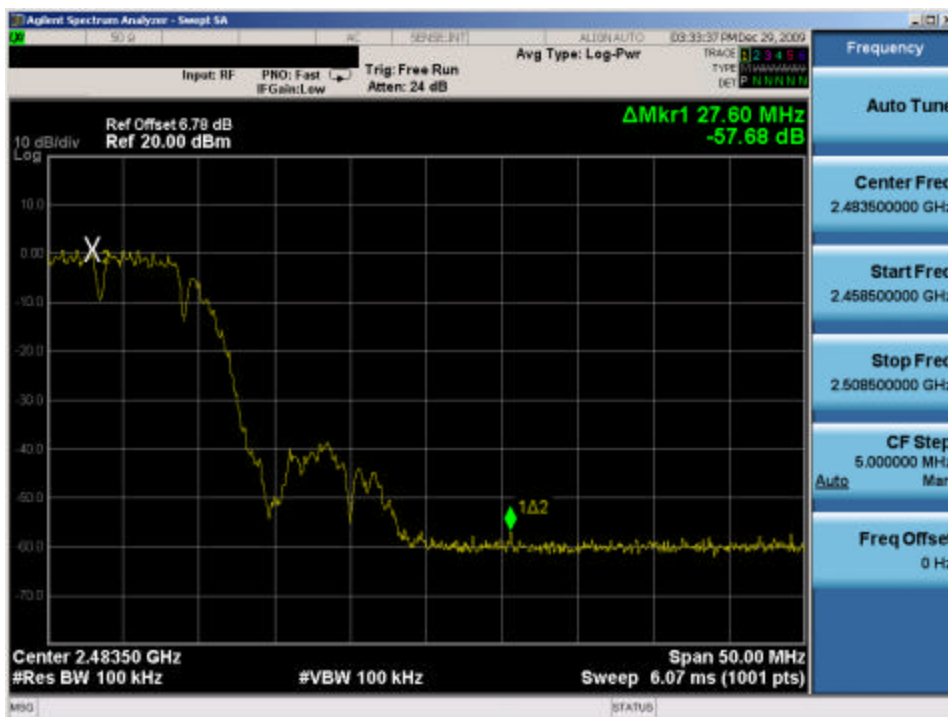


6.8 Out of Band Emissions at the Band Edge

§15.247(d)

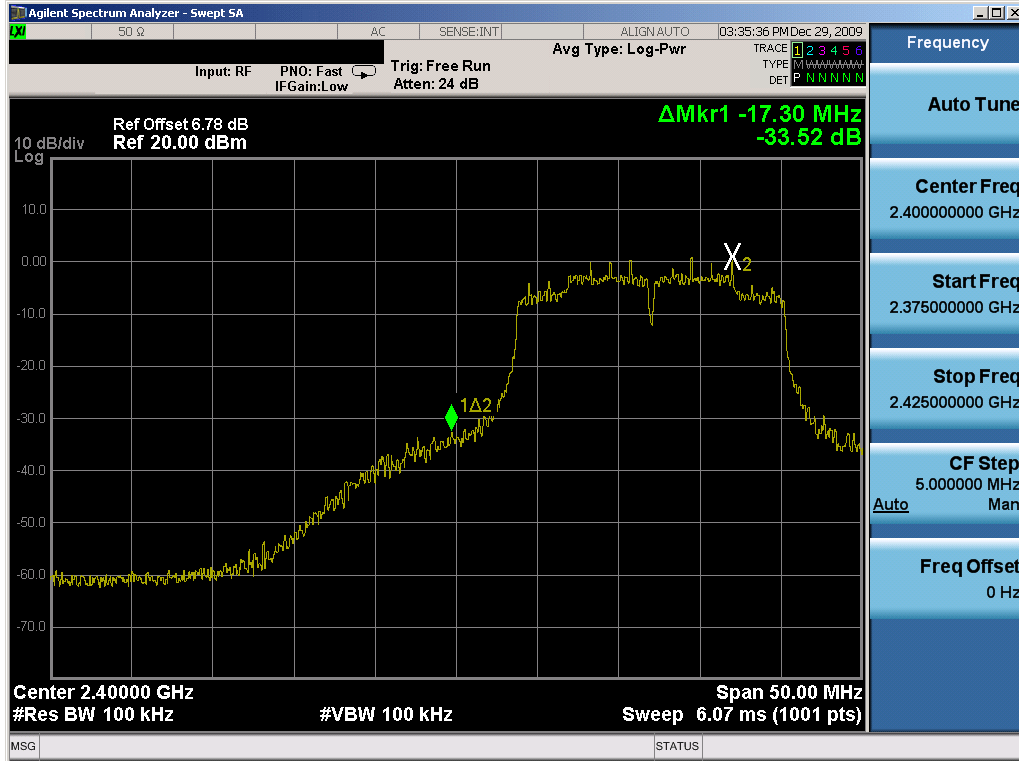


Plot 6-57. Band Edge Plot (802.11b – Ch. 1) – Chain A

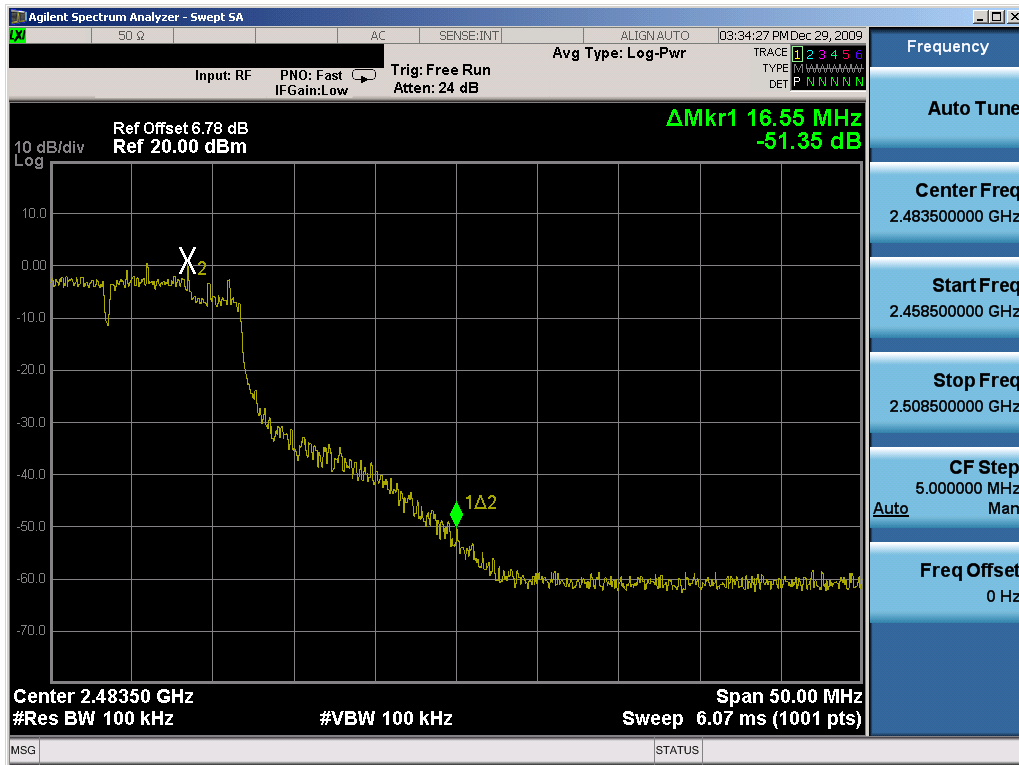


Plot 6-58. Band Edge Plot (802.11b – Ch. 11) – Chain A

FCC ID: ACJ9TGCF-527		FCC Pt. 15.247 802.11a/b/g/n MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0912152258.ACJ	Test Dates: December 28, 2009 - February 5, 2010	EUT Type: Toughbook Model CF-52mk3		Page 51 of 100

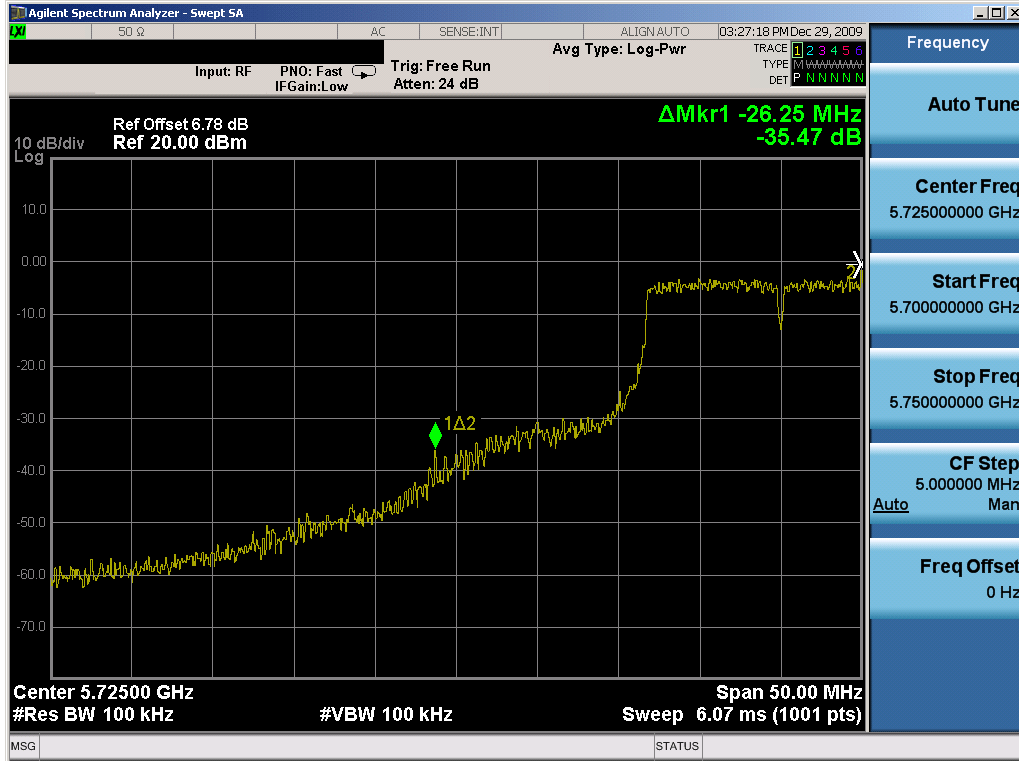


Plot 6-59. Band Edge Plot (802.11g- Ch. 1) – Chain A

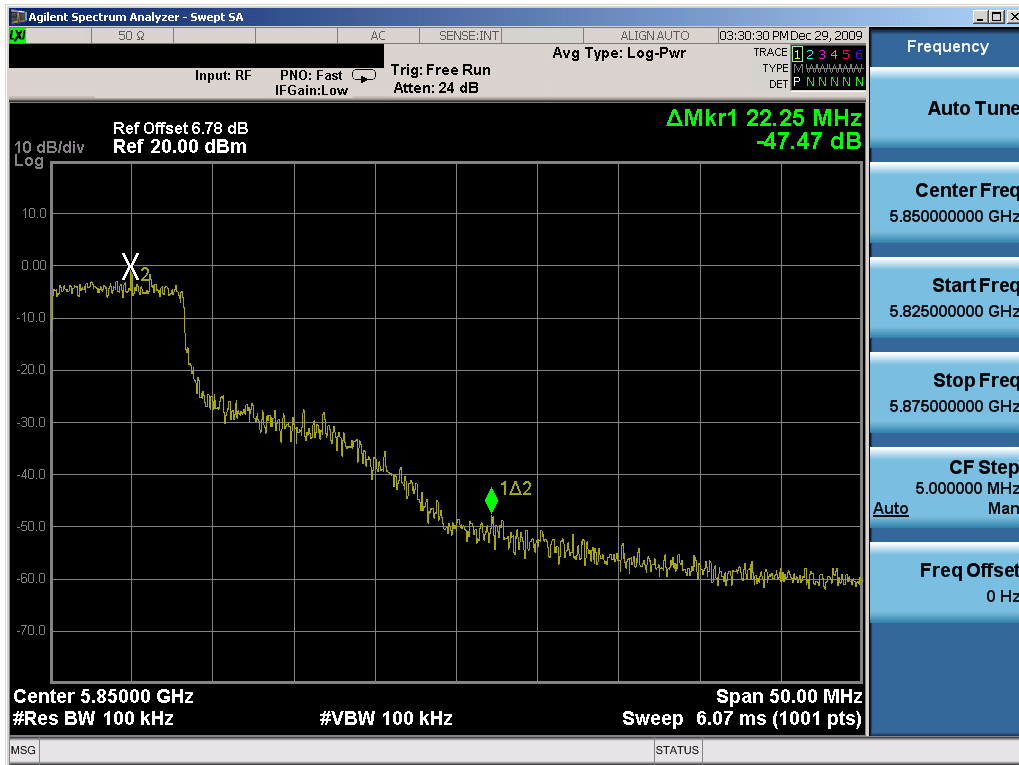


Plot 6-60. Band Edge Plot (802.11g – Ch. 11) – Chain A

FCC ID: ACJ9TGCF-527		FCC Pt. 15.247 802.11a/b/g/n MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0912152258.ACJ	Test Dates: December 28, 2009 - February 5, 2010	EUT Type: Toughbook Model CF-52mk3		Page 52 of 100

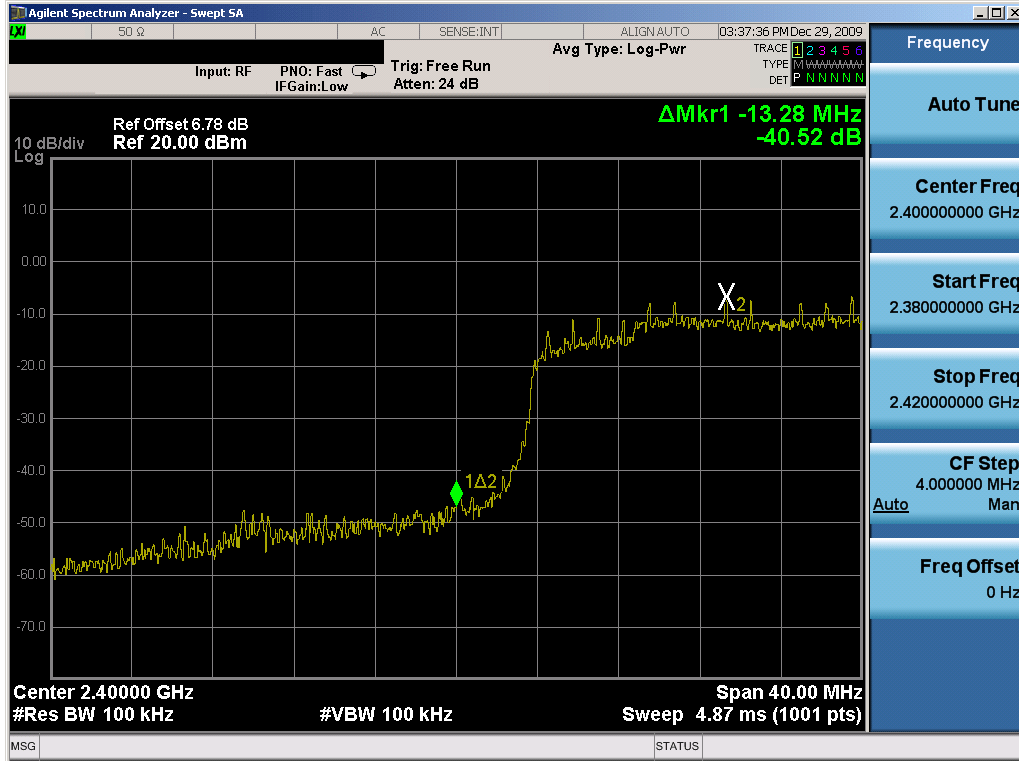


Plot 6-61. Band Edge Plot (802.11a – Ch. 149) – Chain A

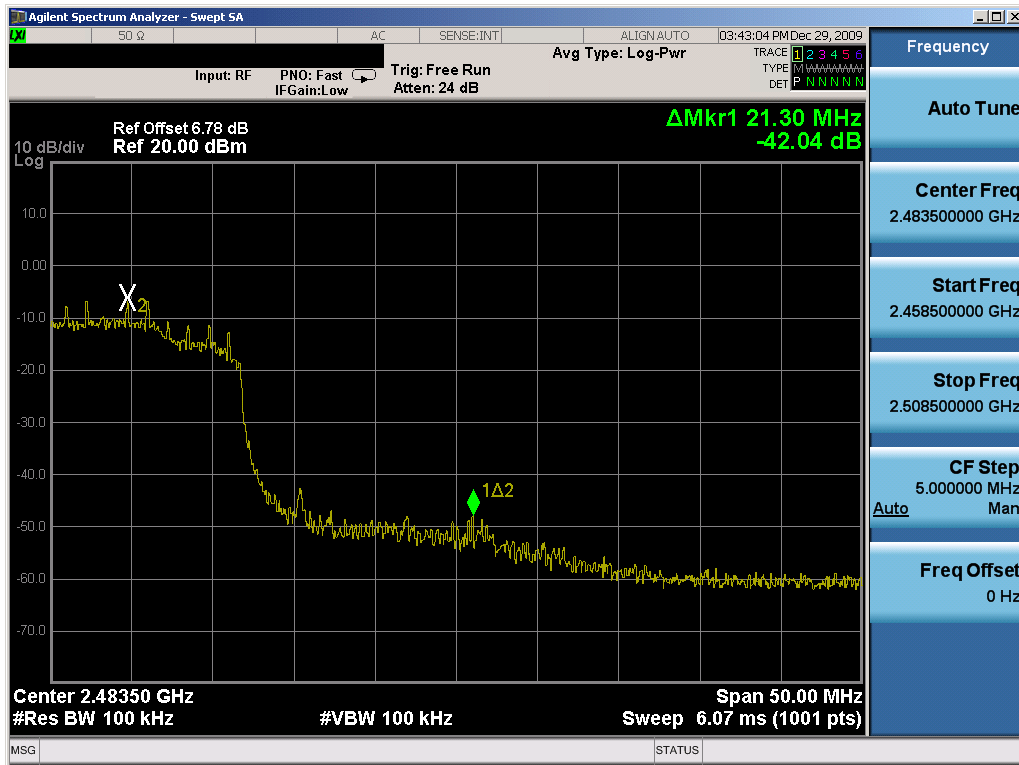


Plot 6-62. Band Edge Plot (802.11a – Ch. 165) – Chain A

FCC ID: ACJ9TGCF-527		FCC Pt. 15.247 802.11a/b/g/n MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0912152258.ACJ	Test Dates: December 28, 2009 - February 5, 2010	EUT Type: Toughbook Model CF-52mk3		Page 53 of 100

