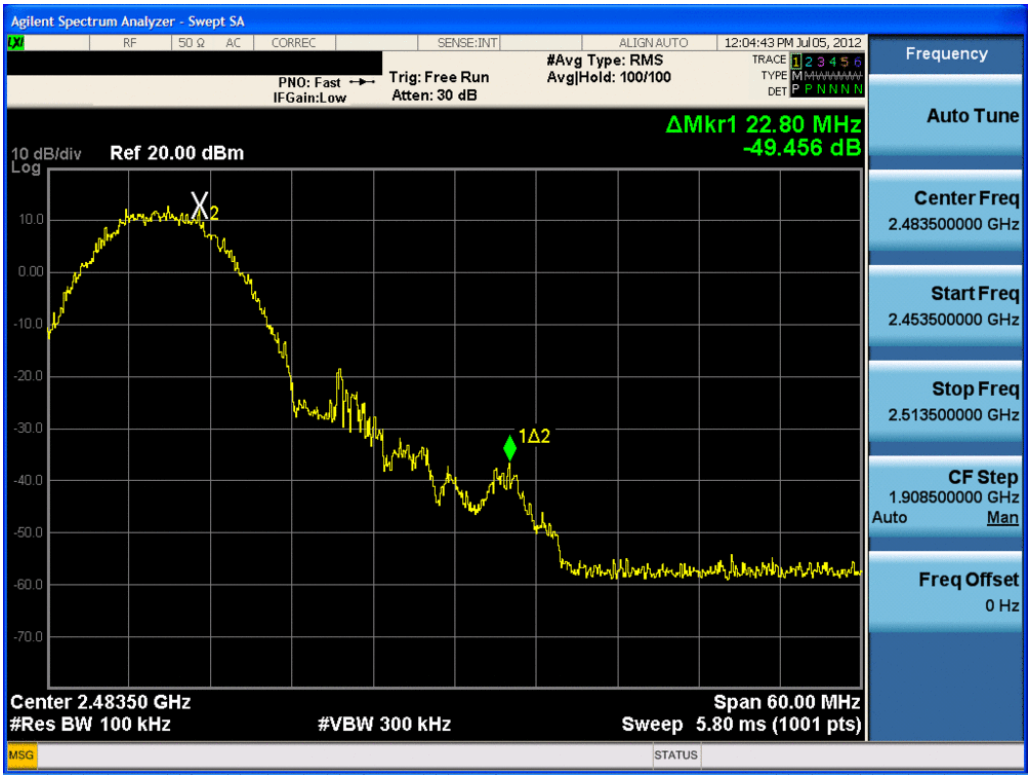
6.6 Conducted Emissions at the Band Edge

§15.247(d); RSS-210 [A8.5]

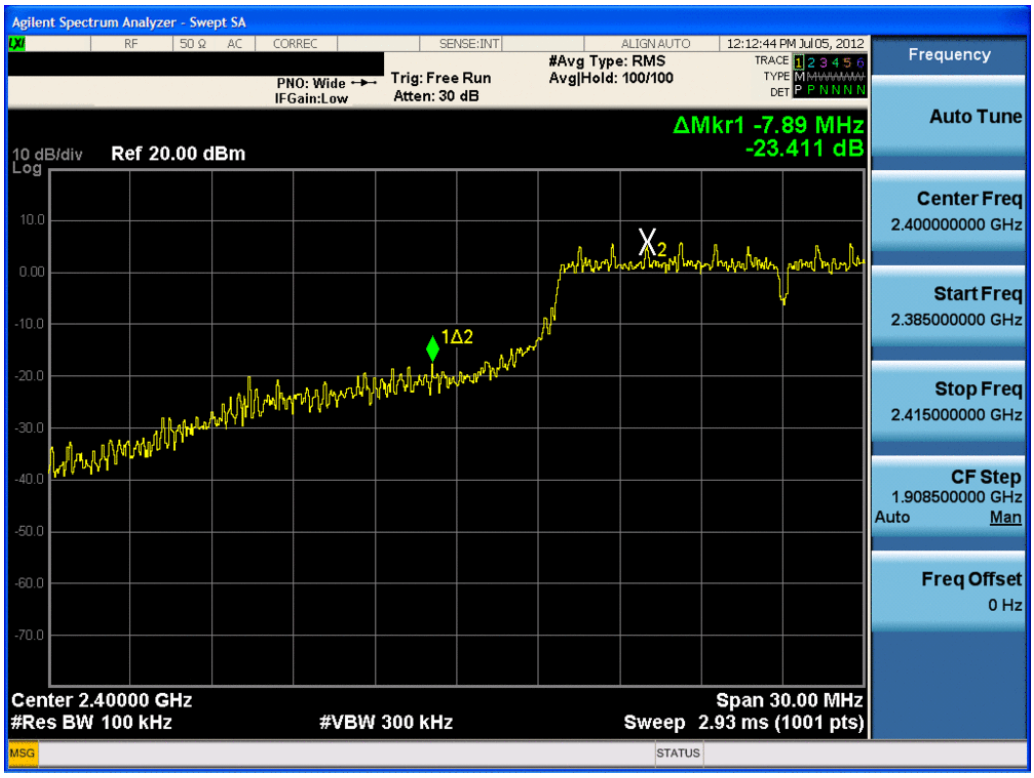
For the following out of band conducted spurious emissions plots at the band edge, the EUT was set at a data rate of 1Mbps for "b" mode, 6 Mbps for "g" mode, 6 Mbps for "a" mode, and 6.5/7.2Mbps for "n" mode. These settings produced the worst-case emissions.

Per the guidance of KDB 558074, section 5.4.1.1, the reference level for out of band emissions is established from the plots of this section since the band edge emissions are measured with a RBW of 100kHz. This reference level is then used as the limit in subsequent plots for out of band spurious emissions shown in Section 6.7. The limit for out of band spurious emissions at the band edge is 20dB below the fundamental emission level measured in a 100kHz bandwidth.

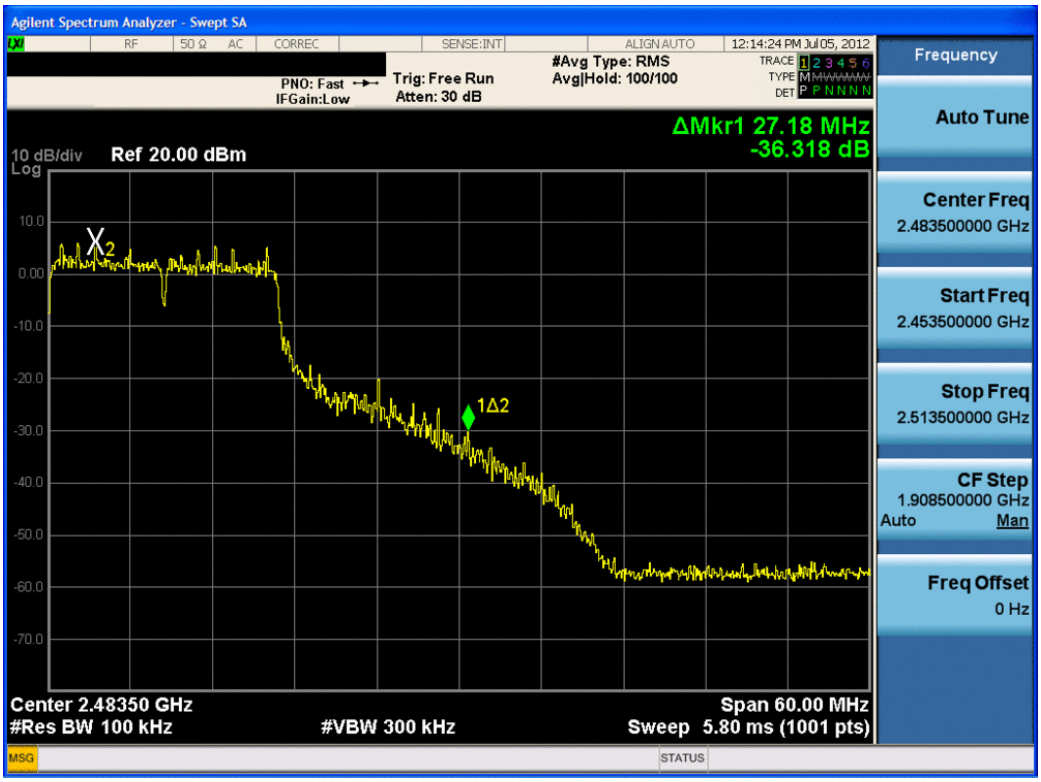
Plot 6-37. Band Edge Plot (802.11b – Ch. 1)



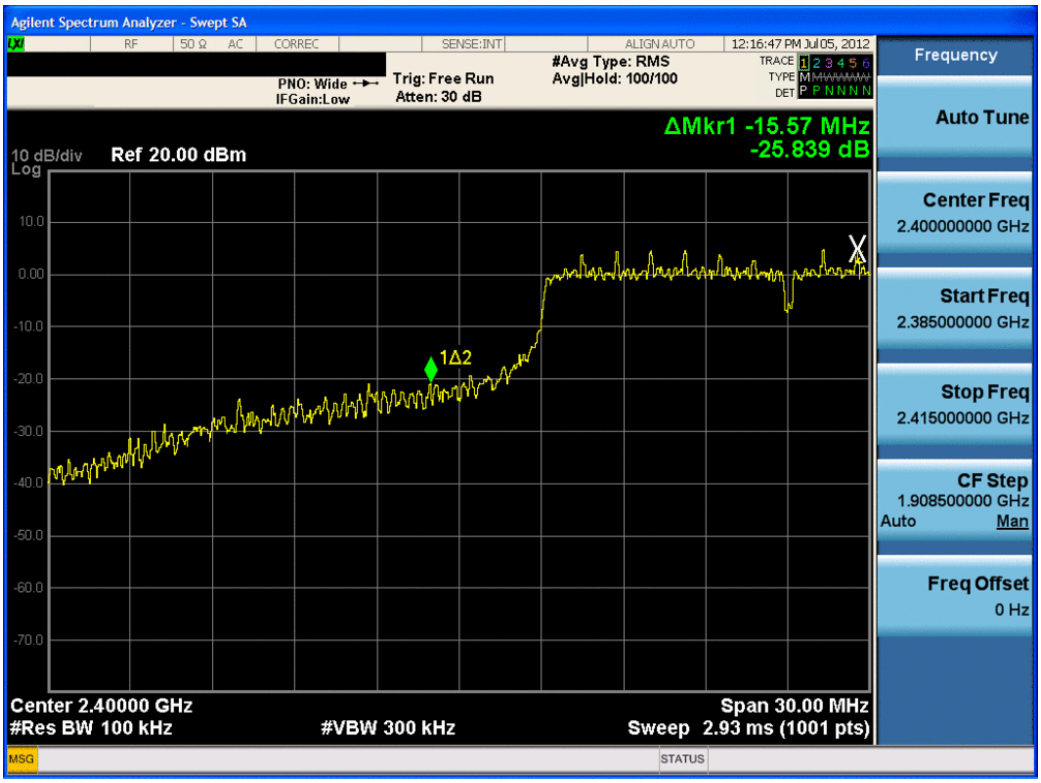
Plot 6-38. Band Edge Plot (802.11b – Ch. 11)



