Appendix A: Transmitter Output Power

1 Result Table

1.1 Channel Power, Total

NOTE 1: If applicable, the EIPR [W] = 10 ^ ((Channel Power [dBm] + Antenna Gain [dBi]) / 10 - 3), and the ERP [W] = EIRP [W] / 1.64.

NOTE 2: When the EUT is put into service, the practical maximum antenna gain may exceed the value as below, and if exceed, the combination of the practical output power and the practical antenna gain should NOT exceed the required ERP/EIRP limit.

EUT Conf.	Channel Power [dBm]		Verdict
	Port A	Port B	
	Channel Power per Port [W]	Channel Power per Port [W]	
1L_5M_B	55.85	58.21	Pass
1L_5M_M	60.12	60.67	Pass
1L_5M_T	56.75	58.61	Pass
1L_10M_B	56.49	59.43	Pass
1L_10M_M	59.70	62.37	Pass
1L_10M_T	57.28	60.26	Pass
1L_15M_B	57.68	57.81	Pass
1L_15M_M	59.98	60.81	Pass
1L_15M_T	57.94	58.34	Pass
1L_20M_B	57.02	57.81	Pass
1L_20M_M	59.29	59.02	Pass
1L_20M_T	57.54	58.61	Pass
2L_5M_M	57.75	57.55	Pass

1.2 Power Spectral Density

NOTE 1: If applicable, the EIPR [W/MHz] = 10 ^ ((Power Spectral Density [dBm/MHz] + Antenna Gain [dBi]) / 10 - 3), and the ERP [W/MHz] = EIRP [W/MHz] / 1.64.

NOTE 2: When the EUT is put into service, the practical maximum antenna gain may exceed the value as below, and if exceed, the combination of the practical output power and the practical antenna gain should NOT exceed the required ERP/EIRP limit.

NOTE 3: Worst cases are listed. For the same power, the minimum bandwidth own maximum emission level.

EUT Config.	Power Spectral Density [dBm/1MHz]	Verdict
1L_5M_B	41.44	Pass
1L_5M_M	41.56	Pass
1L_5M_T	41.43	Pass
1L_20M_B	35.46	Pass
1L_20M_M	35.45	Pass
1L_20M_T	35.58	Pass

1.3 Peak-to-Average Ratio

NOTE 1: Worst cases are listed. PAPR for different bandwidth is similar.

EUT Conf.	Peak-to-Average Ratio@0.1% [dB]	Verdict
1L_5M_B	7.07	Pass
1L_5M_M	7.07	Pass
1L_5M_T	7.08	Pass

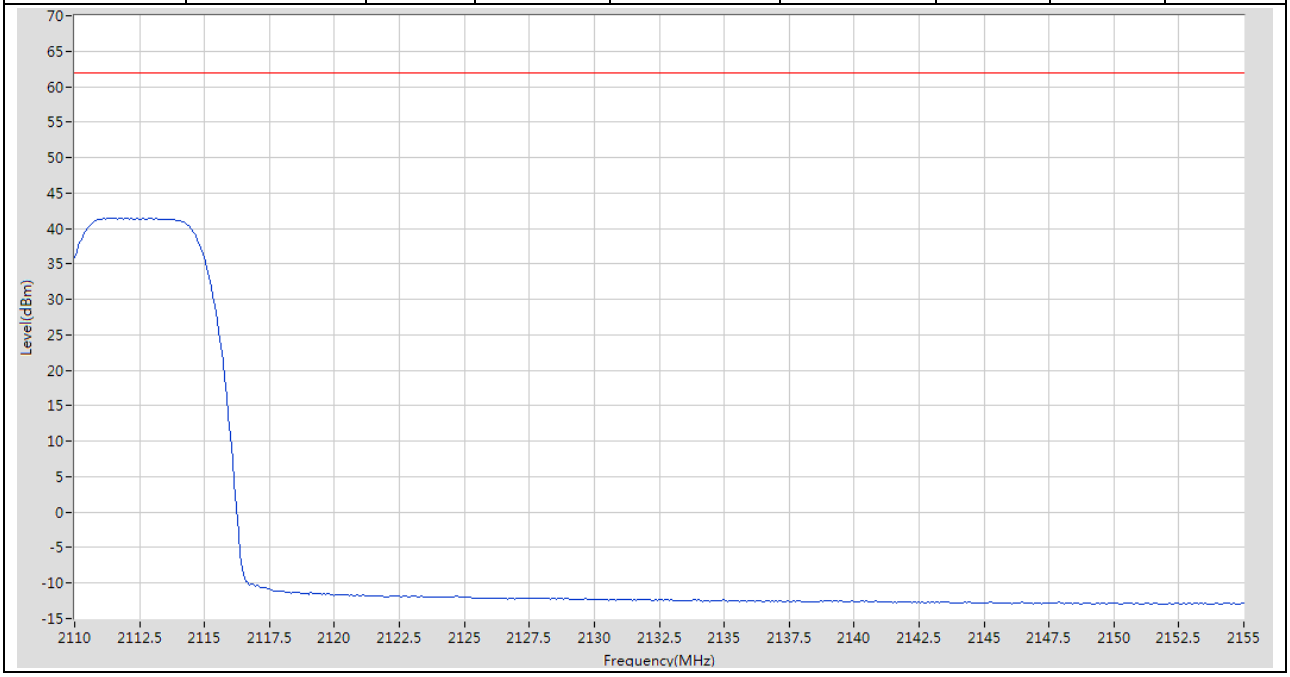
2 Test Plot

NOTE: Only the test plots for the measurements of Spectral Density and Peak-to-Average Ratio are supplied.

2.1 Power Spectral Density

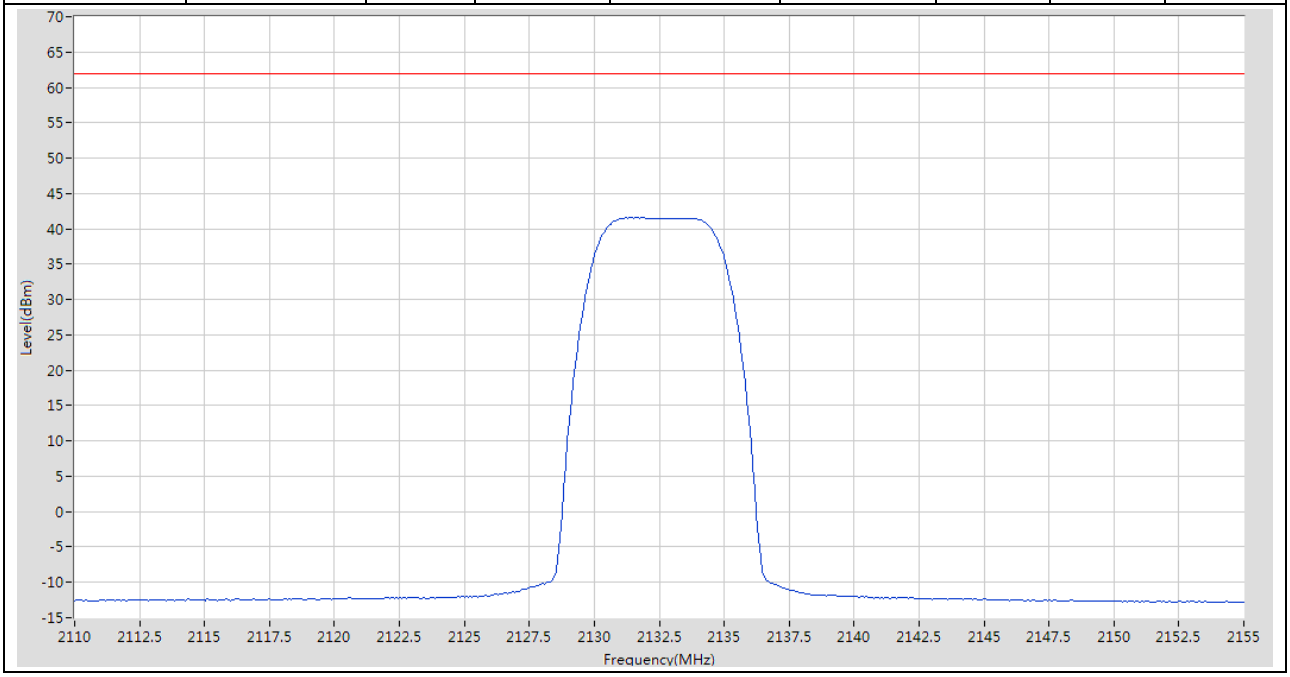
2.1.1 1L_5M_B

Start Frequency [MHz]	Stop Frequency [MHz]	RBW [MHz]	Detector	Frequency [Hz]	Emission [dBm]	Limit [dBm]	Verdict	Sweep Point
2110	2155	1	RMS	2111.5 M	41.44	62	Pass	601



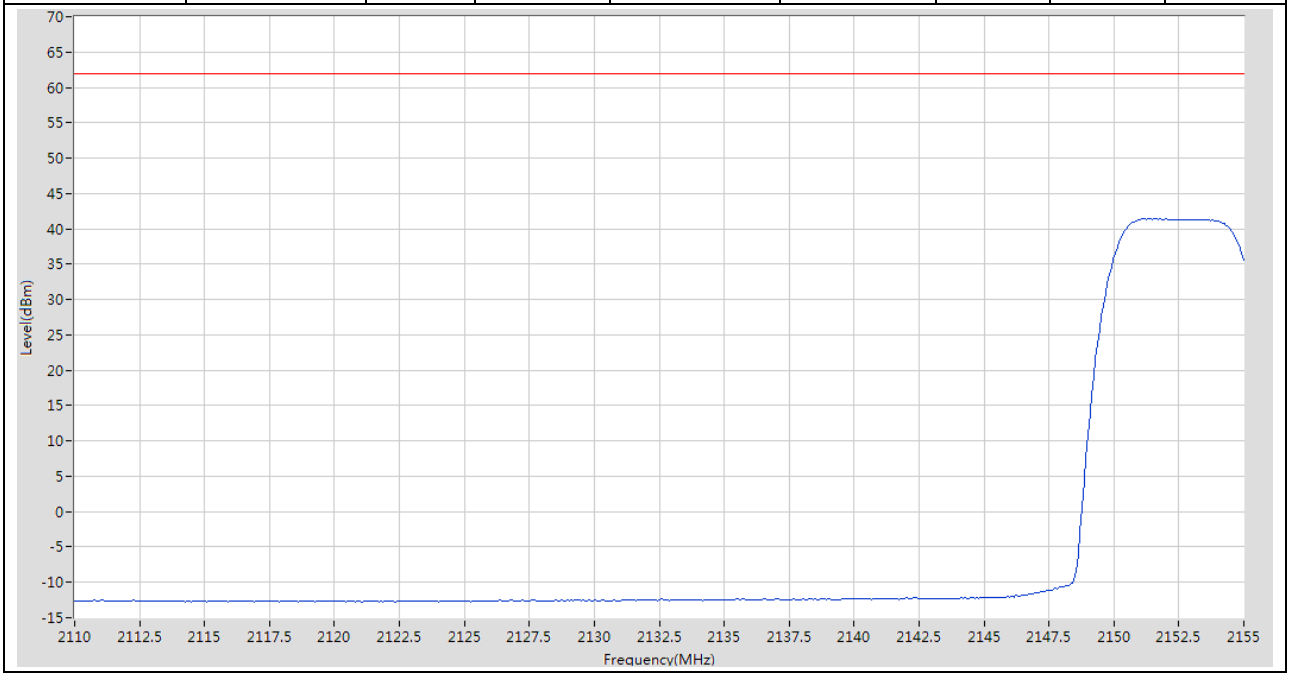
2.1.2 1L_5M_M

Start Frequency [MHz]	Stop Frequency [MHz]	RBW [MHz]	Detector	Frequency [Hz]	Emission [dBm]	Limit [dBm]	Verdict	Sweep Point
2110	2155	1	RMS	2131.45 M	41.56	62	Pass	601



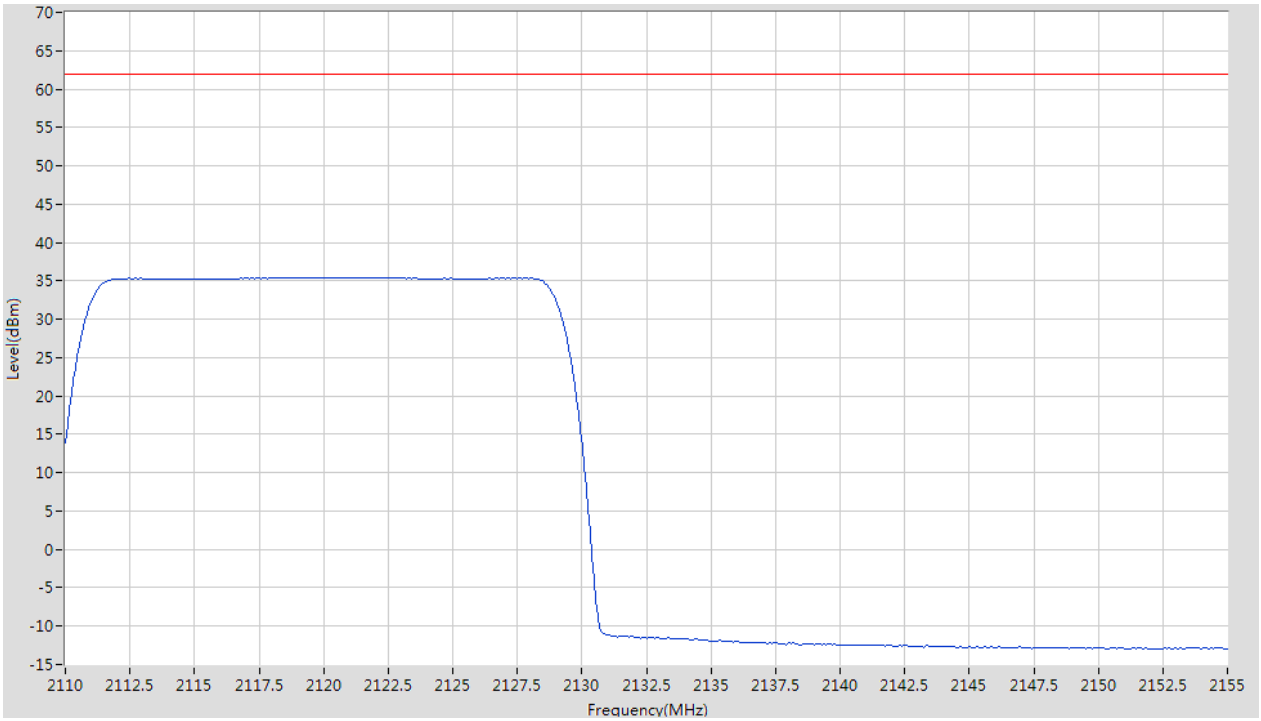
2.1.3 1L_5M_T

Start Frequency [MHz]	Stop Frequency [MHz]	RBW [MHz]	Detector	Frequency [Hz]	Emission [dBm]	Limit [dBm]	Verdict	Sweep Point
2110	2155	1	RMS	2151.4 M	41.43	62	Pass	601



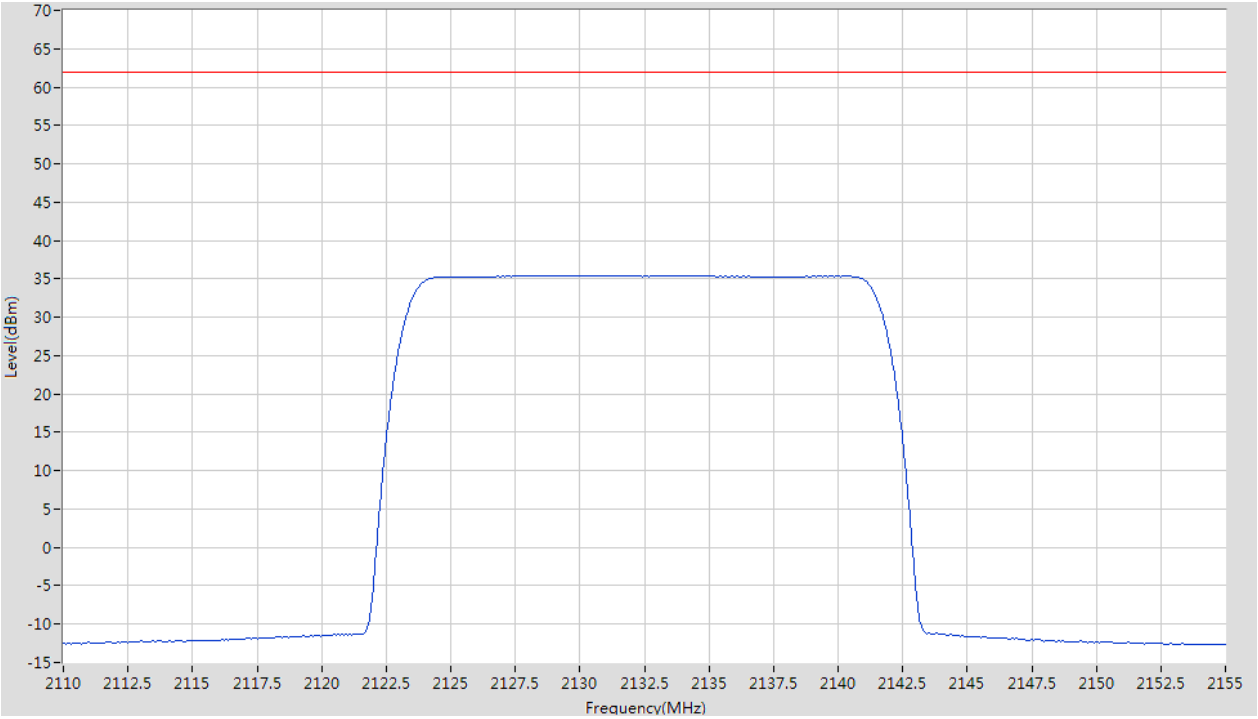
2.1.4 1L_20M_B

Start Frequency [MHz]	Stop Frequency [MHz]	RBW [MHz]	Detector	Frequency [Hz]	Emission [dBm]	Limit [dBm]	Verdict	Sweep Point
2110	2155	1	RMS	2118.85 M	35.46	62	Pass	601



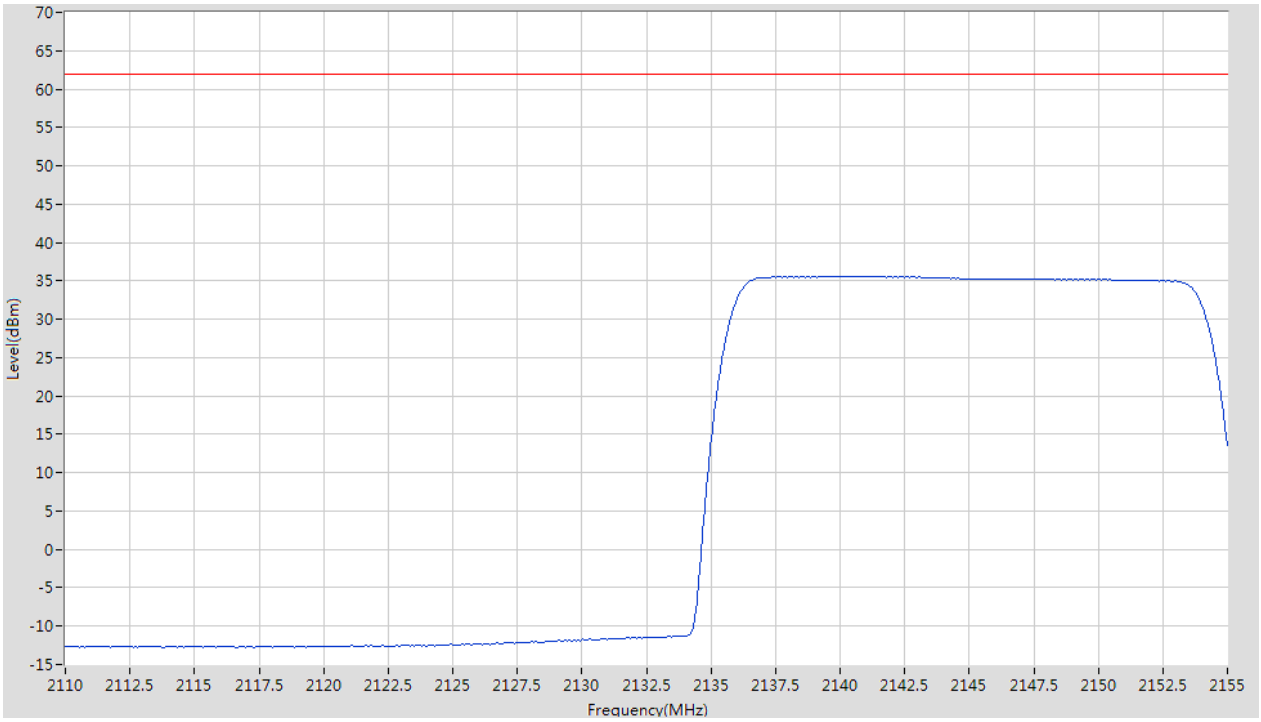
2.1.5 1L_20M_M

Start Frequency [MHz]	Stop Frequency [MHz]	RBW [MHz]	Detector	Frequency [Hz]	Emission [dBm]	Limit [dBm]	Verdict	Sweep Point
2110	2155	1	RMS	2131.375 M	35.45	62	Pass	601



