



5.4 PEAK POWER EXCURSION MEASUREMENT

5.4.1 LIMITS OF PEAK POWER EXCURSION MEASUREMENT

Frequency Band	Limit
5.15 – 5.25 GHz	13dB
5.25 – 5.35 GHz	13dB
5.725 – 5.825 GHz	13dB

5.4.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSP30	100019	Dec. 19, 2003

NOTE:

The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.



5.4.3 TEST PROCEDURE

- 1. The transmitter output was connected to the spectrum analyzer.
- 2. Set the spectrum bandwidth span to view the entire spectrum.
- 3. Using peak detector and Max-hold function for Trace 1 (RB=1MHz, VB=3MHz) and 2 (RB=1MHz, VB=30KHz).
- 4. The largest difference between Trace 1 and Trace 2 in any 1MHz band on any frequency was recorded.

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No deviation

5.4.5 TEST SETUP



5.4.6 EUT OPERATING CONDITIONS

The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.

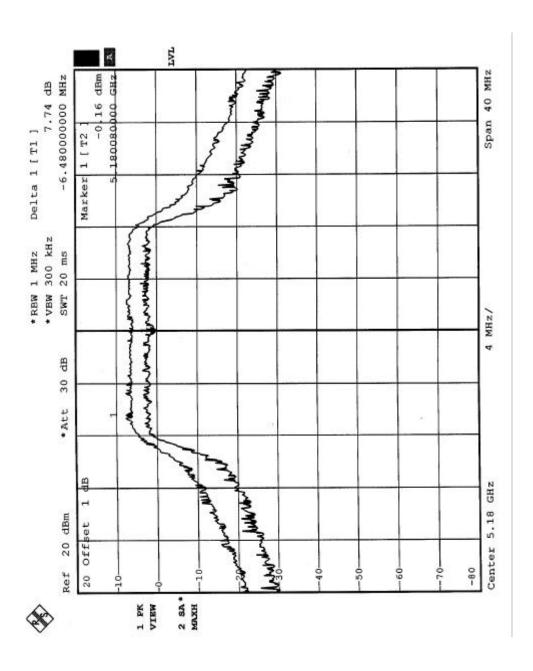


5.4.7 TEST RESULTS (A)

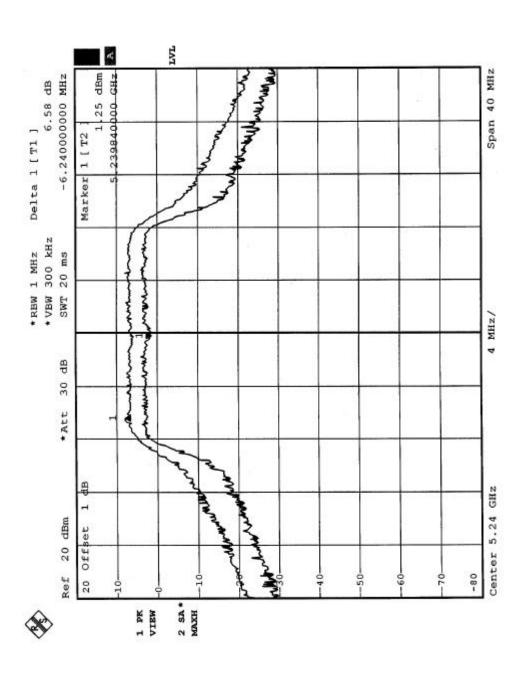
EUT	Wireless LAN Access Point	MODEL	A300-2
MODE	Normal	INPUT POWER (SYSTEM) 120Vac, 60 Hz	
ENVIRONMENTAL CONDITIONS	21eg. C, 58RH, 969 hPa	TESTED BY Eric Lee	

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER EXCURSION (dB)	PEAK to AVERAGE EXCURSION LIMIT (dB)	PASS/FAIL
1	5180	7.74	13	PASS
4	5240	6.58	13	PASS
5	5260	8.78	13	PASS
8	5320	7.36	13	PASS

