



Appendix for Testreport



Appendix A: DTS (6 dB) Bandwidth

In this document, the "DTS6dBBW" refers to the measured "DTS (6 dB) Bandwidth" value. In this Appendix, the "fc(DTS6dBBW)" refers to the centre of the measured "DTS6dBBW". The introduction of the "fc(DTS6dBBW)" is due to that other measurements use it as the spectrum analyzer setting.

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.

Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Ant	DTS6dBBW[MHz]	Verdict
TM1_Ch0	L	2402	Ant 1	0.52	pass
TM1_Ch19	M	2440	Ant 1	0.75	pass
TM1_Ch39	H	2480	Ant 1	0.51	pass

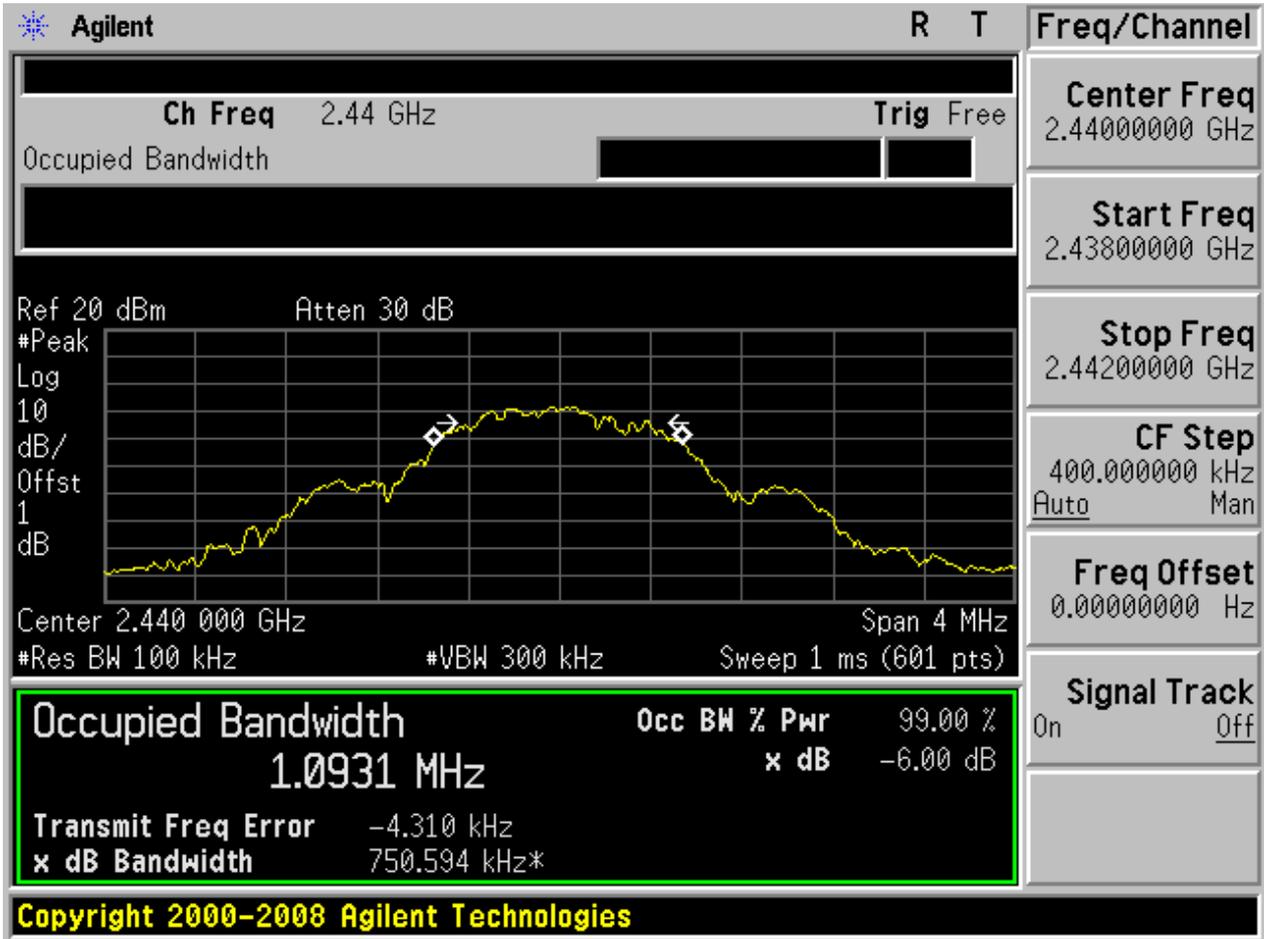
Part II - Test Plots

2.1 TM1_Ch0



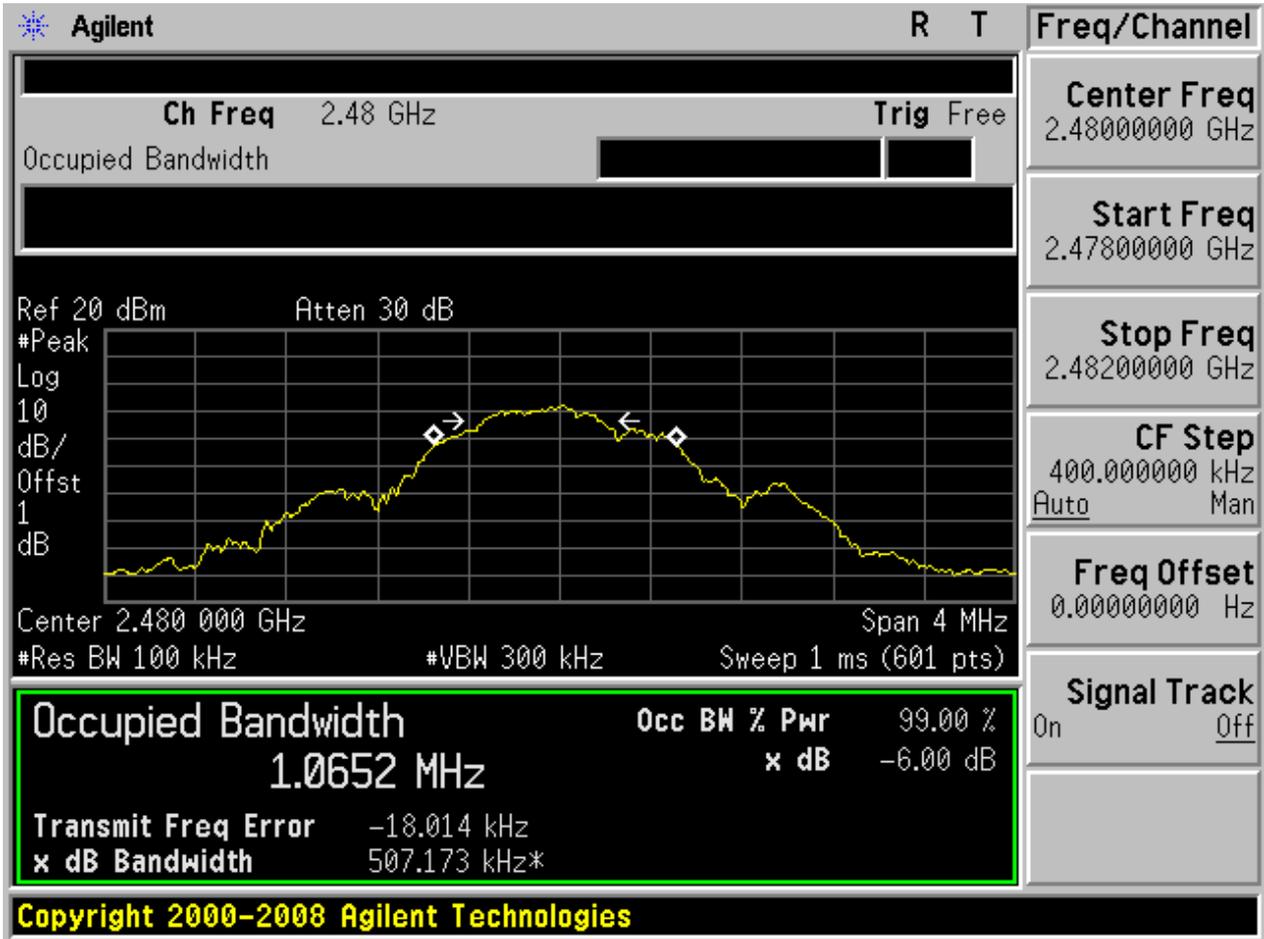


2.3 TM1_Ch19





2.5 TM1_Ch39





Appendix B: Occupied Bandwidth

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.

Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Ant	Occupied Bandwidth [MHz]	Verdict
TM1_Ch0	L	2402	Ant 1	1.05	pass
TM1_Ch19	M	2440	Ant 1	1.03	pass
TM1_Ch39	H	2480	Ant 1	1.05	pass

Part II - Test Plots

2.1 TM1_Ch0



2.1 TM1_Ch19





2.1 TM1_Ch39

Agilent R T

Ch Freq 2.48 GHz **Trig** Free

Occupied Bandwidth Averages: 100

Ref 20 dBm Atten 30 dB

#Peak
Log
10
dB/
Offst
1
dB

Center 2.480 000 GHz Span 4 MHz

#Res BW 20 kHz #VBW 62 kHz Sweep 9.56 ms (601 pts)

Occupied Bandwidth	Occ BW % Pwr 99.00 %
1.0518 MHz	x dB -26.00 dB
Transmit Freq Error 6.132 kHz	
x dB Bandwidth 1.152 MHz*	

Measure

Meas Off

Channel Power

Occupied BW

ACP

Multi Carrier Power

Power Stat CCDF

More
1 of 2

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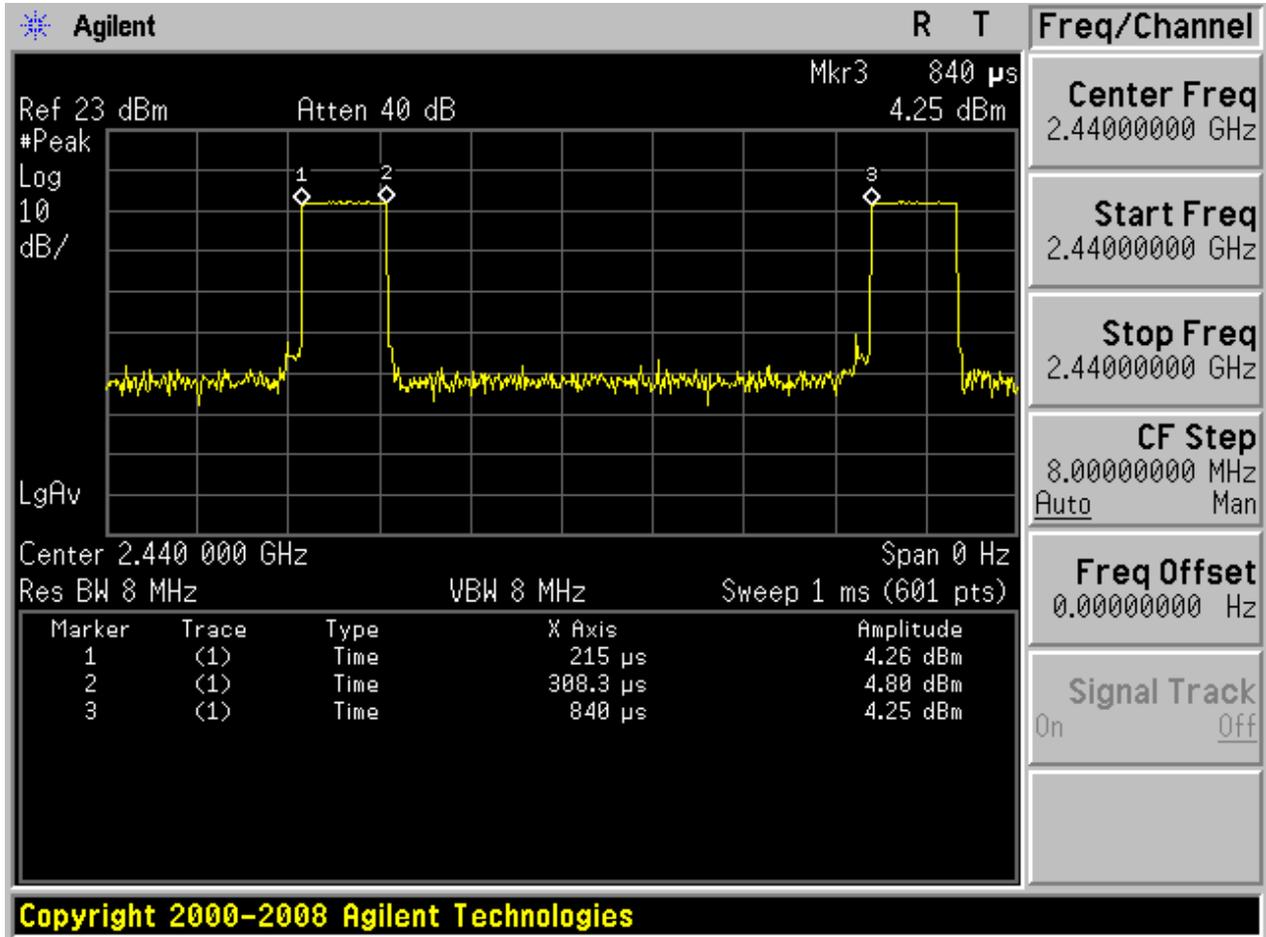
Appendix C: Duty cycle

Part I - Test Results

Test Mode	TX Freq. [MHz]	Ant	Duty cycle [%]
TM1_Ch19	CH0,CH19,CH39	Ant 1	15

Part II - Test Plots

2.1 TM1_Ch19





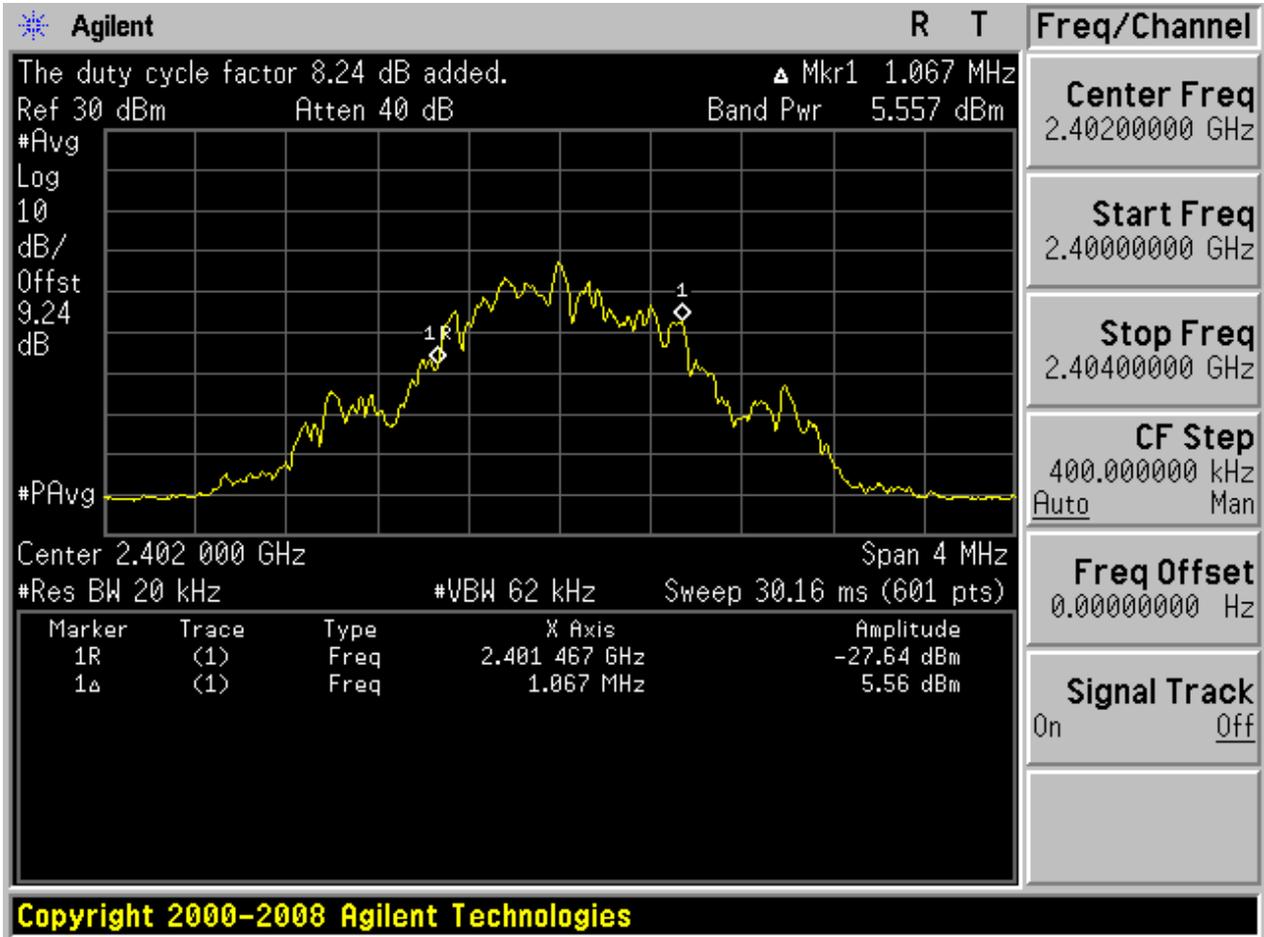
Appendix D: Maximum Conducted Average Output Power

Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Ant	Power[dBm]	Verdict
TM1_Ch0	L	2402	Ant 1	5.56	pass
TM1_Ch19	M	2440	Ant 1	5.74	pass
TM1_Ch39	H	2480	Ant 1	4.77	pass

