

EXHIBIT 3

Test Report With Eut Photograph

Exhibit 3

**FCC Test Report
Application for Certification
On Behalf Of
MICROTEK INTERNATIONAL INC.
Scanner
Model # : MCS-1200U
FCC ID : EF9 MCS-1200U**

**Prepared For:
MICROTEK INTERNATIONAL INC.
No. 6 Industry East Road 3, Science-Based
Industrial Park, Hsin-Chu, Taiwan, R.O.C.**

**Report By : QuieTek Corporation
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Tel : (03) 592-8858
Fax : (03) 592-8859**

The test results are traceable to the national or international standards Test results given in this report only relate to the specimen(s) tested or measured. This report shall not be reproduced excepted in full, without the written consent of QuieTek. This report must not be used to claim product endorsement by NVLAP any agency of the U.S. Government
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TABLE OF CONTENTS

Description	Page
1. TEST REPORT CERTIFICATION.....	3
2. GENERAL INFORMATION	4
2.1 PRODUCTION DESCRIPTION.....	4
2.2 TESTED SYSTEM DETAILS.....	5
2.3 TEST METHODOLOGY	7
2.4 TEST FACILITY	7
3. CONDUCTED POWER LINE TEST.....	8
3.1 TEST EQUIPMENTS.....	8
3.2 BLOCK DIAGRAM OF TEST SETUP	8
3.3 CONDUCTED POWERLINE EMISSION LIMIT	9
3.4 EUT CONFIGURATION ON MEASUREMENT	9
3.5 EUT EXERCISE SOFTWARE.....	9
3.6 TEST PROCEDURE	10
3.7 CONDUCTED EMISSION DATA.....	10
4. RADIATION EMISSION TEST	15
4.1 TEST EQUIPMENT	15
4.2 TEST SETUP	15
4.3 RADIATED EMISSION LIMIT	16
4.4 EUT CONFIGURATION	16
4.5 OPERATING CONDITION OF EUT	17
4.6 TEST PROCEDURE	17
4.7 RADIATED EMISSION DATA	17
5. SUMMARIZATION OF TEST RESULTS	22
6. EMI REDUCTION METHOD DURING COMPLIANCE TESTING	23
7. TEST PHOTOGRAPHS.....	24
8. EUT DETAIL PHOTOGRAPHS	28

1. Test Report Certification

QTK 99-FOOY

Applicant : MICROTEK INTERNATIONAL INC.

Manufacturer : MICROTEK INTERNATIONAL INC.

EUT Description

Model Name : Scanner

Model No. : MCS-1200U

Serial Number : N/A

FCC ID. : EF9 MCS-1200U

Power : 120V/60Hz AC

MEASUREMENT STANDARD USED :

CISPR 22 Limits and methods of measurement of radio disturbance characteristics of information technology equipment: 1993

MEASUREMENT PROCEDURE USED :

ANSI C63.4 Methods of Measurements of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9kHz to 40GHz. :1992

The device described above was tested by QuieTek Corporation to determine the maximum emission levels emanating from the device. The maximum emission levels were compared to the FCC Part 15 Subpart B limits for both radiated and conducted emissions.

The measurement results are contained in this test report and QuieTek Corporation is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT to be technically compliant with the FCC Part 15 Subpart B limits. And there are no deviation from the above measurement process.

Sample Received Date : December 29, 1998

Test Date : January 19, 1999

Documented by : Amy Hung

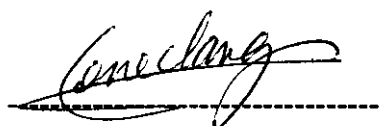
NVLAQ®

Test Engineer:

Approve & Authorized Signer:



Jack Wu



Gene Chang

2. General Information

QTK99-0004

2.1 Production Description

Description : Scanner

Model Number : MCS-1200U

Serial Number : N/A

FCC ID. : EF9 MCS-1200U

Applicant : MICROTEK INTERNATIONAL INC.

Address : No. 6 Industry East Road 3, Science-Based
Industrial Park, Hsin-Chu, Taiwan, R.O.C.

Manufacturer : MICROTEK INTERNATIONAL INC.

Address : No. 6 Industry East Road 3, Science-Based
Industrial Park, Hsin-Chu, Taiwan, R.O.C.

