Test Report Application for Certification

On Behalf Of

Sunrex Technology Corp.

EUT:
Multi Laser Presenter

Model Number:
ML0304

FCC ID:
J750304

Prepared for:

SUNREX TECHNOLOGY CORP.

No. 188-1, Chung Cheng Rd., Ta Ya Shiang, Taichung Hsien, Taiwan, R.O.C.

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1. CERTIFICATION

Applicant : Sunrex Technology Corp.

EUT Description	: Multi Laser Presenter
Model Number	: ML0304
Serial Number	: N/A
Brade Name	: Innovace
FCC ID	: J750304
Tested Power Supply	: Battery DC 3V

MEASUREMENT PROCEDURES USED:

☑ **CFR 47, Part 15**	Radio Frequency Device Subpart C Intentional Radiators :2000
☑ **ANSI C63.4**	Methods of Measurements of Radio-Noise Emissions from Low- Voltage Electrical and Electronic Equipment in the range of 9kHz To 40GHz. 2001

THE MEASUREMENT SHOWN IN THE ATTACHMENT WAS MADE IN ACCORDANCE WITH THE PROCEDURES INDICATED, AND THE MAXIMUM ENERGY EMITTED BY THE EQUIPMENT WAS FOUND TO BE WITHIN THE ABOVE LIMITS APPLICABLE.

Sample Received Date	: **December 20, 2003**
Final Test Date	: **January 09, 2004**

In order to ensure the quality and accuracy of this document, the contents have been thoroughly reviewed by the following qualified personnel from GesTek Lab.

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This test data shown below is traceable to National or international standard such as NIST/USA, etc. The laboratory's NVLAP accreditation in no way constitutes or implies product certification, approval, or endorsement by NVLAP or the United States government.

2. GENERAL INFORMATION

2.1 PRODUCTION DESCRIPTION

Product Name : Multi Laser Presenter
Model Number : ML0304
Serial Number : N/A
Brade Name : Innovace
FCC ID : J750304
Modulation Type : FSK
Antenna Type : Soldered on PCB
Frequencg Range : 917.3 MHz
Channel Number 1 Channel
Channel Control Manual
Working Voltage : Battery DC 3V

Frequency of Each Channel:

Channel	Frequency (MHz)
1	917.3

Note:

1. This device is a 917.3MHz Multi Laser Presenter included wireless transmission mouse and Laser Point.

2. This device is one channel and perform the test, then record on this report.

3. These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15 Subpart C Paragraph 15.249.

4. The device is a transceiver equipement to accordance with Part 15 regulations. The function receiving was under Declaration of Conformity and record of measurment in test report that the report number is 0312018FCC DOC.

2.2 OPERATIONAL DESCRIPTION

This device is Multi Laser Presenter included wireless transmitter mouse and Laser Point, The powered by DC 3V battery.
This device only one channel and operation in 917.3MHz with FSK modulation.
The Receiver is USB interface can receive singal from transmitter to control PC or notebook and the Laser point can help you in presentation.

2.3 TEST MODES & EUT COMPONENTS DESCRIPTION

EUT: Multi Laser Presenter, M/N: ML0304 **The EUT tested with Notebook PC. (DELL, M/N: PP05L)**	
Test Mode	**Mode 1**
Frequency	917.3 MHz
RF output power	< 1mW