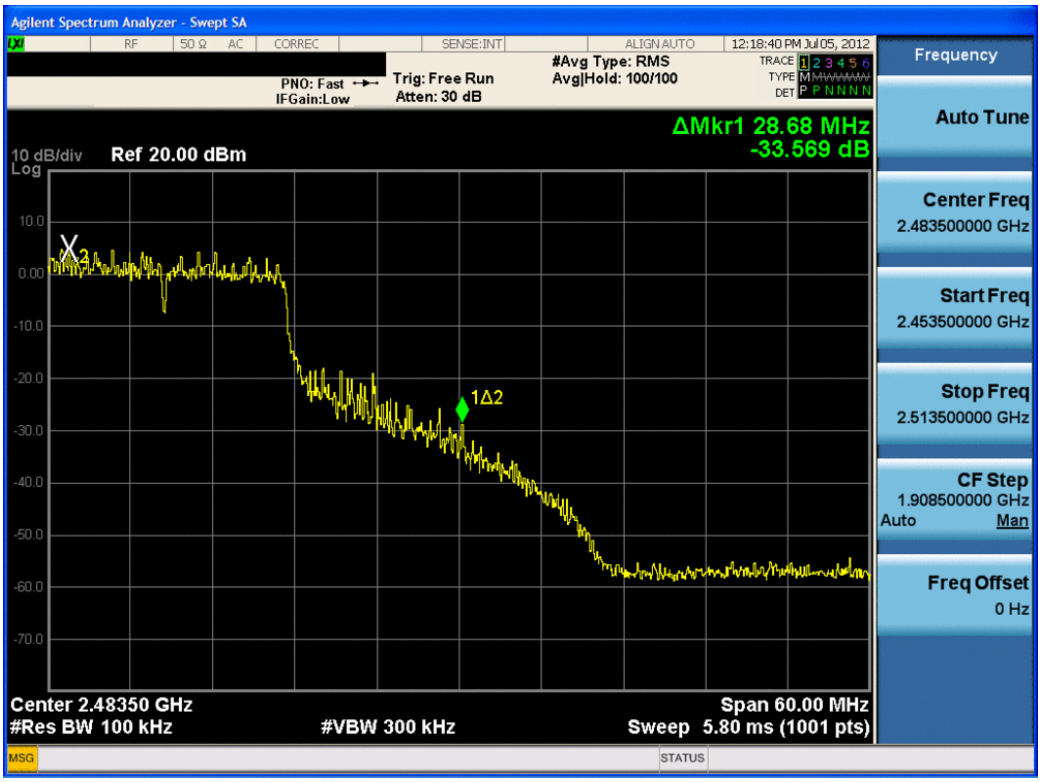
Plot 6-39. Band Edge Plot (802.11g– Ch. 1)



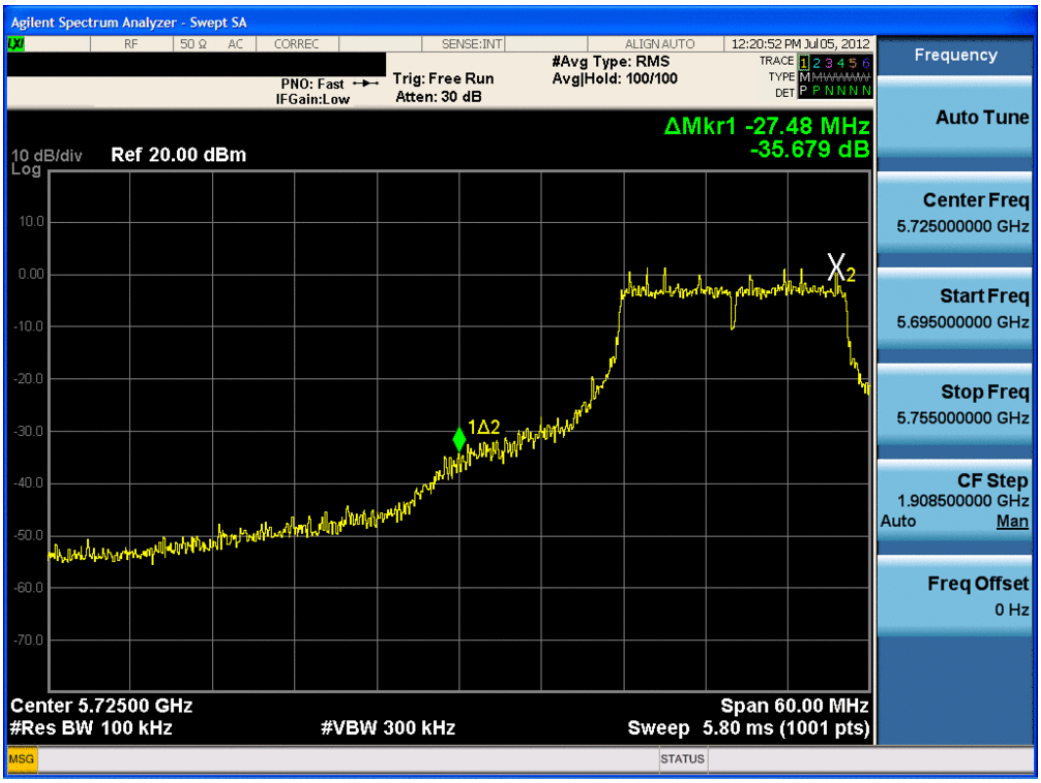
Plot 6-40. Band Edge Plot (802.11g – Ch. 11)



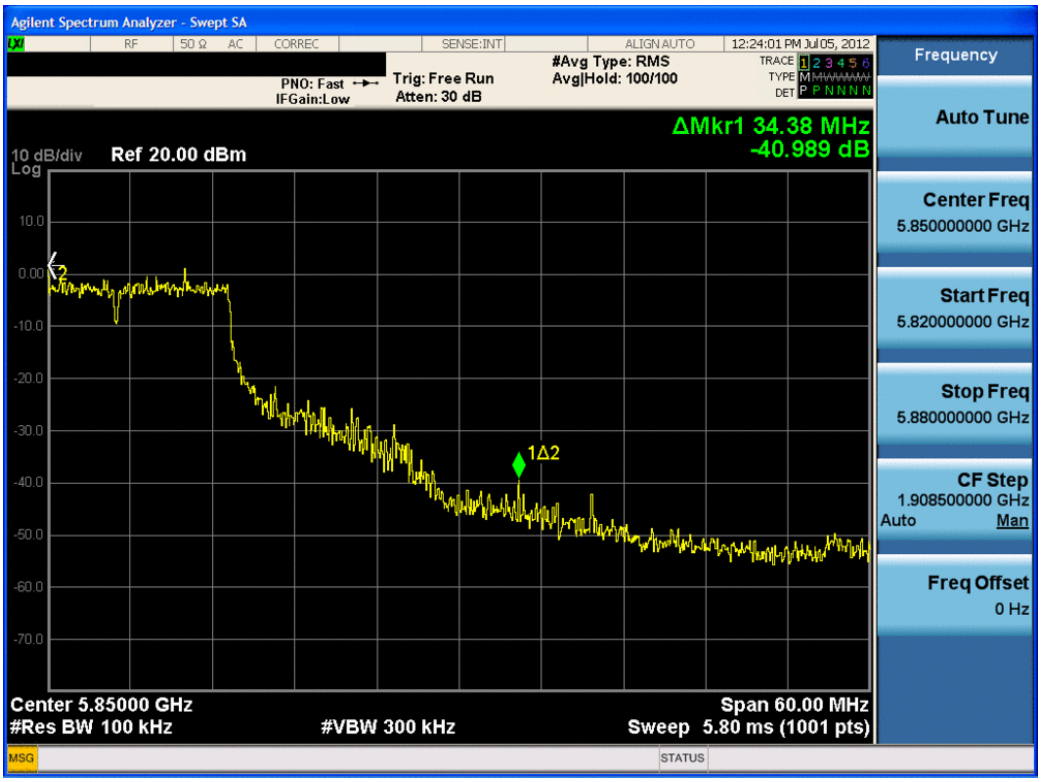
Plot 6-41. Band Edge Plot (802.11n (2.4GHz) – Ch. 1)



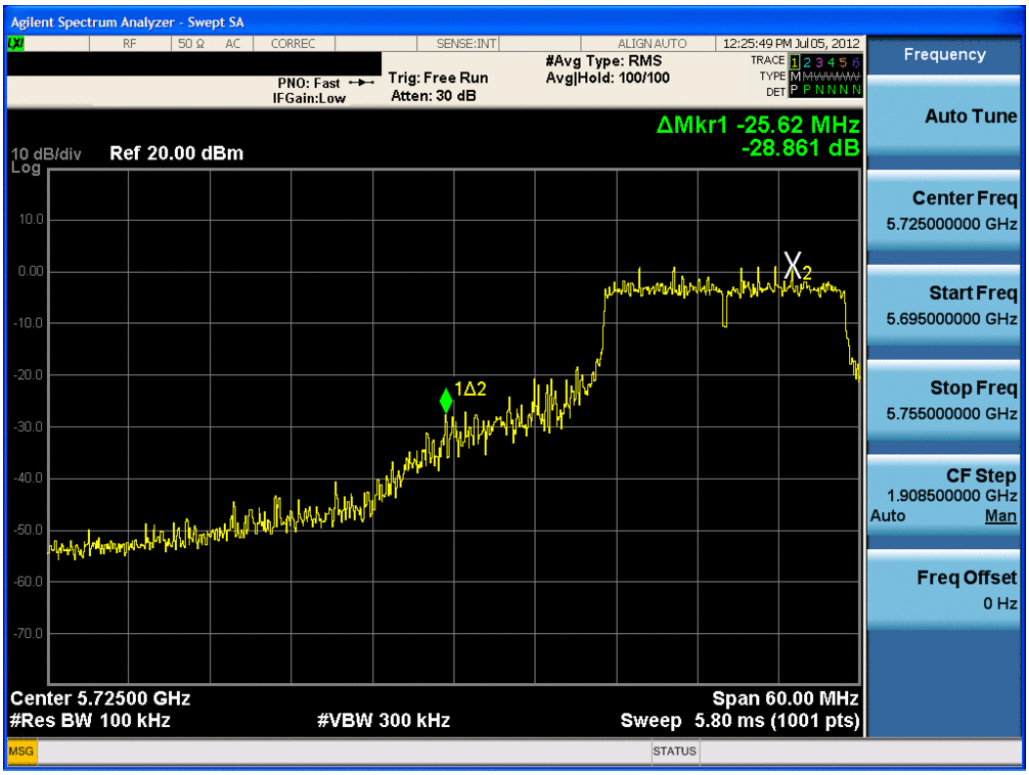
Plot 6-42. Band Edge Plot (802.11n (2.4GHz) – Ch. 11)



