

4. Conducted Limits - §15.207

4.1 TEST METHODOLOGY FOR CONDUCTED EMISSIONS MEASUREMENTS

The power line conducted emission measurements were performed in a Series 81 type shielded enclosure manufactured by Rayproof. The EUT was set in its own metallic frame to be placed 0.8 meters above the ground plane. Power was fed to the EUT through a 50 ohm / 50 microhenry Line Impedance Stabilization Network (EUT LISN). The EUT LISN was fed power through an A.C. filter box on the outside of the shielded enclosure. The filter box and EUT LISN housing are bonded to the ground plane of the shielded enclosure. A second LISN, the peripheral LISN, provides isolation for the EUT test peripherals. This peripheral LISN was also fed A.C. power. A metal power outlet box, which is bonded to the ground plane and electrically connected to the peripheral LISN, powers the EUT host peripherals.

The spectrum analyzer was connected to the A.C. line through an isolation transformer. The 50-ohm output of the EUT LISN was connected to the spectrum analyzer input through a Solar 400 kHz high-pass filter. The filter is used to prevent overload of the spectrum analyzer from noise below 400 kHz. Conducted emission levels were measured on each current-carrying line with the spectrum analyzer operating in the CISPR quasi-peak mode (or peak mode if applicable). The analyzer's 6 dB bandwidth was set to 9 kHz. No video filter less than 10 times the resolution bandwidth was used. Average measurements are performed in linear mode using a 10 kHz resolution bandwidth, a 1 Hz video bandwidth, and by increasing the sweep time in order to obtain a calibrated measurement. The emission spectrum was scanned from 150 kHz to 30 MHz. The highest emission amplitudes relative to the appropriate limit were measured and have been recorded in this report.

Note: Rhein Tech Laboratories, Inc. has implemented procedures to minimize errors that occur from test instruments, calibration, procedures, and test setups. Test instrument and calibration errors are documented from the manufacturer or calibration lab. Other errors have been defined and calculated within the Rhein Tech quality manual, section 6.1. Rhein Tech implements the following procedures to minimize errors that may occur: yearly as well as daily calibration methods, technician training, and emphasis to employees on avoiding error.

4.2 CONDUCTED EMISSION TEST

The initial step in collecting conducted data is a spectrum analyzer peak scan of the measurement range. If the conducted emissions exceed the limit with the instrument set to the quasi-peak mode, then measurements are made in the average mode. If the quasi-peak measurement is at least 6dB higher than the amplitude in the average mode, the level measured in the quasi-peak mode may be reduced by 13dB before comparing it to the limit.

The conducted test was performed with the EUT exercise program loaded, and the emissions were scanned between 150 kHz to 30 MHz on the NEUTRAL SIDE and PHASE SIDE. The EUT was investigated and tested in channels 1, 6, and 11 namely for worst case conducted data in both transmitting and receiving modes. Test data is provided for channel 1, 6, and 11 at 1 MBPS, 2 MBPS and 11 MBPS for WLAN 13 which represents the highest conducted power when one of the 13 WLAN circuits modulated output signals was enabled as well as when three of the highest WLAN Circuits Modulated Output Signals were on. Receiving modes were also investigated for worst case conducted emissions in the various data rate modes.

TABLE 4.2.1 CONDUCTED SPURIOUS EMISSIONS TEST EQUIPMENT

RTL ASSET #	MANUFACTURER	MODEL	PART TYPE	SERIAL NUMBER	CALIBRATION DATE
900931	Hewlett Packard	8566B	Spectrum Analyzer (100 Hz - 22 GHz)	3138A07771	07/15/2003
901084	AFJ international	LS16	16A LISN	16010020082	11/04/2003

TABLE 4-1.2: NEUTRAL SIDE TRANSMITTING ON CH 1 AT 1 MBPS RATE

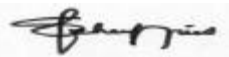
Temperature: 57°F Humidity: 87%								
Emission Frequency (MHz)	Test Detector	Analyzer Reading (dBuV)	Site Correction Factor (dB)	Emission Level (dBuV)	CISPR B QP Limit (dBuV)	CISPR B QP Margin (dBuV)	CISPR B AV Limit (dBuV)	CISPR B AV Margin (dBuV)
0.542	Pk	24.3	0.7	25	56	-31	46	-21
4.232	Pk	30.8	1.5	32.3	56	-23.7	46	-13.7
6.795	Pk	34.7	1.9	36.6	60	-23.4	50	-13.4
13.105	Pk	31.3	2.5	33.8	60	-26.2	50	-16.2
15.035	Pk	23.4	2.8	26.2	60	-33.8	50	-23.8
29.910	Pk	17.6	3.6	21.2	60	-38.8	50	-28.8

TABLE 4-2.2: PHASE SIDE TRANSMITTING ON CH 1 AT 1 MBPS RATE

Temperature: 57°F Humidity: 87%								
Emission Frequency (MHz)	Test Detector	Analyzer Reading (dBuV)	Site Correction Factor (dB)	Emission Level (dBuV)	CISPR B QP Limit (dBuV)	CISPR B QP Margin (dBuV)	CISPR B AV Limit (dBuV)	CISPR B AV Margin (dBuV)
0.541	Pk	25.7	0.7	26.4	56	-29.6	46	-19.6
3.656	Pk	28.9	1.4	30.3	56	-25.7	46	-15.7
4.520	Pk	31.3	1.6	32.9	56	-23.1	46	-13.1
6.435	Pk	35.0	1.8	36.8	60	-23.2	50	-13.2
12.535	Pk	31.4	2.5	33.9	60	-26.1	50	-16.1
15.180	Pk	23.6	2.7	26.3	60	-33.7	50	-23.7
22.210	Pk	18.2	3.2	21.4	60	-38.6	50	-28.6

TEST PERSONNEL:

Franck Schuppius
 Test Technician/Engineer


 Signature

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 Date Of Test

TABLE 4.2-4: NEUTRAL SIDE TRANSMITTING ON CH 6 AT 1 MBPS RATE

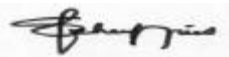
Temperature: 57°F Humidity: 87%								
Emission Frequency (MHz)	Test Detector	Analyzer Reading (dBuV)	Site Correction Factor (dB)	Emission Level (dBuV)	CISPR B QP Limit (dBuV)	CISPR B QP Margin (dBuV)	CISPR B AV Limit (dBuV)	CISPR B AV Margin (dBuV)
0.542	Pk	24.3	0.7	25	56	-31	46	-21
4.232	Pk	30.8	1.5	32.3	56	-23.7	46	-13.7
6.795	Pk	34.7	1.9	36.6	60	-23.4	50	-13.4
13.105	Pk	31.3	2.5	33.8	60	-26.2	50	-16.2
15.035	Pk	23.4	2.8	26.2	60	-33.8	50	-23.8
29.910	Pk	17.6	3.6	21.2	60	-38.8	50	-28.8

TABLE 4.2-5: PHASE SIDE TRANSMITTING ON CH 6 AT 1 MBPS RATE

Temperature: 57°F Humidity: 87%								
Emission Frequency (MHz)	Test Detector	Analyzer Reading (dBuV)	Site Correction Factor (dB)	Emission Level (dBuV)	CISPR B QP Limit (dBuV)	CISPR B QP Margin (dBuV)	CISPR B AV Limit (dBuV)	CISPR B AV Margin (dBuV)
0.541	Pk	25.7	0.7	26.4	56	-29.6	46	-19.6
3.656	Pk	28.9	1.4	30.3	56	-25.7	46	-15.7
4.520	Pk	31.3	1.6	32.9	56	-23.1	46	-13.1
6.435	Pk	35.0	1.8	36.8	60	-23.2	50	-13.2
12.535	Pk	31.4	2.5	33.9	60	-26.1	50	-16.1
15.180	Pk	23.6	2.7	26.3	60	-33.7	50	-23.7
22.210	Pk	18.2	3.2	21.4	60	-38.6	50	-28.6

TEST PERSONNEL:

Franck Schuppius
 Test Technician/Engineer


 Signature

03/18/03
 Date Of Test

TABLE 4.2-6: NEUTRAL SIDE TRANSMITTING ON CH 11 AT 1 MBPS RATE

		Temperature: 57°F			Humidity: 87%			
Emission Frequency (MHz)	Test Detector	Analyzer Reading (dBuV)	Site Correction Factor (dB)	Emission Level (dBuV)	CISPR B QP Limit (dBuV)	CISPR B QP Margin (dBuV)	CISPR B AV Limit (dBuV)	CISPR B AV Margin (dBuV)
0.542	Pk	24.3	0.7	25	56	-31	46	-21
4.232	Pk	30.8	1.5	32.3	56	-23.7	46	-13.7
6.795	Pk	34.7	1.9	36.6	60	-23.4	50	-13.4
13.105	Pk	31.3	2.5	33.8	60	-26.2	50	-16.2
15.035	Pk	23.4	2.8	26.2	60	-33.8	50	-23.8
29.910	Pk	17.6	3.6	21.2	60	-38.8	50	-28.8

TABLE 4.2-7: PHASE SIDE TRANSMITTING ON CH 11 AT 1 MBPS RATE

		Temperature: 57°F			Humidity: 87%			
Emission Frequency (MHz)	Test Detector	Analyzer Reading (dBuV)	Site Correction Factor (dB)	Emission Level (dBuV)	CISPR B QP Limit (dBuV)	CISPR B QP Margin (dBuV)	CISPR B AV Limit (dBuV)	CISPR B AV Margin (dBuV)
0.541	Pk	25.7	0.7	26.4	56	-29.6	46	-19.6
3.656	Pk	28.9	1.4	30.3	56	-25.7	46	-15.7
4.520	Pk	31.3	1.6	32.9	56	-23.1	46	-13.1
6.435	Pk	35.0	1.8	36.8	60	-23.2	50	-13.2
12.535	Pk	31.4	2.5	33.9	60	-26.1	50	-16.1
15.180	Pk	23.6	2.7	26.3	60	-33.7	50	-23.7
22.210	Pk	18.2	3.2	21.4	60	-38.6	50	-28.6

TEST PERSONNEL:

Franck Schuppius Test Technician/Engineer	 Signature	08/05/02 Date Of Test
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TABLE 4.2-8: NEUTRAL SIDE TRANSMITTING CH 1 AT 2 MBPS RATE


		Temperature: 57°F			Humidity: 87%			
Emission Frequency (MHz)	Test Detector	Analyzer Reading (dBuV)	Site Correction Factor (dB)	Emission Level (dBuV)	CISPR B QP Limit (dBuV)	CISPR B QP Margin (dBuV)	CISPR B AV Limit (dBuV)	CISPR B AV Margin (dBuV)
0.543	Pk	25.2	0.7	25.9	56	-30.1	46	-20.1
4.516	Pk	31.2	1.5	32.7	56	-23.3	46	-13.3
6.795	Pk	35.0	1.9	36.9	60	-23.1	50	-13.1
12.450	Pk	31.1	2.5	33.6	60	-26.4	50	-16.4
15.035	Pk	24.0	2.8	26.8	60	-33.2	50	-23.2
23.630	Pk	18.1	3.3	21.4	60	-38.6	50	-28.6

TABLE 4.2-9: PHASE SIDE TRANSMITTING CH 1 AT 2 MBPS RATE

		Temperature: 57°F			Humidity: 87%			
Emission Frequency (MHz)	Test Detector	Analyzer Reading (dBuV)	Site Correction Factor (dB)	Emission Level (dBuV)	CISPR B QP Limit (dBuV)	CISPR B QP Margin (dBuV)	CISPR B AV Limit (dBuV)	CISPR B AV Margin (dBuV)
0.545	Pk	26.3	0.7	27	56	-29	46	-19
4.520	Pk	31.1	1.6	32.7	56	-23.3	46	-13.3
6.510	Pk	34.8	1.9	36.7	60	-23.3	50	-13.3
12.530	Pk	31.3	2.5	33.8	60	-26.2	50	-16.2
15.185	Pk	24.3	2.7	27	60	-33	50	-23
24.260	Pk	18.2	3.3	21.5	60	-38.5	50	-28.5
24.260	Pk	18.2	3.3	27	56	-29	46	-19

TEST PERSONNEL:

Franck Schuppius
 Test Technician/Engineer



Signature

03/18/03
 Date Of Test

TABLE 4.2-10: NEUTRAL SIDE TRANSMITTING CH 6 AT 2 MBPS RATE


Temperature: 57°F Humidity: 87%								
Emission Frequency (MHz)	Test Detector	Analyzer Reading (dBuV)	Site Correction Factor (dB)	Emission Level (dBuV)	CISPR B QP Limit (dBuV)	CISPR B QP Margin (dBuV)	CISPR B AV Limit (dBuV)	CISPR B AV Margin (dBuV)
0.543	Pk	25.2	0.7	25.9	56	-30.1	46	-20.1
4.516	Pk	31.2	1.5	32.7	56	-23.3	46	-13.3
6.795	Pk	35.0	1.9	36.9	60	-23.1	50	-13.1
12.450	Pk	31.1	2.5	33.6	60	-26.4	50	-16.4
15.035	Pk	24.0	2.8	26.8	60	-33.2	50	-23.2
23.630	Pk	18.1	3.3	21.4	60	-38.6	50	-28.6

TABLE 4.2-11: PHASE SIDETRANSMITTING CH 6 AT 2 MBPS RATE

Temperature: 57°F Humidity: 87%								
Emission Frequency (MHz)	Test Detector	Analyzer Reading (dBuV)	Site Correction Factor (dB)	Emission Level (dBuV)	CISPR B QP Limit (dBuV)	CISPR B QP Margin (dBuV)	CISPR B AV Limit (dBuV)	CISPR B AV Margin (dBuV)
0.545	Pk	26.3	0.7	27	56	-29	46	-19
4.520	Pk	31.1	1.6	32.7	56	-23.3	46	-13.3
6.510	Pk	34.8	1.9	36.7	60	-23.3	50	-13.3
12.530	Pk	31.3	2.5	33.8	60	-26.2	50	-16.2
15.185	Pk	24.3	2.7	27	60	-33	50	-23
24.260	Pk	18.2	3.3	21.5	60	-38.5	50	-28.5
24.260	Pk	18.2	3.3	27	56	-29	46	-19

TEST PERSONNEL:

Franck Schuppius
 Test Technician/Engineer


 Signature

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 Date Of Test

TABLE 4.2-12: NEUTRAL SIDE TRANSMITTING CH 11 AT 2 MBPS RATE

Temperature: 57°F Humidity: 87%								
Emission Frequency (MHz)	Test Detector	Analyzer Reading (dBuV)	Site Correction Factor (dB)	Emission Level (dBuV)	CISPR B QP Limit (dBuV)	CISPR B QP Margin (dBuV)	CISPR B AV Limit (dBuV)	CISPR B AV Margin (dBuV)
0.543	Pk	25.2	0.7	25.9	56	-30.1	46	-20.1
4.516	Pk	31.2	1.5	32.7	56	-23.3	46	-13.3
6.795	Pk	35.0	1.9	36.9	60	-23.1	50	-13.1
12.450	Pk	31.1	2.5	33.6	60	-26.4	50	-16.4
15.035	Pk	24.0	2.8	26.8	60	-33.2	50	-23.2
23.630	Pk	18.1	3.3	21.4	60	-38.6	50	-28.6

TABLE 4.2-13: PHASE SIDE TRANSMITTING CH 11 AT 2 MBPS RATE

Temperature: 57°F Humidity: 87%								
Emission Frequency (MHz)	Test Detector	Analyzer Reading (dBuV)	Site Correction Factor (dB)	Emission Level (dBuV)	CISPR B QP Limit (dBuV)	CISPR B QP Margin (dBuV)	CISPR B AV Limit (dBuV)	CISPR B AV Margin (dBuV)
0.545	Pk	26.3	0.7	27	56	-29	46	-19
4.520	Pk	31.1	1.6	32.7	56	-23.3	46	-13.3
6.510	Pk	34.8	1.9	36.7	60	-23.3	50	-13.3
12.530	Pk	31.3	2.5	33.8	60	-26.2	50	-16.2
15.185	Pk	24.3	2.7	27	60	-33	50	-23
24.260	Pk	18.2	3.3	21.5	60	-38.5	50	-28.5
24.260	Pk	18.2	3.3	27	56	-29	46	-19

TEST PERSONNEL:

Franck Schuppius
 Test Technician/Engineer



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 Date Of Test

TABLE 4.2-14: NEUTRAL SIDE TRANSMITTING CH 1 AT 11 MBPS RATE

		Temperature: 57°F			Humidity: 87%			
Emission Frequency (MHz)	Test Detector	Analyzer Reading (dBuV)	Site Correction Factor (dB)	Emission Level (dBuV)	CISPR B QP Limit (dBuV)	CISPR B QP Margin (dBuV)	CISPR B AV Limit (dBuV)	CISPR B AV Margin (dBuV)
0.541	Pk	26.0	0.7	26.7	56	-29.3	46	-19.3
4.880	Pk	30.9	1.6	32.5	56	-23.5	46	-13.5
6.795	Pk	35.0	1.9	36.9	60	-23.1	50	-13.1
12.670	Pk	31.6	2.5	34.1	60	-25.9	50	-15.9
15.035	Pk	23.4	2.8	26.2	60	-33.8	50	-23.8
24.210	Pk	17.4	3.3	20.7	60	-39.3	50	-29.3

