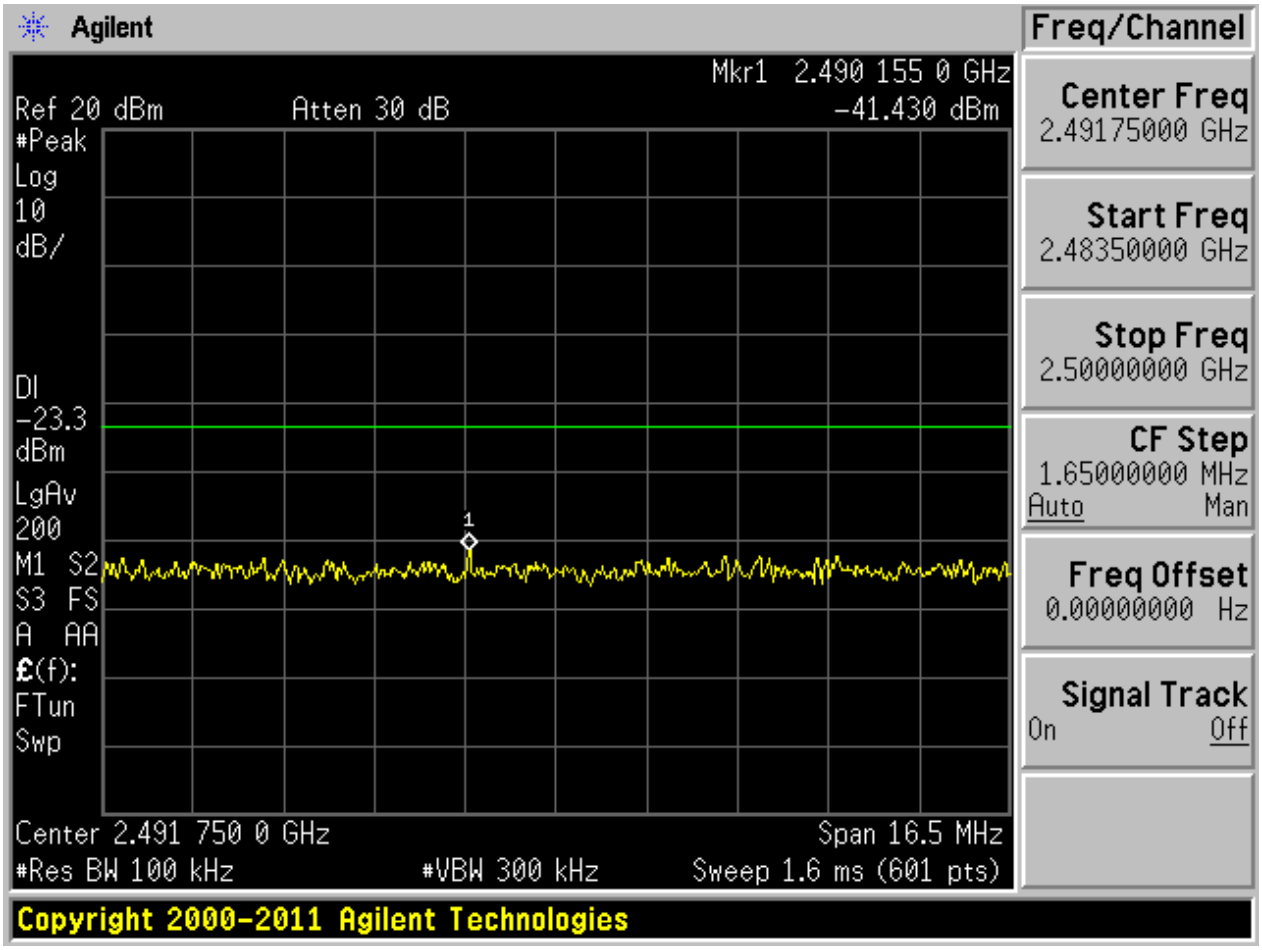

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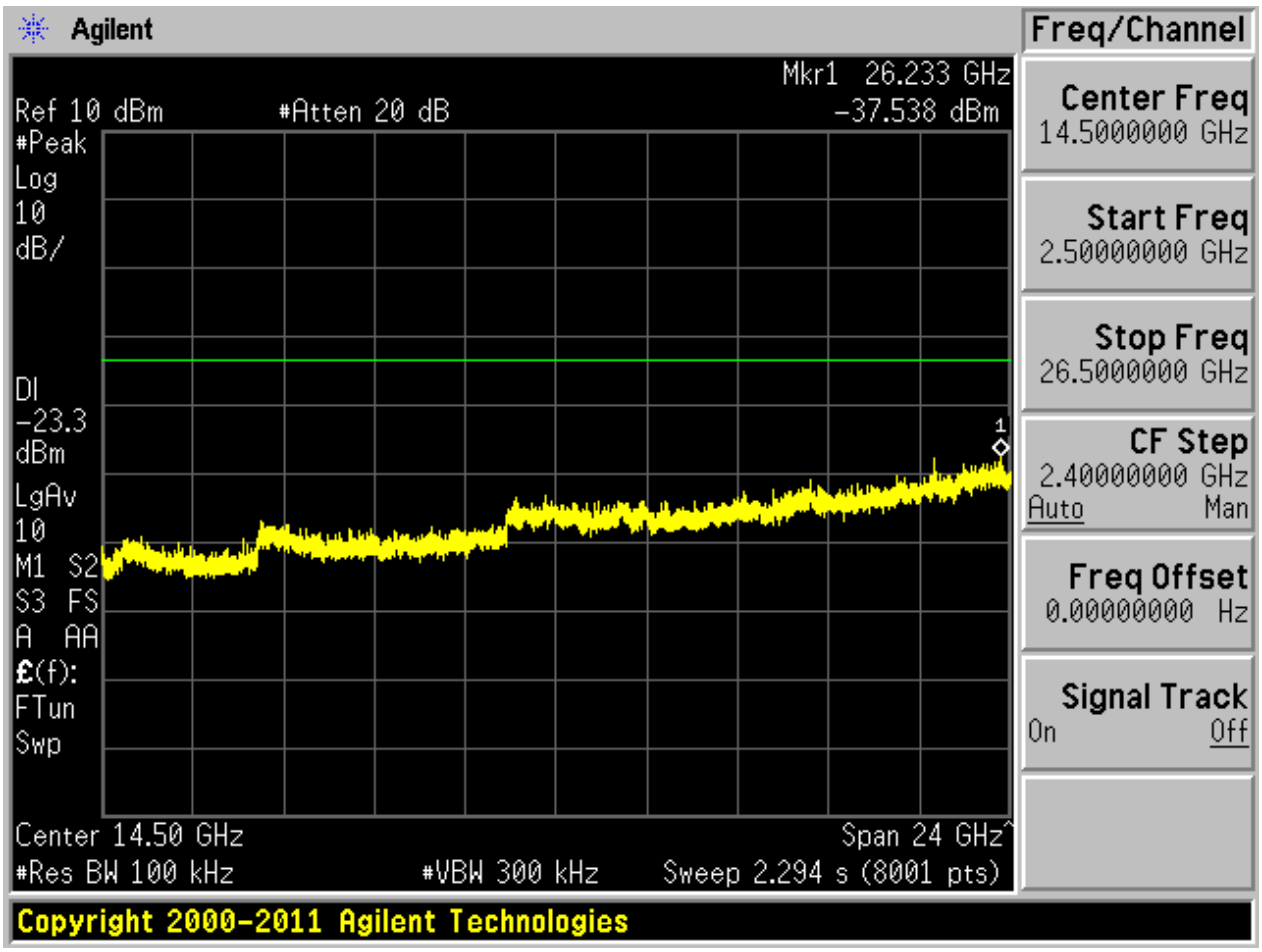

2.27.3 Ant 3

2.27.3.1 Pref

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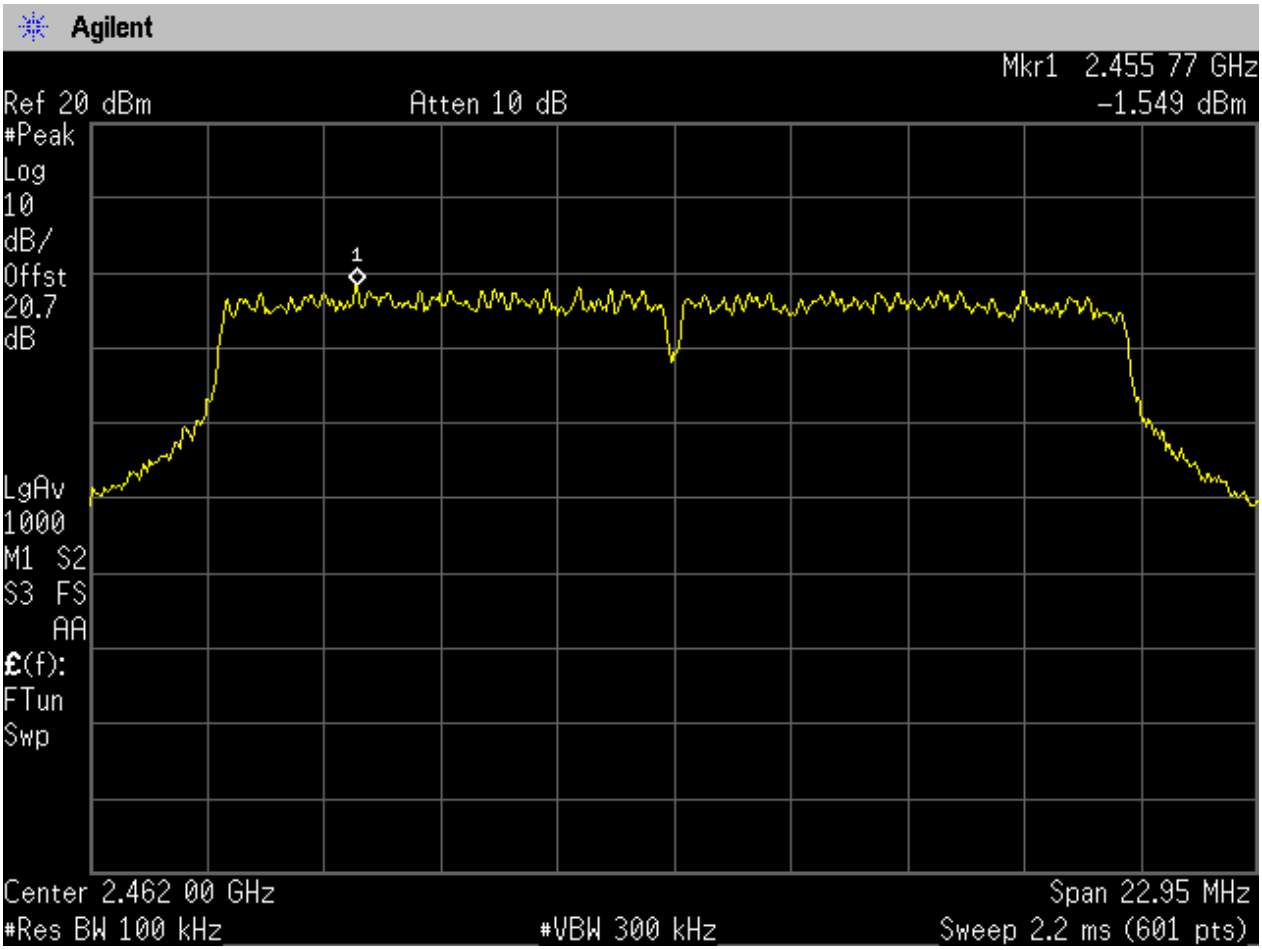

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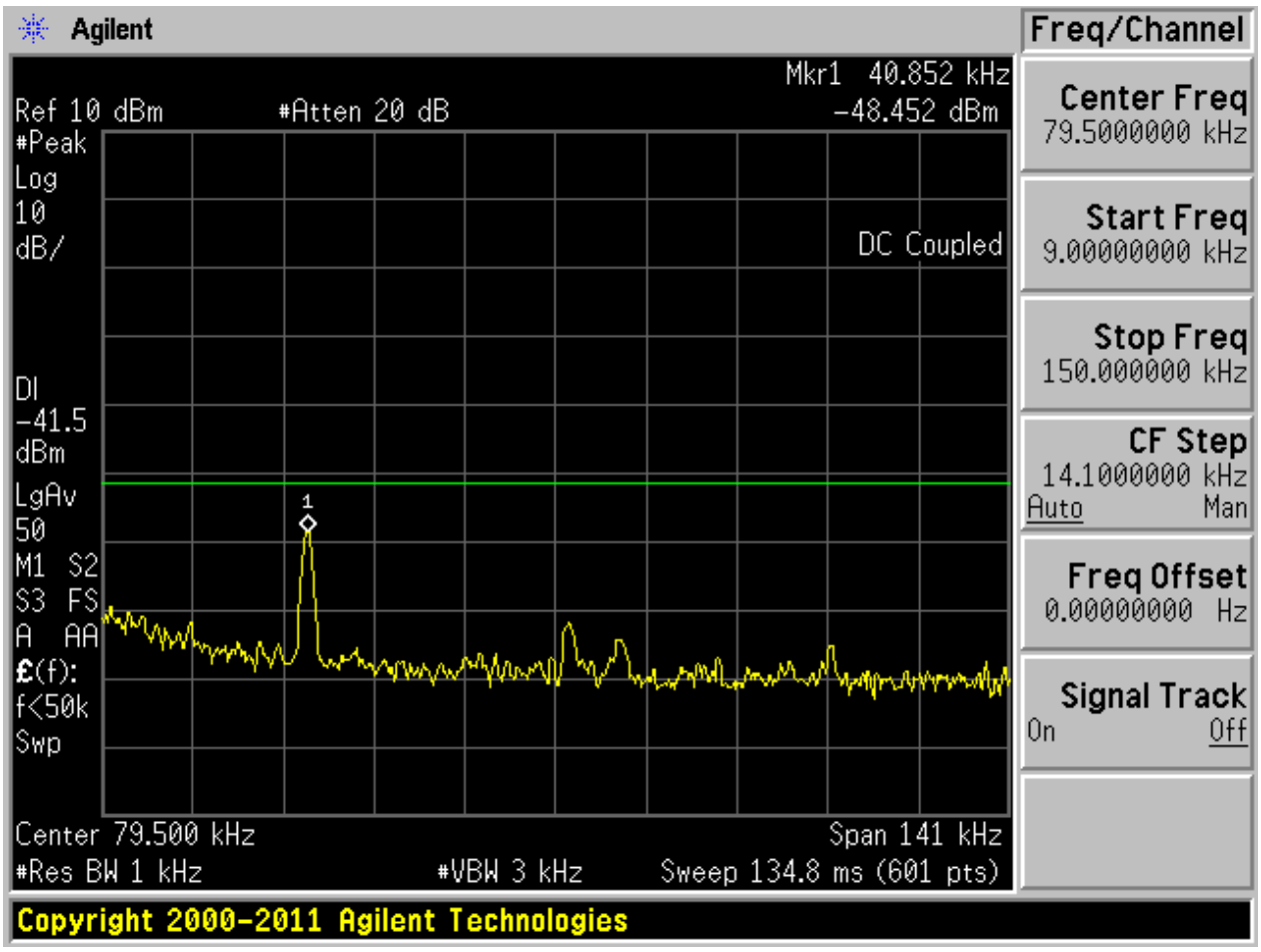

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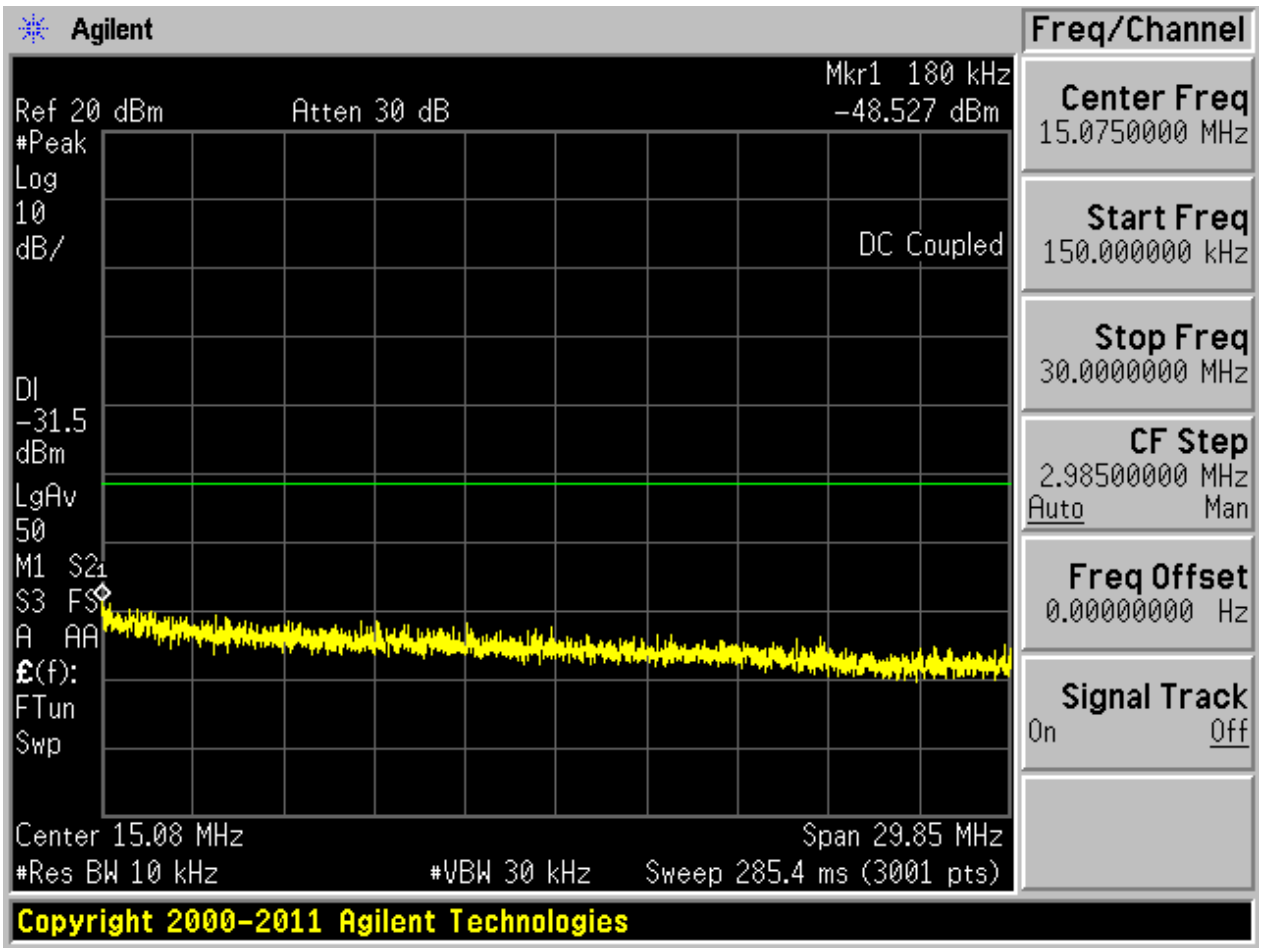

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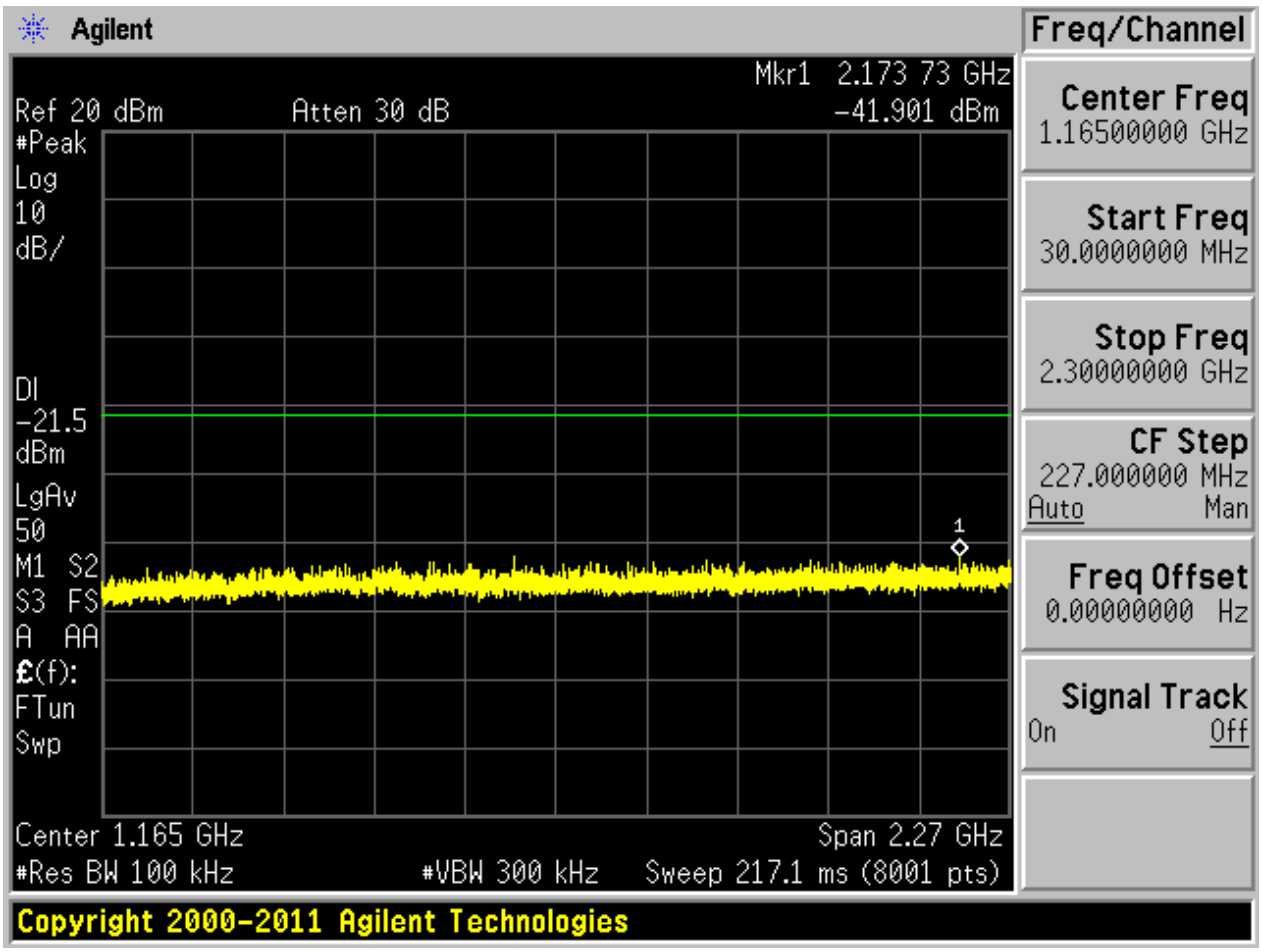

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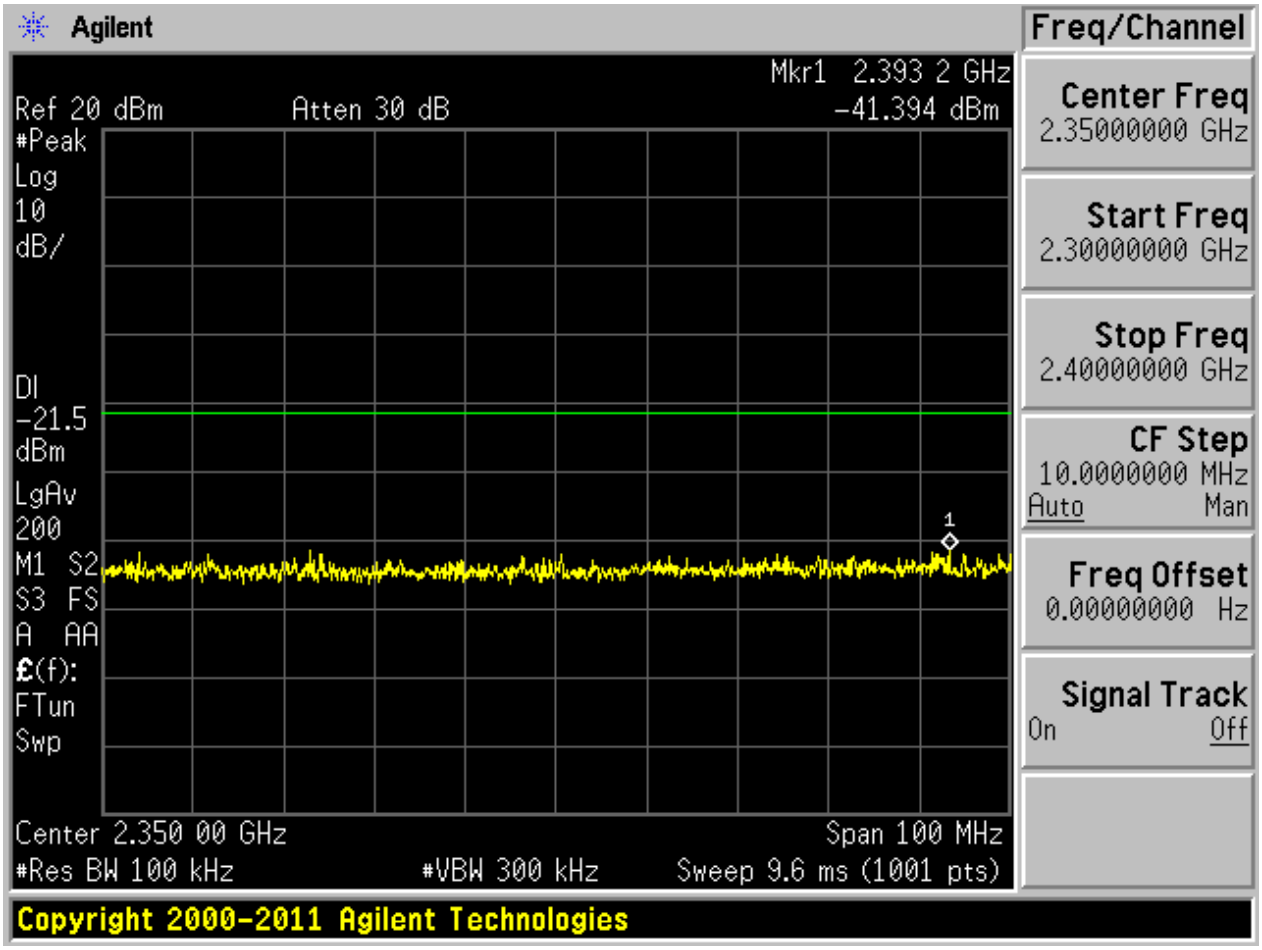

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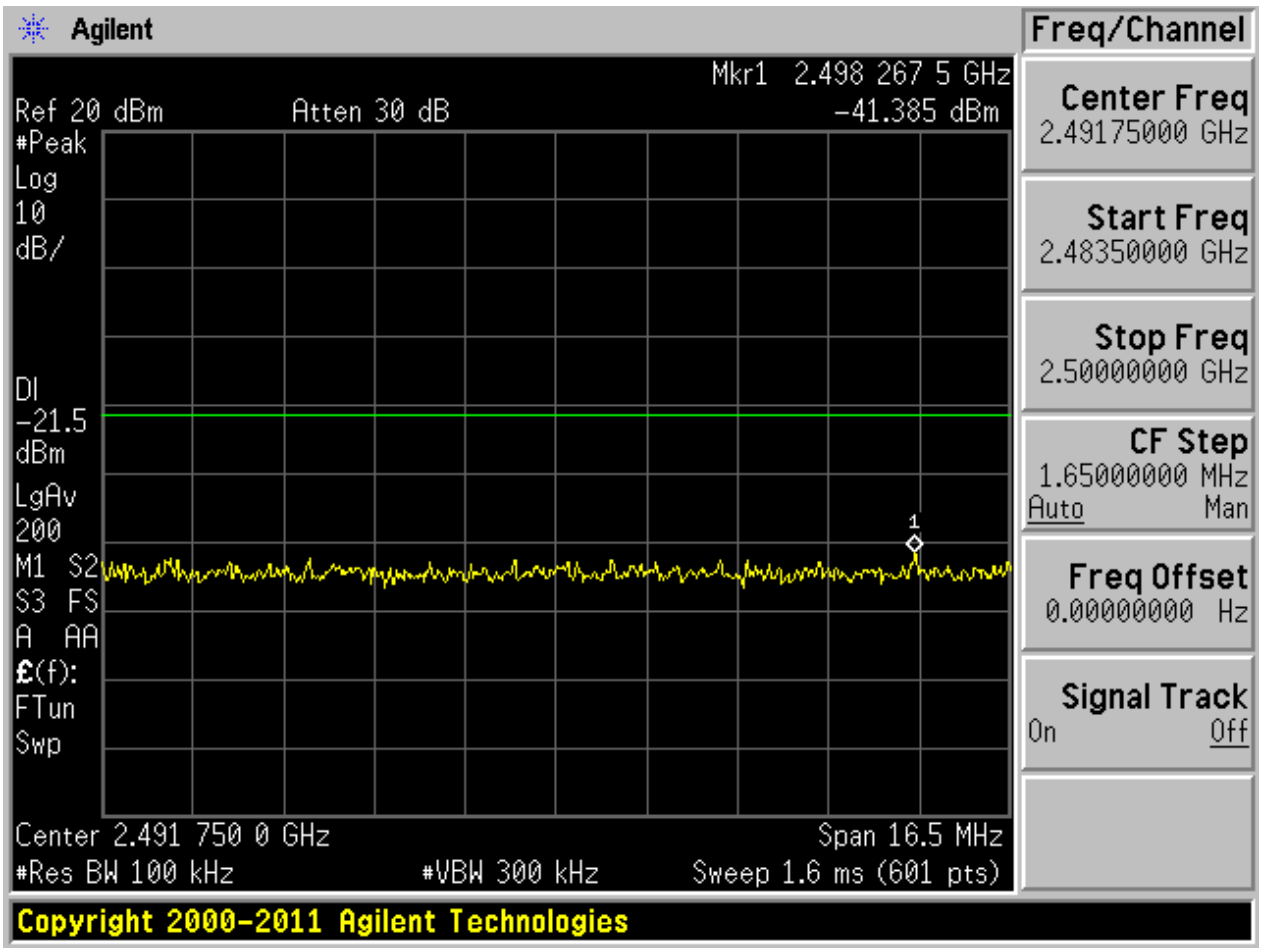

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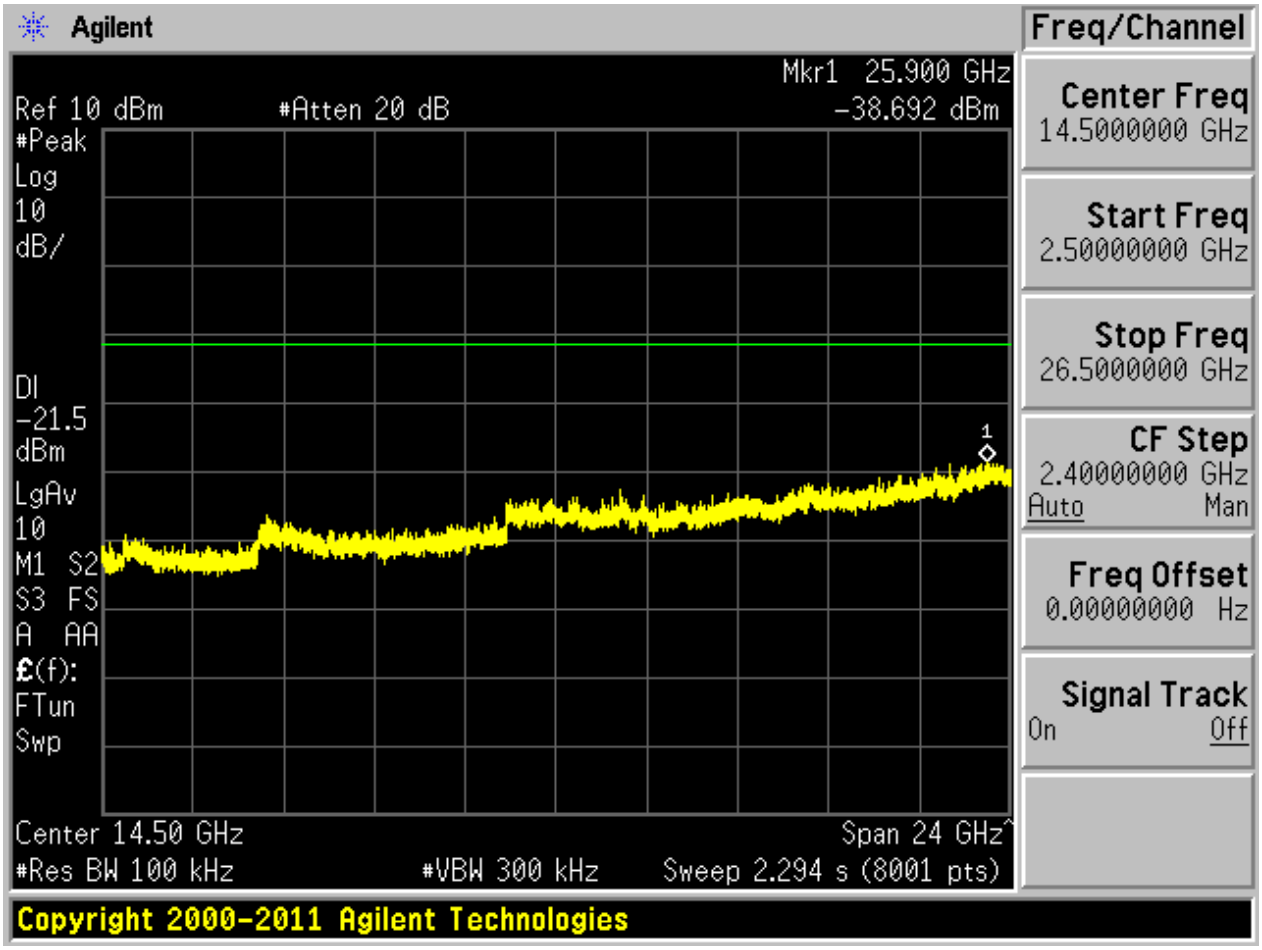

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Appendix F.1: Unwanted Emissions into Restricted Frequency Bands (Conducted)

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According to FCC KDB 558074, the limit for antenna-port conducted measurement may be converted by the formula of “Plim [dBm] = Elim [dBµV/m] + 20 x lg(d [m]) – 104.8 [dB] – G [dBi] – factor [dB]”, where:

- “Plim” denotes the antenna-port conducted limit,
- “Elim” denotes the electric field strength limit,
- “d” denotes the measurement distance for radiated measurement,
- “G” denotes the antenna gain (max per port), or 2 dBi, whichever is greater, and
- “factor” denotes the factor to model worst-case ground reflections, that is 6.0 dB for emissions ≤ 30 MHz, 4.7 dB for emissions > 30 MHz and ≤ 1000 MHz, and 0.0 dB for emissions > 1000 MHz.

The measurement contains two steps:

- For the measurement below 1 GHz:
  (Step 1): Pre-measurement with Peak detector and CISPR Quasi-peak limit;
  (Step 2): if needed, measurement with CISPR Quasi-peak detector and limit based on the Step 1.
- For the measurement above 1 GHz:
  (Step 1): measurement with Average detector and Average limit;
  (Step 2): measurement with Peak detector and Peak limit.

The measurement of unwanted emissions at the edge of the authorized frequency bands can be complicated by the leakage of RF energy from the fundamental emission into the RBW passband. For measurements at the band edges, a narrower RBW is used within the first 1 MHz beyond the fundamental emissions (in this Appendix it refers to the range 2483.5 MHz to 2484.5 MHz) and the measured energy is subsequently integrated over the appropriate reference bandwidth (i.e. 1 MHz).

For measurements on smart antenna systems (devices with multiple transmit chains), the test is performed at each chain as “Emissions@i [dBm]”, and used as respective results for each chain to compare with the corrected limit Plim@i [dBm] = Plim [dBm] – 10 x lg(N) [dB] (the N denotes the antenna chains used by smart antenna systems). NOTE that the method is a stringent but convenient consideration, because each chain may have different spectrum occurrence. For the final judgment, the measured emissions for each antenna chain “Emissions@i [dBm]” (Trace#i) should be added linearly frequency-by-frequency to get the final result “Emissions [dBm]” (Trace#sum), which is used to compared with the limit “Plim [dBm]”. Unless otherwise specified, the method for final judgment will not be used.

In the result table, the “< Limit” denotes that “Not found obvious spikes or see marked spikes on plots and listed emissions records”.

1 Result Table

EUT Conf.	Ant.	Emissions@i [dBm]	Emissions [dBm]	Verdict
11B/1_B@2	Ant 2	< Limit	= Emissions@i	Pass
11B/1_M@2	Ant 2	< Limit	= Emissions@i	Pass
11B/1_T@2	Ant 2	< Limit	= Emissions@i	Pass
11Bd/1_B@1+2	Ant 1	< Limit	< Limit	Pass
	Ant 2	< Limit		

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EUT Conf.	Ant.	Emissions@i [dBm]	Emissions [dBm]	Verdict
11Bd/1_M@1+2	Ant 1	< Limit	< Limit	Pass
	Ant 2	< Limit		
11Bd/1_T@1+2	Ant 1	< Limit	< Limit	Pass
	Ant 2	< Limit		
11Bd/1_B@1+2+3	Ant 1	---	< Limit (**)	Pass
	Ant 2	---		
	Ant 3	---		
11Bd/1_M@1+2+3	Ant 1	< Limit	< Limit	Pass
	Ant 2	< Limit		
	Ant 3	< Limit		
11Bd/1_T@1+2+3	Ant 1	< Limit	< Limit	Pass
	Ant 2	< Limit		
	Ant 3	< Limit		
11G/6_B@2	Ant 2	< Limit	= Emissions@i	Pass
11G/6_M@2	Ant 2	< Limit	= Emissions@i	Pass
11G/6_T@2	Ant 2	< Limit	= Emissions@i	Pass
11Gd/6_B@1+2	Ant 1	< Limit	< Limit	Pass
	Ant 2	< Limit		
11Gd/6_M@1+2	Ant 1	< Limit	< Limit	Pass
	Ant 2	< Limit		
11Gd/6_T@1+2	Ant 1	< Limit	< Limit	Pass
	Ant 2	< Limit		
11Gd/6_B@1+2+3	Ant 1	< Limit	< Limit	Pass
	Ant 2	< Limit		
	Ant 3	< Limit		
11Gd/6_M@1+2+3	Ant 1	< Limit	< Limit	Pass
	Ant 2	< Limit		
	Ant 3	< Limit		
11Gd/6_T@1+2+3	Ant 1	< Limit	< Limit	Pass
	Ant 2	< Limit		
	Ant 3	< Limit		
11N20/0_B@2	Ant 2	< Limit	= Emissions@i	Pass
11N20/0_M@2	Ant 2	< Limit	= Emissions@i	Pass
11N20/0_T@2	Ant 2	< Limit	= Emissions@i	Pass
11N20m/8_B@1+2	Ant 1	< Limit	< Limit	Pass
	Ant 2	< Limit		
11N20m/8_M@1+2	Ant 1	< Limit	< Limit	Pass
	Ant 2	< Limit		
11N20m/8_T@1+2	Ant 1	< Limit	< Limit	Pass
	Ant 2	< Limit		
11N20m/16_B@1+2	Ant 1	< Limit	< Limit	Pass

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EUT Conf.	Ant.	Emissions@i [dBm]	Emissions [dBm]	Verdict
+3	Ant 2	< Limit		
	Ant 3	< Limit		
11N20m/16_M@1+2 +3	Ant 1	< Limit	< Limit	Pass
	Ant 2	< Limit		
	Ant 3	< Limit		
11N20m/16_T@1+2 +3	Ant 1	< Limit	< Limit	Pass
	Ant 2	< Limit		
	Ant 3	< Limit		
(**): The method for final judgment is used for this configuration.				

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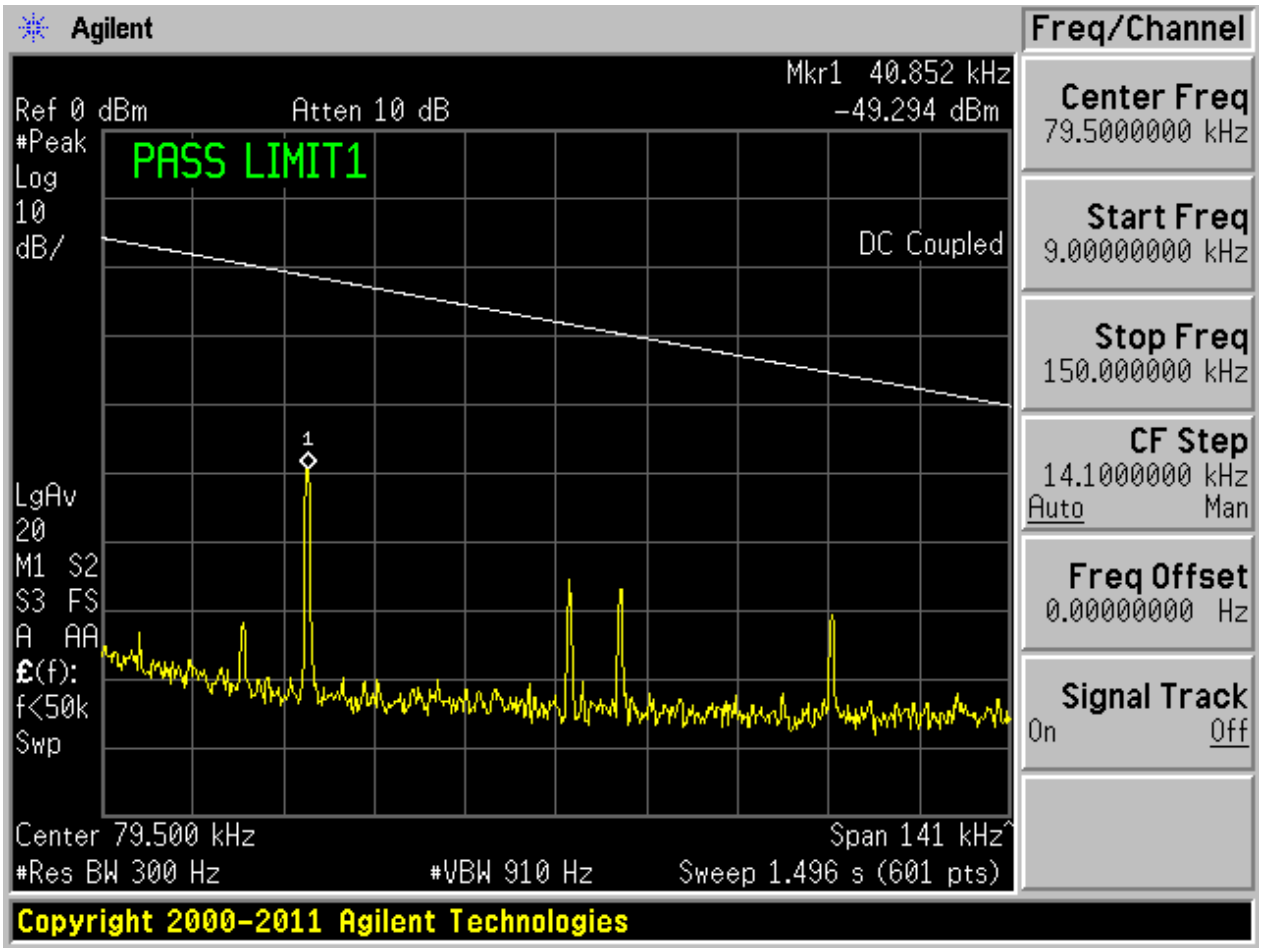
2 Result Plot

2.1 11B/1_B@2



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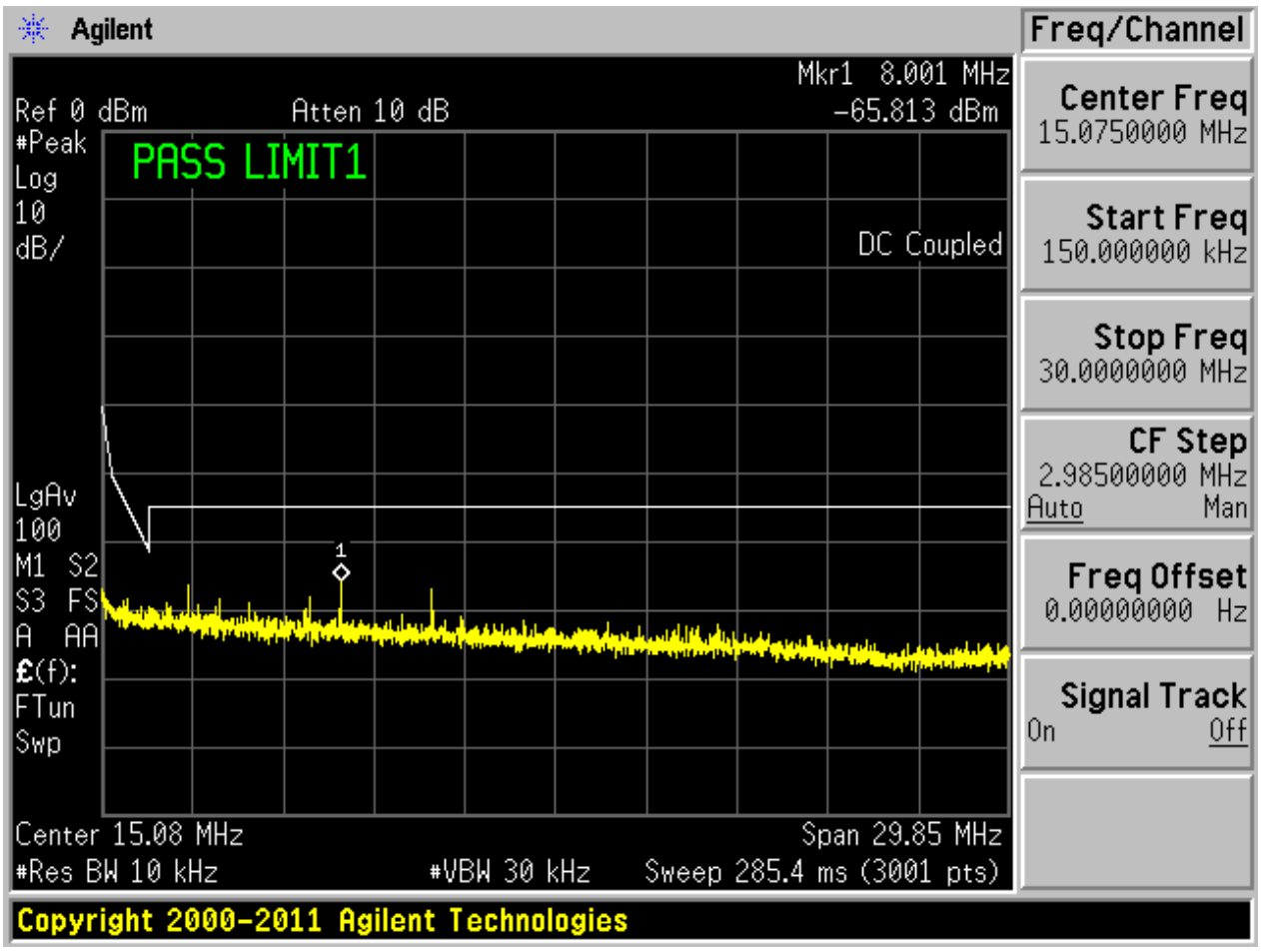

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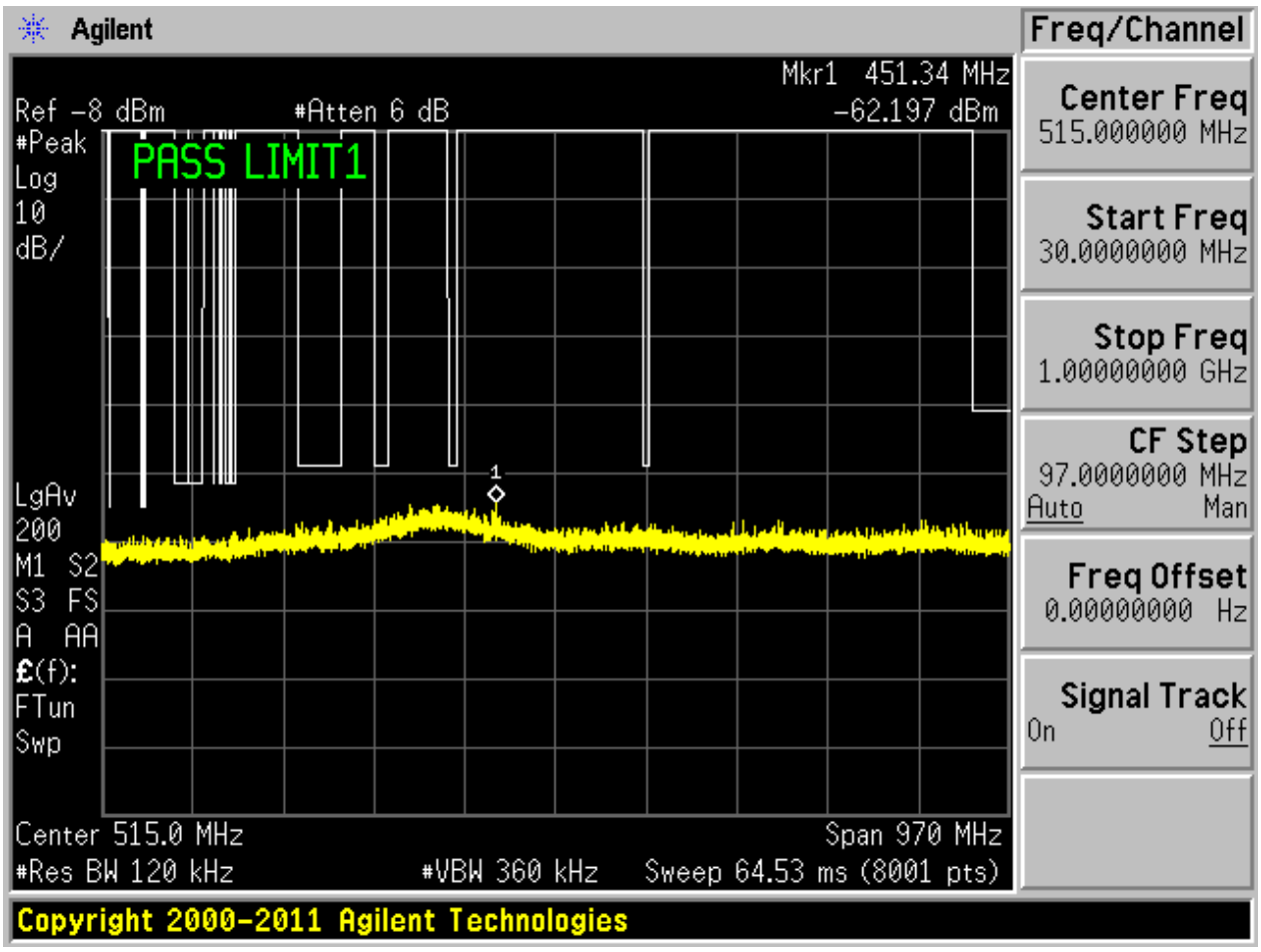

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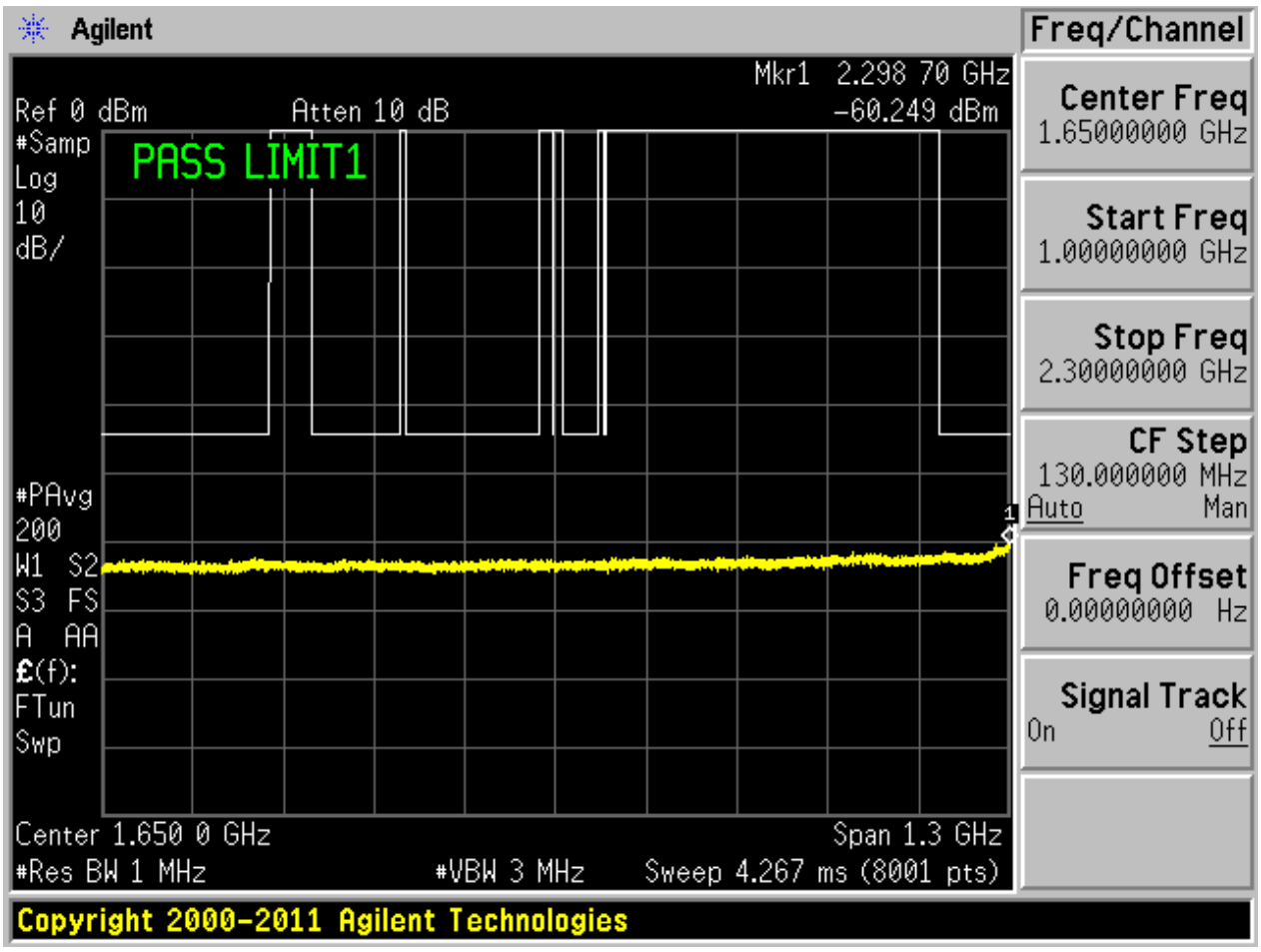

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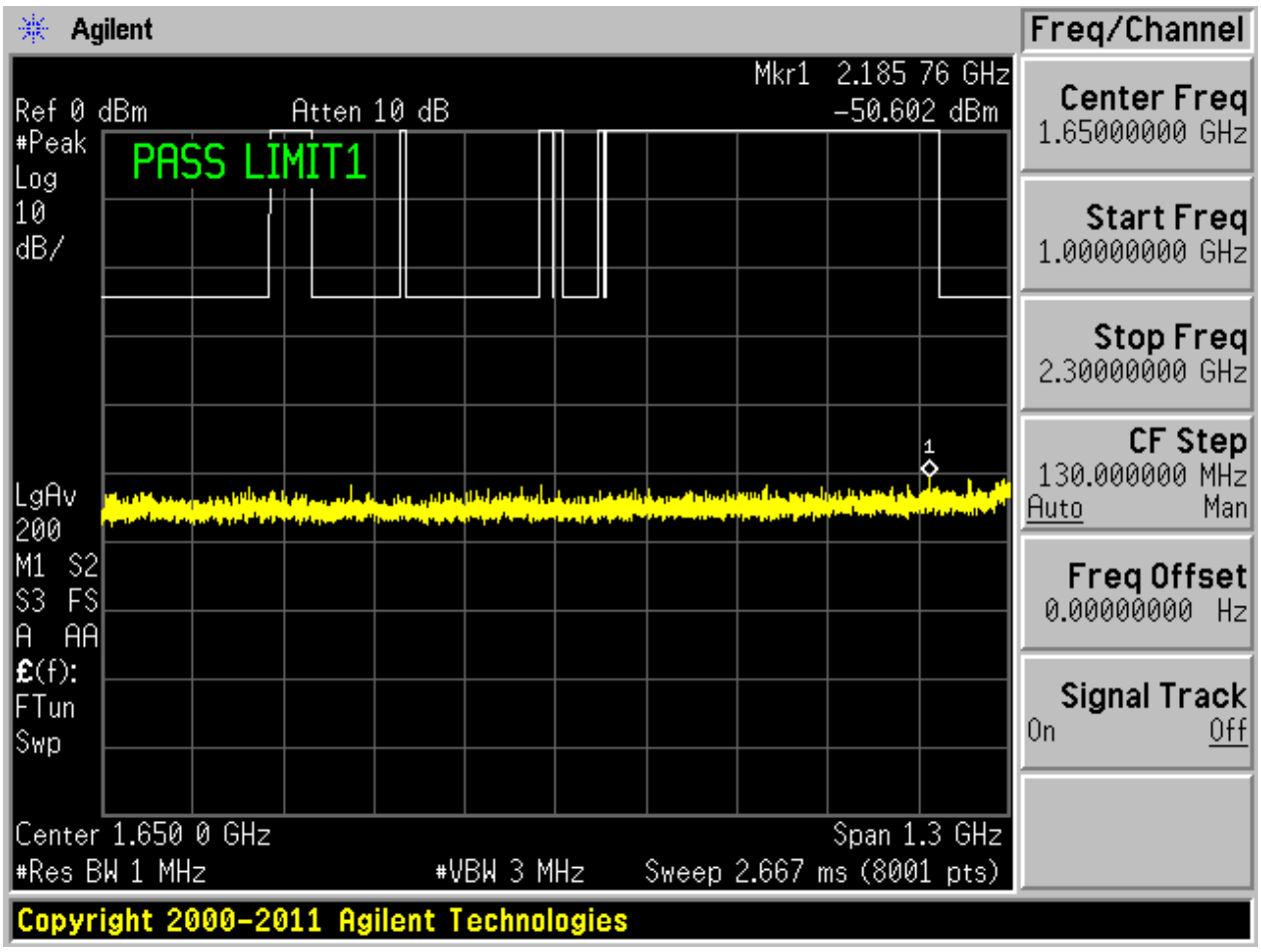

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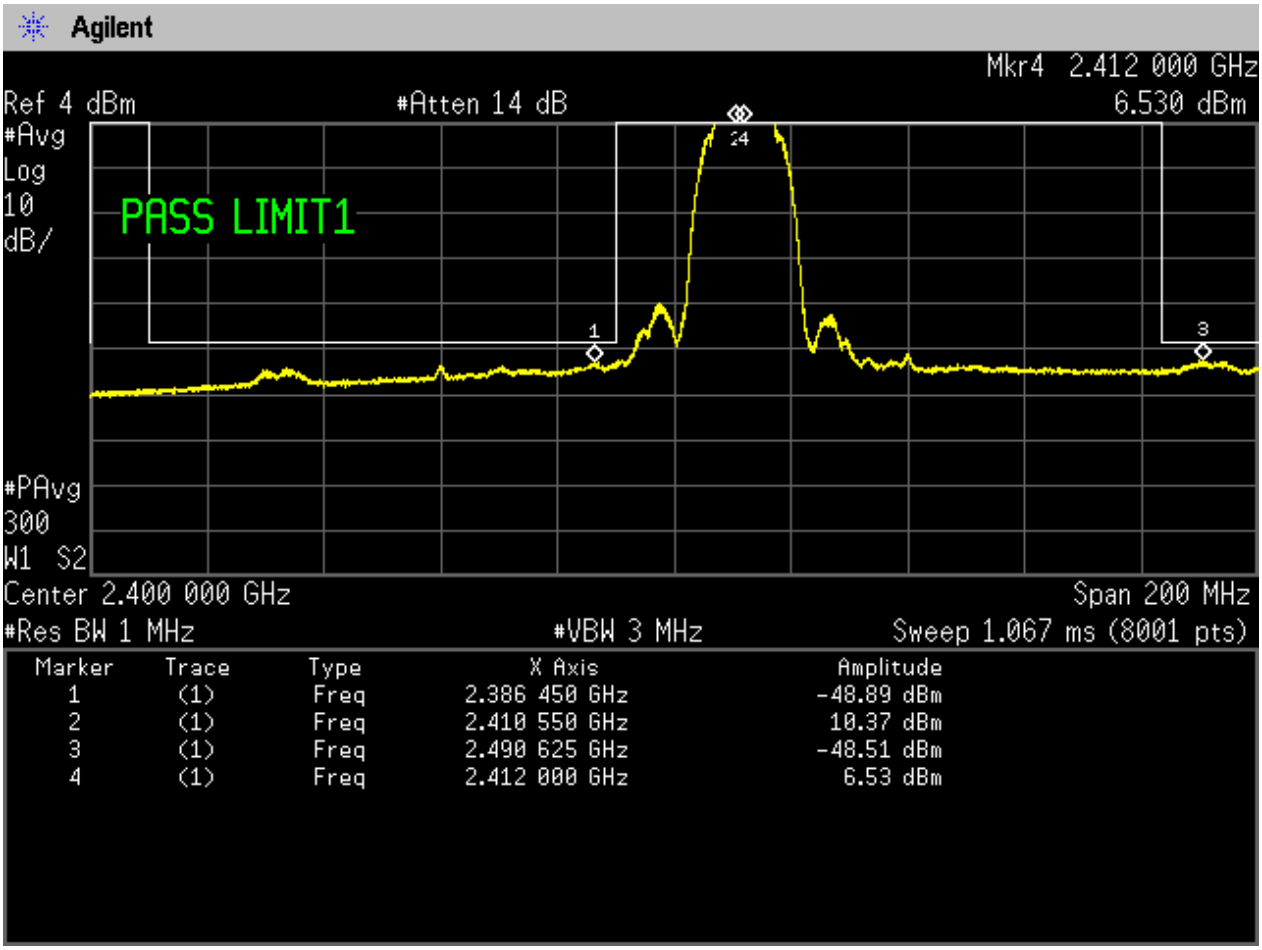

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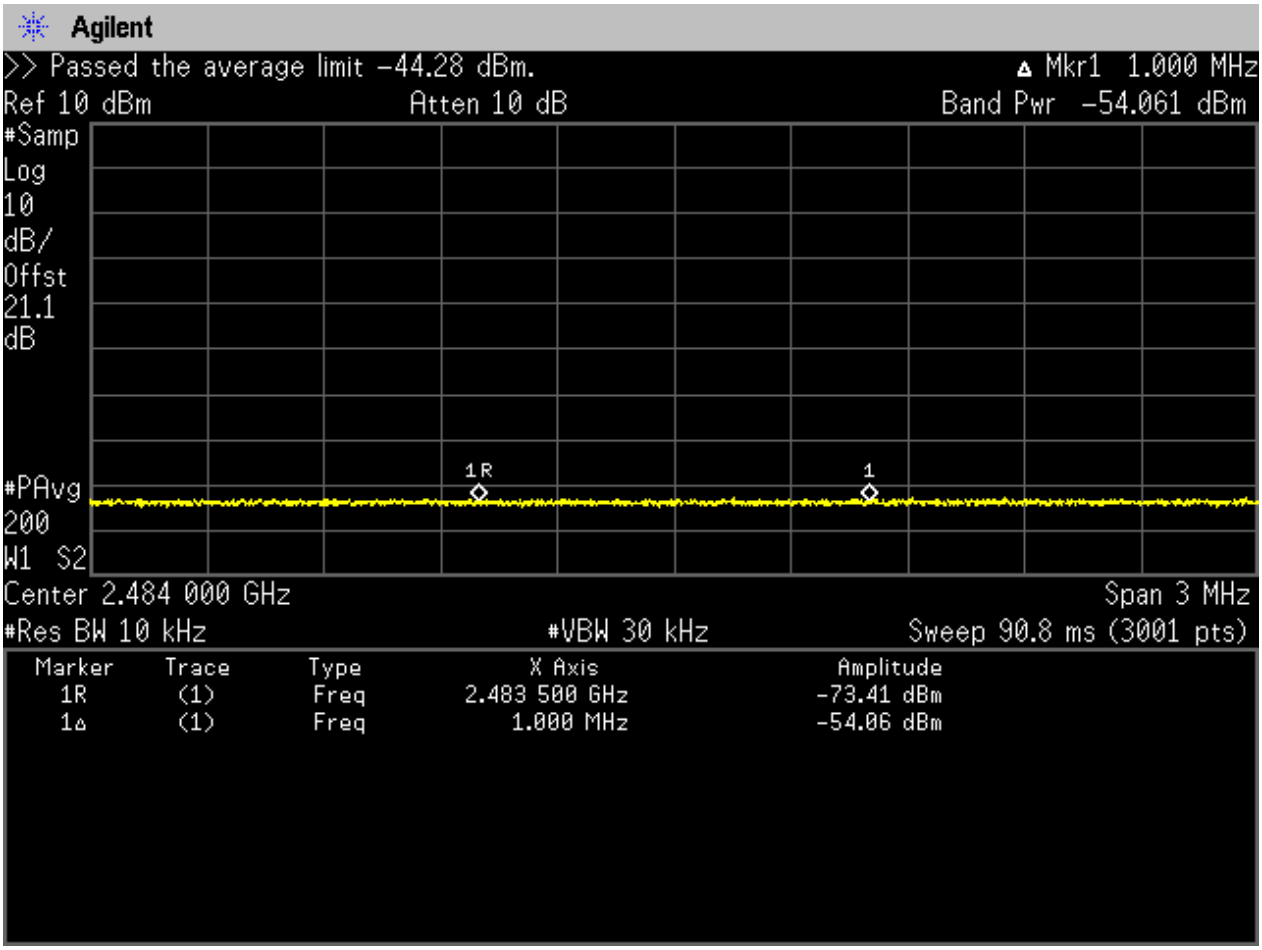

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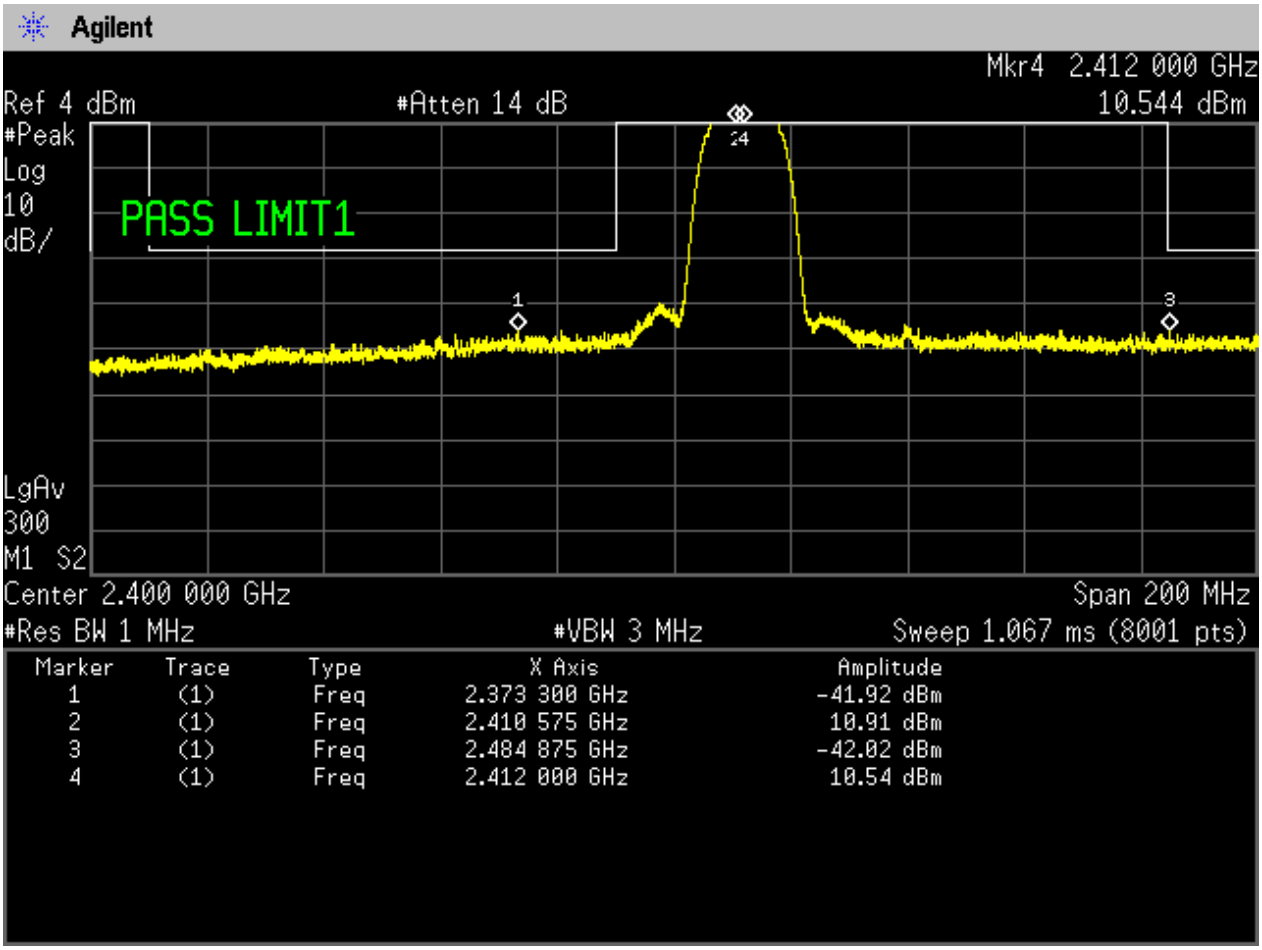

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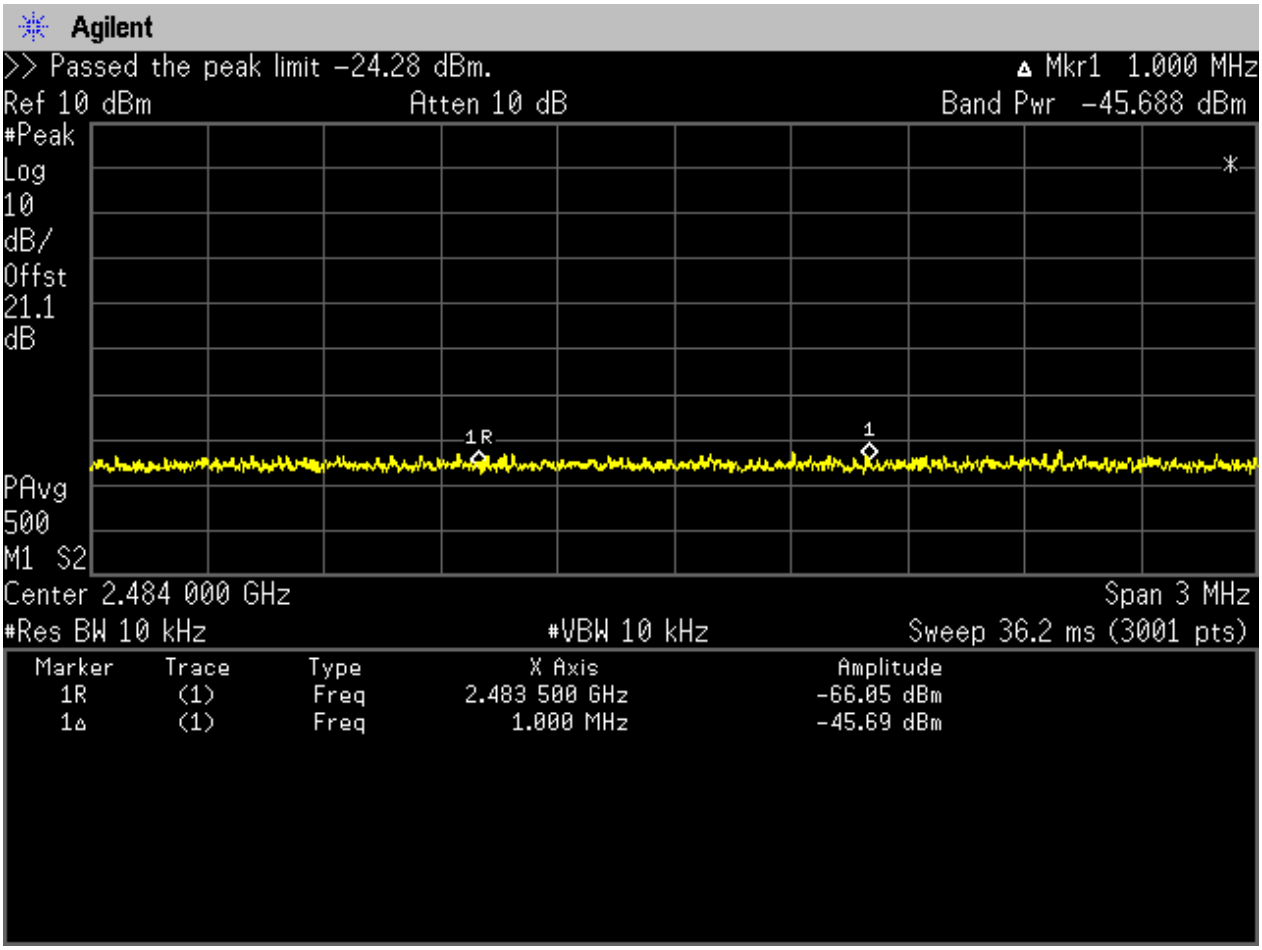

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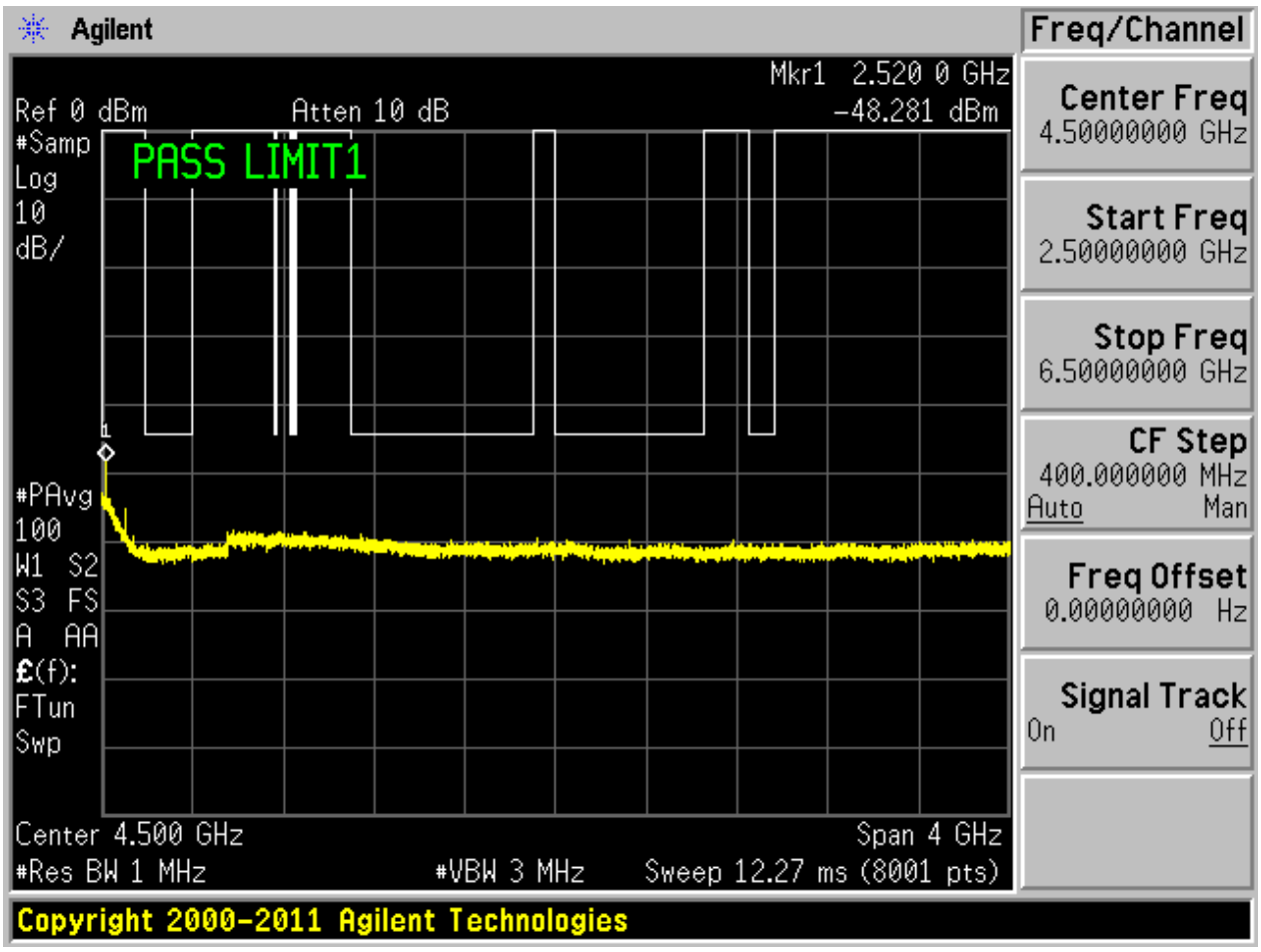

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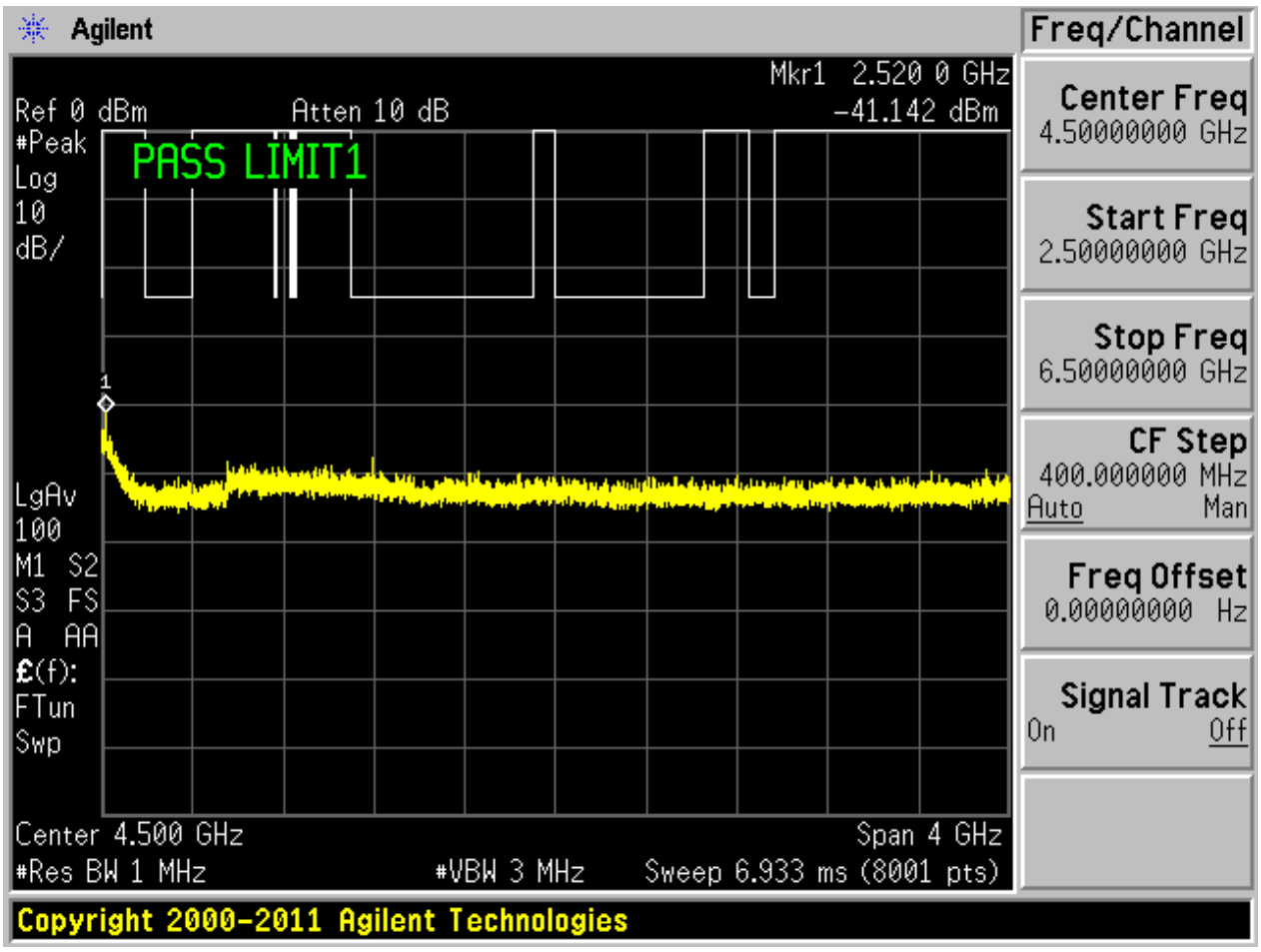

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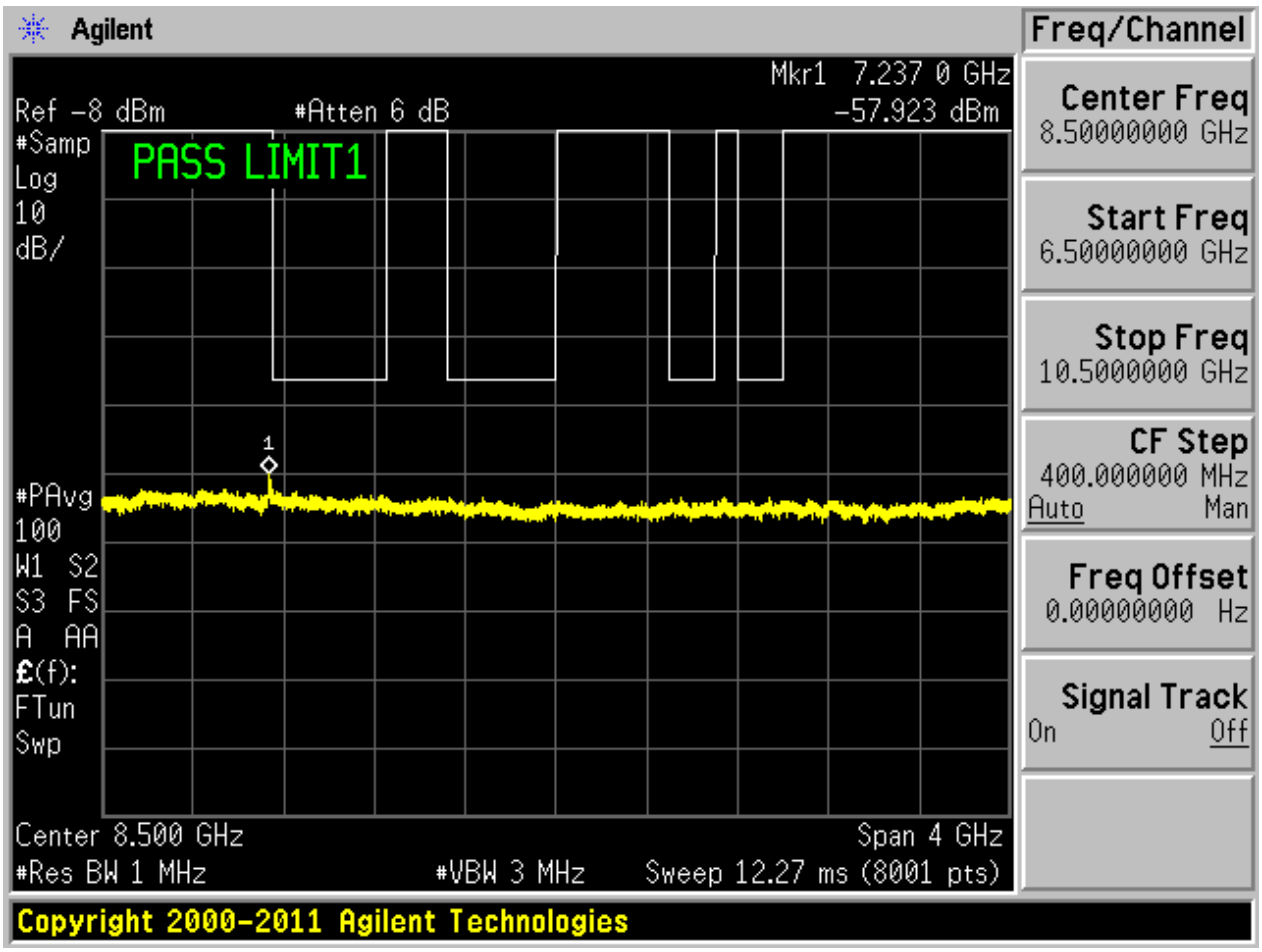

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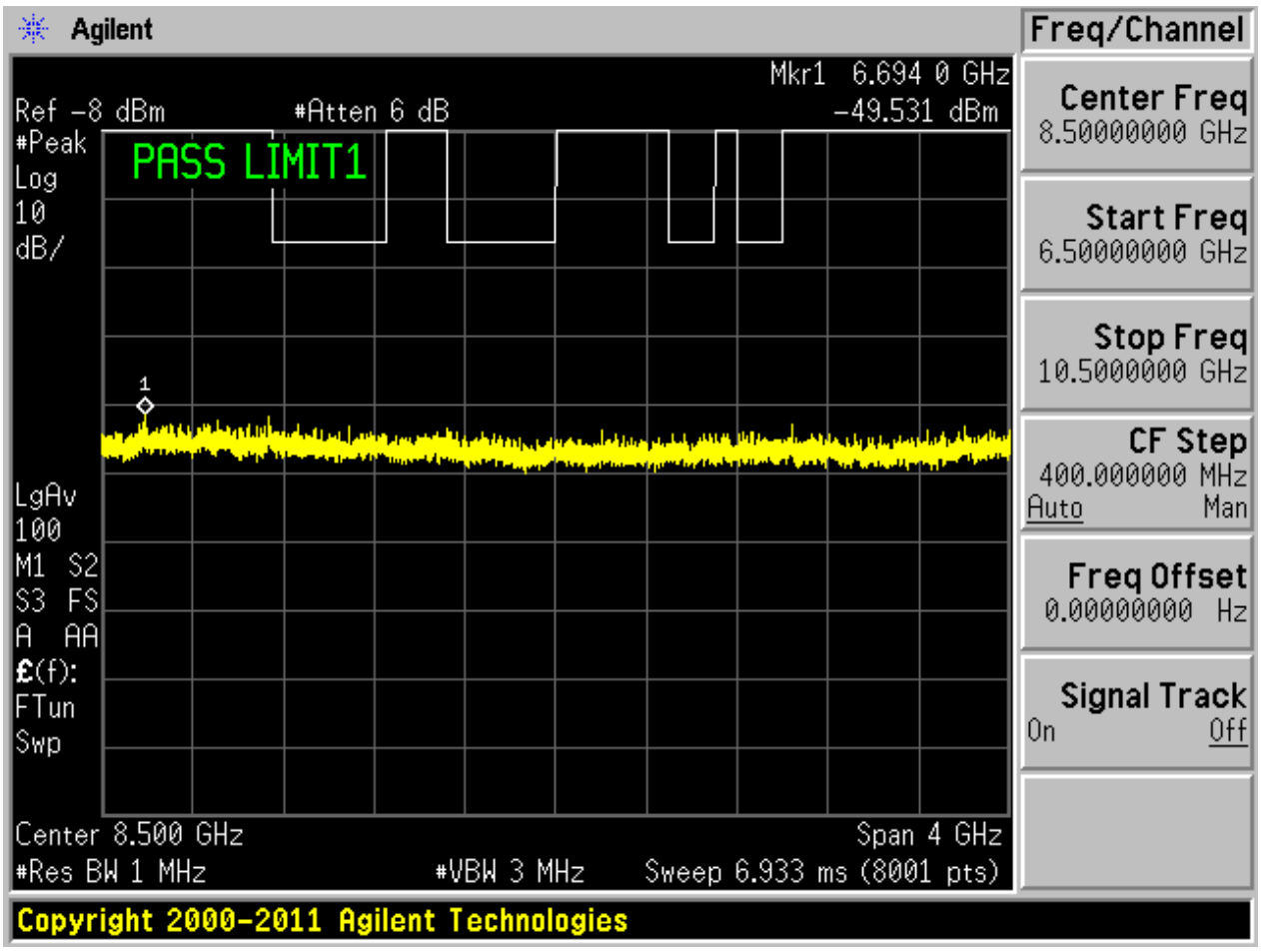

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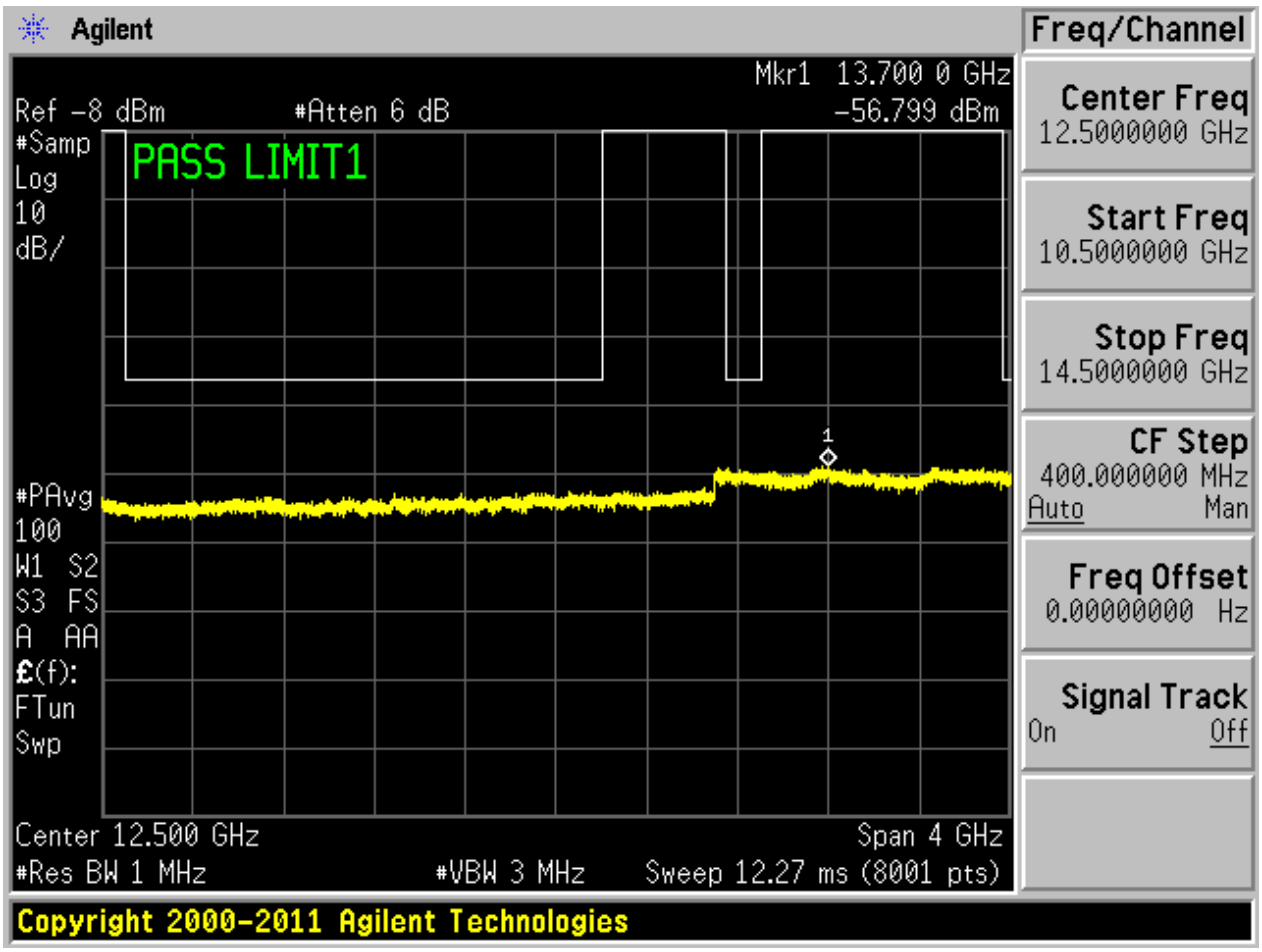

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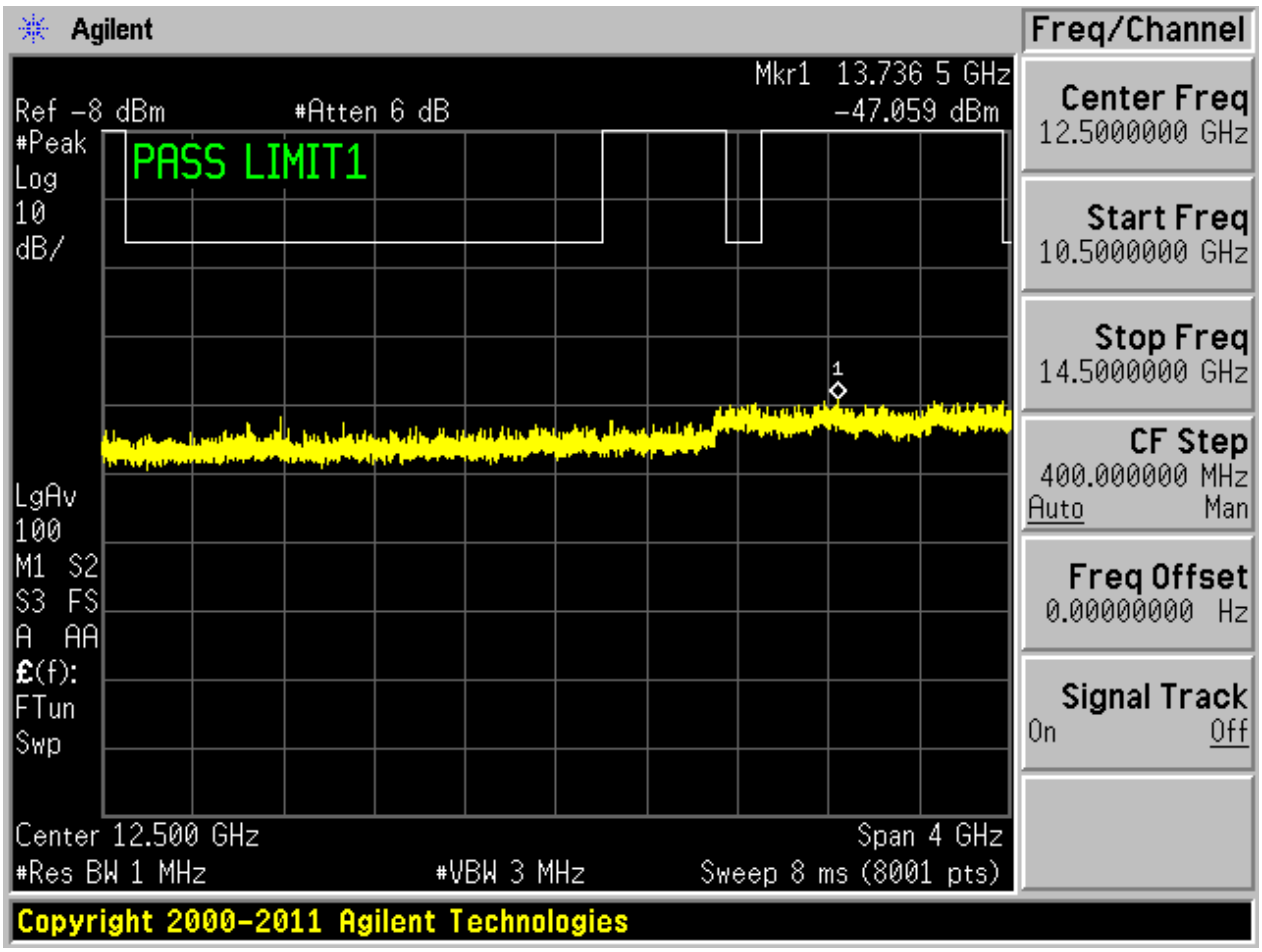

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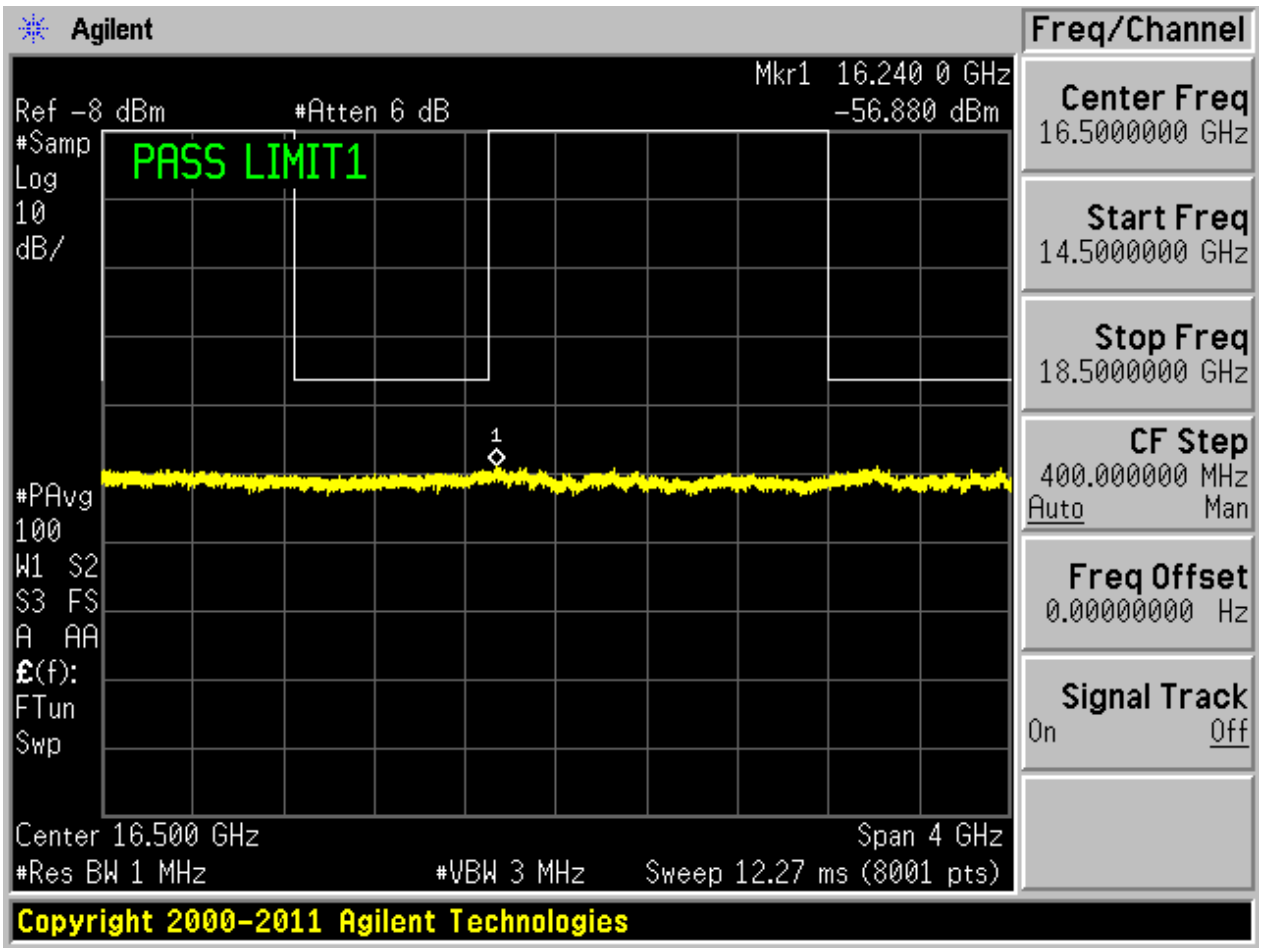

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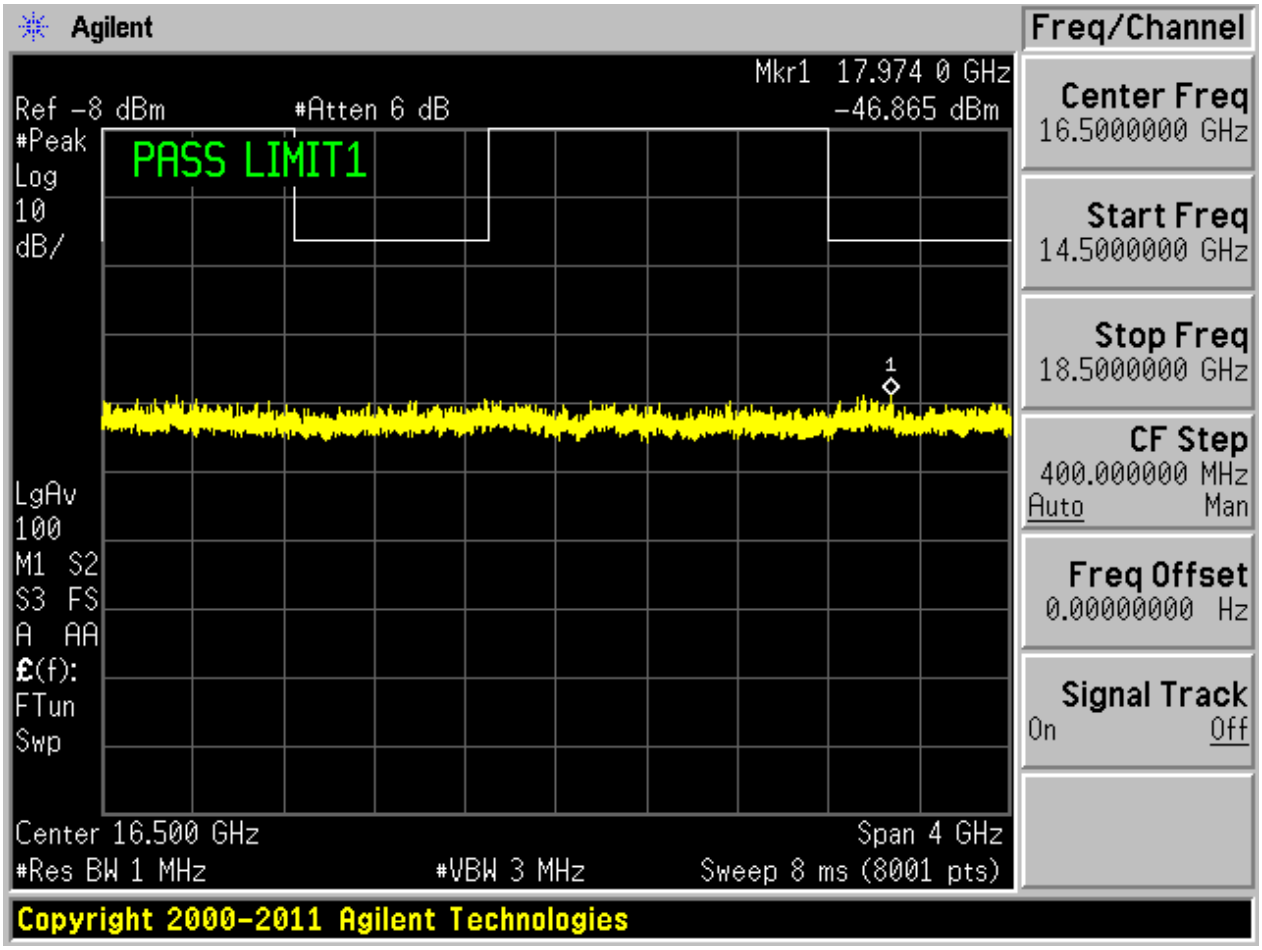

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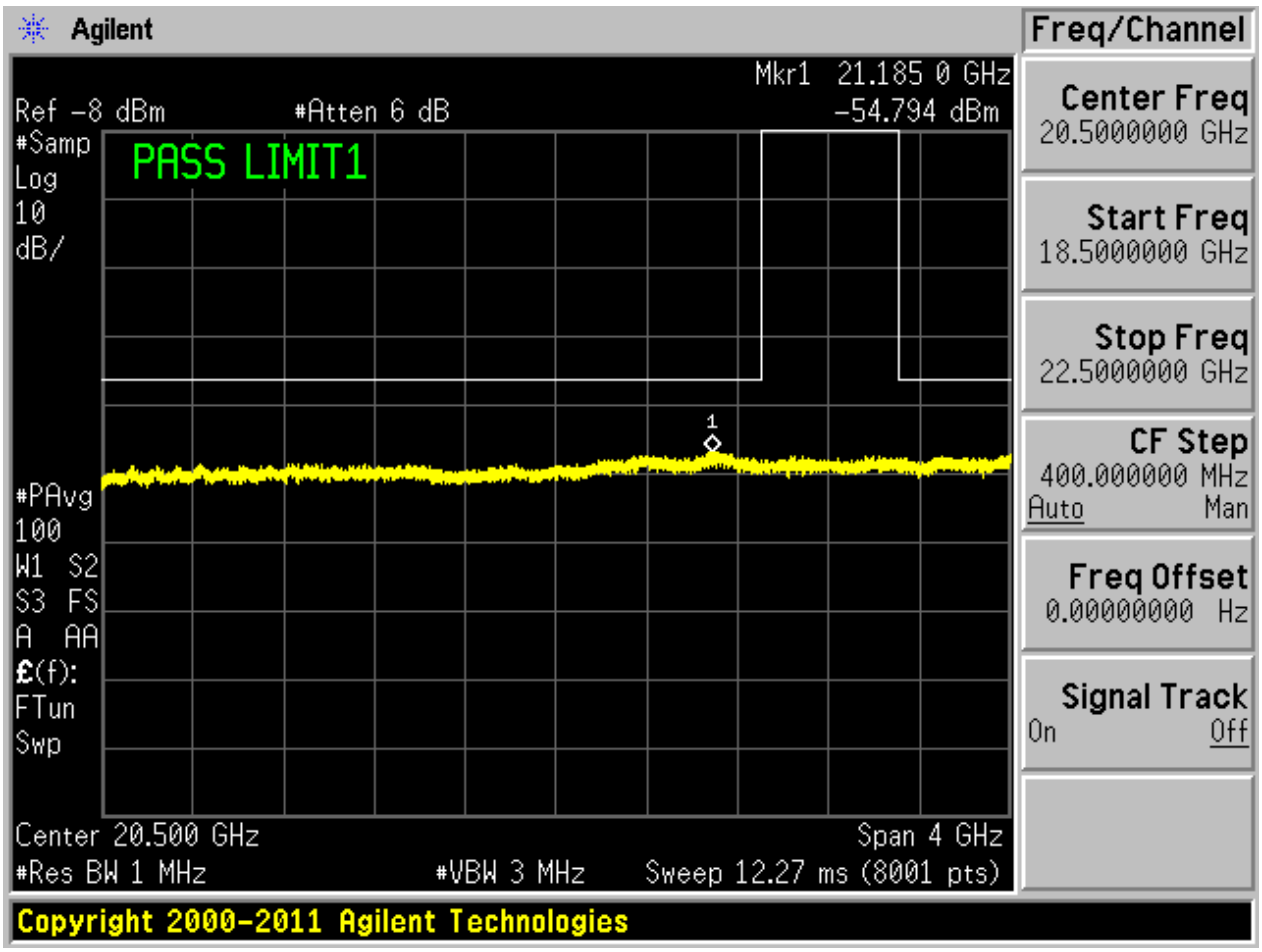

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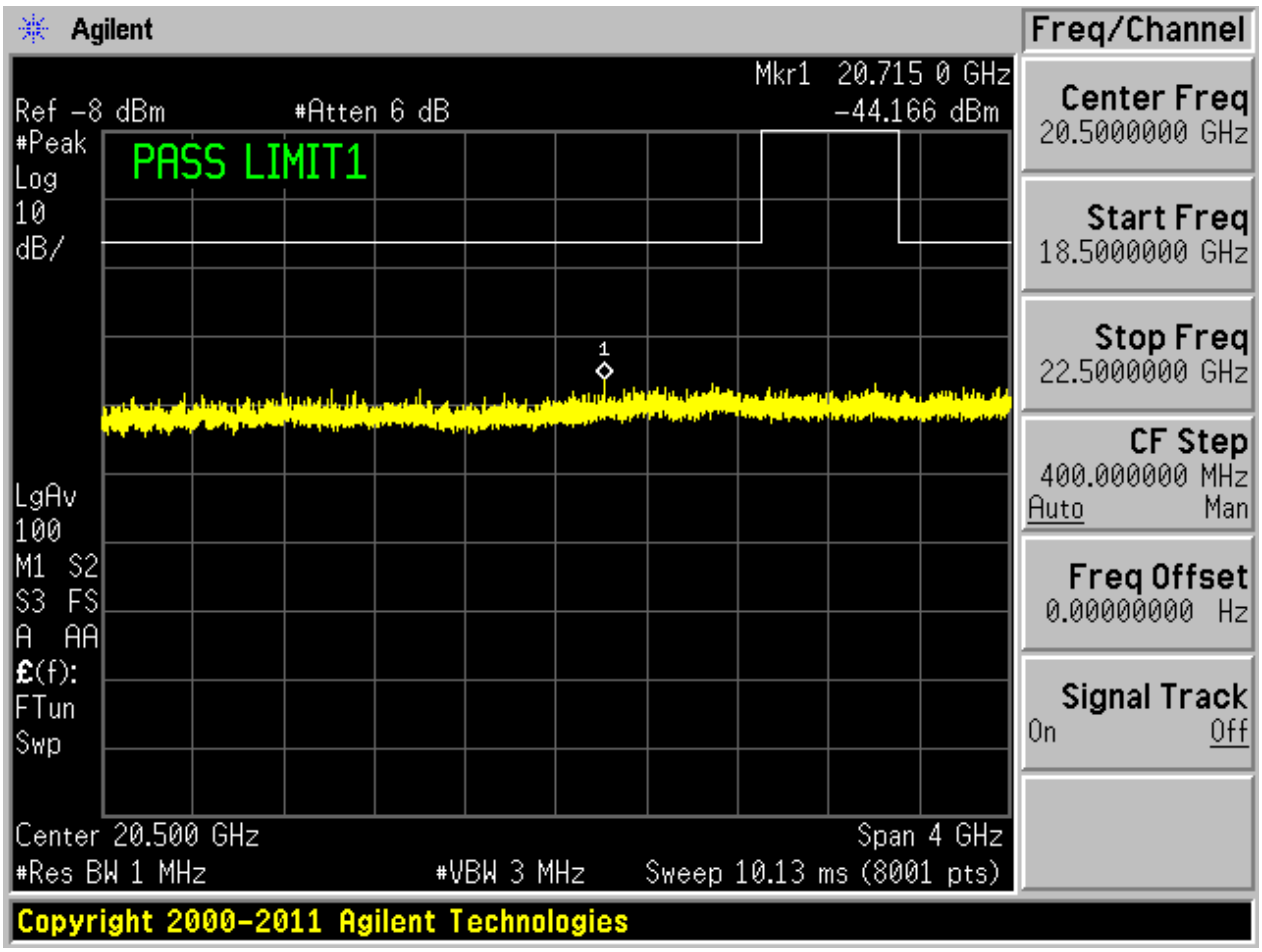

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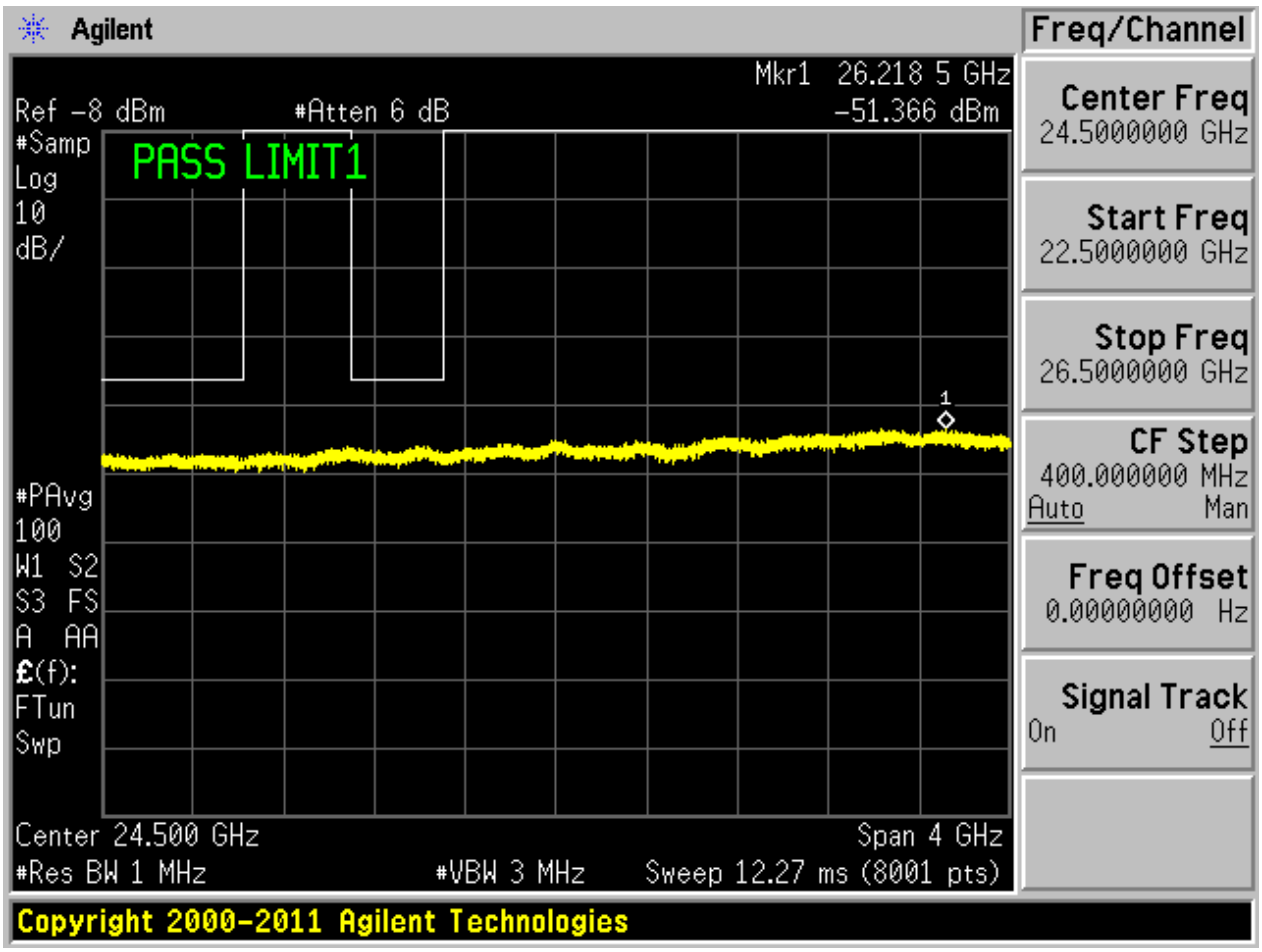

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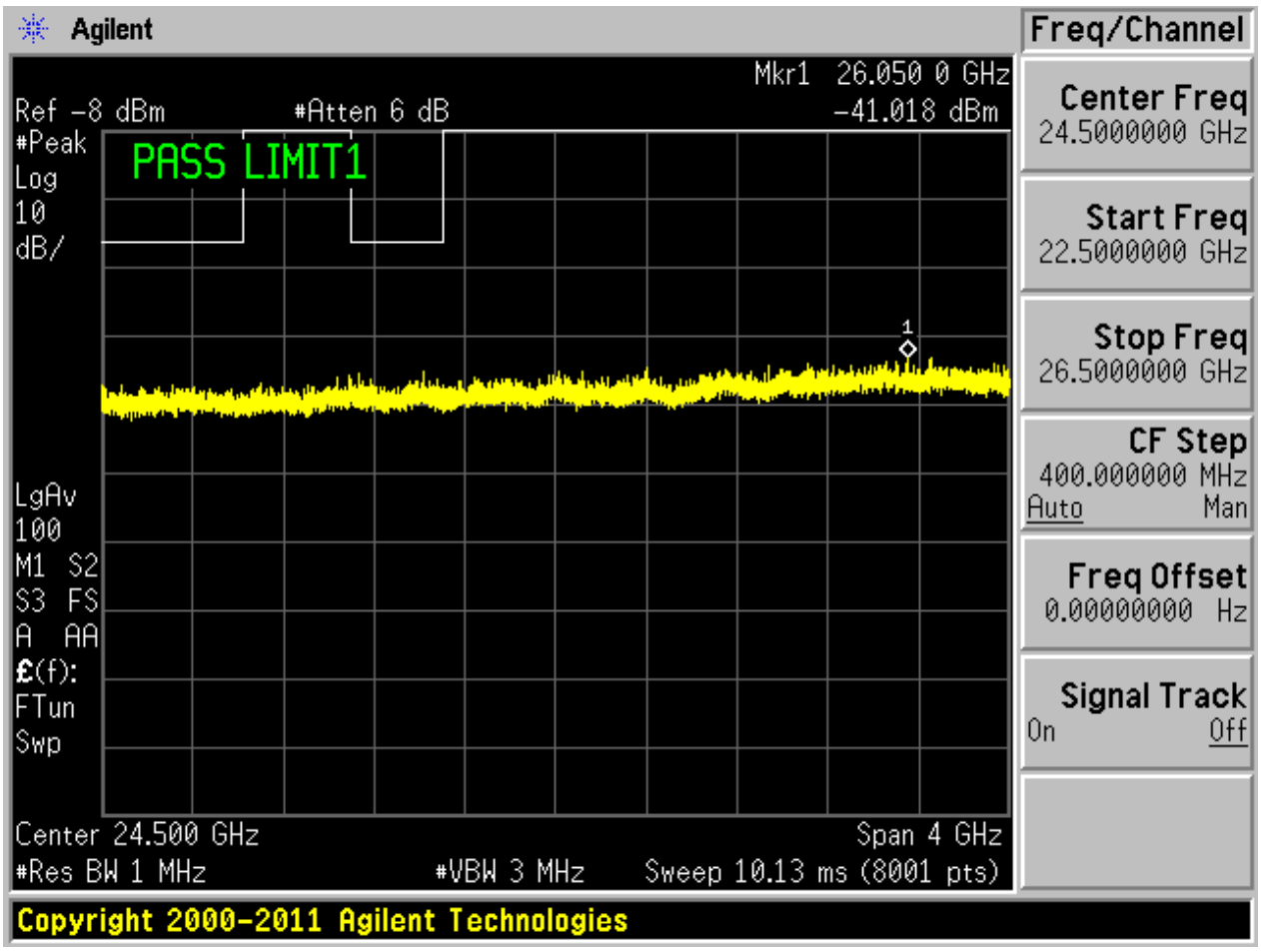

2.2 11B/1_M@2

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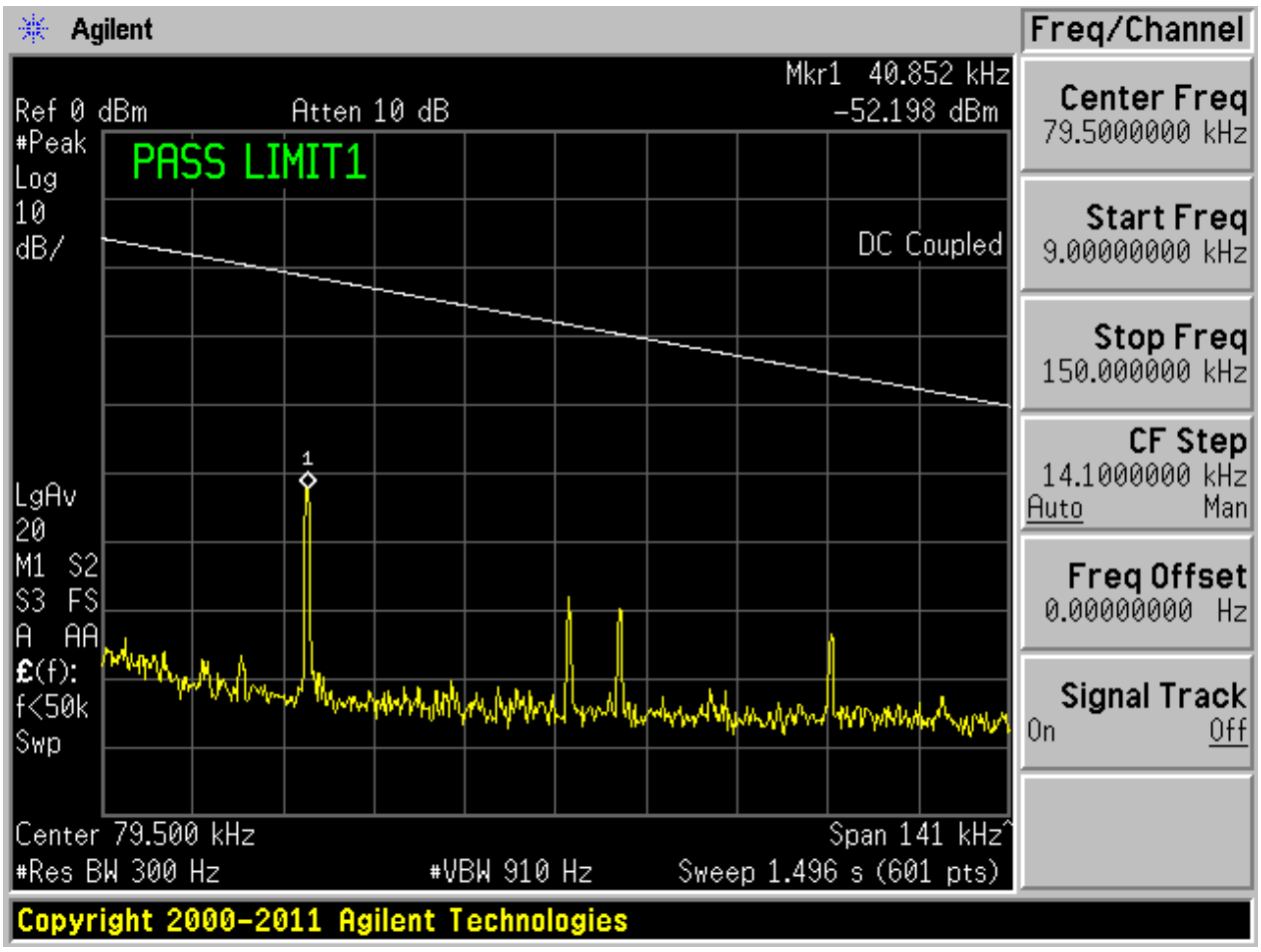

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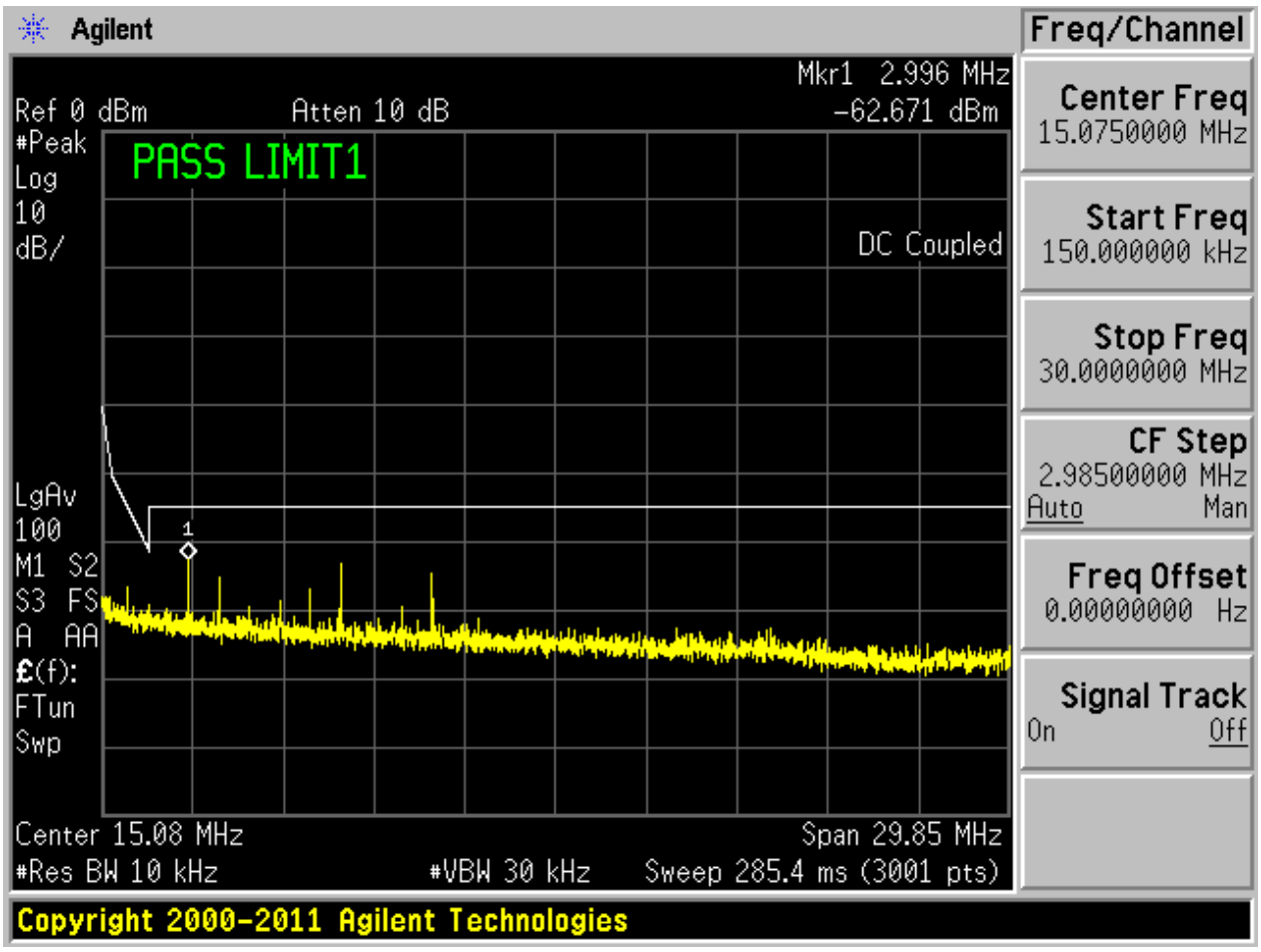

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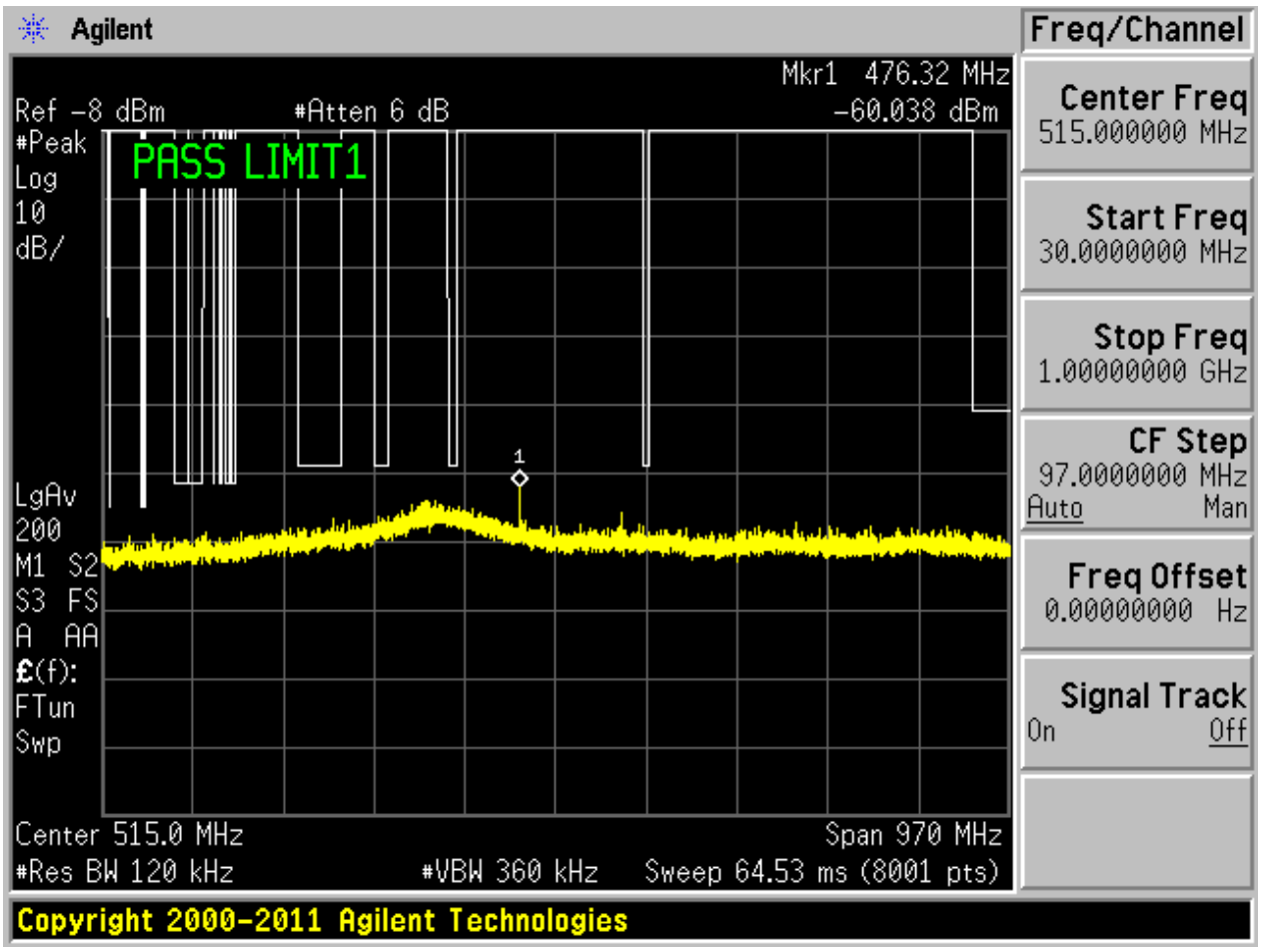

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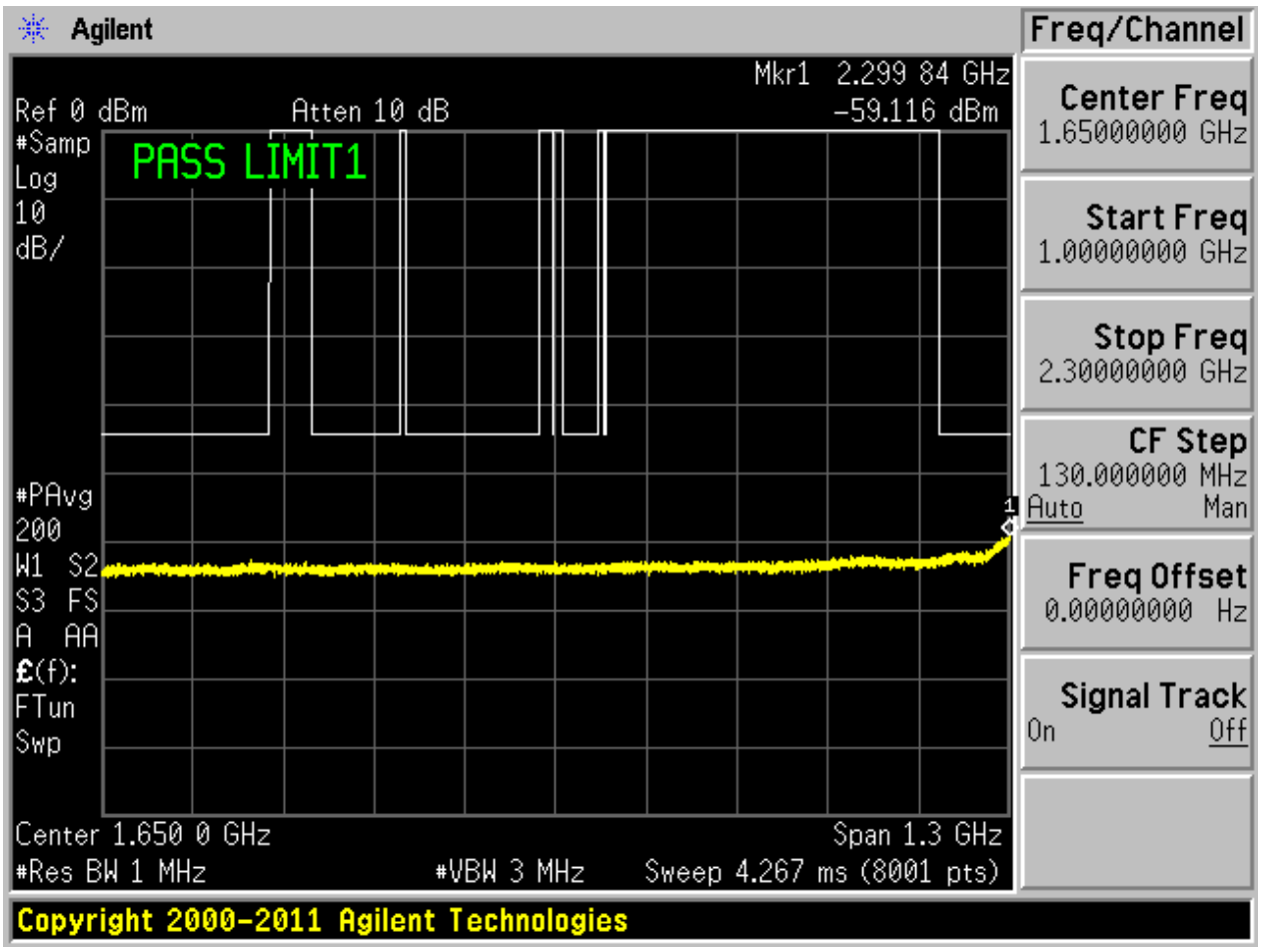

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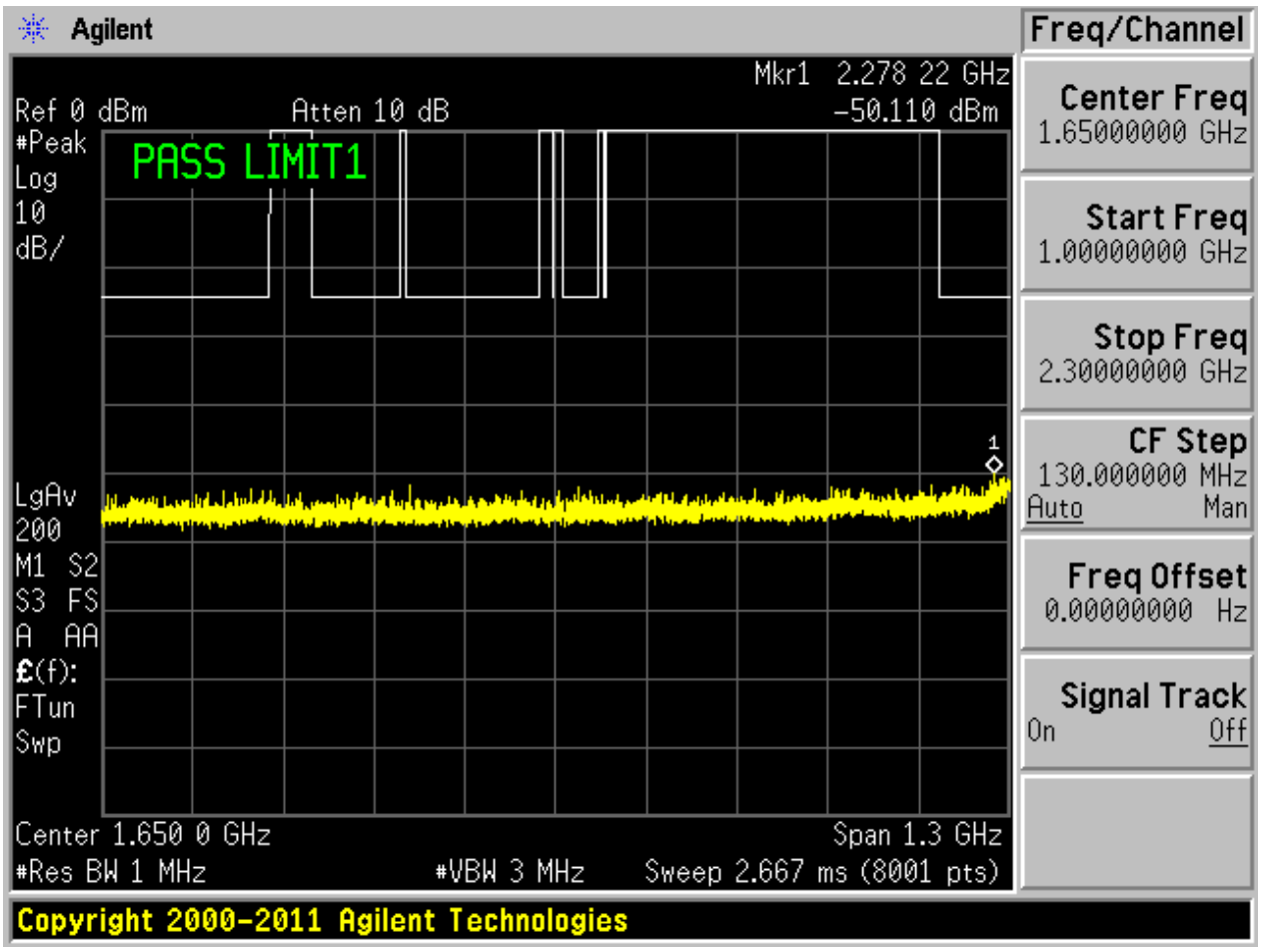

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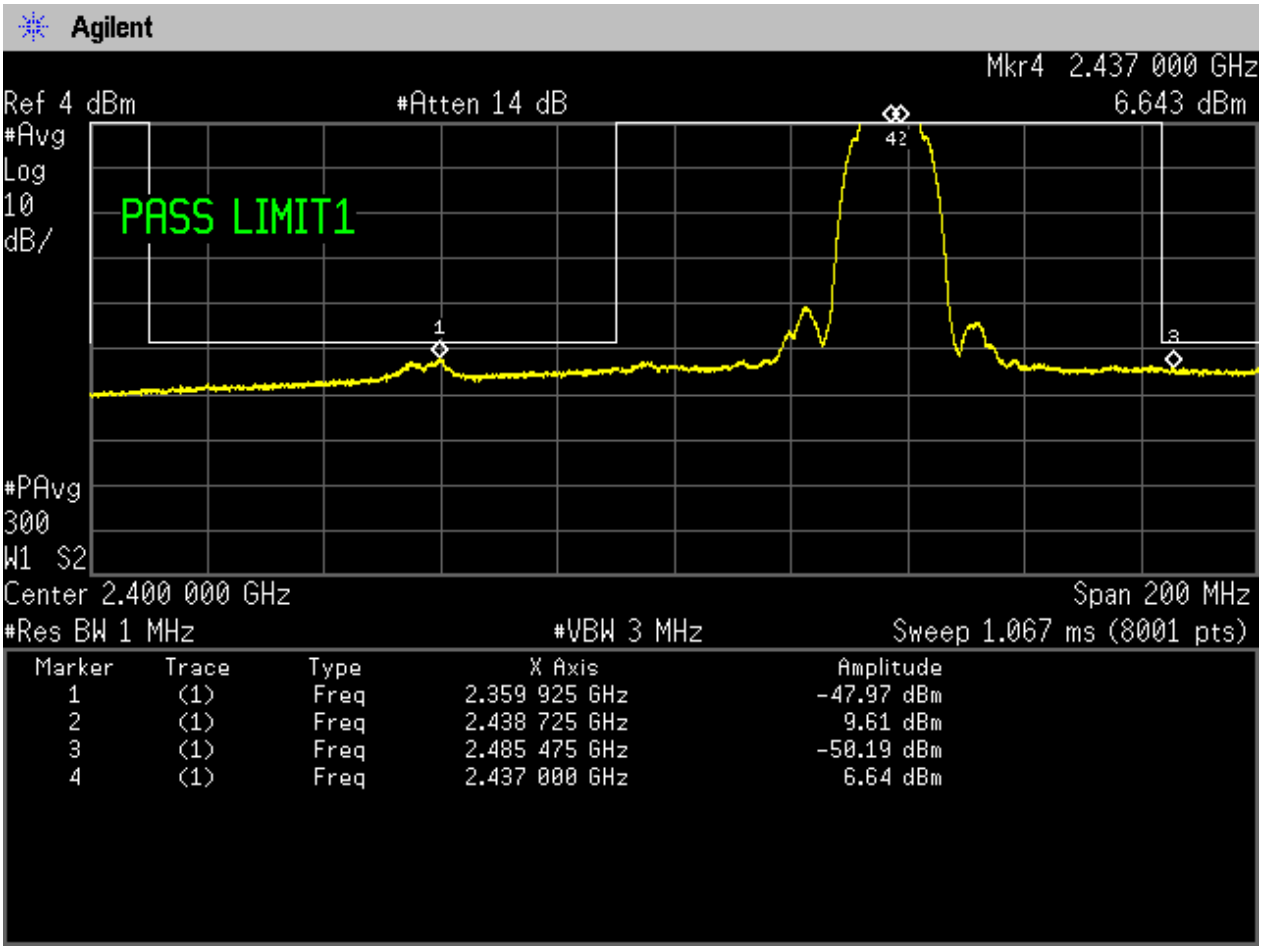