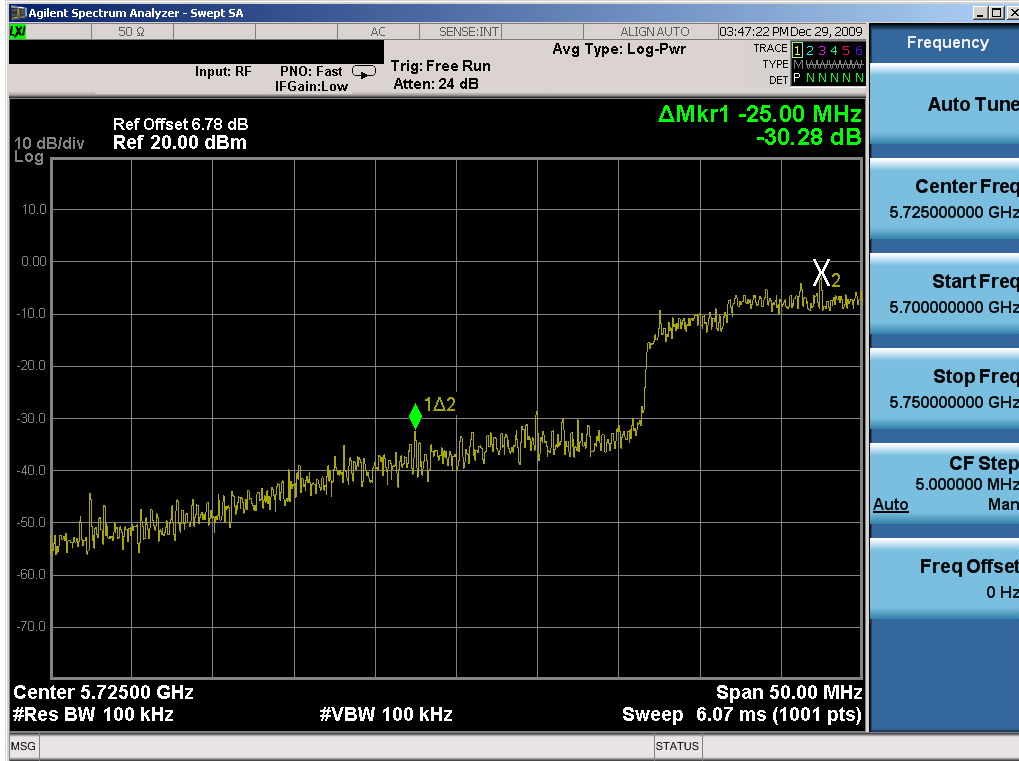


Plot 6-63. Band Edge Plot (802.11n (2.4GHz) – Ch. 3) – Chain A

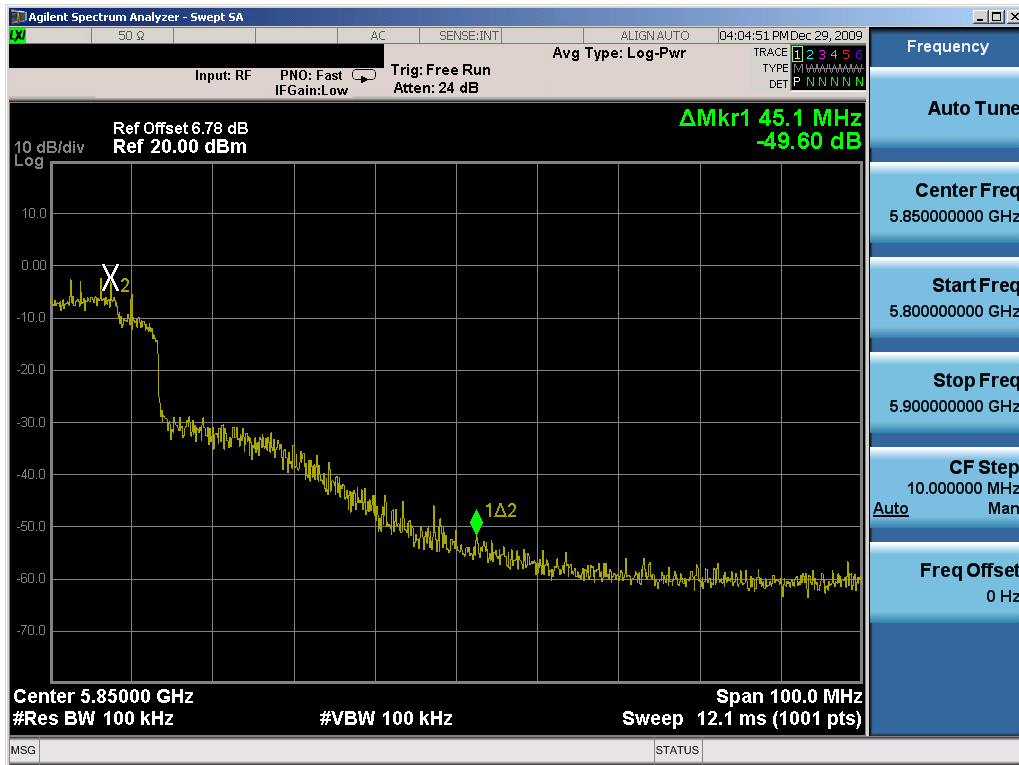


Plot 6-64. Band Edge Plot (802.11n (2.4GHz) – Ch. 9) – Chain A

FCC ID: ACJ9TGCF-527	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.247 802.11a/b/g/n MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Reviewed by: Quality Manager
Test Report S/N: 0912152258.ACJ	Test Dates: December 28, 2009 - February 5, 2010	EUT Type: Toughbook Model CF-52mk3		Page 54 of 100



Plot 6-65. Band Edge Plot (802.11n (5.8GHz) – Ch. 151) – Chain A

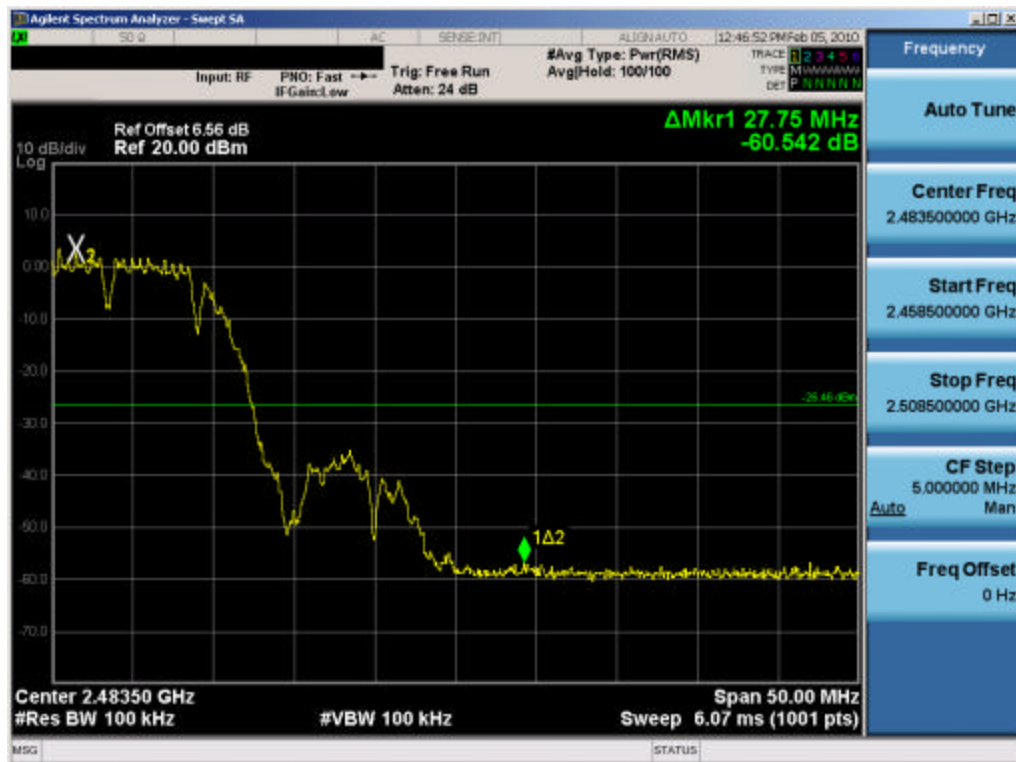


Plot 6-66. Band Edge Plot (802.11n (5.8GHz) – Ch. 159) – Chain A

FCC ID: ACJ9TGCF-527	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.247 802.11a/b/g/n MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Reviewed by: Quality Manager
Test Report S/N: 0912152258.ACJ	Test Dates: December 28, 2009 - February 5, 2010	EUT Type: Toughbook Model CF-52mk3		Page 55 of 100

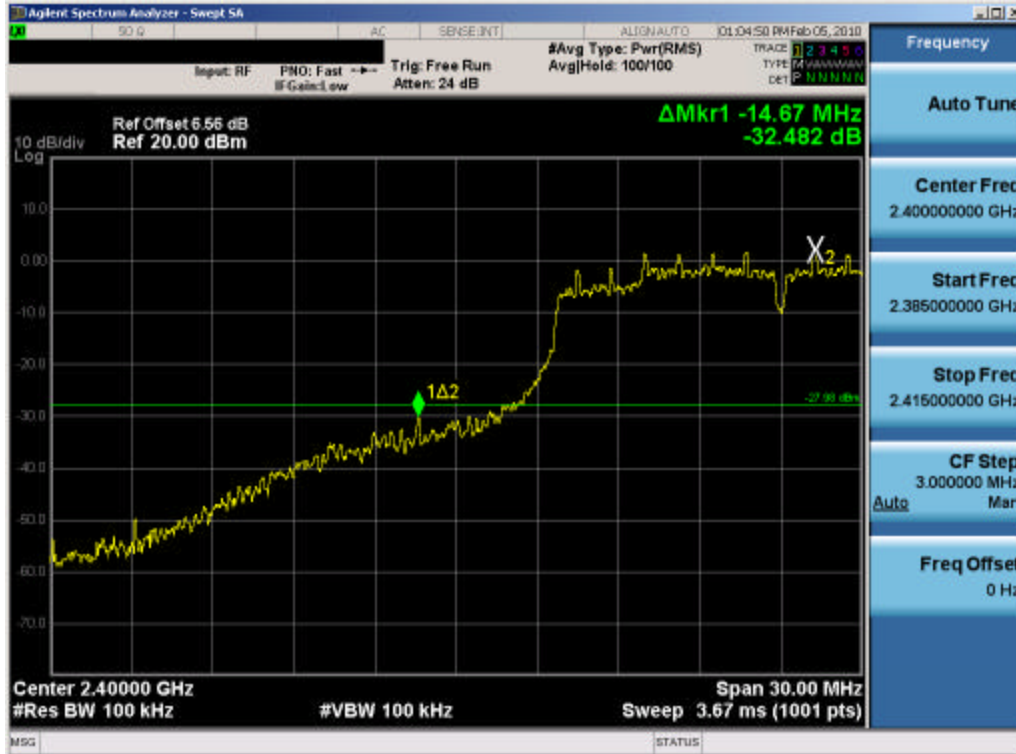


Plot 6-67. Band Edge Plot (802.11b – Ch. 1) – Chain B

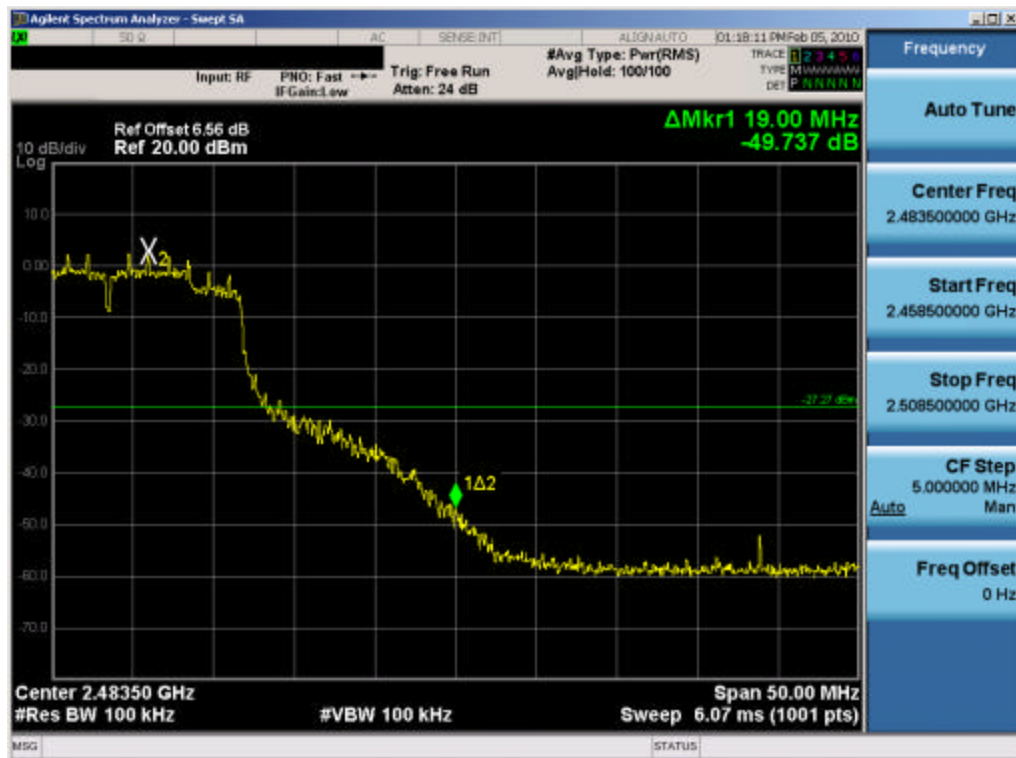


Plot 6-68. Band Edge Plot (802.11b – Ch. 11) – Chain B

FCC ID: ACJ9TGCF-527	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.247 802.11a/b/g/n MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Reviewed by: Quality Manager
Test Report S/N: 0912152258.ACJ	Test Dates: December 28, 2009 - February 5, 2010	EUT Type: Toughbook Model CF-52mk3		Page 56 of 100

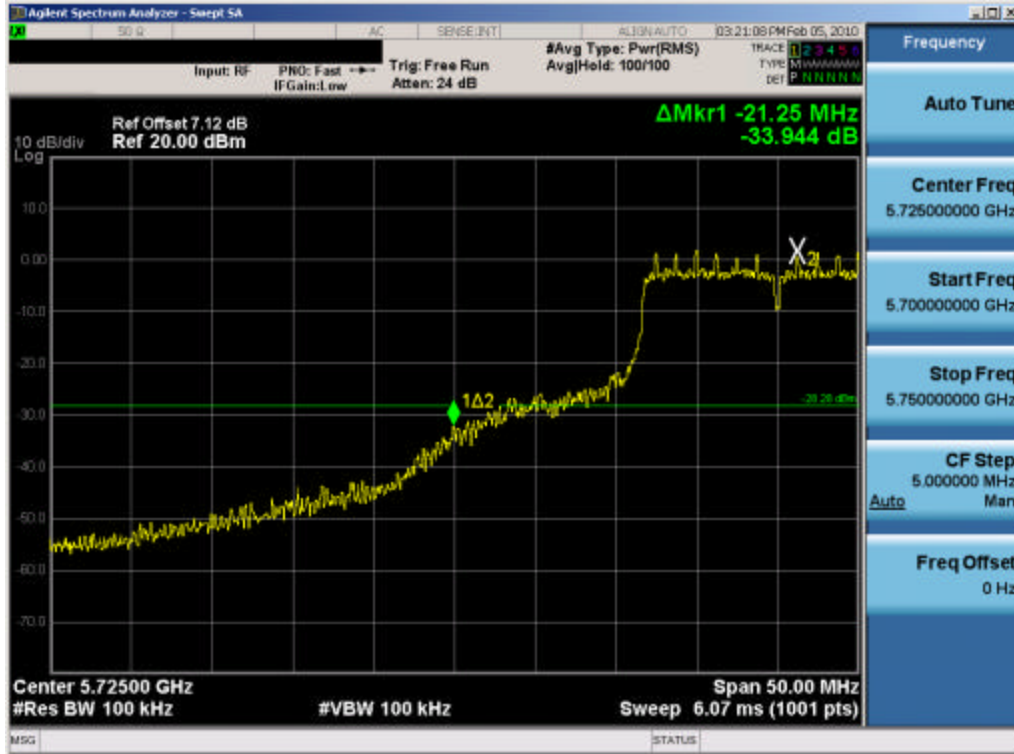


Plot 6-69. Band Edge Plot (802.11g– Ch. 1) – Chain B

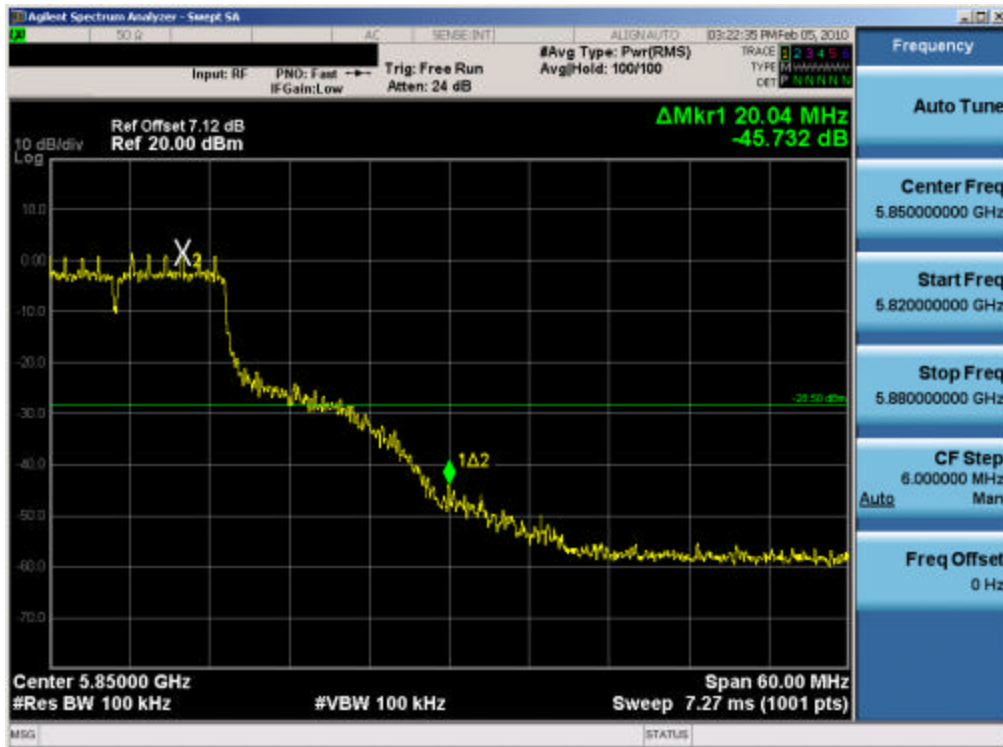


Plot 6-70. Band Edge Plot (802.11g – Ch. 11) – Chain B

FCC ID: ACJ9TGCF-527		FCC Pt. 15.247 802.11a/b/g/n MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0912152258.ACJ	Test Dates: December 28, 2009 - February 5, 2010	EUT Type: Toughbook Model CF-52mk3		Page 57 of 100