Data Cable : Shielded, Detectable, 1.2m
Bonded two ferrite cores

Power Adaptor : Non-shielded, Detectable, 1.8m

Mode Difference :

Mode 1 : EUT with Delta Power Adapter

Mode 2 : EUT with LSE Power Adapter

Note: The data show in this test report reflects the worst-case data for each operation mode.

2.2 Tested System Details

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

☒ Host Personal Computer

Model Number : PIIL97
Manufacturer : ASUS
Serial Number : AS10228
FCC ID : DoC
Power Cord : Non-Shielded, Detachable, 1.8m

☒ Monitor

Model Number : CM752ET-311
Serial Number : T8E004443
FCC ID : DoC
Manufacturer : HITACHI
Data Cable : Shielded, Un-Detachable 1.5m
Power Cord : Shielded, Detachable 1.8m

☒ Keyboard

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

☒ Mouse

Model Number : M-S34
Serial Number : LZB71178588
FCC ID : DZL211029
Manufacturer : HP
Data Cable : Shielded, Non-detachable, 1.8m

☒ Modem

Model Number : 1414
Serial Number : 980033032
FCC ID : IFAXDM1414
Manufacturer : ACEEX
Data Cable : Shielded, Detachable, 1.5m
Power Adapter : ACCEX, M/N: SCP41-91000A
Cable Output : Shielded, Non-detachable, 1.5m

☒ Modem

Model Number : 1414
Serial Number : 980033040
FCC ID : IFAXDM1414
Manufacturer : ACEEX
Data Cable : Shielded, Detachable, 1.5m
Power Adapter : ACCEX, M/N: SCP41-91000A
Cable Output : Shielded, Non-detachable, 1.5m

☒ Printer

Model Number : C2642A
Serial Number : MY75J1D1D2
FCC ID : B94C2642X
Manufacturer : HP
Data Cable : Shielded, Detachable, 1.2m
Power Adapter : NMB, M/N: C2175A
Cable for AC IN: Unshielded, Non-detachable, 0.7m
Cable for AC Out: Unshielded, Non-detachable, 1.5m

☒ Joystick (USB)

Model Number : JPD110
Serial Number : 9814A15646
Manufacturer : Maxxtro
FCC ID : DoC
Data Cable : Shielded, Non-detachable, 1.7m

2.3 Test Methodology

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4-1992.

Radiated testing was performed at an antenna to EUT distance of 10 meters.

2.4 Test Facility

Ambient conditions in the laboratory:

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	24-27
Humidity (%RH)	25-75	50-65
Barometric pressure (mbar)	860-1060	950-1000

Site Description: November 3, 1998 File on
Federal Communications Commission
FCC Engineering Laboratory
7435 Oakland Mills Road
Columbia, MD 21046
Reference 31040/SIT1300F2

September 30, 1998 Accreditation on NVLAP
NVLAP Lab Code: 200347-0

December 8, 1998 Registration on VCCI
Registration No. for Conducted Emission C-858
Registration No. for Radiated Emission R-823

Name of firm : QuieTek Corporation

Site location : No.75-1, Wang-Yeh Valley, Yung-Hsing Tsuen,
Chiung-Lin, Hsin-Chu County, Taiwan, R.O.C.