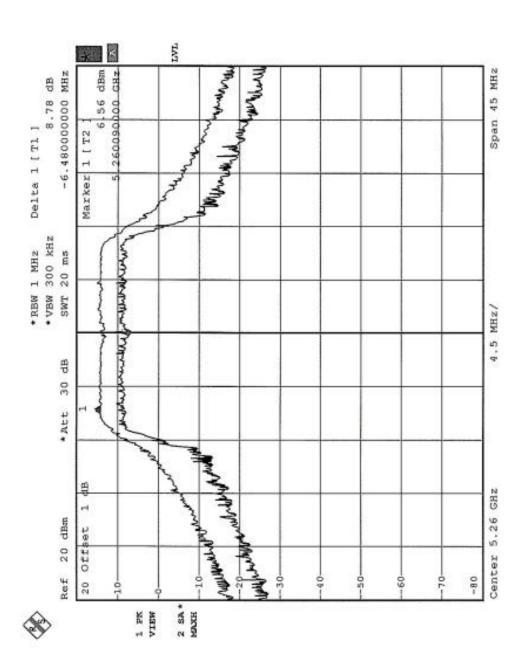




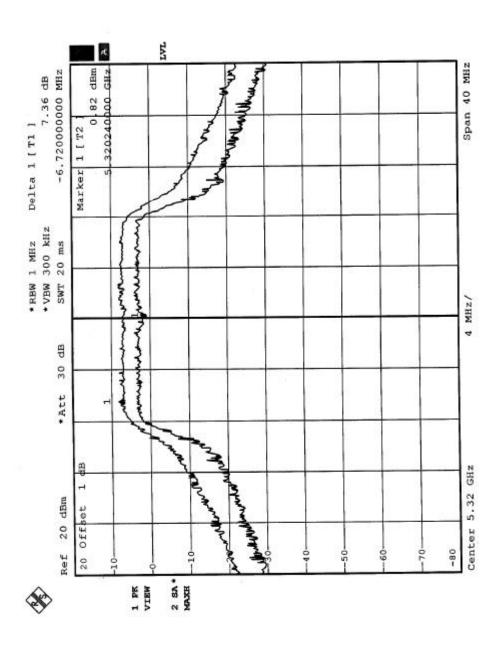


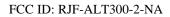










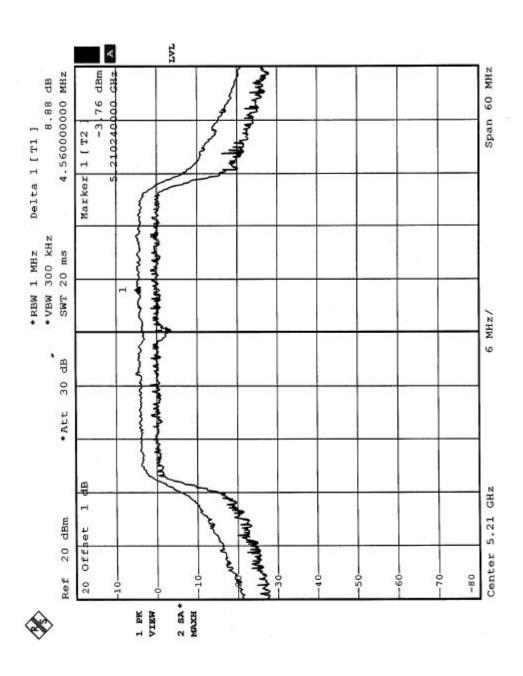




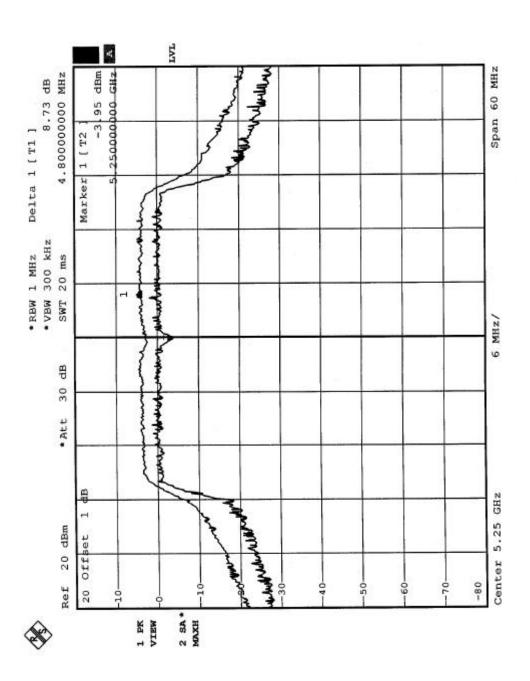
EUT	Wireless LAN Access Point MODEL		A300-2
MODE	Turbo	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	21eg. C, 58RH, 969 hPa	TESTED BY	Eric Lee