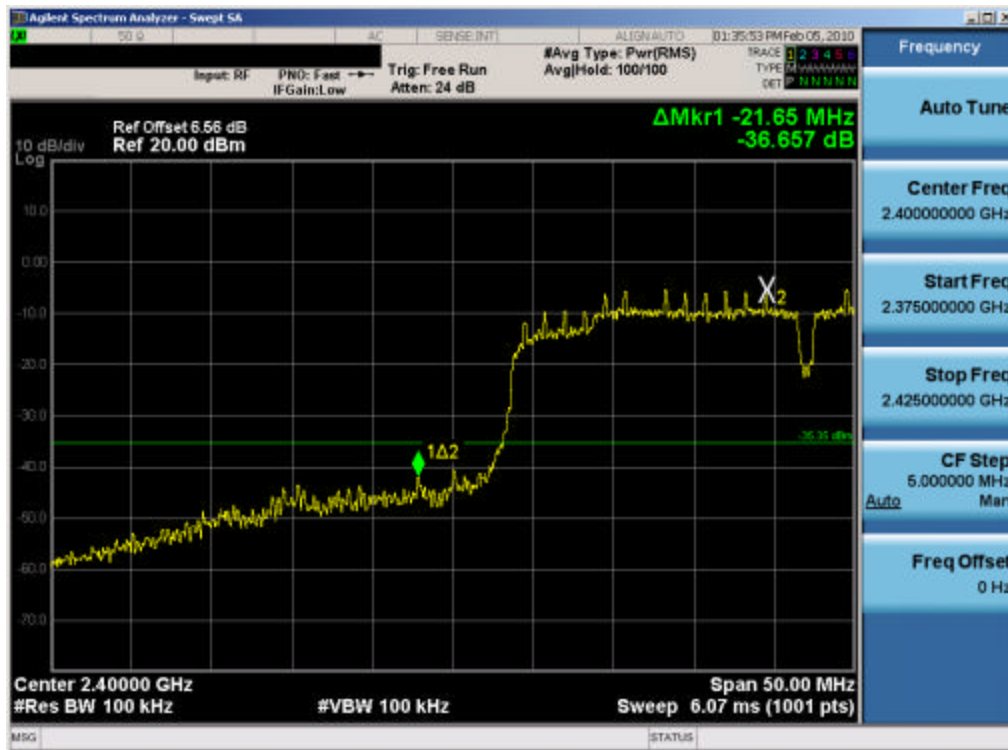


Plot 6-71. Band Edge Plot (802.11a – Ch. 149) – Chain B

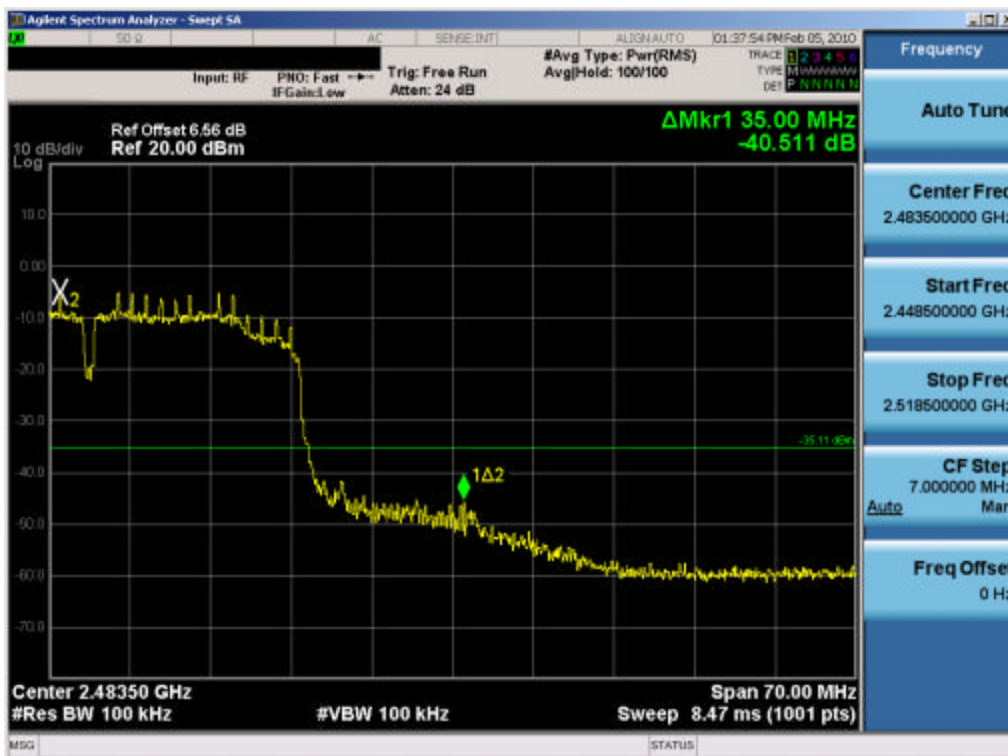


Plot 6-72. Band Edge Plot (802.11a – Ch. 165) – Chain B

FCC ID: ACJ9TGCF-527	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.247 802.11a/b/g/n MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Reviewed by: Quality Manager
Test Report S/N: 0912152258.ACJ	Test Dates: December 28, 2009 - February 5, 2010	EUT Type: Toughbook Model CF-52mk3		Page 58 of 100

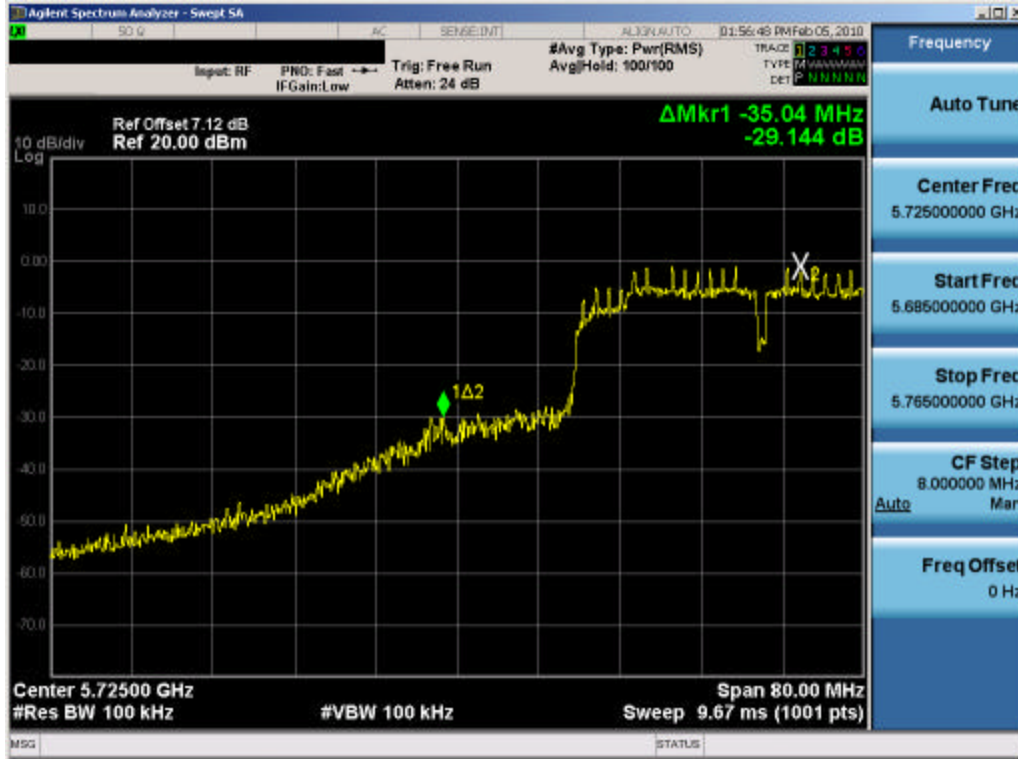


Plot 6-73. Band Edge Plot (802.11n (2.4GHz) – Ch. 3) – Chain B

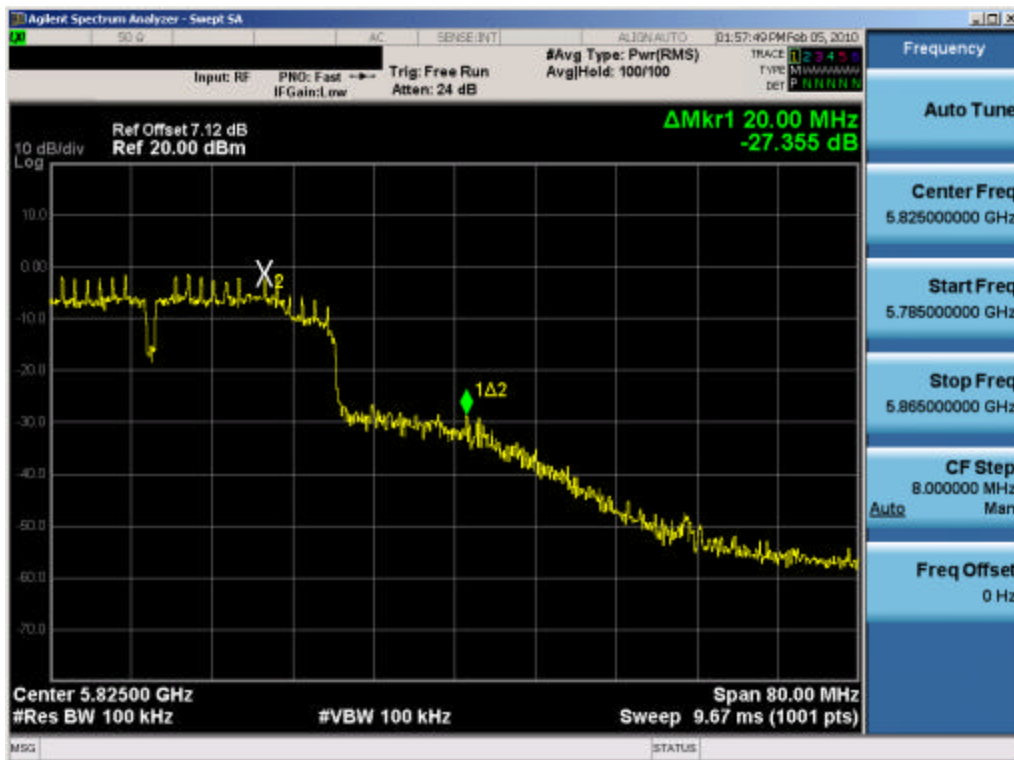


Plot 6-74. Band Edge Plot (802.11n (2.4GHz) – Ch. 9) – Chain B



FCC ID: ACJ9TGCF-527	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.247 802.11a/b/g/n MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Reviewed by: Quality Manager
Test Report S/N: 0912152258.ACJ	Test Dates: December 28, 2009 - February 5, 2010	EUT Type: Toughbook Model CF-52mk3		Page 59 of 100



Plot 6-75. Band Edge Plot (802.11n (5.8GHz) – Ch. 151) – Chain B

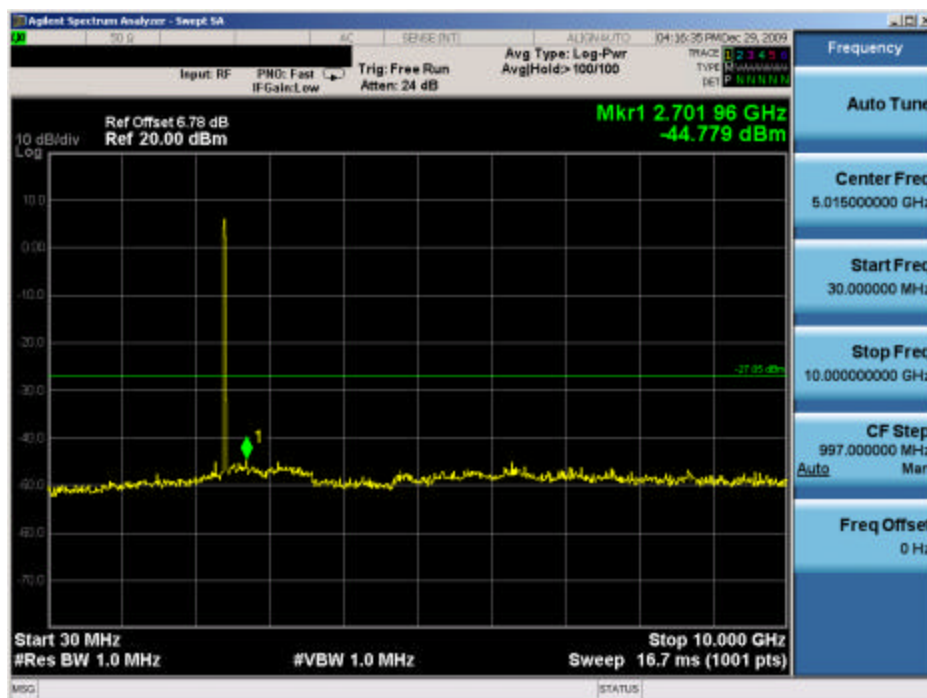


Plot 6-76. Band Edge Plot (802.11n (5.8GHz) – Ch. 159) – Chain B

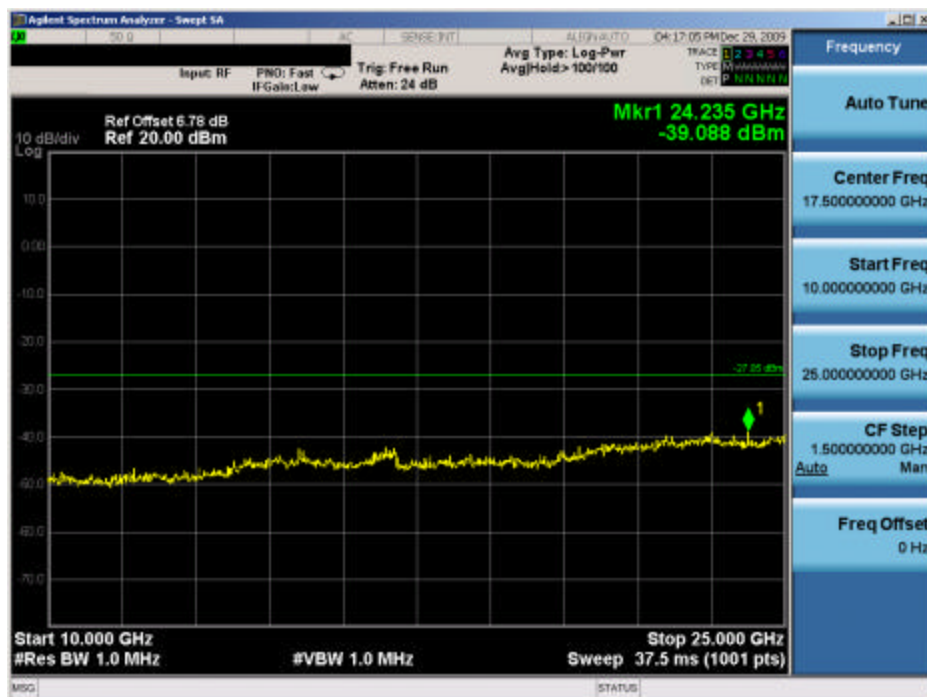
FCC ID: ACJ9TGCF-527		FCC Pt. 15.247 802.11a/b/g/n MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0912152258.ACJ	Test Dates: December 28, 2009 - February 5, 2010	EUT Type: Toughbook Model CF-52mk3		Page 60 of 100

6.9 Out of Band Emissions

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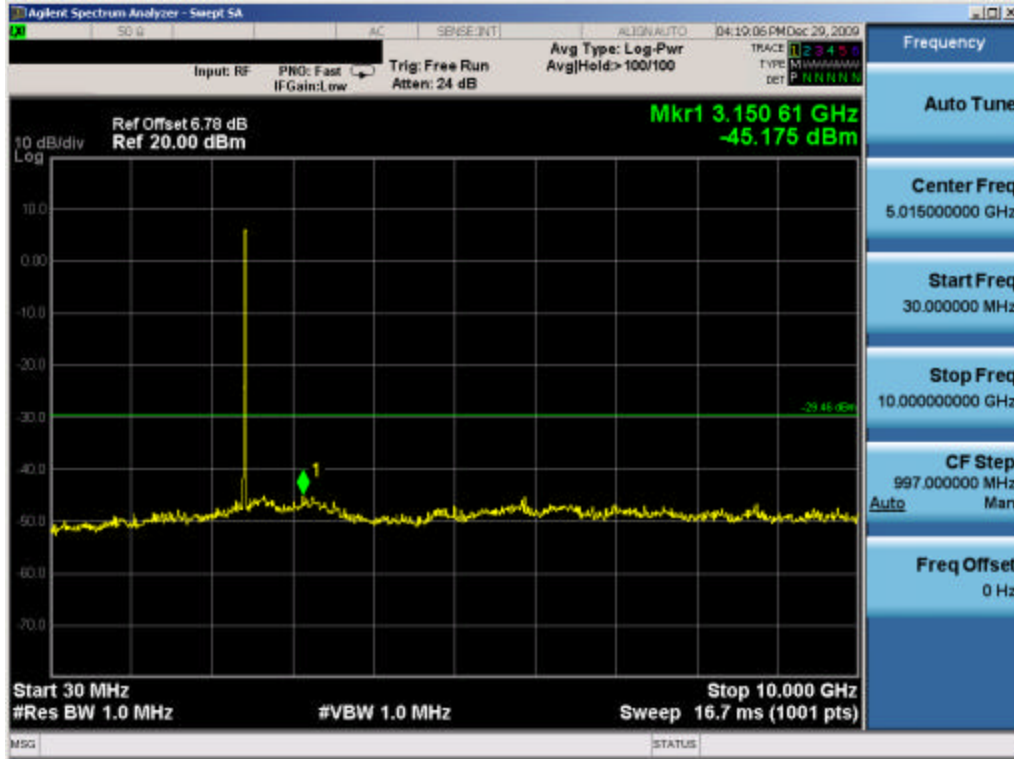


Plot 6-77. Conducted Spurious Plot (802.11b – Ch. 1) – Chain A



Plot 6-78. Conducted Spurious Plot (802.11b – Ch. 1) – Chain A



FCC ID: ACJ9TGCF-527		FCC Pt. 15.247 802.11a/b/g/n MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0912152258.ACJ	Test Dates: December 28, 2009 - February 5, 2010	EUT Type: Toughbook Model CF-52mk3		Page 61 of 100

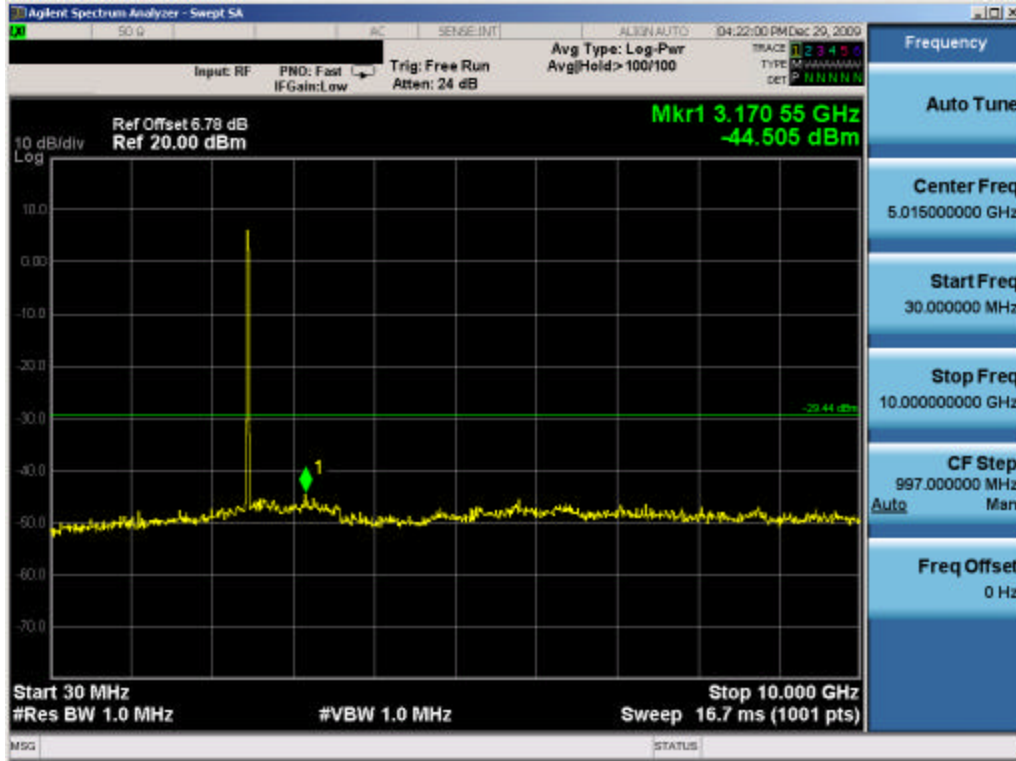


Plot 6-79. Conducted Spurious Plot (802.11b – Ch. 6) – Chain A

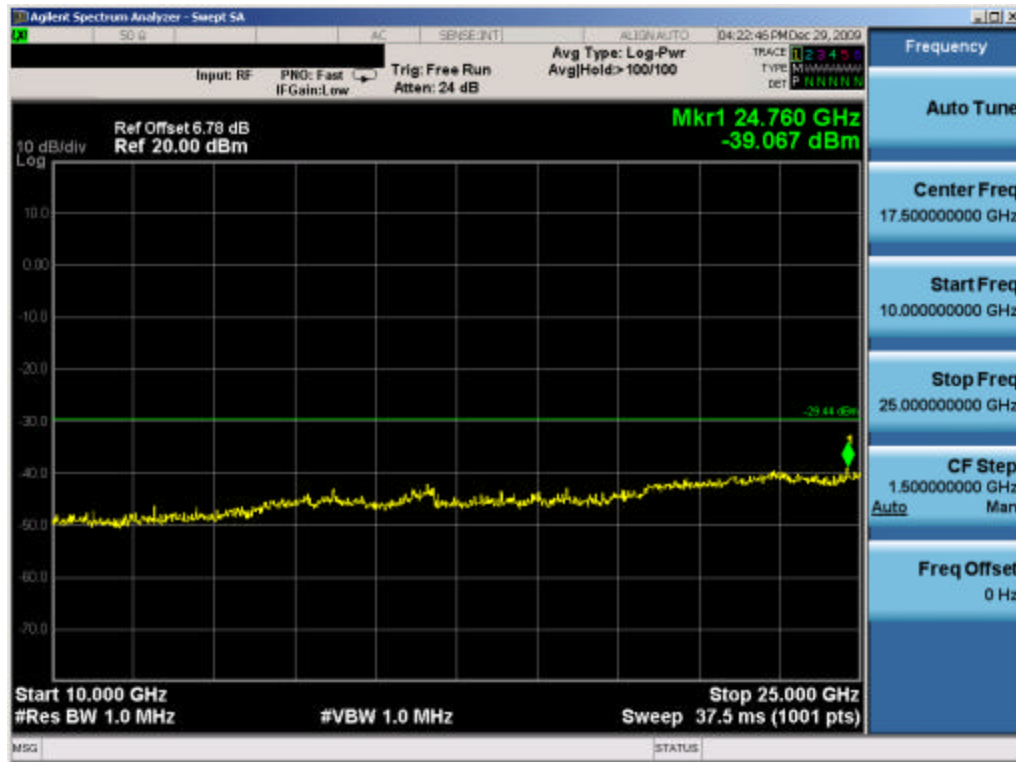


Plot 6-80. Conducted Spurious Plot (802.11b – Ch. 6) – Chain A

FCC ID: ACJ9TGCF-527		FCC Pt. 15.247 802.11a/b/g/n MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0912152258.ACJ	Test Dates: December 28, 2009 - February 5, 2010	EUT Type: Toughbook Model CF-52mk3		Page 62 of 100

