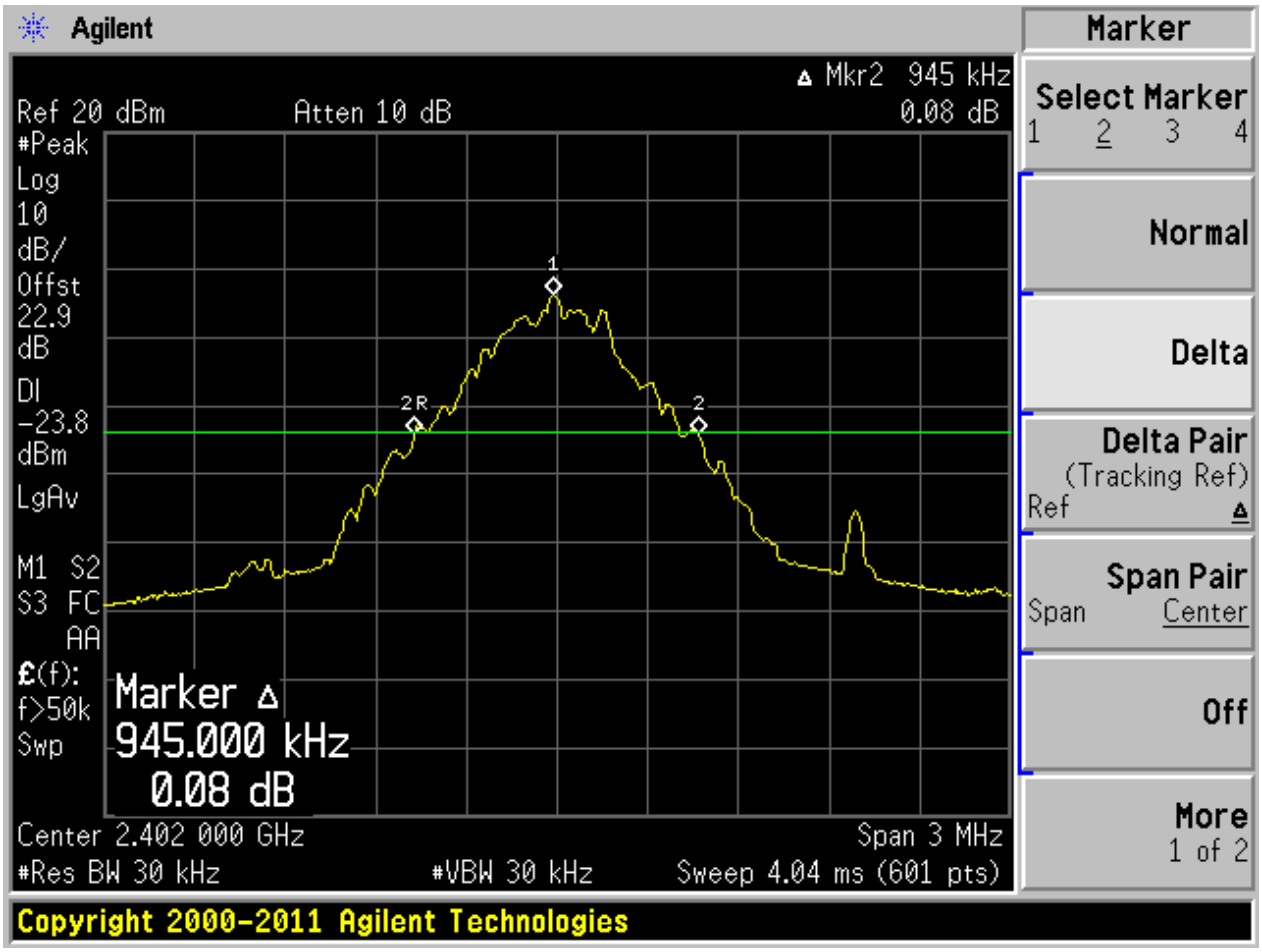
Appendix A: 20dB Emission Bandwidth (EBW)

1 Result Table

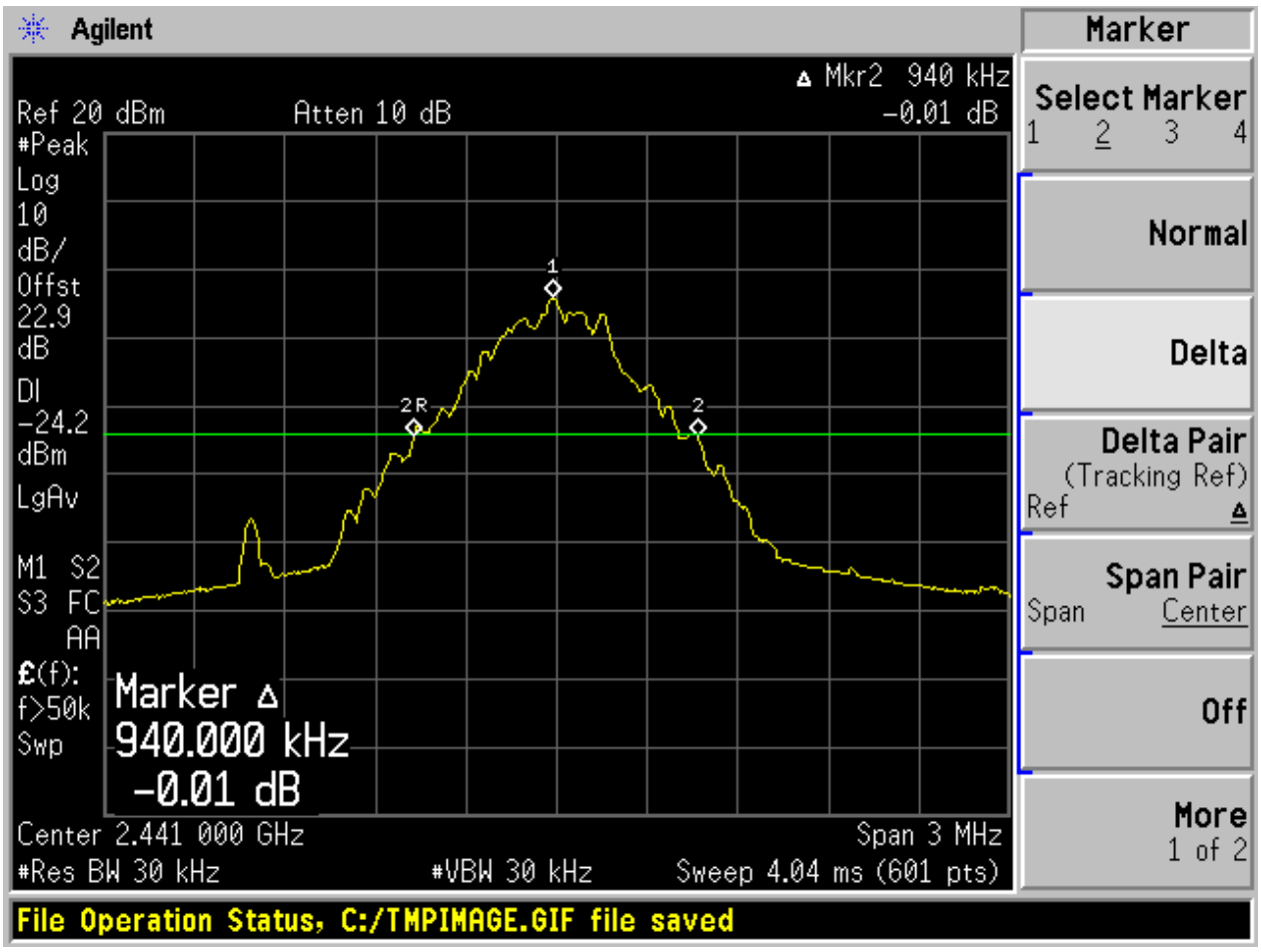
EUT Conf.	EBW [MHz]	Verdict
TM1_DH5_Ch0	0.945	Pass
TM1_DH5_Ch39	0.94	Pass
TM1_DH5_Ch78	0.934	Pass
TM2_DH5_Ch0	1.28	Pass
TM2_DH5_Ch39	1.255	Pass
TM2_DH5_Ch78	1.25	Pass
TM3_DH5_Ch0	1.295	Pass
TM3_DH5_Ch39	1.275	Pass
TM3_DH5_Ch78	1.275	Pass

2 Test Plot

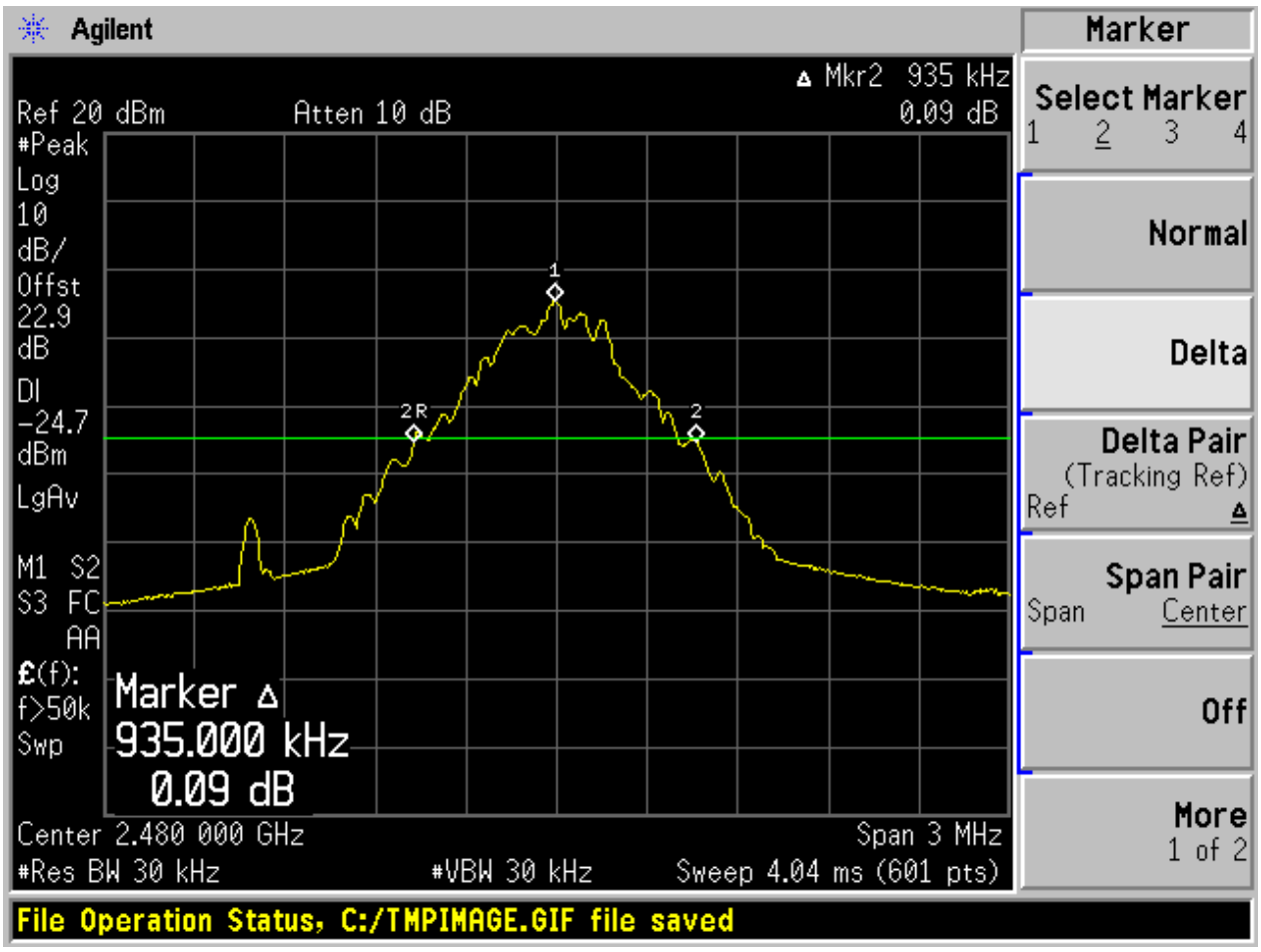
2.1 TM1_DH5_Ch0



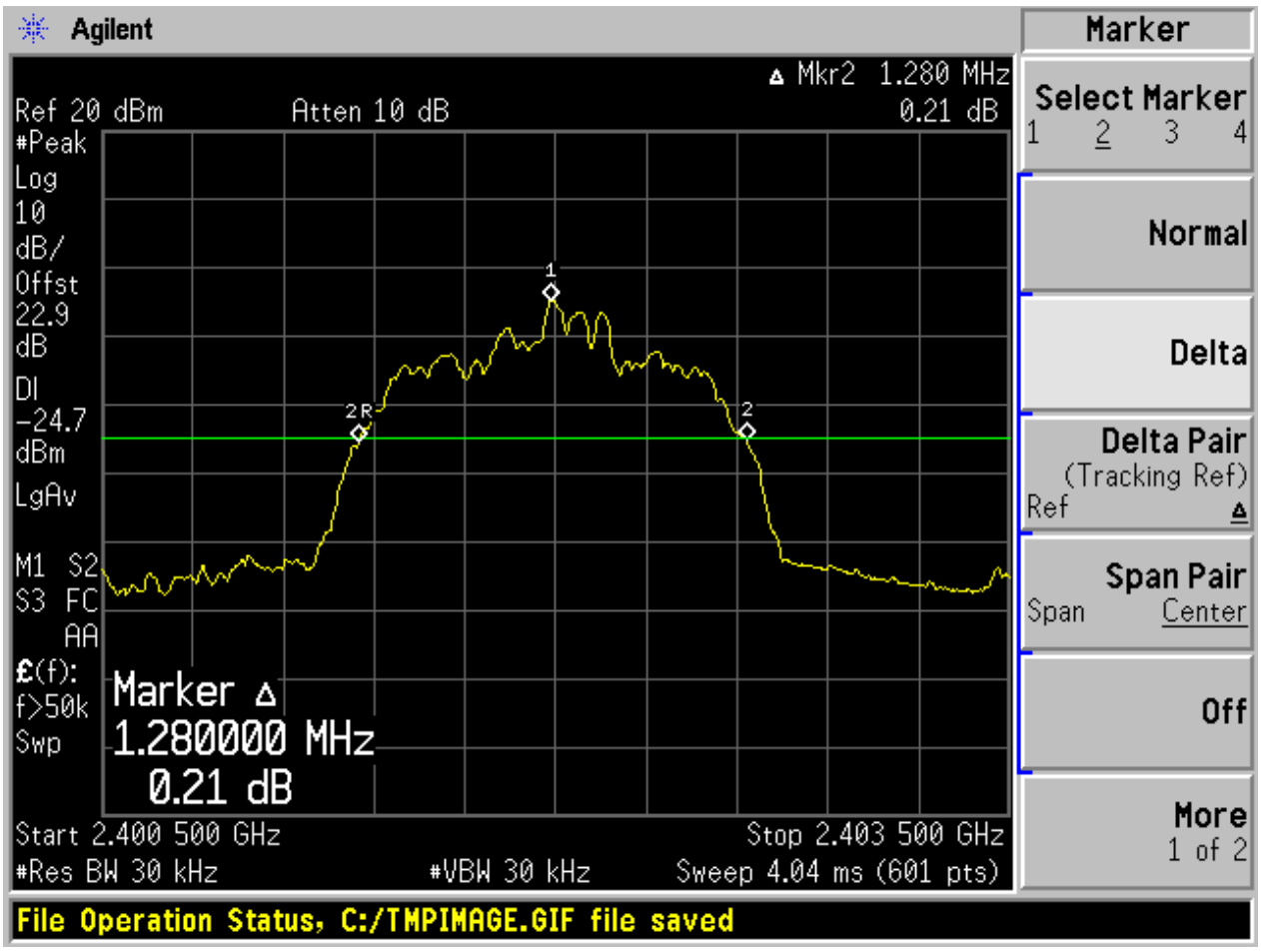
2.2 TM1_DH5_Ch39



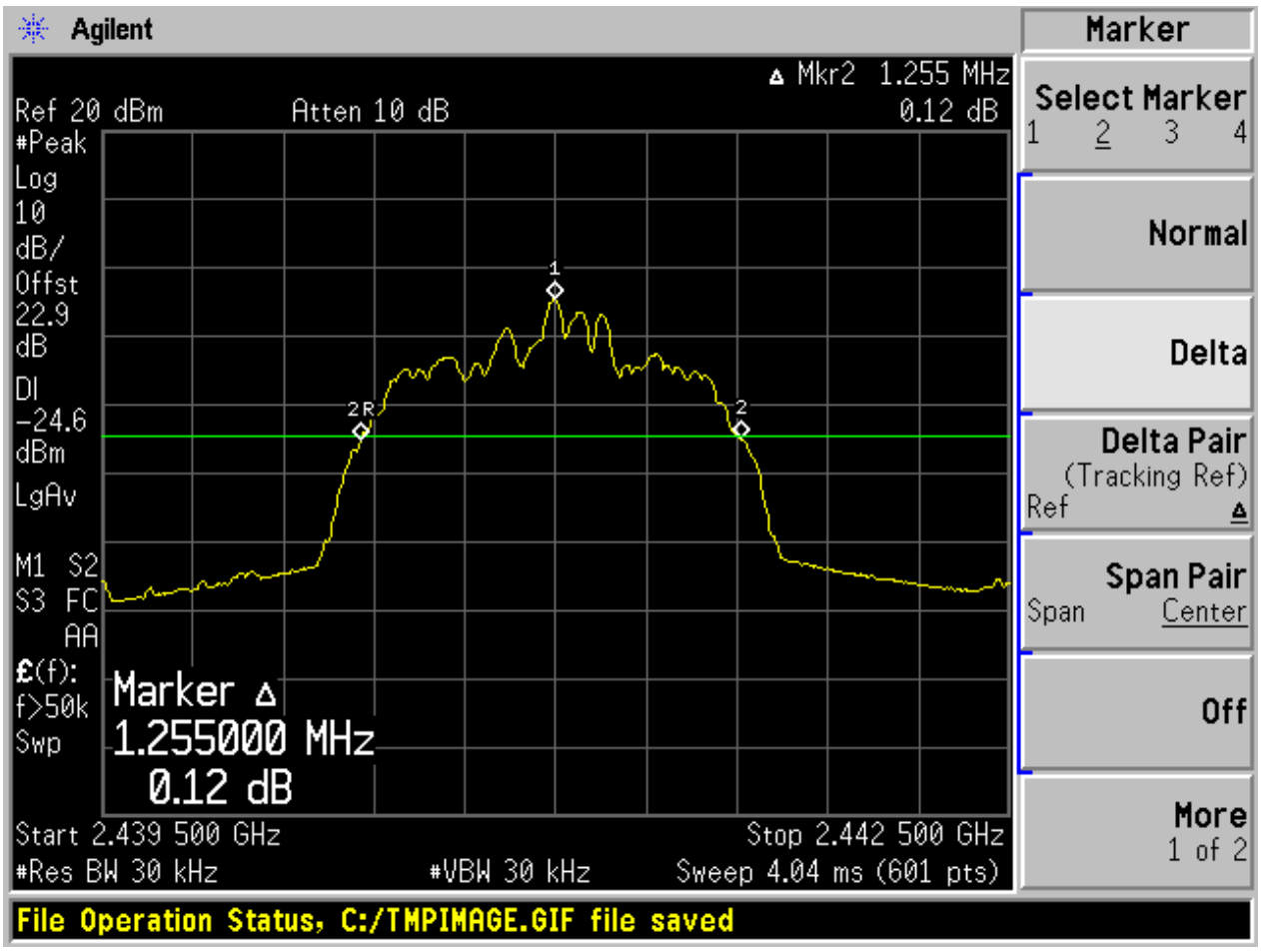
2.3 TM1_DH5_Ch78



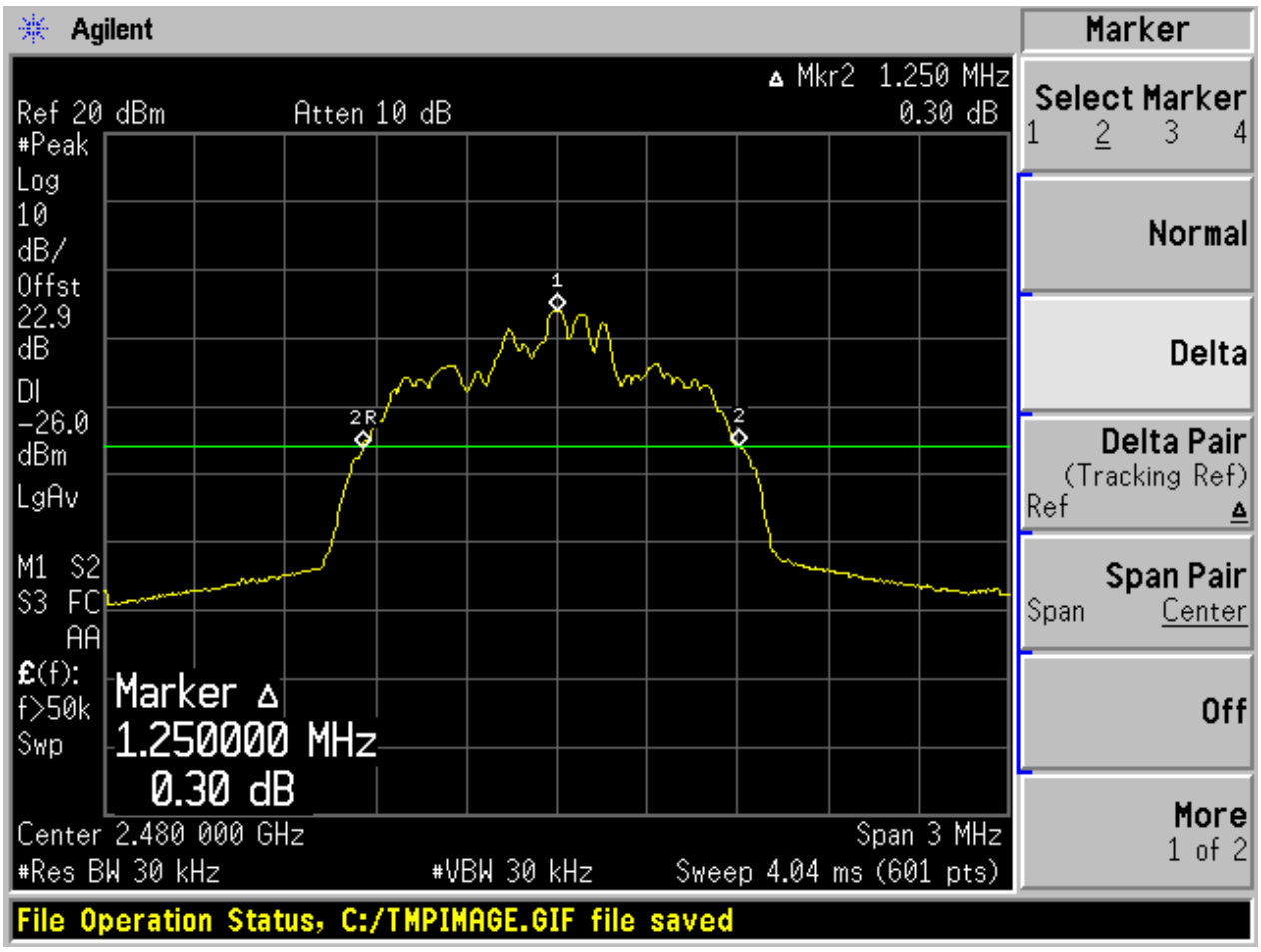
2.4 TM2_DH5_Ch0



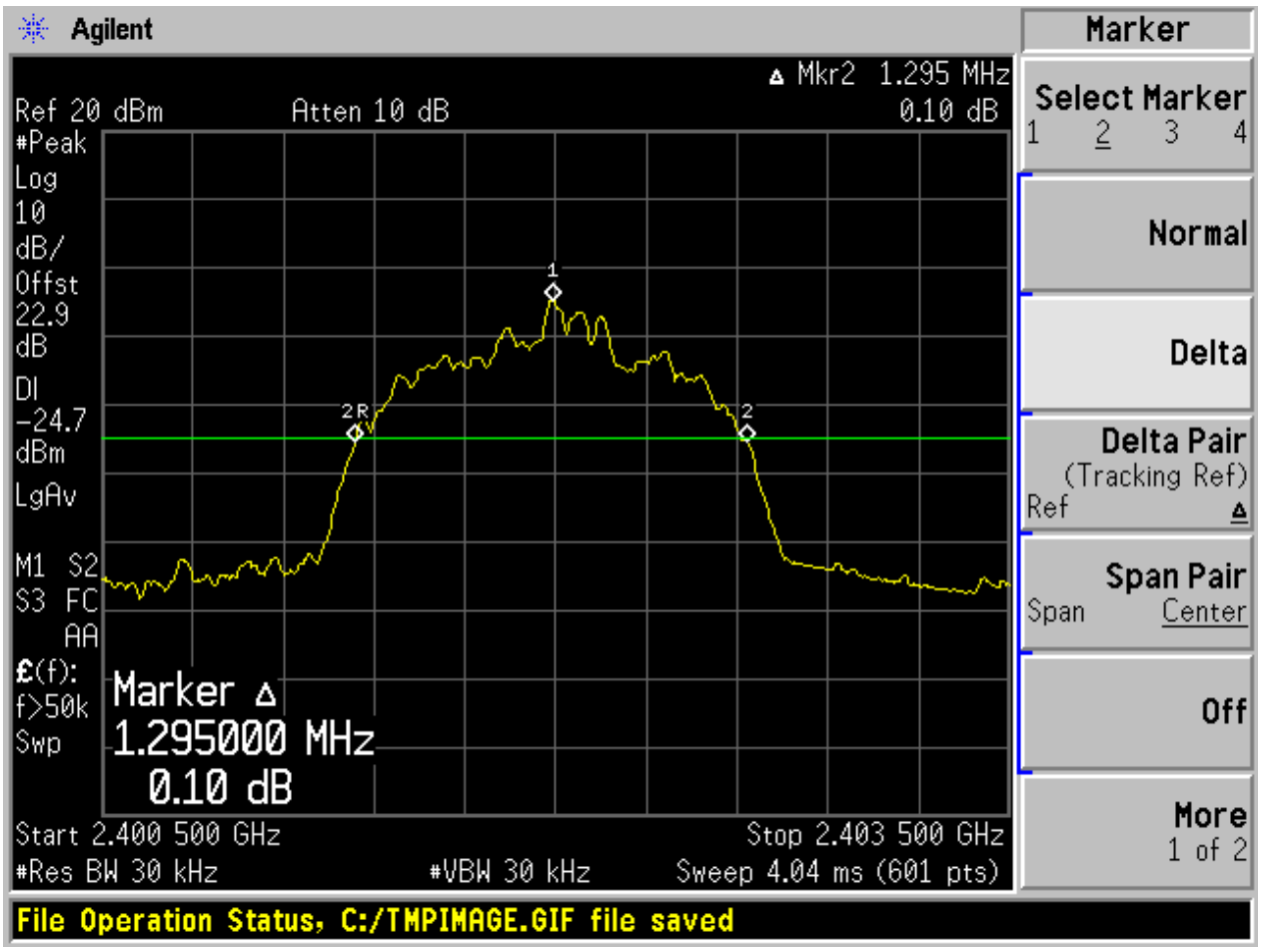
2.5 TM2_DH5_Ch39



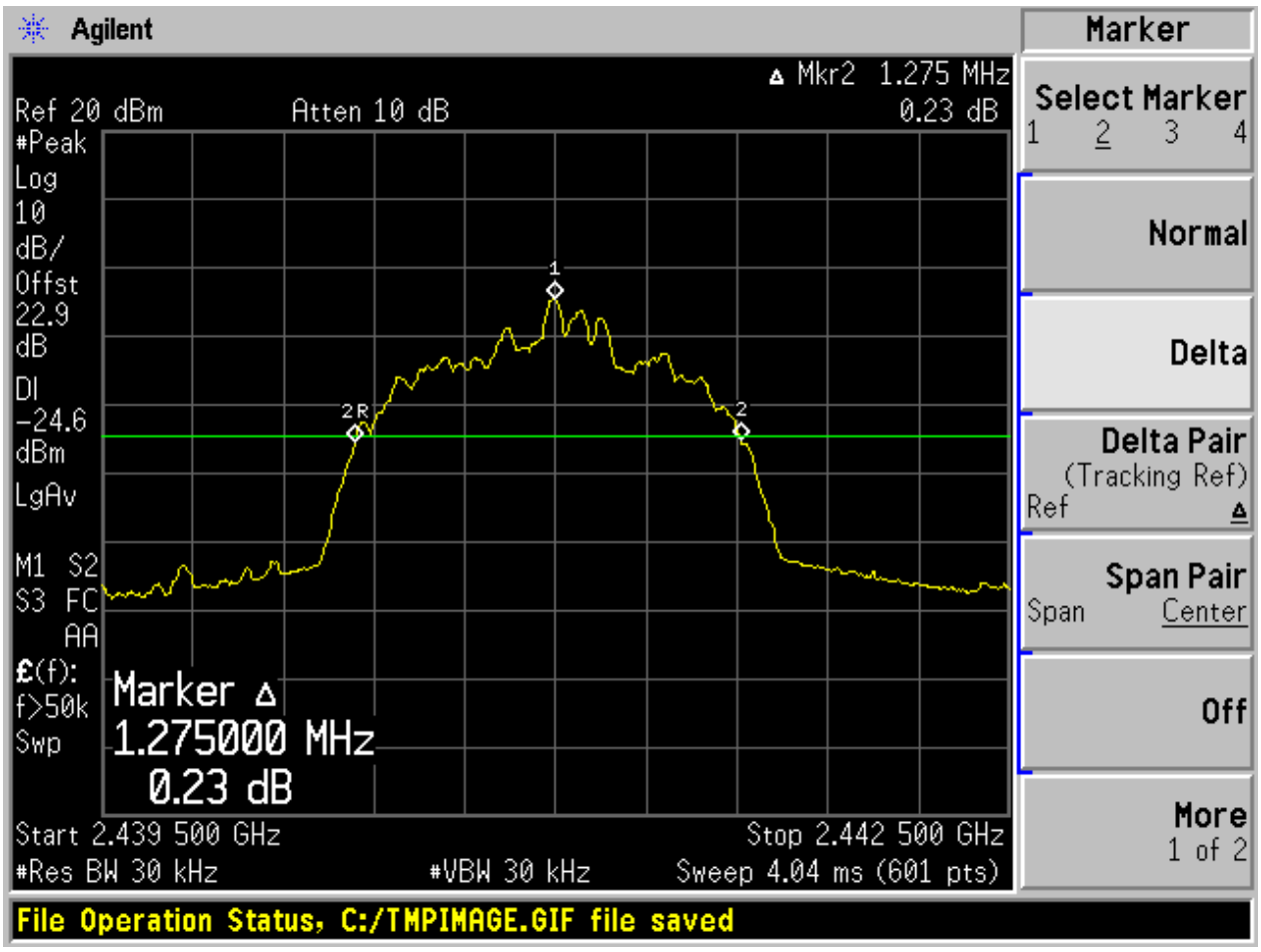
2.6 TM2_DH5_Ch78



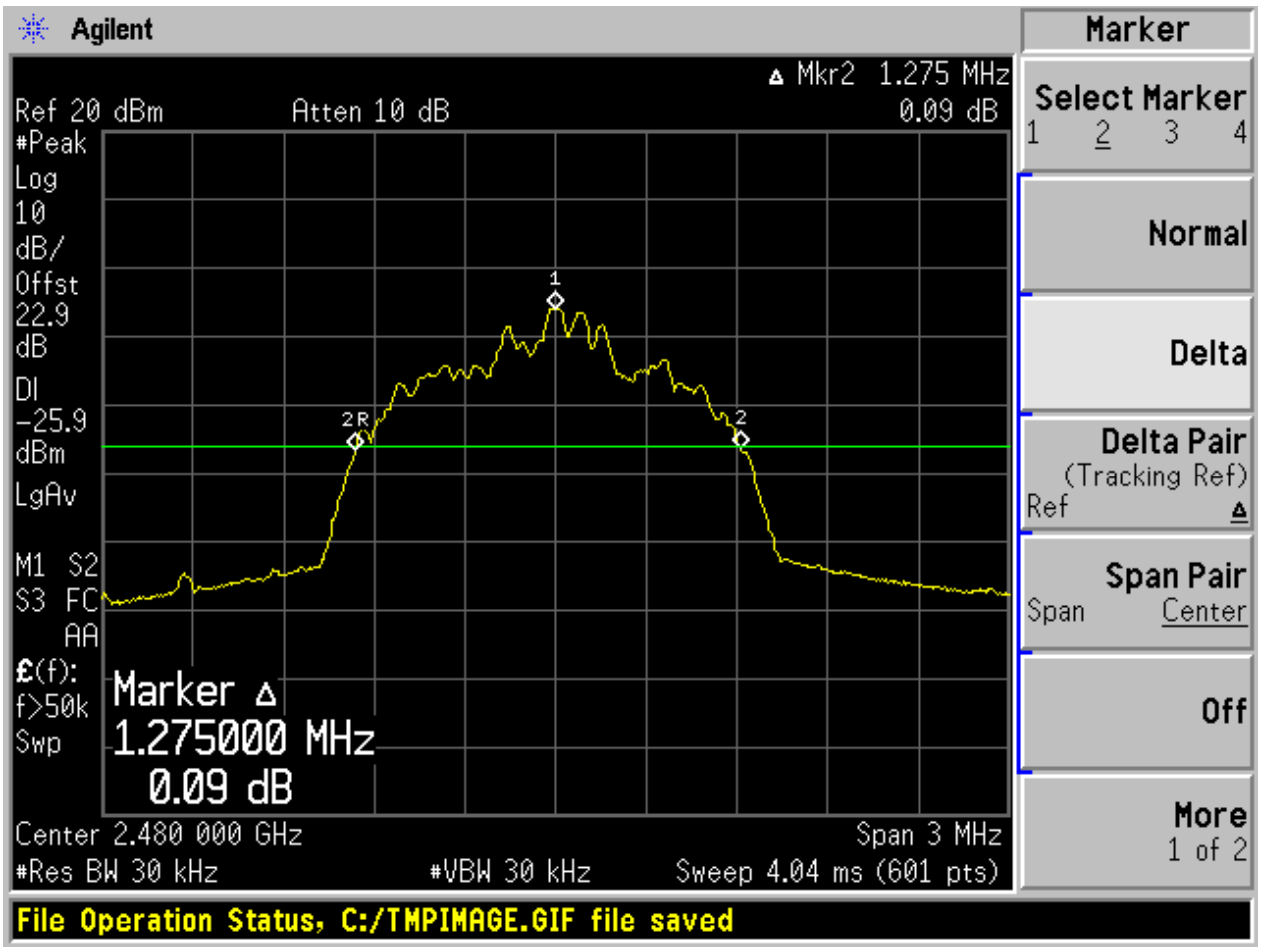
2.7 TM3_DH5_Ch0



2.8 TM3_DH5_Ch39



2.9 TM3_DH5_Ch78



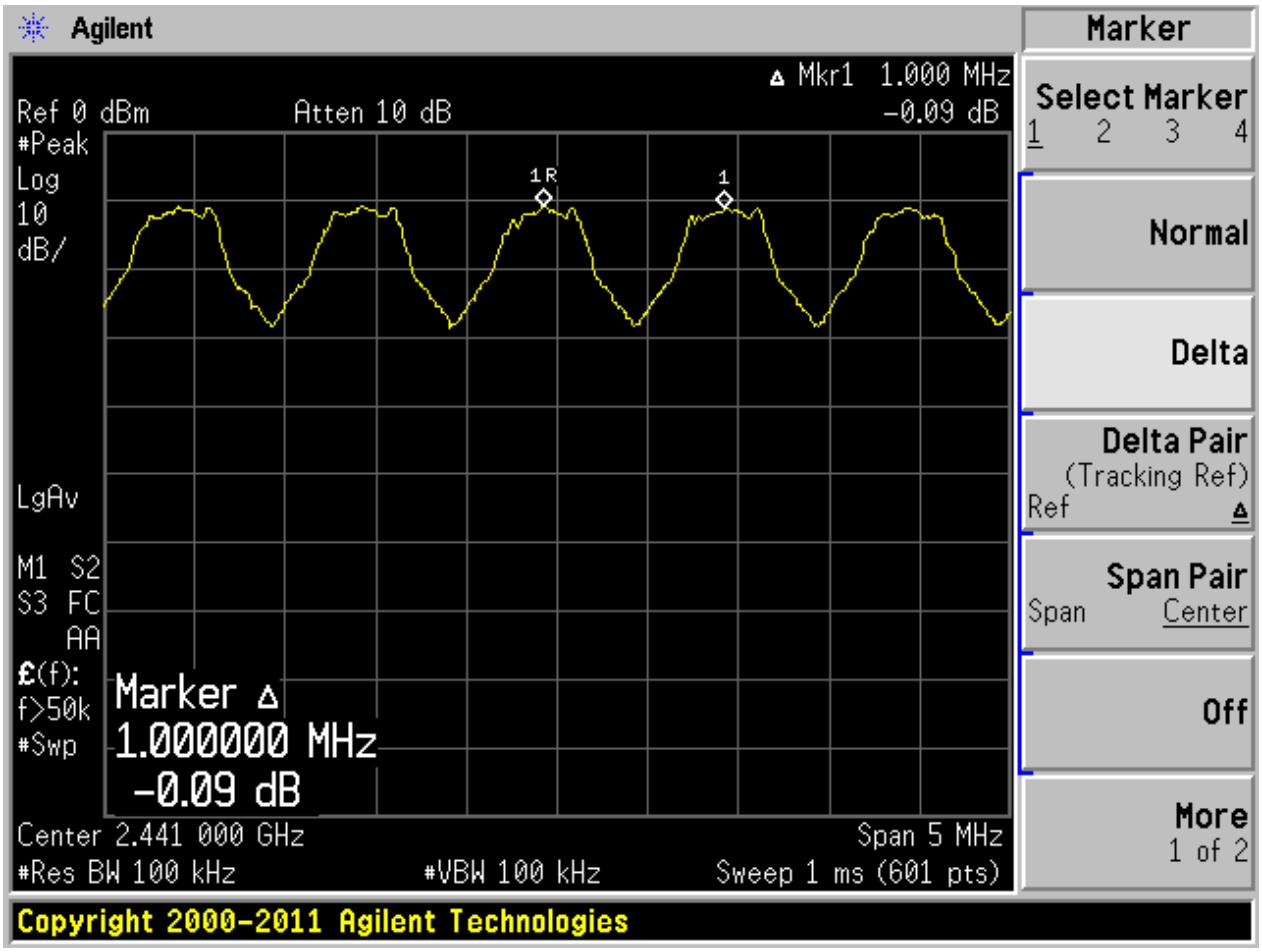
Appendix B: Carrier Frequency Separation

1 Result Table

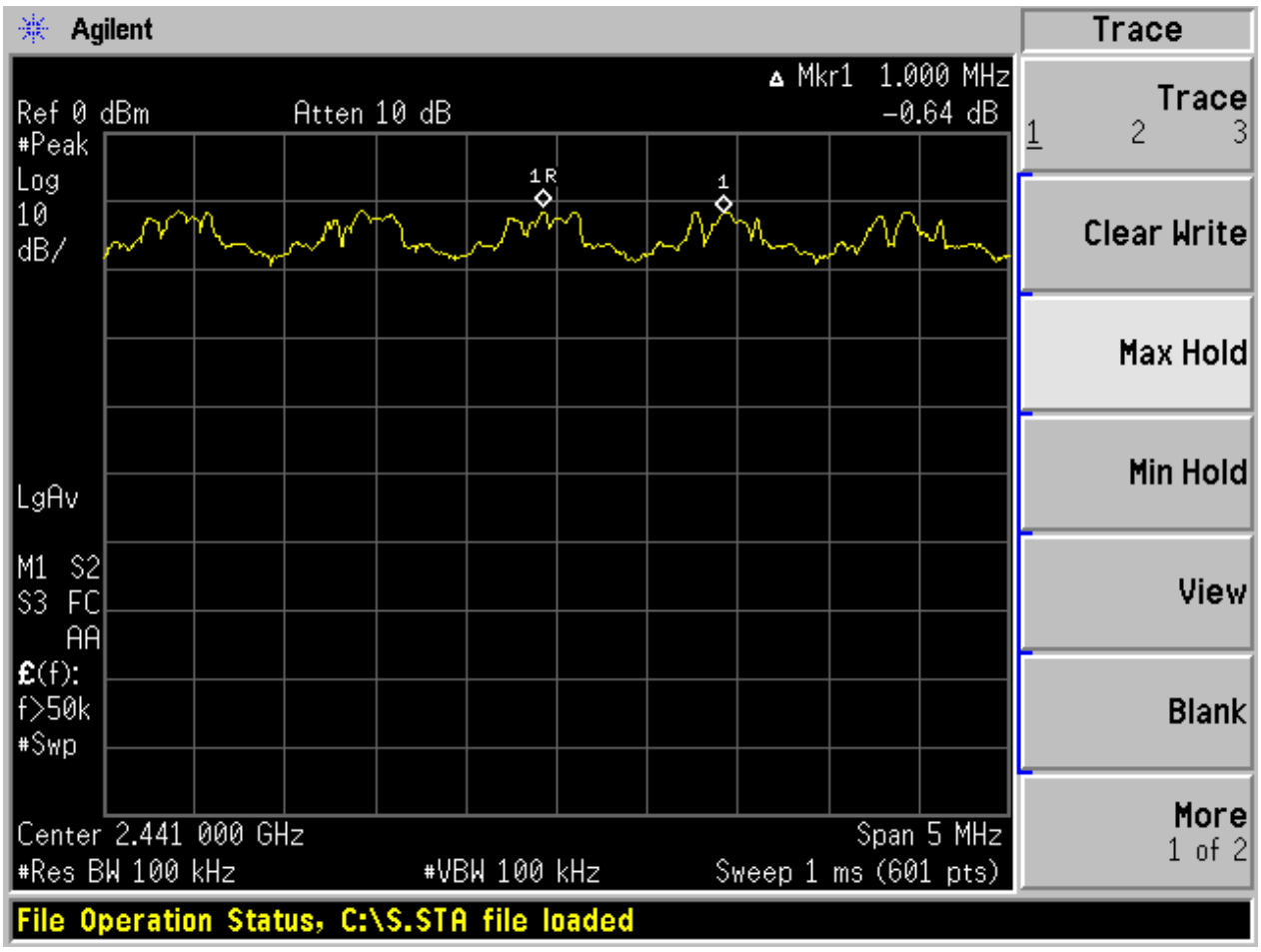
EUT Conf.	Carrier Frequency Separation [MHz]	Verdict
TM1_DH5_Hop	1.0	Pass
TM2_DH5_Hop	1.0	Pass
TM3_DH5_Hop	1.0	Pass