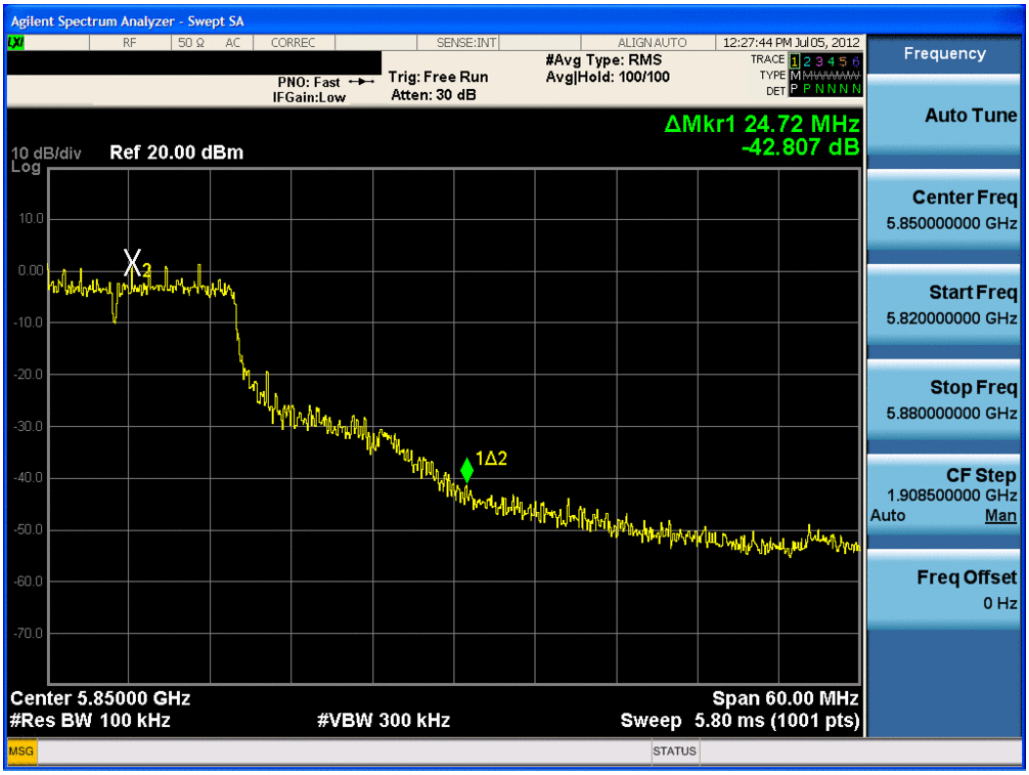
Plot 6-43. Band Edge Plot (802.11a – Ch. 149)



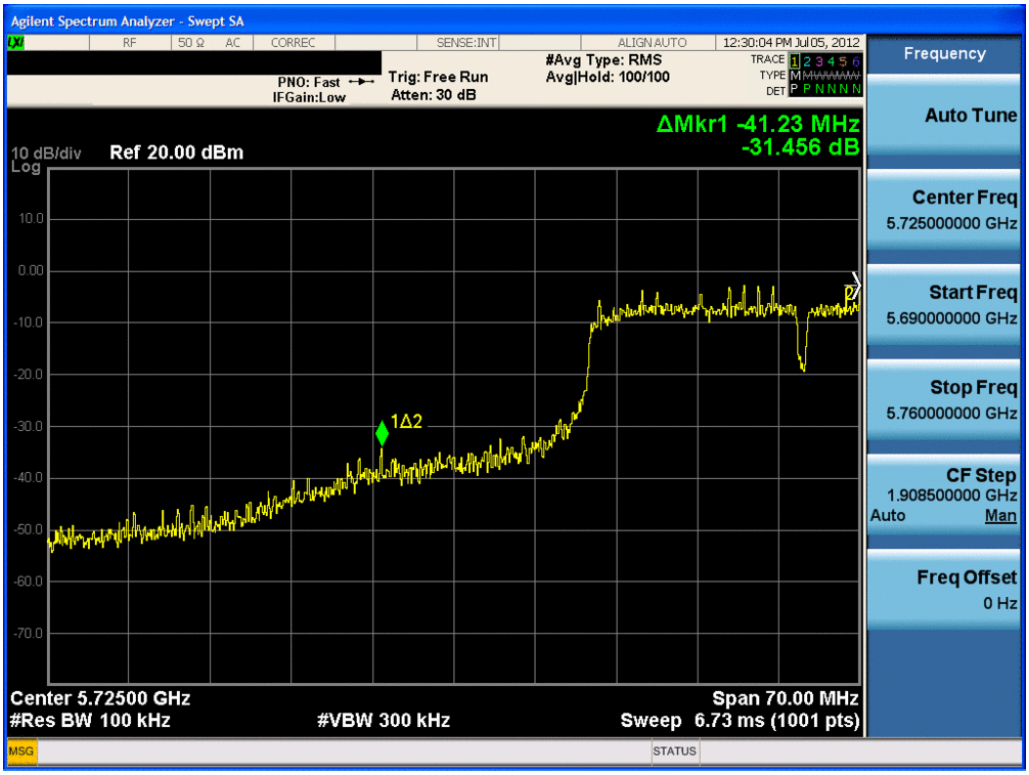
Plot 6-44. Band Edge Plot (802.11a – Ch. 165)



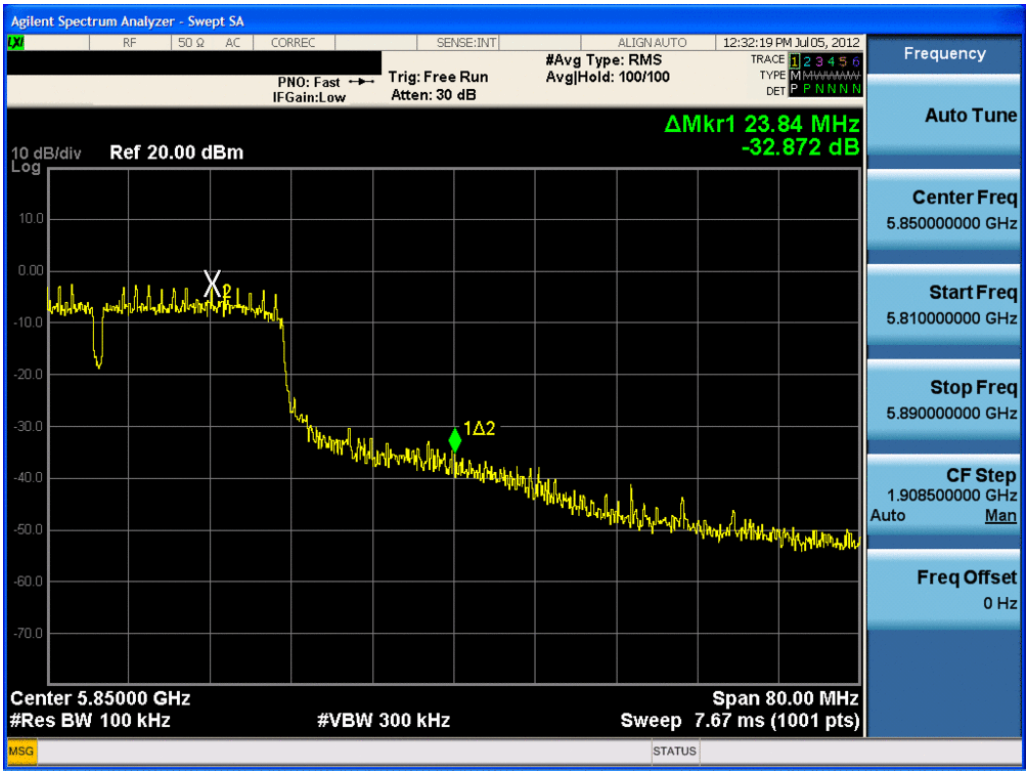
Plot 6-45. Band Edge Plot (20MHz BW 802.11n (5.8GHz) – Ch. 149)



Plot 6-46. Band Edge Plot (20MHz BW 802.11n (5.8GHz) – Ch. 165)



Plot 6-47. Band Edge Plot (40MHz BW 802.11n (5.8GHz) – Ch. 151)



Plot 6-48. Band Edge Plot (40MHz BW 802.11n (5.8GHz) – Ch. 163)

6.7 Conducted Spurious Emissions

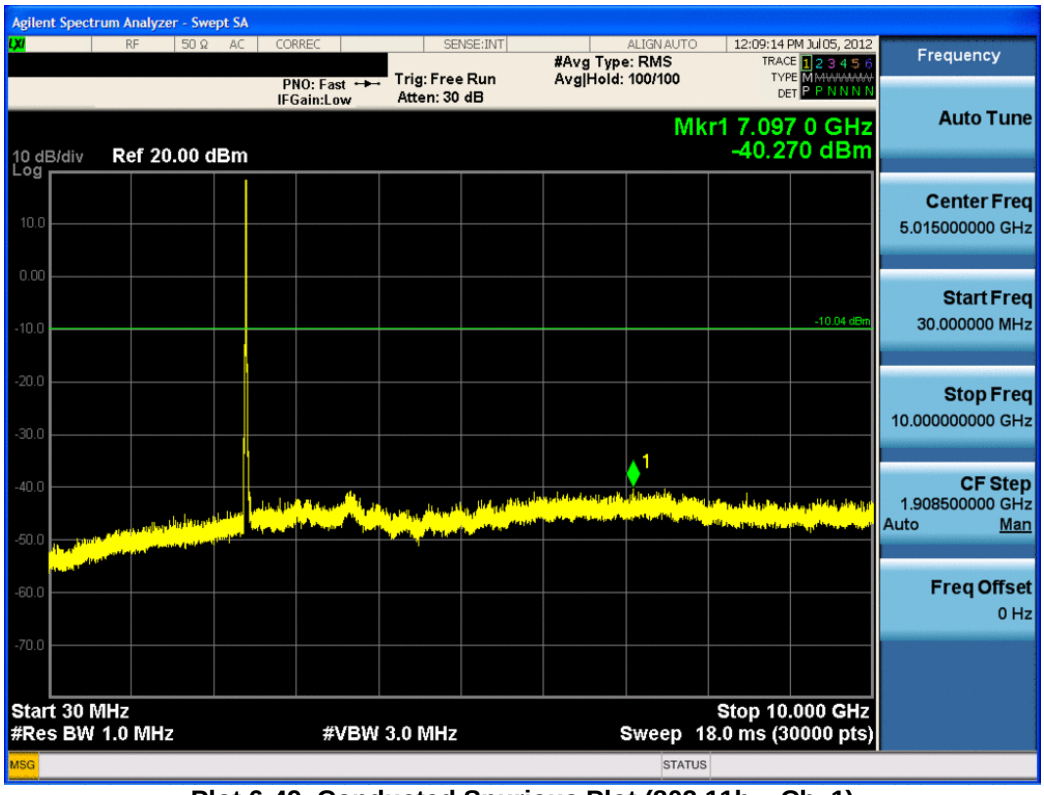
§15.247(d); RSS-210 [A8.5]

For the following out of band conducted spurious emissions plots, the EUT was investigated in all available data rates for "b", "g", "a", and "n" modes. The worst case spurious emissions for the 2.4GHz band were found while transmitting in "b" mode at 1 Mbps and are shown in the plots below. The worst case spurious emissions for the 5.8GHz band were found while transmitting in "a" mode at 6 Mbps and are shown in the plots below.

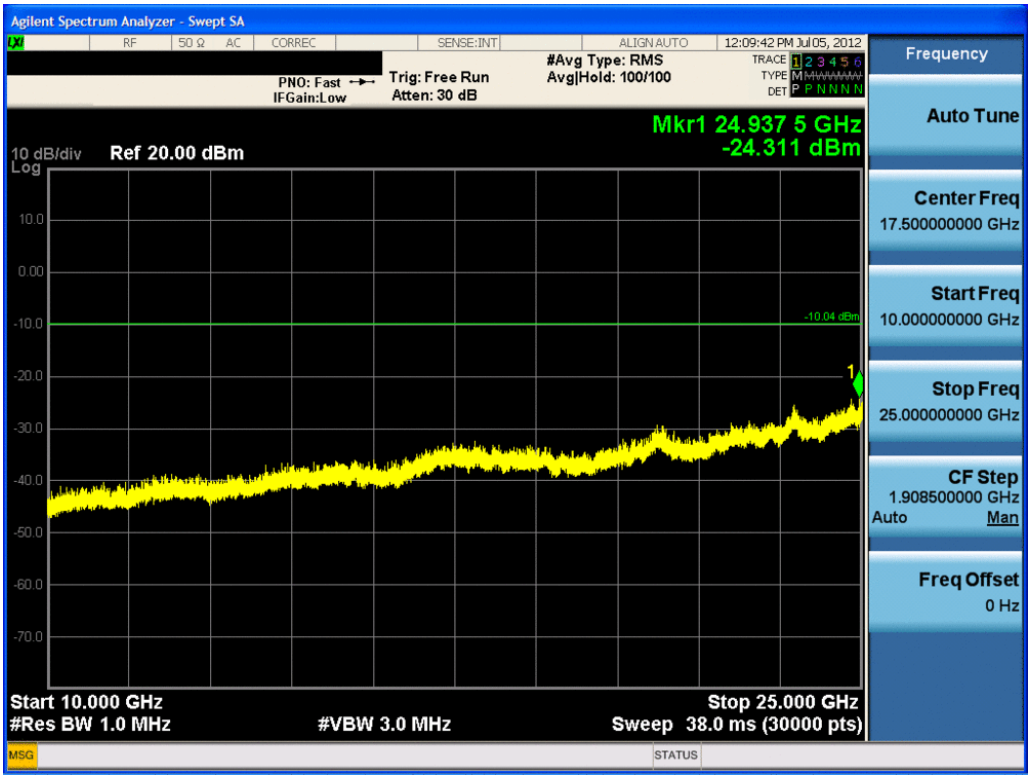
The display line shown in the following plots denotes the limit at 20dBc below the fundamental emission level measured in a 100kHz bandwidth. However, the following plots were mistakenly plotted with a 30dBc limit line. The correct limit is 20 dBc below the fundamental emission and thus compliance is maintained with the 30dBc limit line.

