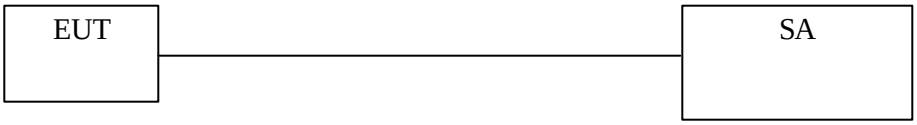
§15.247(b)(3) - PEAK OUTPUT POWER MEASUREMENT

Standard Applicable

According to §15.247(b) (3), for systems using digital modulation in 2400-2483.5 MHz: 1 Watt

Measurement Procedure

1. Place the EUT on a bench and set it in transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to a spectrum analyzer.
3. Add a correction factor to the display.



Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R/S	Spectrum Analyzer	FSEM	849720/019	2003-10-30	2004-10-29

Measurement Result

Environmental Conditions

Temperature:	24° C
Relative Humidity:	63%
ATM Pressure:	1100 mbar

2.4GHz-2.4835GHz Peak power output BPSK 802.11b

Channel	Frequency (MHZ)	RF Power (dBm)	Correction Factor (dB)	Corrected RF power (dBm)	Limit	Result
Low Channel	2412	6.68	8.25	14.93	1w (30dBm)	Pass
Middle Channel	2437	6.71	8.28	14.99	1w (30dBm)	Pass
High Channel	2462	7.28	8.62	15.60	1w (30dBm)	Pass

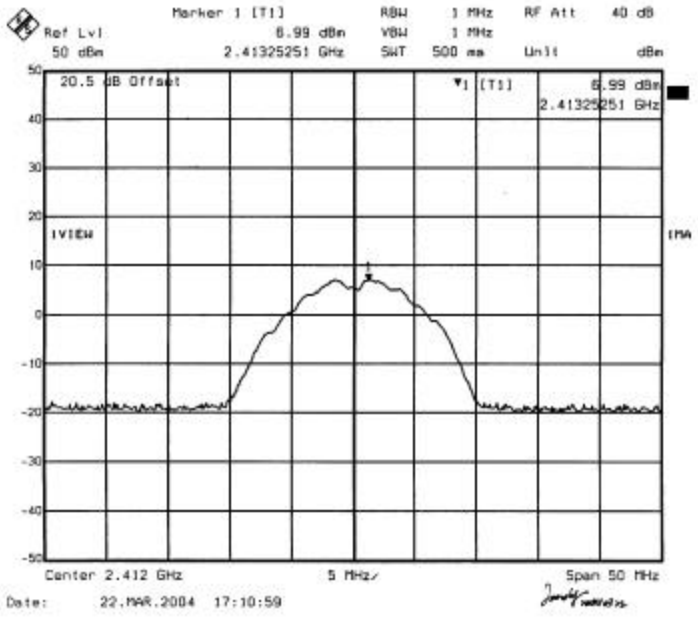
2.4GHz-2.4835GHz Peak power output QPSK 802.11b

Channel	Frequency (MHZ)	RF Power (dBm)	Correction Factor (dB)	Corrected RF power (dBm)	Limit	Result
Low Channel	2412	6.99	8.44	15.43	1w (30dBm)	Pass
Middle Channel	2437	6.80	8.33	15.13	1w (30dBm)	Pass
High Channel	2462	7.23	8.59	15.82	1w (30dBm)	Pass

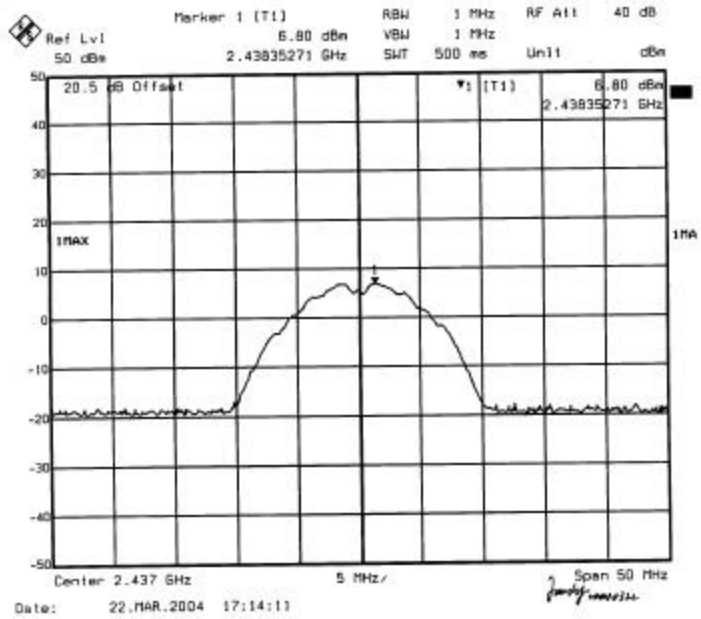
2.4GHz-2.4835GHz Peak power output CCK 802.11b

Channel	Frequency (MHZ)	RF Power (dBm)	Correction Factor (dB)	Corrected RF power (dBm)	Limit	Result
Low Channel	2412	7.37	8.67	16.04	1w (30dBm)	Pass
Middle Channel	2437	7.75	8.89	16.67	1w (30dBm)	Pass
High Channel	2462	7.31	8.64	15.91	1w (30dBm)	Pass

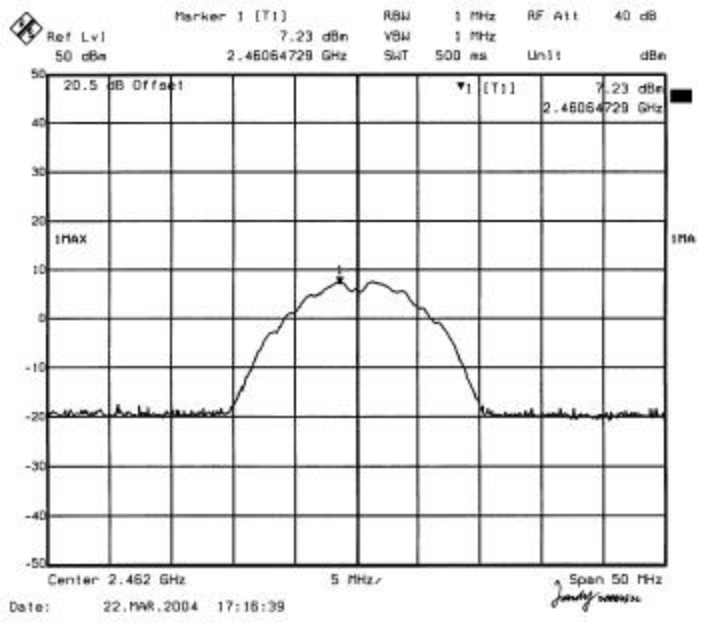
(2.4GHz-2.4835GHz) Low Channel QPSK 802.11b



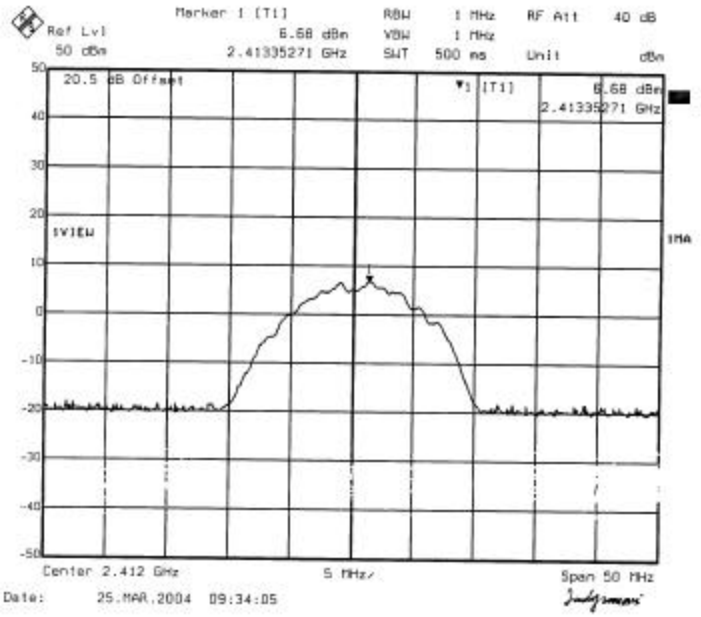
(2.4GHz-2.4835GHz) Middle Channel QPSK 802.11b



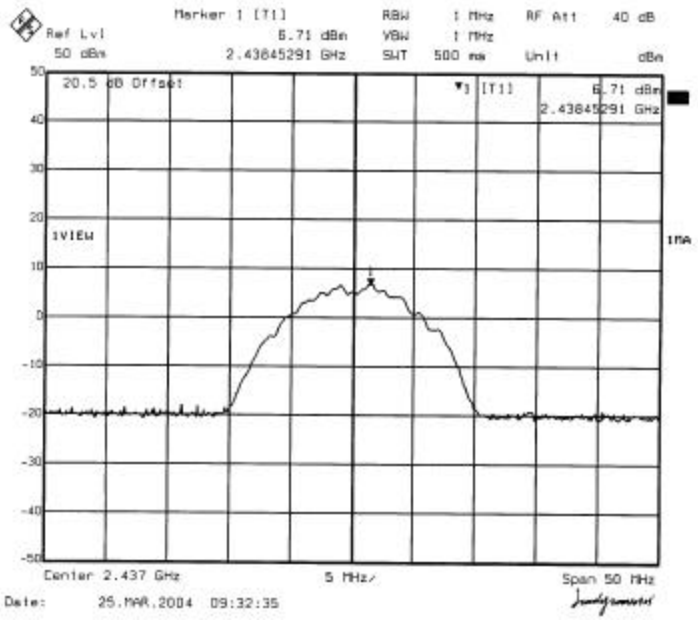
(2.4GHz-2.4835GHz) High Channel QPSK 802.11b