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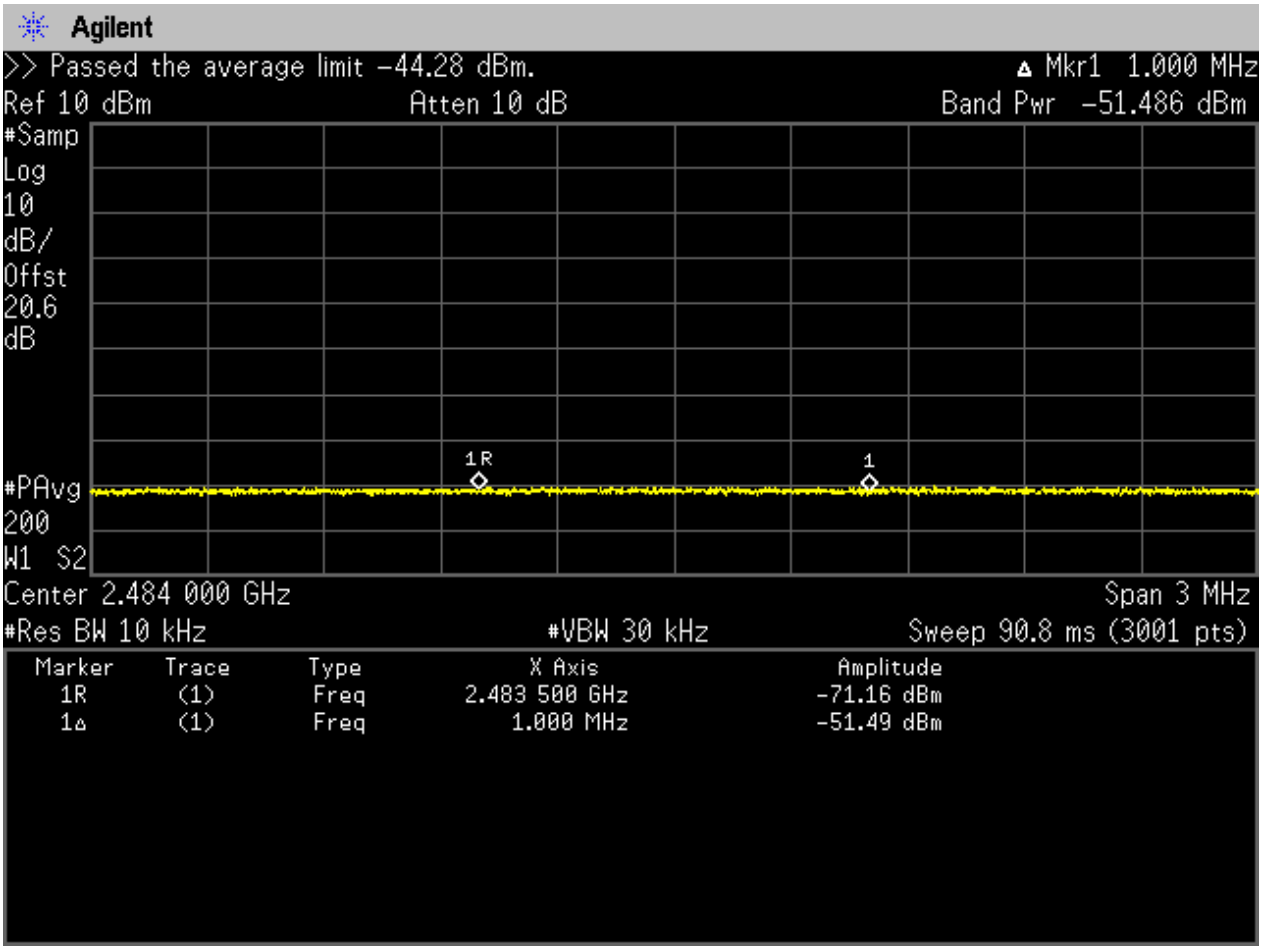

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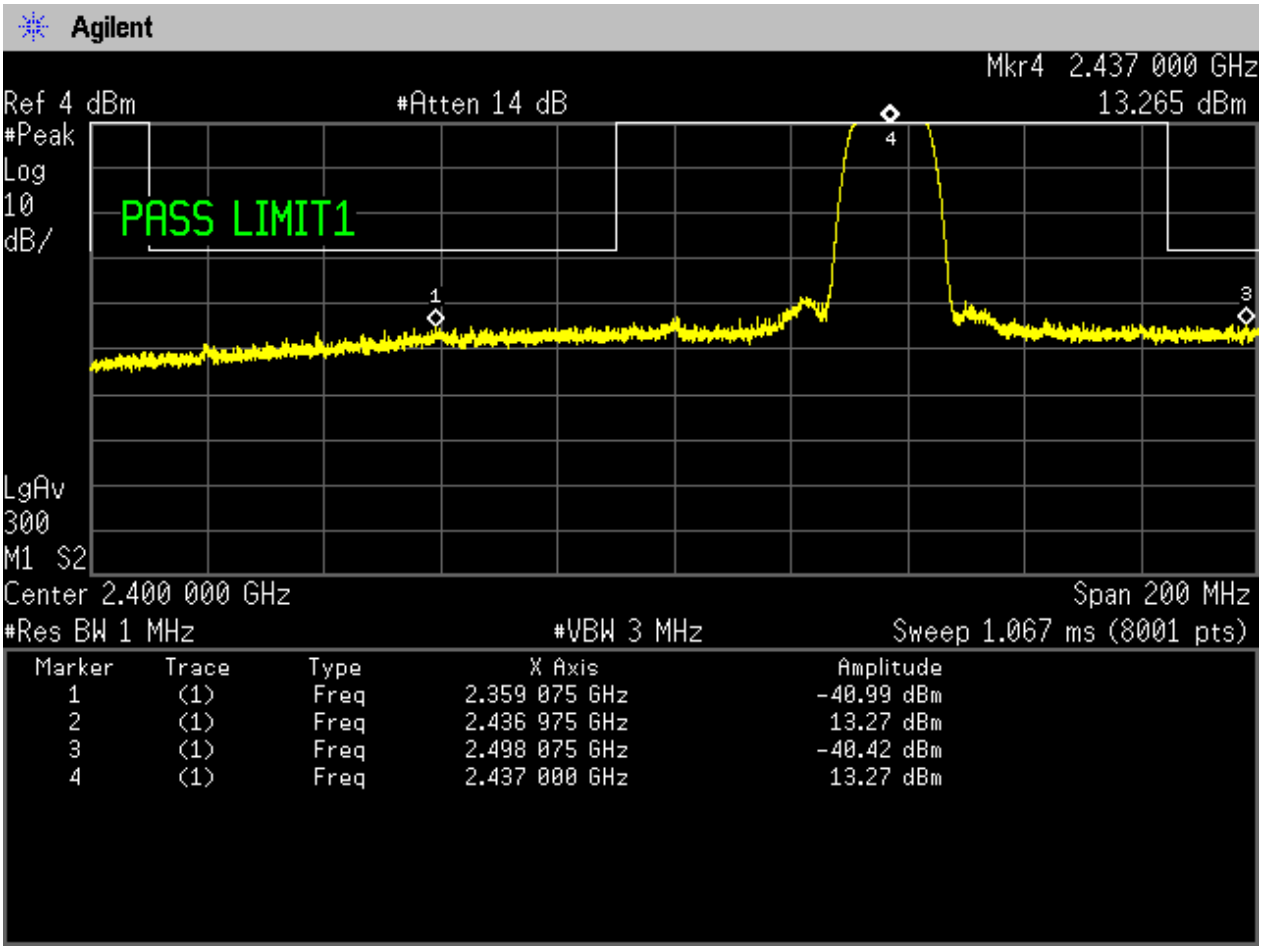

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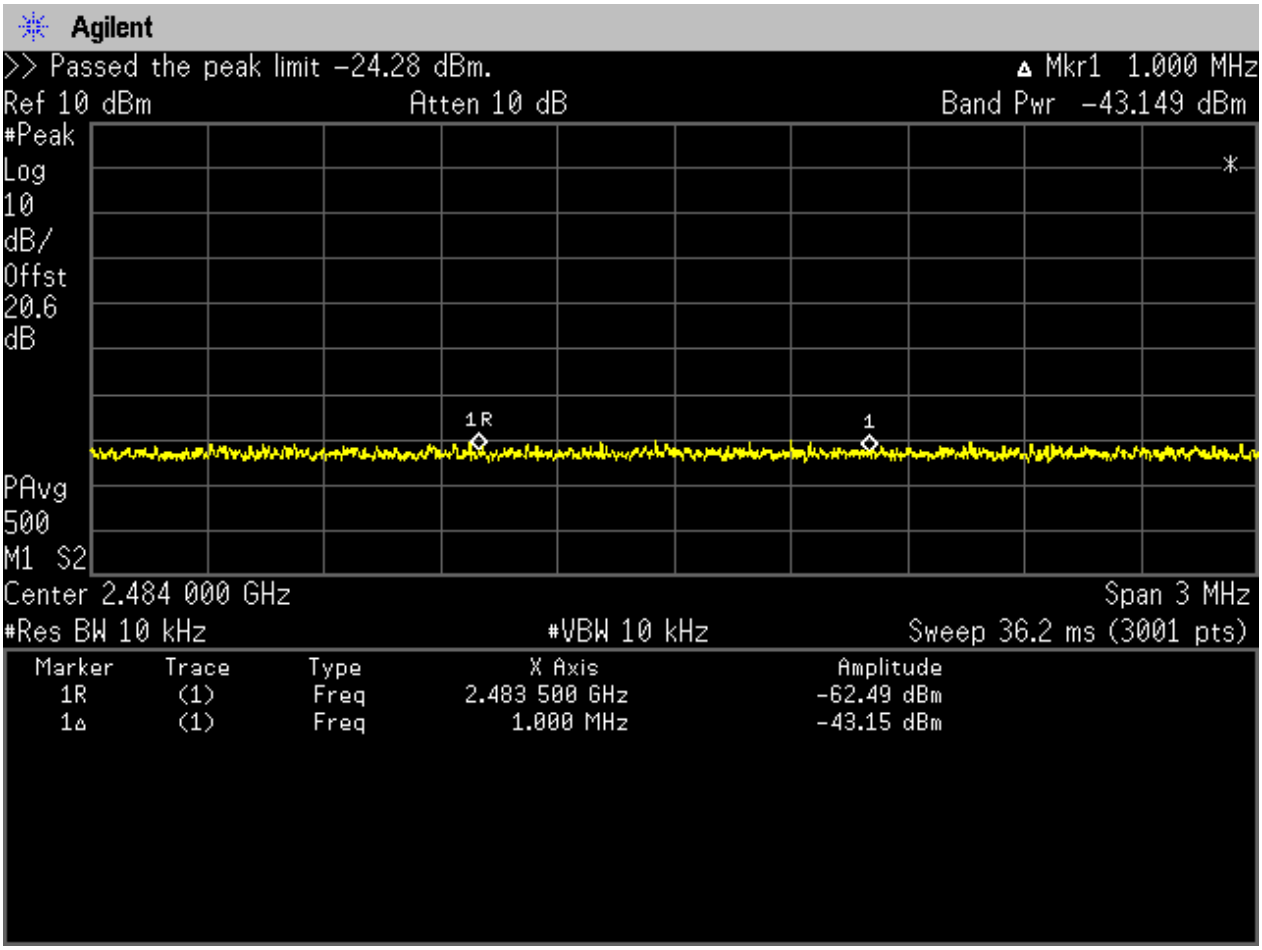

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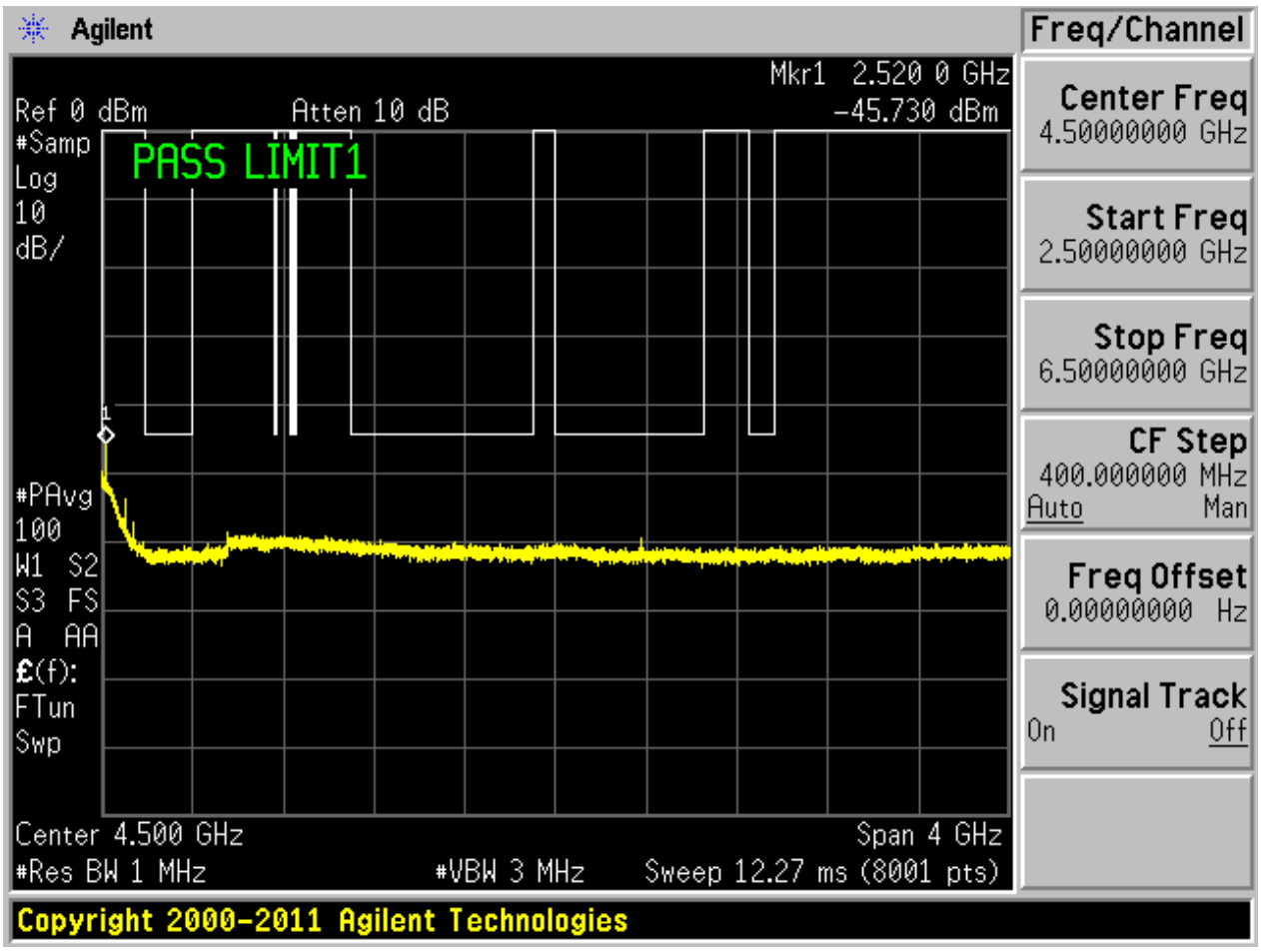

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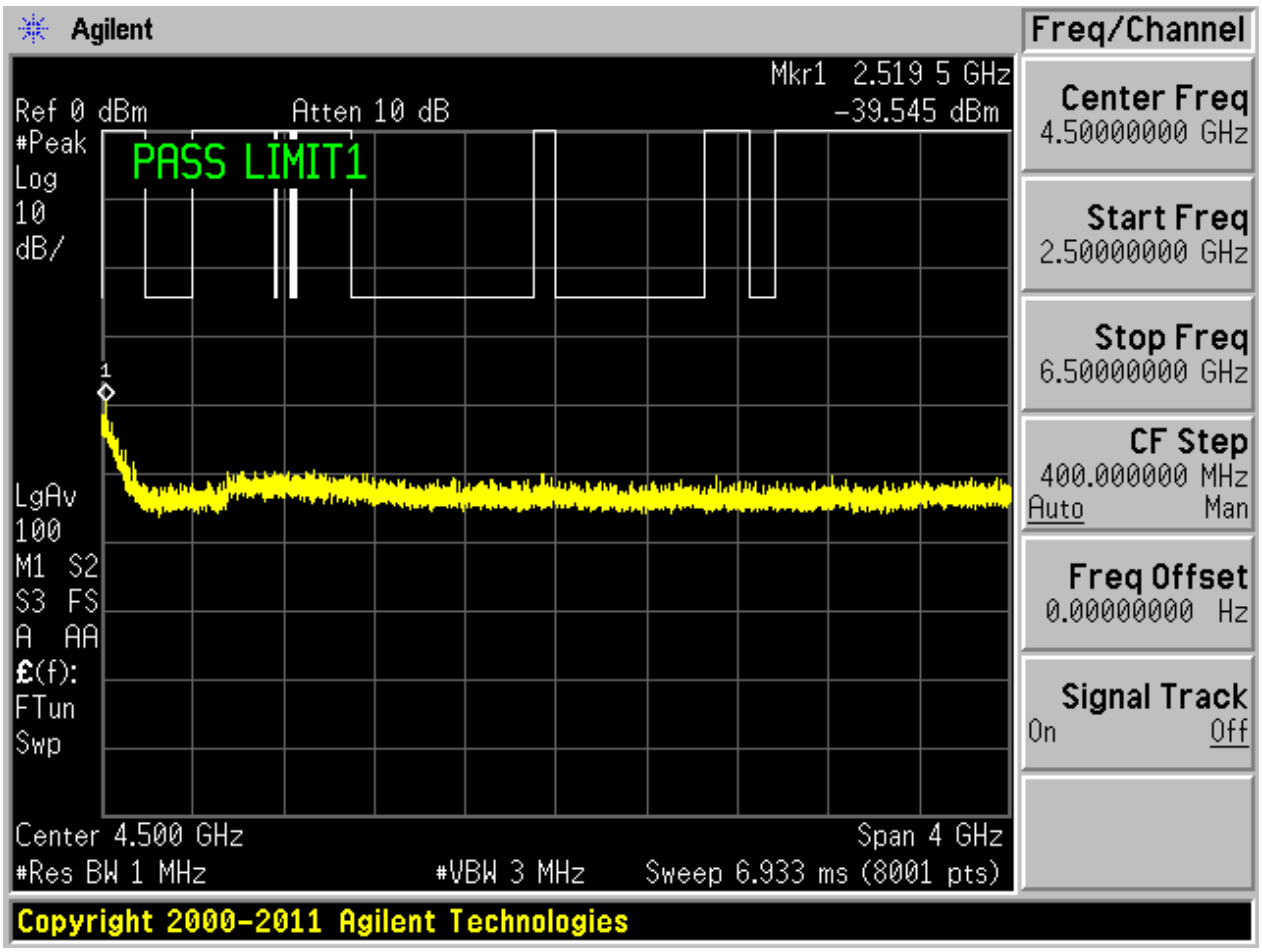

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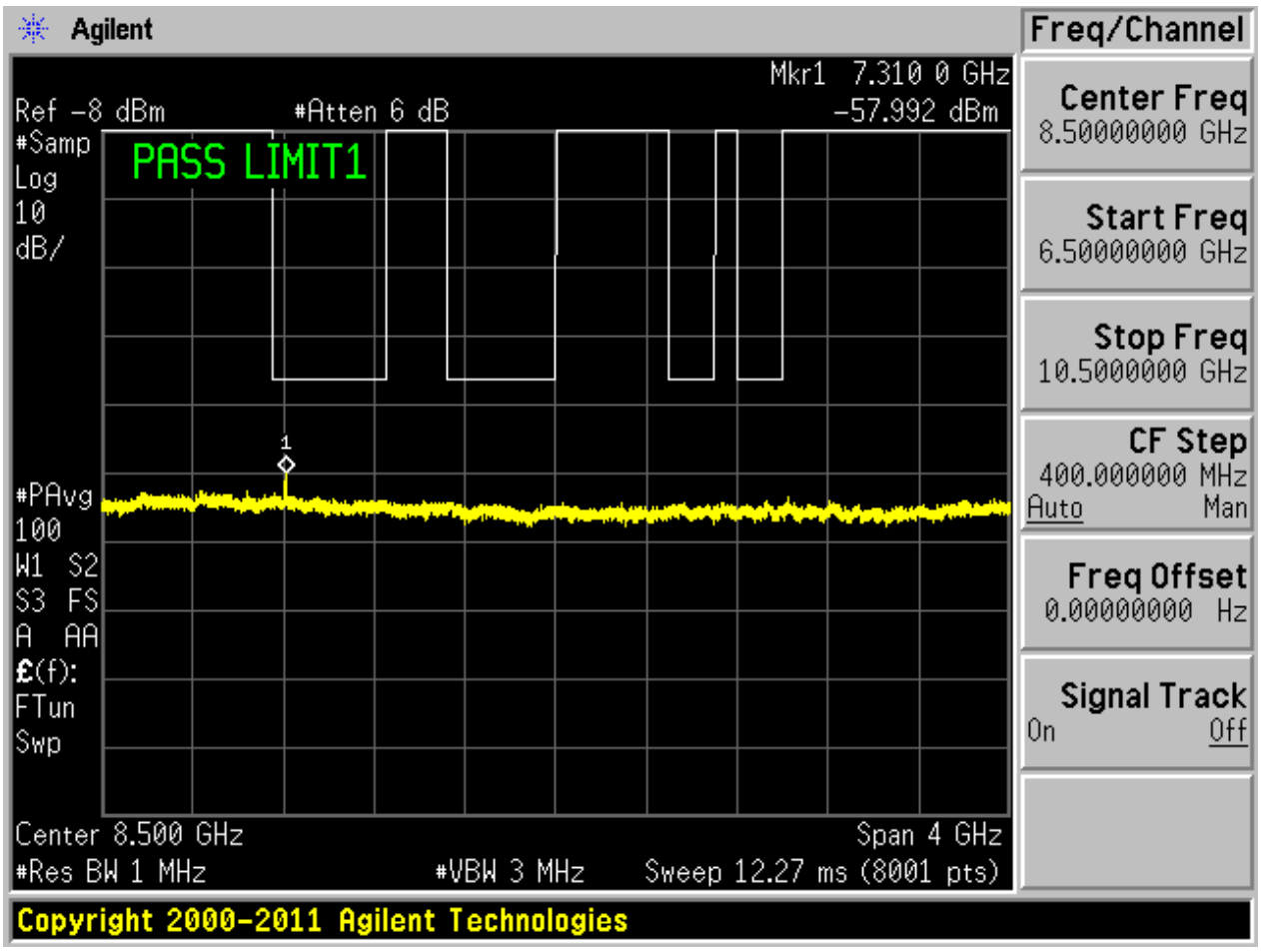

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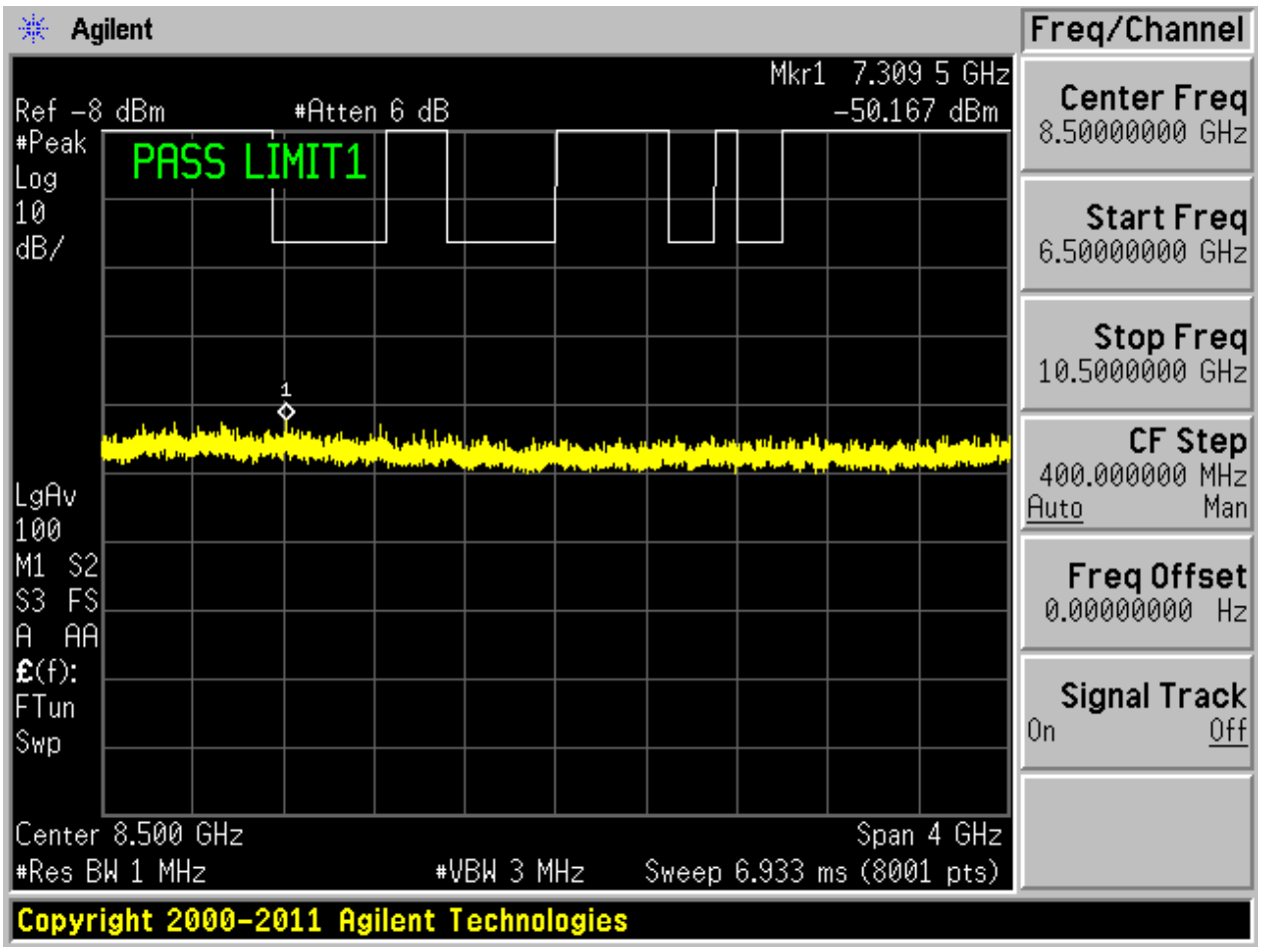

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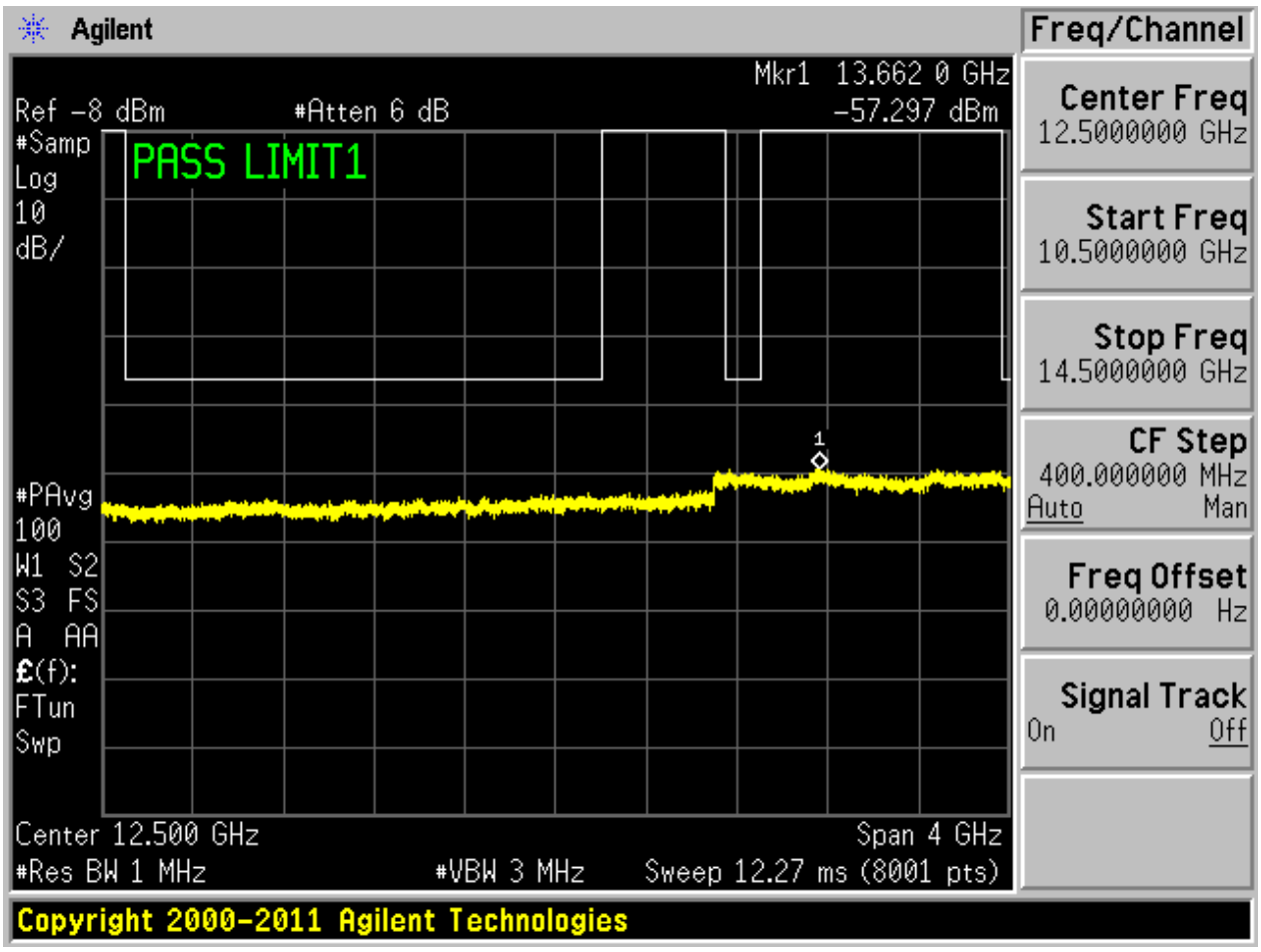

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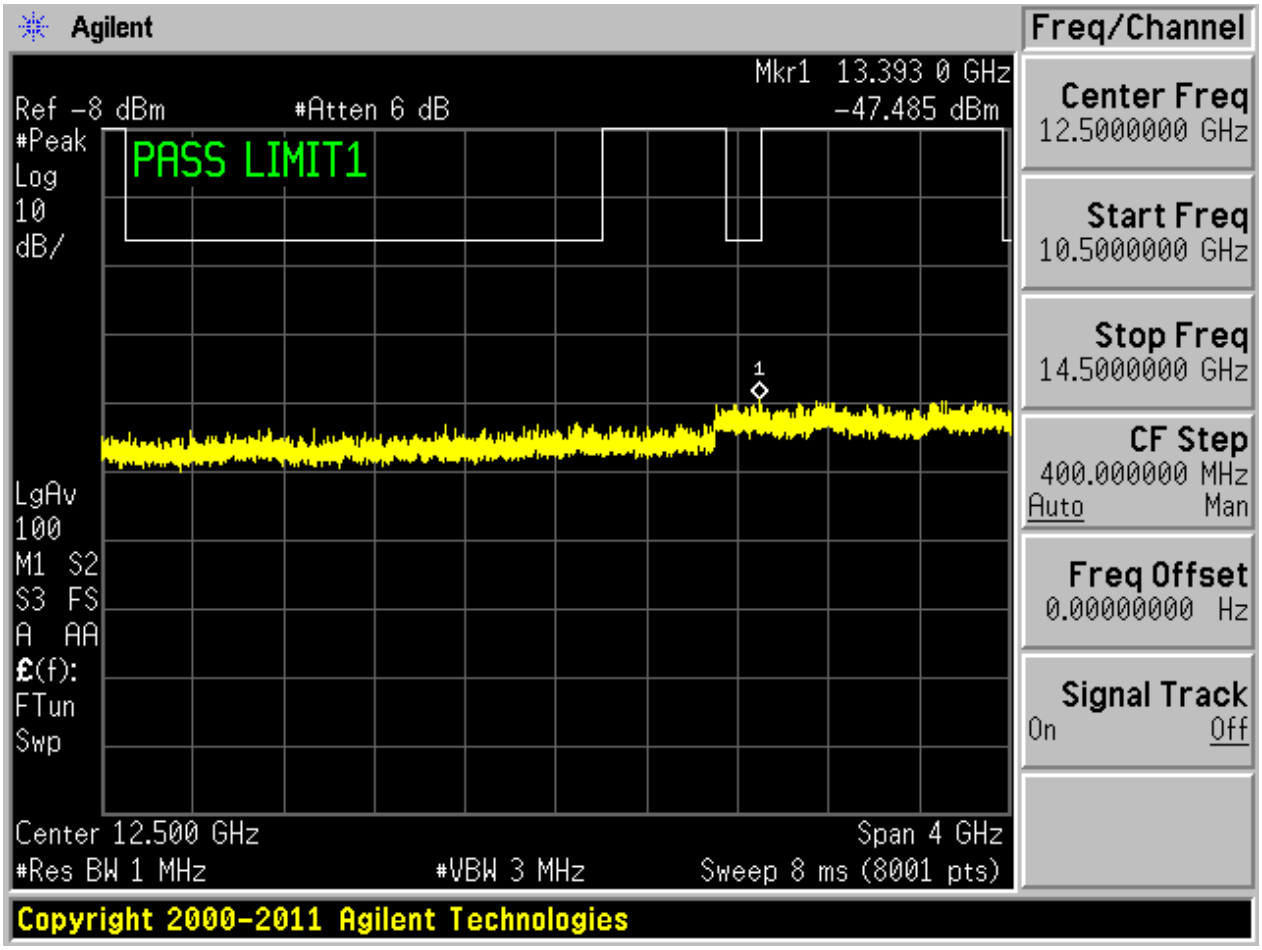

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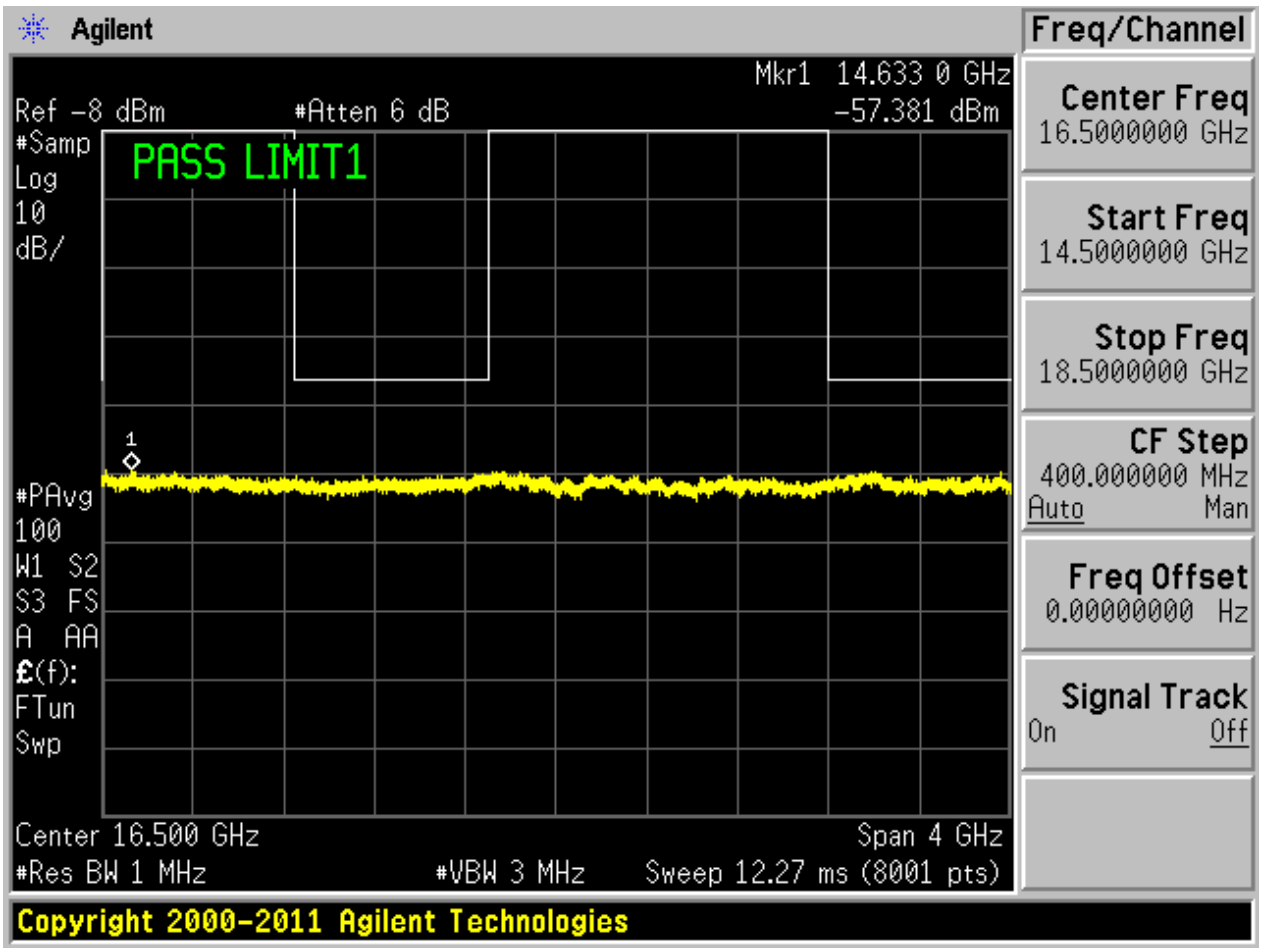

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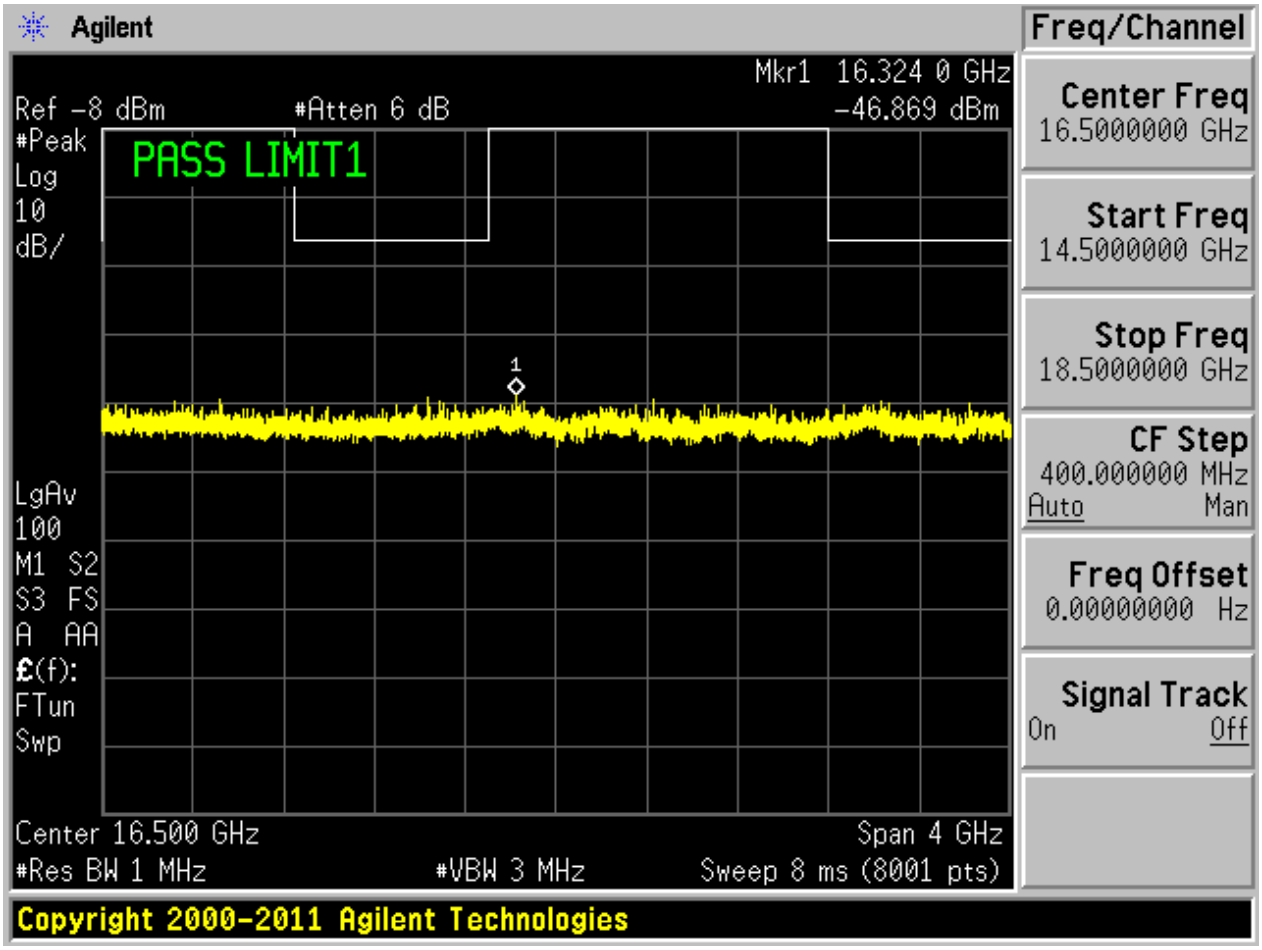

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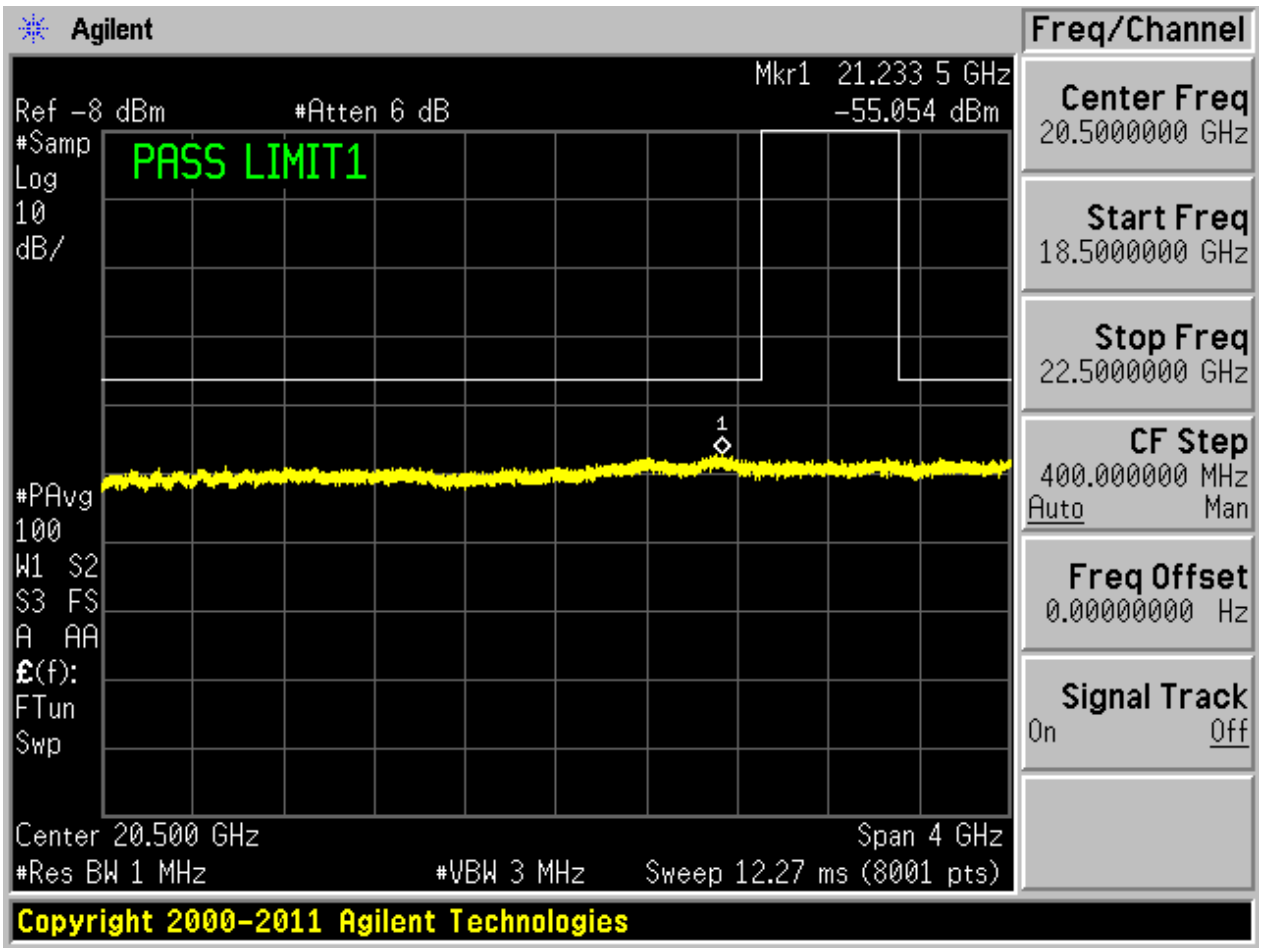

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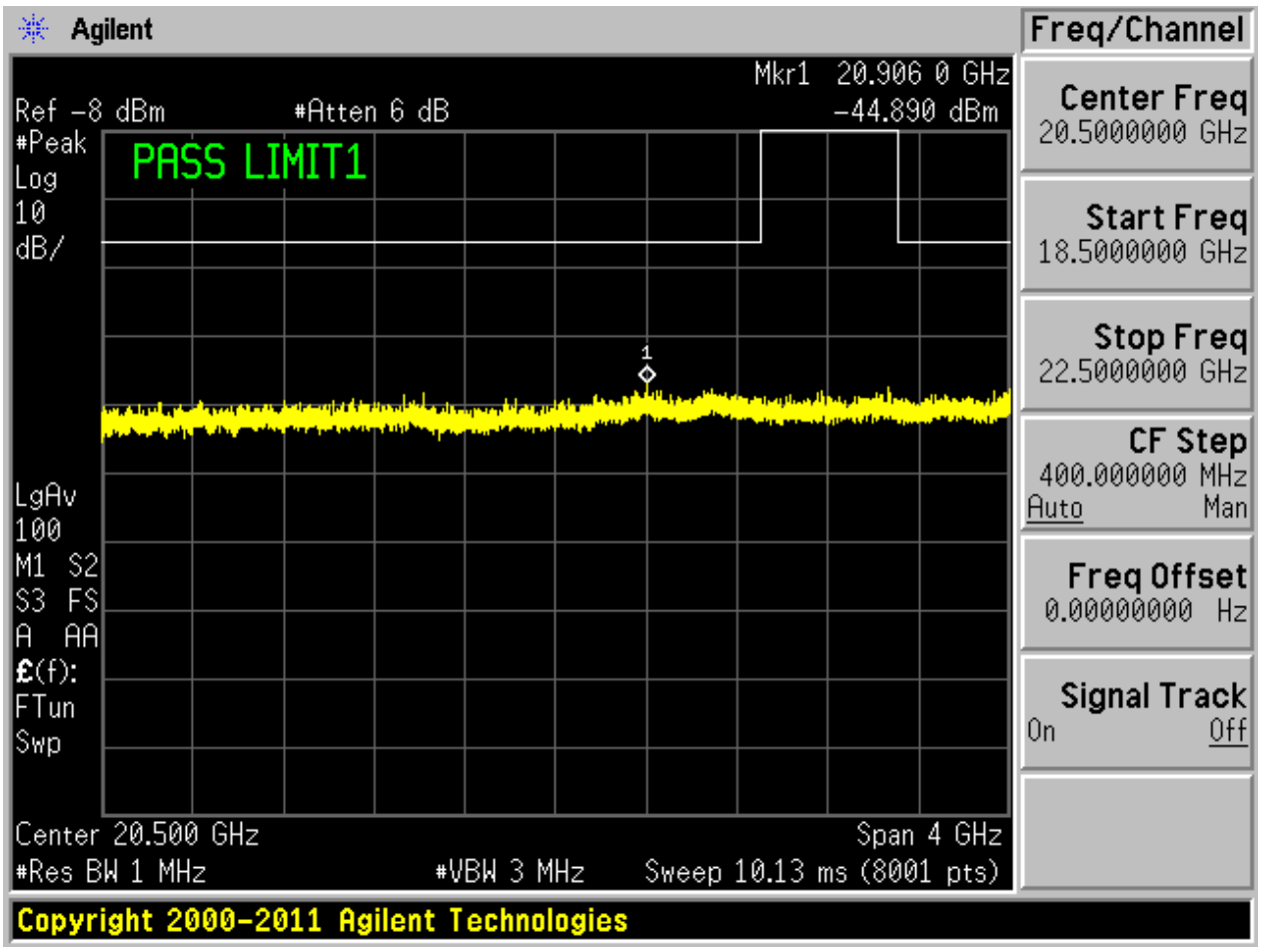

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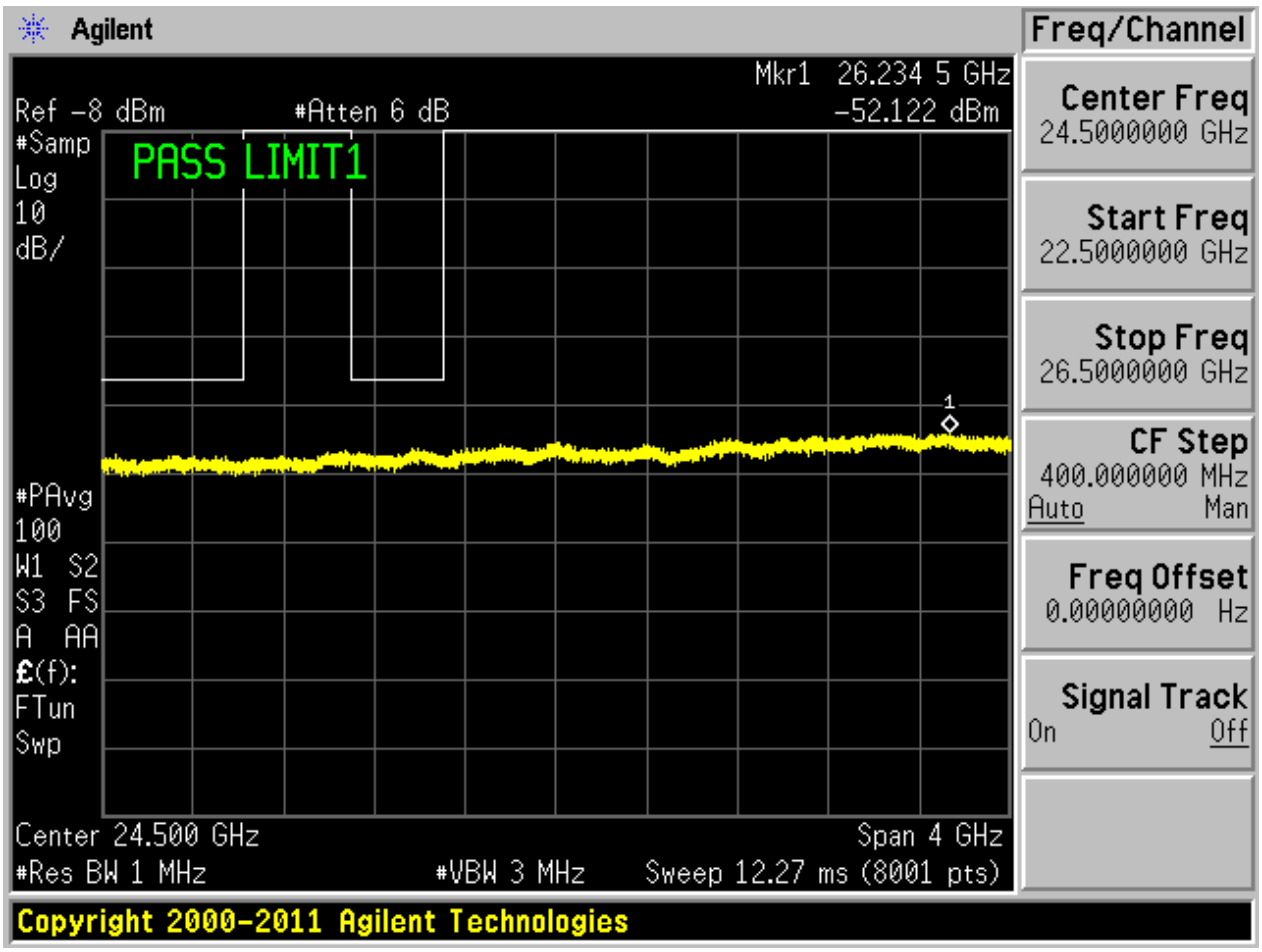

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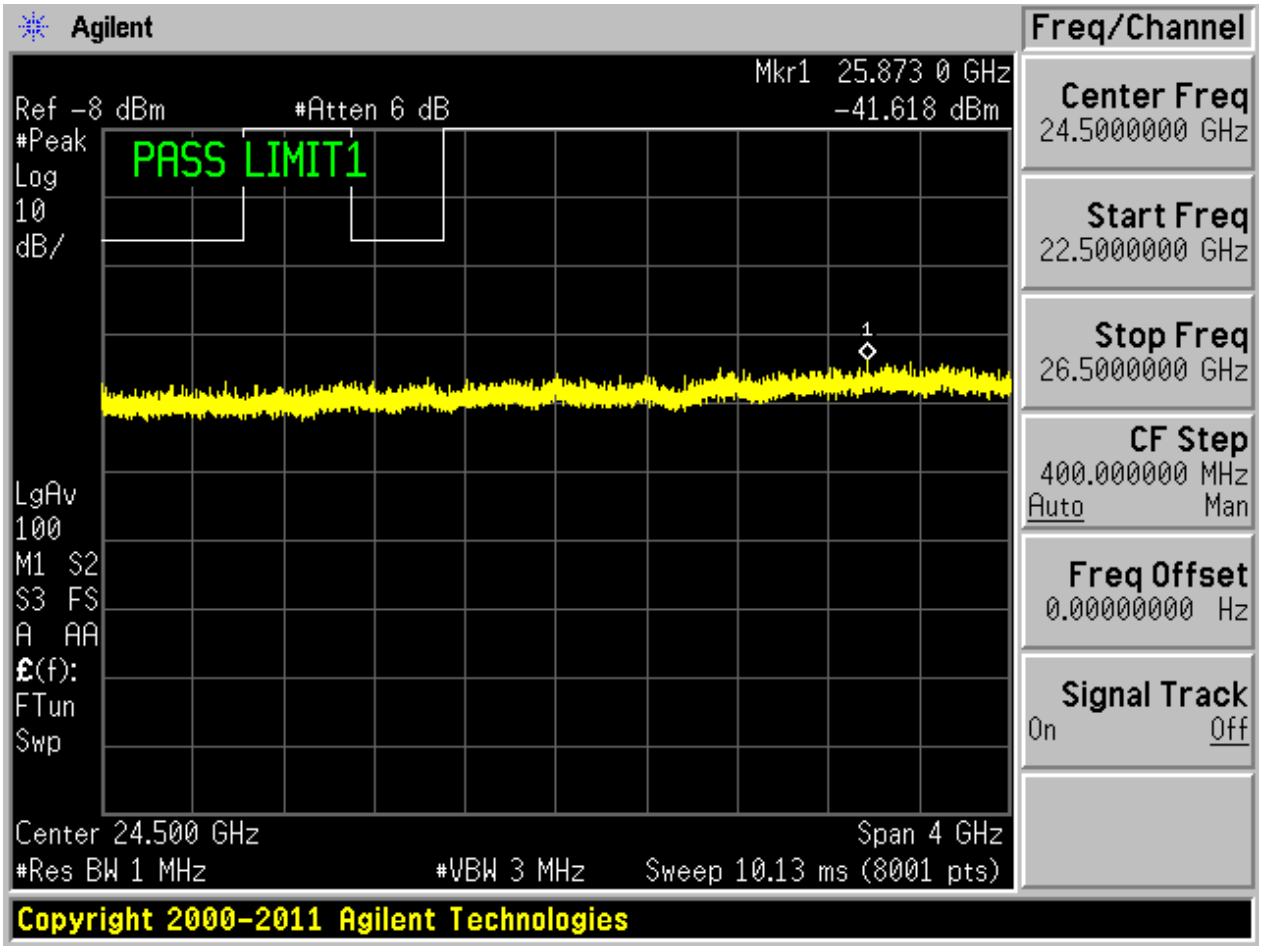

2.3 11B/1_T@2

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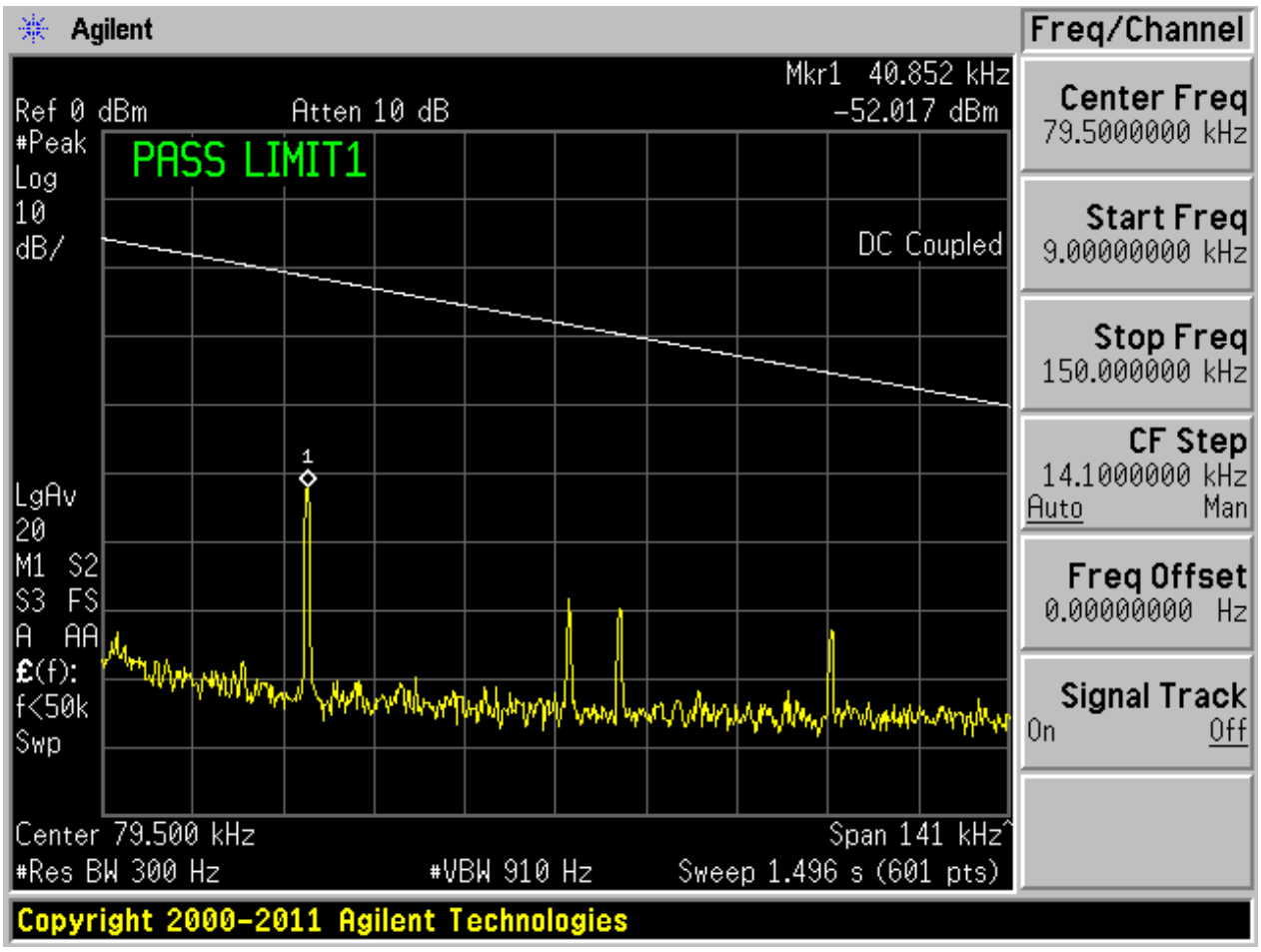

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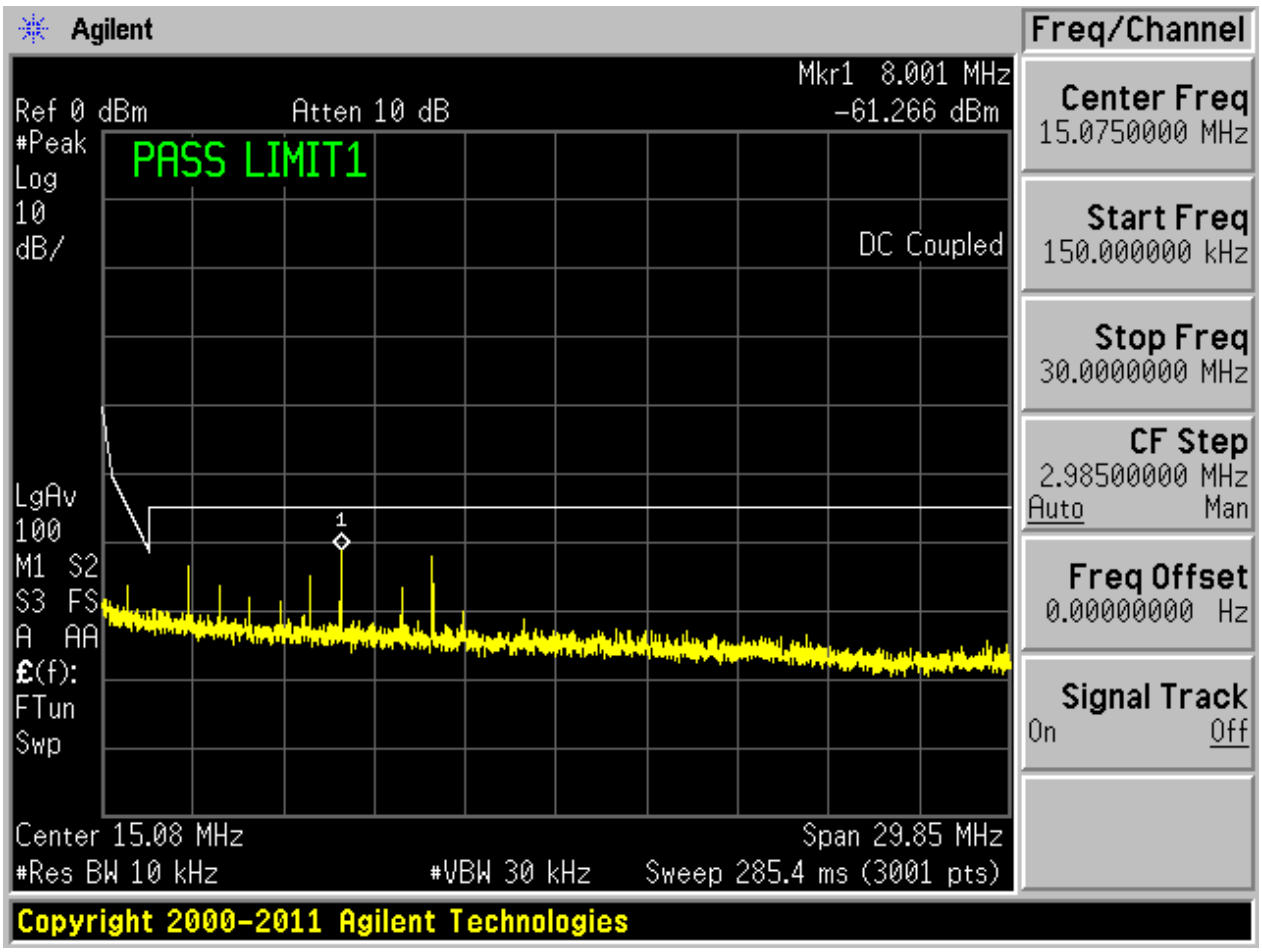

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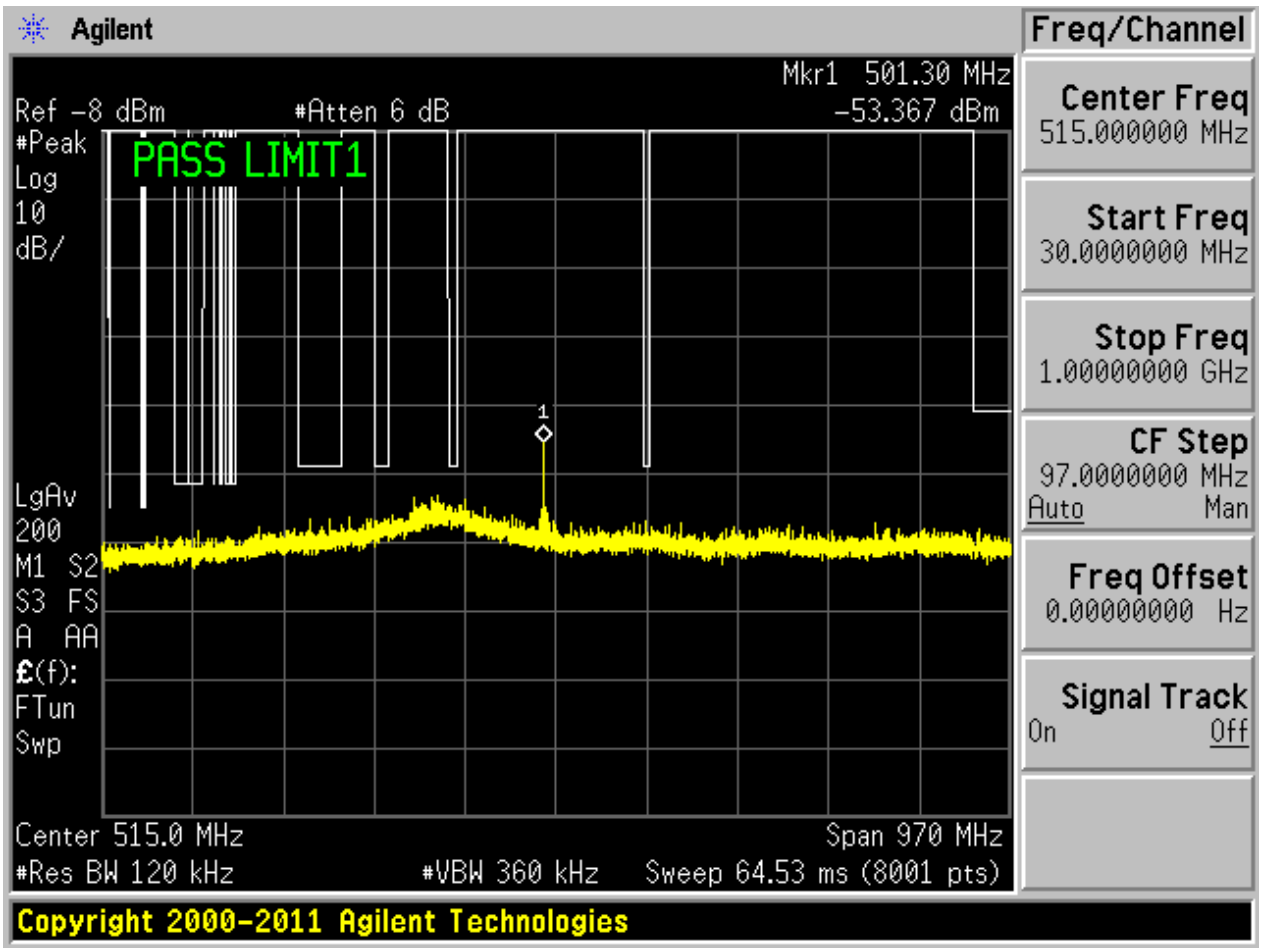

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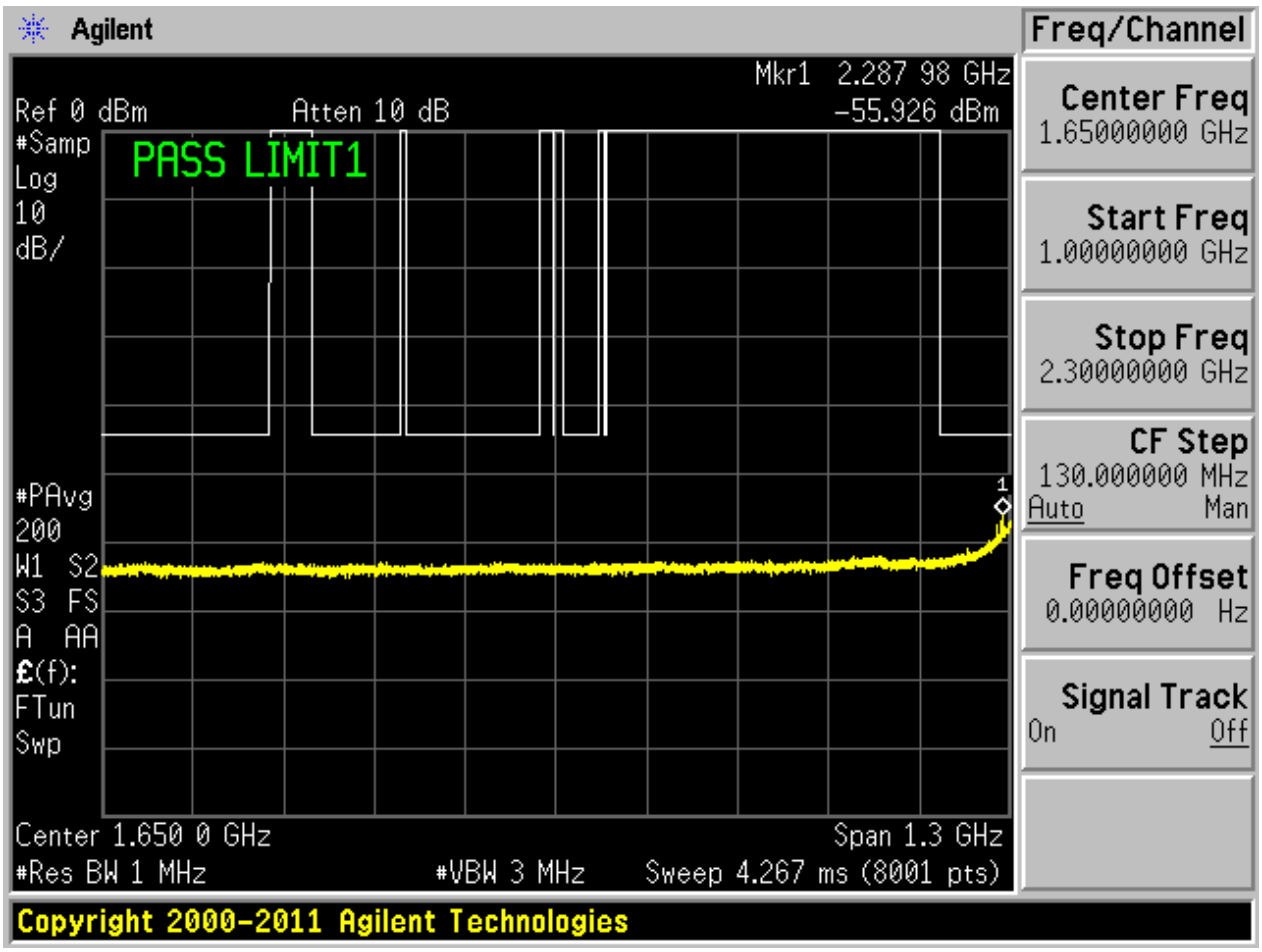

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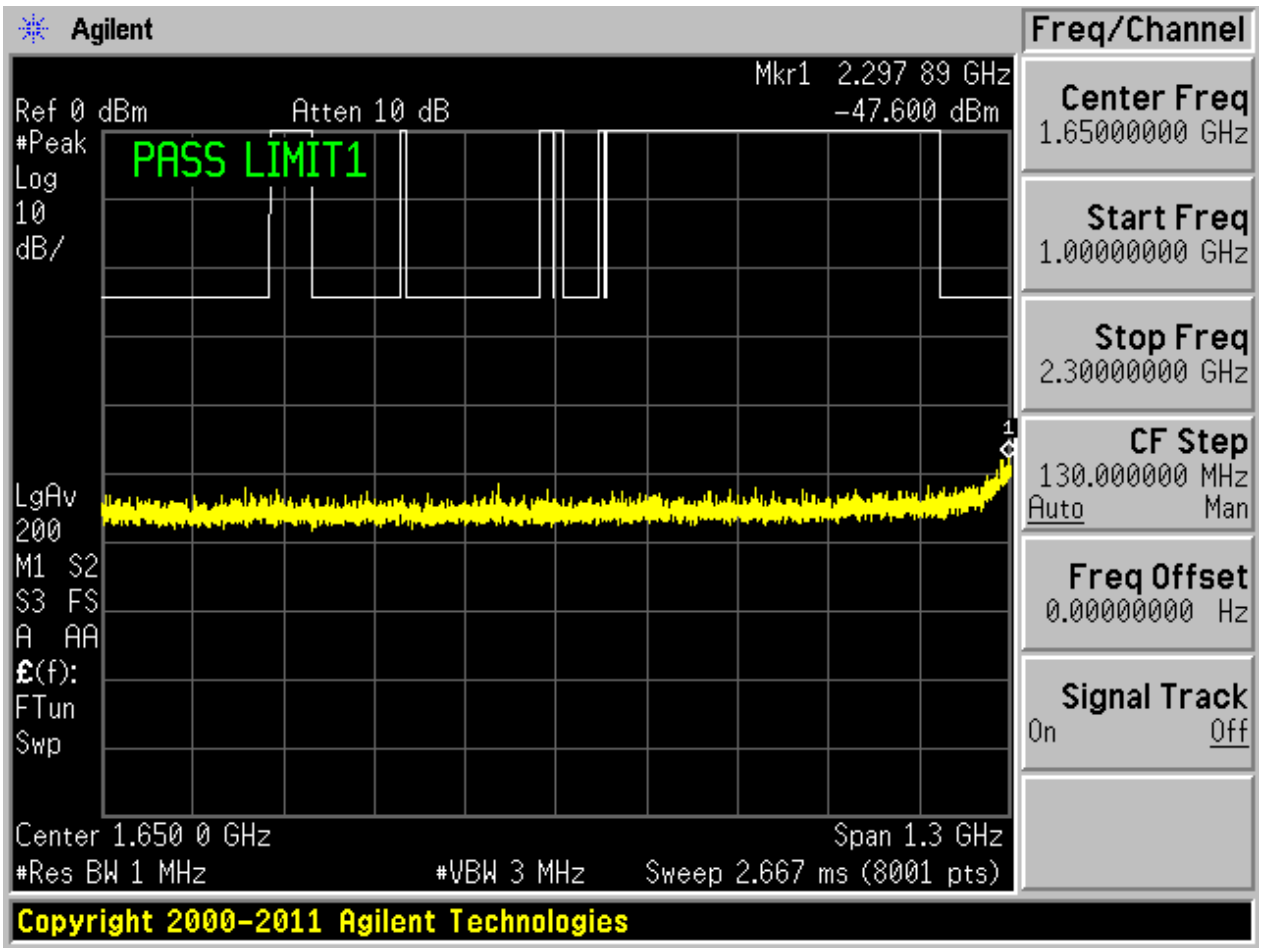

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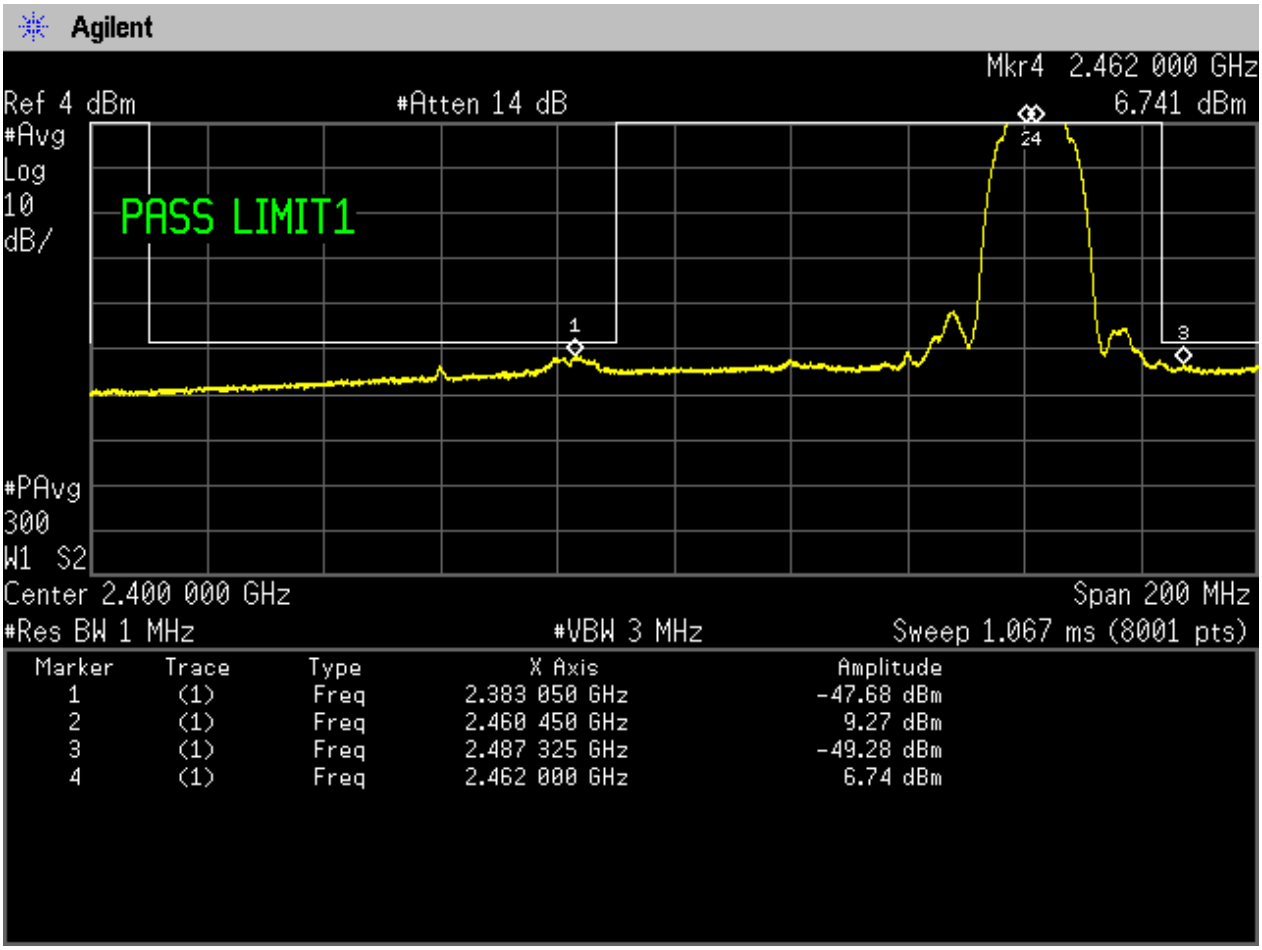

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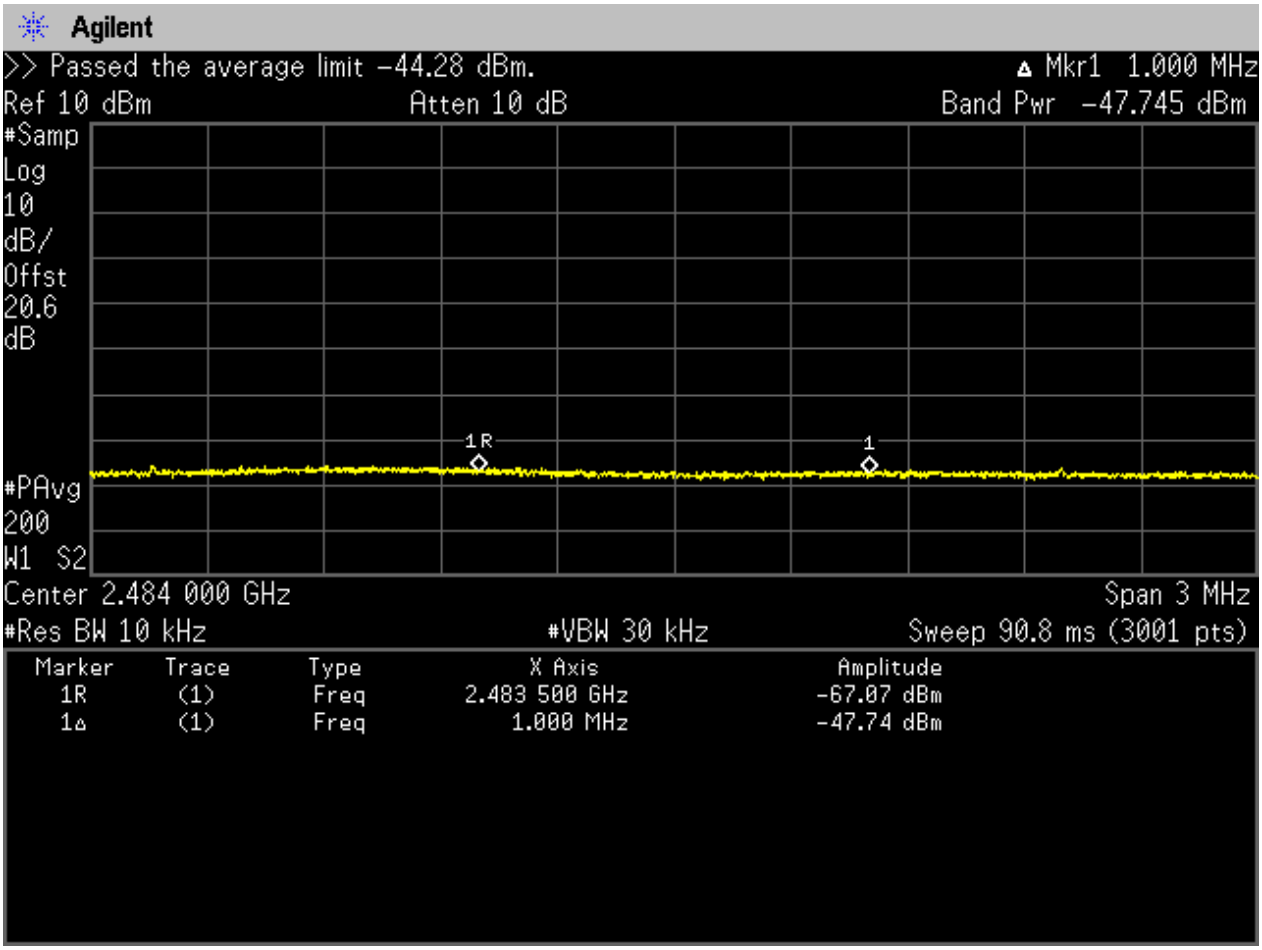

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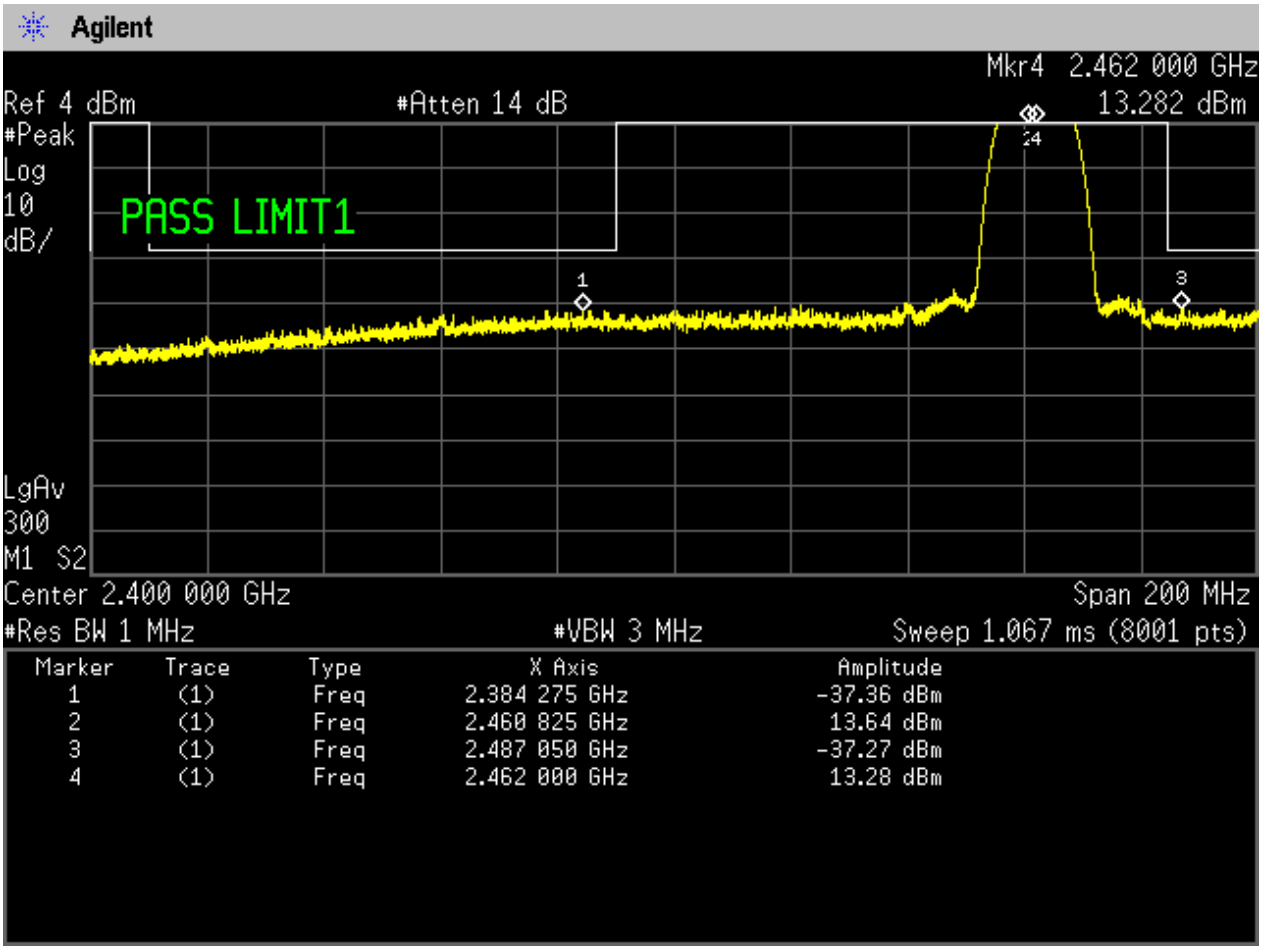

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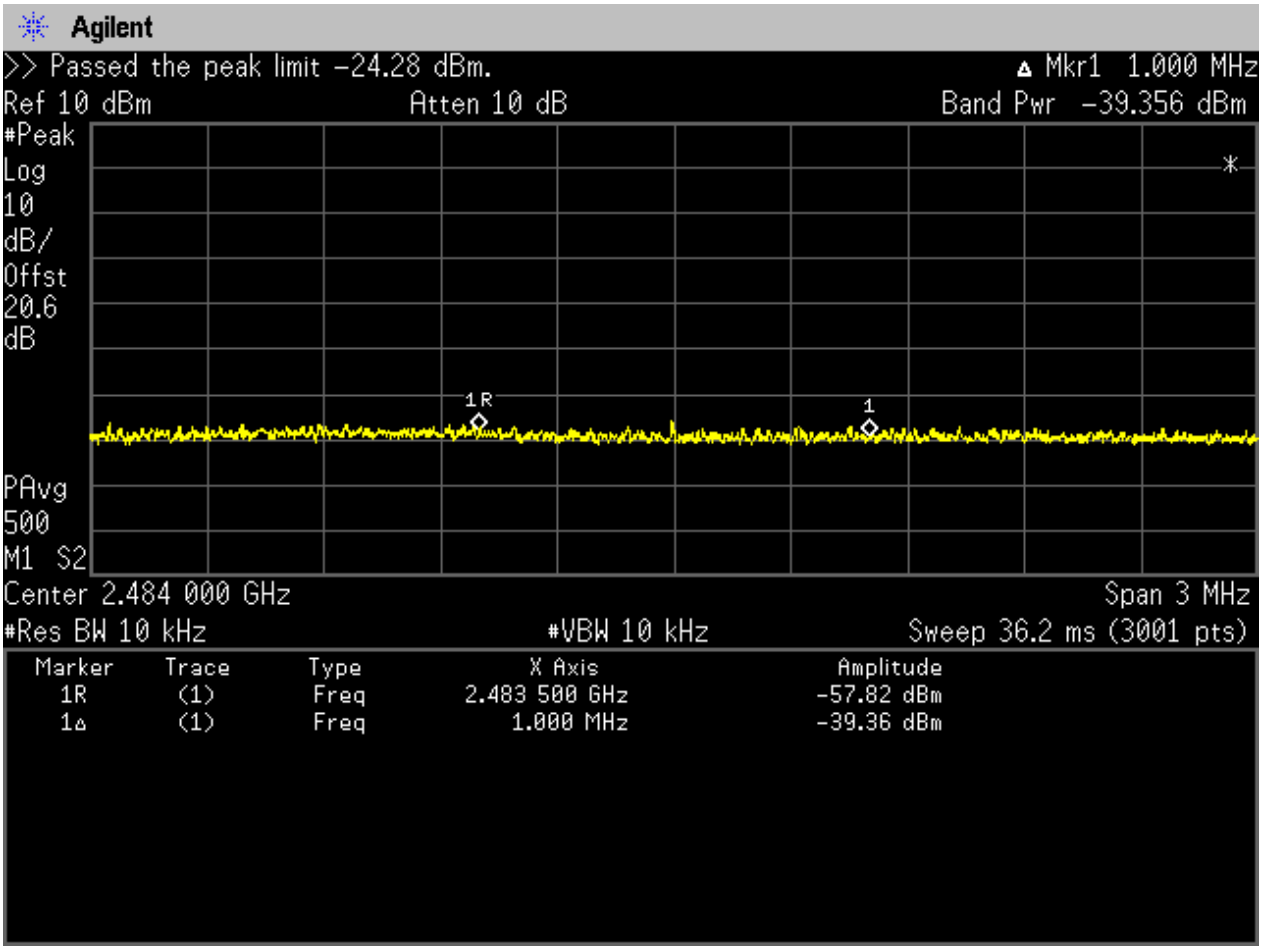

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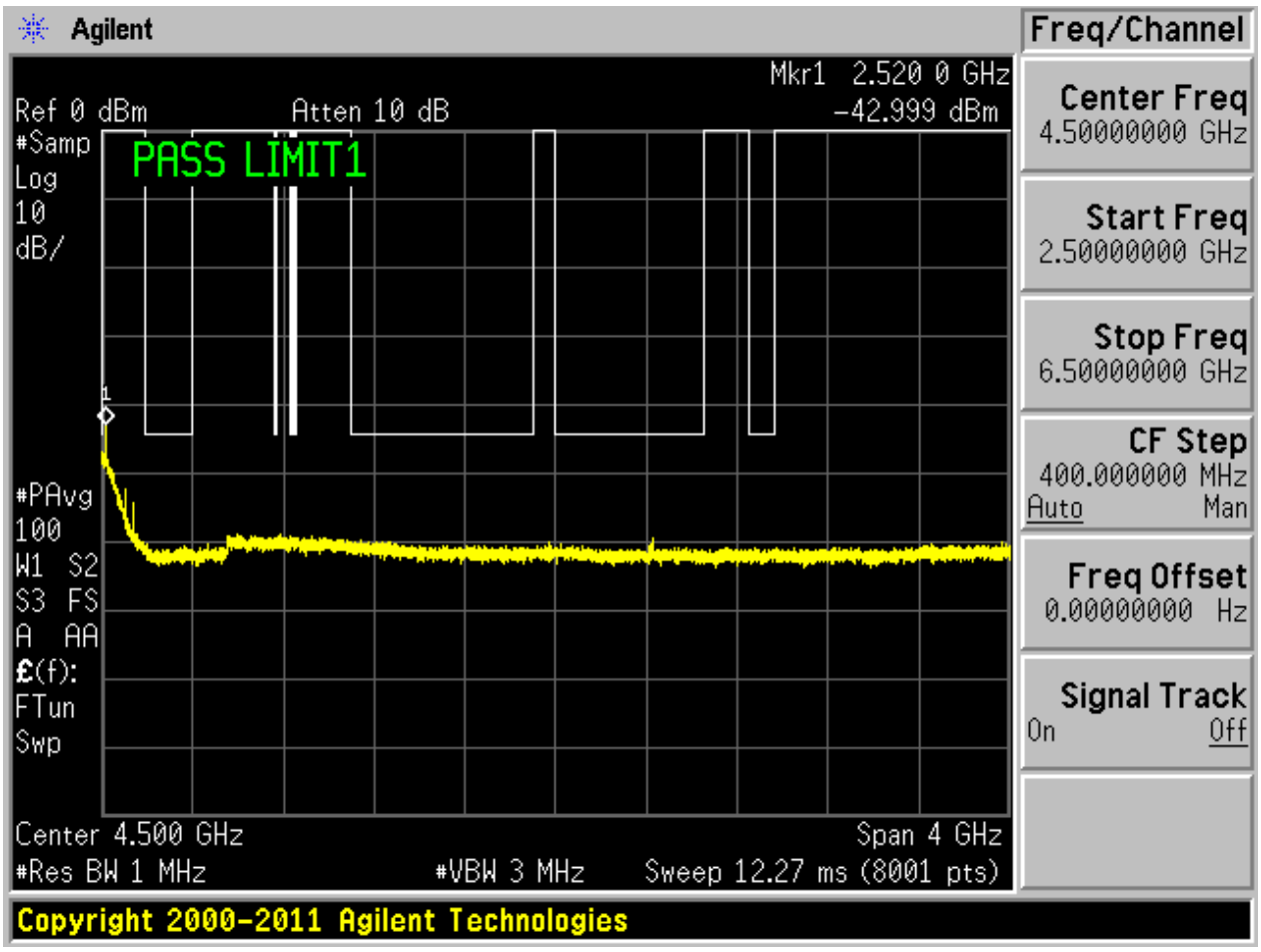

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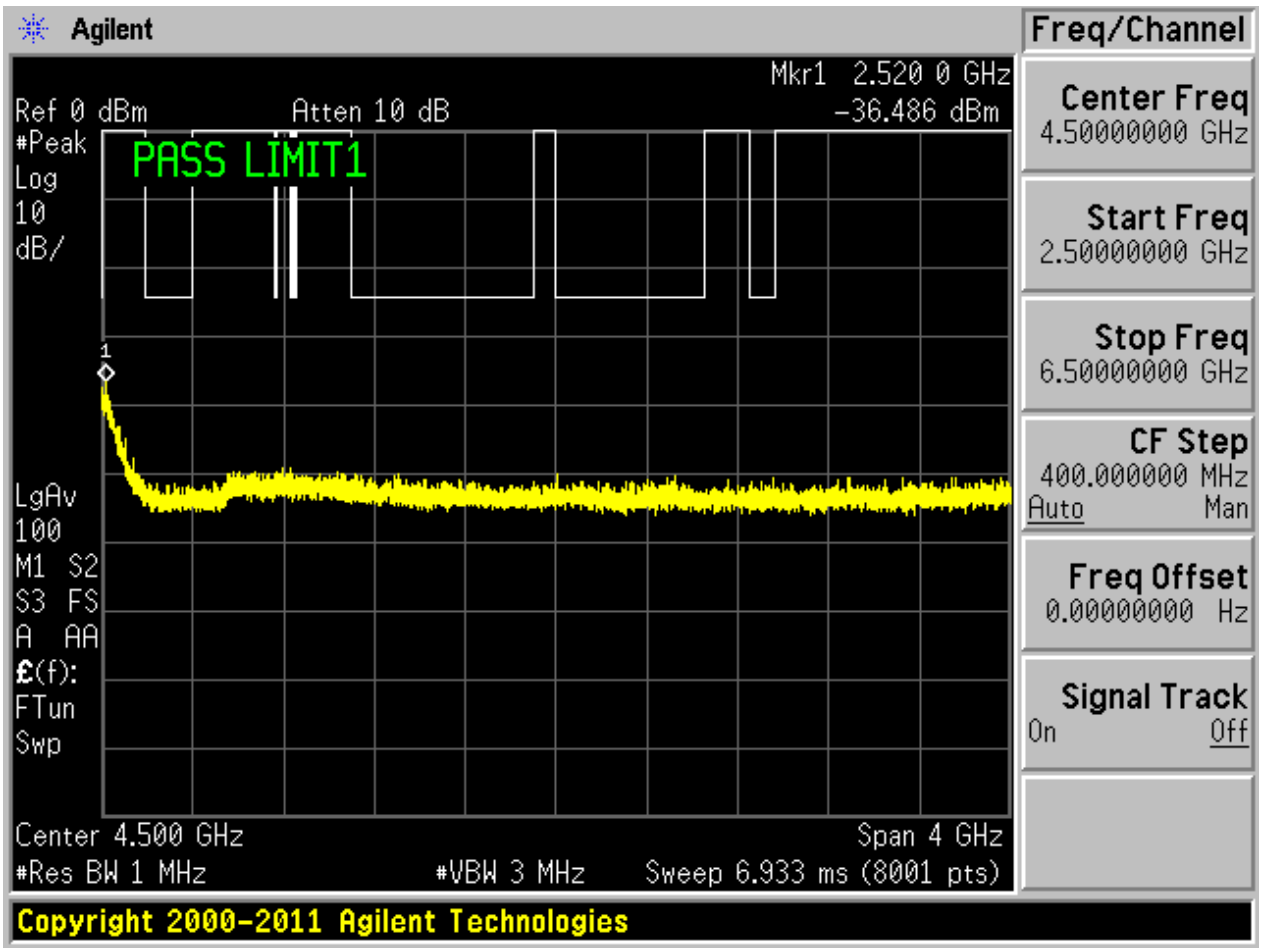

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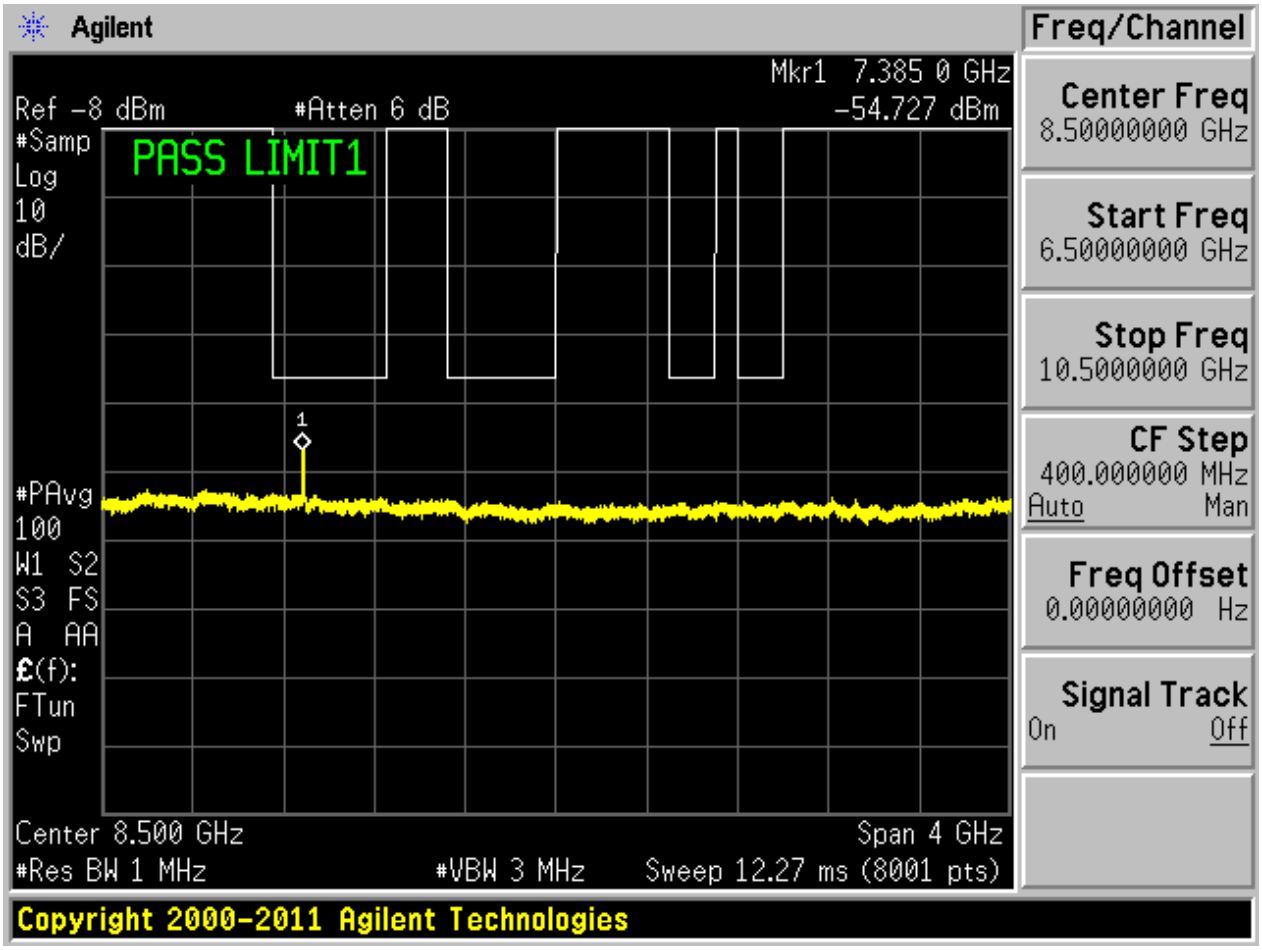

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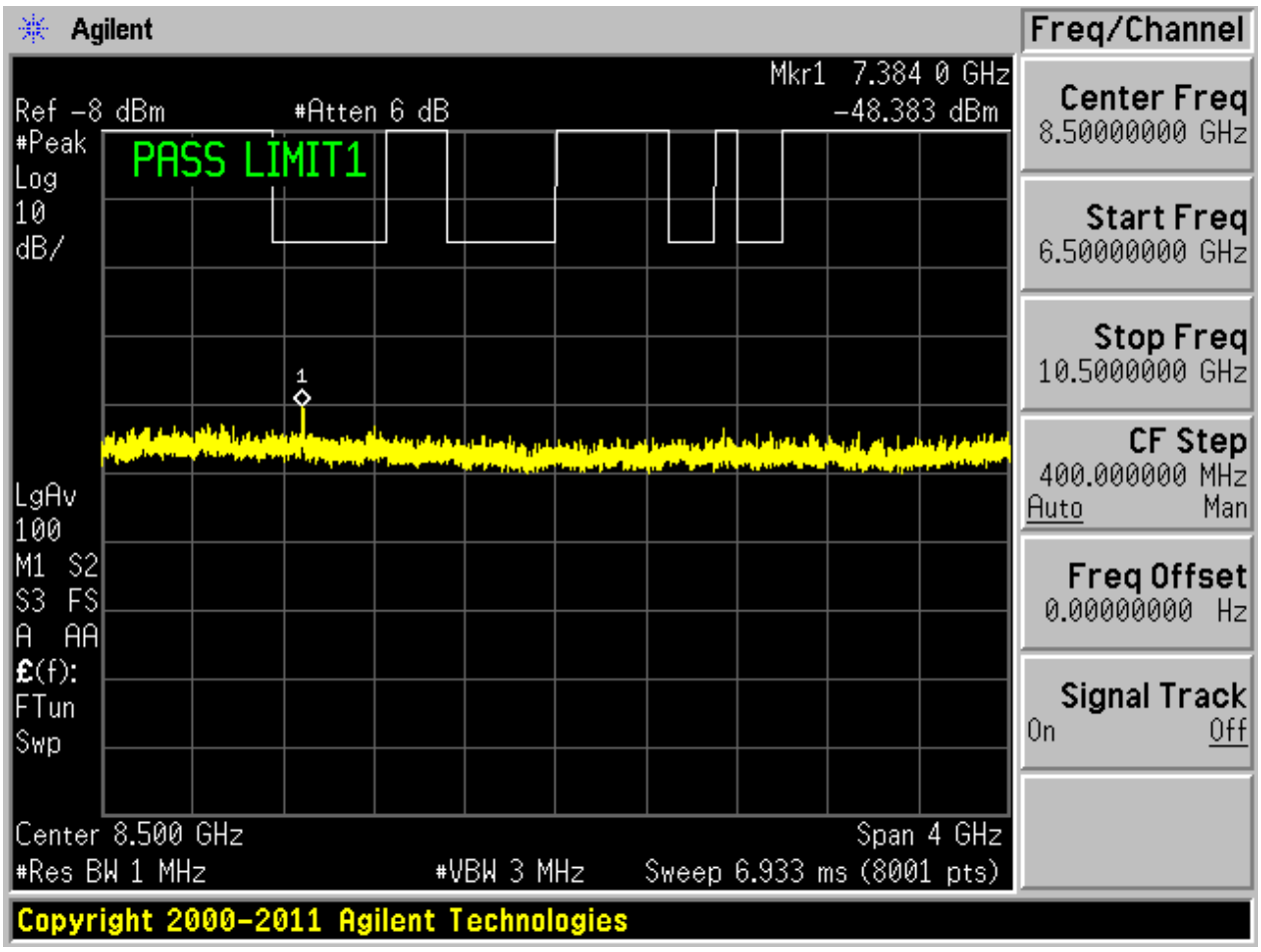

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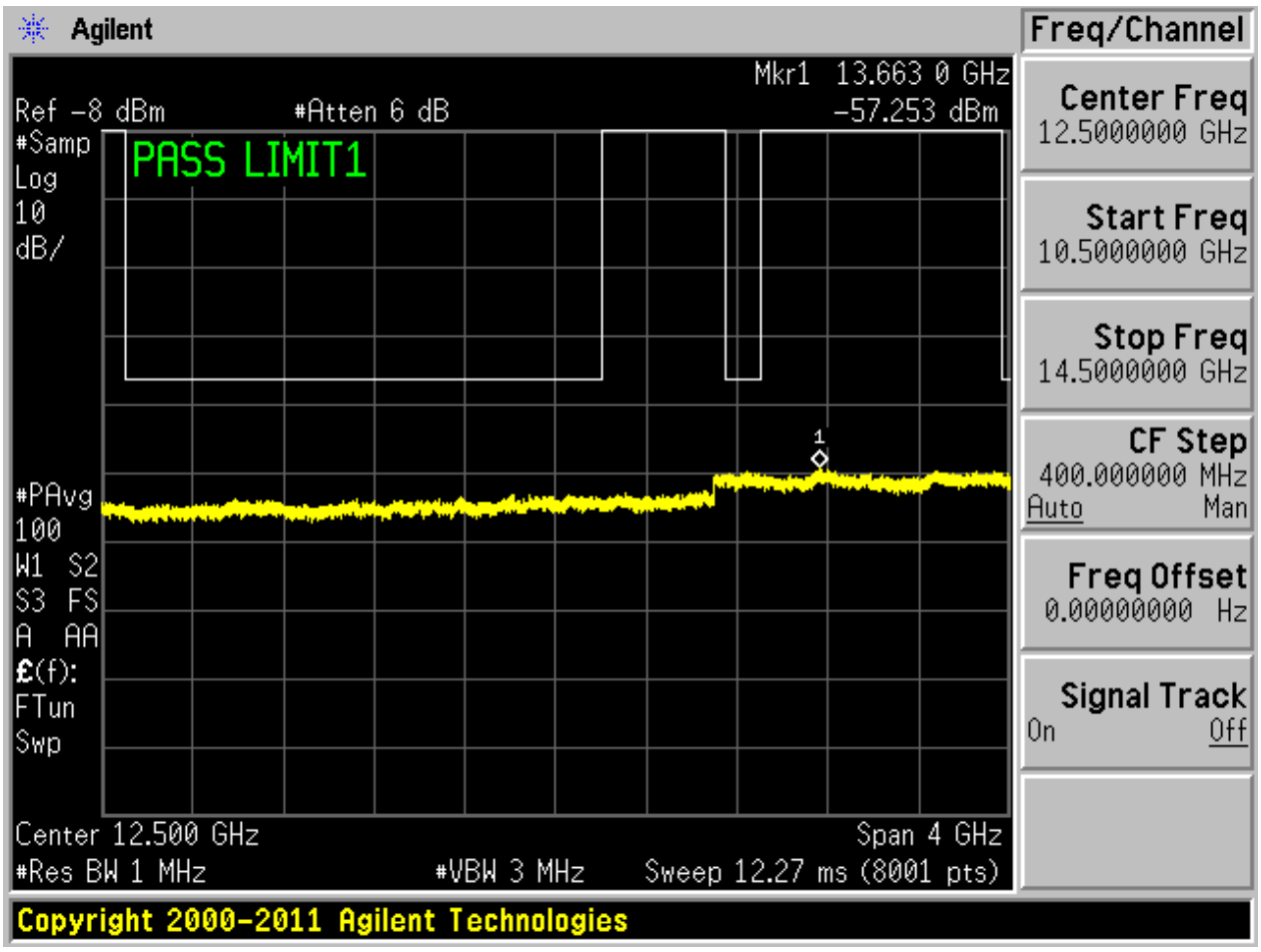

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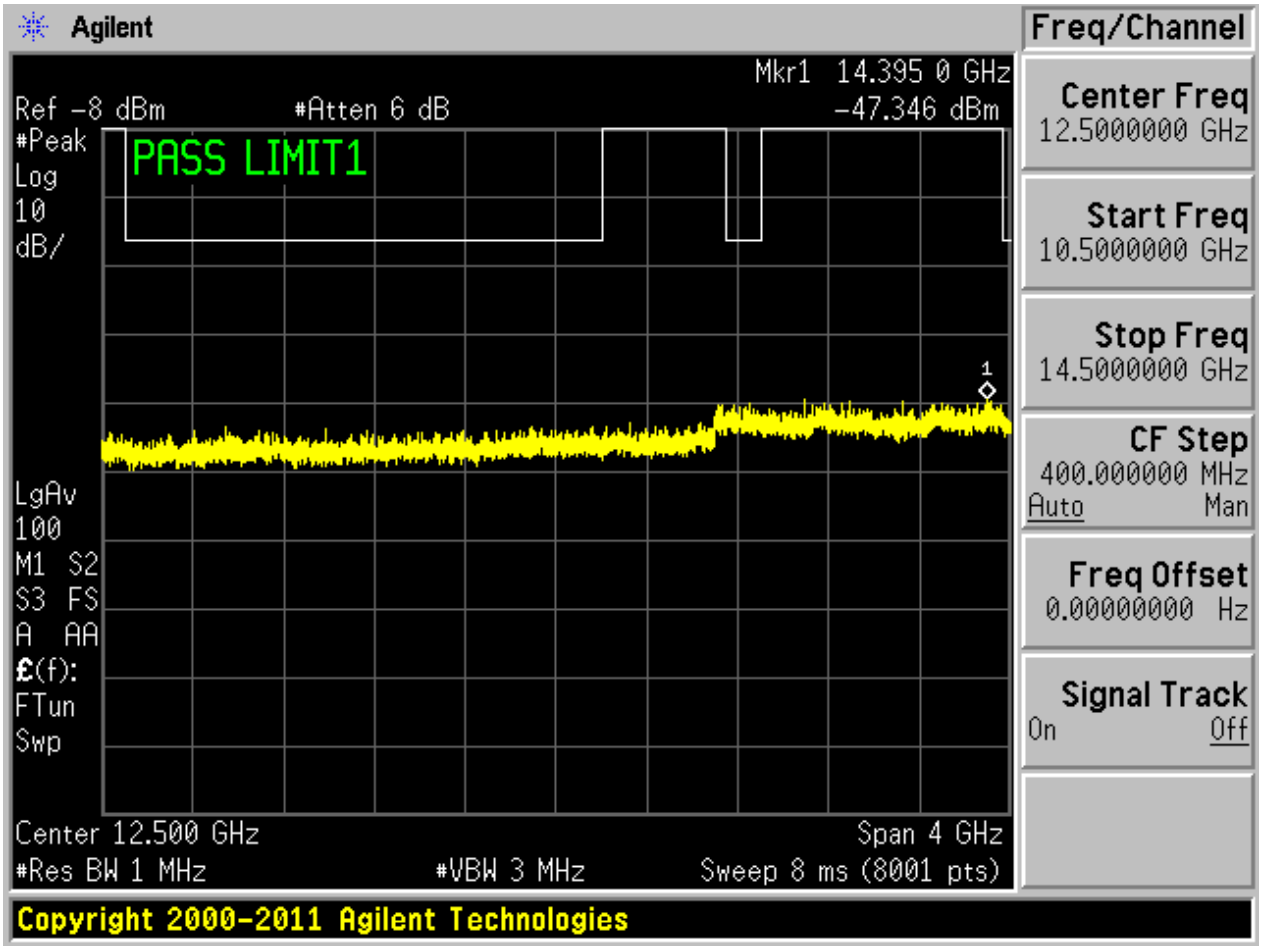

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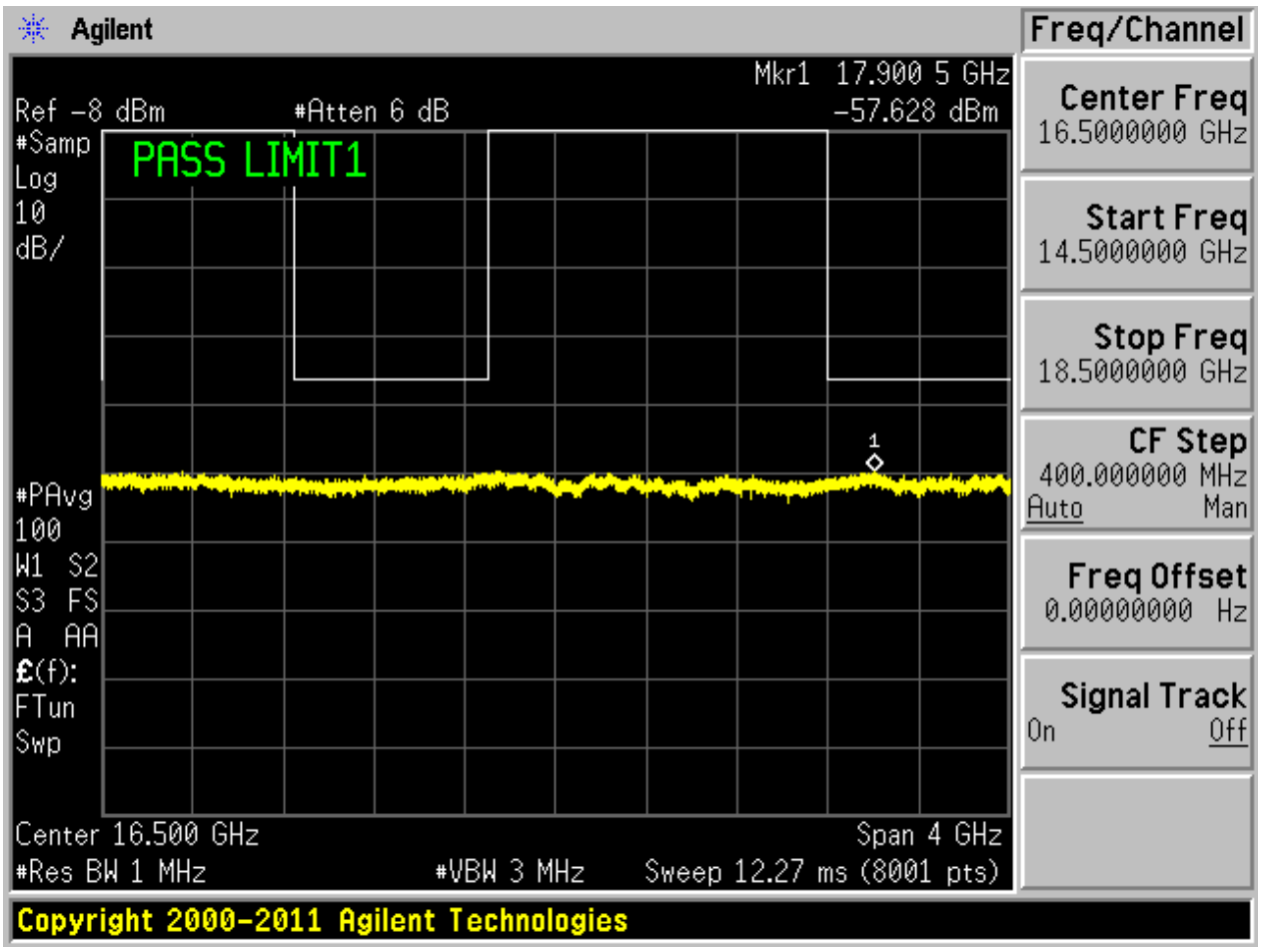

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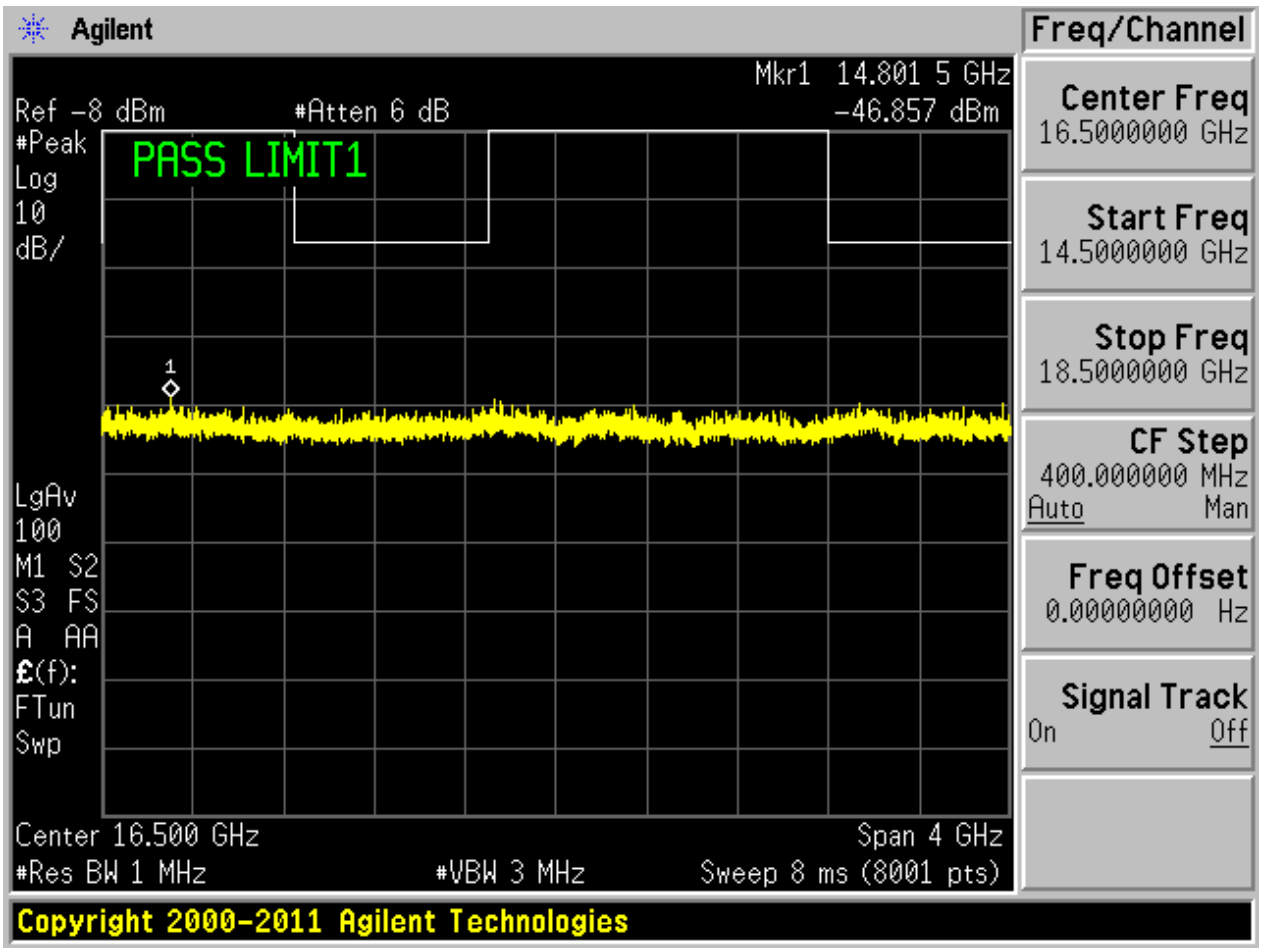

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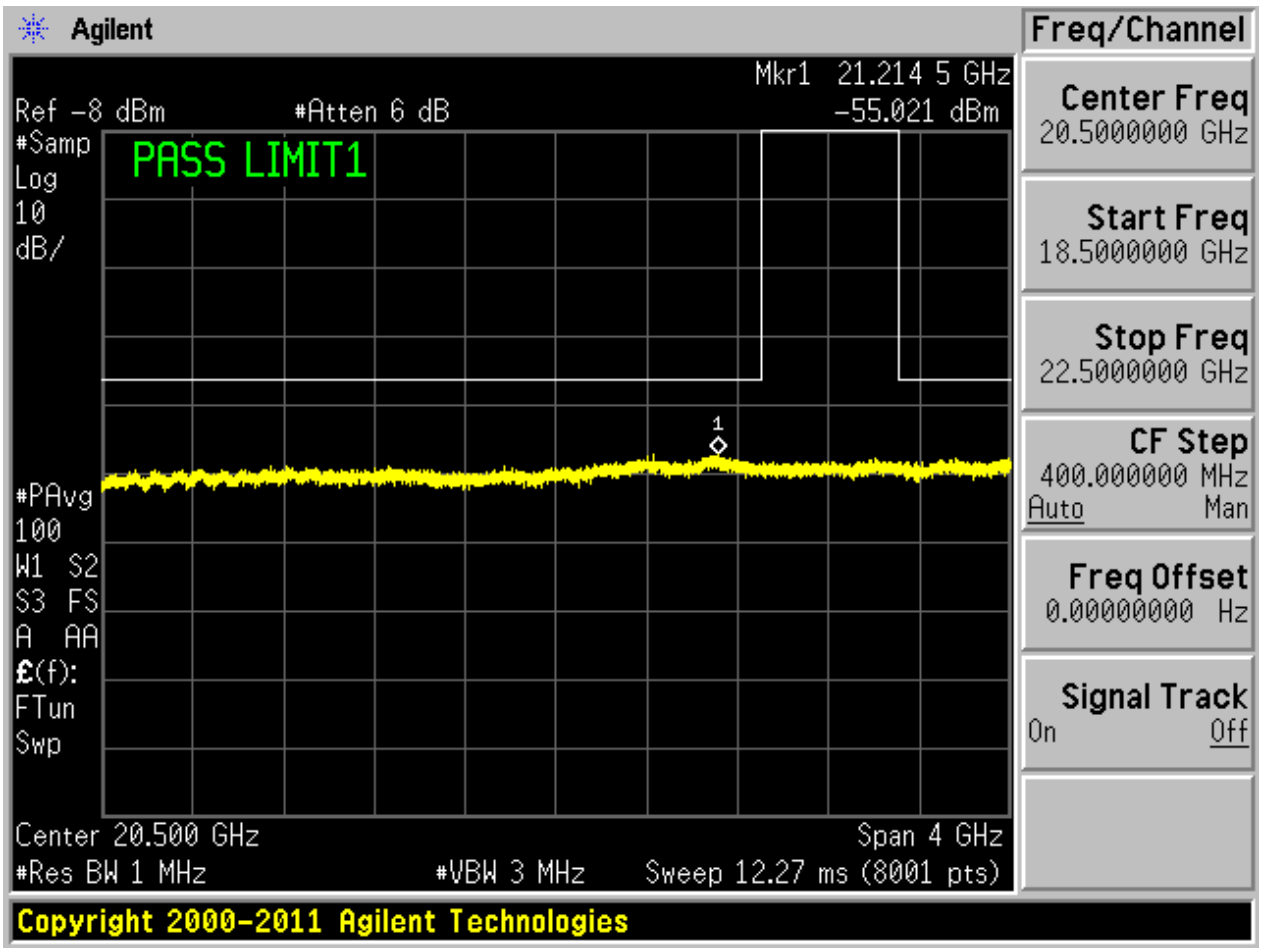

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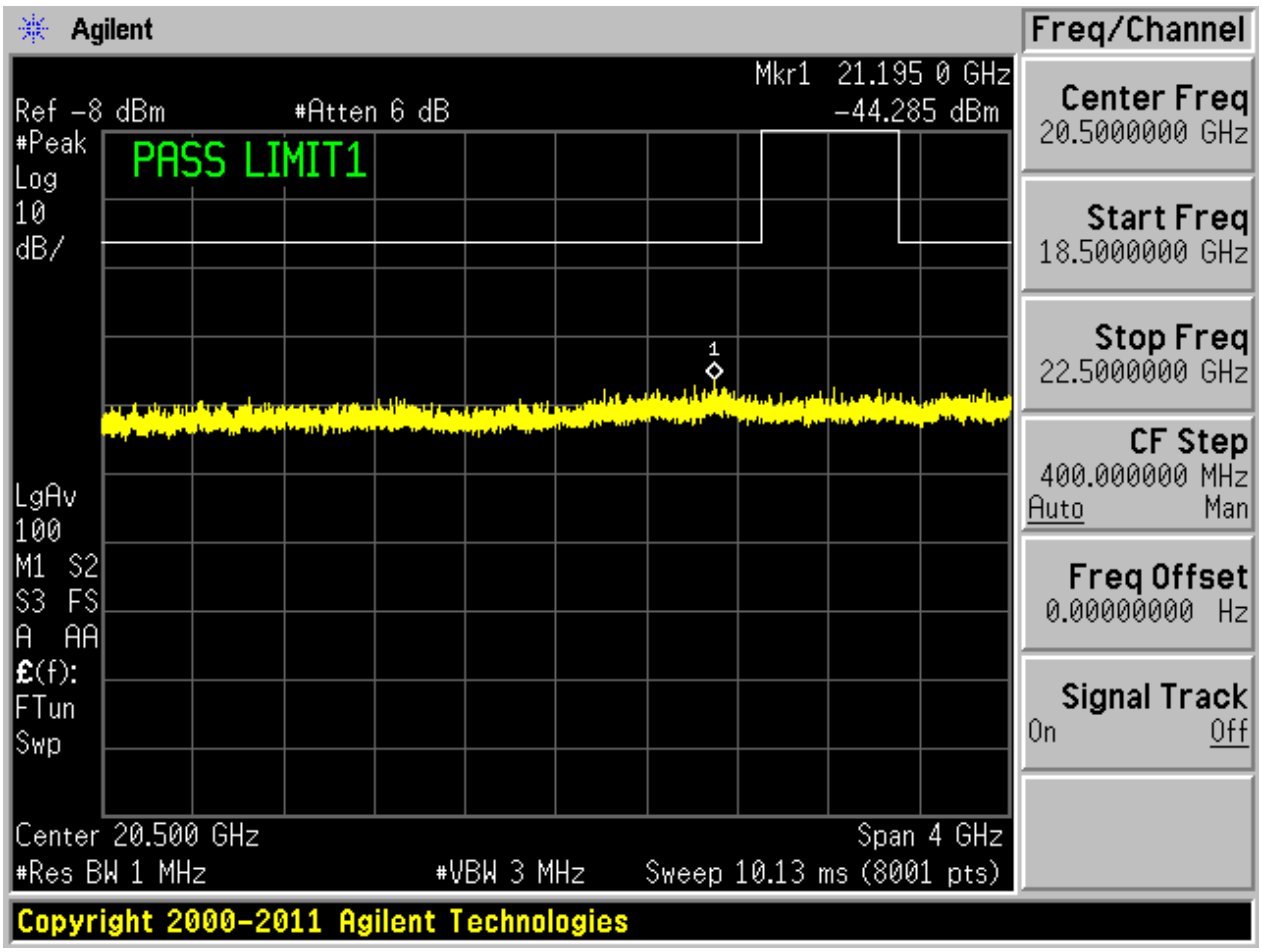

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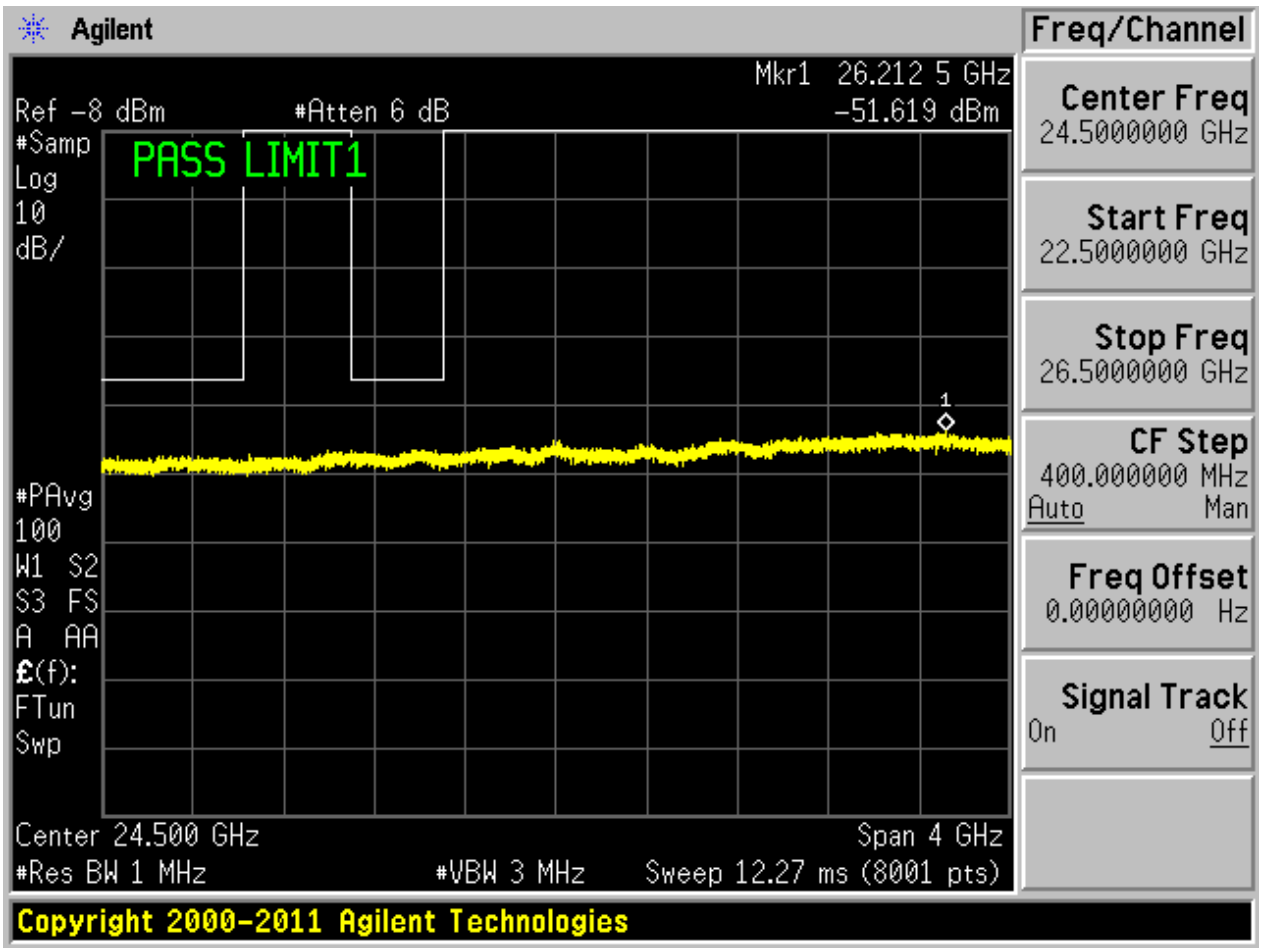

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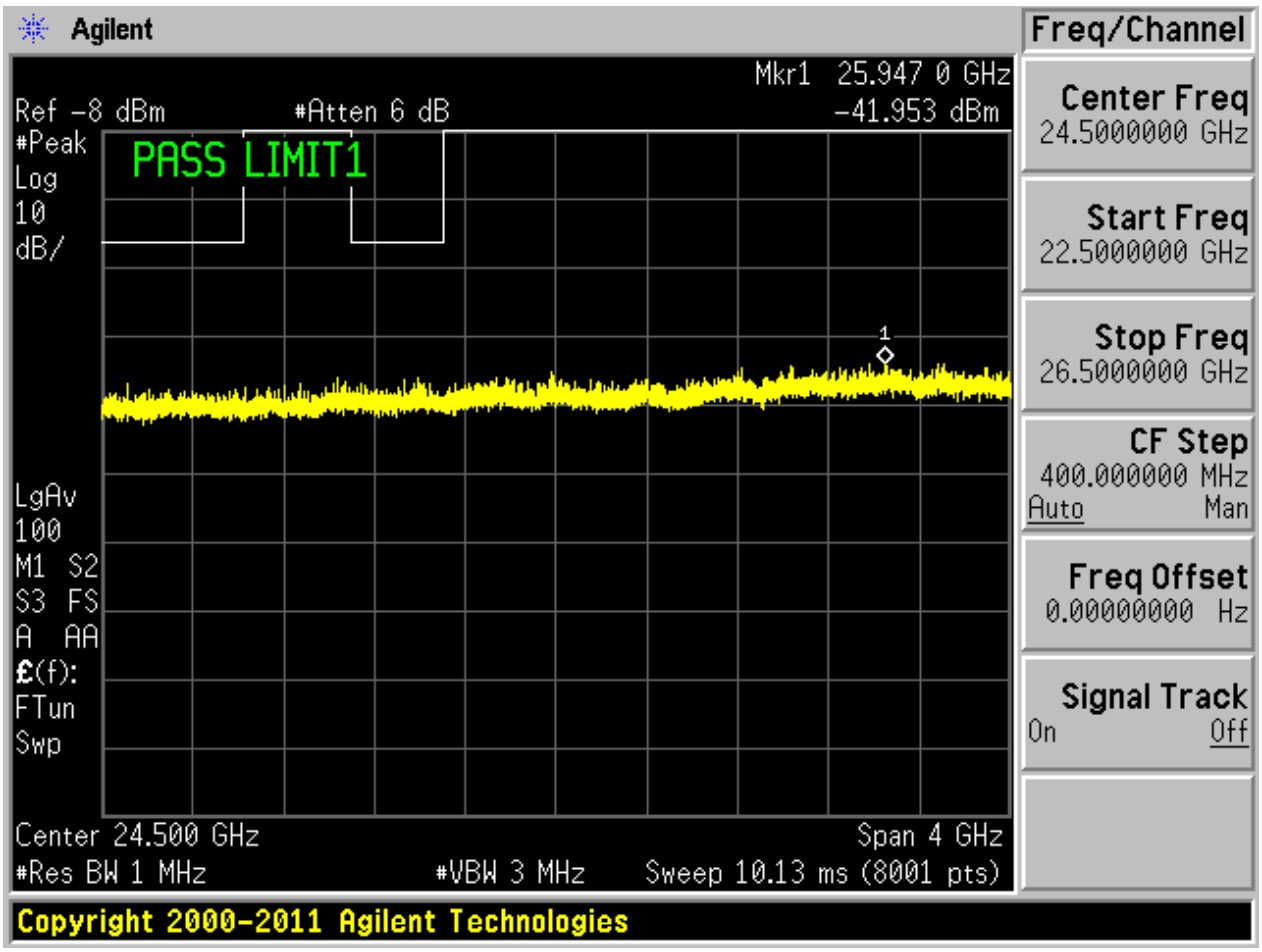

2.4 11Bd/1_B@1+2

2.4.1 Ant 1 (Trace#1)

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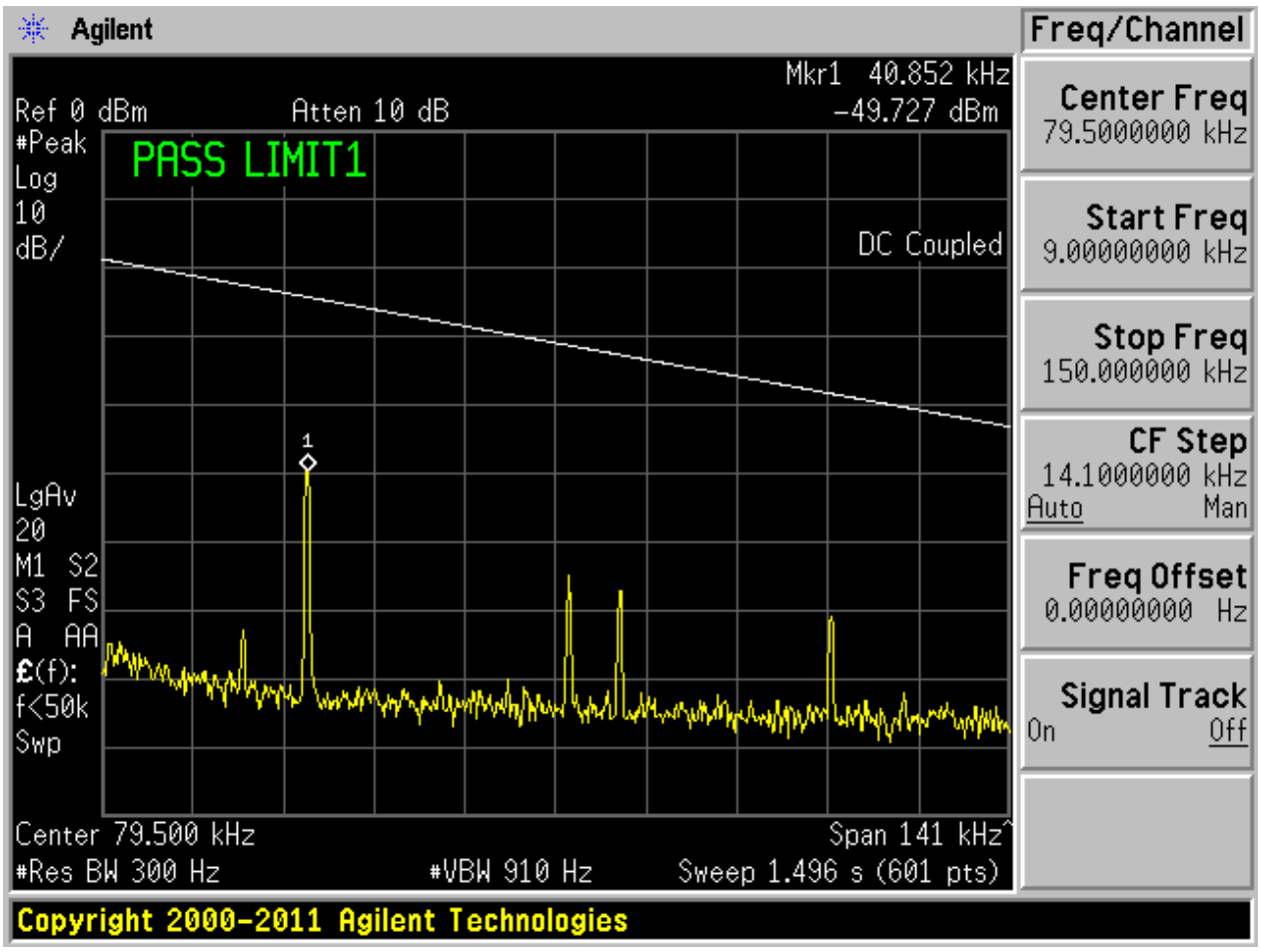