2 Test Plot

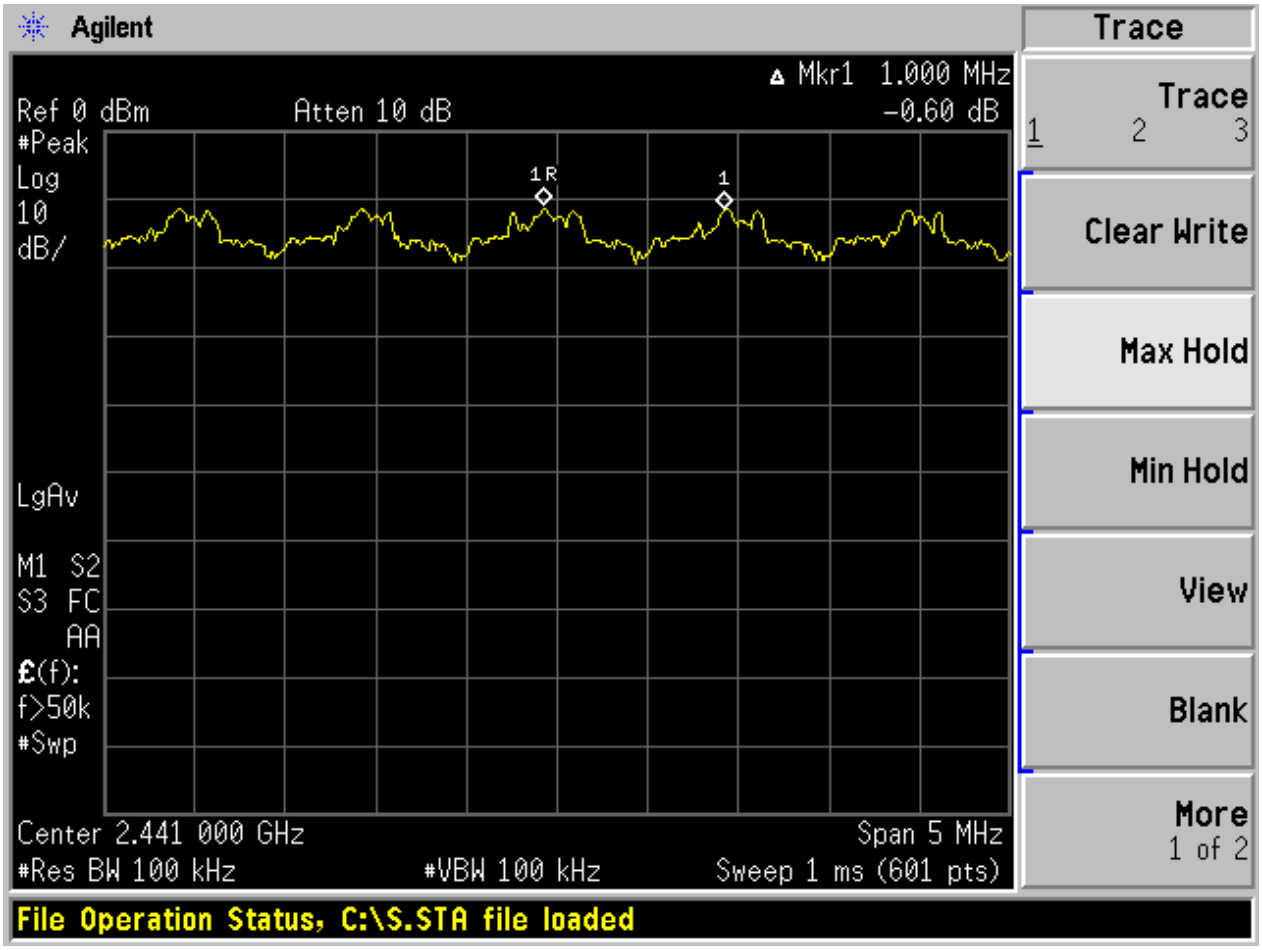
2.1 TM1_DH5_Hop



2.2 TM2_DH5_Hop



2.3 TM3_DH5_Hop



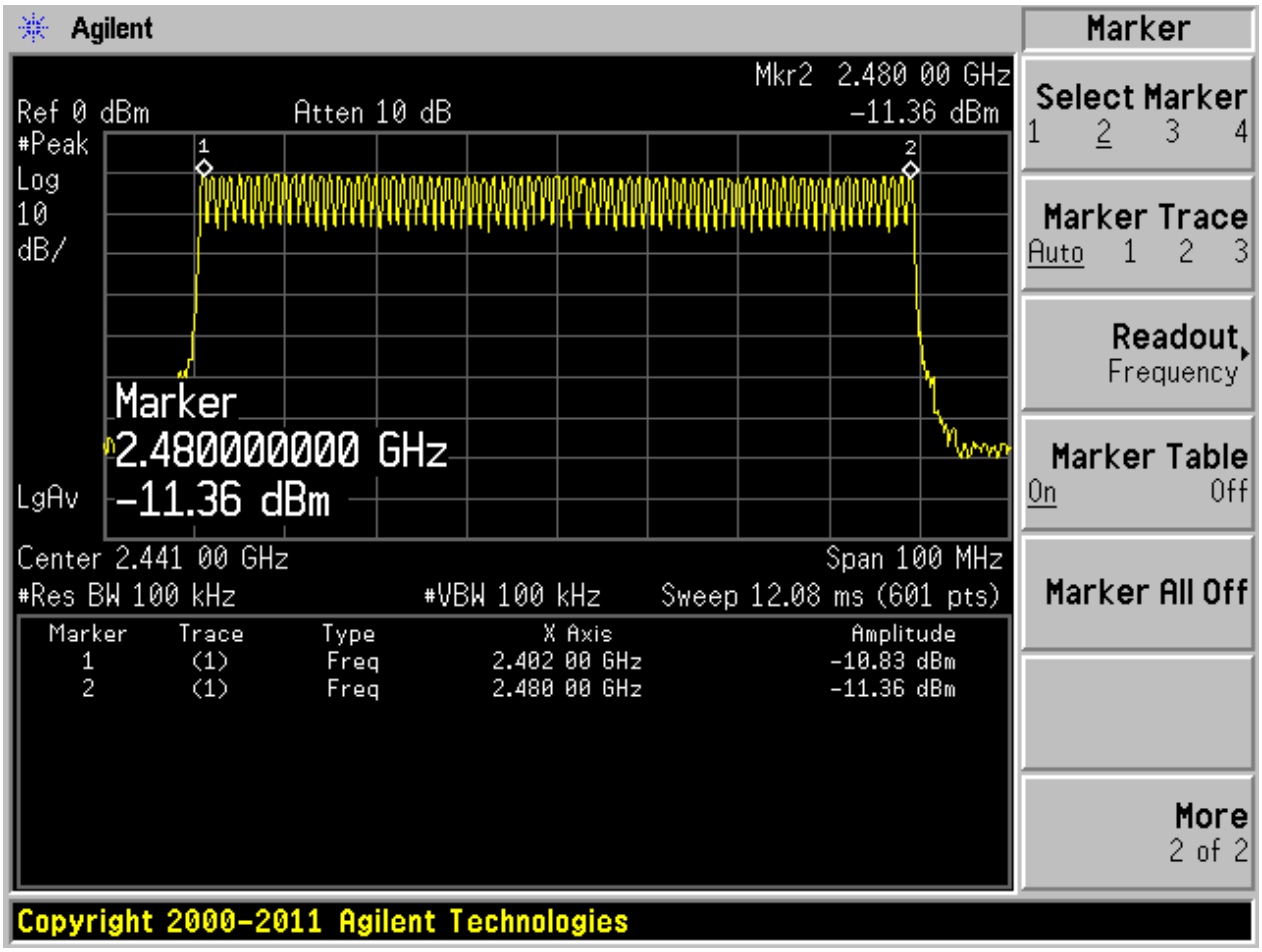
Appendix C: Number of Hopping Channel

1 Result Table

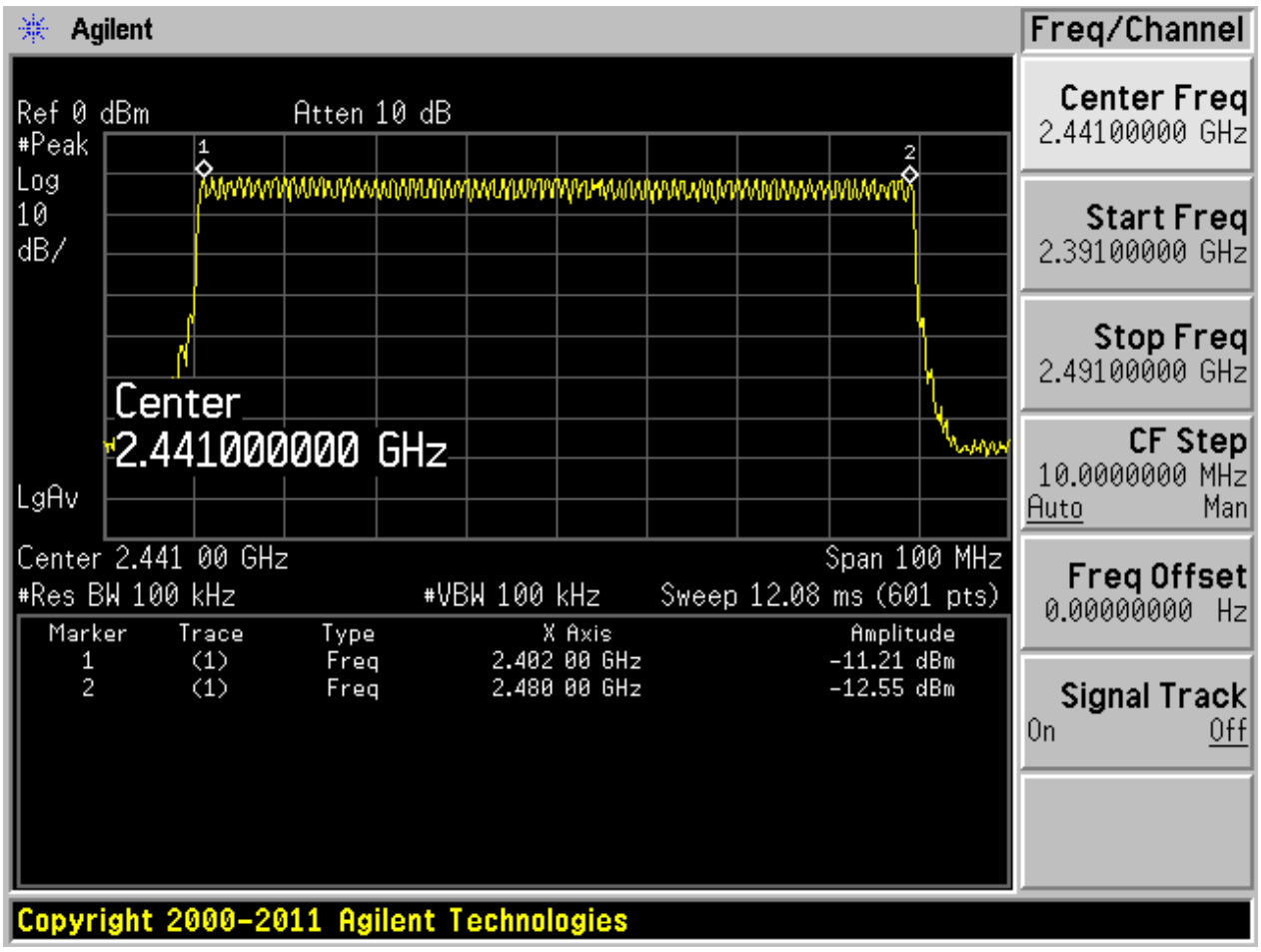
EUT Conf.	Number of Hopping Channel	Verdict
TM1_DH5_Hop	79	Pass
TM2_DH5_Hop	79	Pass
TM3_DH5_Hop	79	Pass

2 Test Plot

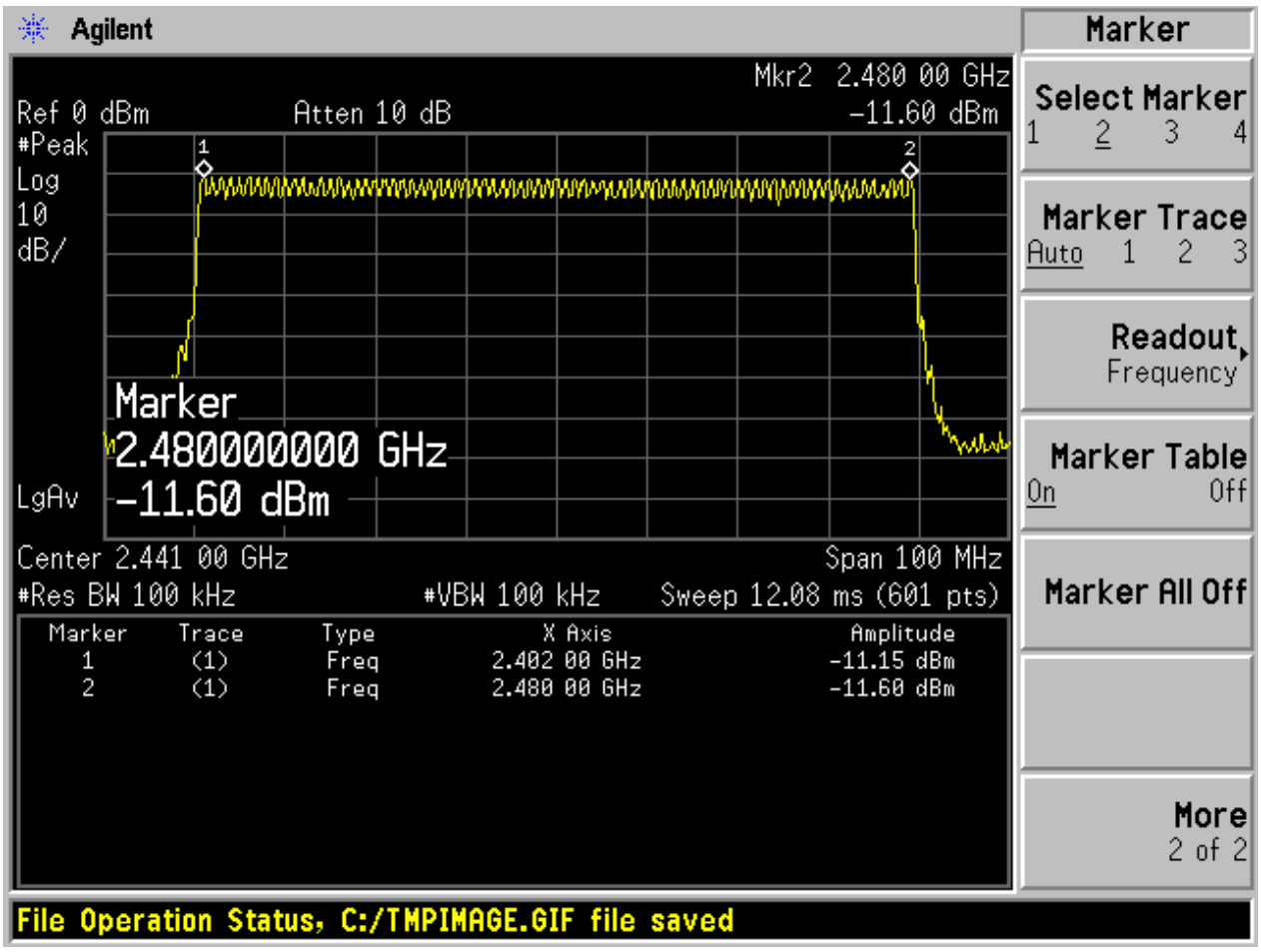
2.1 TM1_DH5_Hop



2.2 TM2_DH5_Hop



2.3 TM3_DH5_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:

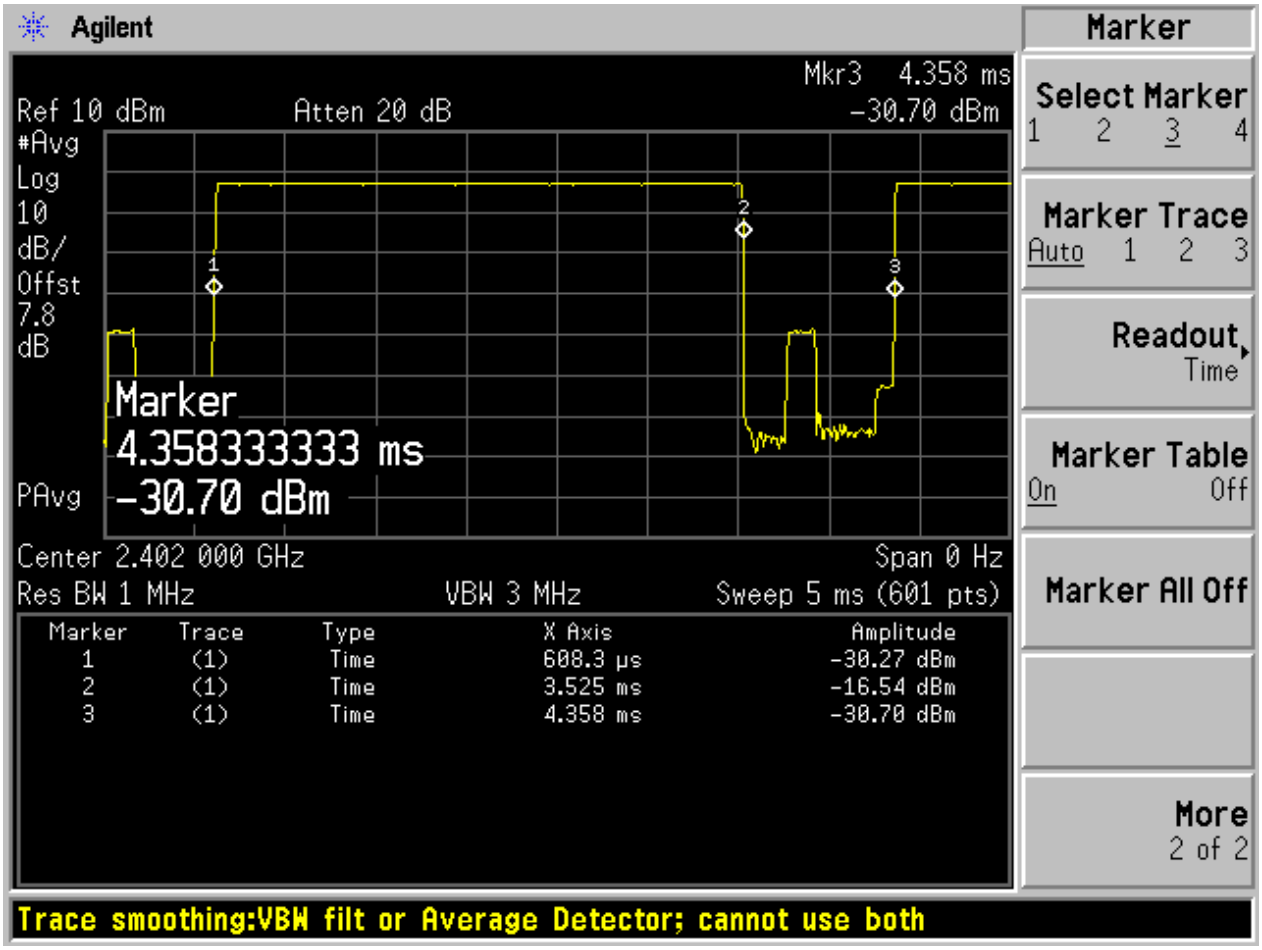
- The duration for dwell time calculation: 0.4 [s] * hopping number = 0.4 [s] * 79 [ch] = 31.6 [s*ch];
- The burst width [ms/hop/ch], which is directly measured, refers to the duration on one channel hop.
- The hops per second for all channels: The selected EUT Conf uses a slot type of 5-Tx&1-Rx and 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_Ch0	2.9167	106.67	311.12	Pass
TM2_DH5_Ch0	2.933	106.67	312.86	Pass
TM3_DH5_Ch0	2.9253	106.67	312.04	Pass

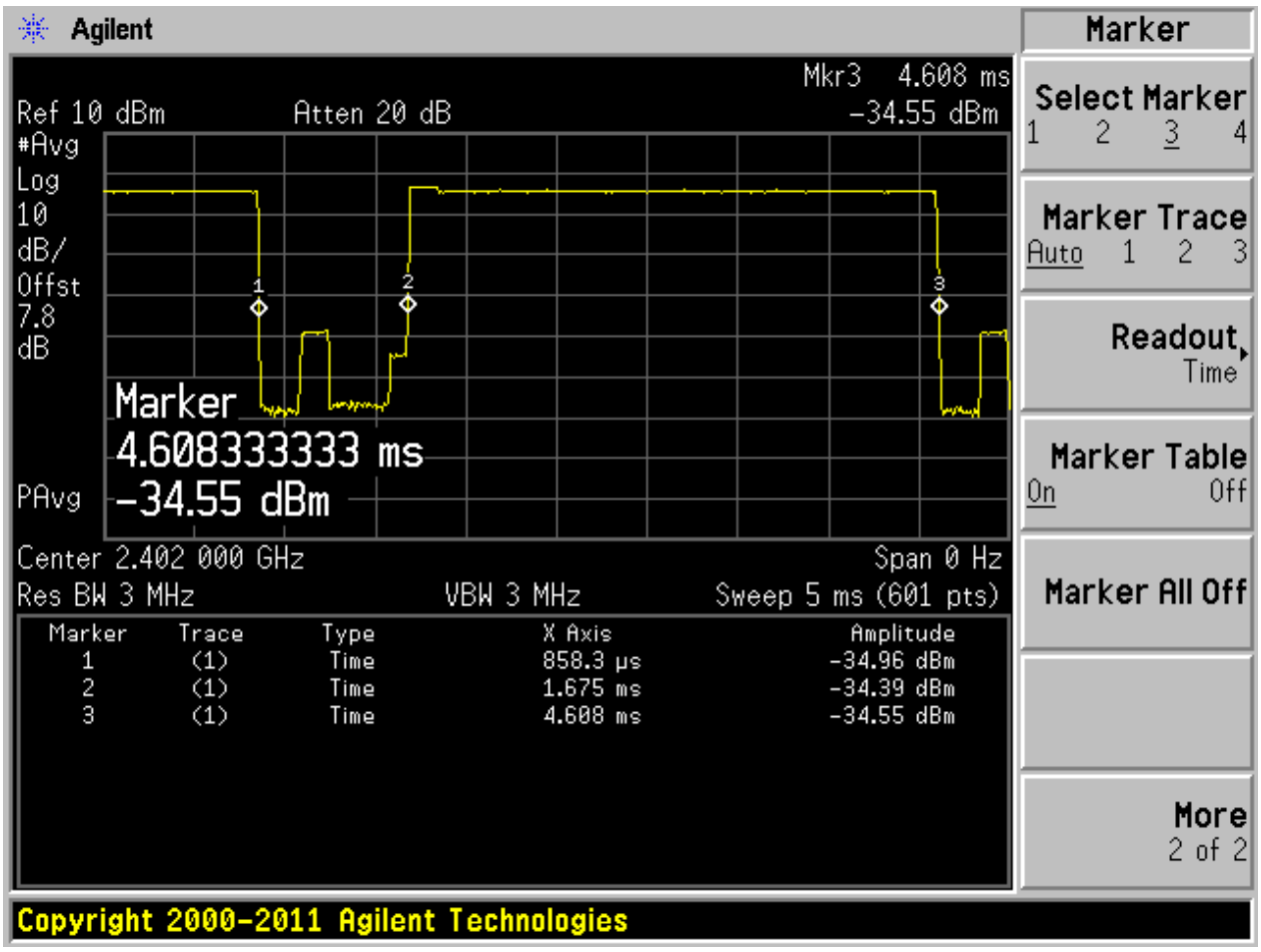
2 Test Plot

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

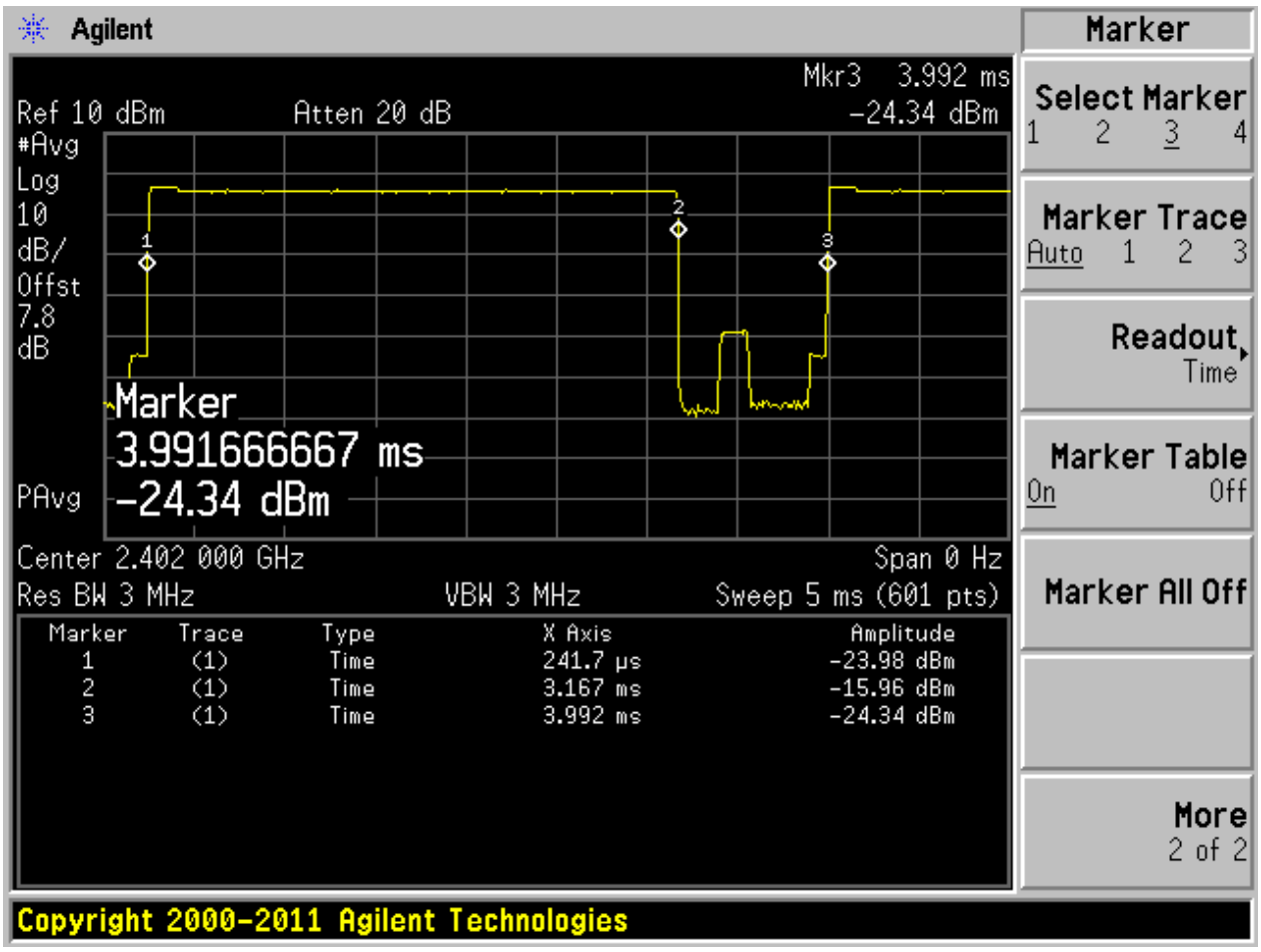
2.1 TM1_DH5_Ch0



2.2 TM2_DH5_Ch0



2.3 TM3_DH5_Ch0



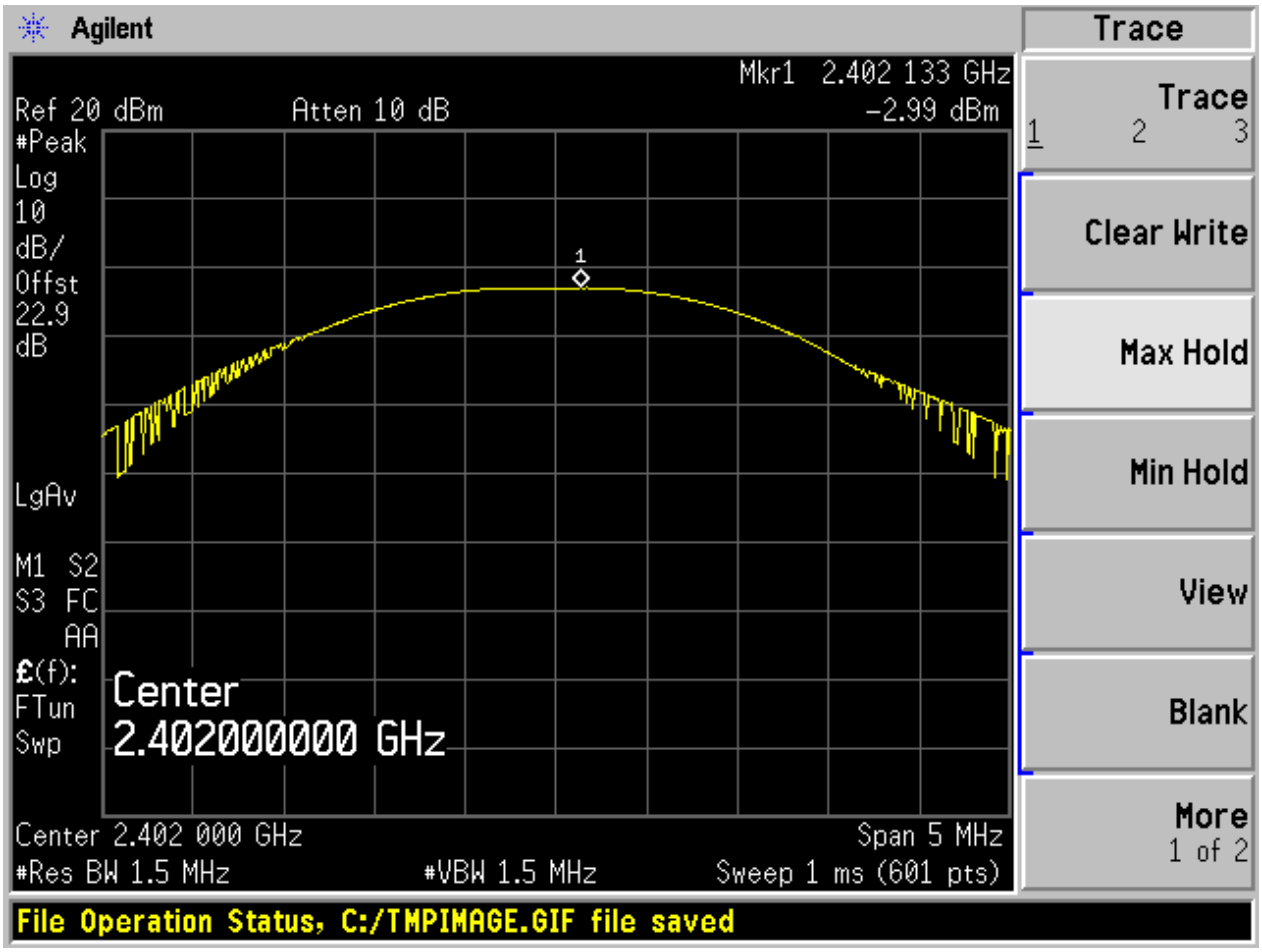
Appendix E: Maximum Peak Conducted Output Power

1 Result Table

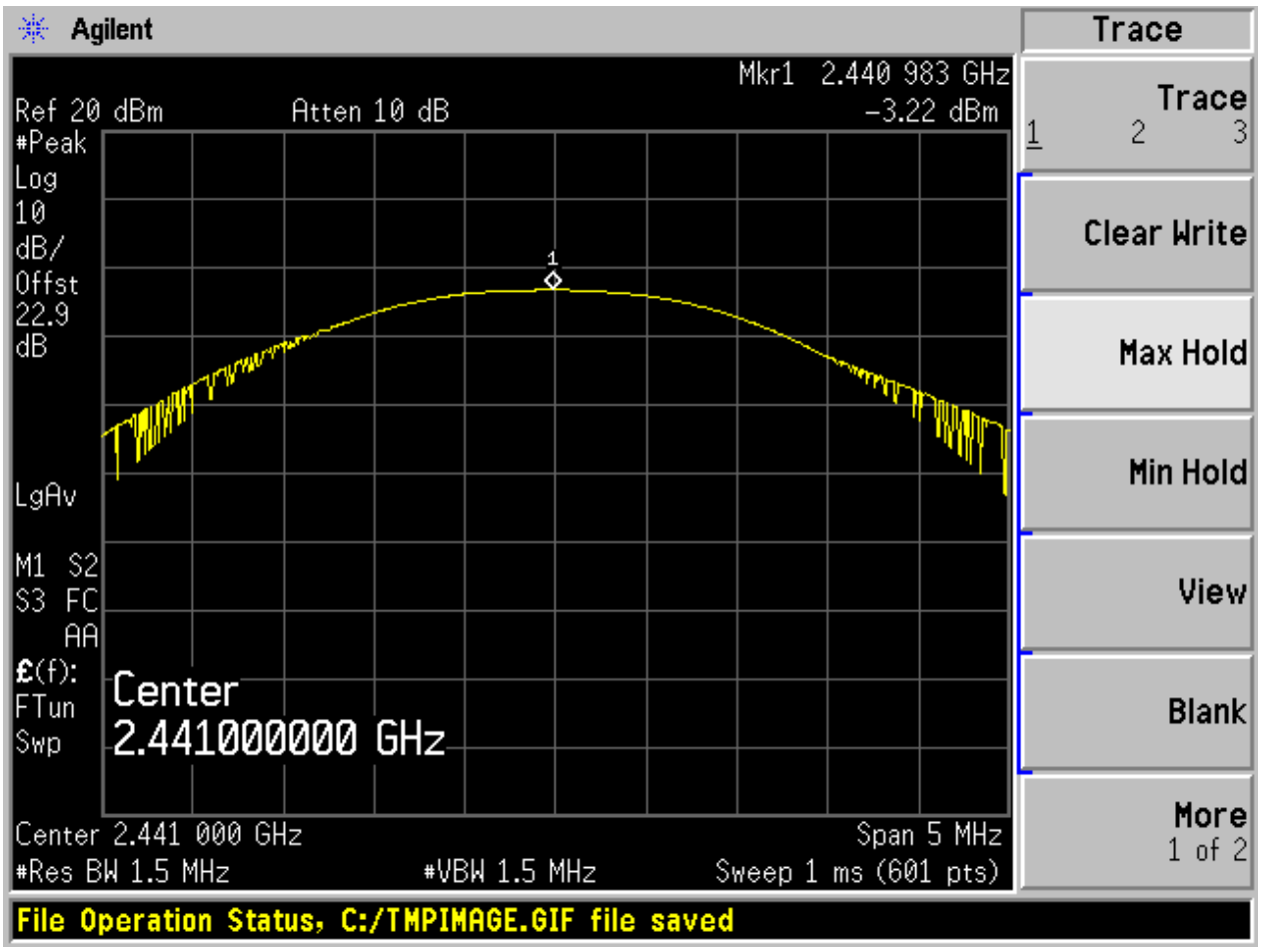
EUT Conf.	Max. Peak Power [dBm]	Verdict
TM1_DH5_Ch0	-2.99	Pass
TM1_DH5_Ch39	-3.22	Pass
TM1_DH5_Ch78	-3.29	Pass
TM2_DH5_Ch0	-3.20	Pass
TM2_DH5_Ch39	-3.25	Pass
TM2_DH5_Ch78	-3.30	Pass
TM3_DH5_Ch0	-2.92	Pass
TM3_DH5_Ch39	-3.20	Pass
TM3_DH5_Ch78	-3.29	Pass