TABLE 4.2-15: PHASE SIDE TRANSMITTING CH 1 AT 11 MBPS RATE

		Temperature: 57°F			Humidity: 87%			
Emission Frequency (MHz)	Test Detector	Analyzer Reading (dBuV)	Site Correction Factor (dB)	Emission Level (dBuV)	CISPR B QP Limit (dBuV)	CISPR B QP Margin (dBuV)	CISPR B AV Limit (dBuV)	CISPR B AV Margin (dBuV)
0.544	Pk	25.3	0.7	26	56	-30	46	-20
4.448	Pk	31.2	1.5	32.7	56	-23.3	46	-13.3
6.435	Pk	35.2	1.8	37	56	-19	50	-13
12.670	Pk	31.6	2.5	34.1	60	-25.9	50	-15.9
15.185	Pk	24.5	2.7	27.2	60	-32.8	50	-22.8
23.155	Pk	18.7	3.3	22	60	-38	50	-28
27.360	Pk	18.2	3.5	21.7	60	-38.3	50	-28.3

TEST PERSONNEL:

Franck Schuppius
 Test Technician/Engineer



Signature

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 Date Of Test

TABLE 4.2-16: NEUTRAL SIDE TRANSMITTING CH 6 AT 11 MBPS RATE

Temperature: 57°F Humidity: 87%								
Emission Frequency (MHz)	Test Detector	Analyzer Reading (dBuV)	Site Correction Factor (dB)	Emission Level (dBuV)	CISPR B QP Limit (dBuV)	CISPR B QP Margin (dBuV)	CISPR B AV Limit (dBuV)	CISPR B AV Margin (dBuV)
0.541	Pk	26.0	0.7	26.7	56	-29.3	46	-19.3
4.880	Pk	30.9	1.6	32.5	56	-23.5	46	-13.5
6.795	Pk	35.0	1.9	36.9	60	-23.1	50	-13.1
12.670	Pk	31.6	2.5	34.1	60	-25.9	50	-15.9
15.035	Pk	23.4	2.8	26.2	60	-33.8	50	-23.8
24.210	Pk	17.4	3.3	20.7	60	-39.3	50	-29.3

TABLE 4.2-17: PHASE SIDE TRANSMITTING CH 6 AT 11 MBPS RATE

Temperature: 57°F Humidity: 87%								
Emission Frequency (MHz)	Test Detector	Analyzer Reading (dBuV)	Site Correction Factor (dB)	Emission Level (dBuV)	CISPR B QP Limit (dBuV)	CISPR B QP Margin (dBuV)	CISPR B AV Limit (dBuV)	CISPR B AV Margin (dBuV)
0.544	Pk	25.3	0.7	26	56	-30	46	-20
4.448	Pk	31.2	1.5	32.7	56	-23.3	46	-13.3
6.435	Pk	35.2	1.8	37	56	-19	50	-13
12.670	Pk	31.6	2.5	34.1	60	-25.9	50	-15.9
15.185	Pk	24.5	2.7	27.2	60	-32.8	50	-22.8
23.155	Pk	18.7	3.3	22	60	-38	50	-28
27.360	Pk	18.2	3.5	21.7	60	-38.3	50	-28.3

TEST PERSONNEL:

Franck Schuppius
 Test Technician/Engineer



Signature

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 Date Of Test

TABLE 4.2-18: NEUTRAL SIDE TRANSMITTING CH 1 1 AT 11 MBPS RATE


Temperature: 57°F Humidity: 87%								
Emission Frequency (MHz)	Test Detector	Analyzer Reading (dBuV)	Site Correction Factor (dB)	Emission Level (dBuV)	CISPR B QP Limit (dBuV)	CISPR B QP Margin (dBuV)	CISPR B AV Limit (dBuV)	CISPR B AV Margin (dBuV)
0.541	Pk	26.0	0.7	26.7	56	-29.3	46	-19.3
4.880	Pk	30.9	1.6	32.5	56	-23.5	46	-13.5
6.795	Pk	35.0	1.9	36.9	60	-23.1	50	-13.1
12.670	Pk	31.6	2.5	34.1	60	-25.9	50	-15.9
15.035	Pk	23.4	2.8	26.2	60	-33.8	50	-23.8
24.210	Pk	17.4	3.3	20.7	60	-39.3	50	-29.3

TABLE 4.2-19: PHASE SIDE TRANSMITTING CH 11 AT 11 MBPS RATE

Temperature: 57°F Humidity: 87%								
Emission Frequency (MHz)	Test Detector	Analyzer Reading (dBuV)	Site Correction Factor (dB)	Emission Level (dBuV)	CISPR B QP Limit (dBuV)	CISPR B QP Margin (dBuV)	CISPR B AV Limit (dBuV)	CISPR B AV Margin (dBuV)
0.544	Pk	25.3	0.7	26	56	-30	46	-20
4.448	Pk	31.2	1.5	32.7	56	-23.3	46	-13.3
6.435	Pk	35.2	1.8	37	56	-19	50	-13
12.670	Pk	31.6	2.5	34.1	60	-25.9	50	-15.9
15.185	Pk	24.5	2.7	27.2	60	-32.8	50	-22.8
23.155	Pk	18.7	3.3	22	60	-38	50	-28
27.360	Pk	18.2	3.5	21.7	60	-38.3	50	-28.3

TEST PERSONNEL:

Franck Schuppius
 Test Technician/Engineer



Signature

03/18/03
 Date Of Test

TABLE 4.2-20: NEUTRAL SIDE RECEIVING CH 6 AT 11 MBPS RATE

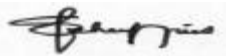
Temperature: 57°F Humidity: 87%								
Emission Frequency (MHz)	Test Detector	Analyzer Reading (dBuV)	Site Correction Factor (dB)	Emission Level (dBuV)	CISPR B QP Limit (dBuV)	CISPR B QP Margin (dBuV)	CISPR B AV Limit (dBuV)	CISPR B AV Margin (dBuV)
0.545	Pk	26.6	0.7	27.3	56	-28.7	46	-18.7
4.448	Pk	30.9	1.5	32.4	56	-23.6	46	-13.6
6.515	Pk	34.8	1.8	36.6	60	-23.4	50	-13.4
12.825	Pk	31.3	2.5	33.8	60	-26.2	50	-16.2
17.825	Pk	31.3	2.9	34.2	60	-25.8	50	-15.8
29.040	Pk	18.0	3.6	21.6	60	-38.4	50	-28.4

TABLE 4.2-21: PHASE SIDE RECEIVING CH 6 AT 11 MBPS RATE

Temperature: 57°F Humidity: 87%								
Emission Frequency (MHz)	Test Detector	Analyzer Reading (dBuV)	Site Correction Factor (dB)	Emission Level (dBuV)	CISPR B QP Limit (dBuV)	CISPR B QP Margin (dBuV)	CISPR B AV Limit (dBuV)	CISPR B AV Margin (dBuV)
0.544	Pk	26.1	0.7	26.8	56	-29.2	46	-19.2
4.884	Pk	30.9	1.7	32.6	56	-23.4	46	-13.4
6.870	Pk	34.9	1.9	36.8	60	-23.2	50	-13.2
12.460	Pk	31.0	2.5	33.5	60	-26.5	50	-16.5
15.190	Pk	23.6	2.7	26.3	60	-33.7	50	-23.7
28.340	Pk	18.5	3.5	22	60	-38	50	-28

TEST PERSONNEL:

Franck Schuppius
 Test Technician/Engineer



Signature

03/18/03
 Date Of Test

5. Radiated Emission Limits receiver/digital interface - §15.209

5.1. RADIATED EMISSION LIMITS TEST PROCEDURE

Radiated Spurious Emissions applies to harmonics and spurious emissions from oscillators, LO's, and IF's that fall in the restricted and non-restricted bands. The restricted bands are listed in Part 15.205. The maximum permitted average field strength for the restricted band is listed in Part 15.209. The oscillators, IF, LO and up to the 2nd LO were investigated and tested in all steering modes and data rates for channels 1, 6, and 11 at more than 98 percent duty cycle while the EUT was configured in the receiving/digital mode. The -50 degree and +50 degree steering mode including 1 MBPS and 2 MBPS data rates were tested and investigated between 30 MHz and 1 GHz. The worst -case test results for channels 1, 6, and 11 with all the WLAN circuits in receiving mode on are presented in the table below.


5.2. RADIATED EMISSION LIMITS TEST DATA DIGITAL NOISE

TABLE 5.2-1: RADIATED EMISSIONS LIMITS TEST DATA DIGITAL NOISE

Temperature: 69°F Humidity: 47%									
Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Reading (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
50.000	Qp	V	325	1.0	46.0	-17.0	29.0	40.0	-11.0
75.010	Qp	V	0	1.0	46.5	-21.9	24.6	40.0	-15.4
132.000	Qp	V	45	1.0	44.6	-18.1	26.5	43.5	-17.0
150.000	Qp	V	225	1.0	48.2	-20.6	27.6	43.5	-15.9
198.000	Qp	V	0	1.0	43.9	-19.1	24.8	43.5	-18.7
200.000	Qp	H	145	2.6	51.3	-18.5	32.8	43.5	-10.7
249.992	Qp	V	225	1.0	42.9	-16.4	26.5	46.0	-19.5
263.988	Qp	V	45	1.0	43.8	-15.9	27.9	46.0	-18.1
297.000	Qp	V	145	1.0	45.3	-15.7	29.6	46.0	-16.4
330.000	Qp	H	145	1.6	55.7	-14.0	41.7	46.0	-4.3
362.988	Qp	H	45	1.0	46.1	-13.2	32.9	46.0	-13.1
374.000	Qp	V	0	1.0	36.7	-12.9	23.8	46.0	-22.2
396.000	Qp	H	45	1.0	50.9	-12.4	38.5	46.0	-7.5
400.010	Qp	H	0	2.0	42.9	-12.1	30.8	46.0	-15.2
428.988	Qp	V	0	1.0	38.4	-12.1	26.3	46.0	-19.7
499.978	Qp	V	145	1.0	41.3	-10.6	30.7	46.0	-15.3
626.958	Qp	V	145	1.0	36.7	-8.4	28.3	46.0	-17.7
748.000	Qp	V	145	1.0	34.7	-6.3	28.4	46.0	-17.6

TEST PERSONNEL:

Franck Schuppis
 Test Technician/Engineer


 Signature

03/18/03
 Date Of Test

5.3. RADIATED EMISSION LIMITS TEST DATA RX MODE CH 1

TABLE 5.3-1: RADIATED EMISSIONS TEST DATA RX MODE CH 1

Temperature: 69°F Humidity: 47%									
Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Reading (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1290	Av	V	180	1	35.7	0.0	35.7	54	-18.3
1664	Av	V	145	1	31.1	3.3	34.4	54	-19.6
2580	Av	V	180	1	29.6	11.4	41.0	54	-13.0
3328	Av	V	190	1	31.8	8.6	40.4	54	-13.6
3870	Av	V	145	1	30.4	8.5	38.9	54	-15.1
4992	Av	V	180	1	29.8	14.3	44.1	54	-9.9
5160	Av	V	145	1	30.7	13.6	44.3	54	-9.7
6450	Av	V	175	1	29.5	12.5	42.0	54	-12.0

5.4. RADIATED EMISSION LIMITS TEST DATA RX MODE CH 6

TABLE 5.4-1: RADIATED EMISSION LIMITS TEST DATA RX MODE CH 6

Temperature: 69°F Humidity: 47%									
Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Reading (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1350	Av	V	175	1	36.4	1.0	37.4	54	-16.6
1689	Av	V	145	1	31.6	4.2	35.8	54	-18.2
2630	Av	V	180	1	29.5	11.0	42.4	54	-11.6
3378	Av	V	190	1	31.5	8.8	41.2	54	-12.8
3945	Av	V	145	1	30.8	8.3	41.4	54	-12.6
5067	Av	V	180	1	30.1	13.8	45.9	54	-8.1
5260	Av	V	145	1	28.1	13.8	44.6	54	-9.4
6575	Av	V	175	1	31.5	12.8	46.7	54	-7.3

TEST PERSONNEL:

Franck Schuppious
 Test Technician/Engineer


 Signature

03/18/03
 Date Of Test

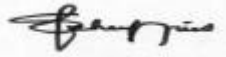
5.5. RADIATED EMISSION LIMITS TEST DATA RX MODE CH 11

TABLE 5.5-1: RADIATED EMISSION LIMITS TEST DATA RX MODE CH 11

Temperature: 69°F Humidity: 47%									
Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Reading (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1340	Av	V	180	1	36.3	0.9	37.2	54	-16.8
1714	Av	V	180	1	32.3	4.5	36.8	54	-17.2
2680	Av	V	145	1	31.4	10.8	42.2	54	-11.8
3428	Av	V	190	1	32.4	9.1	41.5	54	-12.5
4020	Av	V	95	1	33.1	14.6	47.7	54	-6.3
5142	Av	V	180	1	32.1	13.6	45.7	54	-8.3
5360	Av	V	145	1	30.8	13.3	44.1	54	-9.9
5856	Av	V	180	1	33.9	13.3	47.2	54	-6.8

TEST PERSONNEL:

Franck Schuppius
 Test Technician/Engineer


 Signature

03/18/03
 Date Of Test

6. Radiated Emission Limits radiated harmonics - §15.247

6.1. RADIATED EMISSION LIMITS TEST PROCEDURE

Radiated Spurious Emissions applies to harmonics and spurious emissions that fall in the restricted and non-restricted bands. The restricted bands are listed in Part 15.205. The maximum permitted average field strength for the restricted band is listed in Part 15.209.

The EUT was tested in its typical configuration in the Y-Z plane from 10 kHz to the 10th harmonic of the carrier on the following the worst-case configuration. The test result tables below that follows represents the worst-case configurations.

Highest, Medium, and Lowest WLAN Circuit Modulated Output Signal:

WLAN 13 on Channels 1, 6 and 11 for the modulation rates 1, 2 and 11 Mbps
WLAN 4 on Channels 1, 6 and 11 for the modulation rates 1, 2 and 11 Mbps
WLAN 8 on Channels 1, 6 and 11 for the modulation rates 1, 2 and 11 Mbps

The following worst cases, those with the highest power output, were also tested:

Three Simultaneous Highest Power WLAN Circuits Modulated Output Signal:

WLAN 13 on Channel 1, WLAN 1 on Channel 6, and WLAN 6 on Channel 11 for modulation rates 1, 2 and 11 Mbps
WLAN 1 on Channel 1, WLAN 13 on Channel 6, and WLAN 6 on Channel 11 for modulation rates 1, 2 and 11 Mbps
WLAN 6 on Channel 1, WLAN 13 on Channel 6, and WLAN 1 on Channel 11 for modulation rates 1, 2 and 11 Mbps

6.2. RADIATED EMISSION LIMITS TEST DATA FOR WLAN 13

Operating Frequency (MHz): 2412
 WLAN On: 13
 Channel: 1
 Data Rate (Mbps): 1

TABLE 6.2-1: HARMONICS/SPURIOUS (WLAN 13 CHANNEL 1) 1 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4823.99	Av	H	20	1.3	38.5	14.2	52.7	54
4823.95	Pk	H	20	1.3	43.8	14.2	58.0	
7235.99	Av	H	20	1.3	28.3	12.9	41.2	54
7235.96	Pk	H	20	1.2	37.8	12.9	50.7	
9647.93	Av	H	20	1.2	33.9	16.9	50.8	54
9647.88	Pk	H	20	1.2	44.6	16.9	61.5	

PEAK: RES. =1 MHz, VID= 1MHz; AVERAGE: RES. =1 MHz, VID= 10Hz; <20dB= 20dB BELOW THE LIMIT

Operating Frequency (MHz): 2412
 WLAN On: 13
 Channel: 1
 Data Rate (Mbps): 2

TABLE 6.2-2: HARMONICS/SPURIOUS (WLAN 13 CHANNEL 1) 2 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4823.97	Av	H	20	1.3	36.5	14.2	50.7	54
4823.96	Pk	H	20	1.3	43.9	14.2	58.1	
7235.98	Av	H	20	1.3	27.7	12.9	40.6	54
7235.95	Pk	H	20	1.2	38.5	12.9	51.4	
9647.95	Av	H	20	1.2	33.7	16.9	50.6	54
9647.90	Pk	H	20	1.2	44.8	16.9	61.7	

AVERAGE: RES. =1 MHz, VID= 10Hz; <20dB= 20dB BELOW THE LIMIT

TEST PERSONNEL:

Rachid Sehb
 Test Technician/Engineer


 Signature

03/19/2003
 Date Of Test


Operating Frequency (MHz): 2412
WLAN On: 13
Channel: 1
Data Rate (Mbps): 11

TABLE 6.2-3: HARMONICS/SPURIOUS (WLAN 13 CHANNEL 1) 11 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4823.99	Av	H	20	1.3	29.4	14.2	43.6	54
4823.96	Pk	H	20	1.3	39.8	14.2	54.0	
7235.99	Av	H	20	1.3	28	12.9	40.9	54
7235.97	Pk	H	20	1.2	37.8	12.9	50.7	
9647.99	Av	H	20	1.2	33.7	16.9	50.6	54
9647.95	Pk	H	20	1.2	44.9	16.9	61.8	