3. Conducted Power Line Test

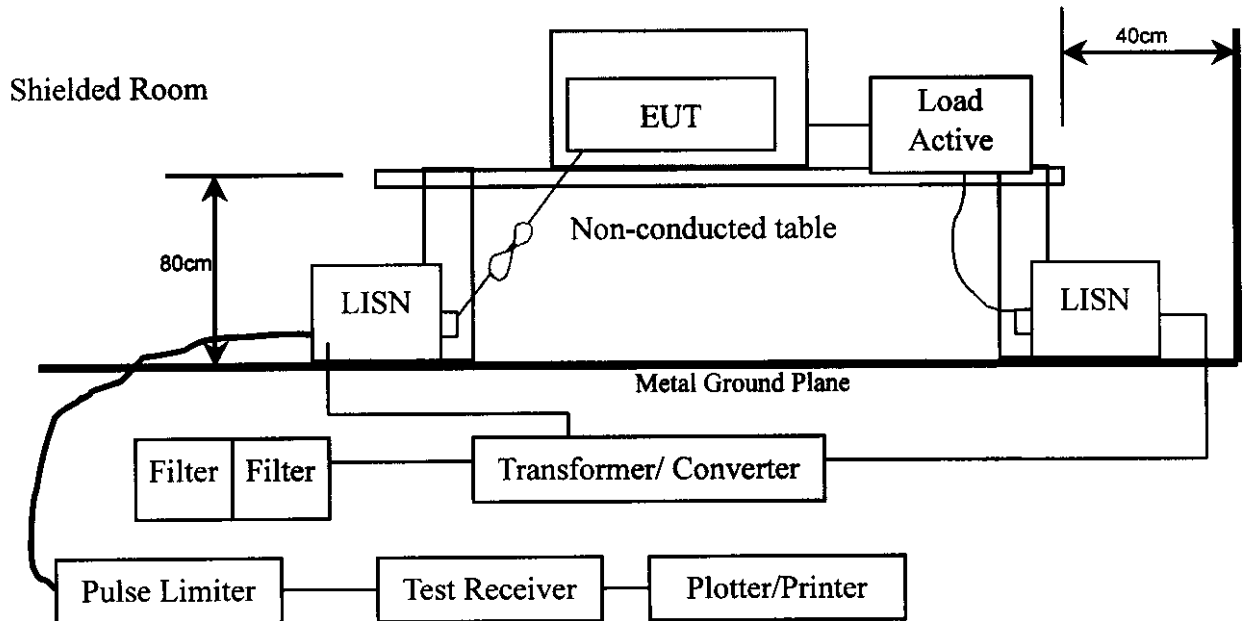
3.1 Test Equipments

The following test equipments are used during the conducted power line tests:

Item	Instrument	Manufacturer	Type No./Serial No	Last Cal..	Remark
1	Test Receiver	R & S	ESCS 30/825442/17	May, 1998	
2	L.I.S.N.	R & S	ESH3-Z5/825016/6	May, 1998	EUT
3	L.I.S.N.	Kyoritsu	KNW-407/8-1420-3	May, 1998	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.

3.2 Block Diagram of Test Setup



3.3 Conducted Powerline Emission Limit

[] CISPR 22 Limits

Frequency	Maximum RF Line Voltage dB(uV)			
	Class A		Class B	
MHz	QUASI-PEAK	AVERAGE	QUASI-PEAK	AVERAGE
0.15 - 0.50	79	66	66-56	56-46
0.50-5.0	73	60	56	46
5.0 - 30	73	60	60	50

Remarks : In the Above Table, the tighter limit applies at the band edges.

3.4 EUT Configuration on Measurement

The equipments which is listed 3.2 are installed on Conducted Power Line Test to meet the Commission requirement and operating in a manner which tends to maximize its emission characteristics in a normal application.

3.5 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:

- 3.5.1 Setup the EUT and simulators as shown on 3.2
- 3.5.2 Turn on the power of all equipment.
- 3.5.3 Boot the PC from Hard Disk .
- 3.5.4 PC reads test software from disk and then sent to scanner..
- 3.5.5 The Scanner (EUT) will start to operate and scan the video figure into PC.
- 3.5.6 PC will display "video figure" on monitor.
- 3.5.7 Printer and modem will keep at standby mode during Scanner operation.
- 3.5.8 Repeat the above procedure 3.5.4 to 3.5.7

3.6 Test Procedure

The EUT is 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 refer 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 equipments 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 10Khz.

The frequency range from **0.15 MHz to 30 MHz** is checked.

3.7 Conducted Emission Data

The initial step in collecting conducted data is a spectrum analyzer peak scan of the measurement range for all the test modes. Then the worst modes were reported the following data pages.