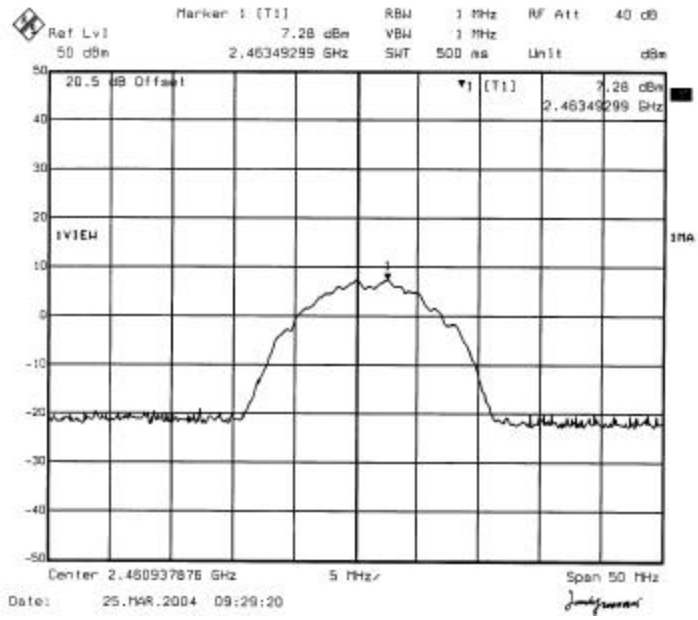
(2.4GHz-2.4835GHz) Low Channel BPSK 802.11b



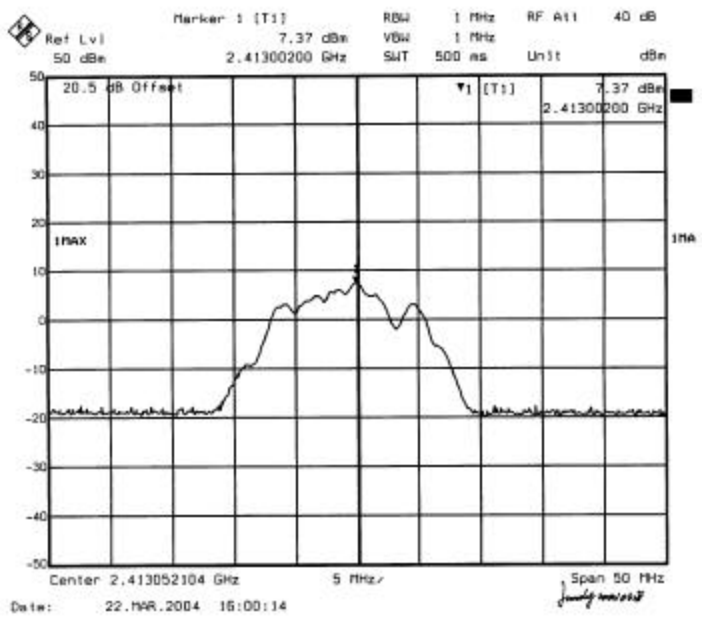
(2.4GHz-2.4835GHz) Middle Channel BPSK 802.11b



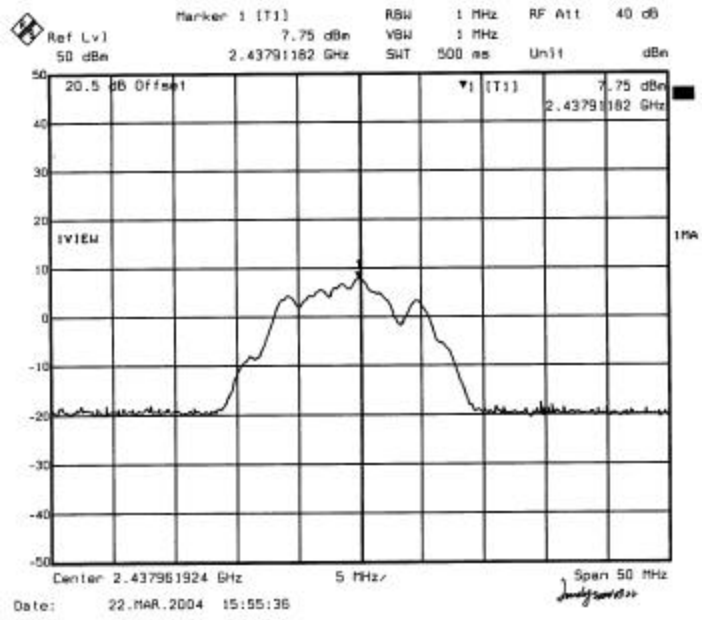
(2.4GHz-2.4835GHz) High Channel BPSK 802.11b



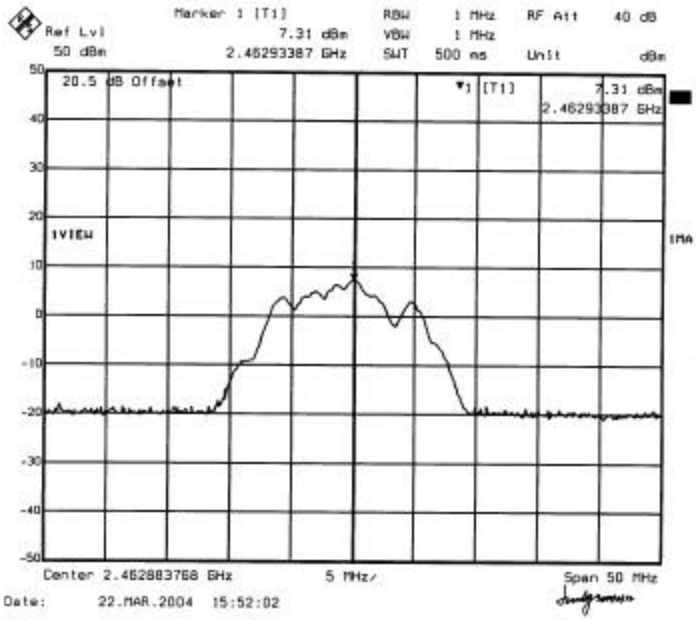
(2.4GHz-2.4835GHz) Low Channel CCK 802.11b



(2.4GHz-2.4835GHz) Middle Channel CCK 802.11b



(2.4GHz-2.4835GHz) High Channel CCK 802.11b



§15.247(a)(2) – 6 DB BANDWIDTH

Standard Applicable

According to §15.247(a)(2), for digital modulation techniques, the minimum 6dB bandwidth shall be at least 500 kHz.

Measurement Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect it to measurement instrument. Then set it to any one convenient frequency within its operating range. Set a reference level on the measuring instrument equal to the highest peak value.
3. Measure the frequency difference of two frequencies that were attenuated 6 dB from the reference level. Record the frequency difference as the emission bandwidth. (6 dB bandwidth for DTS)
4. Repeat above procedures until all frequencies measured were complete.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R/S	Spectrum Analyzer	FSEM	849720/019	2003-10-30	2004-10-29

Measurement Result

Environmental Conditions

Temperature:	24° C
Relative Humidity:	63%
ATM Pressure:	1100 mbar

2.4GHz-2.4835GHz 6dB bandwidth BPSK 802.11b

Channel	Frequency (MHz)	Measured (MHz)	Standard (kHz)	Result
Low Channel	2412	9.32	≥ 500	Pass
Middle Channel	2437	10.12	≥ 500	Pass
High Channel	2462	10.12	≥ 500	Pass

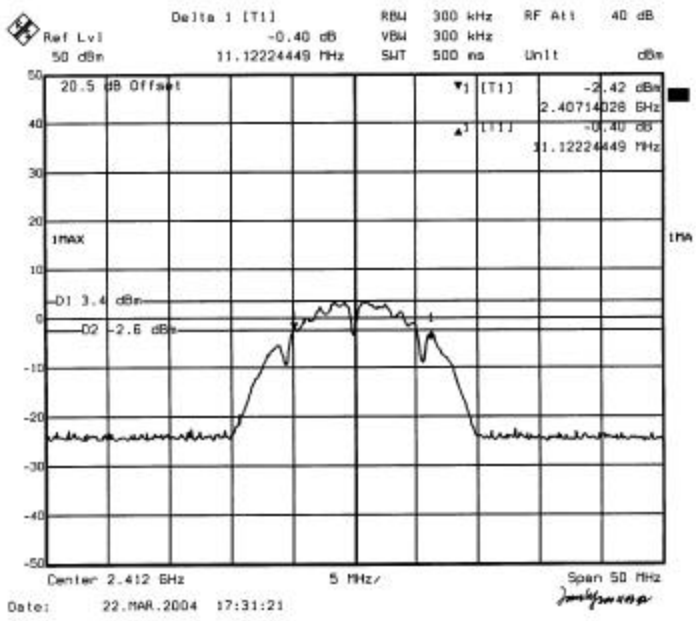
2.4GHz-2.4835GHz 6dB bandwidth QPSK 802.11b

Channel	Frequency (MHz)	Measured (MHz)	Standard (kHz)	Result
Low Channel	2412	11.12	≥ 500	Pass
Middle Channel	2437	10.22	≥ 500	Pass
High Channel	2462	11.22	≥ 500	Pass

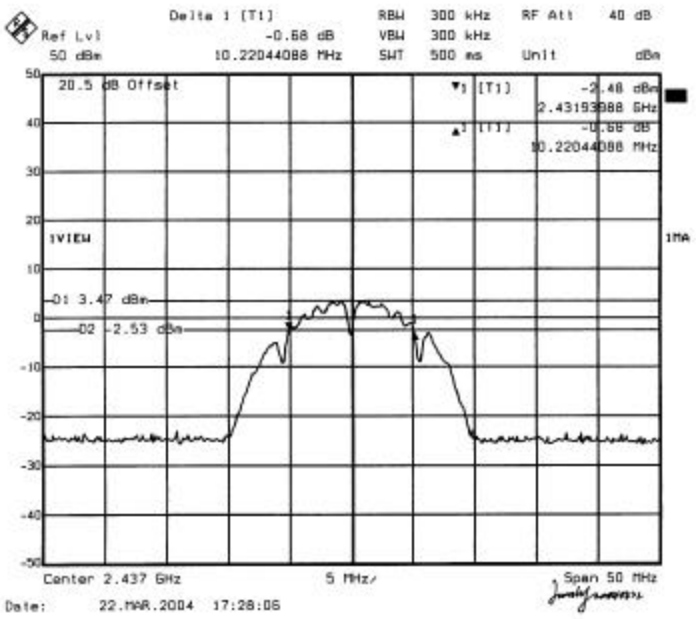
2.4GHz-2.4835GHz 6dB bandwidth CCK 802.11b

Channel	Frequency (MHz)	Measured (MHz)	Standard (kHz)	Result
Low Channel	2412	11.82	≥ 500	Pass
Middle Channel	2437	11.92	≥ 500	Pass
High Channel	2462	11.92	≥ 500	Pass