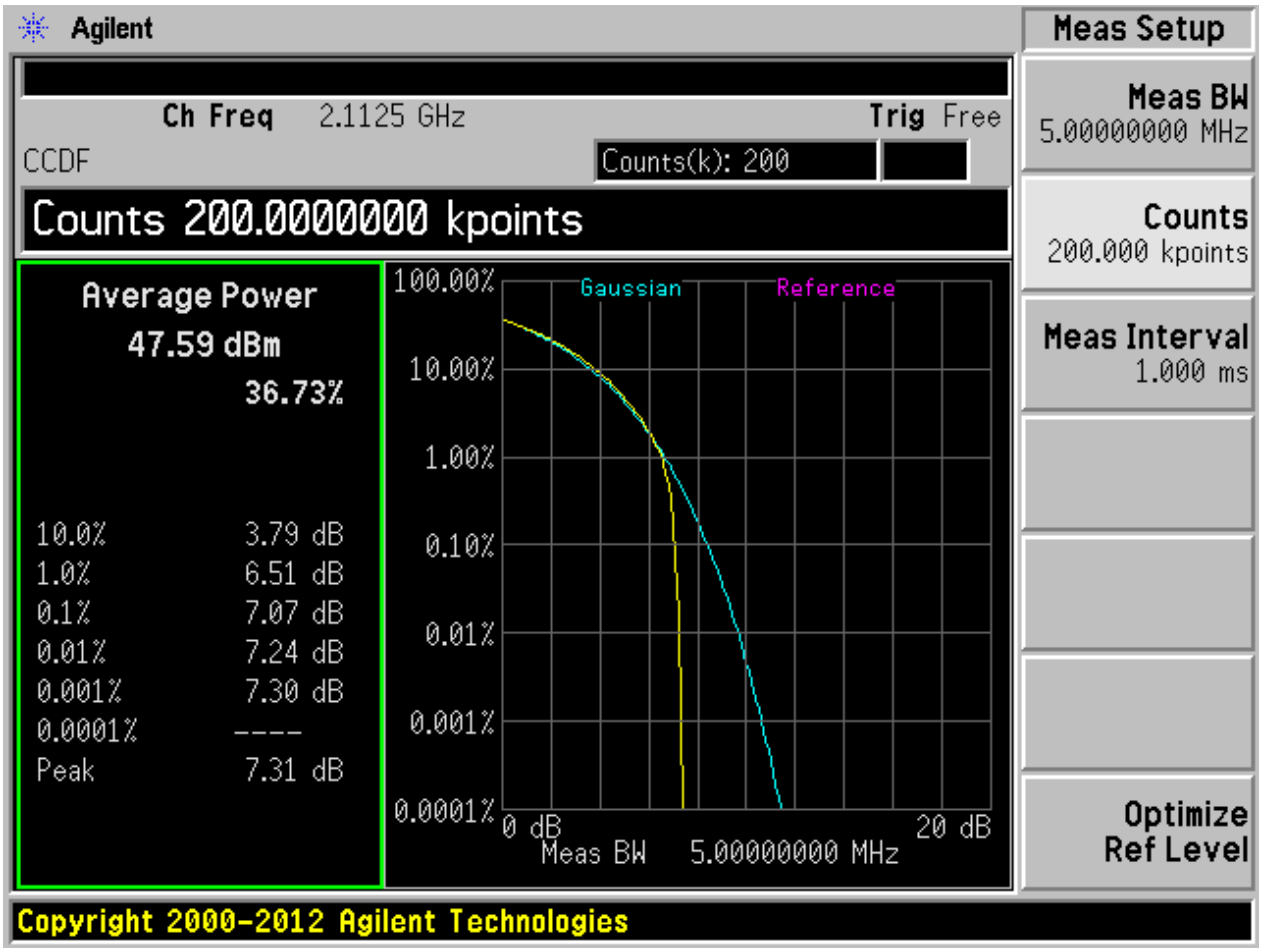
2.1.6 1L_20M_T

Start Frequency [MHz]	Stop Frequency [MHz]	RBW [MHz]	Detector	Frequency [Hz]	Emission [dBm]	Limit [dBm]	Verdict	Sweep Point
2110	2155	1	RMS	2140.375 M	35.58	62	Pass	601

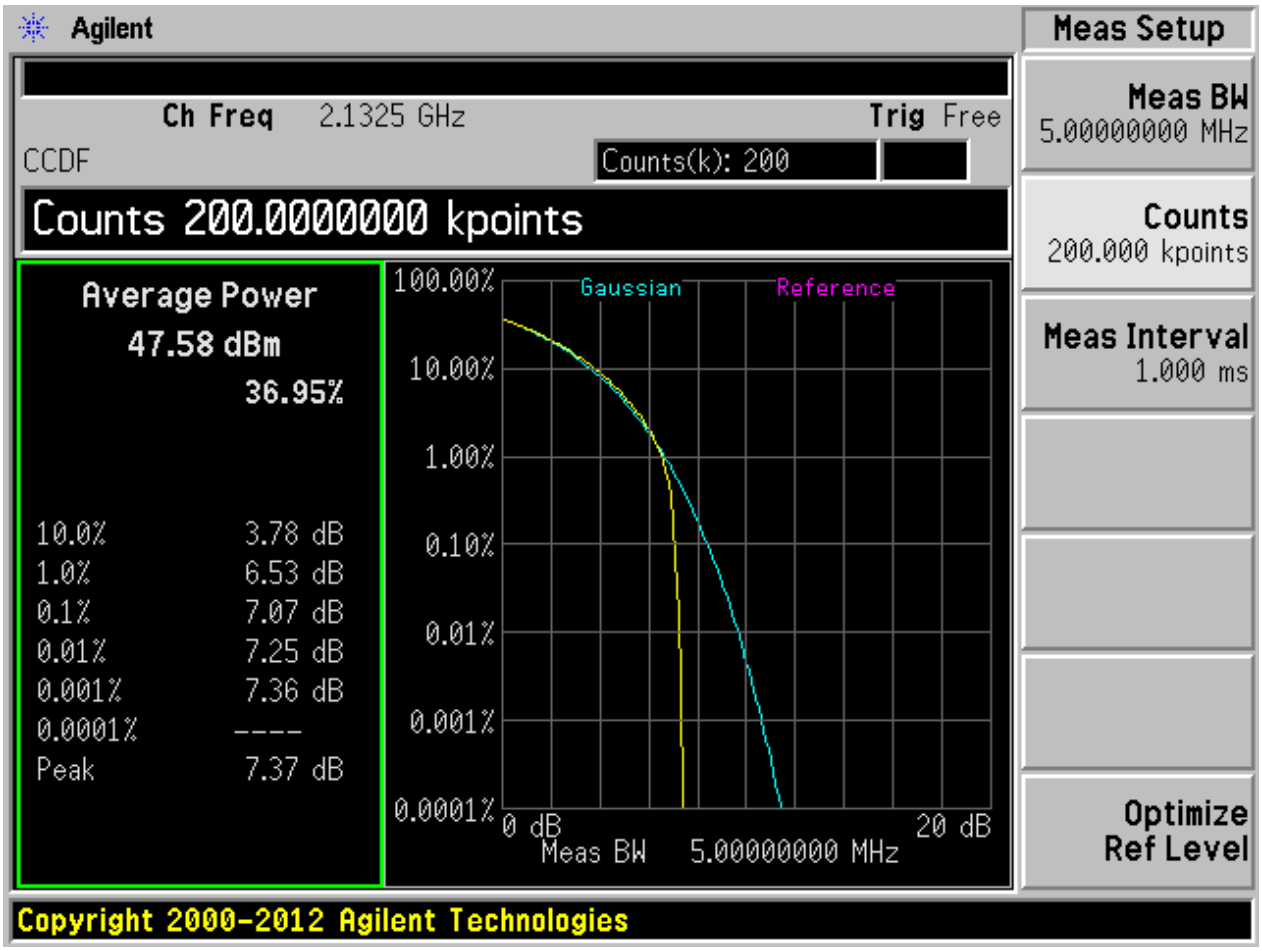


2.2 Peak-to-Average Ratio

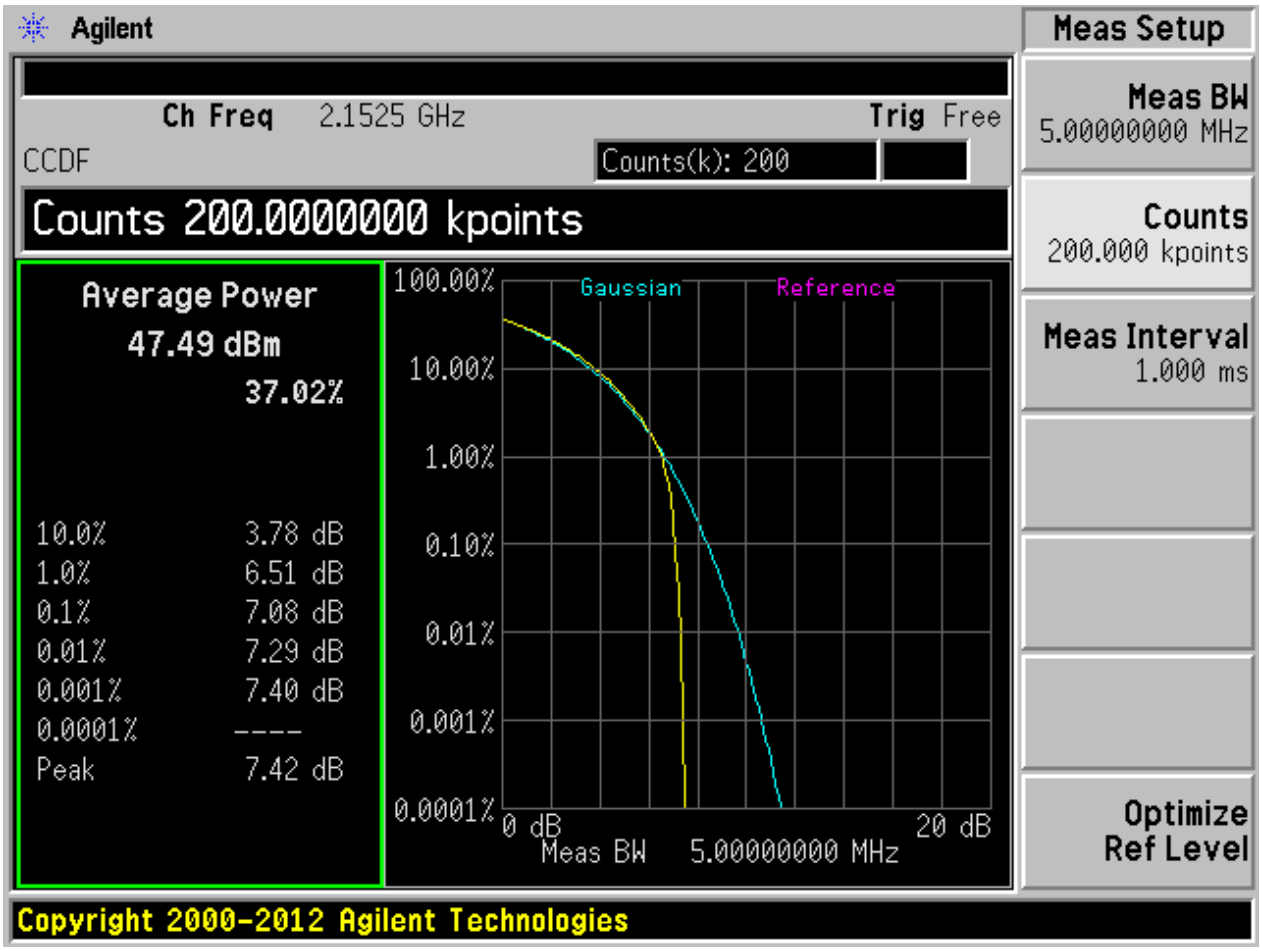
2.2.1 1L_5M_B



2.2.2 1L_5M_M



2.2.3 1L_5M_T



Appendix B: Bandwidth

1 Result Table

1.1 Occupied Bandwidth

EUT Conf.	Occupied Bandwidth [MHz]	Verdict
1L_5M_B	4.517286	Pass
1L_5M_M	4.511818	Pass
1L_5M_T	4.517625	Pass
1L_10M_B	9.016252	Pass
1L_10M_M	9.017315	Pass
1L_10M_T	9.015951	Pass
1L_15M_B	13.49898	Pass
1L_15M_ M	13.50816	Pass
1L_15M_ T	13.50587	Pass
1L_20M_B	17.99083	Pass
1L_20M_ M	17.96220	Pass
1L_20M_ T	17.98147	Pass

1.2 20dB Emission Bandwidth

EUT Conf.	Emission Bandwidth, -26 dBc [MHz]	Verdict
1L_5M_M	4.733824	Pass
1L_10M_M	9.243776	Pass
1L_15M_M	13.75373	Pass
1L_20M_M	18.2336	Pass

1.3 26dB Emission Bandwidth

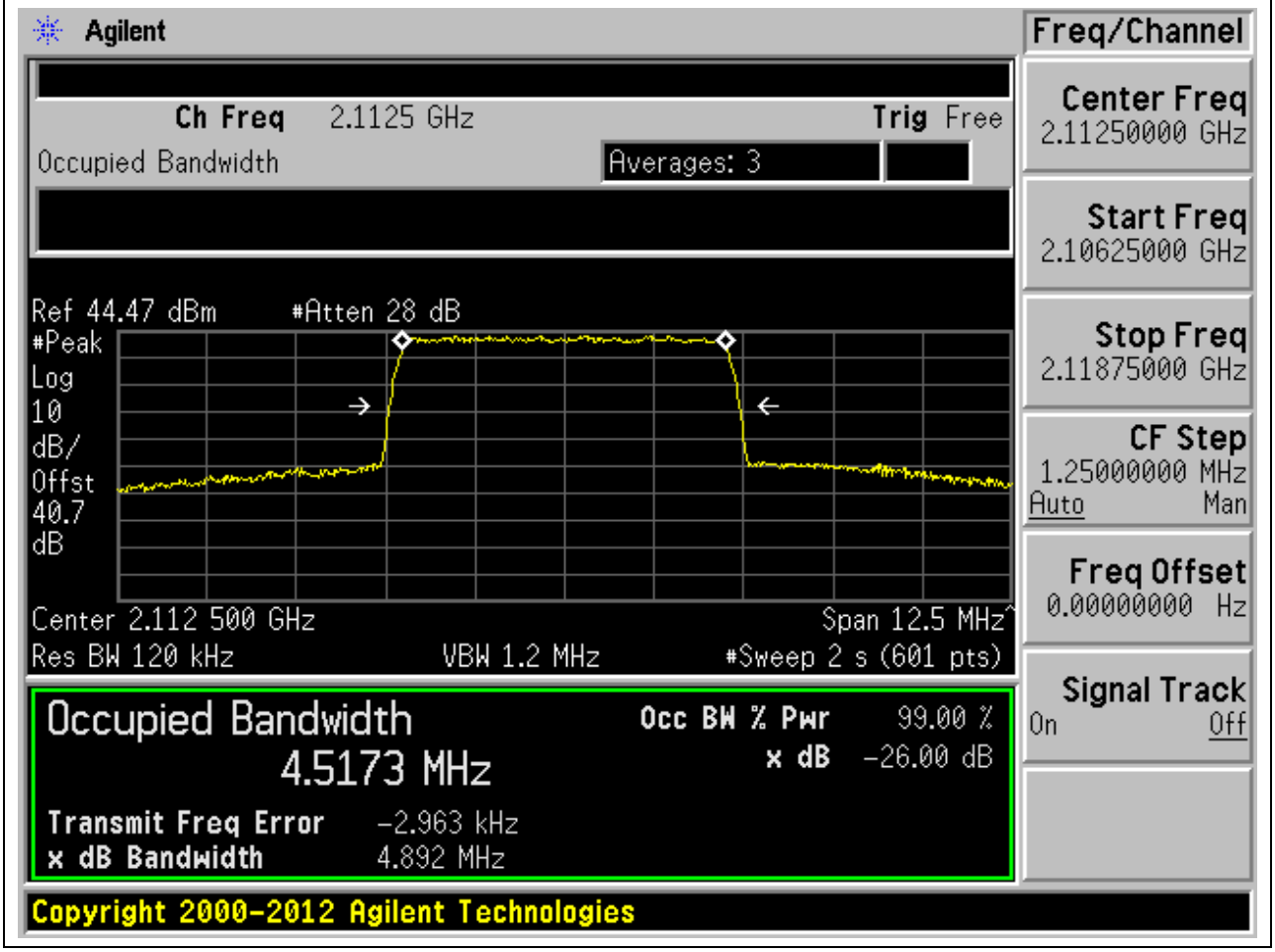
EUT Conf.	Emission Bandwidth, -26 dBc [MHz]	Verdict
1L_5M_M	4.793856	Pass
1L_10M_M	9.403776	Pass
1L_15M_M	14.06374	Pass
1L_20M_M	18.59379	Pass

2 Test Plot

2.1 Occupied Bandwidth

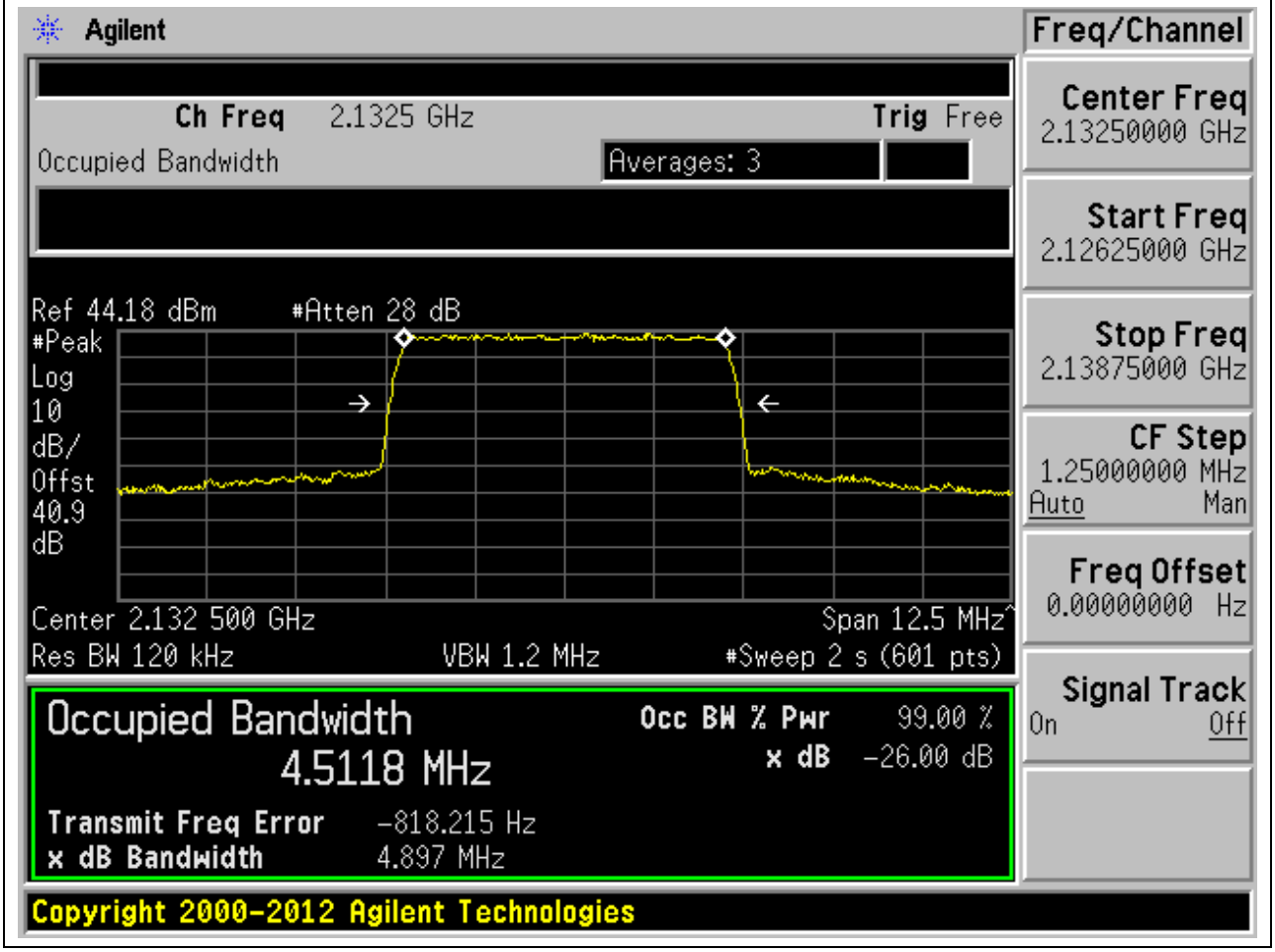
2.1.1 1L_5M_B

Center Frequency [MHz]	OBW Power [%]	RBW [MHz]	Detector	OBW [MHz]	Verdict
2112.5	99	Auto	Peak	4.517286	No Conclusion