The uncertainty is calculated in accordance with NAMAS NIS 81. The total uncertainty for this test is as follows:

- Uncertainty in the field strength measured: $< \pm 2.0$ dB

CONDUCTED EMISSION DATA

Date of Test	: January 19, 1999	Temperature	: 21 °C
EUT	: Scanner	Humidity	: 63 %
Test Mode	: Mode 1	Detector Mode	: Quasi-Peak & Average

Frequency	Cable	LISN	Reading Level	Measurement Level	Limits
MHz	Loss	Factor	L1	L1	
	dB	dB	dBuV	dBuV	dBuV
0.181	0.01	0.10	51.51	51.62	64.43
0.228	0.02	0.10	48.31	48.43	62.52
0.287	0.03	0.10	48.38	48.51	60.62
0.345	0.04	0.10	46.76	46.90	59.07
*0.455	0.06	0.10	50.14	50.30	56.79
0.548	0.07	0.10	48.61	48.78	56.00

Average:

0.181	0.01	0.10	44.60	44.71	54.44
0.228	0.02	0.10	48.40	48.52	52.52
0.286	0.03	0.10	41.70	41.83	50.64
*0.345	0.04	0.10	47.00	47.14	49.08
0.454	0.06	0.10	40.40	40.56	46.80
0.548	0.07	0.10	37.50	37.67	46.00

Remarks :

1. " * " means that this data is the worse emission level.
2. All readings are Quasi-peak and average values.

CONDUCTED EMISSION DATA

Date of Test	:	January 19, 1999	Temperature	:	23 °C
EUT	:	Scanner	Humidity	:	61 %
Test Mode	:	Mode 1	Detector Mode	:	Quasi-Peak

Frequency	Cable	LISN	Reading Level	Measurement Level	Limits
	Loss	Factor	Line2	Line2	
MHz	dB	dB	dBuV	dBuV	dBuV
0.193	0.01	0.10	52.62	52.73	63.91
0.232	0.02	0.10	51.96	52.08	62.38
0.291	0.03	0.10	47.48	47.61	60.51
0.349	0.04	0.10	45.42	45.56	58.98
*0.451	0.06	0.10	47.26	47.42	56.86
0.560	0.07	0.10	45.38	45.55	56.00

Average:

0.193	0.01	0.10	47.90	48.01	53.91
*0.232	0.02	0.10	50.90	51.02	52.38
0.291	0.03	0.10	41.90	42.03	50.50
0.349	0.04	0.10	45.70	45.84	48.99
0.451	0.06	0.10	29.50	29.66	46.86
0.560	0.07	0.10	34.90	35.07	46.00

Remarks :

1. " * " means that this data is the worse emission level.
2. All readings are Quasi-peak and average values.

CONDUCTED EMISSION DATA

Date of Test	:	January 19, 1999	Temperature	:	21 °C
EUT	:	Scanner	Humidity	:	63 %
Test Mode	:	Mode 2	Detect Mode	:	Quasi-Peak & Average

Frequency	Cable	LISN	Reading Level	Measurement Level	Limits
MHz	Loss	Factor	L1	L1	
	dB	dB	dBuV	dBuV	dBuV
*0.181	0.01	0.10	56.34	56.45	64.43
0.201	0.02	0.10	43.99	44.11	63.58
0.255	0.03	0.10	35.80	35.93	61.58
0.275	0.03	0.10	46.15	46.28	60.97
0.482	0.06	0.10	38.83	38.99	56.30
0.545	0.07	0.10	38.19	38.36	56.00

Average:

0.181	0.01	0.10	42.20	42.31	54.44
0.200	0.02	0.10	19.60	19.72	53.61
0.255	0.03	0.10	14.80	14.93	51.59
*0.275	0.03	0.10	43.60	43.73	50.97
0.482	0.06	0.10	26.70	26.86	46.30
0.544	0.07	0.10	37.30	37.47	46.00

Remarks :

1. " * " means that this data is the worse emission level.
2. All readings are Quasi-peak and average values.

CONDUCTED EMISSION DATA

Date of Test	: January 19, 1999	Temperature	: 21 °C
EUT	: Scanner	Humidity	: 63 %
Test Mode	: Mode 2	Detect Mode	: Quasi-Peak & Average

Frequency	Cable	LISN	Reading Level	Measurement Level	Limits
MHz	Loss	Factor	L2	L2	
	dB	dB	dBuV	dBuV	dBuV
*0.181	0.01	0.10	61.68	61.79	64.43
0.259	0.03	0.10	47.80	47.93	61.45
0.275	0.03	0.10	51.12	51.25	60.97
0.373	0.05	0.10	42.97	43.12	58.44
0.459	0.06	0.10	41.87	42.03	56.72
0.564	0.07	0.10	29.29	29.46	56.00

Average:

0.181	0.01	0.10	47.49	47.60	54.44
0.259	0.03	0.10	23.30	23.43	51.46
*0.275	0.03	0.10	45.50	45.63	50.97
0.372	0.05	0.10	34.60	34.75	48.46
0.458	0.06	0.10	29.70	29.86	46.73
0.564	0.07	0.10	19.10	19.27	46.00

Remarks :

1. " * " means that this data is the worse emission level.
2. All readings are Quasi-peak and average values.

