Test Report

For

Applicant	**:**	**PRETEC CORPORATION**
Equipment Type	**:**	**DIGITAL CAMERA**
Model	**:**	**DC-620**
FCC ID	**:**	**NJB99620122**

Report No. : 99BH008FI

Test Report Certification

QuieTek Corporation

No.75-1, Wang-Yeh Valley, Yung-Hsing, Chiung-Lin,
Hsin-Chu County, Taiwan, R.O.C.
Tel : 886-3-592-8858, Fax: 886-3-592-8859
E-Mail : quietek@ms24.hinet.net

Accredited by NIST(NVLAP), VCCI, BSMI, DNV, TUV

Applicant	:	PRETEC CORPORATION
Address	:	6F. No. 10, Li-Shin Rd., Science-Based Industrial Park, Hsinchu, Taiwan, R.O.C.
Equipment Type	:	DIGITAL CAMERA
Model	:	DC-620
FCC ID.	:	NJB99620122
Measurement Standard	:	CISPR 22/1994
Measurement Procedure	:	ANSI C63.4 /1992
Operation Voltage	:	120Vac/60Hz
Classification	:	Class B
Test Result	:	Complied
Test Date	:	November 15, 1999
Report No.	:	99BH008FI

The Test Results relate only to the samples tested.
The test report shall not be reproduced except in full without the written approval of QuieTek Corporation.
This report must not be used to claim product endorsement by NVLAP any agency of the U.S. Government

Documented by: Erin Lan	Test Engineer: Jimmy Huang	Approved: Gene Chang

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1. General Information

1.1 EUT Description

Applicant	:	PRETEC CORPORATION
Address	:	6F. No. 10, Li-Shin Rd., Science-Based Industrial Park, Hsinchu, Taiwan, R.O.C.
Equipment Type	:	DIGITAL CAMERA
Model	:	DC-620
FCC ID	:	NJB99620122
Operation Voltage	:	120Vac/60Hz
Maximum Resolution	:	350 thousand dpi
Data Cable (RS 232)	:	Shielded, 1.8m, a ferrite core bonded
Data Cable (USB)	:	Shielded, 1.8m, a ferrite core bonded
Data Cable (Video)	:	Shielded, 1.8m, a ferrite core bonded
Power Adapter	:	(1) POTRANS, WN10A-060, Shielded, 1.8m (2) KENTEX, MB15-060, Cable In: Shielded, 1.8m Cable Out: Shielded, 1.8m

Remark :
1.The EUT is a DIGITAL CAMERA with two kinds of power adapter.
2.Both power adapter and different type connector were test in different mode.
3. QuieTek had verified both construction and function in typical operation, then shown in this test report.

1.2 Tested System Details

The types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards) are:

1.2.1 DIGITAL CAMERA(EUT)

Model Number	: DC-620
Serial Number	: N/A
FCC ID	: DoC
Manufacturer	: PRETEC
Data Cable (RS232)	: Shielded, 1.8m, a ferrite core bonded
Data Cable (USB)	: Shielded, 1.8m, a ferrite core bonded
Data Cable (Video)	: Shielded, 1.8m, a ferrite core bonded
Power Adaptor	: (1)POTRANS,WN10A-060,Shielded, 1.8m (2)KENTEX,MB15-060, Cable In: Shielded, 1.8m Cable Out: Shielded, 1.8m

Mode 1 & Mode 2 System

1.2.2 Host Personal Computer

Model Number	: P2L97
Serial Number	: AS10226
FCC ID	: DoC
Manufacturer	: ASUS
Power Cord	: Non-shielded, 1.8m

1.2.3 Monitor

Model Number	: CM752ET-311
Serial Number	: T8E004439
FCC ID	: DoC
Manufacturer	: HITACHI
Data Cable	: Shielded, 1.5m
Power Cord	: Shielded, 1.7m

1.2.4 Keyboard

Model Number	: 6311-TW2C
Serial Number	: N/A
FCC ID	: DoC
Manufacturer	: ACER
Data Cable	: Shielded, 1.8m

1.2.5 Modem

Model Number	: 1414
Serial Number	: 980033033
FCC ID	: IFAXDM1414
Manufacturer	: ACEEX
Data Cable	: Shielded, 1.5m
Power Adapter	: ACCEX, M/N: SCP41-91000A
	Cable Output : Shielded, 1.5m

