Appendix A.1: DTS (6 dB) Bandwidth

1 Result Table

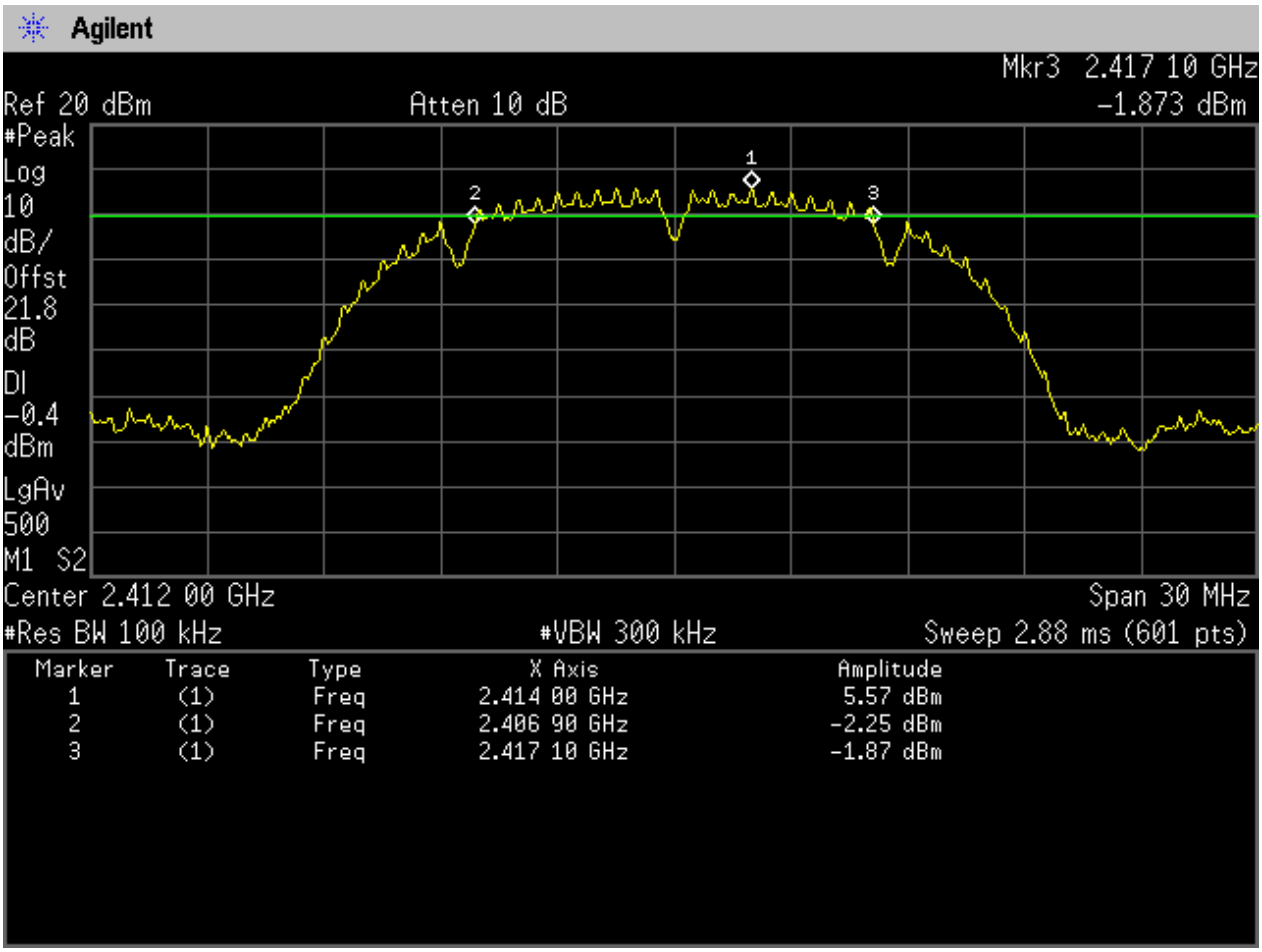
NOTE 1: In this document, the DTS6dBBW refers to the measured “DTS (6 dB) Bandwidth” value. In this Appendix, the fc(DTS6dBBW) refers to the center frequency of the DTS6dBBW. The introduction of the fc(DTS6dBBW) is due to the FCC OET KDB 558074 measurement procedure for “Fundamental Emission Output Power - Maximum Peak Conducted Output Power”, which uses the DTS6dBBW band edges.

NOTE 2: For measurements on smart antenna systems (devices with multiple transmit chains), the test is performed at each chain, and used as respective results for each chain.

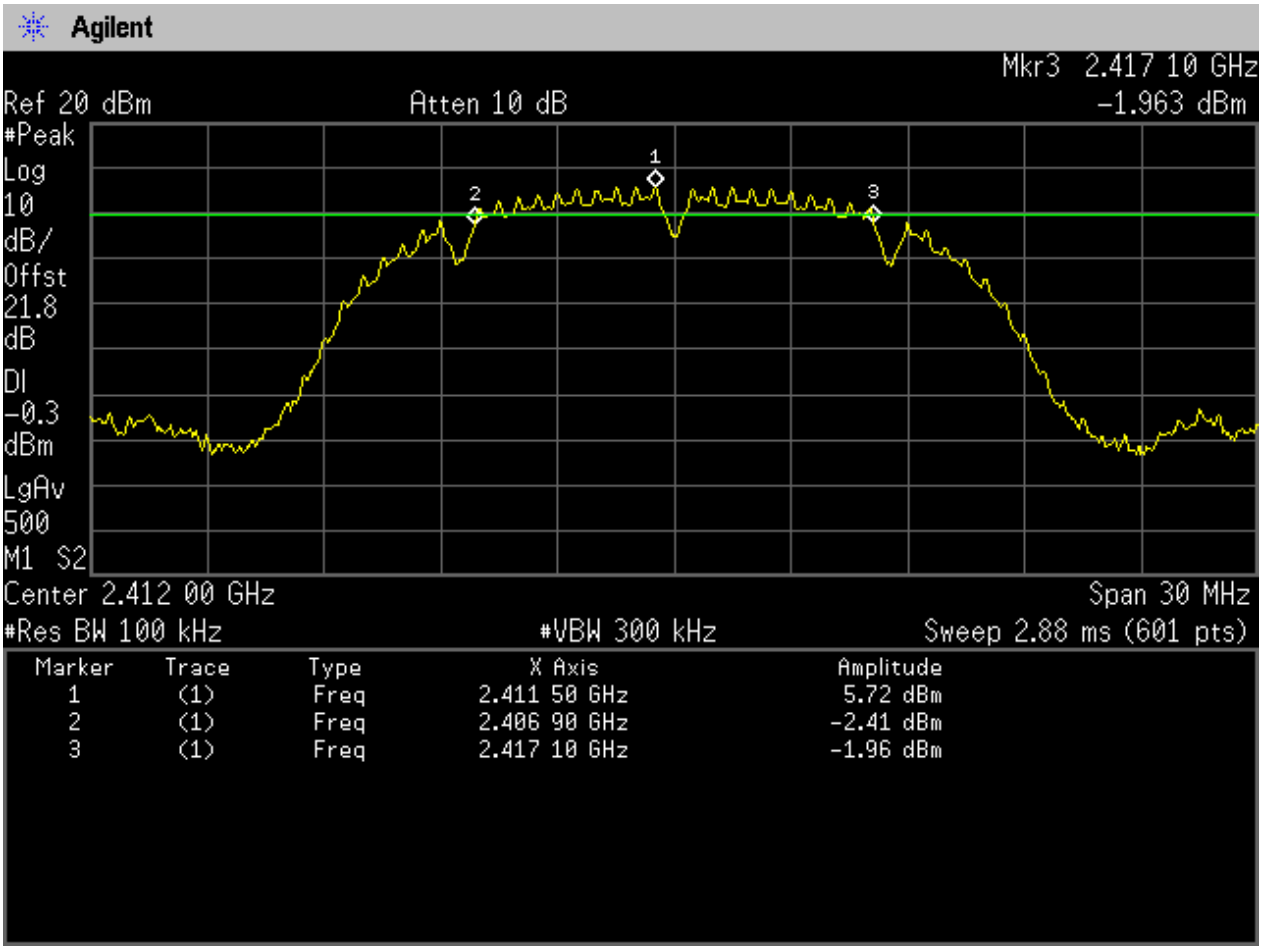
EUT Conf.	DTS6dBBW, Ant 1 [MHz]	fc(DTS6dBBW), Ant 1 [MHz]	DTS6dBBW, Ant 2 [MHz]	fc(DTS6dBBW), Ant 2 [MHz]	Verdict
11B/1_B@1	10.2	2412	---	---	Pass
11B/1_B@2	---	---	10.2	2412	Pass
11B/1_M@1	10.2	2437	---	---	Pass
11B/1_M@2	---	---	10.2	2437	Pass
11B/1_T@1	10.2	2462	---	---	Pass
11B/1_T@2	---	---	10.2	2462	Pass
11G/6_B@1	16.65	2412.025	---	---	Pass
11G/6_B@2	---	---	16.65	2411.975	Pass
11G/6_M@1	16.65	2437.025	---	---	Pass
11G/6_M@2	---	---	16.65	2437.025	Pass
11G/6_T@1	16.65	2462.025	---	---	Pass
11G/6_T@2	---	---	16.65	2462.025	Pass
11N20/0_B@1	17.9	2412	---	---	Pass
11N20/0_B@2	---	---	17.9	2412	Pass
11N20/0_M@1	17.85	2437.025	---	---	Pass
11N20/0_M@2	---	---	17.9	2437	Pass
11N20/0_T@1	17.9	2462	---	---	Pass
11N20/0_T@2	---	---	17.9	2462	Pass
11N20m/8_B@1+2	17.85	2412.025	17.9	2412	Pass
11N20m/8_M@1+2	17.85	2437.025	17.85	2436.975	Pass
11N20m/8_T@1+2	17.9	2462	17.9	2462	Pass

2 Test Plot

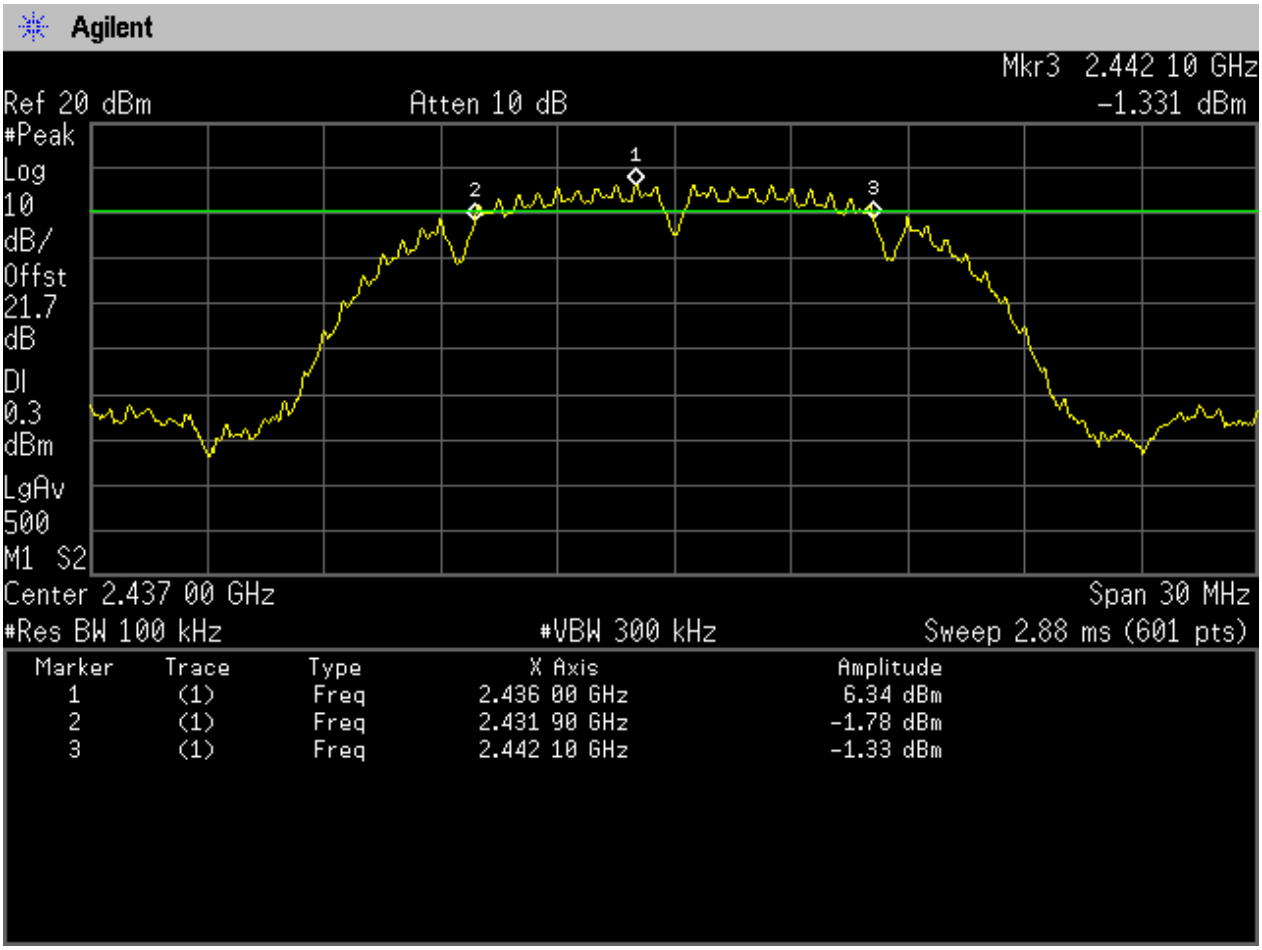
2.1 11B/1_B@1



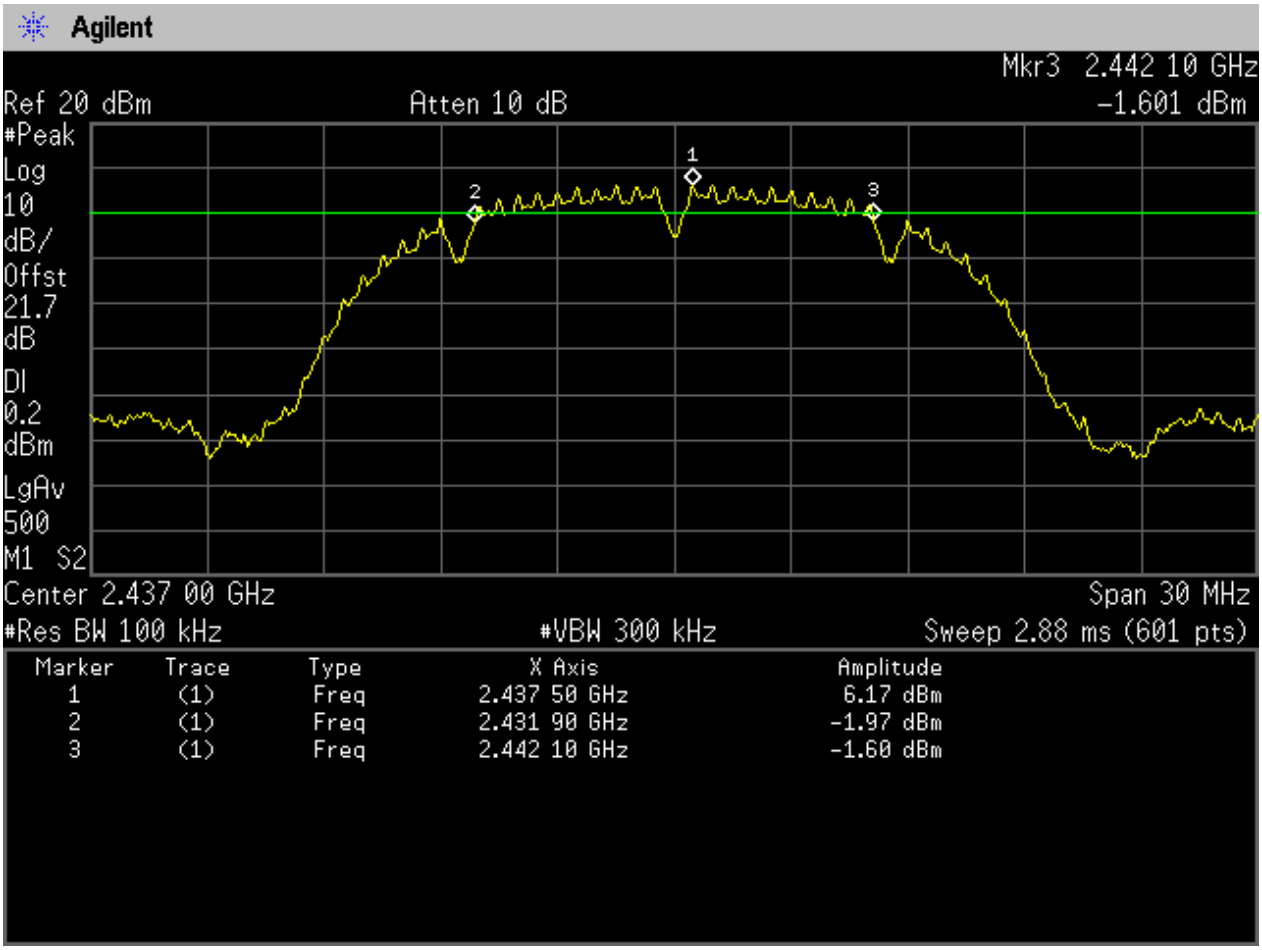
2.2 11B/1_B@2



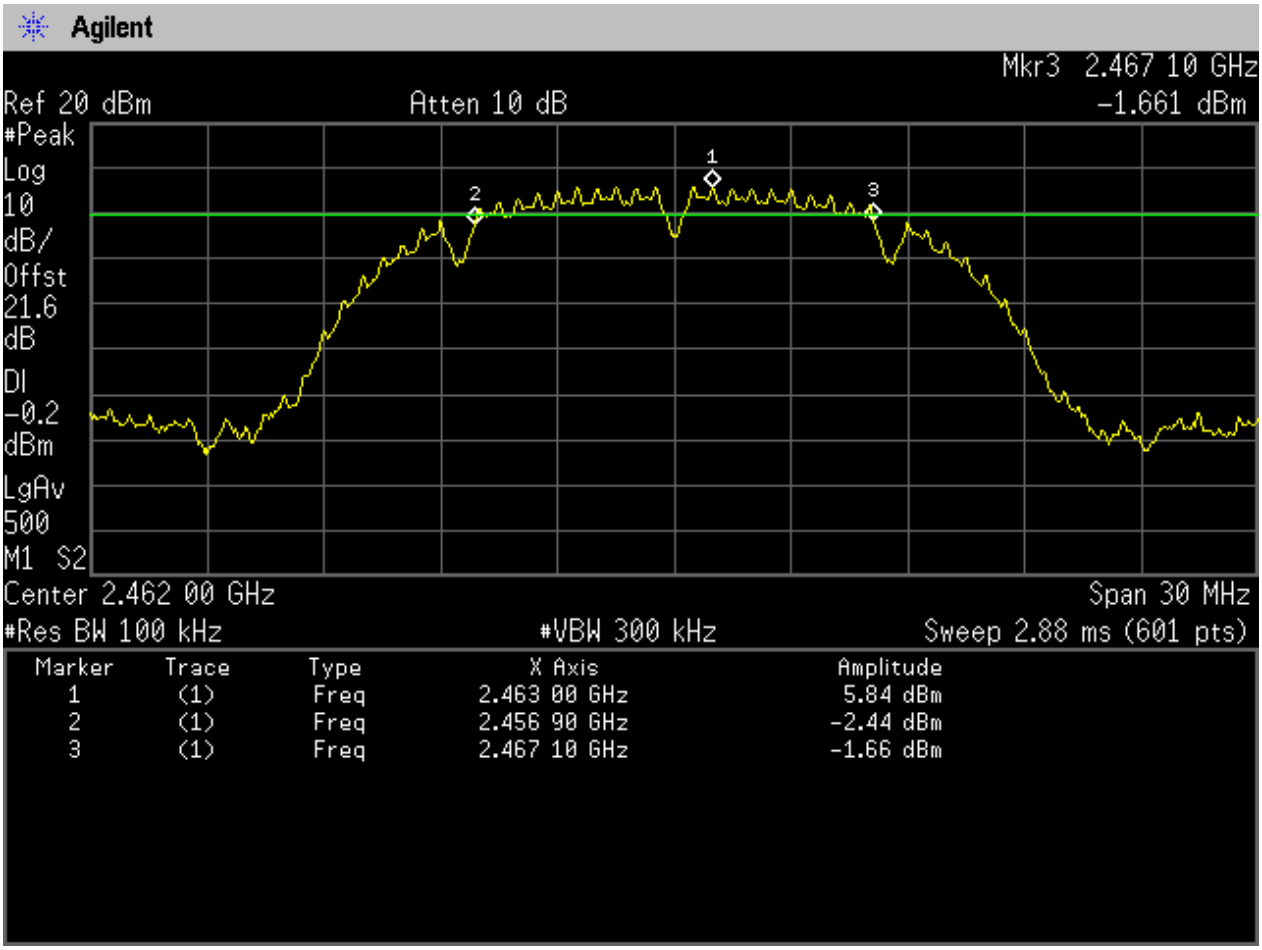
2.3 11B/1_M@1



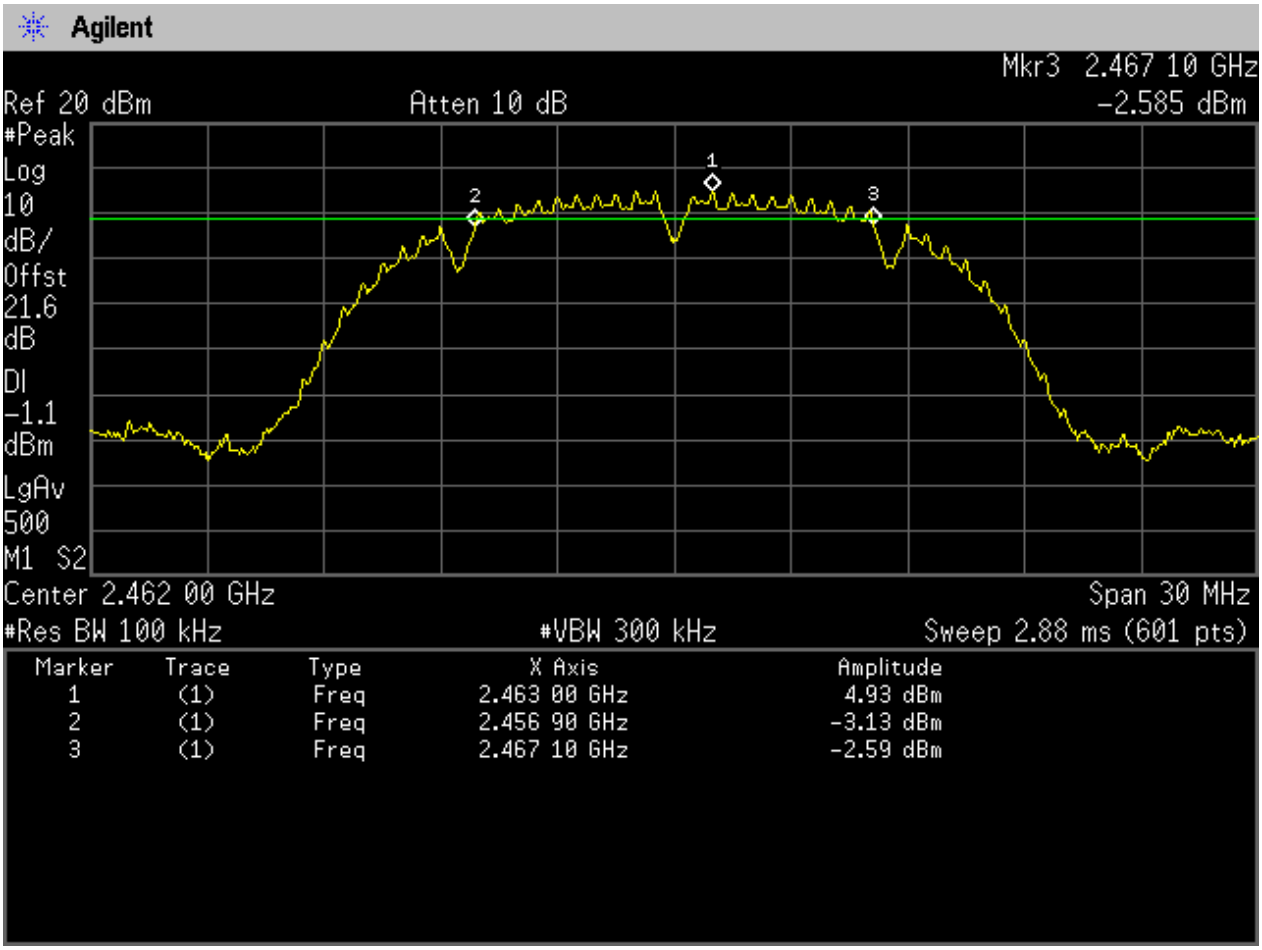
2.4 11B/1_M@2



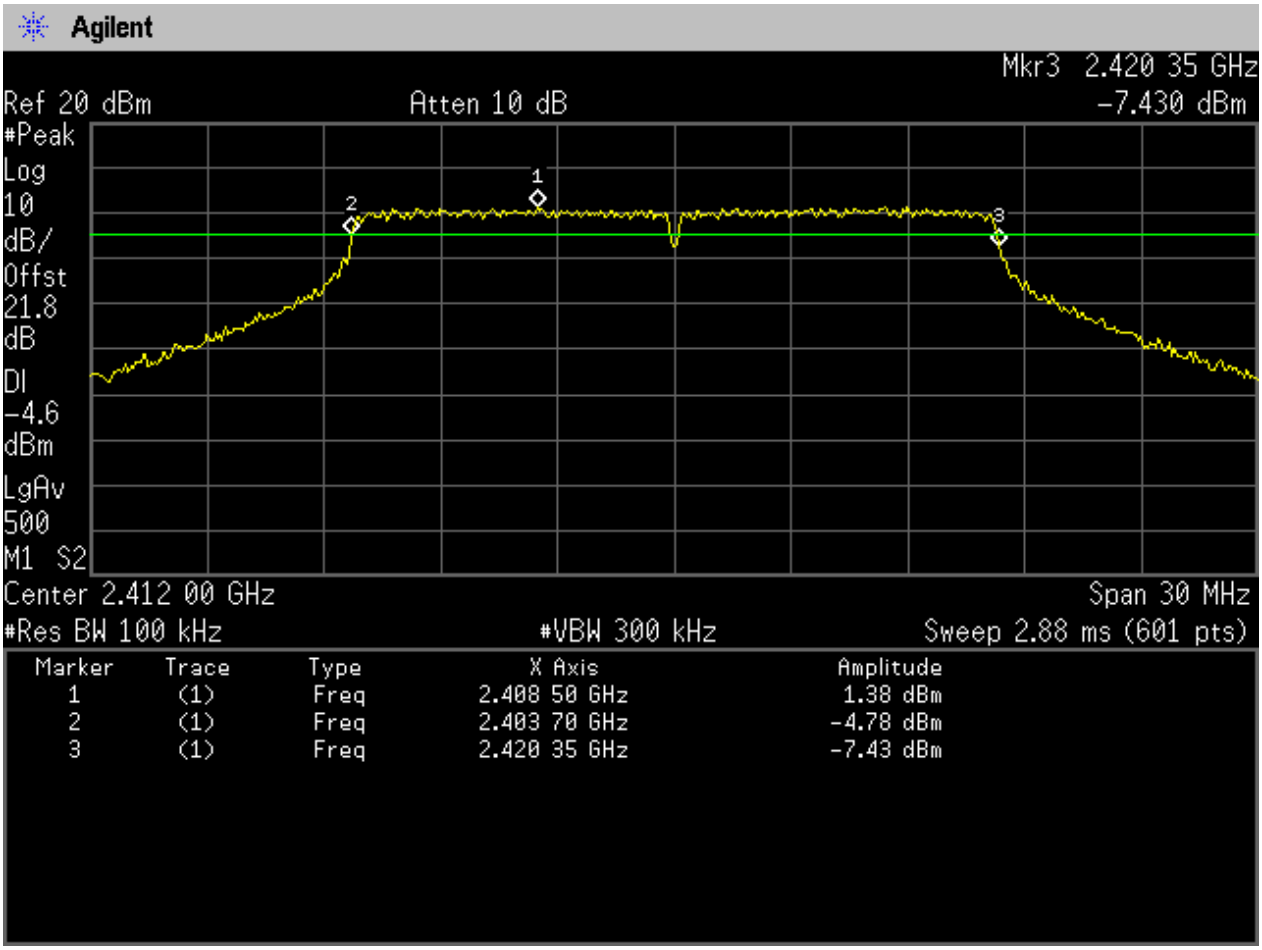
2.5 11B/1_T@1



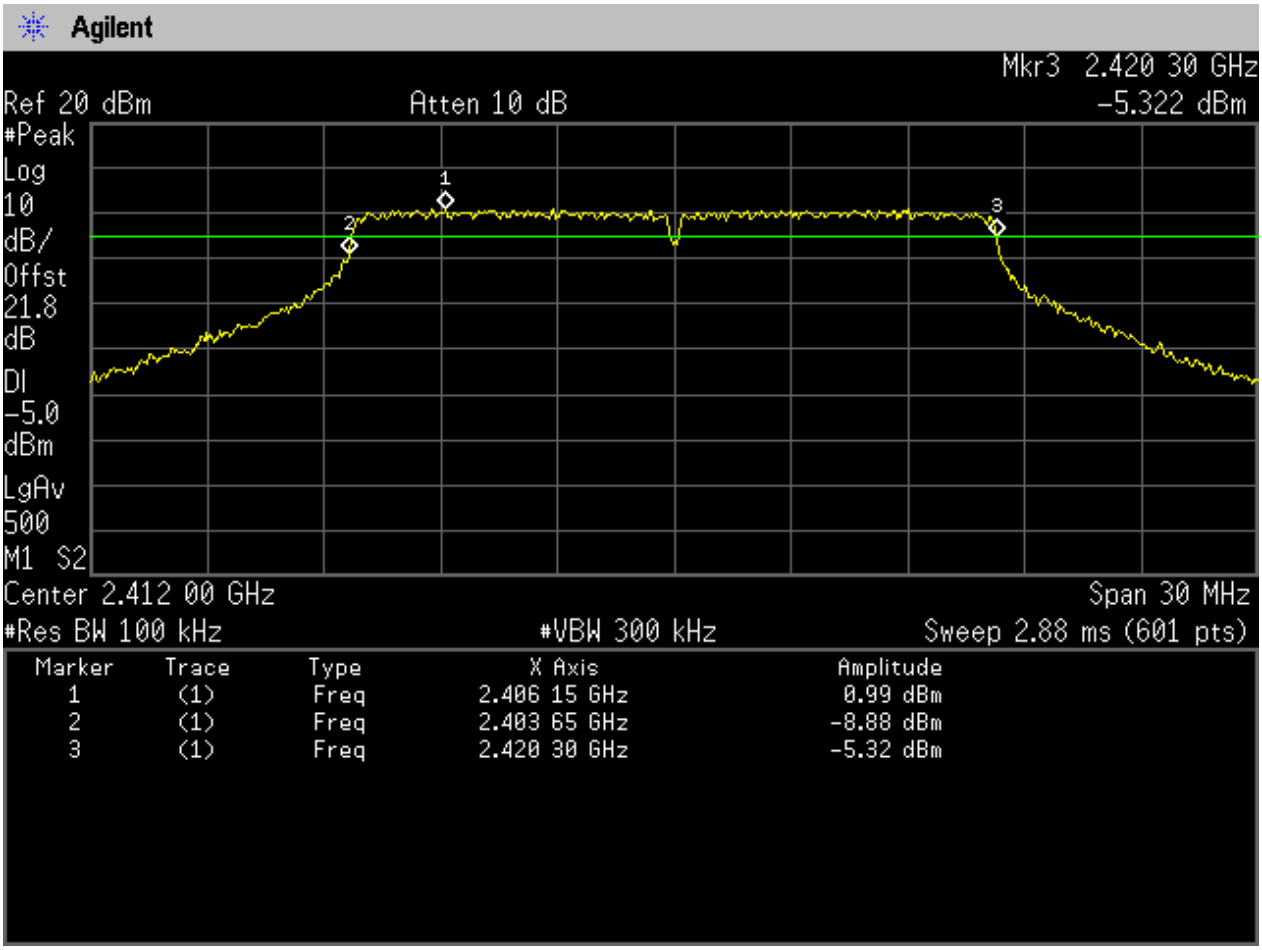
2.6 11B/1_T@2



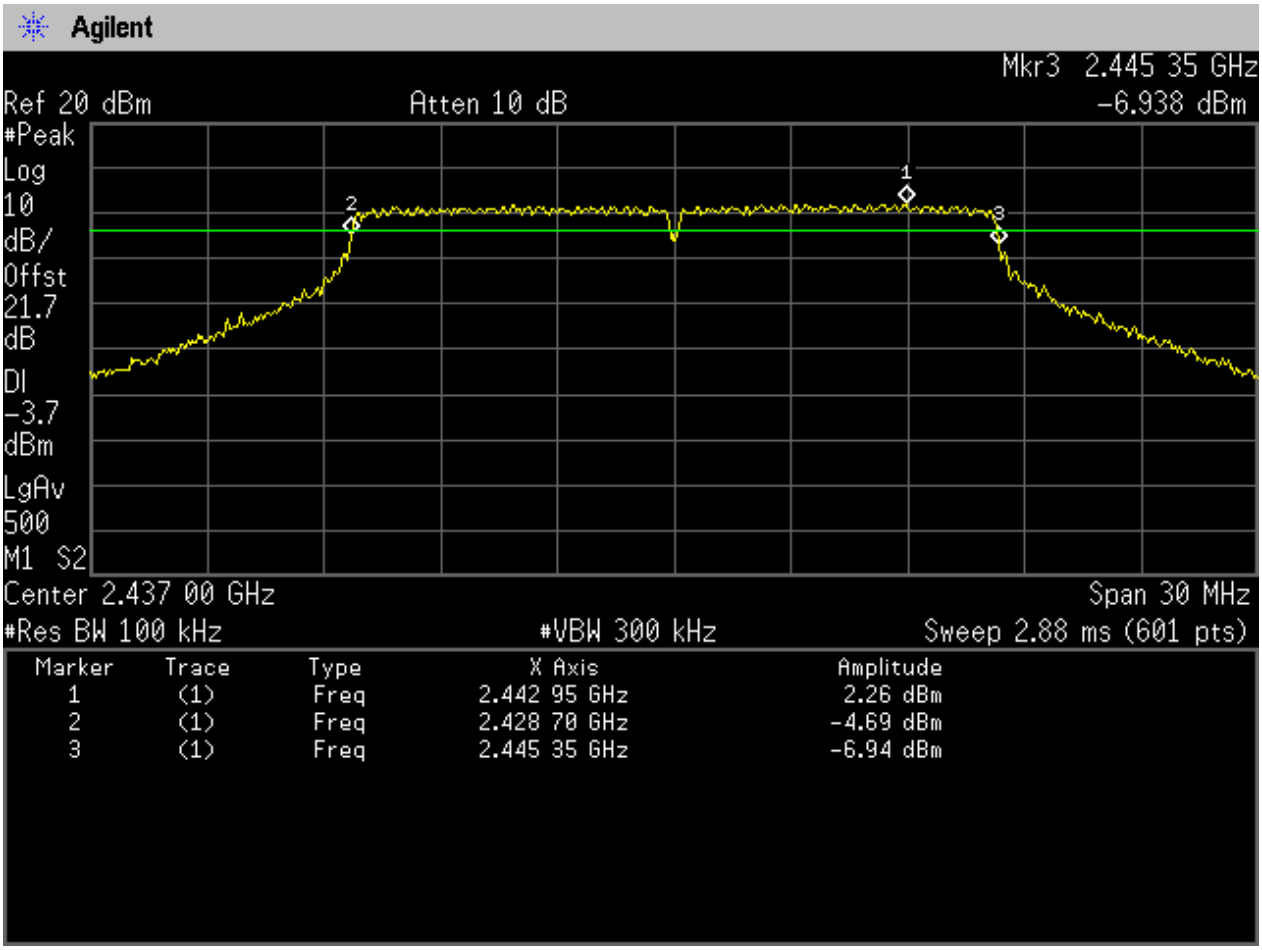
2.7 11G/6_B@1



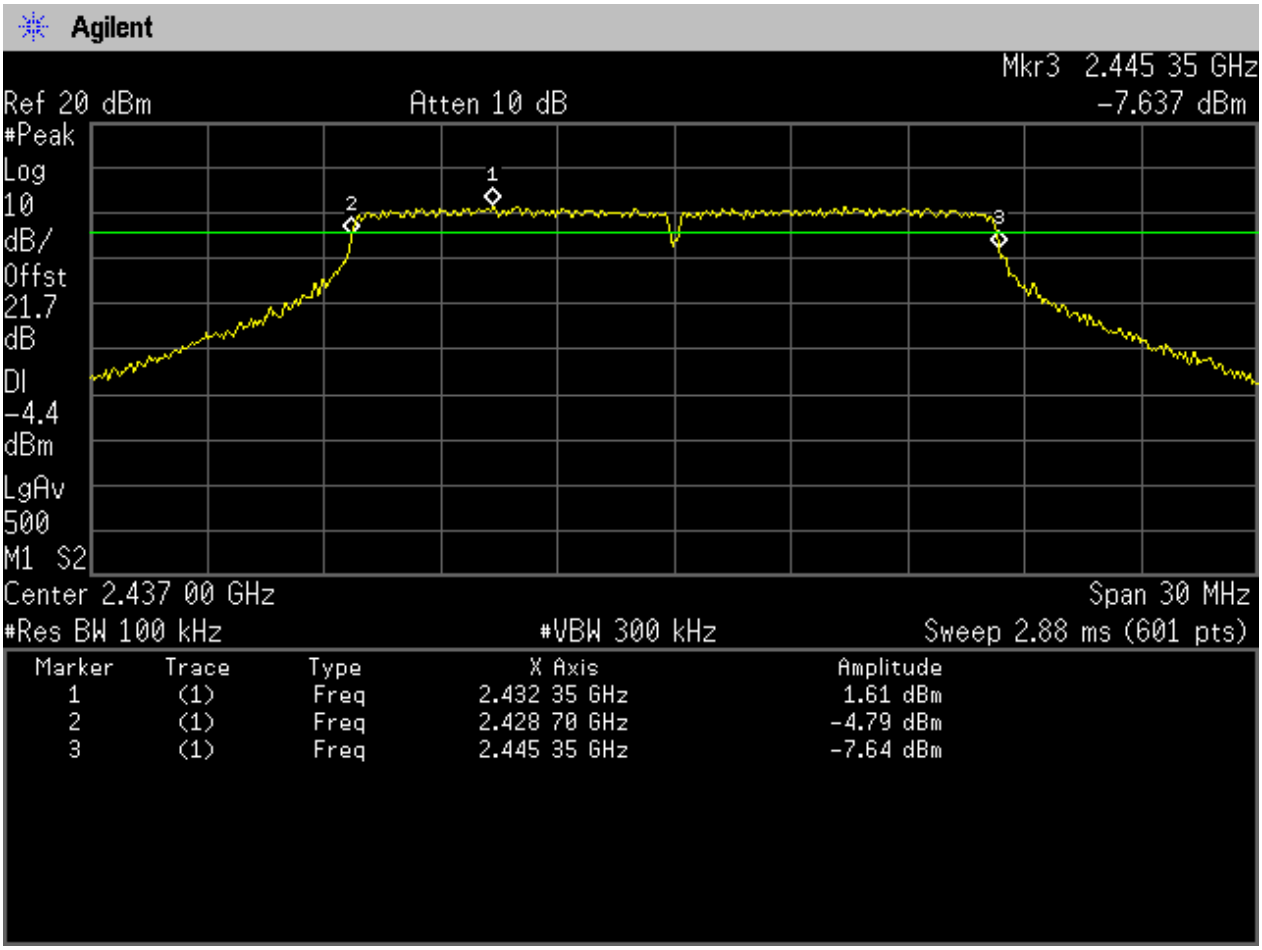
2.8 11G/6_B@2



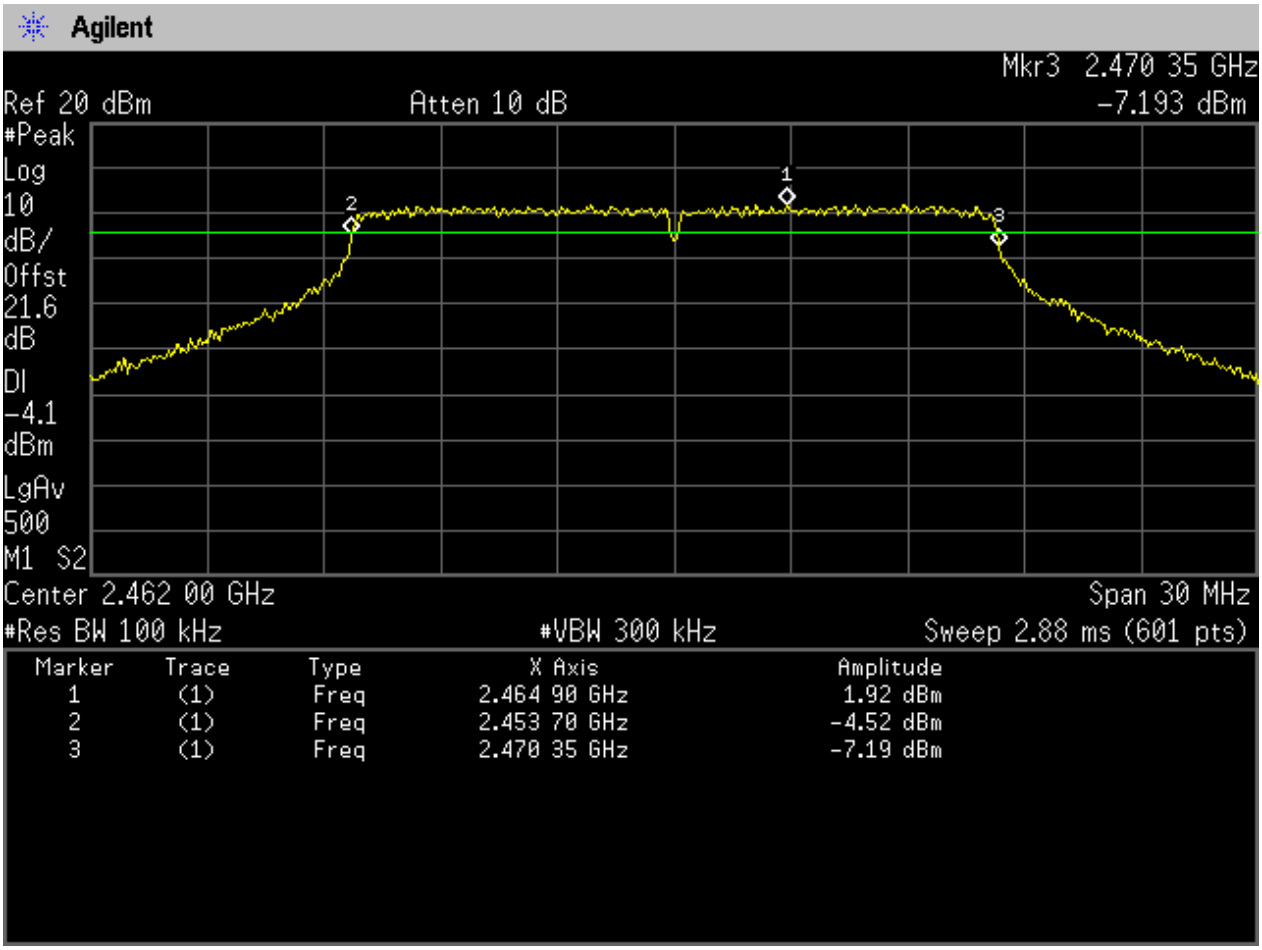
2.9 11G/6_M@1



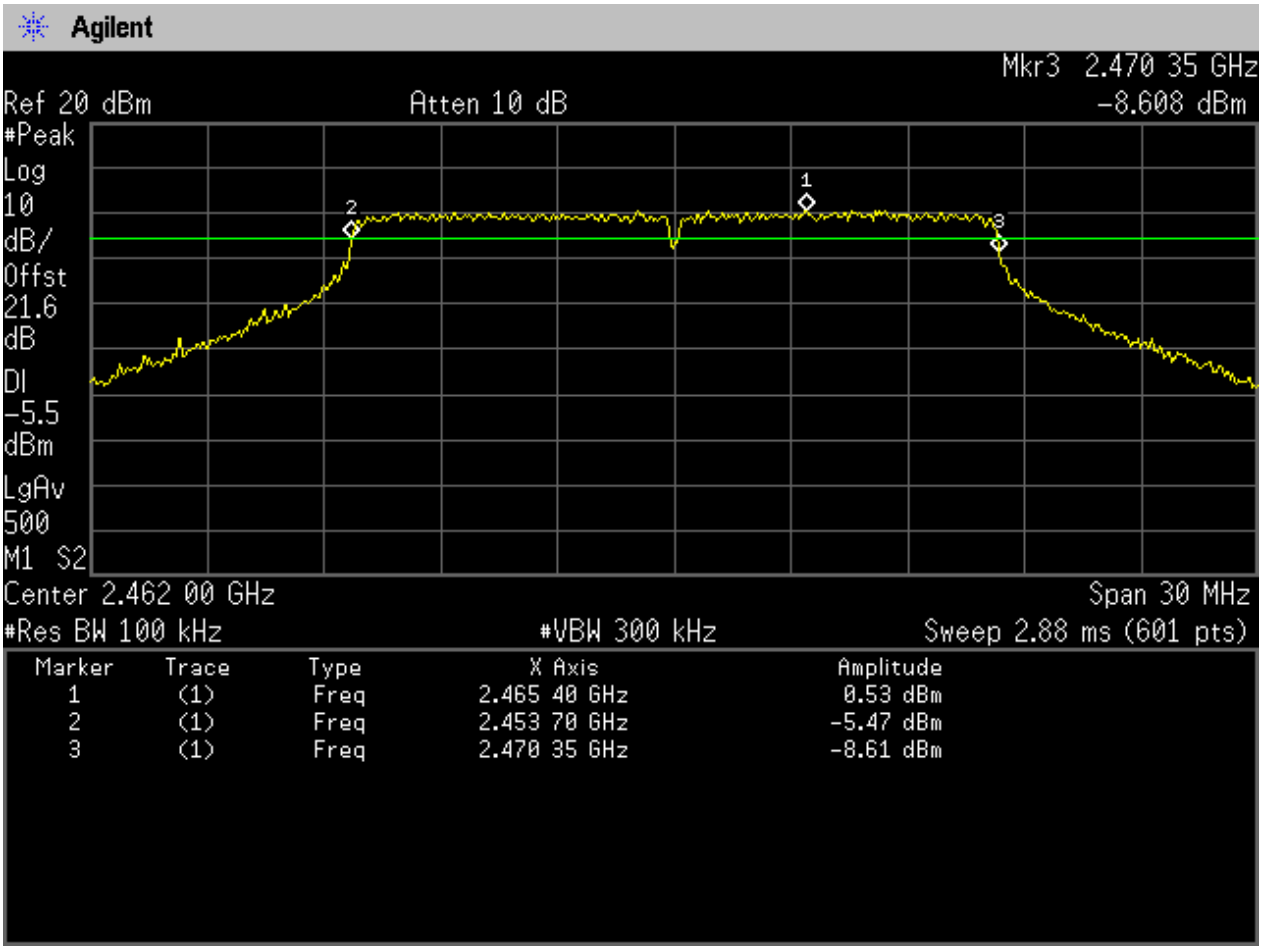
2.1011G/6_M@2



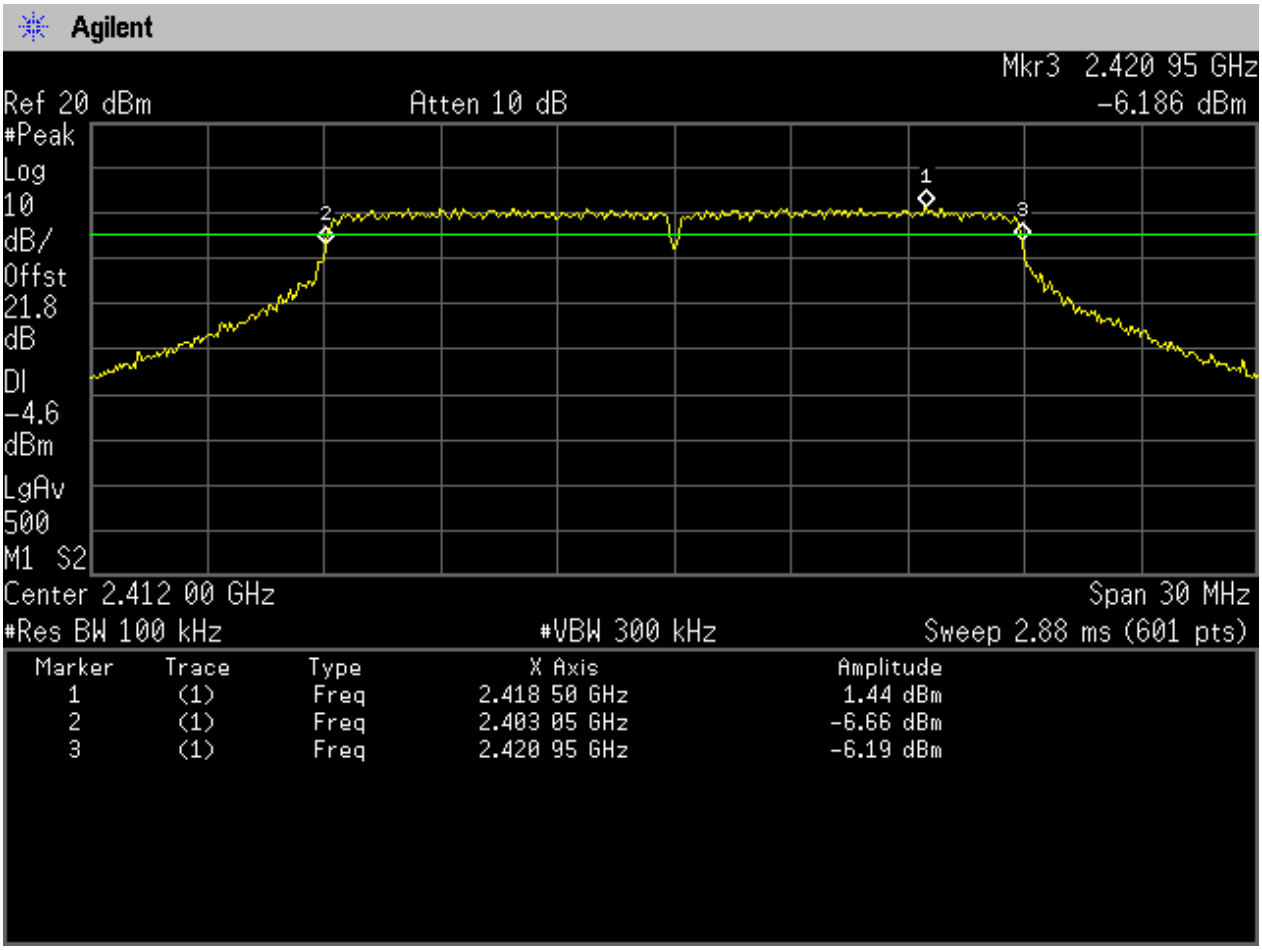
2.1111G/6_T@1



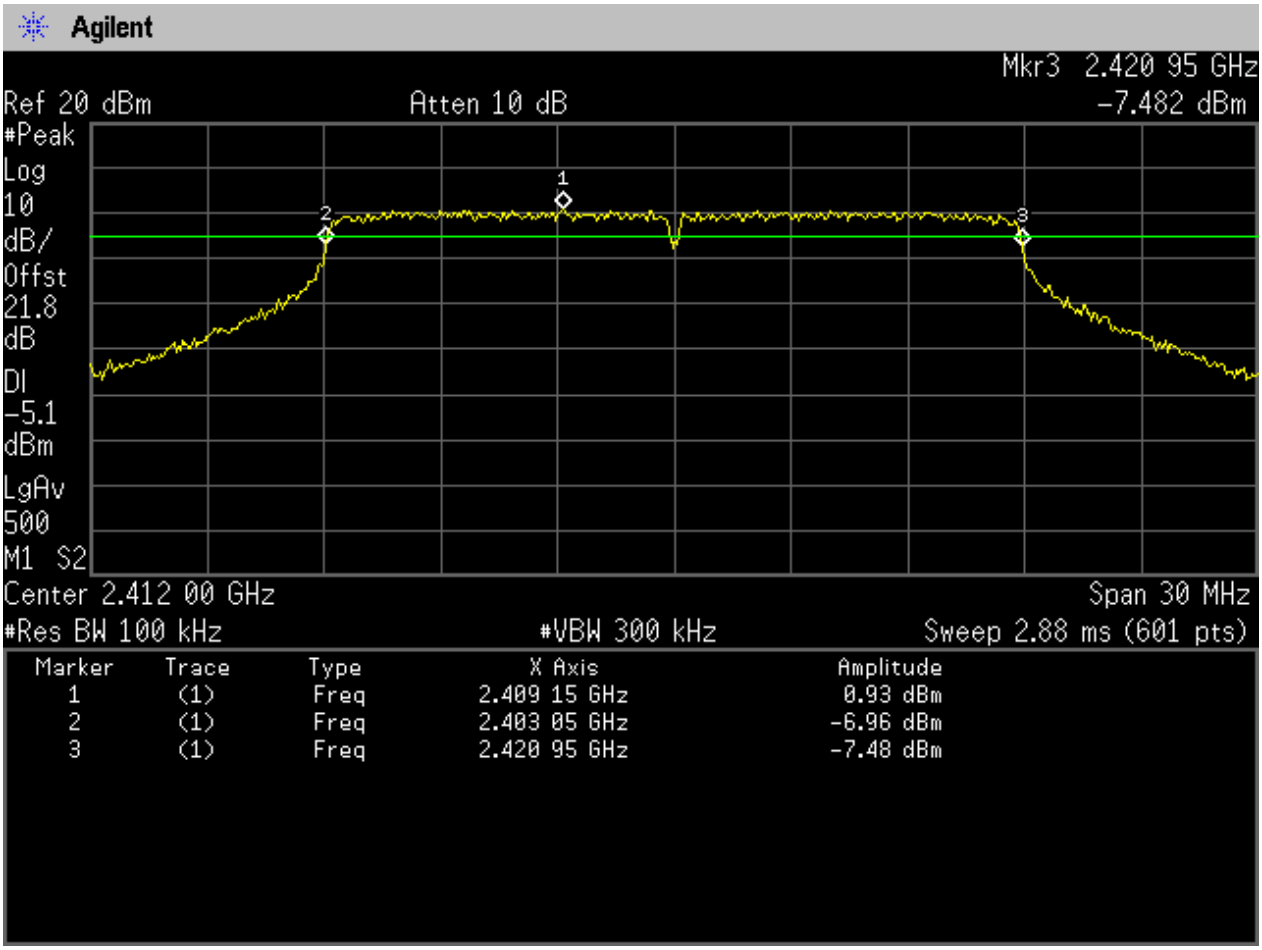
2.1211G/6_T@2



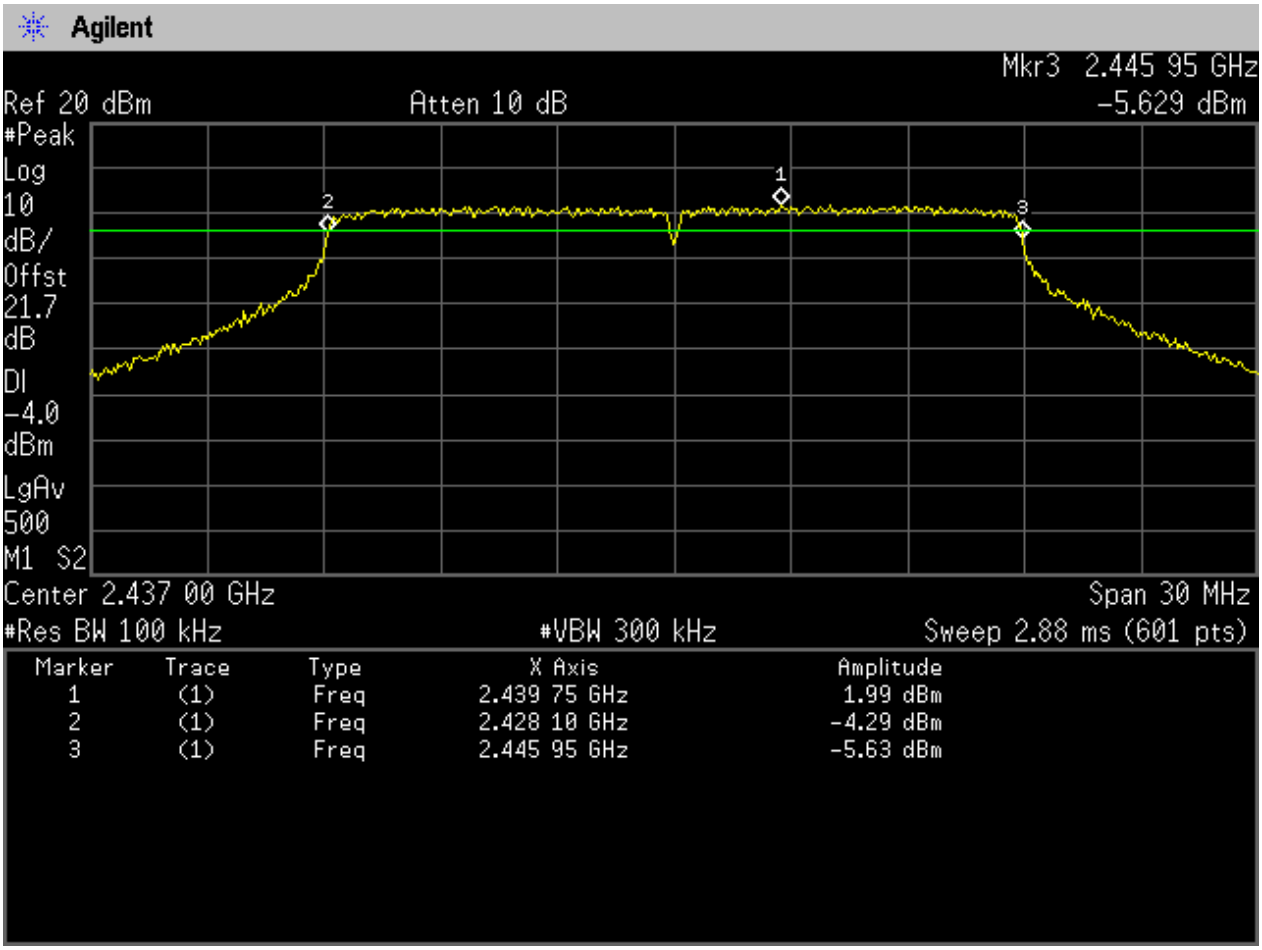
2.1311N20/0_B@1



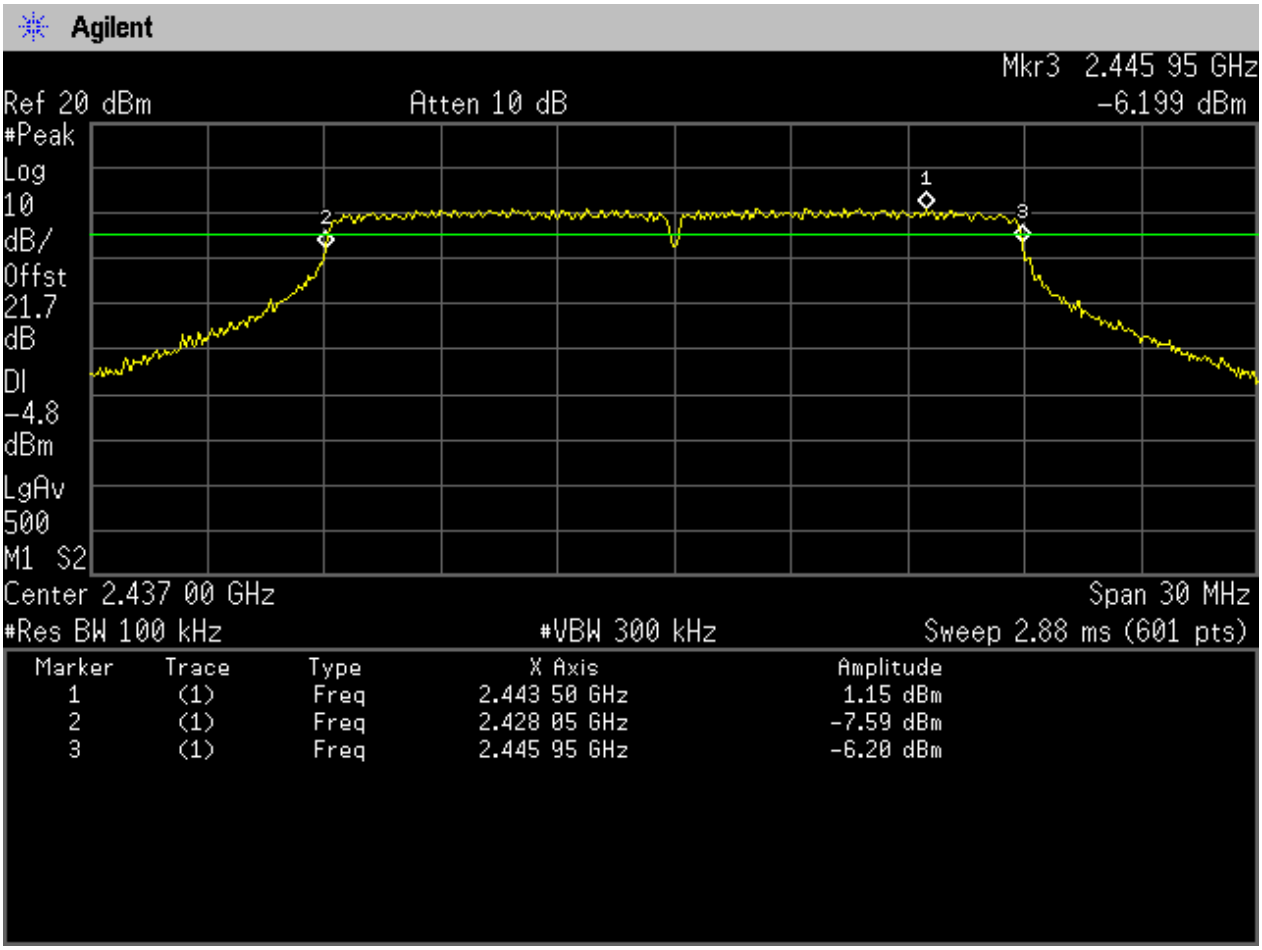
2.1411N20/0_B@2



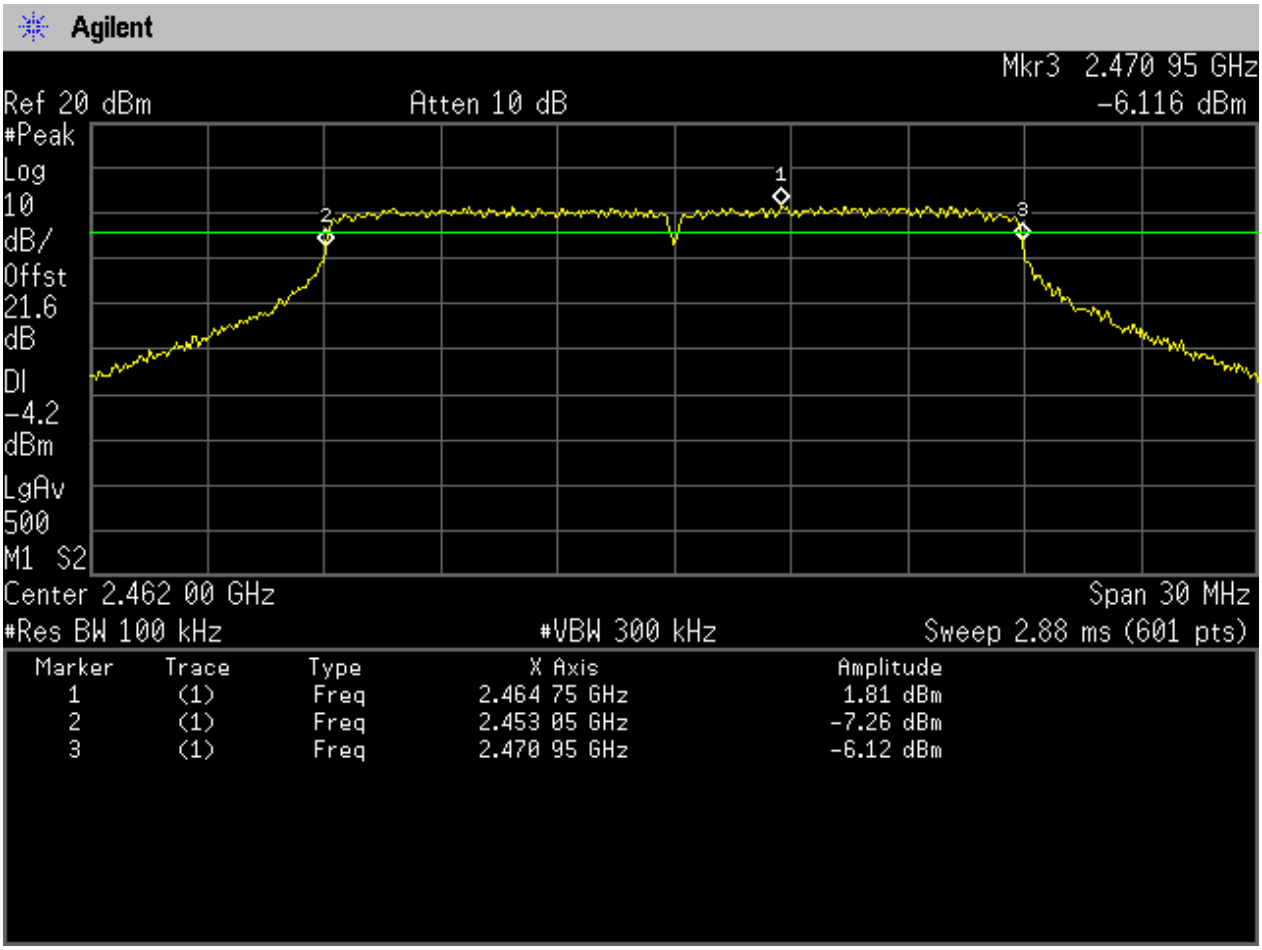
2.1511N20/0_M@1



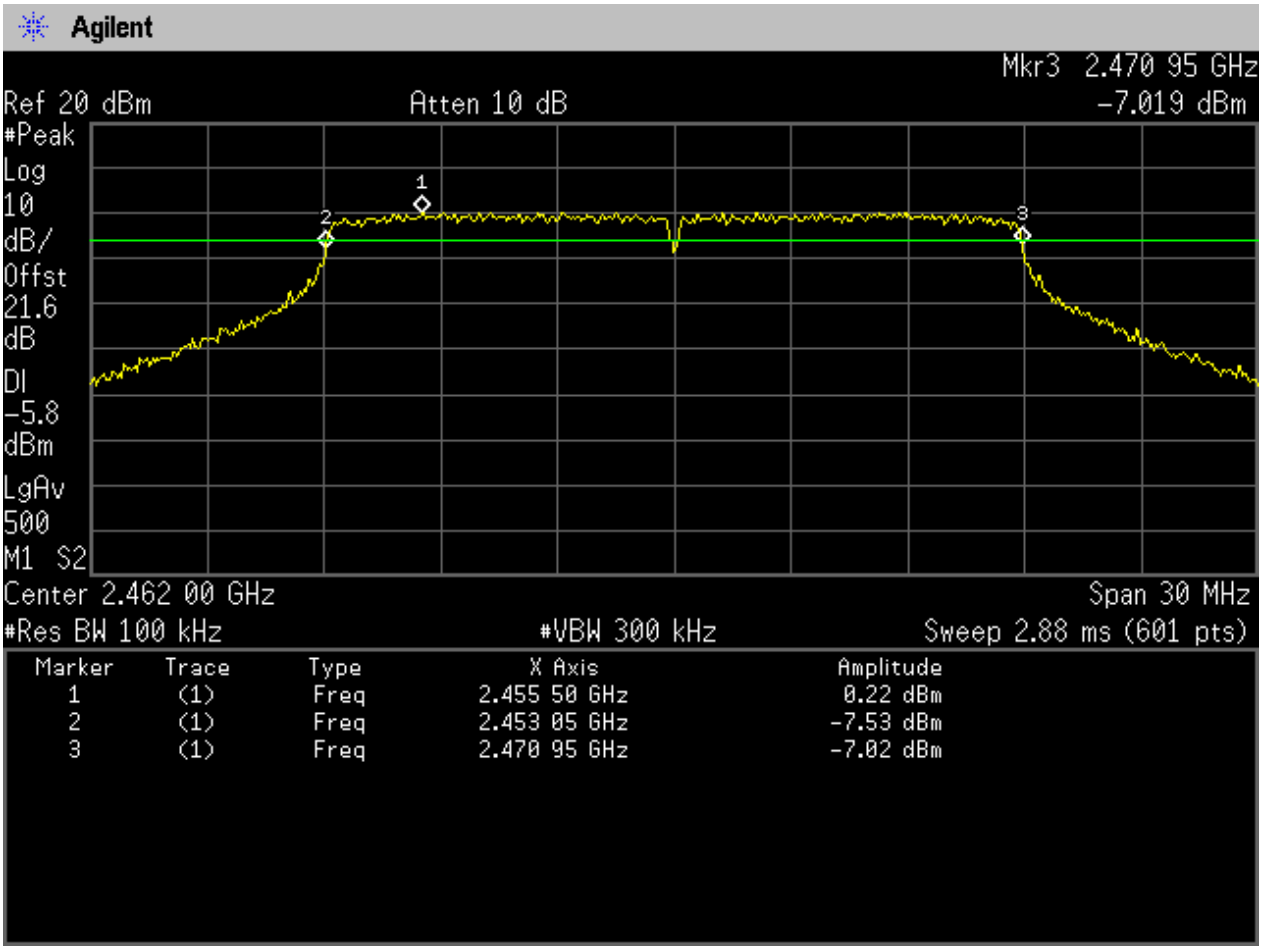
2.1611N20/0_M@2



2.1711N20/0_T@1

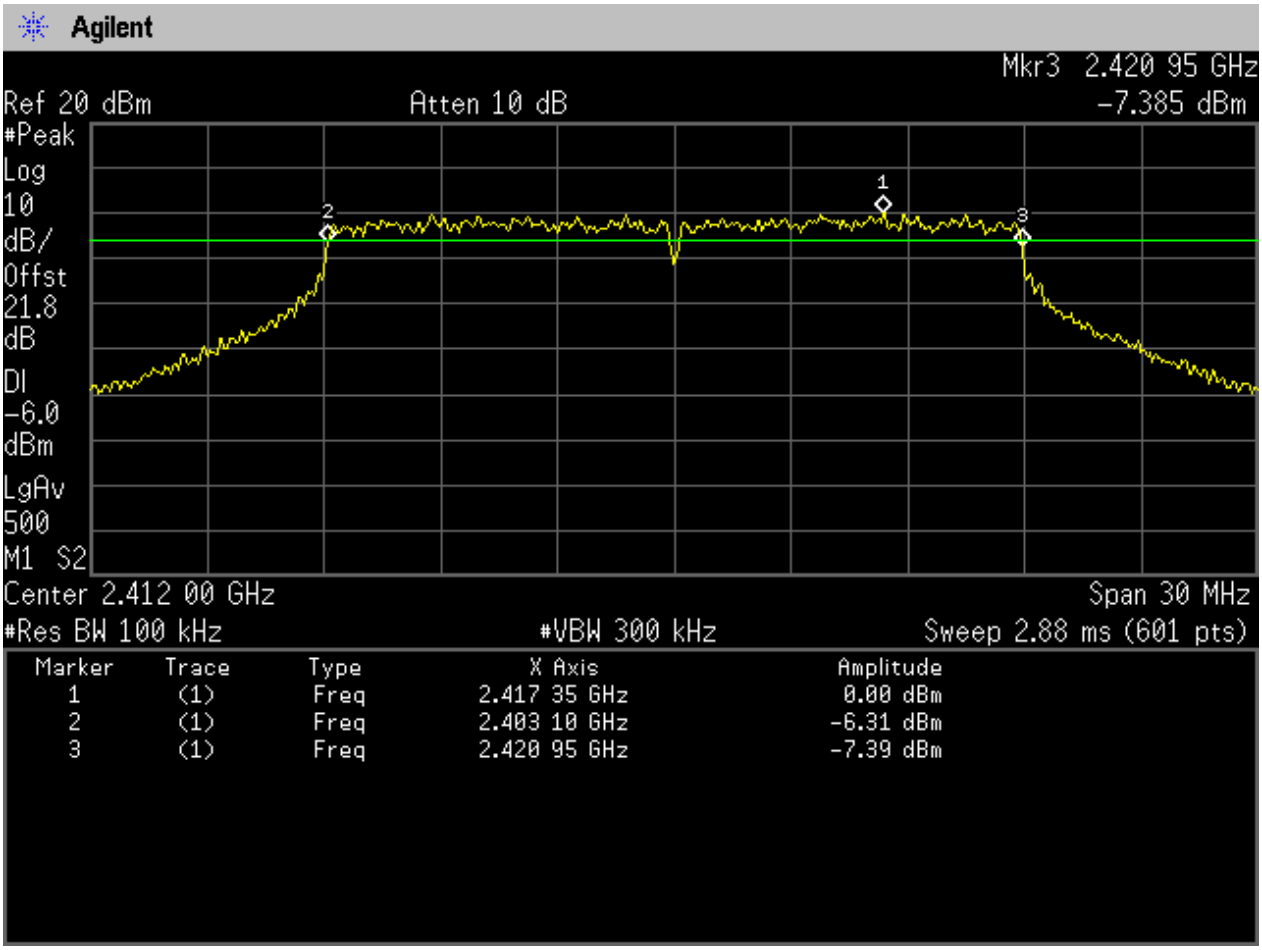


2.1811N20/0_T@2

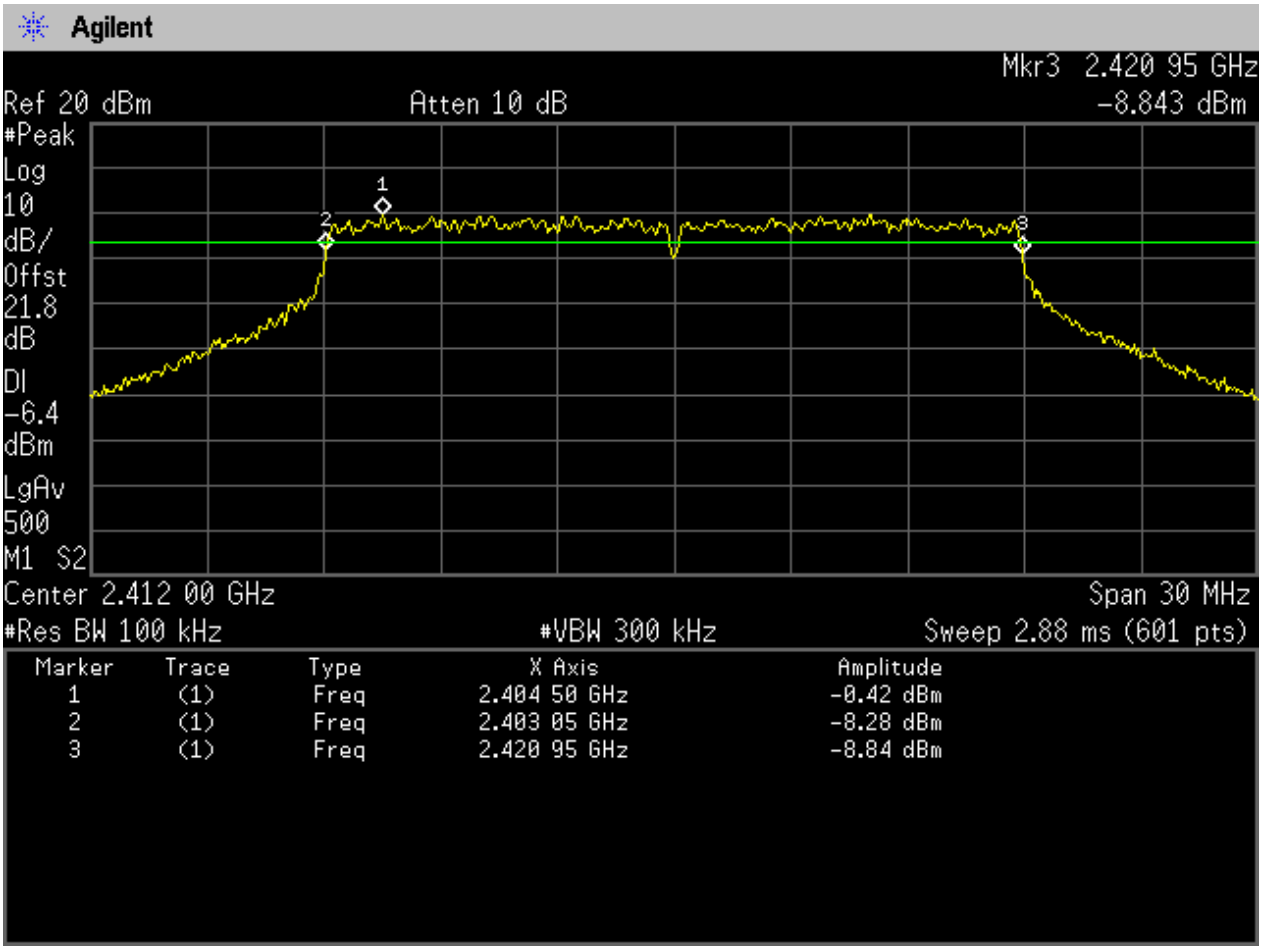


2.1911N20m/8_B@1+2

2.19.1 Ant 1

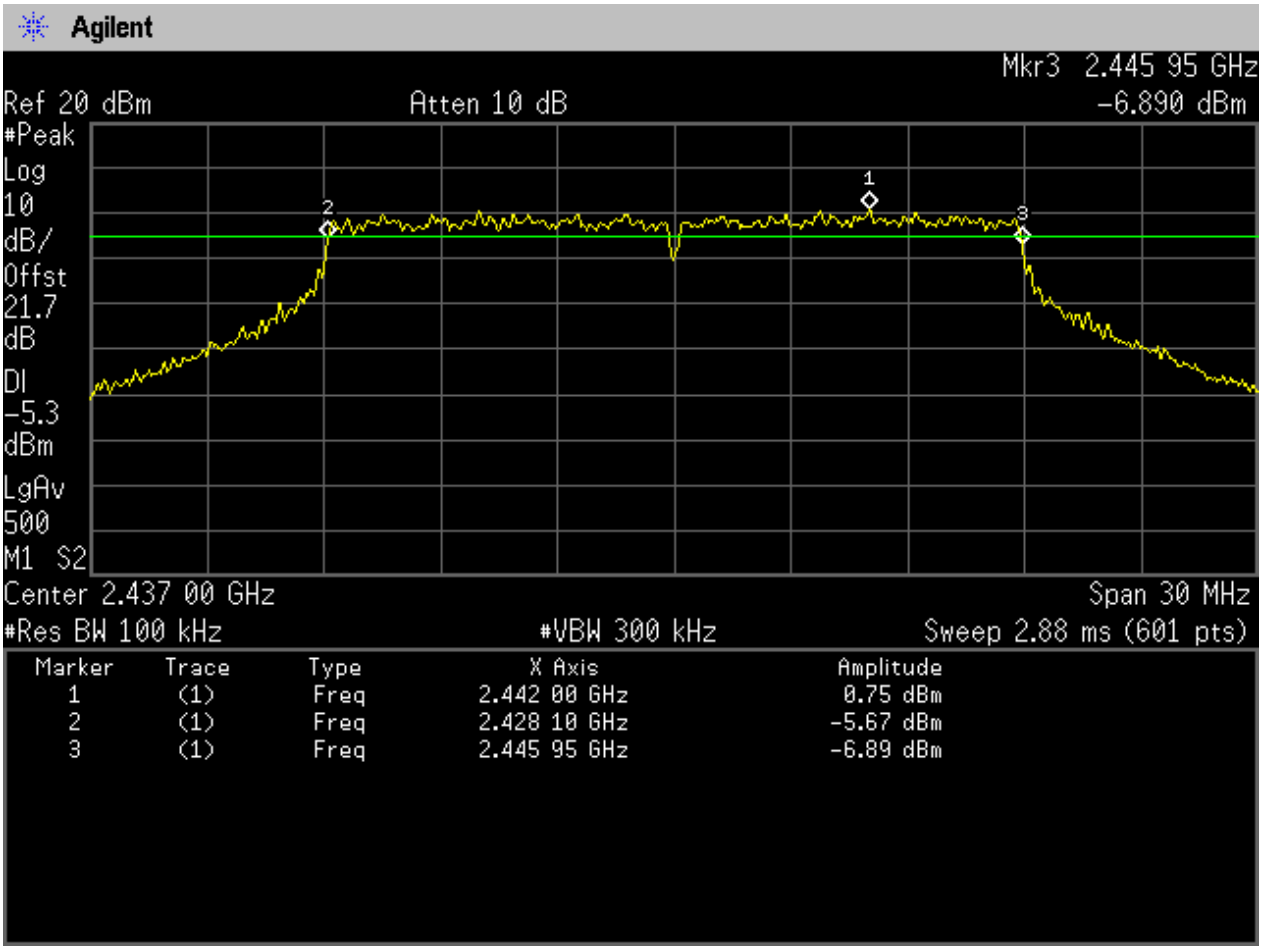


2.19.2 Ant 2

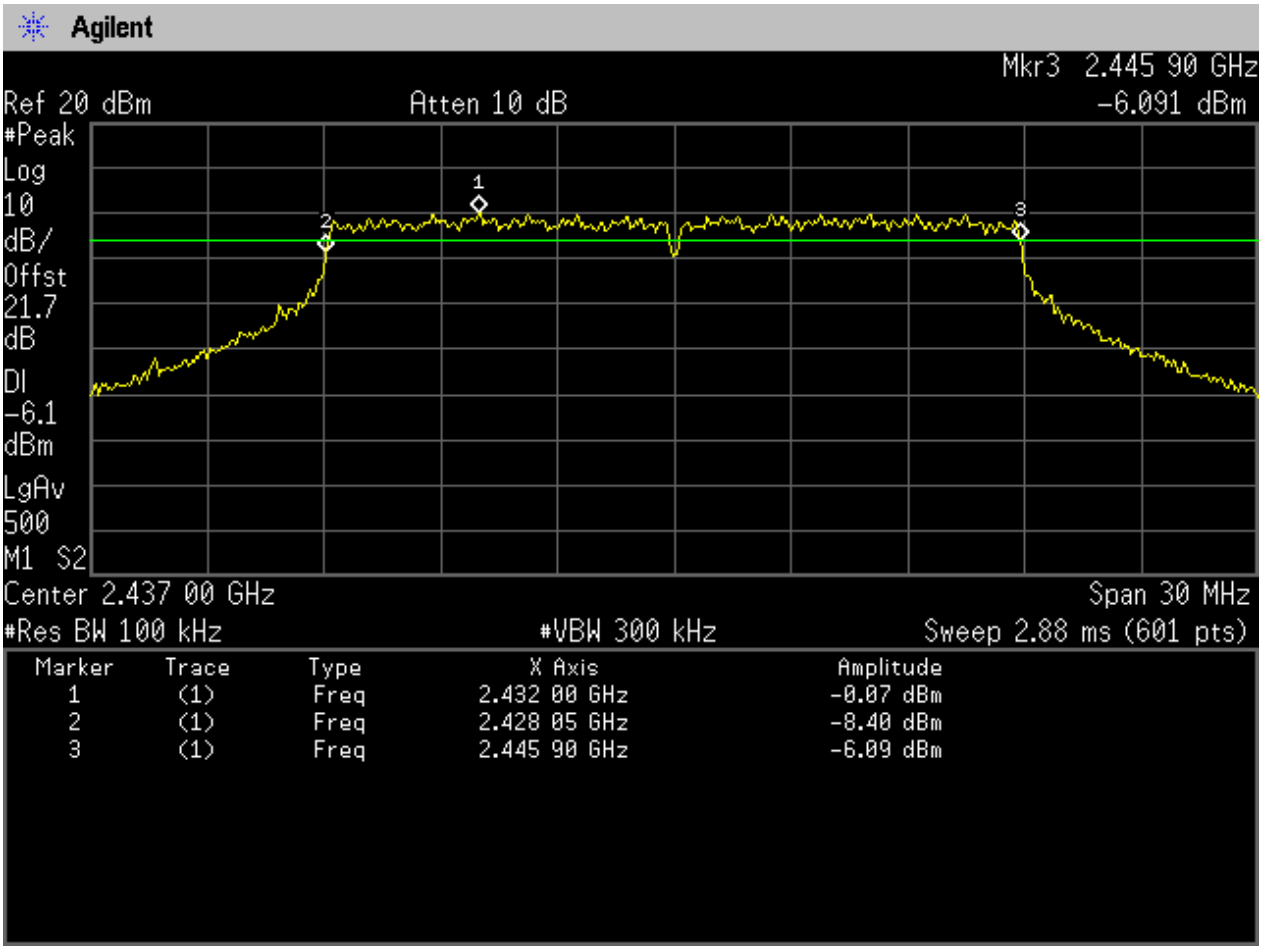


2.2011N20m/8_M@1+2

2.20.1 Ant 1

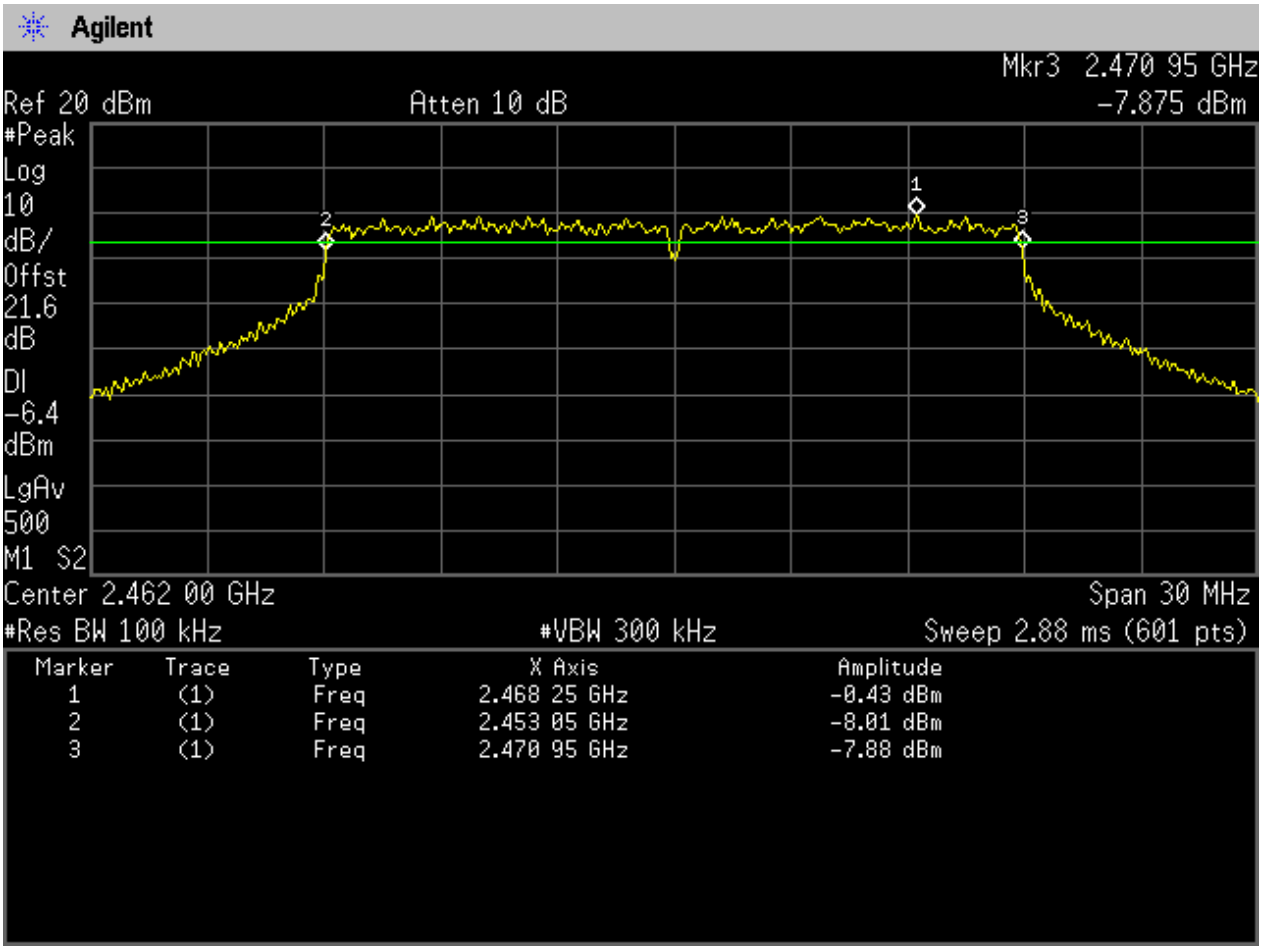


2.20.2 Ant 2

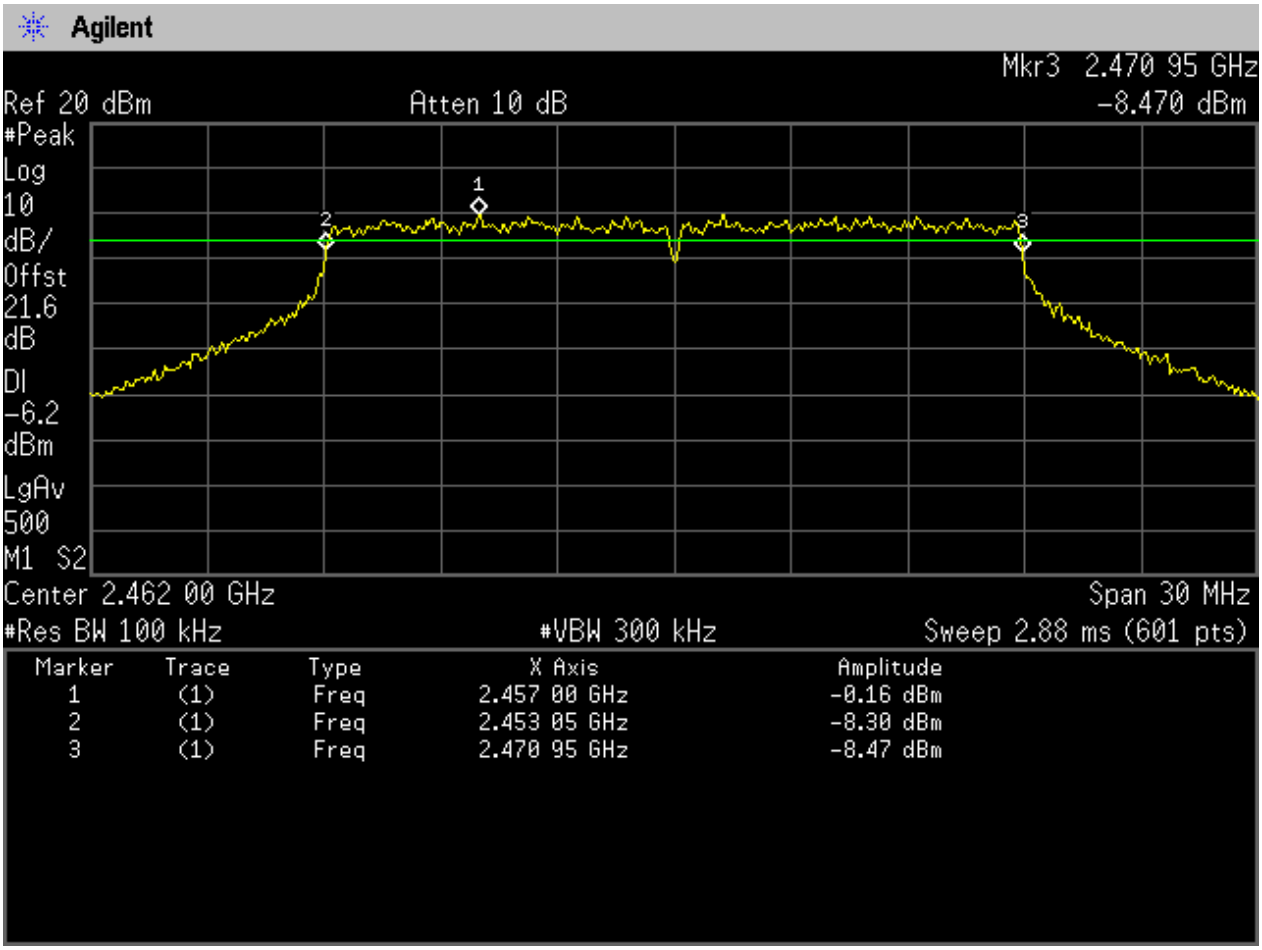


2.2111N20m/8_T@1+2

2.21.1 Ant 1



2.21.2 Ant 2



Appendix A.2: 99% Occupied Bandwidth

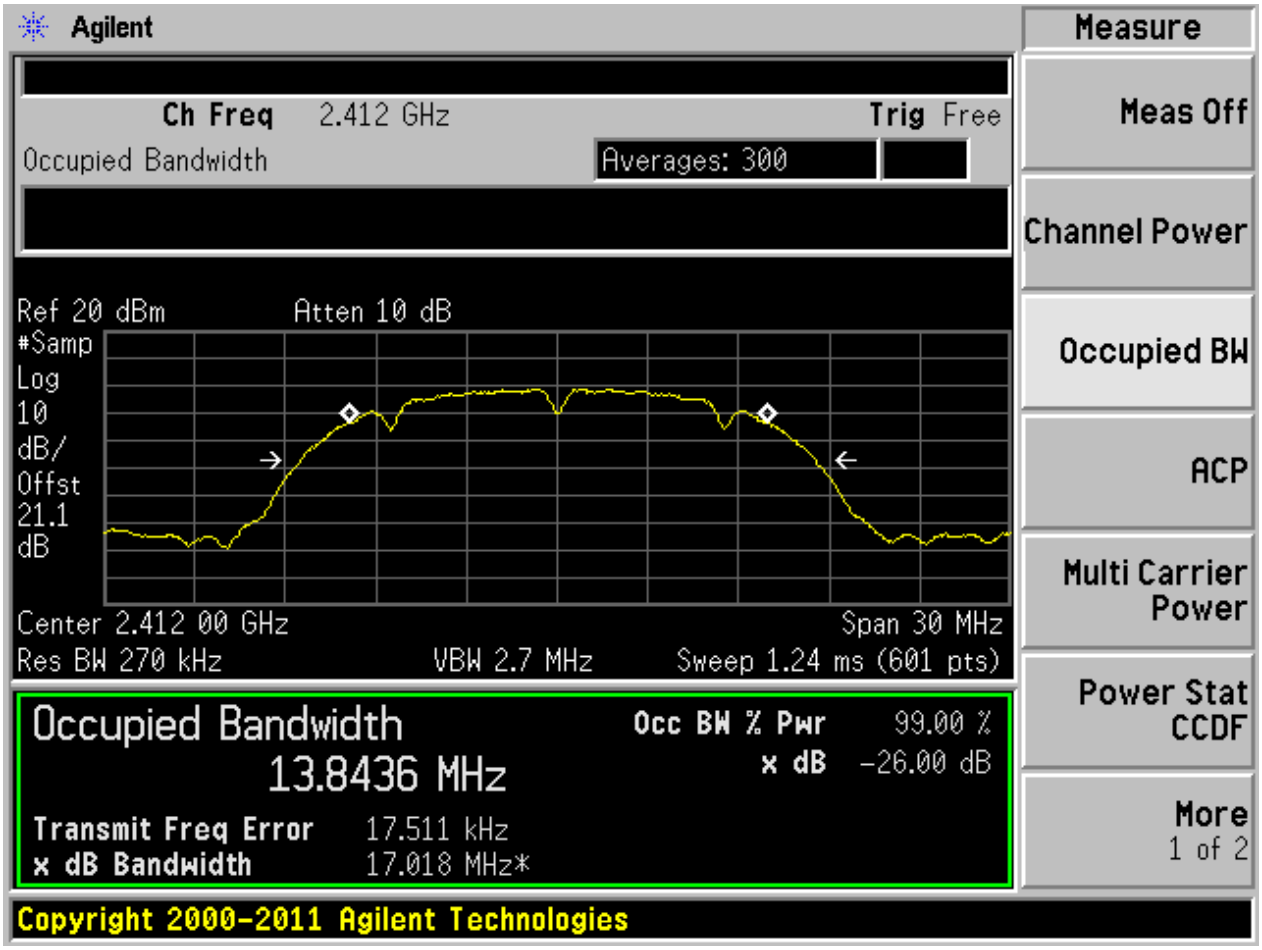
1 Result Table

NOTE 1: For measurements on smart antenna systems (devices with multiple transmit chains), the test is performed at each chain, and used as respective results for each chain.

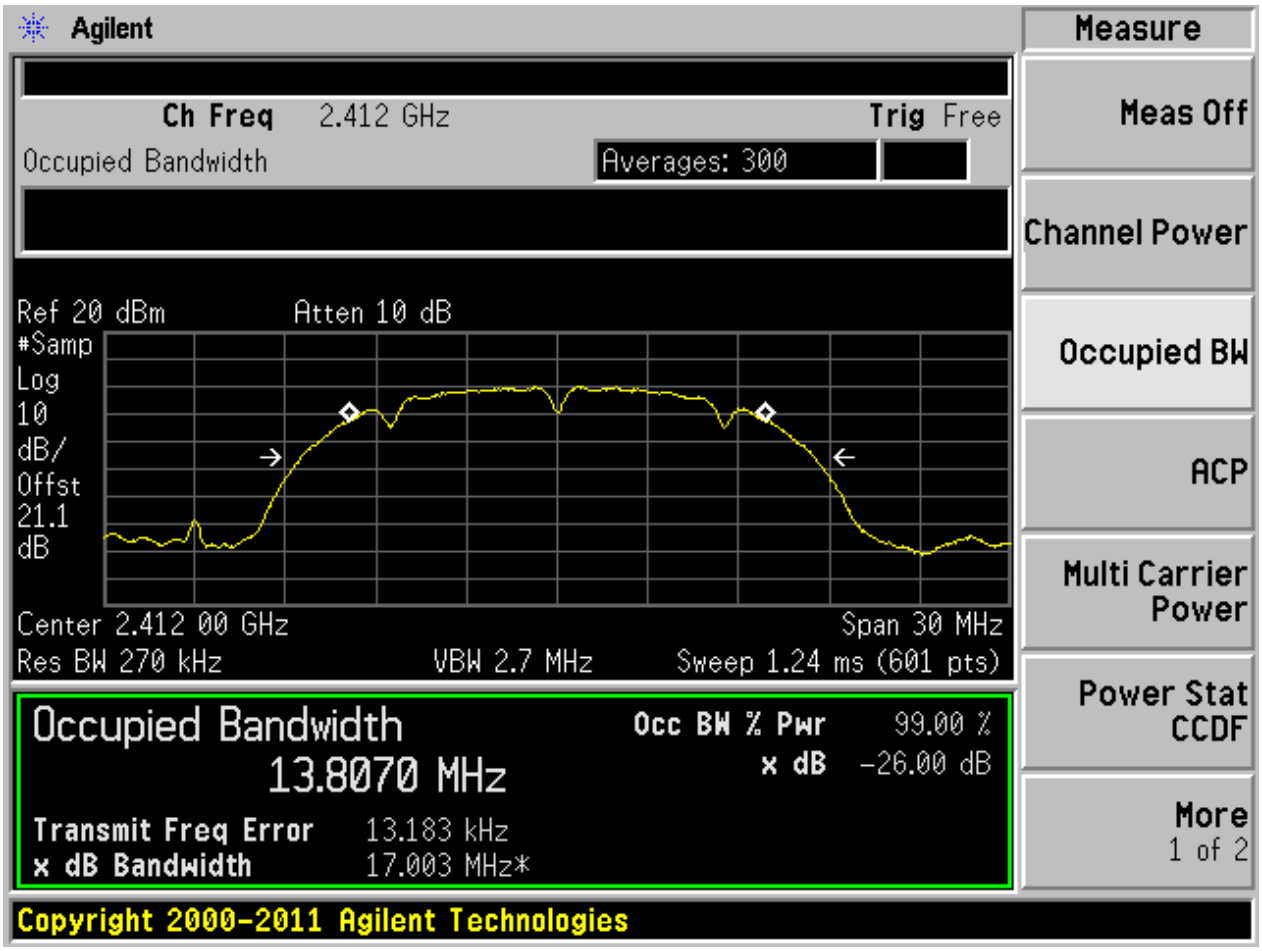
EUT Conf.	99% Occupied Bandwidth [MHz], Ant 1 [MHz]	99% Occupied Bandwidth [MHz], Ant 2 [MHz]	Verdict
11B/1_B@1	13.8436	---	Pass
11B/1_B@2	---	13.8070	Pass
11B/1_M@1	13.8072	---	Pass
11B/1_M@2	---	13.7989	Pass
11B/1_T@1	13.7725	---	Pass
11B/1_T@2	---	13.7856	Pass
11G/6_B@1	16.4734	---	Pass
11G/6_B@2	---	16.4734	Pass
11G/6_M@1	16.4741	---	Pass
11G/6_M@2	---	16.4826	Pass
11G/6_T@1	16.4756	---	Pass
11G/6_T@2	---	16.4775	Pass
11N20/0_B@1	17.6757	---	Pass
11N20/0_B@2	---	17.6811	Pass
11N20/0_M@1	17.6735	---	Pass
11N20/0_M@2	---	17.6751	Pass
11N20/0_T@1	17.6802	---	Pass
11N20/0_T@2	---	17.6770	Pass
11N20m/8_B@1+2	17.6742	---	Pass
11N20m/8_B@1+2	---	17.6806	Pass
11N20m/8_M@1+2	17.6747	---	Pass
11N20m/8_M@1+2	---	17.6721	Pass
11N20m/8_T@1+2	17.6692	---	Pass
11N20m/8_T@1+2	---	17.6661	Pass