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER EXCURSION (dB)	PEAK to AVERAGE EXCURSION LIMIT (dB)	PASS/FAIL
1	5210	8.88	13	PASS
2	5250	8.73	13	PASS
3	5290	7.32	13	PASS

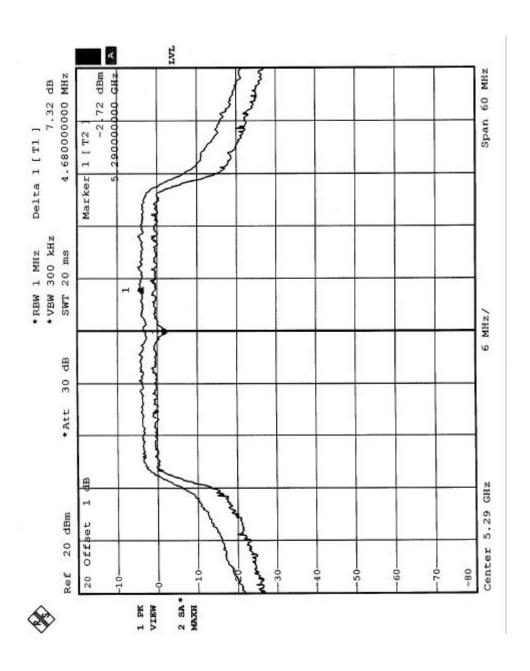












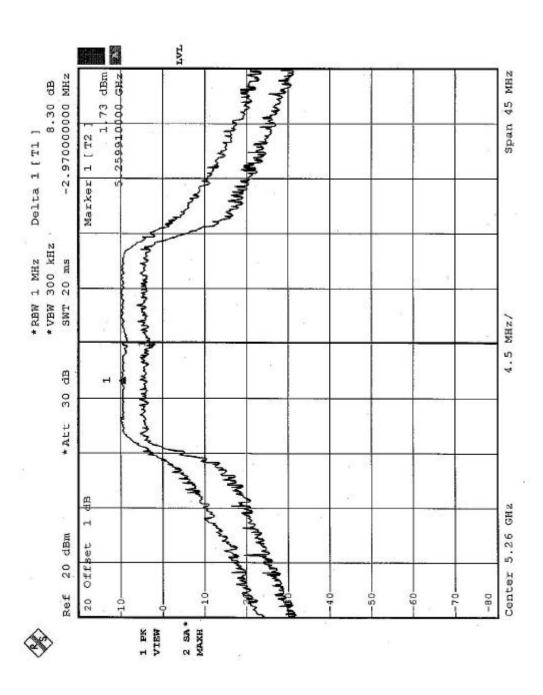


5.4.8 TEST RESULTS (B)

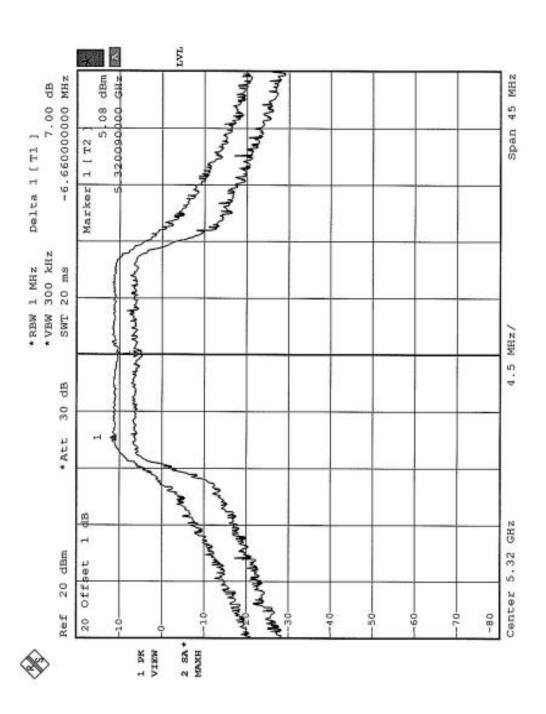
EUT	Wireless LAN Access Point	MODEL	A300-2
MODE	Normal	INPUT POWER (SYSTEM) 120Vac, 60 Hz	
ENVIRONMENTAL CONDITIONS	21eg. C, 58RH, 969 hPa	TESTED BY Eric Lee	