1.2.6 Printer

Model Number	: C2642A
Serial Number	: MY75N1D2Y1
FCC ID	: B94C2642X
Manufacturer	: HP
Data Cable	: Shielded, 1.2m
Power Adapter	: NMB, M/N: C2175A
	Cable IN: Non-shielded, 0.7m
	Cable Out: Non-shielded, 1.5m

1.2.7 Mouse

Model Number	: M-S34
Serial Number	: LZB75078428
FCC ID	: DZL211029
Manufacturer	: HP
Data Cable	: Shielded, 1.8m

1.2.8 Video Camera

Model Number	: Vcam 3X
Serial Number	: N/A
FCC ID	: DoC
Manufacturer	: Mustek
Data Cable (USB)	: Shielded, 1.5m

1.2.9 Television

Model Number	:KV-14NX
Serial Number	:103125
BSMI ID	:3863A019
Manufacturer	:SONY
Power Cord	:Non-shielded, 1.8m

Mode 3 & Mode 4 System

1.2.10 Host Personal Computer

Model Number	: M3959
Serial Number	: SG7121GEABG
FCC ID	: DoC
Manufacturer	: APPLE
Power Cord	: Non-shielded, 1.8m

1.2.11 Monitor

Model Number	: M2978
Serial Number	: CY7080R03CW
FCC ID	: DoC
Manufacturer	: FEBRUARY
Data Cable	: Shielded, 1.6m
Power Cord	: Shielded, 1.8m

1.2.12 Keyboard

Model Number	: M2980
Serial Number	: NN7477ZA33G
BSMI ID	: 3872B902
Manufacturer	: APPLE
Data Cable	: Non-shielded, 1.8m

1.2.13 Mouse

Model Number	: M2706
Serial Number	: MB7176U8T18
FCC ID	: BCGM2706
BSMI ID	: 486A120
Manufacturer	: APPLE
Data Cable	: Non-shielded, 0.8m

1.2.14 Earphone

Model Number	: PH136
Serial Number	: N/A
Manufacturer	: BSD
Data Cable	: Shielded, 1.2m

1.2.15 Television

Model Number	:KV-14NX
Serial Number	:103125
BSMI ID	:3863A019
Manufacturer	:SONY
Power Cord	:Non-shielded, 1.8m

1.2.16 Speaker

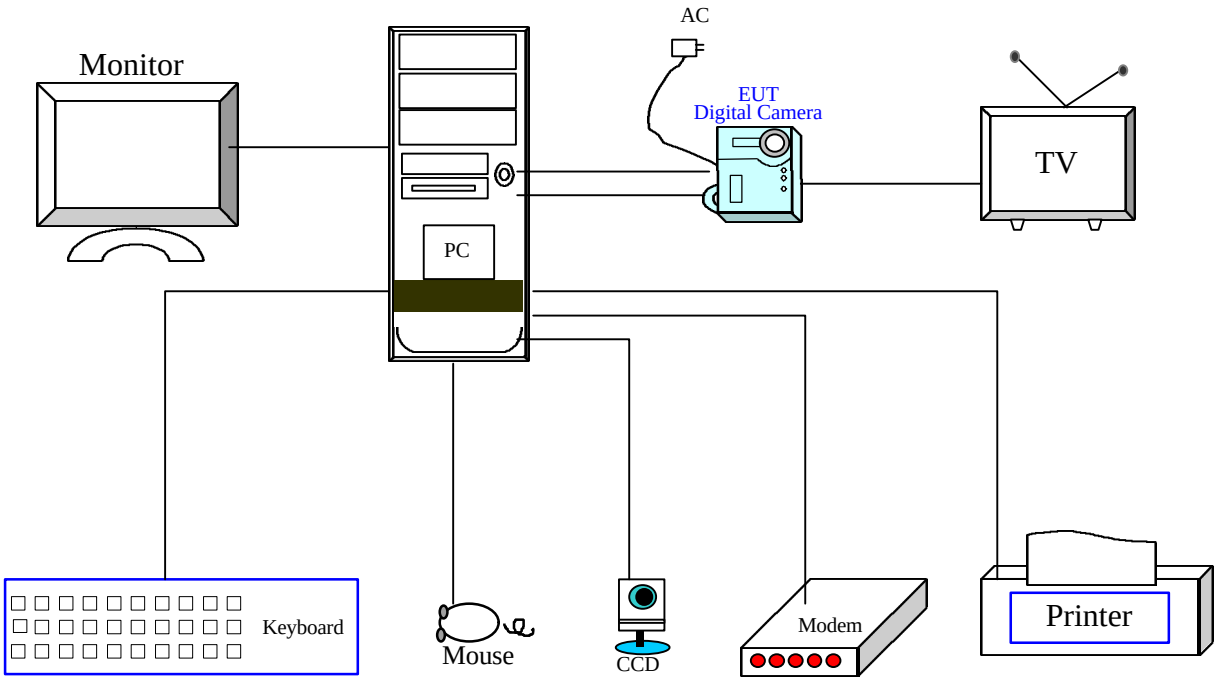
Model Number	: J-009
Serial Number	: 97-C-019790-T
FCC ID	: DoC
Manufacturer	: JS
Data Cable	: Shielded, 1.5m