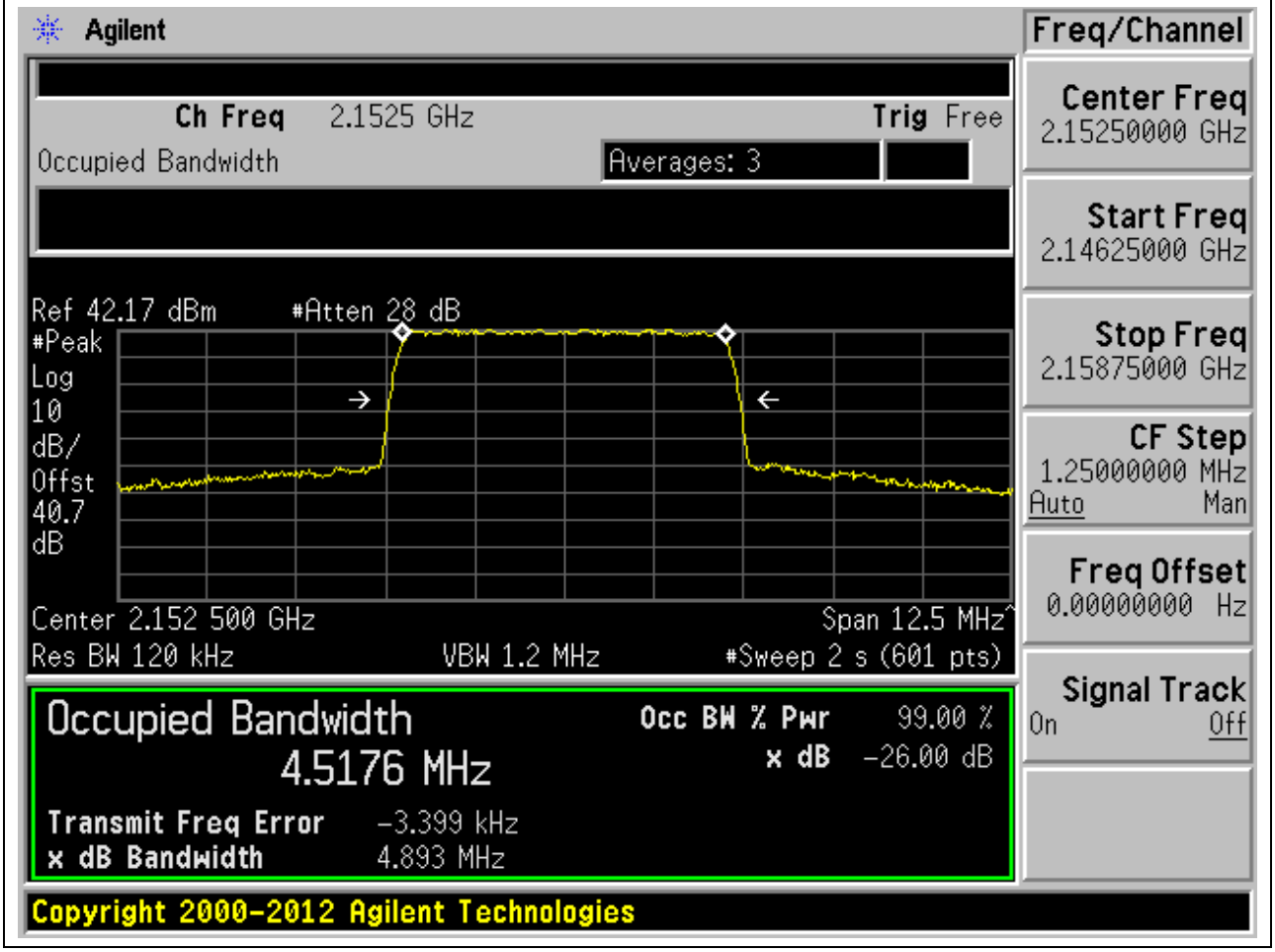
2.1.2 1L_5M_M

Center Frequency [MHz]	OBW Power [%]	RBW [MHz]	Detector	OBW [MHz]	Verdict
2132.5	99	Auto	Peak	4.511818	No Conclusion



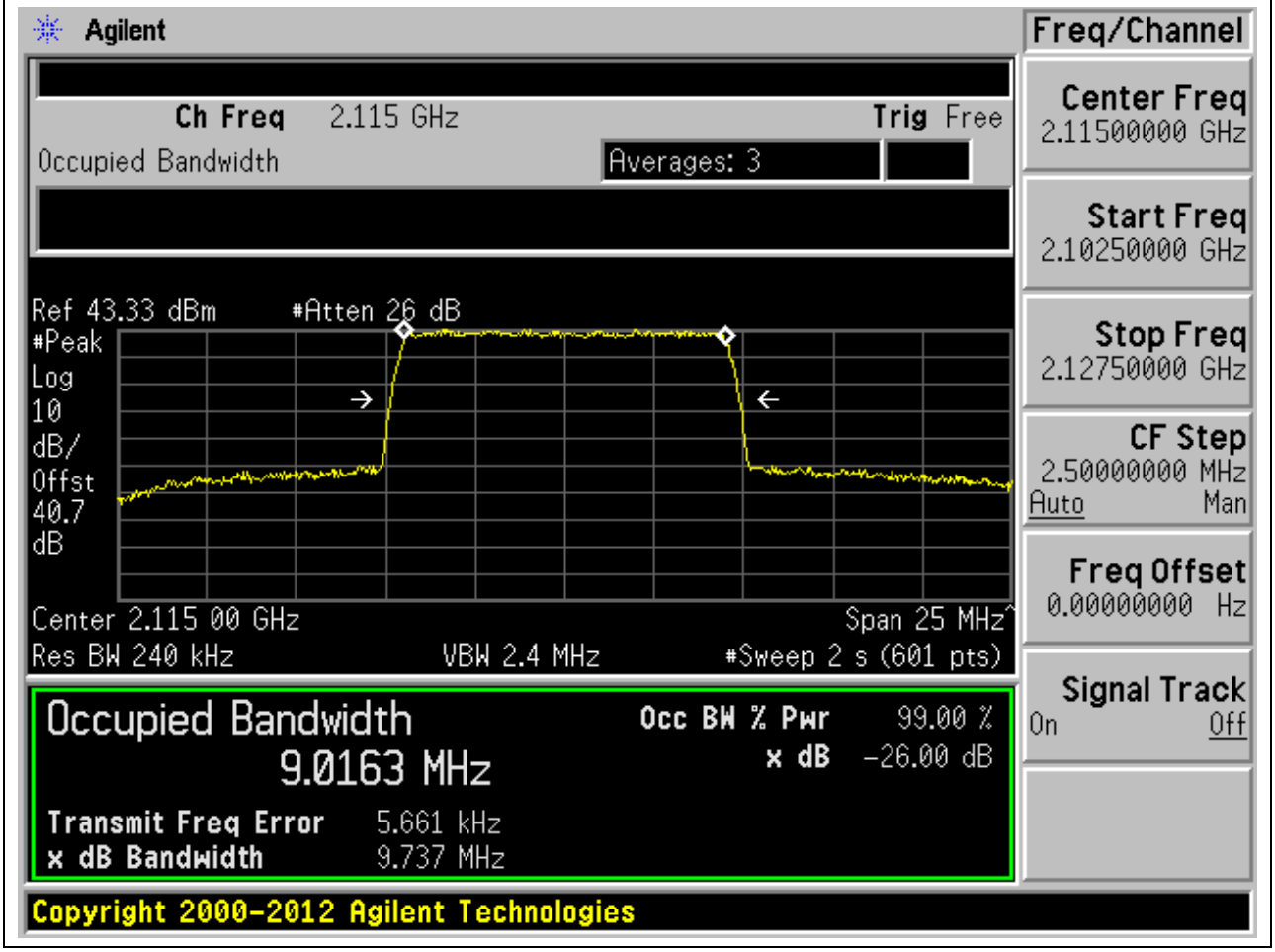
2.1.3 1L_5M_T

Center Frequency [MHz]	OBW Power [%]	RBW [MHz]	Detector	OBW [MHz]	Verdict
2152.5	99	Auto	Peak	4.517625	No Conclusion



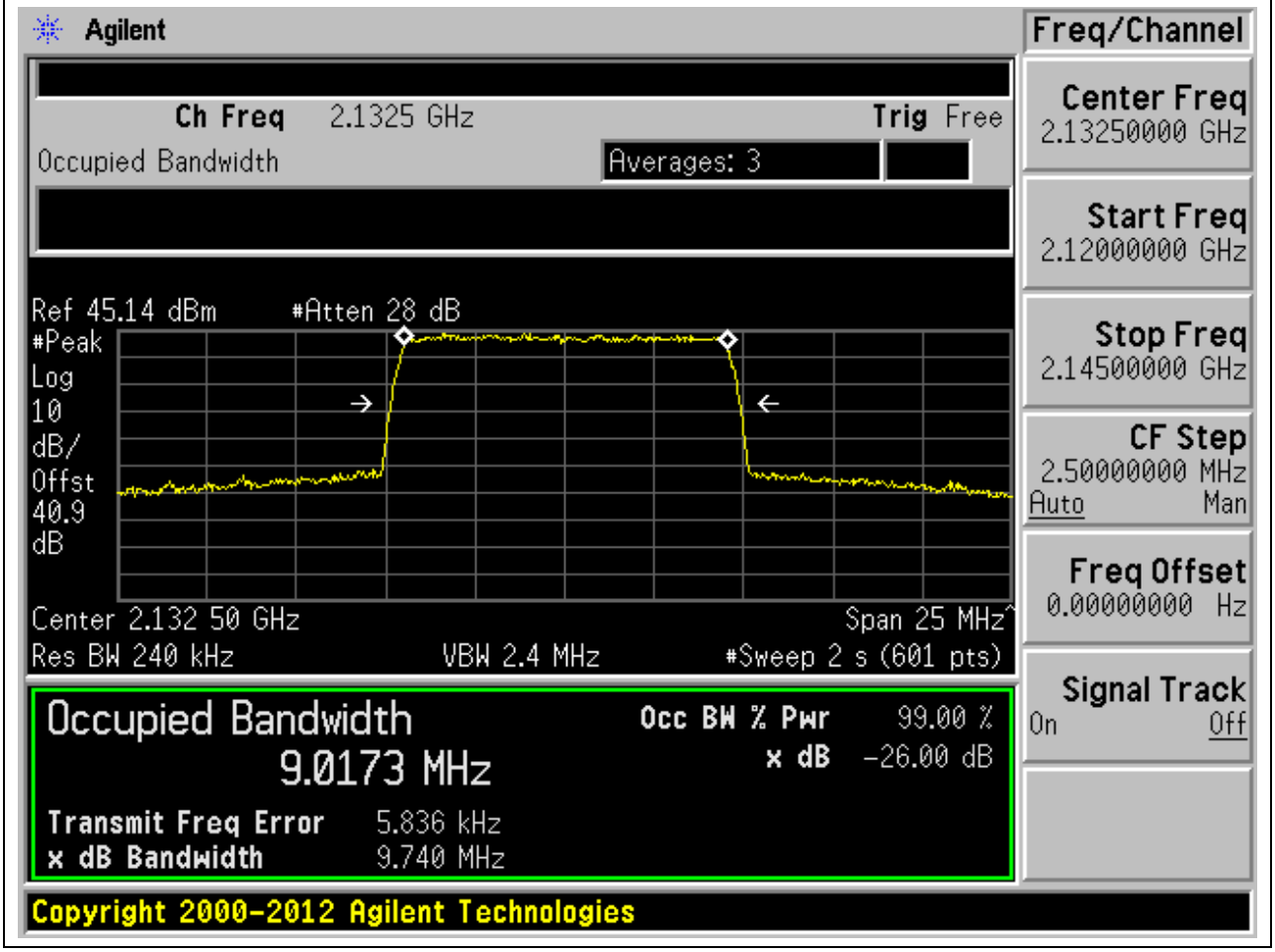
2.1.4 1L_10M_B

Center Frequency [MHz]	OBW Power [%]	RBW [MHz]	Detector	OBW [MHz]	Verdict
2115	99	Auto	Peak	9.016252	No Conclusion



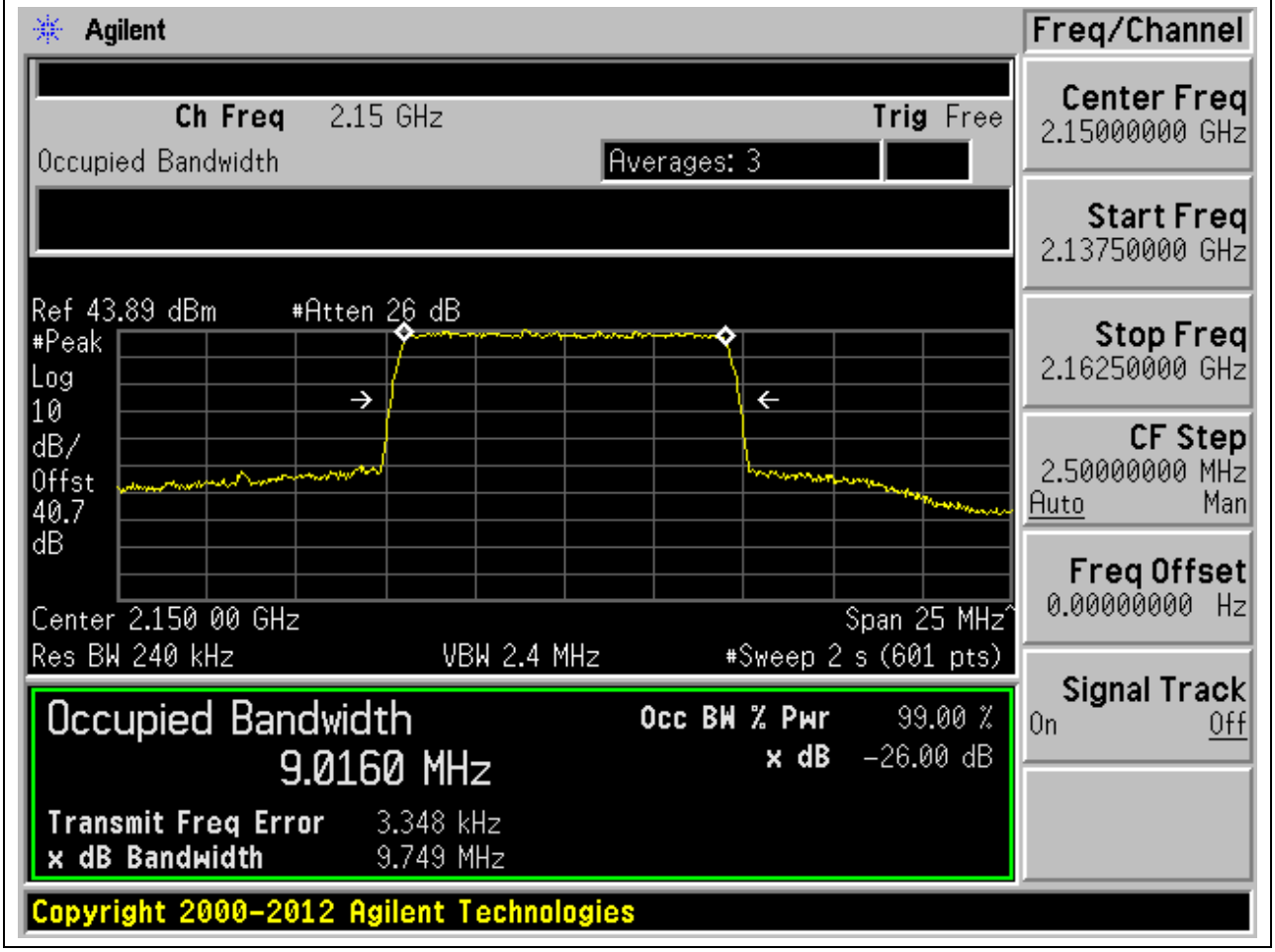
2.1.5 1L_10M_M

Center Frequency [MHz]	OBW Power [%]	RBW [MHz]	Detector	OBW [MHz]	Verdict
2132.5	99	Auto	Peak	9.017315	No Conclusion



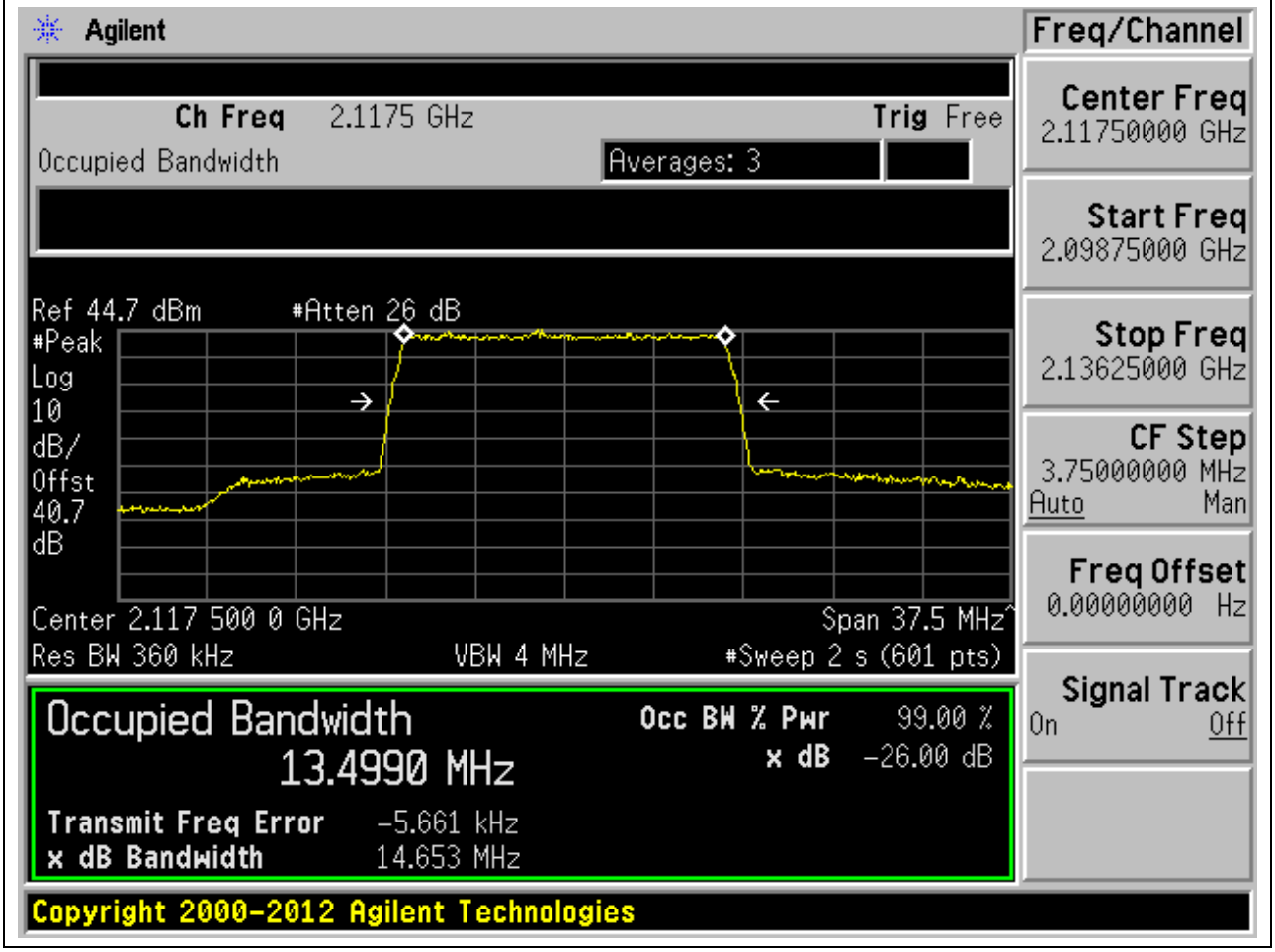
2.1.6 1L_10M_T

Center Frequency [MHz]	OBW Power [%]	RBW [MHz]	Detector	OBW [MHz]	Verdict
2150	99	Auto	Peak	9.015951	No Conclusion



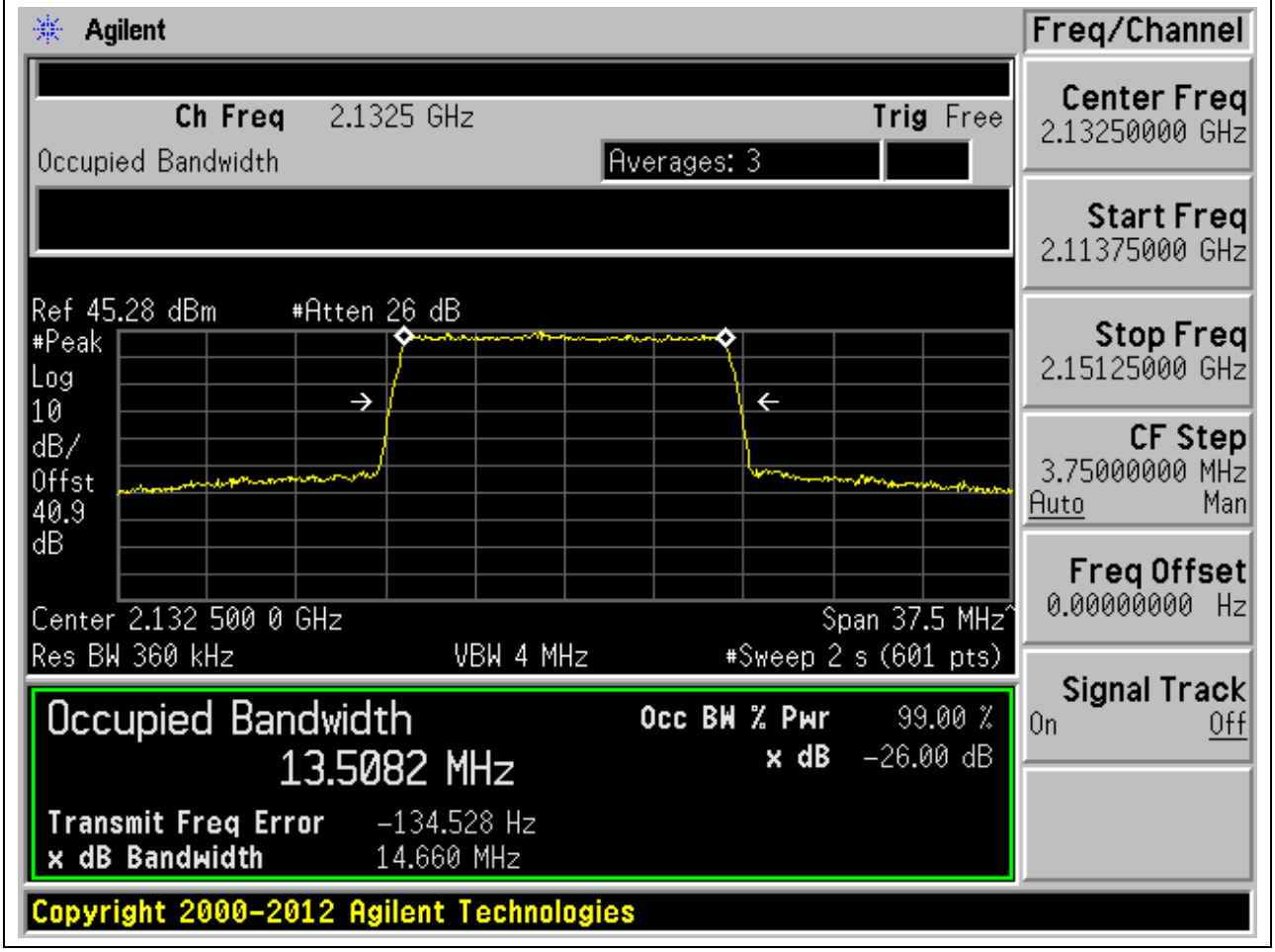
2.1.7 1L_15M_B

Center Frequency [MHz]	OBW Power [%]	RBW [MHz]	Detector	OBW [MHz]	Verdict
2117.5	99	Auto	Peak	13.49898	No Conclusion