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER EXCURSION (dB)	PEAK to AVERAGE EXCURSION LIMIT (dB)	PASS/FAIL
5	5260	8.30	13	PASS
8	5320	7.00	13	PASS







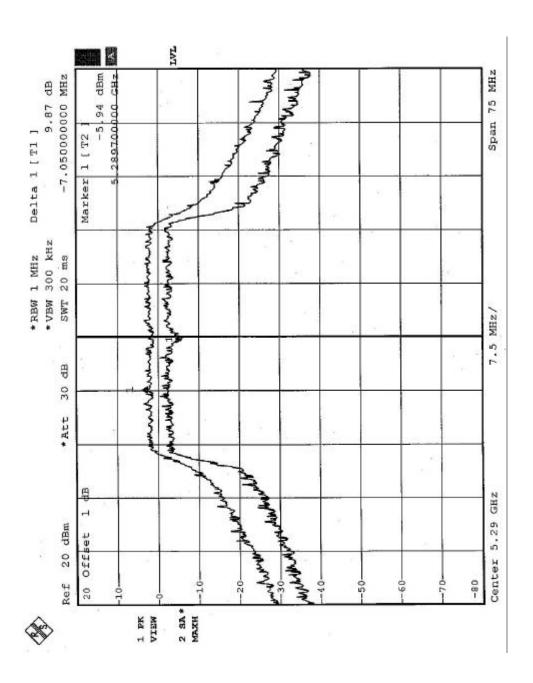




EUT	Wireless LAN Access Point	MODEL	A300-2
MODE	Turbo	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	21eg. C, 58RH, 969 hPa	TESTED BY	Eric Lee

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER EXCURSION (dB)	PEAK to AVERAGE EXCURSION LIMIT (dB)	PASS/FAIL
3	5290	9.87	13	PASS







5.5 PEAK POWER SPECTRAL DENSITY MEASUREMENT

5.5.1 LIMITS OF PEAK POWER SPECTRAL DENSITY MEASUREMENT

Frequency Band	Limit
5.15 – 5.25 GHz	4dBm
5.25 – 5.35 GHz	11dBm
5.725 – 5.825 GHz	17dBm

5.5.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSP30	100019	Dec. 19, 2003

NOTE:

The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.



5.5.3 TEST PROCEDURES

- 1. The transmitter output was connected to the spectrum analyzer.
- 2. Set RBW=1MHz, VBW=3MHz. The PPSD is the highest level found across the emission in any 1MHz band.