2 Test Plot

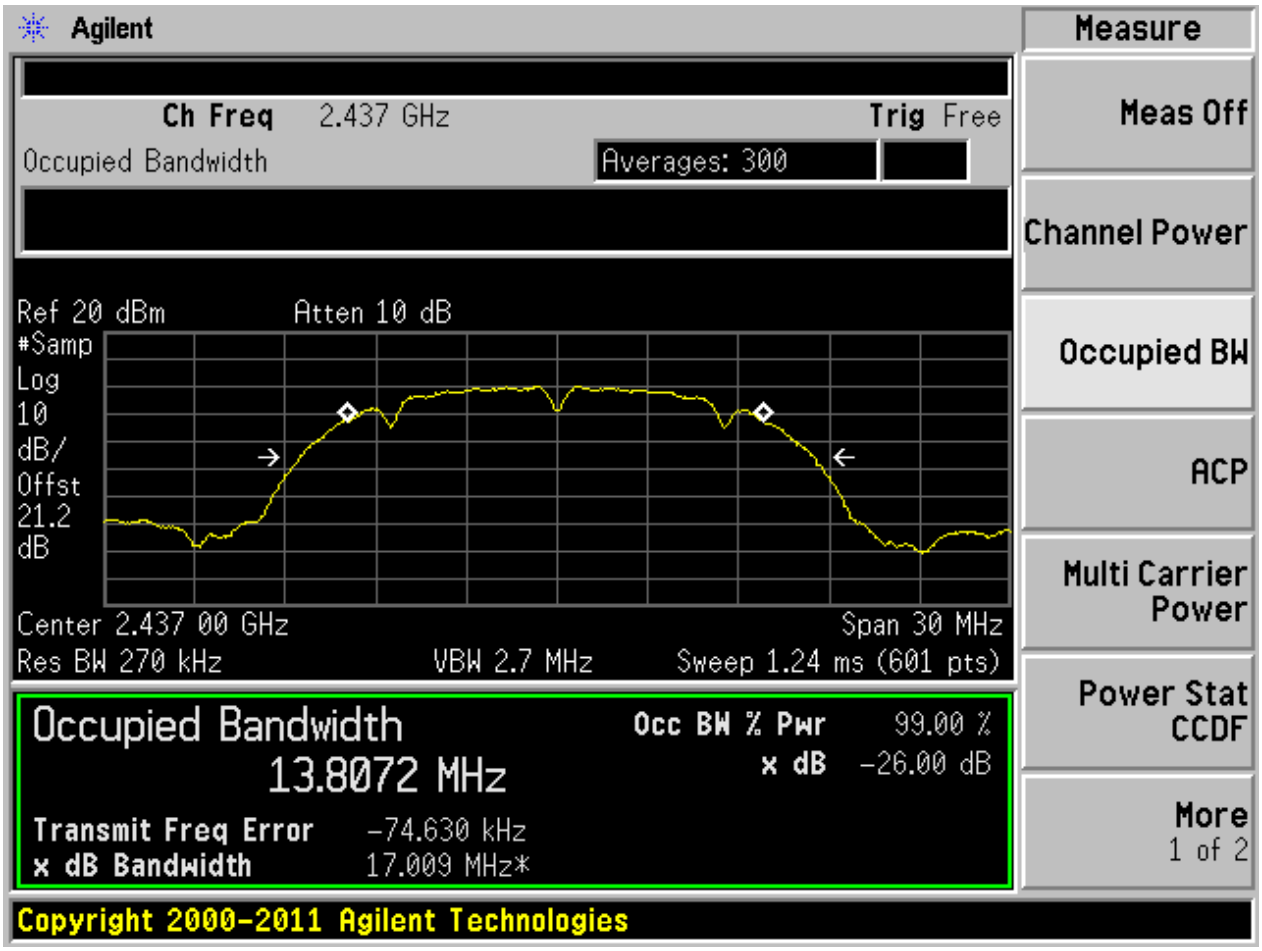
2.1 11B/1_B@1



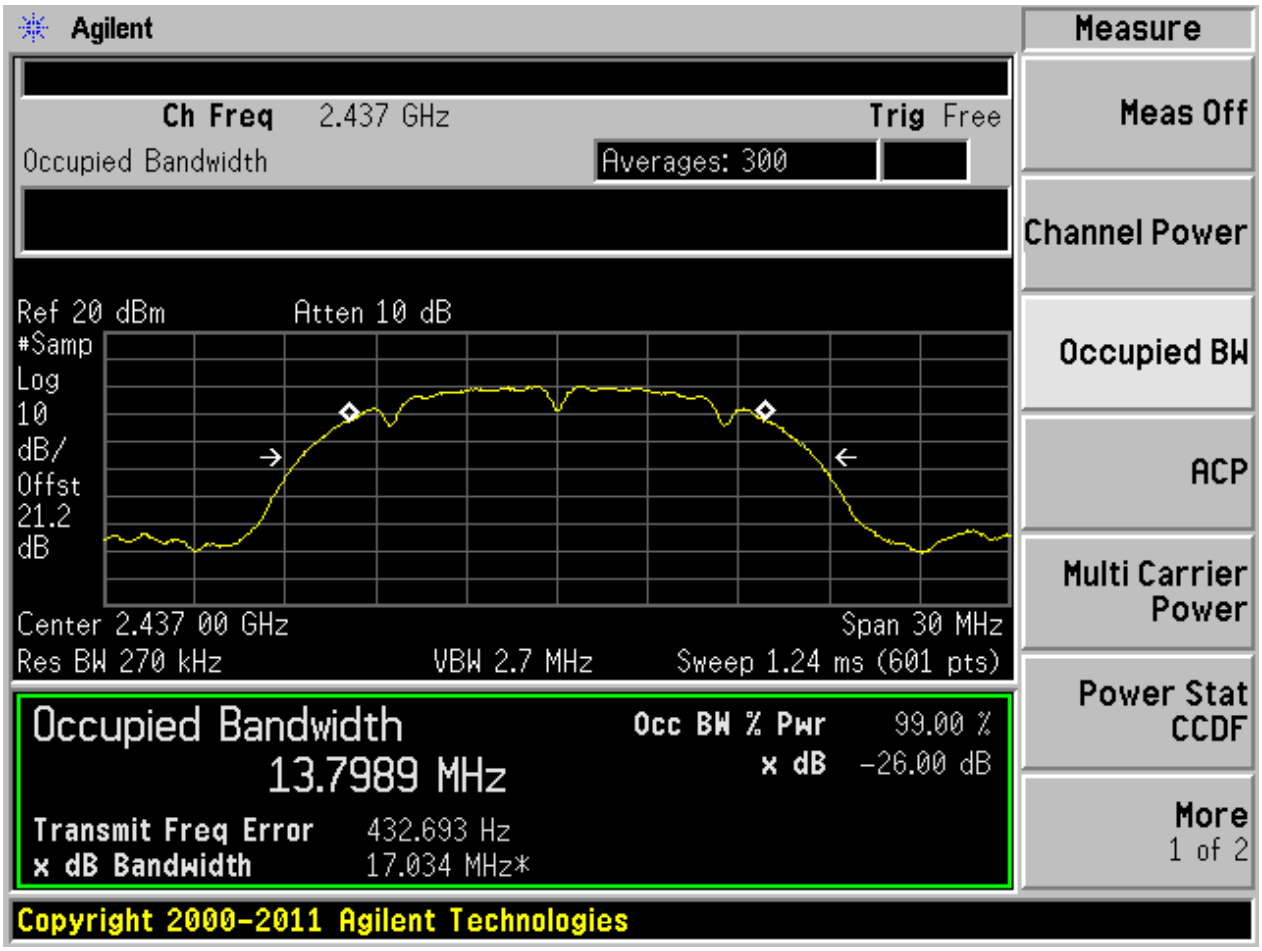
2.2 11B/1_B@2



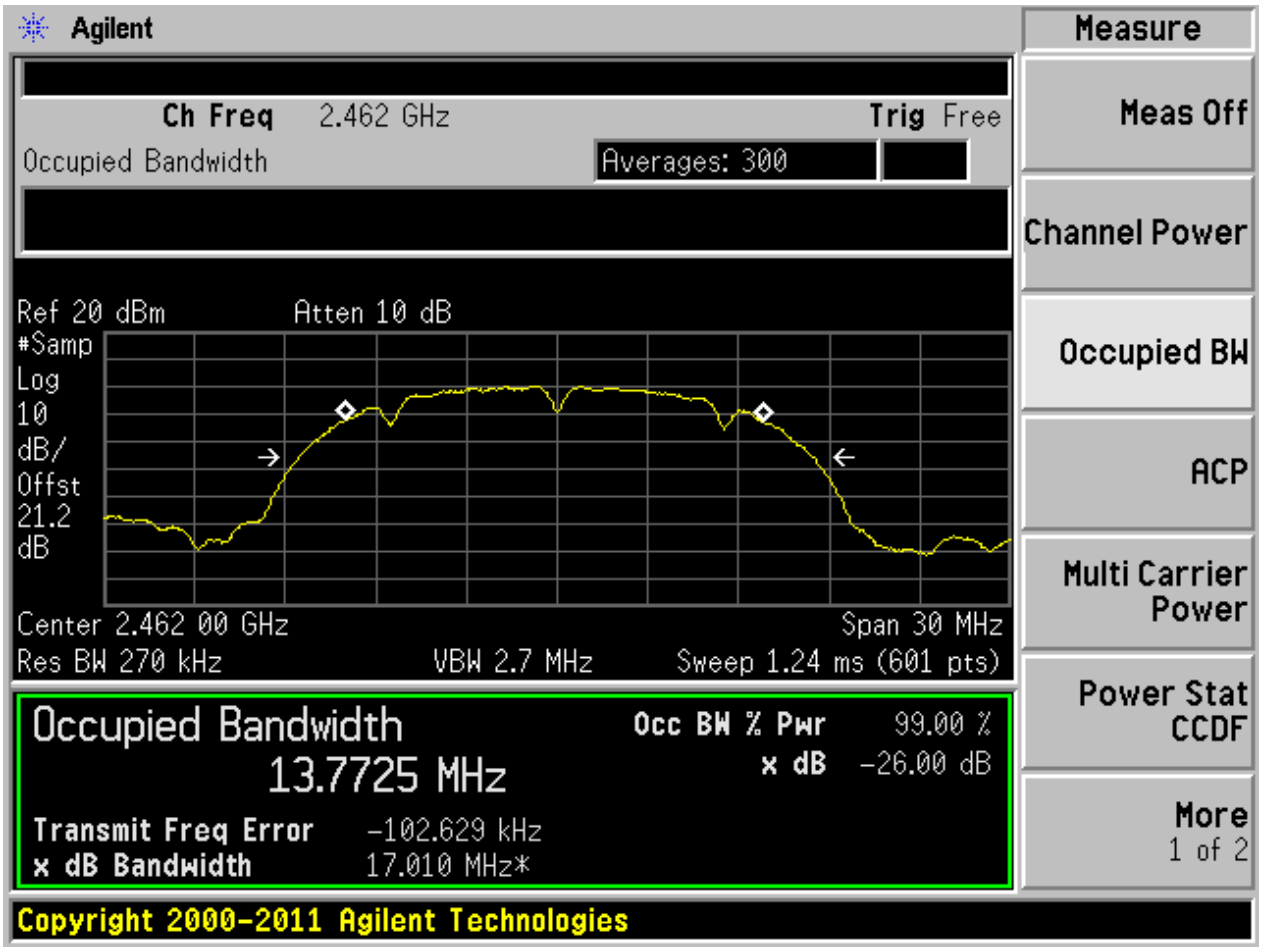
2.3 11B/1_M@1



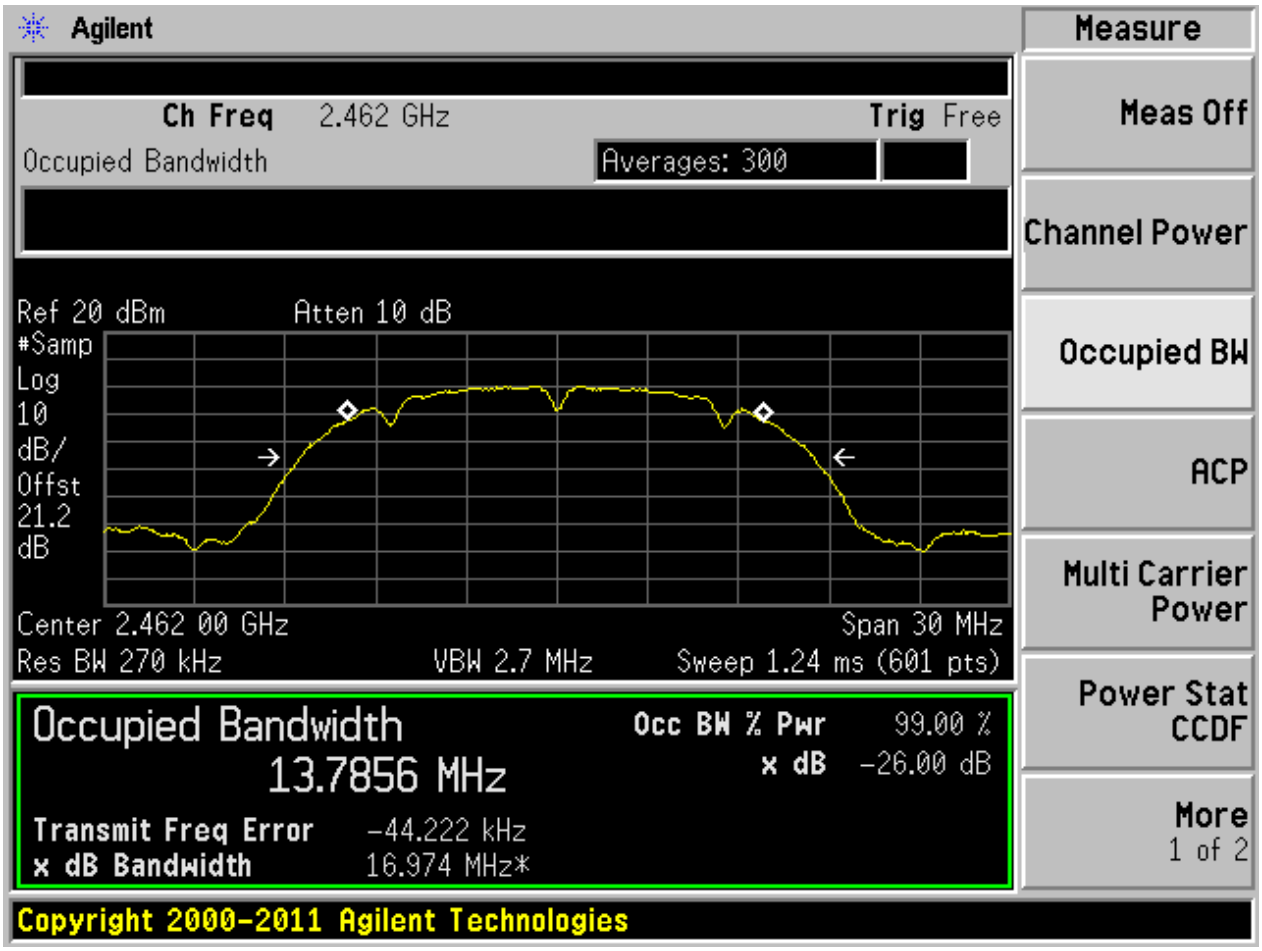
2.4 11B/1_M@2



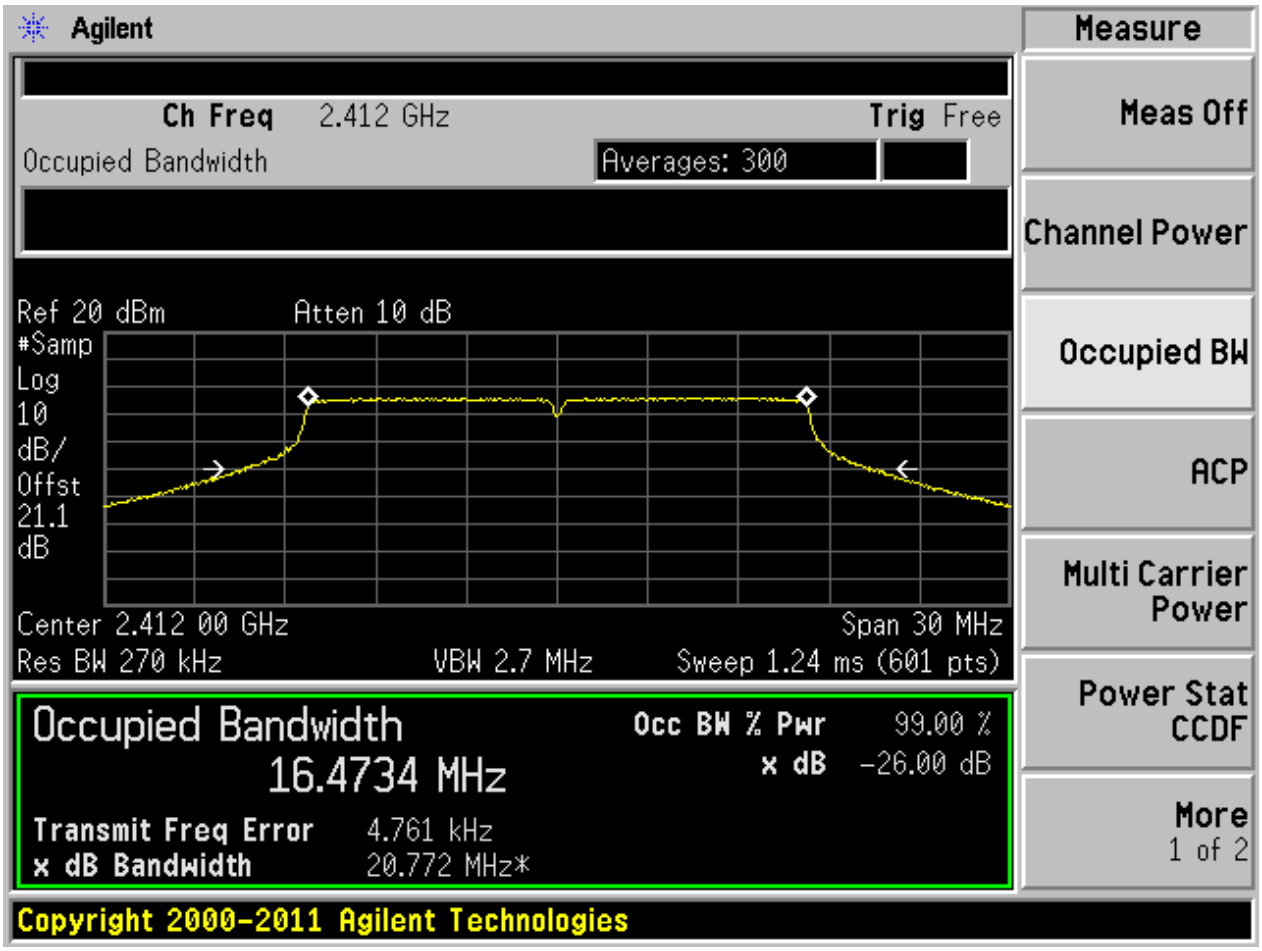
2.5 11B/1_T@1



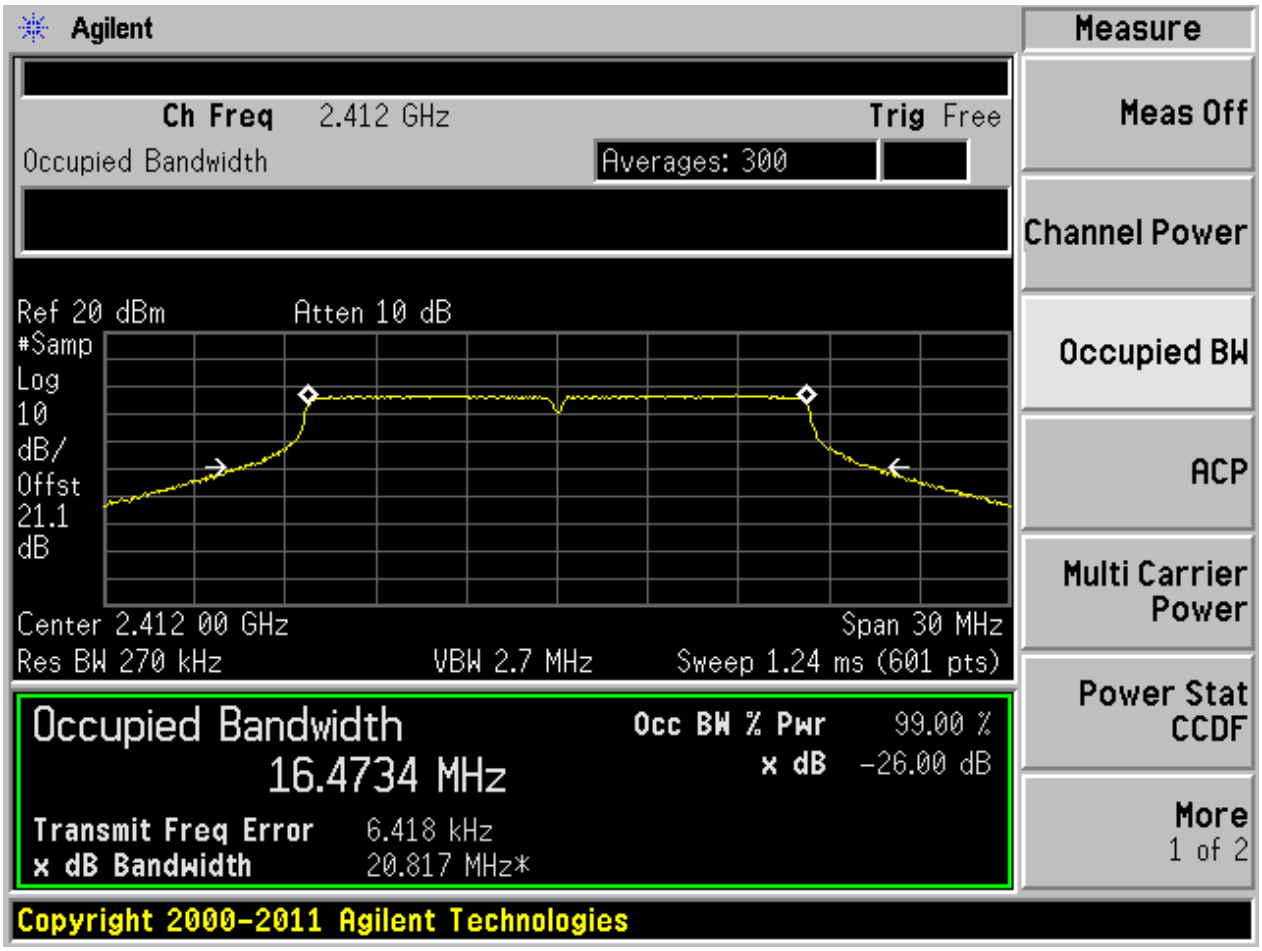
2.6 11B/1_T@2



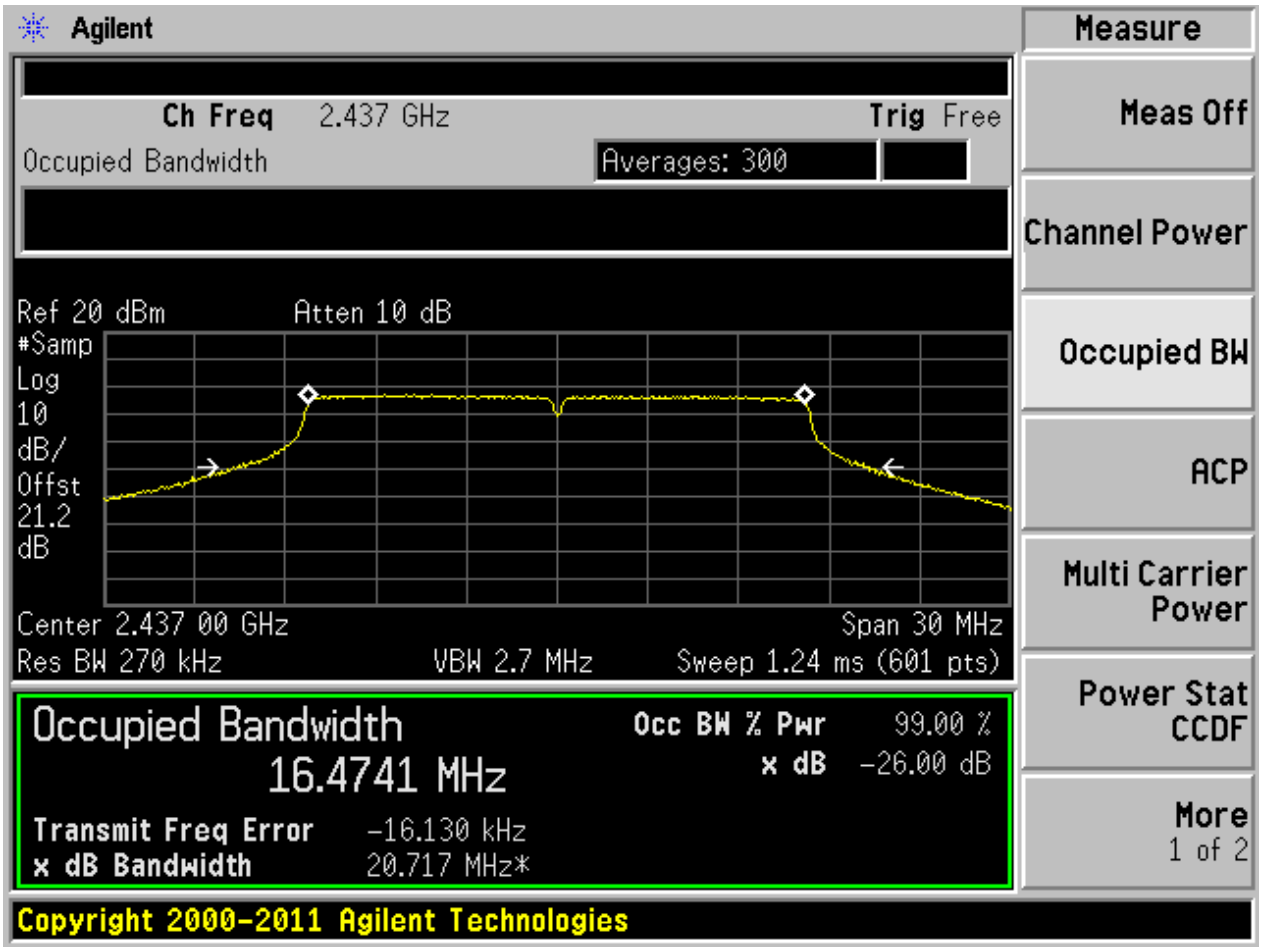
2.7 11G/6_B@1



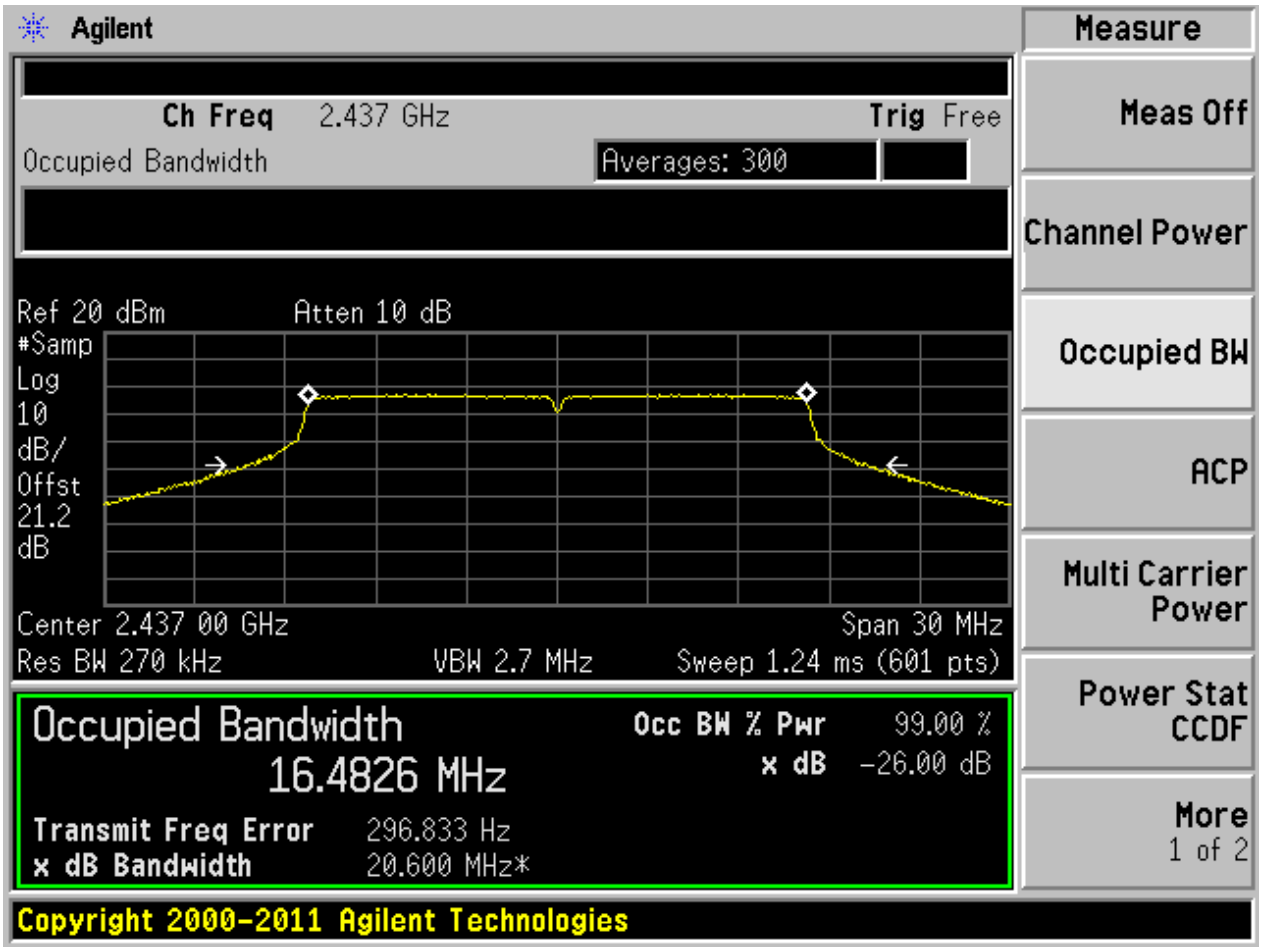
2.8 11G/6_B@2



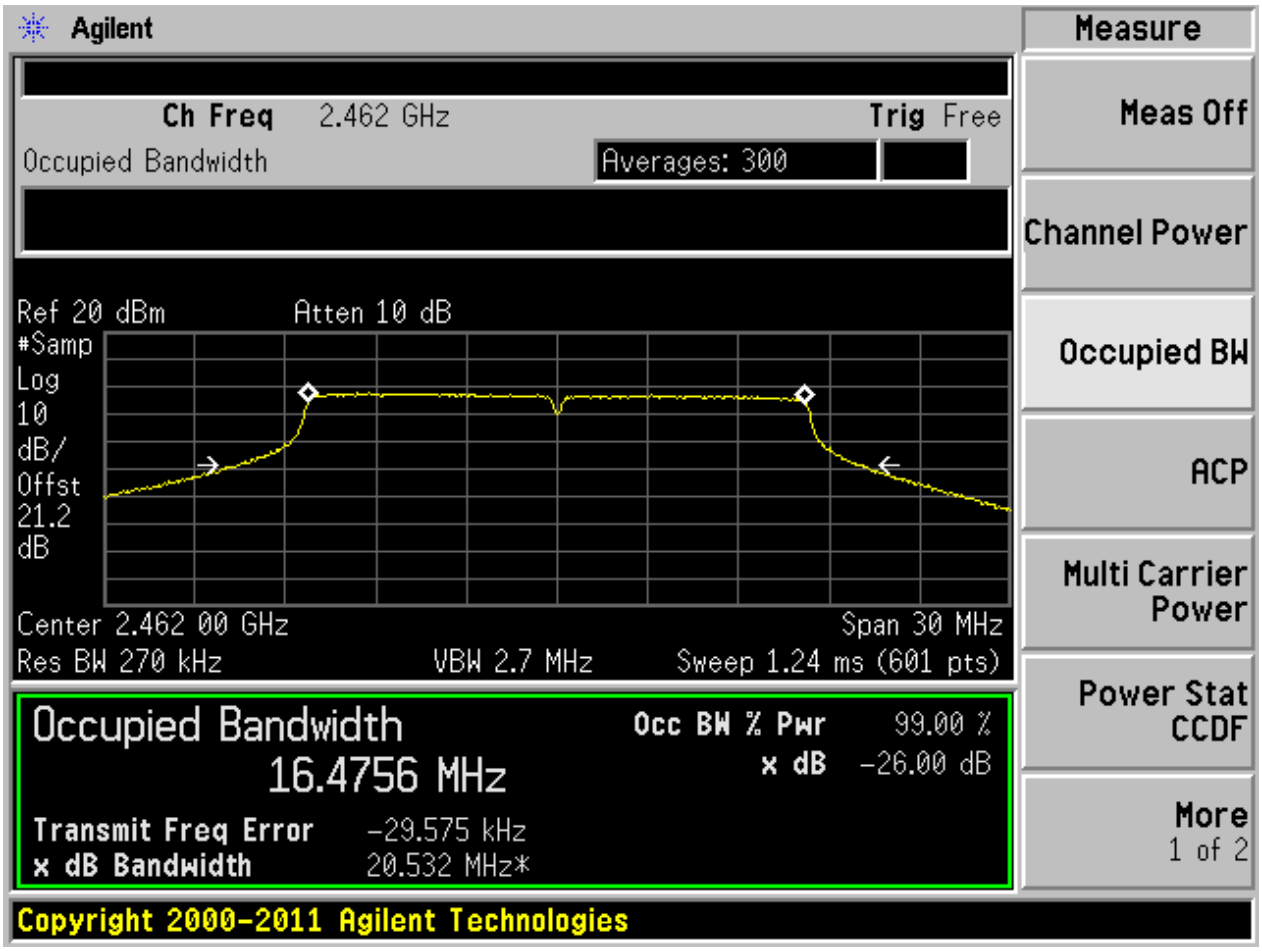
2.9 11G/6_M@1



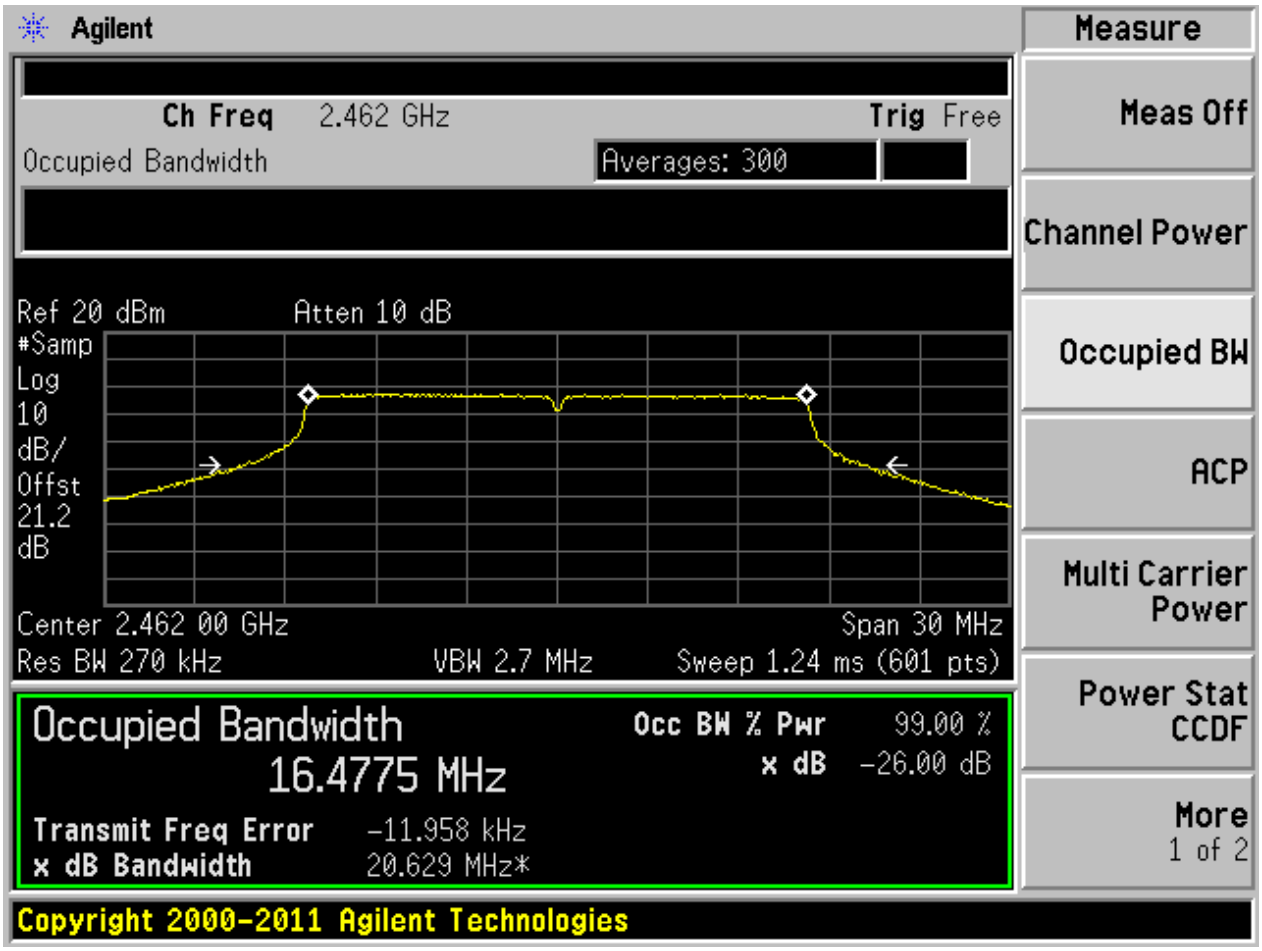
2.1011G/6_M@2



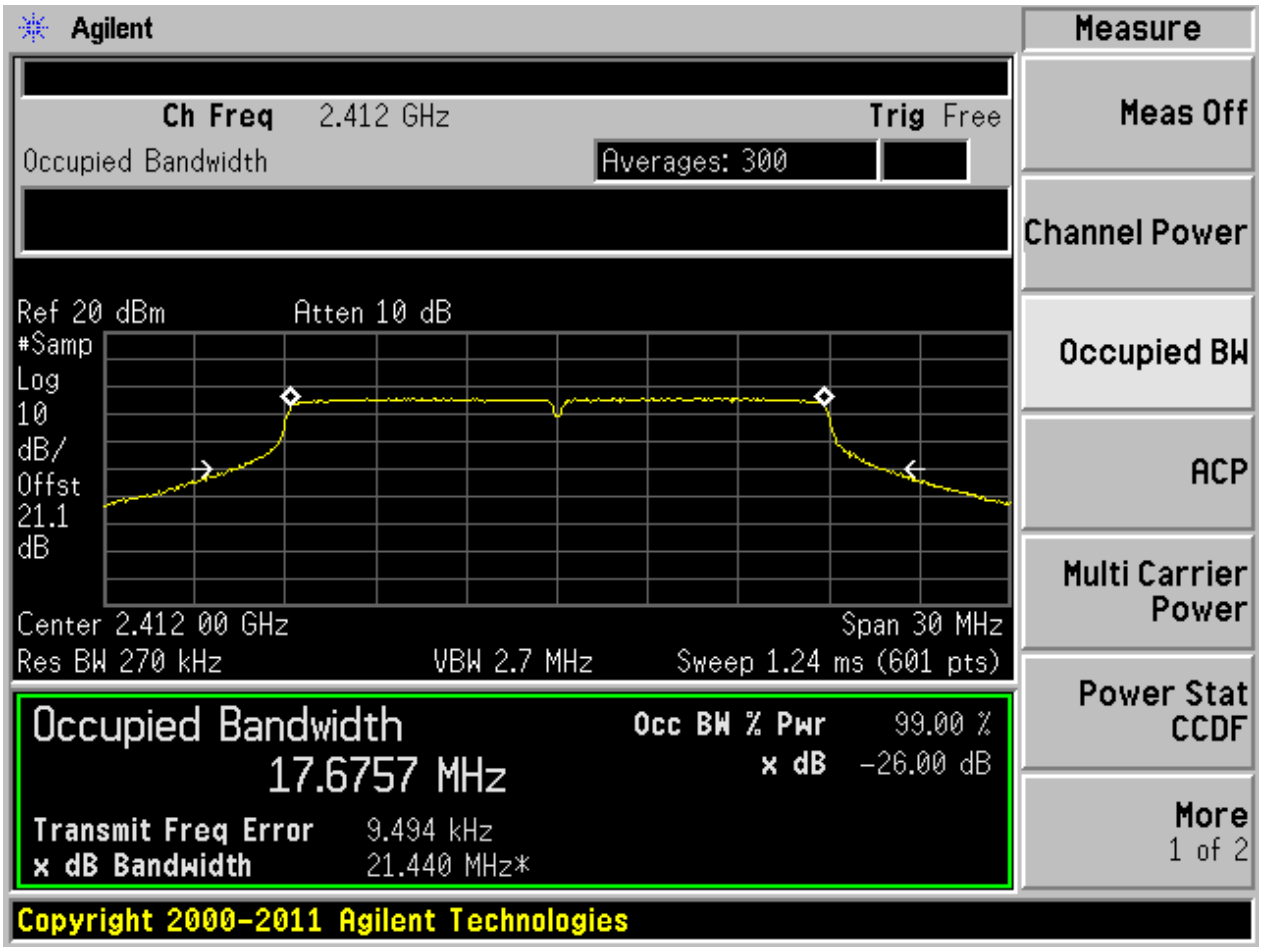
2.1111G/6_T@1



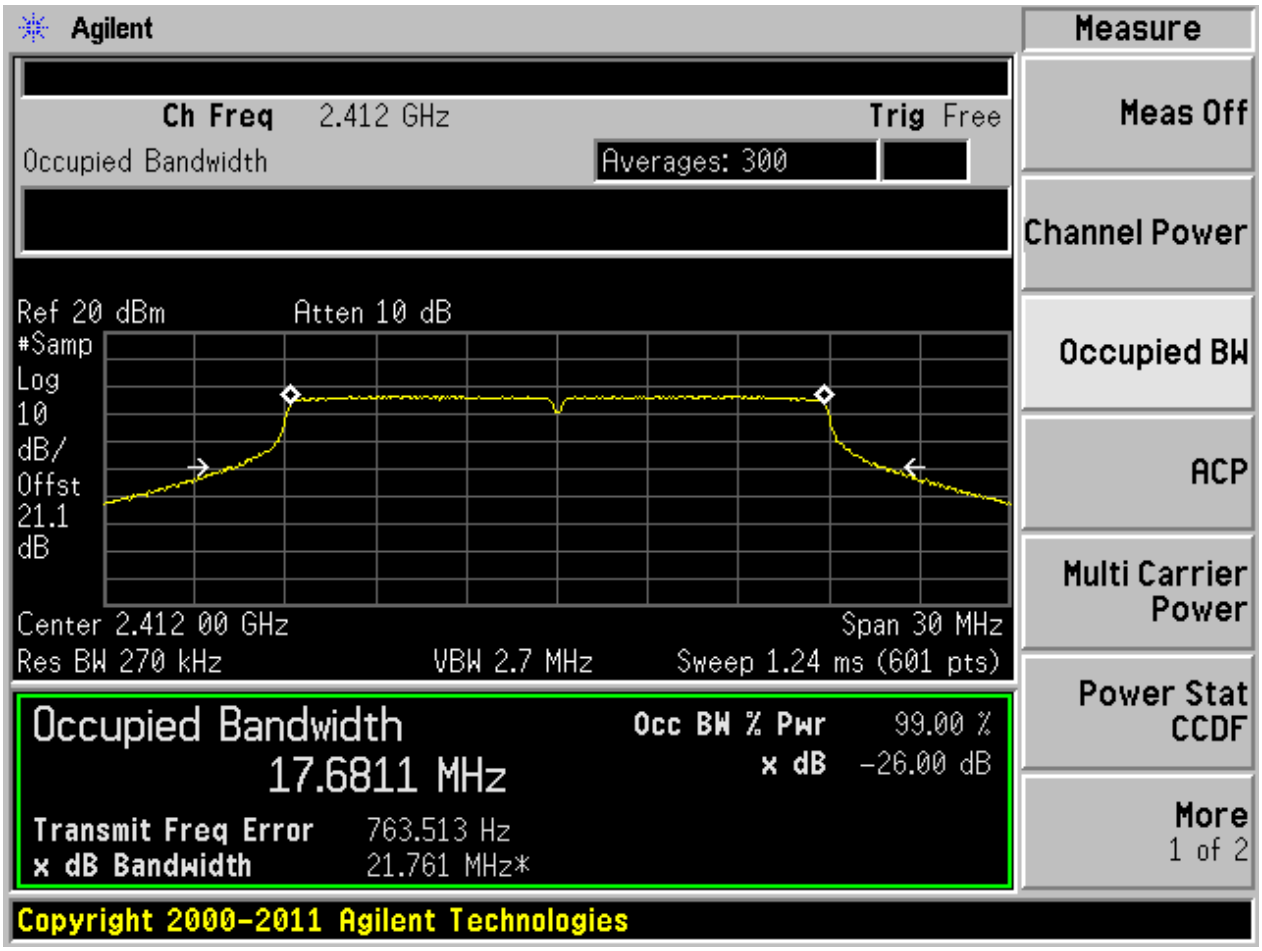
2.1211G/6_T@2



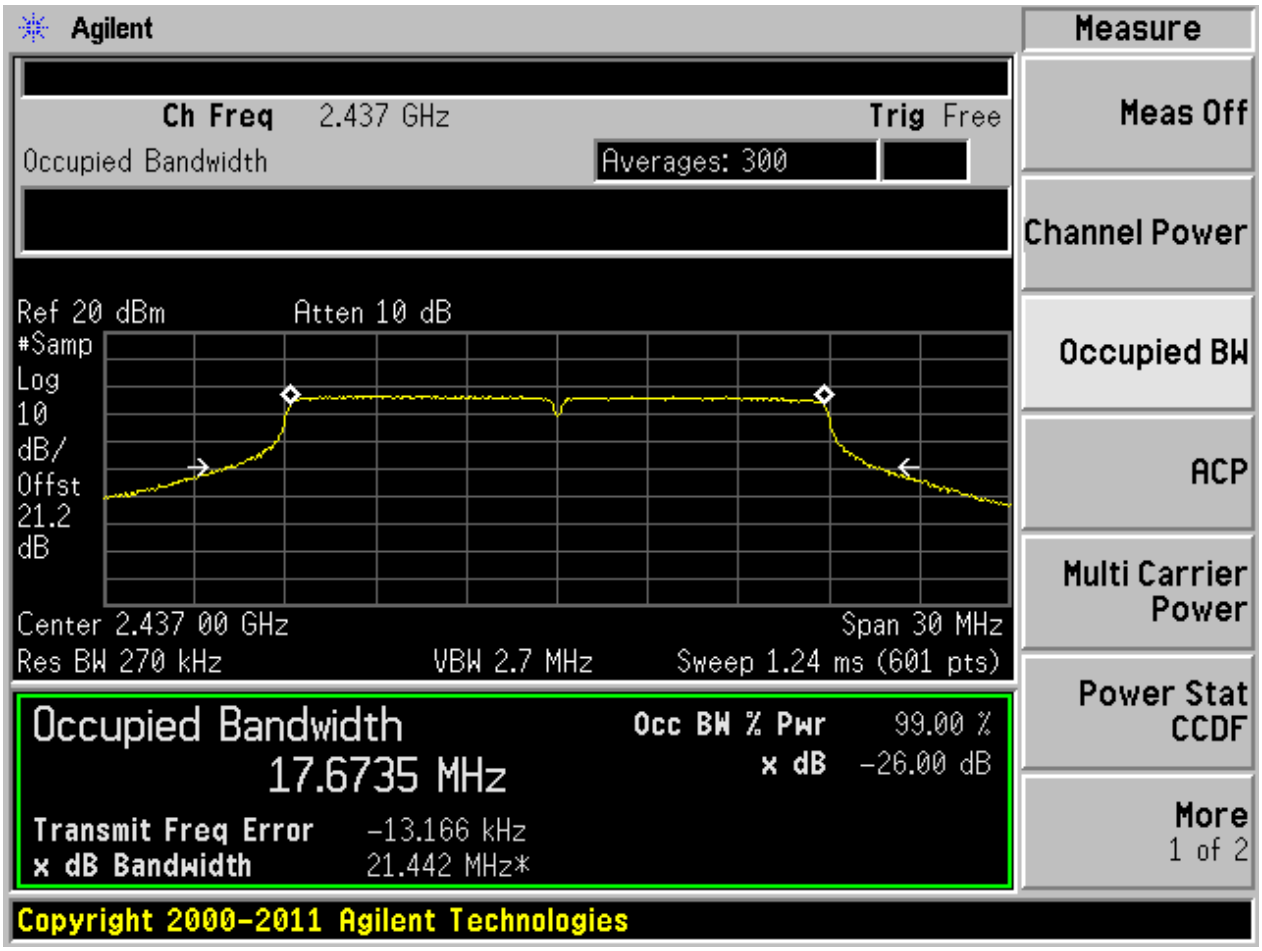
2.1311N20/0_B@1



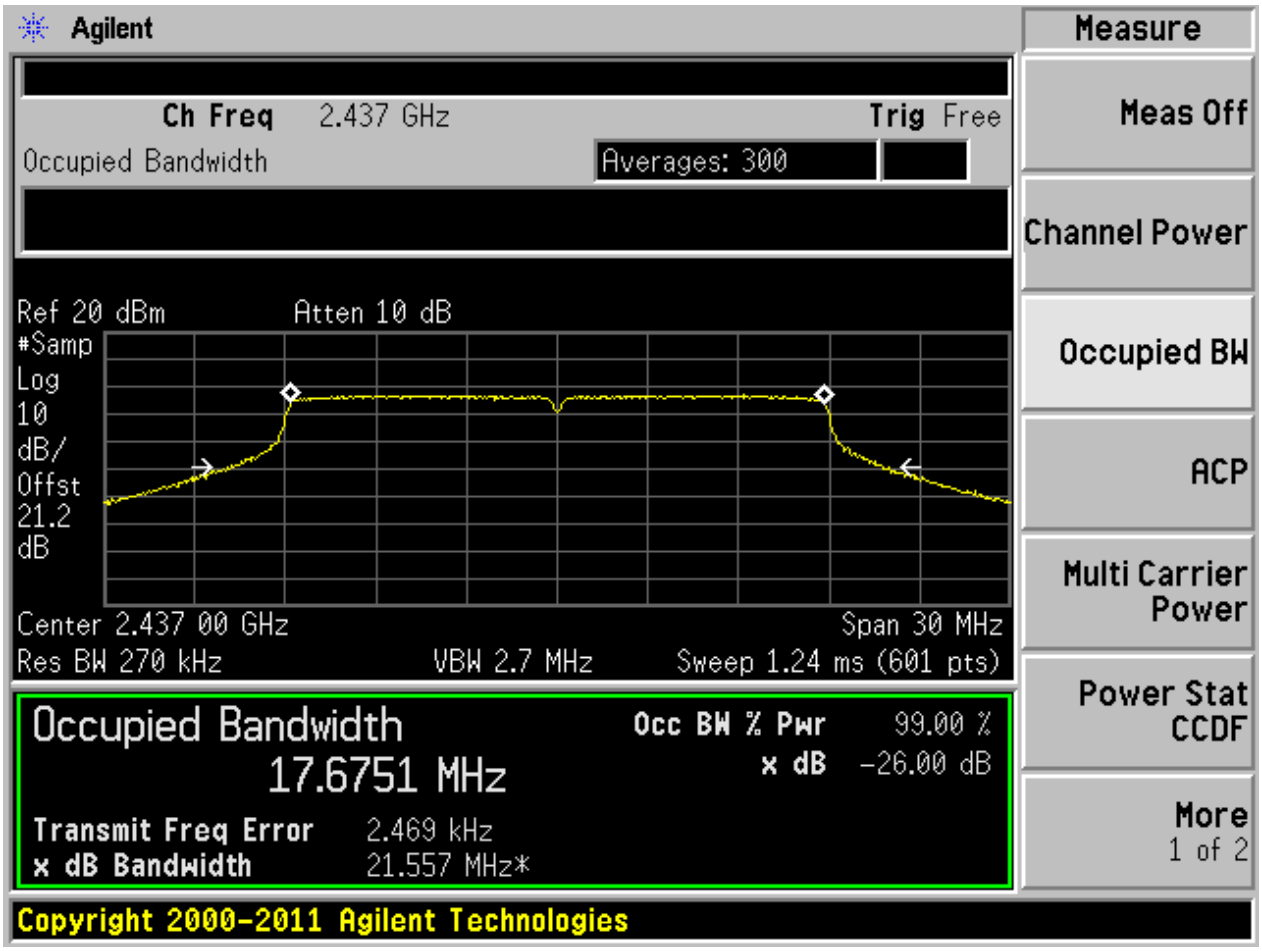
2.1411N20/0_B@2



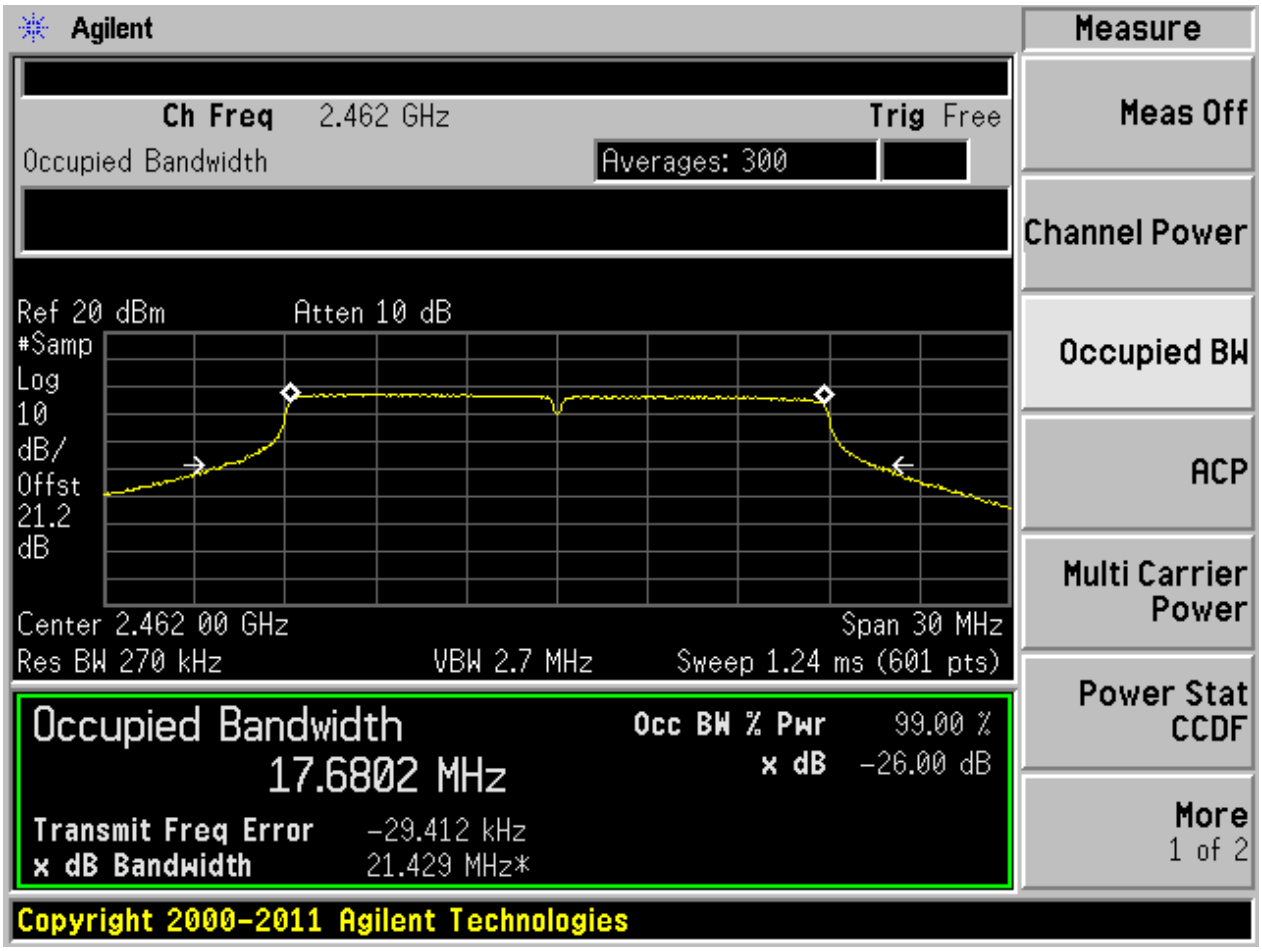
2.1511N20/0_M@1



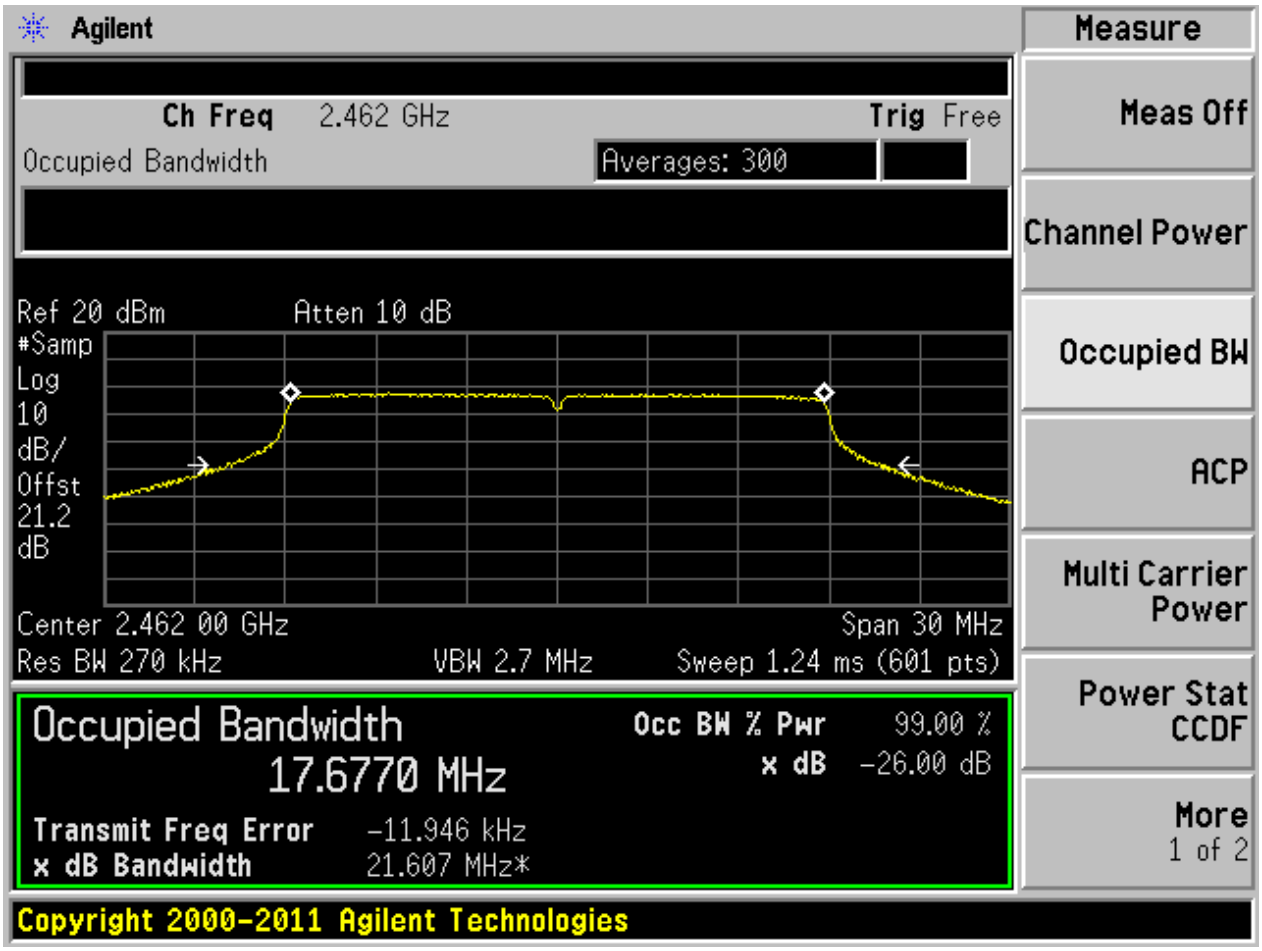
2.1611N20/0_M@2



2.1711N20/0_T@1

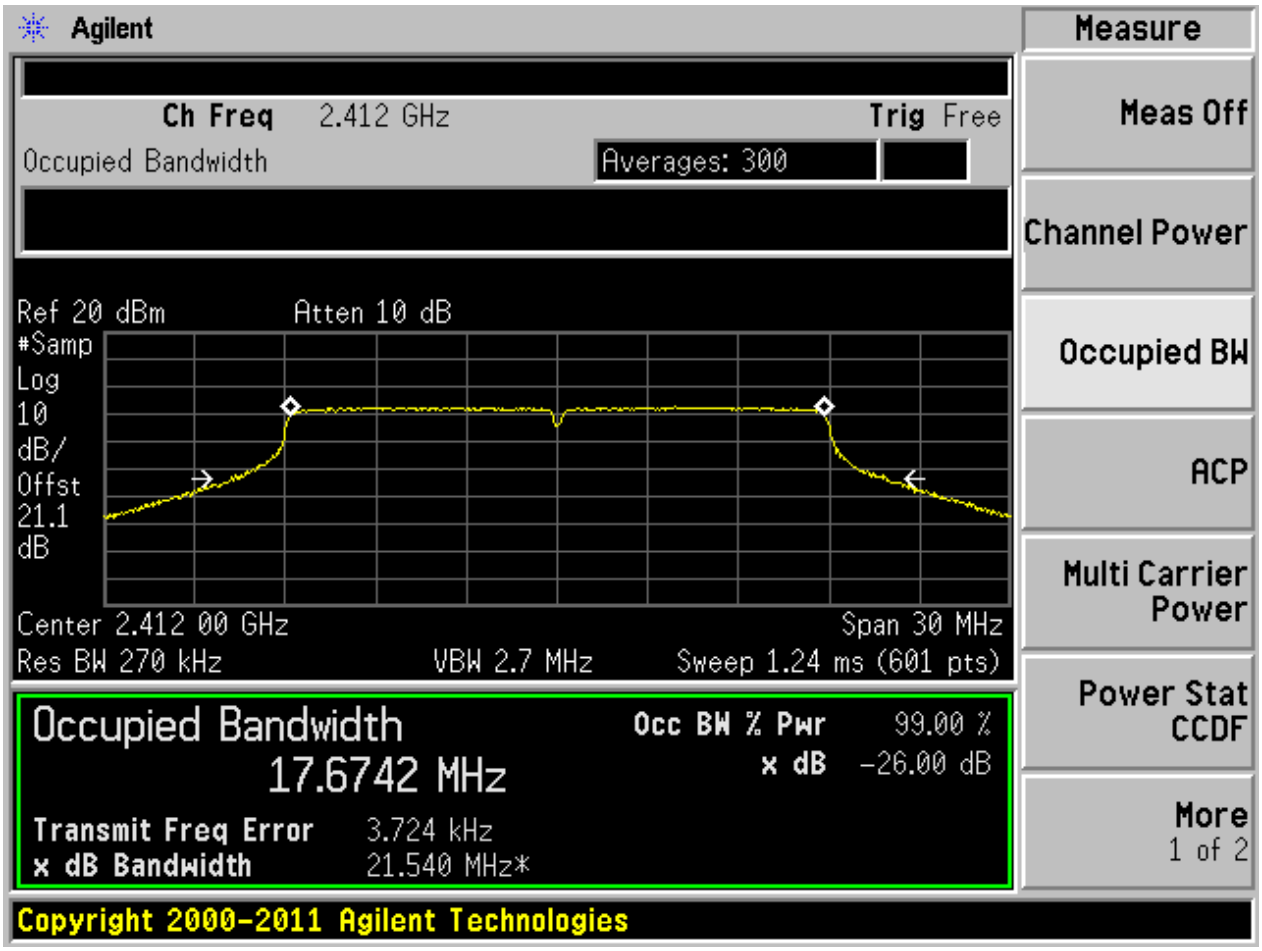


2.1811N20/0_T@2

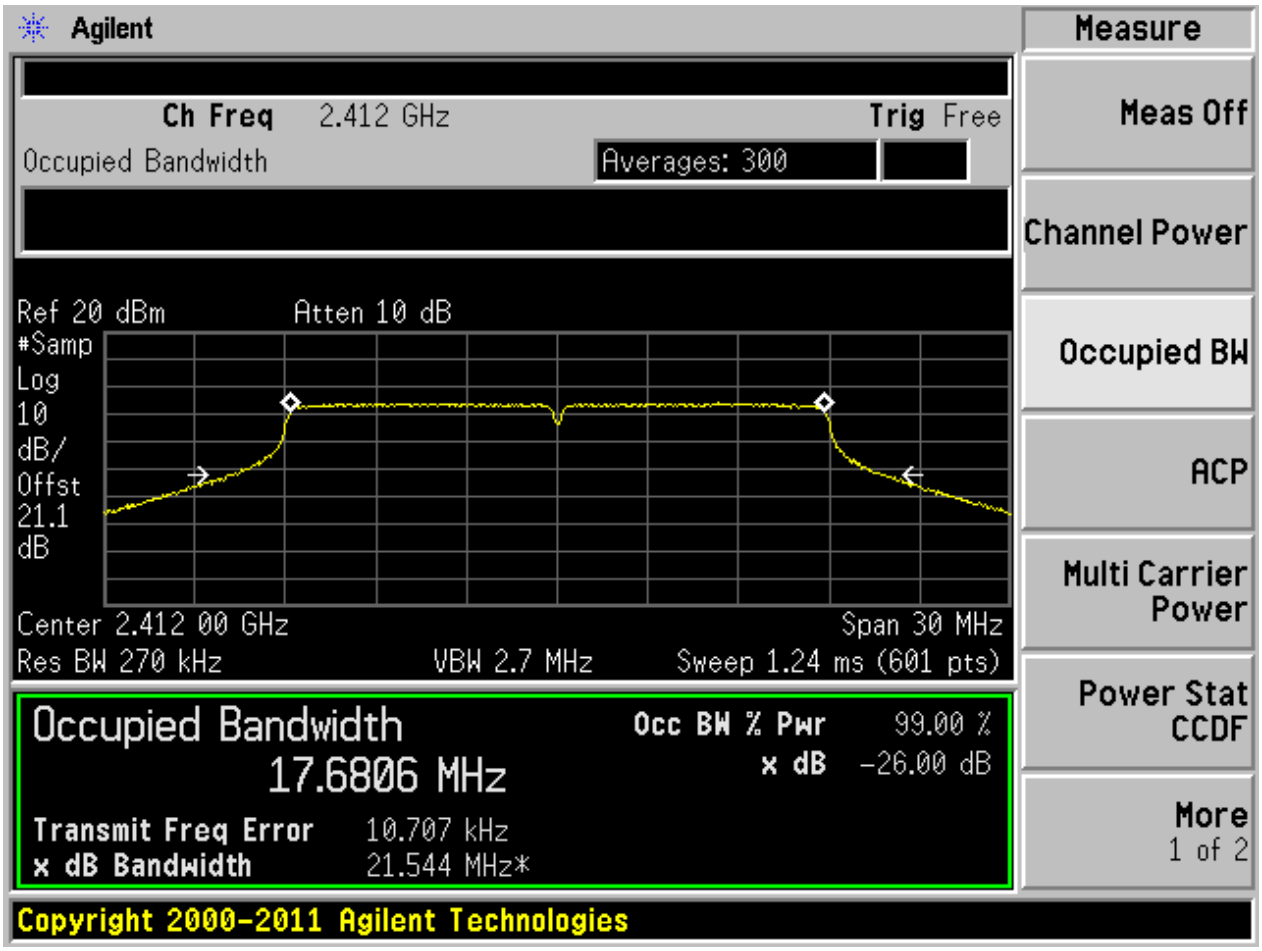


2.1911N20m/8_B@1+2

2.19.1 Ant 1

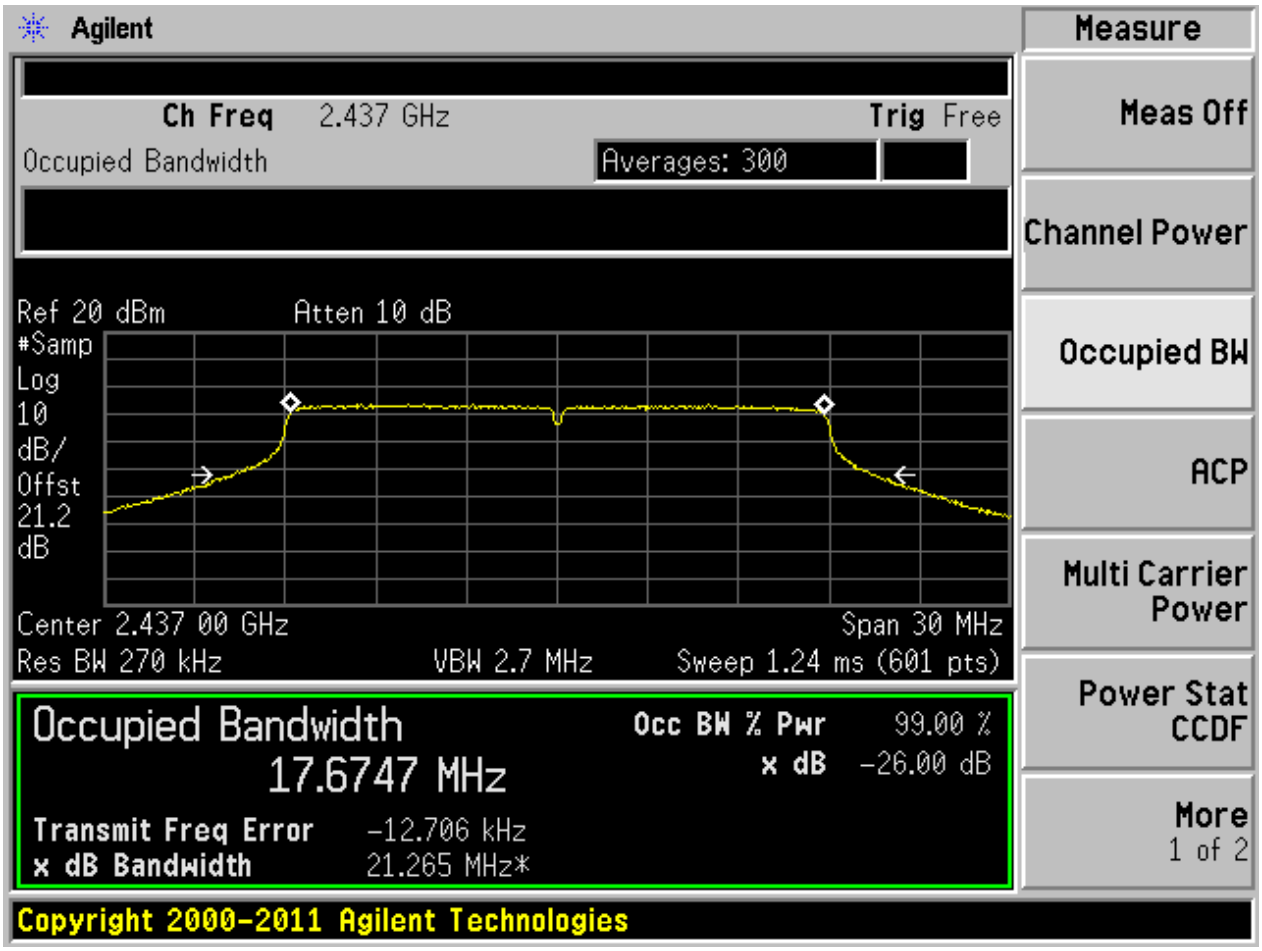


2.19.2 Ant 2

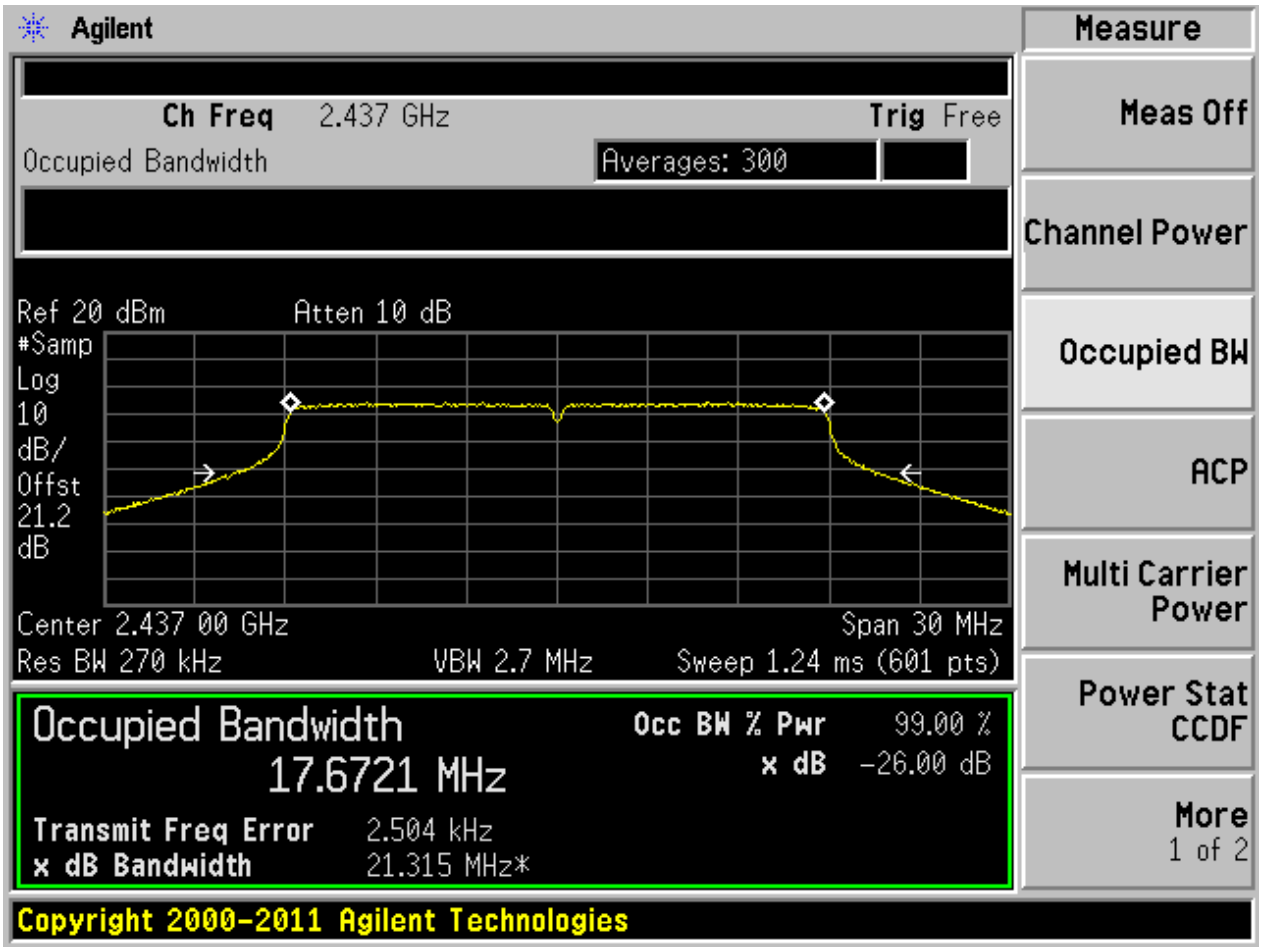


2.2011N20m/8_M@1+2

2.20.1 Ant 1

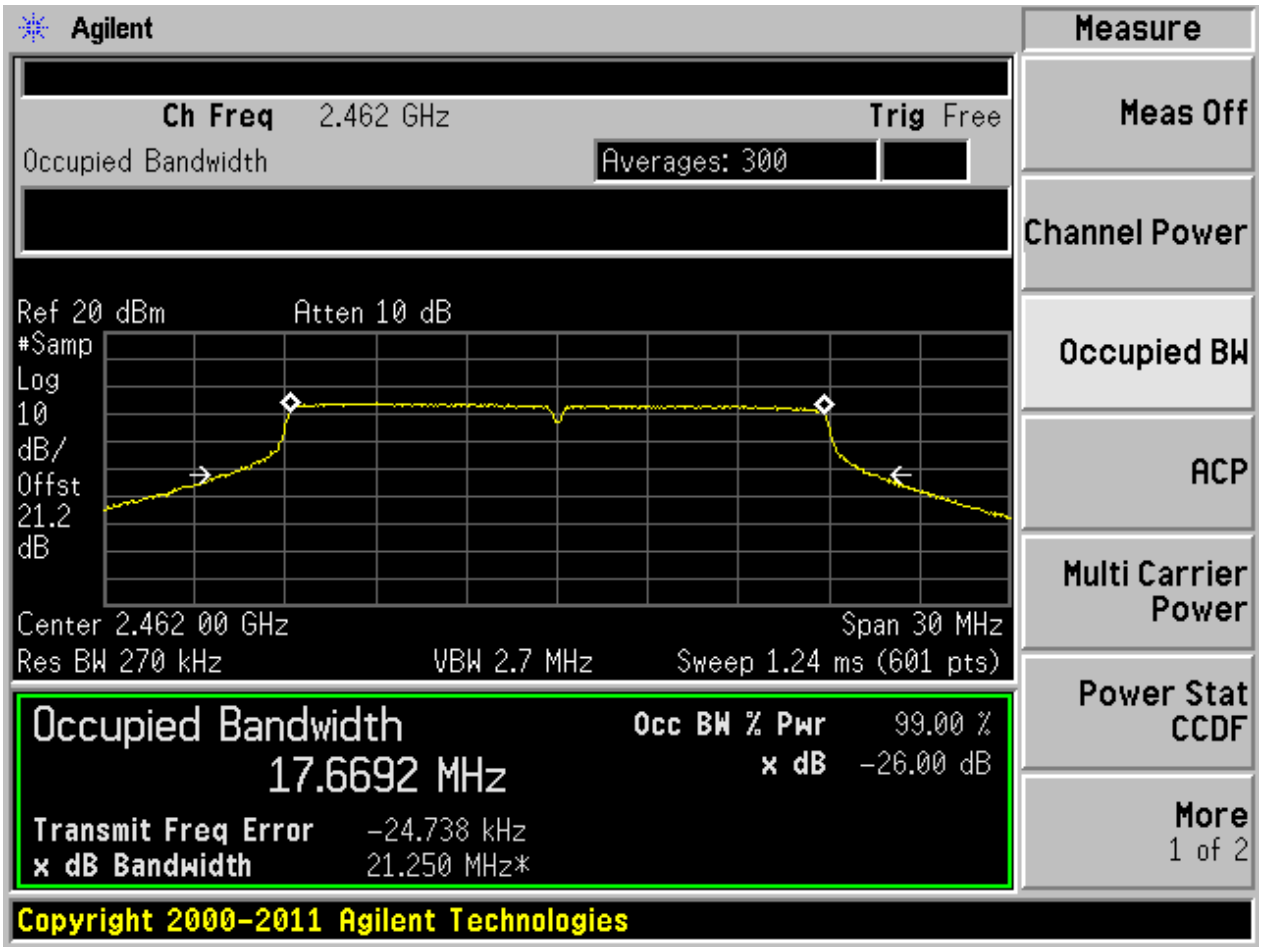


2.20.2 Ant 2

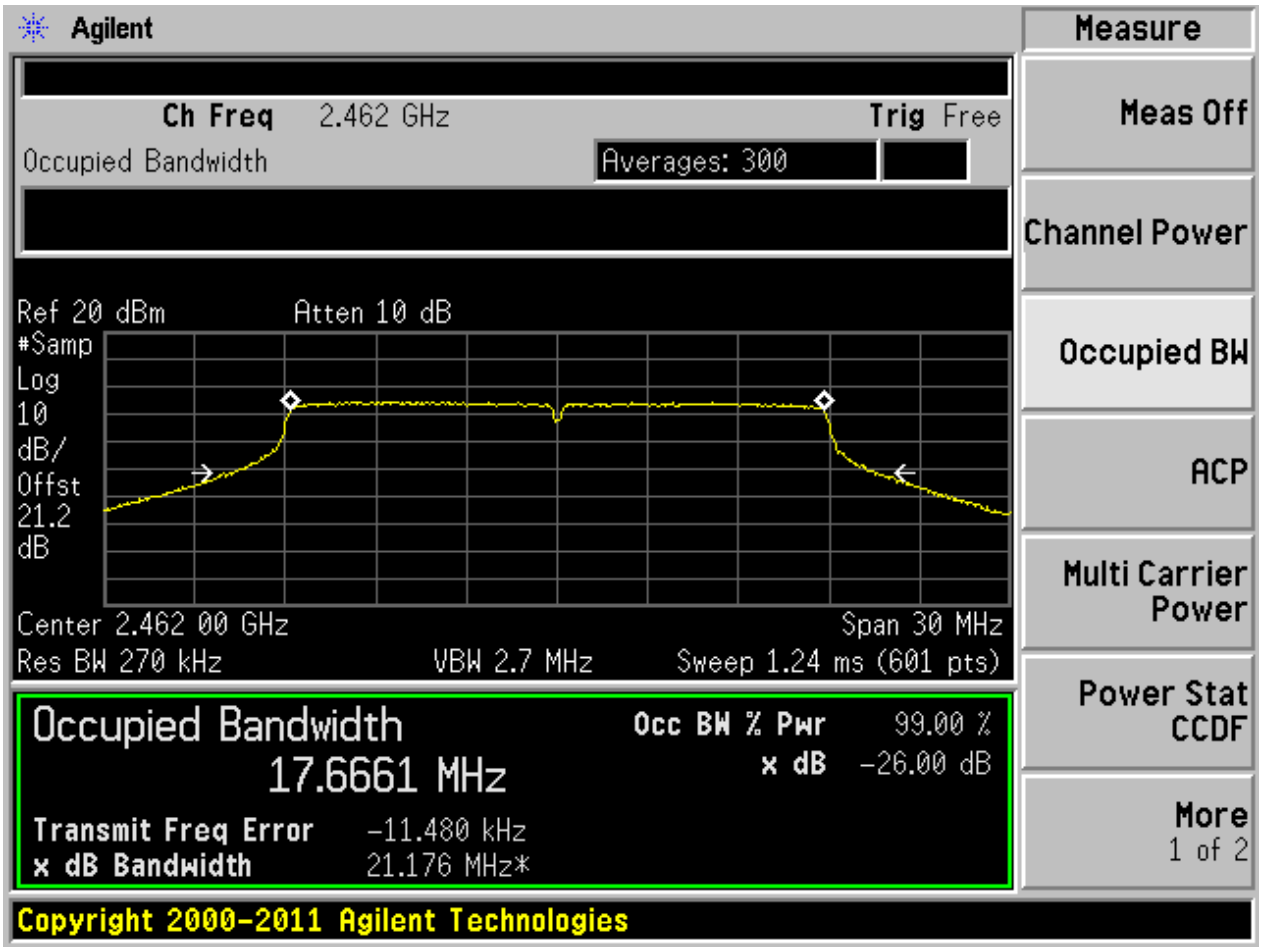


2.2111N20m/8_T@1+2

2.21.1 Ant 1



2.21.2 Ant 2



Appendix B: Maximum Peak Conducted Output Power

1 Result Table

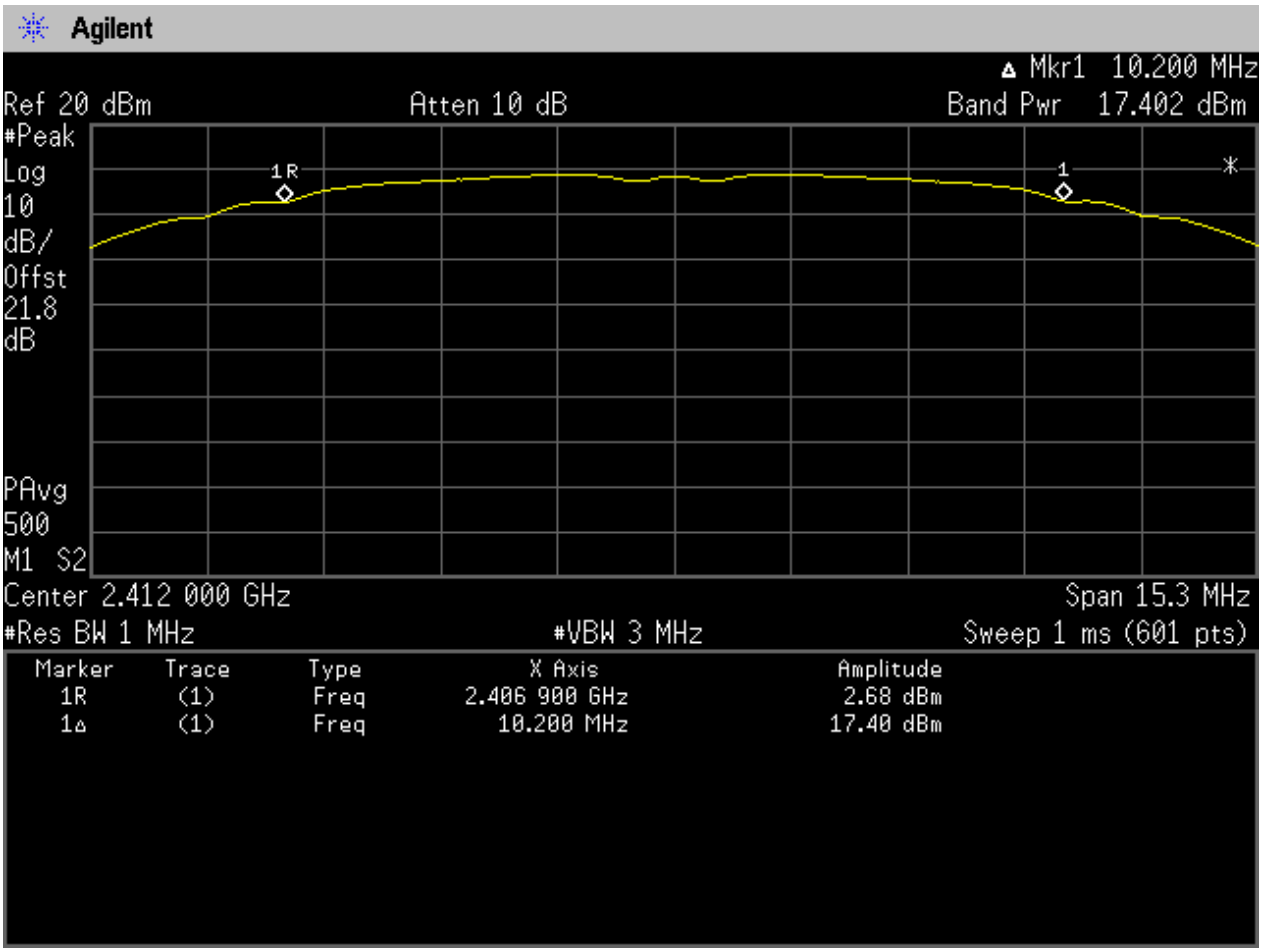
NOTE 1: In this Appendix, the Pmax refers to the measured “Maximum Peak Conducted Output Power” value. According to the description of FCC OET KDB 558074, the fc(DTS6dBBW) (as the DTS6dBBW band edges) from “DTS (6 dB) Bandwidth” is used to determine the integrated band power.

NOTE 2: For measurements on smart antenna systems (devices with multiple transmit chains), the test is performed at each chain, and then combined into a final result Pmax which is the calculated linear sum of each result “Pmax@Ant i” with i = 1 to N (the N denotes the antenna ports used by smart antenna systems).

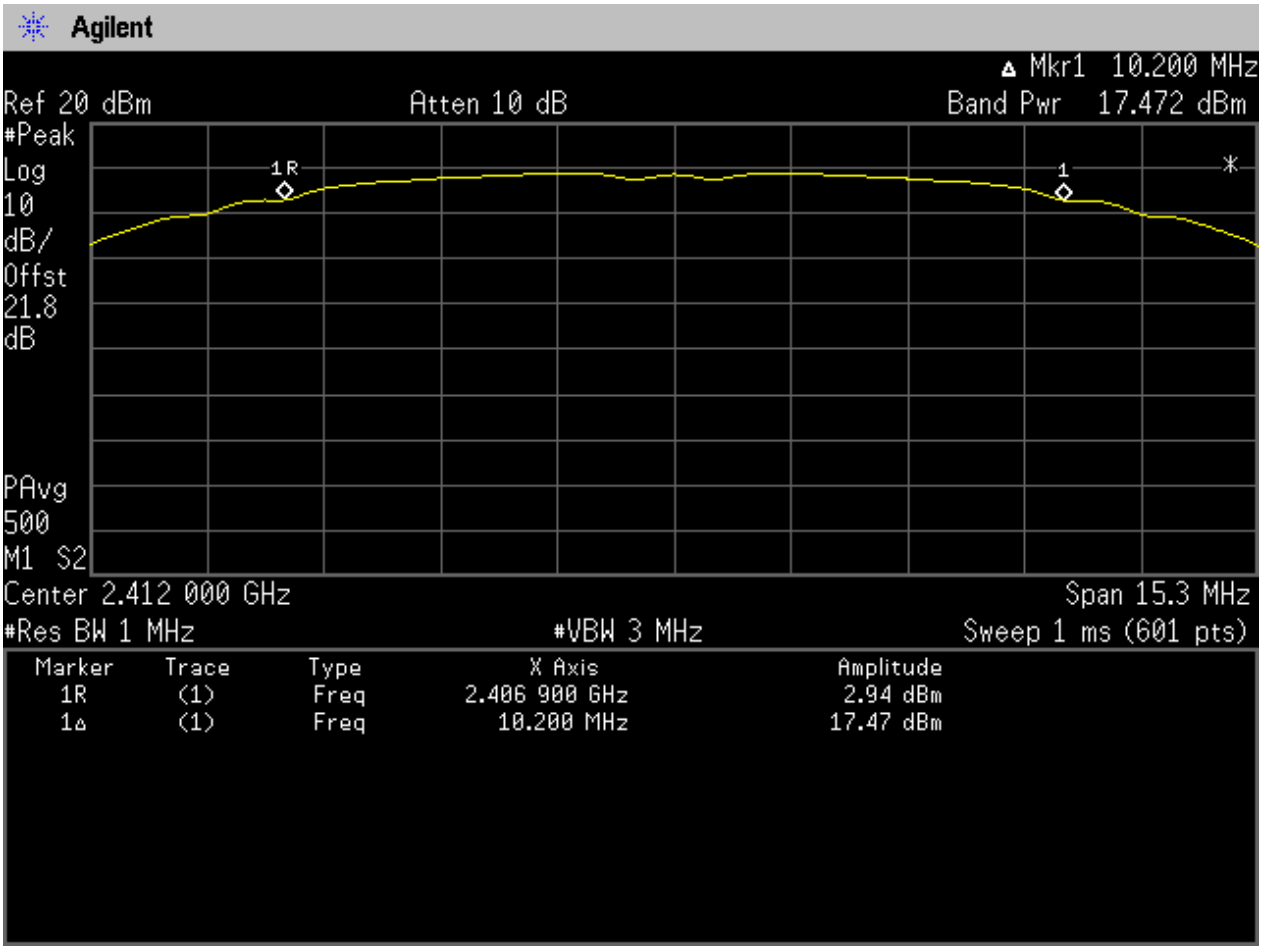
EUT Conf.	Pmax@Ant 1 [dBm]	Pmax@Ant 2 [dBm]	Pmax [dBm]	Verdict
11B/1_B@1	17.4	---	17.4	Pass
11B/1_B@2	---	17.47	17.47	Pass
11B/1_M@1	18.26	---	18.26	Pass
11B/1_M@2	---	17.95	17.95	Pass
11B/1_T@1	17.71	---	17.71	Pass
11B/1_T@2	---	16.61	16.61	Pass
11G/6_B@1	23	---	23	Pass
11G/6_B@2	---	22.57	22.57	Pass
11G/6_M@1	23.71	---	23.71	Pass
11G/6_M@2	---	23.02	23.02	Pass
11G/6_T@1	23.38	---	23.38	Pass
11G/6_T@2	---	22.17	22.17	Pass
11N20/0_B@1	23.03	---	23.03	Pass
11N20/0_B@2	---	22.64	22.64	Pass
11N20/0_M@1	23.67	---	23.67	Pass
11N20/0_M@2	---	22.86	22.86	Pass
11N20/0_T@1	23.35	---	23.35	Pass
11N20/0_T@2	---	22.02	22.02	Pass
11N20m/8_B@1+2	20.47	20.36	23.43	Pass
11N20m/8_M@1+2	20.97	20.64	23.82	Pass
11N20m/8_T@1+2	20.07	20.14	23.12	Pass

2 Test Plot

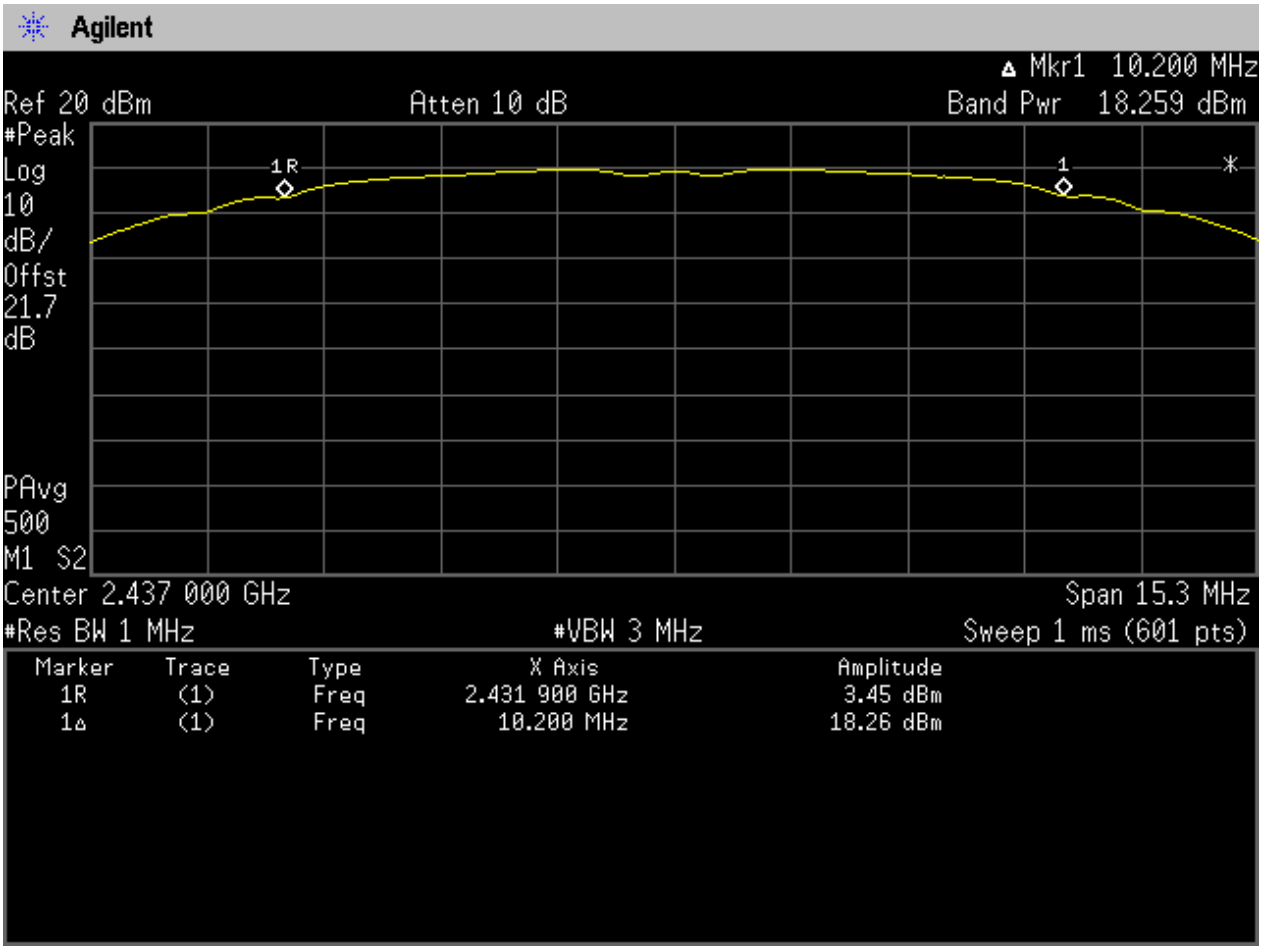
2.1 11B/1_B@1



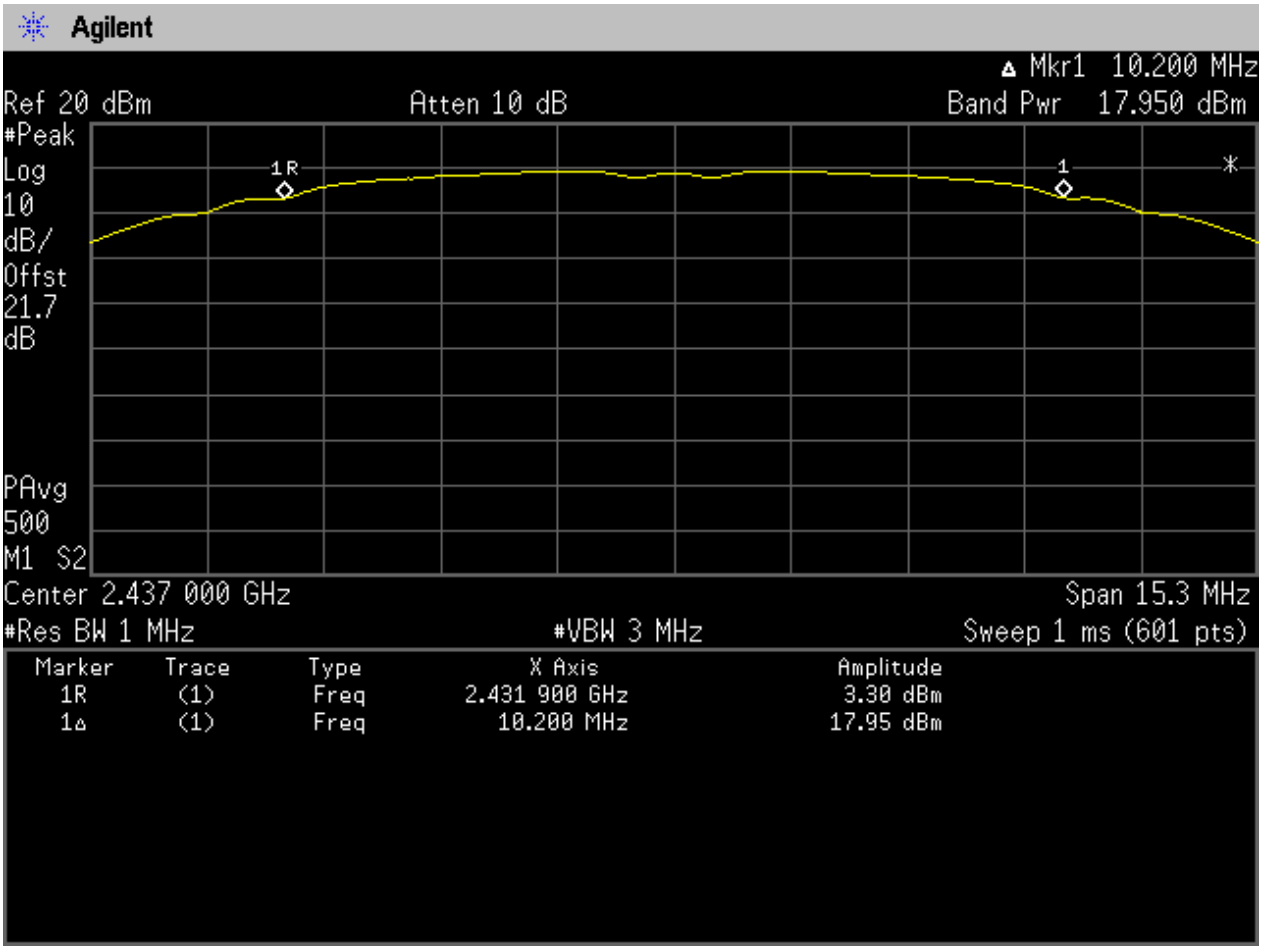
2.2 11B/1_B@2



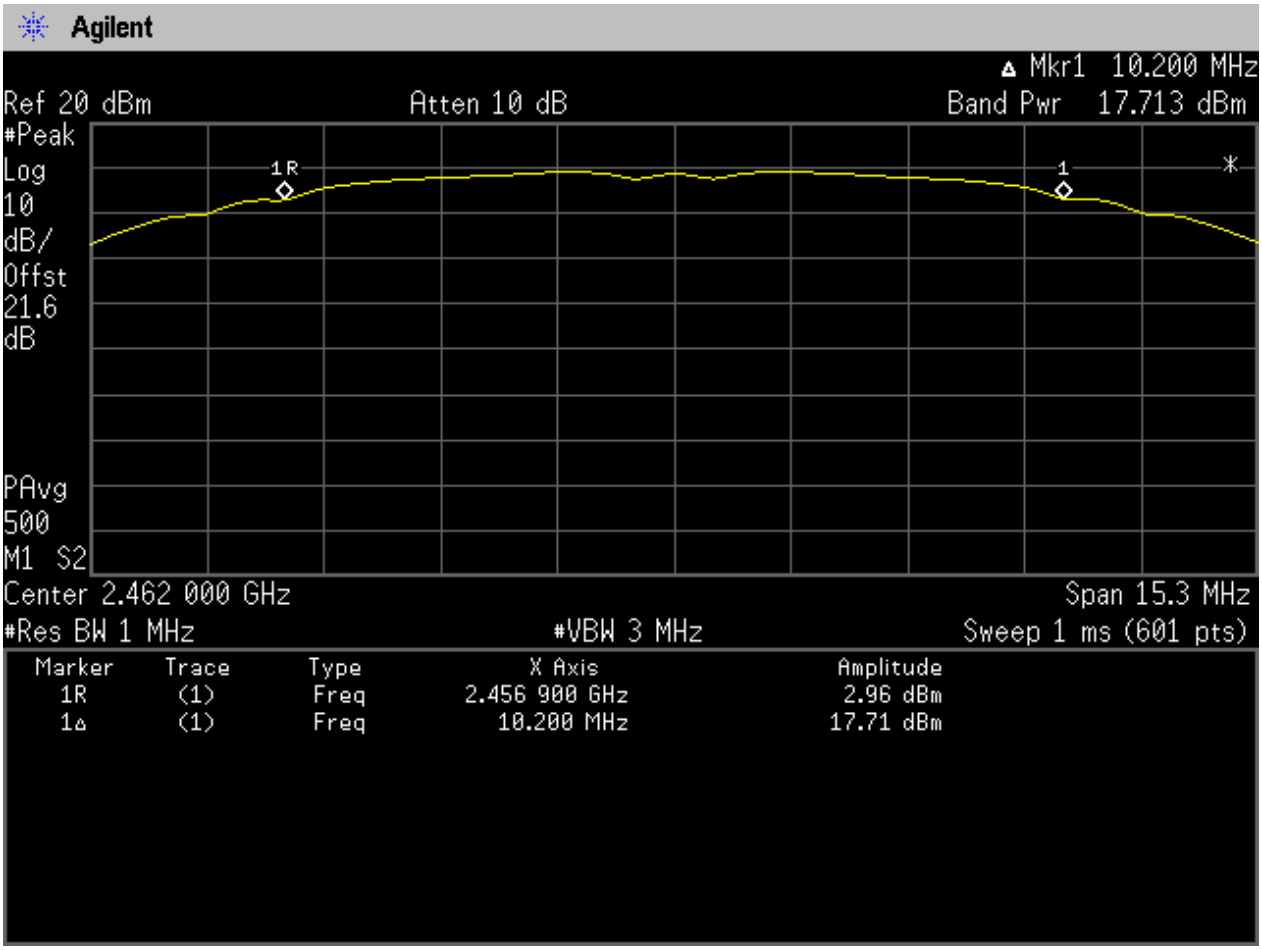
2.3 11B/1_M@1



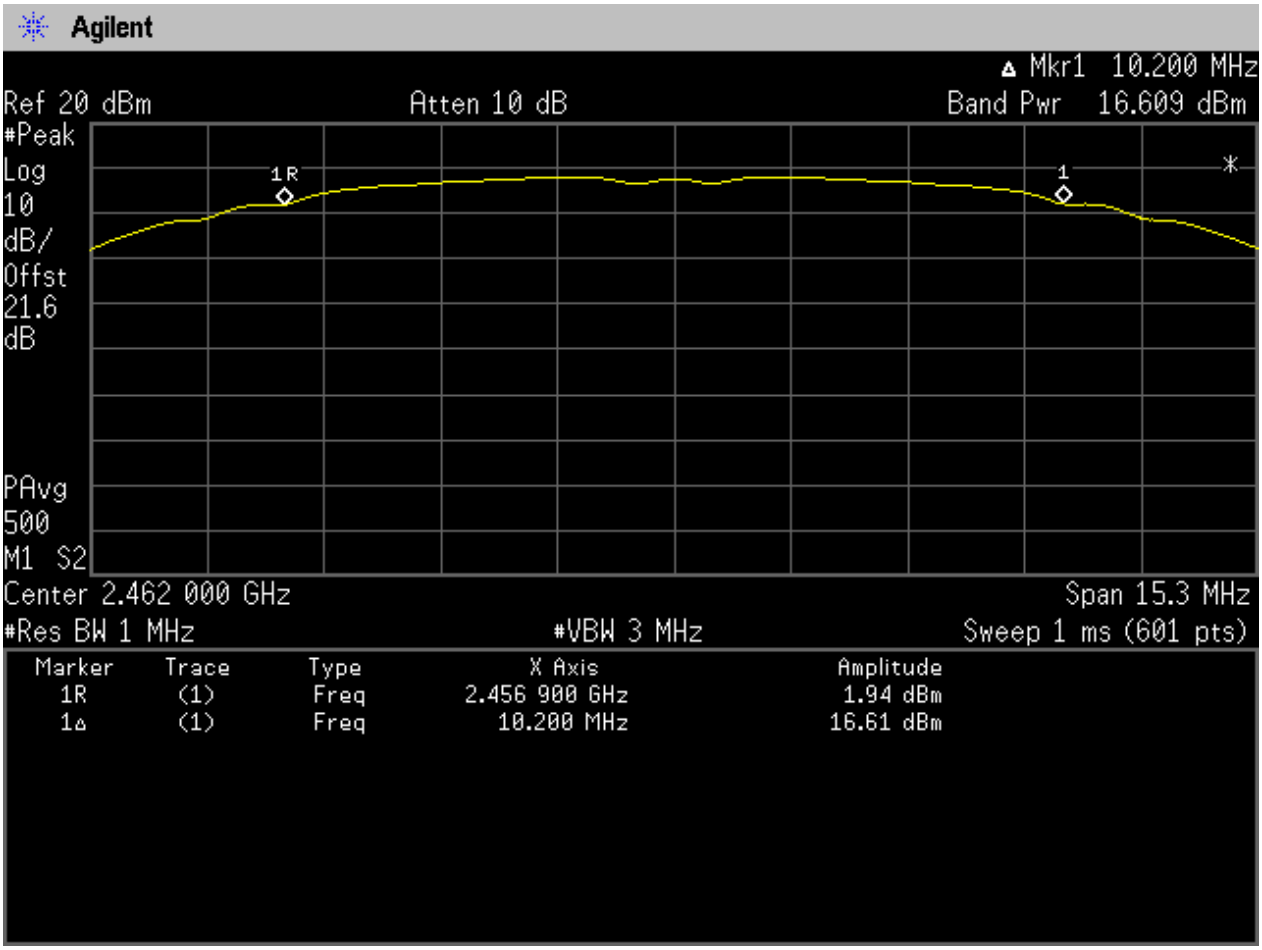
2.4 11B/1_M@2



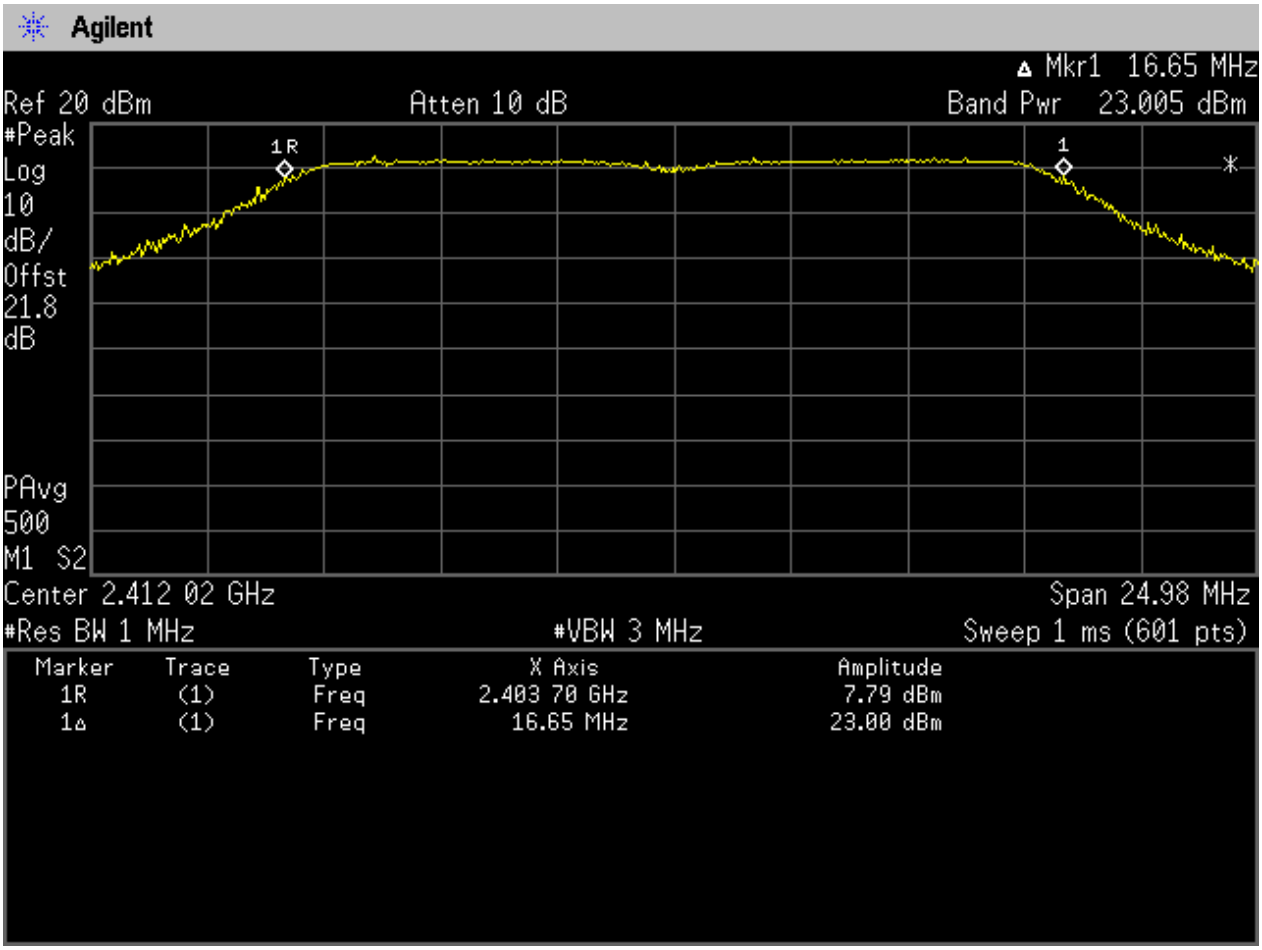
2.5 11B/1_T@1



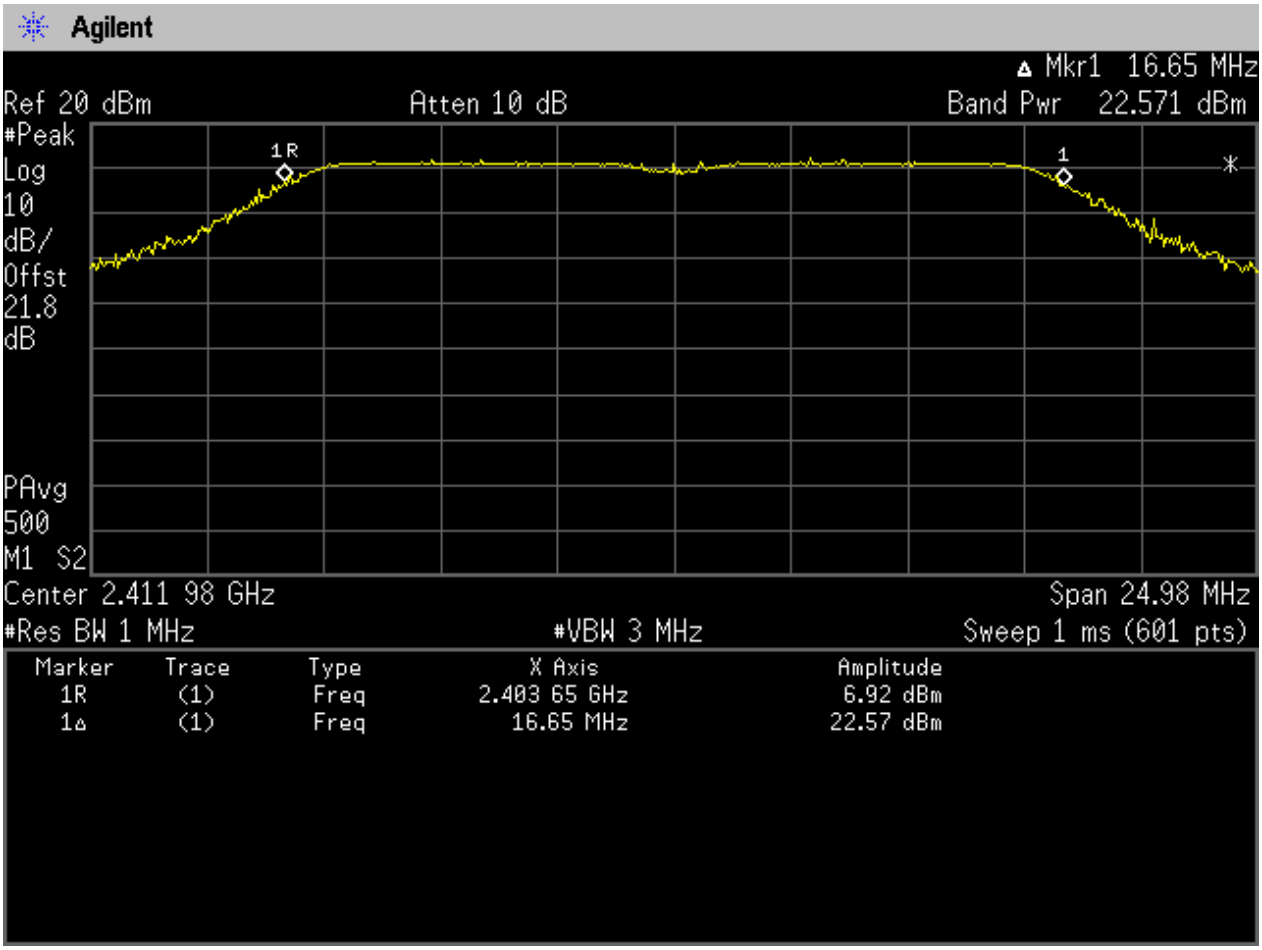
2.6 11B/1_T@2



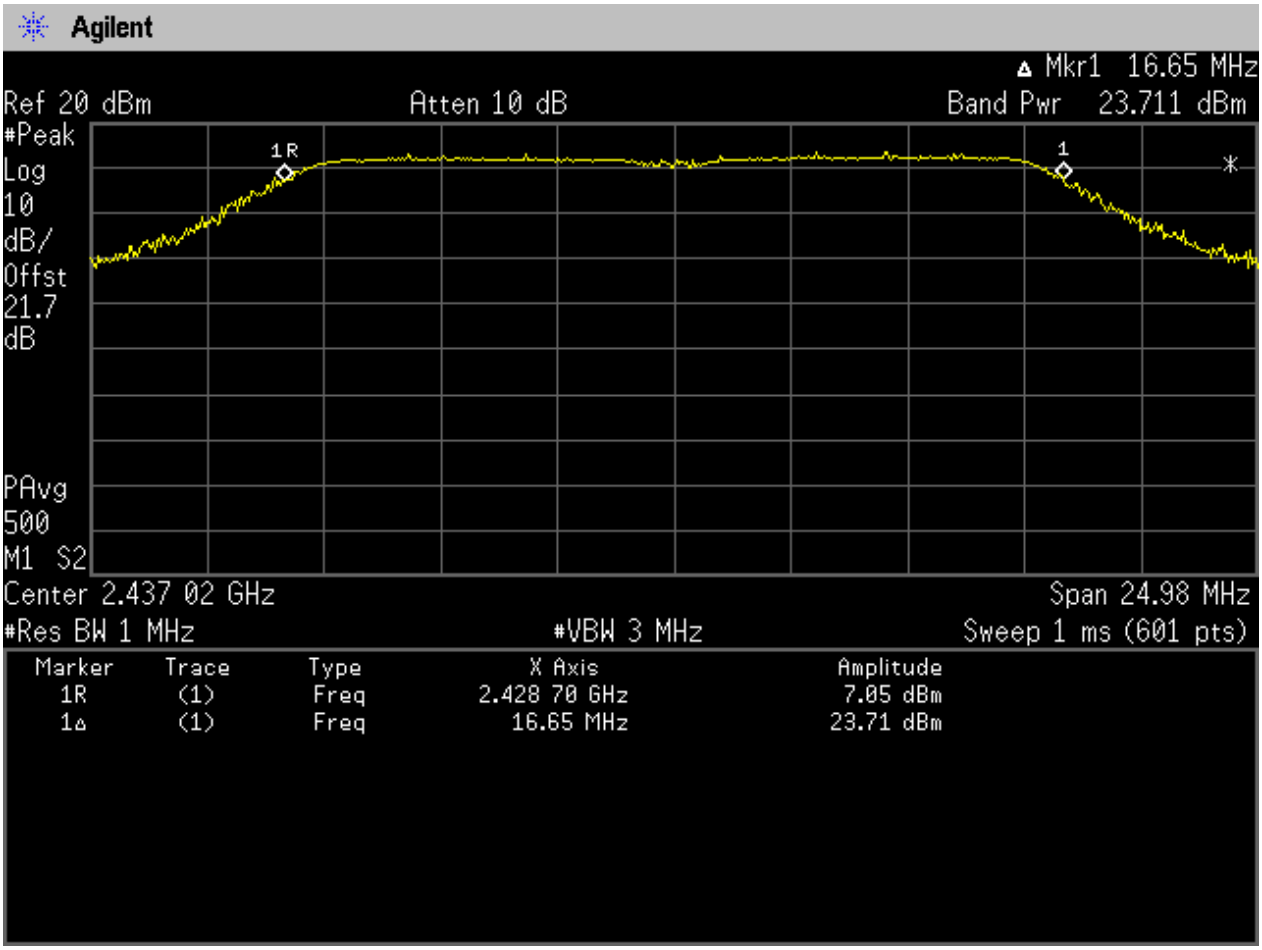
2.7 11G/6_B@1



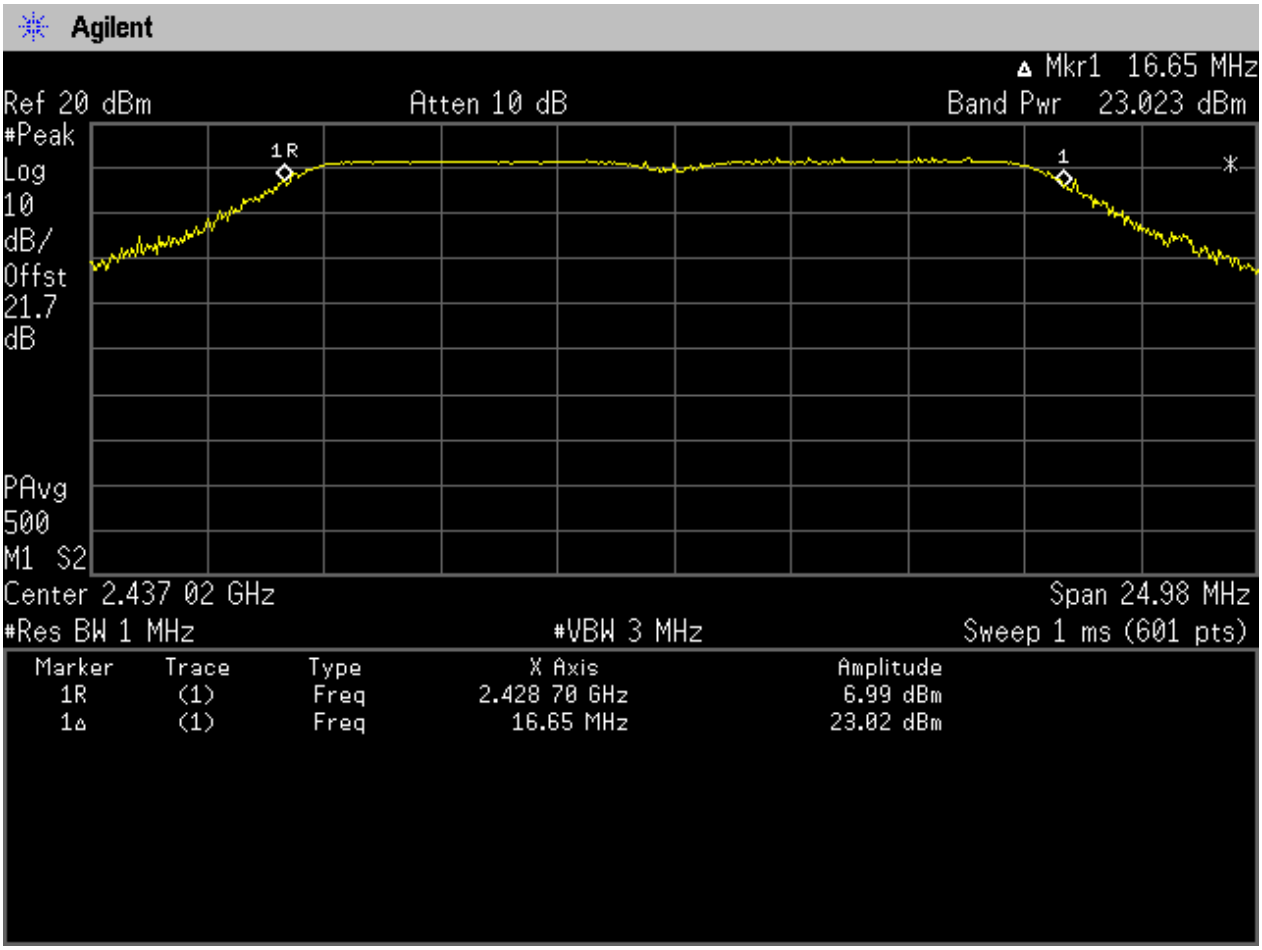
2.8 11G/6_B@2



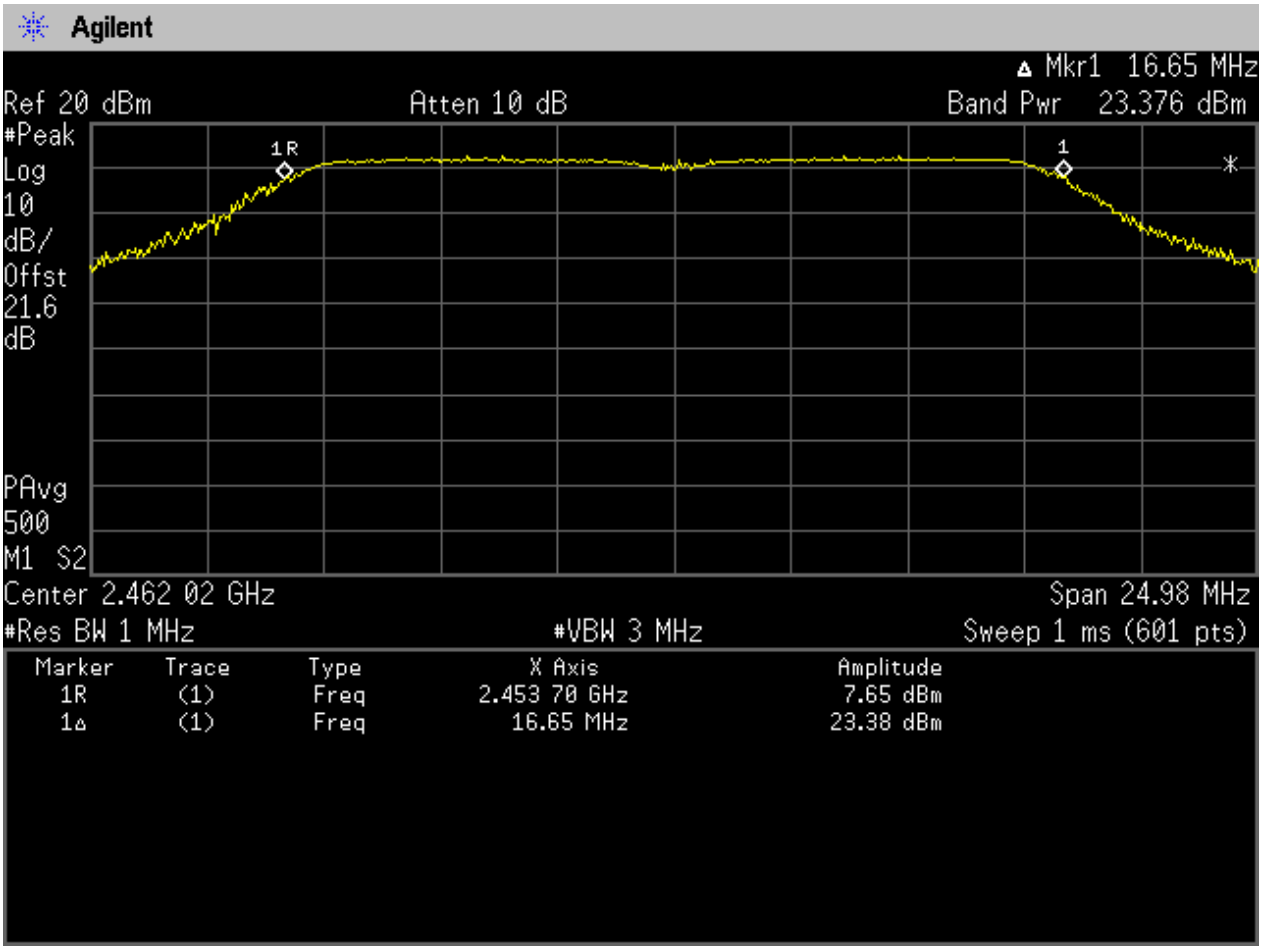
2.9 11G/6_M@1



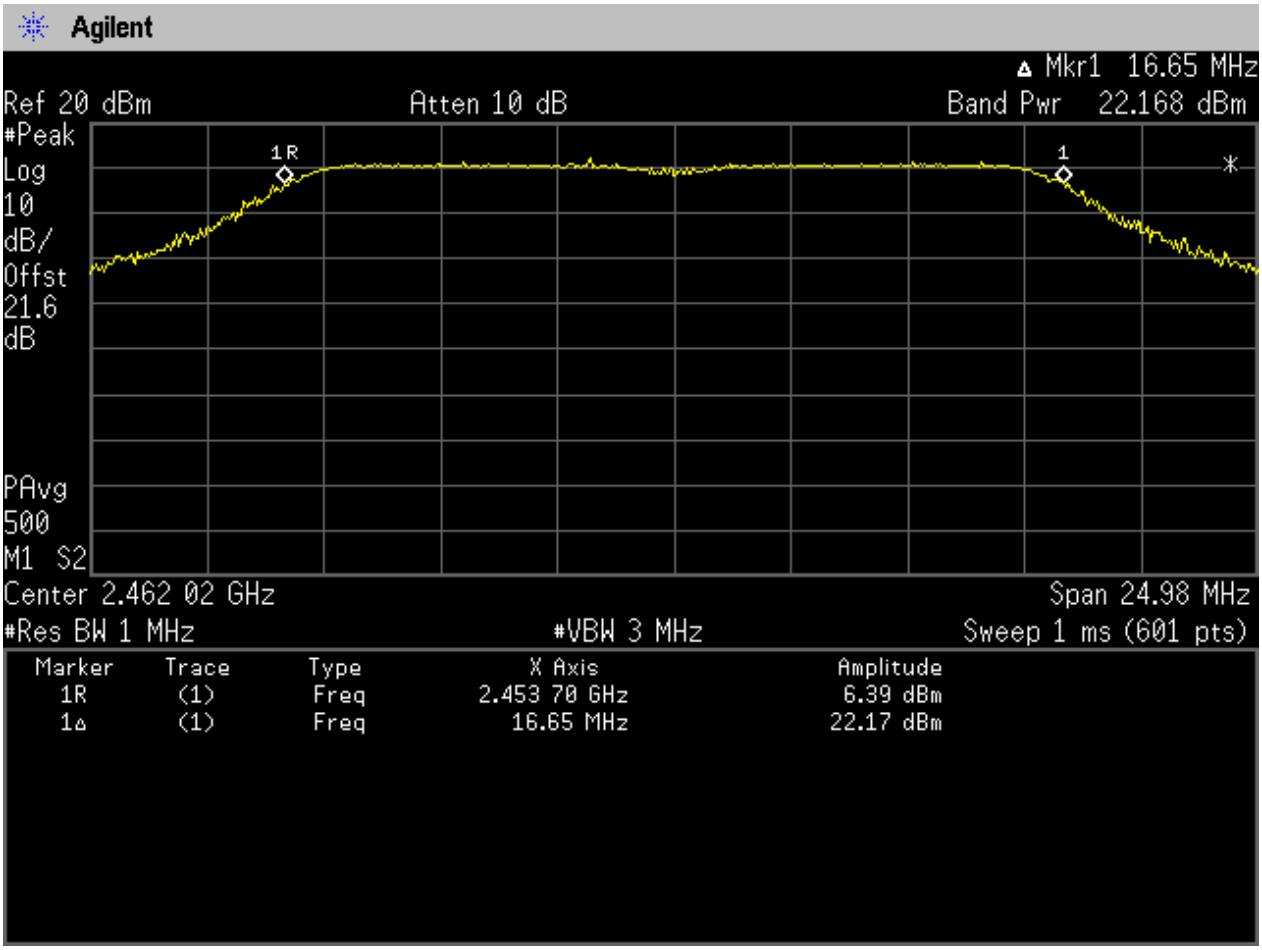
2.1011G/6_M@2



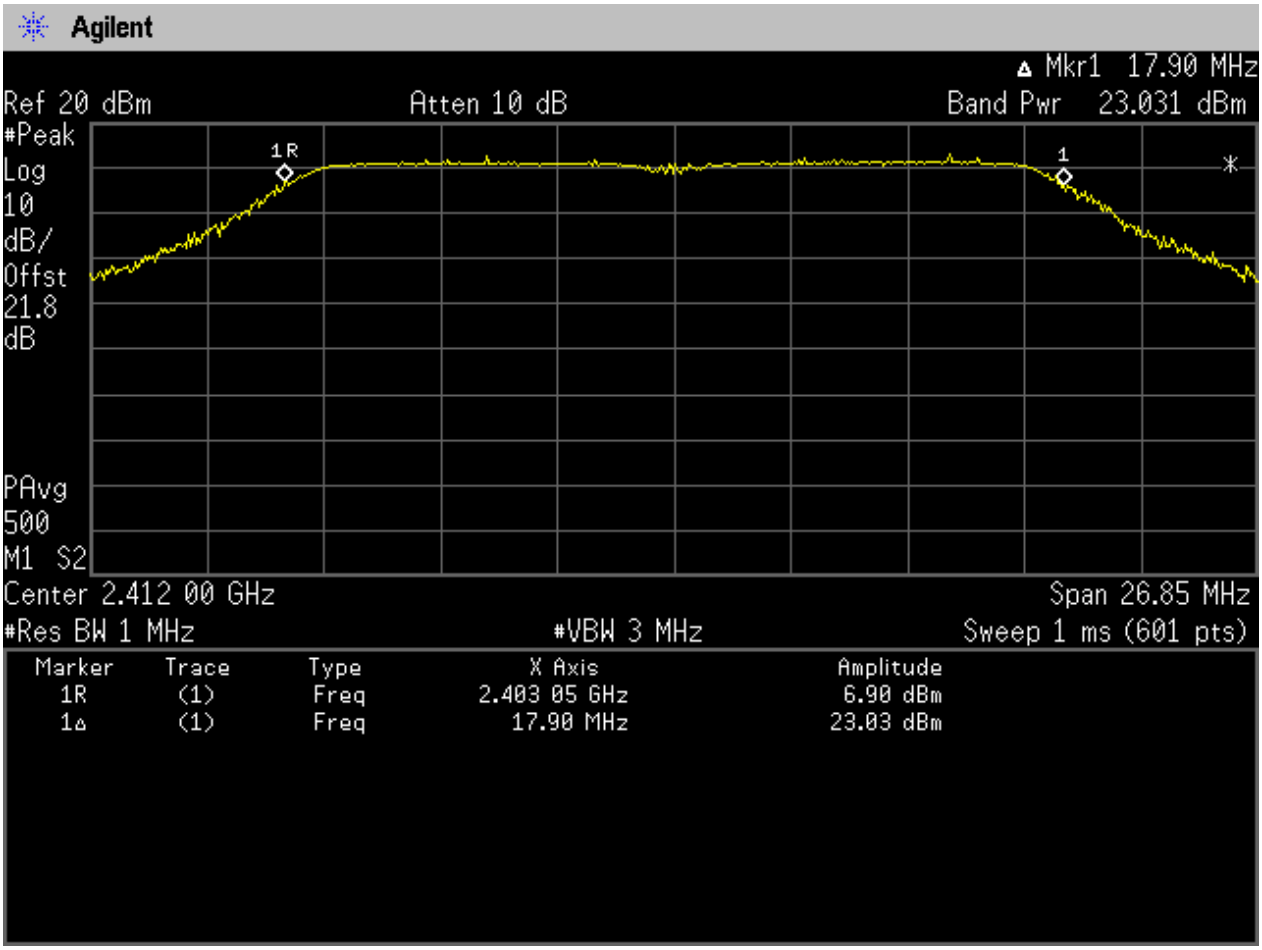
2.1111G/6_T@1



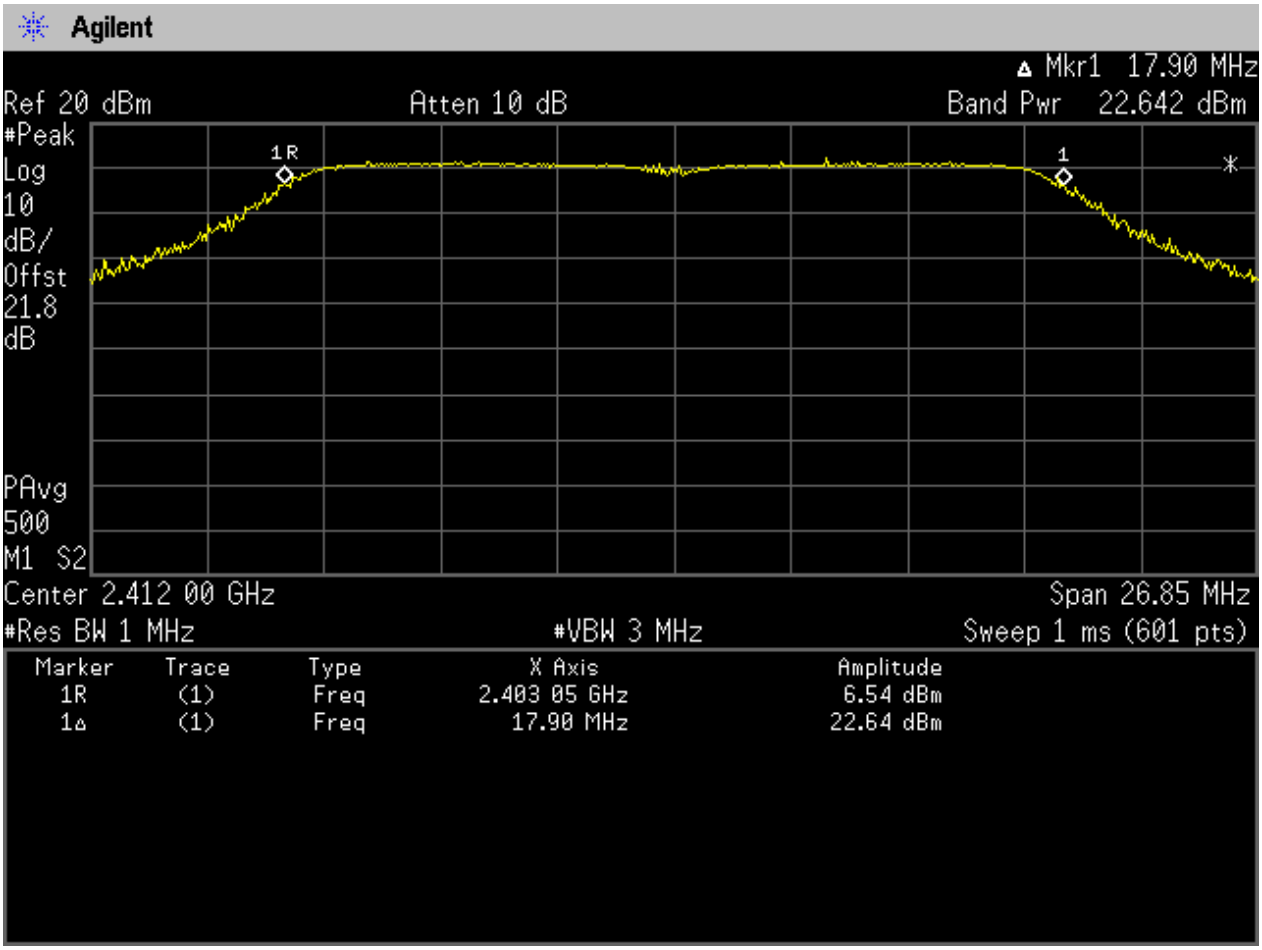
2.1211G/6_T@2



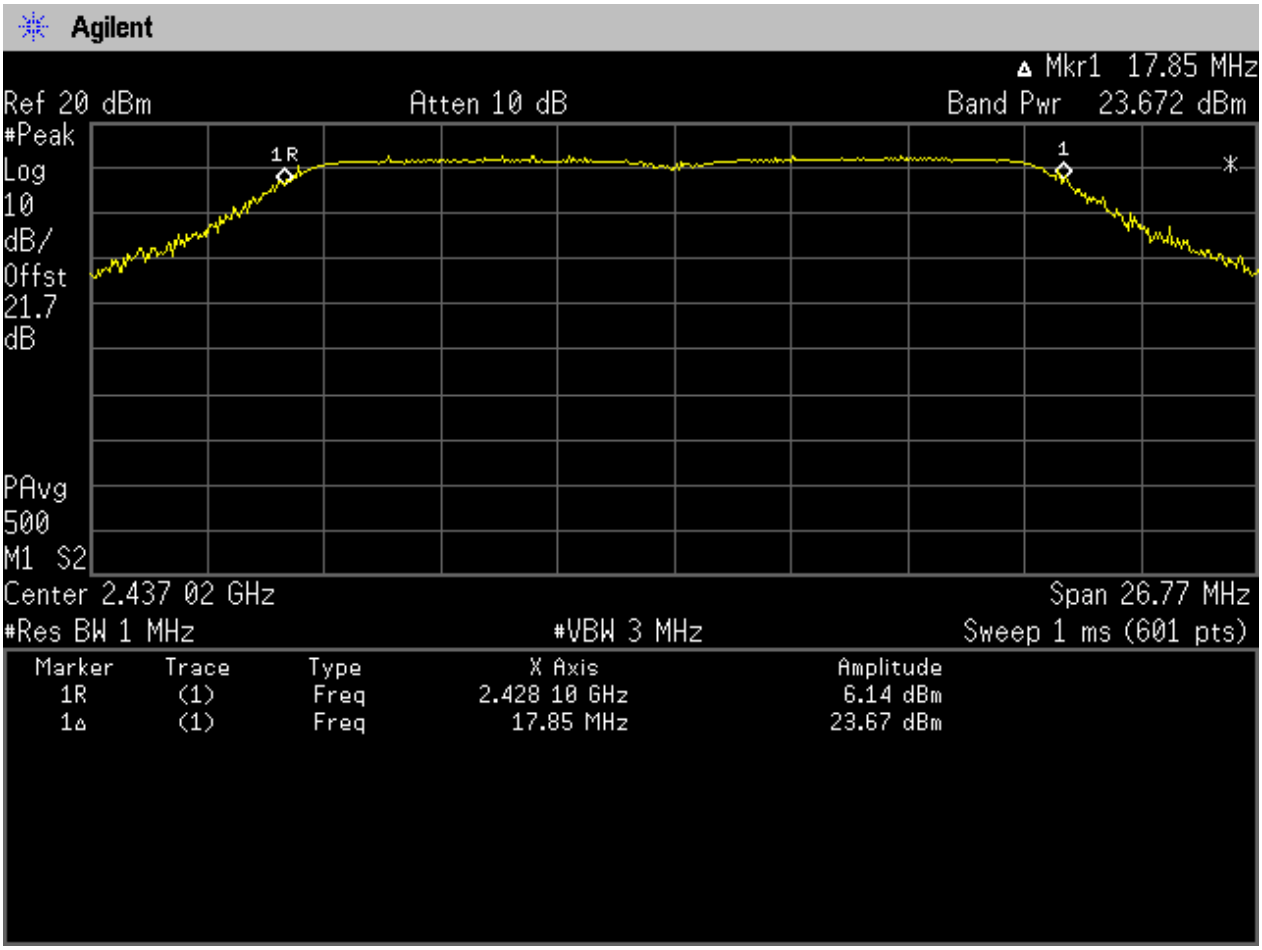
2.1311N20/0_B@1



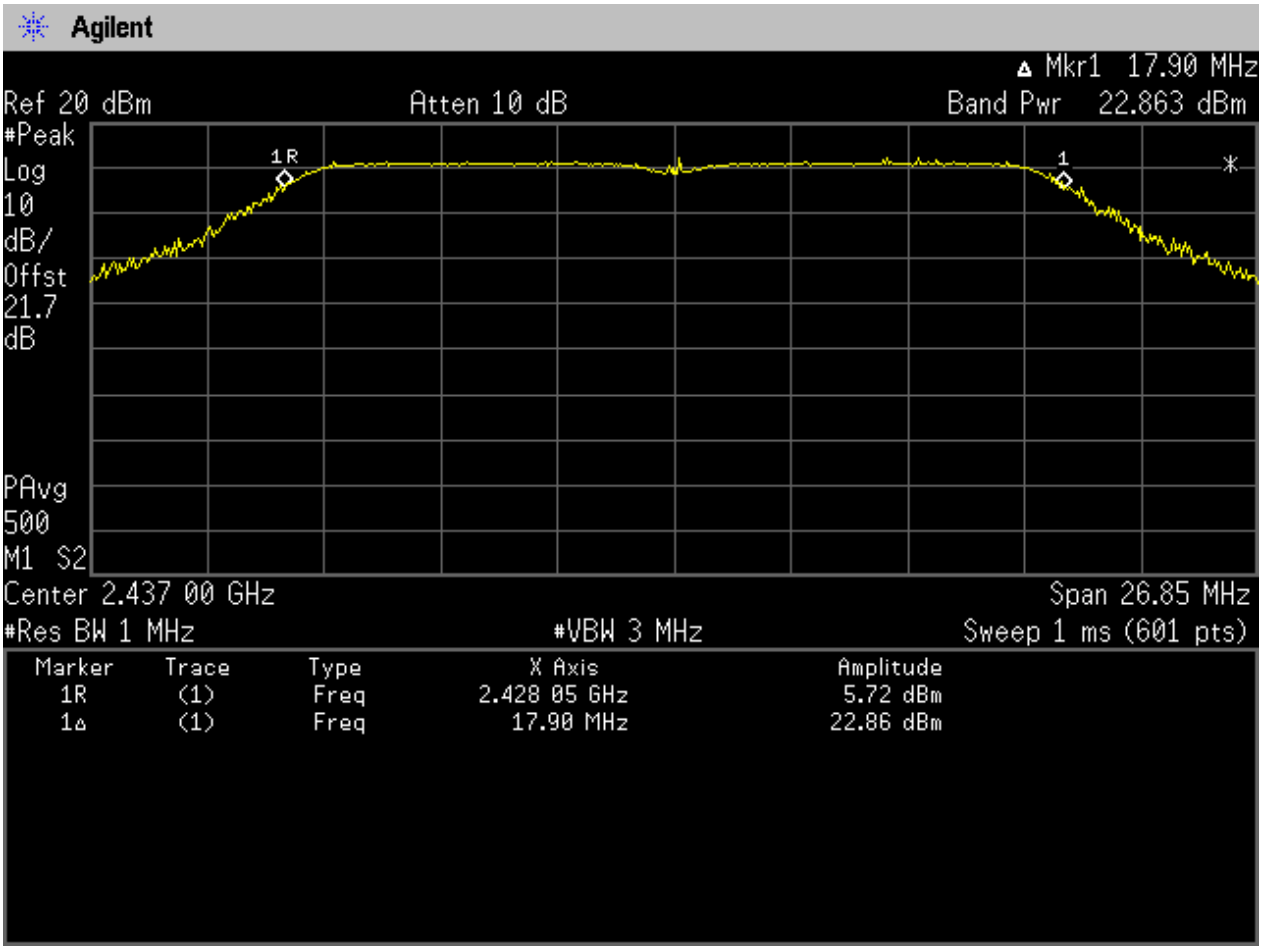
2.1411N20/0_B@2



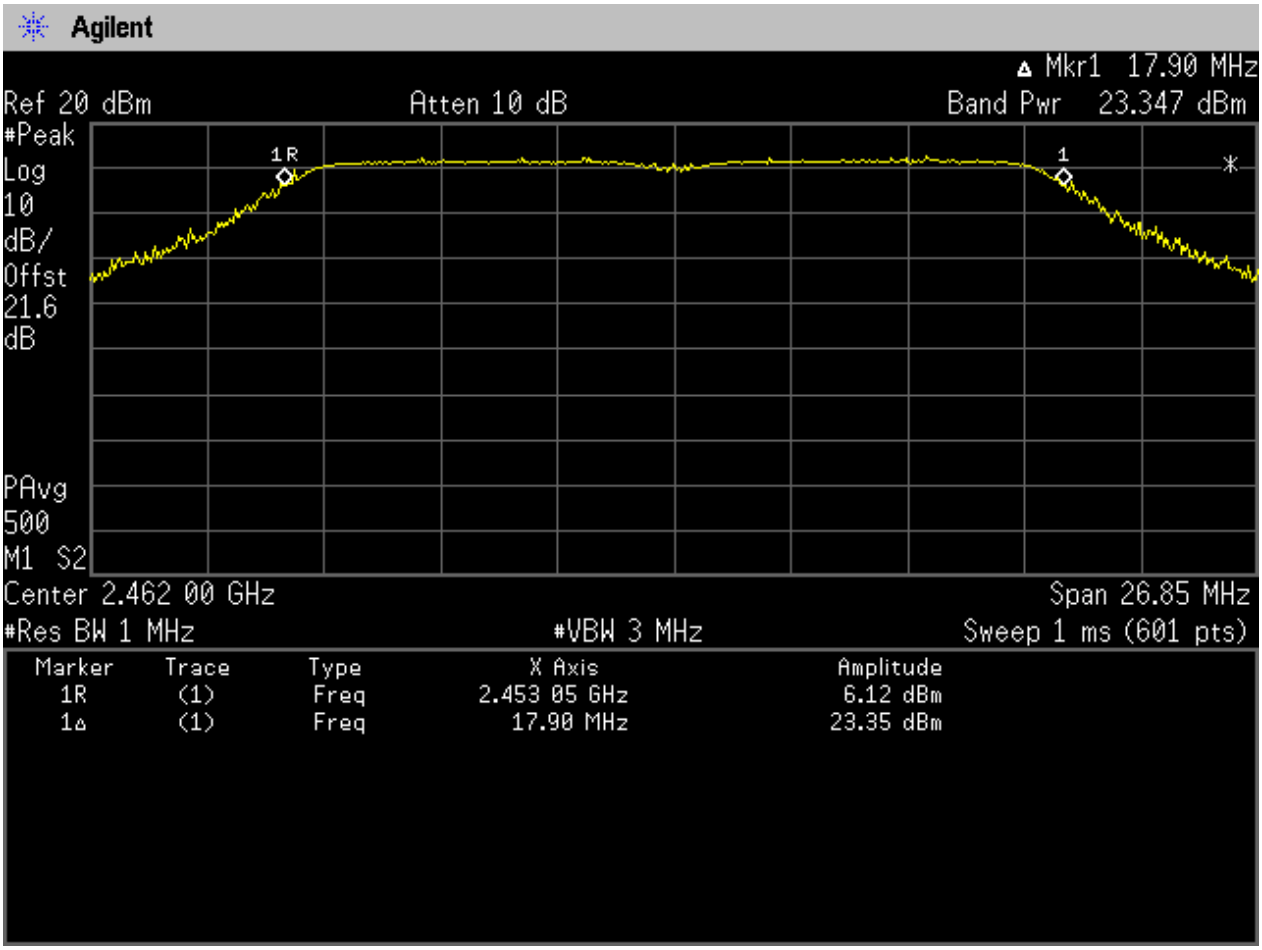
2.1511N20/0_M@1



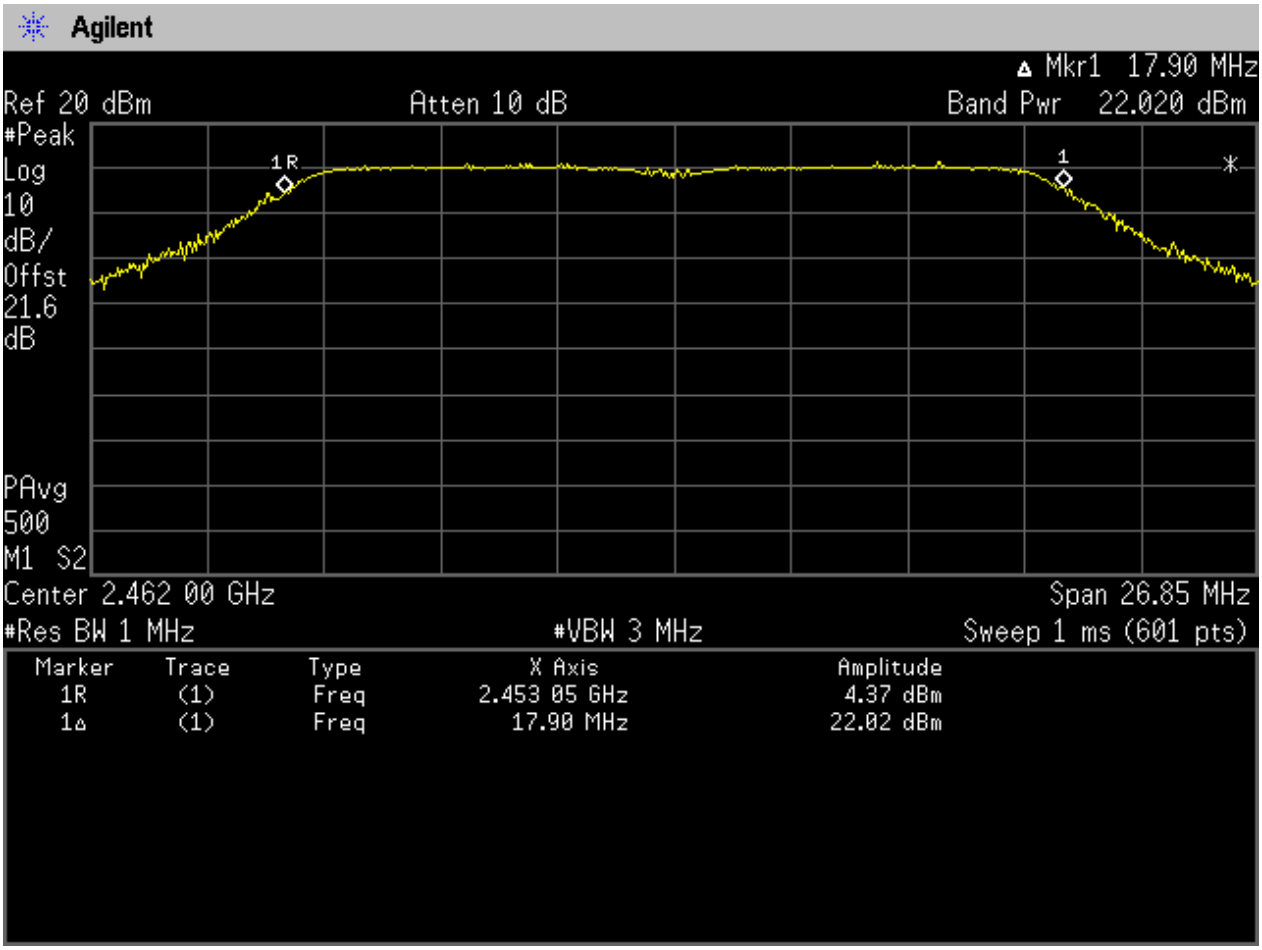
2.1611N20/0_M@2



2.1711N20/0_T@1

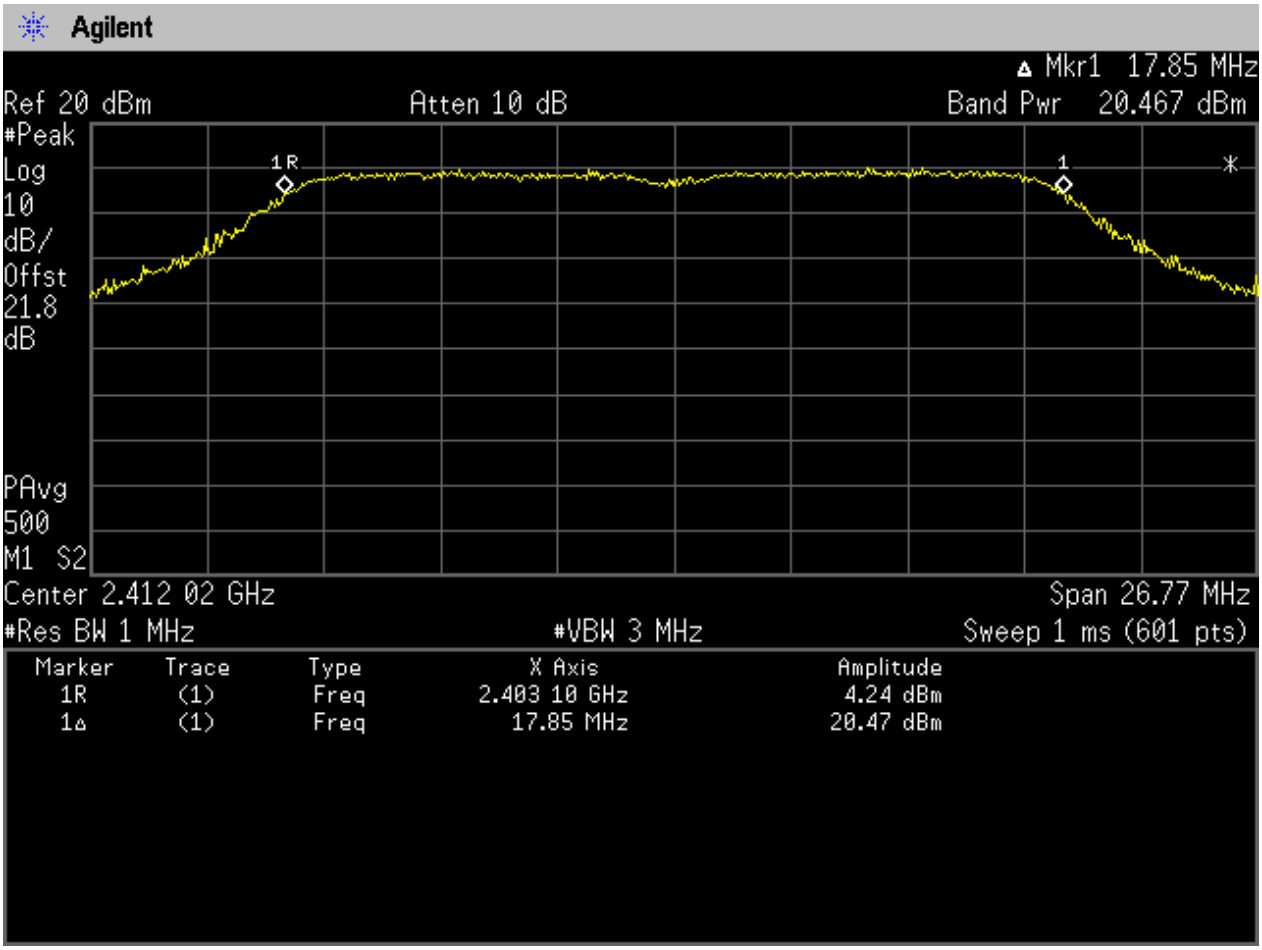


2.1811N20/0_T@2

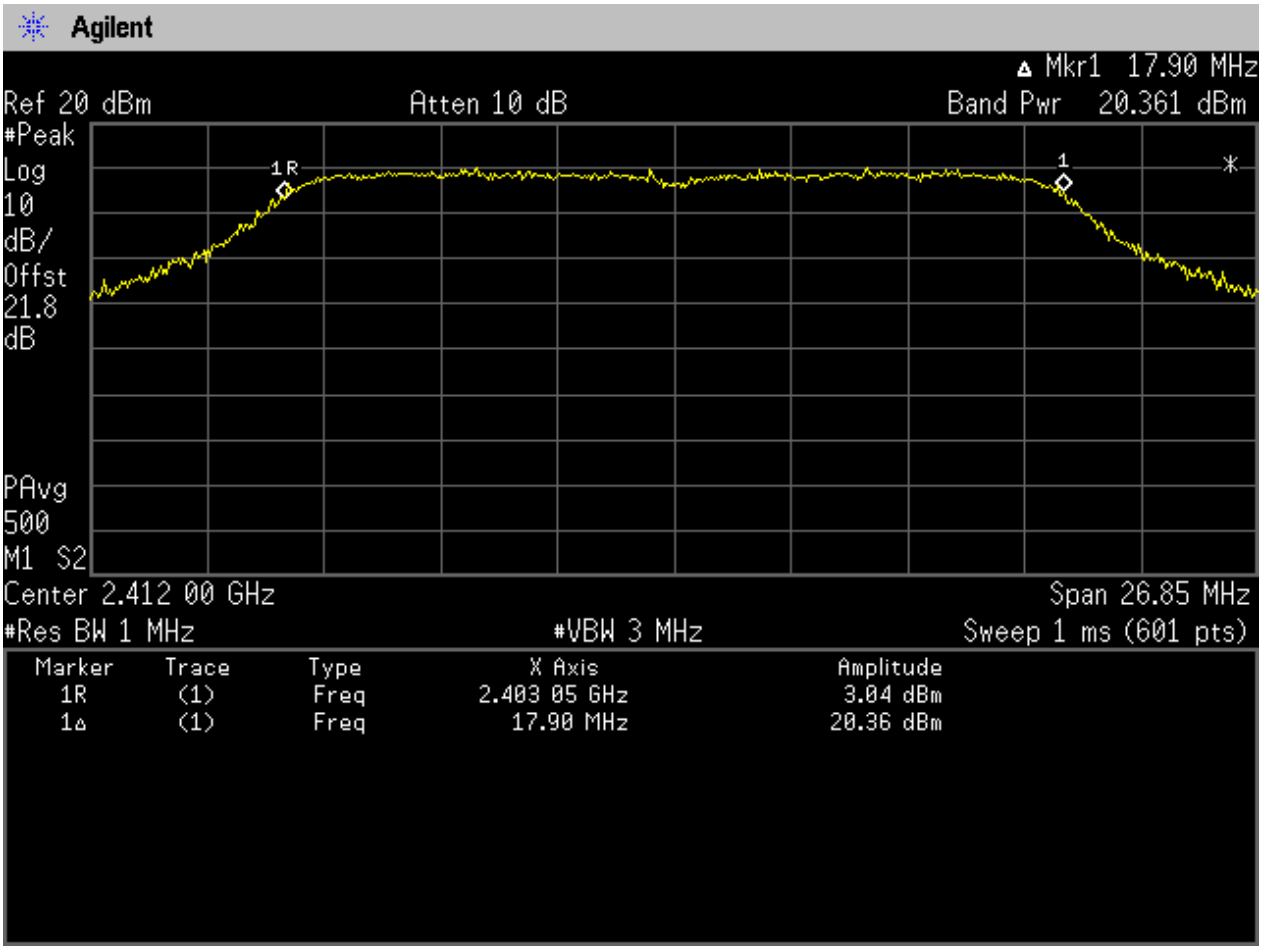


2.1911N20m/8_B@1+2

2.19.1 Ant 1

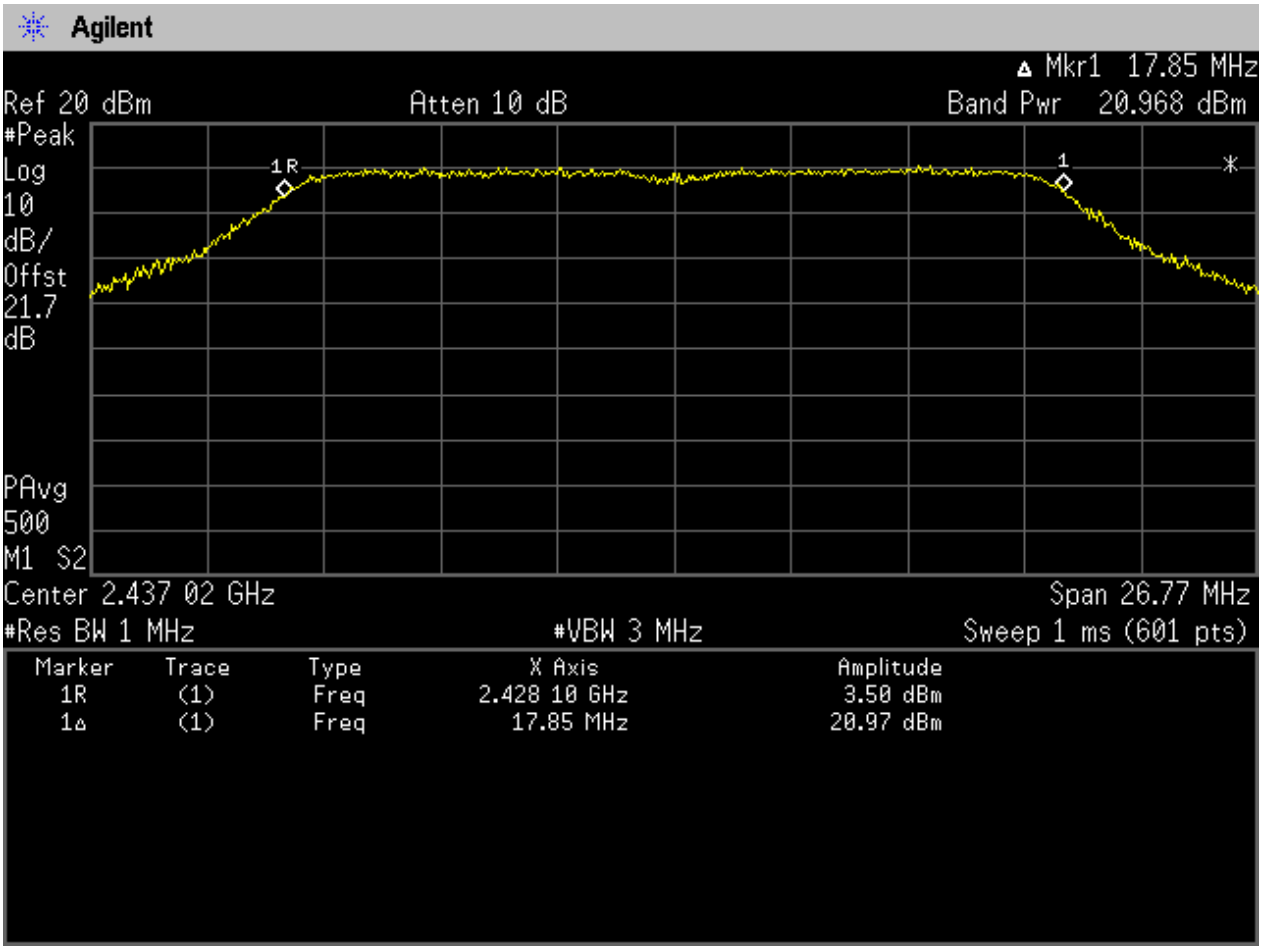


2.19.2 Ant 2

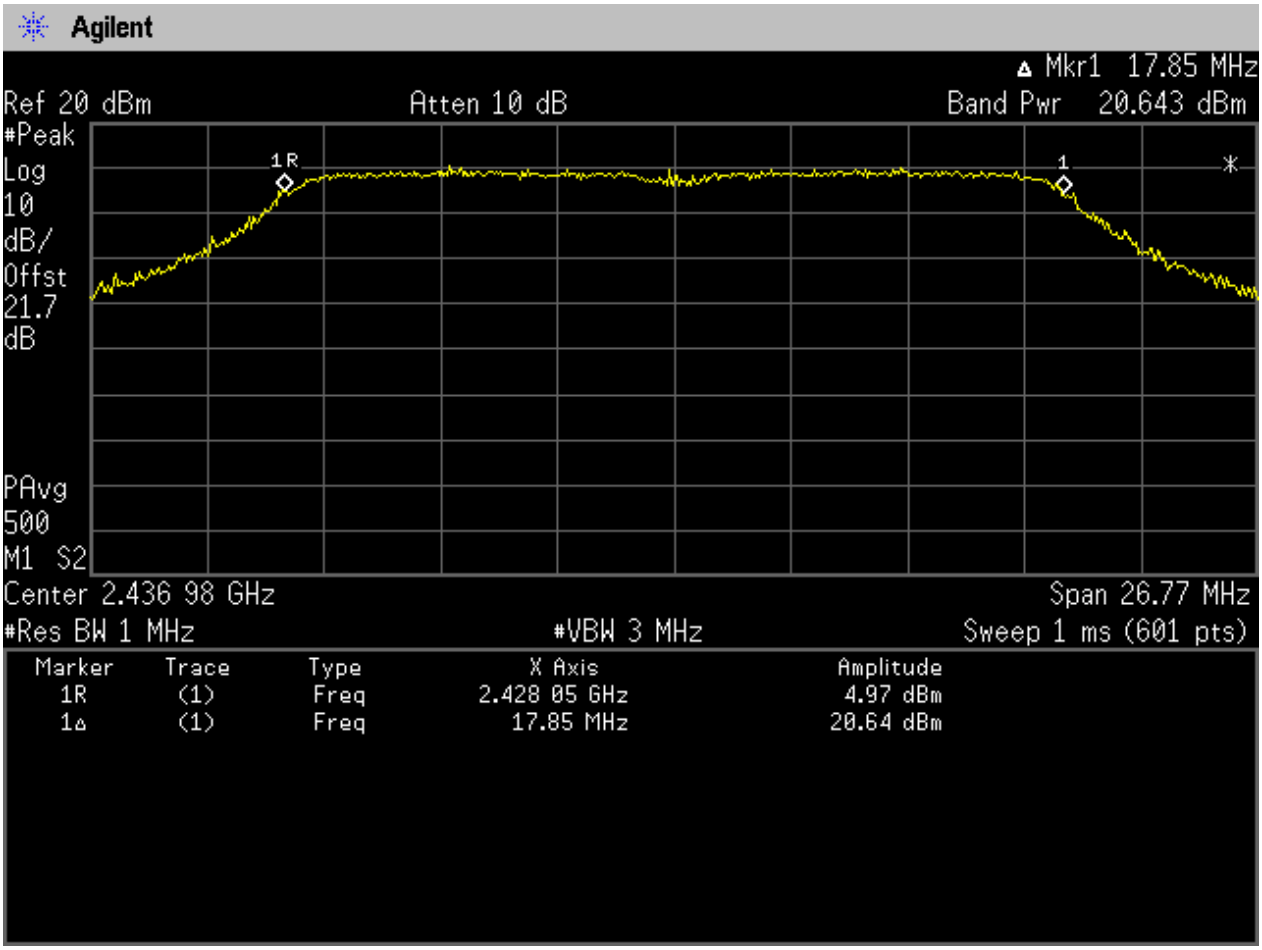


2.2011N20m/8_M@1+2

2.20.1 Ant 1

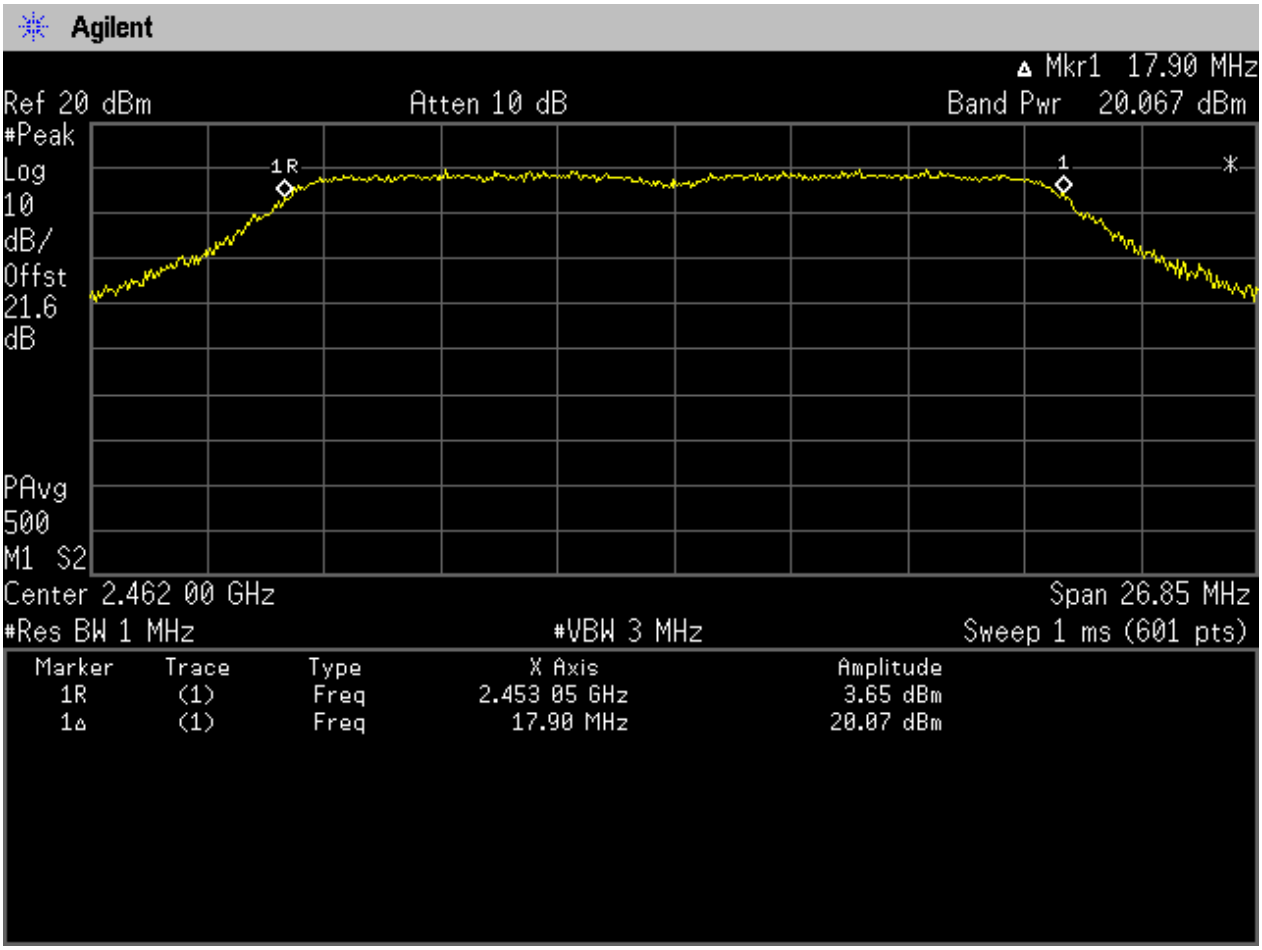


2.20.2 Ant 2

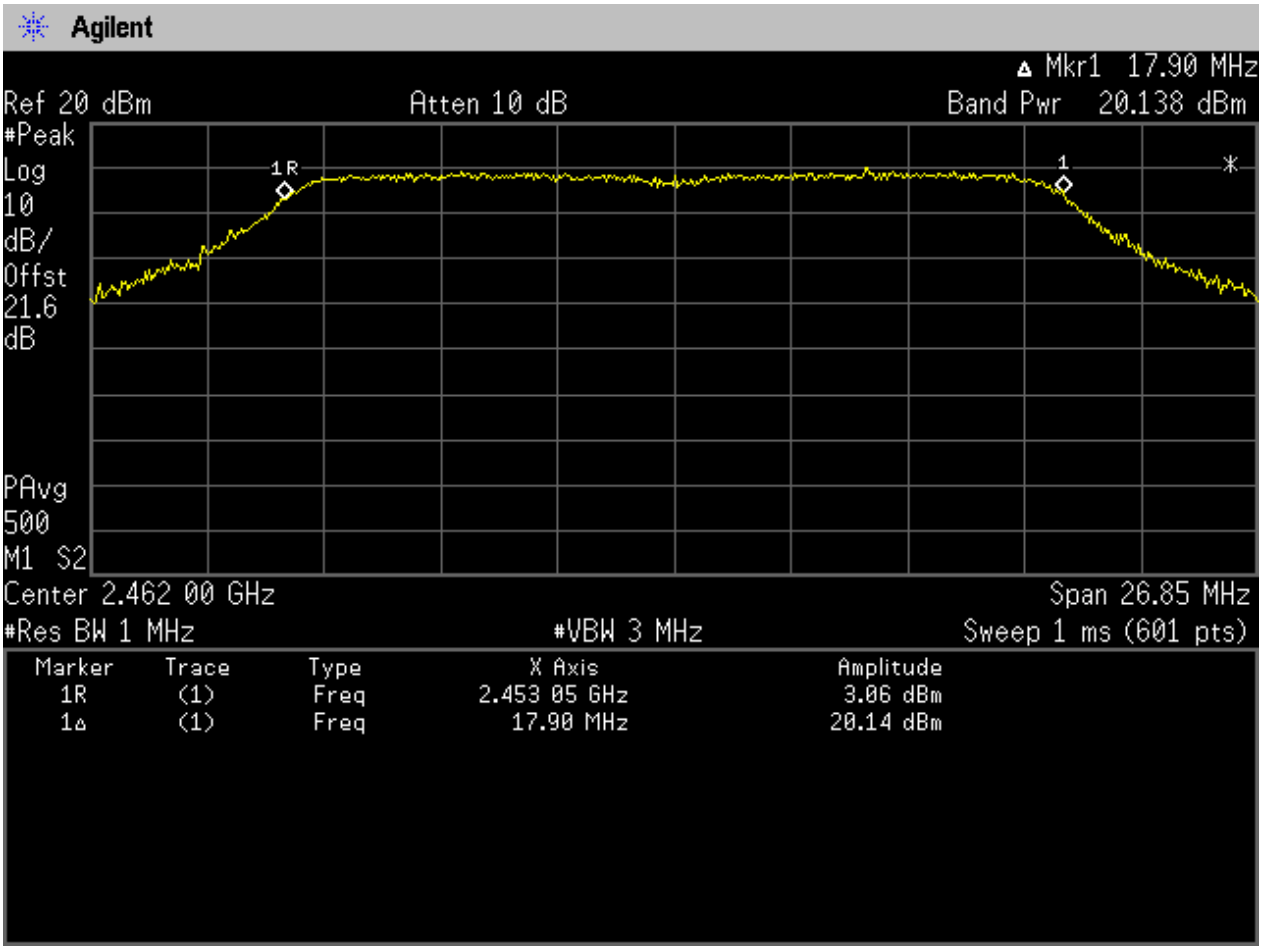


2.2111N20m/8_T@1+2

2.21.1 Ant 1



2.21.2 Ant 2



Appendix C: Maximum Power Spectral Density Level

1 Result Table

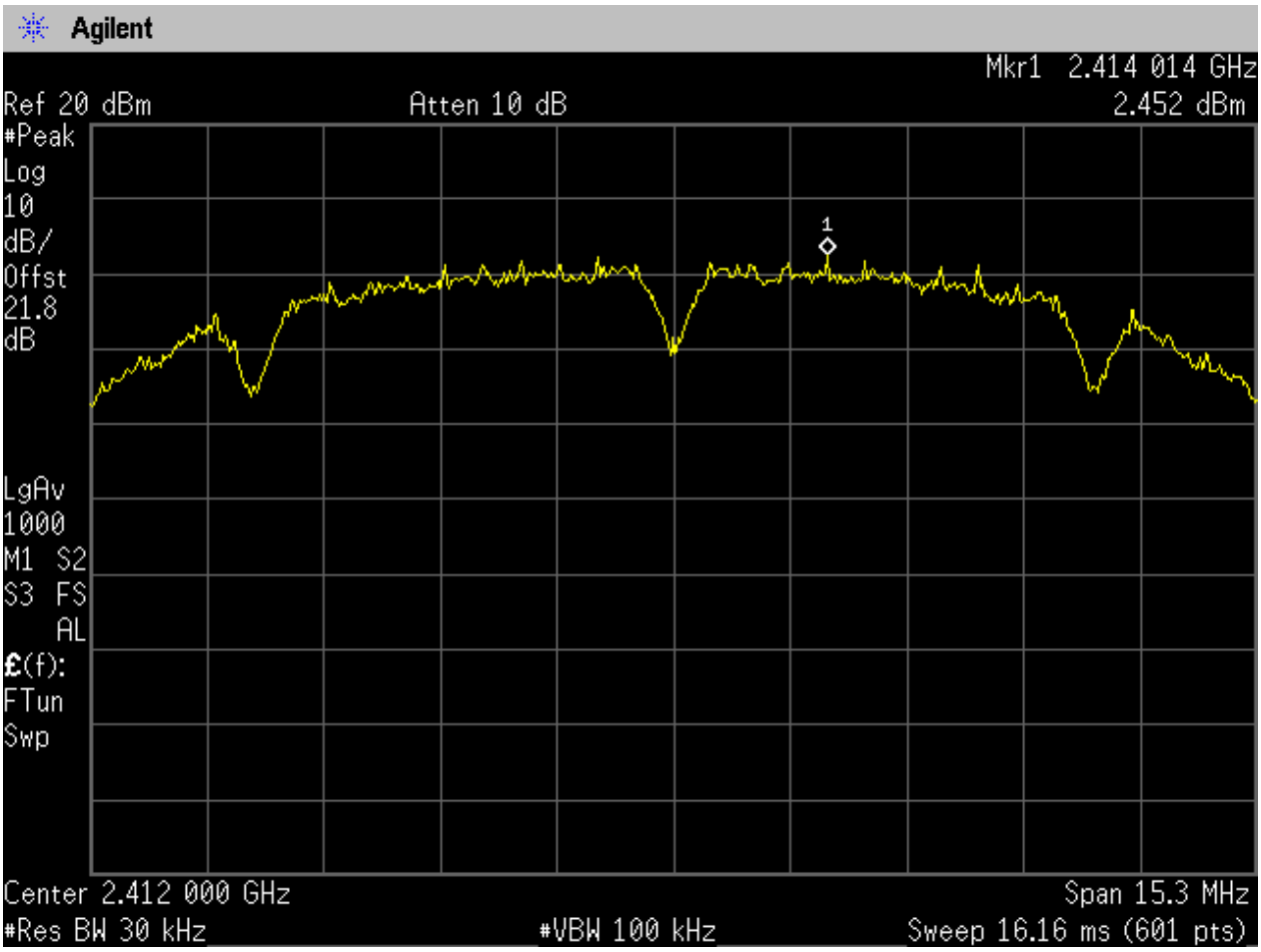
NOTE 1: In this Appendix, the PD* refers to the measured “Maximum Power Spectral Density” value with 100 kHz RBW. According to the description of FCC OET KDB 558074, the final result PD should be adjusted based on the PD* with a factor of BWCF = 10 * lg(3 kHz/100 kHz) = -15.2 dB (i.e. PD [dBm/3 kHz] = PD* [dBm/100 kHz] - 15.2 [dB]).