AVERAGE: RES. =1 MHz, VID= 10Hz; NF = NOISE FLOOR; <20dB= 20dB BELOW THE LIMIT

TEST PERSONNEL:

Rachid Sehb		03/19/2003
Test Technician/Engineer	Signature	Date Of Test

Operating Frequency (MHz): 2437
WLAN On: 13
Channel: 6
Data Rate (Mbps): 1

TABLE 6.2-4: HARMONICS/SPURIOUS (WLAN 13 CHANNEL 6) 1 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4874.00	Av	H	20	1.3	31.5	14.2	45.70	54
4874.00	Pk	H	20	1.3	40.2	14.2	54.40	
7310.95	Av	H	20	1.3	28.4	12.9	41.30	54
7310.85	Pk	H	20	1.2	37.3	12.9	50.20	
9747.86	Av	H	20	1.2	34.3	16.9	51.20	54
9747.90	Pk	H	20	1.2	43.9	16.9	60.80	

PEAK: RES. =1 MHz, VID= 1MHz; AVERAGE: RES. =1 MHz, VID= 10Hz; <20dB= 20dB BELOW THE LIMIT

Operating Frequency (MHz): 2437
WLAN On: 13
Channel: 6
Data Rate (Mbps): 2


TABLE 6.2-5: HARMONICS/SPURIOUS (WLAN 13 CHANNEL 6) 2 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4873.95	Av	H	20	1.3	30.8	14.2	45.0	54
4873.98	Pk	H	20	1.3	40.1	14.2	54.3	
7311.01	Av	H	20	1.3	28	12.9	40.9	54
7310.94	Pk	H	20	1.2	37.3	12.9	50.2	
9747.90	Av	H	20	1.2	34.4	16.9	51.3	54
9747.95	Pk	H	20	1.2	43.9	16.9	60.8	

AVERAGE: RES. =1 MHz, VID= 10Hz; <20dB= 20dB BELOW THE LIMIT

TEST PERSONNEL:

Rachid Sehb
 Test Technician/Engineer


 Signature

03/19/2003
 Date Of Test


Operating Frequency (MHz): 2437
WLAN On: 13
Channel: 6
Data Rate (Mbps): 11

TABLE 6.2-6: HARMONICS/SPURIOUS (WLAN 13 CHANNEL 6) 11 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4873.56	Av	H	20	1.3	28.9	14.2	43.10	54
4873.50	Pk	H	20	1.3	38.9	14.2	53.10	
7311.10	Av	H	20	1.3	28.1	12.9	41.00	54
7311.04	Pk	H	20	1.2	38.7	12.9	51.60	
9747.94	Av	H	20	1.2	34.2	16.9	51.10	54
9748.00	Pk	H	20	1.2	44.1	16.9	61.00	

AVERAGE: RES. =1 MHz, VID= 10Hz; NF = NOISE FLOOR; <20dB= 20dB BELOW THE LIMIT

TEST PERSONNEL:

Rachid Sehb		03/19/2003
Test Technician/Engineer	Signature	Date Of Test

Operating Frequency (MHz): 2462
WLAN On: 13
Channel: 11
Data Rate (Mbps): 1

TABLE 6.2-7: HARMONICS/SPURIOUS (WLAN 13 CHANNEL 11) 1 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4923.99	Av	H	20	1.3	30.4	14.2	44.60	54
4923.98	Pk	H	20	1.3	40.1	14.2	54.30	
7385.95	Av	H	20	1.3	28	12.9	40.90	54
7385.80	Pk	H	20	1.2	36.4	12.9	49.30	
9847.89	Av	H	20	1.2	34.5	16.9	51.40	54
9847.88	Pk	H	20	1.2	44.5	16.9	61.40	

PEAK: RES. =1 MHz, VID= 1MHz; AVERAGE: RES. =1 MHz, VID= 10Hz; <20dB= 20dB BELOW THE LIMIT

Operating Frequency (MHz): 2462
WLAN On: 13
Channel: 11
Data Rate (Mbps): 2


TABLE 6.2-8: HARMONICS/SPURIOUS (WLAN 13 CHANNEL 11) 2 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4924.06	Av	H	20	1.3	30	14.2	44.2	54
4923.97	Pk	H	20	1.3	42.1	14.2	56.3	
7386.00	Av	H	20	1.3	27.8	12.9	40.7	54
7385.90	Pk	H	20	1.2	36	12.9	48.9	
9847.92	Av	H	20	1.2	34.3	16.9	51.2	54
9847.92	Pk	H	20	1.2	45.5	16.9	62.4	

AVERAGE: RES. =1 MHz, VID= 10Hz; <20dB= 20dB BELOW THE LIMIT

TEST PERSONNEL:

Rachid Sehb
 Test Technician/Engineer


 Signature

03/19/2003
 Date Of Test


Operating Frequency (MHz): 2462
 WLAN On: 13
 Channel: 11
 Data Rate (Mbps): 11

TABLE 6.2-9: HARMONICS/SPURIOUS (WLAN 13 CHANNEL 11) 11 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4923.89	Av	H	20	1.3	29.2	14.2	43.40	54
4923.75	Pk	H	20	1.3	38.8	14.2	53.00	
7386.06	Av	H	20	1.3	28	12.9	40.90	54
7386.03	Pk	H	20	1.2	36	12.9	48.90	
9848.00	Av	H	20	1.2	34	16.9	50.90	54
9847.94	Pk	H	20	1.2	44.2	16.9	61.10	

AVERAGE: RES. =1 MHz, VID= 10Hz; NF = NOISE FLOOR; <20dB= 20dB BELOW THE LIMIT

TEST PERSONNEL:

Rachid Sehb		03/20/2003
Test Technician/Engineer	Signature	Date Of Test

6.3. RADIATED EMISSION LIMITS TEST DATA FOR WLAN 8

Operating Frequency (MHz): 2412
 WLAN On: 8
 Channel: 1
 Data Rate (Mbps): 1

TABLE 6.3-1: HARMONICS/SPURIOUS (WLAN 8 CHANNEL 1) 1 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4821.81	Av	H	40	1.3	29.5	14.2	43.7	54
4821.20	Pk	H	40	1.3	41.5	14.2	55.7	
7235.95	Av	H	40	1.3	28	12.9	40.9	54
7235.84	Pk	H	40	1.2	37.9	12.9	50.8	
9647.94	Av	H	40	1.2	33.6	16.9	50.5	54
9647.87	Pk	H	40	1.2	43.3	16.9	60.2	

PEAK: RES. =1 MHz, VID= 1MHz; AVERAGE: RES. =1 MHz, VID= 10Hz; <20dB= 20dB BELOW THE LIMIT

Operating Frequency (MHz): 2412
 WLAN On: 8
 Channel: 1
 Data Rate (Mbps): 2


TABLE 6.3-2: HARMONICS/SPURIOUS (WLAN 8 CHANNEL 1) 2 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4823.41	Av	H	40	1.3	29.5	14.2	43.7	54
4823.10	Pk	H	40	1.3	41.5	14.2	55.7	
7236.02	Av	H	40	1.3	28.1	12.9	41.0	54
7235.93	Pk	H	40	1.2	37.6	12.9	50.5	
9647.96	Av	H	40	1.2	33.6	16.9	50.5	54
9647.93	Pk	H	40	1.2	43.3	16.9	60.2	

AVERAGE: RES. =1 MHz, VID= 10Hz; <20dB= 20dB BELOW THE LIMIT

TEST PERSONNEL:

Rachid Sehb
 Test Technician/Engineer


 Signature

03/20/2003
 Date Of Test

Operating Frequency (MHz): 2412
 WLAN On: 8
 Channel: 1
 Data Rate (Mbps): 11


TABLE 6.3-3: HARMONICS/SPURIOUS (WLAN 8 CHANNEL 1) 11 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4828.82	Av	H	40	1.3	30.0	14.2	44.2	54
4828.80	Pk	H	40	1.3	40.2	14.2	54.4	
7236.06	Av	H	40	1.3	28.0	12.9	40.9	54
7235.96	Pk	H	40	1.2	37.6	12.9	50.5	
9648.00	Av	H	40	1.2	33.4	16.9	50.3	54
9647.95	Pk	H	40	1.2	43.3	16.9	60.2	

AVERAGE: RES. =1 MHz, VID= 10Hz; NF = NOISE FLOOR; <20dB= 20dB BELOW THE LIMIT

TEST PERSONNEL:

Rachid Sehb
 Test Technician/Engineer


 Signature

03/20/2003
 Date Of Test

Operating Frequency (MHz): 2437
WLAN On: 8
Channel: 6
Data Rate (Mbps): 1

TABLE 6.3-4: HARMONICS/SPURIOUS (WLAN 8 CHANNEL 6) 1 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4882.48	Av	H	40	1.3	30.5	14.2	44.70	54
4882.44	Pk	H	40	1.3	40.7	14.2	54.90	
7310.82	Av	H	40	1.3	28	12.9	40.90	54
7310.83	Pk	H	40	1.2	37.9	12.9	50.80	
9747.90	Av	H	40	1.2	33.9	16.9	50.80	54
9747.91	Pk	H	40	1.2	43.5	16.9	60.40	

PEAK: RES. =1 MHz, VID= 1MHz; AVERAGE: RES. =1 MHz, VID= 10Hz; <20dB= 20dB BELOW THE LIMIT

Operating Frequency (MHz): 2437
WLAN On: 8
Channel: 6
Data Rate (Mbps): 2

TABLE 6.3-5: HARMONICS/SPURIOUS (WLAN 8 CHANNEL 6) 2 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4883.71	Av	H	40	1.3	30.9	14.2	45.1	54
4883.03	Pk	H	40	1.3	41	14.2	55.2	
7310.86	Av	H	40	1.3	28	12.9	40.9	54
7310.94	Pk	H	40	1.2	38.4	12.9	51.3	
9747.94	Av	H	40	1.2	33.8	16.9	50.7	54
9748.00	Pk	H	40	1.2	43.5	16.9	60.4	

AVERAGE: RES. =1 MHz, VID= 10Hz; <20dB= 20dB BELOW THE LIMIT

TEST PERSONNEL:

Rachid Sehb
 Test Technician/Engineer


 Signature

03/20/2003
 Date Of Test


Operating Frequency (MHz): 2437
WLAN On: 8
Channel: 6
Data Rate (Mbps): 11

TABLE 6.3-6: HARMONICS/SPURIOUS (WLAN 8 CHANNEL 6) 11 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4883.23	Av	H	40	1.3	30	14.2	44.20	54
4883.60	Pk	H	40	1.3	41.9	14.2	56.10	
7310.93	Av	H	40	1.3	28.2	12.9	41.10	54
7310.98	Pk	H	40	1.2	38.4	12.9	51.30	
9747.97	Av	H	40	1.2	33.3	16.9	50.20	54
9748.03	Pk	H	40	1.2	43.9	16.9	60.80	

AVERAGE: RES. =1 MHz, VID= 10Hz; NF = NOISE FLOOR; <20dB= 20dB BELOW THE LIMIT

TEST PERSONNEL:

Rachid Sehb		03/20/2003
Test Technician/Engineer	Signature	Date Of Test

Operating Frequency (MHz): 2462
 WLAN On: 8
 Channel: 11
 Data Rate (Mbps): 1

TABLE 6.3-7: HARMONICS/SPURIOUS (WLAN 8 CHANNEL 11) 1 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4923.94	Av	H	40	1.3	30.4	14.2	44.60	54
4924.03	Pk	H	40	1.3	39.6	14.2	53.80	
7385.92	Av	H	40	1.3	29.2	12.9	42.10	54
7385.89	Pk	H	40	1.2	37.2	12.9	50.10	
9847.94	Av	H	40	1.2	34.3	16.9	51.20	54
9847.91	Pk	H	40	1.2	43.6	16.9	60.50	

PEAK: RES. =1 MHz, VID= 1MHz; AVERAGE: RES. =1 MHz, VID= 10Hz; <20dB= 20dB BELOW THE LIMIT

Operating Frequency (MHz): 2462
 WLAN On: 8
 Channel: 11
 Data Rate (Mbps): 2

TABLE 6.3-8: HARMONICS/SPURIOUS (WLAN 8 CHANNEL 11) 2 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4924.02	Av	H	40	1.3	30.3	14.2	44.5	54
4923.50	Pk	H	40	1.3	39.6	14.2	53.8	
7385.98	Av	H	40	1.3	27.7	12.9	40.6	54
7385.93	Pk	H	40	1.2	36.9	12.9	49.8	
9847.96	Av	H	40	1.2	34.4	16.9	51.3	54
9847.93	Pk	H	40	1.2	43.6	16.9	60.5	

AVERAGE: RES. =1 MHz, VID= 10Hz; <20dB= 20dB BELOW THE LIMIT

TEST PERSONNEL:

Rachid Sehb
 Test Technician/Engineer


 Signature

03/20/2003
 Date Of Test


Operating Frequency (MHz): 2462
WLAN On: 8
Channel: 11
Data Rate (Mbps): 11

TABLE 6.3-9: HARMONICS/SPURIOUS (WLAN 8 CHANNEL 11) 11 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4923.99	Av	H	40	1.3	30.1	14.2	44.30	54
4923.73	Pk	H	40	1.3	40.2	14.2	54.40	
7386.05	Av	H	40	1.3	28.3	12.9	41.20	54
7385.97	Pk	H	40	1.2	37.6	12.9	50.50	
9848.03	Av	H	40	1.2	34.2	16.9	51.10	54
9847.98	Pk	H	40	1.2	43.6	16.9	60.50	

AVERAGE: RES. =1 MHz, VID= 10Hz; NF = NOISE FLOOR; <20dB= 20dB BELOW THE LIMIT

TEST PERSONNEL:

Rachid Sehb		03/20/2003
Test Technician/Engineer	Signature	Date Of Test

6.4. RADIATED EMISSION LIMITS TEST DATA FOR WLAN 4

Operating Frequency (MHz): 2412
 WLAN On: 4
 Channel: 1
 Data Rate (Mbps): 1

TABLE 6.4-1: HARMONICS/SPURIOUS (WLAN 4 CHANNEL 1) 1 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4824.02	Av	H	40	1.3	29.8	14.2	44.0	54
4823.95	Pk	H	40	1.3	39.4	14.2	53.6	
7235.95	Av	H	40	1.3	28	12.9	40.9	54
7235.90	Pk	H	40	1.2	37.3	12.9	50.2	
9647.89	Av	H	40	1.2	33.7	16.9	50.6	54
9647.82	Pk	H	40	1.2	44.3	16.9	61.2	

PEAK: RES. =1 MHz, VID= 1MHz; AVERAGE: RES. =1 MHz, VID= 10Hz; <20dB= 20dB BELOW THE LIMIT

Operating Frequency (MHz): 2412
 WLAN On: 4
 Channel: 1
 Data Rate (Mbps): 2

TABLE 6.4-2: HARMONICS/SPURIOUS (WLAN 4 CHANNEL 1) 2 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4823.96	Av	H	40	1.3	29.7	14.2	43.9	54
4823.77	Pk	H	40	1.3	40.9	14.2	55.1	
7235.98	Av	H	40	1.3	28.1	12.9	41.0	54
7235.98	Pk	H	40	1.2	38.1	12.9	51.0	
9647.94	Av	H	40	1.2	33.8	16.9	50.7	54
9647.86	Pk	H	40	1.2	44.3	16.9	61.2	

AVERAGE: RES. =1 MHz, VID= 10Hz; <20dB= 20dB BELOW THE LIMIT

TEST PERSONNEL:

Rachid Sehb
 Test Technician/Engineer


 Signature

03/20/2003
 Date Of Test

Operating Frequency (MHz): 2412
WLAN On: 4
Channel: 1
Data Rate (Mbps): 11


TABLE 6.4-3: HARMONICS/SPURIOUS (WLAN 4 CHANNEL 1) 11 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4823.43	Av	H	40	1.3	29	14.2	43.2	54
4823.65	Pk	H	40	1.3	40.1	14.2	54.3	
7236.02	Av	H	40	1.3	28	12.9	40.9	54
7236.01	Pk	H	40	1.2	37.2	12.9	50.1	
9647.97	Av	H	40	1.2	33.8	16.9	50.7	54
9647.90	Pk	H	40	1.2	44.3	16.9	61.2	

AVERAGE: RES. =1 MHz, VID= 10Hz; NF = NOISE FLOOR; <20dB= 20dB BELOW THE LIMIT

TEST PERSONNEL:

Rachid Sehb
 Test Technician/Engineer


 Signature

03/20/2003
 Date Of Test

Operating Frequency (MHz): 2437
WLAN On: 4
Channel: 6
Data Rate (Mbps): 1

TABLE 6.4-4: HARMONICS/SPURIOUS (WLAN 4 CHANNEL 6) 1 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4873.93	Av	H	40	1.3	34.8	14.2	49.00	54
4873.92	Pk	H	40	1.3	42.2	14.2	56.40	
7310.86	Av	H	40	1.3	28.3	12.9	41.20	54
7310.85	Pk	H	40	1.2	38.2	12.9	51.10	
9747.91	Av	H	40	1.2	34	16.9	50.90	54
9747.93	Pk	H	40	1.2	43.8	16.9	60.70	

