



IMMUNITY TEST REPORT

REPORT NO.: RM920221R04A

MODEL NO.: F5D7000

RECEIVED: Feb. 21, 2003

TESTED: Feb. 27 ~ Mar. 7, 2003

APPLICANT: Belkin Corporation

ADDRESS: 501 WEST WALNUT STREET COMPTON,
CA 90220

ISSUED BY: Advance Data Technology Corporation

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1 CERTIFICATION

PRODUCT: 2.4GHz wireless PCI
MODEL NO: F5D7000
BRAND NAME: Belkin
APPLICANT: Belkin Corporation
STANDARDS: **EN 301 489-1 (09-2001), EN 301 489-17 (09-2000)**
EN 55022:1998, Class B
EN 61000-4-2:1995
EN 61000-4-3:1995

We, **Advance Data Technology Corporation**, hereby certify that one sample of the designation has been tested in our facility from Feb. 27 ~ Mar. 7, 2003. The test record, data evaluation and Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's immunity characteristics under the conditions herein specified.

CHECKED BY: Kelsey Chiang **DATE:** March 14, 2003
Kelsey Chiang

APPROVED BY: Dr. Alan Lane **DATE:** March 14, 2003
Dr. Alan Lane
Manager

2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

EMISSION			
Standard	Test Type	Result	Remarks
EN 55022:1998, Class B (Conducted Emission)	Conducted Test	PASS	Meet the requirement of limit Minimum passing margin is -23.49dBuV/m at 0.255MHz
	Radiated Test	NA	NOT APPLICABLE
EN 61000-3-2:1995 +A1:1998+A2:1998, Class A	Harmonic current emissions	NA	NOT APPLICABLE
EN 61000-3-3:1995	Voltage fluctuations & flicker	NA	NOT APPLICABLE

IMMUNITY			
Standard	Test Type	Result	Remarks
EN 61000-4-2:1995	Electrostatic discharge immunity test	PASS	Meets the requirements of Performance Criterion A
EN 61000-4-3:1995	Radiated, radio- frequency, electromagnetic field immunity test	PASS	Meets the requirements of Performance Criterion A
EN 61000-4-4:1995	Electrical fast transient / burst immunity test.	NA	NOT APPLICABLE
EN 61000-4-5:1995	Surge immunity test	NA	NOT APPLICABLE
EN 61000-4-6:1996	Immunity to conducted disturbances, induced by radio-frequency fields	NA	NOT APPLICABLE
EN 61000-4-11:1994	Voltage dips, short interruptions and voltage variations immunity tests	NA	NOT APPLICABLE

NOTE: Please refer to Item 3.3 for more detailed description.

3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	2.4GHz wireless PCI
MODEL NO.	F5D7000
POWER SUPPLY	3.3VDC from host equipment
MODULATION TYPE	DSSS, OFDM
TRANSFER RATE	Up to 54Mbps
OPERATING FREQUENCY	2.412GHz ~ 2.472GHz
NUMBER OF CHANNEL	13
CHANNEL SPACING	5 MHz
RATED RF OUTPUT POWER LEVEL	18.69dBm (Measured Max. Average) 22.87dBm (Measured Max. Peak))
ANTENNA TYPE	Dipole Antenna
DATA CABLE	NA
I/O PORTS	NA
ASSOCIATED DEVICES	NA

NOTE: For a more detailed features description, please refer to the manufacturer's specifications or User's Manual.

3.2 DESCRIPTION OF TEST MODE

The EUT was tested under following conditions:

CONDITION	CONFIGURATION	REMARKS
1	Transmission	
2	Standby	

3.3 GENERAL DESCRIPTION OF APPLIED STANDARD

The EUT is a kind of computer peripheral with wireless data transmission function. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

EN 301 489-1 (09-2001), EN 301 489-17 (09-2001)

EN 55022:1998, Class B (Conducted Emission)

EN 61000-4-2:1995

EN 61000-4-3:1995

According to clause 7.1 (table 2) and clause 7.2 (table 3) of **EN 301 489-1 (09-2001)**, all tests have been performed and recorded as per the above standards.