For plots showing conducted spurious emissions near the limit, the frequencies were investigated with a reduced RBW to ensure that no emissions were present.

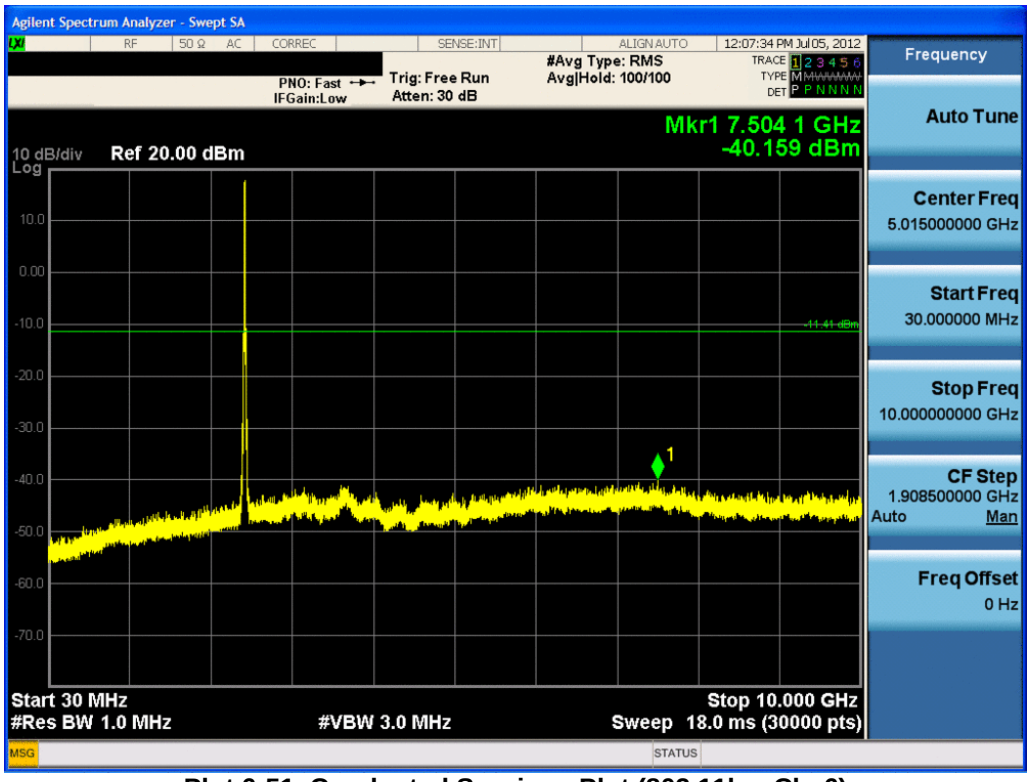
Plot 6-55 through Plot 6-60 were recorded using a PSA spectrum analyzer connected to a laptop PC via GPIB connection. Since the PSA is limited to a maximum of 8192 sweeping points, roughly about 4GHz of spectrum can be analyzed while ensuring that the bin-to-bin spacing is such that narrowband emissions are not lost (i.e. # points $\geq$ 2 * Span/RBW). A program installed on the laptop ("PCTEST 40GHz CSE", Version 1.0) sets the spectrum analyzer to gather the maximum number of spectral points from 30MHz to 40GHz in 4GHz increments and then places the data into an Excel spreadsheet from which the conducted plots are generated. The limit is 20dBc and is determined from the power spectral density plots which are measured with a 100kHz RBW. The spectrum analyzer is set as follows for each 4GHz portion of spectrum that is analyzed: RBW = 1MHz, VBW = 3MHz, sweep time = auto, detector = max peak, number of points = 8192.



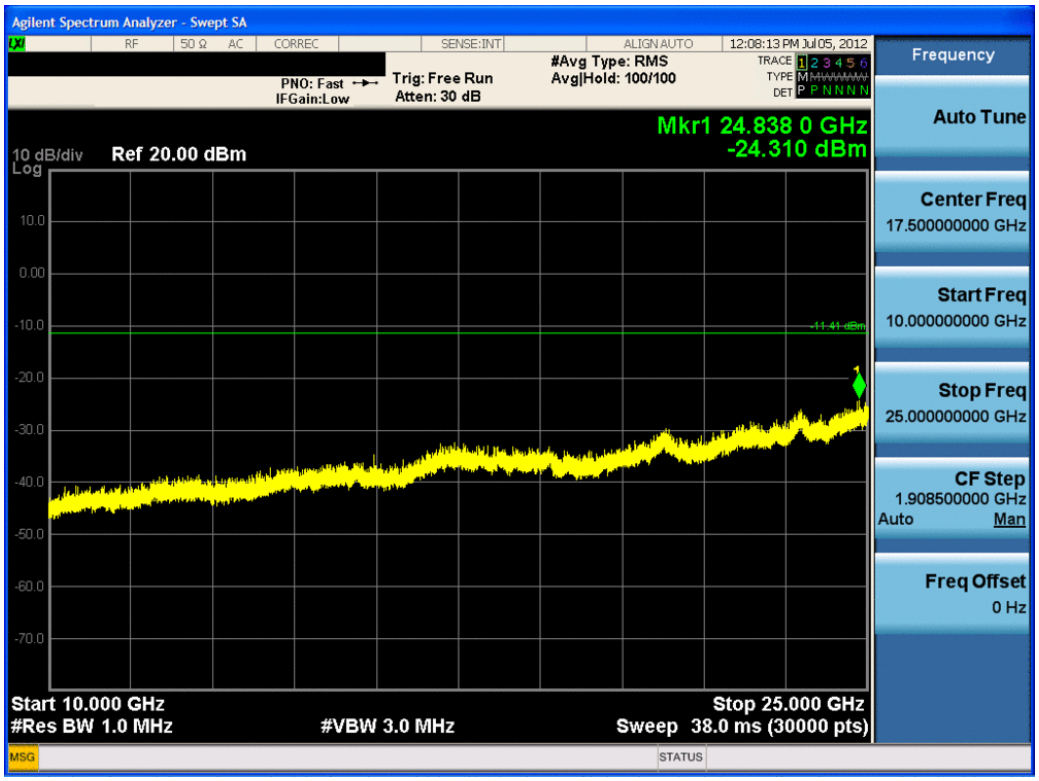
Plot 6-49. Conducted Spurious Plot (802.11b – Ch. 1)



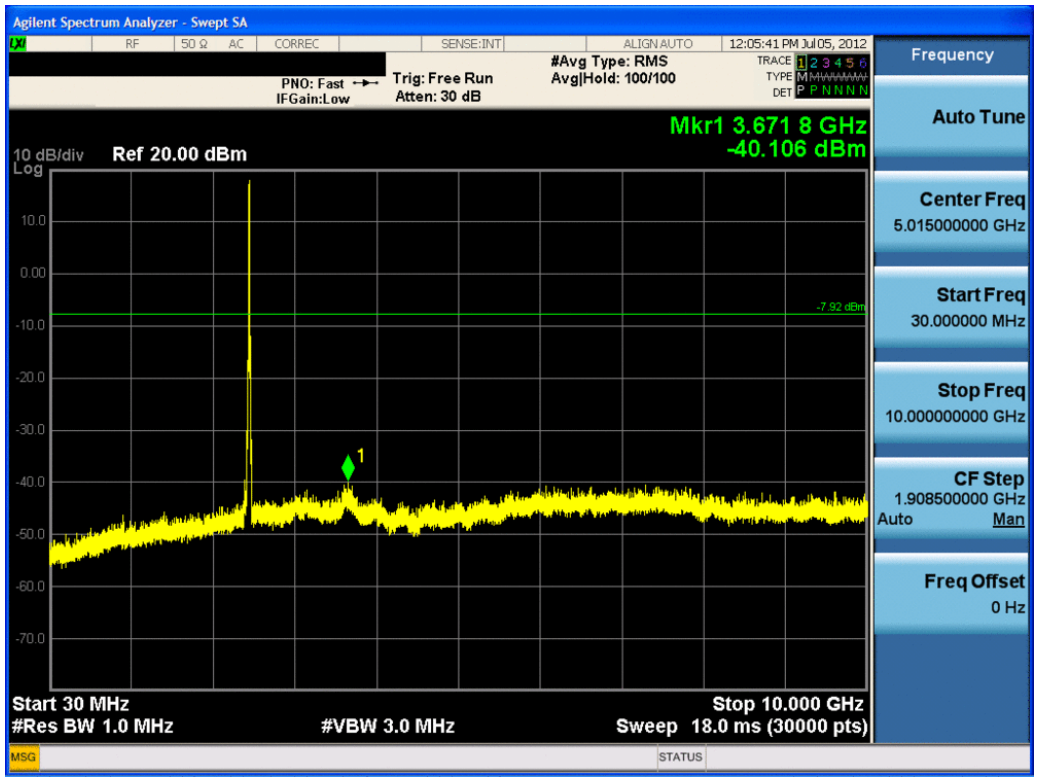
Plot 6-50. Conducted Spurious Plot (802.11b – Ch. 1)