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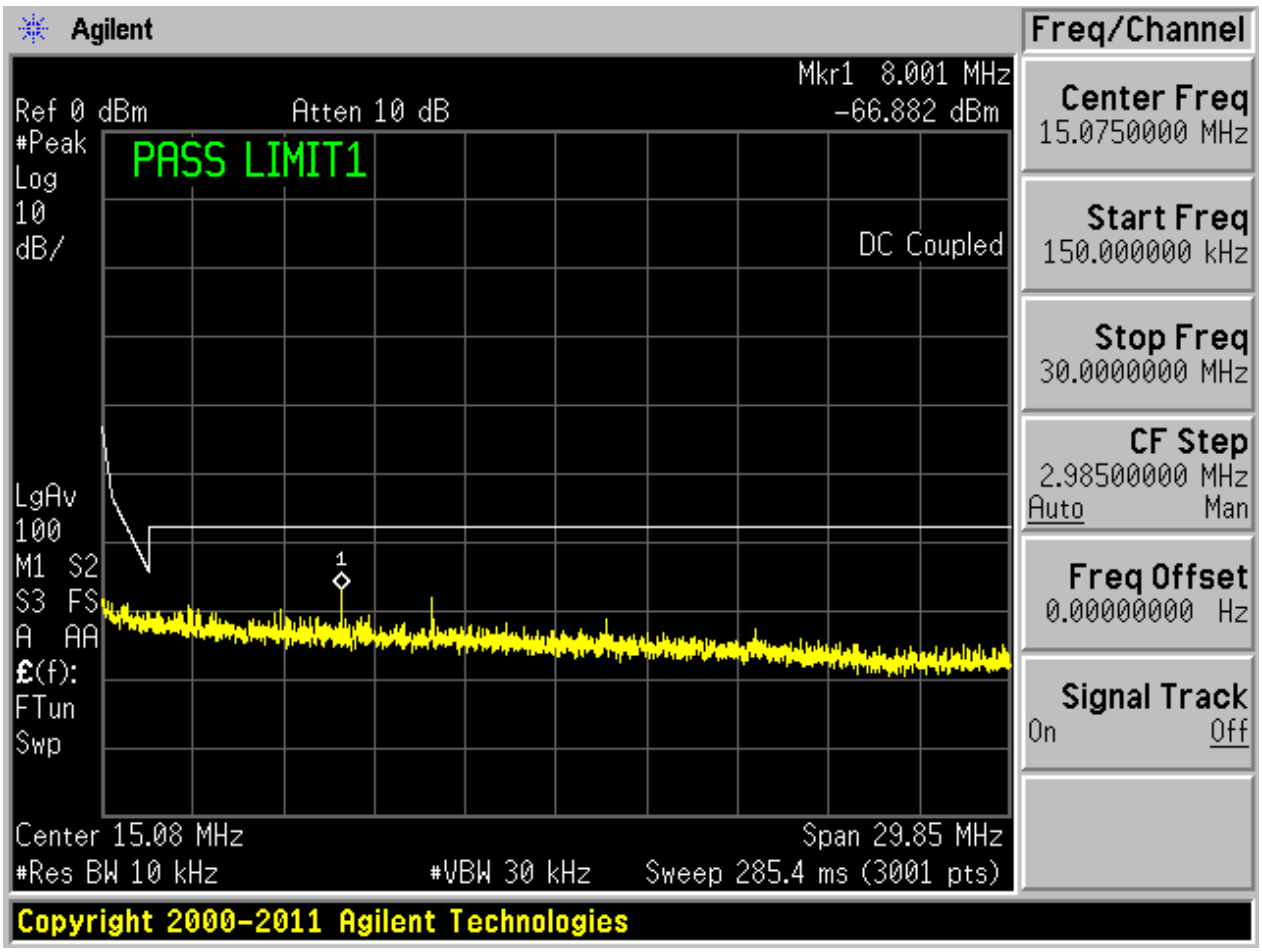

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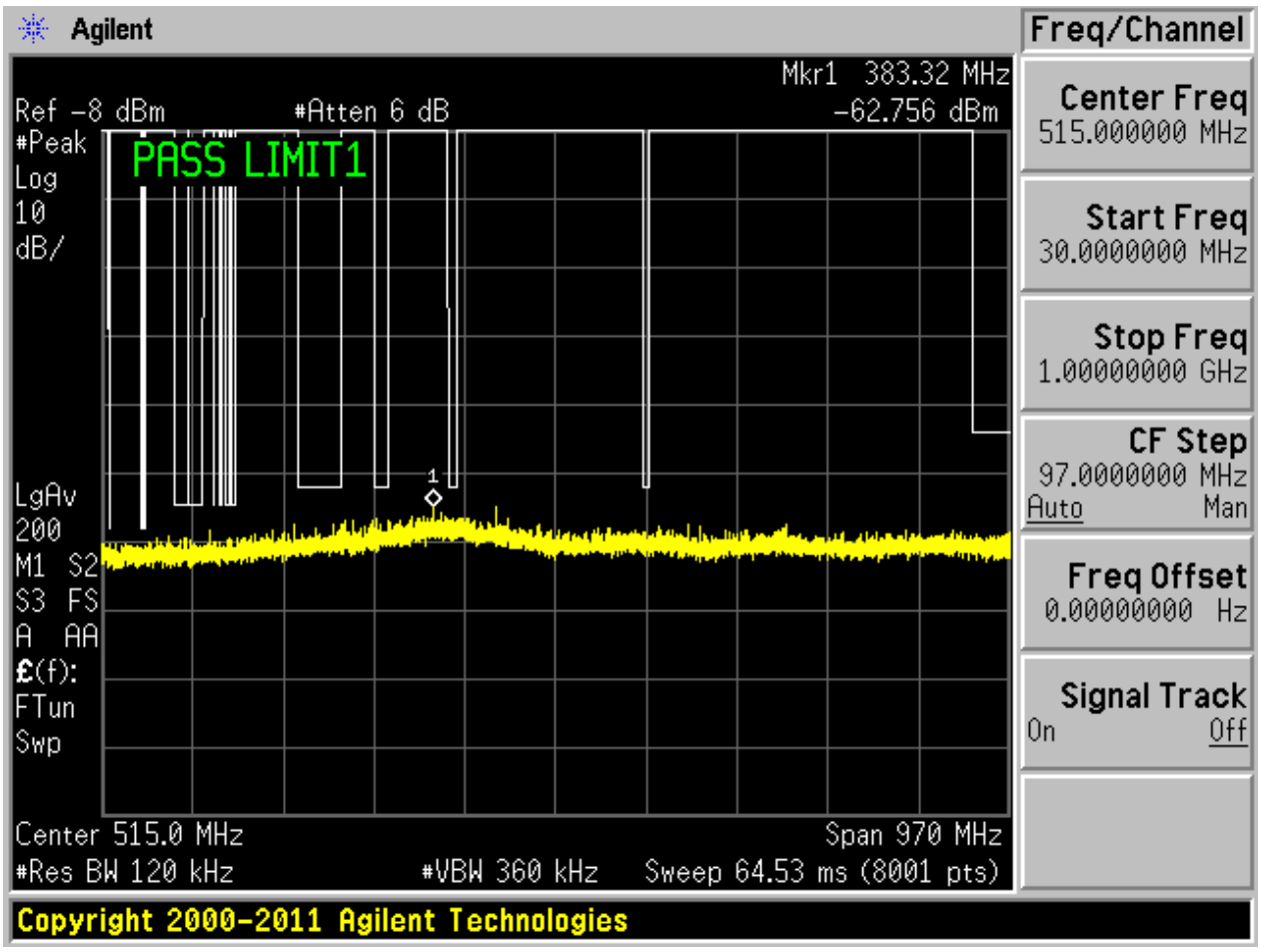

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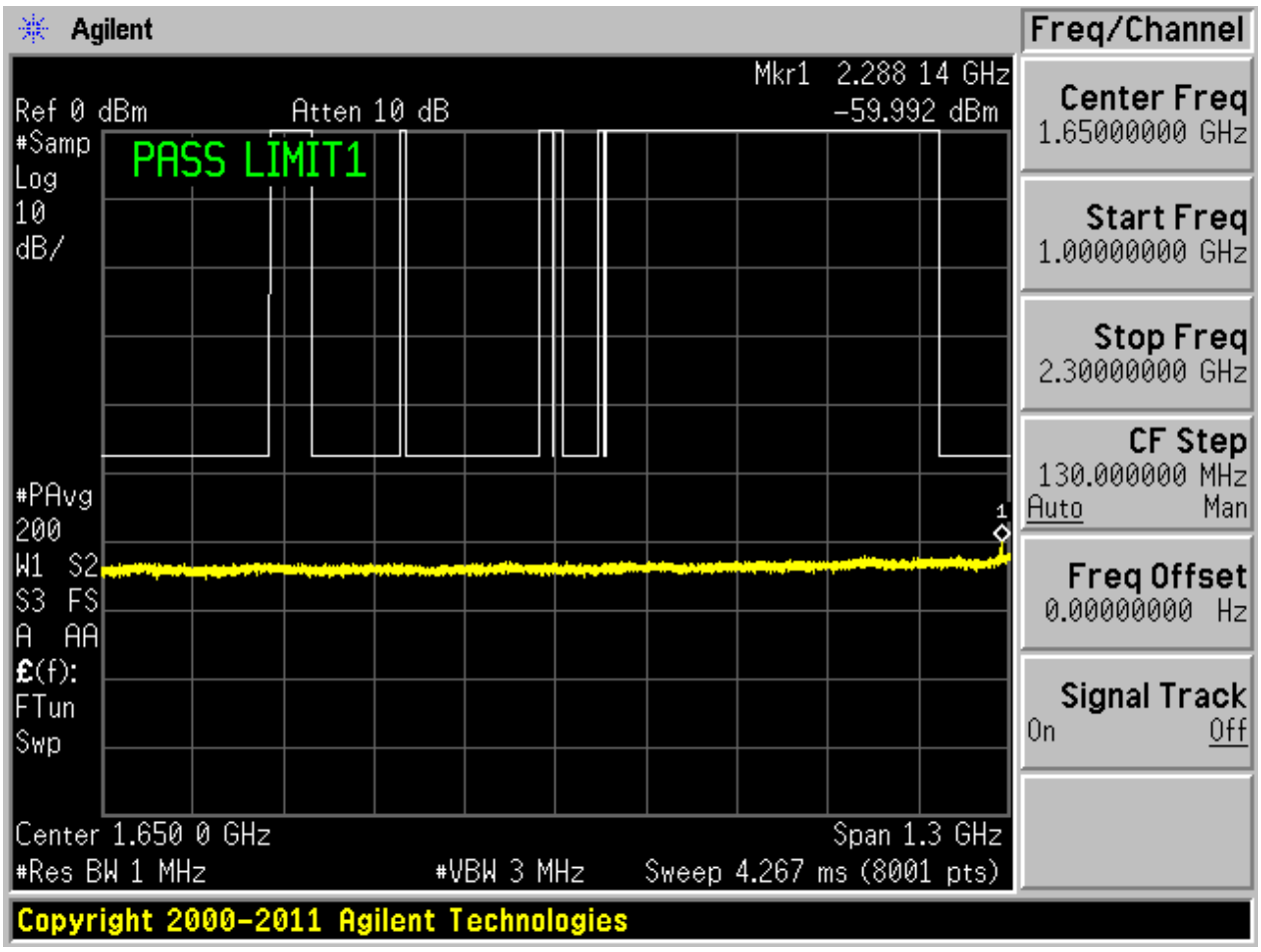

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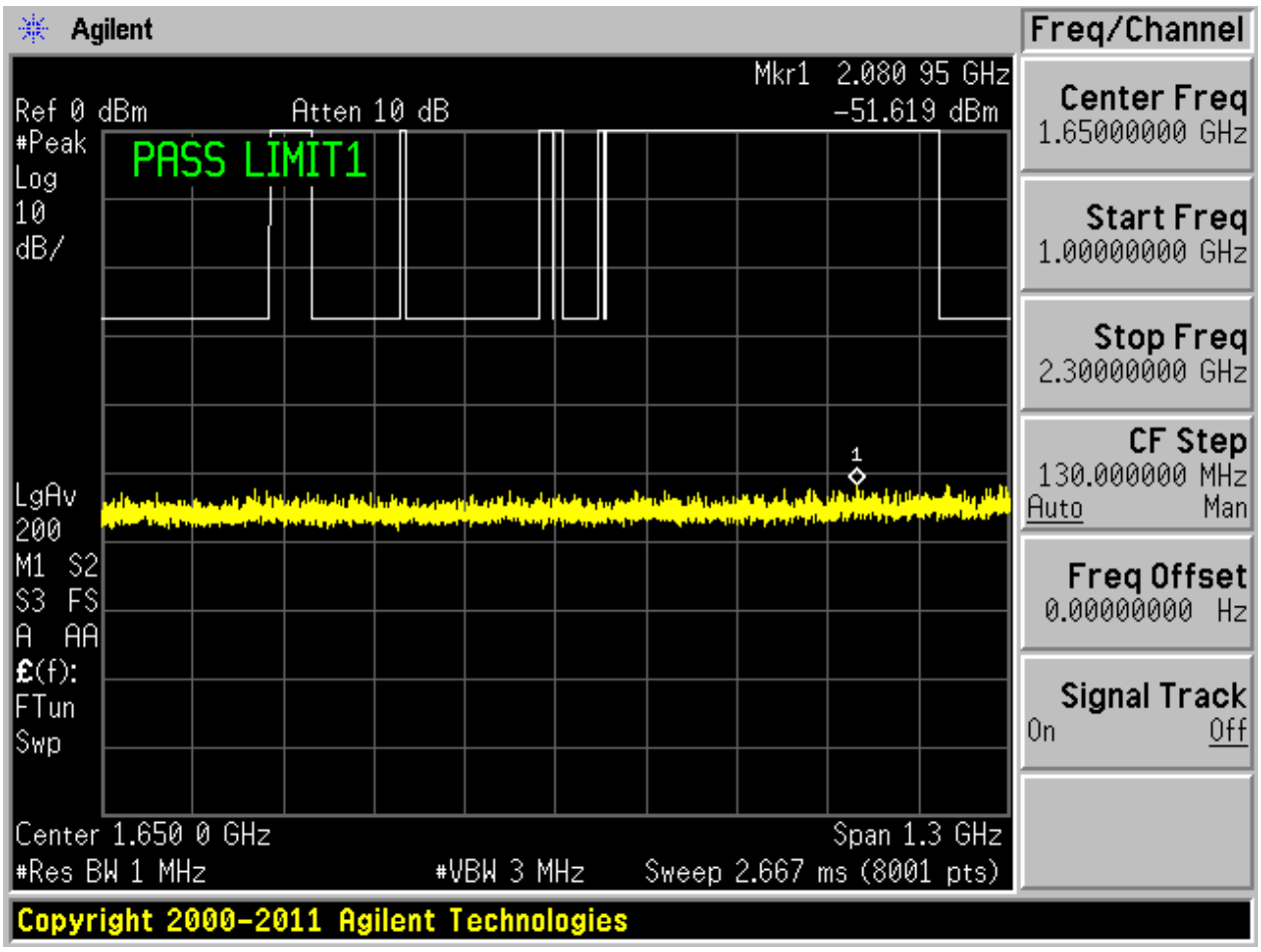

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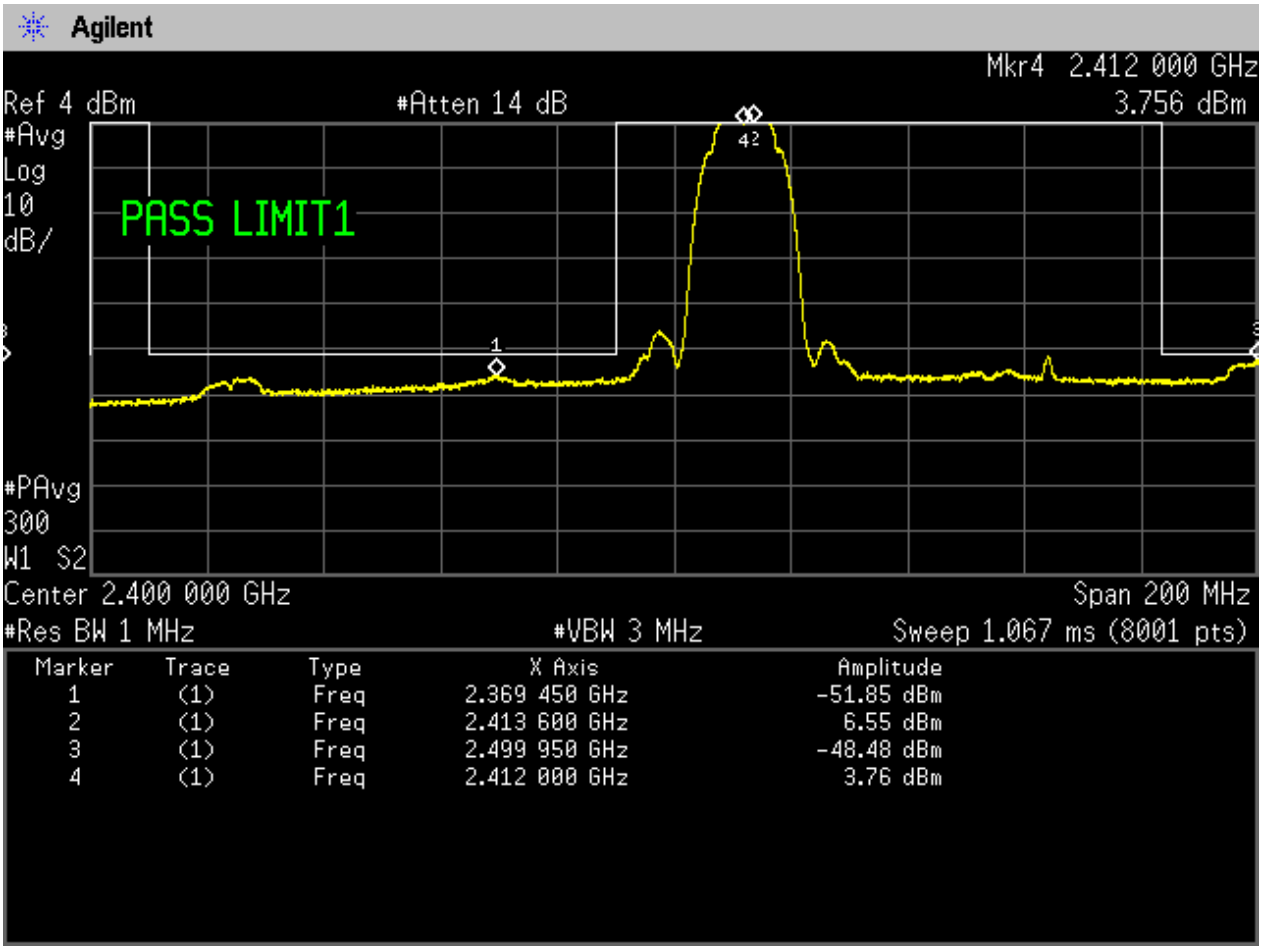

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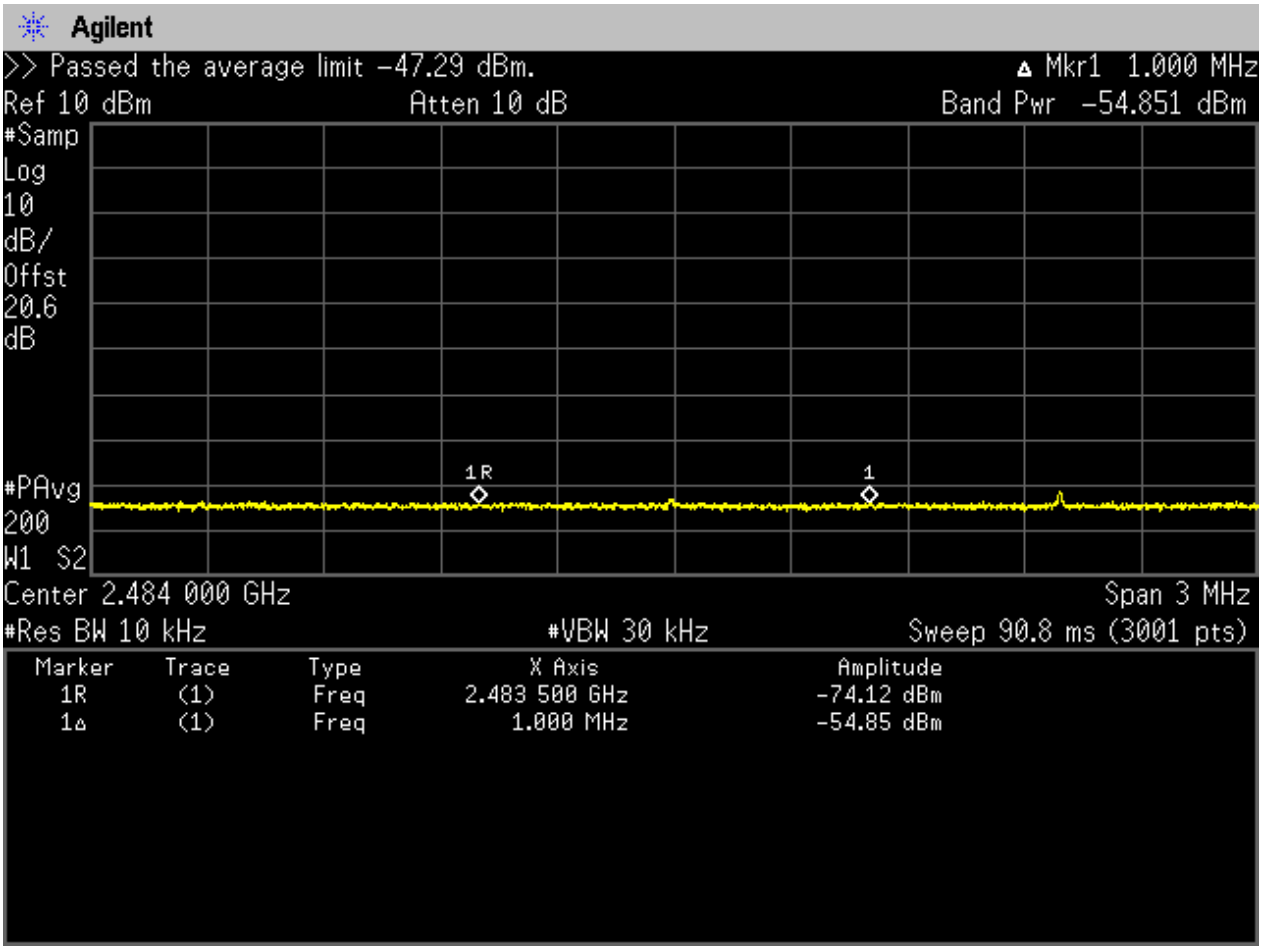

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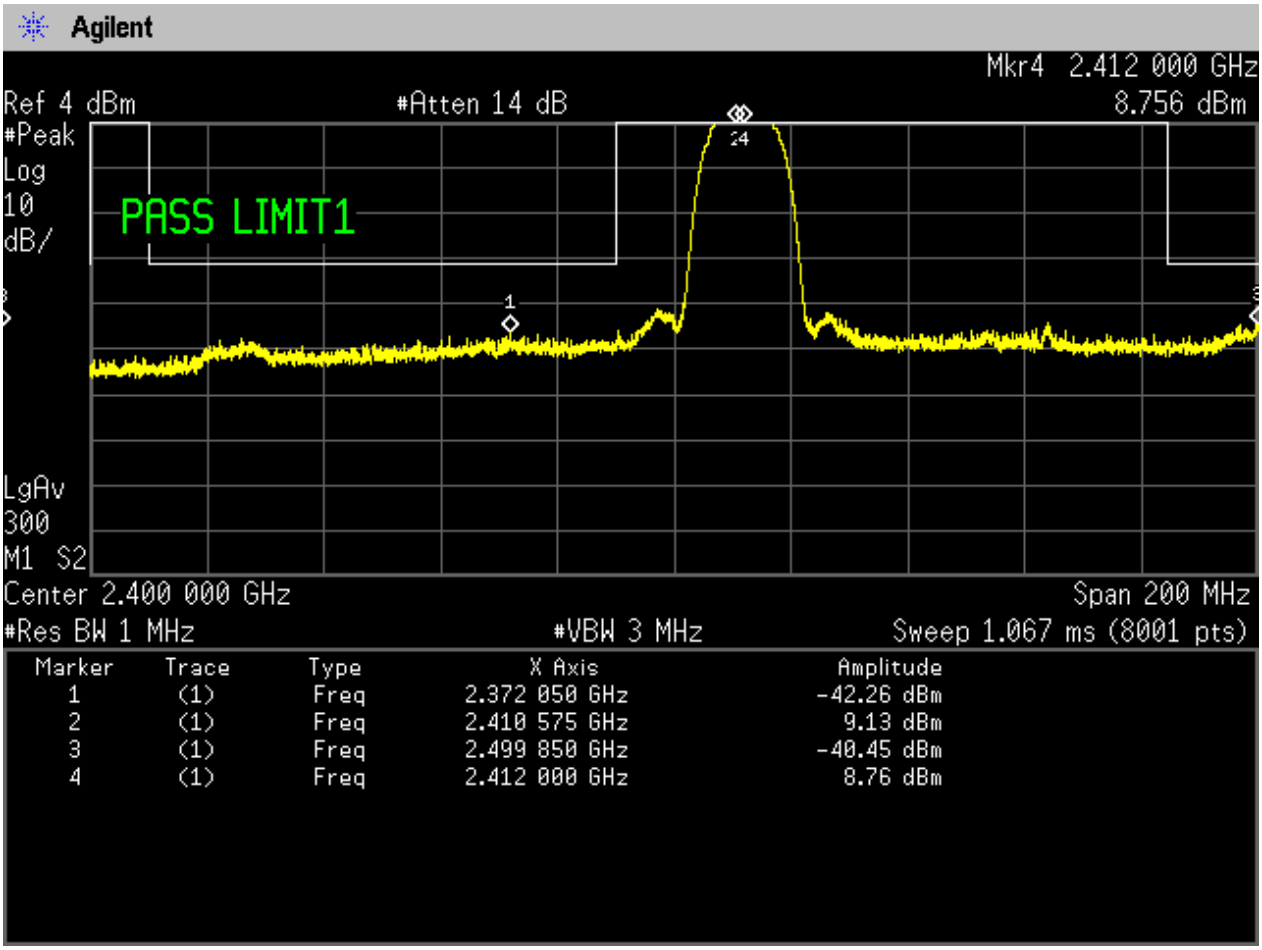

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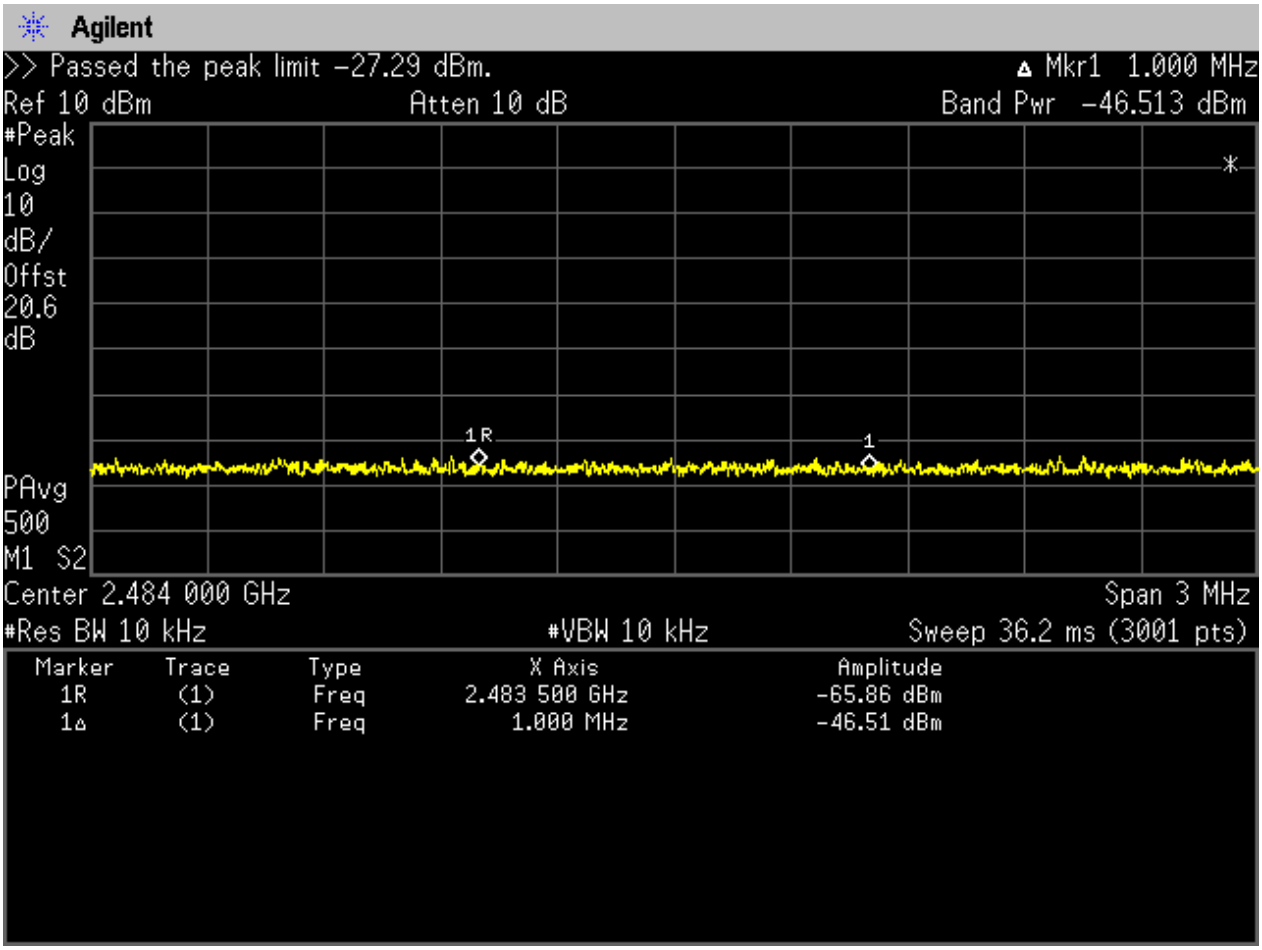

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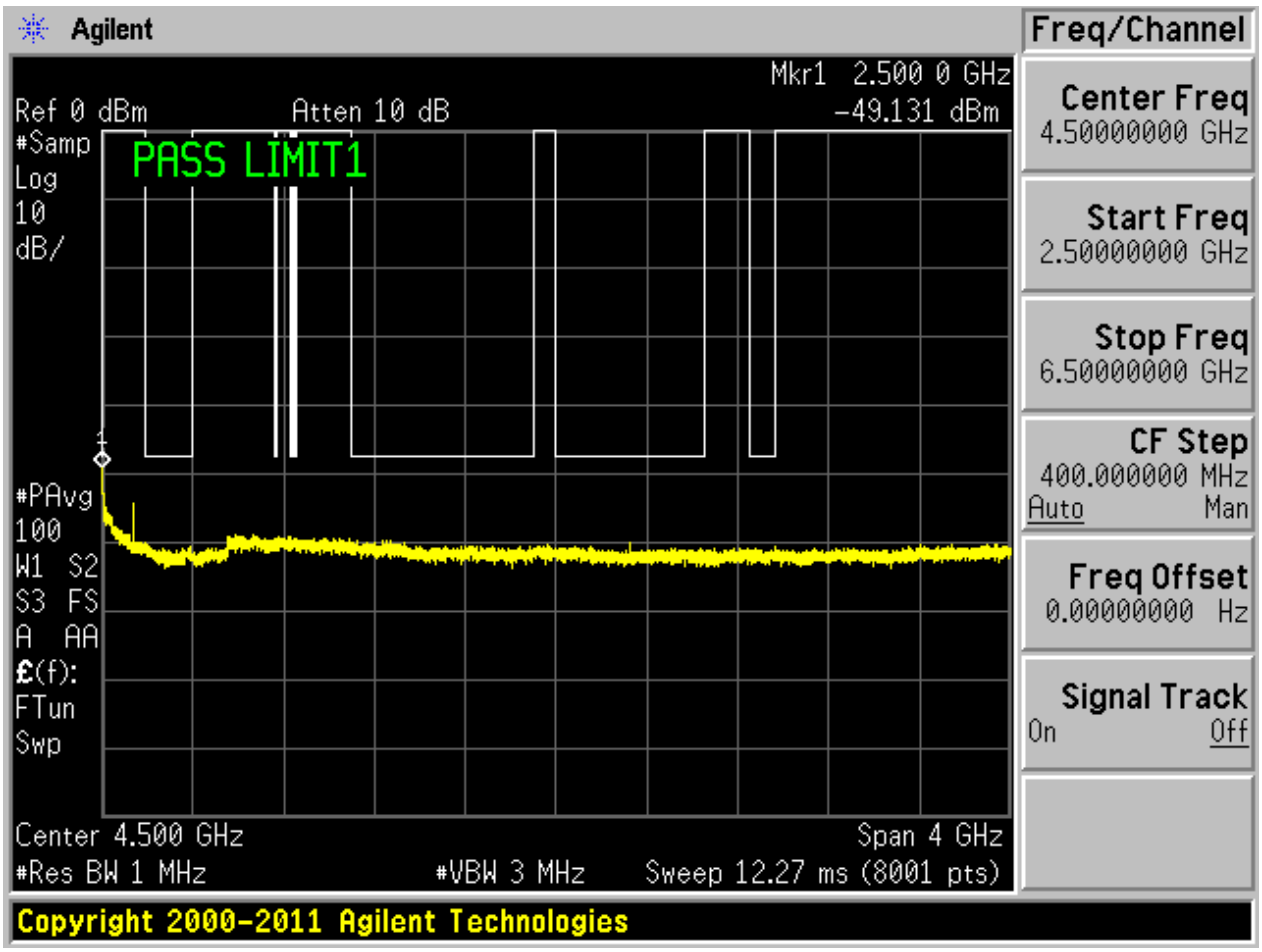

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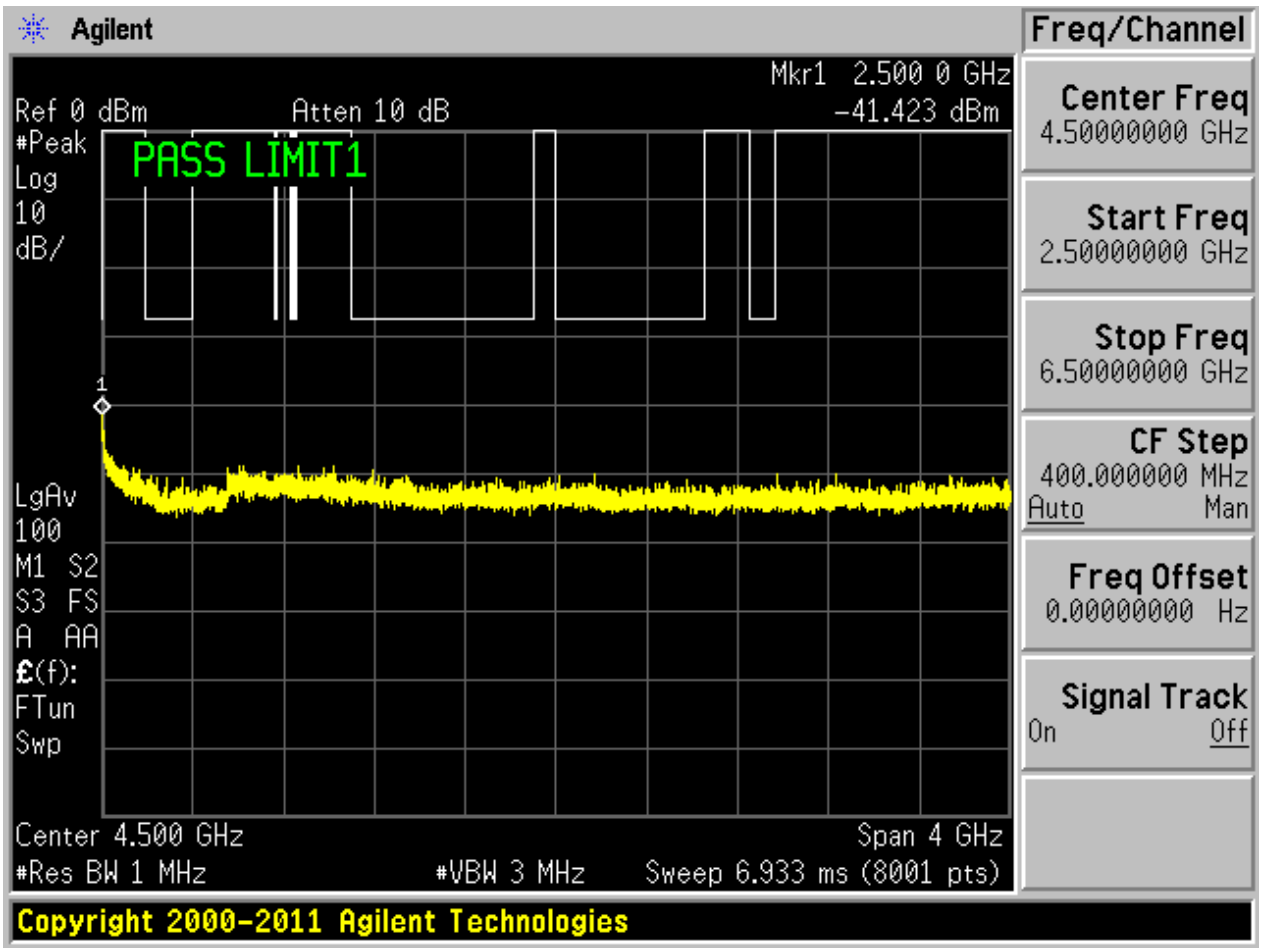

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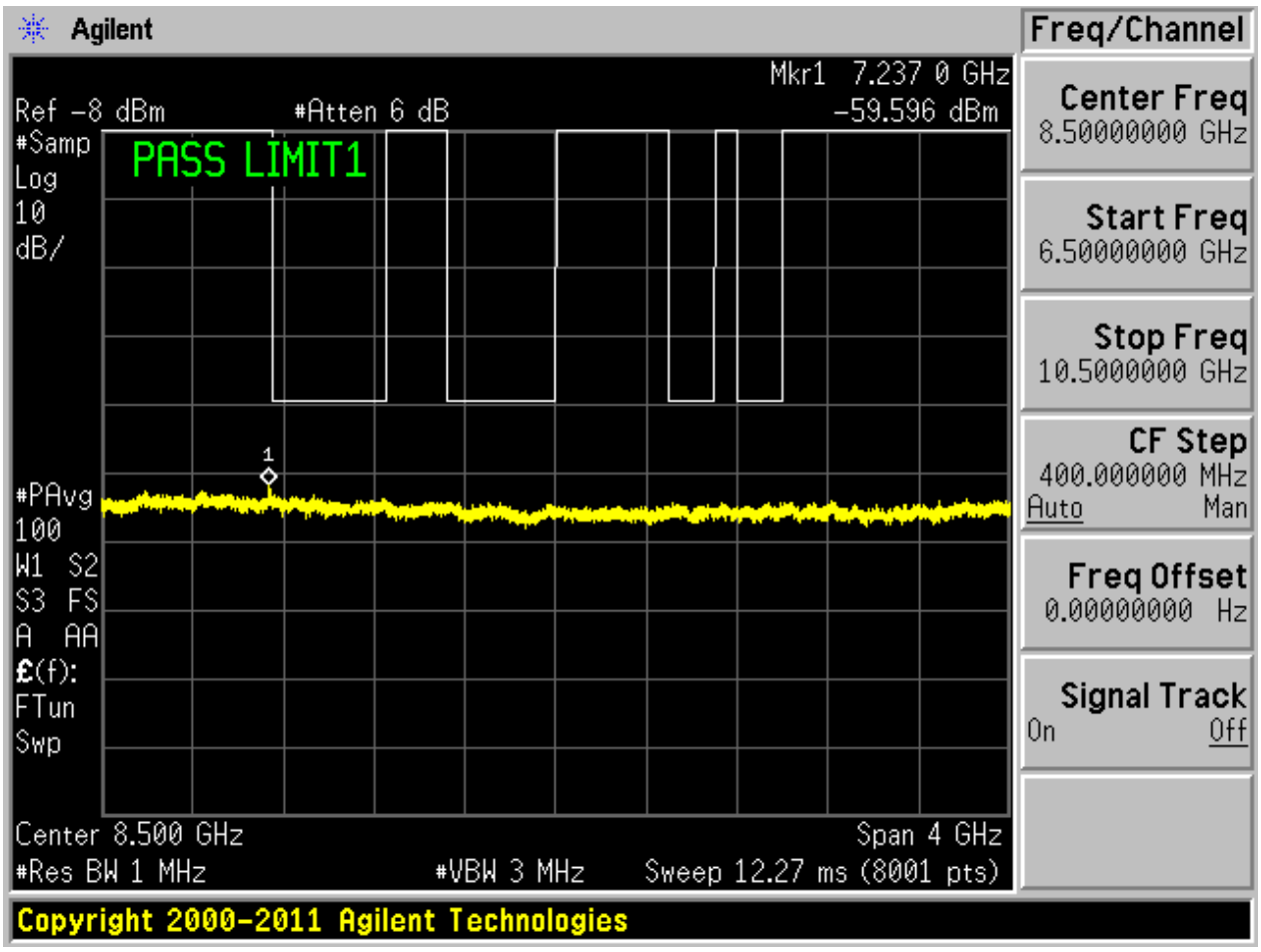

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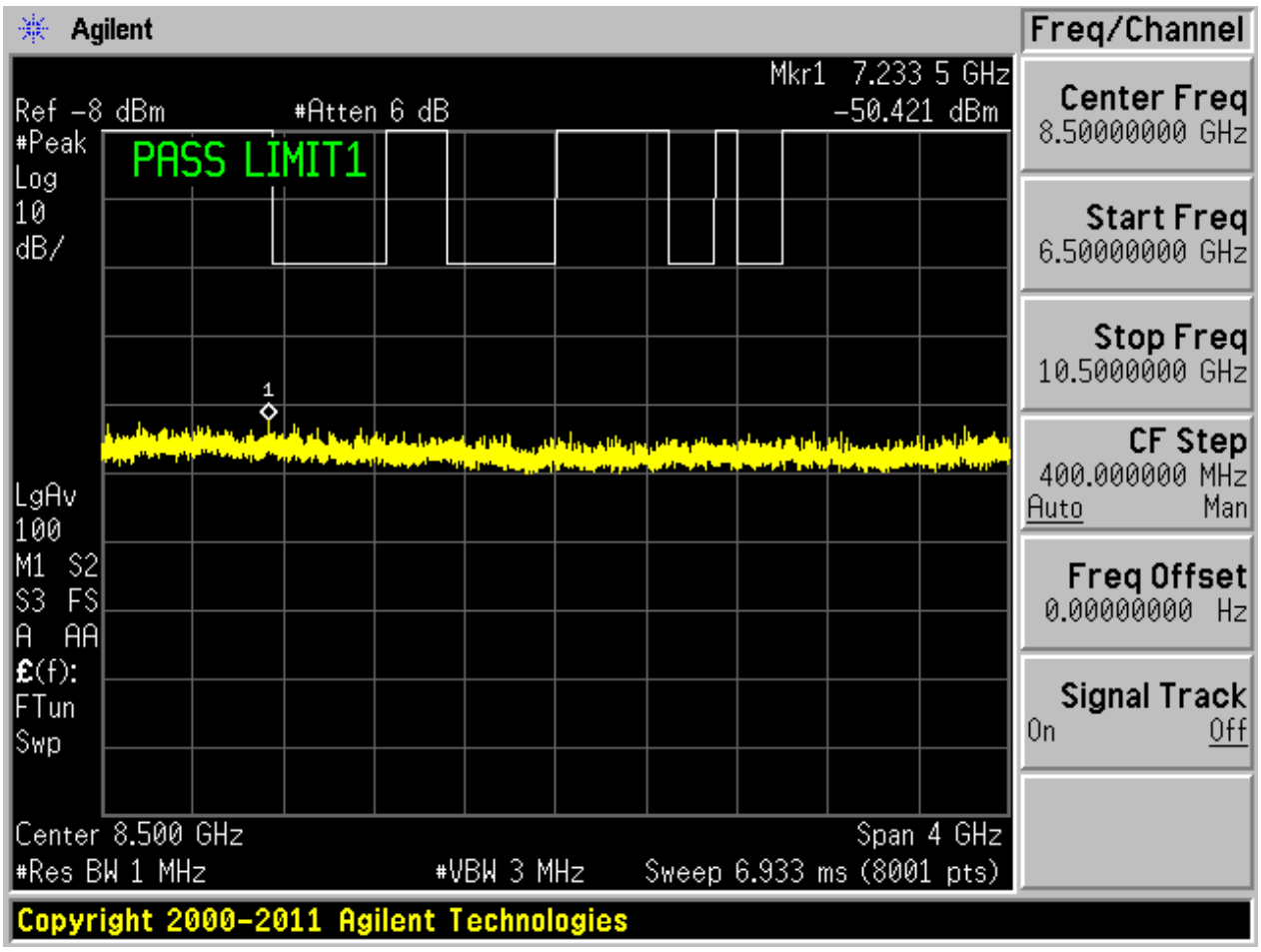

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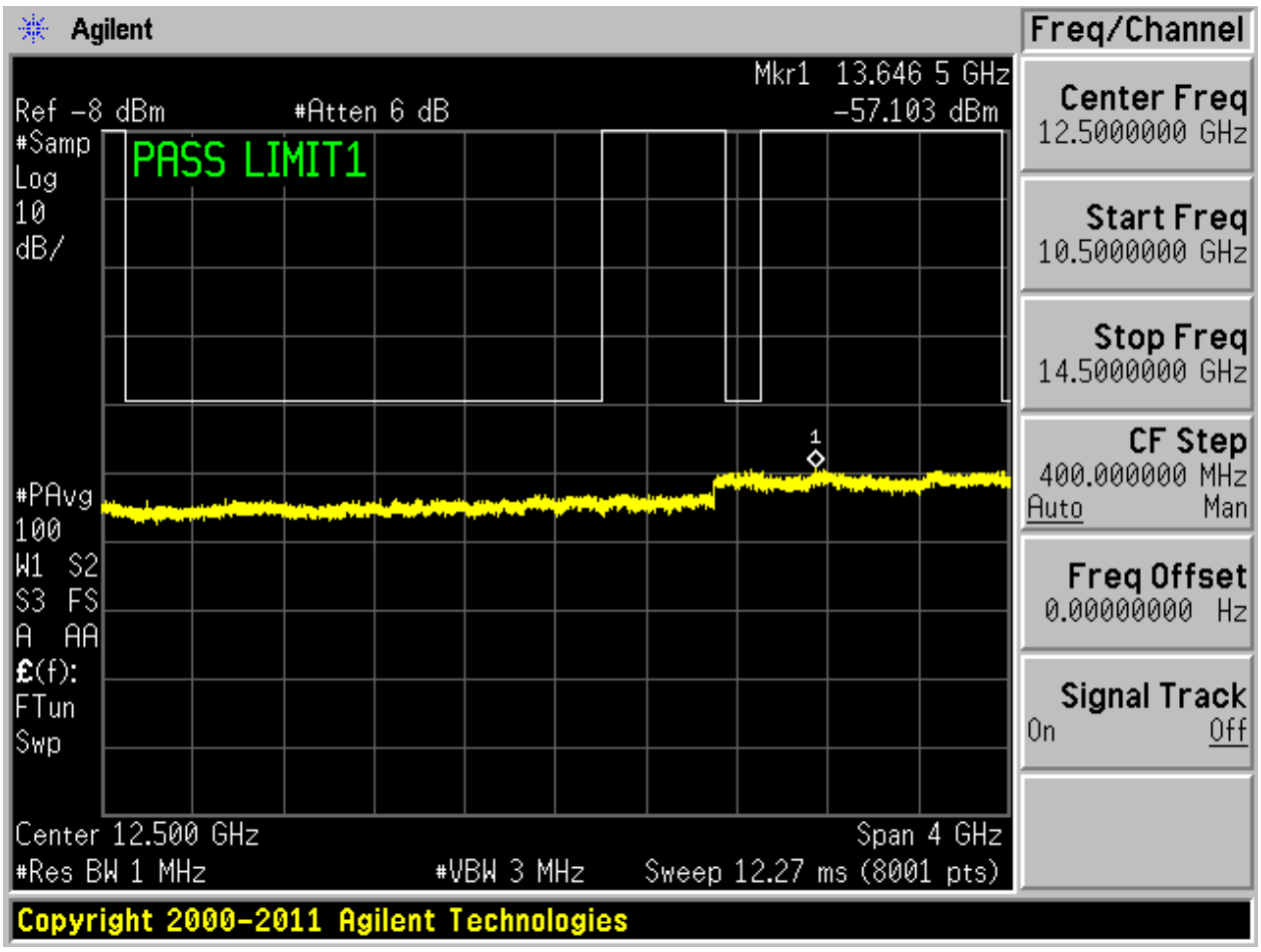

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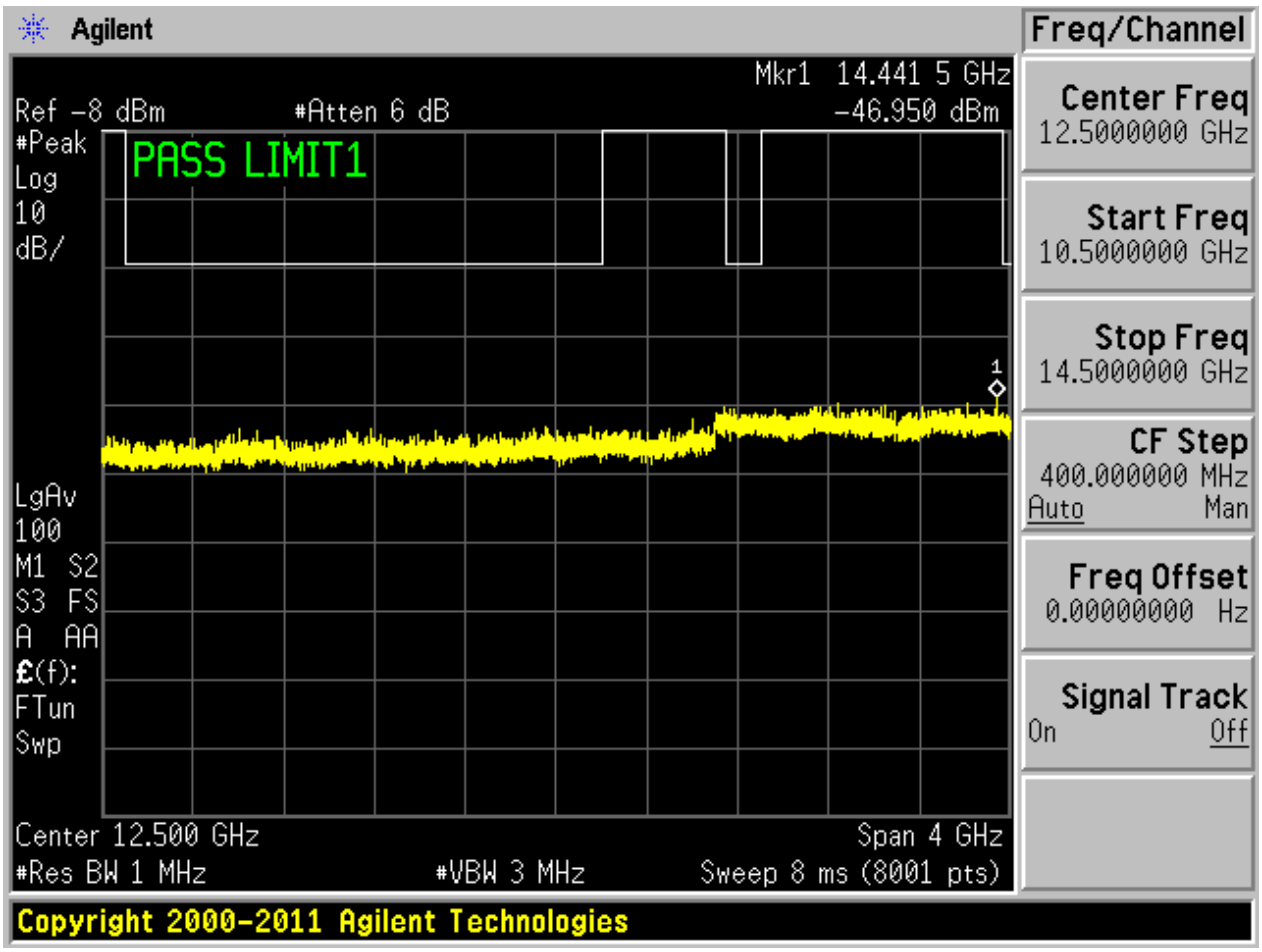

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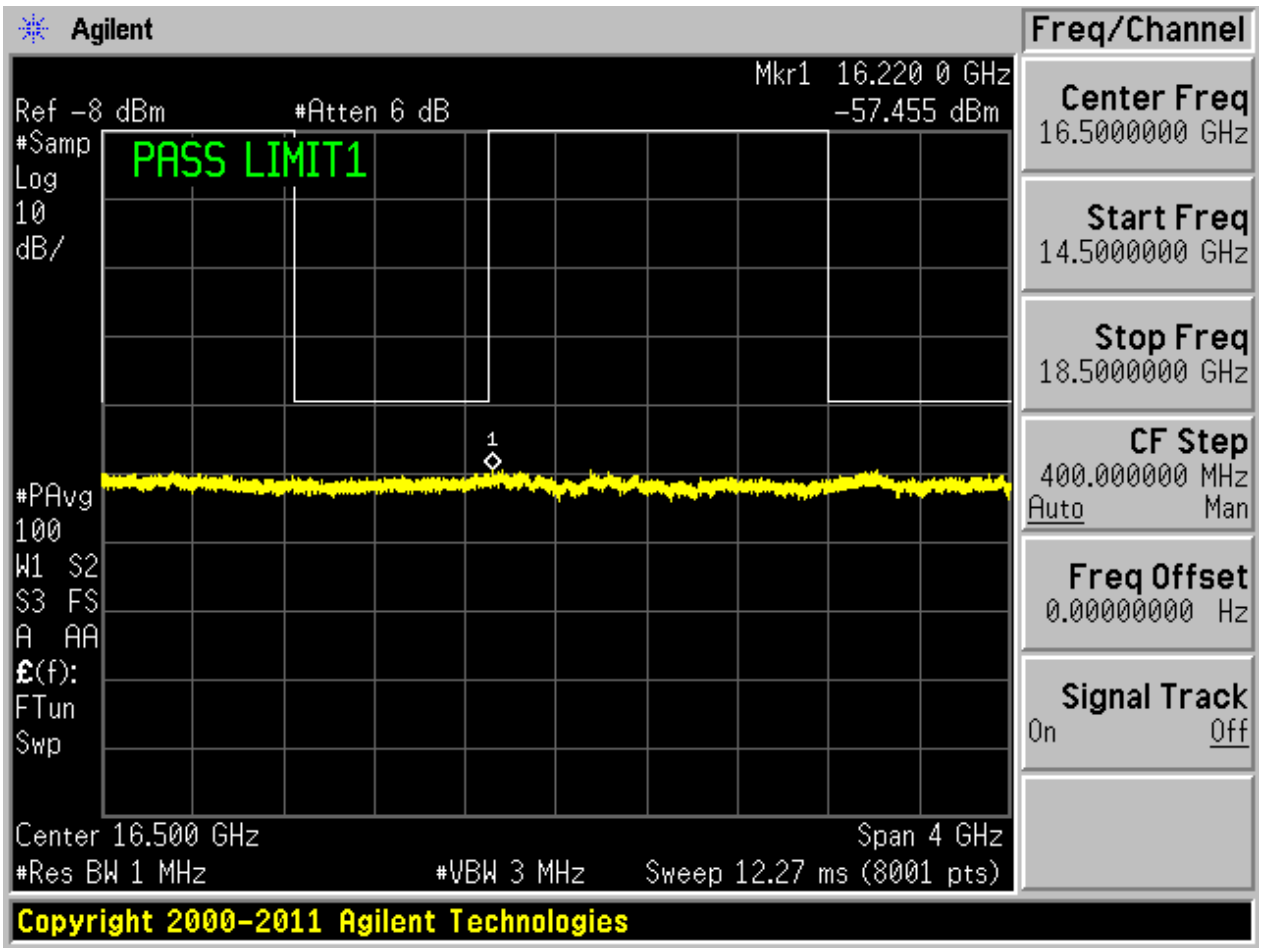

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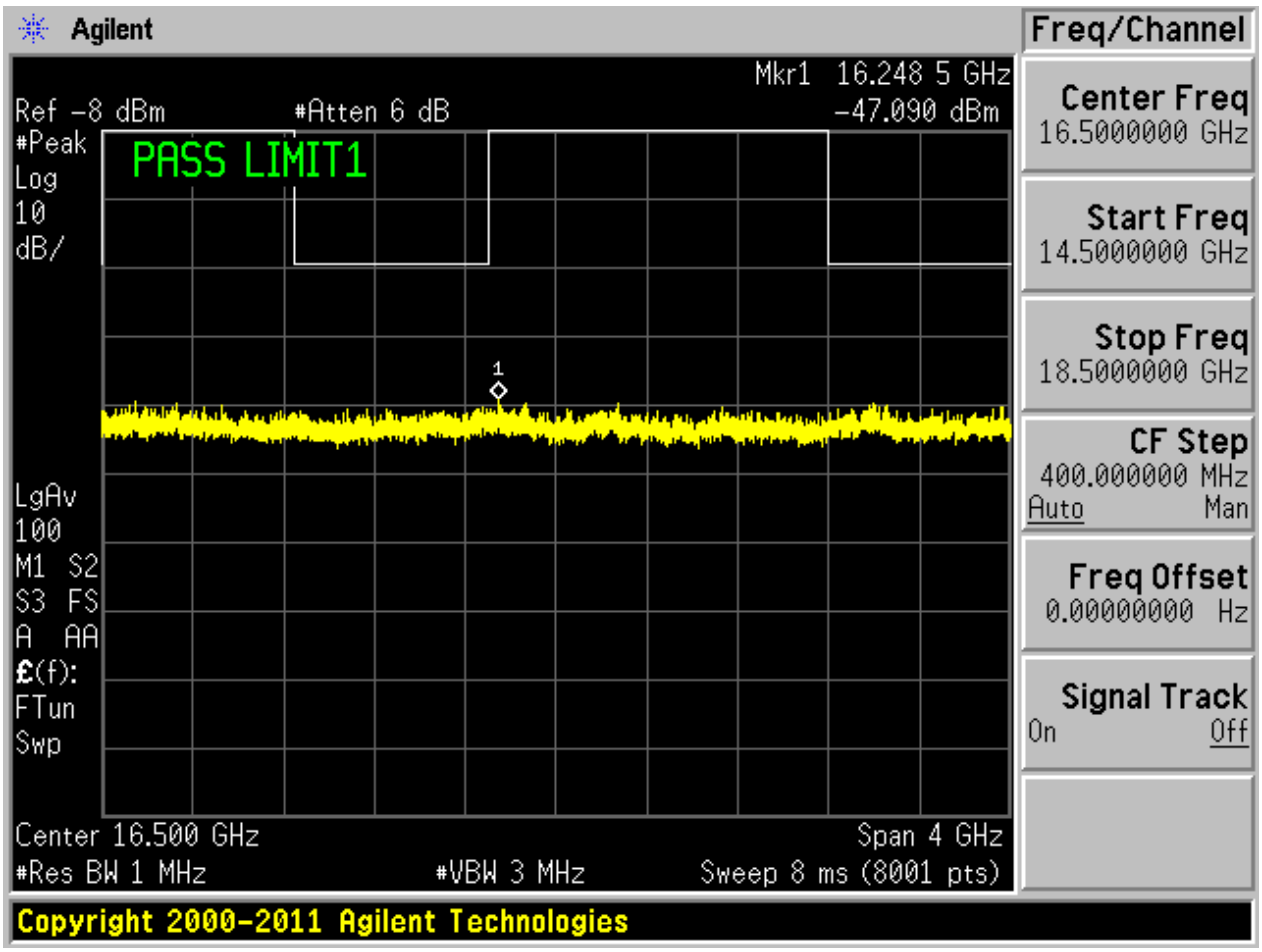

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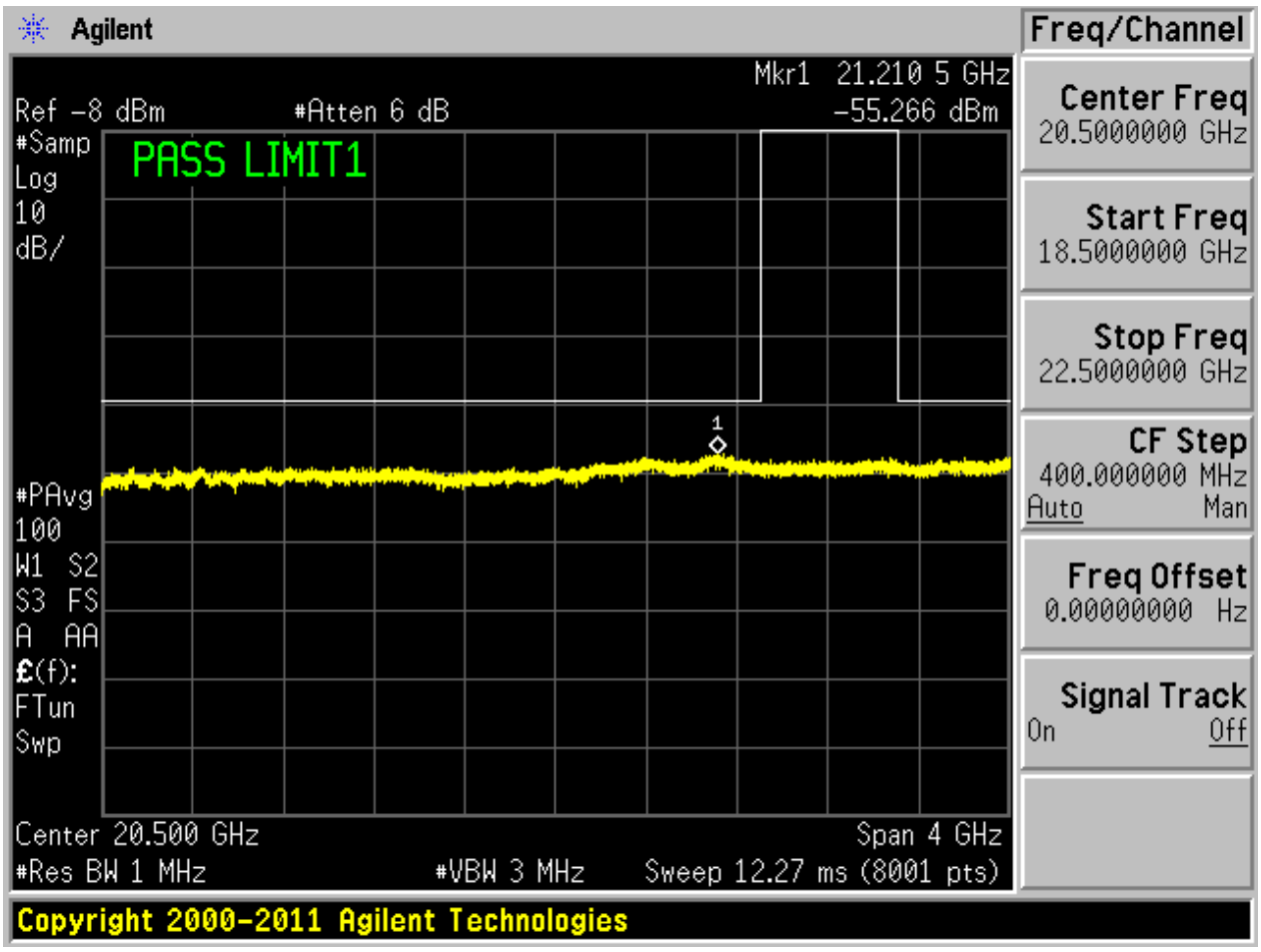

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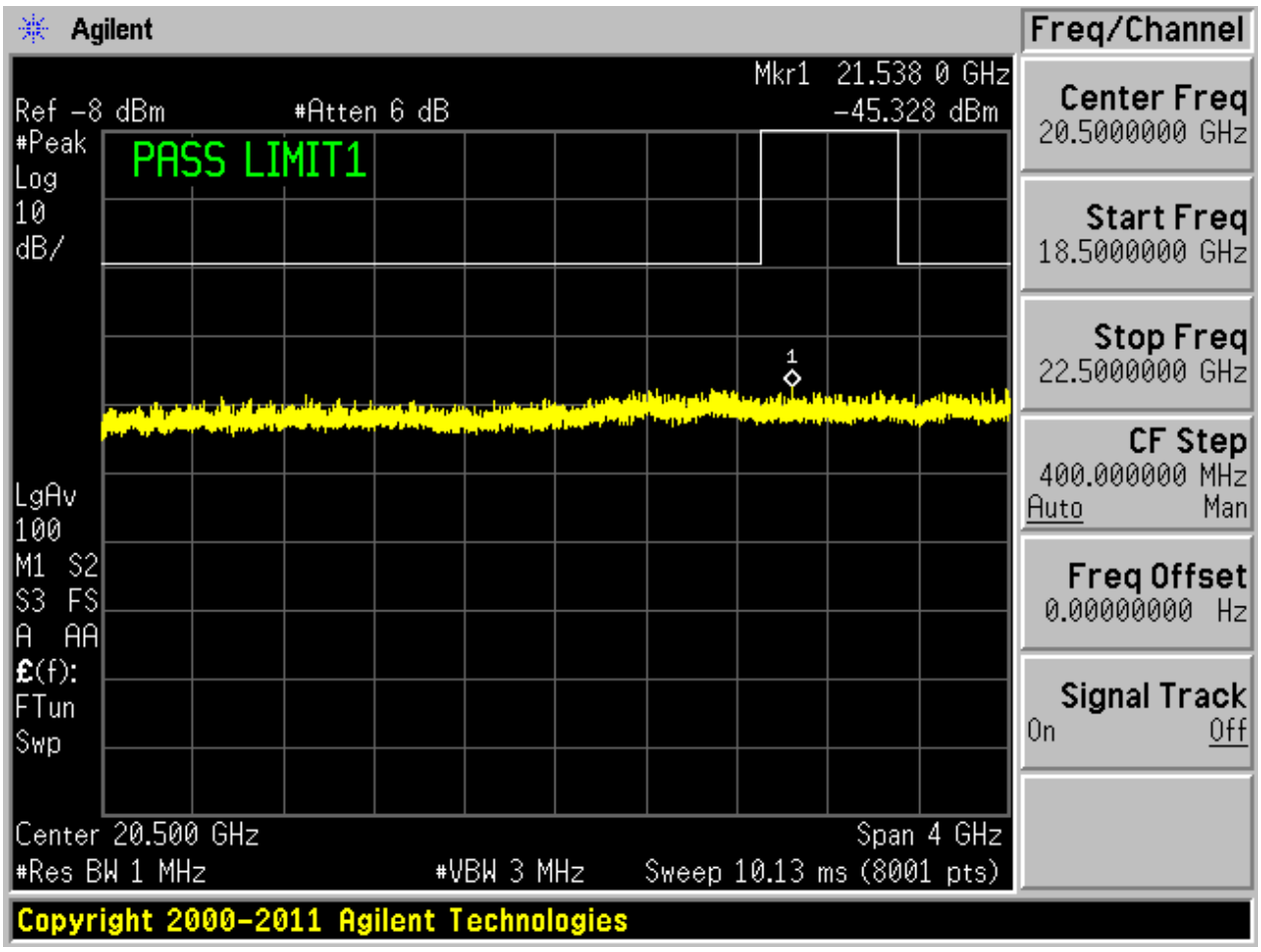

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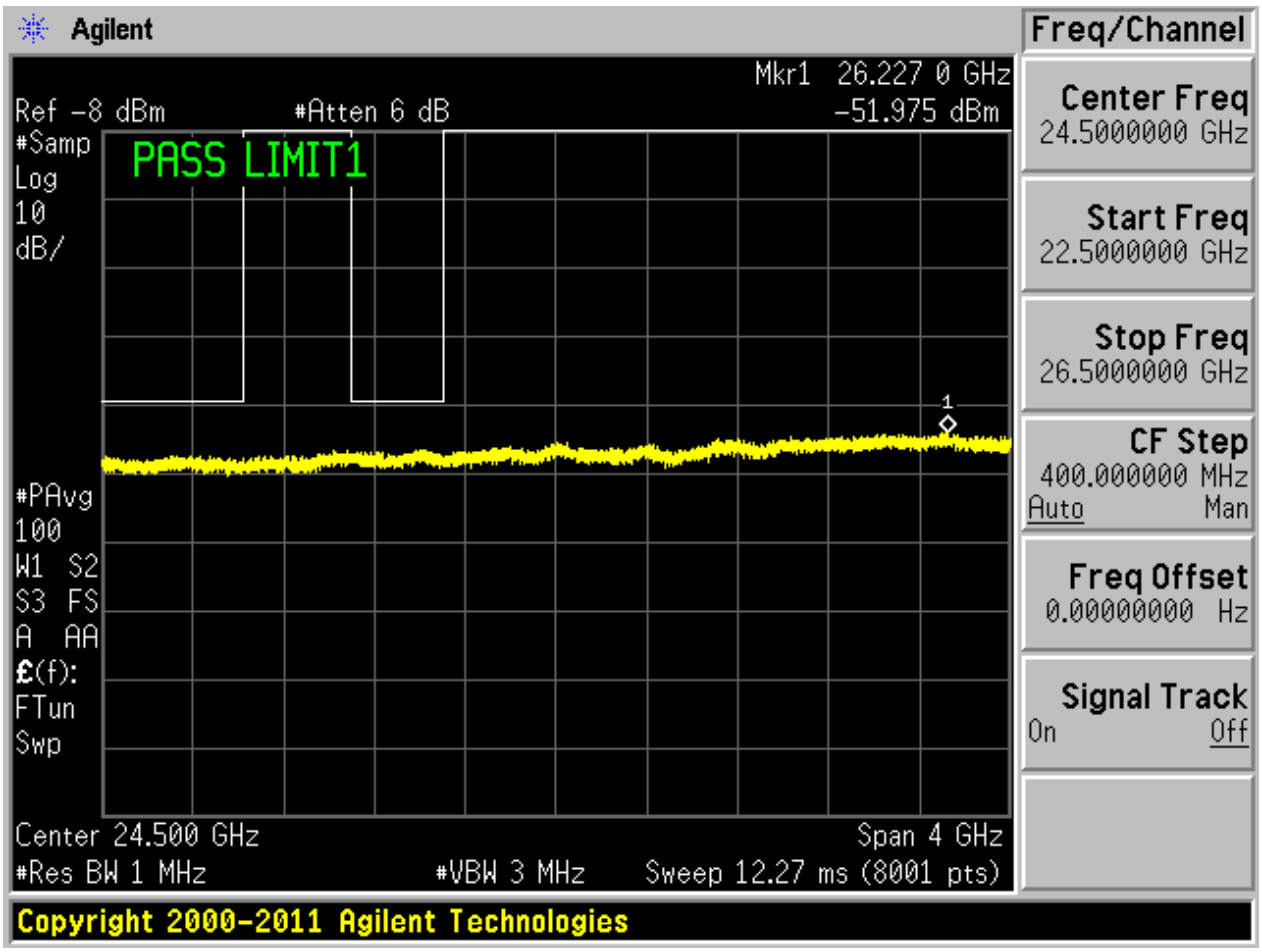

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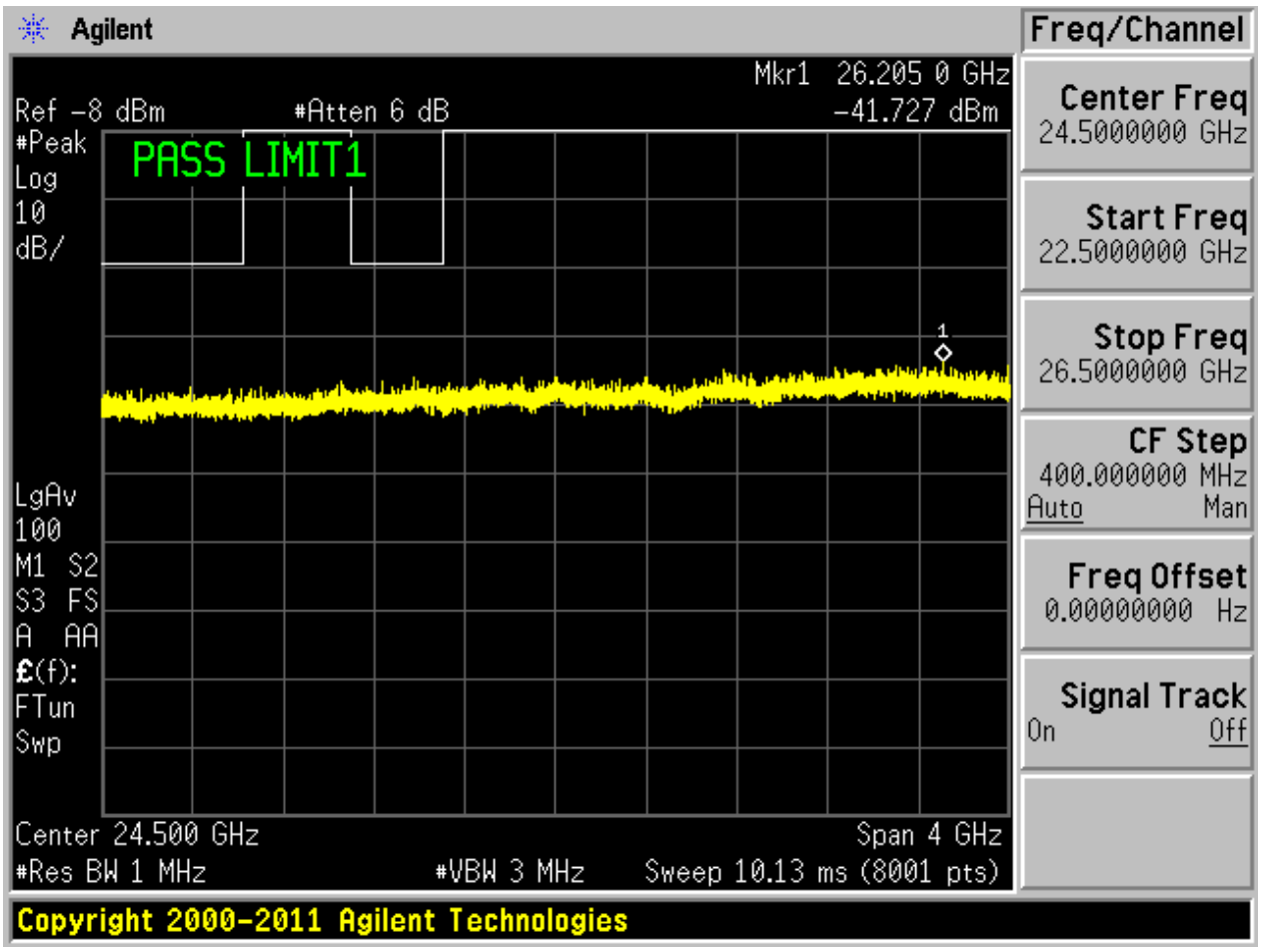

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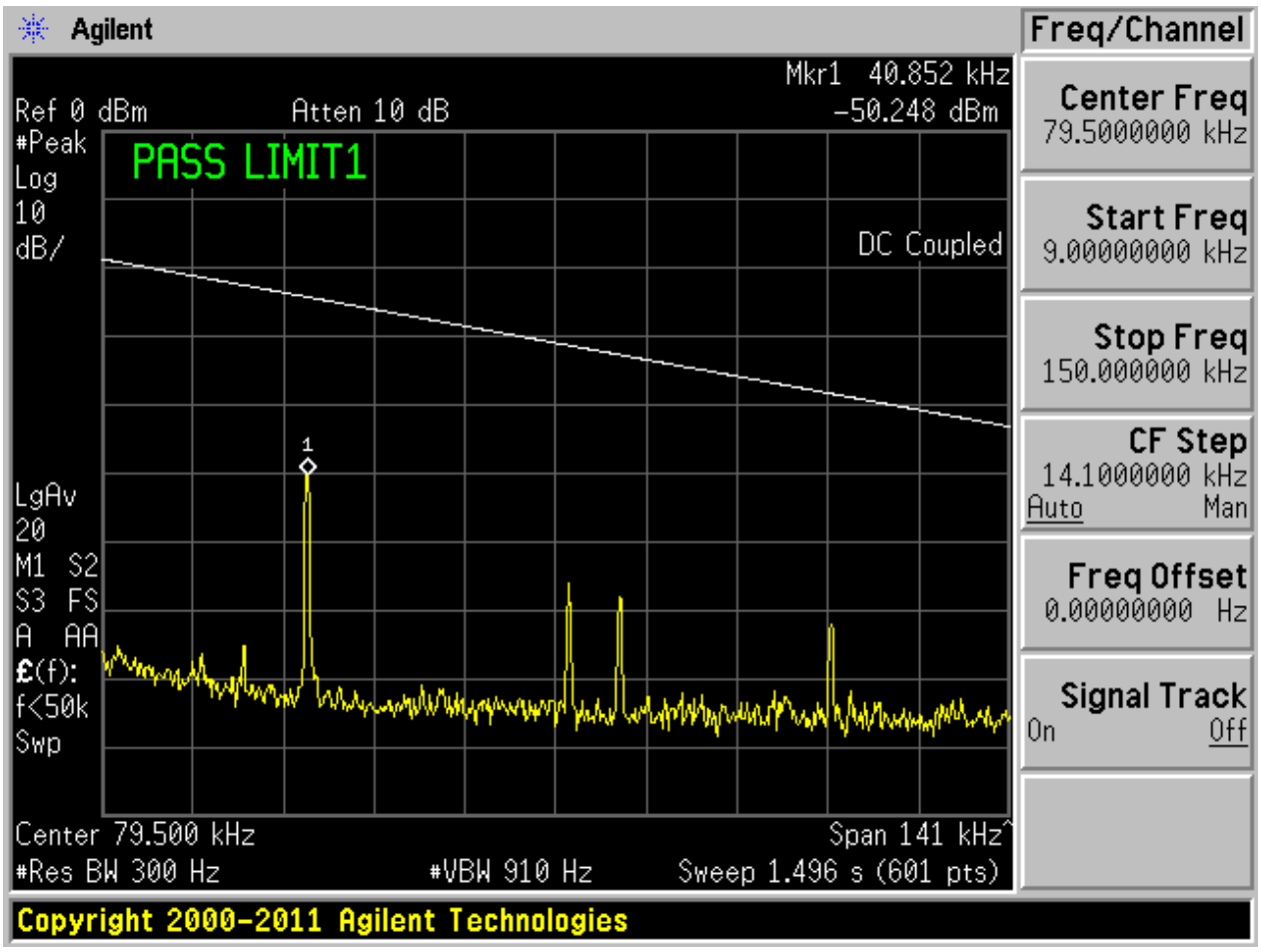

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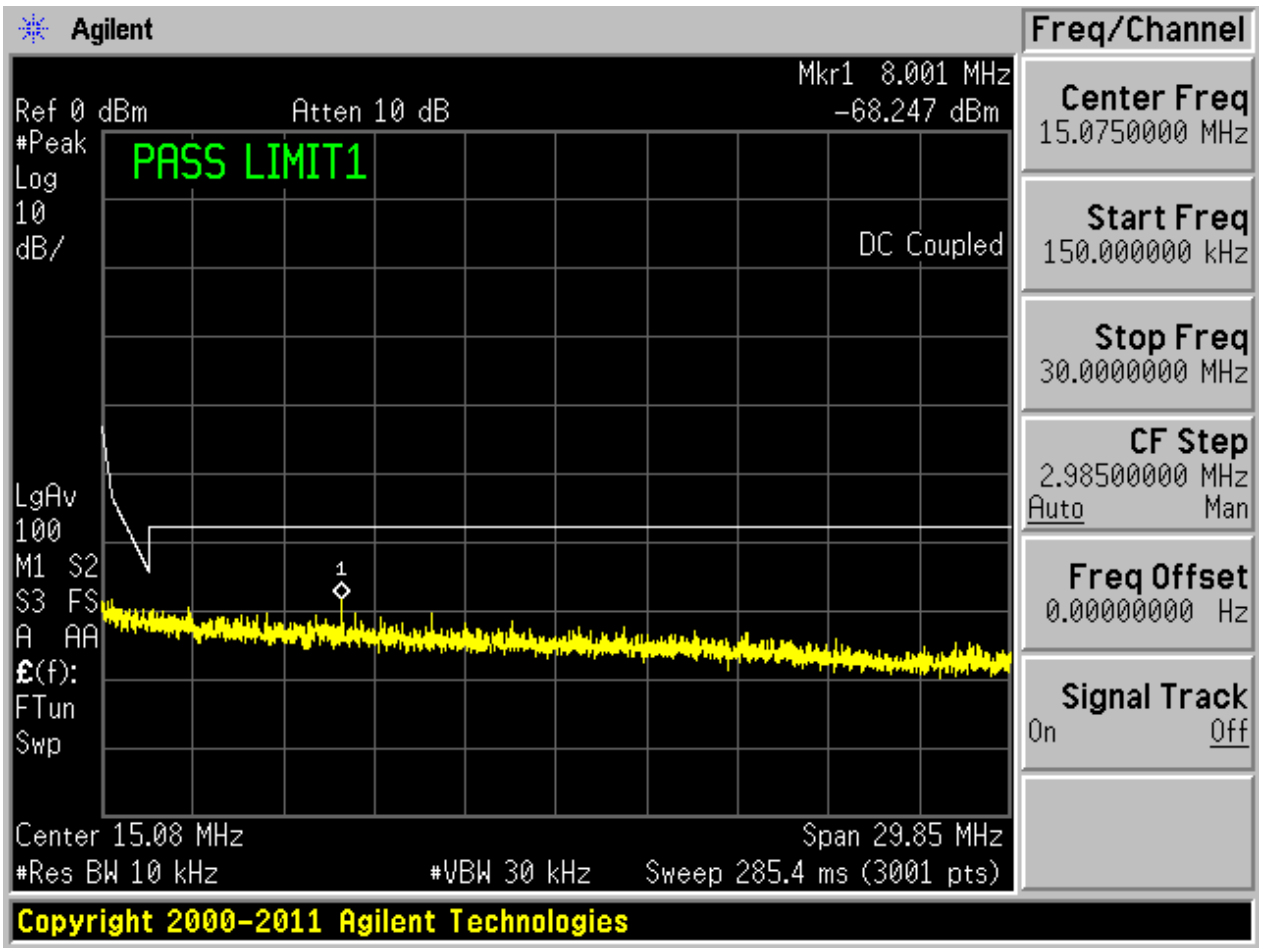

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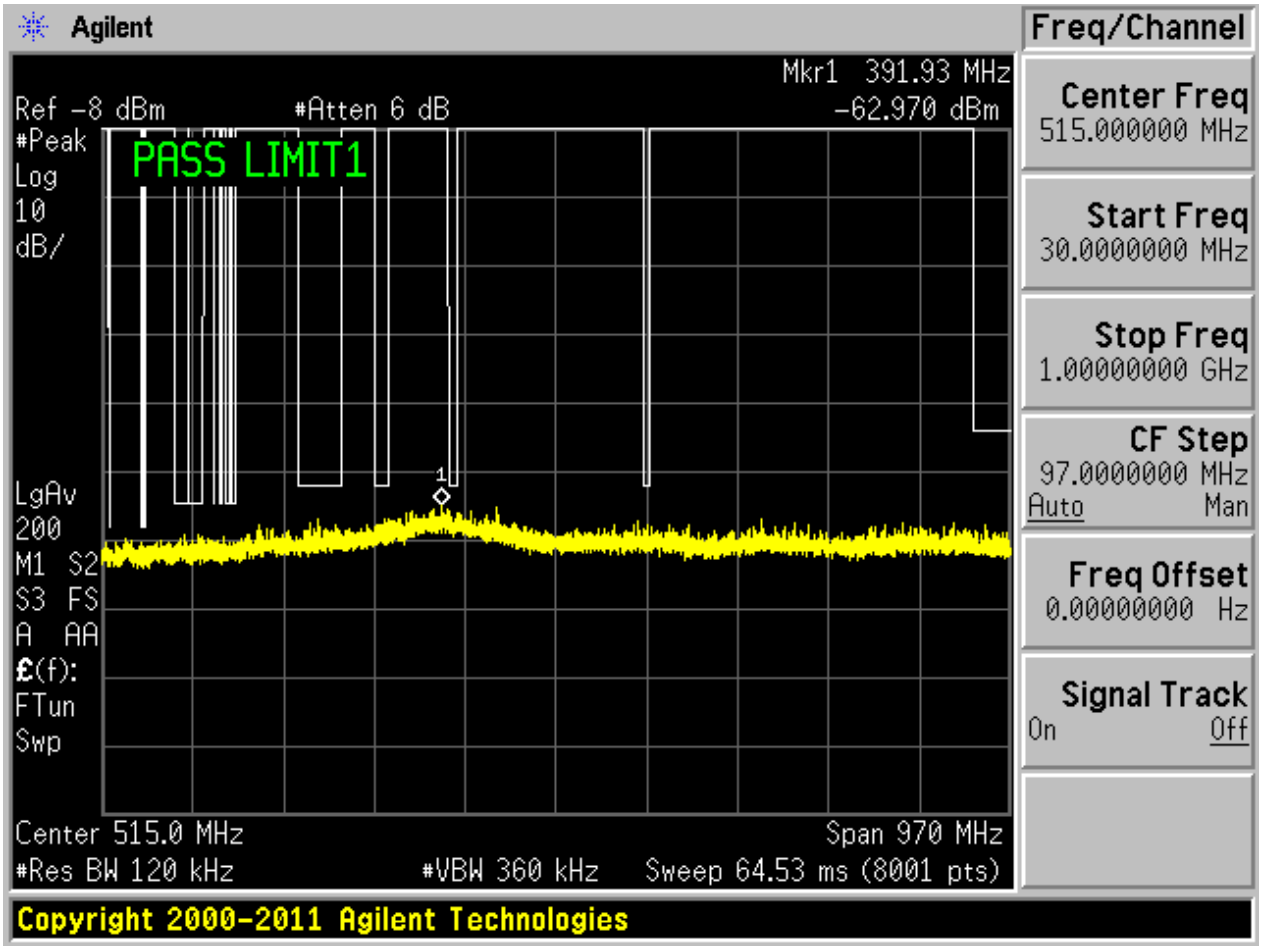

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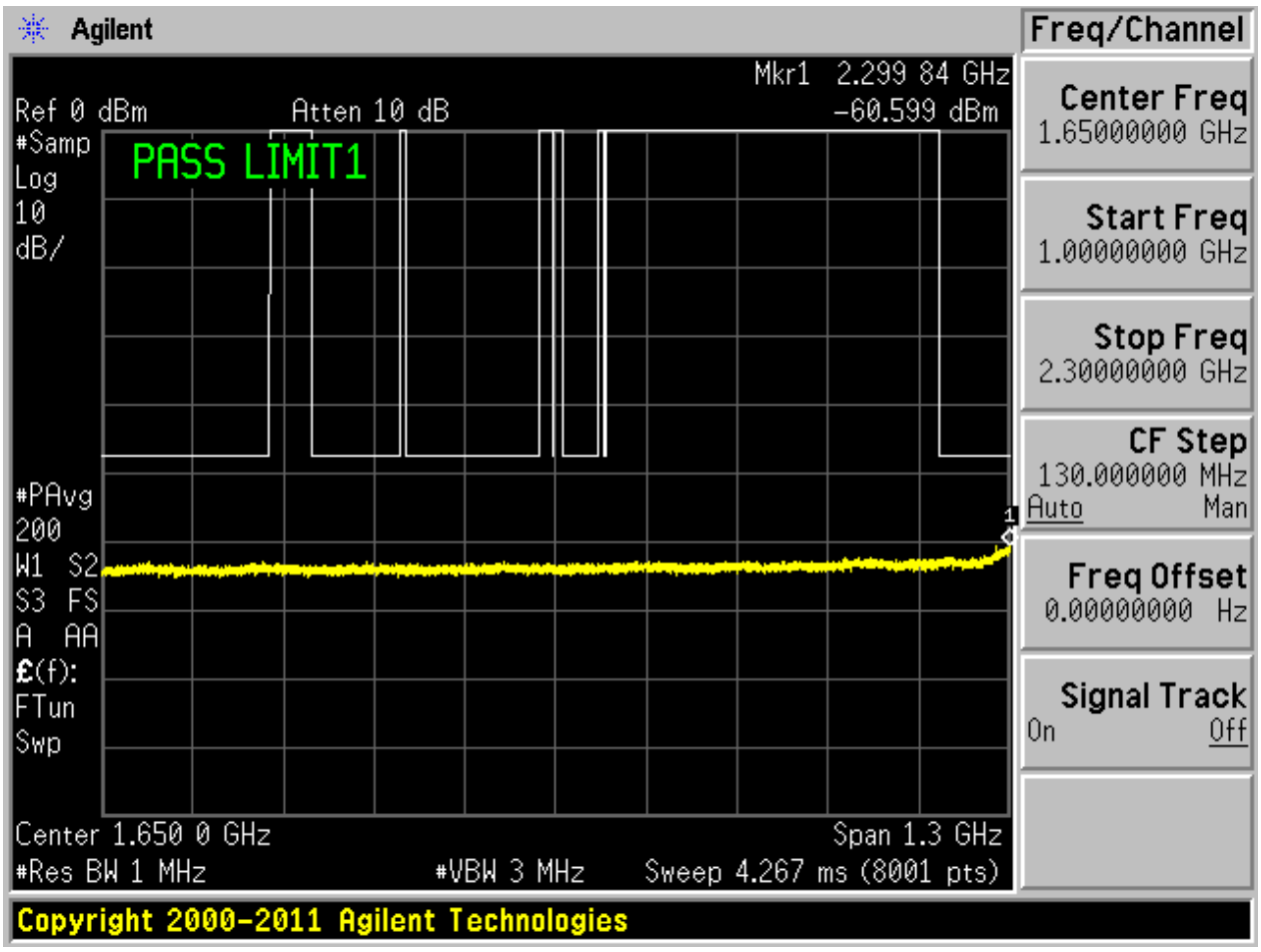

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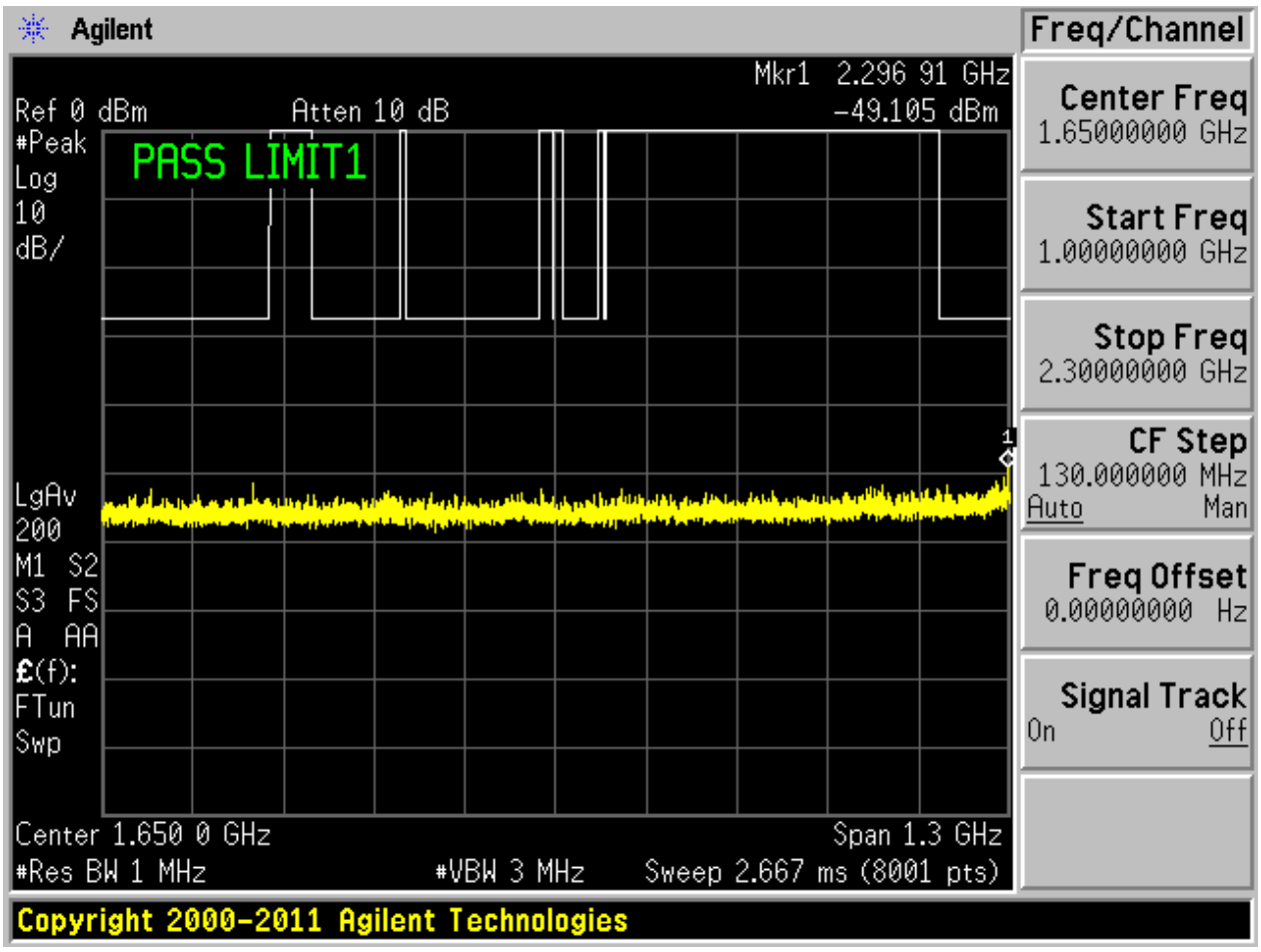

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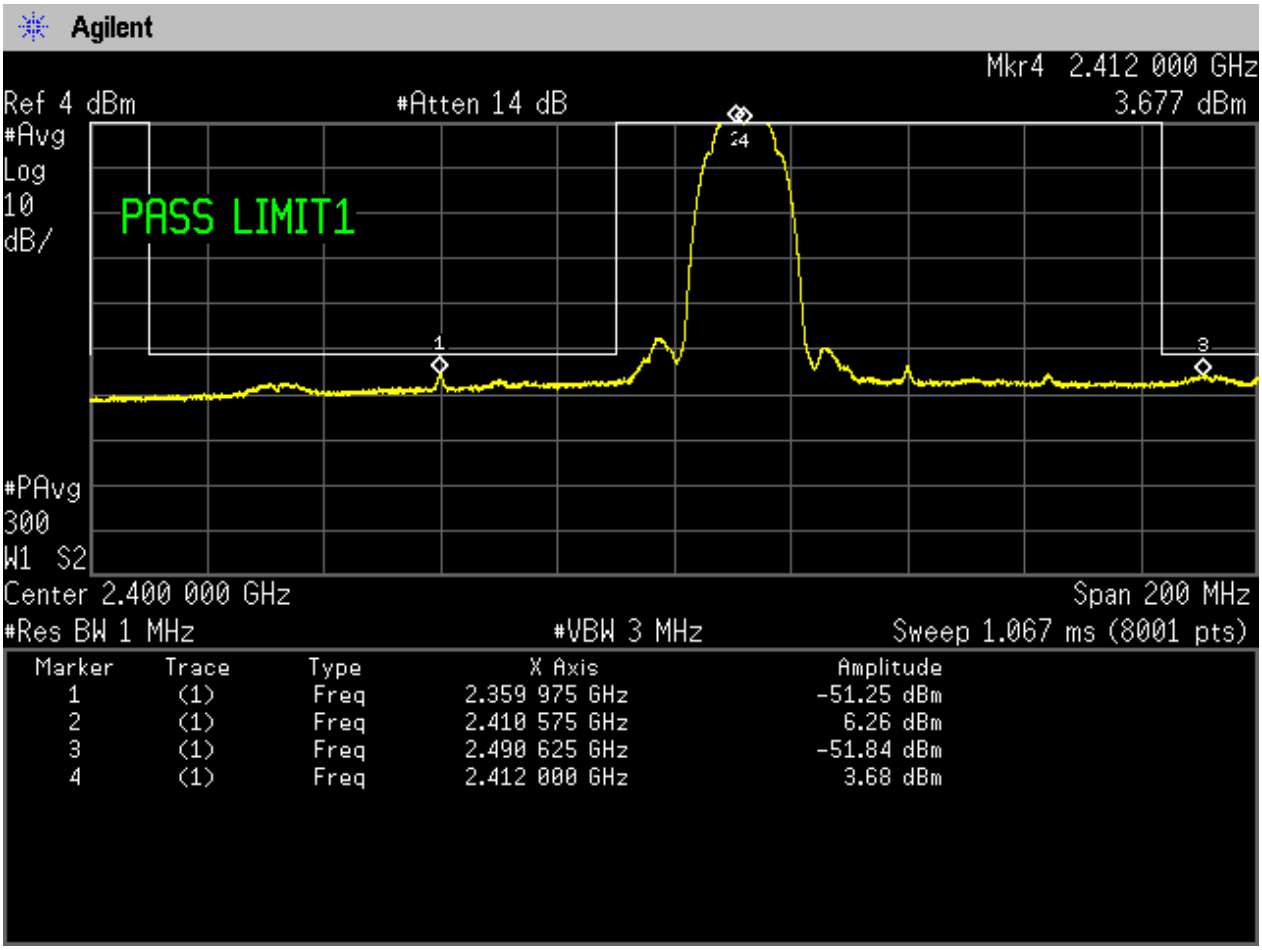

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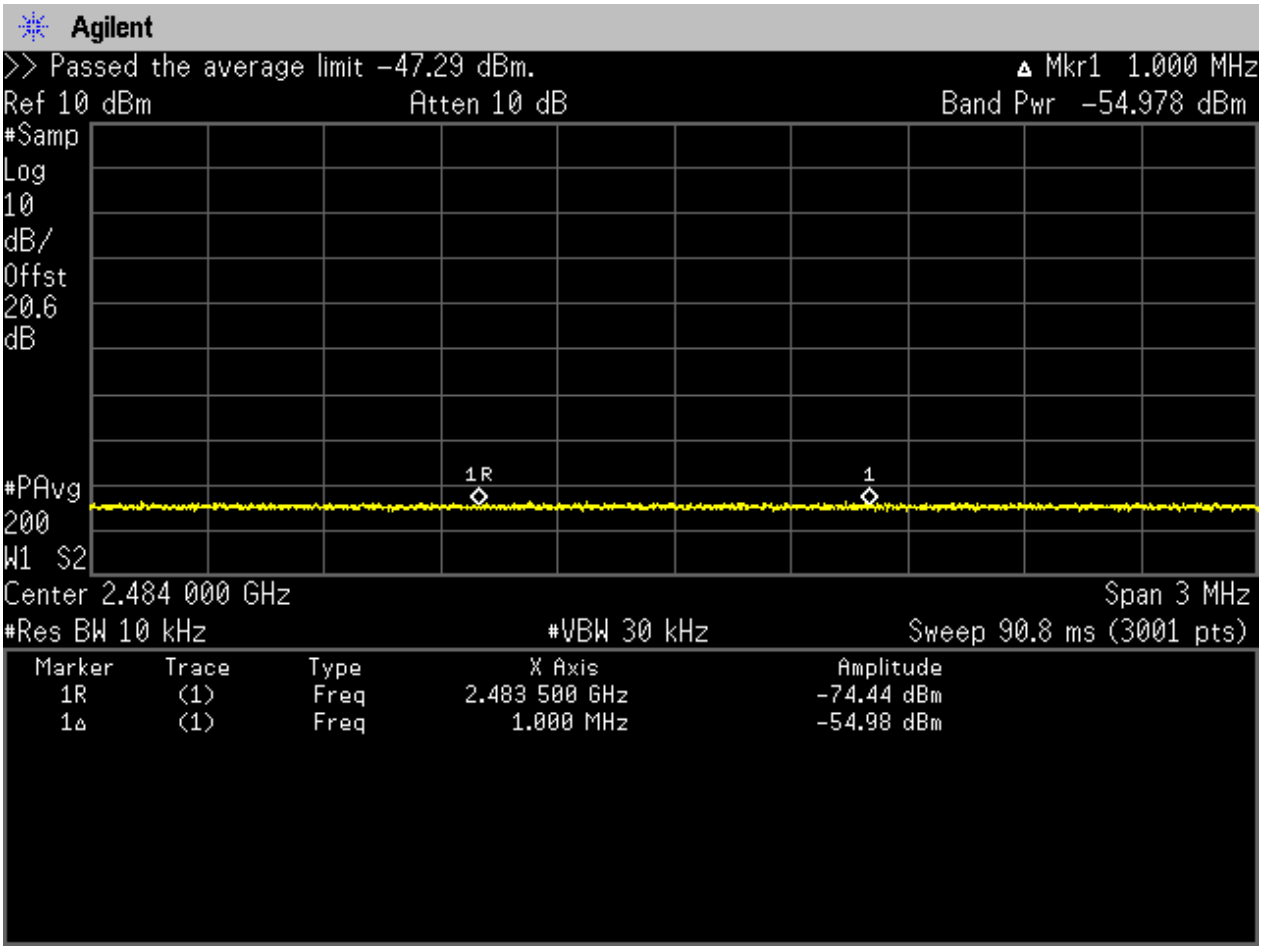

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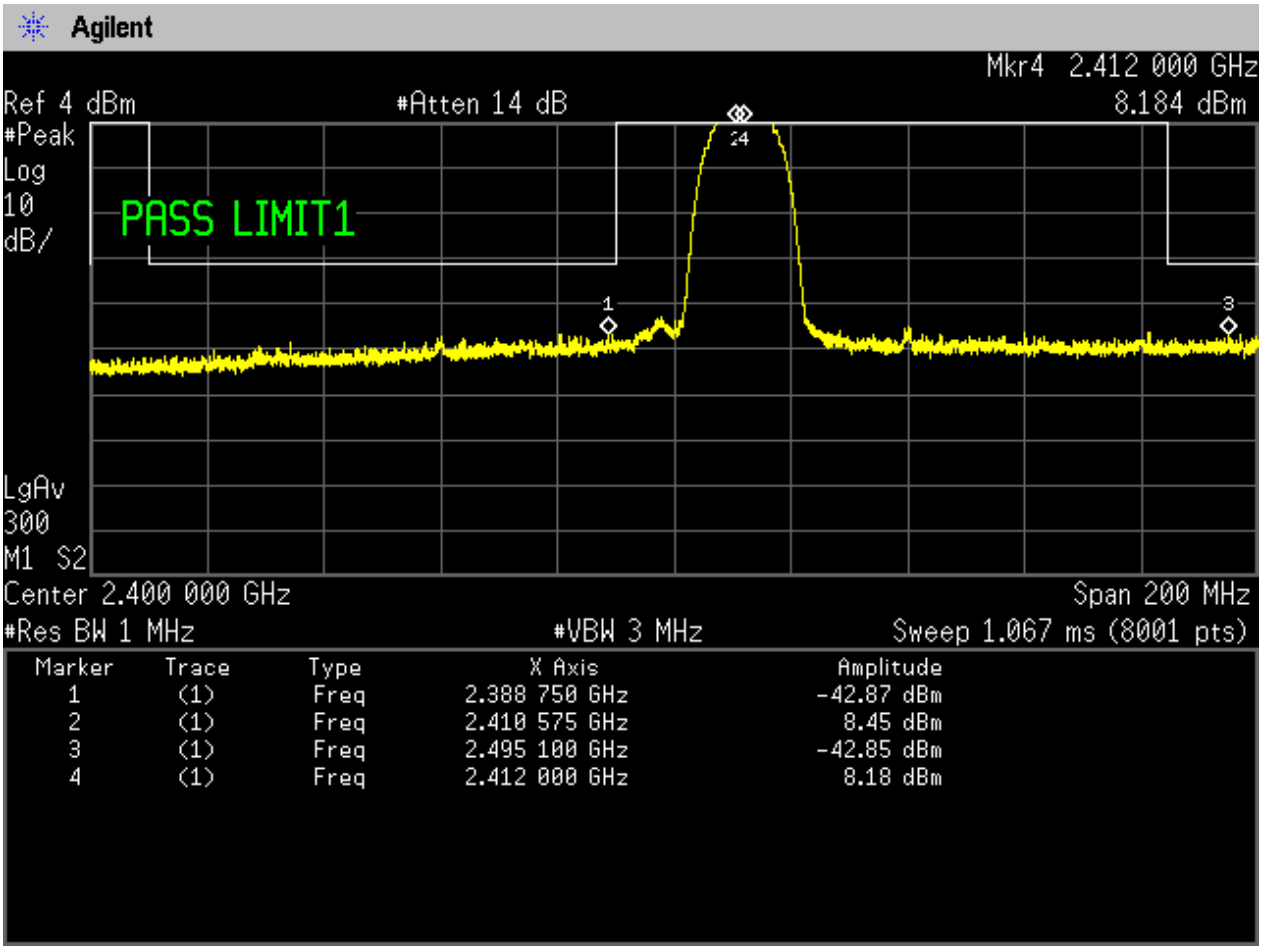

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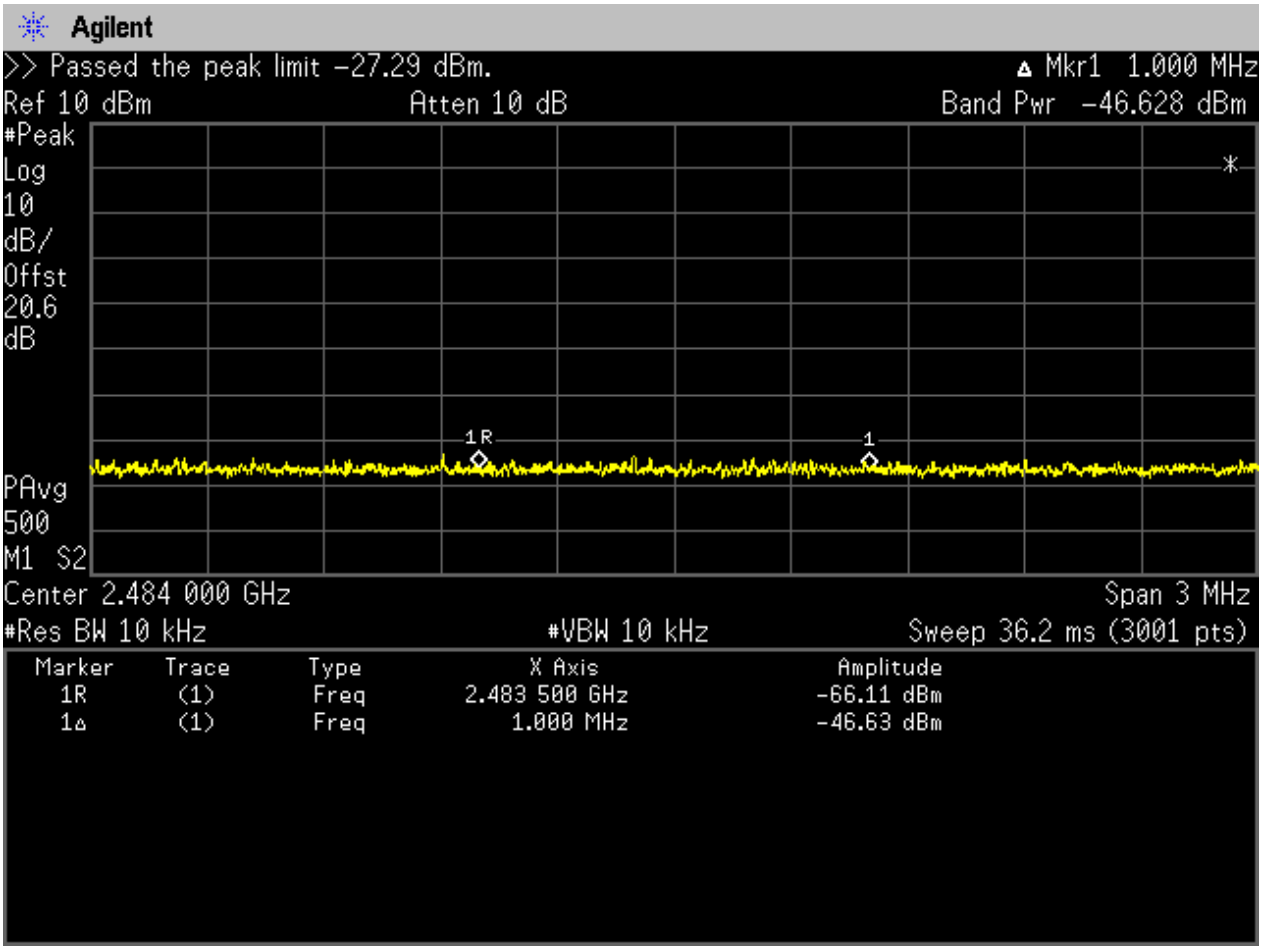

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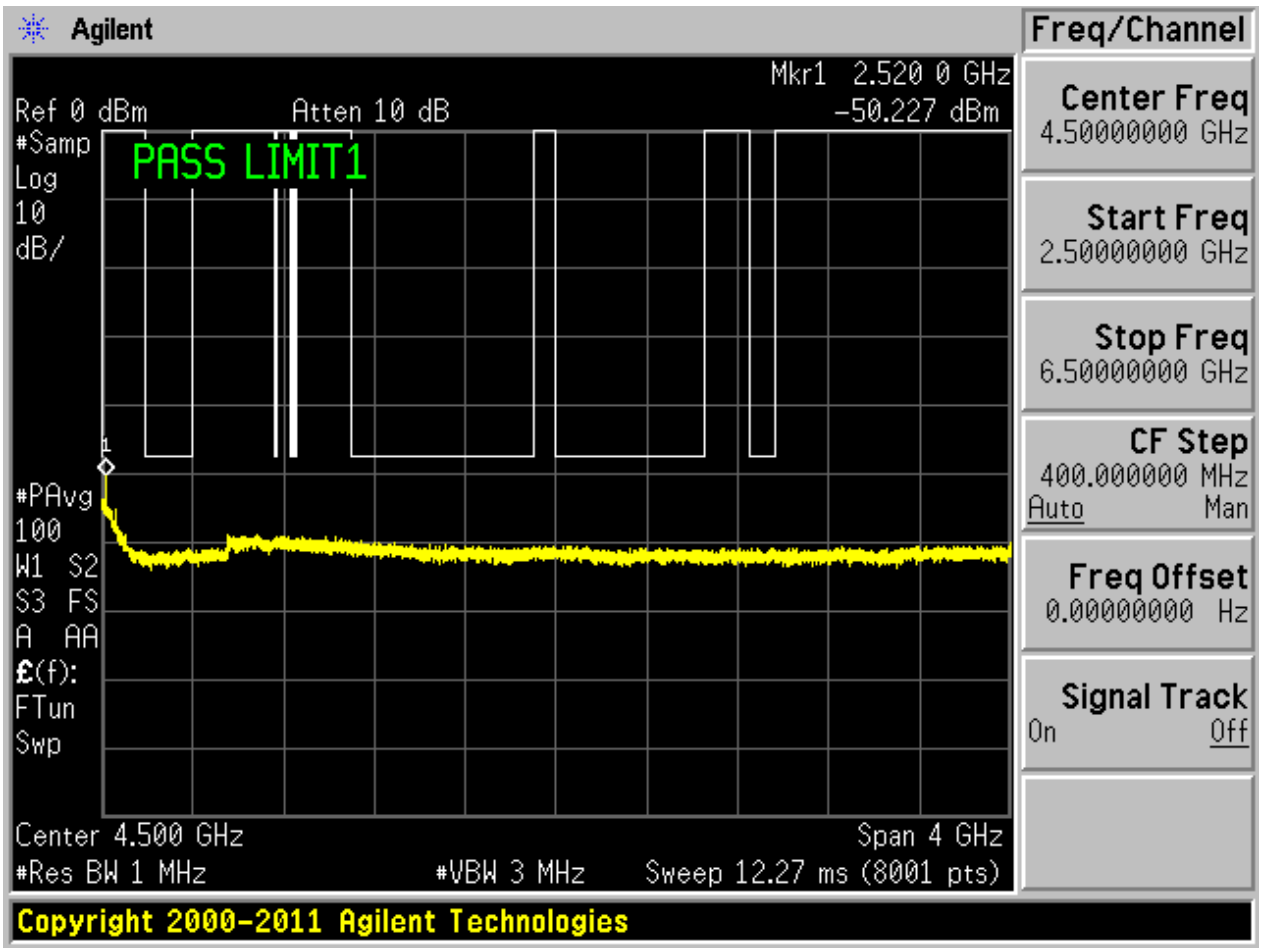

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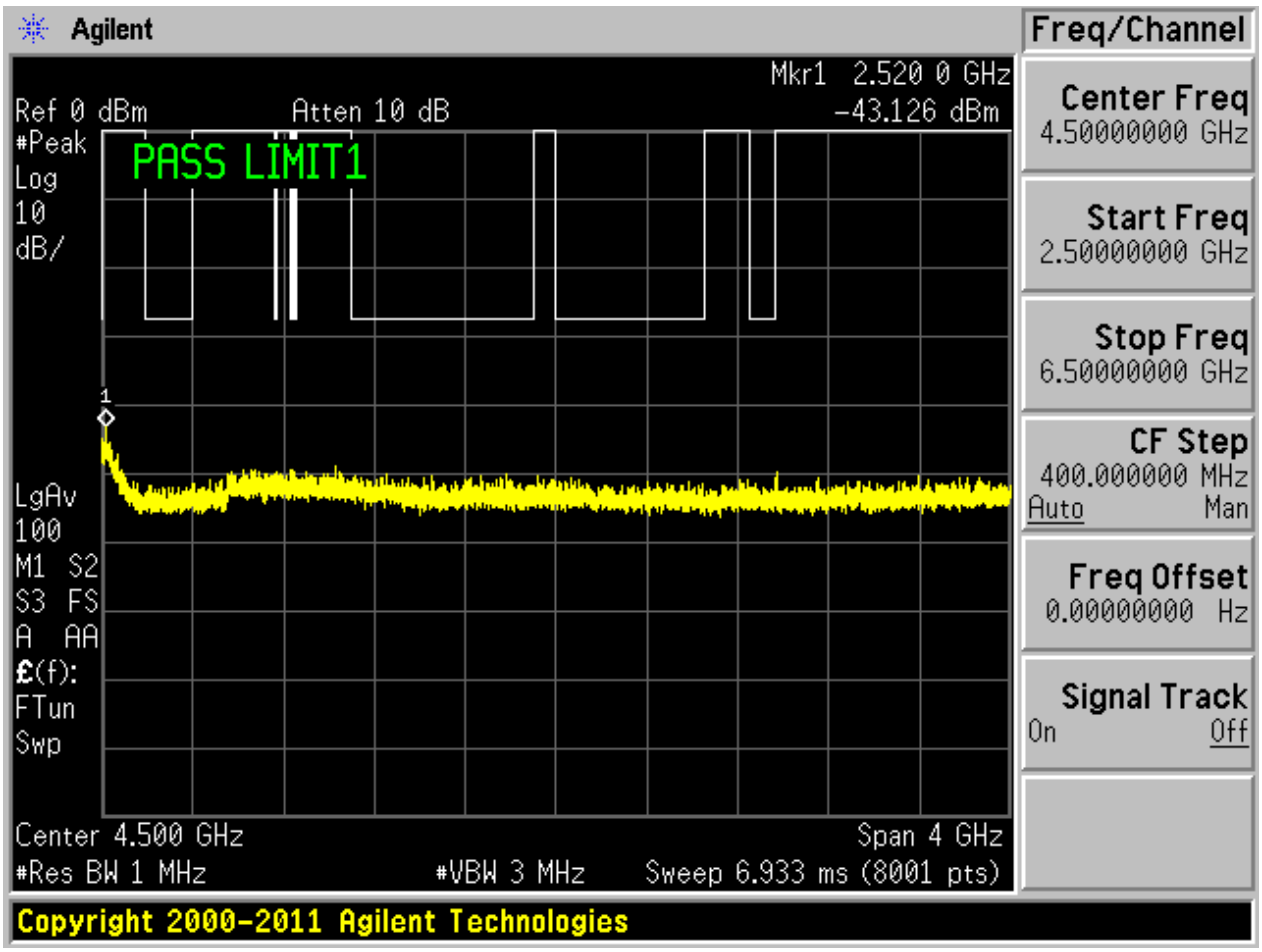

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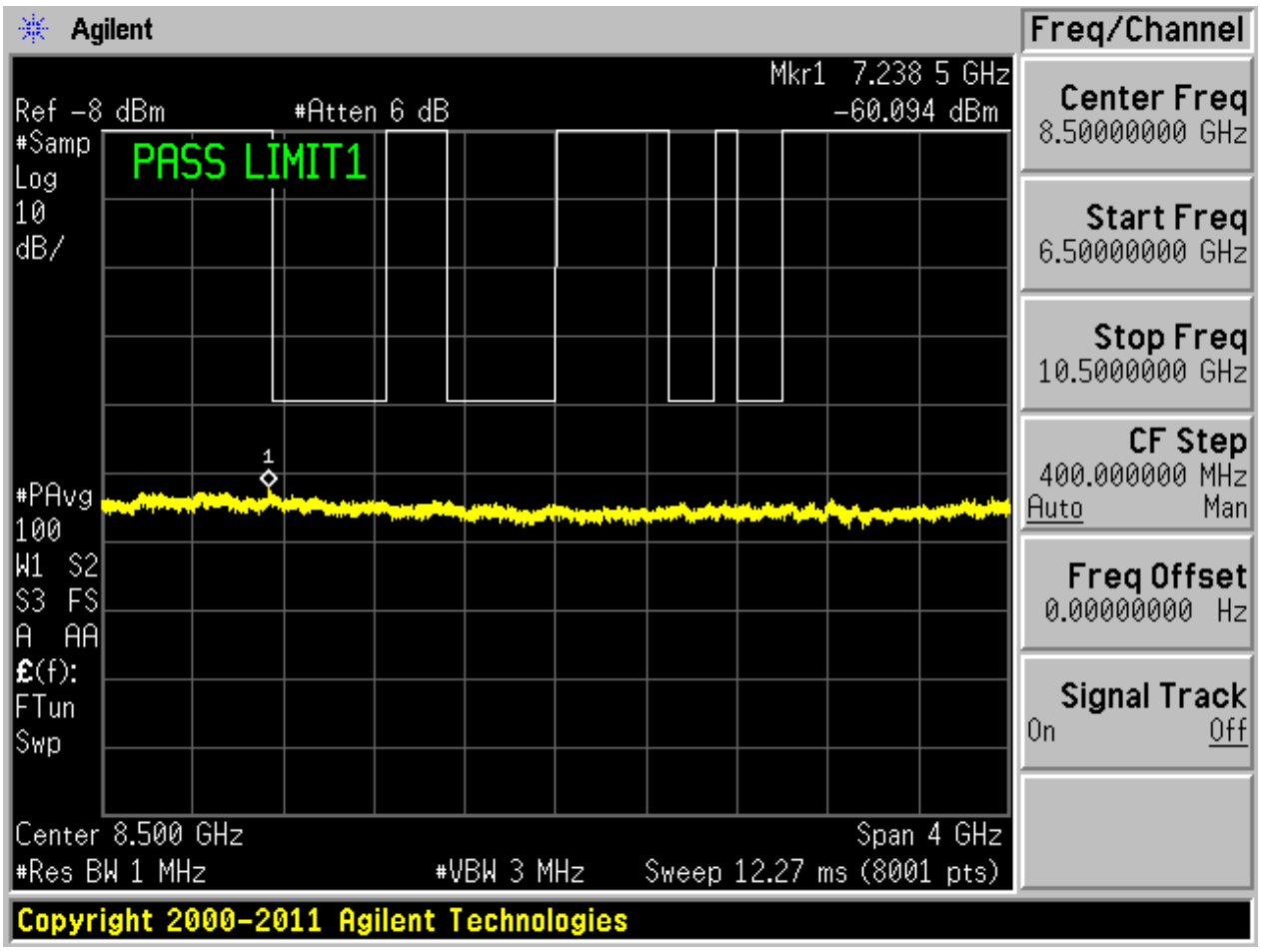

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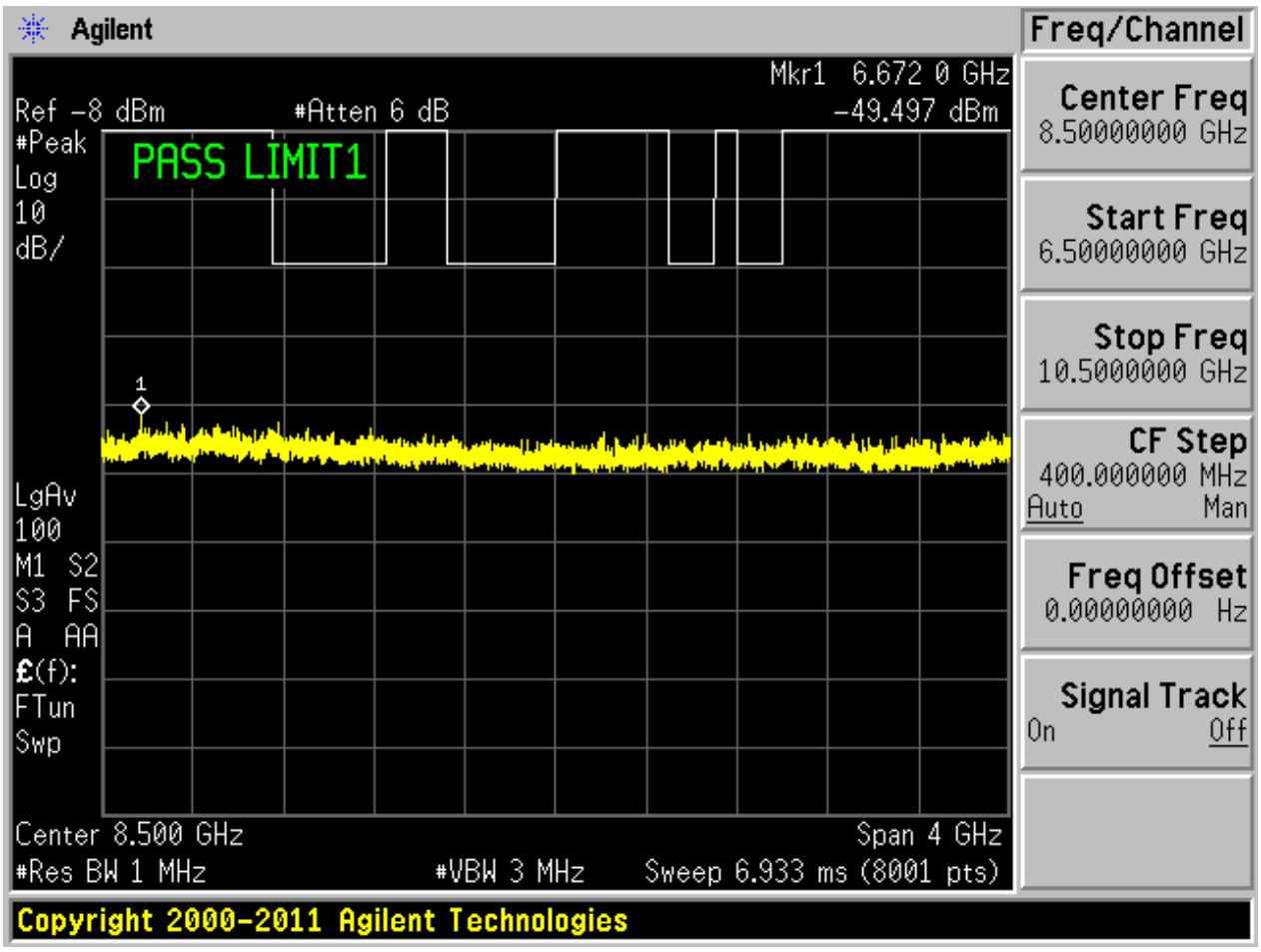

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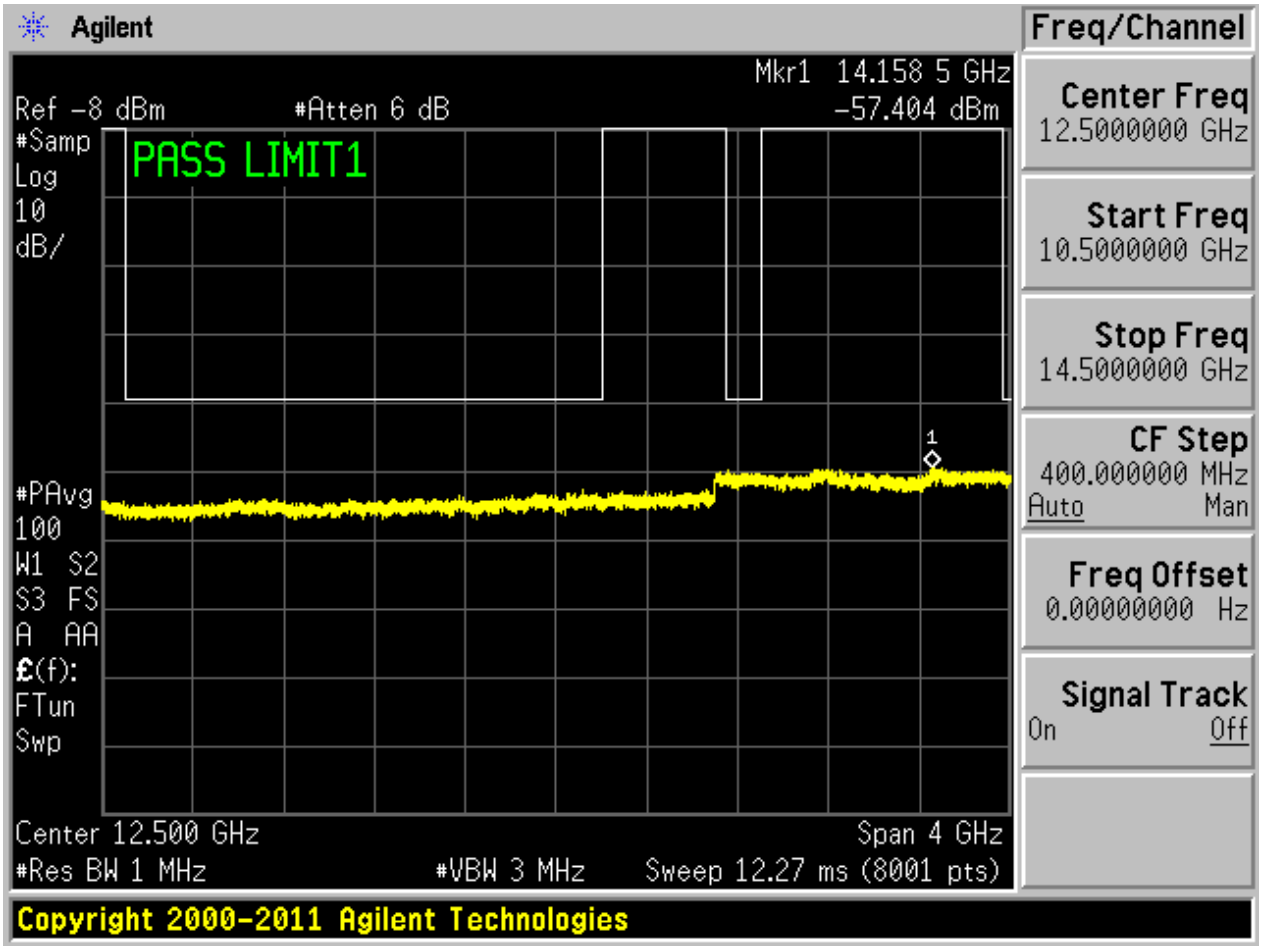

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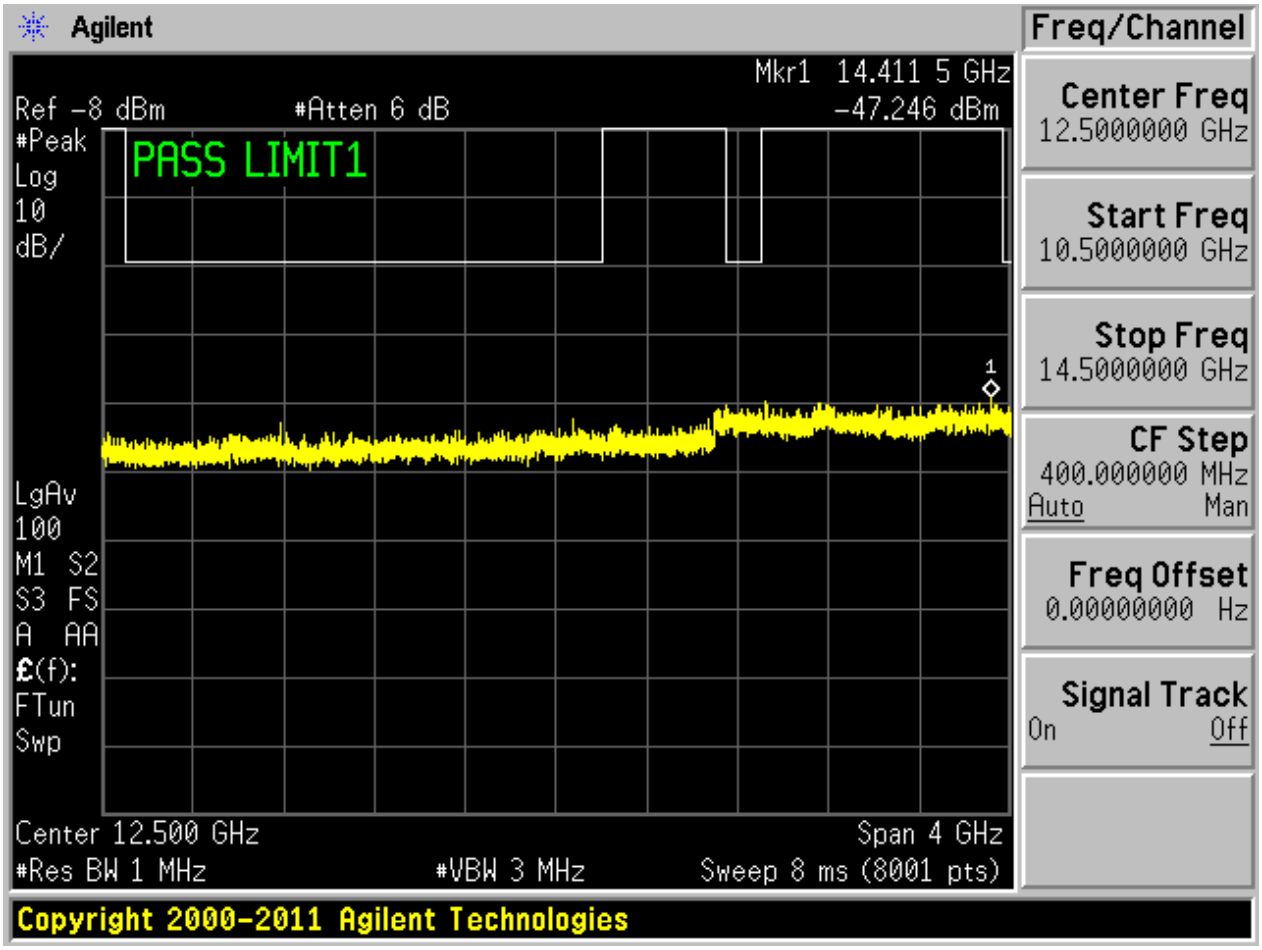

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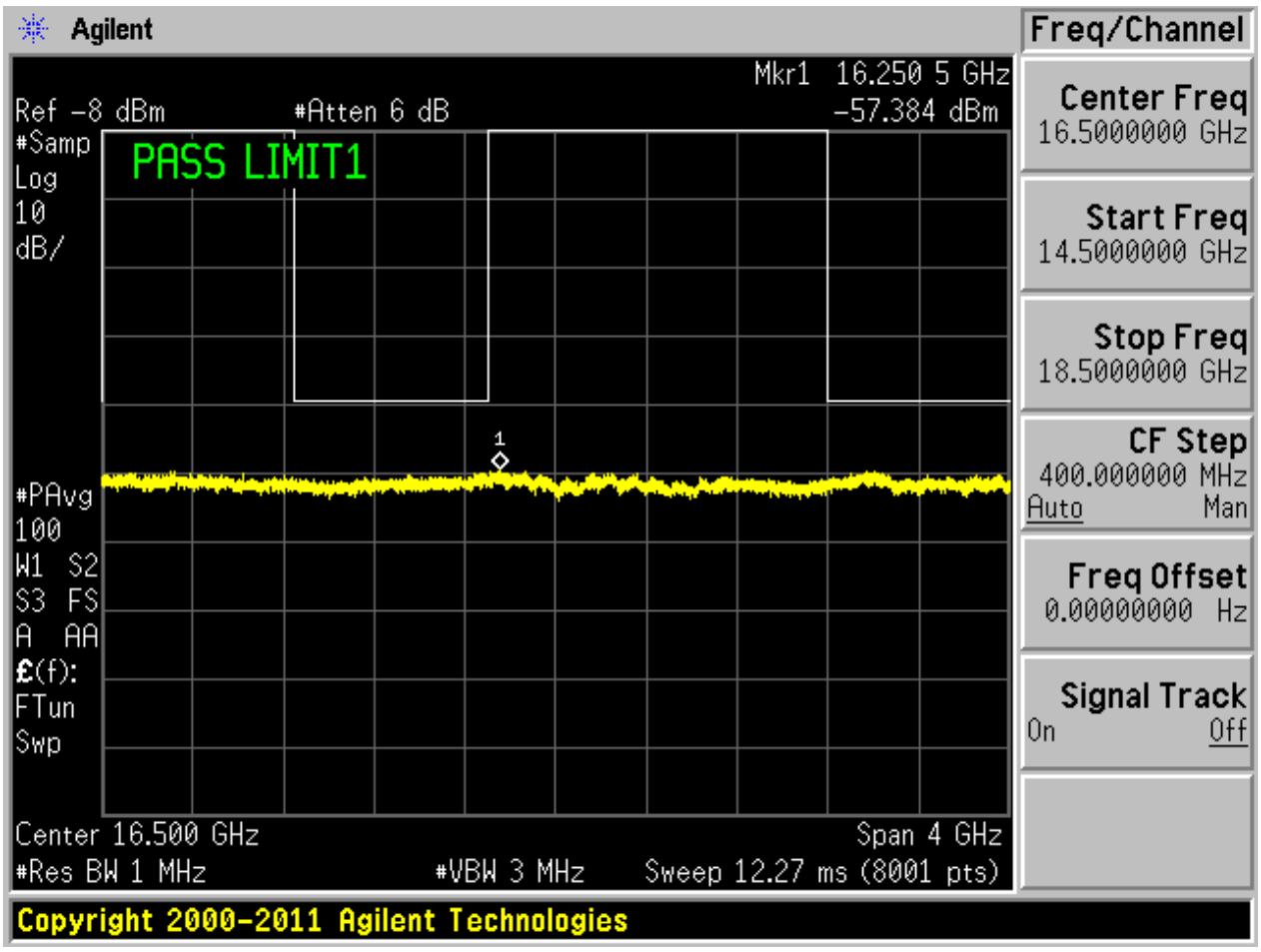

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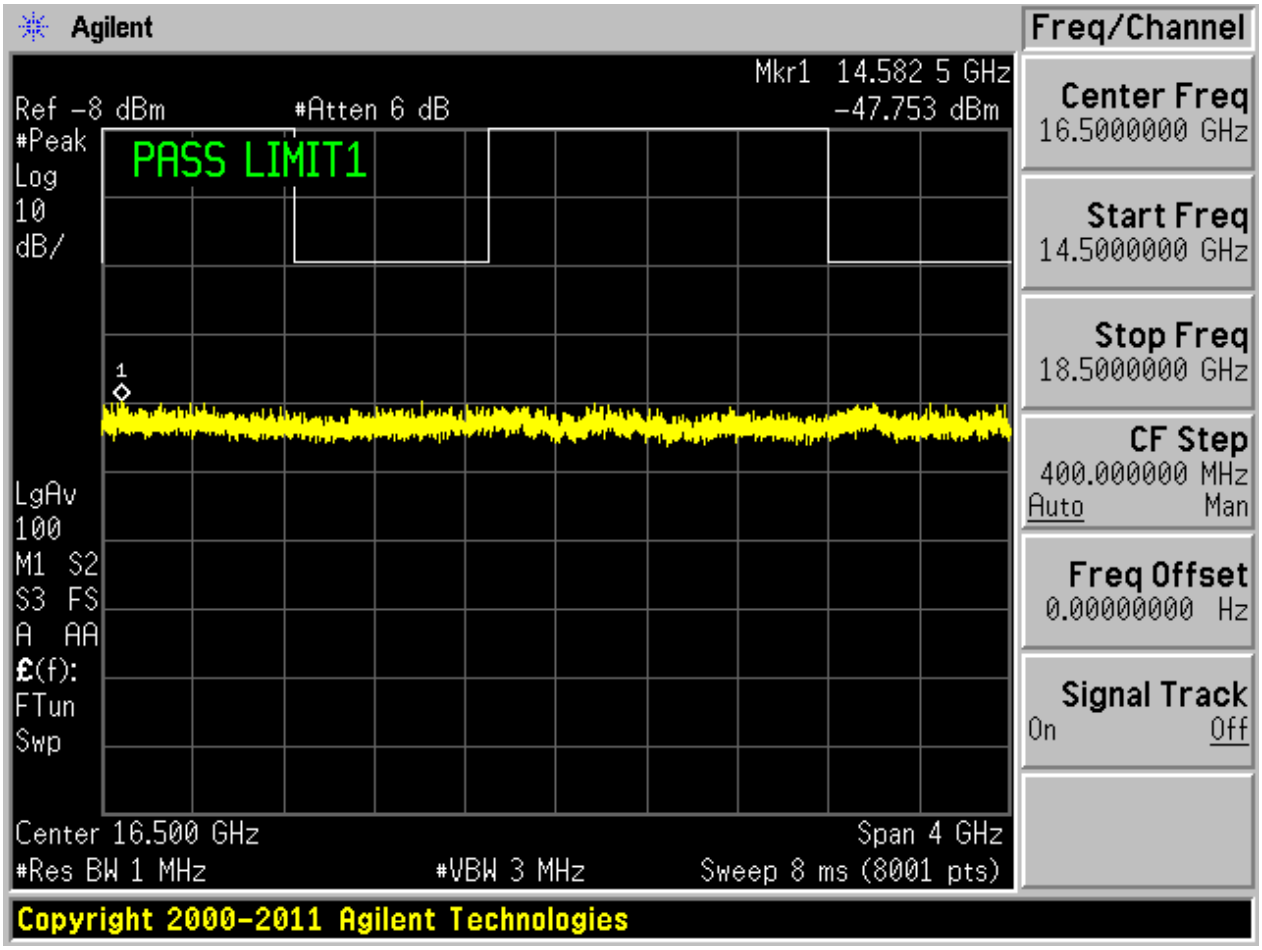