PEAK: RES. =1 MHz, VID= 1MHz; AVERAGE: RES. =1 MHz, VID= 10Hz; <20dB= 20dB BELOW THE LIMIT

Operating Frequency (MHz): 2437
WLAN On: 4
Channel: 6
Data Rate (Mbps): 2

TABLE 6.4-5: HARMONICS/SPURIOUS ((WLAN 4 CHANNEL 6) 2 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4874.00	Av	H	40	1.3	31.5	14.2	45.7	54
4873.99	Pk	H	40	1.3	41.8	14.2	56.0	
7310.92	Av	H	40	1.3	28.3	12.9	41.2	54
7310.87	Pk	H	40	1.2	38.1	12.9	51.0	
9747.94	Av	H	40	1.2	33.9	16.9	50.8	54
9747.97	Pk	H	40	1.2	44.6	16.9	61.5	

AVERAGE: RES. =1 MHz, VID= 10Hz; <20dB= 20dB BELOW THE LIMIT

TEST PERSONNEL:

Rachid Sehb
 Test Technician/Engineer


 Signature

03/20/2003
 Date Of Test


Operating Frequency (MHz): 2437
WLAN On: 4
Channel: 6
Data Rate (Mbps): 11

TABLE 6.4-6: HARMONICS/SPURIOUS (WLAN 4 CHANNEL 6) 11 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4874.00	Av	H	40	1.3	30.1	14.2	44.30	54
4873.95	Pk	H	40	1.3	40.9	14.2	55.10	
7310.99	Av	H	40	1.3	28.2	12.9	41.10	54
7310.93	Pk	H	40	1.2	38.8	12.9	51.70	
9847.97	Av	H	40	1.2	24.3	16.9	41.20	54
9747.98	Pk	H	40	1.2	33.8	16.9	50.70	

AVERAGE: RES. =1 MHz, VID= 10Hz; NF = NOISE FLOOR; <20dB= 20dB BELOW THE LIMIT

TEST PERSONNEL:

Rachid Sehb Test Technician/Engineer	 Signature	03/20/2003 Date Of Test
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Operating Frequency (MHz): 2462
 WLAN On: 4
 Channel: 11
 Data Rate (Mbps): 1

TABLE 6.4-7: HARMONICS/SPURIOUS (WLAN 4 CHANNEL 11) 1 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4923.98	Av	H	40	1.3	31	14.2	45.20	54
4923.81	Pk	H	40	1.3	40.8	14.2	55.00	
7385.98	Av	H	40	1.3	28	12.9	40.90	54
7385.95	Pk	H	40	1.2	37.8	12.9	50.70	
9847.90	Av	H	40	1.2	34	16.9	50.90	54
9847.90	Pk	H	40	1.2	45	16.9	61.90	

PEAK: RES. =1 MHz, VID= 1MHz; AVERAGE: RES. =1 MHz, VID= 10Hz; <20dB= 20dB BELOW THE LIMIT

Operating Frequency (MHz): 2462
 WLAN On: 4
 Channel: 11
 Data Rate (Mbps): 2

TABLE 6.4-8: HARMONICS/SPURIOUS (WLAN 4 CHANNEL 11) 2 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4923.98	Av	H	40	1.3	30.7	14.2	44.9	54
4924.17	Pk	H	40	1.3	40.6	14.2	54.8	
7386.02	Av	H	40	1.3	27.5	12.9	40.4	54
7385.99	Pk	H	40	1.2	37.3	12.9	50.2	
9847.94	Av	H	40	1.2	33.9	16.9	50.8	54
9847.94	Pk	H	40	1.2	44.9	16.9	61.8	

AVERAGE: RES. =1 MHz, VID= 10Hz; <20dB= 20dB BELOW THE LIMIT

TEST PERSONNEL:

Rachid Sehb
 Test Technician/Engineer


 Signature

03/20/2003
 Date Of Test


Operating Frequency (MHz): 2462
 WLAN On: 4
 Channel: 11
 Data Rate (Mbps): 11

TABLE 6.4-9: HARMONICS/SPURIOUS (WLAN 4 CHANNEL 11) 11 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4923.88	Av	H	40	1.3	30.1	14.2	44.30	54
4923.88	Pk	H	40	1.3	40.6	14.2	54.80	
7386.06	Av	H	40	1.3	28.1	12.9	41.00	54
7386.03	Pk	H	40	1.2	38.8	12.9	51.70	
9847.97	Av	H	40	1.2	33.8	16.9	50.70	54
9847.97	Pk	H	40	1.2	44.9	16.9	61.80	

AVERAGE: RES. =1 MHz, VID= 10Hz; NF = NOISE FLOOR; <20dB= 20dB BELOW THE LIMIT

TEST PERSONNEL:

Rachid Sehb		03/20/2003
Test Technician/Engineer	Signature	Date Of Test

6.5. RADIATED EMISSION LIMITS TEST DATA FOR WLAN 13 (CH1), WLAN 1 (CH6) AND WLAN 6 (CH 11)

Operating Frequency (MHz): 2412
 WLAN On: 13, 1 & 6
 Channel: 1
 Data Rate (Mbps): 1

TABLE 6.5-1: HARMONICS/SPURIOUS (WLAN'S 13, 1 AND 6, CHANNEL 1) 1 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4823.98	Av	H	40	1.3	34.1	14.2	48.3	54
4823.93	Pk	H	40	1.3	42.8	14.2	57.0	
7235.95	Av	H	40	1.3	28.1	12.9	41.0	54
7235.91	Pk	H	40	1.2	38.8	12.9	51.7	
9798.83	Av	H	40	1.2	34	16.9	50.9	54
9798.88	Pk	H	40	1.2	44.6	16.9	61.5	

PEAK: RES. =1 MHz, VID= 1MHz; AVERAGE: RES. =1 MHz, VID= 10Hz; <20dB= 20dB BELOW THE LIMIT

Operating Frequency (MHz): 2412
 WLAN On: 13, 1 & 6
 Channel: 1
 Data Rate (Mbps): 2


TABLE 6.5-2: HARMONICS/SPURIOUS (WLAN 13, 1 AND 6, CHANNEL 1) 2 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4823.94	Av	H	40	1.3	33.1	14.2	47.3	54
4824.06	Pk	H	40	1.3	42.7	14.2	56.9	
7235.98	Av	H	40	1.3	27.8	12.9	40.7	54
7235.93	Pk	H	40	1.2	38.8	12.9	51.7	
9798.88	Av	H	40	1.2	34.1	16.9	51.0	54
9798.93	Pk	H	40	1.2	44.4	16.9	61.3	

AVERAGE: RES. =1 MHz, VID= 10Hz; <20dB= 20dB BELOW THE LIMIT

TEST PERSONNEL:

Rachid Sehb
 Test Technician/Engineer


 Signature

03/20/2003
 Date Of Test

Operating Frequency (MHz): 2412
WLAN On: 13, 1 & 6
Channel: 1
Data Rate (Mbps): 11


TABLE 6.5-3: HARMONICS/SPURIOUS (WLAN'S 13, 1 AND 6, CHANNEL 1) 11 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4823.95	Av	H	40	1.3	31.2	14.2	45.4	54
4823.81	Pk	H	40	1.3	42.5	14.2	56.7	
7236.02	Av	H	40	1.3	28.1	12.9	41.0	54
7235.97	Pk	H	40	1.2	39	12.9	51.9	
9798.94	Av	H	40	1.2	34.2	16.9	51.1	54
9798.99	Pk	H	40	1.2	45	16.9	61.9	

AVERAGE: RES. =1 MHz, VID= 10Hz; NF = NOISE FLOOR; <20dB= 20dB BELOW THE LIMIT

TEST PERSONNEL:

Rachid Sehb
 Test Technician/Engineer


 Signature

03/20/2003
 Date Of Test

Operating Frequency (MHz): 2437
 WLAN On: 13, 1 & 6
 Channel: 6
 Data Rate (Mbps): 1

TABLE 6.5-4: HARMONICS/SPURIOUS (WLAN'S 13, 1 AND 6, CHANNEL 6) 1 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4873.96	Av	H	40	1.3	32	14.2	46.20	54
4873.95	Pk	H	40	1.3	42	14.2	56.20	
7310.92	Av	H	40	1.3	28.6	12.9	41.50	54
7310.89	Pk	H	40	1.2	37.3	12.9	50.20	
9747.96	Av	H	40	1.2	34.2	16.9	51.10	54
9747.89	Pk	H	40	1.2	43.9	16.9	60.80	

PEAK: RES. =1 MHz, VID= 1MHz; AVERAGE: RES. =1 MHz, VID= 10Hz; <20dB= 20dB BELOW THE LIMIT

Operating Frequency (MHz): 2437
 WLAN On: 13, 1 & 6
 Channel: 6
 Data Rate (Mbps): 2

TABLE 6.5-5: HARMONICS/SPURIOUS (WLAN'S 13, 1 AND 6, CHANNEL 6) 2 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4873.92	Av	H	40	1.3	31.5	14.2	45.7	54
4873.94	Pk	H	40	1.3	40.2	14.2	54.4	
7310.93	Av	H	40	1.3	28.3	12.9	41.2	54
7310.91	Pk	H	40	1.2	37.3	12.9	50.2	
9748.02	Av	H	40	1.2	34.2	16.9	51.1	54
9747.93	Pk	H	40	1.2	44.2	16.9	61.1	

AVERAGE: RES. =1 MHz, VID= 10Hz; <20dB= 20dB BELOW THE LIMIT

TEST PERSONNEL:

Rachid Sehb
 Test Technician/Engineer


 Signature

03/20/2003
 Date Of Test

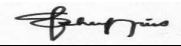
Operating Frequency (MHz): 2437
WLAN On: 13, 1 & 6
Channel: 6
Data Rate (Mbps): 11

TABLE 6.5-6: HARMONICS/SPURIOUS (WLAN'S 13, 1 AND 6, CHANNEL 6) 11 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4873.94	Av	H	40	1.3	30.9	14.2	45.10	54
4873.92	Pk	H	40	1.3	41.4	14.2	55.60	
7310.94	Av	H	40	1.3	28.6	12.9	41.50	54
7310.93	Pk	H	40	1.2	37.2	12.9	50.10	
9748.05	Av	H	40	1.2	34	16.9	50.90	54
9748.00	Pk	H	40	1.2	44.9	16.9	61.80	

AVERAGE: RES. =1 MHz, VID= 10Hz; NF = NOISE FLOOR; <20dB= 20dB BELOW THE LIMIT

TEST PERSONNEL:

Franck Schuppis Test Technician/Engineer	 Signature	03/20/2003 Date Of Test
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Operating Frequency (MHz): 2462
WLAN On: 13, 1 & 6
Channel: 11
Data Rate (Mbps): 1

TABLE 6.5-7: HARMONICS/SPURIOUS (WLAN'S 13, 1 AND 6, CHANNEL 11) 1 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4923.95	Av	H	40	1.3	31.9	14.2	46.10	54
4923.96	Pk	H	40	1.3	42.2	14.2	56.40	
7385.94	Av	H	40	1.3	28.5	12.9	41.40	54
7385.97	Pk	H	40	1.2	38.6	12.9	51.50	
9847.89	Av	H	40	1.2	34.1	16.9	51.00	54
9847.89	Pk	H	40	1.2	44.3	16.9	61.20	

PEAK: RES. =1 MHz, VID= 1MHz; AVERAGE: RES. =1 MHz, VID= 10Hz; <20dB= 20dB BELOW THE LIMIT

Operating Frequency (MHz): 2462
WLAN On: 13, 1 & 6
Channel: 11
Data Rate (Mbps): 2

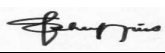
TABLE 6.5-8: HARMONICS/SPURIOUS (WLAN'S 13, 1 AND 6, CHANNEL 11) 2 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4923.99	Av	H	40	1.3	31.5	14.2	45.7	54
4923.98	Pk	H	40	1.3	40.8	14.2	55.0	
7385.90	Av	H	40	1.3	28.6	12.9	41.5	54
7385.92	Pk	H	40	1.2	37.3	12.9	50.2	
9847.94	Av	H	40	1.2	33.9	16.9	50.8	54
9847.95	Pk	H	40	1.2	43.9	16.9	60.8	

AVERAGE: RES. =1 MHz, VID= 10Hz; <20dB= 20dB BELOW THE LIMIT

TEST PERSONNEL:

Franck Schuppis
 Test Technician/Engineer


 Signature

03/20/2003
 Date Of Test

Operating Frequency (MHz): 2462
 WLAN On: 13, 1 & 6
 Channel: 11
 Data Rate (Mbps): 11

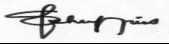
TABLE 6.5-9: HARMONICS/SPURIOUS (WLAN'S 13, 1 AND 6, CHANNEL 11) 11 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4923.98	Av	H	40	1.3	31.4	14.2	45.60	54
4923.99	Pk	H	40	1.3	40.4	14.2	54.60	
7385.96	Av	H	40	1.3	37	12.9	49.90	54
7385.96	Pk	H	40	1.2	37.8	12.9	50.70	
9847.97	Av	H	40	1.2	34.7	16.9	51.60	54
9848.04	Pk	H	40	1.2	43.9	16.9	60.80	

AVERAGE: RES. =1 MHz, VID= 10Hz; NF = NOISE FLOOR; <20dB= 20dB BELOW THE LIMIT

TEST PERSONNEL:

Franck Schuppis
 Test Technician/Engineer


 Signature

03/20/2003
 Date Of Test

**6.6. RADIATED EMISSION LIMITS TEST DATA FOR WLAN 1 (CH 1), WLAN 13 (CH 6)
 AND WLAN 6 (CH 11)**

Operating Frequency (MHz): 2412
WLAN On: 1, 13 & 6
Channel: 1
Data Rate (Mbps): 1

TABLE 6.6-1: HARMONICS/SPURIOUS (WLAN'S 1, 13 AND 6, CHANNEL 1) 1 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4824.01	Av	H	40	1.3	30.3	14.2	44.5	54
4823.98	Pk	H	40	1.3	40.1	14.2	54.3	
7237.50	Av	H	40	1.3	28.3	12.9	41.2	54
7237.46	Pk	H	40	1.2	39	12.9	51.9	
9647.97	Av	H	40	1.2	33.9	16.9	50.8	54
9647.92	Pk	H	40	1.2	43.1	16.9	60.0	

PEAK: RES. =1 MHz, VID= 1MHz; AVERAGE: RES. =1 MHz, VID= 10Hz; <20dB= 20dB BELOW THE LIMIT

Operating Frequency (MHz): 2412
WLAN On: 1, 13 & 6
Channel: 1
Data Rate (Mbps): 2

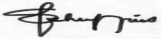
TABLE 6.6-2: HARMONICS/SPURIOUS (WLAN'S 1, 13 AND 6, CHANNEL 1) 2 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4824.01	Av	H	40	1.3	29.9	14.2	44.1	54
4823.94	Pk	H	40	1.3	39.8	14.2	54.0	
7237.53	Av	H	40	1.3	28.1	12.9	41.0	54
7237.48	Pk	H	40	1.2	39.3	12.9	52.2	
9648.01	Av	H	40	1.2	33.9	16.9	50.8	54
9647.98	Pk	H	40	1.2	43.6	16.9	60.5	

AVERAGE: RES. =1 MHz, VID= 10Hz; <20dB= 20dB BELOW THE LIMIT

TEST PERSONNEL:

Franck Schuppius
 Test Technician/Engineer


 Signature

03/20/2003
 Date Of Test

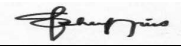
Operating Frequency (MHz): 2412
WLAN On: 1, 13 & 6
Channel: 1
Data Rate (Mbps): 11

TABLE 6.6-3: HARMONICS/SPURIOUS (WLAN'S 1, 13 AND 6, CHANNEL 1) 11 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4824.01	Av	H	40	1.3	29.2	14.2	43.4	54
4824.02	Pk	H	40	1.3	39.9	14.2	54.1	
7237.55	Av	H	40	1.3	28.1	12.9	41.0	54
7237.52	Pk	H	40	1.2	39.1	12.9	52.0	
9648.07	Av	H	40	1.2	33.6	16.9	50.5	54
9648.06	Pk	H	40	1.2	44.2	16.9	61.1	

AVERAGE: RES. =1 MHz, VID= 10Hz; NF = NOISE FLOOR; <20dB= 20dB BELOW THE LIMIT

TEST PERSONNEL:

Franck Schuppis Test Technician/Engineer	 Signature	03/20/2003 Date Of Test
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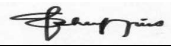
Operating Frequency (MHz): 2437
WLAN On: 1, 13 & 6
Channel: 6
Data Rate (Mbps): 1

TABLE 6.6-4: HARMONICS/SPURIOUS (WLAN'S 1, 13 AND 6, CHANNEL 6) 1 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4874.24	Av	H	40	1.3	38.3	14.2	52.50	54
4873.90	Pk	H	40	1.3	46.7	14.2	60.90	
7310.94	Av	H	40	1.3	28.1	12.9	41.00	54
7310.86	Pk	H	40	1.2	36.9	12.9	49.80	
9747.89	Av	H	40	1.2	34.2	16.9	51.10	54
9747.89	Pk	H	40	1.2	43.7	16.9	60.60	