3.4 DESCRIPTION OF SUPPORT UNIT

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

For Conducted Emission

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	PERSONAL COMPUTER	HP	DTPC-16	NA	FCC DOC APPROVED
2	MONITOR	ADI	CM100	020058T102001 82	FCC DOC APPROVED
3	PS/2 KEYBOARD	BTC	5121W	A00800777	E5XKB5121WTH0110
4	PS/2 MOUSE	LOGITECH	M-S61	HCA12605710	JNZ211403
5	MODEM	ACEEX	1414	980020539	IFAXDM1414
6	PRINTER	EPSON	LQ-300+	DCGY017059	FCC DOC APPROVED

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA
2	1.8 m braid shielded wire, terminated with VGA connector via metallic frame, w/o core
3	1.6 m foil shielded wire, terminated with PS/2 connector via metallic frame, w/o core.
4	1.8 m Non shielded wire, terminated with PS/2 connector via drain wire, w/o core.
5	1.2 m braid shielded wire, terminated with DB25 and DB9 connector via metallic frame, w/o core.
6	1.2m braid shielded wire, terminated with DB25 and Centronics connector via metallic frame, w/o core

For EMS

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	PERSONAL COMPUTER	HP	DTPC-16	NA	FCC DOC APPROVED
2	MONITOR	DELL	E772f	NA	NA
3	PS/2 KEYBOARD	HP	6511-PK	99P468101CY1 W06S012293	FCC DOC APPROVED
4	PS/2 MOUSE	HP	M-S48a	LZE11308376AW	JNZ201213
5	MODEM	GVC	F-1128V1R6	96-191-113003	DK4F1128VR6
6	PRINTER	HP	2225C	2931S53817	DSI6XU2225
7	ACCESS POINT	D-Link	DWL-2000AP	NA	NA

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA
2	1.8 m braid shielded wire, terminated with VGA connector via metallic frame, with core
3	1.8 m foil shielded wire, terminated with PS/2 connector via metallic frame, w/o core
4	1.8 m Non shielded wire, terminated with PS/2 connector via drain wire, w/o core.
5	1.2 m braid shielded wire, terminated with DB25 and DB9 connector via metallic frame, w/o core.
6	1.2m braid shielded wire, terminated with DB25 and Centronics connector via metallic frame, w/o core.
7	NA

NOTE: All power cords of the above support units are non shielded (1.8m).

4 EMISSION TEST

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 - 0.5	79	66	66 - 56	56 - 46
0.50 - 5.0	73	60	56	46
5.0 - 30.0	73	60	60	50

- NOTE:**
- (1) The lower limit shall apply at the transition frequencies.
 - (2) The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.
 - (3) All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
ROHDE & SCHWARZ Test Receiver	ESHS30	828109/007	July 03, 2003
ROHDE & SCHWARZ Artificial Mains Network (for EUT)	ESH3-Z5	839135/006	July 02, 2003
* ROHDE & SCHWARZ 4-wire ISN	ENY41	838119/028	Nov. 29, 2003
* ROHDE & SCHWARZ 2-wire ISN	ENY22	837497/016	Nov. 29, 2003
EMCO-L.I.S.N. (for peripheral)	3825/2	9204-1964	July 02, 2003
Software	Cond-V2M1	NA	NA
RF cable (JYEBAO)	5D-FB	Cable-C02.01	July 5, 2003
HP Terminator (For EMCO LISN)	11593A	E1-01-298	Feb. 23, 2004
HP Terminator (For EMCO LISN)	11593A	E1-01-299	Feb. 23, 2004

- NOTE:**
1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
 2. "*": These equipment are used for conducted telecom port test only (if tested).
 3. The test was performed in ADT Shielded Room No. 2.
 4. The VCCI Site Registration No. is C-240.