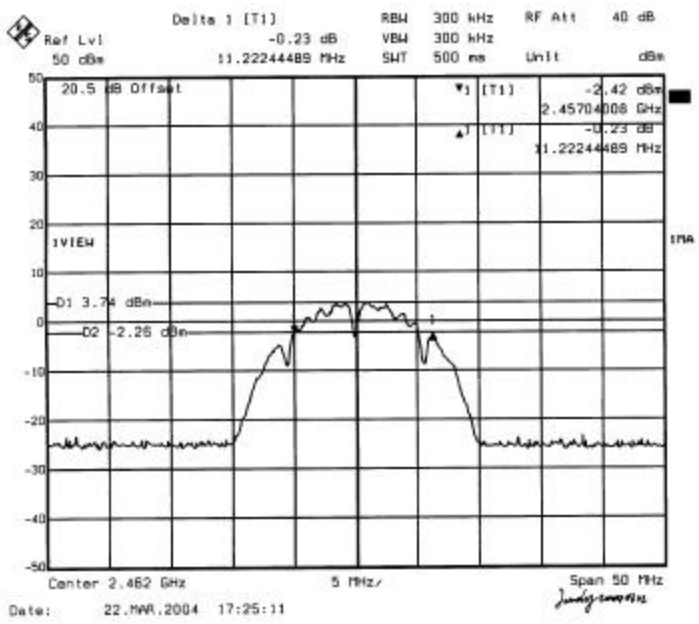
(2.4GHz-2.4835GHz) Low Channel QPSK 802.11b



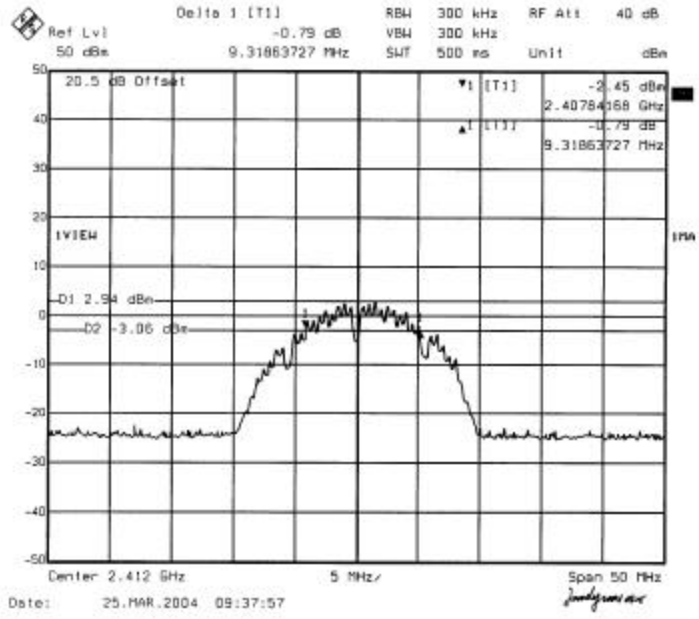
(2.4GHz-2.4835GHz) Middle Channel QPSK 802.11b



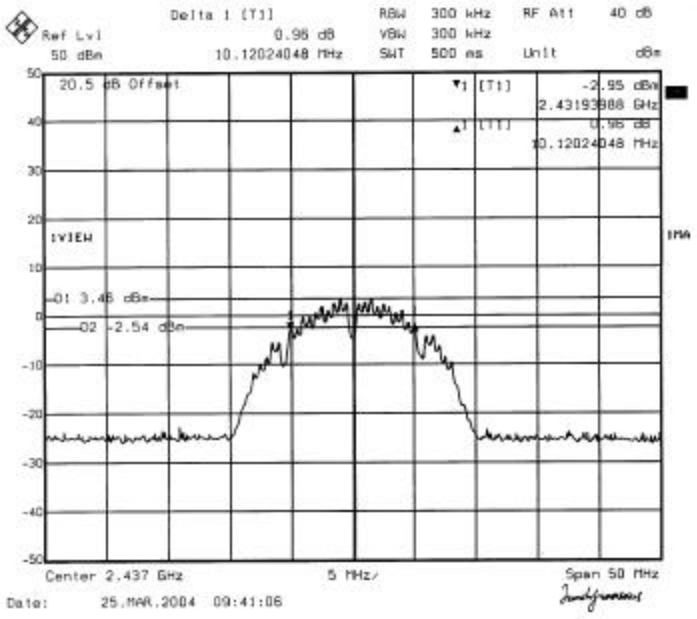
(2.4GHz-2.4835GHz) High Channel QPSK 802.11b



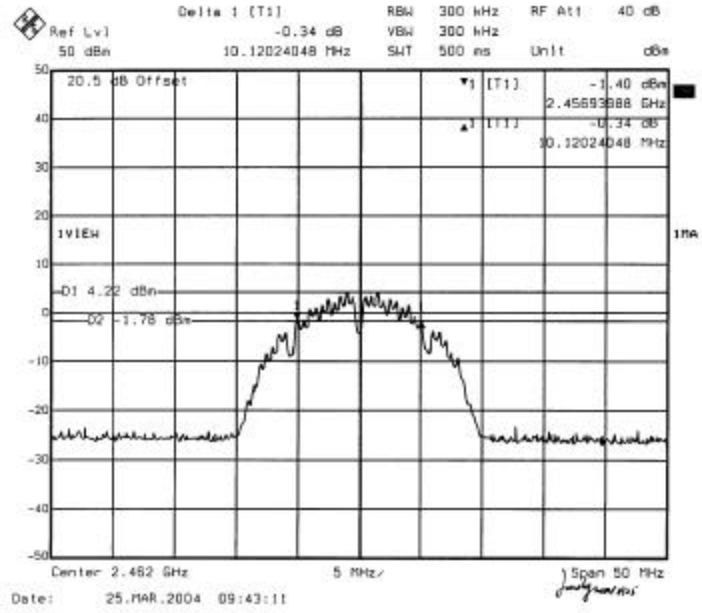
(2.4GHz-2.4835GHz) Low Channel BPSK 802.11b



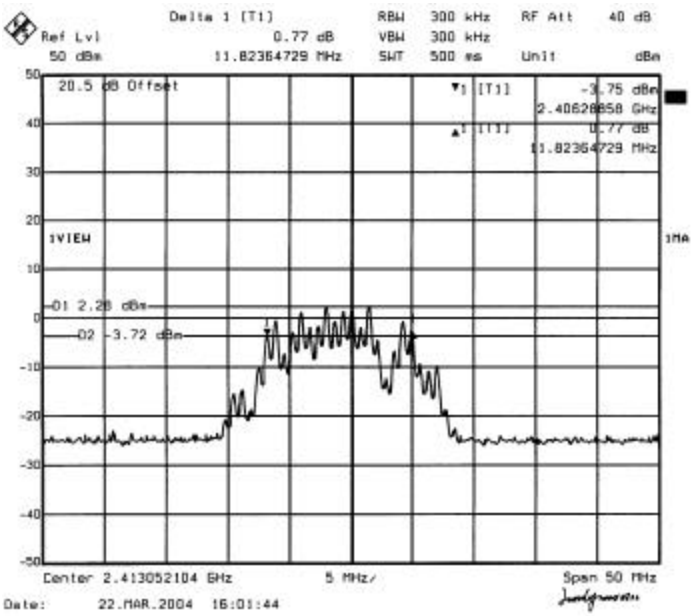
(2.4GHz-2.4835GHz) Middle Channel BPSK 802.11b



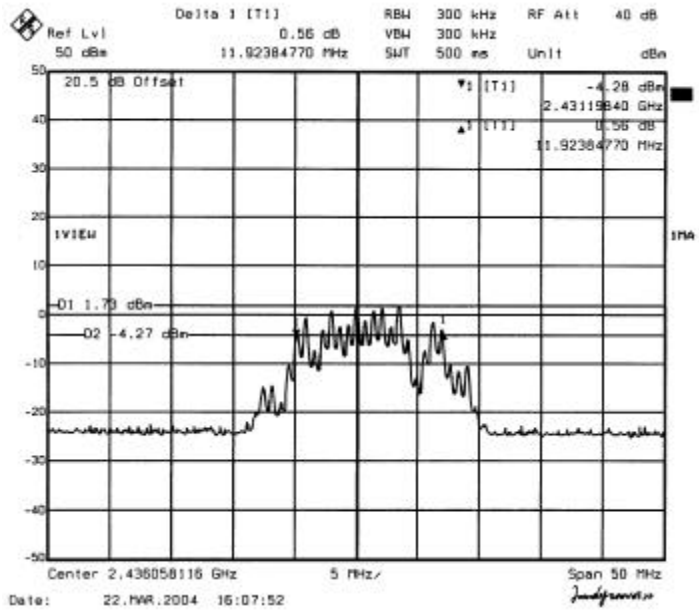
(2.4GHz-2.4835GHz) High Channel BPSK 802.11b



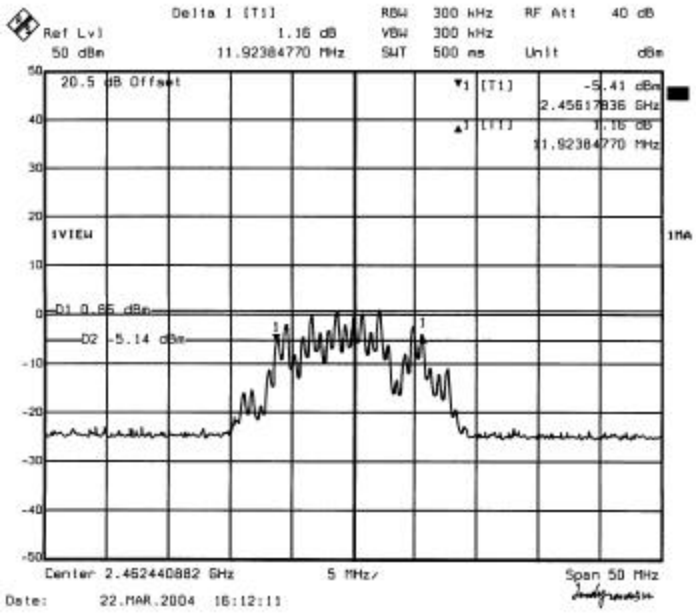
(2.4GHz-2.4835GHz) Low Channel CCK 802.11b