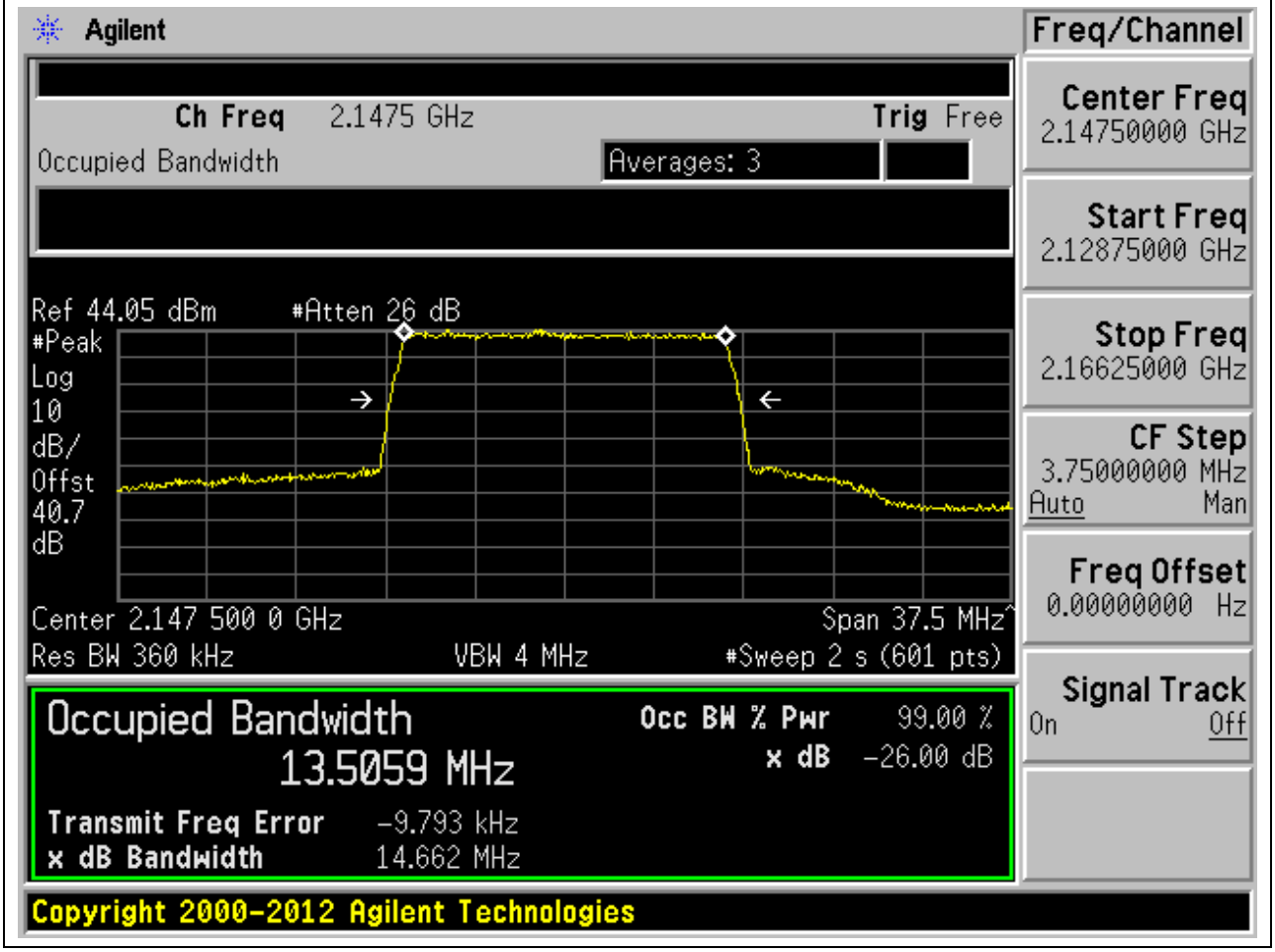
2.1.8 1L_15M_M

Center Frequency [MHz]	OBW Power [%]	RBW [MHz]	Detector	OBW [MHz]	Verdict
2132.5	99	Auto	Peak	13.50816	No Conclusion



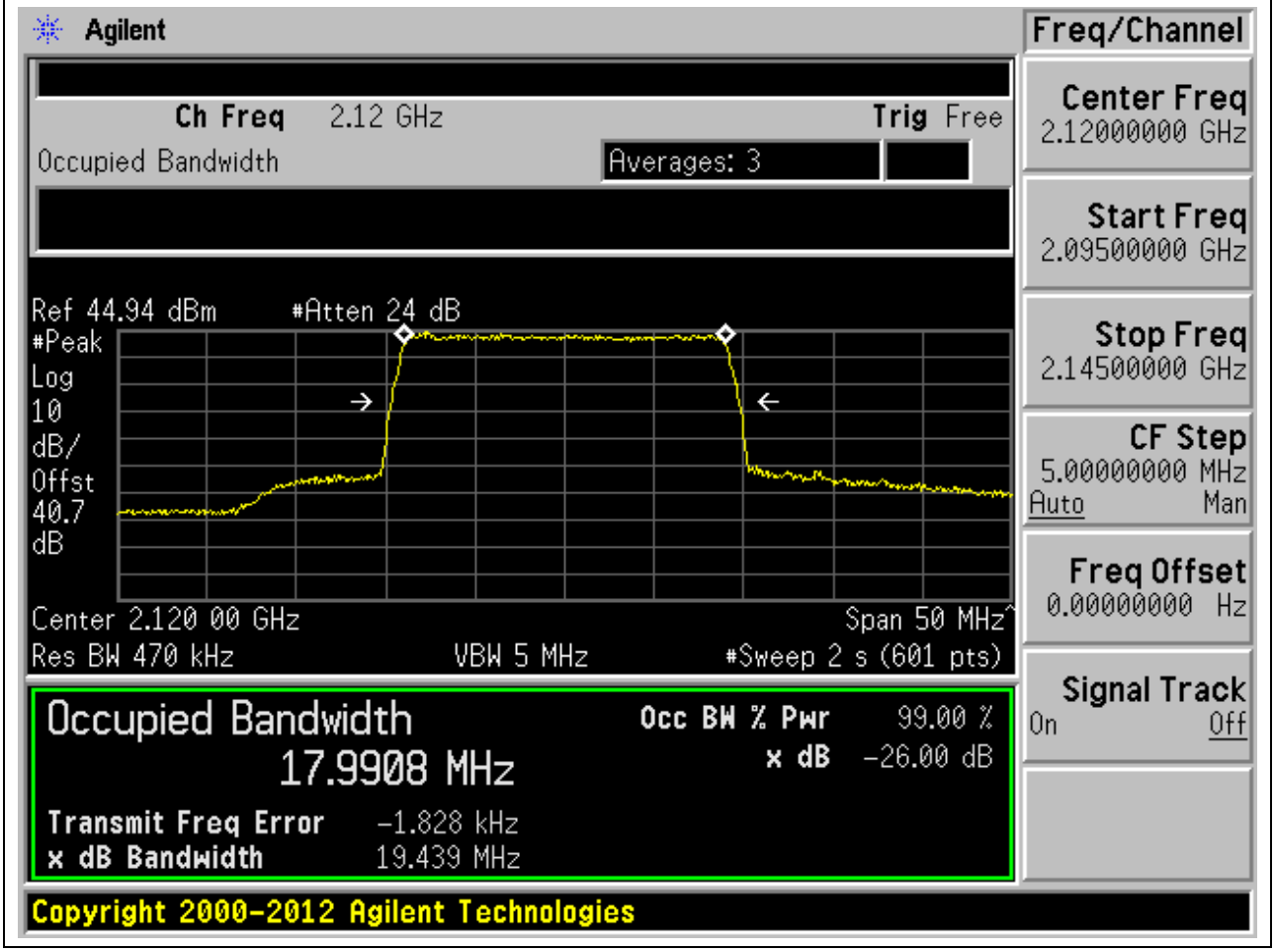
2.1.9 1L_15M_T

Center Frequency [MHz]	OBW Power [%]	RBW [MHz]	Detector	OBW [MHz]	Verdict
2147.5	99	Auto	Peak	13.50587	No Conclusion



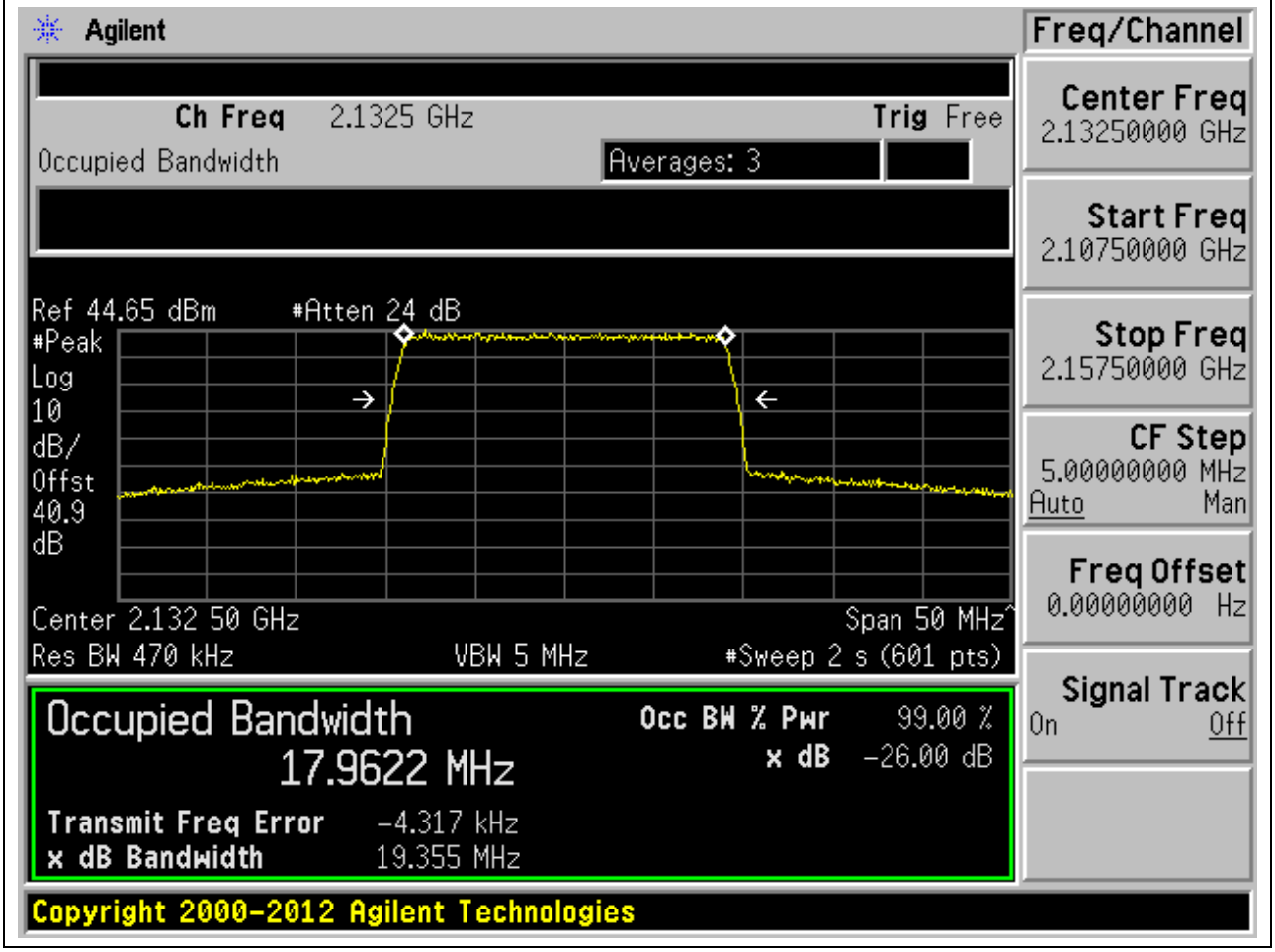
2.1.10 1L_20M_B

Center Frequency [MHz]	OBW Power [%]	RBW [MHz]	Detector	OBW [MHz]	Verdict
2120	99	Auto	Peak	17.99083	No Conclusion



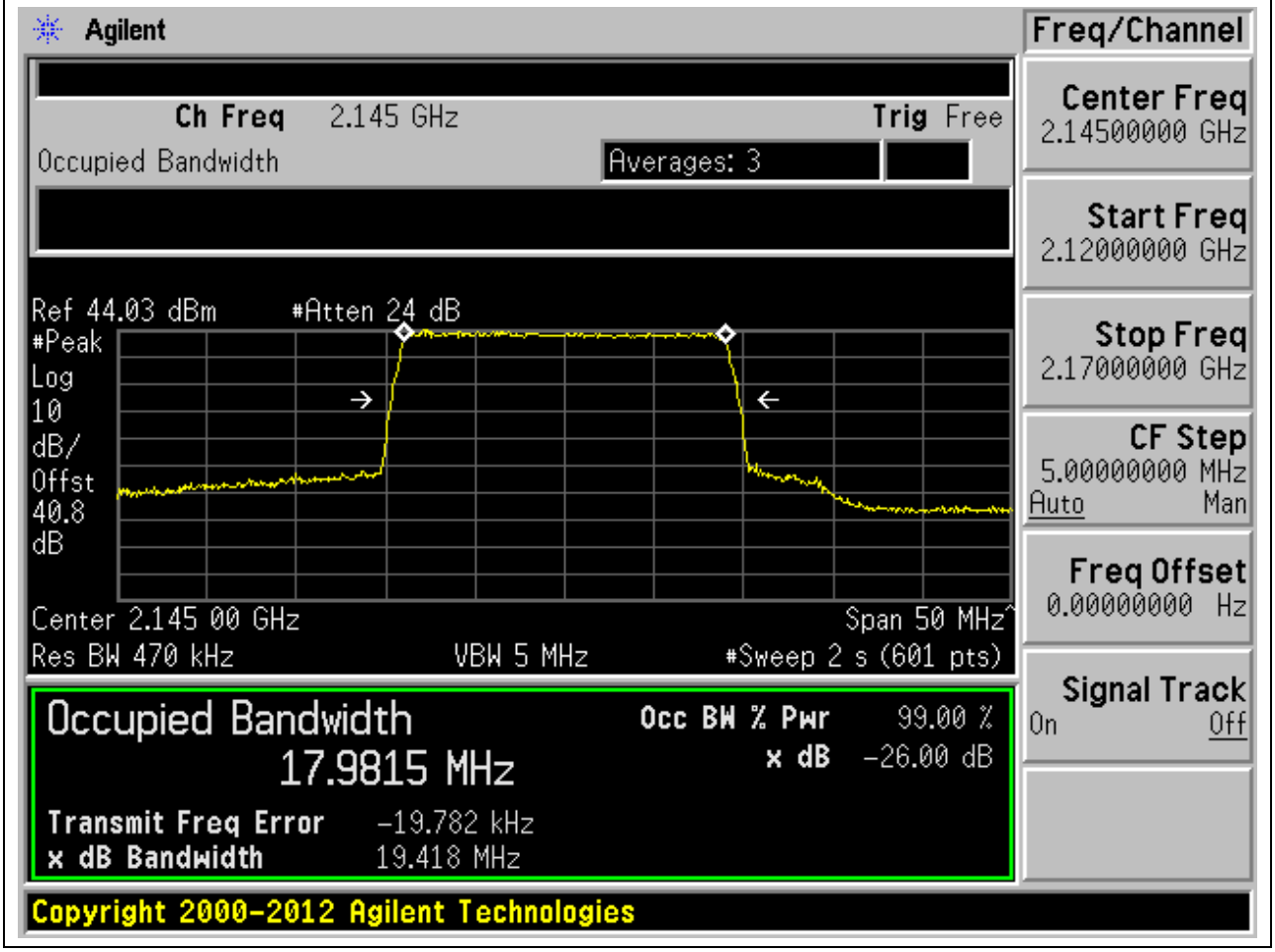
2.1.11 1L_20M_M

Center Frequency [MHz]	OBW Power [%]	RBW [MHz]	Detector	OBW [MHz]	Verdict
2132.5	99	Auto	Peak	17.9622	No Conclusion



2.1.12 1L_20M_T

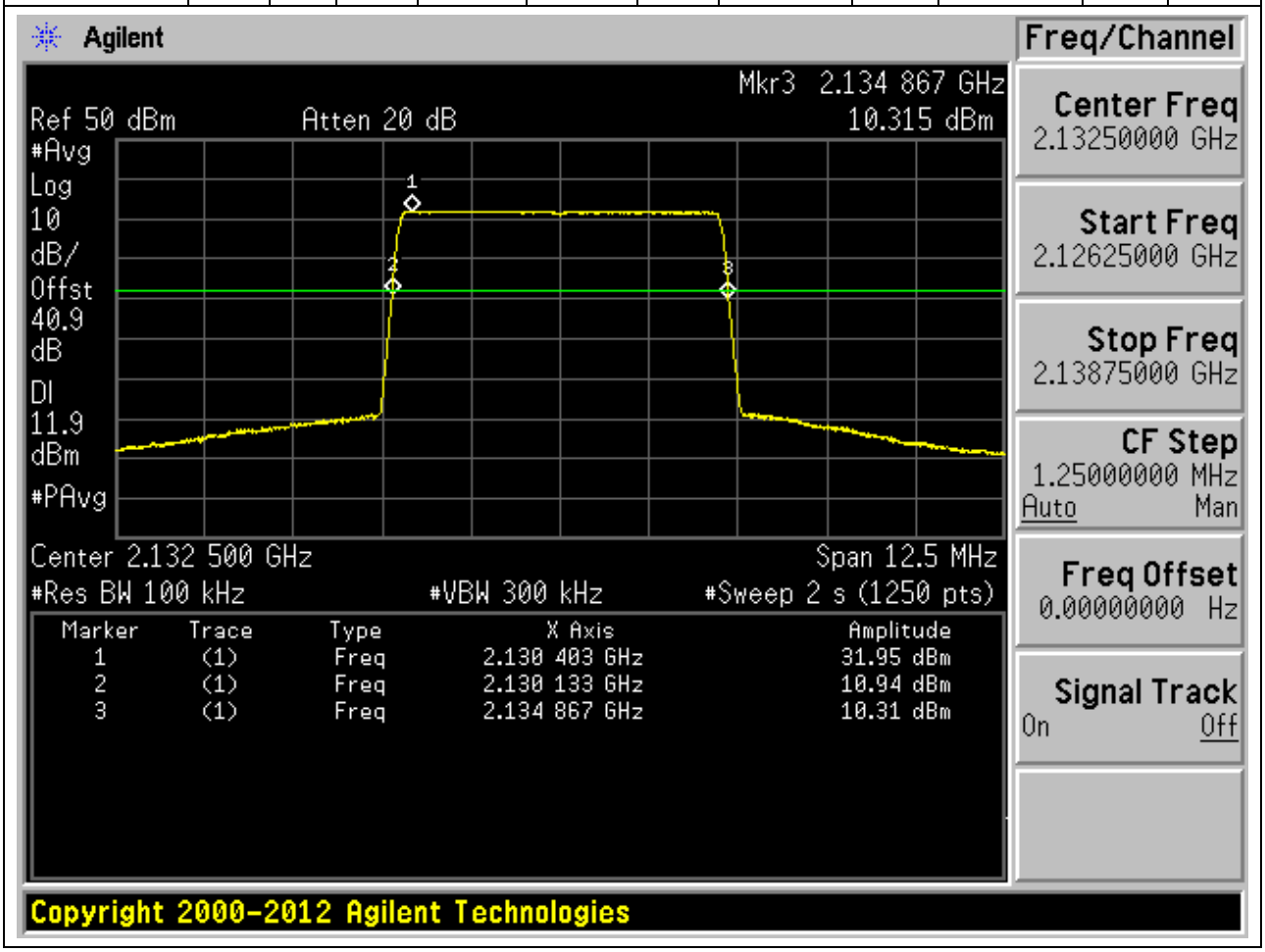
Center Frequency [MHz]	OBW Power [%]	RBW [MHz]	Detector	OBW [MHz]	Verdict
2145	99	Auto	Peak	17.98147	No Conclusion