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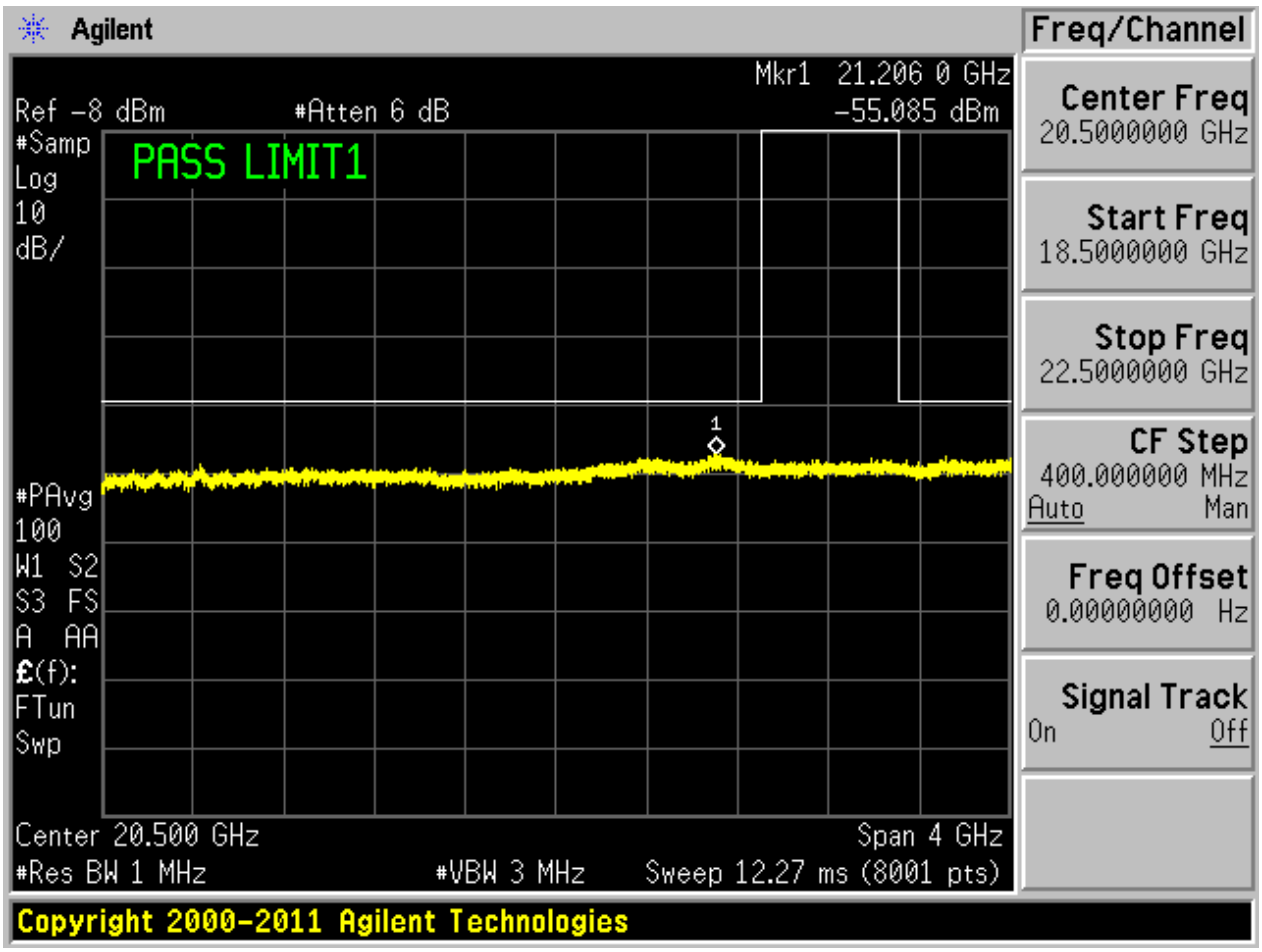

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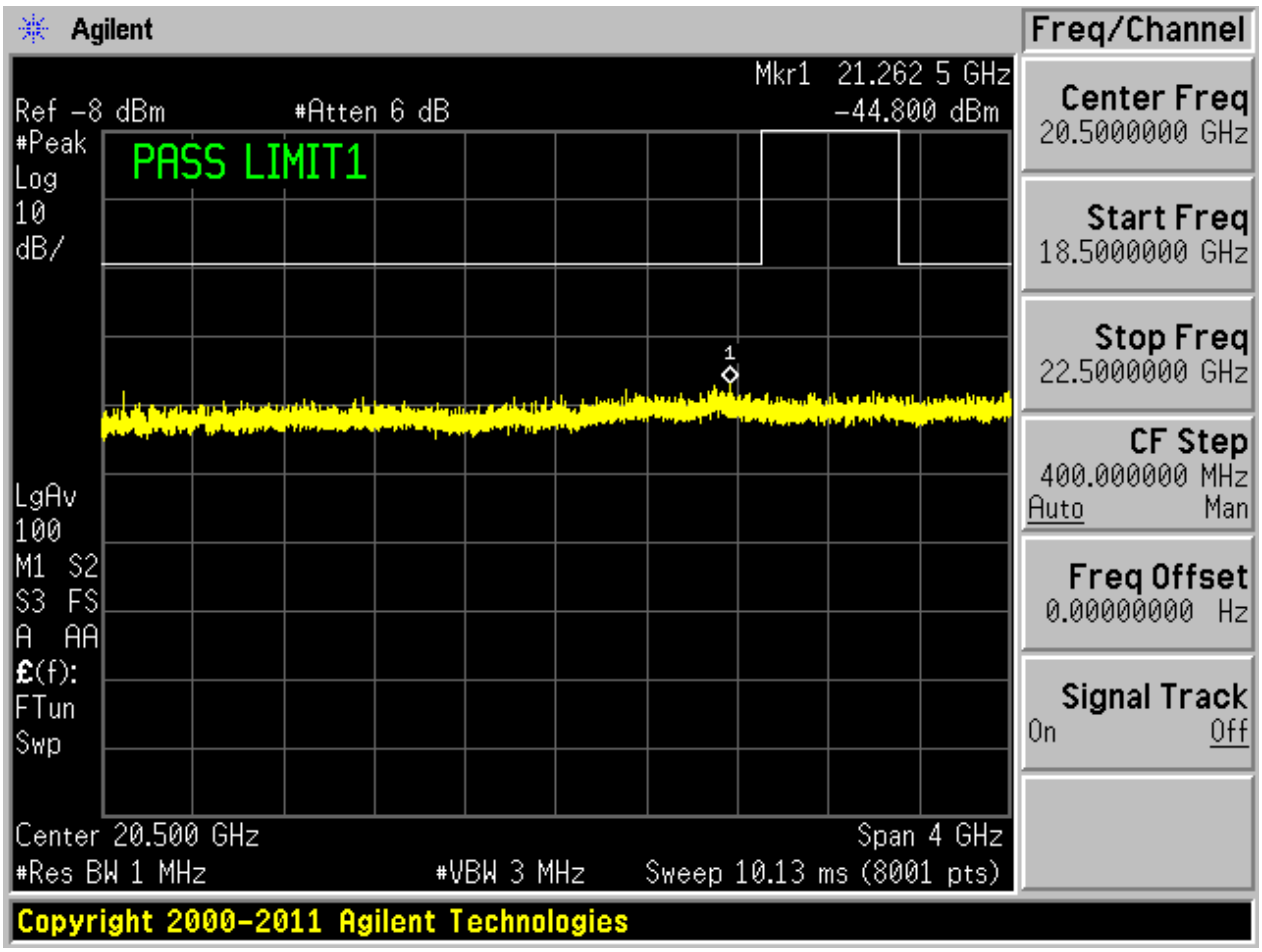

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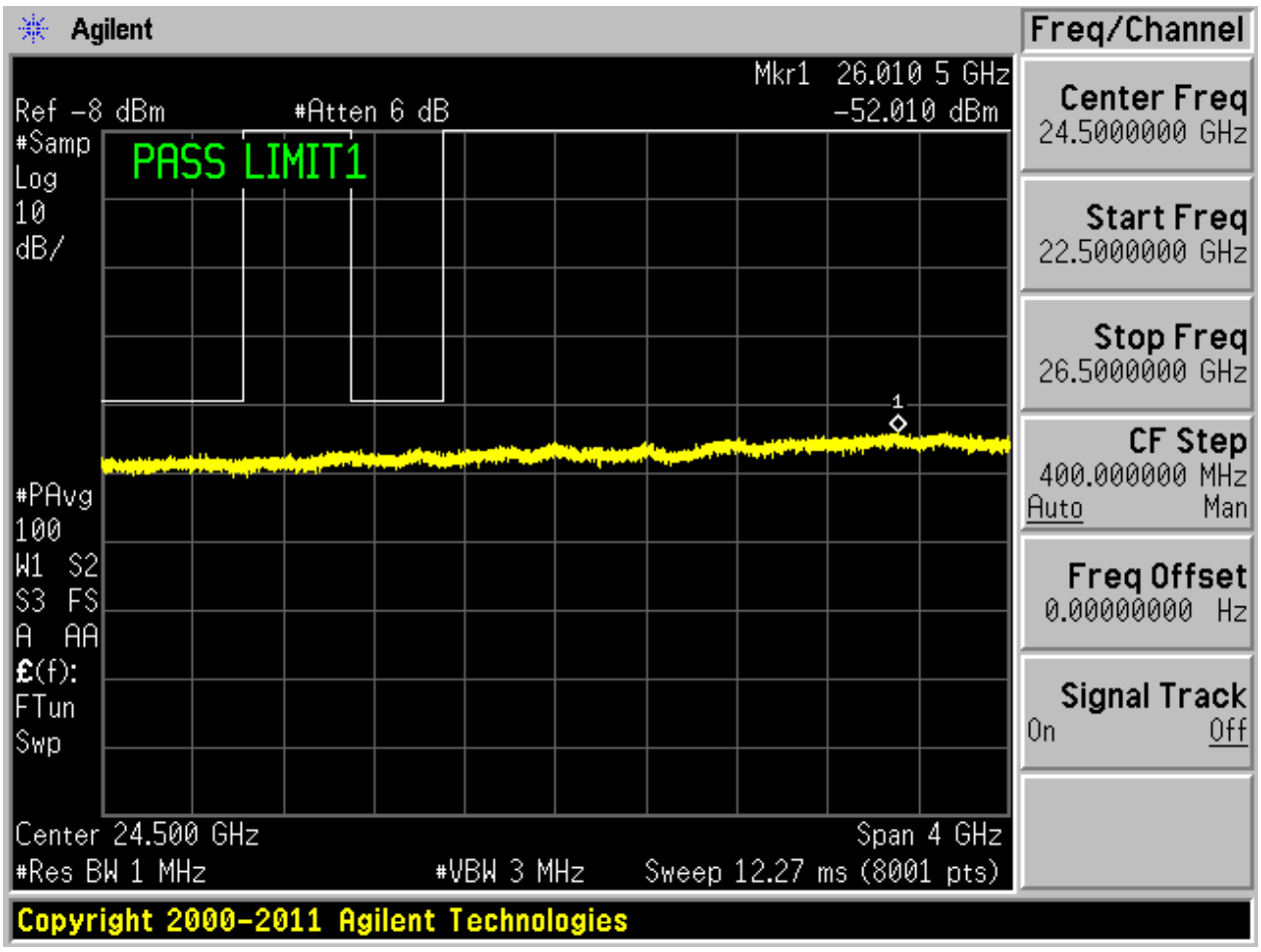

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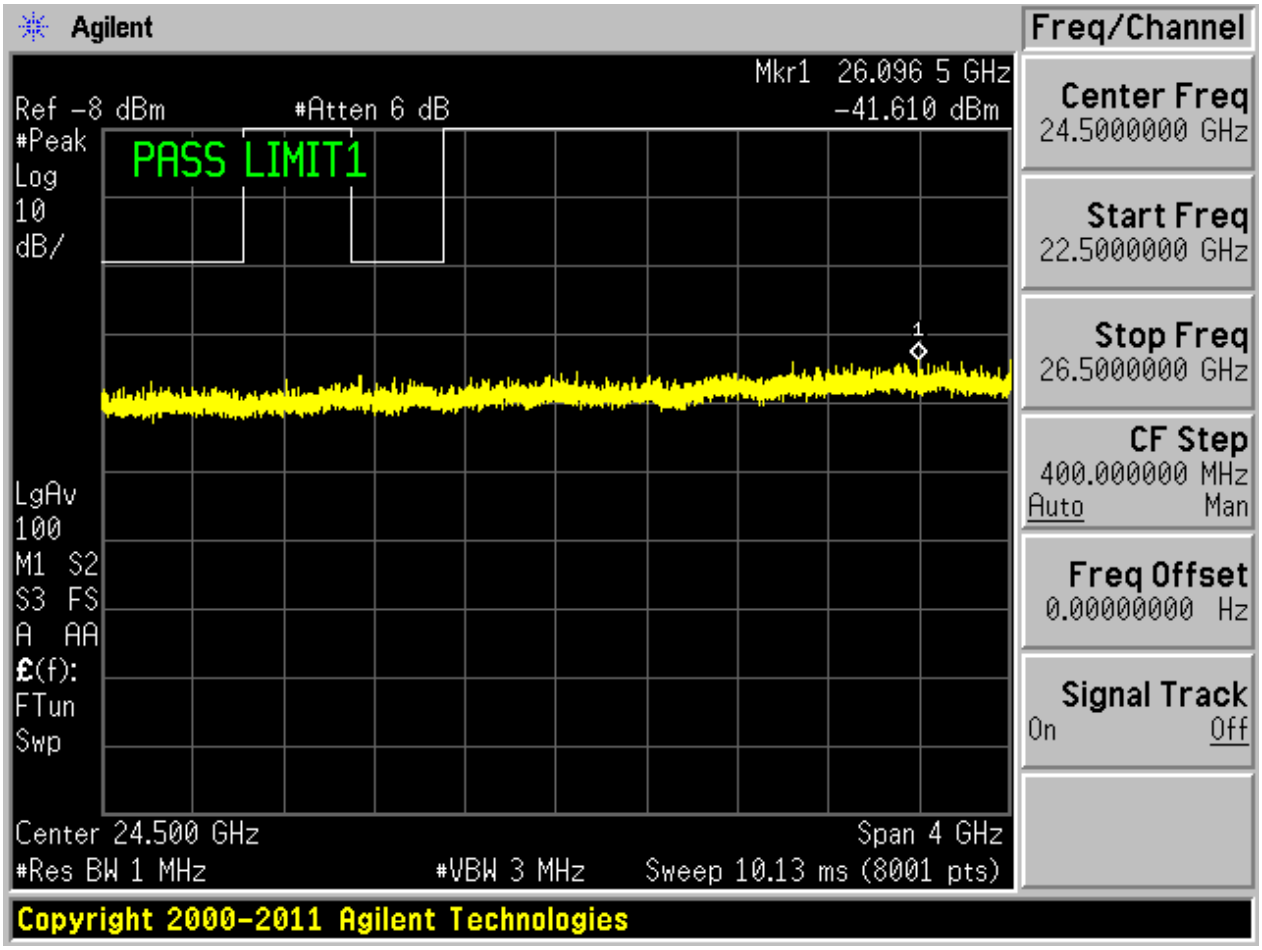

2.4.3 Trace#sum (if needed for final judgment)

(Not applicable)

2.5 11Bd/1_M@1+2

2.5.1 Ant 1 (Trace#1)

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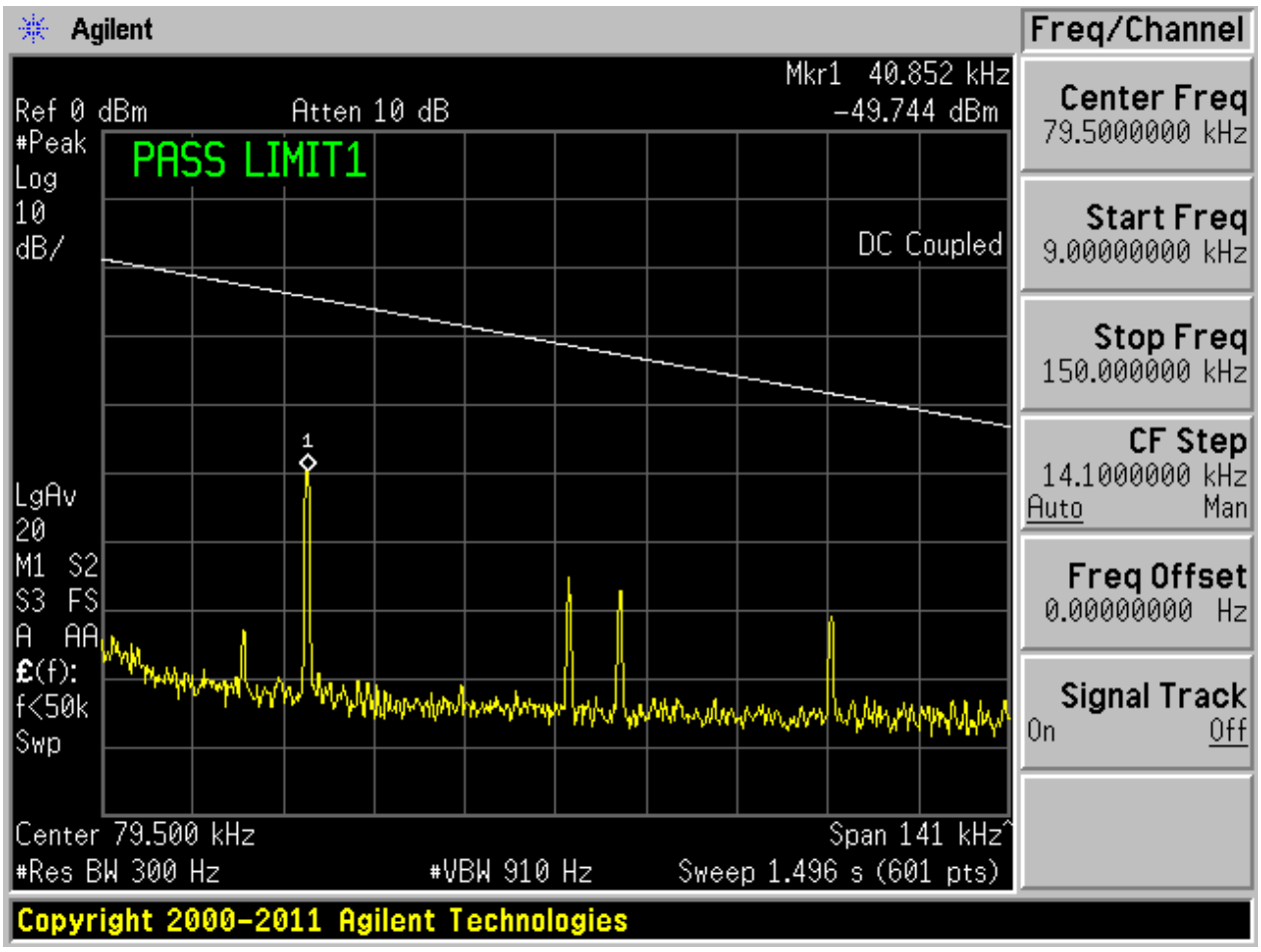

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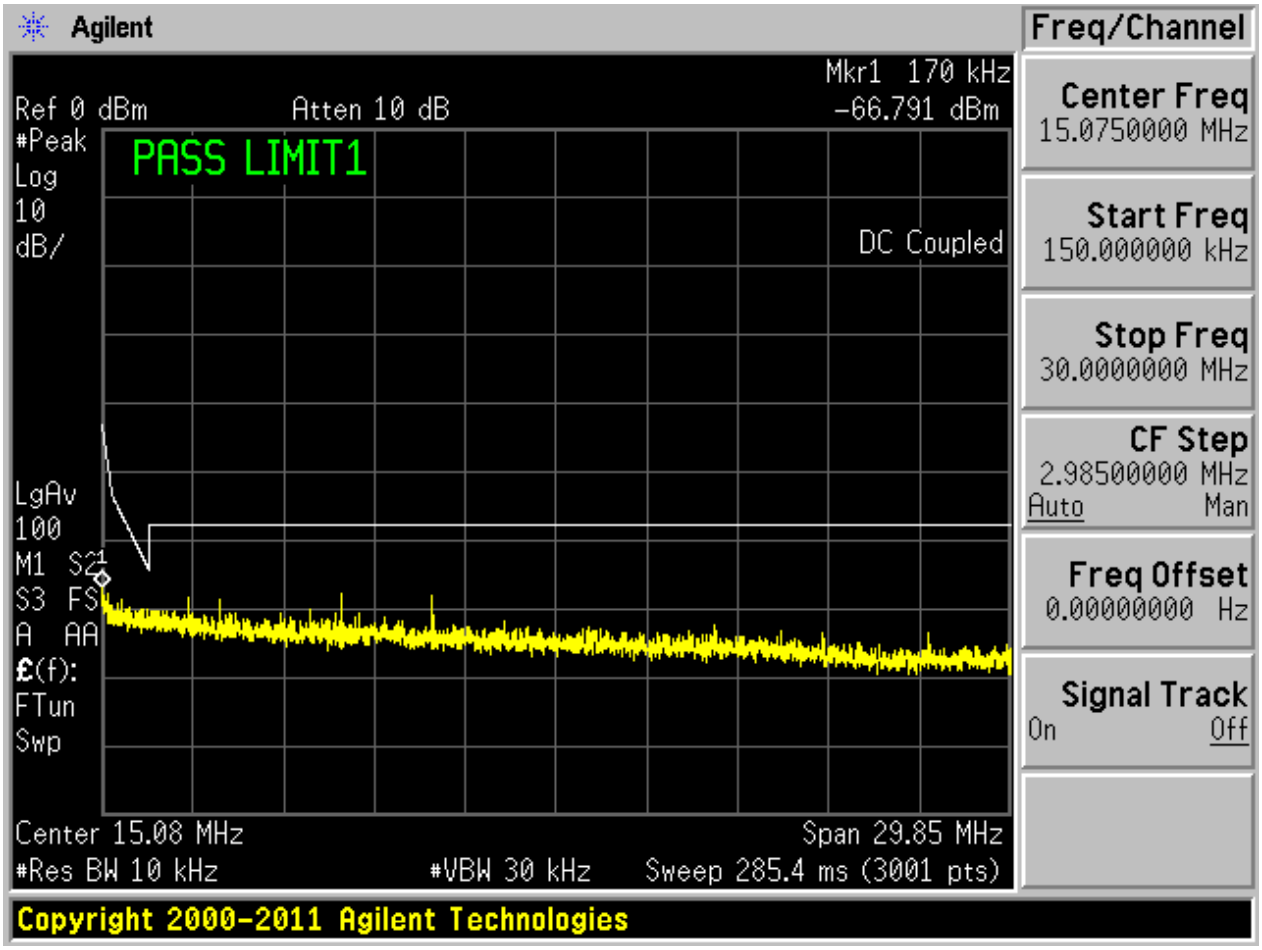

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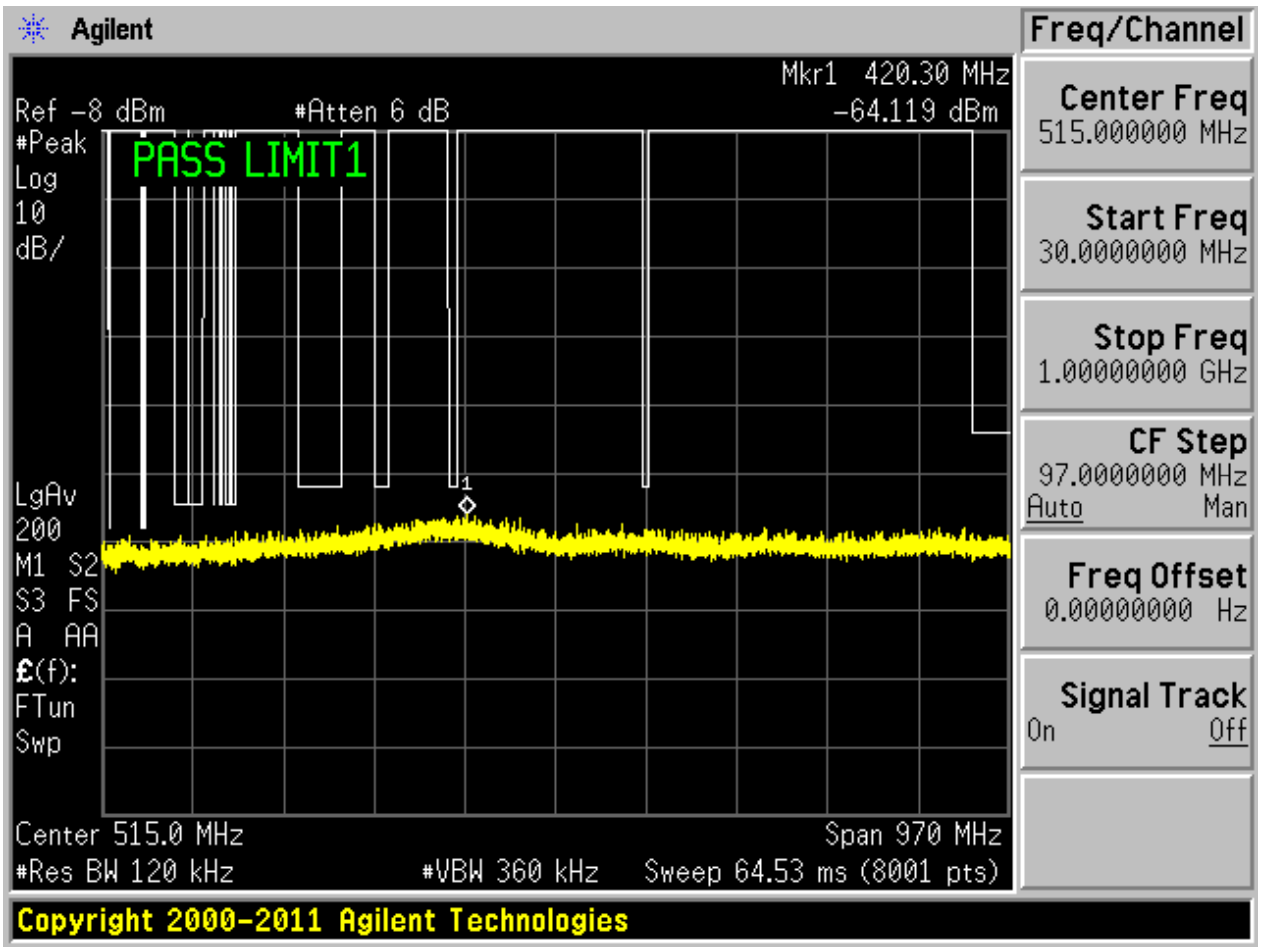

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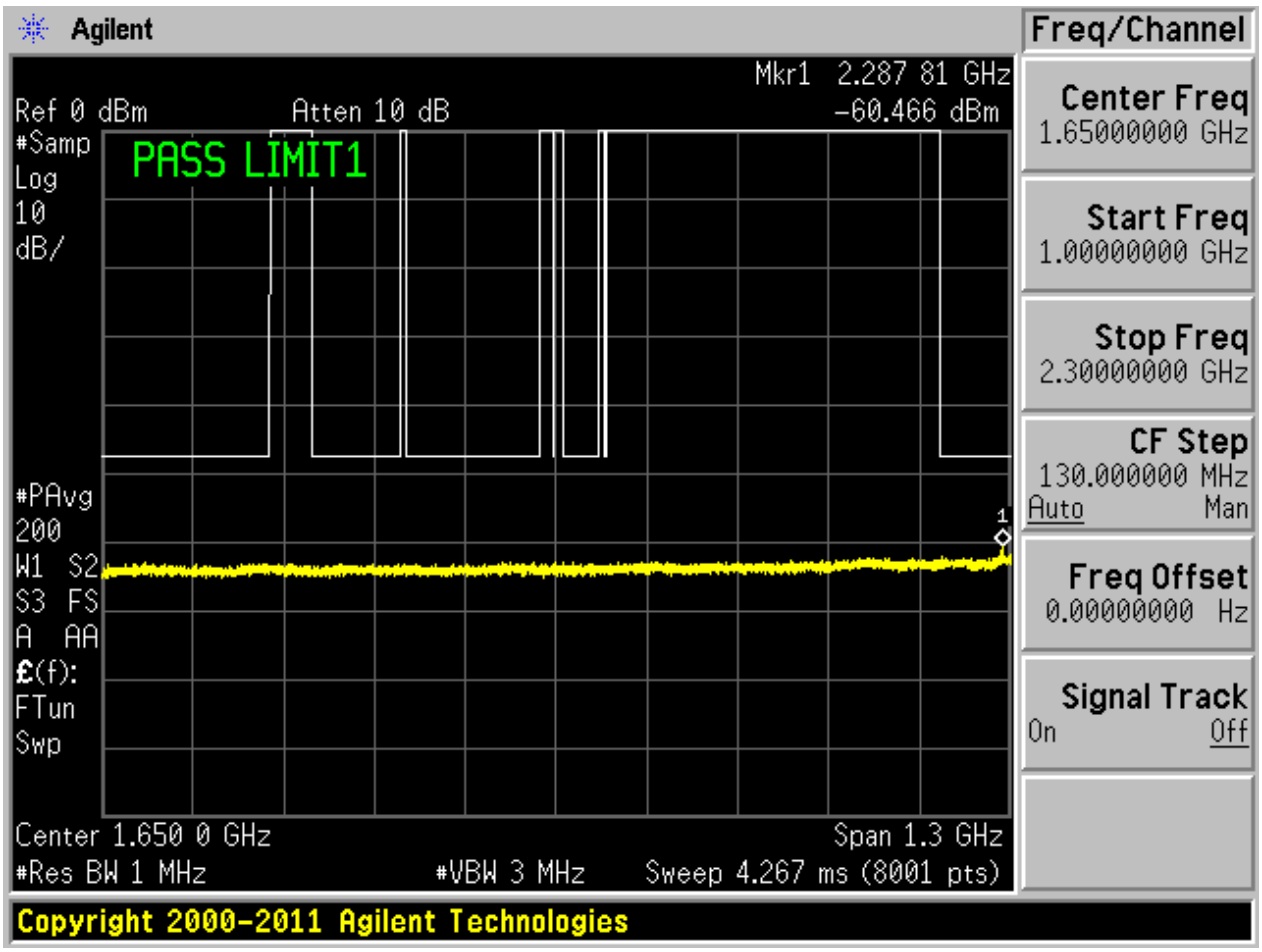

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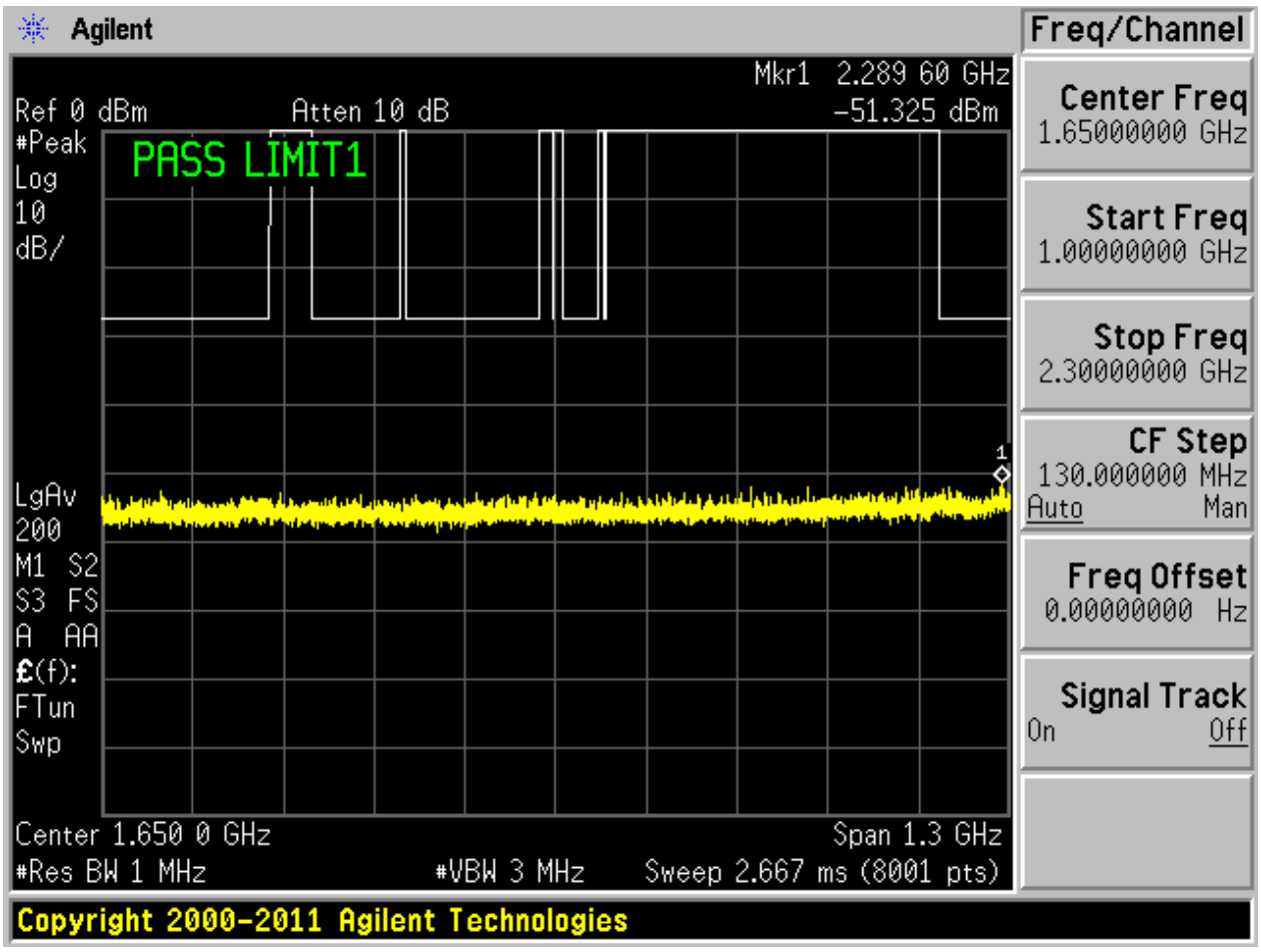

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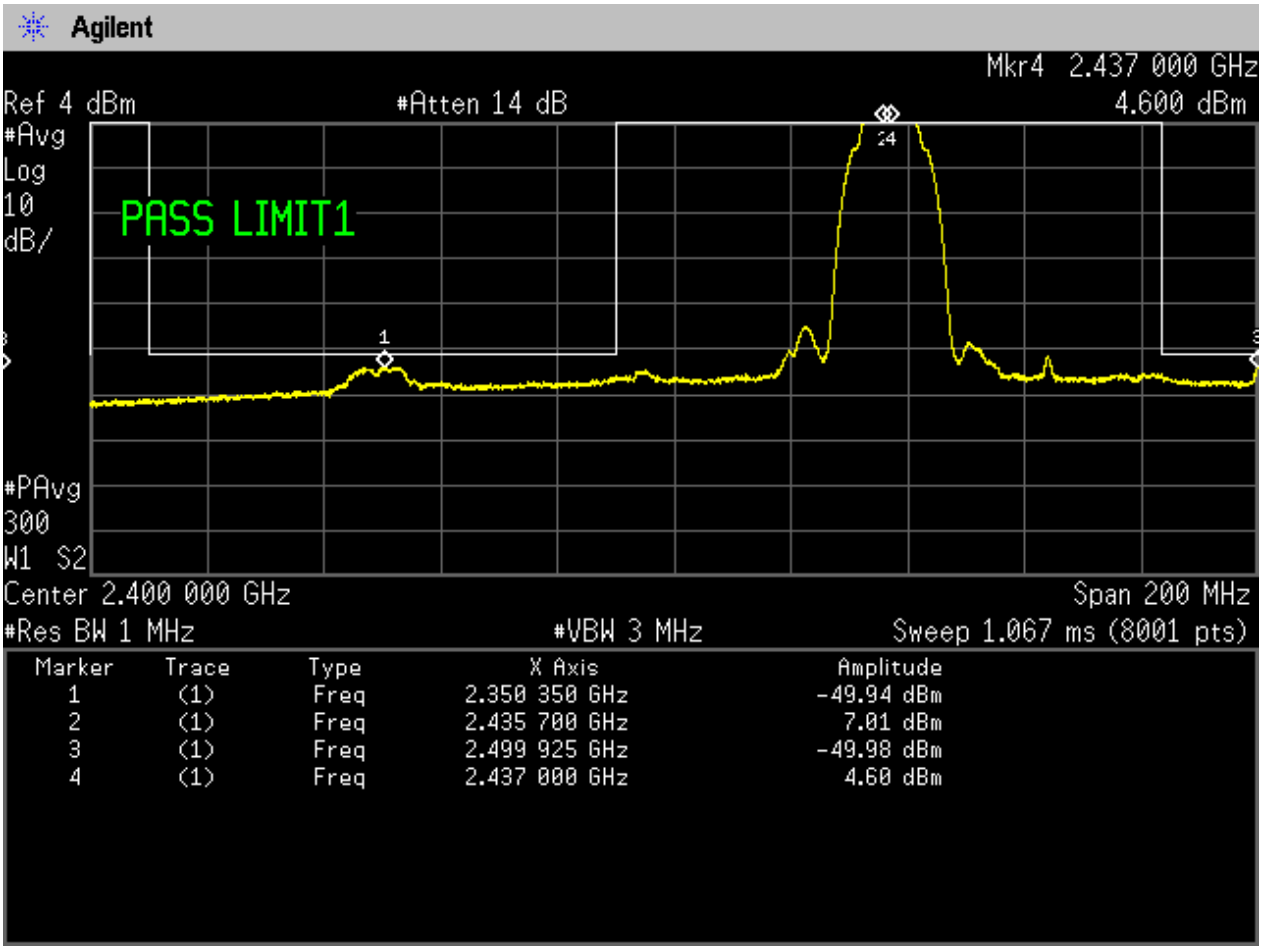

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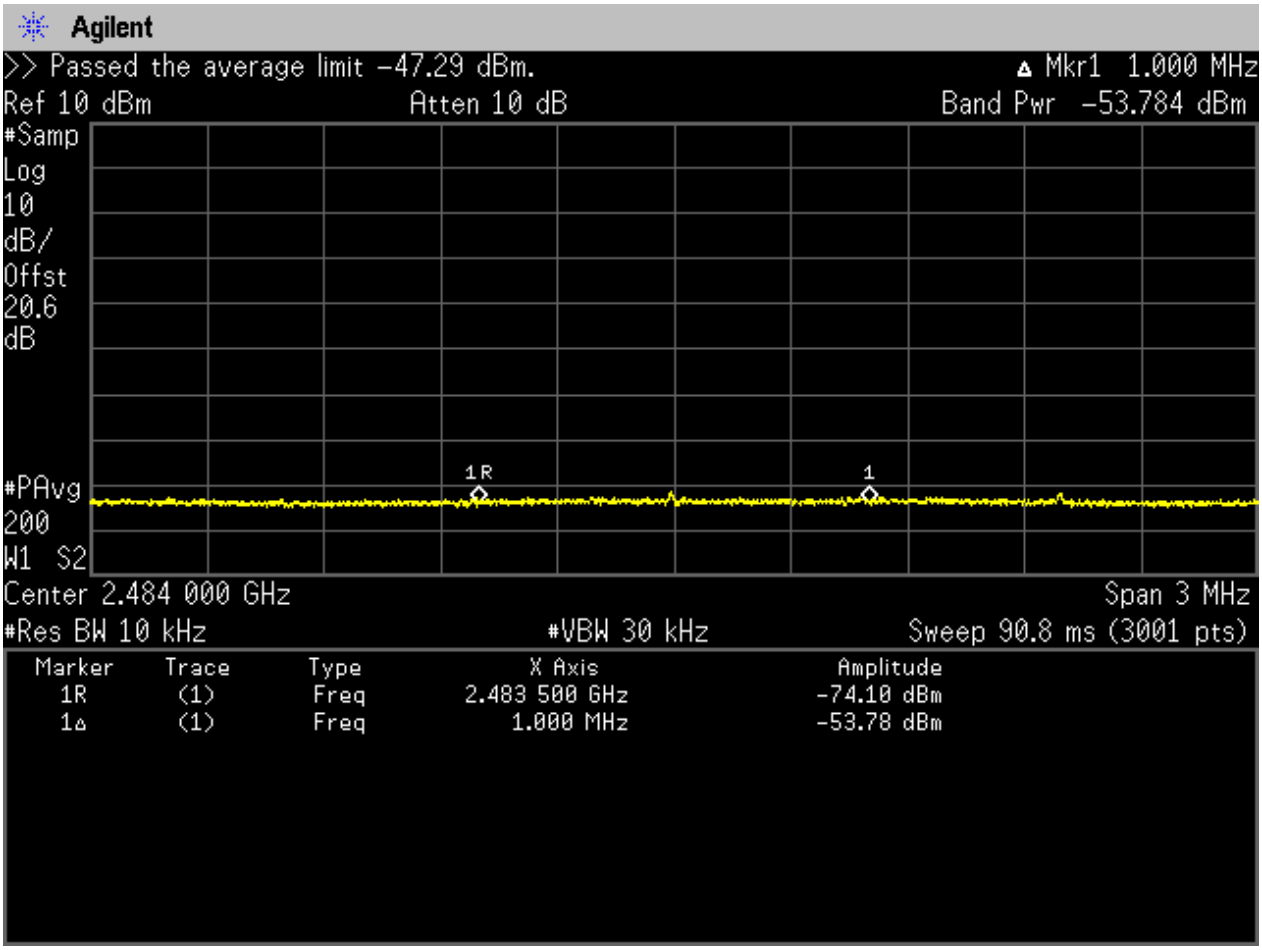

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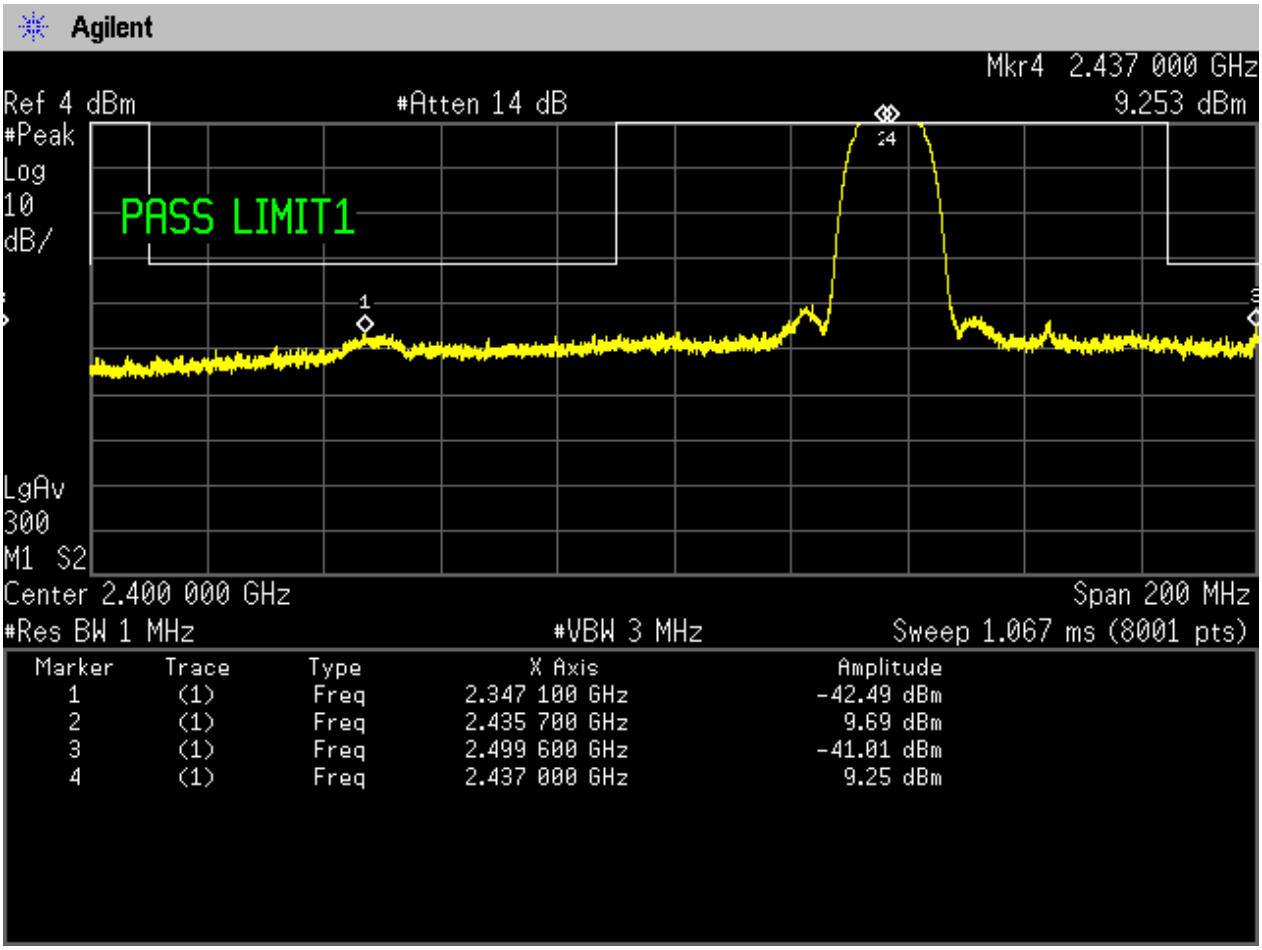

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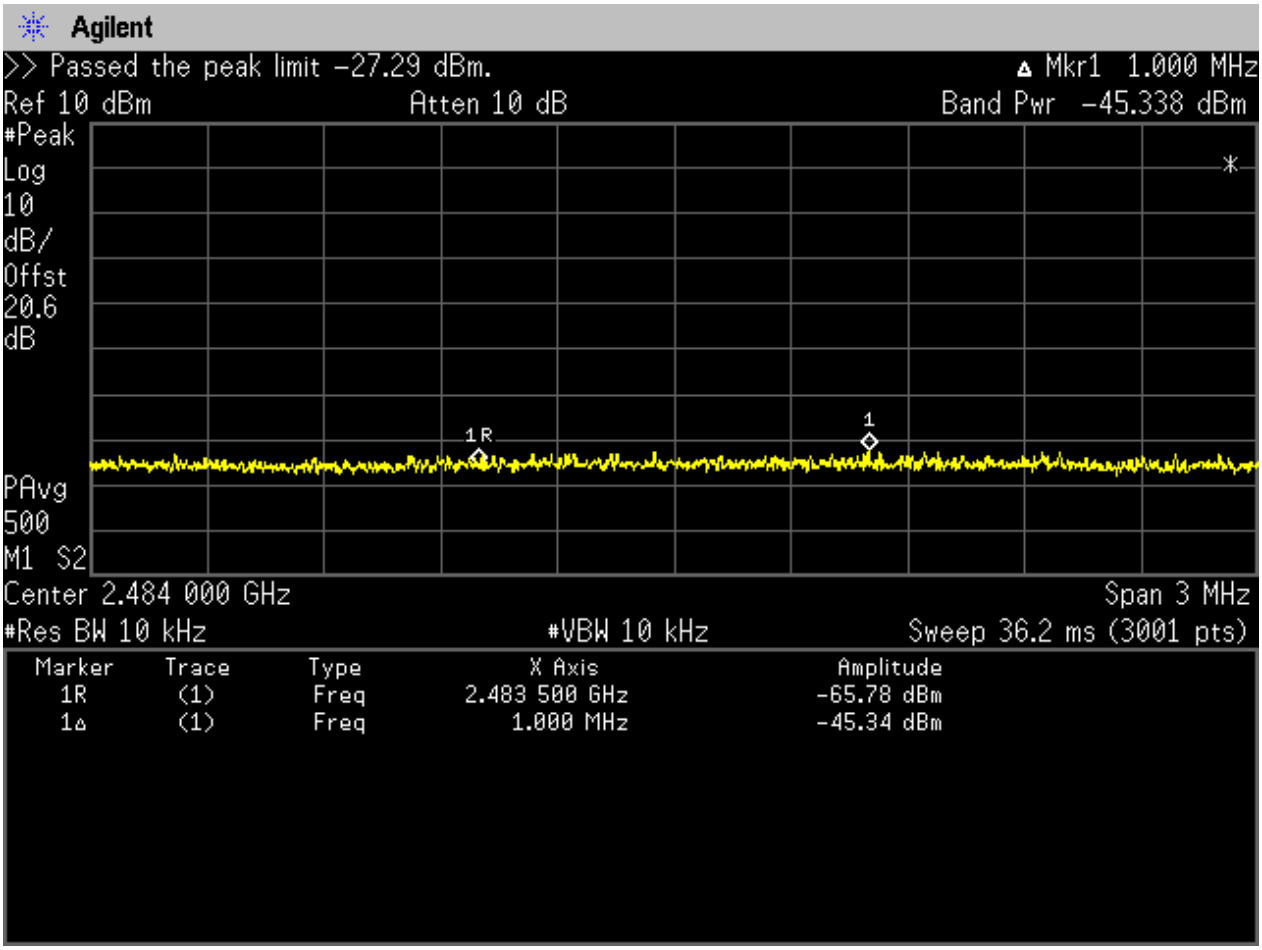

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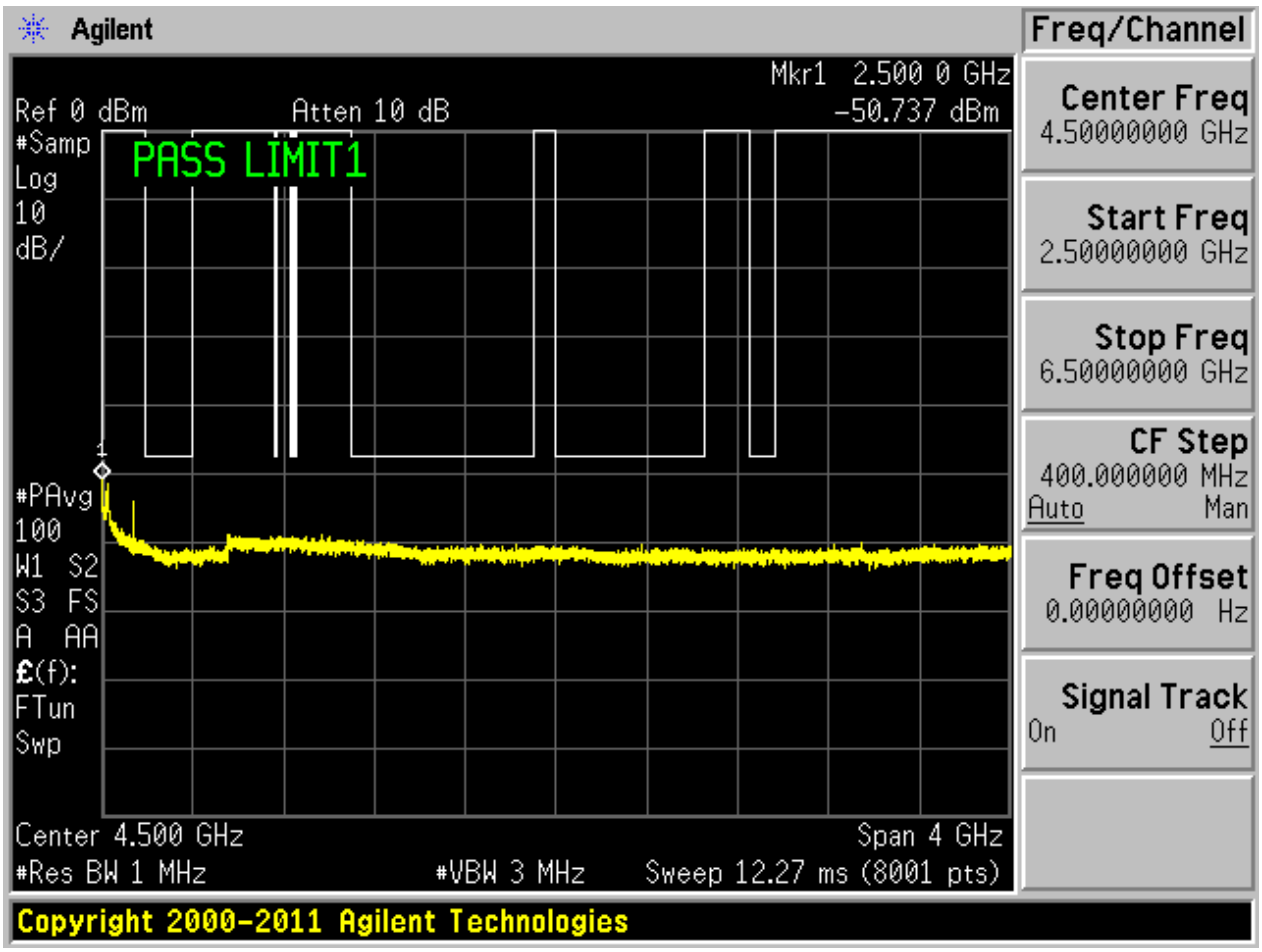

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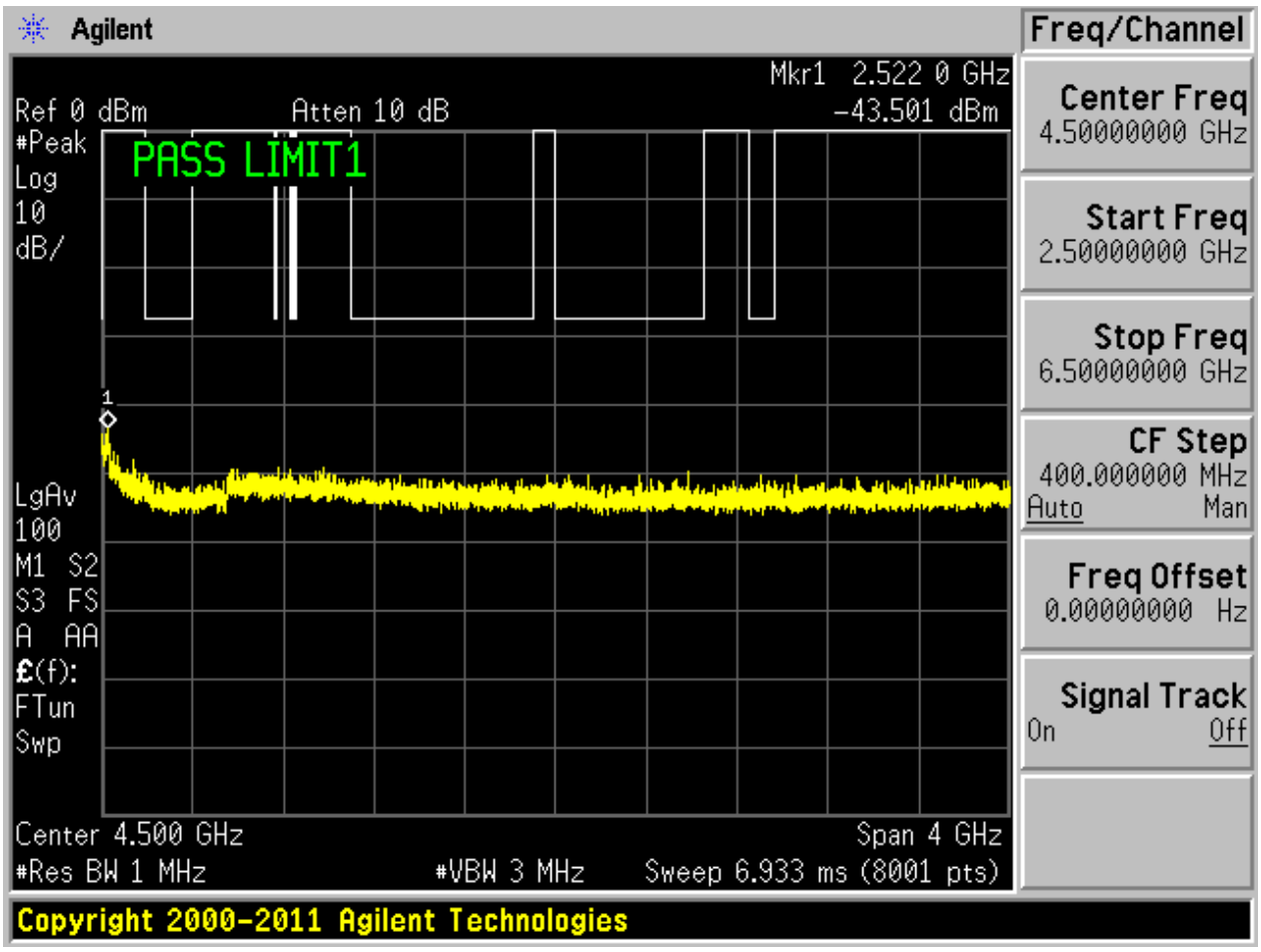

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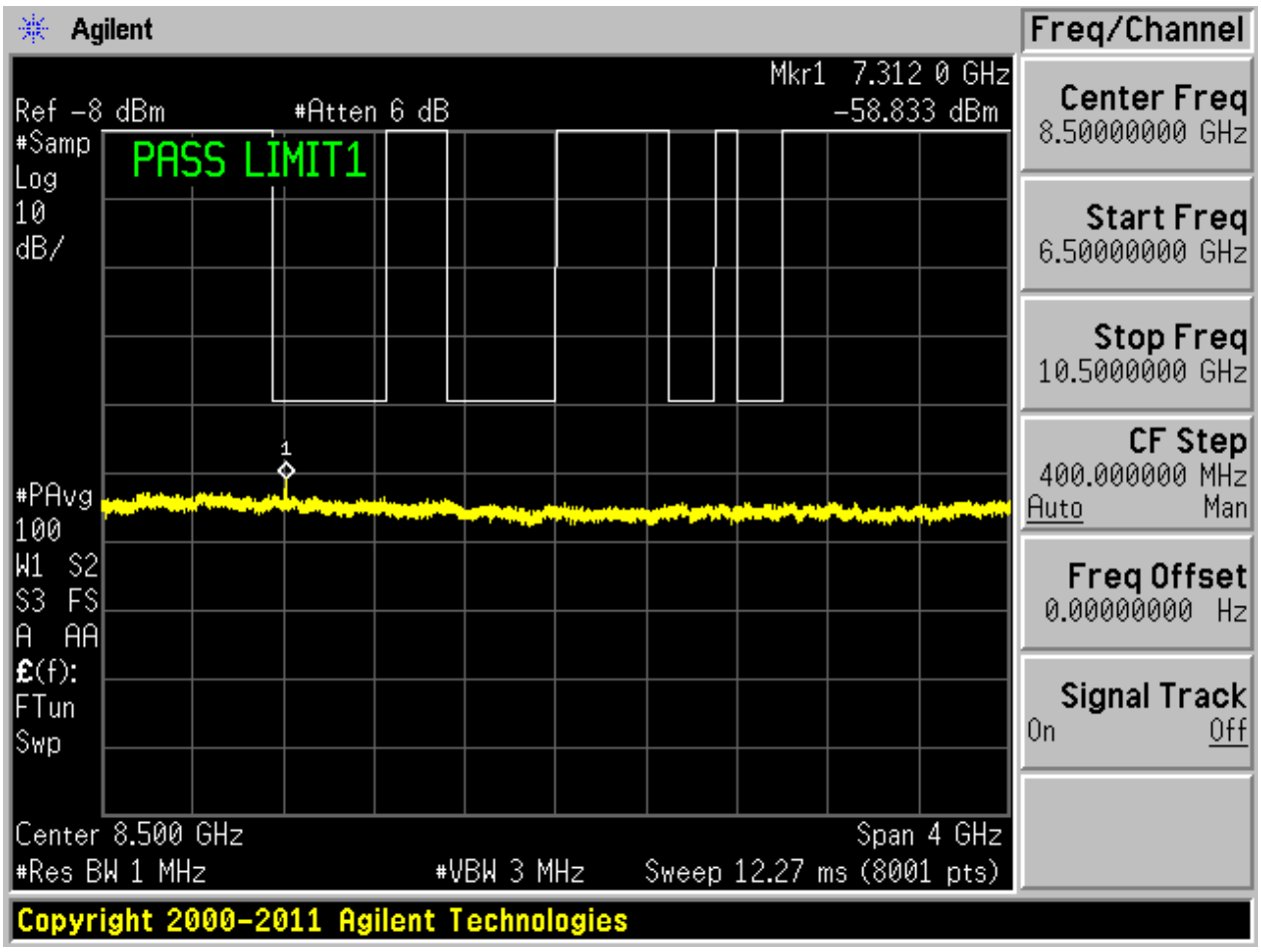

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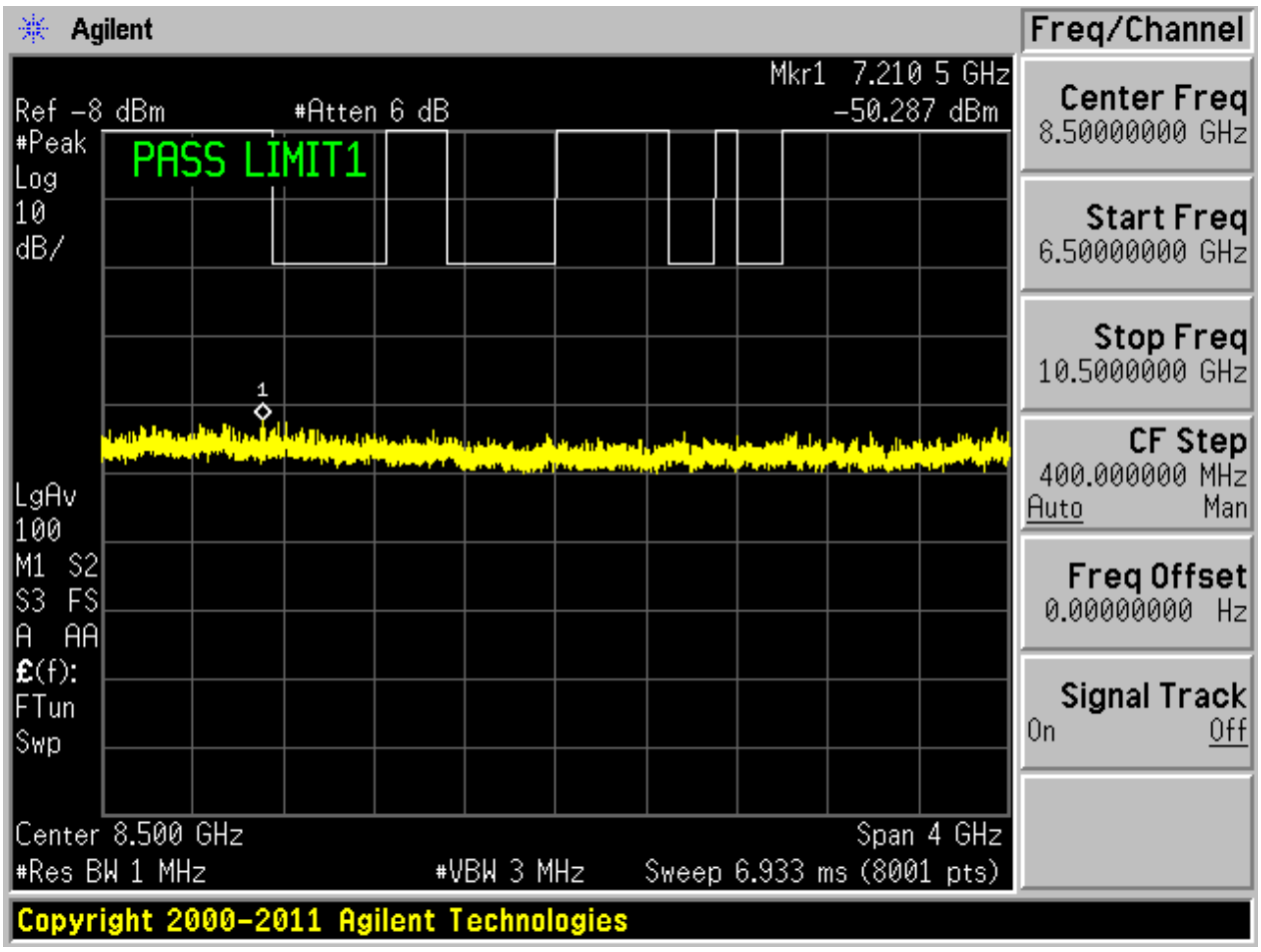

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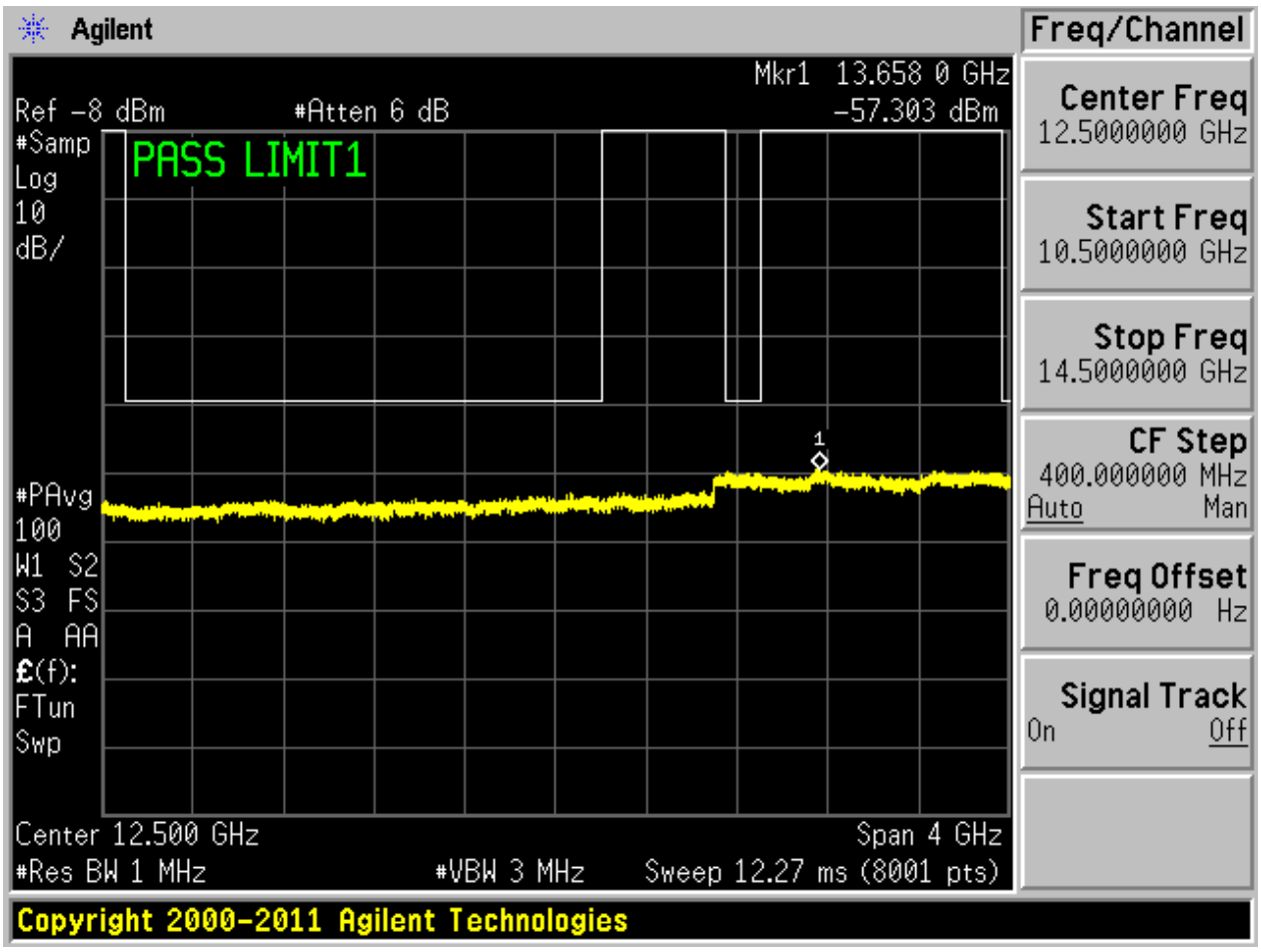

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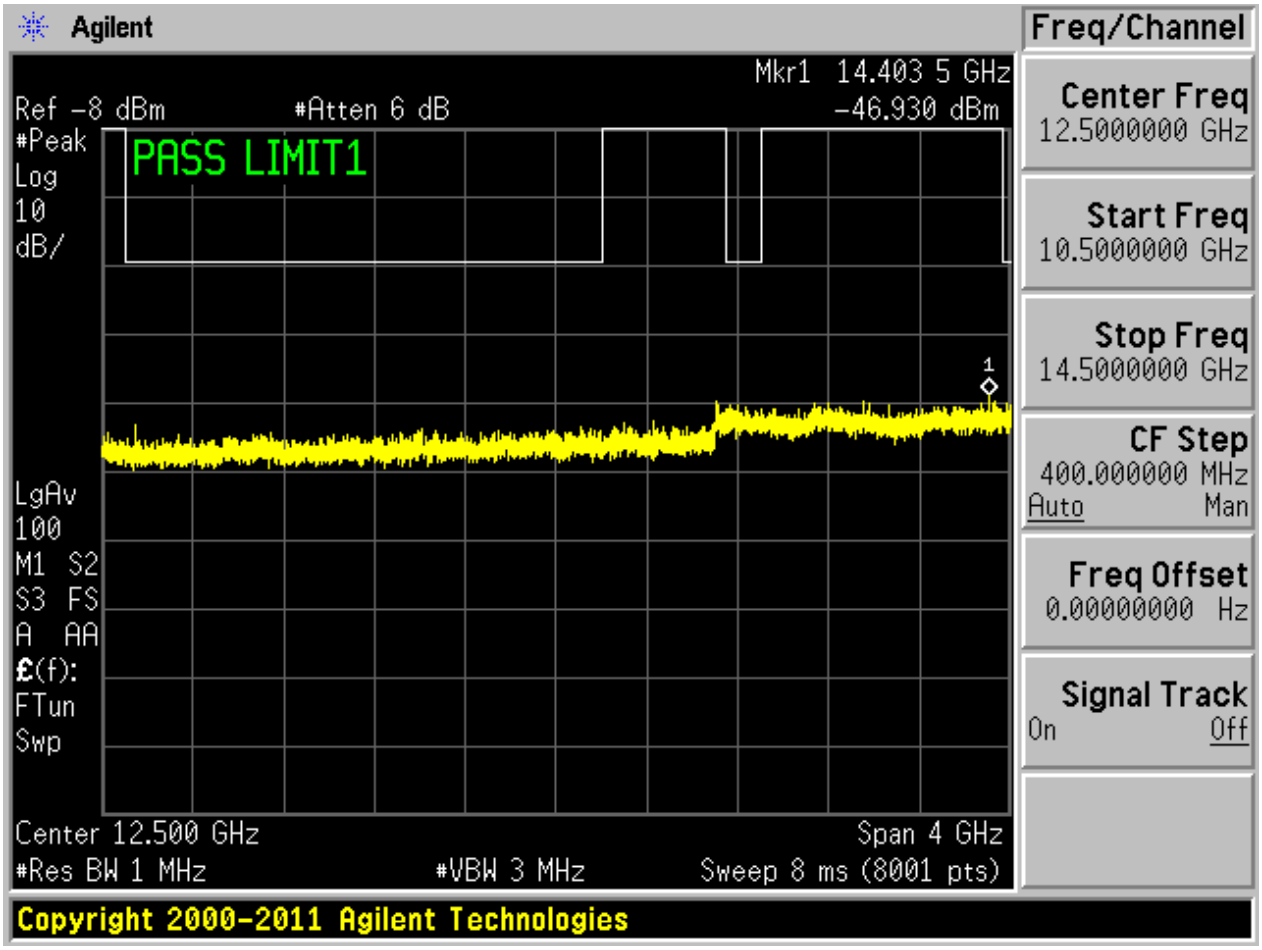

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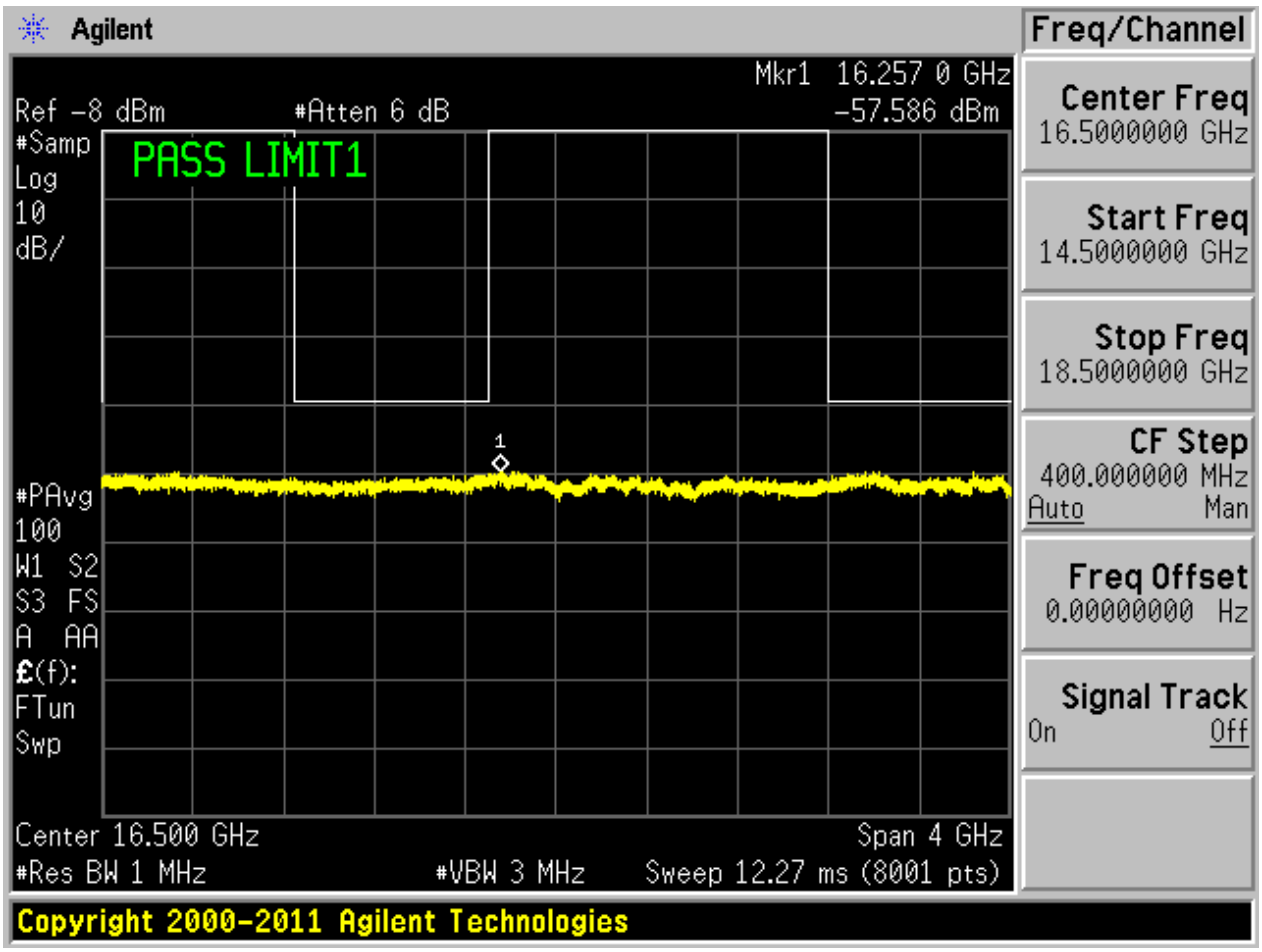

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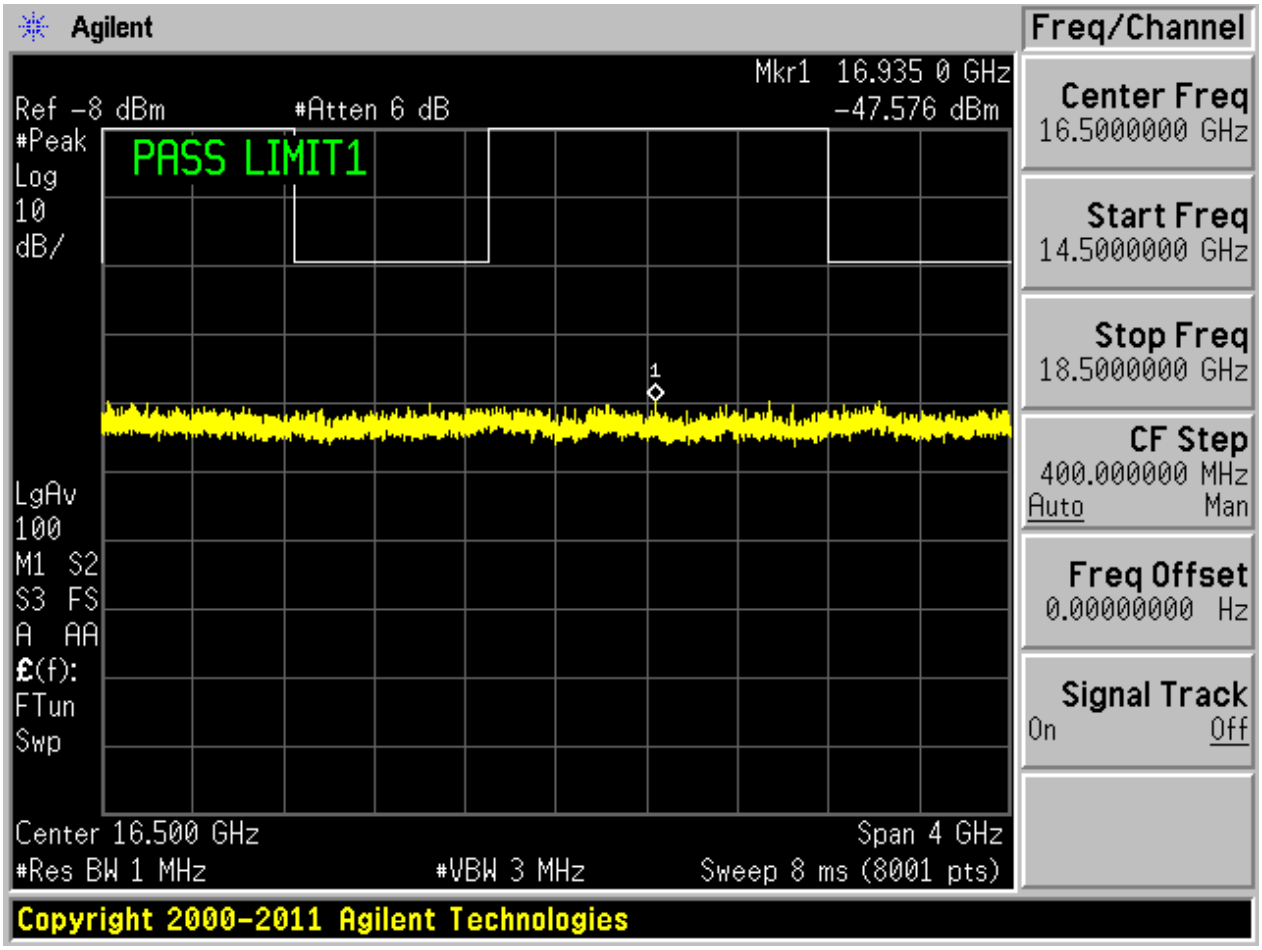

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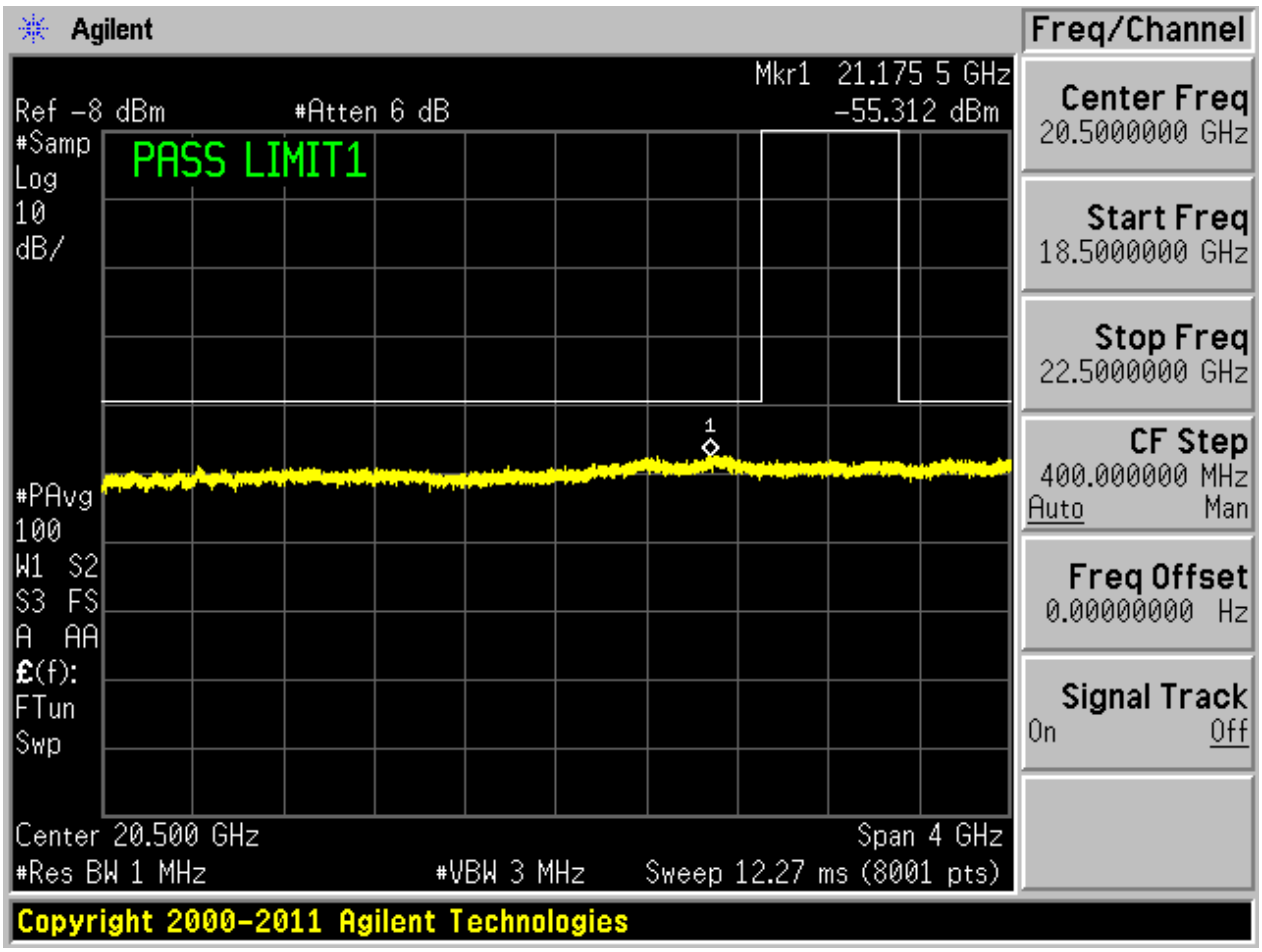

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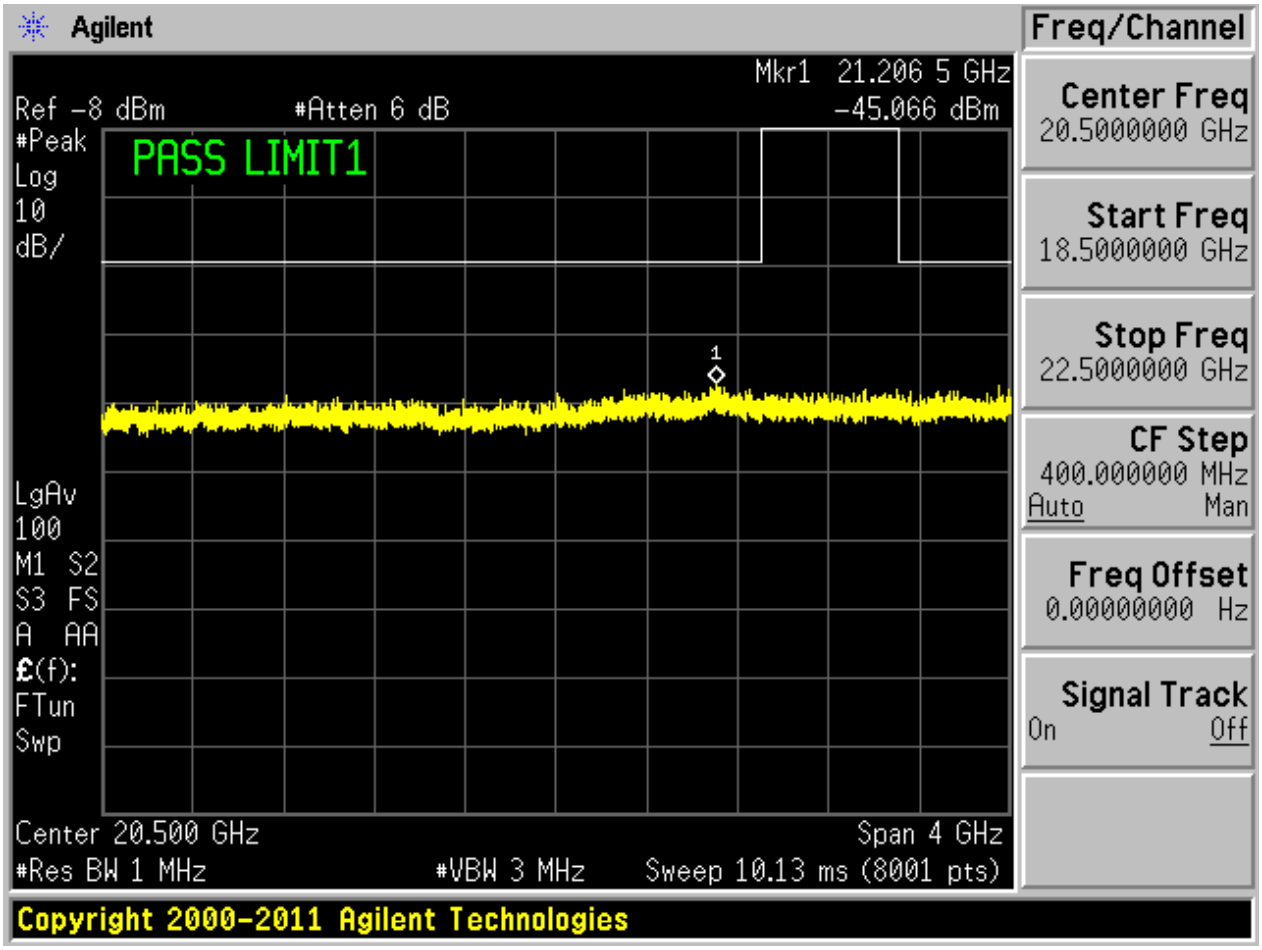

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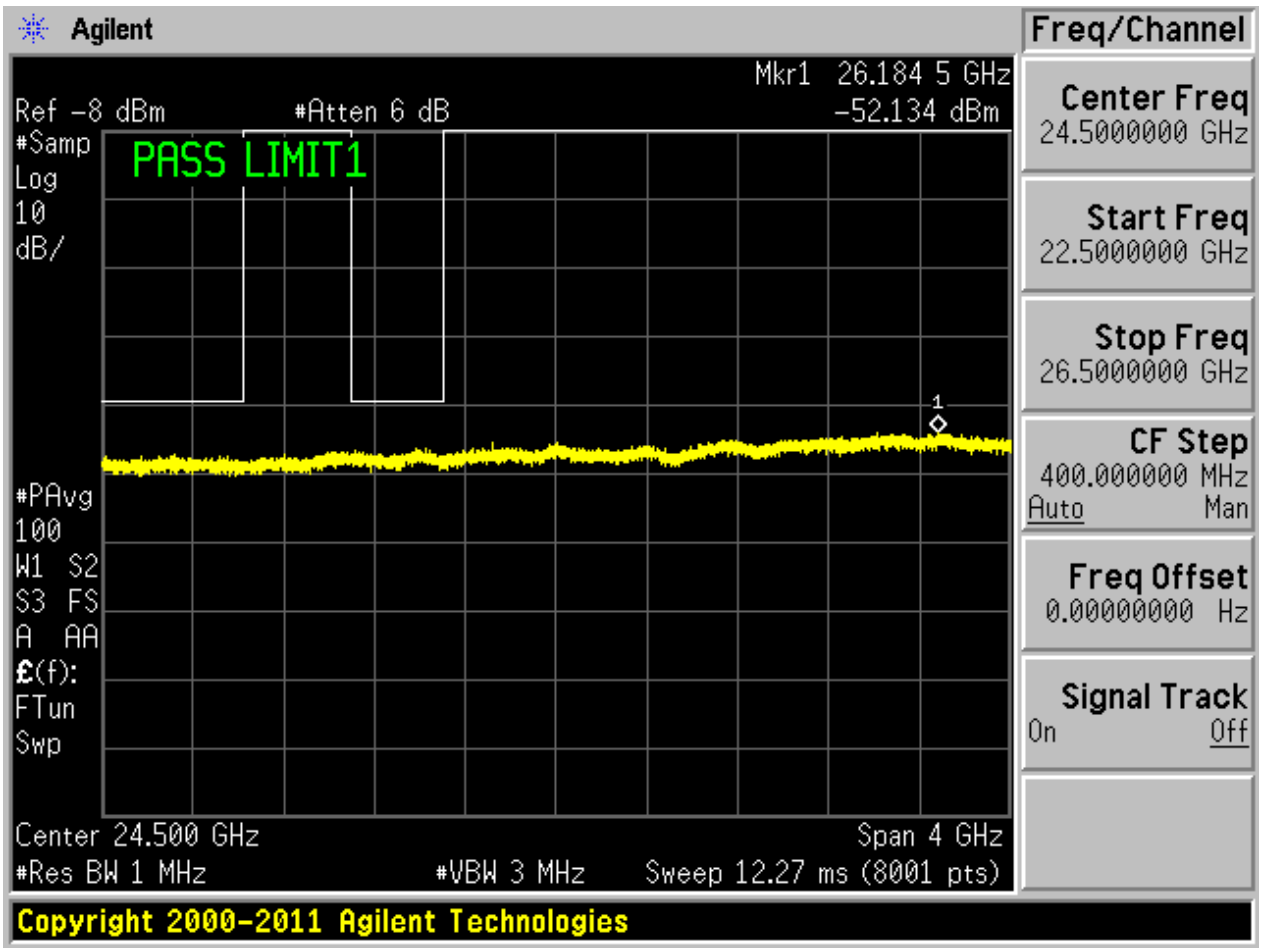

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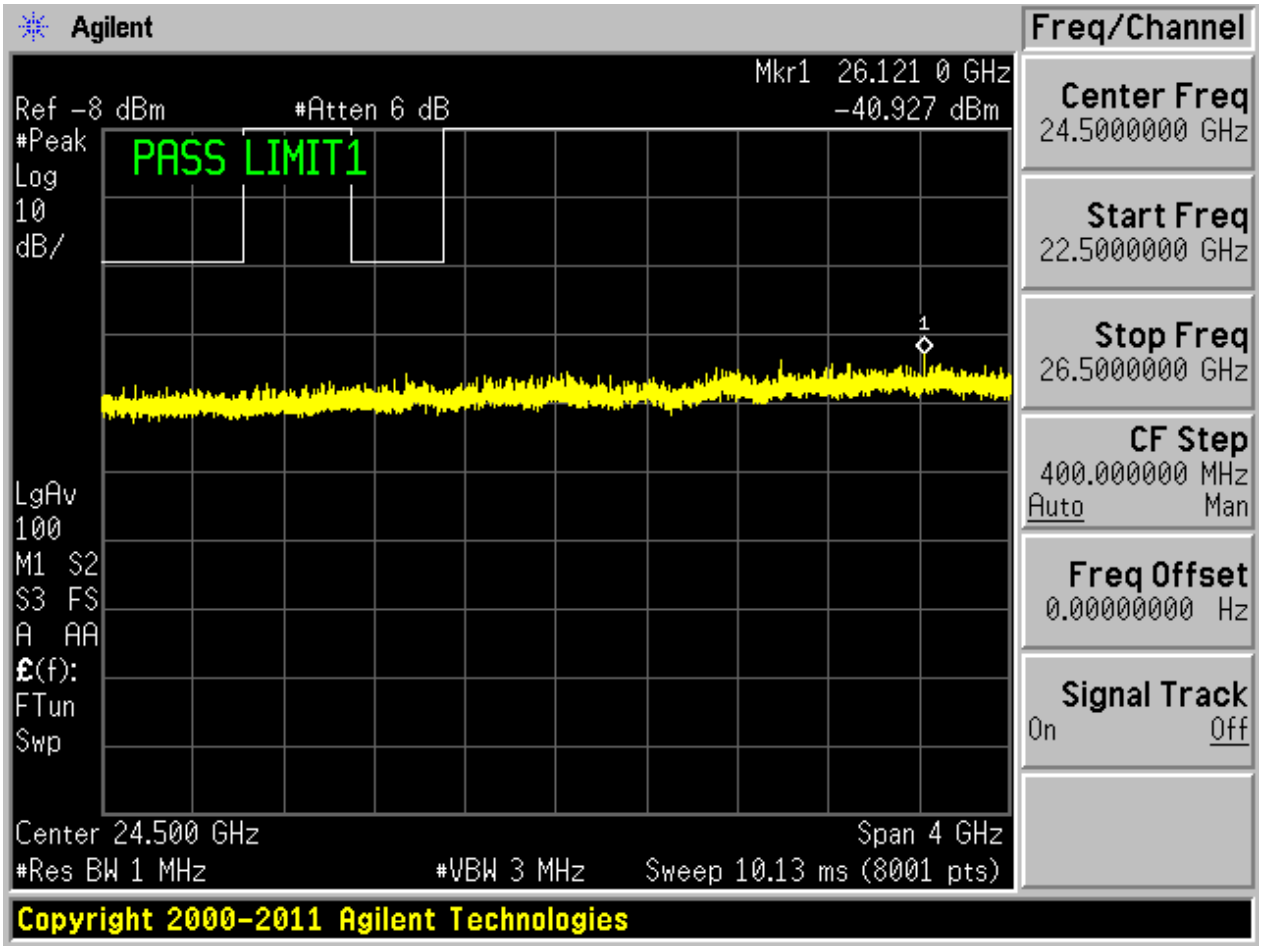

2.5.2 Ant 2 (Trace#2)

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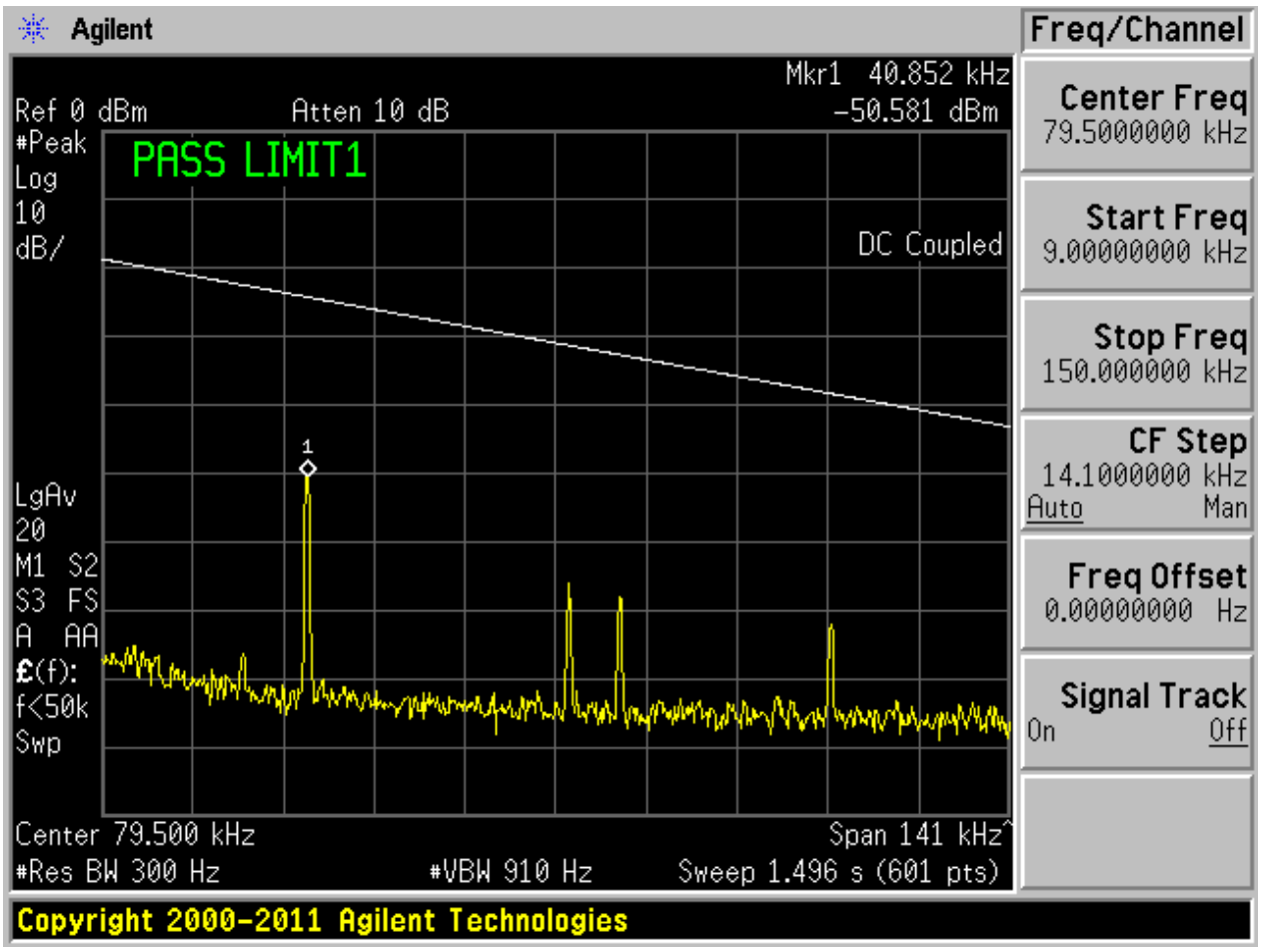

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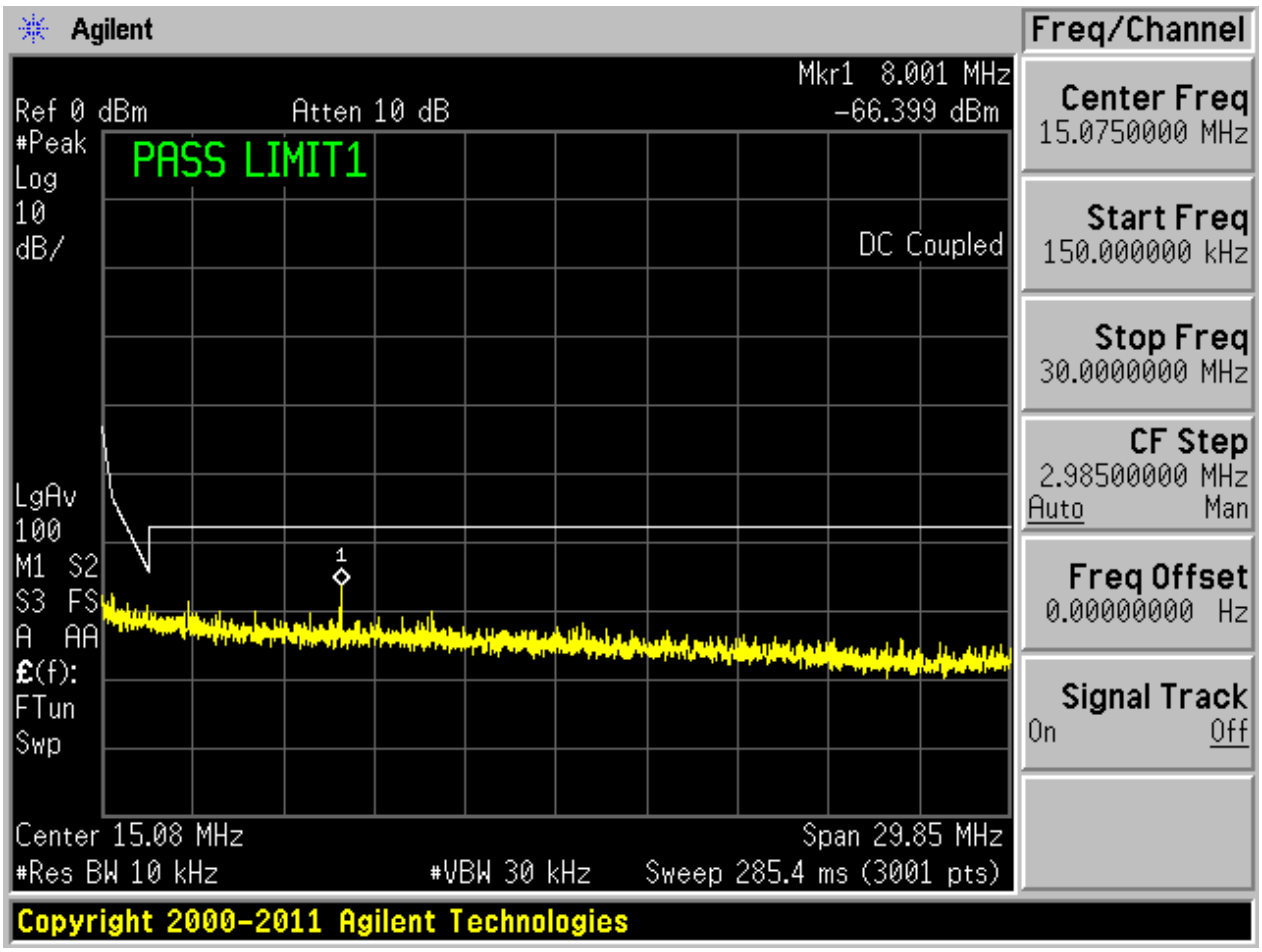

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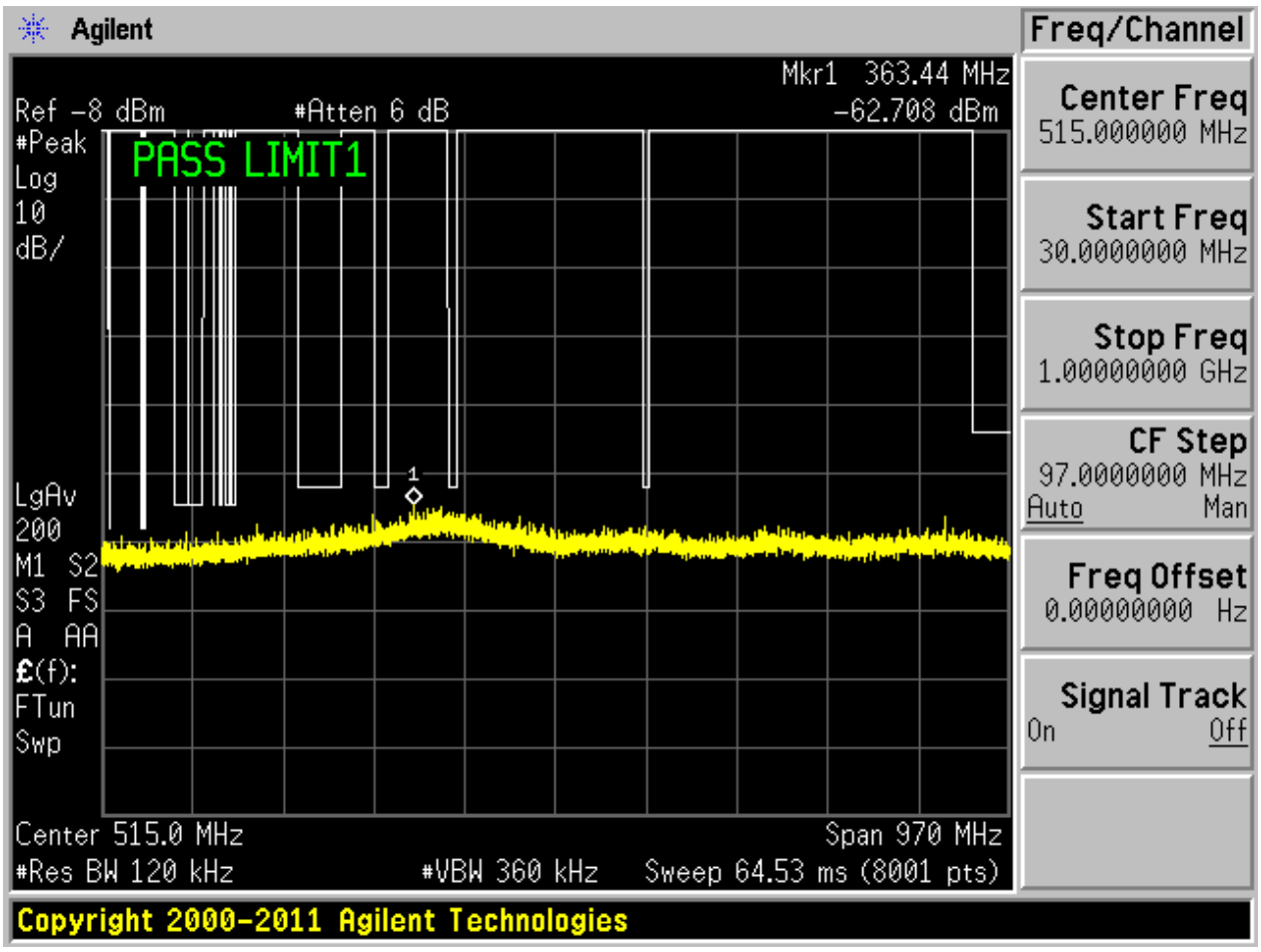

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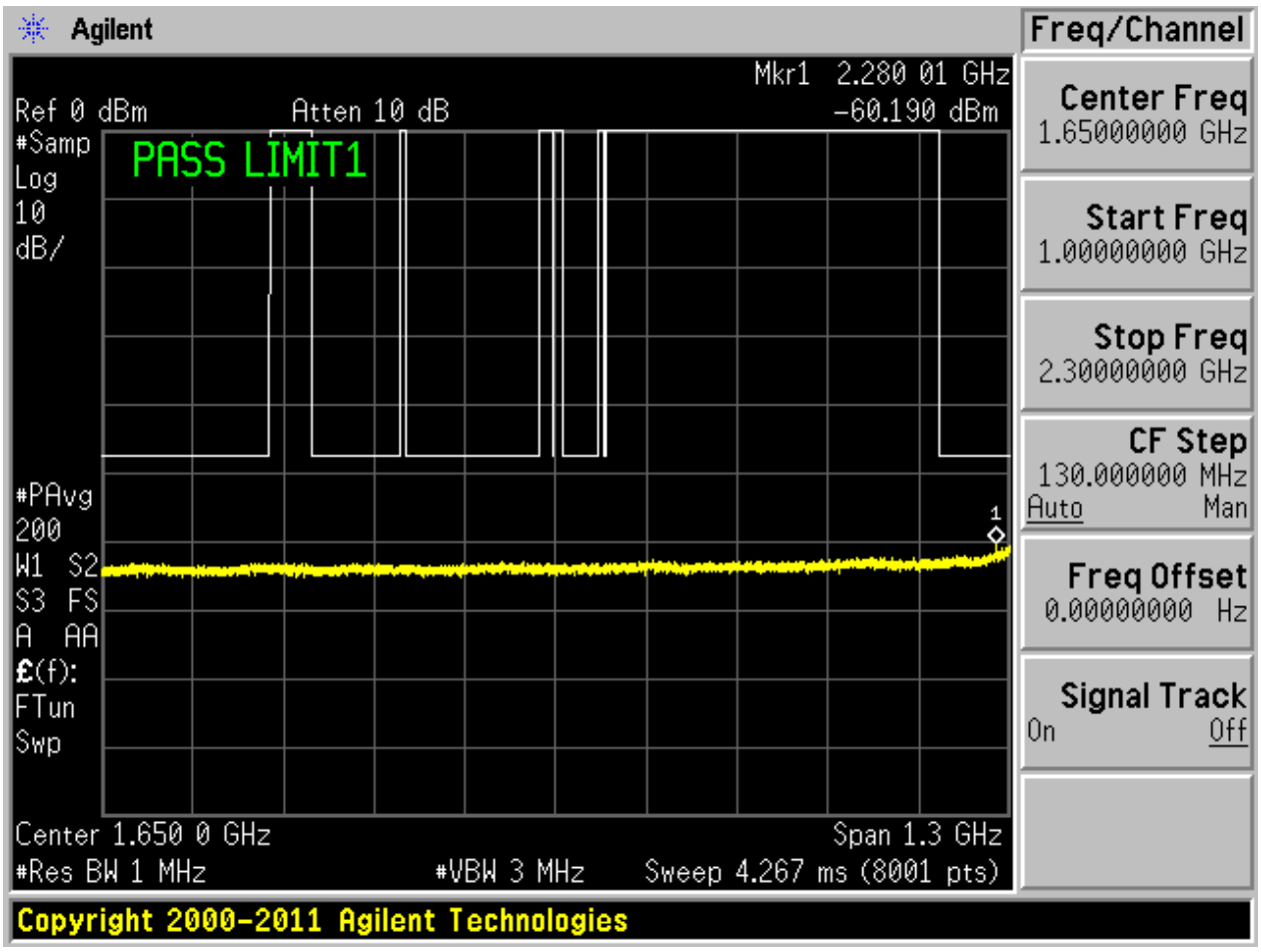

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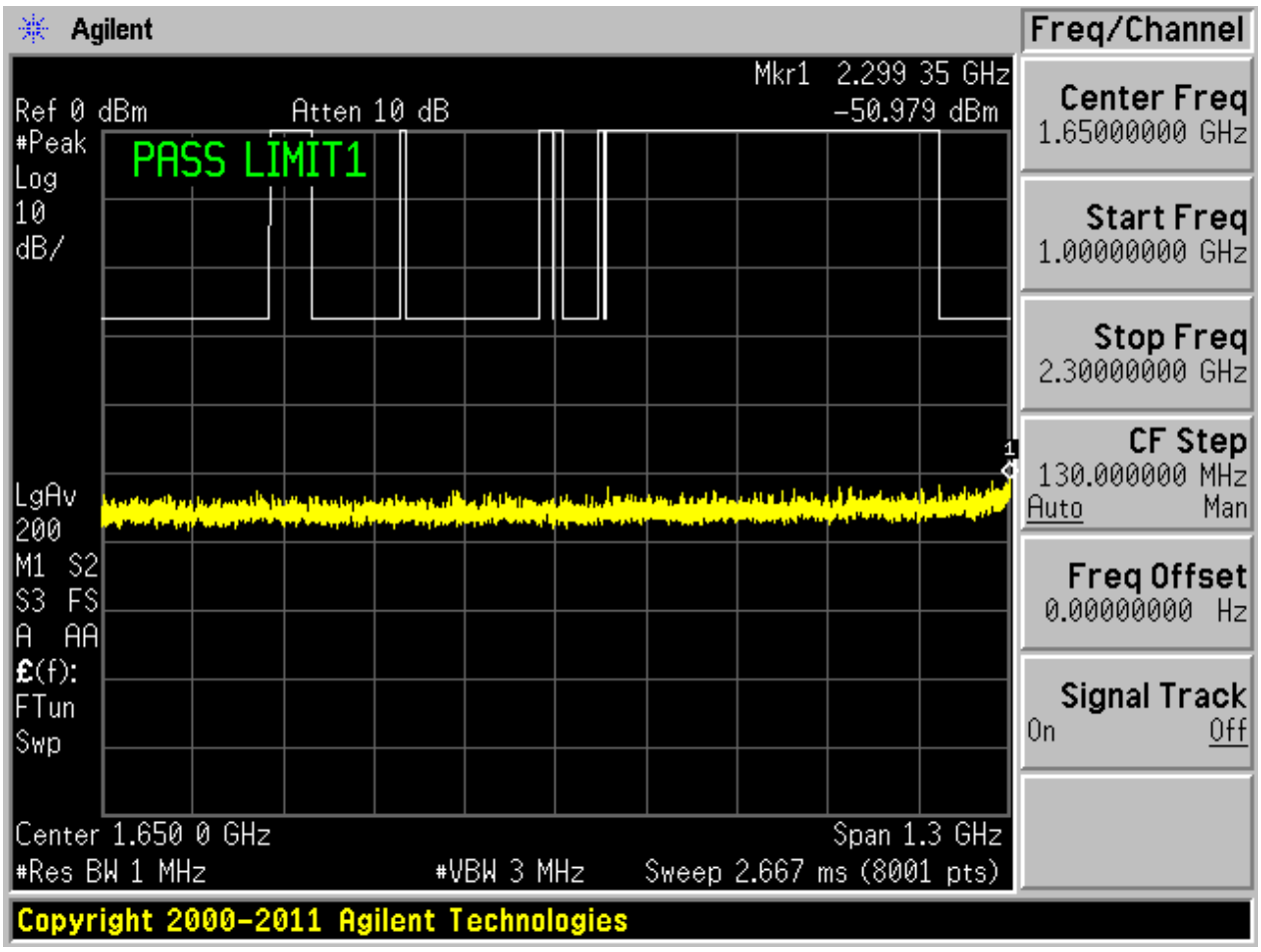

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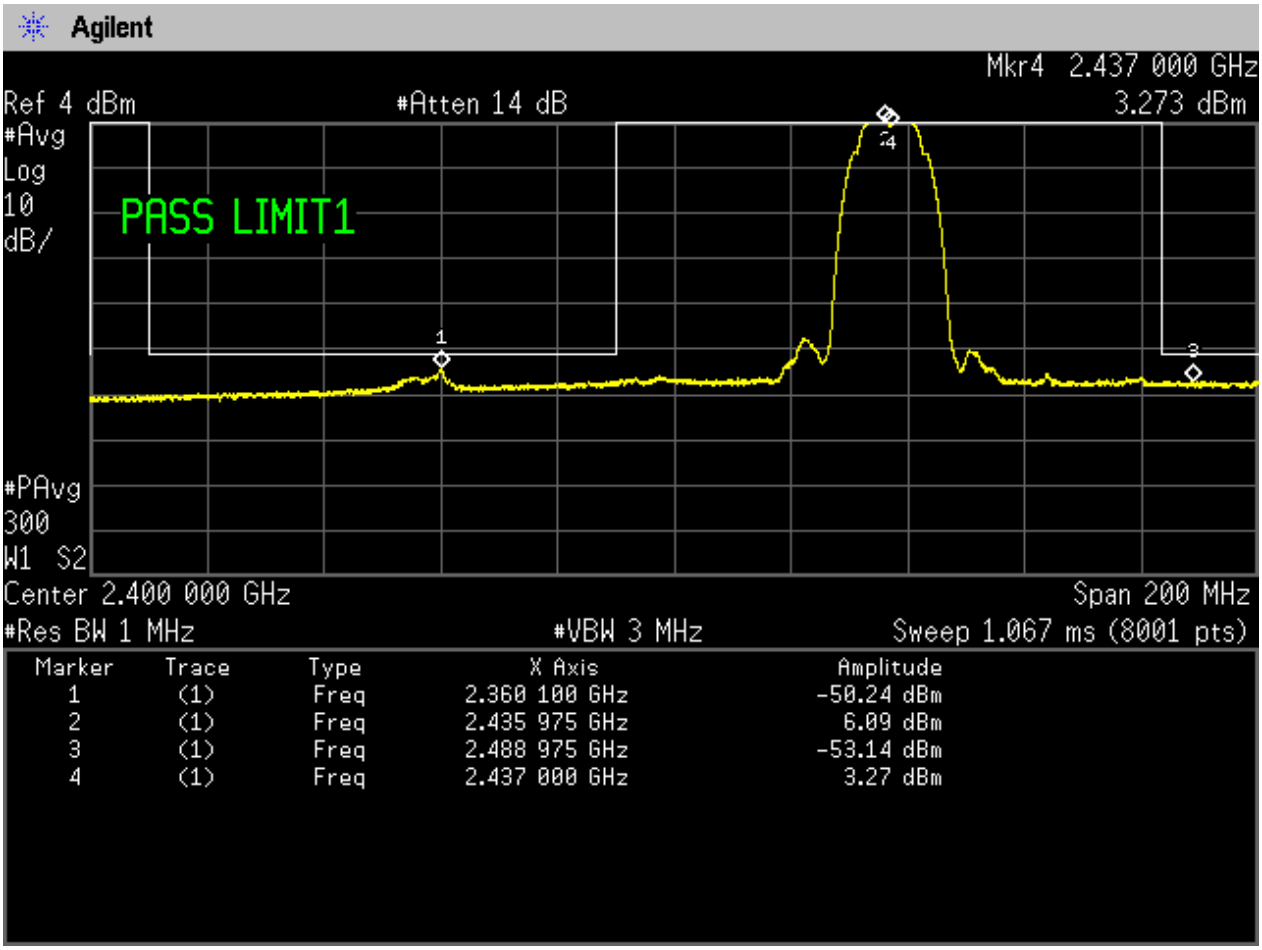

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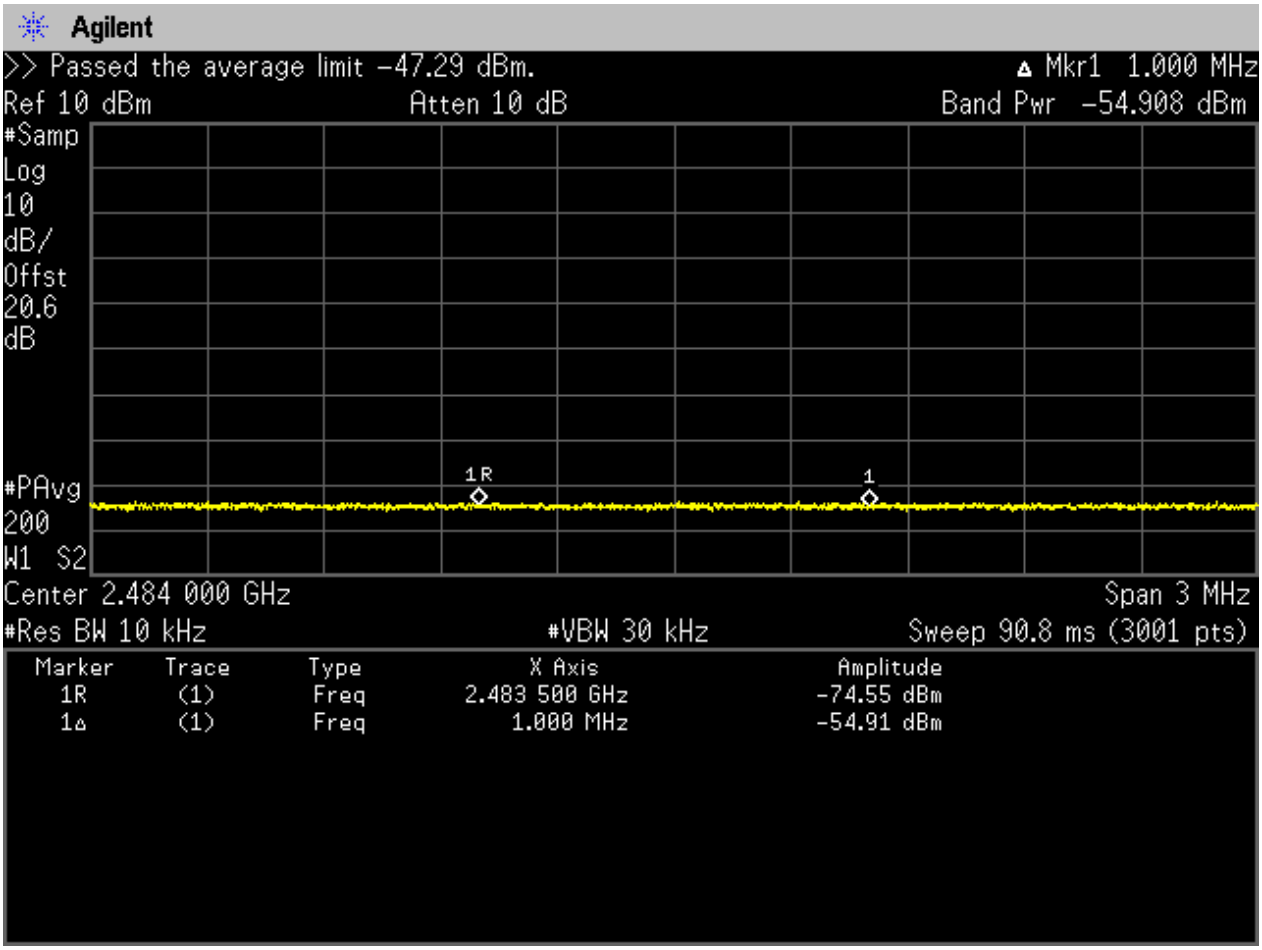

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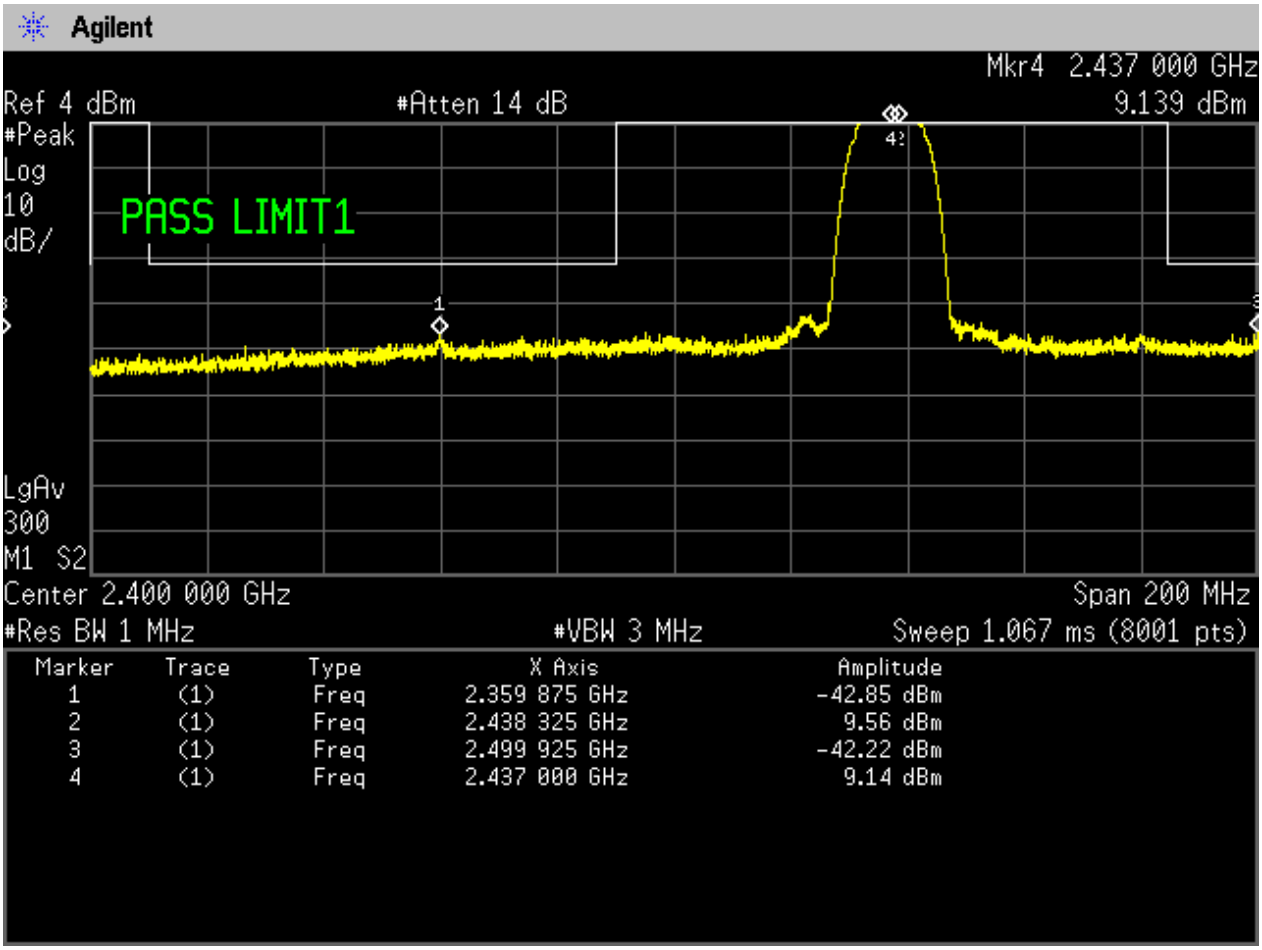

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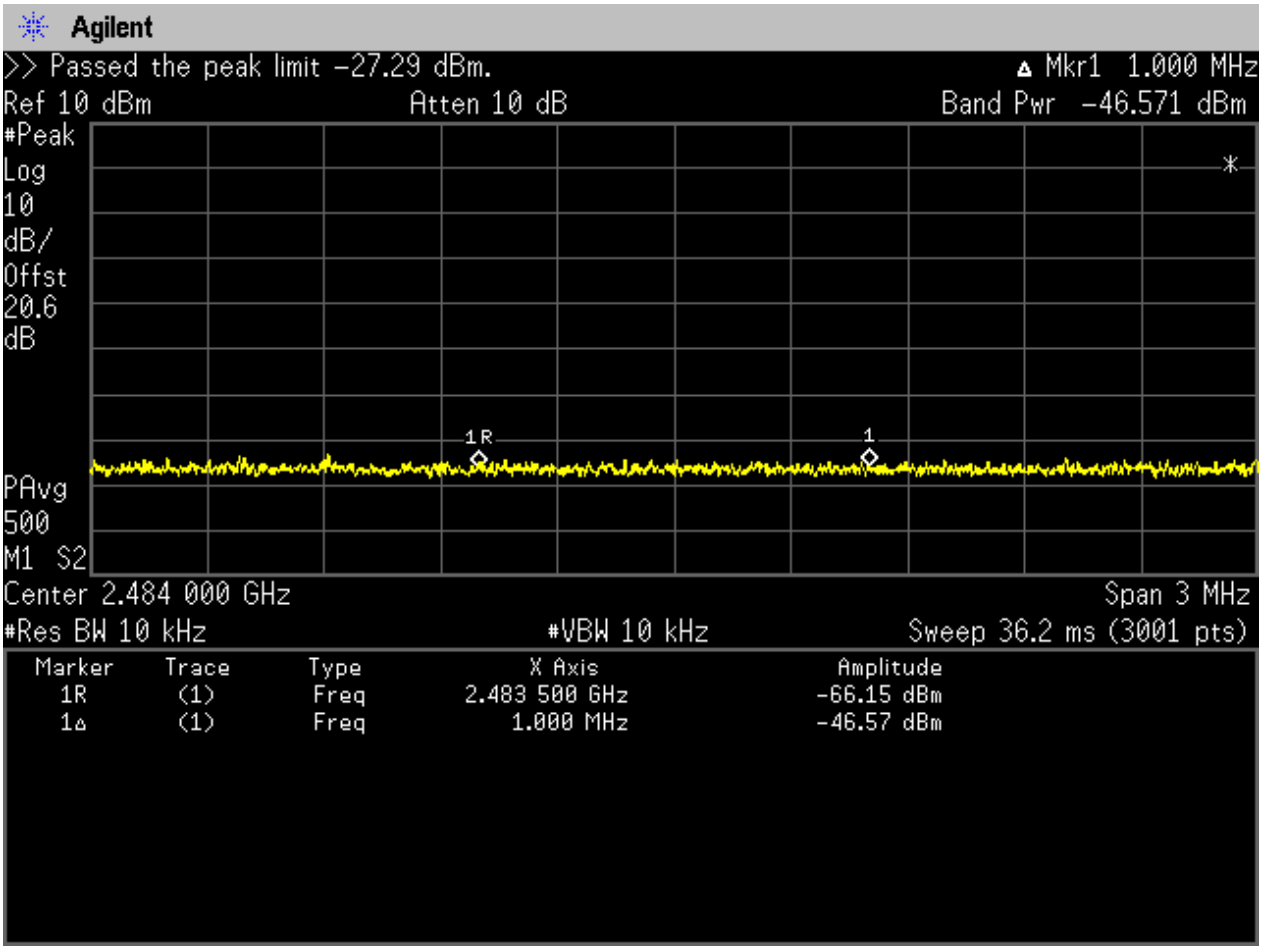

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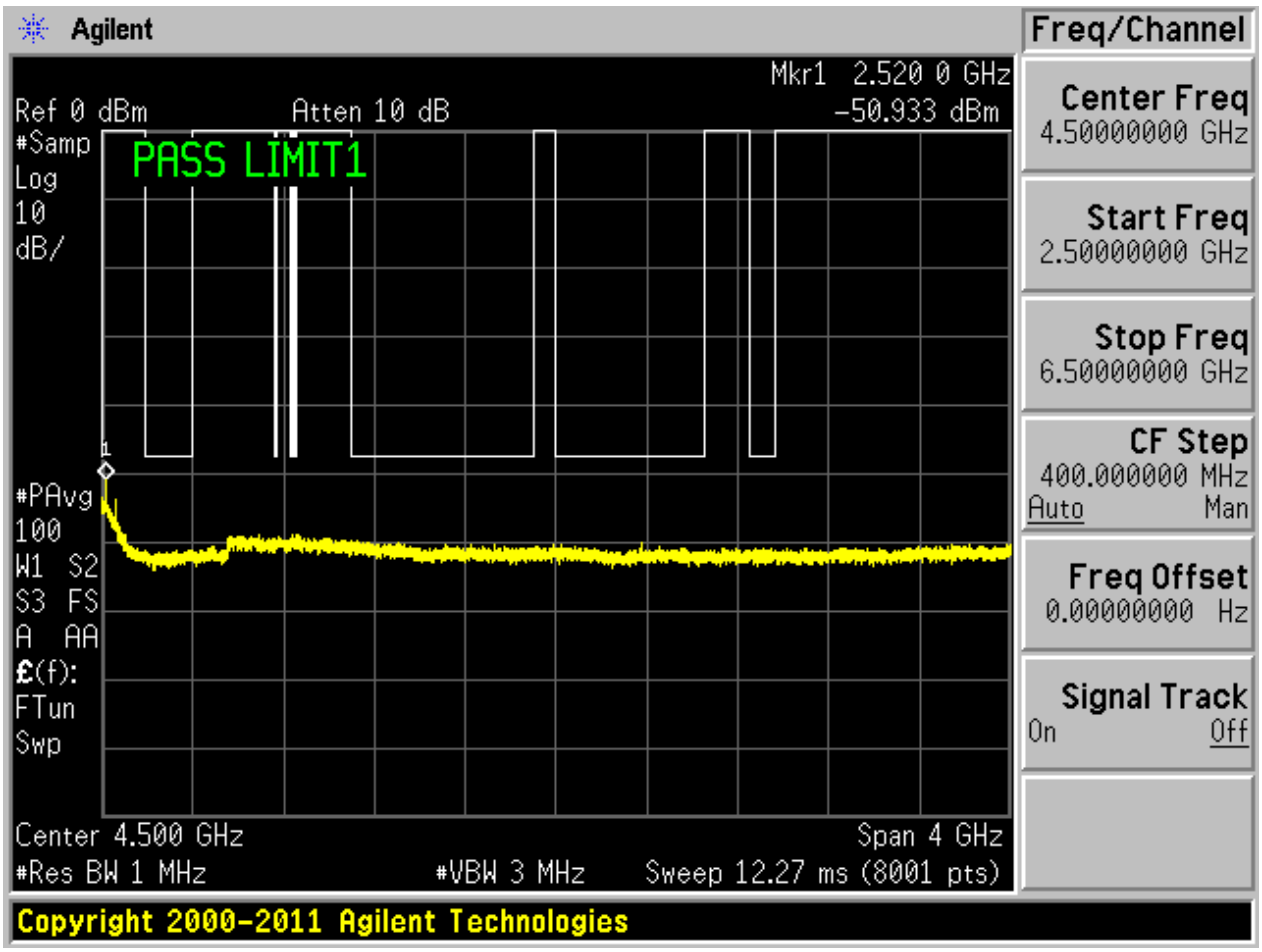

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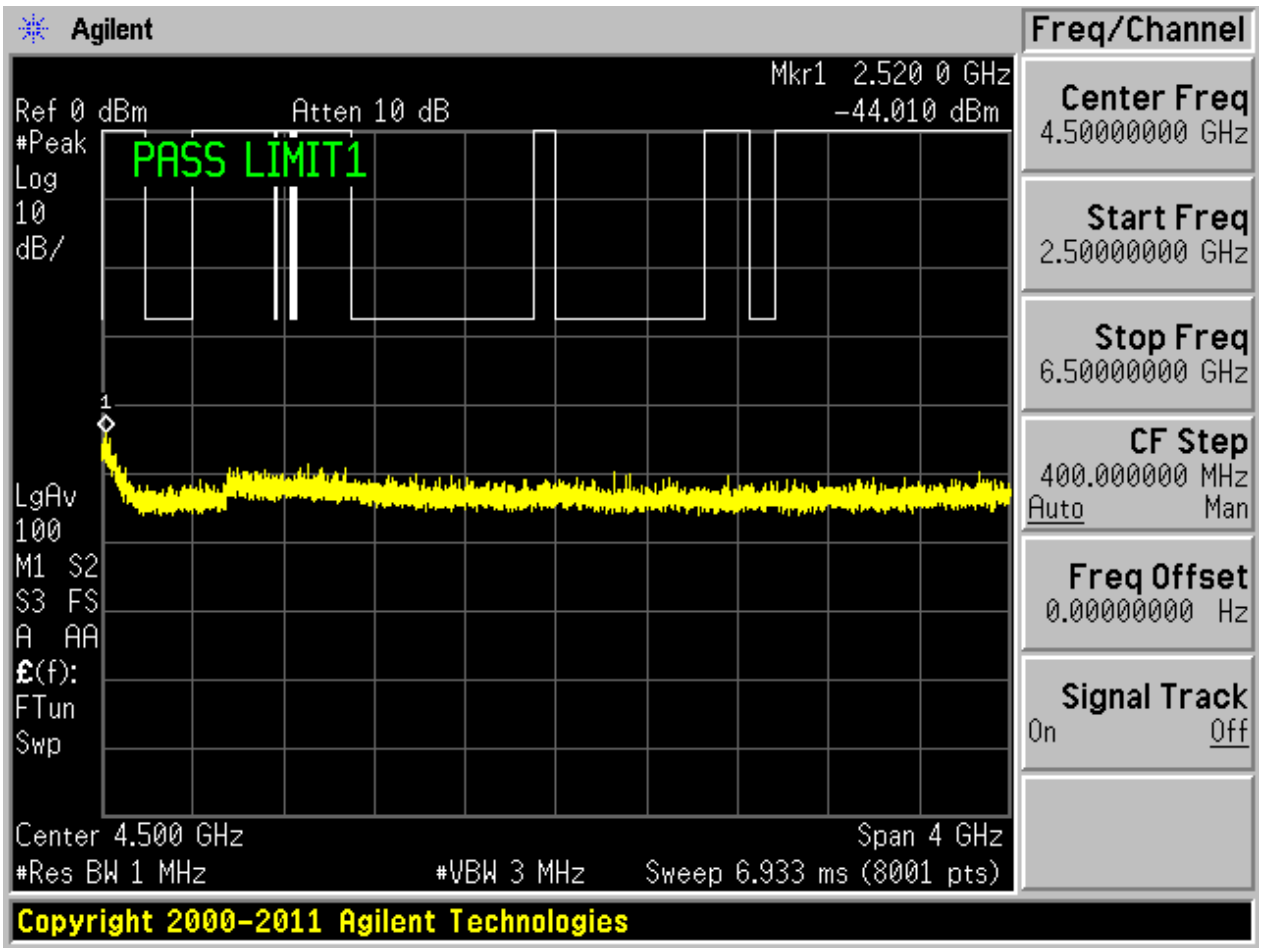

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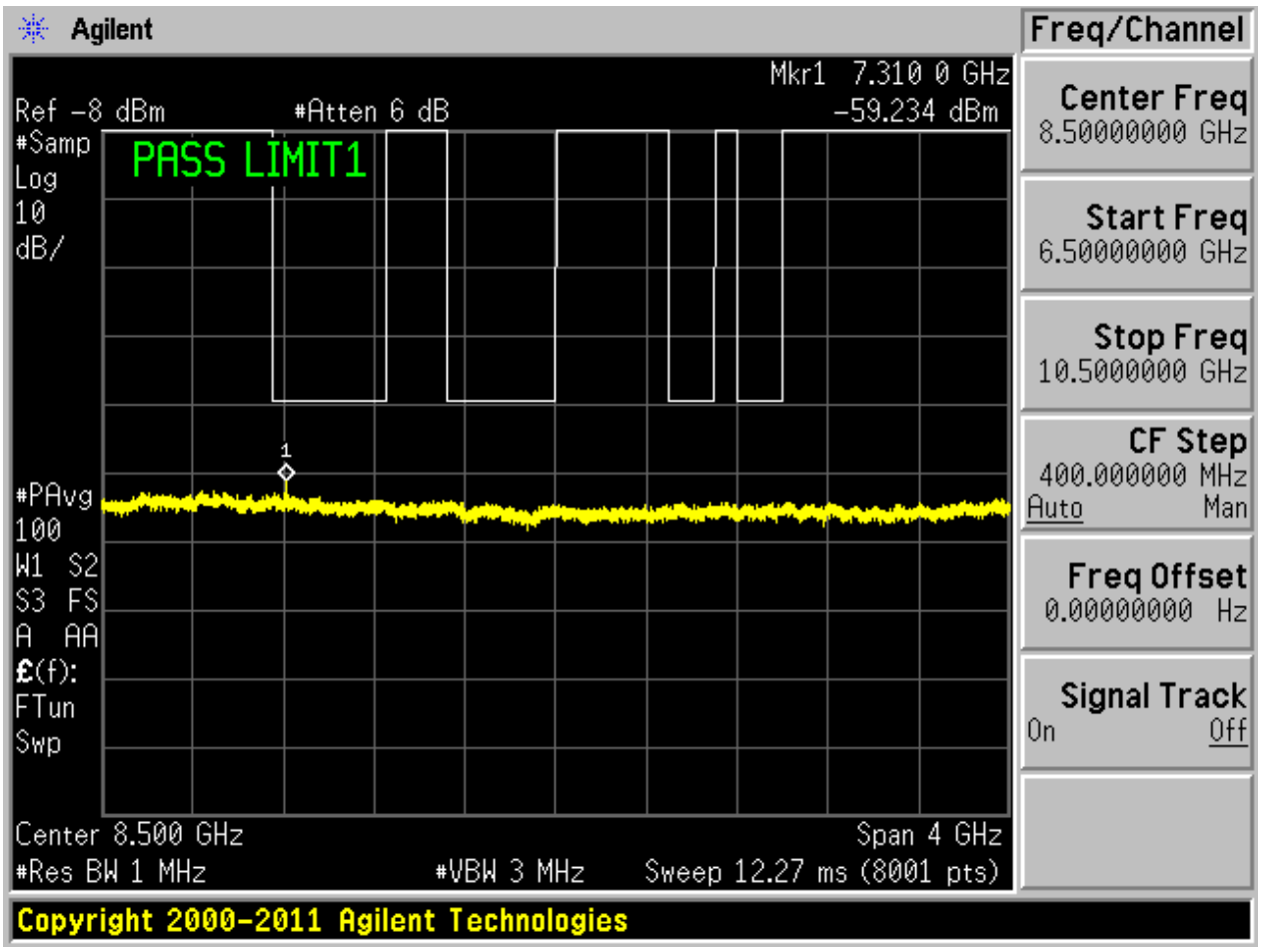