(2.4GHz-2.4835GHz) Middle Channel CCK 802.11b



(2.4GHz-2.4835GHz) High Channel CCK 802.11b



§15.247(d) - POWER SPECTRAL DENSITY

Standard Applicable

According to §15.247 (d), for direct sequence systems, the peak power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

Measurement Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT was set without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its -ar range.
3. Adjust the center frequency of SA on any frequency be measured and set SA to 6MHz span mode. And then, set RBW and VBW of spectrum analyzer to proper value. (DTS)
4. Repeat above procedures until all frequencies measured were complete.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R/S	Spectrum Analyzer	FSEM	849720/019	2003-10-30	2004-10-29

Measurement Result

Environmental Conditions

Temperature:	24° C
Relative Humidity:	63%
ATM Pressure:	1100 mbar

2.4GHz-2.4835GHz Power Spectral Density BPSK 802.11b

Channel	Frequency (MHz)	Peak Power Spectral Density (dBm)	Standard (dBm)	Result
Low Channel	2412	-14.43	≤ 8	Pass
Middle Channel	2437	-14.23	≤ 8	Pass
High Channel	2462	-13.78	≤ 8	Pass

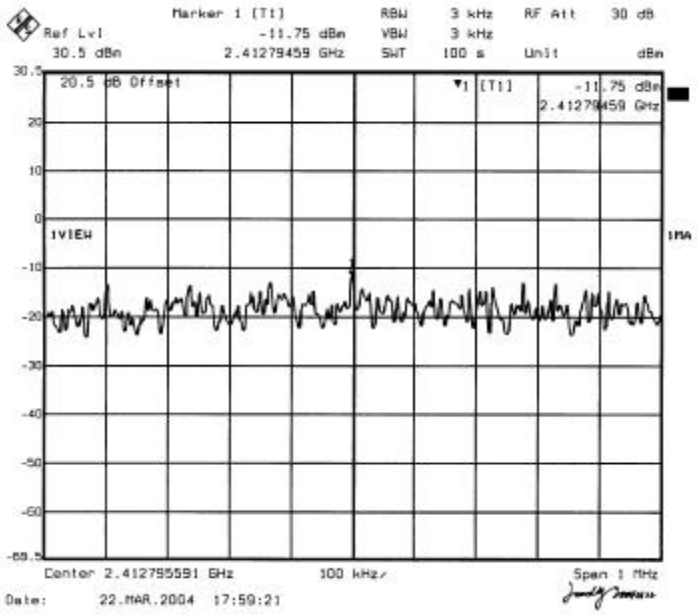
2.4GHz-2.4835GHz Power Spectral Density QPSK 802.11b

Channel	Frequency (MHz)	Peak Power Spectral Density (dBm)	Standard (dBm)	Result
Low Channel	2412	-11.75	≤ 8	Pass
Middle Channel	2437	-11.97	≤ 8	Pass
High Channel	2462	-15.78	≤ 8	Pass

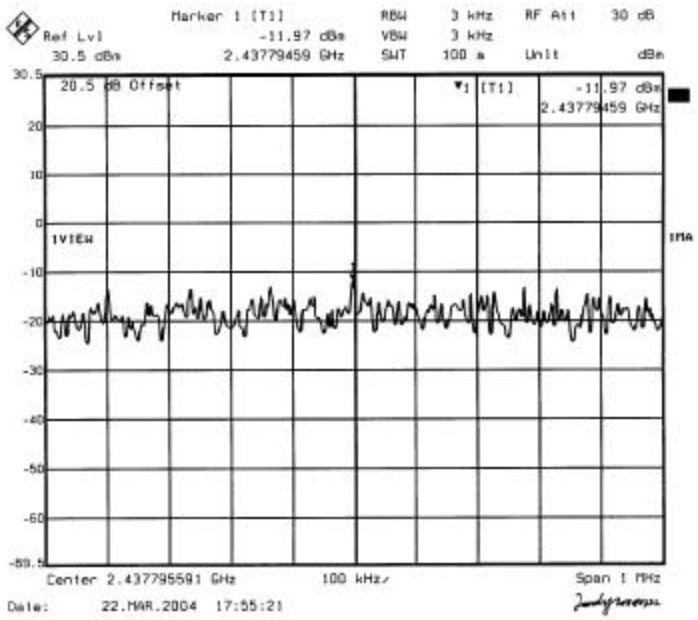
2.4GHz-2.4835GHz Power Spectral Density CCK 802.11b

Channel	Frequency (MHz)	Peak Power Spectral Density (dBm)	Standard (dBm)	Result
Low Channel	2412	-1.13	≤ 8	Pass
Middle Channel	2437	-0.31	≤ 8	Pass
High Channel	2462	-2.30	≤ 8	Pass

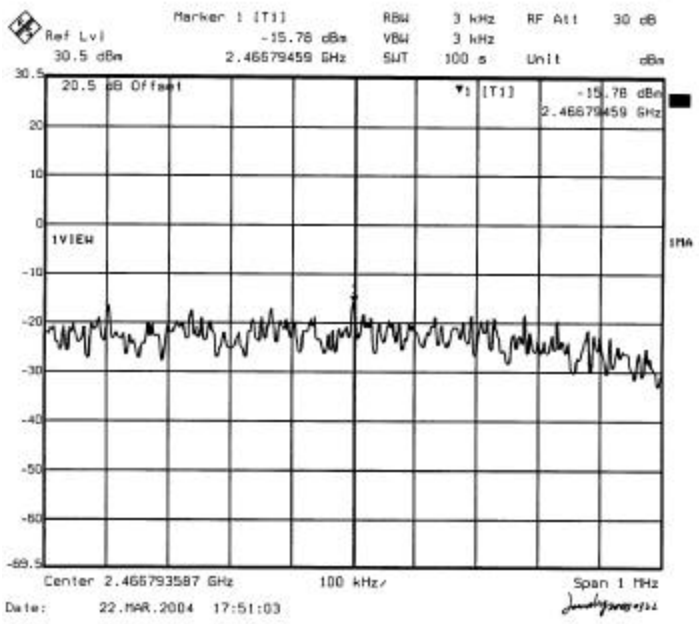
(2.4GHz-2.4835GHz) Low Channel QPSK 802.11b



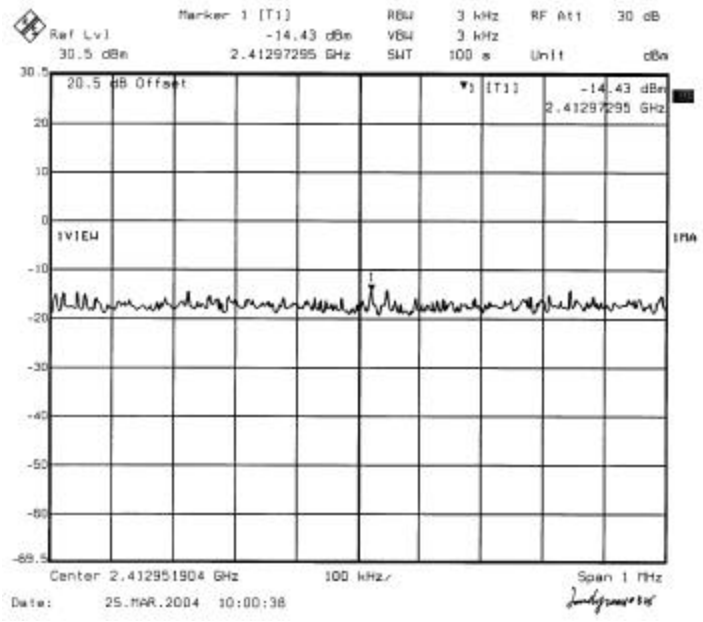
(2.4GHz-2.4835GHz) Middle Channel QPSK 802.11b



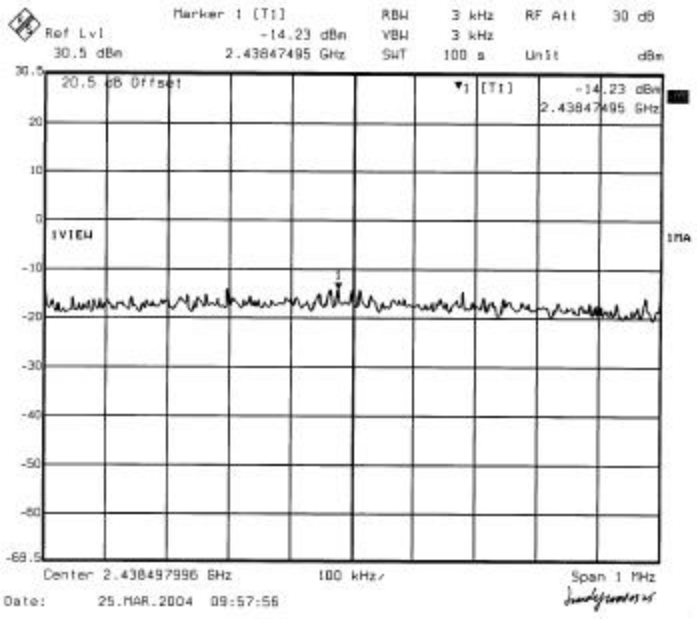
(2.4GHz-2.4835GHz) High Channel QPSK 802.11b



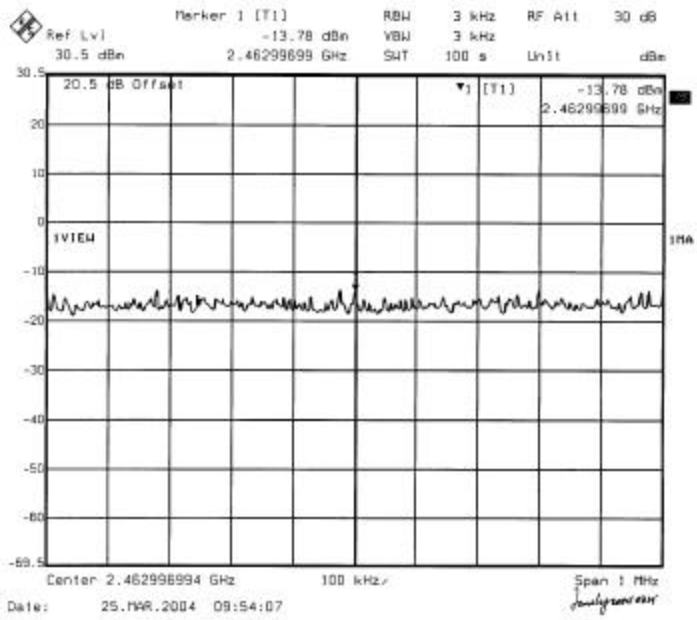
(2.4GHz-2.4835GHz) Low Channel BPSK 802.11b