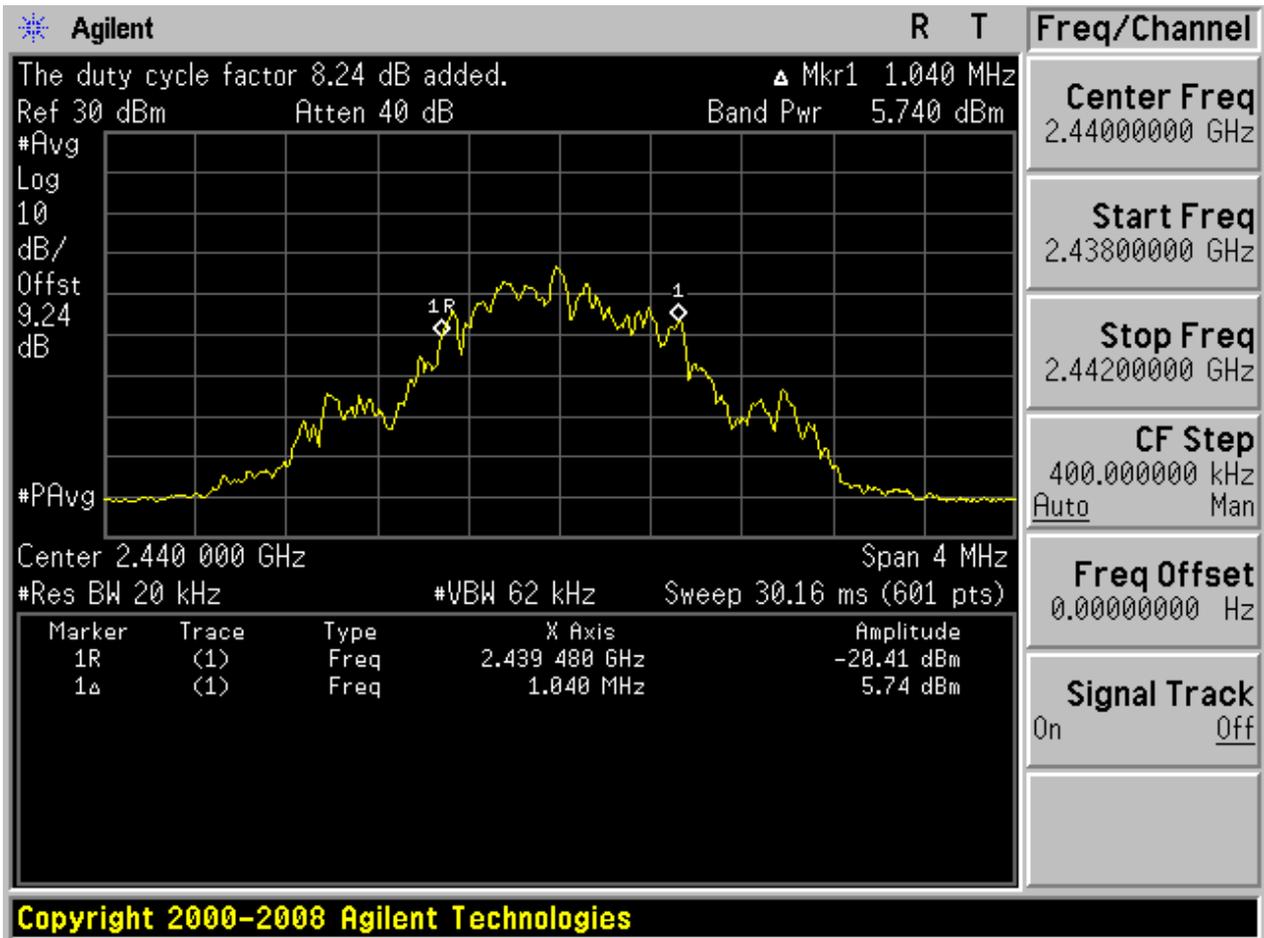
Part II - Test Plots

2.1 TM1_Ch0



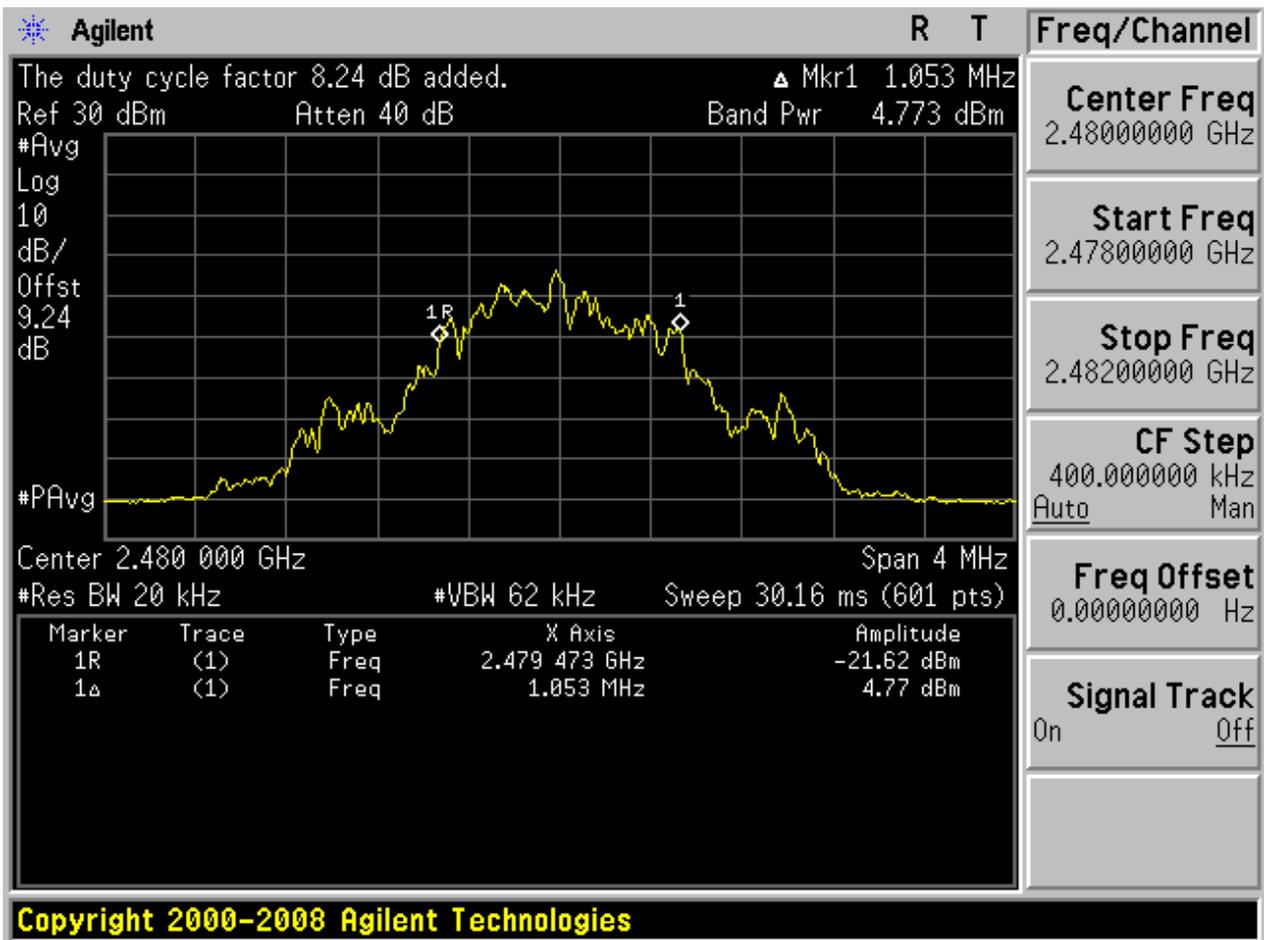


2.3 TM1_Ch19





2.5 TM1_Ch39



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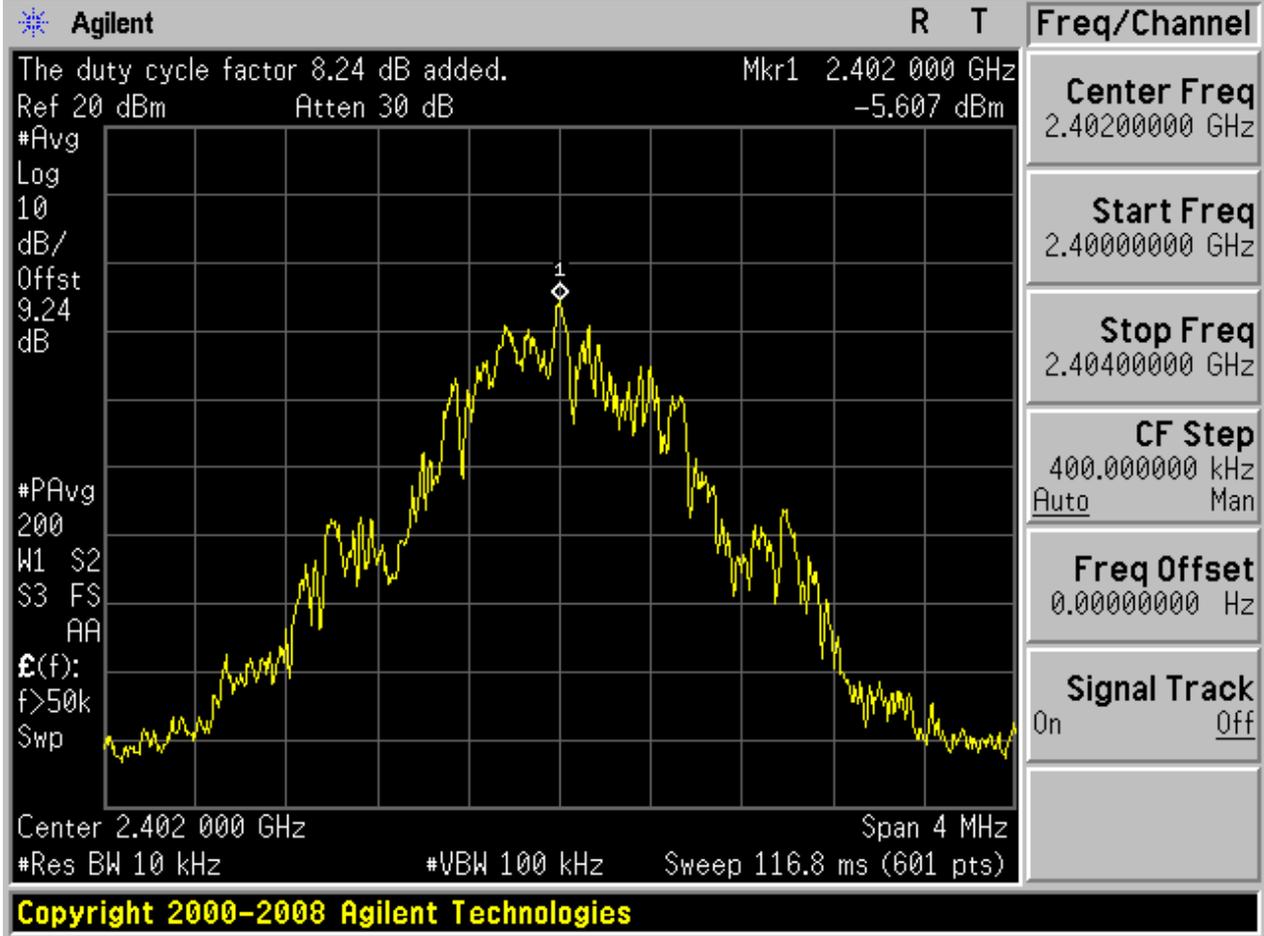
Appendix E: Maximum Power Spectral Density Level

Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Ant	PD[MHz]	Verdict
TM1_Ch0	L	2402	Ant 1	-5.61	pass
TM1_Ch19	M	2440	Ant 1	-5.49	pass
TM1_Ch39	H	2480	Ant 1	-6.67	pass