1.2.17 Walkman

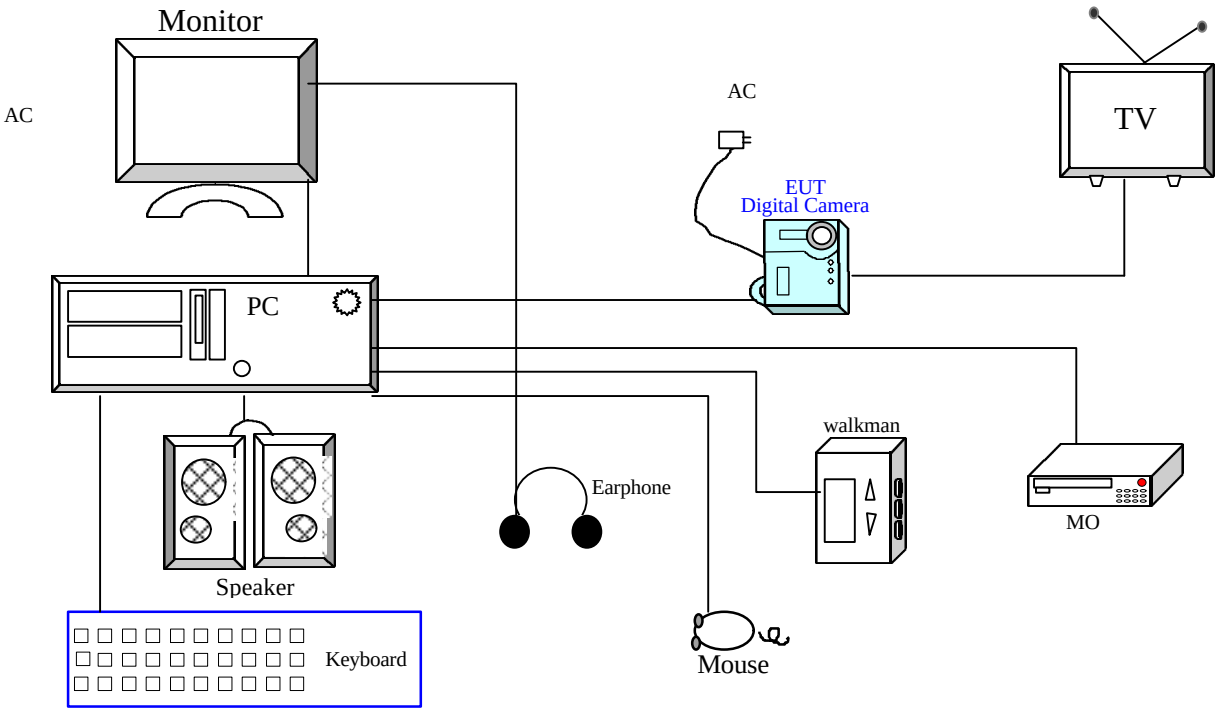
Model Number	: TB-21984
Manufacturer	: TOBISHI
Serial Number	: N/A
Data Cable	: Non-shielded, 1.5m

1.3 EUT Configuration

Mode 1 & Mode 2:



Mode 3 & Mode 4:



1.4 EUT Exercise Software

The EUT exercise program used during conducted testing was designed to exercise the EUT in a manner similar to a typical use. The exercise sequence is listed as below:

1.4.1 Setup the EUT and simulators as shown on 1.3

1.4.2 Turn on the power of all equipment.

1.4.3 Boot the PC from Hard Disk .

1.4.4 PC reads test software from disk.

1.4.5 The Digital Camera(EUT) will start to operate and capture the video figure into PC.

1.4.6 PC will display “video figure” on monitor.

1.4.7 Printer and modem will keep at standby mode during EUT operation.

1.4.8 Repeat the above procedure 1.4.4 to 1.4.7

1.5 Test performed

Conducted emissions were invested over the frequency range from **0.15MHz to 30MHz** using a receiver bandwidth of 9kHz.