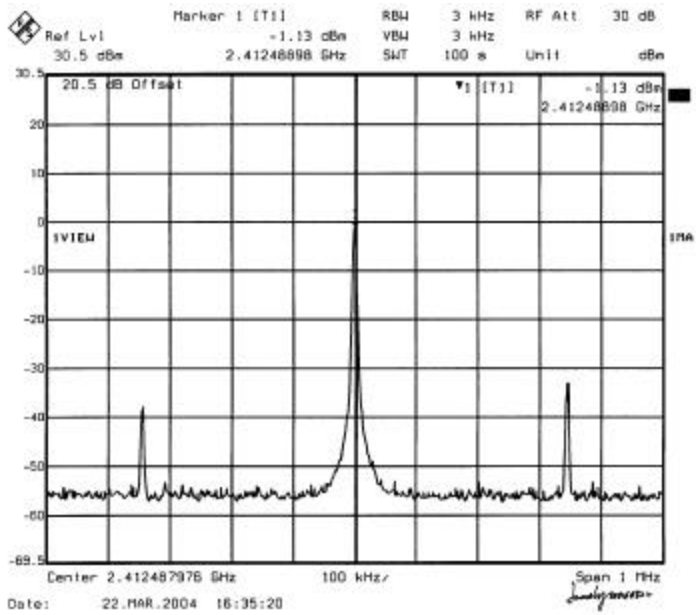
(2.4GHz-2.4835GHz) Middle Channel BPSK 802.11b



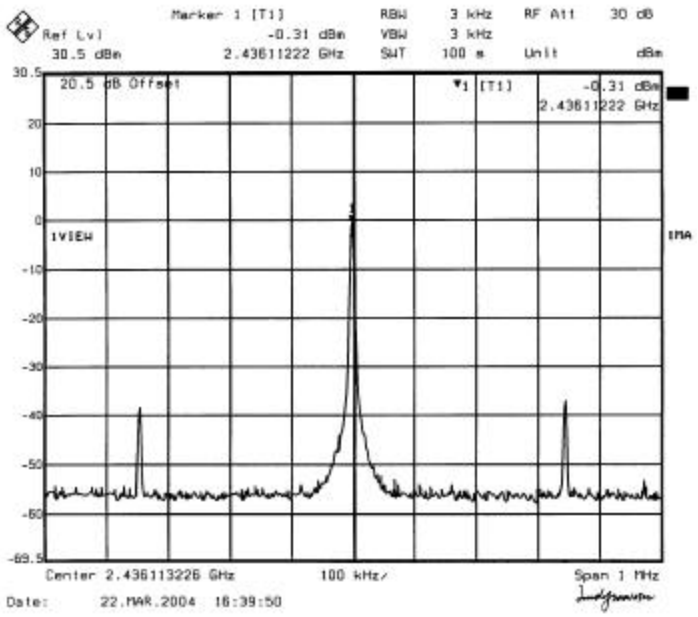
(2.4GHz-2.4835GHz) High Channel BPSK 802.11b



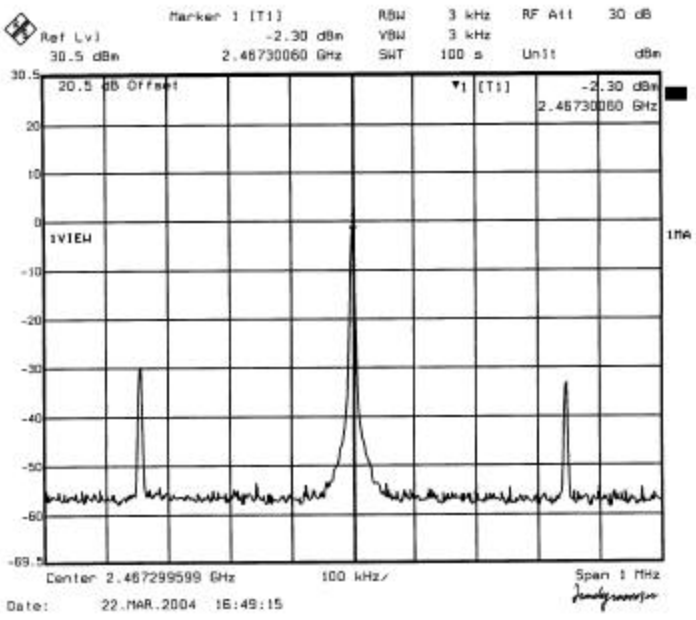
(2.4GHz-2.4835GHz) Low Channel CCK 802.11b



(2.4GHz-2.4835GHz) Middle Channel CCK 802.11b



(2.4GHz-2.4835GHz) High Channel CCK 802.11b



§15.247(c) - 100 KHZ BANDWIDTH OF BAND EDGES

Standard Applicable

According to §15.247(c), in *any* 100 kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) see §15.205(c)).

Measurement Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. Set both RBW and VBW of spectrum analyzer to 100 kHz with a convenient frequency span including 100kHz bandwidth from band edge.
4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5. Repeat above procedures until all measured frequencies were complete.

Test Equipment List and Details

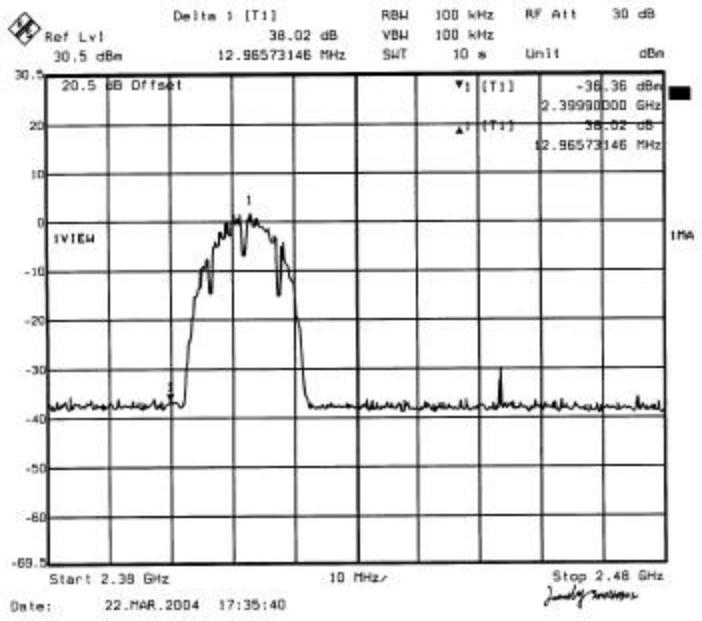
Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R/S	Spectrum Analyzer	FSEM	849720/019	2003-10-30	2004-10-29

Measurement Result

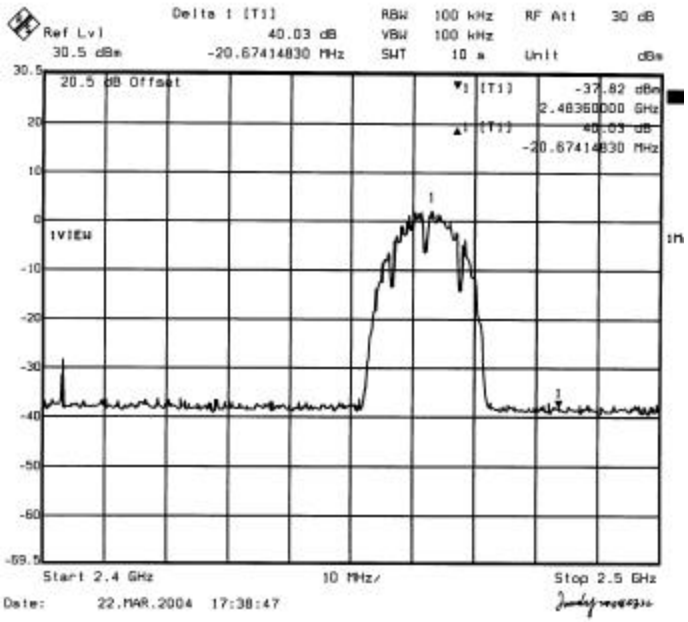
Environmental Conditions

Temperature:	24° C
Relative Humidity:	63%
ATM Pressure:	1100 mbar

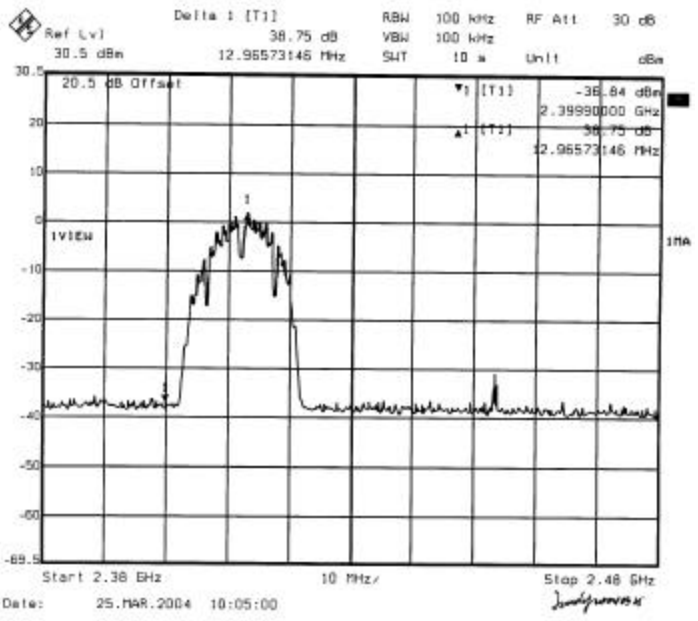
(2.4GHz-2.4835GHz) Low Channel QPSK 802.11b