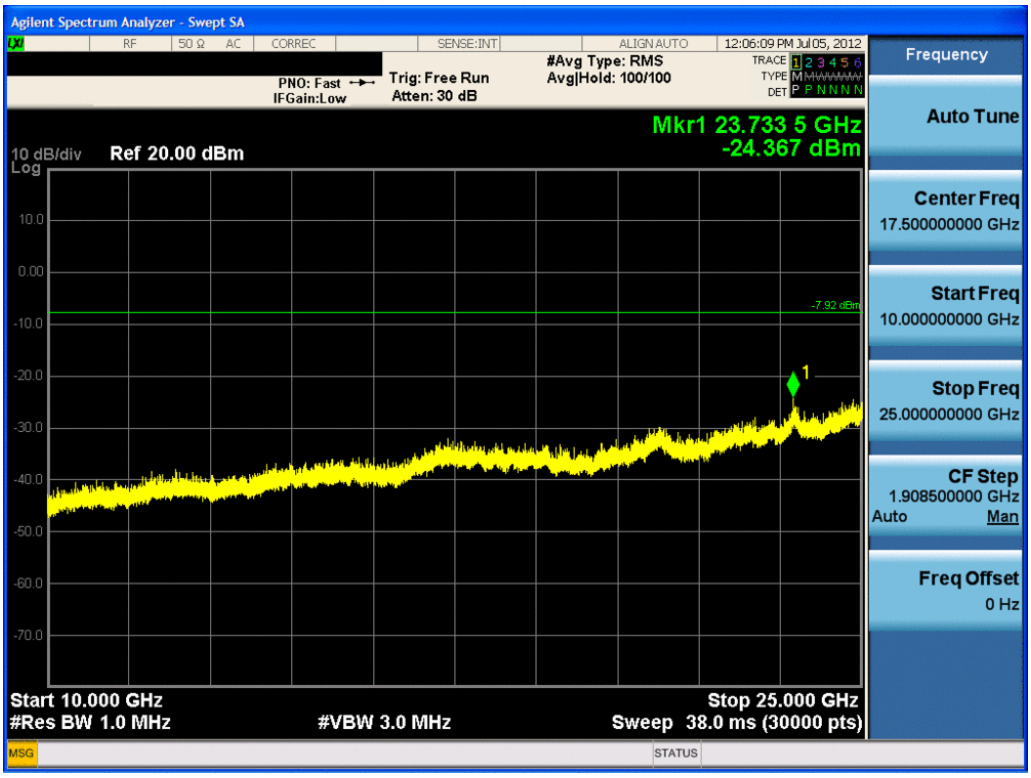
Plot 6-51. Conducted Spurious Plot (802.11b – Ch. 6)



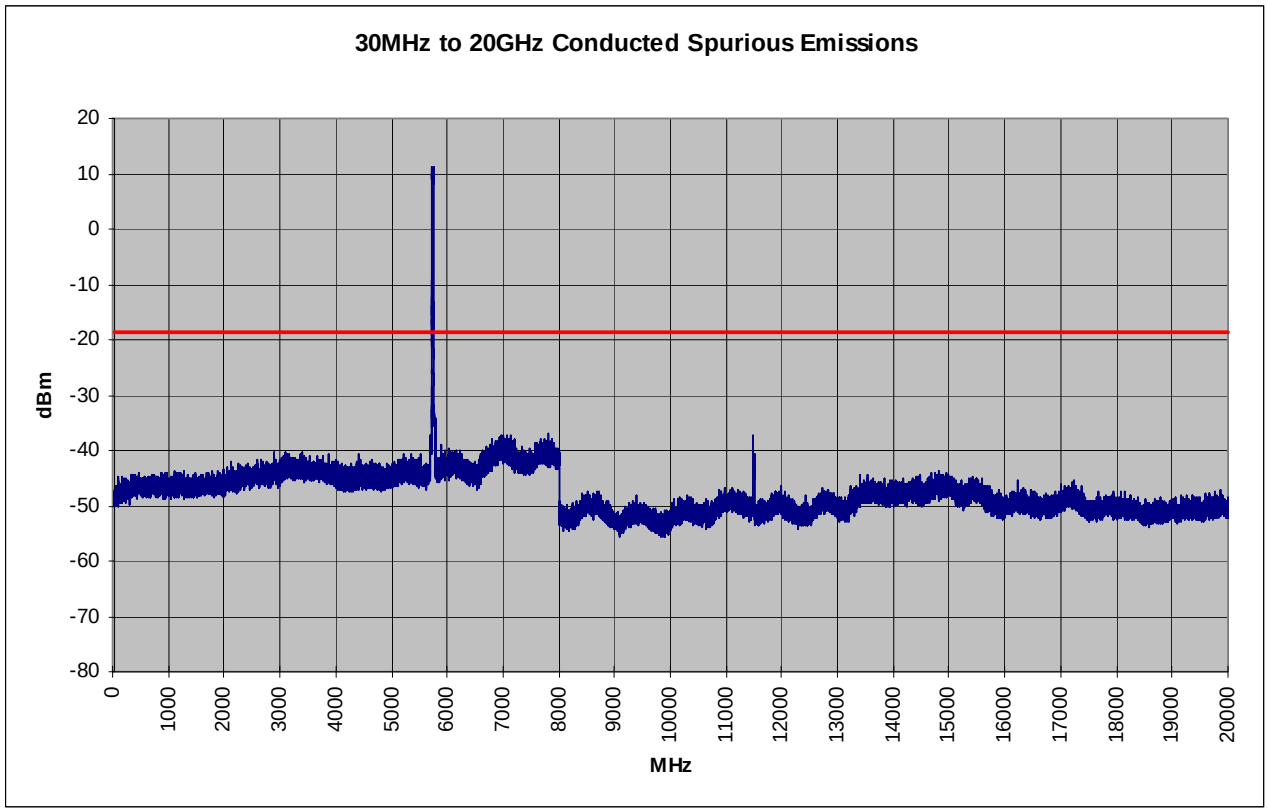
Plot 6-52. Conducted Spurious Plot (802.11b – Ch. 6)



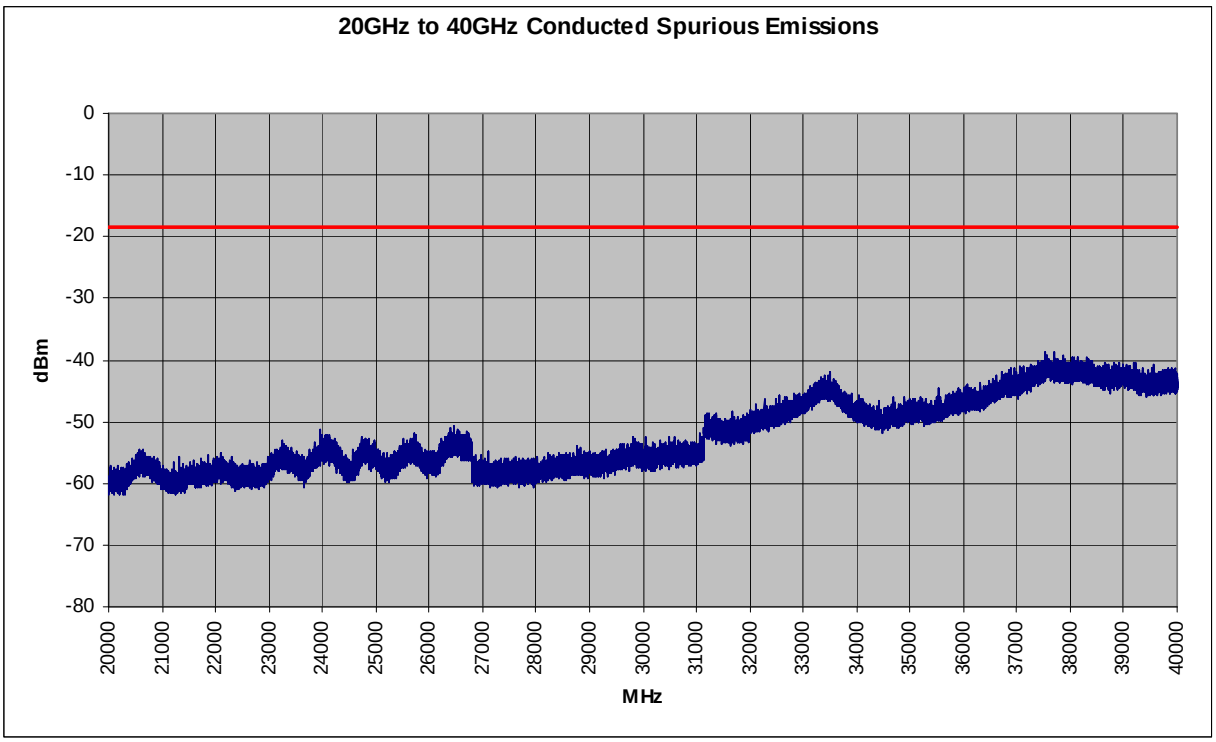
Plot 6-53. Conducted Spurious Plot (802.11b – Ch. 11)



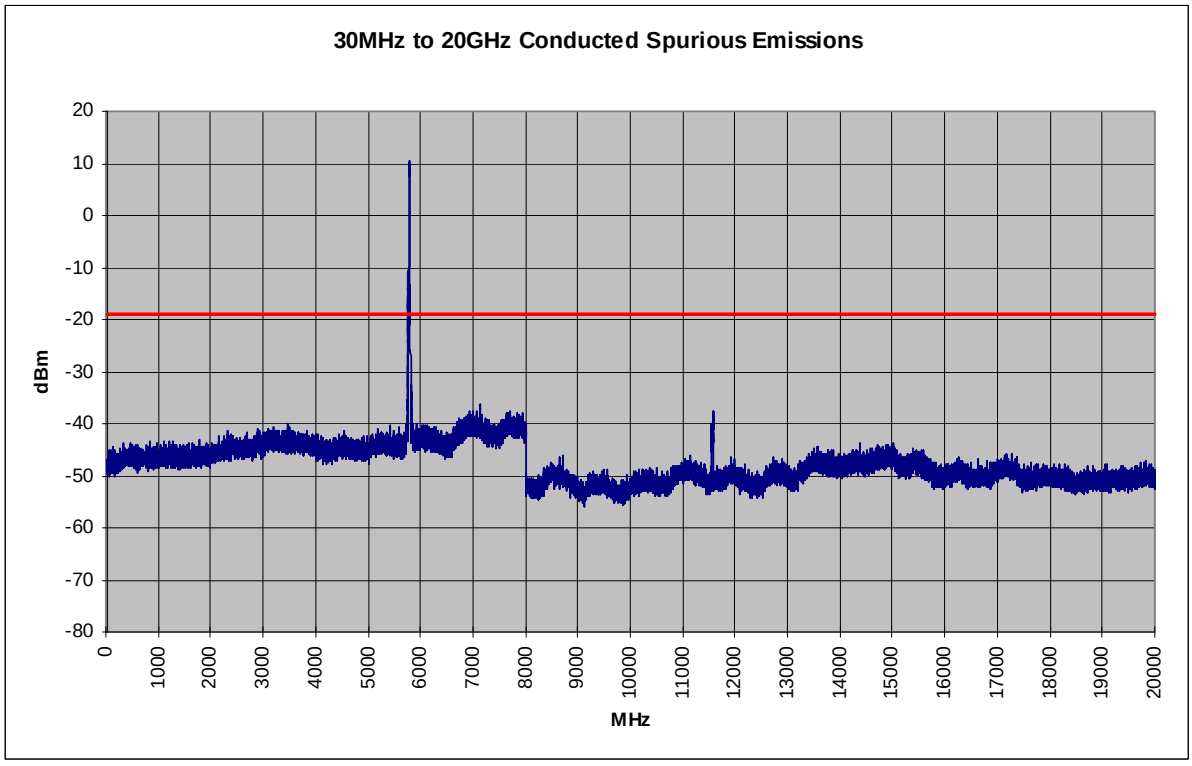
Plot 6-54. Conducted Spurious Plot (802.11b – Ch. 11)