2.1 20dB Emission Bandwidth

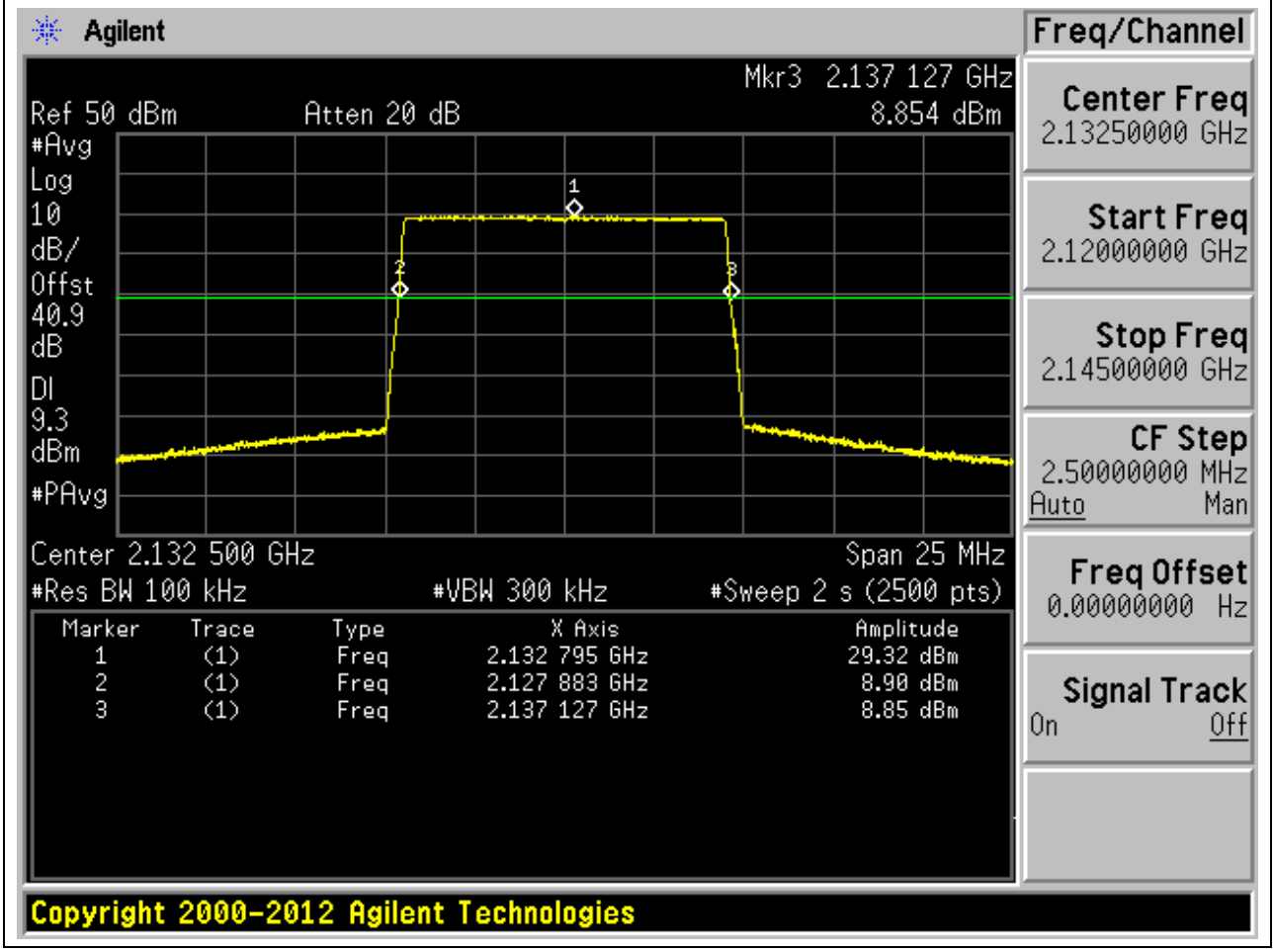
2.1.1 1L_5M_M

Center Frequency[MHz]	Span [MHz]	ndB [dB]	RBW [MHz]	Detector	ndB BW [MHz]	BW Limit [MHz]	Lower Freq [MHz]	Lower Limit [MHz]	Upper Freq [MHz]	Upper Limit [MHz]	Verdict
2132.5	12.5	20	0.1	RMS	4.733824	5	2130.13312	2110	2134.866944	2155	Pass



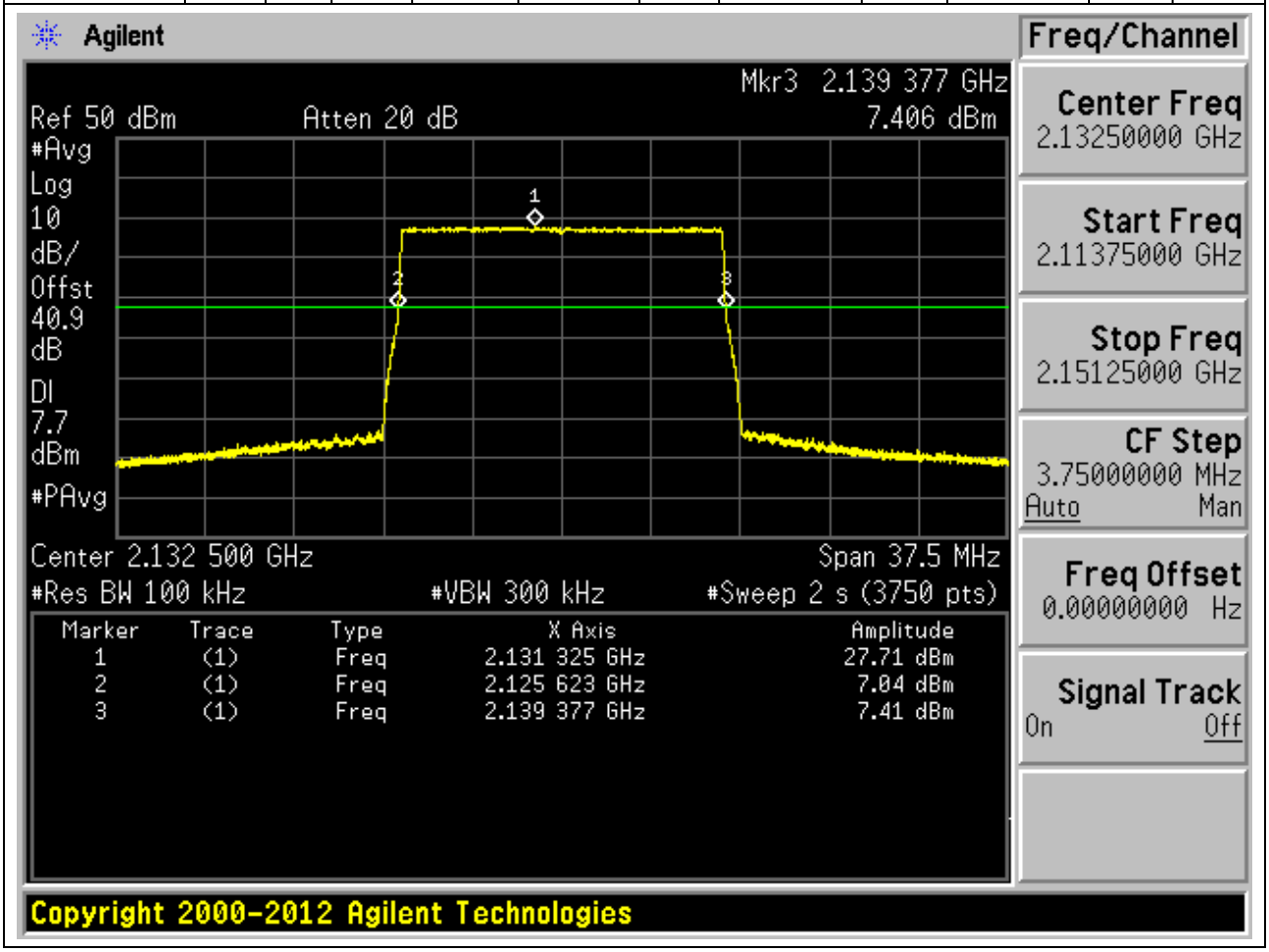
2.1.2 1L_10M_M

Center Frequency[MHz]	Span [MHz]	ndB [dB]	RBW [MHz]	Detector	ndB BW [MHz]	BW Limit [MHz]	Lower Freq [MHz]	Lower Limit [MHz]	Upper Freq [MHz]	Upper Limit [MHz]	Verdict
2132.5	25	20	0.1	RMS	9.243776	10	2127.883136	2110	2137.126912	2155	Pass



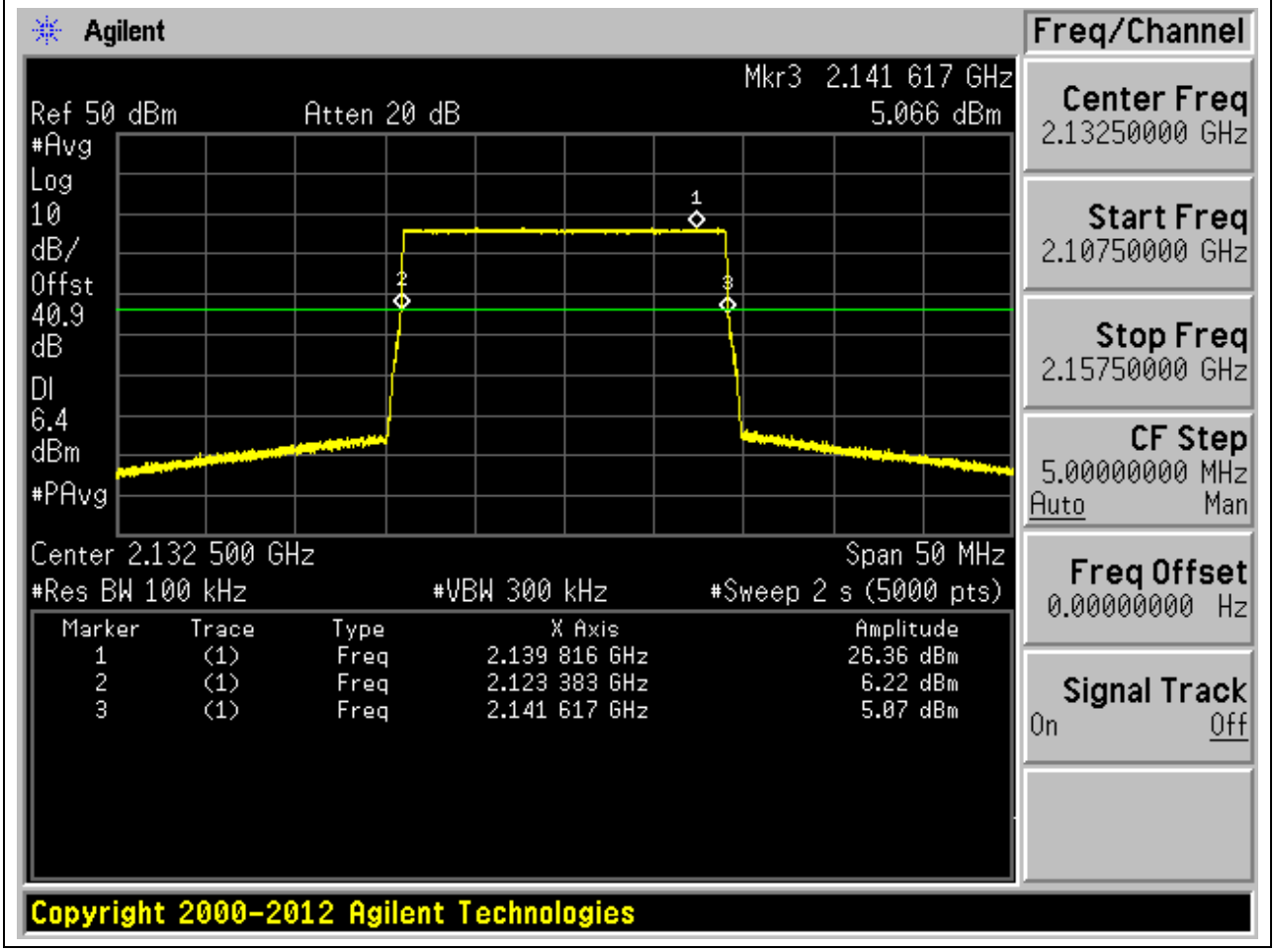
2.1.3 1L_15M_M

Center Frequency[MHz]	Span [MHz]	ndB [dB]	RBW [MHz]	Detector	ndB BW [MHz]	BW Limit [MHz]	Lower Freq [MHz]	Lower Limit [MHz]	Upper Freq [MHz]	Upper Limit [MHz]	Verdict
2132.5	37.5	20	0.1	RMS	13.753728	15	2125.623168	2110	2139.376896	2155	Pass



2.1.4 1L_20M_M

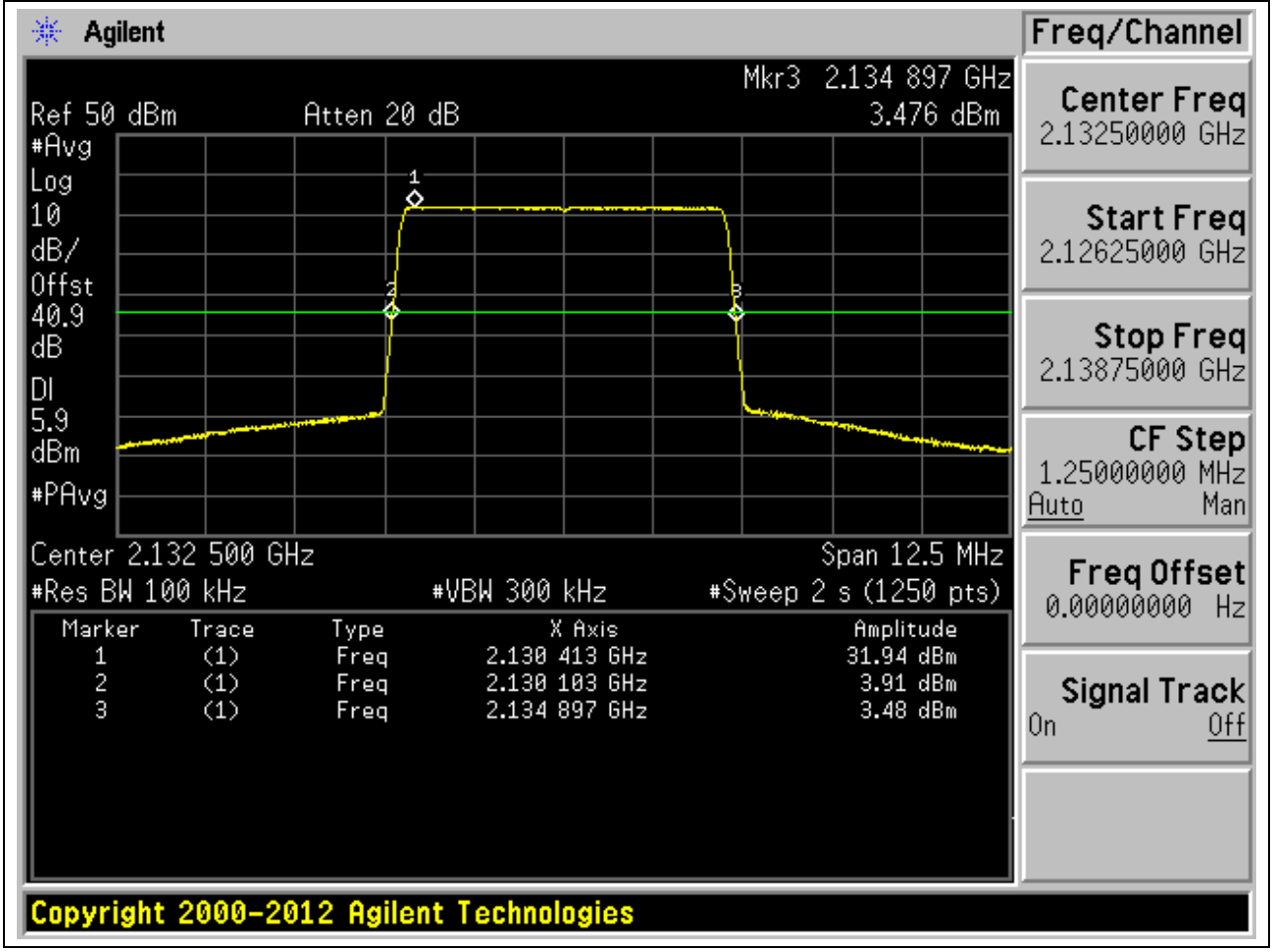
Center Frequency[MHz]	Span [MHz]	ndB [dB]	RBW [MHz]	Detector	ndB BW [MHz]	BW Limit [MHz]	Lower Freq [MHz]	Lower Limit [MHz]	Upper Freq [MHz]	Upper Limit [MHz]	Verdict
2132.5	50	20	0.1	RMS	18.2336	20	2123.383168	2110	2141.616768	2155	Pass



2.2 26dB Emission Bandwidth

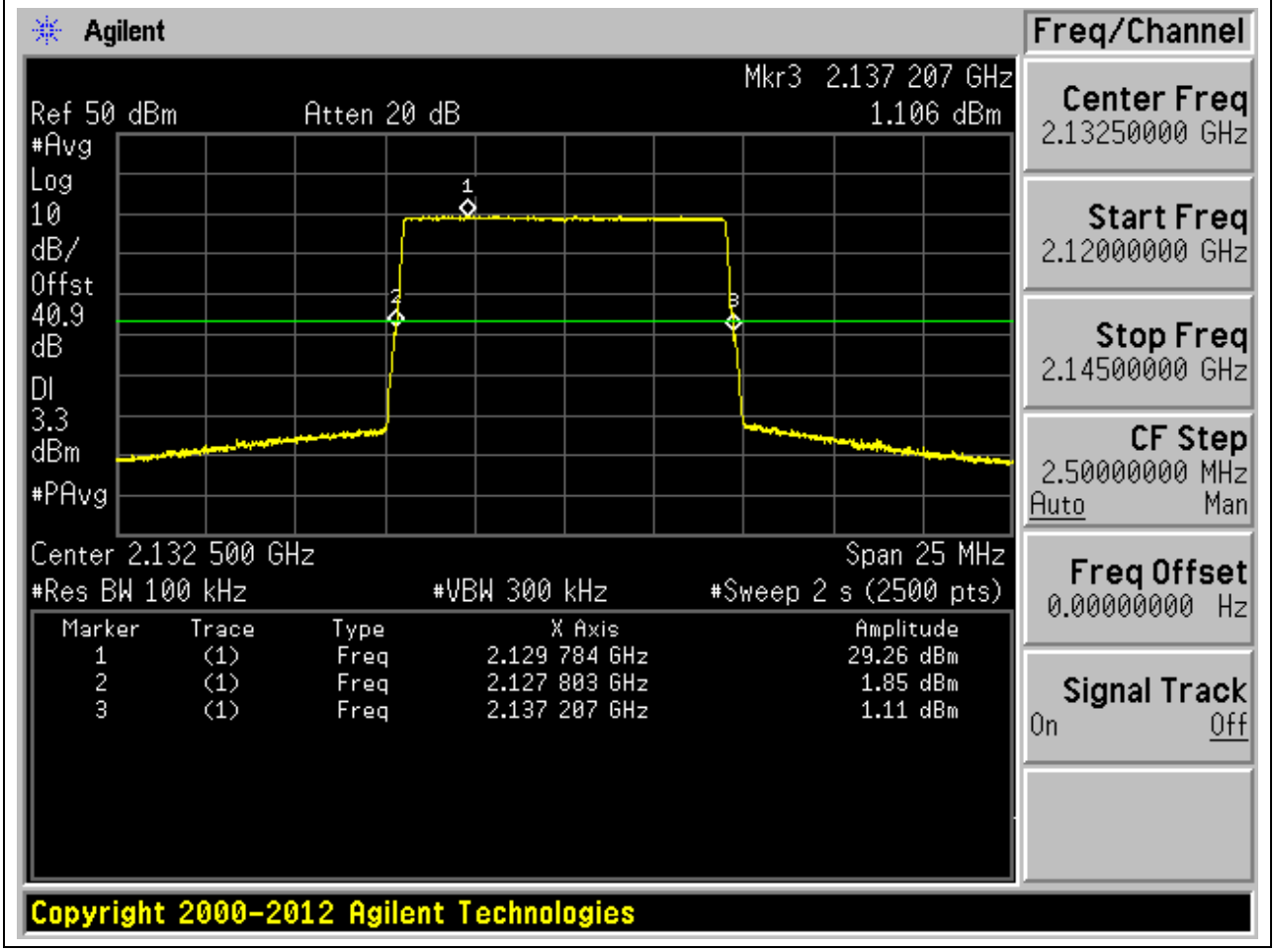
2.2.1 1L_5M_M

Center Frequency[MHz]	Span [MHz]	ndB [dB]	RBW [MHz]	Detector	ndB BW [MHz]	BW Limit [MHz]	Lower Freq [MHz]	Lower Limit [MHz]	Upper Freq [MHz]	Upper Limit [MHz]	Verdict
2132.5	12.5	26	0.1	RMS	4.793856	5	2130.10304	2110	2134.896896	2155	Pass