5.5.4 DEVIATION FROM TEST STANDARD

No deviation

5.5.5 TEST SETUP

EUT SPECTRUM ANALYZER

5.5.6 EUT OPERATING CONDITIONS

Same as 5.3.6

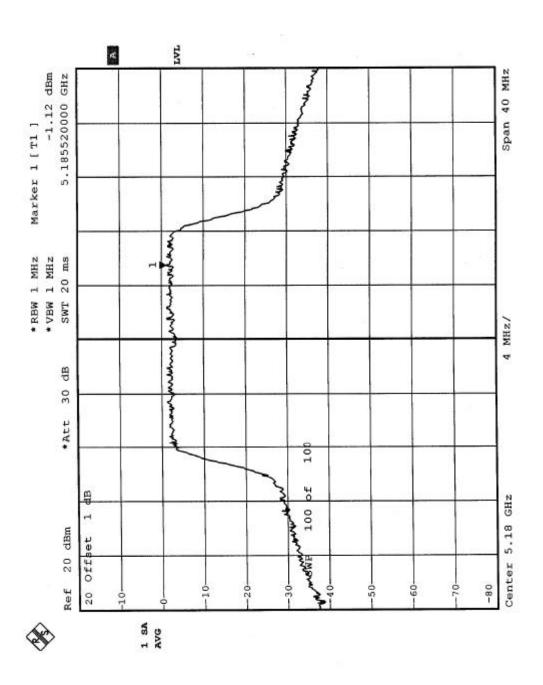


5.5.7 TEST RESULTS (A)

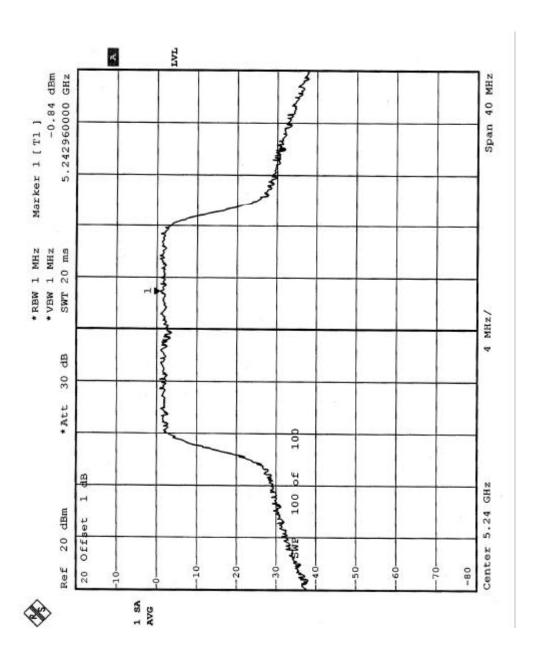
EUT	Wireless LAN Access Point	MODEL	A300-2
MODE	Normal	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	21eg. C, 58RH, 969 hPa	TESTED BY	Eric Lee

CHANNEL NUMBER	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 1 MHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	5180	-1.12	4	PASS
4	5240	-0.84	4	PASS
5	5260	3.93	11	PASS
8	5320	-0.23	11	PASS