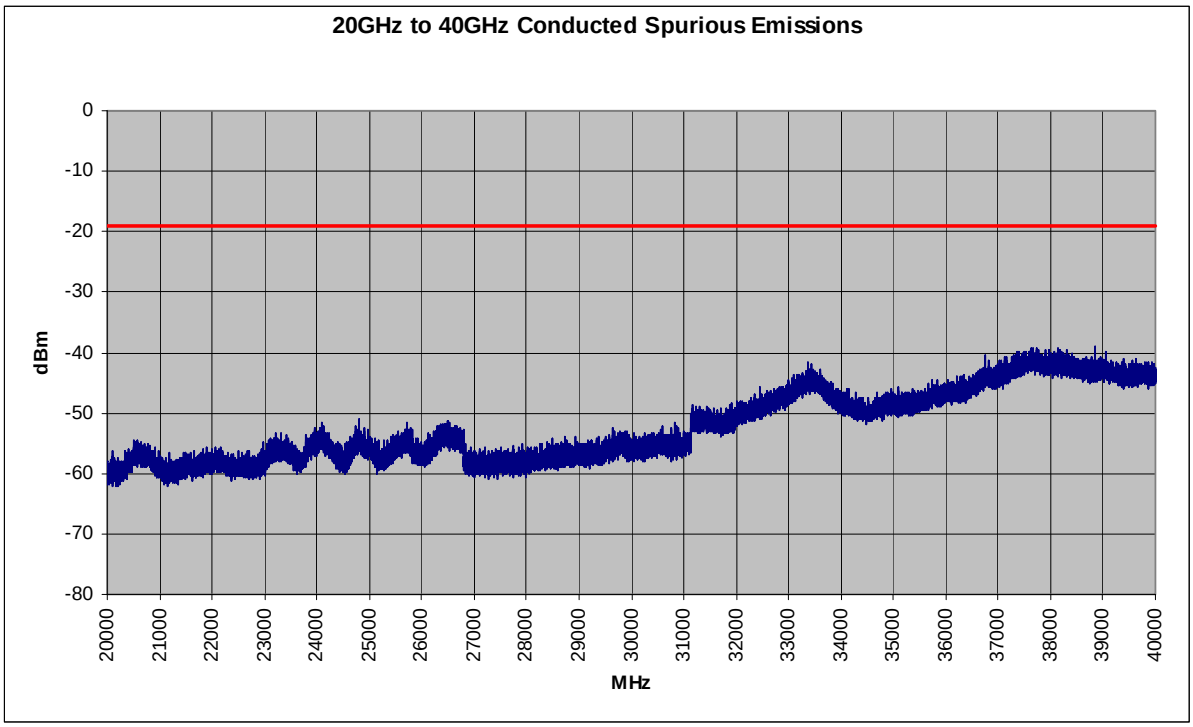
Plot 6-55. Conducted Spurious Plot (802.11a – Ch. 149)



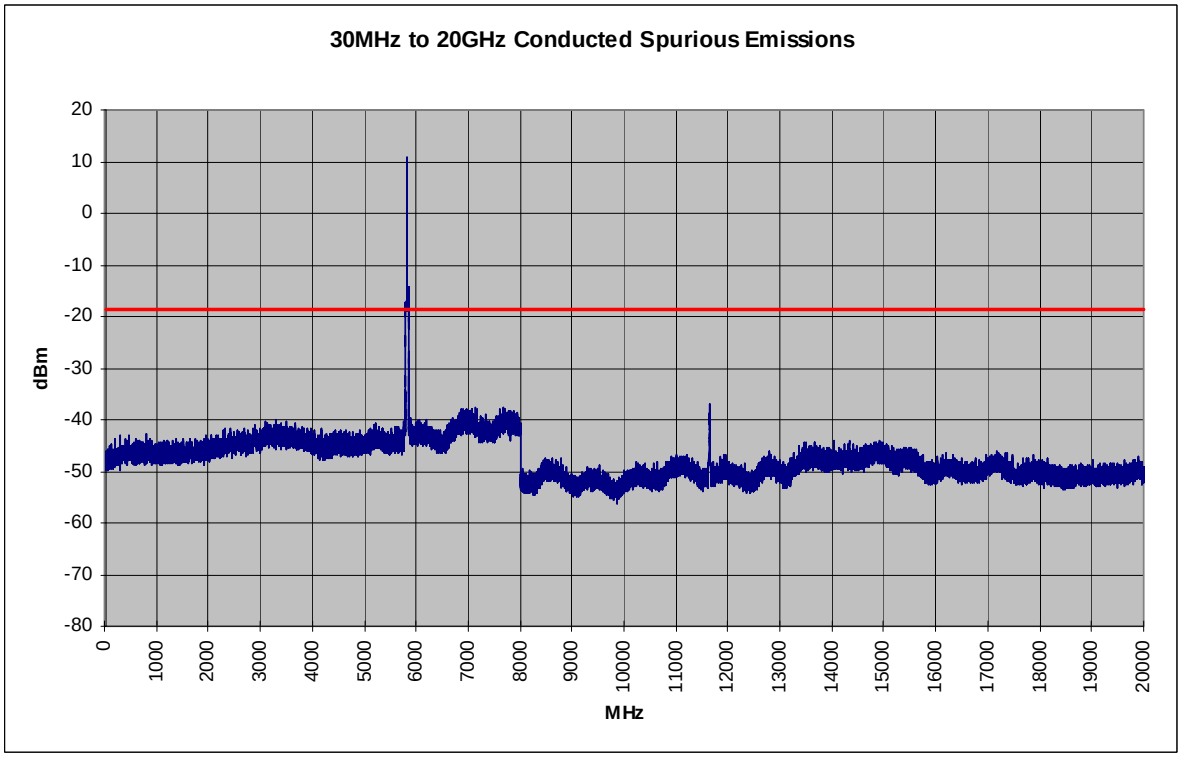
Plot 6-56. Conducted Spurious Plot (802.11a – Ch. 149)



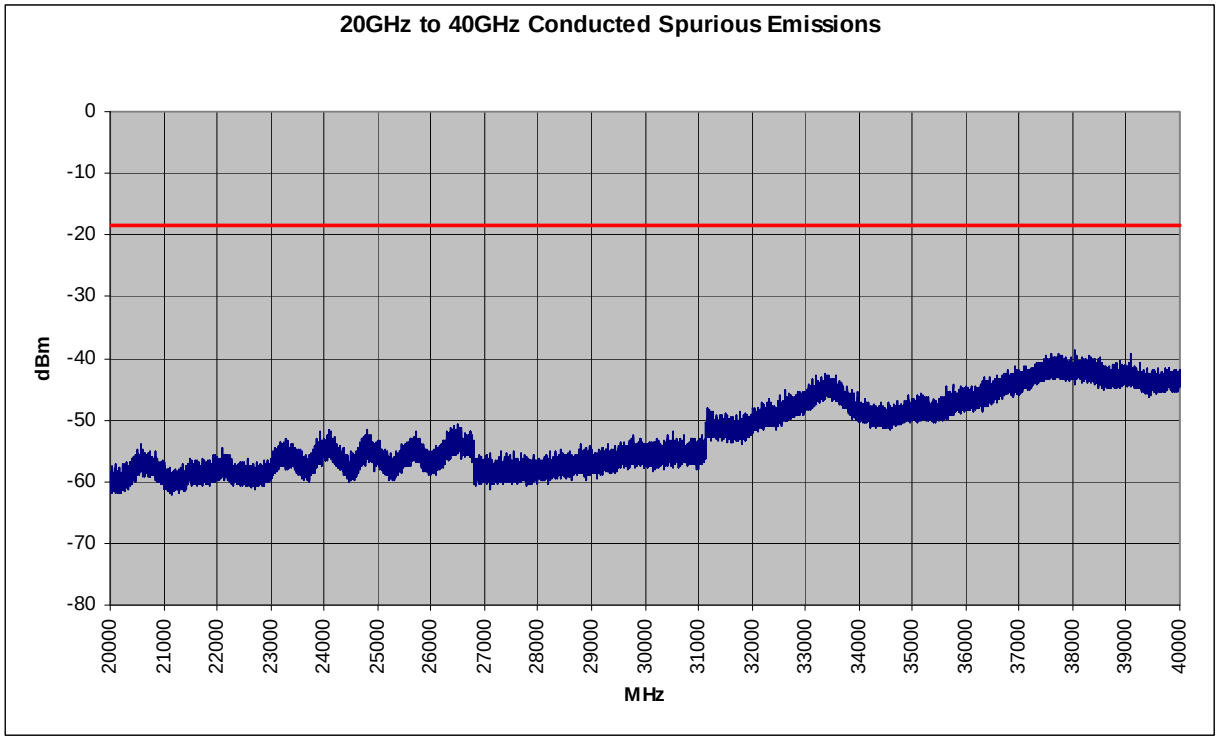
Plot 6-57. Conducted Spurious Plot (802.11a – Ch. 157)



Plot 6-58. Conducted Spurious Plot (802.11a – Ch. 157)



Plot 6-59. Conducted Spurious Plot (802.11a – Ch. 165)



Plot 6-60. Conducted Spurious Plot (802.11a – Ch. 165)

6.8 Radiated Spurious Emission Measurements

§15.247(d) / §15.205 & §15.209; RSS-210 [A8.5]

The EUT was tested from 9kHz up to the tenth harmonic of the fundamental frequency of the transmitter using CISPR quasi peak detector below 1GHz. Above 1 GHz, average and peak measurements were taken using linearly polarized horn antennas. For average measurements, measurement procedure RBAVG1 from KDB 558074 was used as follows: Span = 10 MHz, RBW = 1 MHz, VBW = 3 MHz, Detector = RMS, Sweep Points = 625, Sweep Time = 20ms. All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in Table 6-13 per Section 15.209.

All data rates and modes were investigated for radiated spurious emissions. Only the radiated emissions of the configuration that produced the worst case emissions are reported in this section. All measurements shown in this section were obtained using traditional radiated test methods. The optional test procedures for antenna port conducted measurements of unwanted emissions per the guidance of KDB 558074 were not used to evaluate this device.

Frequency	Field Strength [µV/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 6-13. Radiated Limits

Sample Calculation

- Field Strength Level $_{[dB\mu V/m]}$ = Analyzer Level $_{[dBm]}$ + 107 + AFCL $_{[dB/m]}$
- AFCL $_{[dB/m]}$ = Antenna Factor $_{[dB/m]}$ + Cable Loss $_{[dB]}$
- Margin $_{[dB]}$ = Field Strength Level $_{[dB\mu V/m]}$ – Limit $_{[dB\mu V/m]}$

Radiated Spurious Emission Measurements (Cont'd)

§15.247(d) / §15.205 & §15.209; RSS-210 [A8.5]

Worst Case Mode: 802.11b

Worst Case Transfer Rate: 1 Mbps

Distance of Measurements: 3 Meters

Operating Frequency: 2412MHz

Channel: 01

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4824.00	-105.67	Avg	H	39.22	40.55	53.98	-13.43
4824.00	-100.22	Peak	H	39.22	46.00	73.98	-27.98
12060.00	-135.00	Avg	H	49.29	21.29	53.98	-32.69
12060.00	-125.00	Peak	H	49.29	31.29	73.98	-42.69

Table 6-14. Radiated Measurements @ 3 meters

NOTES:

1. All emissions shown lie in the restricted bands specified in §15.205 are below the limit shown in Table 6-13.

2. For frequencies > 1GHz, average measurements are recorded using the RBAVG1 measurement procedure of KDB 558074. Peak measurements are recorded using RBW = 1MHz, VBW = 3MHz.

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 second 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.

Radiated Spurious Emission Measurements (Cont'd)

§15.247(d) / §15.205 & §15.209; RSS-210 [A8.5]

Worst Case Mode: 802.11b

Worst Case Transfer Rate: 1 Mbps

Distance of Measurements: 3 Meters

Operating Frequency: 2437MHz

Channel: 06

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4874.00	-106.45	Avg	H	39.27	39.82	53.98	-14.16
4874.00	-100.57	Peak	H	39.27	45.70	73.98	-28.28
7311.00	-135.00	Avg	H	42.33	14.33	53.98	-39.65
7311.00	-125.00	Peak	H	42.33	24.33	73.98	-49.65
12185.00	-135.00	Avg	H	49.68	21.68	53.98	-32.30
12185.00	-125.00	Peak	H	49.68	31.68	73.98	-42.30

Table 6-15. Radiated Measurements @ 3 meters

NOTES:

1. All emissions shown lie in the restricted bands specified in §15.205 are below the limit shown in Table 6-13.

2. For frequencies > 1GHz, average measurements are recorded using the RBAVG1 measurement procedure of KDB 558074. Peak measurements are recorded using RBW = 1MHz, VBW = 3MHz.