4. Radiation Emission Test

4.1 Test Equipment

The following test equipments are used during the radiated emission tests:

Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
SITE # 1	X	Test Receiver	R & S	ESCS 30 / 825442/14	May, 1998
		Spectrum Analyzer	Advantest	R3261C / 71720140	May, 1998
		Pre-Amplifier	HP	8447D/3307A01812	May, 1998
	X	Bilog Antenna	Chase	CBL6112B / 12452	Sep., 1998
	X	Horn Antenna	EM	EM6917 / 103325	May, 1998
SITE # 2	X	Test Receiver	R & S	ESCS 30 / 825442/17	May, 1998
		Spectrum Analyzer	Advantest	R3261C / 71720609	May, 1998
		Pre-Amplifier	HP	8447D/3307A01814	May, 1998
	X	Bilog Antenna	Chase	CBL6112B / 2455	Sep., 1998
	X	Horn Antenna	EM	EM6917 / 103325	May, 1998

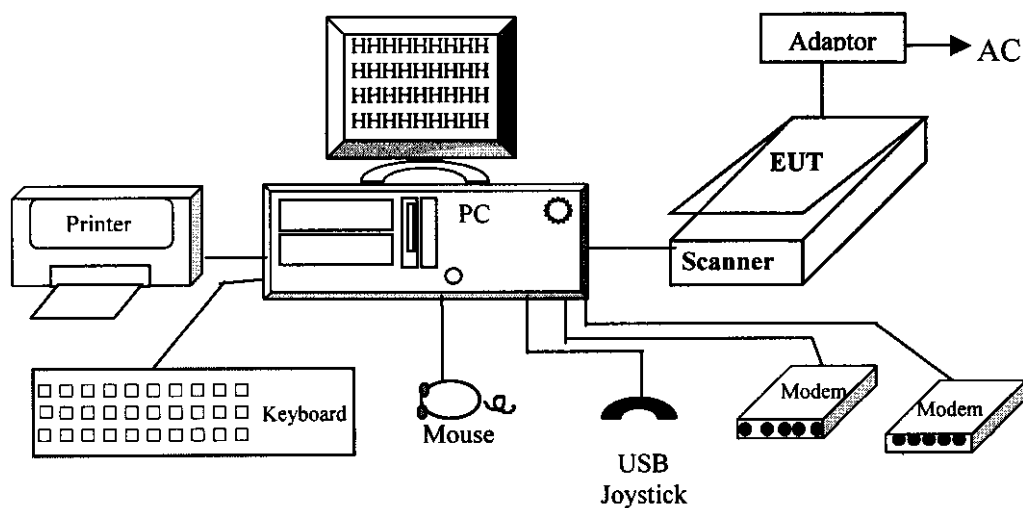
Note: 1. All equipment upon which need to calibrated are with calibration period of 1 year.