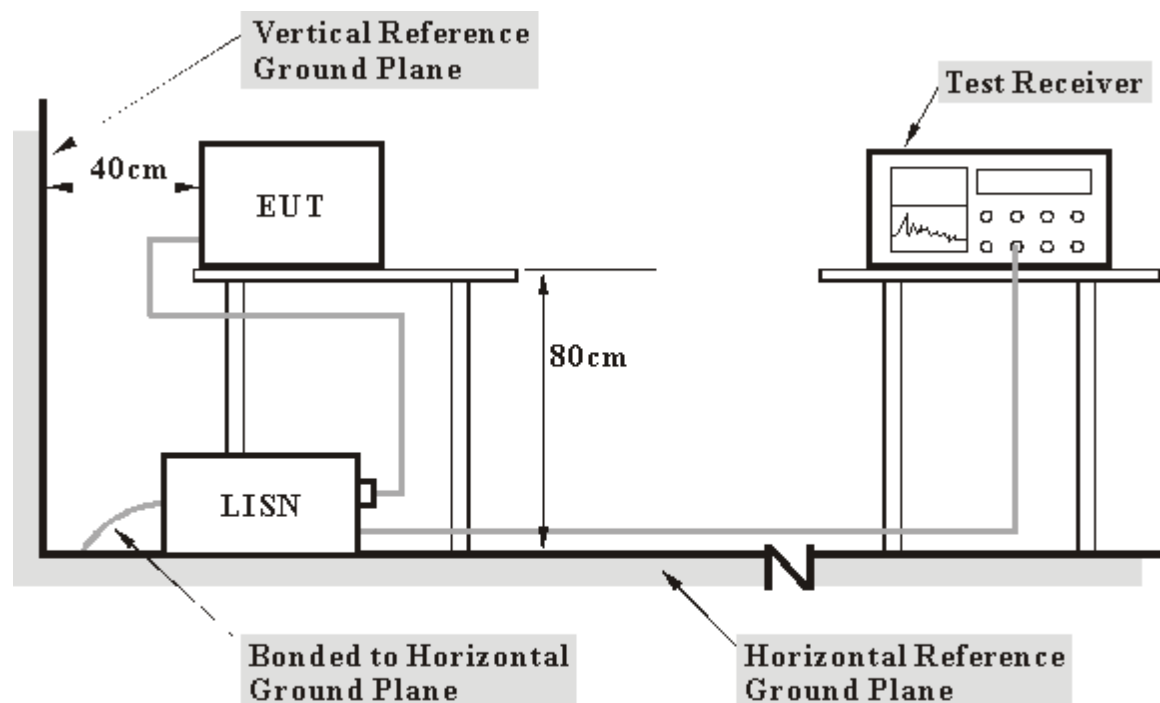
4.1.3 TEST PROCEDURES

- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- c. The frequency range from 150 kHz to 30 MHz was searched. Emission levels over 10dB under the prescribed limits could not be reported

4.1.4 DEVIATION FROM TEST STANDARD

No deviation

4.1.5 TEST SETUP



- Note:**
1. Support units were connected to second LISN.
 2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

4.1.6 EUT OPERATING CONDITIONS

- a. Connected the EUT to a computer system placed on a testing table.
- b. The computer system ran a test program to enable EUT under transmission/receiving condition continuously at specific channel frequency.
- c. The computer system sent "H" messages to its screen.
- d. The computer system sent "H" messages to modem.
- e. The computer system sent "H" messages to printer and the printer prints them on paper.

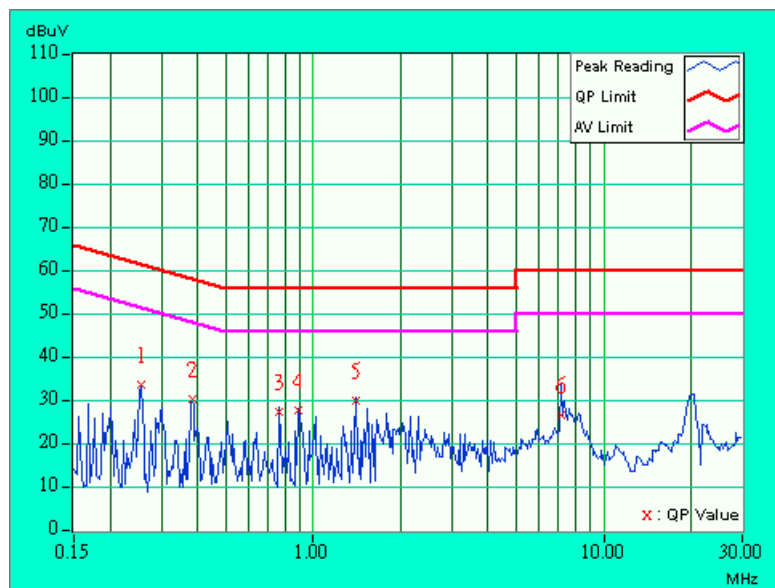
4.1.7 TEST RESULTS

EUT	2.4GHz wireless PCI	Model	F5D7000
INPUT POWER	230Vac, 50 Hz	6dB BANDWIDTH	10 kHz
		PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	22 deg. C, 68 % RH, 1005 hPa	TESTED BY: Cody Chang	

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
	1	0.255	0.10	33.16	-	33.26	-	61.59	51.59	-28.33
2	0.385	0.10	29.89	-	29.99	-	58.17	48.17	-28.18	-
3	0.767	0.10	26.86	-	26.96	-	56.00	46.00	-29.04	-
4	0.894	0.10	27.21	-	27.31	-	56.00	46.00	-28.69	-
5	1.402	0.10	29.45	-	29.55	-	56.00	46.00	-26.45	-
6	7.103	0.46	26.08	-	26.54	-	60.00	50.00	-33.46	-

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.