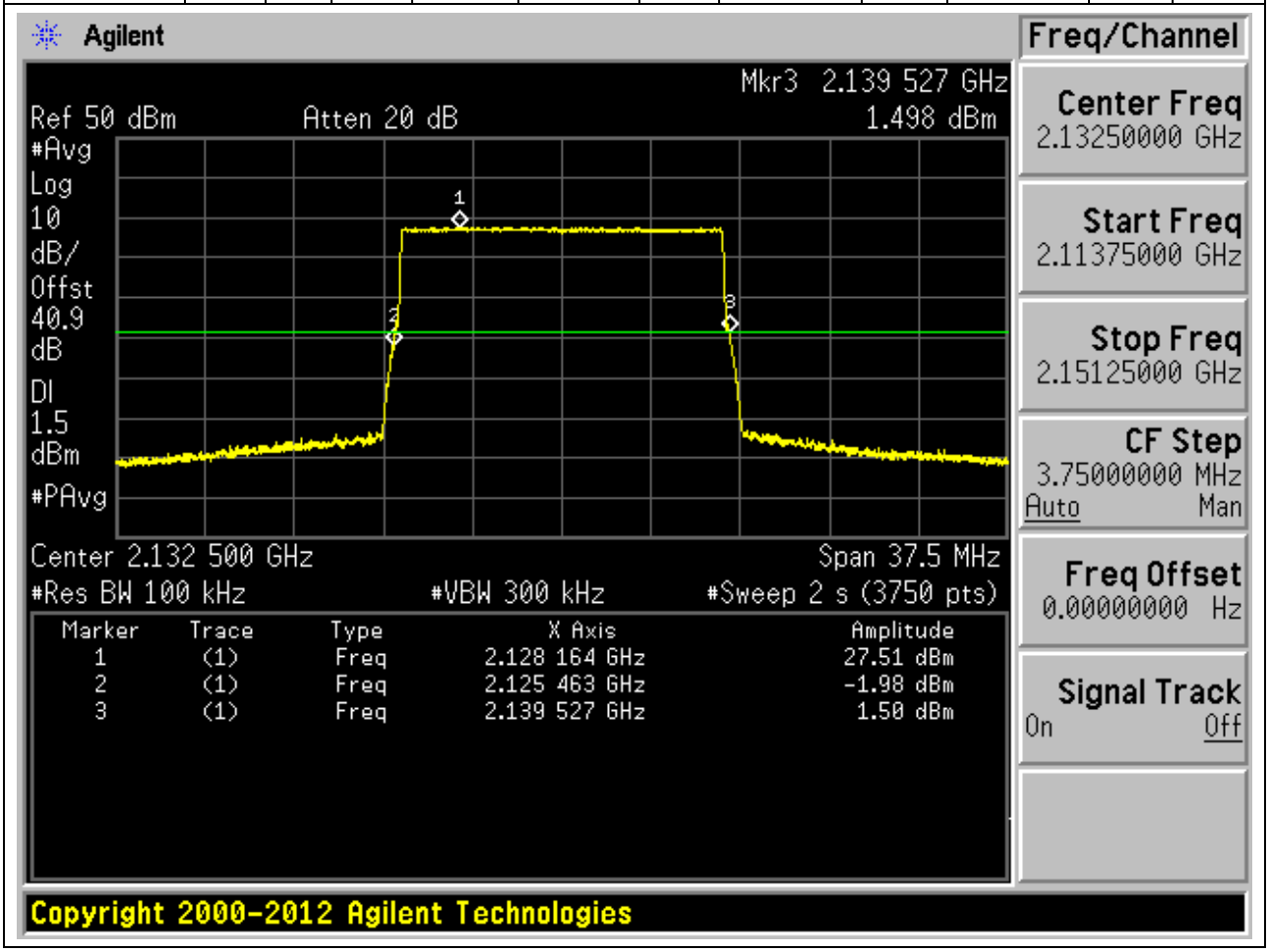
2.2.2 1L_10M_M

Center Frequency[MHz]	Span [MHz]	ndB [dB]	RBW [MHz]	Detector	ndB BW [MHz]	BW Limit [MHz]	Lower Freq [MHz]	Lower Limit [MHz]	Upper Freq [MHz]	Upper Limit [MHz]	Verdict
2132.5	25	26	0.1	RMS	9.403776	10	2127.803136	2110	2137.206912	2155	Pass



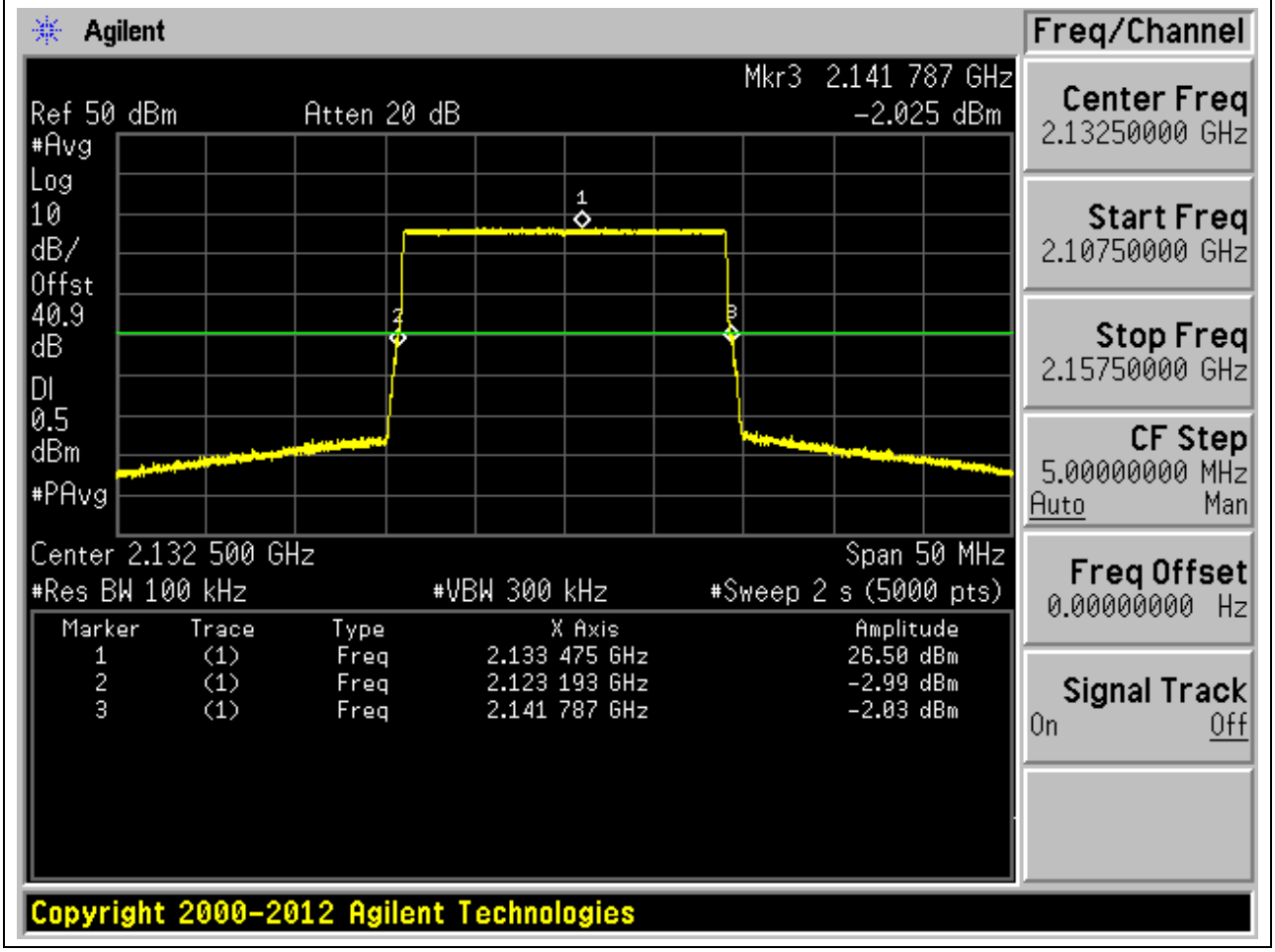
2.2.3 1L_15M_M

Center Frequency[MHz]	Span [MHz]	ndB [dB]	RBW [MHz]	Detector	ndB BW [MHz]	BW Limit [MHz]	Lower Freq [MHz]	Lower Limit [MHz]	Upper Freq [MHz]	Upper Limit [MHz]	Verdict
2132.5	37.5	26	0.1	RMS	14.063744	15	2125.463168	2110	2139.526912	2155	Pass



2.2.4 1L_20M_M

Center Frequency[MHz]	Span [MHz]	ndB [dB]	RBW [MHz]	Detector	ndB BW [MHz]	BW Limit [MHz]	Lower Freq [MHz]	Lower Limit [MHz]	Upper Freq [MHz]	Upper Limit [MHz]	Verdict
2132.5	50	26	0.1	RMS	18.593792	20	2123.193088	2110	2141.786 88	2155	Pass



Appendix C: Band Edges Compliance

1 Result Table

NOTE 1: The offset of measurement filter -3dB point may be considered when identifying the maximum emission for e.g. the CDMA, WCDMA, WiMAX, LTE systems.

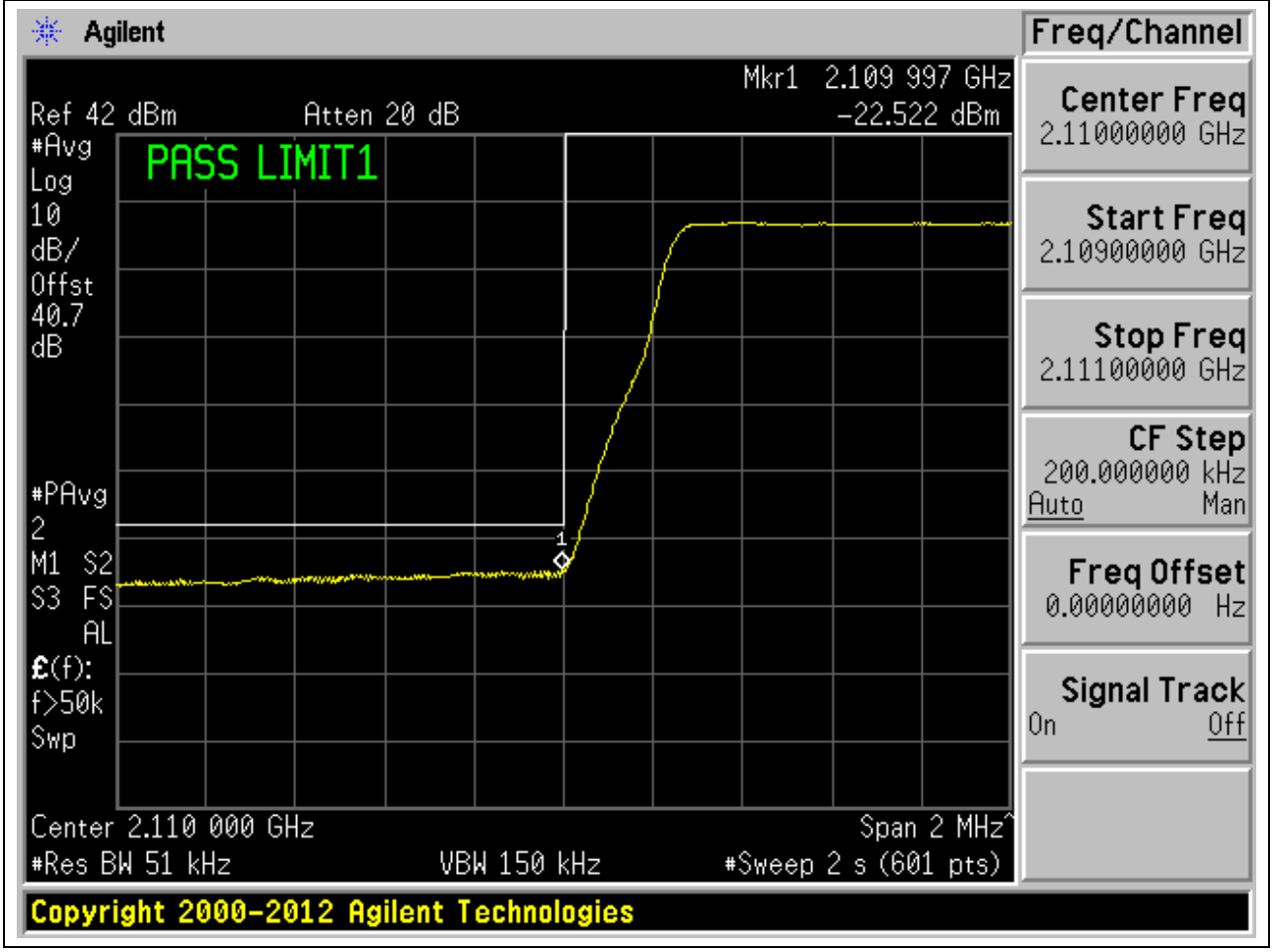
NOTE 2: Worst cases are listed. Maximum and minimum bandwidth represents the ultimate results.

EUT Conf.	Maximum Emission [dBm]	Verdict
1L_5M_B	<-16	Pass
1L_5M_T	<-16	Pass
1L_20M_B	<-16	Pass
1L_20M_T	<-16	Pass
2L_5M_B	<-16	Pass
2L_5M_T	<-16	Pass

2 Test Plot

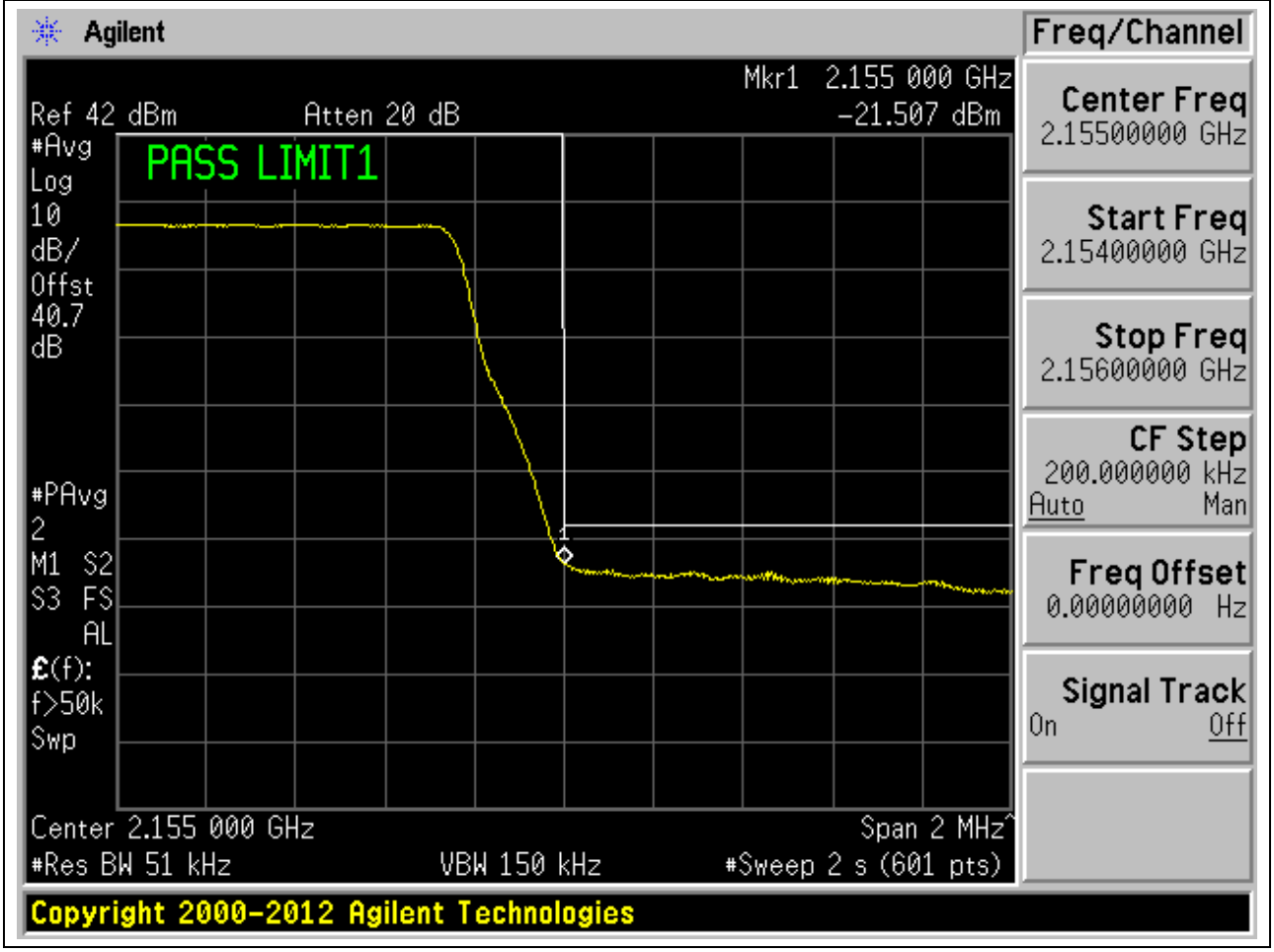
2.1 1L_5M_B

Center Frequency[MHz]	Span [MHz]	RBW [MHz]	Detector	Verdict	Sweep Point
2110	2	0.051	RMS	Pass	601



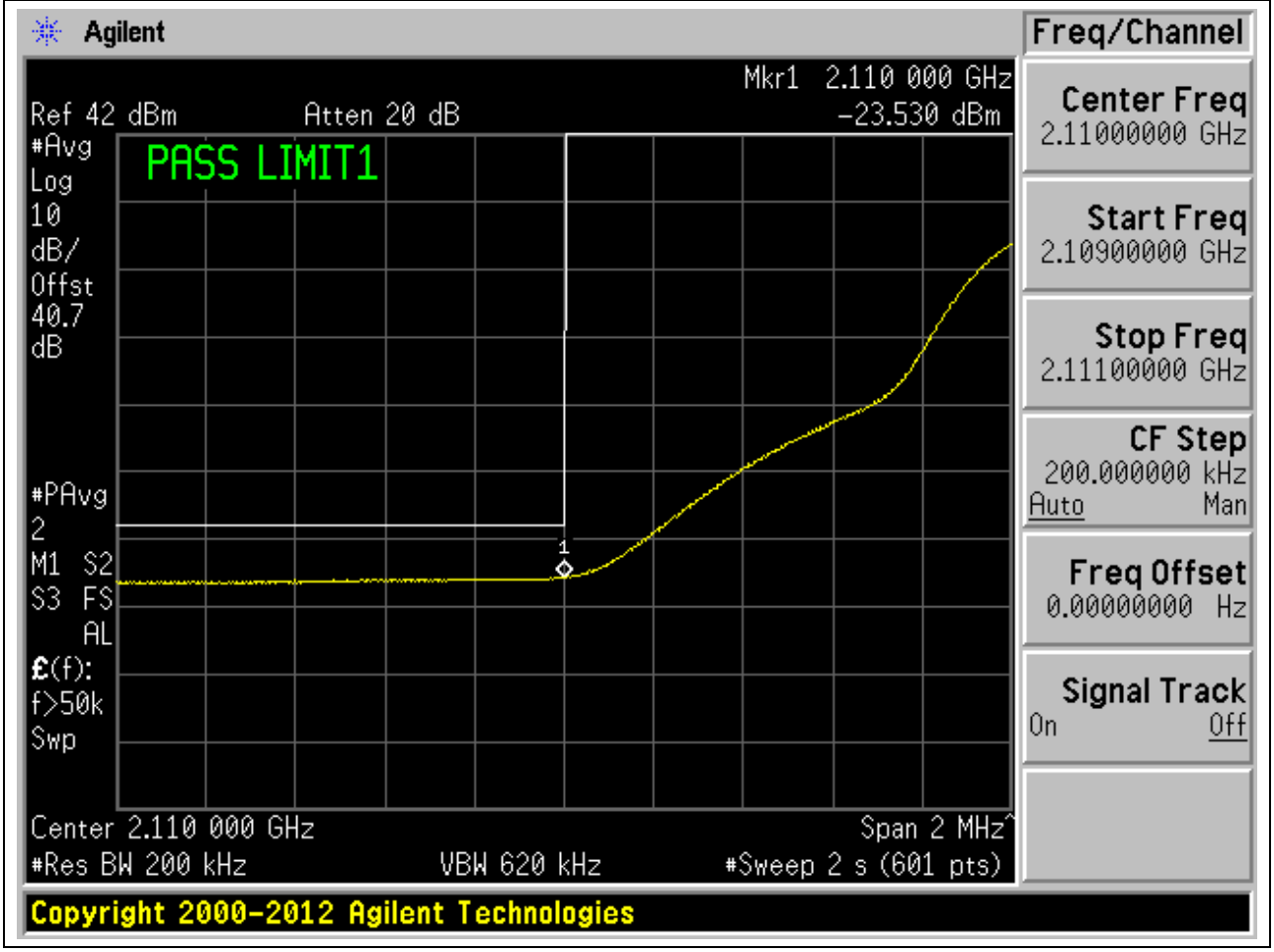
2.2 1L_5M_T

Center Frequency[MHz]	Span [MHz]	RBW [MHz]	Detector	Verdict	Sweep Point
2155	2	0.051	RMS	Pass	601