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

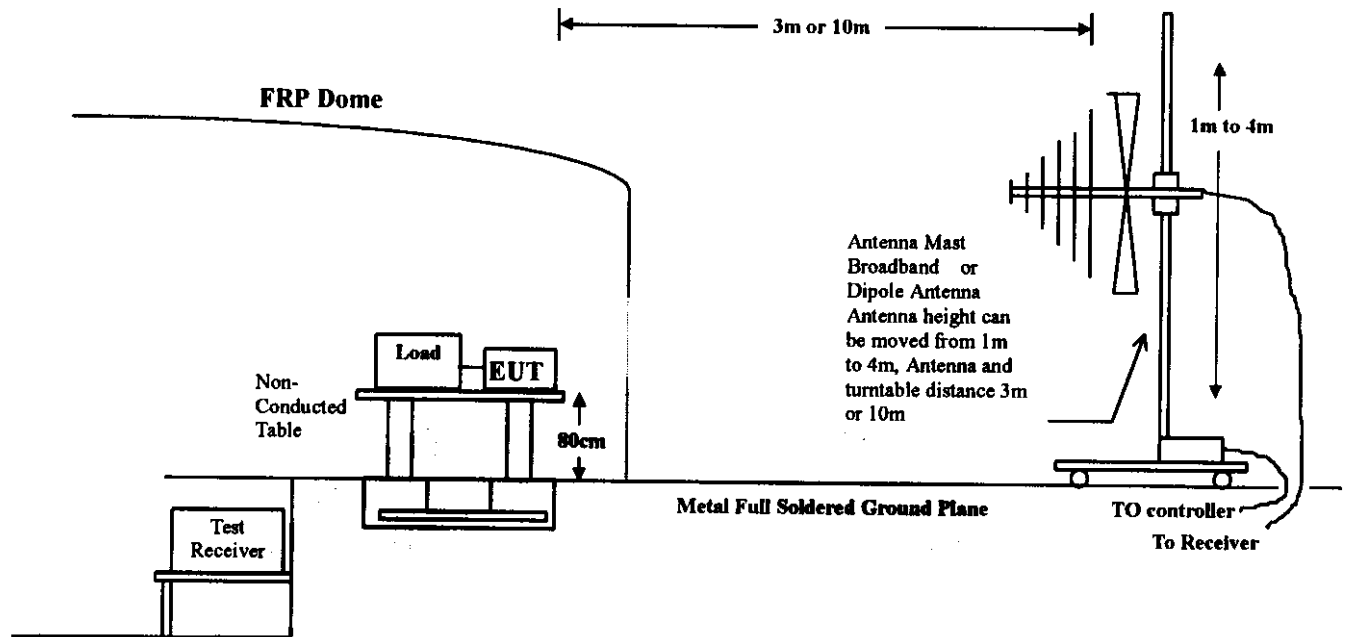
2. Test Site : ☒ Site #1 , ☐ Site #2

4.2 Test Setup

4.2.1 Block Diagram of Connections between EUT and simulators



4.2.2 Open Test Site Setup Diagram



4.3 Radiated Emission Limit

[] CISPR 22 Limits:

Frequency MHz	Class A		Class B	
	Distance (m)	Limits (dBuV/m)	Distance (m)	Limits (dBuV/m)
30 – 230	10	40	10	30
230 – 1000	10	47	10	37

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.

4.4 EUT Configuration

The equipments which is listed 4.2.1 are installed on Radiated Emission Test to meet the Commission requirement and operating in a manner which tends to maximize its emission characteristics in a normal application.

4.5 Operating Condition of EUT

Same as Conducted Power Line Test which is listed in 3.5.

4.6 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. EUT is set 10 meters away from the receiving antenna which is mounted on a antenna tower. The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Broadband antenna (calibrated bi-log and horn antenna) are used as a eceiving antenna. 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, above 1Ghz are 1 MHz.

The frequency range from 30MHz to 1000MHz is checked.

4.7 Radiated Emission Data

The initial step in collecting radiated data is a spectrum analyzer peak scan of the measurement range for all the test modes. Then the worst modes were reported the following data pages.

The uncertainty is calculated in accordance with Namas NIS 81. The total uncertainty for this test is as follows:

- Uncertainty in the field strength measured: $< \pm 4.0$ dB

Radiated Emission Data

Date of Test	: Jan. 19, 1999	Temperature	: 21 °C
EUT	: Scanner	Humidity	: 63 %
Test Mode	: Mode 1		

Frequency	Cable	Ant	Reading Level	Emission Level	Limits	Ant	Table
MHz	Loss	Factor	Horizontal	Horizontal	dBuV/m	Pos	Pos
	dB	dB/m	dBuV/m	dBuV/m		cm	deg
120.082	2.02	12.02	9.92	23.96	30.00	401	77
*130.645	2.12	11.59	13.42	27.14	30.00	401	77
139.524	2.21	11.28	6.38	19.87	30.00	401	51
144.210	2.25	11.26	9.66	23.17	30.00	401	60
160.650	2.41	10.32	5.70	18.43	30.00	401	81
170.150	2.50	9.56	5.26	17.33	30.00	401	37
336.120	3.94	13.76	5.75	23.45	37.00	401	39

Remarks:

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. “ * ”, means this data is the worse emission level.
3. Emission Level = Reading Level + Antenna Factor + Cable loss