2.4 CONFIGURATION OF THE TESTED SYSTEM

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

Device	No.	Configuration
Headset & Earphone	**E01-077**	Manufacturer : TOKYO Model Number : SX-M1 Serial Number : N/A Data Cable : Non-Shielded, Undetachable, 1.8 m Power Cord : N/A Purchase Date : 2/22/1999
Modem	**M03-023**	Manufacturer : ACEEX Model Number : 1414V Serial Number : 0046177 BSMI ID : N/A FCC ID : IFAXDM1414 Data Cable : T Type:RS232, Shielded, Detachable, 1.2m Power Cord : Non-Shielded, Detachable, 1.5m Line : Type:RJ11(4P2C), Detachable, 1.8m Phone : Type:RJ11(4P2C), Detachable, 1.8m
Printer	**P01-016**	Manufacturer : Hewlett Packard Model Number : 2225C Serial Number : 2548S40426 BSMI ID : 3892A957 FCC ID : BS46XU2225C Data Cable : Shielded, Detachable, 1.2m, Parallel Cable Power Cord : Non-Shielded, Detachable, 1.8m
USB Mouse	**M02-226**	Manufacturer : Logitech Model Number : M-U48A BSMI ID : 4882A177 FCC ID : JNZ211360 Data Cable : Shielded, Undetachable, 1.5m
Digital Video Camera Recorder (Digital 8)	**V01-002**	Manufacturer : SONY CORPORATION Model Number : DCR-TRV120 Serial Number : N/A BSMI ID : N/A AC Power Adaptor : M/N:AC-L10A Input:AC IN:100-240V 50/60Hz 23W Output:DC 8.4V/1.5A Battery Pack(Li-ion) :M/N:NP-F330, Input :DC 7.2V/5.0Wh
Monitor	**P992**	Manufacturer : DELL Model Number : E551 Serial Number : N/A BSMI ID : N/A FCCI ID : N/A Data Cable : Shielded, Undetachable, 1.8m Power Cord : Non-Shielded, Detachable, 1.8m

Device	No.	Configuration
Notebook PC	**----**	Manufacturer : DELL COMPUTER Model Number : PP05L BSMI ID : R33002 FCC ID : N/A Power Cord : Non-Shielded, Detachable, 1.5m.
Far End Network Server	**-----**	Manufacturer : ASUS Model Number : AP160R Power Cord : Non- Shielded, Detachable, 1.8m
Electronic Private Automatic Branch Exchange	**-----**	Manufacturer : Sun Moon Star Model Number : SMS-4 Serial Number : 9708006 FCC ID : N/A Data Cable to EUT : Type:RJ11(4P2C), Detachable, 1.5m Power Cord : Non-Shielded, Detachable, 1.5m