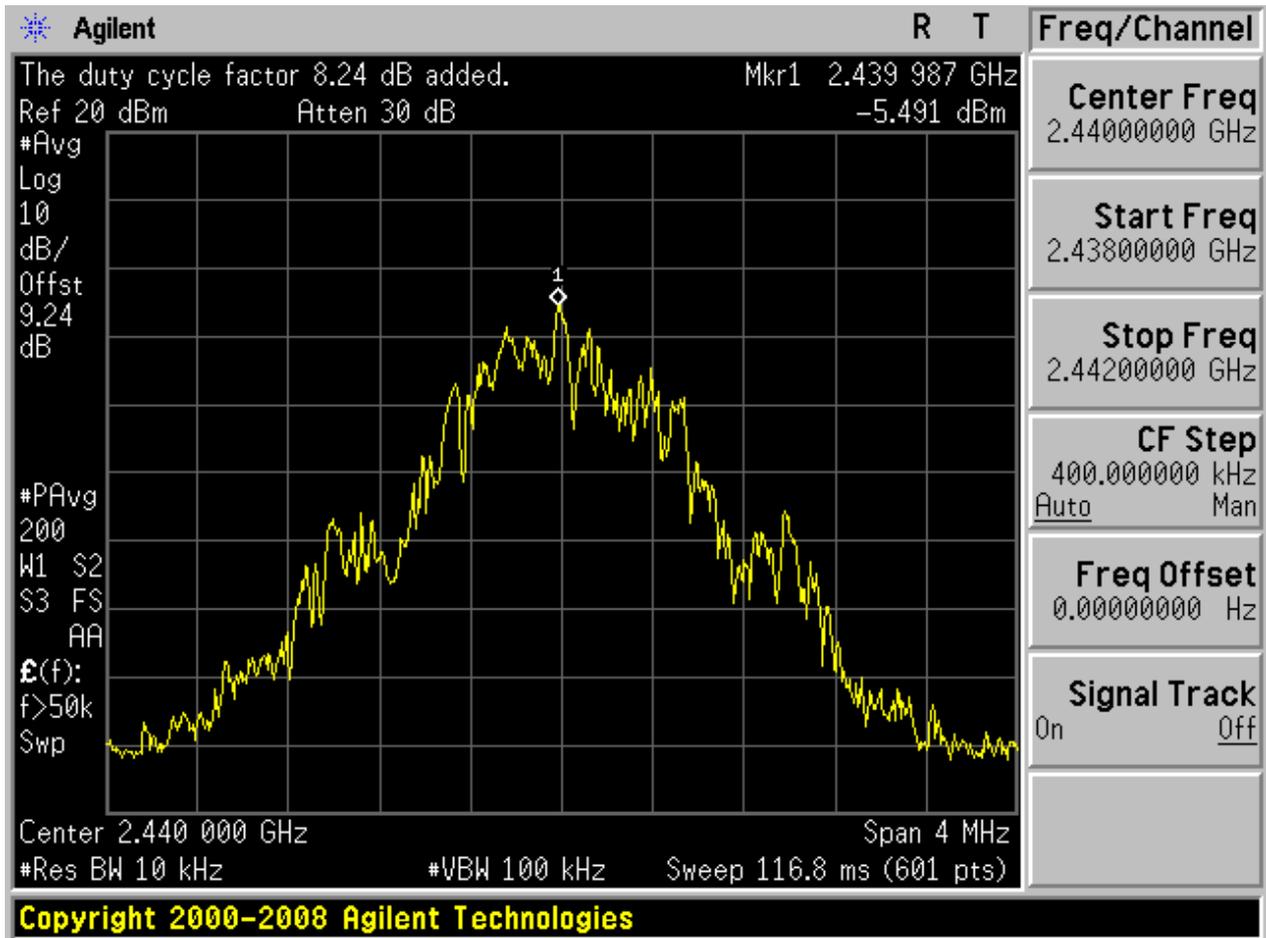
Part II - Test Plots

2.1 TM1_Ch0



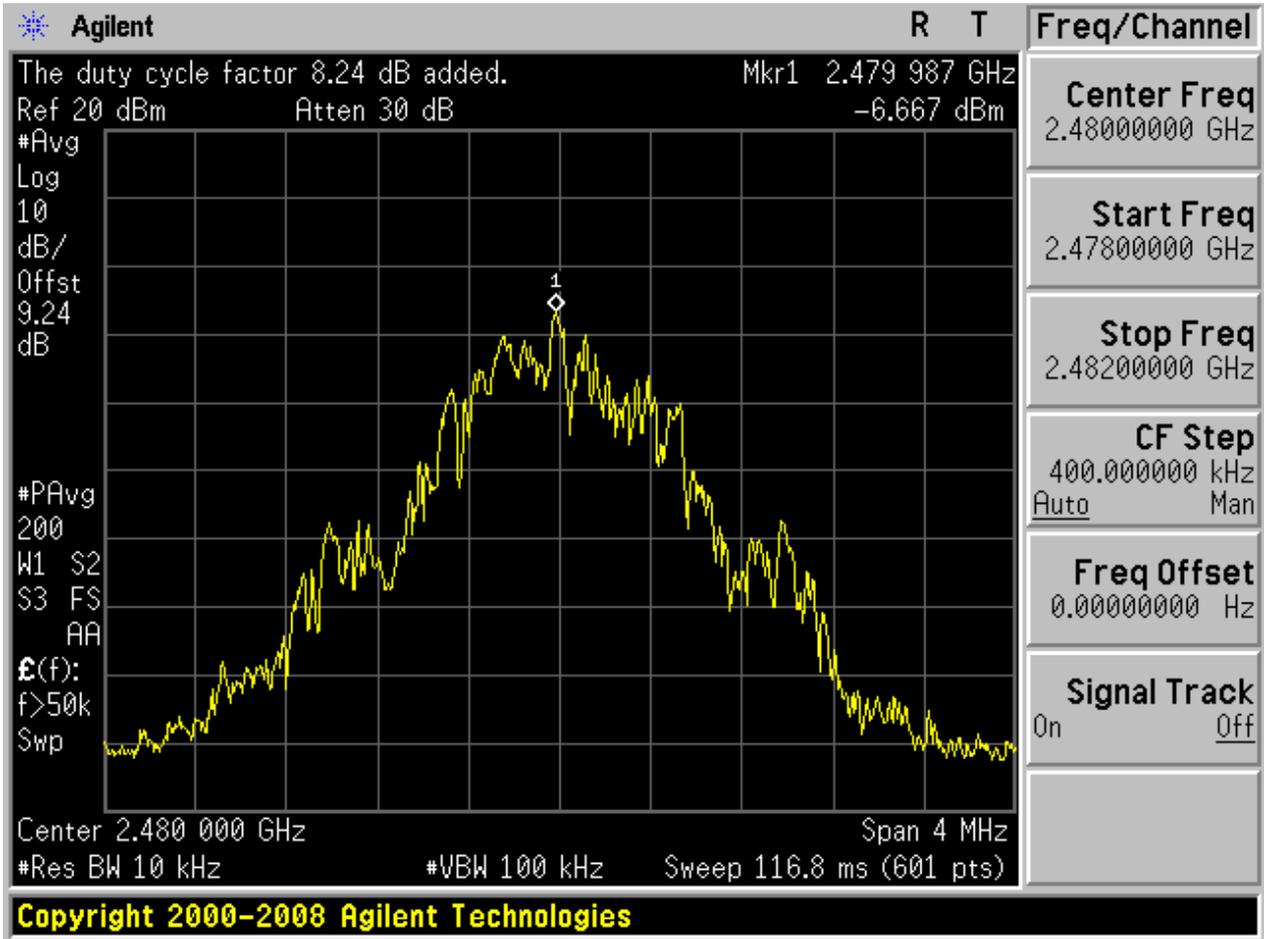


2.3 TM1_Ch19





2.5 TM1_Ch39





Appendix F: Band Edges Compliance

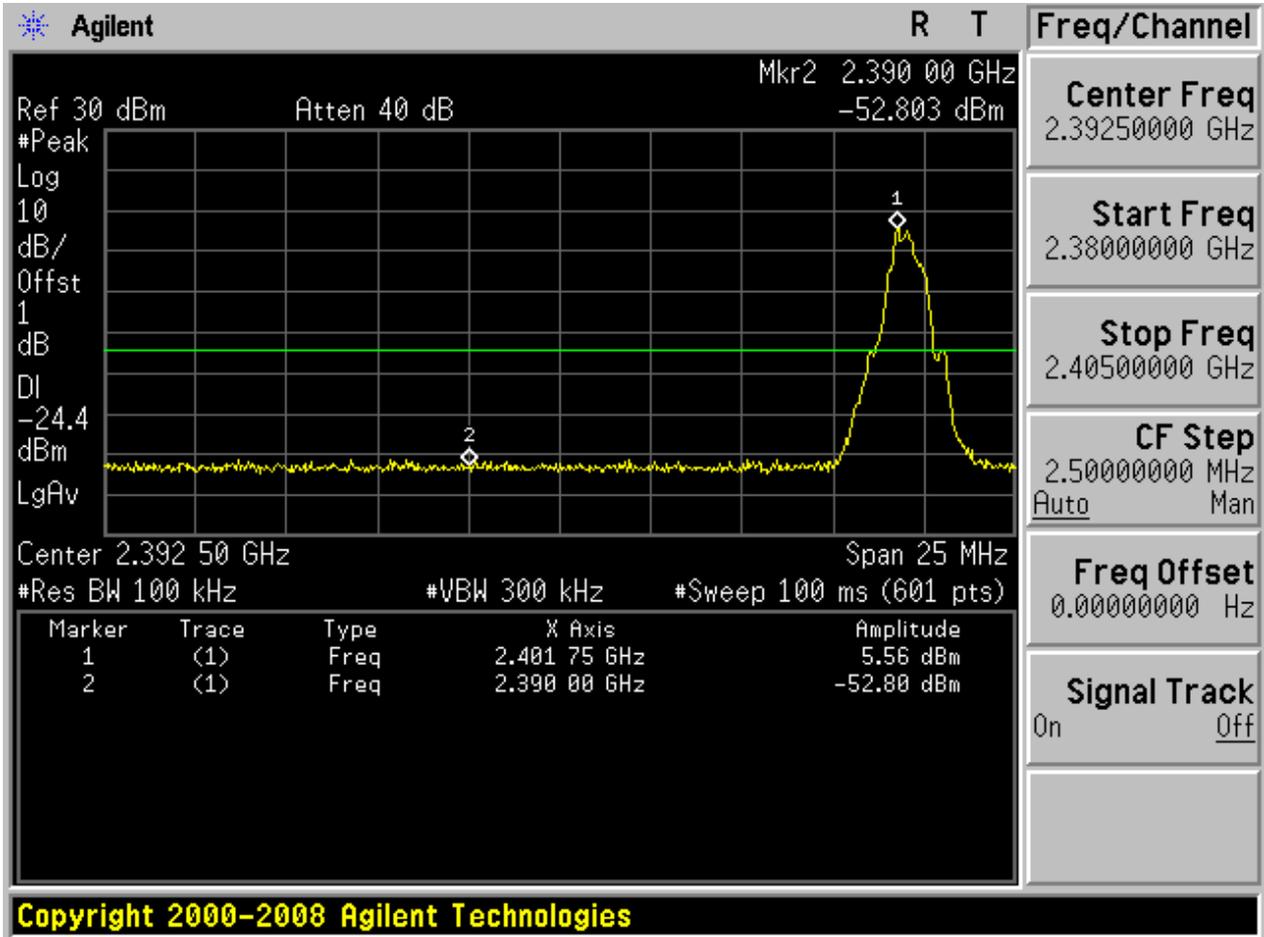
Part I - Test Results

Test Mode	Test Channel	Frequency[MHz]	Ant	Carrier Power[dBm]	Max.Spurious Level[dBm]	Verdict
TM1_Ch0	L	2402	Ant 1	5.56	-52.80	pass
TM1_Ch39	H	2480	Ant 1	4.83	-52.98	pass



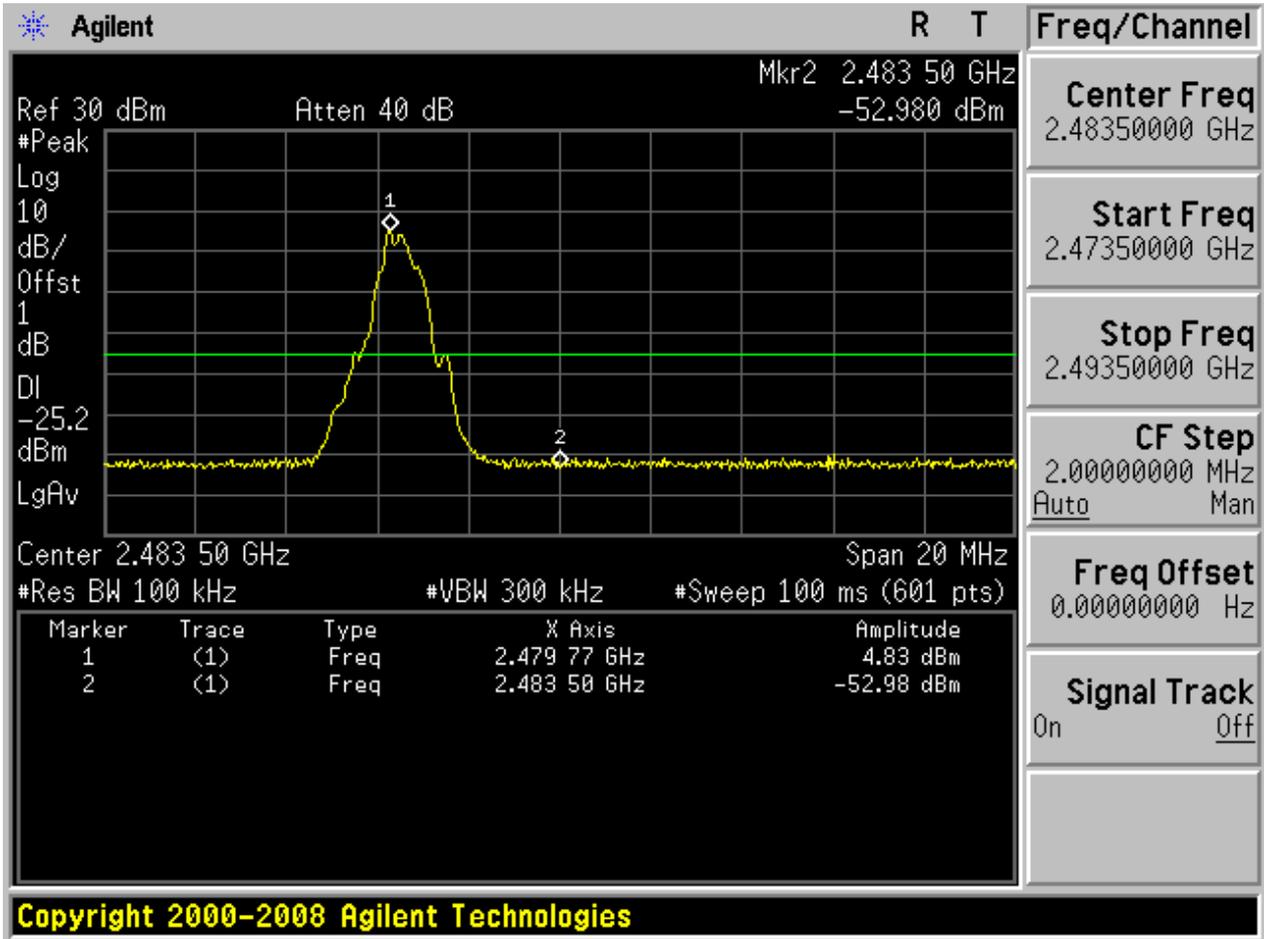
Part II - Test Plots

2.1 TM1_Ch0





2.3 TM1_Ch39



Appendix G: Unwanted Emissions into Non-Restricted Frequency

Bands

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

Considering that the higher ratio of RBW to the span for the frequency ranges below 30 MHz makes the results determination be complicated, a narrower RBW other than 100 kHz is used for these ranges. The measured value should add a RBW correction factor (RBWCF) where $RBWCF [dB] = 10 \times \lg(100 [kHz]/\text{narrower RBW [kHz]})$. As to this Appendix, the narrower RBW is 1 kHz and RBWCF is 20 dB for the frequency 9 kHz to 150 kHz, and the narrower RBW is 10 kHz and RBWCF is 10 dB for the frequency 150 kHz to 30 MHz.

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.

In the result table, the "< Limit" denotes that "The Puw [dBm] is less than Pref[dBm]-30[dBm], see test plots for detailed".

Part I - Test Results

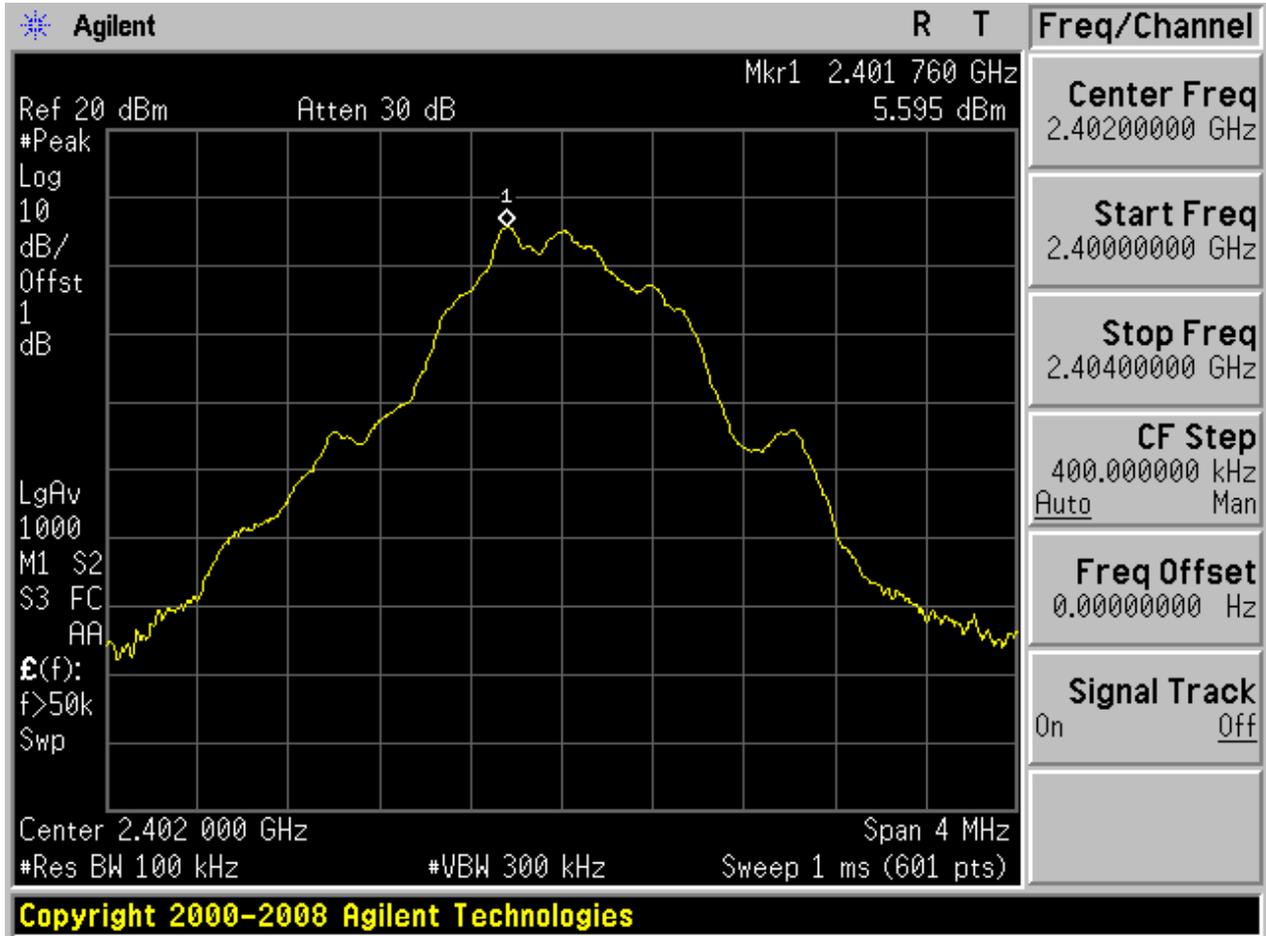
Test Mode	Test Channel	Frequency[MHz]	Ant	Pref[dBm]	Puw[dBm]	Verdict
TM1_Ch0	L	2402	Ant 1	5.60	<limit	pass
TM1_Ch19	M	2440	Ant 1	5.99	<limit	pass
TM1_Ch39	H	2480	Ant 1	4.77	<limit	pass