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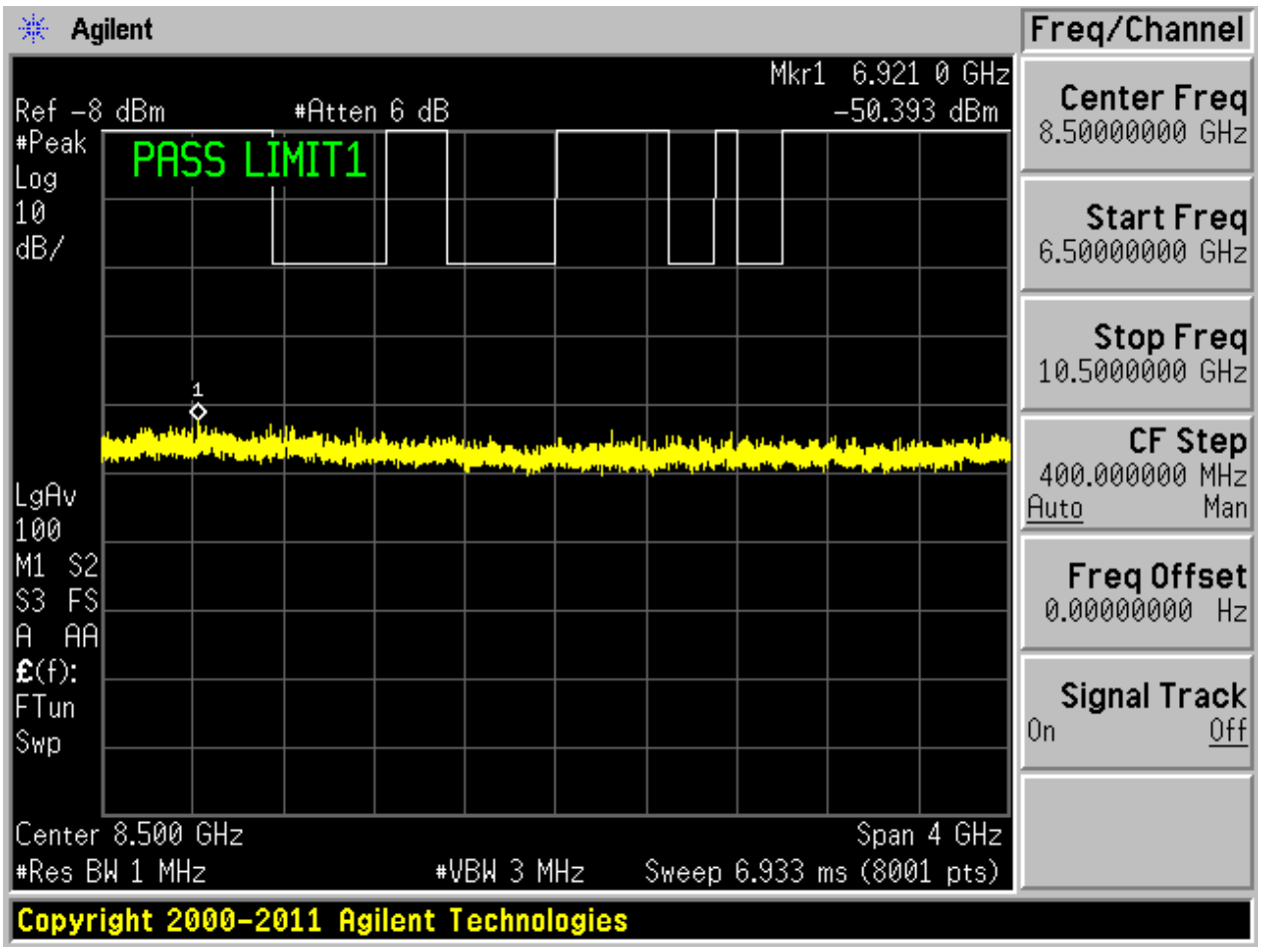

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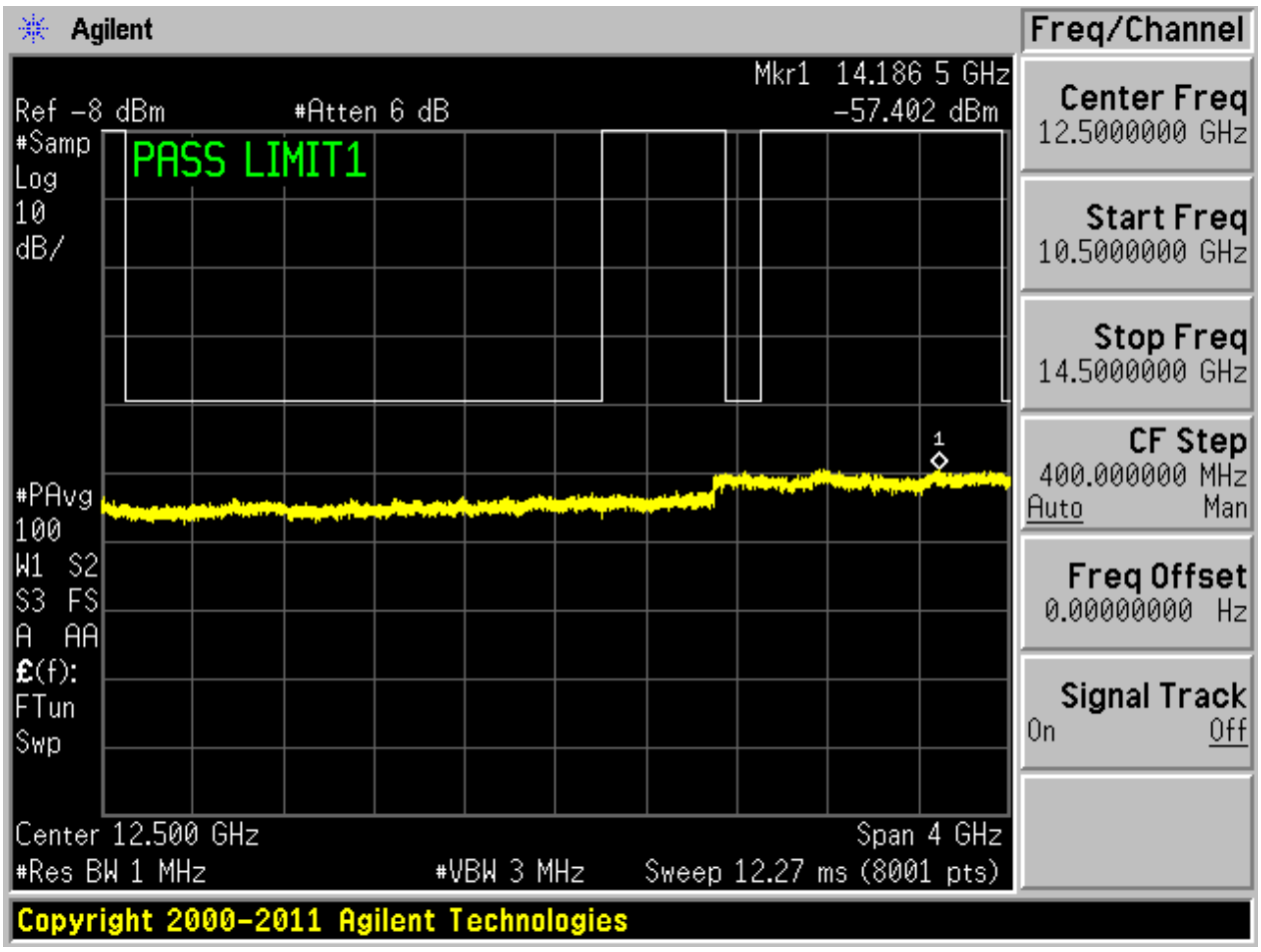

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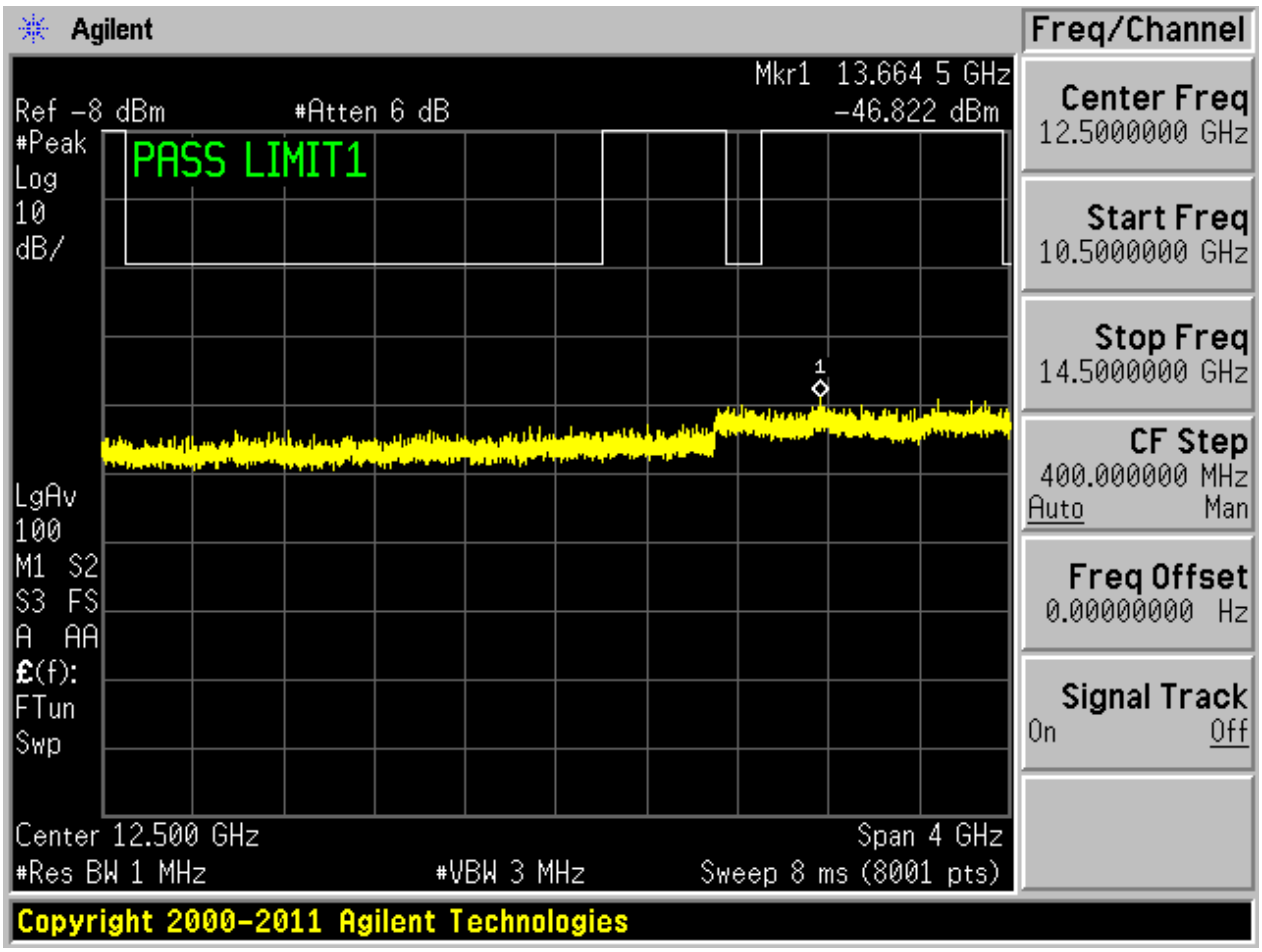

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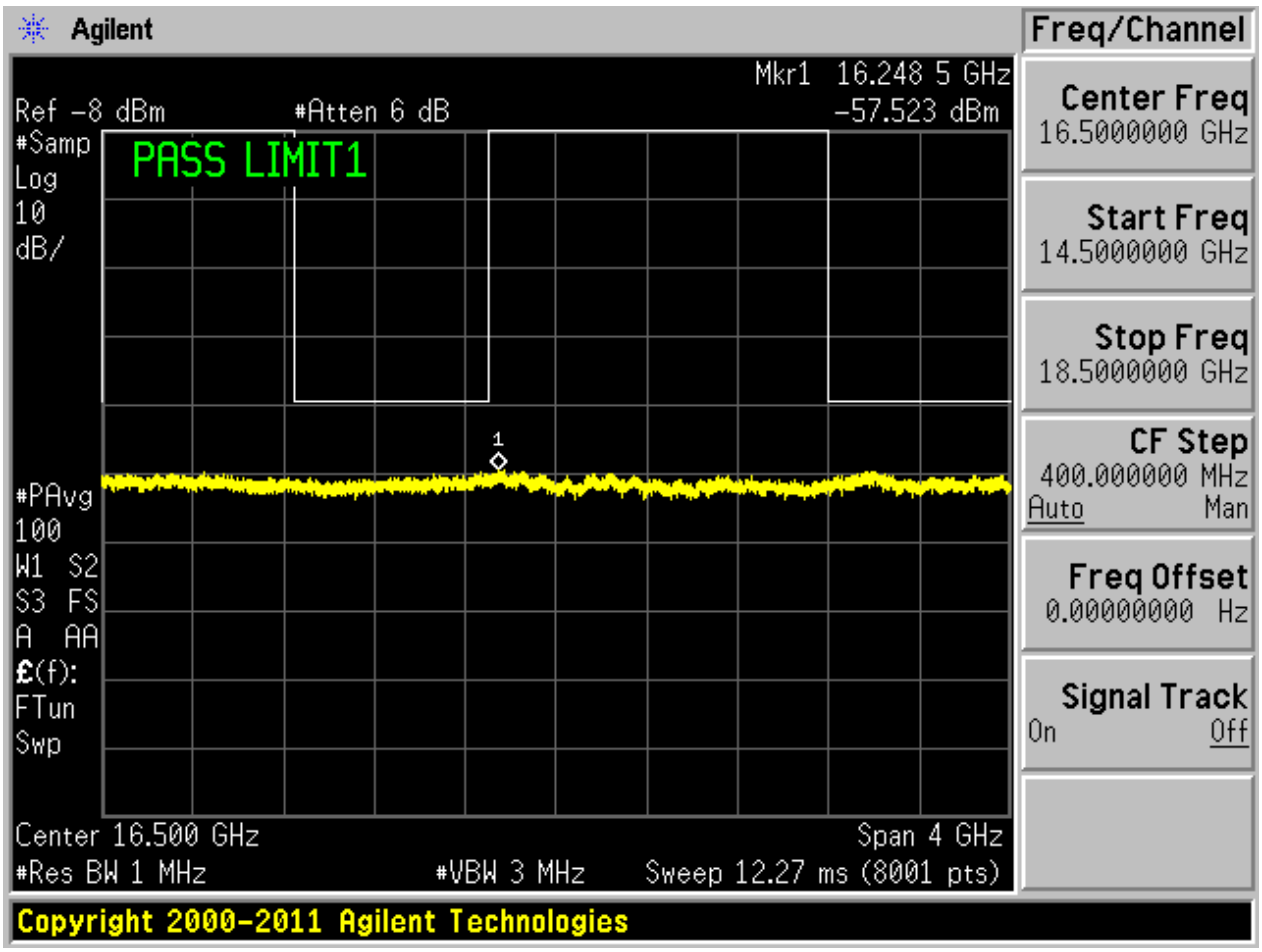

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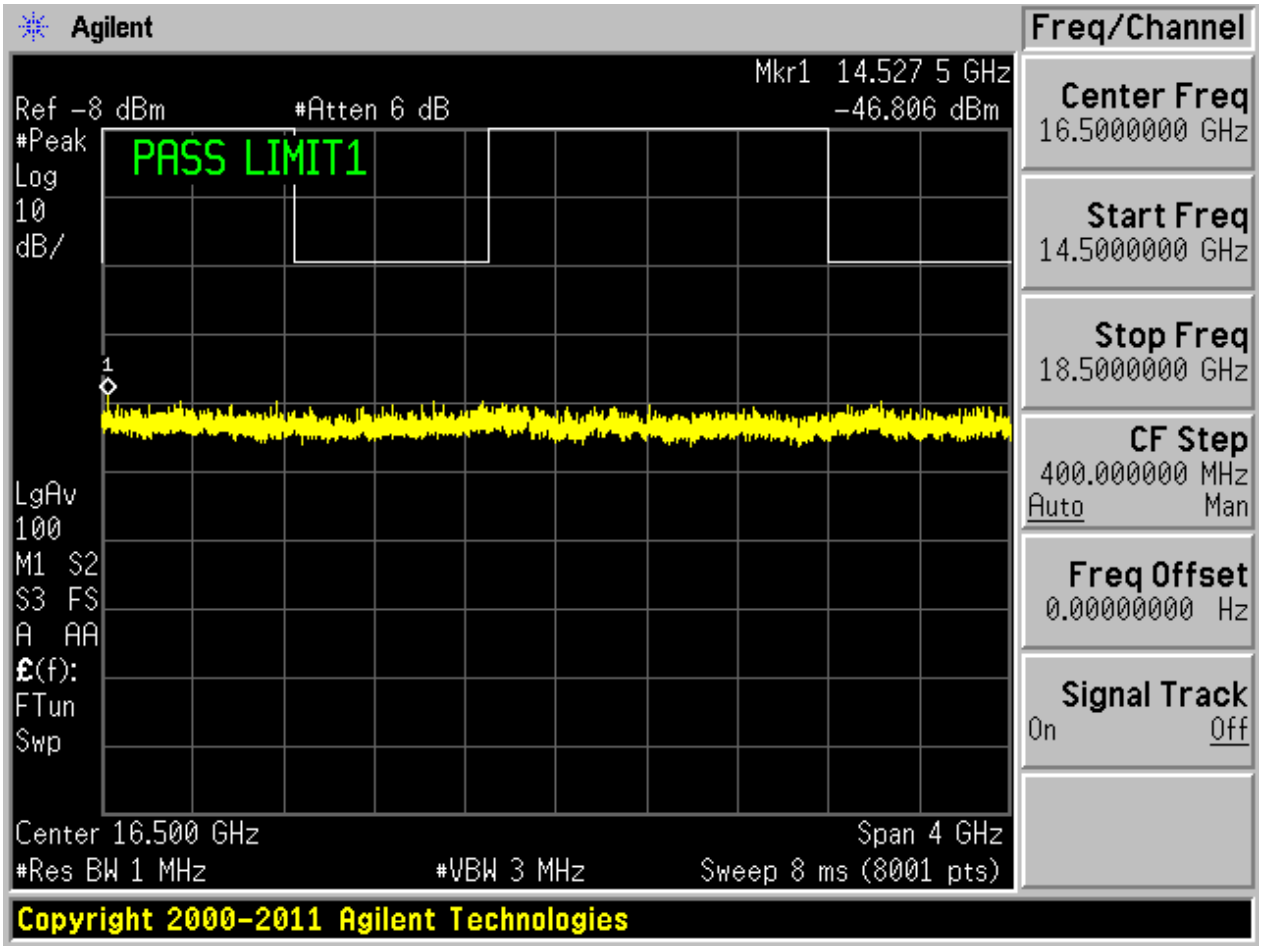

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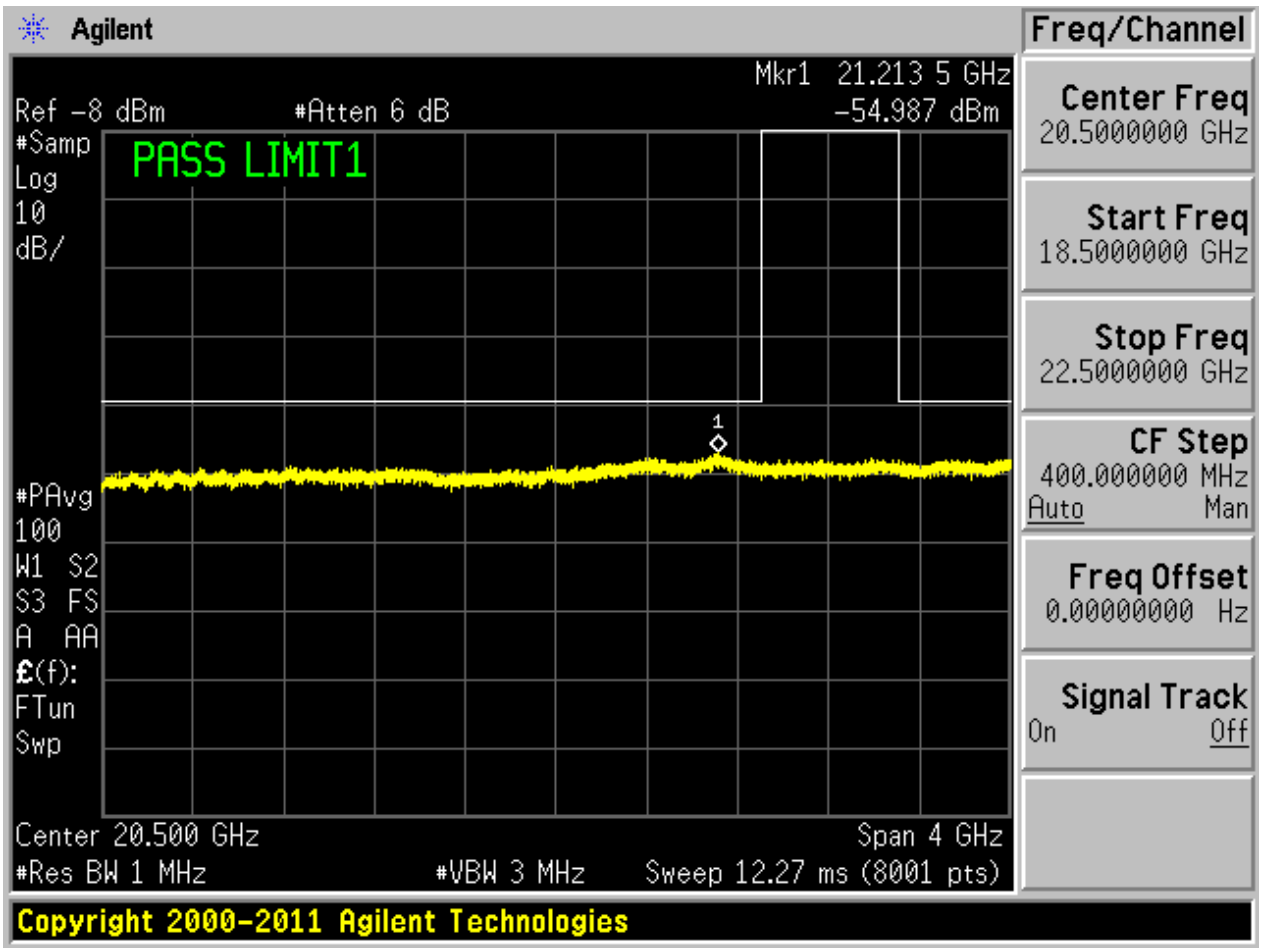

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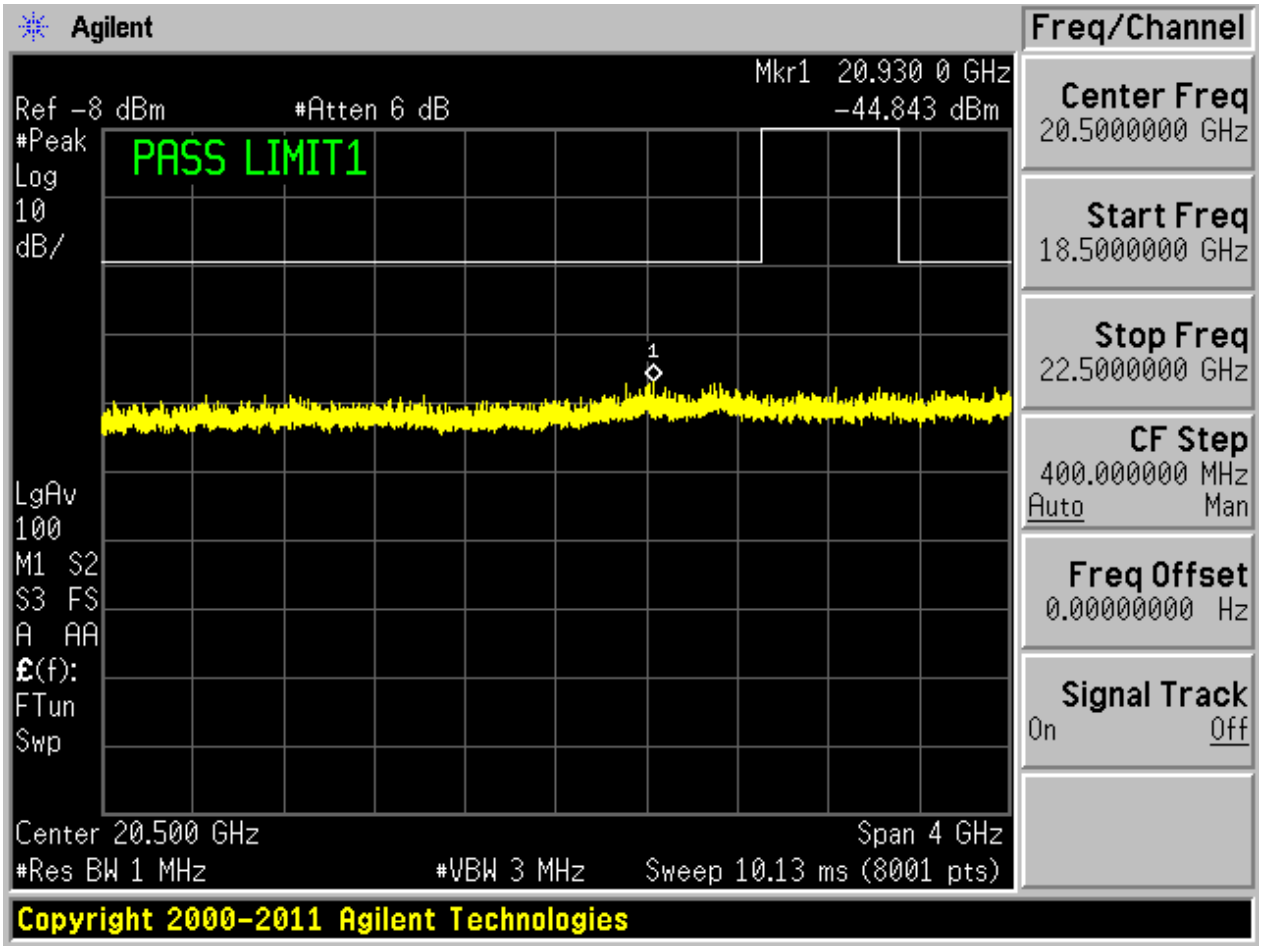

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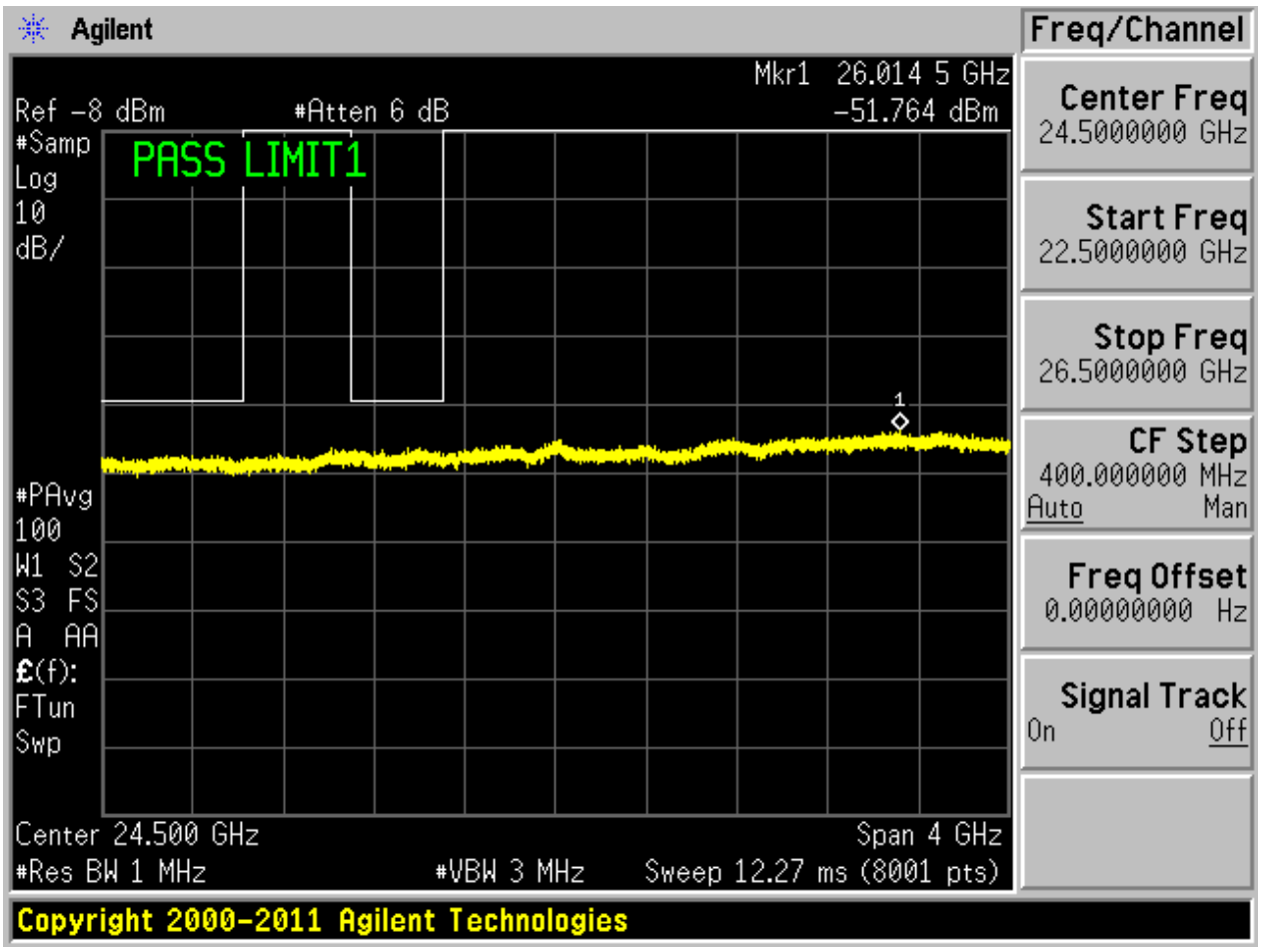

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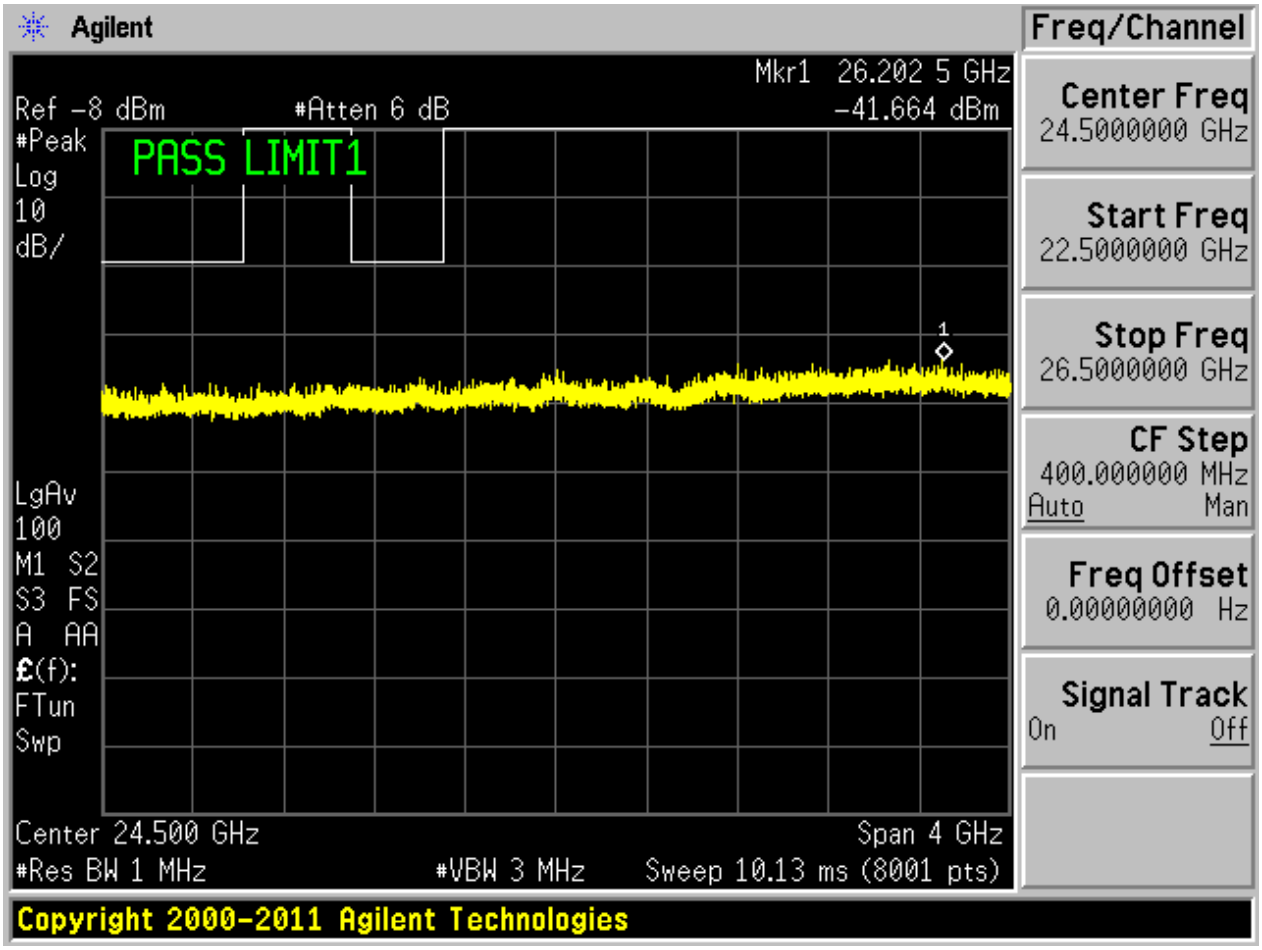

2.5.3 Trace#sum (if needed for final judgment)

(Not applicable)

2.6 11Bd/1_T@1+2

2.6.1 Ant 1 (Trace#1)

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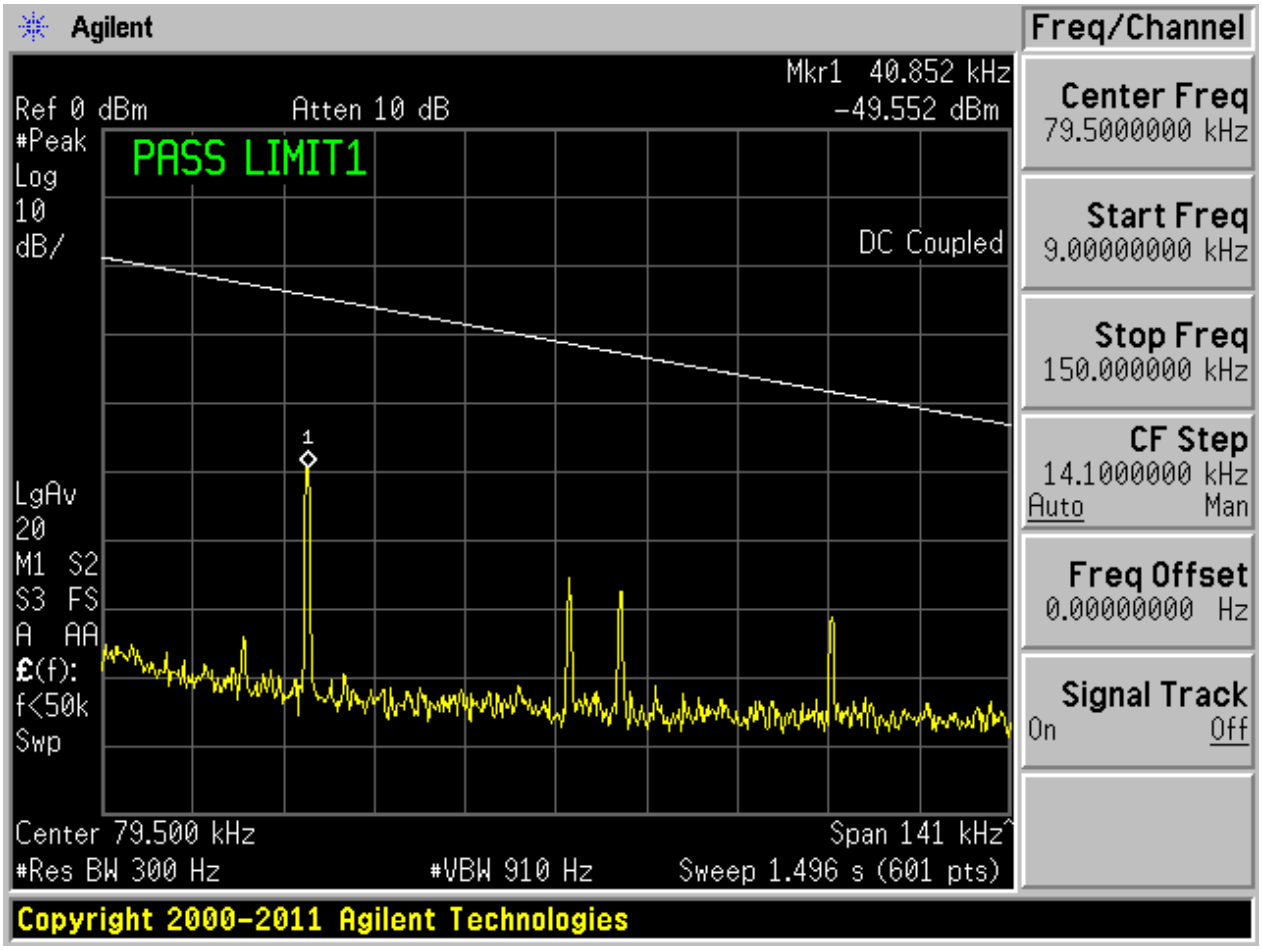

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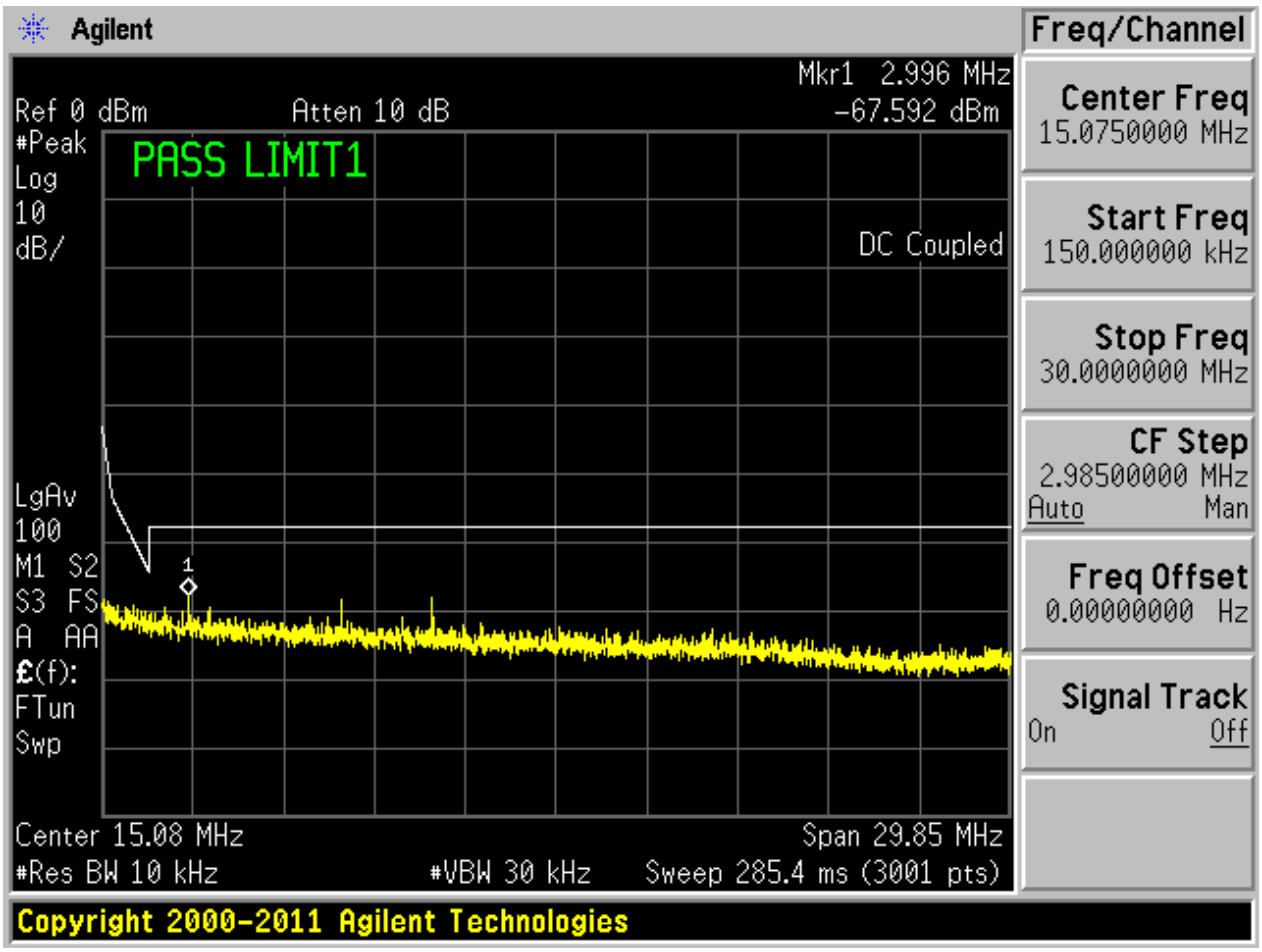

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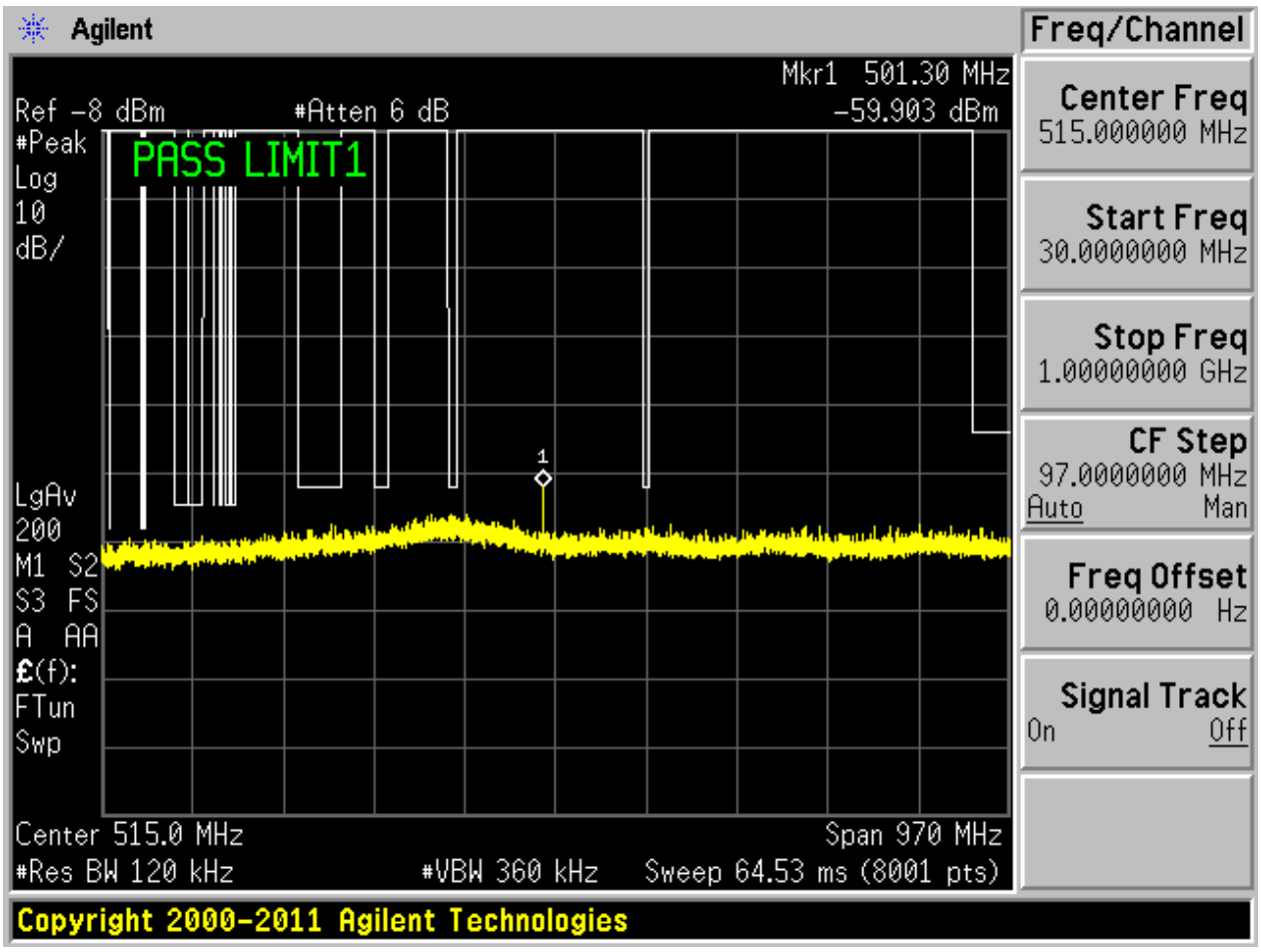

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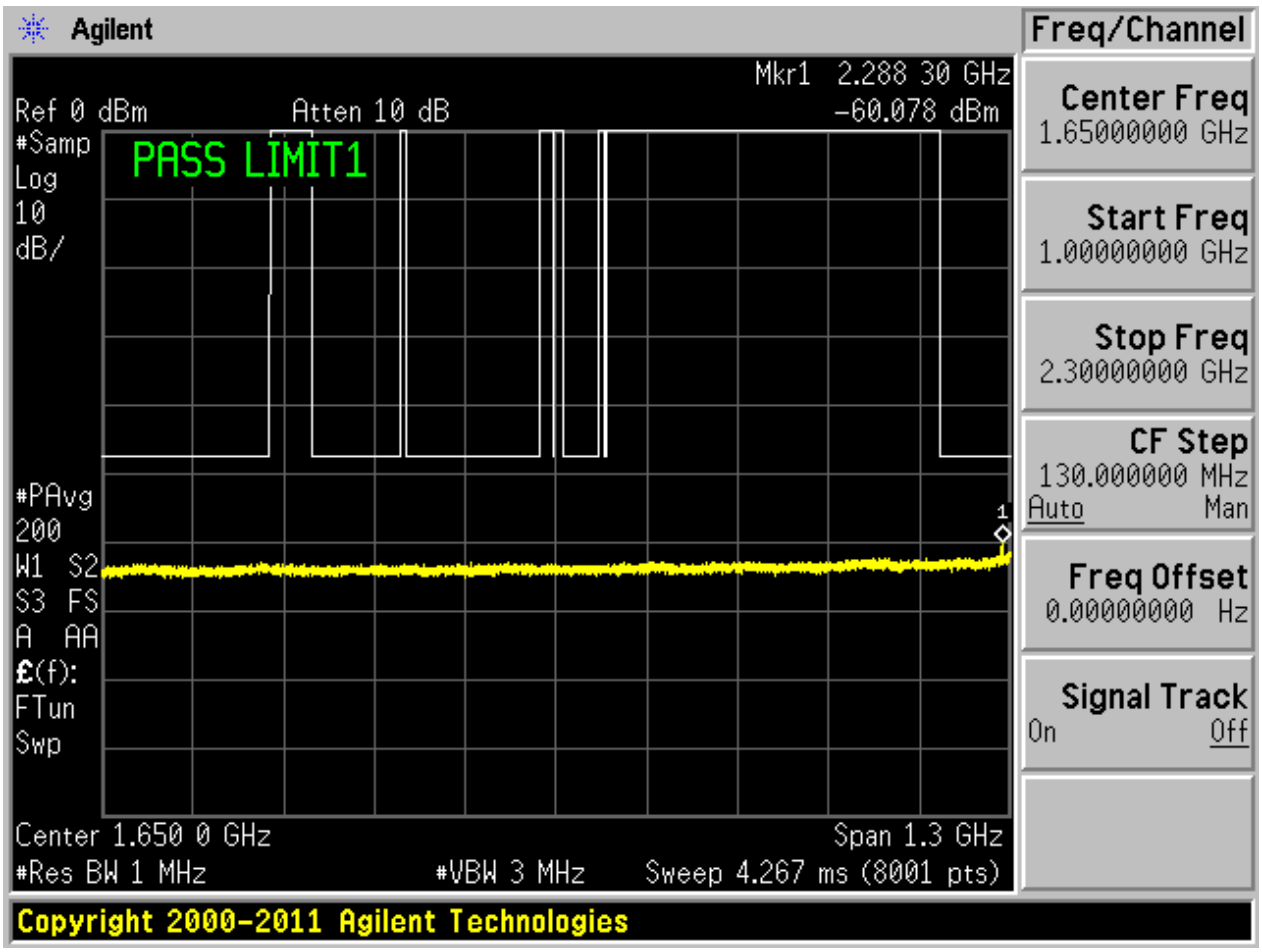

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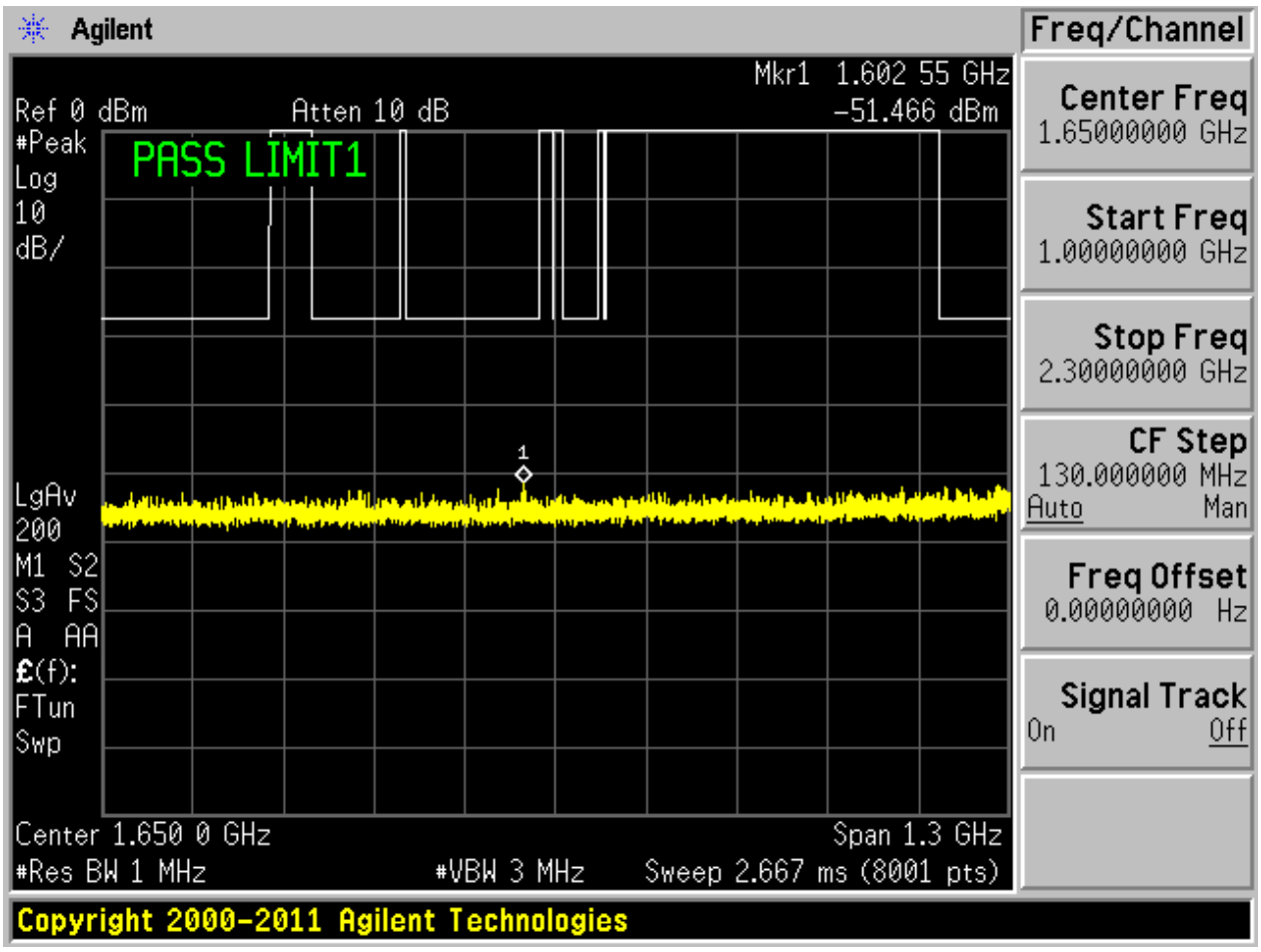

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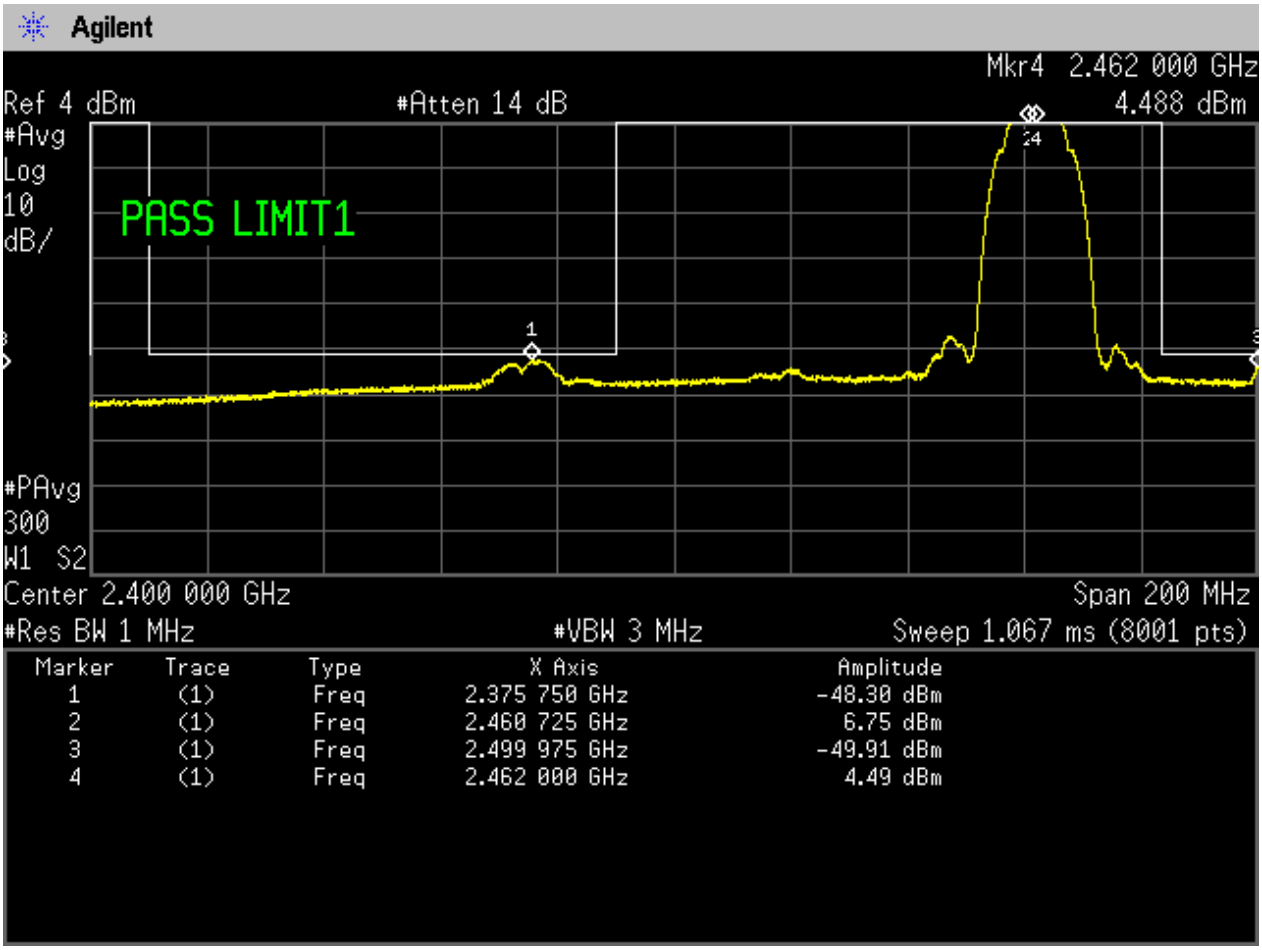

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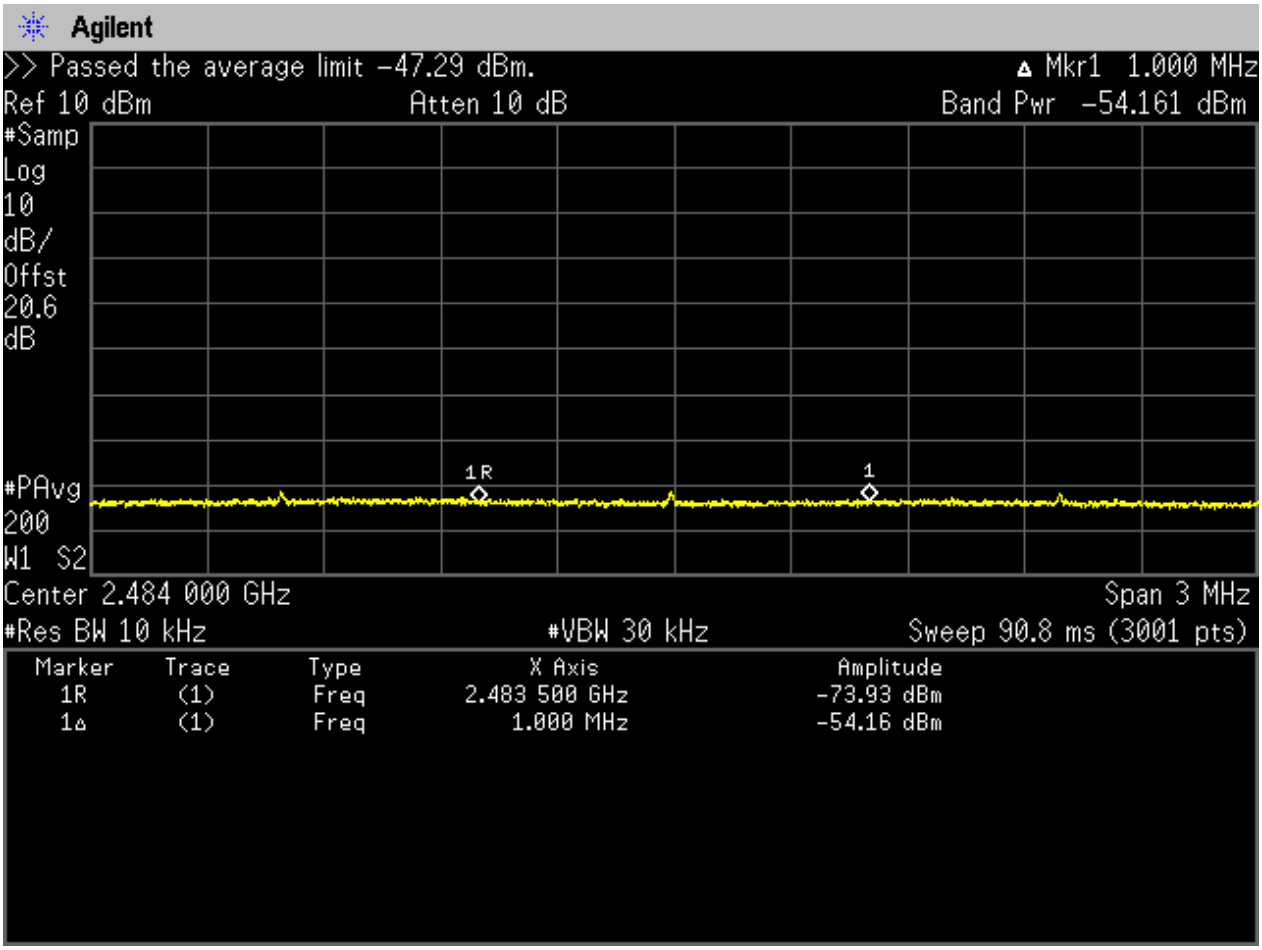

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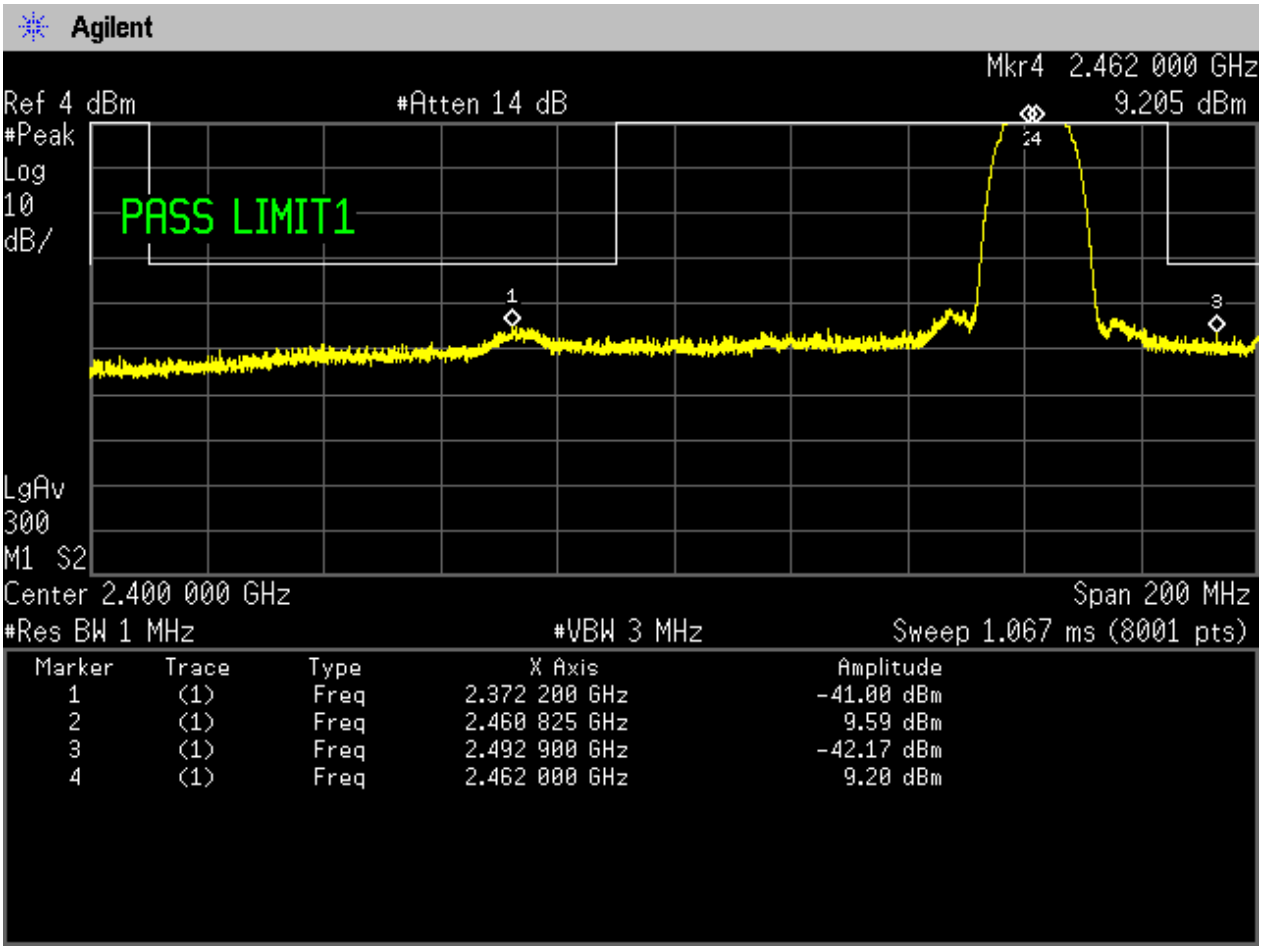

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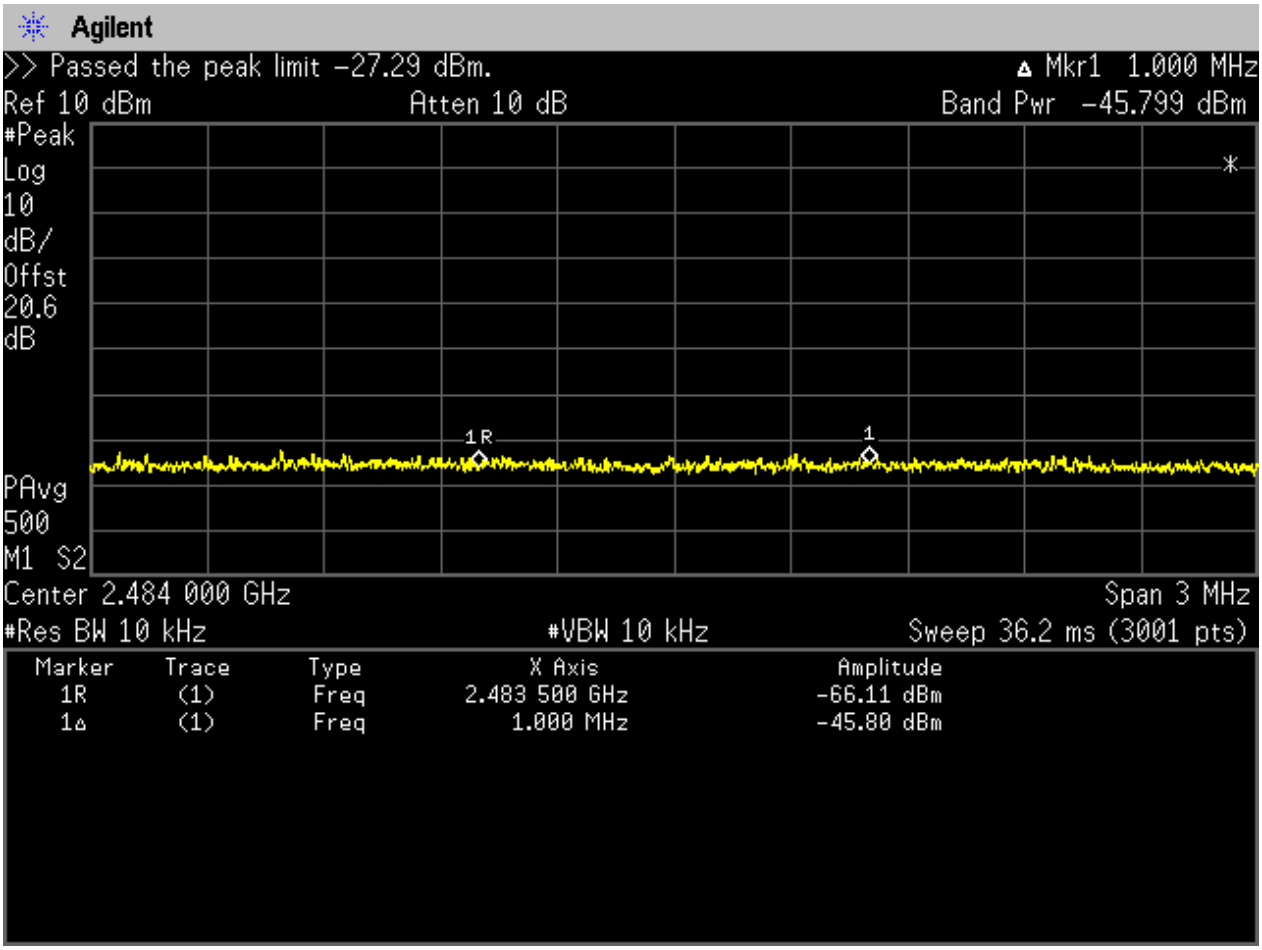

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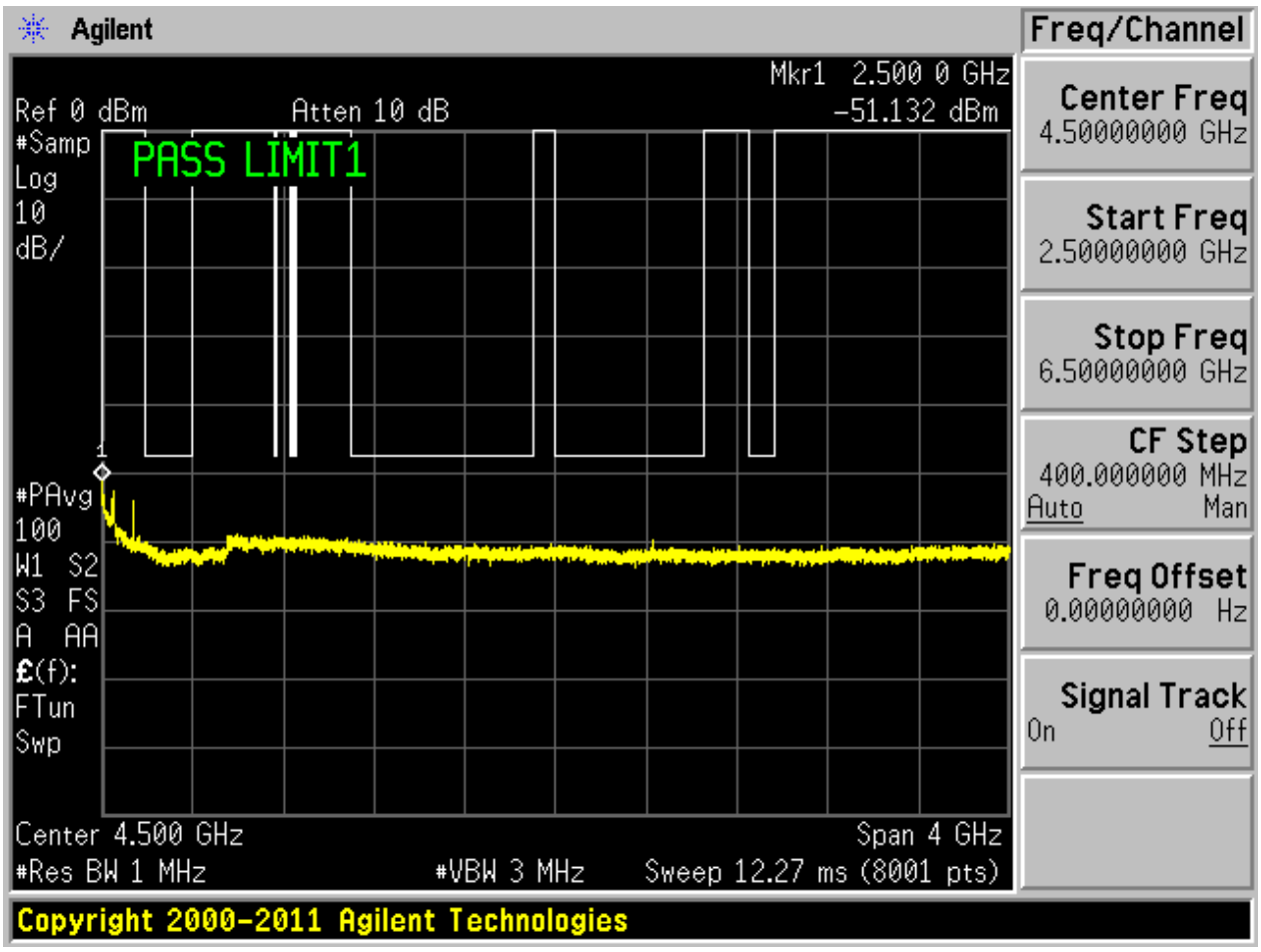

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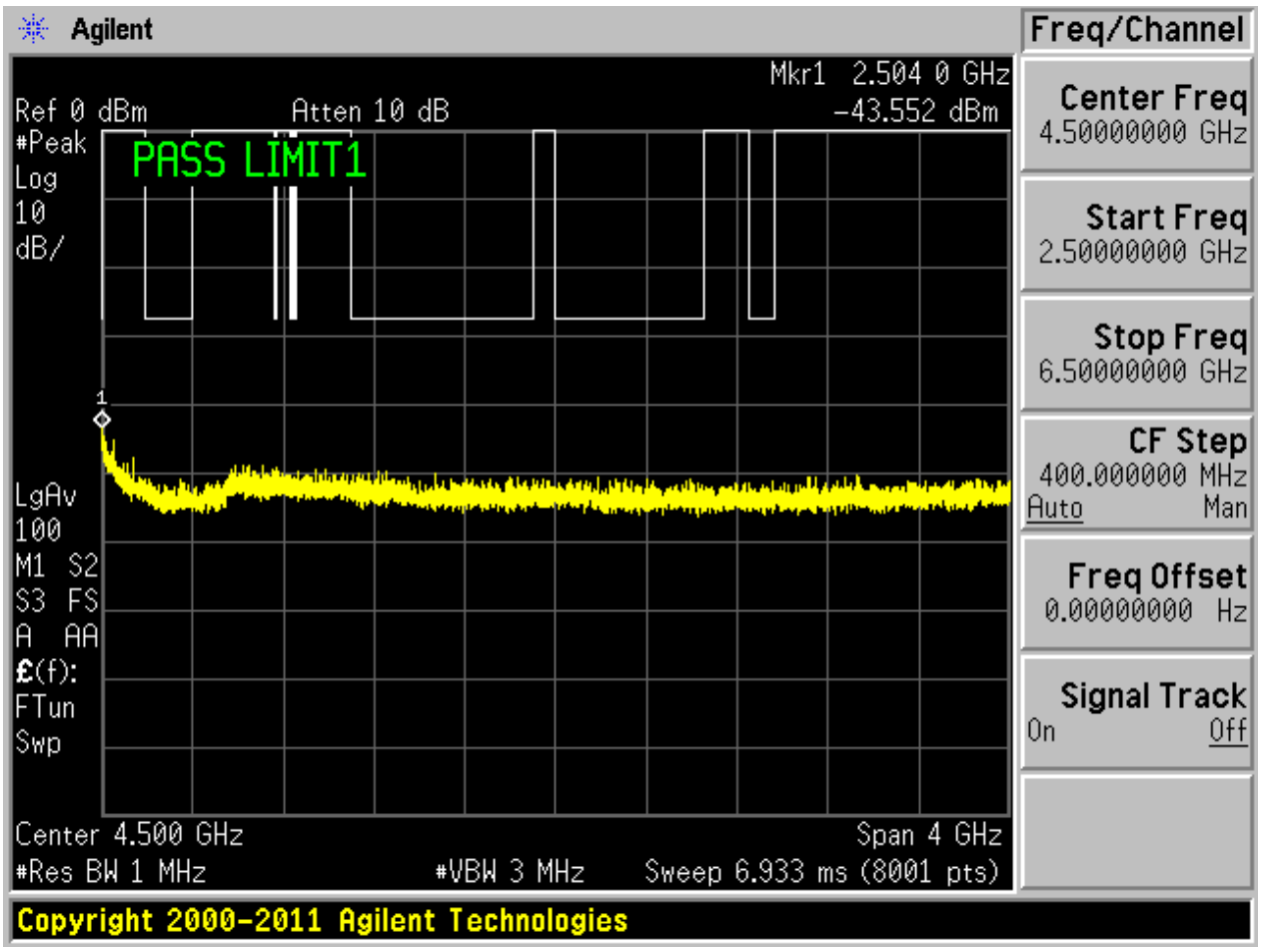

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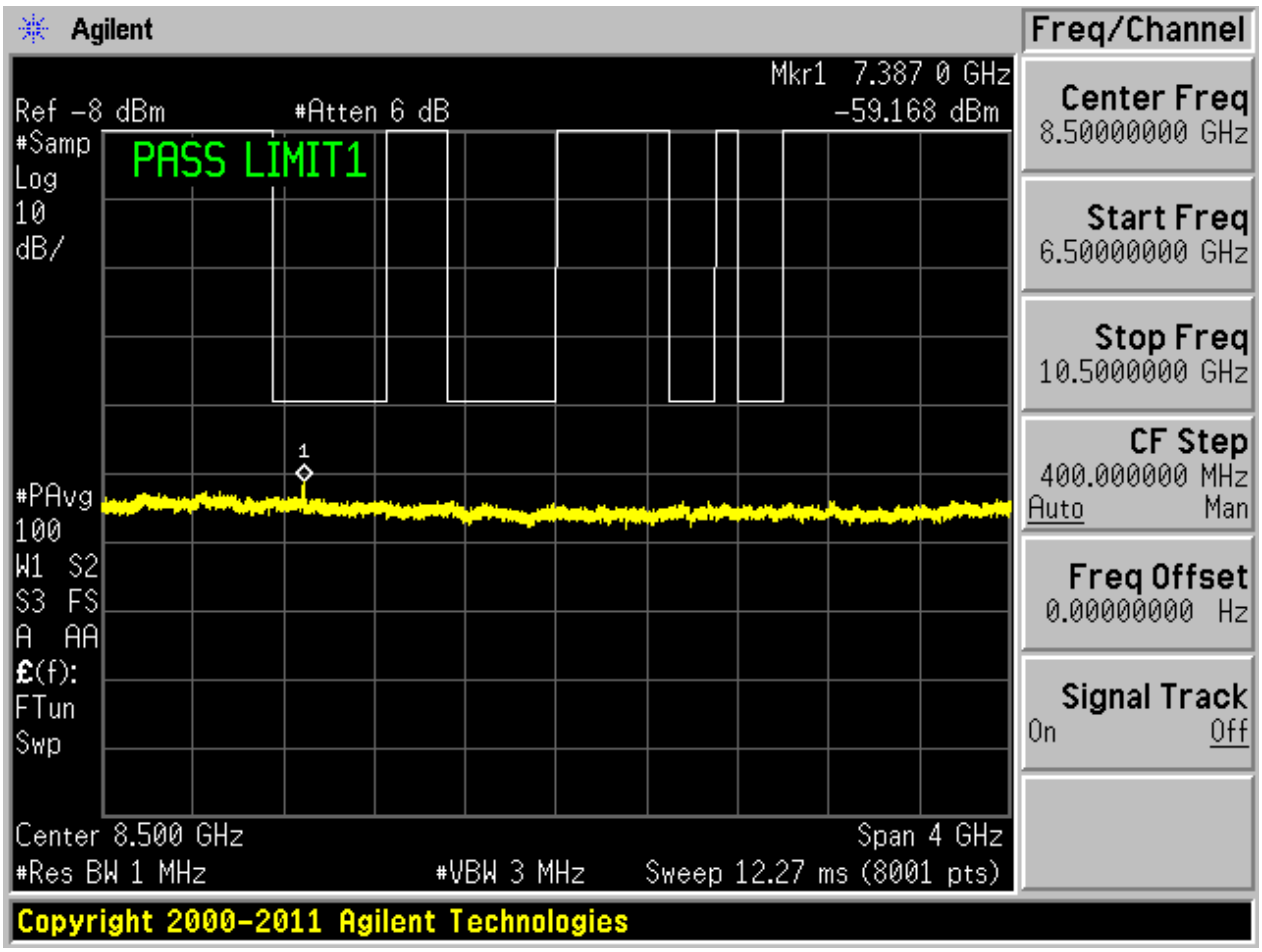

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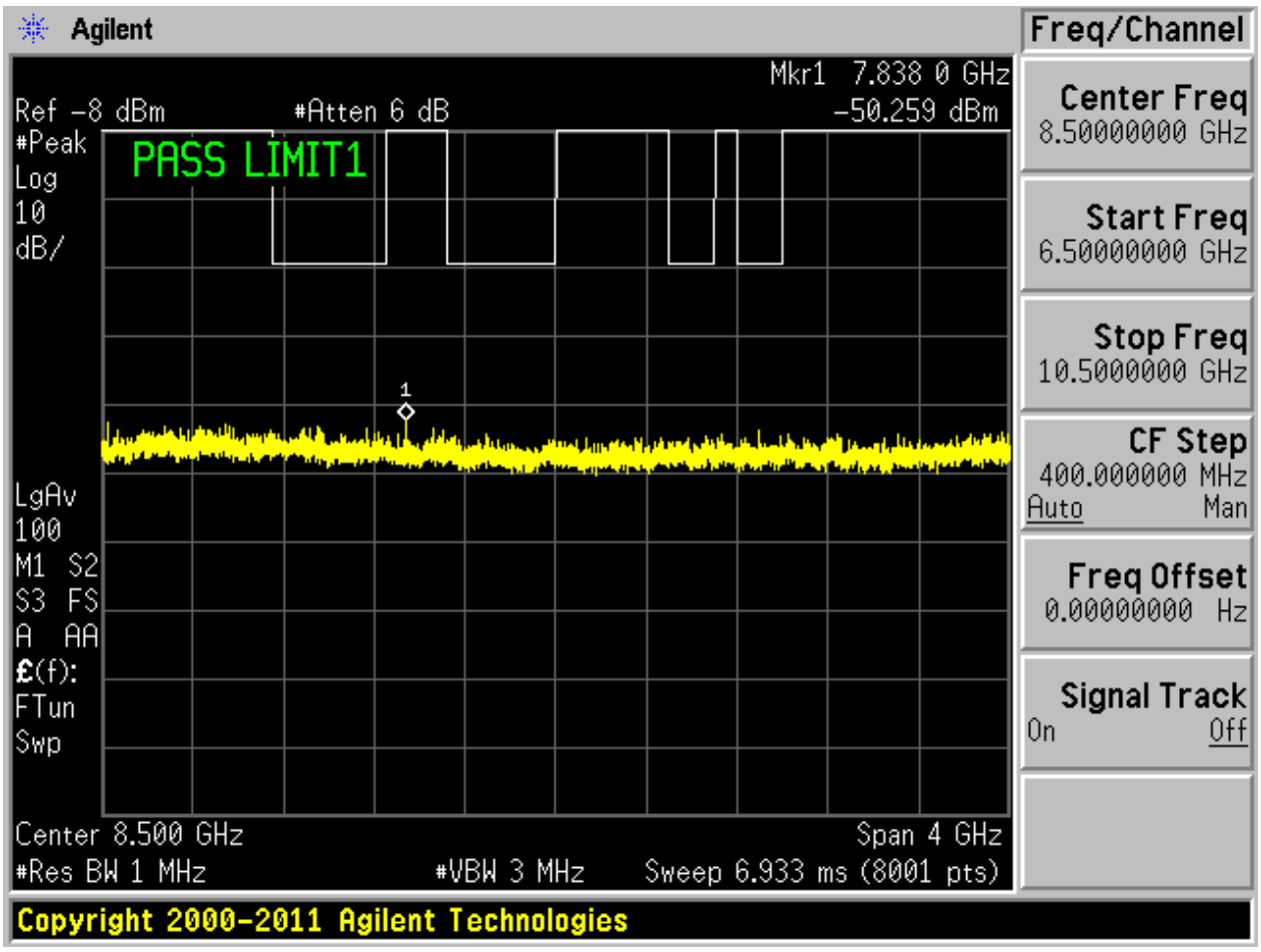

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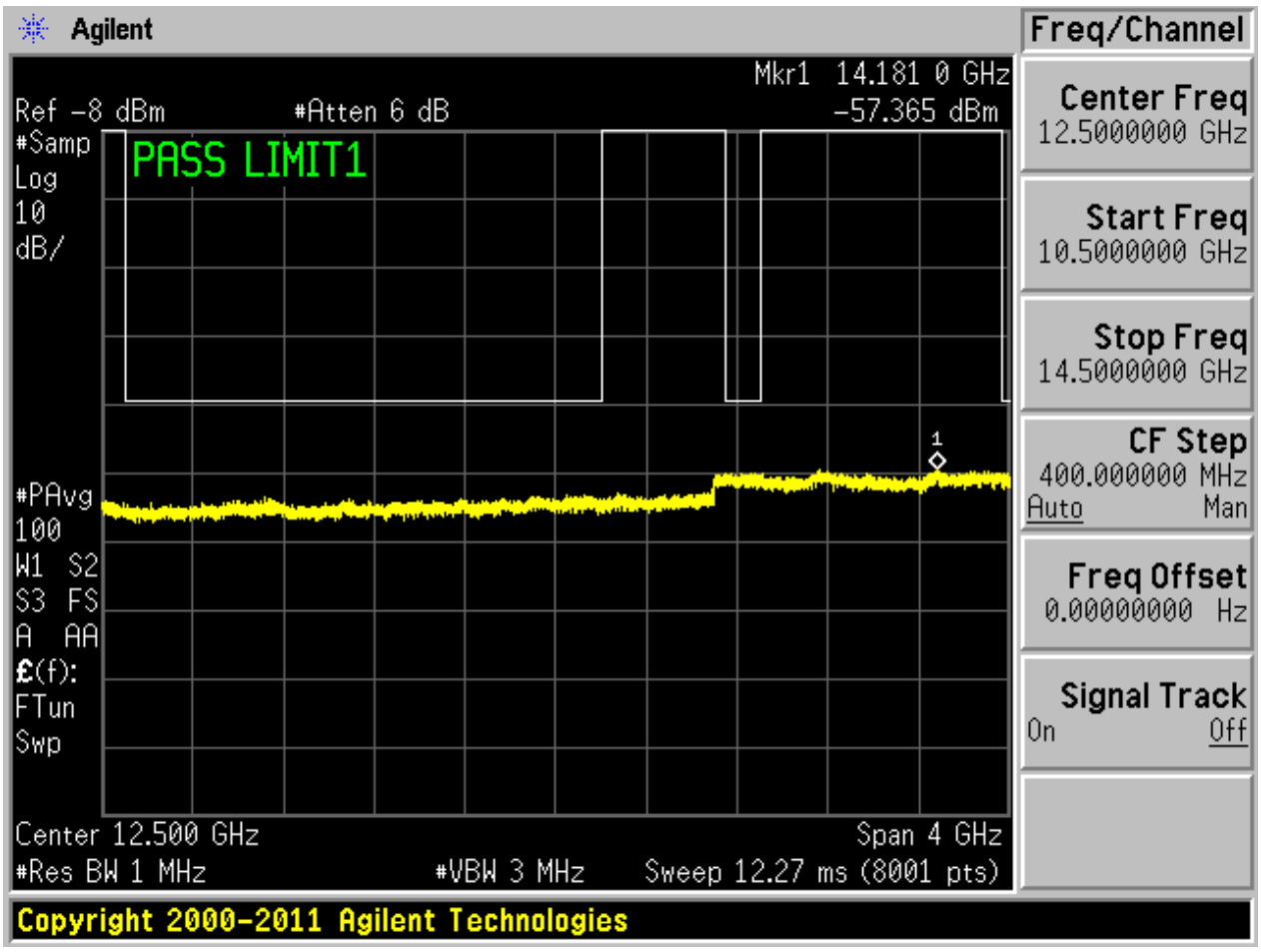

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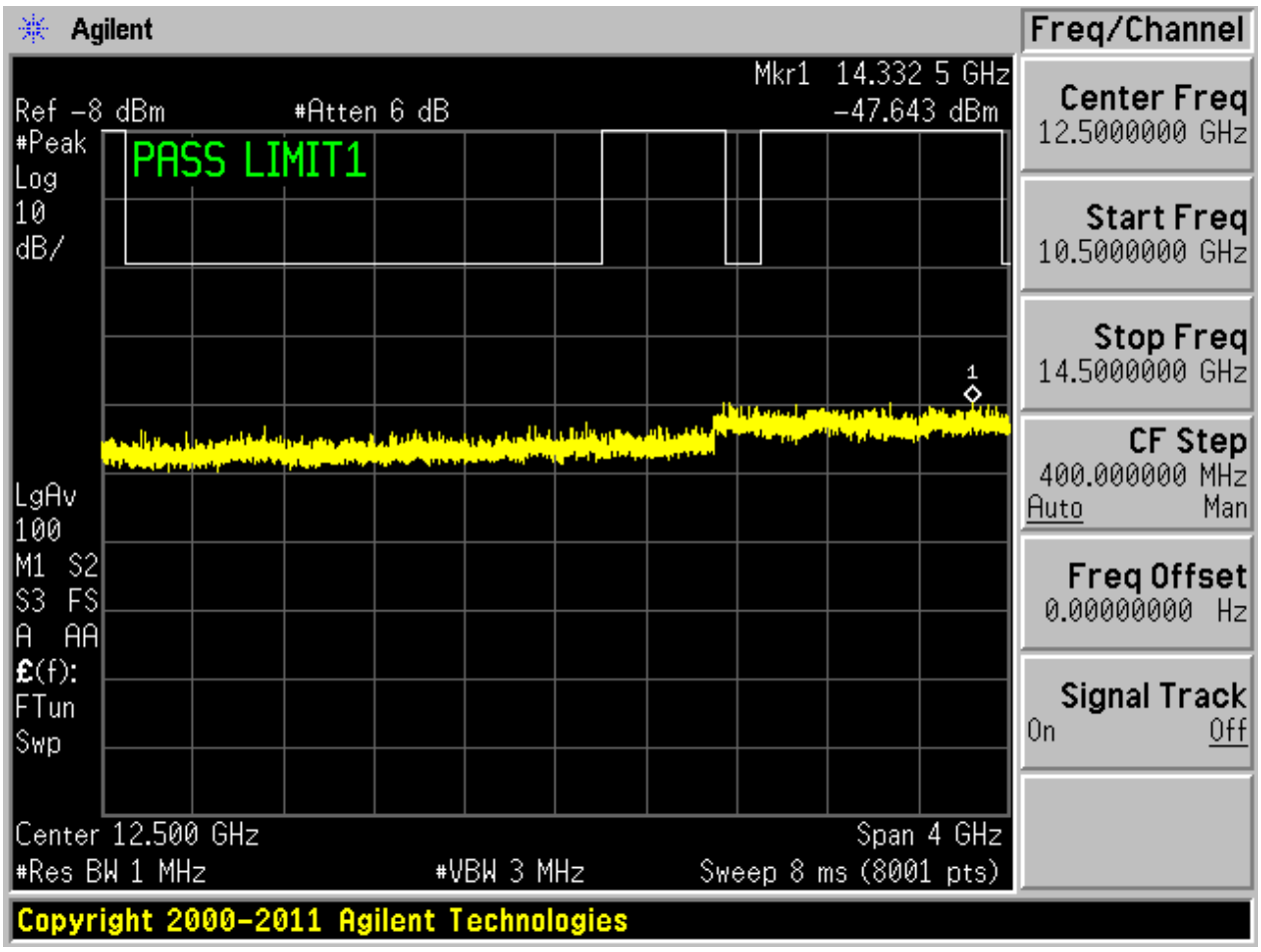

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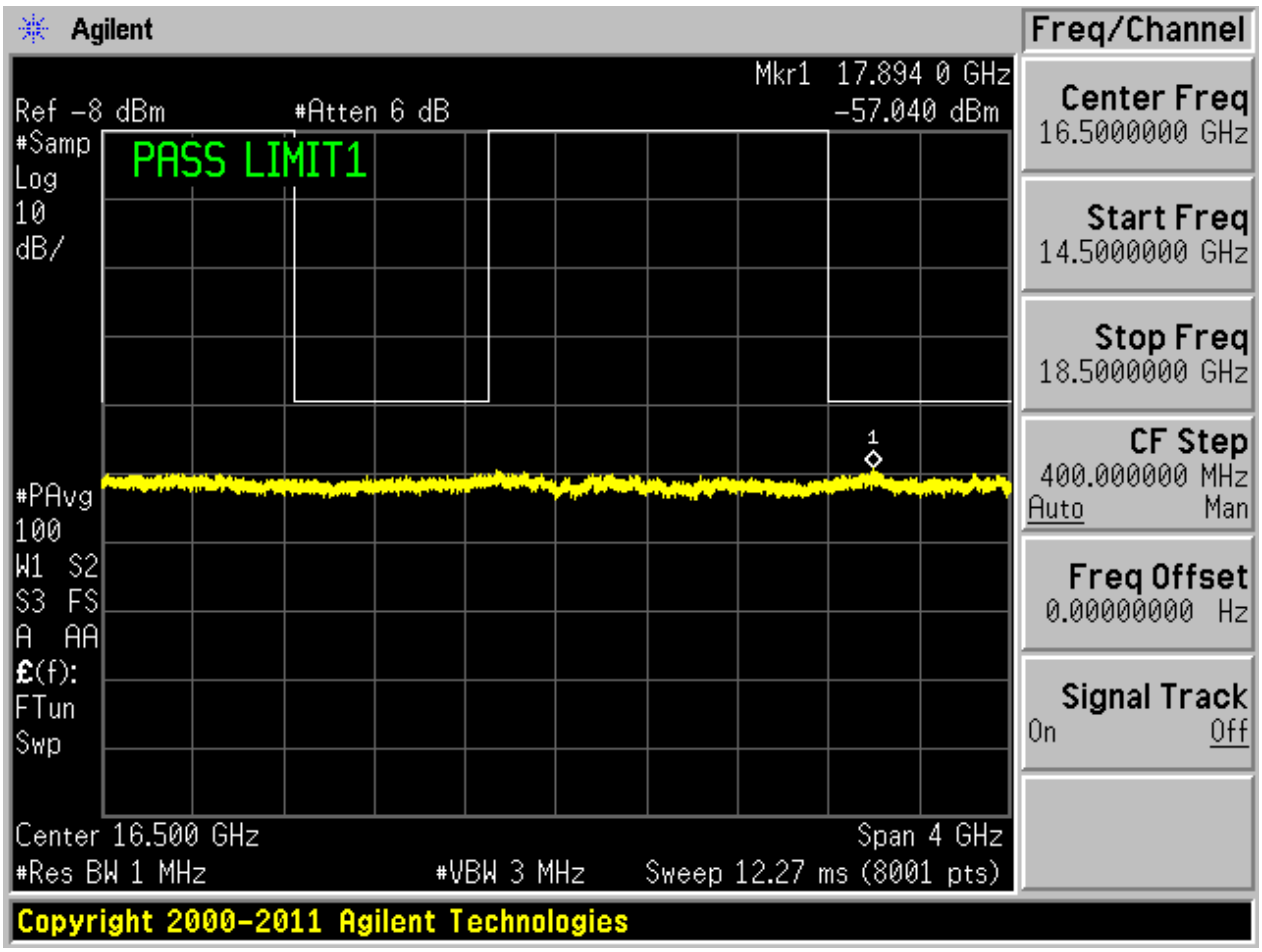

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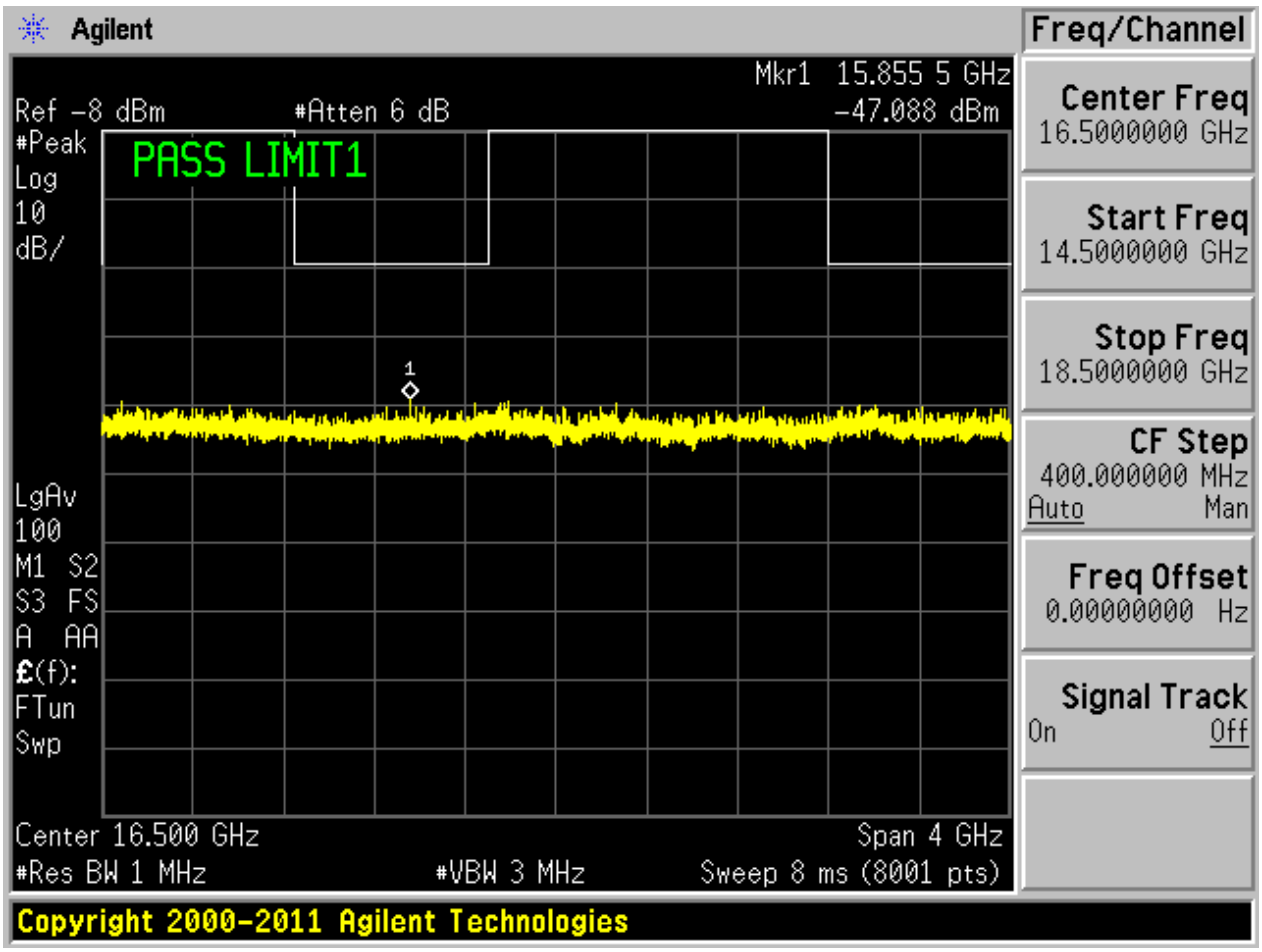

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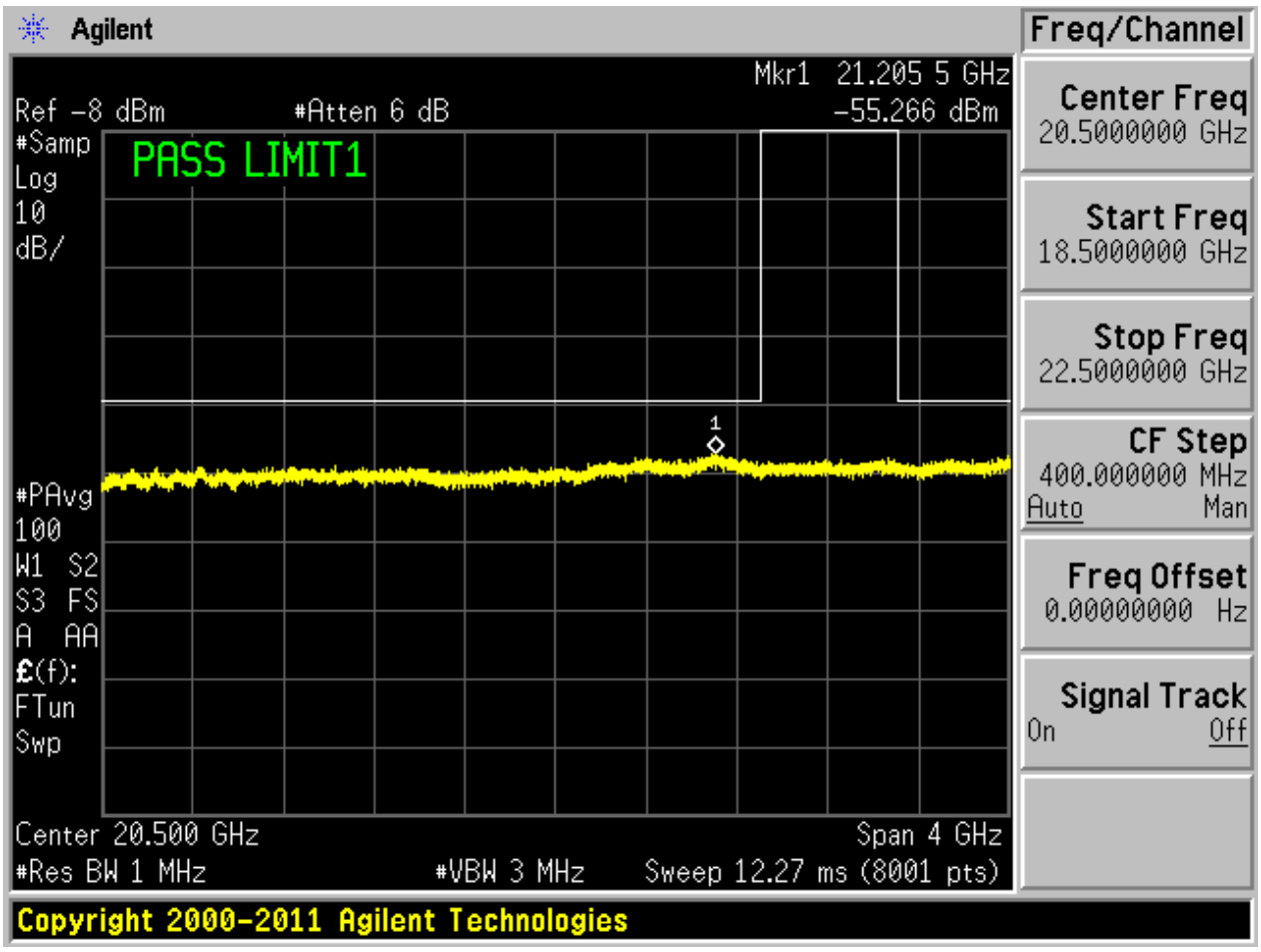

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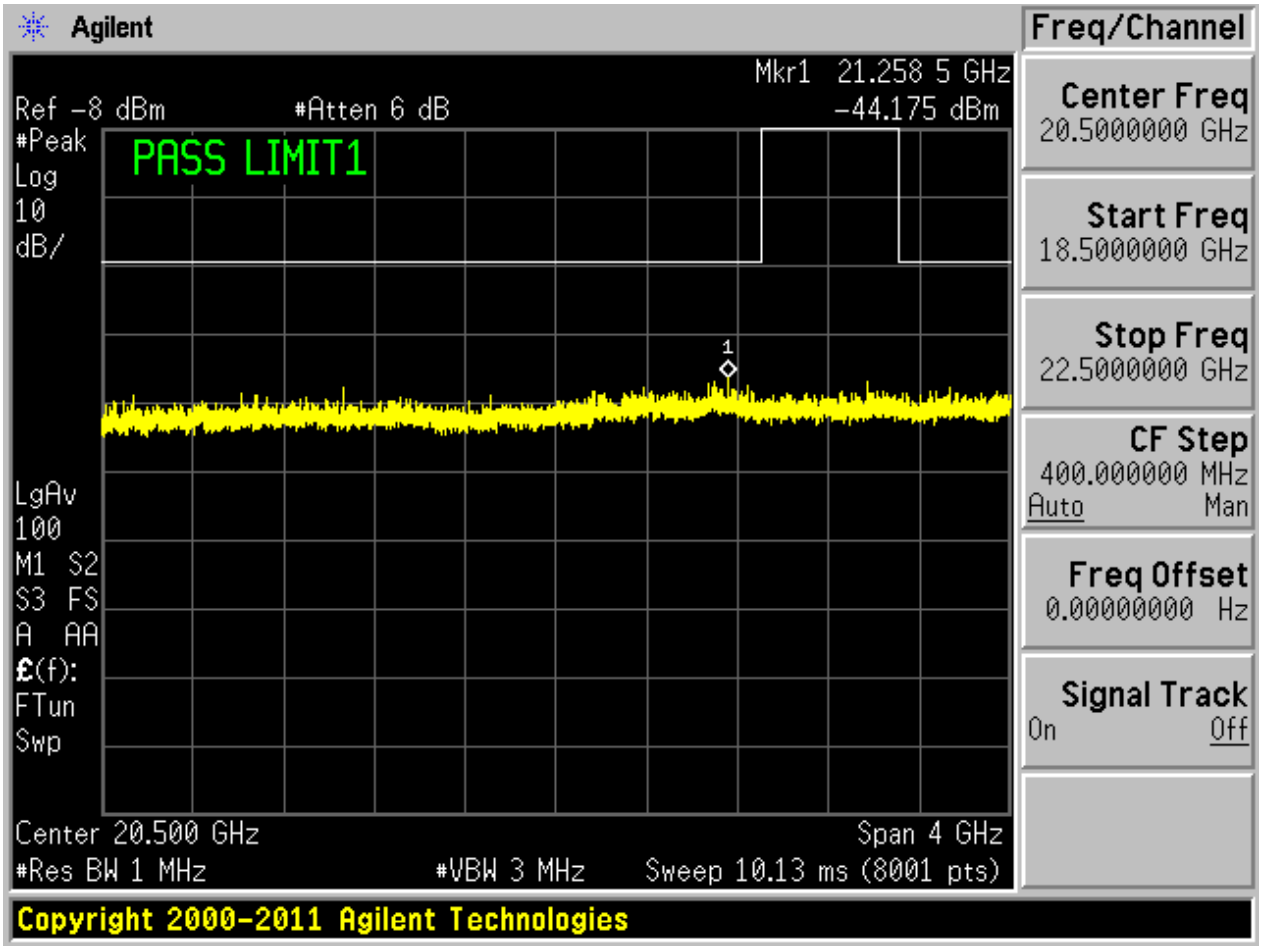

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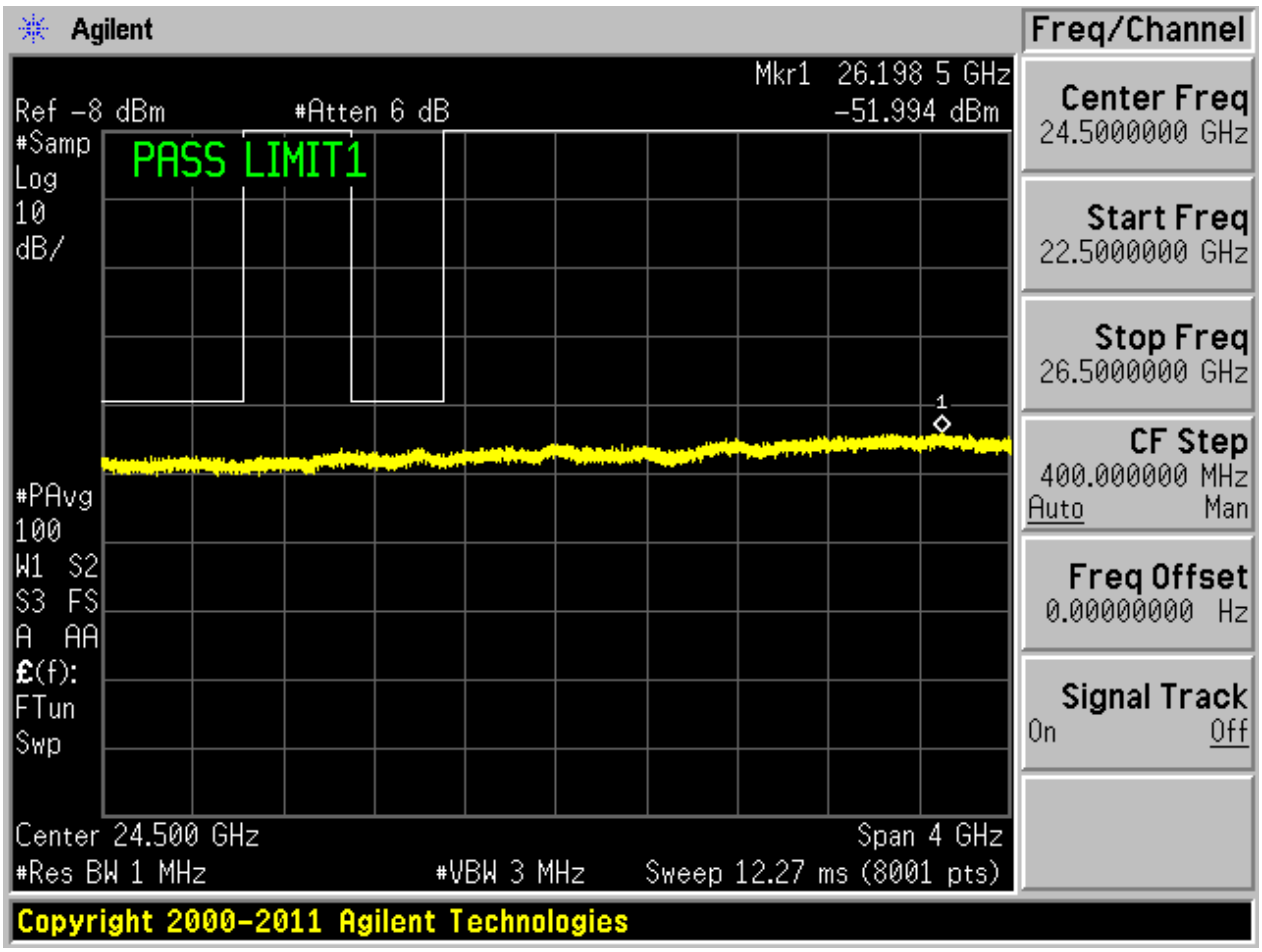

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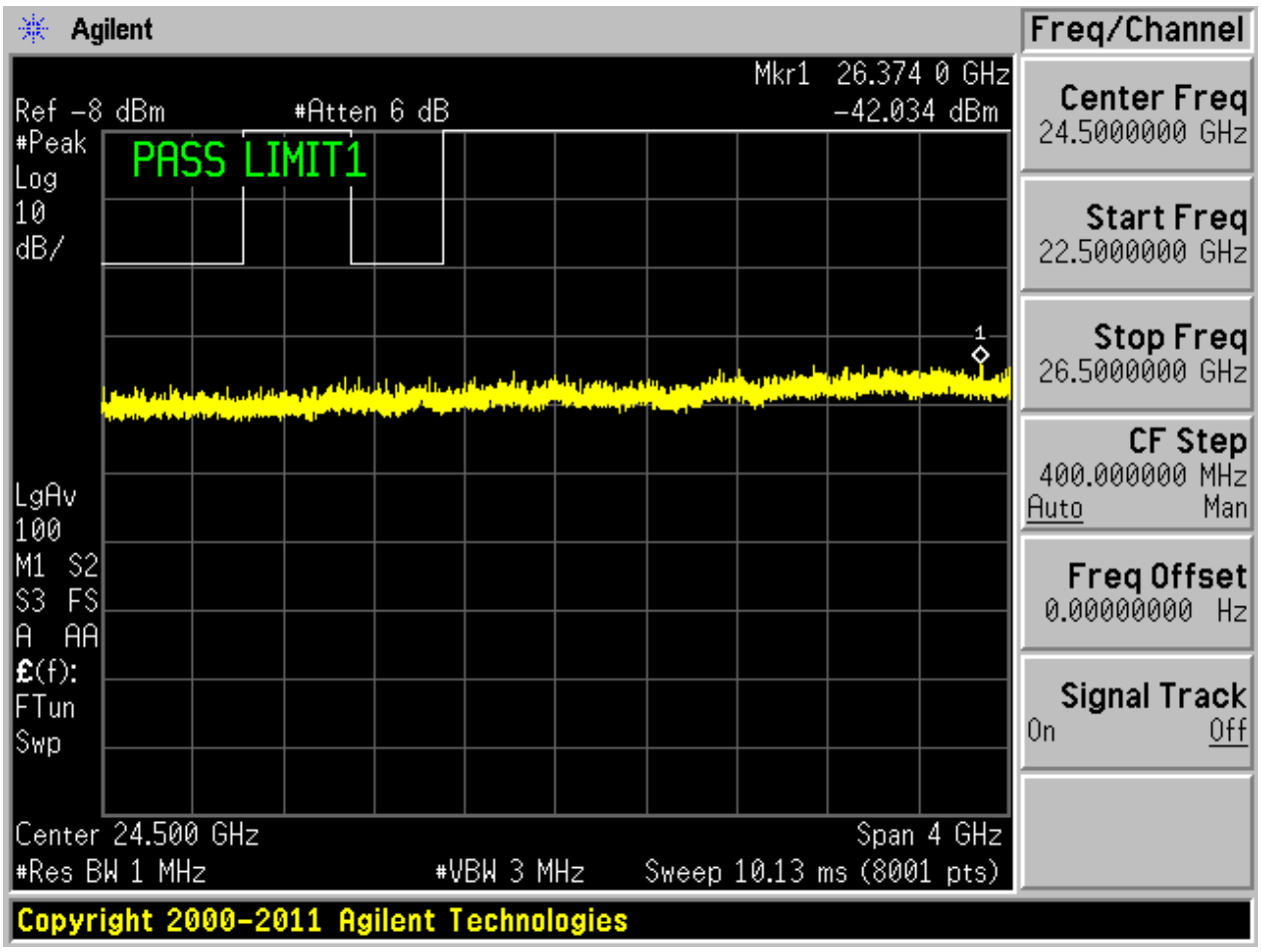

2.6.2 Ant 2 (Trace#2)

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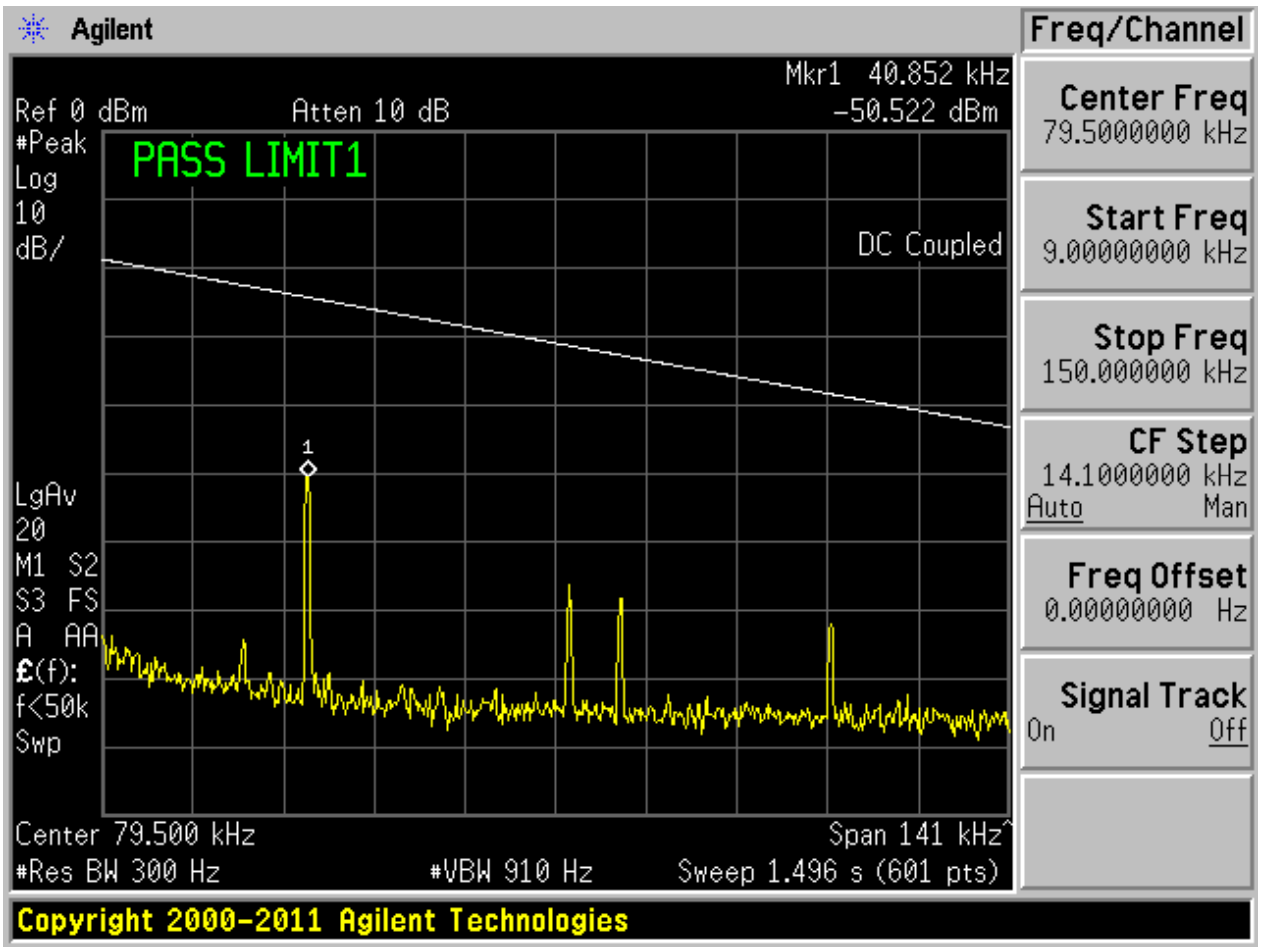

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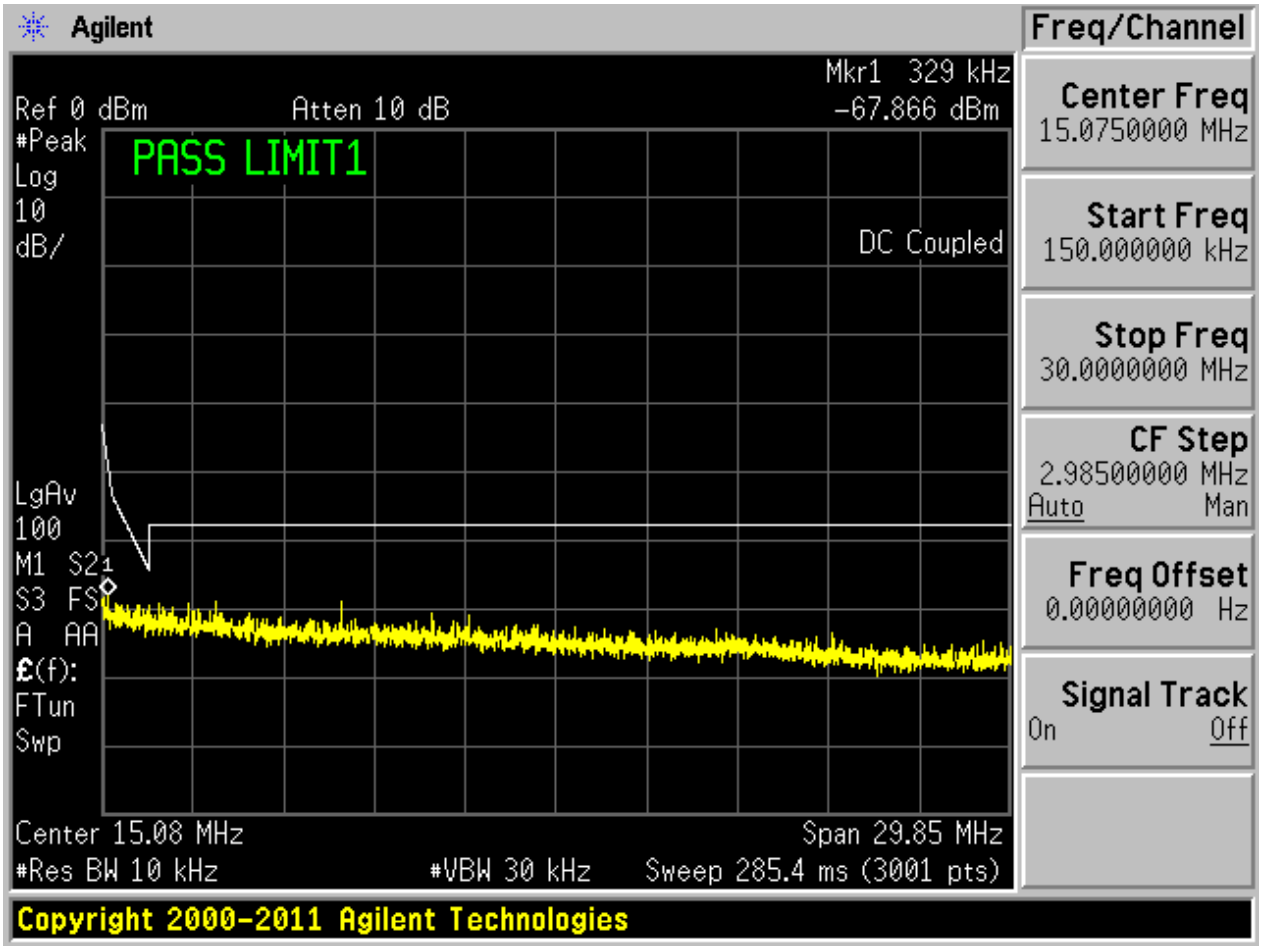

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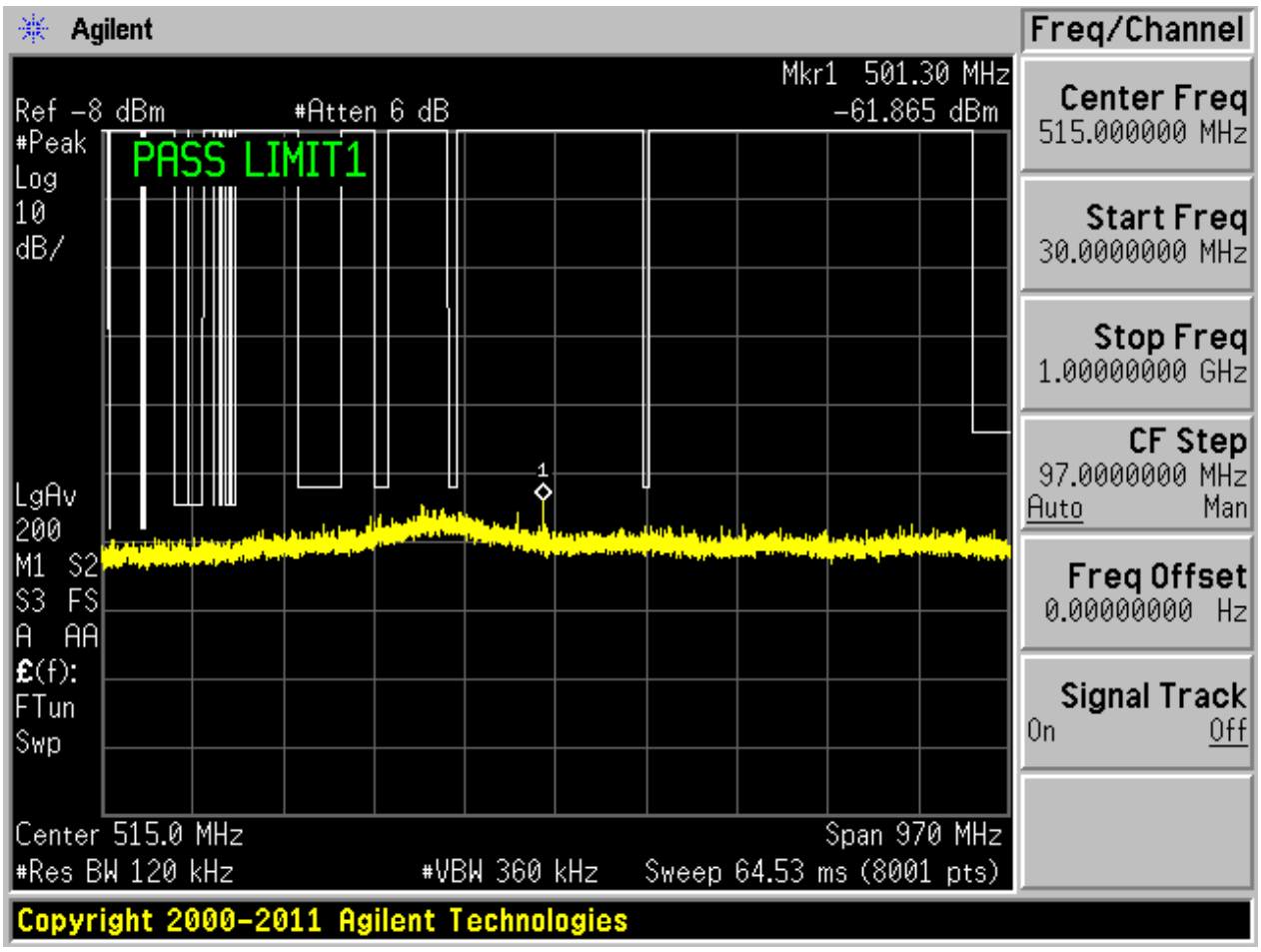

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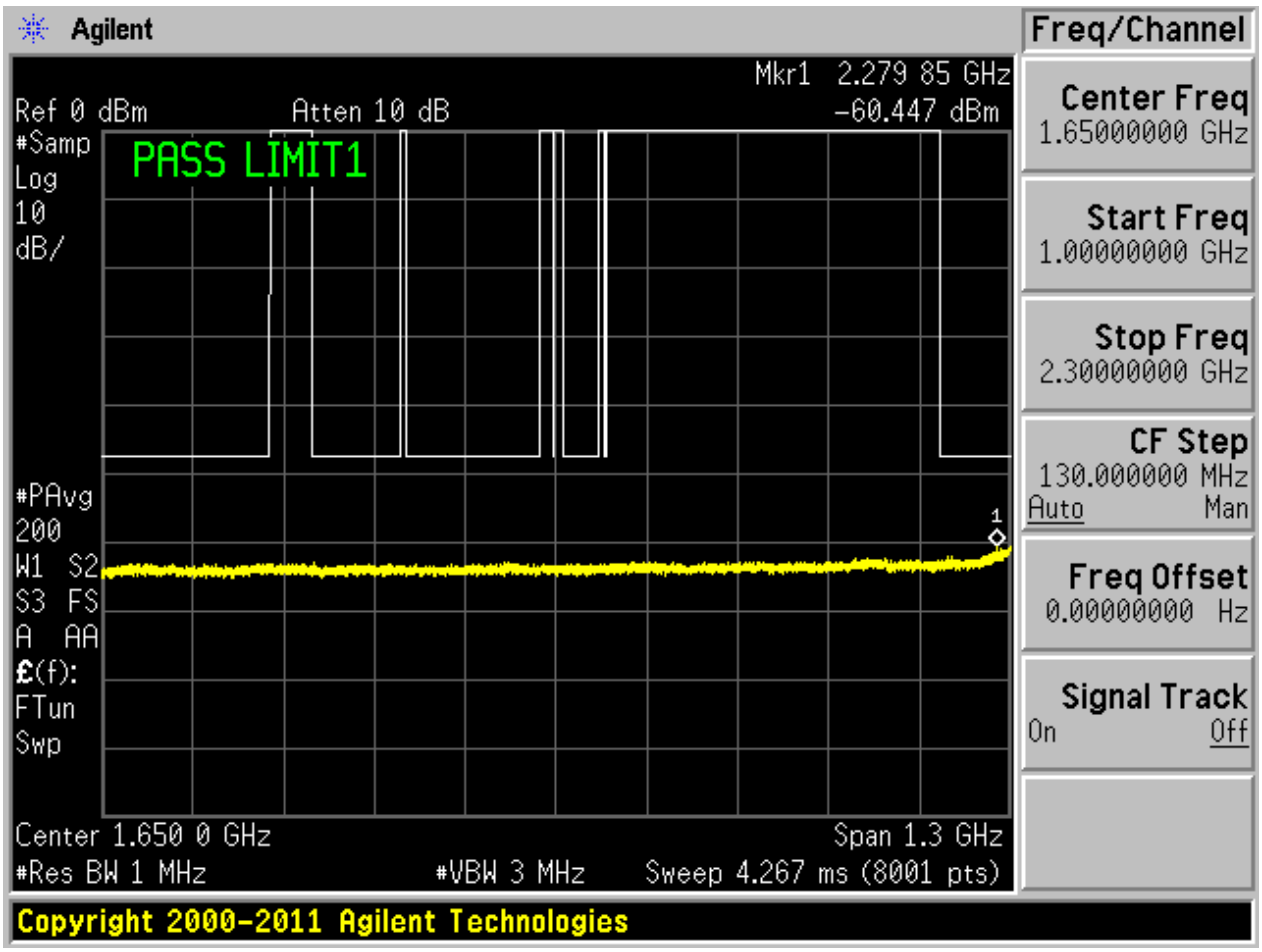

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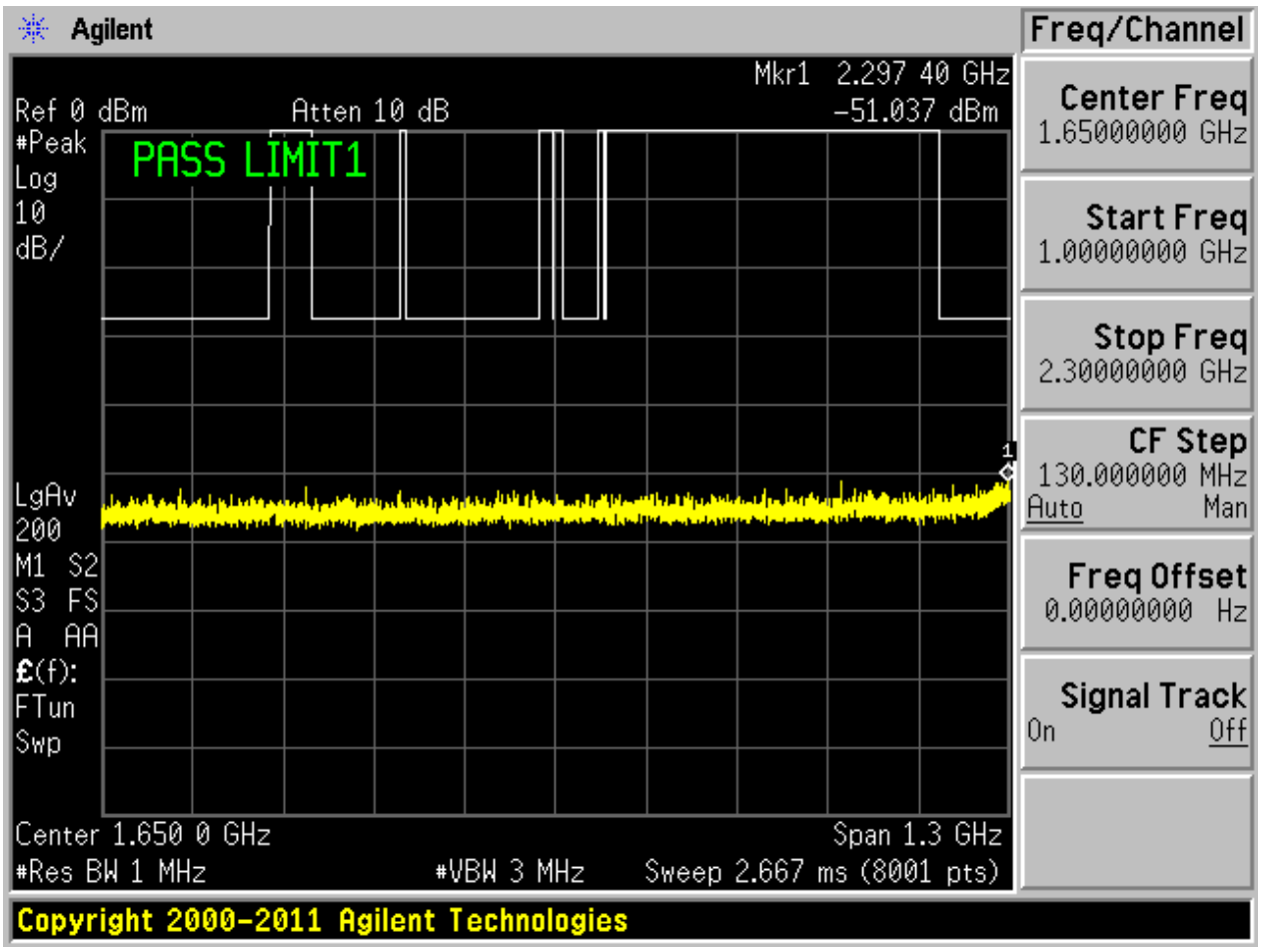

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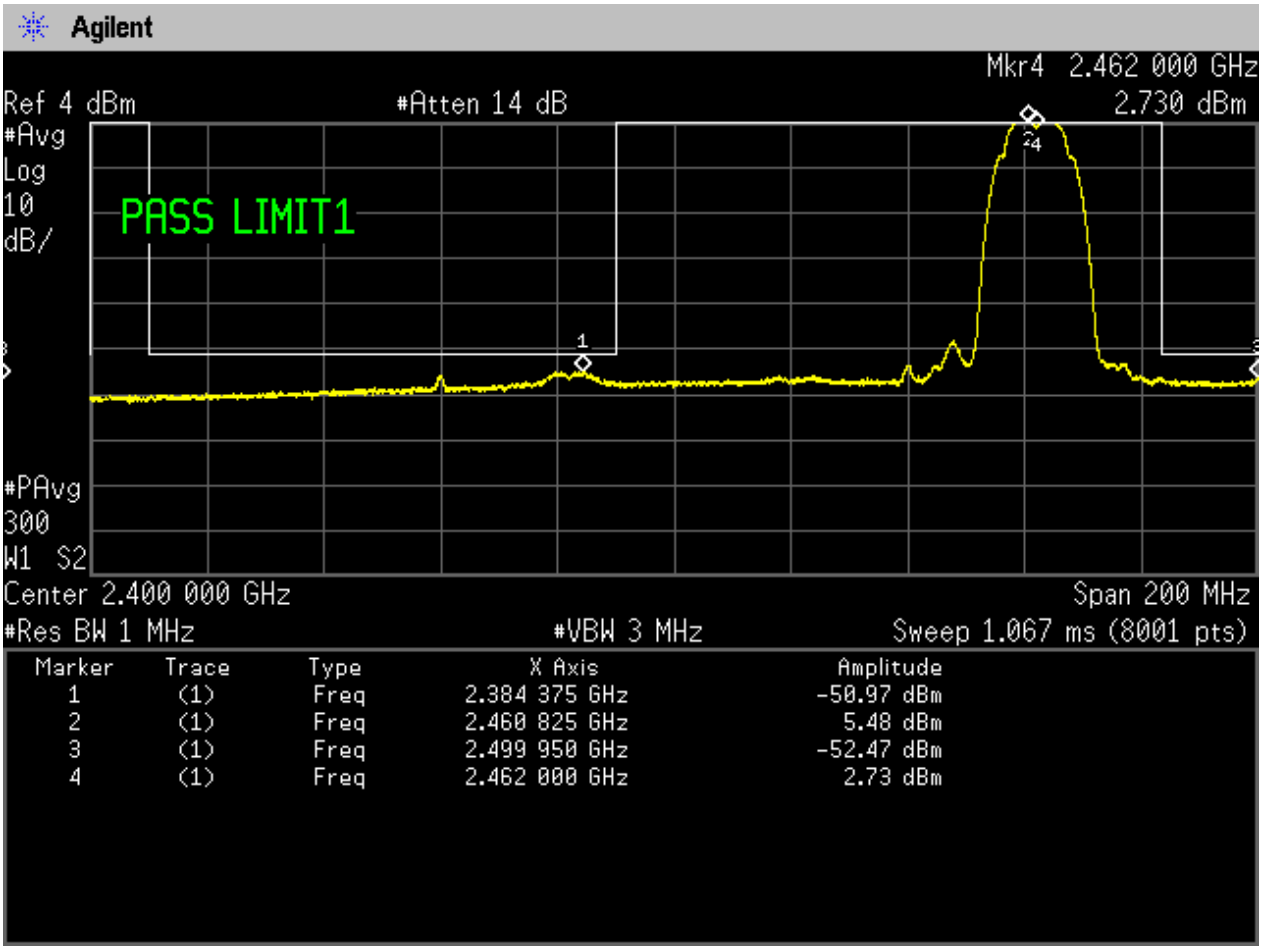

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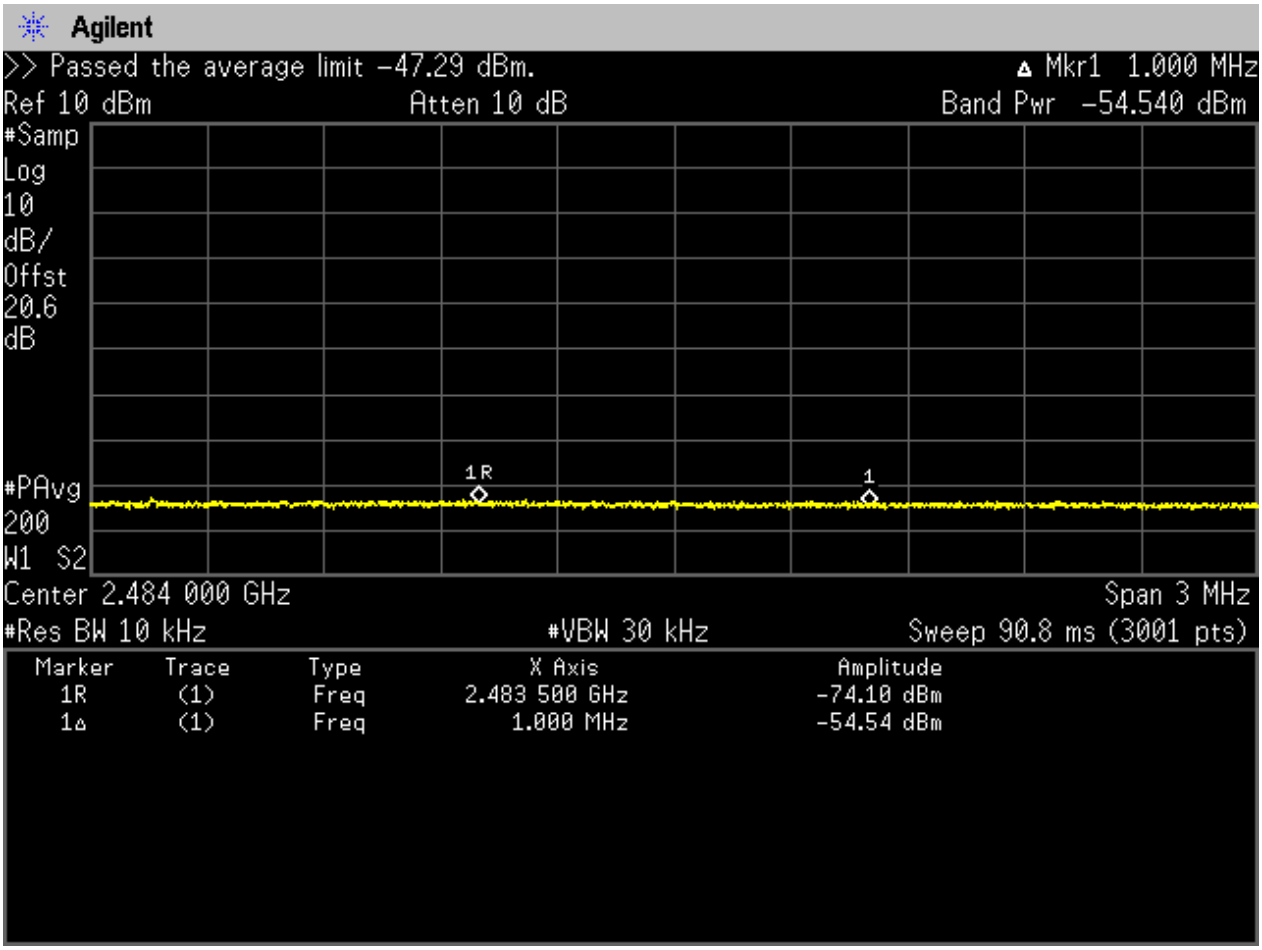