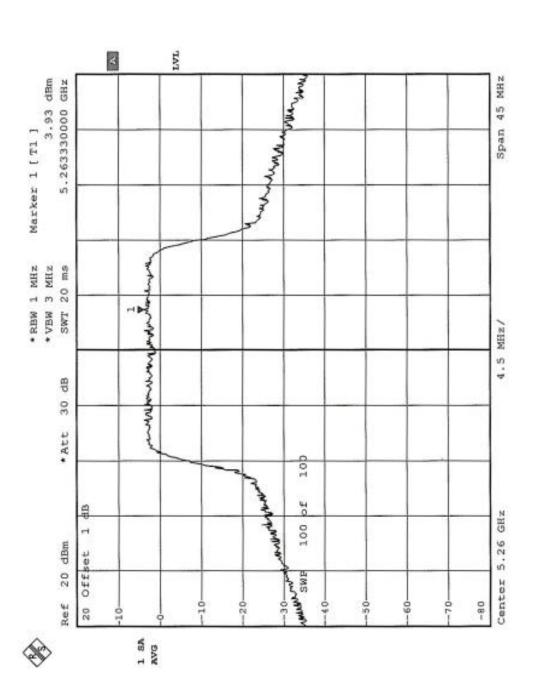




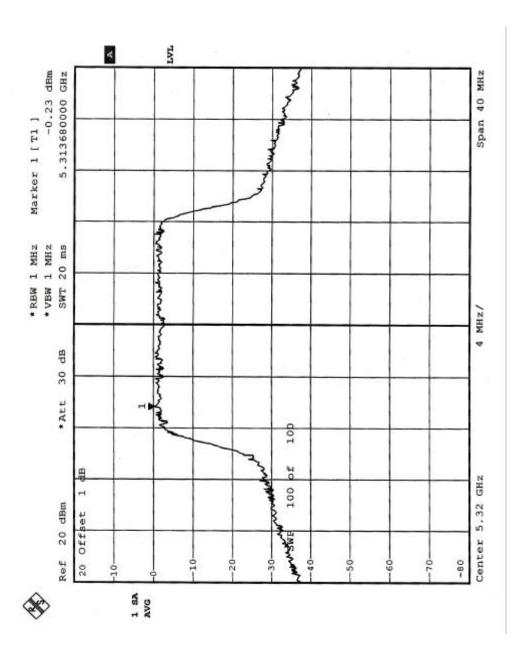










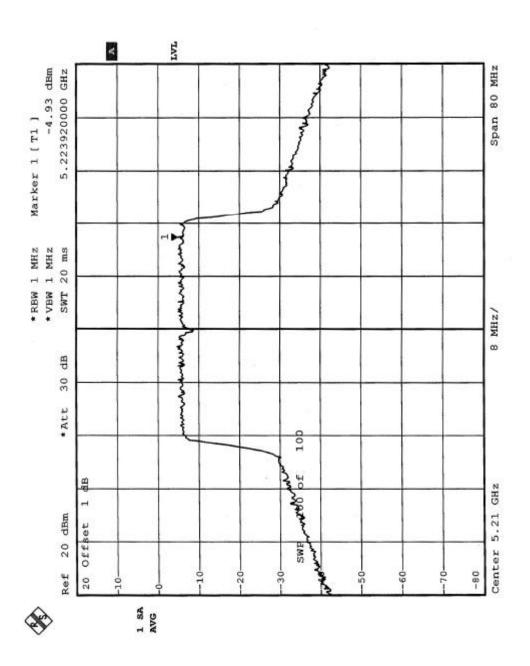




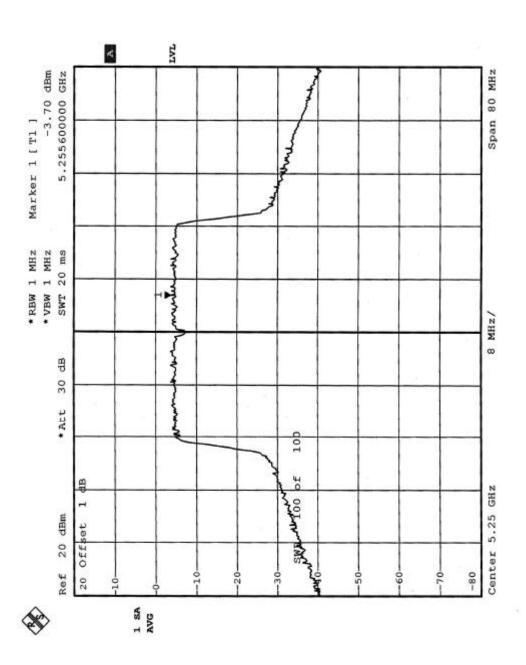
EUT	Wireless LAN Access Point	MODEL	A300-2
MODE	Turbo	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	21eg. C, 58RH, 969 hPa	TESTED BY	Eric Lee

CHANNEL NUMBER	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 1 MHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	5210	-4.93	4	PASS
2	5250	-3.70	4	PASS
3	5290	-3.81	11	PASS