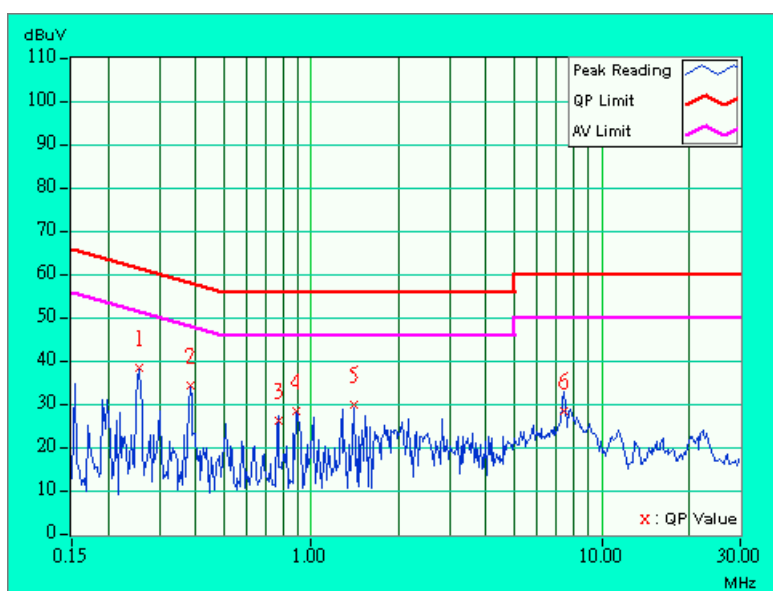


EUT	2.4GHz wireless PCI	Model	F5D7000
INPUT POWER	230Vac, 50 Hz	6dB BANDWIDTH	10 kHz
		PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	22 deg. C, 68 % RH, 1005 hPa	TESTED BY: Cody Chang	

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.255	0.10	38.00	-	38.10	-	61.59	51.59	-23.49	-
2	0.384	0.10	33.92	-	34.02	-	58.19	48.19	-24.17	-
3	0.768	0.10	26.09	-	26.19	-	56.00	46.00	-29.81	-
4	0.894	0.10	28.17	-	28.27	-	56.00	46.00	-27.73	-
5	1.404	0.10	29.69	-	29.79	-	56.00	46.00	-26.21	-
6	7.427	0.36	28.20	-	28.56	-	60.00	50.00	-31.44	-

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



5 IMMUNITY TEST

5.1 GENERAL DESCRIPTION

Product Standard	EN 301 489-1 (09-2001), EN 301 489-17 (09-2000)	
Basic Standard, Specification, and Performance Criterion required	EN 61000-4-2	Electrostatic Discharge – ESD: 8kV air discharge, 4kV Contact discharge, Performance Criterion B
	EN 61000-4-3	Radio-Frequency Electromagnetic Field Susceptibility Test – RS: 80-1000 / 1400-2000 MHz, 3V/m, 80% AM (1kHz), Performance Criterion A

5.2 GENERAL PERFORMANCE CRITERIA DESCRIPTION

The Requirement of Performance Criteria		
1	Performance criteria for continuous phenomena applied to transmitters (CT)	Criterion A of the applicable class shall apply
2	Performance criteria for transient phenomena applied to transmitters (TT)	Criterion B of the applicable class shall apply
3	Performance criteria for continuous phenomena applied to receivers (CR)	Criterion A of the applicable class shall apply
4	Performance criteria for transient phenomena applied to receivers (TR)	Criterion B of the applicable class shall apply

The phenomena allowed during and after test in each criterion are clearly stated in the following table

Performance criteria		
Criteria	During test	After test
A	Shall operate as intended. May show degradation of performance (see note1). Shall be no loss of function. Shall be no unintentional transmissions.	Shall operate as intended. Shall be no degradation of performance (see note 2). Shall be no loss of function. Shall be no loss of stored data or user programmable functions.
B	May show loss of function (one or more). May show degradation of performance (see note 1). No unintentional transmissions.	Functions shall be self-recoverable. Shall operate as intended after recovering. Shall be no degradation of performance (see note 2). Shall be no loss of stored data or user programmable functions.
C	May be loss of function (one or more).	Functions shall be recoverable by the operator. Shall operate as intended after recovering. Shall be no degradation of performance (see note 2).

NOTE 1: Degradation of performance during the test is understood as a degradation to a level not below a minimum performance level specified by the manufacturer for the use of the apparatus as intended. In some cases the specified minimum performance level may be replaced by a permissible degradation of performance.

If the minimum performance level or the permissible performance degradation is not specified by the manufacturer then either of these may be derived from the product description and documentation (including leaflets and advertising) and what the user may reasonably expect from the apparatus if used as intended.

NOTE 2: No degradation of performance after the test is understood as no degradation below a minimum performance level specified by the manufacturer for the use of the apparatus as intended. In some cases the specified minimum performance level may be replaced by a permissible degradation of performance. After the test no change of actual operating data or user retrievable data is allowed.