Radiated emissions were invested over the frequency range from **30MHz to 1000MHz** using a receiver bandwidth of 120kHz. Radiated testing was performed at an antenna to EUT distance of 10 meters .

1.6 Test Facility

Ambient conditions in the laboratory:

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15 35	20 35
Humidity (%RH)	25 75	50 65
Barometric pressure (mbar)	860 1060	950 1000

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FCC Engineering Laboratory

Columbia, MD 21046

NVLAP Lab Code: 200347 0

February 23, 1999 Acc
Statement No. : 413 99 LAB11

Registration No. for No.2 Shielded Room C 858

-

Registration No. for No.2 Open Area Test Site R 835

999 Accreditation on TUV Rheinland

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2. Conducted Emission

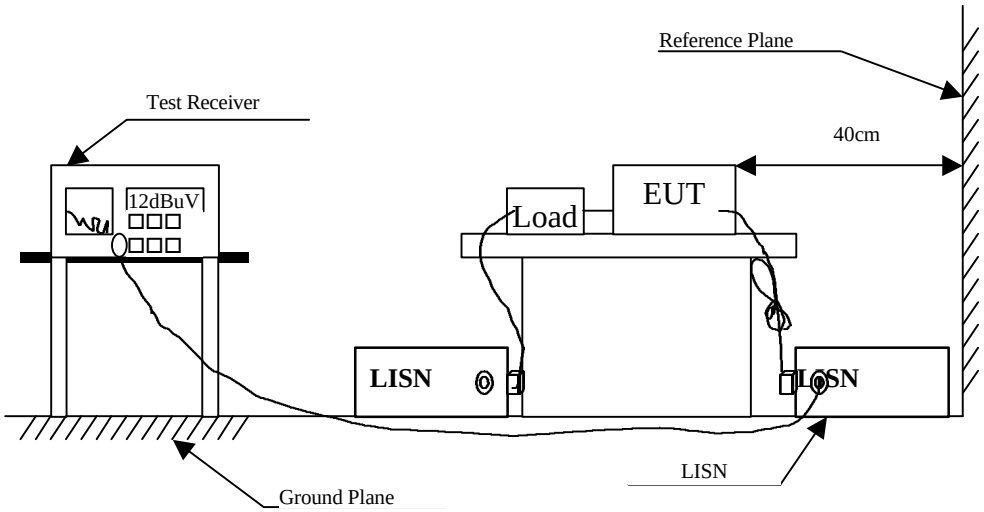
2.1 Test Equipment List

The following test equipment are used during the conducted emission test:

Item	Instrument	Manufacturer	Type No./Serial No	Last Cal..	Remark
1	Test Receiver	R & S	ESCS 30/825442/17	May, 1999	
2	L.I.S.N.	R & S	ESH3-Z5/825016/6	May, 1999	EUT
3	L.I.S.N.	Kyoritsu	KNW-407/8-1420-3	May, 1999	Peripherals
4	Pulse Limiter	R & S	ESH3-Z2	N/A	
5	N0.2 Shielded Room			N/A	

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

2.2 Test Setup



2.3 Limits

CISPR 22 Limits (dBuV)					FCC Part 15 Subpart B (dBuV)				
Frequency	Class A		Class B		Frequency	Class A		Class B	
MHz	QP	AV	MHz	AV	MHz	uV	dBuV	uV	dBuV
0.15 - 0.50	79	66	66-56	56-46	0.45-1.705	1000	60.0	250	48.0
0.50-5.0	73	60	56	46	1.705-30	3000	69.5	250	48.0
5.0 - 30	73	60	60	50					

Remarks : In the above table, the tighter limit applies at the band edges.

2.4 Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs.)
Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4 /1992 on conducted measurement.
The bandwidth of the field strength meter (R & S Test Receiver ESCS 30) is set at 9kHz.

2.5 Test Results

The conducted emission from the EUT is measured and shown in attachment 1 of test report. The acceptance criterion was met and the EUT passed the test.