NOTE 2: For measurements on smart antenna systems (devices with multiple transmit chains), the test is performed at each chain, and then combined into the final result PD* or PD which is the calculated linear sum of each result “PD*@Ant i” or “PD@Ant i” with i = 1 to N (the N denotes the antenna ports used by smart antenna systems). It should be noted that the method is a worse consideration (for convenience, the linear sum frequency by frequency for each antenna port is not used), because each “PD*@Ant i” or “PD@Ant i” value maybe correspond to different frequency occurrence.

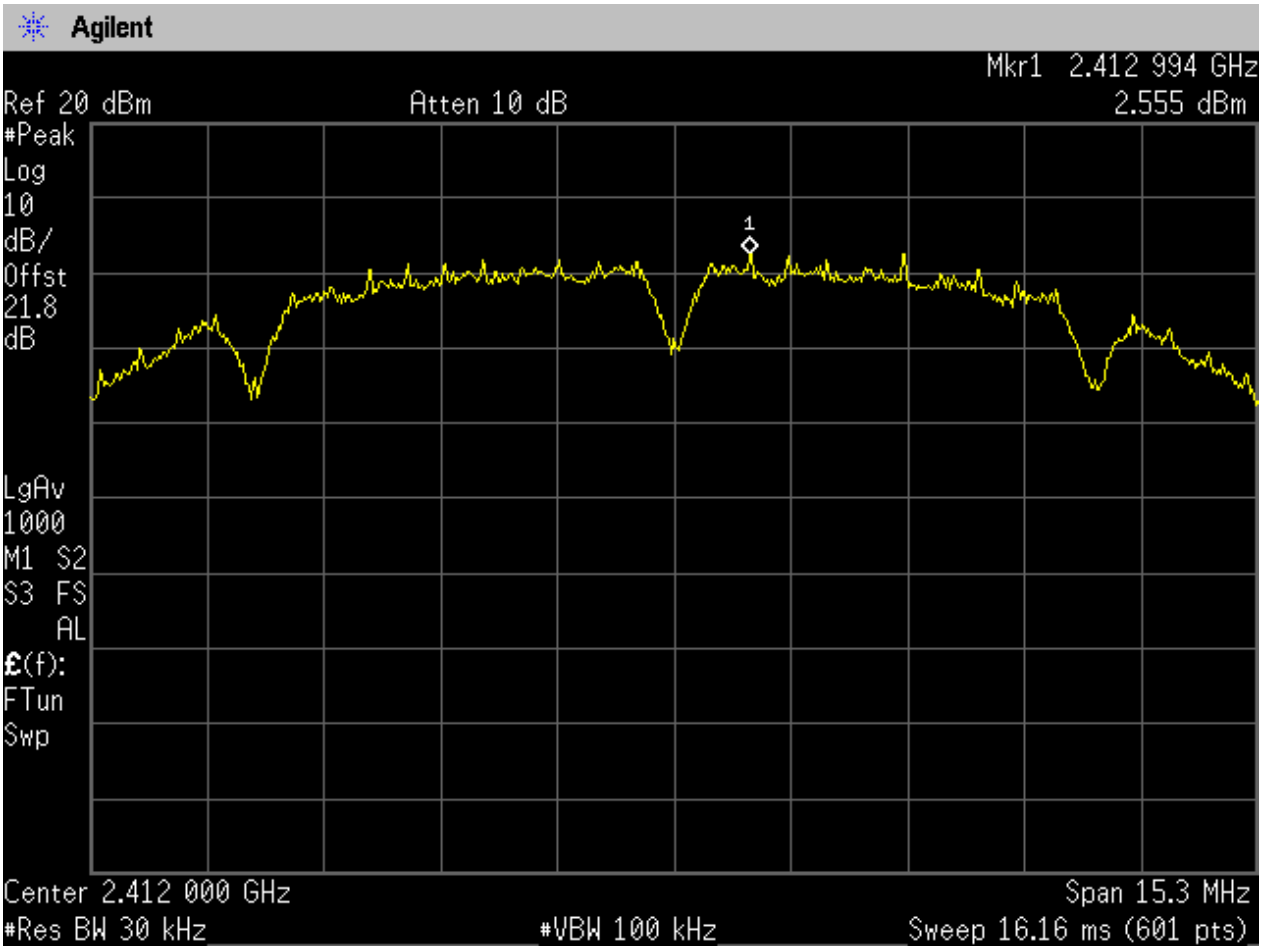
EUT Conf.	PD*@Ant 1 [dBm/100 kHz]	PD*@Ant 2 [dBm/100 kHz]	PD [dBm/3kHz]	Verdict
11B/1_B@1	2.45	---	< 2.45	Pass
11B/1_B@2	---	2.56	< 2.56	Pass
11B/1_M@1	3.93	---	< 3.93	Pass
11B/1_M@2	---	2.47	< 2.47	Pass
11B/1_T@1	2.36	---	< 2.36	Pass
11B/1_T@2	---	1.49	< 1.49	Pass
11G/6_B@1	-0.55	---	< -0.55	Pass
11G/6_B@2	---	-0.77	< -0.77	Pass
11G/6_M@1	0.42	---	< 0.42	Pass
11G/6_M@2	---	-0.08	< -0.08	Pass
11G/6_T@1	-0.19	---	< -0.19	Pass
11G/6_T@2	---	-1.25	< -1.25	Pass
11N20/0_B@1	-0.62	---	< -0.62	Pass
11N20/0_B@2	---	-1.16	< -1.16	Pass
11N20/0_M@1	0.04	---	< 0.04	Pass
11N20/0_M@2	---	-0.67	< -0.67	Pass
11N20/0_T@1	-0.59	---	< -0.59	Pass
11N20/0_T@2	---	-1.72	< -1.72	Pass
11N20m/8_B@1+2	-2.73	-2.94	< 0.18	Pass
11N20m/8_M@1+2	-1.9	-2.71	< 0.72	Pass
11N20m/8_T@1+2	-2.76	-3	< 0.13	Pass

2 Test Plot

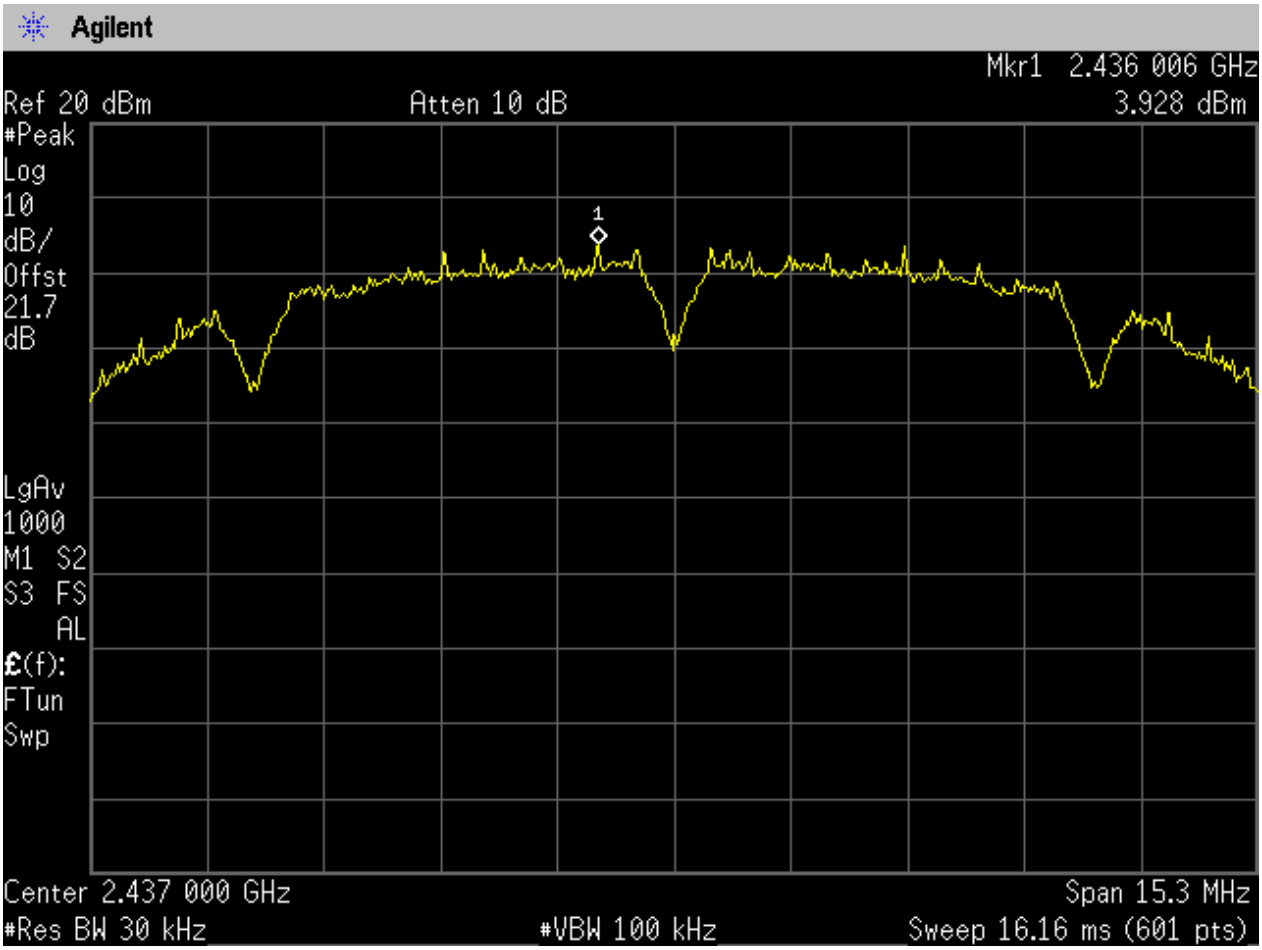
2.1 11B/1_B@1



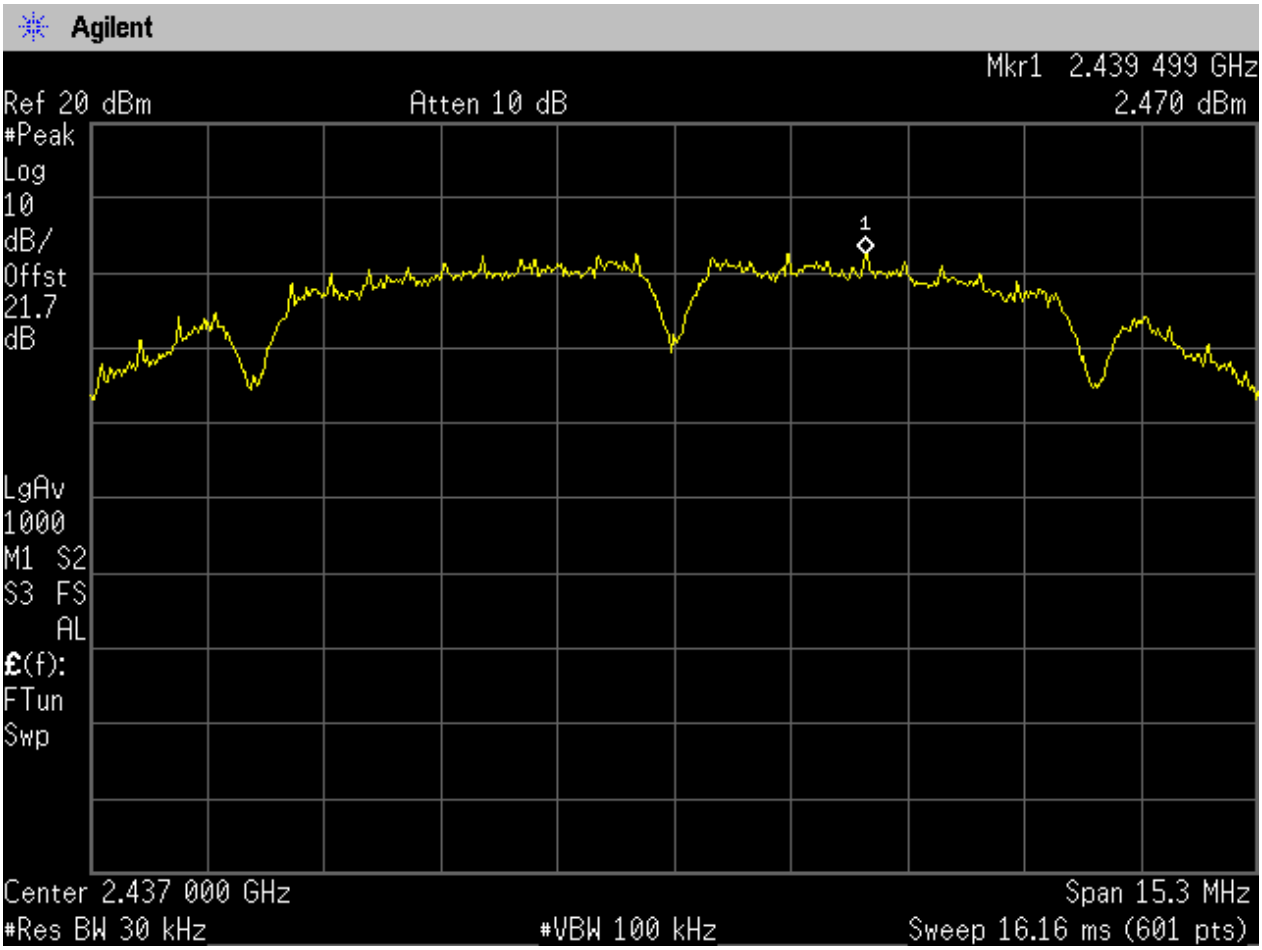
2.2 11B/1_B@2



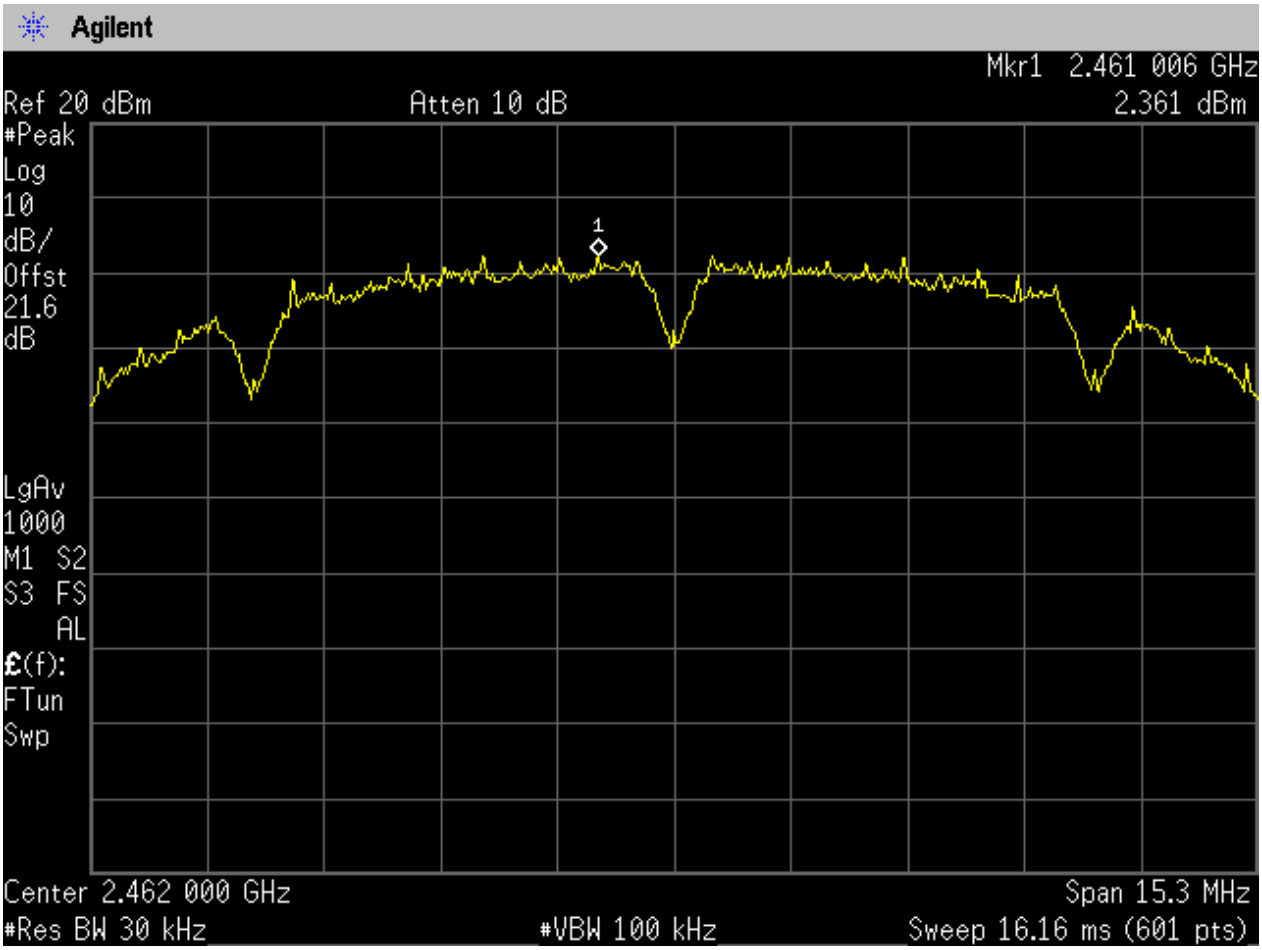
2.3 11B/1_M@1



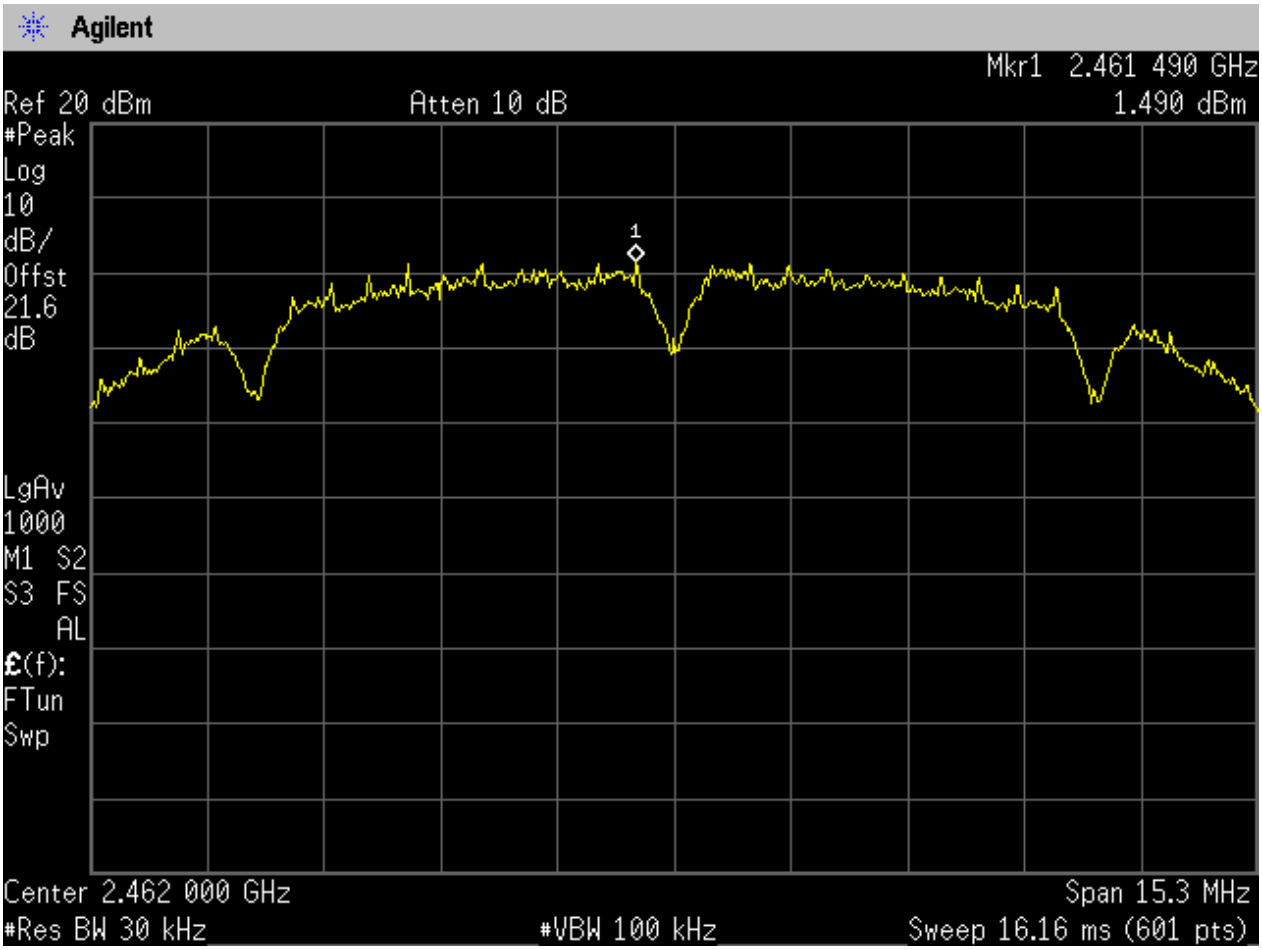
2.4 11B/1_M@2



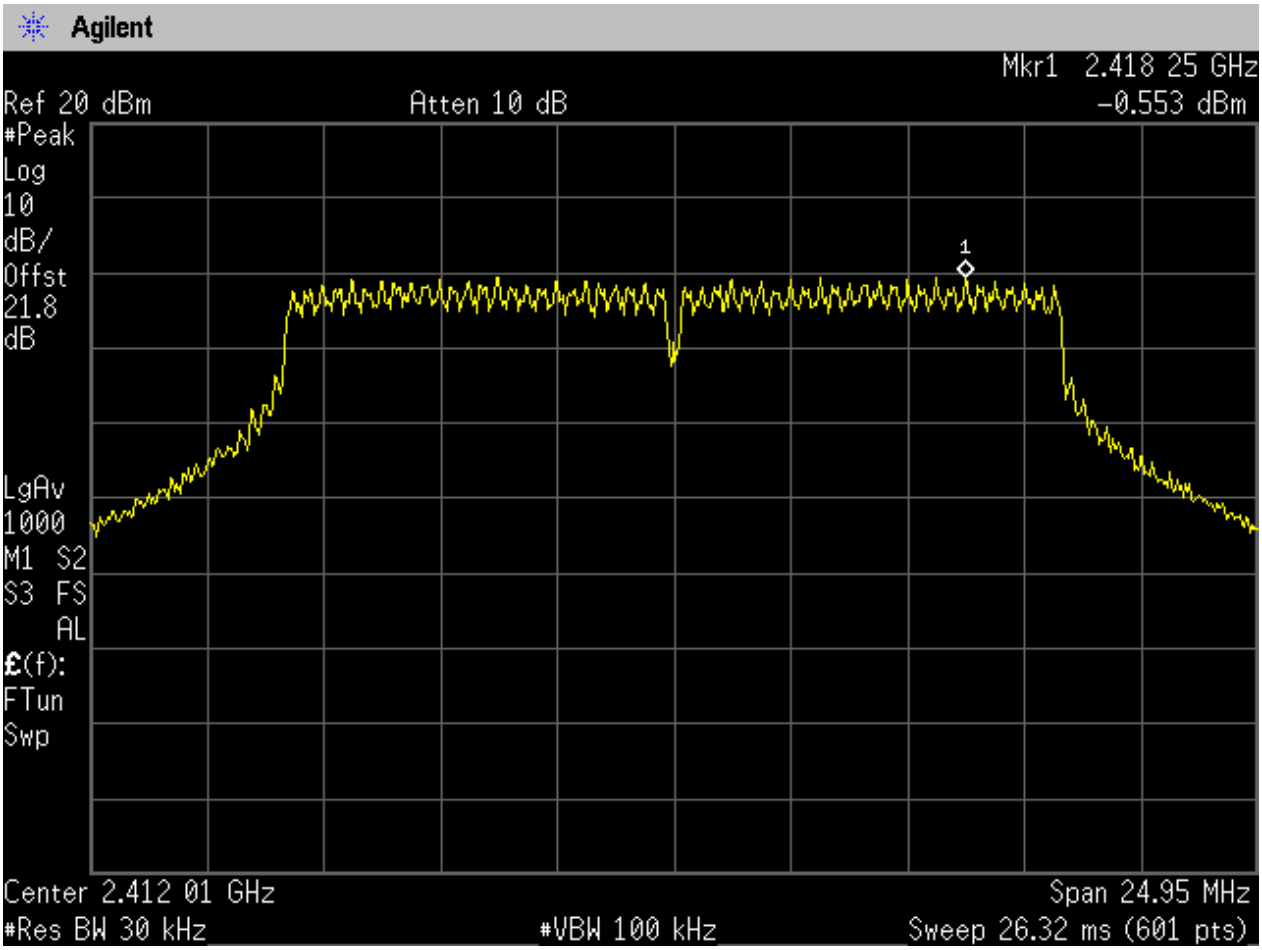
2.5 11B/1_T@1



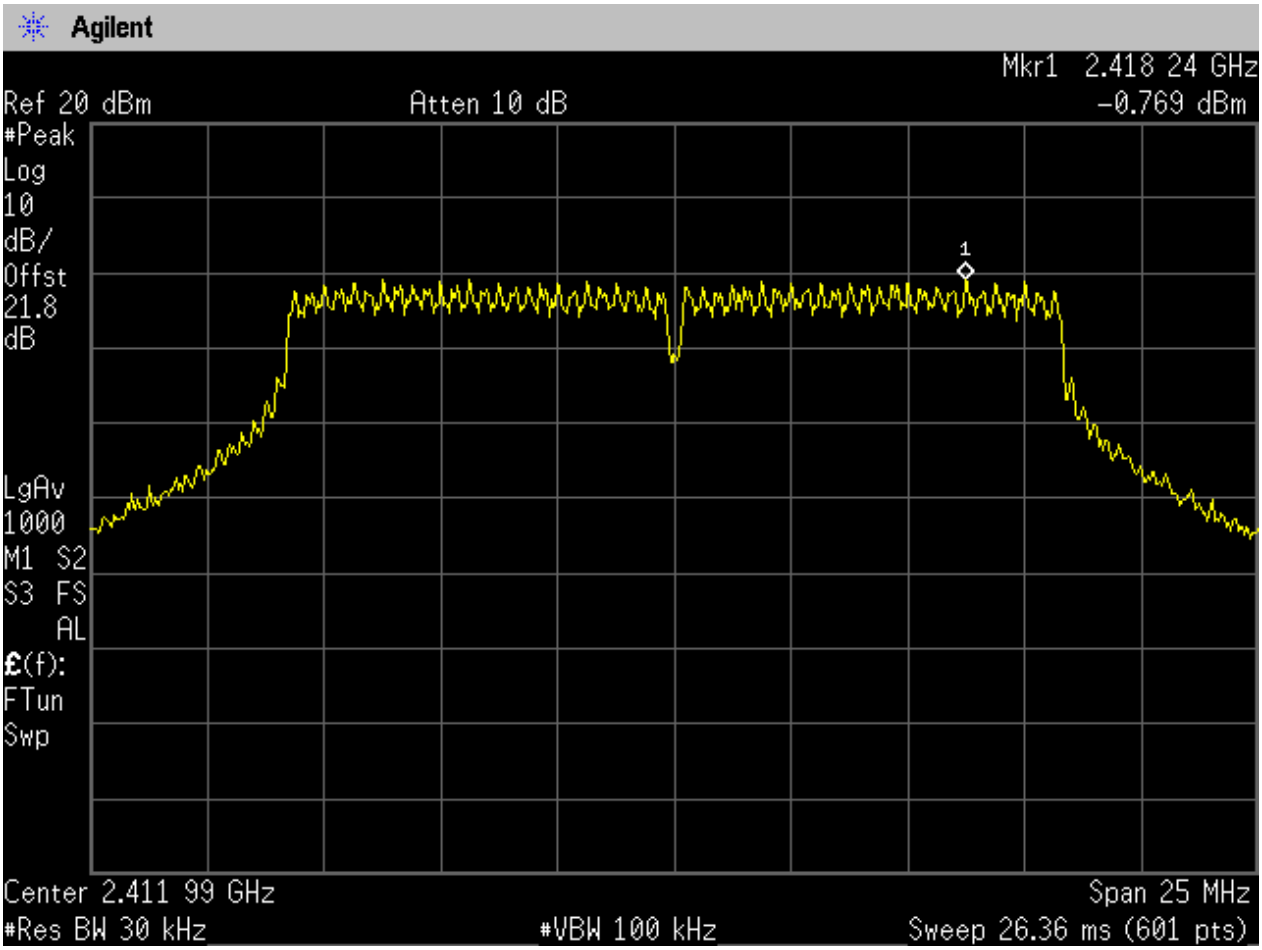
2.6 11B/1_T@2



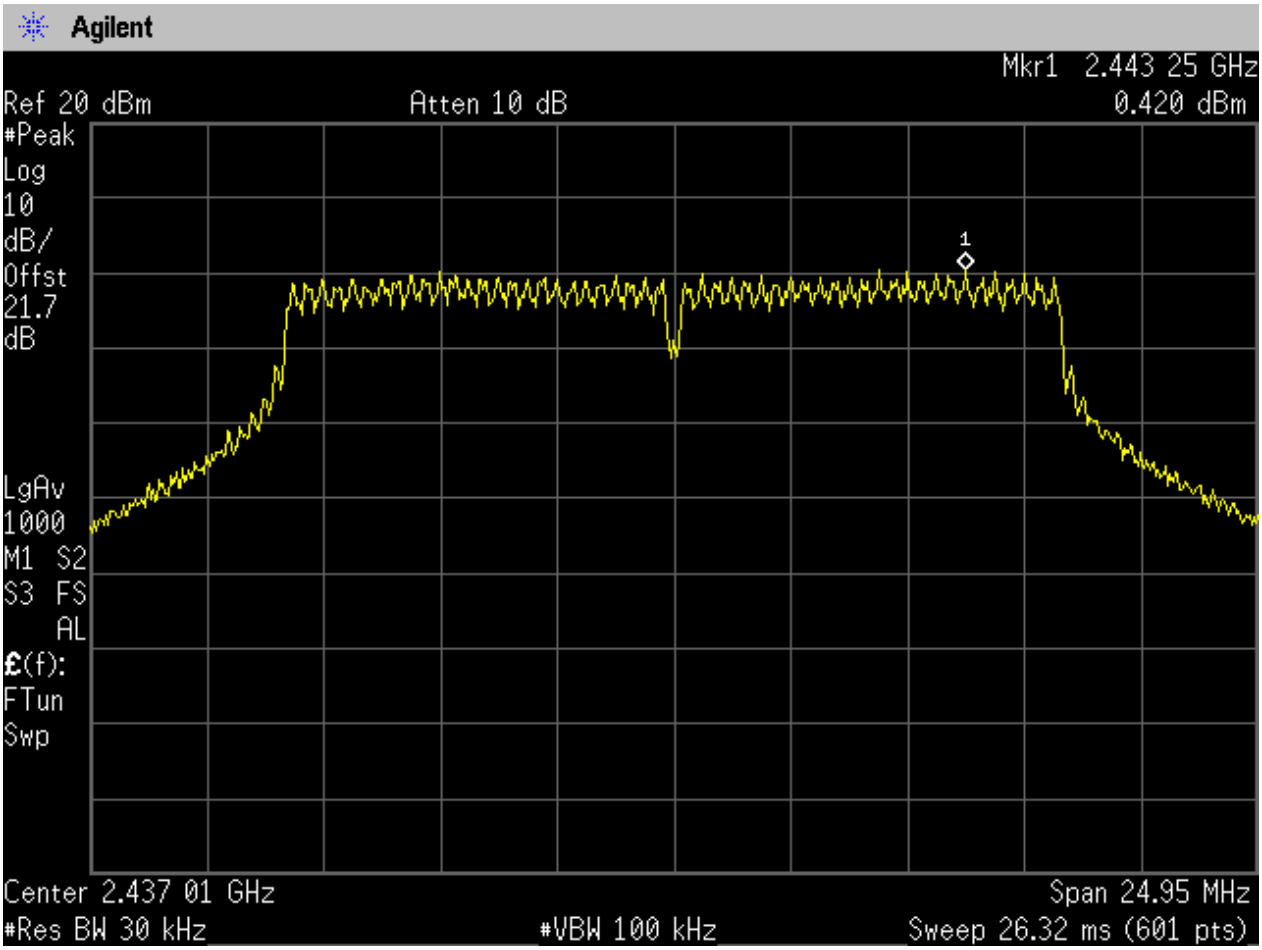
2.7 11G/6_B@1



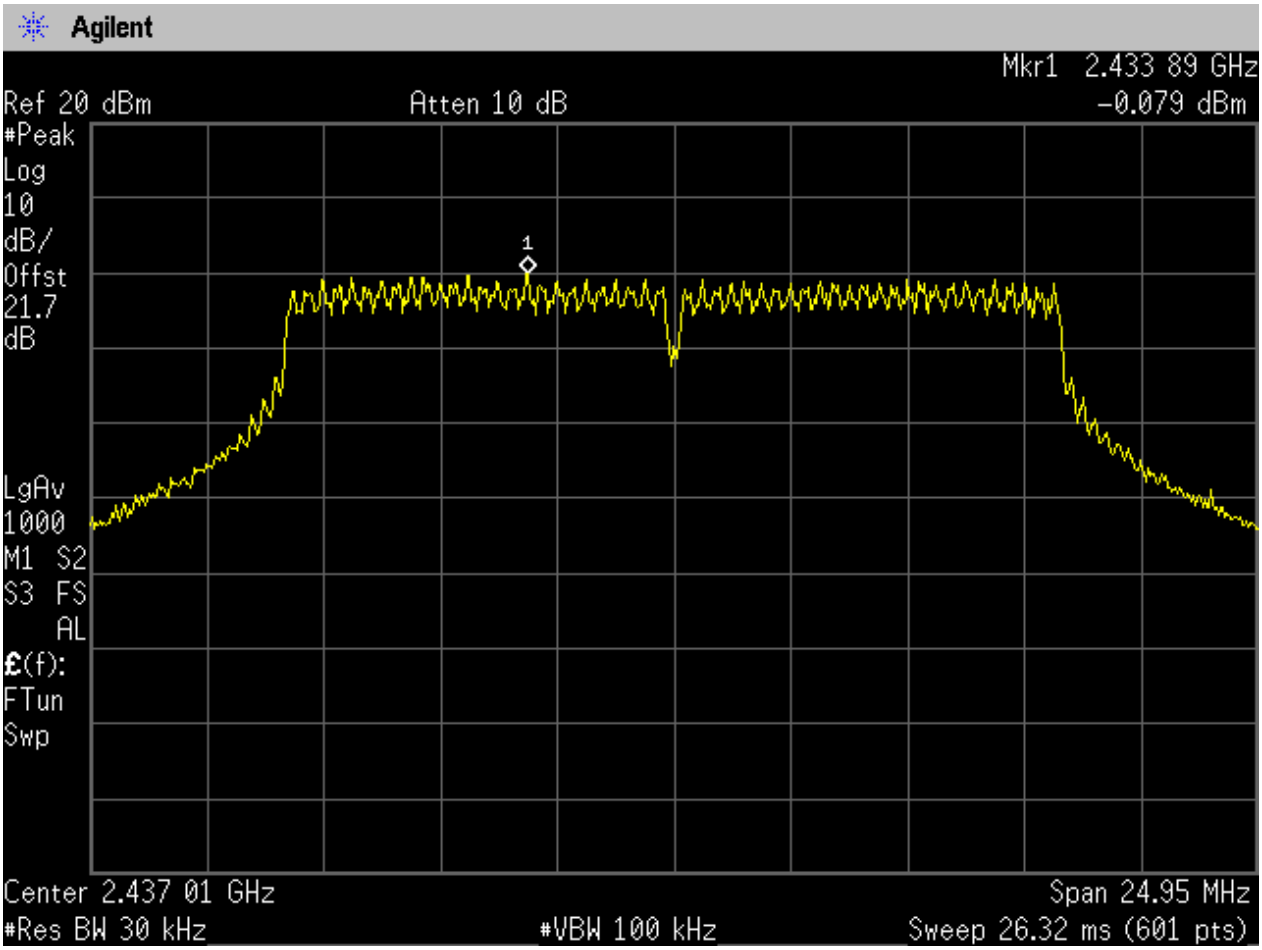
2.8 11G/6_B@2



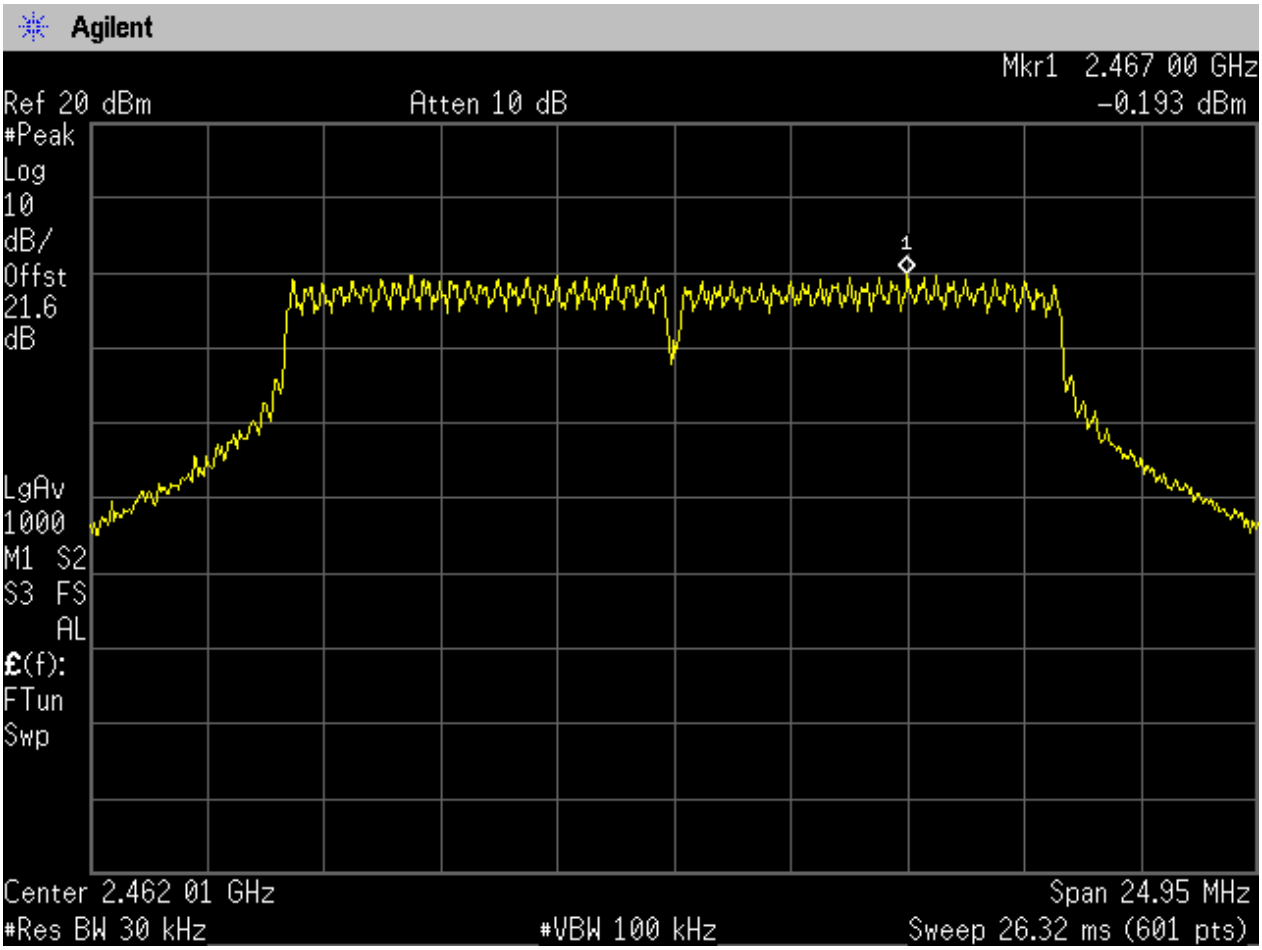
2.9 11G/6_M@1



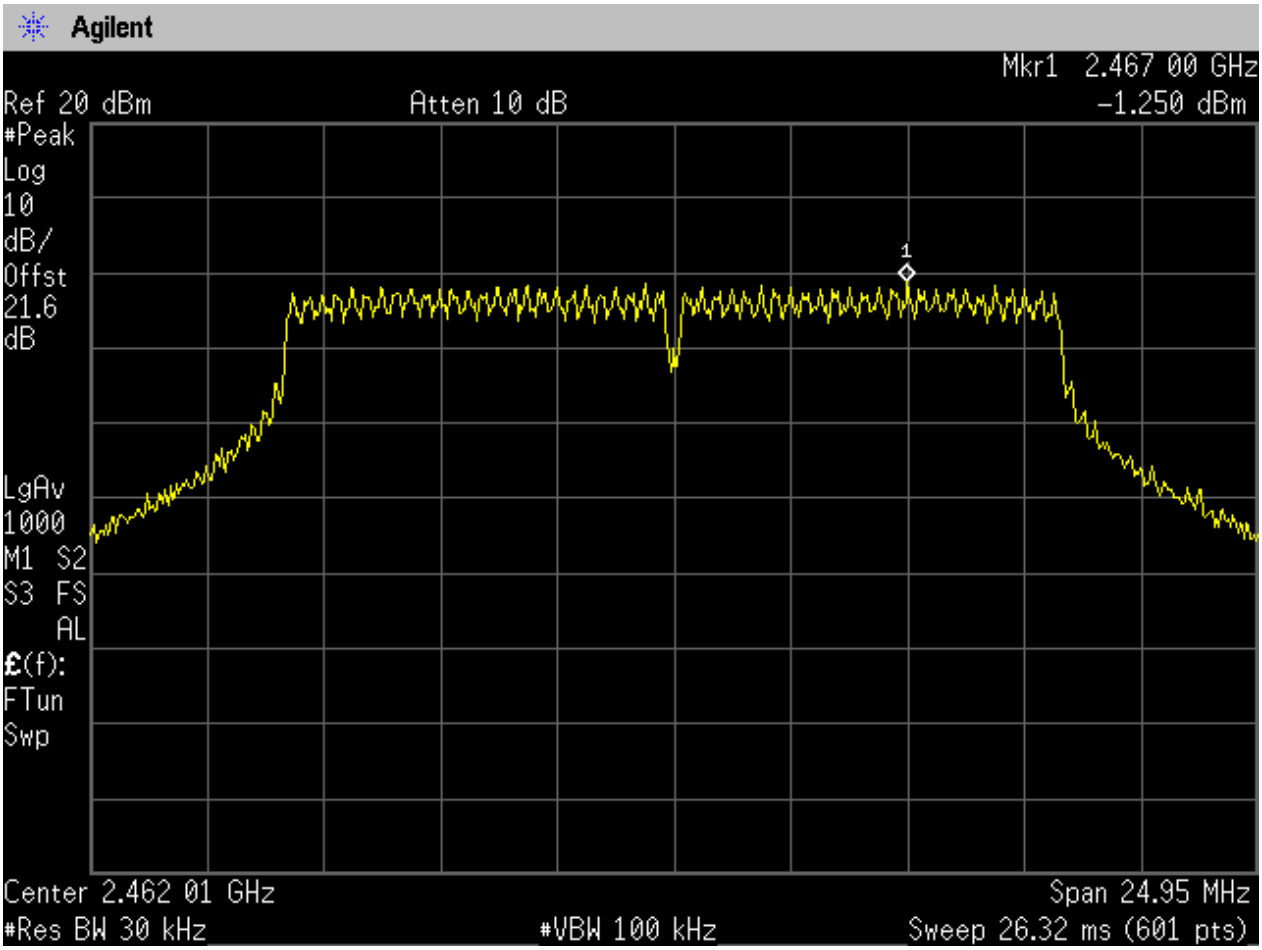
2.1011G/6_M@2



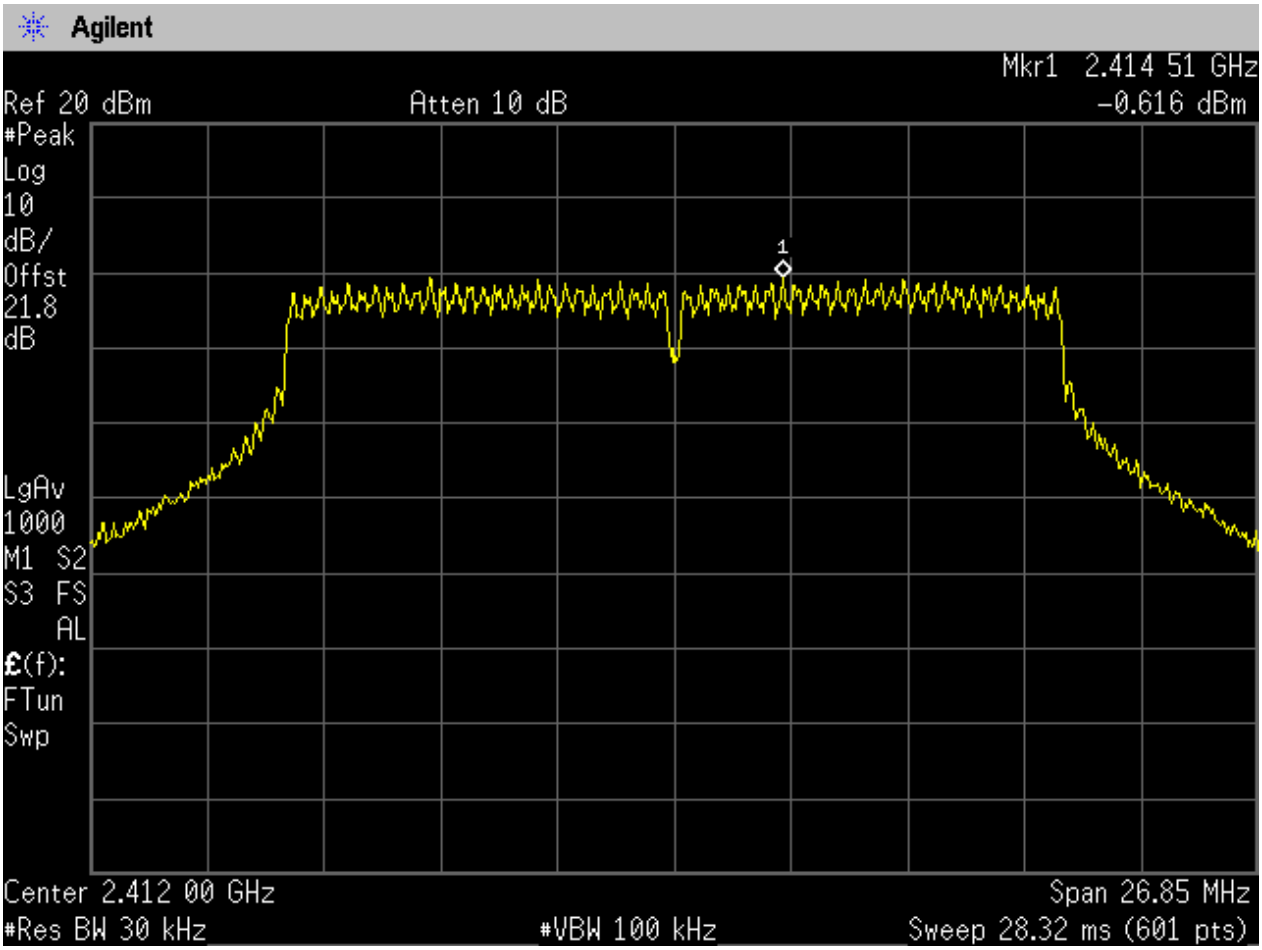
2.1111G/6_T@1



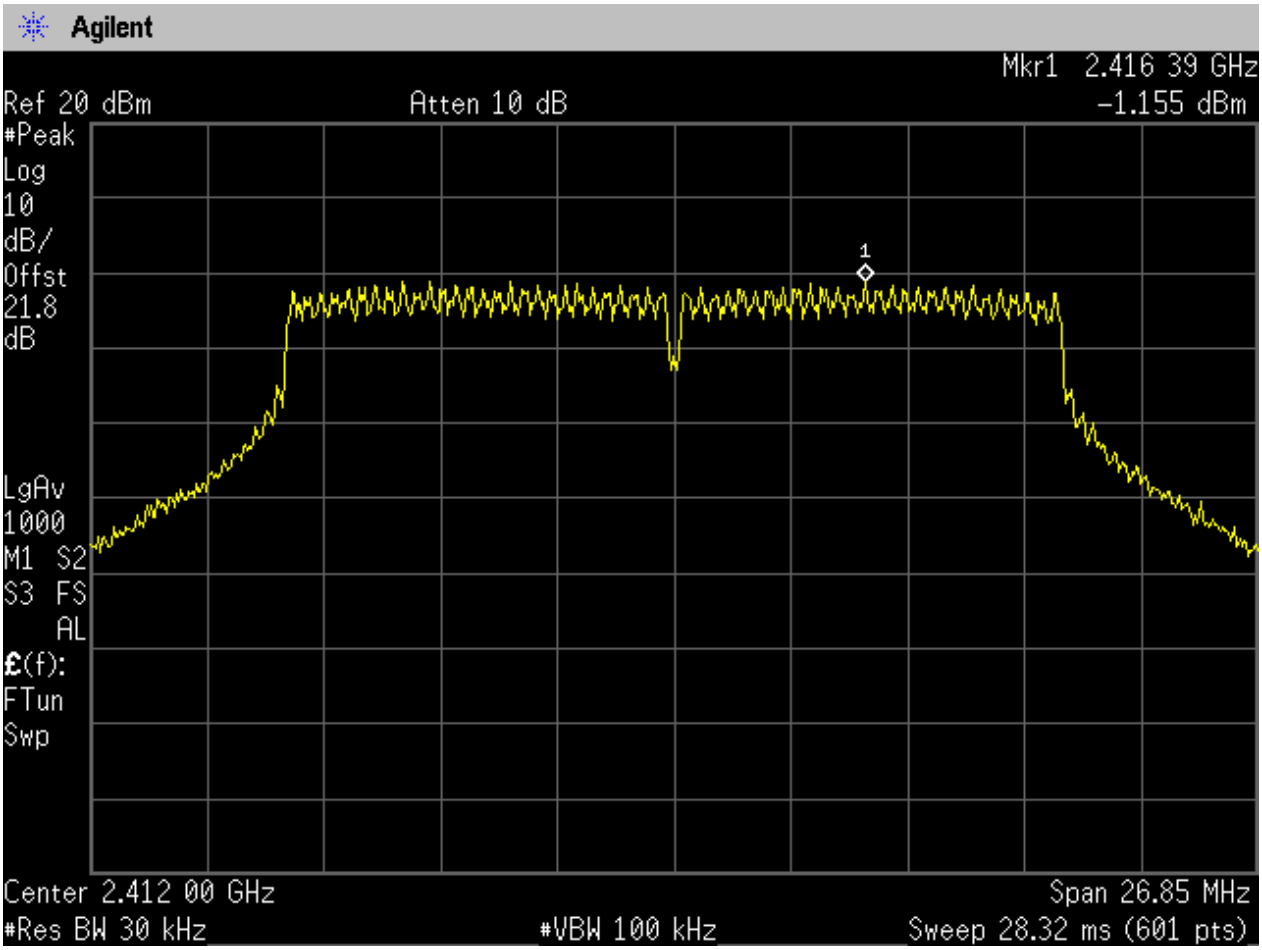
2.1211G/6_T@2



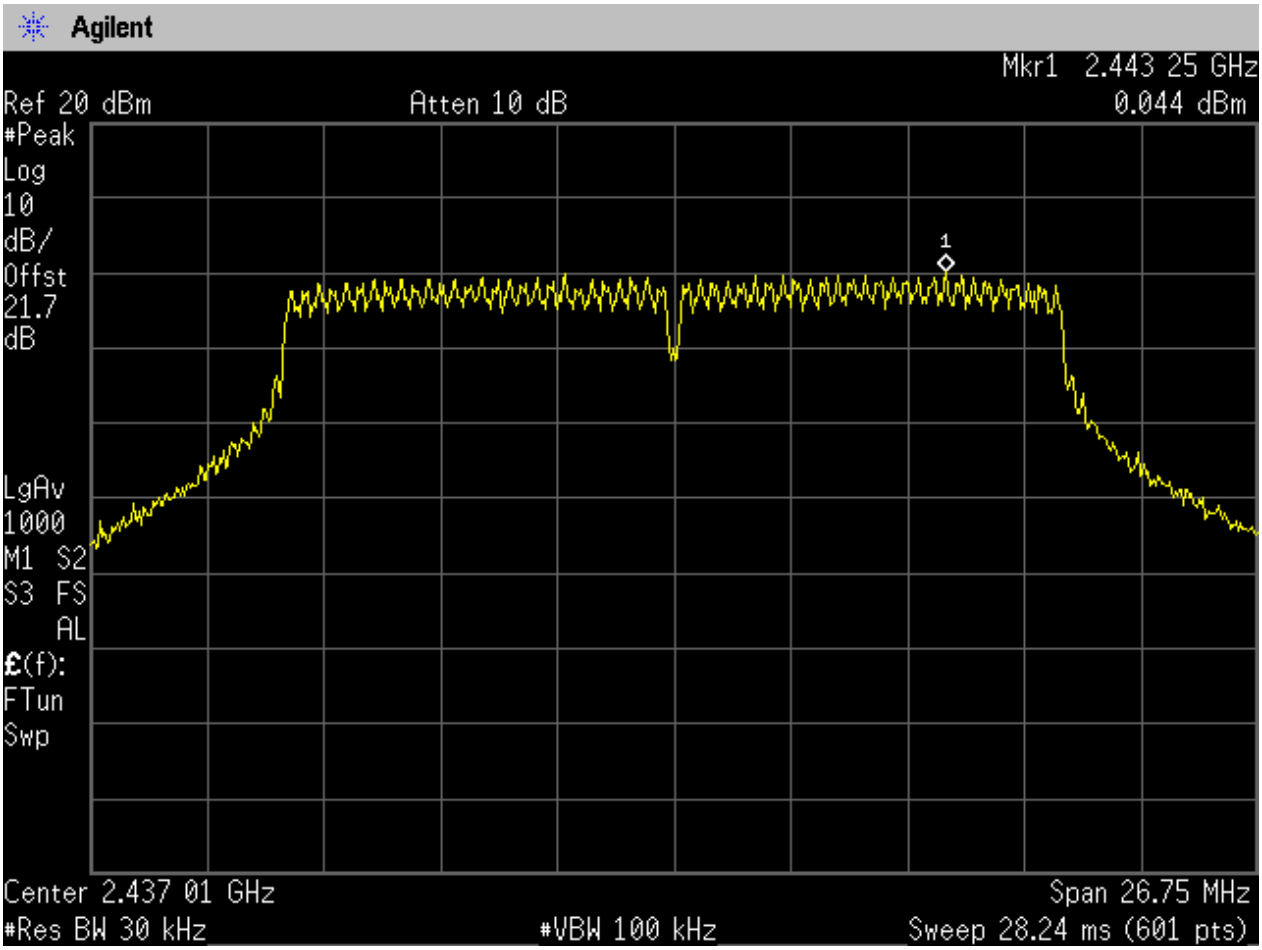
2.1311N20/0_B@1



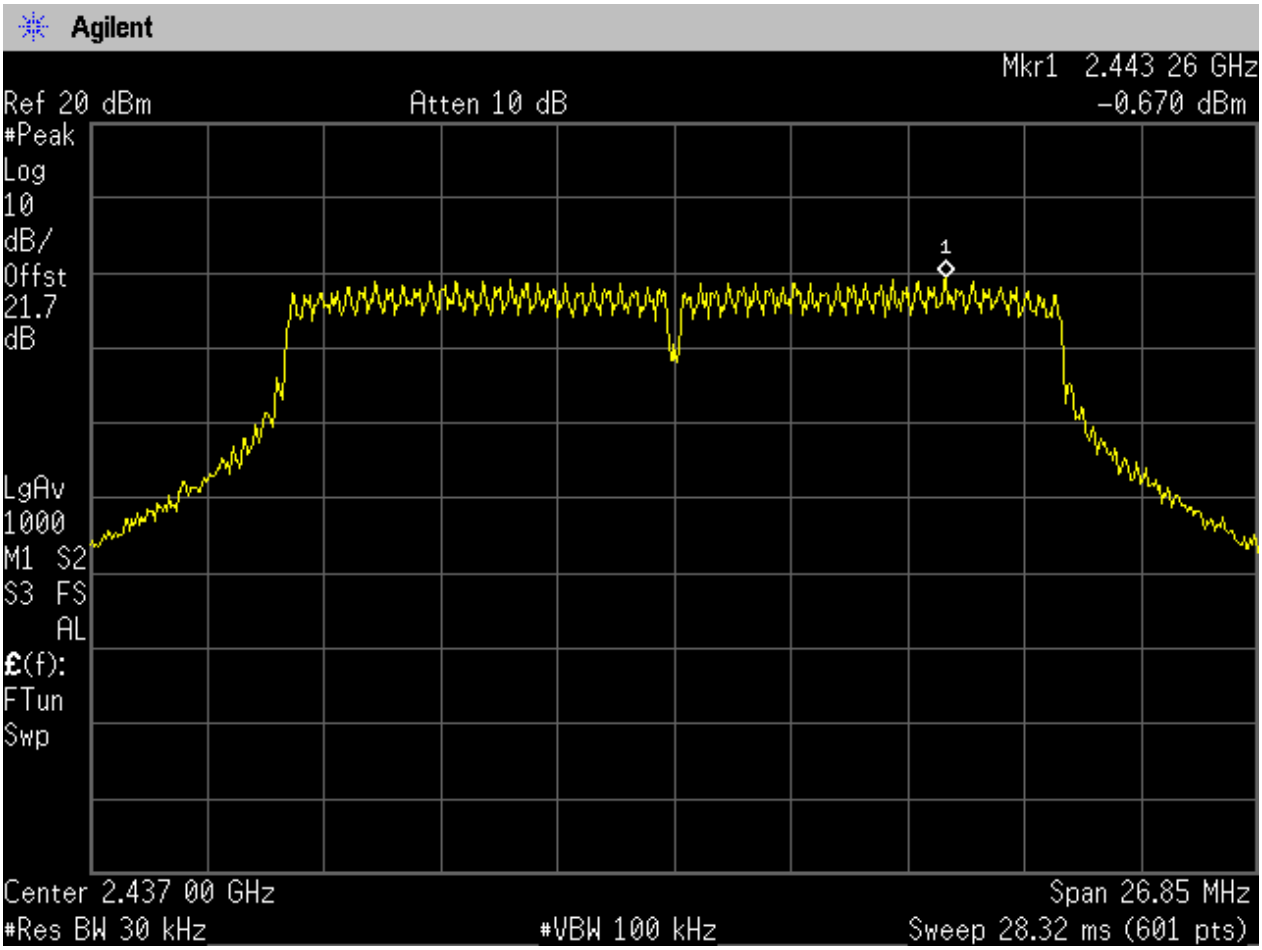
2.1411N20/0_B@2



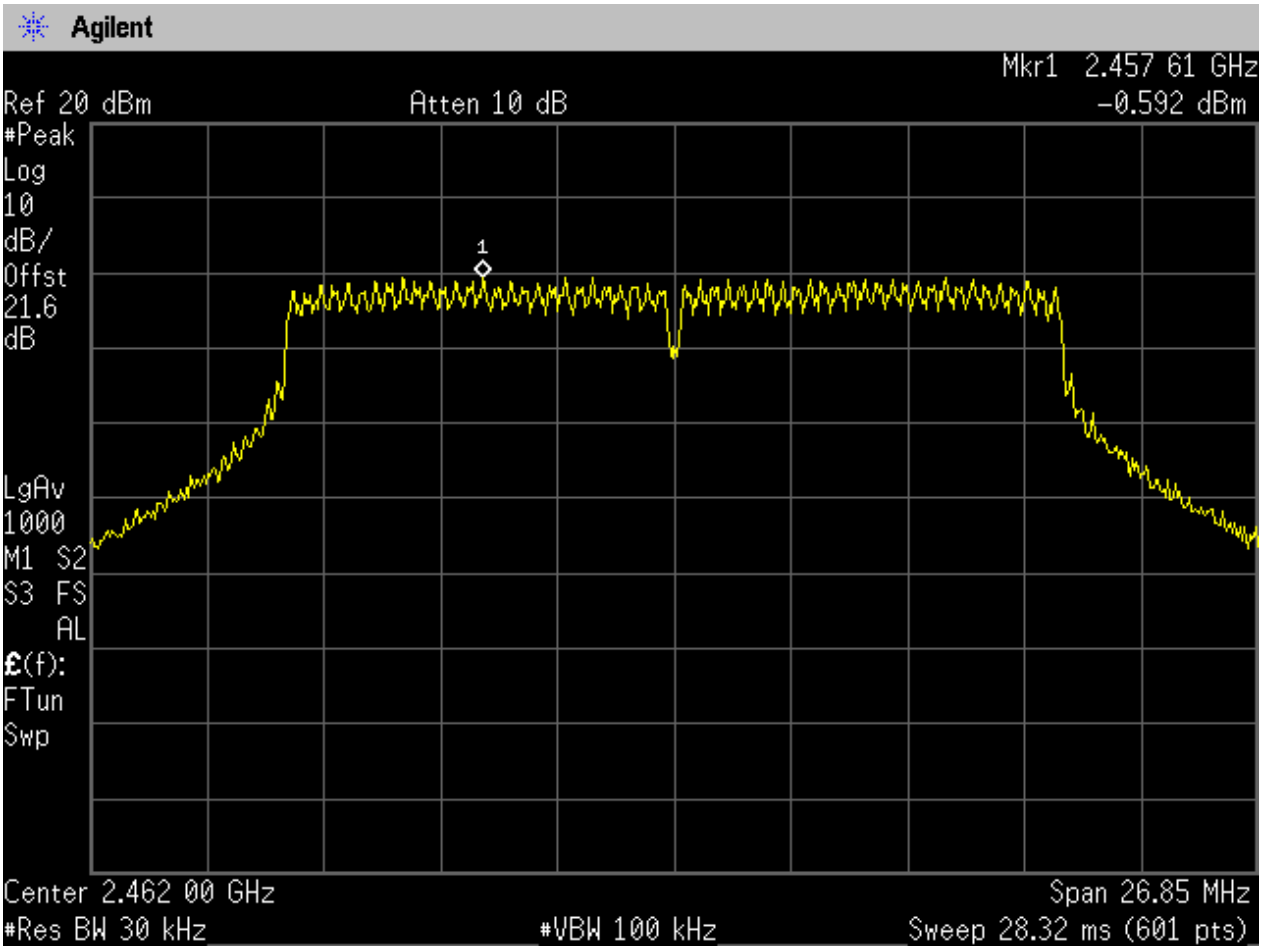
2.1511N20/0_M@1



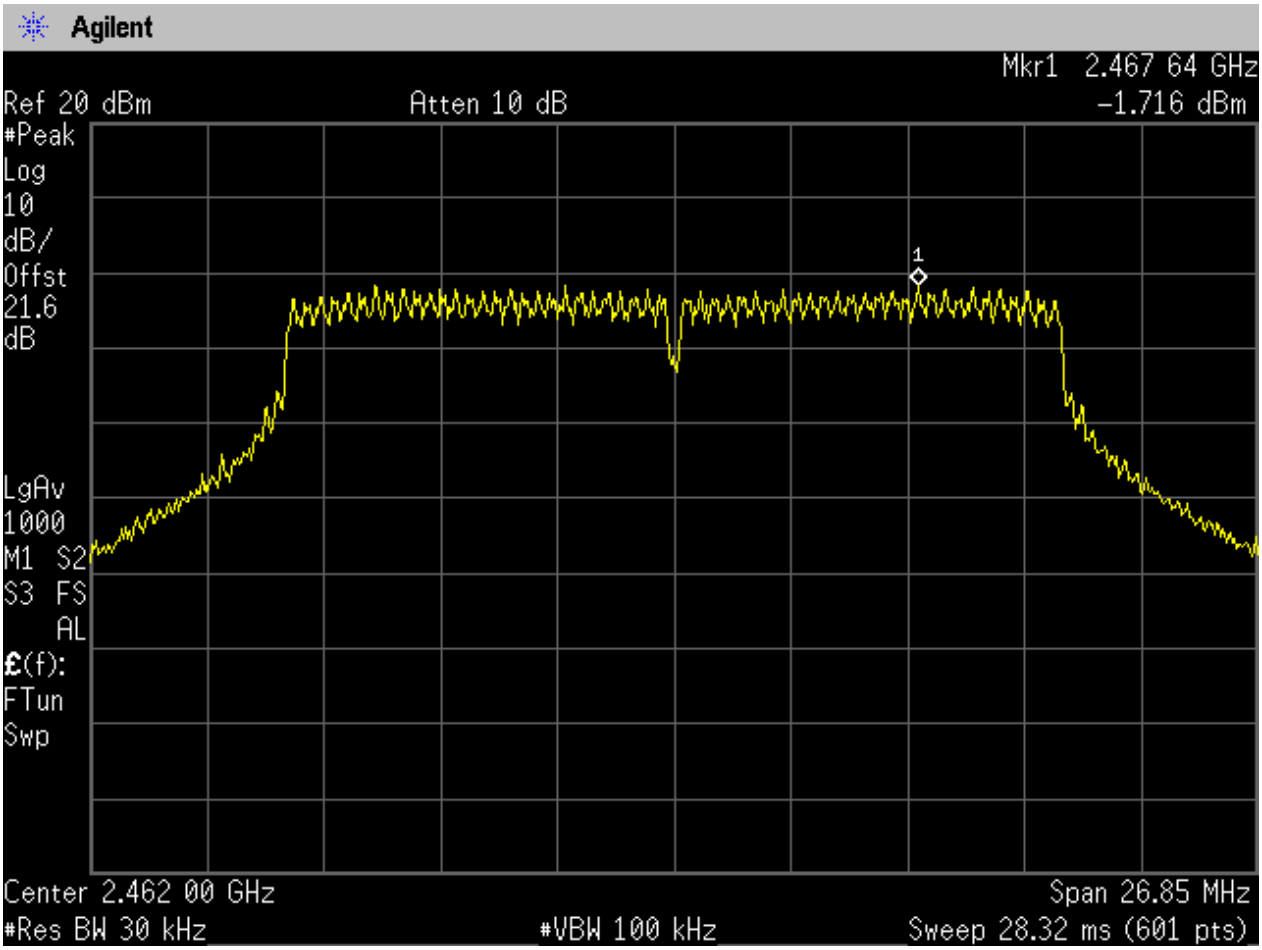
2.1611N20/0_M@2



2.1711N20/0_T@1

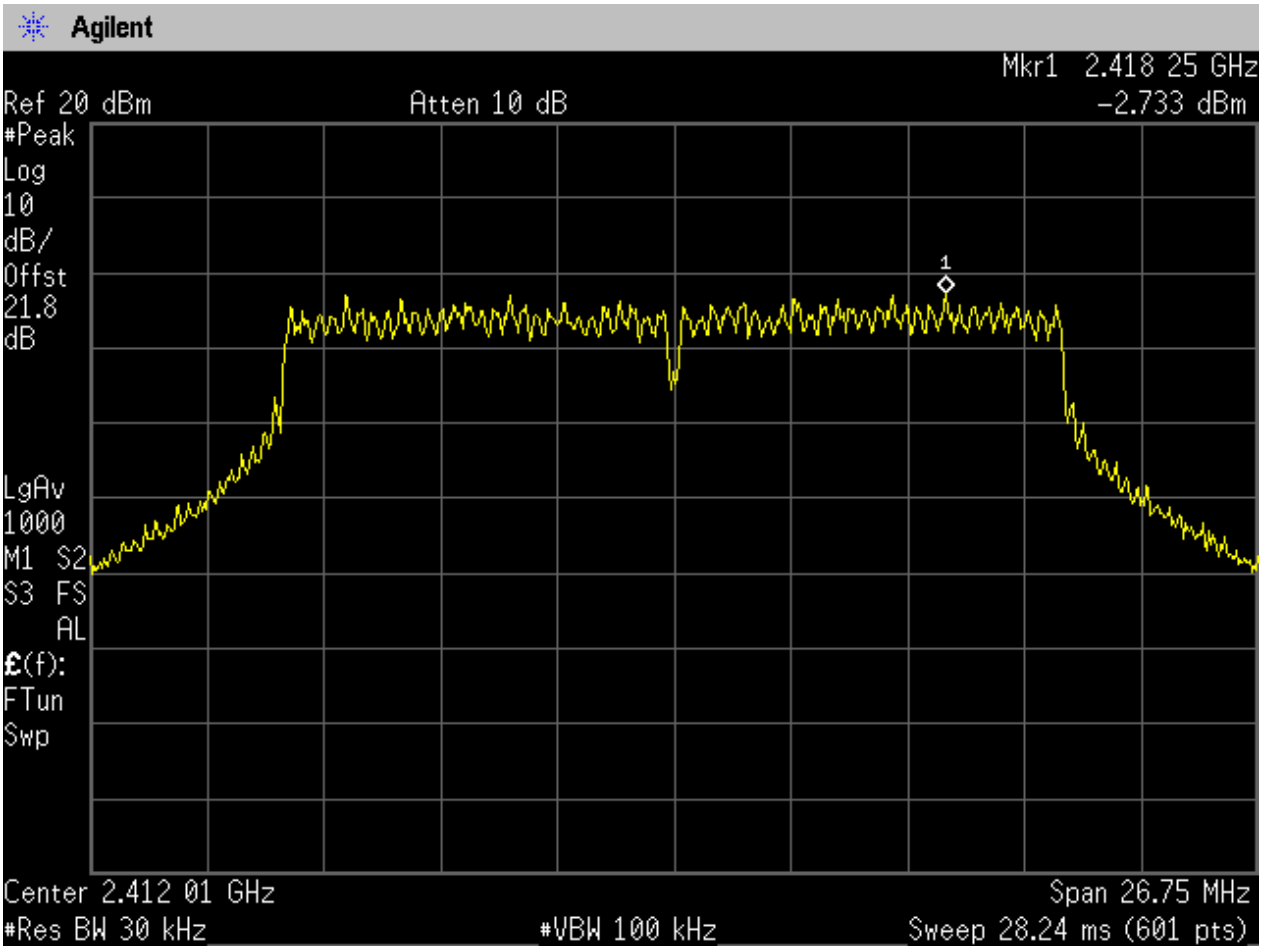


2.1811N20/0_T@2

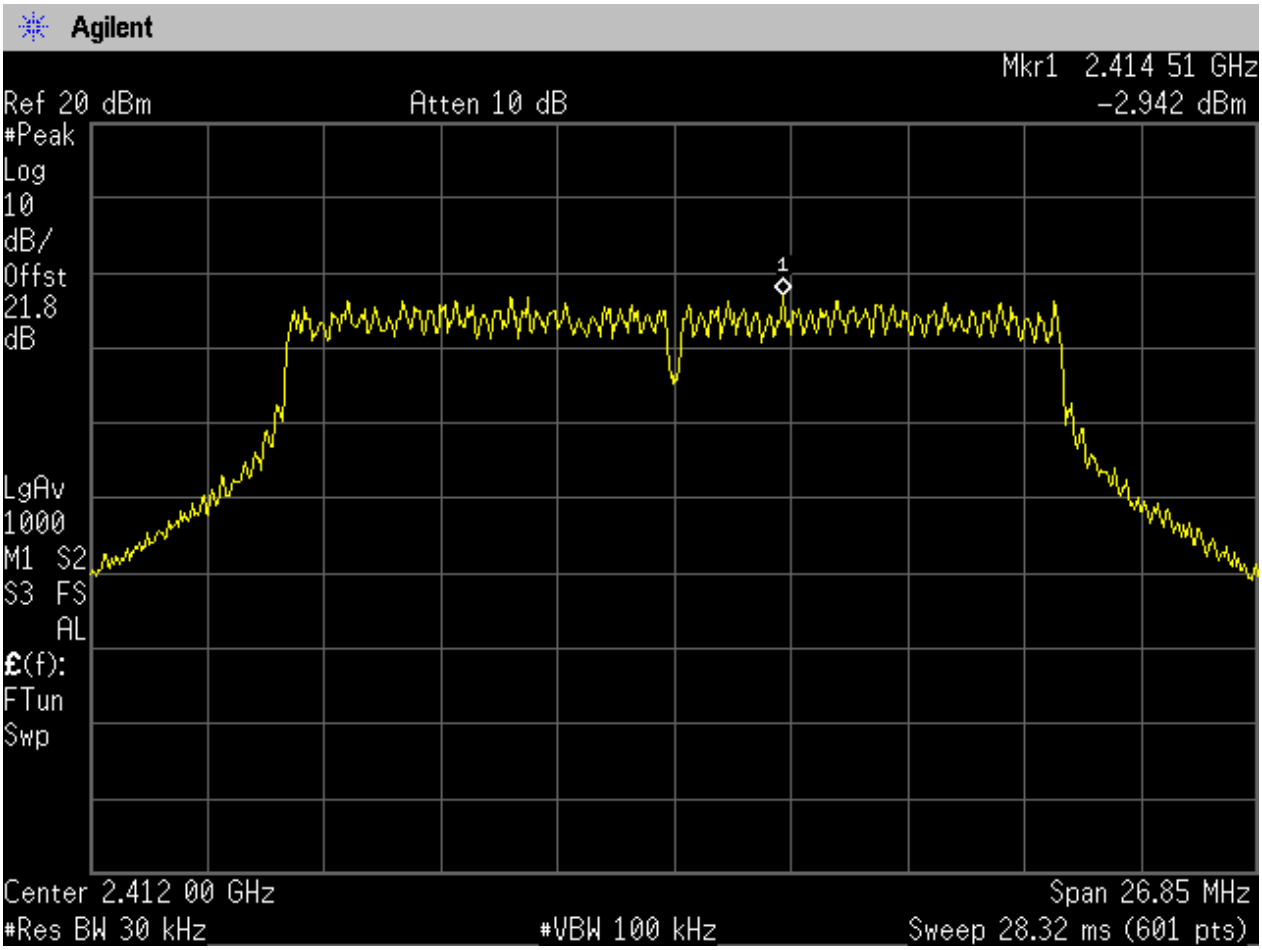


2.1911N20m/8_B@1+2

2.19.1 Ant 1

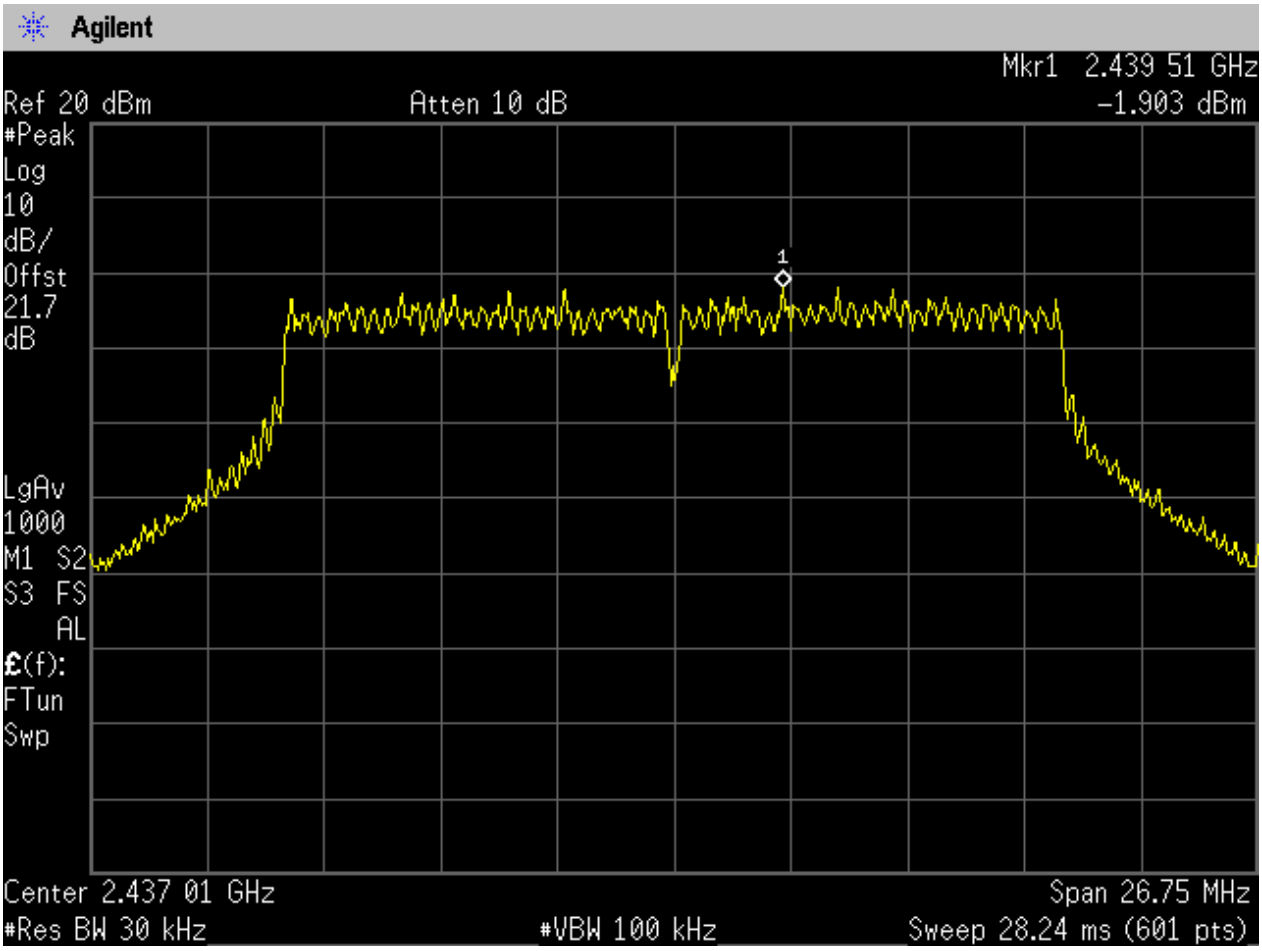


2.19.2 Ant 2

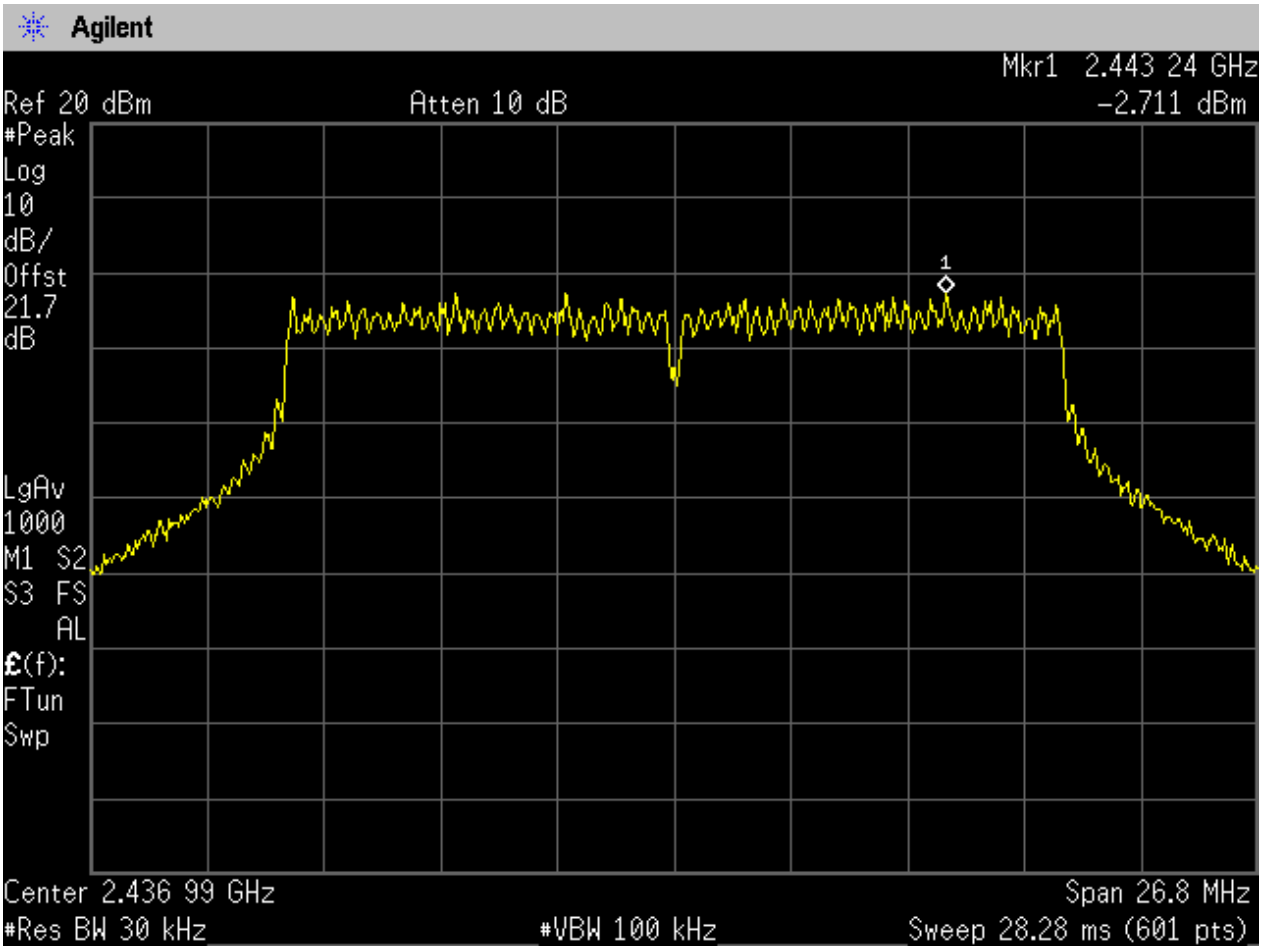


2.2011N20m/8_M@1+2

2.20.1 Ant 1

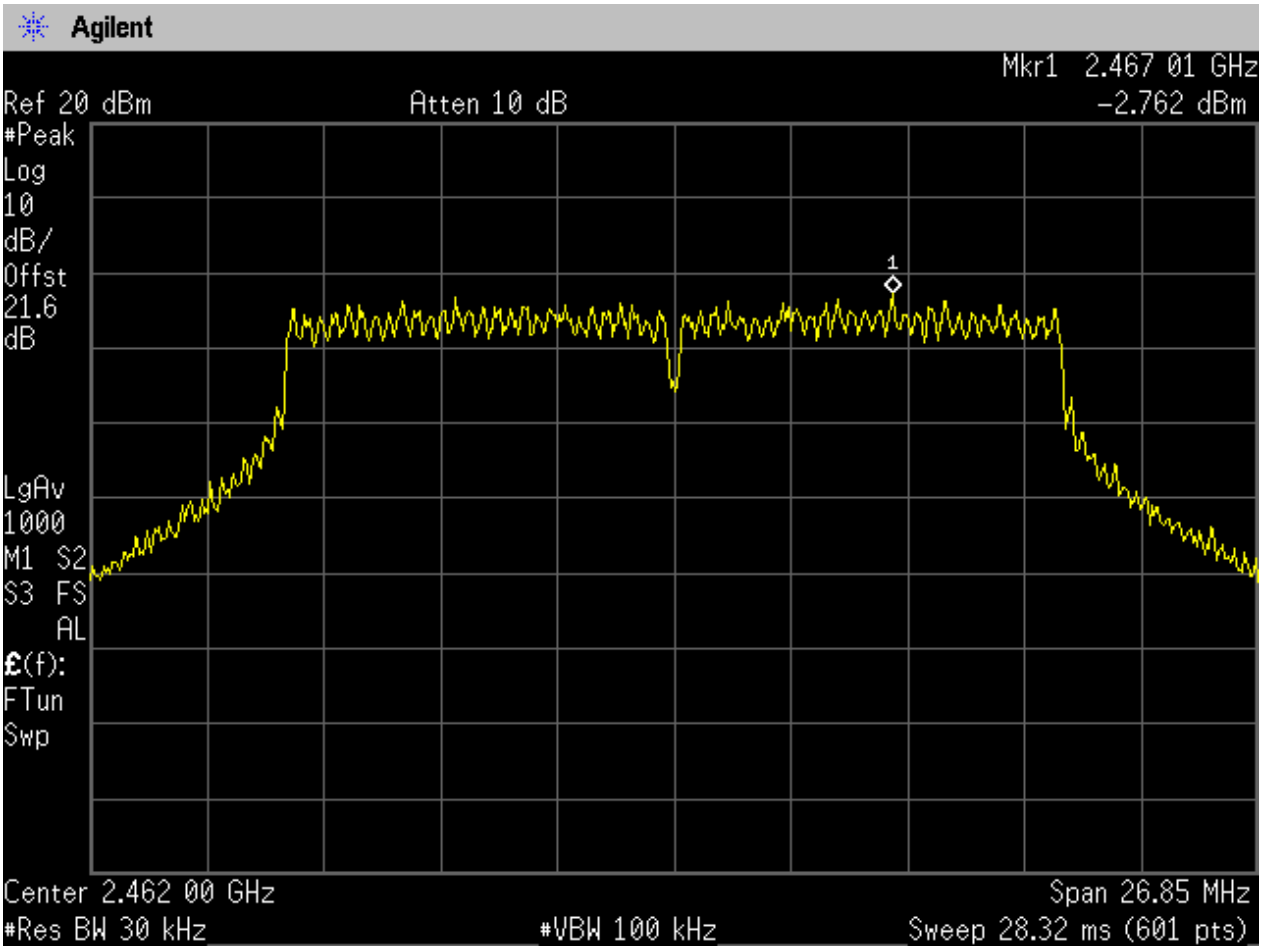


2.20.2 Ant 2

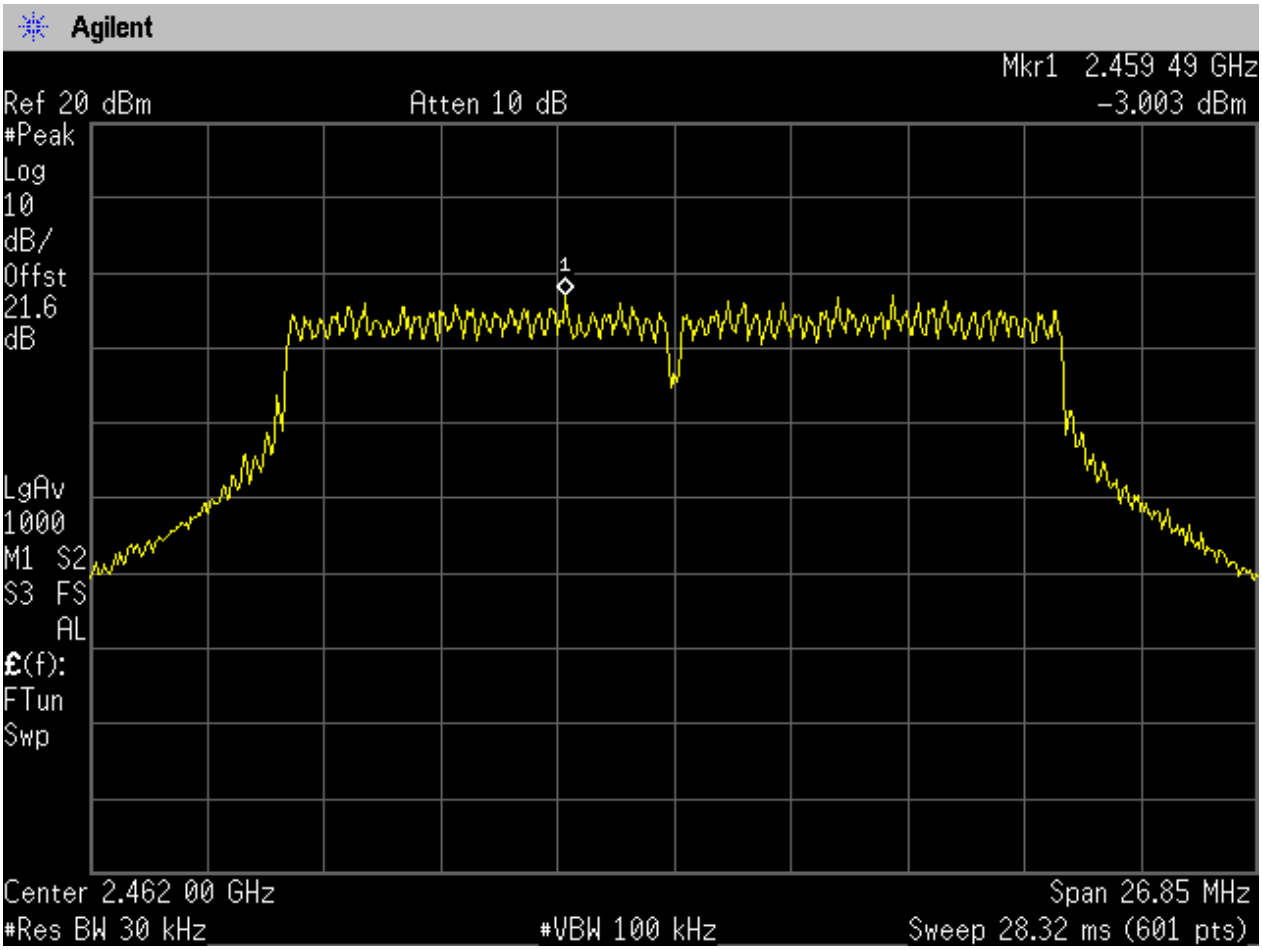


2.2111N20m/8_T@1+2

2.21.1 Ant 1



2.21.2 Ant 2



Appendix D: Unwanted Emissions into Non-Restricted Frequency Bands

1 Result Table

NOTE 1: In this Appendix, the Pref refers to the peak power level in any 100 kHz bandwidth within the fundamental emission which is used as the reference level, the Puw referrers to the maximum emission power in 100 kHz band segments outside of the authorized frequency band.

NOTE 2: Considering that the higher ratio of 100 kHz RBW to the span for the frequency ranges below 30 MHz make the results determination be complicated, a narrower RBW is used for these ranges but the measured value should add a RBW correction factor (RBWCF) where RBWCF [dB] = 10*lg(100 [kHz]/narrower RBW [kHz]). In this Appendix, the narrower RBW is 1 kHz and RBWCF is 20 dB for the frequency 9 kHz to 150 kHz, and the narrower RBW is 10 kHz and RBWCF is 10 dB for the frequency 150 kHz to 30 MHz.

NOTE 3: For measurements on smart antenna systems (devices with multiple transmit chains), the test is performed at each chain and used as respective results for each chain, due to the relative-limit requirement.

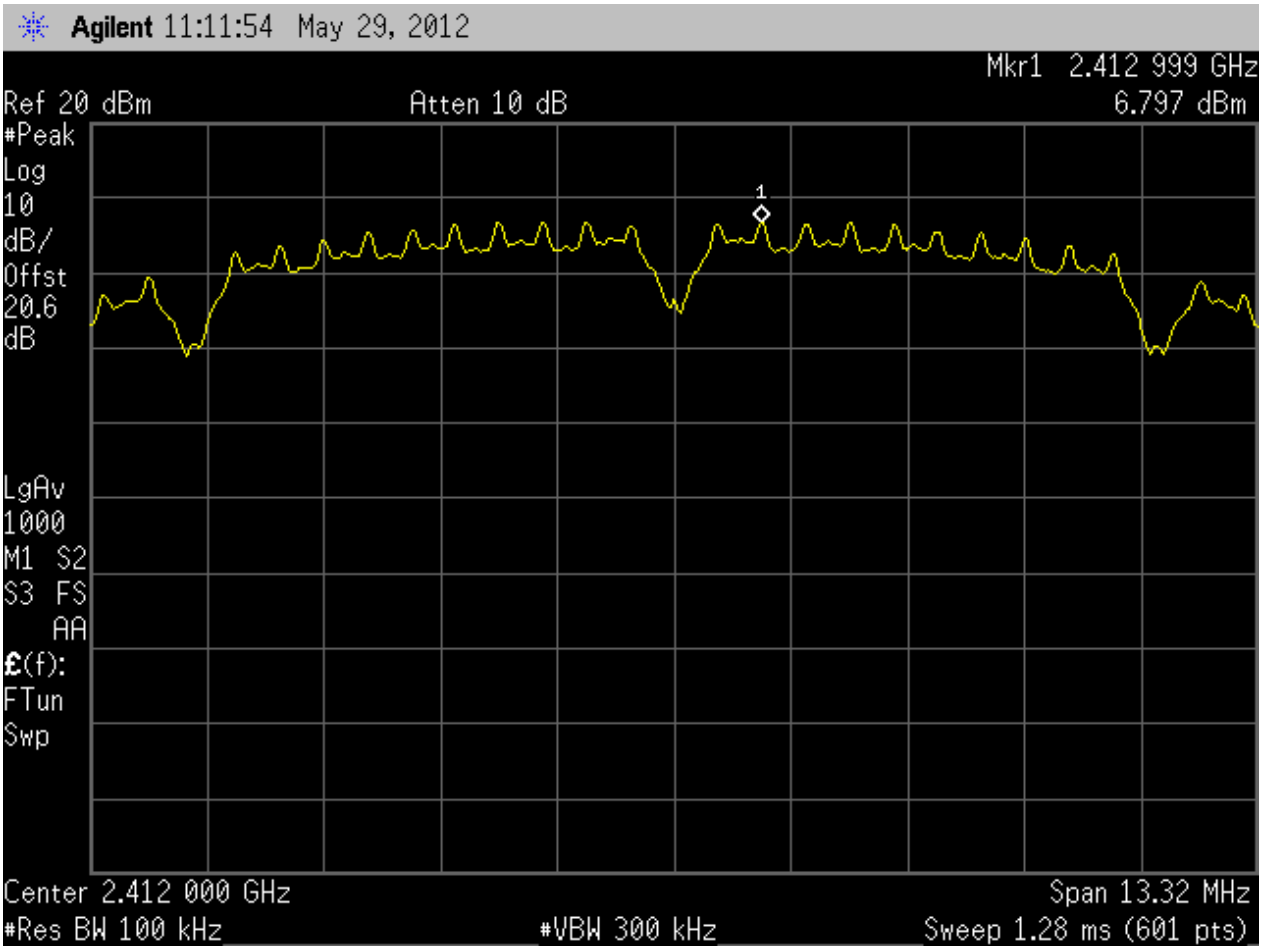
NOTE 4: In this Appendix, the "< Limit" in results table denotes "Puw less than Pref – 20 dB".

EUT Conf.	Pref@Ant 1 [dBm/100 kHz]	Puw@Ant 1 [dBm/100 kHz]	Pref@Ant 2 [dBm/100 kHz]	Puw@Ant 2 [dBm/100 kHz]	Verdict
11B/1_B@1	6.8	< Limit	---	---	Pass
11B/1_B@2	---	---	5.11	< Limit	Pass
11B/1_M@1	5.38	< Limit	---	---	Pass
11B/1_M@2	---	---	4.86	< Limit	Pass
11B/1_T@1	4.99	< Limit	---	---	Pass
11B/1_T@2	---	---	4.82	< Limit	Pass
11G/6_B@1	0.75	< Limit	---	---	Pass
11G/6_B@2	---	---	0.43	< Limit	Pass
11G/6_M@1	0.83	< Limit	---	---	Pass
11G/6_M@2	---	---	0.5	< Limit	Pass
11G/6_T@1	0.47	< Limit	---	---	Pass
11G/6_T@2	---	---	0.26	< Limit	Pass
11N20/0_B@1	1.04	< Limit	---	---	Pass
11N20/0_B@2	---	---	-0.32	< Limit	Pass
11N20/0_M@1	0.46	< Limit	---	---	Pass
11N20/0_M@2	---	---	0.1	< Limit	Pass
11N20/0_T@1	0.3	< Limit	---	---	Pass
11N20/0_T@2	---	---	-0.03	< Limit	Pass
11N20m/8_B@1+2	-1.98	< Limit	-1.05	< Limit	Pass
11N20m/8_M@1+2	-1.87	< Limit	-1.12	< Limit	Pass
11N20m/8_T@1+2	-0.41	< Limit	-1.91	< Limit	Pass