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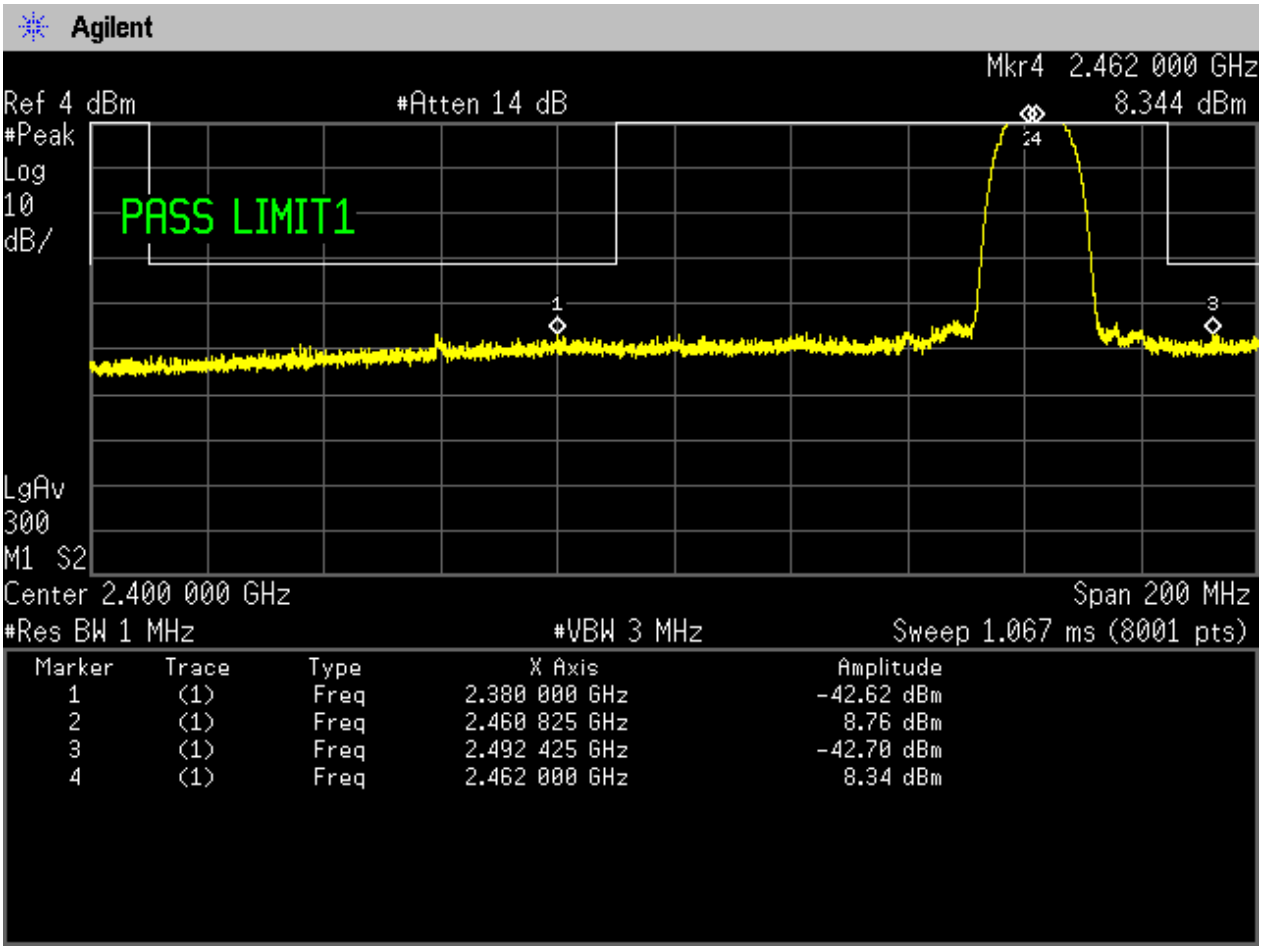

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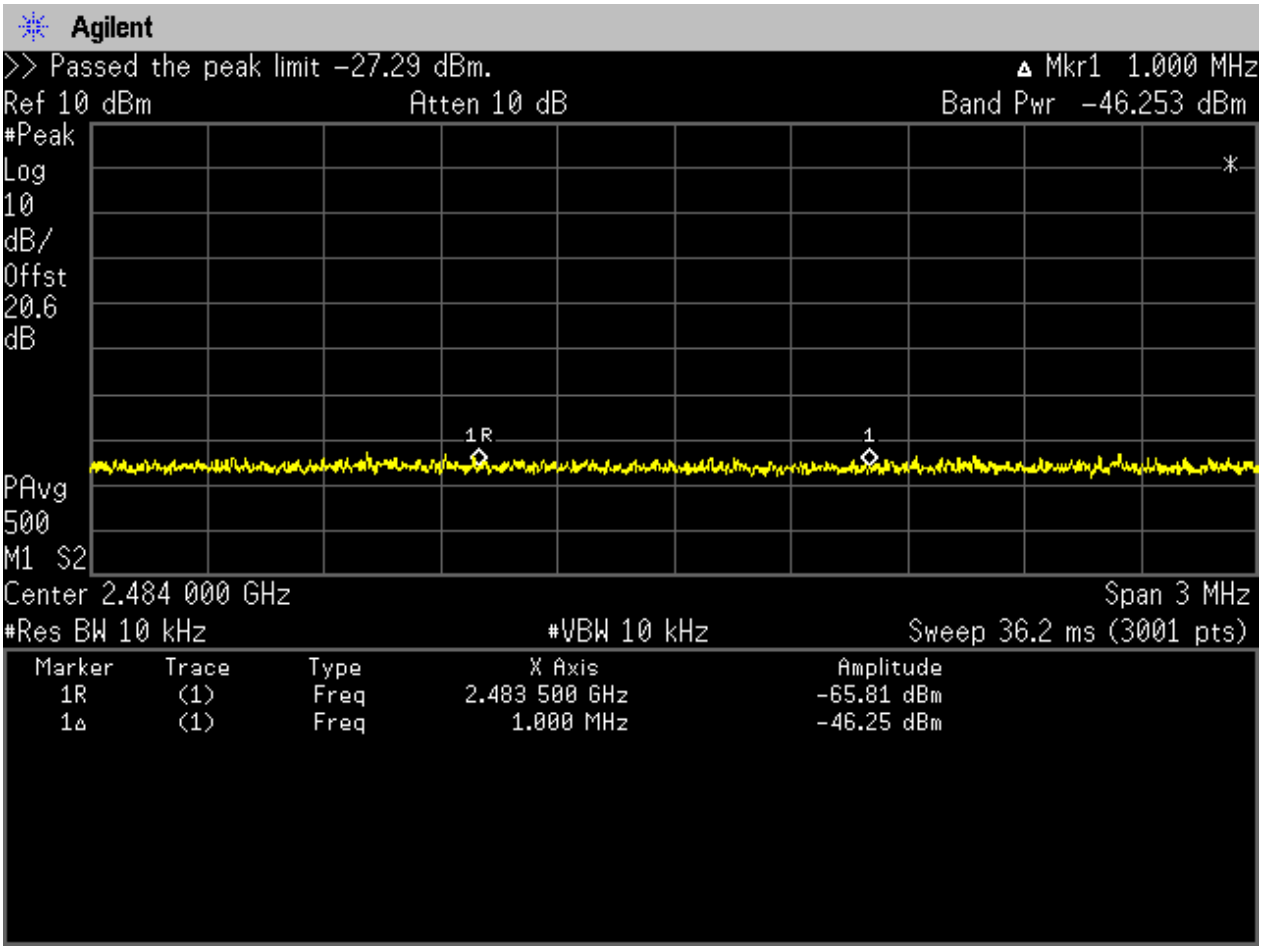

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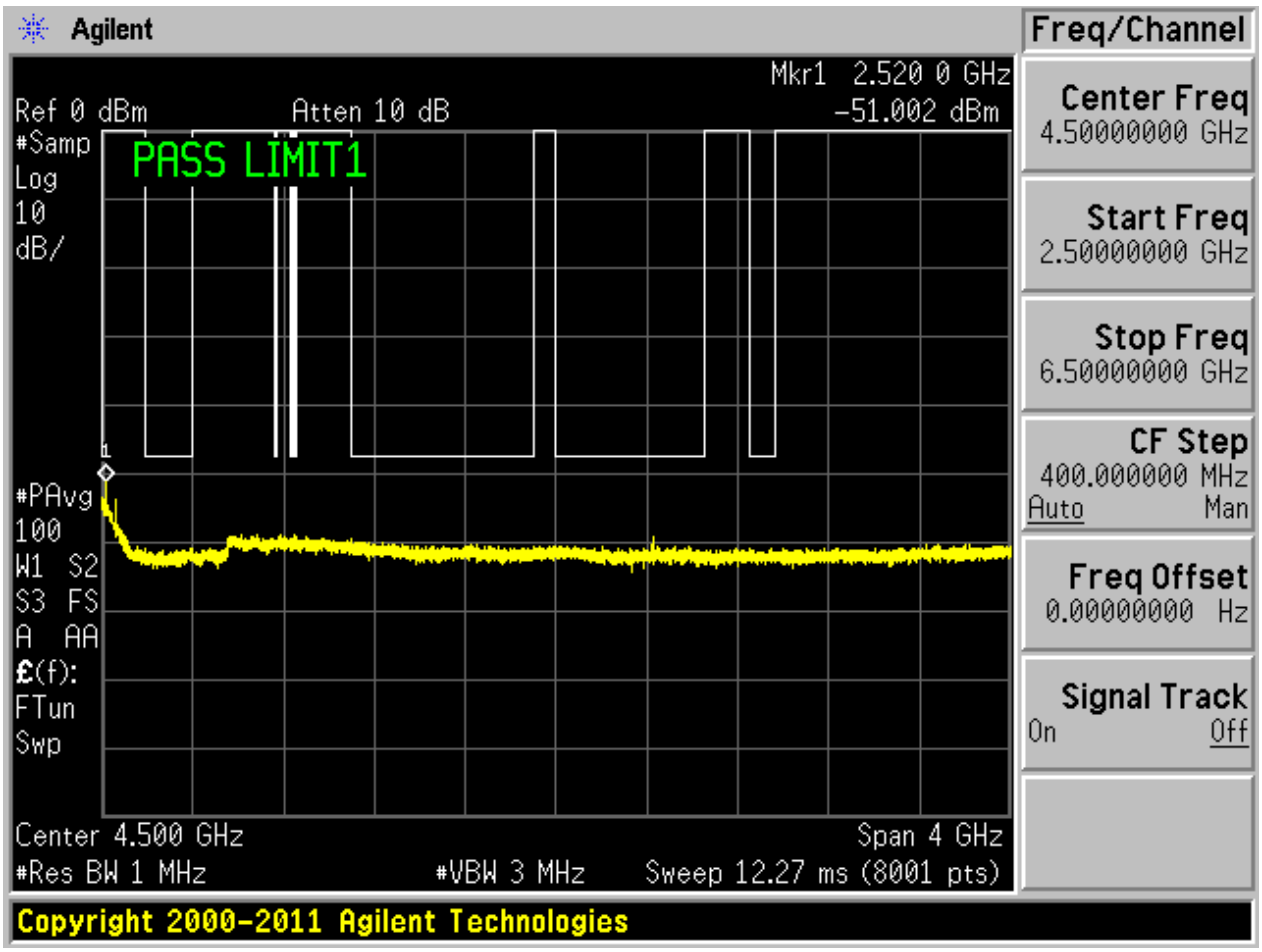

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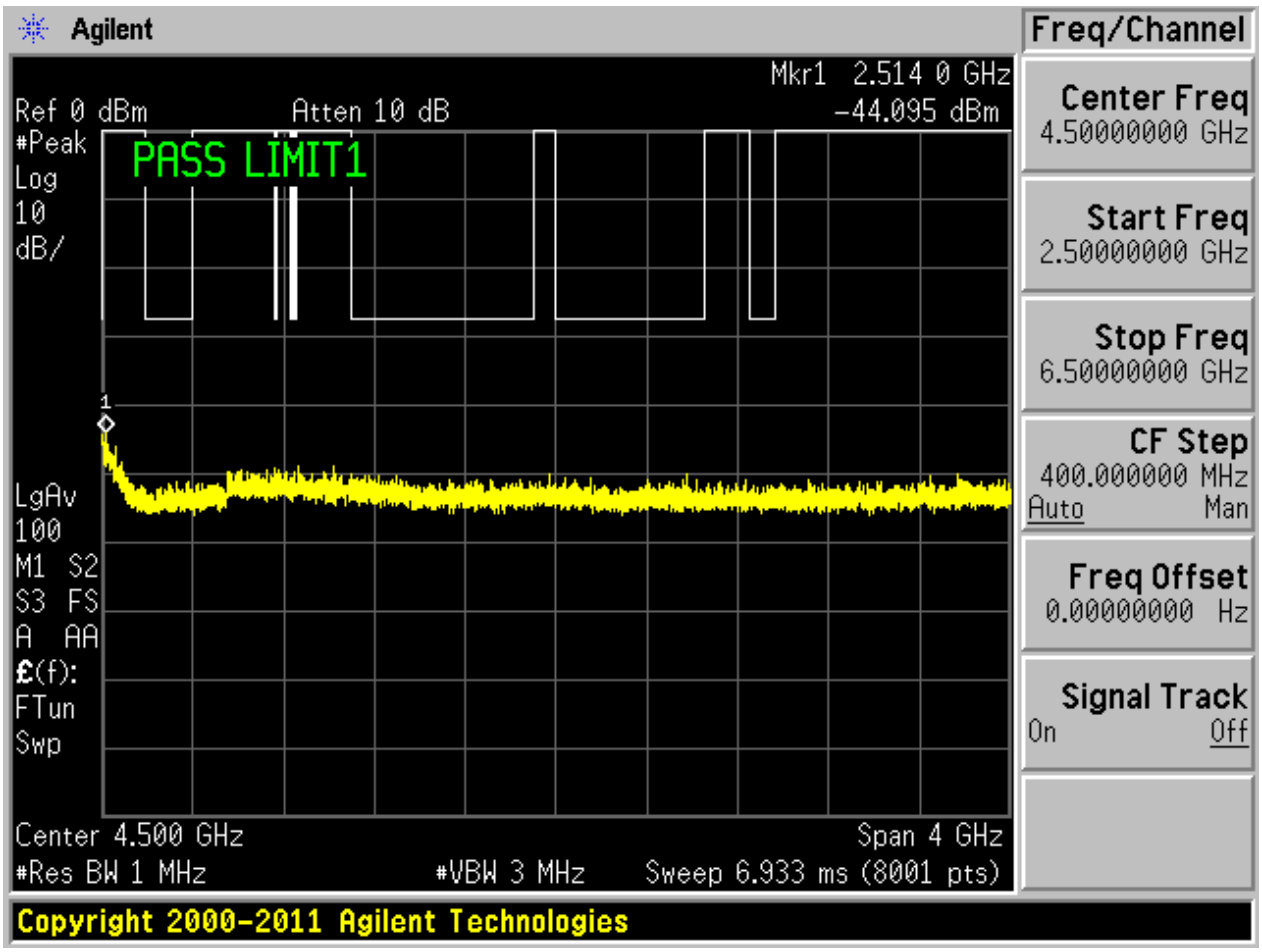

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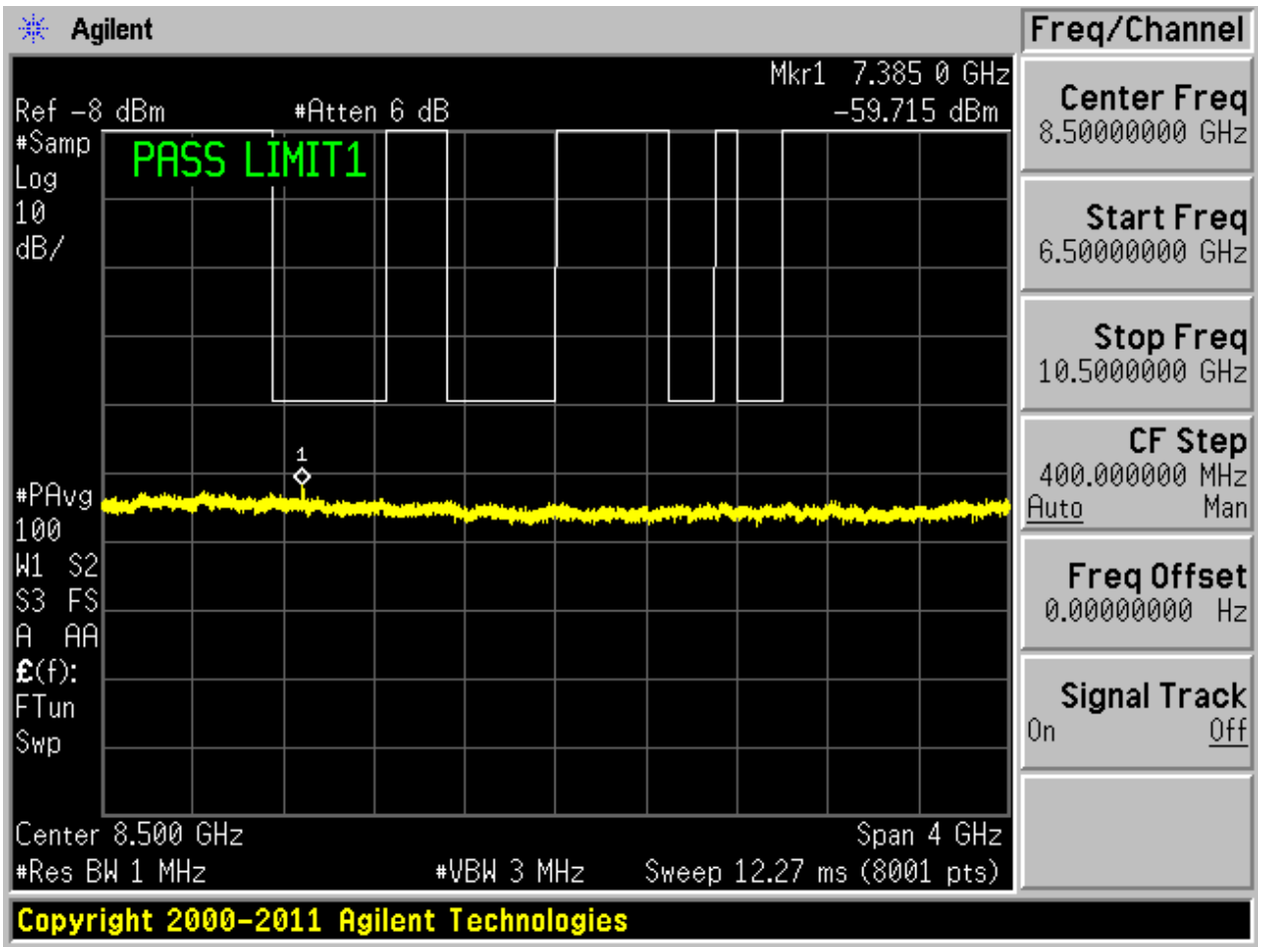

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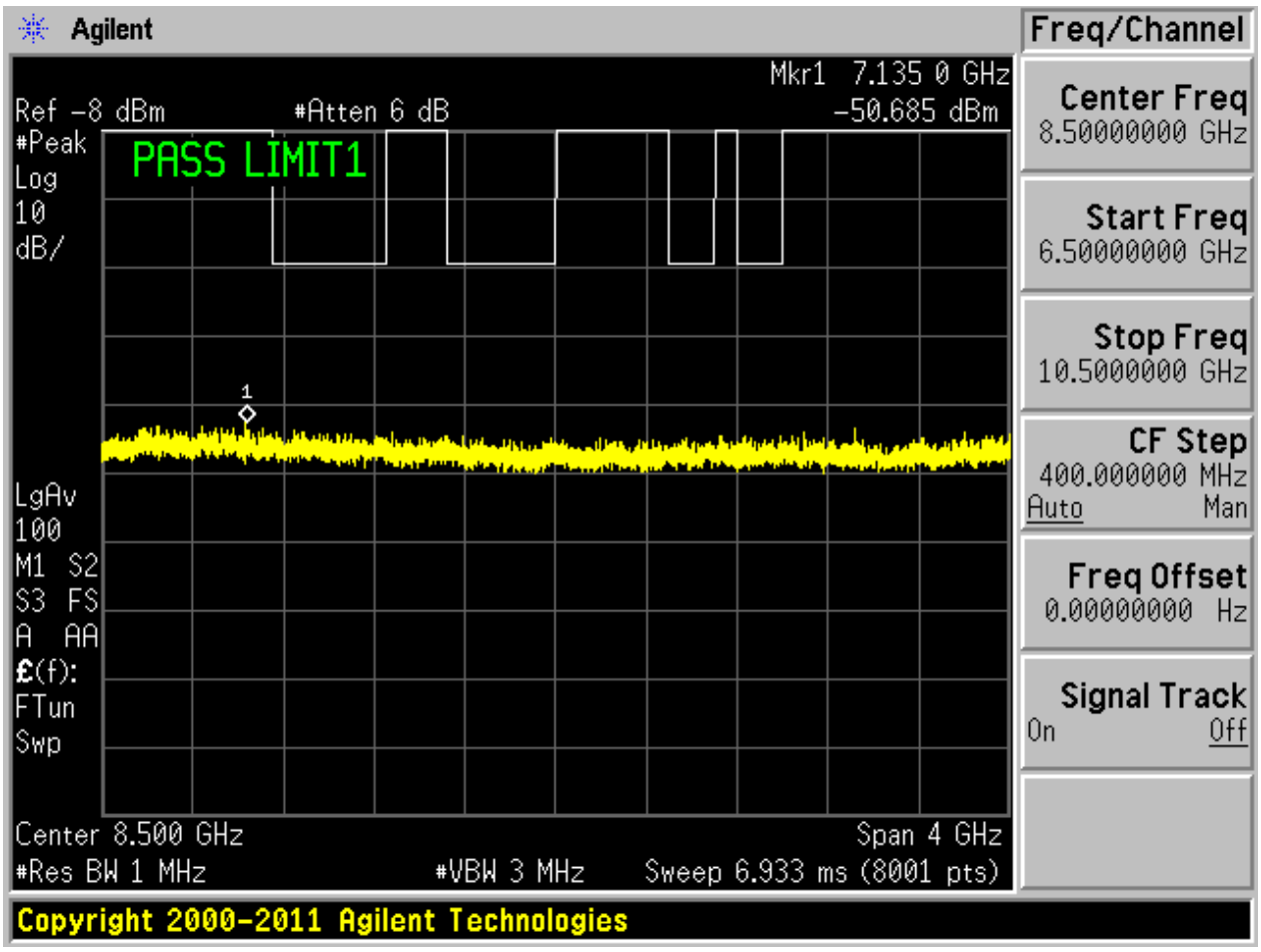

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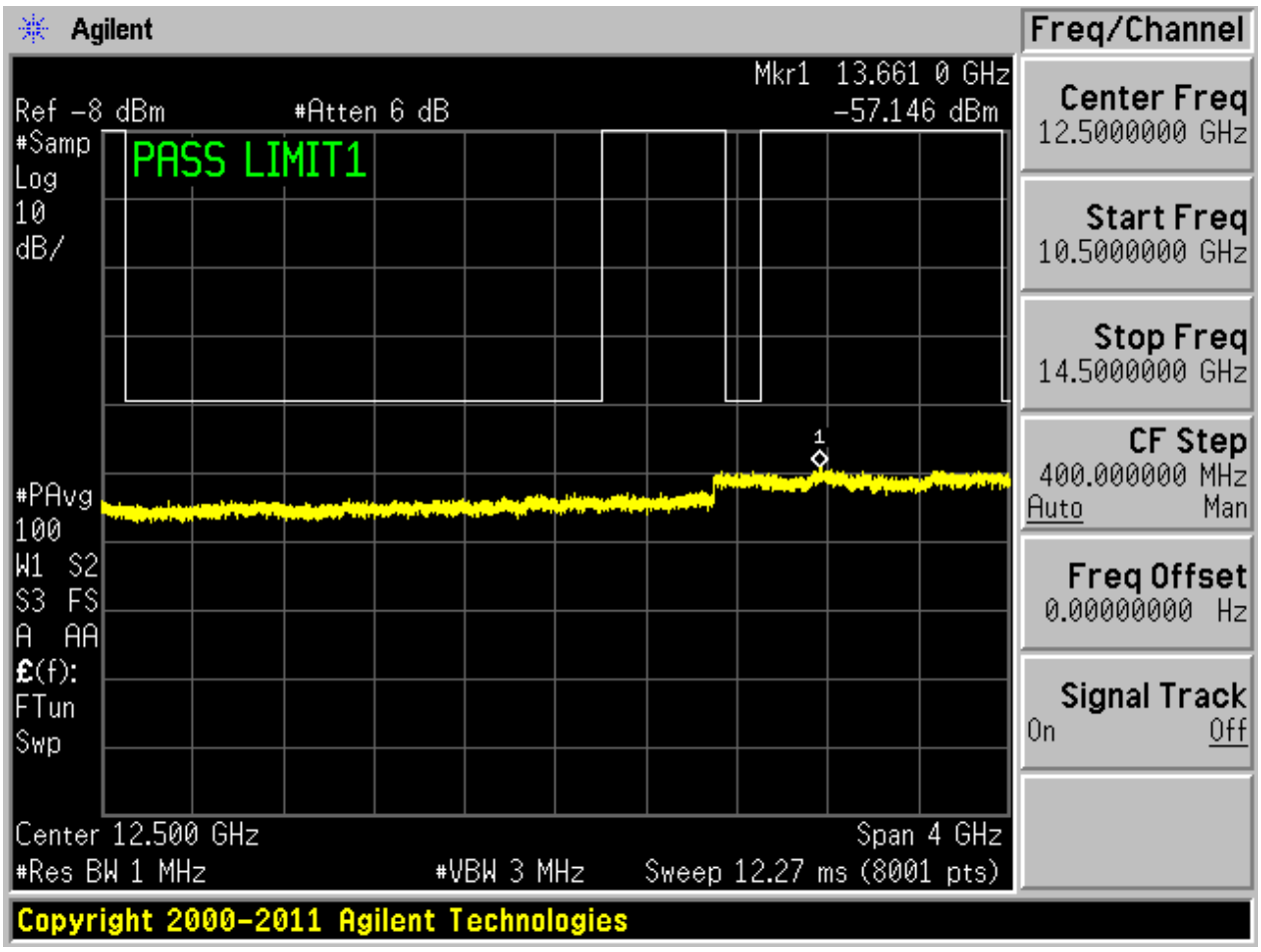

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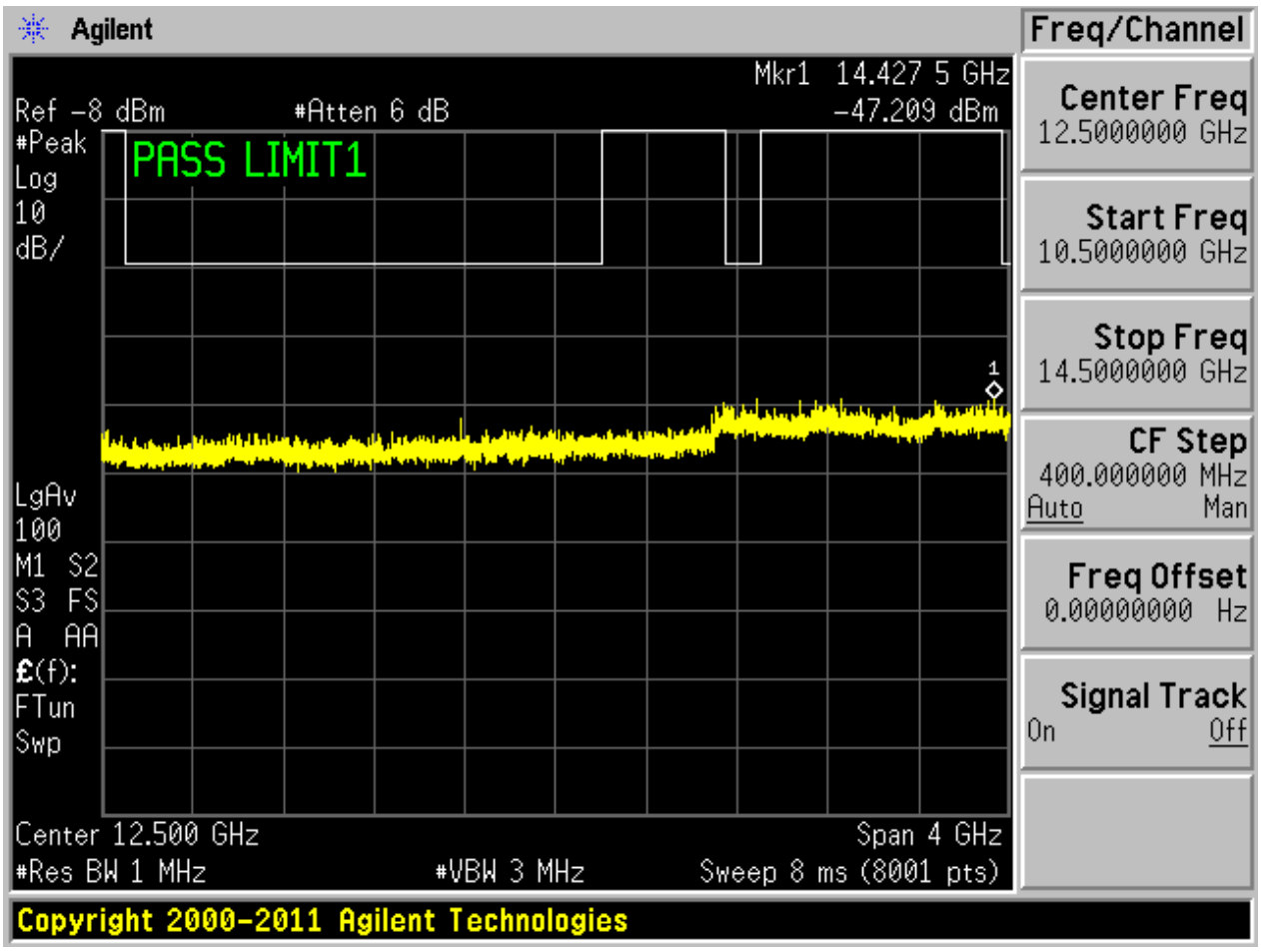

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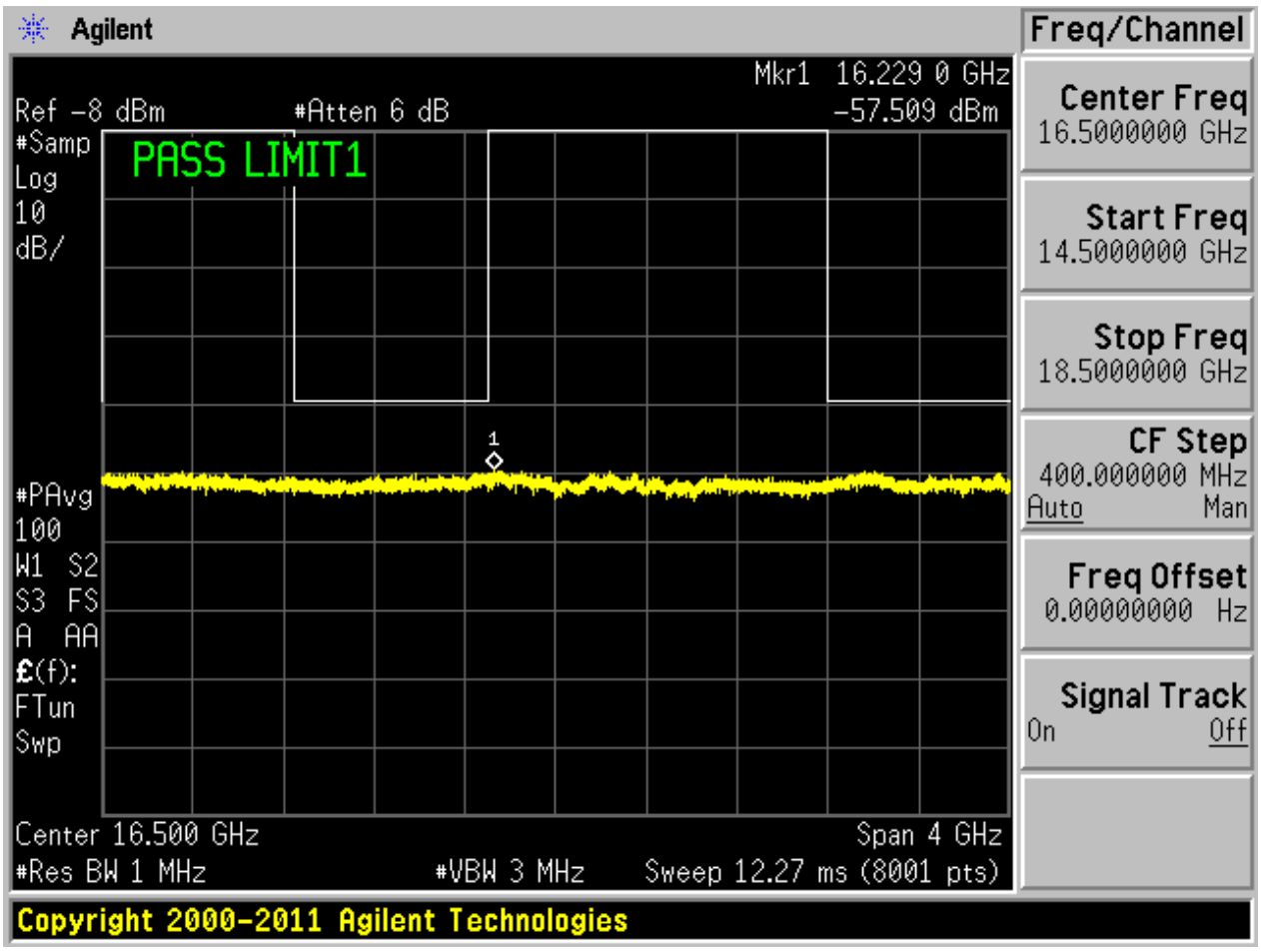

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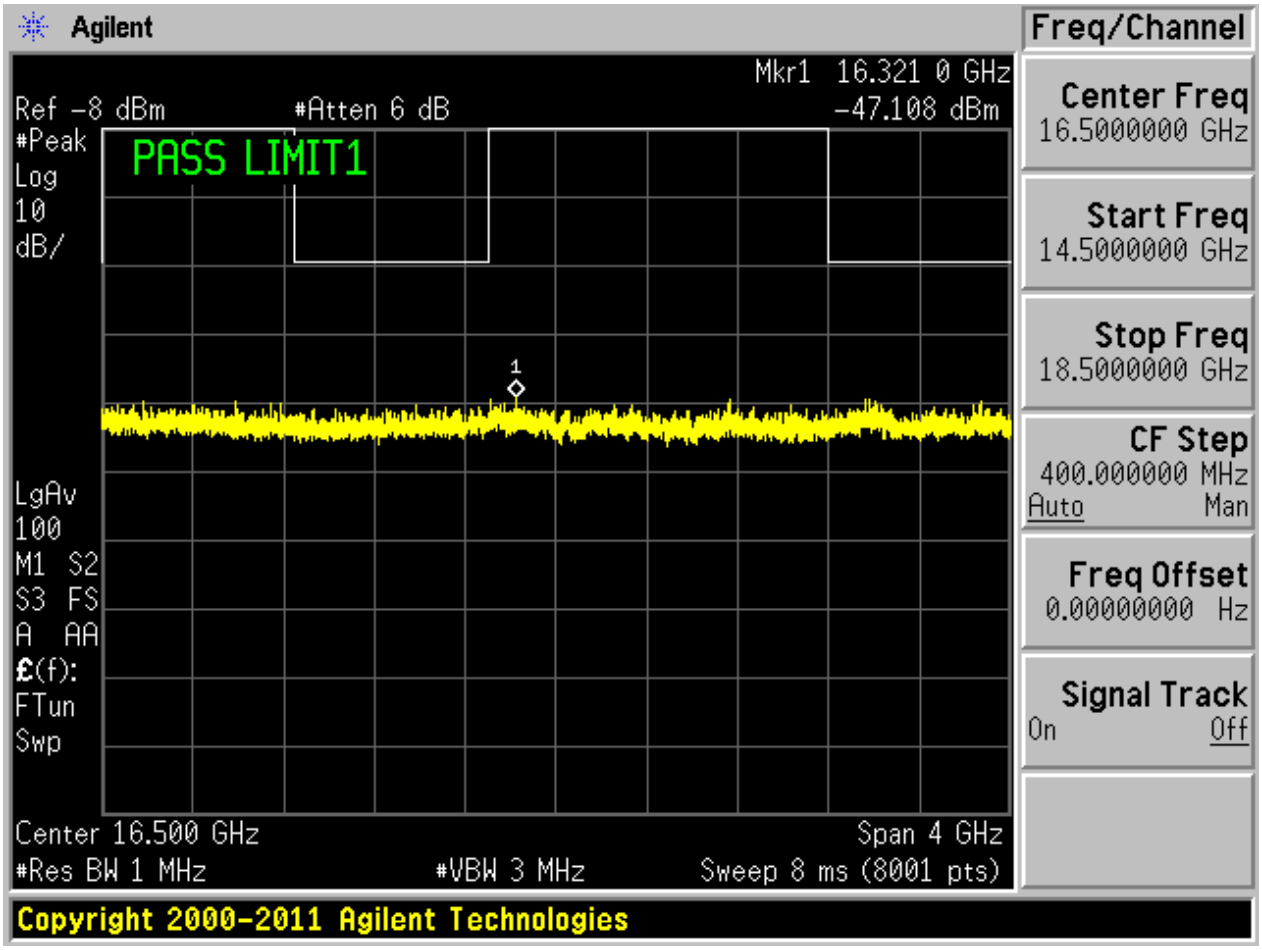

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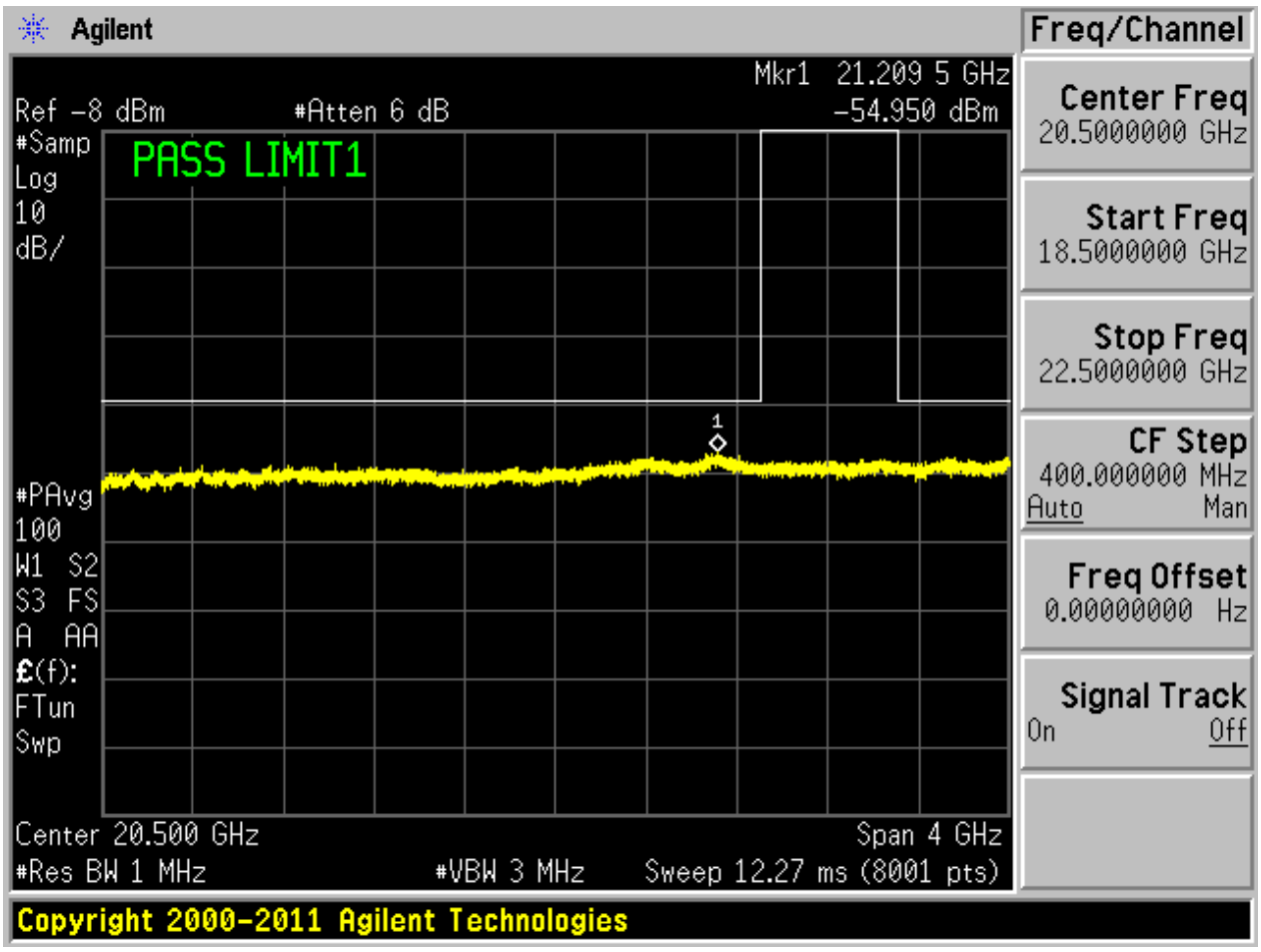

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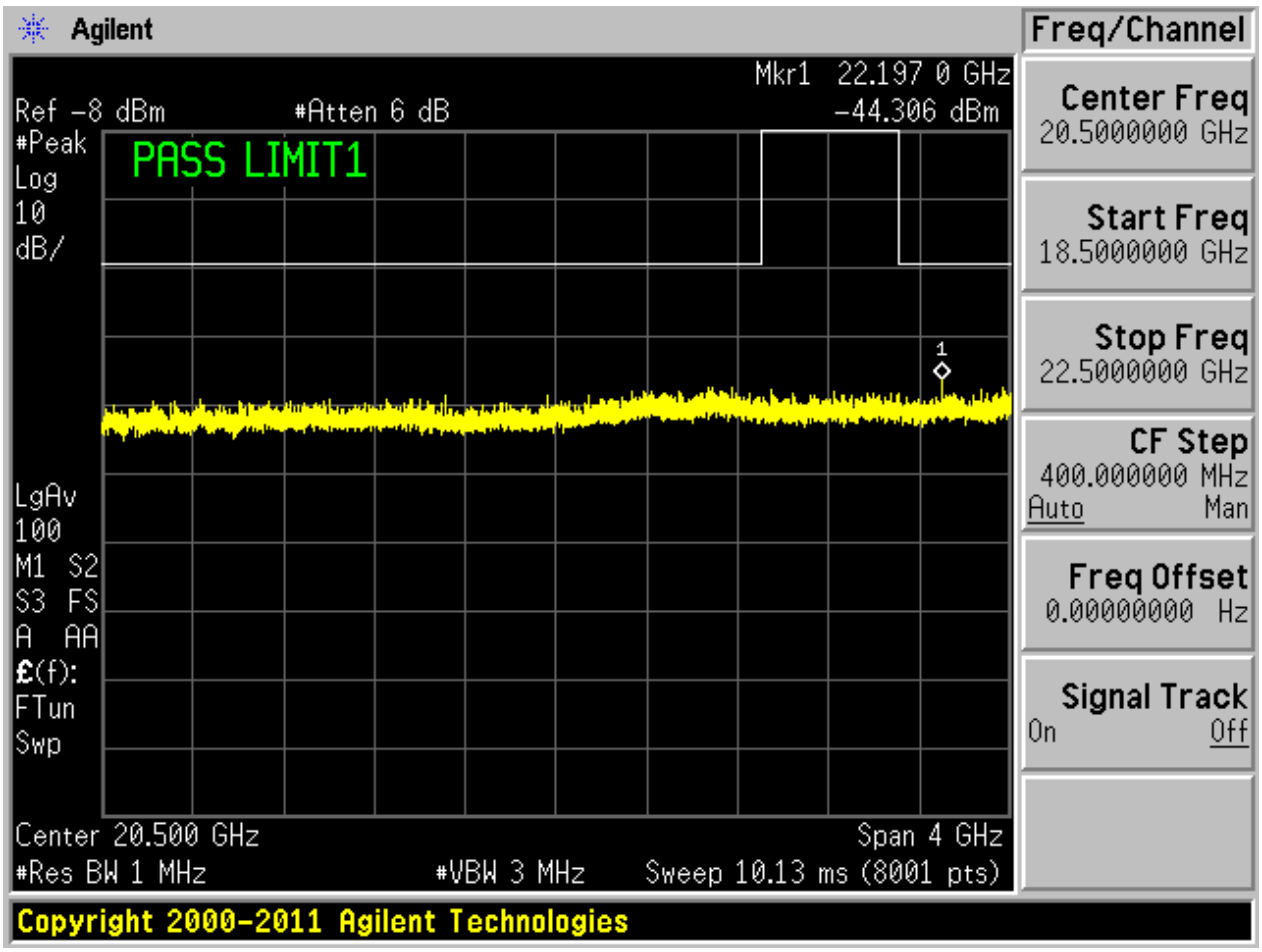

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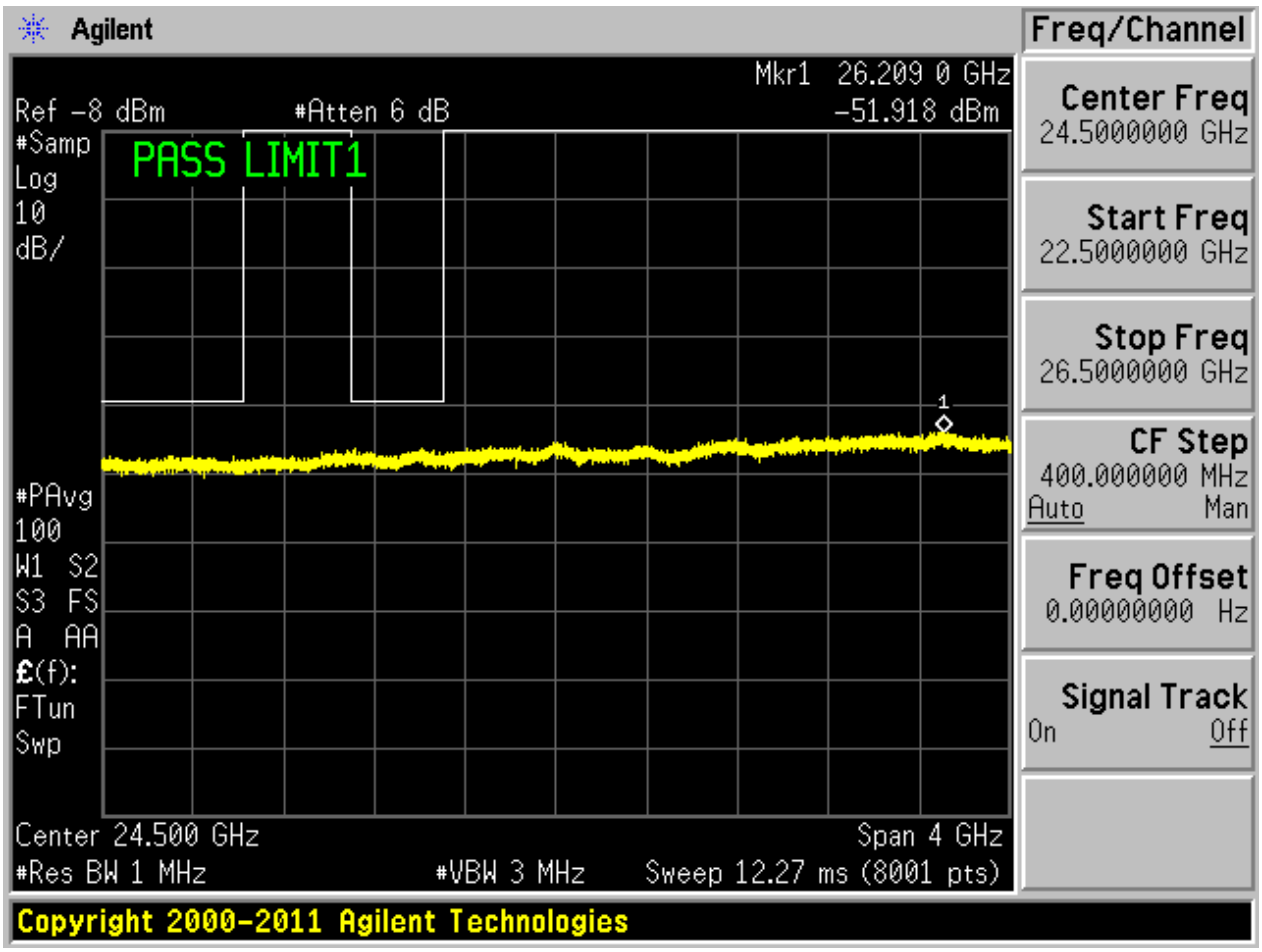

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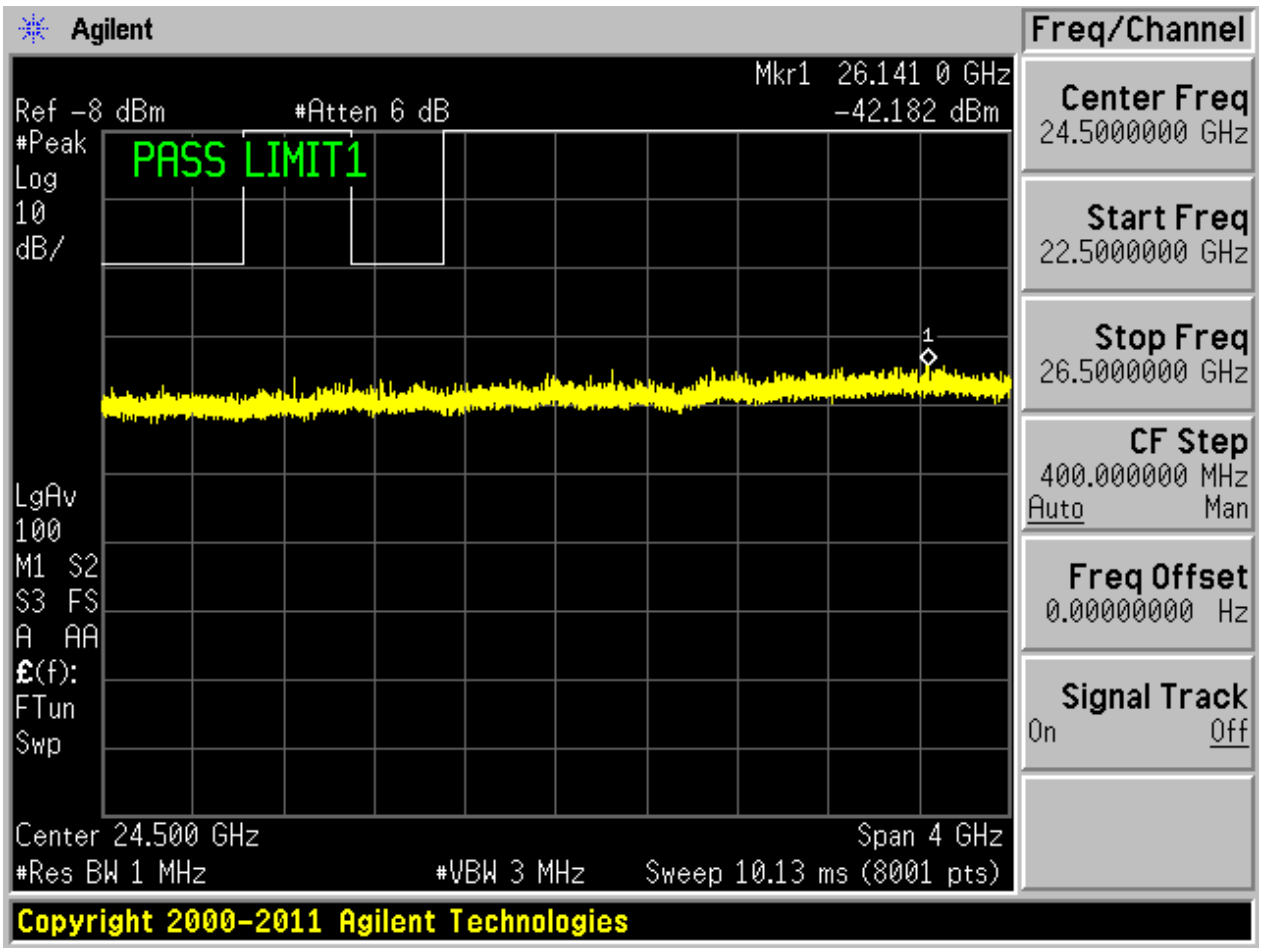

2.6.3 Trace#sum (if needed for final judgment)

(Not applicable)

2.7 11Bd/1_B@1+2+3

2.7.1 Ant 1 (Trace#1)

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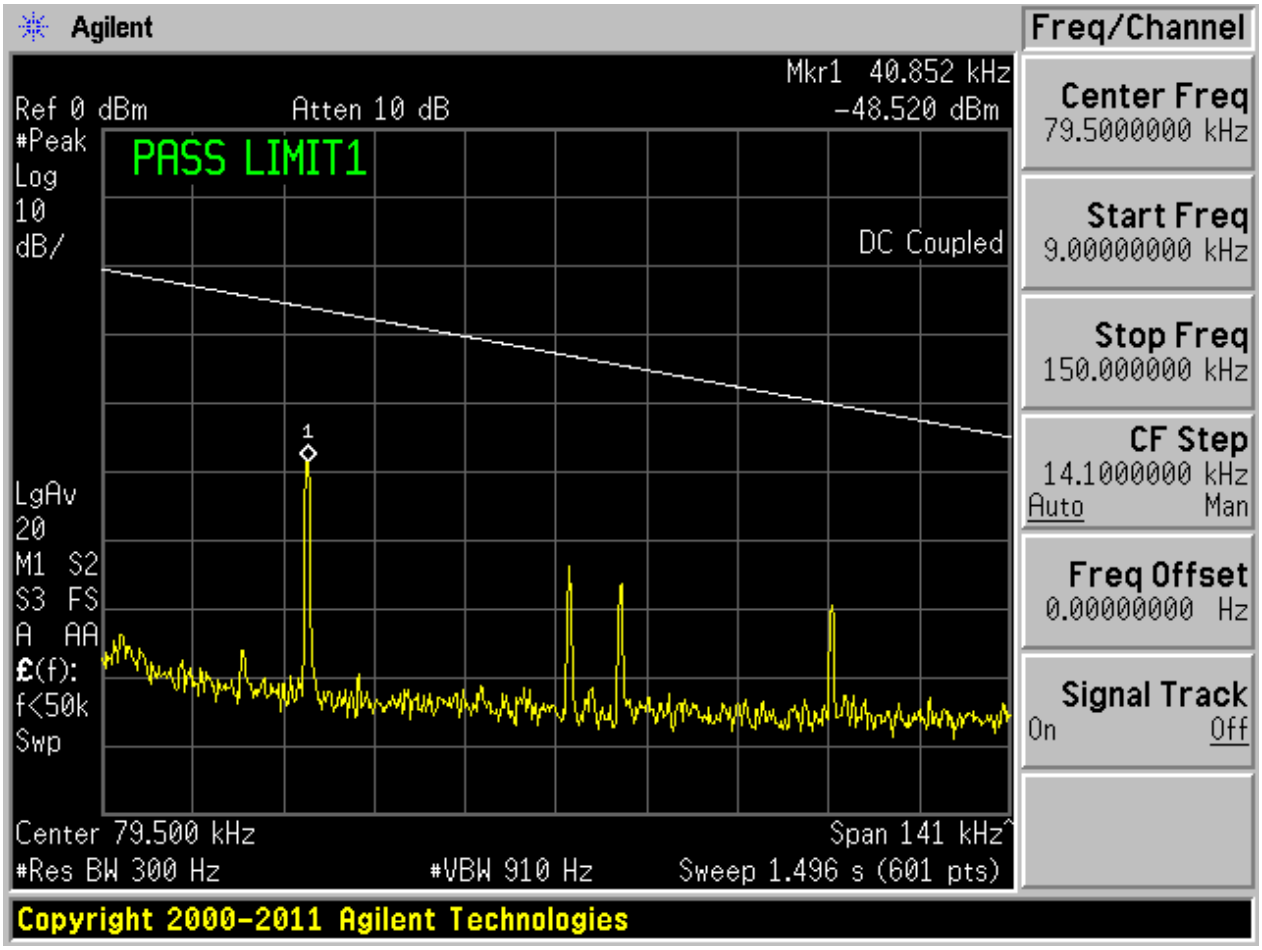

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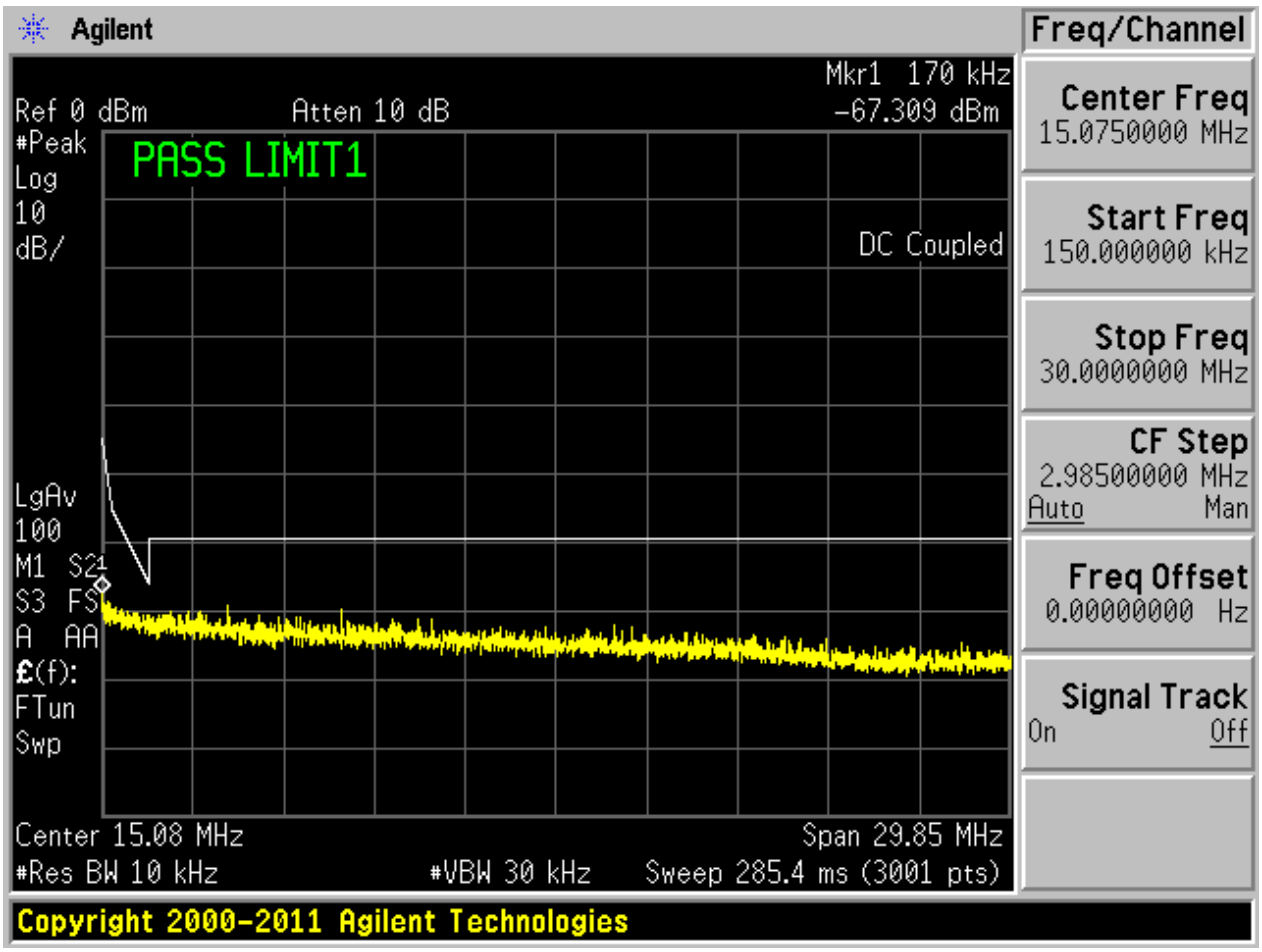

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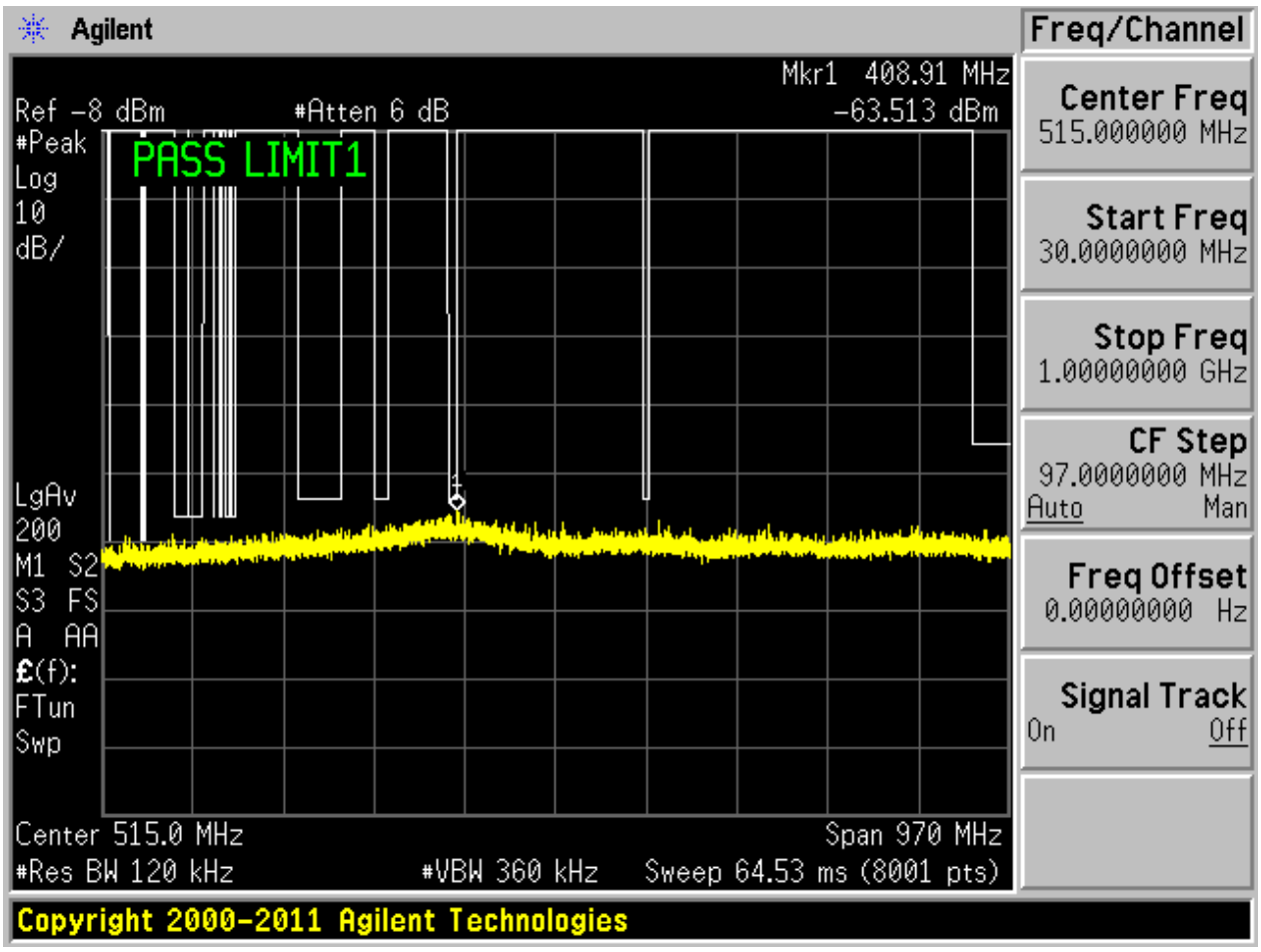

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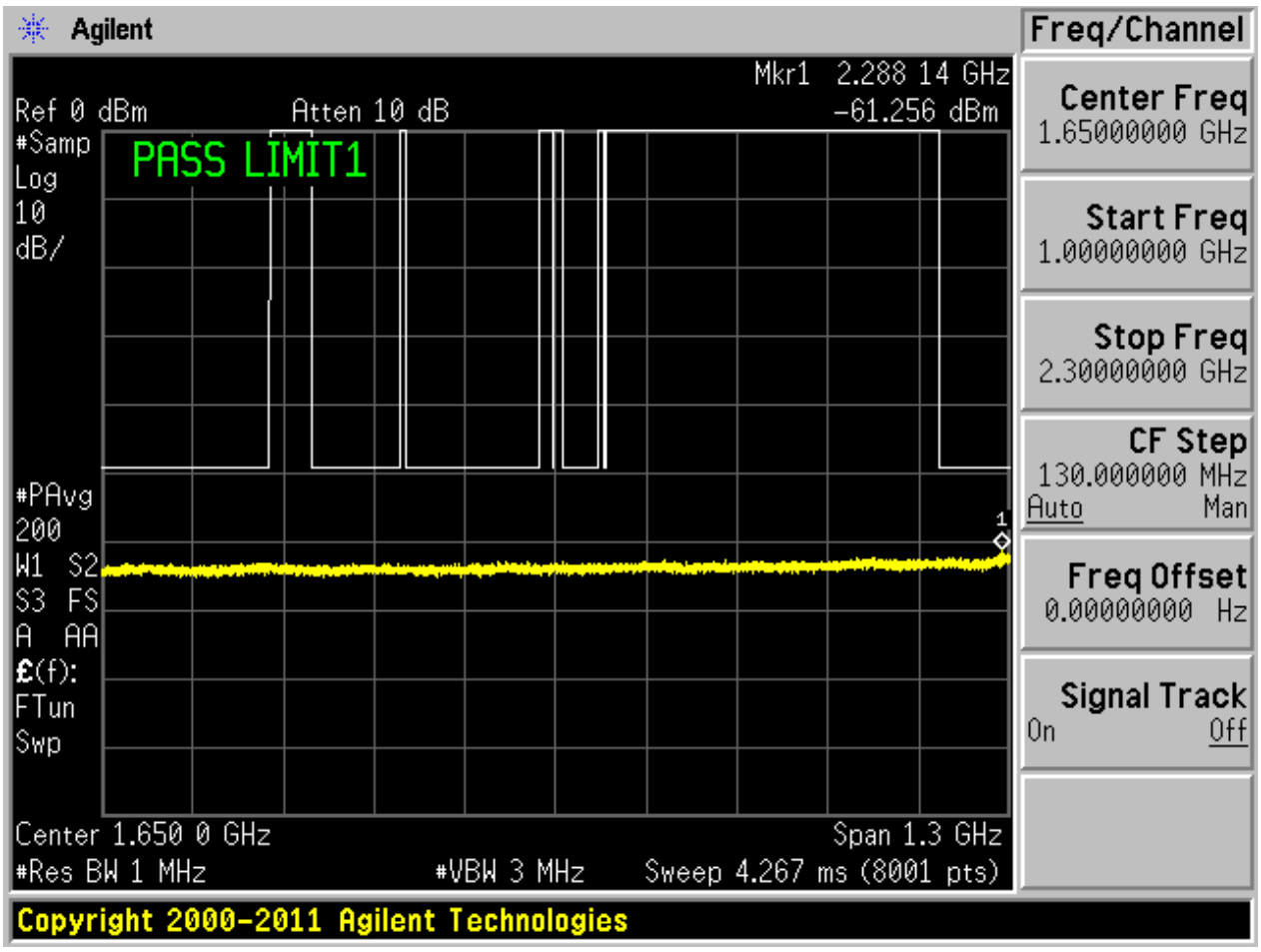

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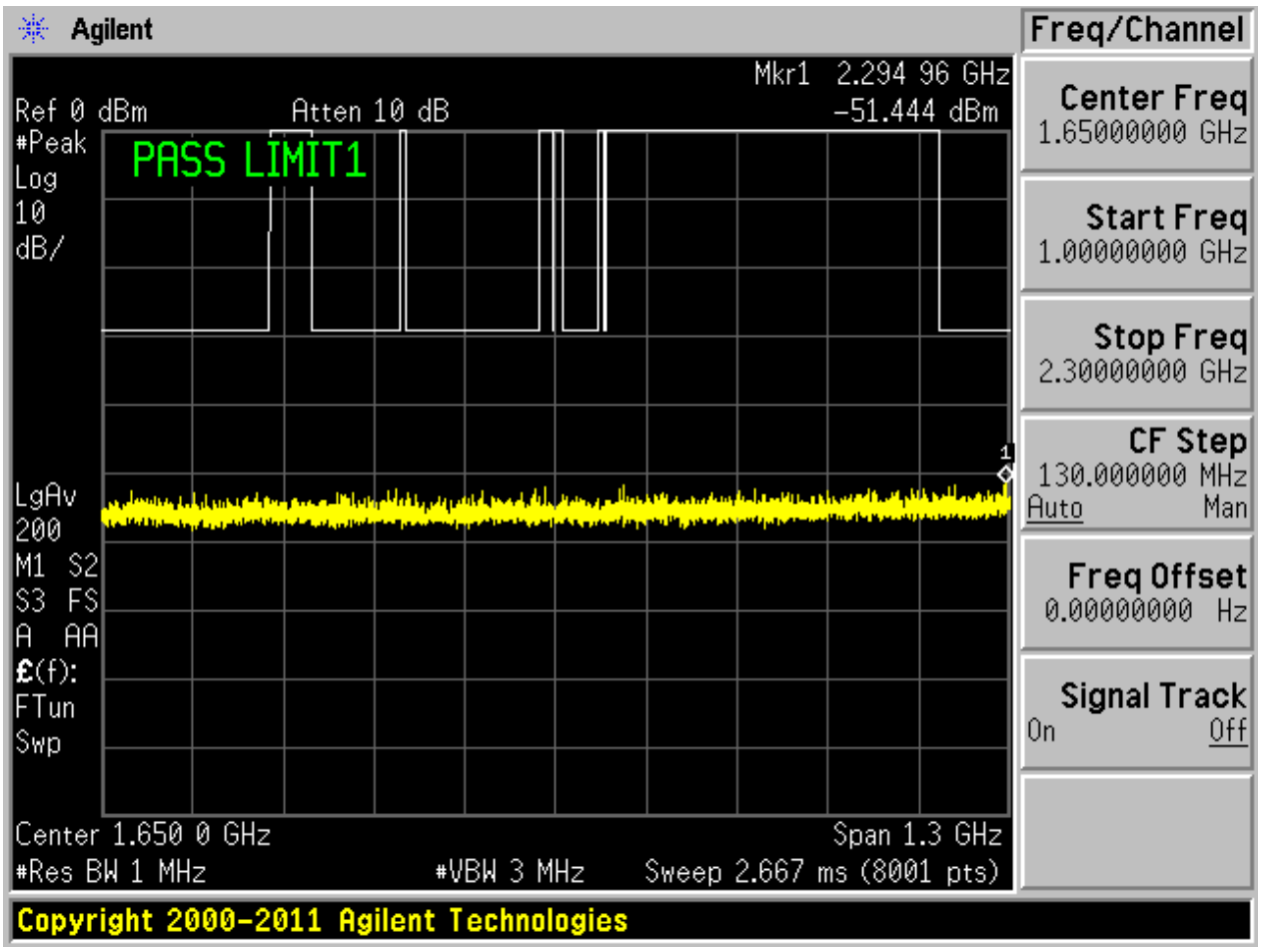

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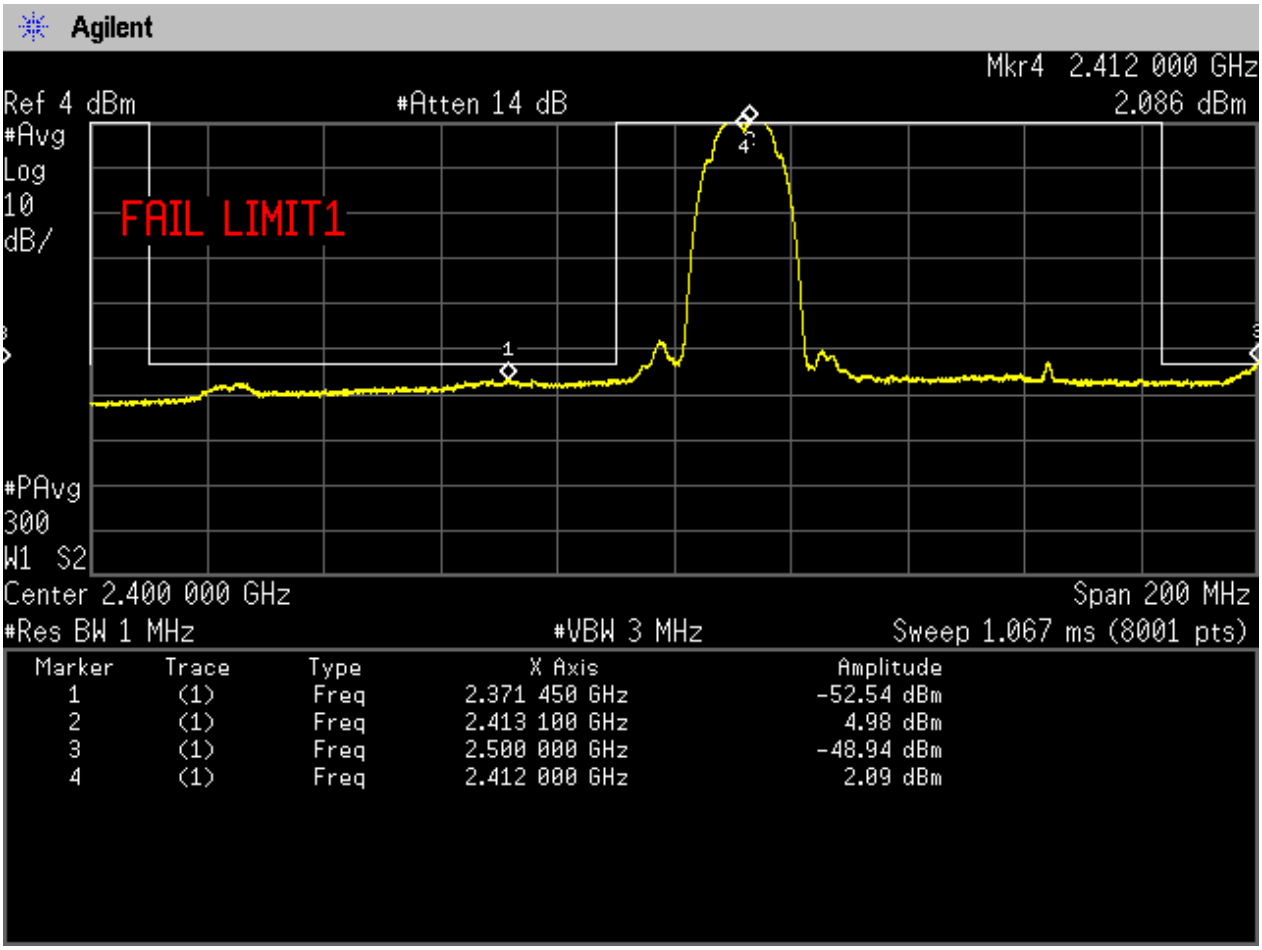

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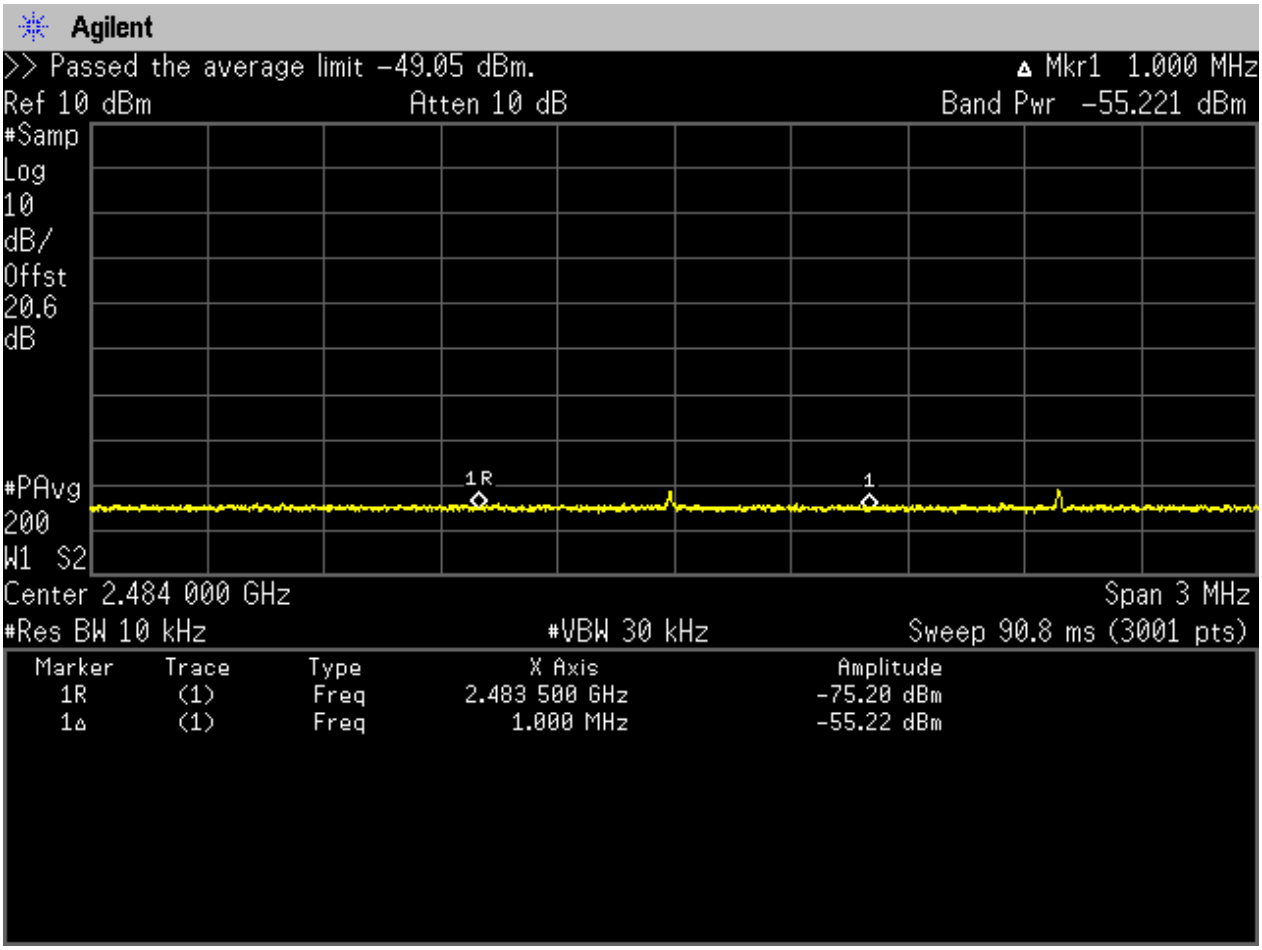

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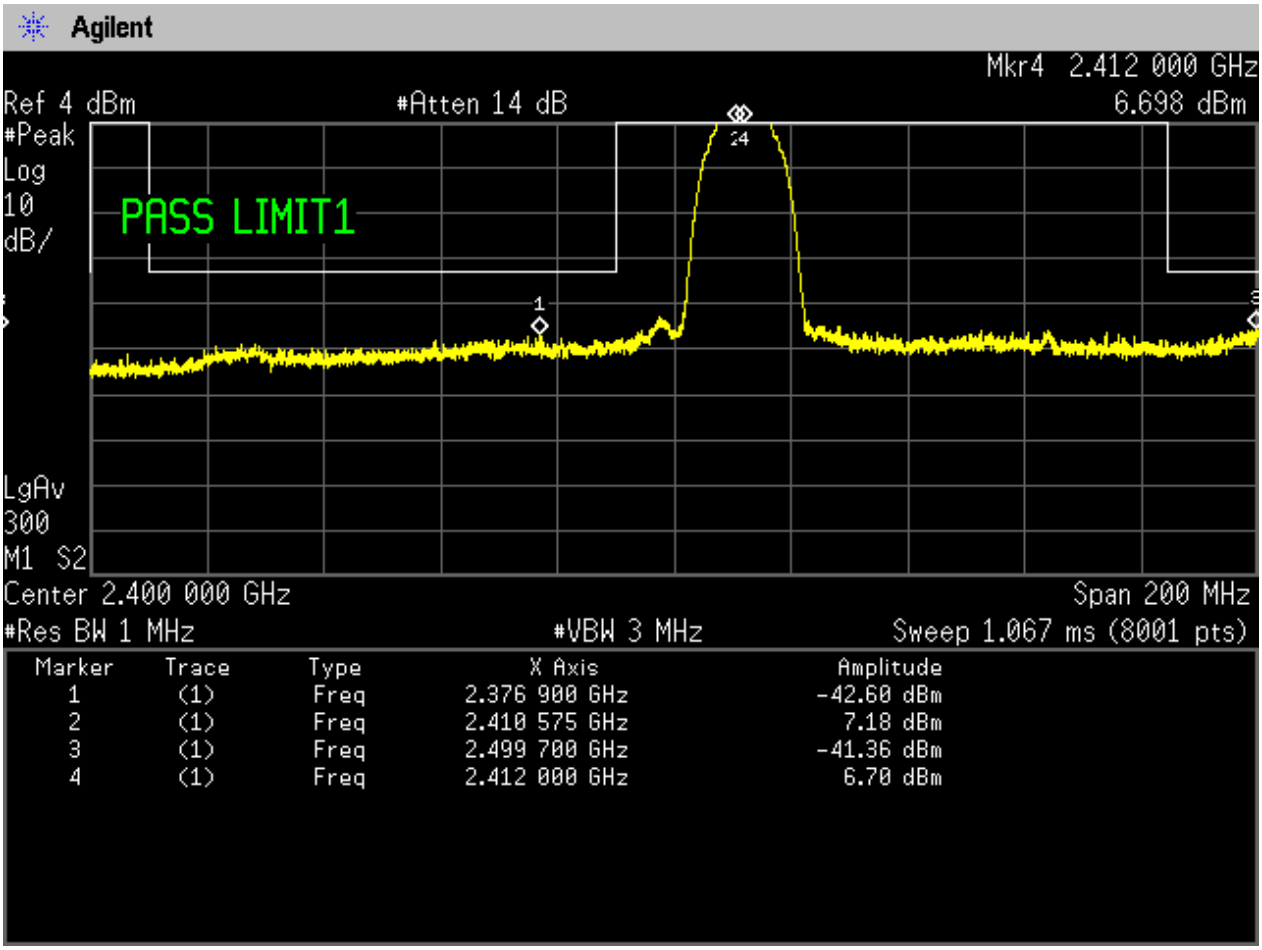

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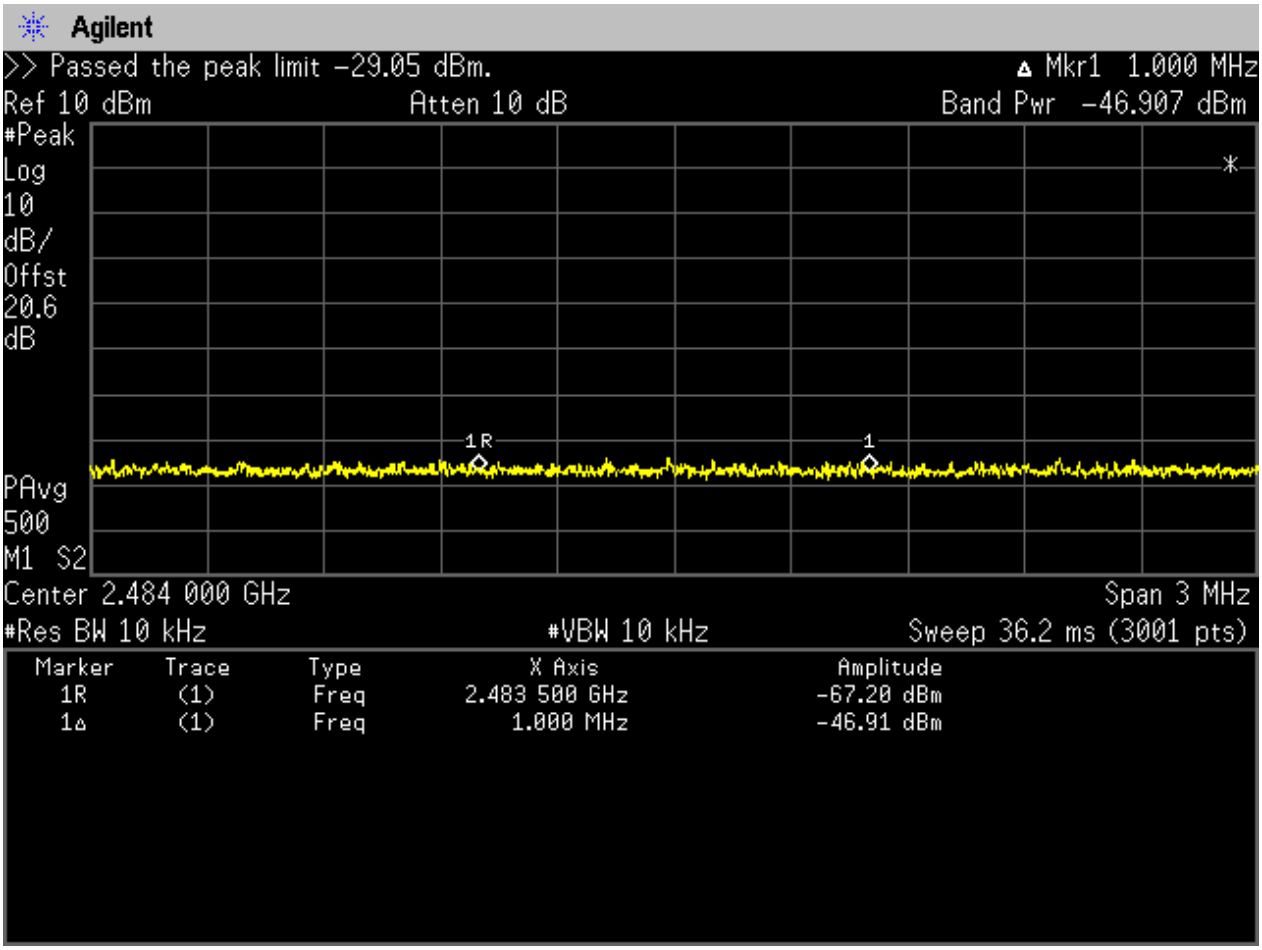

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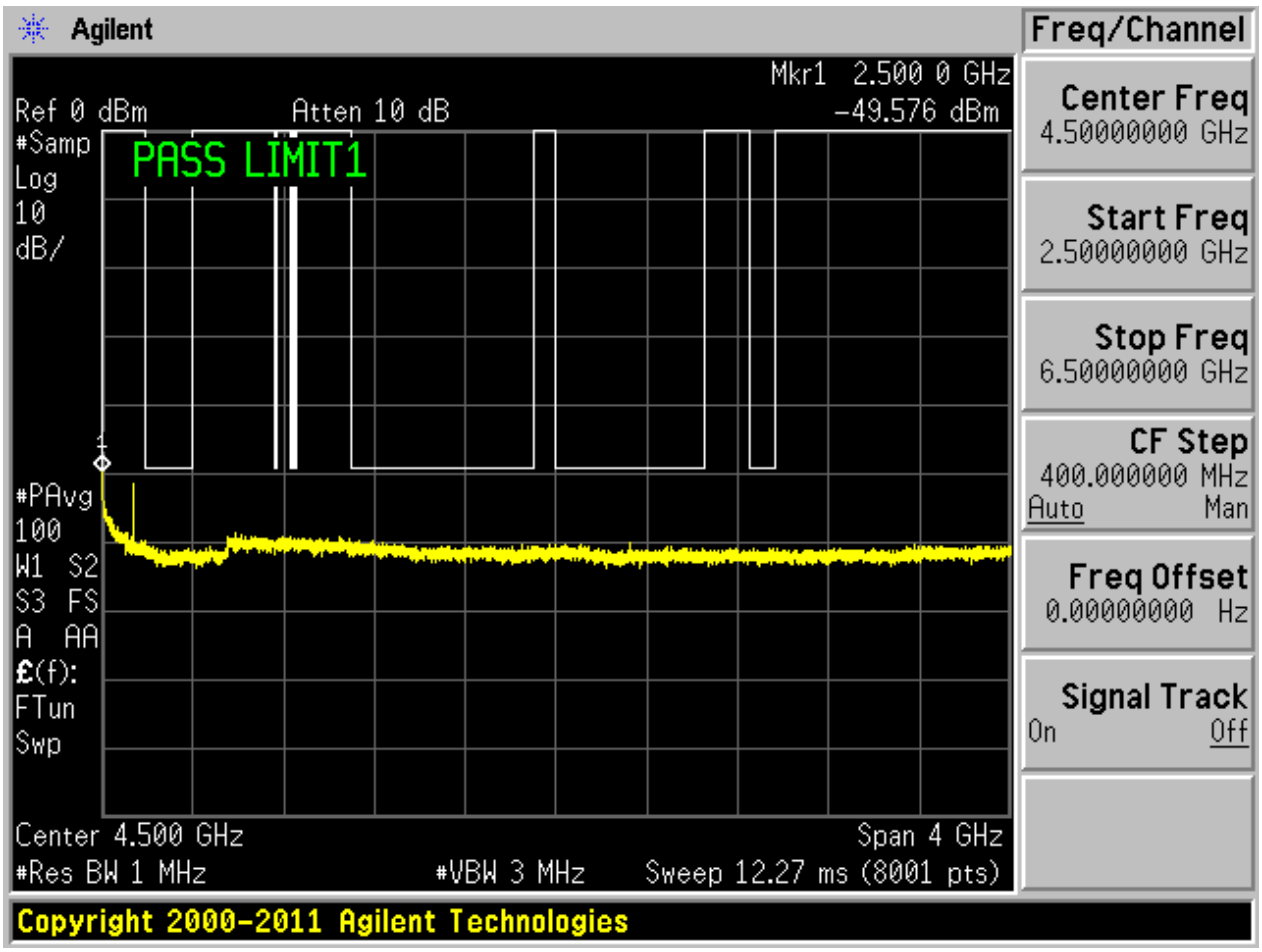

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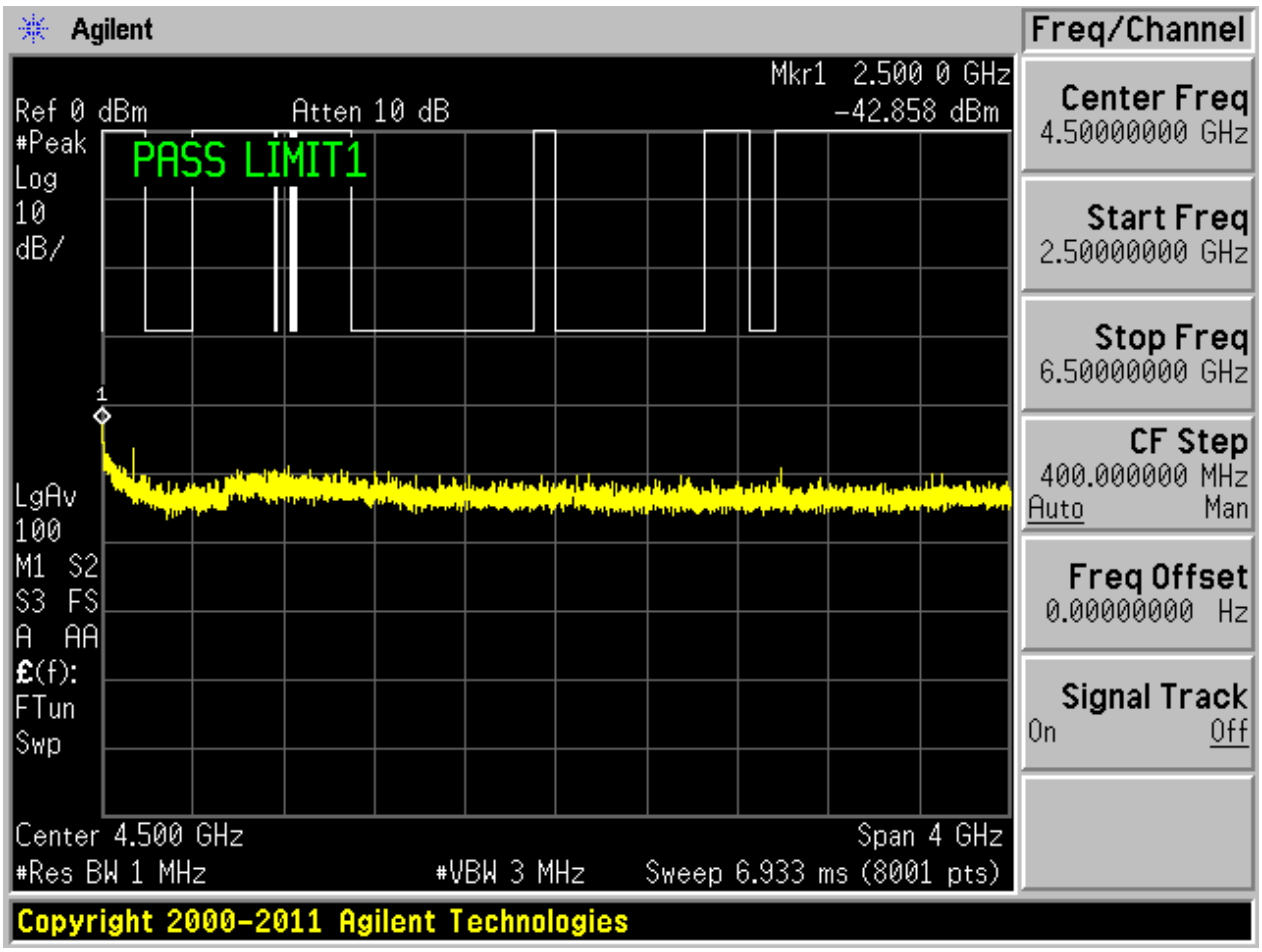

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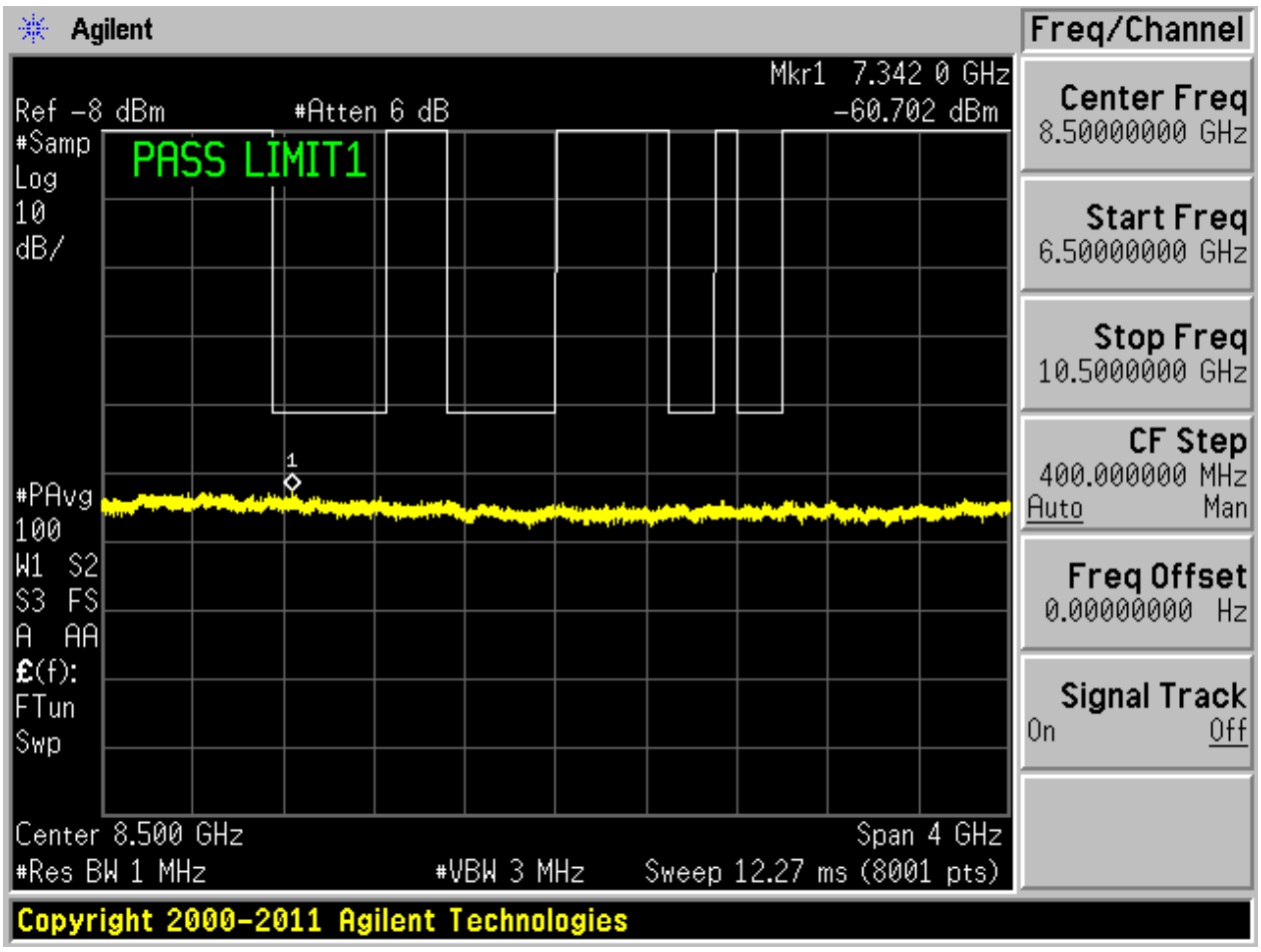

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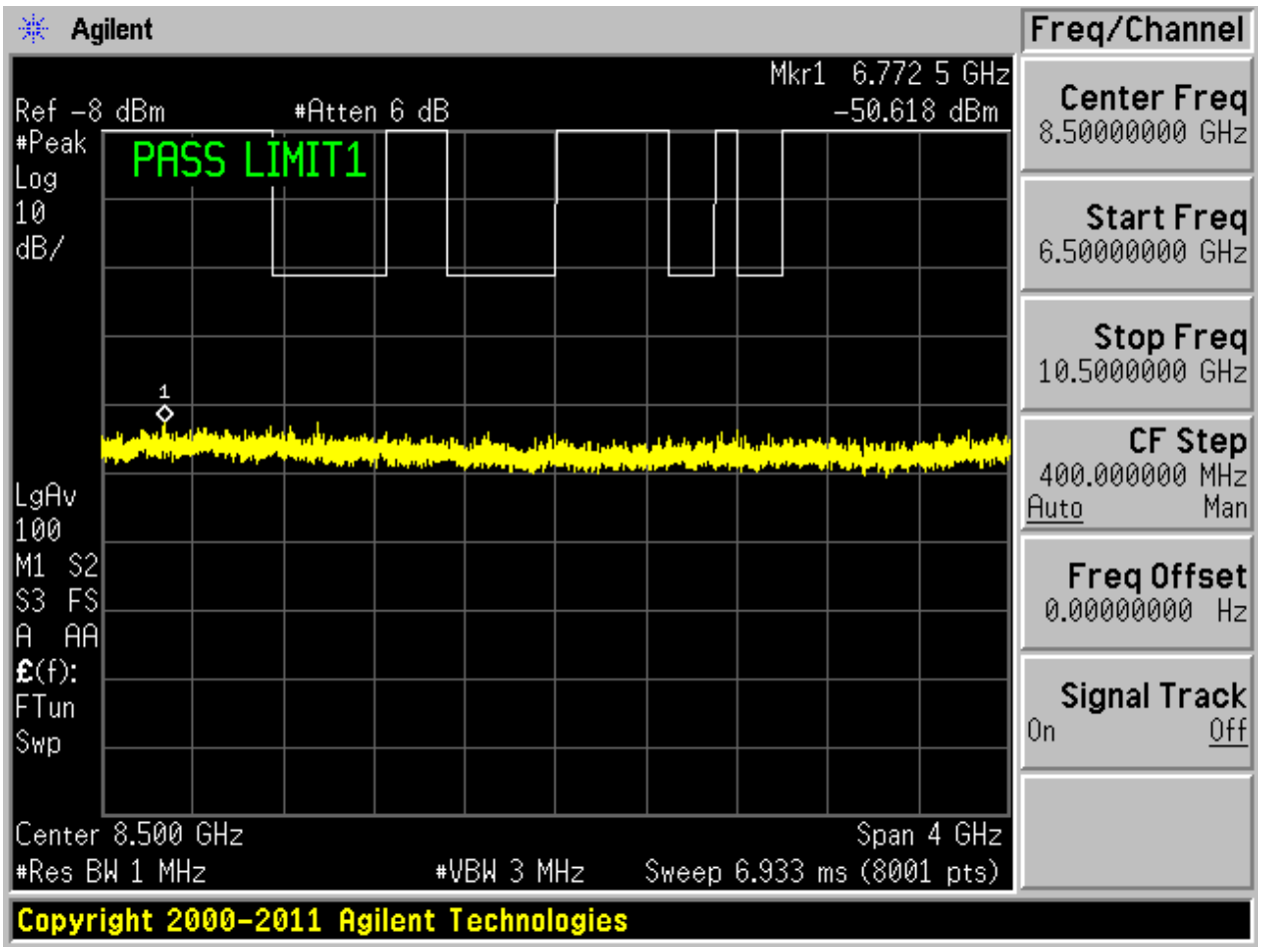

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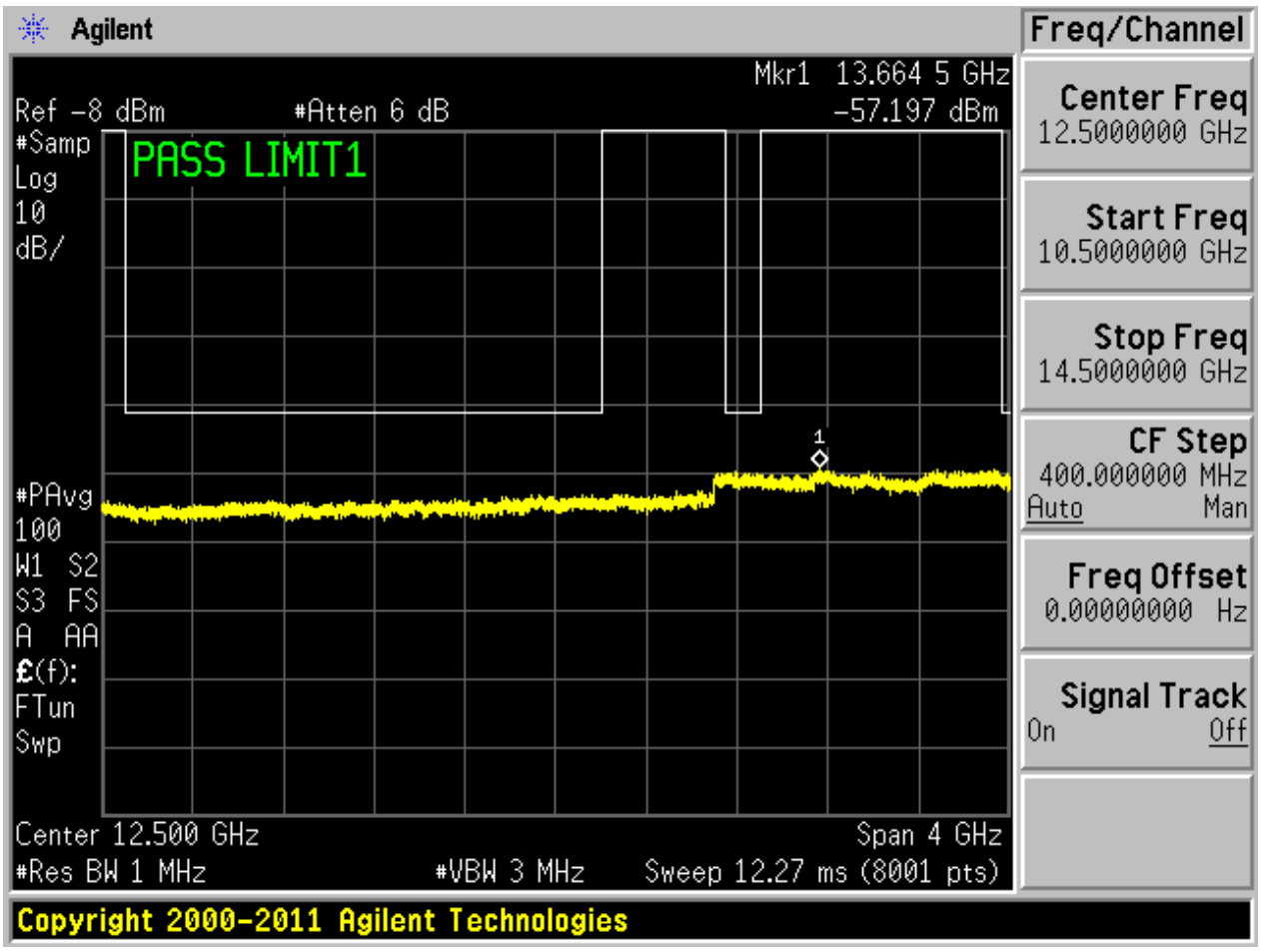

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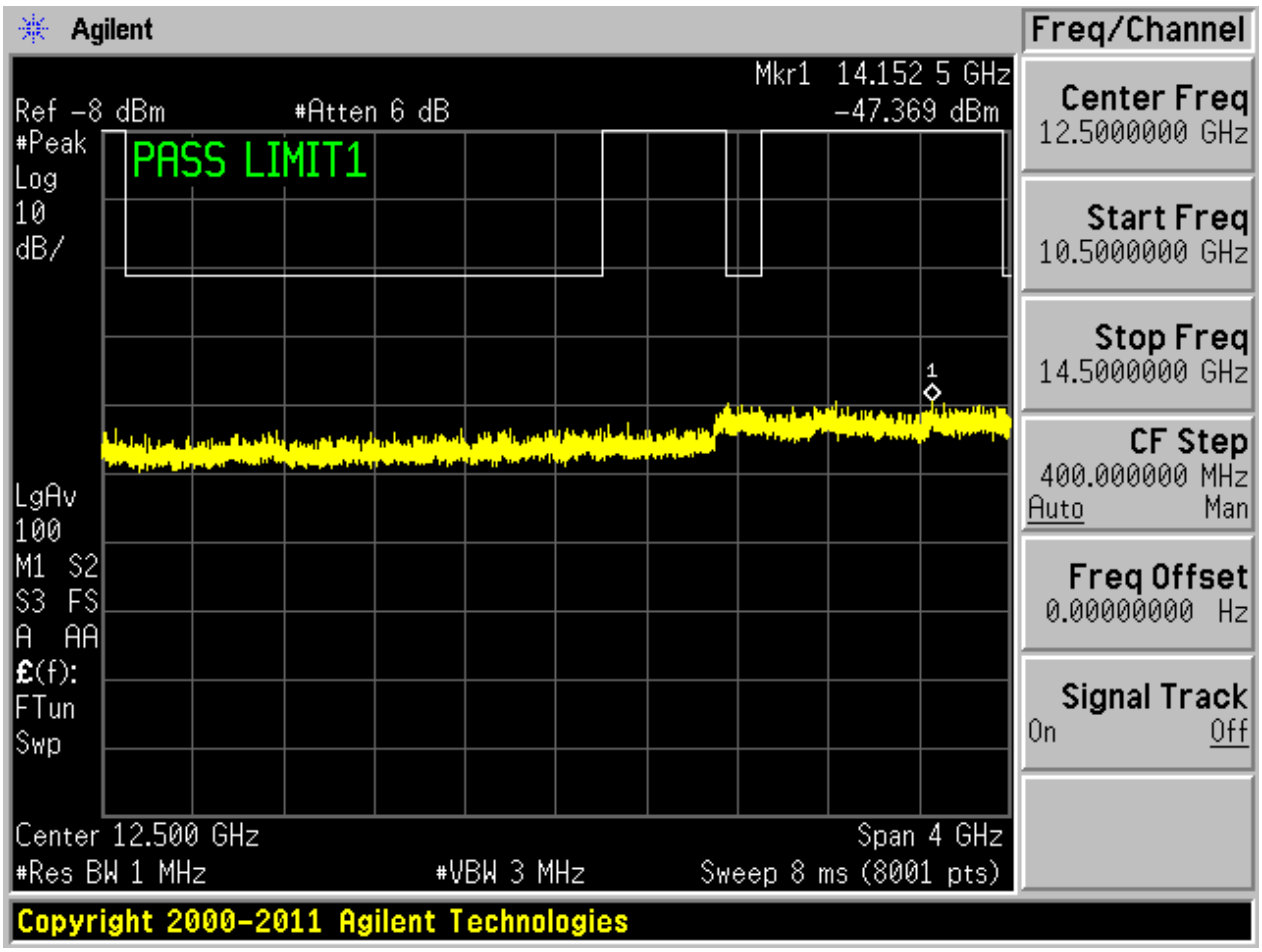

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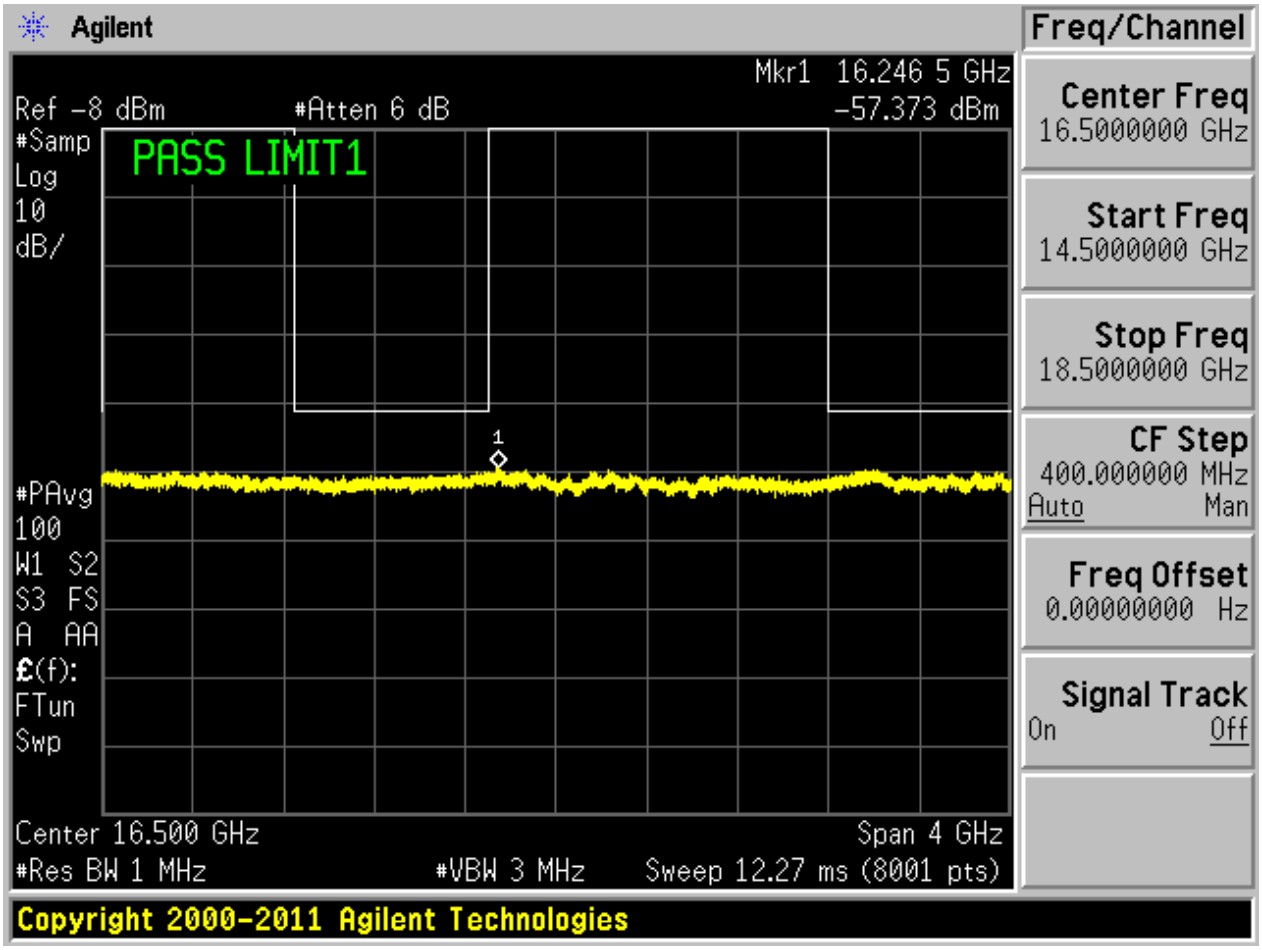

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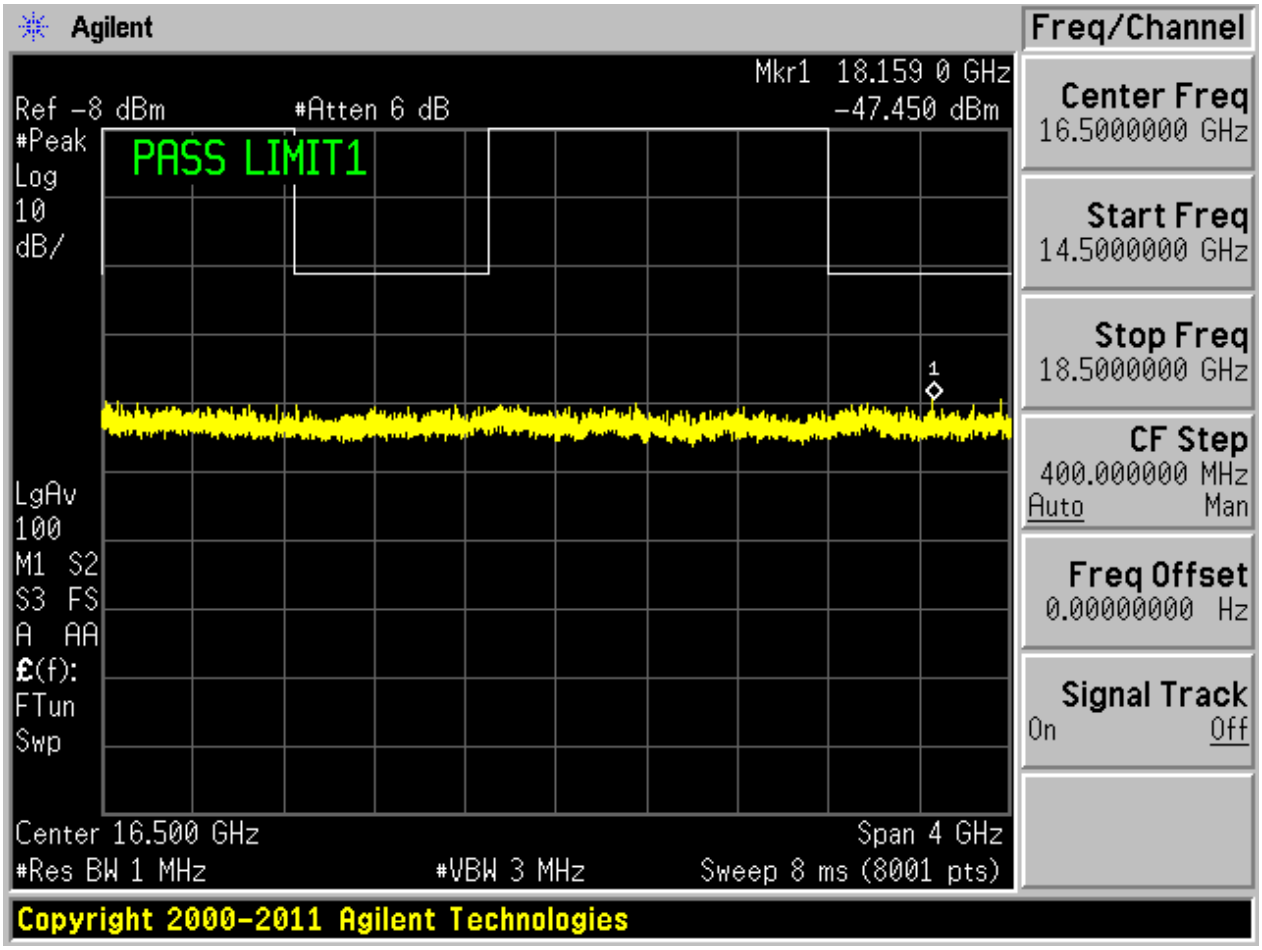

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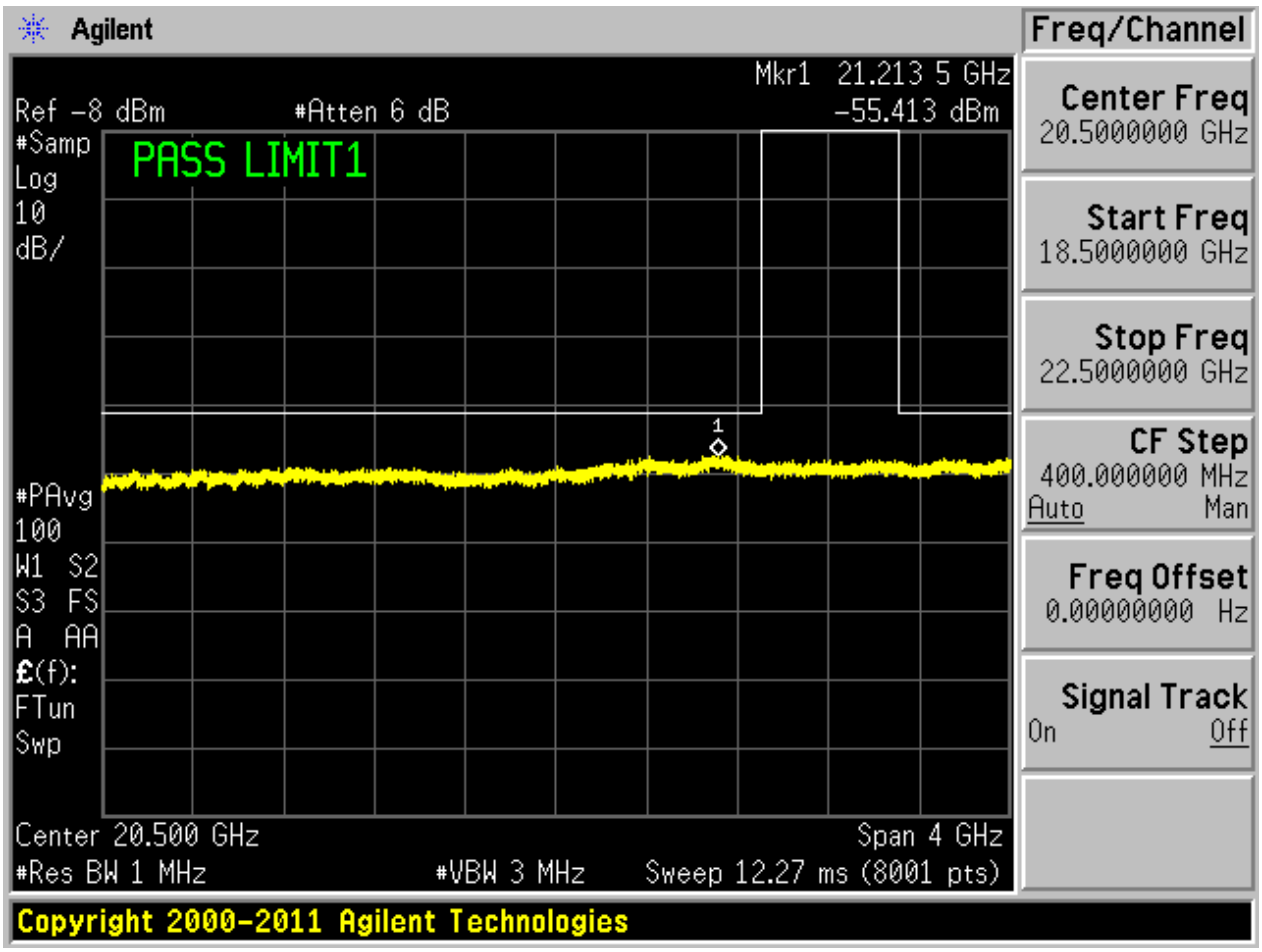

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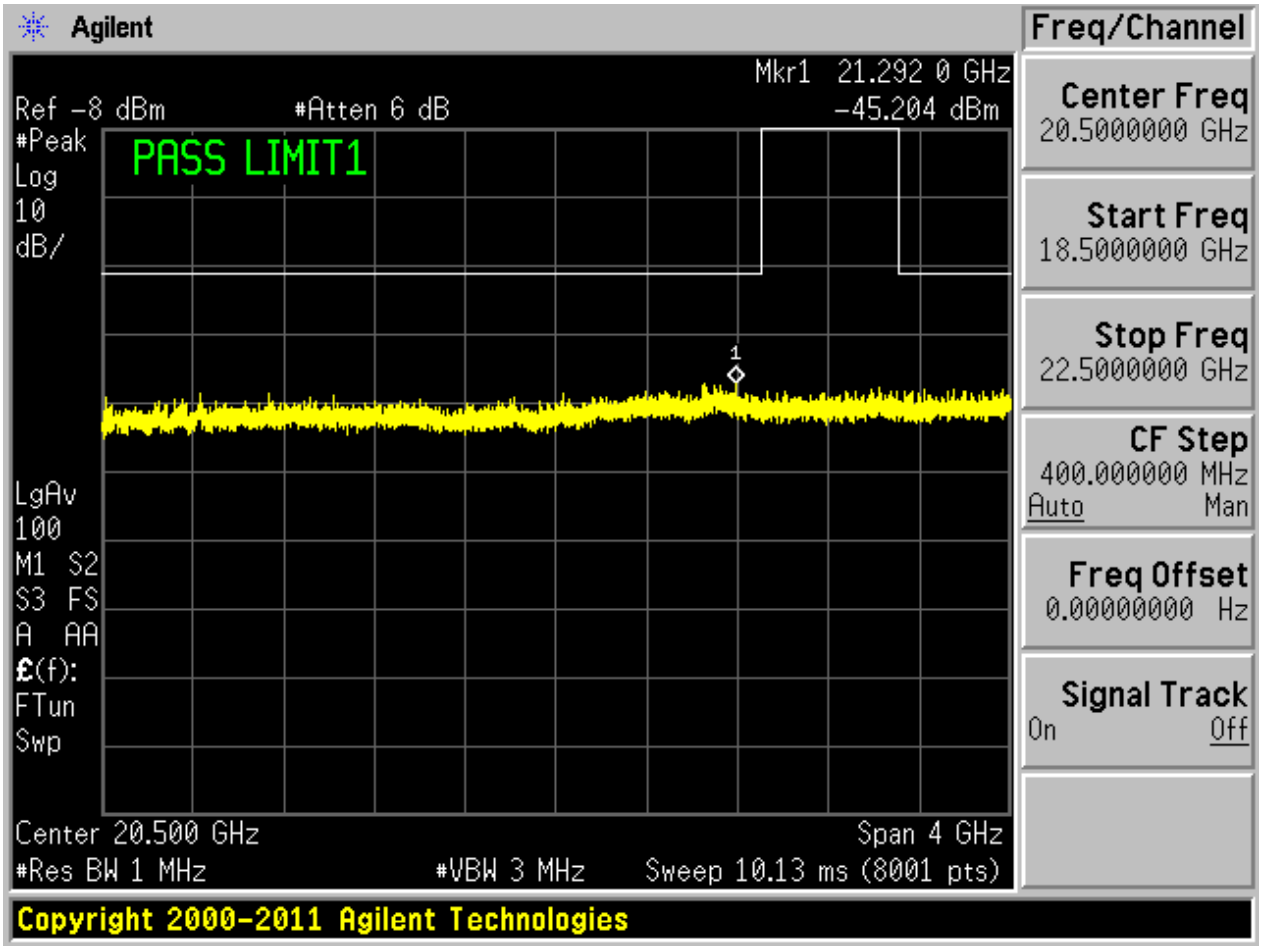

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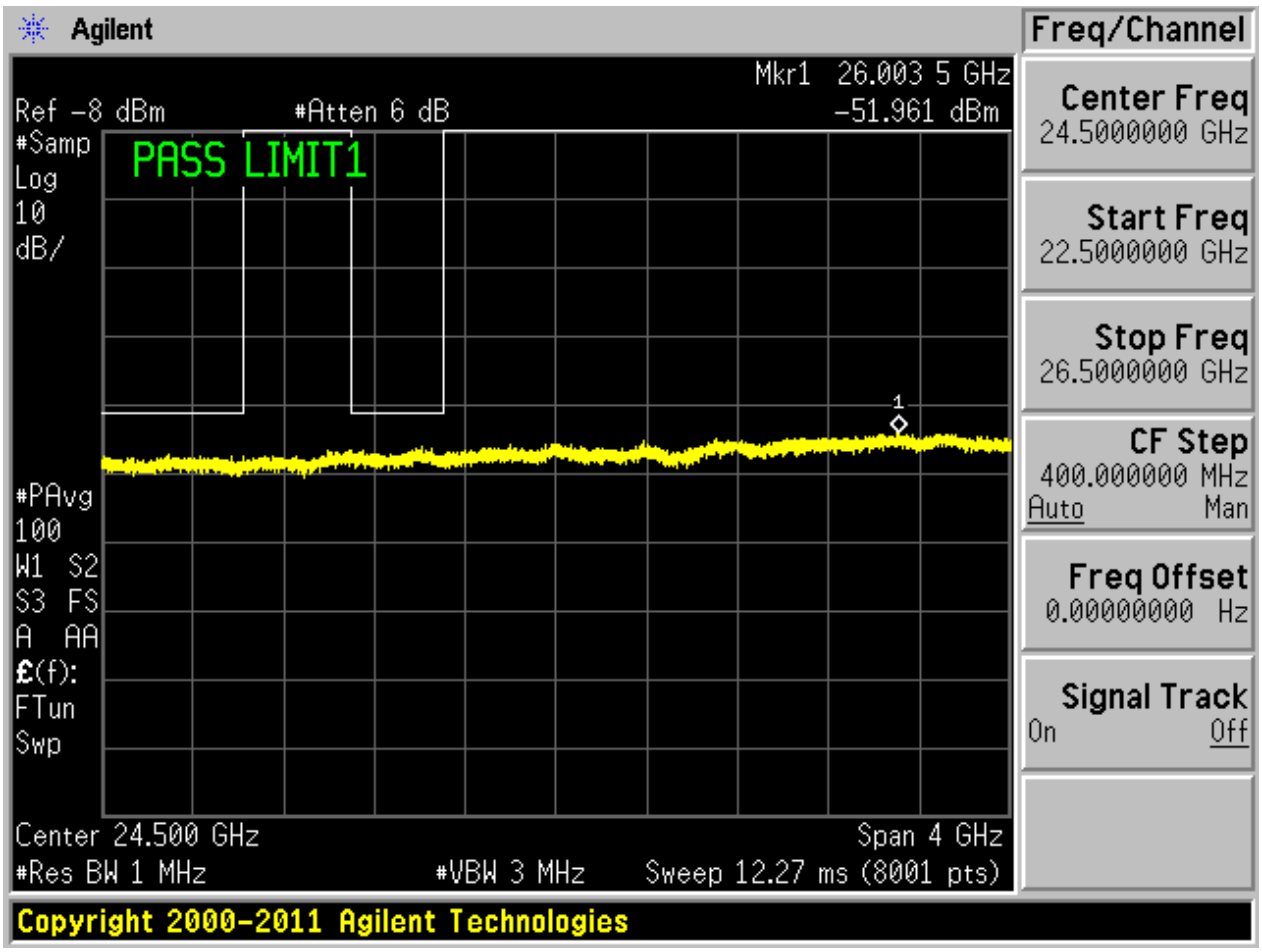

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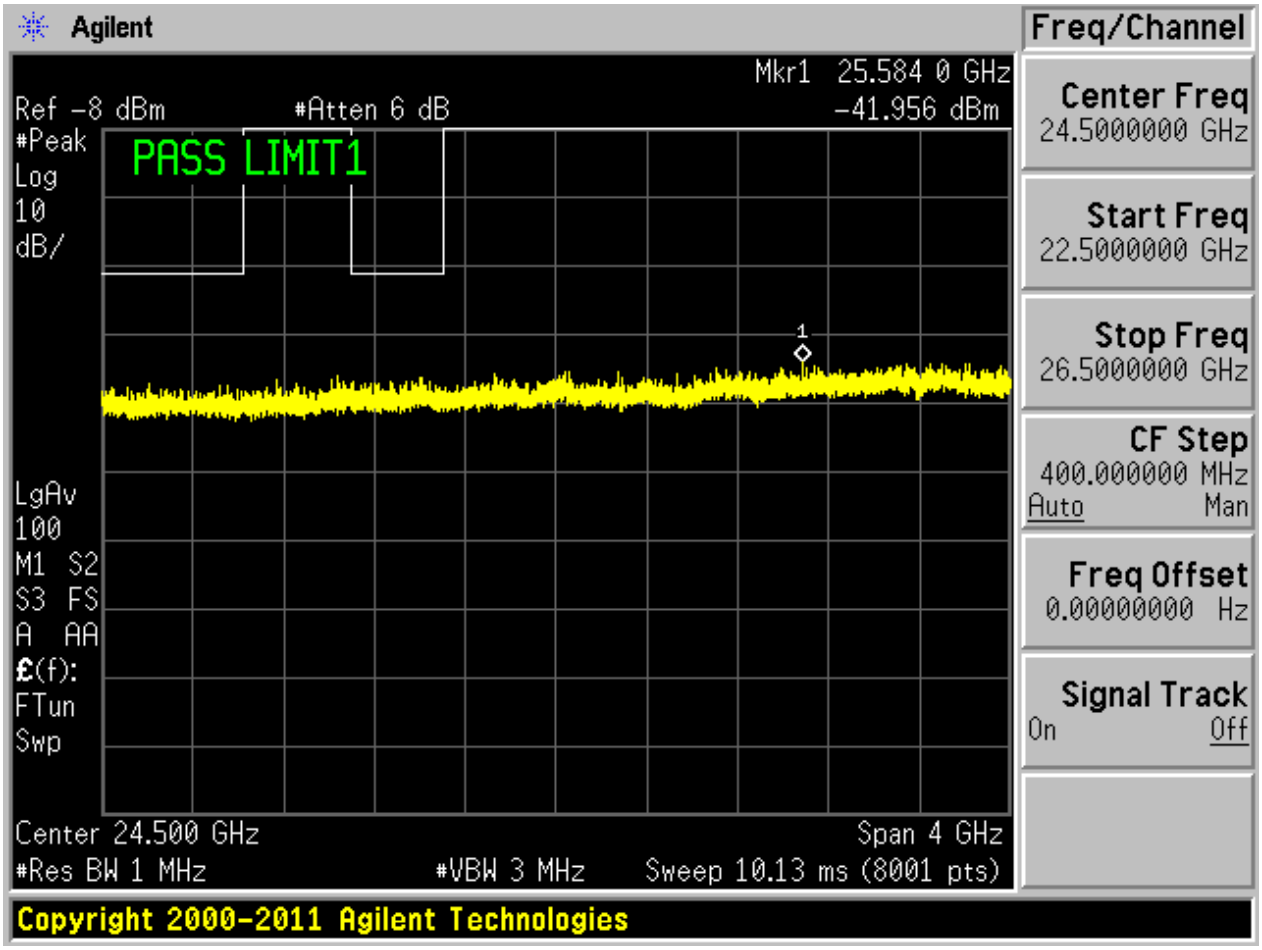

2.7.2 Ant 2 (Trace#2)

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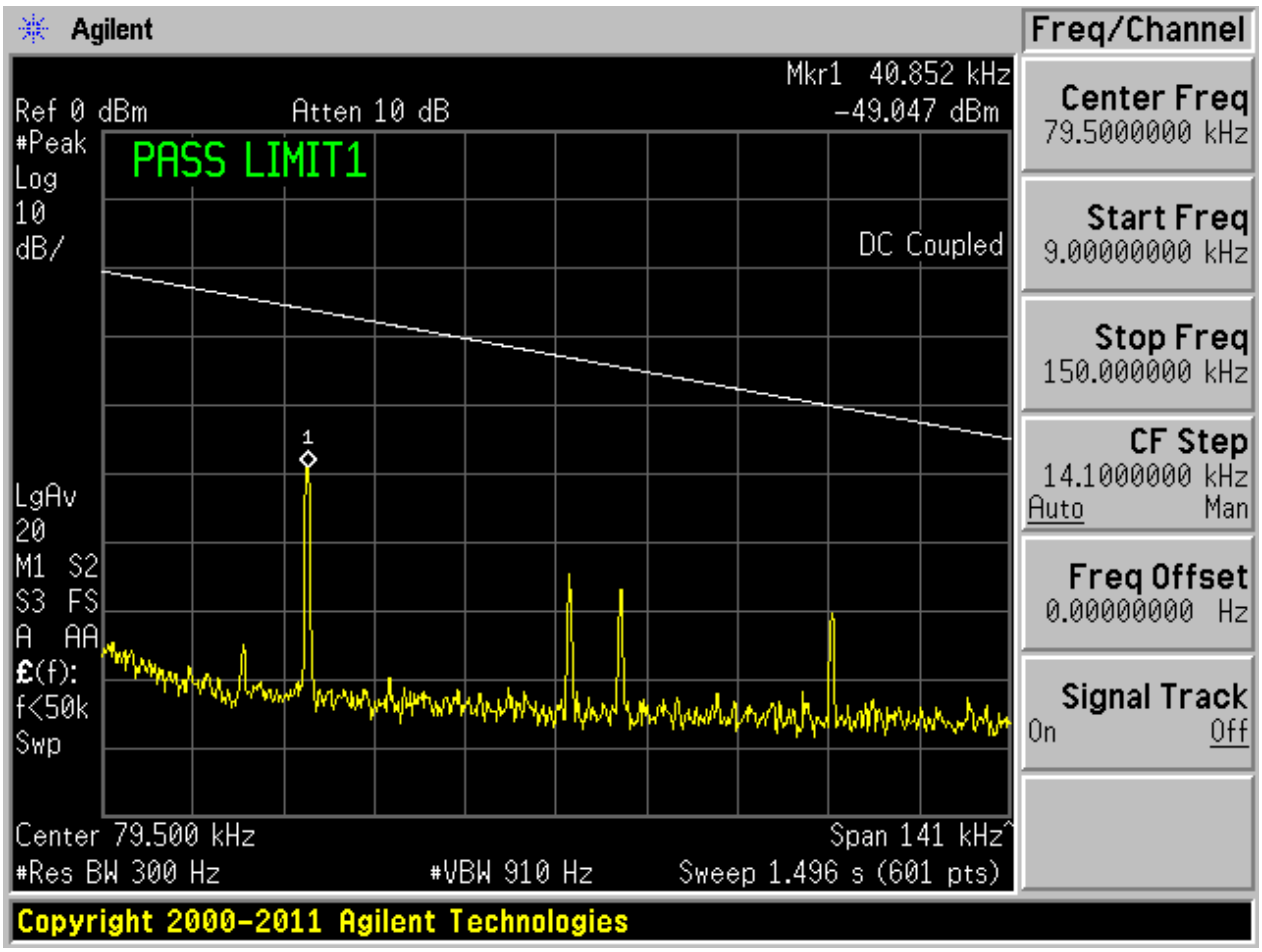

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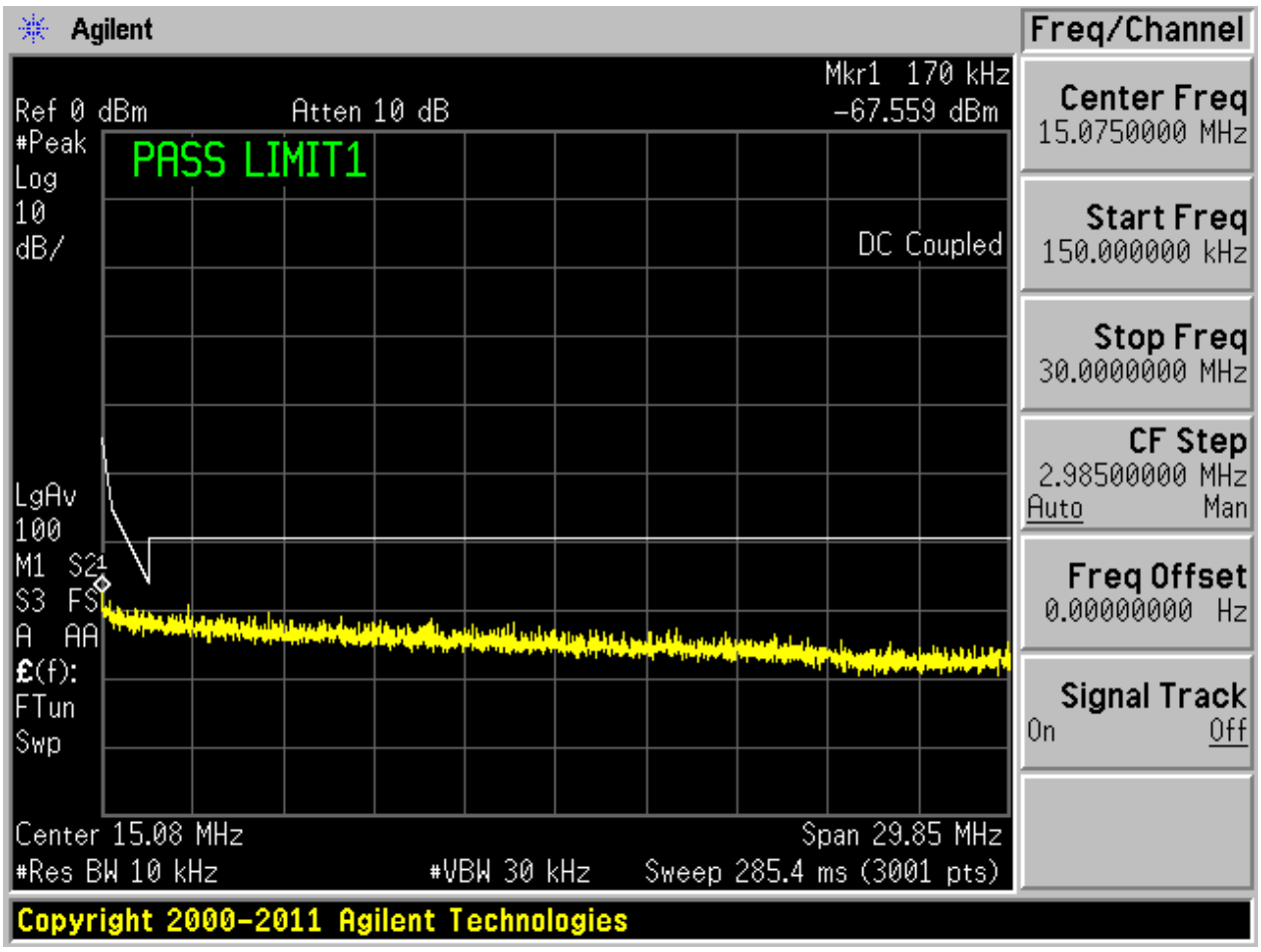