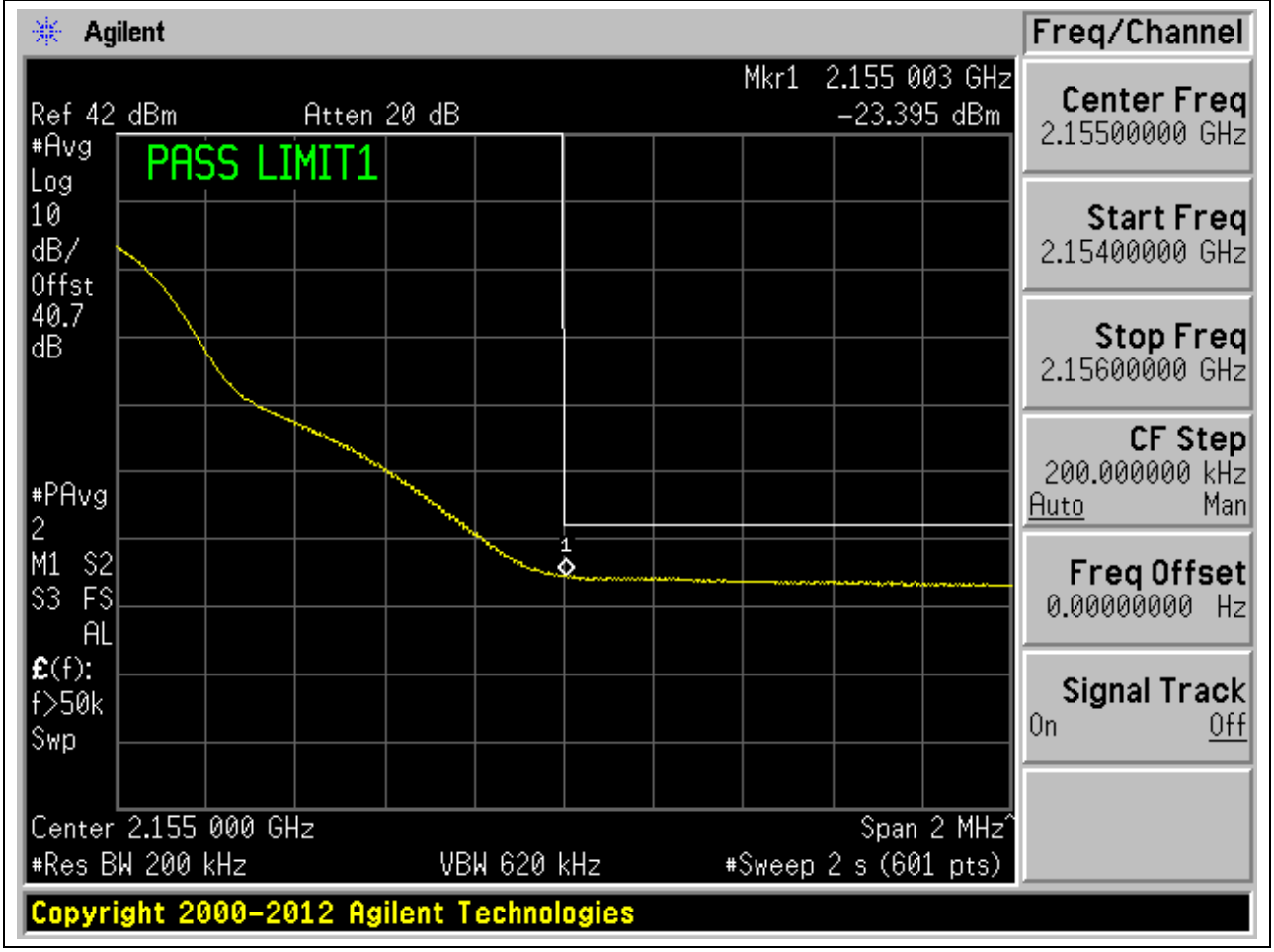
2.3 1L_20M_B

Center Frequency[MHz]	Span [MHz]	RBW [MHz]	Detector	Verdict	Sweep Point
2110	2	0.2	RMS	Pass	601



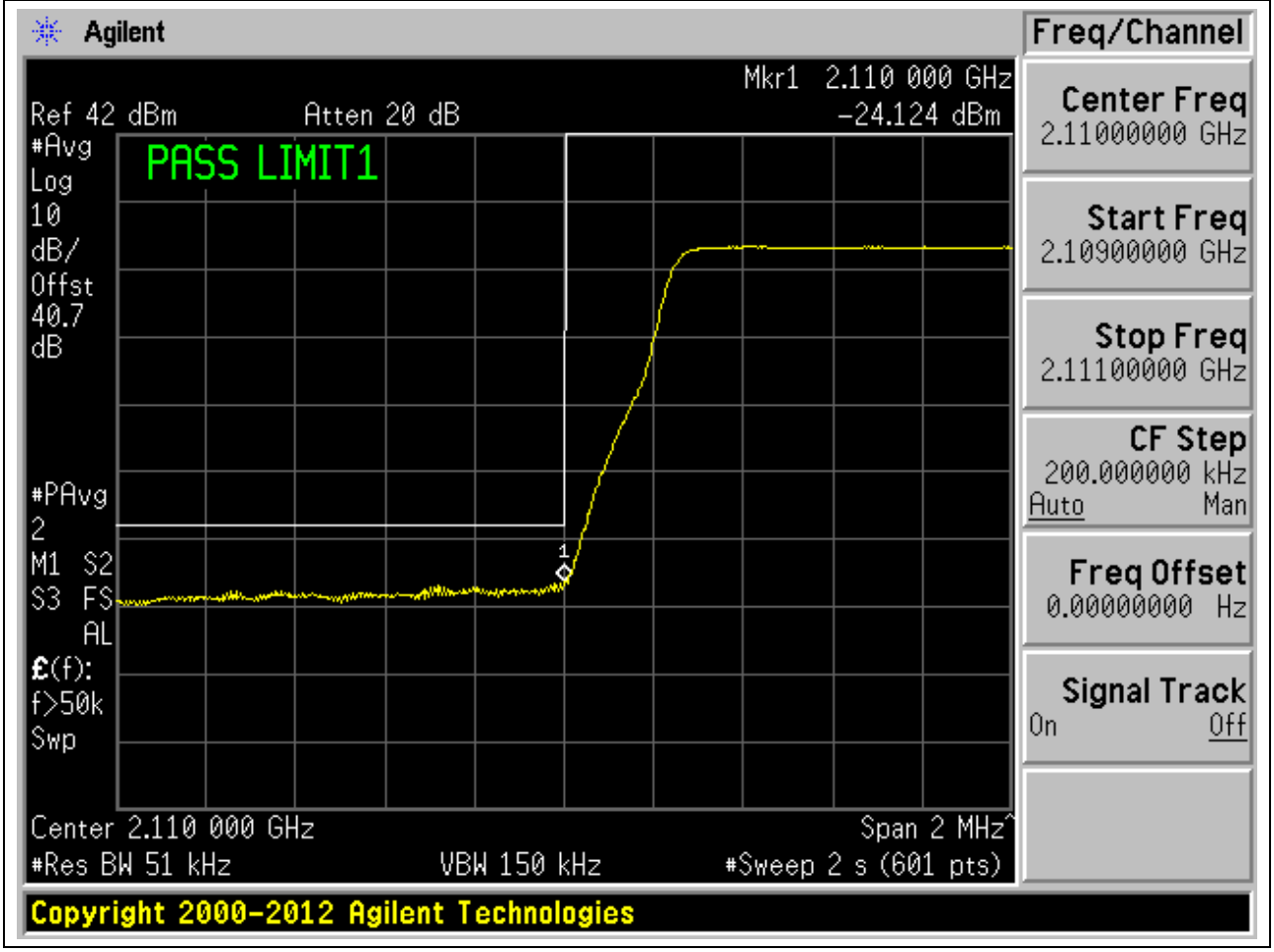
2.4 1L_20M_T

Center Frequency[MHz]	Span [MHz]	RBW [MHz]	Detector	Verdict	Sweep Point
2155	2	0.2	RMS	Pass	601



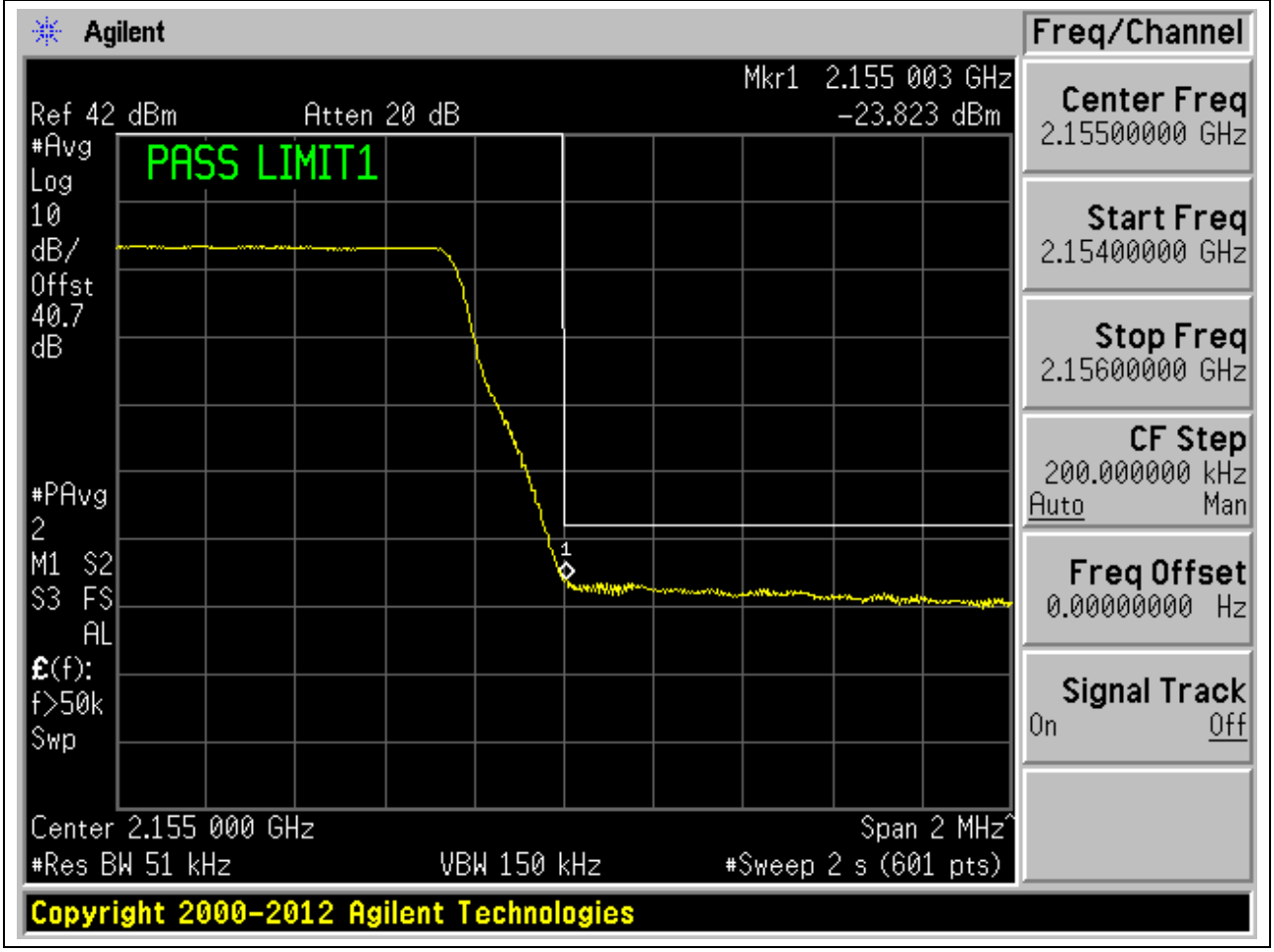
2.5 2L_5M_M

Center Frequency[MHz]	Span [MHz]	RBW [MHz]	Detector	Verdict	Sweep Point
2110	2	0.051	RMS	Pass	601



2.6 2L_5M_T

Center Frequency[MHz]	Span [MHz]	RBW [MHz]	Detector	Verdict	Sweep Point
2155	2	0.051	RMS	Pass	601



Appendix D: Spurious Emission at Antenna Terminals

1 Result Table

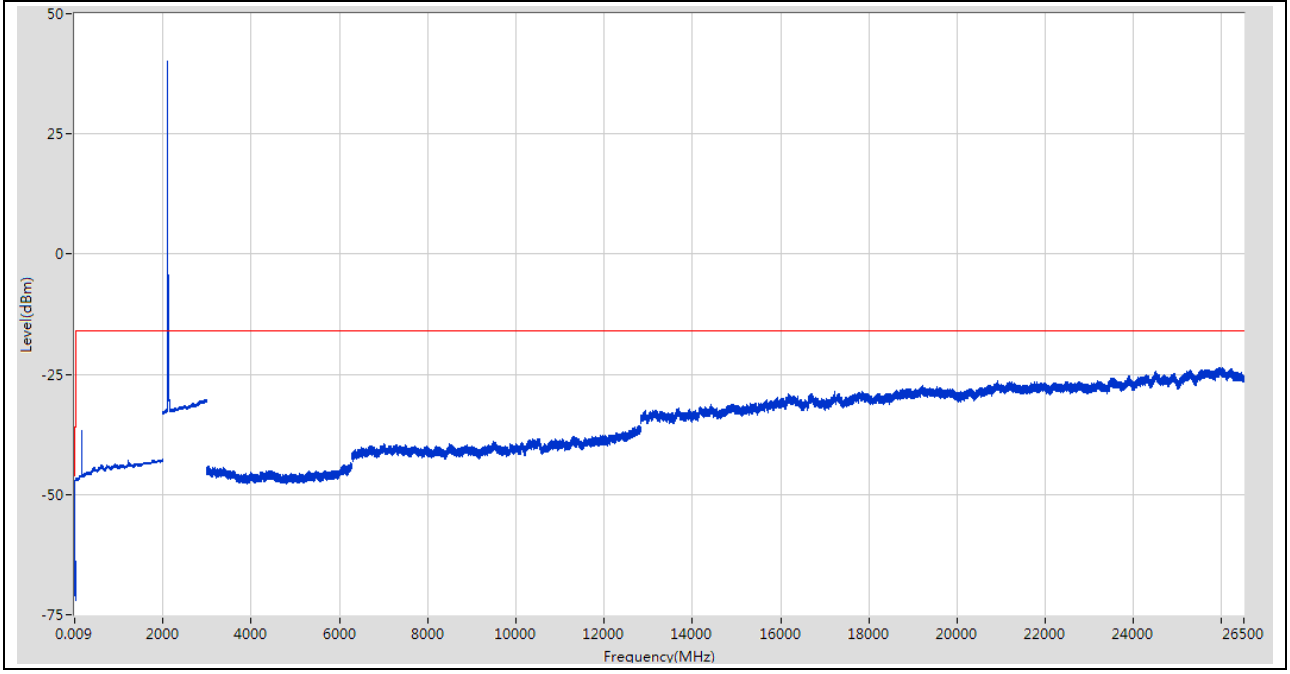
NOTE: Worst cases are listed. Maximum and minimum bandwidth represents the ultimate results.

EUT Conf.	Maximum Emission [dBm]	Verdict
1L_5M_B	<-16	Pass
1L_5M_M	<-16	Pass
1L_5M_T	<-16	Pass
1L_20M_B	<-16	Pass
1L_20M_M	<-16	Pass
1L_20M_T	<-16	Pass
2L_5M_B	<-16	Pass
2L_5M_T	<-16	Pass

2 Test Plot

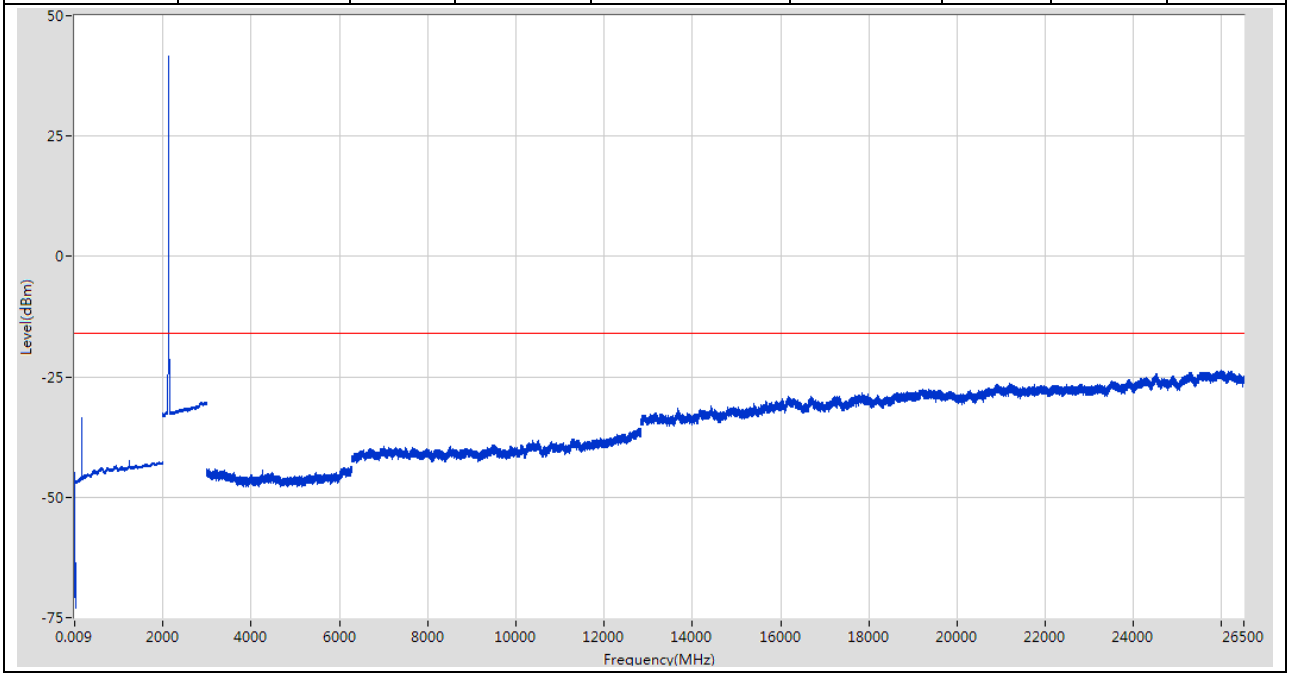
2.1 1L_5M_B

Start Frequency [MHz]	Stop Frequency [MHz]	RBW [MHz]	Detector	Frequency [Hz]	Emission [dBm]	Limit [dBm]	Verdict	Sweep Point
0.009	0.15	0.001	RMS	9.2 k	-53.11	-46	Pass	705
0.15	30	0.01	RMS	182.004 k	-47.17	-36	Pass	14925
30	1500	1	RMS	151.616546 M	-36.59	-16	Pass	7350
1500	2000	1	RMS	1984.993998 M	-42.75	-16	Pass	2500
2000	3000	1	RMS	2113.022605 M	40.22	-16	Fail	5000
3000	26500	1	RMS	25959.807898 M	-23.59	-16	Pass	117500



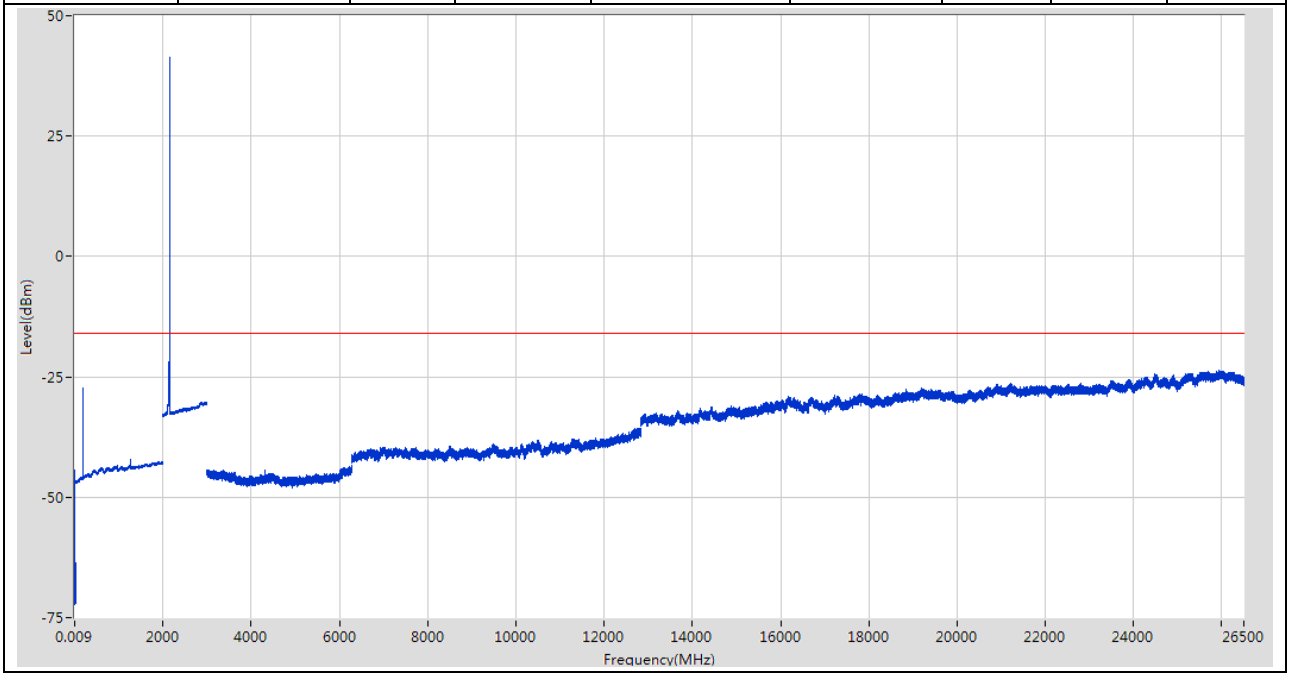
2.2 1L_5M_M

Start Frequency [MHz]	Stop Frequency [MHz]	RBW [MHz]	Detector	Frequency [Hz]	Emission [dBm]	Limit [dBm]	Verdict	Sweep Point
0.009	0.15	0.001	RMS	9.2 k	-49.22	-16	Pass	705
0.15	30	0.01	RMS	460.038 k	-44.8	-16	Pass	14925
30	1500	1	RMS	171.819295 M	-33.42	-16	Pass	7350
1500	2000	1	RMS	1996.598639 M	-42.67	-16	Pass	2500
2000	3000	1	RMS	2131.426285 M	41.48	-16	Fail	5000
3000	26500	1	RMS	25976.413803 M	-23.69	-16	Pass	117500