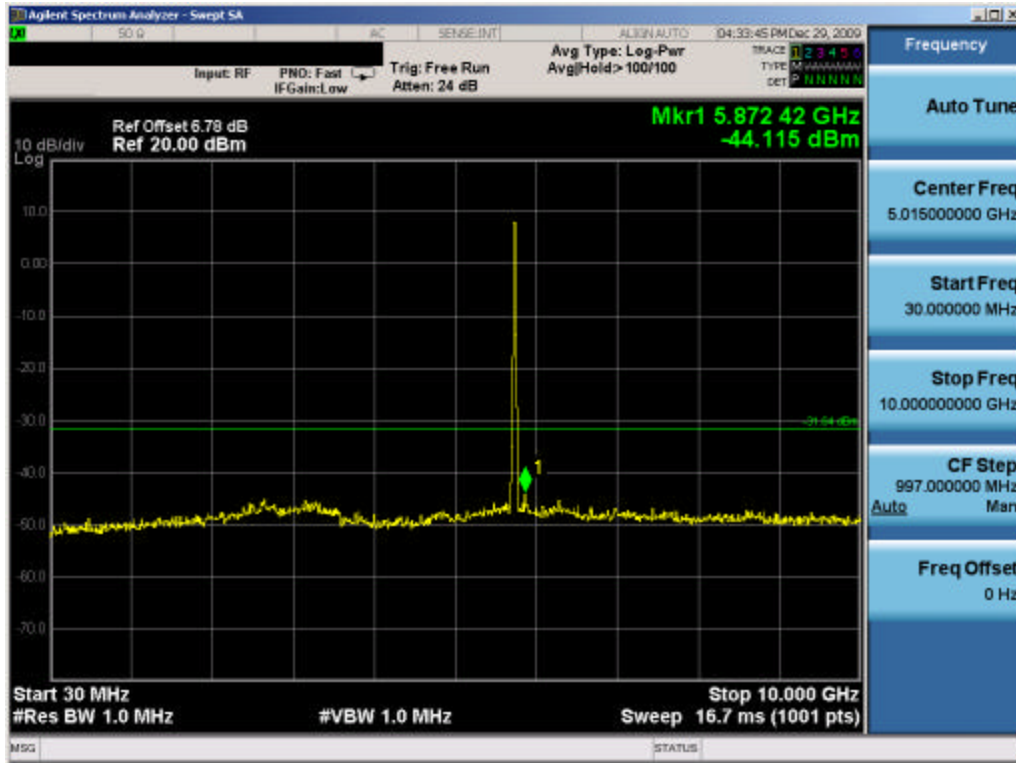


Plot 6-81. Conducted Spurious Plot (802.11b – Ch. 11) – Chain A



Plot 6-82. Conducted Spurious Plot (802.11b – Ch. 11) – Chain A



FCC ID: ACJ9TGCF-527	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.247 802.11a/b/g/n MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Reviewed by: Quality Manager
Test Report S/N: 0912152258.ACJ	Test Dates: December 28, 2009 - February 5, 2010	EUT Type: Toughbook Model CF-52mk3		Page 63 of 100

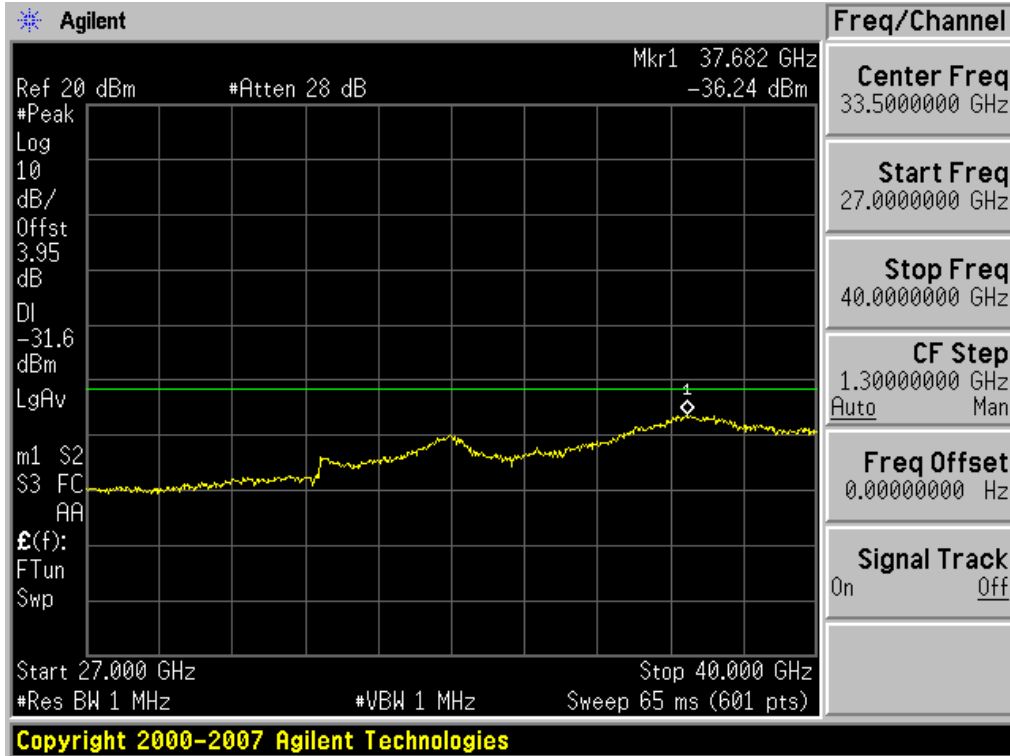


Plot 6-83. Conducted Spurious Plot (802.11a – Ch. 149) – Chain A

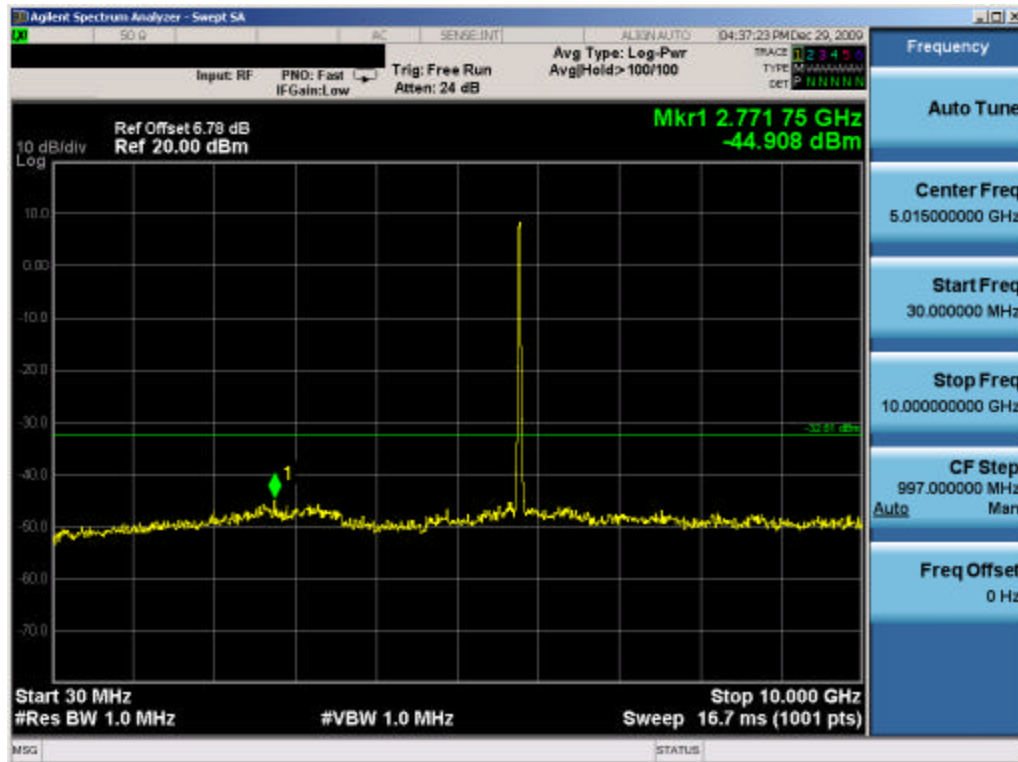


Plot 6-84. Conducted Spurious Plot (802.11a – Ch. 149) – Chain A

FCC ID: ACJ9TGCF-527		FCC Pt. 15.247 802.11a/b/g/n MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0912152258.ACJ	Test Dates: December 28, 2009 - February 5, 2010	EUT Type: Toughbook Model CF-52mk3		Page 64 of 100



Plot 6-85. Conducted Spurious Plot (802.11a – Ch. 149) – Chain A

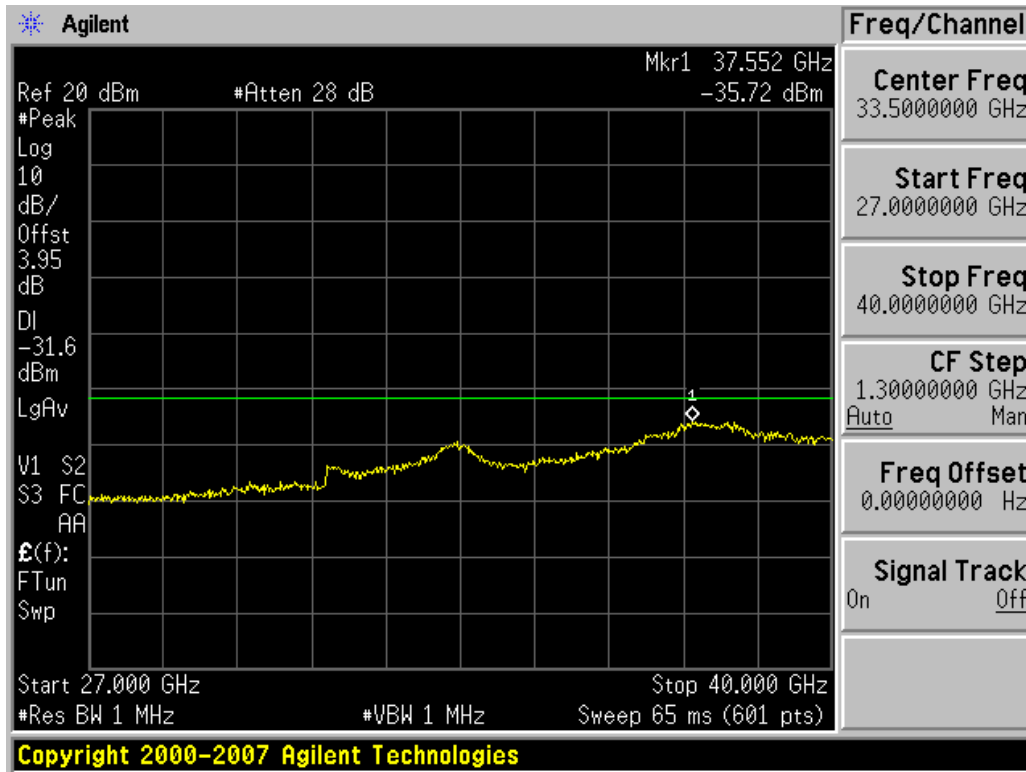


Plot 6-86. Conducted Spurious Plot (802.11a – Ch. 157) – Chain A



FCC ID: ACJ9TGCF-527	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.247 802.11a/b/g/n MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Reviewed by: Quality Manager
Test Report S/N: 0912152258.ACJ	Test Dates: December 28, 2009 - February 5, 2010	EUT Type: Toughbook Model CF-52mk3		Page 65 of 100

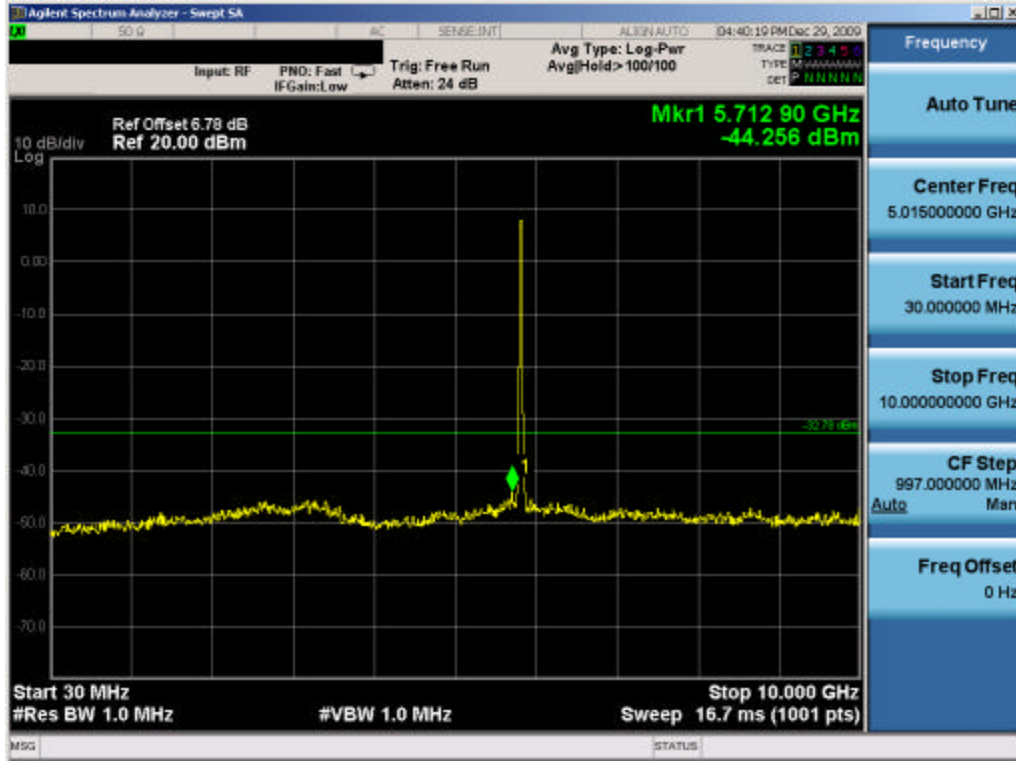


Plot 6-87. Conducted Spurious Plot (802.11a – Ch. 157) – Chain A



Plot 6-88. Conducted Spurious Plot (802.11a – Ch. 157) – Chain A



FCC ID: ACJ9TGCF-527		FCC Pt. 15.247 802.11a/b/g/n MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0912152258.ACJ	Test Dates: December 28, 2009 - February 5, 2010	EUT Type: Toughbook Model CF-52mk3		Page 66 of 100

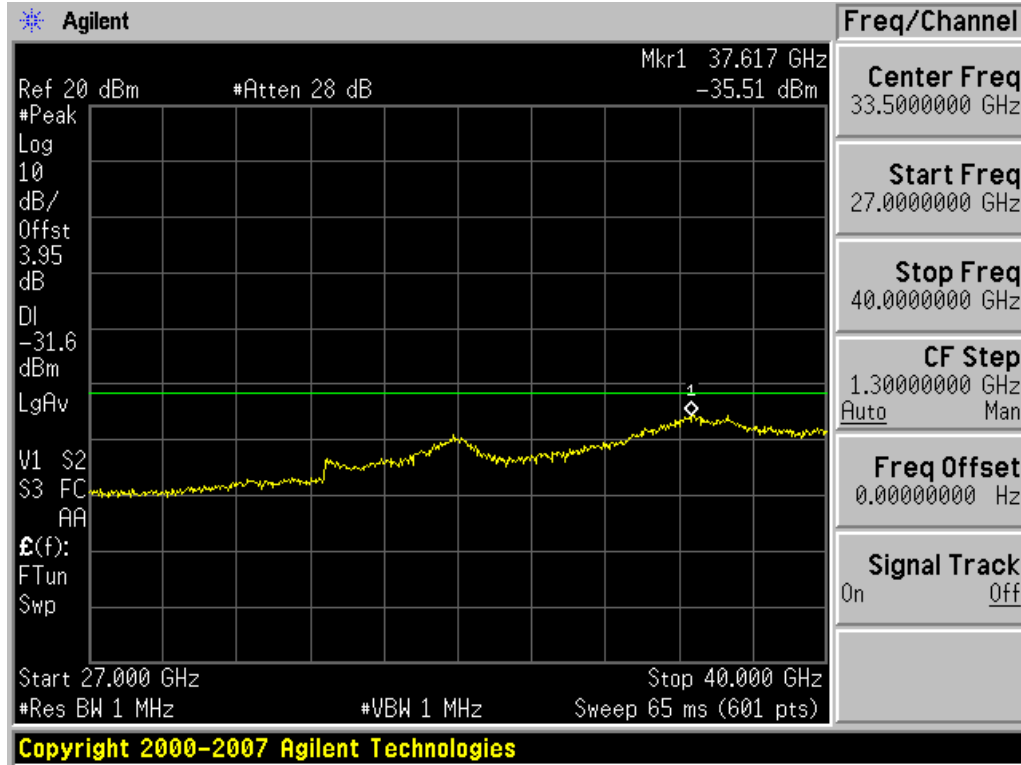


Plot 6-89. Conducted Spurious Plot (802.11a – Ch. 165) – Chain A

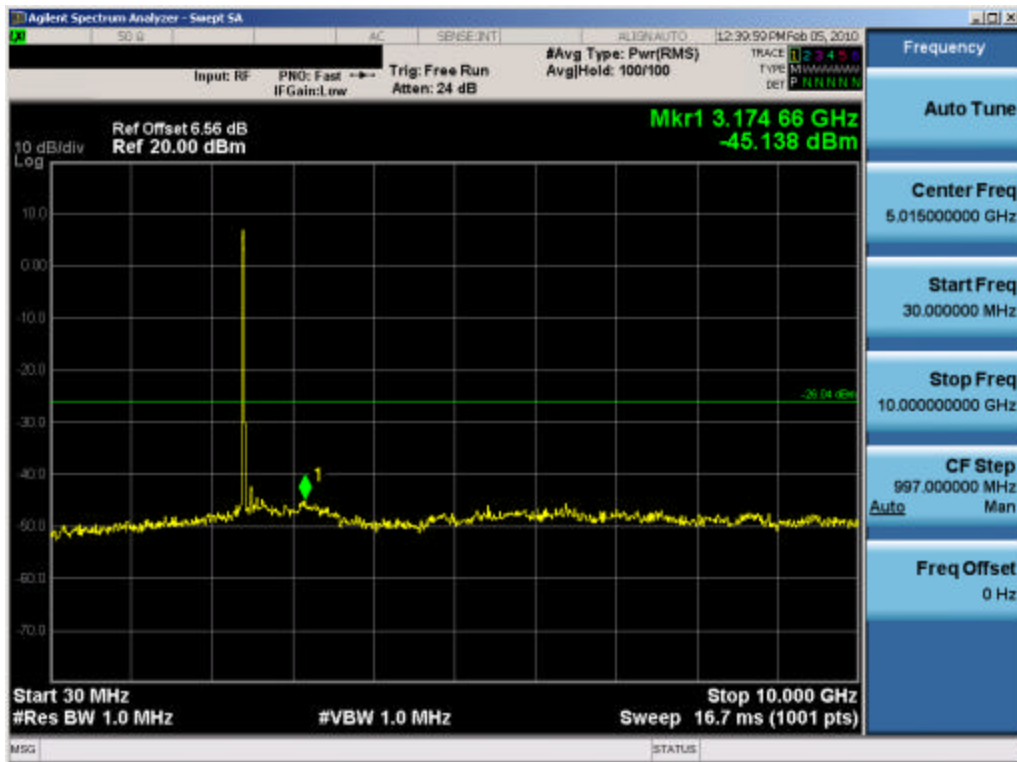


Plot 6-90. Conducted Spurious Plot (802.11a – Ch. 165) – Chain A

FCC ID: ACJ9TGCF-527		FCC Pt. 15.247 802.11a/b/g/n MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0912152258.ACJ	Test Dates: December 28, 2009 - February 5, 2010	EUT Type: Toughbook Model CF-52mk3		Page 67 of 100