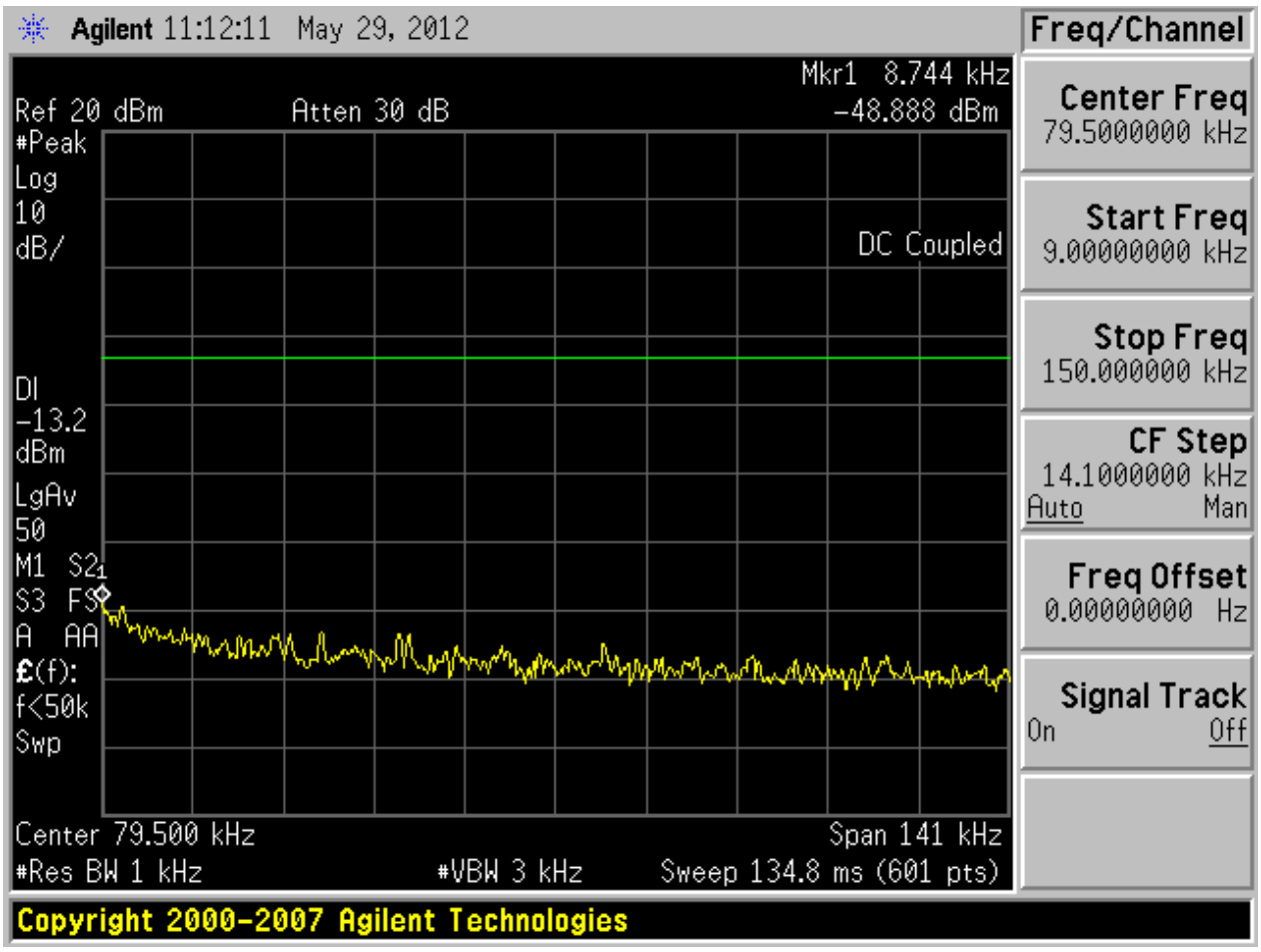
2 Test Plot

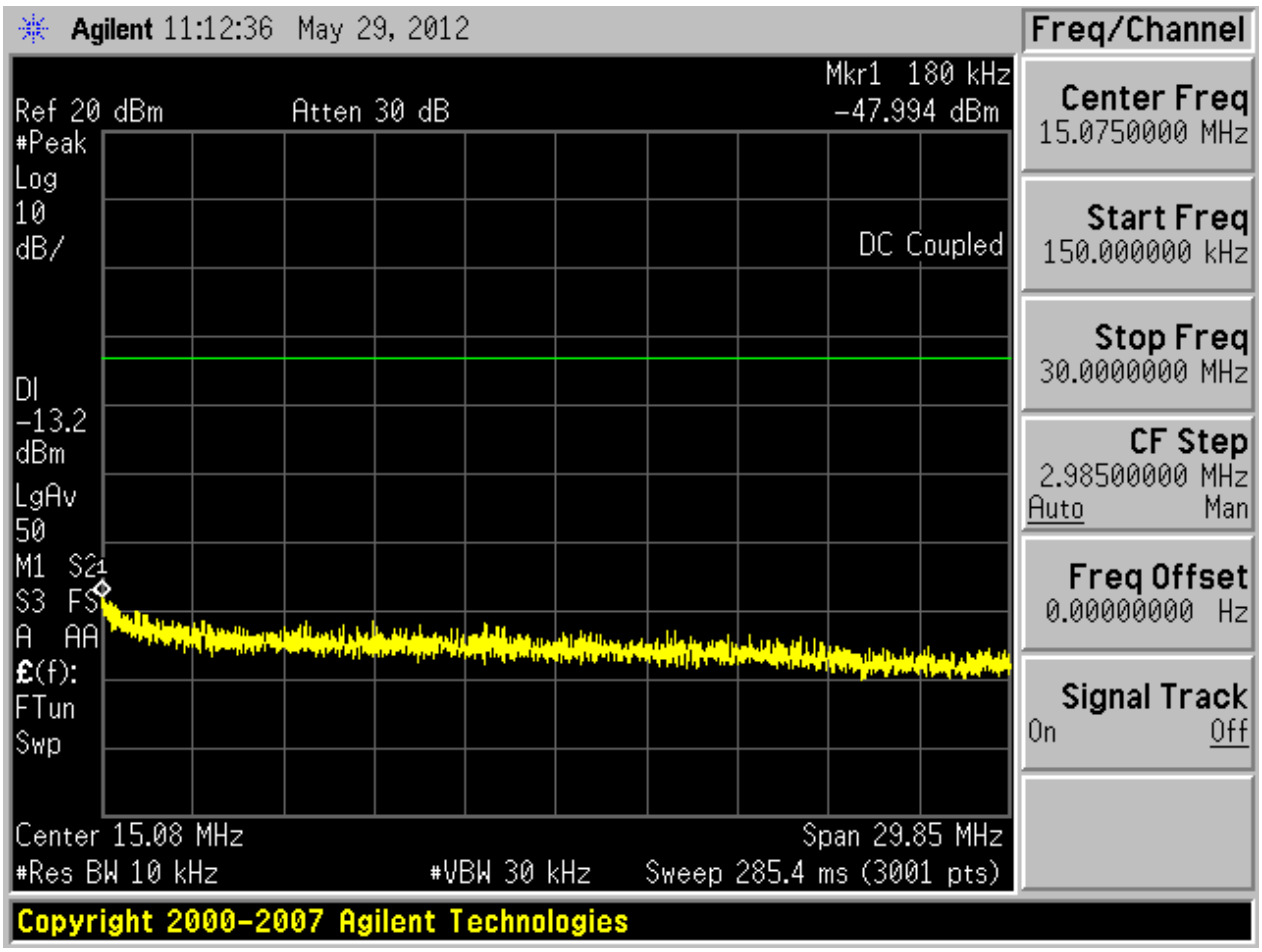
2.1 11B/1_B@1

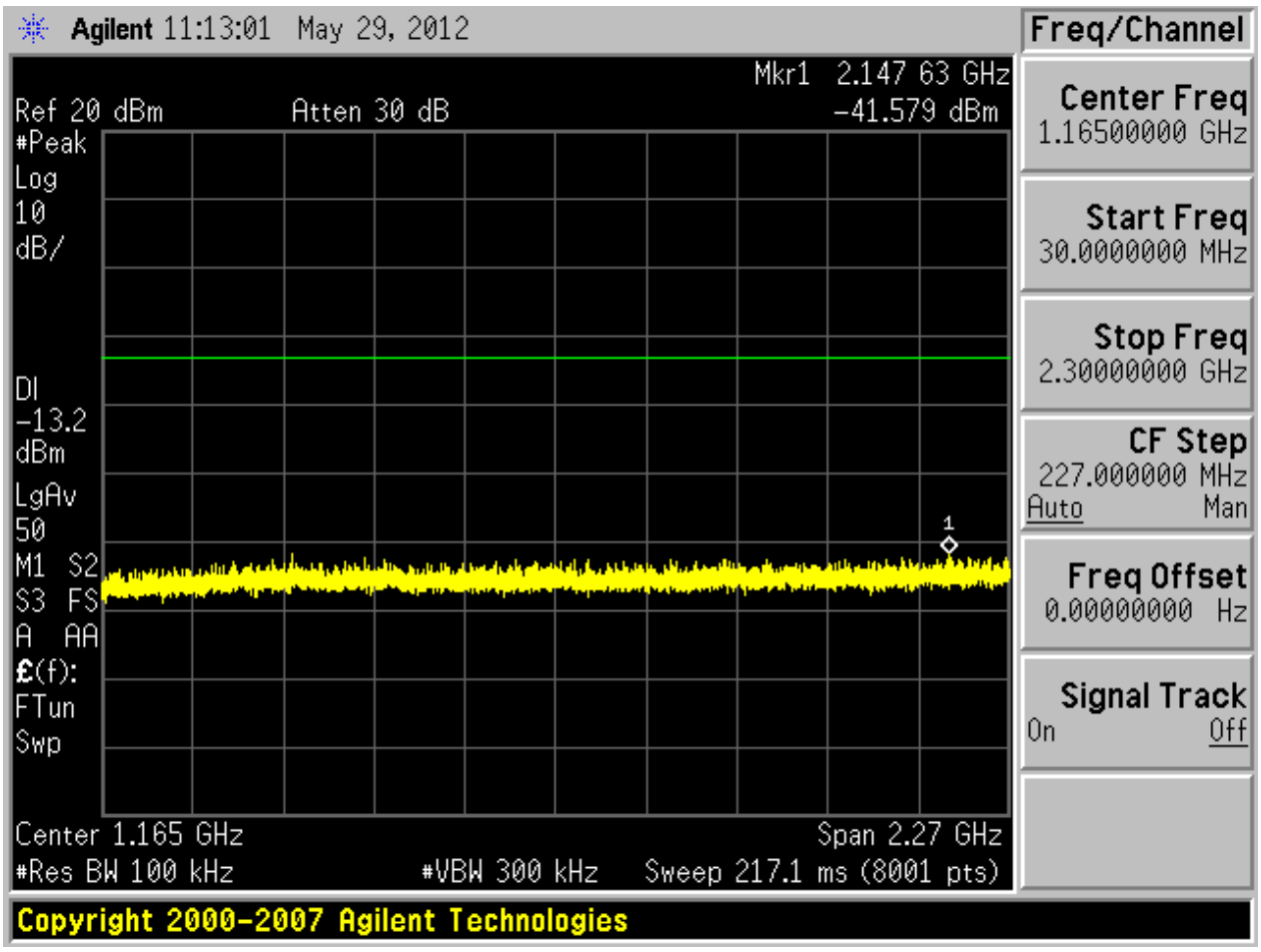
2.1.1 Pref

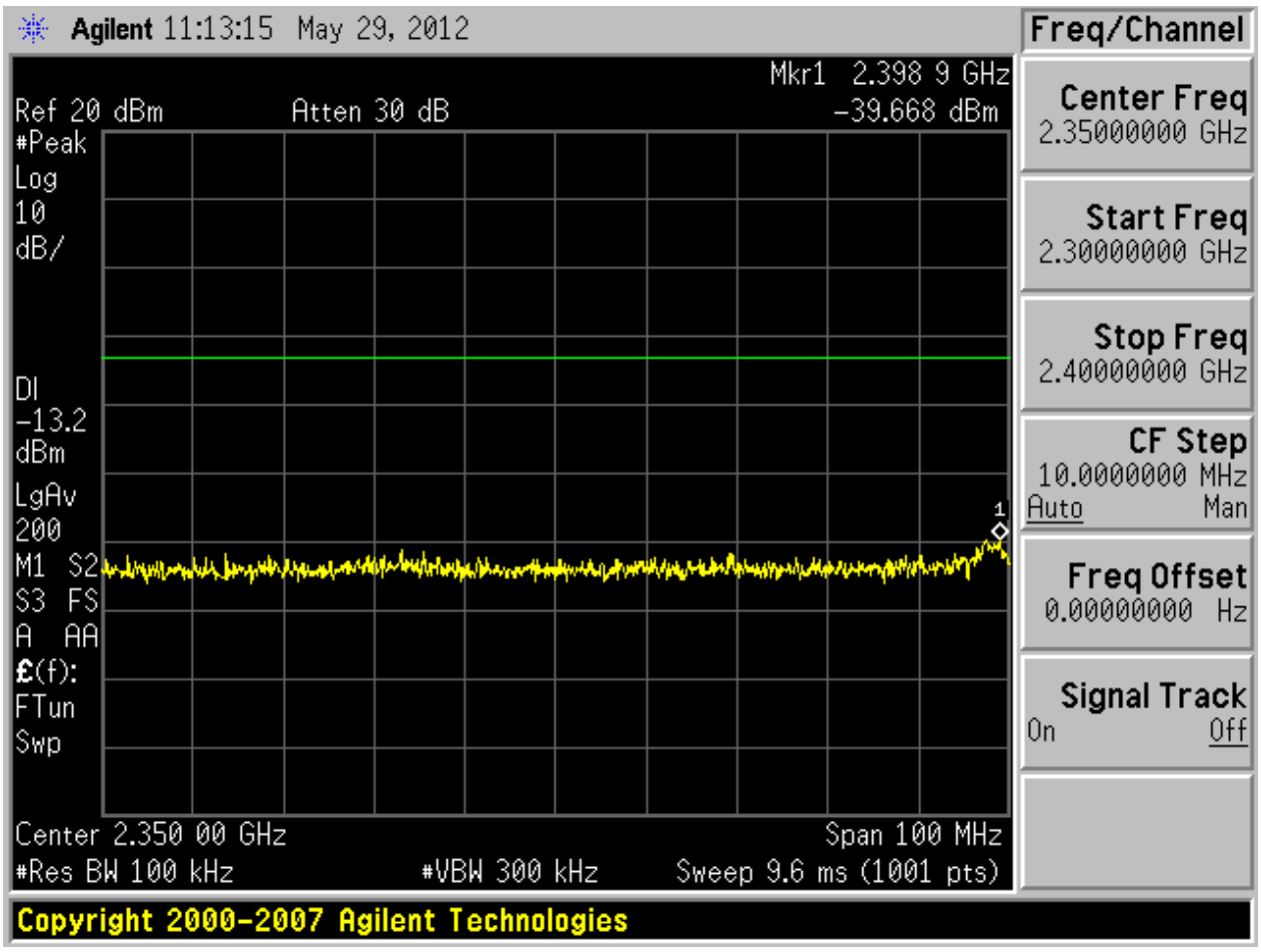


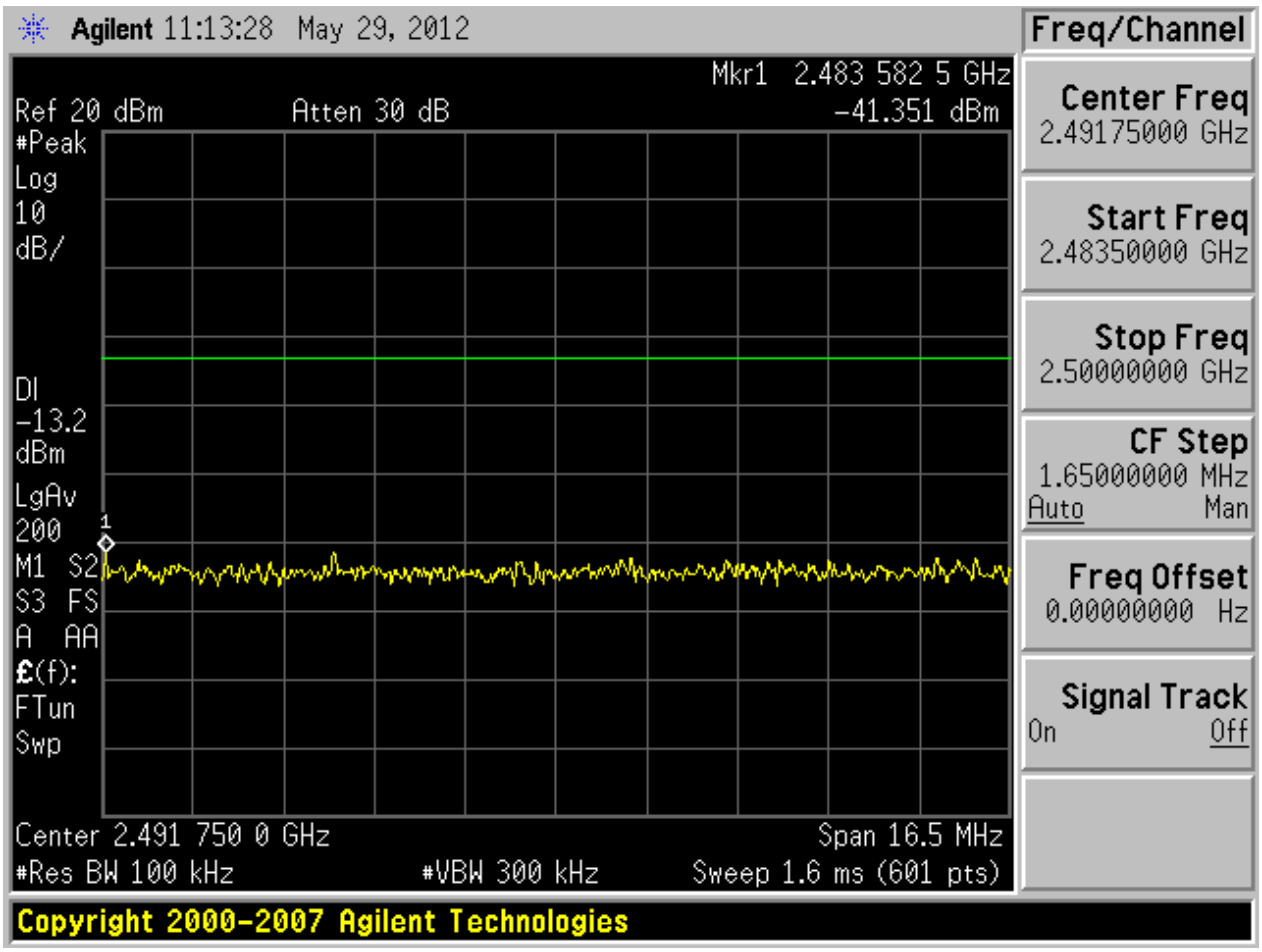
2.1.2 Puw

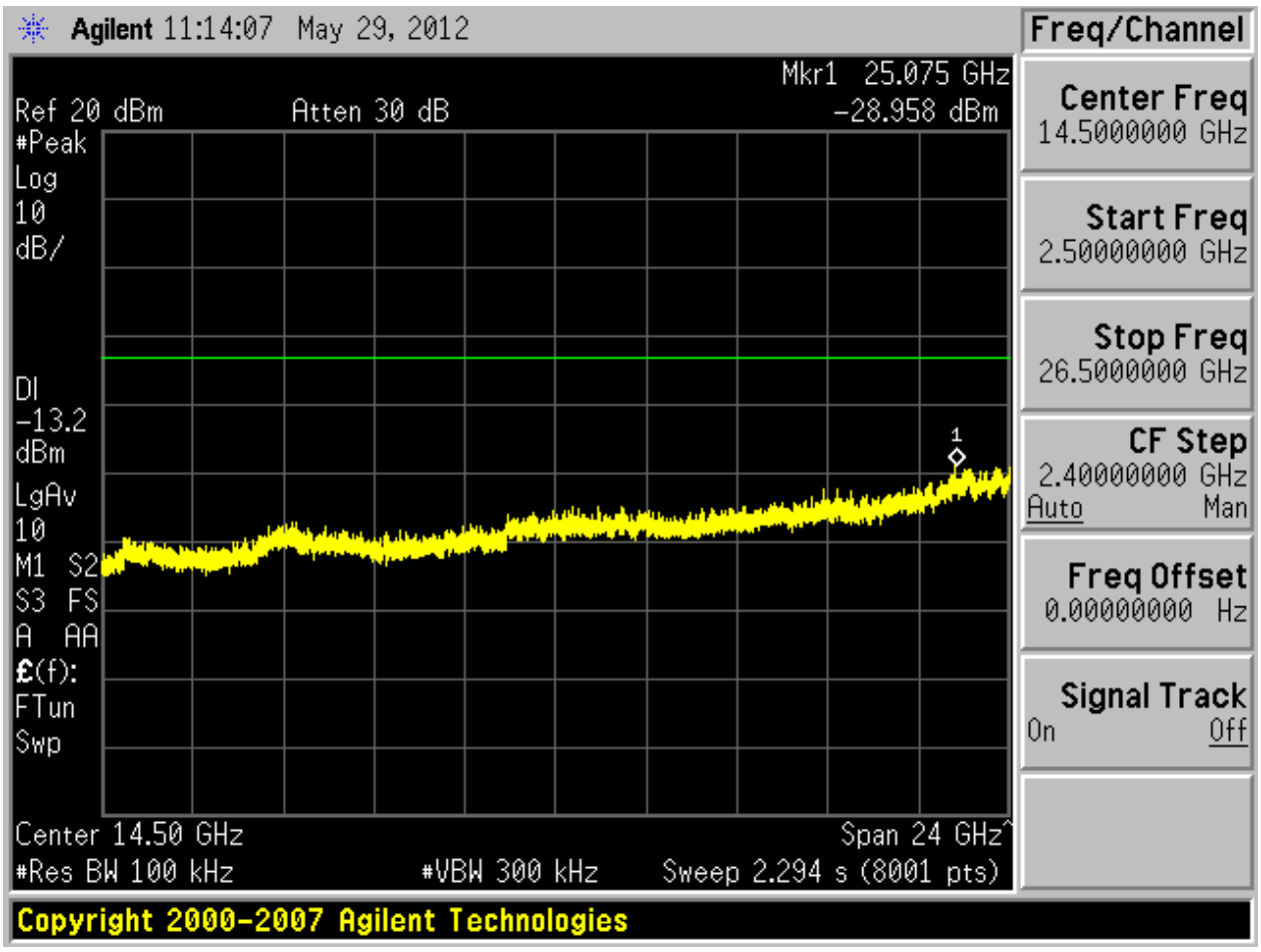






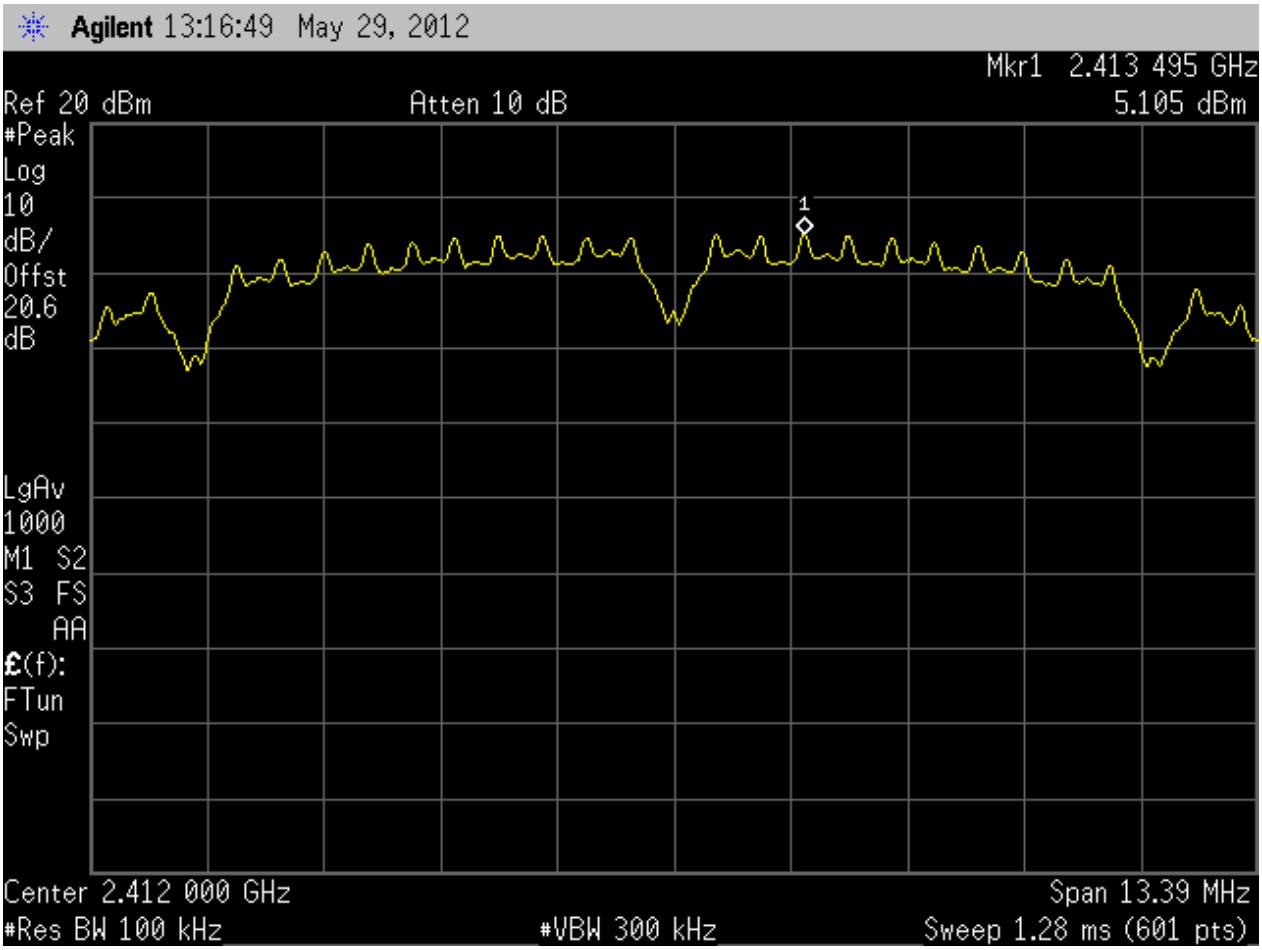




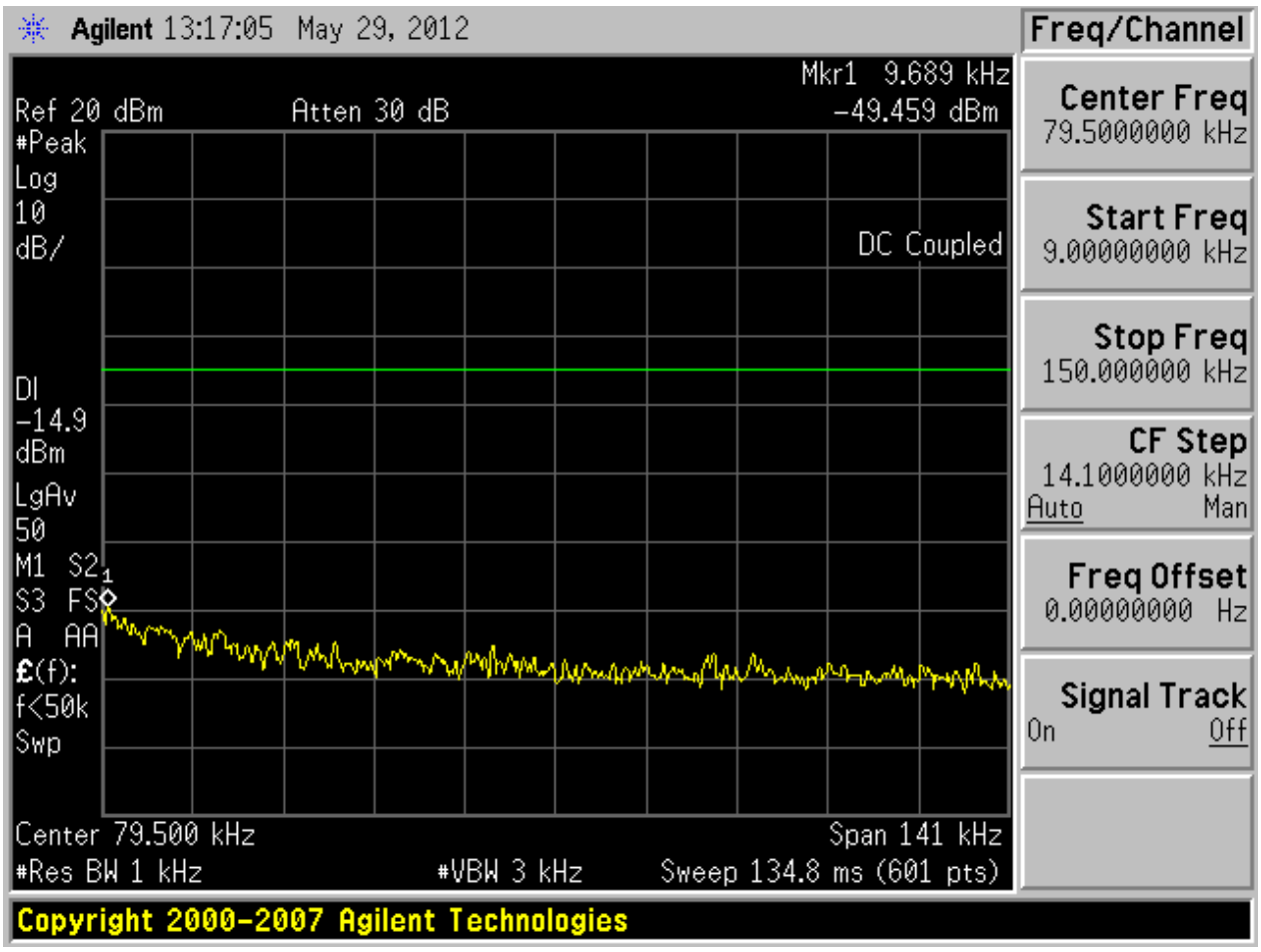


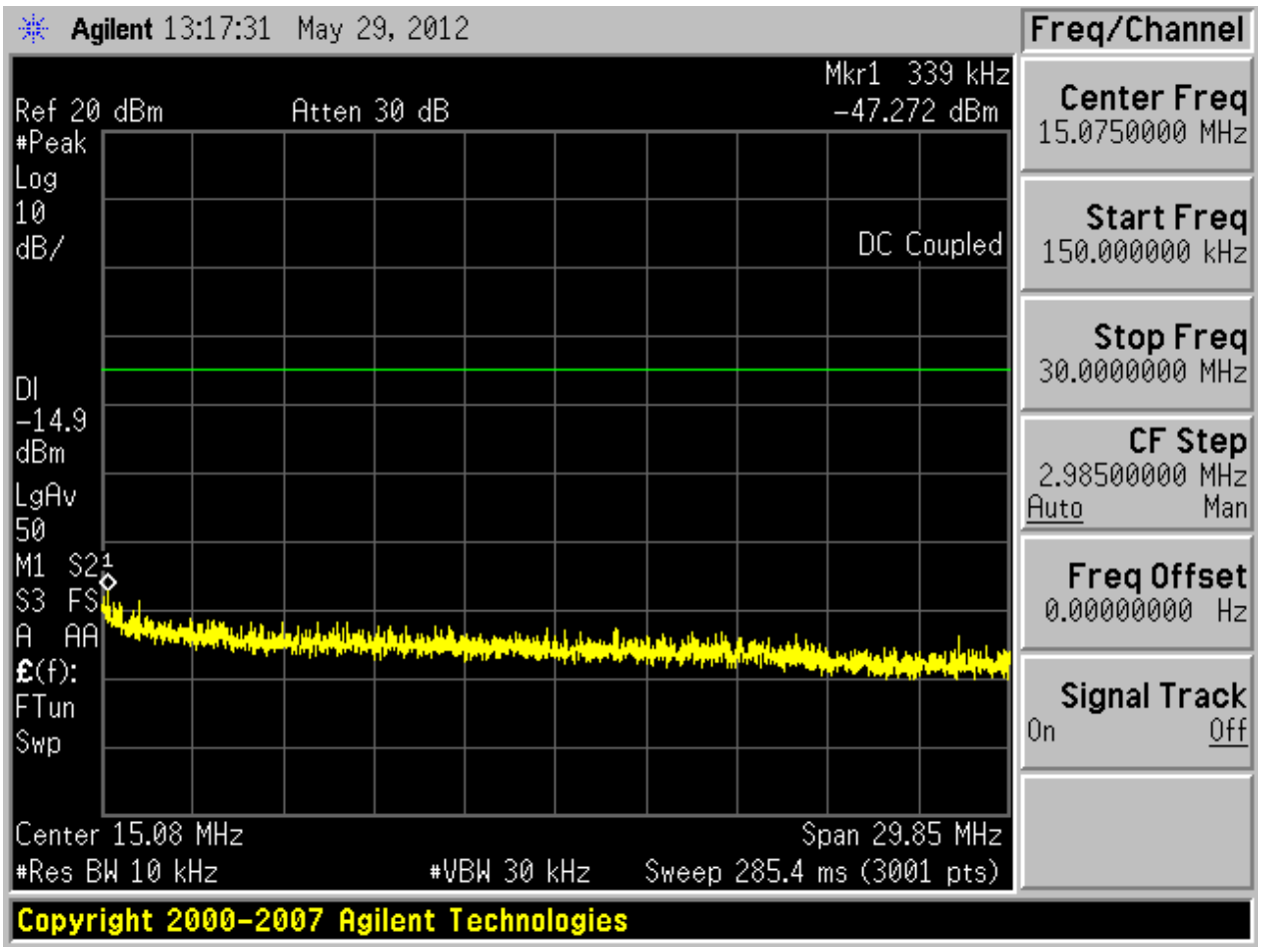
2.2 11B/1_B@2

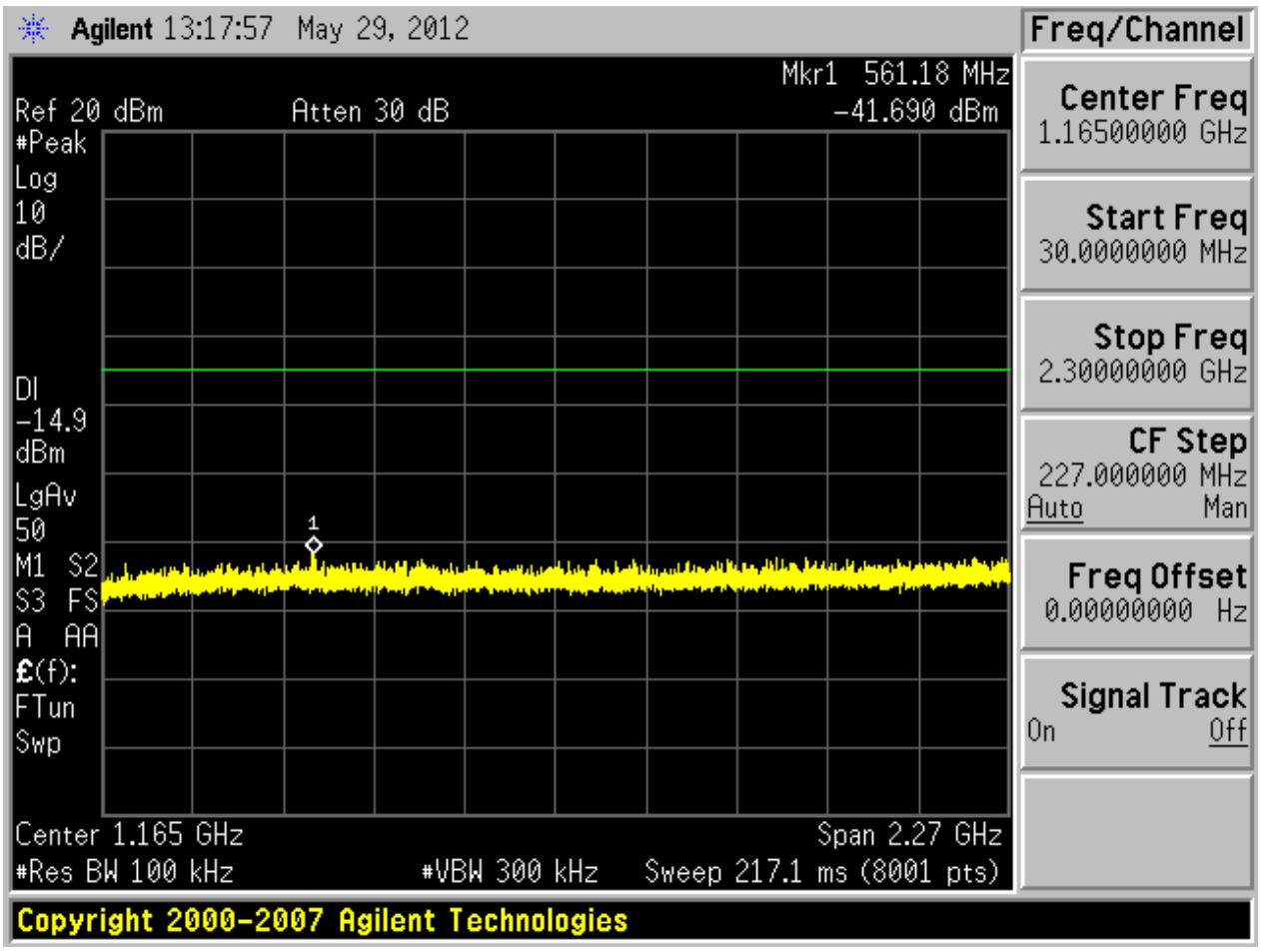
2.2.1 Pref

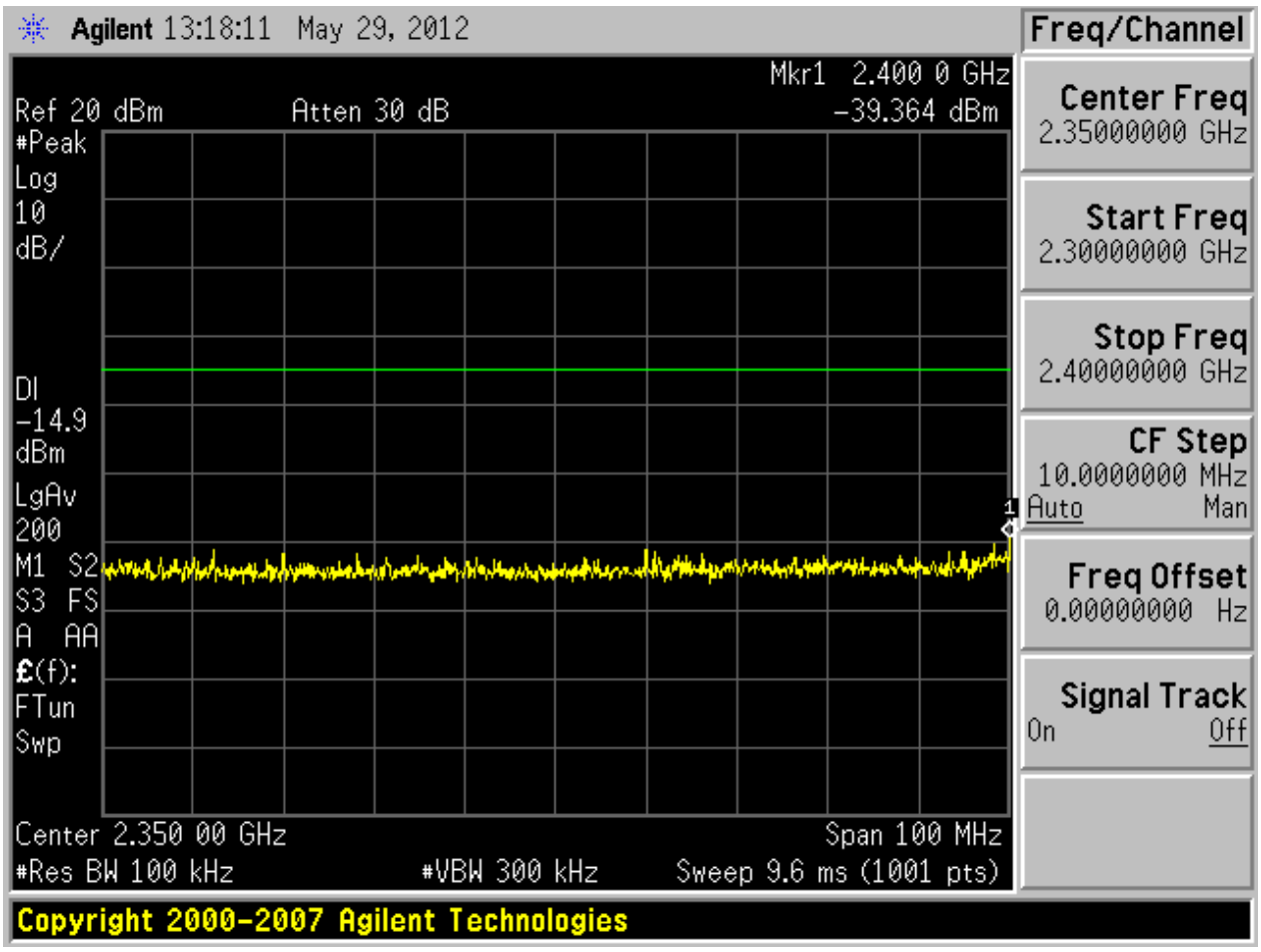


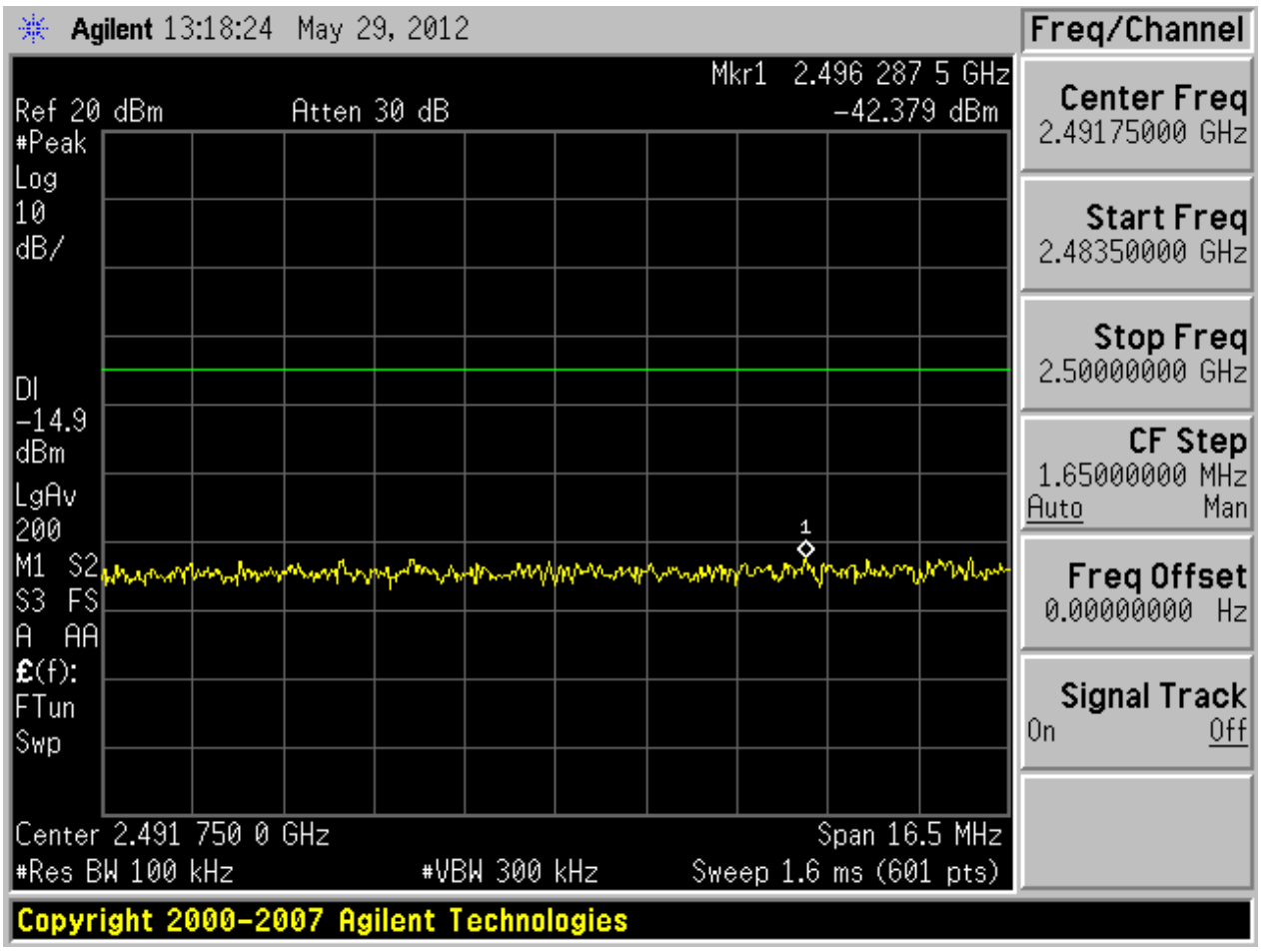
2.2.2 Puw

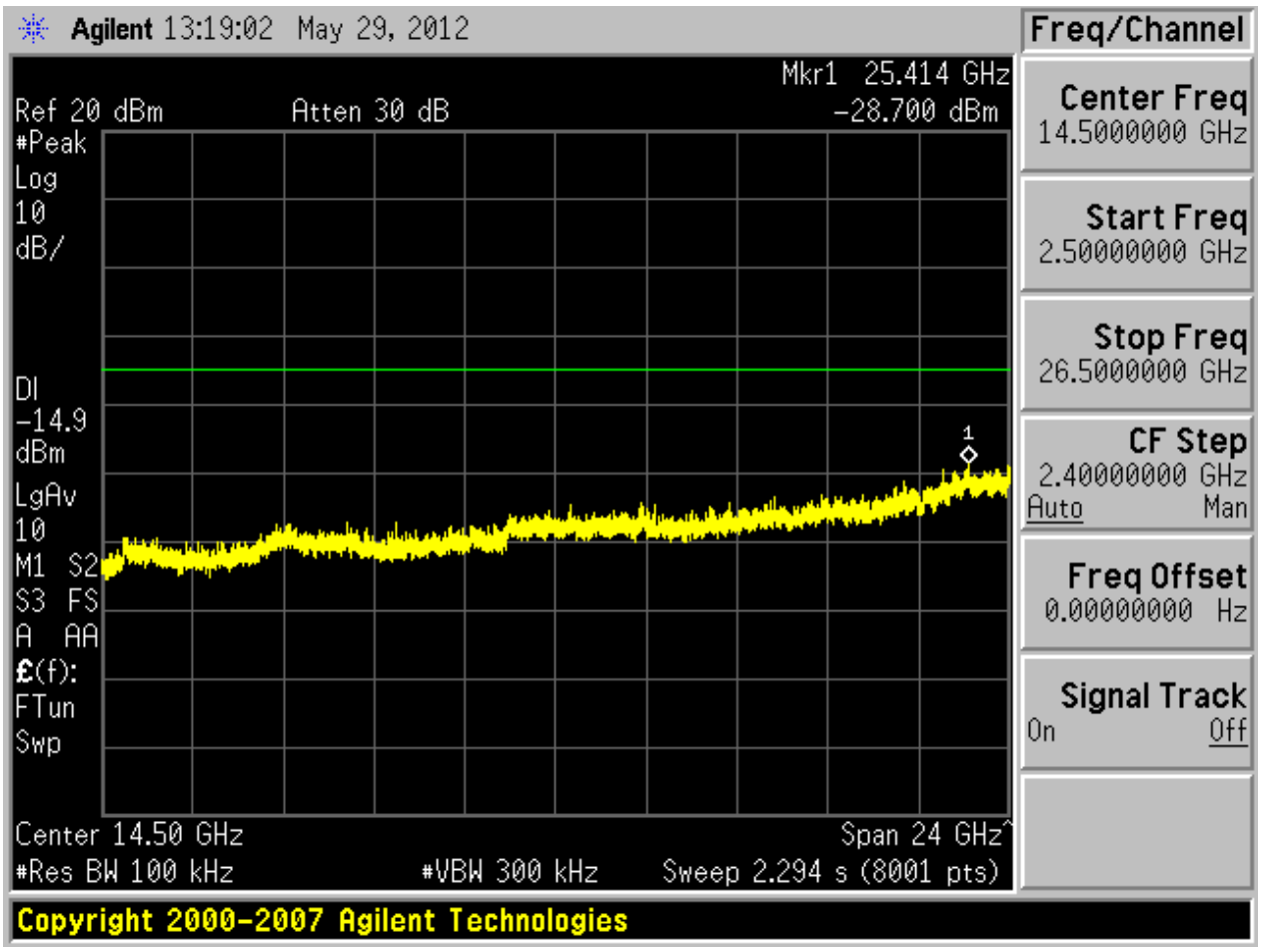






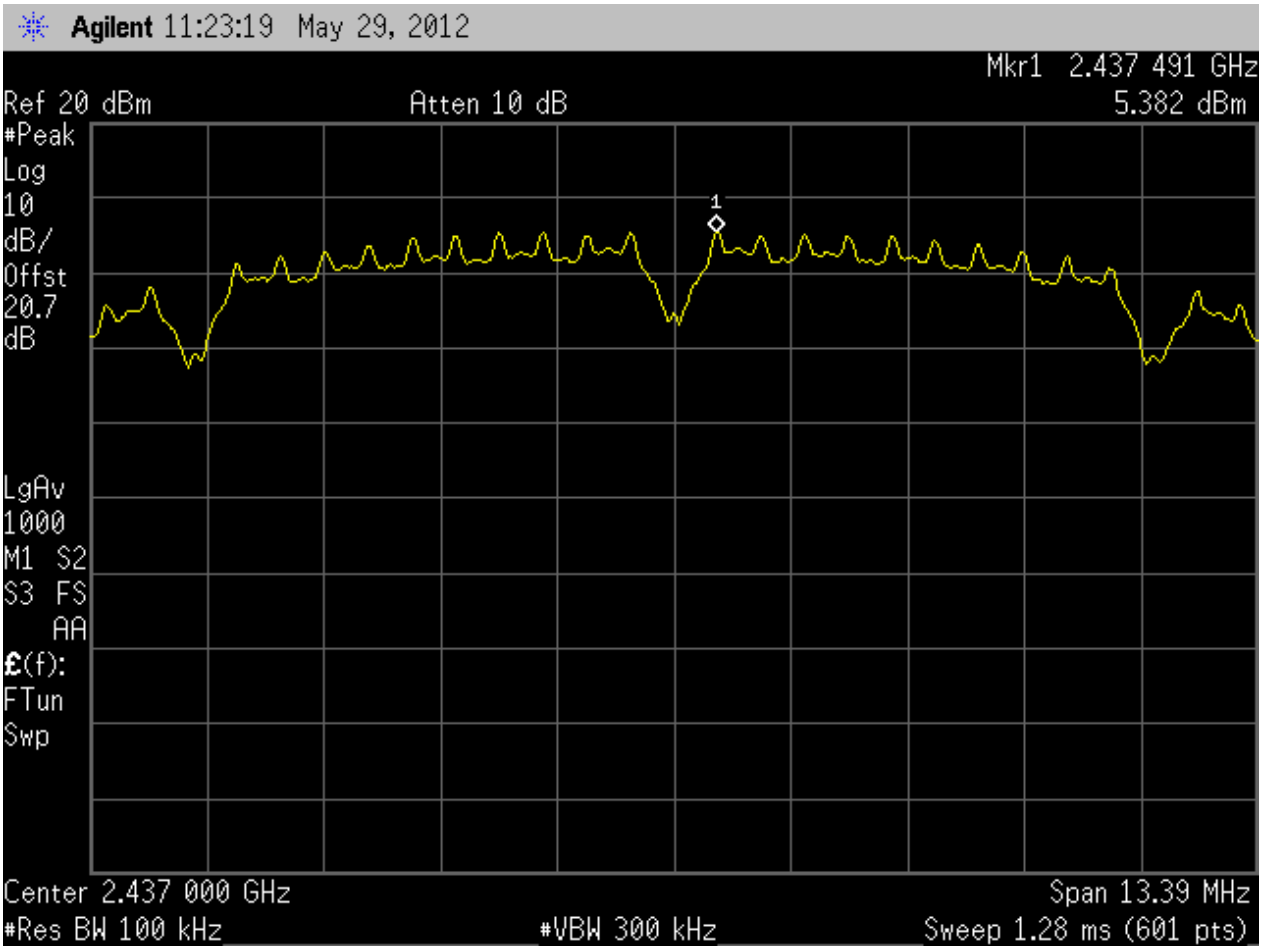




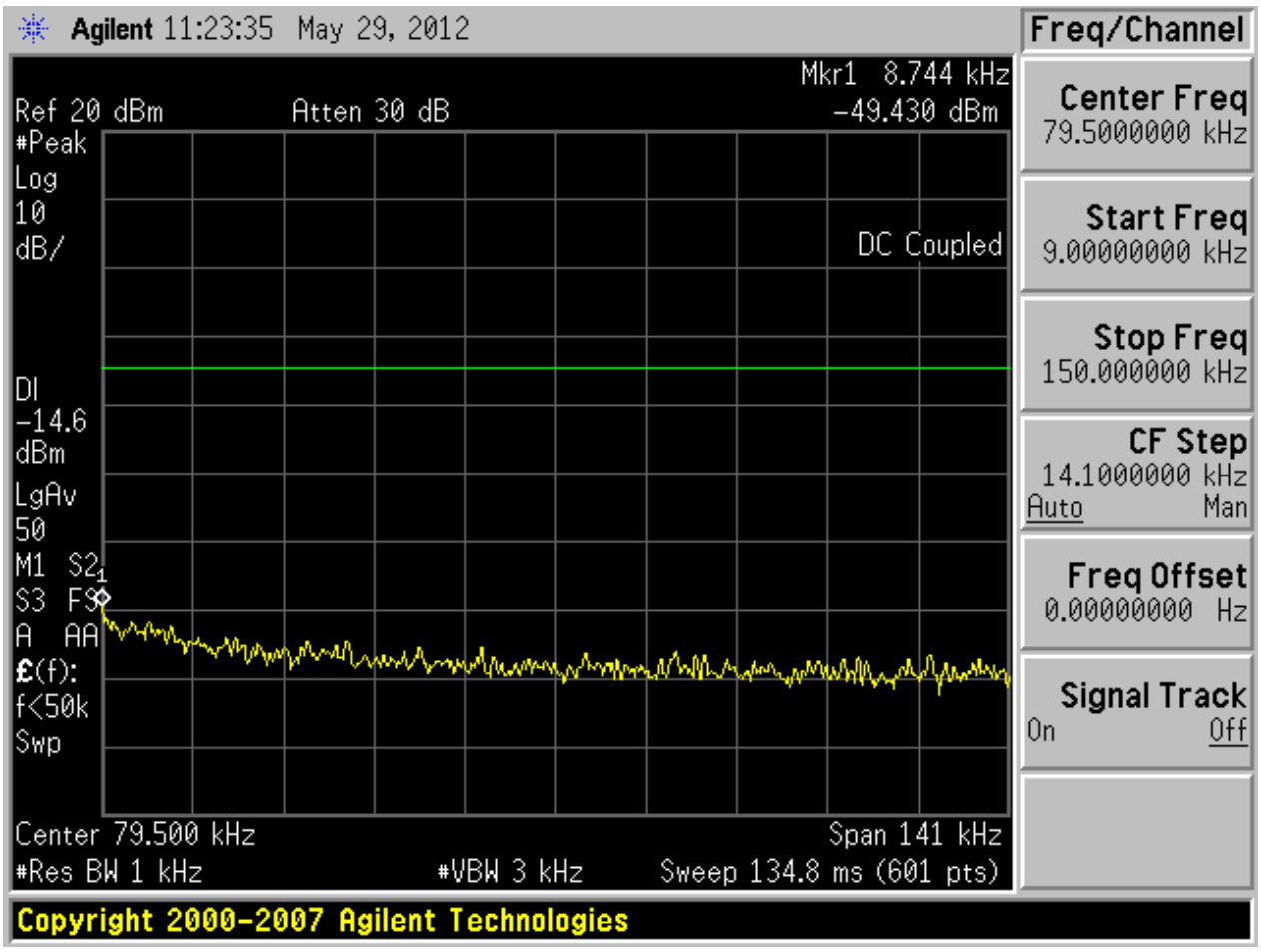


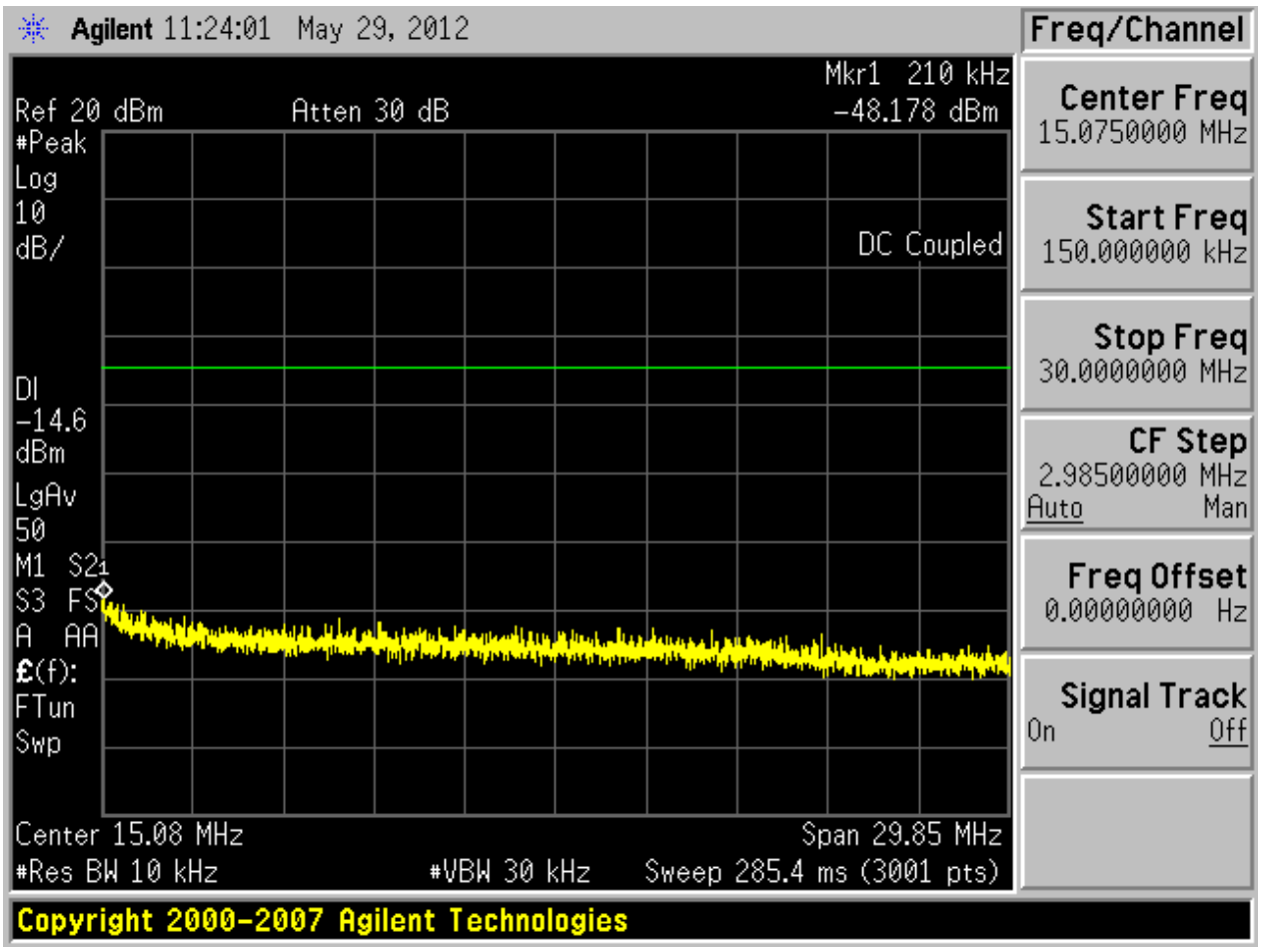
2.3 11B/1_M@1

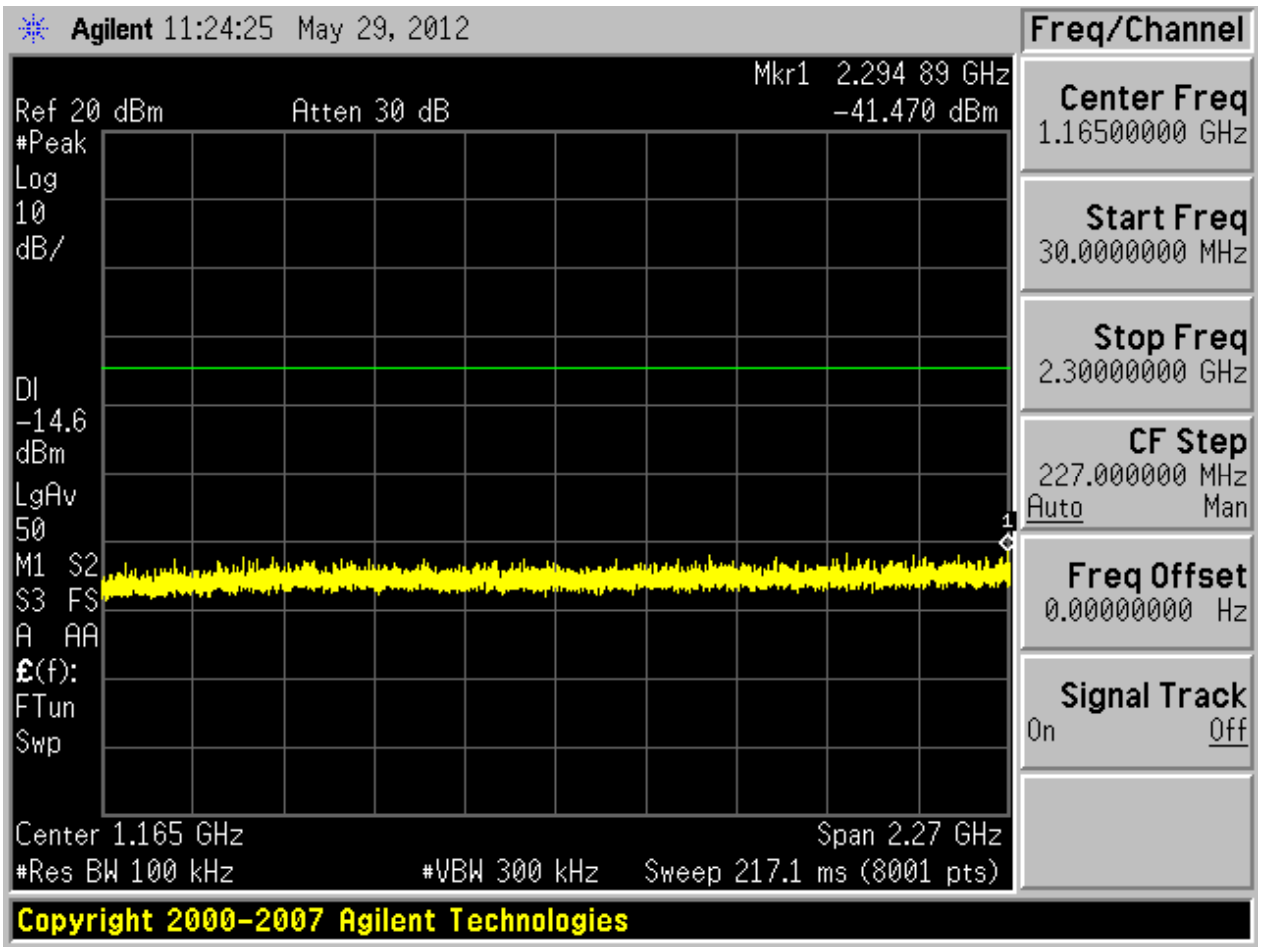
2.3.1 Pref

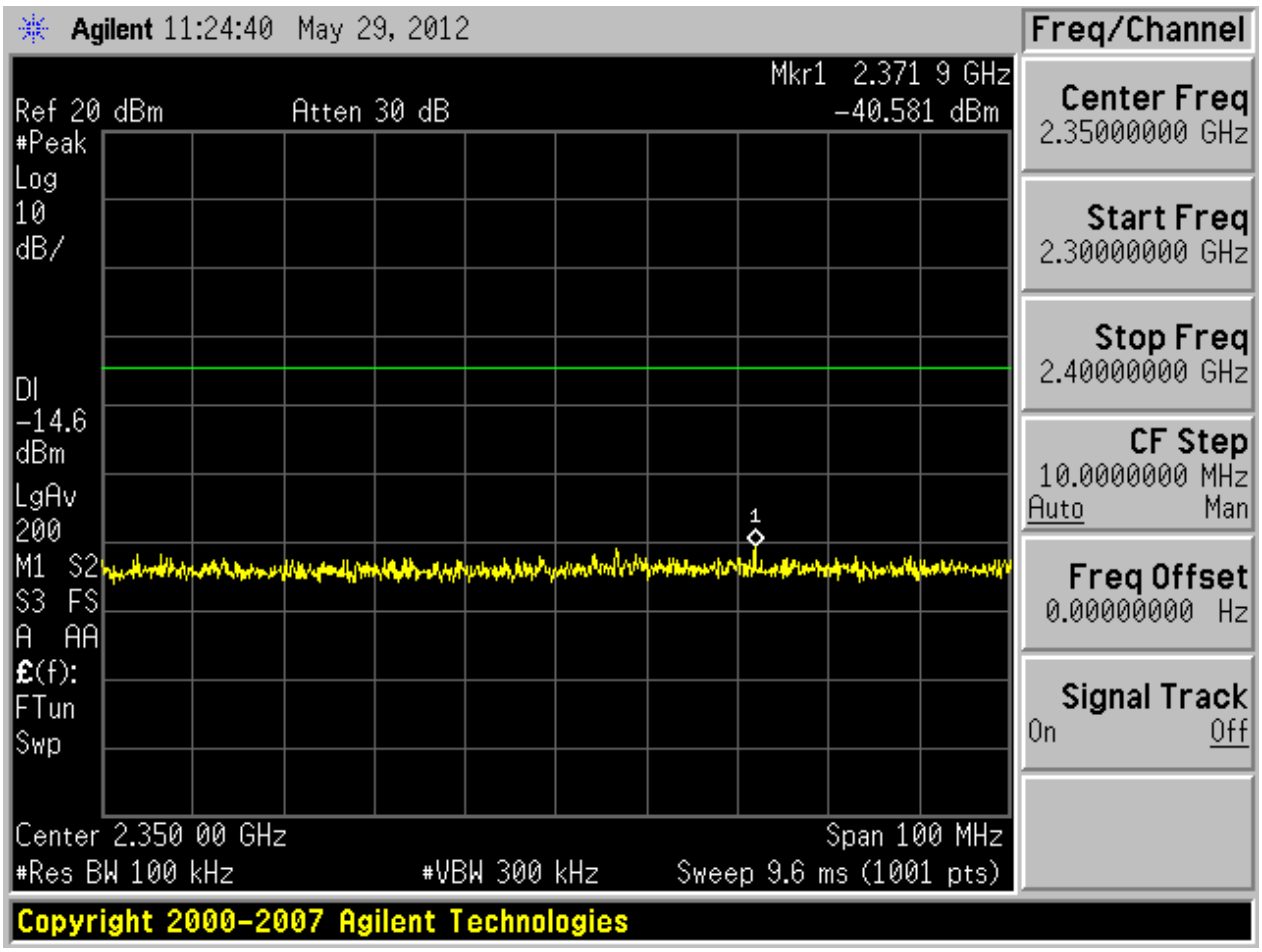


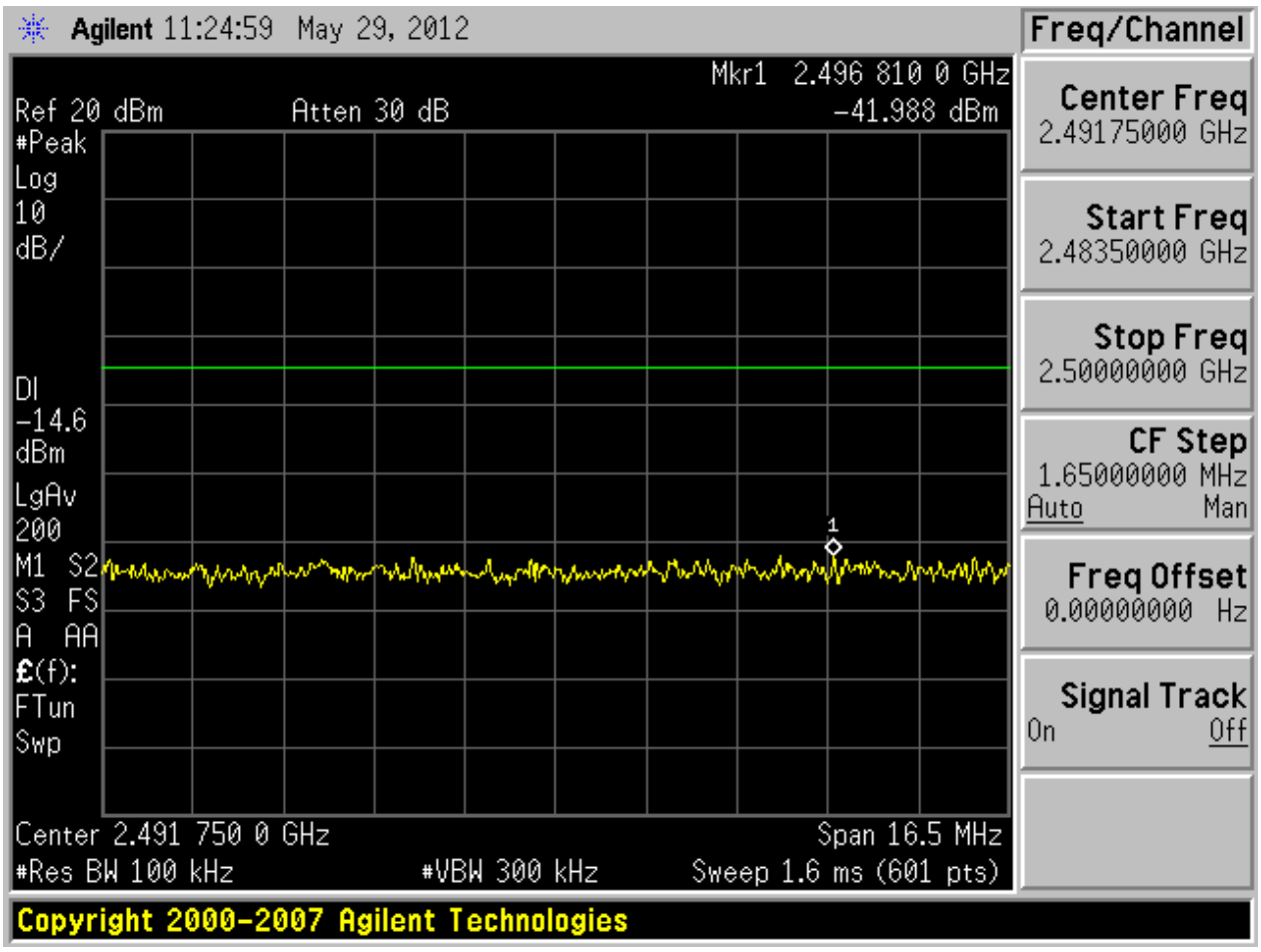
2.3.2 Puw

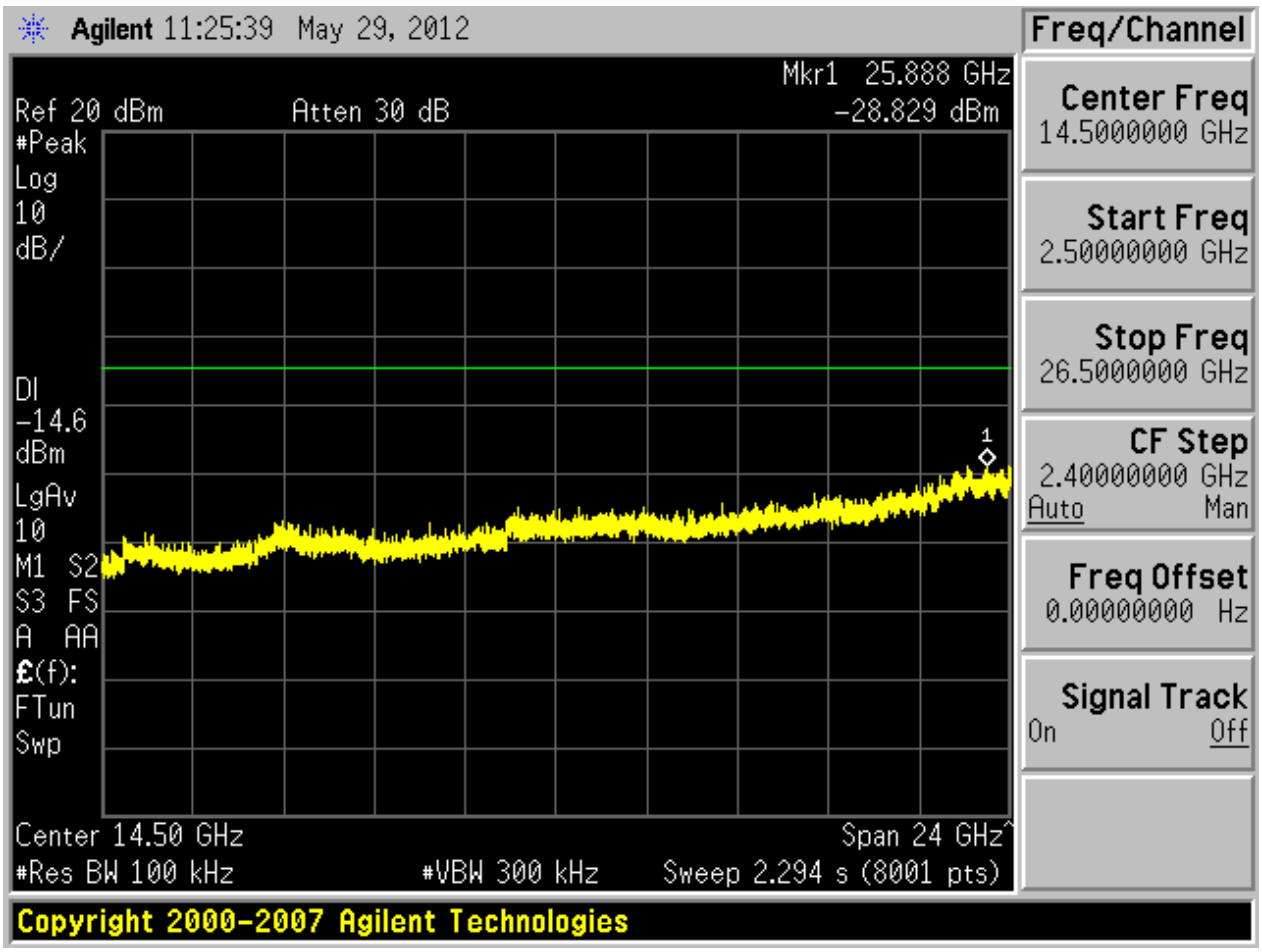






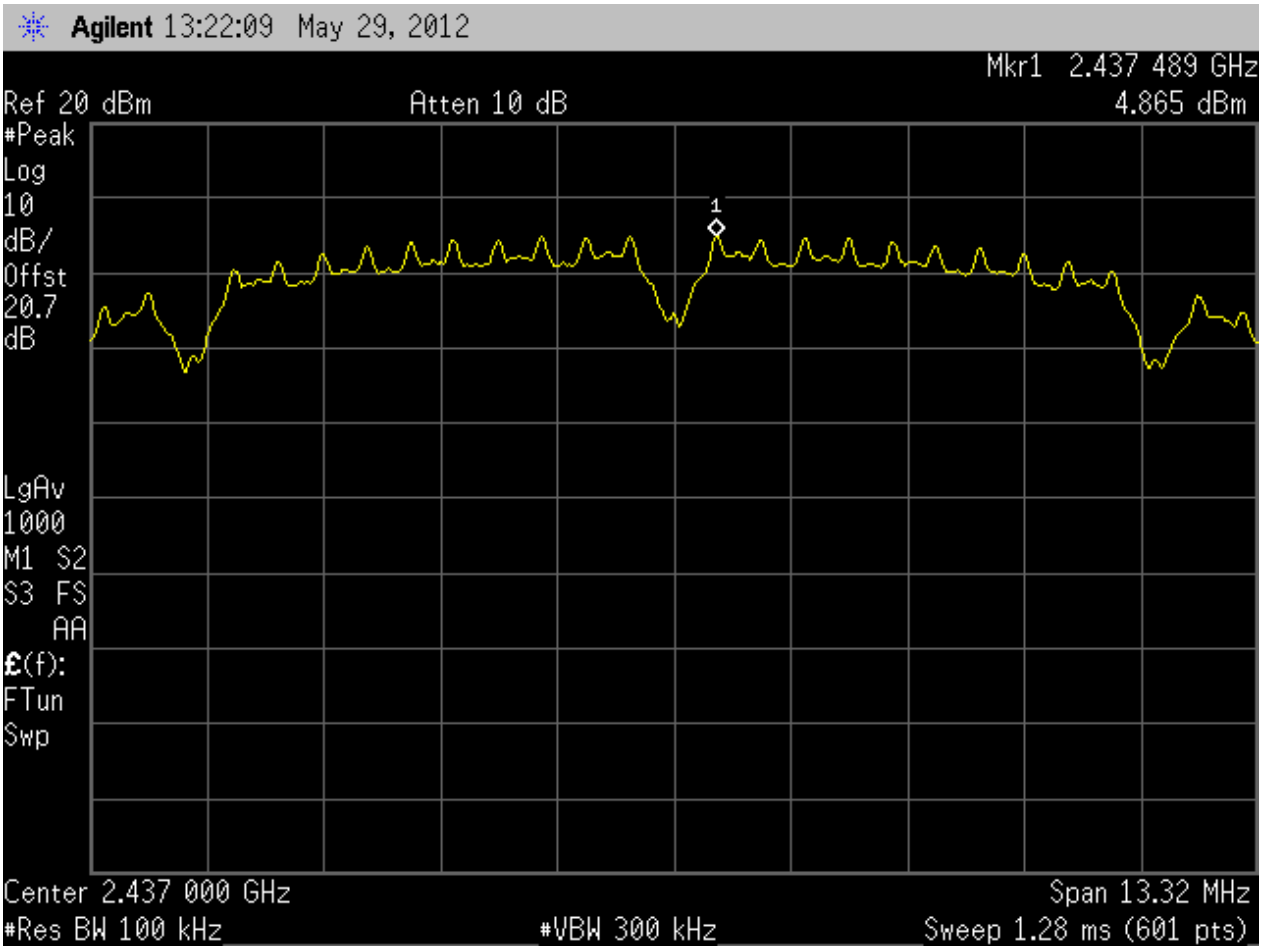




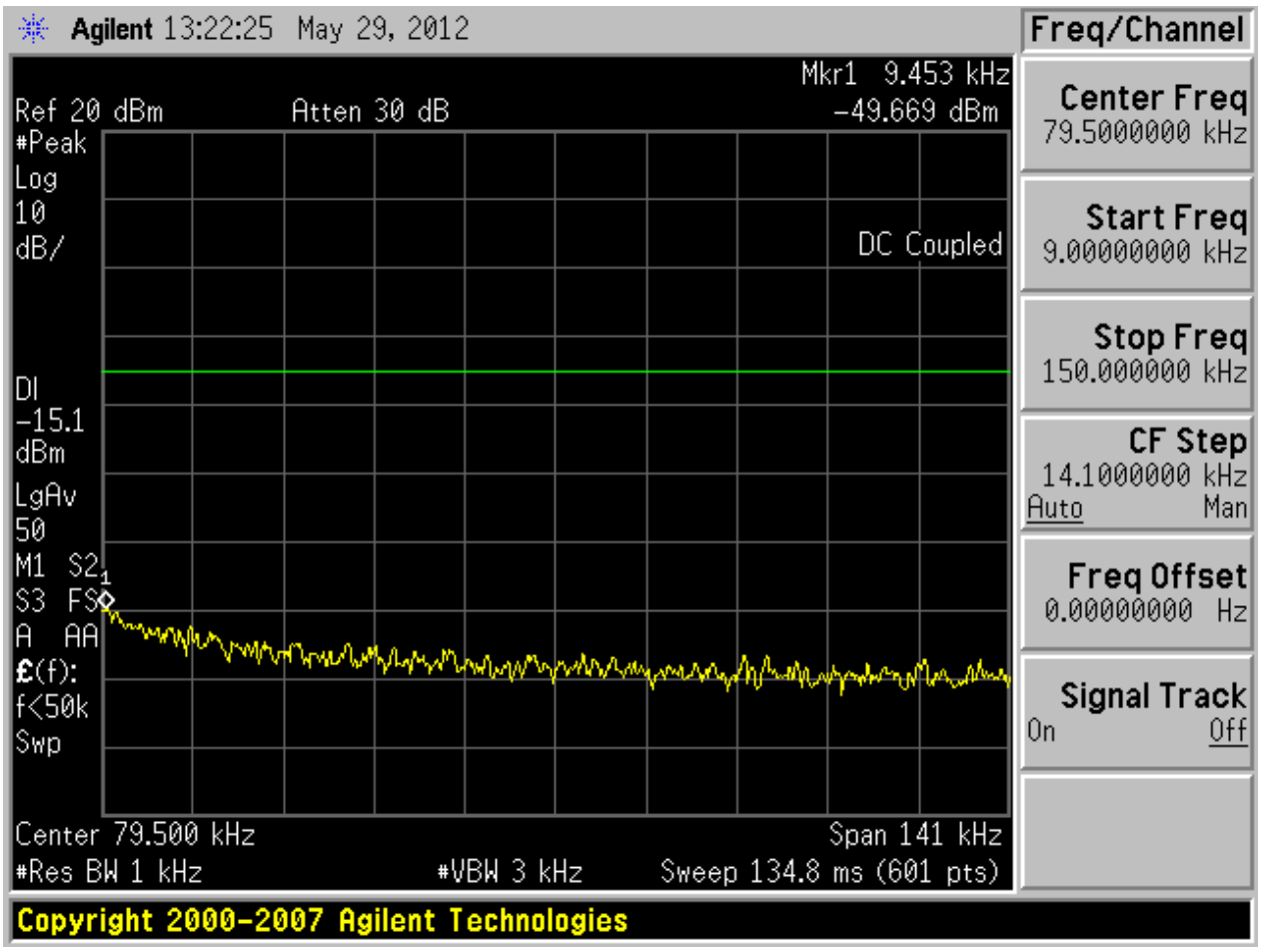


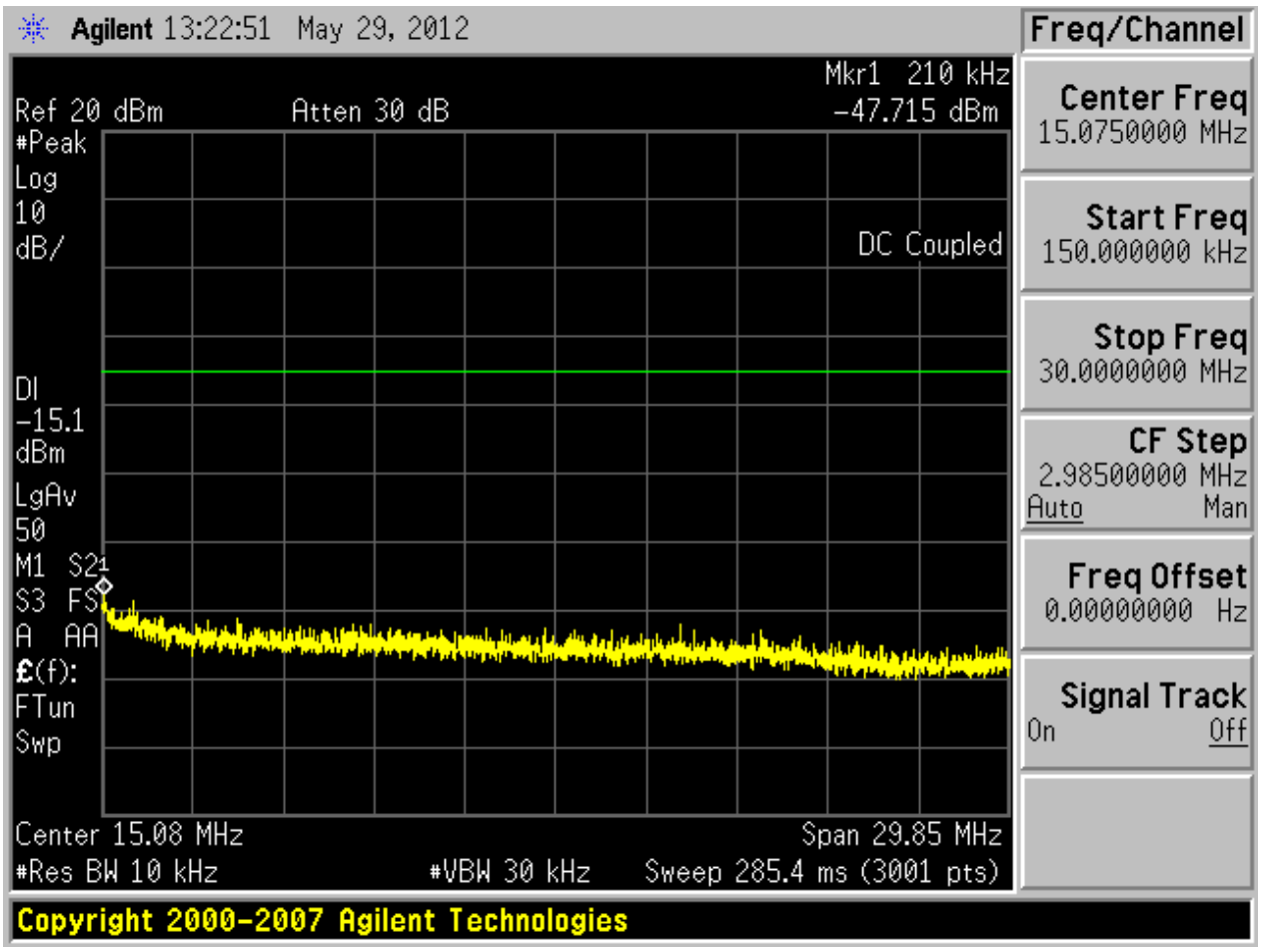
2.4 11B/1_M@2

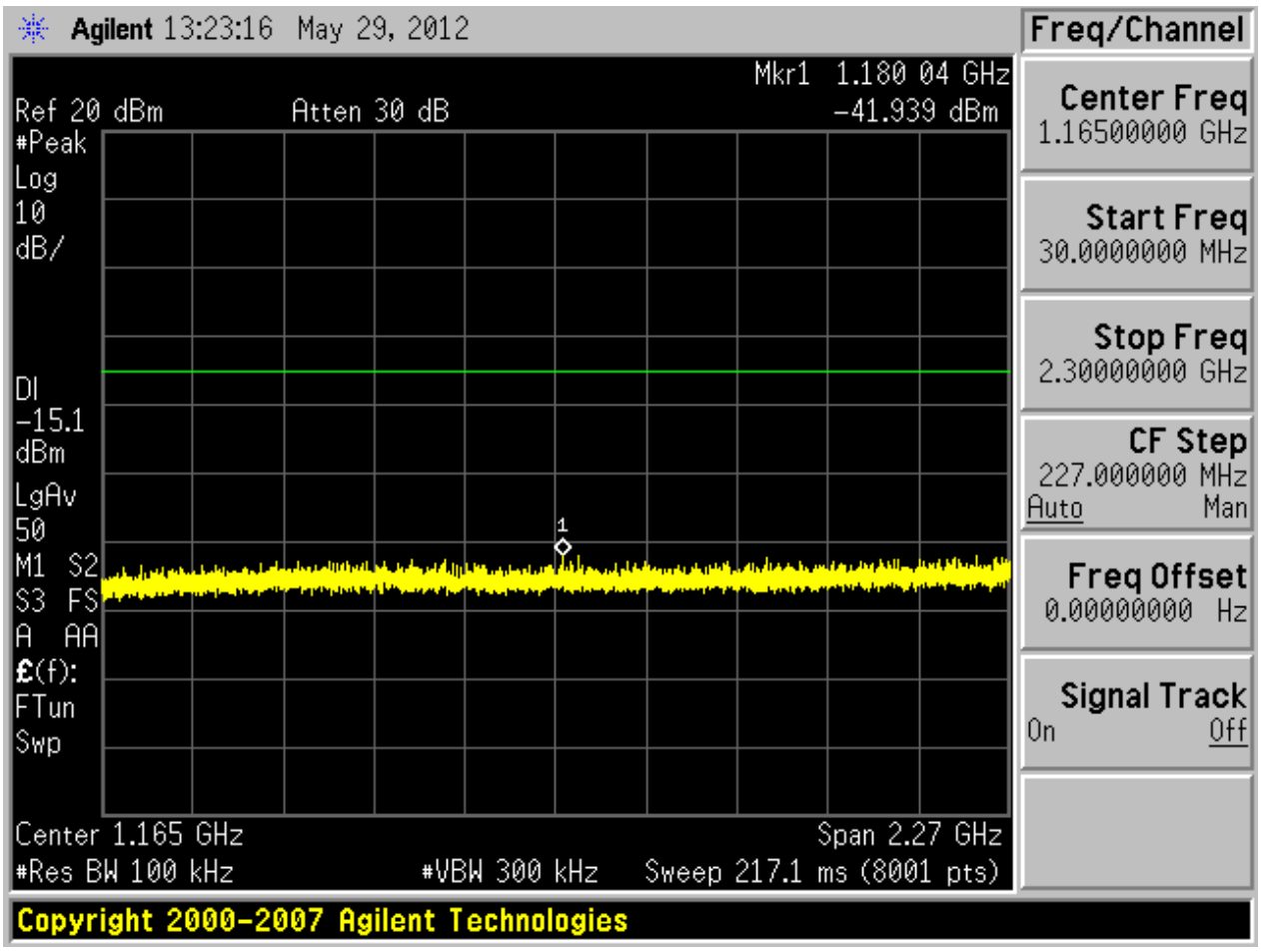
2.4.1 Pref

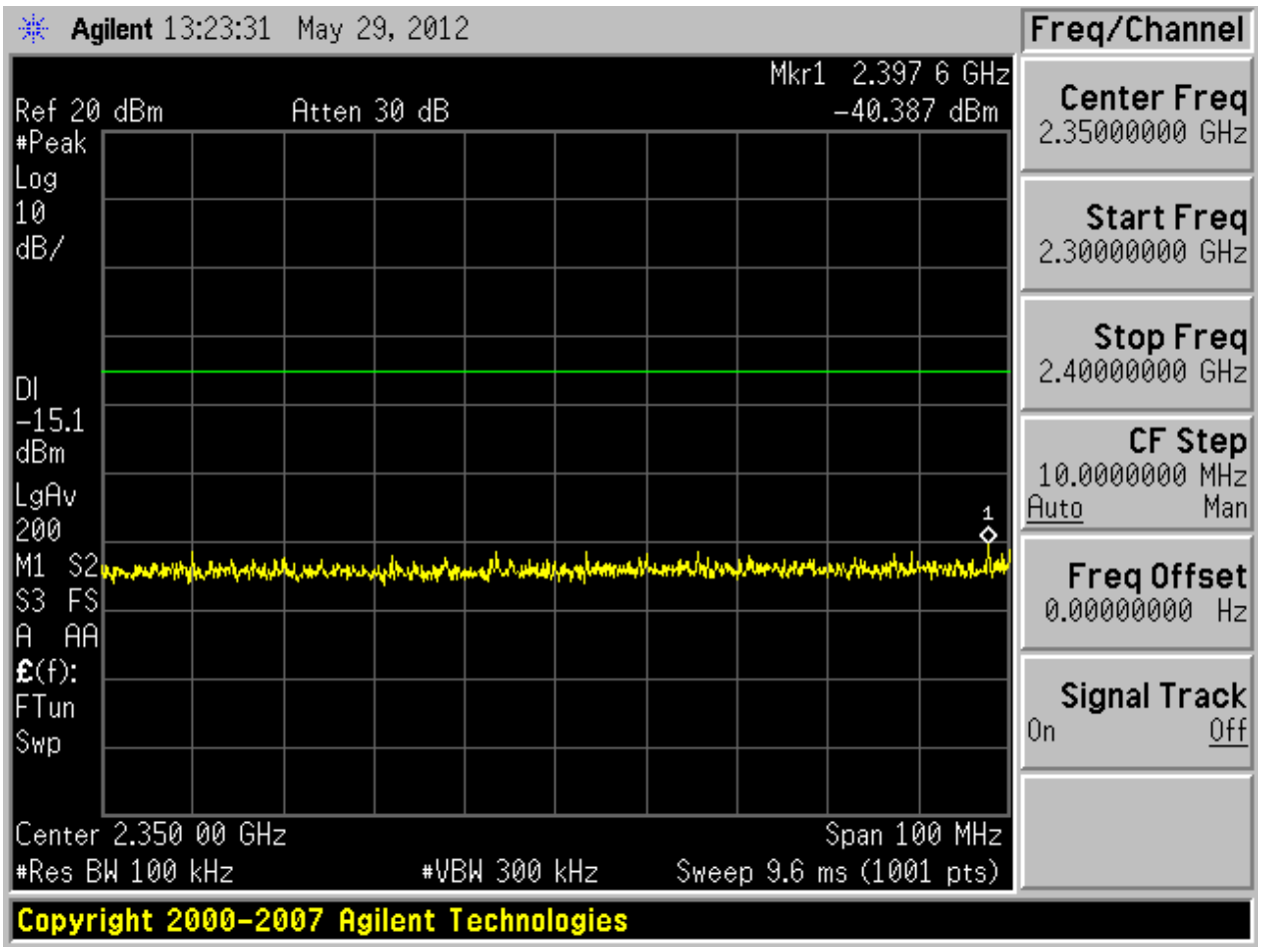


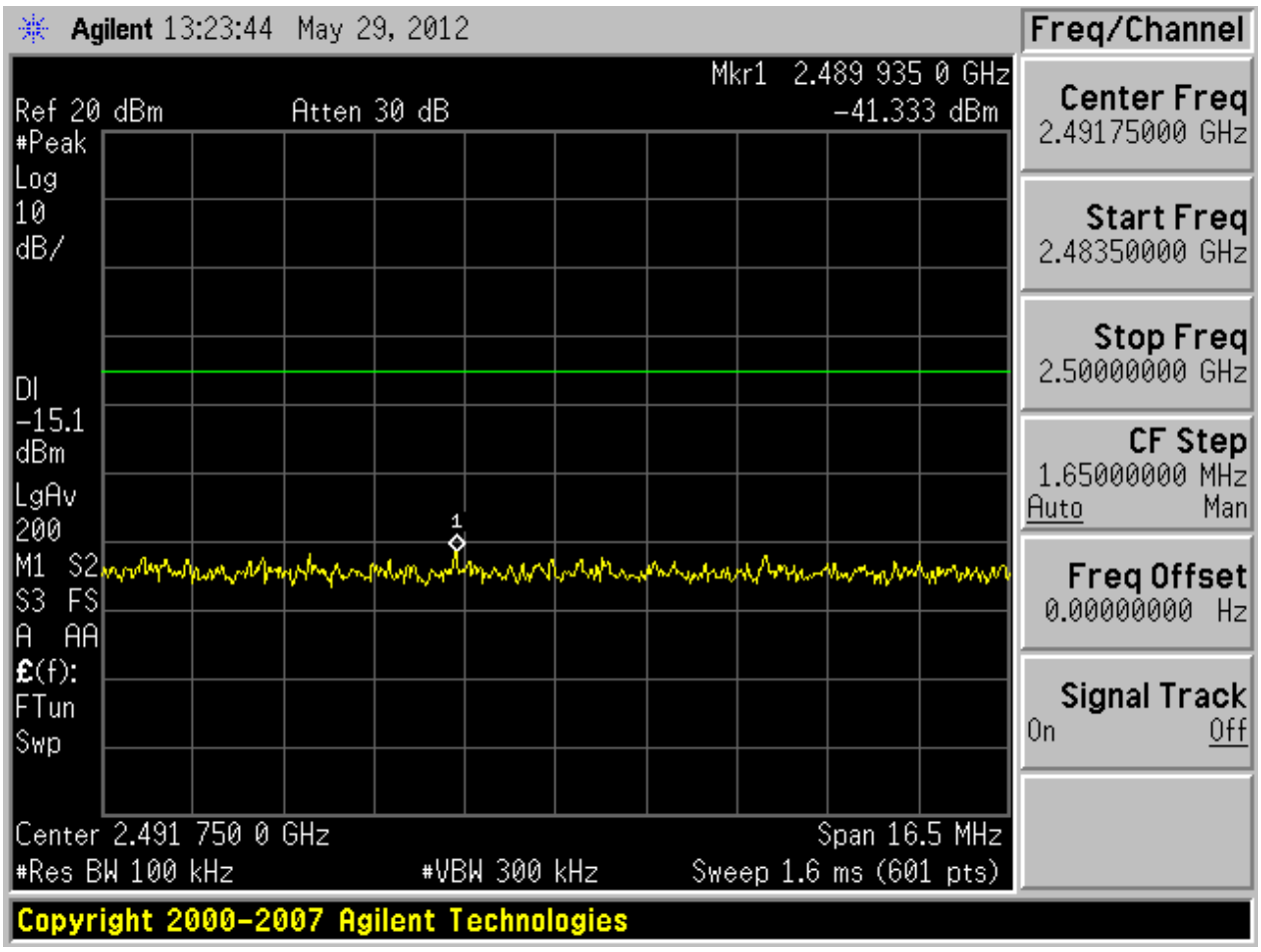
2.4.2 Puw

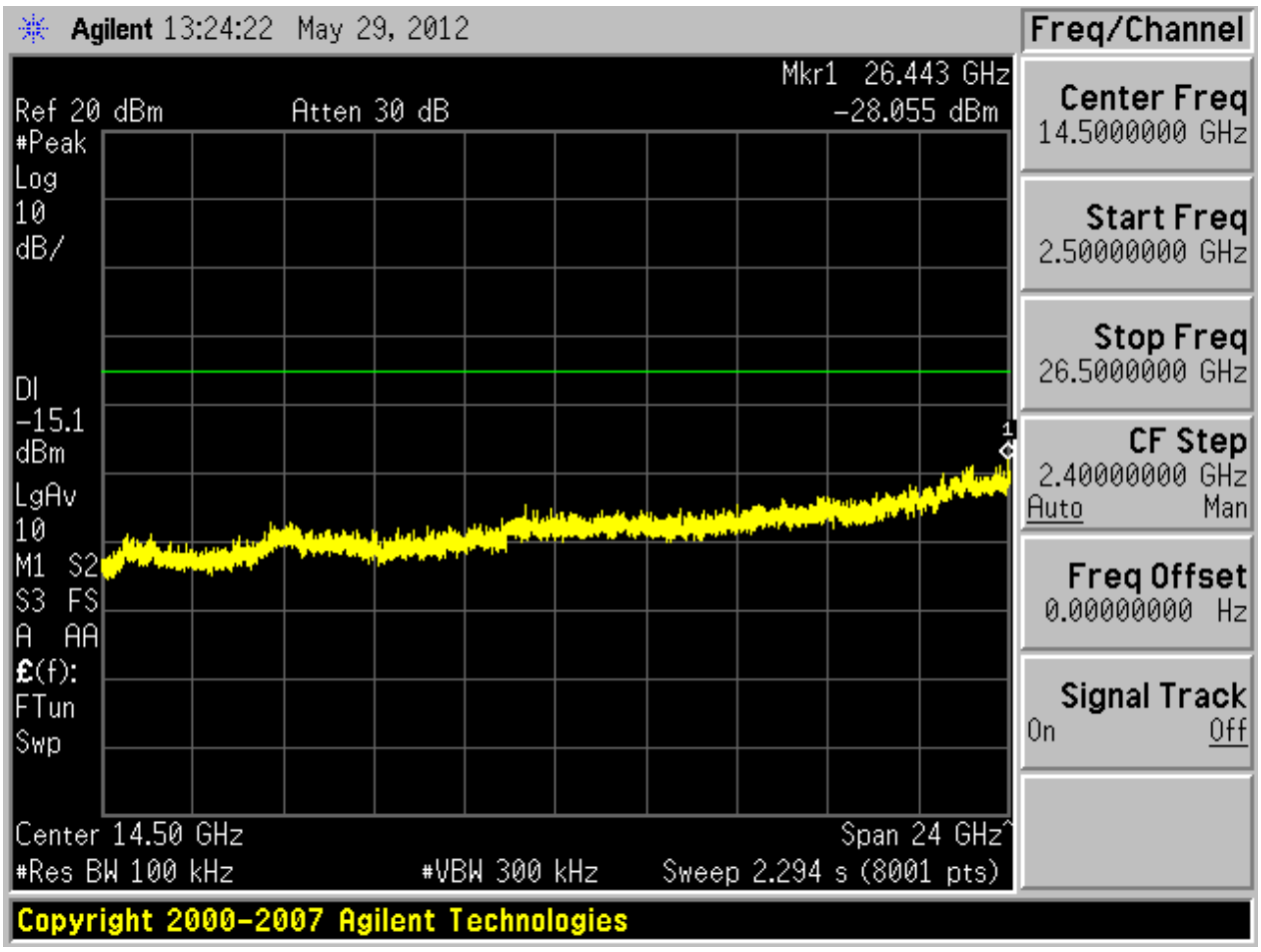






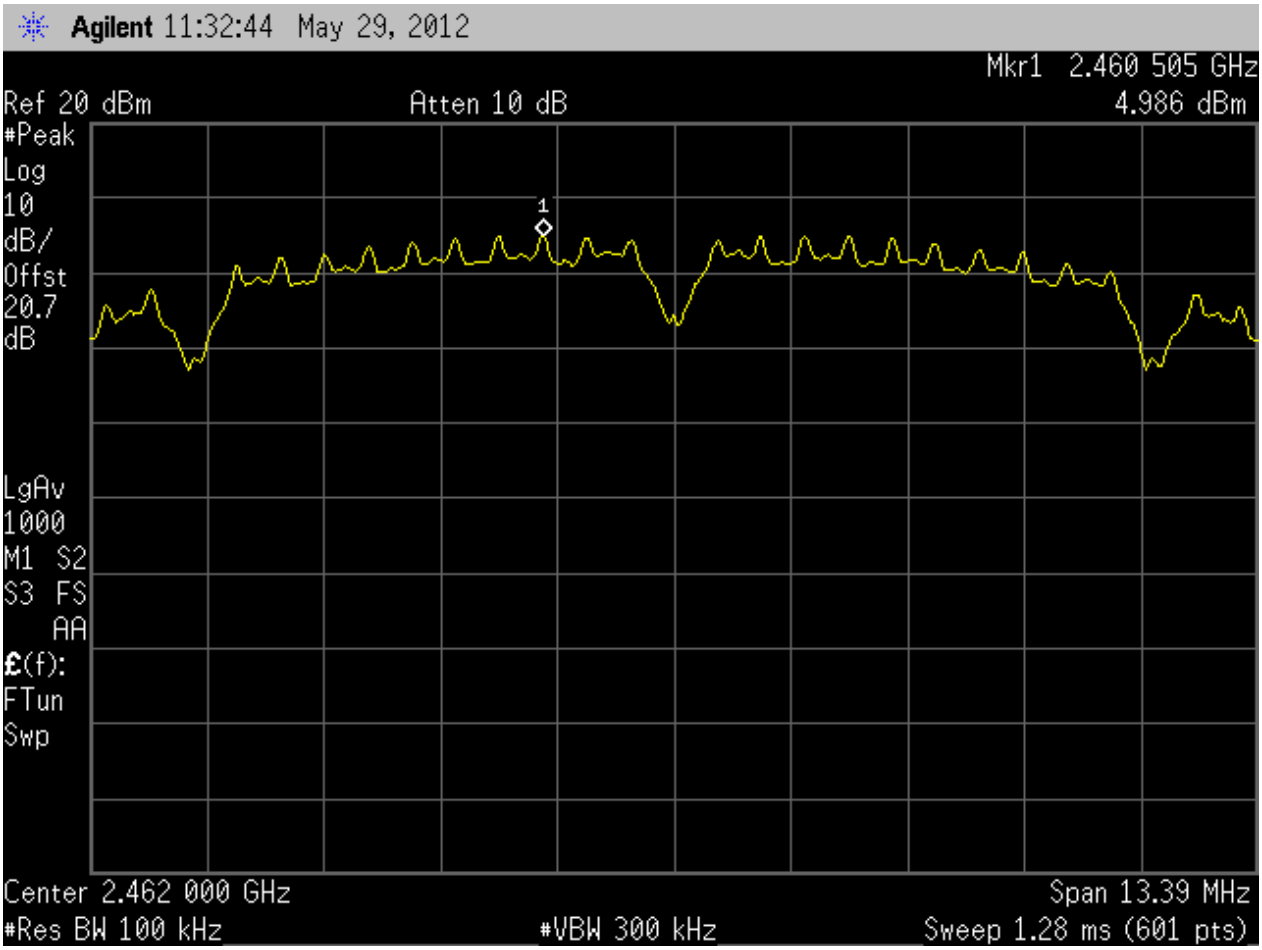




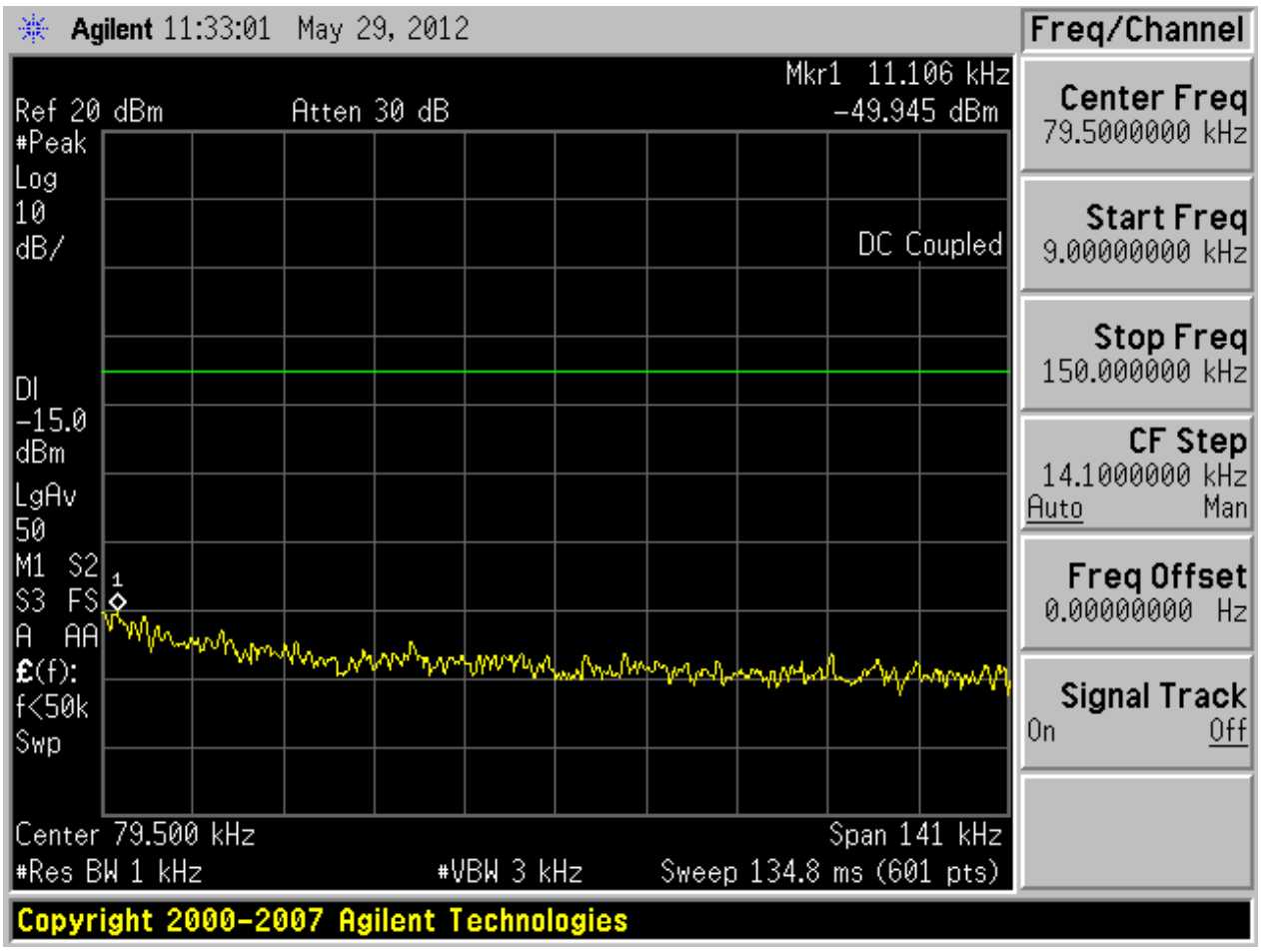


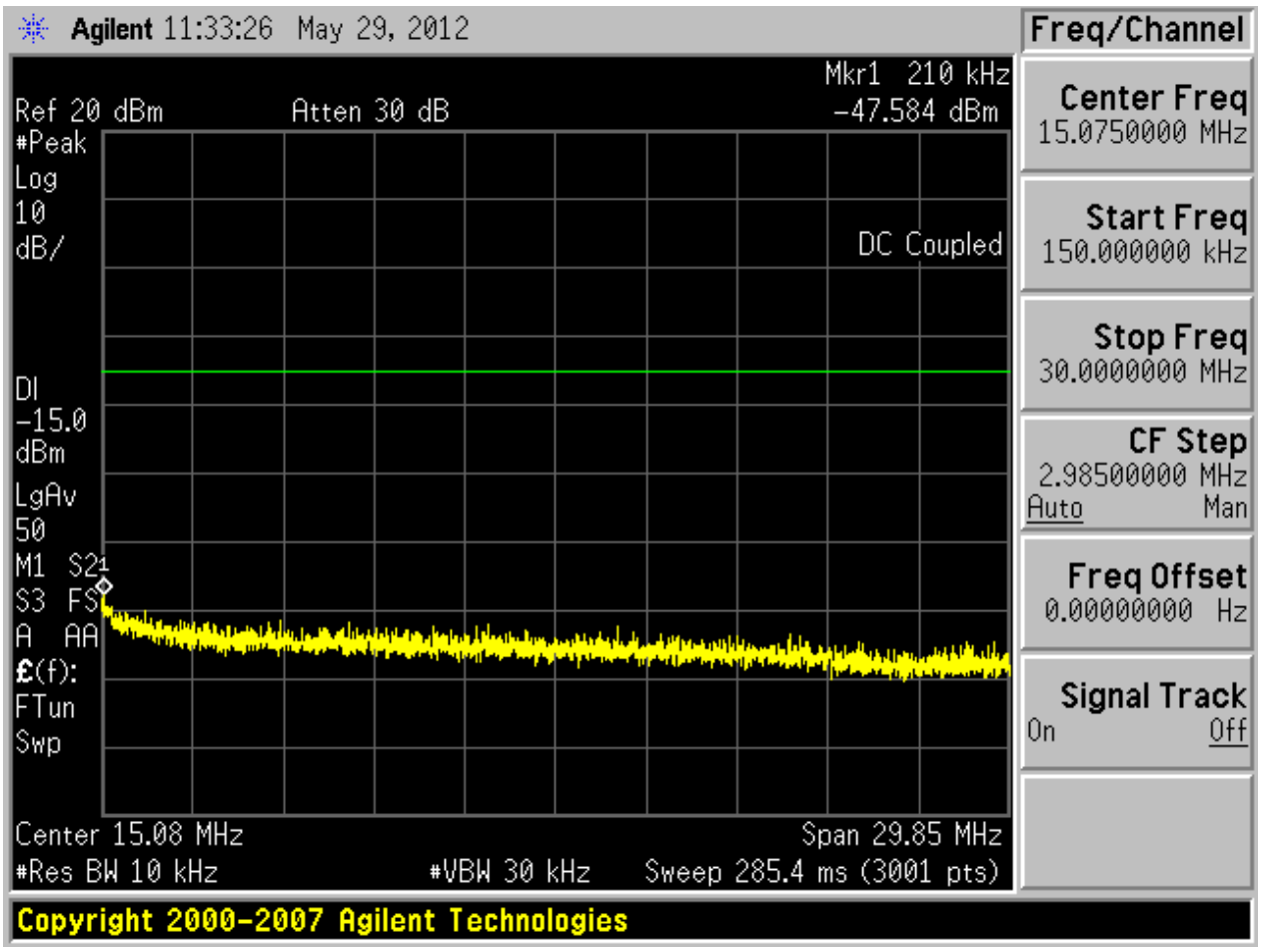
2.5 11B/1_T@1

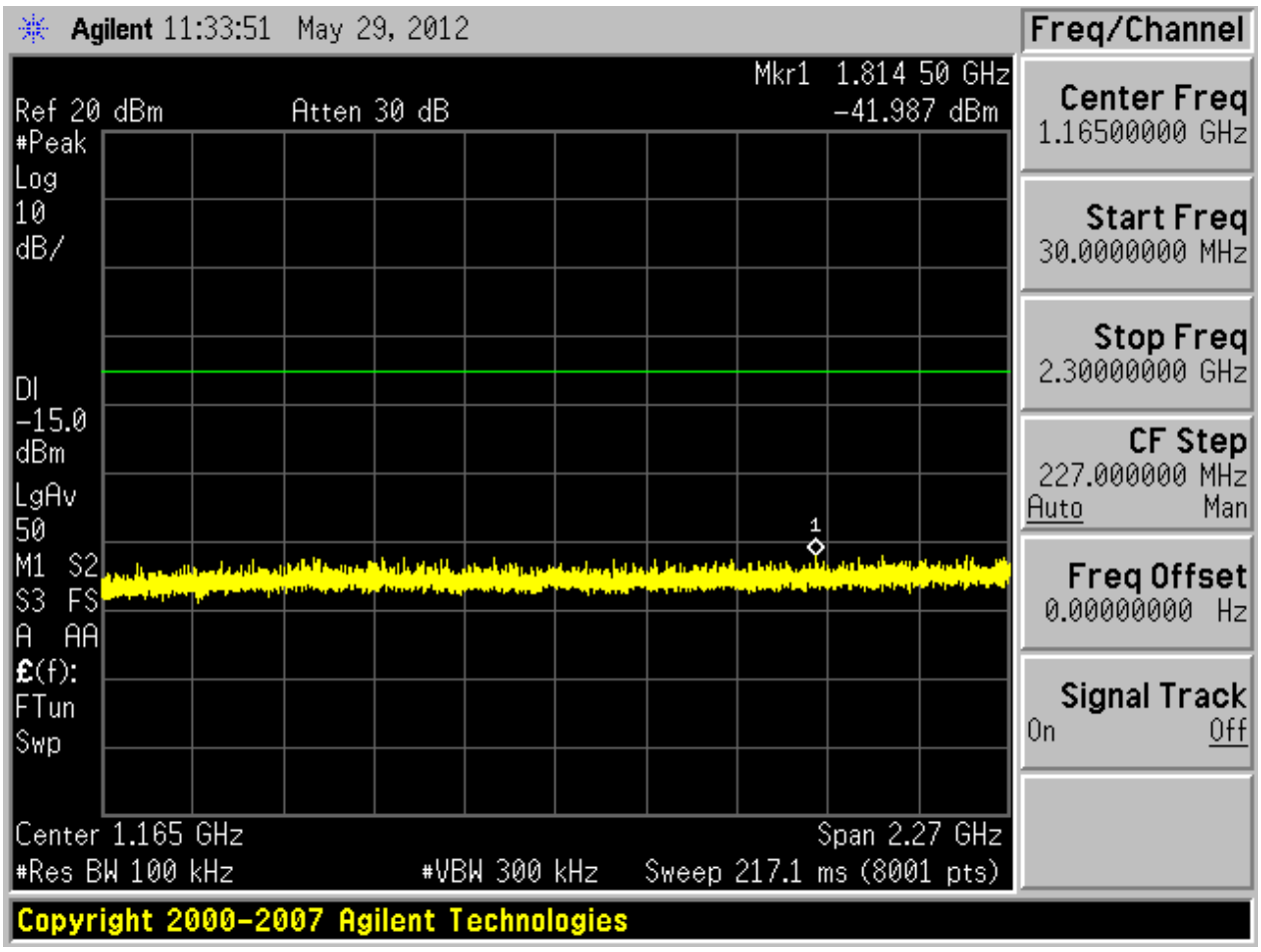
2.5.1 Pref

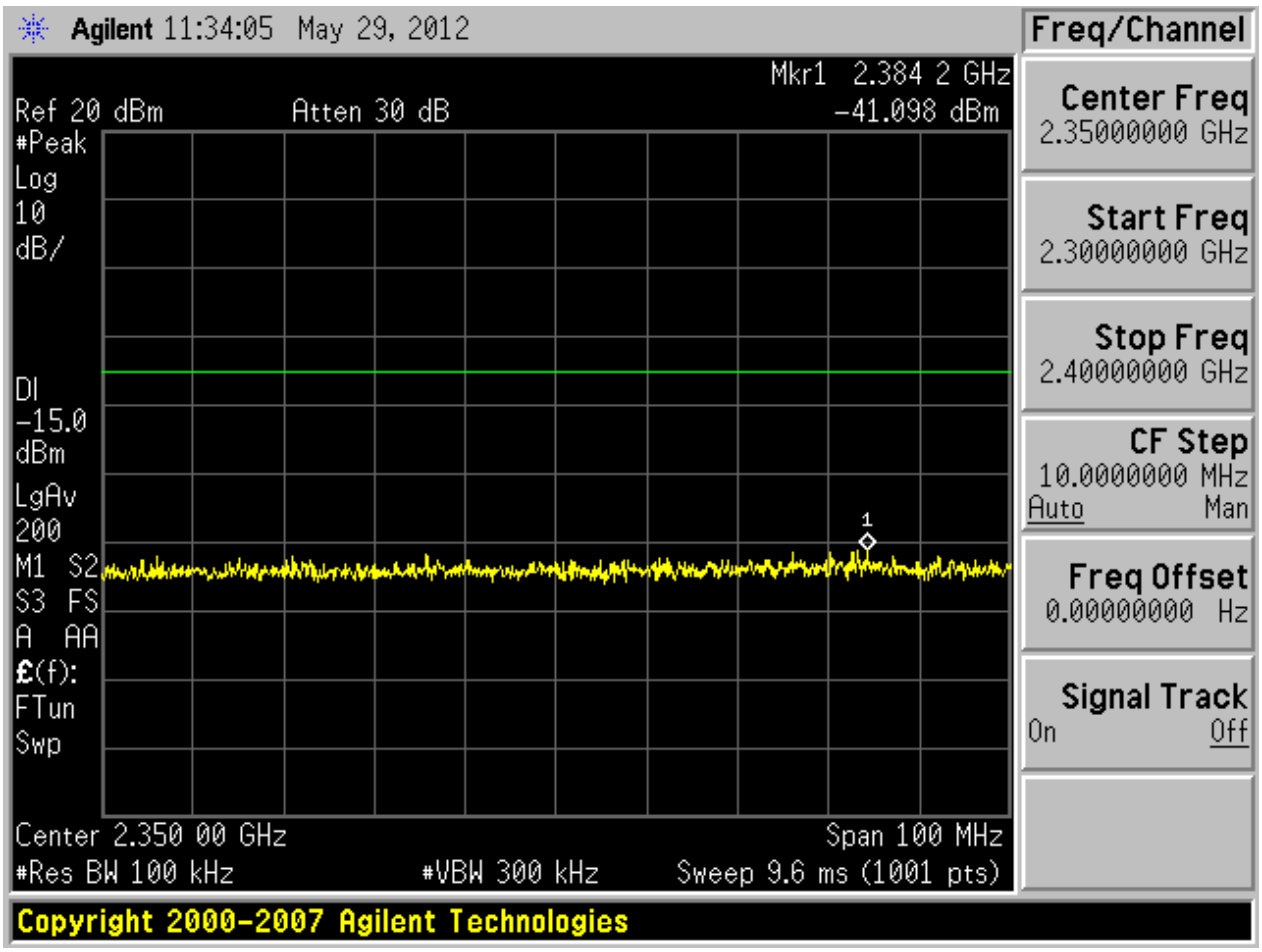


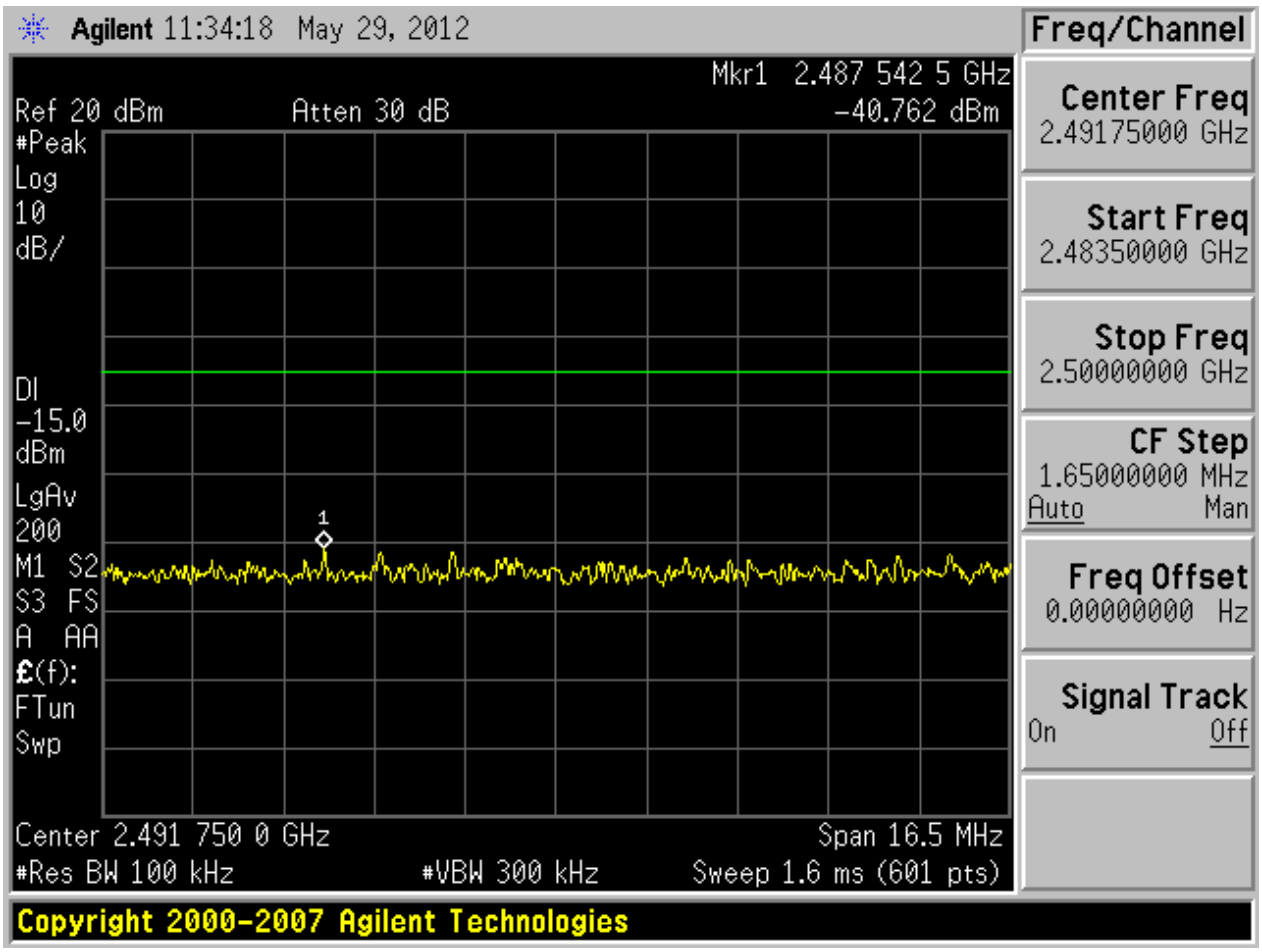
2.5.2 Puw

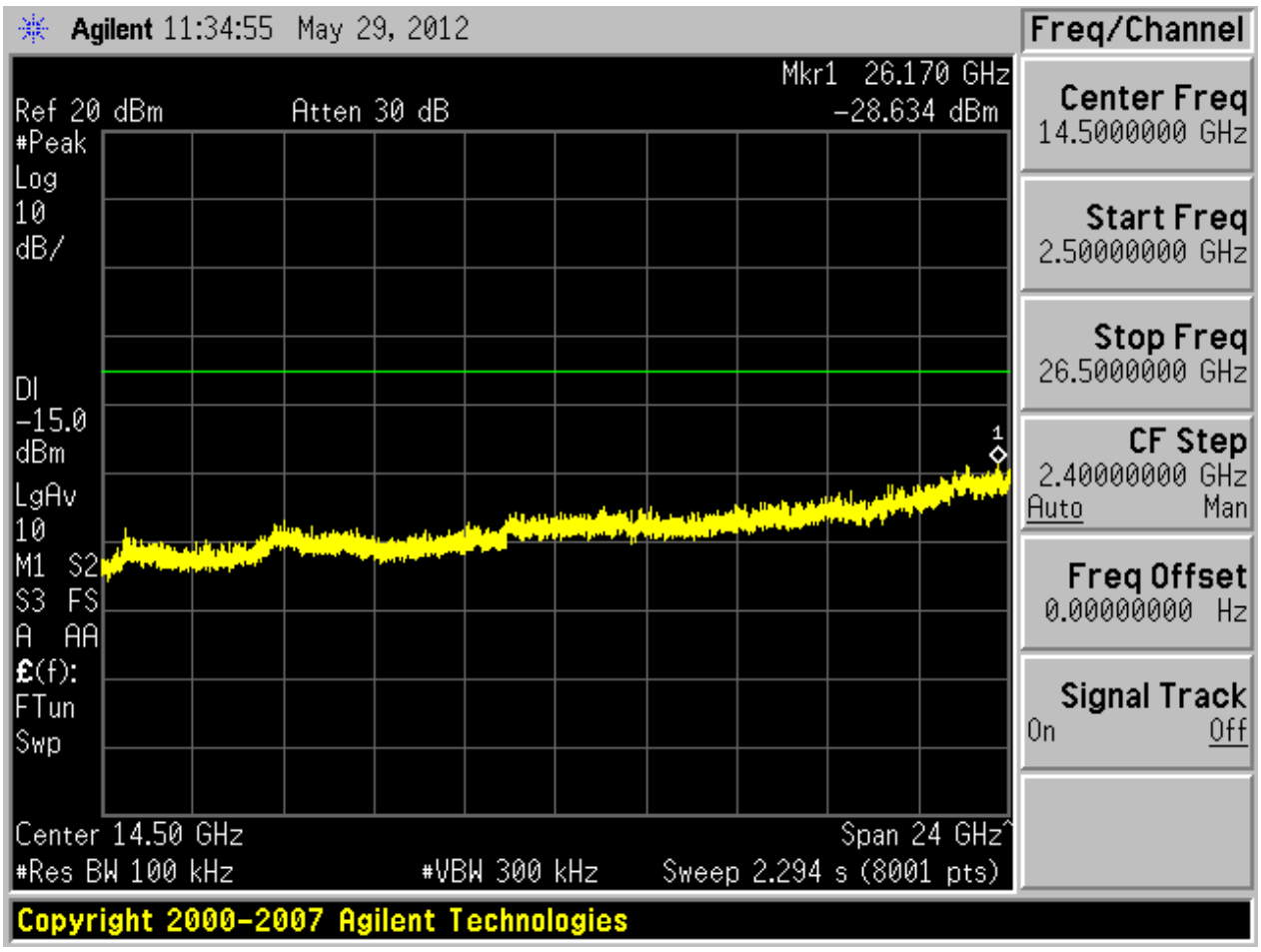






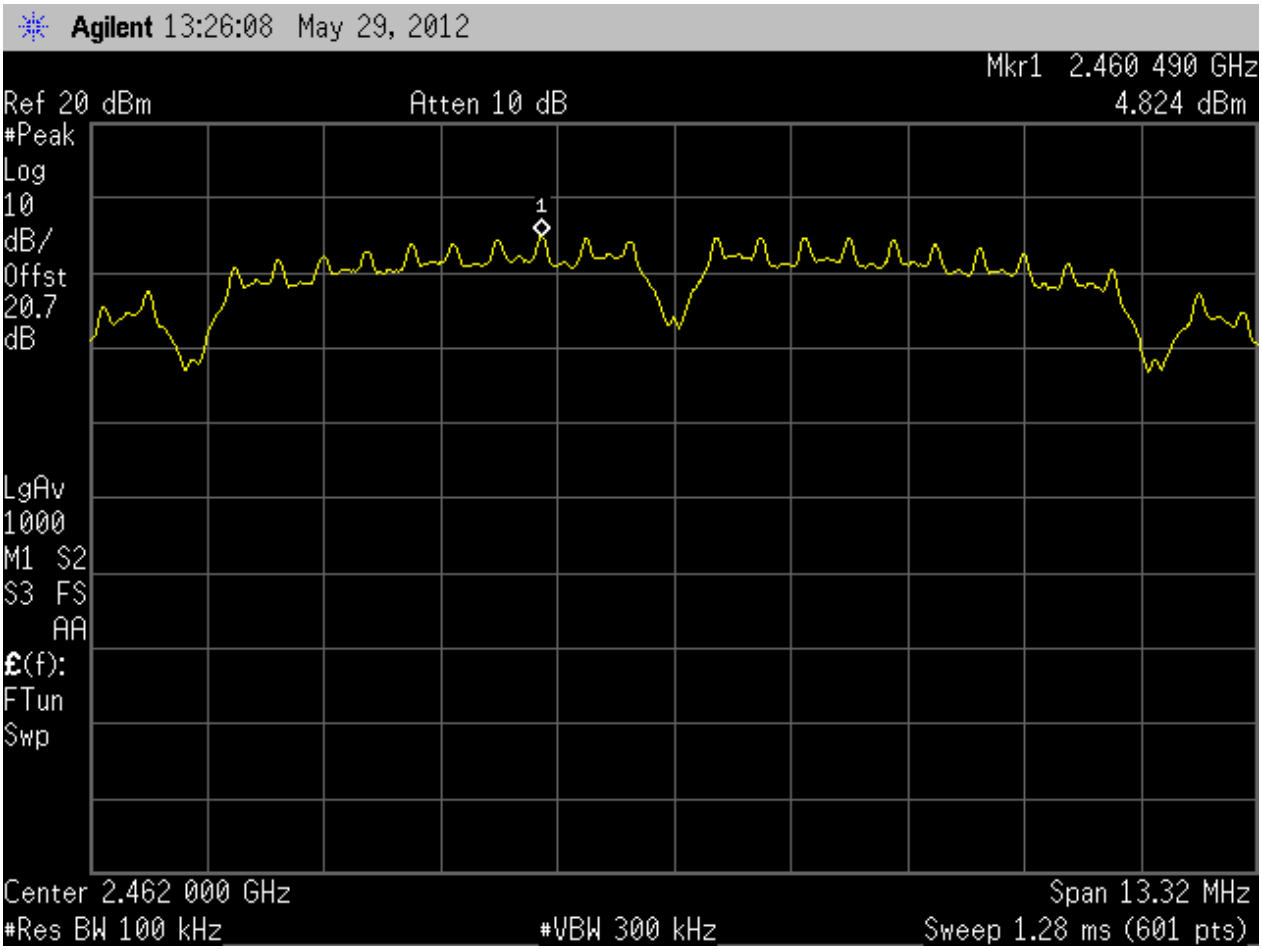




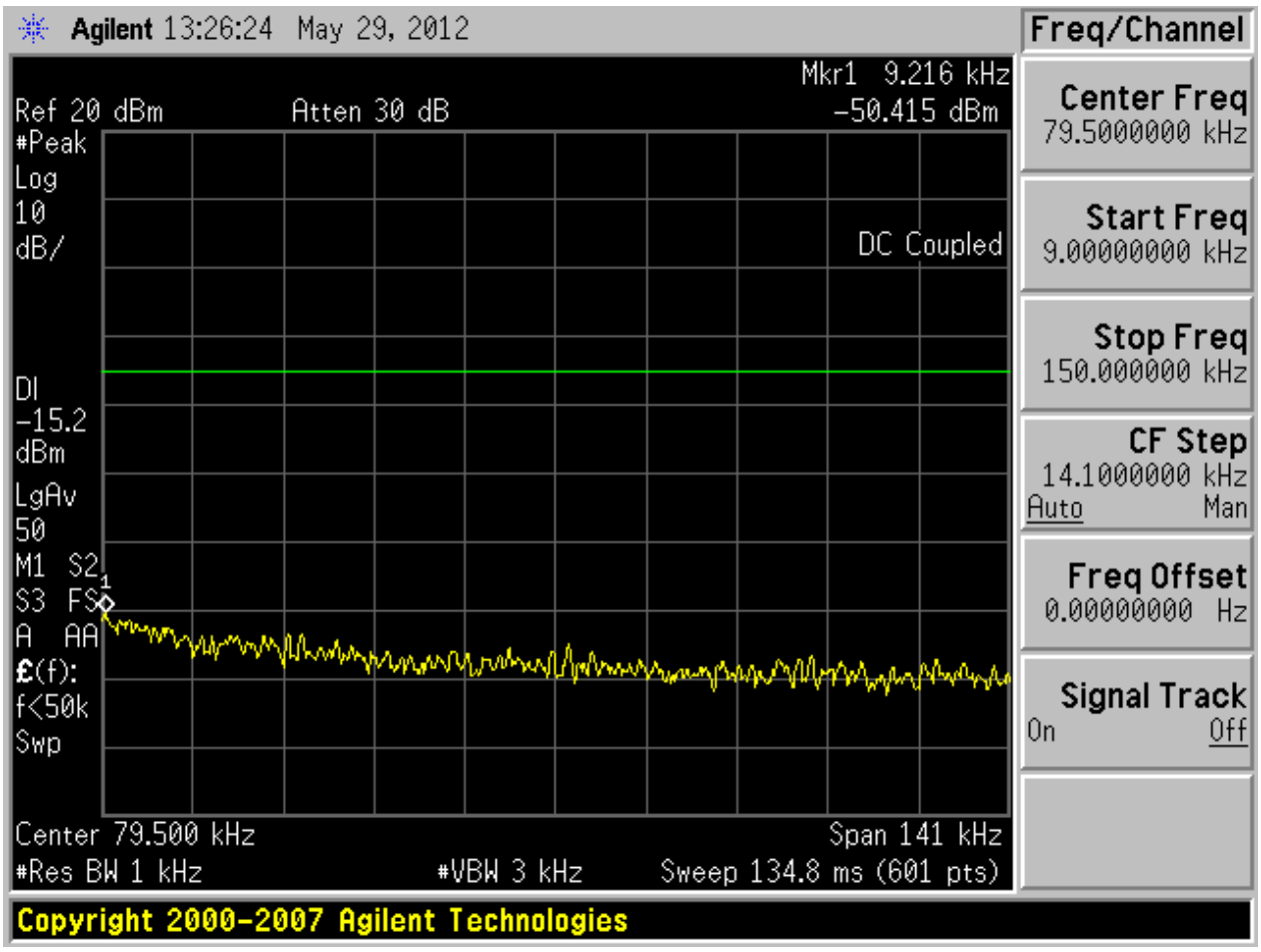


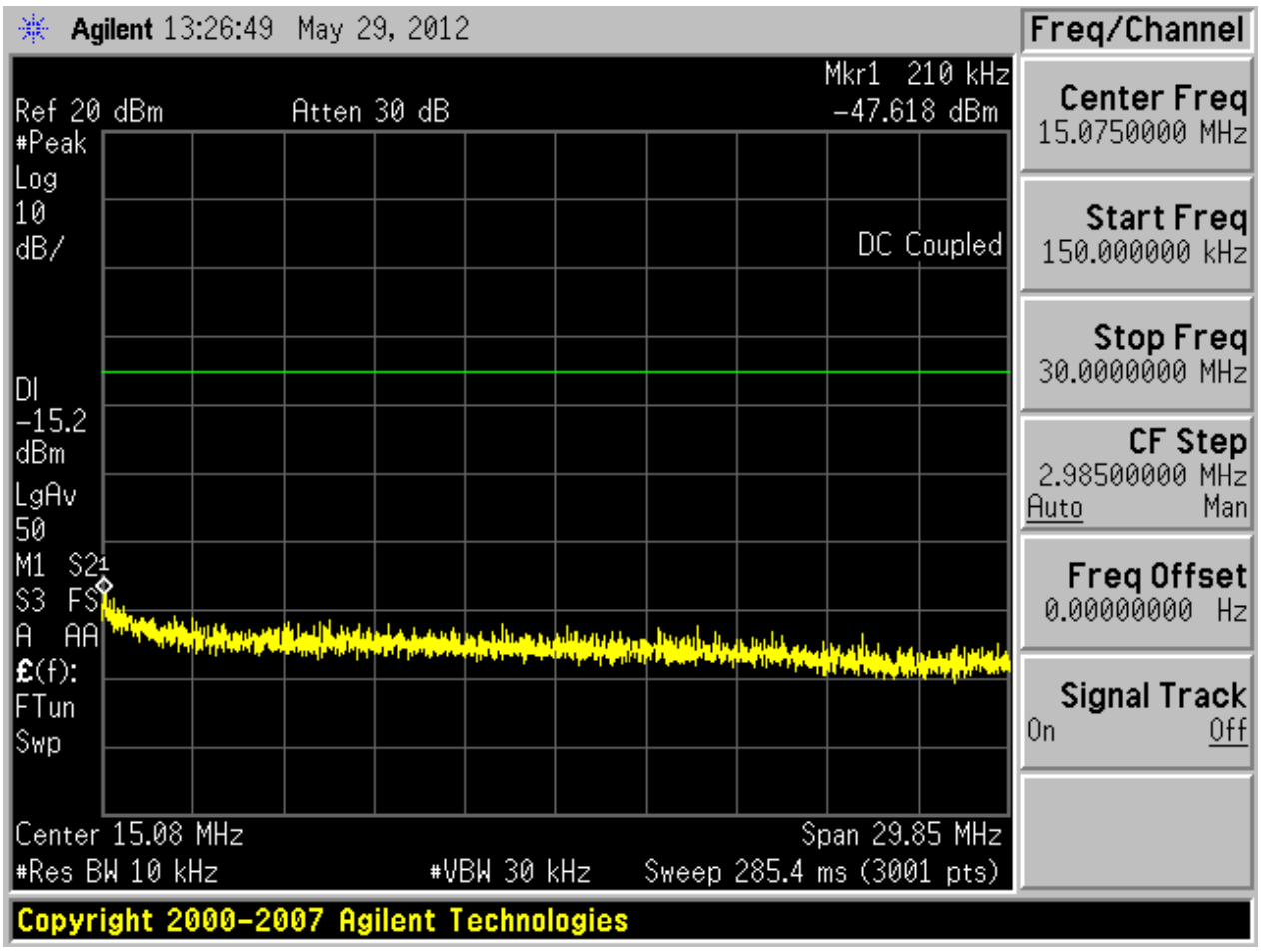
2.6 11B/1_T@2

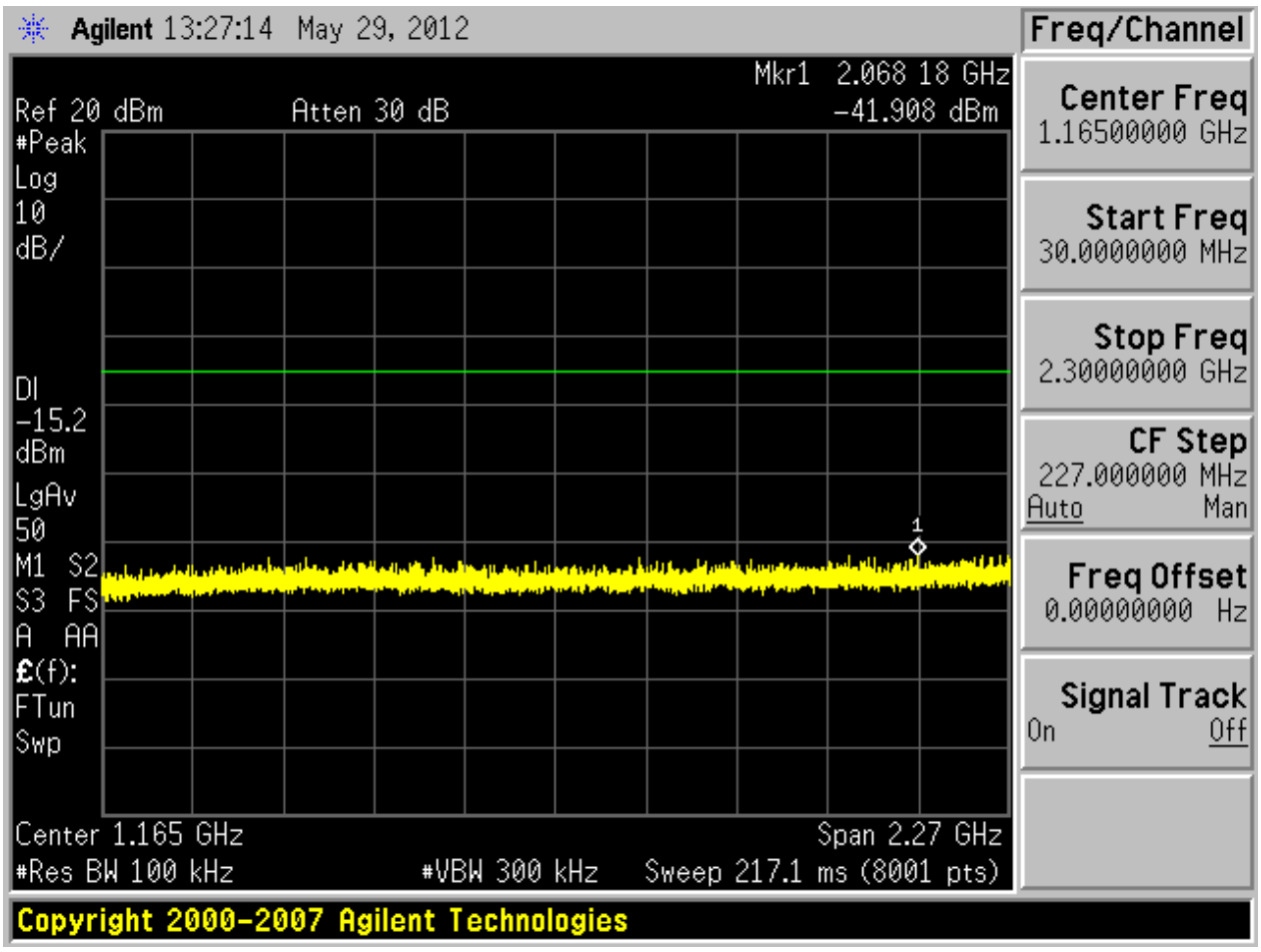
2.6.1 Pref

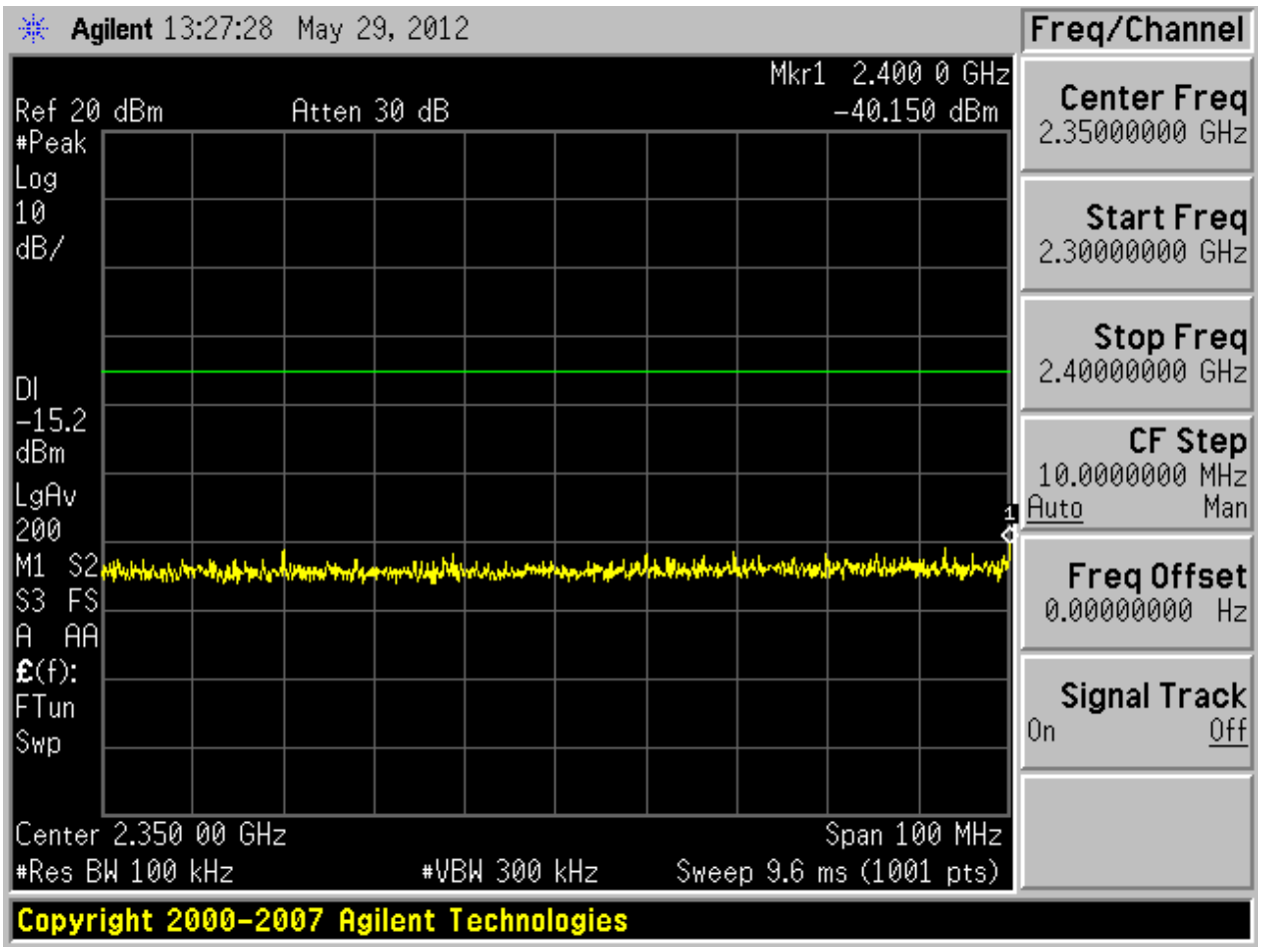


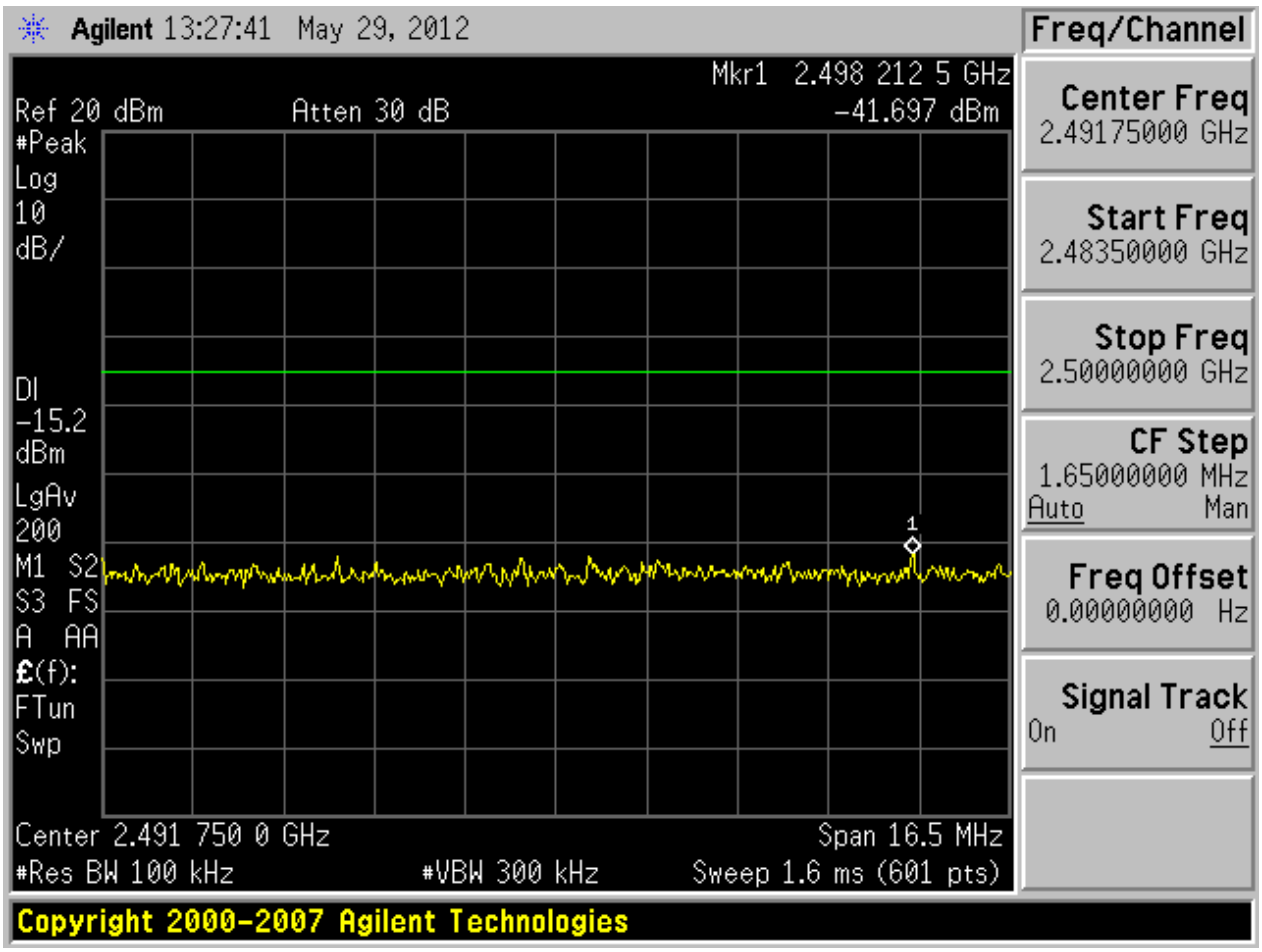
2.6.2 Puw

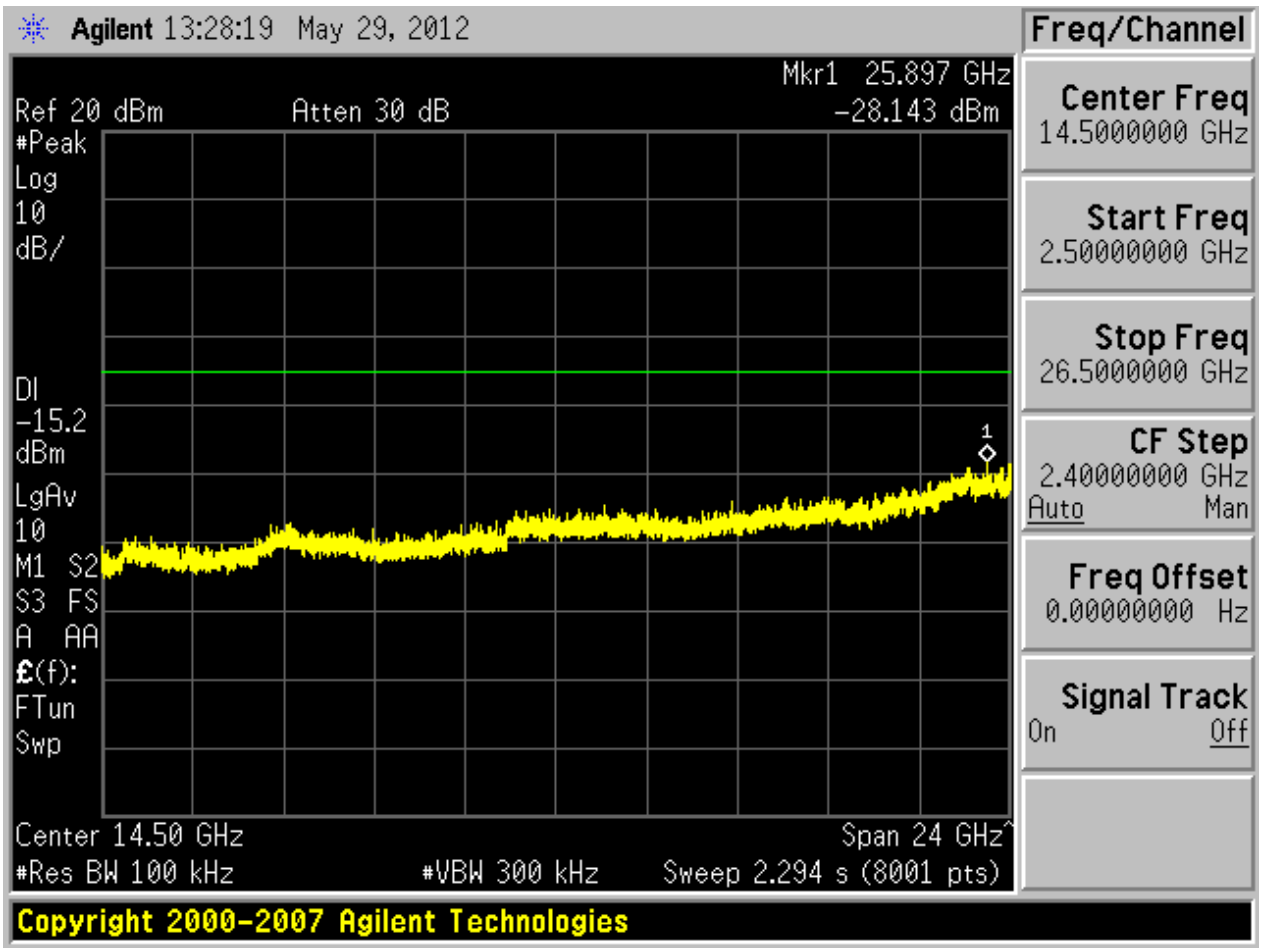






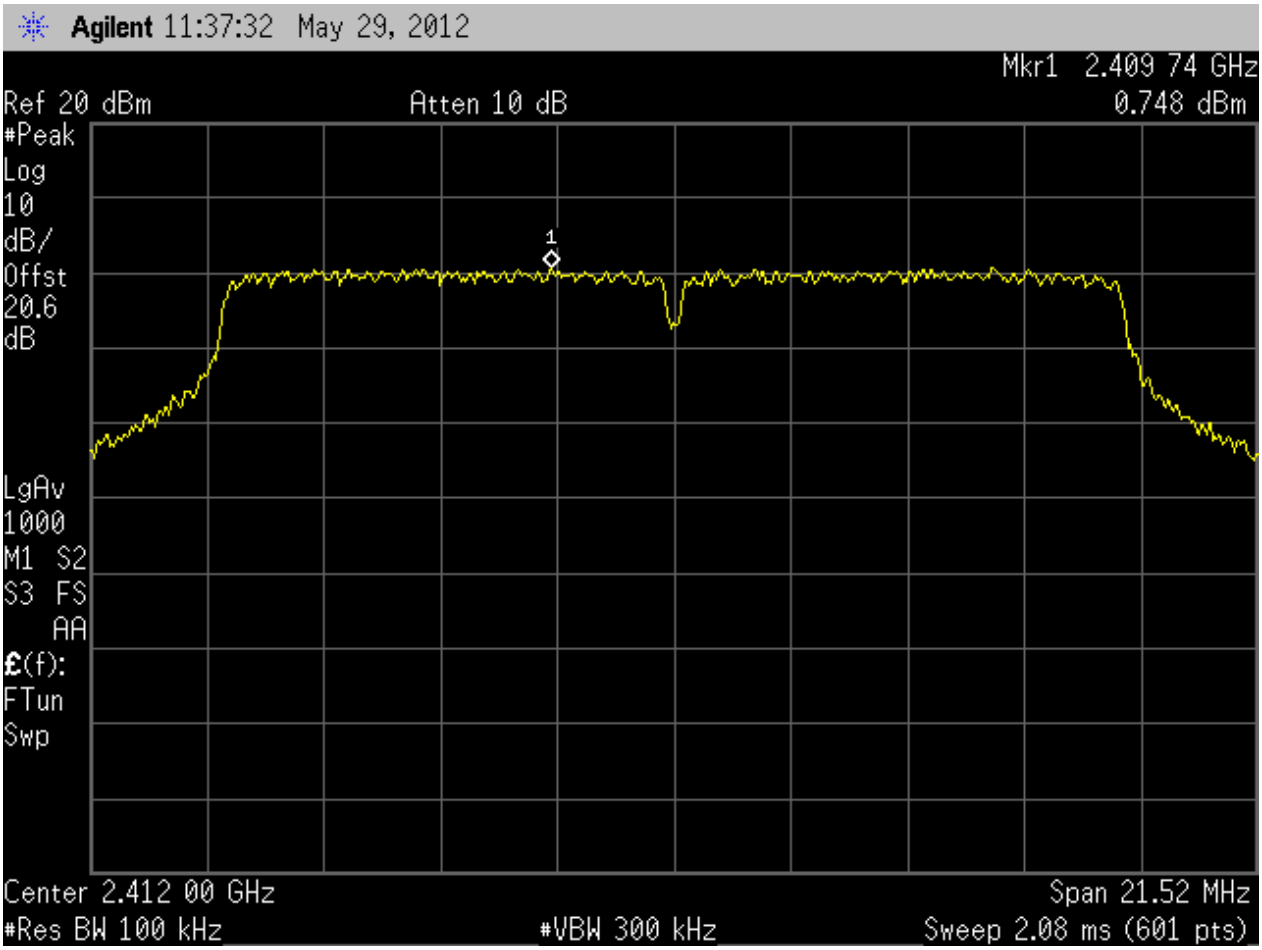




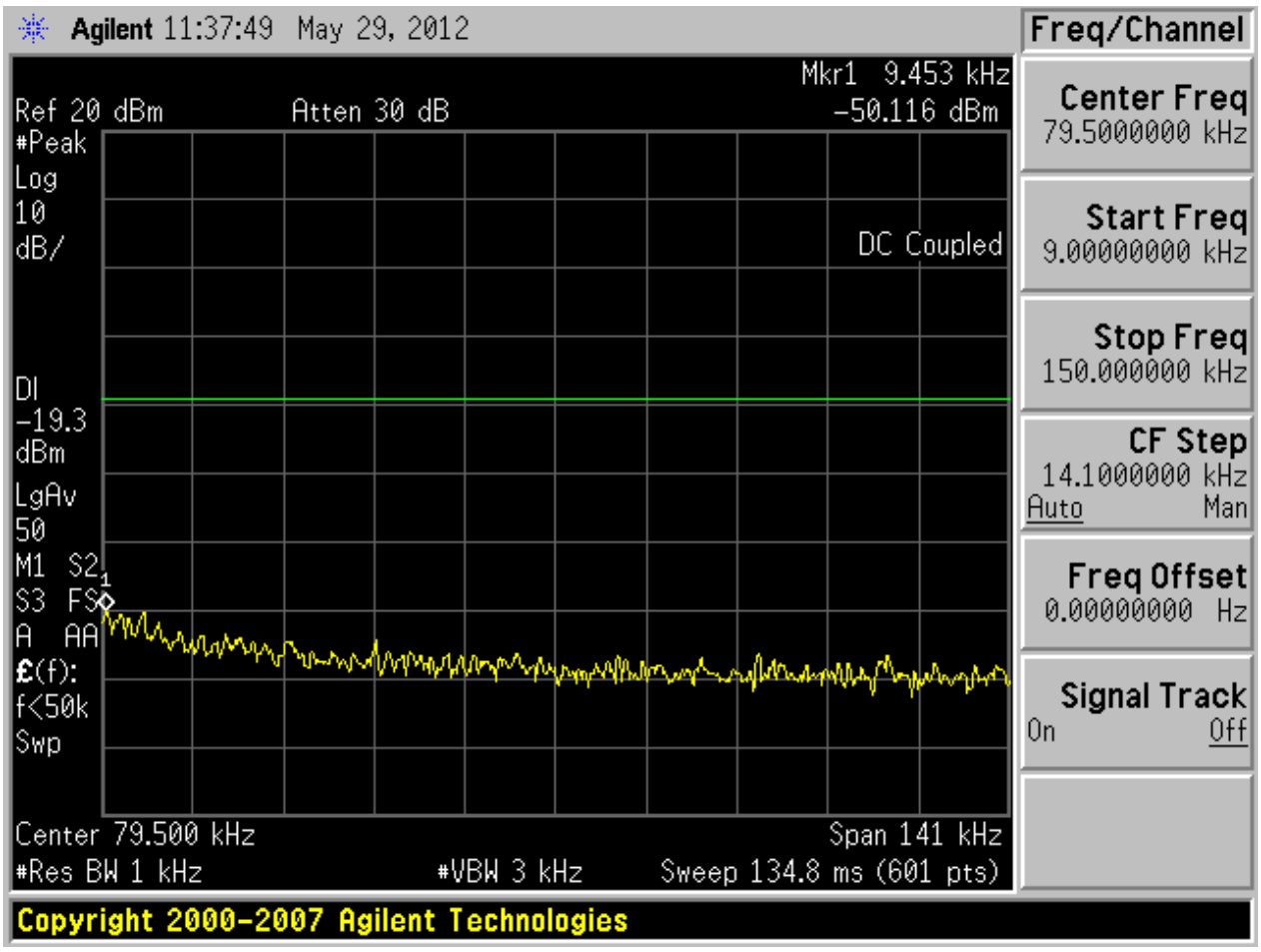


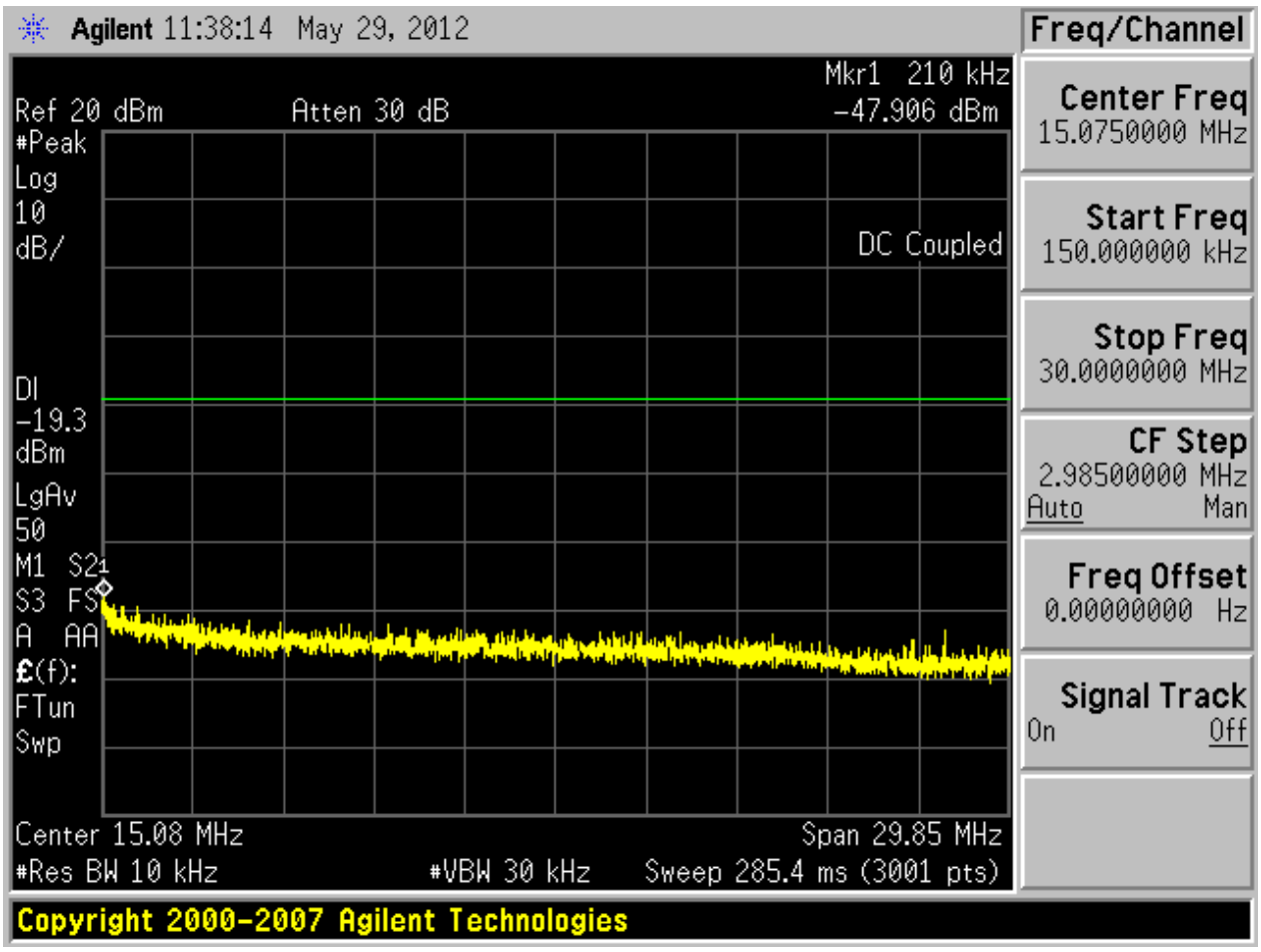
2.7 11G/6_B@1

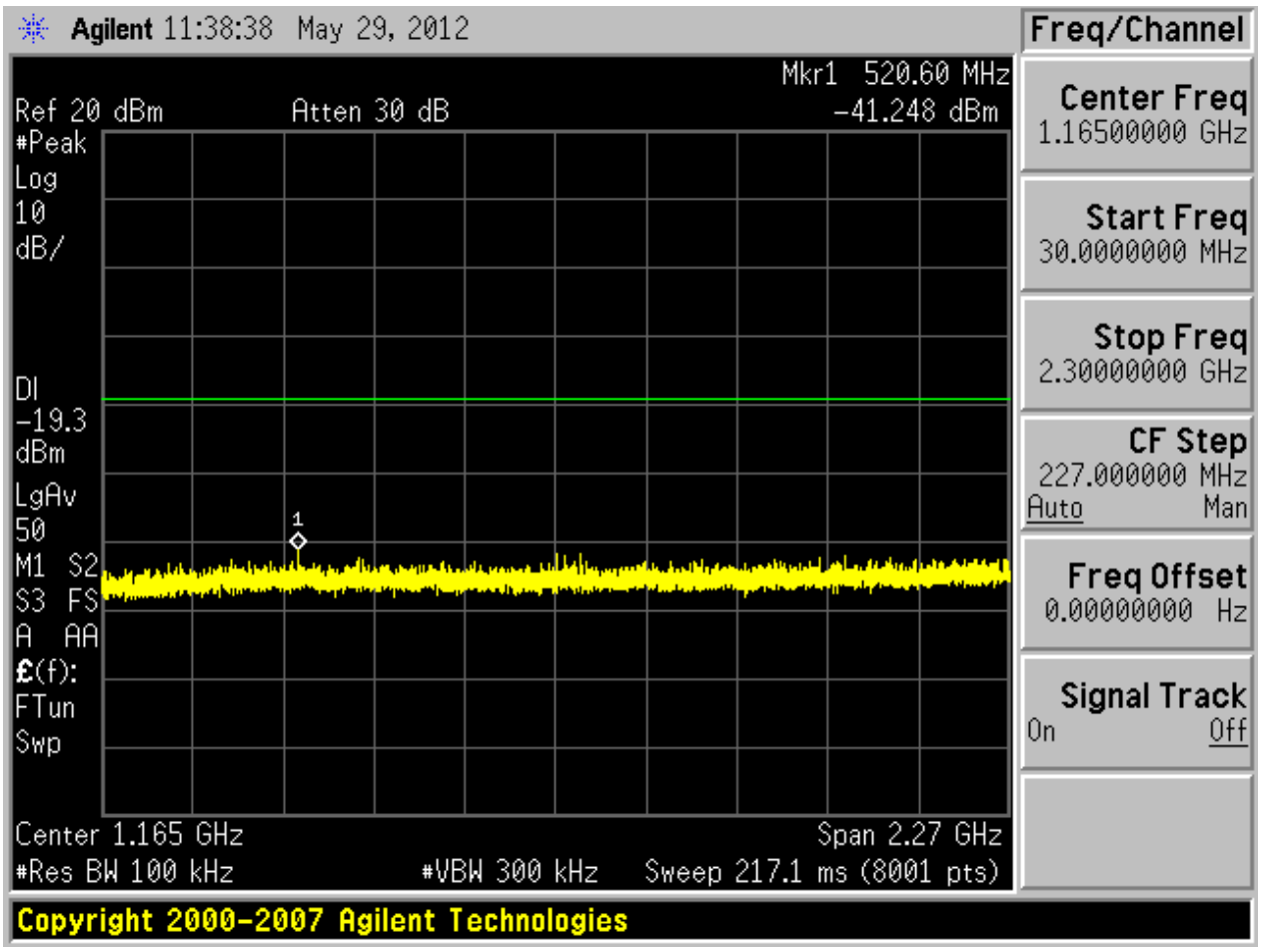
2.7.1 Pref

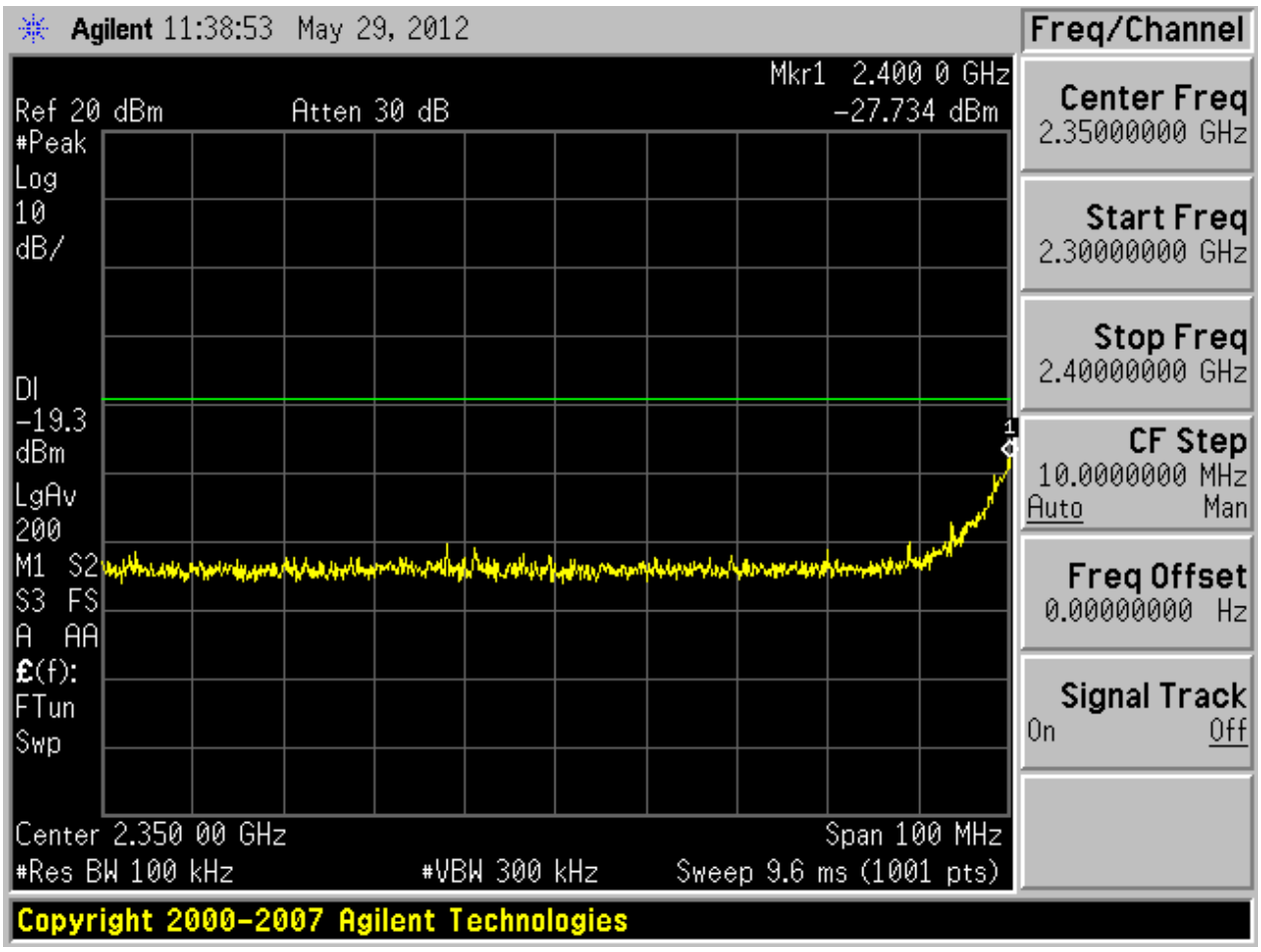


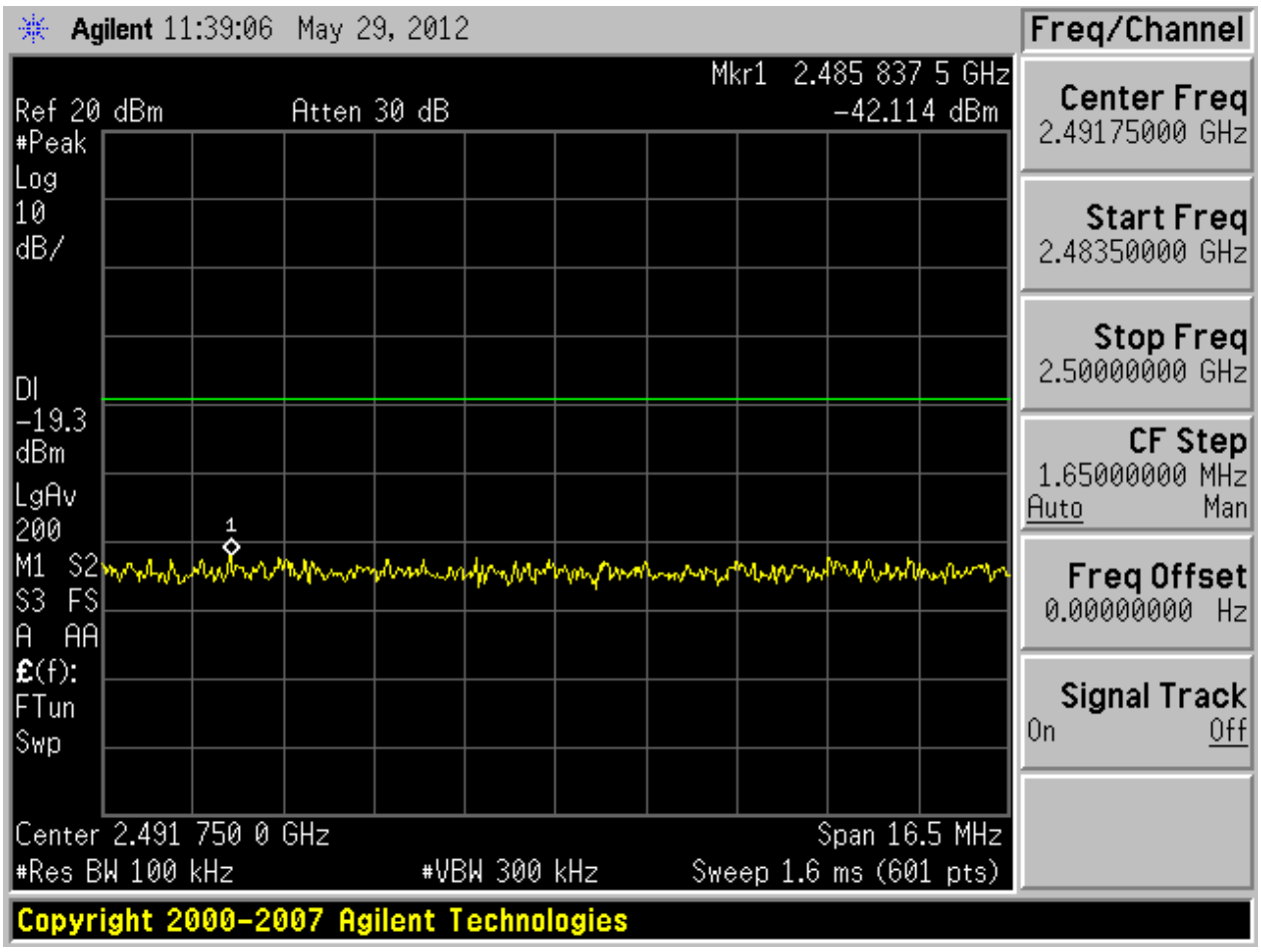