2 Test Plot

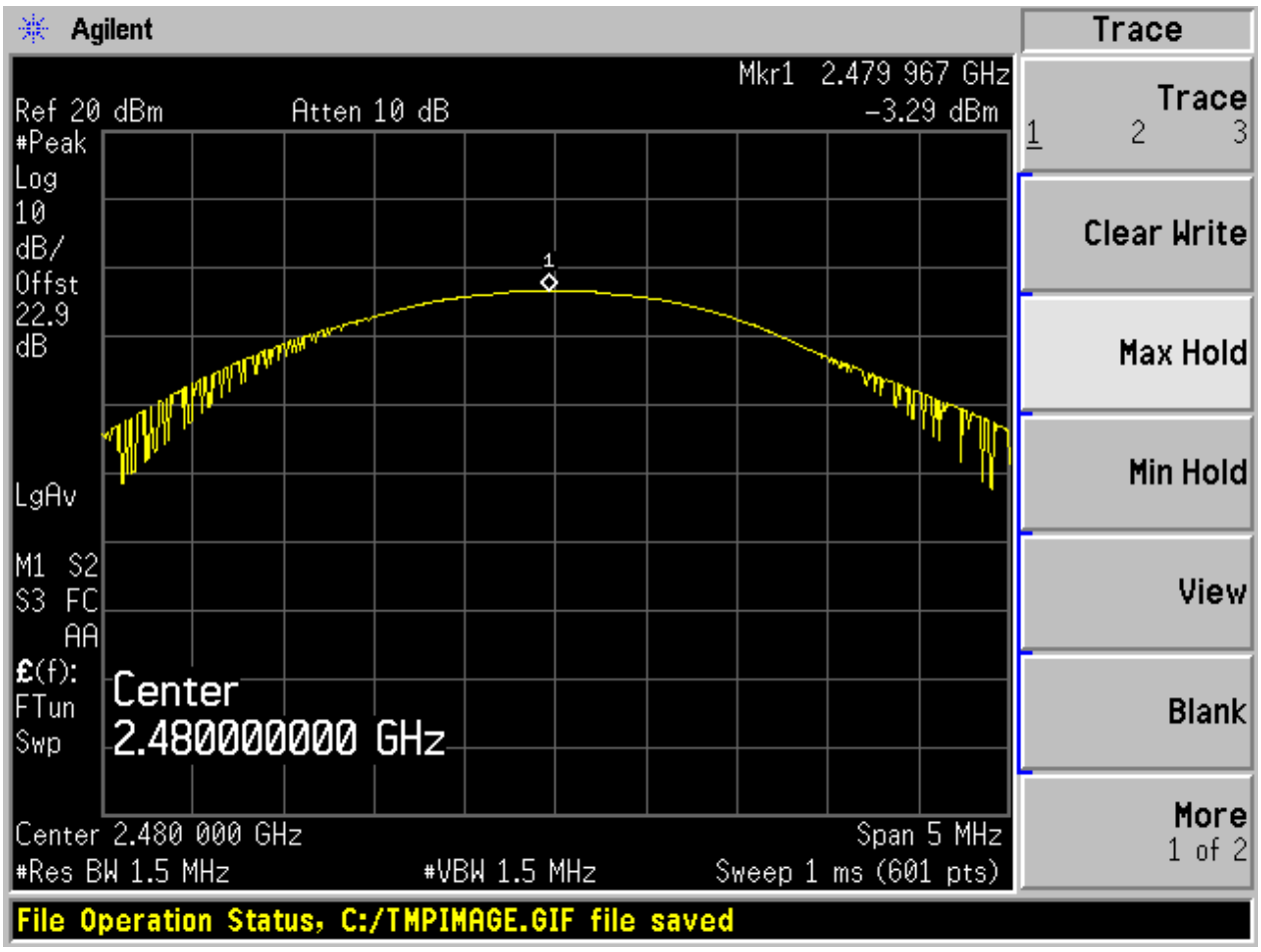
2.1 TM1_DH5_Ch0



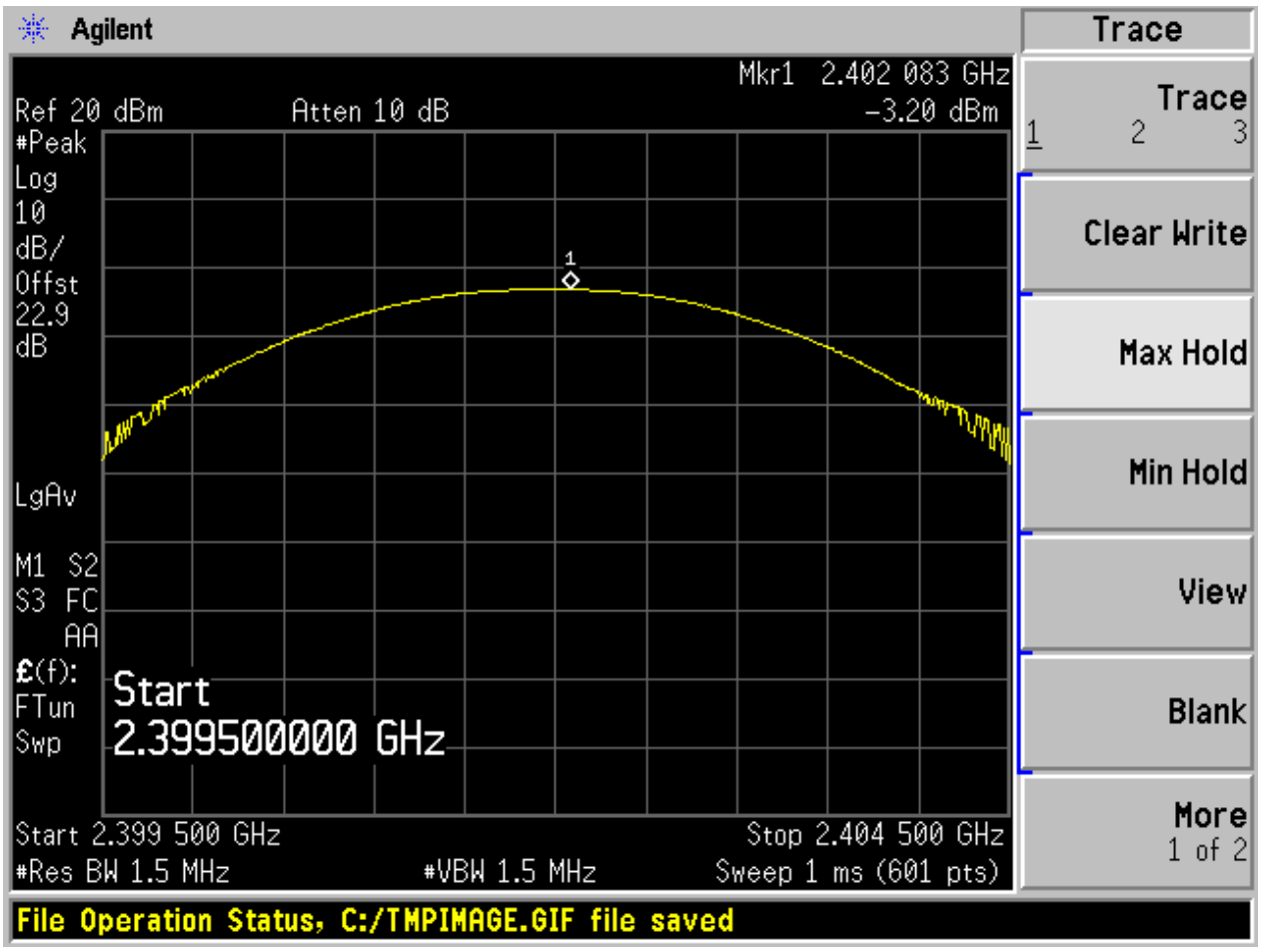
2.2 TM1_DH5_Ch39



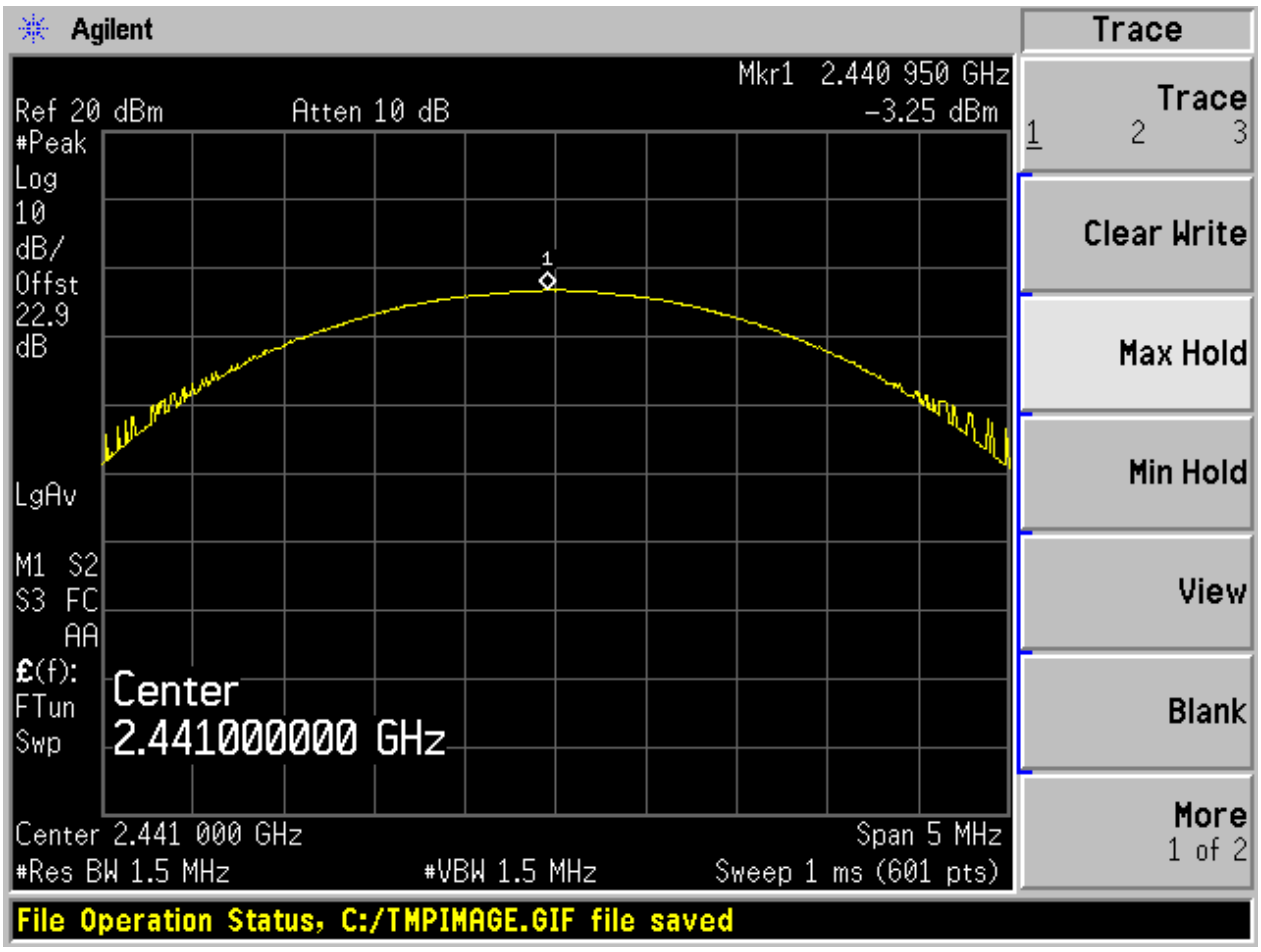
2.3 TM1_DH5_Ch78



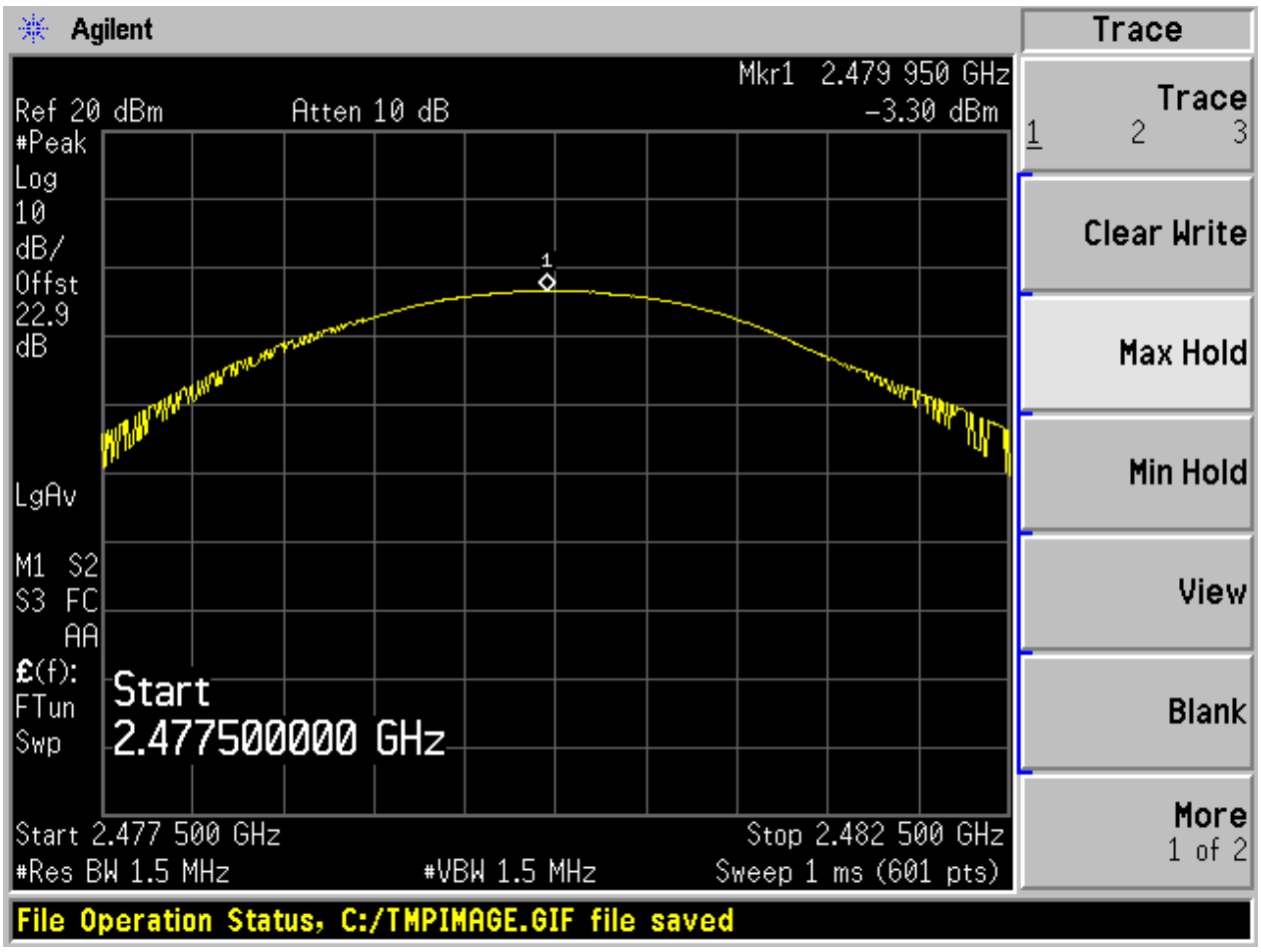
2.4 TM2_DH5_Ch0



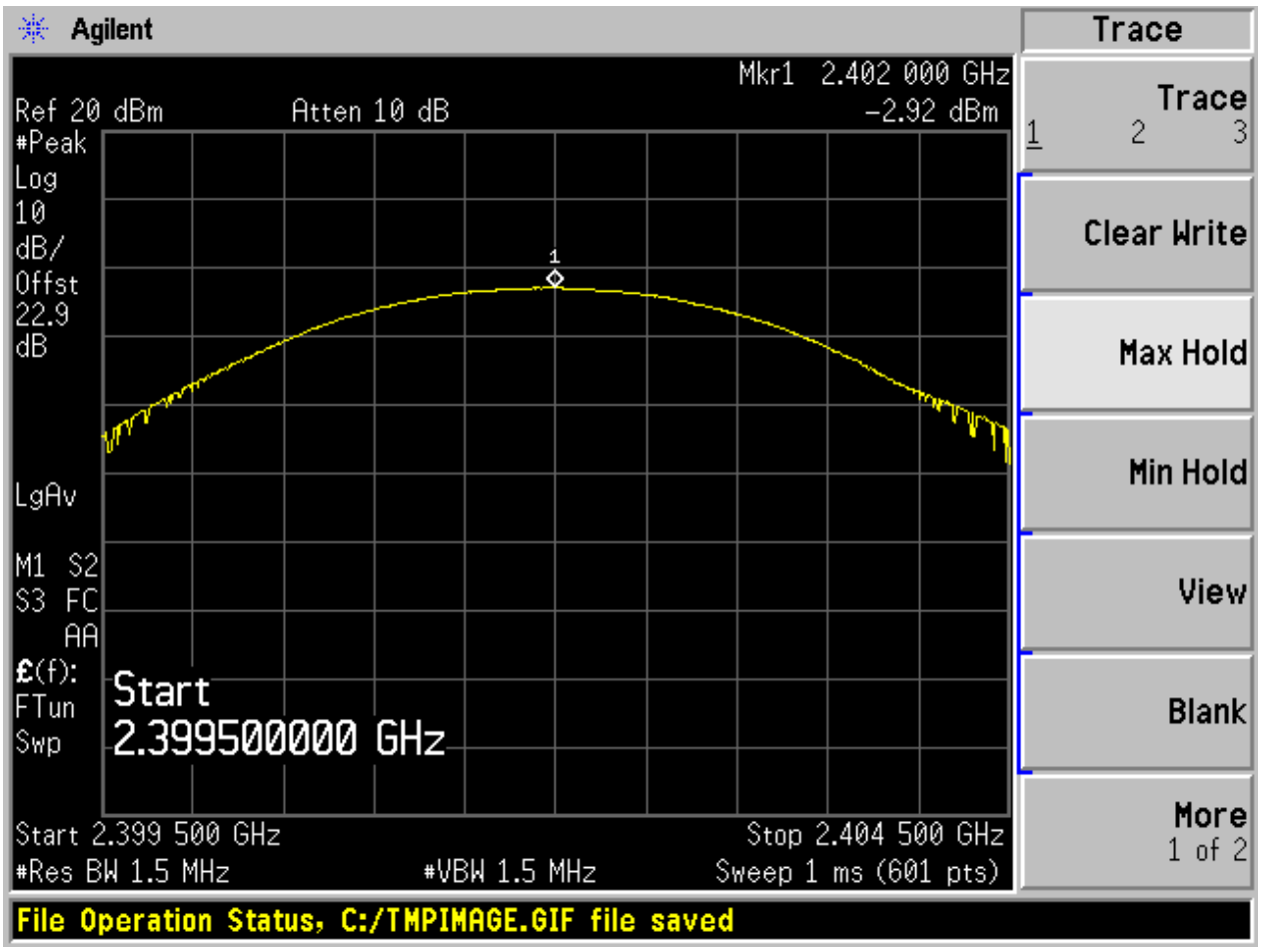
2.5 TM2_DH5_Ch39



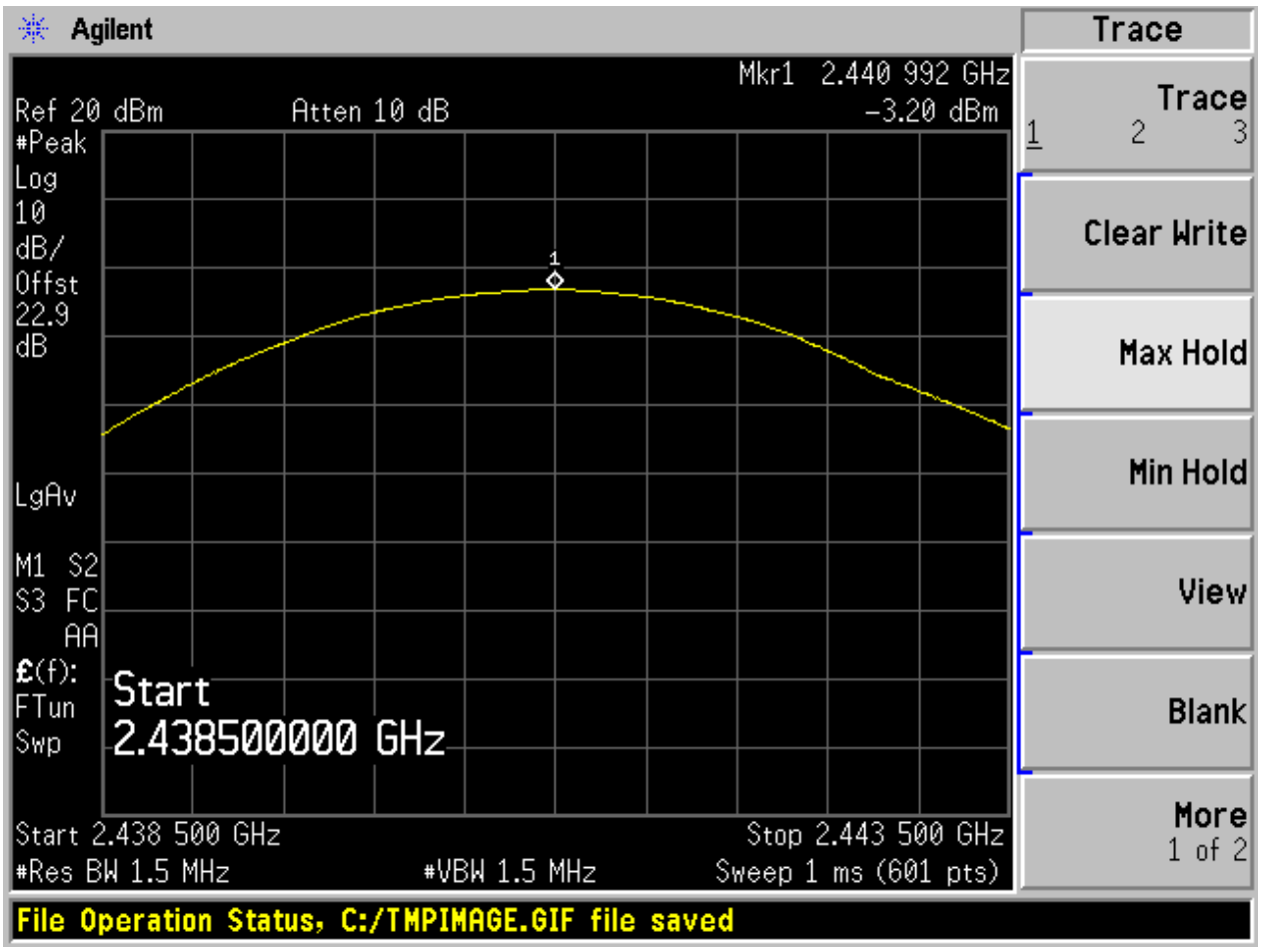
2.6 TM2_DH5_Ch78



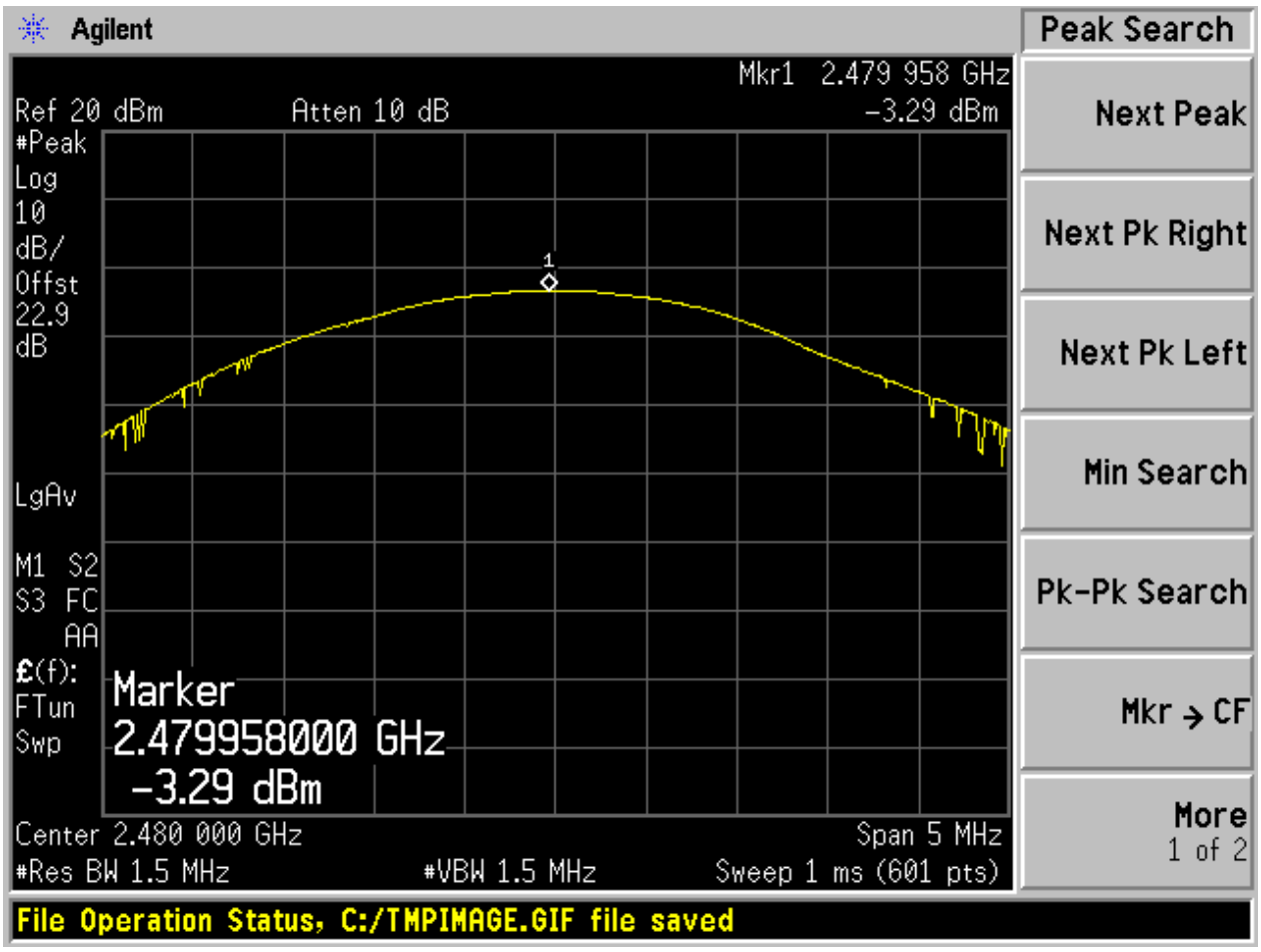
2.7 TM3_DH5_Ch0



2.8 TM3_DH5_Ch39



2.9 TM3_DH5_Ch78



Appendix F: 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.

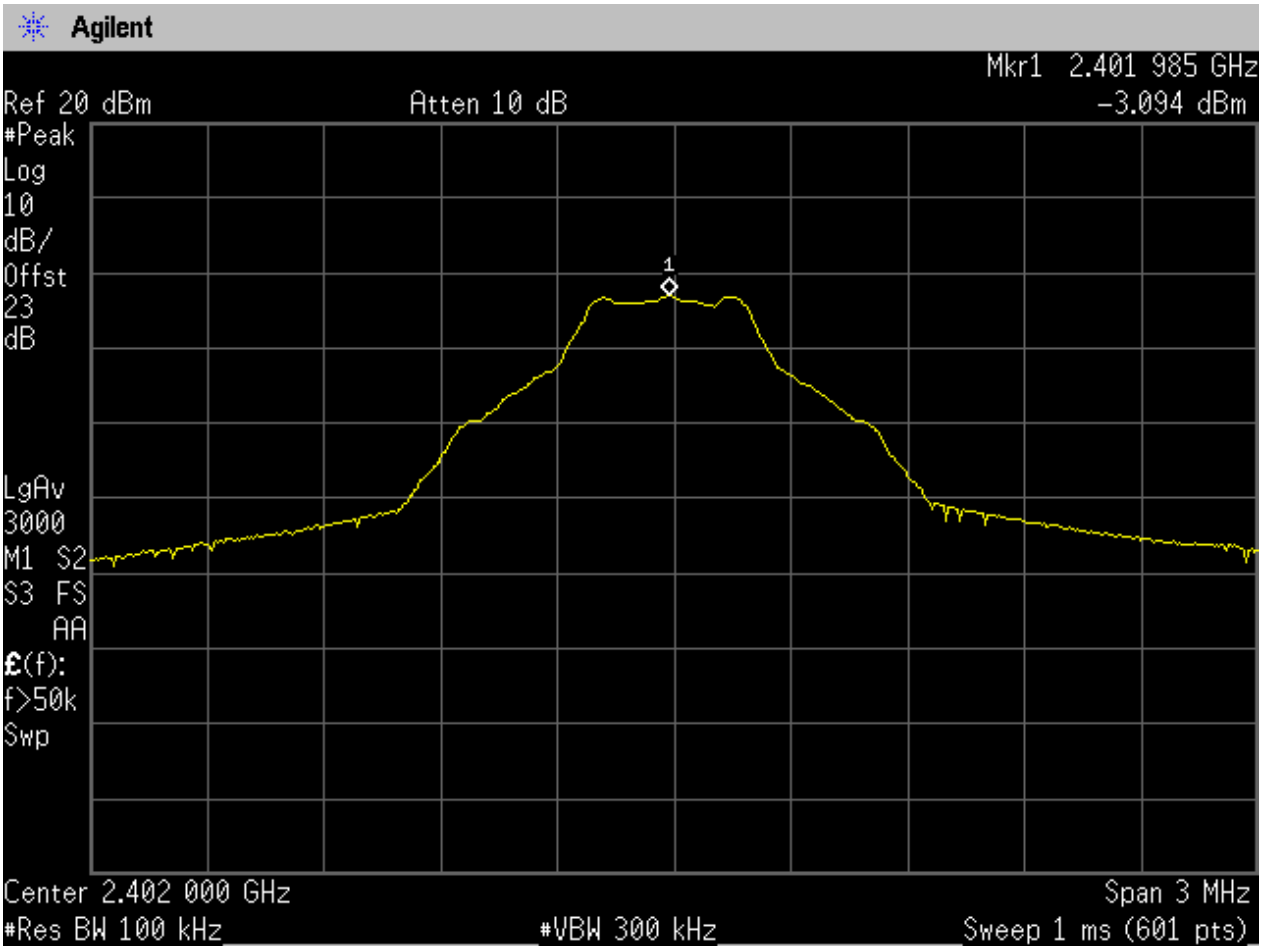
In the result table, the “< Limit” denotes that “The Puw [dBm] is less than Pref [dBm] - 20 [dB], see test plots for detailed”.

EUT Conf.	Pref [dBm/100 kHz]	Puw [dBm/100 kHz]	Verdict
TM1_DH5_Ch0	-3.094	< Limit	Pass
TM1_DH5_Ch39	-3.071	< Limit	Pass
TM1_DH5_Ch78	-3.420	< Limit	Pass
TM2_DH5_Ch0	-3.301	< Limit	Pass
TM2_DH5_Ch39	-3.071	< Limit	Pass
TM2_DH5_Ch78	-3.412	< Limit	Pass
TM3_DH5_Ch0	-3.296	< Limit	Pass
TM3_DH5_Ch39	-3.057	< Limit	Pass
TM3_DH5_Ch78	-3.403	< Limit	Pass