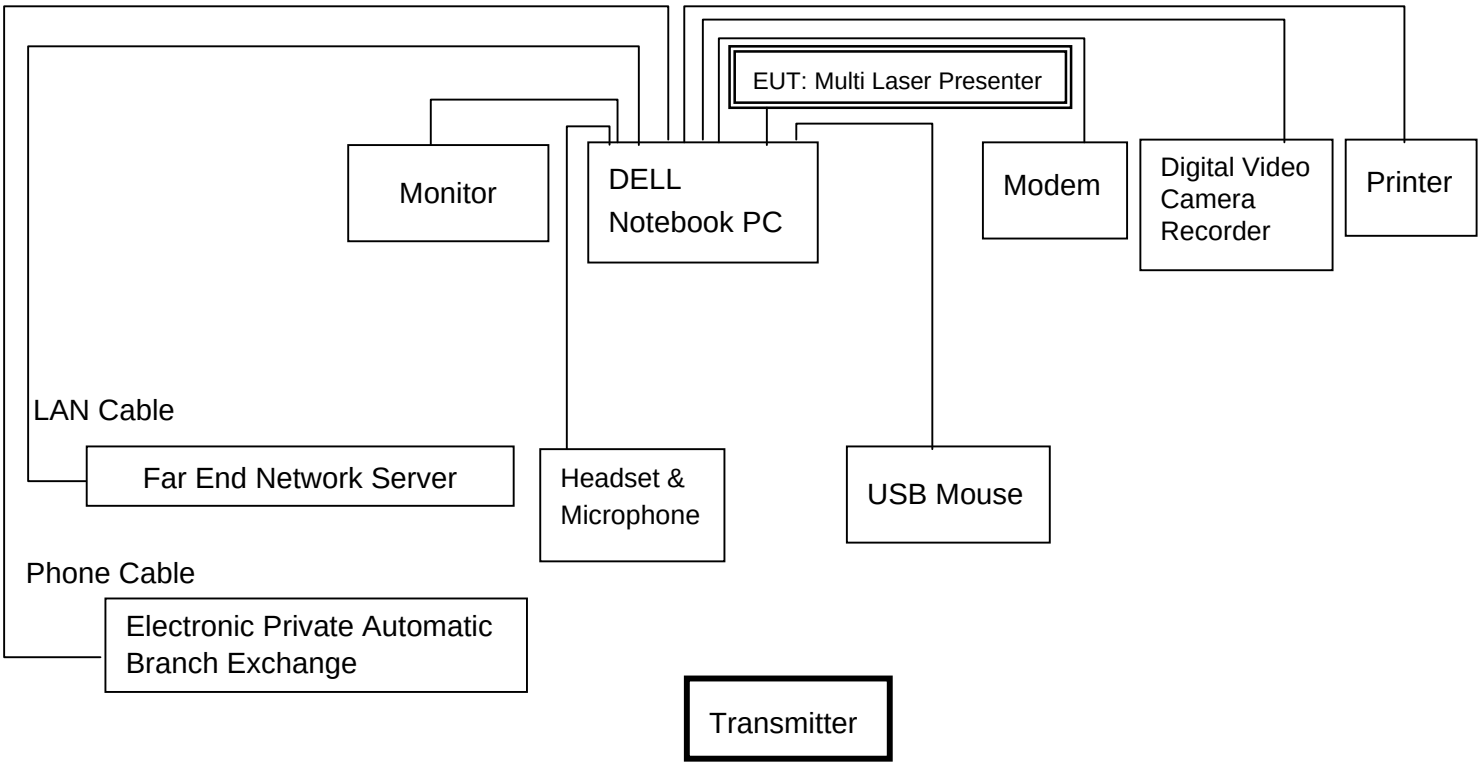
2.5 TEST FACILITY

Ambient conditions in the laboratory:

ITEMS	REQIORED(IEC 68-1)	ACTUAL
TEMPERATURE (°C)	15-35	24-27
HUMIDITY (%RH)	25-75	50-65
BAROMETRIC PRESSURE (mbar)	860-1060	950-1000
FCC SITE DESCRIPTION	Aug. 10, 1995 /Aug. 25, 1998 File on FCC Engineering Laboratory Federal Communication Commission 7435 Oakland Mills Road Columbia, MD 21046 Reference 31040/SIT1300F2	
NVLAP LAB. CODE	200085-0 United Stated Department of commerce National Institute of Standards and Technology National Voluntary Laboratory Accreditation Program Accreditation on NVLAP effective through Sep. 30,2004 For CISPR 22, FCC Method and AS/NZS 3548 Measurement.	
Chinese National Laboratory Accreditation Certificate R.O.C.	Recognized by the Council of Chinese National Laboratory Accreditation and confirmed to meet the requirements of ISO/IEC 17025 also has been registered for fifteen items, and meet the requirements of the Article 4 of Measures Governing the Recognition both Approval of Designated Laboratory for Commodities Inspection and has been registered for four items within the field of Electrical Testing. Registration No.: 1082 Registration on CNLA effective through April 30, 2006.	

2.6 TEST SETUP

2.7 2.6.1 BLOCK DIAGRAM OF CONNECTIONS BETWEEN EUT AND SIMULATORS



2.8 EUT OPERATING CONDITIONS

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. Setup the EUT and simulators as shown on 2.5.
2. Turn on the power of all equipments.
3. The transmitter will transmit the signal continue.
4. Confirm the receiver is reveive signal continue.
5. Repeat the above steps.