2.7.2 Puw

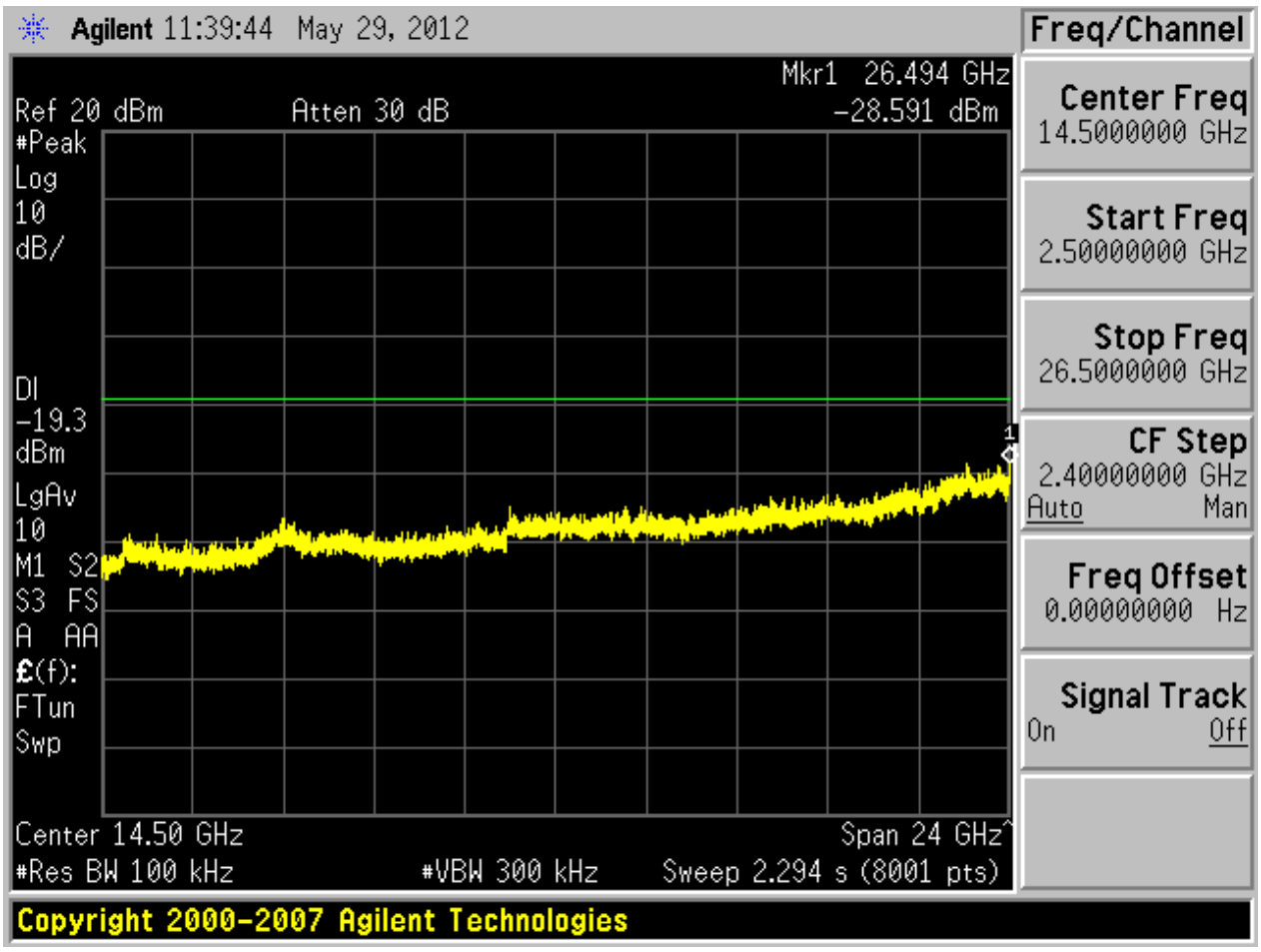






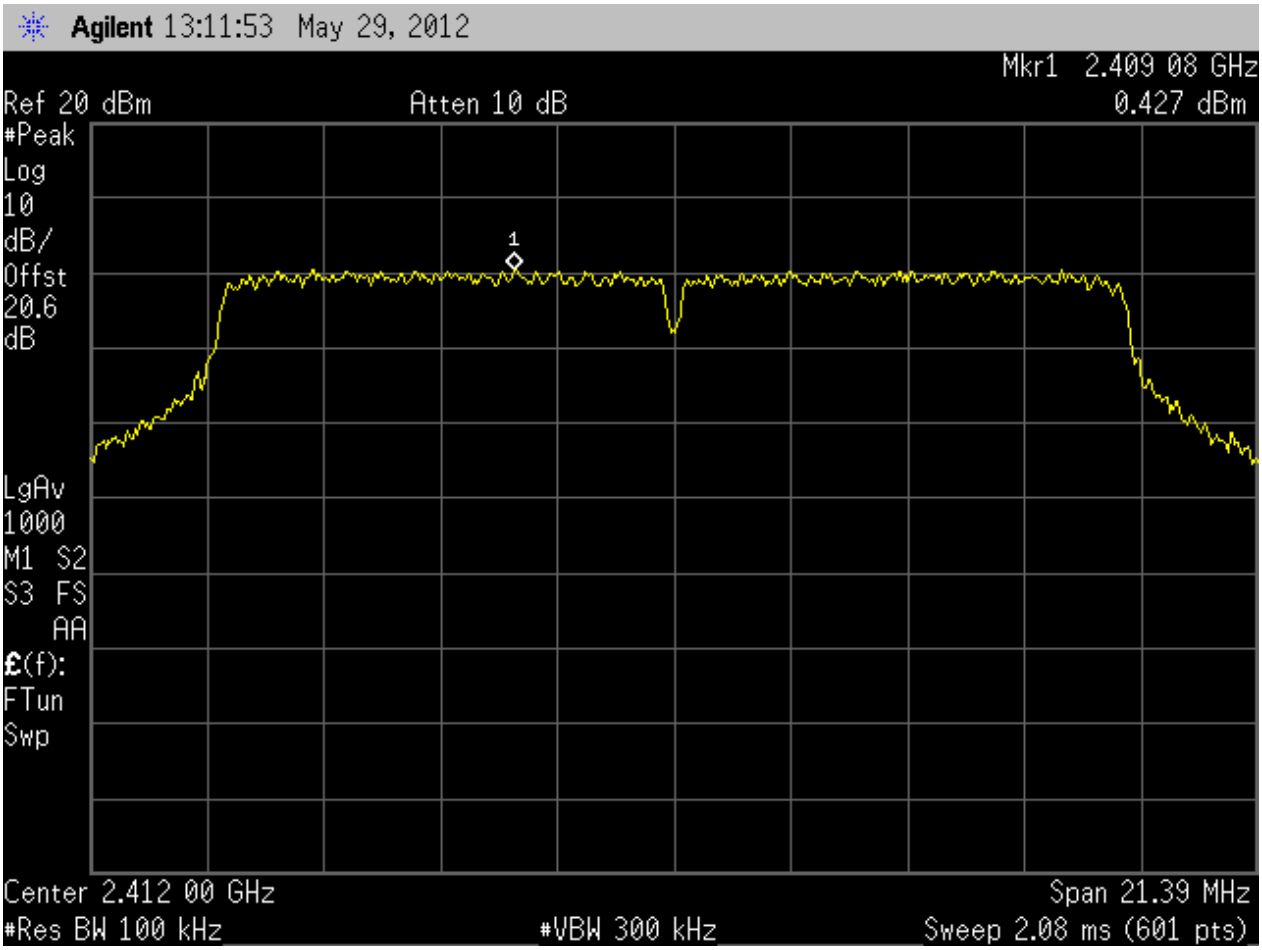




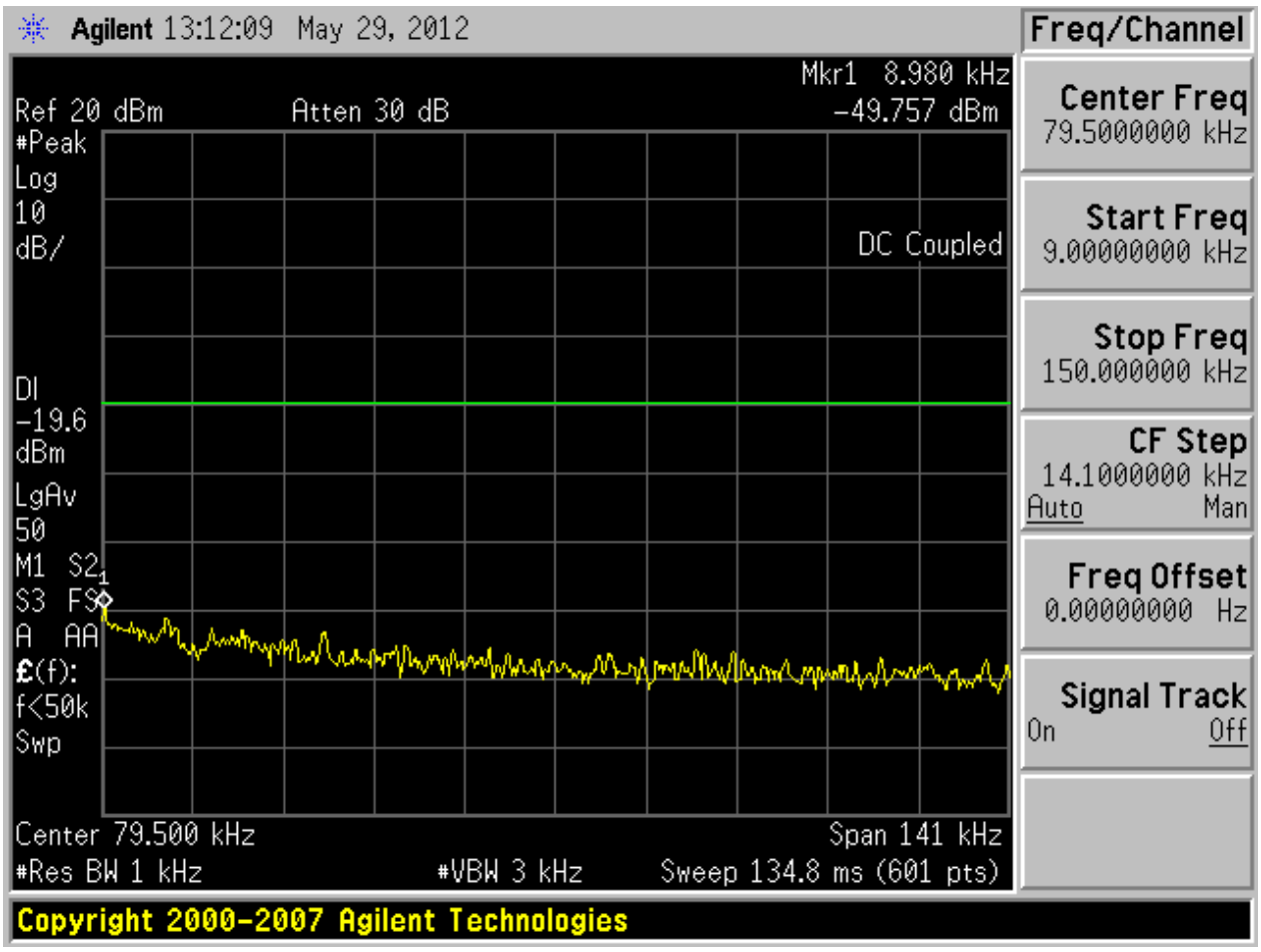


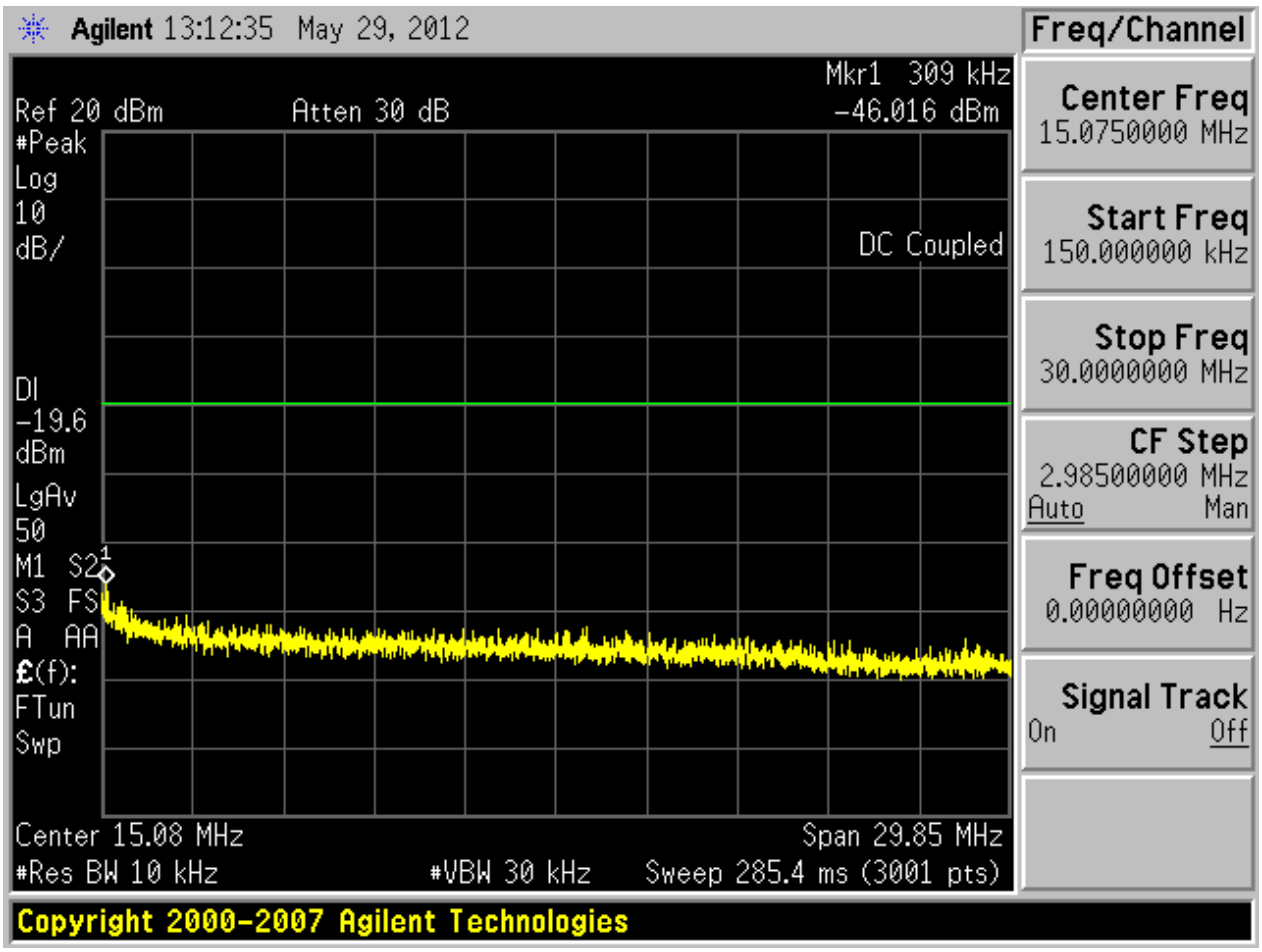
2.8 11G/6_B@2

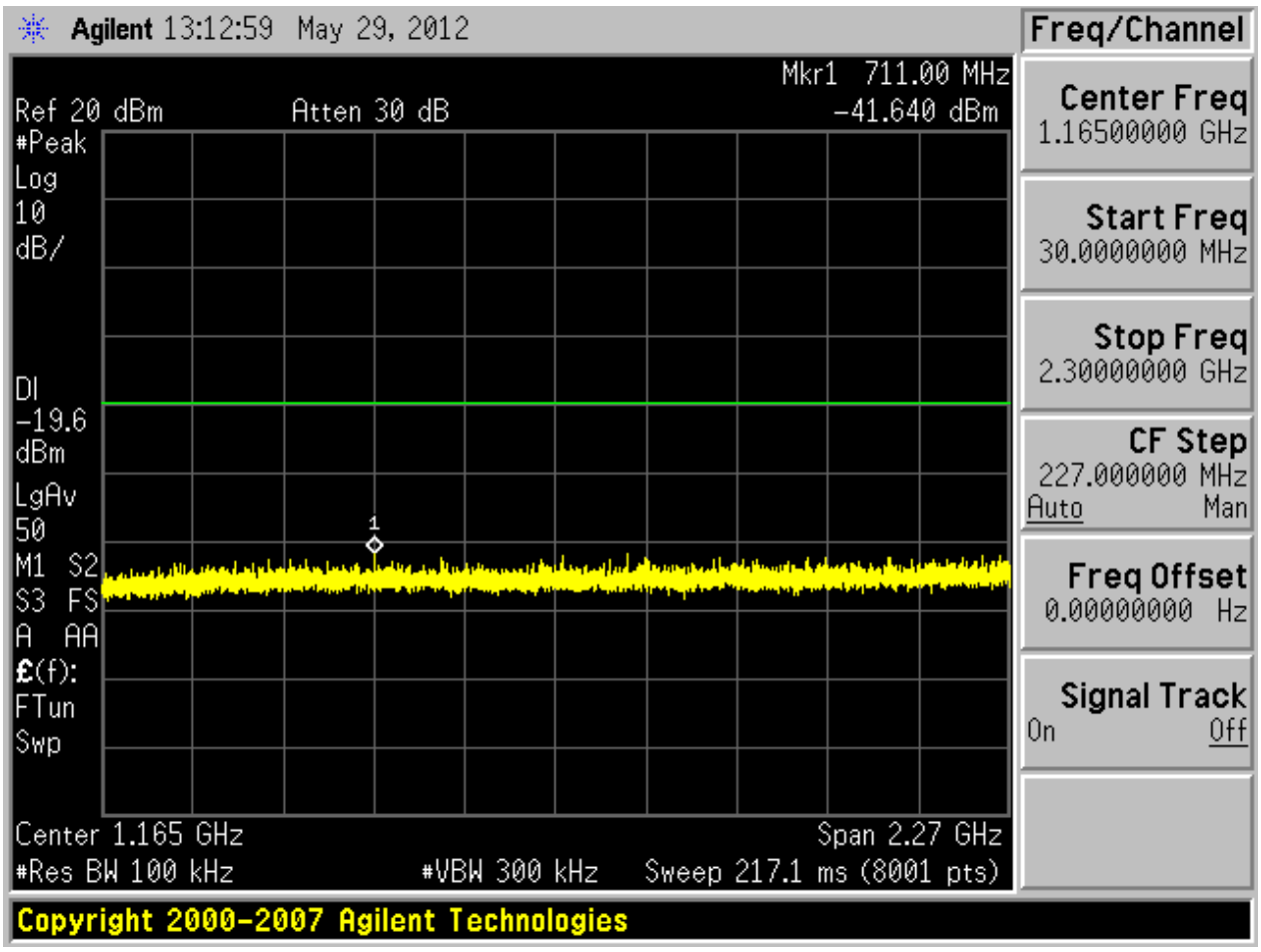
2.8.1 Pref

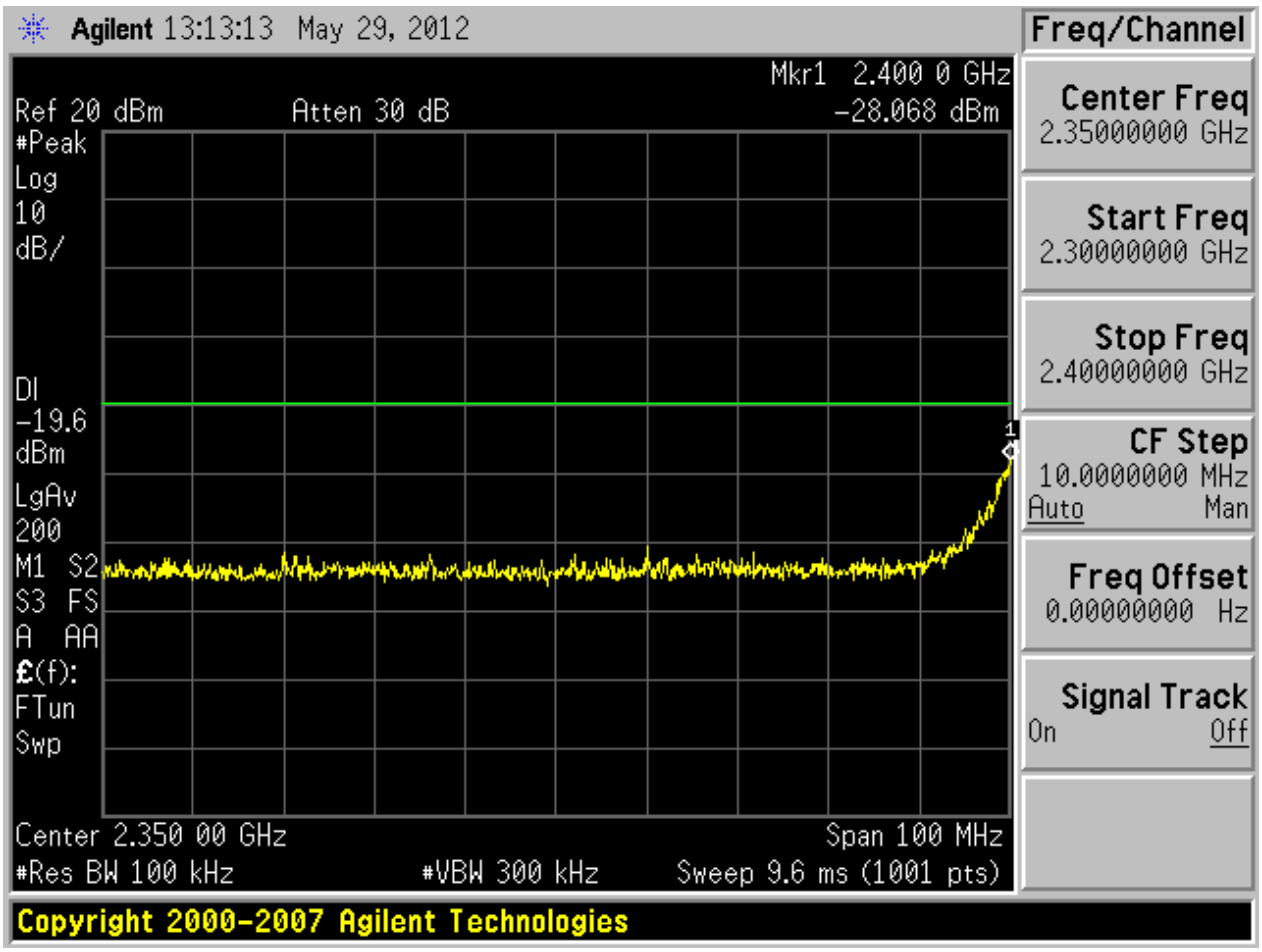


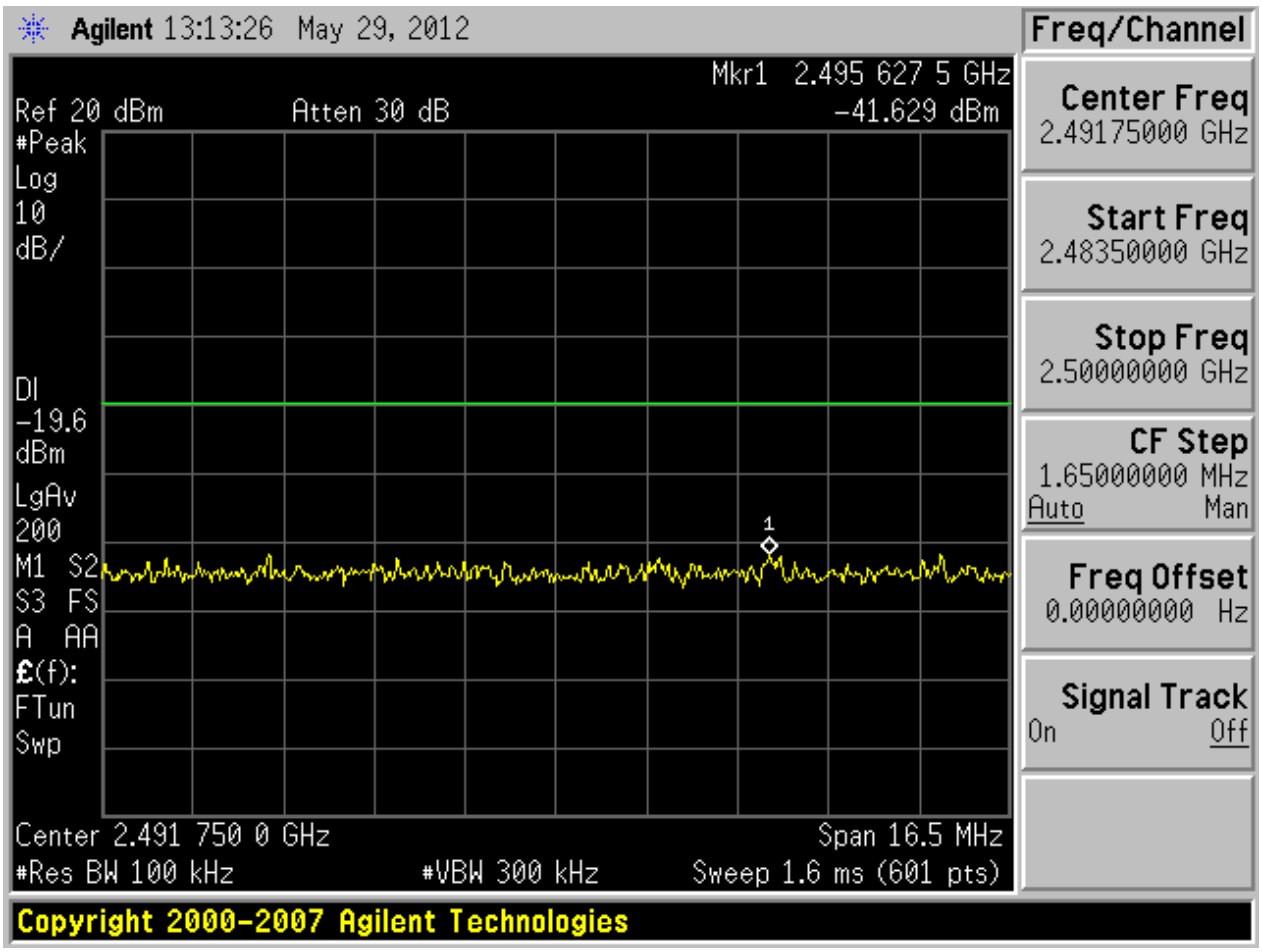
2.8.2 Puw

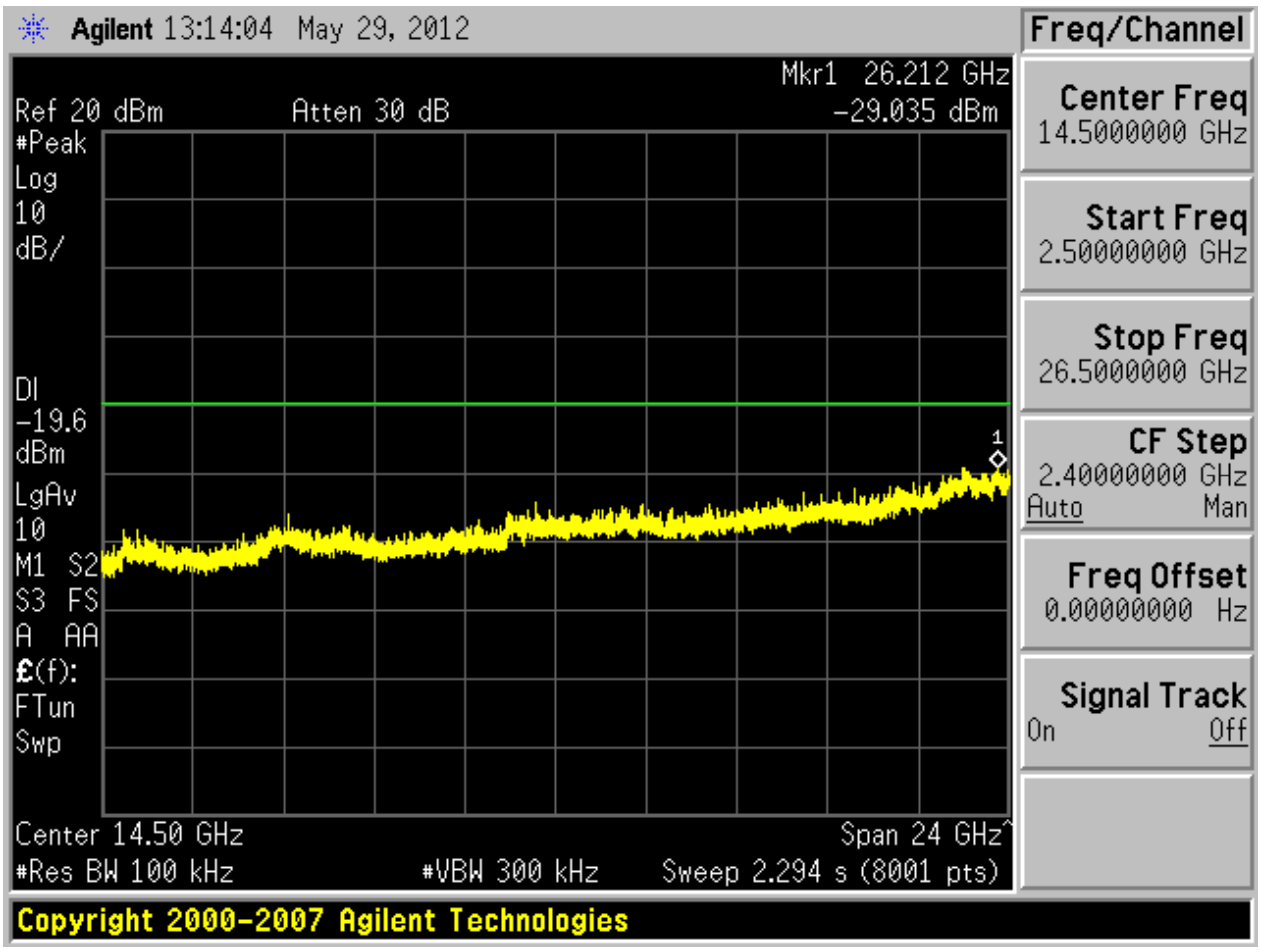






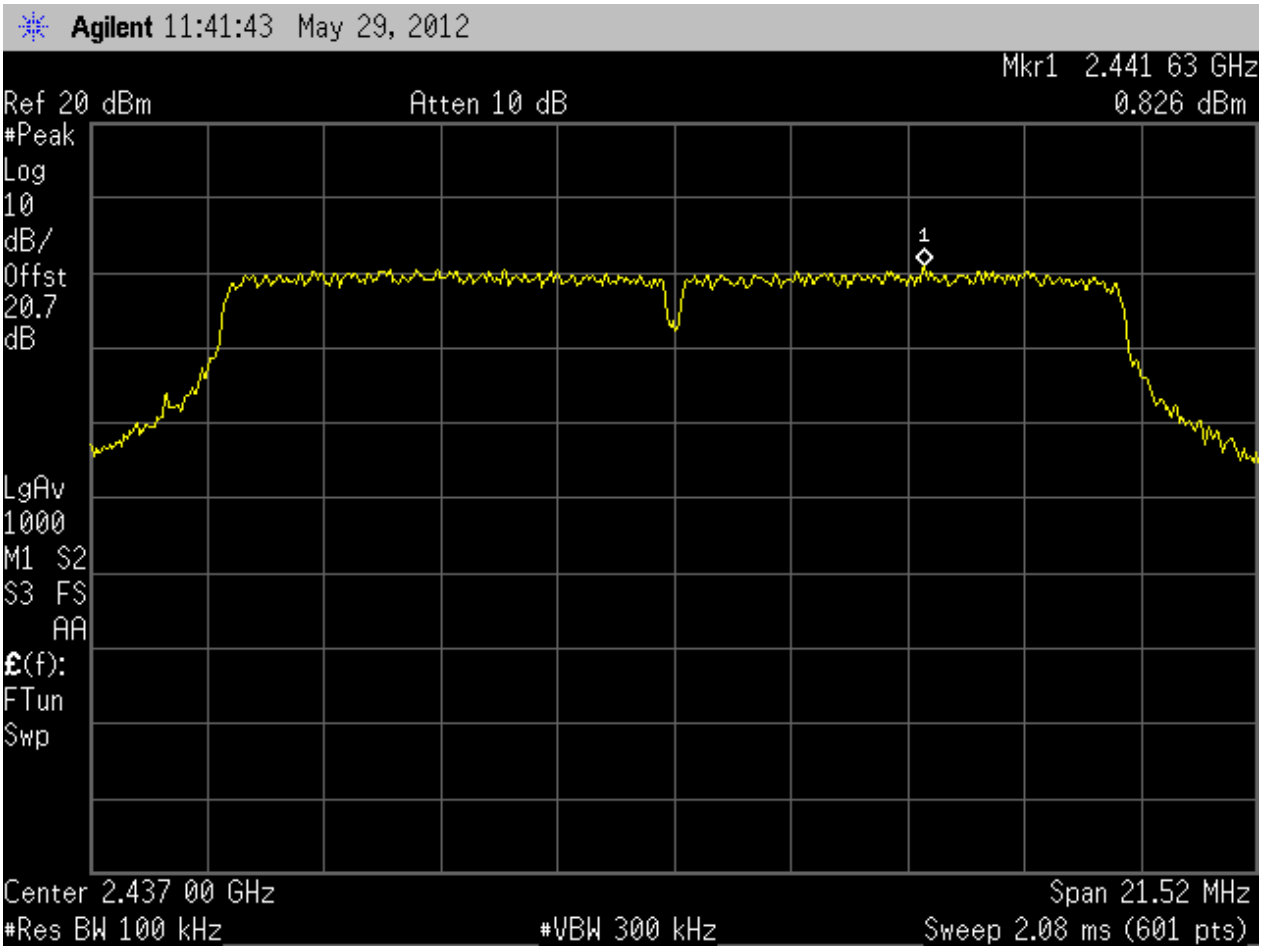




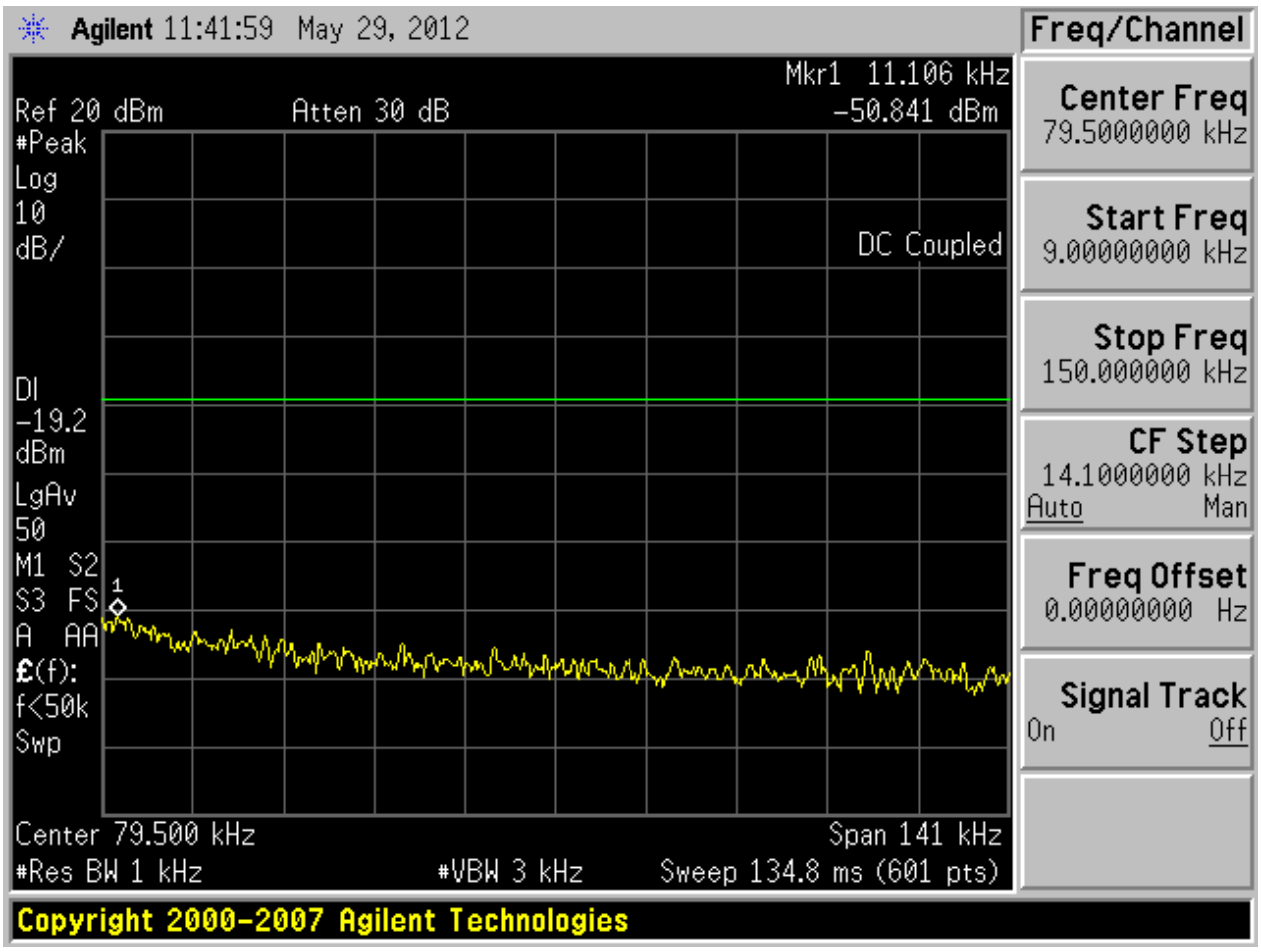


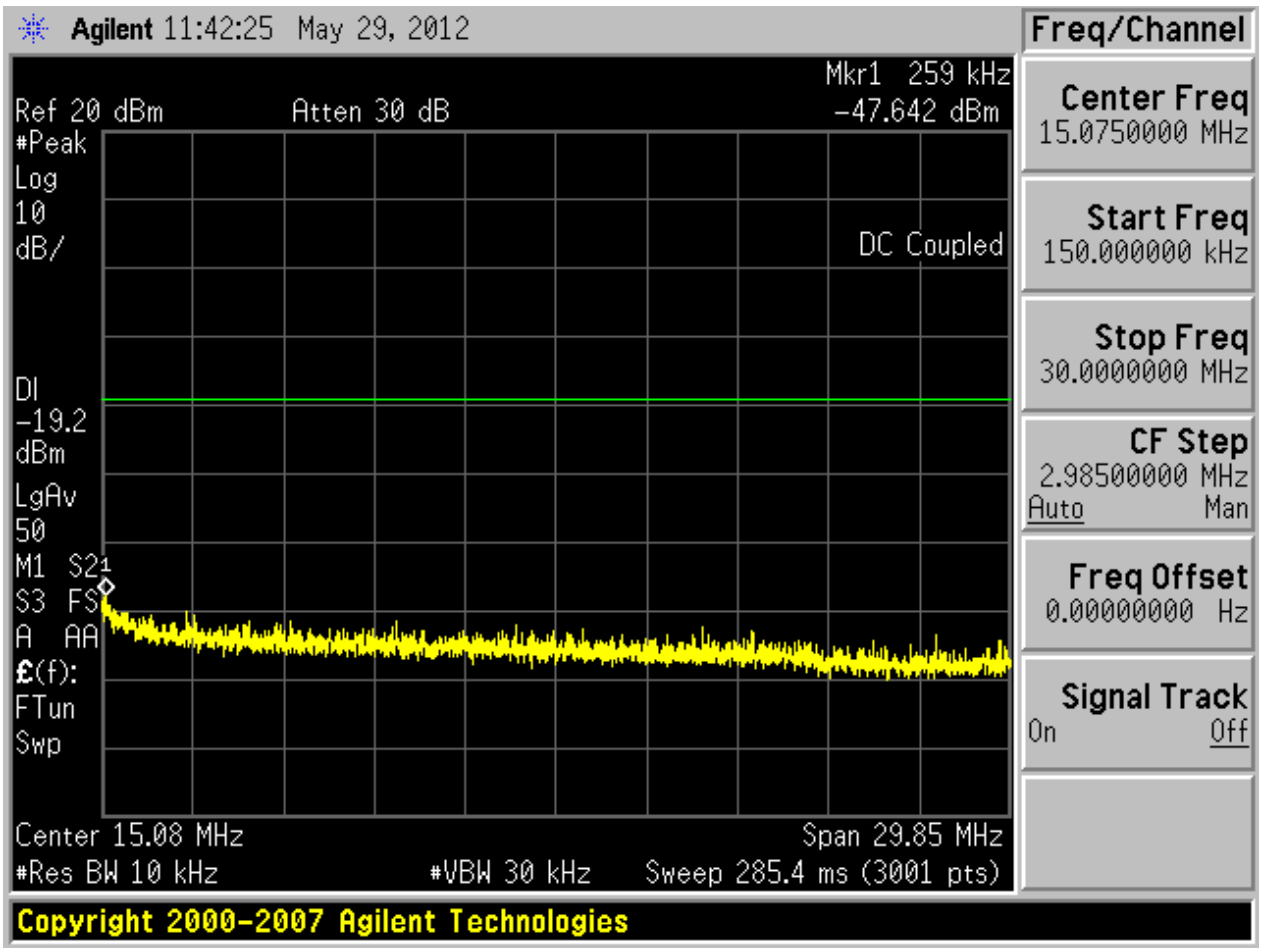
2.9 11G/6_M@1

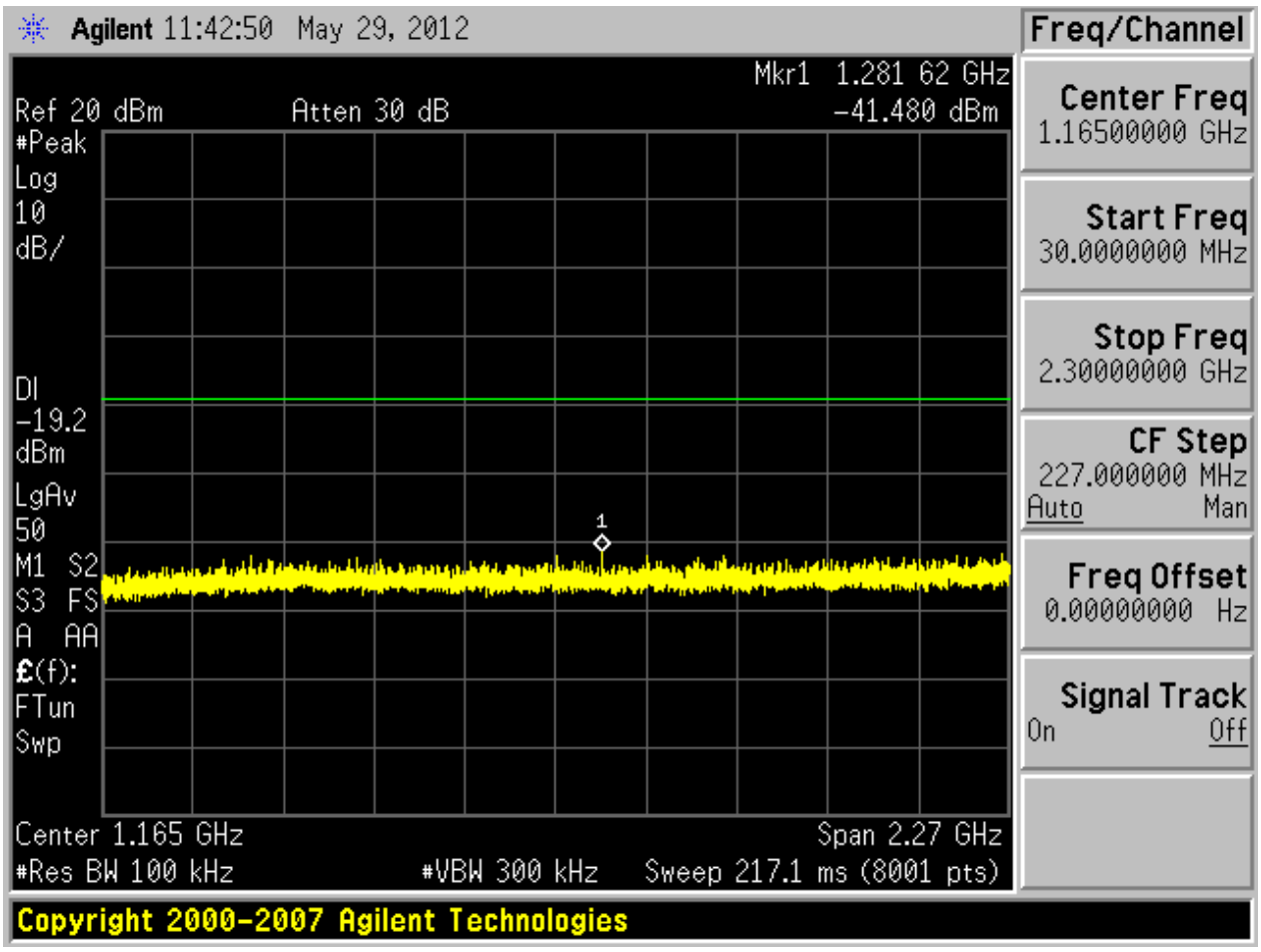
2.9.1 Pref

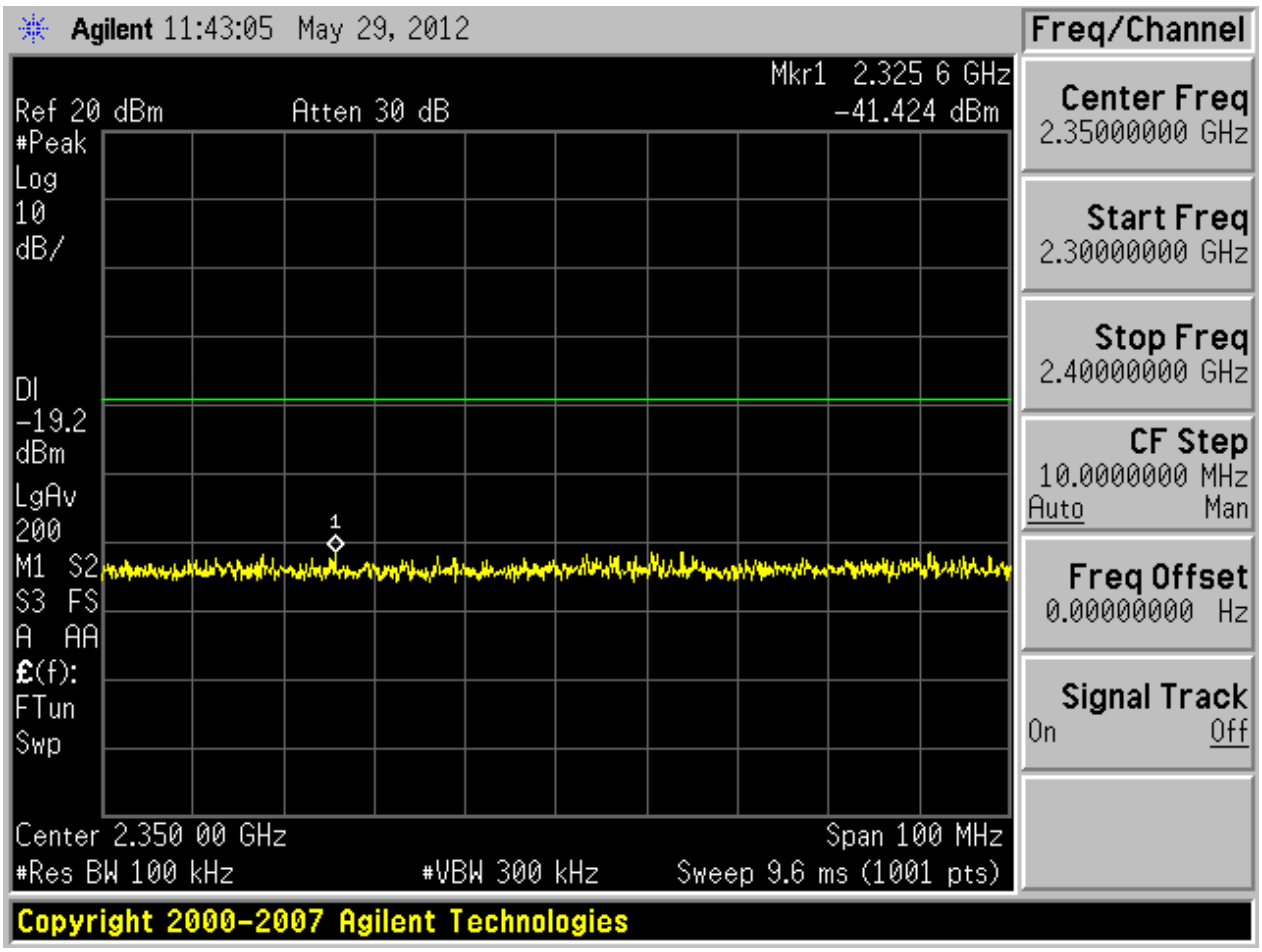


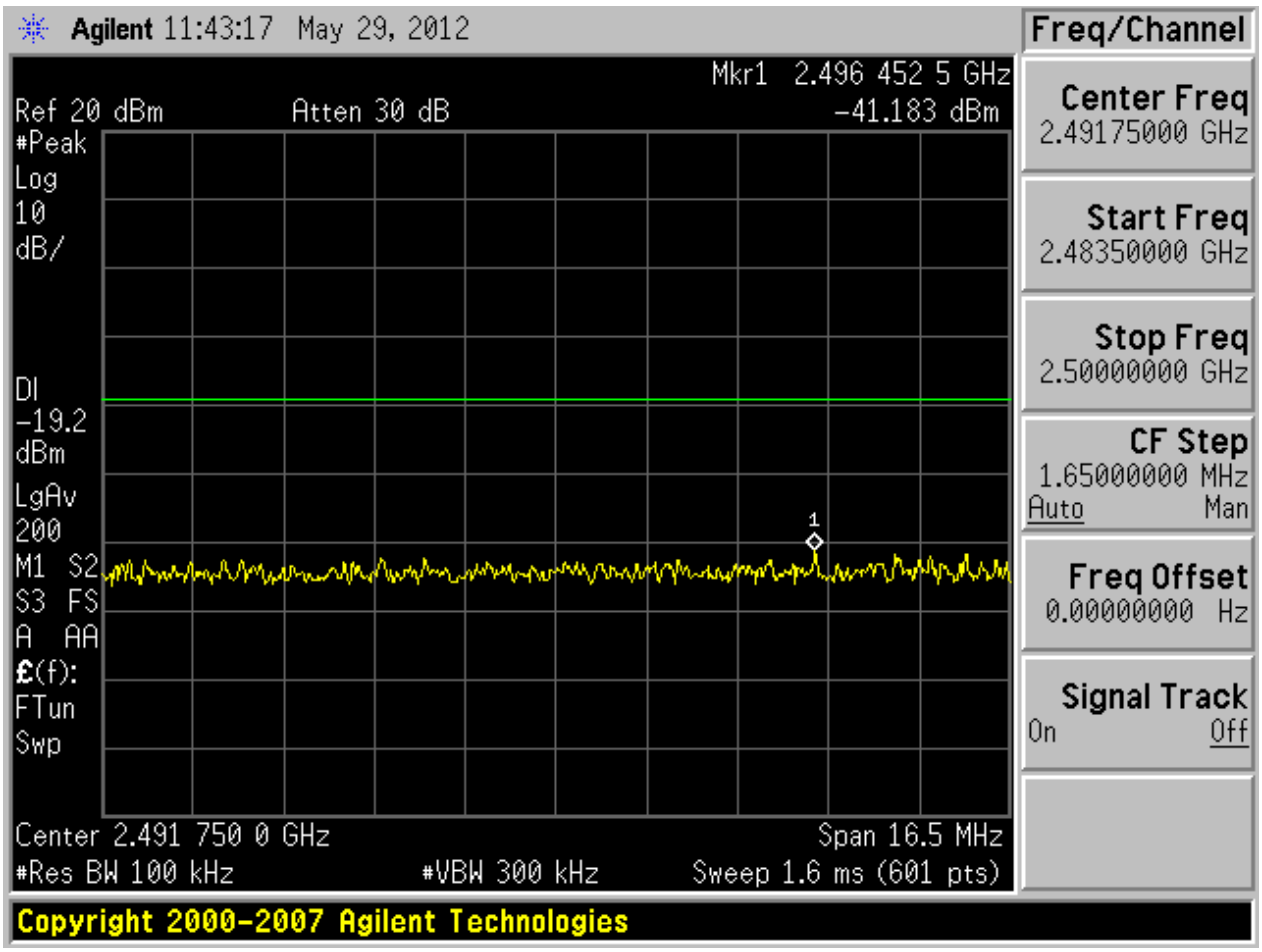
2.9.2 Puw

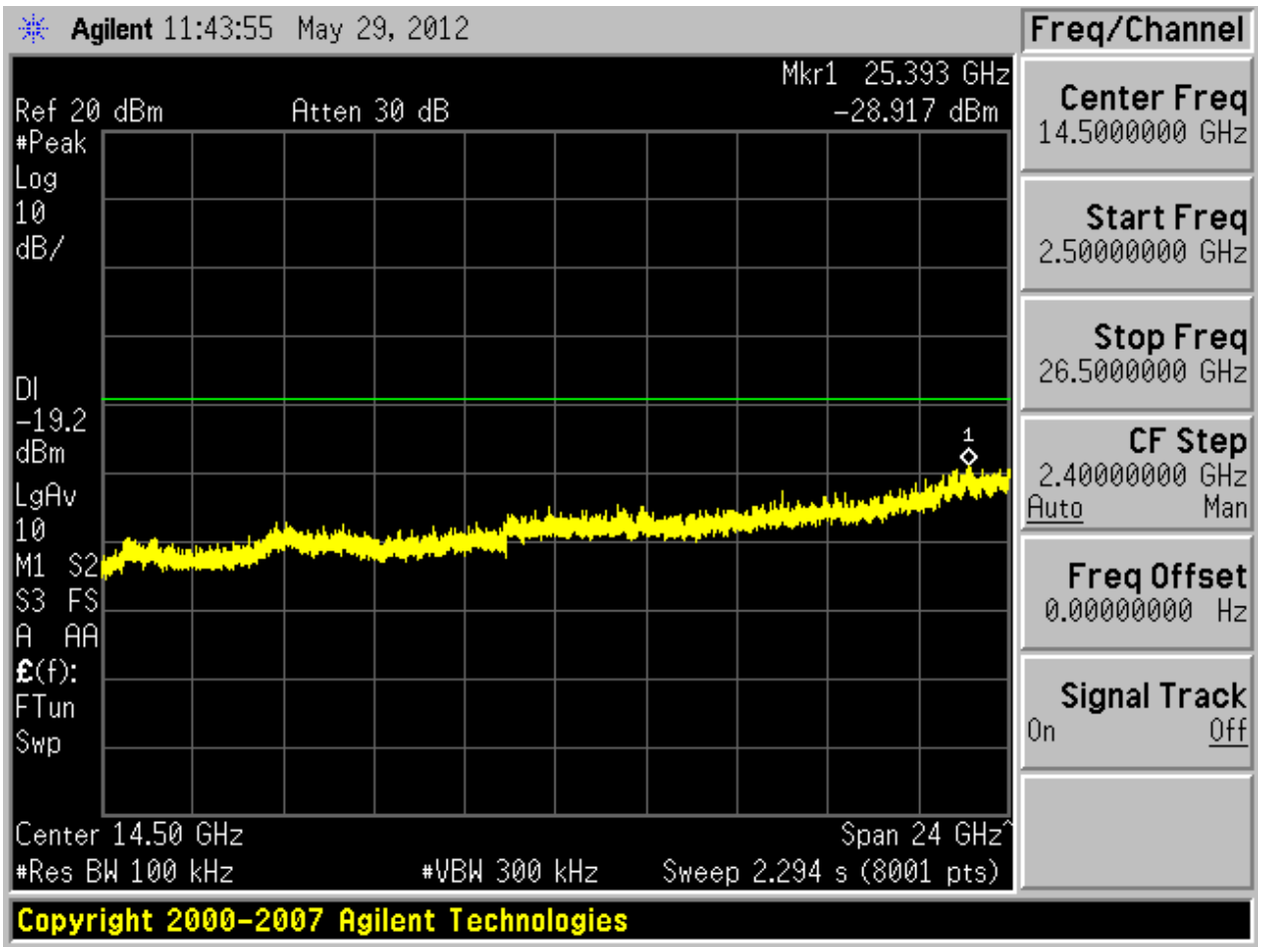






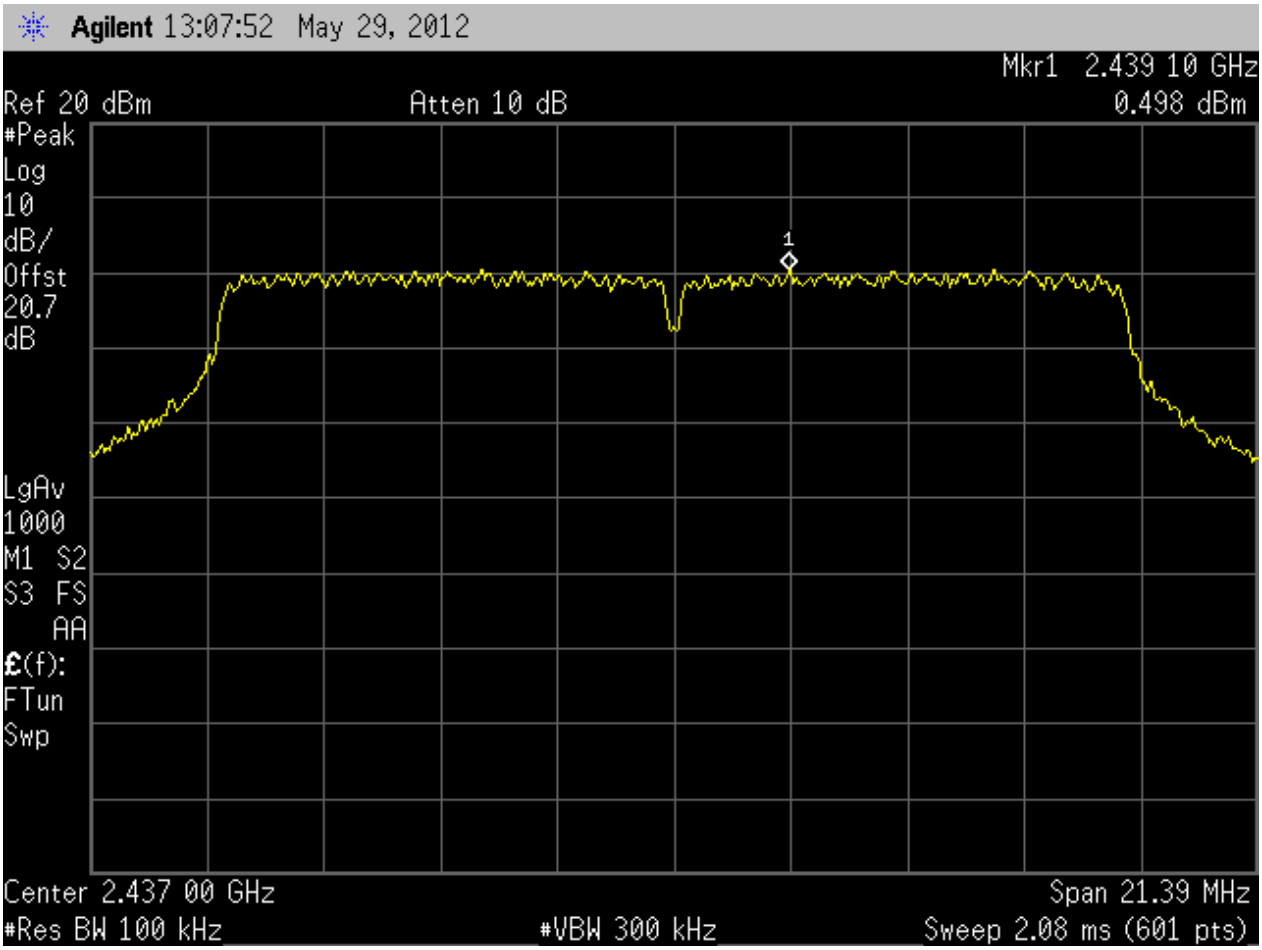




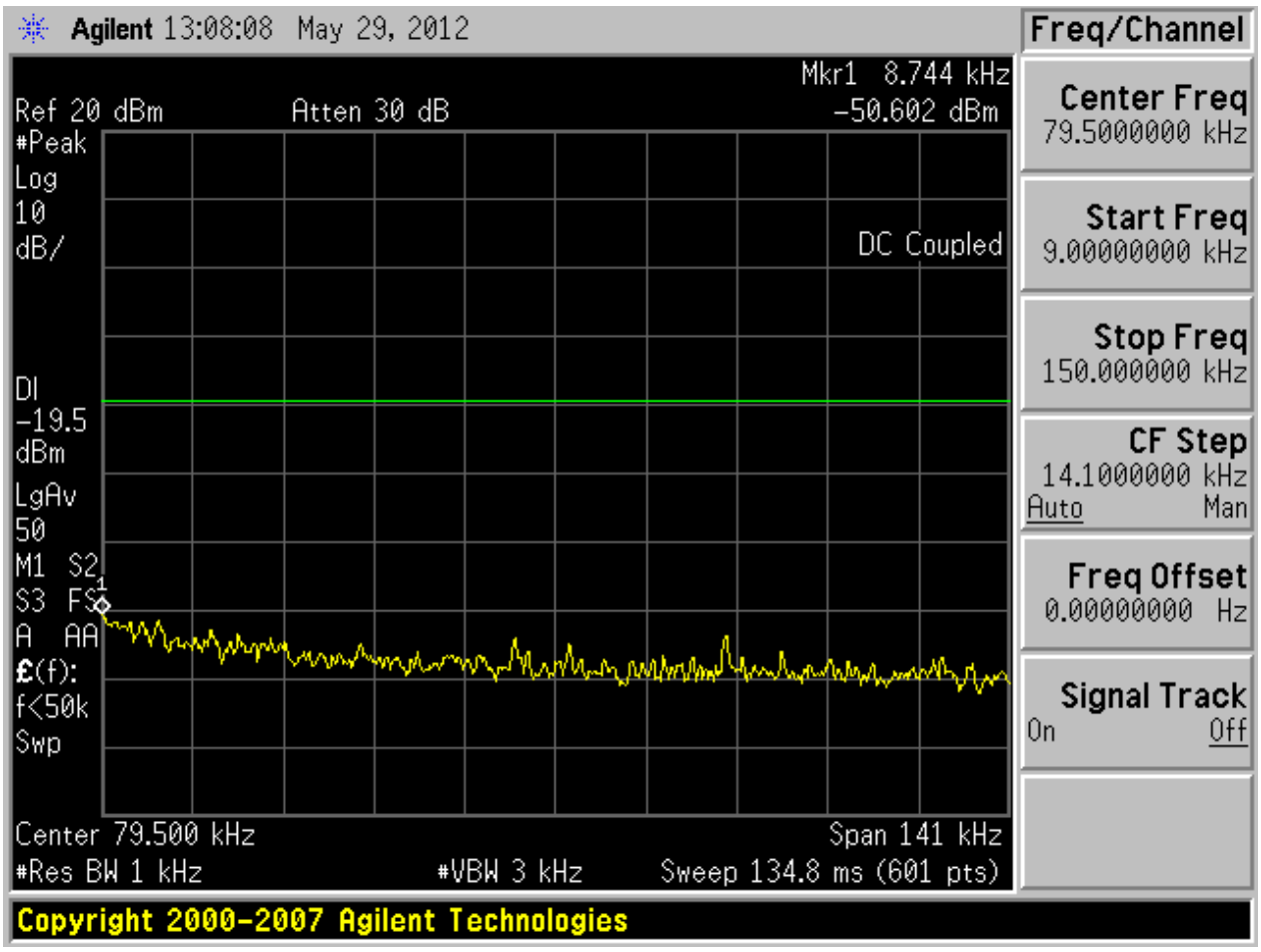


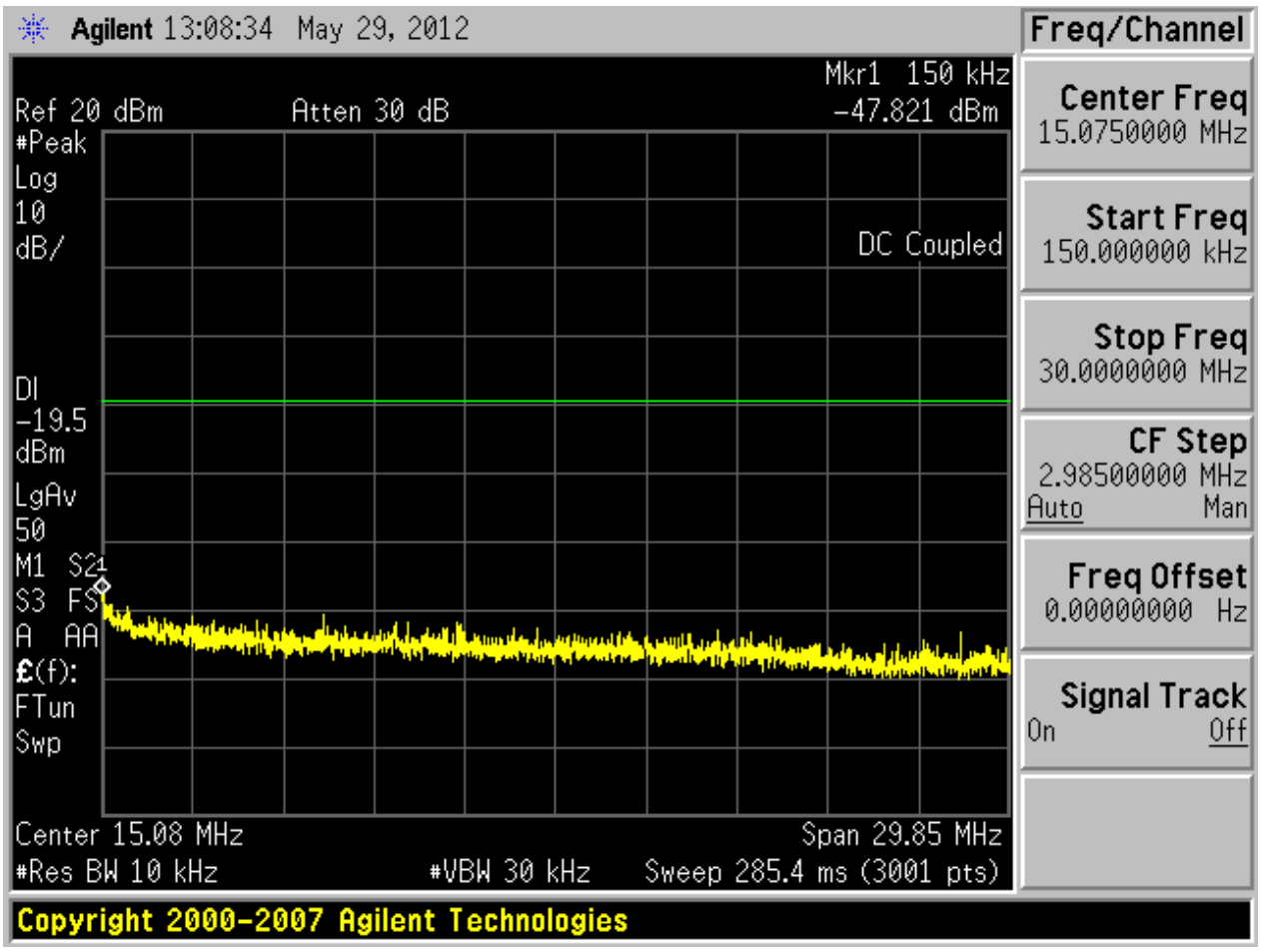
2.1011G/6_M@2

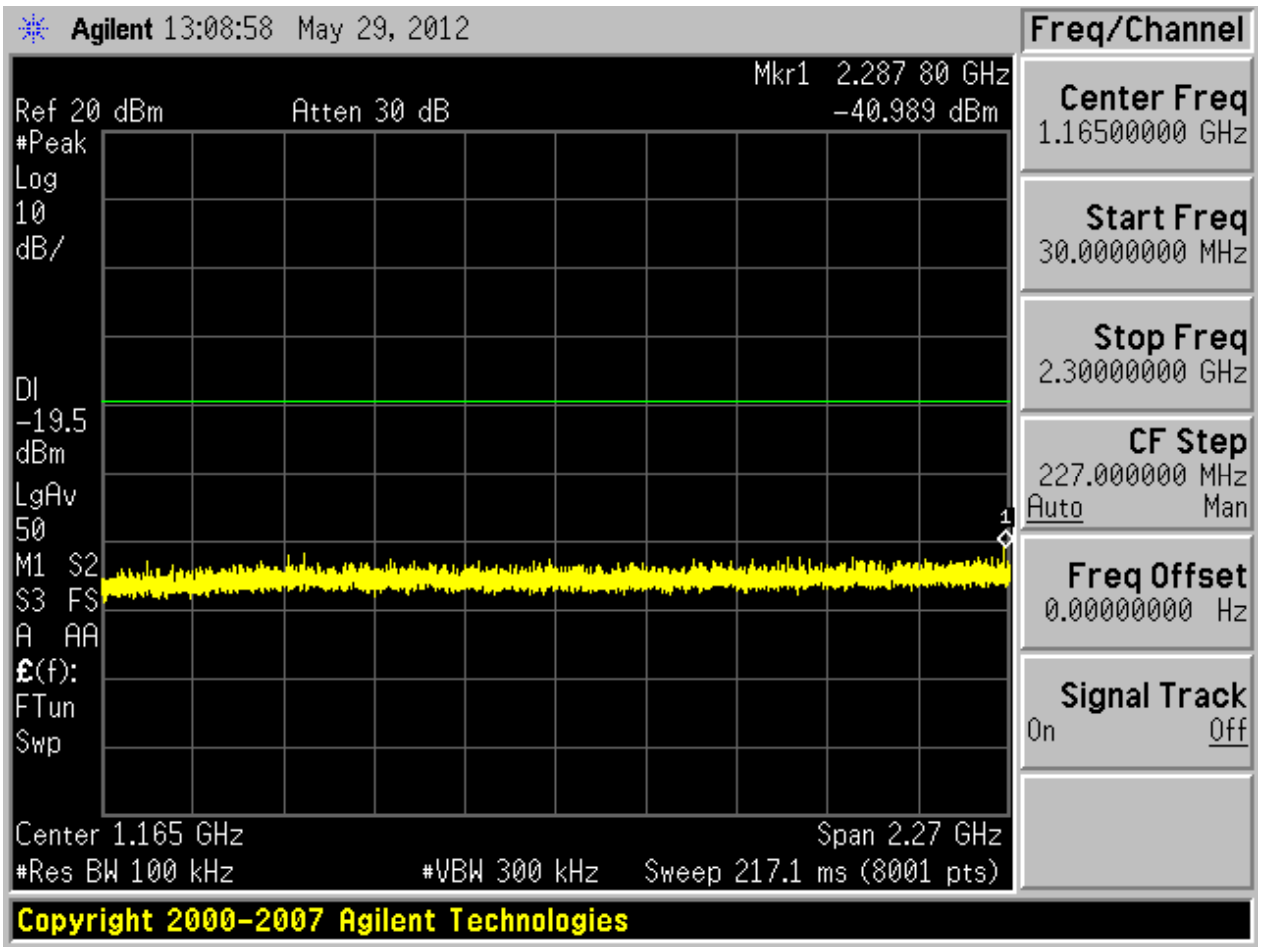
2.10.1 Pref

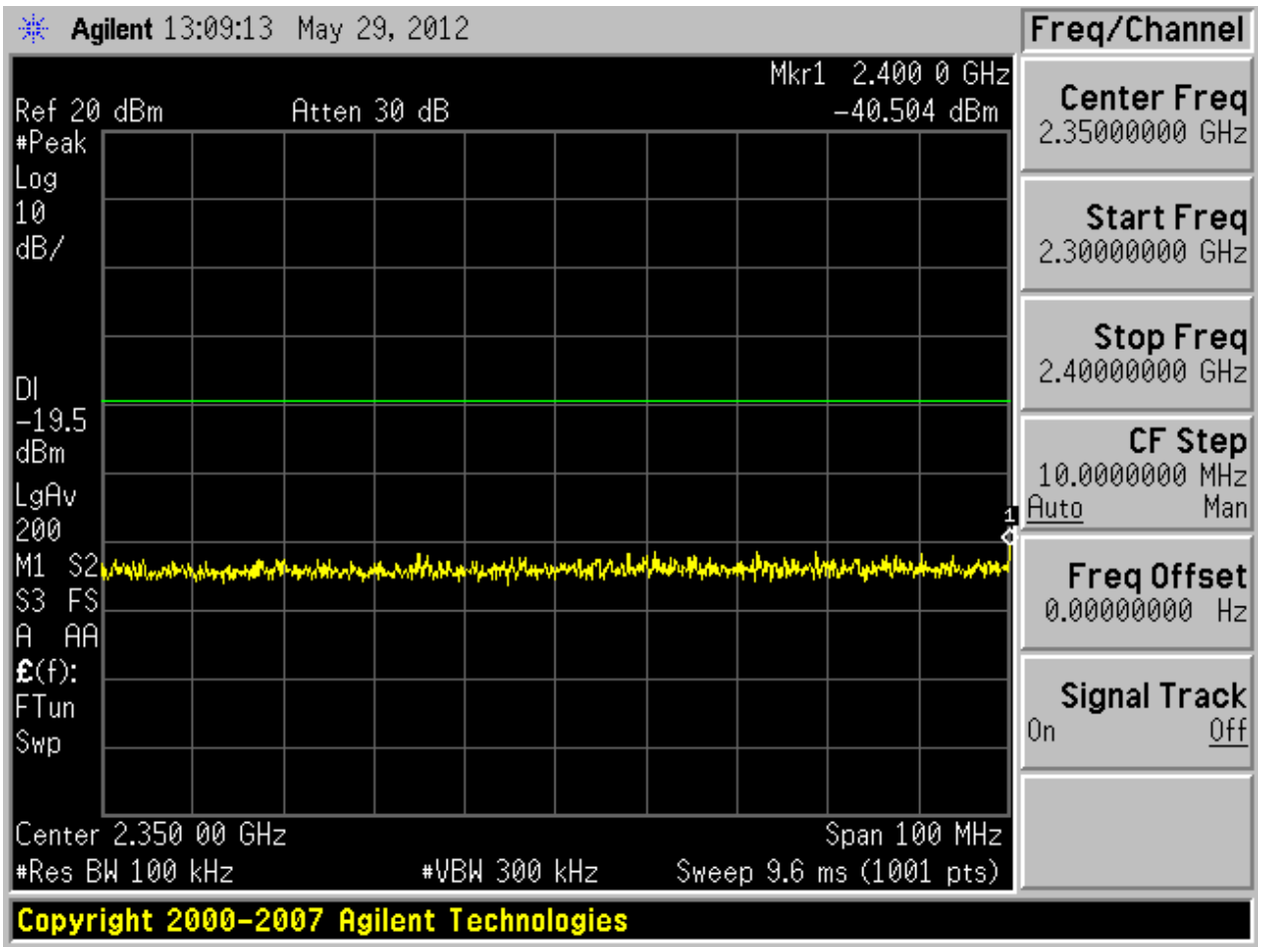


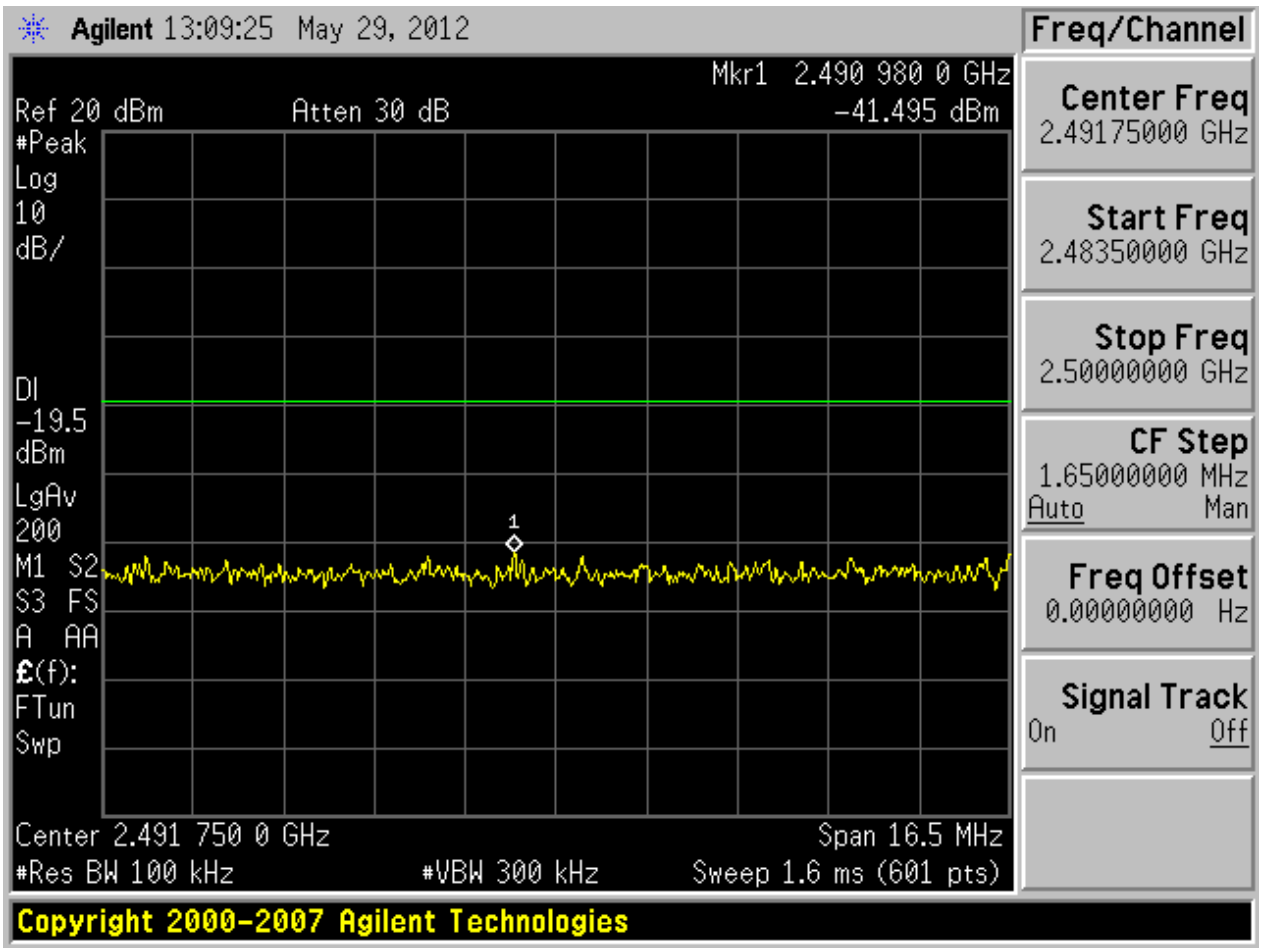
2.10.2 Puw

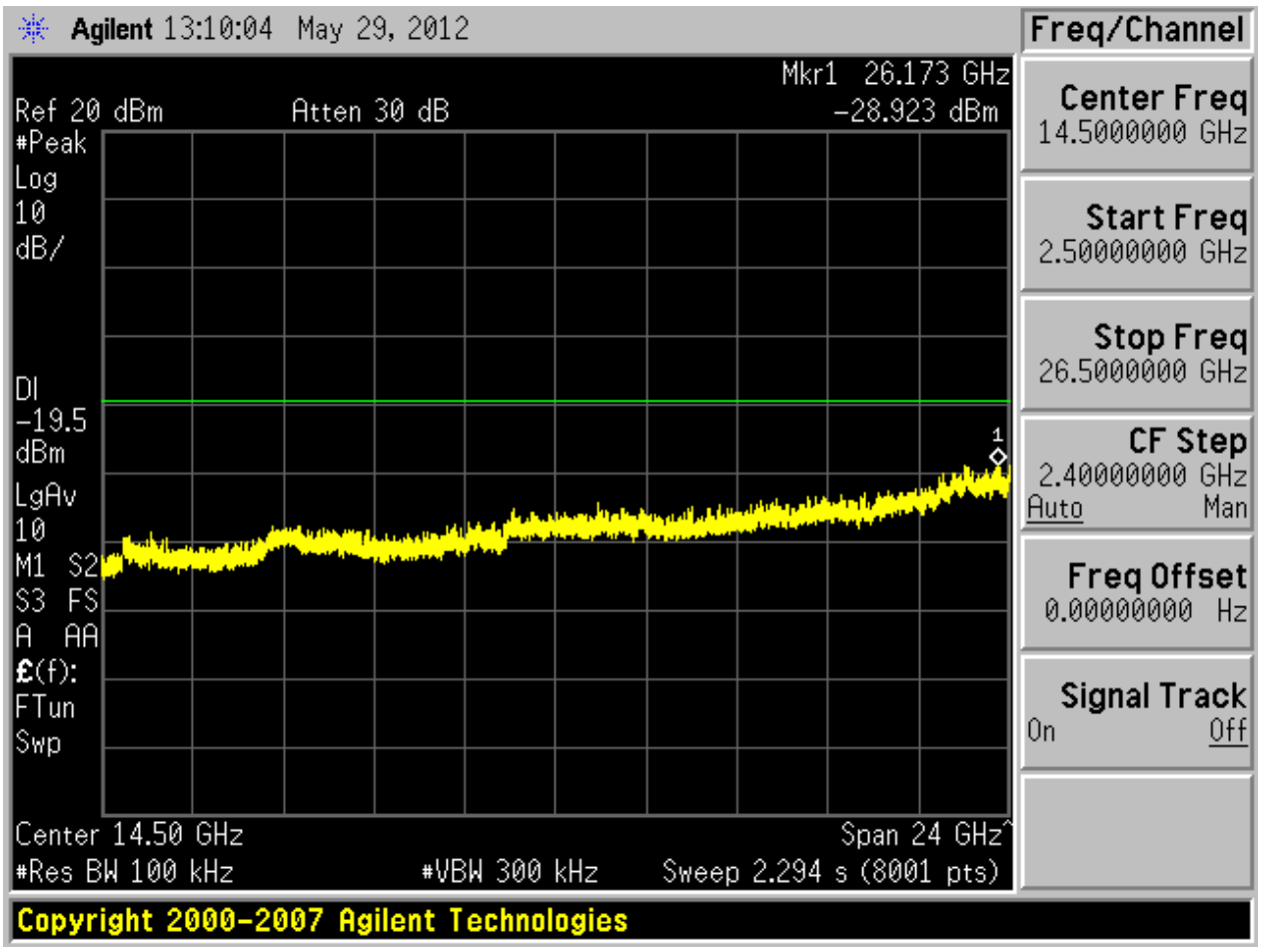






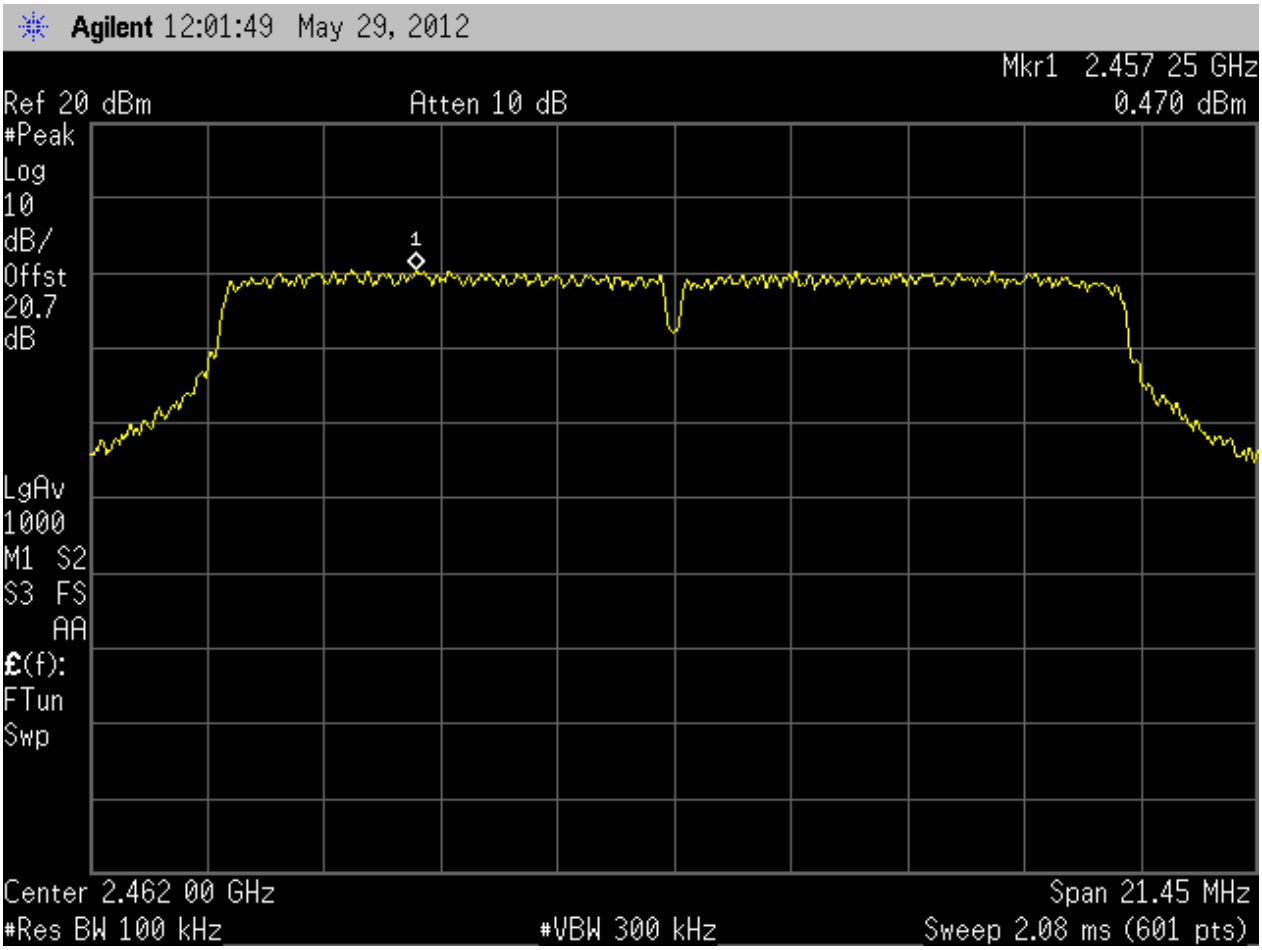




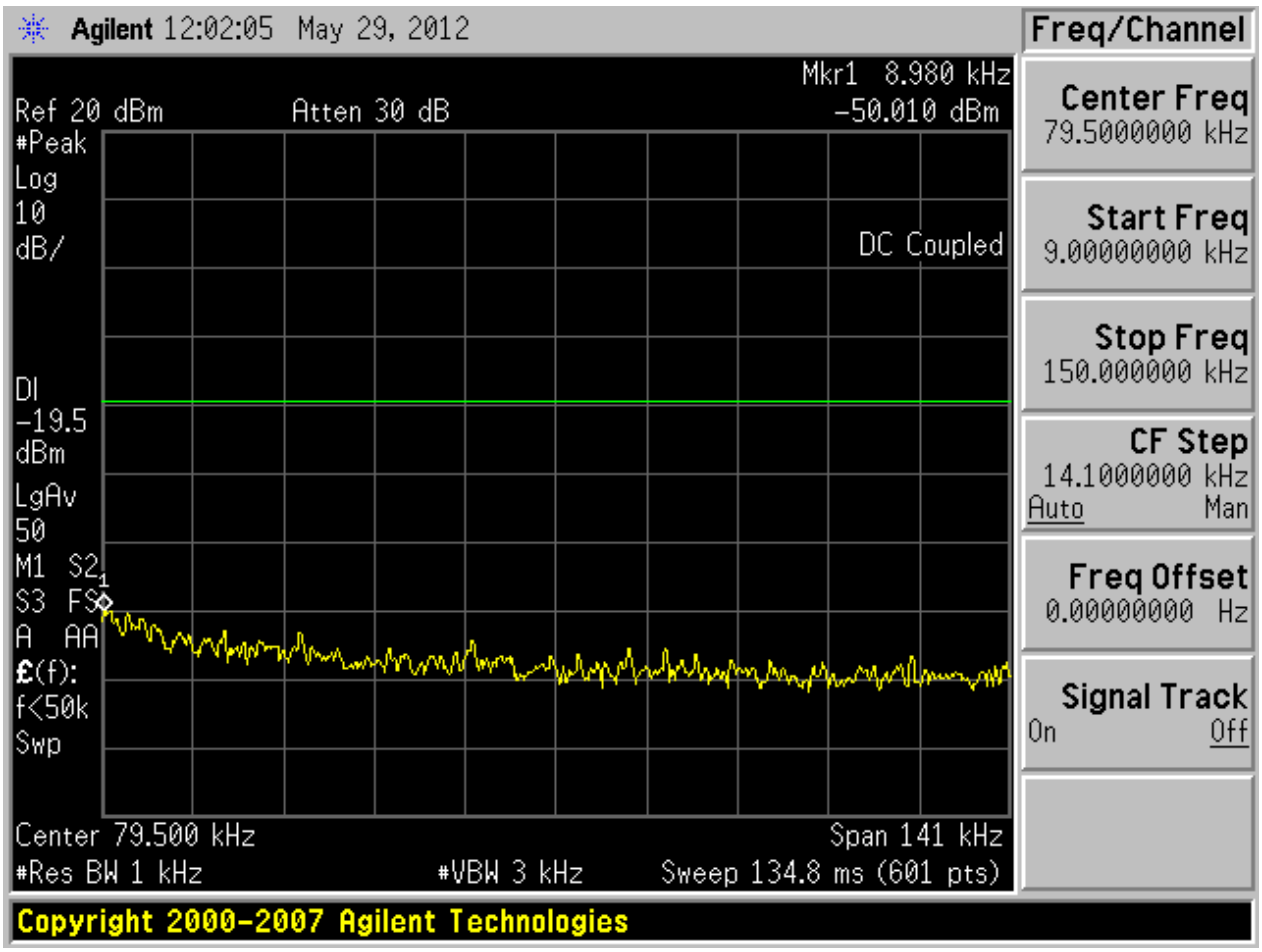


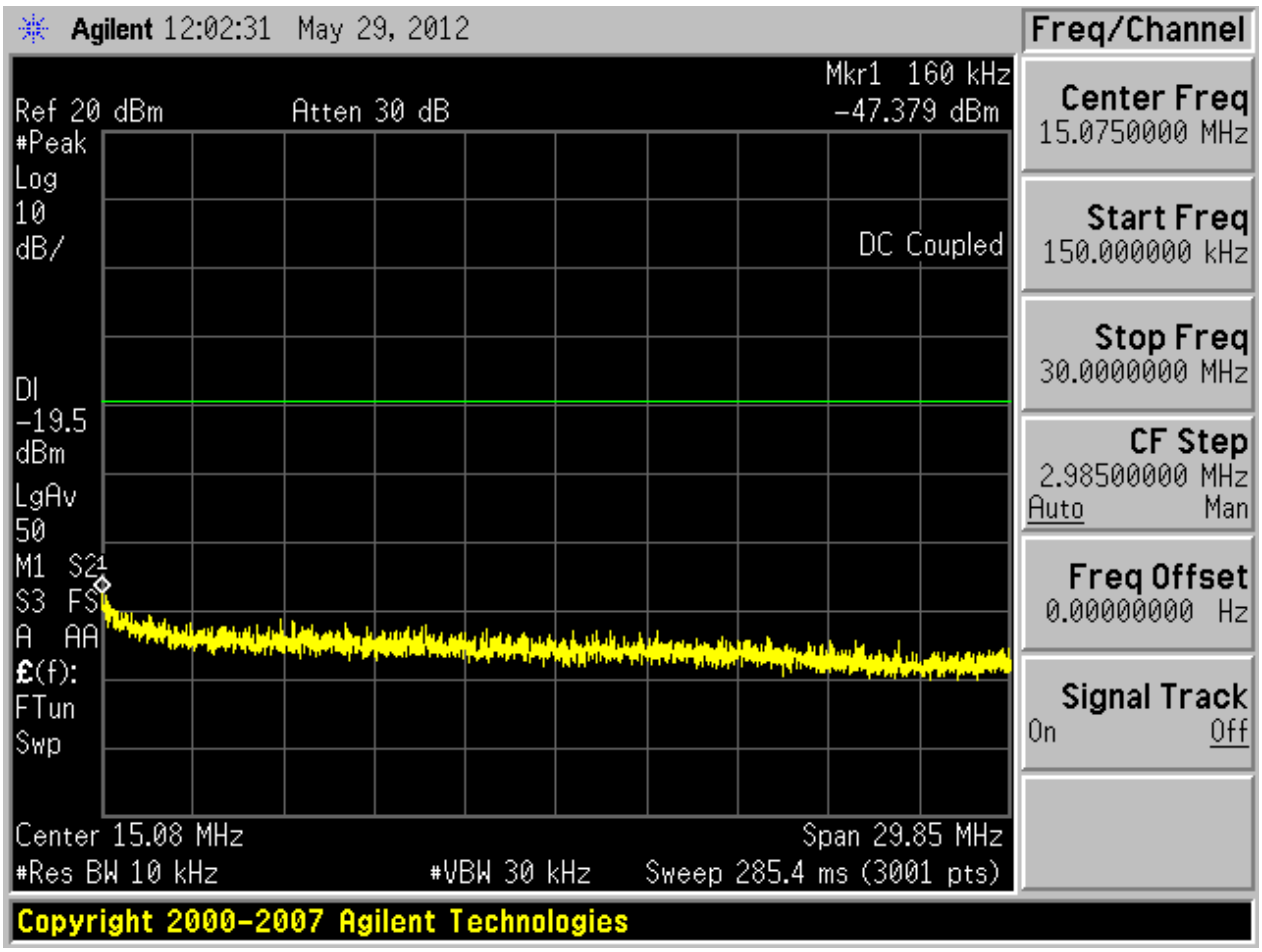
2.1111G/6_T@1

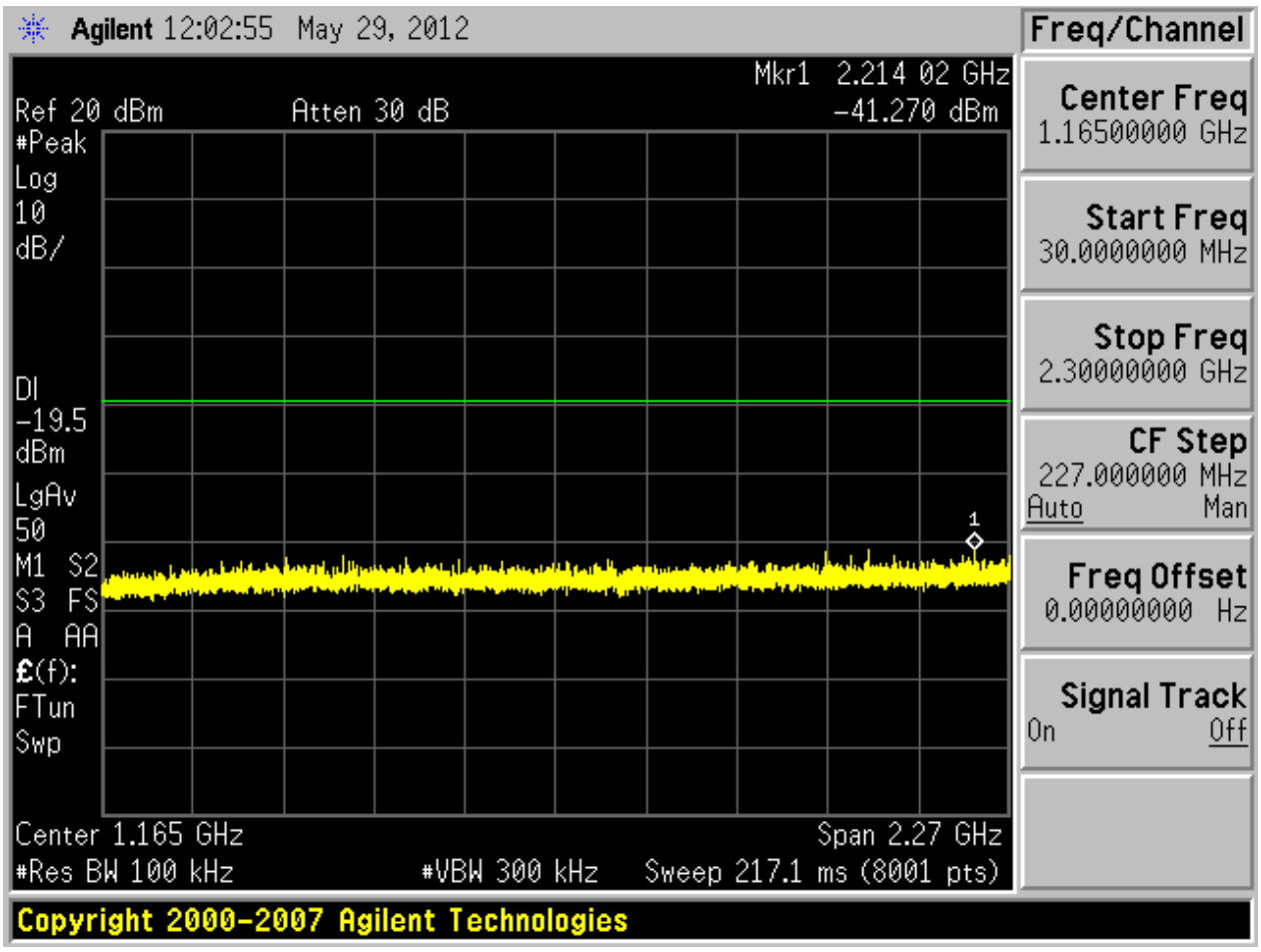
2.11.1 Pref

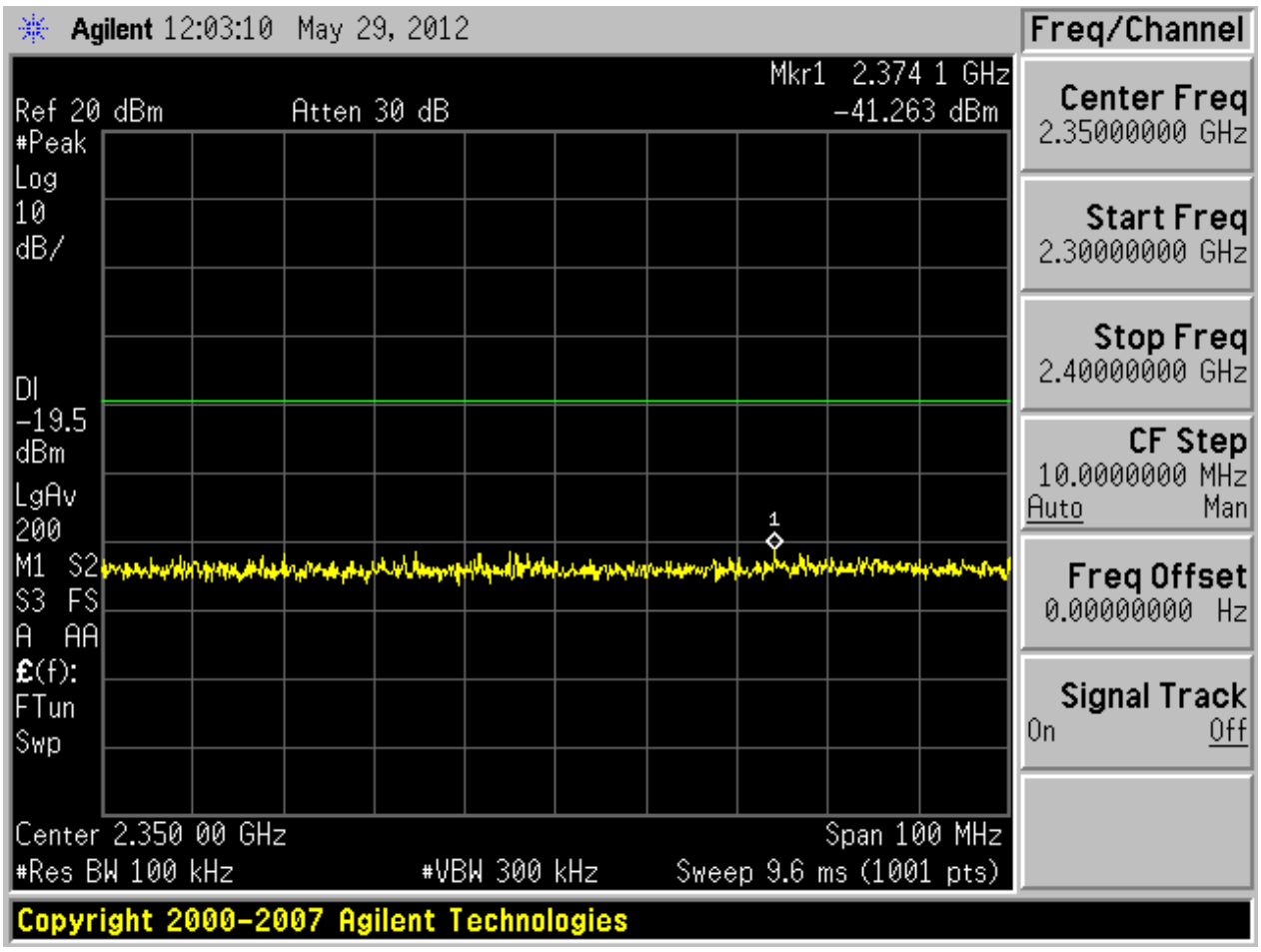


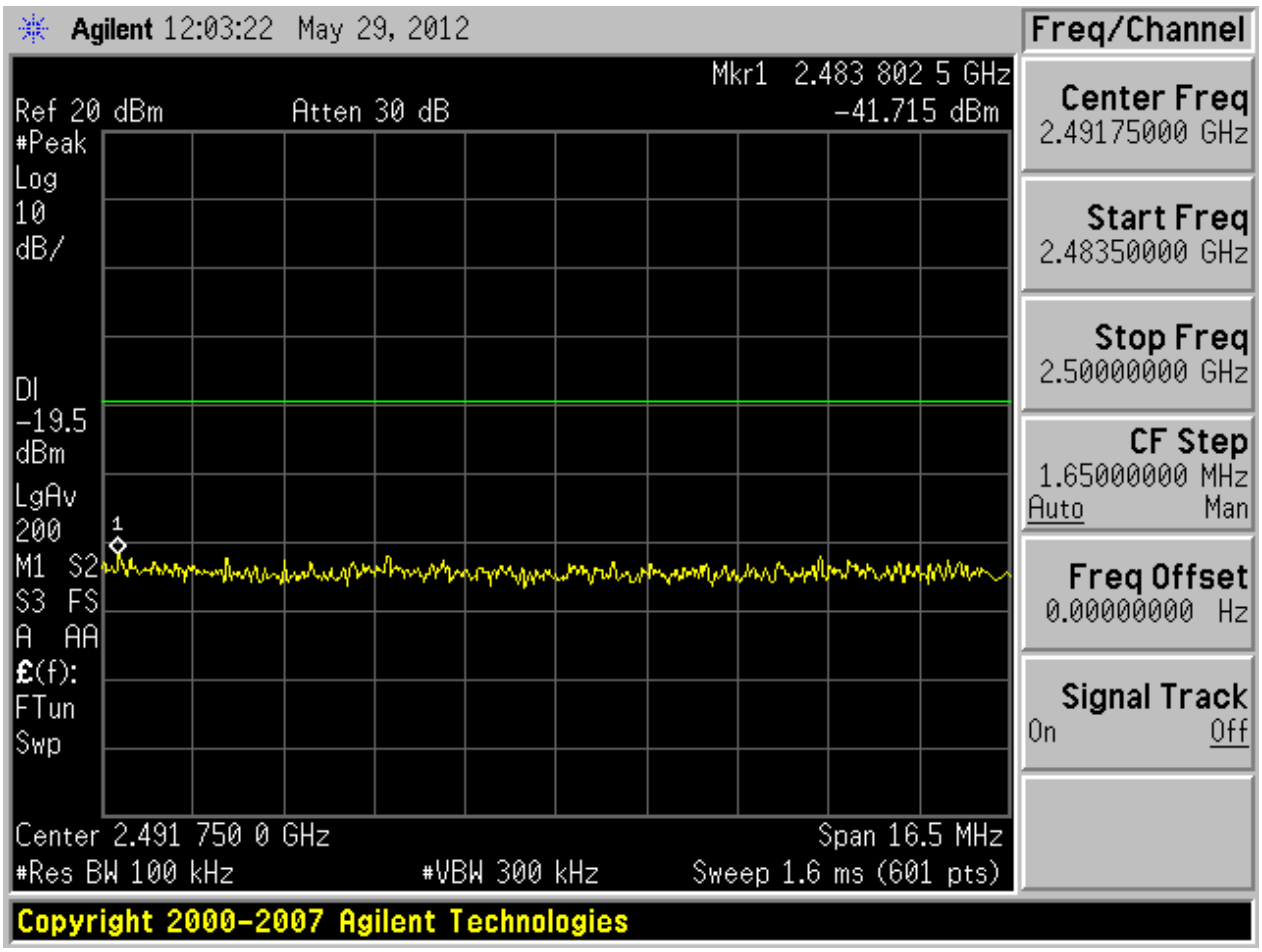
2.11.2 Puw

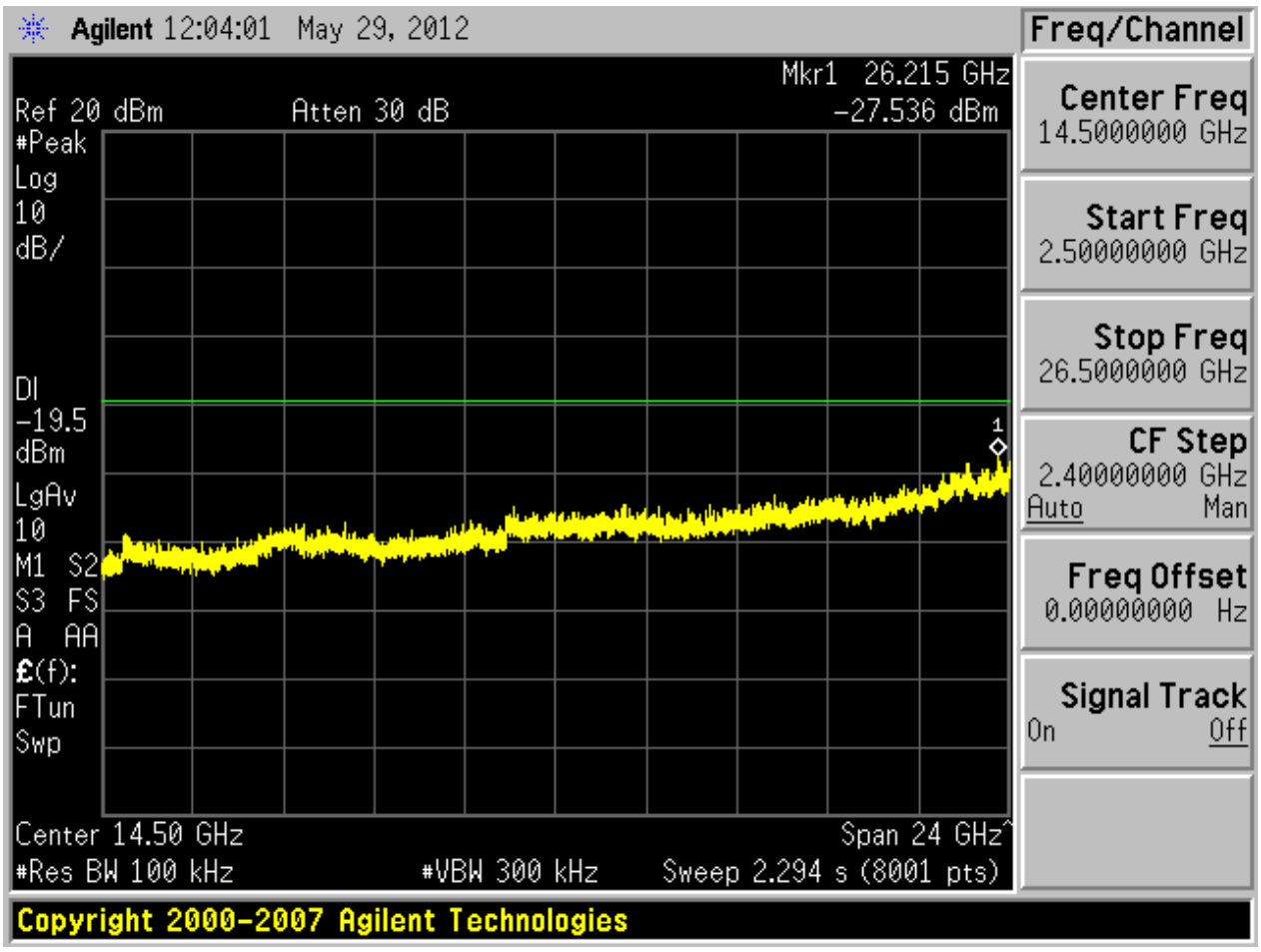






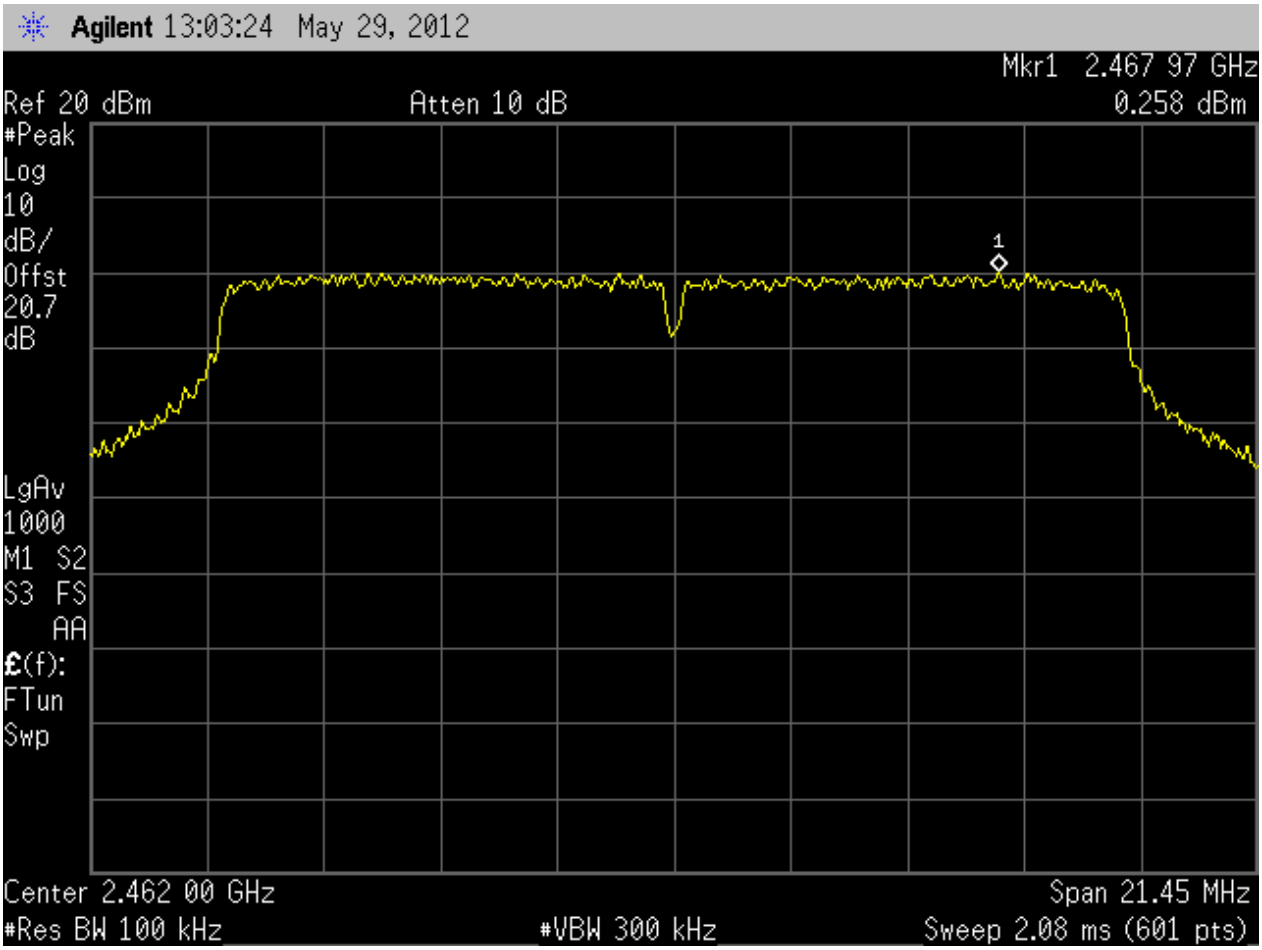




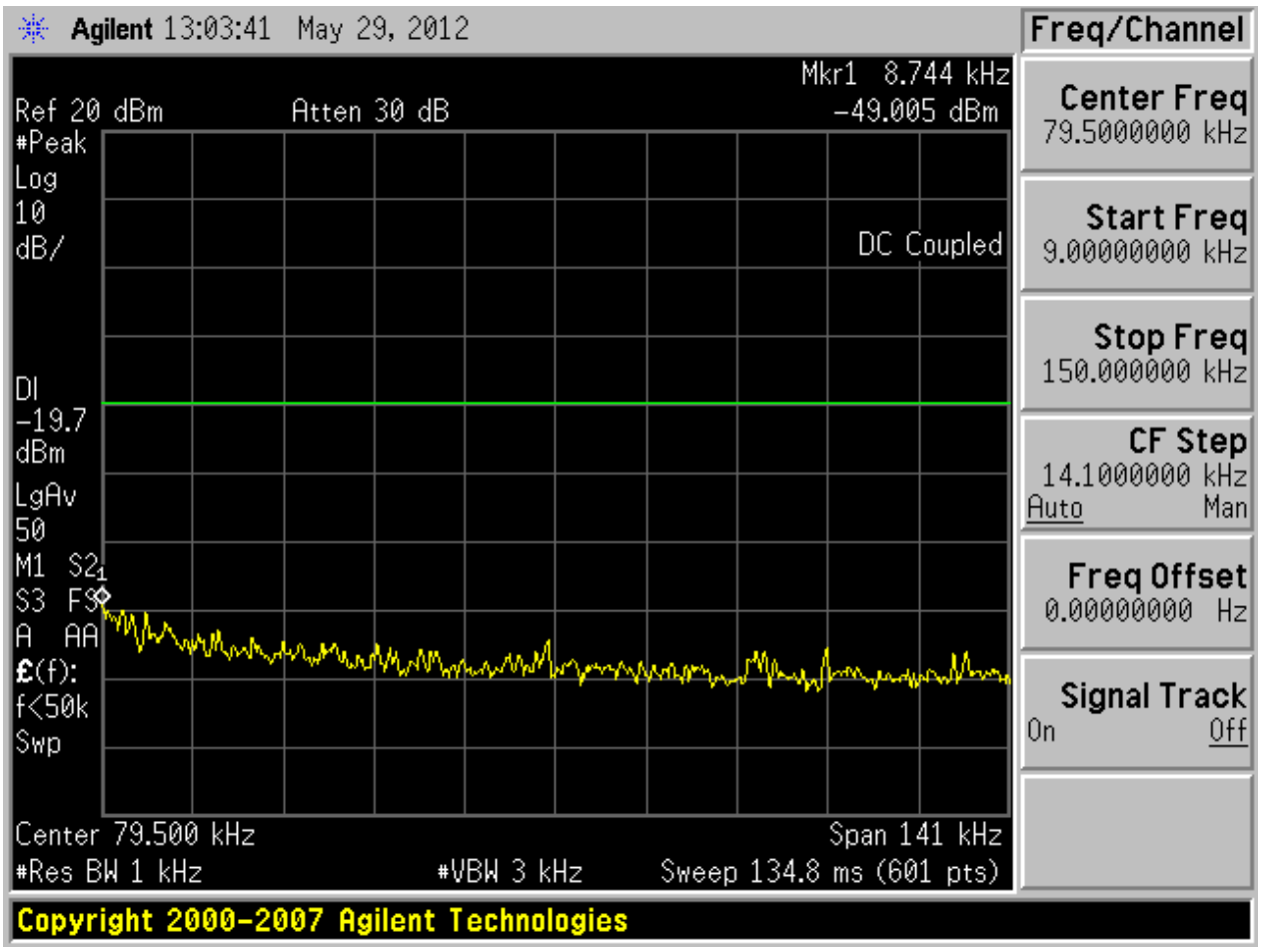


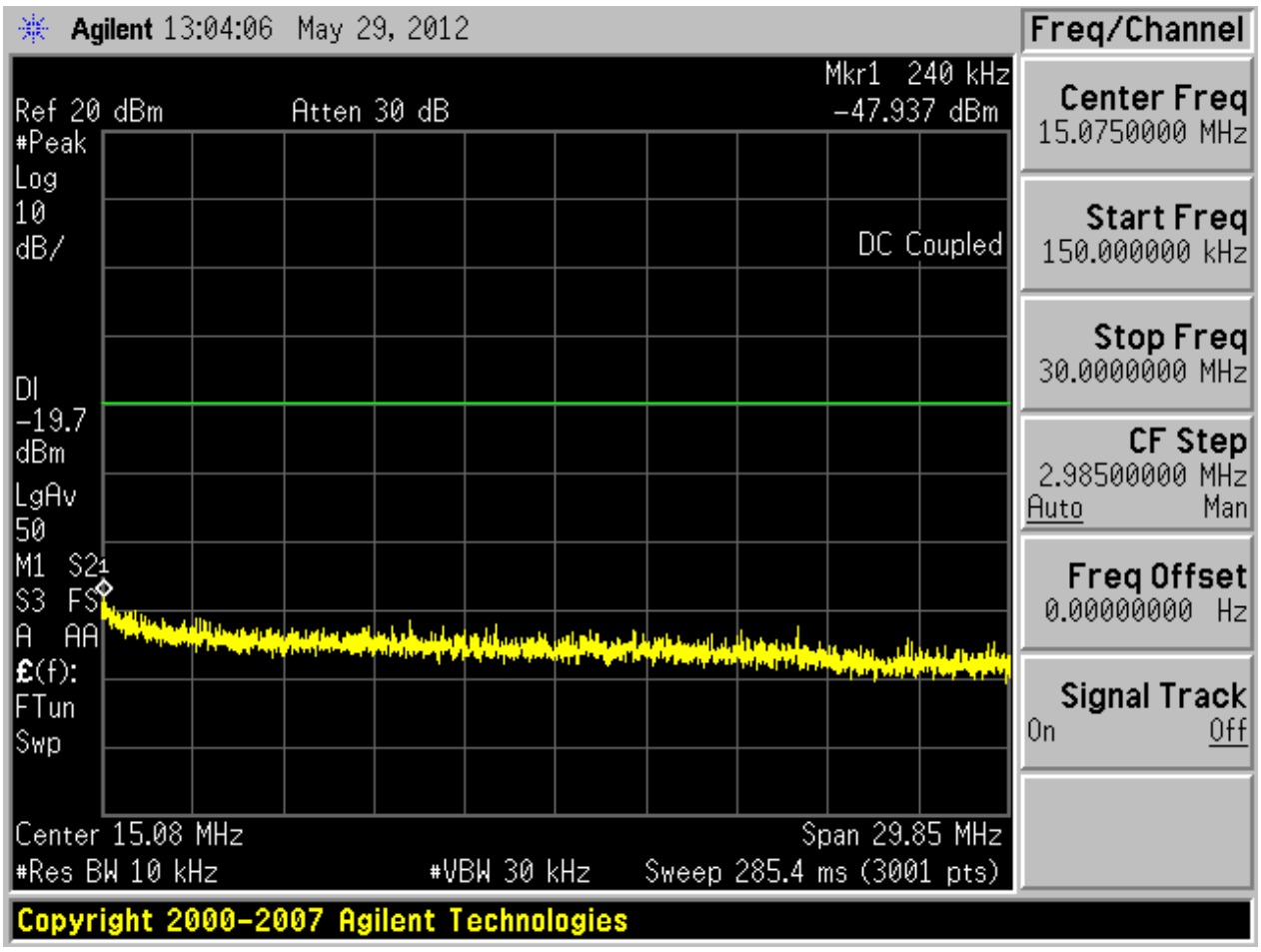
2.1211G/6_T@2

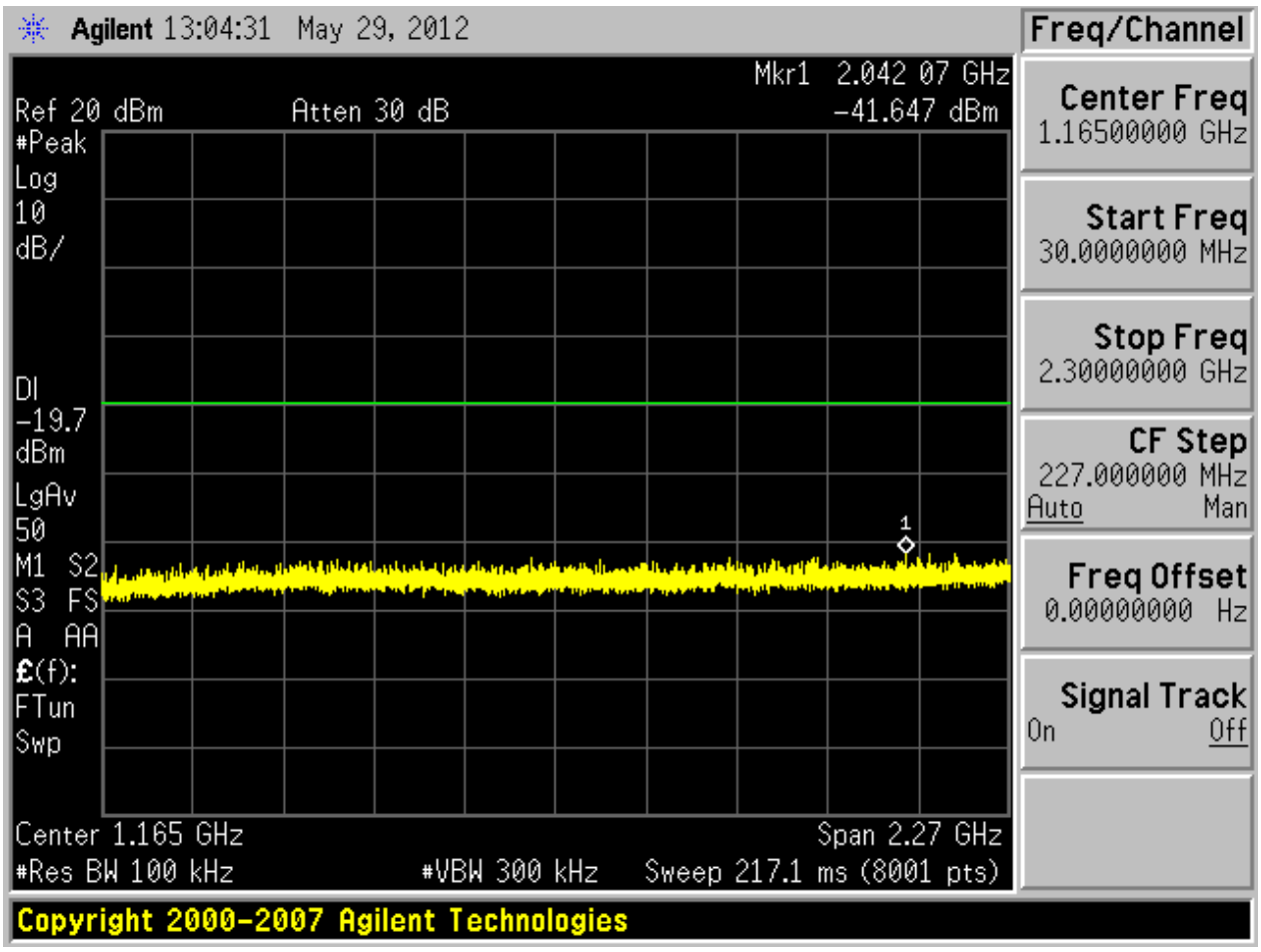
2.12.1 Pref

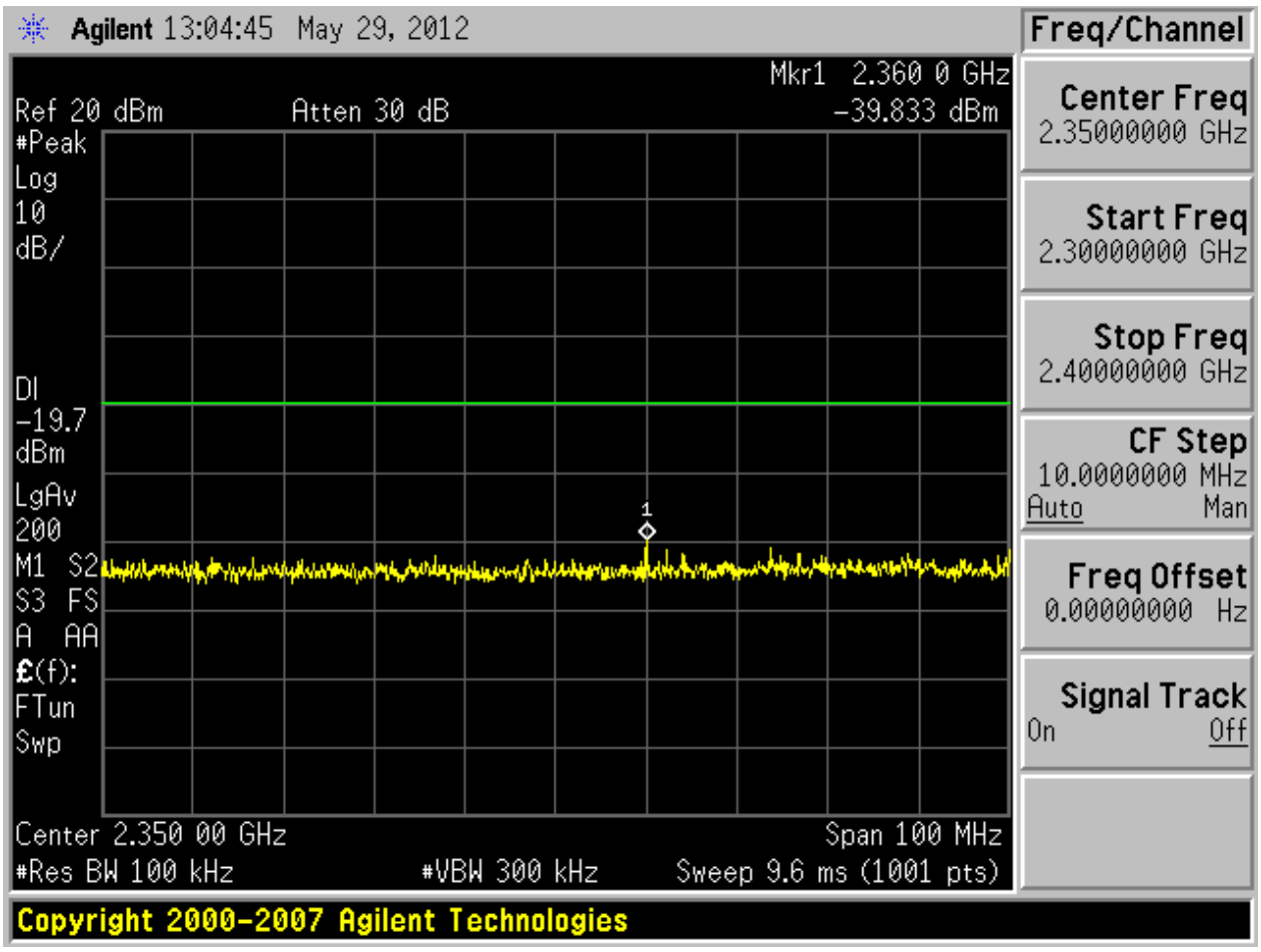


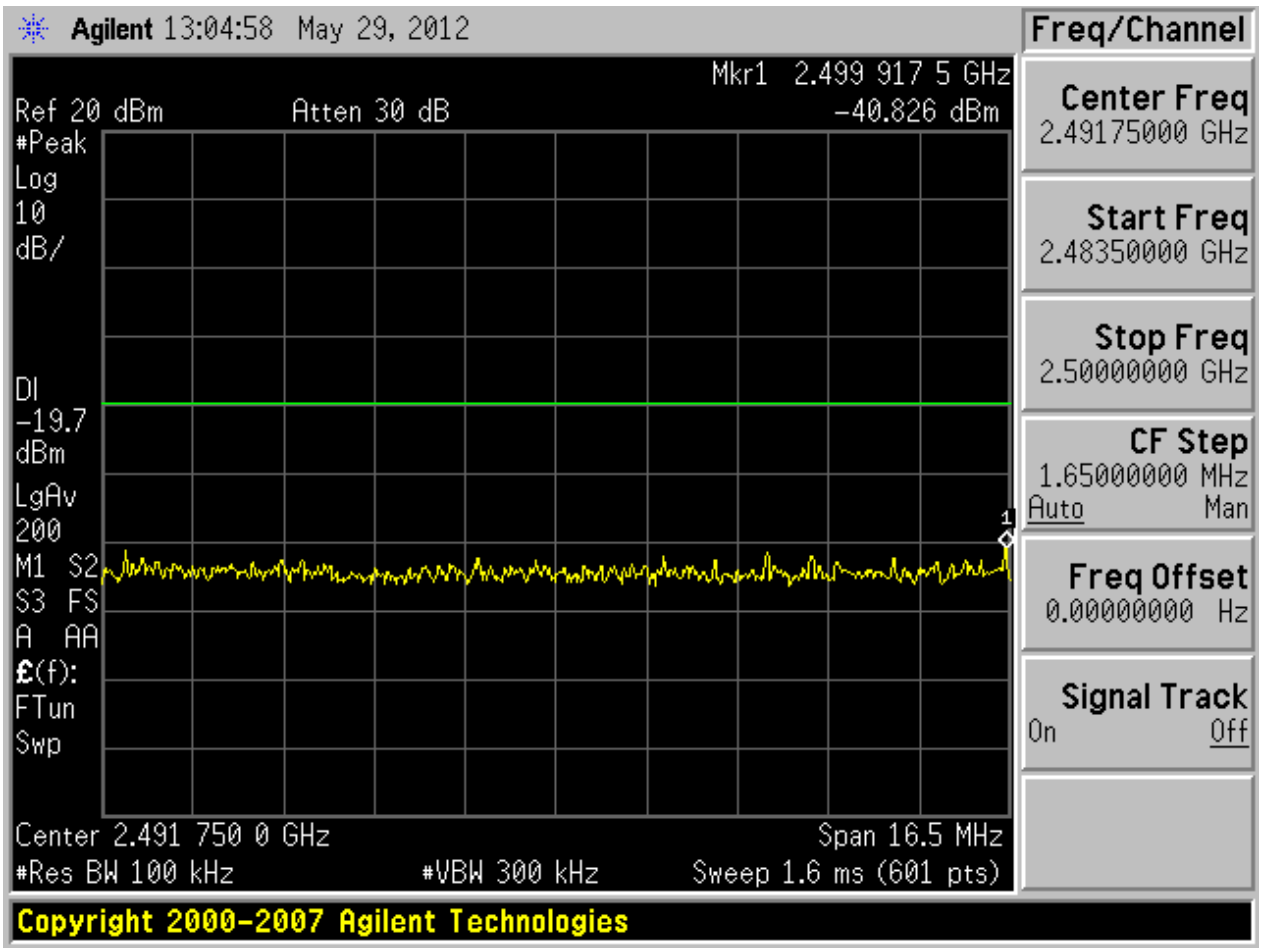
2.12.2 Puw

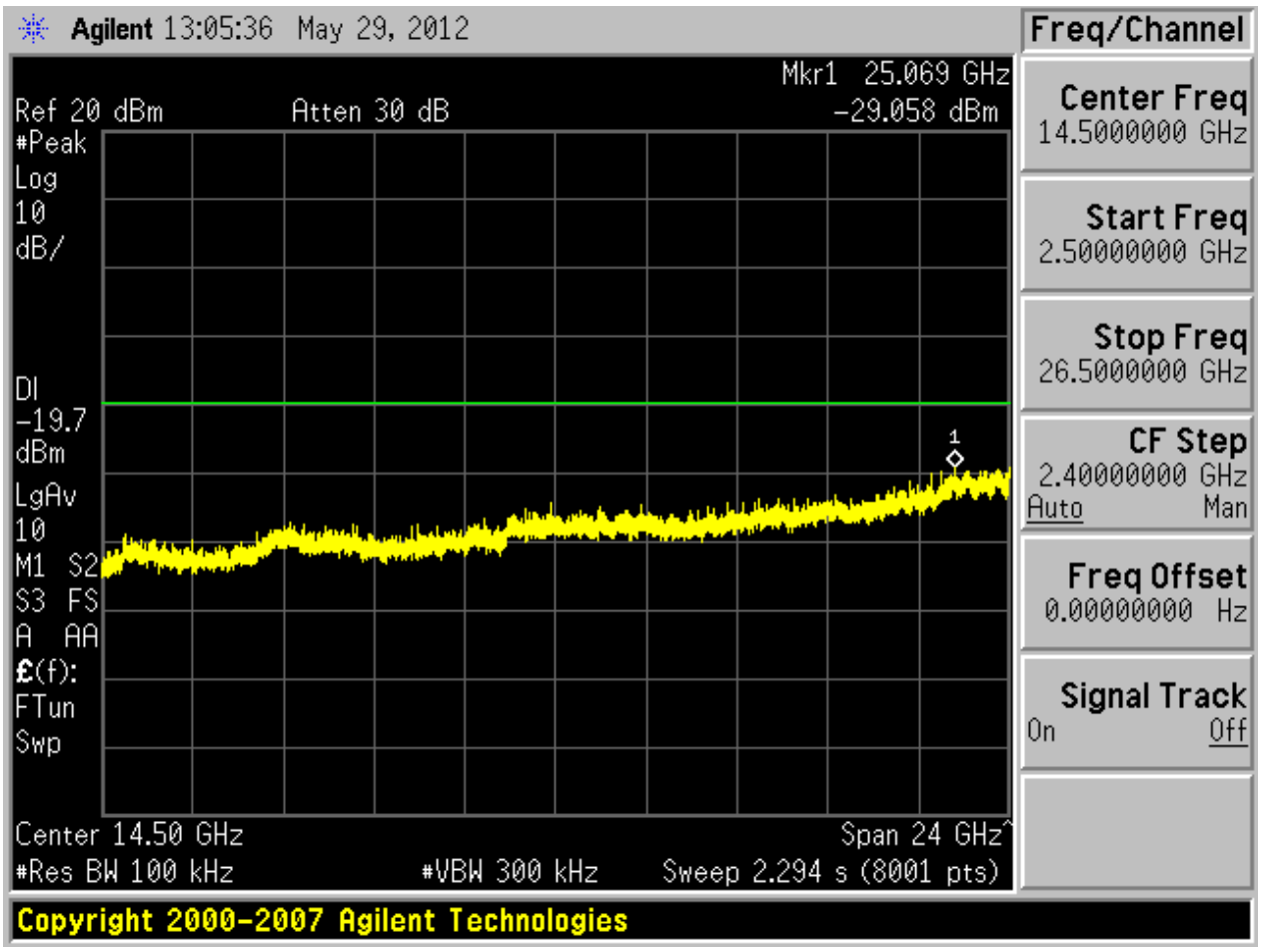






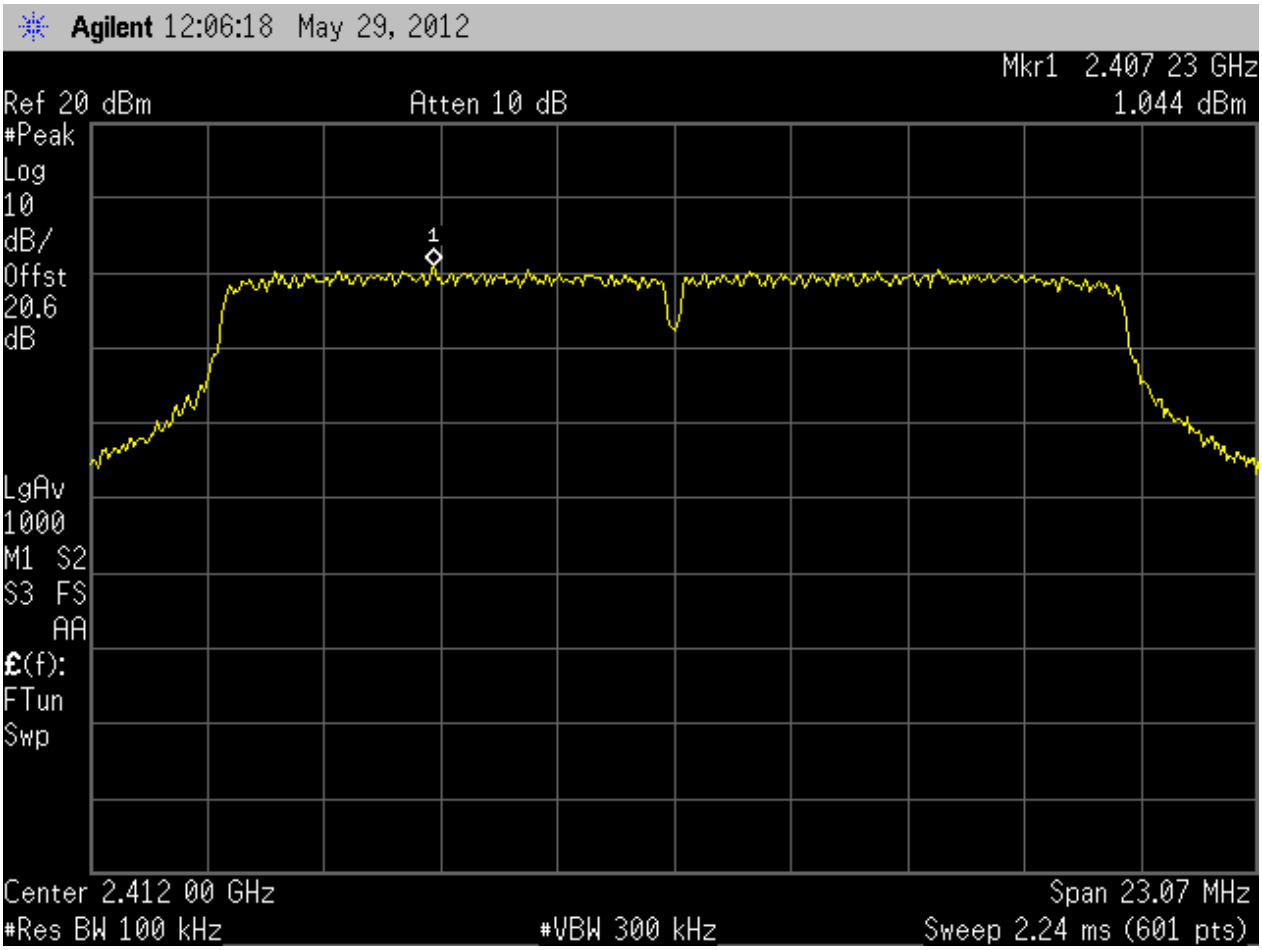




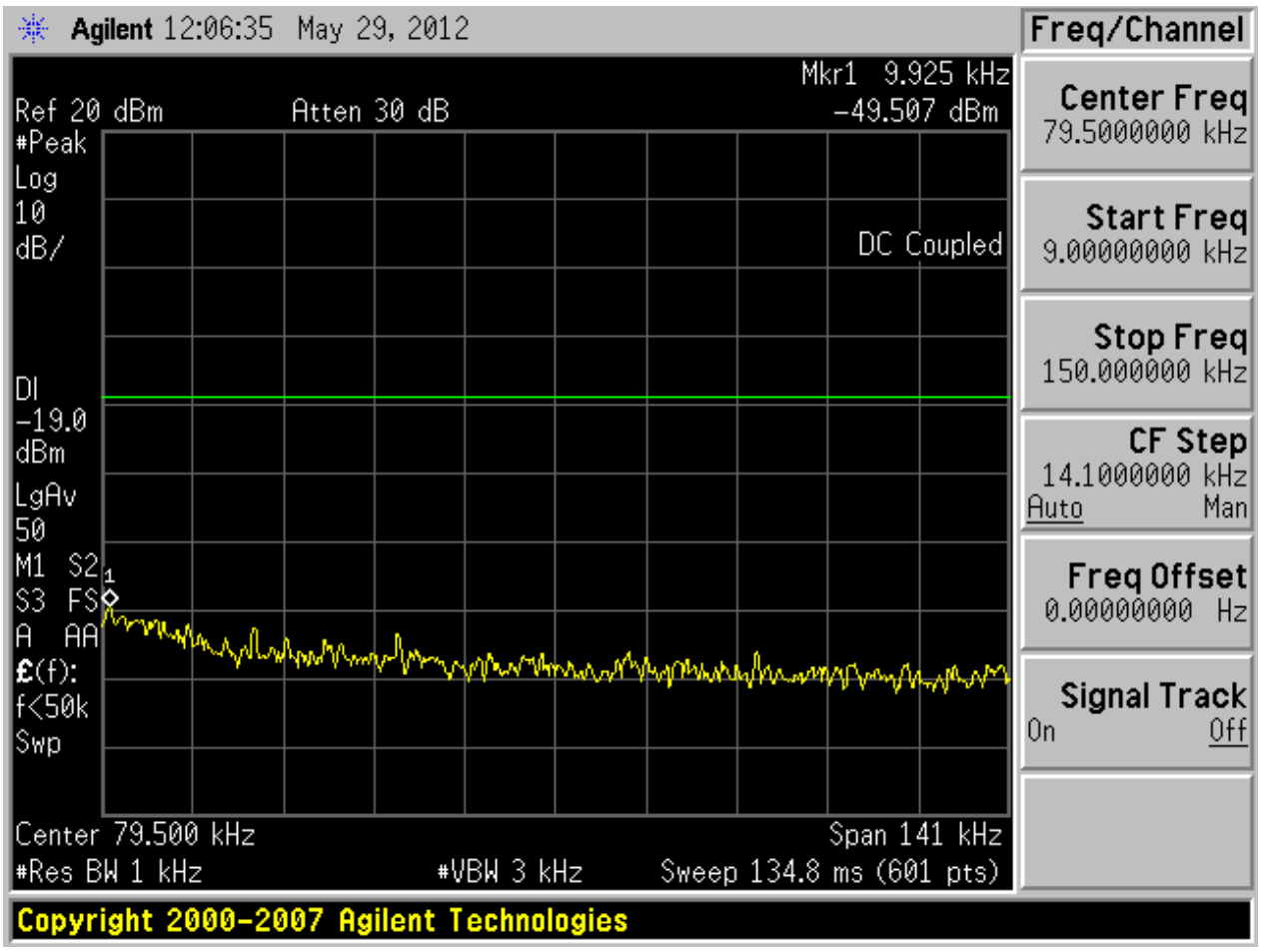


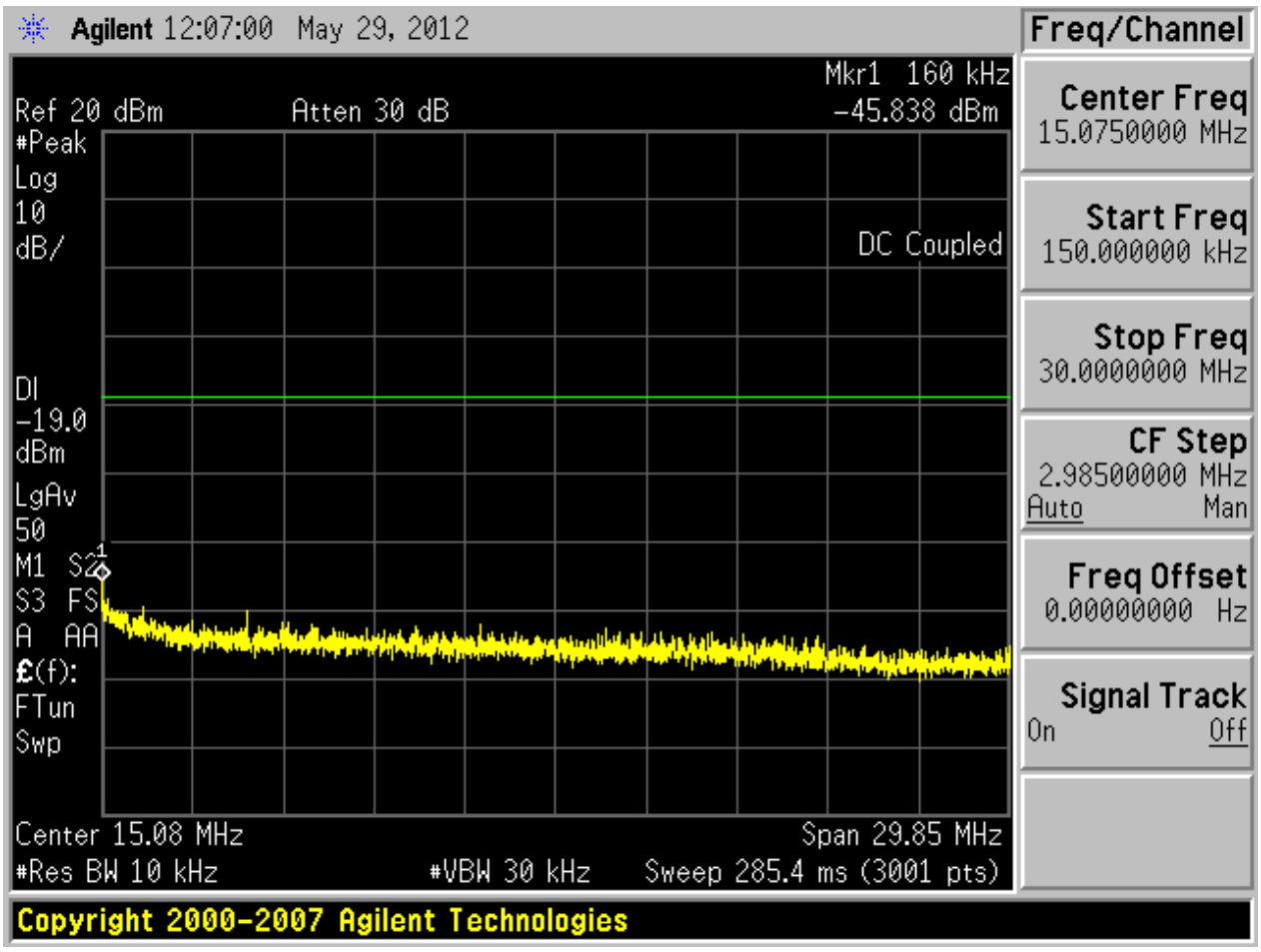
2.1311N20/0_B@1

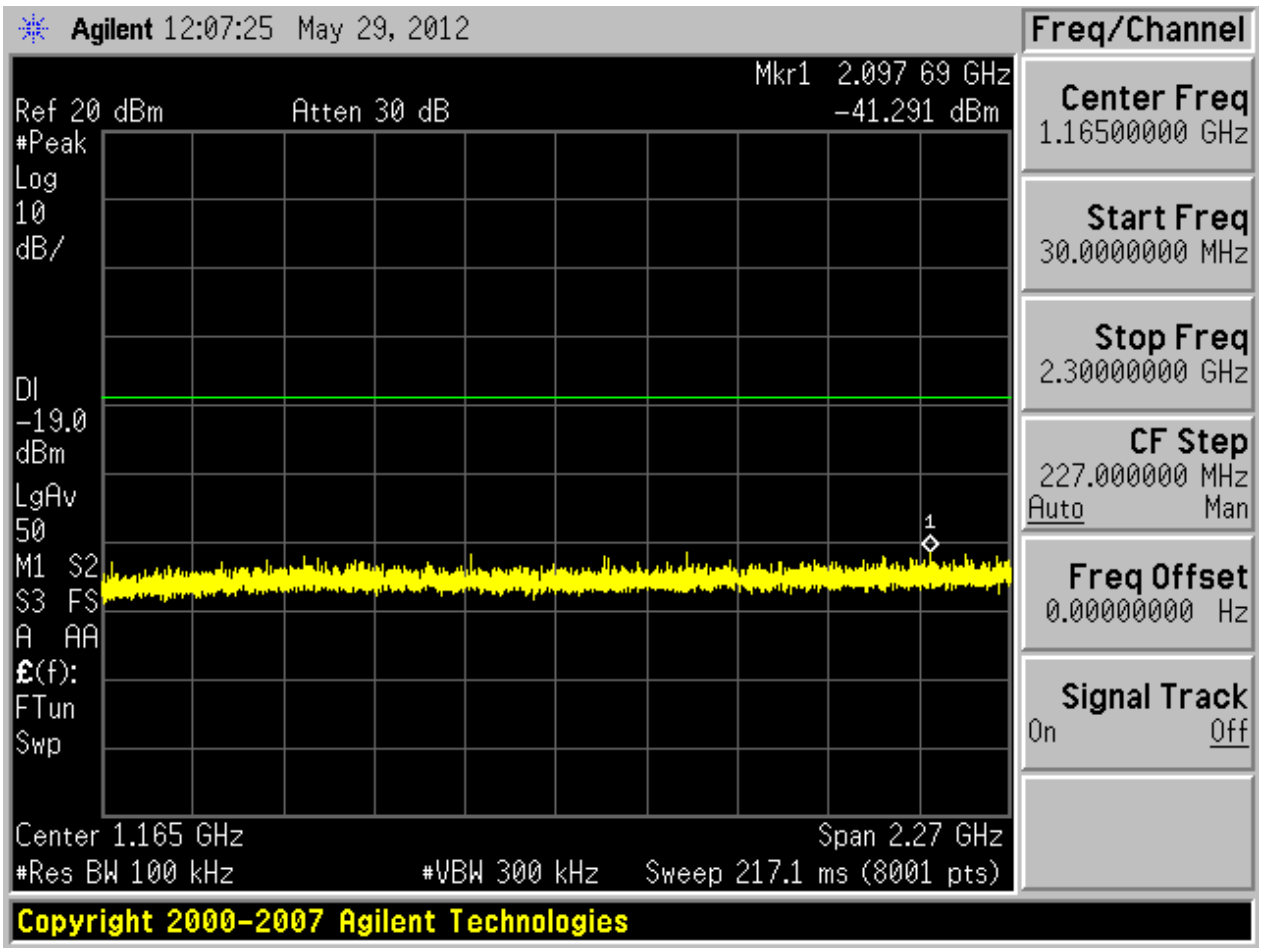
2.13.1 Pref

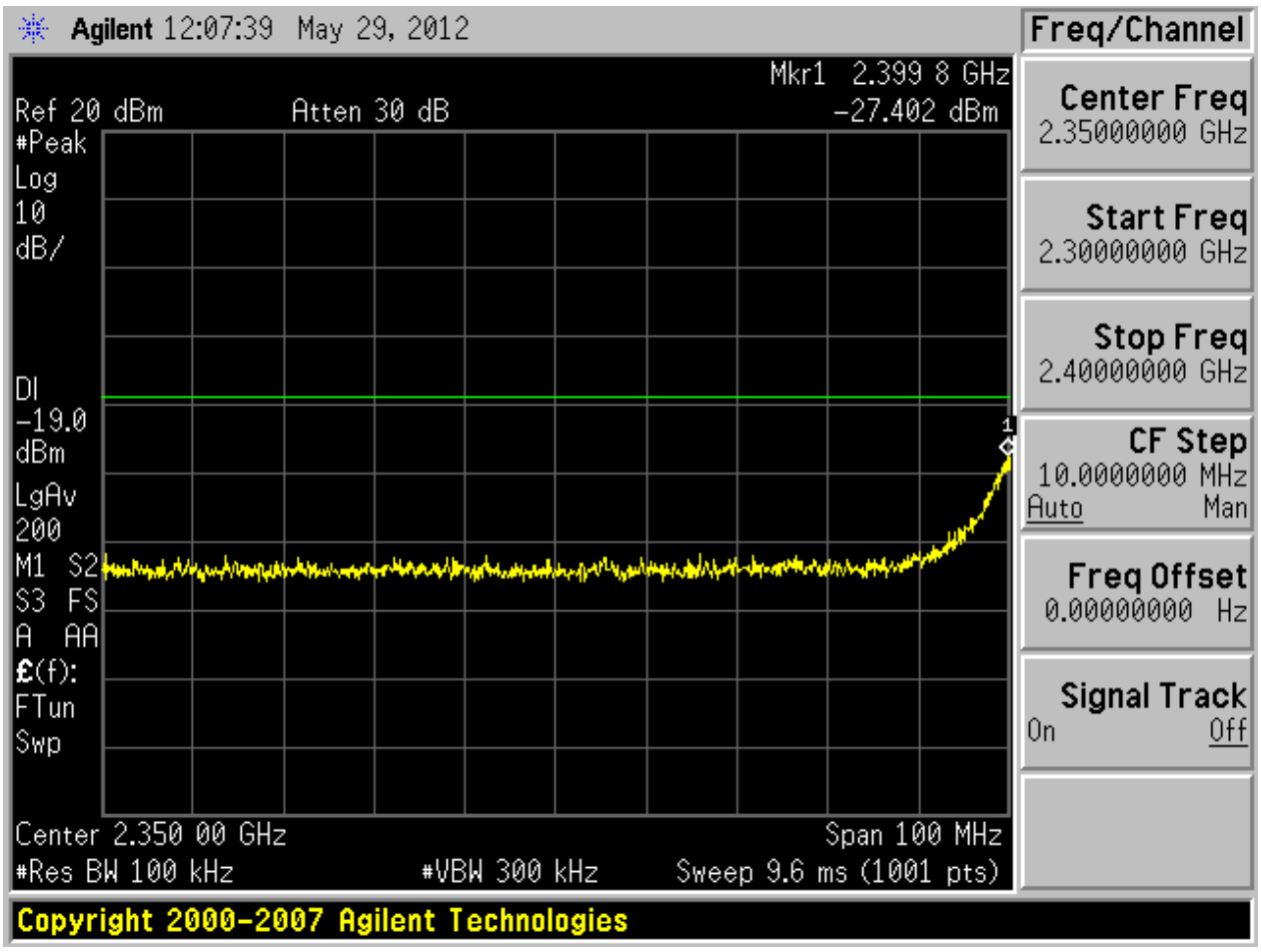


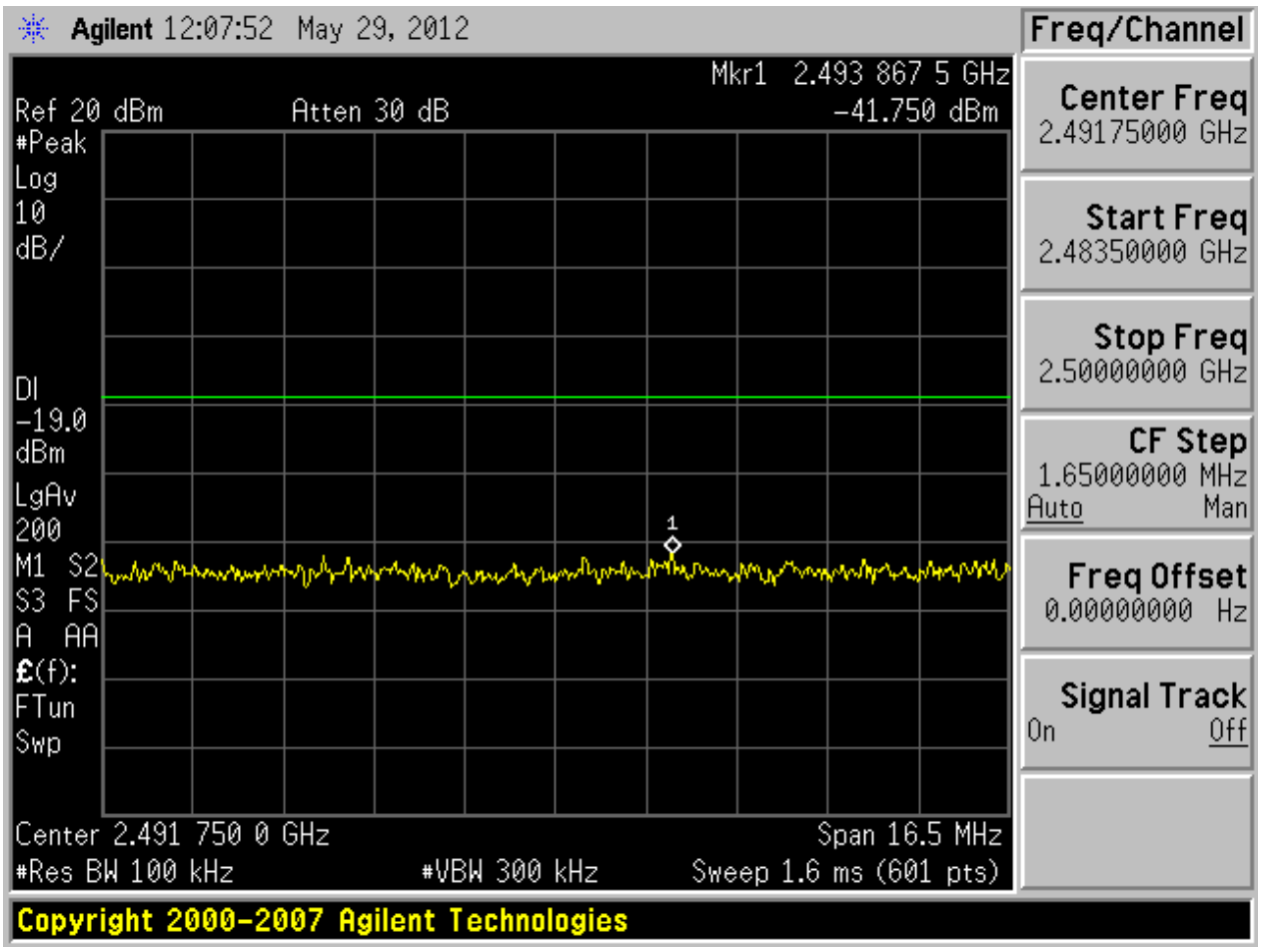
2.13.2 Puw

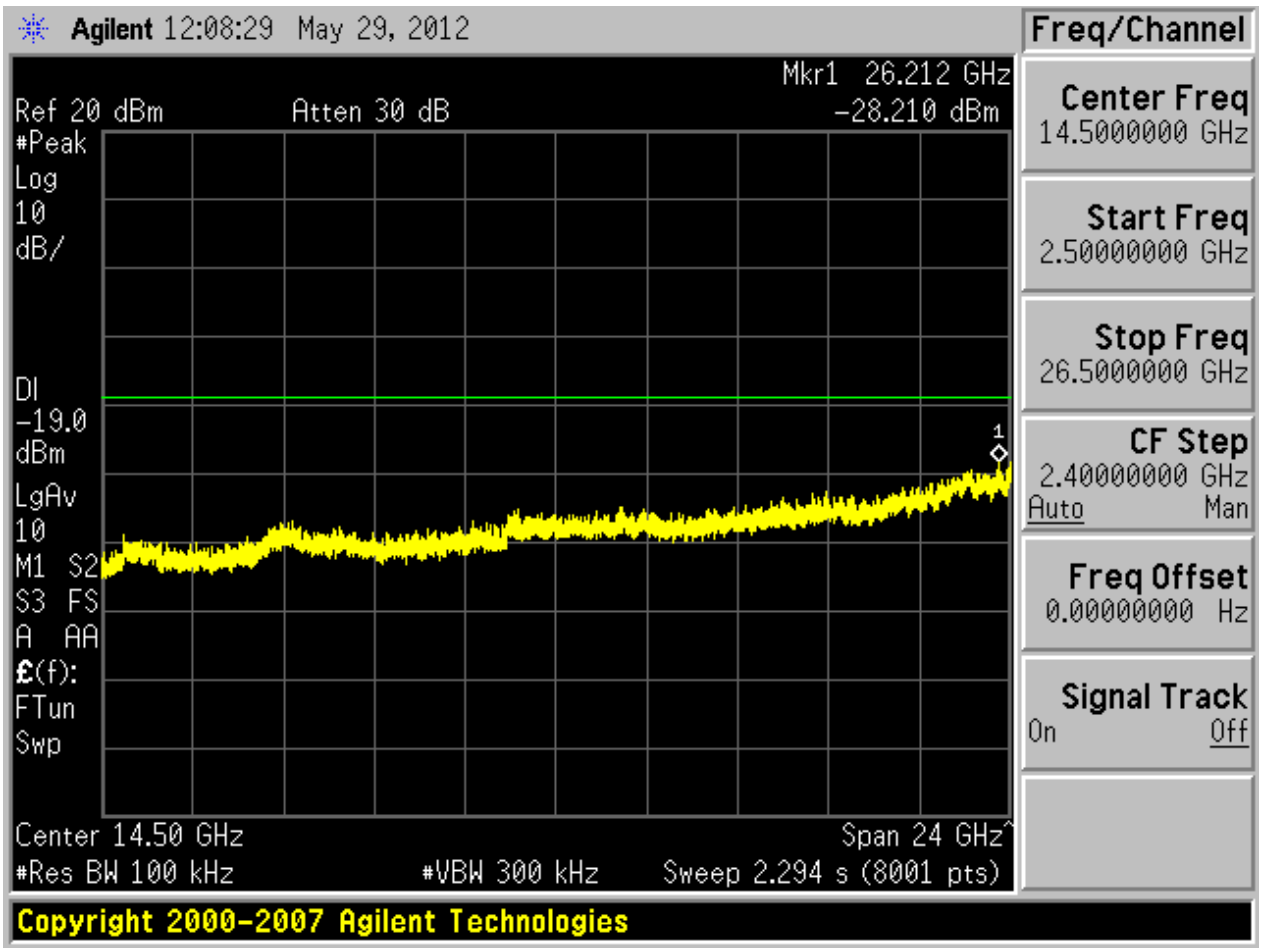






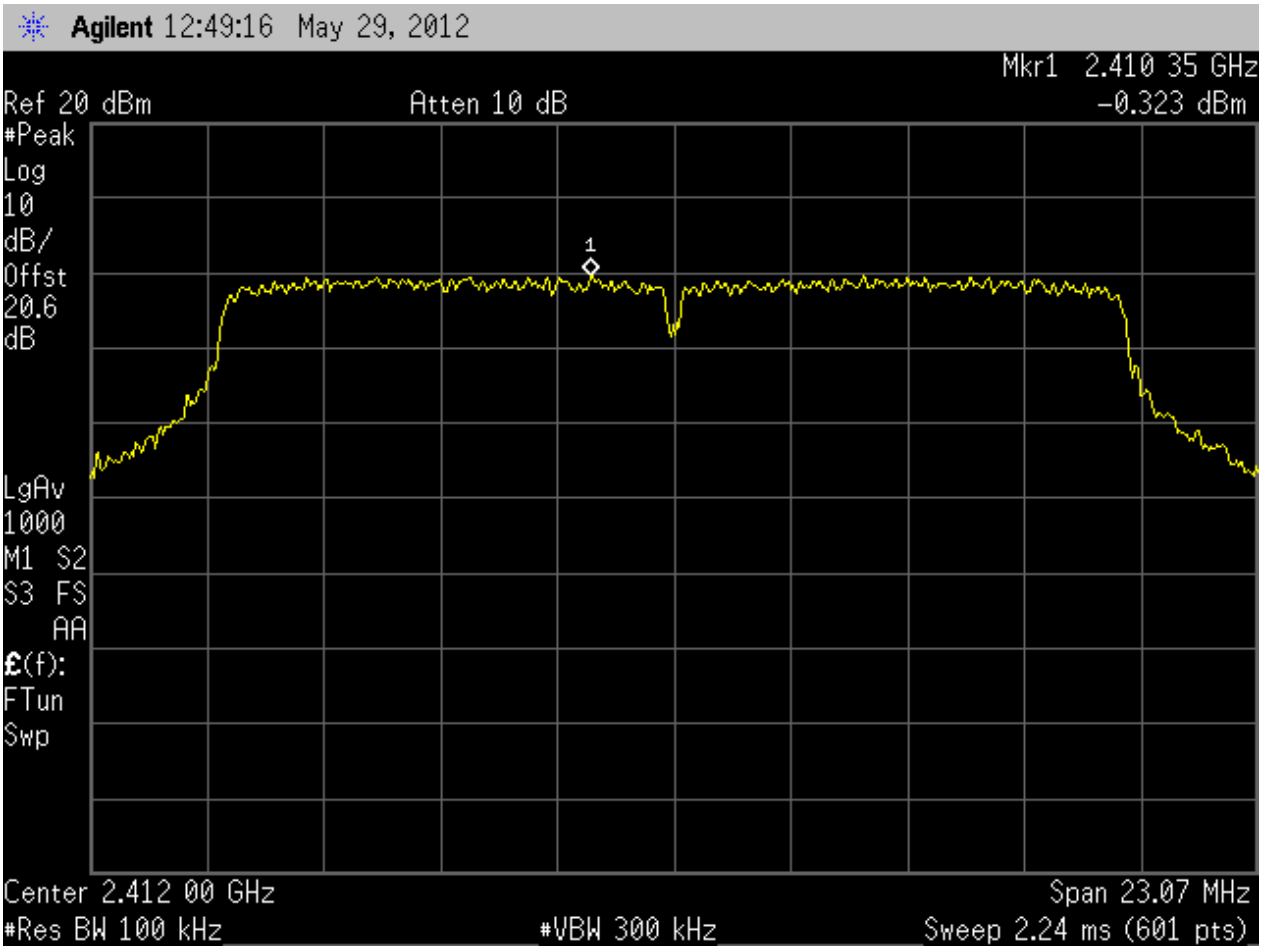




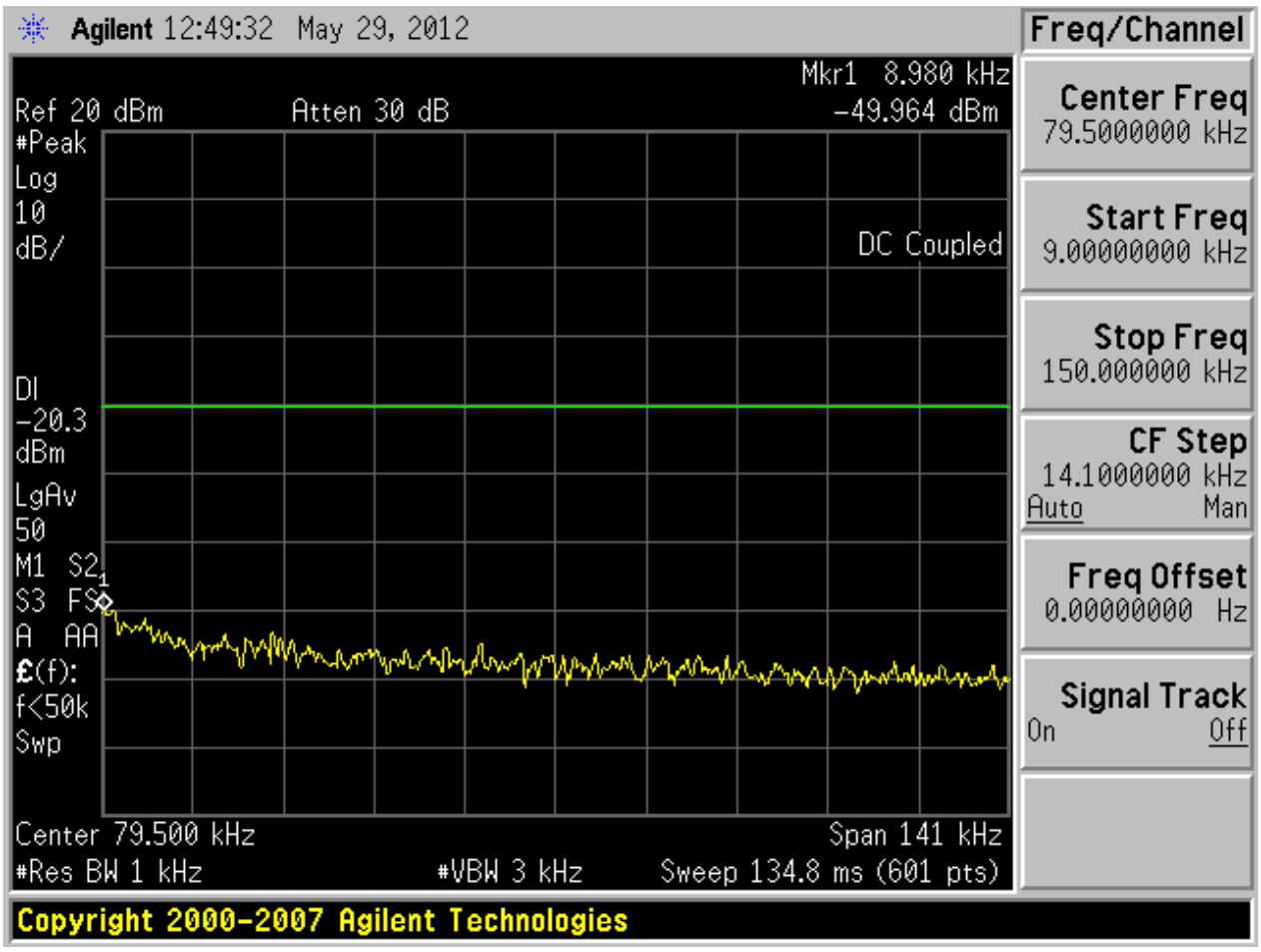


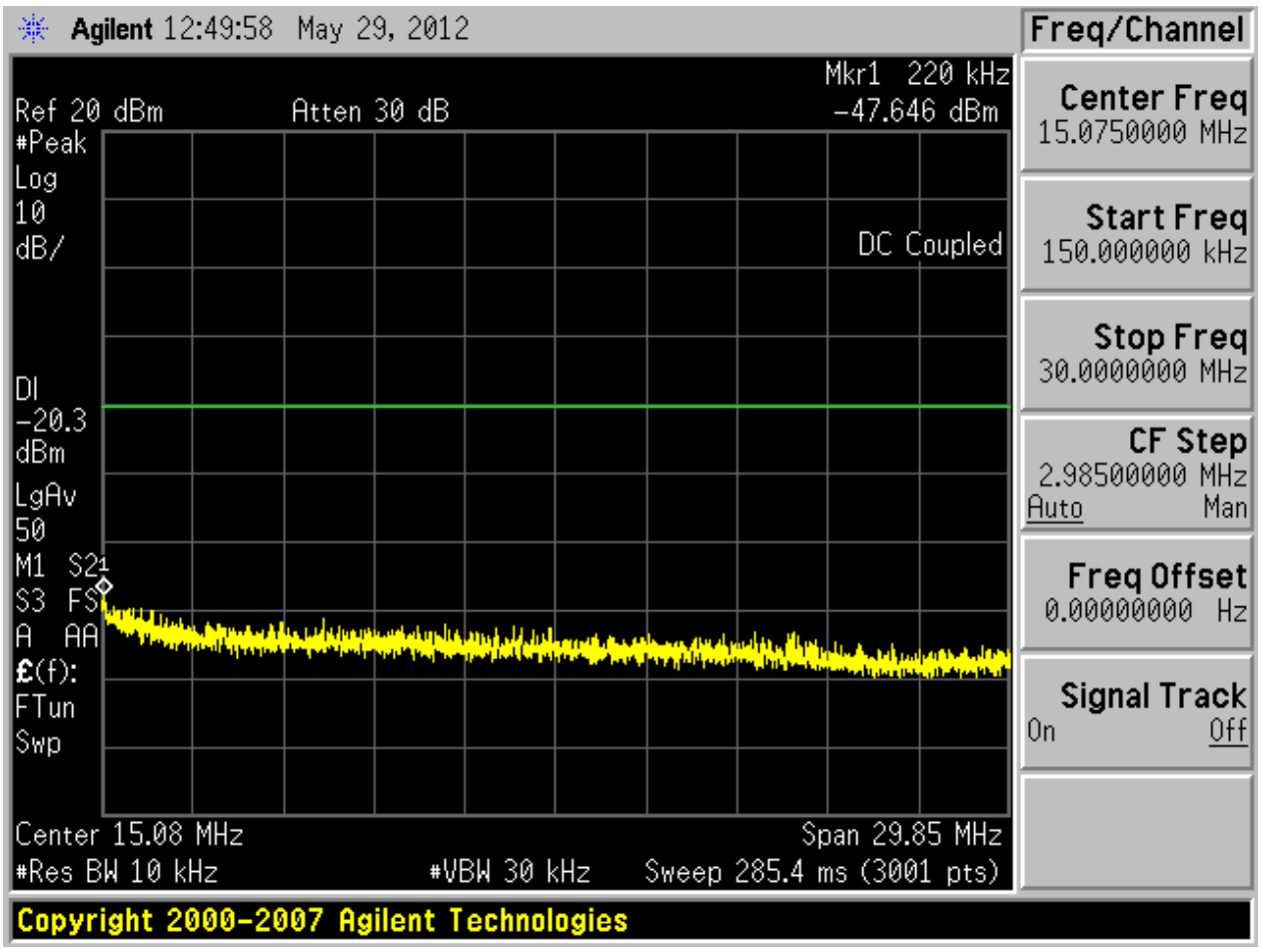
2.1411N20/0_B@2