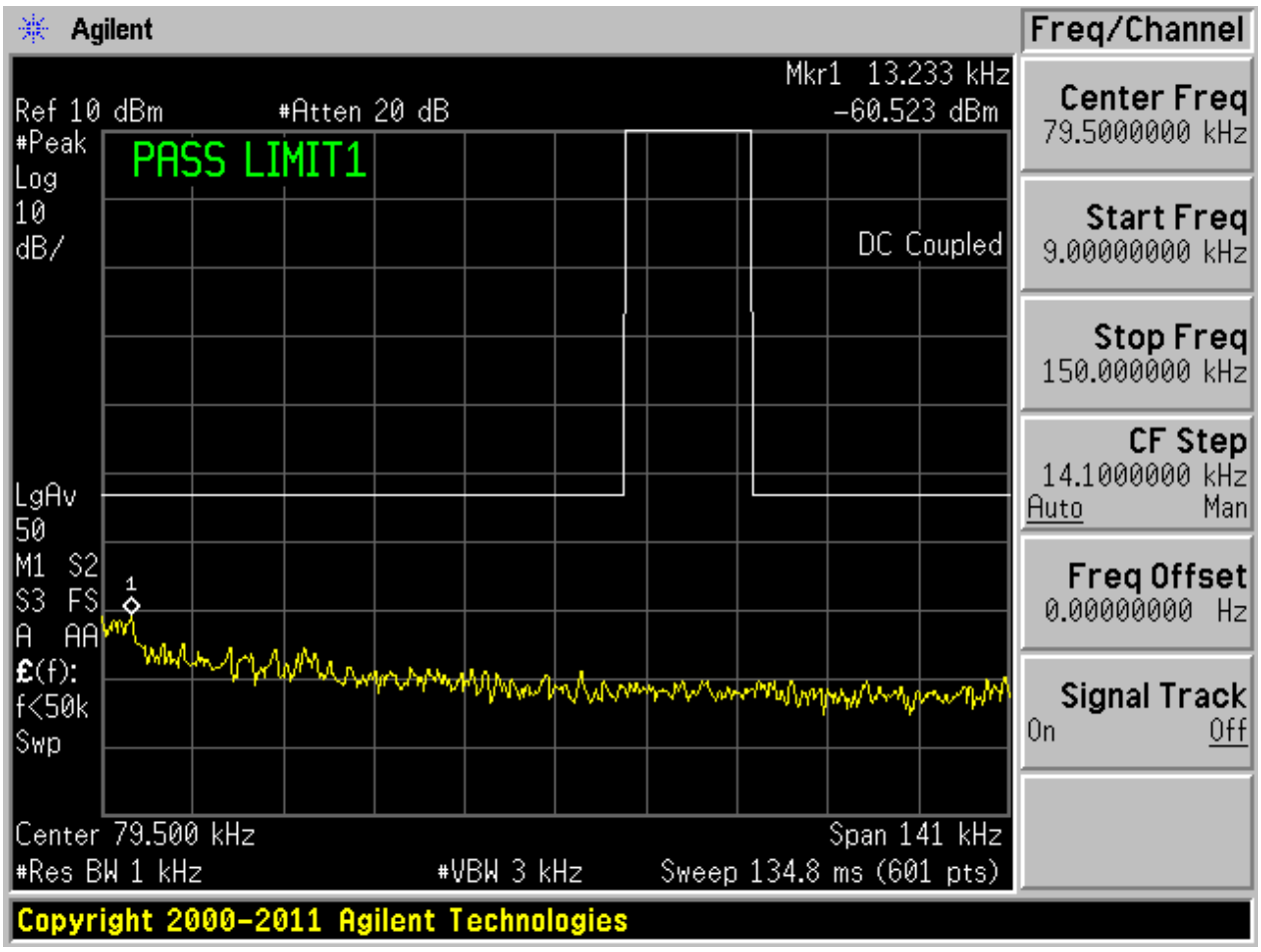
2 Test Plot

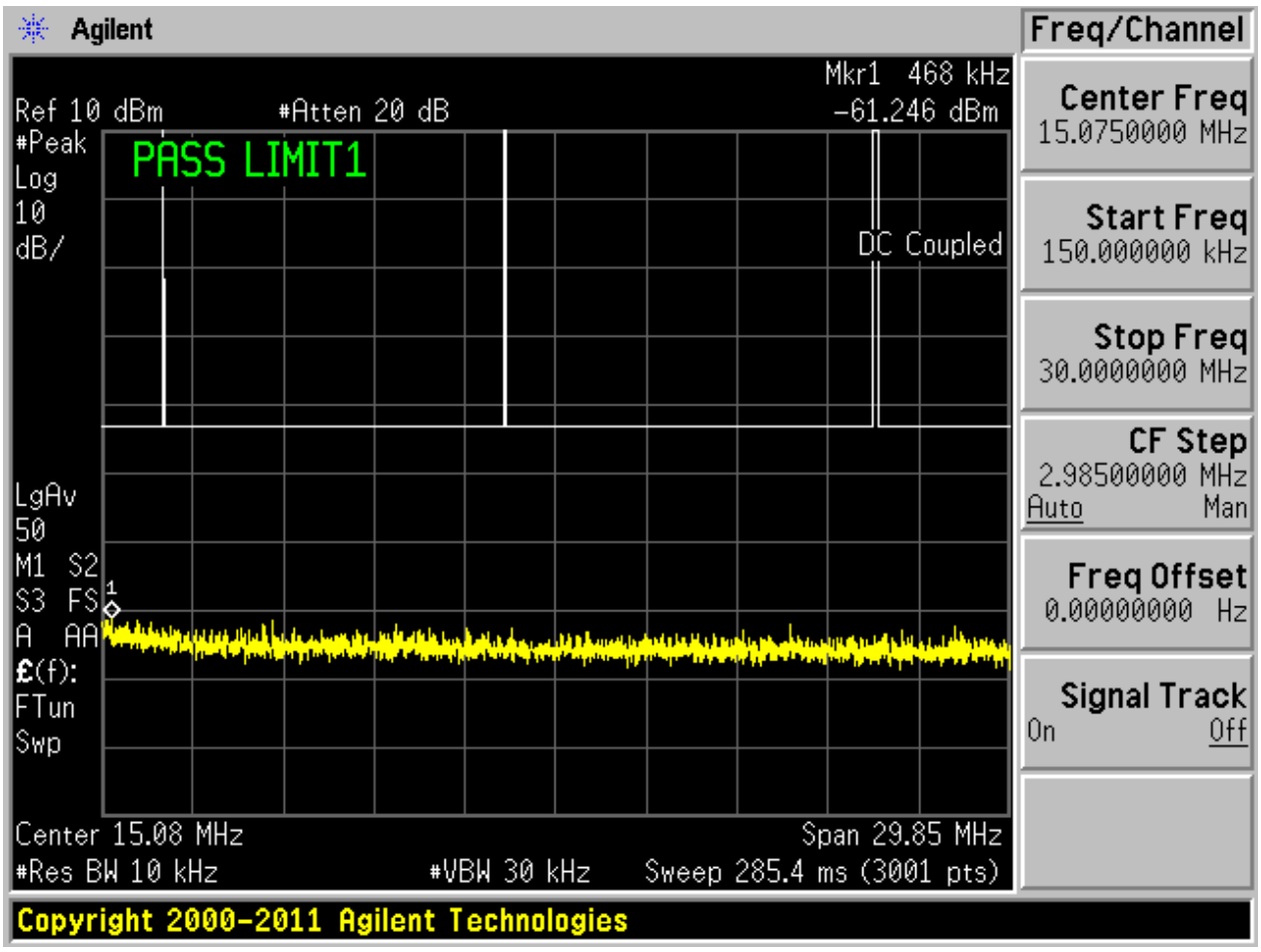
2.1 TM1_DH5_Ch0

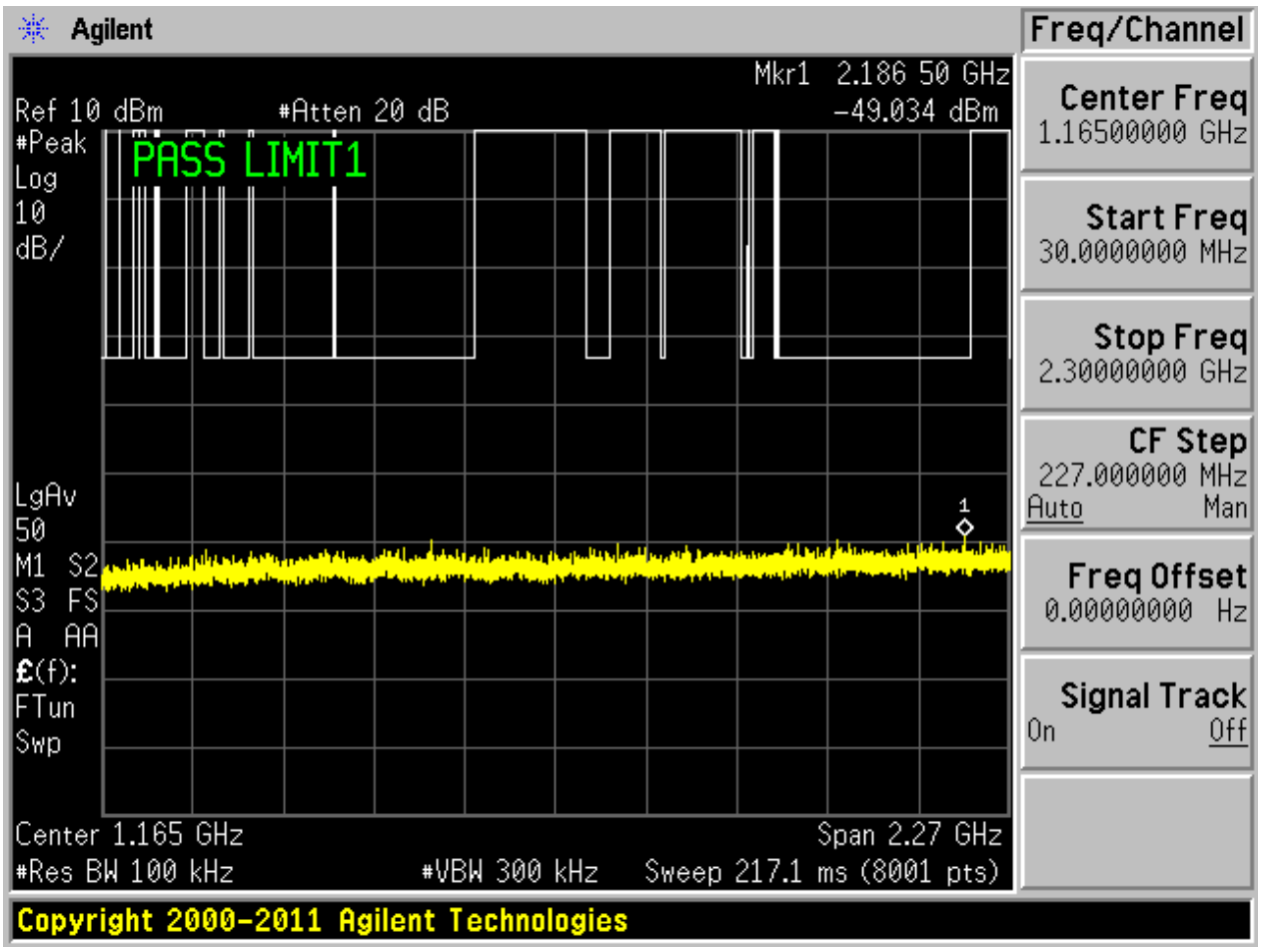
2.1.1 Pref

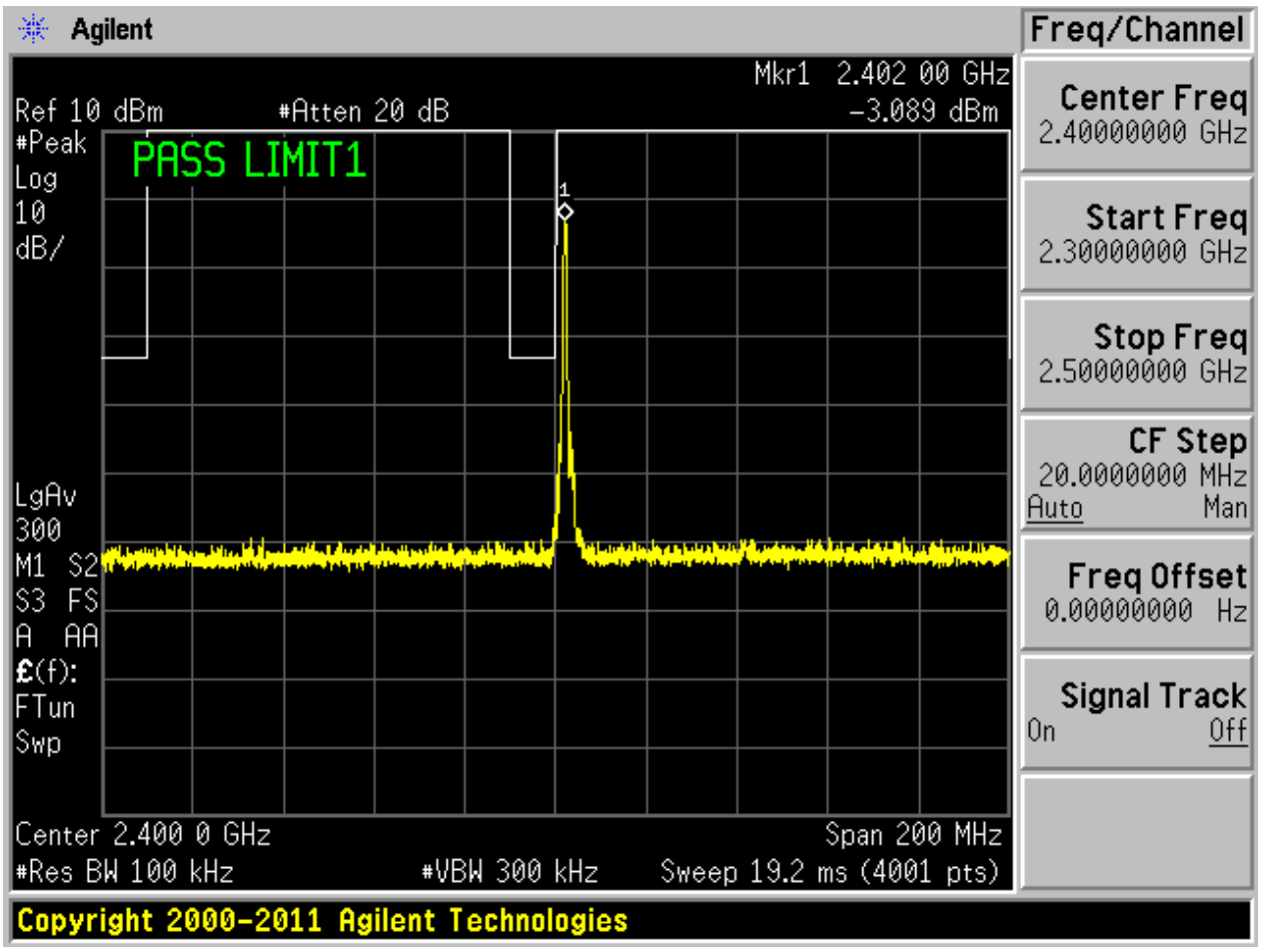


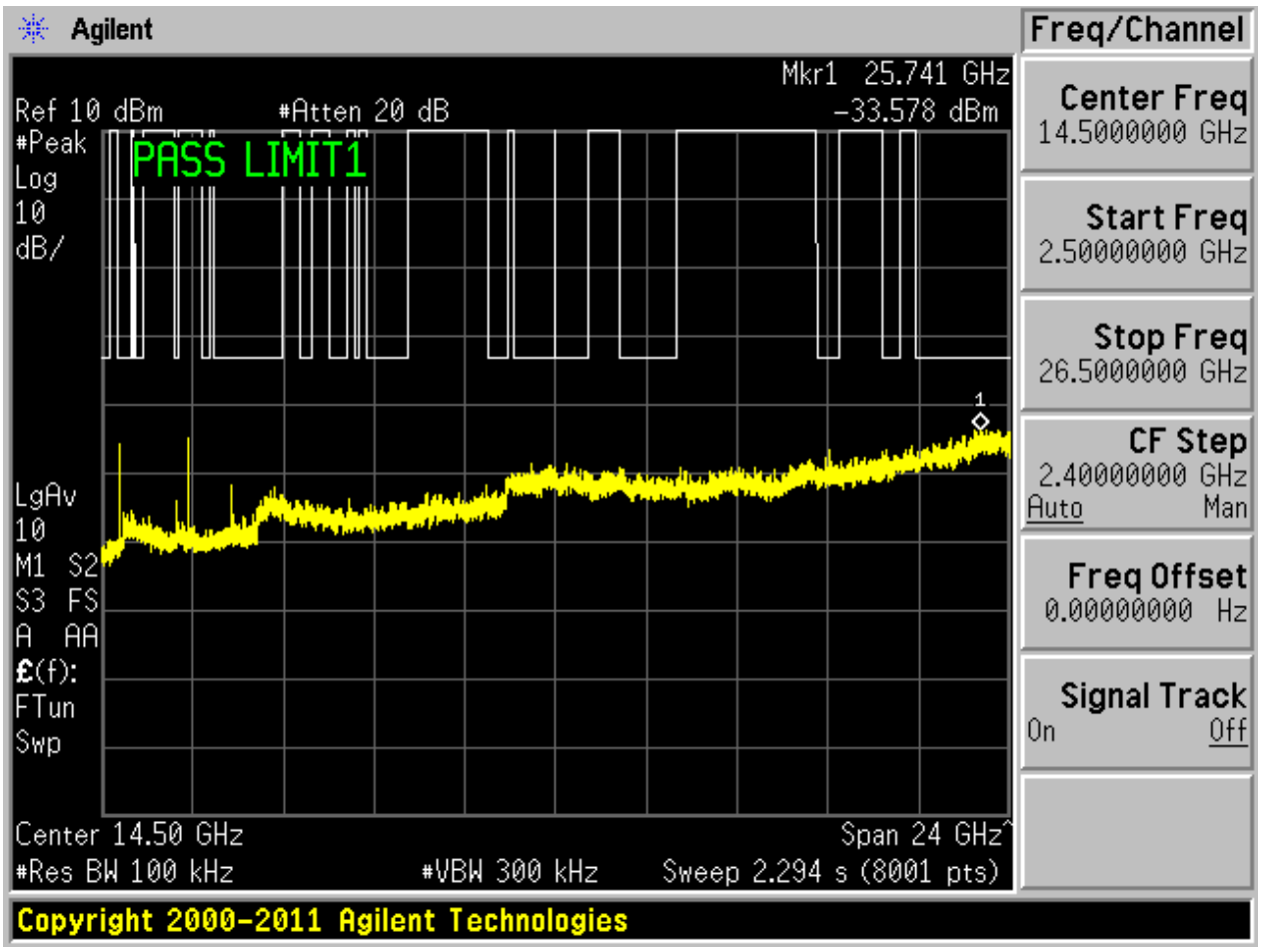
2.1.2 Puw





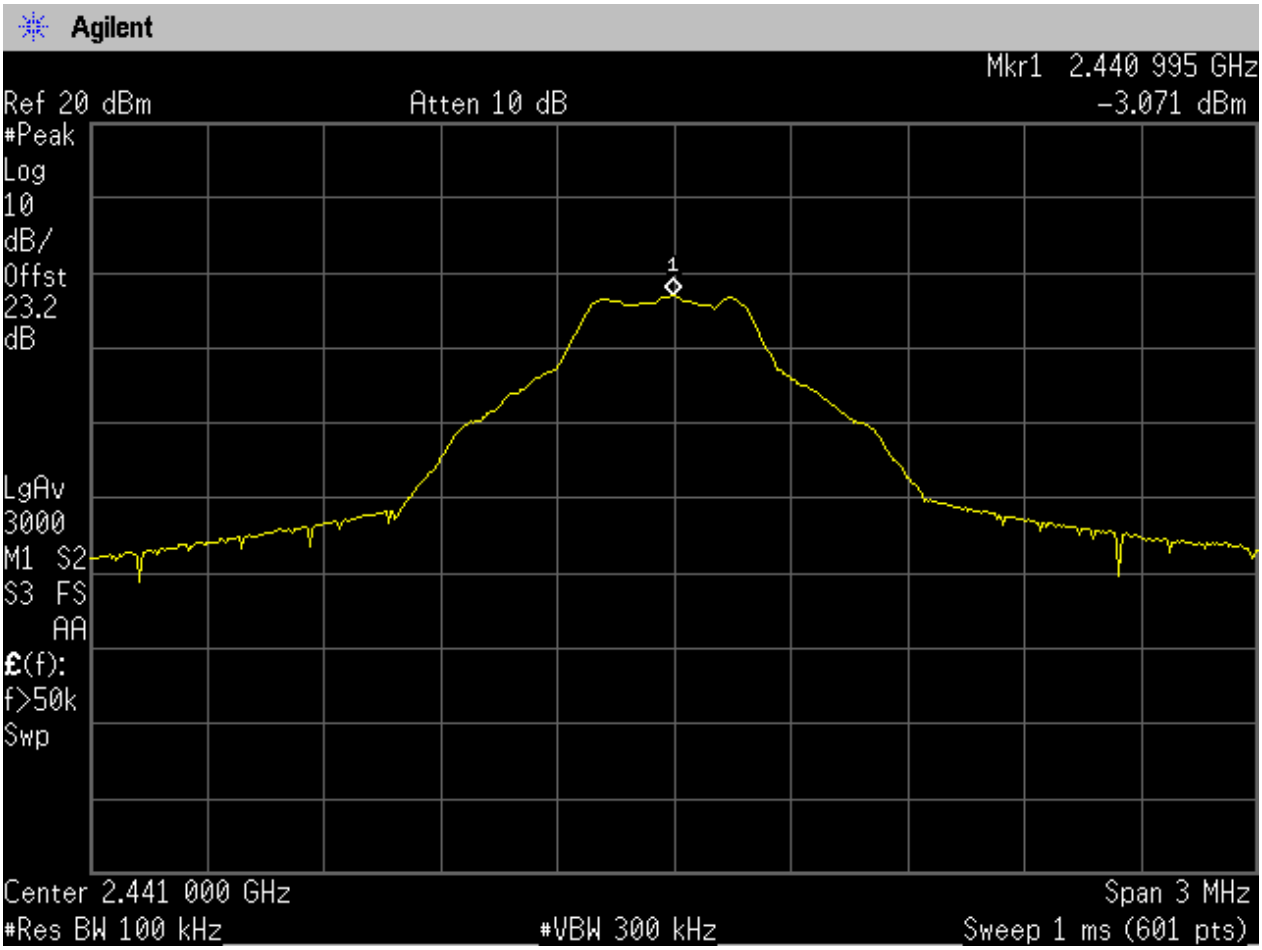




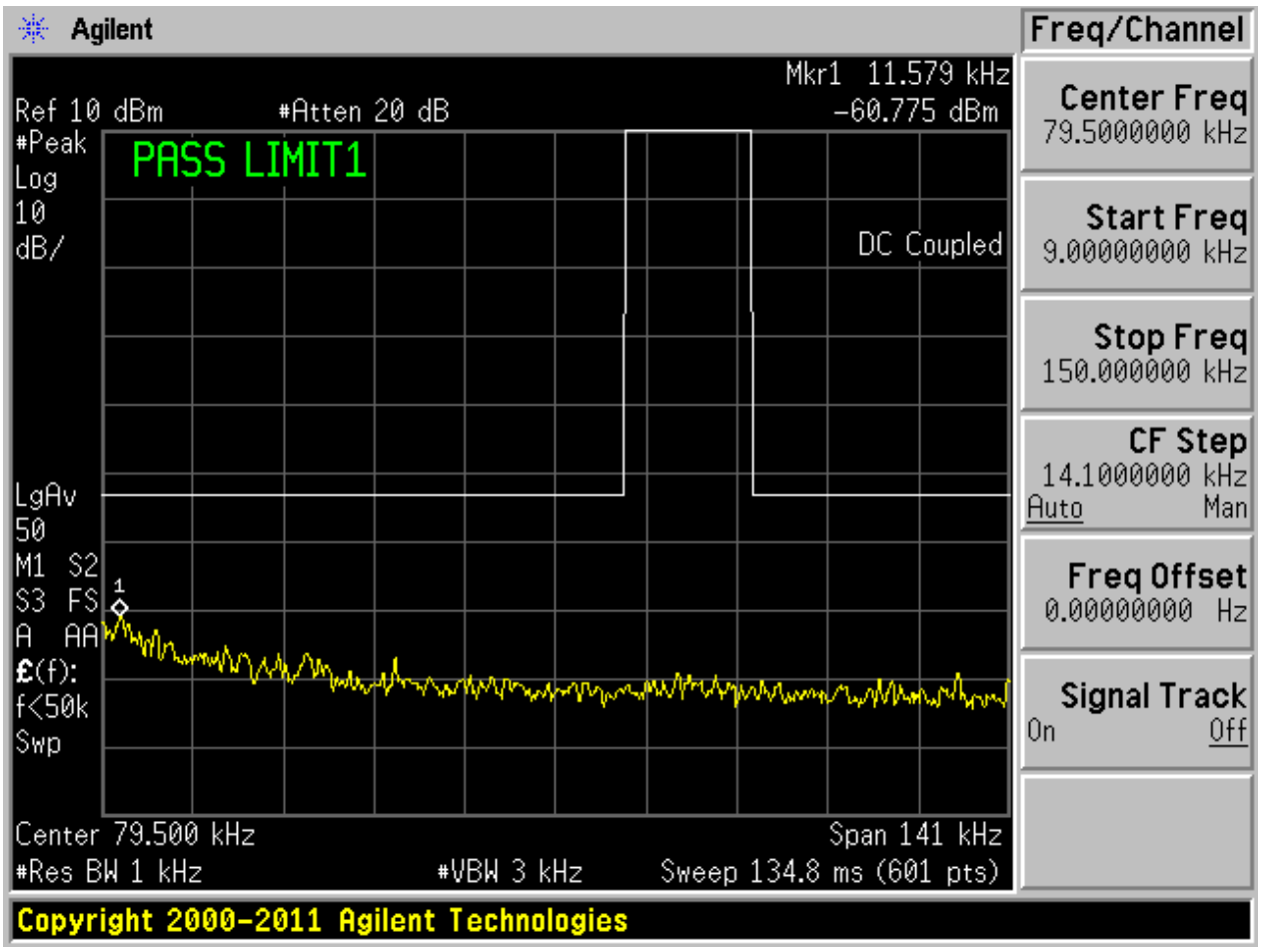


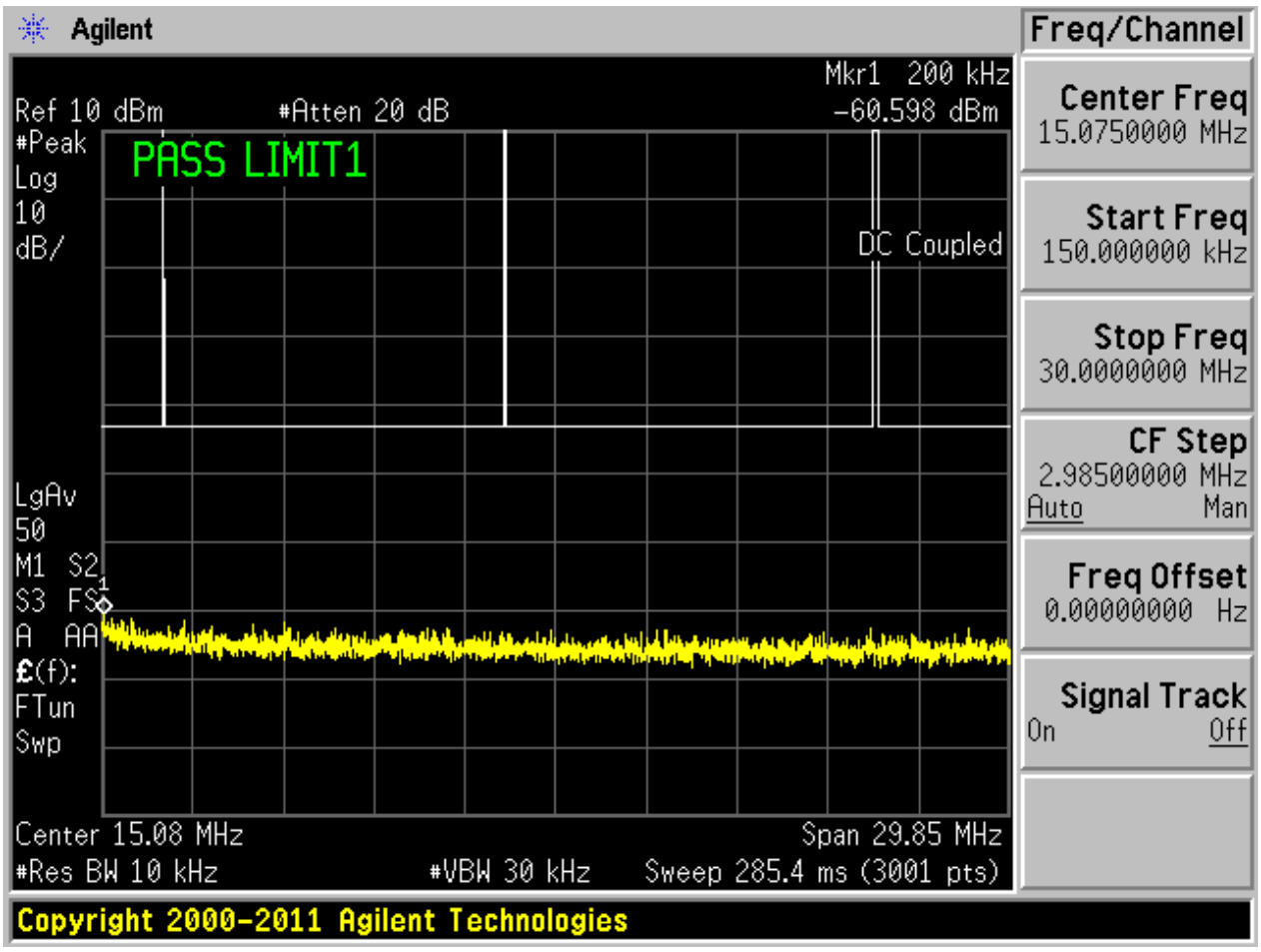
2.2 TM1_DH5_Ch39

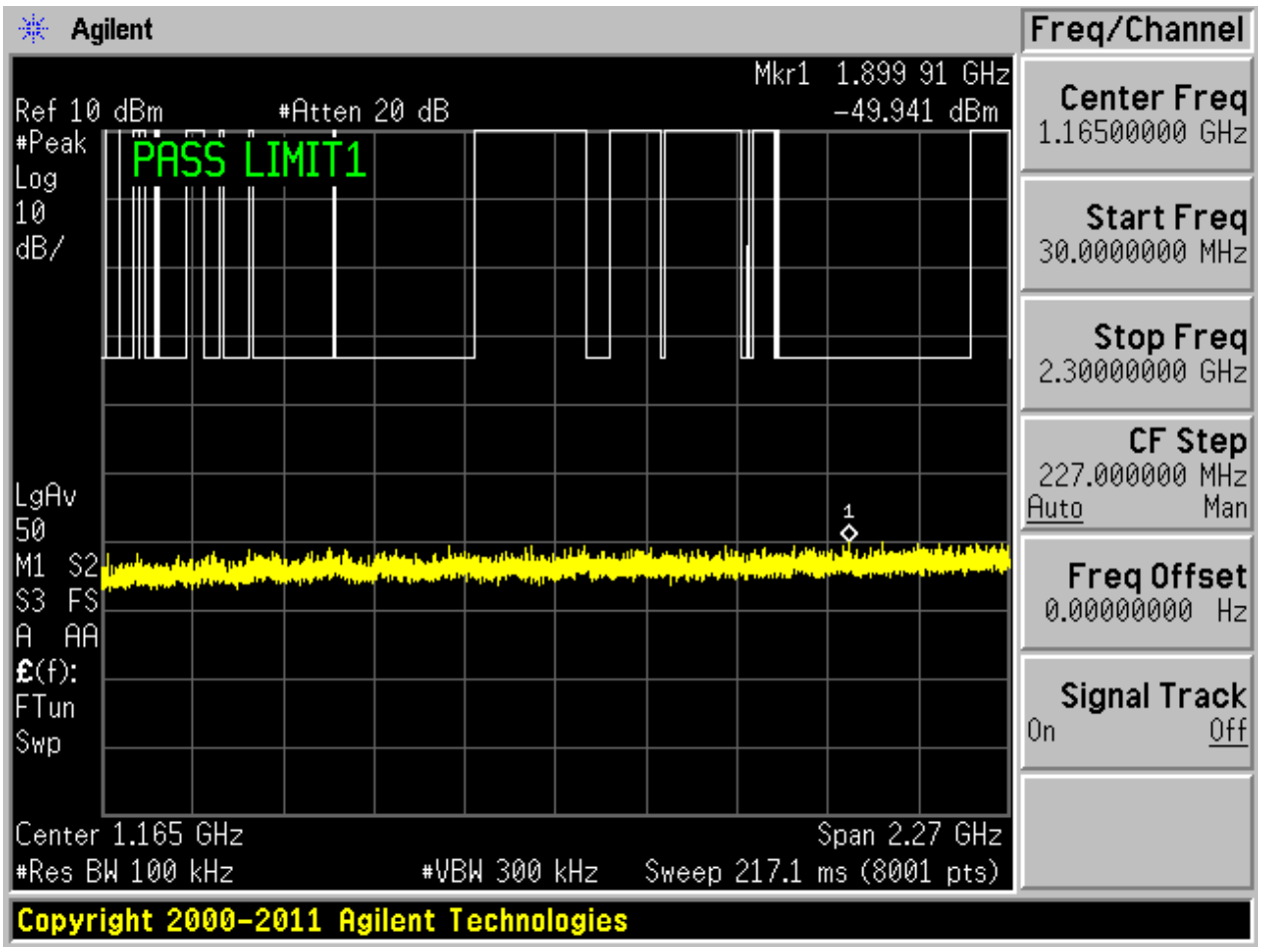
2.2.1 Pref

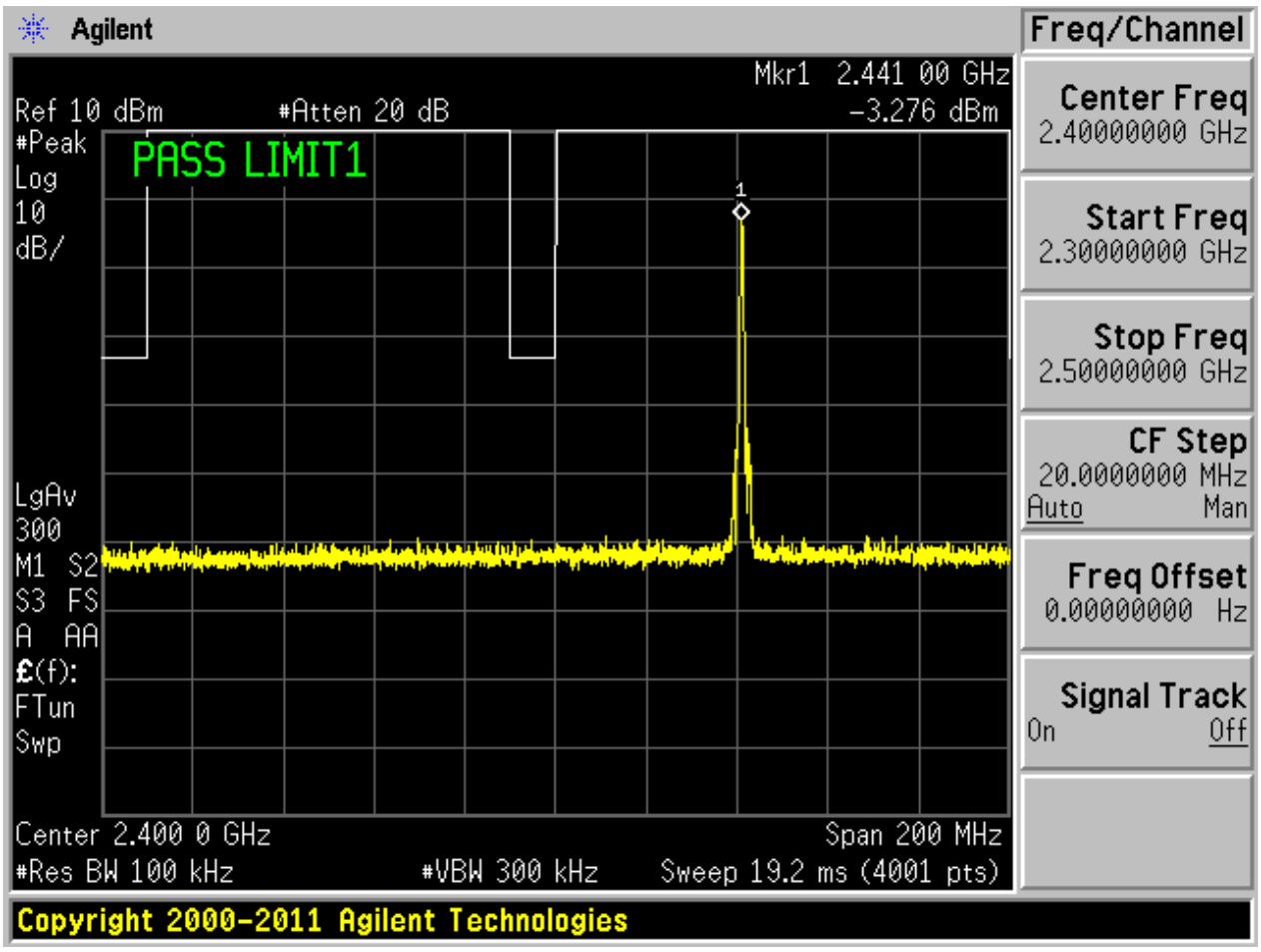


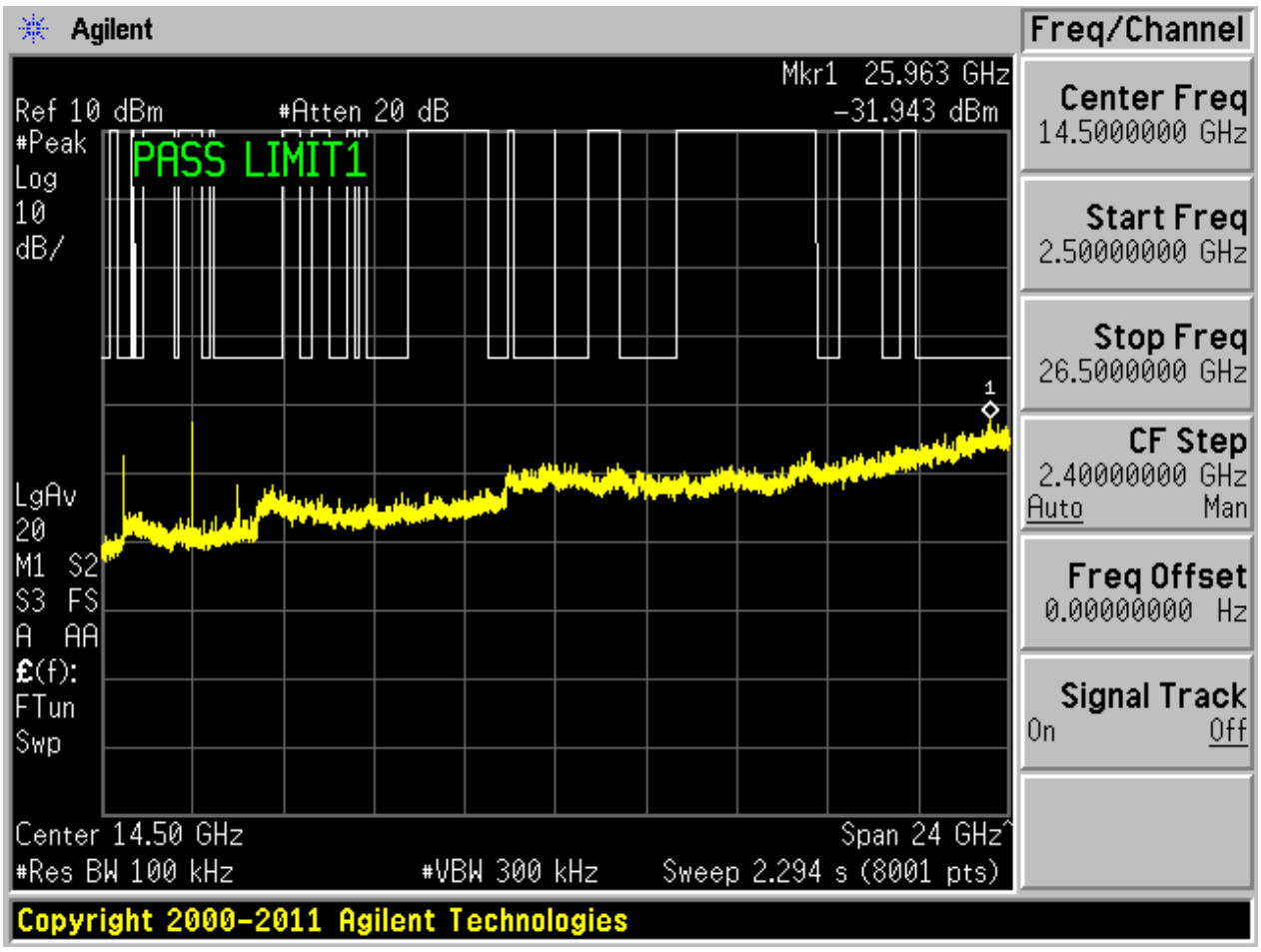
2.2.2 Puw





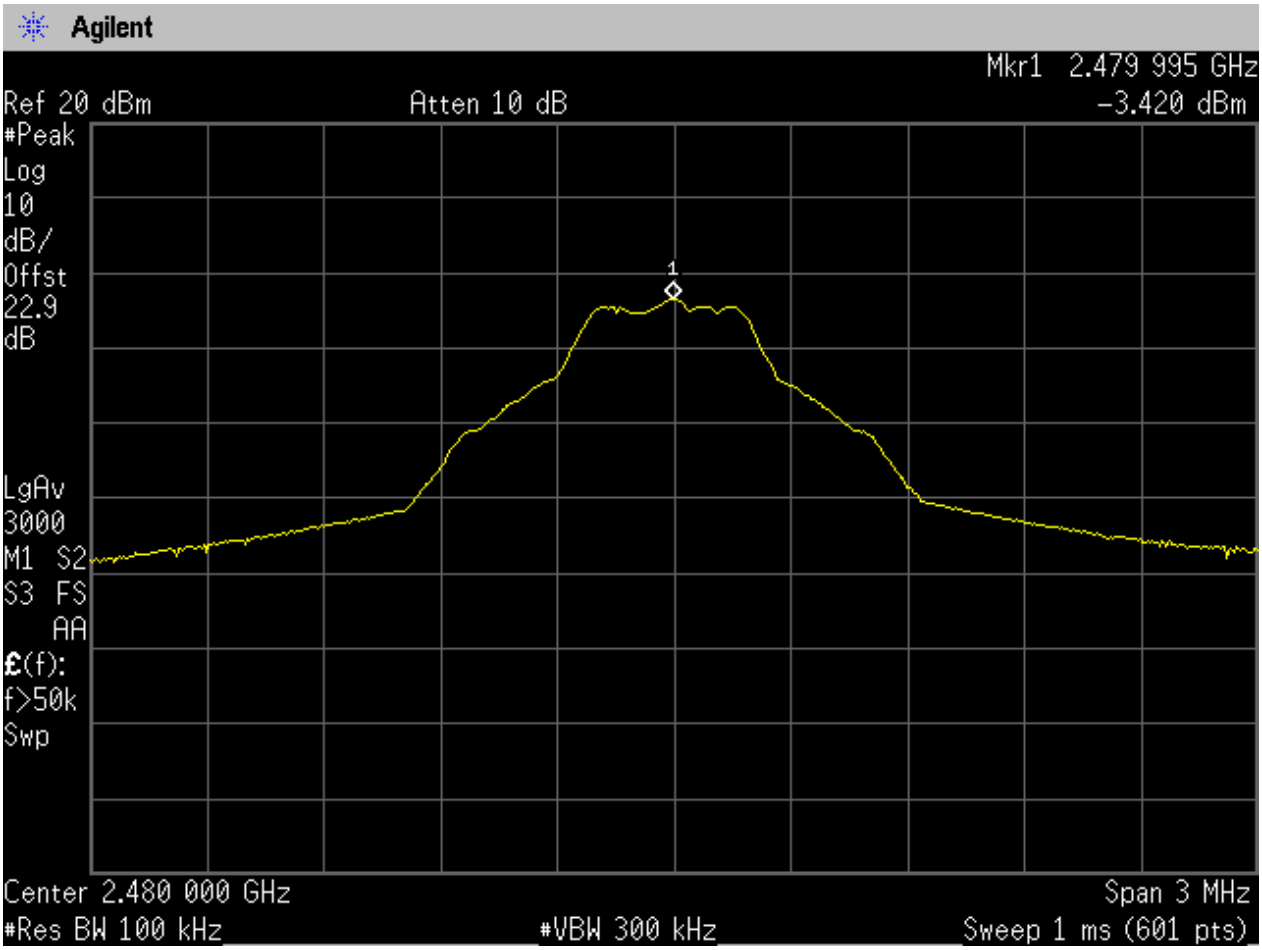




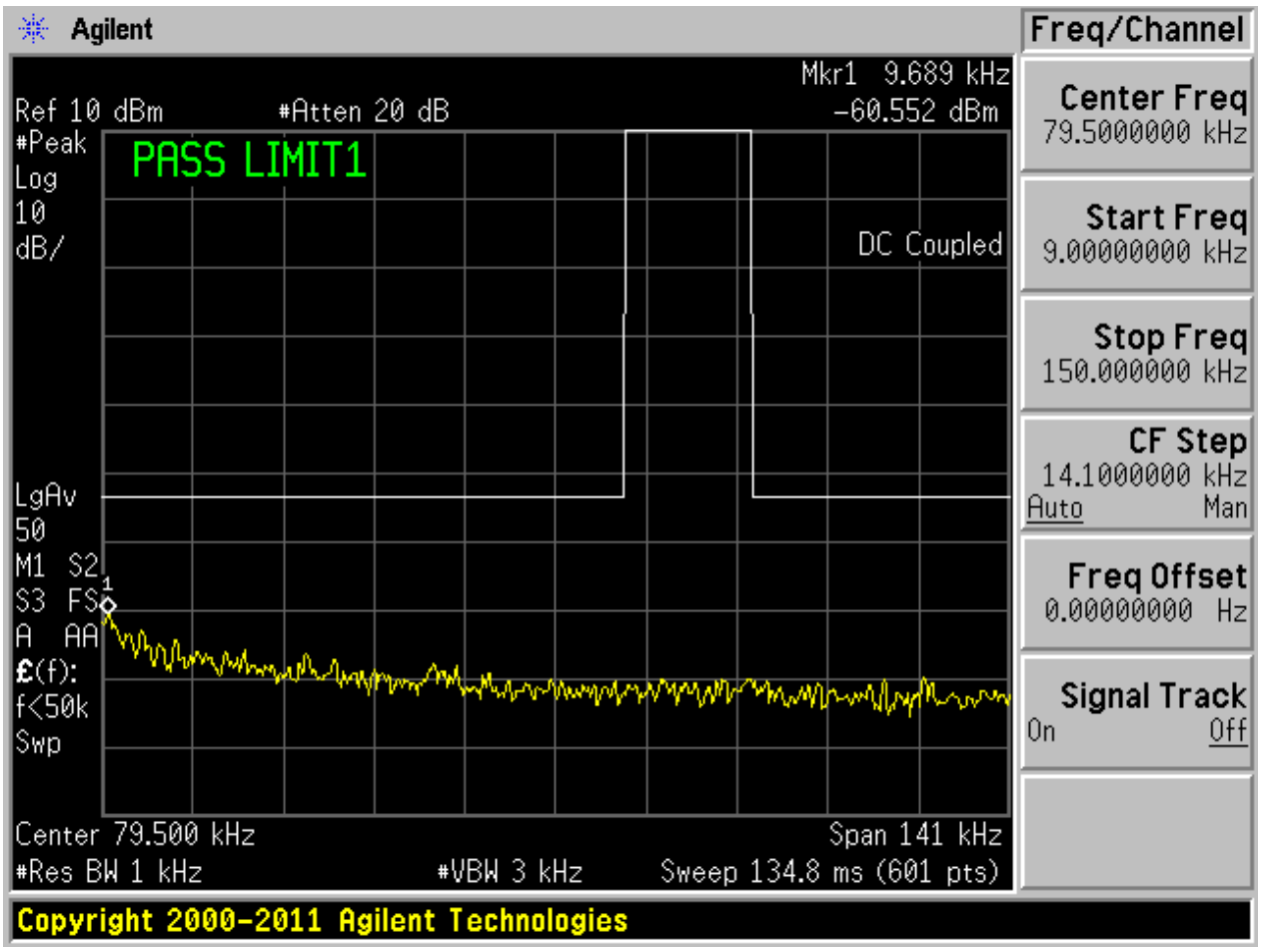


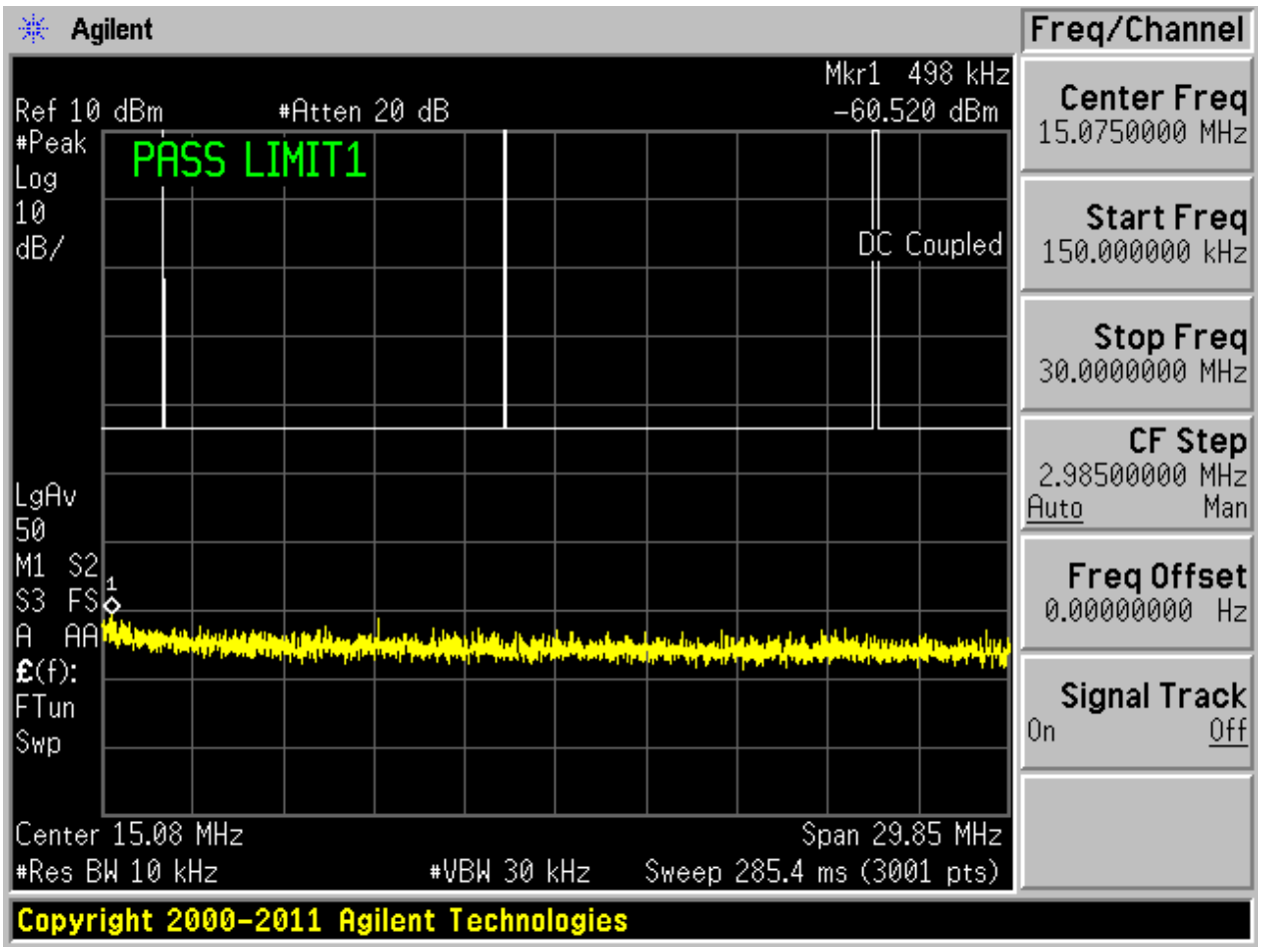
2.3 TM1_DH5_Ch78

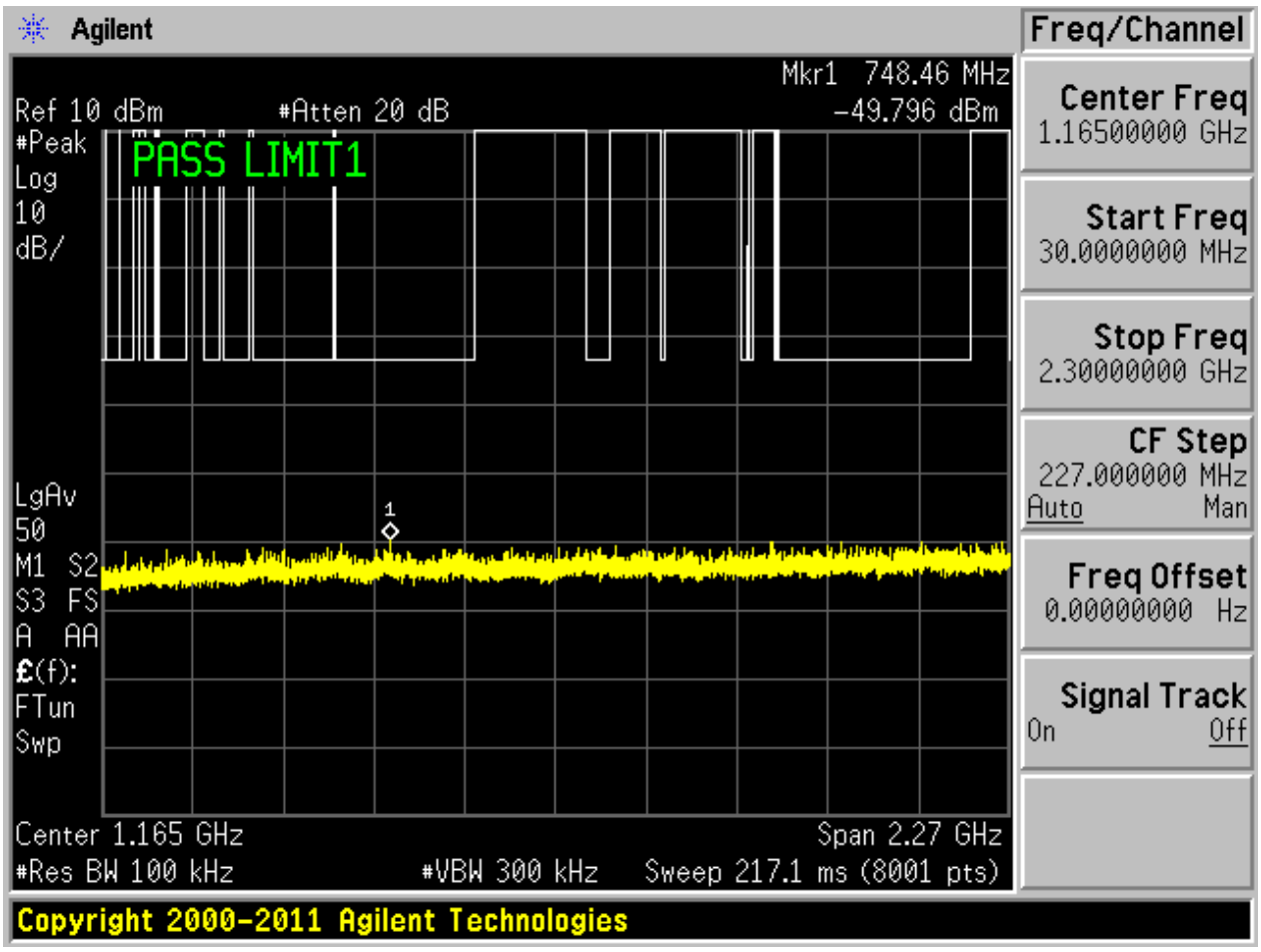
2.3.1 Pref

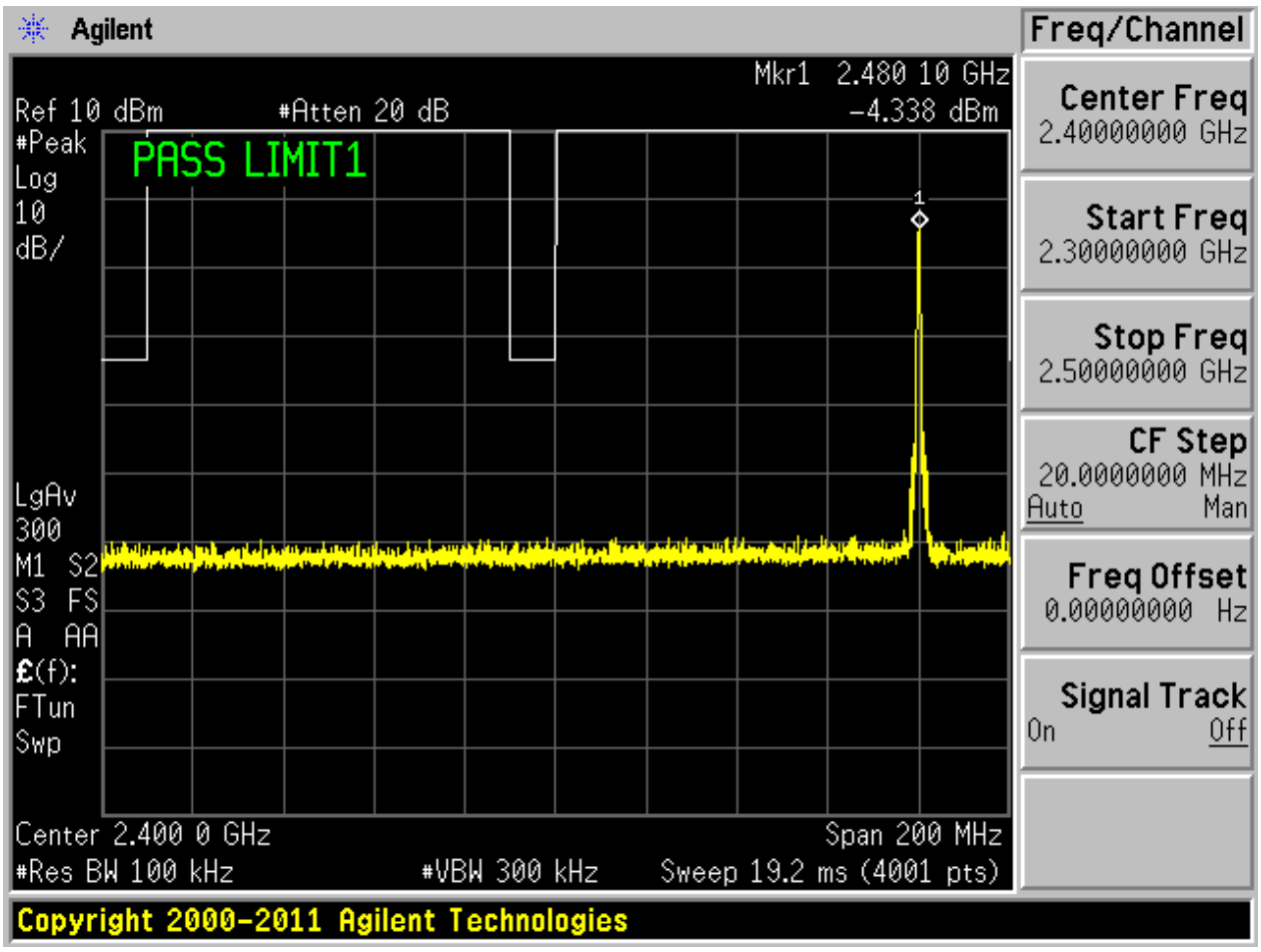


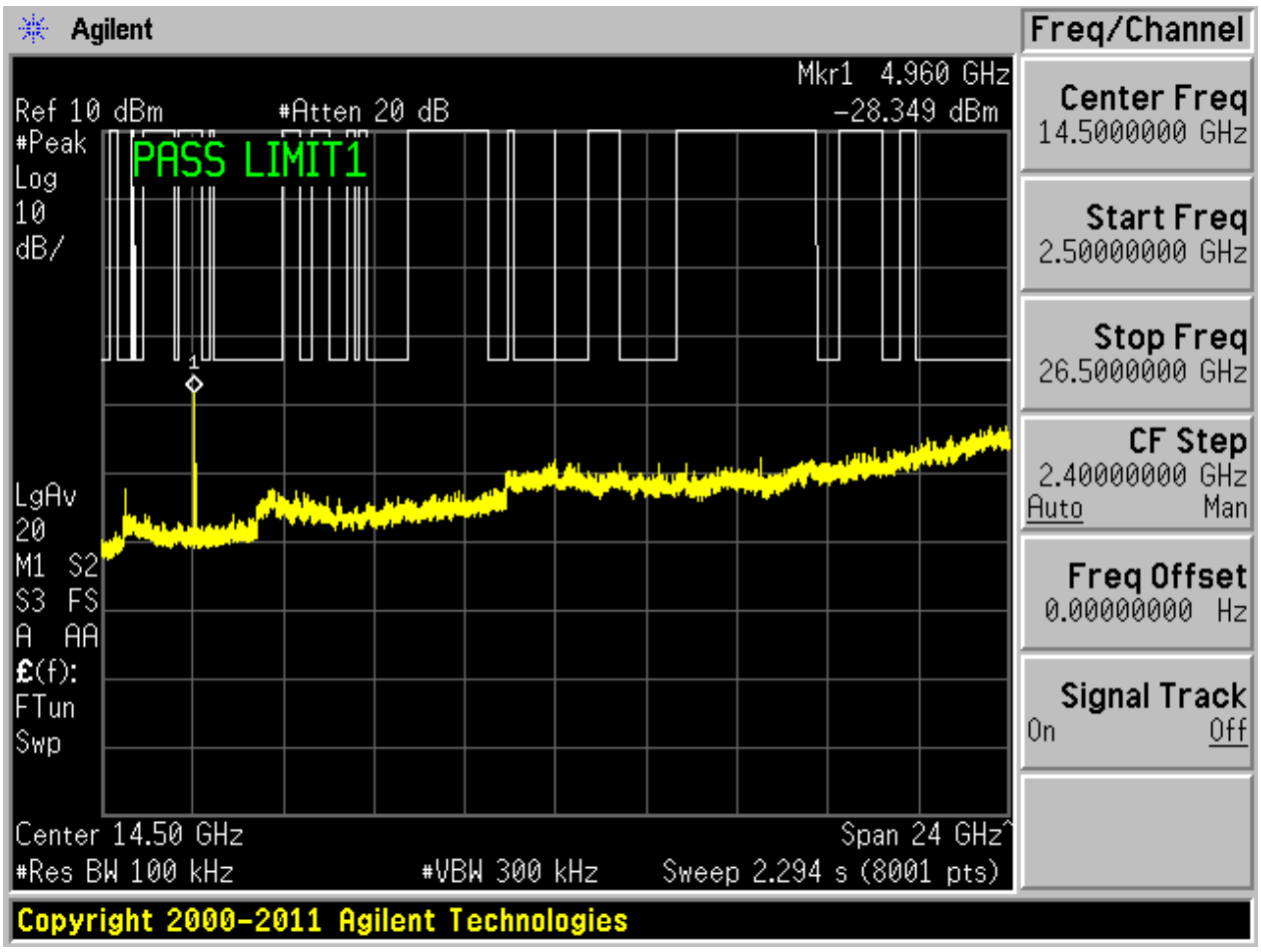
2.3.2 Puw





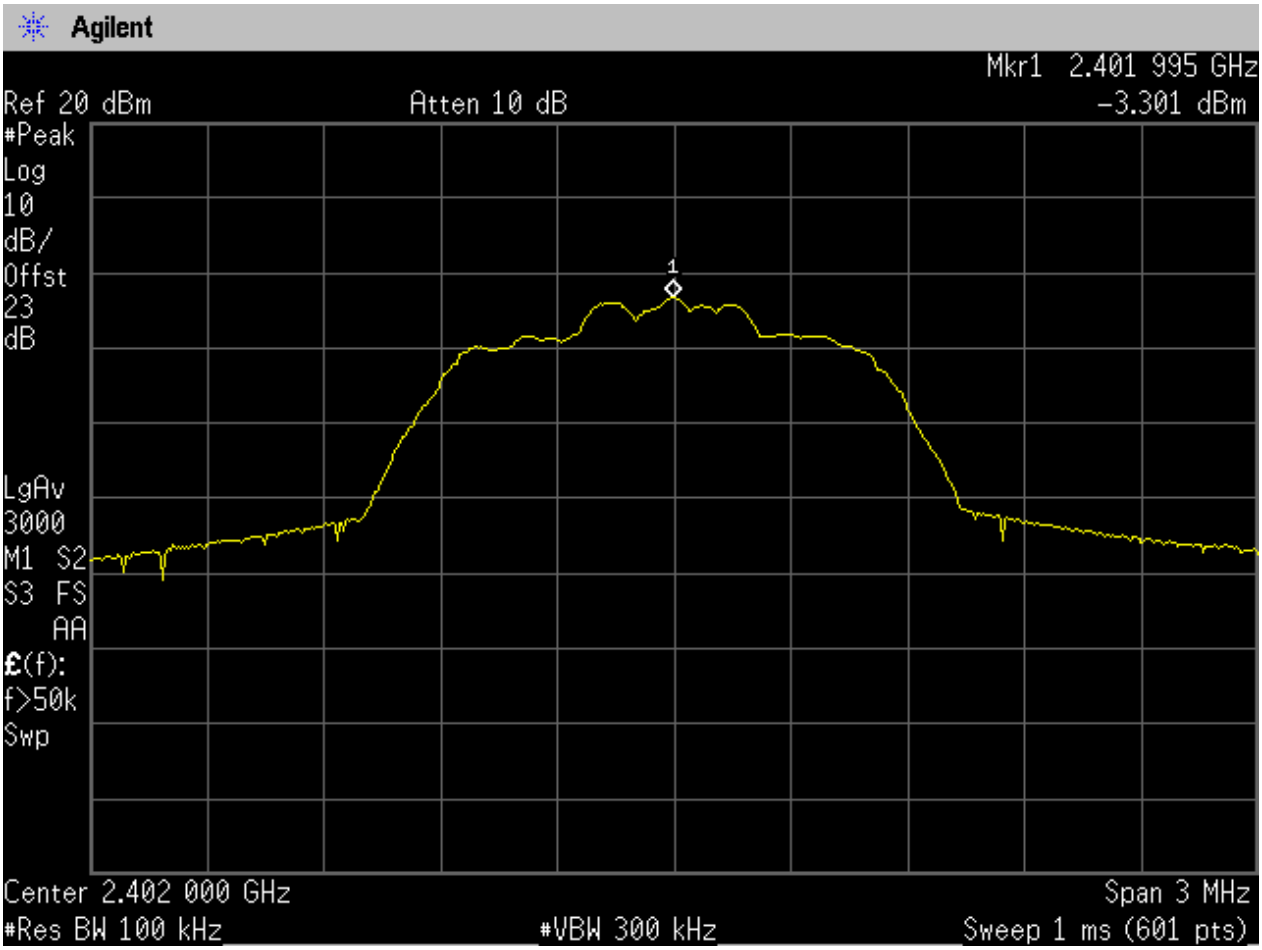




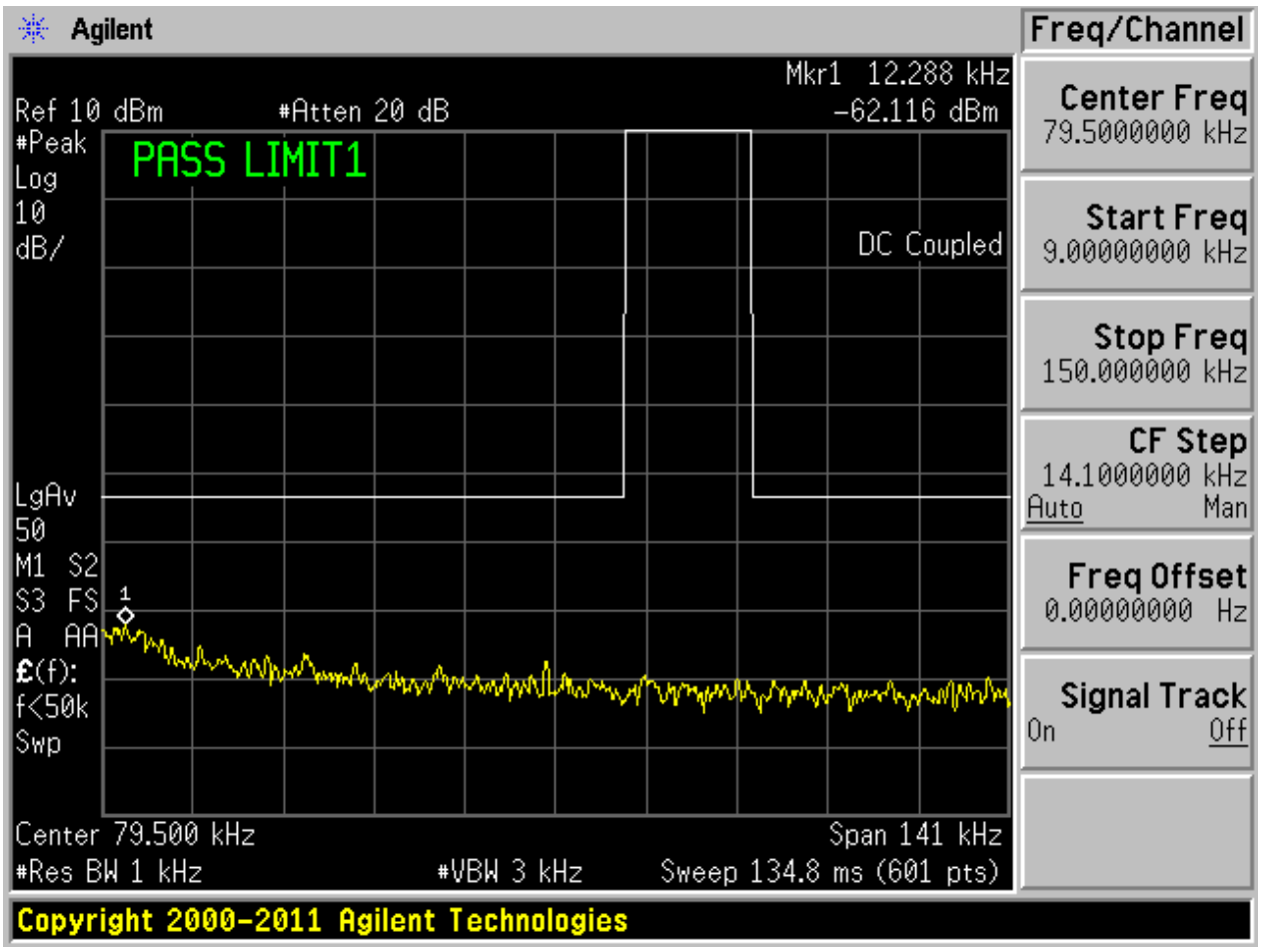


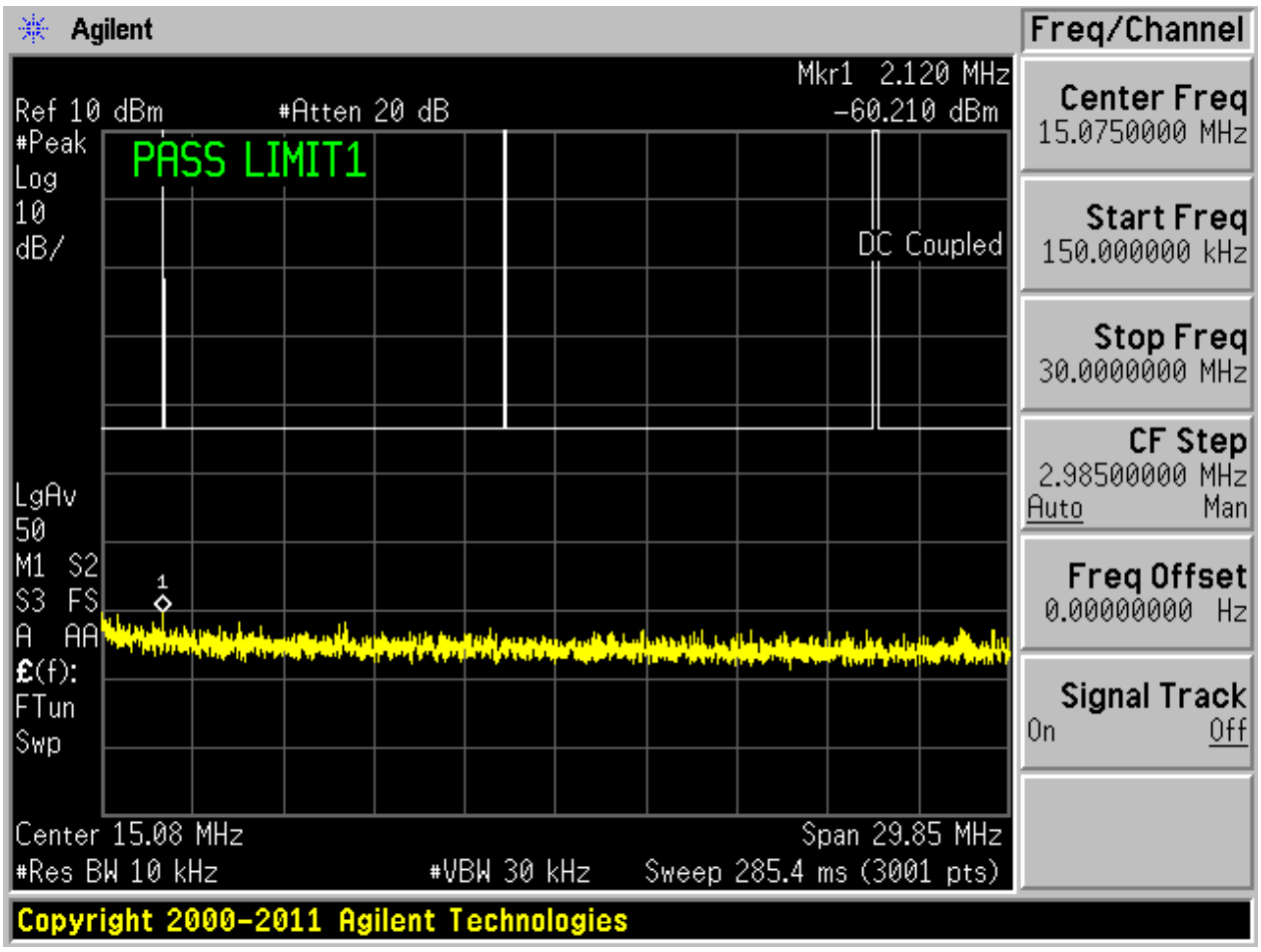