Radiated Emission Data

Date of Test	: Jan. 19, 1999	Temperature	: 21 °C
EUT	: Scanner	Humidity	: 63 %
Test Mode	: Mode 1		

Frequency	Cable	Ant	Reading Level	Emission Level	Limits	Ant	Table
	Loss	Factor	Vertical	Vertical		Pos	Pos
MHz	dB	dB/m	dBuV/m	dBuV/m	dBuV/m	cm	deg
39.998	1.24	12.84	10.73	24.81	30.00	100	36
48.008	1.33	8.03	16.29	25.65	30.00	100	86
* 65.950	1.50	5.83	19.20	26.53	30.00	100	32
71.951	1.55	6.10	16.77	24.42	30.00	100	4
114.144	1.96	11.35	8.70	22.01	30.00	100	64
120.082	2.02	11.56	9.70	23.28	30.00	100	4
130.646	2.12	11.79	11.20	25.12	30.00	100	11
144.025	2.24	10.86	9.80	22.90	30.00	100	111
160.650	2.41	10.23	10.56	23.20	30.00	100	119
186.216	2.65	8.96	13.05	24.66	30.00	100	111
864.189	6.69	19.77	0.28	26.74	37.00	100	148

Remarks:

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. " * ", means this data is the worse emission level.
3. Emission Level = Reading Level + Antenna Factor + Cable loss

Radiated Emission Data

Date of Test	:	<u>Jan. 19, 1999</u>	Temperature	:	<u>21 °C</u>
EUT	:	<u>Scanner</u>	Humidity	:	<u>63 %</u>
Test Mode	:	<u>Mode 2</u>			

Frequency	Cable	Ant	Reading Level	Emission Level	Limits	Ant	Table
	Loss	Factor	Horizontal	Horizontal		Pos	Pos
MHz	dB	dB/m	dBuV/m	dBuV/m	dBuV/m	cm	deg
120.082	2.02	12.02	7.66	21.70	30.00	399	32
130.645	2.12	11.59	8.52	22.24	30.00	399	15
*144.025	2.24	11.16	11.50	24.90	30.00	399	124
160.650	2.41	10.32	8.58	21.31	30.00	394	1
170.150	2.50	9.56	9.64	21.71	30.00	394	62
336.120	3.94	13.76	11.93	29.63	37.00	399	103

Remarks:

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. " * ", means this data is the worse emission level.
3. Emission Level = Reading Level + Antenna Factor + Cable loss

Radiated Emission Data

Date of Test	: Jan. 19, 1999	Temperature	: 21 °C
EUT	: Scanner	Humidity	: 63 %
Test Mode	: Mode 2		

Frequency	Cable	Ant	Reading Level	Emission Level	Limits	Ant	Table
	Loss	Factor	Vertical	Vertical		Pos	Pos
MHz	dB	dB/m	dBuV/m	dBuV/m	dBuV/m	cm	deg
*48.008	1.33	8.03	18.07	27.43	30.00	100	183
65.950	1.50	5.83	12.88	20.21	30.00	100	98
71.951	1.55	6.10	14.51	22.16	30.00	100	129
130.646	2.12	11.79	11.01	24.93	30.00	100	111
144.025	2.24	10.86	12.38	25.48	30.00	100	85
186.216	2.65	8.96	11.24	22.85	30.00	100	56

Remarks:

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. " * ", means this data is the worse emission level.
3. Emission Level = Reading Level + Antenna Factor + Cable loss

5. Summarization of Test Results

The test results in the conducted and radiated emission were performed according to the requirements of measurement standard and process. QuieTek Corporation is assumed full responsibility for the accuracy and completeness of these measurements. The summarization of the worst value of conducted and radiated emission test is described as below:

➤ The worse value of Conducted Emission Test

Frequency (MHz)	Line	Measurement Level dB(uV)	Limit Level dB(uV)	Comment
0.455	L1	50.30	56.79	Pass
0.181	L2	61.79	64.43	Pass

➤ The worse value of Radiated Emission Test

Frequency (MHz)	Polarization	Measurement Level dB(uV)	Limit Level dB(uV)	Comment
130.249	H	27.14	30.00	Pass
48.008	V	27.43	30.00	Pass

6. EMI Reduction Method During Compliance Testing

No modification was made during testing.