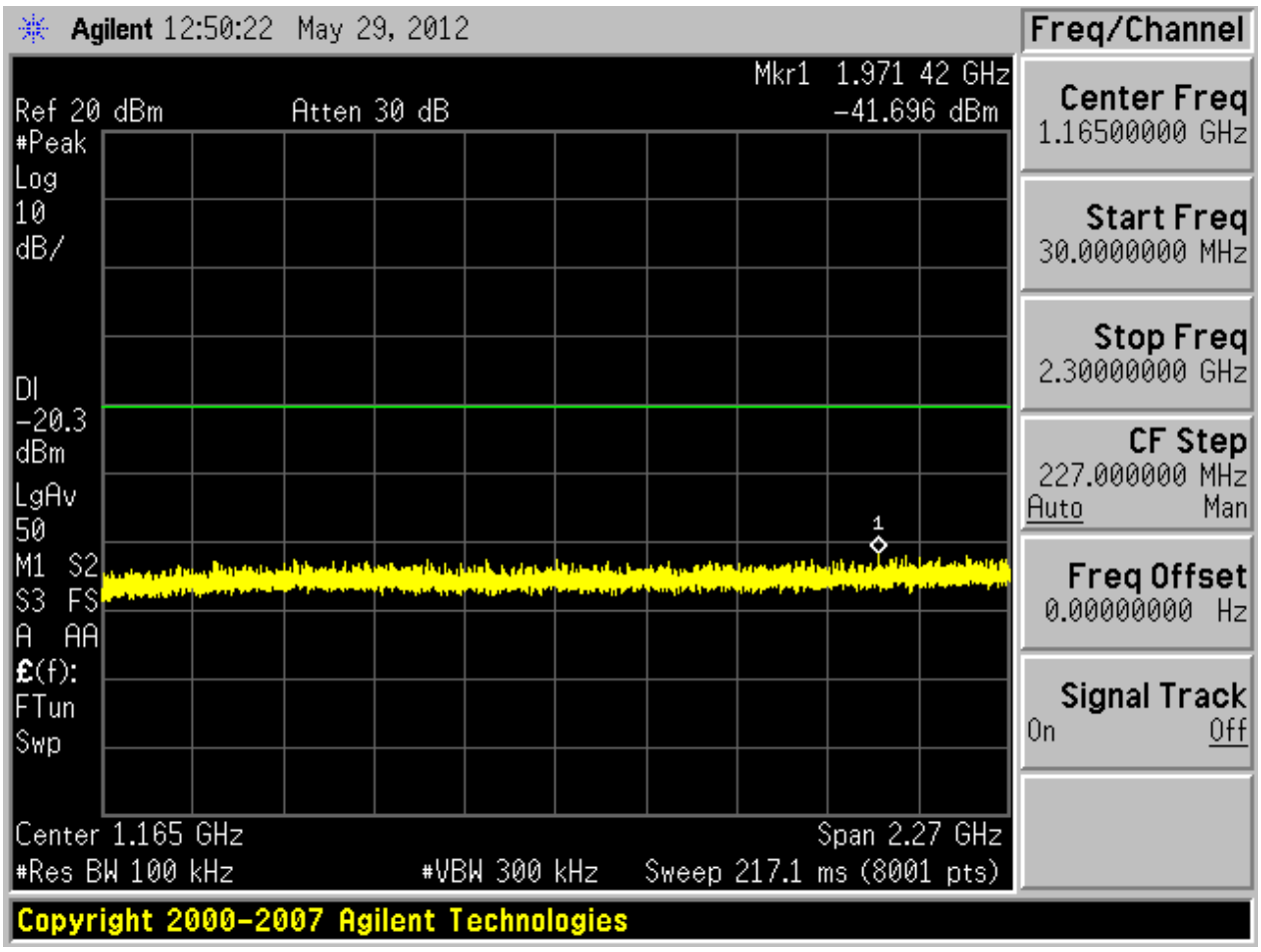
2.14.1 Pref

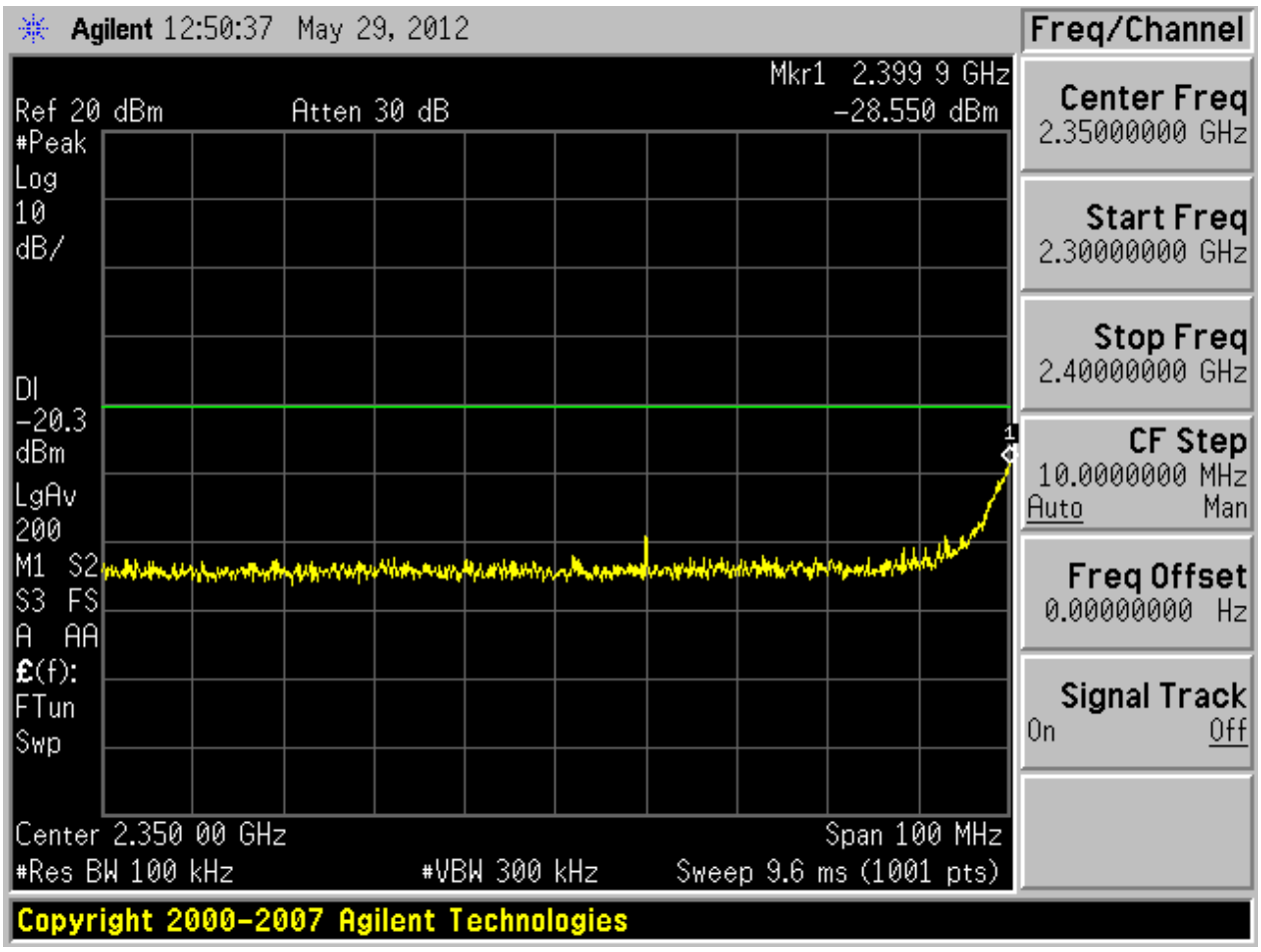


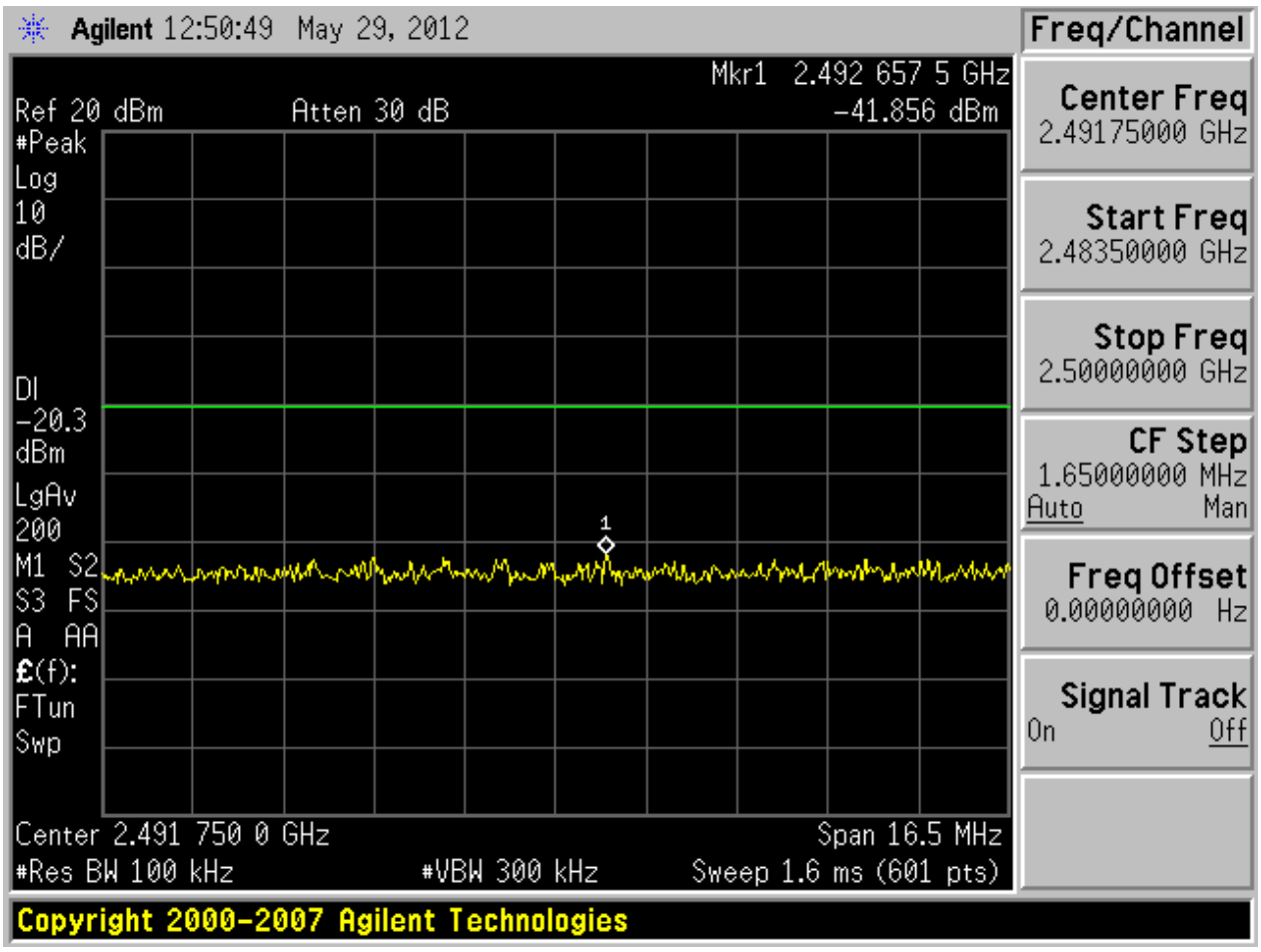
2.14.2 Puw

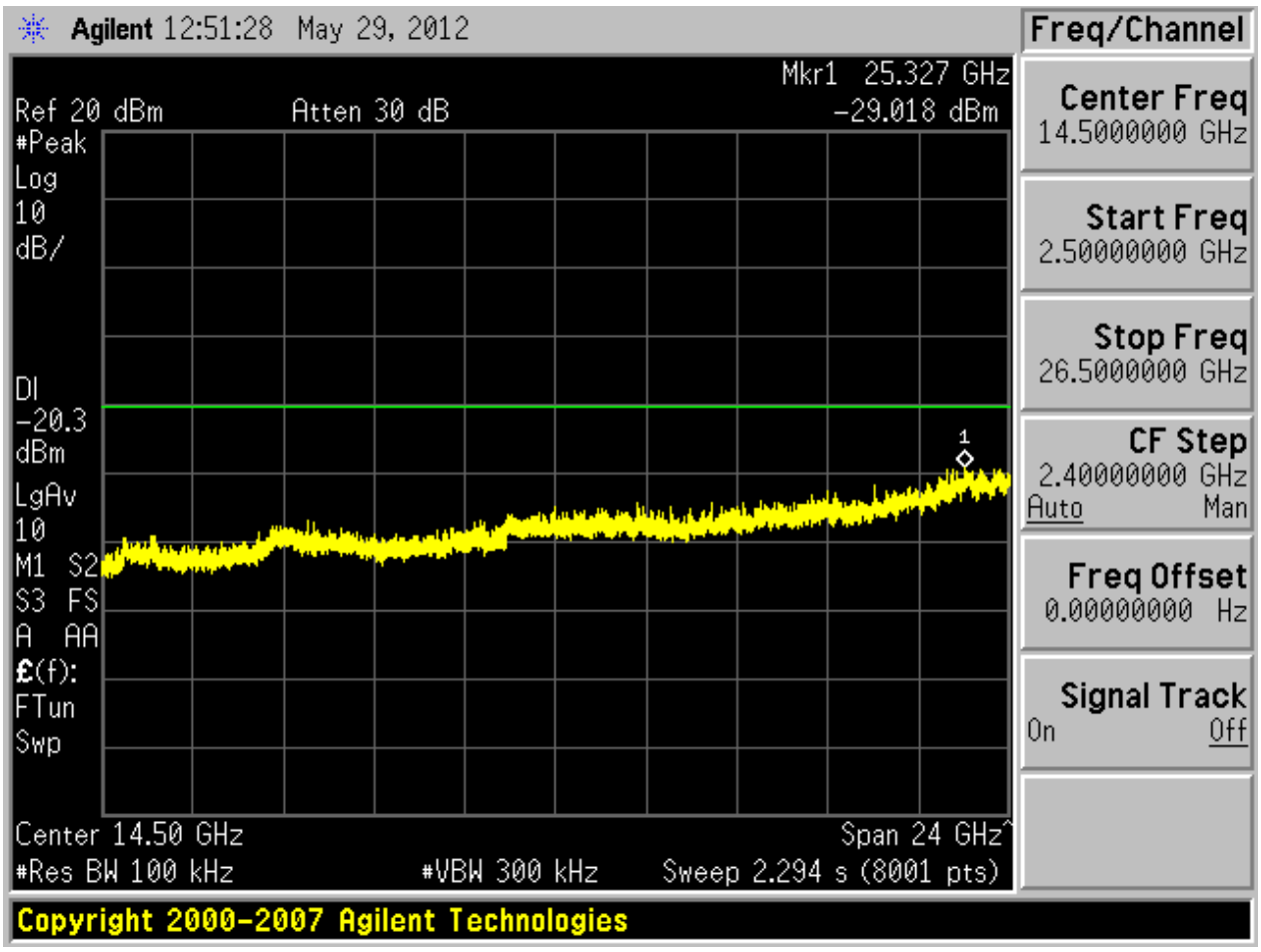






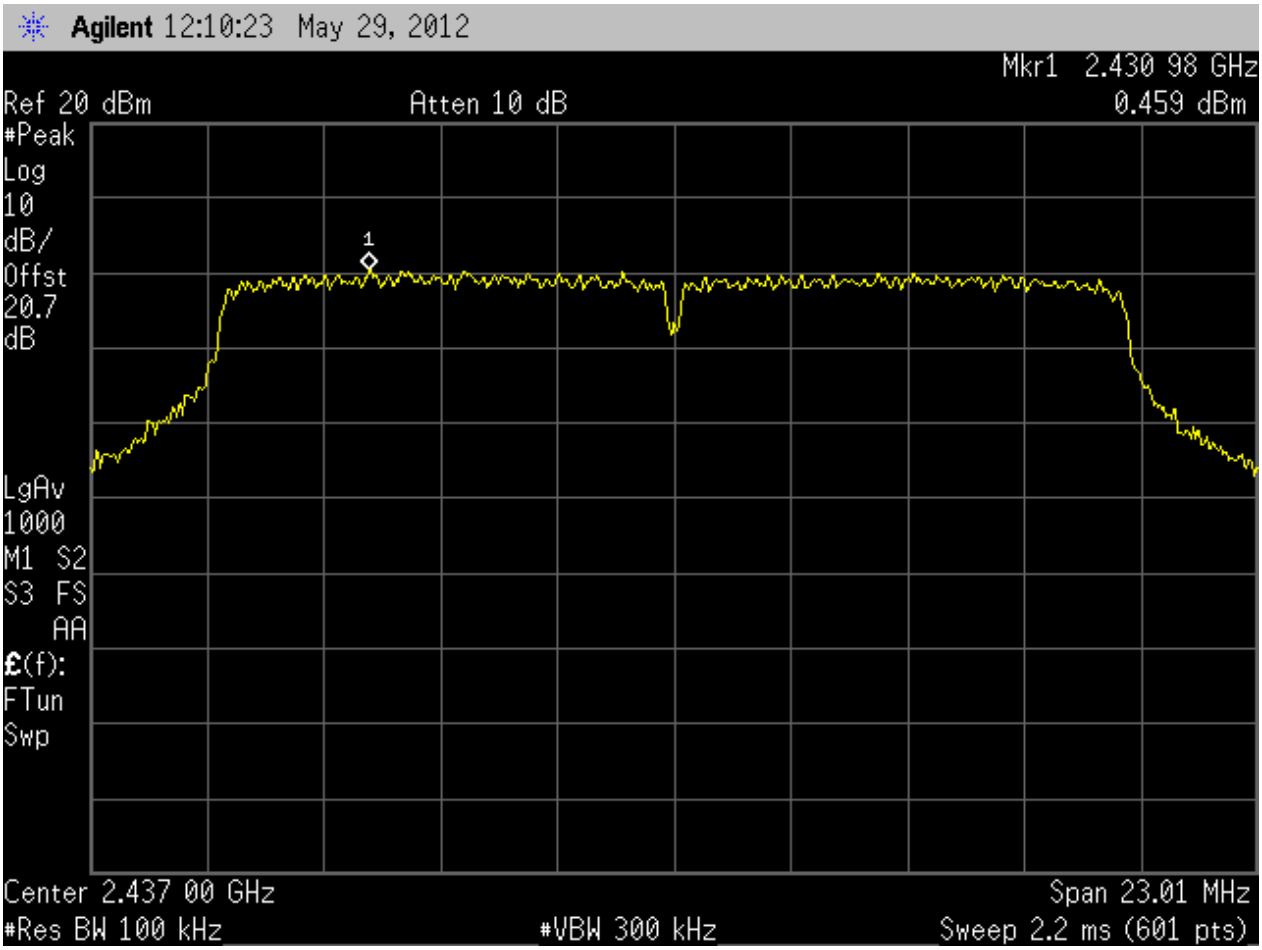




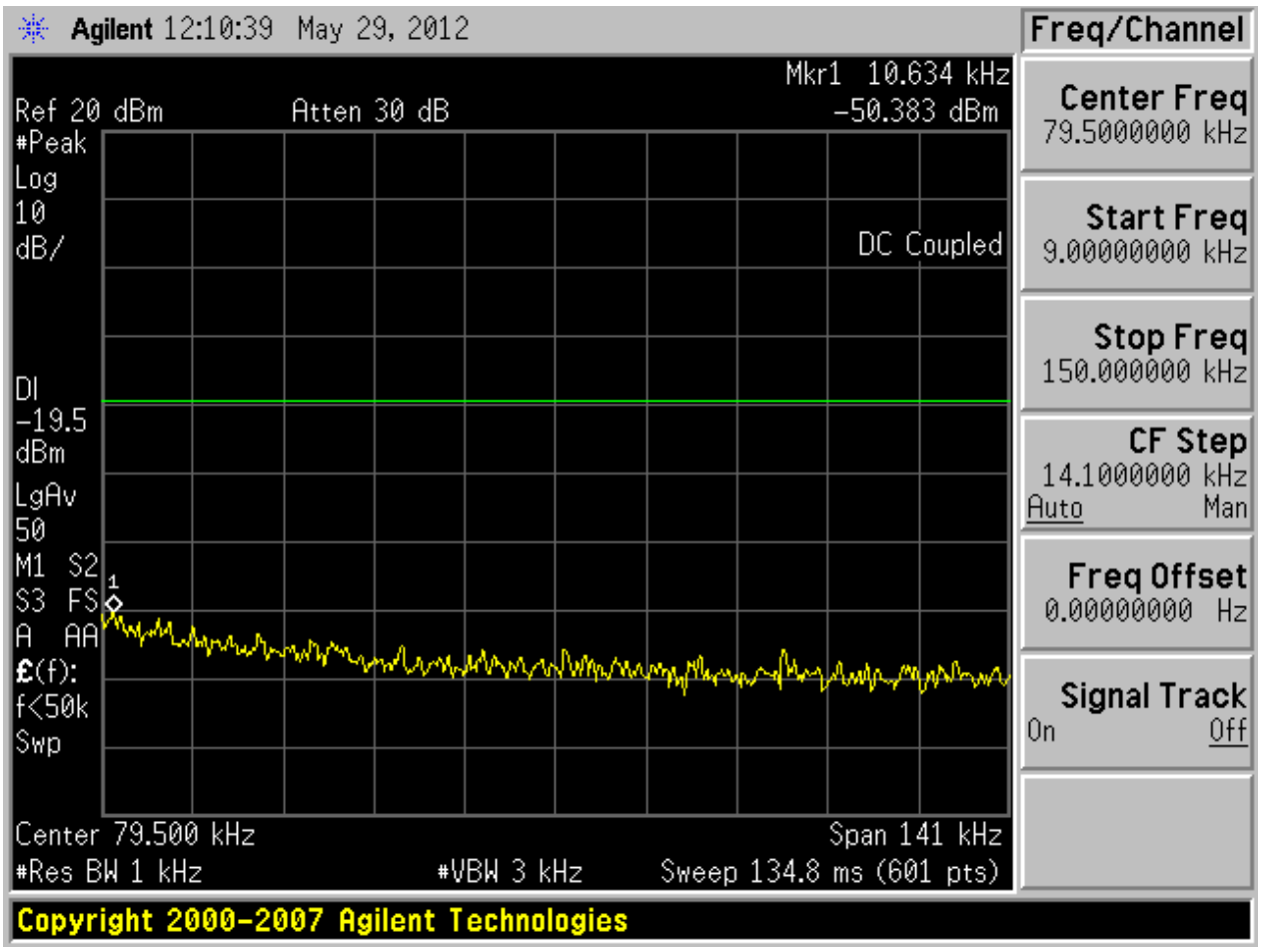


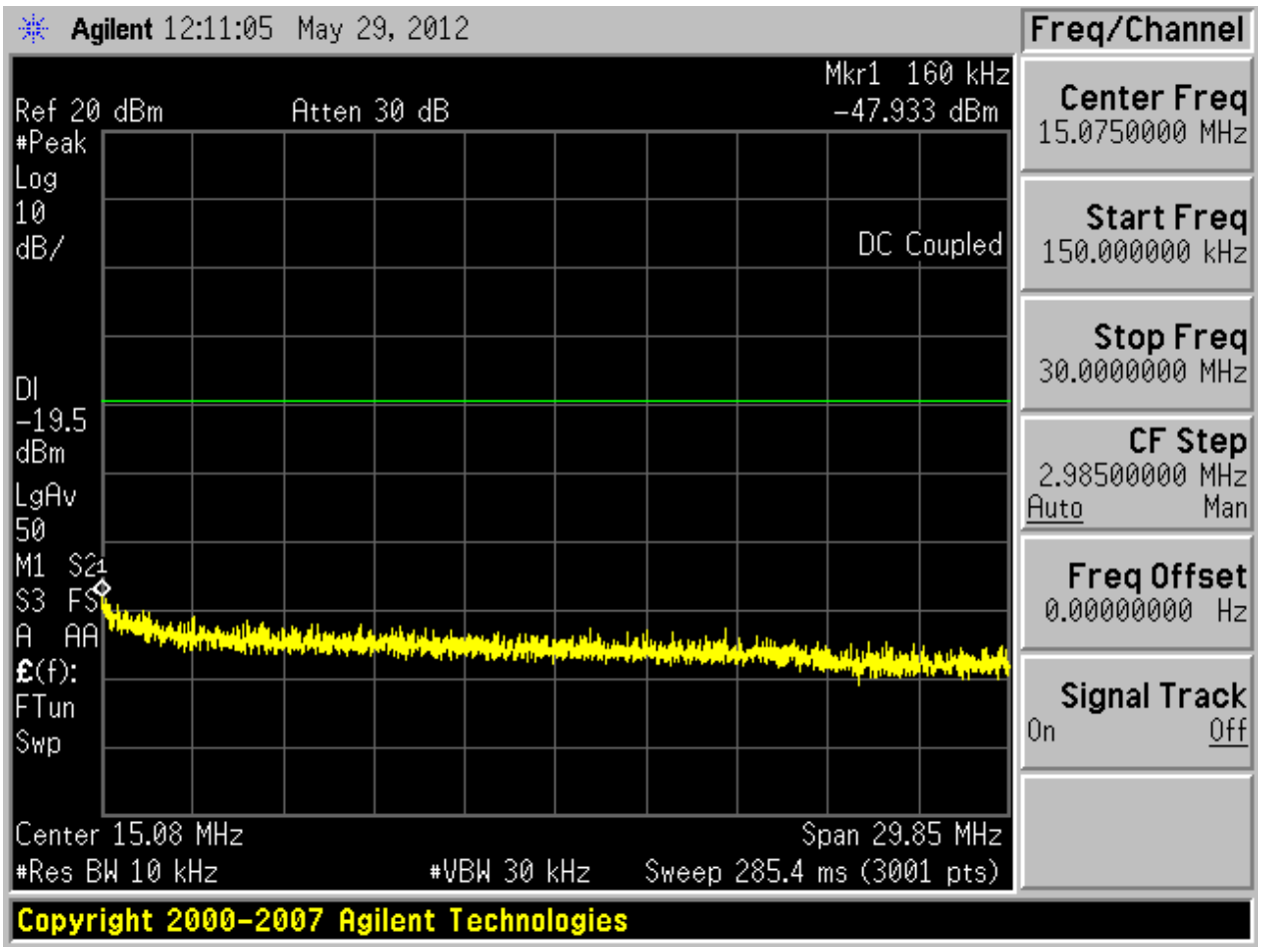
2.1511N20/0_M@1

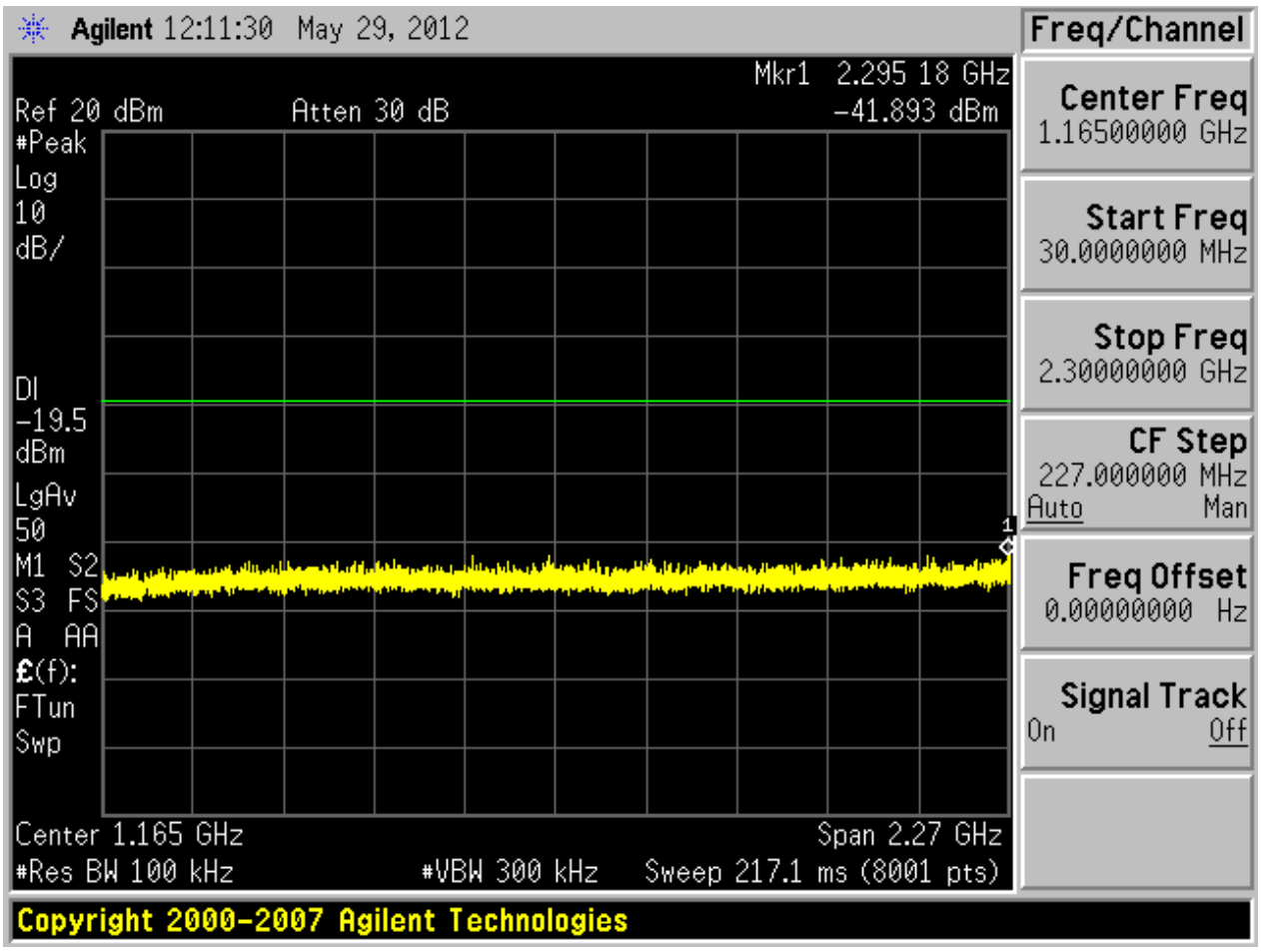
2.15.1 Pref

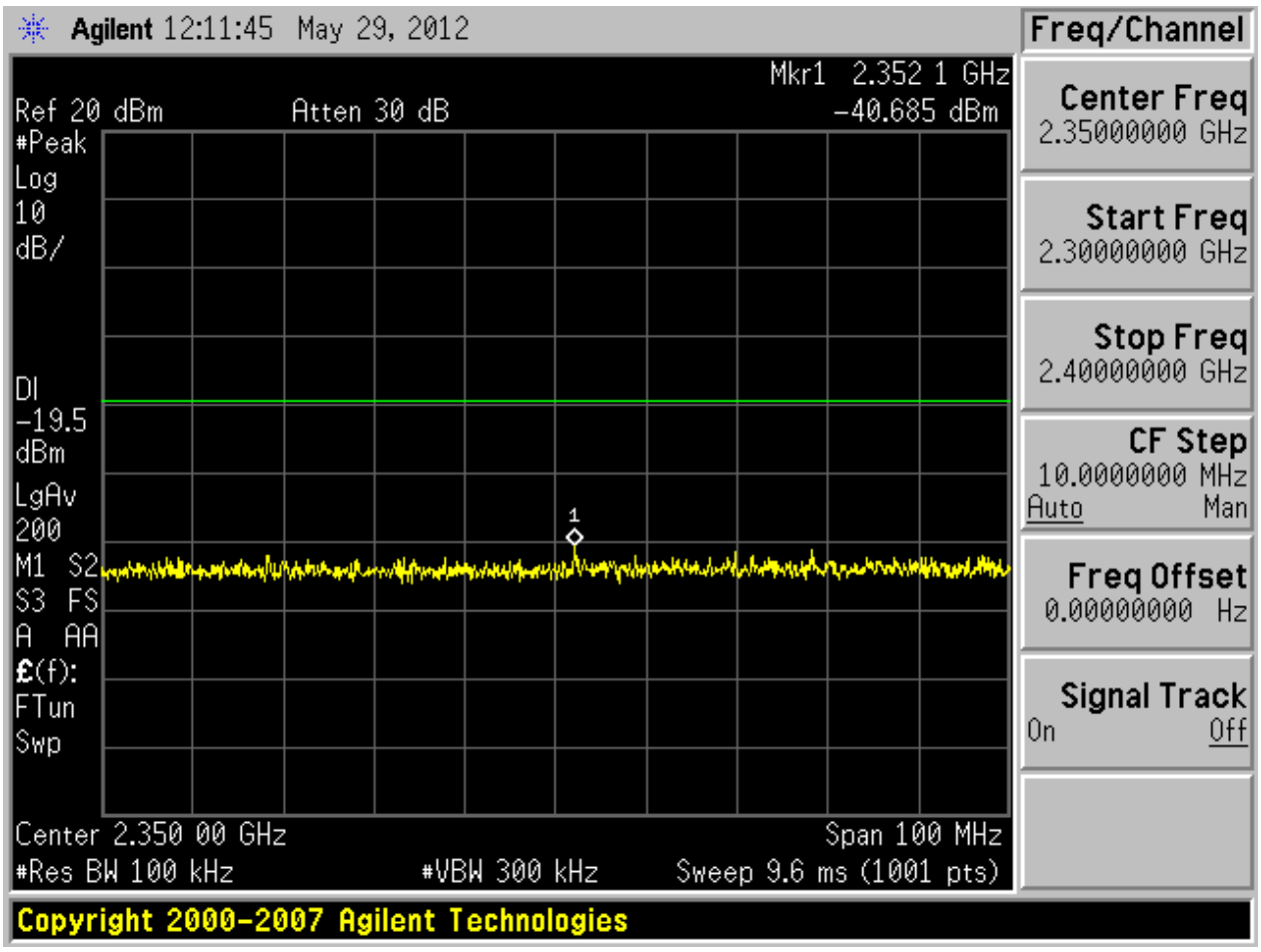


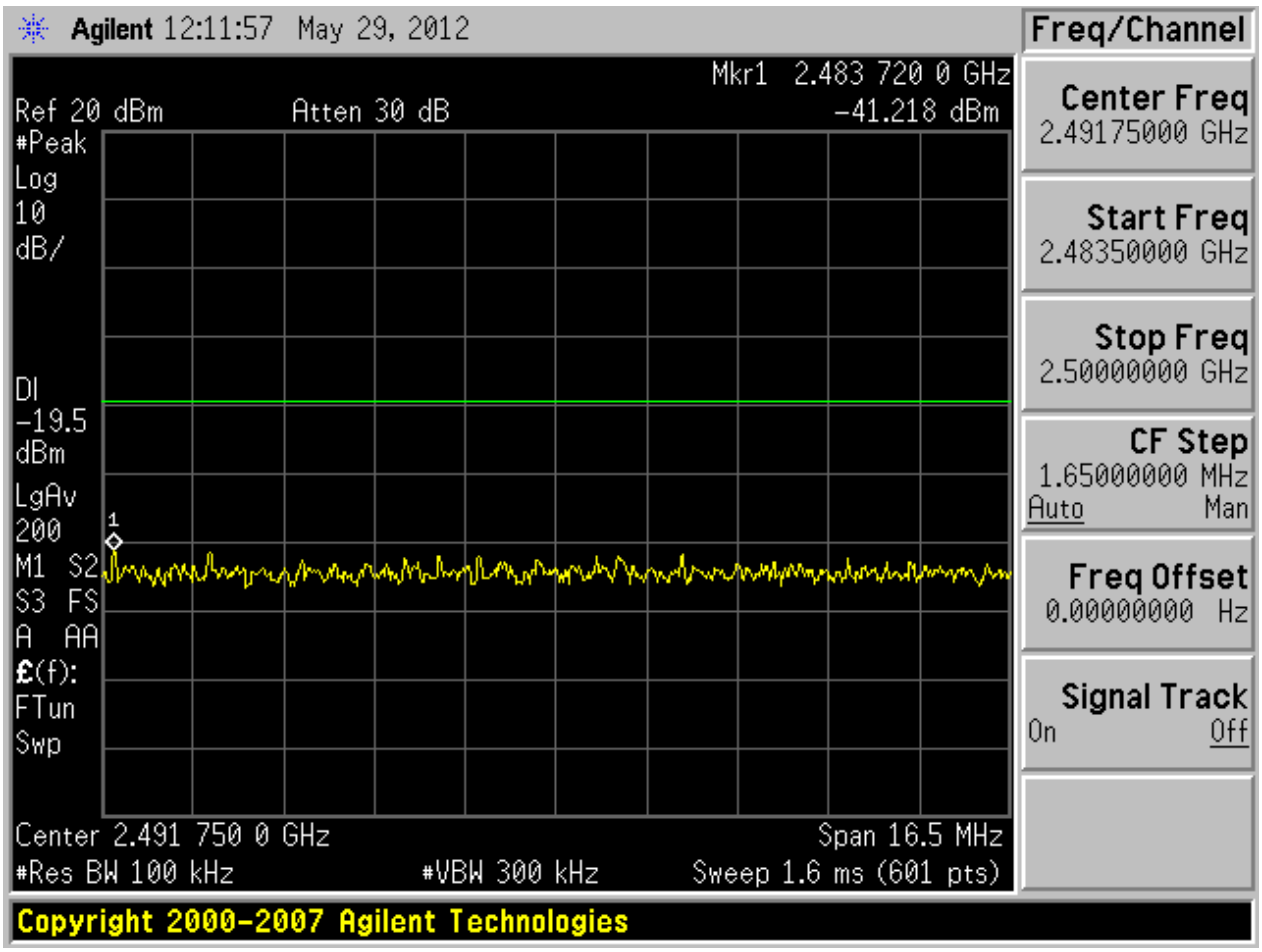
2.15.2 Puw

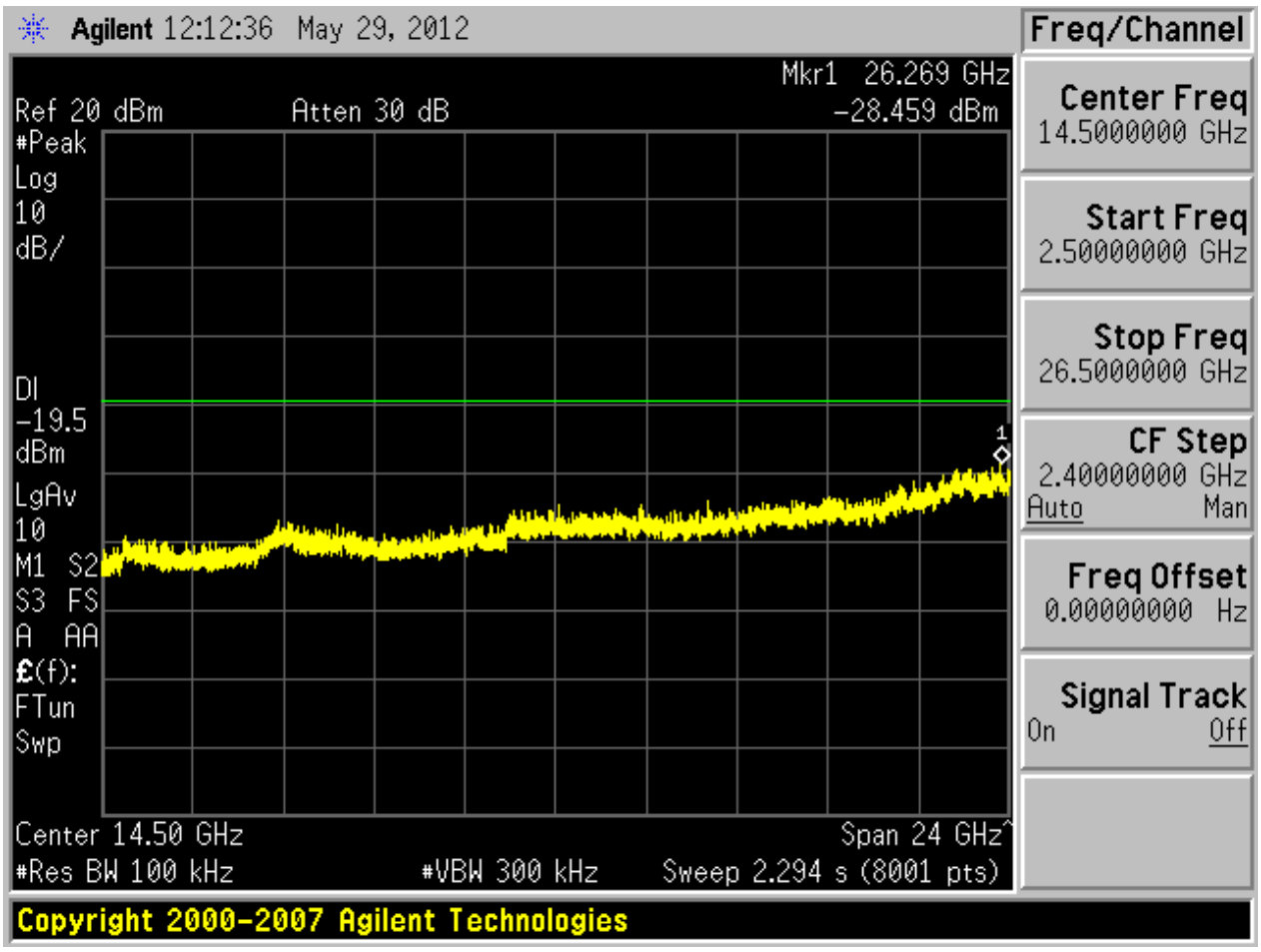






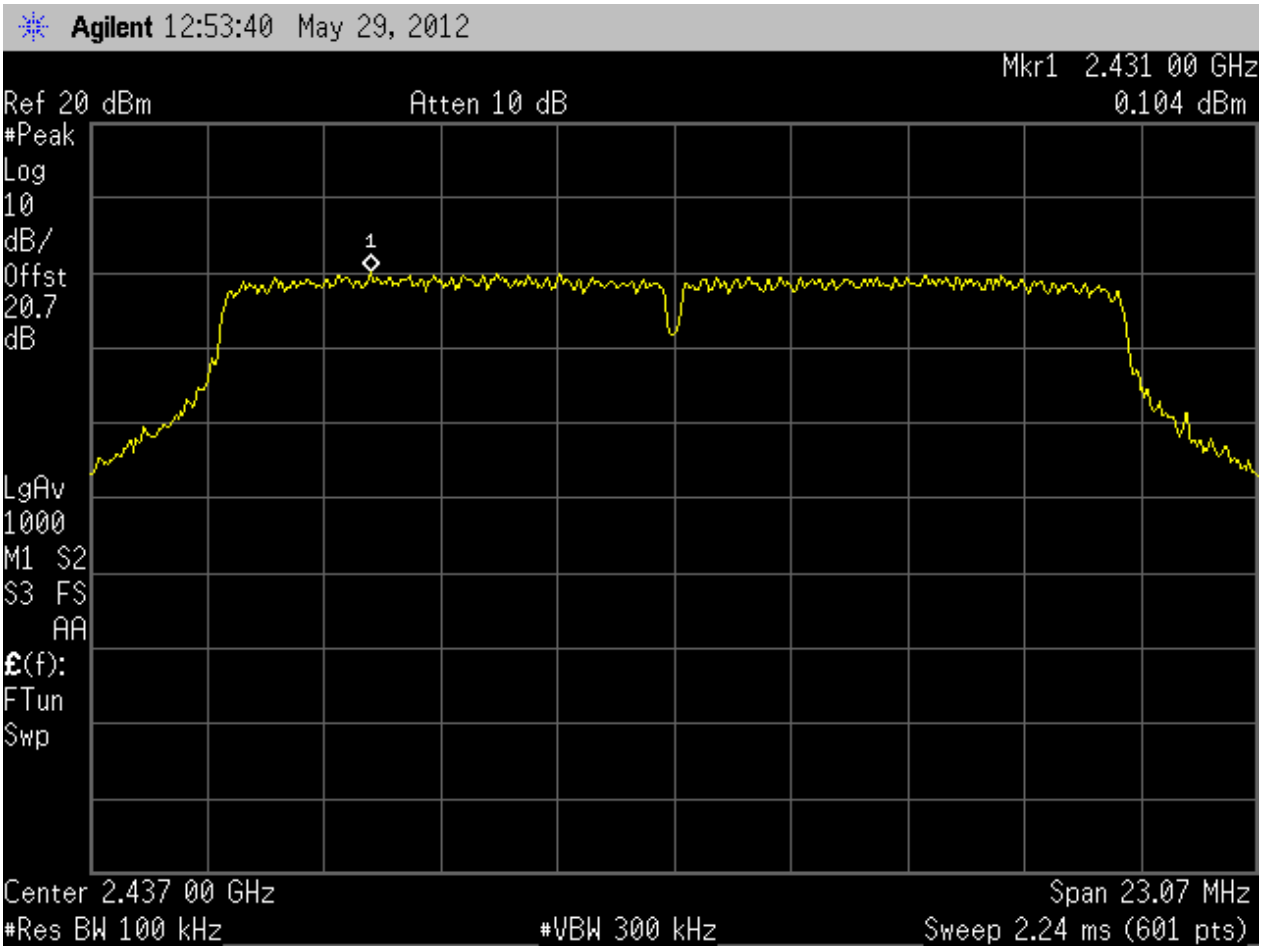




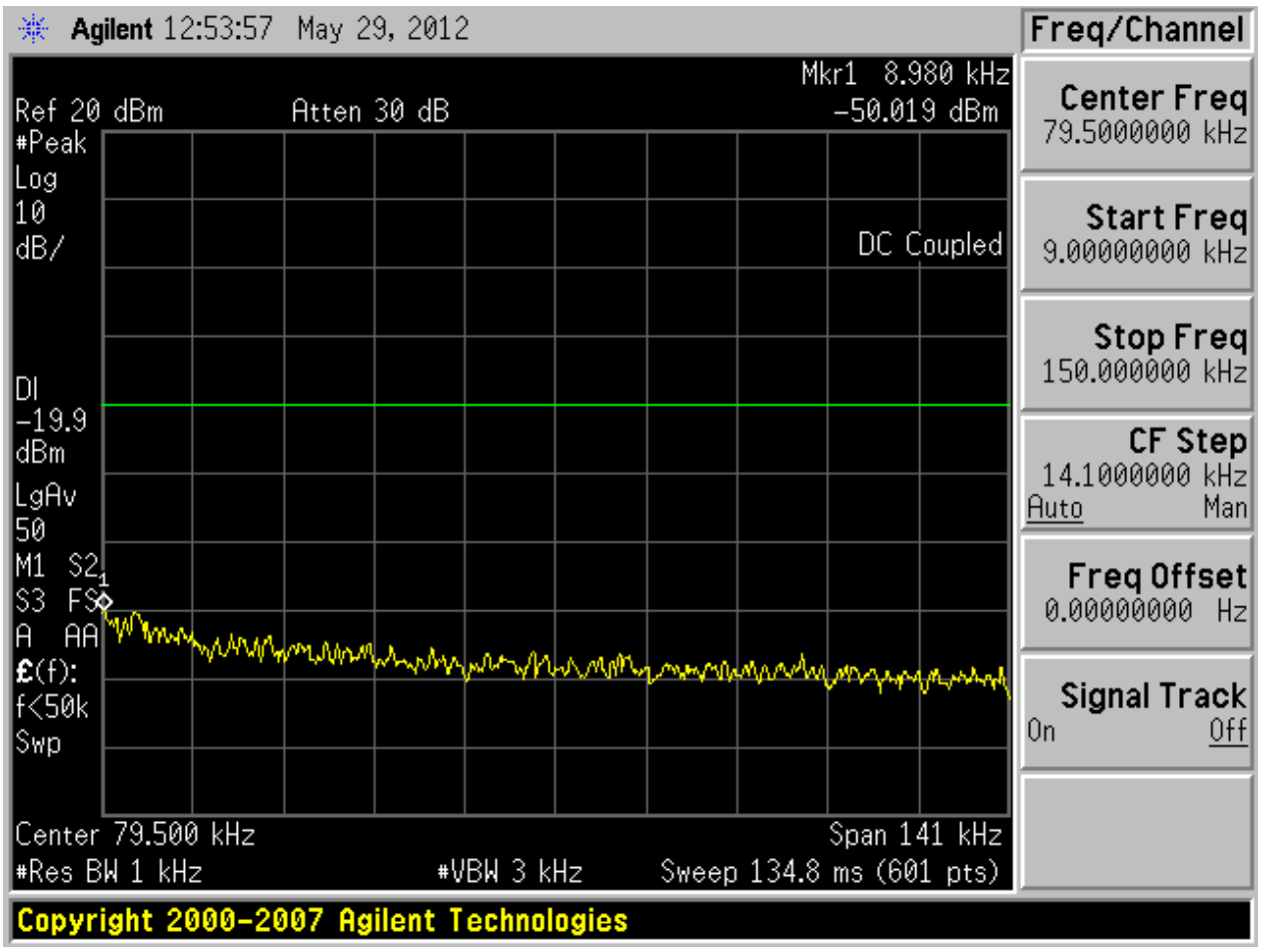


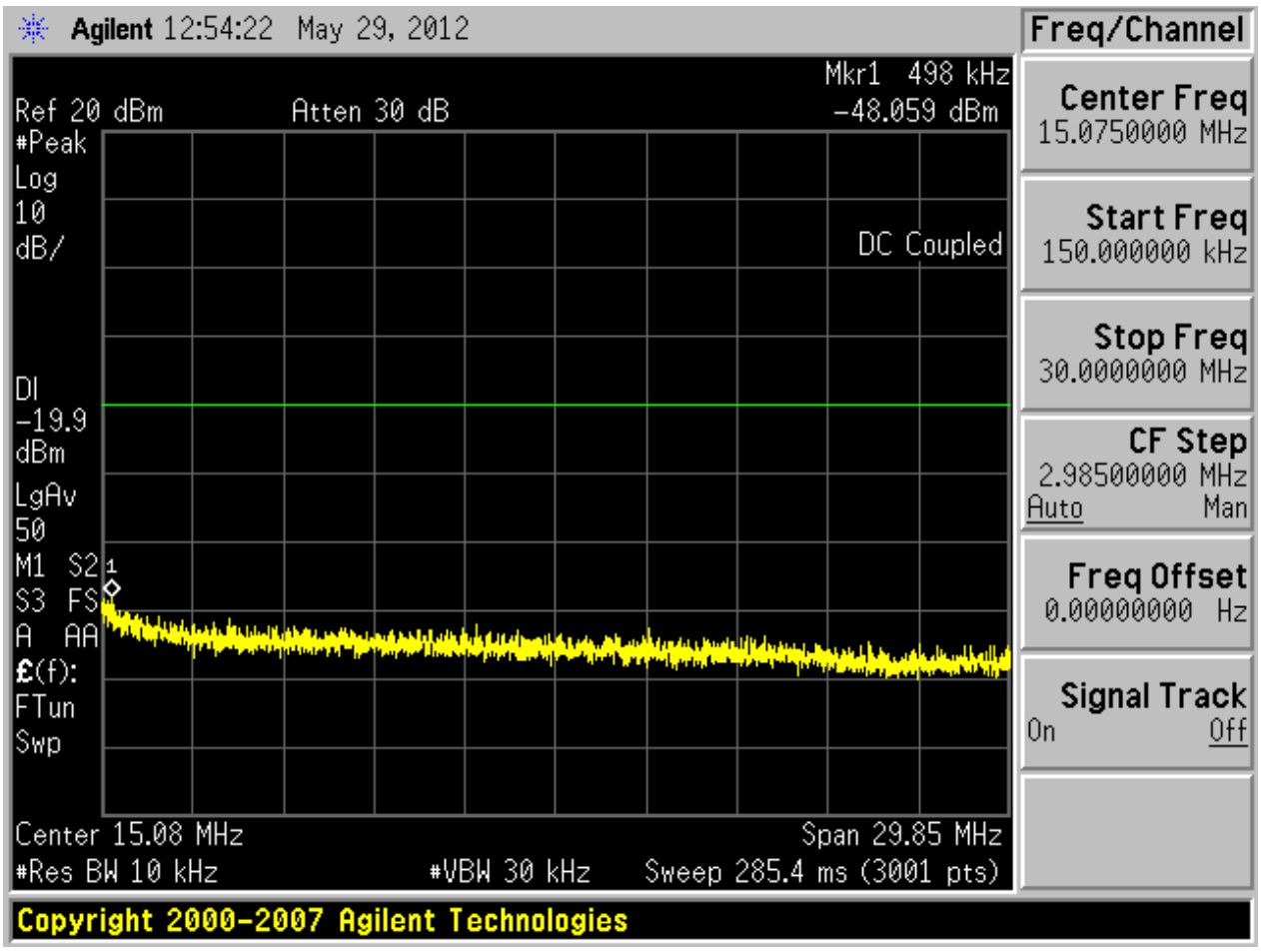
2.1611N20/0_M@2

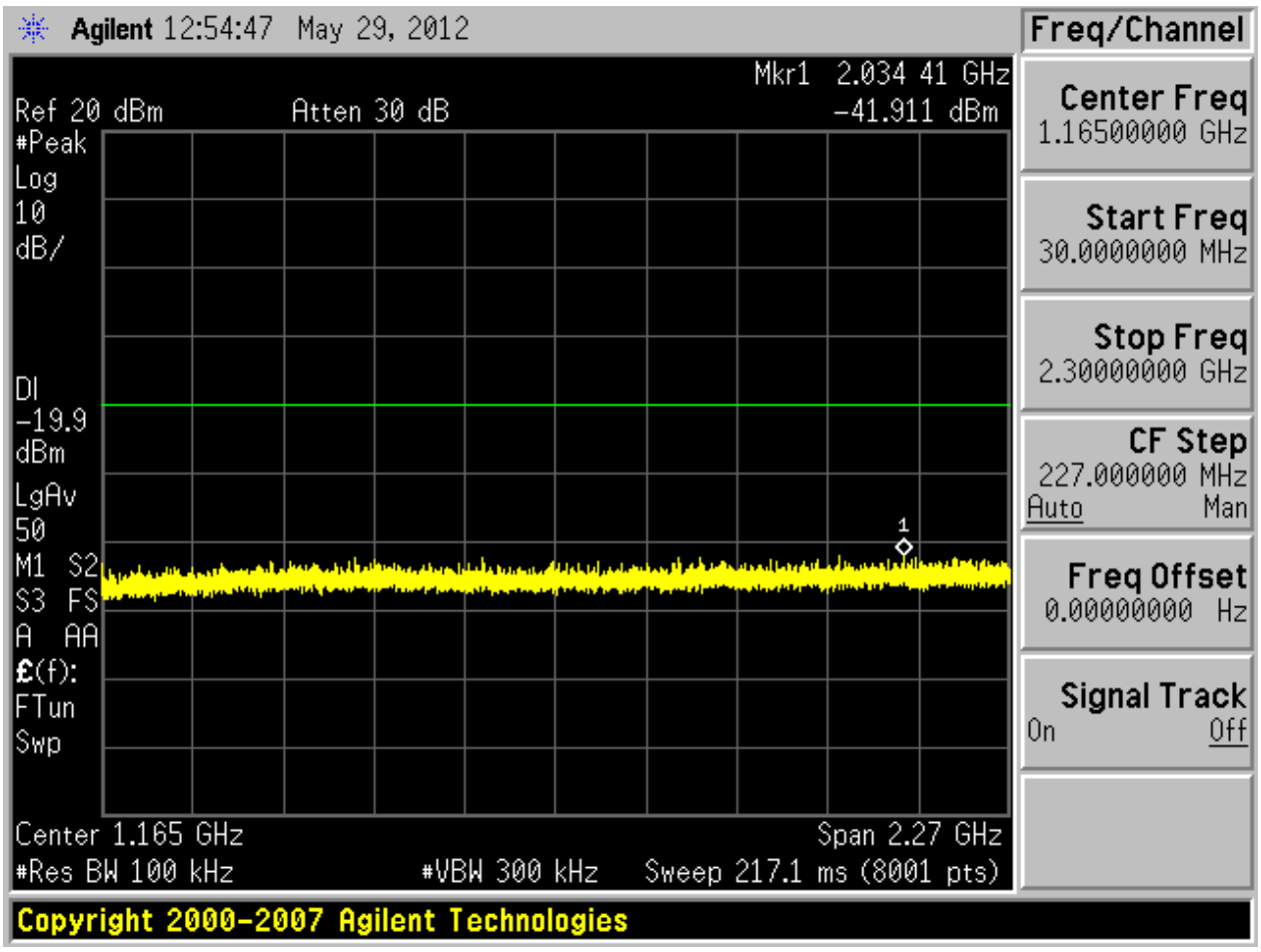
2.16.1 Pref

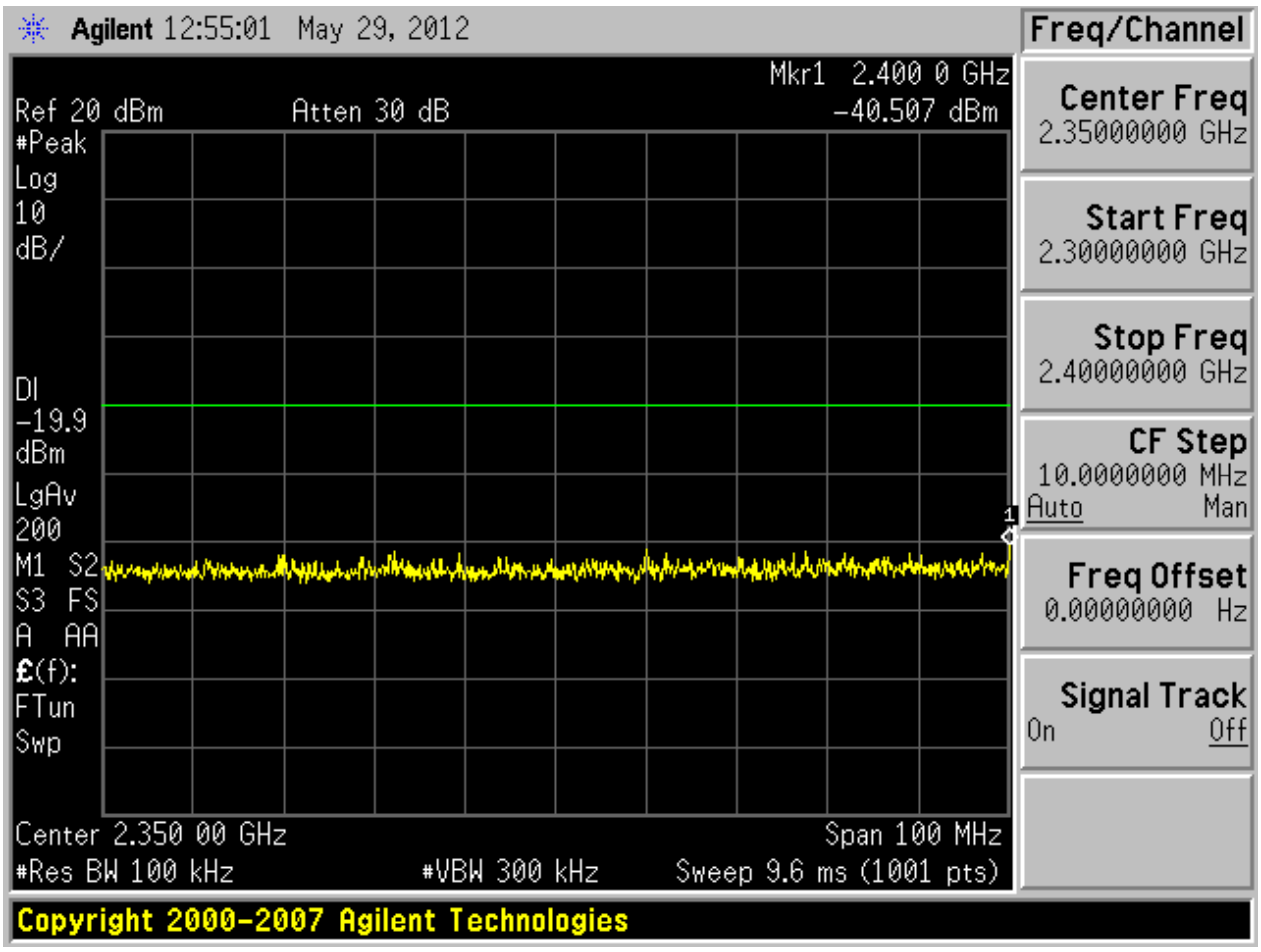


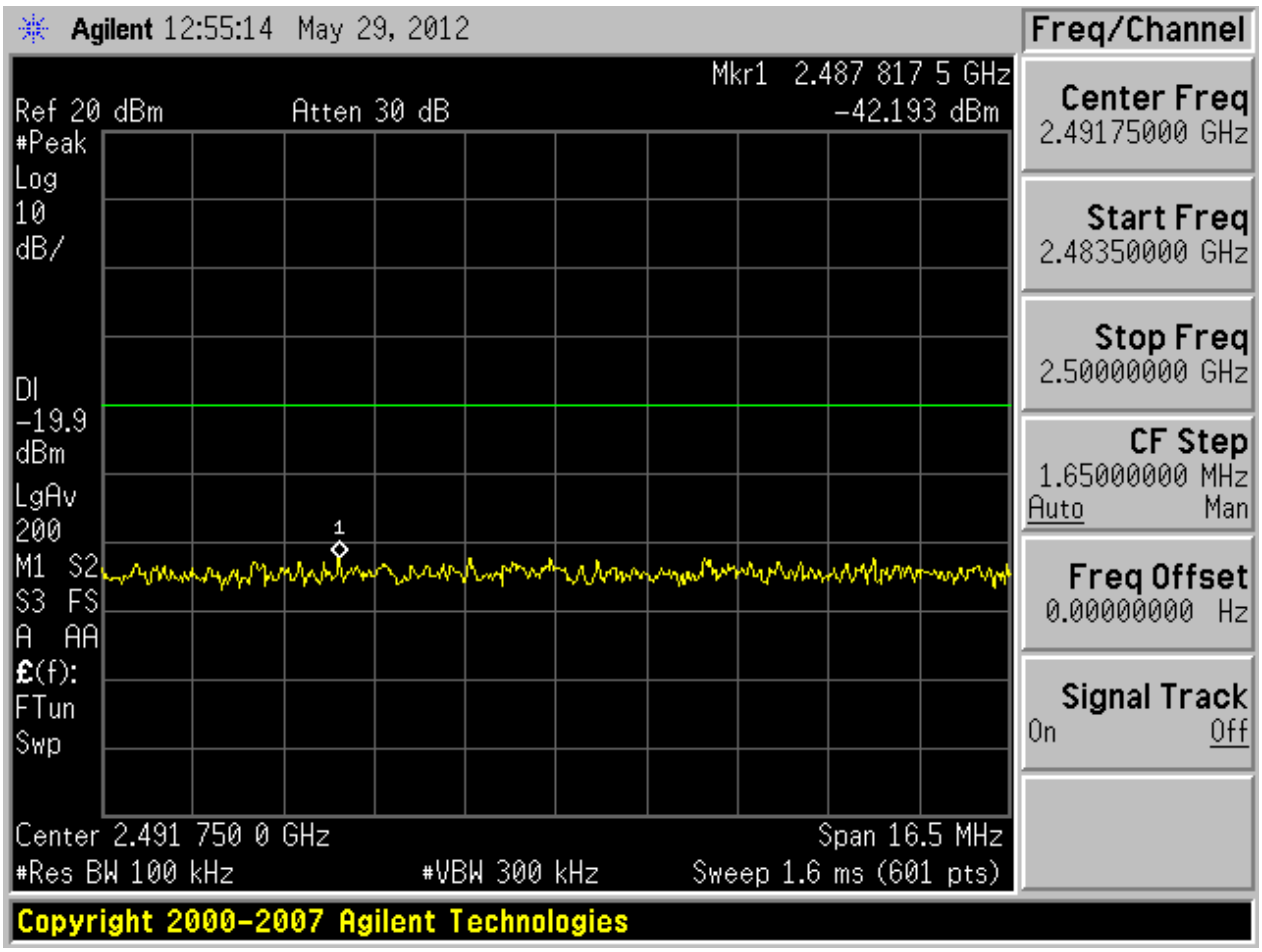
2.16.2 Puw

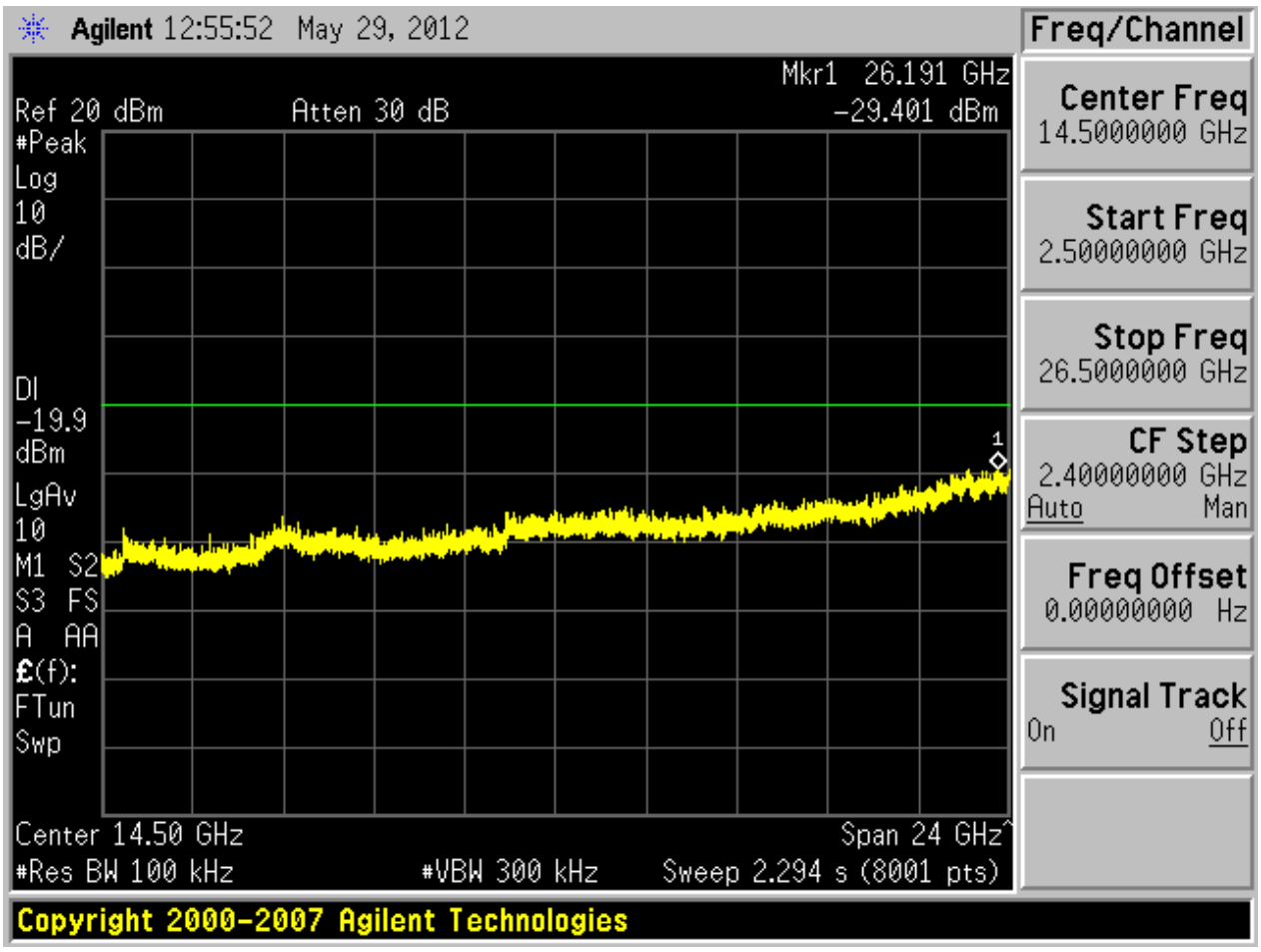






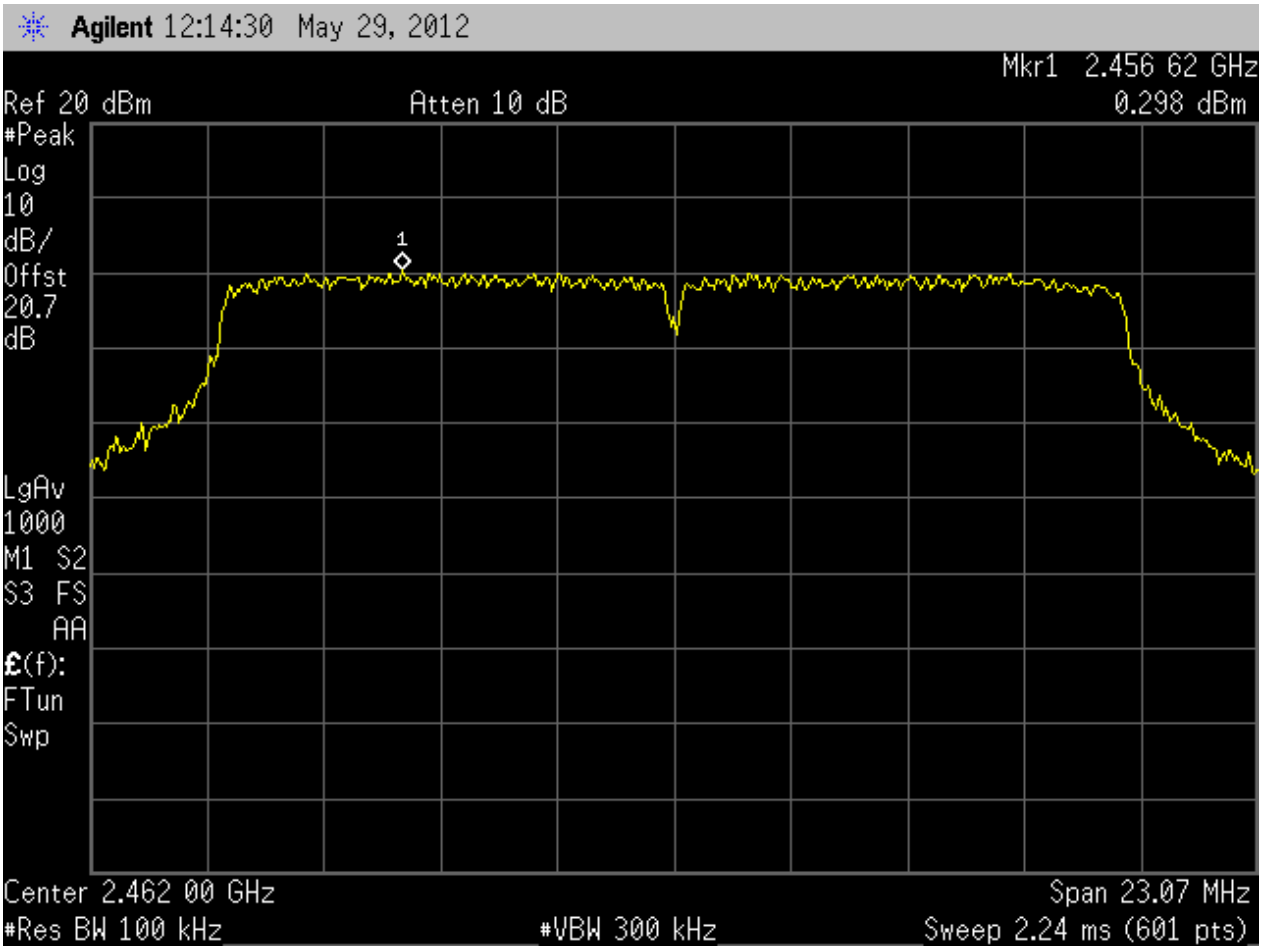




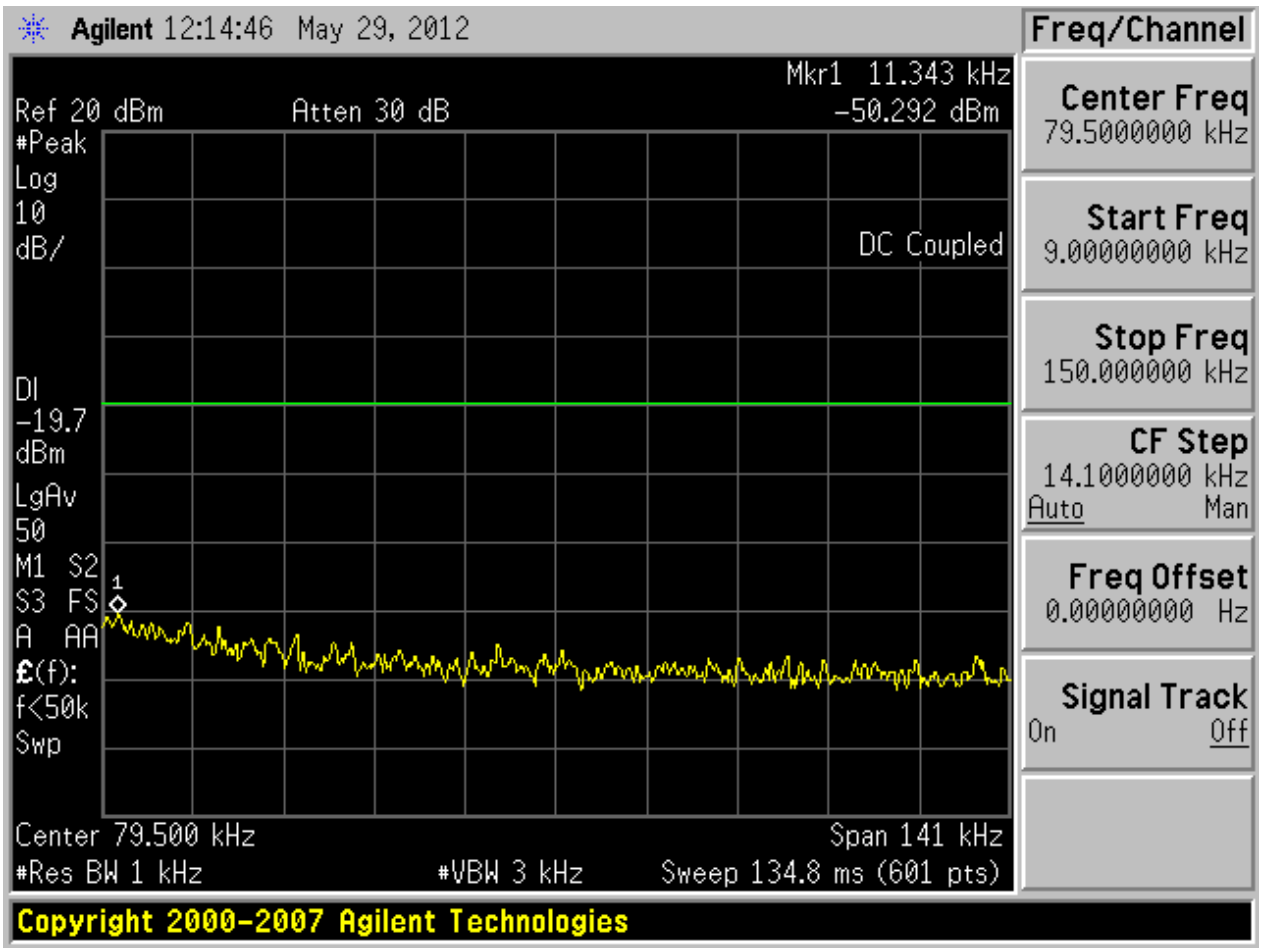


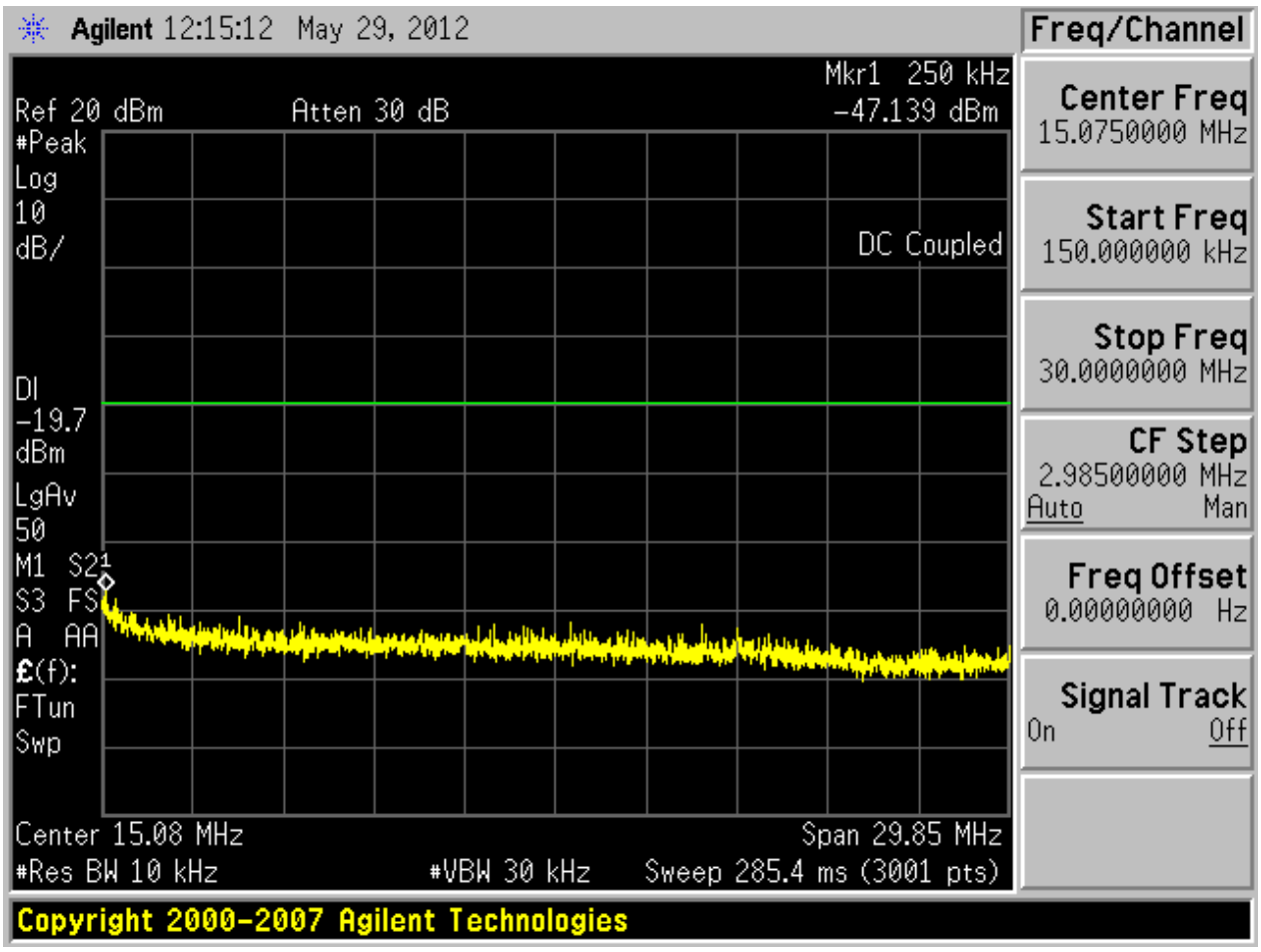
2.1711N20/0_T@1

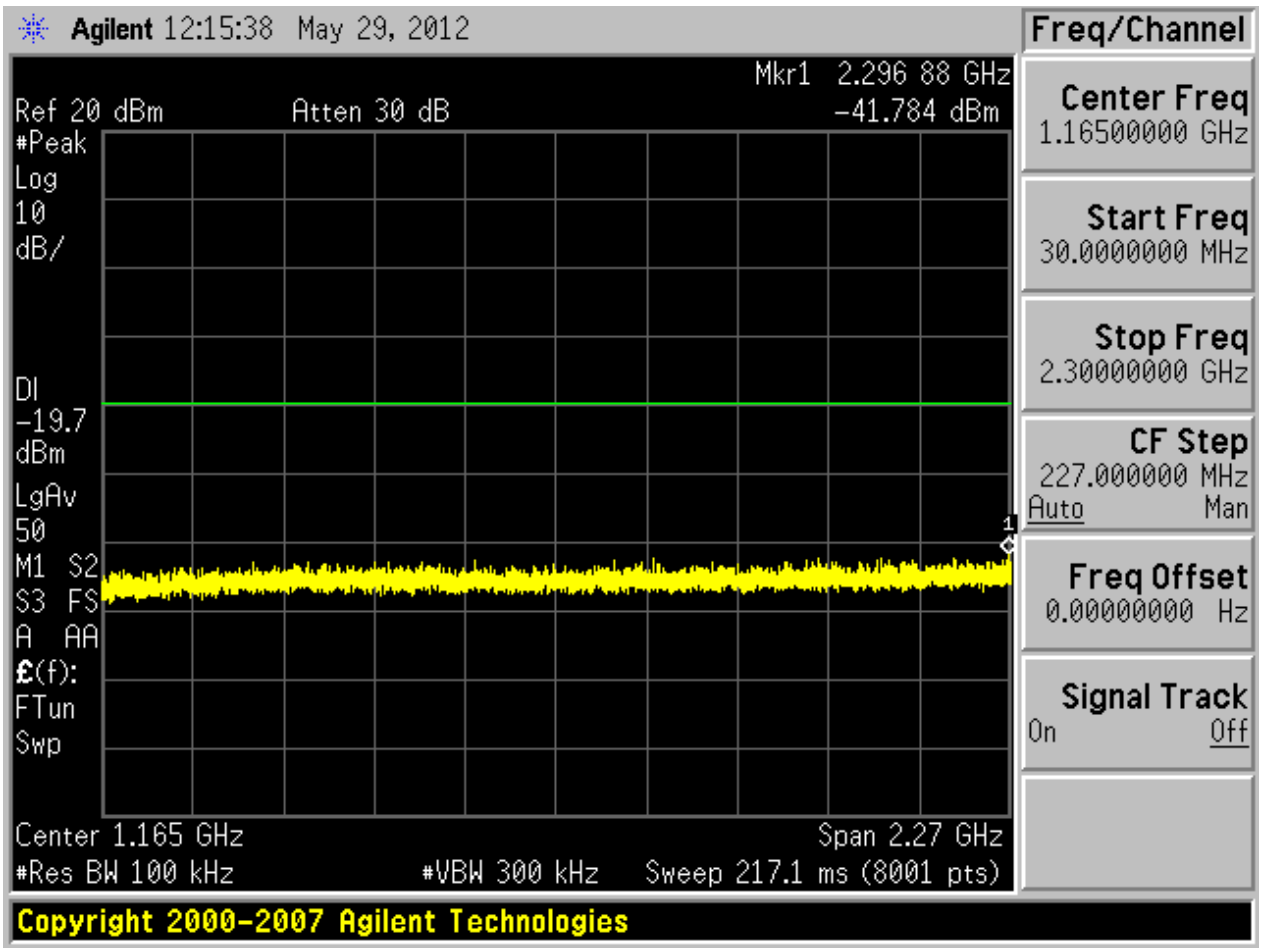
2.17.1 Pref

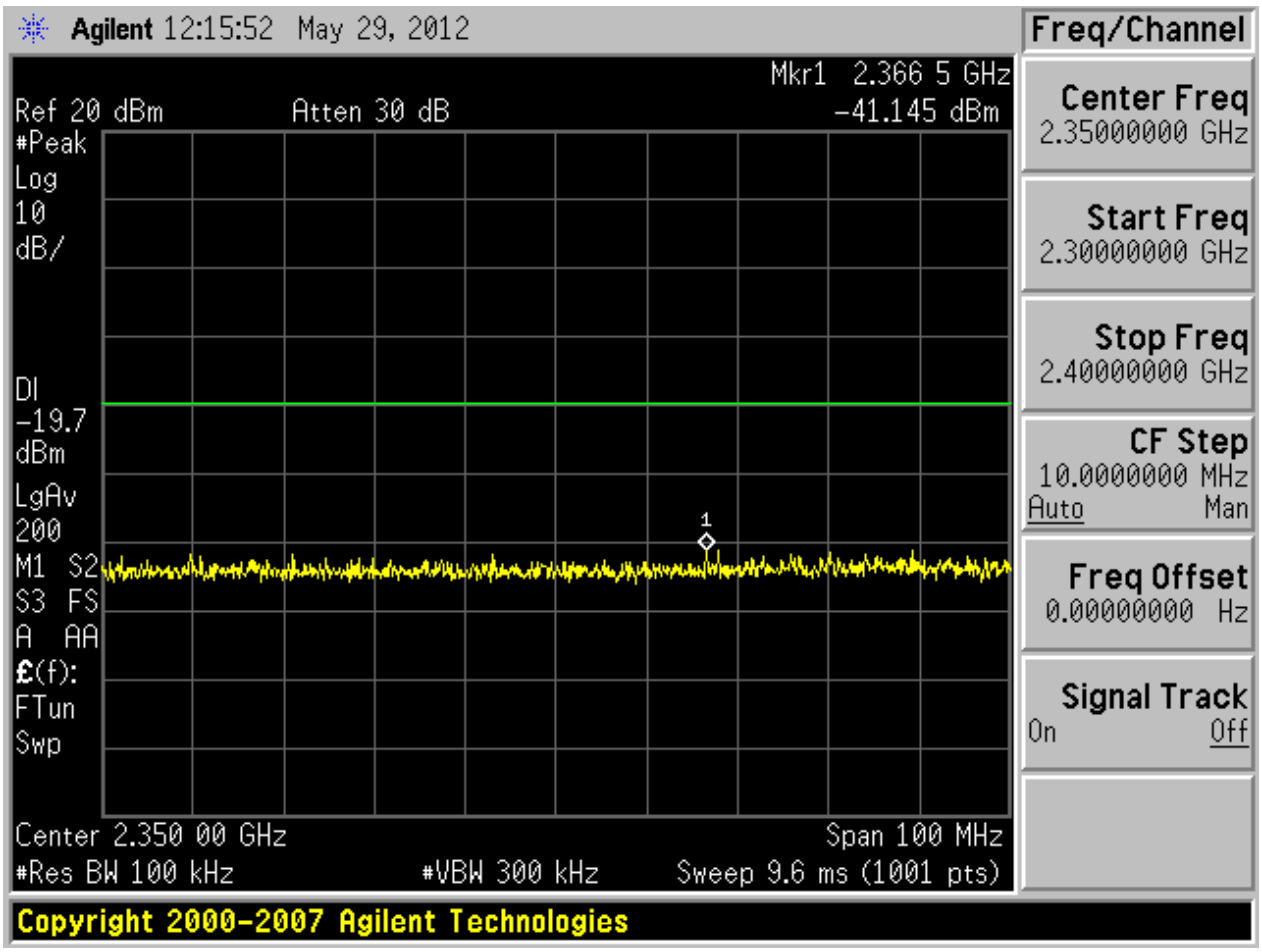


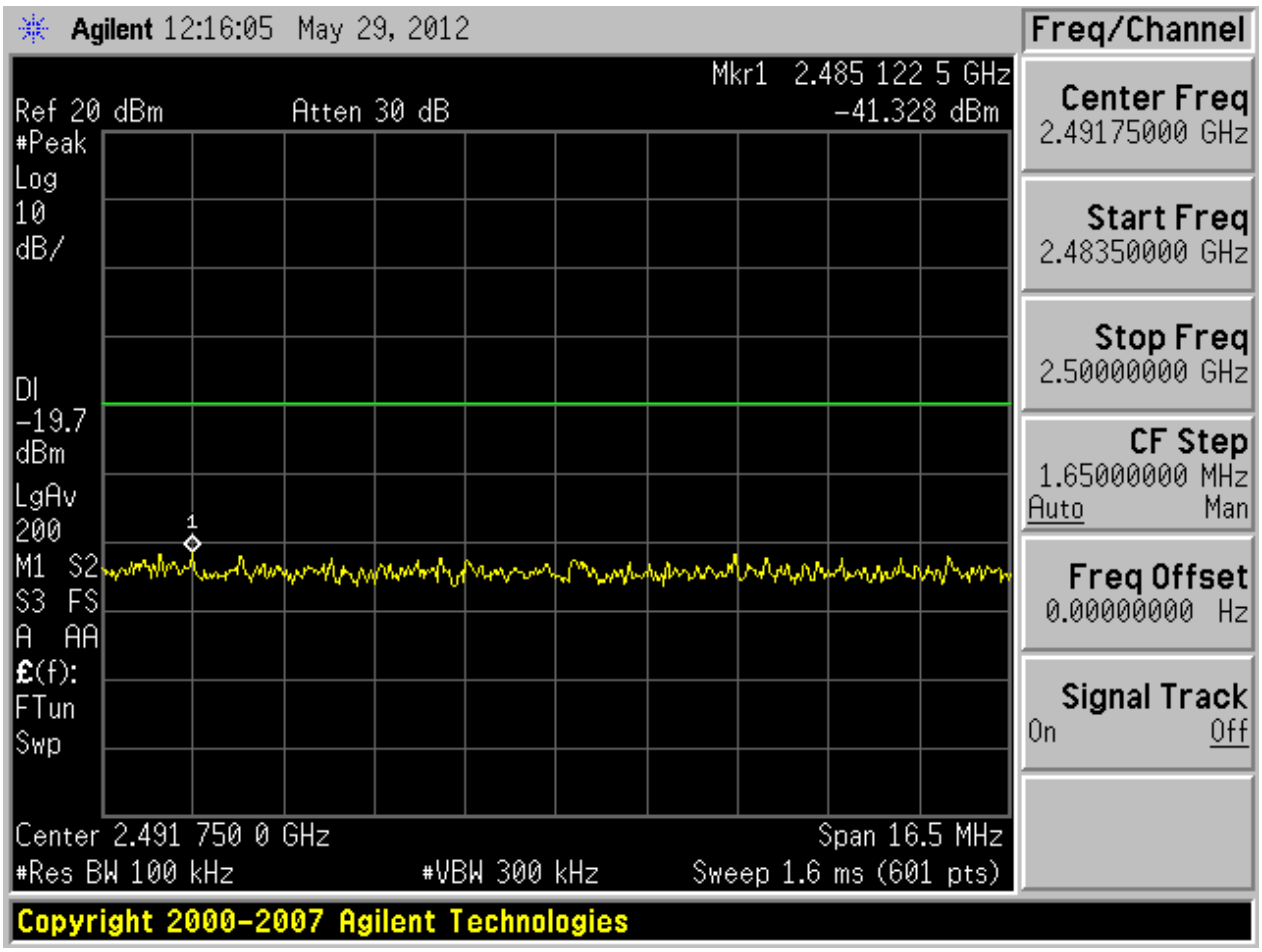
2.17.2 Puw

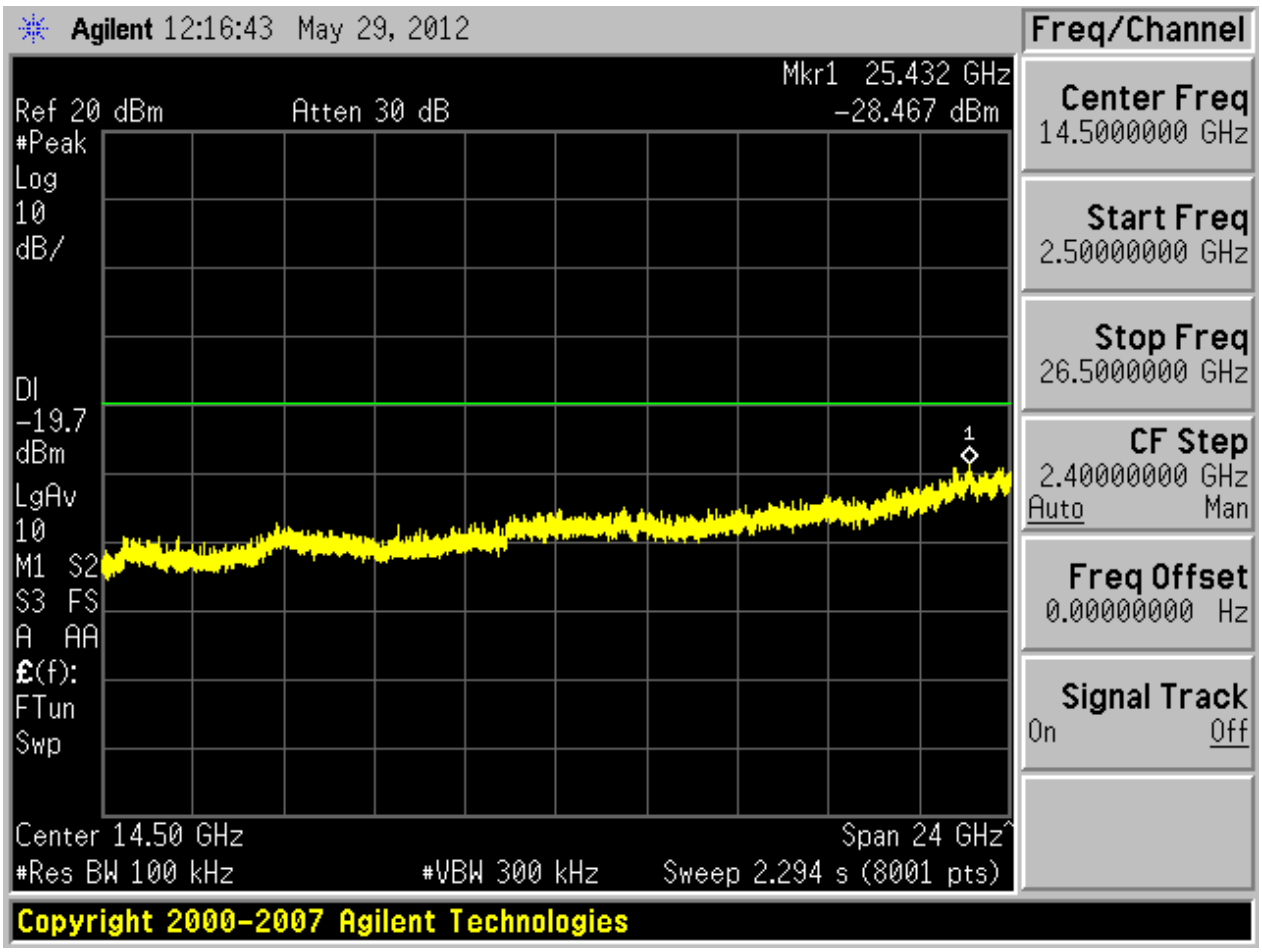






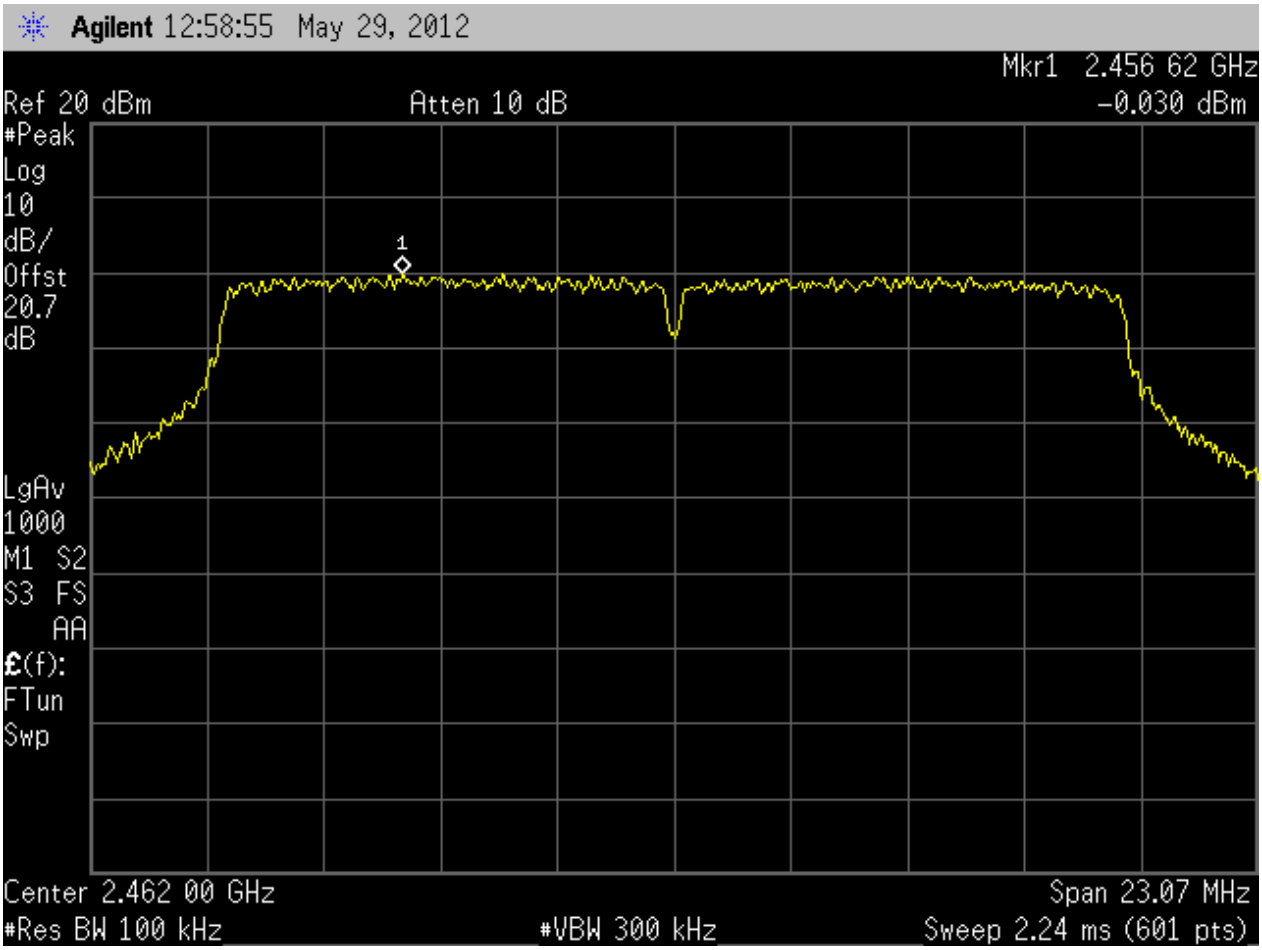




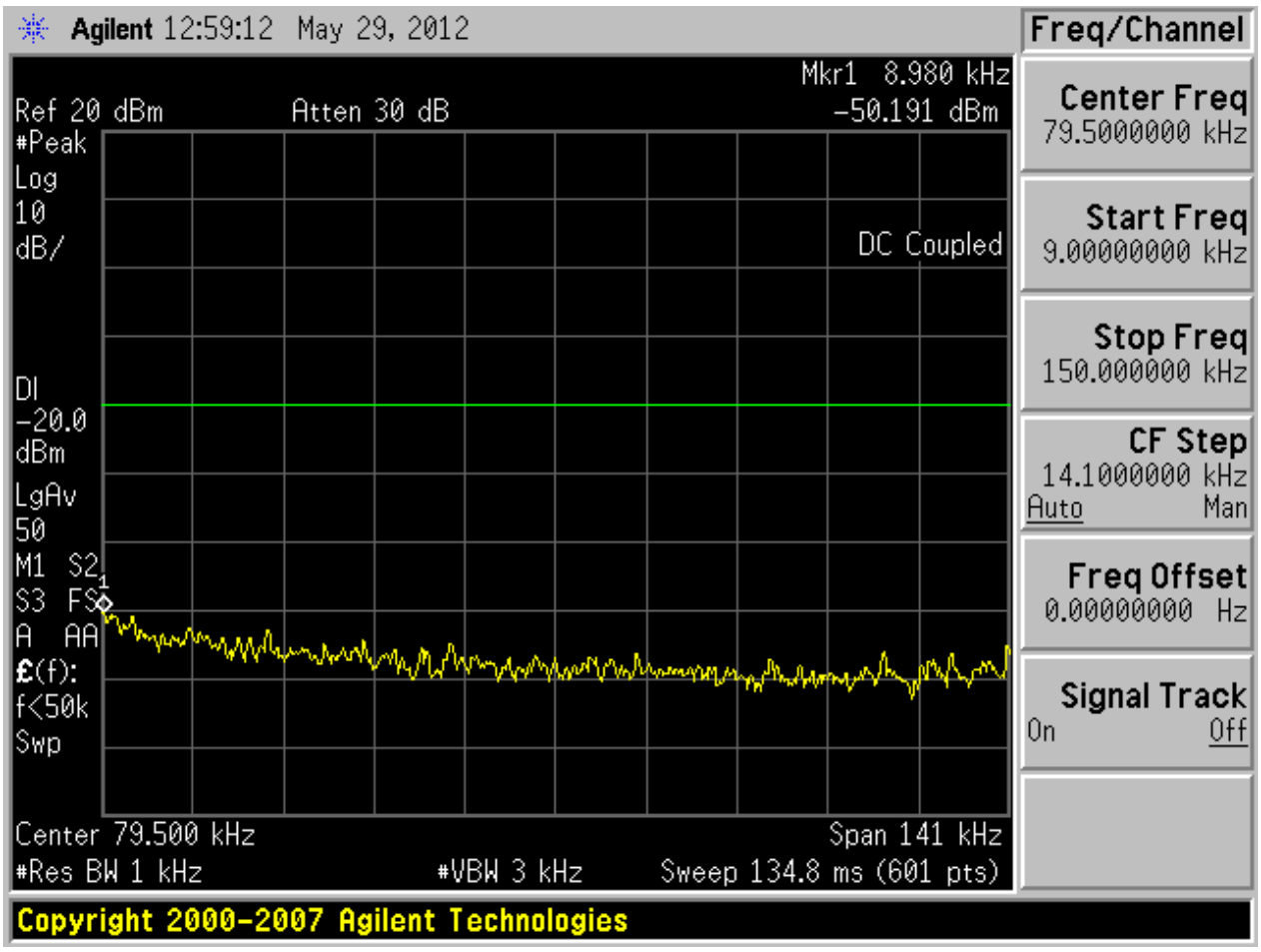


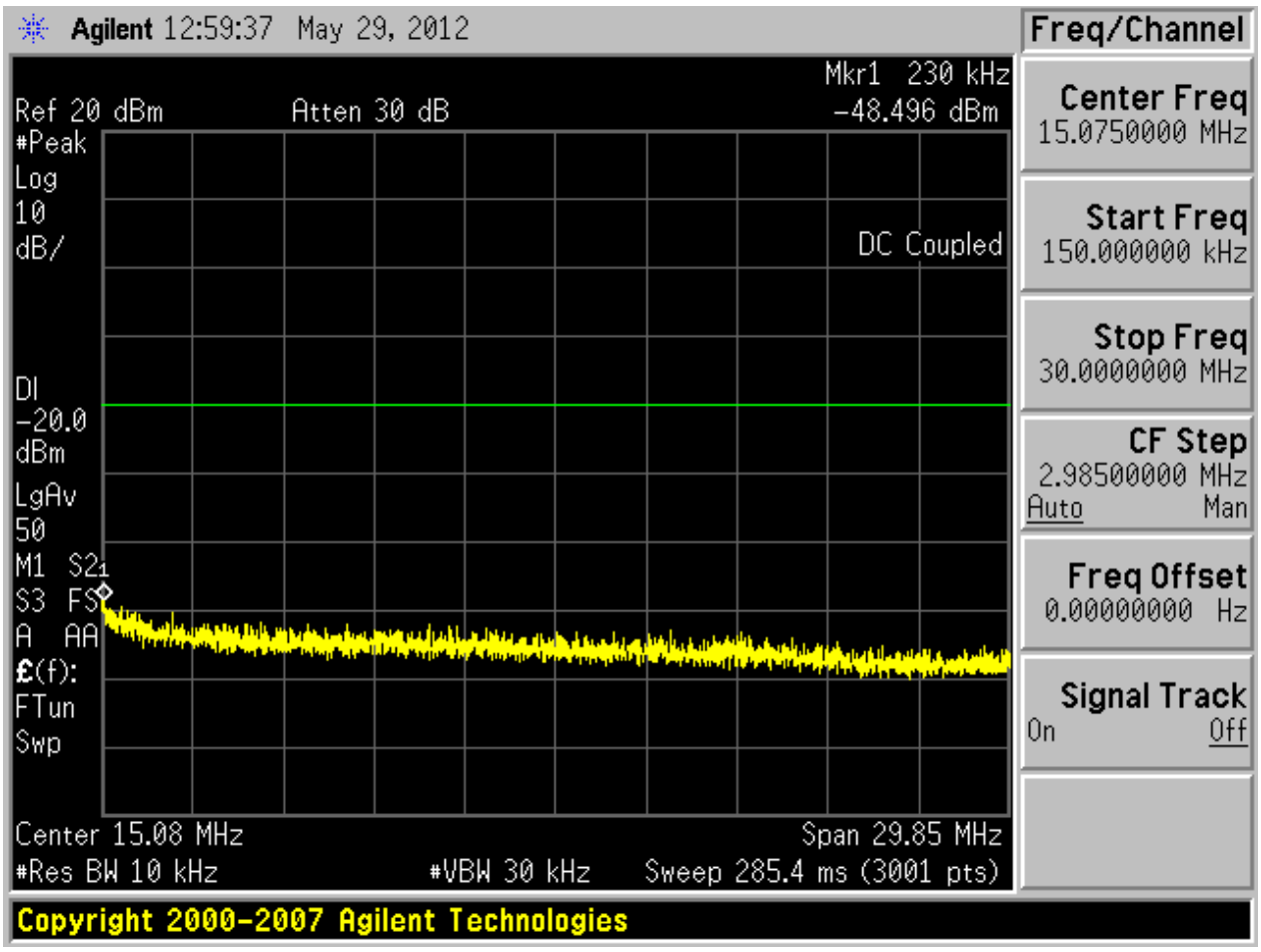
2.1811N20/0_T@2

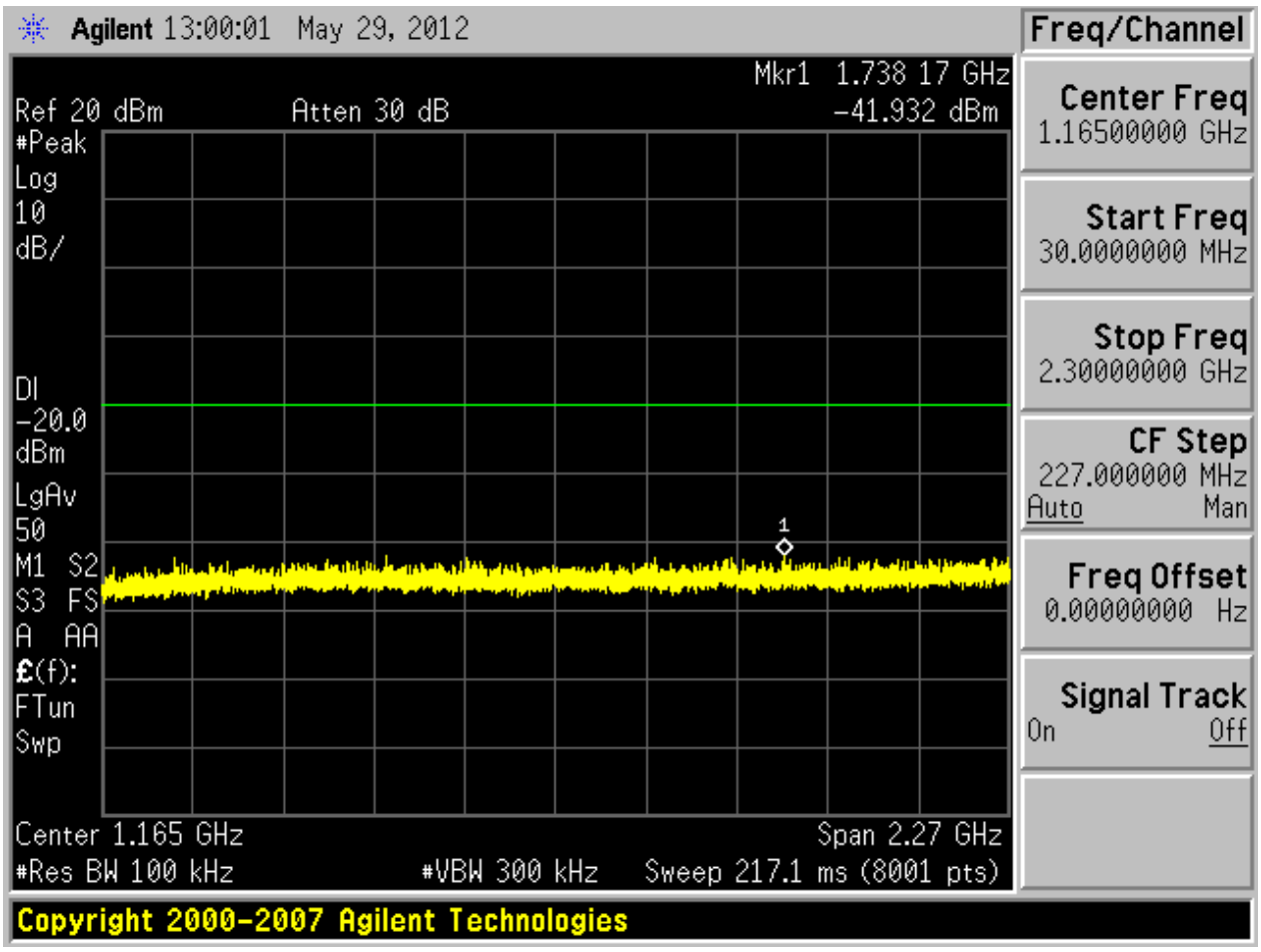
2.18.1 Pref

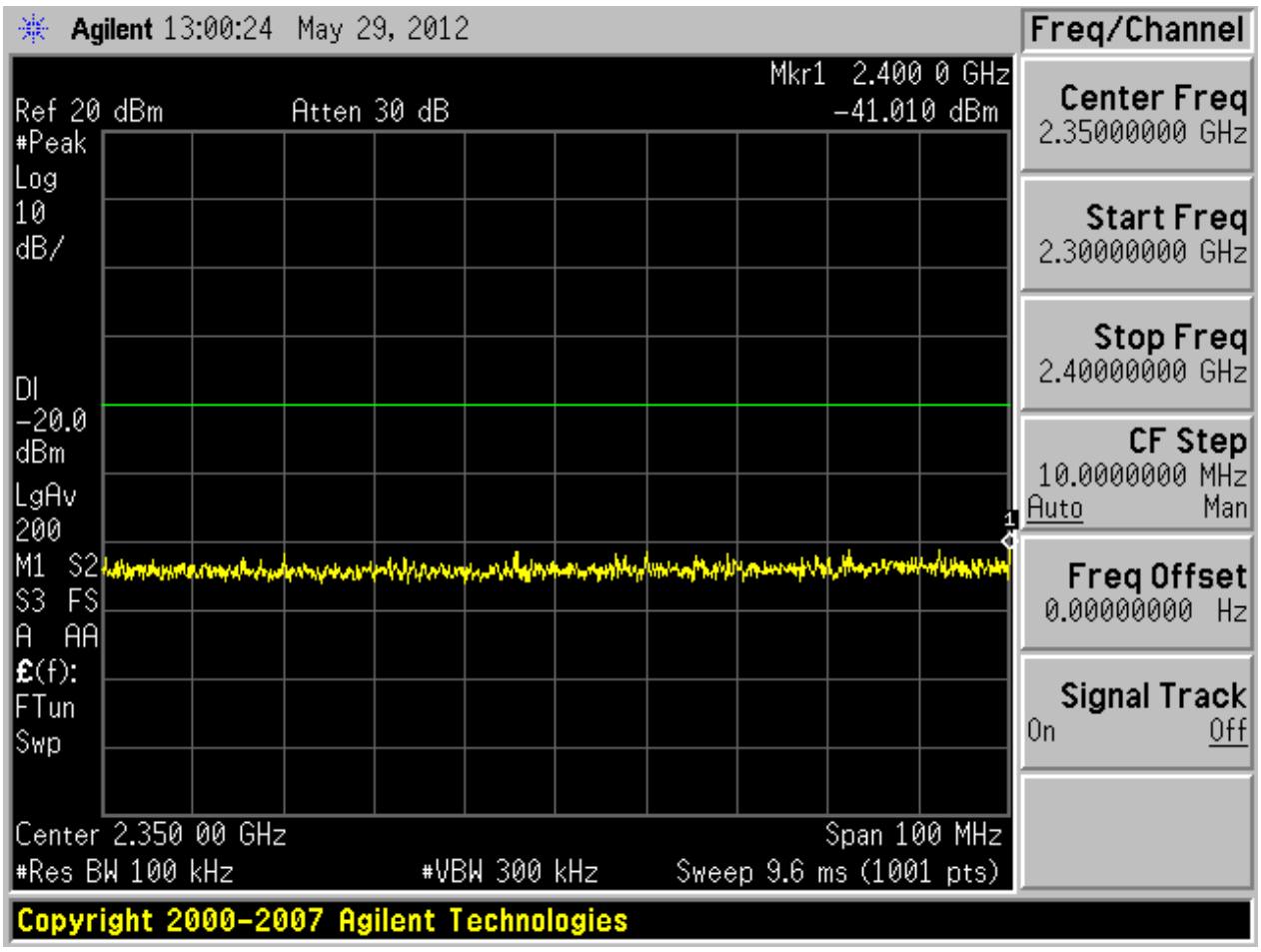


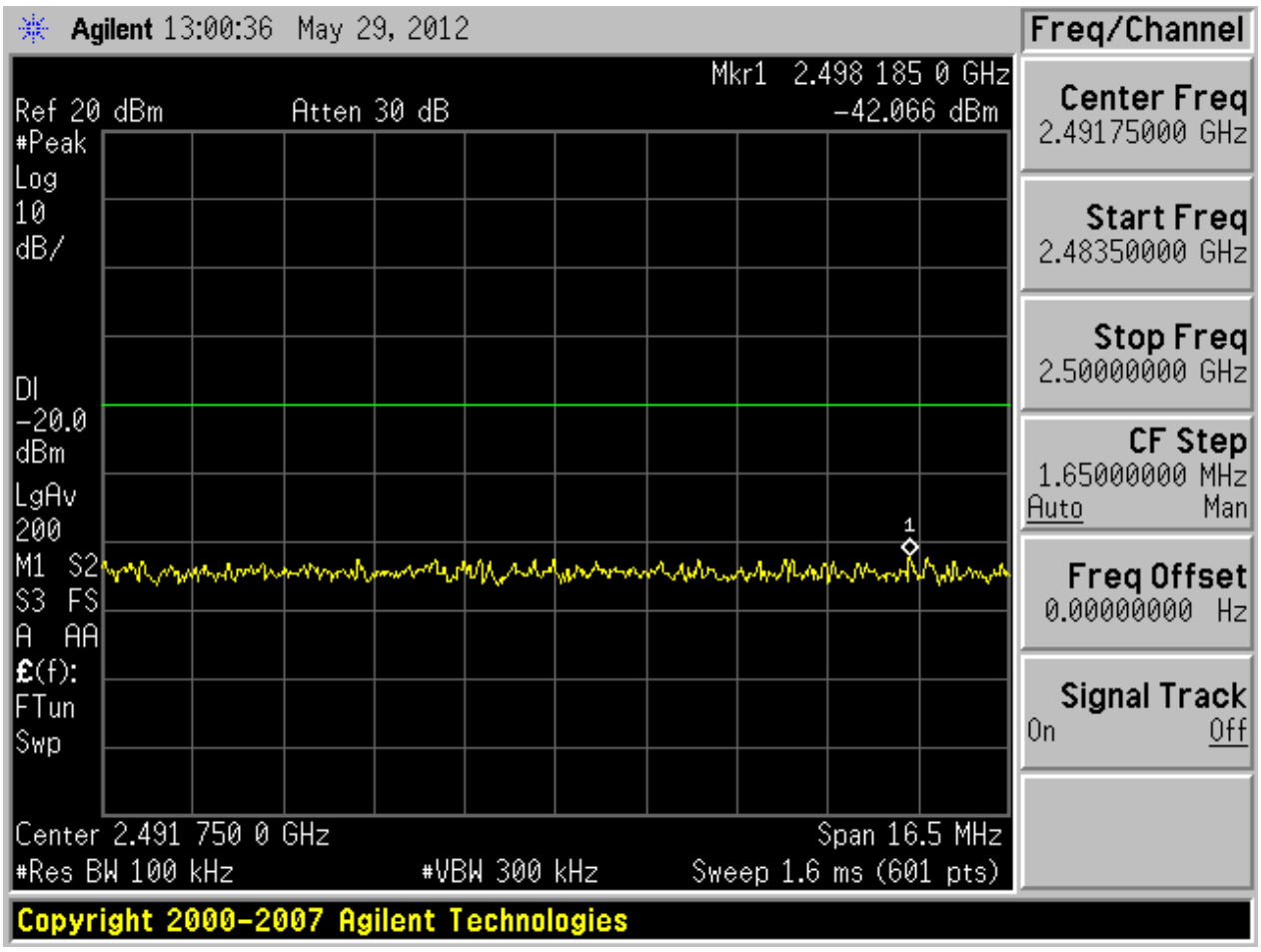
2.18.2 Puw

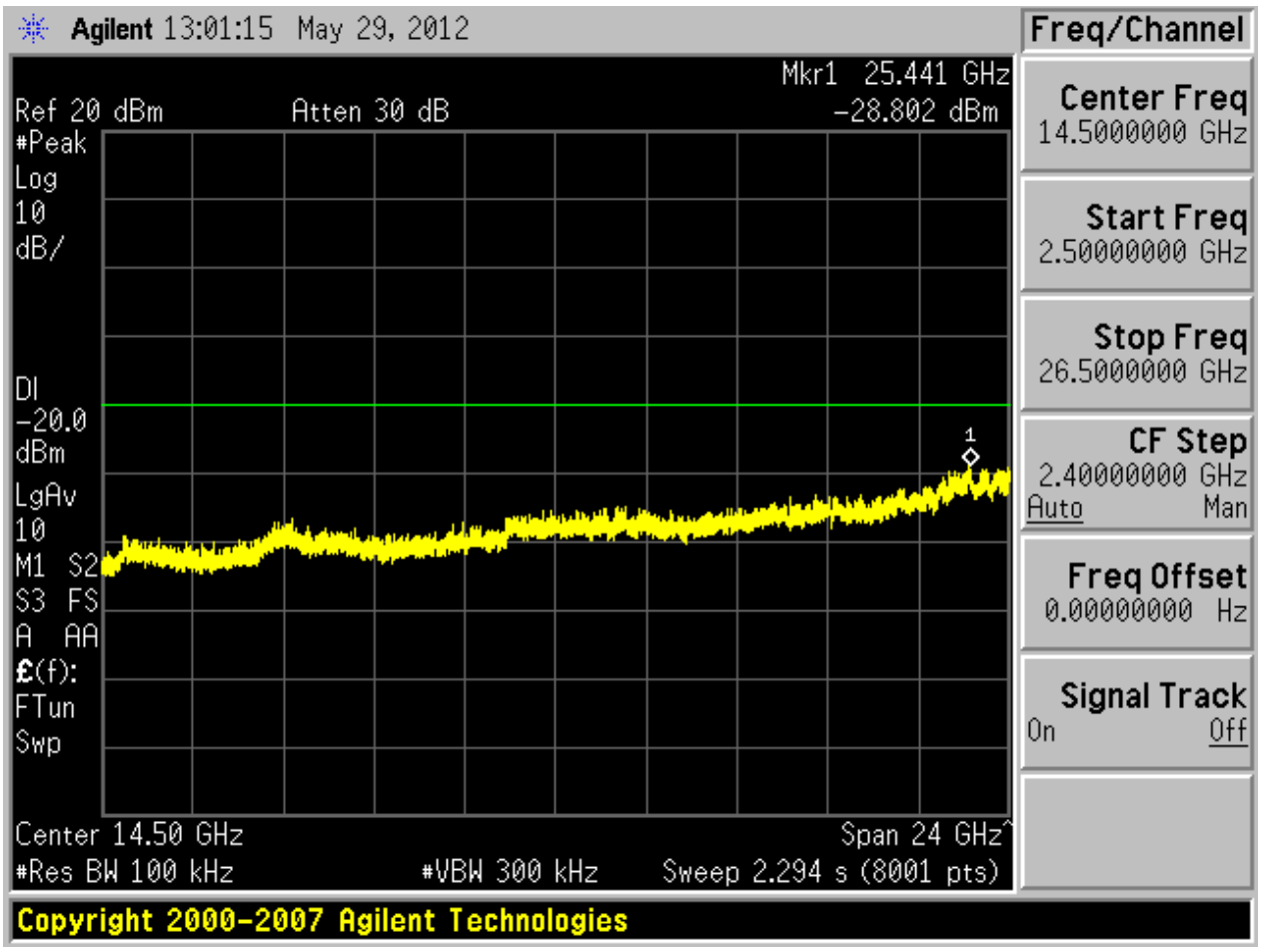








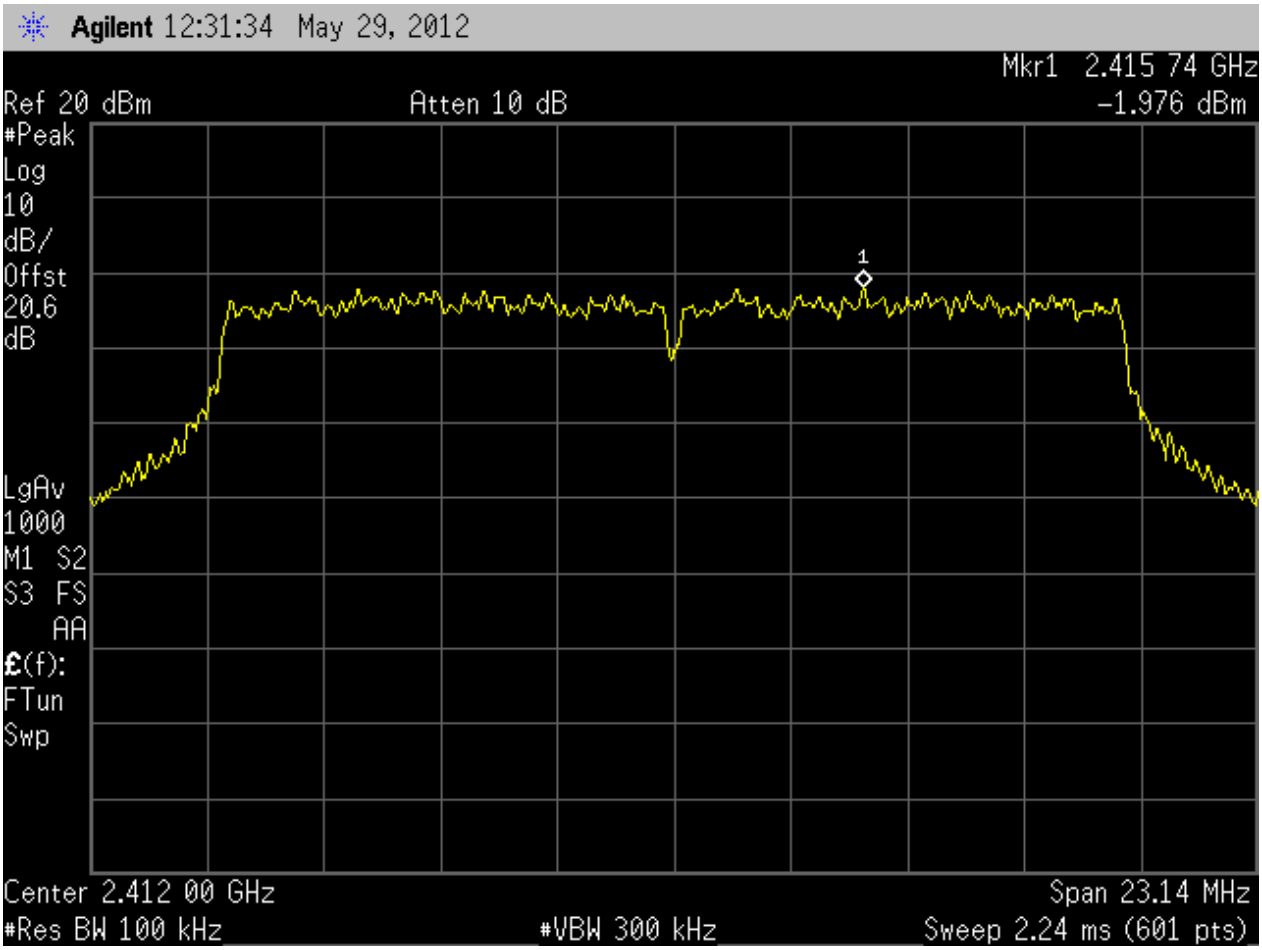




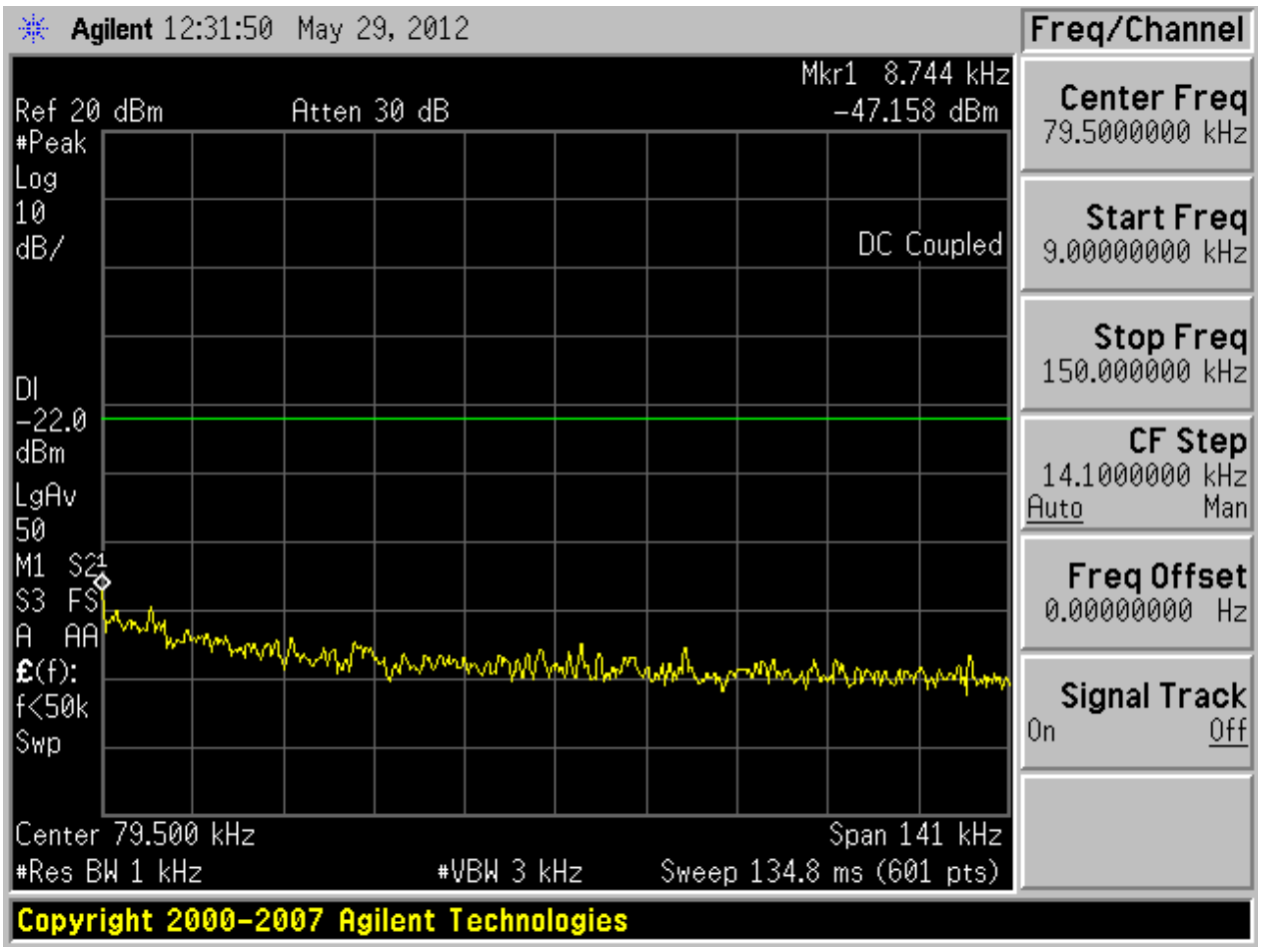
2.1911N20m/8_B@1+2

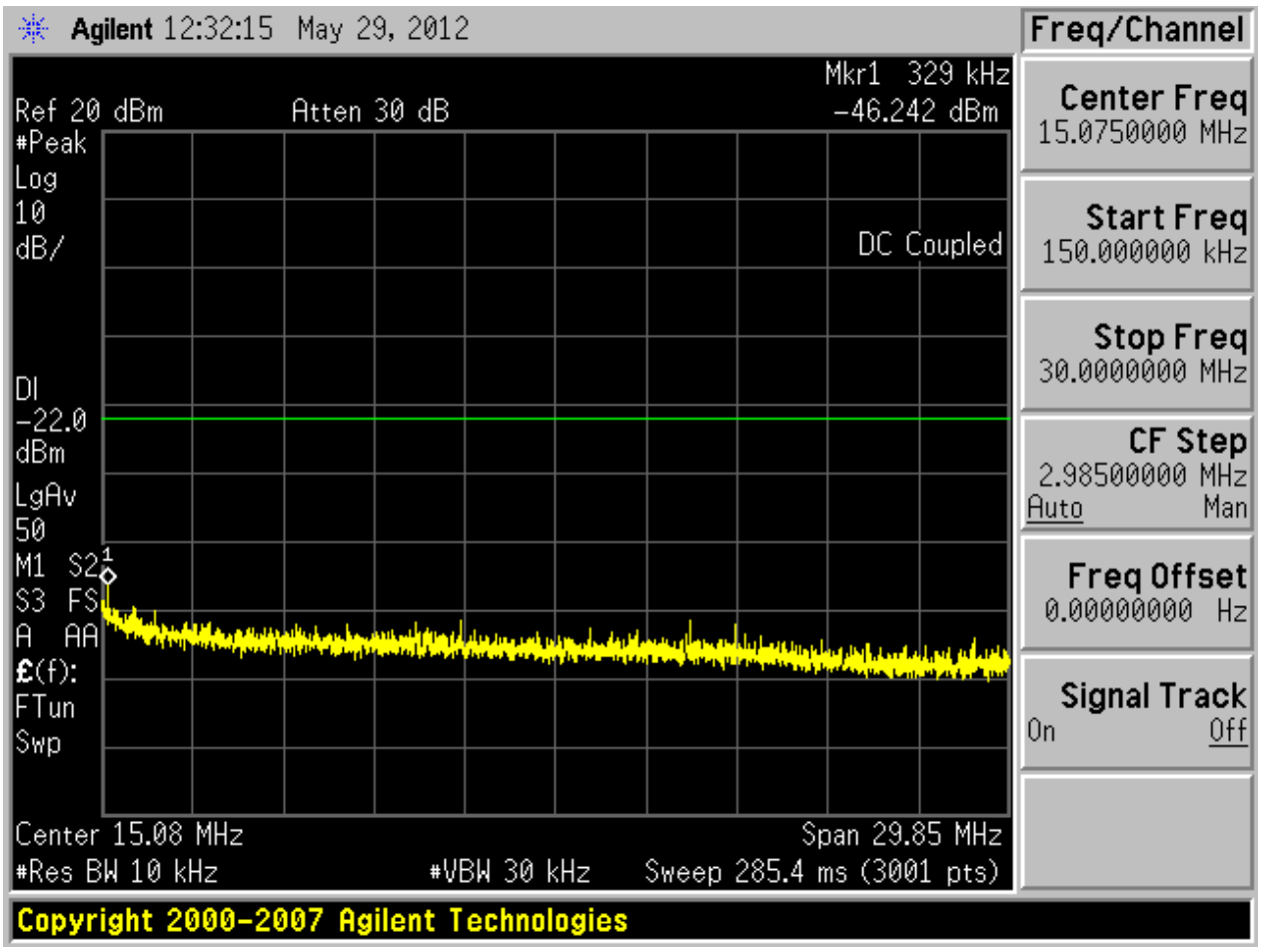
2.19.1 Ant 1

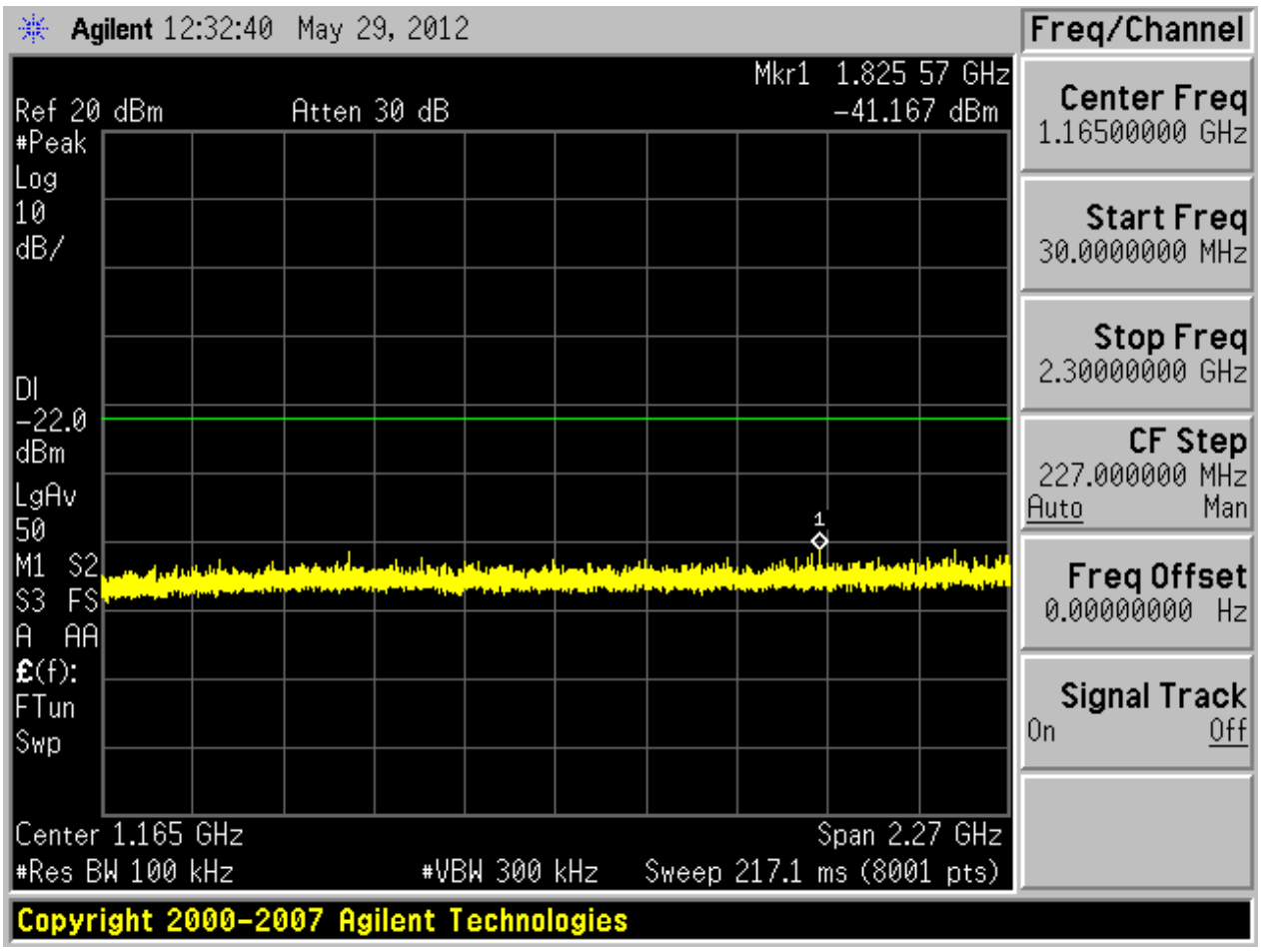
2.19.1.1 Pref

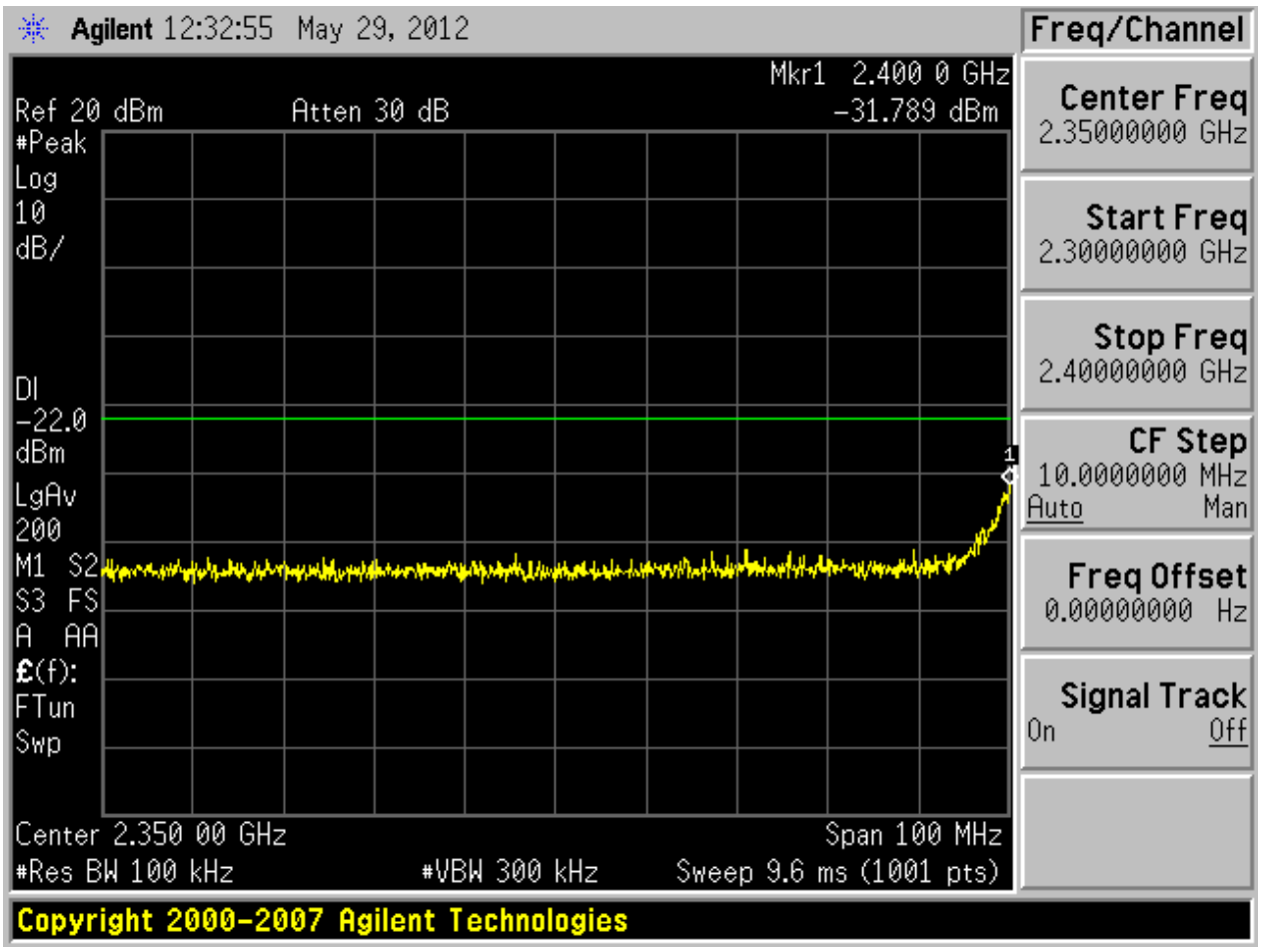


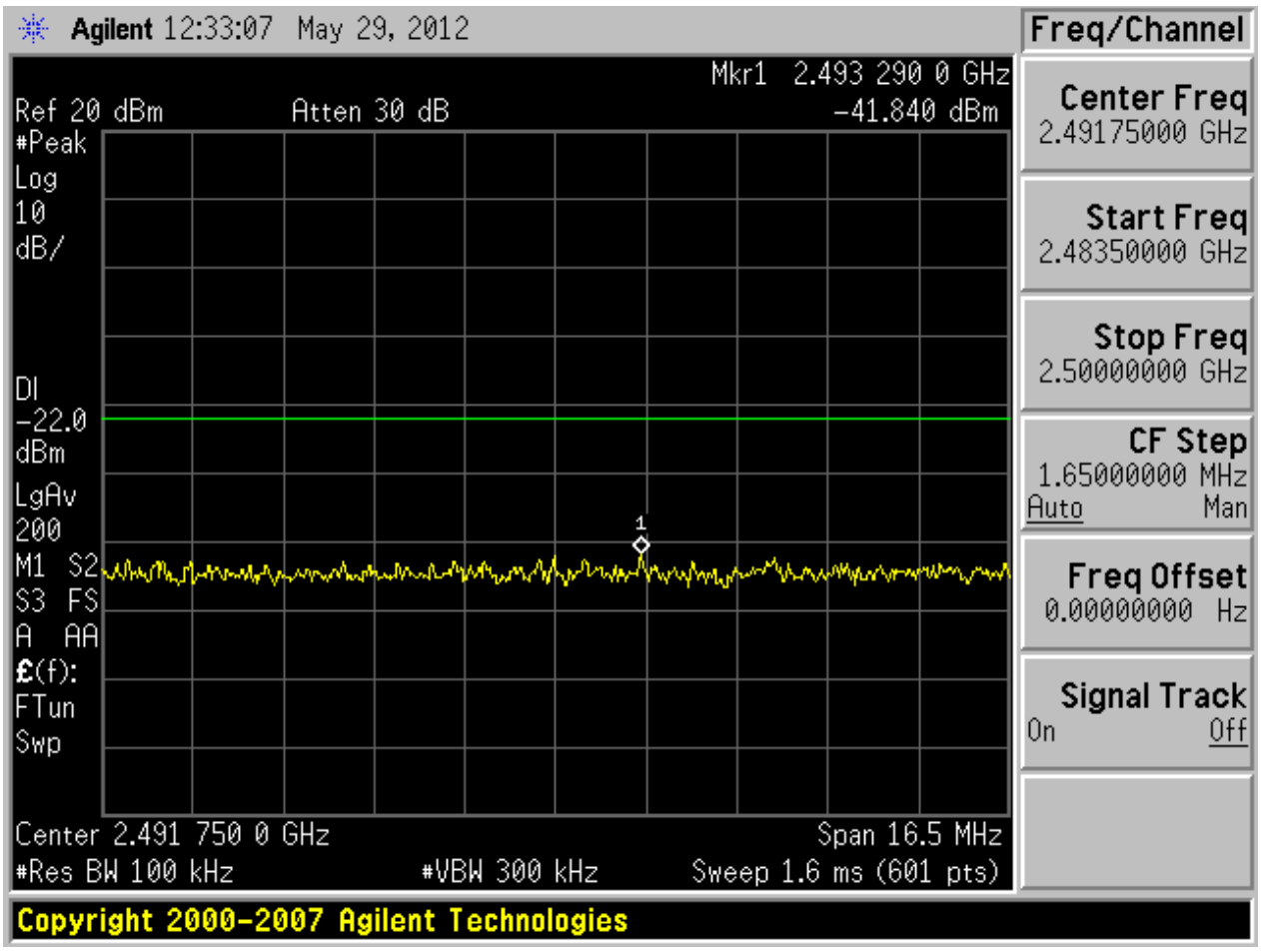
2.19.1.2 Puw

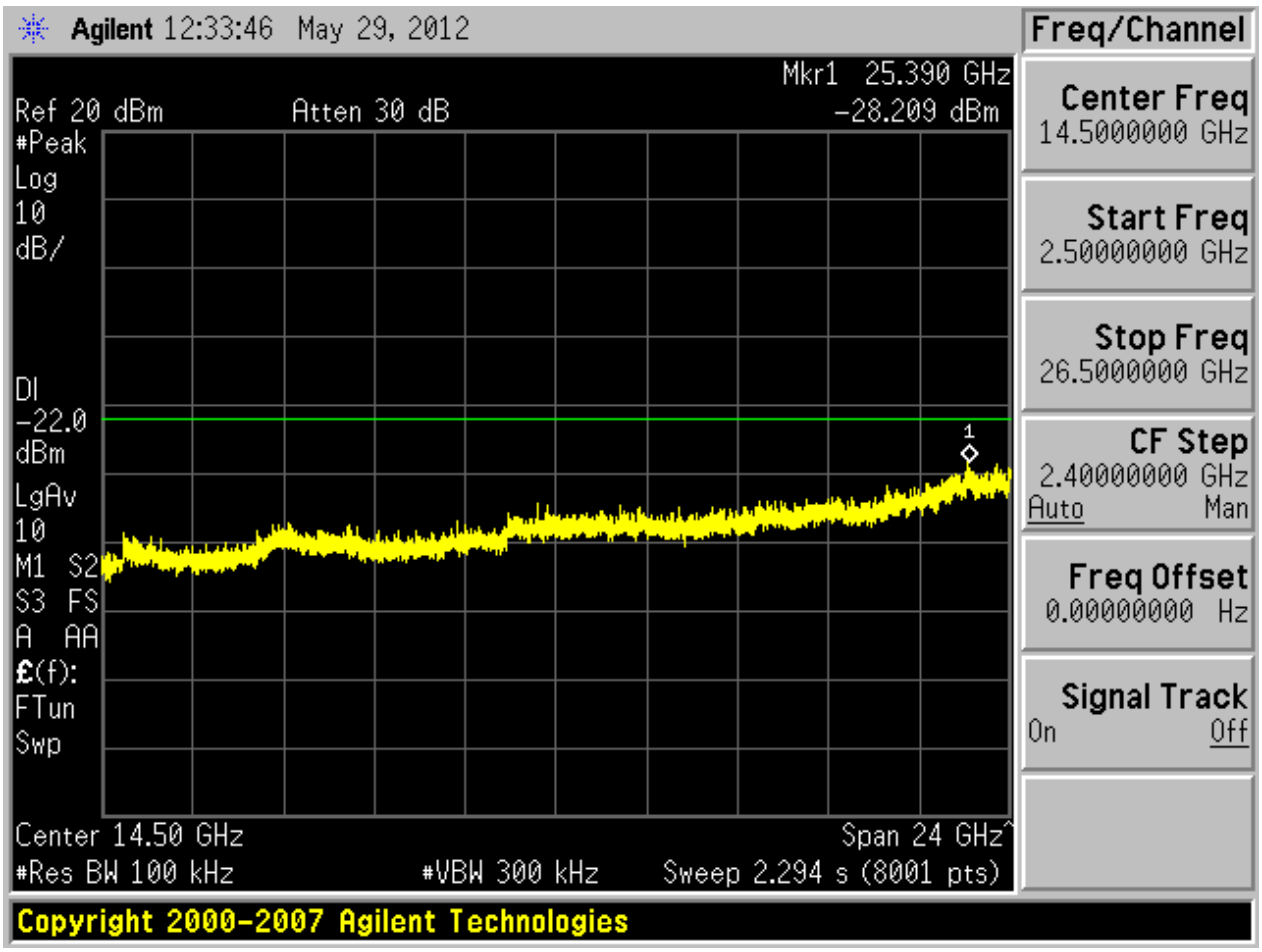






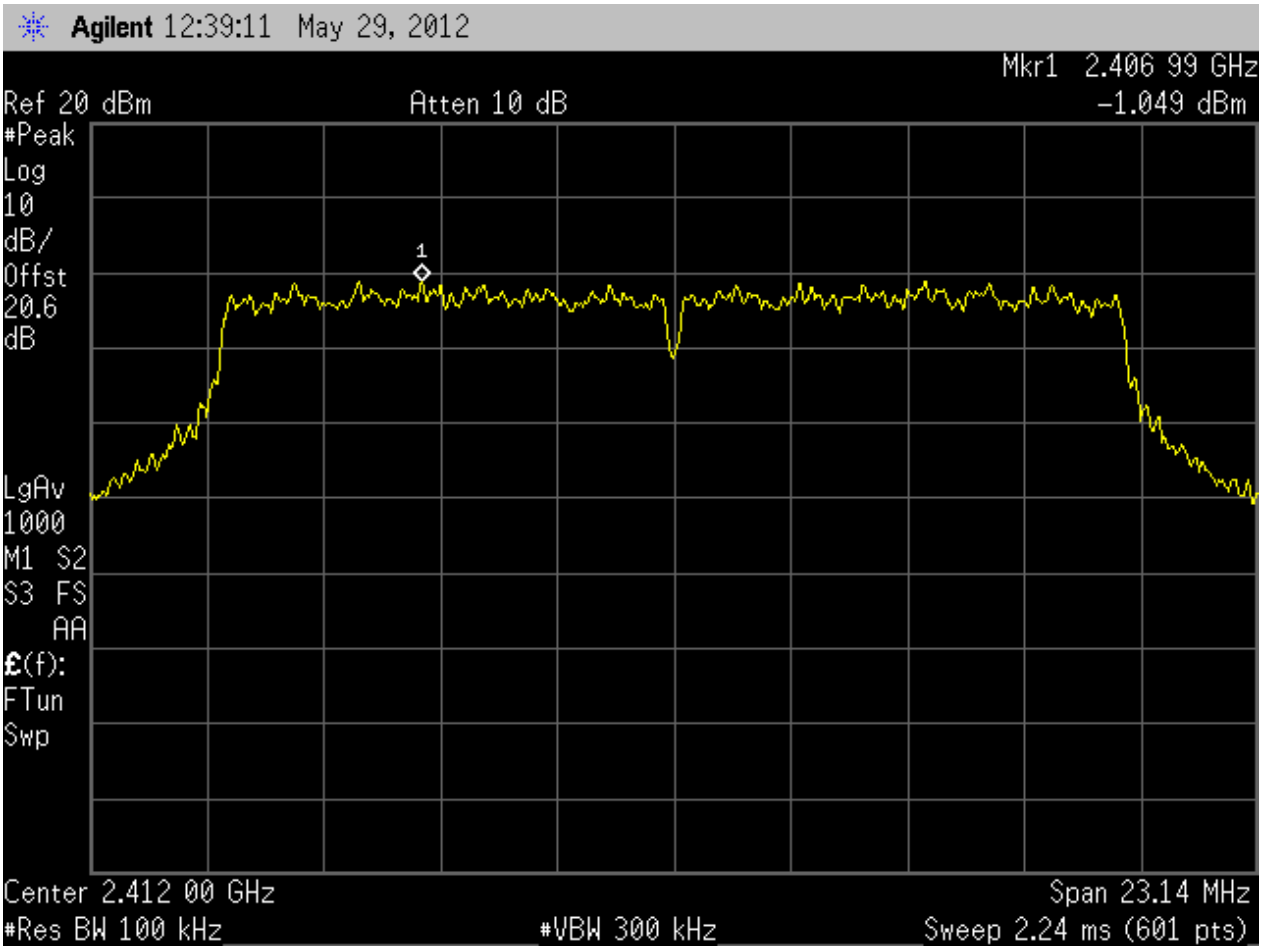




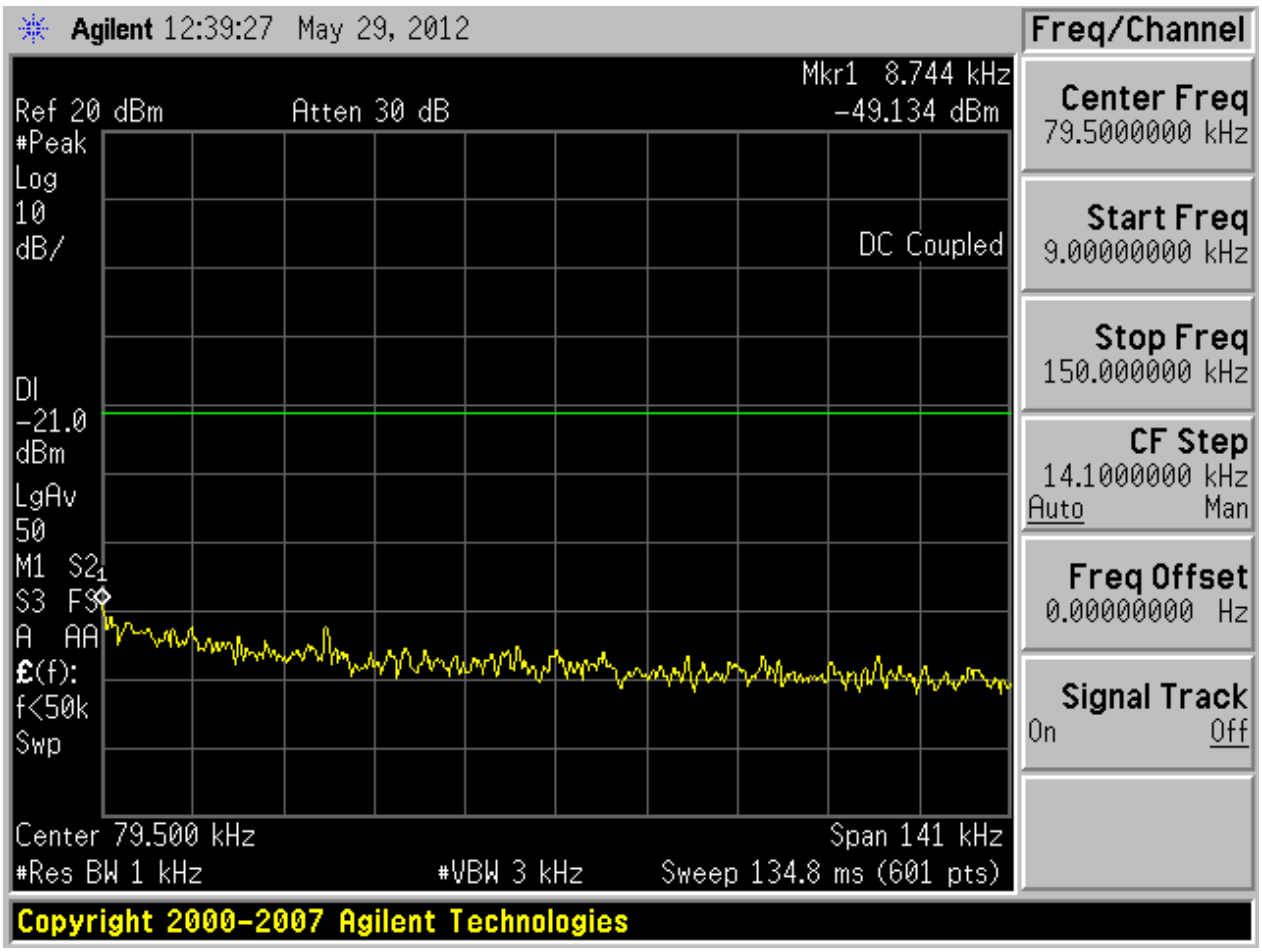


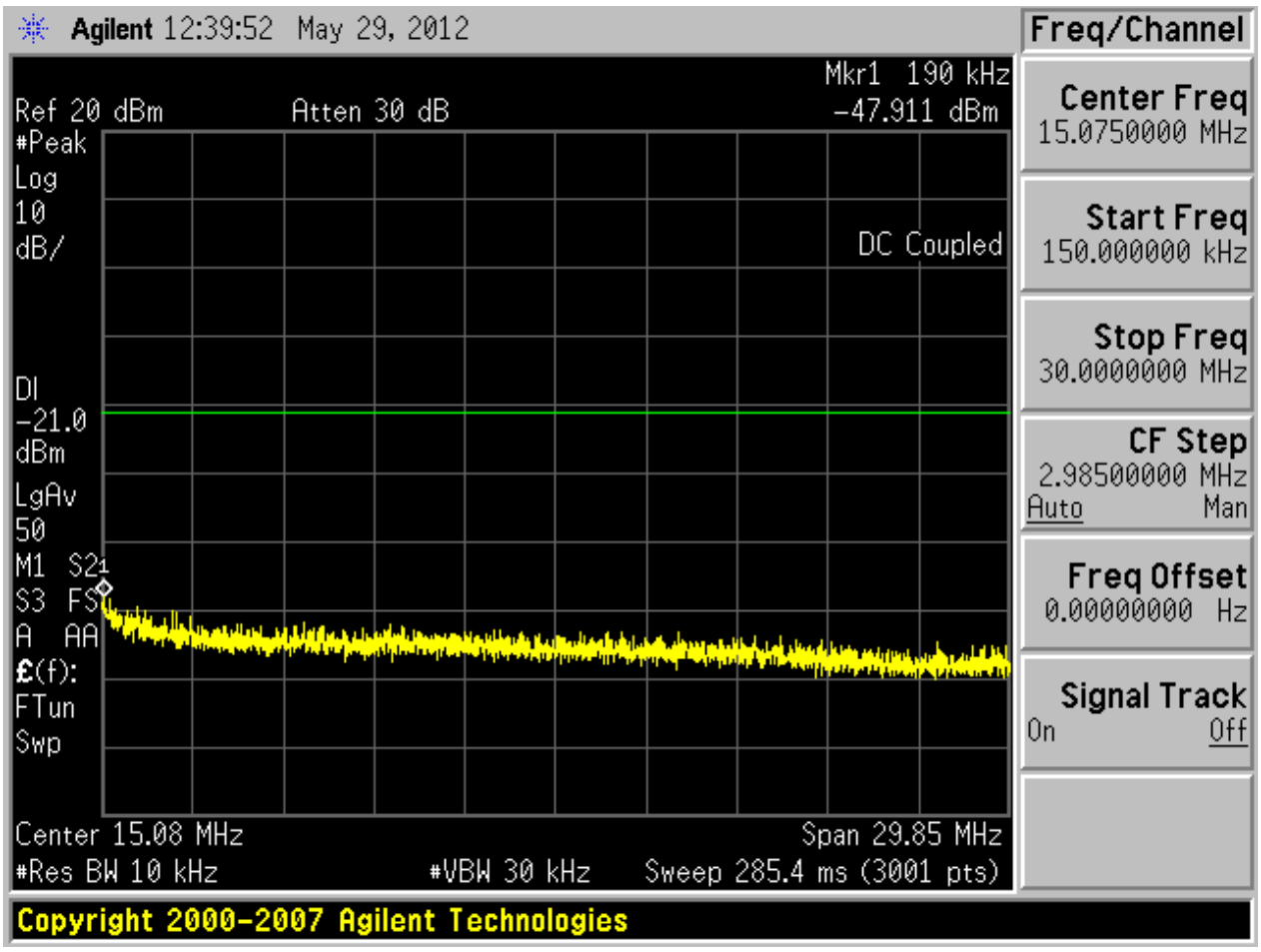
2.19.2 Ant 2

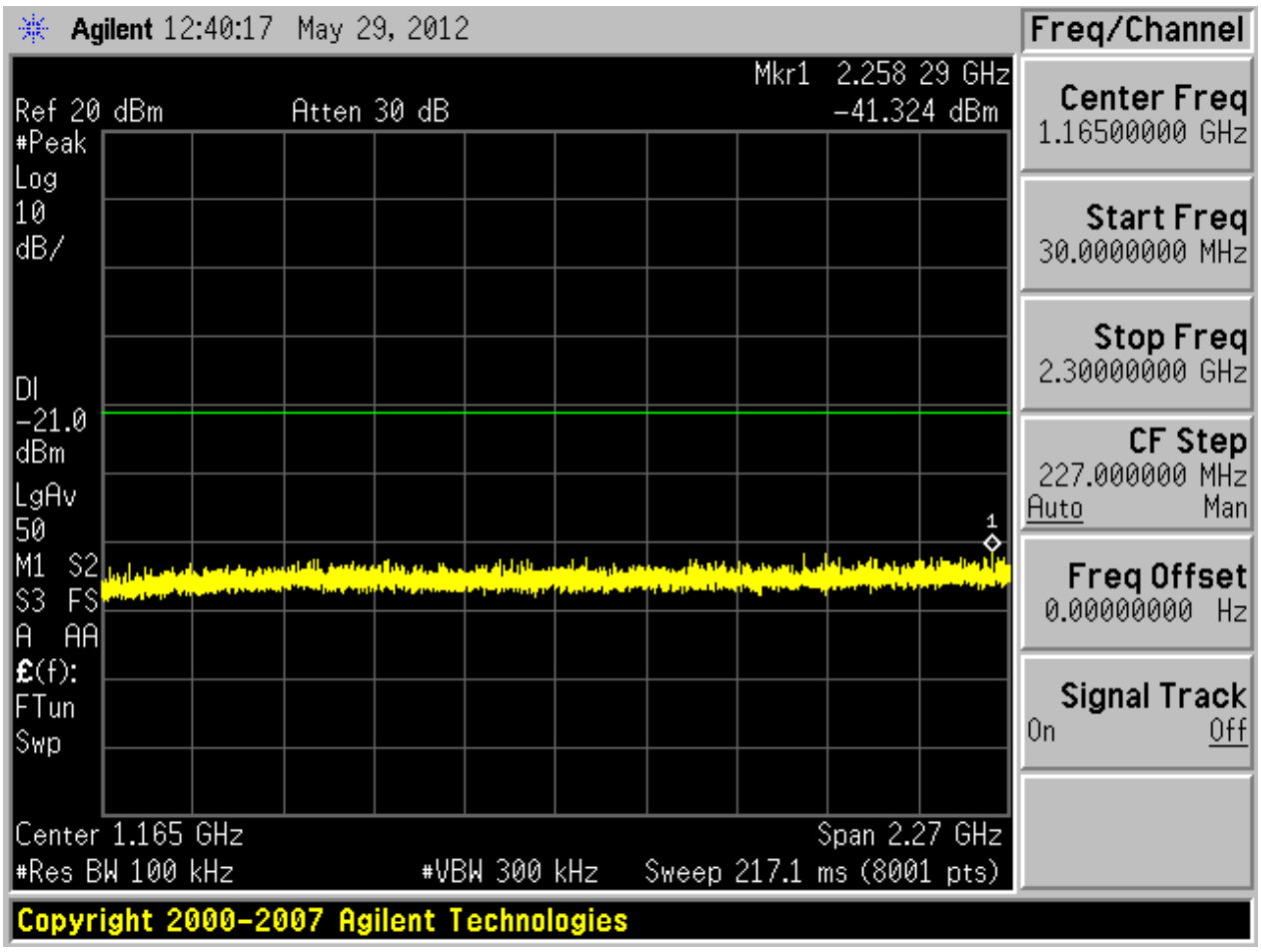
2.19.2.1 Pref

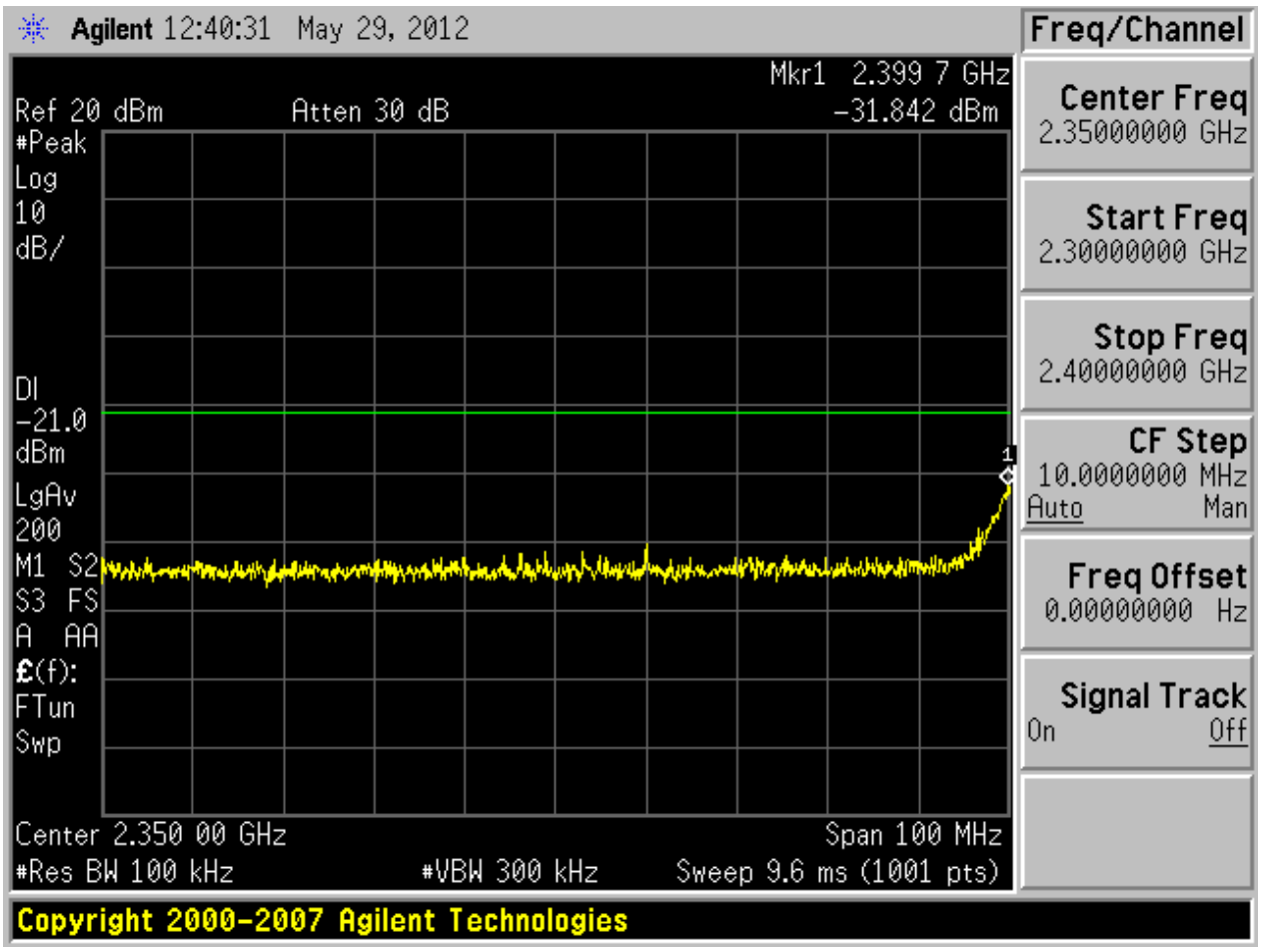


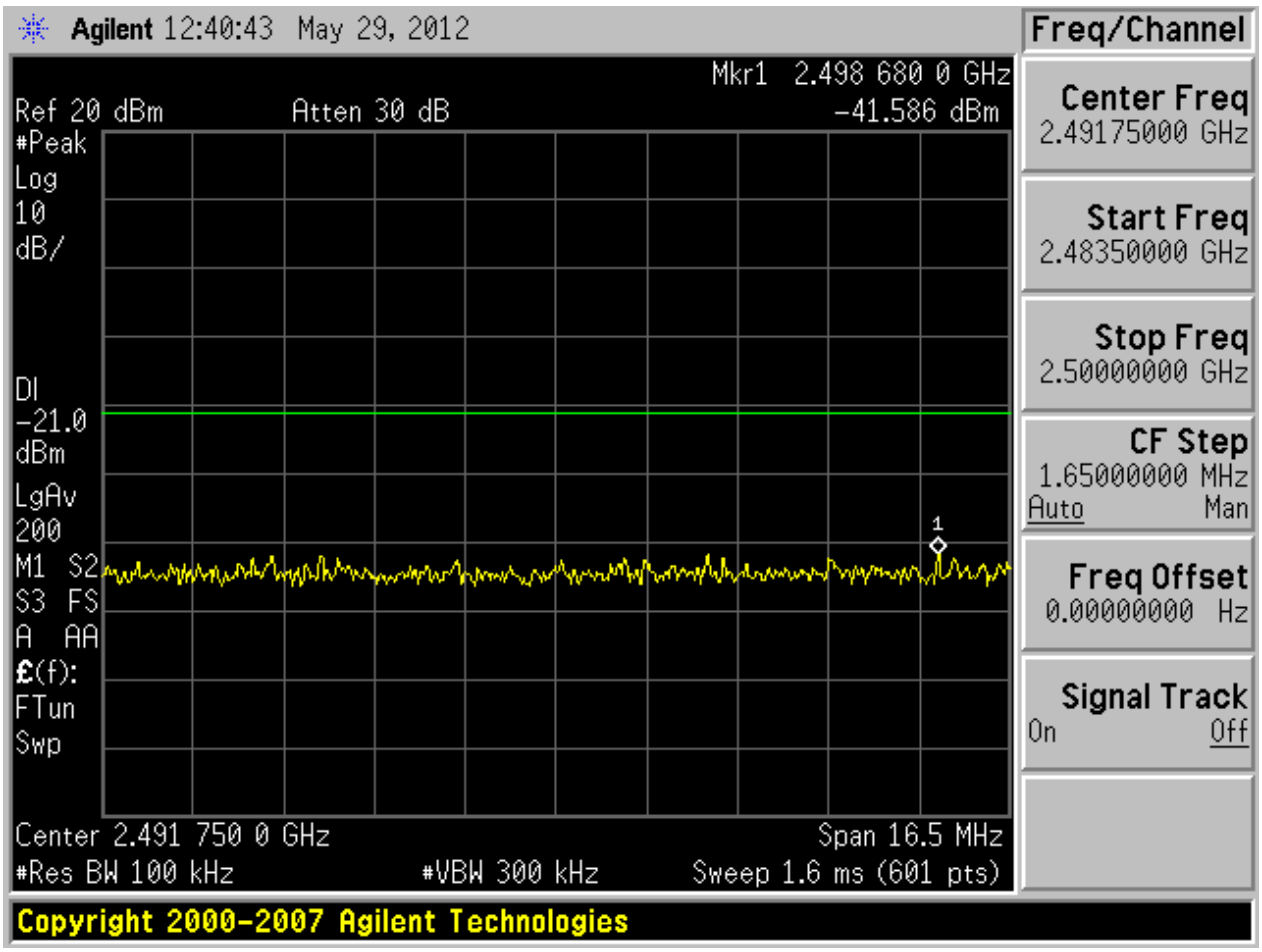
2.19.2.2 Puw

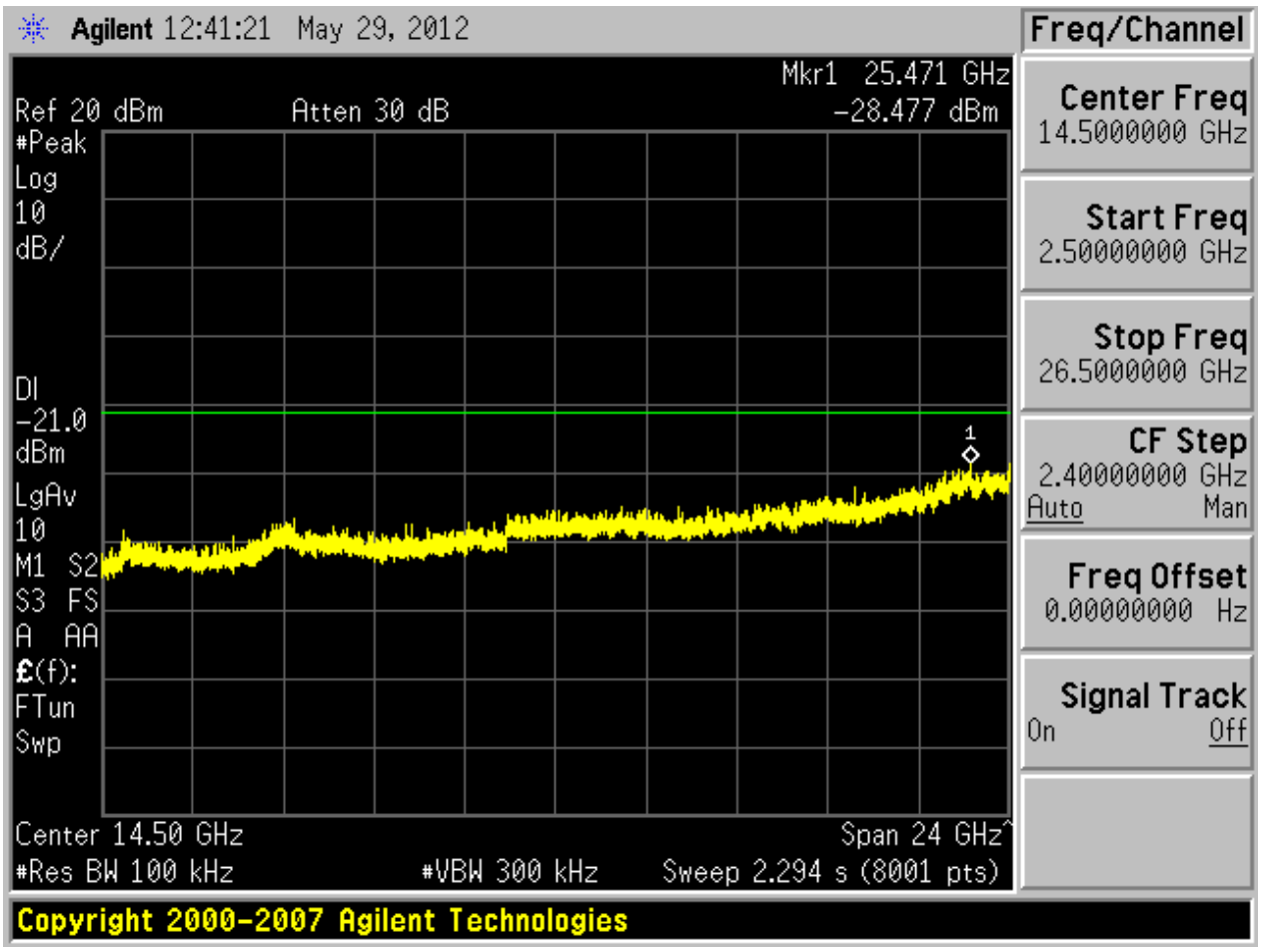