3. Radiated Emission

3.1 Test Equipment

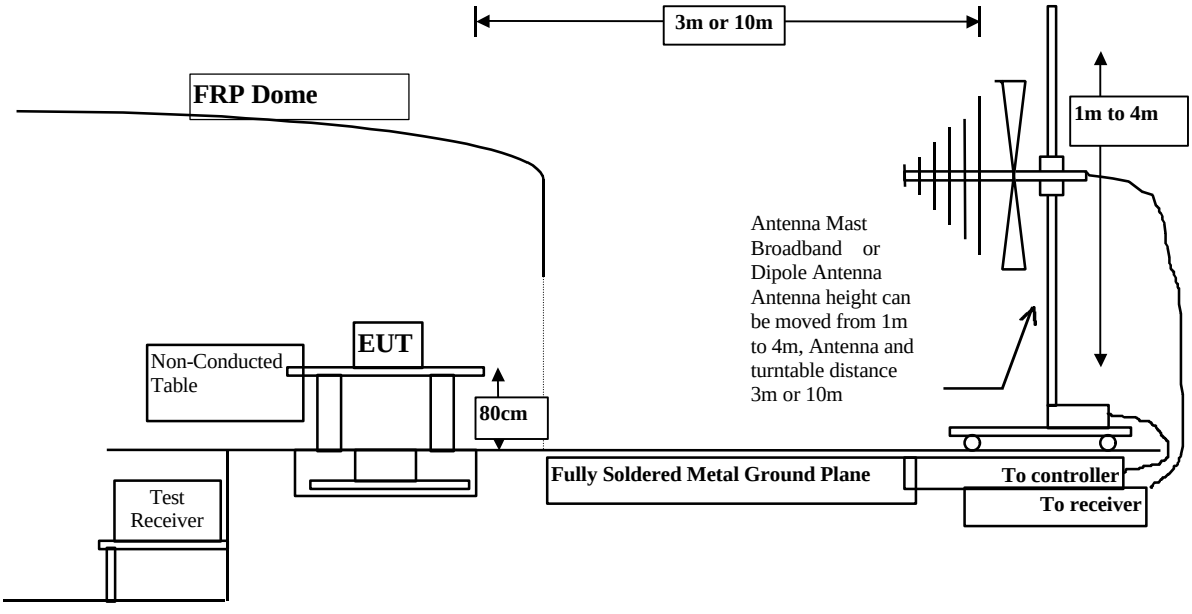
The following test equipment are used during the radiated emission test:

Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
Site # 1	X	Test Receiver	R & S	ESCS 30 / 825442/14	May, 1999
		Spectrum Analyzer	Advantest	R3261C / 71720140	May, 1999
		Pre-Amplifier	HP	8447D/3307A01812	May, 1999
	X	Bilog Antenna	Chase	CBL6112B / 12452	Sep., 1999
	X	Horn Antenna	EM	EM6917 / 103325	May, 1999
Site # 2	X	Test Receiver	R & S	ESCS 30 / 825442/17	May, 1999
		Spectrum Analyzer	Advantest	R3261C / 71720609	May, 1999
		Pre-Amplifier	HP	8447D/3307A01814	May, 1999
	X	Bilog Antenna	Chase	CBL6112B / 2455	Sep., 1999
	X	Horn Antenna	EM	EM6917 / 103325	May, 1999

Note: 1. All equipment upon which need to calibrated are with calibration period of 1 year.

2.. Mark “X” test instruments are used to measure the final test results.

3.2 Test Setup



3.3 Limits

CISPR 22 Limits (dBuV)					FCC Part 15 Subpart B (dBuV)				
Frequency MHz	Class A		Class B		Frequency	Class A		Class B	
	Distance (m)	dBuV/m	Distance (m)	dBuV/m		uV	dBuV	uV	dBuV
30 – 230	10	40	10	30	30 – 88	90	39	100	40.0
230 – 1000	10	47	10	37	88 – 216	150	43.5	150	43.5
					216 –960	210	46.5	200	46.0
					960 - 2000	300	49.5	500	54.0

Remark: 1. The tighter limit shall apply at the edge between two frequency bands.

2. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.
3. RF Line Voltage (dBuV) = 20 log RF Line Voltage (uV)

3.4 Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 10 meters .
The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.
Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.4 /1992 on radiated measurement.
The bandwidth below 1GHz setting on the field strength meter (R&S Test Receiver ESCS 30) is 120 kHz.

3.5 Test Results

The radiated emission from the EUT is measured and shown in Attachment 1 of test report.
The acceptance criterion was met and the EUT passed the test.

4. EMI Reduction Method During Compliance Testing

No modification was made during testing.

5. Attachment

Attachment 1: Summary of Test Results	Number of Pages:17
Attachment 2: EUT Test Photographs	Number of Pages: 8
Attachment 3: EUT Detailed Photographs	Number of Pages: 26