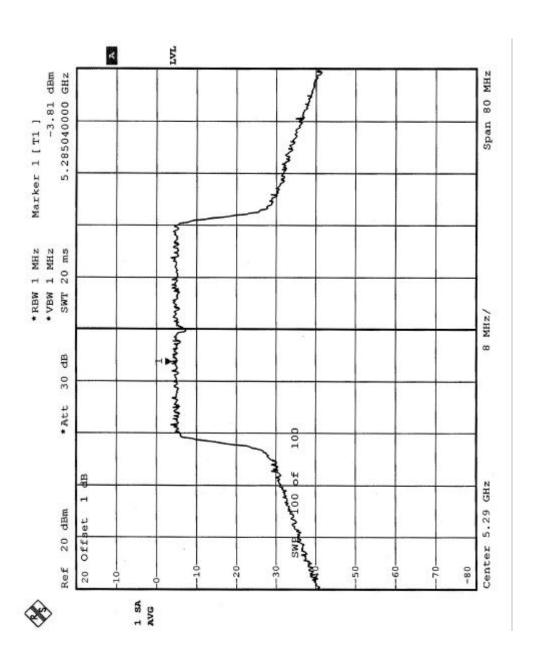












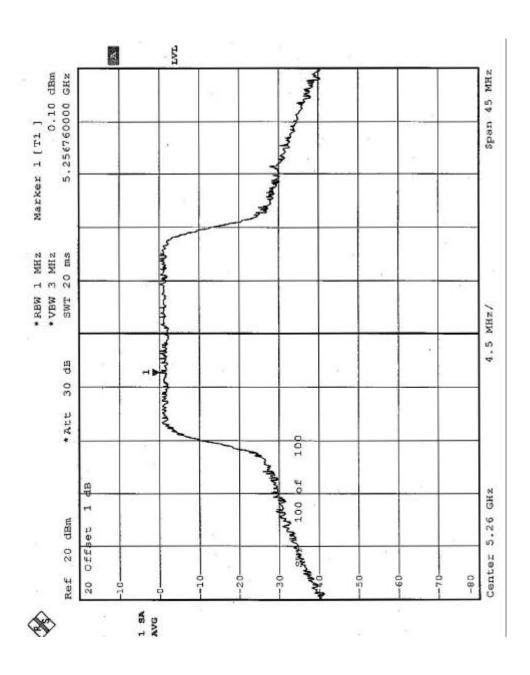


5.5.8 TEST RESULTS (B)

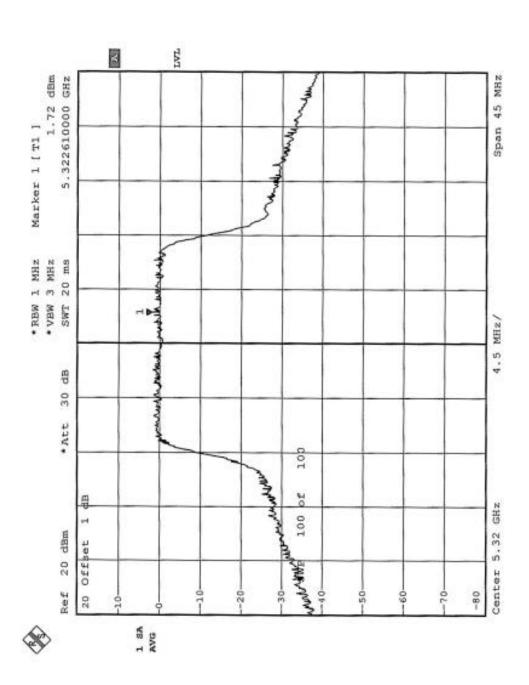
EUT	Wireless LAN Access Point	MODEL	A300-2
MODE	Normal	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	21eg. C, 58RH, 969 hPa	TESTED BY	Eric Lee

CHANNEL NUMBER	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 1 MHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
5	5260	0.60	11	PASS
8	5320	1.72	11	PASS







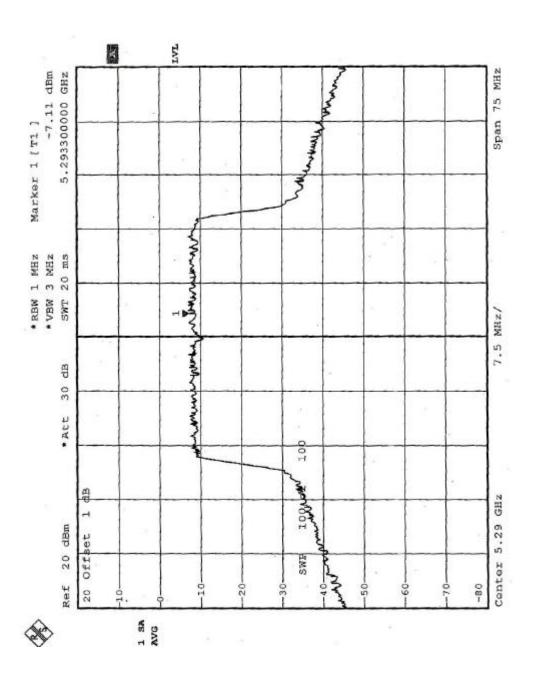




EUT	Wireless LAN Access Point	MODEL	A300-2
MODE	Turbo	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	21eg. C, 58RH, 969 hPa	TESTED BY	Eric Lee

CHANNEL NUMBER	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 1 MHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
3	5290	-7.11	11	PASS







5.6 FREQUENCY STABILITY

5.6.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

The frequency tolerance of the carrier signal shall be maintained within +/- 0.02% of the operating frequency over a temperature variation of –30 degrees to 50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C.

5.6.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSP30	100019	Dec. 19, 2003

NOTE

The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

5.6.3 TEST PROCEDURE

- 1. The EUT was placed inside the environmental test chamber and powered by nominal AC voltage.
- 2. Turn the EUT on and couple its output to a spectrum analyzer.
- 3. Turn the EUT off and set the chamber to the highest temperature specified.
- 4. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 minutes.
- 5. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
- 6. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