2.4 TM2_DH5_Ch0

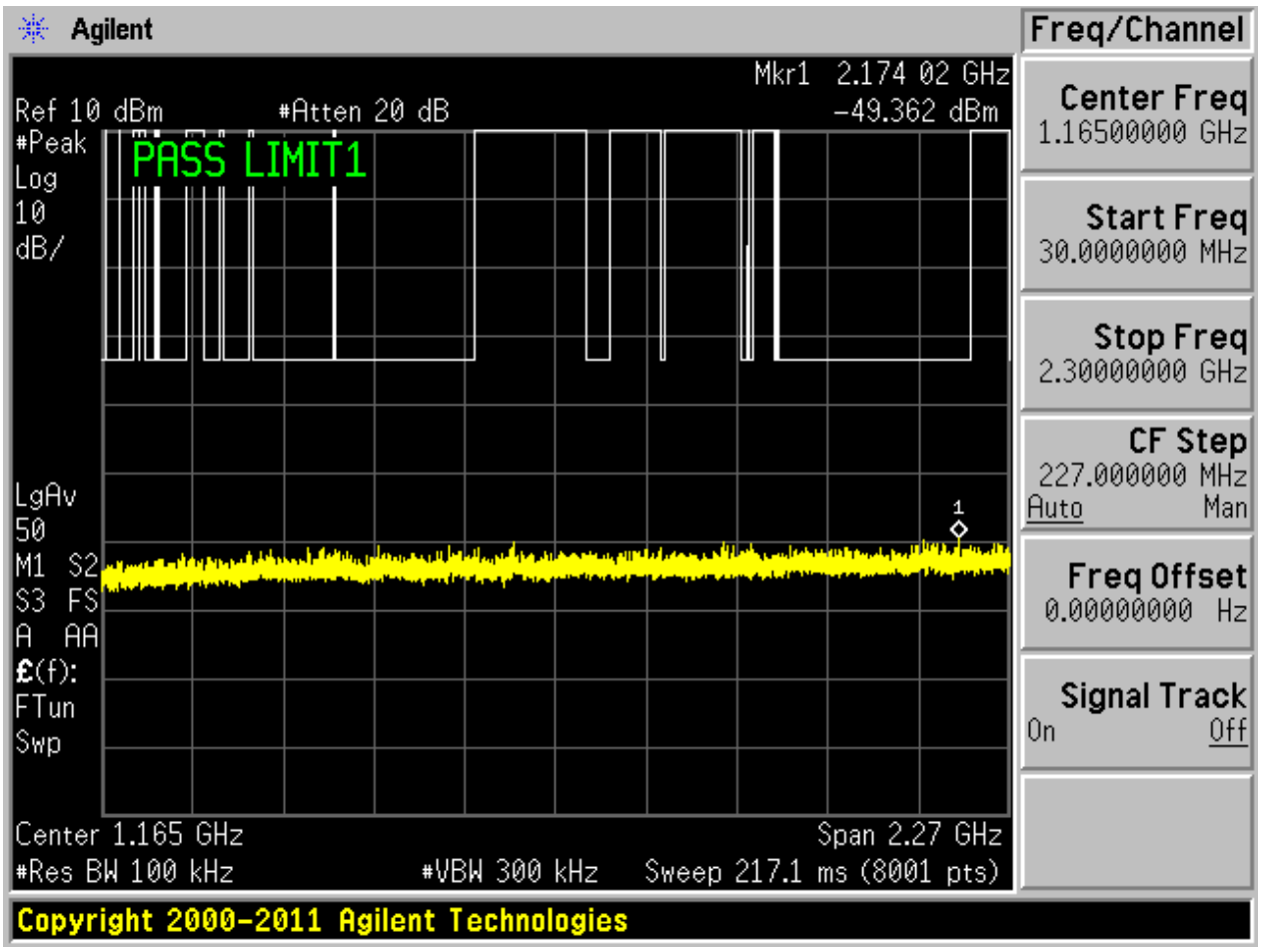
2.4.1 Pref

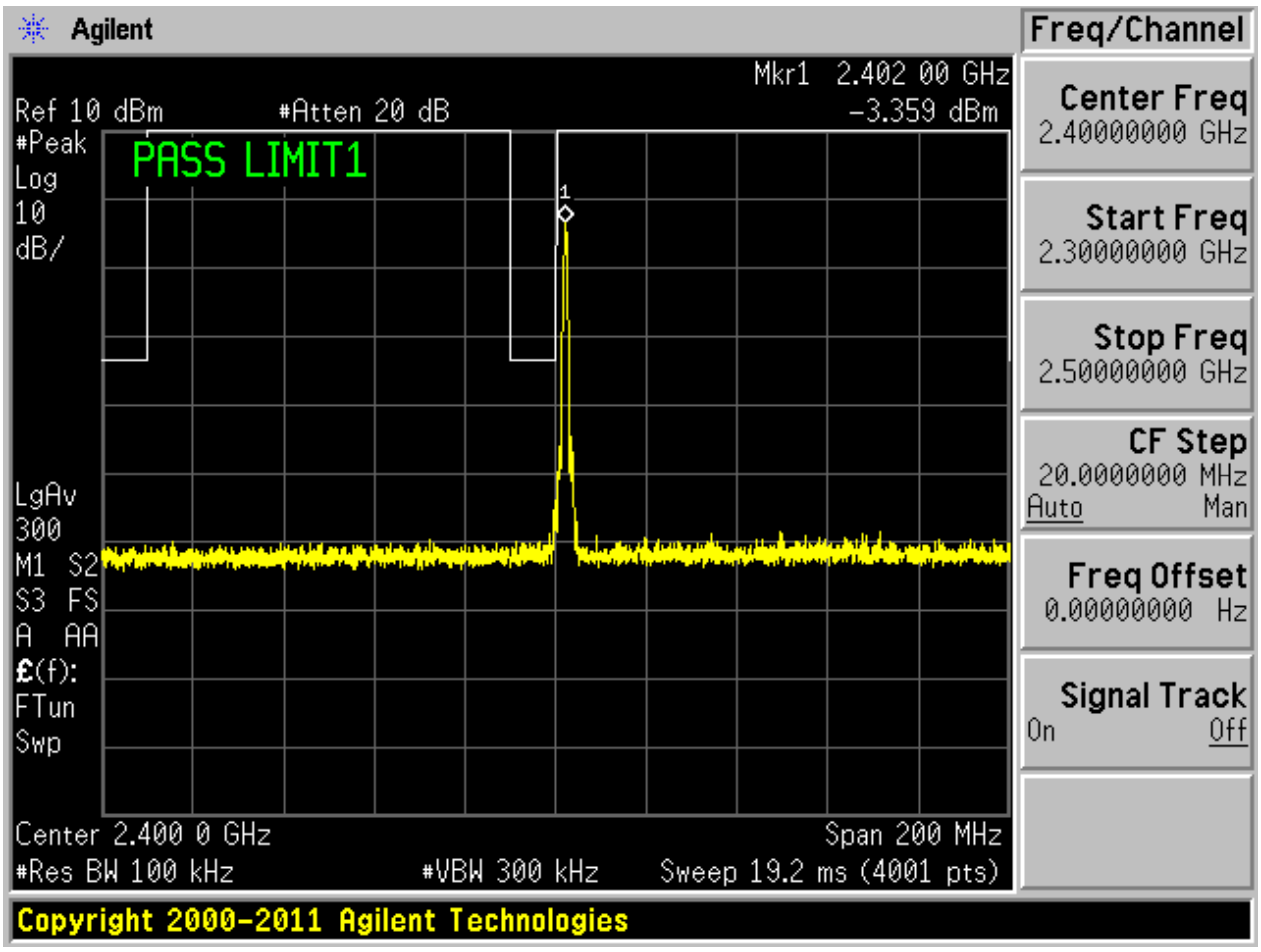


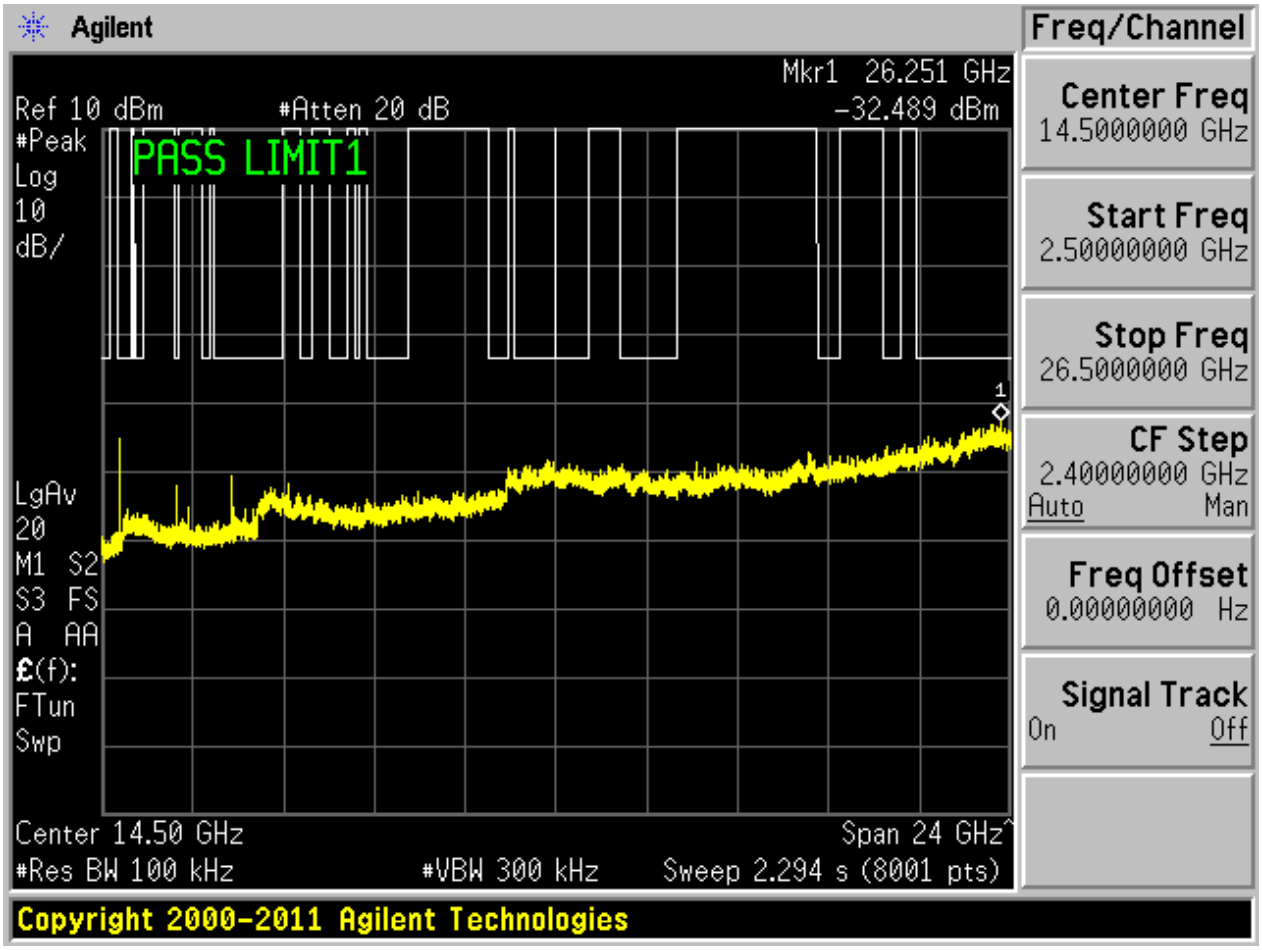
2.4.2 Puw





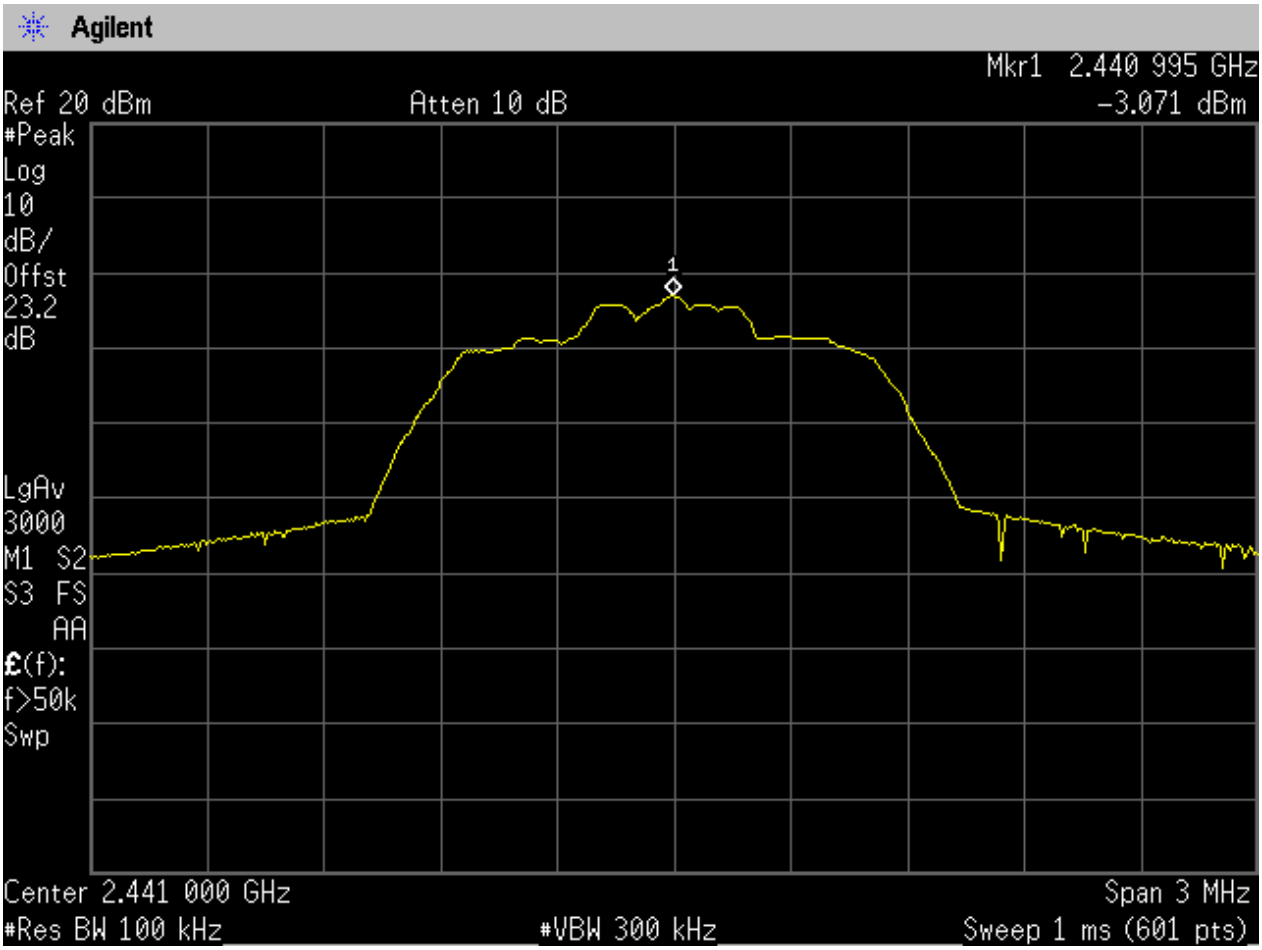




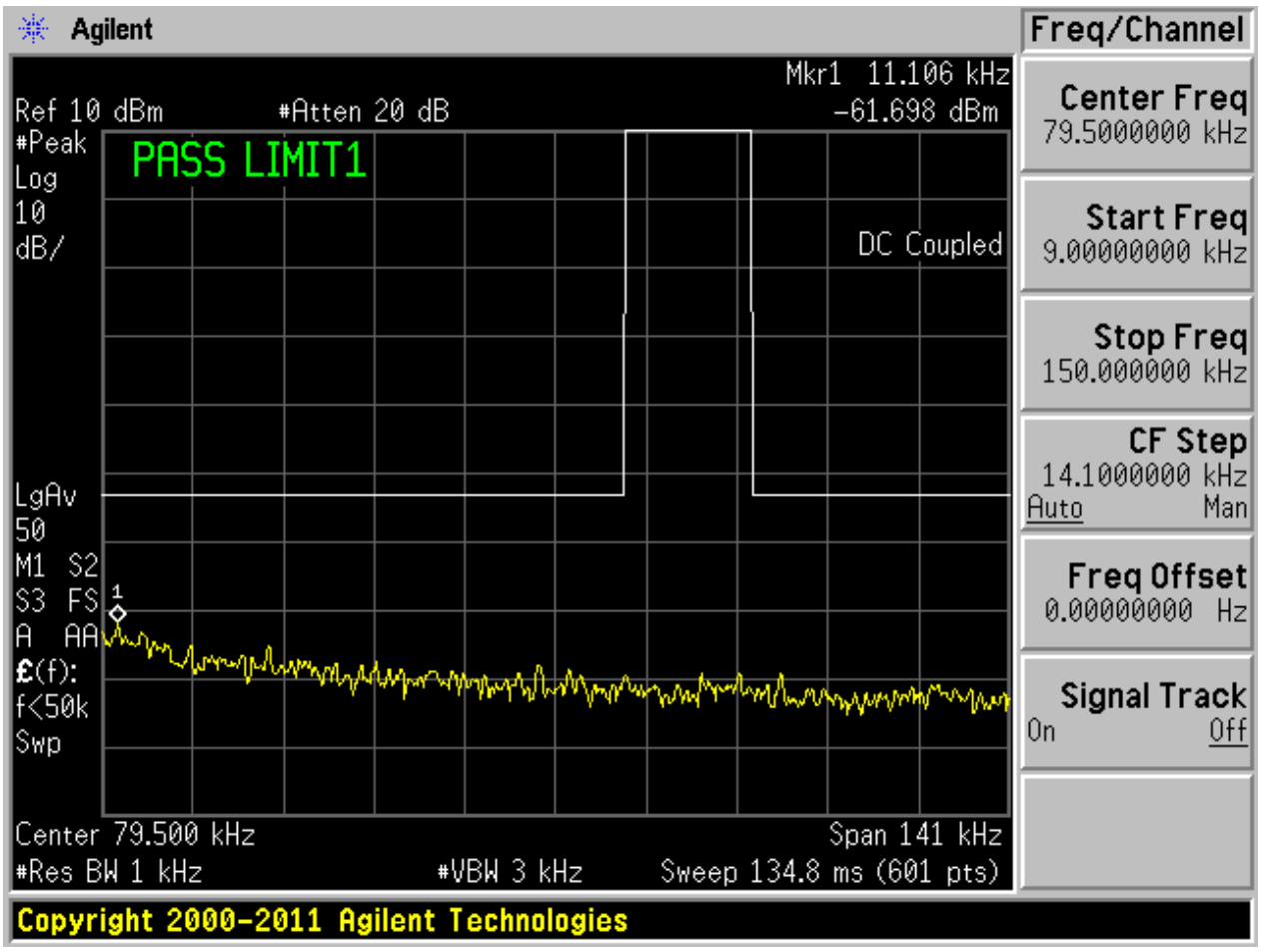


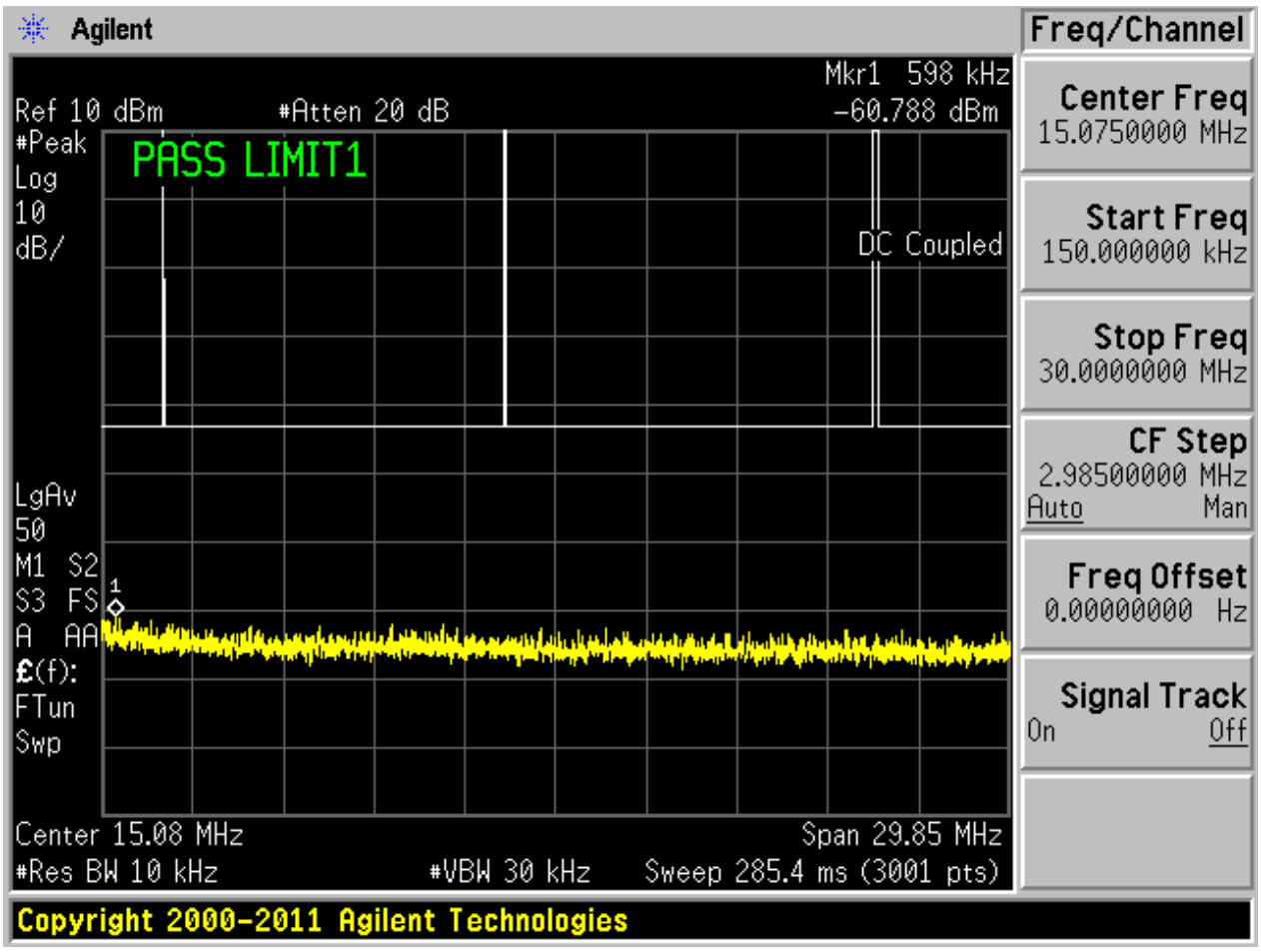
2.5 TM2_DH5_Ch39

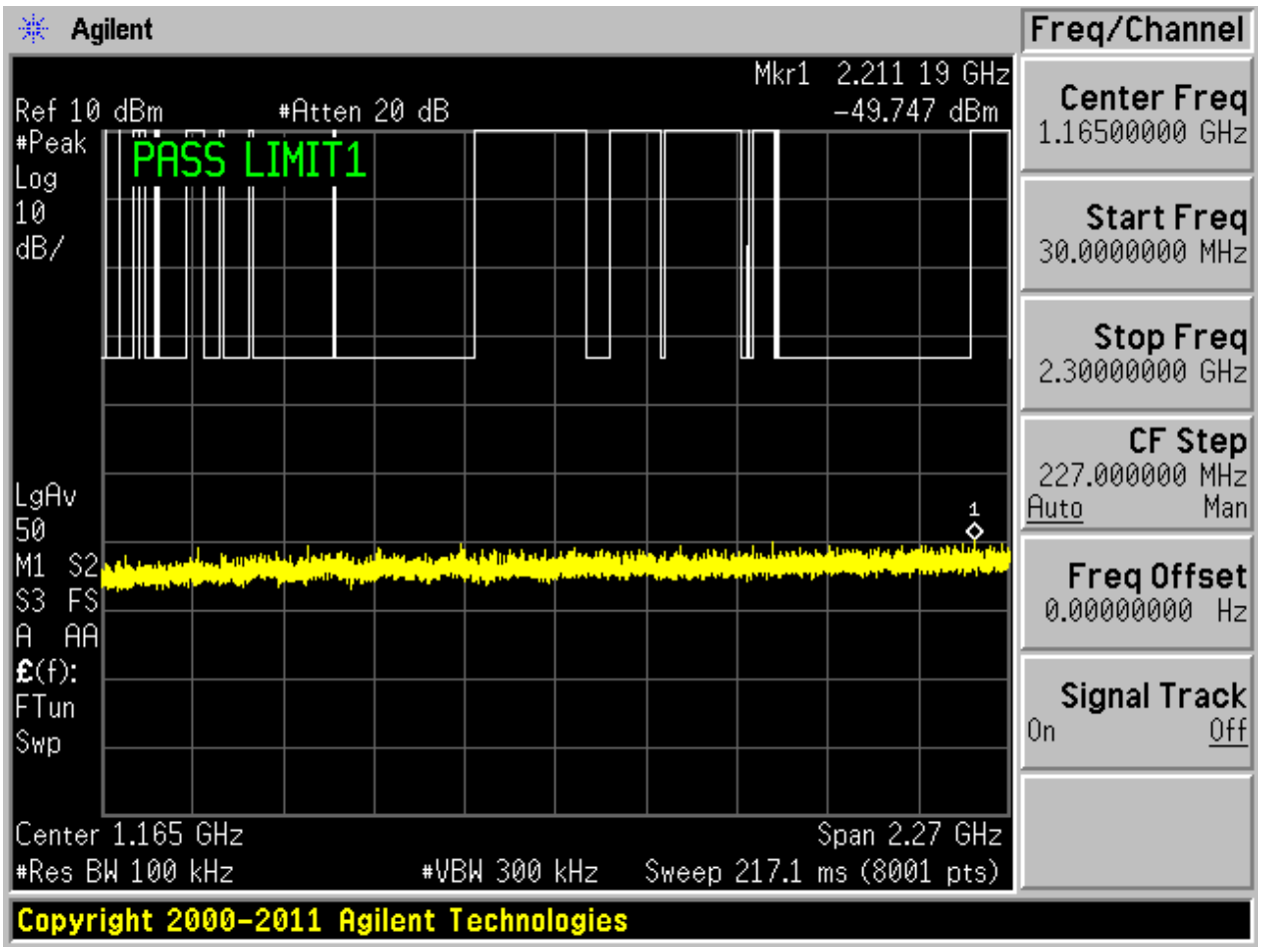
2.5.1 Pref

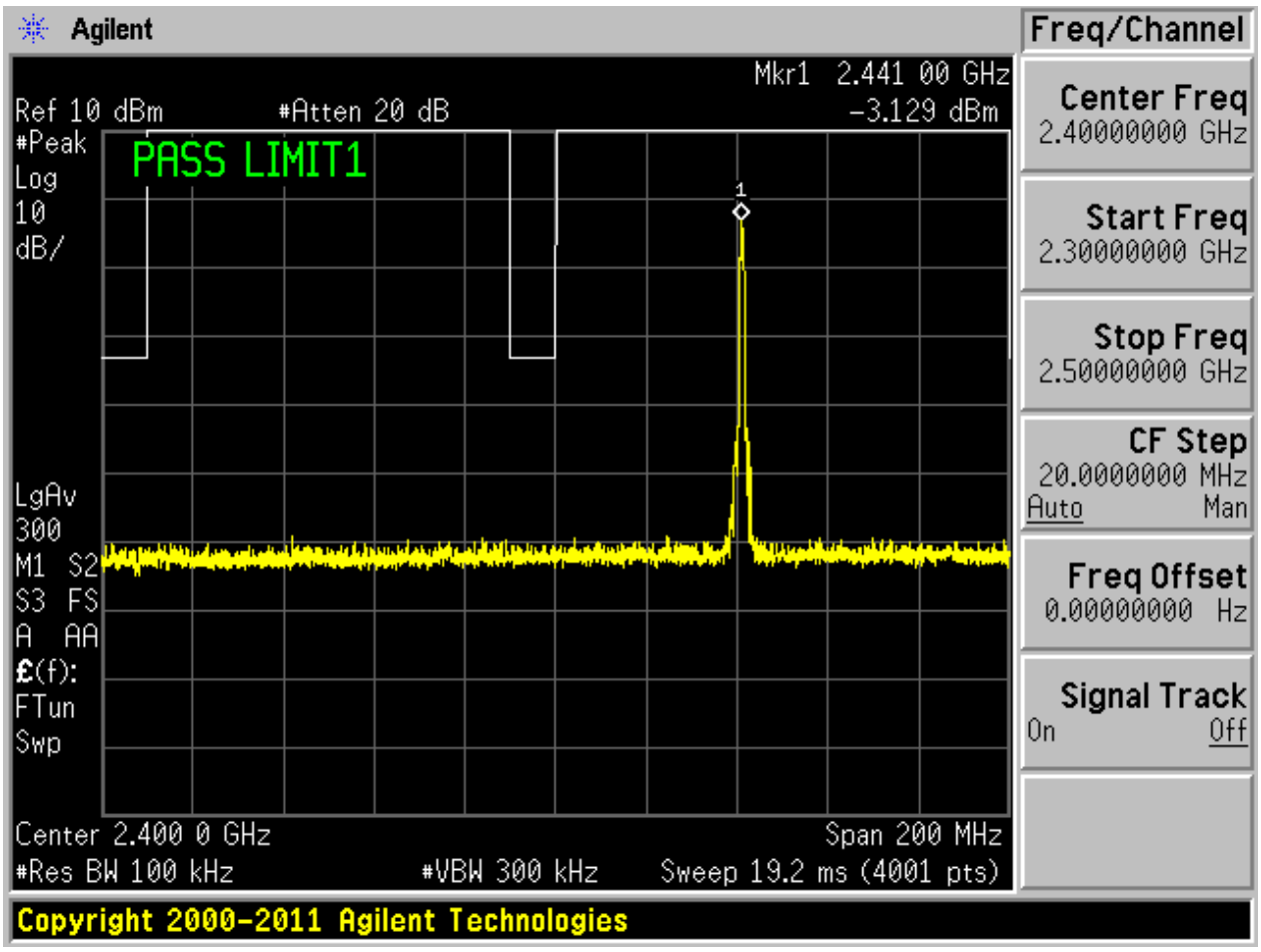


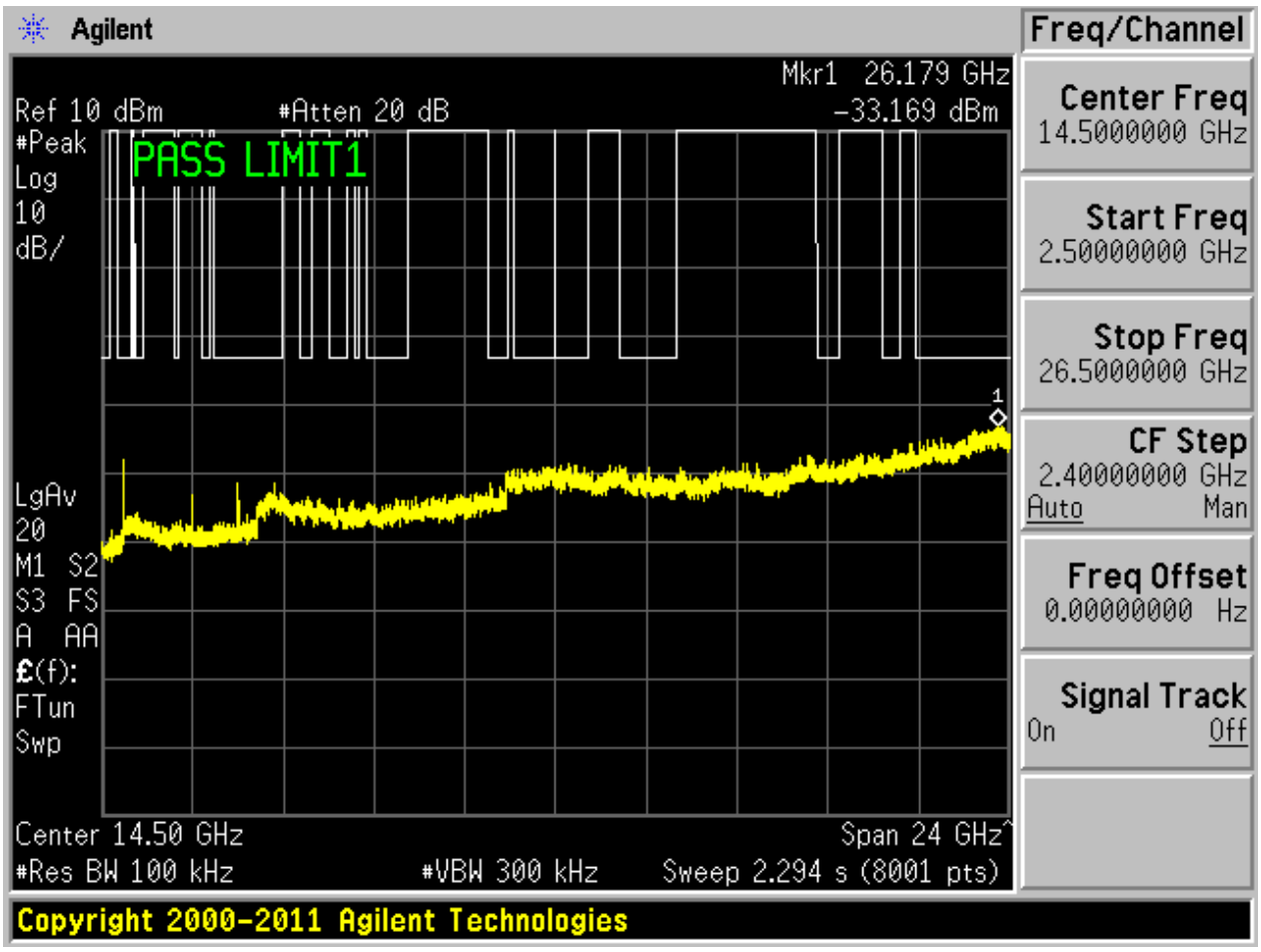
2.5.2 Puw





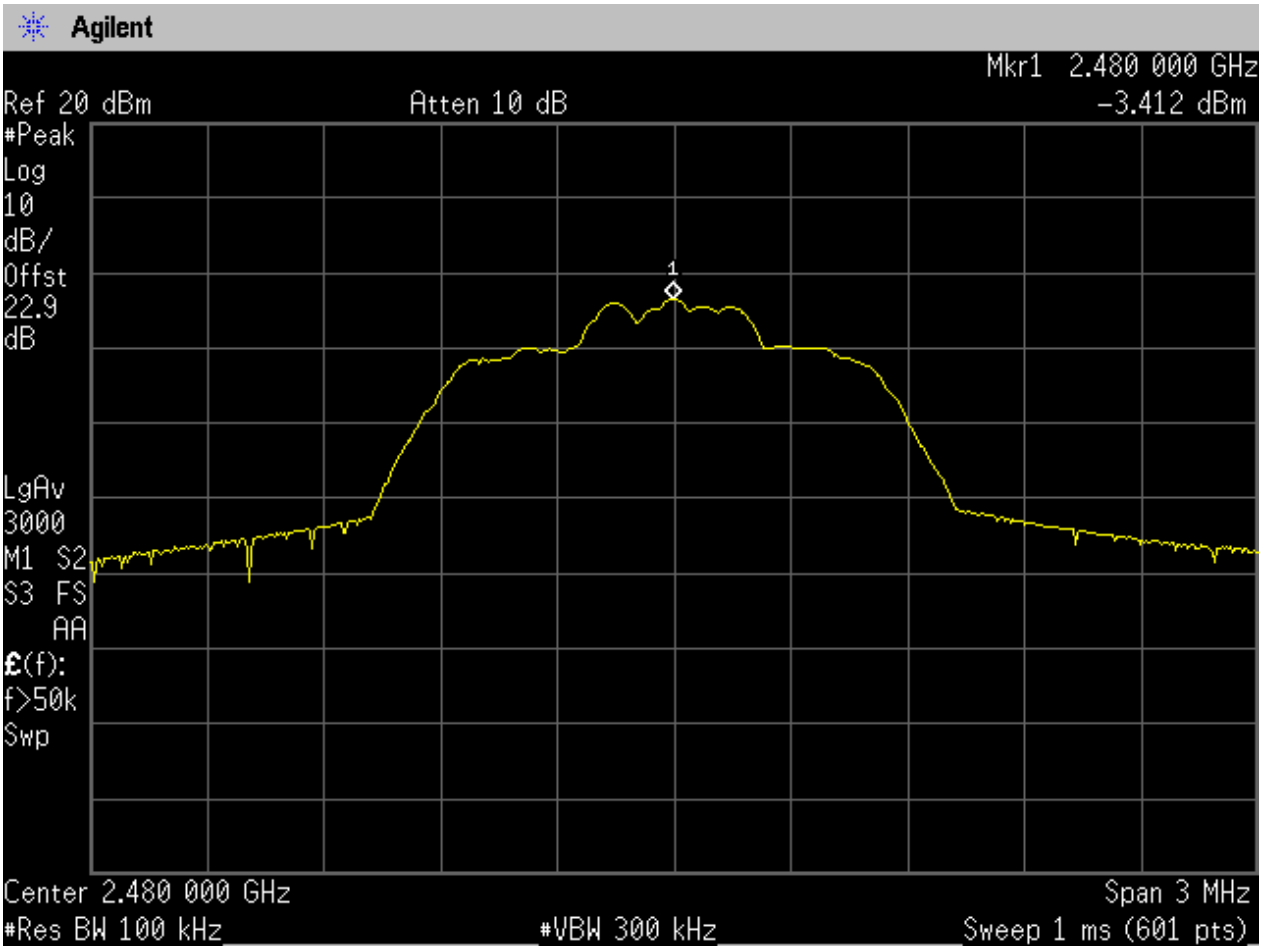




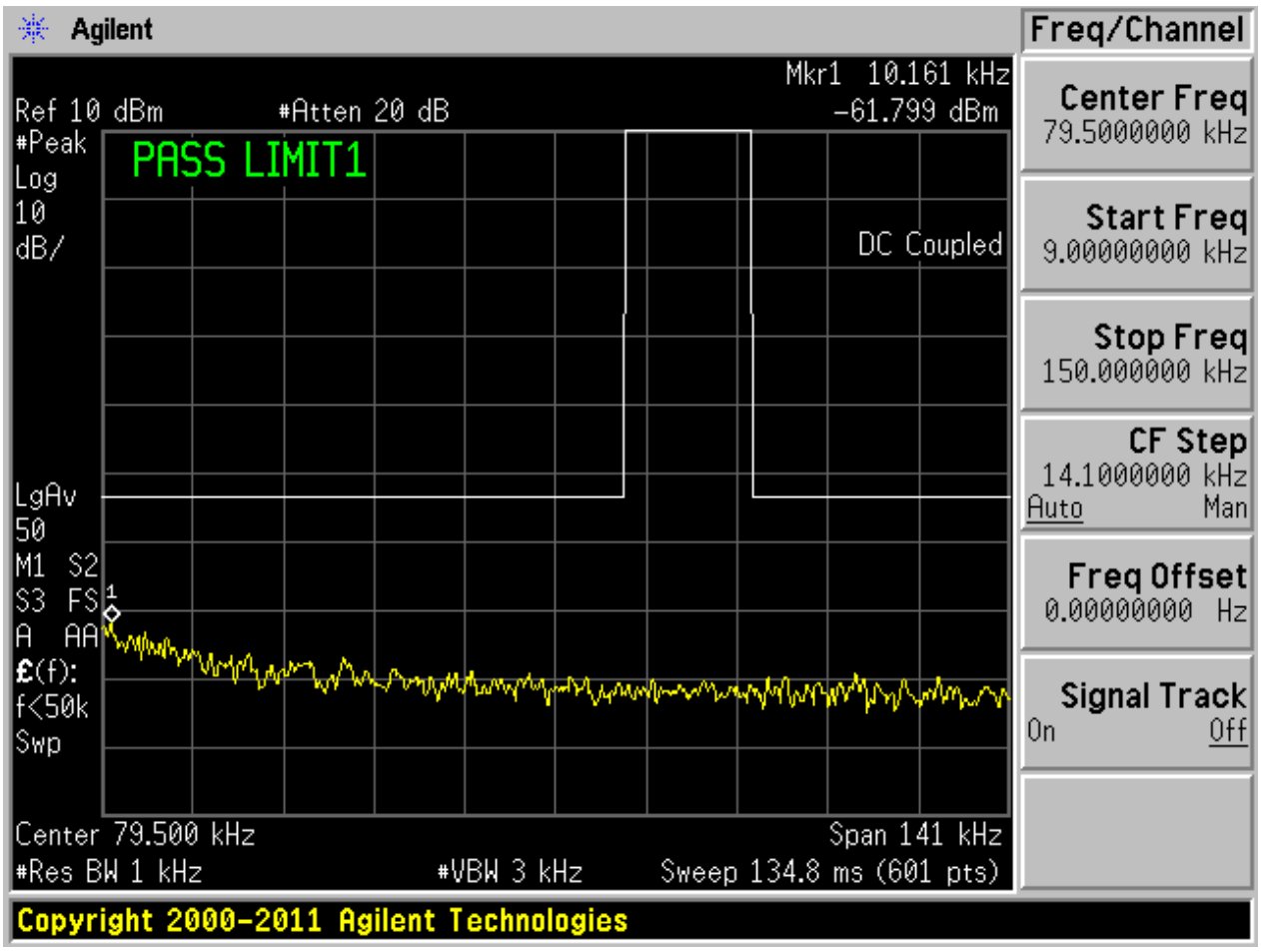


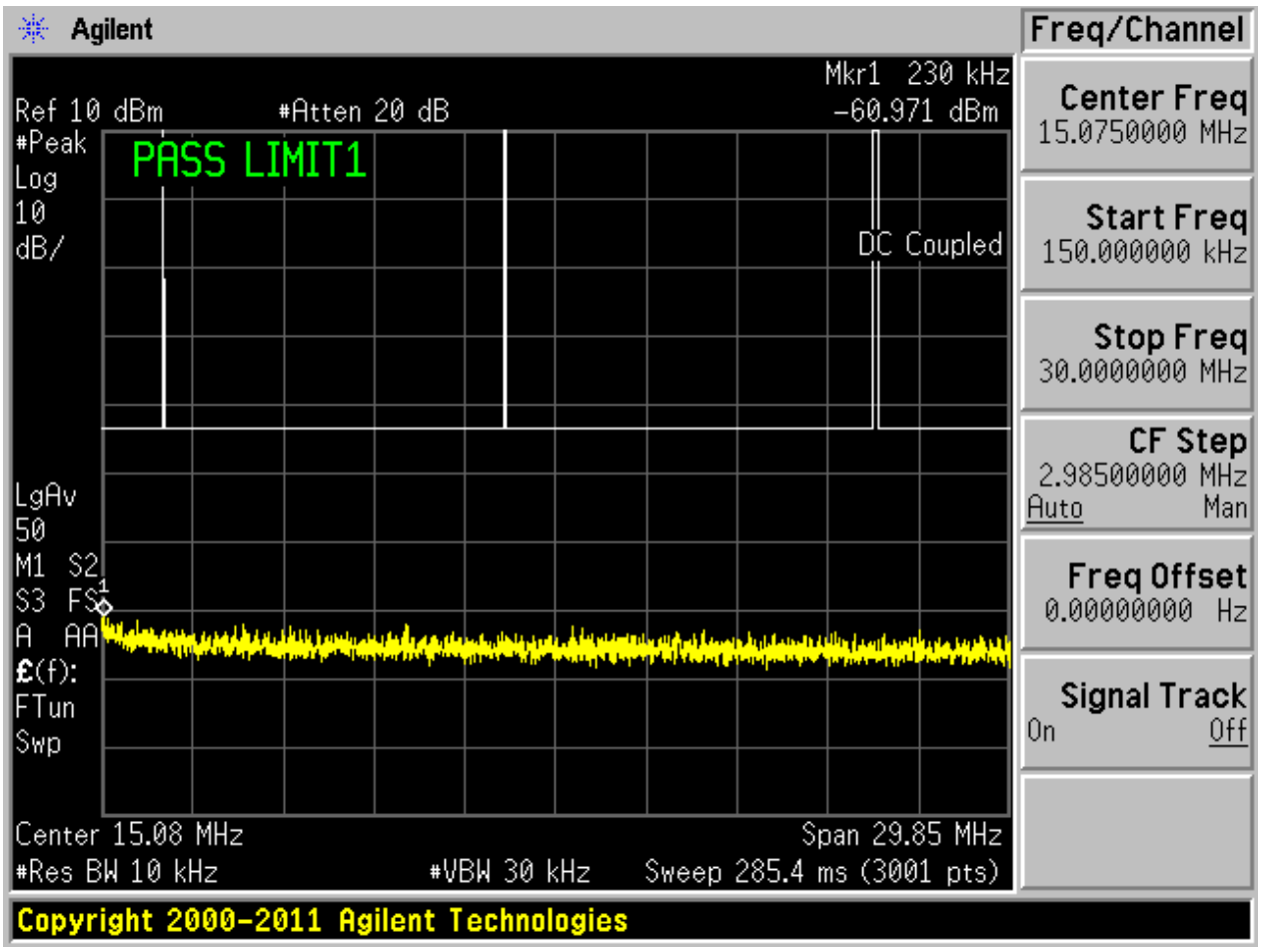
2.6 TM2_DH5_Ch78

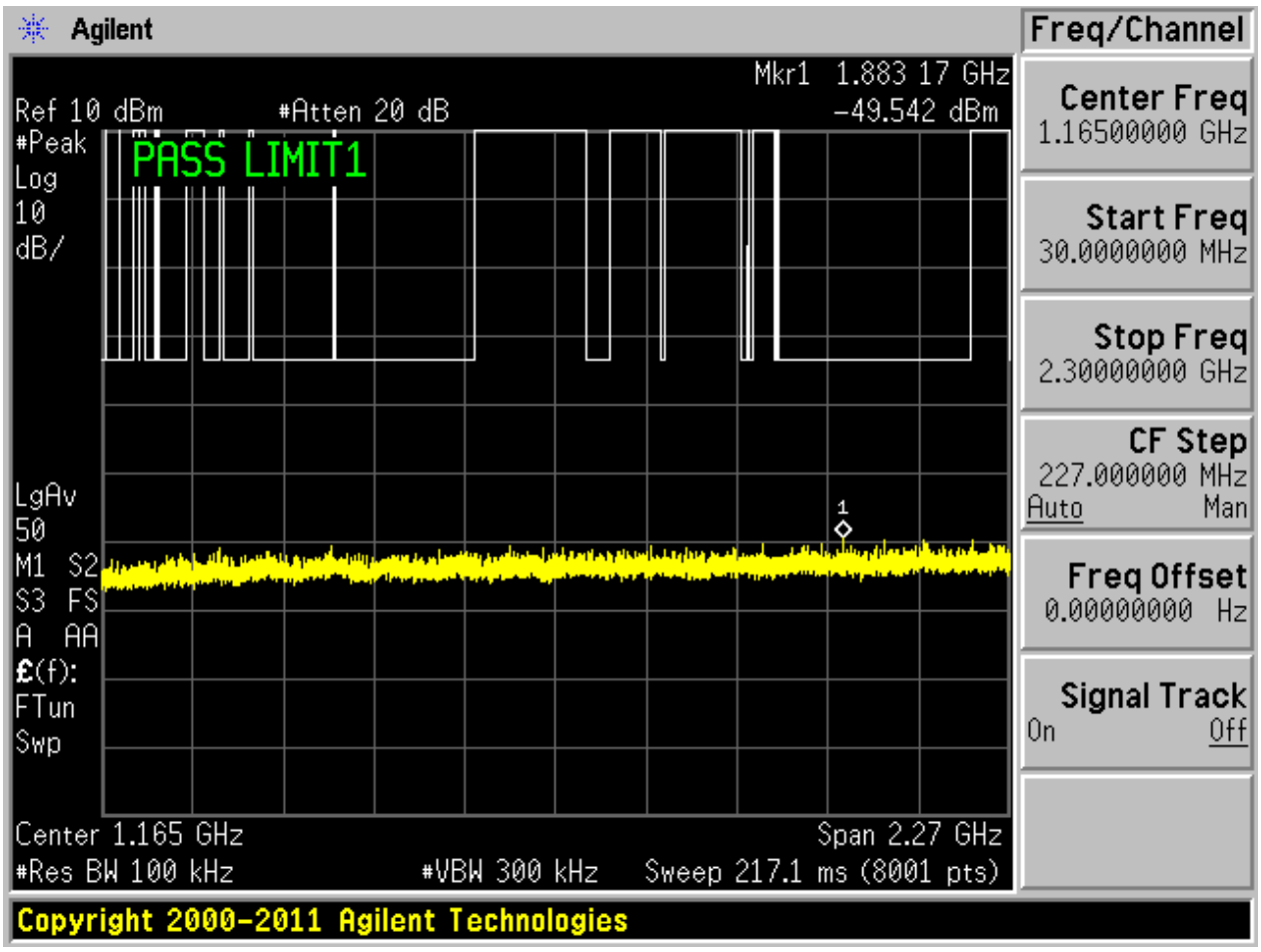
2.6.1 Pref

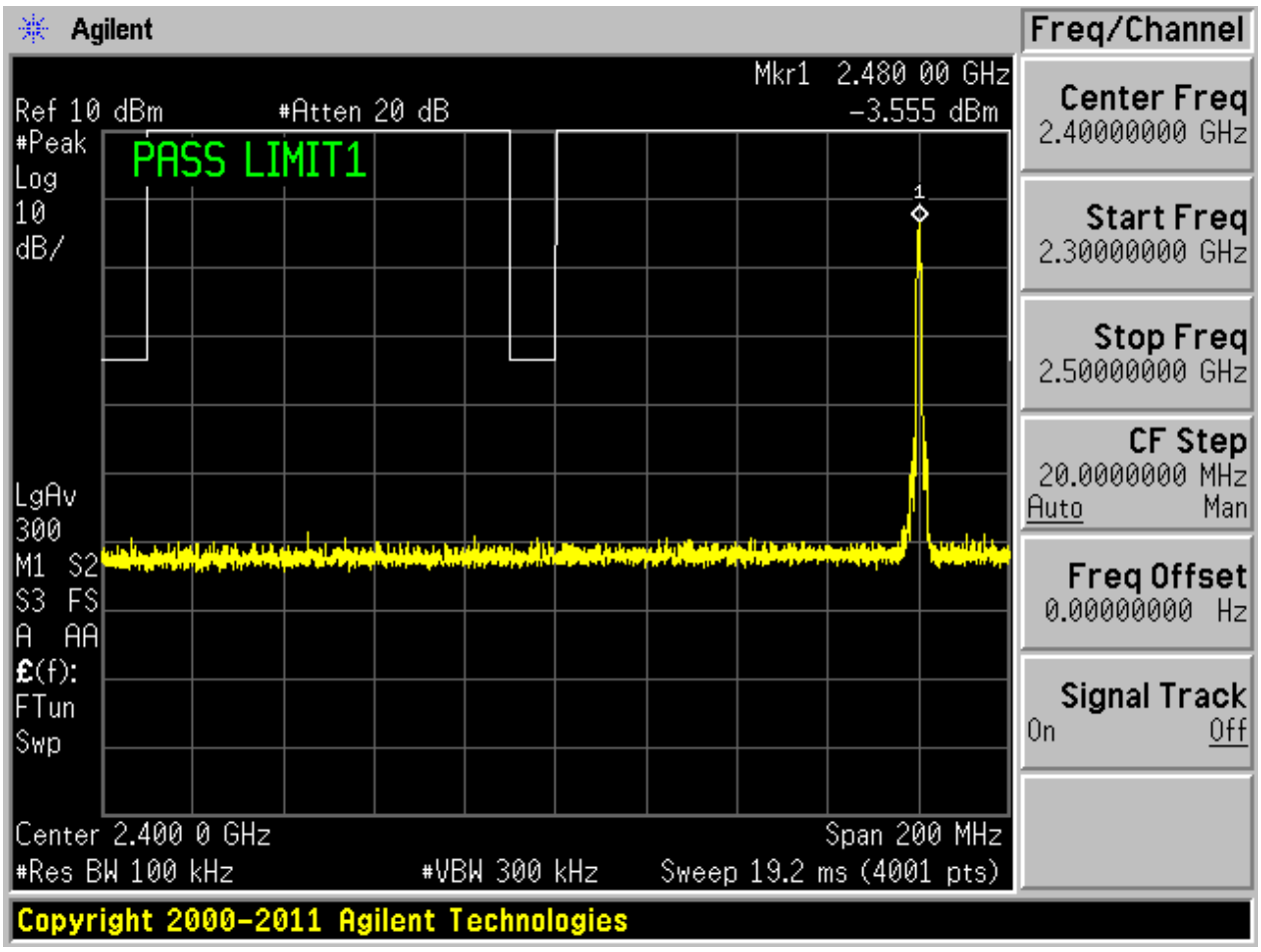


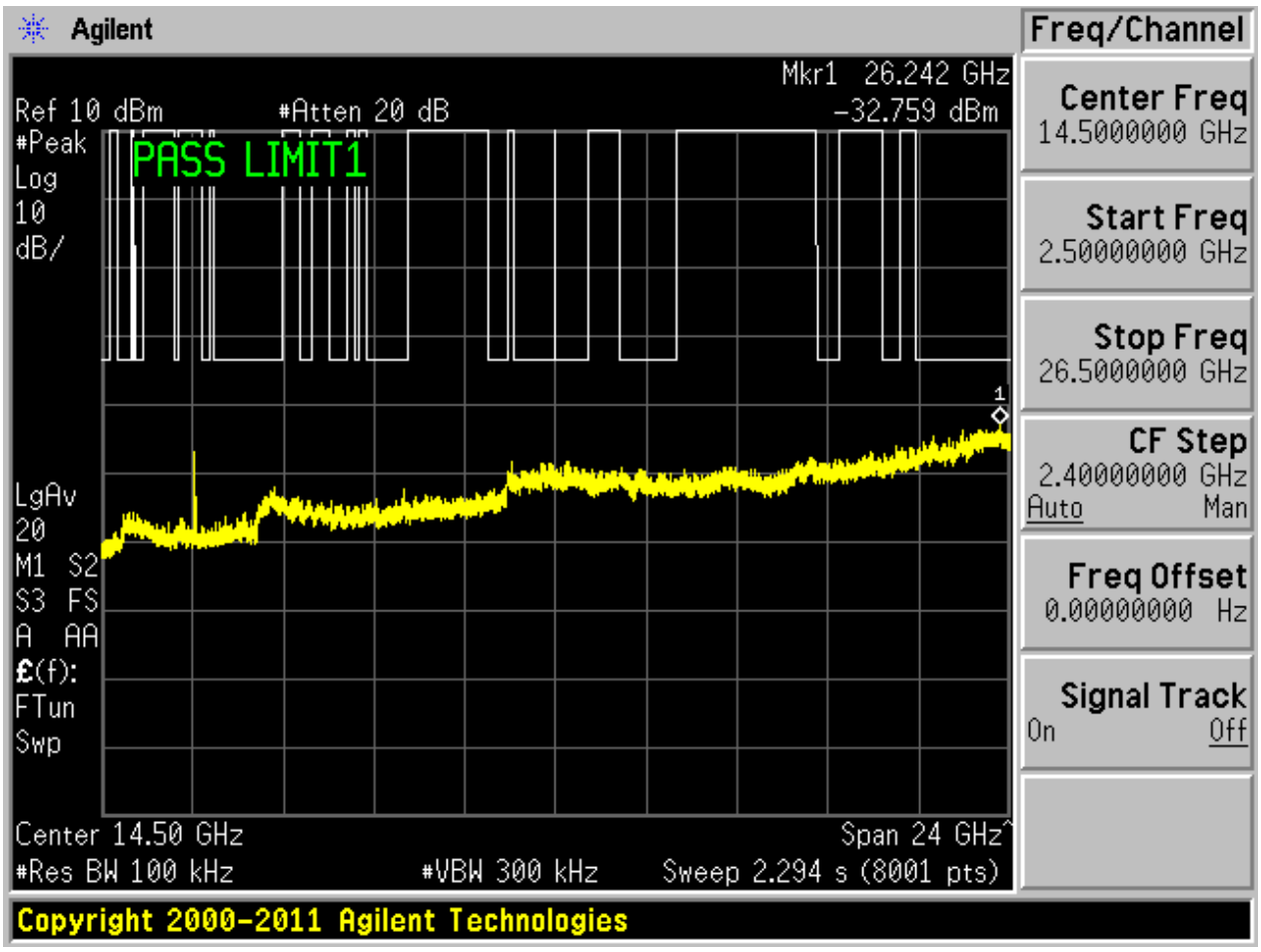
2.6.2 Puw





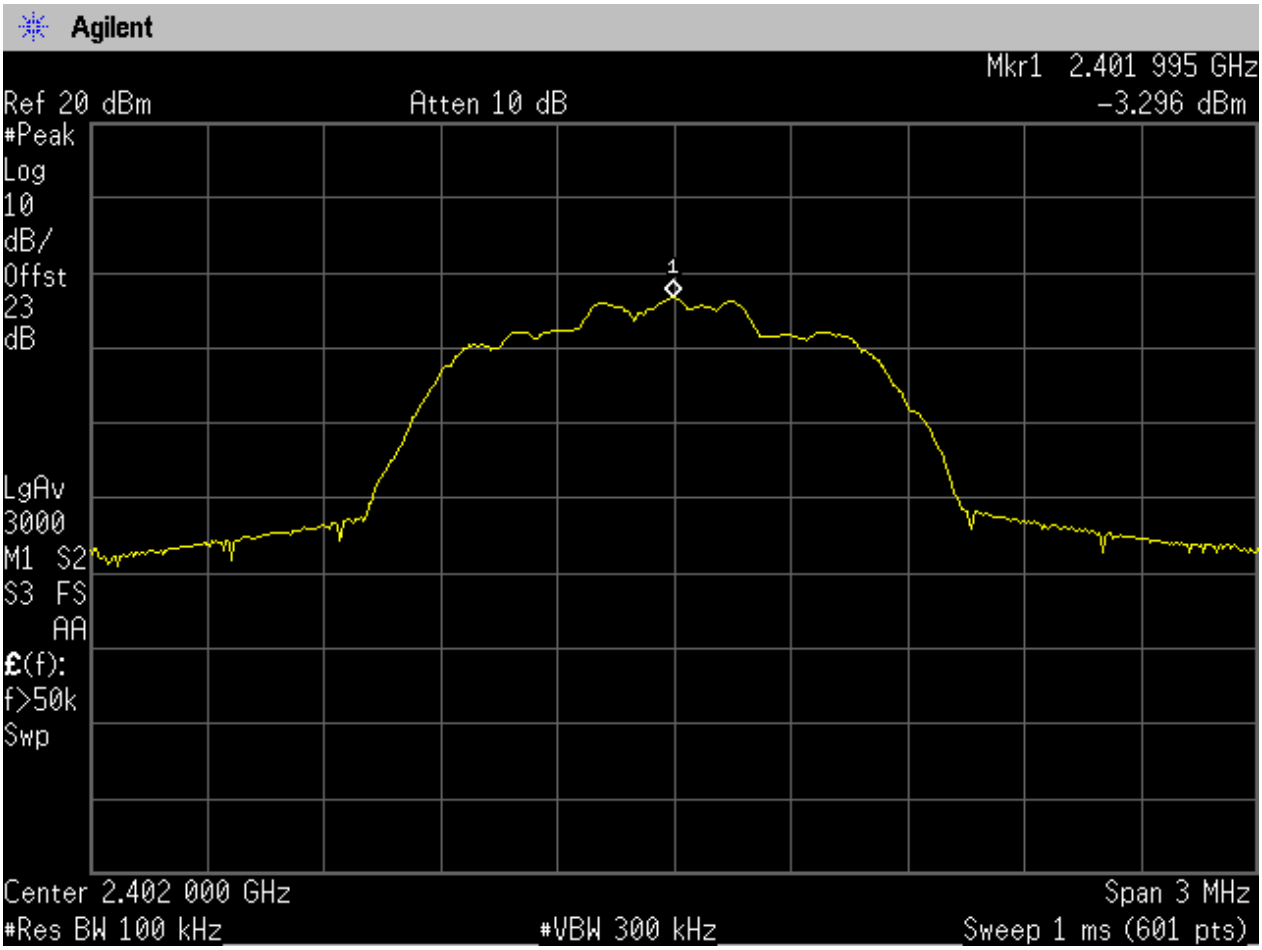




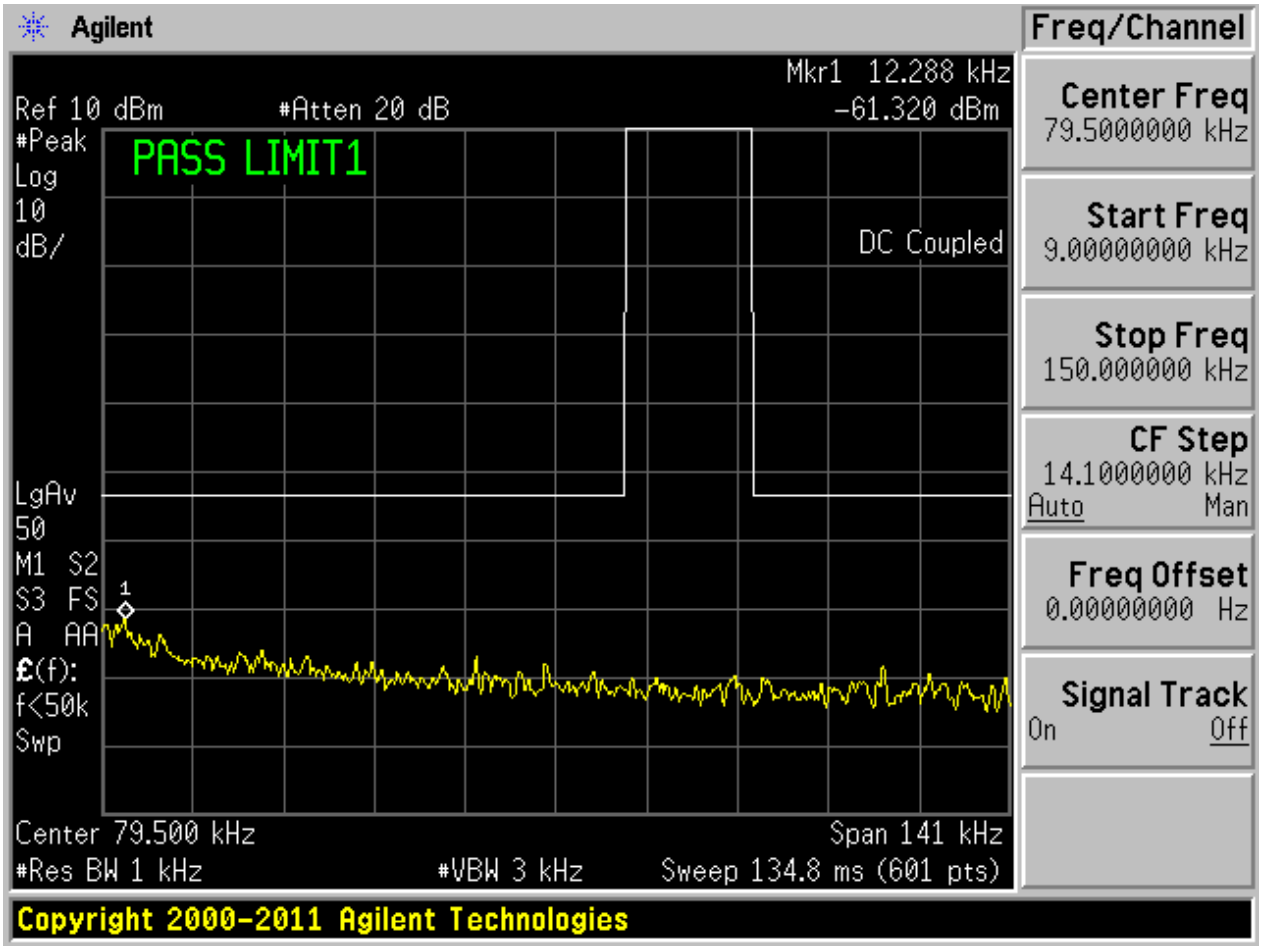


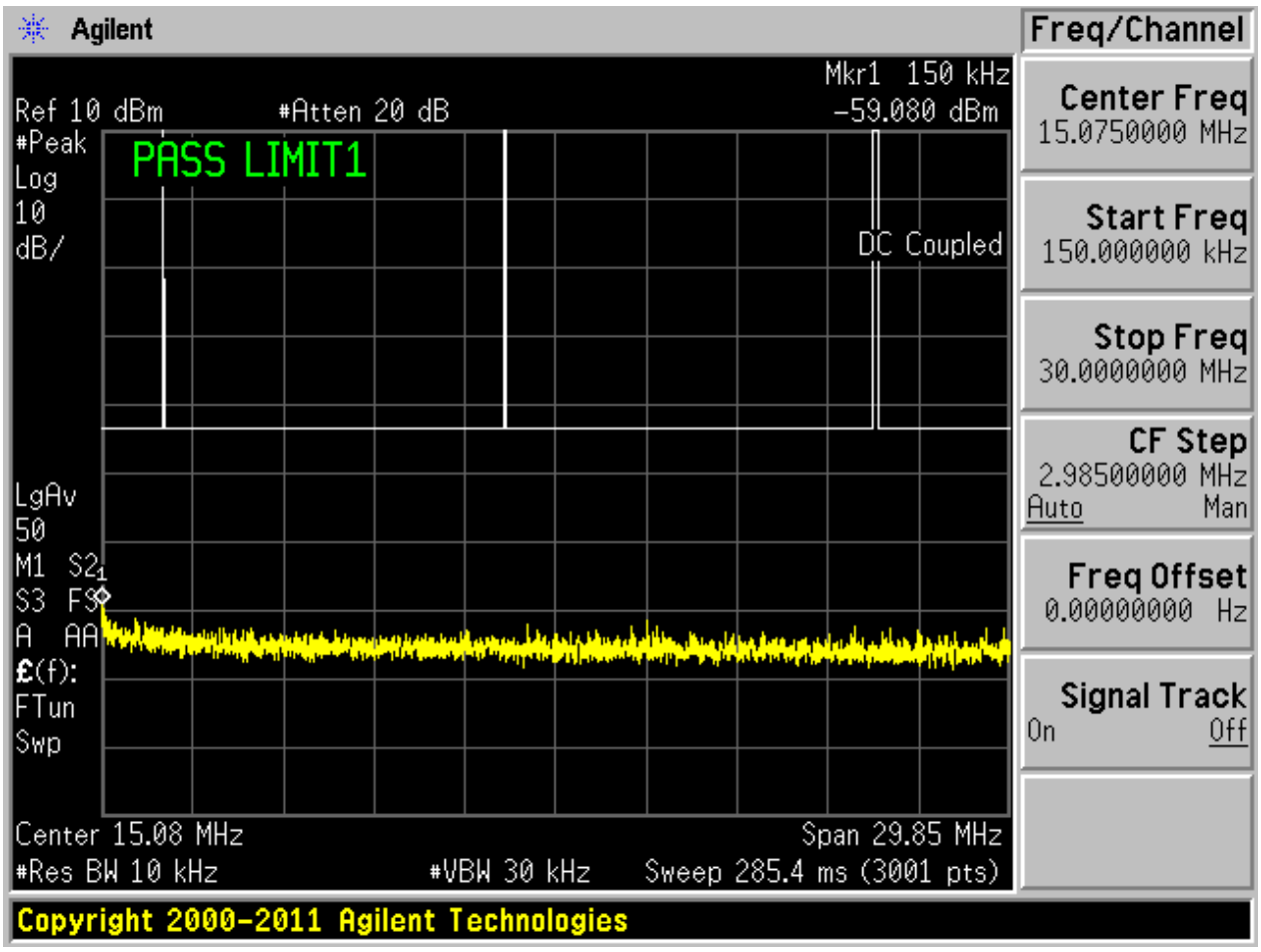
2.7 TM3_DH5_Ch0

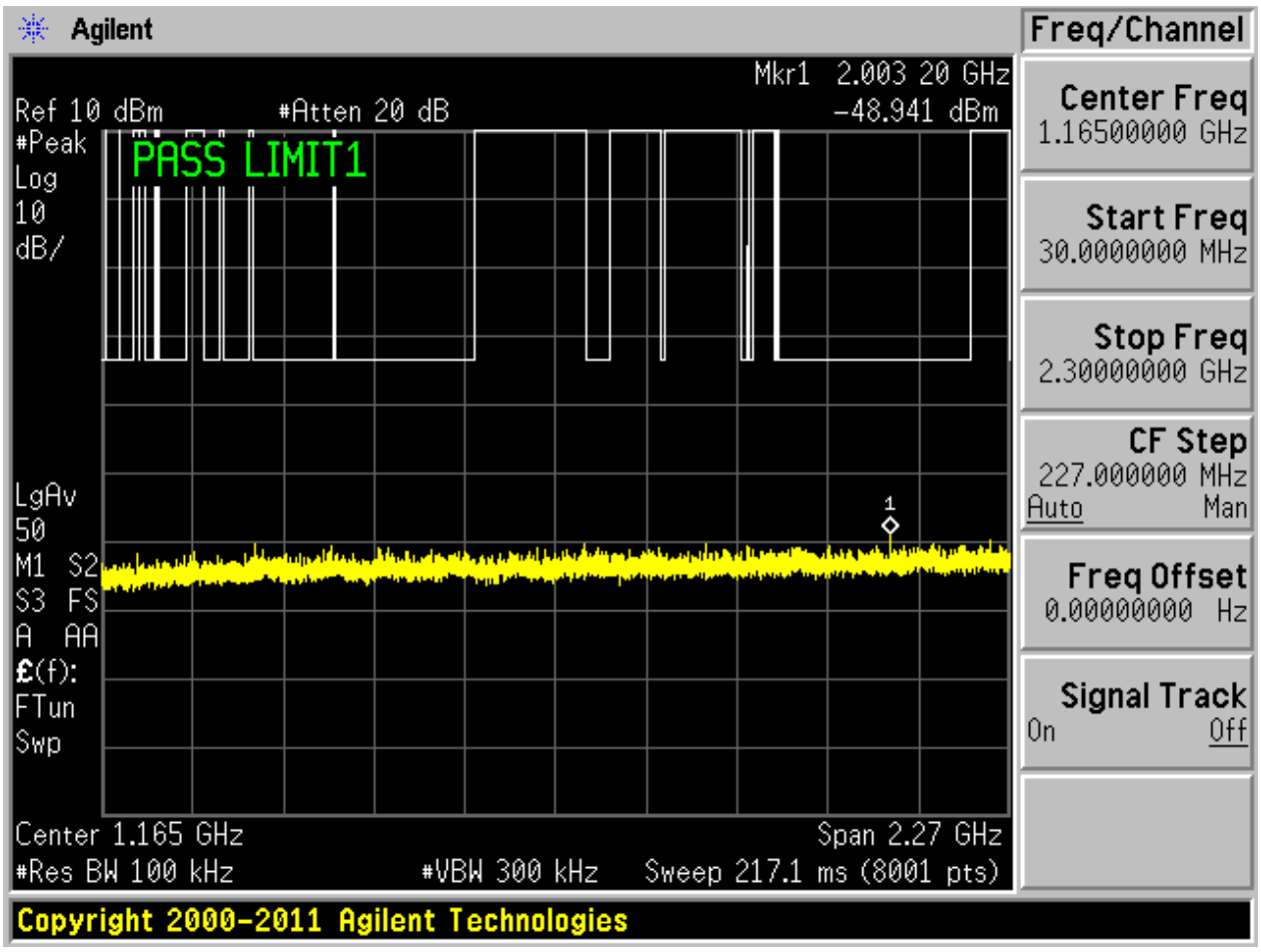
2.7.1 Pref