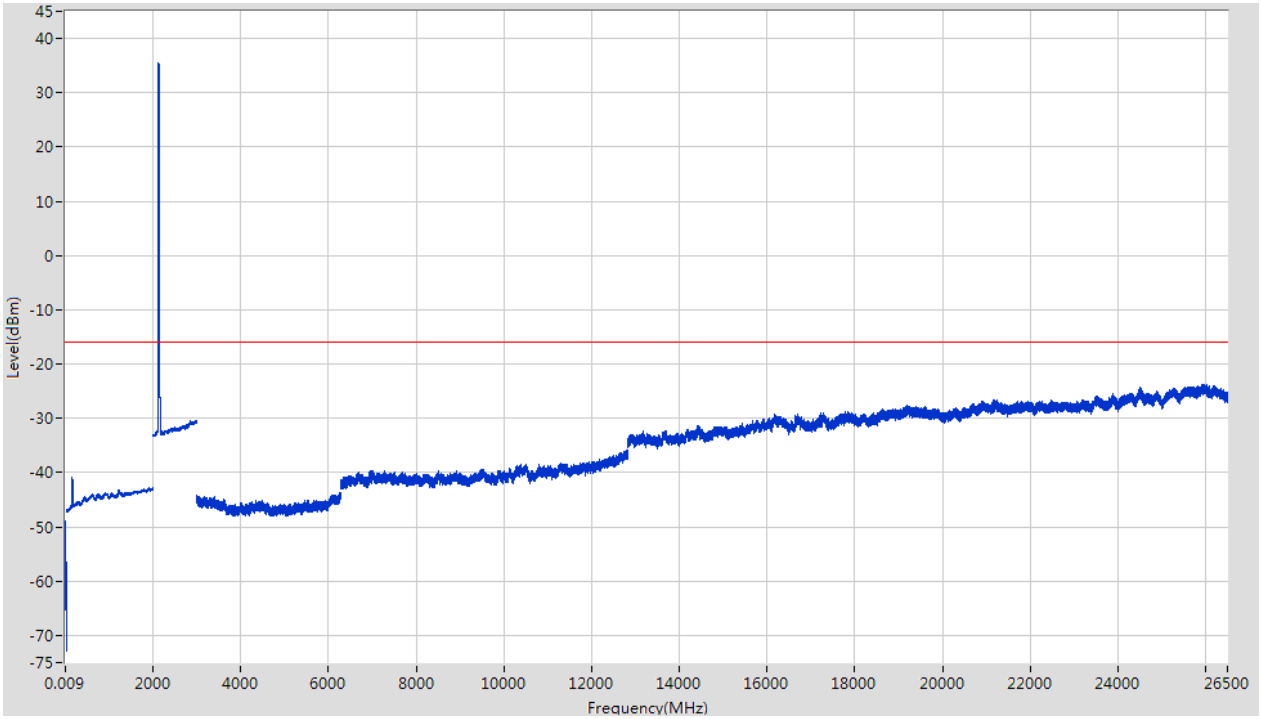
2.3 1L_5M_T

Start Frequency [MHz]	Stop Frequency [MHz]	RBW [MHz]	Detector	Frequency [Hz]	Emission [dBm]	Limit [dBm]	Verdict	Sweep Point
0.009	0.15	0.001	RMS	9.2 k	-50	-16	Pass	705
0.15	30	0.01	RMS	458.038 k	-44.35	-16	Pass	14925
30	1500	1	RMS	191.822017 M	-27.22	-16	Pass	7350
1500	2000	1	RMS	1985.794318 M	-42.71	-16	Pass	2500
2000	3000	1	RMS	2151.430286 M	41.46	-16	Fail	5000
3000	26500	1	RMS	25922.598169 M	-23.62	-16	Pass	117500



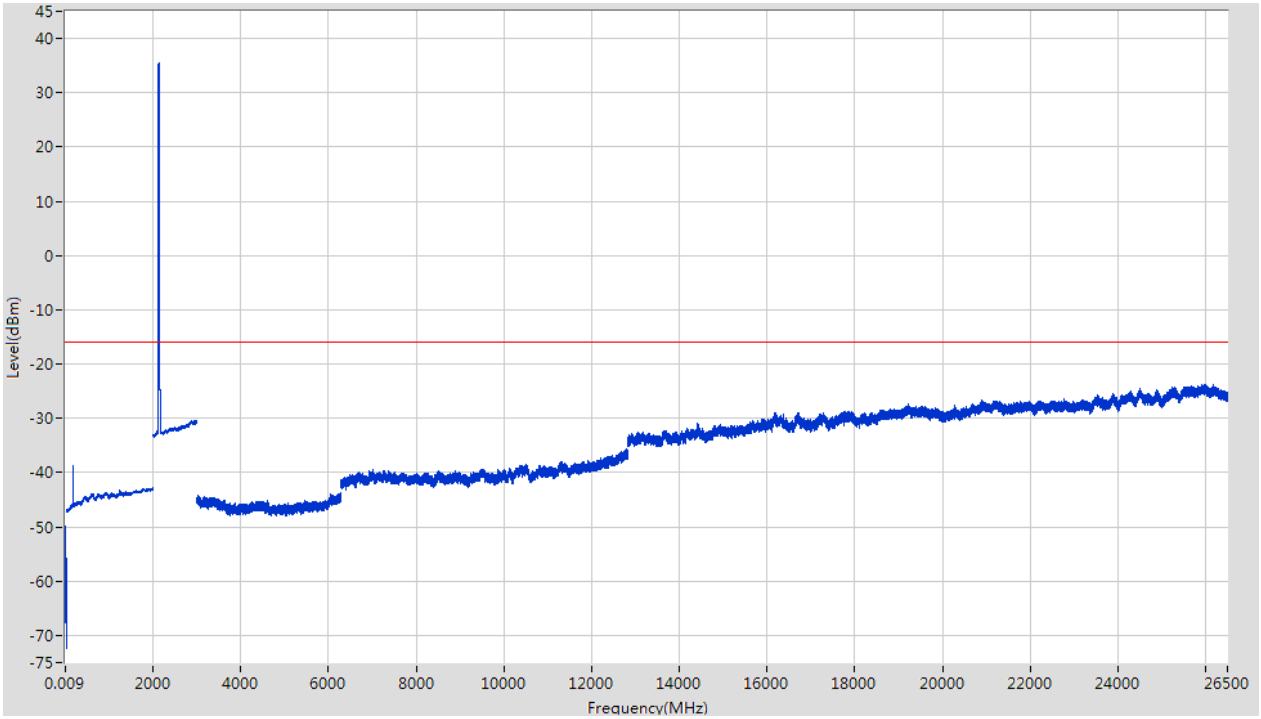
2.4 1L_20M_B

Start Frequency [MHz]	Stop Frequency [MHz]	RBW [MHz]	Detector	Frequency [Hz]	Emission [dBm]	Limit [dBm]	Verdict	Sweep Point
0.009	0.15	0.001	RMS	9 k	-50.42	-16	Pass	705
0.15	30	0.01	RMS	898.091 k	-48.96	-16	Pass	14925
30	1500	1	RMS	159.817662 M	-40.91	-16	Pass	7350
1500	2000	1	RMS	1894.557823 M	-42.81	-16	Pass	2500
2000	3000	1	RMS	2119.623925 M	35.46	-16	Fail	5000
3000	26500	1	RMS	26031.033227 M	-23.76	-16	Pass	117500



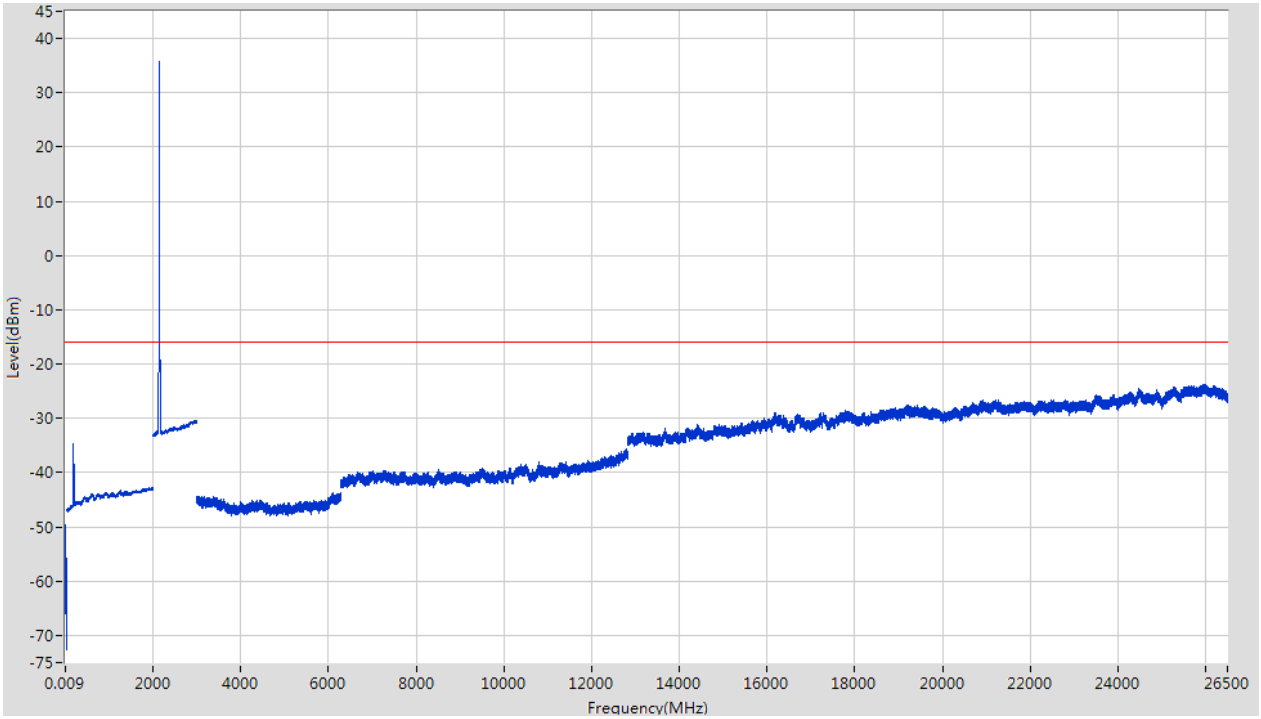
2.5 1L_20M_M

Start Frequency [MHz]	Stop Frequency [MHz]	RBW [MHz]	Detector	Frequency [Hz]	Emission [dBm]	Limit [dBm]	Verdict	Sweep Point
0.009	0.15	0.001	RMS	9 k	-50.15	-16	Pass	705
0.15	30	0.01	RMS	158.001 k	-49.94	-16	Pass	14925
30	1500	1	RMS	171.819295 M	-38.67	-16	Pass	7350
1500	2000	1	RMS	1991.596639 M	-42.79	-16	Pass	2500
2000	3000	1	RMS	2131.226245 M	35.48	-16	Fail	5000
3000	26500	1	RMS	25991.419139 M	-23.73	-16	Pass	117500



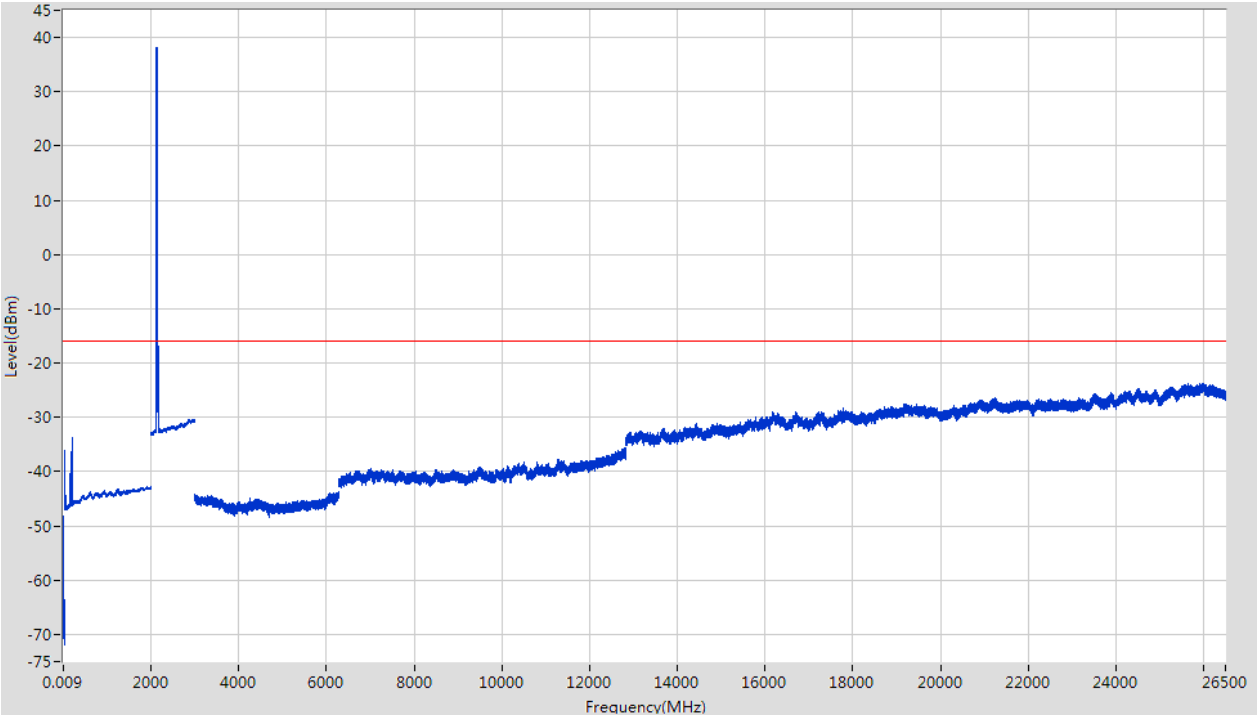
2.6 1L_20M_T

Start Frequency [MHz]	Stop Frequency [MHz]	RBW [MHz]	Detector	Frequency [Hz]	Emission [dBm]	Limit [dBm]	Verdict	Sweep Point
0.009	0.15	0.001	RMS	9.401 k	-51.07	-16	Pass	705
0.15	30	0.01	RMS	1.148122 M	-49.67	-16	Pass	14925
30	1500	1	RMS	184.821064 M	-34.67	-16	Pass	7350
1500	2000	1	RMS	1985.994398 M	-42.82	-16	Pass	2500
2000	3000	1	RMS	2139.827966 M	35.65	-16	Fail	5000
3000	26500	1	RMS	25956.206617 M	-23.75	-16	Pass	117500



2.7 2L_5M_M

Start Frequency [MHz]	Stop Frequency [MHz]	RBW [MHz]	Detector	Frequency [Hz]	Emission [dBm]	Limit [dBm]	Verdict	Sweep Point
0.009	0.15	0.001	RMS	9 k	-51.7	-16	Pass	705
0.15	30	0.01	RMS	482.041 k	-48.22	-16	Pass	14925
30	1500	1	RMS	191.822017 M	-33.63	-16	Pass	7350
1500	2000	1	RMS	1986.994798 M	-42.69	-16	Pass	2500
2000	3000	1	RMS	2151.630326 M	38.12	-16	Fail	5000
3000	26500	1	RMS	25973.812878 M	-23.8	-16	Pass	117500



Appendix E: Field Strength of Spurious Radiation

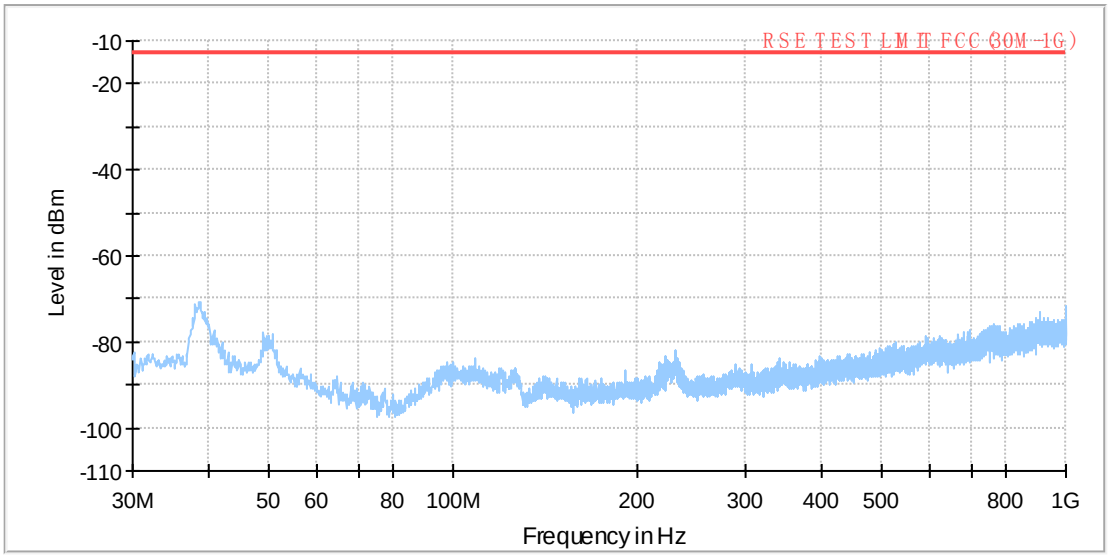
1 Result Table

EUT Conf.	Maximum Emission [dBm]	Verdict
1L_5M_M	< -13	Pass

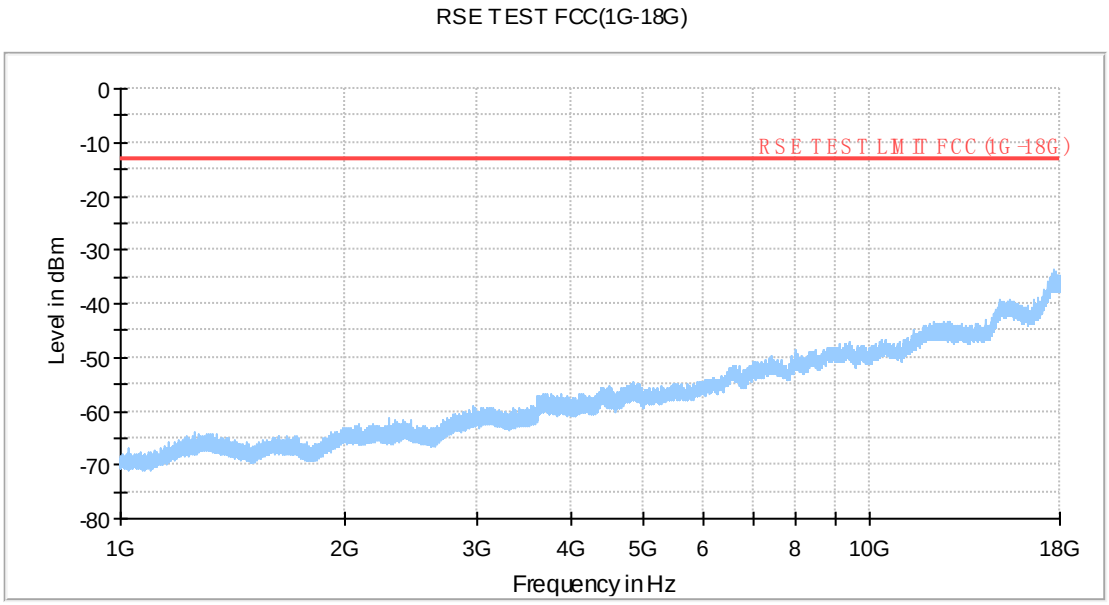
2 Test Plot

2.1 Below 1GHz

RSE TEST FCC(30M-1G)



2.2 1G-18GHz



2.3 Above 18GHz

The magnitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be specified.

Appendix F: Frequency Stability

1 Result Table

NOTE: Worst cases are listed. For the item different bandwidth get similar test results.

1.1 Frequency Error

(1) Frequency Error vs. Temperature:

EUT Conf.	Voltage	Temperature	Freq. Error, f(offset) [Hz]	Freq. vs. rated [ppm]	Freq. vs. 20 °C [ppm]	Verdict
1L_5M_M	100%	-30 °C	8.08	0.0086649	0.0086649	Pass
		-20 °C	9.93	0.0106488	0.0106488	Pass
		-10 °C	12.83	0.0137587	0.0137587	Pass
		0 °C	10.54	0.0113029	0.0113029	Pass
		+10 °C	8.46	0.0090724	0.0090724	Pass
		+20 °C	9.50	0.0101877	--	Pass
		+30 °C	7.44	0.0079786	0.0079786	Pass
		+40 °C	9.72	0.0104236	0.0104236	Pass
		+50 °C	4.61	0.0049437	0.0049437	Pass

(2) Frequency Error vs. Voltage:

EUT Conf.	Temperature	Voltage	Freq. Error, f(offset) [Hz]	Freq. vs. rated [ppm]	Freq. vs. 20 °C [ppm]	Verdict
1L_5M_M	+20 °C	85 %	10.16	0.0108954	0.0108954	Pass
		100 %	9.5	0.0101877	--	Pass
		115 %	10.53	0.0112922	0.0112922	Pass

Appendix G: Receiver Spurious Emissions

(Not applicable)

END