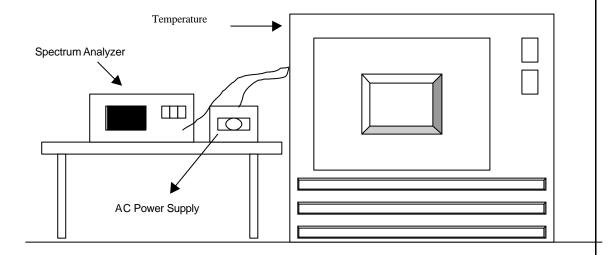
5.6.4 DEVIATION FROM TEST STANDARD

No deviation

Report No.: RF920910H03A 185 Issued Oct. 09, 2003 ADT No.: 920910H03



5.6.5 TEST SETUP



5.6.6 EUT OPERATING CONDITION

Same as Item 4.1.6



5.6.7 TEST RESULTS

	Operatin	g frequency	/: 5320MHz		Limi	t : ± 0.02%	
Temp.	Power	2 mi	nute	5 mi	nute	10 m	inute
()	supply (VAC)	(MHz)	(%)	(MHz)	(%)	(MHz)	(%)
	126.5	5320.0167	0.000314%	5320.0167	0.000314%	5320.0168	0.000316%
50	110.0	5320.0168	0.000316%	5320.0169	0.000318%	5320.0168	0.000316%
	93.5	5320.0166	0.000312%	5320.017	0.000320%	5320.0168	0.000316%
	126.5	5319.9974	-0.000049%	5319.9979	-0.000039%	5319.9978	-0.000041%
40	110.0	5319.9976	-0.000045%	5319.9977	-0.000043%	5319.9979	-0.000039%
	93.5	5319.9975	-0.000047%	5319.9978	-0.000041%	5319.9978	-0.000041%
	126.5	5319.9932	-0.000128%	5319.9935	-0.000122%	5319.9934	-0.000124%
30	110.0	5319.9932	-0.000128%	5319.9934	-0.000124%	5319.9936	-0.000120%
	93.5	5319.9932	-0.000128%	5319.9936	-0.000120%	5319.9937	-0.000118%
	126.5	5319.9955	-0.000085%	5319.9955	-0.000085%	5319.9955	-0.000085%
20	110.0	5319.9952	-0.000090%	5319.9953	-0.000088%	5319.9953	-0.000088%
	93.5	5319.9955	-0.000085%	5319.9956	-0.000083%	5319.9954	-0.000086%
	126.5	5319.9934	-0.000124%	5319.9936	-0.000120%	5319.9938	-0.000117%
10	110.0	5319.9932	-0.000128%	5319.9935	-0.000122%	5319.9938	-0.000117%
	93.5	5319.9935	-0.000122%	5319.9935	-0.000122%	5319.9937	-0.000118%
	126.5	5319.9945	-0.000103%	5319.9945	-0.000103%	5319.9946	-0.000102%
0	110.0	5319.9944	-0.000105%	5319.9946	-0.000102%	5319.9947	-0.000100%
	93.5	5319.9944	-0.000105%	5319.9944	-0.000105%	5319.9947	-0.000100%
	126.5	5320.0039	0.000073%	5320.0041	0.000077%	5320.0043	0.000081%
-10	110.0	5320.004	0.000075%	5320.0042	0.000079%	5320.0043	0.000081%
	93.5	5320.0041	0.000077%	5320.0042	0.000079%	5320.0043	0.000081%
	126.5	5320.0185	0.000348%	5320.0184	0.000346%	5320.0186	0.000350%
-20	110.0	5320.0184	0.000346%	5320.0185	0.000348%	5320.0186	0.000350%
	93.5	5320.0185	0.000348%	5320.0186	0.000350%	5320.0186	0.000350%
	126.5	5320.019	0.000357%	5320.0210	0.000395%	5320.0220	0.000414%
-30	110.0	5320.02	0.000376%	5320.0220	0.000414%	5320.0210	0.000395%
	93.5	5320.019	0.000357%	5320.0220	0.000414%	5320.0220	0.000414%



5.7 BAND EDGES MEASUREMENT

5.7.1 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSP	1093.4495.30	Dec. 19, 2003

NOTE:

- 1. The measurement uncertainty is less than +/- 2.6dB, which is calculated as per the NAMAS document NIS81.
- 2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

5.7.2 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer via a low lose cable. Set RBW of spectrum analyzer to 1MHz and VBW of spectrum analyzer to 300Hz with suitable frequency span including 100 MHz bandwidth from band edge. The band edges was measured and recorded.

5.7.3 EUT OPERATING CONDITION

The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.



5.7.4 TEST RESULTS (A)

For signals in the restricted bands above and below the 5.15 to 5.35 GHz allocated band a measurement was made of the amplitude of the spurious emissions with respect to the intentional signals. The relative amplitude, in dBc, was applied to the average and peak filed strength of the intentional signal made on the OATS to calculate the field strength of the unintentional signals.

The spectrum plots (Average RBW=1MHz, VBW=300Hz) are attached on the following 4 pages.



Normal Mode: Channel 1 (5180 MHz)

The band edge emission plot on the following page shows 45.07dBc (Average) between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 (normal mode) is 95.7dBuV/m, so the maximum field strength in restrict band is 95.7-45.07=50.63dBuV/m which is under 54dBuV/m limit.