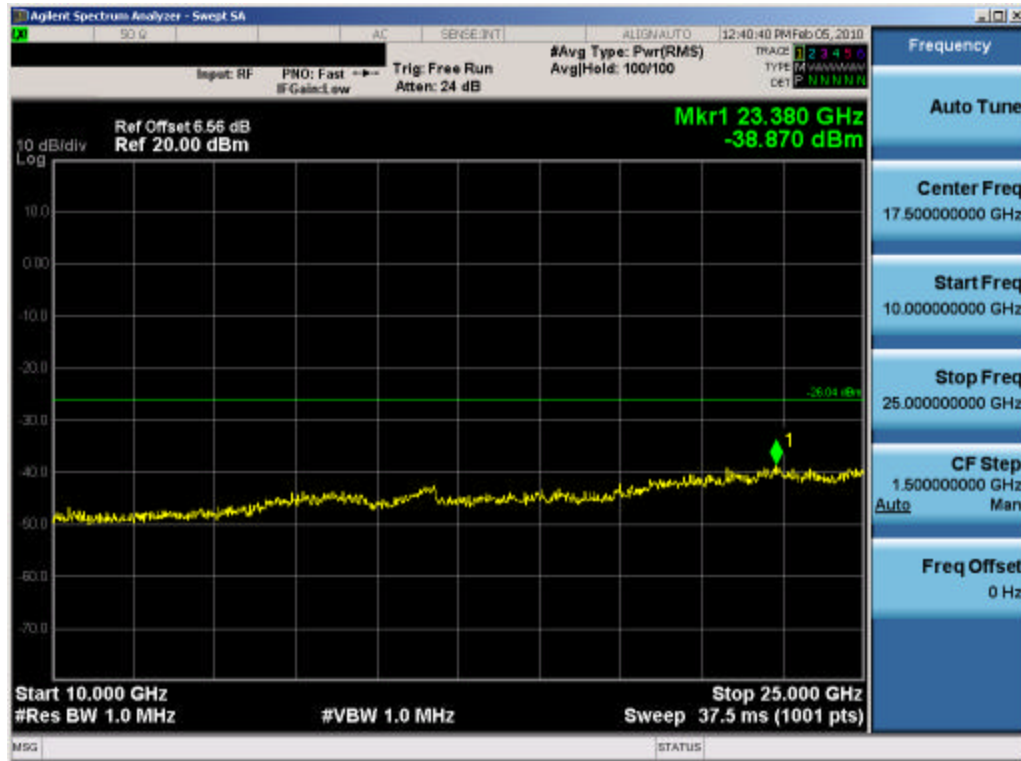


Plot 6-91. Conducted Spurious Plot (802.11a – Ch. 165) – Chain A

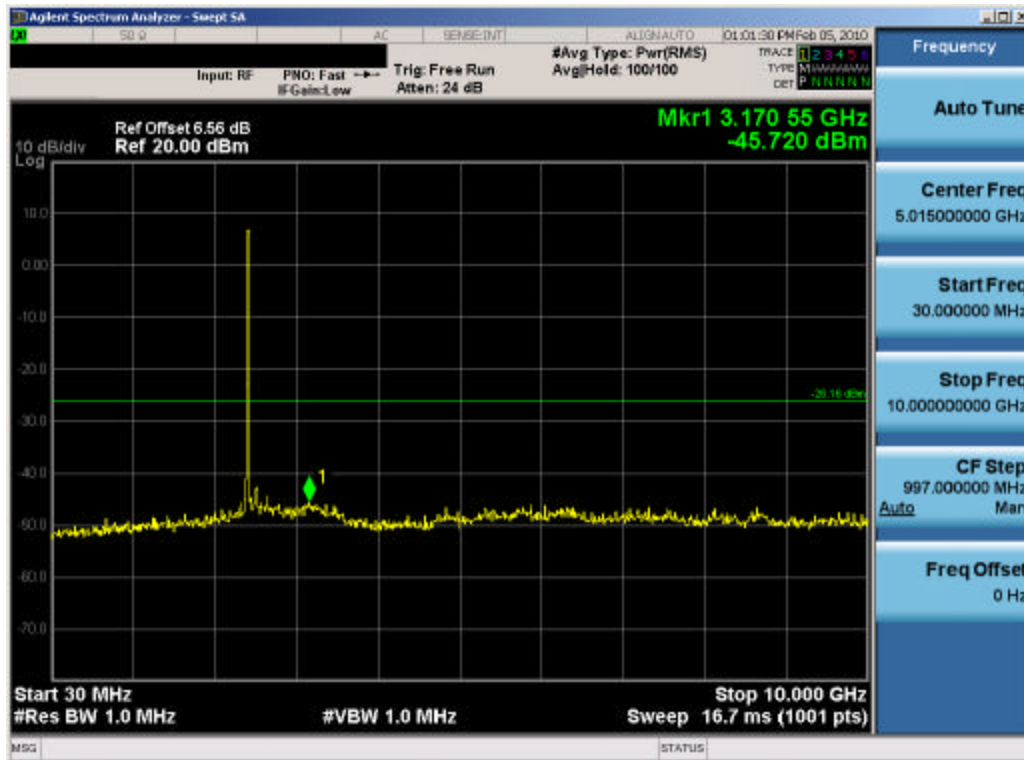


Plot 6-92. Conducted Spurious Plot (802.11b – Ch. 1) – Chain B

FCC ID: ACJ9TGCF-527		FCC Pt. 15.247 802.11a/b/g/n MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0912152258.ACJ	Test Dates: December 28, 2009 - February 5, 2010	EUT Type: Toughbook Model CF-52mk3		Page 68 of 100

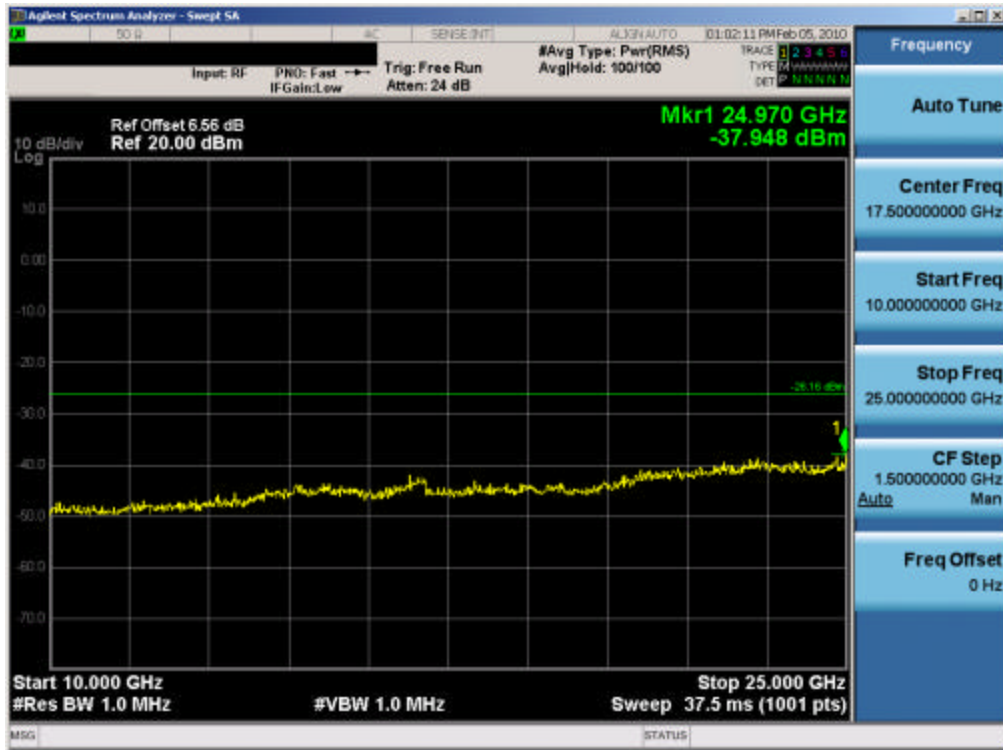


Plot 6-93. Conducted Spurious Plot (802.11b – Ch. 1) – Chain B

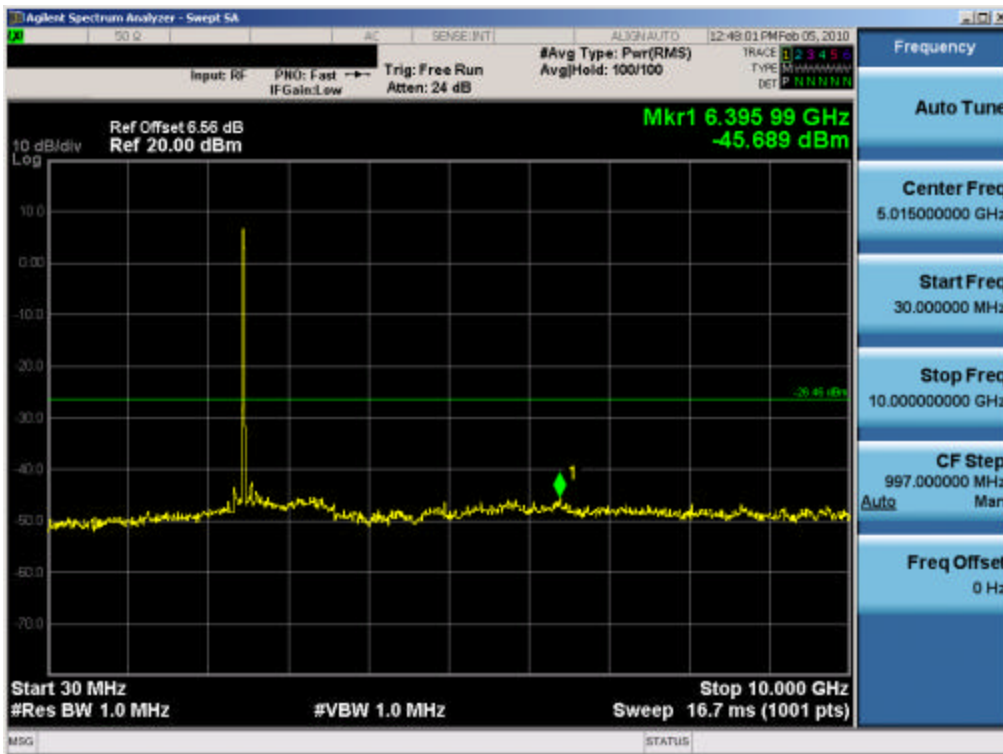


Plot 6-94. Conducted Spurious Plot (802.11b – Ch. 6) – Chain B

FCC ID: ACJ9TGCF-527	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.247 802.11a/b/g/n MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Reviewed by: Quality Manager
Test Report S/N: 0912152258.ACJ	Test Dates: December 28, 2009 - February 5, 2010	EUT Type: Toughbook Model CF-52mk3		Page 69 of 100

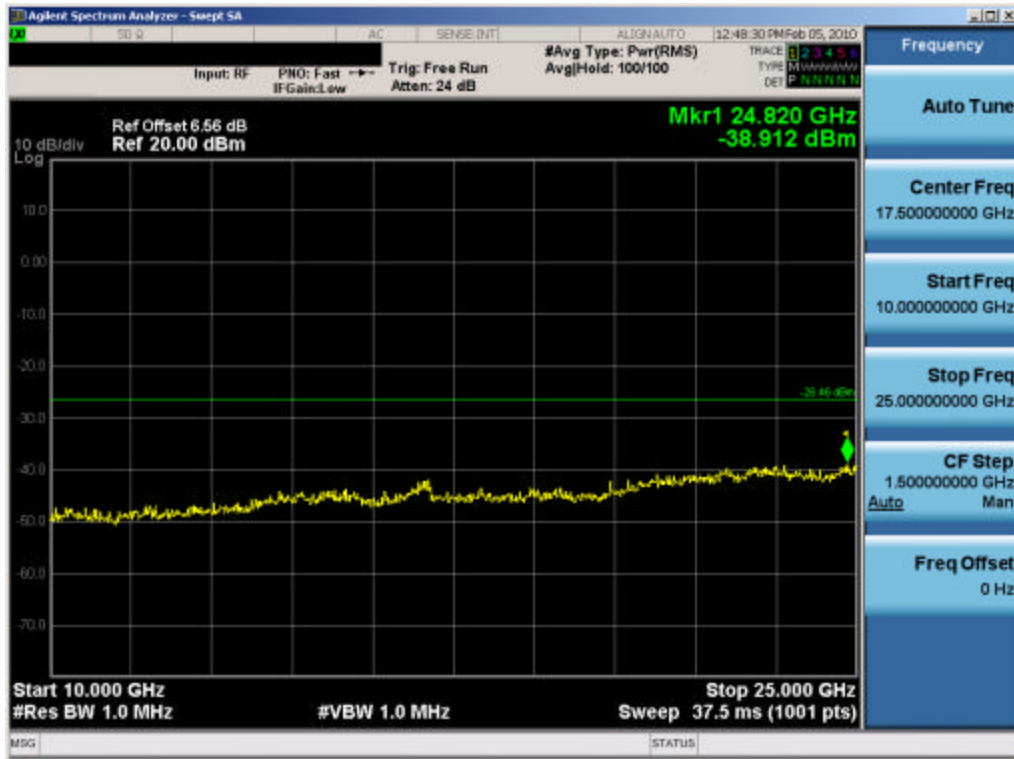


Plot 6-95. Conducted Spurious Plot (802.11b – Ch. 6) – Chain B

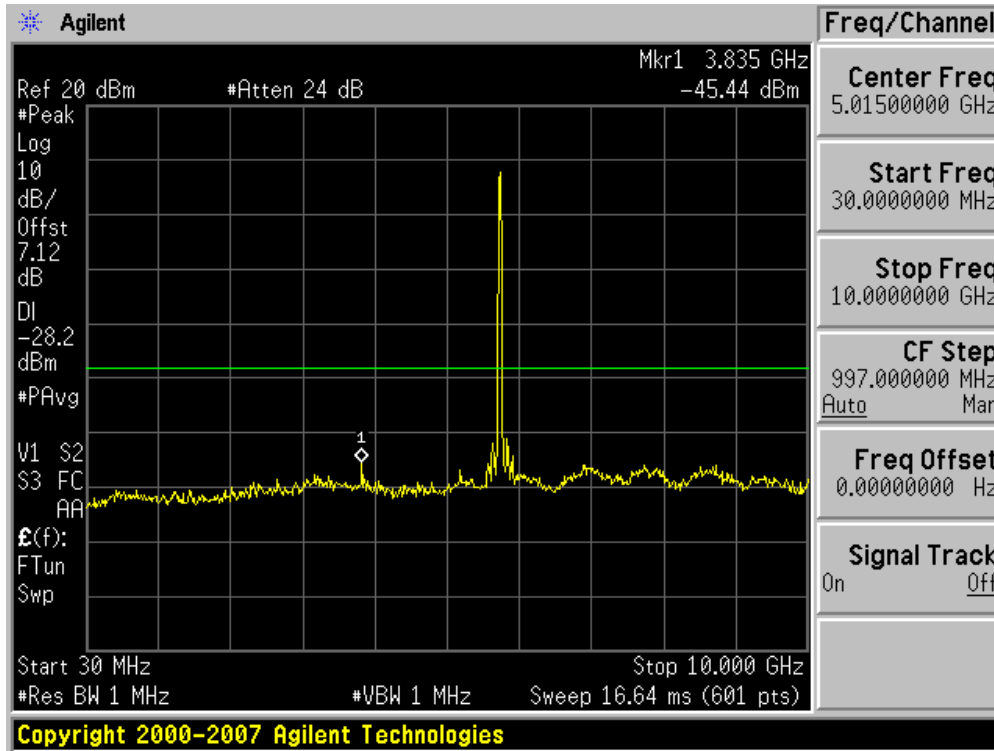


Plot 6-96. Conducted Spurious Plot (802.11b – Ch. 11) – Chain B

FCC ID: ACJ9TGCF-527		FCC Pt. 15.247 802.11a/b/g/n MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0912152258.ACJ	Test Dates: December 28, 2009 - February 5, 2010	EUT Type: Toughbook Model CF-52mk3		Page 70 of 100



Plot 6-97. Conducted Spurious Plot (802.11b – Ch. 11) – Chain B

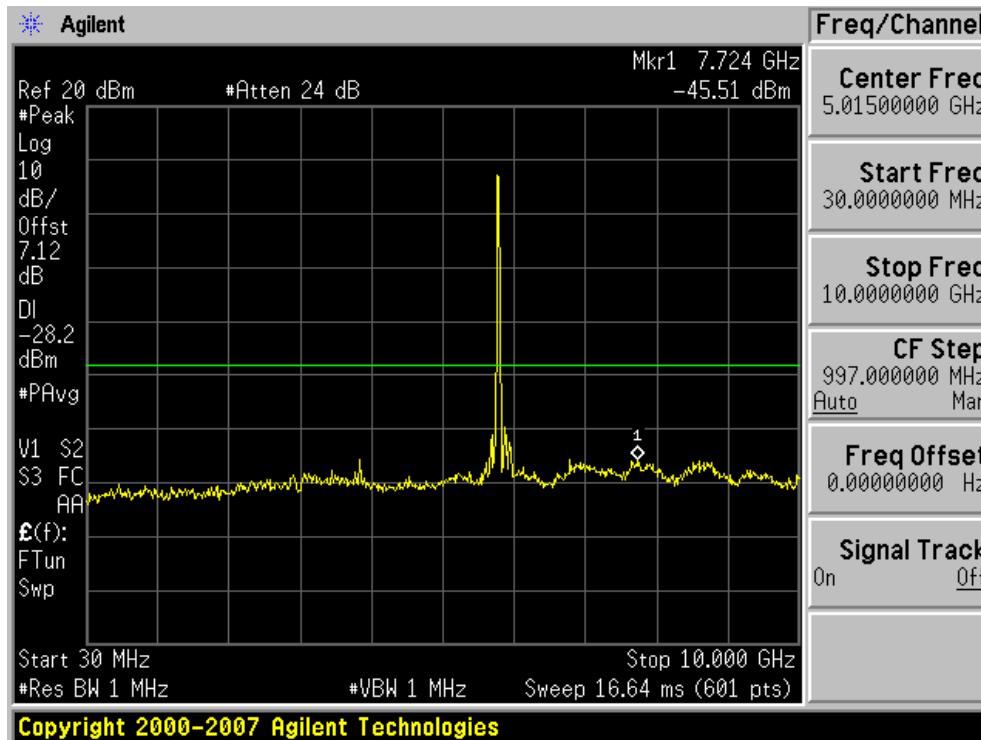


Plot 6-98. Conducted Spurious Plot (802.11a – Ch. 149) – Chain B

FCC ID: ACJ9TGCF-527	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.247 802.11a/b/g/n MEASUREMENT REPORT (CERTIFICATION)	Panasonic	Reviewed by: Quality Manager
Test Report S/N: 0912152258.ACJ	Test Dates: December 28, 2009 - February 5, 2010	EUT Type: Toughbook Model CF-52mk3		Page 71 of 100



