB	Limit dBuV	Margin dB	Line
0.167566	30.3	9.8	55.1	24.8	L1
0.503997	26.4	9.8	46.0	19.6	L1
1.363134	26.6	9.8	46.0	19.4	L1
2.913660	31.8	9.8	46.0	14.2	L1
8.094993	24.4	10.0	50.0	25.6	L1
17.460363	28.1	10.2	50.0	21.9	L1

END