PEAK: RES. =1 MHz, VID= 1MHz; AVERAGE: RES. =1 MHz, VID= 10Hz; <20dB= 20dB BELOW THE LIMIT

TEST PERSONNEL:

Franck Schuppis Test Technician/Engineer	 Signature	03/20/2003 Date Of Test
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Operating Frequency (MHz): 2437
WLAN On: 1, 13 & 6
Channel: 6
Data Rate (Mbps): 2

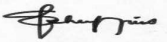
TABLE 6.6-5: HARMONICS/SPURIOUS (WLAN 1, 13 AND 6, CHANNEL 6) 2 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4874.24	Av	H	40	1.3	35.1	14.2	49.3	54
4874.18	Pk	H	40	1.3	46.1	14.2	60.3	
7310.95	Av	H	40	1.3	28	12.9	40.9	54
7310.88	Pk	H	40	1.2	37.2	12.9	50.1	
9747.94	Av	H	40	1.2	34	16.9	50.9	54
9747.94	Pk	H	40	1.2	43.7	16.9	60.6	

AVERAGE: RES. =1 MHz, VID= 10Hz; <20dB= 20dB BELOW THE LIMIT

TEST PERSONNEL:

Franck Schuppius
 Test Technician/Engineer


 Signature

03/20/2003
 Date Of Test

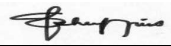
Operating Frequency (MHz): 2437
WLAN On: 1, 13 & 6
Channel: 6
Data Rate (Mbps): 11

TABLE 6.6-6: HARMONICS/SPURIOUS (WLAN'S 1, 13 AND 6, CHANNEL 6) 11 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4875.79	Av	H	40	1.3	33.6	14.2	47.80	54
4875.66	Pk	H	40	1.3	43.7	14.2	57.90	
7310.96	Av	H	40	1.3	28	12.9	40.90	54
7310.90	Pk	H	40	1.2	38.1	12.9	51.00	
9748.08	Av	H	40	1.2	33.9	16.9	50.80	54
9748.01	Pk	H	40	1.2	44	16.9	60.90	

AVERAGE: RES. =1 MHz, VID= 10Hz; NF = NOISE FLOOR; <20dB= 20dB BELOW THE LIMIT

TEST PERSONNEL:

Franck Schuppis Test Technician/Engineer	 Signature	03/20/2003 Date Of Test
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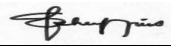
Operating Frequency (MHz): 2462
WLAN On: 1, 13 & 6
Channel: 11
Data Rate (Mbps): 1

TABLE 6.6-7: HARMONICS/SPURIOUS (WLAN'S 1, 13 AND 6, CHANNEL 11) 1 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4924.01	Av	H	40	1.3	34.8	14.2	49.00	54
4924.06	Pk	H	40	1.3	44.3	14.2	58.50	
7385.97	Av	H	40	1.3	28.6	12.9	41.50	54
7385.98	Pk	H	40	1.2	39.7	12.9	52.60	
9847.88	Av	H	40	1.2	34.2	16.9	51.10	54
9847.85	Pk	H	40	1.2	44.2	16.9	61.10	

PEAK: RES. =1 MHz, VID= 1MHz; AVERAGE: RES. =1 MHz, VID= 10Hz; <20dB= 20dB BELOW THE LIMIT

TEST PERSONNEL:

Franck Schuppis		03/20/2003
Test Technician/Engineer	Signature	Date Of Test

Operating Frequency (MHz): 2462
WLAN On: 1, 13 & 6
Channel: 11
Data Rate (Mbps): 2

TABLE 6.6-8: HARMONICS/SPURIOUS (WLAN 1, 13 AND 6, CHANNEL 11) 2 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4924.03	Av	H	40	1.3	33.5	14.2	47.7	54
4923.87	Pk	H	40	1.3	42.6	14.2	56.8	
7385.98	Av	H	40	1.3	28.7	12.9	41.6	54
7385.99	Pk	H	40	1.2	39.7	12.9	52.6	
9847.96	Av	H	40	1.2	33.9	16.9	50.8	54
9847.91	Pk	H	40	1.2	44.6	16.9	61.5	

AVERAGE: RES. =1 MHz, VID= 10Hz; <20dB= 20dB BELOW THE LIMIT

Operating Frequency (MHz): 2462
WLAN ON (Channel): 1, 13 & 6
Channel: 11
Data Rate (Mbps): 11

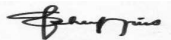
TABLE 6.6-9: HARMONICS/SPURIOUS (WLAN'S 1, 13 AND 6, CHANNEL 11) 11 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4923.96	Av	H	40	1.3	31.6	14.2	45.80	54
4924.01	Pk	H	40	1.3	42.6	14.2	56.80	
7385.99	Av	H	40	1.3	28.6	12.9	41.50	54
7386.02	Pk	H	40	1.2	39.7	12.9	52.60	
9848.01	Av	H	40	1.2	34.1	16.9	51.00	54
9847.94	Pk	H	40	1.2	43.7	16.9	60.60	

AVERAGE: RES. =1 MHz, VID= 10Hz; NF = NOISE FLOOR; <20dB= 20dB BELOW THE LIMIT

TEST PERSONNEL:

Franck Schuppious
 Test Technician/Engineer


 Signature

03/20/2003
 Date Of Test

**6.7. RADIATED EMISSION LIMITS TEST DATA FOR WLAN 6 (CH 1), WLAN 13 (CH 6)
 AND WLAN 1 (CH 11)**

Operating Frequency (MHz): 2412
WLAN On: 6, 13 & 1
Channel: 1
Data Rate (Mbps): 1

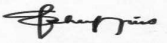
TABLE 6.7-1: HARMONICS/SPURIOUS (WLAN'S 6, 13 AND 1, CHANNEL 1) 1 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4822.79	Av	H	40	1.3	29.2	14.2	43.4	54
4823.74	Pk	H	40	1.3	40.2	14.2	54.4	
7235.89	Av	H	40	1.3	28	12.9	40.9	54
7235.82	Pk	H	40	1.2	39.1	12.9	52.0	
9647.92	Av	H	40	1.2	33.6	16.9	50.5	54
9647.94	Pk	H	40	1.2	43.6	16.9	60.5	

PEAK: RES. =1 MHz, VID= 1MHz; AVERAGE: RES. =1 MHz, VID= 10Hz; <20dB= 20dB BELOW THE LIMIT

TEST PERSONNEL:

Franck Schuppis
 Test Technician/Engineer


 Signature

03/20/2003
 Date Of Test

Operating Frequency (MHz): 2412
WLAN On: 6, 13 & 1
Channel: 1
Data Rate (Mbps): 2

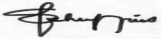
TABLE 6.7-2: HARMONICS/SPURIOUS (WLAN'S 6, 13 AND 1, CHANNEL 1) 2 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4823.99	Av	H	40	1.3	29.4	14.2	43.6	54
4824.02	Pk	H	40	1.3	40.4	14.2	54.6	
7235.90	Av	H	40	1.3	28.1	12.9	41.0	54
7235.85	Pk	H	40	1.2	39.1	12.9	52.0	
9647.95	Av	H	40	1.2	33.6	16.9	50.5	54
9648.00	Pk	H	40	1.2	43.9	16.9	60.8	

AVERAGE: RES. =1 MHz, VID= 10Hz; <20dB= 20dB BELOW THE LIMIT

TEST PERSONNEL:

Franck Schuppius
 Test Technician/Engineer


 Signature

03/20/2003
 Date Of Test

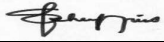
Operating Frequency (MHz): 2412
WLAN On: 6, 13 & 1
Channel: 1
Data Rate (Mbps): 11

TABLE 6.7-3: HARMONICS/SPURIOUS (WLAN'S 6, 13 AND 1, CHANNEL 1) 11 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4823.68	Av	H	40	1.3	29.5	14.2	43.7	54
4823.23	Pk	H	40	1.3	39.6	14.2	53.8	
7235.94	Av	H	40	1.3	28.1	12.9	41.0	54
7235.93	Pk	H	40	1.2	38.7	12.9	51.6	
9647.97	Av	H	40	1.2	33.6	16.9	50.5	54
9648.06	Pk	H	40	1.2	44.4	16.9	61.3	

AVERAGE: RES. =1 MHz, VID= 10Hz; NF = NOISE FLOOR; <20dB= 20dB BELOW THE LIMIT

TEST PERSONNEL:

Franck Schuppis Test Technician/Engineer	 Signature	03/20/2003 Date Of Test
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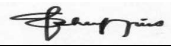
Operating Frequency (MHz): 2437
WLAN On: 6, 13 & 1
Channel: 6
Data Rate (Mbps): 1

TABLE 6.7-4: HARMONICS/SPURIOUS (WLAN 6, 13 AND 1, CHANNEL 6) 1 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4923.99	Av	H	40	1.3	30.3	14.2	44.50	54
4923.99	Pk	H	40	1.3	39.9	14.2	54.10	
7310.91	Av	H	40	1.3	29.5	12.9	42.40	54
7310.85	Pk	H	40	1.2	38.5	12.9	51.40	
9747.87	Av	H	40	1.2	34.5	16.9	51.40	54
9747.88	Pk	H	40	1.2	43.9	16.9	60.80	

PEAK: RES. =1 MHz, VID= 1MHz; AVERAGE: RES. =1 MHz, VID= 10Hz; <20dB= 20dB BELOW THE LIMIT

TEST PERSONNEL:

Franck Schuppis Test Technician/Engineer	 Signature	03/20/2003 Date Of Test
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Operating Frequency (MHz): 2437
WLAN On: 6, 13 & 1
Channel: 6
Data Rate (Mbps): 2

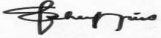
TABLE 6.7-5: HARMONICS/SPURIOUS (WLAN'S 6, 13 AND 1, CHANNEL 6) 2 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4873.95	Av	H	40	1.3	38.8	14.2	53.0	54
4873.97	Pk	H	40	1.3	44.6	14.2	58.8	
7310.97	Av	H	40	1.3	28.6	12.9	41.5	54
7310.89	Pk	H	40	1.2	38.7	12.9	51.6	
9747.91	Av	H	40	1.2	34.2	16.9	51.1	54
9747.90	Pk	H	40	1.2	45.1	16.9	62.0	

AVERAGE: RES. =1 MHz, VID= 10Hz; <20dB= 20dB BELOW THE LIMIT

TEST PERSONNEL:

Franck Schuppius
 Test Technician/Engineer


 Signature

03/20/2003
 Date Of Test

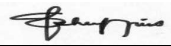
Operating Frequency (MHz): 2437
WLAN On: 6, 13 & 1
Channel: 6
Data Rate (Mbps): 11

TABLE 6.7-6: HARMONICS/SPURIOUS (WLAN'S 6, 13 AND 1, CHANNEL 6) 11 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4874.08	Av	H	40	1.3	32.2	14.2	46.40	54
4874.03	Pk	H	40	1.3	43.5	14.2	57.70	
7310.98	Av	H	40	1.3	29.4	12.9	42.30	54
7310.93	Pk	H	40	1.2	38.4	12.9	51.30	
9747.94	Av	H	40	1.2	34	16.9	50.90	54
9747.93	Pk	H	40	1.2	43.4	16.9	60.30	

AVERAGE: RES. =1 MHz, VID= 10Hz; NF = NOISE FLOOR; <20dB= 20dB BELOW THE LIMIT

TEST PERSONNEL:

Franck Schuppis Test Technician/Engineer	 Signature	03/20/2003 Date Of Test
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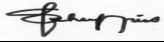
Operating Frequency (MHz): 2462
WLAN On: 6, 13 & 1
Channel: 11
Data Rate (Mbps): 1

TABLE 6.7-7: HARMONICS/SPURIOUS (WLAN'S 6, 13 AND 1, CHANNEL 11) 1 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4923.96	Av	H	40	1.3	29.7	14.2	43.90	54
4923.96	Pk	H	40	1.3	40.5	14.2	54.70	
7385.90	Av	H	40	1.3	28.5	12.9	41.40	54
7385.86	Pk	H	40	1.2	38.5	12.9	51.40	
9847.95	Av	H	40	1.2	34.5	16.9	51.40	54
9847.92	Pk	H	40	1.2	43.9	16.9	60.80	

PEAK: RES. =1 MHz, VID= 1MHz; AVERAGE: RES. =1 MHz, VID= 10Hz; <20dB= 20dB BELOW THE LIMIT

TEST PERSONNEL:

Franck Schuppis Test Technician/Engineer	 Signature	03/20/2003 Date Of Test
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Operating Frequency (MHz): 2462
WLAN On: 6, 13 & 1
Channel: 11
Data Rate (Mbps): 2

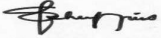
TABLE 6.7-8: HARMONICS/SPURIOUS (WLAN 6, 13 AND 1, CHANNEL 11) 2 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4924.13	Av	H	40	1.3	29.5	14.2	43.7	54
4923.97	Pk	H	40	1.3	40.5	14.2	54.7	
7385.94	Av	H	40	1.3	28.3	12.9	41.2	54
7385.92	Pk	H	40	1.2	38.5	12.9	51.4	
9847.99	Av	H	40	1.2	34.3	16.9	51.2	54
9847.95	Pk	H	40	1.2	43.9	16.9	60.8	

AVERAGE: RES. =1 MHz, VID= 10Hz; <20dB= 20dB BELOW THE LIMIT

TEST PERSONNEL:

Franck Schuppius
 Test Technician/Engineer


 Signature

03/20/2003
 Date Of Test

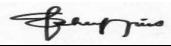
Operating Frequency (MHz): 2462
WLAN On: 6, 13 & 1
Channel: 11
Data Rate (Mbps): 11

TABLE 6.7-9: HARMONICS/SPURIOUS (WLAN'S 6, 13 AND 1, CHANNEL 11) 11 MBPS

Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Readings (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)
4923.94	Av	H	40	1.3	29.8	14.2	44.00	54
4923.54	Pk	H	40	1.3	41.5	14.2	55.70	
7386.01	Av	H	40	1.3	28.3	12.9	41.20	54
7385.94	Pk	H	40	1.2	38.7	12.9	51.60	
9848.06	Av	H	40	1.2	34	16.9	50.90	54
9847.98	Pk	H	40	1.2	43.7	16.9	60.60	

AVERAGE: RES. =1 MHz, VID= 10Hz; NF = NOISE FLOOR; <20dB= 20dB BELOW THE LIMIT

TEST PERSONNEL:

Franck Schuppis Test Technician/Engineer	 Signature	03/20/2003 Date Of Test
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6.8. TEST EQUIPMENT USED FOR TESTING

TABLE 6.8-1: RADIATED SPURIOUS EMISSIONS TEST EQUIPMENT

RTL ASSET #	MANUFACTURER	MODEL	PART TYPE	SERIAL NUMBER	CALIBRATION DATE
900931	Hewlett Packard	8566B	Spectrum Analyzer (100 Hz – 22 GHz)	3138A07771	05/10/03
900772	EMCO	3161-02	Horn Antenna (2-4 GHz)	900772	03/15/04
900321	EMCO	3161-03	Horn Antennas (4-8,2 GHz)	9508-1020	04/10/04
900323	EMCO	3160-7	Horn Antennas (8,2-12,4 GHz)	9605-1054	06/10/04
900325	EMCO	3160-9	Horn Antennas (18 - 26.5 GHz)	9605-1051	05/15/03
900356	EMCO	3160-8	Horn Antennas (12.4 - 18 GHz)	9607-1044	03/18/04
900932	Hewlett Packard	8449B OPT H02	Preamplifier 1-26.5 GHz	3008A00505	07/15/03
901053	Schaffner-Chase	CBL6112	Antenna (25 MHz - 2 GHz)	2099	06/17/03

7. Modulated Bandwidth - §15.247(a)(2)

7.1. MODULATED BANDWIDTH TEST PROCEDURE

The minimum 6 dB bandwidth per FCC 15.247 (a)(2) was measured using a 50 ohm spectrum analyzer with the resolution bandwidth set at 100 kHz, and the video bandwidth set at 300 kHz on the following configuration:

Highest, Medium, and Lowest WLAN Circuit Modulated Output Signal:

- WLAN 13 on Channels 1, 6 and 11 for the modulation rates 1, 2 and 11 Mbps
- WLAN 4 on Channels 1, 6 and 11 for the modulation rates 1, 2 and 11 Mbps
- WLAN 8 on Channels 1, 6 and 11 for the modulation rates 1, 2 and 11 Mbps

The following below configuration was not tested since the EUT restricts overlapping channels. The test data if tested would be the same as the result of the aforementioned configuration above.

Three Simultaneous Highest Power WLAN Circuits Modulated Output Signal:

- WLAN 13 on Channel 1, WLAN 1 on Channel 6, and WLAN 6 on Channel 11 for modulation rates 1, 2 and 11 Mbps
- WLAN 1 on Channel 1, WLAN 13 on Channel 6, and WLAN 6 on Channel 11 for modulation rates 1, 2 and 11 Mbps
- WLAN 6 on Channel 1, WLAN 13 on Channel 6, and WLAN 1 on Channel 11 for modulation rates 1, 2 and 11 Mbps

The test equipment used for this testing is listed in the table below.