Plot 6-99. Conducted Spurious Plot (802.11a – Ch. 149) – Chain B

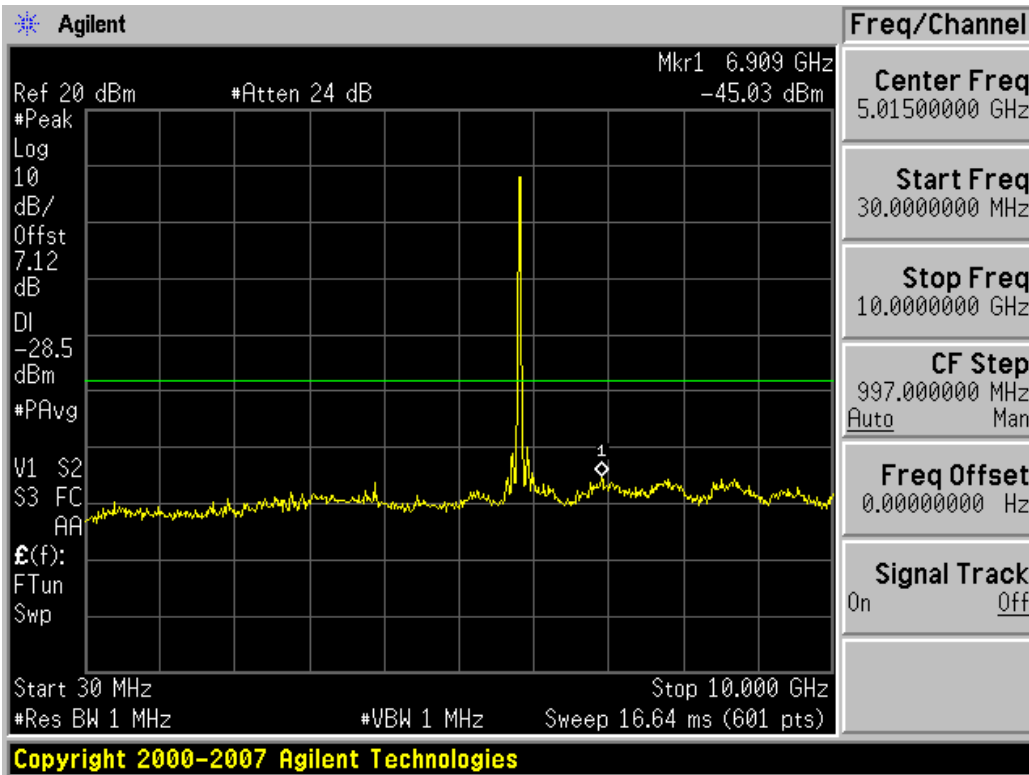


Plot 6-100. Conducted Spurious Plot (802.11a – Ch. 157) – Chain B

FCC ID: ACJ9TGCF-527		FCC Pt. 15.247 802.11a/b/g/n MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0912152258.ACJ	Test Dates: December 28, 2009 - February 5, 2010	EUT Type: Toughbook Model CF-52mk3		Page 72 of 100



Plot 6-101. Conducted Spurious Plot (802.11a – Ch. 157) – Chain B



Plot 6-102. Conducted Spurious Plot (802.11a – Ch. 165) – Chain B

FCC ID: ACJ9TGCF-527		FCC Pt. 15.247 802.11a/b/g/n MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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Plot 6-103. Conducted Spurious Plot (802.11a – Ch. 165) – Chain B

FCC ID: ACJ9TGCF-527		FCC Pt. 15.247 802.11a/b/g/n MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0912152258.ACJ	Test Dates: December 28, 2009 - February 5, 2010	EUT Type: Toughbook Model CF-52mk3		Page 74 of 100

6.10 Radiated Spurious Emission Measurements

§15.247(d) / §15.205 & §15.209

The EUT was tested from 9kHz to the tenth harmonic of the fundamental frequency of the transmitter. Below 1GHz a CISPR quasi peak detector was used. Above 1 GHz average measurements were taken, using RBW= 1MHz, VBW= 10Hz, and linearly polarized horn antennas. In addition, peak measurements (RBW= 1MHz, VBW= 1MHz) were taken to ensure that the peak levels are not more than 20dB above the average limit. No harmonics/spurs peak emissions are more than 20dB above the average limit. Special attention is taken for the EUT's harmonic and spurious radiated emissions in the restricted bands of operations, as defined in Section 15.205.

Frequency	Field Strength [mV/m]	Measured Distance [Meters]
0.009 – 0.490 MHz	2400/F (kHz)	300
0.490 – 1.705 MHz	24000/F (kHz)	30
1.705 – 30.00 MHz	30	30
30.00 – 88.00 MHz	100	3
88.00 – 216.0 MHz	150	3
216.0 – 960.0 MHz	200	3
Above 960.0 MHz	500	3



Table 6-16. Radiated Limits

Sample Calculation

- Field Strength Level $_{[dB_{\mu V/m}]}$ = Analyzer Level $_{[dBm]}$ + 107 + AFCL $_{[dB]}$

Notes:

- AFCL = Antenna Factor $_{[dB]}$ + Cable Loss $_{[dB]}$

FCC ID: ACJ9TGCF-527		FCC Pt. 15.247 802.11a/b/g/n MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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Radiated Spurious Emission Measurements (Cont'd)

§15.247(d) / §15.205 & §15.209

Mode: 802.11b

Transfer Rate: 12 Mbps

Distance of Measurements: 1 Meter

Operating Frequency: 2412MHz



Channel: 01

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB]	Distance Correction Factor [dB]	Field Strength [dBmV/m]	Limit [dBmV/m]	Margin [dB]
4824.00	-111.10	Avg	H	42.0	-9.54	28.34	53.98	-25.64
4824.00	-99.00	Peak	H	42.0	-9.54	40.44	73.98	-33.54
12060.00	-135.00	Avg	H	53.2	-9.54	25.15	53.98	-28.83
12060.00	-125.00	Peak	H	53.2	-9.54	35.15	73.98	-38.83

Table 6-17. Radiated Measurements @ 1 meter – Chain A

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB]	Distance Correction Factor [dB]	Field Strength [dBmV/m]	Limit [dBmV/m]	Margin [dB]
4824.00	-106.80	Avg	H	42.0	-9.54	32.64	53.98	-21.34
4824.00	-98.40	Peak	H	42.0	-9.54	41.04	73.98	-32.94
12060.00	-135.00	Avg	H	53.2	-9.54	25.15	53.98	-28.83
12060.00	-125.00	Peak	H	53.2	-9.54	35.15	73.98	-38.83

Table 6-18. Radiated Measurements @ 1 meter – Chain B



FCC ID: ACJ9TGCF-527		FCC Pt. 15.247 802.11a/b/g/n MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0912152258.ACJ	Test Dates: December 28, 2009 - February 5, 2010	EUT Type: Toughbook Model CF-52mk3		Page 76 of 100

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB]	Distance Correction Factor [dB]	Field Strength [dBmV/m]	Limit [dBmV/m]	Margin [dB]
4824.00	-114.70	Avg	H	42.0	-9.54	24.74	53.98	-29.24
4824.00	-101.40	Peak	H	42.0	-9.54	38.04	73.98	-35.94
12060.00	-135.00	Avg	H	53.2	-9.54	25.15	53.98	-28.83
12060.00	-125.00	Peak	H	53.2	-9.54	35.15	73.98	-38.83

Table 6-19. Radiated Measurements @ 1 meter – Chain A+B

NOTES:

1. All emissions shown lie in the restricted bands specified in §15.205 are below the limit shown in Table 6-16.
2. Average Measurements > 1GHz using RBW = 1MHz VBW = 10Hz
3. The antenna is manipulated through typical positions, polarity and length during the tests. The EUT is manipulated through three orthogonal planes.
4. The EUT is supplied with nominal AC voltage and/or a new/fully-recharged battery.
5. The spectrum is measured from 9kHz to the 10th harmonic and the worst-case emissions are reported. No significant emissions were found beyond the fifth harmonic for this device.
6. Levels at - 135 dBm represent the analyzer noise floor and signify that no emission was detected.
7. Above 960MHz the limit is 500 μ V/m (54dB μ /m) at 3 meters radiated.

FCC ID: ACJ9TGCF-527		FCC Pt. 15.247 802.11a/b/g/n MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0912152258.ACJ	Test Dates: December 28, 2009 - February 5, 2010	EUT Type: Toughbook Model CF-52mk3	Page 77 of 100	

Radiated Spurious Emission Measurements (Cont'd)

§15.247(d) / §15.205 & §15.209

Mode: 802.11b

Transfer Rate: 12 Mbps

Distance of Measurements: 1 Meter

Operating Frequency: 2437MHz



Channel: 06

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB]	Distance Correction Factor [dB]	Field Strength [dBmV/m]	Limit [dBmV/m]	Margin [dB]
4874.00	-111.61	Avg	H	42.14	-9.54	27.99	53.98	-25.99
4874.00	-99.71	Peak	H	42.14	-9.54	39.89	73.98	-34.09
7311.00	-135.00	Avg	H	47.57	-9.54	19.57	53.98	-34.41
7311.00	-125.00	Peak	H	47.57	-9.54	29.57	73.98	-44.41
12185.00	-135.00	Avg	H	53.13	-9.54	25.13	53.98	-28.85
12185.00	-125.00	Peak	H	53.13	-9.54	35.13	73.98	-38.85

Table 6-20. Radiated Measurements @ 1 meter – Chain A

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB]	Distance Correction Factor [dB]	Field Strength [dBmV/m]	Limit [dBmV/m]	Margin [dB]
4874.00	-114.61	Avg	H	42.14	-9.54	24.99	53.98	-28.99
4874.00	-101.21	Peak	H	42.14	-9.54	38.39	73.98	-35.59
7311.00	-135.00	Avg	H	47.57	-9.54	19.57	53.98	-34.41
7311.00	-125.00	Peak	H	47.57	-9.54	29.57	73.98	-44.41
12185.00	-135.00	Avg	H	53.13	-9.54	25.13	53.98	-28.85
12185.00	-125.00	Peak	H	53.13	-9.54	35.13	73.98	-38.85

Table 6-21. Radiated Measurements @ 1 meter – Chain B



FCC ID: ACJ9TGCF-527		FCC Pt. 15.247 802.11a/b/g/n MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0912152258.ACJ	Test Dates: December 28, 2009 - February 5, 2010	EUT Type: Toughbook Model CF-52mk3		Page 78 of 100

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB]	Distance Correction Factor [dB]	Field Strength [dBmV/m]	Limit [dBmV/m]	Margin [dB]
4874.00	-114.71	Avg	H	42.14	-9.54	24.89	53.98	-29.09
4874.00	-101.61	Peak	H	42.14	-9.54	37.99	73.98	-35.99
7311.00	-135.00	Avg	H	47.57	-9.54	19.57	53.98	-34.41
7311.00	-125.00	Peak	H	47.57	-9.54	29.57	73.98	-44.41
12185.00	-135.00	Avg	H	53.13	-9.54	25.13	53.98	-28.85
12185.00	-125.00	Peak	H	53.13	-9.54	35.13	73.98	-38.85

Table 6-22. Radiated Measurements @ 1 meter – Chain A+B

NOTES:

1. All emissions shown lie in the restricted bands specified in §15.205 are below the limit shown in Table 6-16.
2. Average Measurements > 1GHz using RBW = 1MHz VBW = 10Hz
3. The antenna is manipulated through typical positions, polarity and length during the tests. The EUT is manipulated through three orthogonal planes.
4. The EUT is supplied with nominal AC voltage and/or a new/fully-recharged battery.
5. The spectrum is measured from 9kHz to the 10th harmonic and the worst-case emissions are reported. No significant emissions were found beyond the fifth harmonic for this device.
6. Levels at - 135 dBm represent the analyzer noise floor and signify that no emission was detected.
7. Above 960MHz the limit is 500 μ V/m (54dB μ /m) at 3 meters radiated.

FCC ID: ACJ9TGCF-527		FCC Pt. 15.247 802.11a/b/g/n MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0912152258.ACJ	Test Dates: December 28, 2009 - February 5, 2010	EUT Type: Toughbook Model CF-52mk3		Page 79 of 100

Radiated Spurious Emission Measurements (Cont'd)

§15.247(d) / §15.205 & §15.209

Mode: 802.11b

Transfer Rate: 12 Mbps

Distance of Measurements: 1 Meter

Operating Frequency: 2462MHz



Channel: 11

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB]	Distance Correction Factor [dB]	Field Strength [dBmV/m]	Limit [dBmV/m]	Margin [dB]
4924.00	-108.23	Avg	H	42.31	-9.54	31.54	53.98	-22.44
4924.00	-99.13	Peak	H	42.31	-9.54	40.64	73.98	-33.34
7386.00	-135.00	Avg	H	47.59	-9.54	19.59	53.98	-34.39
7386.00	-125.00	Peak	H	47.59	-9.54	29.59	73.98	-44.39
12310.00	-135.00	Avg	H	53.11	-9.54	25.11	53.98	-28.87
12310.00	-125.00	Peak	H	53.11	-9.54	35.11	73.98	-38.87

Table 6-23. Radiated Measurements @ 1 meter – Chain A

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB]	Distance Correction Factor [dB]	Field Strength [dBmV/m]	Limit [dBmV/m]	Margin [dB]
4924.00	-110.43	Avg	H	42.31	-9.54	29.34	53.98	-24.64
4924.00	-100.43	Peak	H	42.31	-9.54	39.34	73.98	-34.64
7386.00	-135.00	Avg	H	47.59	-9.54	19.59	53.98	-34.39
7386.00	-125.00	Peak	H	47.59	-9.54	29.59	73.98	-44.39
12310.00	-135.00	Avg	H	53.11	-9.54	25.11	53.98	-28.87
12310.00	-125.00	Peak	H	53.11	-9.54	35.11	73.98	-38.87

Table 6-24. Radiated Measurements @ 1 meter – Chain B



FCC ID: ACJ9TGCF-527		FCC Pt. 15.247 802.11a/b/g/n MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB]	Distance Correction Factor [dB]	Field Strength [dBmV/m]	Limit [dBmV/m]	Margin [dB]
4924.00	-114.33	Avg	H	42.31	-9.54	25.44	53.98	-28.54
4924.00	-100.03	Peak	H	42.31	-9.54	39.74	73.98	-34.24
7386.00	-135.00	Avg	H	47.59	-9.54	19.59	53.98	-34.39
7386.00	-125.00	Peak	H	47.59	-9.54	29.59	73.98	-44.39
12310.00	-135.00	Avg	H	53.11	-9.54	25.11	53.98	-28.87
12310.00	-125.00	Peak	H	53.11	-9.54	35.11	73.98	-38.87

Table 6-25. Radiated Measurements @ 1 meter – Chain A+B

NOTES:

1. All emissions shown lie in the restricted bands specified in §15.205 are below the limit shown in Table 6-16.
2. Average Measurements > 1GHz using RBW = 1MHz VBW = 10Hz
3. The antenna is manipulated through typical positions, polarity and length during the tests. The EUT is manipulated through three orthogonal planes.
4. The EUT is supplied with nominal AC voltage and/or a new/fully-recharged battery.
5. The spectrum is measured from 9kHz to the 10th harmonic and the worst-case emissions are reported. No significant emissions were found beyond the fifth harmonic for this device.
6. Levels at - 135 dBm represent the analyzer noise floor and signify that no emission was detected.
7. Above 960MHz the limit is 500 μ V/m (54dB μ /m) at 3 meters radiated.

FCC ID: ACJ9TGCF-527		FCC Pt. 15.247 802.11a/b/g/n MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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Radiated Spurious Emission Measurements (Cont'd)

§15.247(d) / §15.205 & §15.209

Mode: 802.11a

Transfer Rate: 9 Mbps

Distance of Measurements: 1 Meter

Operating Frequency: 5745MHz



Channel: 149

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB]	Distance Correction Factor [dB]	Field Strength [dBmV/m]	Limit [dBmV/m]	Margin [dB]
11490.00	-99.65	Avg	H	51.51	-9.54	49.3	53.98	-4.66
11490.00	-85.65	Peak	H	51.51	-9.54	63.3	73.98	-10.66
22980.00	-135.00	Avg	H	48.78	-9.54	20.8	53.98	-33.19
22980.00	-125.00	Peak	H	48.78	-9.54	30.8	73.98	-43.19

Table 6-26. Radiated Measurements @ 1 meter – Chain A

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB]	Distance Correction Factor [dB]	Field Strength [dBmV/m]	Limit [dBmV/m]	Margin [dB]
11490.00	-107.75	-4.66	V	51.51	-9.54	41.2	53.98	-12.76
11490.00	-92.75	-10.66	V	51.51	-9.54	56.2	73.98	-17.76
22980.00	-135.00	-33.19	V	48.78	-9.54	20.8	53.98	-33.19
22980.00	-125.00	-43.19	V	48.78	-9.54	30.8	73.98	-43.19

Table 6-27. Radiated Measurements @ 1 meter – Chain B



FCC ID: ACJ9TGCF-527		FCC Pt. 15.247 802.11a/b/g/n MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB]	Distance Correction Factor [dB]	Field Strength [dBmV/m]	Limit [dBmV/m]	Margin [dB]
11490.00	-103.35	Avg	V	51.51	-9.54	45.6	53.98	-8.36
11490.00	-88.05	Peak	V	51.51	-9.54	60.9	73.98	-13.06
22980.00	-135.00	Avg	V	48.78	-9.54	20.8	53.98	-33.19
22980.00	-125.00	Peak	V	48.78	-9.54	30.8	73.98	-43.19

Table 6-28. Radiated Measurements @ 1 meter – Chain A+B

NOTES:

1. All emissions shown lie in the restricted bands specified in §15.205 are below the limit shown in Table 6-16.
2. Average Measurements > 1GHz using RBW = 1MHz VBW = 10Hz
3. The antenna is manipulated through typical positions, polarity and length during the tests. The EUT is manipulated through three orthogonal planes.
4. The EUT is supplied with nominal AC voltage and/or a new/fully-recharged battery.
5. The spectrum is measured from 9kHz to the 10th harmonic and the worst-case emissions are reported. No significant emissions were found beyond the fifth harmonic for this device.
6. Levels at - 135 dBm represent the analyzer noise floor and signify that no emission was detected.
7. Above 960MHz the limit is 500 μV/m (54dBμ/m) at 3 meters radiated.

FCC ID: ACJ9TGCF-527		FCC Pt. 15.247 802.11a/b/g/n MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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Radiated Spurious Emission Measurements (Cont'd)

§15.247(d) / §15.205 & §15.209

Mode: 802.11a

Transfer Rate: 9 Mbps

Distance of Measurements: 1 Meter

Operating Frequency: 5785MHz

Channel: 157

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB]	Distance Correction Factor [dB]	Field Strength [dBmV/m]	Limit [dBmV/m]	Margin [dB]
11570.00	-111.78	Avg	H	51.76	-9.54	37.4	53.98	-16.54
11570.00	-97.28	Peak	H	51.76	-9.54	51.9	73.98	-22.04

Table 6-29. Radiated Measurements @ 1 meter – Chain A

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB]	Distance Correction Factor [dB]	Field Strength [dBmV/m]	Limit [dBmV/m]	Margin [dB]
11570.00	-106.08	-16.54	V	51.76	-9.54	43.1	53.98	-10.84
11570.00	-90.08	-22.04	V	51.76	-9.54	59.1	73.98	-14.84



Table 6-30. Radiated Measurements @ 1 meter – Chain B

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB]	Distance Correction Factor [dB]	Field Strength [dBmV/m]	Limit [dBmV/m]	Margin [dB]
11570.00	-104.08	Avg	V	51.76	-9.54	45.1	53.98	-8.84
11570.00	-86.98	Peak	V	51.76	-9.54	62.2	73.98	-11.74

Table 6-31. Radiated Measurements @ 1 meter – Chain A+B

NOTES:

1. All emissions shown lie in the restricted bands specified in §15.205 are below the limit shown in Table 6-16.
2. Average Measurements > 1GHz using RBW = 1MHz VBW = 10Hz

FCC ID: ACJ9TGCF-527		FCC Pt. 15.247 802.11a/b/g/n MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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3. The antenna is manipulated through typical positions, polarity and length during the tests. The EUT is manipulated through three orthogonal planes.