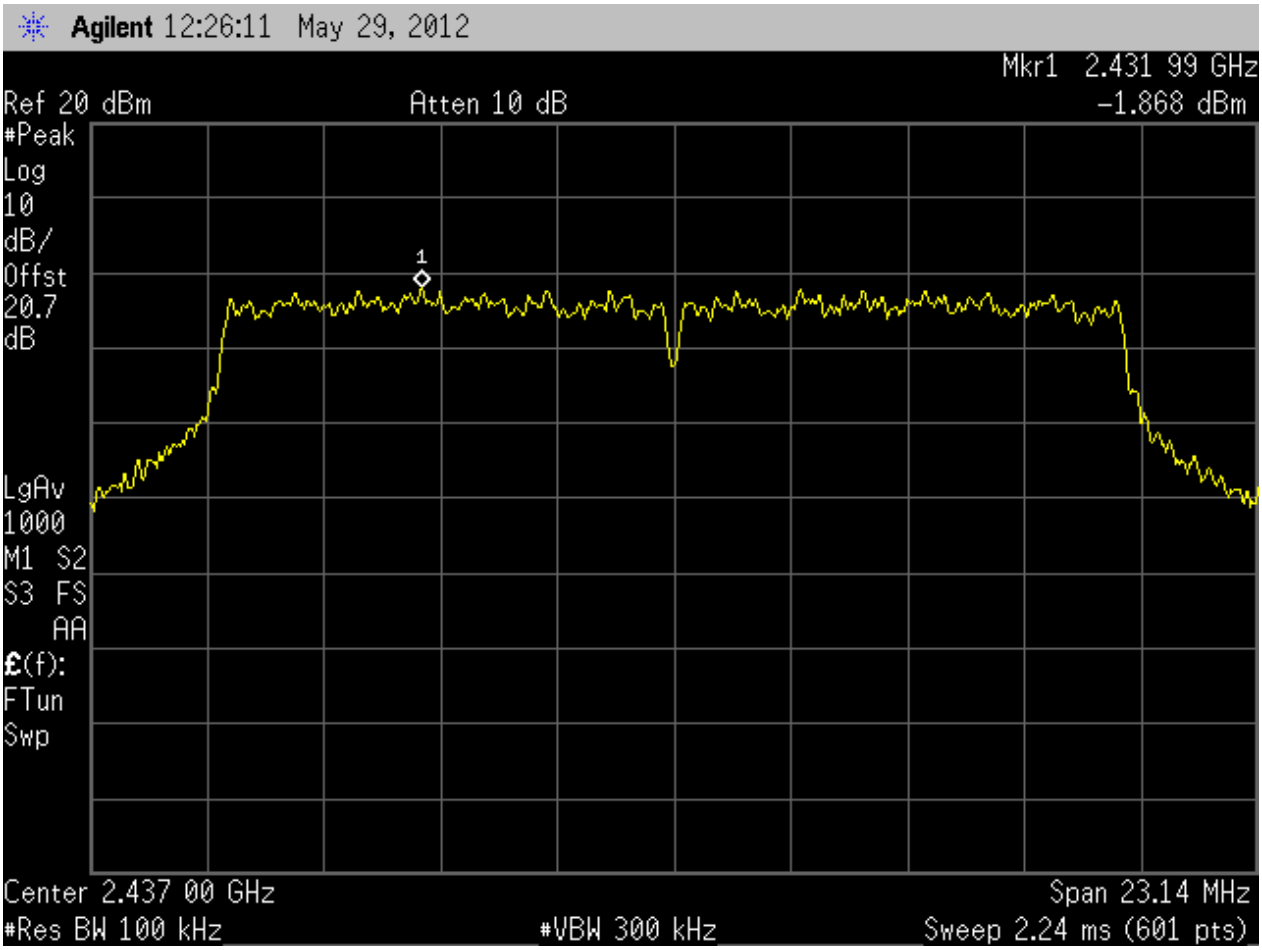




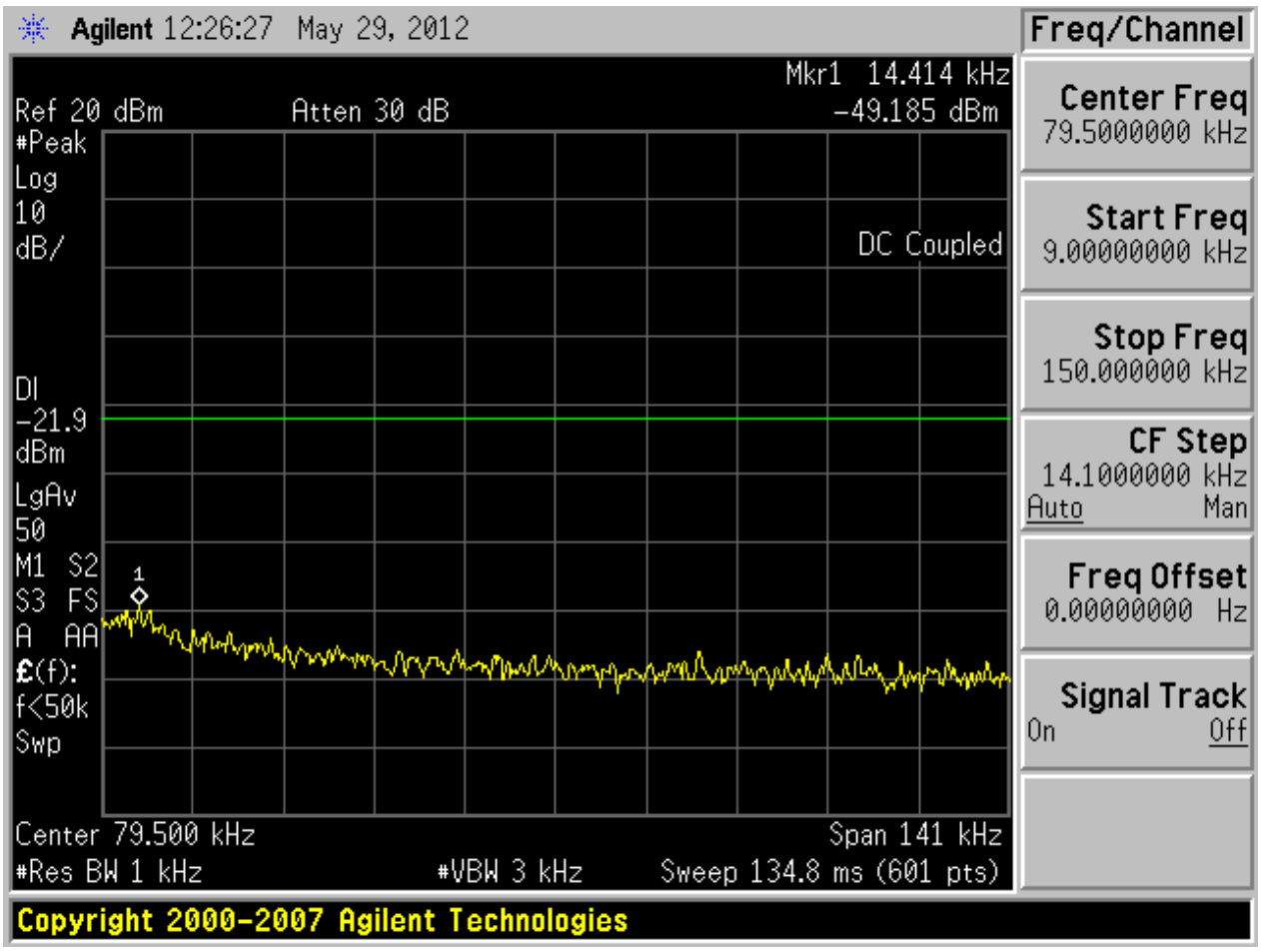
2.2011N20m/8_M@1+2

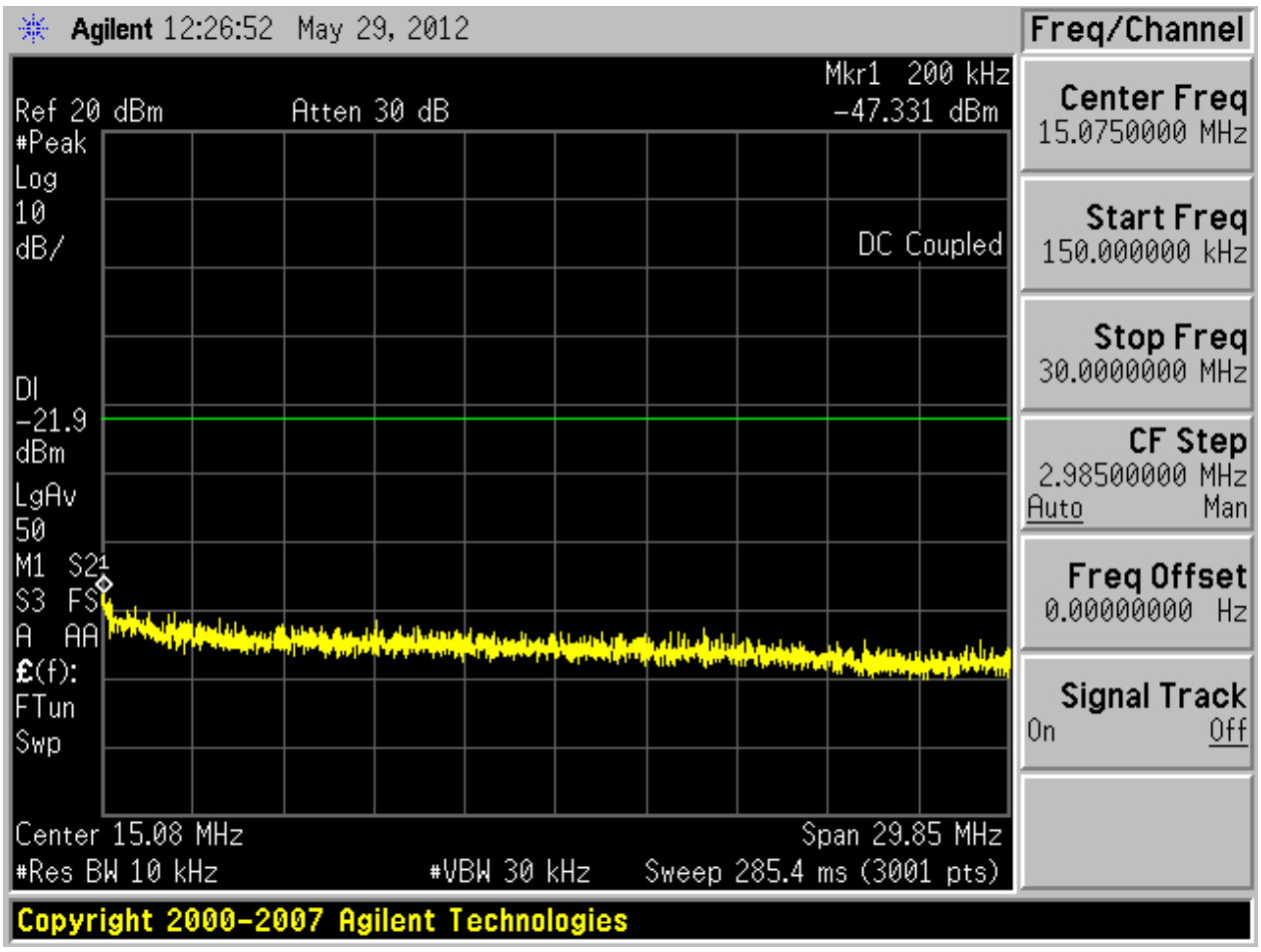
2.20.1 Ant 1

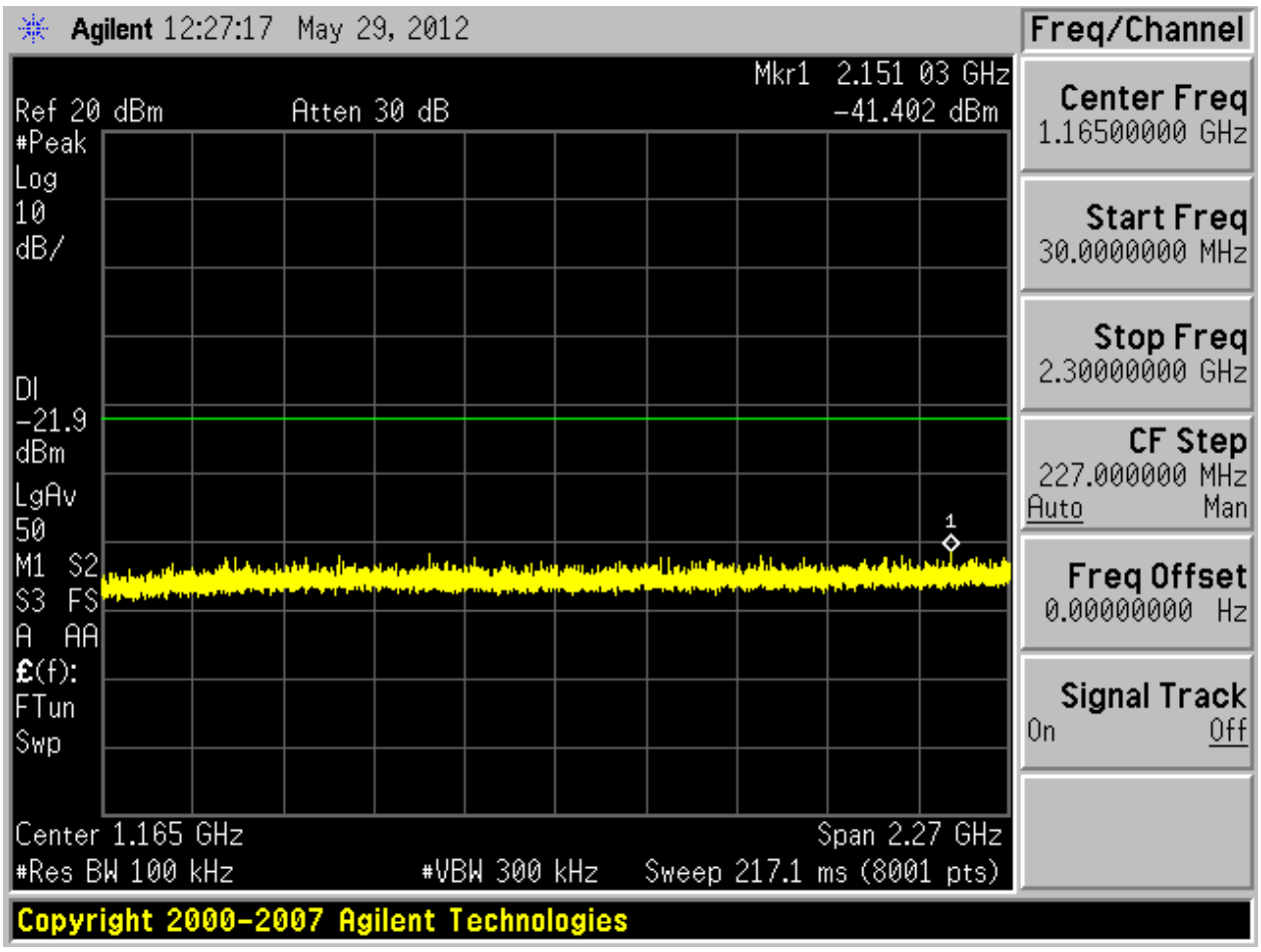
2.20.1.1 Pref

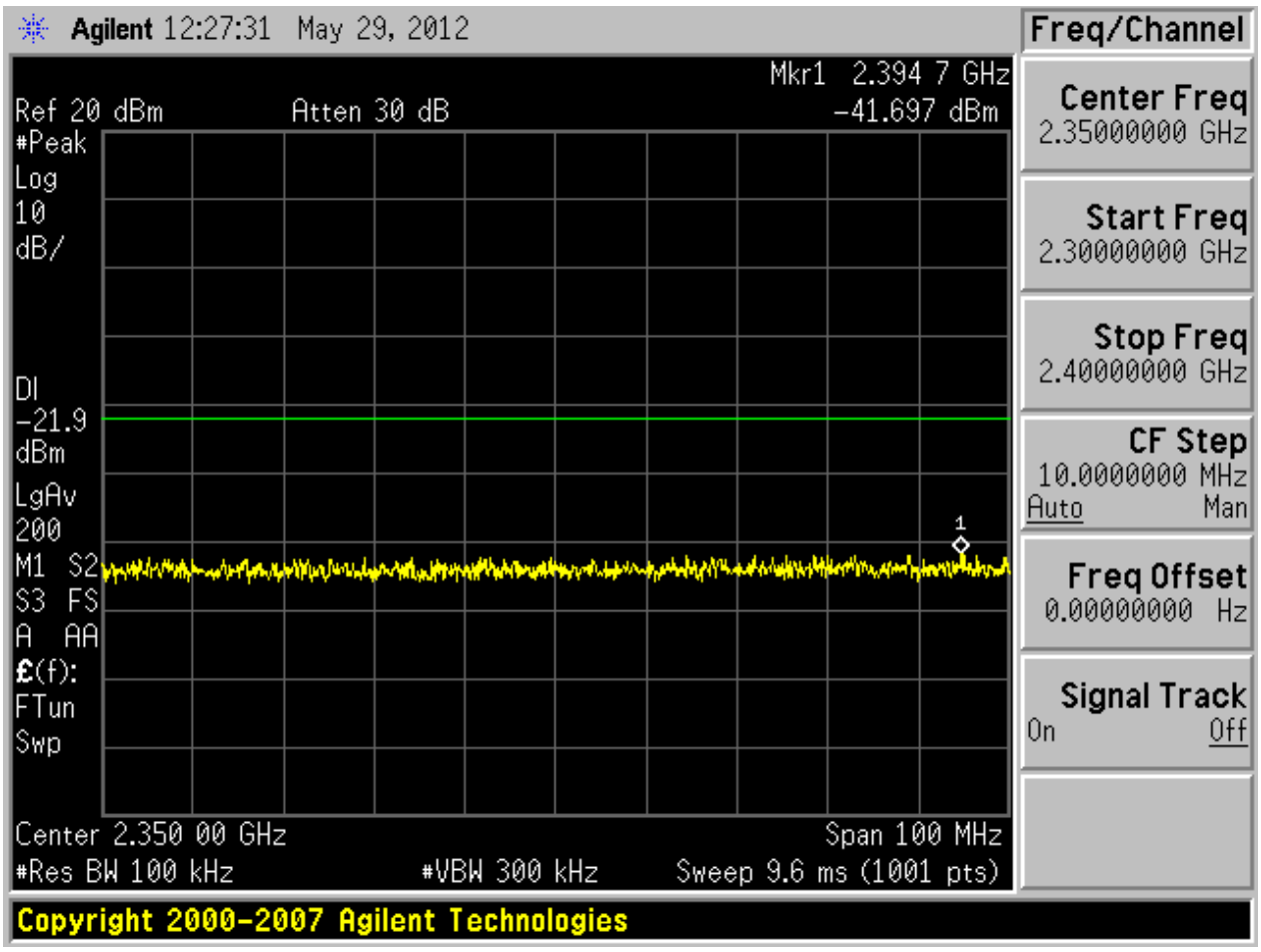


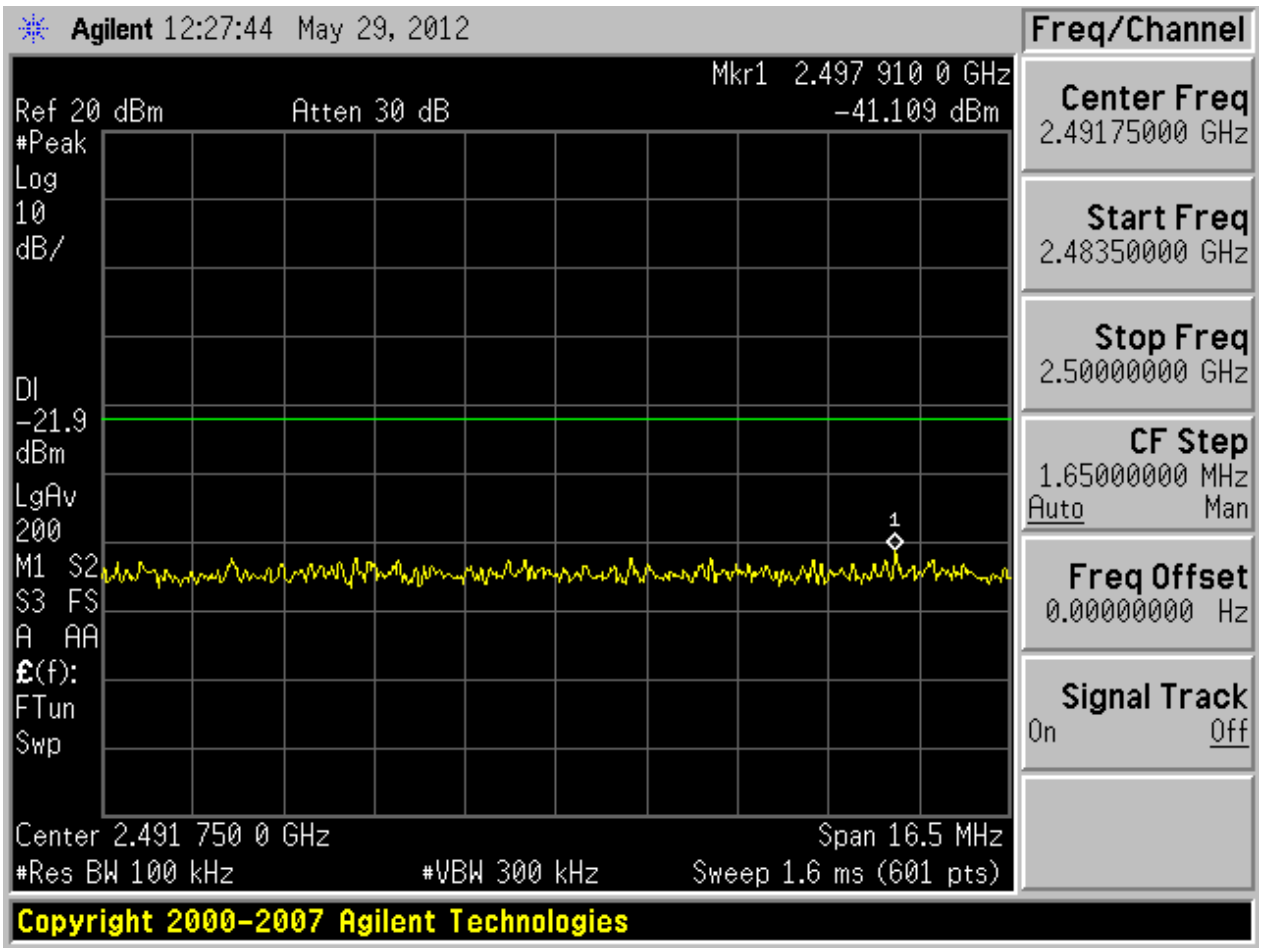
2.20.1.2 Puw

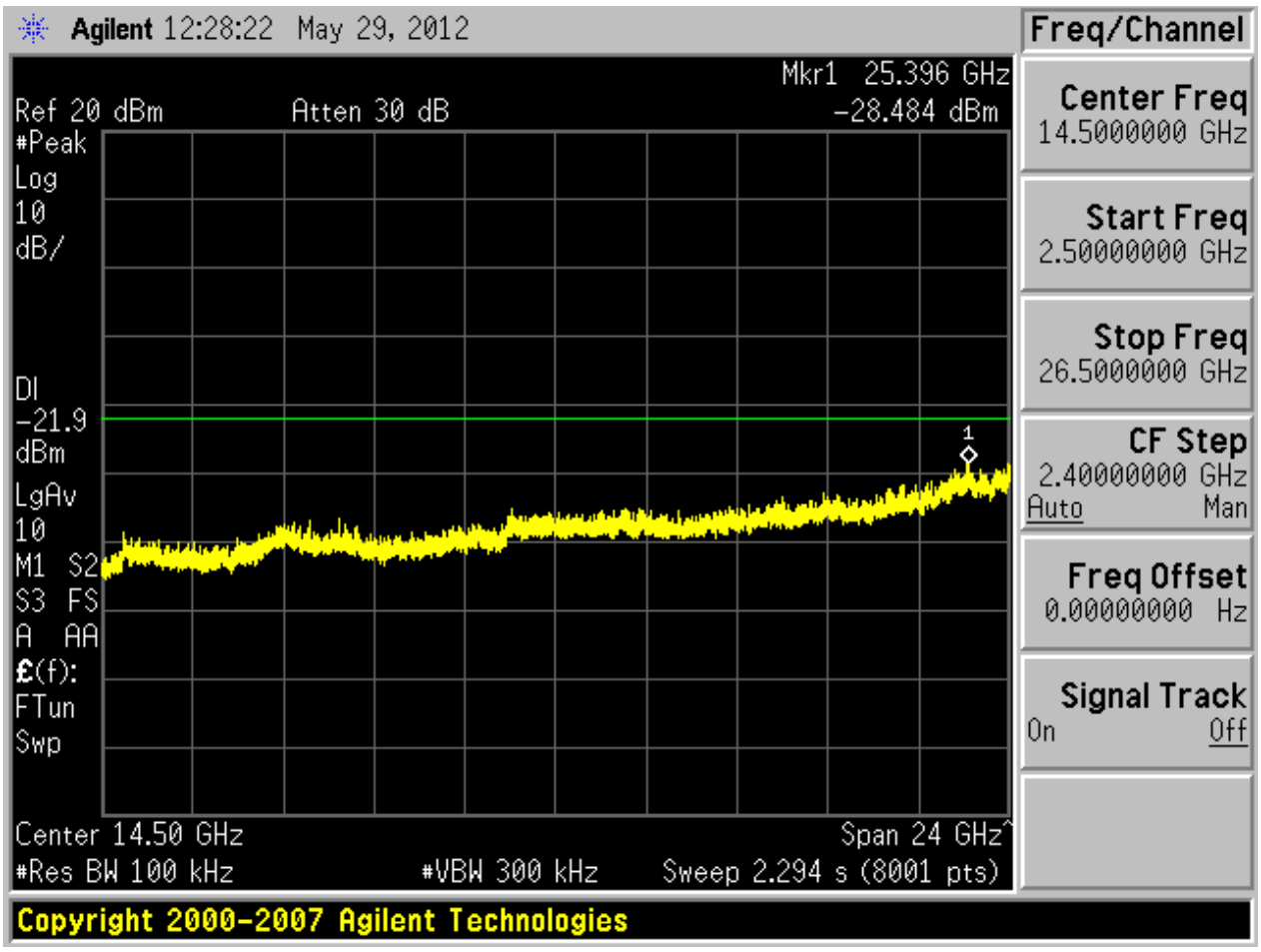






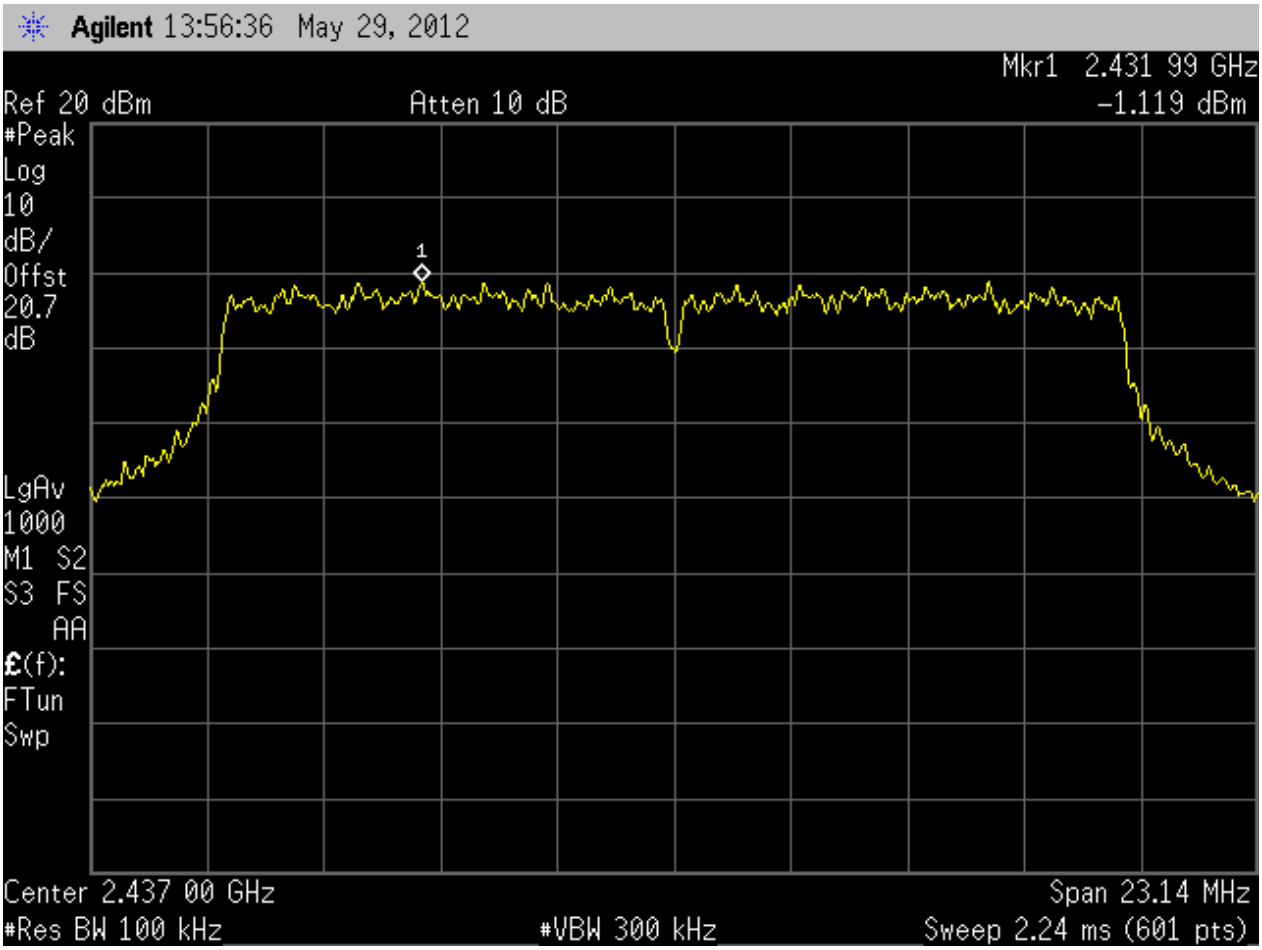




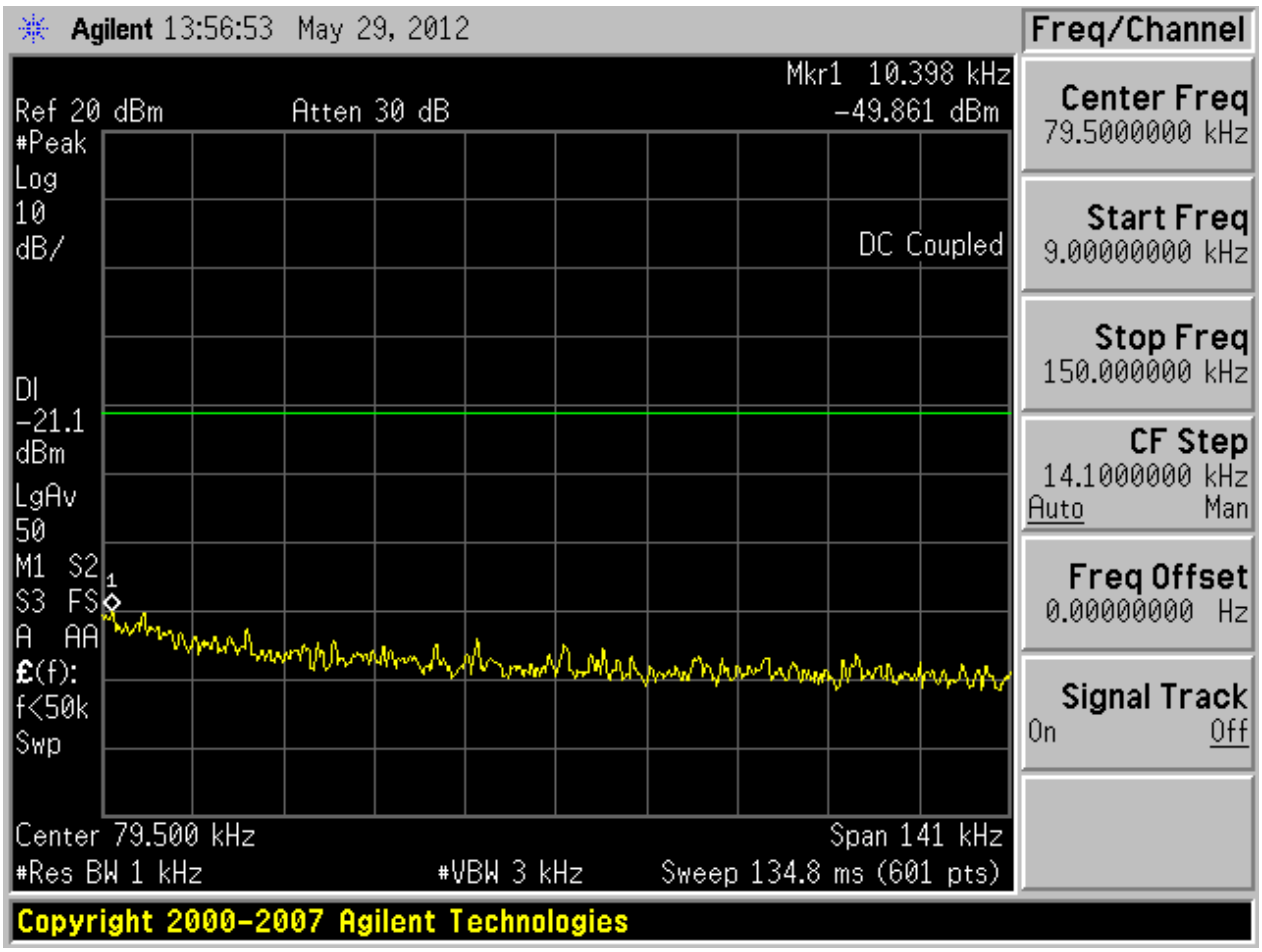


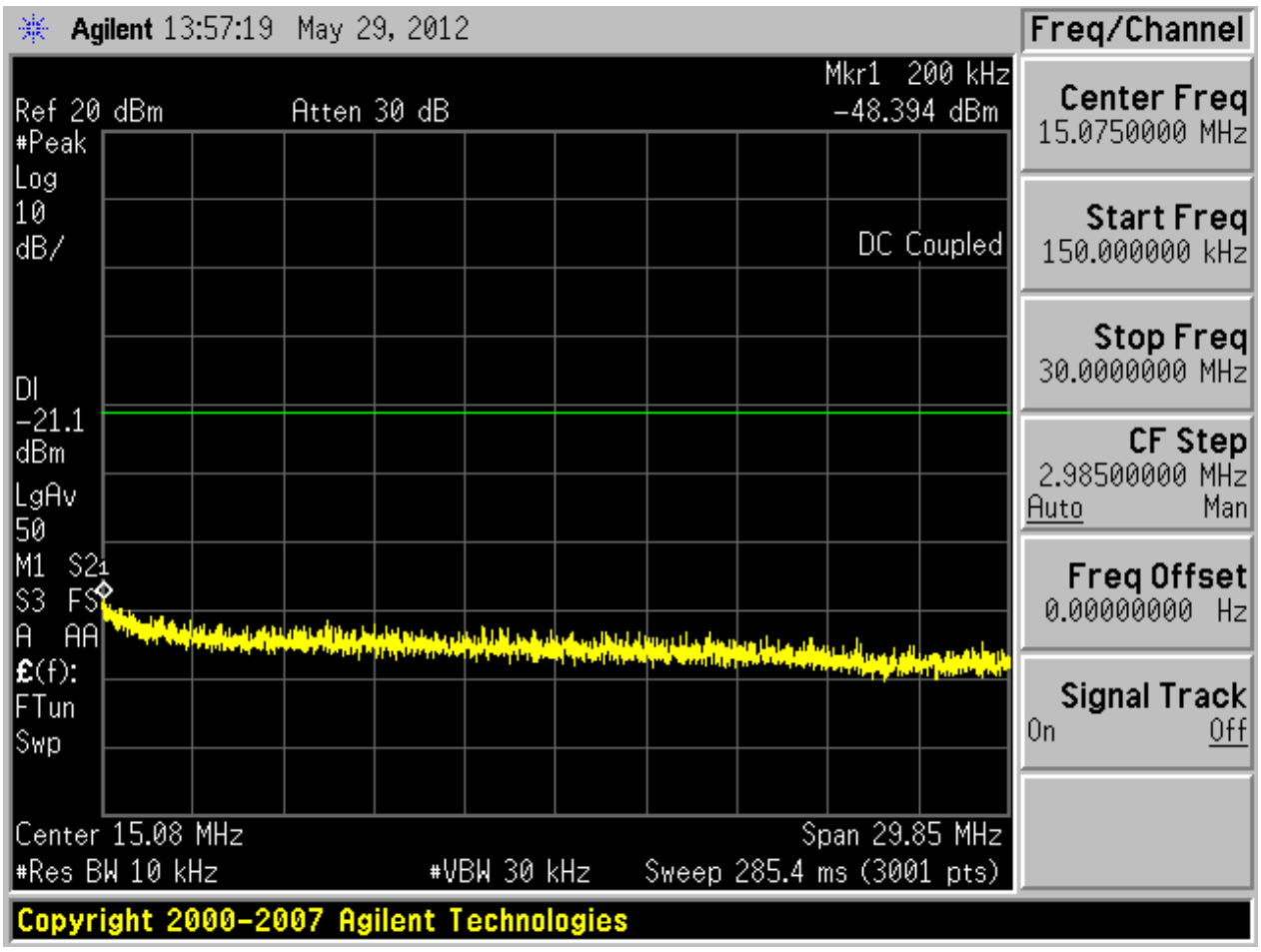
2.20.2 Ant 2

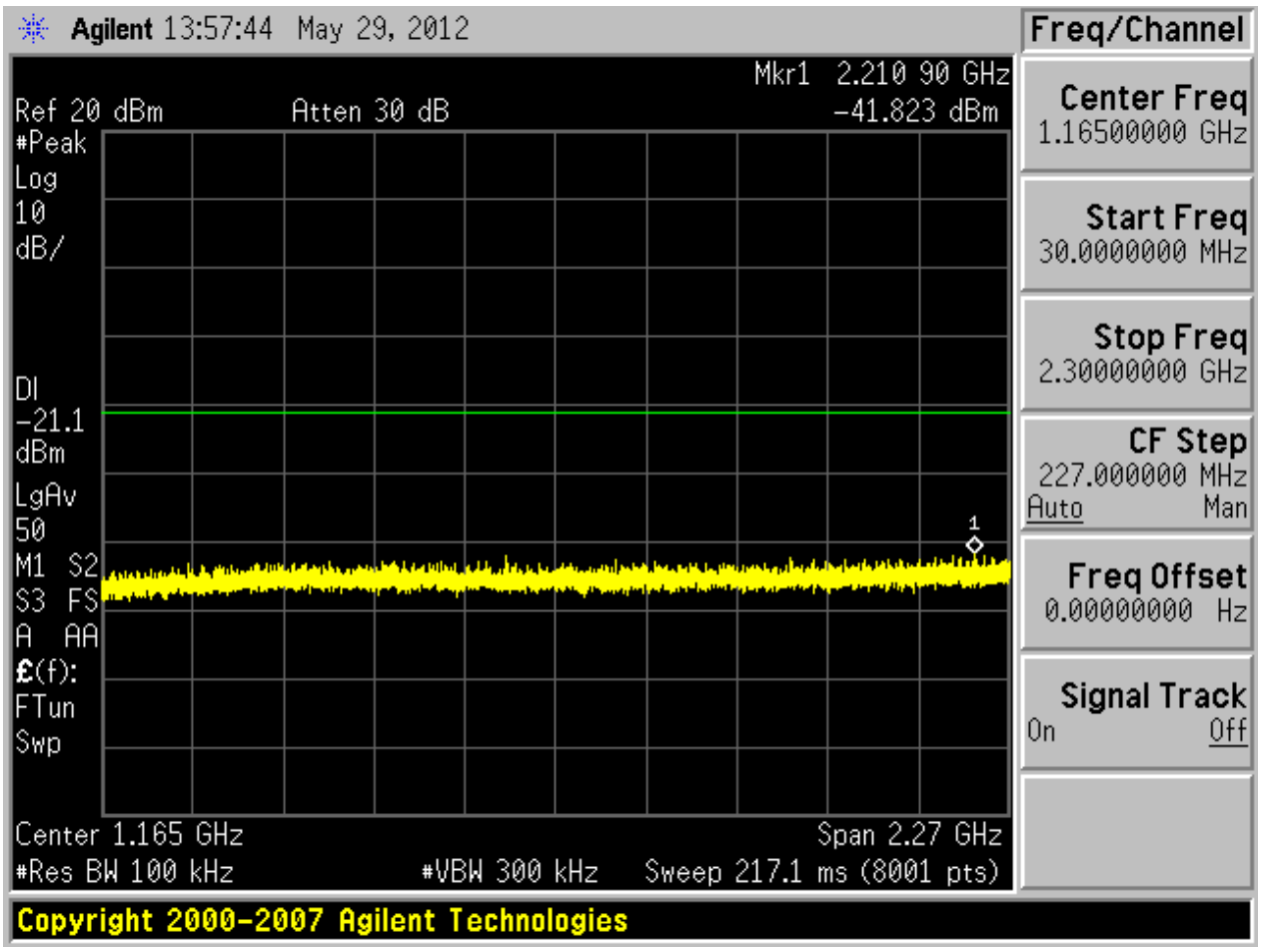
2.20.2.1 Pref

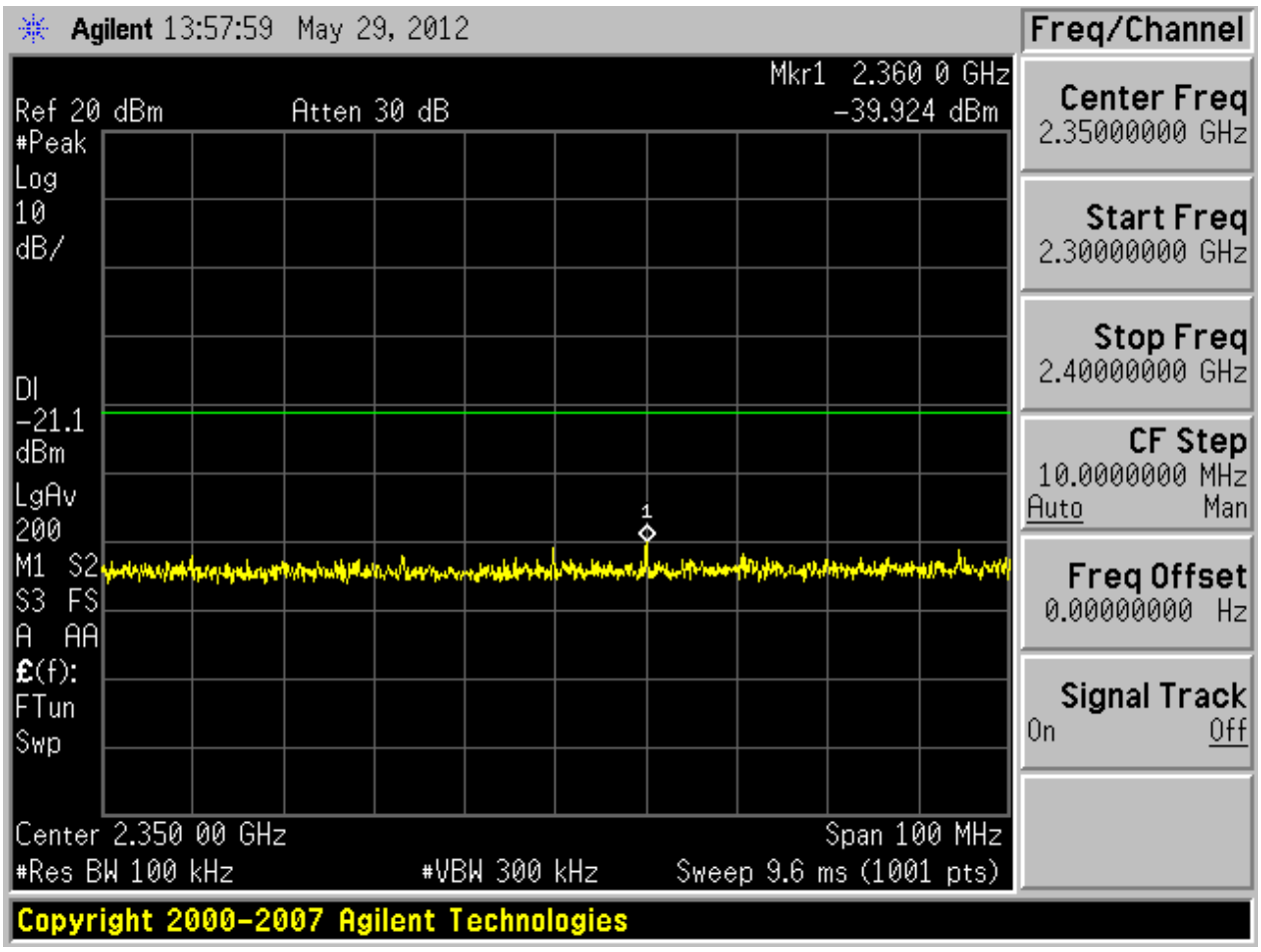


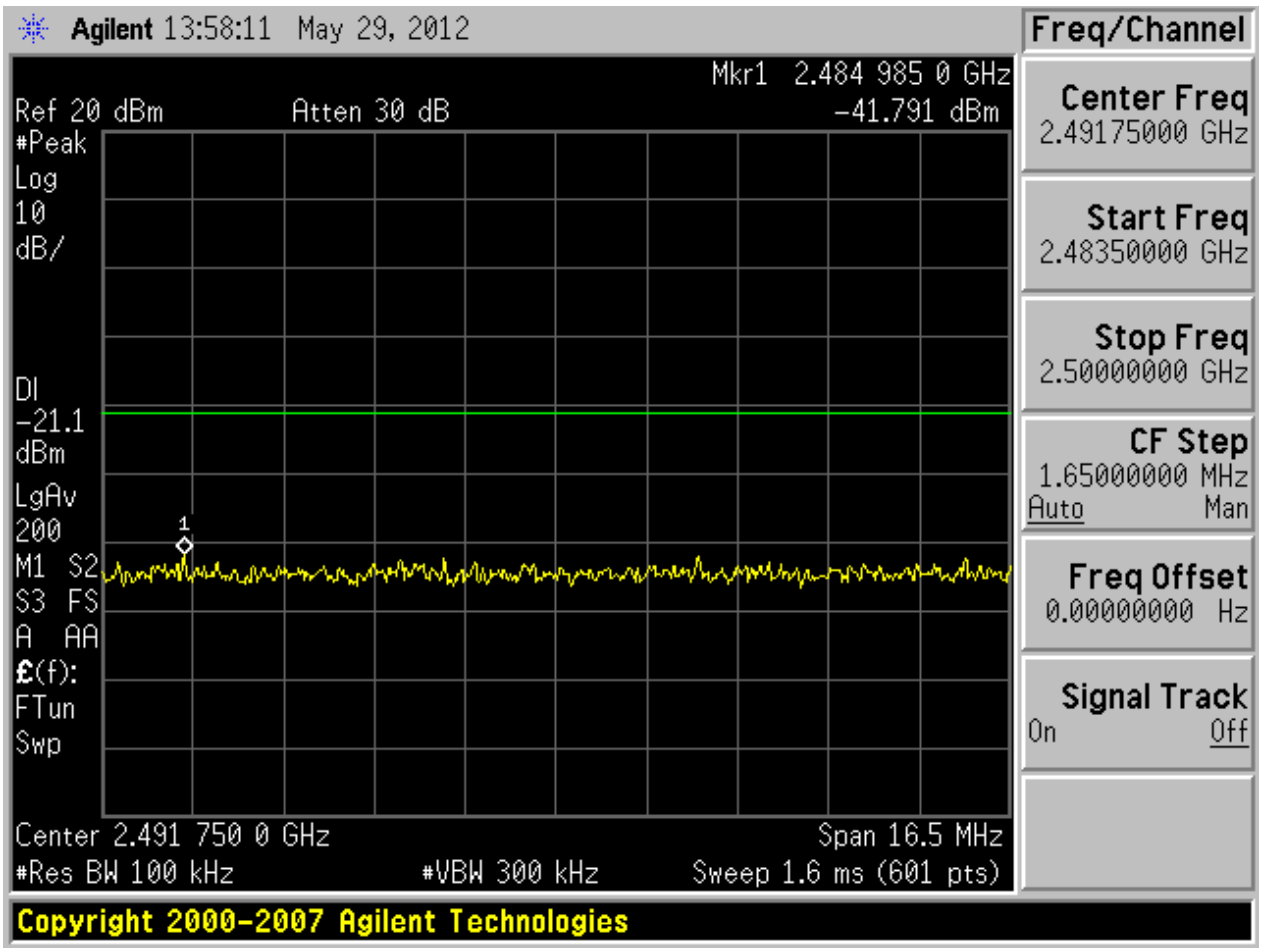
2.20.2.2 Puw

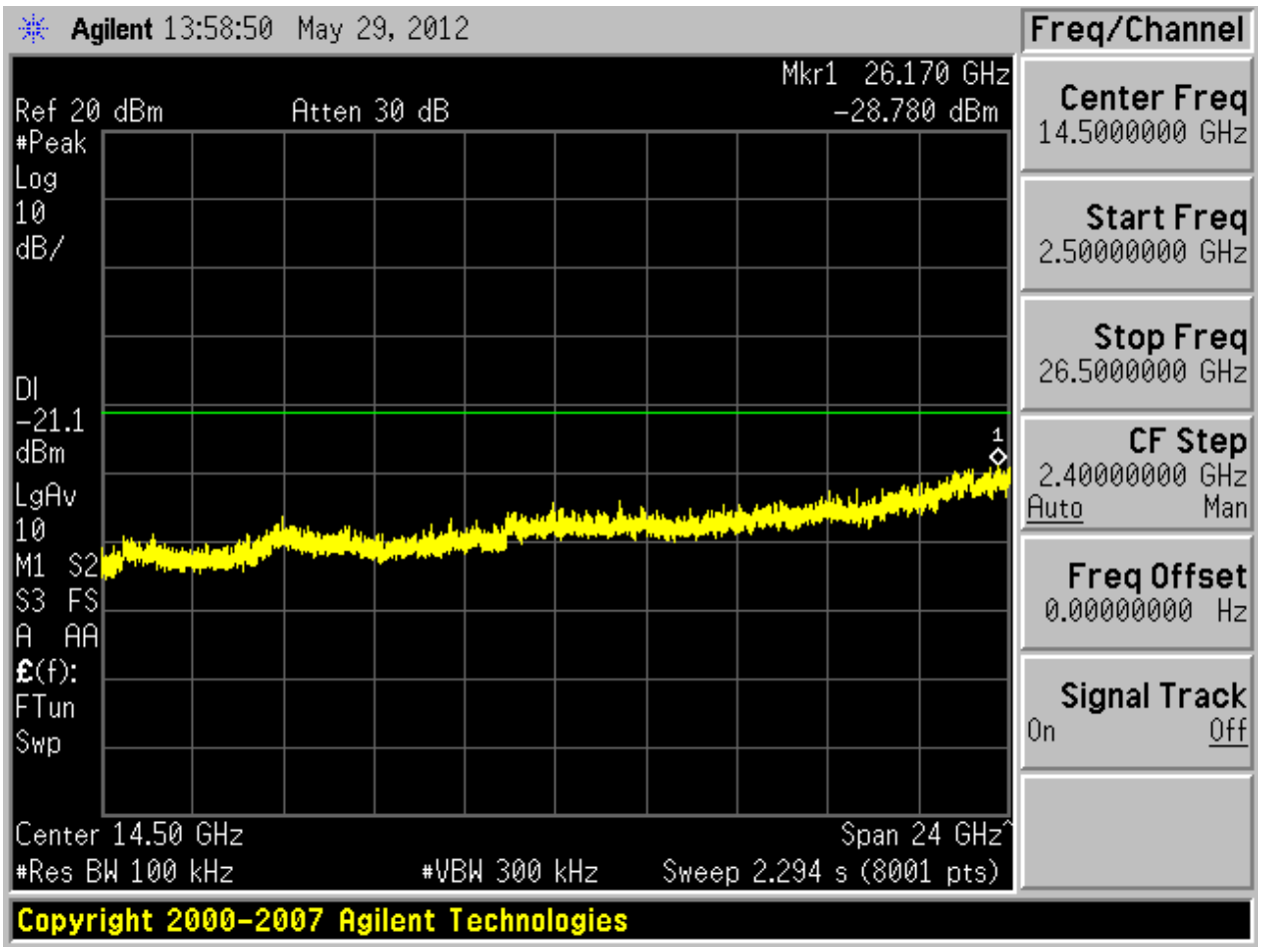








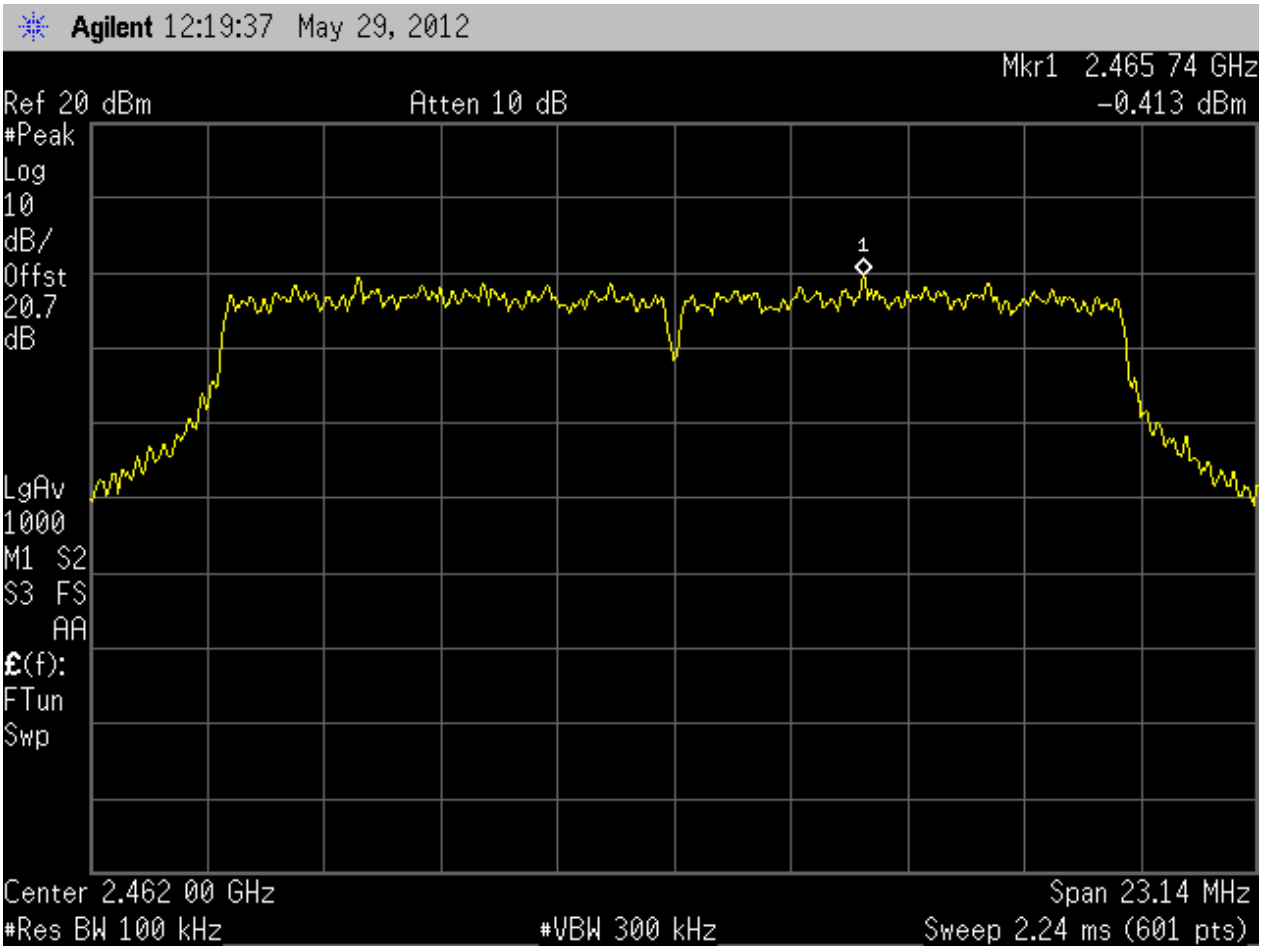




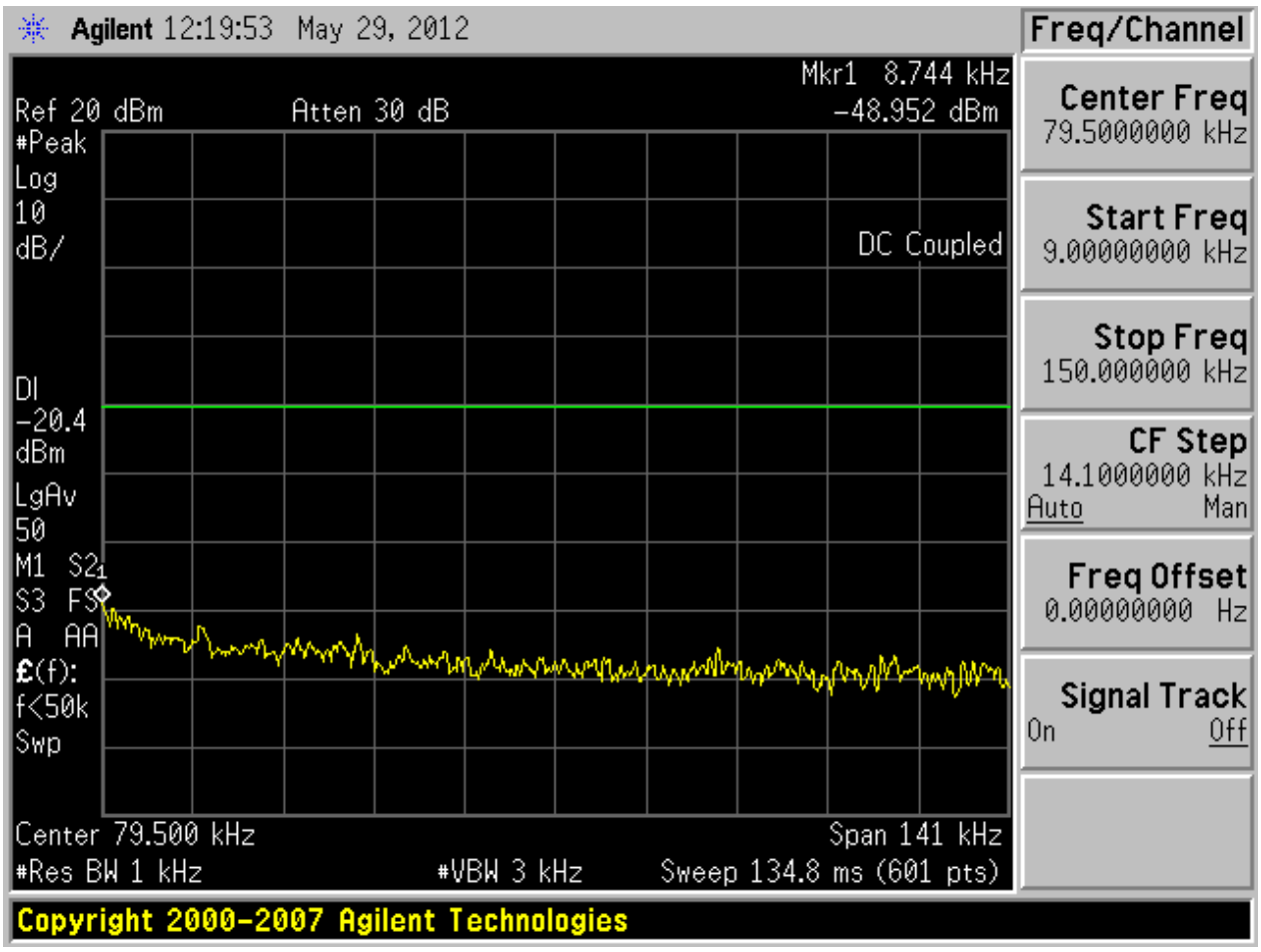
2.2111N20m/8_T@1+2

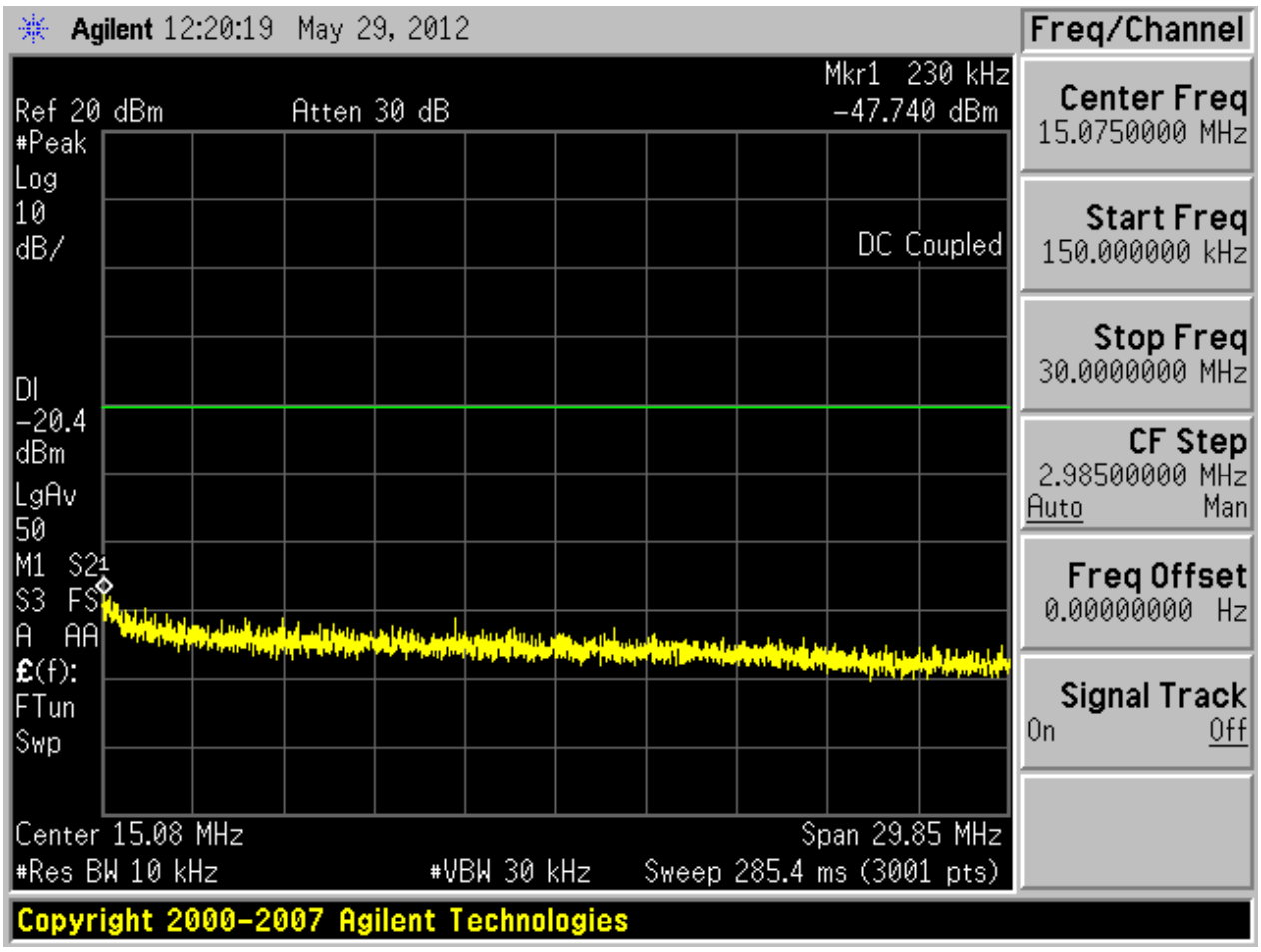
2.21.1 Ant 1

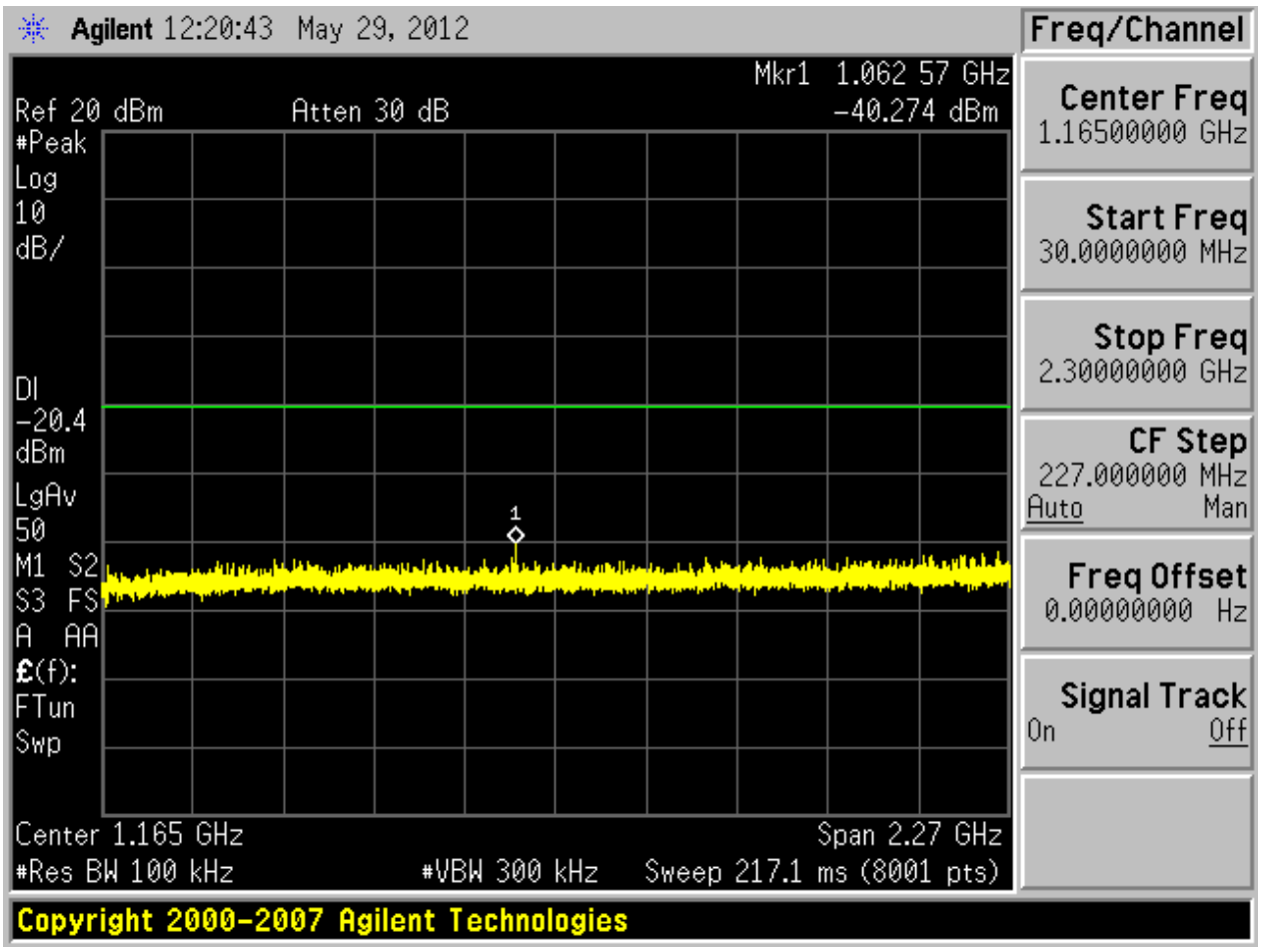
2.21.1.1 Pref

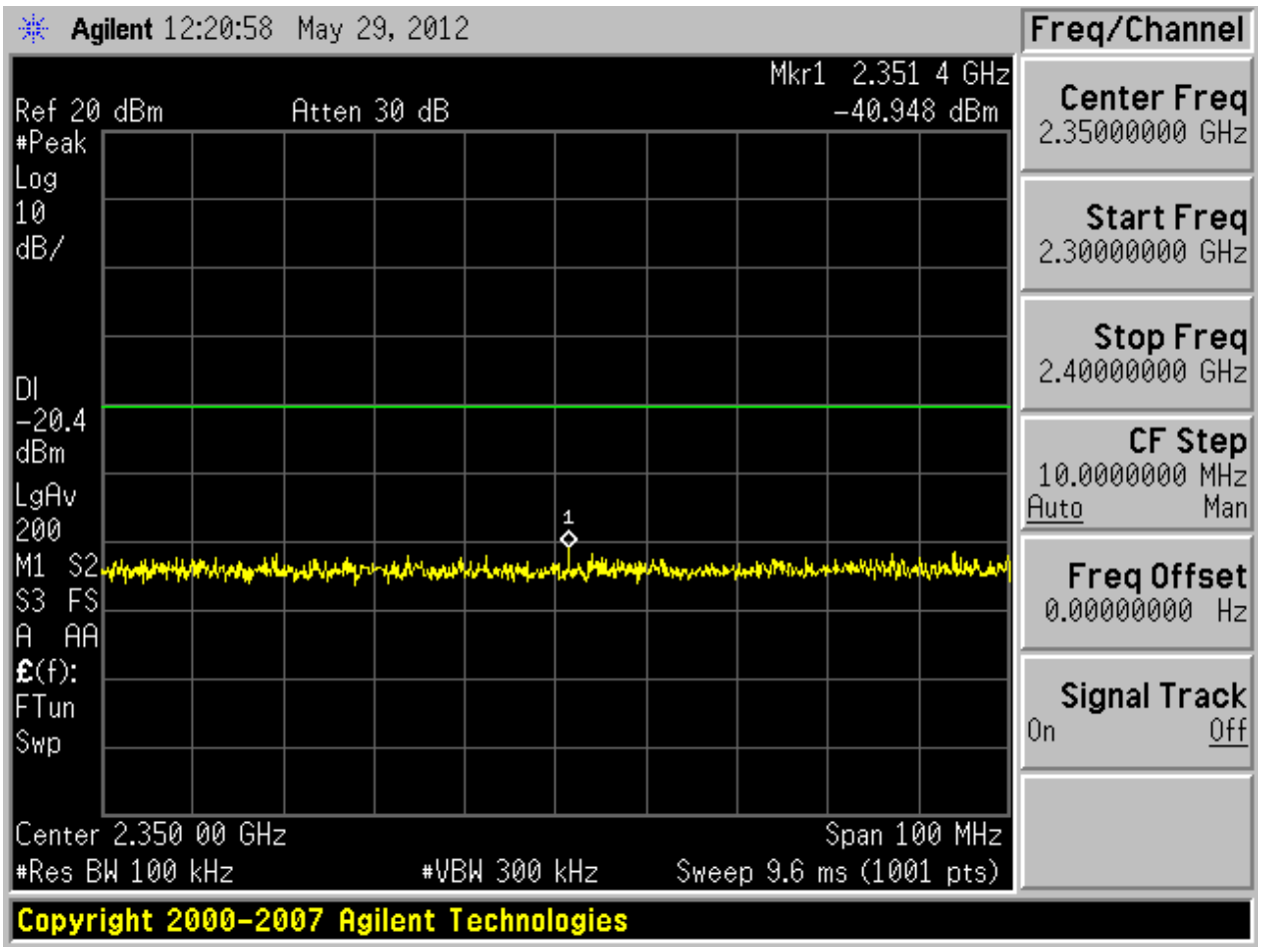


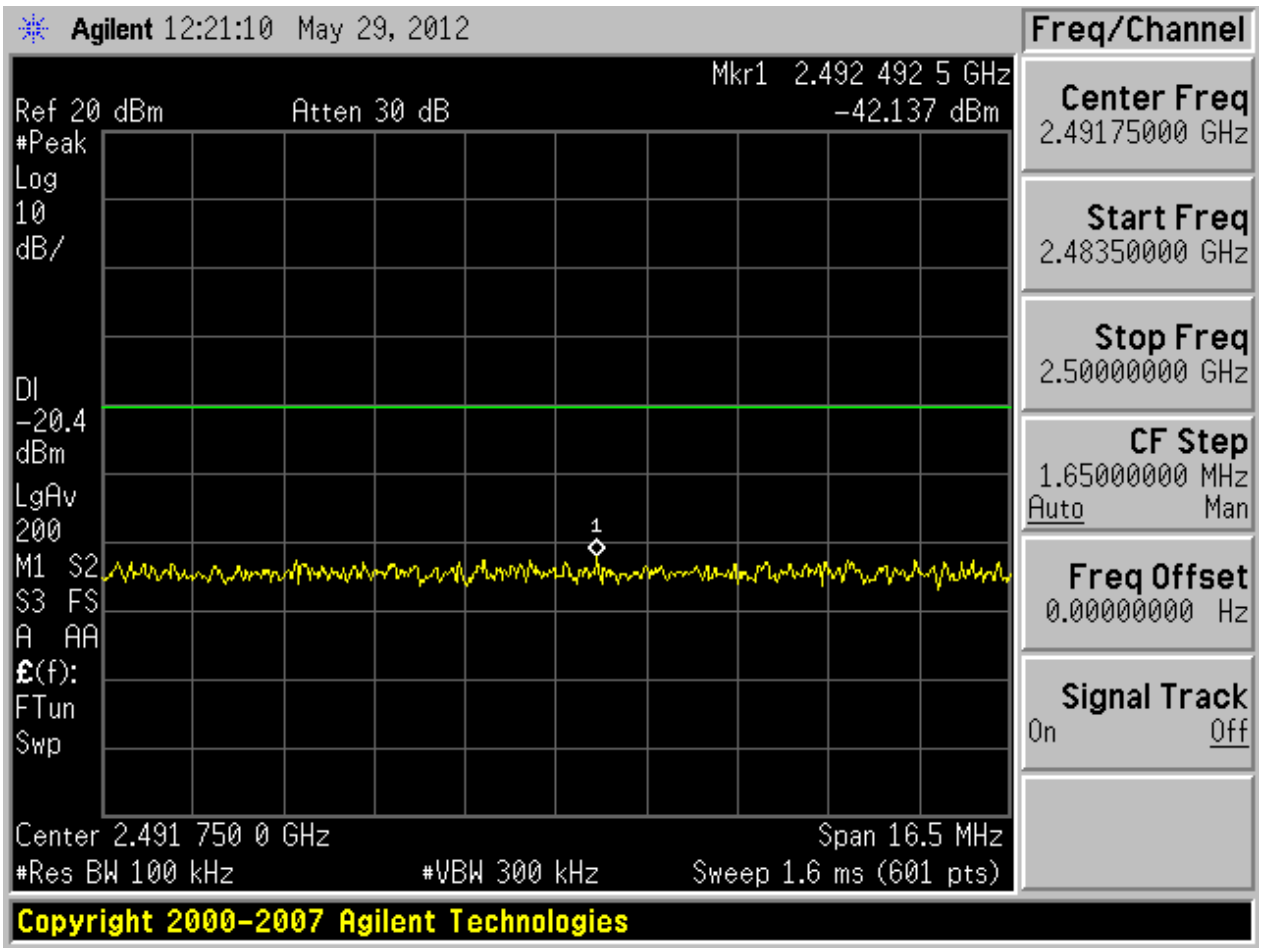
2.21.1.2 Puw

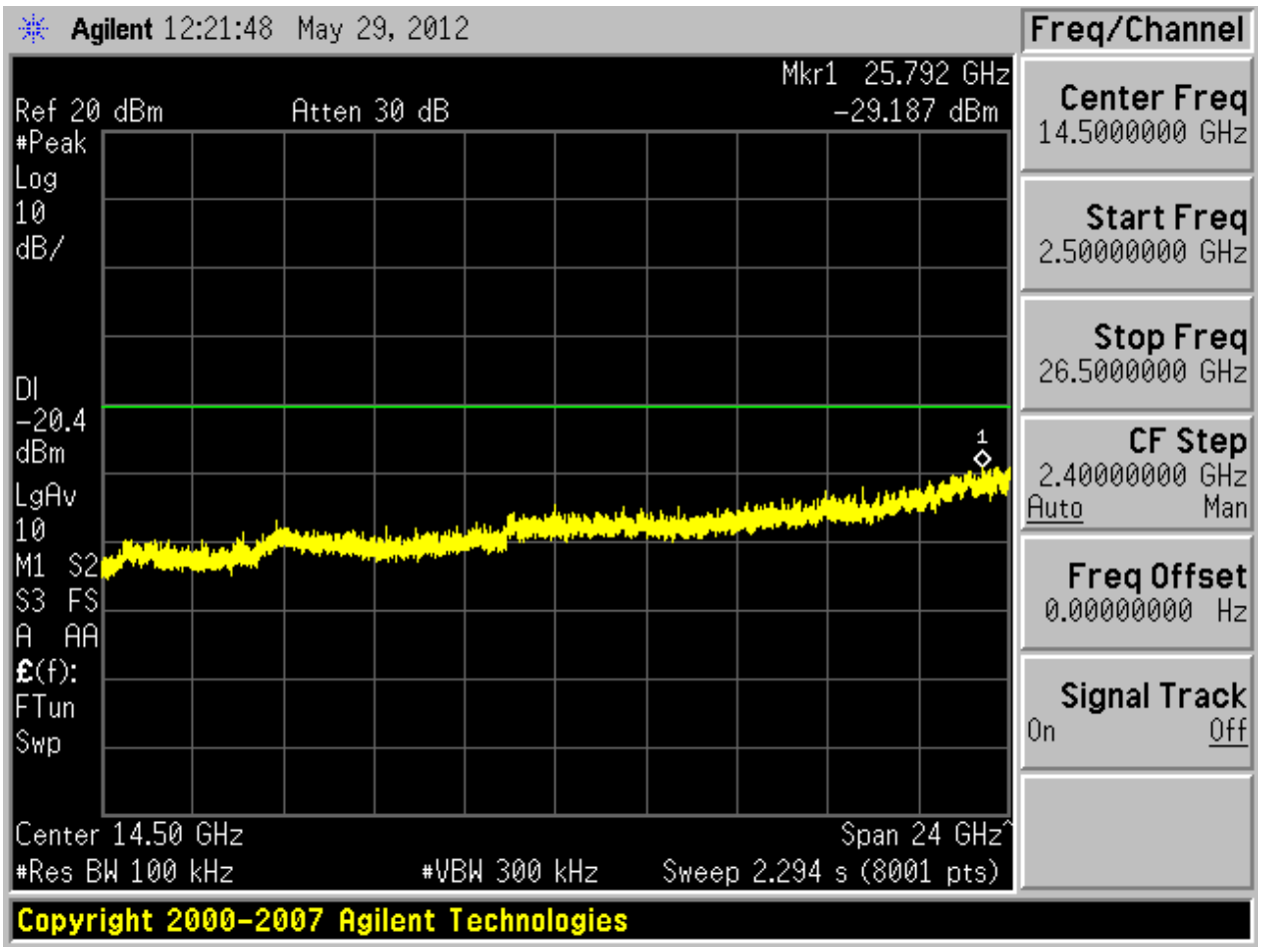






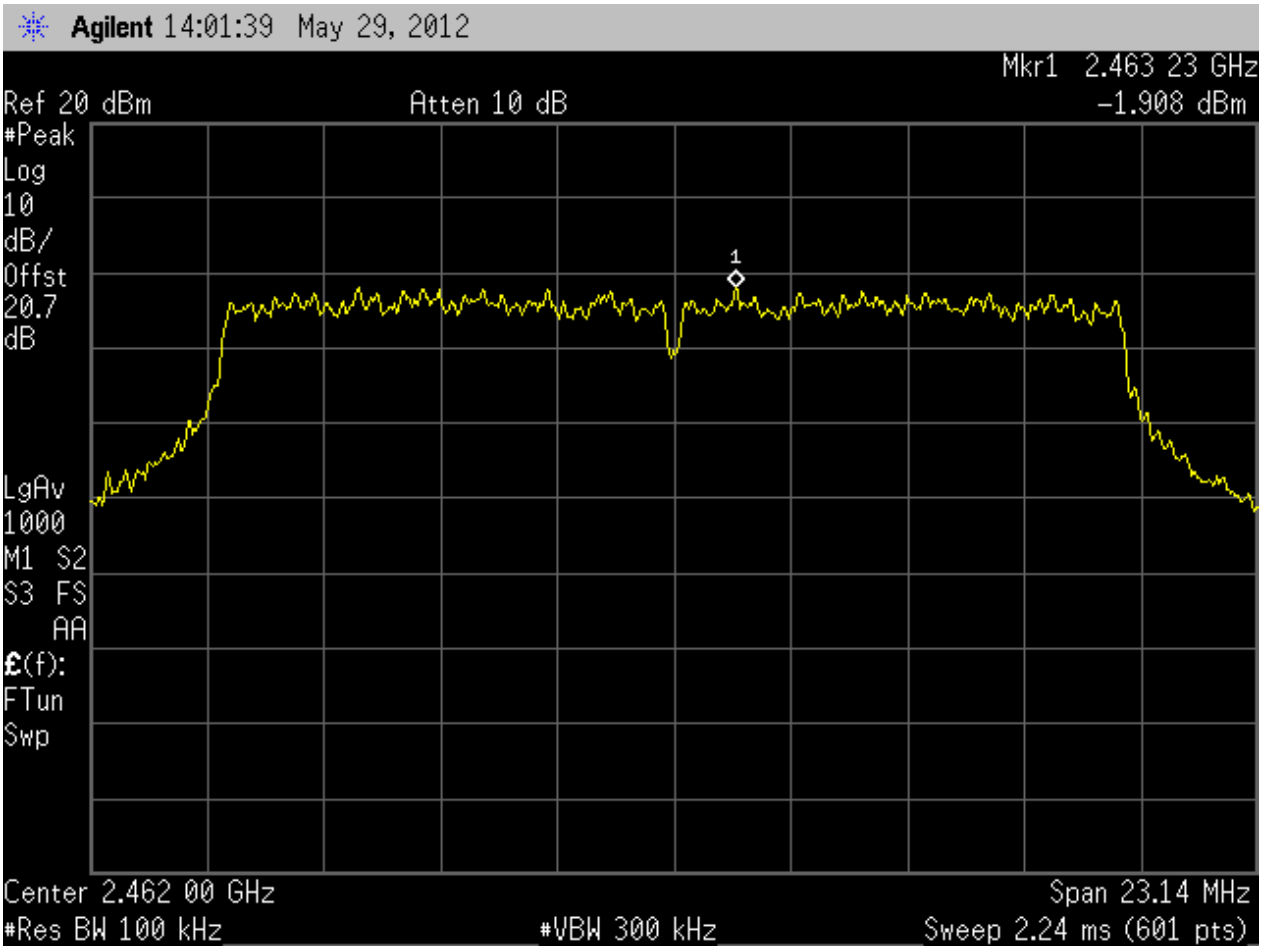




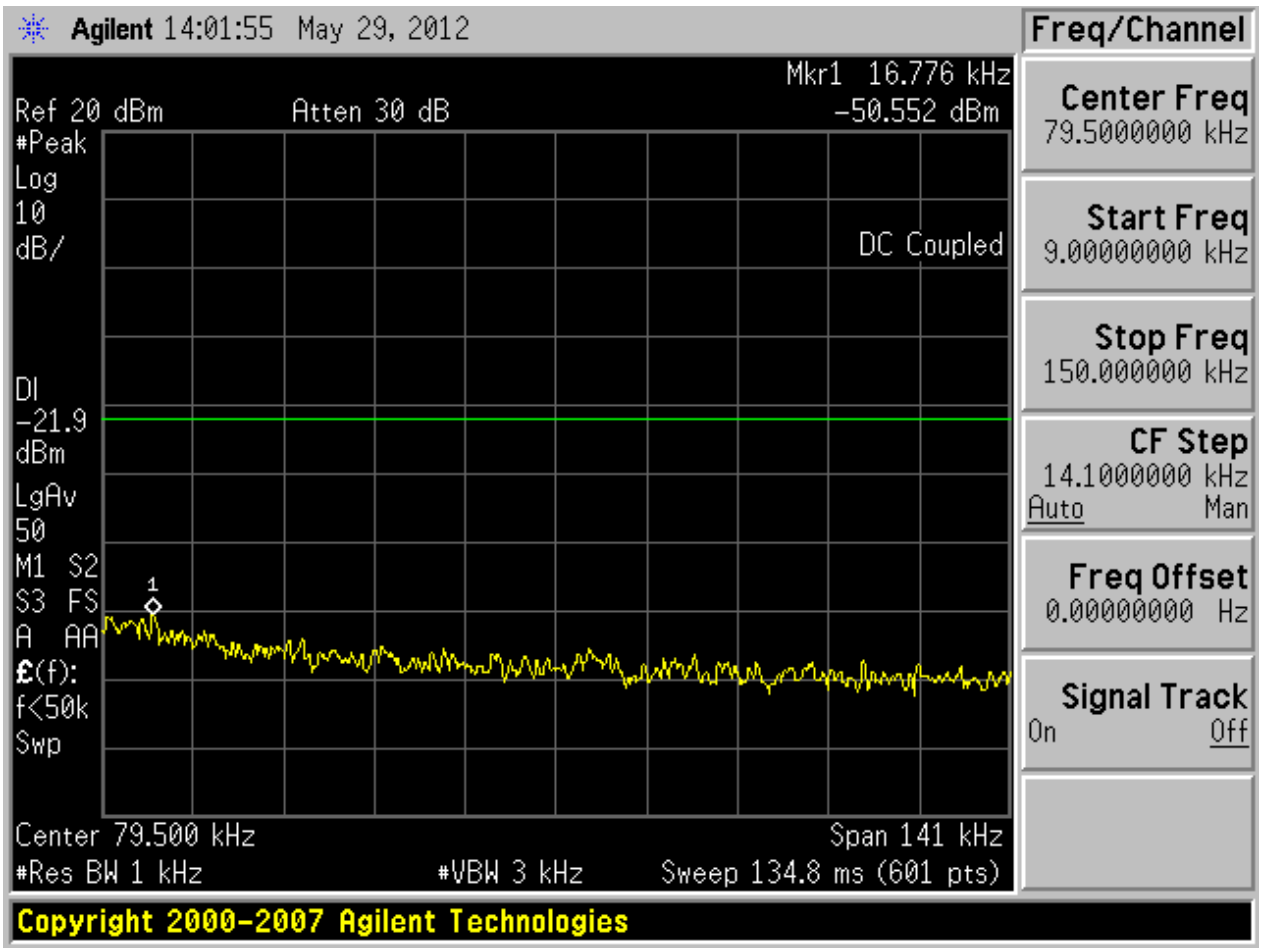


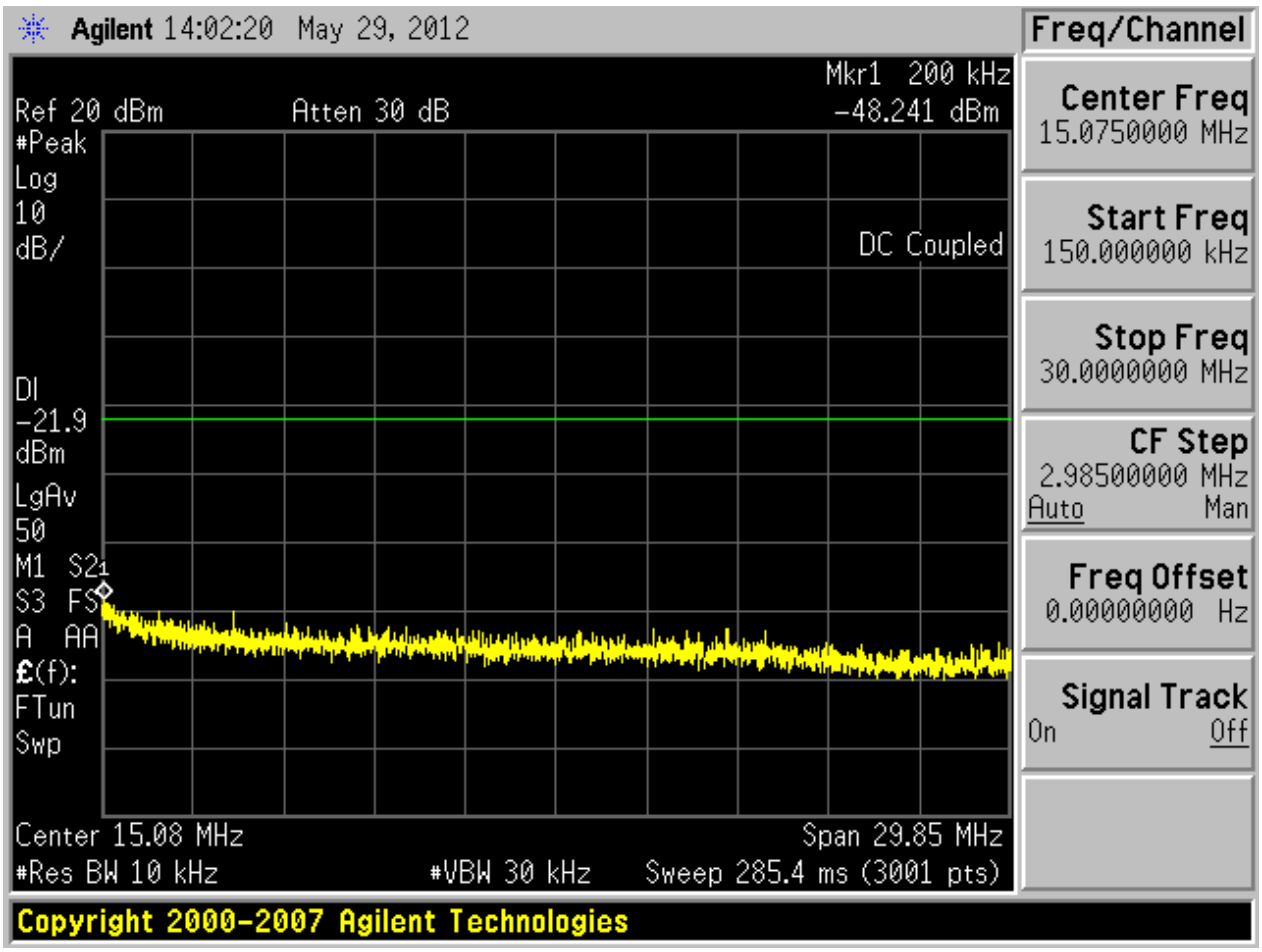
2.21.2 Ant 2

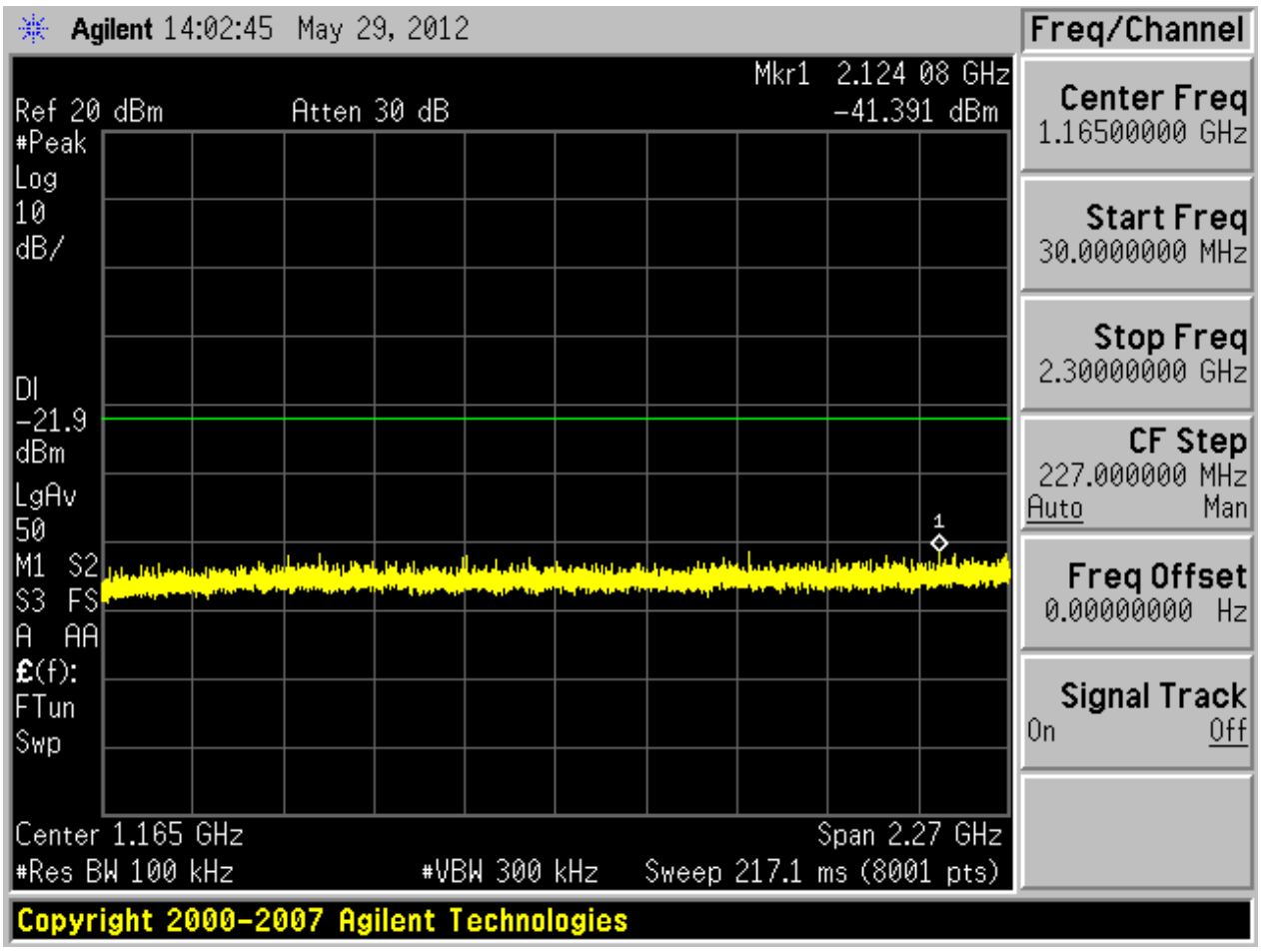
2.21.2.1 Pref

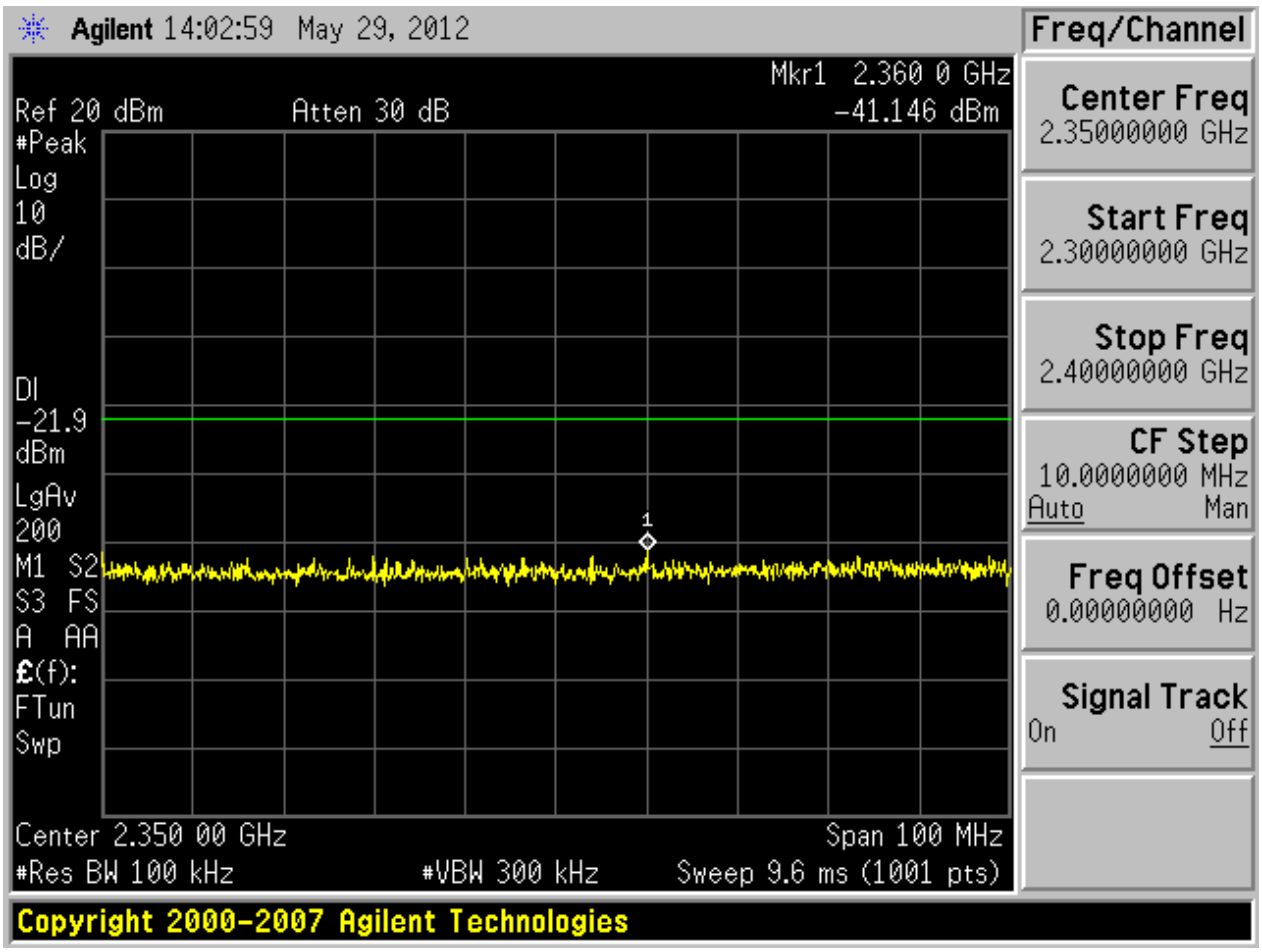


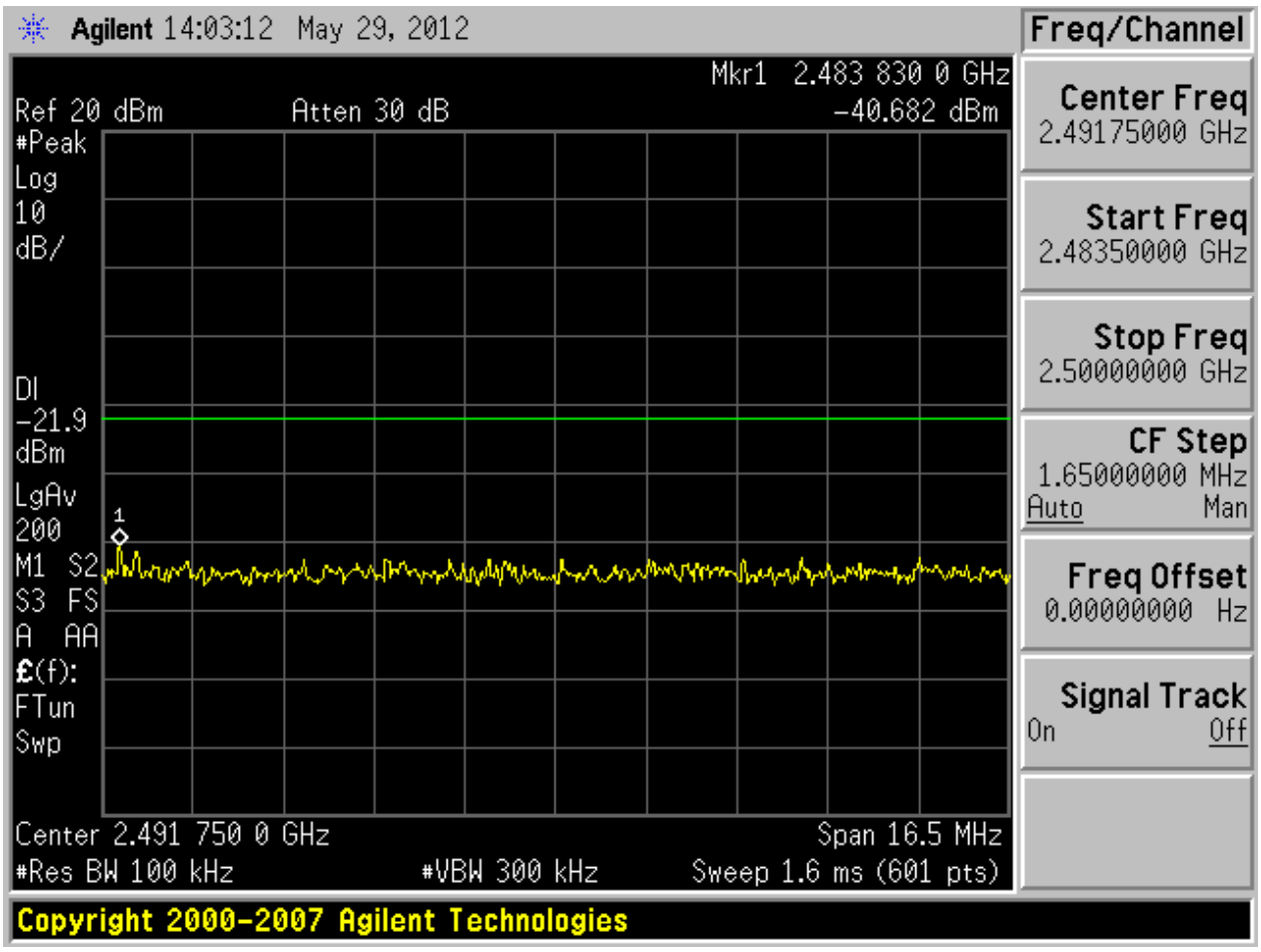
2.21.2.2 Puw

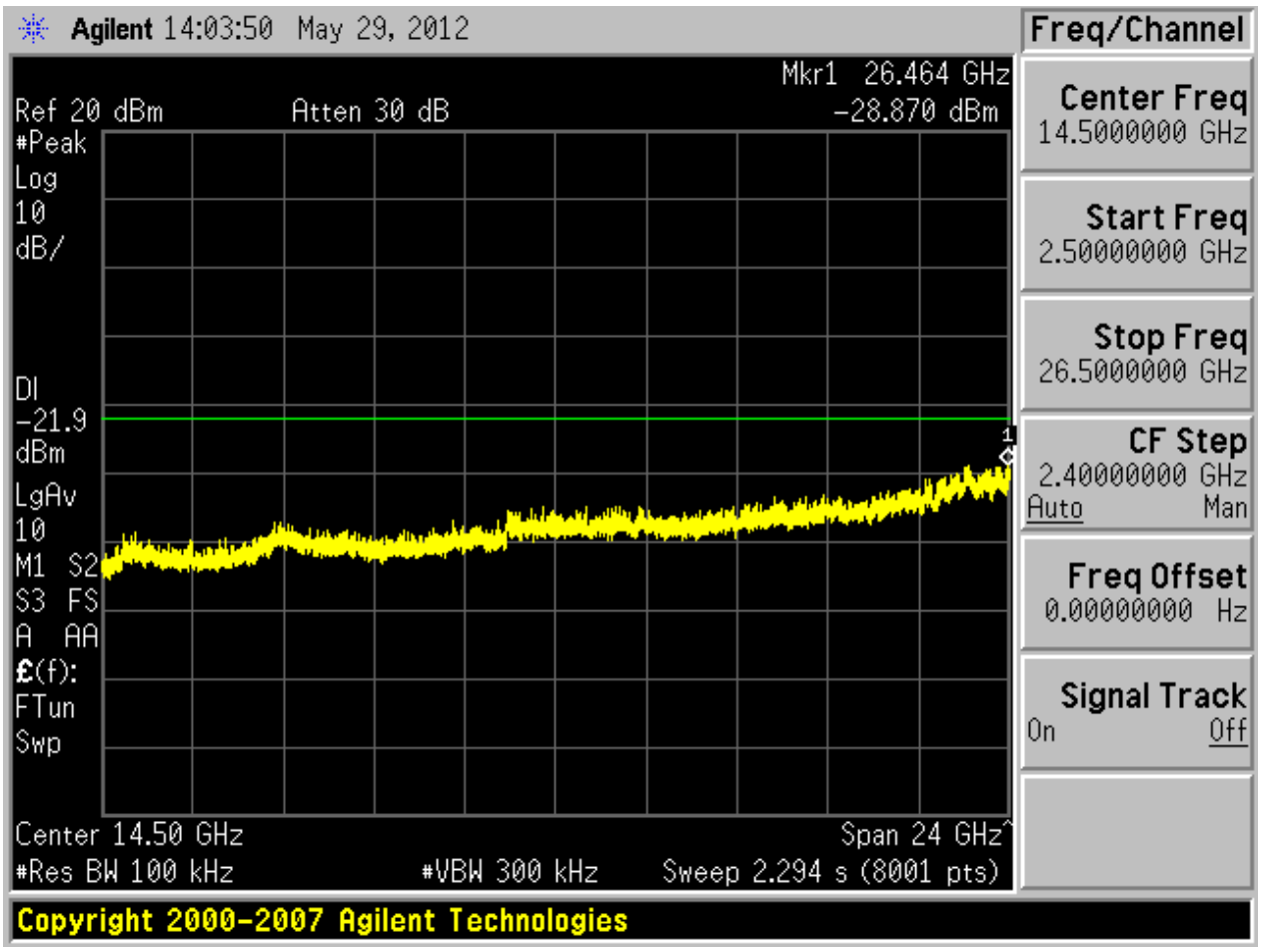












Appendix E.1: Unwanted Emissions into Restricted Frequency Bands (Conducted)

1 Result Table

NOTE 1: According to FCC OET KDB 558074, the limit for conducted measurement is converted by the formula of “Plim [dBm] = Elim [dBμV/m] + 20*log(d [m]) - 104.8 [dB] - G [dBi] - f [dB]”, where:

- “Plim” denotes the conducted limit at antenna port,
- “Elim” denotes the electric field strength limit,
- “d” denotes the measurement distance for radiated measurement,
- “G” denotes the antenna gain (max per port), and
- “f” 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.

NOTE 2: The measurement normally contain two steps:

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

NOTE 3: 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).