3. CONDUCTION EMISSION DATA

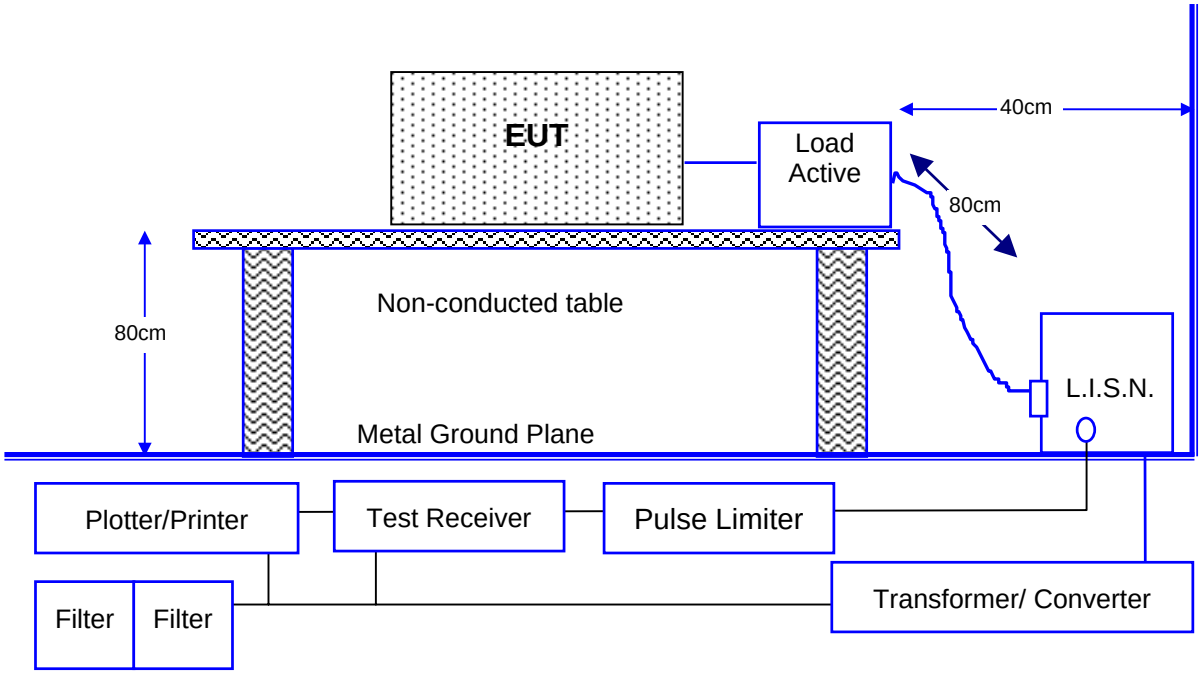
3.1 TEST EQUIPMENTS

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

Item	Instrument	Manufacturer	Type	Serial No.	Last Cal.
1	Test Receiver	Rohde & Schwarz	ESHS 30	828109/010	01/02/03
2	L.I.S.N.	KYORISTU	KNW-407	8-1345-10	11/20/03
3	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	357.8810.52	08/07/03
4	RF CABLE	GesTek	N/A	GTK-E-A152-01	12/30/03
5	50 Ohm Terminator	GesTek	N/A	GTK-E-A124-01	10/10/03
6	Shielded Room	GesTek	N/A	B5	N/A

Note: All measurement critical items of test instrumentation were within their calibration period of 1 year.

3.2 BLOCK DIAGRAM OF TEST SETUP



Note: This is a reprehensive setup diagram for Table-top EUT.
For Floor-standing EUT, the table will be removed with all others setup condition remain the same.

3.3 CONDUCTED EMISSION LIMIT

☒FCC Limit (15.207)

Frequency	Conducted Limits dB(μV)	
MHz	QUASI-PEAK	AVERAGE
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5.0	56	46
5.0 to 30	60	50

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

3.4 OPERATING CONDITION OF EUT

Same as section 2.6.

3.5 EUT CONFIGURATION ON MEASUREMENT

The equipments, which are 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.

The device under test, installed in a representative system as described in section 3.2, was placed on a non-conductive table whose total height equal to 80cm. Powered from one L.I.S.N. which signal output to receiver, and the other peripherals was powered from another L.I.S.N. which signal output was terminated by 50Ω.