4. The EUT is supplied with nominal AC voltage and/or a new/fully-recharged battery.

5. The spectrum is measured from 9kHz to the 10th harmonic and the worst-case emissions are reported. No significant emissions were found beyond the fifth harmonic for this device.

6. Levels at - 135 dBm represent the analyzer noise floor and signify that no emission was detected.

7. Above 960MHz the limit is 500 μ V/m (54dB μ /m) at 3 meters radiated.

FCC ID: ACJ9TGCF-527		FCC Pt. 15.247 802.11a/b/g/n MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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Radiated Spurious Emission Measurements (Cont'd)

§15.247(d) / §15.205 & §15.209

Mode: 802.11a

Transfer Rate: 9 Mbps

Distance of Measurements: 1 Meter

Operating Frequency: 5825MHz

Channel: 165

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB]	Distance Correction Factor [dB]	Field Strength [dBmV/m]	Limit [dBmV/m]	Margin [dB]
11650.00	-101.21	Avg	H	52.02	-9.54	48.3	53.98	-5.71
11650.00	-87.51	Peak	H	52.02	-9.54	62.0	73.98	-12.01

Table 6-32. Radiated Measurements @ 1 meter – Chain A

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB]	Distance Correction Factor [dB]	Field Strength [dBmV/m]	Limit [dBmV/m]	Margin [dB]
11650.00	-103.71	-5.71	V	52.02	-9.54	45.8	53.98	-8.21
11650.00	-87.51	-12.01	V	52.02	-9.54	62.0	73.98	-12.01



Table 6-33. Radiated Measurements @ 1 meter – Chain B

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB]	Distance Correction Factor [dB]	Field Strength [dBmV/m]	Limit [dBmV/m]	Margin [dB]
11650.00	-101.11	Avg	V	52.02	-9.54	48.4	53.98	-5.61
11650.00	-85.61	Peak	V	52.02	-9.54	63.9	73.98	-10.11

Table 6-34. Radiated Measurements @ 1 meter – Chain A+B

NOTES:

- All emissions shown lie in the restricted bands specified in §15.205 are below the limit shown in Table 6-16.
- Average Measurements > 1 GHz using RBW = 1MHz VBW = 10Hz

FCC ID: ACJ9TGCF-527		FCC Pt. 15.247 802.11a/b/g/n MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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3. The antenna is manipulated through typical positions, polarity and length during the tests. The EUT is manipulated through three orthogonal planes.

4. The EUT is supplied with nominal AC voltage and/or a new/fully-recharged battery.

5. The spectrum is measured from 9kHz to the 10th harmonic and the worst-case emissions are reported. No significant emissions were found beyond the fifth harmonic for this device.

6. Levels at - 135 dBm represent the analyzer noise floor and signify that no emission was detected.

7. Above 960MHz the limit is 500 μ V/m (54dB μ /m) at 3 meters radiated.

FCC ID: ACJ9TGCF-527		FCC Pt. 15.247 802.11a/b/g/n MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0912152258.ACJ	Test Dates: December 28, 2009 - February 5, 2010	EUT Type: Toughbook Model CF-52mk3		Page 87 of 100

6.11 Radiated Restricted Band Edge Measurements §15.205 / §15.209



Mode: 802.11g
 Transfer Rate: 12 Mbps
 Distance of Measurements: 3 Meters
 Operating Frequency: 2462MHz
 Channel: 11

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB]	Distance Correction Factor [dB]	Field Strength [dBmV/m]	Limit [dBmV/m]	Margin [dB]
2483.60	-90.80	Avg	H	35.2	-9.54	41.86	53.98	-12.12
2483.60	-72.30	Peak	H	35.2	-9.54	60.36	73.98	-13.62
2486.67	-97.42	Avg	H	35.2	-9.54	35.25	53.98	-18.73
2486.67	-72.42	Peak	H	35.2	-9.54	60.25	73.98	-13.73
2487.40	-97.22	Avg	H	35.2	-9.54	35.44	53.98	-18.54
2487.40	-72.42	Peak	H	35.2	-9.54	60.24	73.98	-13.74

Table 6-35. Radiated Restricted Band Measurements at 3-meters – Chain A

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB]	Distance Correction Factor [dB]	Field Strength [dBmV/m]	Limit [dBmV/m]	Margin [dB]
2483.80	-100.00	Avg	H	35.2	-9.54	32.66	53.98	-21.32
2483.80	-81.40	Peak	H	35.2	-9.54	51.26	73.98	-22.72
2484.20	-100.82	Avg	H	35.2	-9.54	31.85	53.98	-22.13
2484.20	-81.92	Peak	H	35.2	-9.54	50.75	73.98	-23.23
2487.99	-106.82	Avg	H	35.2	-9.54	25.84	53.98	-28.14
2487.99	-84.52	Peak	H	35.2	-9.54	48.14	73.98	-25.84

Table 6-36. Radiated Restricted Band Measurements at 3-meters – Chain B



FCC ID: ACJ9TGCF-527		FCC Pt. 15.247 802.11a/b/g/n MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB]	Distance Correction Factor [dB]	Field Strength [dBmV/m]	Limit [dBmV/m]	Margin [dB]
2483.60	-97.40	Avg	H	35.2	-9.54	35.26	53.98	-18.72
2483.60	-80.20	Peak	H	35.2	-9.54	52.46	73.98	-21.52
2486.67	-99.02	Avg	H	35.2	-9.54	33.65	53.98	-20.33
2486.67	-82.02	Peak	H	35.2	-9.54	50.65	73.98	-23.33
2487.40	-100.32	Avg	H	35.2	-9.54	32.34	53.98	-21.64
2487.40	-83.92	Peak	H	35.2	-9.54	48.74	73.98	-25.24

Table 6-37. Radiated Restricted Band Measurements at 3-meters – Chain A+B

NOTES:

1. All emissions shown lie in the restricted bands specified in §15.205 are below the limit shown in Table 6-16.
2. Average Measurements > 1GHz using RBW = 1MHz VBW = 10Hz
3. The antenna is manipulated through typical positions, polarity and length during the tests. The EUT is manipulated through three orthogonal planes.
4. The EUT is supplied with nominal AC voltage and/or a new/fully-recharged battery.
5. The spectrum is measured from 9kHz to the 10th harmonic and the worst-case emissions are reported. No significant emissions were found beyond the fifth harmonic for this device.
6. Levels at - 135 dBm represent the analyzer noise floor and signify that no emission was detected.
7. Above 960MHz the limit is 500 μ V/m (54dB μ /m) at 3 meters radiated.

FCC ID: ACJ9TGCF-527		FCC Pt. 15.247 802.11a/b/g/n MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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Radiated Restricted Band Edge Measurements §15.205 / §15.209



Mode: 802.11n
 Transfer Rate: 40/45 Mbps
 Distance of Measurements: 1 Meter
 Operating Frequency: 2452MHz
 Channel: 9

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB]	Distance Correction Factor [dB]	Field Strength [dBmV/m]	Limit [dBmV/m]	Margin [dB]
2484.10	-84.90	Avg	H	35.20	-9.54	47.75	53.98	-6.22
2484.10	-68.70	Peak	H	35.20	-9.54	63.95	73.98	-10.02
2484.90	-85.20	Avg	H	35.20	-9.54	47.45	53.98	-6.52
2484.90	-66.80	Peak	H	35.20	-9.54	65.85	73.98	-8.12
2486.01	-85.92	Avg	H	35.21	-9.54	46.75	53.98	-7.23
2486.01	-69.92	Peak	H	35.21	-9.54	62.75	73.98	-11.23

Table 6-38. Radiated Restricted Band Measurements at 1-meter – Chain A

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB]	Distance Correction Factor [dB]	Field Strength [dBmV/m]	Limit [dBmV/m]	Margin [dB]
2484.00	-80.70	Avg	H	35.20	-9.54	51.95	53.98	-2.02
2484.00	-68.70	Peak	H	35.20	-9.54	63.95	73.98	-10.02
2487.20	-80.12	Avg	H	35.20	-9.54	52.55	53.98	-1.43
2487.20	-64.92	Peak	H	35.20	-9.54	67.75	73.98	-6.23
2490.30	-81.82	Avg	H	35.21	-9.54	50.85	53.98	-3.13
2490.30	-64.12	Peak	H	35.21	-9.54	68.55	73.98	-5.43

Table 6-39. Radiated Restricted Band Measurements at 1-meter – Chain B



FCC ID: ACJ9TGCF-527		FCC Pt. 15.247 802.11a/b/g/n MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0912152258.ACJ	Test Dates: December 28, 2009 - February 5, 2010	EUT Type: Toughbook Model CF-52mk3		Page 90 of 100

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB]	Distance Correction Factor [dB]	Field Strength [dBmV/m]	Limit [dBmV/m]	Margin [dB]
2483.90	-81.70	Avg	H	35.20	-9.54	50.95	53.98	-3.02
2483.90	-61.70	Peak	H	35.20	-9.54	70.95	73.98	-3.02
2485.20	-82.90	Avg	H	35.20	-9.54	49.75	53.98	-4.22
2485.20	-64.50	Peak	H	35.20	-9.54	68.15	73.98	-5.82
2486.00	-83.52	Avg	H	35.21	-9.54	49.15	53.98	-4.83
2486.00	-65.92	Peak	H	35.21	-9.54	66.75	73.98	-7.23

Table 6-40. Radiated Restricted Band Measurements at 1-meter – Chain A+B

NOTES:

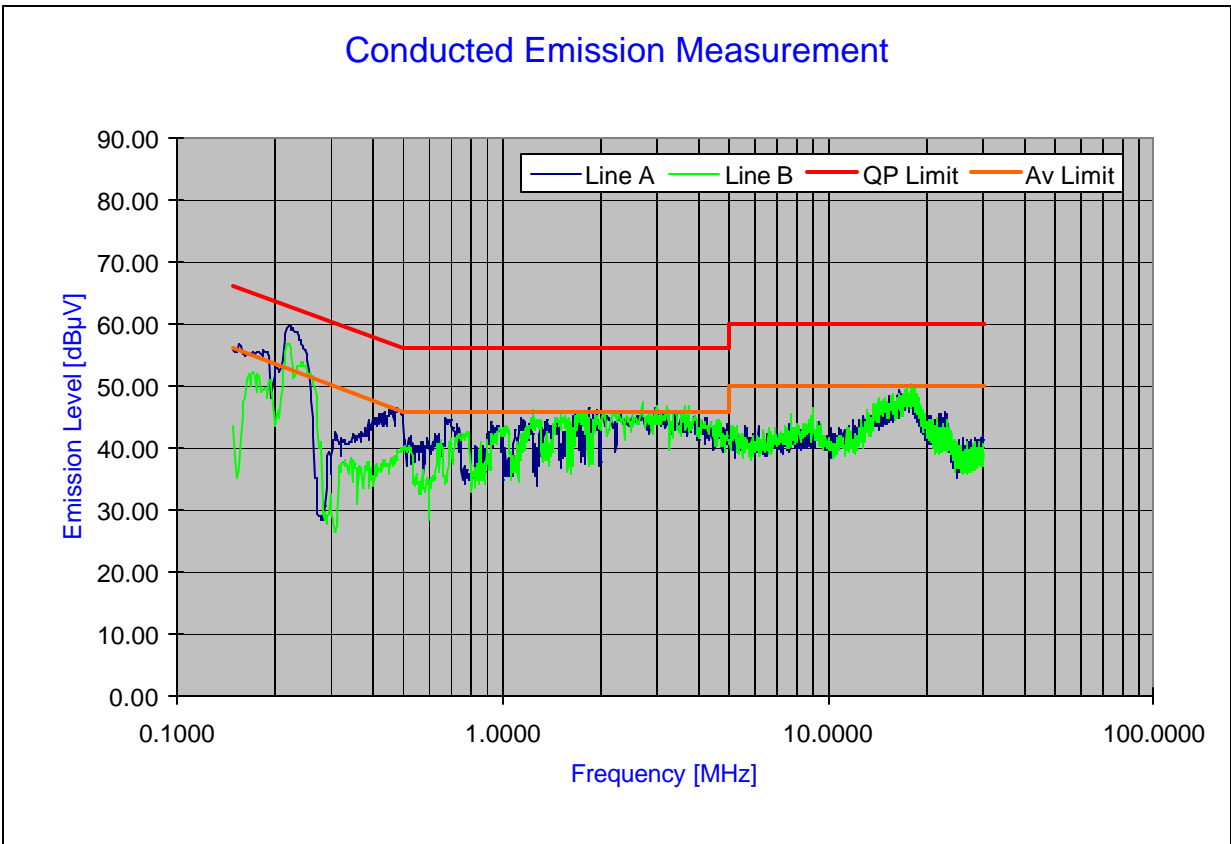
1. All emissions shown lie in the restricted bands specified in §15.205 are below the limit shown in Table 6-16.
2. Average Measurements > 1GHz using RBW = 1MHz VBW = 10Hz
3. The antenna is manipulated through typical positions, polarity and length during the tests. The EUT is manipulated through three orthogonal planes.
4. The EUT is supplied with nominal AC voltage and/or a new/fully-recharged battery.
5. The spectrum is measured from 9kHz to the 10th harmonic and the worst-case emissions are reported. No significant emissions were found beyond the fifth harmonic for this device.
6. Levels at - 135 dBm represent the analyzer noise floor and signify that no emission was detected.
7. Above 960MHz the limit is 500 μ V/m (54dB μ /m) at 3 meters radiated.

FCC ID: ACJ9TGCF-527		FCC Pt. 15.247 802.11a/b/g/n MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0912152258.ACJ	Test Dates: December 28, 2009 - February 5, 2010	EUT Type: Toughbook Model CF-52mk3		Page 91 of 100

6.12 Line-Conducted Test Data
§15.207

PCTEST Engineering Laboratory Inc.

Company : Panasonic Corporation of North America Power Source : AC120V/60Hz
 Model Number : CF-52mk3 Tested Date : 12/23/2009
 FCC ID Code : ACJ9TGCF-527 Note : Tested with WLAN b ON
 Standard : FCC Part 15C, 15.207





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Plot 6-104. Line Conducted Plot with 802.11b

Notes:

1. All Modes of operation were investigated and the worst-case emissions are reported.
2. The limit for Class B device(s) from 150kHz to 30MHz are specified in Section 15.207 of the Title 47 CFR.
3. Line A = Phase; Line B = Neutral
4. Traces shown in plot are made using a peak detector.
5. Deviations to the Specifications: None.

FCC ID: ACJ9TGCF-527		FCC Pt. 15.247 802.11a/b/g/n MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0912152258.ACJ	Test Dates: December 28, 2009 - February 5, 2010	EUT Type: Toughbook Model CF-52mk3		Page 92 of 100



Line-Conducted Test Data (Cont'd)
§15.207

No.	Line	Frequency [MHz]	Factor [dB]	QP [dBμV]	Limit [dBμV]	Margin [dB]	Average [dBμV]	Limit [dBμV]	Margin [dB]
1	A	0.186	8.00	50.20	64.22	-14.02	32.15	54.22	-22.07
2	A	0.232	7.81	57.56	62.39	-4.83	39.46	52.39	-12.93
3	A	0.486	7.43	43.57	56.23	-12.66	28.33	46.23	-17.90
4	A	1.664	7.37	40.43	56.00	-15.57	28.07	46.00	-17.93
5	A	1.843	7.38	40.87	56.00	-15.13	23.73	46.00	-22.27
6	A	1.927	7.39	40.64	56.00	-15.36	27.78	46.00	-18.22
7	A	2.987	7.44	41.34	56.00	-14.66	28.83	46.00	-17.17
8	A	3.932	7.48	38.94	56.00	-17.06	30.95	46.00	-15.05
9	A	16.526	7.95	42.98	60.00	-17.02	35.84	50.00	-14.16
10	A	18.020	8.01	43.37	60.00	-16.63	37.14	50.00	-12.86
11	B	0.200	7.93	42.96	63.60	-20.64	30.39	53.60	-23.21
12	B	1.250	7.33	41.70	56.00	-14.30	27.26	46.00	-18.74
13	B	1.801	7.38	42.61	56.00	-13.39	23.44	46.00	-22.56
14	B	2.755	7.43	41.21	56.00	-14.79	28.81	46.00	-17.19
15	B	3.223	7.45	41.60	56.00	-14.40	30.29	46.00	-15.71
16	B	3.374	7.46	41.74	56.00	-14.26	29.51	46.00	-16.49
17	B	3.540	7.46	40.47	56.00	-15.53	29.30	46.00	-16.70
18	B	3.722	7.47	40.12	56.00	-15.88	29.90	46.00	-16.10
19	B	18.032	8.01	44.54	60.00	-15.46	37.41	50.00	-12.59
20	B	18.171	8.01	44.34	60.00	-15.66	37.37	50.00	-12.63

Table 6-41. Line Conducted Data with 802.11b

Notes:

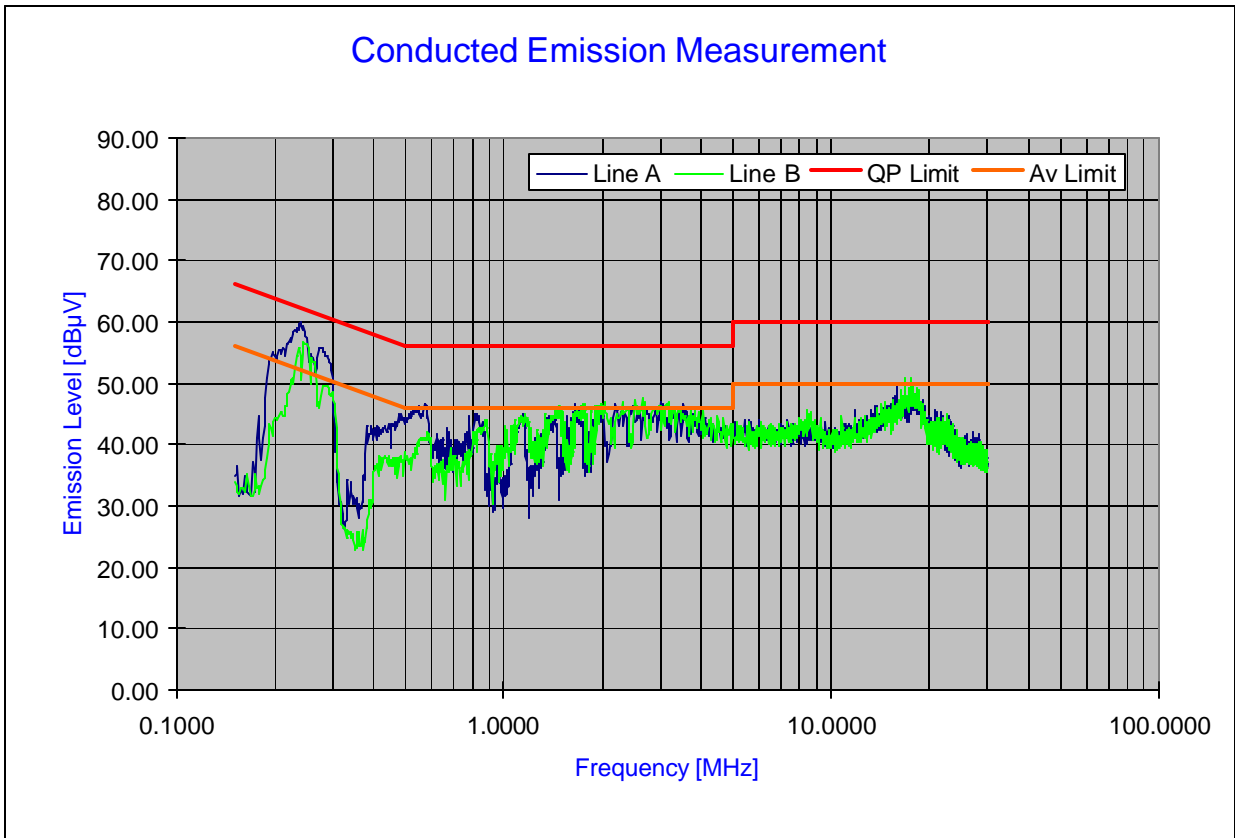
1. All Modes of operation were investigated and the worst-case emissions are reported.
2. The limit for Class B device(s) from 150kHz to 30MHz are specified in Section 15.207 of the Title 47 CFR.
3. Line A = Phase; Line B = Neutral
4. Traces shown in plot are made using a peak detector.
5. Deviations to the Specifications: None.