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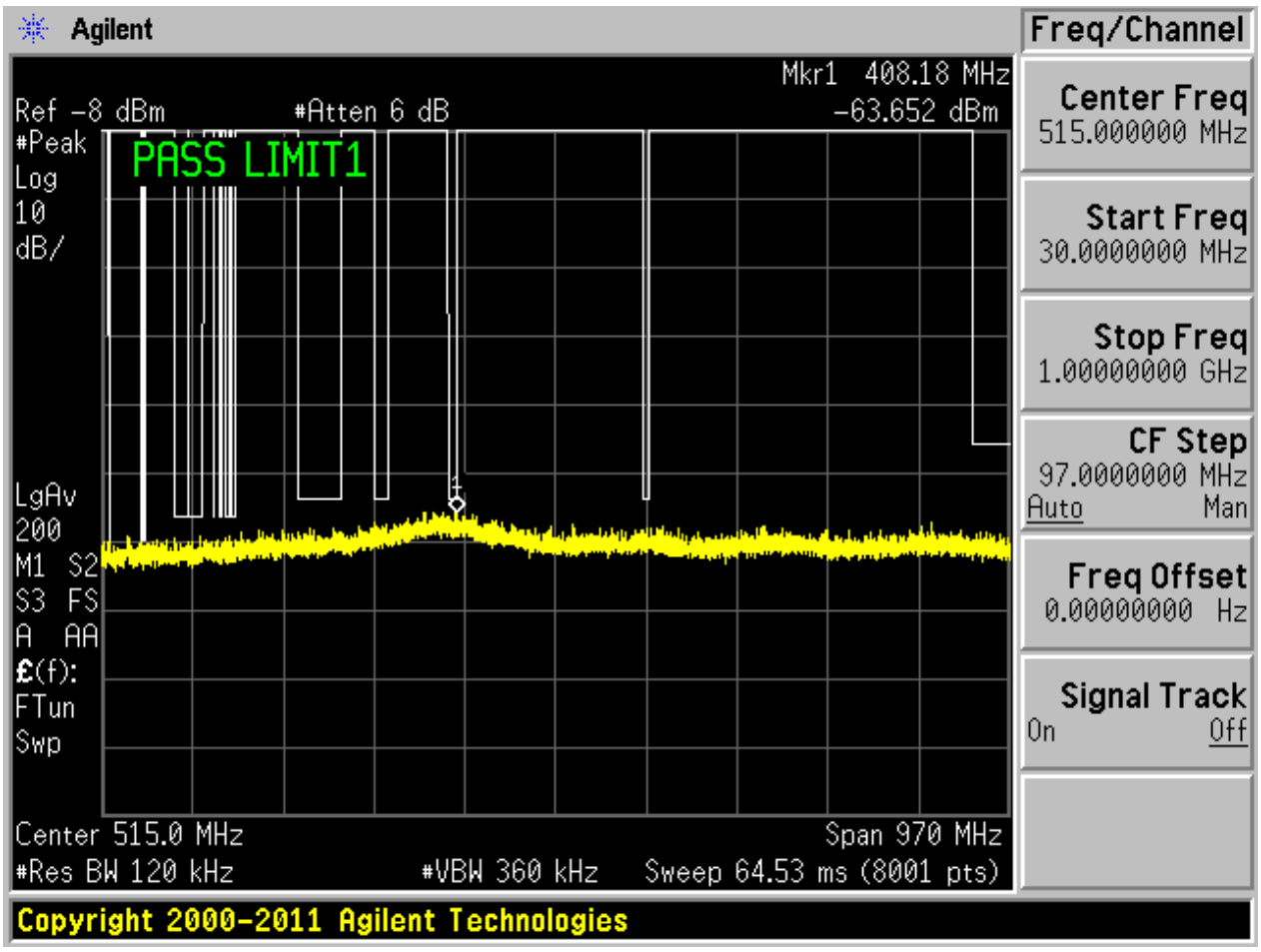

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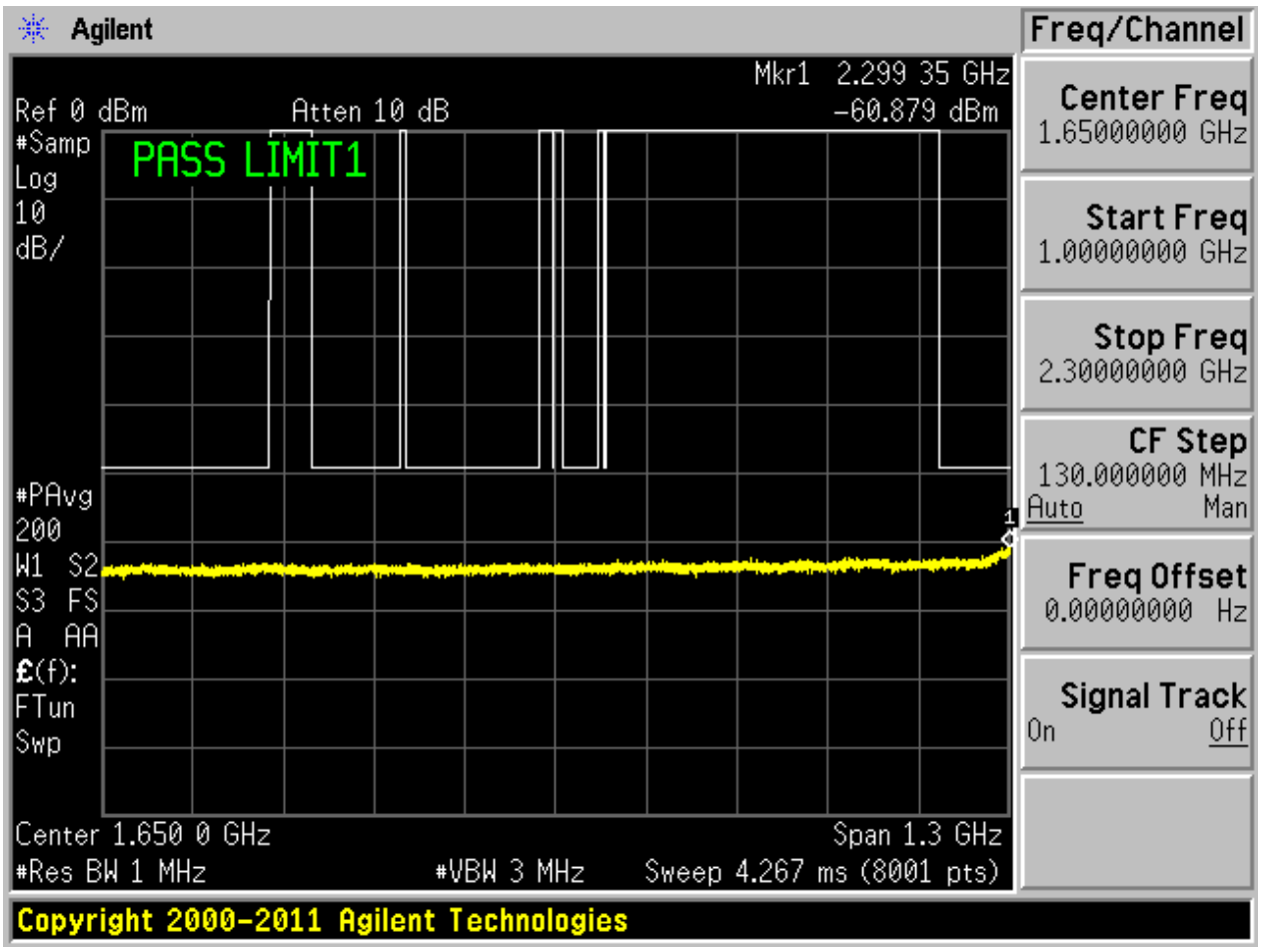

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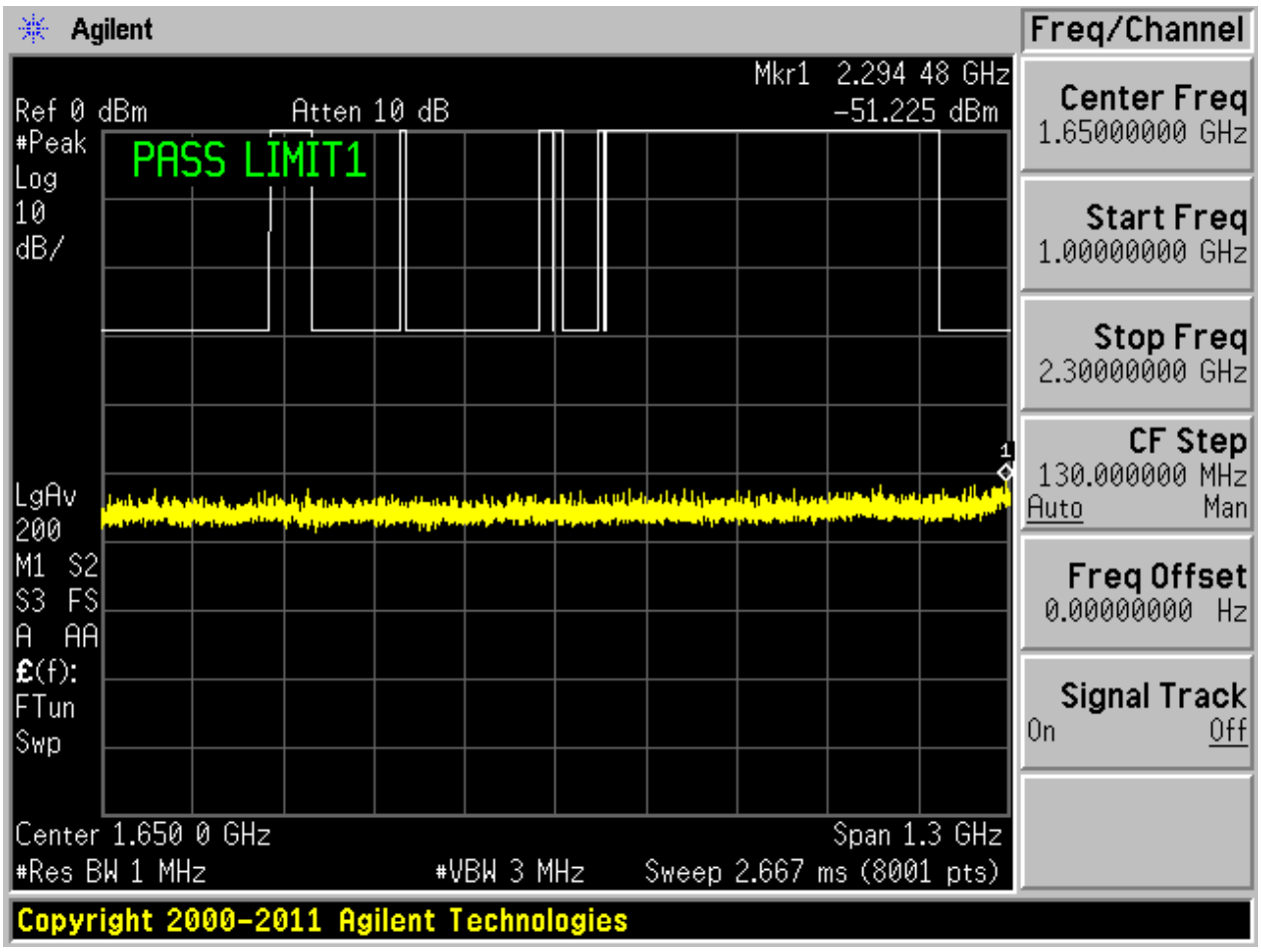

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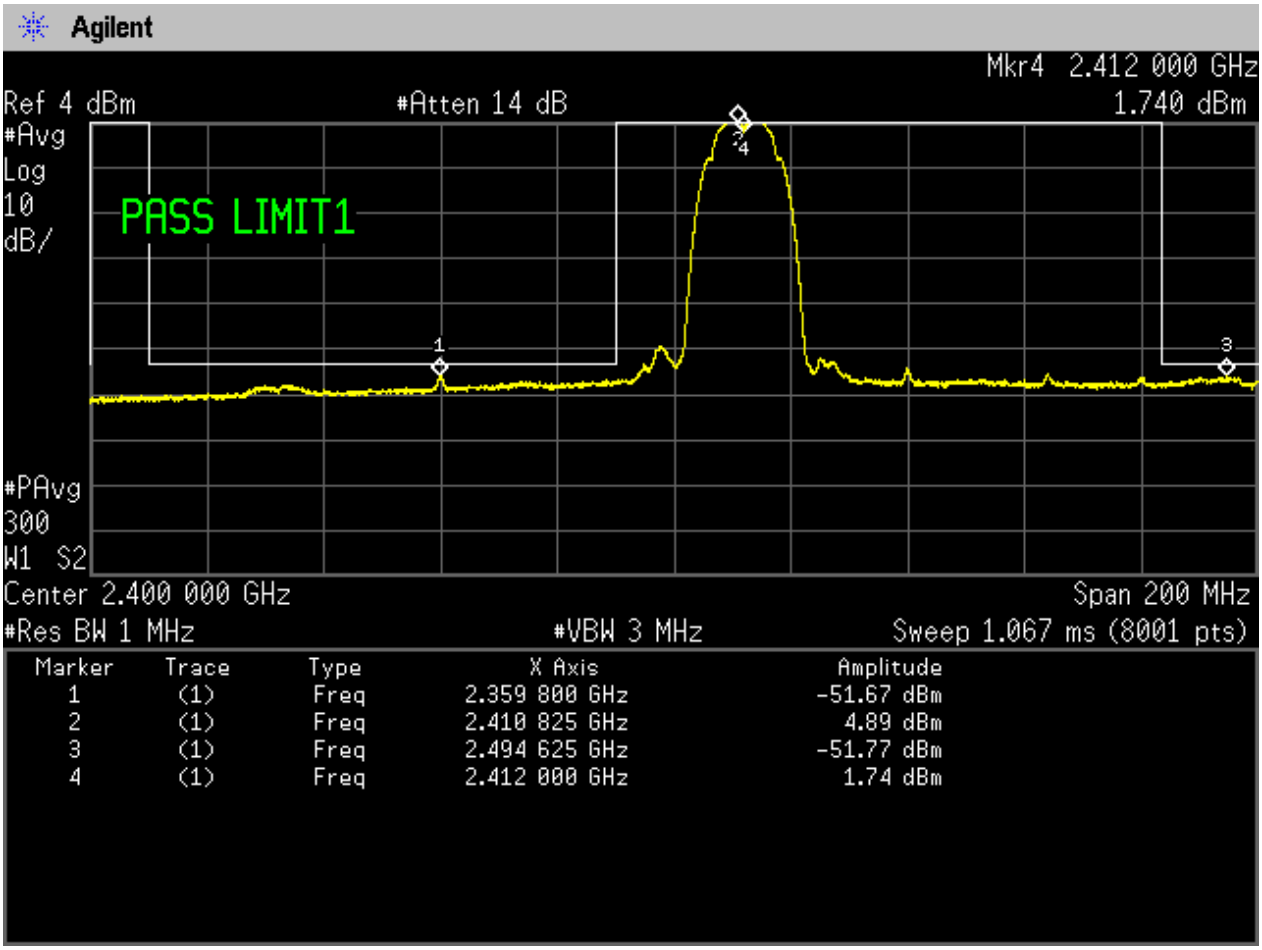

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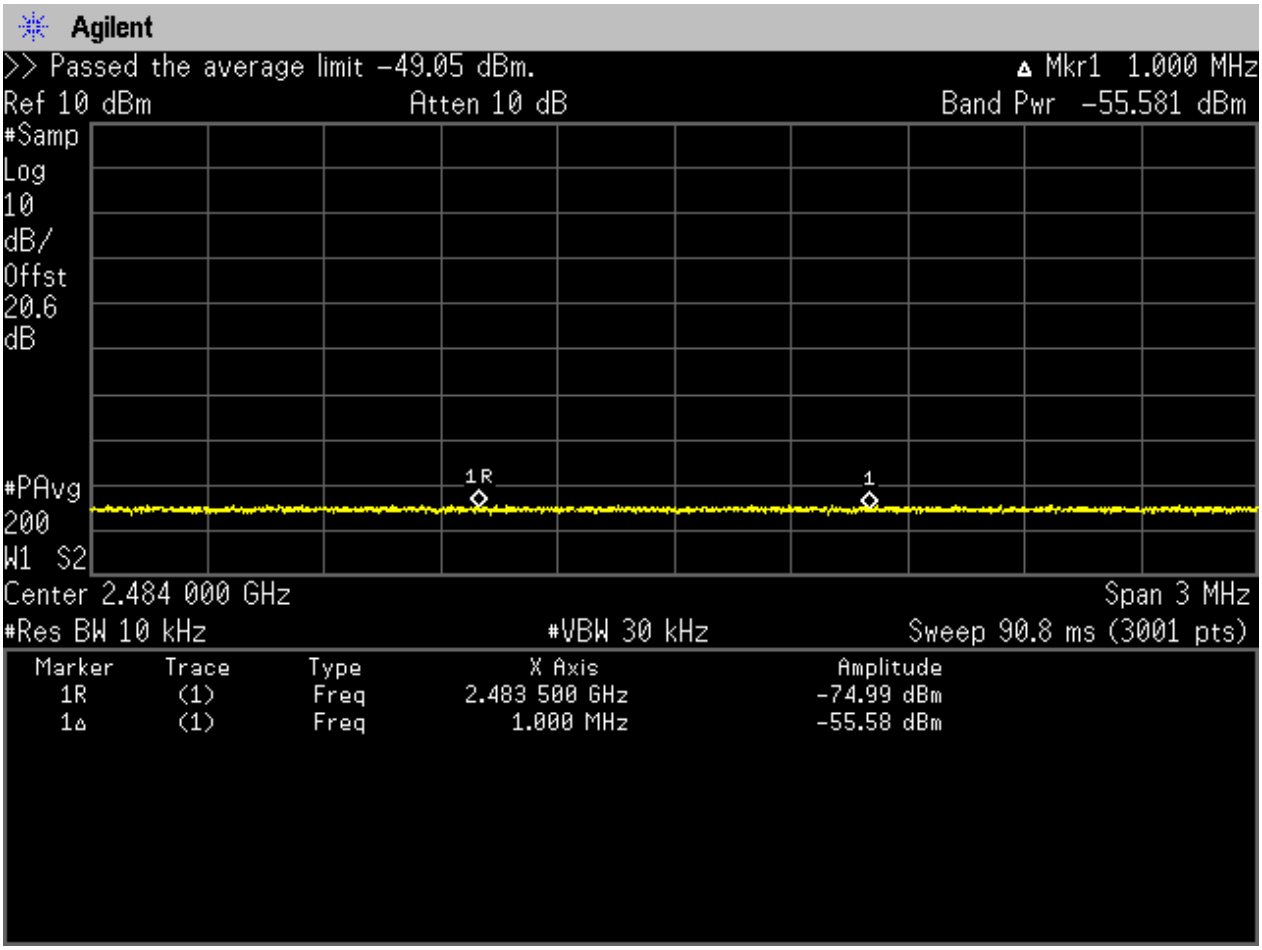

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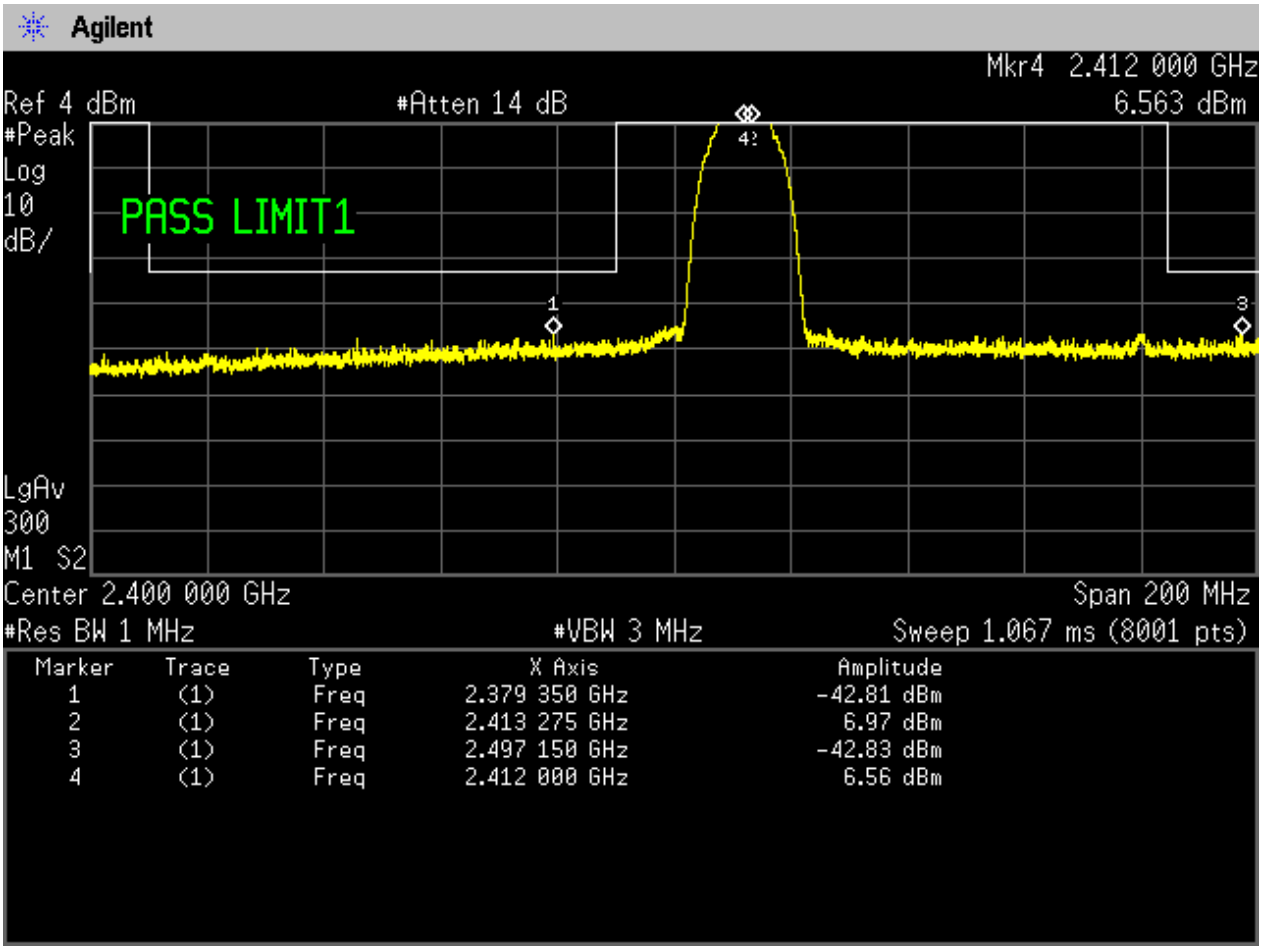

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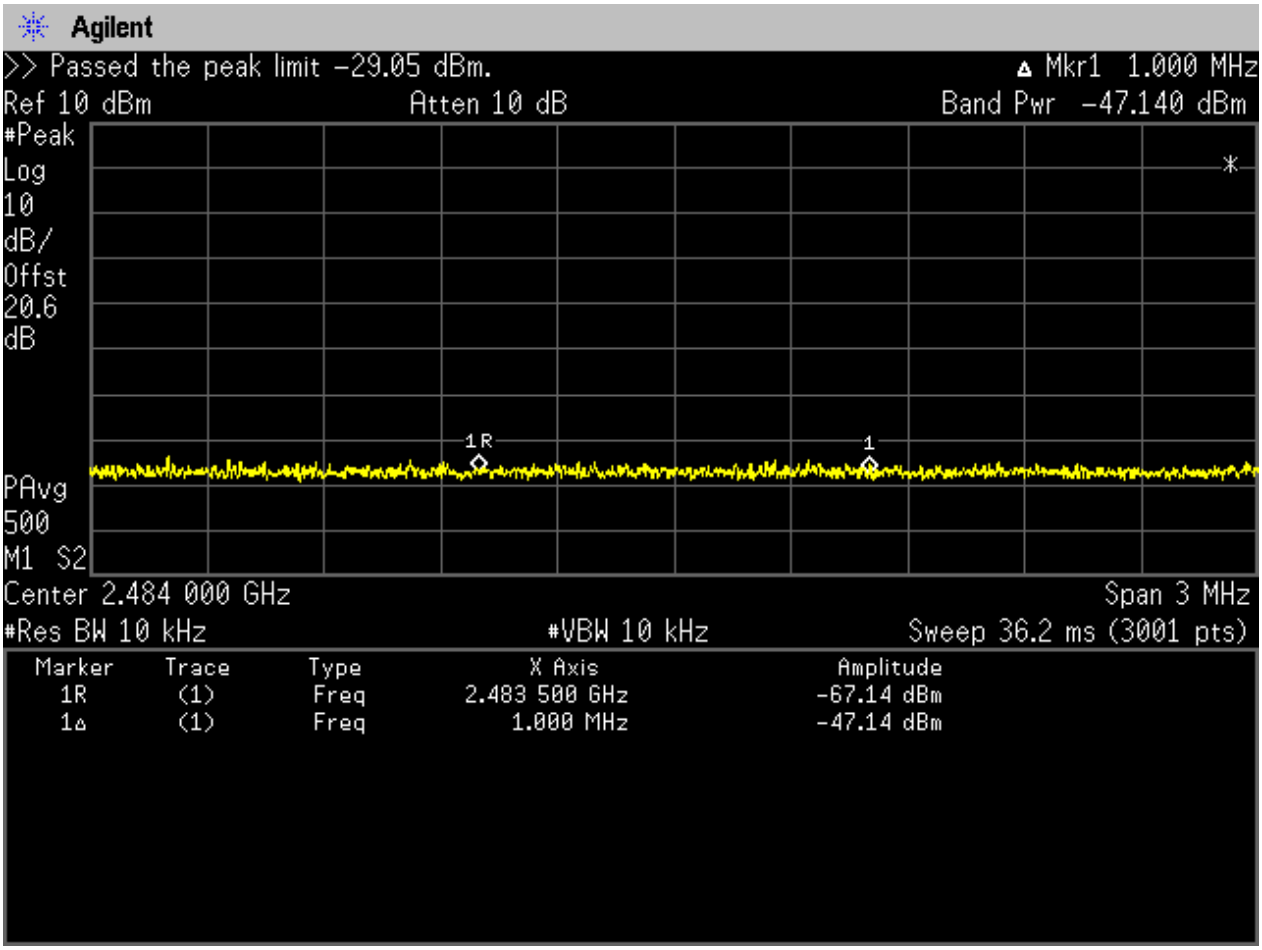

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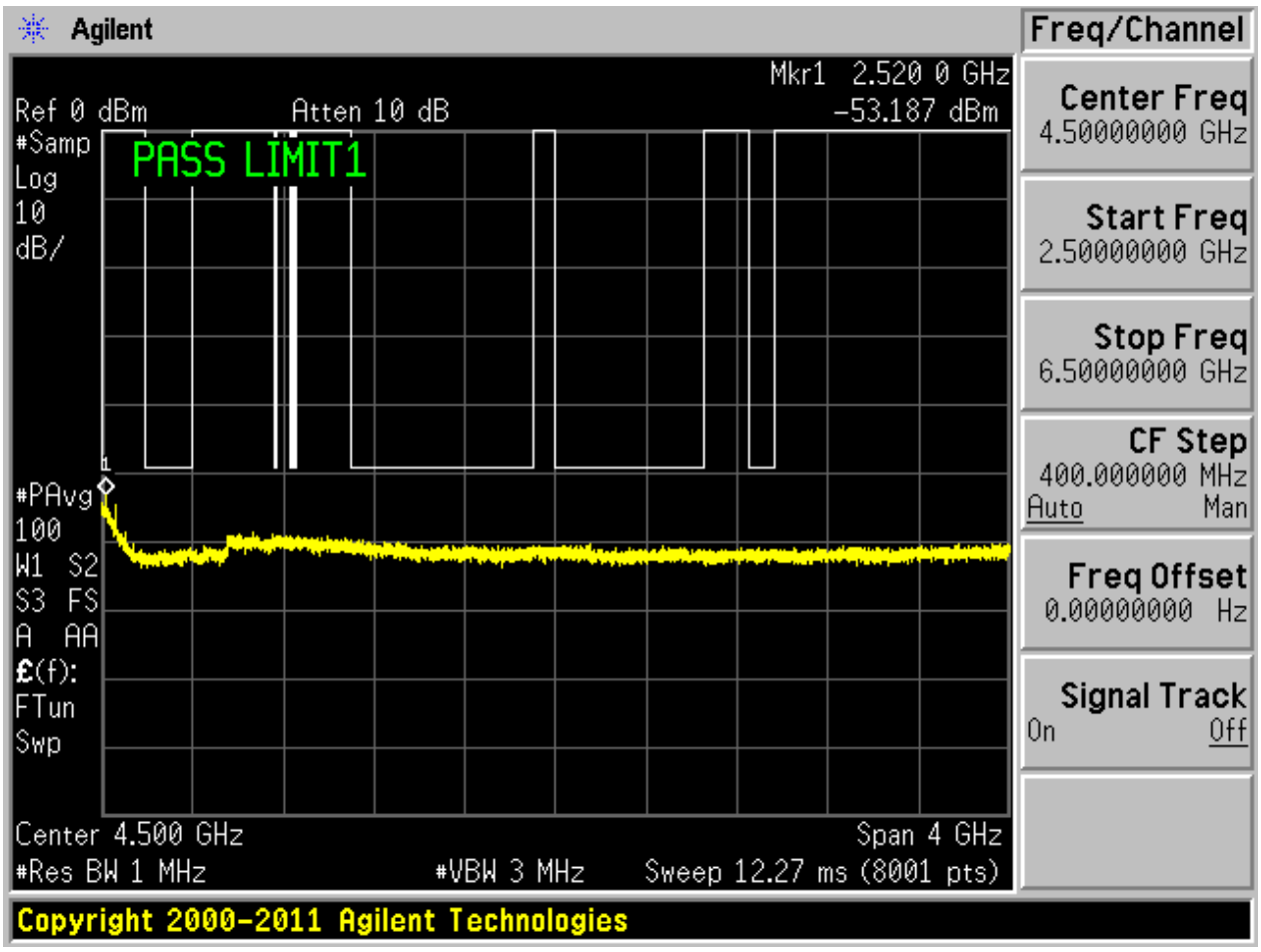

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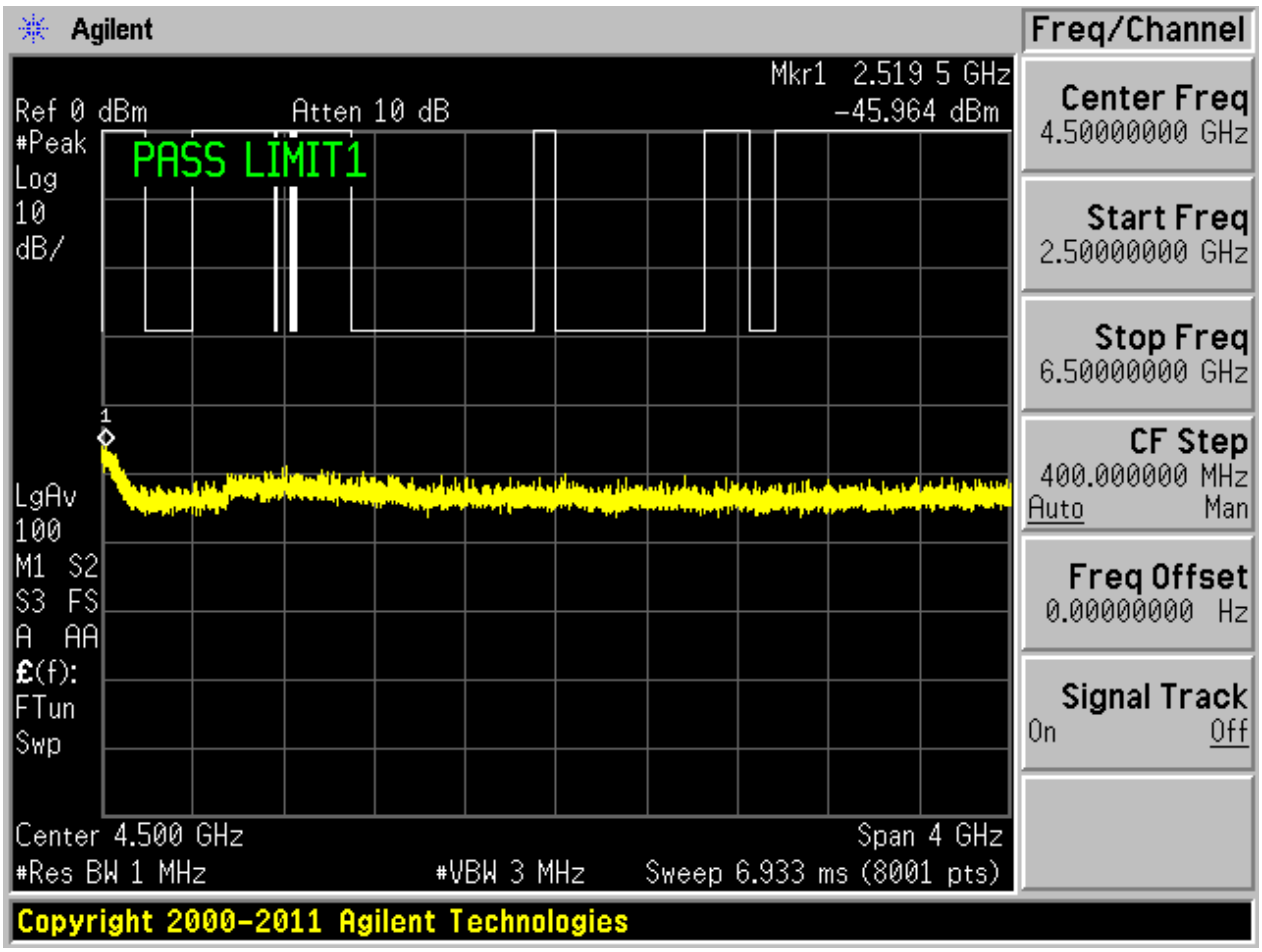

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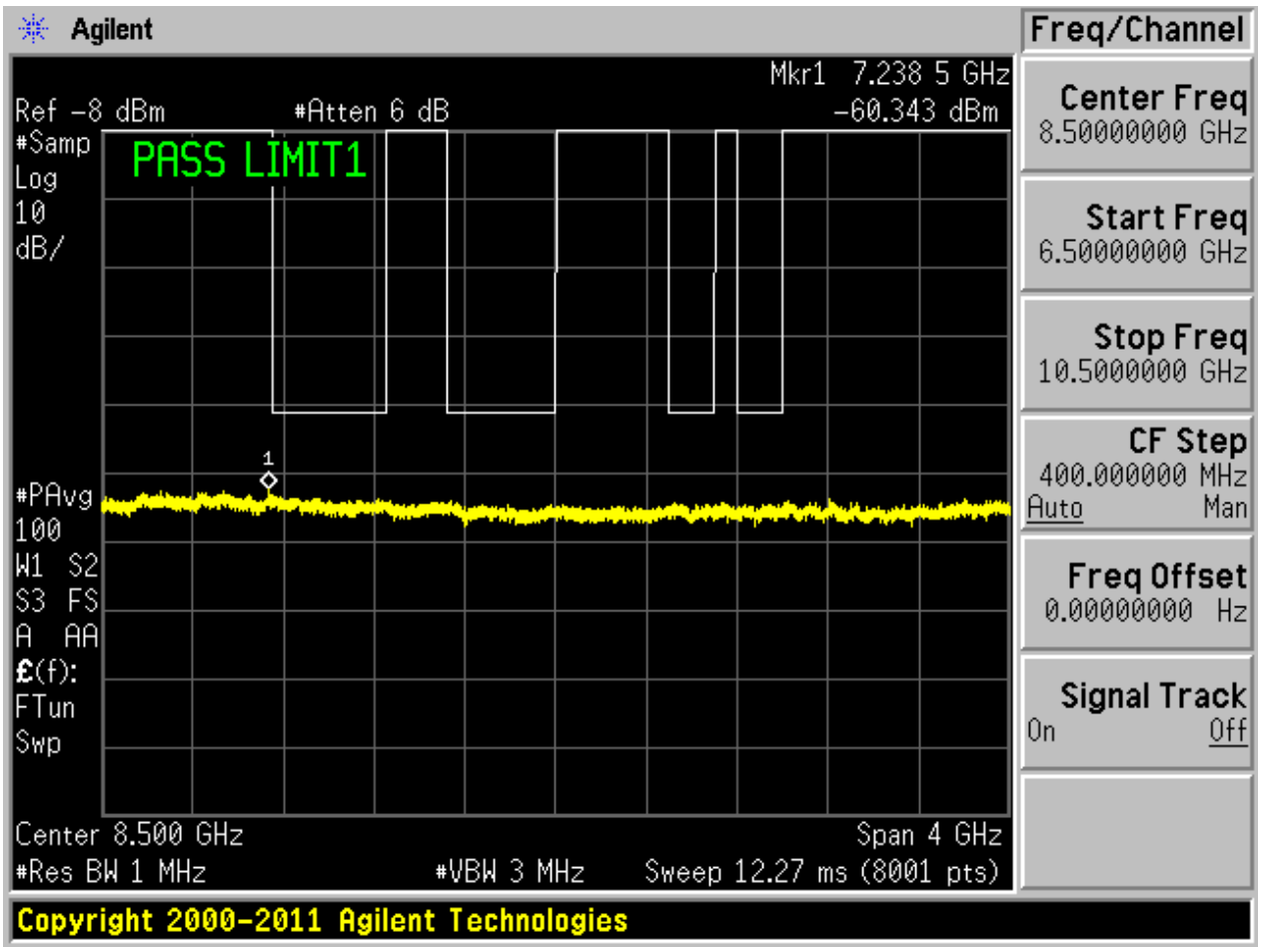

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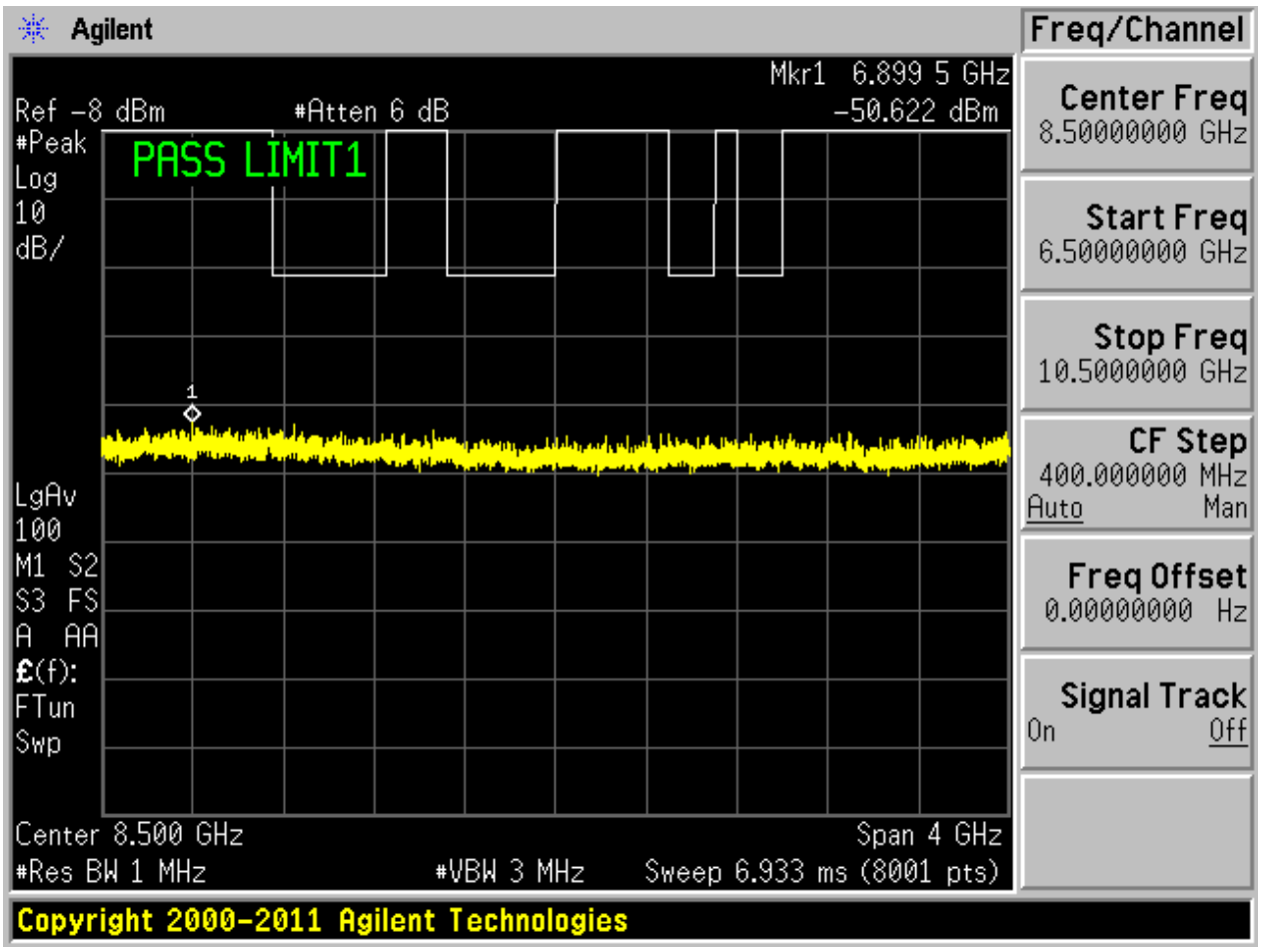

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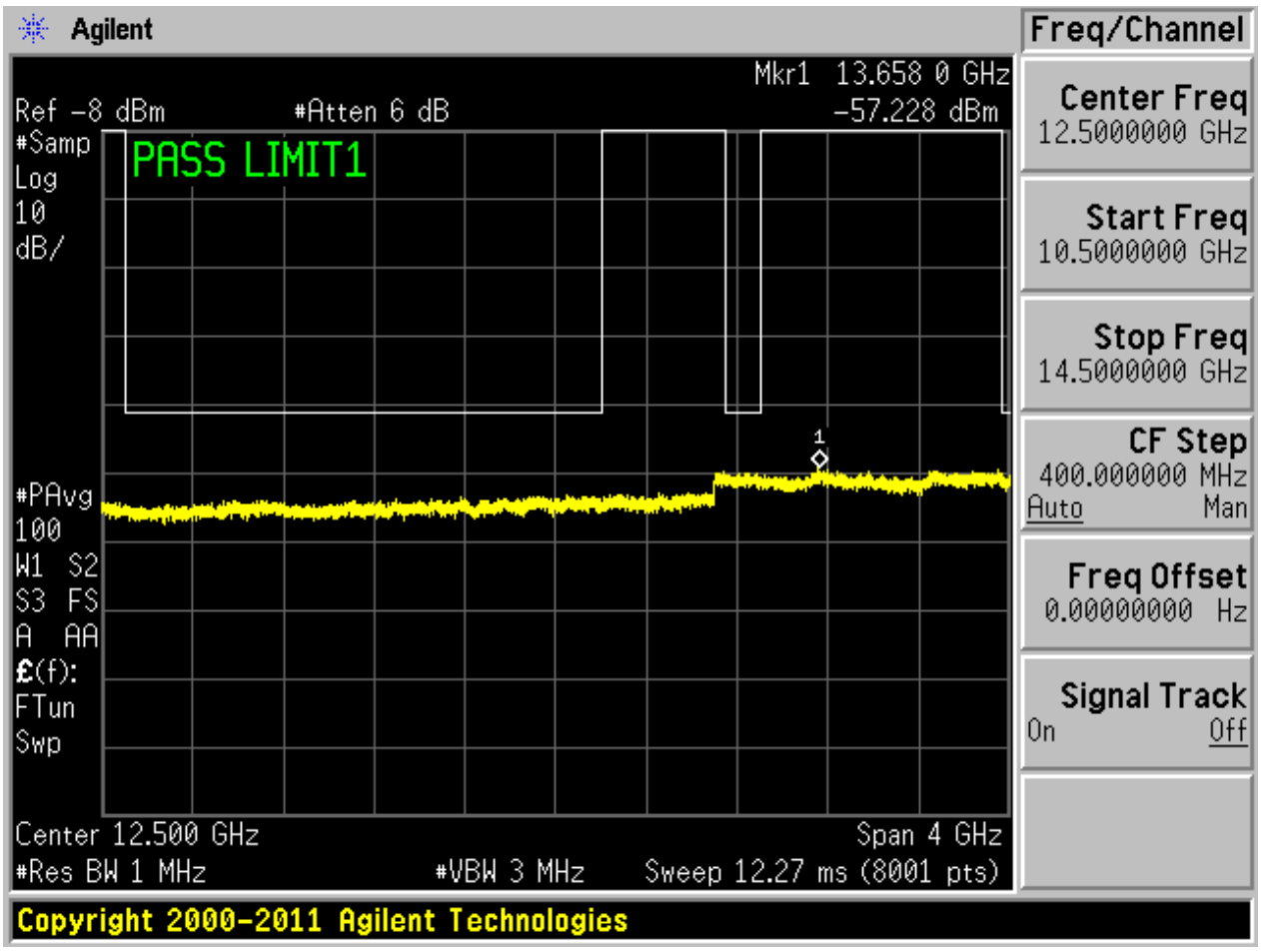

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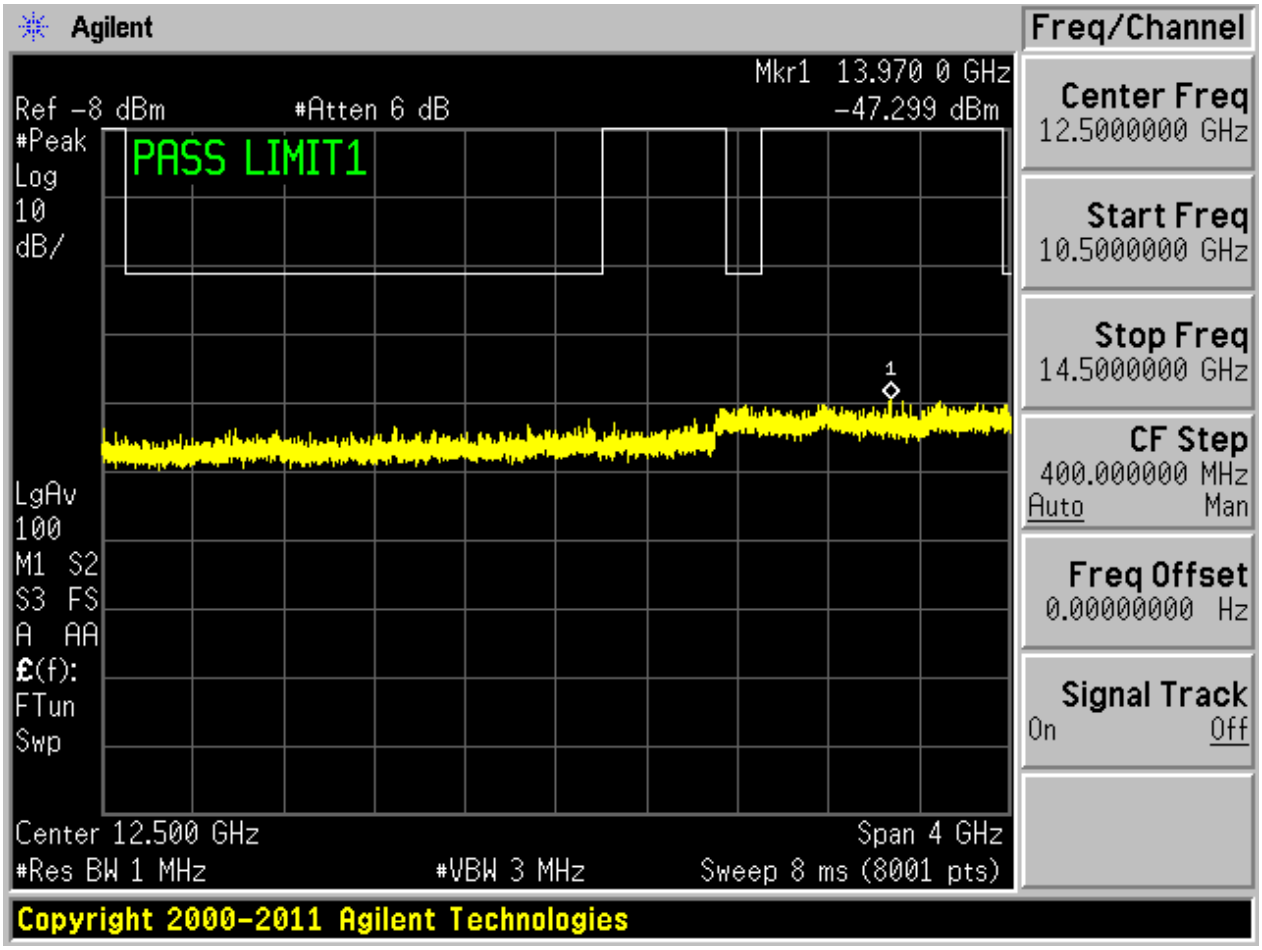

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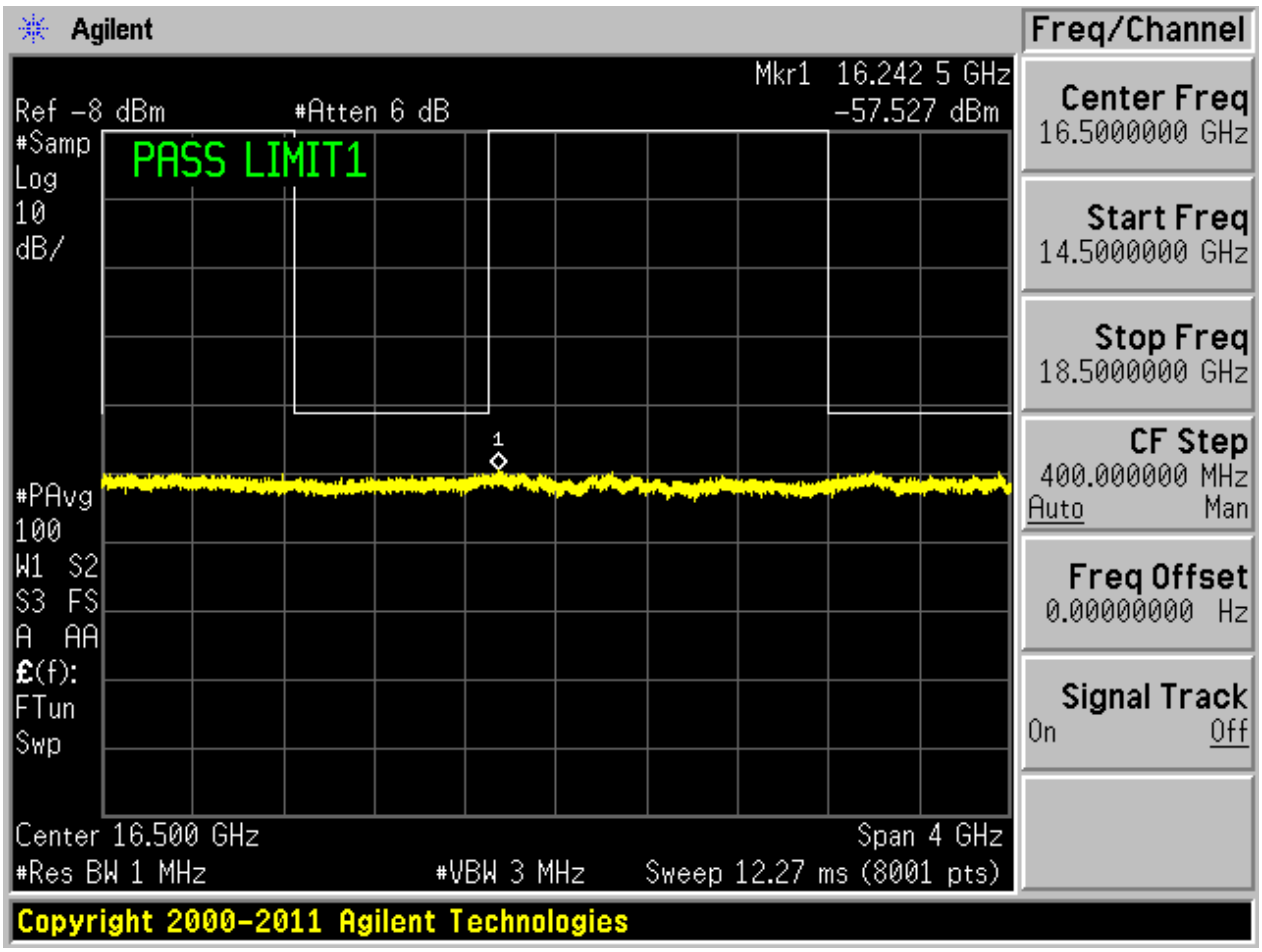

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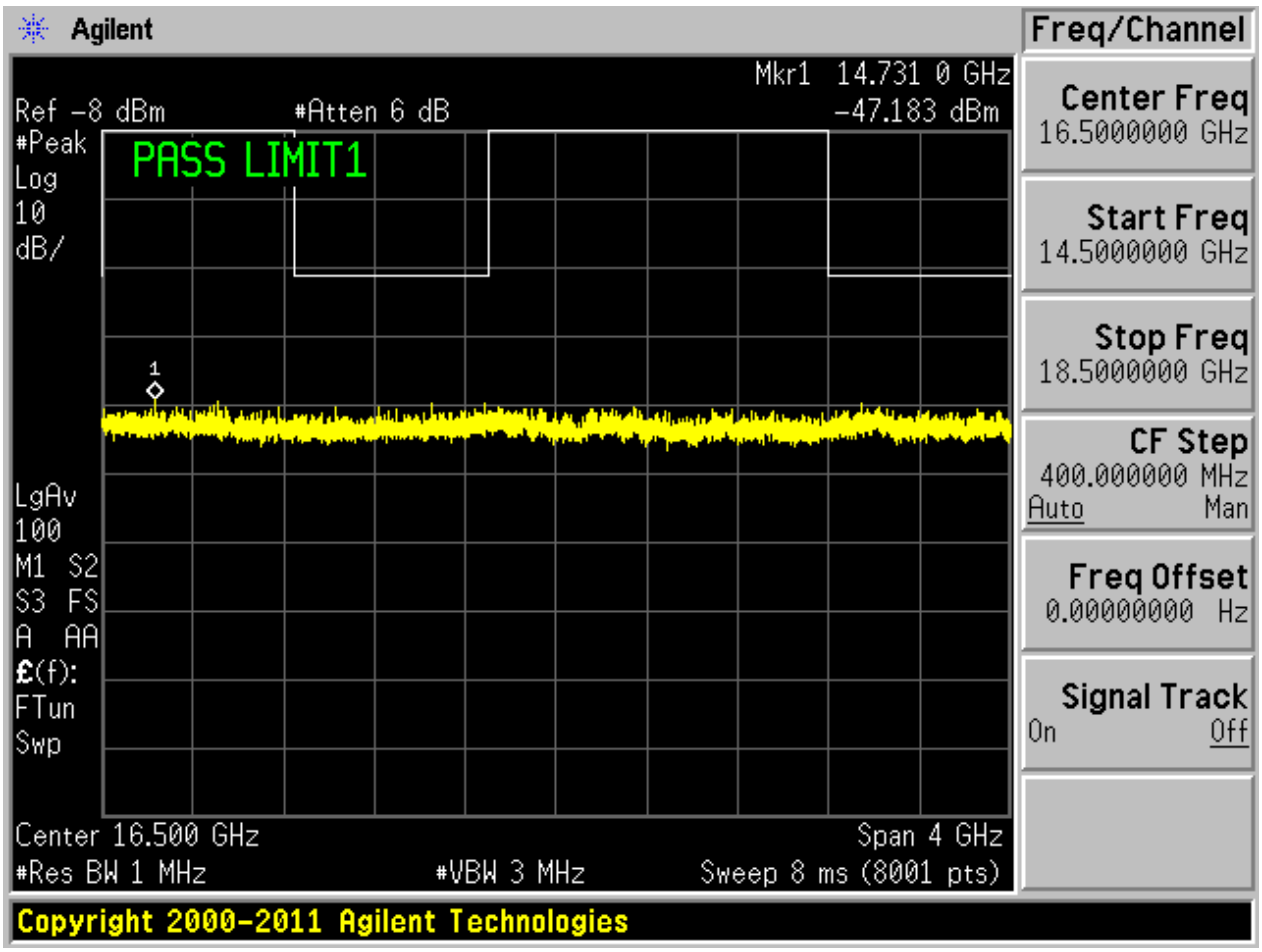

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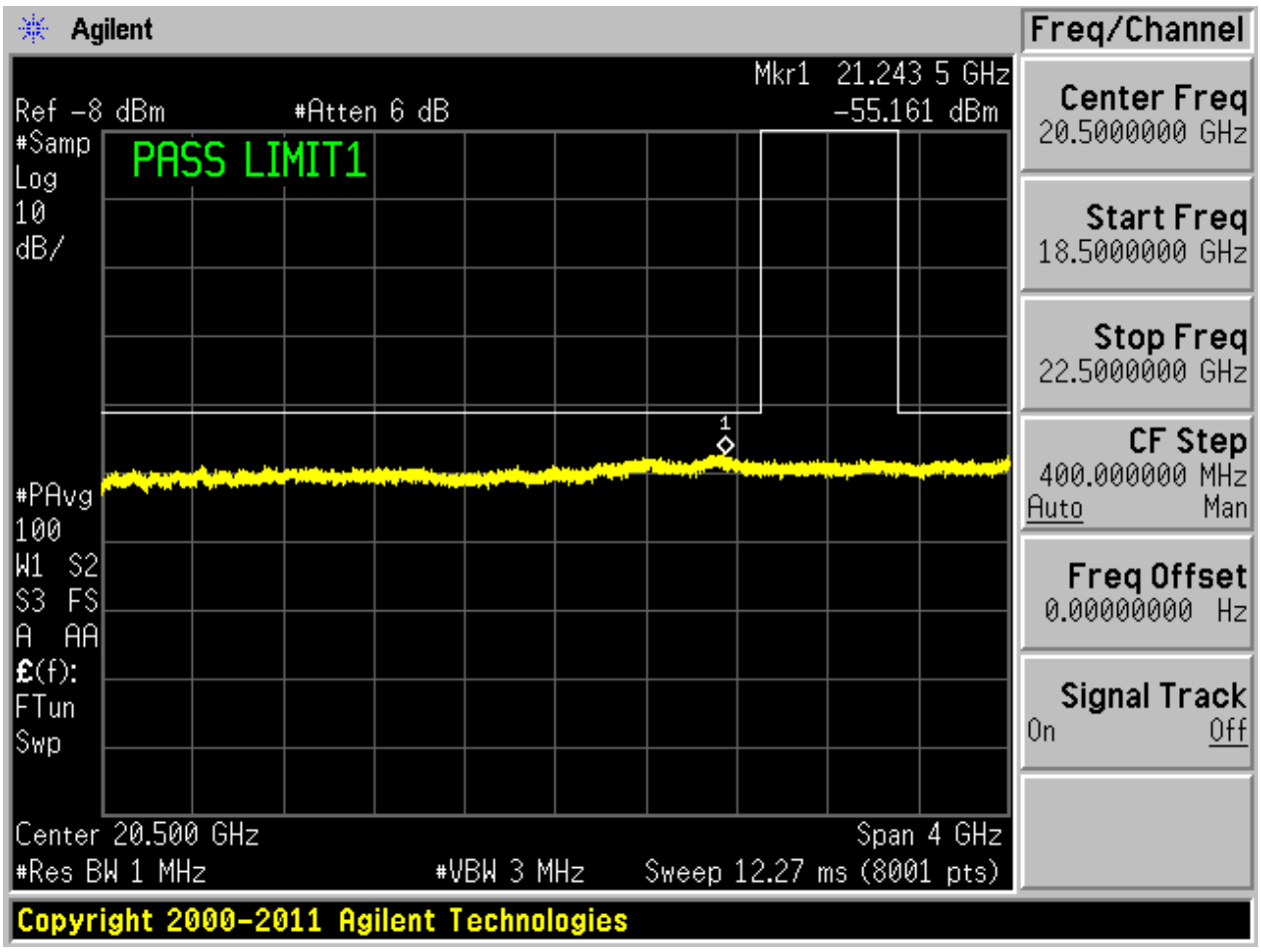

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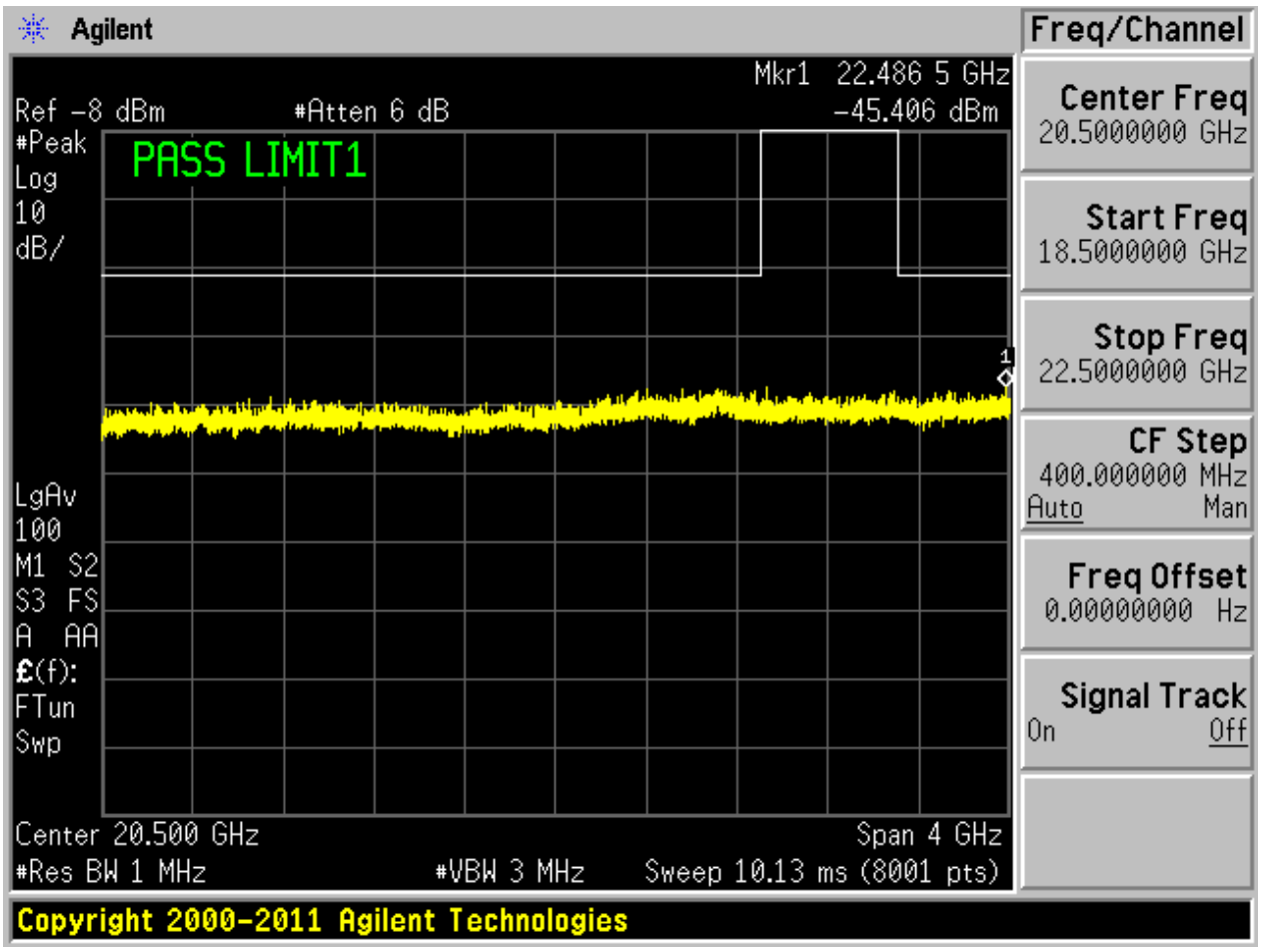

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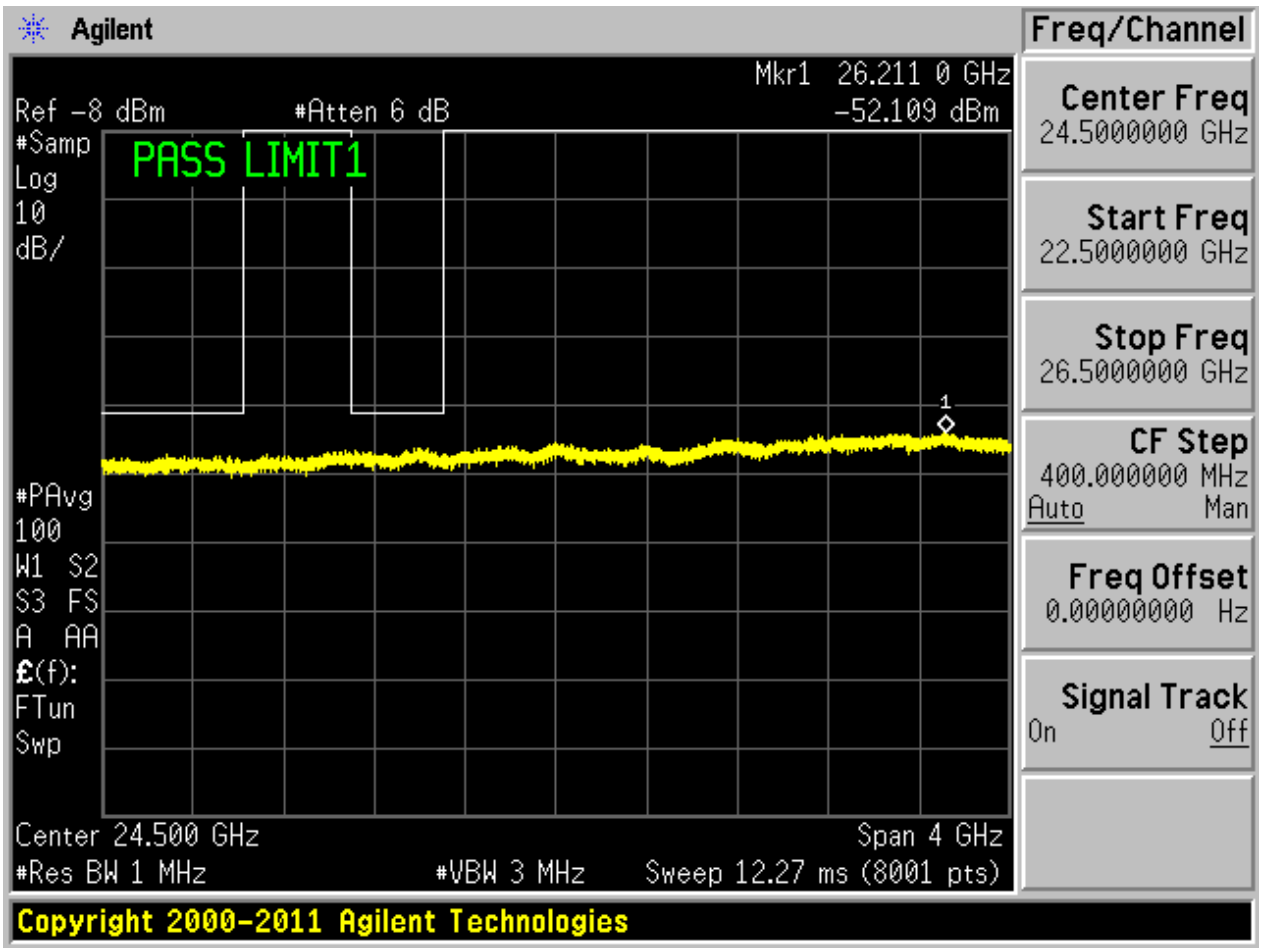

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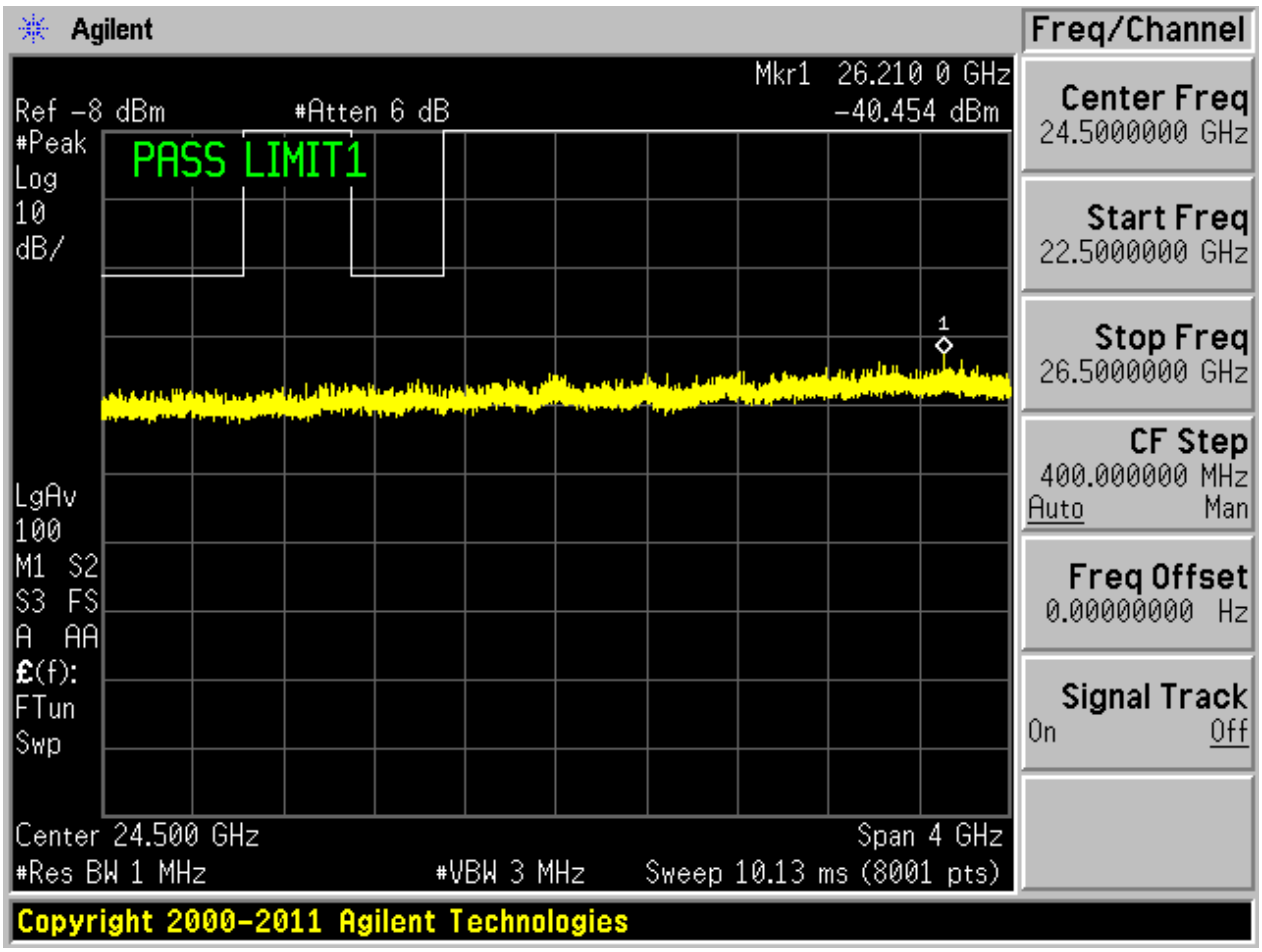

2.7.3 Ant 3 (Trace#3)

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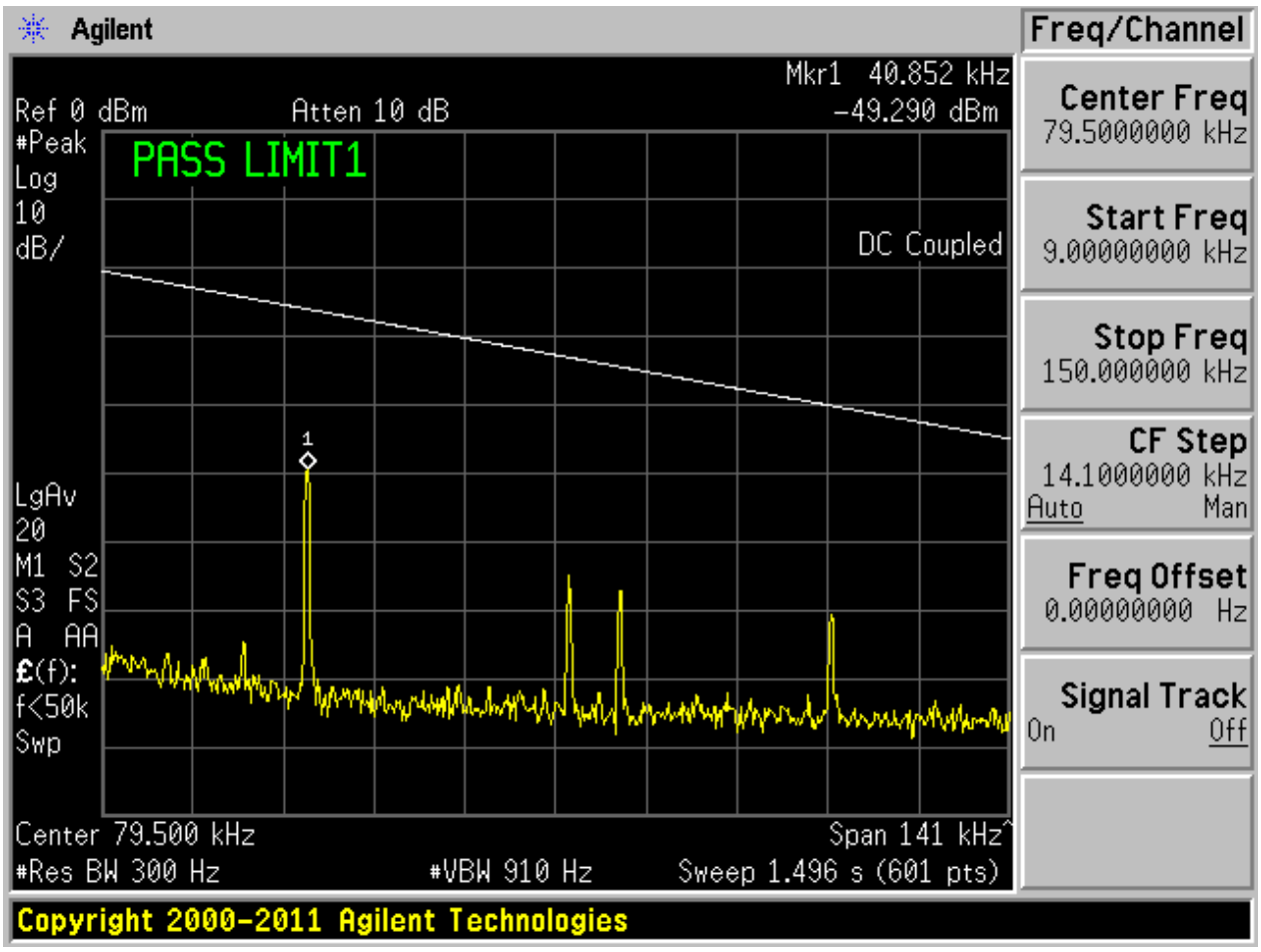

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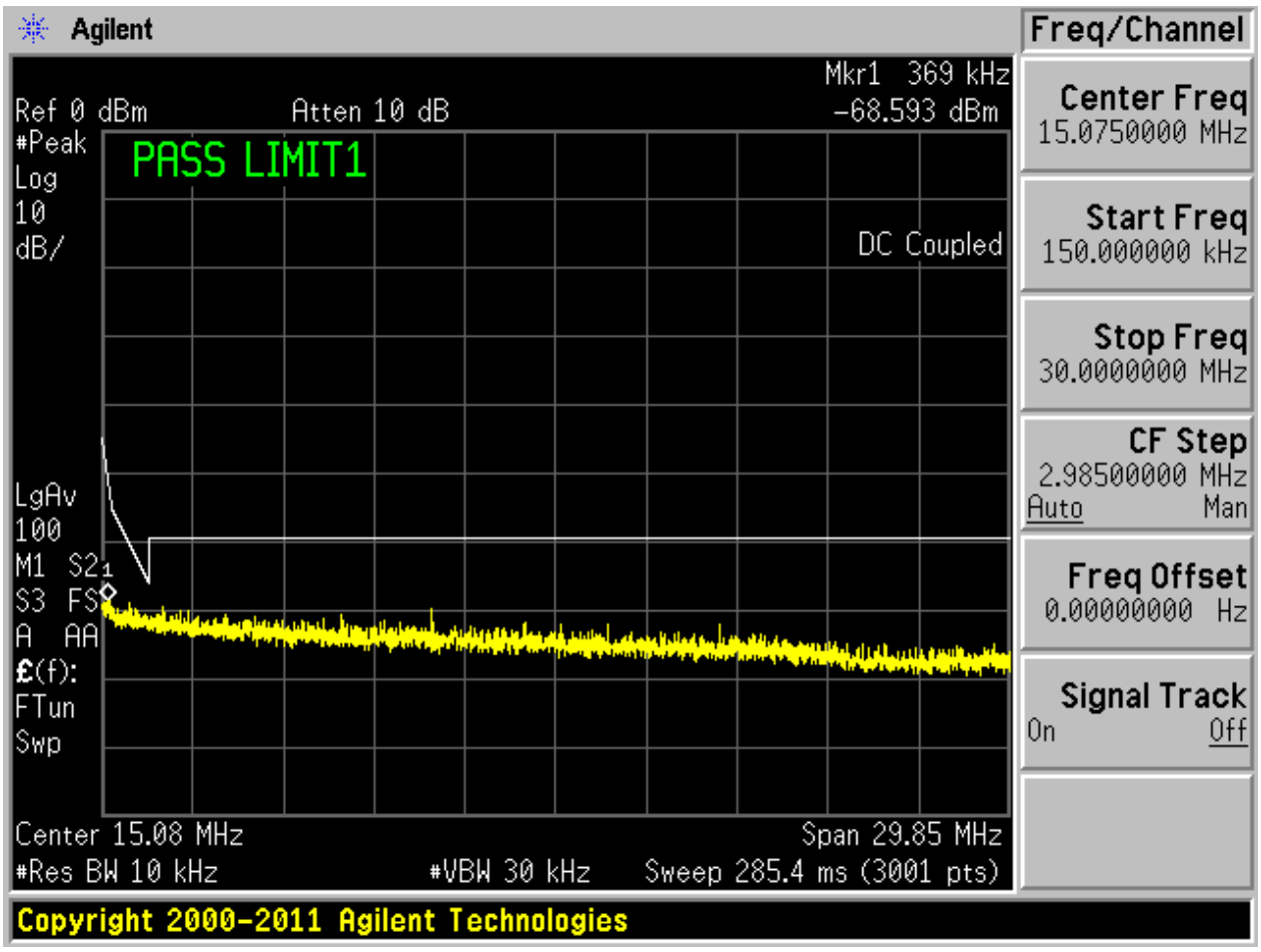

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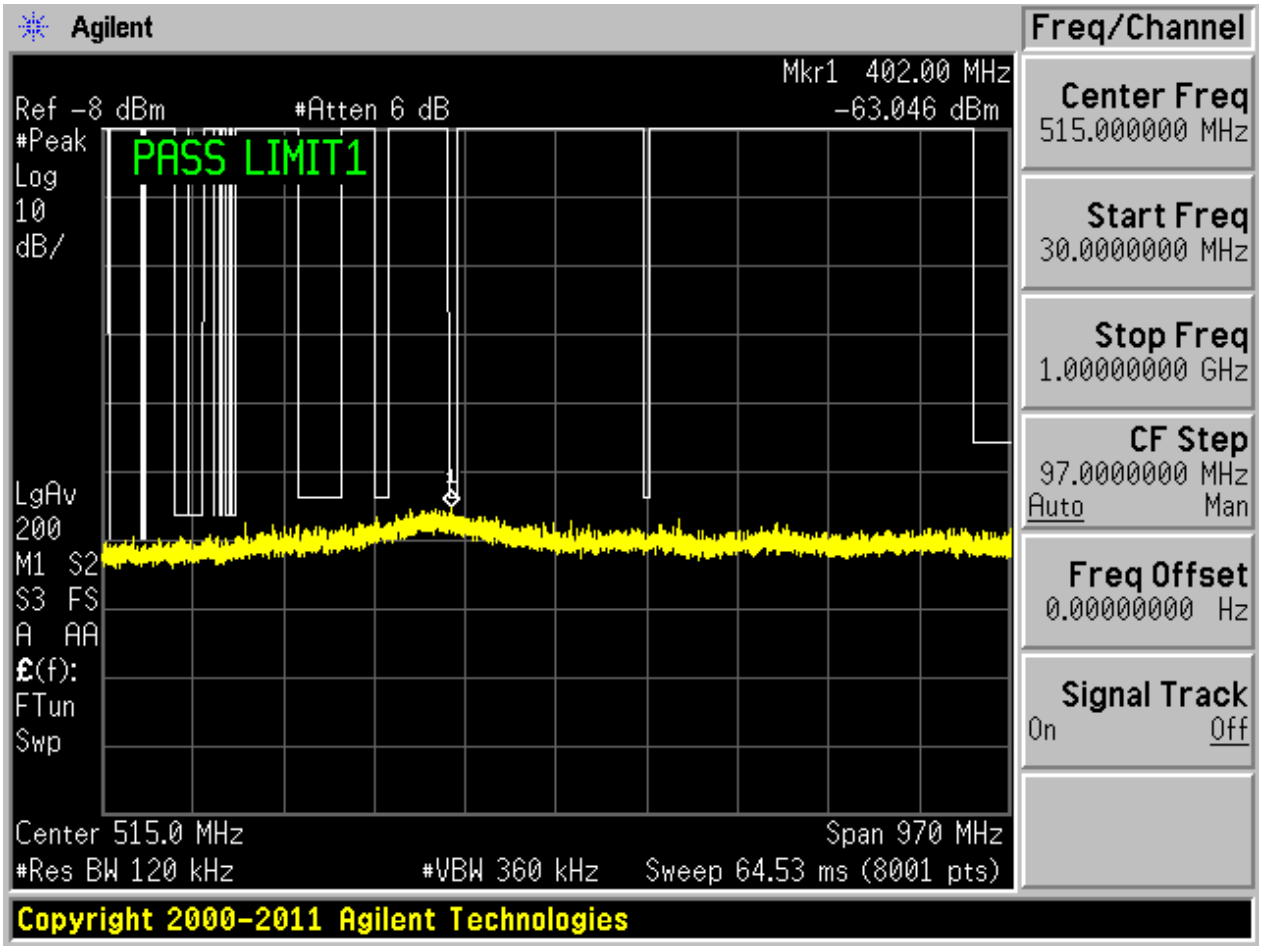

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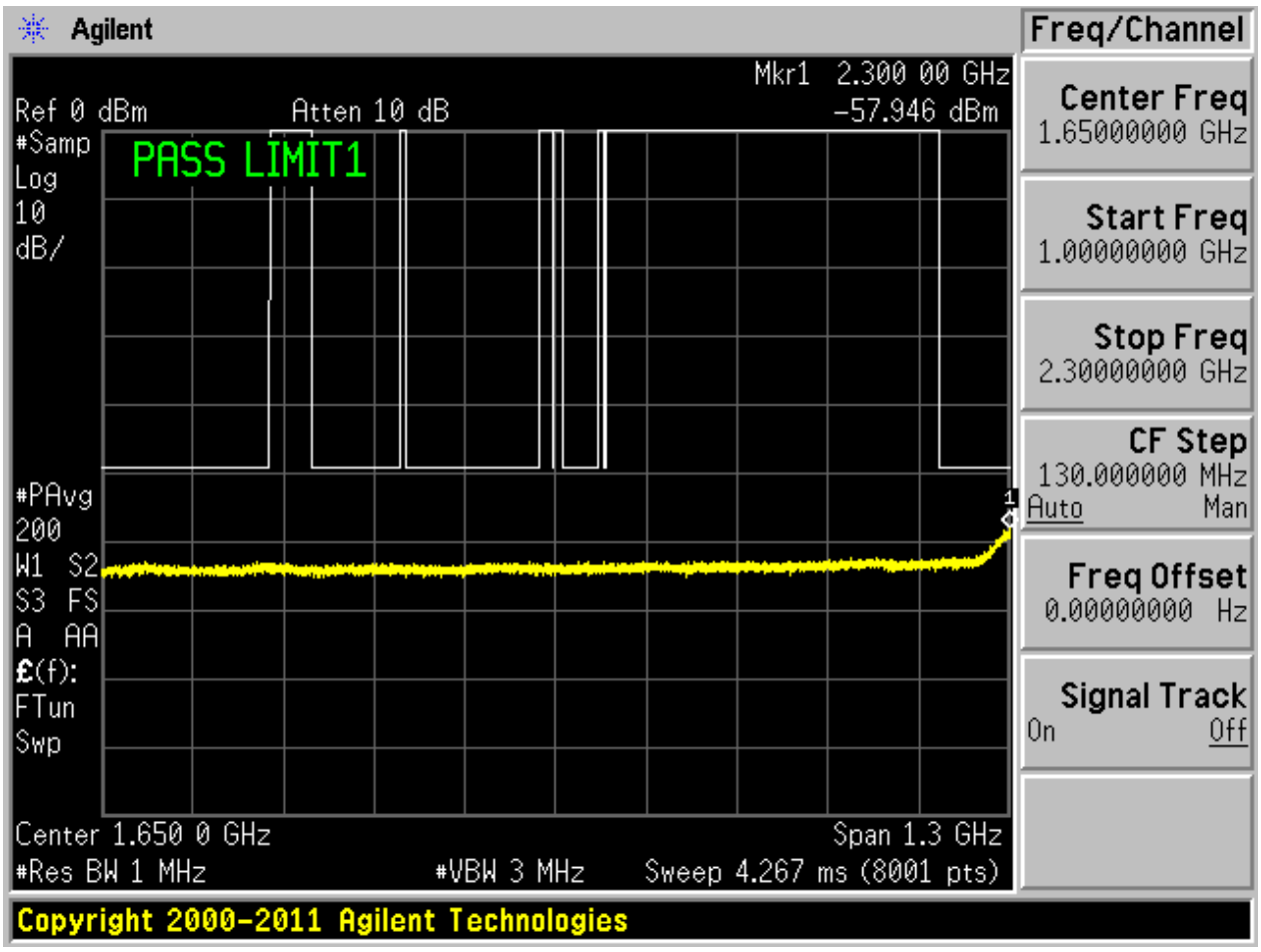

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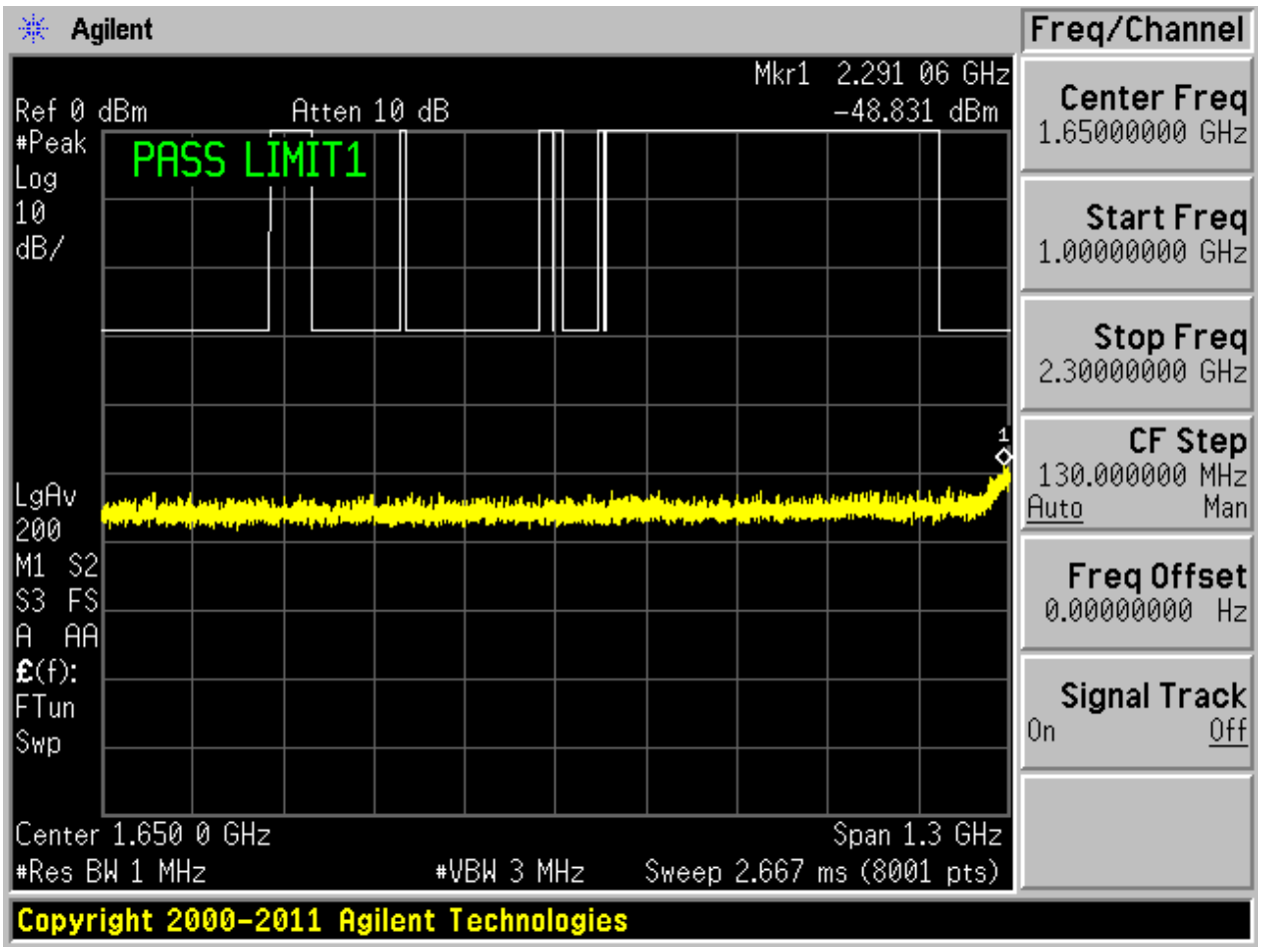

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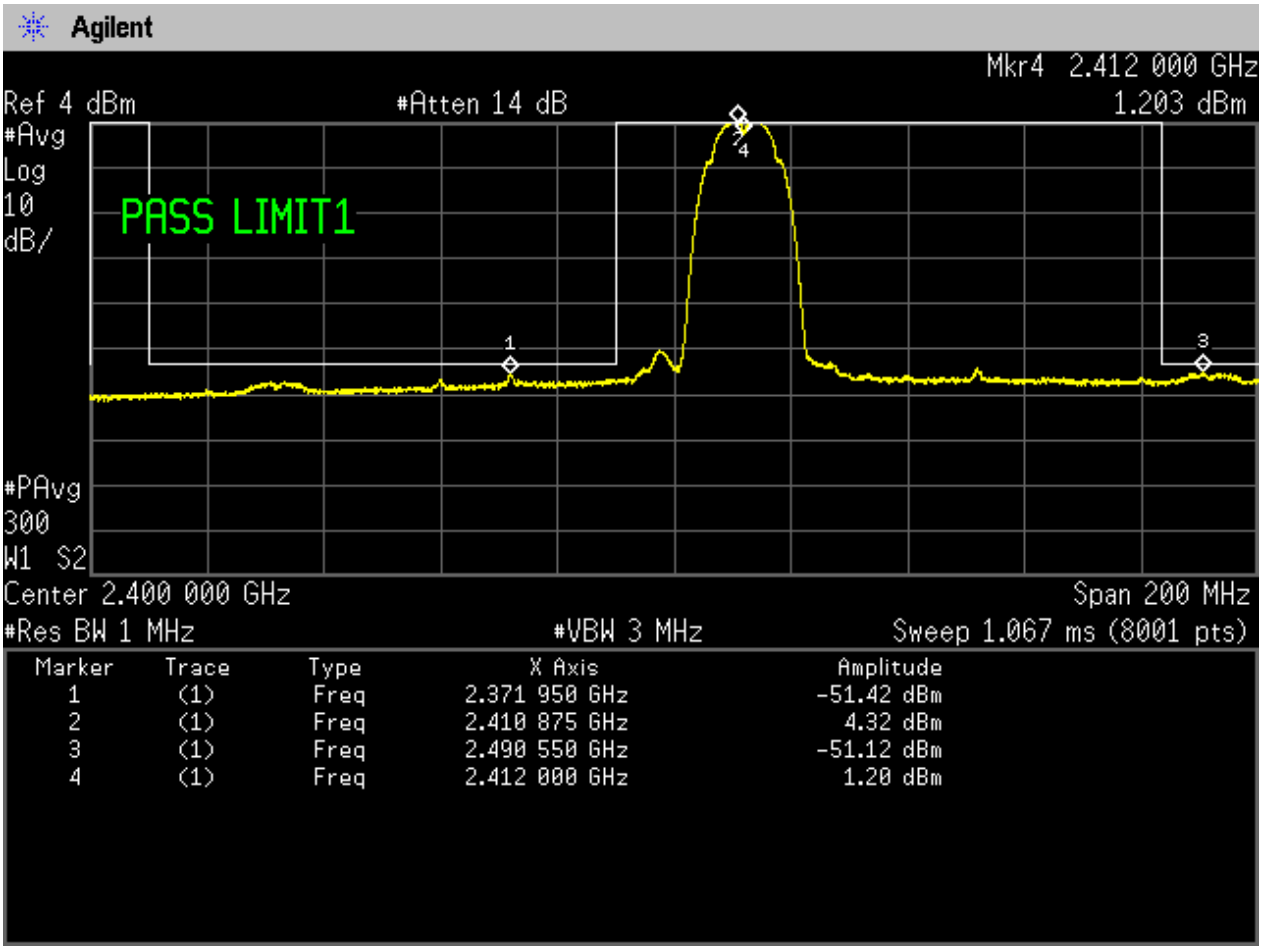

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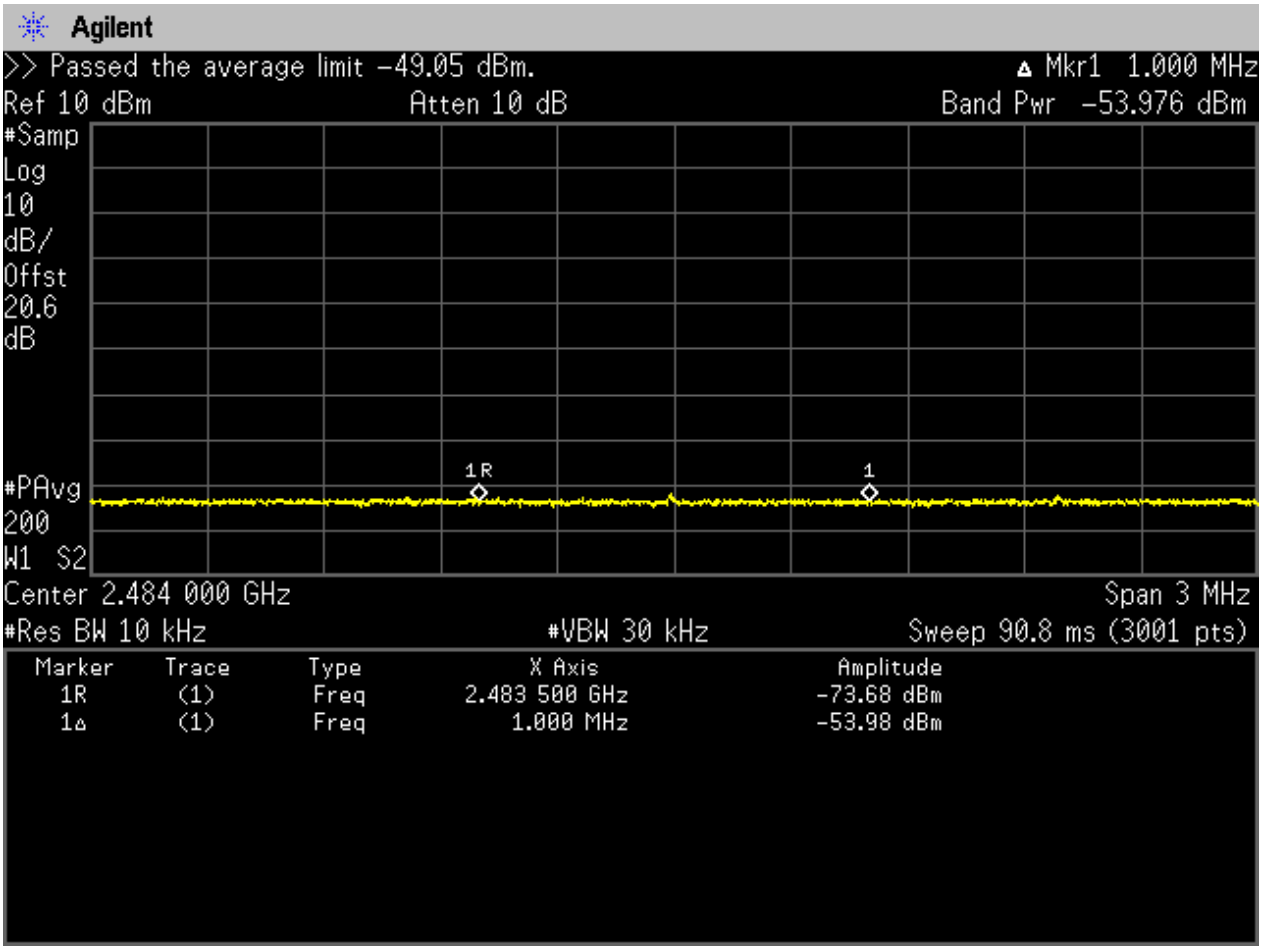

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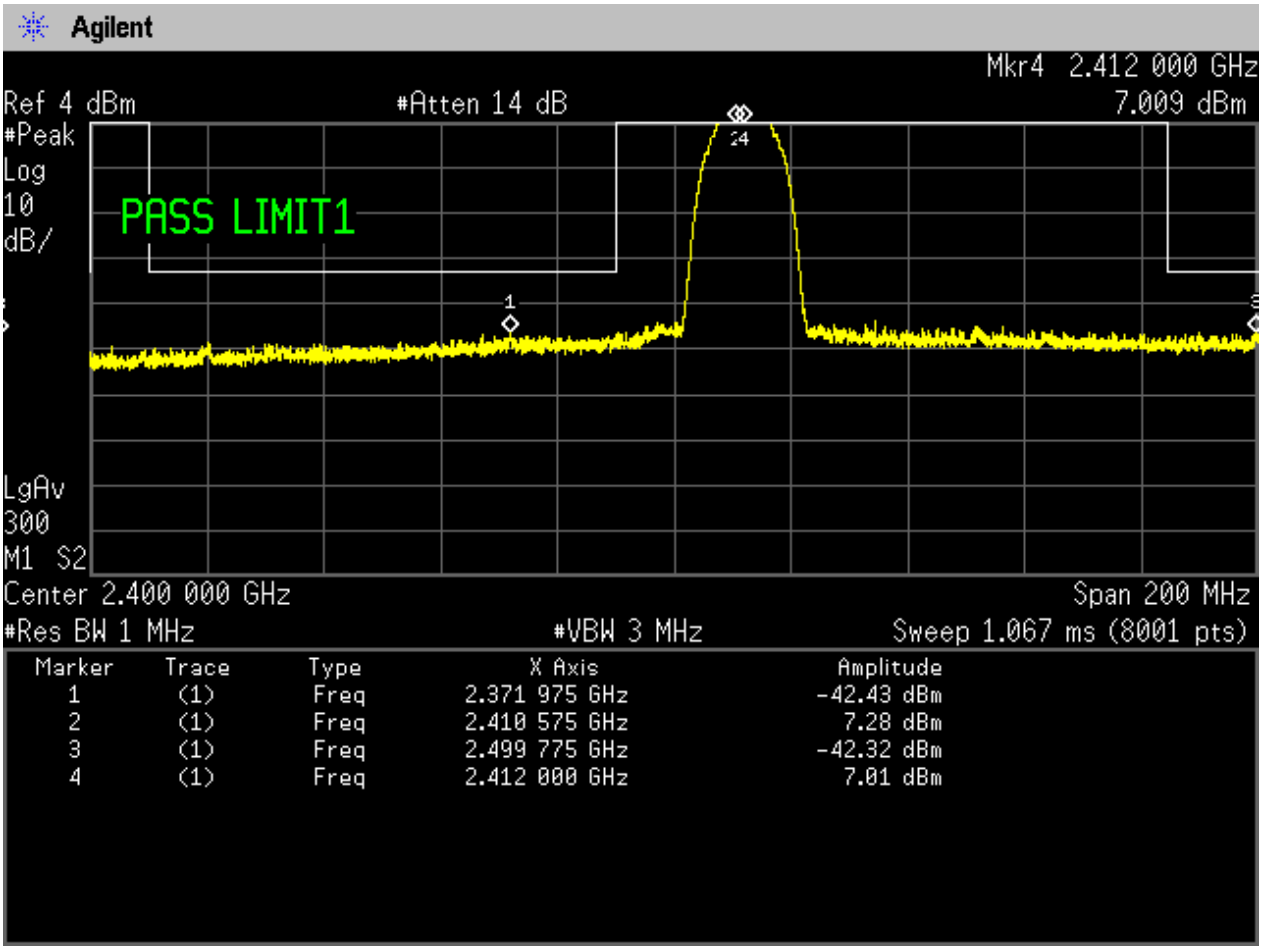

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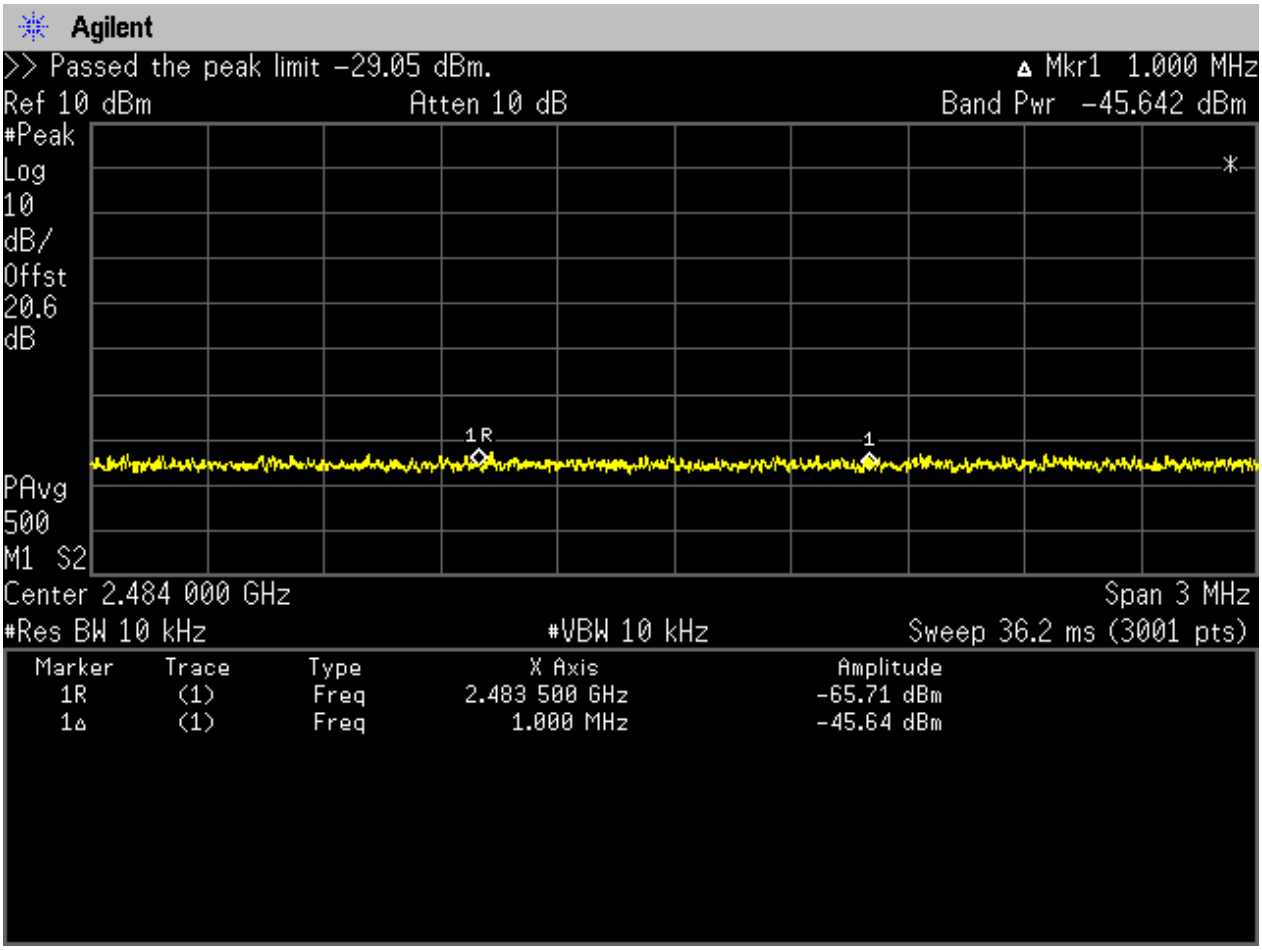

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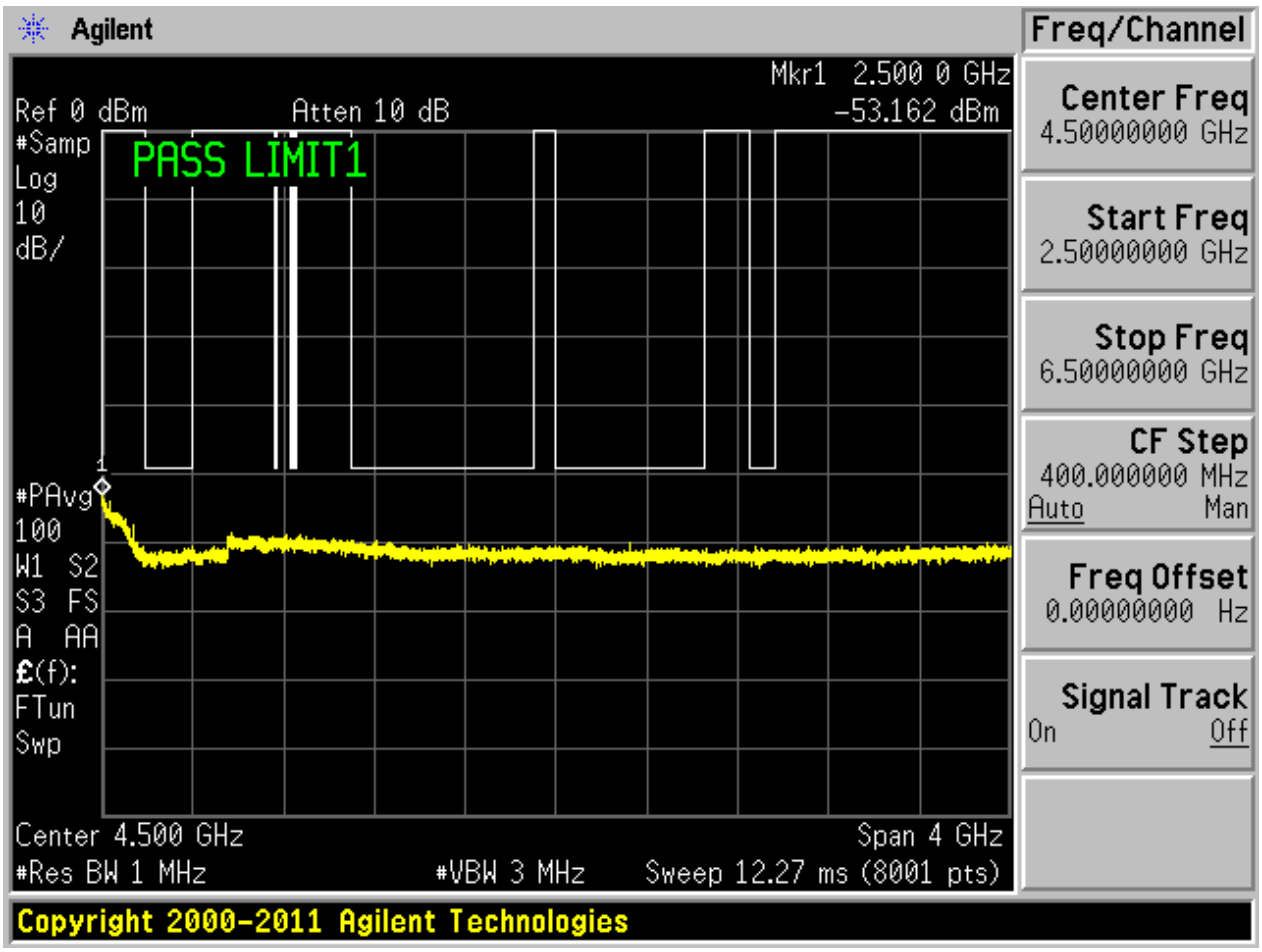

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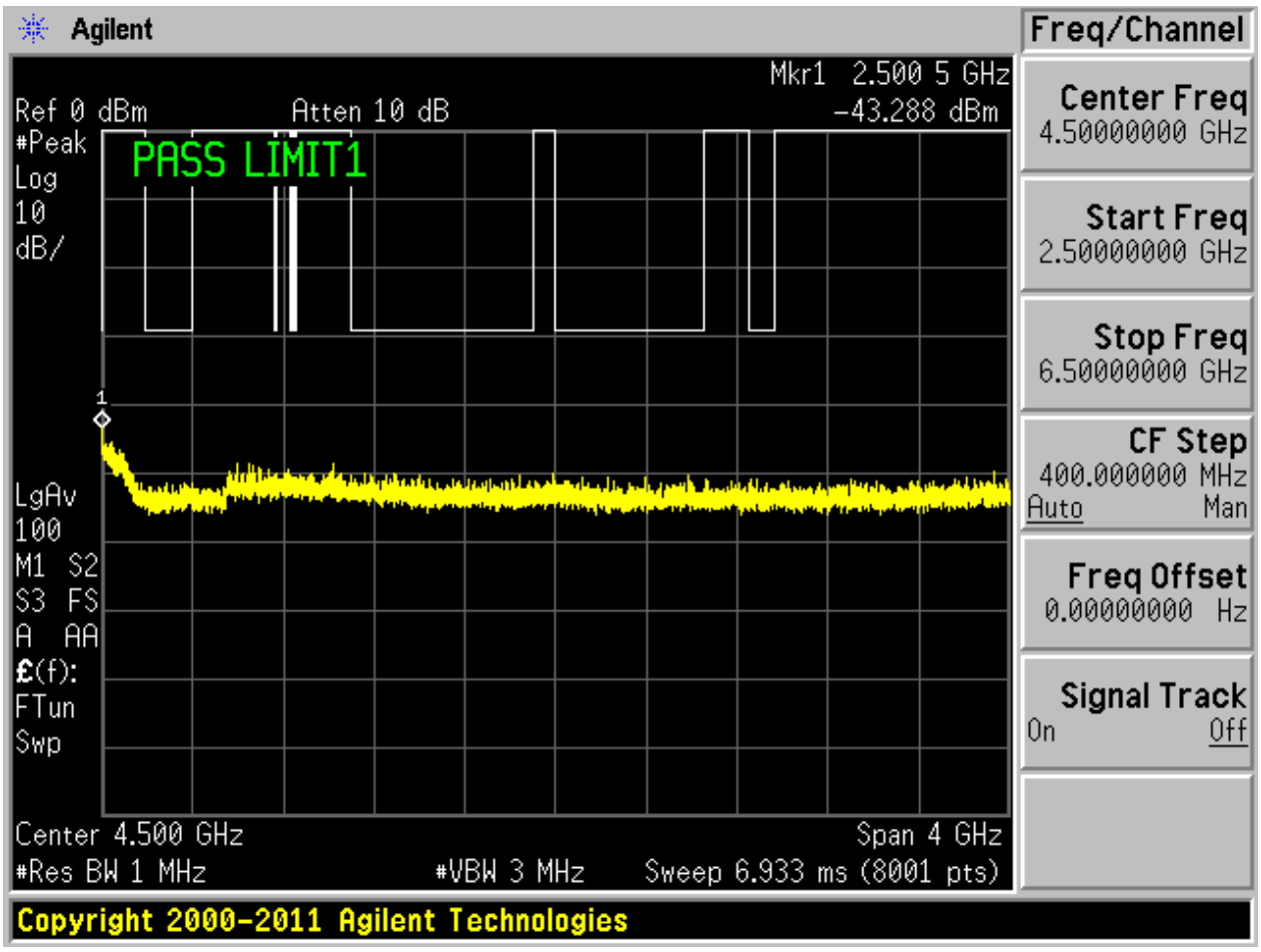

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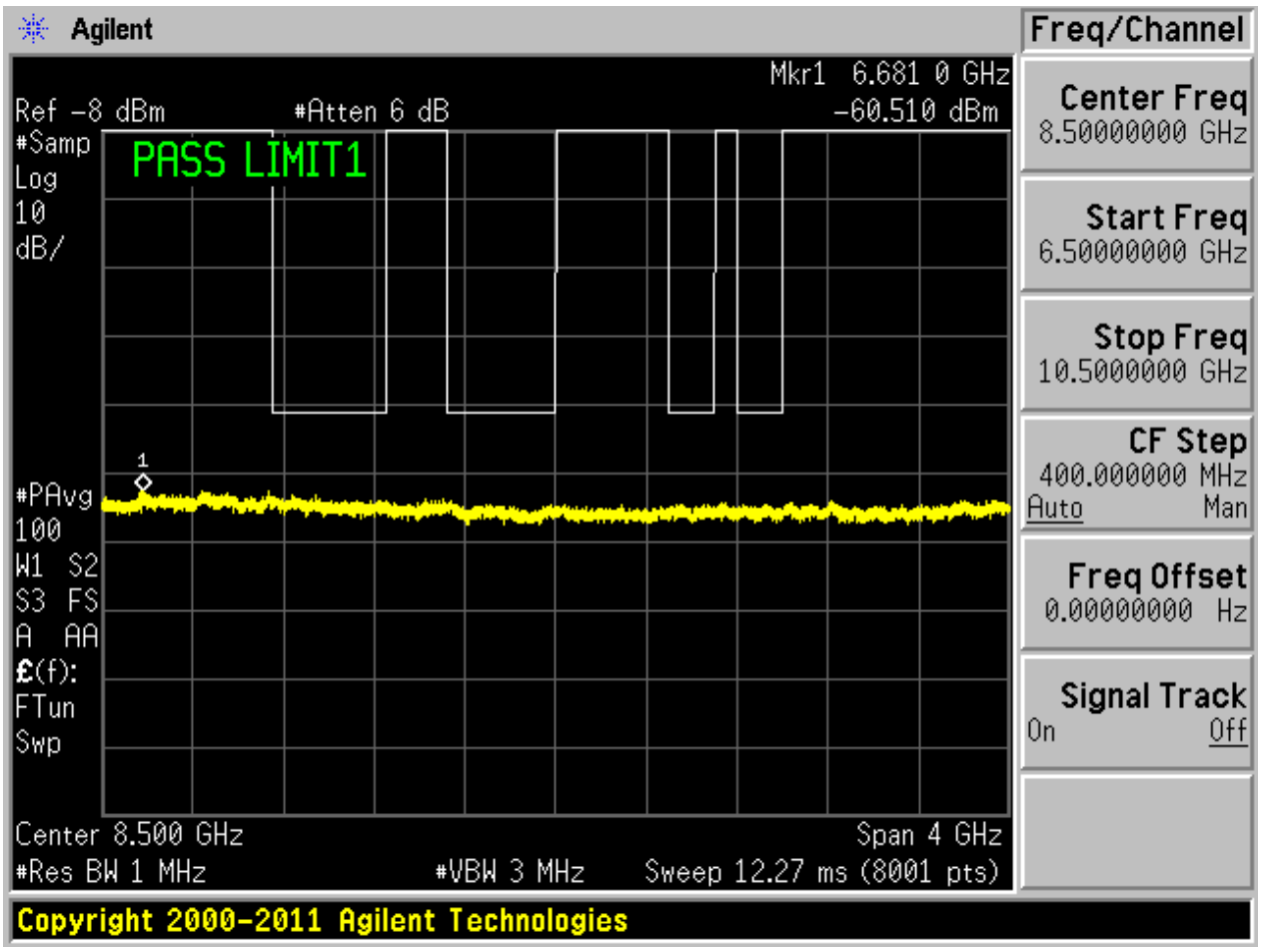

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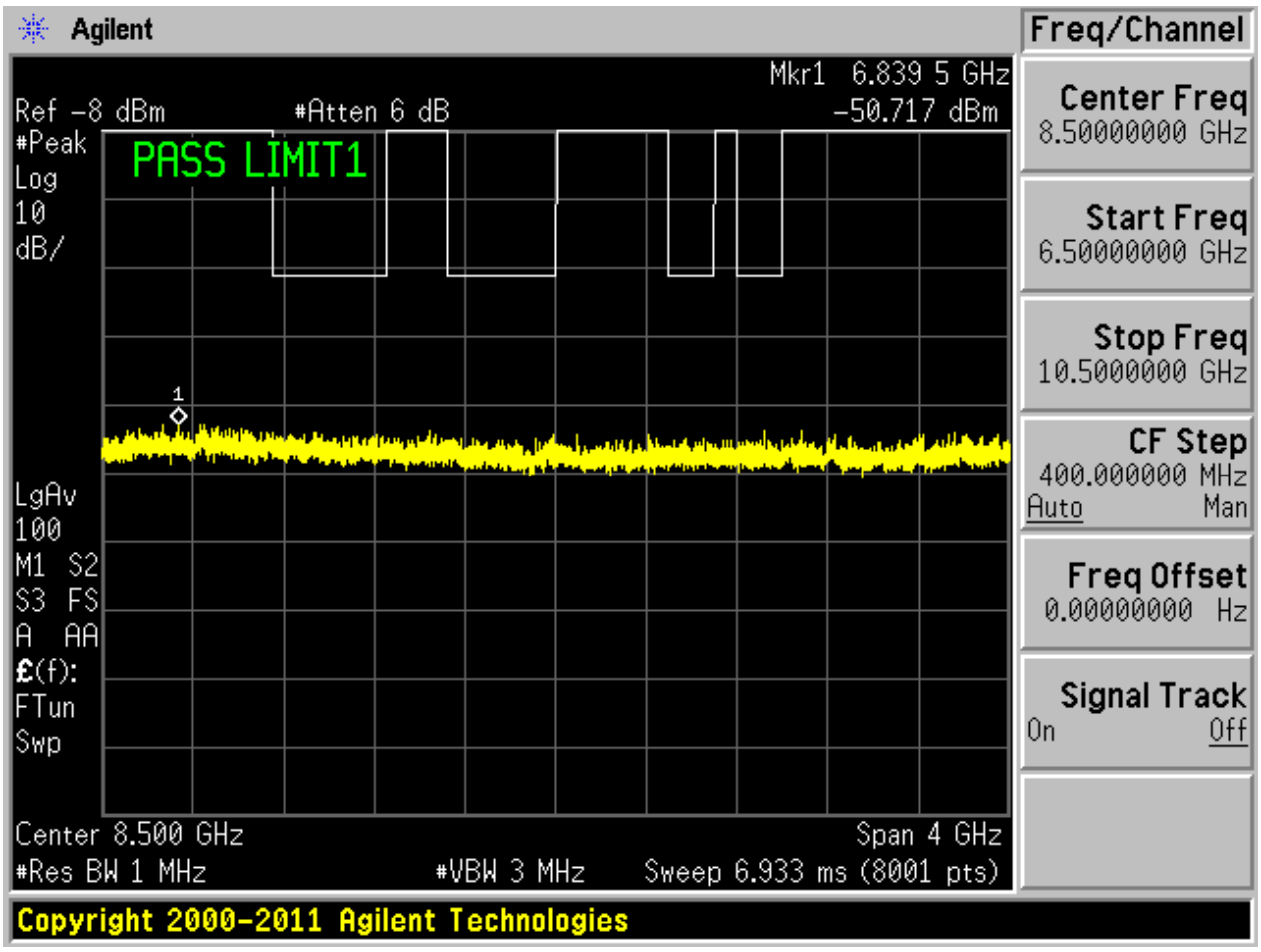

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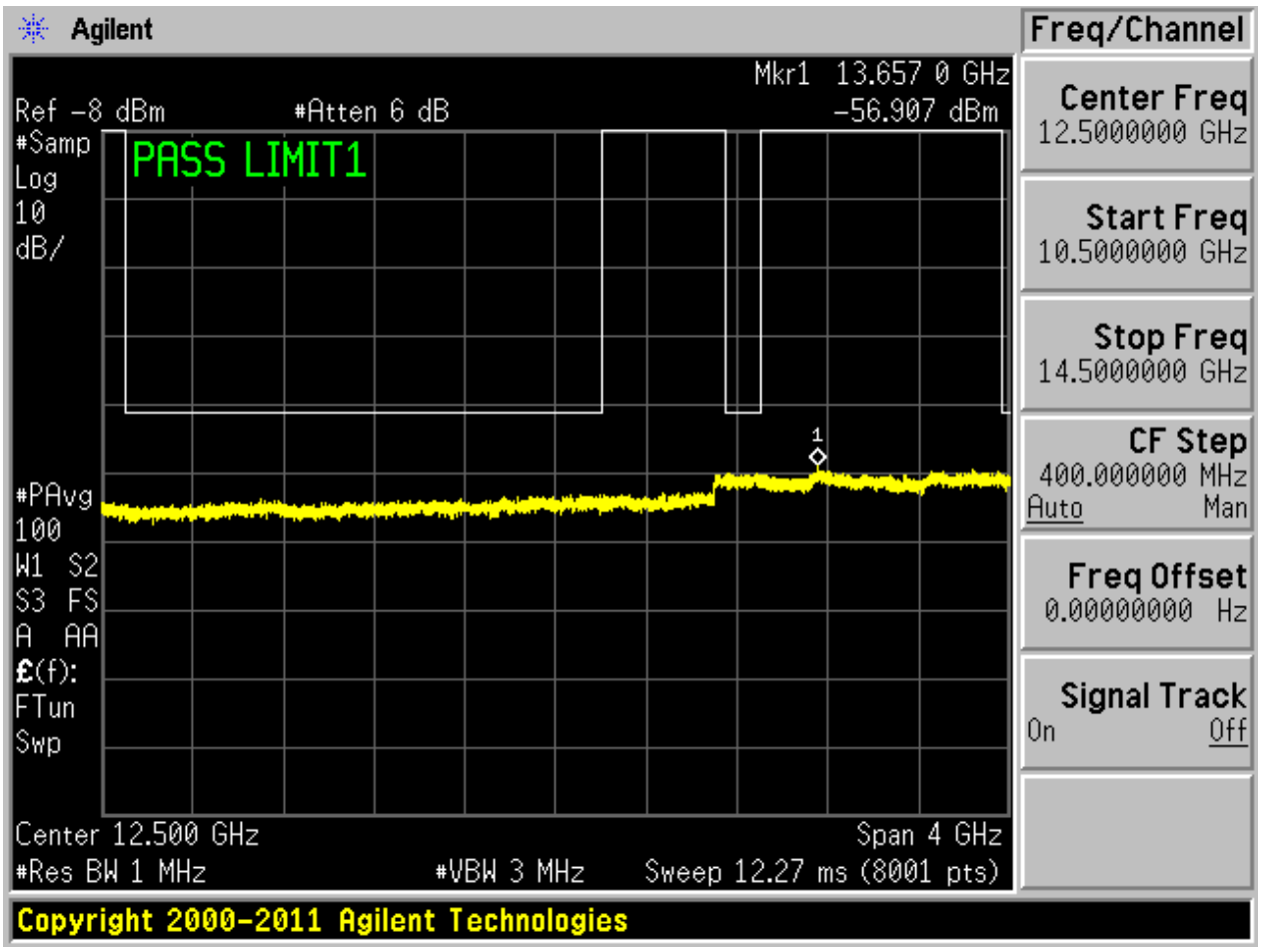

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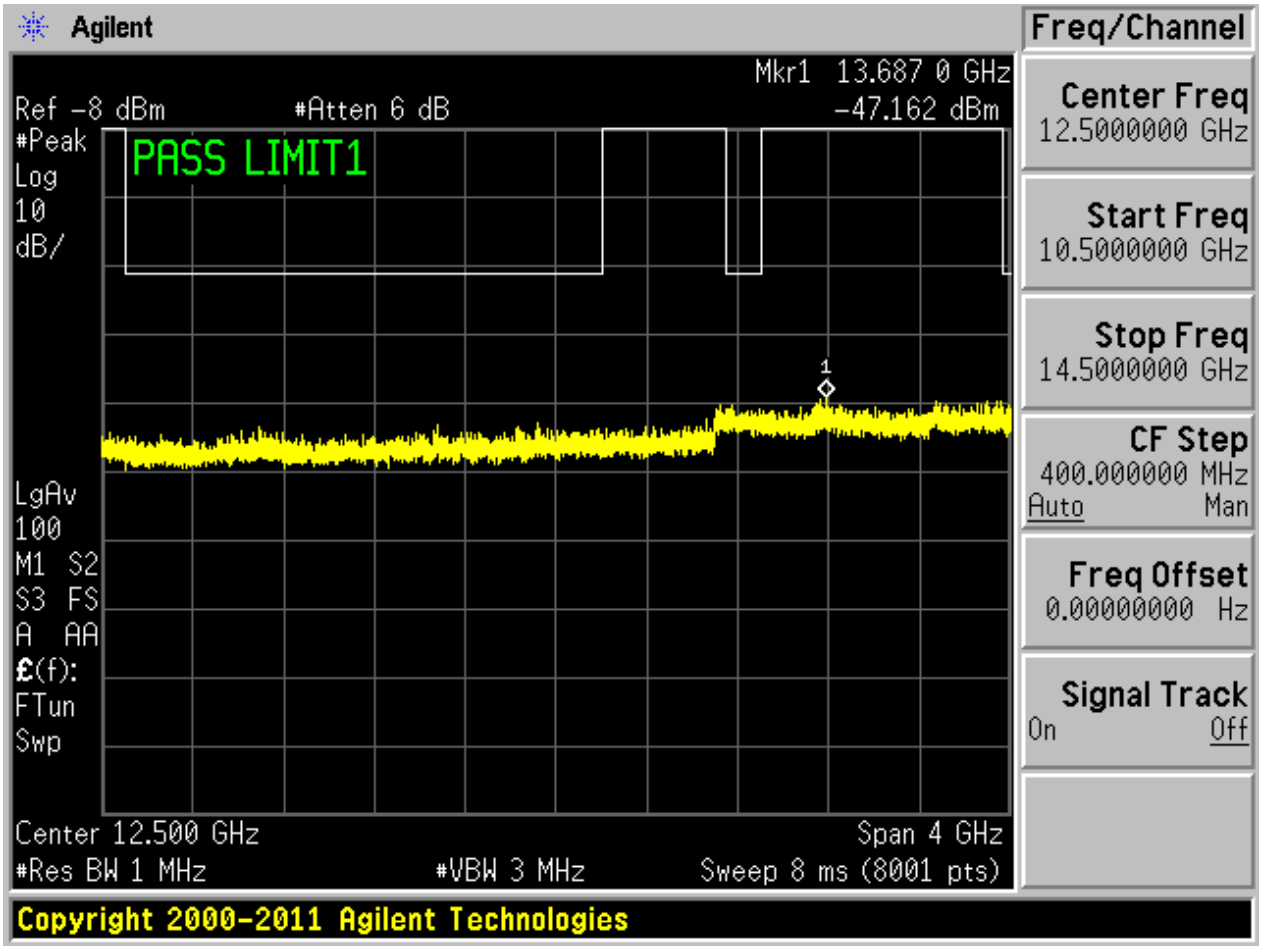

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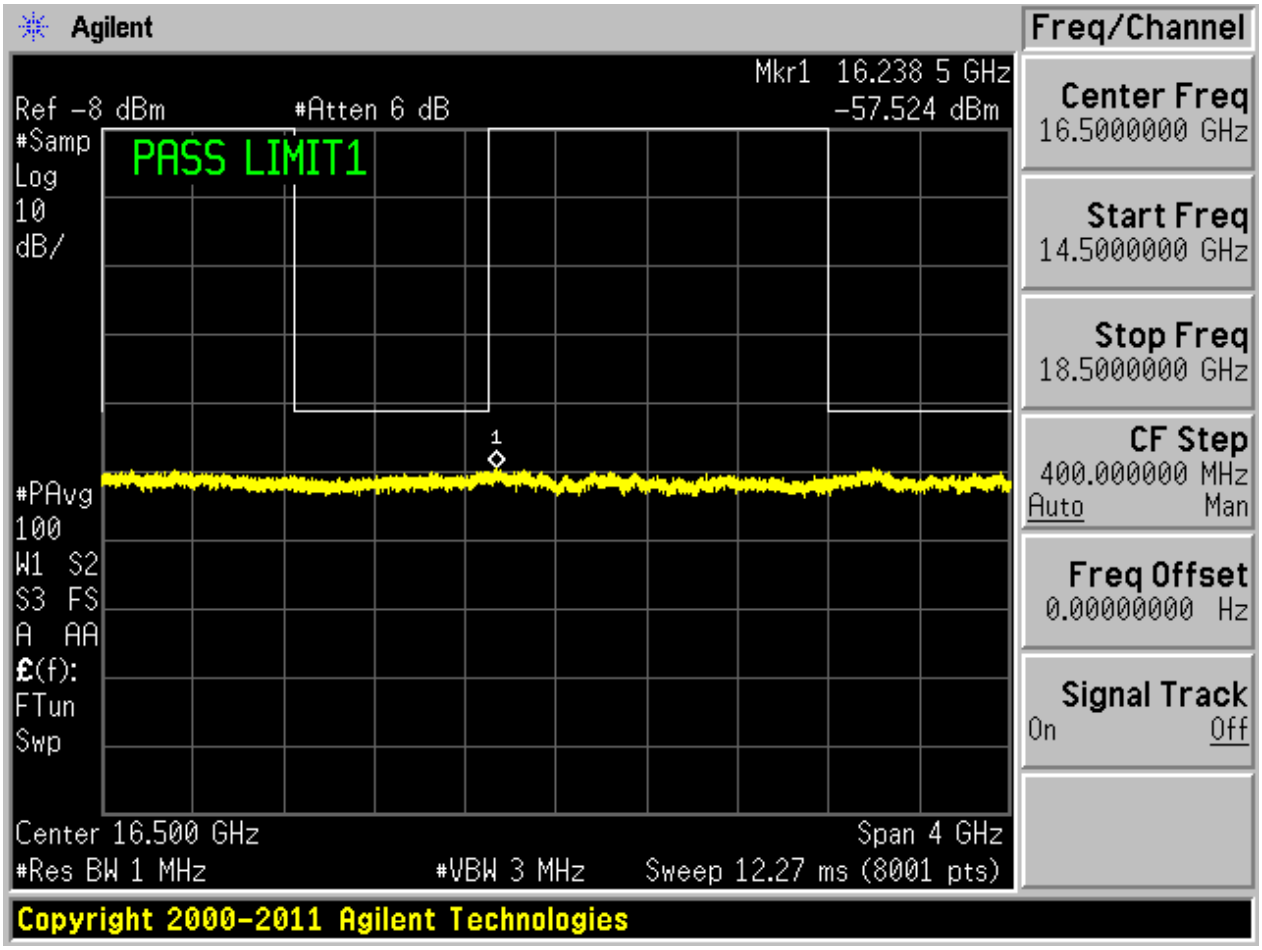

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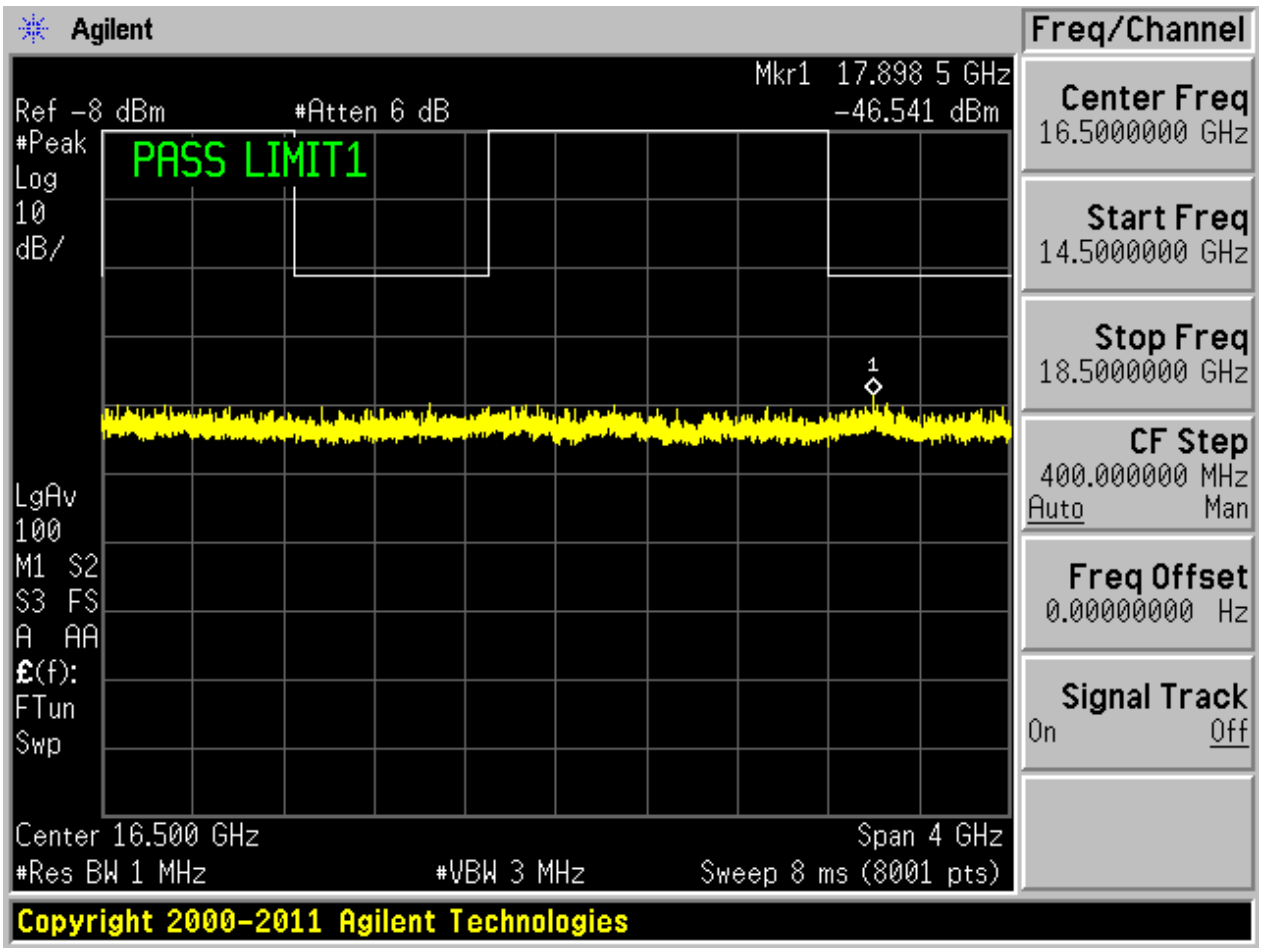

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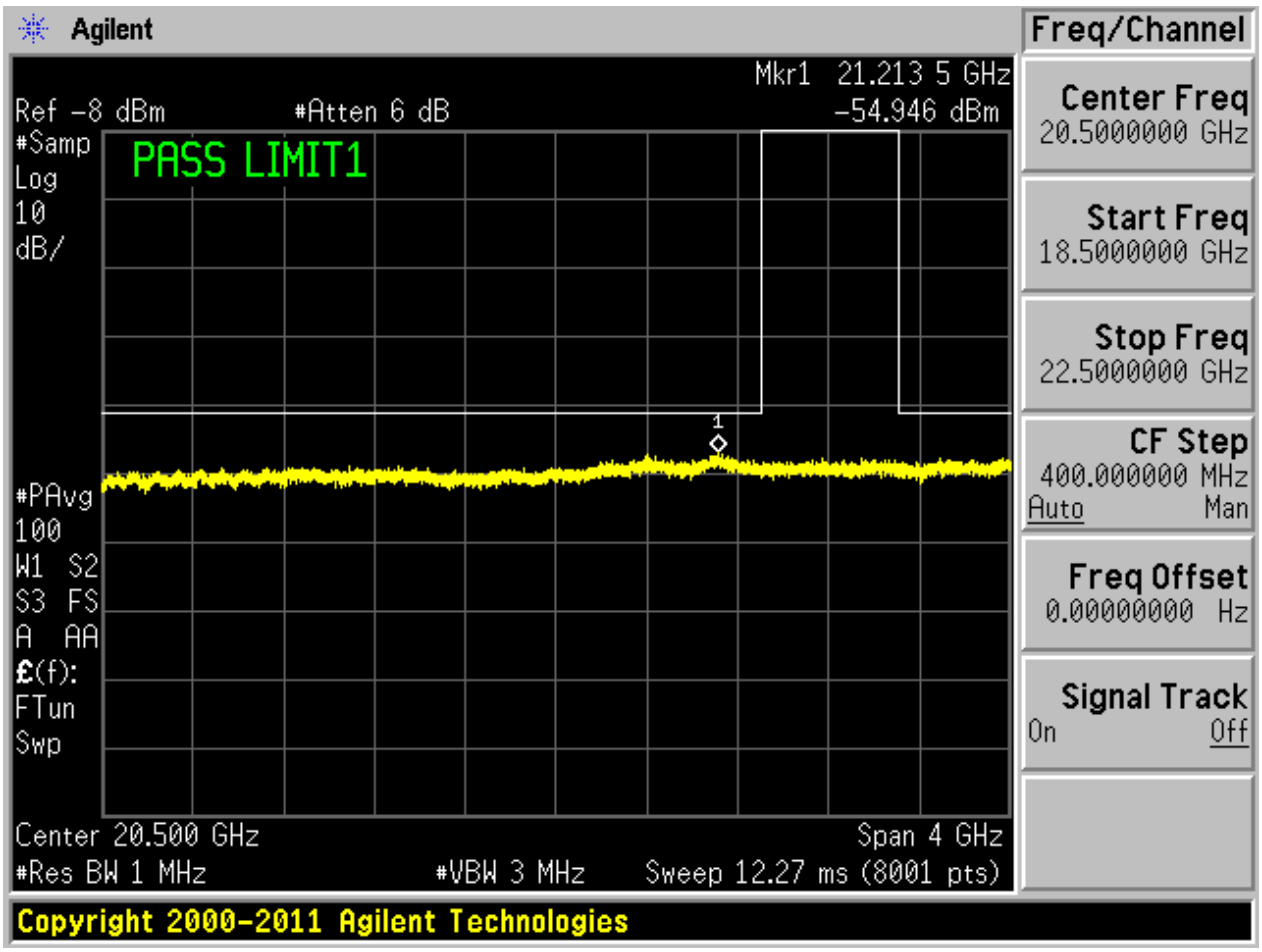

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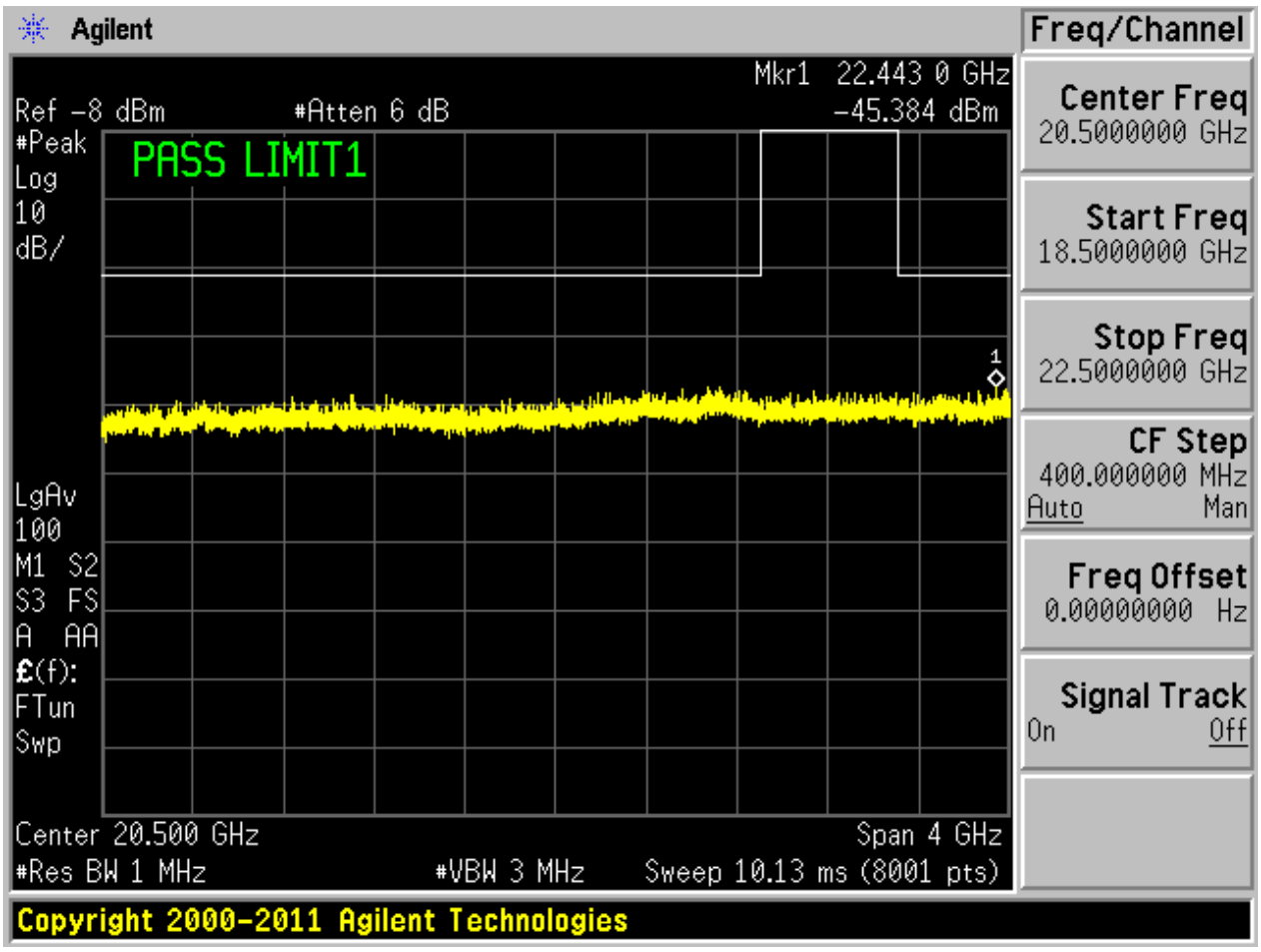