Part II - Test Plots

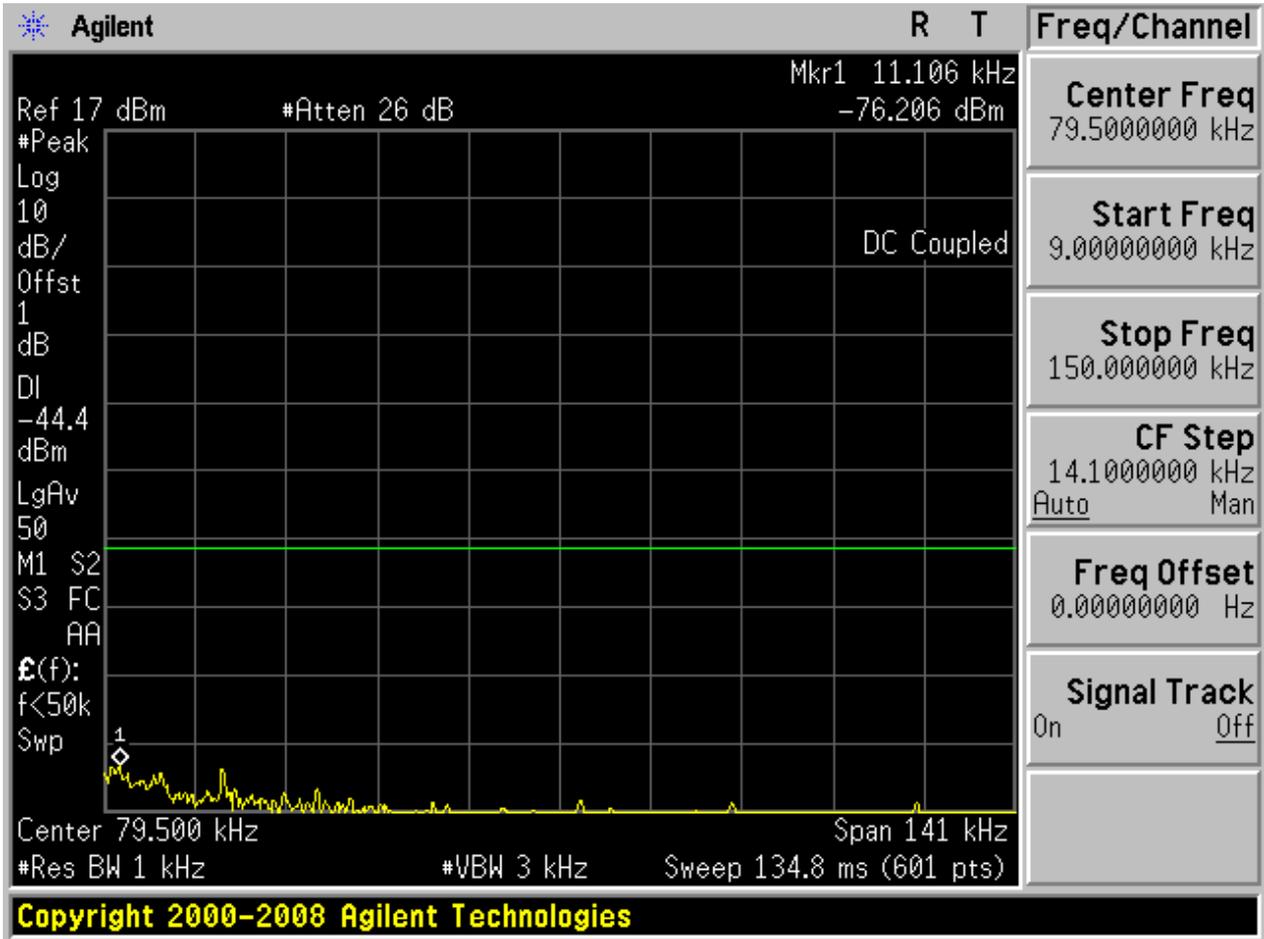
2.1 TM1_Ch0

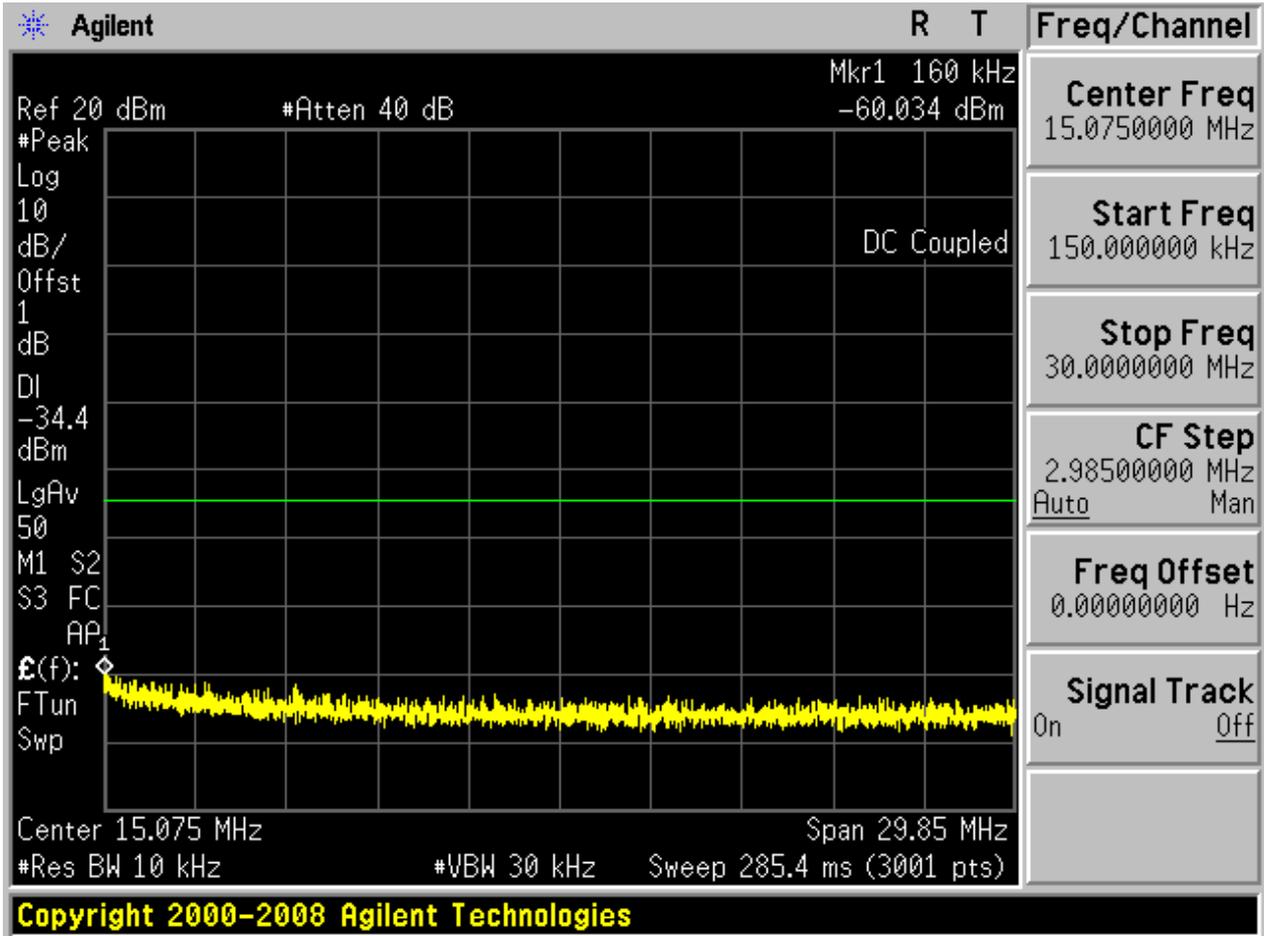
Pref:

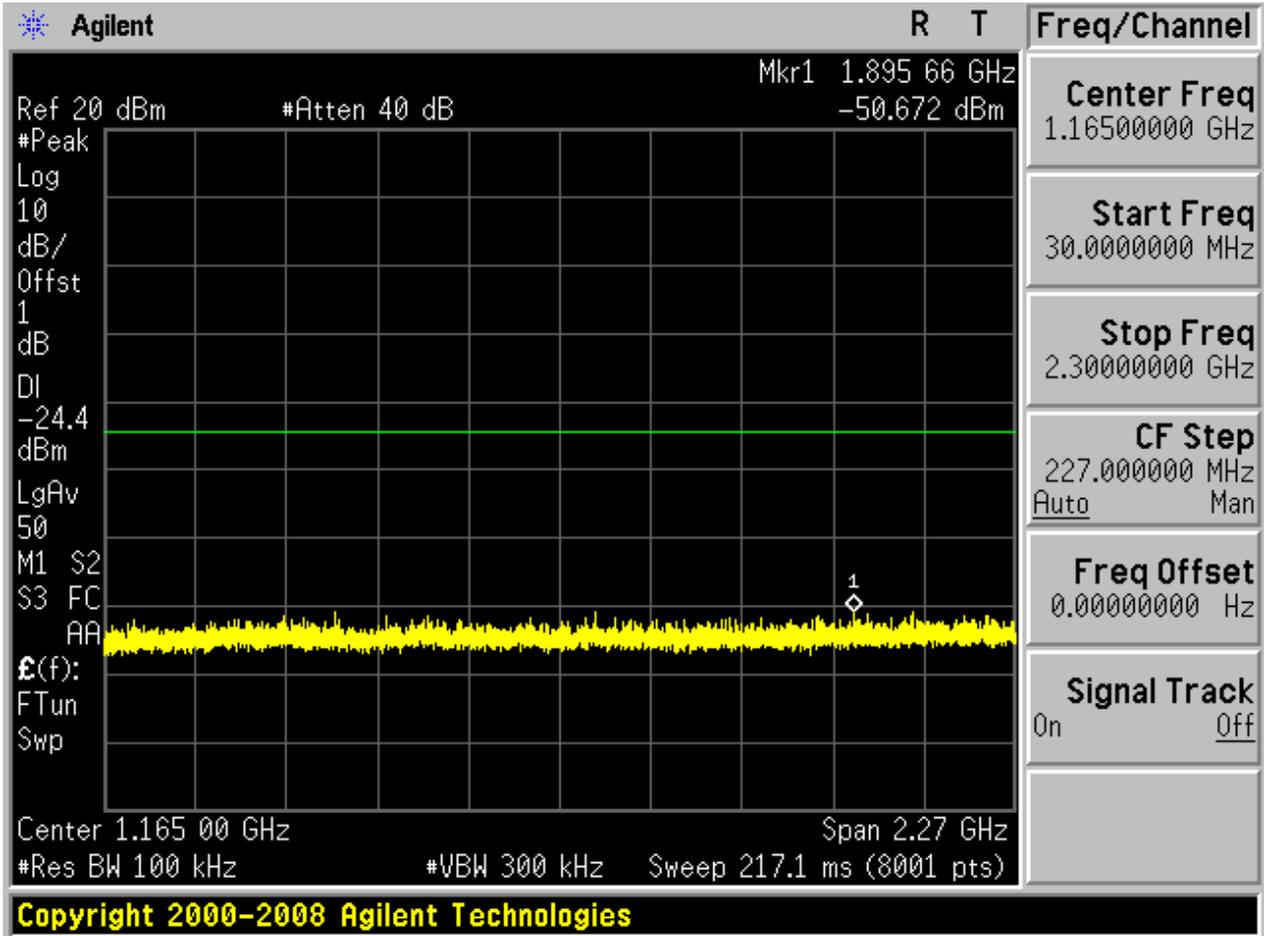


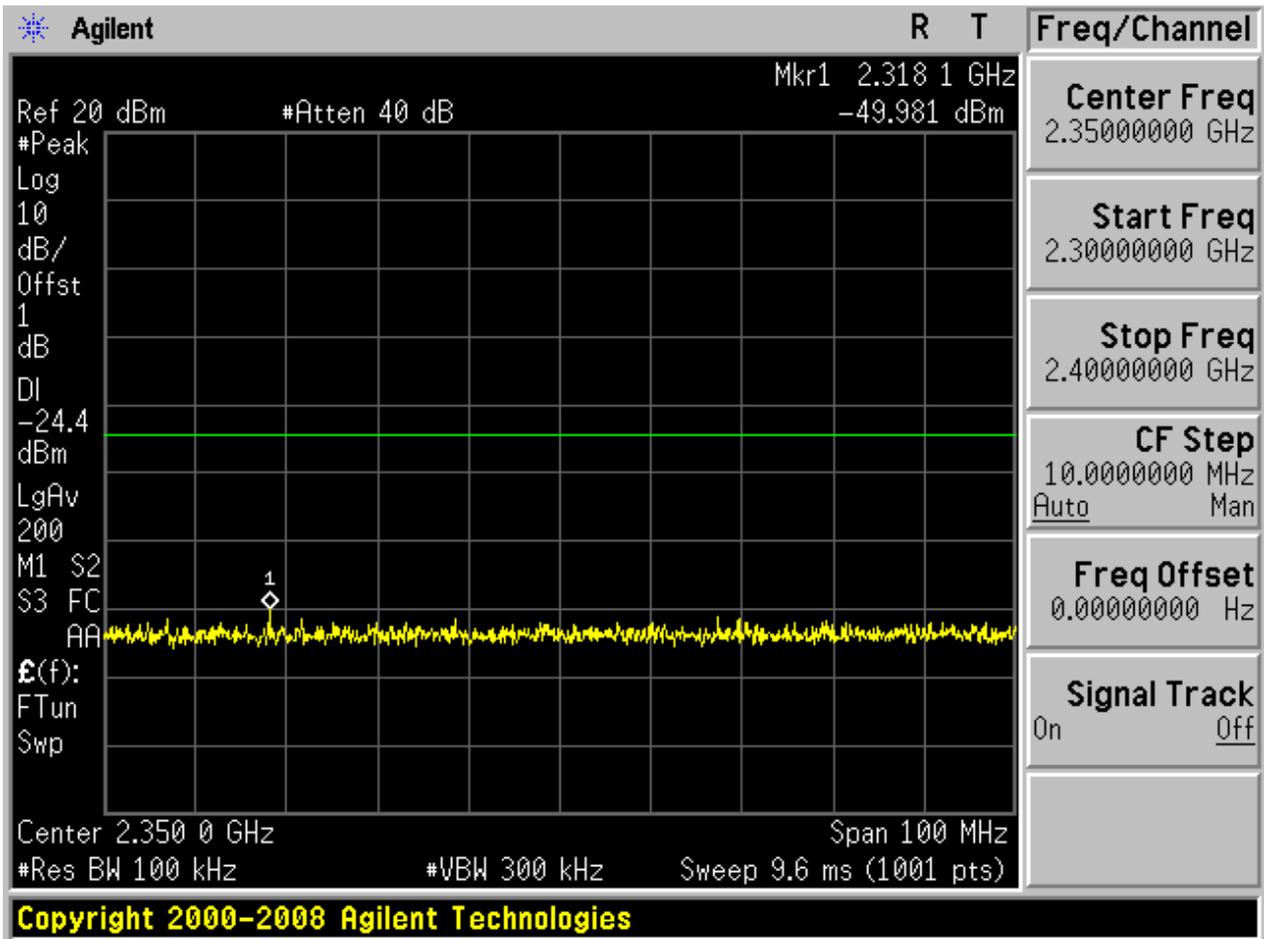


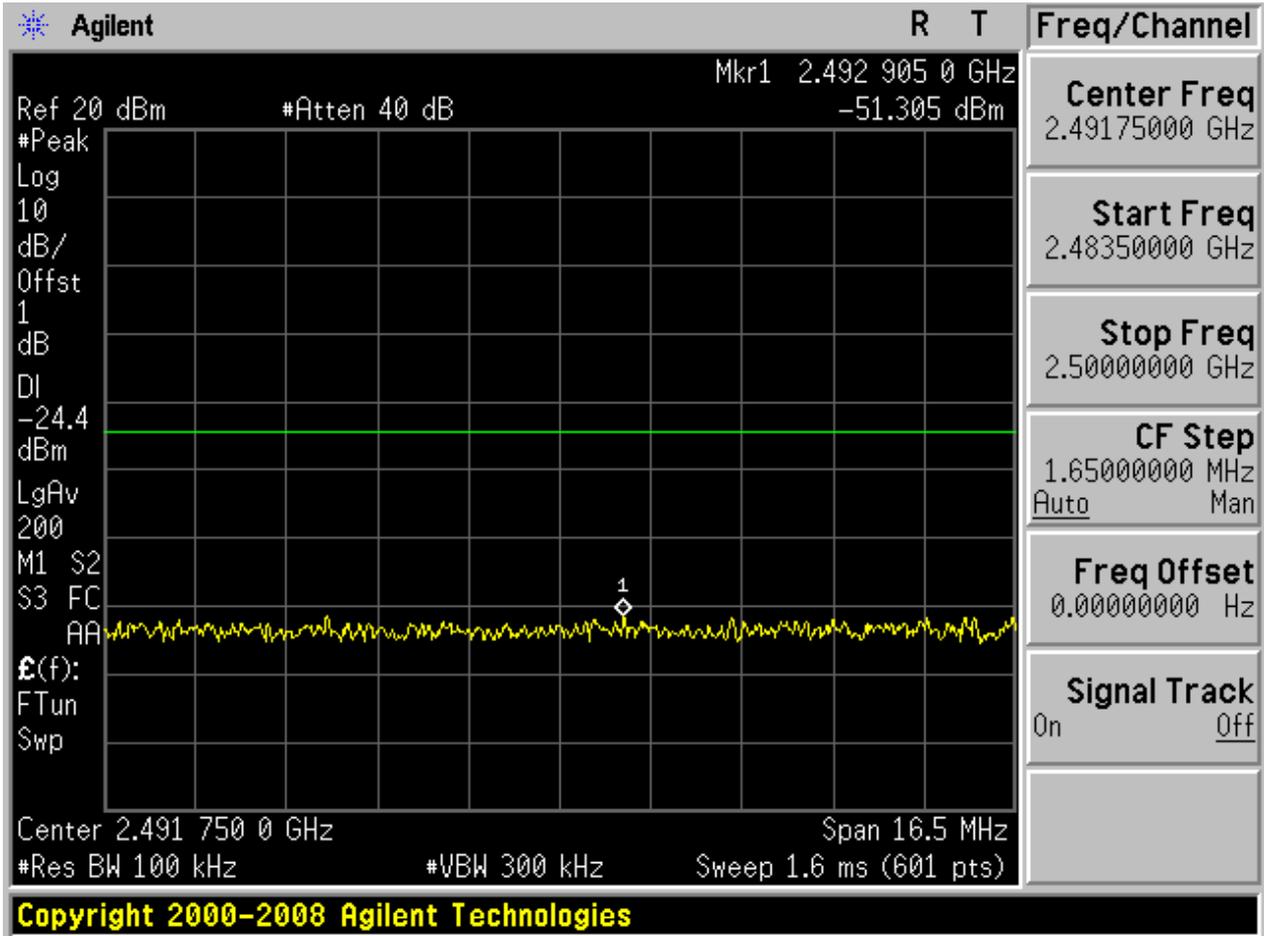
Puw:

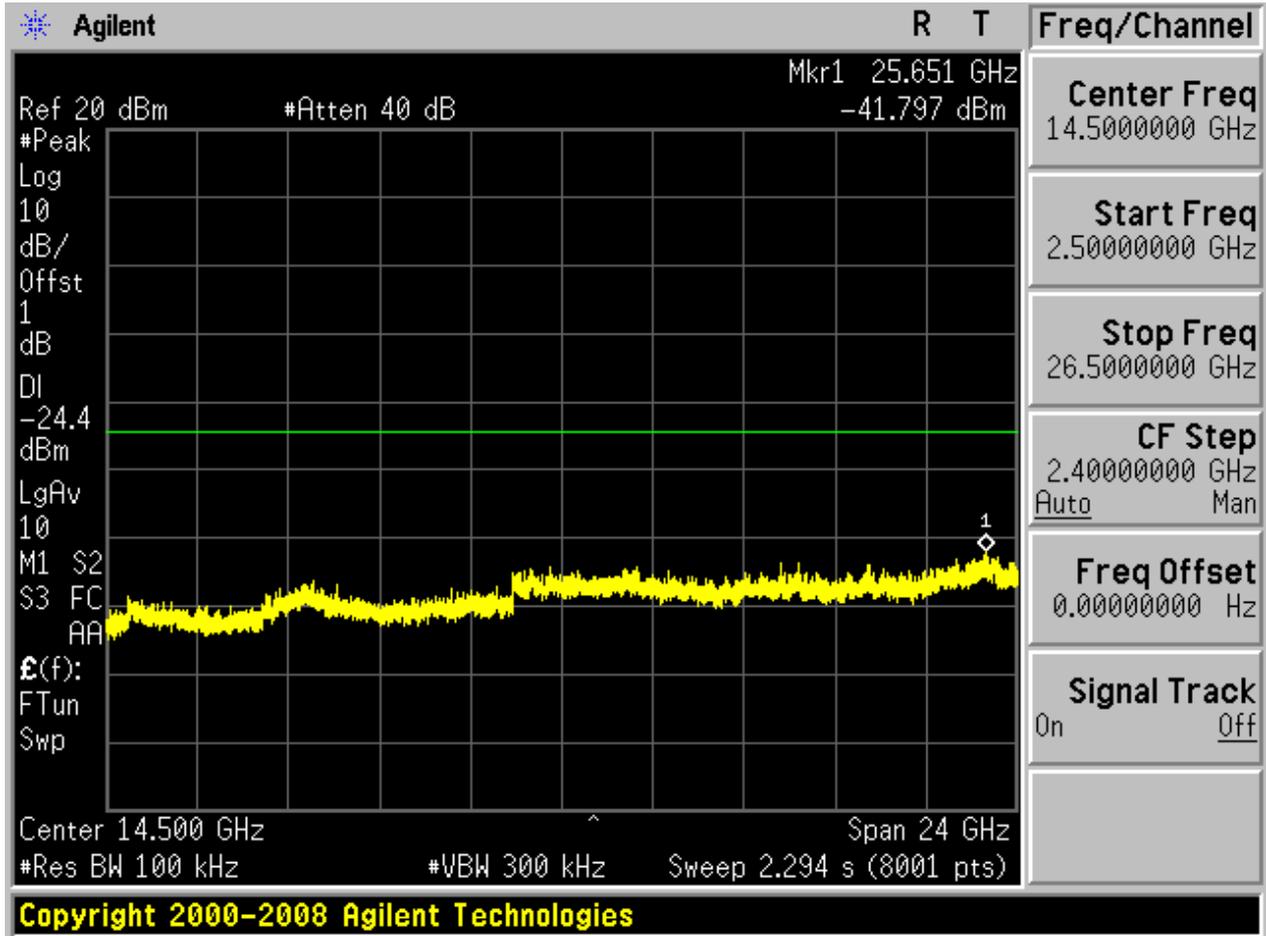








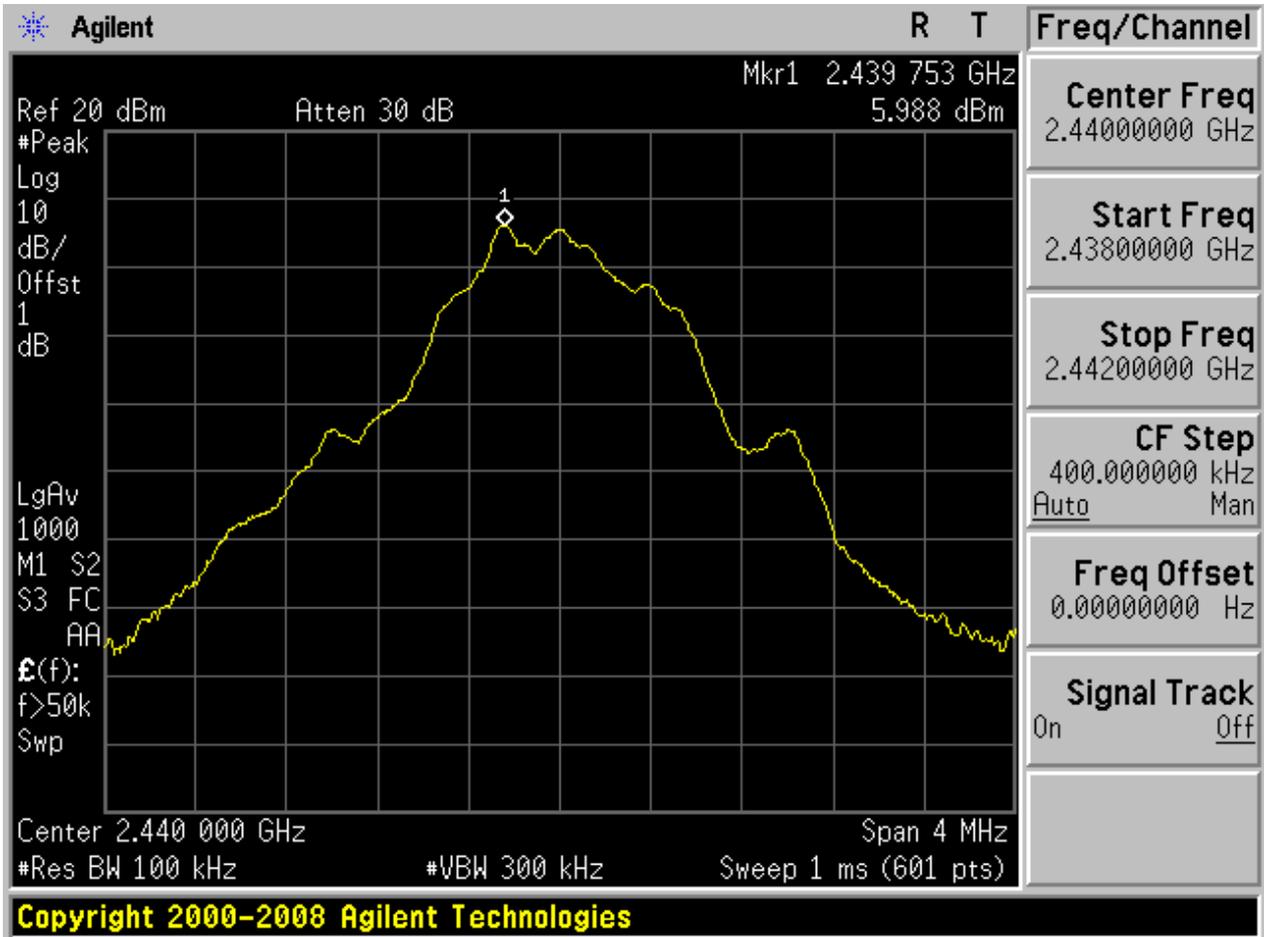






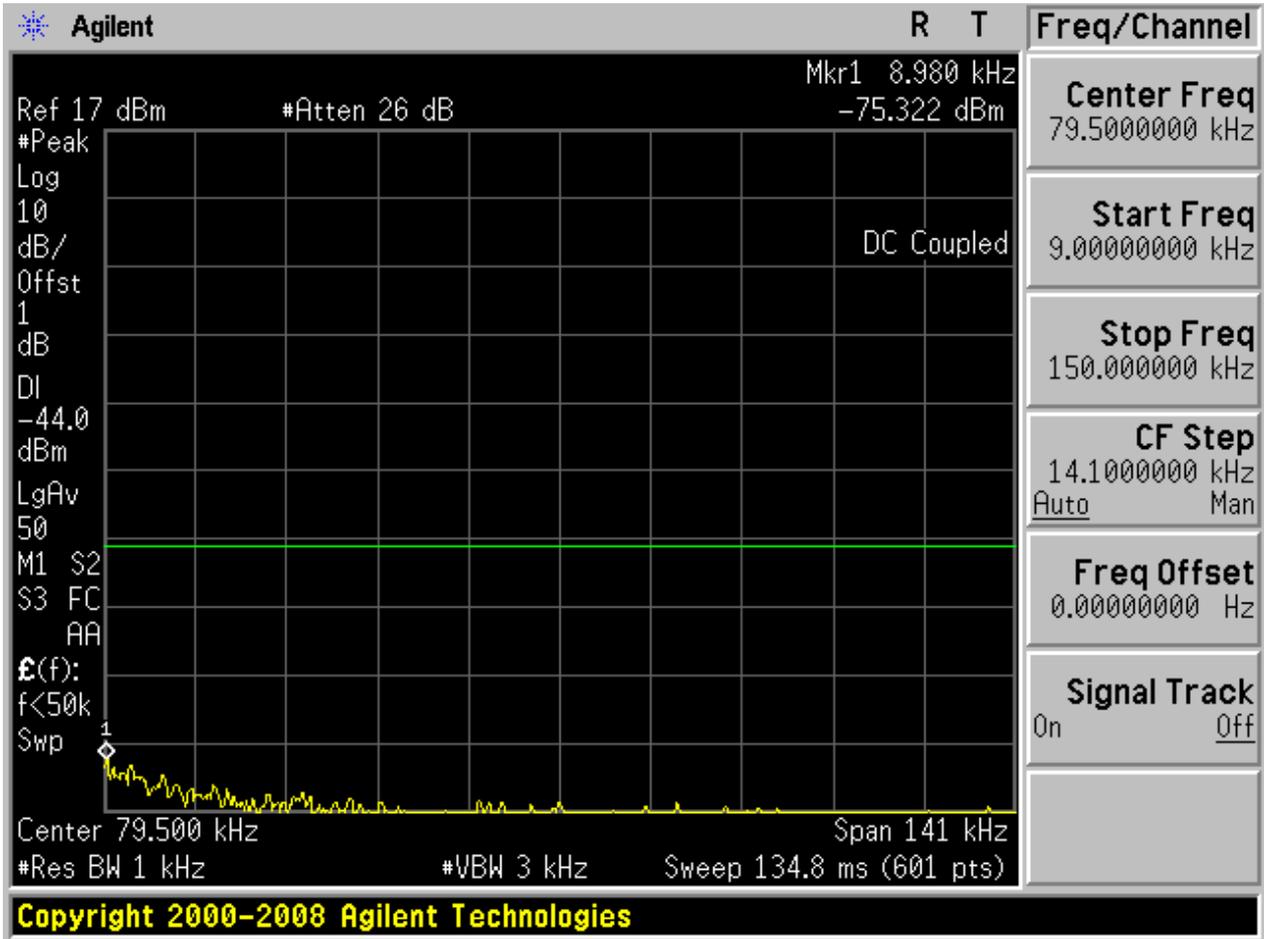
2.3 TM1_Ch19

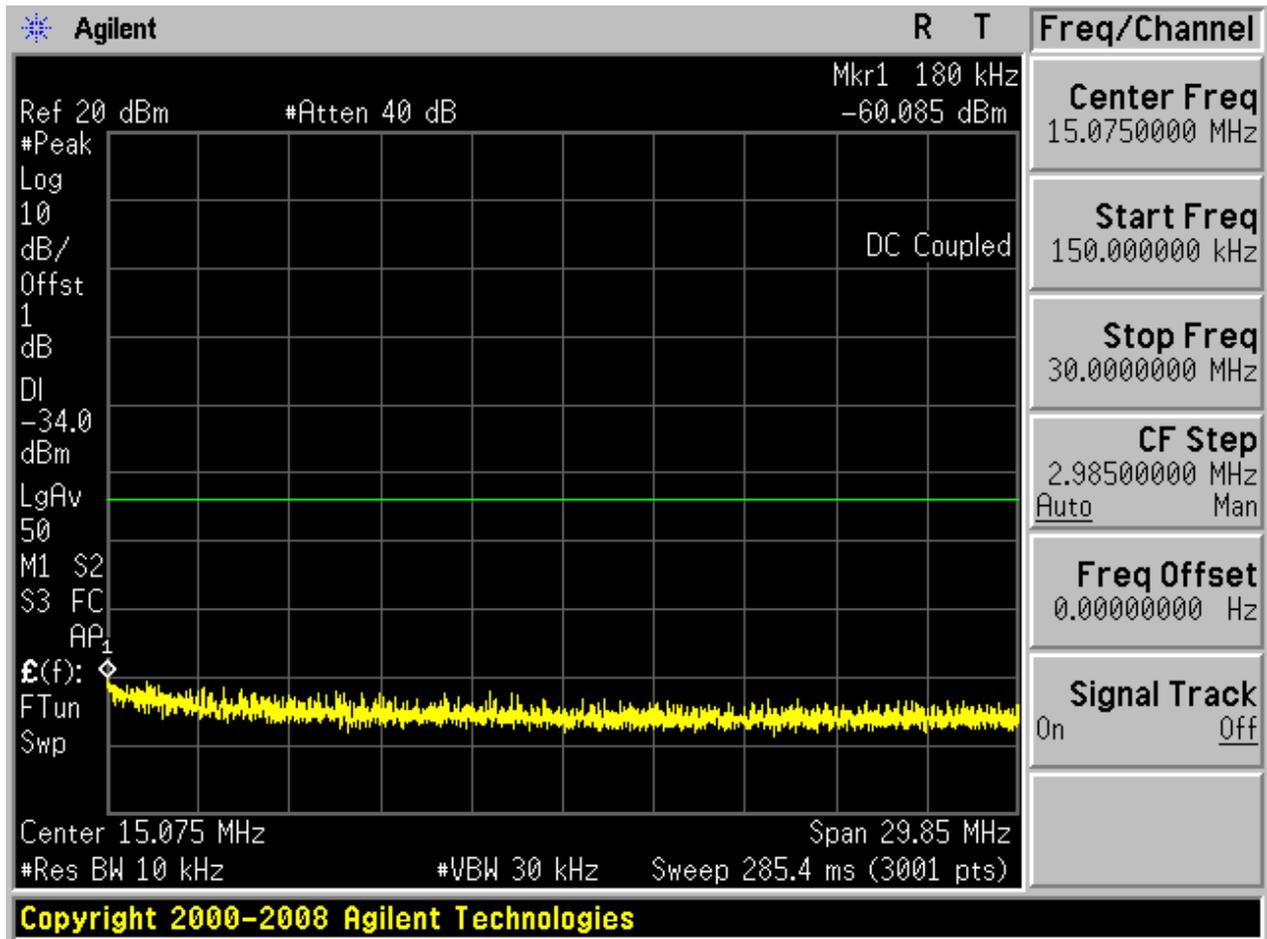
Pref:

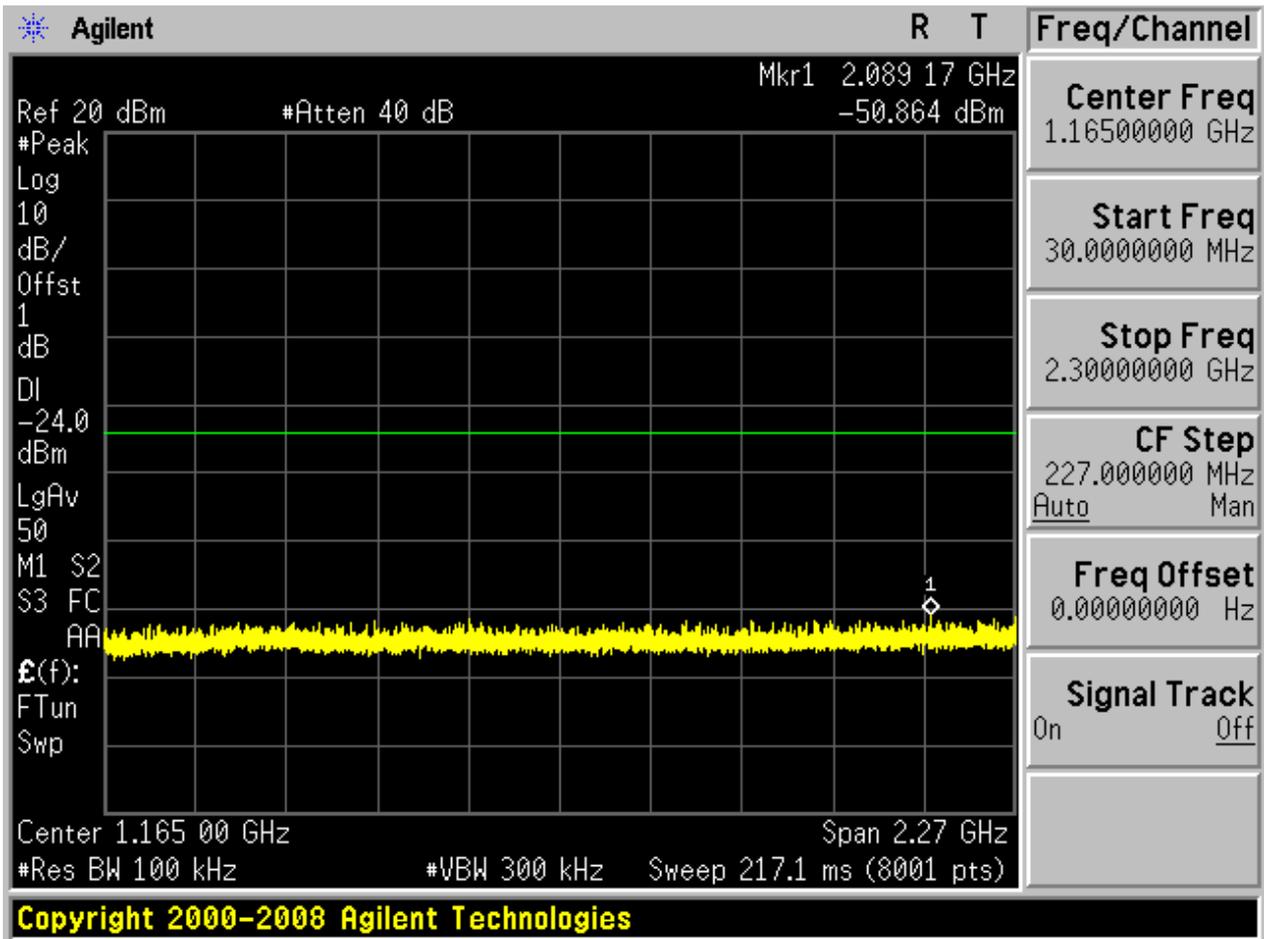


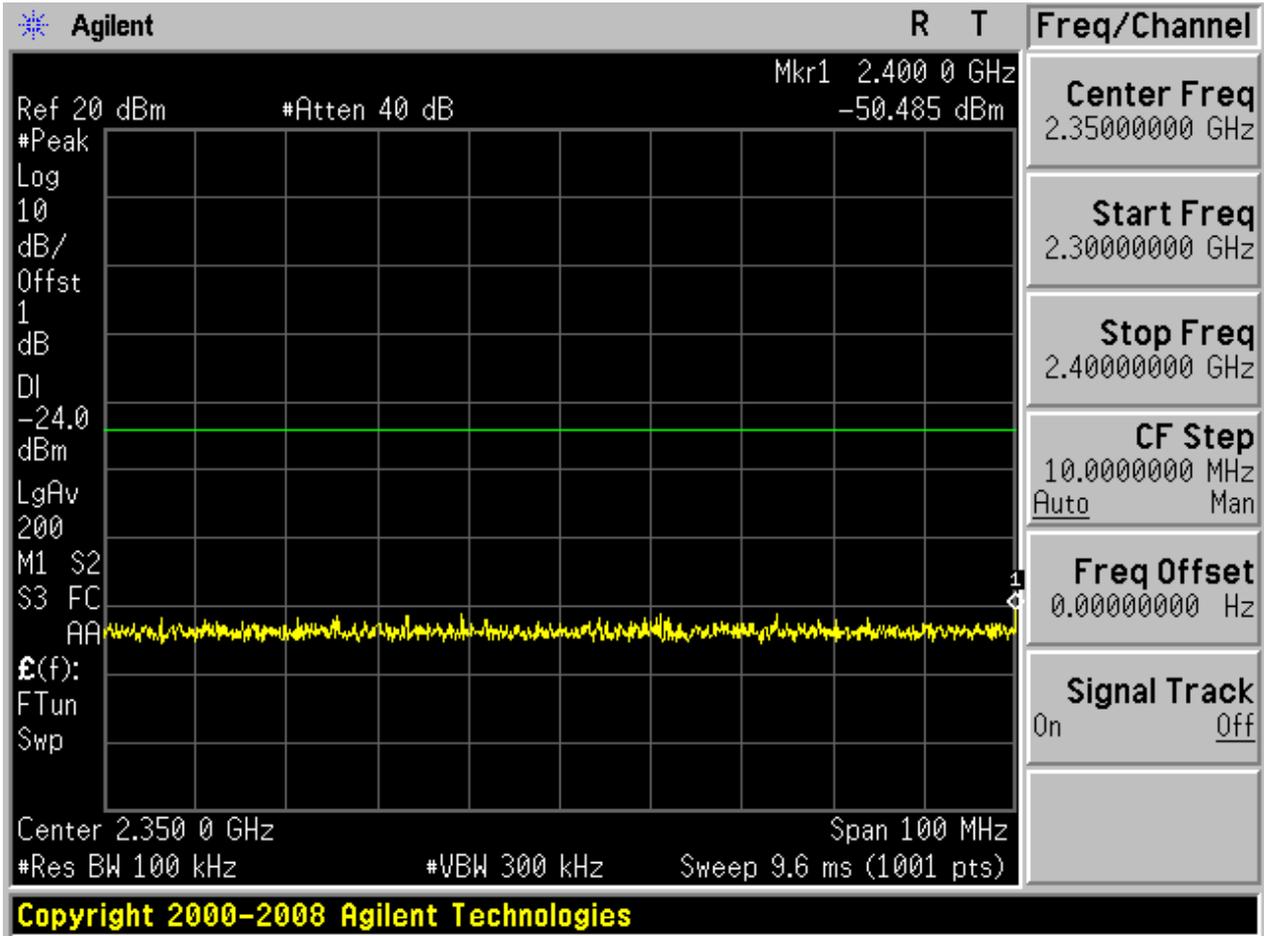


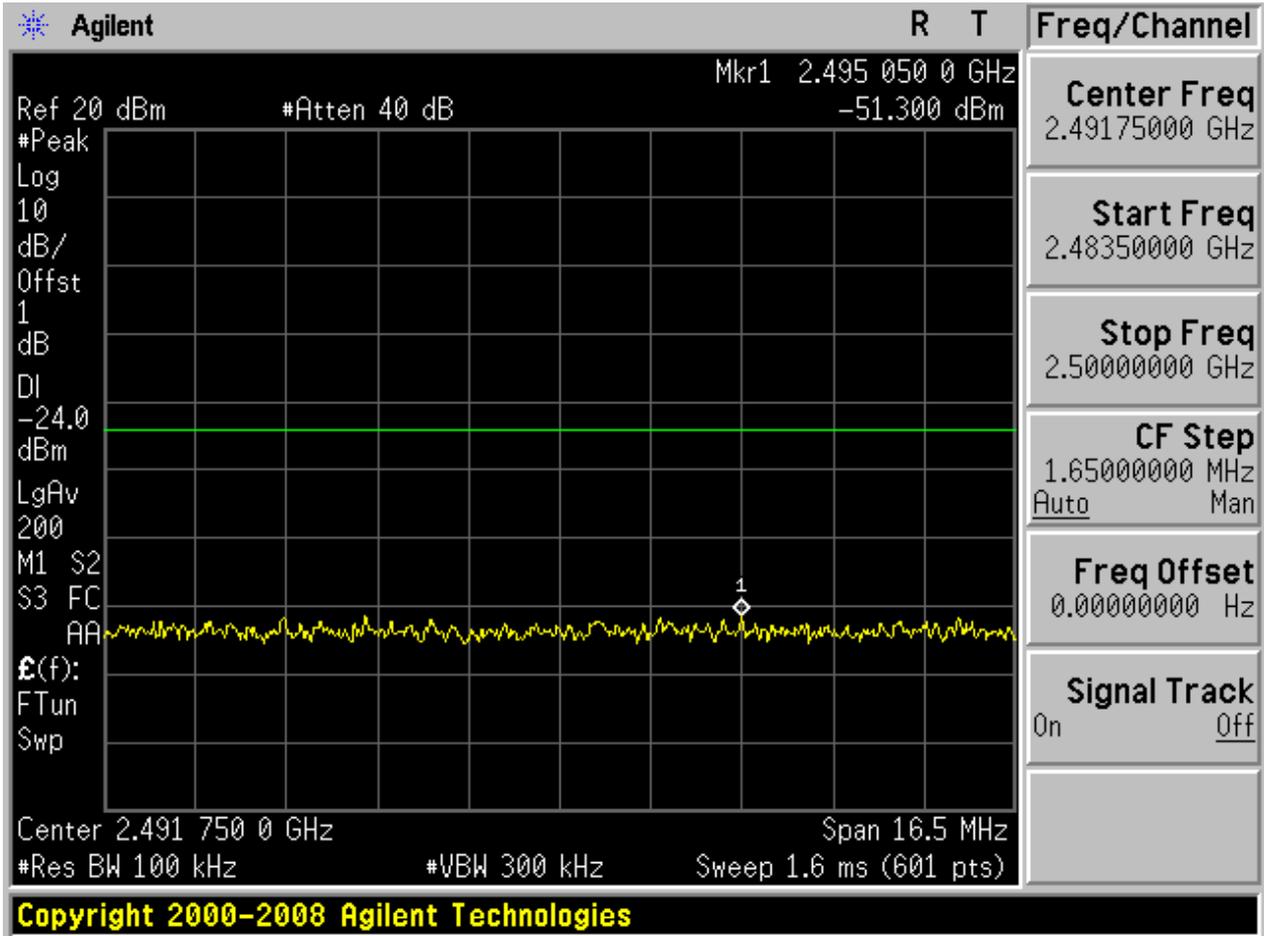
Puw:

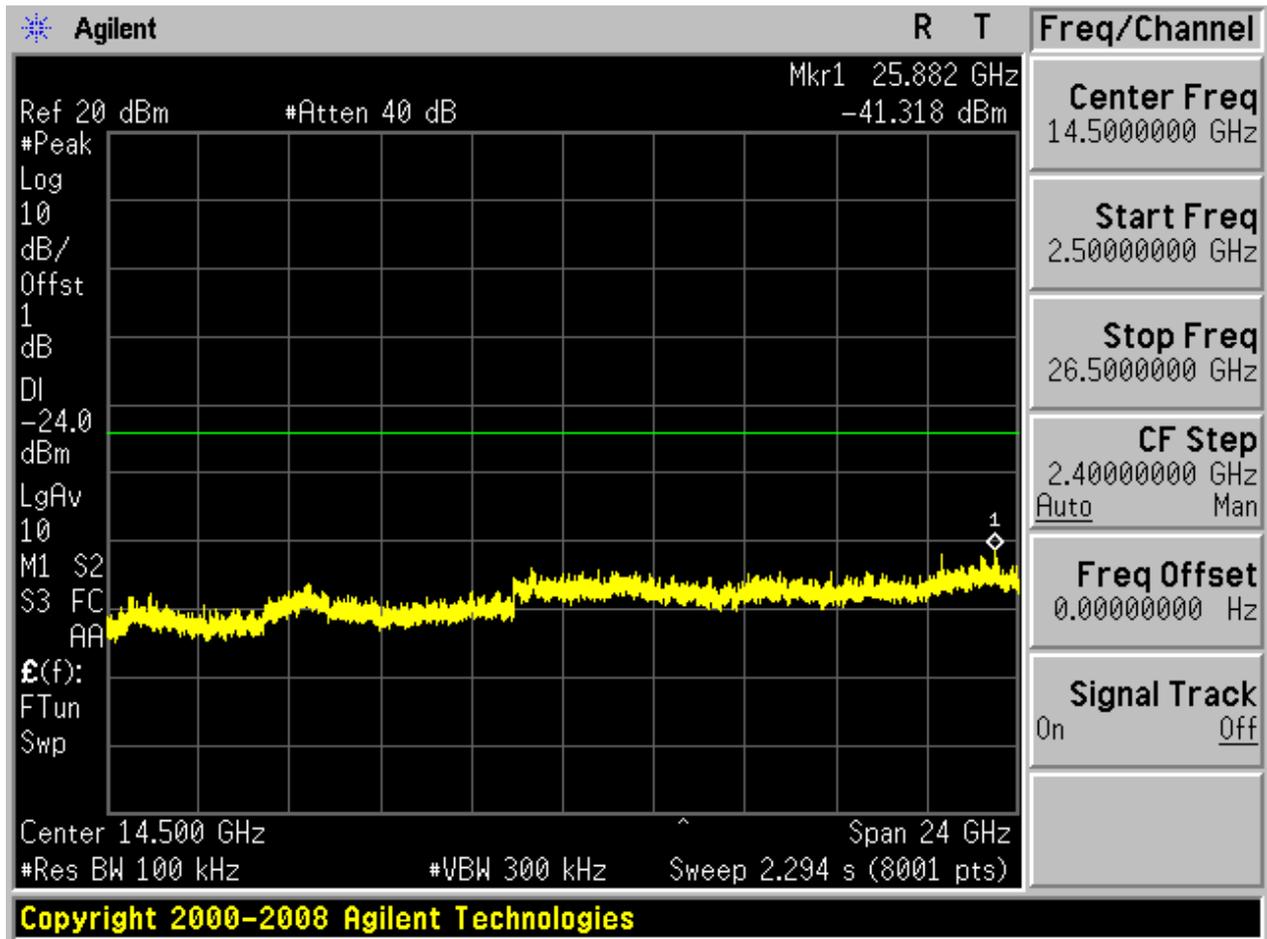








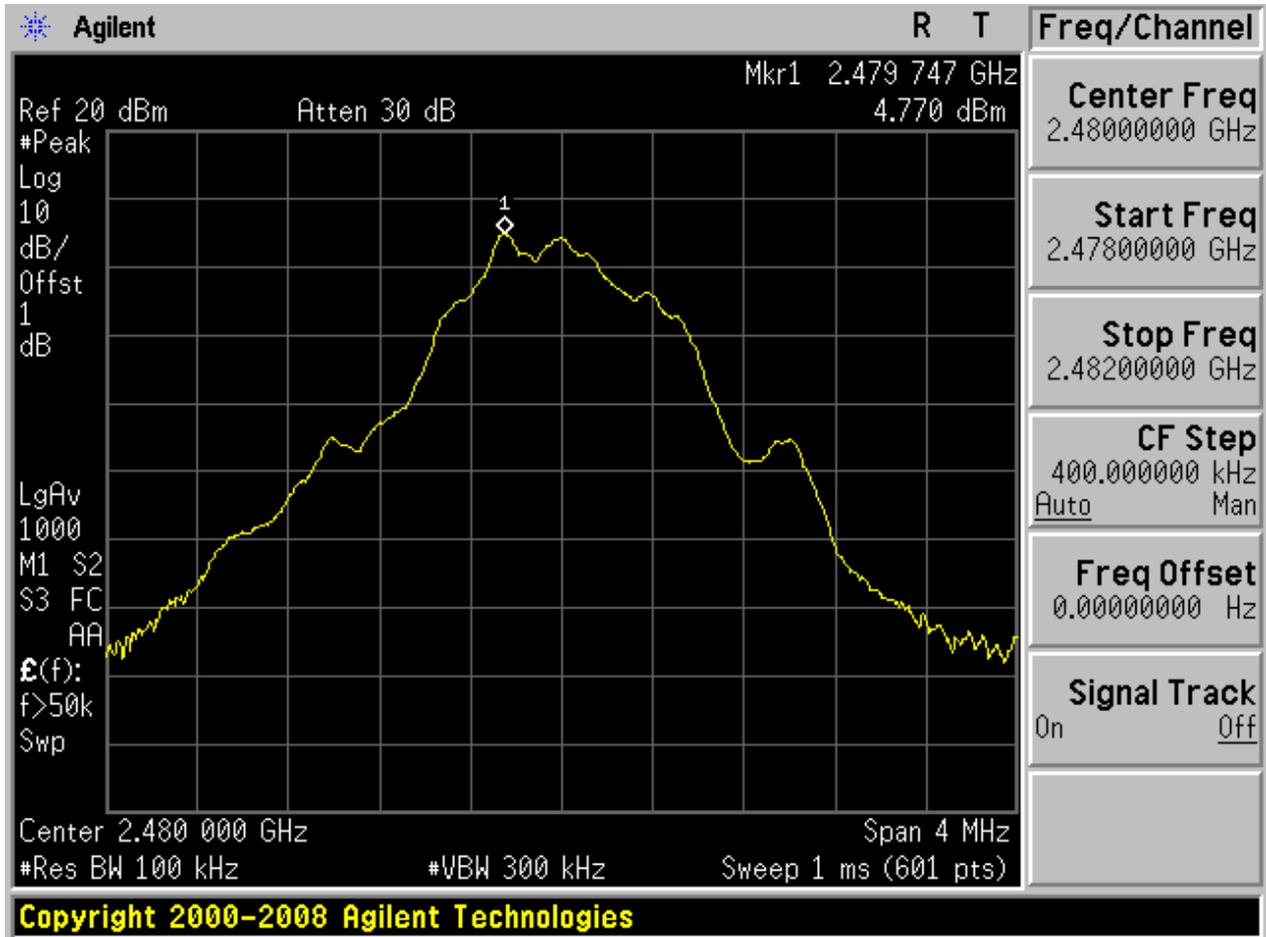






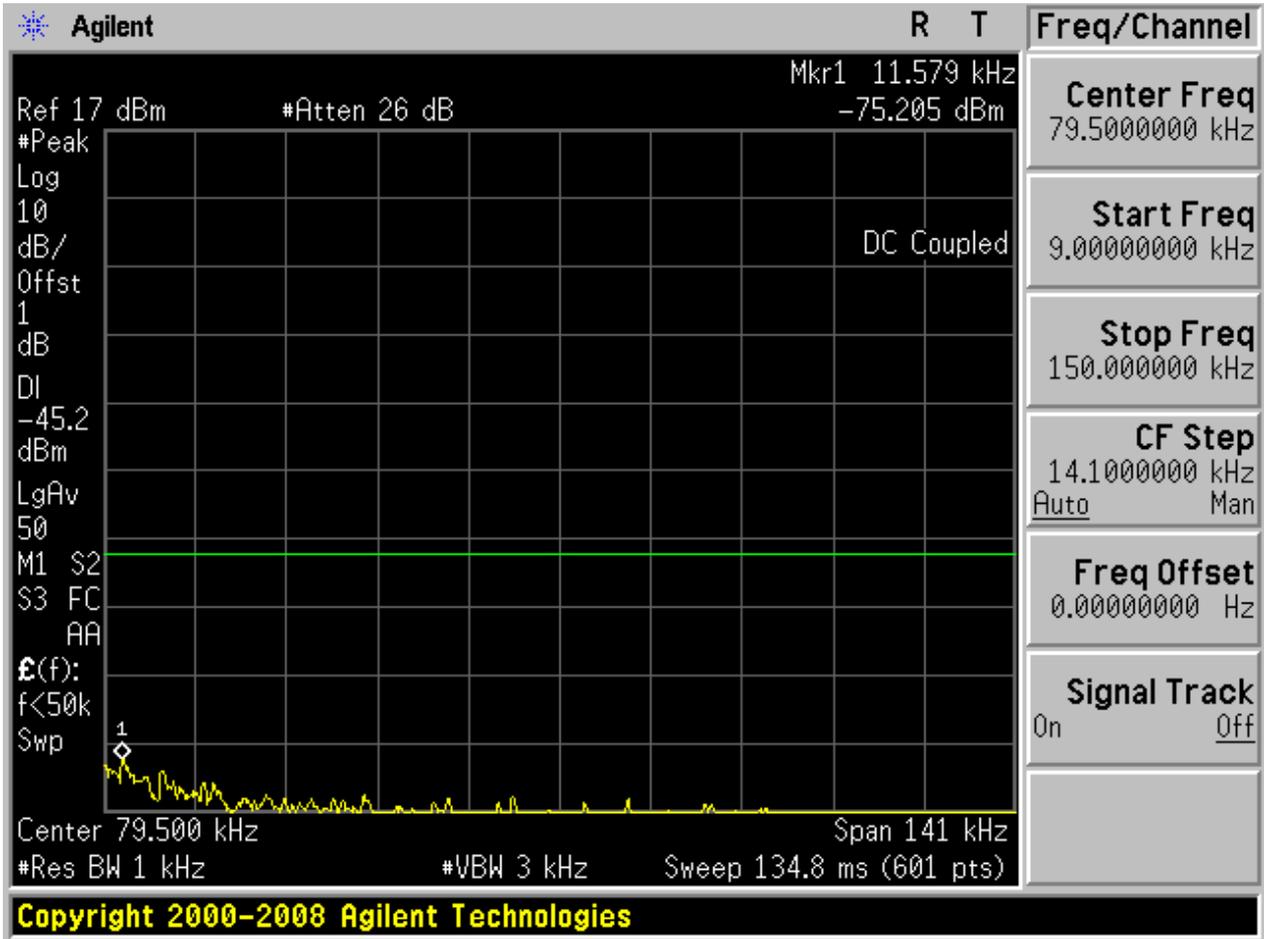
2.5 TM1_Ch39

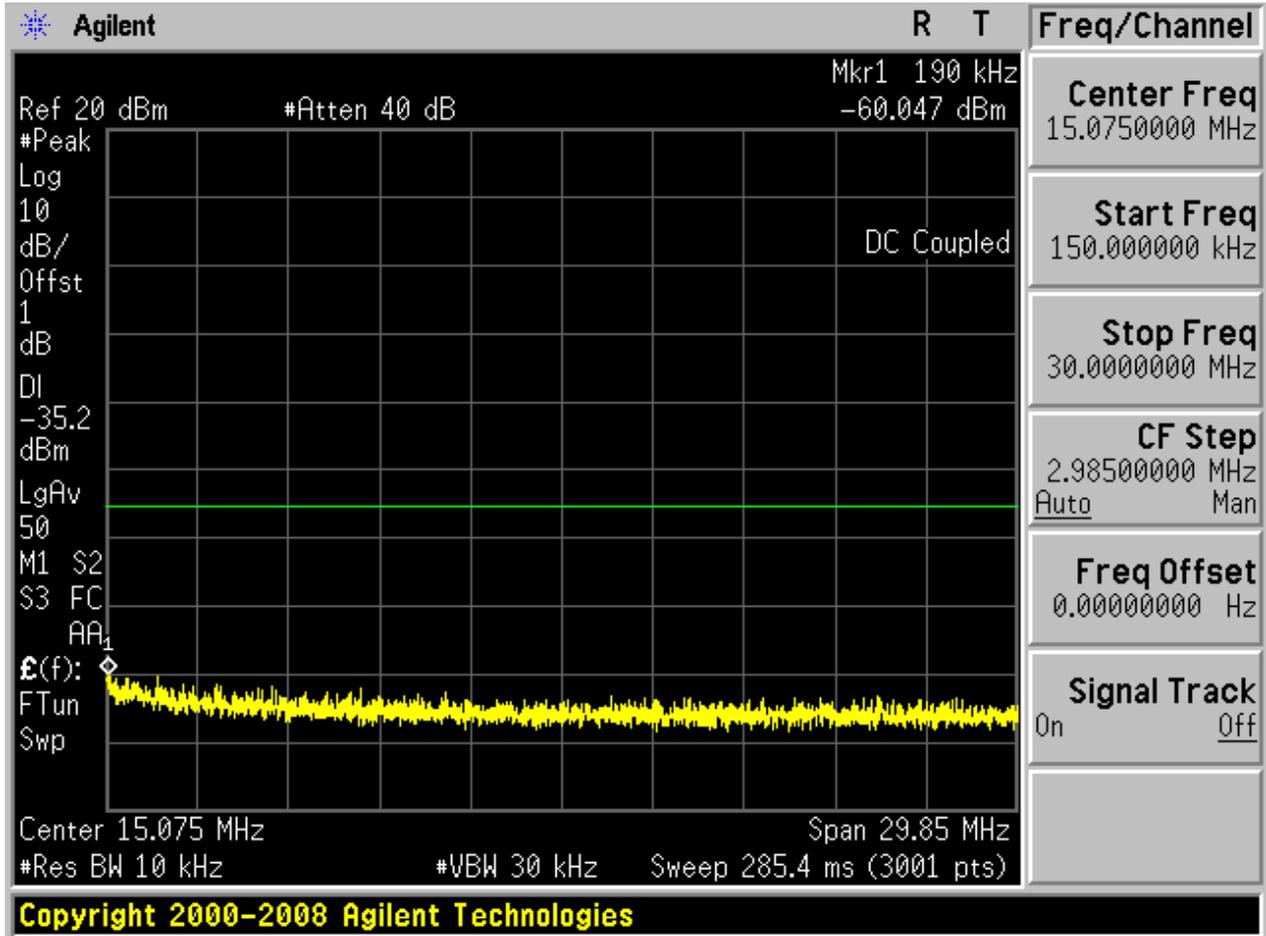
Pref:

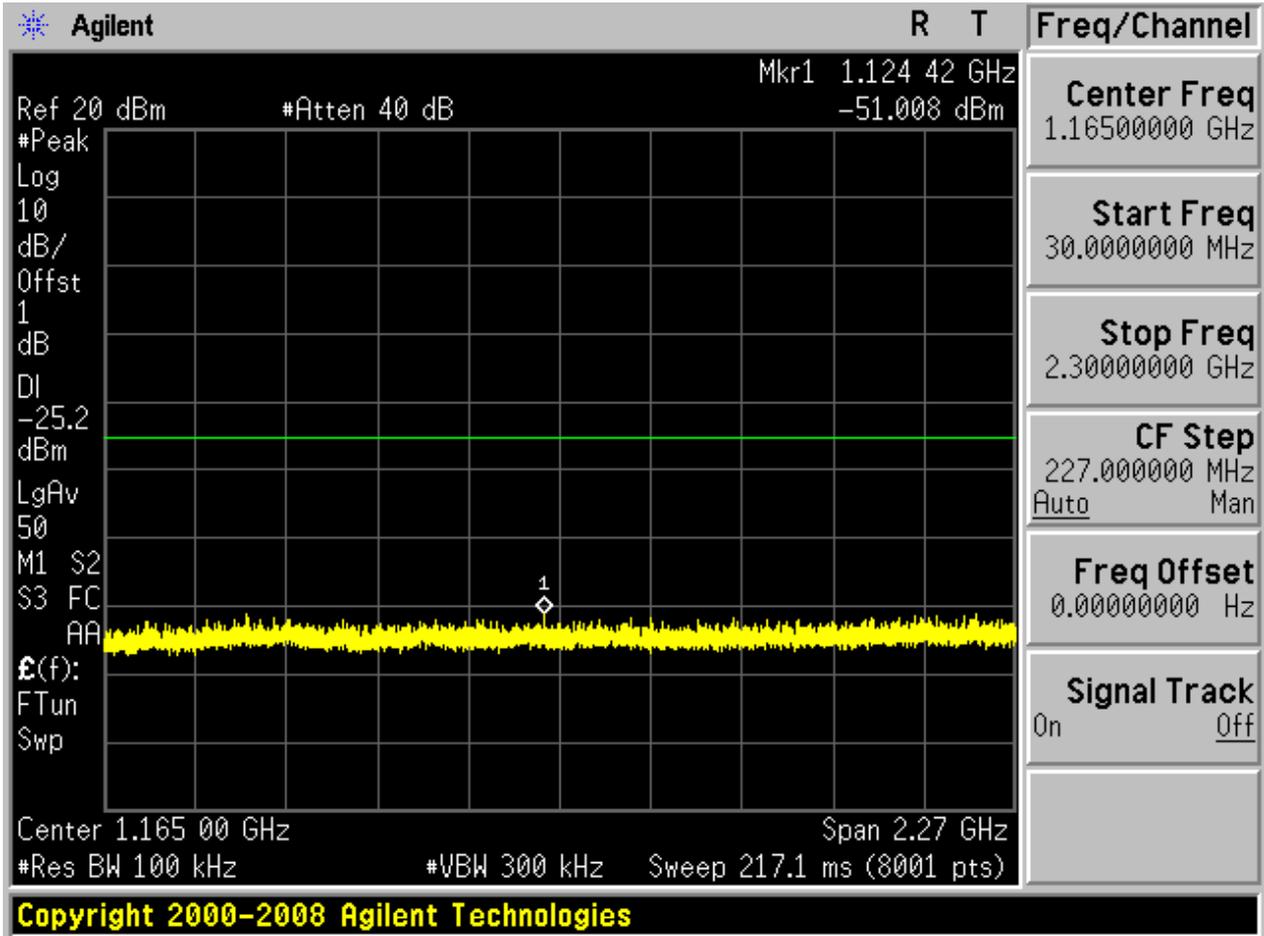


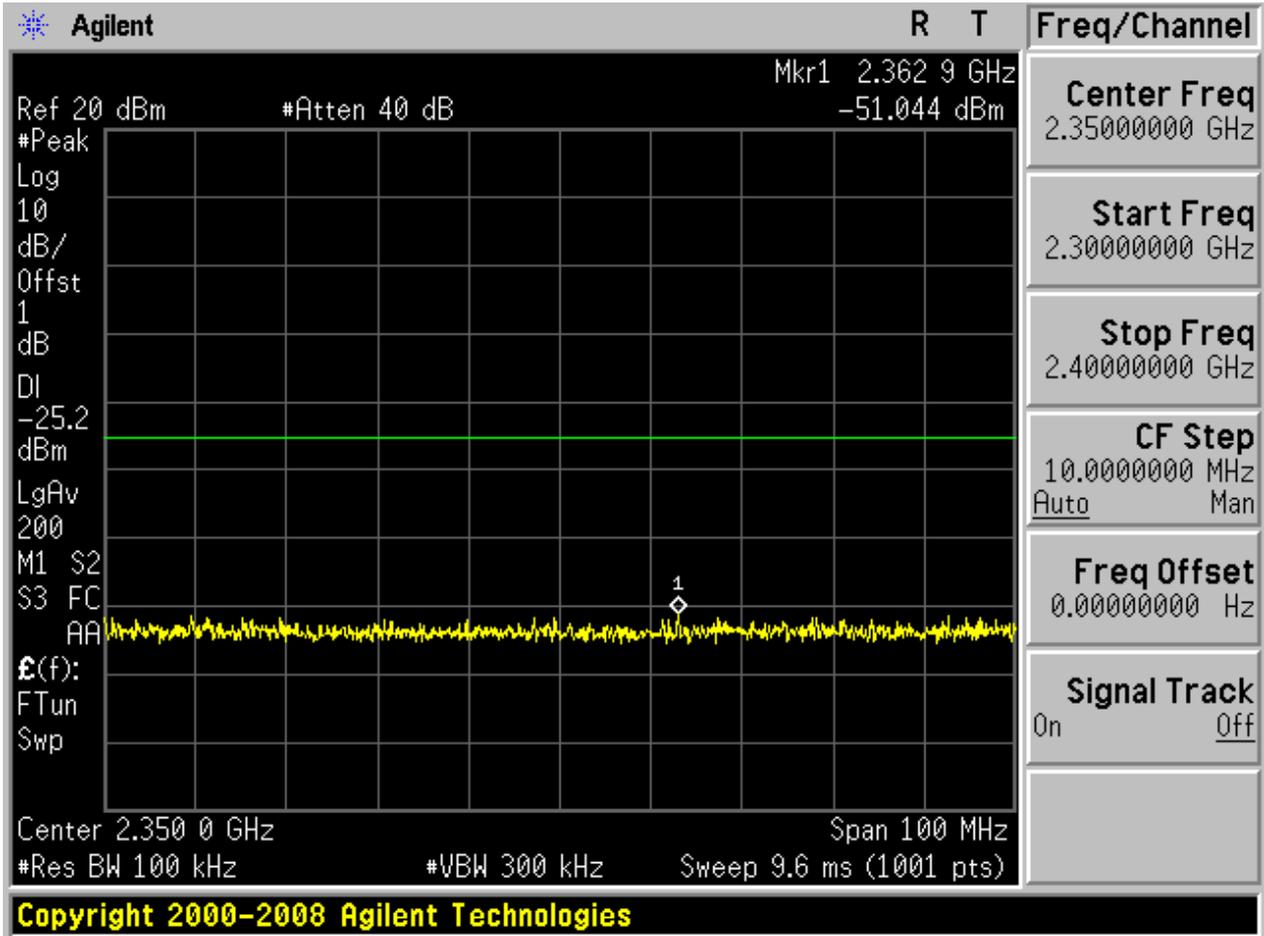


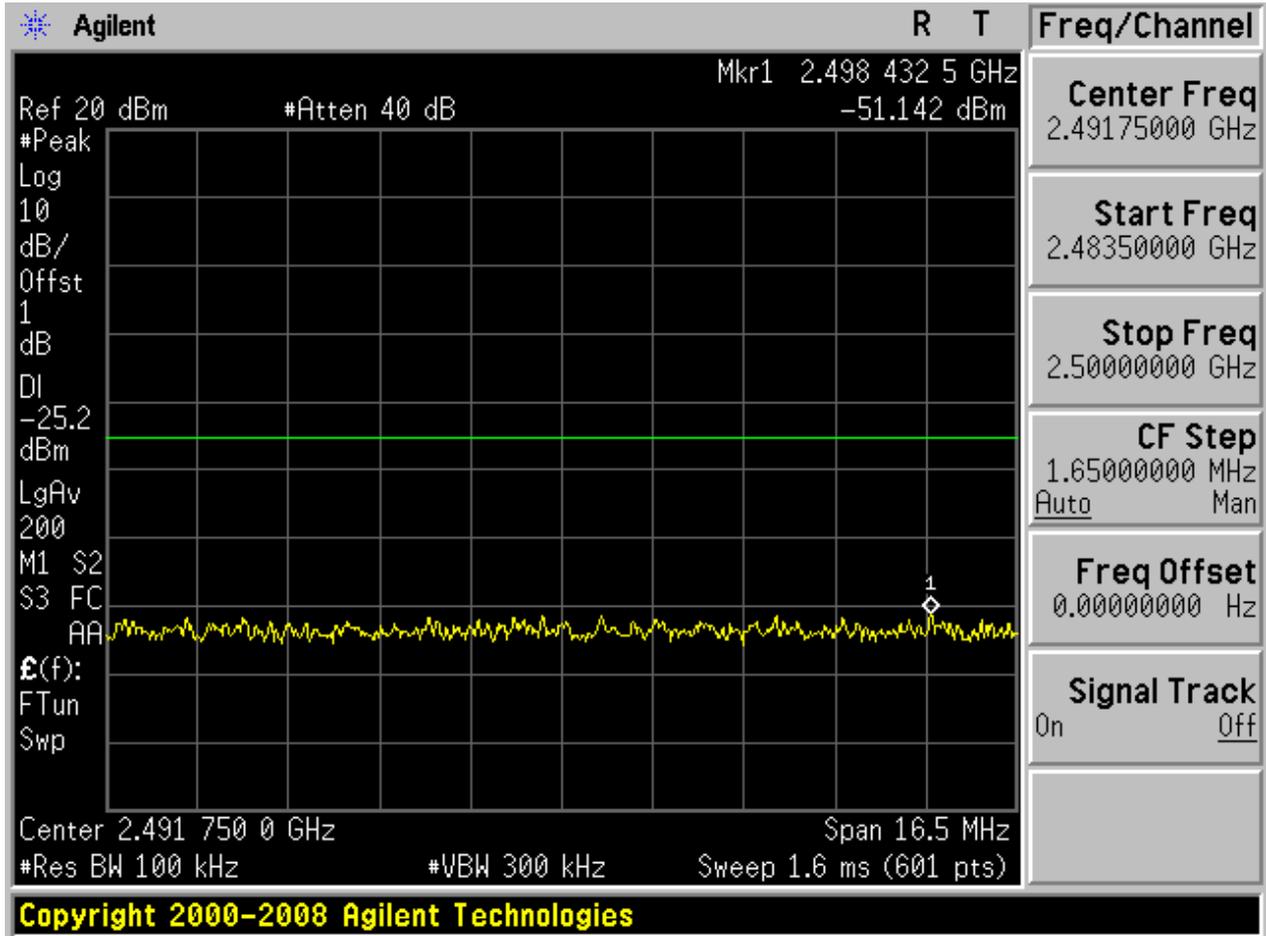
Puw:

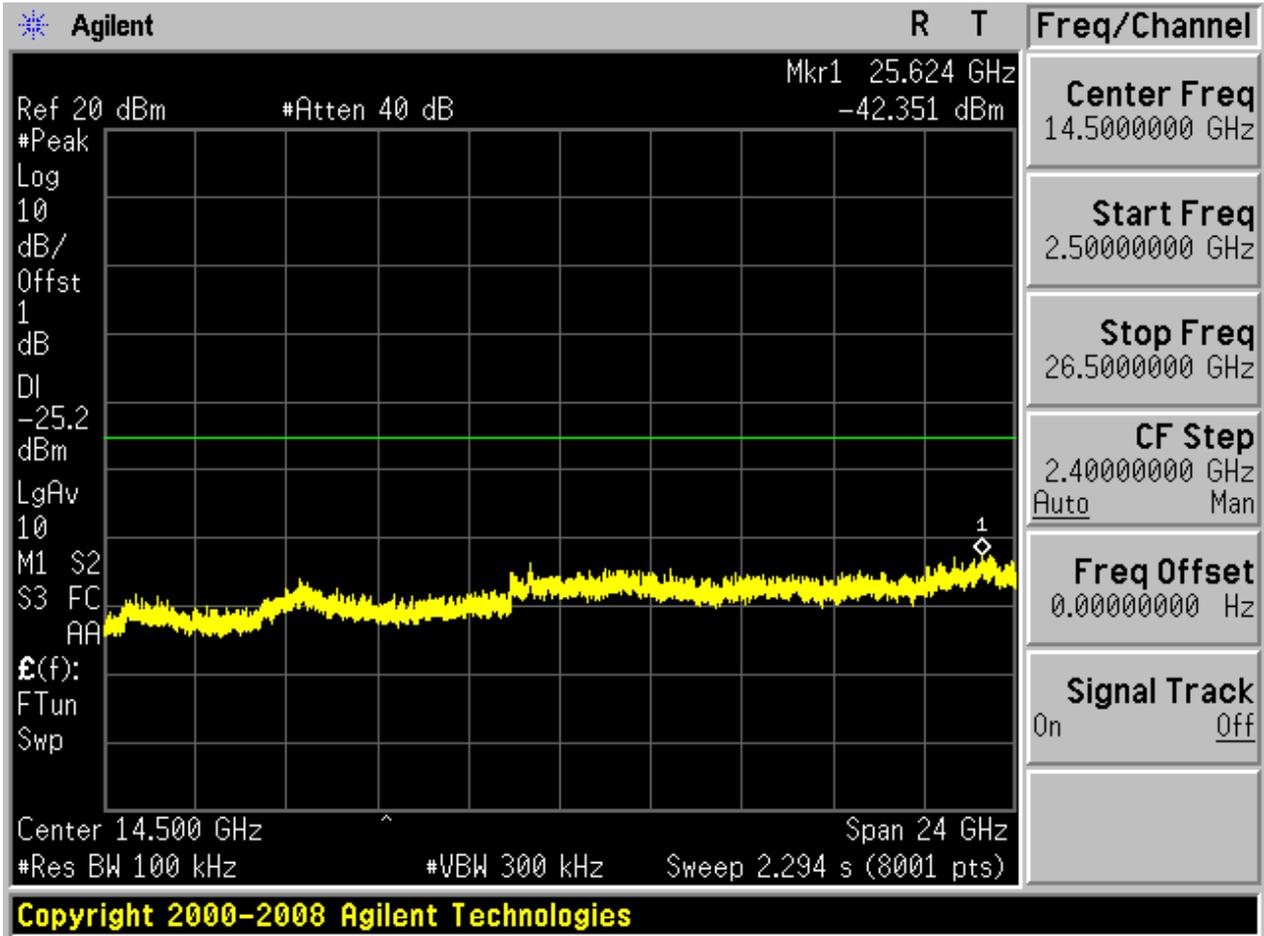














Appendix H: Radiated Spurious Emission & Spurious in Restricted Band

Note: We tested all modes, but the data presented below is the worst case. Below 1GHz, RBW = 100 kHz, VBW = 300 kHz.