FCC ID: ACJ9TGCF-527		FCC Pt. 15.247 802.11a/b/g/n MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0912152258.ACJ	Test Dates: December 28, 2009 - February 5, 2010	EUT Type: Toughbook Model CF-52mk3	Page 93 of 100	

Line-Conducted Test Data (Cont'd)
§15.207

PCTEST Engineering Laboratory Inc.

Company : [Panasonic Corporation of North America](#) Power Source : [AC120V/60Hz](#)
 Model Number : [CF-52mk3](#) Tested Date : [12/23/2009](#)
 FCC ID Code : [ACJ9TGCF-527](#) Note : [Tested with WLAN g ON](#)
 Standard : [FCC Part 15C, 15.207](#)





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Plot 6-105. Line Conducted Plot with 802.11g

Notes:

1. All Modes of operation were investigated and the worst-case emissions are reported.
2. The limit for Class B device(s) from 150kHz to 30MHz are specified in Section 15.207 of the Title 47 CFR.
3. Line A = Phase; Line B = Neutral
4. Traces shown in plot are made using a peak detector.
5. Deviations to the Specifications: None.

FCC ID: ACJ9TGCF-527		FCC Pt. 15.247 802.11a/b/g/n MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0912152258.ACJ	Test Dates: December 28, 2009 - February 5, 2010	EUT Type: Toughbook Model CF-52mk3		Page 94 of 100



Line-Conducted Test Data (Cont'd)
§15.207

No.	Line	Frequency [MHz]	Factor [dB]	QP [dBμV]	Limit [dBμV]	Margin [dB]	Average [dBμV]	Limit [dBμV]	Margin [dB]
1	A	0.233	7.81	53.62	62.35	-8.73	29.02	52.35	-23.33
2	A	0.275	7.66	54.49	60.98	-6.49	44.94	50.98	-6.04
3	A	0.570	7.41	43.00	56.00	-13.00	30.20	46.00	-15.80
4	A	1.652	7.37	39.51	56.00	-16.49	25.56	46.00	-20.44
5	A	1.942	7.39	41.11	56.00	-14.89	27.35	46.00	-18.65
6	A	1.966	7.39	40.85	56.00	-15.15	30.16	46.00	-15.84
7	A	2.000	7.39	41.25	56.00	-14.75	27.11	46.00	-18.89
8	A	2.196	7.40	41.63	56.00	-14.37	25.47	46.00	-20.53
9	A	3.008	7.44	41.97	56.00	-14.03	27.15	46.00	-18.85
10	A	3.441	7.46	41.14	56.00	-14.86	29.91	46.00	-16.09
11	B	0.239	7.79	51.86	62.12	-10.26	27.81	52.12	-24.31
12	B	1.745	7.37	40.15	56.00	-15.85	28.17	46.00	-17.83
13	B	1.778	7.37	42.45	56.00	-13.55	24.66	46.00	-21.34
14	B	2.053	7.39	43.36	56.00	-12.64	26.80	46.00	-19.20
15	B	2.389	7.41	42.62	56.00	-13.38	26.46	46.00	-19.54
16	B	2.606	7.42	42.12	56.00	-13.88	29.50	46.00	-16.50
17	B	2.612	7.43	41.33	56.00	-14.67	29.14	46.00	-16.86
18	B	3.260	7.45	41.68	56.00	-14.32	28.58	46.00	-17.42
19	B	16.758	7.96	42.89	60.00	-17.11	35.27	50.00	-14.73
20	B	17.532	7.99	43.63	60.00	-16.37	36.44	50.00	-13.56

Table 6-42. Line Conducted Data with 802.11g

Notes:

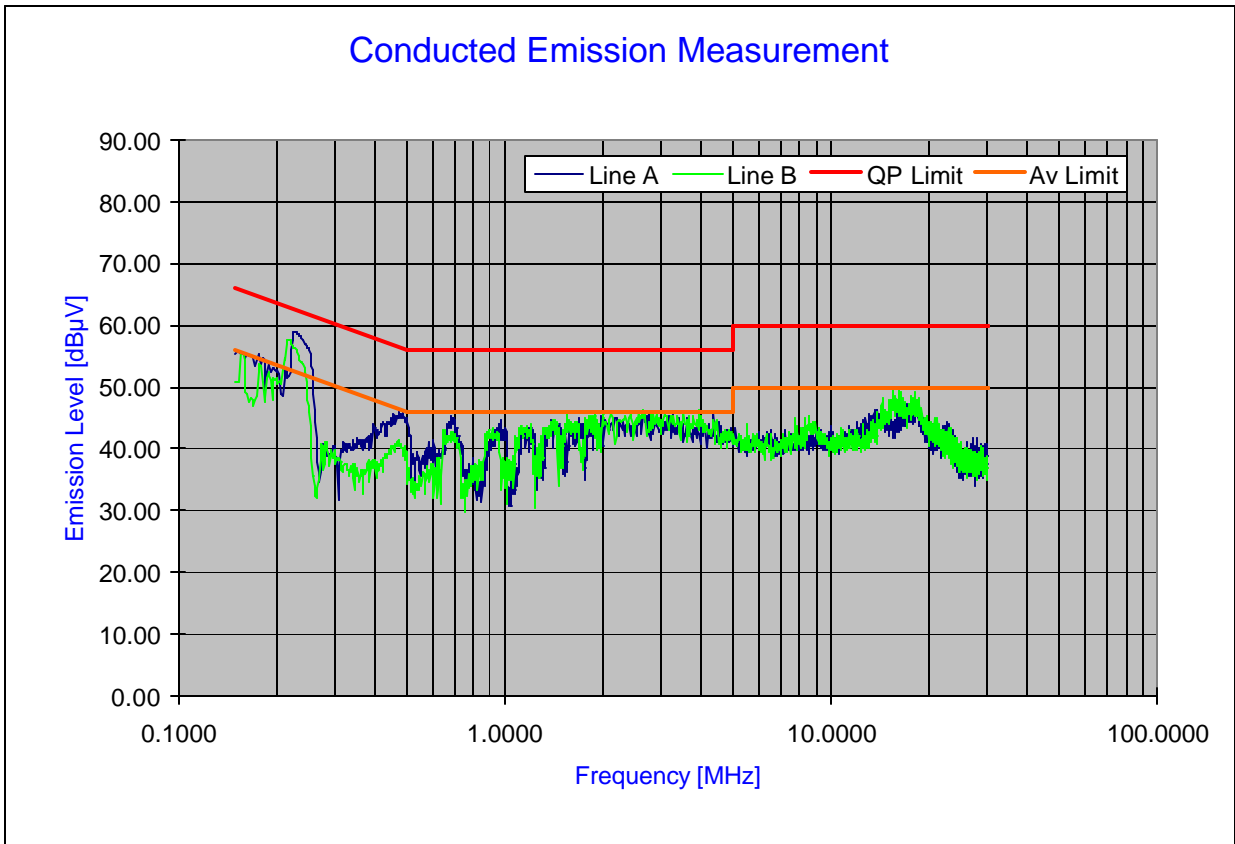
1. All Modes of operation were investigated and the worst-case emissions are reported.
2. The limit for Class B device(s) from 150kHz to 30MHz are specified in Section 15.207 of the Title 47 CFR.
3. Line A = Phase; Line B = Neutral
4. Traces shown in plot are made using a peak detector.
5. Deviations to the Specifications: None.

FCC ID: ACJ9TGCF-527		FCC Pt. 15.247 802.11a/b/g/n MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0912152258.ACJ	Test Dates: December 28, 2009 - February 5, 2010	EUT Type: Toughbook Model CF-52mk3	Page 95 of 100	

Line-Conducted Test Data (Cont'd)
§15.207

PCTEST Engineering Laboratory Inc.

Company : Panasonic Corporation of North America Power Source : AC120V/60Hz
 Model Number : CF-52mk3 Tested Date : 12/23/2009
 FCC ID Code : ACJ9TGCF-527 Note : Tested with WLAN a ON
 Standard : FCC Part 15C, 15.207





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Plot 6-106. Line Conducted Plot with 802.11a

Notes:

1. All Modes of operation were investigated and the worst-case emissions are reported.
2. The limit for Class B device(s) from 150kHz to 30MHz are specified in Section 15.207 of the Title 47 CFR.
3. Line A = Phase; Line B = Neutral
4. Traces shown in plot are made using a peak detector.
5. Deviations to the Specifications: None.

FCC ID: ACJ9TGCF-527		FCC Pt. 15.247 802.11a/b/g/n MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0912152258.ACJ	Test Dates: December 28, 2009 - February 5, 2010	EUT Type: Toughbook Model CF-52mk3	Page 96 of 100	

Line-Conducted Test Data (Cont'd)



§15.207

No.	Line	Frequency [MHz]	Factor [dB]	QP [dBμV]	Limit [dBμV]	Margin [dB]	Average [dBμV]	Limit [dBμV]	Margin [dB]
1	A	0.150	8.20	52.51	66.00	-13.49	34.54	56.00	-21.46
2	A	0.166	8.10	49.97	65.16	-15.19	33.22	55.16	-21.94
3	A	0.229	7.82	57.70	62.49	-4.79	44.76	52.49	-7.73
4	A	0.485	7.44	43.09	56.26	-13.17	28.66	46.26	-17.60
5	A	0.684	7.38	42.55	56.00	-13.45	29.77	46.00	-16.23
6	A	1.947	7.39	38.97	56.00	-17.03	25.86	46.00	-20.14
7	A	2.012	7.39	37.51	56.00	-18.49	28.38	46.00	-17.62
8	A	2.710	7.43	40.01	56.00	-15.99	30.23	46.00	-15.77
9	A	3.183	7.45	40.21	56.00	-15.79	29.76	46.00	-16.24
10	A	4.306	7.49	38.19	56.00	-17.81	30.62	46.00	-15.38
11	B	0.150	8.20	50.76	66.00	-15.24	35.80	56.00	-20.20
12	B	0.220	7.86	53.65	62.82	-9.17	37.81	52.82	-15.01
13	B	1.560	7.36	41.27	56.00	-14.73	27.92	46.00	-18.08
14	B	1.902	7.38	39.63	56.00	-16.37	27.95	46.00	-18.05
15	B	2.007	7.39	41.11	56.00	-14.89	28.77	46.00	-17.23
16	B	2.343	7.41	40.19	56.00	-15.81	28.75	46.00	-17.25
17	B	2.668	7.43	40.97	56.00	-15.03	30.24	46.00	-15.76
18	B	3.975	7.48	39.84	56.00	-16.16	29.92	46.00	-16.08
19	B	15.474	7.90	42.58	60.00	-17.42	35.26	50.00	-14.74
20	B	16.057	7.92	42.59	60.00	-17.41	35.10	50.00	-14.90

Table 6-43. Line Conducted Data with 802.11a

Notes:

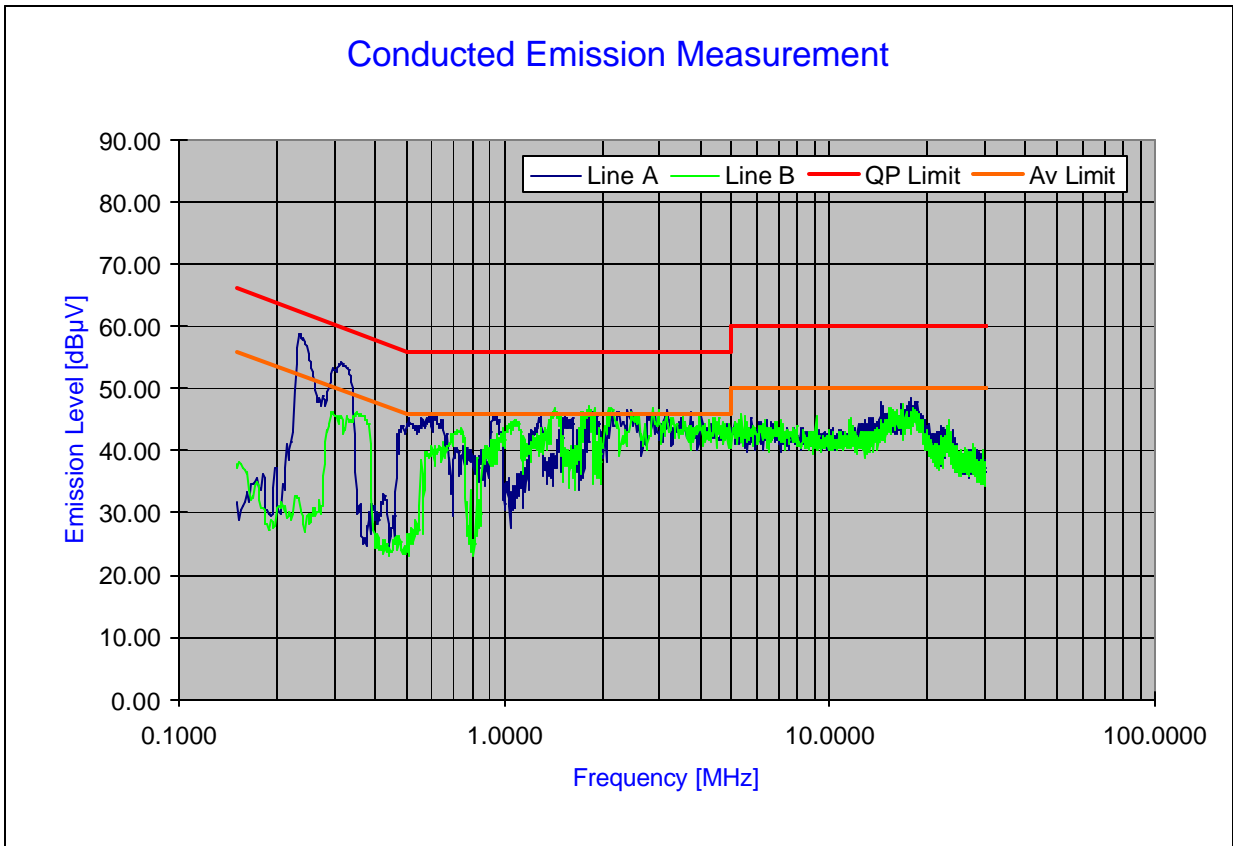
1. All Modes of operation were investigated and the worst-case emissions are reported.
2. The limit for Class B device(s) from 150kHz to 30MHz are specified in Section 15.207 of the Title 47 CFR.
3. Line A = Phase; Line B = Neutral
4. Traces shown in plot are made using a peak detector.
5. Deviations to the Specifications: None.

FCC ID: ACJ9TGCF-527		FCC Pt. 15.247 802.11a/b/g/n MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0912152258.ACJ	Test Dates: December 28, 2009 - February 5, 2010	EUT Type: Toughbook Model CF-52mk3	Page 97 of 100	

Line-Conducted Test Data (Cont'd)
§15.207

PCTEST Engineering Laboratory Inc.

Company : Panasonic Corporation of North America Power Source : AC120V/60Hz
 Model Number : CF-52mk3 Tested Date : 12/23/2009
 FCC ID Code : ACJ9TGCF-527 Note : Tested with WLAN n ON
 Standard : FCC Part 15C, 15.207





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Plot 6-107. Line Conducted Plot with 802.11n

Notes:

1. All Modes of operation were investigated and the worst-case emissions are reported.
2. The limit for Class B device(s) from 150kHz to 30MHz are specified in Section 15.207 of the Title 47 CFR.
3. Line A = Phase; Line B = Neutral
4. Traces shown in plot are made using a peak detector.
5. Deviations to the Specifications: None.

FCC ID: ACJ9TGCF-527		FCC Pt. 15.247 802.11a/b/g/n MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0912152258.ACJ	Test Dates: December 28, 2009 - February 5, 2010	EUT Type: Toughbook Model CF-52mk3	Page 98 of 100	



Line-Conducted Test Data (Cont'd)
§15.207

No.	Line	Frequency [MHz]	Factor [dB]	QP [dBμV]	Limit [dBμV]	Margin [dB]	Average [dBμV]	Limit [dBμV]	Margin [dB]
1	A	0.236	7.80	53.65	62.23	-8.58	27.41	52.23	-24.82
2	A	0.312	7.56	53.07	59.91	-6.84	43.09	49.91	-6.82
3	A	0.594	7.40	40.70	56.00	-15.30	22.37	46.00	-23.63
4	A	0.947	7.33	43.32	56.00	-12.68	29.89	46.00	-16.11
5	A	1.294	7.33	41.70	56.00	-14.30	28.26	46.00	-17.74
6	A	1.871	7.38	42.91	56.00	-13.09	29.00	46.00	-17.00
7	A	1.882	7.38	42.75	56.00	-13.25	29.82	46.00	-16.18
8	A	2.466	7.42	42.33	56.00	-13.67	29.29	46.00	-16.71
9	A	3.105	7.45	41.23	56.00	-14.77	30.71	46.00	-15.29
10	A	3.722	7.47	40.03	56.00	-15.97	29.02	46.00	-16.98
11	B	1.426	7.35	42.95	56.00	-13.05	30.20	46.00	-15.80
12	B	1.447	7.35	43.09	56.00	-12.91	28.87	46.00	-17.13
13	B	1.718	7.37	36.63	56.00	-19.37	25.29	46.00	-20.71
14	B	1.750	7.37	40.61	56.00	-15.39	26.34	46.00	-19.66
15	B	1.817	7.38	42.86	56.00	-13.14	28.79	46.00	-17.21
16	B	1.834	7.38	42.62	56.00	-13.38	26.37	46.00	-19.63
17	B	1.874	7.38	40.01	56.00	-15.99	21.79	46.00	-24.21
18	B	2.151	7.40	43.50	56.00	-12.50	30.95	46.00	-15.05
19	B	2.492	7.42	42.65	56.00	-13.35	30.31	46.00	-15.69
20	B	2.860	7.44	42.57	56.00	-13.43	30.78	46.00	-15.22

Table 6-44. Line Conducted Data with 802.11n



Notes:

1. All Modes of operation were investigated and the worst-case emissions are reported.
2. The limit for Class B device(s) from 150kHz to 30MHz are specified in Section 15.207 of the Title 47 CFR.
3. Line A = Phase; Line B = Neutral
4. Traces shown in plot are made using a peak detector.
5. Deviations to the Specifications: None.

FCC ID: ACJ9TGCF-527		FCC Pt. 15.247 802.11a/b/g/n MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0912152258.ACJ	Test Dates: December 28, 2009 - February 5, 2010	EUT Type: Toughbook Model CF-52mk3		Page 99 of 100

7.0 CONCLUSION

The data collected relate only the item(s) tested and show that the **Panasonic Toughbook Model CF-52mk3** **FCC ID: ACJ9TGCF-527** is in compliance with Part 15C of the FCC Rules.

FCC ID: ACJ9TGCF-527		FCC Pt. 15.247 802.11a/b/g/n MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0912152258.ACJ	Test Dates: December 28, 2009 - February 5, 2010	EUT Type: Toughbook Model CF-52mk3		Page 100 of 100