If the minimum performance level or the permissible performance degradation is not specified by the manufacturer then either of these may be derived from the product description and documentation (including leaflets and advertising) and what the user may reasonably expect from the apparatus if used as intended.

5.3 EUT OPERATING CONDITION

1. Connected the EUT to a computer system placed on a testing table.
2. The computer system ran a test program to enable all functions of EUT.
3. Prepared the access point and placed it outside of testing area to act as communication partner for EUT.
4. Sent data to EUT by command "PIN" from the communication partner.

Note: For standby mode test, connected a coupling antenna to a spectrum analyzer and placed the antenna near the EUT to monitor any unintentional response occurring from the EUT during the test.



5.4 ELECTROSTATIC DISCHARGE IMMUNITY TEST (ESD)

5.4.1 TEST SPECIFICATION

Basic Standard:	EN 61000-4-2
Discharge Impedance:	330 ohm / 150 pF
Discharge Voltage:	Air Discharge - 8 kV (Direct) Contact Discharge – 4kV (Direct/Indirect)
Polarity:	Positive & Negative
Number of Discharge:	Minimum 20 times at each test point
Discharge Mode:	Single Discharge
Discharge Period:	1 second minimum

5.4.2 TEST INSTRUMENT

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
KeyTek, ESD Simulator	MZ-15/EC	9902287	Feb. 26, 2003
EM Test ESD Simulator	ESD 30C	0201-28	Jul. 15, 2003
EM Test ESD Discharge Unit	P30C	0201-28	Jul. 15, 2003
EM Test ESD Discharge Unit	P30C-RFCI	0601-07	Jul. 15, 2003
FCC Coupling Decoupling Network	FCC-801-T2	020022	Jun.12, 2003
FCC Coupling Decoupling Network	FCC-801-T4	020033	Jun.12, 2003

- NOTE:** 1. The test was performed in ESD Room No. 1.
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

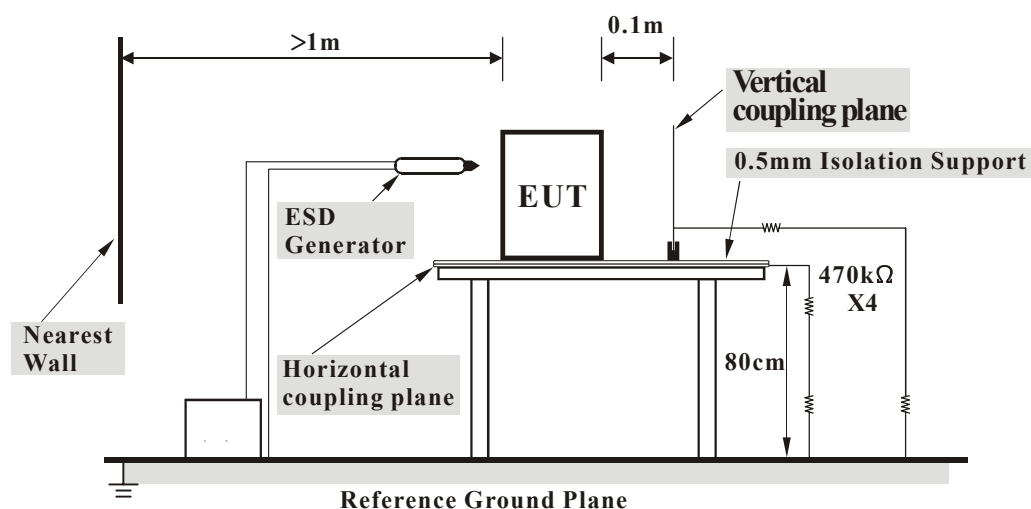
5.4.3 TEST PROCEDURE

- a. Electrostatic discharges were applied only to those points and surfaces of the EUT that are accessible to users during normal operation.
- b. The test was performed with at least ten single discharges on the pre-selected points in the most sensitive polarity.
- c. The time interval between two successive single discharges was at least 1 second.
- d. The ESD generator was held perpendicularly to the surface to which the discharge was applied and the return cable was at least 0.2 meters from the EUT.
- e. Contact discharges were applied to the non-insulating coating, with the pointed tip of the generator penetrating the coating and contacting the conducting substrate.
- f. Air discharges were applied with the round discharge tip of the discharge electrode approaching the EUT as fast as possible (without causing mechanical damage) to touch the EUT. After each discharge, the ESD generator was removed from the EUT and re-triggered for a new single discharge. The test was repeated until all discharges were complete.
- g. At least ten single discharges (in the most sensitive polarity) were applied to the **Horizontal Coupling Plane** at points on each side of the EUT. The ESD generator was positioned vertically at a distance of 0.1 meters from the EUT with the discharge electrode touching the **HCP**.
- h. At least ten single discharges (in the most sensitive polarity) were applied to the center of one vertical edge of the **Vertical Coupling Plane** in sufficiently different positions that the four faces of the EUT were completely illuminated. The **VCP** (dimensions 0.5m x 0.5m) was placed vertically to and 0.1 meters from the EUT.