Note: Below 1GHz, RBW = 100 kHz, VBW = 300 kHz.

Above 1GHz, RBW = 1 MHz, VBW = 3 MHz.

The simultaneous transmission has been considered

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

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

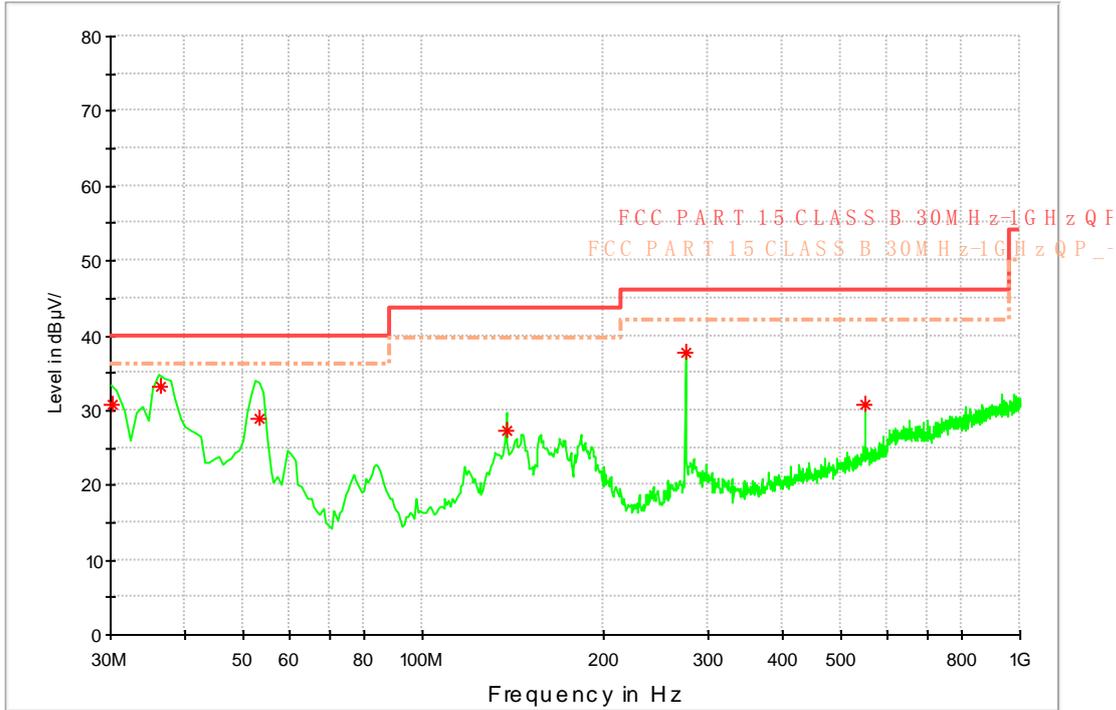
NOTE1: No peak found in the Test Range of “9 kHz to 30MHz”

Part 2: Testing Range of “30 MHz to 1 GHz”

Note 1: The test results and plot for testing range of “30 MHz to 1 GHz” showed as below is the WORST case for all Test Modes and Channels. This range will not be presented for each Test Mode and each Channel.

Note 2: The emissions in this range are mainly from the Platform Device (Notepad PC and its ancillary components).

FCC CLASS B RE 30MHz-1GHz



Frequency (MHz)	QuasiPeak (dBµ V/m)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµ V/m)
31.782400	32.7	120.000	100.0	V	44.0	13.9	7.3	40.0
53.896320	25.0	120.000	100.0	V	-8.0	14.7	15.0	40.0
108.756160	25.5	120.000	271.0	H	187.0	13.3	18.0	43.5
246.386880	39.7	120.000	156.0	H	137.0	14.3	6.3	46.0
369.600000	28.0	120.000	100.0	H	262.0	17.3	18.0	46.0
492.830080	32.7	120.000	245.0	H	226.0	19.7	13.3	46.0



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

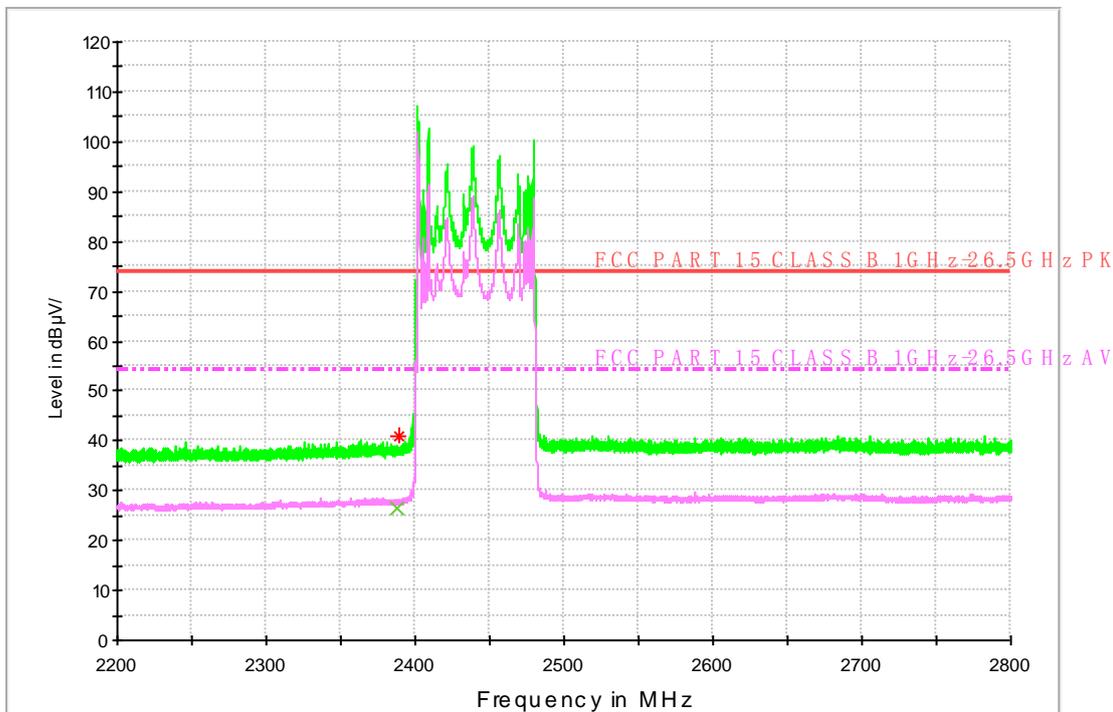
NOTE1: No peak found in the Test Range of “18 GHz to 26.5GHz”

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

- Note 1: The testing range of “2.3 GHz to 2.5 GHz” is for checking radiated emissions located in restricted bands near the EUT operating bands.
- Note 2: Two limits are required in the testing range above 1 GHz, that is Peak limit (74 dB μ V/m) and Average Limit (54 dB μ V/m).
- Note 3: The peak spike exceeds the limit line is EUT’s operating frequency.

Channel 0

FCC RE WIFI 1GHz-3GHz



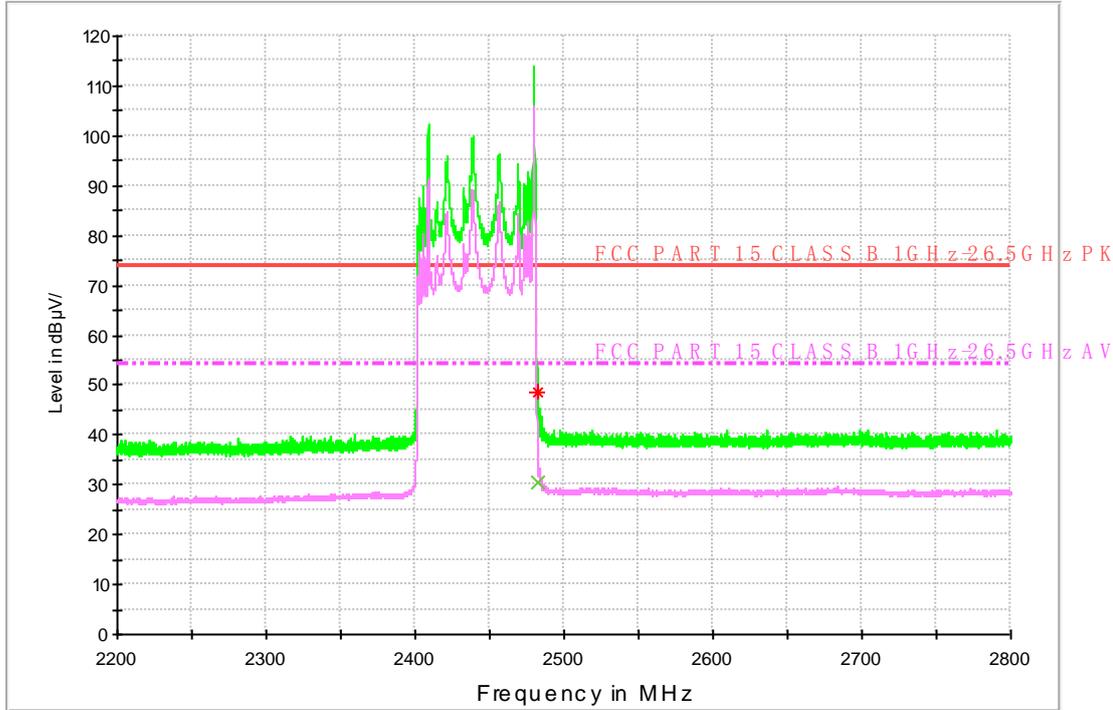
Note: The peak exceeds the limit line is carrier frequency.

MEASUREMENT RESULT: PK/ AV Detector

Frequency (MHz)	MaxPeak (dB μ V/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)
2388.69640	40.9	15000.0	1000.000	100.0	H	290.0	-7.6	33.1
Frequency (MHz)	Average (dB μ V/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)
2387.89000	26.6	15000.0	1000.000	100.0	H	200.0	-7.6	27.4

Channel 39

FCC RE WIFI 1GHz-3GHz



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

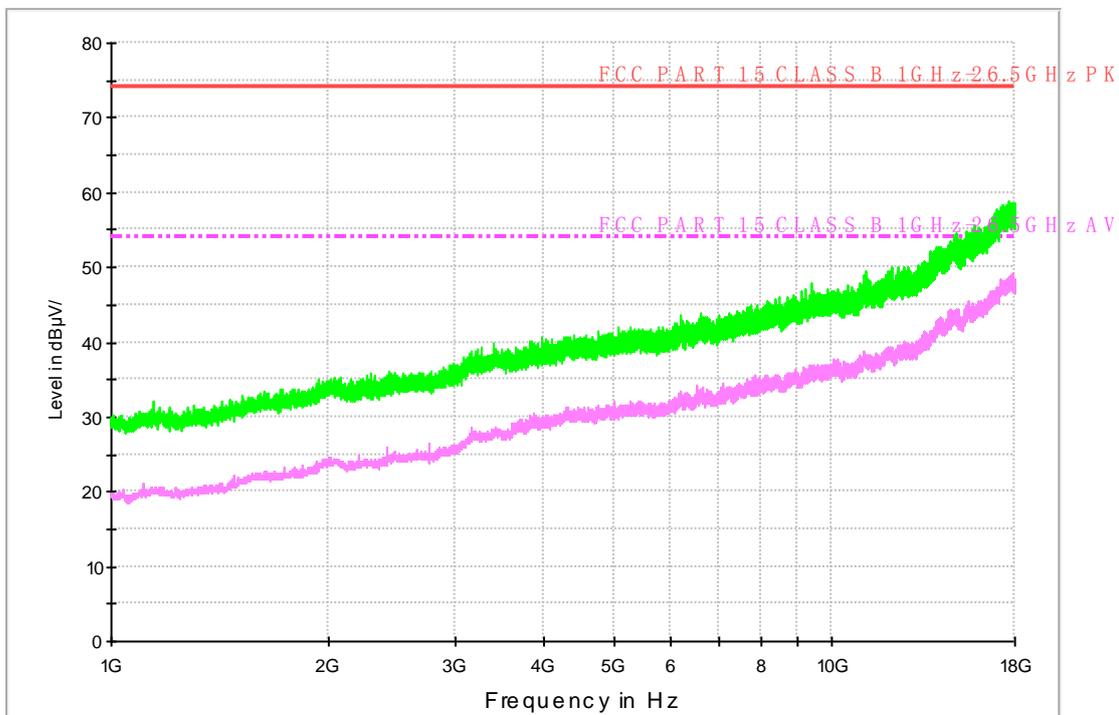
MEASUREMENT RESULT: PK/ AV Detector

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)
2482.92600	48.5	15000.0	1000.000	100.0	H	40.0	-4.8	25.5
Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)
2482.84380	30.7	15000.0	1000.000	100.0	H	55.0	-4.6	23.3

Part 5: Testing Range of “1 GHz to 18 GHz”

- Note 1: The test results and plot for testing range of “1 GHz to 18 GHz” showed as below is the WORST case for all Test Modes and Channels. This range will not be presented for each Test Mode and each Channel.
- Note 2: The testing range of “1 GHz to 18 GHz” is for checking radiated emissions located in restricted bands faraway from the EUT operating bands.
- Note 3: Two limits are required in the testing range above 1 GHz, that is Peak limit (74 dB μ V/m) and Average Limit (54 dB μ V/m).

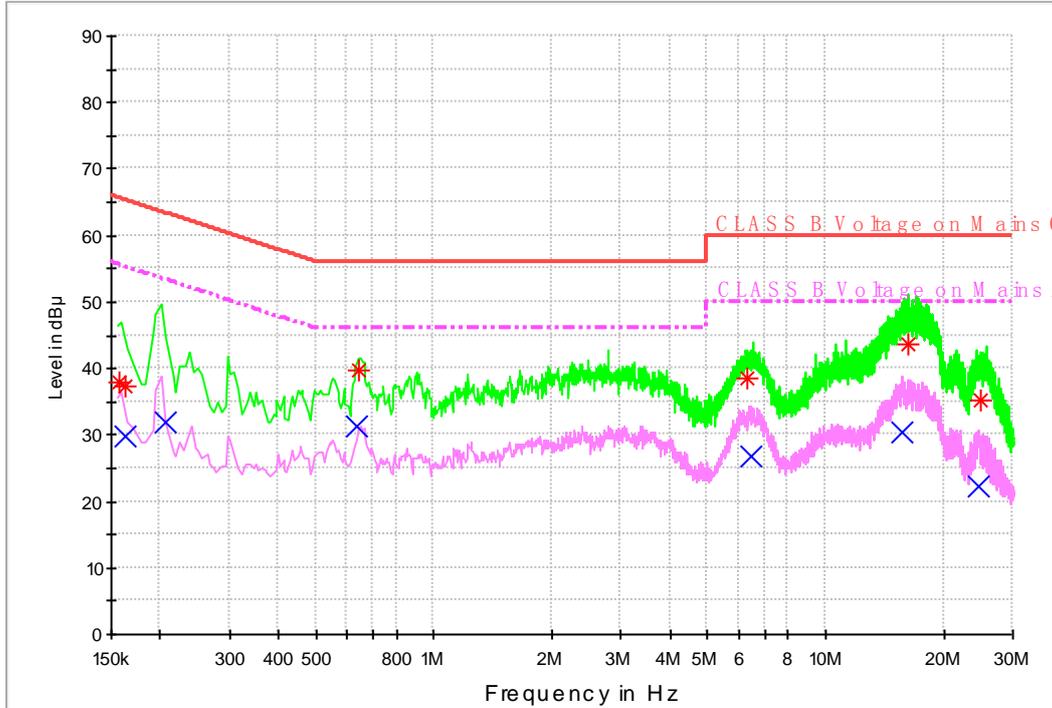
FCC CLASS B RE 1GHz-18GHz



Appendix I: Conducted Emission at Power Port

Note: RBW =9 kHz, VBW =30kHz

CLASS B Voltage with ENV216



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.157511	37.9	L1	9.8	27.7	65.6
0.163892	37.4	L1	9.8	27.9	65.3
0.644670	39.7	N	9.8	16.3	56.0
6.328335	38.6	N	10.0	21.4	60.0
16.284126	43.7	L1	10.2	16.3	60.0
24.924438	35.1	N	10.3	24.9	60.0

Final Result 2

Frequency (MHz)	Average (dBµ V)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.163202	29.8	L1	9.8	25.5	55.3
0.206305	32.0	N	9.8	21.4	53.4
0.635706	31.2	N	9.8	14.8	46.0
6.416283	26.7	N	10.0	23.3	50.0
15.713889	30.4	L1	10.2	19.6	50.0
24.534039	22.2	N	10.3	27.8	50.0

END