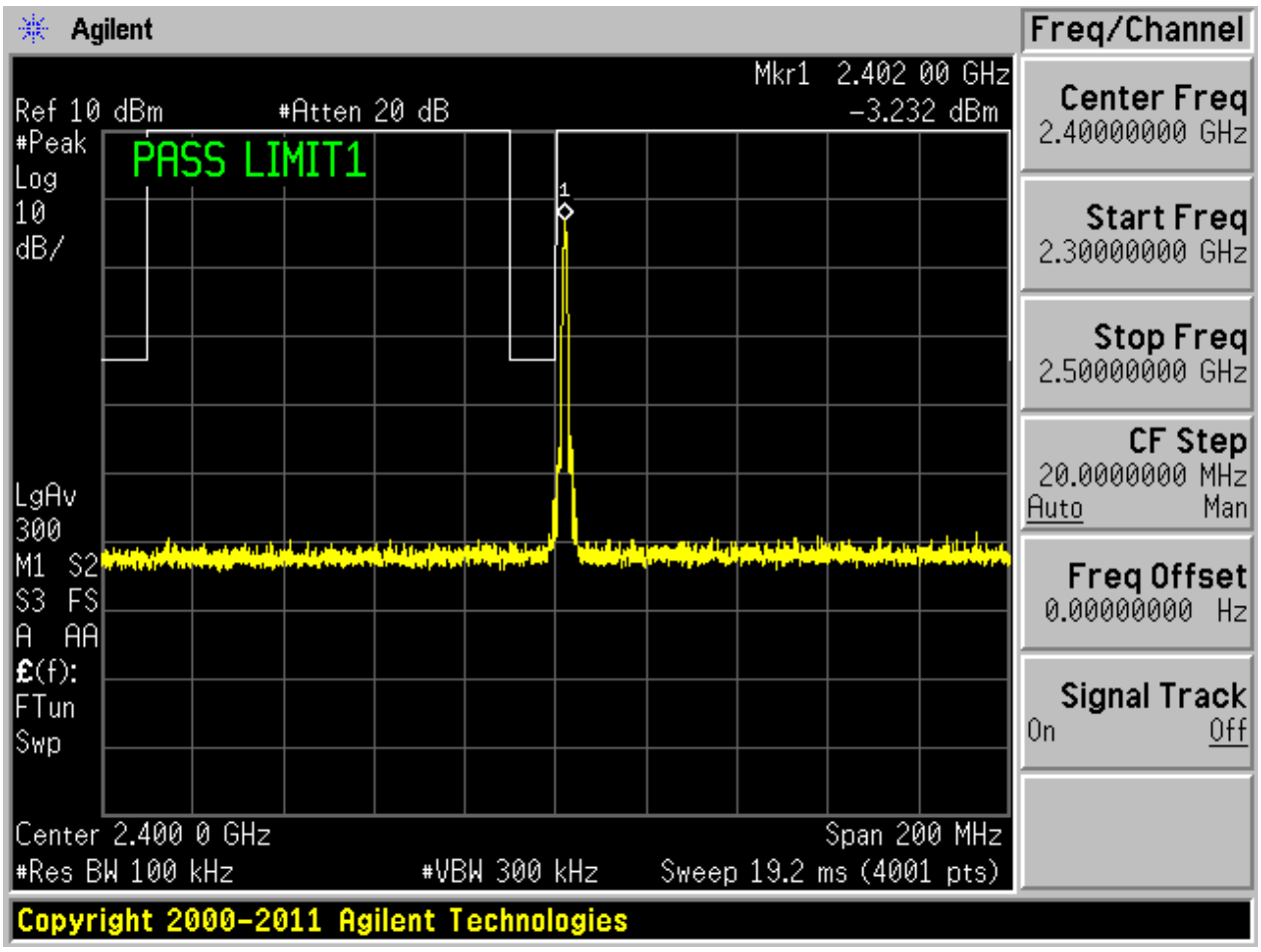


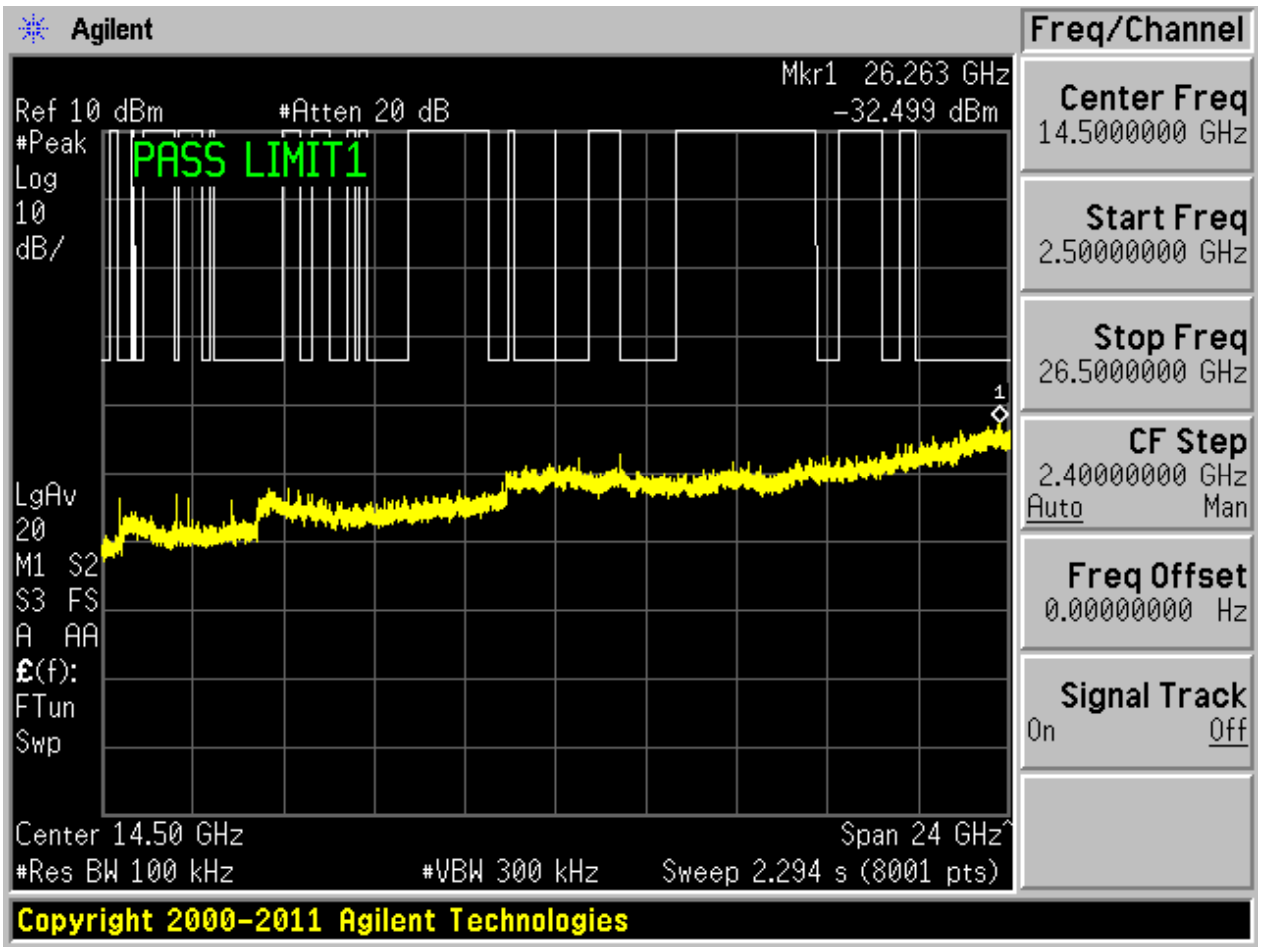
2.7.2 Puw





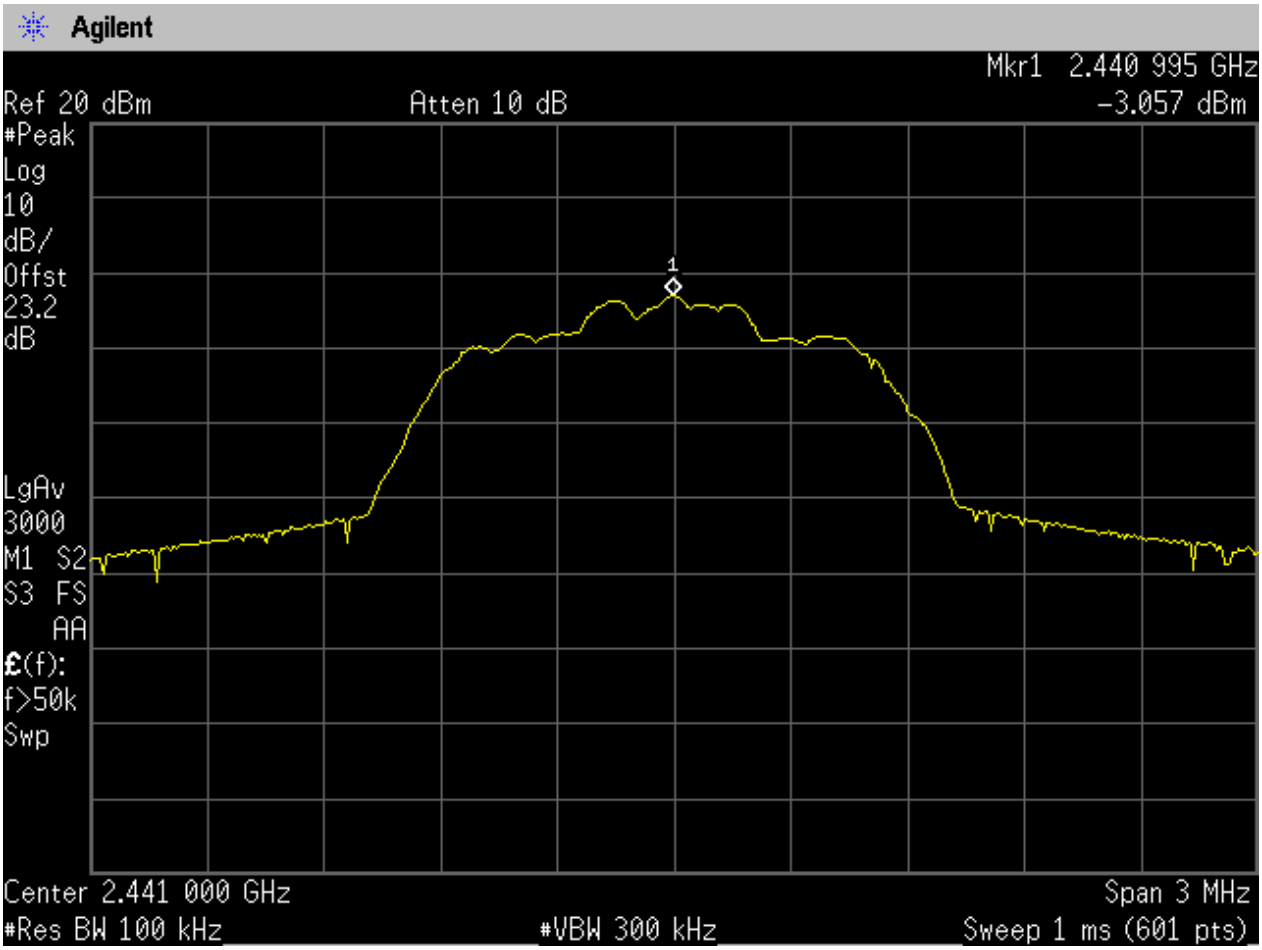




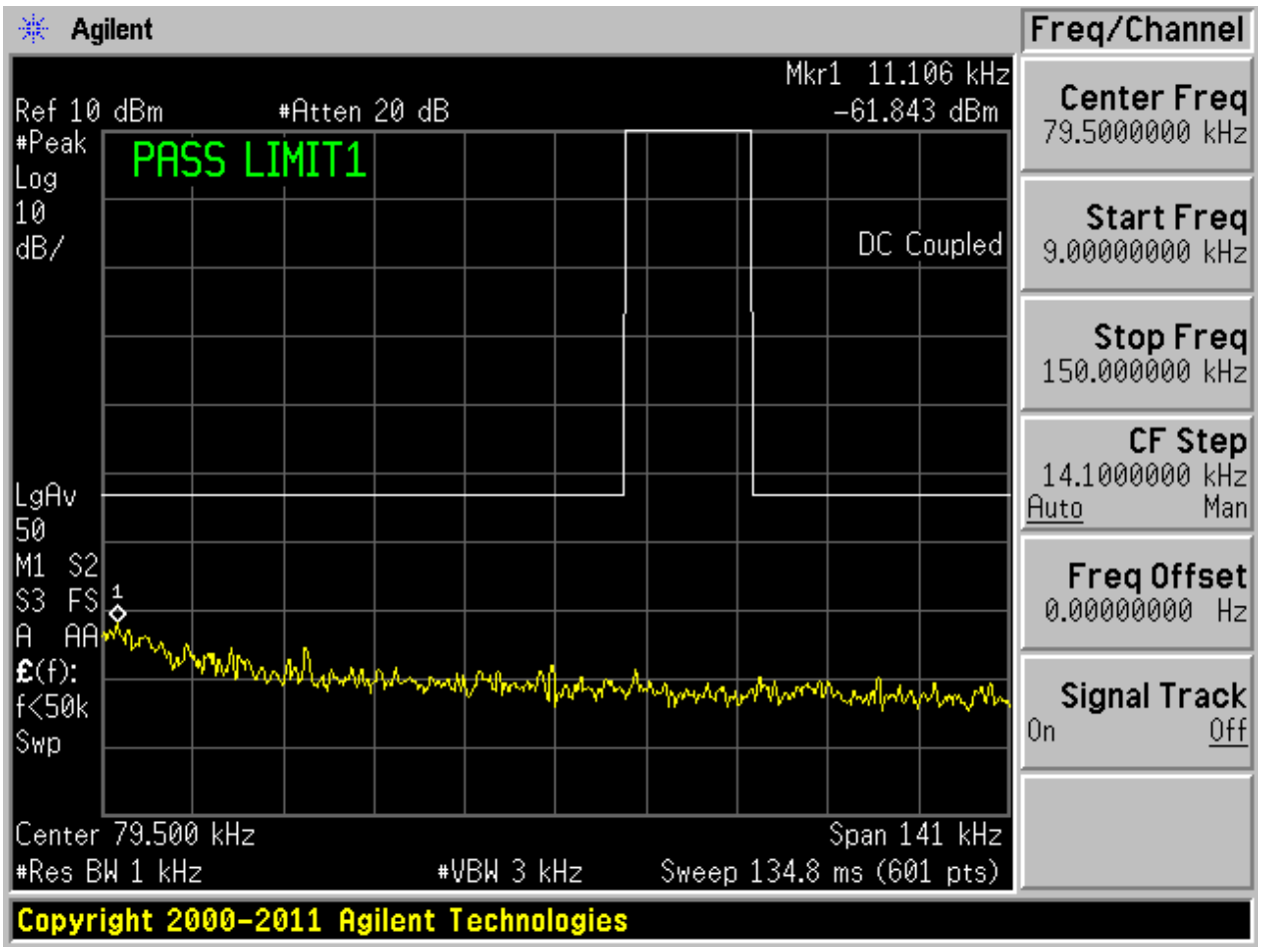


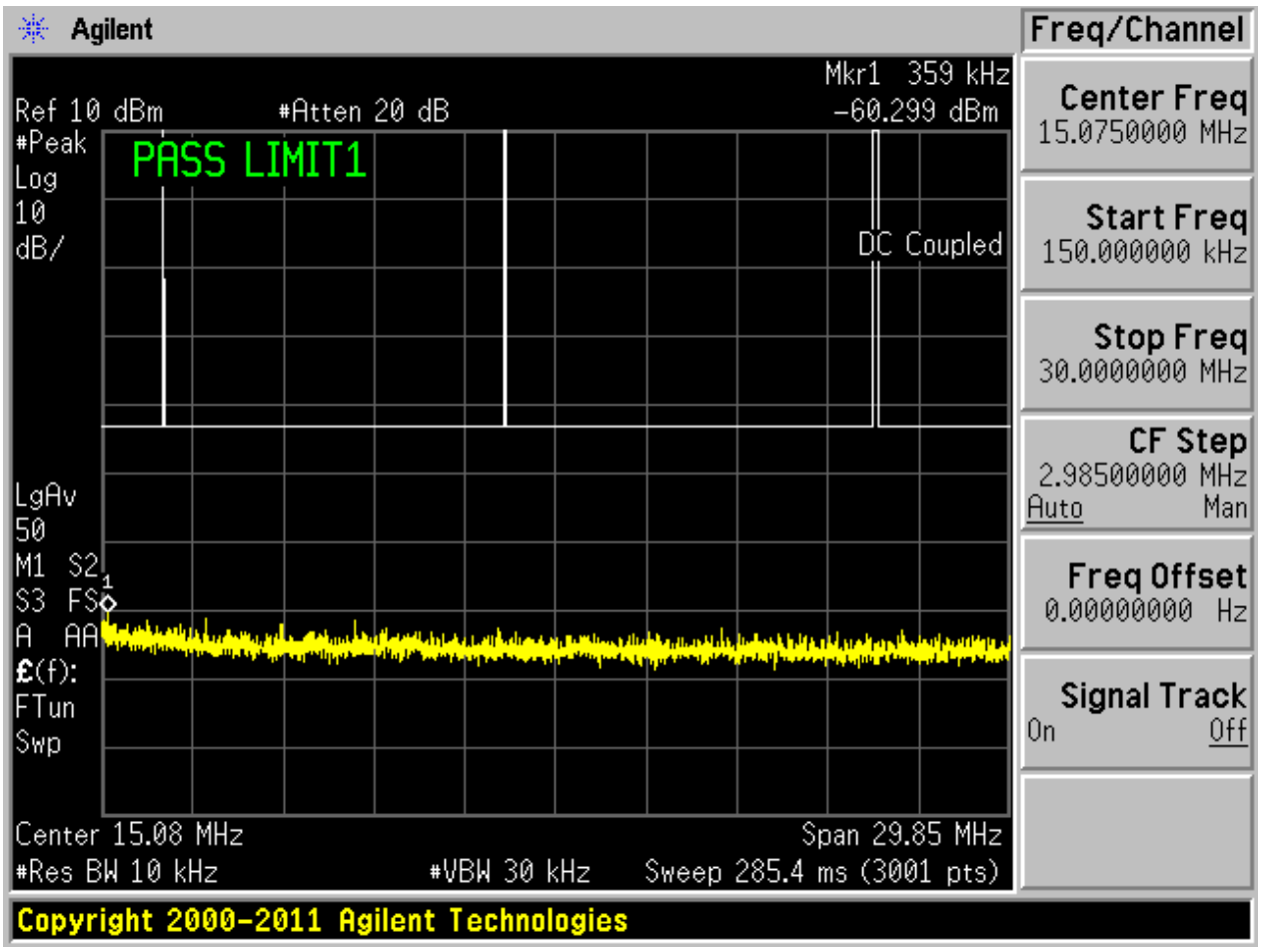
2.8 TM3_DH5_Ch39

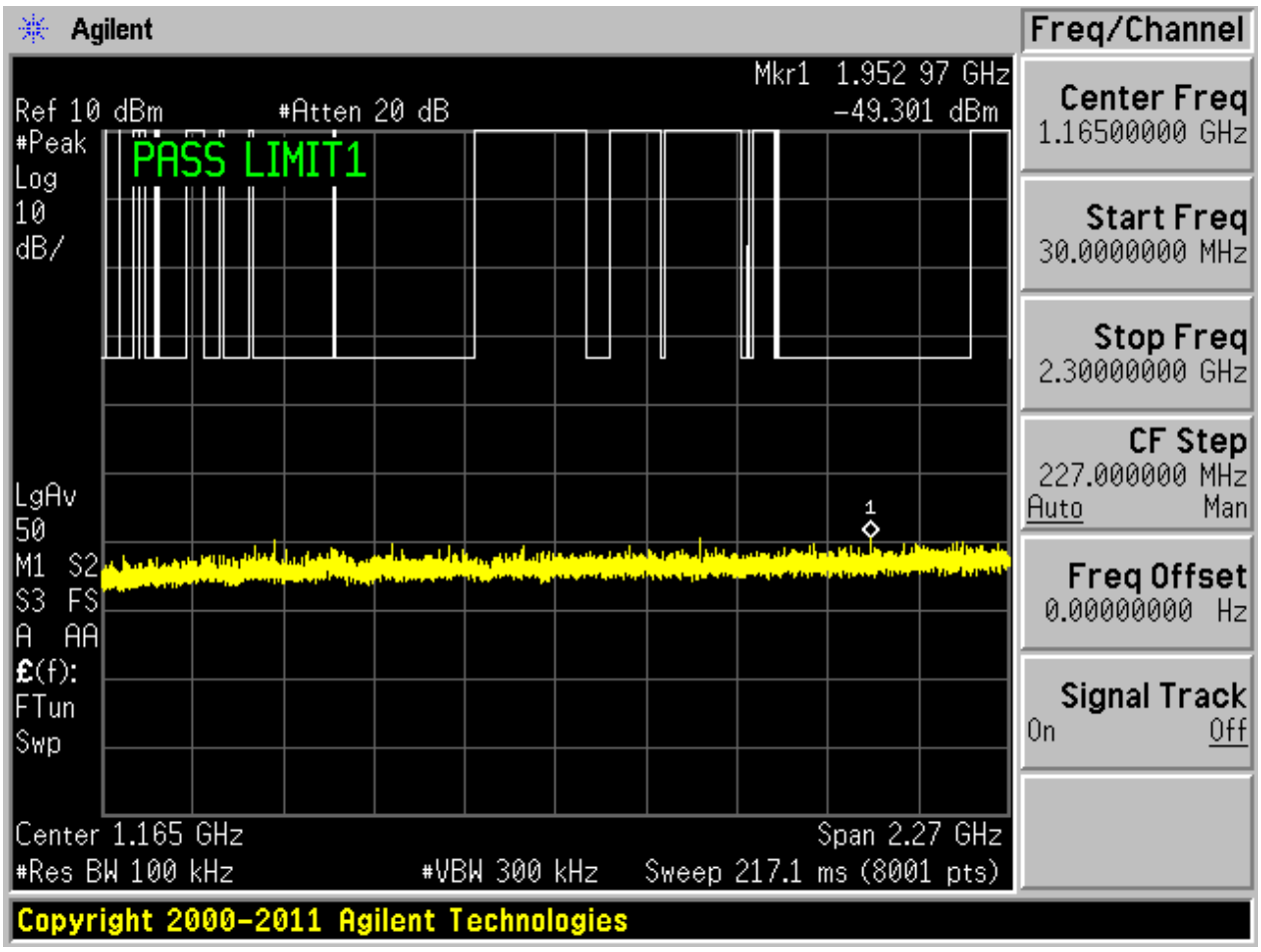
2.8.1 Pref

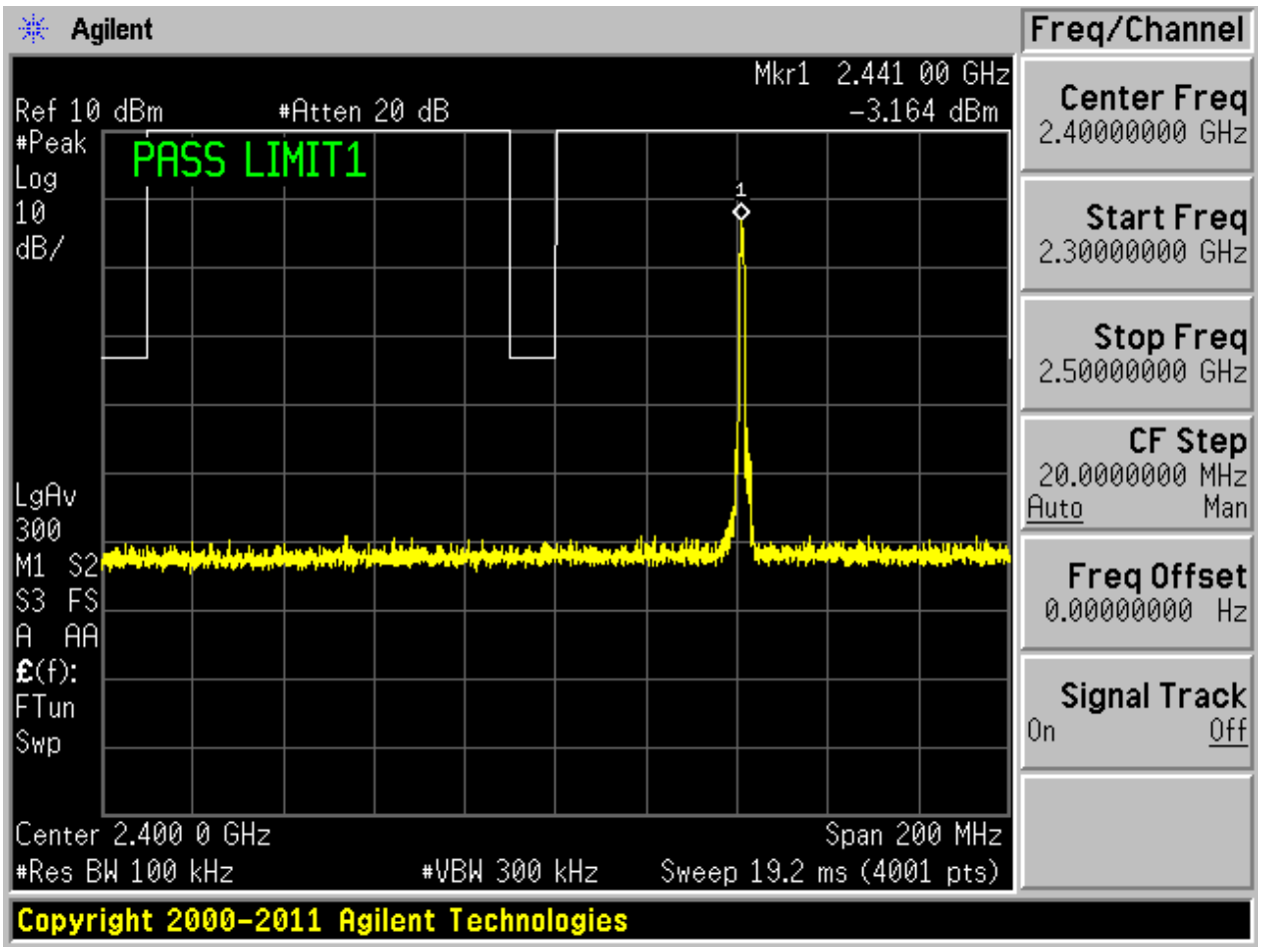


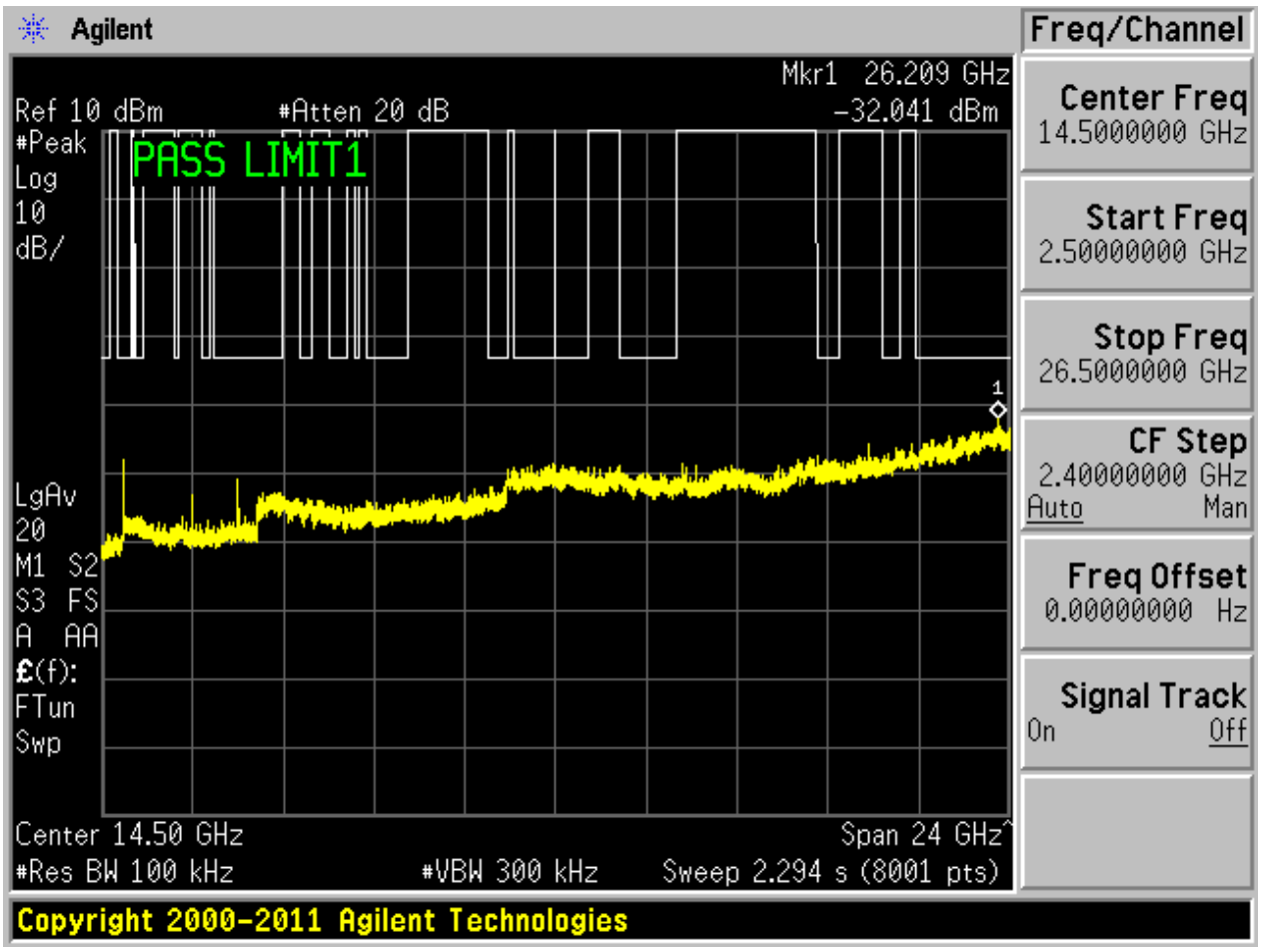
2.8.2 Puw





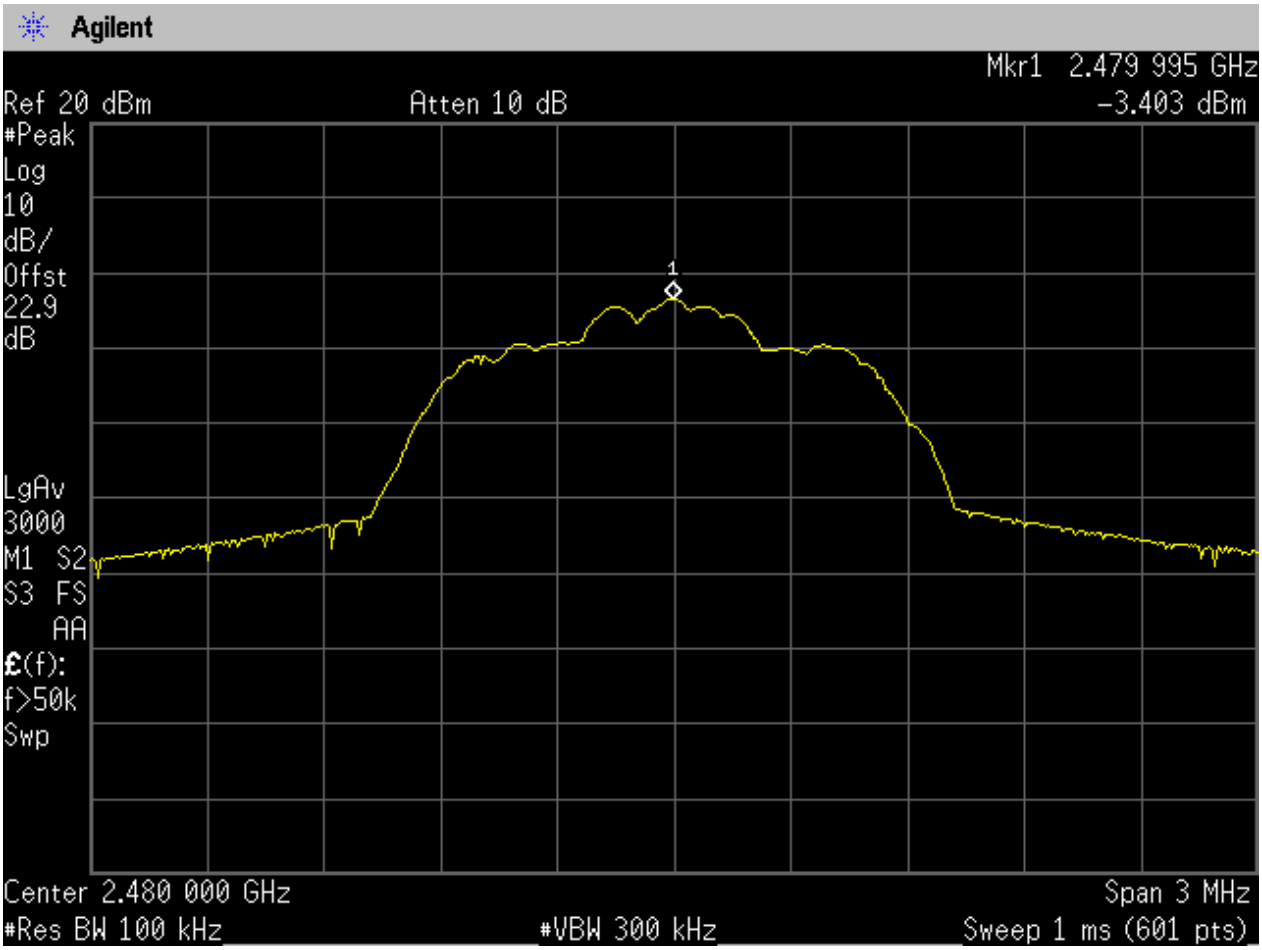




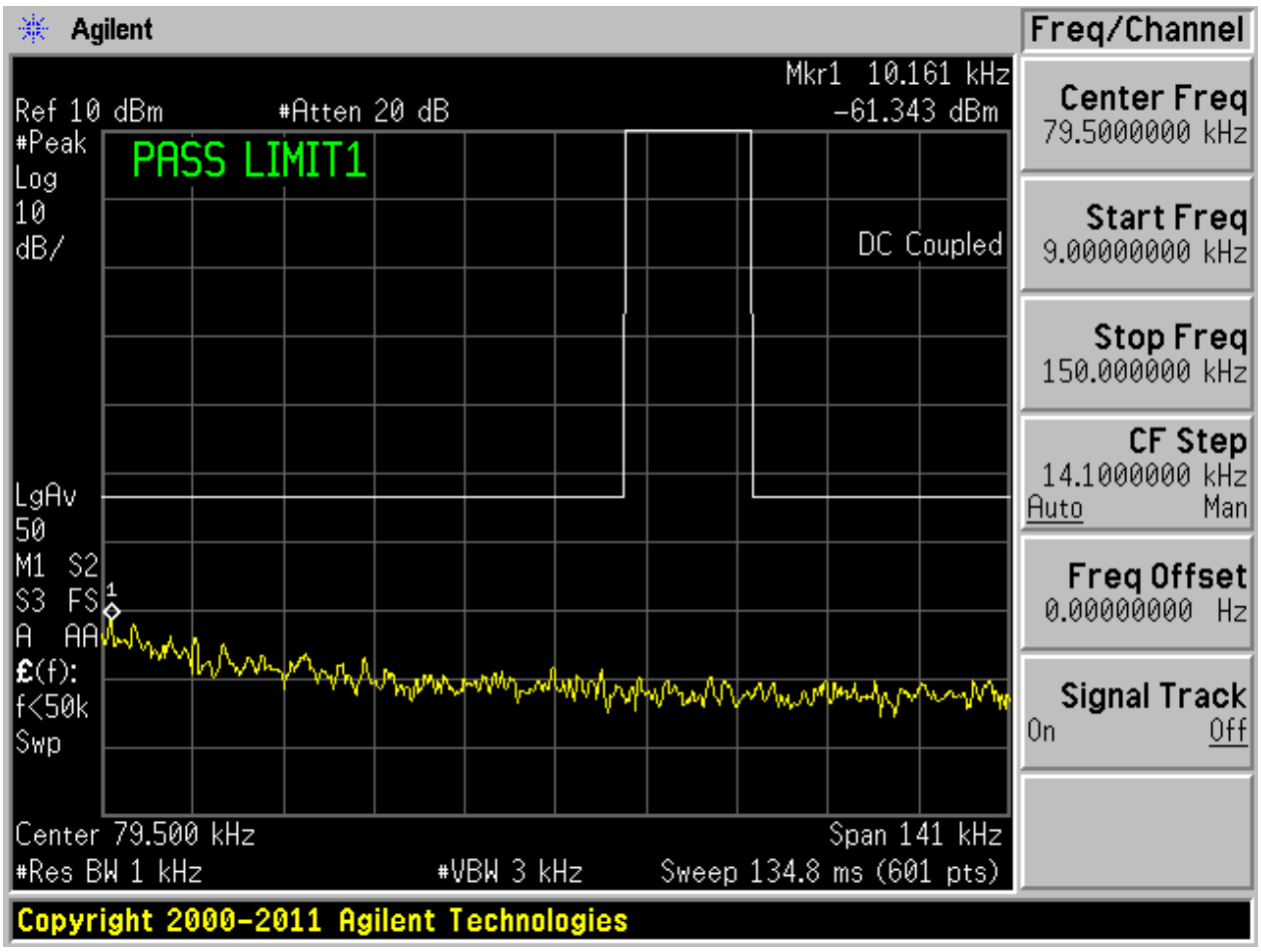


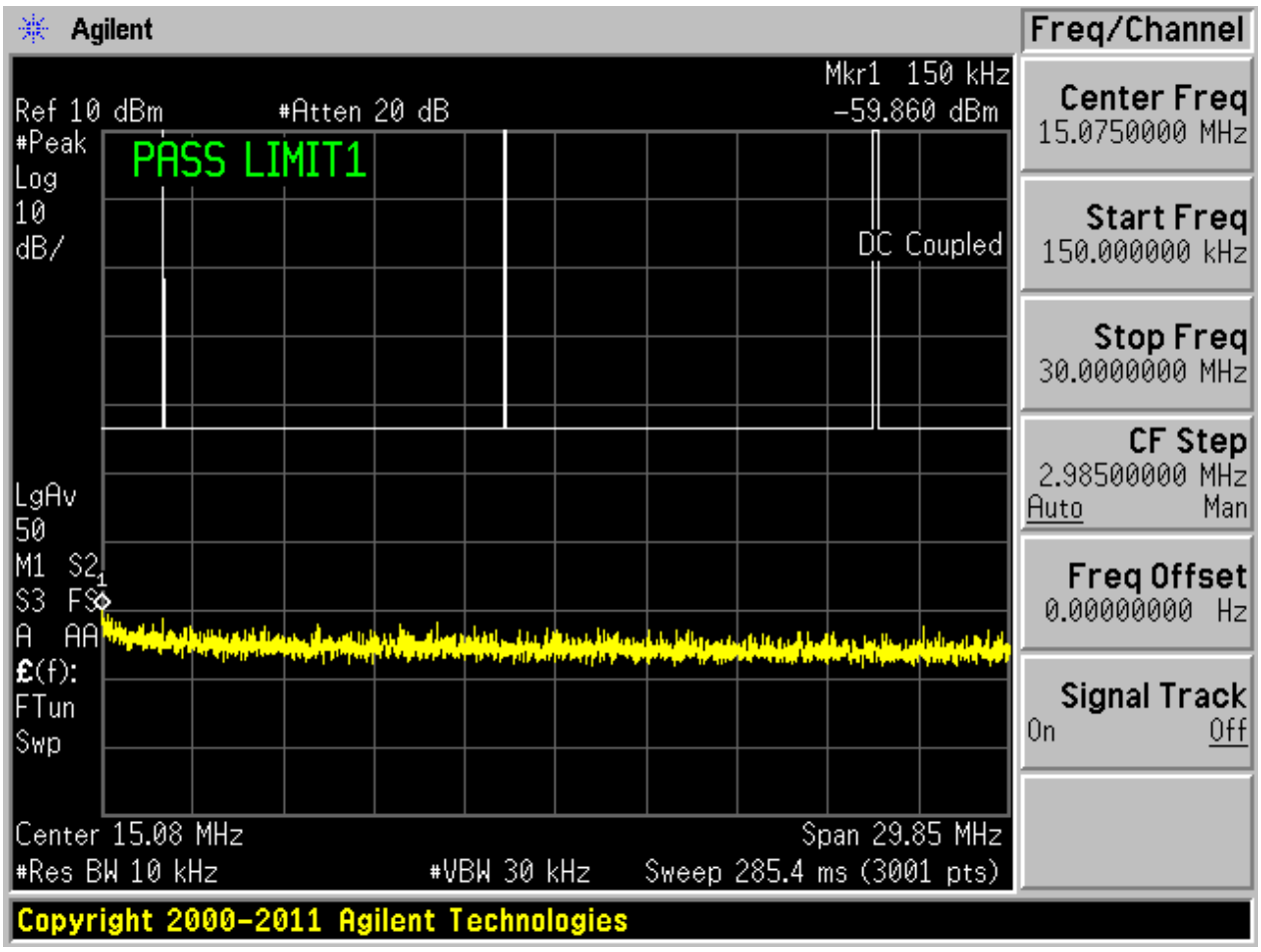
2.9 TM3_DH5_Ch78

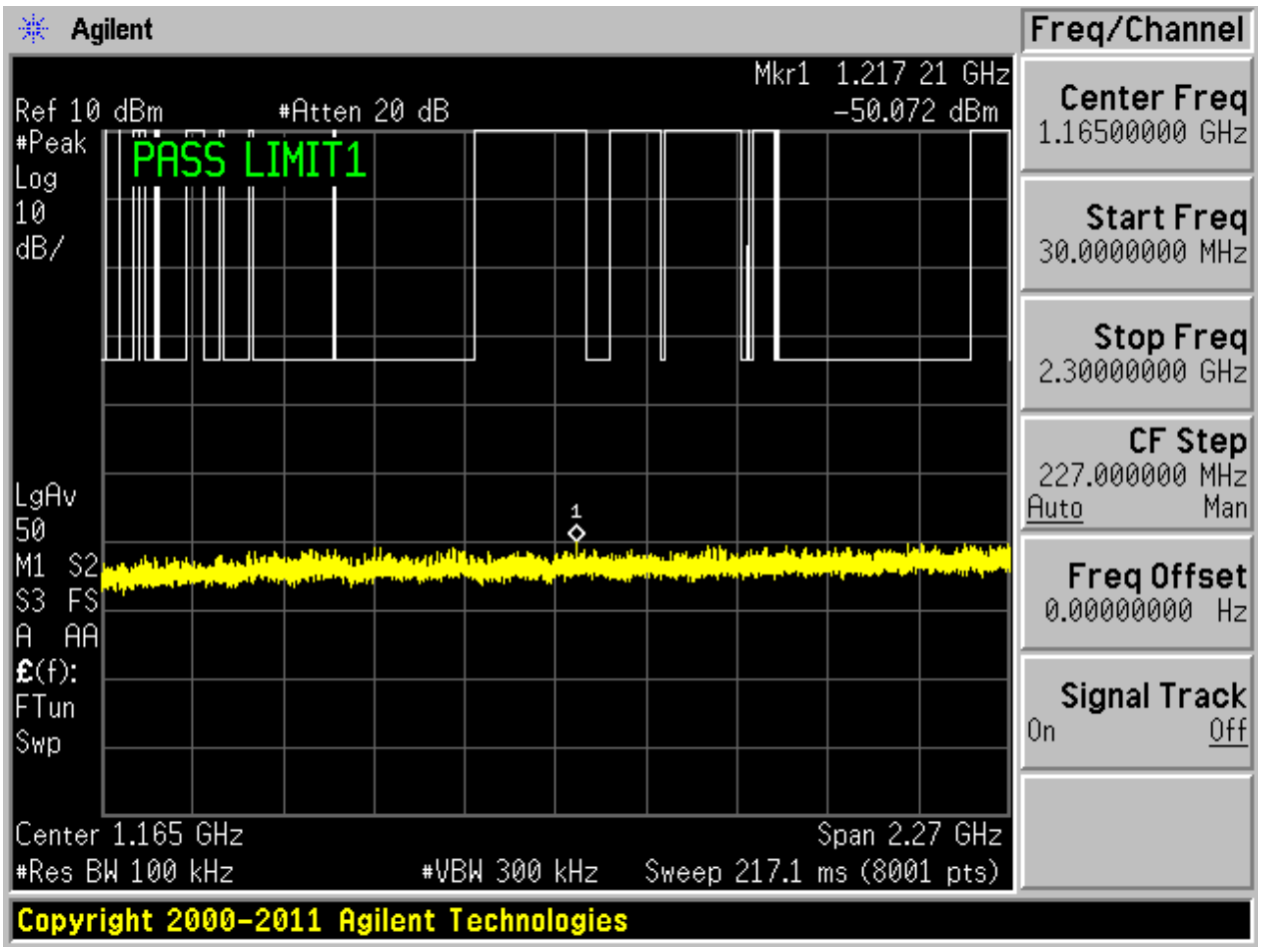
2.9.1 Pref

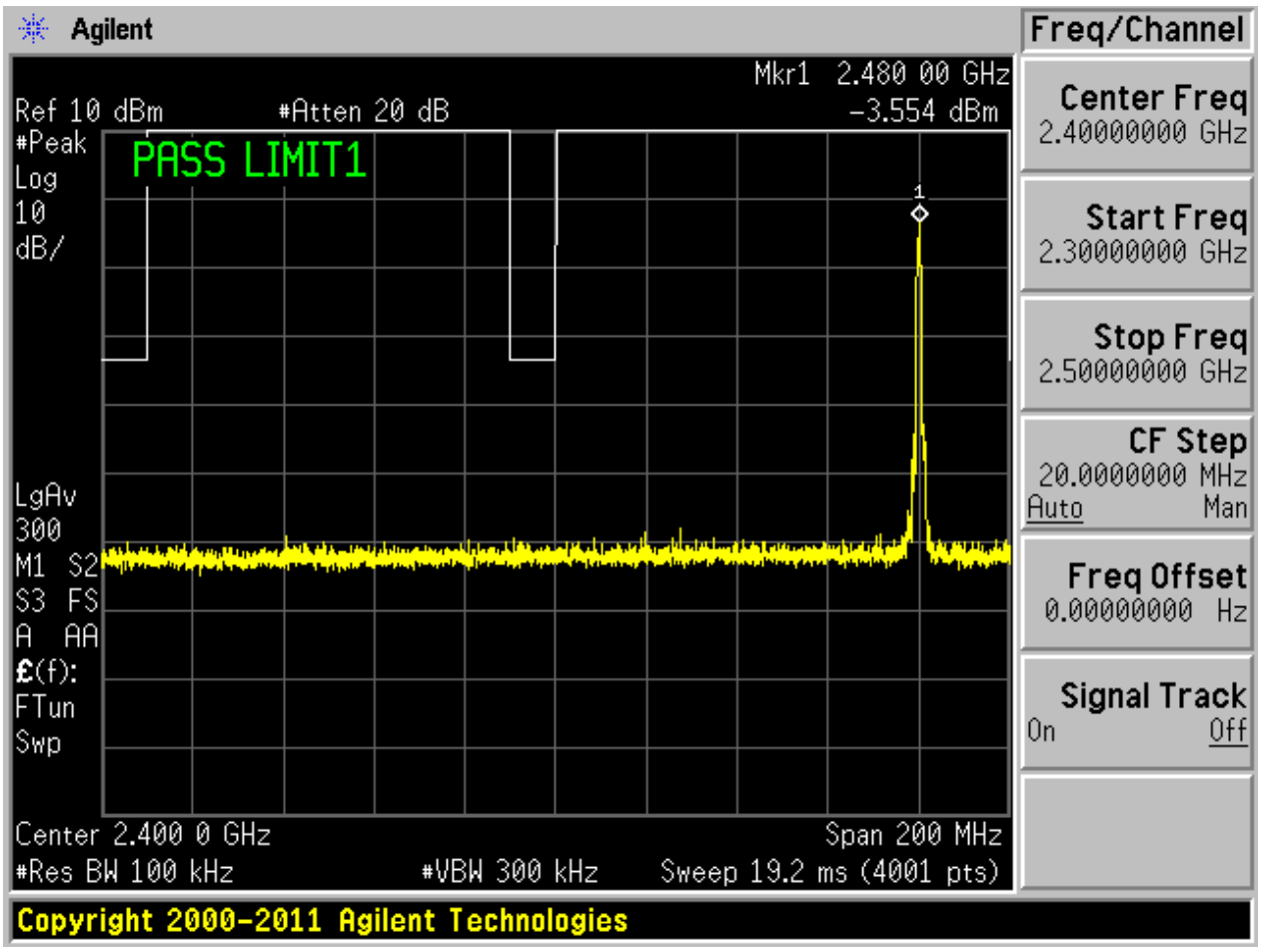


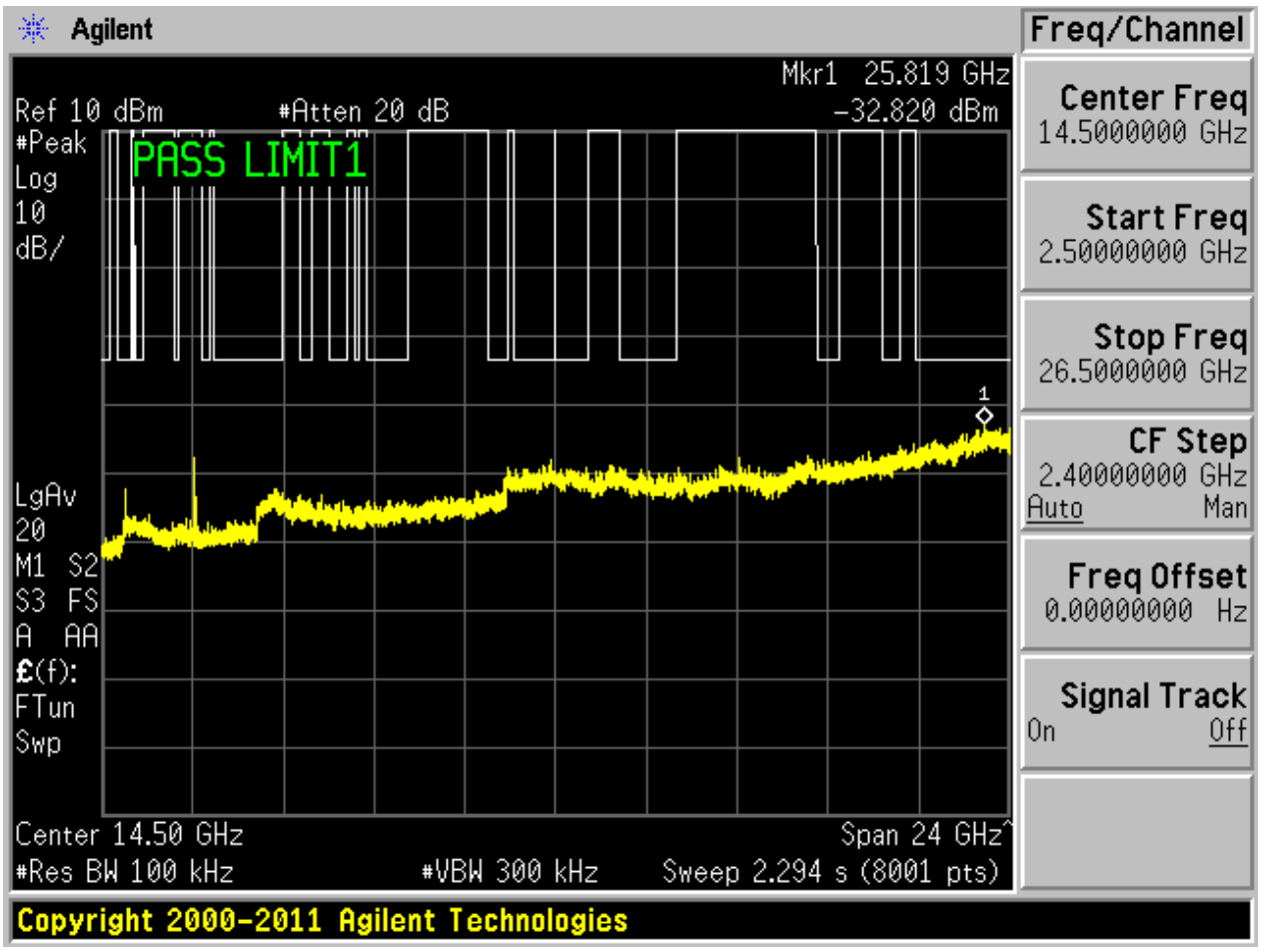
2.9.2 Puw











Appendix G: 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”.

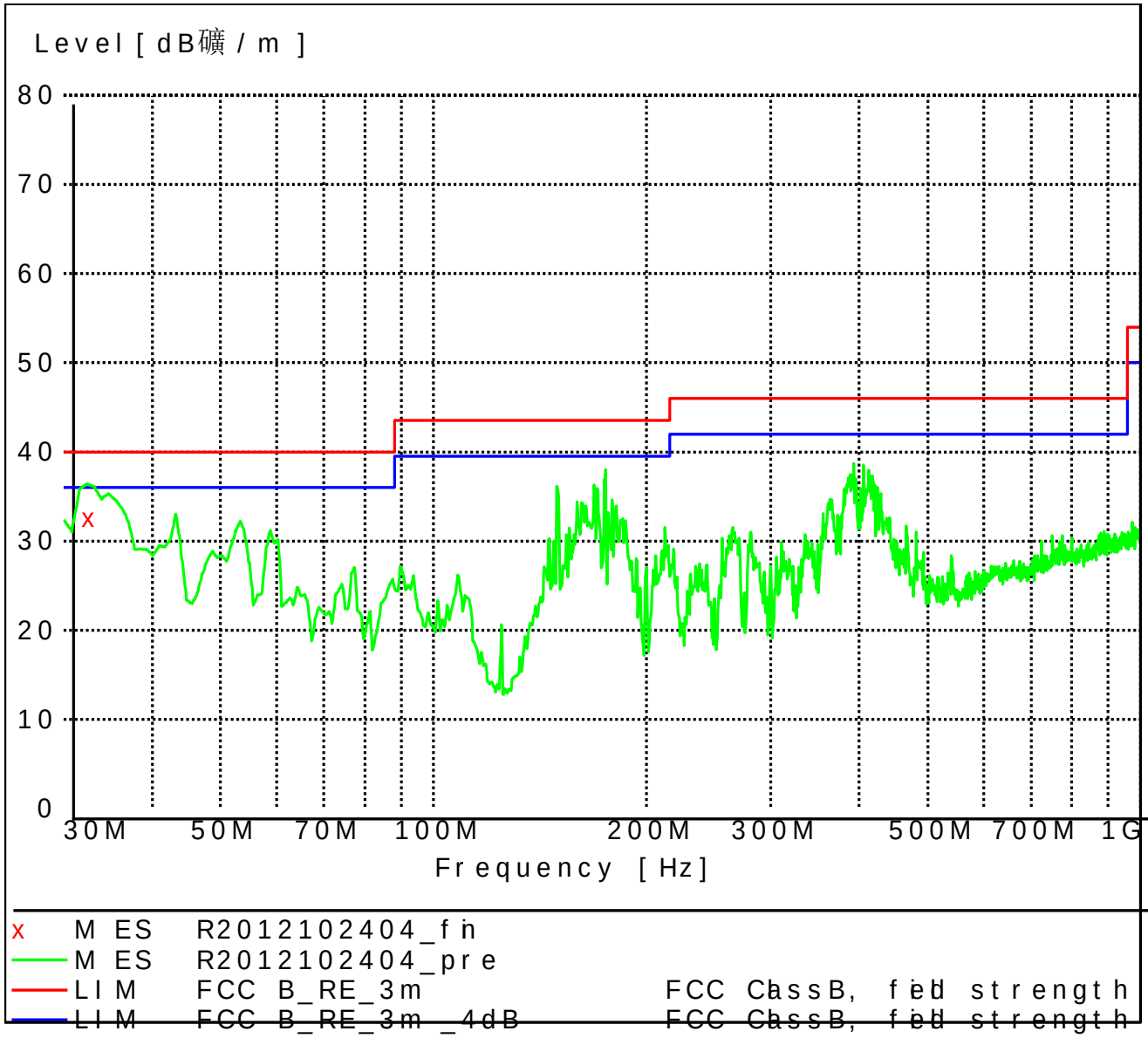
In this Appendix, only the test results and plots under the worst case can be reported. In the result table, the “< Limit” denotes that “Not found obvious spikes or see marked spikes on plots and listed emissions records”.