5.4.4 DEVIATION FROM TEST STANDARD

No deviation

5.4.5 TEST SETUP



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

NOTE:

TABLE-TOP EQUIPMENT

The configuration consisted of a wooden table 0.8 meters high standing on the **Ground Reference Plane**. The **GRP** consisted of a sheet of aluminum at least 0.25mm thick, and 2.5 meters square connected to the protective grounding system. A **Horizontal Coupling Plane** (1.6m x 0.8m) was placed on the table and attached to the **GRP** by means of a cable with 940kΩ total impedance. The equipment under test, was installed in a representative system as described in section 7 of EN 61000-4-2:1995, and its cables were placed on the **HCP** and isolated by an insulating support of 0.5mm thickness. A distance of 1-meter minimum was provided between the EUT and the walls of the laboratory and any other metallic structure.

5.4.6 TEST RESULT

EUT	2.4GHz wireless PCI	MODEL NO.	F5D7000
MODE	Transmission	INPUT POWER (SYSTEM)	230Vac, 50 Hz
ENVIRONMENTAL CONDITIONS	23 deg.C, 47 % RH 1005 hPa	TESTED BY: Cody Chang	

TEST RESULTS OF DIRECT APPLICATION					
Discharge Level (kV)	Polarity (+/-)	Test Point	Contact Discharge	Air Discharge	Performance Criterion
2, 4	+/-	1, 2	NOTE	NA	A
2, 4, 8	+/-	3	NA	NOTE	A

Description of test point:

- 1.breaket 2. Metal of Antenna connector 3.Antenna

TEST RESULTS OF INDIRECT APPLICATION					
Discharge Level (kV)	Polarity (+/-)	Test Point	Horizontal Coupling Plane	Vertical Coupling Plane	Performance Criterion
2, 4	+/-	1 ~ 4	NOTE	NOTE	A

Description of test point:

1. Front side 2. Rear side 3. Right side 4. Left side

NOTE:

There was no change compared with the initial operation during and after the test. No unintentional response was found during the test.



EUT	2.4GHz wireless PCI	MODEL NO.	F5D7000
MODE	Standby	INPUT POWER (SYSTEM)	230Vac, 50 Hz
ENVIRONMENTAL CONDITIONS	23 deg.C, 47 % RH 1005 hPa	TESTED BY: Cody Chang	

TEST RESULTS OF DIRECT APPLICATION					
Discharge Level (kV)	Polarity (+/-)	Test Point	Contact Discharge	Air Discharge	Performance Criterion
2, 4	+/-	1, 2	NOTE	NA	A
2, 4, 8	+/-	3	NA	NOTE	A

Description of test point:

- 1.breaket 2. Metal of Antenna connector 3.Antenna

TEST RESULTS OF INDIRECT APPLICATION					
Discharge Level (kV)	Polarity (+/-)	Test Point	Horizontal Coupling Plane	Vertical Coupling Plane	Performance Criterion
2, 4	+/-	1 ~ 4	NOTE	NOTE	A

Description of test point:

1. Front side 2. Rear side 3. Right side 4. Left side

NOTE:

There was no change compared with the initial operation during and after the test. No unintentional response was found during the test.

5.5 RADIATED, RADIO-FREQUENCY, ELECTROMAGNETIC FIELD IMMUNITY TEST (RS)

5.5.1 TEST SPECIFICATION

Basic Standard: EN 61000-4-3

Frequency Range: 80 MHz - 1000 / 1400 - 2000 MHz

Field Strength: 3 Vrms

Modulation: 1kHz Sine Wave, 80%, AM Modulation

Frequency Step: 1 % of momentary frequency

Polarity of Antenna: Horizontal and Vertical

Test Distance: 3 m

Antenna Height: 1.5m

Dwell Time: at least 3 seconds

5.5.2 TEST INSTRUMENT

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
ROHDE & SCHWARZ Signal Generator	SMY01	840490/009	July 31, 2003
KALMUS Power Amplifier	LA1000V	091995-1	NA
KALMUS Power Amplifier	757LC	091995-2	NA
HOLADAY Field Probe	HI-4422	89915	Mar. 05, 2003
EMCO BiconiLog Antenna	3141	1001	NA
COMTEST Compact Full Anechoic Chamber (7x3x3 m)	CFAC	ADT-S01	Aug. 10, 2003
HP Signal Generator	E4422A	US37040138	Jun. 10, 2003
AR RF Amplifier	80S1G3	304334	NA
W&G E-Field Sensor 3GHz	TYP-8	AD-0034	Dec. 22, 2003
W&G EM Radiation Monitor	EMR-20	AB-0039	Dec. 22, 2003
R&S Power Sensor	NRV-Z5	837878/038	Nov. 20, 2003
R&S Power Sensor	NRV-Z5	837878/039	Nov. 20, 2003
R&S Power Meter	NRVD	837794/040	Nov. 20, 2003