TABLE 7.1-1: TEST EQUIPMENT USED FOR TESTING MODULATED BANDWIDTH

RTL ASSET #	MANUFACTURER	MODEL	PART TYPE	SERIAL NUMBER	CALIBRATION DATE
900931	Hewlett Packard	8566B	Spectrum Analyzer (100 Hz – 22 GHz)	3138A07771	03/15/04

7.2. MODULATED BANDWIDTH TEST DATA WLAN 13

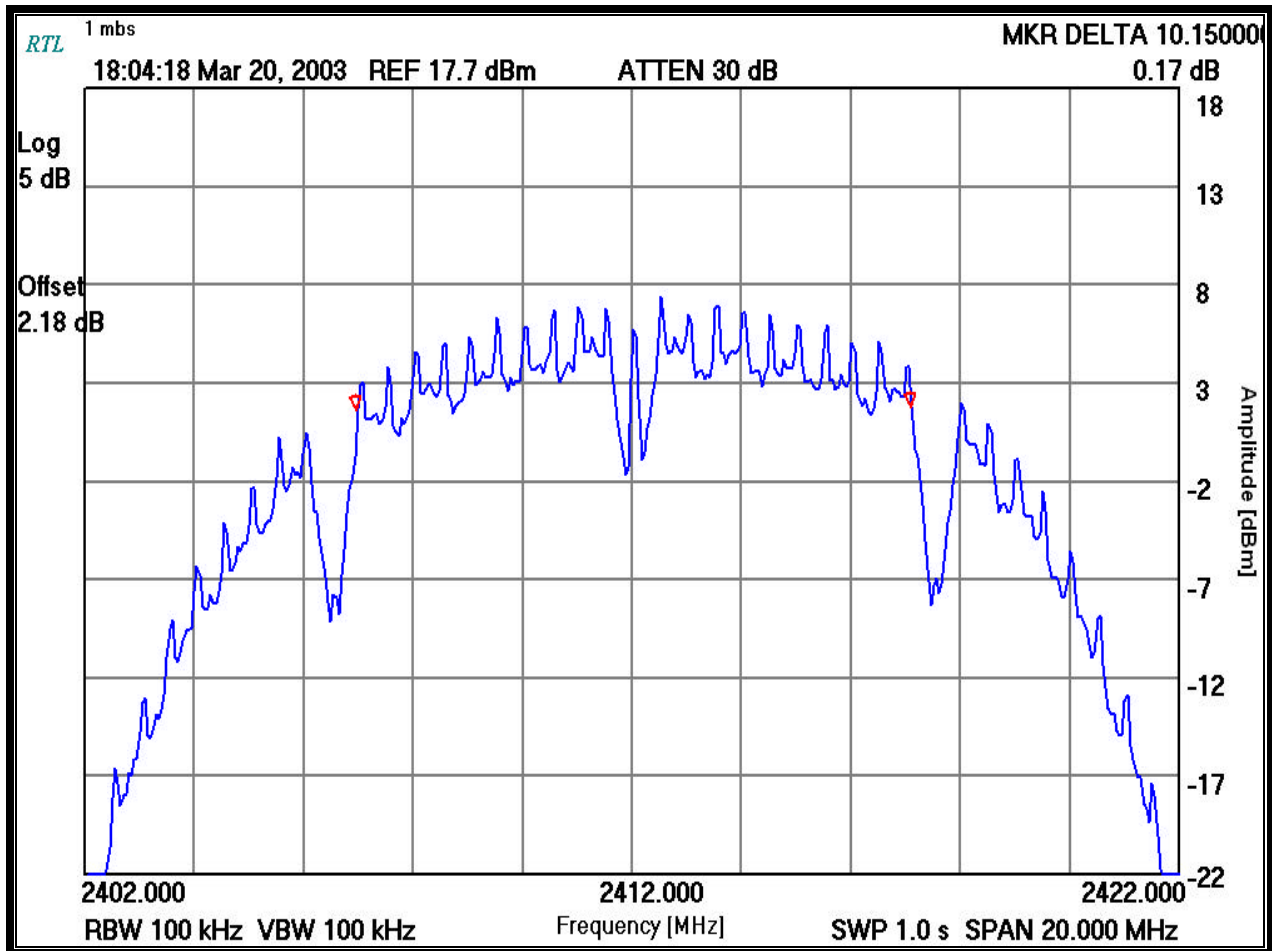
TABLE 7.2-1: MINIMUM 6 DB MODULATED BANDWIDTHS WLAN 13 CHANNEL 1

CHANNEL 1	6 dB BANDWIDTH (MHz)
1 MBPS	10.15
2 MBPS	12.40
11 MBPS	12.20

7.3. MODULATED BANDWIDTH TEST PLOTS WLAN 13


Operating Frequency (MHz): 2412
WLAN On: 13
Channel: 1
Data Rate (Mbps): 1

PLOT 7.3-1: 6 DB BANDWIDTH: CHANNEL 1 SET FOR 1 MBPS



TEST PERSONNEL:

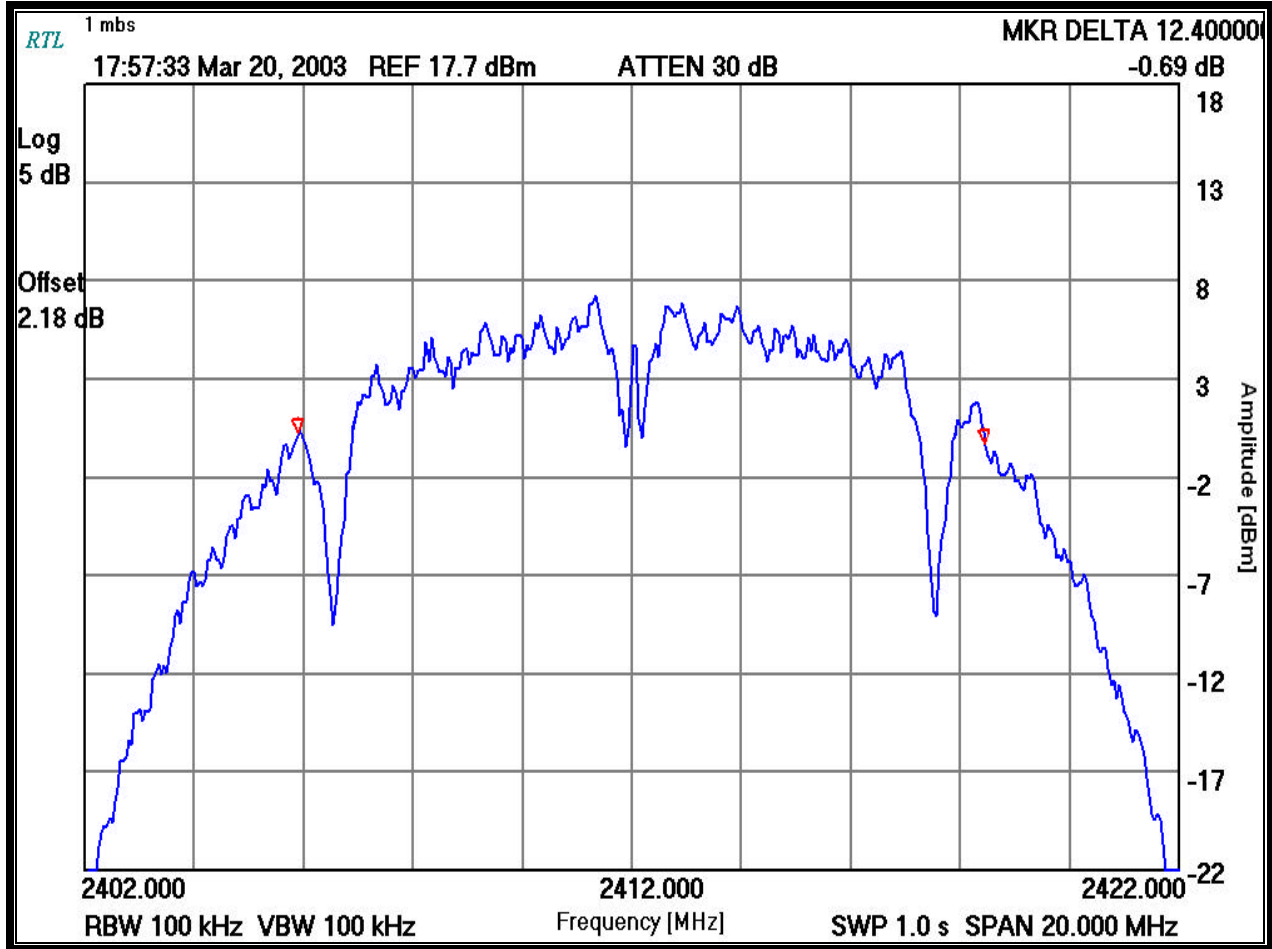
Rachid Sehb
Test Technician/Engineer


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03/20/2003
Date Of Test


Operating Frequency (MHz): 2412
WLAN On: 13
Channel: 1
Data Rate (Mbps): 2

PLOT 7.3-2: 6 DB BANDWIDTH: CHANNEL 1 SET FOR 2 MBPS



TEST PERSONNEL:

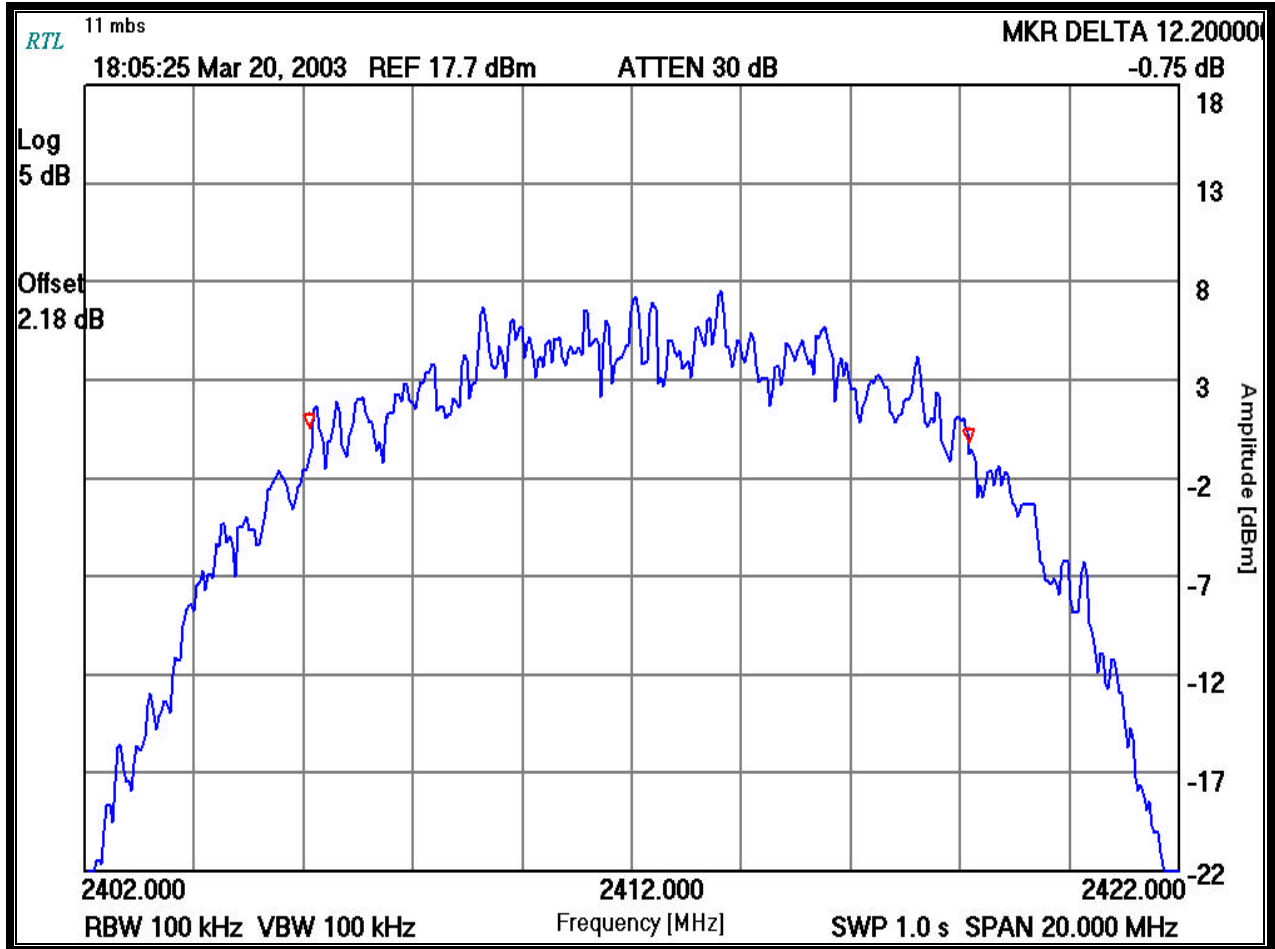
Rachid Sehb
Test Technician/Engineer


Signature

03/20/2003
Date Of Test


Operating Frequency (MHz): 2412
WLAN On: 13
Channel: 1
Data Rate (Mbps): 11

PLOT 7.3-3: 6 DB BANDWIDTH: CHANNEL 1 SET FOR 11 MBPS



TEST PERSONNEL:

Rachid Sehb
Test Technician/Engineer


Signature

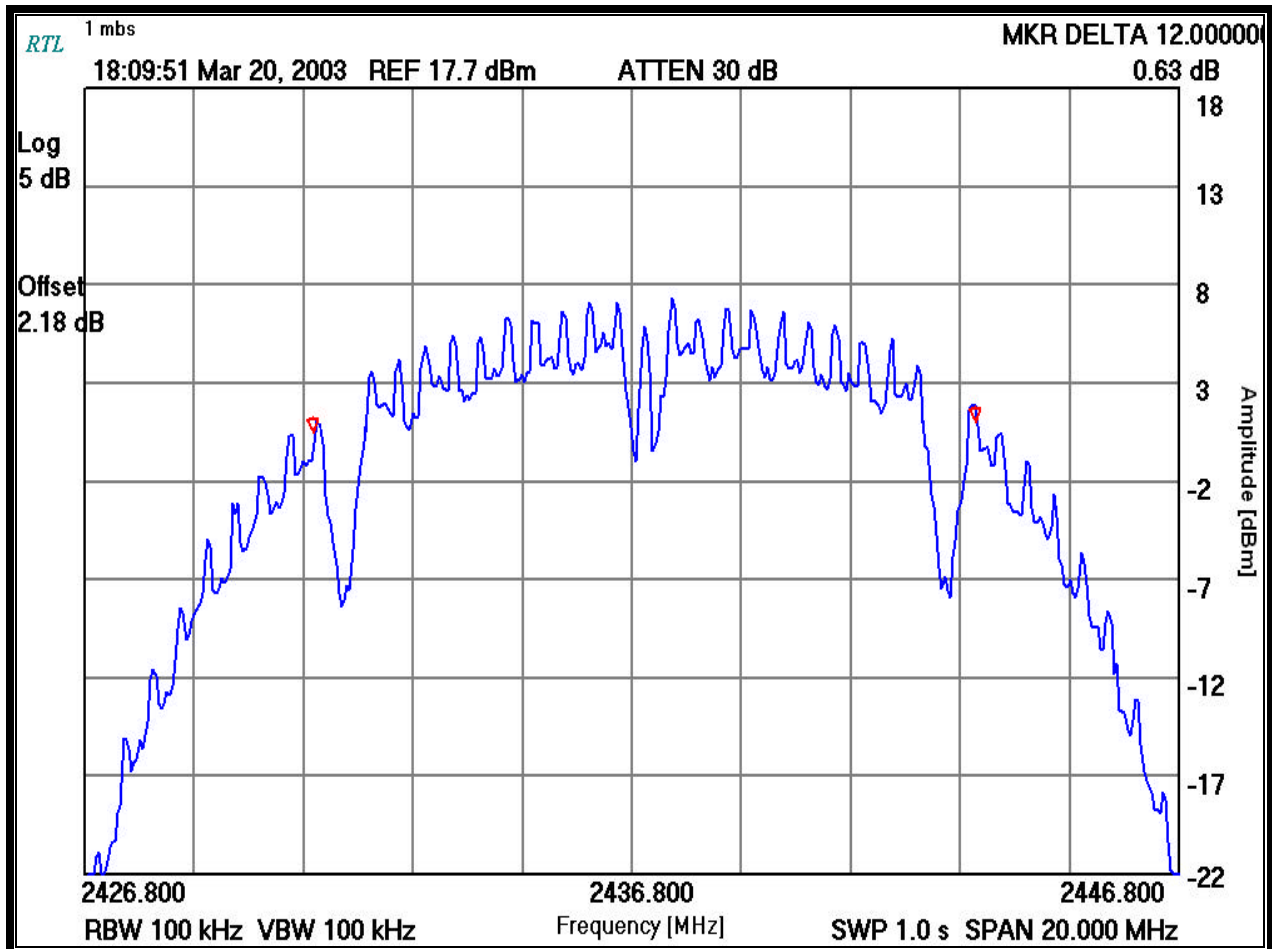
03/20/2003
Date Of Test

TABLE 7.3-1: MINIMUM 6 DB MODULATED BANDWIDTHS WLAN 13 CHANNEL 6

CHANNEL 6	6 dB BANDWIDTH (MHz)
1 MBPS	12.00
2 MBPS	12.80
11 MBPS	12.10

Operating Frequency (MHz): 2437
 WLAN On: 13
 Channel: 6
 Data Rate (Mbps): 1

PLOT 7.3-4: 6 DB BANDWIDTH: CHANNEL 6 SET FOR 1 MBPS



TEST PERSONNEL:

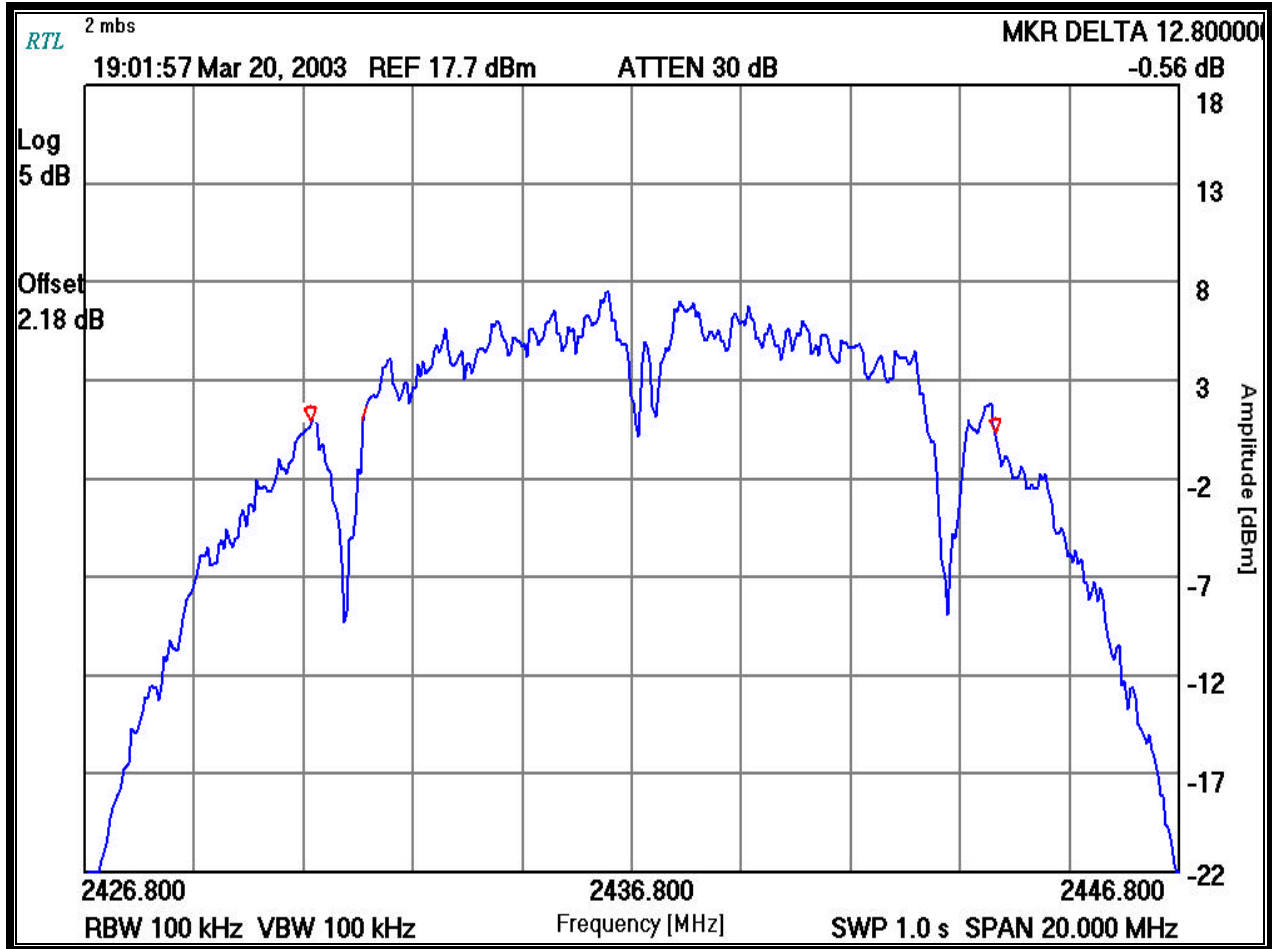
Rachid Sehb
 Test Technician/Engineer

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 Date Of Test

Operating Frequency (MHz): 2437
WLAN On: 13
Channel: 6
Data Rate (Mbps): 2

PLOT 7.3-5: 6 DB BANDWIDTH: CHANNEL 6 SET FOR 2 MBPS



TEST PERSONNEL:

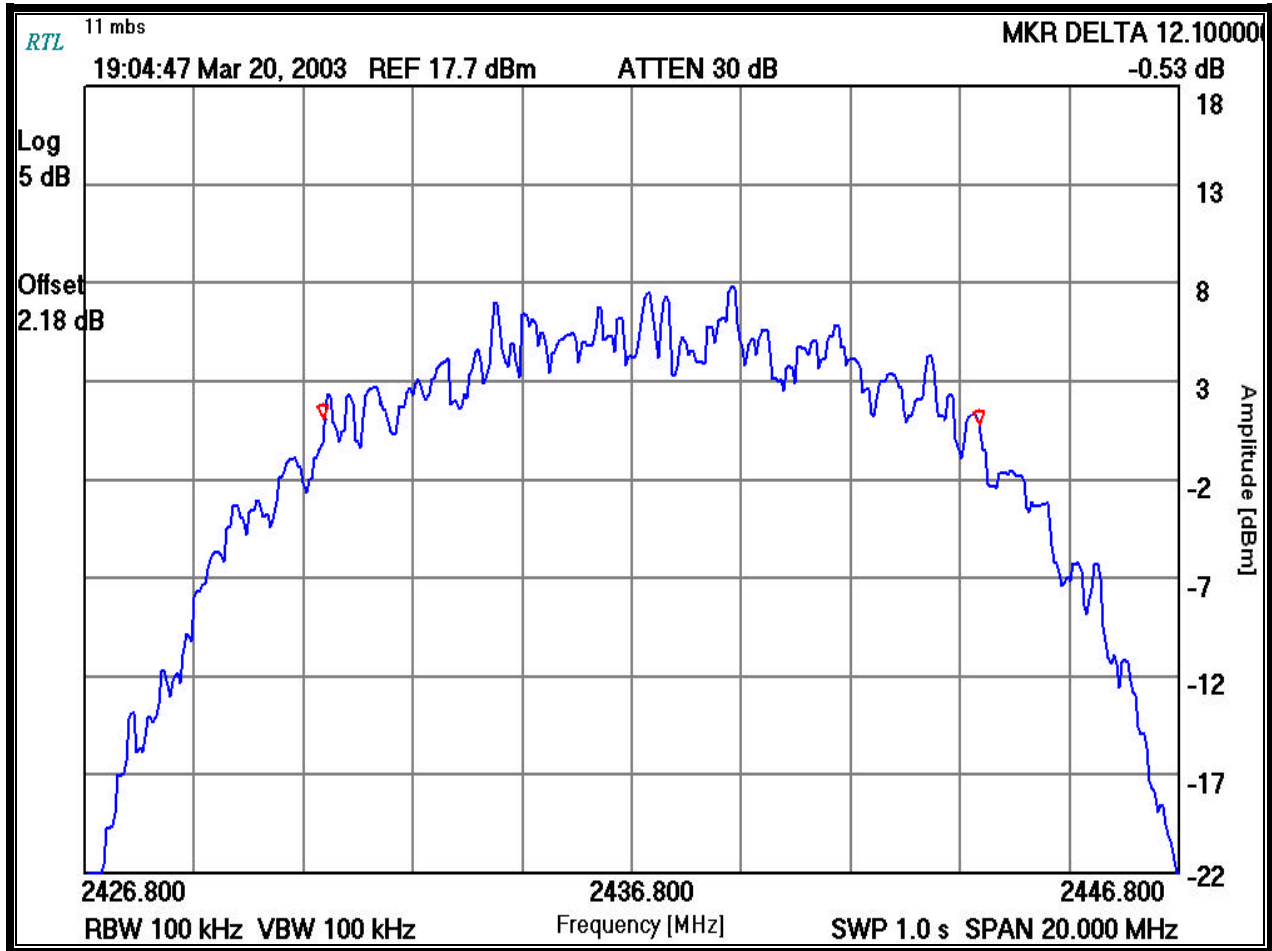
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Test Technician/Engineer

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Signature

03/20/2003
Date Of Test


Operating Frequency (MHz): 2437
WLAN On: 13
Channel: 6
Data Rate (Mbps): 11

PLOT 7.3-6: 6 DB BANDWIDTH: CHANNEL 6 SET FOR 11 MBPS



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Rachid Sehb
Test Technician/Engineer


Signature

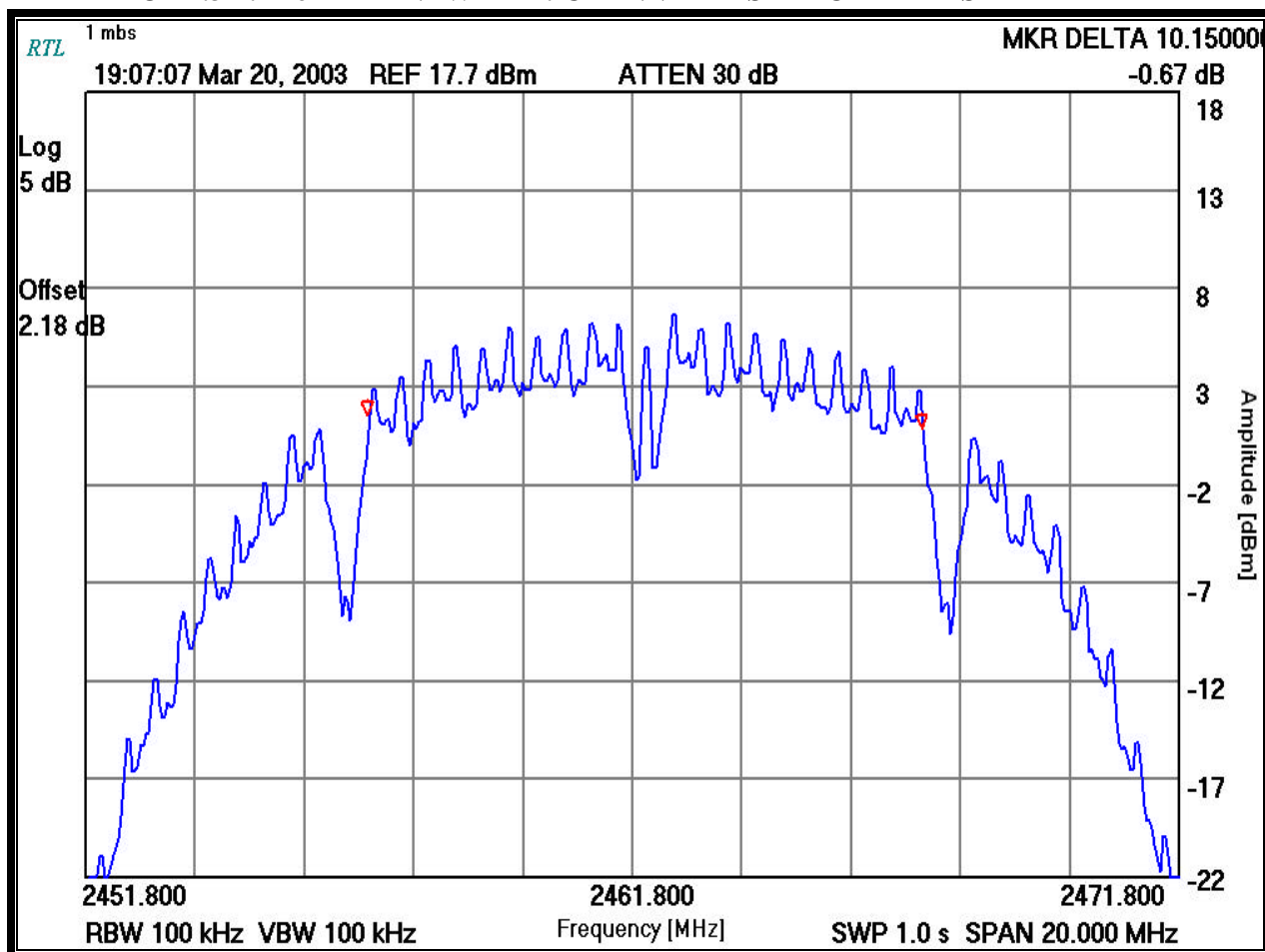
03/20/2003
Date Of Test

TABLE 7.3-2: MINIMUM 6 DB MODULATED BANDWIDTHS WLAN 13 CHANNEL 11

CHANNEL 11	6 dB BANDWIDTH (MHz)
1 MBPS	10.15
2 MBPS	12.85
11 MBPS	11.99

Operating Frequency (MHz): 2464
 WLAN On: 13
 Channel: 11
 Data Rate (Mbps): 1

PLOT 7.3-7: 6 DB BANDWIDTH: CHANNEL 11 SET FOR 1 MBPS



TEST PERSONNEL:

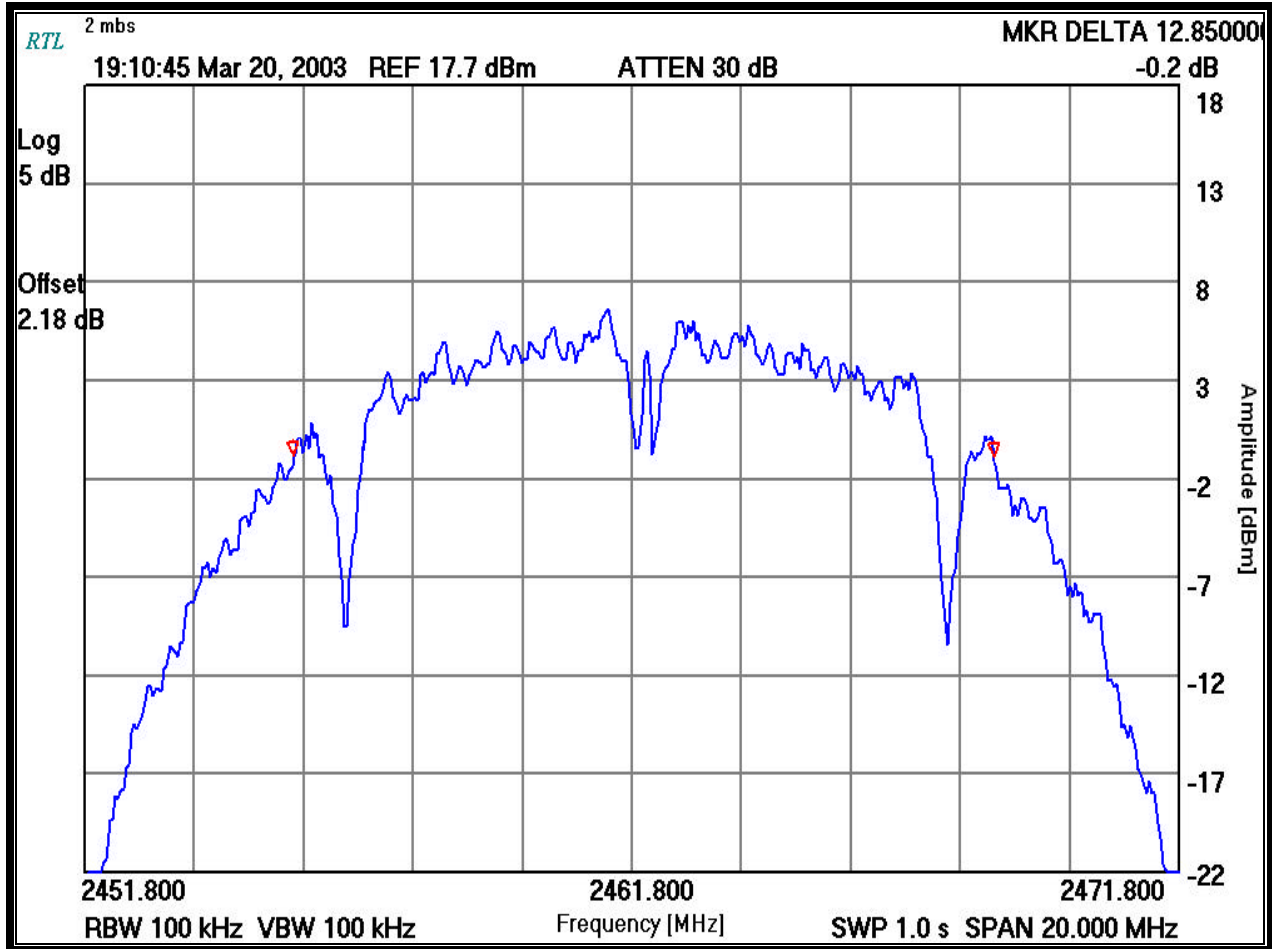
Rachid Sehb
 Test Technician/Engineer

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Operating Frequency (MHz): 2464
WLAN On: 13
Channel: 11
Data Rate (Mbps): 2