Test Range	EUT Conf.	Emissions	Verdict
30 MHz to 1 GHz	TM1_DH5_Ch78 (Worst Conf.)	< Limit	Pass
1 GHz to 3 GHz	TM1_DH5_Ch0	< Limit	Pass
	TM1_DH5_Ch39	< Limit	Pass
	TM1_DH5_Ch78	< Limit	Pass
	TM2_DH5_Ch0	< Limit	Pass
	TM2_DH5_Ch39	< Limit	Pass
	TM2_DH5_Ch78	< Limit	Pass
	TM3_DH5_Ch0	< Limit	Pass
	TM3_DH5_Ch39	< Limit	Pass
	TM3_DH5_Ch78	< Limit	Pass
3 GHz to 18 GHz	TM1_DH5_Ch0 (Worse Conf.)	< Limit	Pass
	TM1_DH5_Ch39 (Worse Conf.)	< Limit	Pass
	TM1_DH5_Ch78 (Worse Conf.)	< Limit	Pass
18 GHz to 26.5 GHz	TM1_DH5_Ch78 (Worst Conf.)	< Limit	Pass

2 Result Plot

2.1 Test range of "30 MHz to 1 GHz"

2.1.1 TM1_DH5_Ch78 (Worst Conf.)



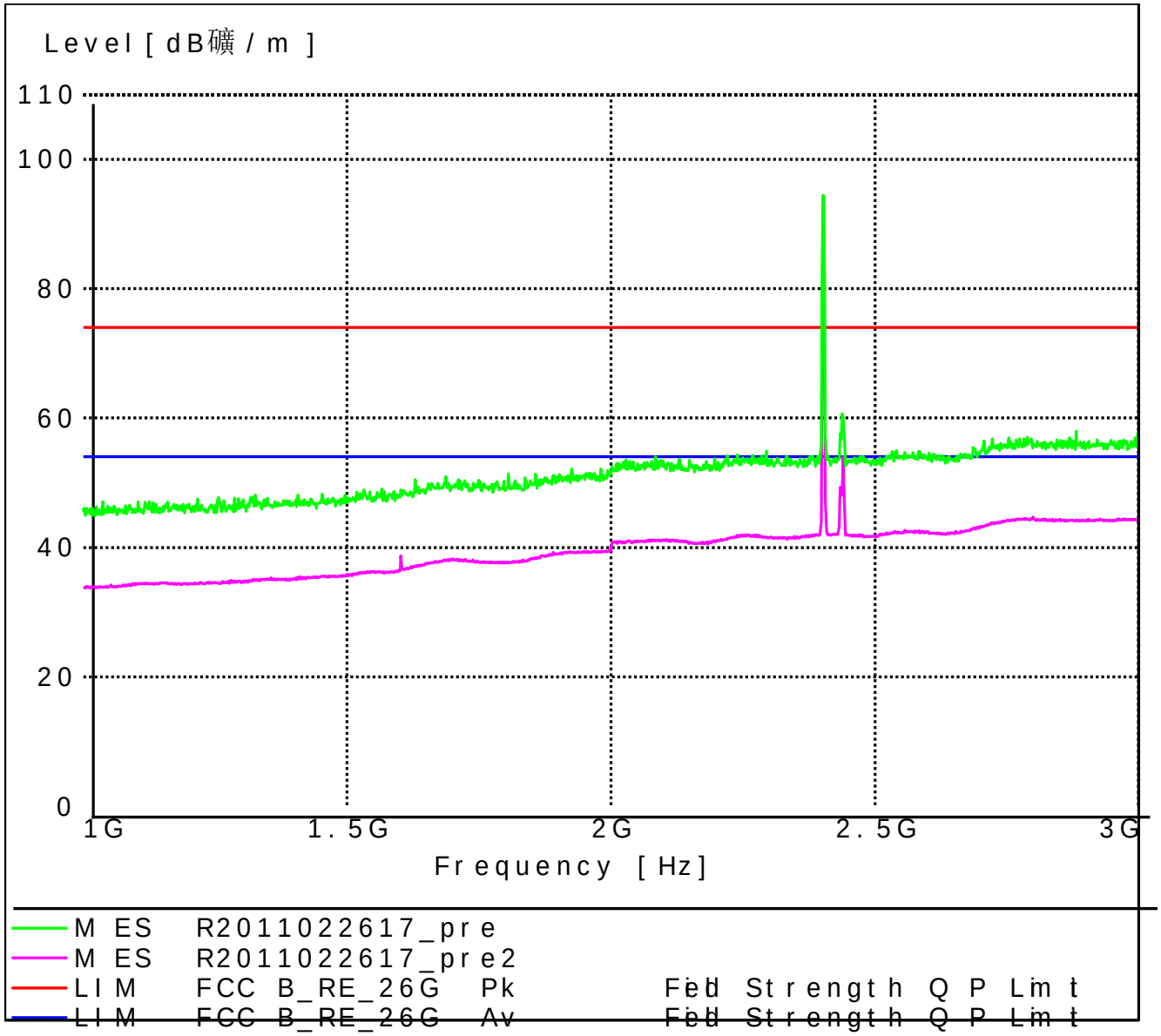
MEASUREMENT RESULT: "R2012102404_fin"

2012-10-25 4:20

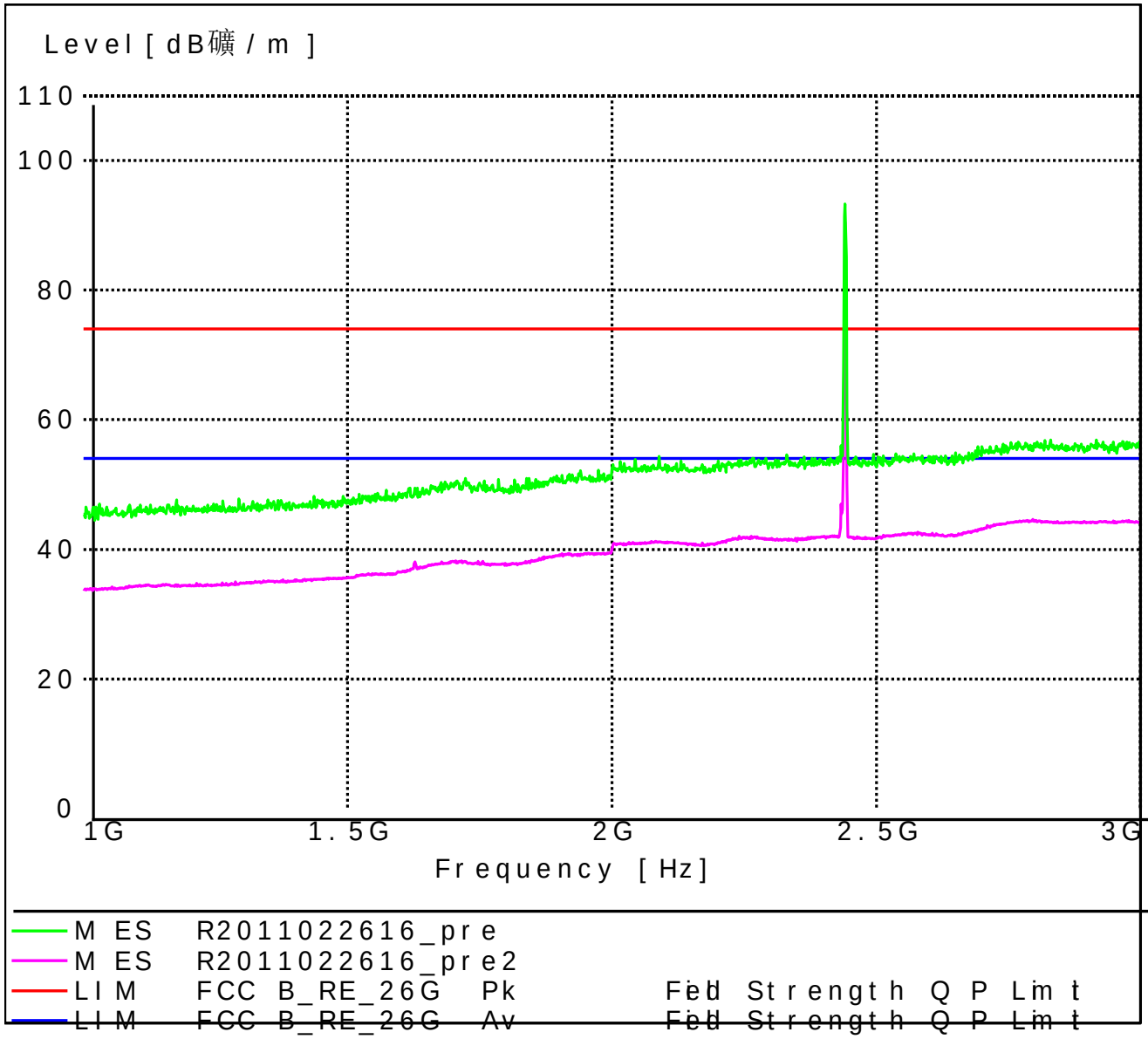
Frequency	Level	Transd	Limit	Margin	Det.	Height	Azimuth	Polarization
MHz	dBµV/m	dB	dBµV/m	dB		cm	deg	
32.580000	32.60	14.8	40.0	7.4	QP	100.0	164.00	VERTICAL