NOTE: 1. The test was performed in RS Room.

2. 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 PROCEDURE

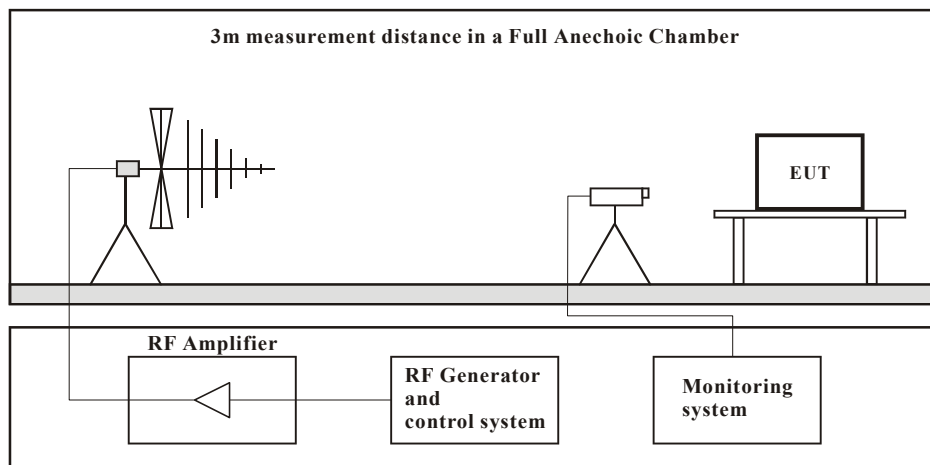
The test procedure was in accordance with EN 61000-4-3

- a. The testing was performed in a fully-anechoic chamber. The transmit antenna was located at a distance of 3 meters from the EUT.
- b. The frequency range is swept from 80 MHz to 1000 MHz / 1400 MHz to 2000 MHz, with the signal 80% amplitude modulated with a 1kHz sinewave. The rate of sweep did not exceed 1.5×10^{-3} decade/s. Where the frequency range is swept incrementally, the step size was 1% of momentary frequency.
- c. The dwell time at each frequency shall be not less than the time necessary for the EUT to be able to respond.
- d. The field strength level was 3Vrms.
- e. The test was performed with the EUT exposed to both vertically and horizontally polarized fields on each of the four sides.

5.5.4 DEVIATION FROM TEST STANDARD

No deviation

5.5.5 TEST SETUP



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

NOTE:

TABLETOP EQUIPMENT

The EUT installed in a representative system as described in section 7 of EN 61000-4-3:1996 was placed on a non-conductive table 0.8 meters in height. The system under test was connected to the power and signal wire according to relevant installation instructions.



5.5.6 TEST RESULT

EUT	2.4GHz wireless PCI	MODEL NO.	F5D7000
MODE	Transmission	INPUT POWER (SYSTEM)	230Vac, 50 Hz
ENVIRONMENTAL CONDITIONS	22 deg.C, 56 % RH 1005 hPa	TESTED BY: Cody Chang	

Frequency (MHz)	Result	Polarity	Azimuth	Field Strength (V/m)	Observation	Performance Criterion
80 -1000	PASS	V&H	0	3	NOTE	A
80 -1000	PASS	V&H	90	3		
80 -1000	PASS	V&H	180	3		
80 -1000	PASS	V&H	270	3		

Frequency (MHz)	Result	Polarity	Azimuth	Field Strength (V/m)	Observation	Performance Criterion
1400 - 2000	PASS	V&H	0	3	NOTE	A
1400 - 2000	PASS	V&H	90	3		
1400 - 2000	PASS	V&H	180	3		
1400 - 2000	PASS	V&H	270	3		

NOTE: There was no change compared with the initial operation during and after the test. No unintentional response was found during the test.