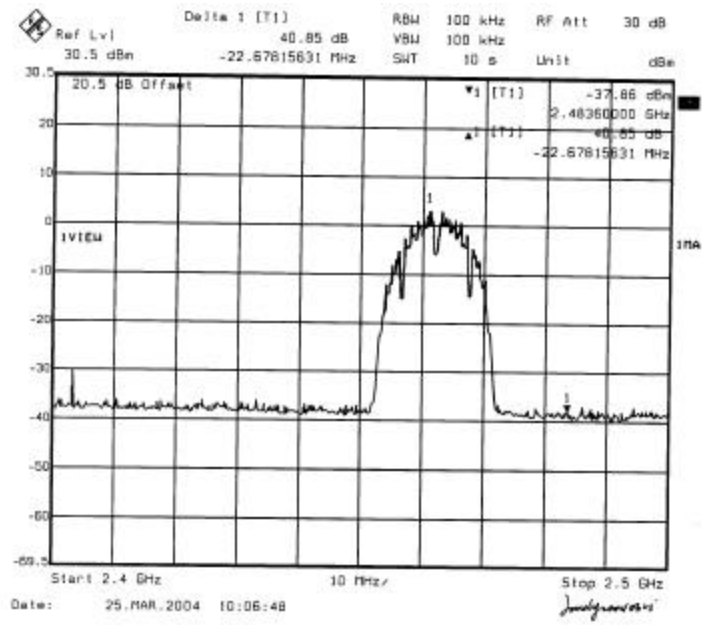
(2.4GHz-2.4835GHz) High Channel QPSK 802.11b



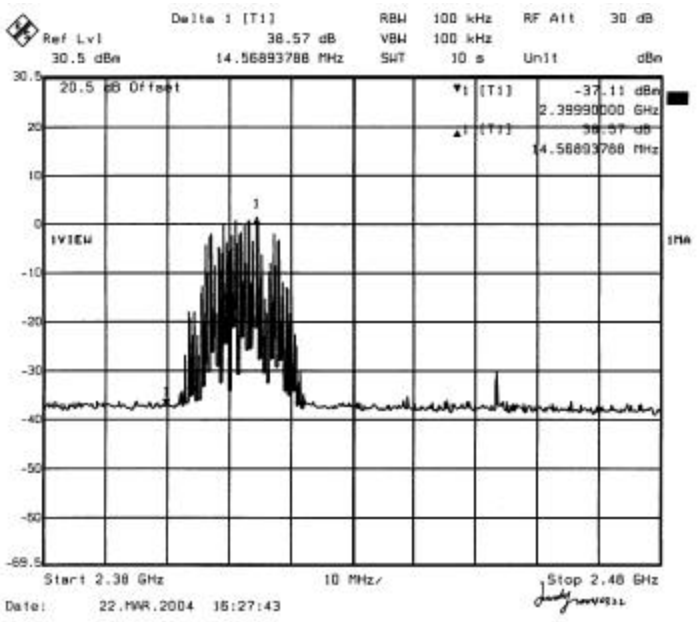
(2.4GHz-2.4835GHz) Low Channel BPSK 802.11b



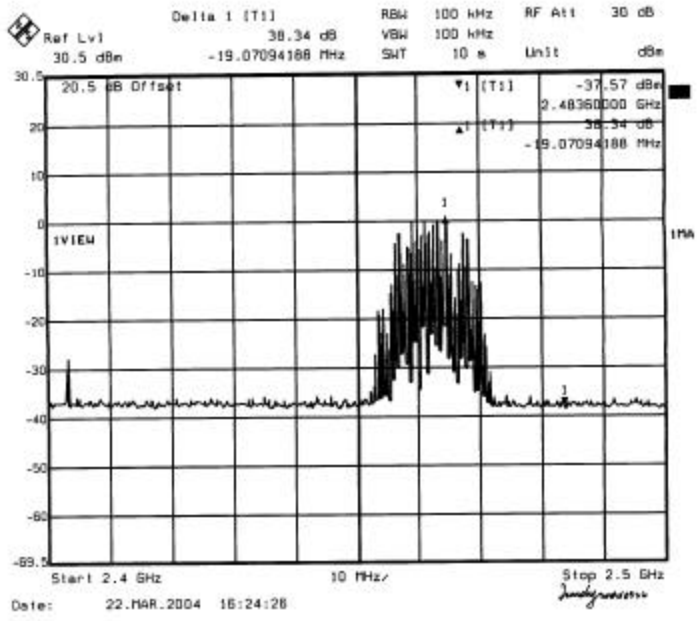
(2.4GHz-2.4835GHz) High Channel BPSK 802.11b



(2.4GHz-2.4835GHz) Low Channel CCK 802.11b



(2.4GHz-2.4835GHz) High Channel CCK 802.11b



§15.203 - ANTENNA REQUIREMENT

Standard Applicable

For intentional device, according to § 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

And according to § 15.247 (1), if transmitting antennas of directional gain greater than 6 dBi are used the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

According to § 15.407 (d), any U-NII device shall use a transmitting antenna that is an integral part of the device.

Refer to statement below for compliance.

“The antenna for this device is an integral antenna that the end user cannot access. Furthermore the device is for outdoor use as detailed in the Users Manual and Operational Description”.

Antenna Connected Construction

The antenna connector is designed with permanent attachment and no consideration of replacement.

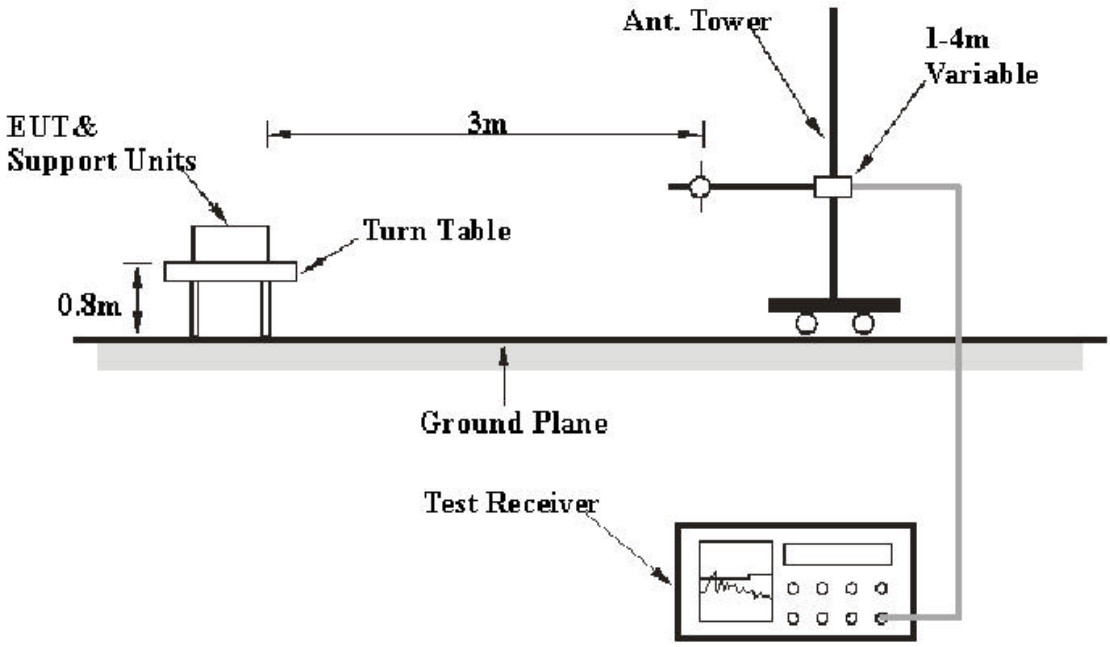
§15.209(f) - SPURIOUS RADIATED EMISSION

Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

Based on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of a radiation emissions measurement at BACL is ±4.0 dB.

EUT Setup



The radiated emission tests were performed in the open area 3-meter test site, using the setup accordance with the ANSI C63.4-2001. The specification used was the FCC Part 15.209 and 15.247 limits.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.

The Host PC was connected to a 120 VAC/ 60Hz power source.

Spectrum Analyzer Setup

The system was investigated from 30MHz to 25GHz.

During the radiated emission test, the spectrum analyzer was set with the following configurations:

Frequency Range	***RBW***	***Video B/W***
30 – 1000MHz	100KHz	100KHz
1 – 25GHz	1MHz	1MHz

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R/S	Spectrum Analyzer	FSEM	849720/019	2003-10-30	2004-10-29
HP	Amplifier	8447D	2944A09795	2003-8-5	2004-8-4
ETS	Log Periodic Antenna	3146	9603-4421	2003-8-5	2004-8-4
ETS	Biconical Antenna	3110B	3360	2003-8-5	2004-8-4
FLUKE	True RMS Multimeter	187	78540402	2004-3-23	2005-3-22
HP	Amplifier (1-26.5GHz)	8449B	3147A00400	2003-11-5	2004-11-4
A.H.System	Horn Antenna (700MHz-18GHz)	SAS-200/571	261	2003-11-5	2004-11-4
Wisewave	Horn Antenna (26.5 - 40 GHz)	PTC-28KF-01	10555-01	2003-11-9	2004-11-9
Wisewave	Horn Antenna (26.5 - 40 GHz)	PTC-28KF-01	10555-02	2003-11-9	2004-11-9
YOKOROWA	Coaxial Cable 1#	N/A	NO: 001	2003-8-5	2004-8-4
YOKOROWA	Coaxial Cable 1#	N/A	NO: 002	2003-8-5	2004-8-4

*** Statement of Traceability: BACL Corp.** certifies that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Procedure

For the radiated emissions test, the Host PC, and all support equipment power cords was connected to the AC floor outlet.

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

All data was recorded in the Quasi-peak detection mode.

Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

Corr. Ampl. = Indicated Reading + Antenna Factor + Cable Factor - Amplifier Gain

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -7dBμV means the emission is 7dBμV below the maximum limit for Class B. The equation for margin calculation is as follows:

Margin = Corr. Ampl. – Class B Limit

Test Data

Antenna M/N: TQJ-2.4G-8

Date of Test	:	April 1-9,2004	Temperature	:	25?
EUT	:	W140A Wireless Access Point	Humidity	:	70%
M/N	:	W140A	Operating Mode	:	Running
S/N	:	040360	Test Engineer:		Jandy SU

Indicated			Table	Antenna		Correction Factor			Corrected Amplitude	FCC 15 Subpart C	
Frequency MHz	Ampl. dBμV/m	Comments	Angle Degree	Height Meter	Polar H/ V	Antenna dBμV/m	Cable DB	Amp. DB	Corr. Ampl. dBμV/m	Limit dBμV/m	Margin dB
(2.4GHz-2.4835GHz) 802.11b Low Channel											
2412	96.05	FUND/PEAK	45	1.0	v	28.7	3.4	28.7	99.4		
2412	95.48	FUND/PEAK	45	1.2	v	28.7	3.4	28.7	98.8		
2412	89.89	FUND/AVE	270	1.0	h	28.7	3.4	28.7	93.2		
2412	88.63	FUND/AVE	180	1.2	h	28.7	3.4	28.7	92.0		
4824	43.02	AVE	180	1.2	h	32.5	4.9	30.4	50.0	54	-4.0
9648	35.41	AVE	180	1.2	h	38.4	7.0	31.8	49.1	54	-4.9
9648	35.41	AVE	180	1.2	h	38.4	7.0	31.8	49.1	54	-4.9
7236	37.41	AVE	90	1.2	h	36.3	6.0	31.6	48.1	54	-5.9
7236	37.01	AVE	180	1.2	h	36.3	6.0	31.6	47.7	54	-6.3
4824	58.82	AVE	180	1.2	v	32.5	4.9	30.4	65.8	74	-8.2
4824	56.7	PEAK	180	1.2	v	32.5	4.9	30.4	63.7	74	-10.3
9648	47.46	PEAK	60	1.0	v	38.4	7.0	31.8	61.1	74	-12.9
9648	47.01	PEAK	60	1.2	h	38.4	7.0	31.8	60.7	74	-13.3
4824	53.03	PEAK	45	1.2	h	32.5	4.9	30.4	60.0	74	-14.0
7236	48.28	PEAK	45	1.0	v	36.3	6.0	31.6	59.0	74	-15.1
7236	47.01	PEAK	45	1.0	h	36.3	6.0	31.6	57.7	74	-16.3
(2.4GHz-2.4835GHz) 802.11b Middle Channel											
2437	96.48	FUND/PEAK	45	1.0	v	28.7	3.4	28.6	99.9		
2437	92.68	FUND/PEAK	45	1.2	h	28.7	3.4	28.6	96.1		
2437	89.77	FUND/AVE	270	1.0	v	28.7	3.4	28.6	93.2		
2437	86.42	FUND/AVE	45	1.2	h	28.7	3.4	28.6	89.9		
7322	40.52	AVE	45	1.2	h	36.3	6.0	31.7	51.1	54	-2.9
4875	43.71	AVE	45	1.2	h	32.5	4.9	30.4	50.7	54	-3.3
7322	59.86	PEAK	45	1.0	v	36.3	6.0	31.7	70.4	74	-3.6
9749	35.41	AVE	45	1.2	v	38.4	7.0	31.8	49.1	54	-4.9
9749	35.41	AVE	45	1.2	h	38.4	7.0	31.8	49.1	54	-4.9
7322	35.41	AVE	45	1.2	v	36.3	6.0	31.7	46.0	54	-8.0
4875	37	AVE	45	1.2	v	32.5	4.9	30.4	44.0	54	-10.0

7322	51.26	PEAK	45	1.0	h	36.3	6.0	31.7	61.8	74	-12.2
9749	47.88	PEAK	60	1.0	v	38.4	7.0	31.8	61.5	74	-12.5
9749	47.46	PEAK	60	1.2	h	38.4	7.0	31.8	61.1	74	-12.9
4875	53.03	PEAK	180	1.2	h	32.5	4.9	30.4	60.0	74	-14.0
4875	48.28	PEAK	180	1.2	v	32.5	4.9	30.4	55.3	74	-18.7

Continued:

(2.4GHz-2.4835GHz) 802.11b High Channel											
2462	95.37	FUND/PEAK	45	1.0	v	28.7	3.4	28.8	98.6		
2462	91.16	FUND/PEAK	45	1.2	h	28.7	3.4	28.8	94.4		
2462	89.02	FUND/AVE	270	1.0	v	28.7	3.4	28.8	92.3		
2462	85.17	FUND/AVE	180	1.2	h	28.7	3.4	28.8	88.4		
9848	38.28	AVE	180	1.2	v	38.4	7.0	31.9	51.8	54	-2.2
9848	35.41	AVE	180	1.2	h	38.4	7.0	31.9	49.0	54	-5.0
7386	38.28	AVE	90	1.2	v	36.3	6.0	31.7	48.9	54	-5.2
7386	37.41	AVE	180	1.2	h	36.3	6.0	31.7	48.0	54	-6.0
4924	37.01	AVE	45	1.2	v	32.5	4.9	30.4	44.0	54	-10.0
9848	50.38	PEAK	60	1.0	v	38.4	7.0	31.9	63.9	74	-10.1
7386	53.03	PEAK	45	1.0	v	36.3	6.0	31.7	63.6	74	-10.4
4924	35.41	AVE	180	1.2	h	32.5	4.9	30.4	42.4	54	-11.6
9848	47.88	PEAK	60	1.2	h	38.4	7.0	31.9	61.4	74	-12.6
7386	49.39	PEAK	45	1.0	h	36.3	6.0	31.7	60.0	74	-14.0
4924	47.26	PEAK	180	1.2	v	32.5	4.9	30.4	54.3	74	-19.7
4924	46.54	PEAK	180	1.2	h	32.5	4.9	30.4	53.6	74	-20.5

INDICATED		TABLE	ANTENNA		CORRECTION FACTOR			CORRECTED AMPLITUDE	FCC 15 SUBPART B	
Frequency MHz	Ampl. dBµV/m	Angle Degree	Height Meter	Polar H/ V	Antenna dBµV/m	Cable dB	Amp. dB	Corr. Ampl. dBµV/m	Limit dBµV/m	Margin dB
(2.4GHz-2.4835GHz) 802.11b 30MHz-1000MHz										
749.98	43.44	45	1.2	h	22.2	2.2	25	42.8	46	-3.2
125	50.36	45	1.0	v	12.3	1.1	25	38.8	43.5	-4.7
749.98	41.34	45	1.2	v	22.2	2.2	25	40.7	46	-5.3
124.99	49.65	180	1.2	h	12.1	1.2	25	38.0	43.5	-5.6
49.99	46.68	180	1.2	v	11.3	0.4	25	33.4	40	-6.6
250.01	49.53	45	1.0	h	11.7	0.9	25	37.1	46	-8.9
375.02	43.84	60	1.0	h	14.9	1.7	25	35.4	46	-10.6
375.02	43.04	270	1.0	v	14.9	1.7	25	34.6	46	-11.4
250.01	46.7	60	1.2	v	11.7	0.9	25	34.3	46	-11.7
49.99	41.17	45	1.0	h	11.3	0.4	25	27.9	40	-12.1

Antenna M/N: MB2400-30-14

Date of Test	:	April 1-9,2004	Temperature	:	25?
EUT	:	W140A Wireless Access Point	Humidity	:	70%
M/N	:	W140A	Operating Mode	:	Running
S/N	:	040360	Test Engineer:		Jandy SU

Indicated			Table	Antenna		Correction Factor			Corrected Amplitude	FCC 15 Subpart C	
Frequency MHz	Ampl. dBμV/m	Comments	Angle Degree	Height Meter	Polar H/ V	Antenna dBμV/m	Cable DB	Amp. DB	Corr. Ampl. dBμV/m	Limit dBμV/m	Margin dB
(2.4GHz-2.4835GHz) 802.11b Low Channel											
2412	98.6	FUND/PEAK	45	1.0	v	28.7	3.4	28.7	102.0		
2412	108.1	FUND/PEAK	45	1.2	h	28.7	3.4	28.7	111.5		
2412	92.74	FUND/AVE	270	1.0	v	28.7	3.4	28.7	96.1		
2412	102.6	FUND/AVE	180	1.2	h	28.7	3.4	28.7	106.0		
4824	44.01	AVE	180	1.2	h	32.5	4.9	30.4	51.0	54	-3.0
9648	37.01	AVE	180	1.2	v	38.4	7.0	31.8	50.7	54	-3.3
4824	43.15	AVE	45	1.2	v	32.5	4.9	30.4	50.2	54	-3.8
4824	62.87	PEAK	180	1.2	h	32.5	4.9	30.4	69.9	74	-4.1
7236	58.82	PEAK	45	1.0	h	36.3	6.0	31.6	69.5	74	-4.5
9648	35.41	AVE	180	1.2	h	38.4	7.0	31.8	49.1	54	-4.9
7236	38.38	AVE	90	1.2	v	36.3	6.0	31.6	49.1	54	-5.0
7236	37.41	AVE	180	1.2	h	36.3	6.0	31.6	48.1	54	-5.9
4824	57.56	PEAK	180	1.2	v	32.5	4.9	30.4	64.6	74	-9.4
9648	47.46	PEAK	60	1.0	v	38.4	7.0	31.8	61.1	74	-12.9
9648	47.01	PEAK	60	1.2	h	38.4	7.0	31.8	60.7	74	-13.3
7236	46.54	PEAK	45	1.0	v	36.3	6.0	31.6	57.2	74	-16.8
(2.4GHz-2.4835GHz) 802.11b Middle Channel											
2437	99.17	FUND/PEAK	45	1.0	v	28.7	3.4	28.6	102.6		
2437	106.7	FUND/PEAK	45	1.2	h	28.7	3.4	28.6	110.1		
2437	94.22	FUND/AVE	270	1.0	v	28.7	3.4	28.6	97.7		
2437	86.42	FUND/AVE	45	1.2	h	28.7	3.4	28.6	89.9		
7322	40.52	AVE	45	1.2	h	36.3	6.0	31.7	51.1	54	-2.9
4875	43.71	AVE	45	1.2	h	32.5	4.9	30.4	50.7	54	-3.3
9749	35.41	AVE	45	1.2	v	38.4	7.0	31.8	49.1	54	-4.9
9749	35.41	AVE	45	1.2	h	38.4	7.0	31.8	49.1	54	-4.9
7322	37.01	AVE	45	1.2	v	36.3	6.0	31.7	47.6	54	-6.4
4875	60.23	PEAK	180	1.2	h	32.5	4.9	30.4	67.2	74	-6.8
4875	38.34	AVE	45	1.2	v	32.5	4.9	30.4	45.4	54	-8.7

9749	47.88	PEAK	60	1.0	v	38.4	7.0	31.8	61.5	74	-12.5
9749	47.88	PEAK	60	1.2	h	38.4	7.0	31.8	61.5	74	-12.5
7322	49.04	PEAK	45	1.0	h	36.3	6.0	31.7	59.6	74	-14.4
7322	47.28	PEAK	45	1.0	v	36.3	6.0	31.7	57.9	74	-16.2
4875	47.01	PEAK	180	1.2	v	32.5	4.9	30.4	54.0	74	-20.0

Continued:

(2.4GHz-2.4835GHz) 802.11b High Channel											
2462	97.09	FUND/PEAK	45	1.0	v	28.7	3.4	28.8	100.3		
2462	103.9	FUND/PEAK	45	1.2	h	28.7	3.4	28.8	107.1		
2462	91.92	FUND/AVE	270	1.0	v	28.7	3.4	28.8	95.2		
2462	99.72	FUND/AVE	180	1.2	h	28.7	3.4	28.8	103.0		
9848	38.34	AVE	180	1.2	v	38.4	7.0	31.9	51.9	54	-2.1
9848	38.34	AVE	180	1.2	h	38.4	7.0	31.9	51.9	54	-2.1
4924	43.71	AVE	180	1.2	h	32.5	4.9	30.4	50.7	54	-3.3
7386	37.2	AVE	180	1.2	h	36.3	6.0	31.7	47.8	54	-6.2
4924	39.34	AVE	45	1.2	v	32.5	4.9	30.4	46.4	54	-7.7
7386	35.54	AVE	90	1.2	v	36.3	6.0	31.7	46.1	54	-7.9
7386	53.86	PEAK	45	1.0	v	36.3	6.0	31.7	64.4	74	-9.6
9848	48.68	PEAK	60	1.0	v	38.4	7.0	31.9	62.2	74	-11.8
9848	47.88	PEAK	60	1.2	h	38.4	7.0	31.9	61.4	74	-12.6
4924	50.06	PEAK	180	1.2	h	32.5	4.9	30.4	57.1	74	-16.9
7386	45.04	PEAK	45	1.0	h	36.3	6.0	31.7	55.6	74	-18.4
4924	47.86	PEAK	180	1.2	v	32.5	4.9	30.4	54.9	74	-19.1

INDICATED		TABLE	ANTENNA		CORRECTION FACTOR			CORRECTED AMPLITUDE	FCC 15 SUBPART B	
Frequency MHz	Ampl. dBµV/m	Angle Degree	Height Meter	Polar H/ V	Antenna dBµV/m	Cable dB	Amp. dB	Corr. Ampl. dBµV/m	Limit dBµV/m	Margin dB
(2.4GHz-2.4835GHz) 802.11b 30MHz-1000MHz										
49.99	49.47	180	1.2	v	11.3	0.4	25	36.2	40	-3.8
125	49.06	45	1.0	v	12.3	1.1	25	37.5	43.5	-6.0
749.98	39.95	45	1.2	h	22.2	2.2	25	39.4	46	-6.6
749.98	39.85	45	1.2	v	22.2	2.2	25	39.3	46	-6.8
49.99	45.12	45	1.0	h	11.3	0.4	25	31.8	40	-8.2
124.99	46.54	180	1.2	h	12.1	1.2	25	34.8	43.5	-8.7
250.01	46.25	45	1.0	h	11.7	0.9	25	33.9	46	-12.2
375.01	40.97	60	1.0	h	14.9	1.7	25	32.6	46	-13.4
375.02	39.81	270	1.0	v	14.9	1.7	25	31.4	46	-14.6
250.01	41.01	60	1.2	v	11.7	0.9	25	28.6	46	-17.4

Antenna M/N: TDJ-2400BKF-Y

Date of Test	:	April 1-9,2004	Temperature	:	25?
EUT	:	W140A Wireless Access Point	Humidity	:	70%
M/N	:	W140A	Operating Mode	:	Running
S/N	:	040360	Test Engineer:		Jandy SU

Indicated			Table	Antenna		Correction Factor			Corrected Amplitude	FCC 15 Subpart C	
Frequency MHz	Ampl. dBμV/m	Comments	Angle Degree	Height Meter	Polar H/ V	Antenna dBμV/m	Cable DB	Amp. DB	Corr. Ampl. dBμV/m	Limit dBμV/m	Margin dB
(2.4GHz-2.4835GHz) 802.11b Low Channel											
2412	99.84	FUND/PEAK	45	1.0	v	28.7	3.4	28.7	103.2		
2412	101.3	FUND/PEAK	45	1.2	h	28.7	3.4	28.7	104.6		
2412	88.58	FUND/AVE	270	1.0	v	28.7	3.4	28.7	91.9		
2412	95.11	FUND/AVE	180	1.2	h	28.7	3.4	28.7	98.5		
9648	35.41	AVE	180	1.2	v	38.4	7.0	31.8	49.1	54	-4.9
9648	35.41	AVE	180	1.2	h	38.4	7.0	31.8	49.1	54	-4.9
7236	35.41	AVE	90	1.2	v	36.3	6.0	31.6	46.1	54	-7.9
4824	37.41	AVE	180	1.2	h	32.5	4.9	30.4	44.4	54	-9.6
7236	33.45	AVE	180	1.2	h	36.3	6.0	31.6	44.1	54	-9.9
4824	35.41	AVE	45	1.2	v	32.5	4.9	30.4	42.4	54	-11.6
9648	47.88	PEAK	60	1.2	h	38.4	7.0	31.8	61.5	74	-12.5
9648	47.01	PEAK	60	1.0	v	38.4	7.0	31.8	60.7	74	-13.3
7236	46.86	PEAK	45	1.0	v	36.3	6.0	31.6	57.5	74	-16.5
4824	49.38	PEAK	180	1.2	h	32.5	4.9	30.4	56.4	74	-17.6
7236	44.96	PEAK	45	1.0	h	36.3	6.0	31.6	55.6	74	-18.4
4824	48.16	PEAK	180	1.2	v	32.5	4.9	30.4	55.2	74	-18.8
(2.4GHz-2.4835GHz) 802.11b Middle Channel											
2437	93.94	FUND/PEAK	45	1.0	v	28.7	3.4	28.6	97.4		
2437	97.77	FUND/PEAK	45	1.2	h	28.7	3.4	28.6	101.2		
2437	87.45	FUND/AVE	270	1.0	v	28.7	3.4	28.6	90.9		
2437	91.59	FUND/AVE	45	1.2	h	28.7	3.4	28.6	95.0		
9749	35.41	AVE	45	1.2	v	38.4	7.0	31.8	49.1	54	-4.9
9749	35.41	AVE	45	1.2	h	38.4	7.0	31.8	49.1	54	-4.9
4875	37	AVE	45	1.2	v	32.5	4.9	30.4	44.0	54	-10.0
7322	33.48	AVE	45	1.2	v	36.3	6.0	31.7	44.1	54	-10.0
7322	33.48	AVE	45	1.2	h	36.3	6.0	31.7	44.1	54	-10.0

4875	35.41	AVE	45	1.2	h	32.5	4.9	30.4	42.4	54	-11.6
9749	47.01	PEAK	60	1.0	v	38.4	7.0	31.8	60.7	74	-13.3
9749	46.54	PEAK	60	1.2	h	38.4	7.0	31.8	60.2	74	-13.8
7322	47.58	PEAK	45	1.0	v	36.3	6.0	31.7	58.2	74	-15.9
7322	46.54	PEAK	45	1.0	h	36.3	6.0	31.7	57.1	74	-16.9
4875	48.28	PEAK	180	1.2	v	32.5	4.9	30.4	55.3	74	-18.7
4875	47.01	PEAK	180	1.2	h	32.5	4.9	30.4	54.0	74	-20.0

Continued:

(2.4GHz-2.4835GHz) 802.11b High Channel											
2462	90.89	FUND/PEAK	45	1.0	v	28.7	3.4	28.8	94.1		
2462	97.9	FUND/PEAK	45	1.2	h	28.7	3.4	28.8	101.2		
2462	84.77	FUND/AVE	270	1.0	v	28.7	3.4	28.8	88.0		
2462	91.64	FUND/AVE	180	1.2	h	28.7	3.4	28.8	94.9		
4924	42.26	AVE	45	1.2	v	32.5	4.9	30.4	49.3	54	-4.7
9848	35.41	AVE	180	1.2	v	38.4	7.0	31.9	49.0	54	-5.0
9848	35.41	AVE	180	1.2	h	38.4	7.0	31.9	49.0	54	-5.0
7386	35.41	AVE	90	1.2	v	36.3	6.0	31.7	46.0	54	-8.0
7386	35.41	AVE	180	1.2	h	36.3	6.0	31.7	46.0	54	-8.0
4924	35.41	AVE	180	1.2	h	32.5	4.9	30.4	42.4	54	-11.6
9848	47.01	PEAK	60	1.2	h	38.4	7.0	31.9	60.6	74	-13.4
9848	46.54	PEAK	60	1.0	v	38.4	7.0	31.9	60.1	74	-13.9
7386	47.88	PEAK	45	1.0	v	36.3	6.0	31.7	58.5	74	-15.6
4924	50.38	PEAK	180	1.2	v	32.5	4.9	30.4	57.4	74	-16.6
7386	46.04	PEAK	45	1.0	h	36.3	6.0	31.7	56.6	74	-17.4
4924	47.01	PEAK	180	1.2	h	32.5	4.9	30.4	54.0	74	-20.0

INDICATED		TABLE	ANTENNA		CORRECTION FACTOR			CORRECTED AMPLITUDE	FCC 15 SUBPART B	
Frequency MHz	Ampl. dBµV/m	Angle Degree	Height Meter	Polar H/ V	Antenna dBµV/m	Cable dB	Amp. dB	Corr. Ampl. dBµV/m	Limit dBµV/m	Margin dB
(2.4GHz-2.4835GHz) 802.11b 30MHz-1000MHz										
749.98	44.65	45	1.2	v	22.2	2.2	25	44.1	46	-2.0
49.99	49.56	180	1.2	v	11.3	0.4	25	36.3	40	-3.7
749.98	41.95	45	1.2	h	22.2	2.2	25	41.4	46	-4.6
250.01	51.01	45	1.0	h	11.7	0.9	25	38.6	46	-7.4
125	47.66	45	1.0	v	12.3	1.1	25	36.1	43.5	-7.4
250.01	49.4	60	1.2	v	11.7	0.9	25	37.0	46	-9.0
124.99	45.1	180	1.2	h	12.1	1.2	25	33.4	43.5	-10.1
449.99	41.56	60	1.0	h	16.2	1.8	25	34.6	46	-11.4
49.99	40.27	45	1.0	h	11.3	0.4	25	27.0	40	-13.0
375.02	40.73	270	1.0	v	14.9	1.7	25	32.3	46	-13.7

Note:

FUND = Fundamental

AVG = average

Test Result: PASS