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 second 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.

Radiated Spurious Emission Measurements (Cont'd)

§15.247(d) / §15.205 & §15.209; RSS-210 [A8.5]

Worst Case Mode: 802.11b

Worst Case Transfer Rate: 1 Mbps

Distance of Measurements: 3 Meters

Operating Frequency: 2462MHz

Channel: 11

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4924.00	-105.85	Avg	H	39.28	40.43	53.98	-13.55
4924.00	-99.38	Peak	H	39.28	46.90	73.98	-27.08
7386.00	-135.00	Avg	H	42.44	14.44	53.98	-39.54
7386.00	-125.00	Peak	H	42.44	24.44	73.98	-49.54
12310.00	-135.00	Avg	H	50.00	22.00	53.98	-31.98
12310.00	-125.00	Peak	H	50.00	32.00	73.98	-41.98

Table 6-16. Radiated Measurements @ 3 meters

NOTES:

1. All emissions shown lie in the restricted bands specified in §15.205 are below the limit shown in Table 6-13.

2. For frequencies > 1GHz, average measurements are recorded using the RBAVG1 measurement procedure of KDB 558074. Peak measurements are recorded using RBW = 1MHz, VBW = 3MHz.

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 second 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.

Radiated Spurious Emission Measurements (Cont'd)

§15.247(d) / §15.205 & §15.209; RSS-210 [A8.5]

Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6 Mbps

Distance of Measurements: 3 Meters

Operating Frequency: 5745MHz

Channel: 149

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
11490.00	-110.95	Avg	H	47.34	43.4	53.98	-10.59
11490.00	-97.56	Peak	H	47.34	56.8	73.98	-17.20
22980.00	-135.00	Avg	H	38.97	11.0	53.98	-43.01
22980.00	-125.00	Peak	H	38.97	21.0	73.98	-53.01

Table 6-17. Radiated Measurements @ 3 meters

NOTES:

1. All emissions shown lie in the restricted bands specified in §15.205 are below the limit shown in Table 6-13.

2. For frequencies > 1GHz, average measurements are recorded using the RBAVG1 measurement procedure of KDB 558074. Peak measurements are recorded using RBW = 1MHz, VBW = 3MHz.

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 10^{th} harmonic and the worst-case emissions are reported. No significant emissions were found beyond the second 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.

Radiated Spurious Emission Measurements (Cont'd)

§15.247(d) / §15.205 & §15.209; RSS-210 [A8.5]

Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6 Mbps

Distance of Measurements: 3 Meters

Operating Frequency: 5785MHz

Channel: 157

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
11570.00	-110.07	Avg	H	47.40	44.3	53.98	-9.65
11570.00	-98.46	Peak	H	47.40	55.9	73.98	-18.04

Table 6-18. Radiated Measurements @ 3 meters

NOTES:

1. All emissions shown lie in the restricted bands specified in §15.205 are below the limit shown in Table 6-13.

2. For frequencies > 1GHz, average measurements are recorded using the RBAVG1 measurement procedure of KDB 558074. Peak measurements are recorded using RBW = 1MHz, VBW = 3MHz.

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 second 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.

Radiated Spurious Emission Measurements (Cont'd)

§15.247(d) / §15.205 & §15.209; RSS-210 [A8.5]

Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6 Mbps

Distance of Measurements: 3 Meters

Operating Frequency: 5825MHz

Channel: 165

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
11650.00	-110.39	Avg	H	47.50	44.1	53.98	-9.87
11650.00	-98.52	Peak	H	47.50	56.0	73.98	-18.00

Table 6-19. Radiated Measurements @ 3 meters

NOTES:

1. All emissions shown lie in the restricted bands specified in §15.205 are below the limit shown in Table 6-13.

2. For frequencies > 1GHz, average measurements are recorded using the RBAVG1 measurement procedure of KDB 558074. Peak measurements are recorded using RBW = 1MHz, VBW = 3MHz.

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 second 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.

6.9 Radiated Restricted Band Edge Measurements

§15.205 / §15.209; RSS-210 [A8.5]

Worst Case Mode: 802.11g

Worst Case Transfer Rate: 6Mbps

Distance of Measurements: 3 Meters

Operating Frequency: 2412MHz

Channel: 1

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
2390.00	-90.08	Avg	H	35.47	52.39	53.98	-1.59
2390.00	-76.48	Peak	H	35.47	65.99	73.98	-7.99
2387.05	-92.48	Avg	H	35.44	49.96	53.98	-4.02
2387.05	-78.19	Peak	H	35.44	64.25	73.98	-9.73
2382.01	-98.06	Avg	H	35.39	44.34	53.98	-9.64
2382.01	-81.01	Peak	H	35.39	61.39	73.98	-12.59

Table 6-20. Radiated Restricted Band Measurements at 3-meters

NOTES:

1. All emissions shown lie in the restricted bands specified in §15.205 are below the limit shown in Table 6-13.

2. For frequencies > 1GHz, average measurements are recorded using the RBAVG1 measurement procedure of KDB 558074. Peak measurements are recorded using RBW = 1MHz, VBW = 3MHz.

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

6. Above 960MHz the limit is 500 µV/m (54dBµ/m) at 3 meters radiated.

Radiated Restricted Band Edge Measurements (Cont'd)

§15.205 / §15.209; RSS-210 [A8.5]

Worst Case Mode: 802.11g

Worst Case Transfer Rate: 6Mbps

Distance of Measurements: 3 Meters

Operating Frequency: 2462MHz

Channel: 11

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
2483.50	-90.90	Avg	H	36.39	52.49	53.98	-1.49
2483.50	-78.43	Peak	H	36.39	64.96	73.98	-9.02
2484.96	-92.76	Avg	H	36.99	51.23	53.98	-2.75
2484.96	-81.56	Peak	H	36.99	62.43	73.98	-11.55
2487.55	-98.45	Avg	H	37.02	45.56	53.98	-8.42
2487.55	-85.53	Peak	H	37.02	58.48	73.98	-15.50

Table 6-21. Radiated Restricted Band Measurements at 3-meters

NOTES:

1. All emissions shown lie in the restricted bands specified in §15.205 are below the limit shown in Table 6-13.

2. For frequencies > 1GHz, average measurements are recorded using the RBAVG1 measurement procedure of KDB 558074. Peak measurements are recorded using RBW = 1MHz, VBW = 3MHz.

3. The antenna is manipulated through typical positions, polarity and length during the tests. The EUT is manipulated through three orthogonal planes.

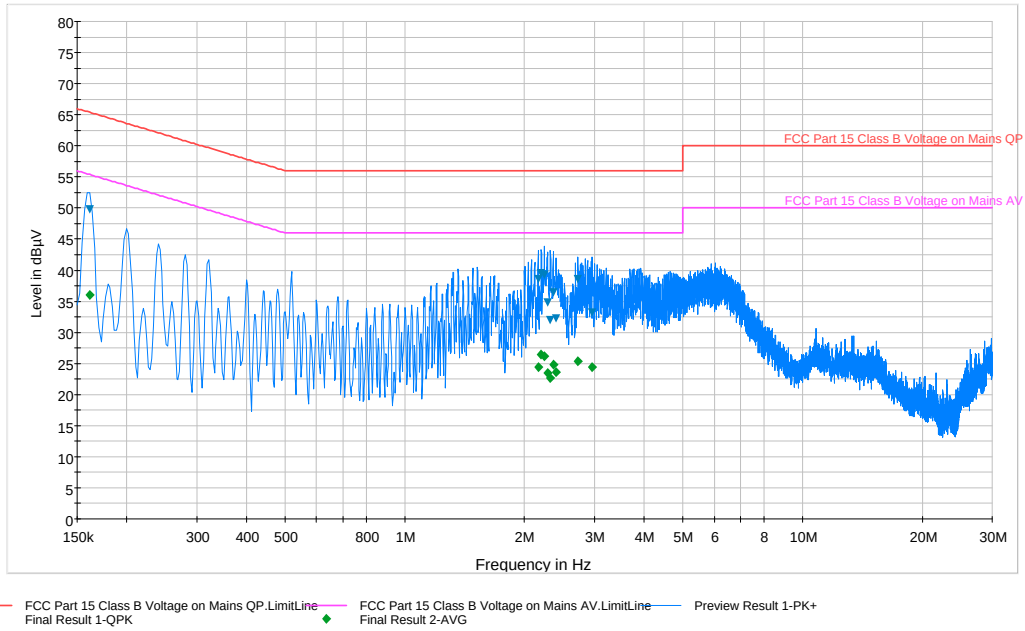
4. The EUT is supplied with nominal AC voltage and/or a new/fully-recharged battery.

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

6. Above 960MHz the limit is 500 µV/m (54dBµ/m) at 3 meters radiated.

6.10 Line-Conducted Test Data

§15.207; RSS-Gen [7.2.2]



Plot 6-61. Line Conducted Plot with 802.11b (L1)

Frequency MHz	Line	Corr. dB	QuasiPeak dBµV	Limit dBµV	Margin dB	Average dBµV	Limit dBµV	Margin dB
0.161	L1	0.2	44.40	65.40	21.00	29.40	55.40	26.00
1.118	L1	0.2	28.50	56.00	27.50	13.30	46.00	32.70
1.640	L1	0.2	28.30	56.00	27.70	16.90	46.00	29.10
1.680	L1	0.2	28.40	56.00	27.60	18.80	46.00	27.20
2.040	L1	0.2	33.00	56.00	23.00	24.30	46.00	21.70
2.078	L1	0.2	33.40	56.00	22.60	22.70	46.00	23.30
2.119	L1	0.2	32.30	56.00	23.70	21.60	46.00	24.40
2.200	L1	0.2	34.20	56.00	21.80	26.60	46.00	19.40
2.240	L1	0.2	34.10	56.00	21.90	23.40	46.00	22.60
2.279	L1	0.2	32.00	56.00	24.00	19.90	46.00	26.10

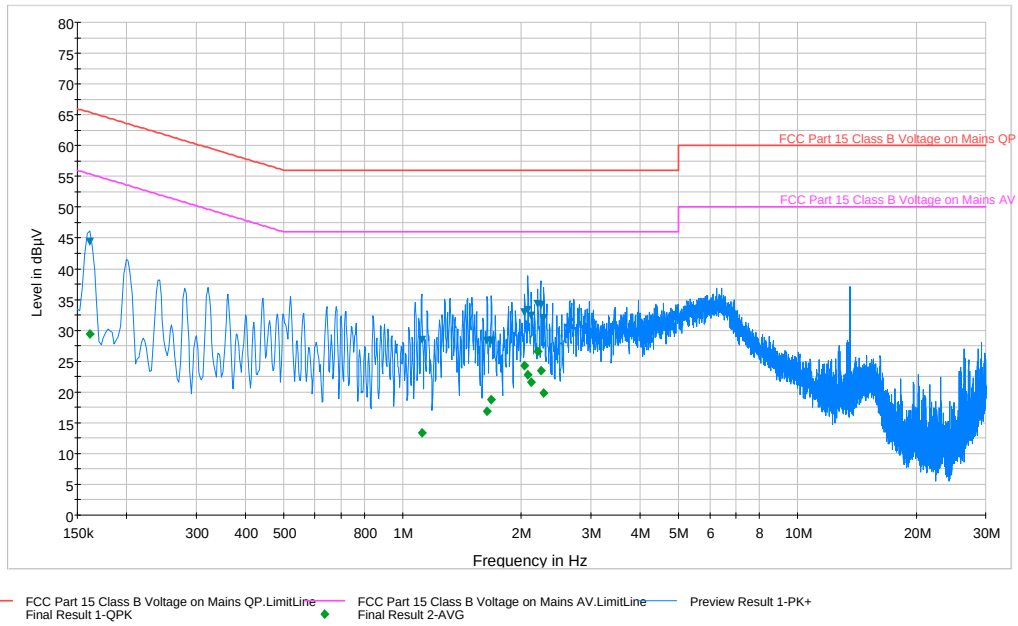
Table 6-22. Line Conducted Data with 802.11b (L1)

Notes:

1. All modes of operation, data rates, and test channels were investigated and the worst-case emissions are reported in 802.11b mode using 1Mbps on Channel 6. The emissions found were not affected by the choice of channel used during testing.
2. The limit for Class B device(s) from 150kHz to 30MHz are specified in Section 15.207 of the Title 47 CFR.
3. Factor (dB) = Cable loss (dB) + LISN insertion factor (dB)
4. QP/AV Level (dBµV) = QP/AV Analyzer/Receiver Level (dBµV) + Factor (dB)
5. Margin (dB) = QP/AV Limit (dBµV) – QP/AV Level (dBµV)
6. Traces shown in plot are made using a peak detector.
7. Deviations to the Specifications: None.