2.2 Test range of "1 GHz to 3 GHz"

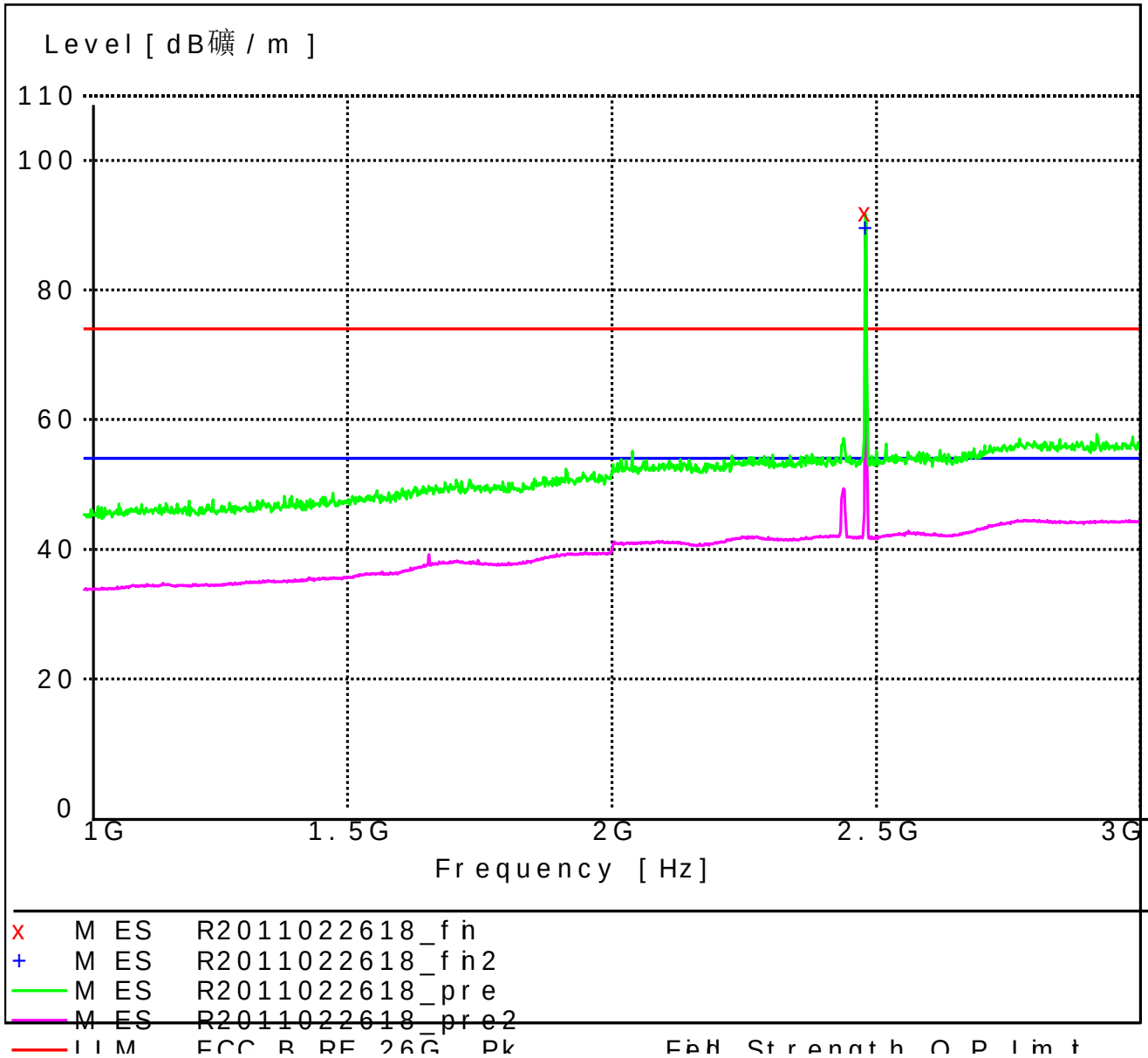
2.2.1 TM1_DH5_Ch0



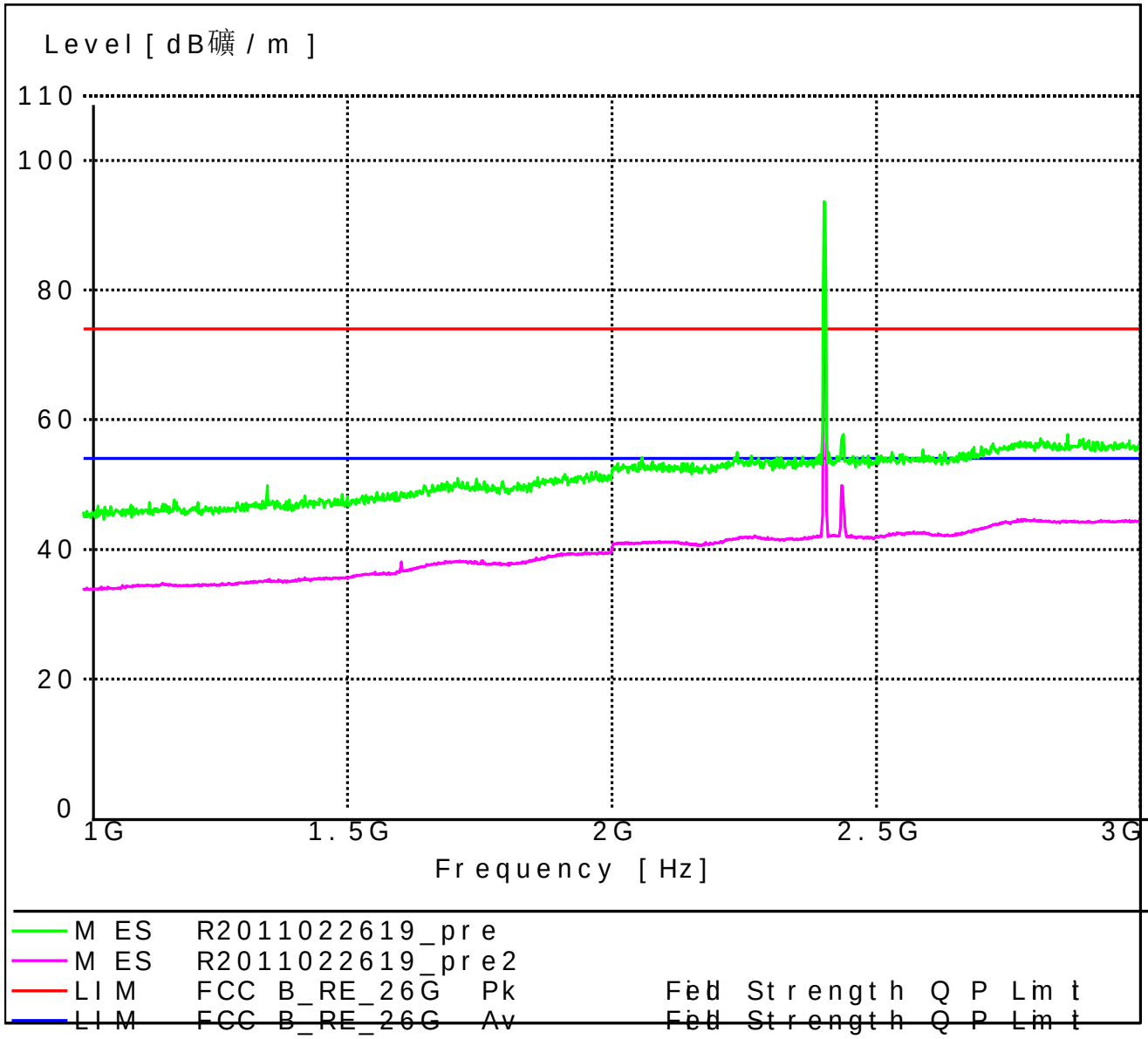
2.2.2 TM1_DH5_Ch39



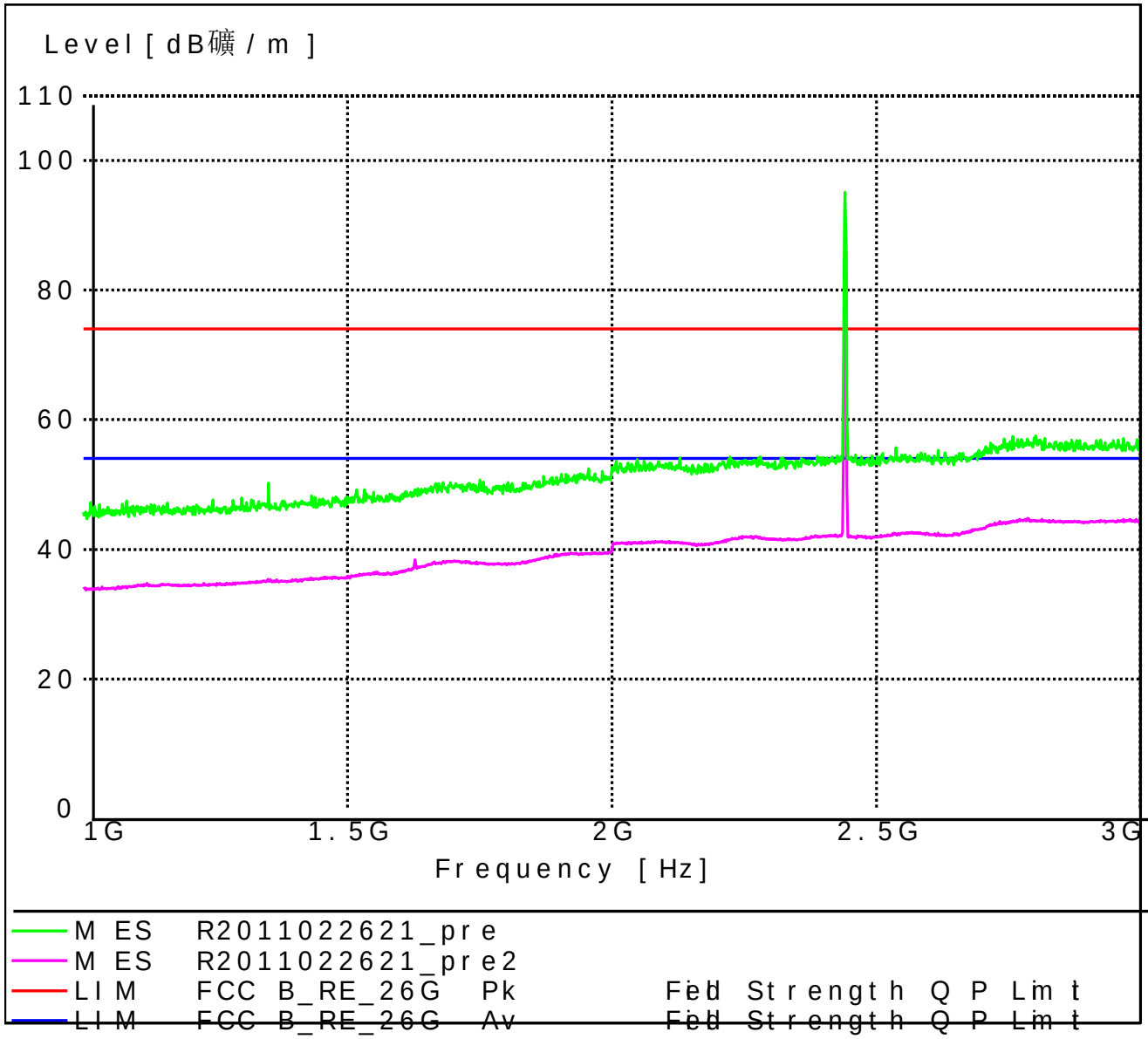
2.2.3 TM1_DH5_Ch78



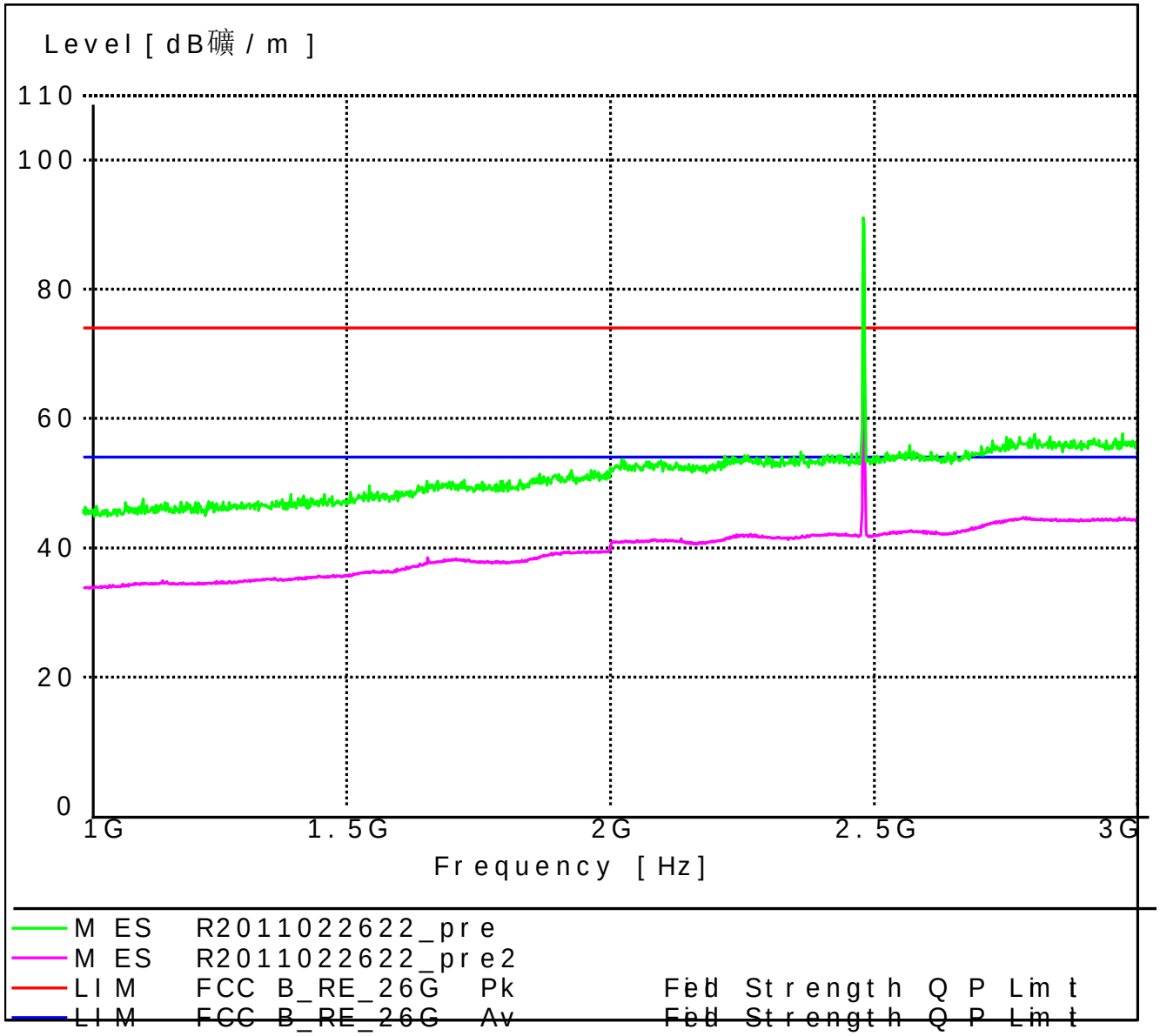
2.2.4 TM2_DH5_Ch0



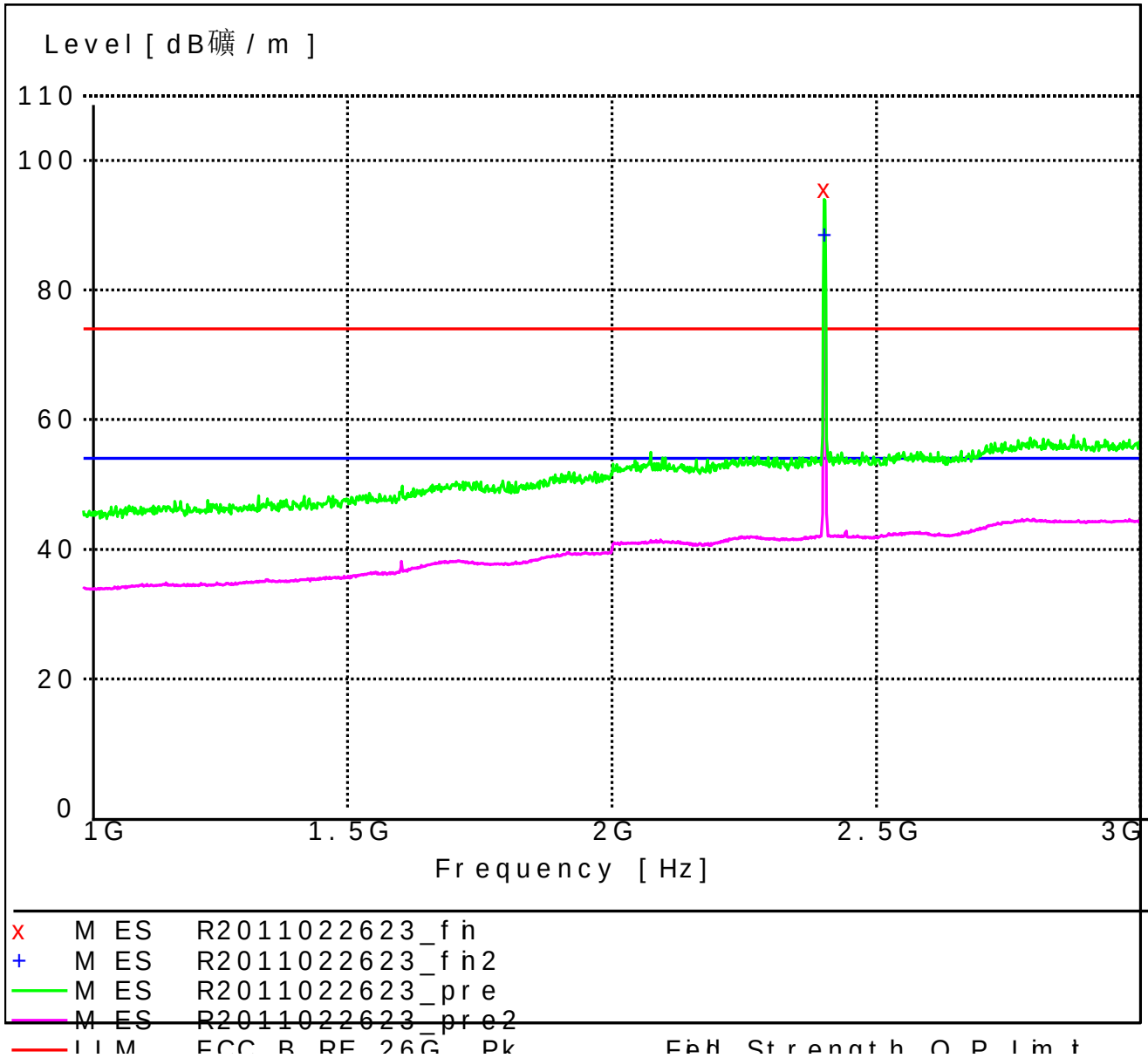
2.2.5 TM2_DH5_Ch39



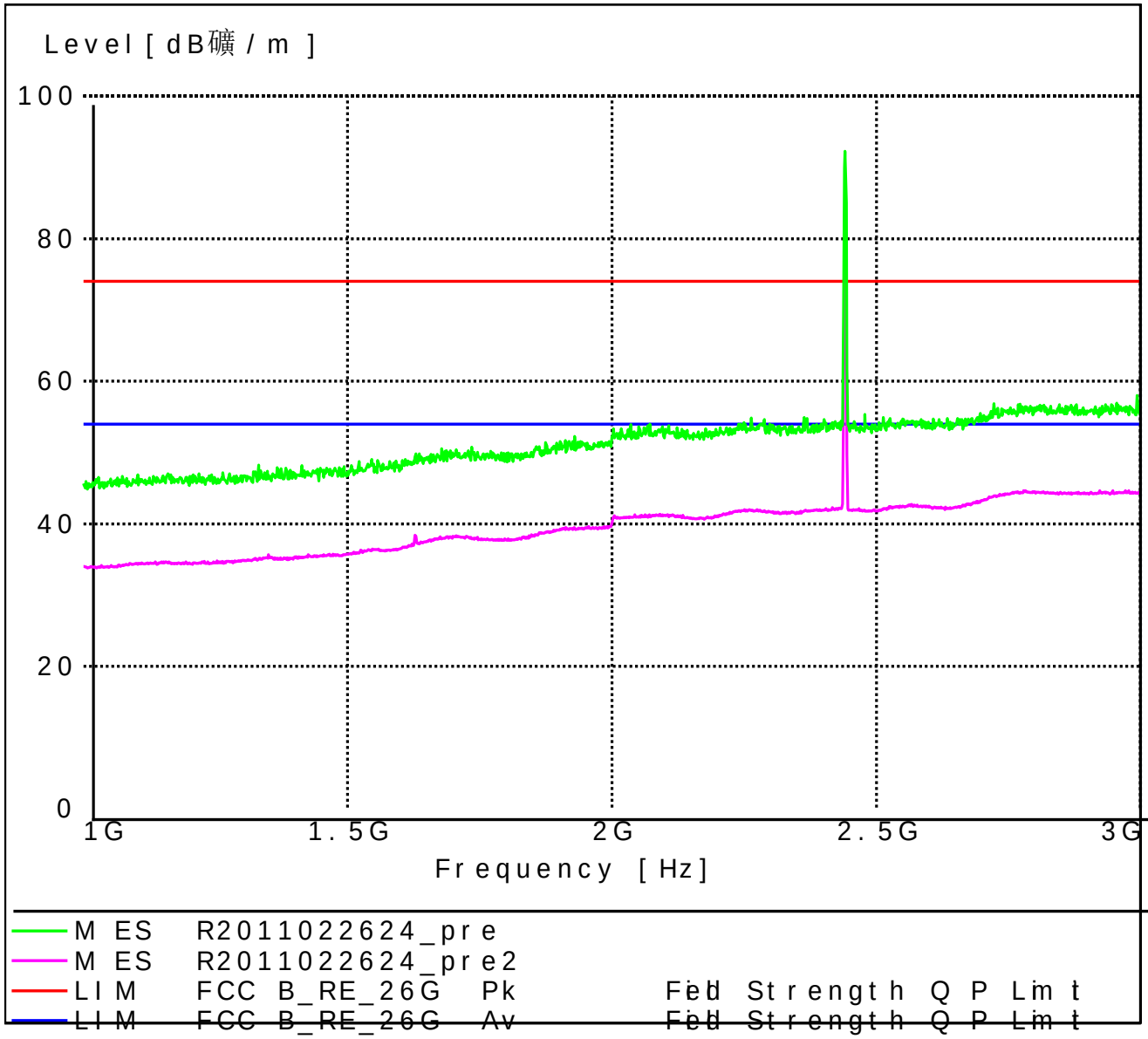
2.2.6 TM2_DH5_Ch78



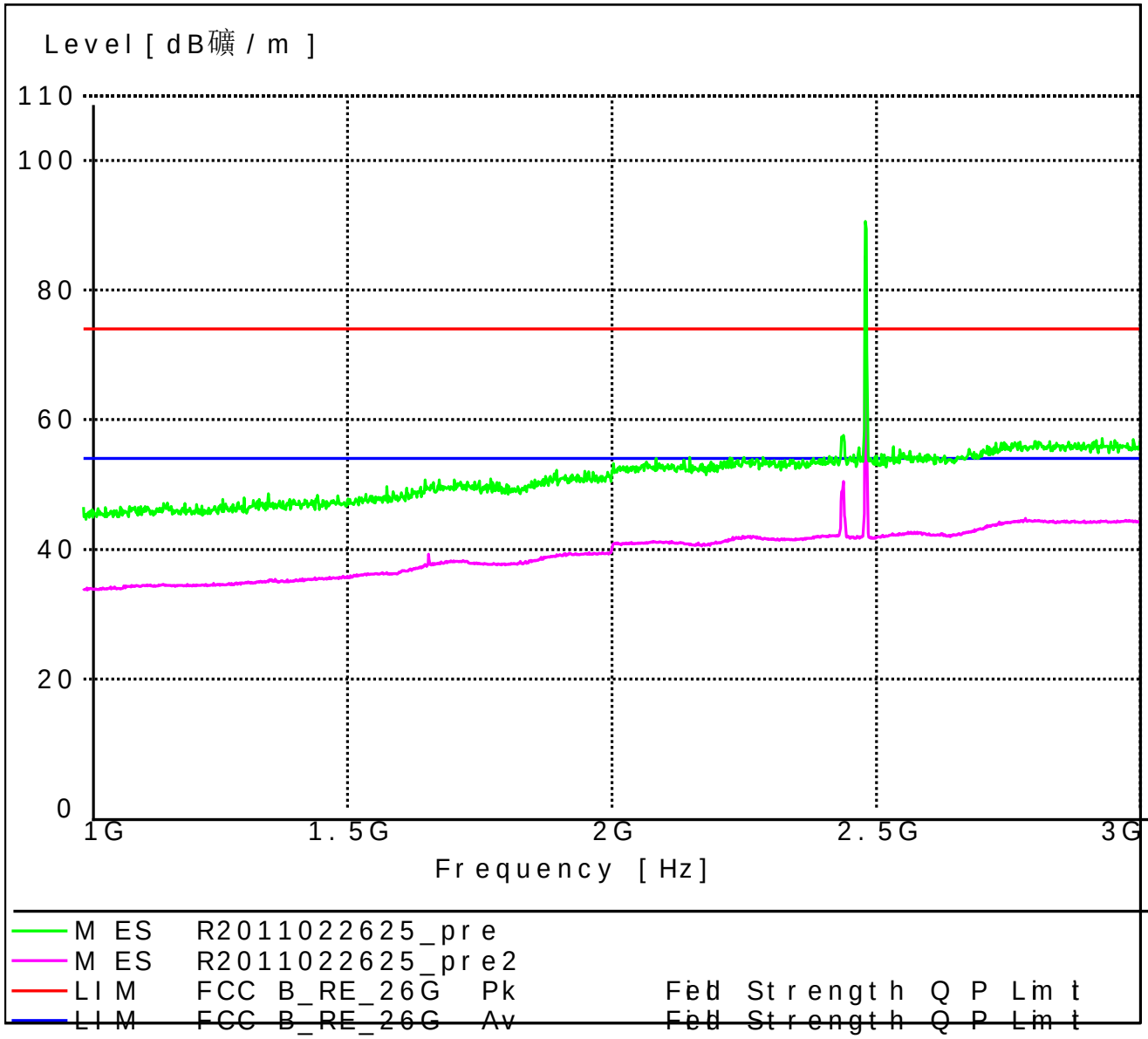
2.2.7 TM3_DH5_Ch0



2.2.8 TM3_DH5_Ch39

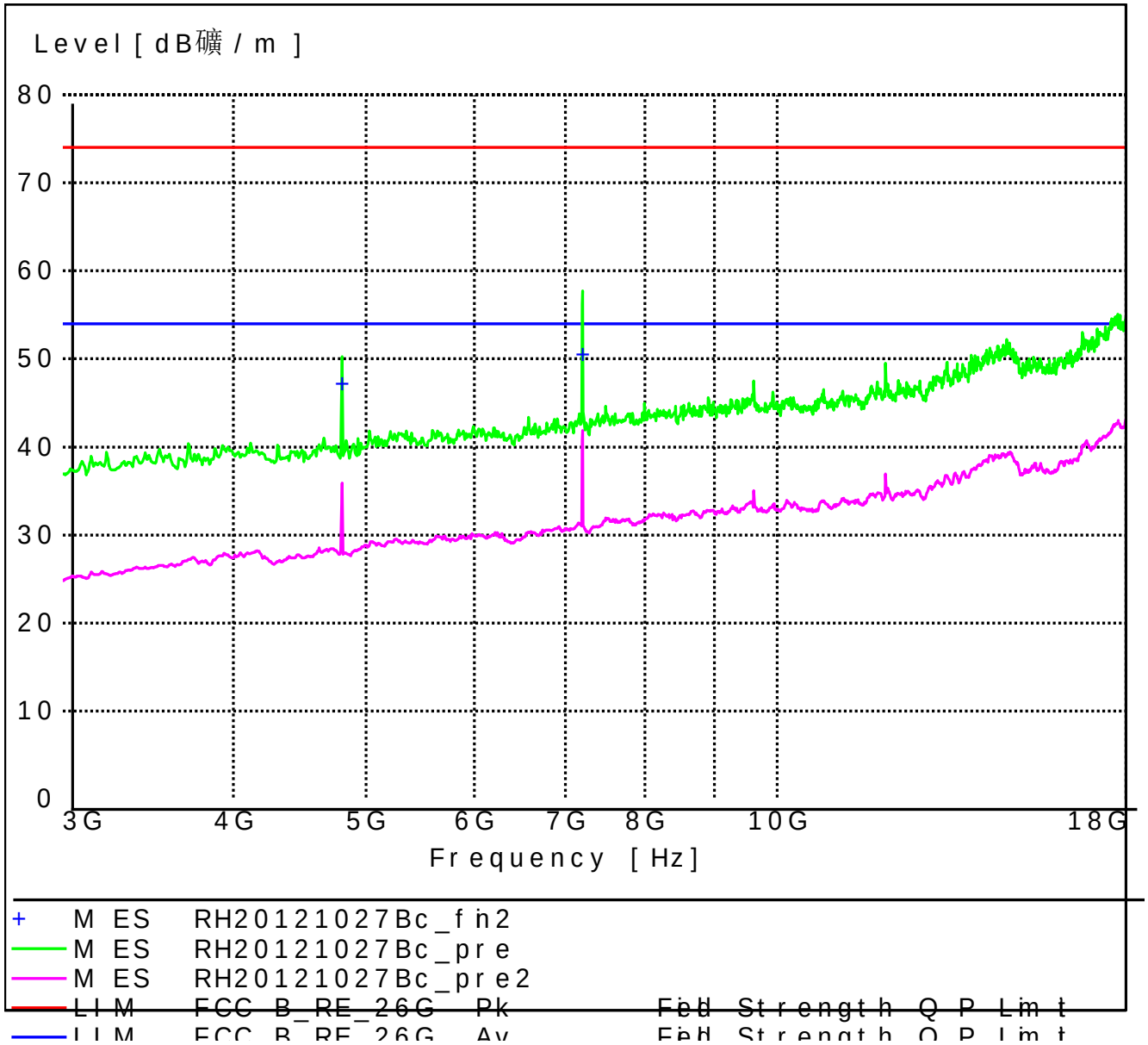


2.2.9 TM3_DH5_Ch78



2.3 Test range of “3 GHz to 18 GHz”

2.3.1 TM1_DH5_Ch0 (Worse Conf.)

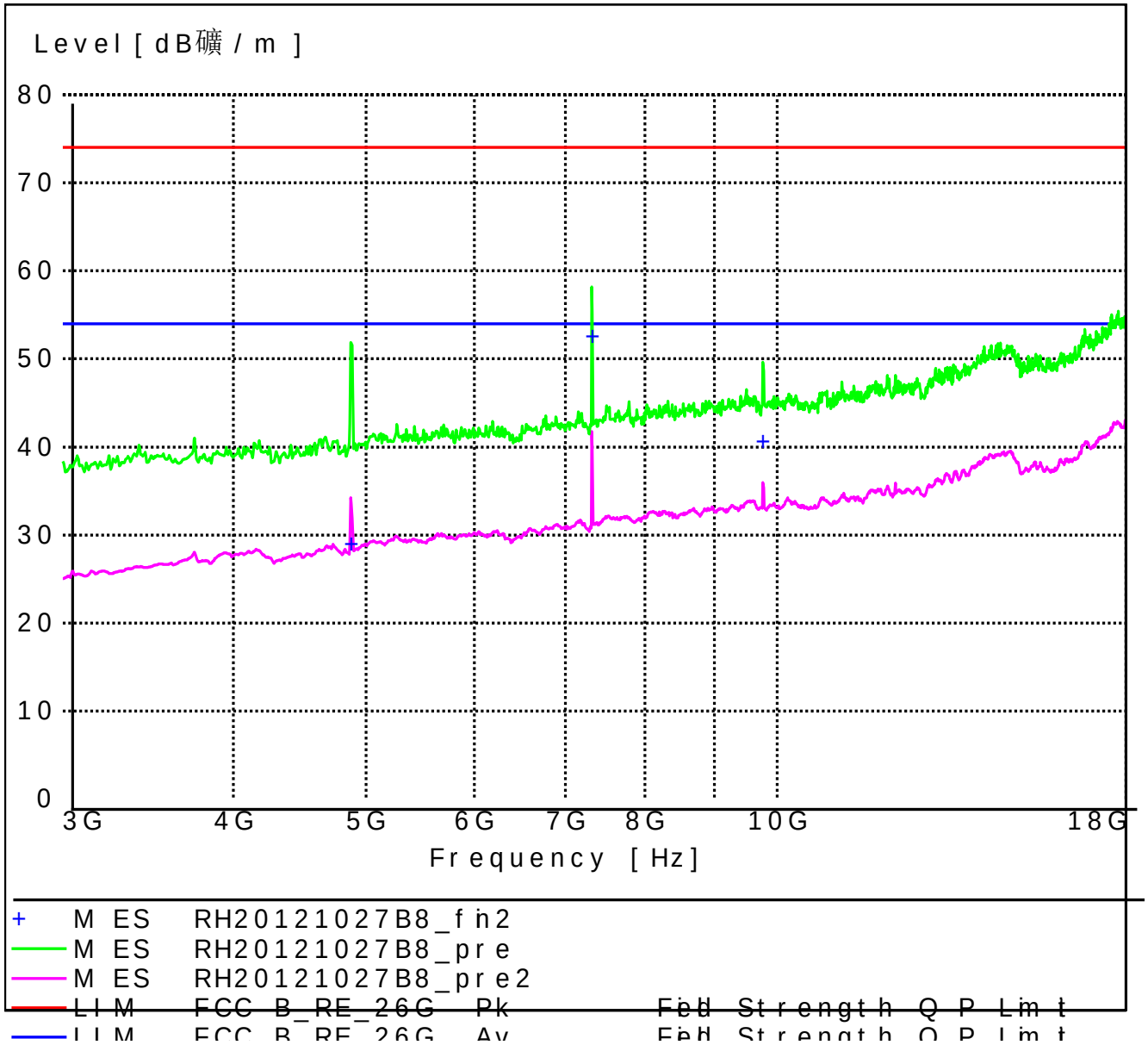


MEASUREMENT RESULT: "RH20121027Bc_fin2"

2012-10-27 18:46

Frequency	Level	Transd	Limit	Margin	Det.	Height	Azimuth	Polarization
MHz	dBµV/m	dB	dBµV/m	dB		cm	deg	
4804.000000	47.10	-2.6	54.0	6.9	AV	105.0	333.00	VERTICAL
7205.500000	50.40	2.4	54.0	3.6	AV	100.0	273.00	VERTICAL

2.3.2 TM1_DH5_Ch39 (Worse Conf.)

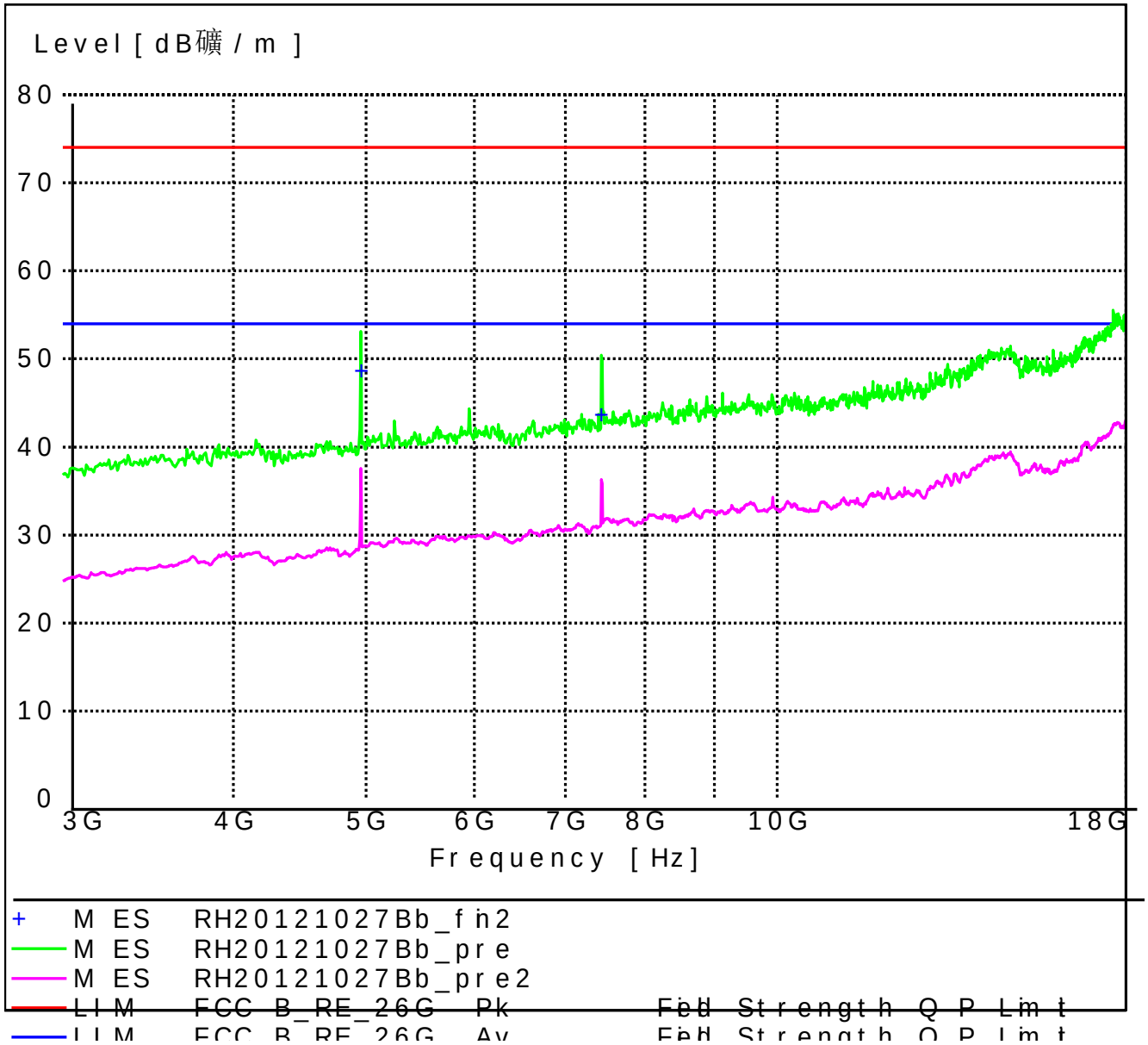


MEASUREMENT RESULT: "RH20121027B8_fin2"

2012-10-27 13:51

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
4879.500000	29.00	-2.2	54.0	25.0	AV	100.0	360.00	VERTICAL
7322.500000	52.50	2.4	54.0	1.5	AV	100.0	28.00	VERTICAL
9764.000000	40.60	6.0	54.0	13.4	AV	100.0	185.00	VERTICAL

2.3.3 TM1_DH5_Ch78 (Worse Conf.)



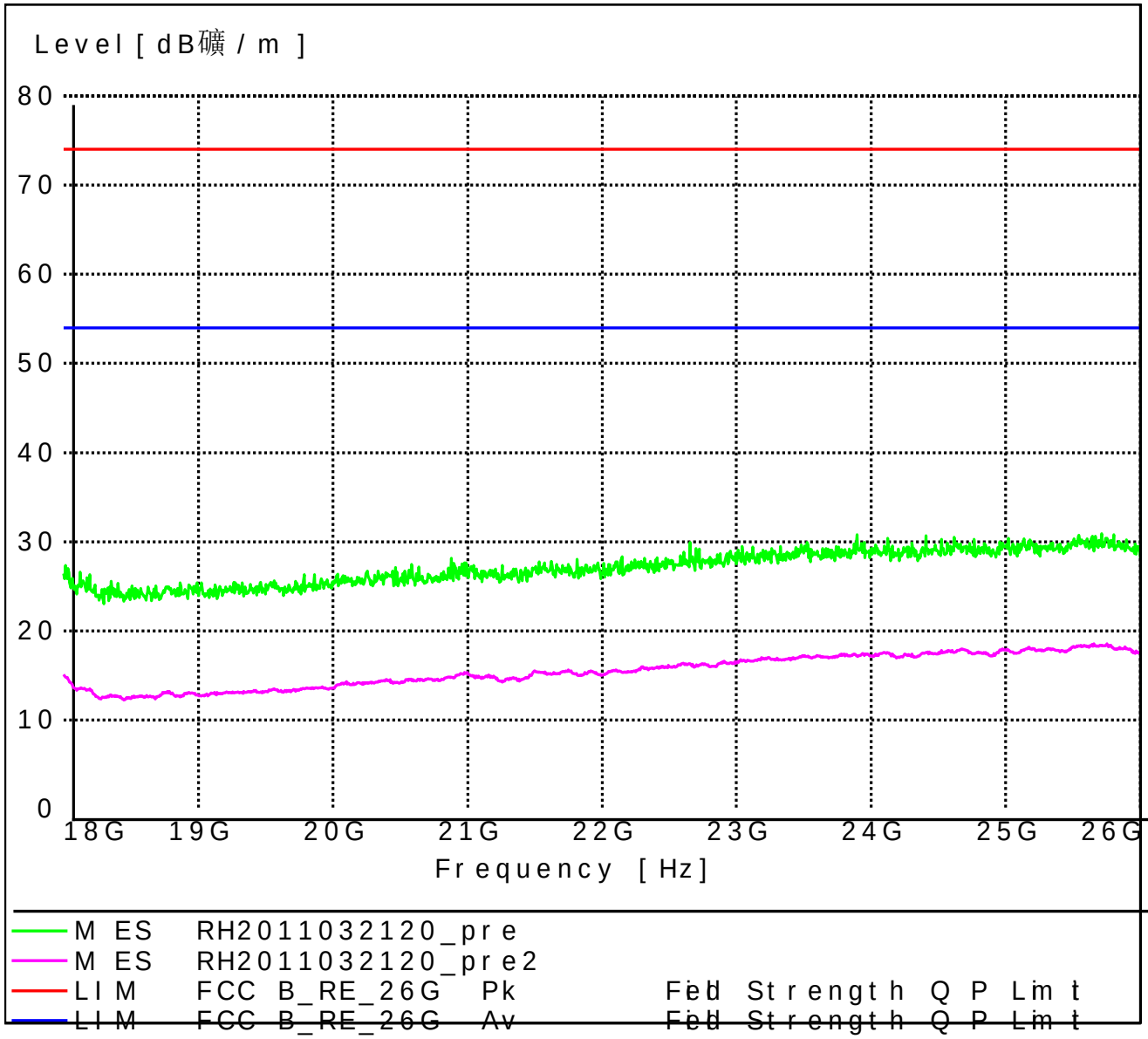
MEASUREMENT RESULT: "RH20121027Bb_fin2"

2012-10-27 18:36

Frequency	Level	Transd	Limit	Margin	Det.	Height	Azimuth	Polarization
MHz	dBµV/m	dB	dBµV/m		dB	cm	deg	
4960.000000	48.60	-1.8	54.0	5.4	AV	100.0	1.00	VERTICAL
7439.500000	43.60	3.0	54.0	10.4	AV	100.0	18.00	VERTICAL

2.4 Test range of “18 GHz to 26.5 GHz”

2.4.1 TM1_DH5_Ch78 (Worst Conf.)



Appendix H: Receiver Spurious Emissions

1 Result Table

(Not applicable)

Appendix I: AC Power Line Conducted Emissions

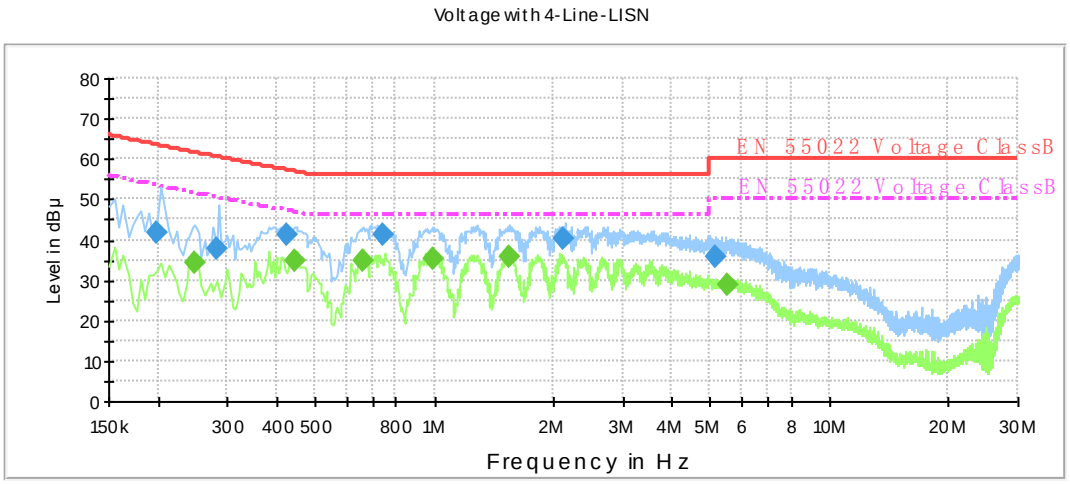
1 Result Table

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



Final Result 1

Frequency (MHz)	QuasiPeak (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)	Comment
0.199500	41.7	1000.0	9.000	GND	L3	10.5	21.8	63.5	
0.280500	37.8	1000.0	9.000	GND	L3	10.5	22.8	60.6	
0.424500	41.2	1000.0	9.000	GND	N	10.4	16.1	57.3	
0.739500	41.0	1000.0	9.000	GND	N	10.4	15.0	56.0	
2.128305	40.5	1000.0	9.000	GND	N	10.4	15.5	56.0	
5.137298	36.0	1000.0	9.000	GND	L3	10.4	24.0	60.0	

Final Result 2

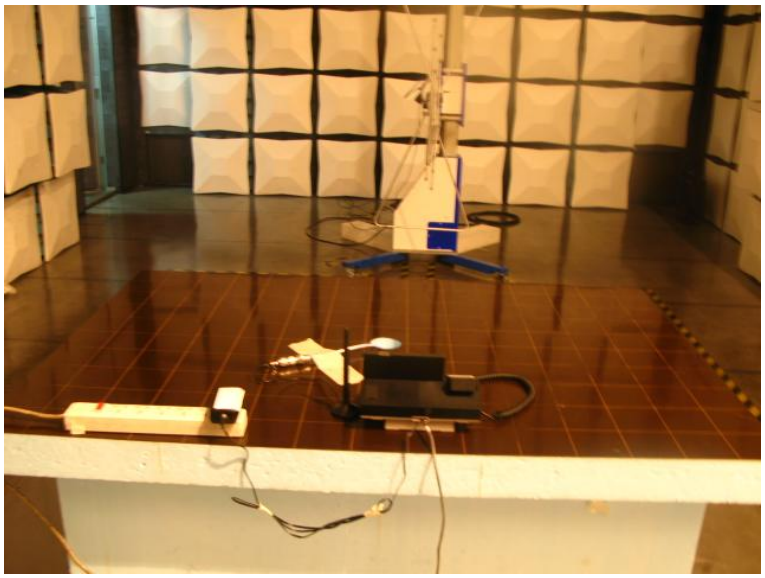
Frequency (MHz)	Average (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)	Comment
0.249000	34.1	1000.0	9.000	GND	N	10.5	17.4	51.5	
0.442500	35.0	1000.0	9.000	GND	N	10.4	11.9	46.9	
0.658500	34.7	1000.0	9.000	GND	N	10.4	11.3	46.0	
0.991042	35.2	1000.0	9.000	GND	N	10.4	10.8	46.0	
1.550752	35.8	1000.0	9.000	GND	N	10.4	10.2	46.0	
5.544638	28.8	1000.0	9.000	GND	L3	10.4	21.2	50.0	

Appendix J: Photos of Test Setups

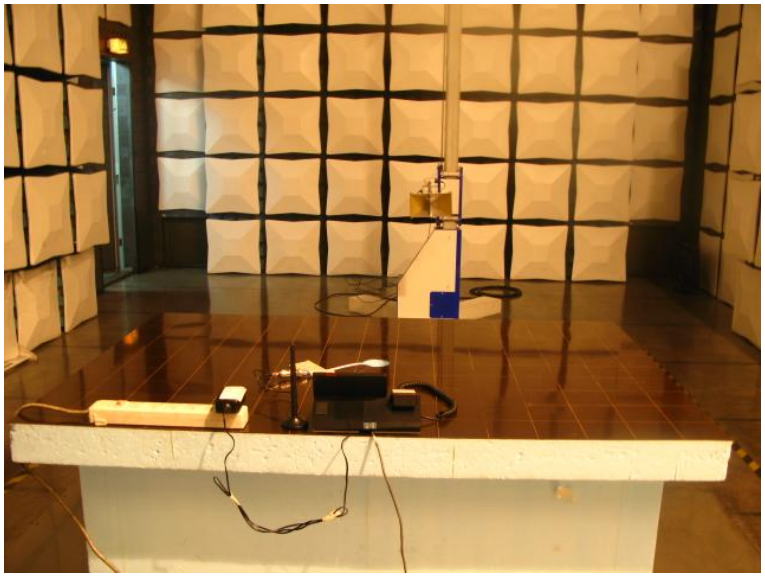
1 Test Setup 2

1.1 Radiated Emissions in the Restricted Bands

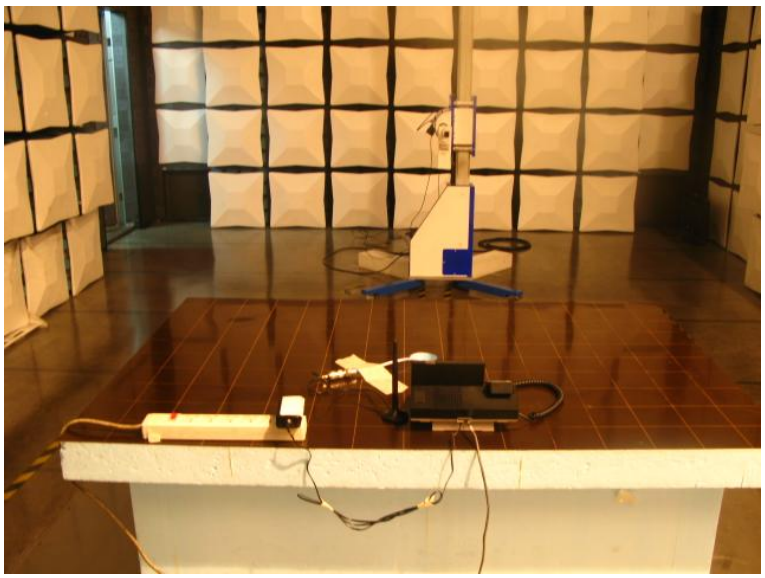
1.1.1 Measurement Setup from 30 MHz to 1 GHz



1.1.2 Measurement Setup from 1 GHz to 3 GHz, 3 GHz to 18 GHz



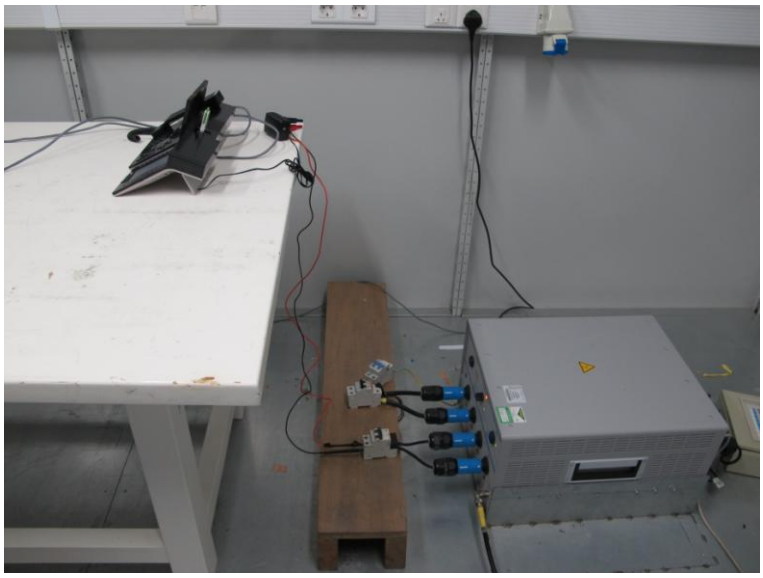
1.1.3 Measurement Setup from 18 GHz to 26.5 GHz



1.2 Receiver Spurious Emissions (Radiated)

(Not applicable)

2 Test Setup 3



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