EUT	2.4GHz wireless PCI	MODEL NO.	F5D7000
MODE	Standby	INPUT POWER (SYSTEM)	230Vac, 50 Hz
ENVIRONMENTAL CONDITIONS	22 deg.C, 56 % RH 1005 hPa	TESTED BY: Cody Chang	

Frequency (MHz)	Result	Polarity	Azimuth	Field Strength (V/m)	Observation	Performance Criterion
80 –1000	PASS	V&H	0	3	NOTE	A
80 –1000	PASS	V&H	90	3		
80 –1000	PASS	V&H	180	3		
80 –1000	PASS	V&H	270	3		

Frequency (MHz)	Result	Polarity	Azimuth	Field Strength (V/m)	Observation	Performance Criterion
1400 - 2000	PASS	V&H	0	3	NOTE	A
1400 - 2000	PASS	V&H	90	3		
1400 - 2000	PASS	V&H	180	3		
1400 - 2000	PASS	V&H	270	3		

NOTE: There was no change compared with the initial operation during and after the test. No unintentional response was found during the test.

6 PHOTOGRAPHS OF THE TEST CONFIGURATION

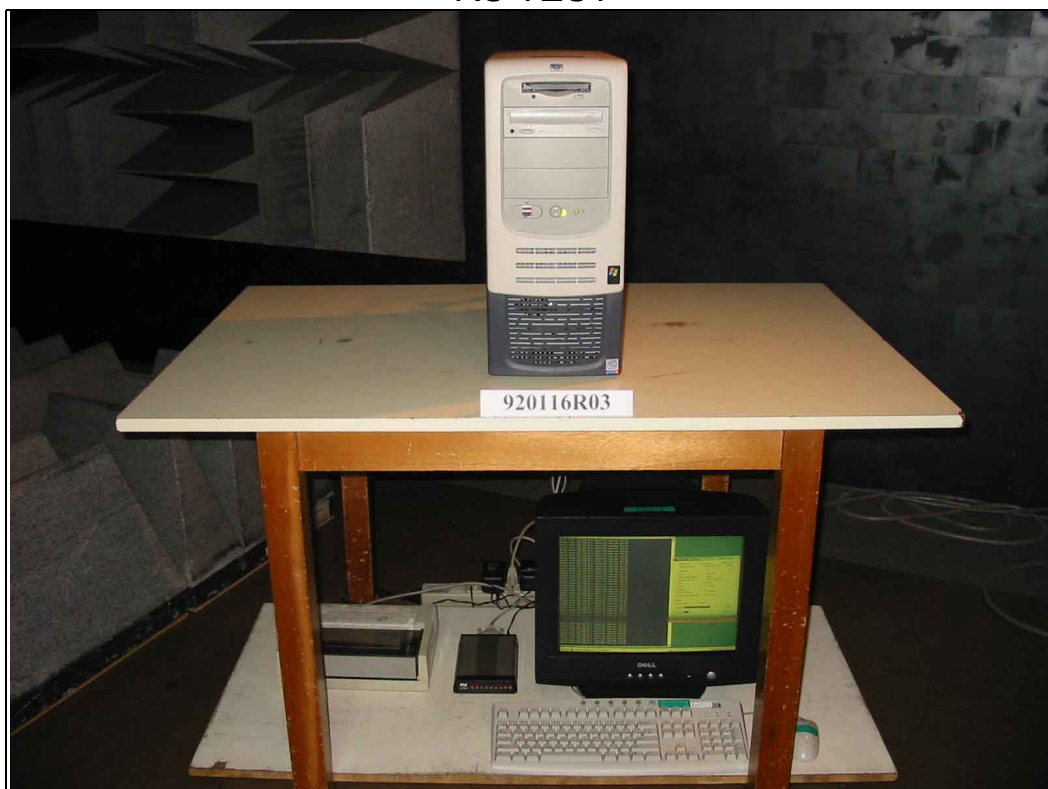
CONDUCTED EMISSION TEST



ESD TEST



RS TEST





7 APPENDIX - INFORMATION ON THE TESTING LABORATORIES

We, ADT Corp., were founded in 1988 to provide our best service in EMC and Safety consultation. Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025, Guide 25 or EN 45001:

USA	FCC, NVLAP, UL
Germany	TUV Rheinland
Japan	VCCI
New Zealand	MoC
Norway	NEMKO
Canada	INDUSTRY CANADA
R.O.C.	CNLA, BSMI, DGT

Copies of accreditation certificates of our laboratories obtained from approval agencies can be downloaded from our web site: www.adt.com.tw/index.5/phtml. If you have any comments, please feel free to contact us at the following:

Lin Kou EMC Lab:

Tel: 886-2-26052180

Fax: 886-2-26052943

Hsin Chu EMC Lab:

Tel: 886-35-935343

Fax: 886-35-935342

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The address and road map of all our labs can be found in our web site also.