Line-Conducted Test Data (Cont'd)

§15.207; RSS-Gen [7.2.2]



Plot 6-62. Line Conducted Plot with 802.11b (N)

Frequency MHz	Line	Corr. dB	QuasiPeak dBµV	Limit dBµV	Margin dB	Average dBµV	Limit dBµV	Margin dB
0.161	N	0.2	49.80	65.40	15.60	36.00	55.40	19.40
2.166	N	0.2	38.60	56.00	17.40	24.40	46.00	21.60
2.204	N	0.2	39.50	56.00	16.50	26.50	46.00	19.50
2.243	N	0.2	39.30	56.00	16.70	26.10	46.00	19.90
2.285	N	0.2	34.80	56.00	21.20	23.50	46.00	22.50
2.326	N	0.2	31.90	56.00	24.10	22.60	46.00	23.40
2.364	N	0.2	36.50	56.00	19.50	24.80	46.00	21.20
2.402	N	0.2	32.30	56.00	23.70	23.60	46.00	22.40
2.726	N	0.2	38.50	56.00	17.50	25.40	46.00	20.60
2.963	N	0.2	33.10	56.00	22.90	24.40	46.00	21.60

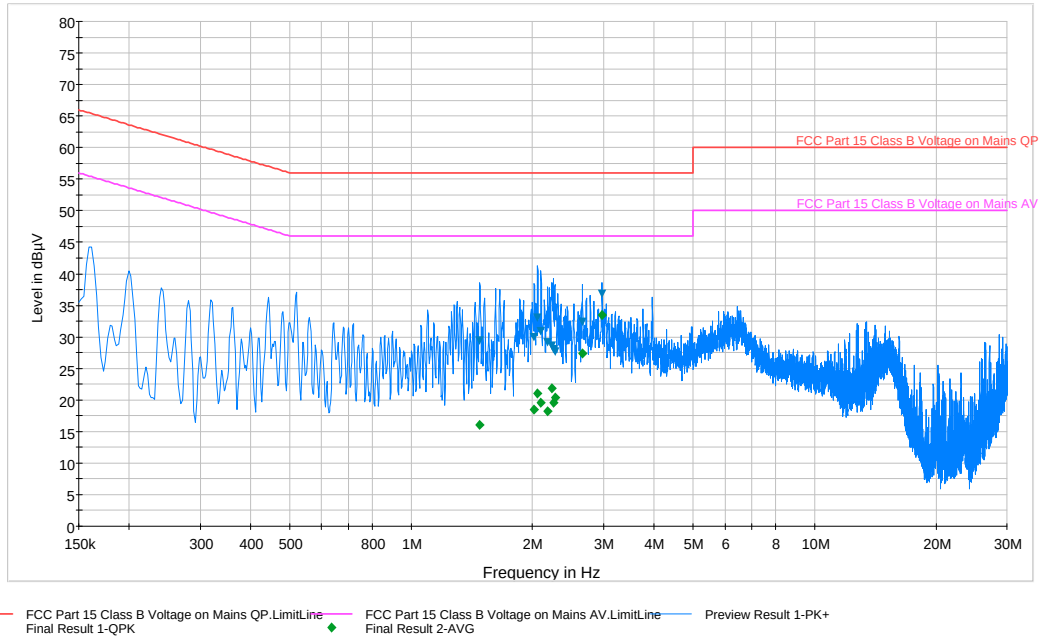
Table 6-23. Line Conducted Data with 802.11b (N)

Notes:

1. All modes of operation, data rates, and test channels were investigated and the worst-case emissions are reported in 802.11b mode using 1Mbps on Channel 6. The emissions found were not affected by the choice of channel used during testing.
2. The limit for Class B device(s) from 150kHz to 30MHz are specified in Section 15.207 of the Title 47 CFR.
3. Factor (dB) = Cable loss (dB) + LISN insertion factor (dB)
4. QP/AV Level (dBµV) = QP/AV Analyzer/Receiver Level (dBµV) + Factor (dB)
5. Margin (dB) = QP/AV Limit (dBµV) – QP/AV Level (dBµV)
6. Traces shown in plot are made using a peak detector.
7. Deviations to the Specifications: None.

Line-Conducted Test Data (Cont'd)

§15.207; RSS-Gen [7.2.2]



Plot 6-63. Line Conducted Plot with 802.11a (L1)

Frequency MHz	Line	Corr. dB	QuasiPeak dBµV	Limit dBµV	Margin dB	Average dBµV	Limit dBµV	Margin dB
1.480	L1	0.2	29.40	56.00	26.60	16.10	46.00	29.90
2.020	L1	0.2	29.90	56.00	26.10	18.40	46.00	27.60
2.060	L1	0.2	33.10	56.00	22.90	21.00	46.00	25.00
2.099	L1	0.2	30.90	56.00	25.10	19.60	46.00	26.40
2.180	L1	0.2	29.10	56.00	26.90	18.20	46.00	27.80
2.231	L1	0.2	28.60	56.00	27.40	21.80	46.00	24.20
2.252	L1	0.2	28.10	56.00	27.90	19.60	46.00	26.40
2.272	L1	0.2	27.60	56.00	28.40	20.40	46.00	25.60
2.659	L1	0.2	32.40	56.00	23.60	27.40	46.00	18.60
2.974	L1	0.2	36.80	56.00	19.20	33.40	46.00	12.60

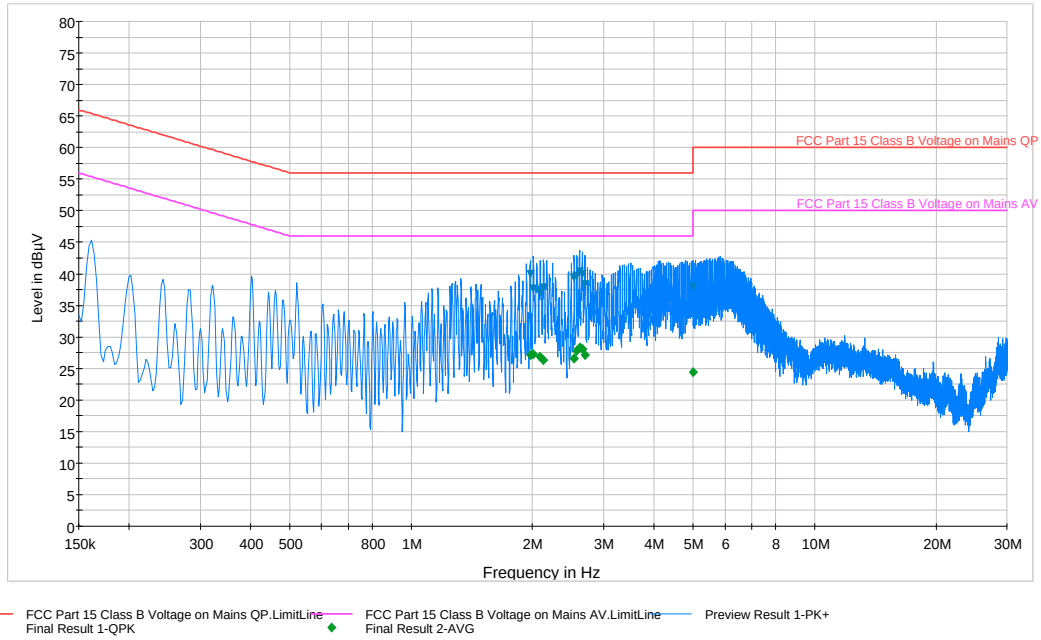
Table 6-24. Line Conducted Data with 802.11a (L1)

Notes:

1. All modes of operation, data rates, and test channels were investigated and the worst-case emissions are reported in 802.11a mode using 6Mbps on Channel 157. The emissions found were not affected by the choice of channel used during testing.
2. The limit for Class B device(s) from 150kHz to 30MHz are specified in Section 15.207 of the Title 47 CFR.
3. Factor (dB) = Cable loss (dB) + LISN insertion factor (dB)
4. QP/AV Level (dBµV) = QP/AV Analyzer/Receiver Level (dBµV) + Factor (dB)
5. Margin (dB) = QP/AV Limit (dBµV) – QP/AV Level (dBµV)
6. Traces shown in plot are made using a peak detector.
7. Deviations to the Specifications: None.

Line-Conducted Test Data (Cont'd)

§15.207; RSS-Gen [7.2.2]



Plot 6-64. Line Conducted Plot with 802.11a (N)

Frequency MHz	Line	Corr. dB	QuasiPeak dBµV	Limit dBµV	Margin dB	Average dBµV	Limit dBµV	Margin dB
1.973	N	0.2	39.90	56.00	16.10	27.10	46.00	18.90
2.009	N	0.2	37.60	56.00	18.40	27.20	46.00	18.80
2.090	N	0.2	37.00	56.00	19.00	26.90	46.00	19.10
2.130	N	0.2	37.80	56.00	18.20	26.30	46.00	19.70
2.535	N	0.2	39.40	56.00	16.60	26.60	46.00	19.40
2.576	N	0.2	39.70	56.00	16.30	27.70	46.00	18.30
2.616	N	0.2	40.30	56.00	15.70	28.30	46.00	17.70
2.657	N	0.2	40.00	56.00	16.00	28.00	46.00	18.00
2.697	N	0.2	38.30	56.00	17.70	27.10	46.00	18.90
4.990	N	0.2	37.90	56.00	18.10	24.40	46.00	21.60

Table 6-25. Line Conducted Data with 802.11a (N)

Notes:

1. All modes of operation, data rates, and test channels were investigated and the worst-case emissions are reported in 802.11a mode using 6Mbps on Channel 157. The emissions found were not affected by the choice of channel used during testing.
2. The limit for Class B device(s) from 150kHz to 30MHz are specified in Section 15.207 of the Title 47 CFR.
3. Factor (dB) = Cable loss (dB) + LISN insertion factor (dB)
4. QP/AV Level (dBµV) = QP/AV Analyzer/Receiver Level (dBµV) + Factor (dB)
5. Margin (dB) = QP/AV Limit (dBµV) – QP/AV Level (dBµV)
6. Traces shown in plot are made using a peak detector.
7. Deviations to the Specifications: None.

7.0 CONCLUSION

The data collected relate only the item(s) tested and show that the **Motorola Portable Handset FCC ID: IHDT56NS1** is in compliance with Part 15C of the FCC Rules and RSS-210 of the Industry Canada Rules.