PLOT 7.3-8: 6 DB BANDWIDTH: CHANNEL 11 SET FOR 2 MBPS



TEST PERSONNEL:

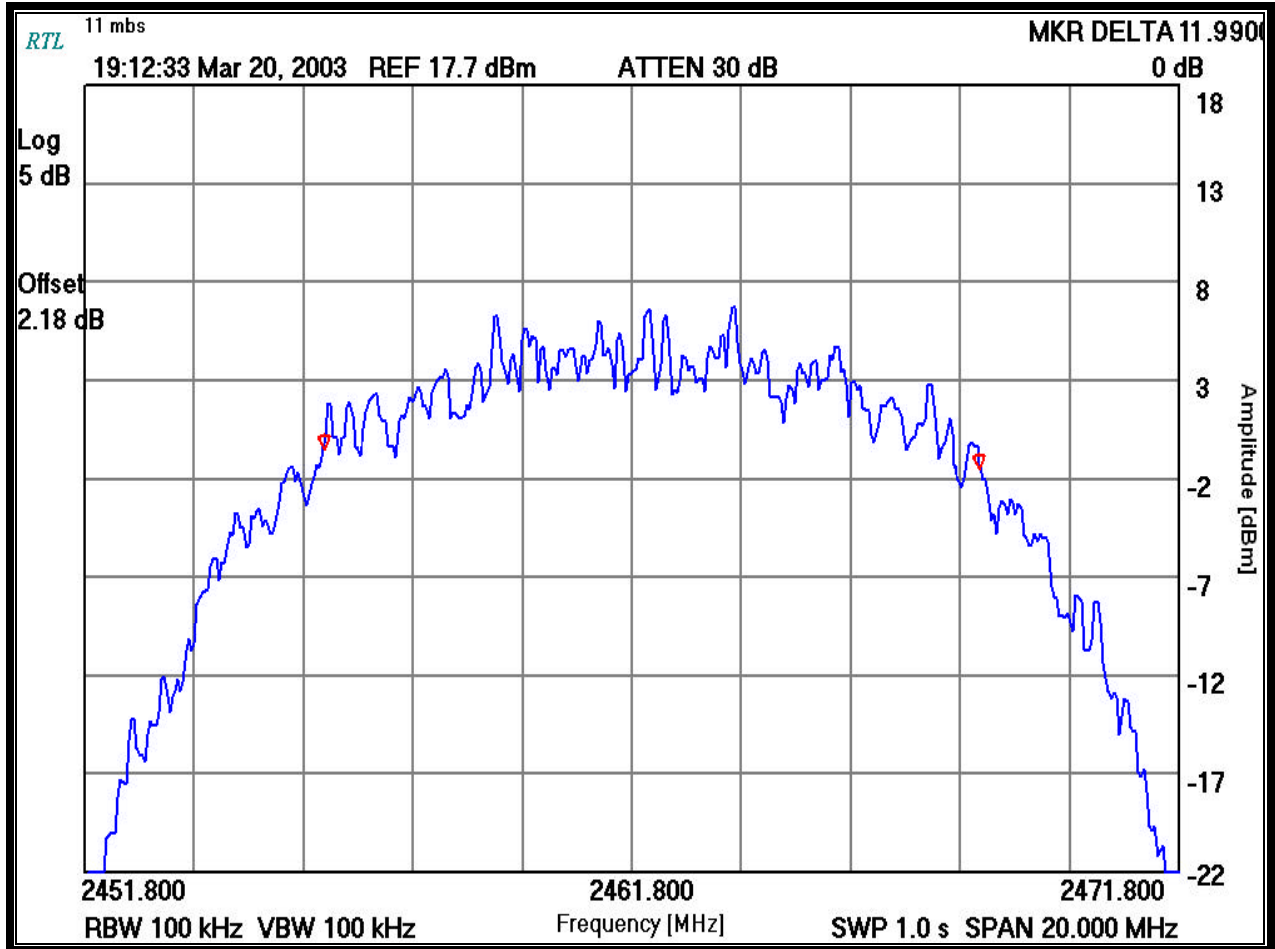
Rachid Sehb
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03/20/2003
Date Of Test

Operating Frequency (MHz): 2464
WLAN On: 13
Channel: 11
Data Rate (Mbps): 11

PLOT 7.3-9: 6 DB BANDWIDTH: CHANNEL 11 SET FOR 11 MBPS



TEST PERSONNEL:

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7.4. MODULATED BANDWIDTH TEST DATA WLAN 4

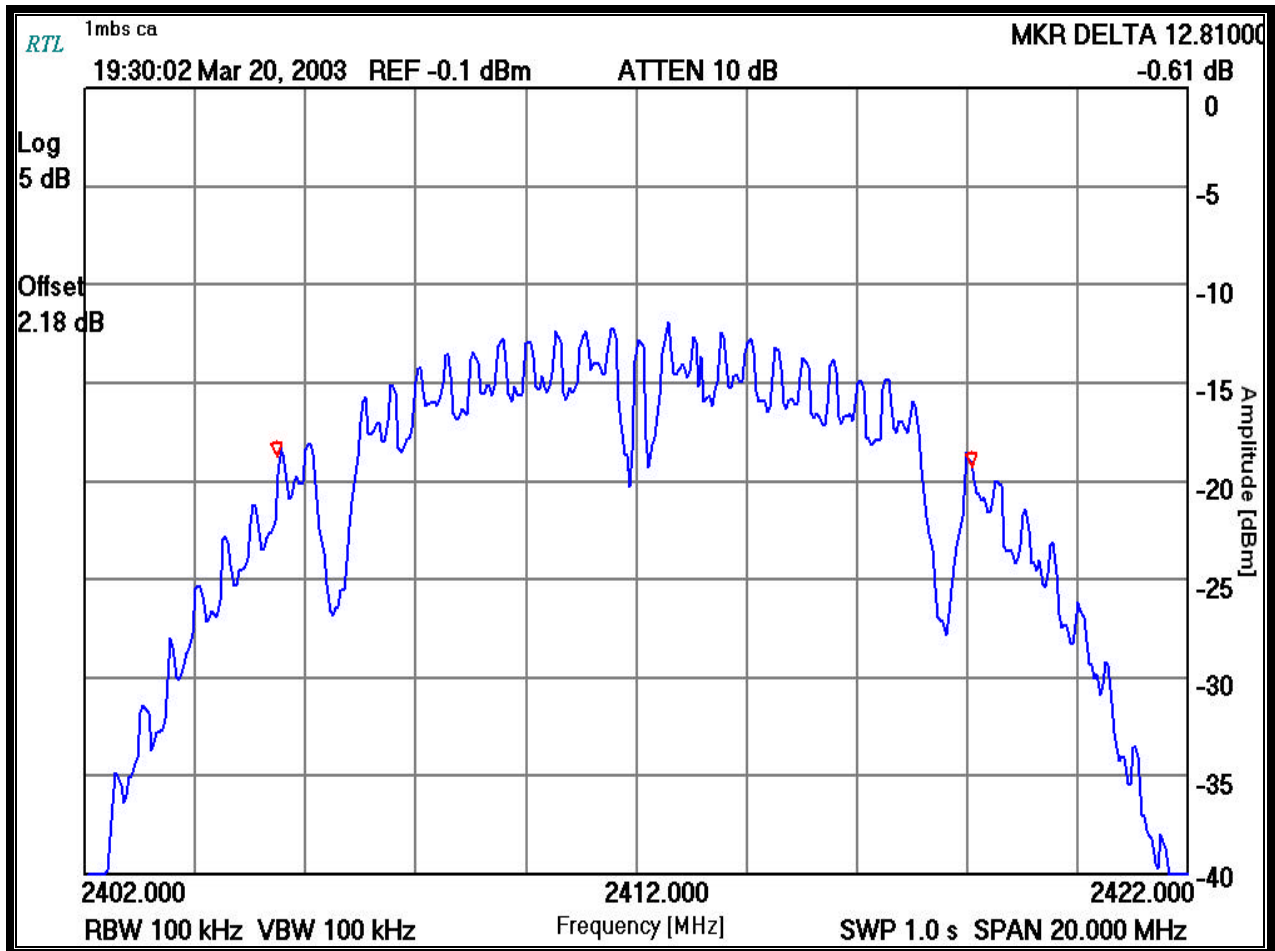
TABLE 7.4-1: MINIMUM 6 DB MODULATED BANDWIDTHS WLAN 4 CHANNEL 1

CHANNEL 1	6 dB BANDWIDTH (MHz)
1 MBPS	12.81
2 MBPS	12.90
11 MBPS	11.80

7.5. MODULATED BANDWIDTH TEST PLOTS WLAN 4


Operating Frequency (MHz): 2412
WLAN On: 4
Channel: 1
Data Rate (Mbps): 1

PLOT 7.5-1: 6 DB BANDWIDTH: CHANNEL 1 SET FOR 1 MBPS



TEST PERSONNEL:

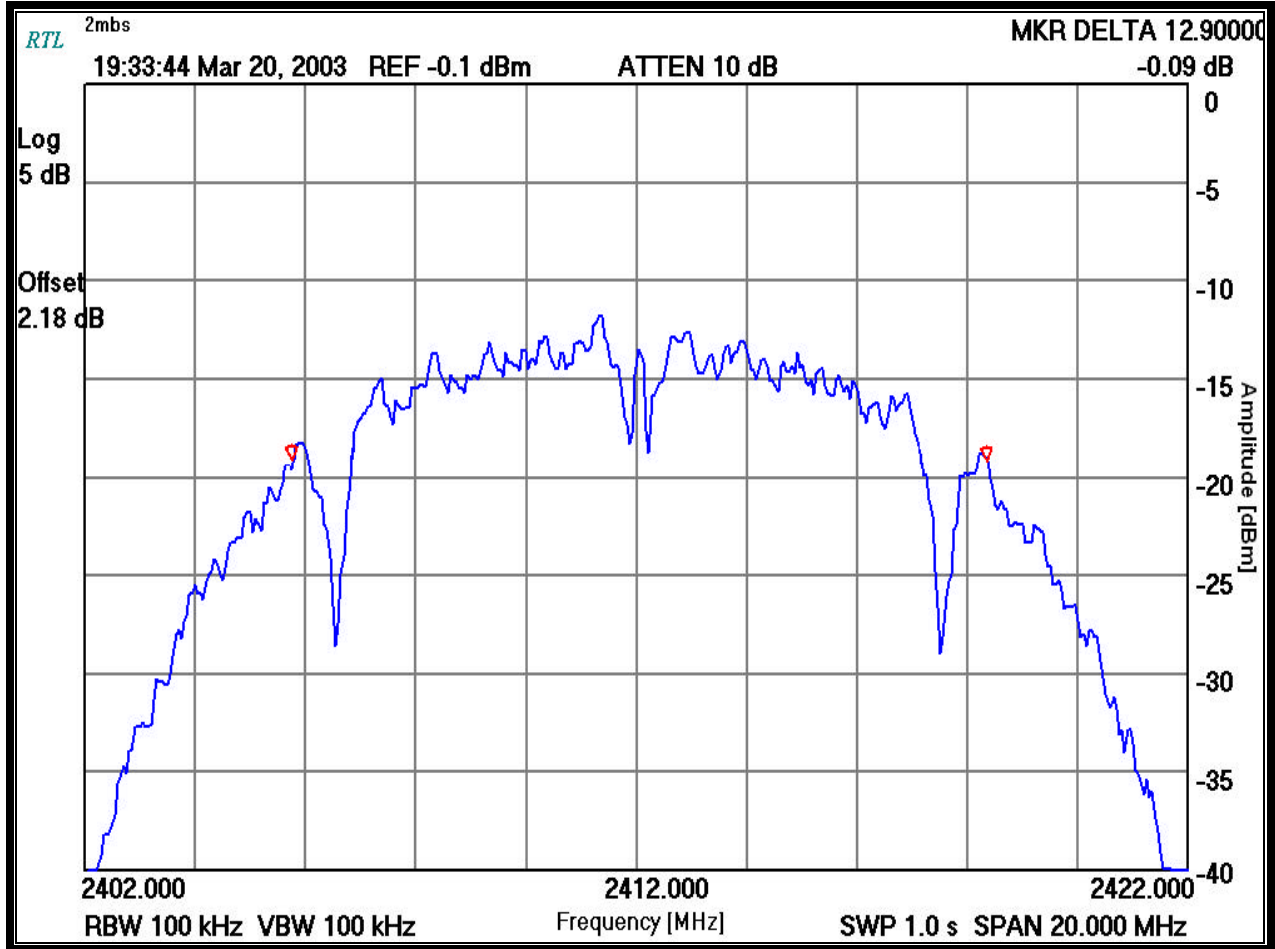
Rachid Sehb
Test Technician/Engineer


Signature

03/20/2003
Date Of Test


Operating Frequency (MHz): 2412
WLAN On: 4
Channel: 1
Data Rate (Mbps): 2

PLOT 7.5-2: 6 DB BANDWIDTH: CHANNEL 1 SET FOR 2 MBPS



TEST PERSONNEL:

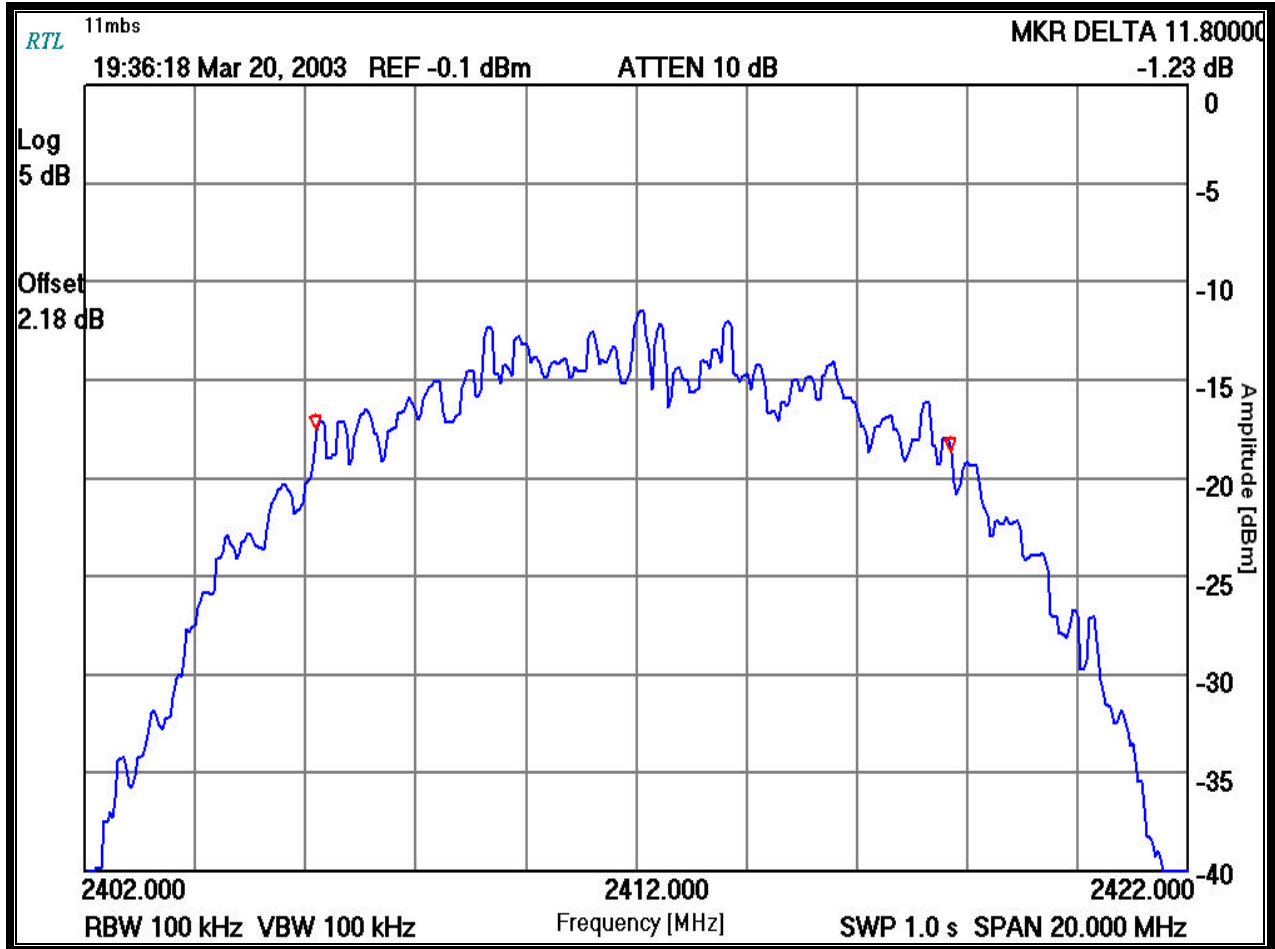
Rachid Sehb
Test Technician/Engineer


Signature

03/20/2003
Date Of Test


Operating Frequency (MHz): 2412
WLAN On: 4
Channel: 1
Data Rate (Mbps): 11

PLOT 7.5-3: 6 DB BANDWIDTH: CHANNEL 1 SET FOR 11 MBPS



TEST PERSONNEL:

Rachid Sehb
Test Technician/Engineer


Signature

03/20/2003
Date Of Test