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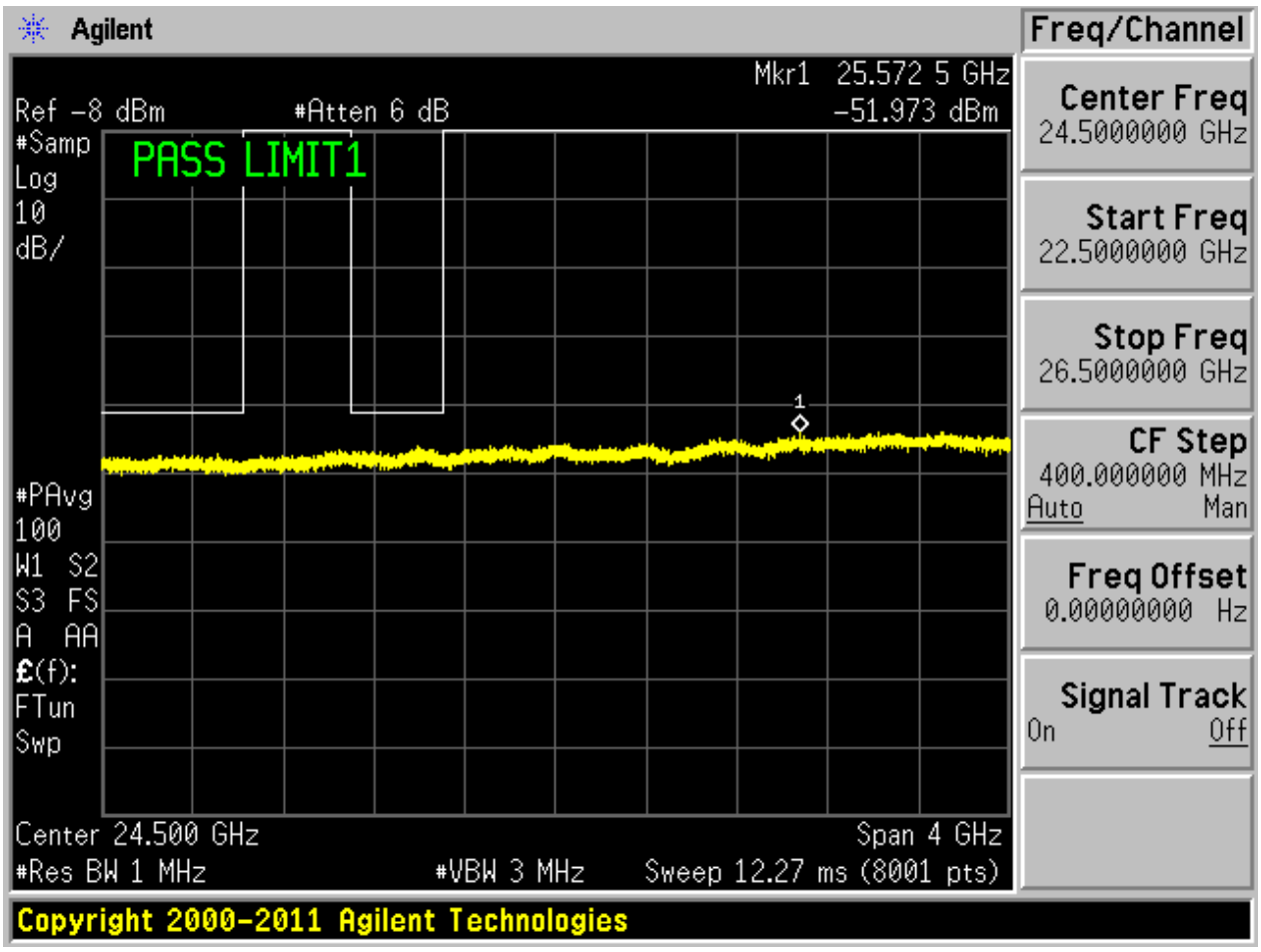

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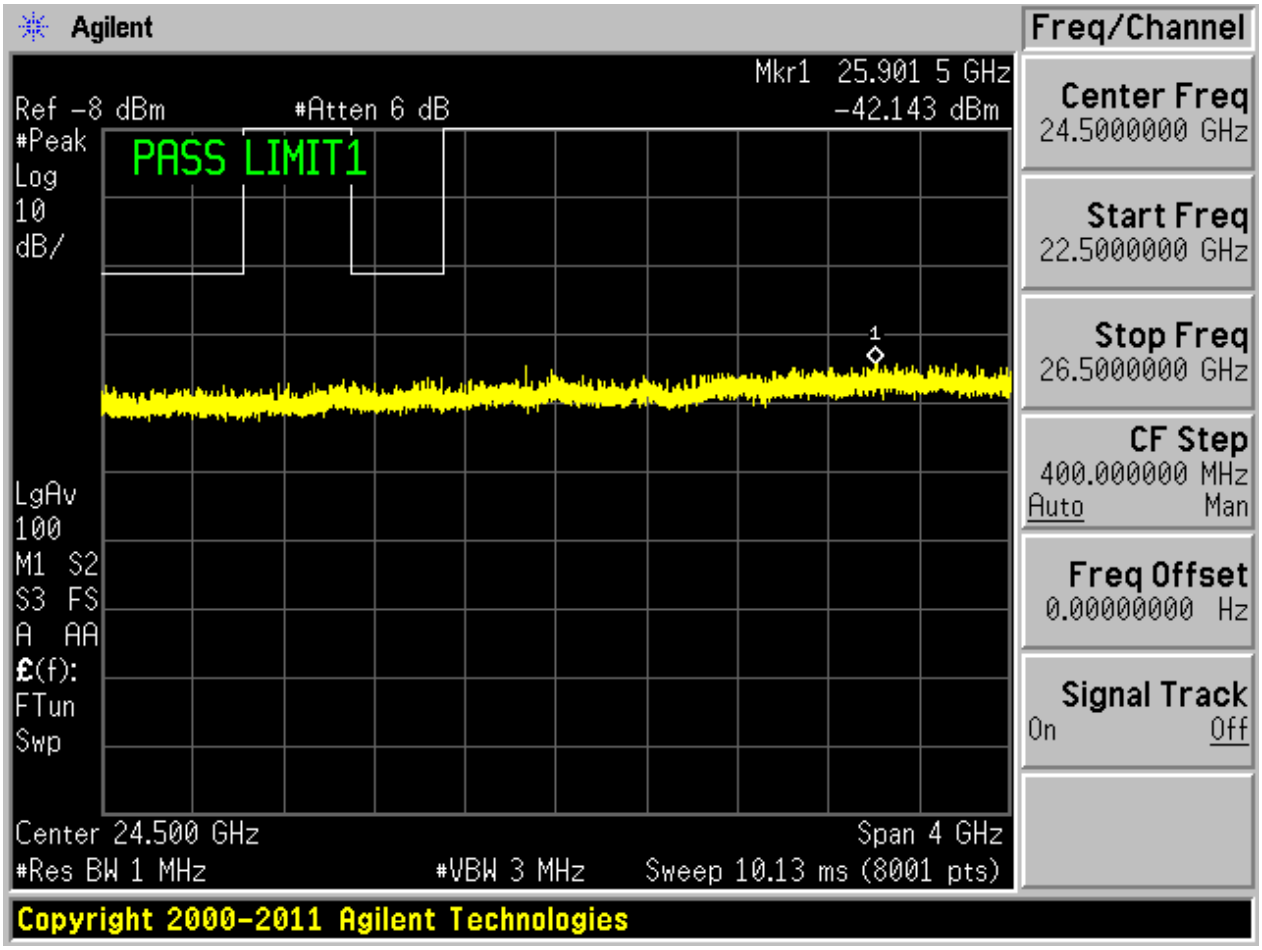

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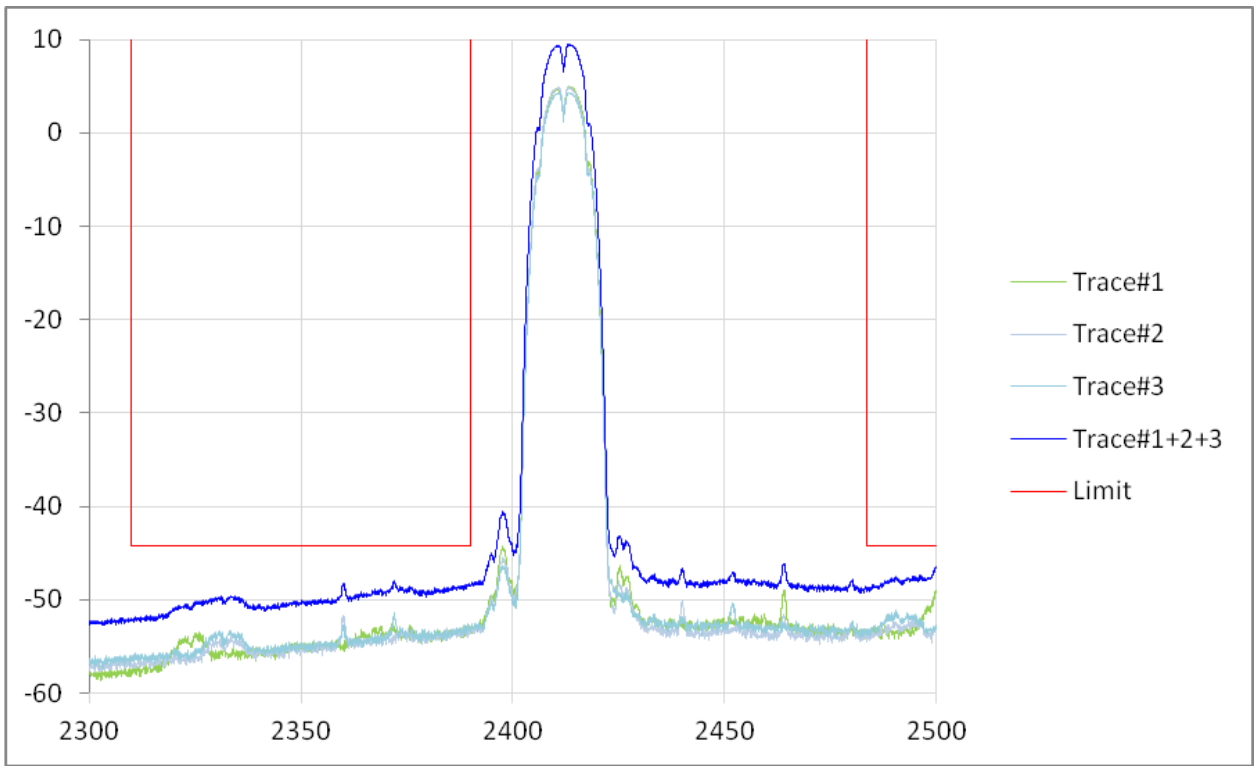

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2.8 11Bd/1_M@1+2+3

2.8.1 Ant 1 (Trace#1)

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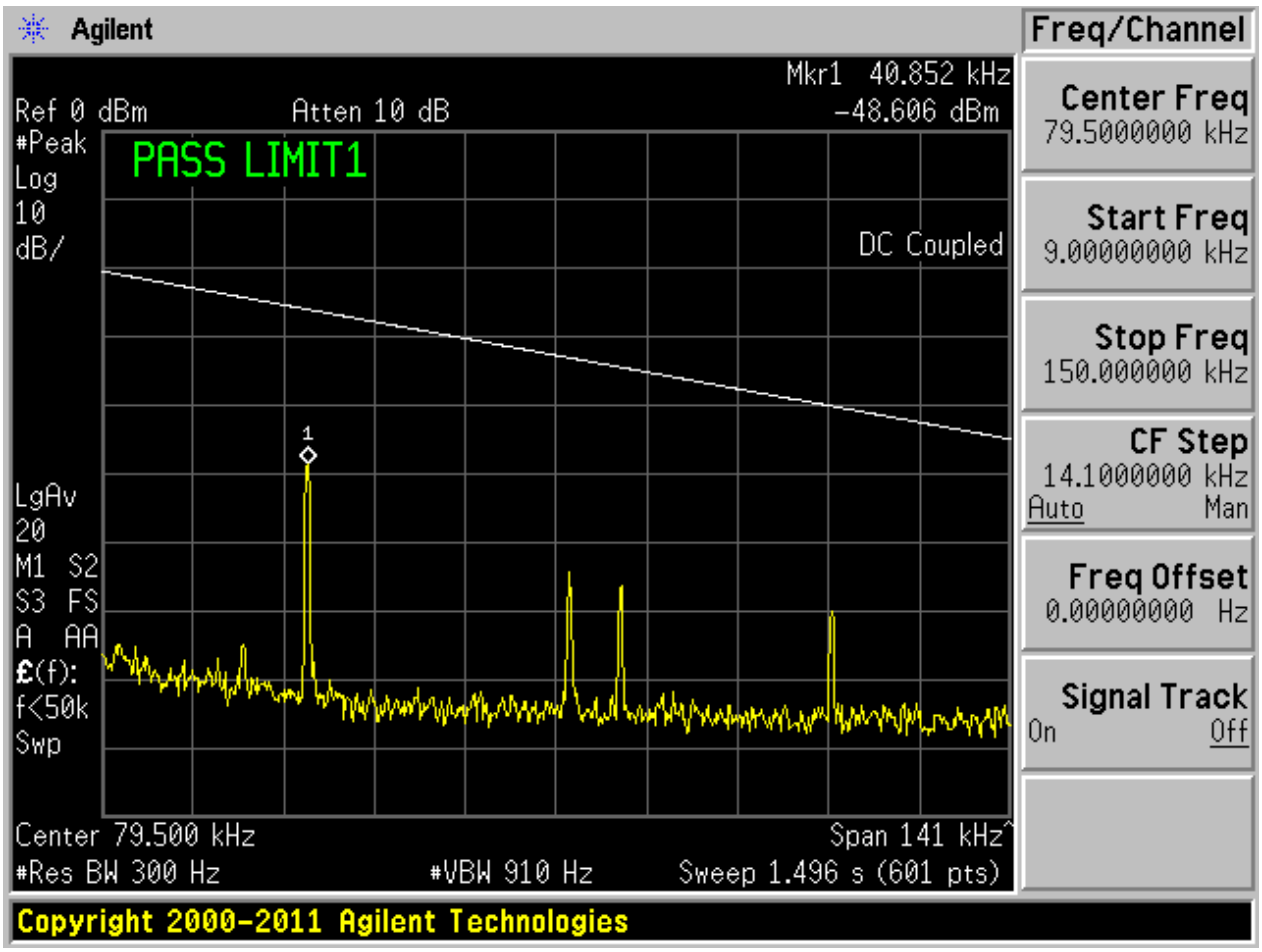

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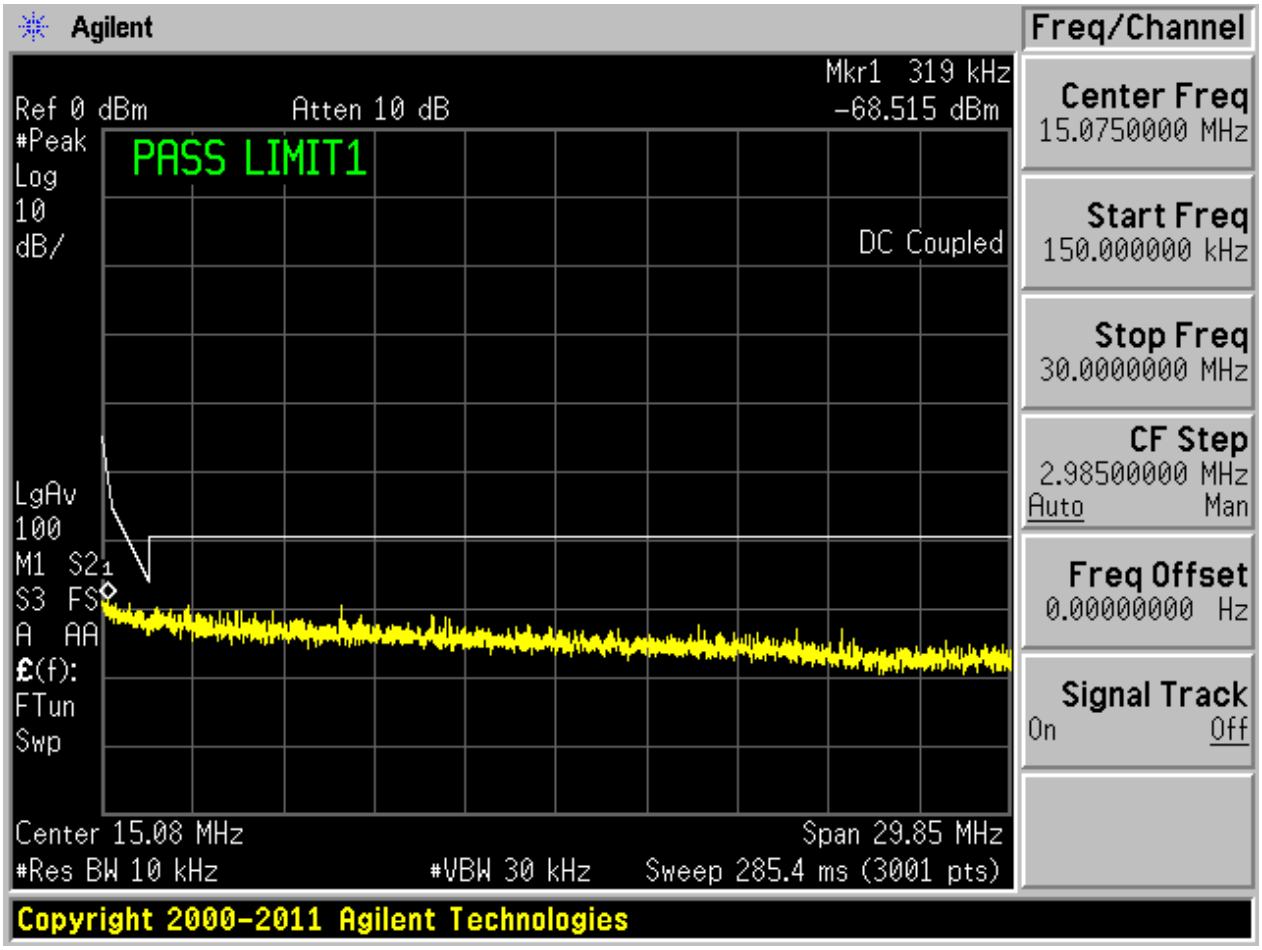

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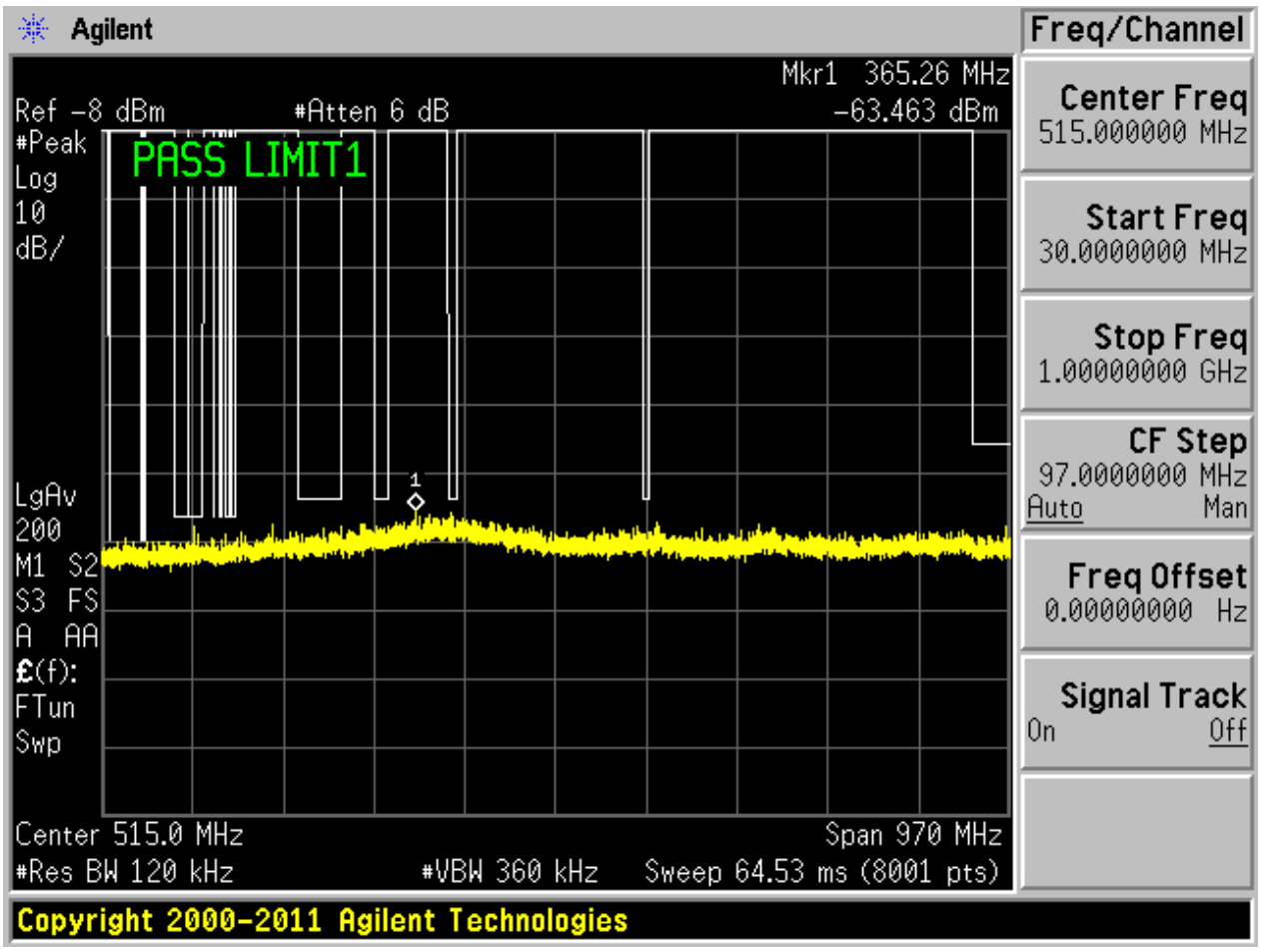

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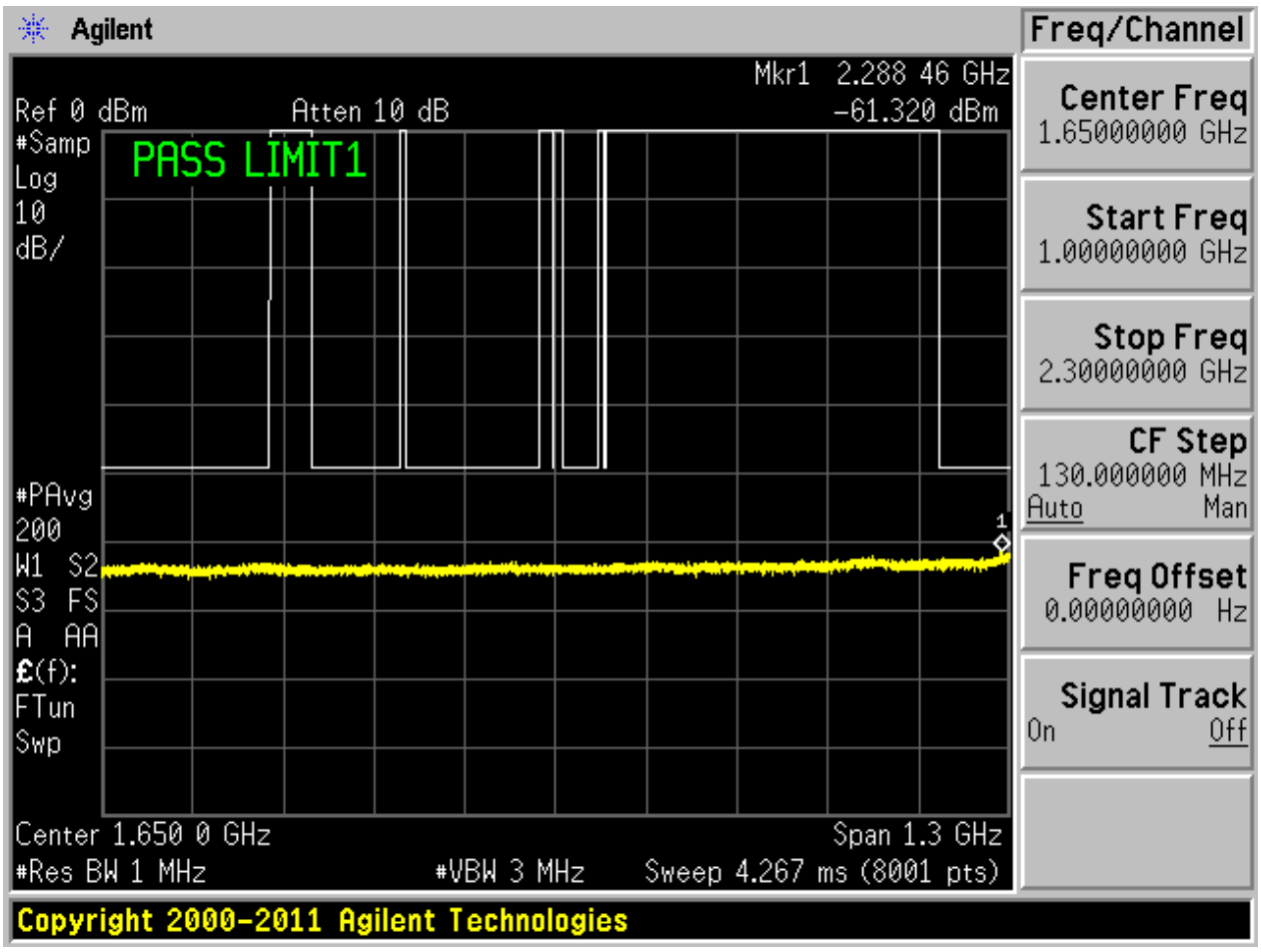

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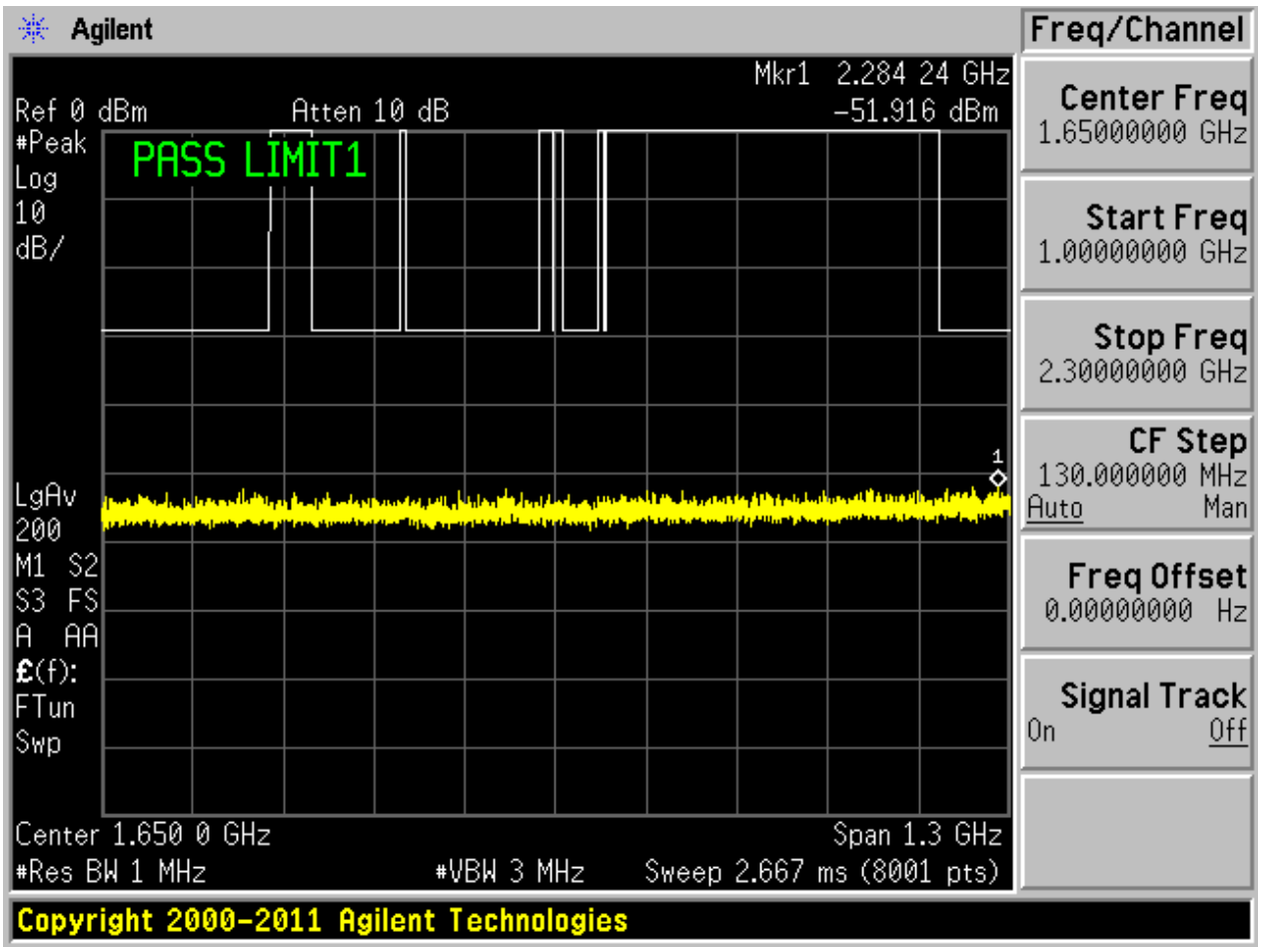

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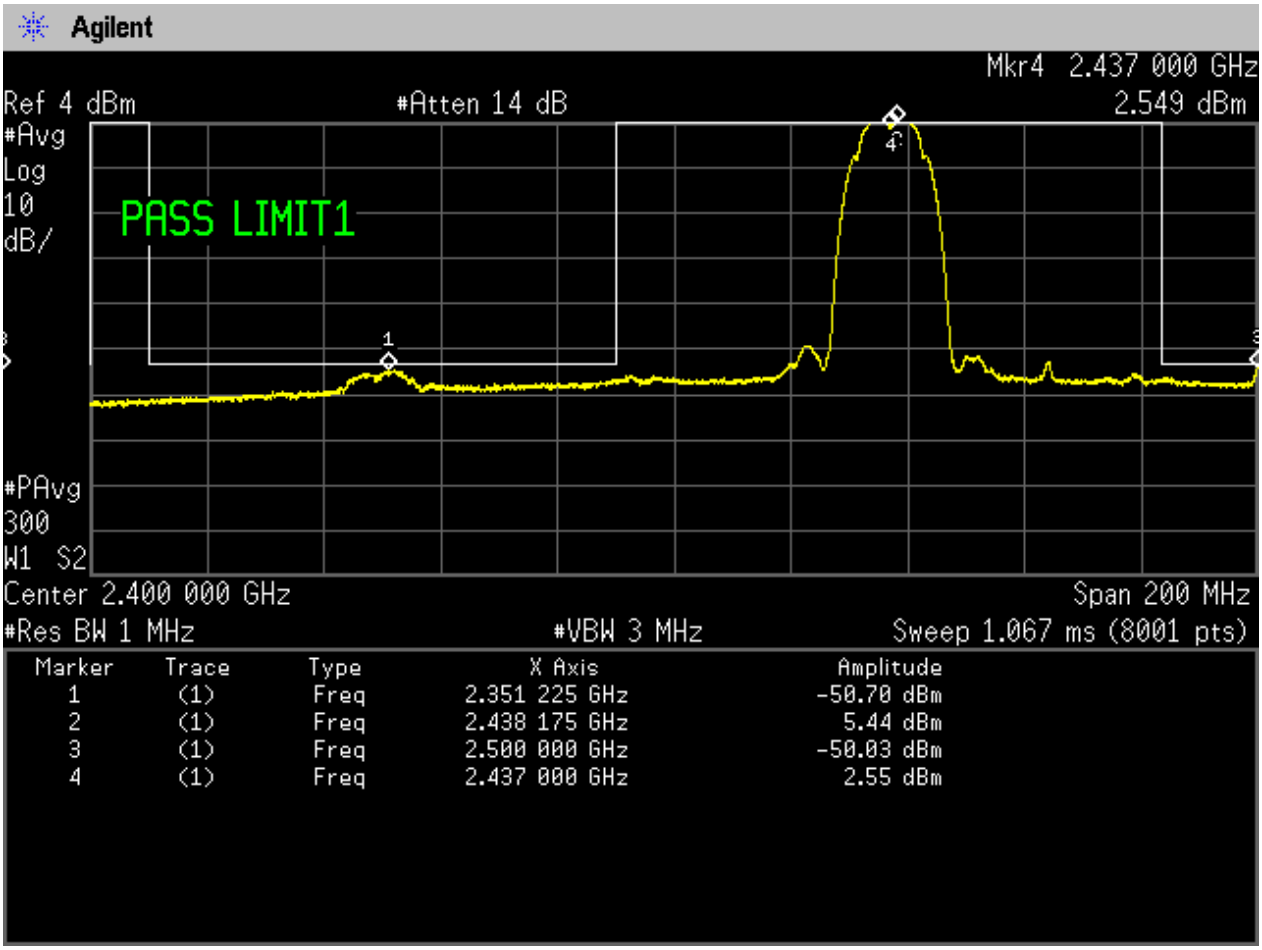

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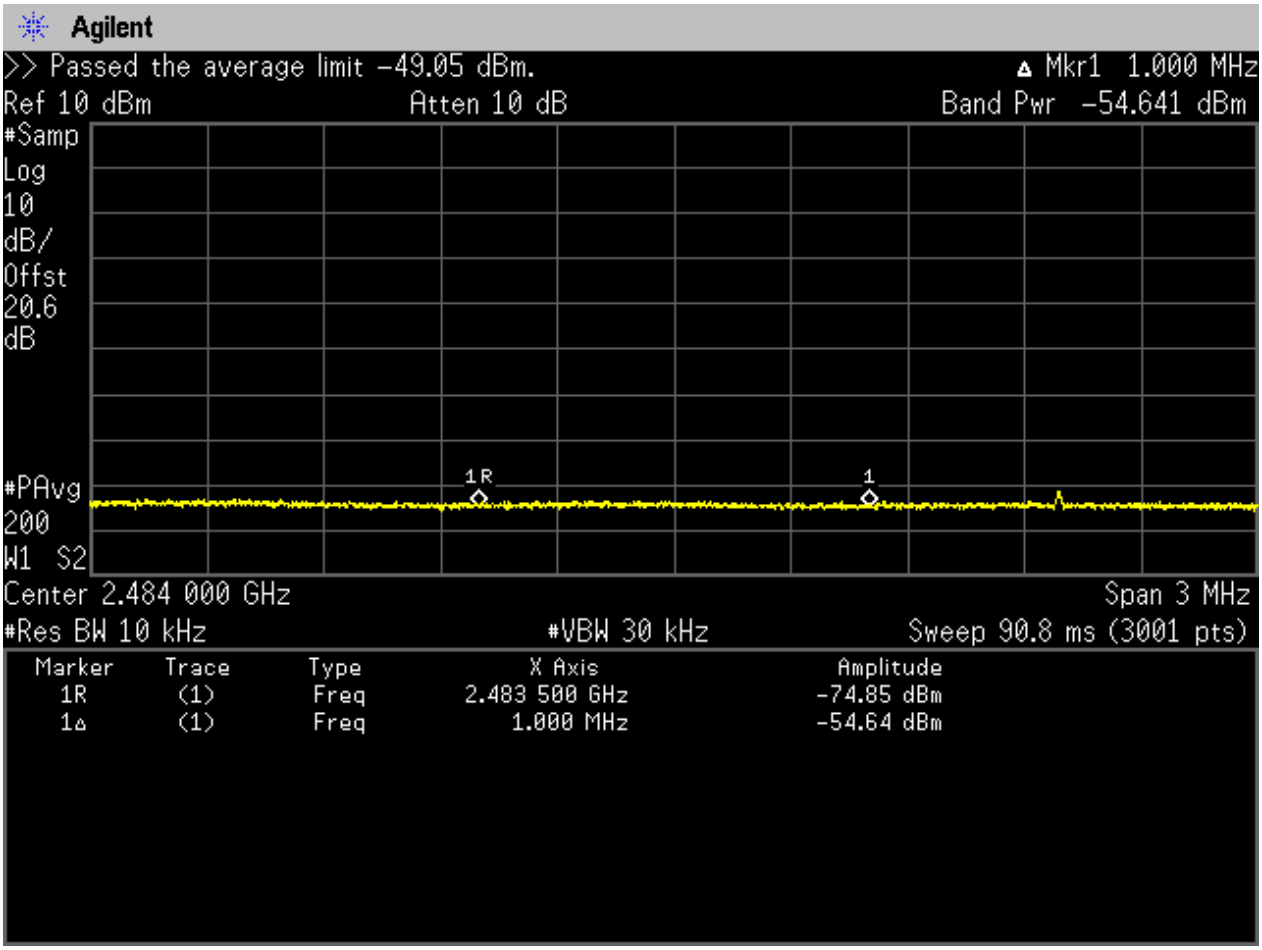

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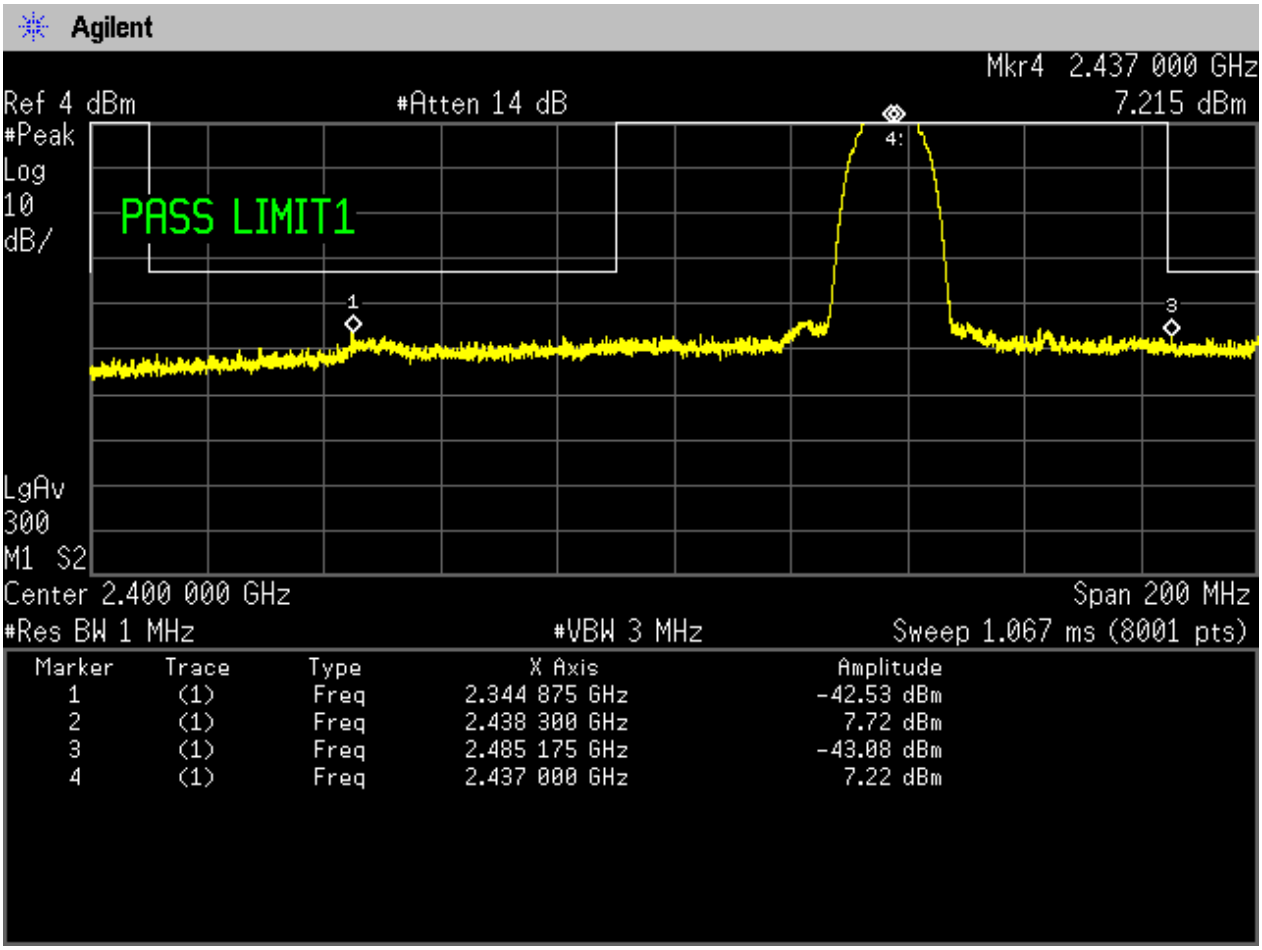

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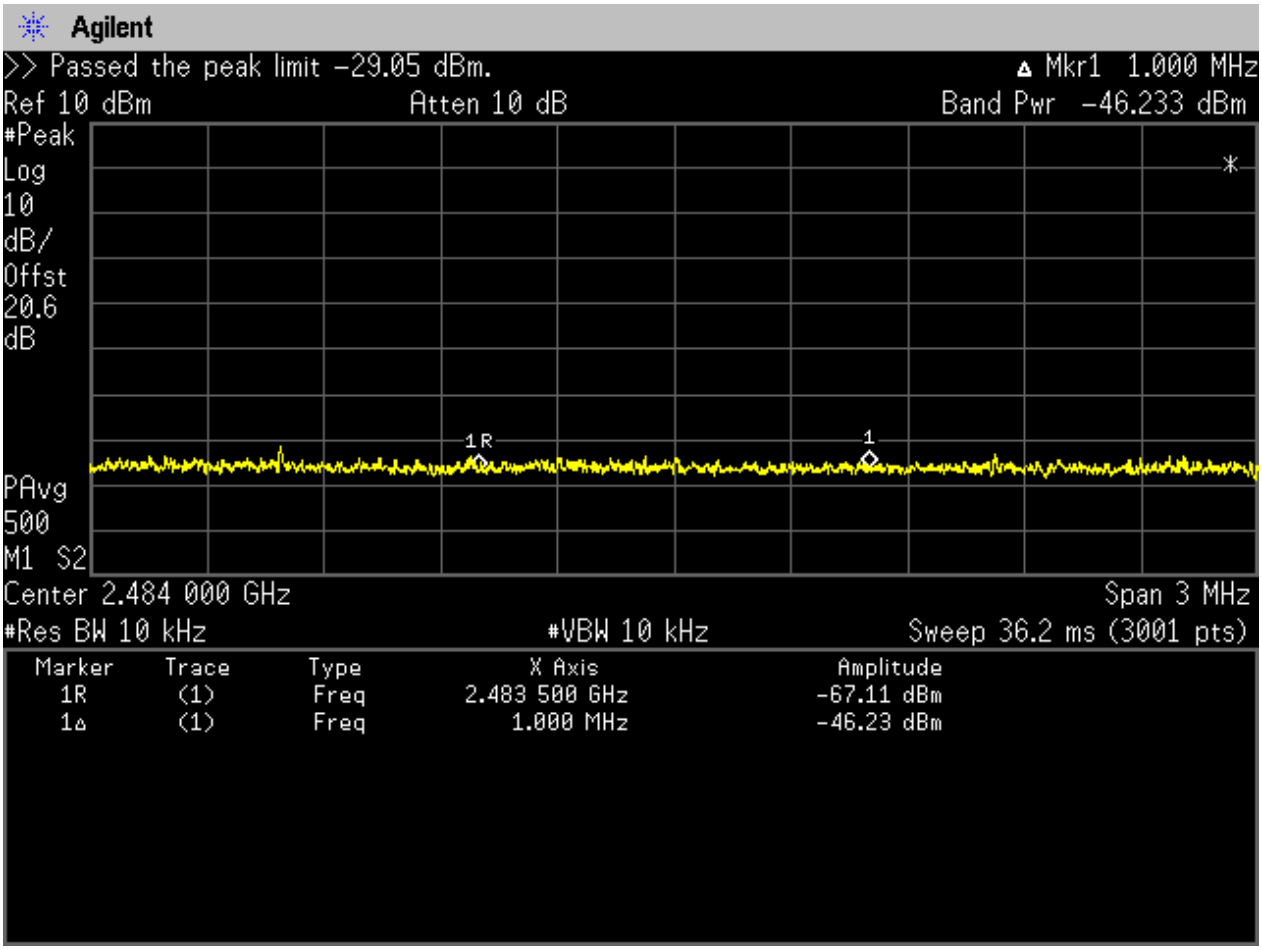

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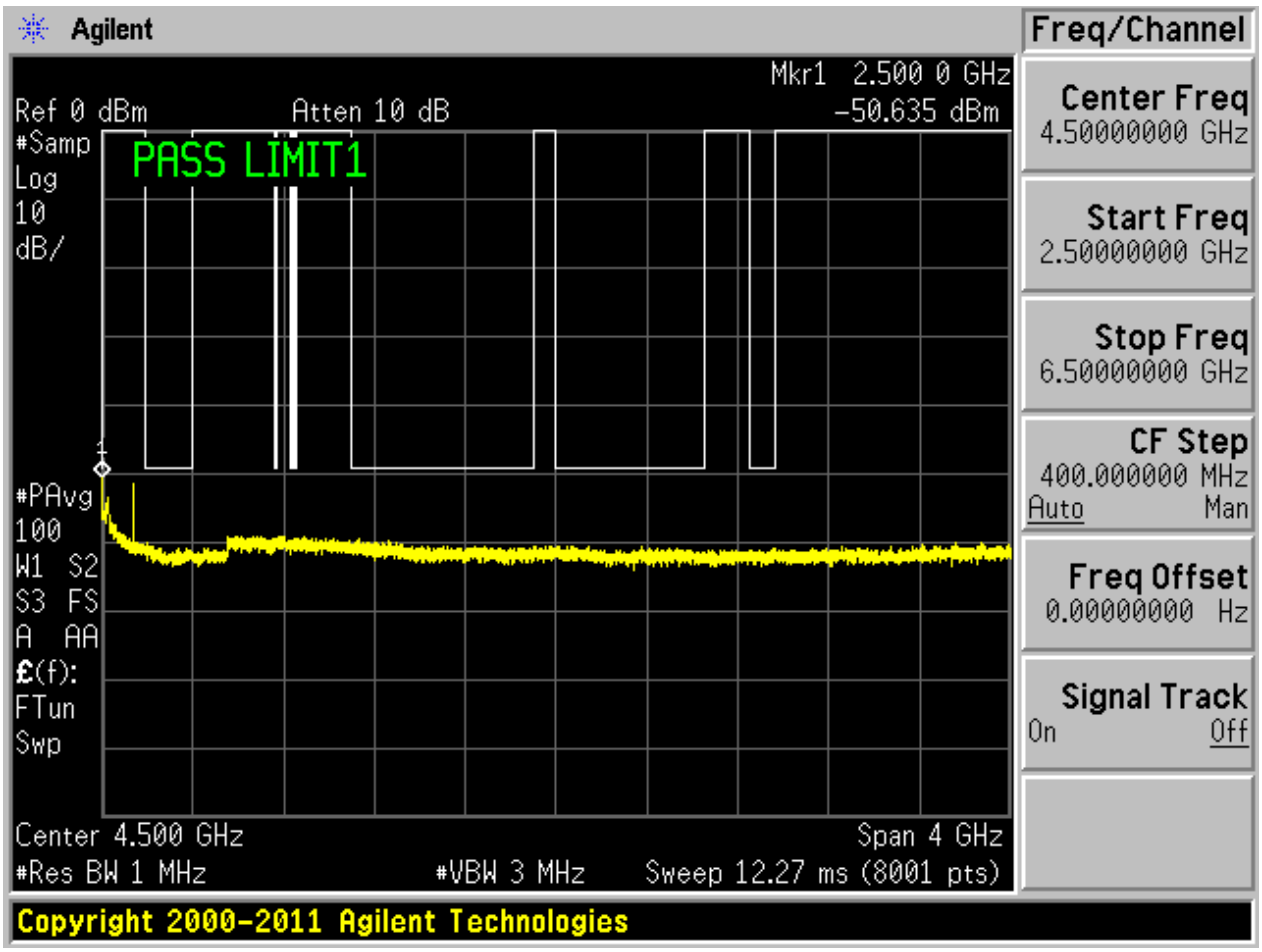

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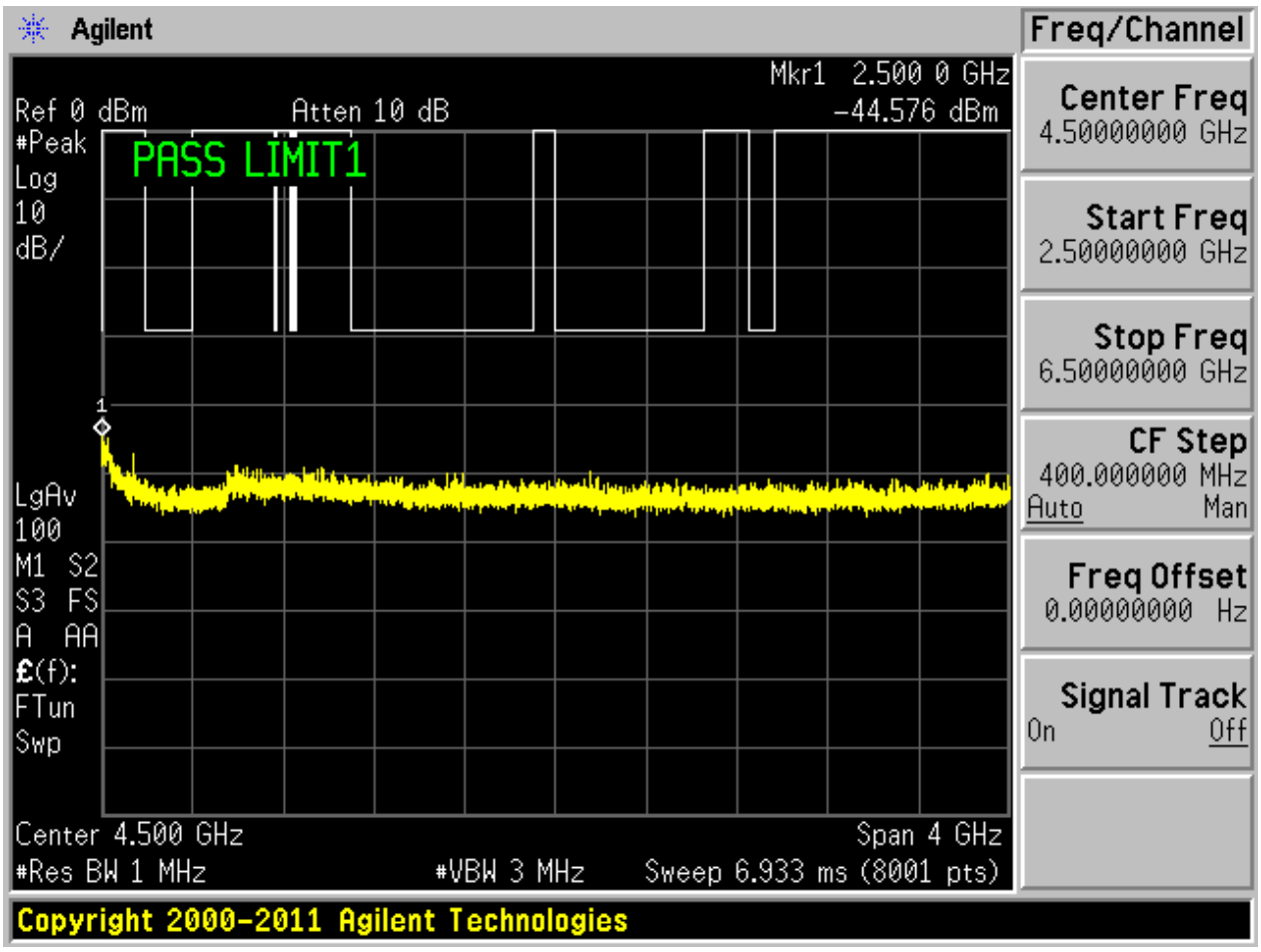

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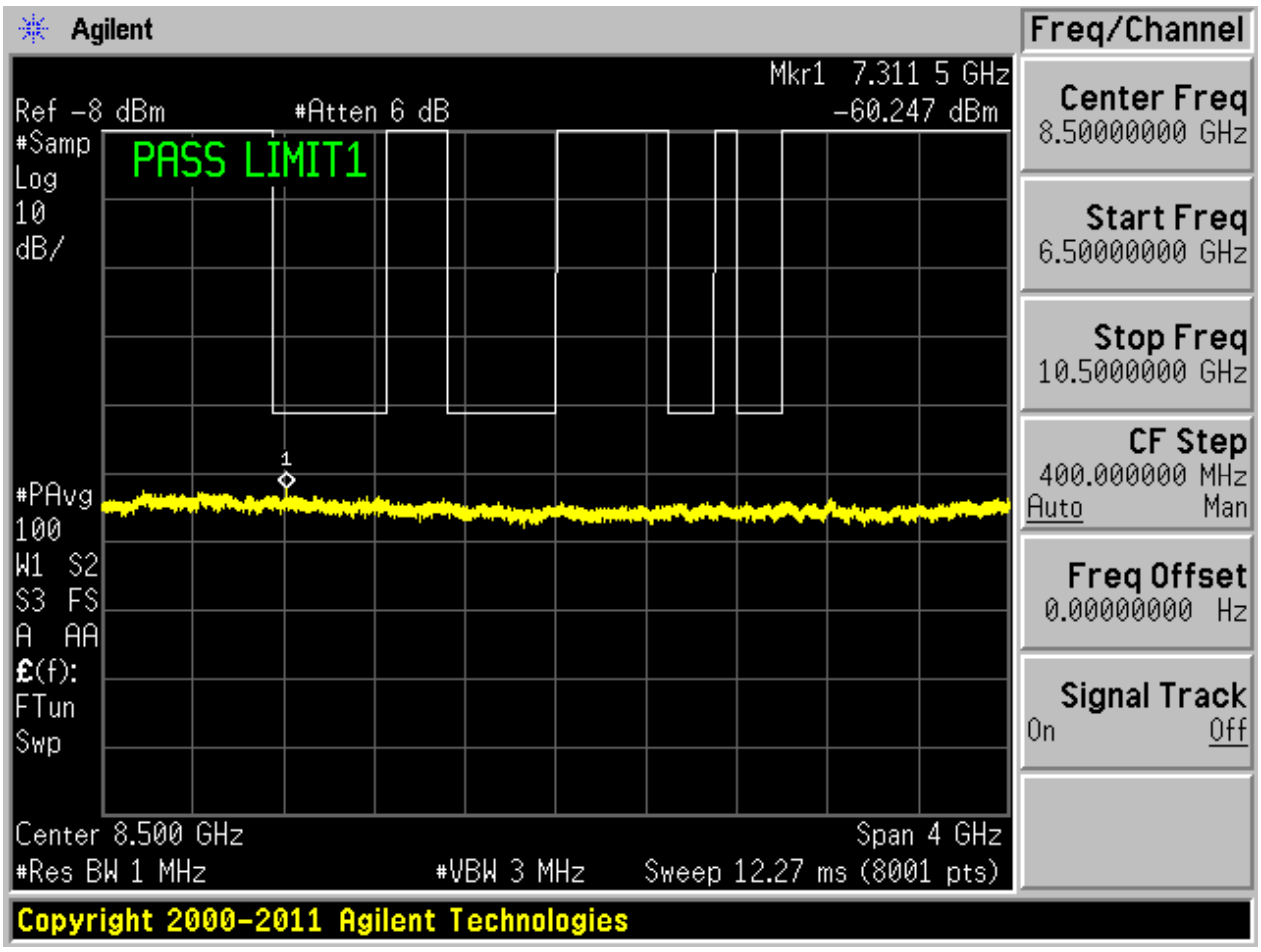

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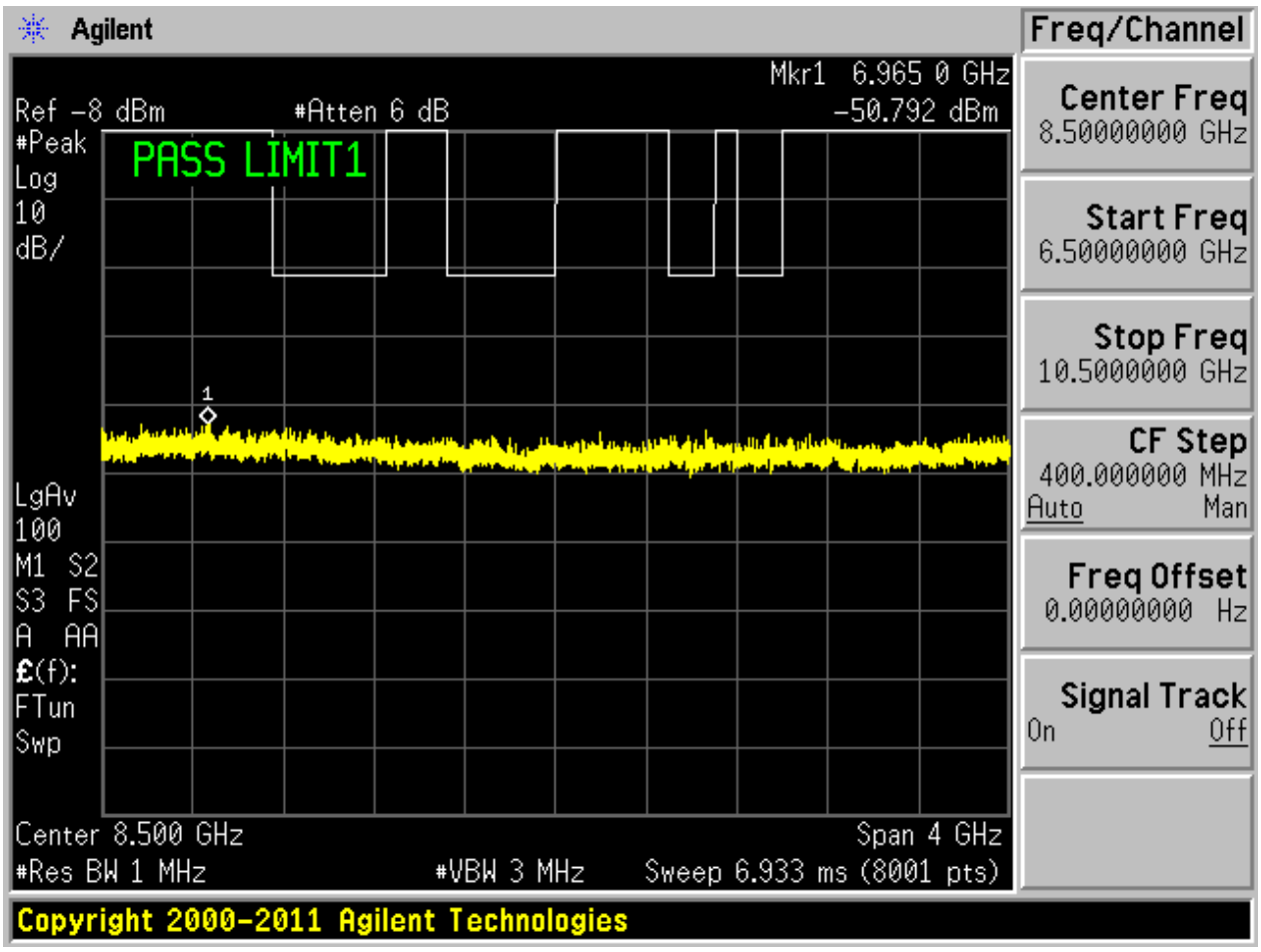

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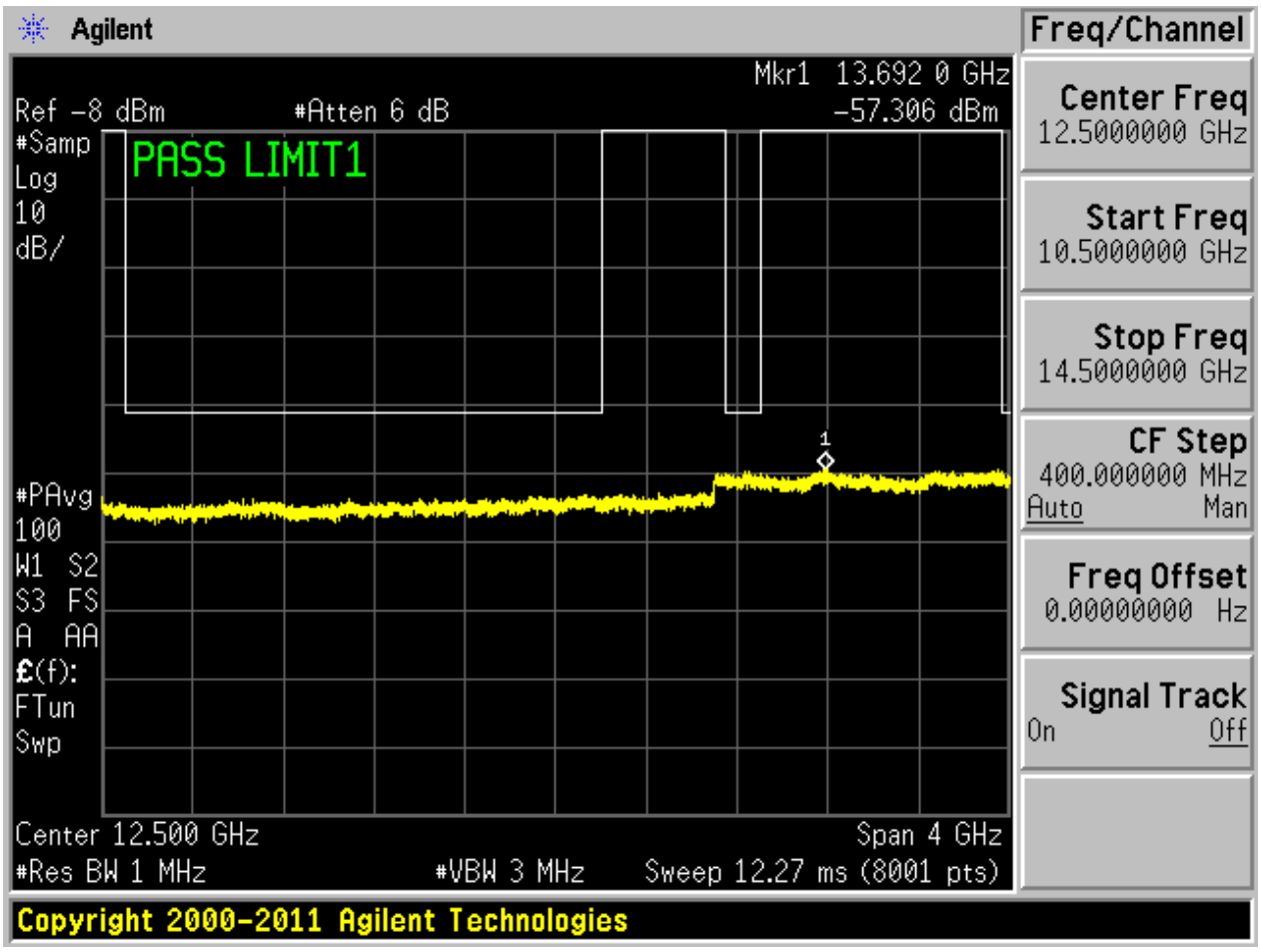

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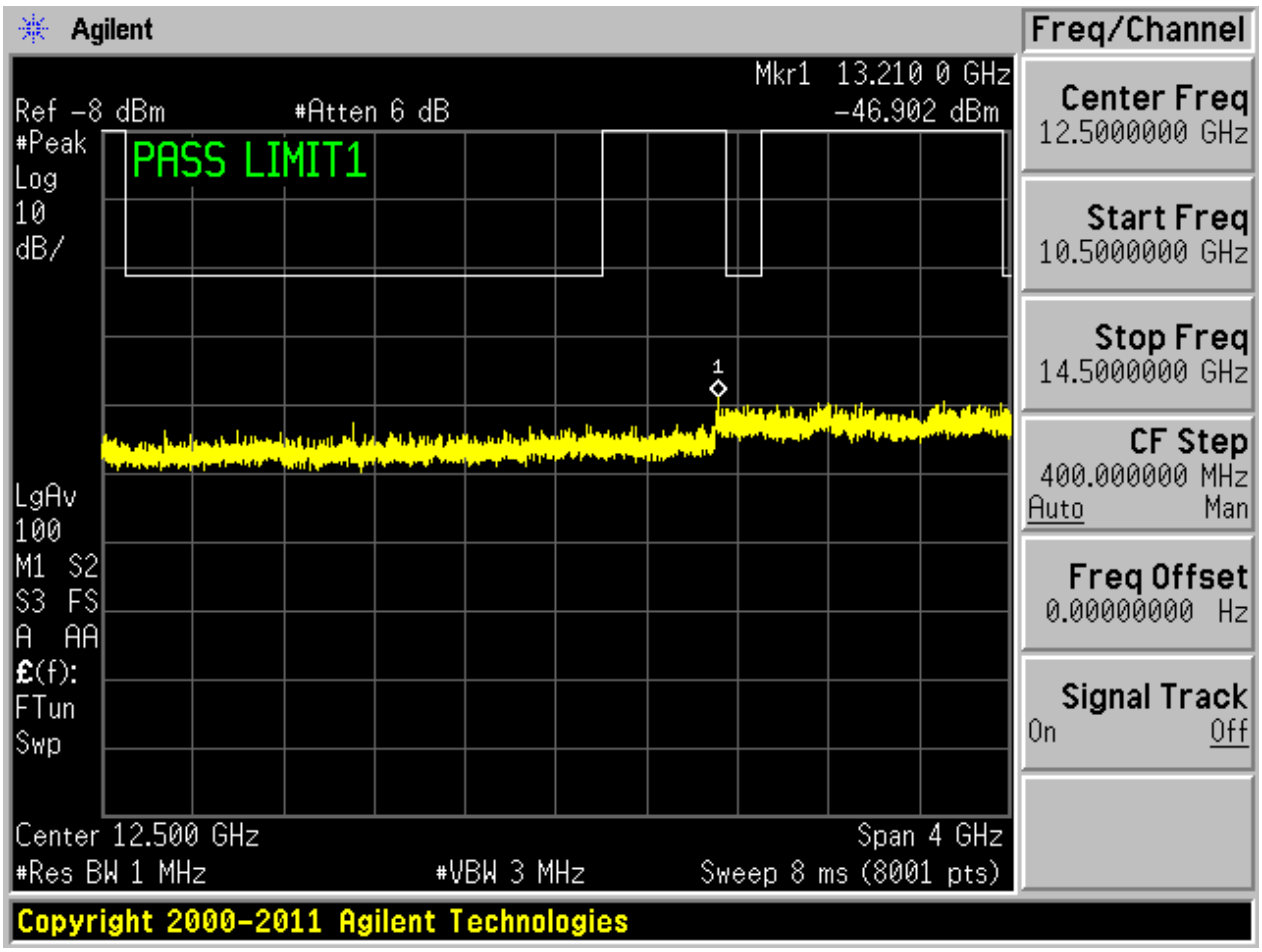

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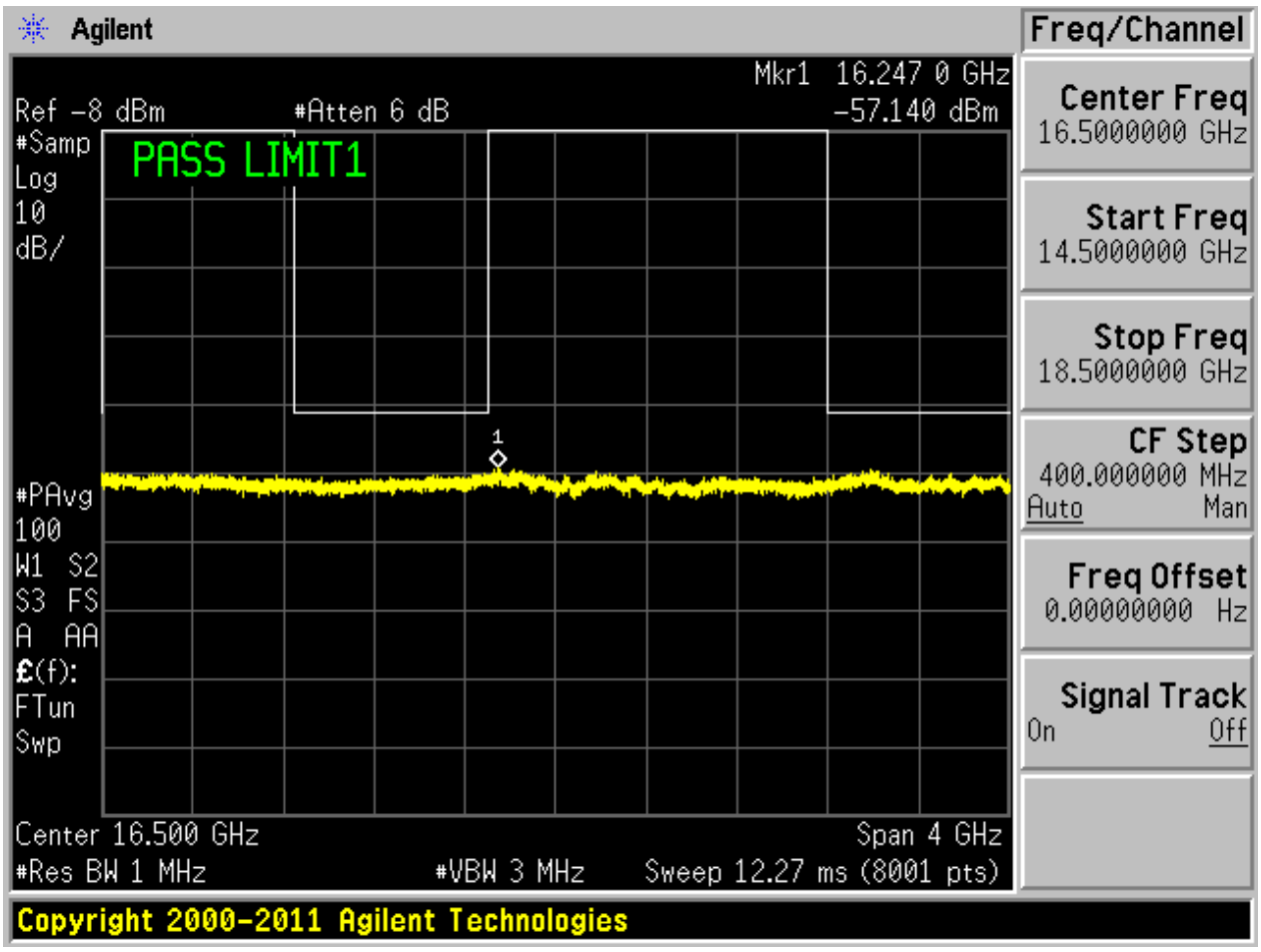

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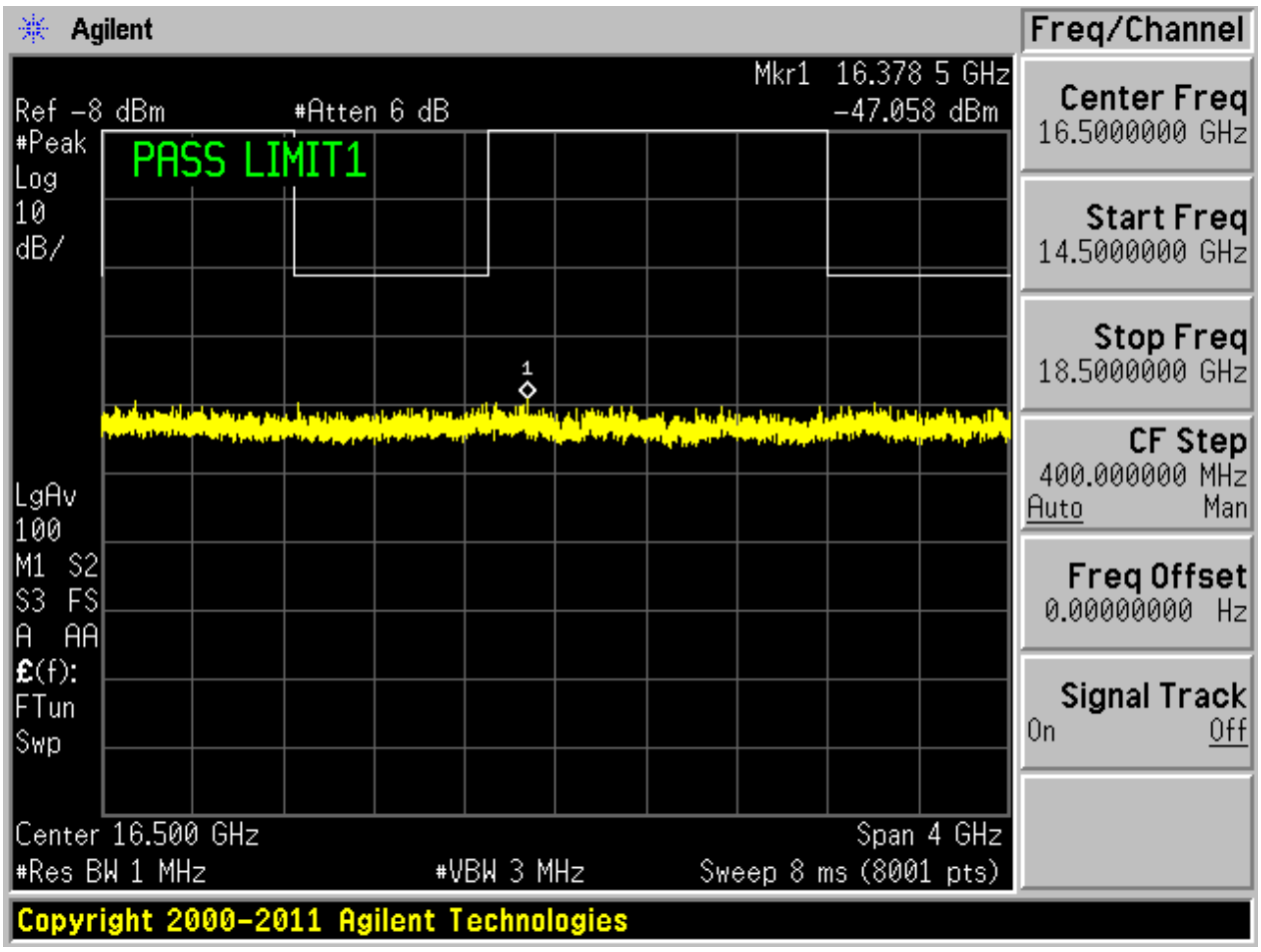

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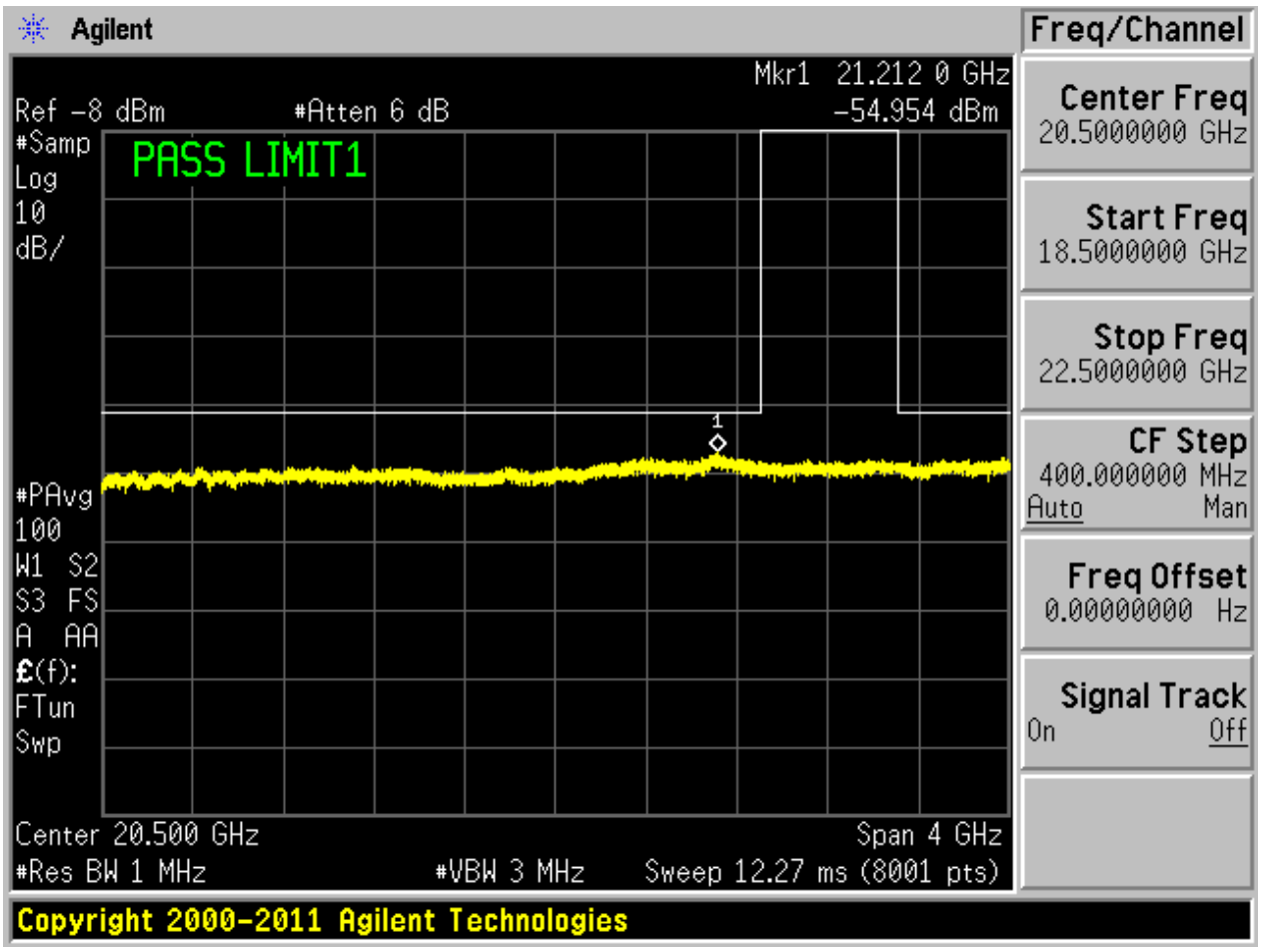

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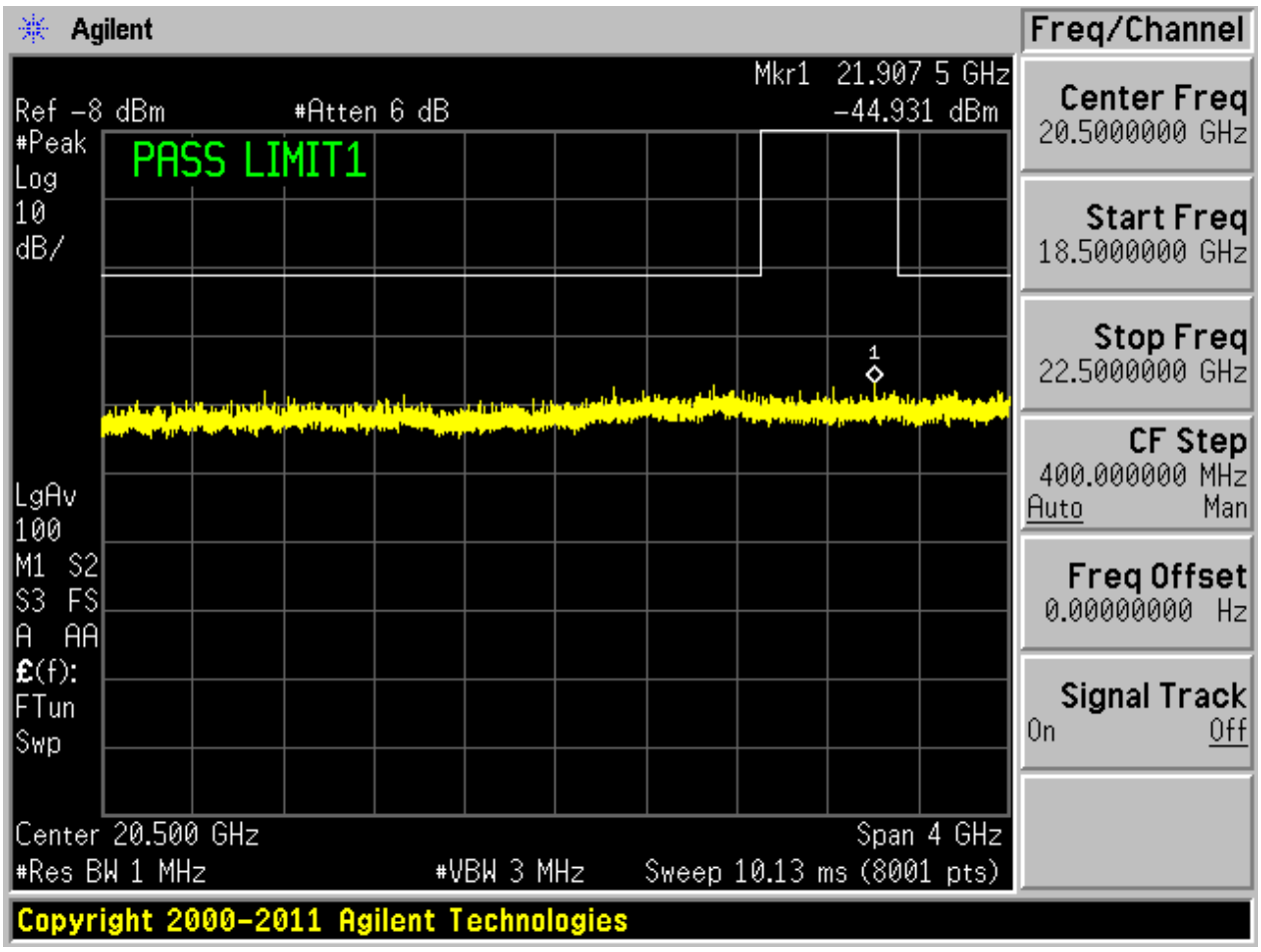

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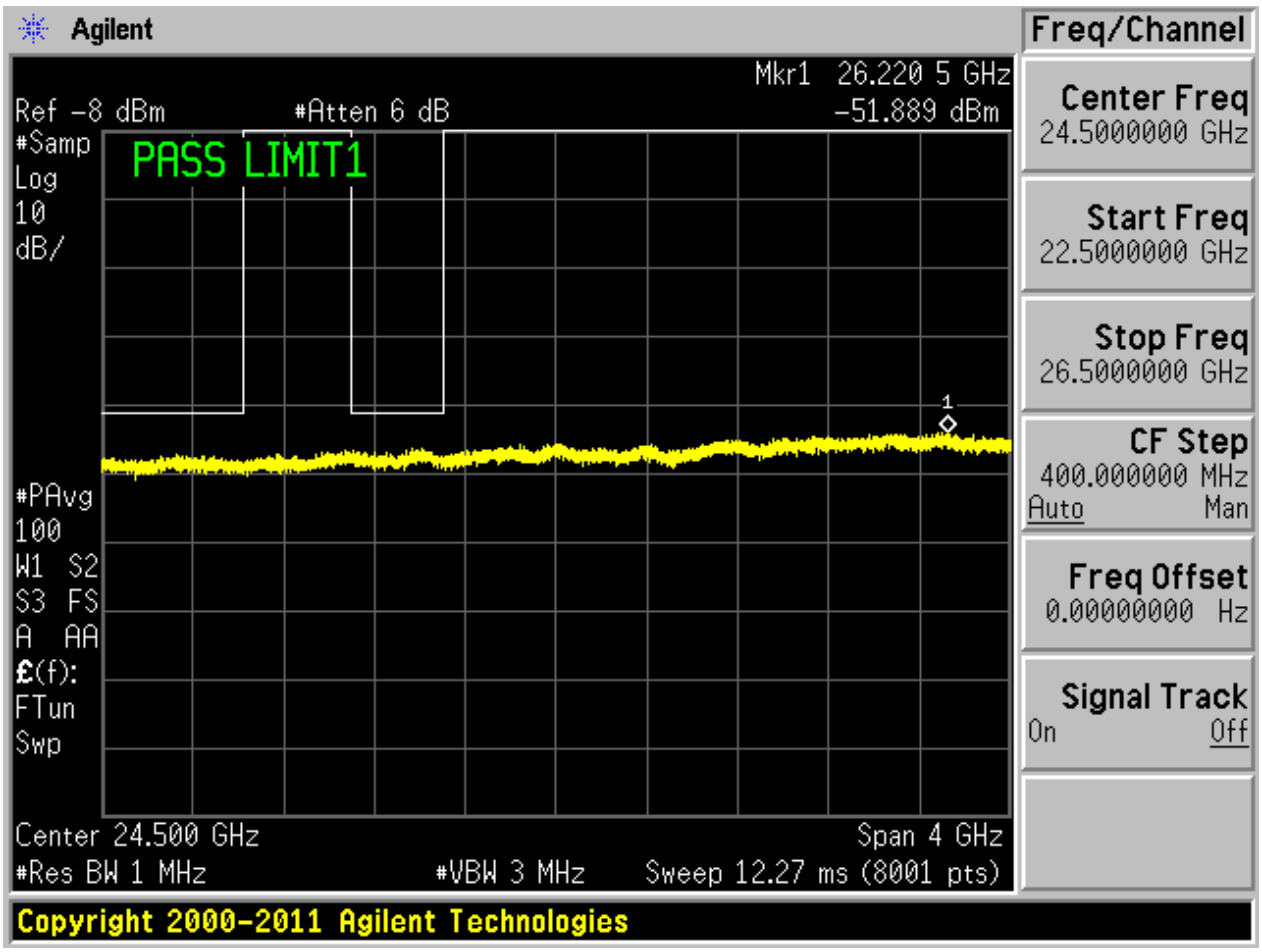

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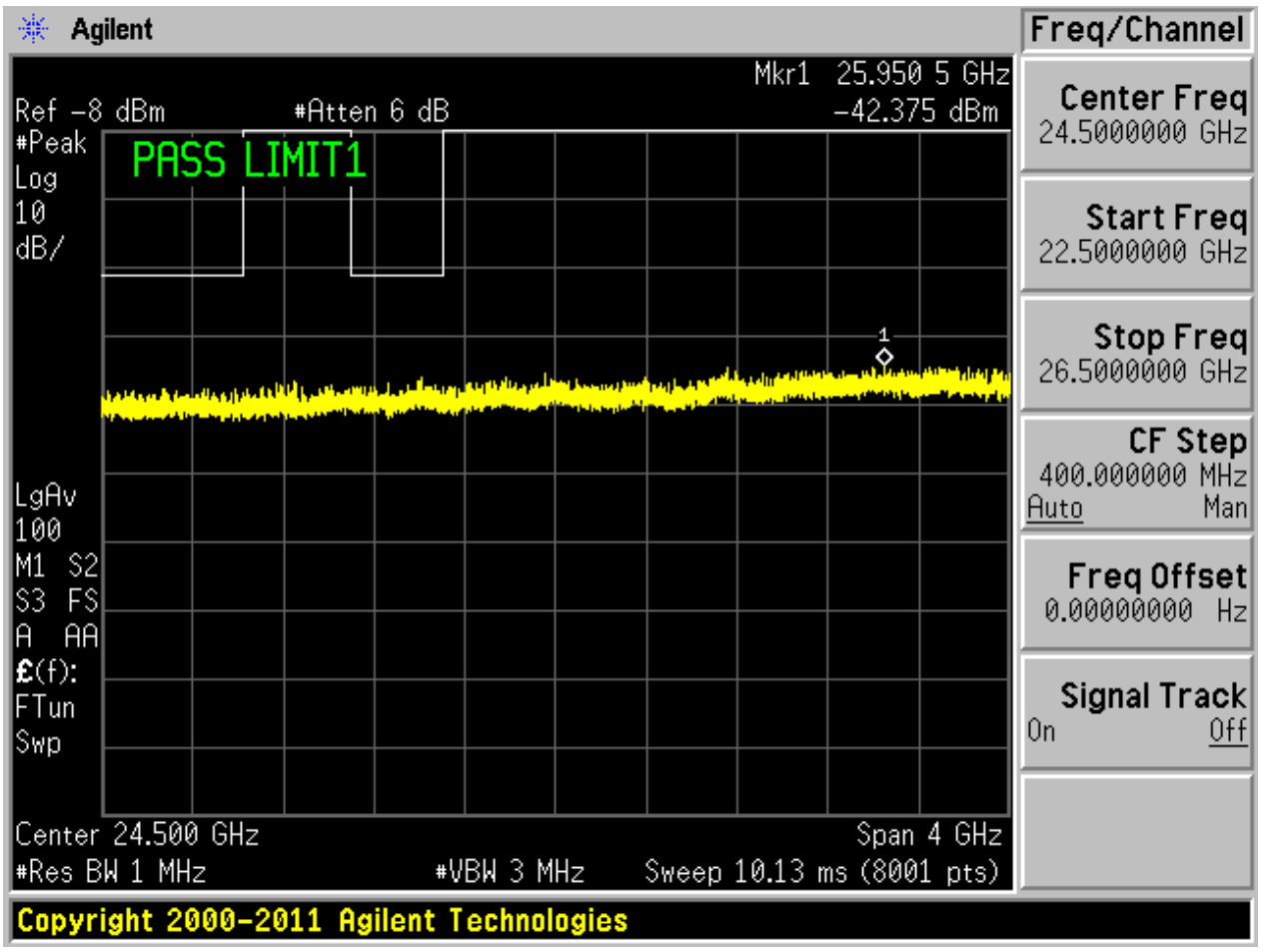

2.8.2 Ant 2 (Trace#2)

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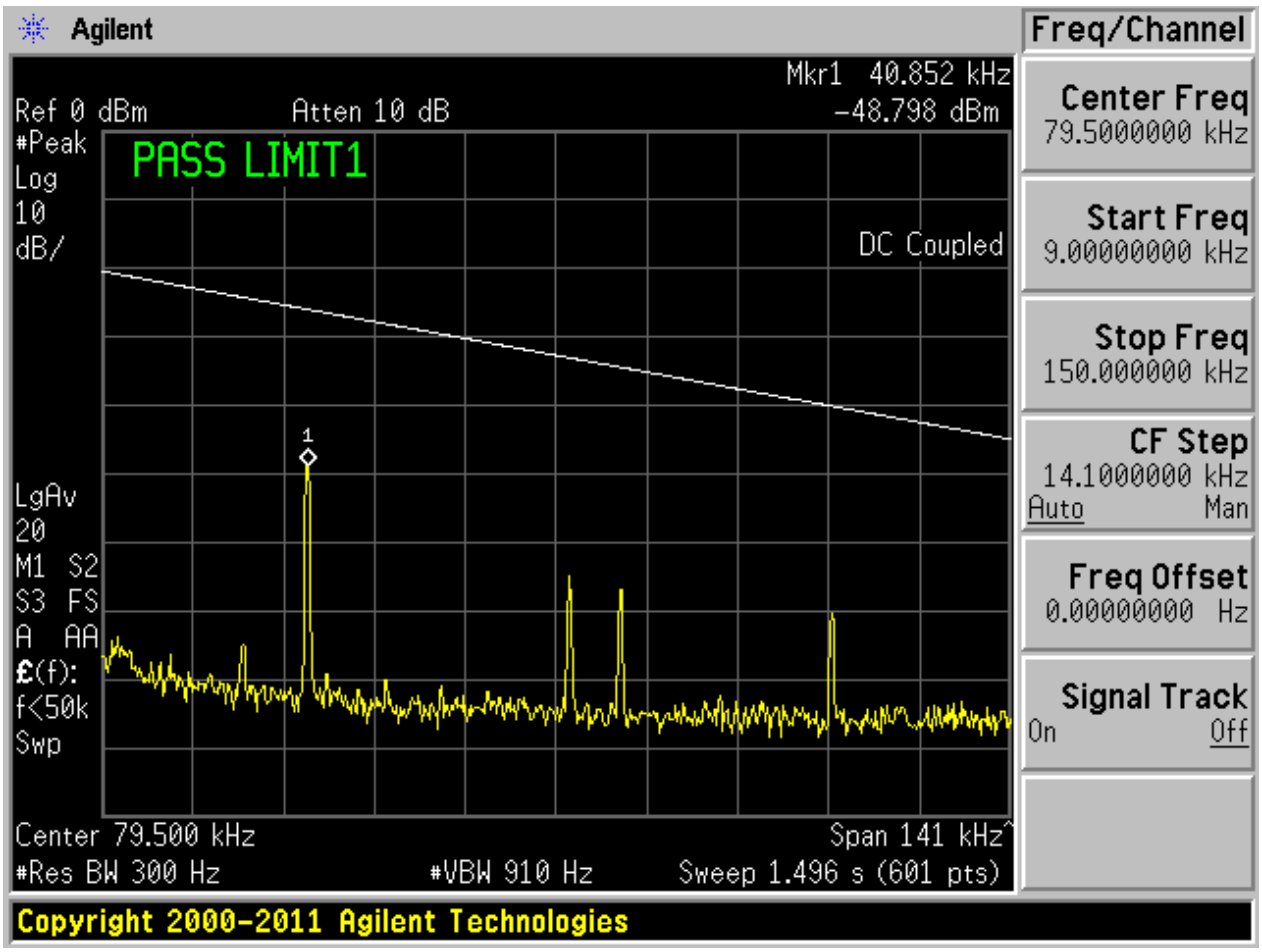

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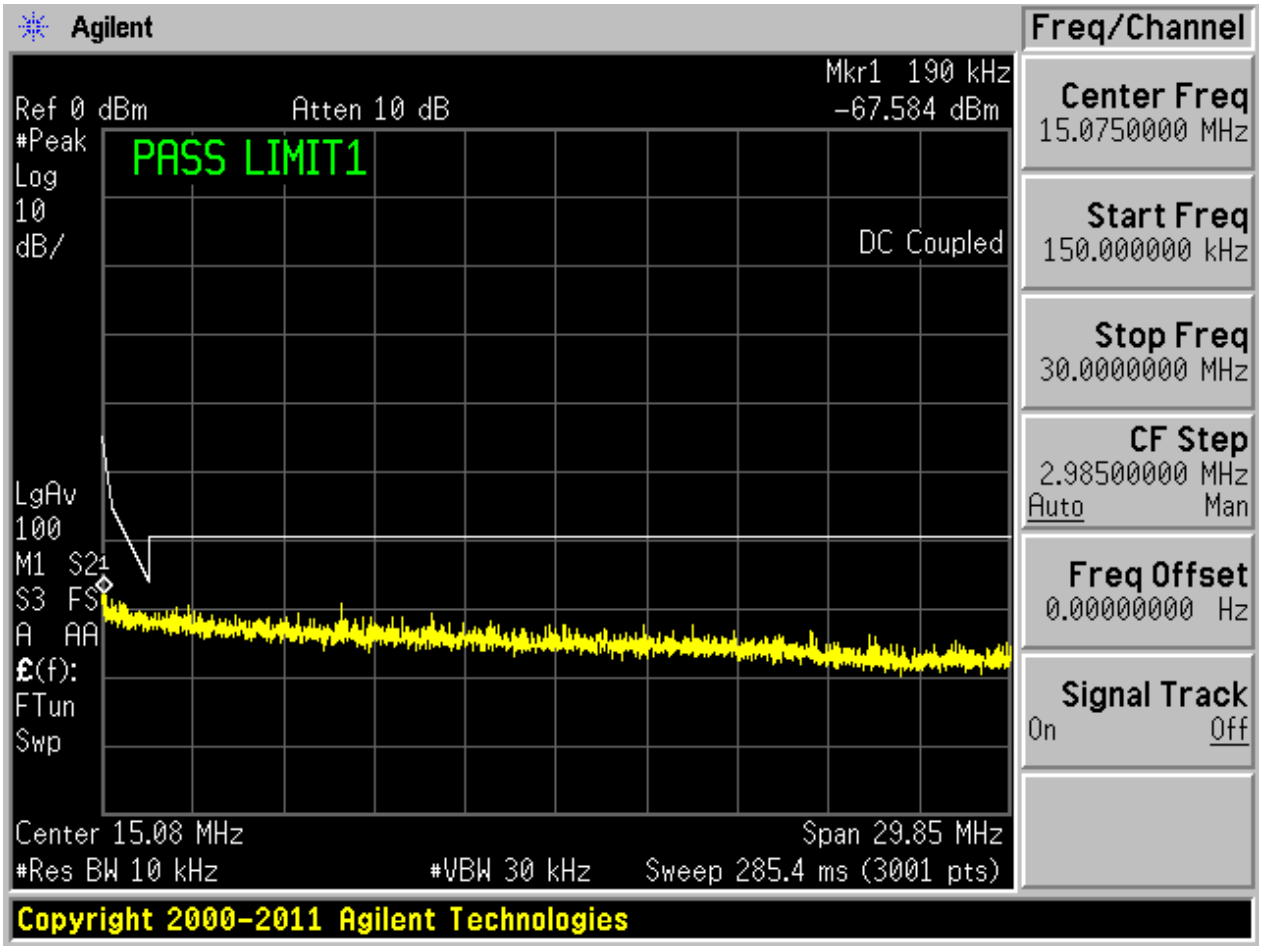

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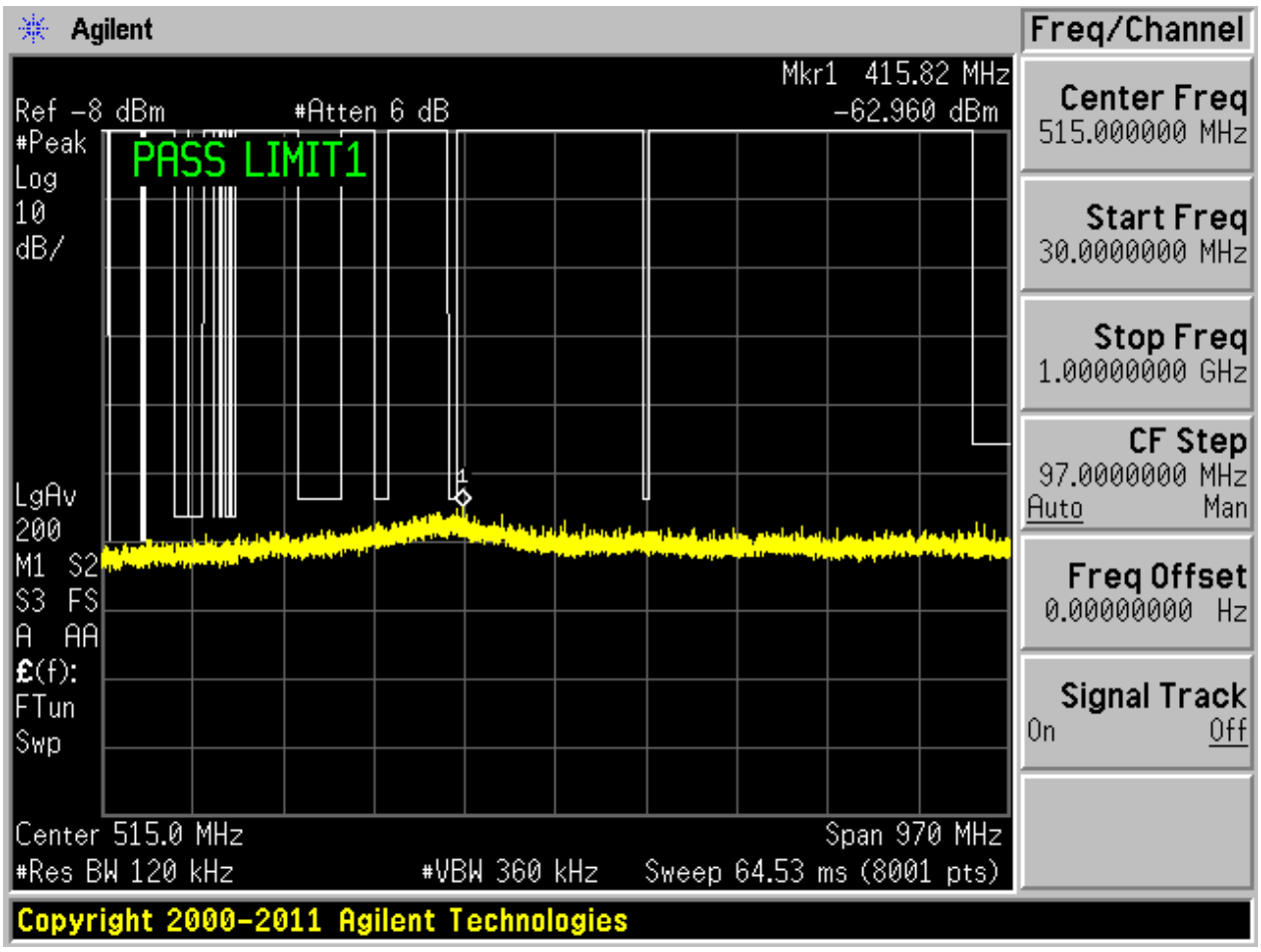

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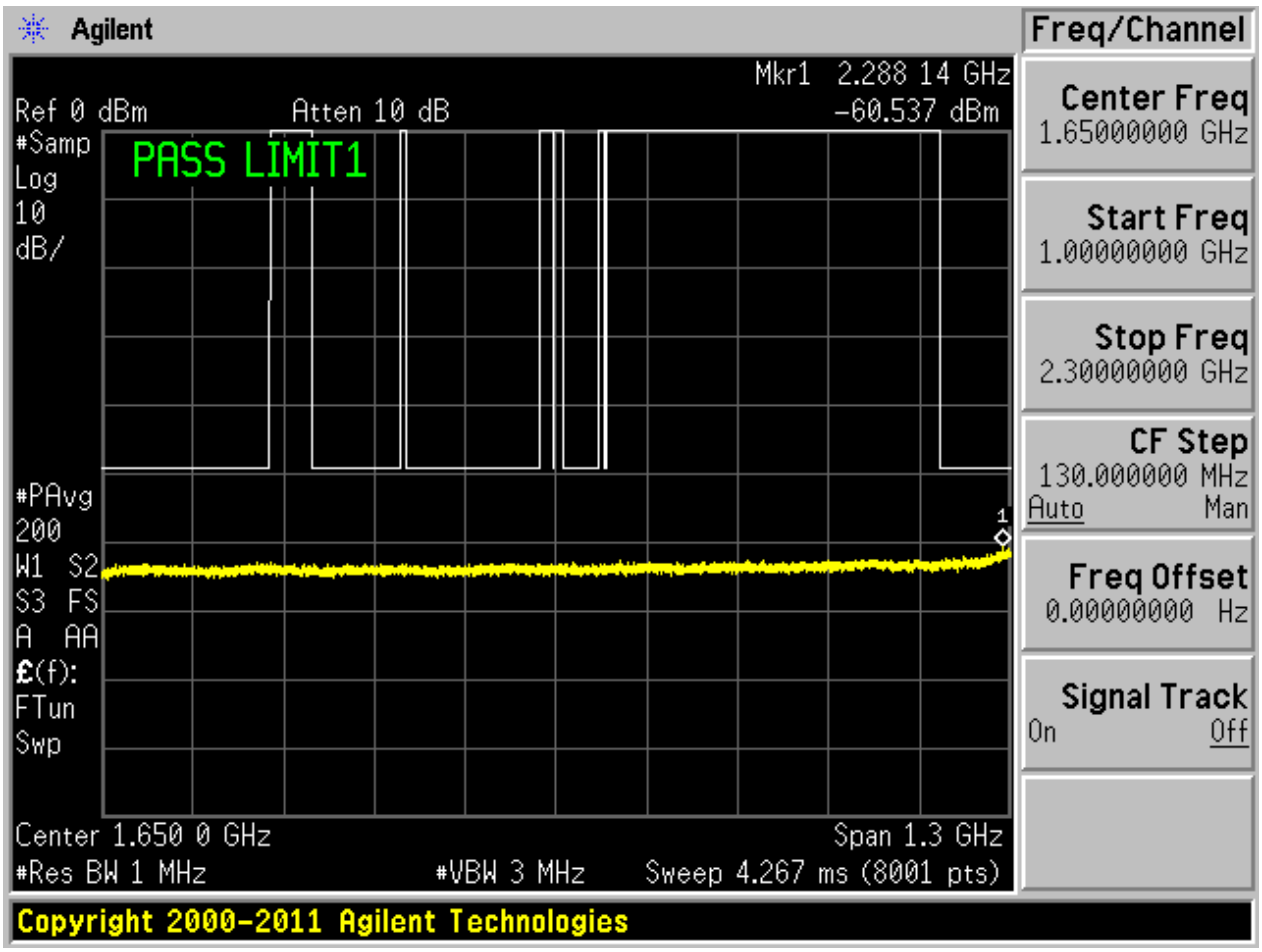

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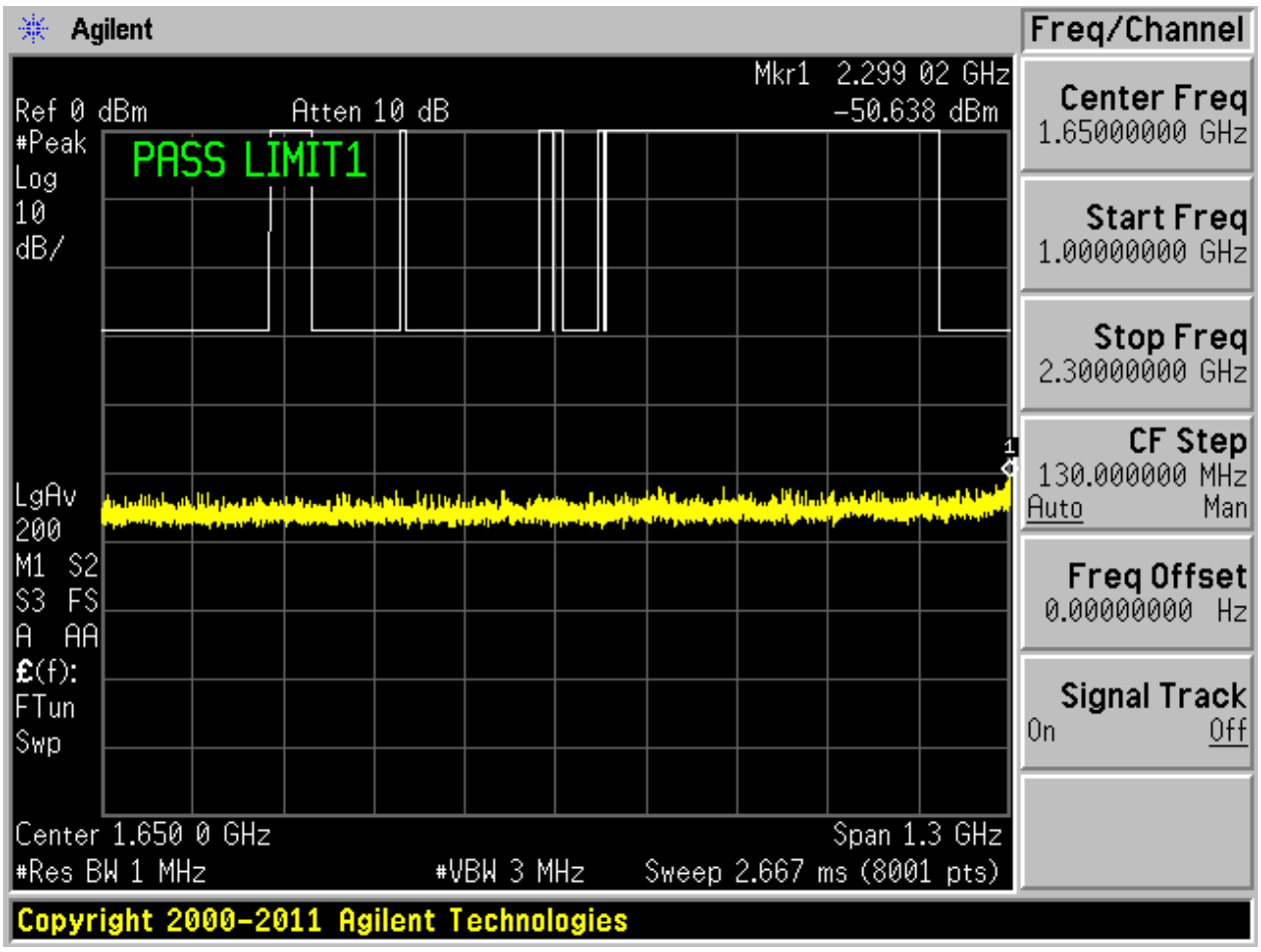

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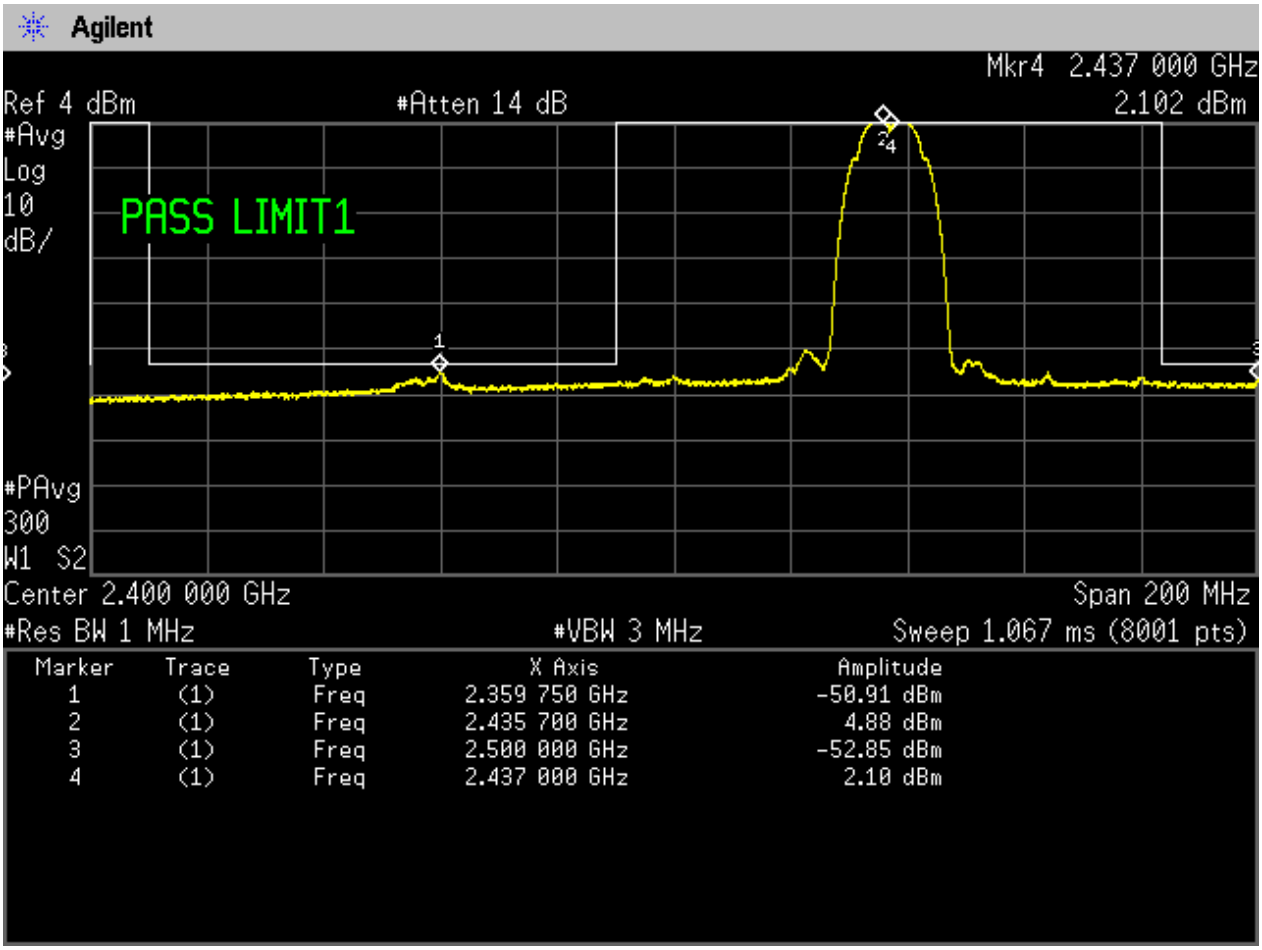

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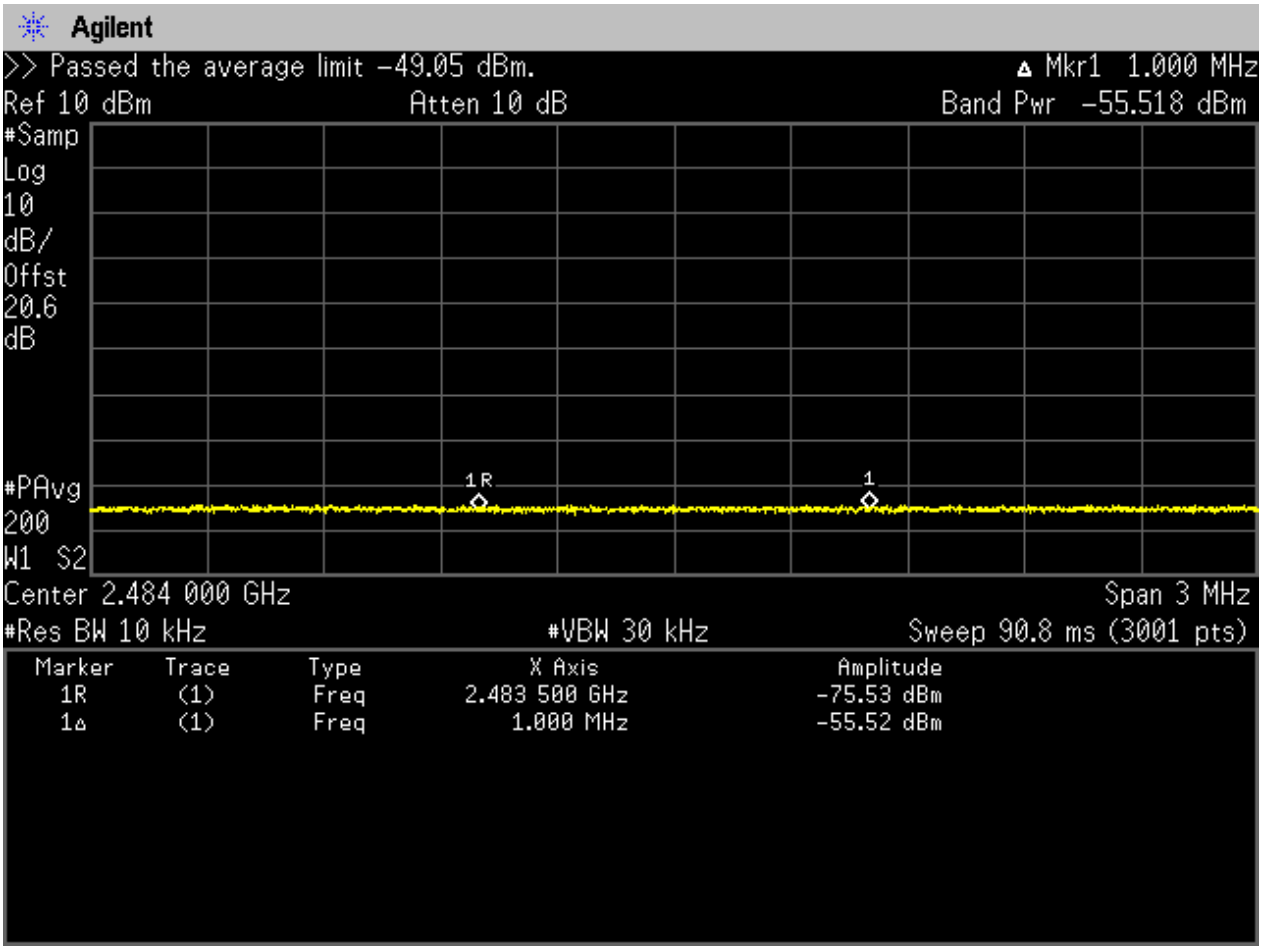

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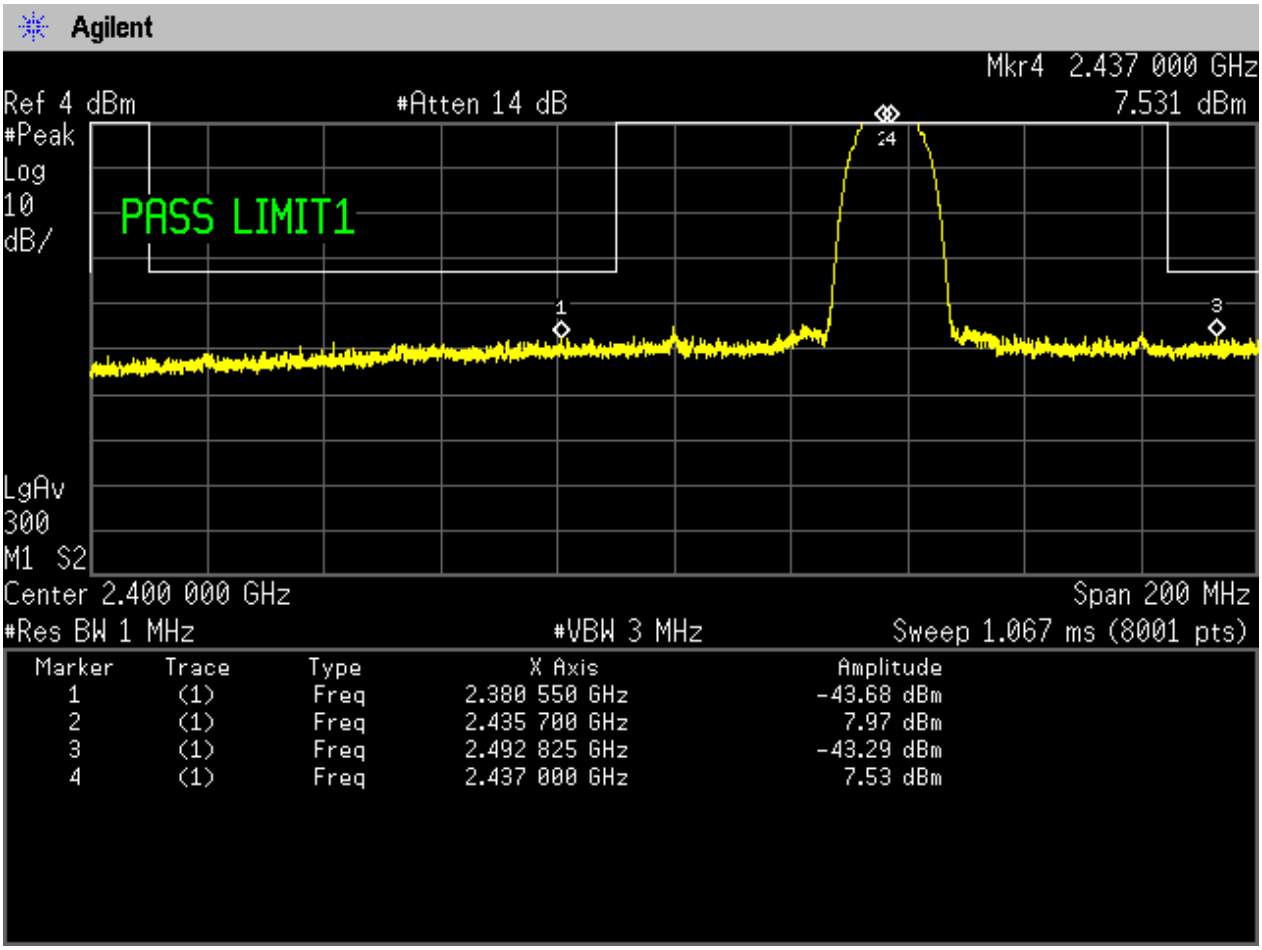

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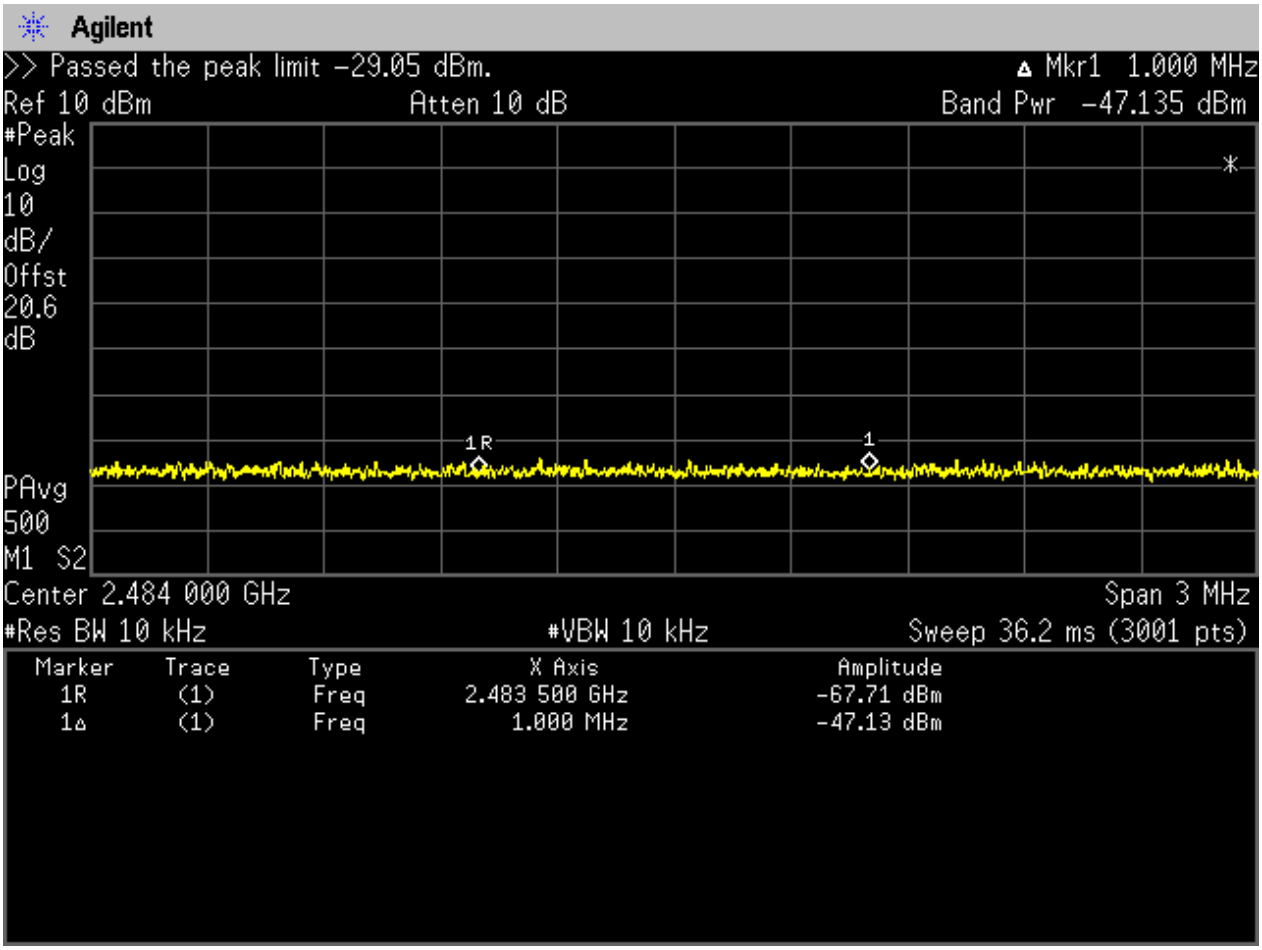

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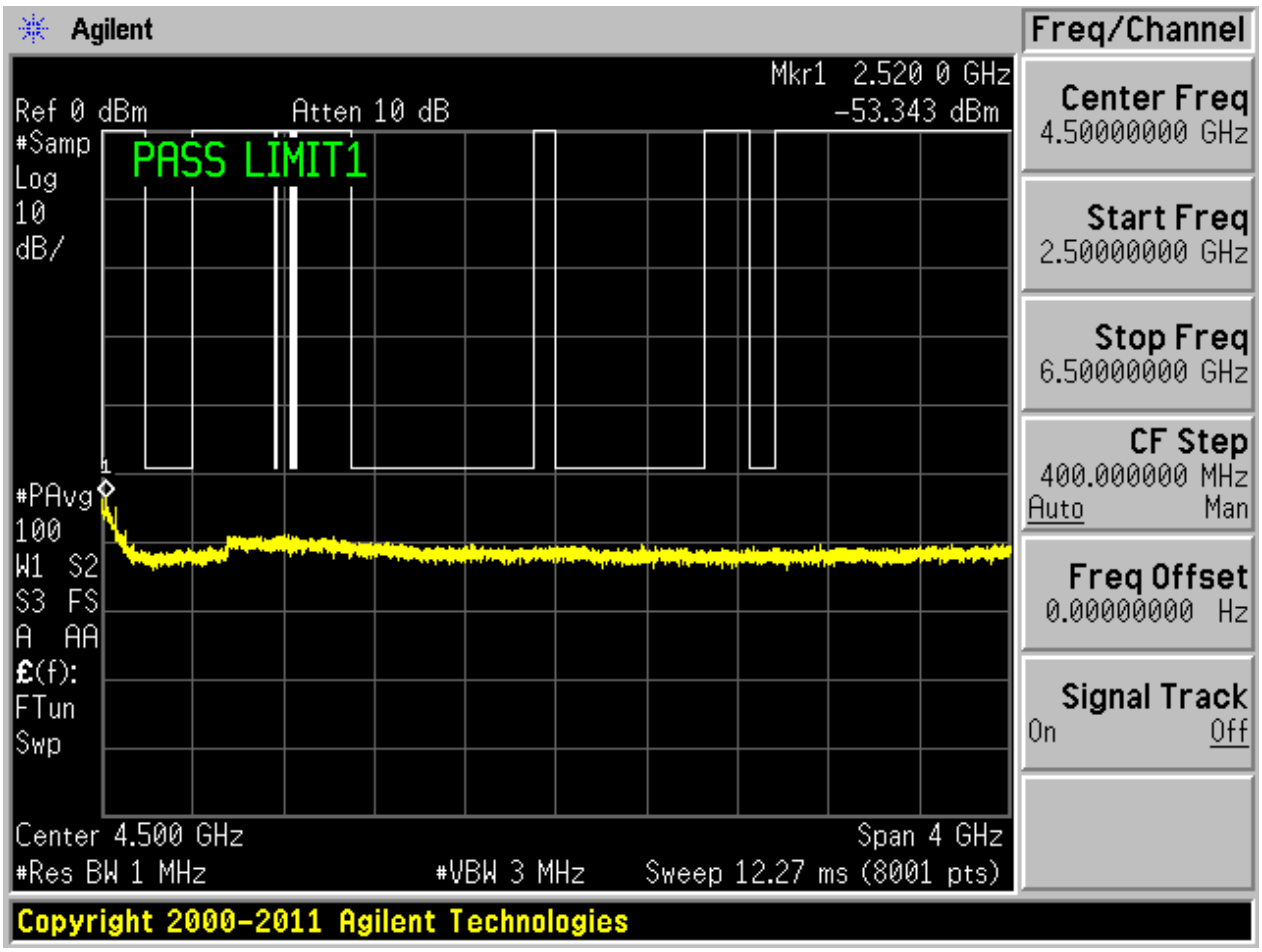

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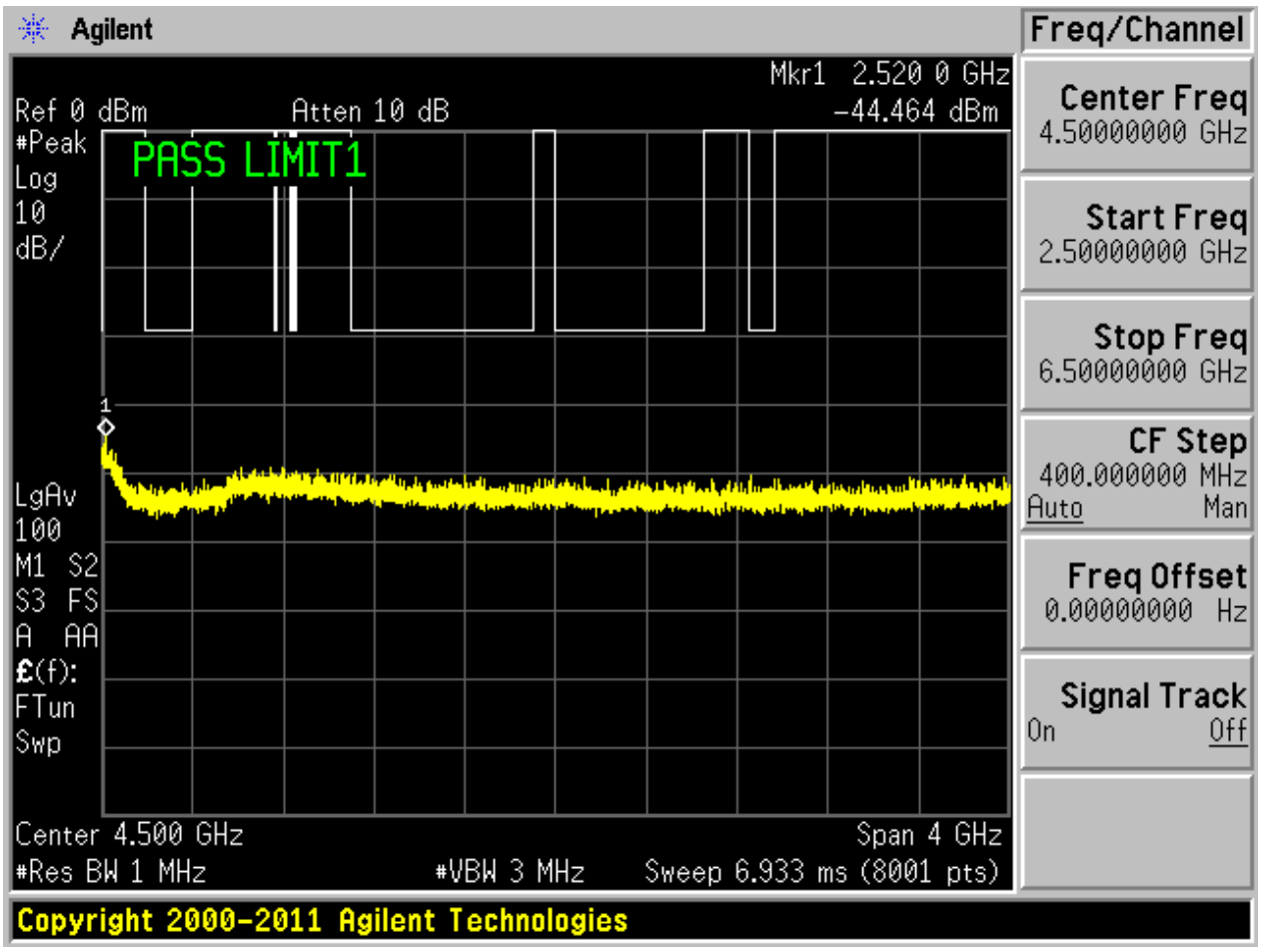

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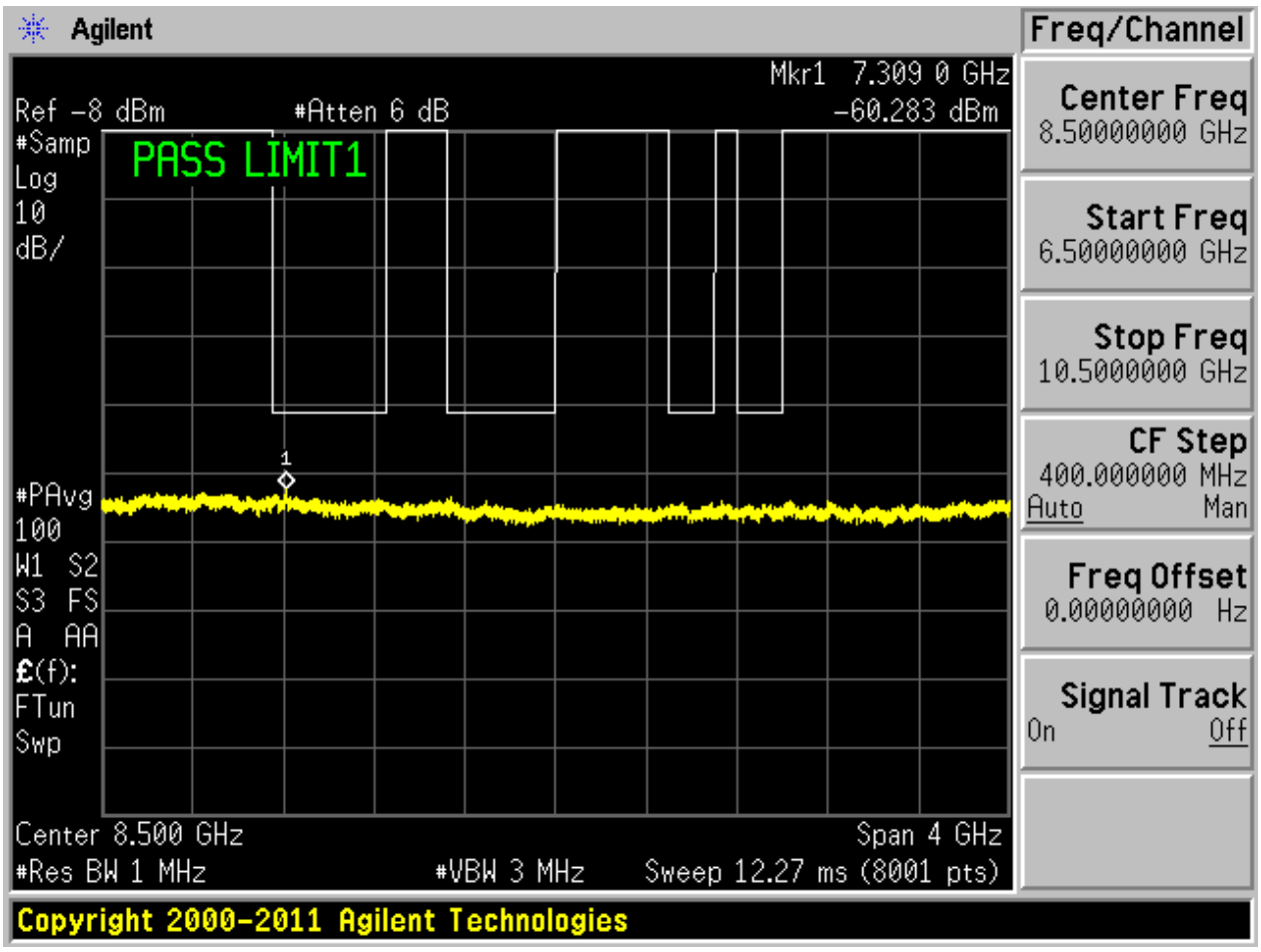

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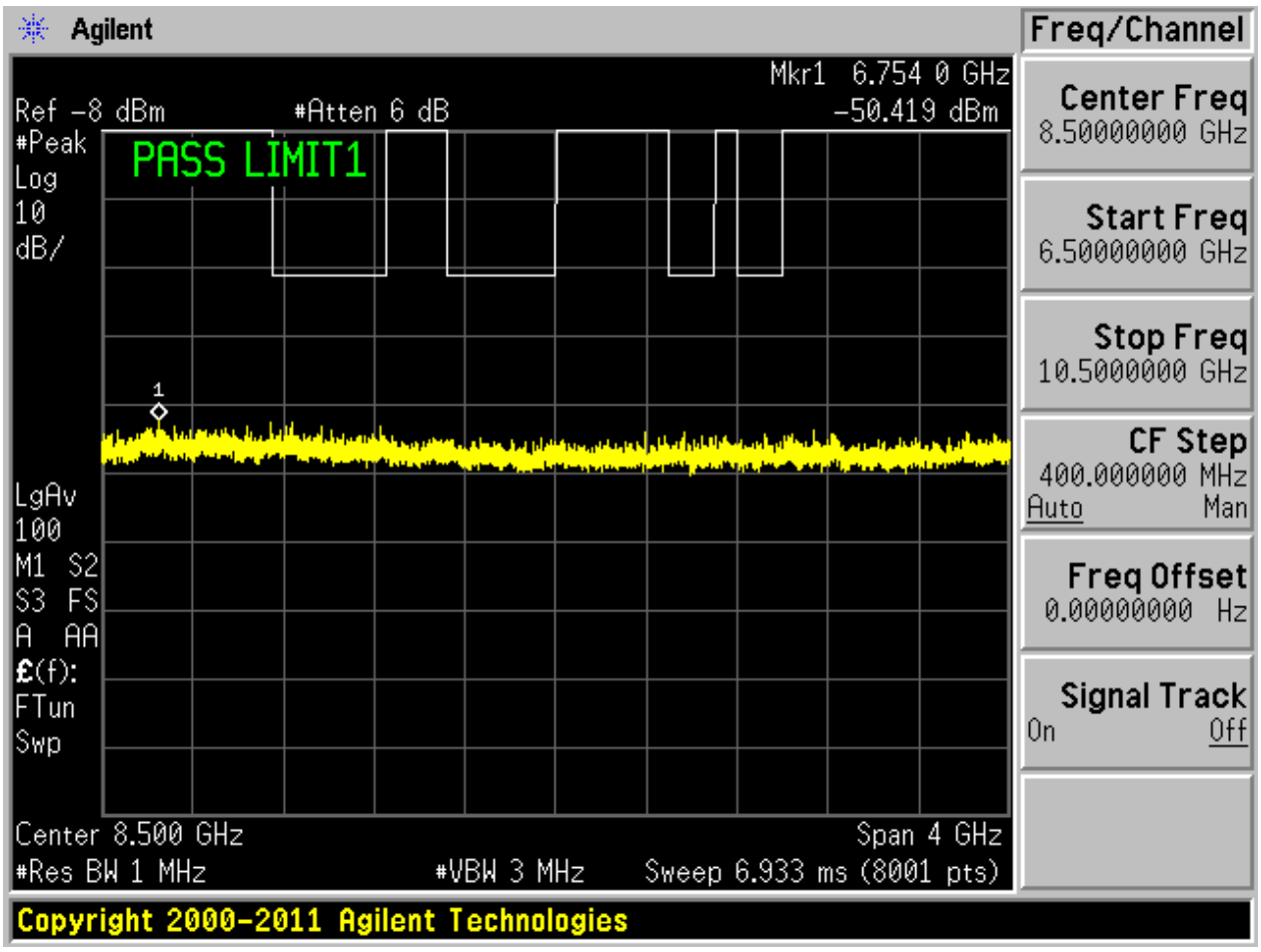

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