NOTE 4: For measurements on smart antenna systems (devices with multiple transmit chains), the test is performed at each chain and used as respective results for each chain with the limit requirement adjusted by antenna ports number (i.e. the Plim is reduced to “Plim [dBm] - 10 *log(N) [dB]”, in which N denotes the antenna ports number used by smart antenna systems). It should be noted that the above procedure is an easy-operation consideration, for the accurate judgment, the test should be performed at each chain and sum the spectra across all outputs.

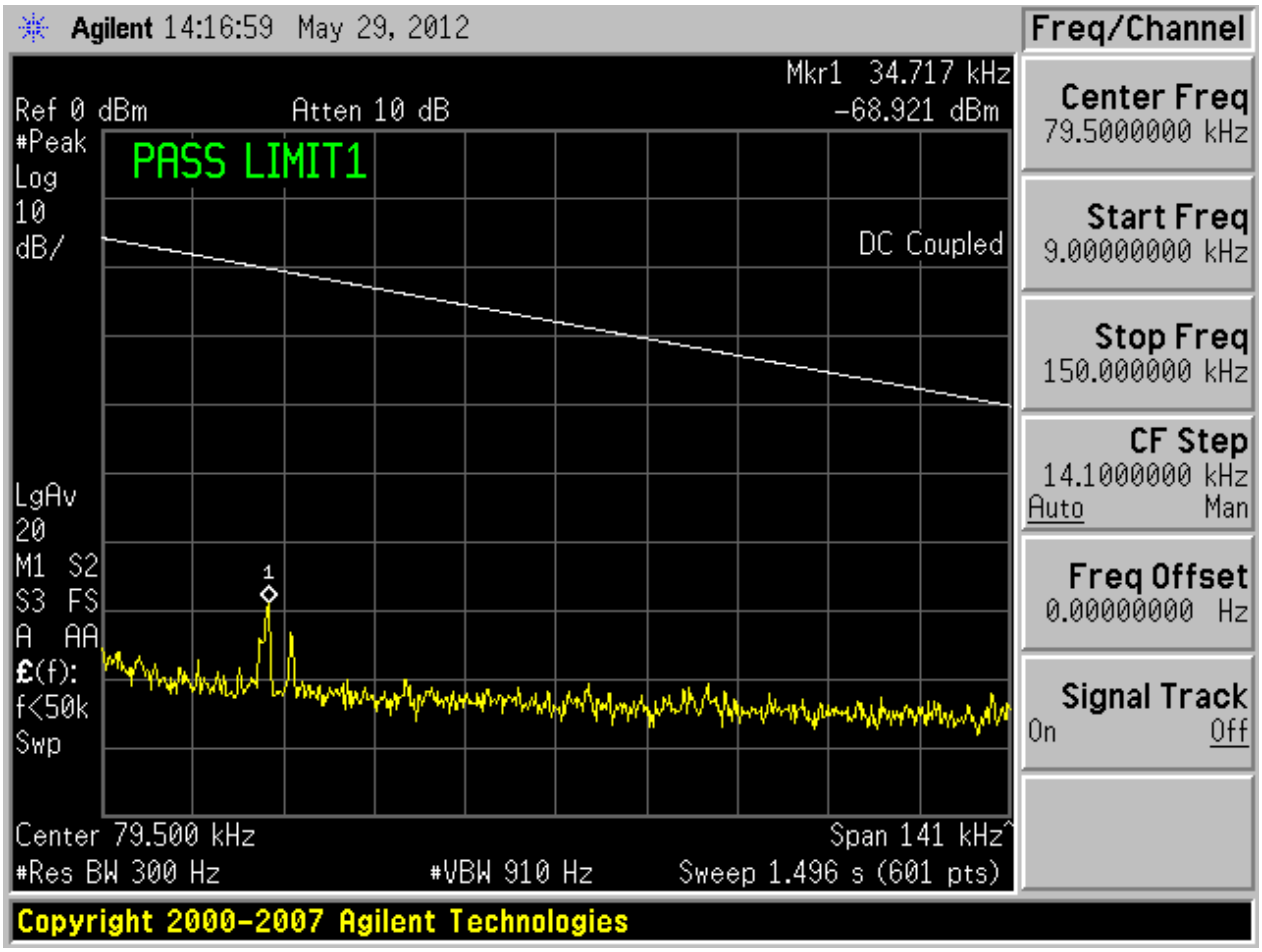
NOTE 5: In this document, the “< Limit“ in results table denotes “Not found obvious spikes, or see marked spikes on plots or listed emissions in result tables”.

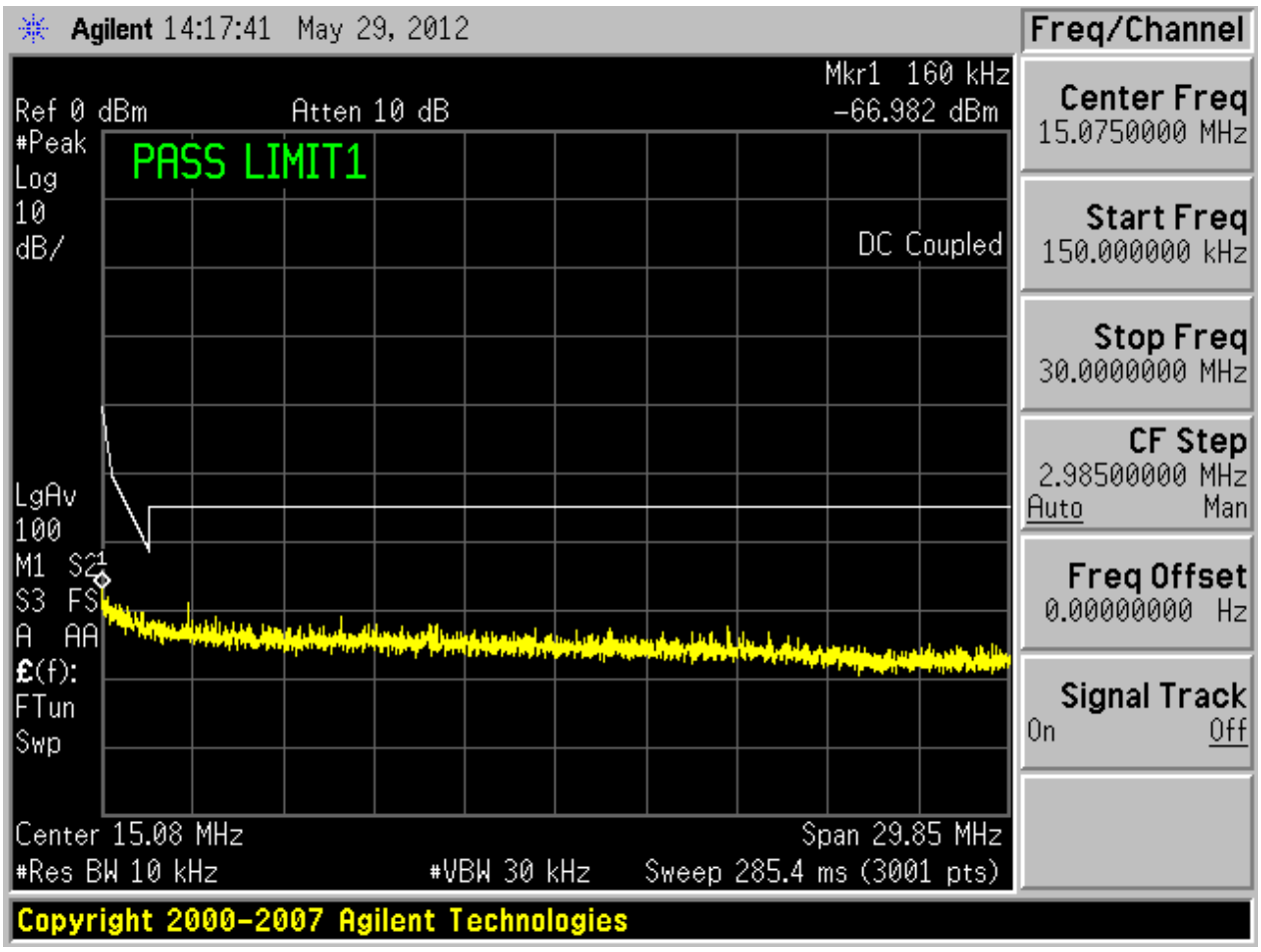
EUT Conf.	Maximum Emissions	Verdict
11B/1_B@1	< Limit	Pass
11B/1_B@2	< Limit	Pass
11B/1_M@1	< Limit	Pass
11B/1_M@2	< Limit	Pass
11B/1_T@1	< Limit	Pass
11B/1_T@2	< Limit	Pass
11G/6_B@1	< Limit	Pass
11G/6_B@2	< Limit	Pass
11G/6_M@1	< Limit	Pass

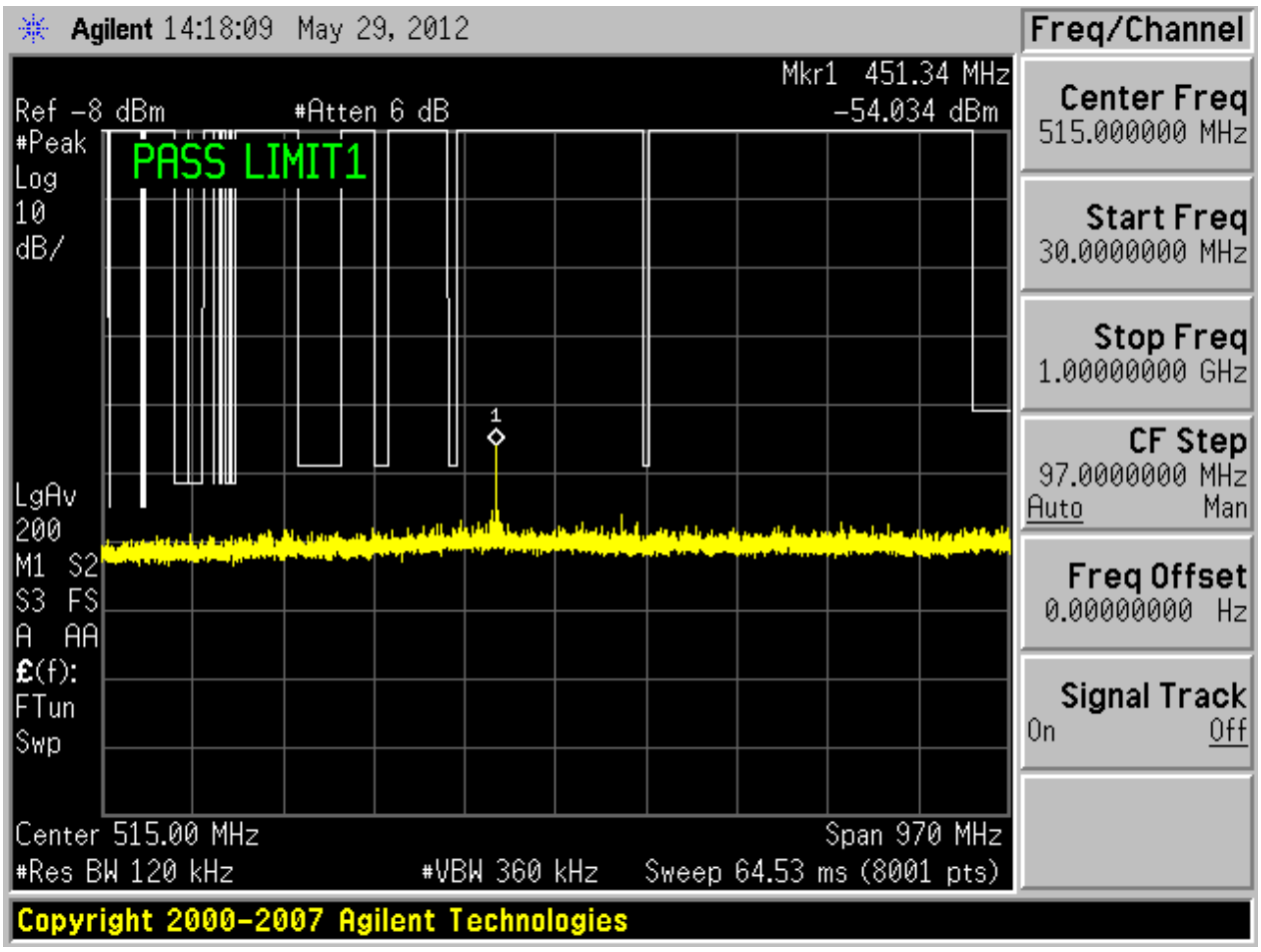
EUT Conf.	Maximum Emissions	Verdict
11G/6_M@2	< Limit	Pass
11G/6_T@1	< Limit	Pass
11G/6_T@2	< Limit	Pass
11N20/0_B@1	< Limit	Pass
11N20/0_B@2	< Limit	Pass
11N20/0_M@1	< Limit	Pass
11N20/0_M@2	< Limit	Pass
11N20/0_T@1	< Limit	Pass
11N20/0_T@2	< Limit	Pass
11N20m/8_B@1+2	< Limit	Pass
11N20m/8_M@1+2	< Limit	Pass
11N20m/8_T@1+2	< Limit	Pass

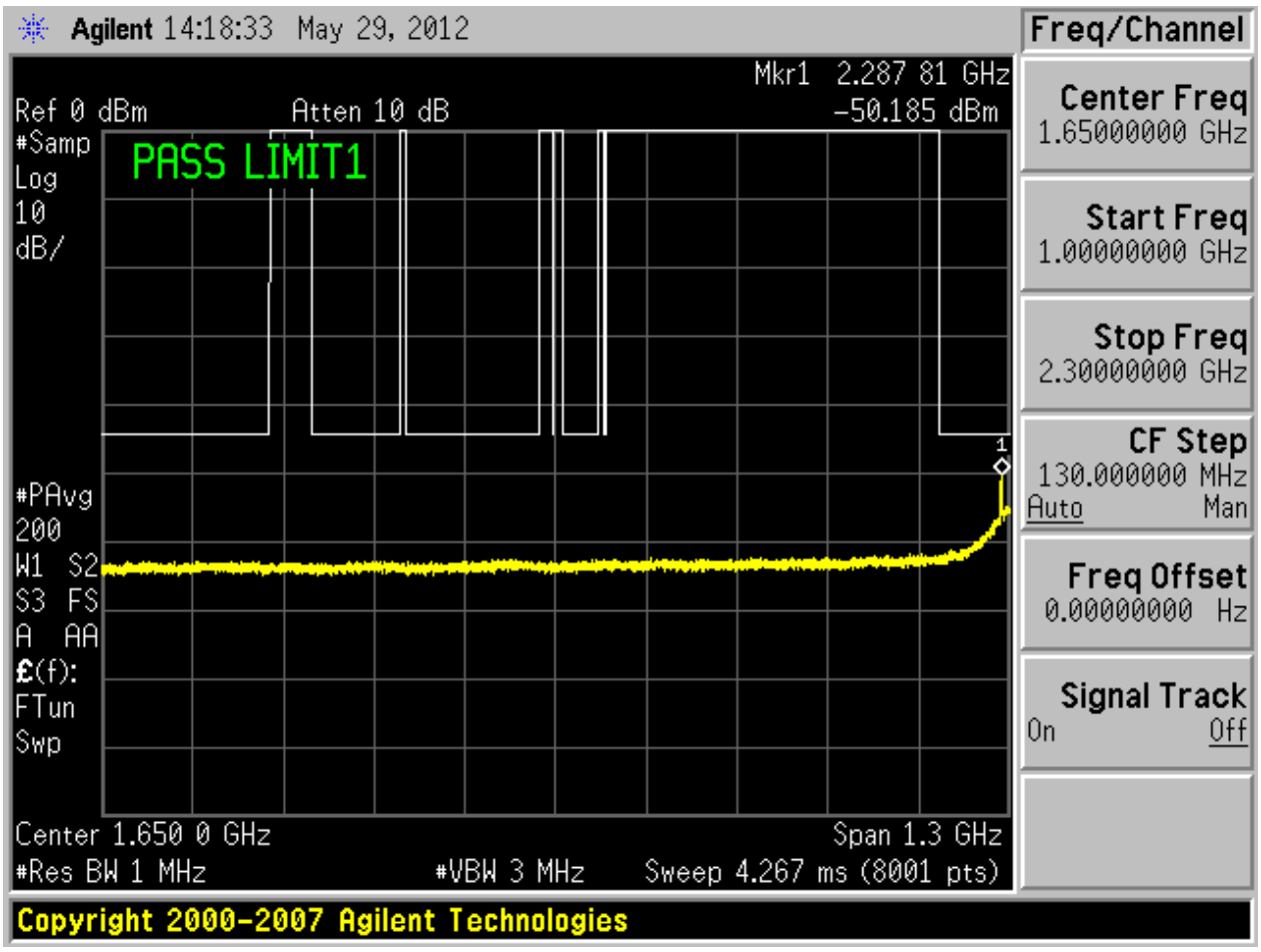
2 Result Plot

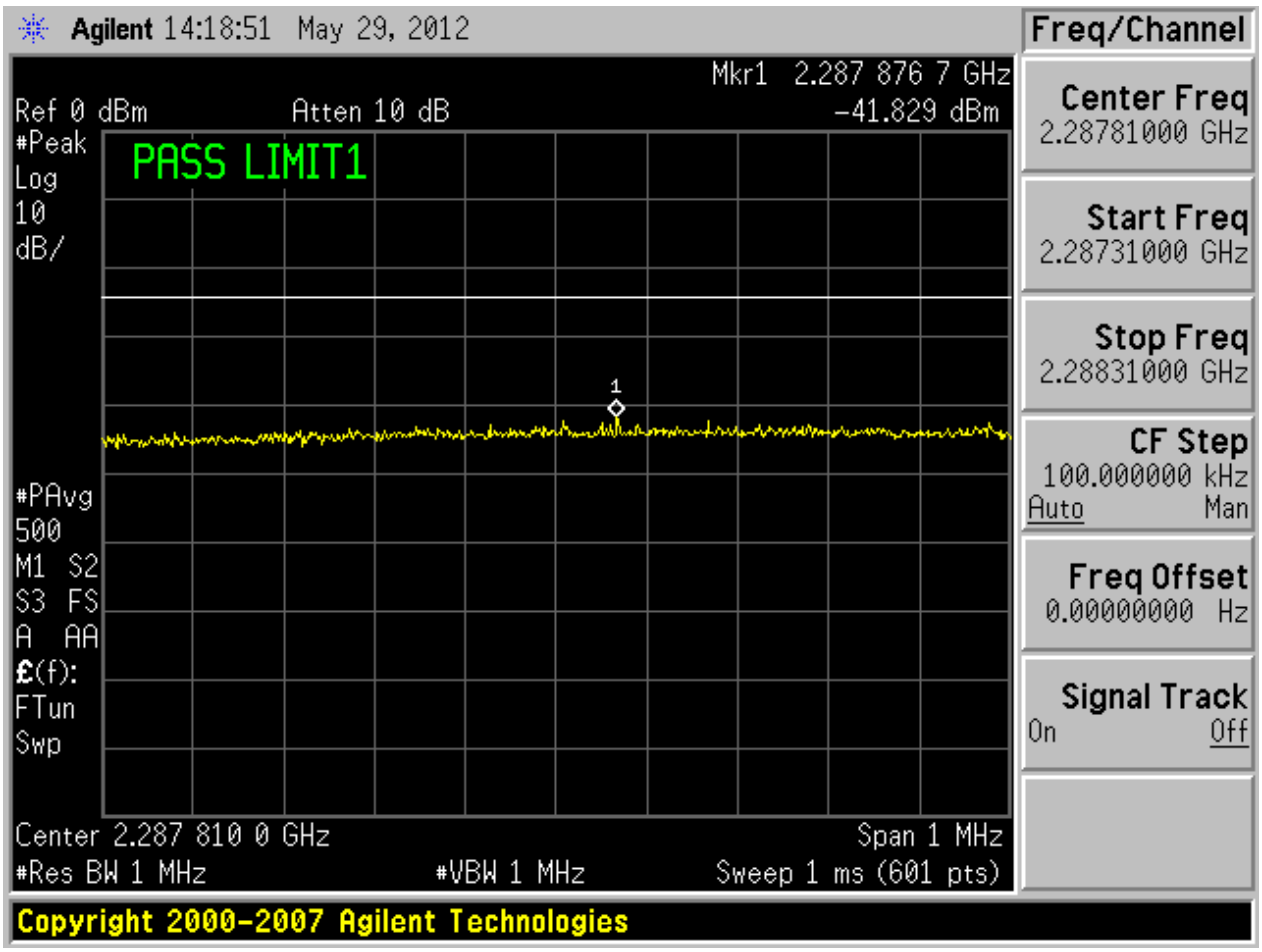
2.1 11B/1_B@1

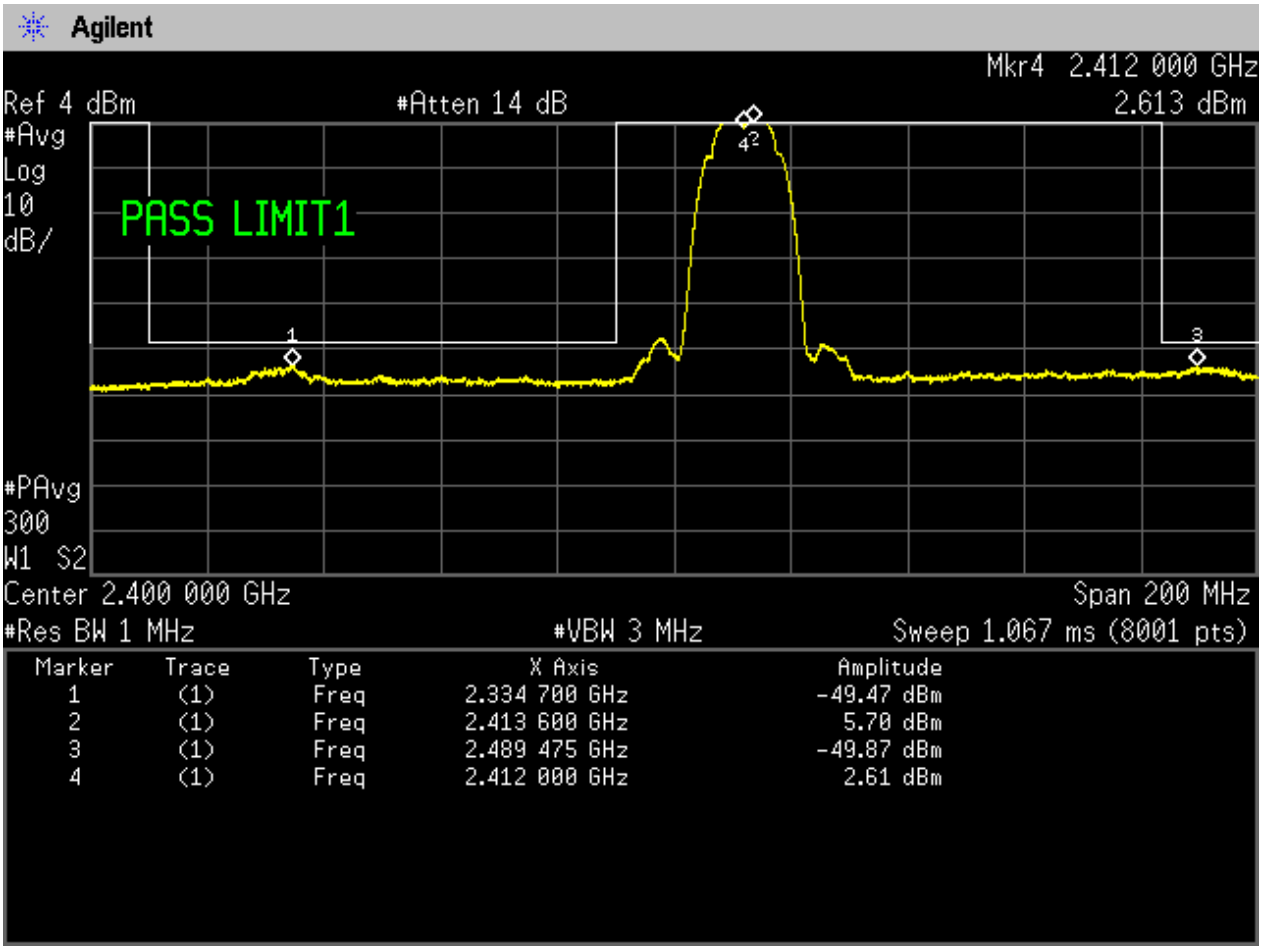


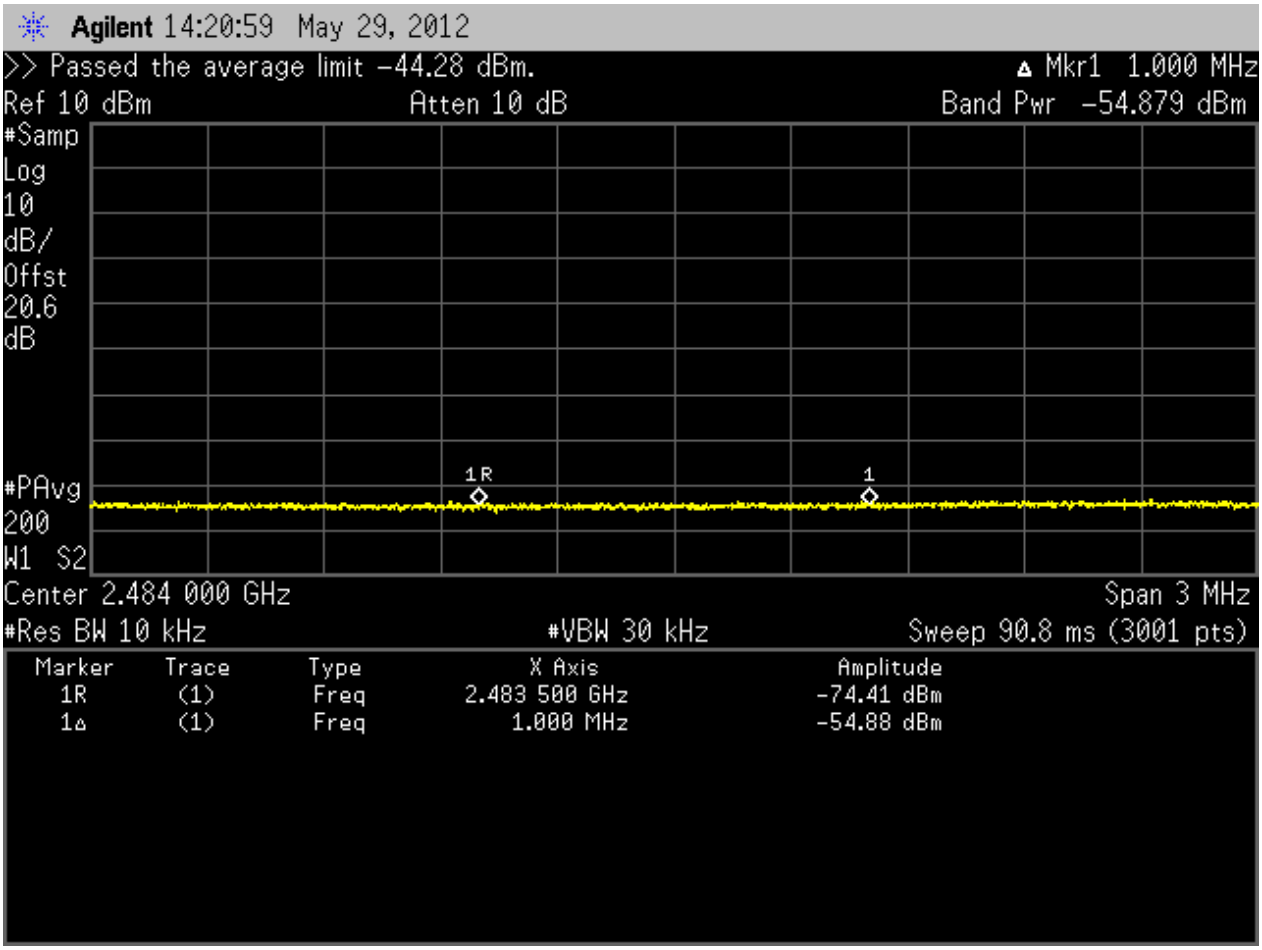


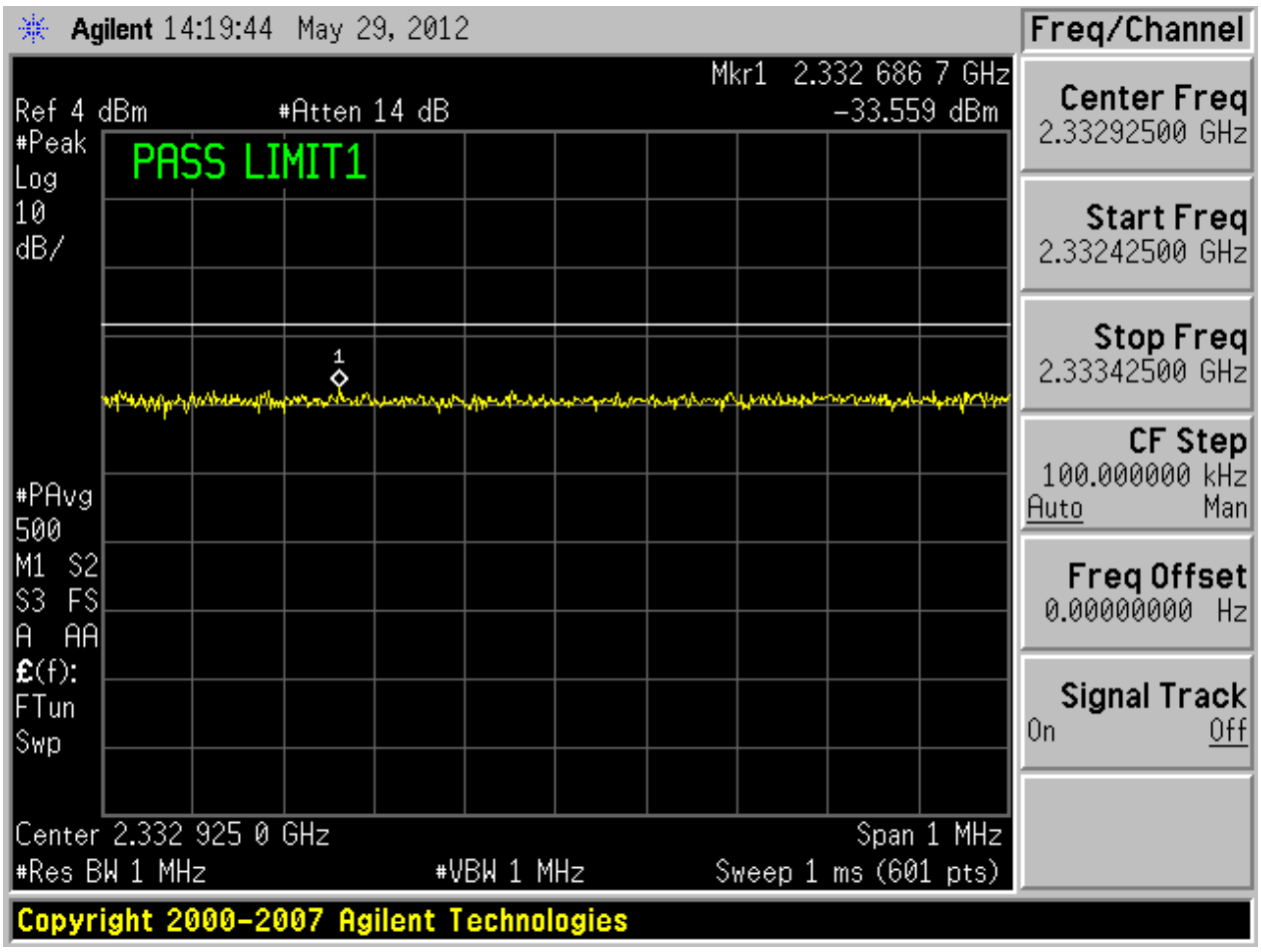


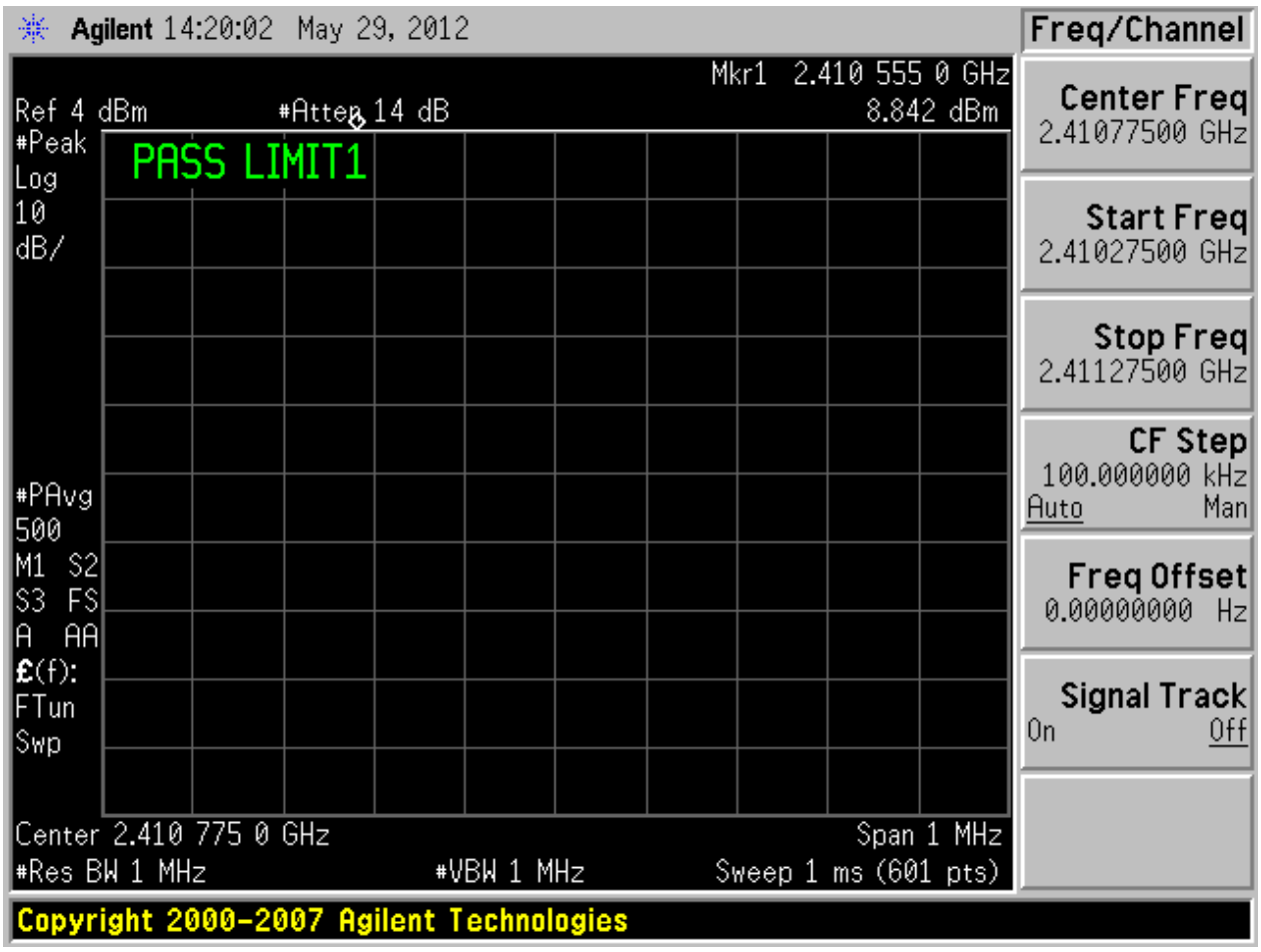


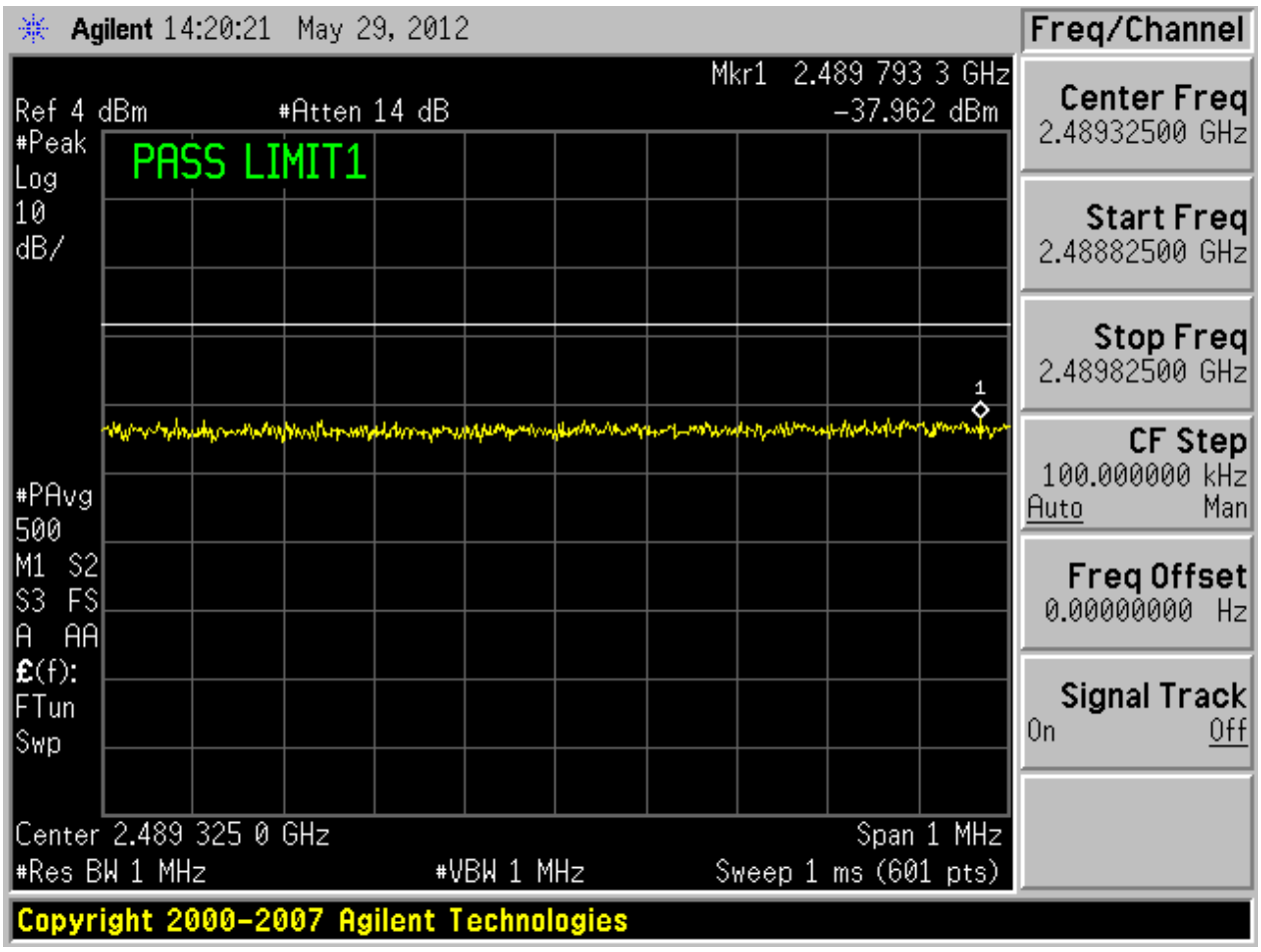


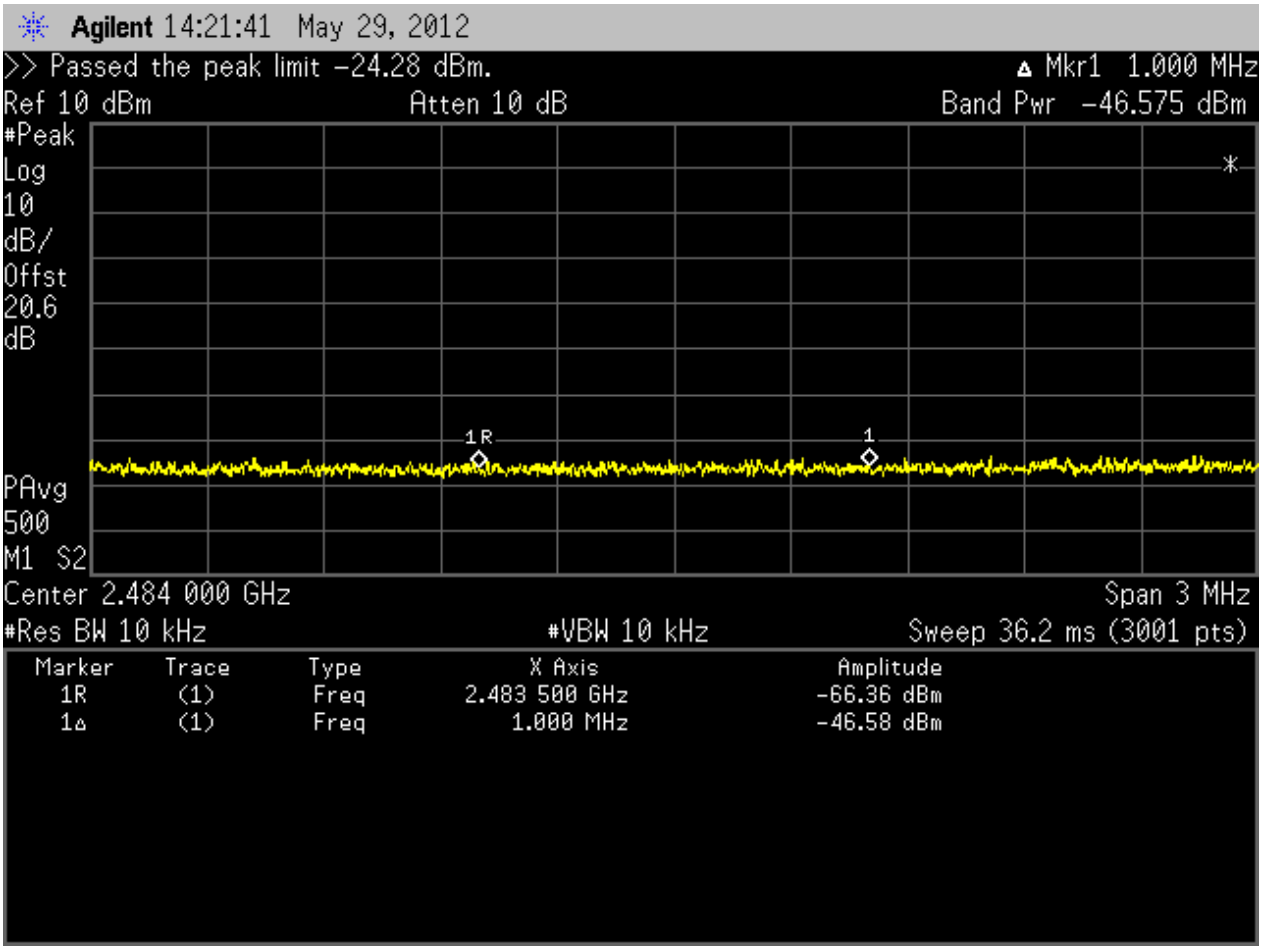


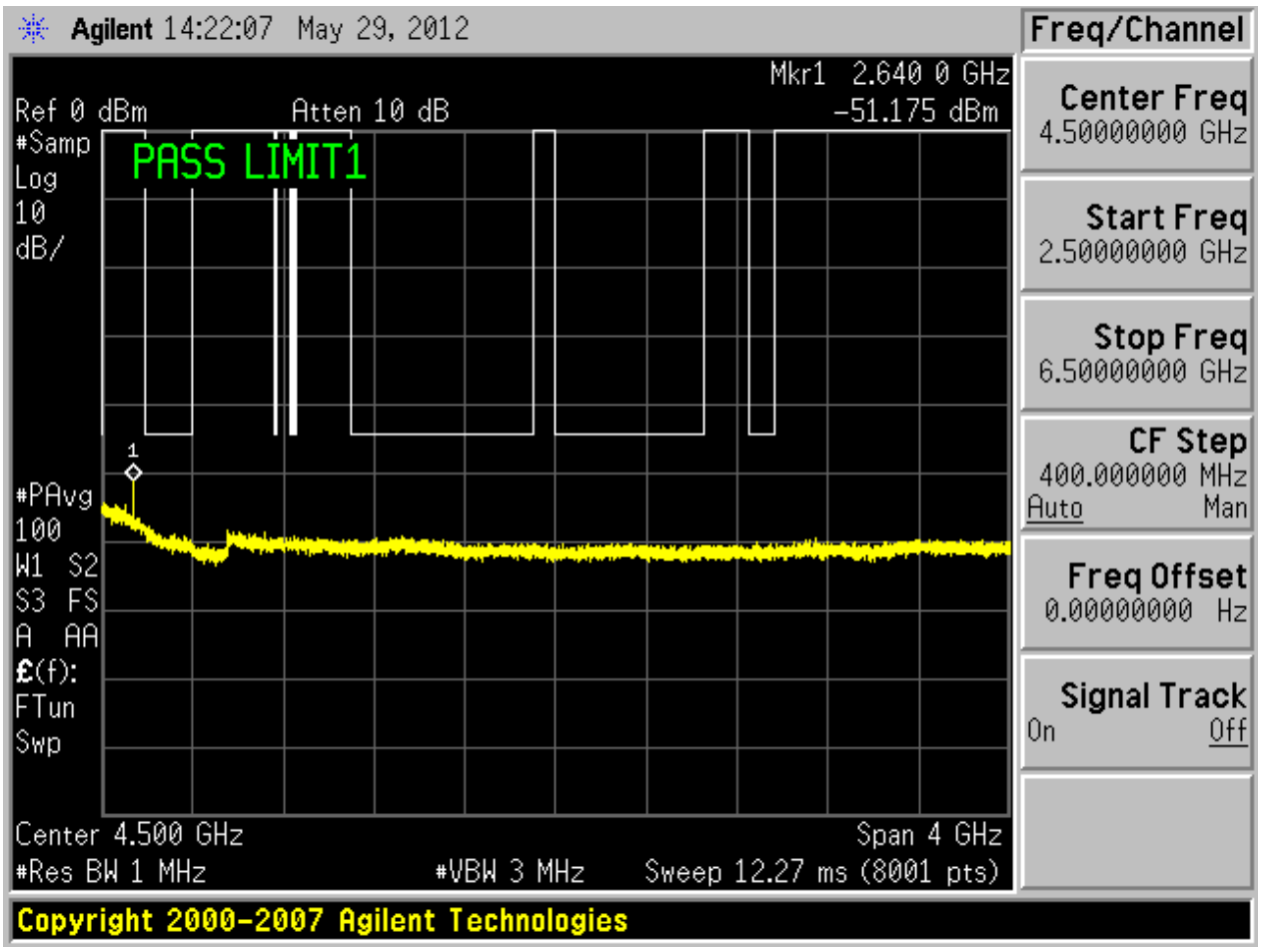


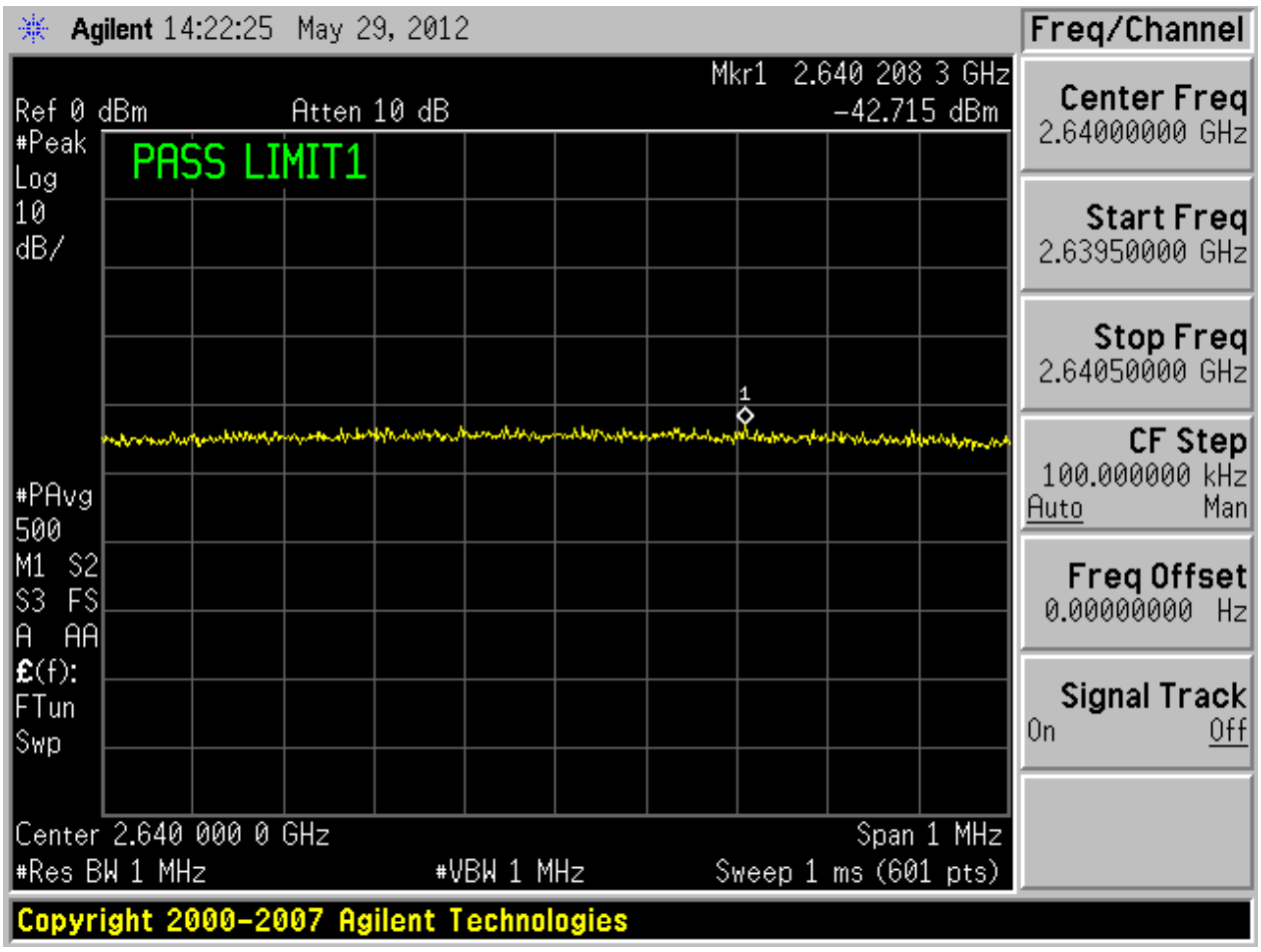


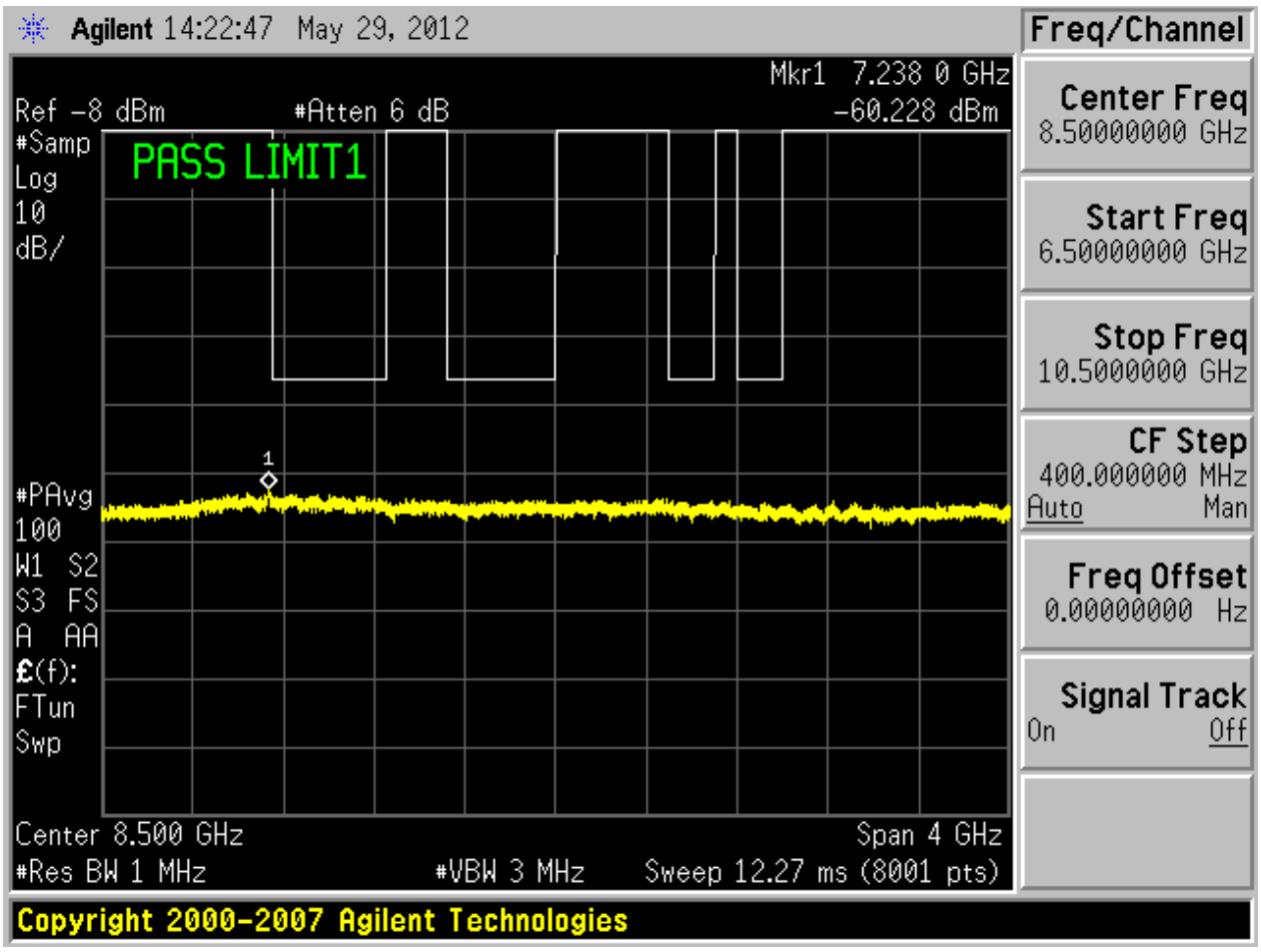


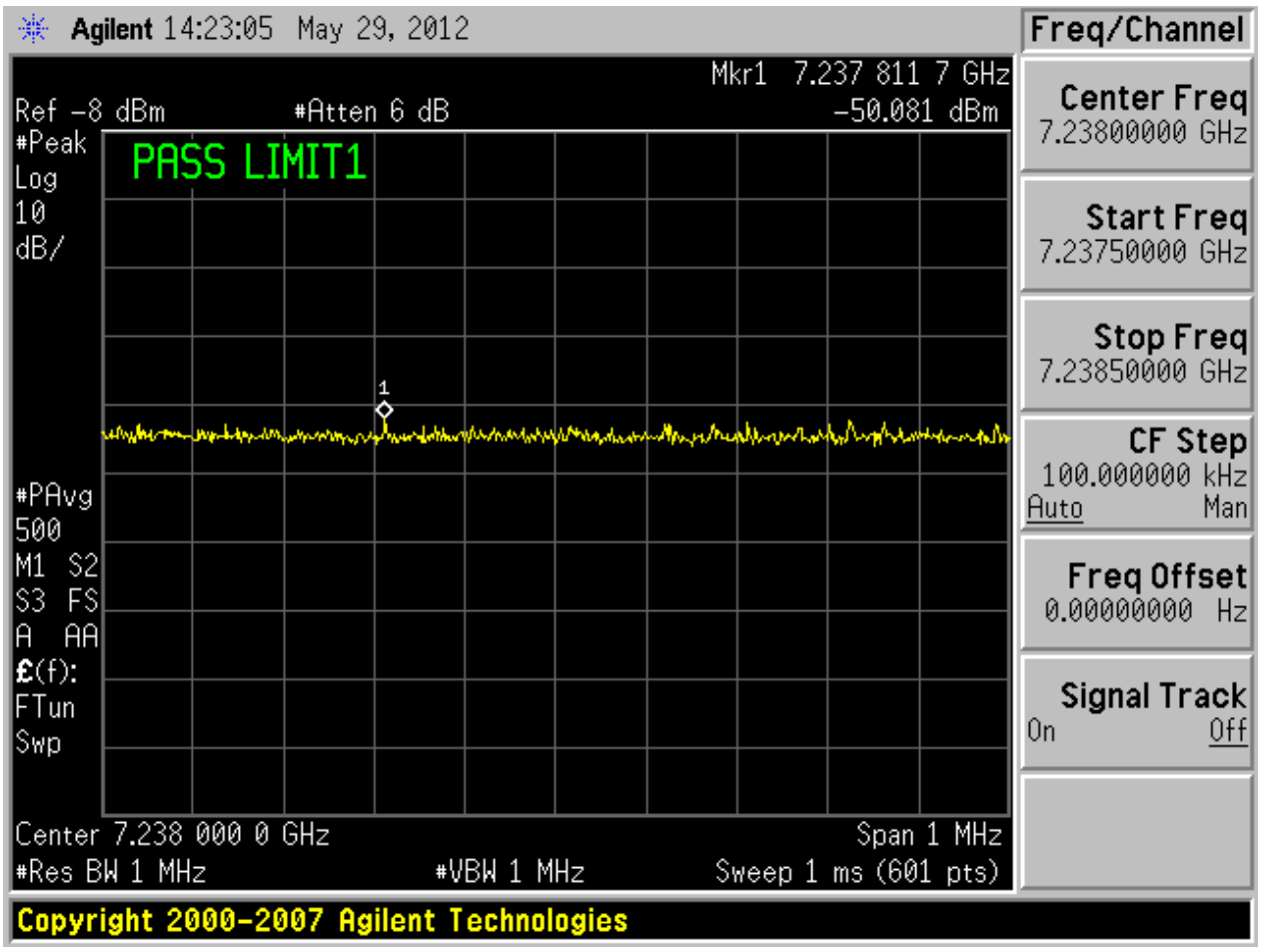


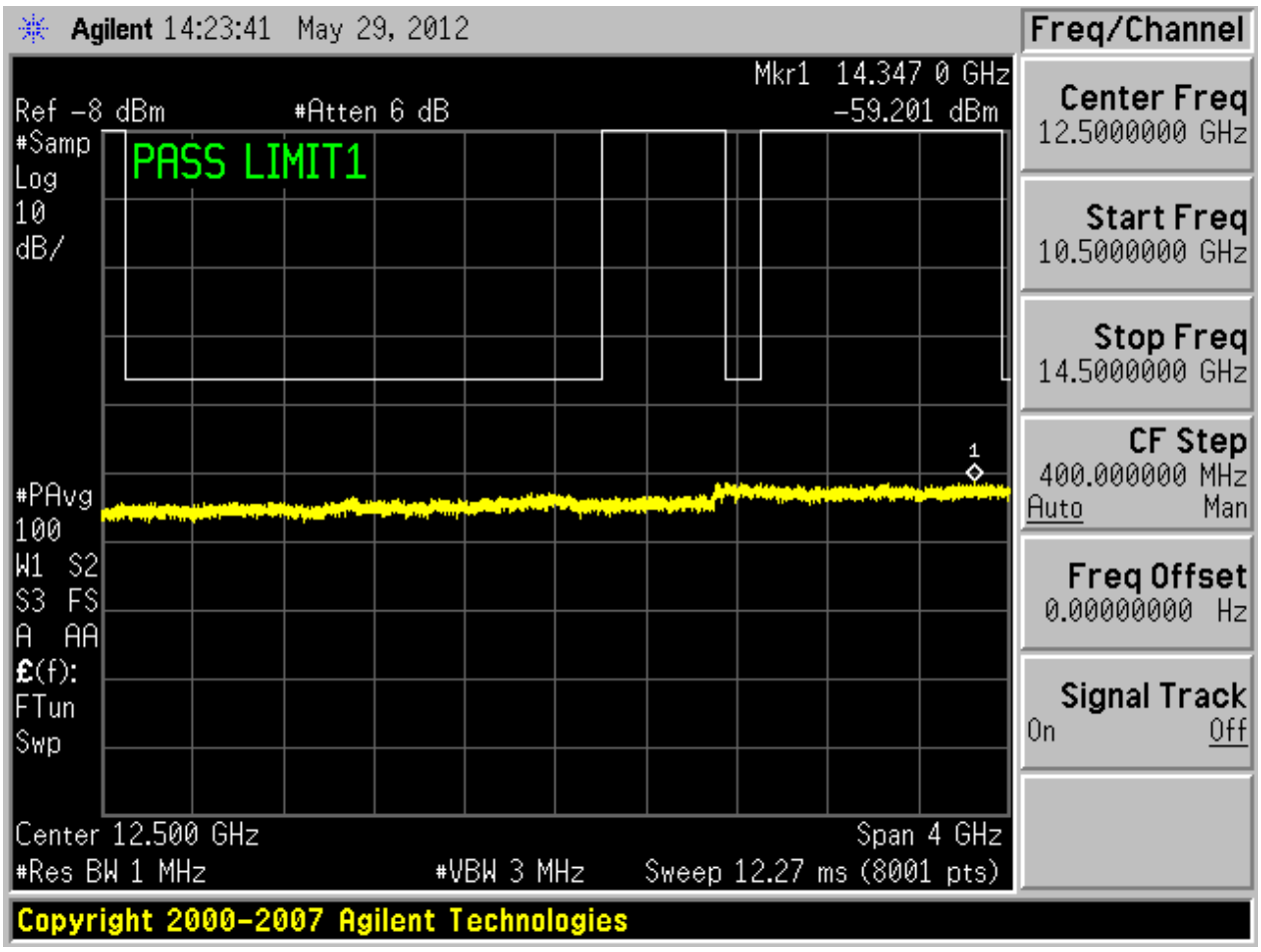


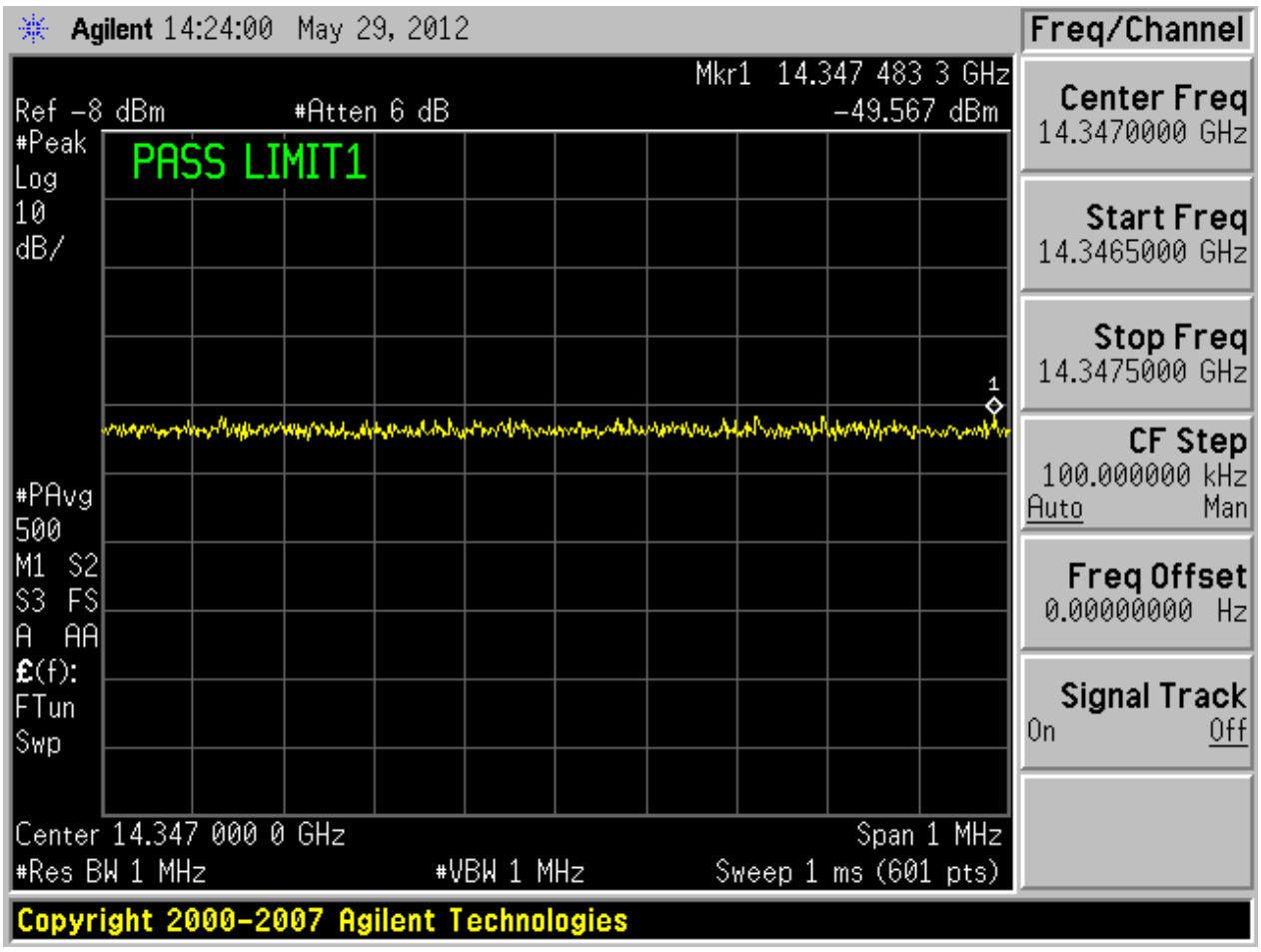


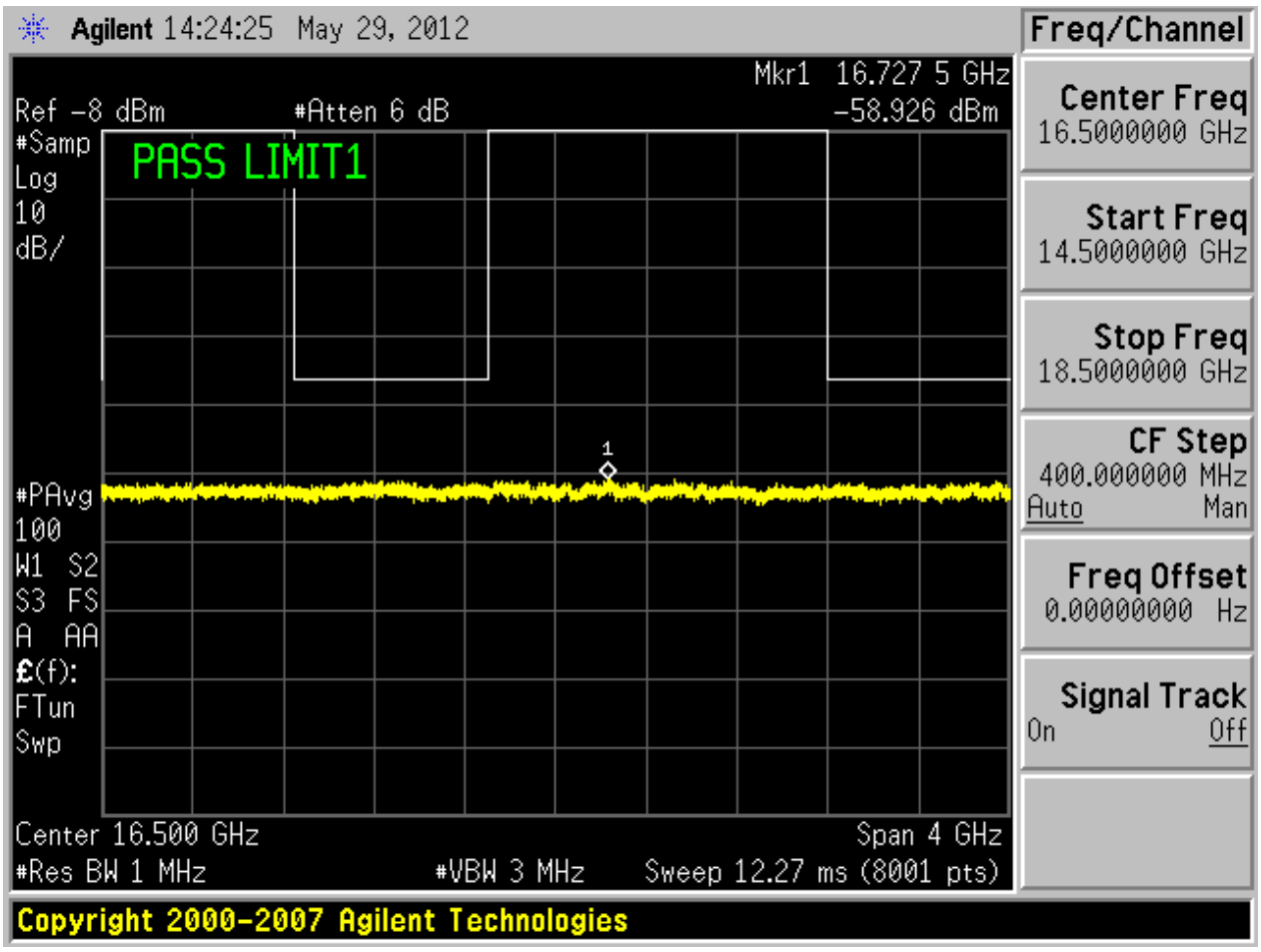


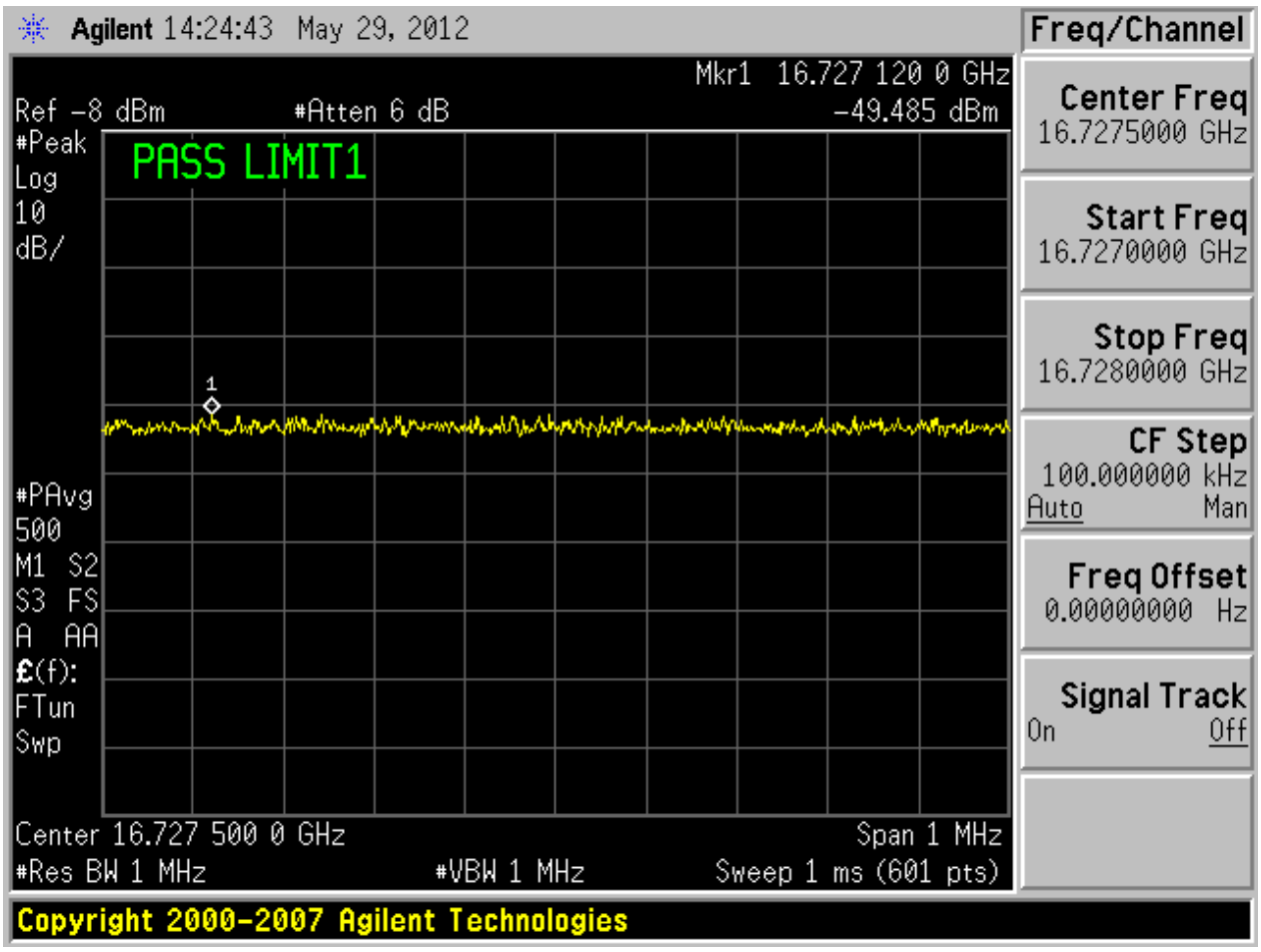


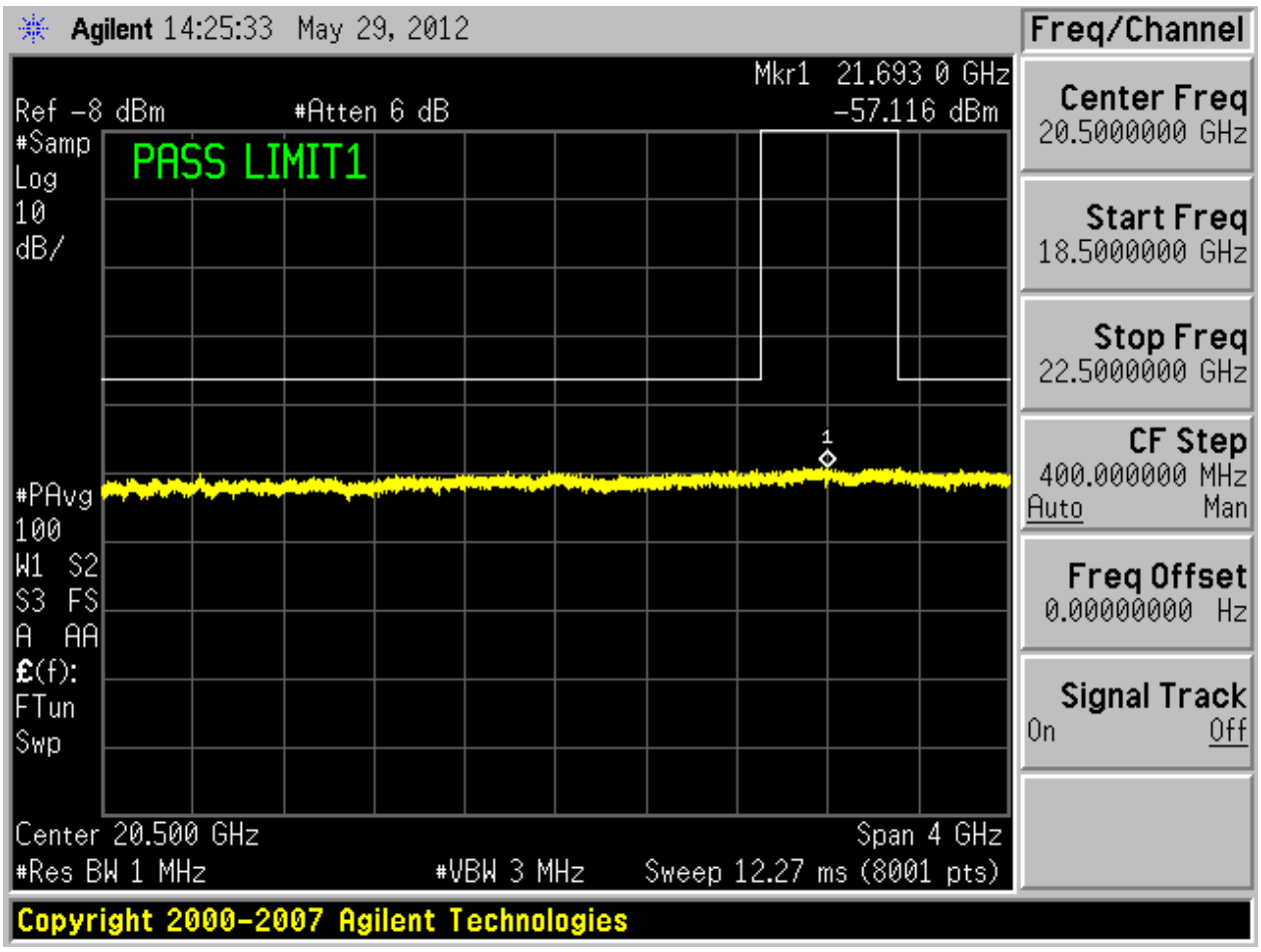


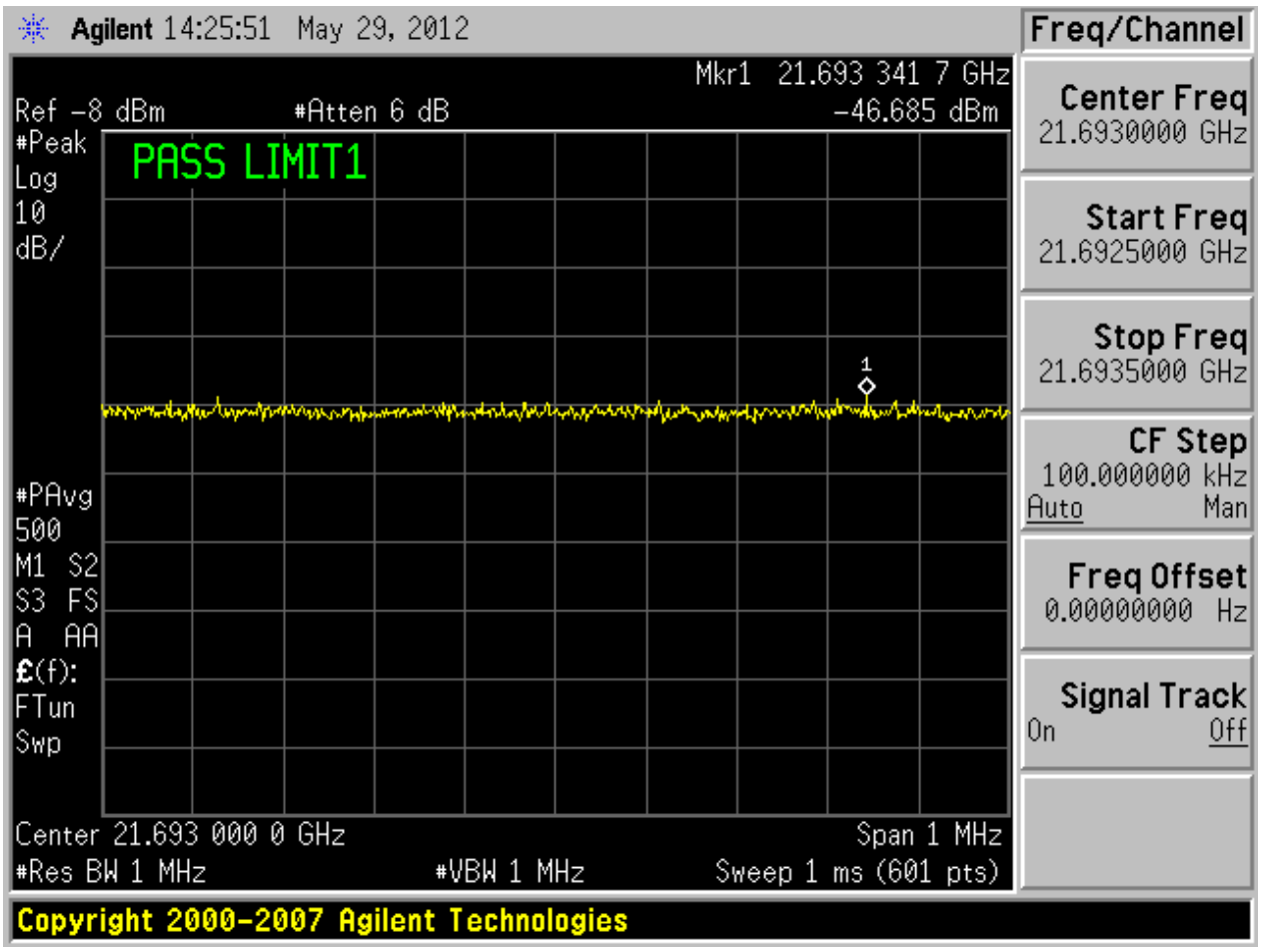


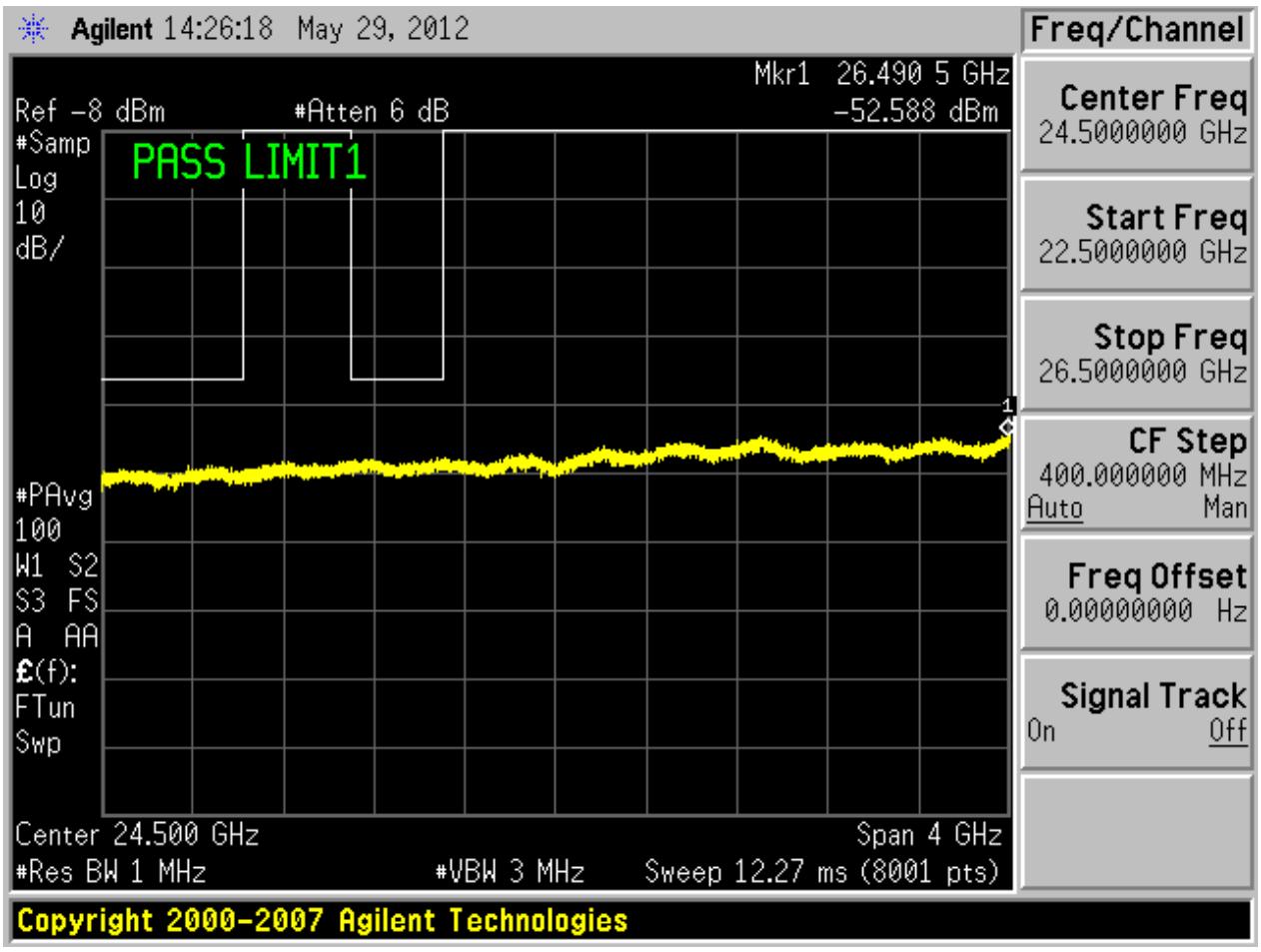


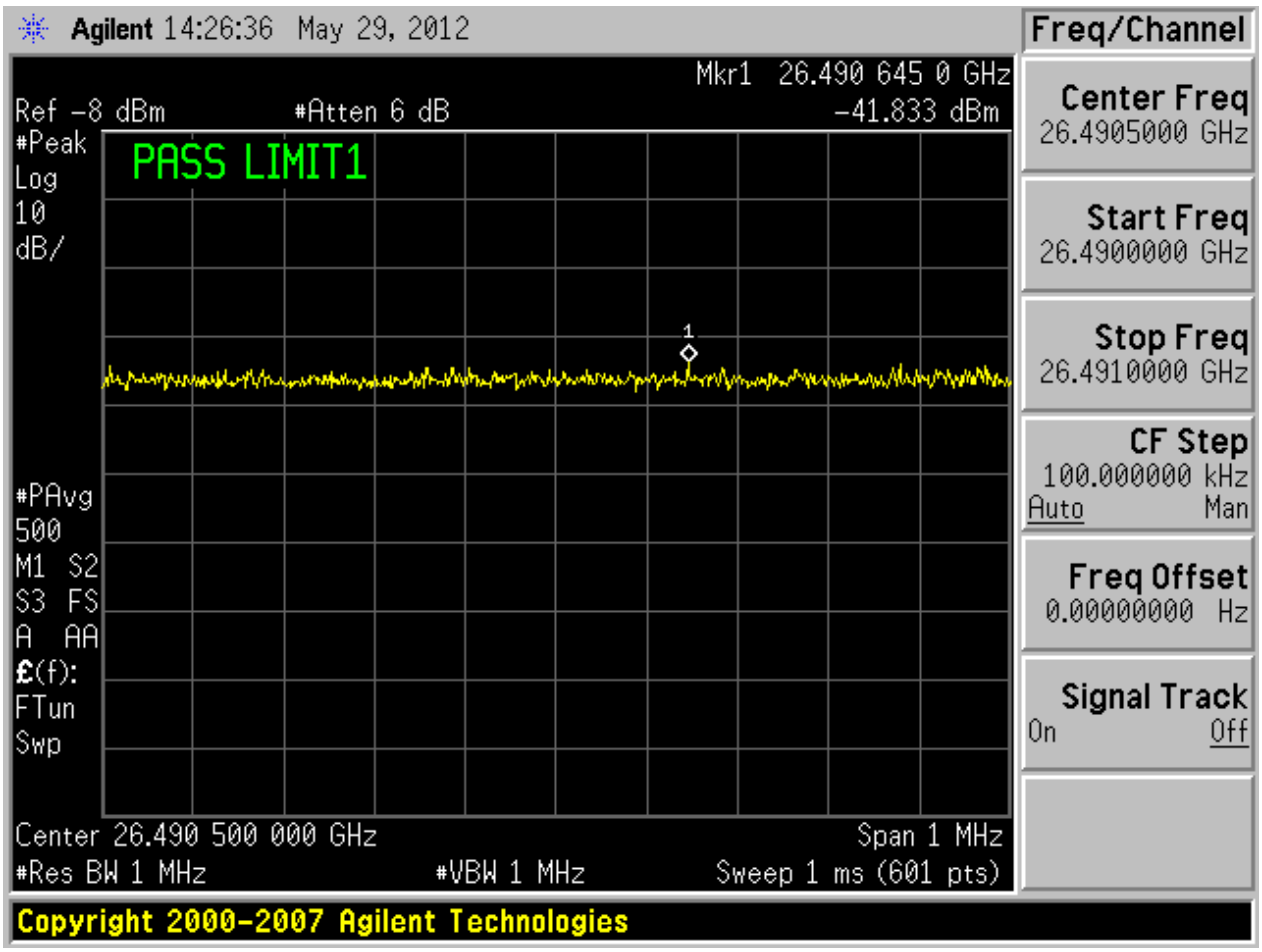












2.2 11B/1_B@2