3.6 CONDUCTED EMISSION DATA

The measurement range of conducted emissions from **0.15 MHz to 30 MHz** was investigated. All readings are quasi-peak and average values with a resolution Bandwidth of 9 KHz. 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.

3.7 CONDUCTED EMISSIONS MEASUREMENT RESULTS

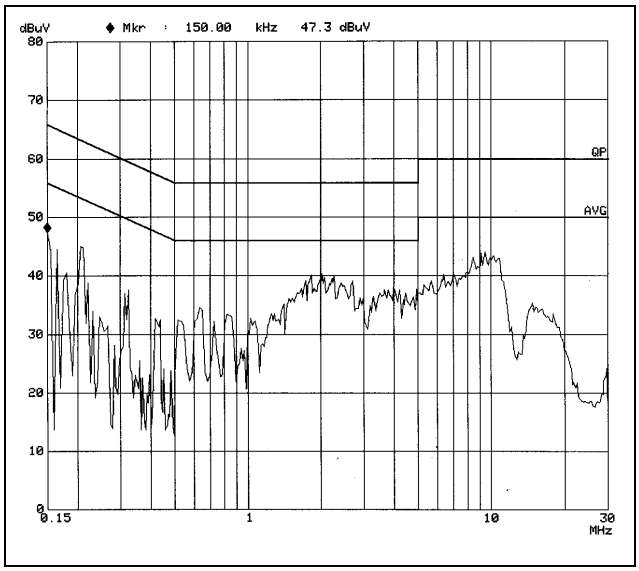
Date of Test	January 02, 2004	Temperature	20 ℃
EUT	Multi Laser Presenter	Humidity	60 %
Test Mode	Mode 1	Display Pattern	H Pattern

No.	FREQUENCY	READING LEVEL dBµV				LIMIT	
	MHz	LINE1 Q.P.	LINE1 AV.	LINE2 Q.P.	LINE2 AV.	Q.P.	AV.
1	0.16270	40.7	22.3	38.4	23.8	65.3	55.3
2	0.22018	42.3	27.1	39.5	28.9	62.8	52.8
3	**0.31612	36.8	30.3	38.0	35.4	59.8	49.8
4	1.74131	33.7	27.2	36.4	29.5	56.0	46.0
5	9.46498	38.2	32.1	38.5	32.8	60.0	50.0
6	14.74348	30.6	24.9	30.2	24.4	60.0	50.0

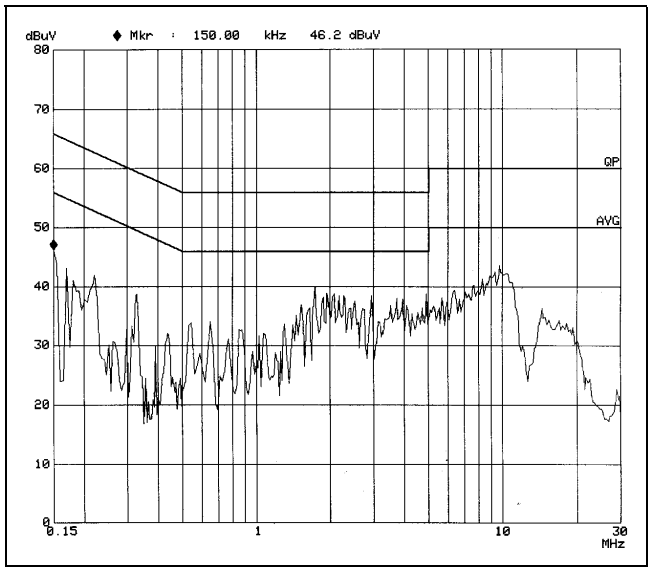
Remarks :

1. All readings are Quasi-peak and Average..
2. " * " means that the quasi-peak reading level is lower than the average limits; it is not necessary to measure the average level.
3. " ** " means that this data is the worse case emission level.
4. Final measurement = (Receiver reading) + (Correction factor if available).

Line 1



Line 2



4. RADIATION EMISSION DATA

4.1 TEST EQUIPMENT

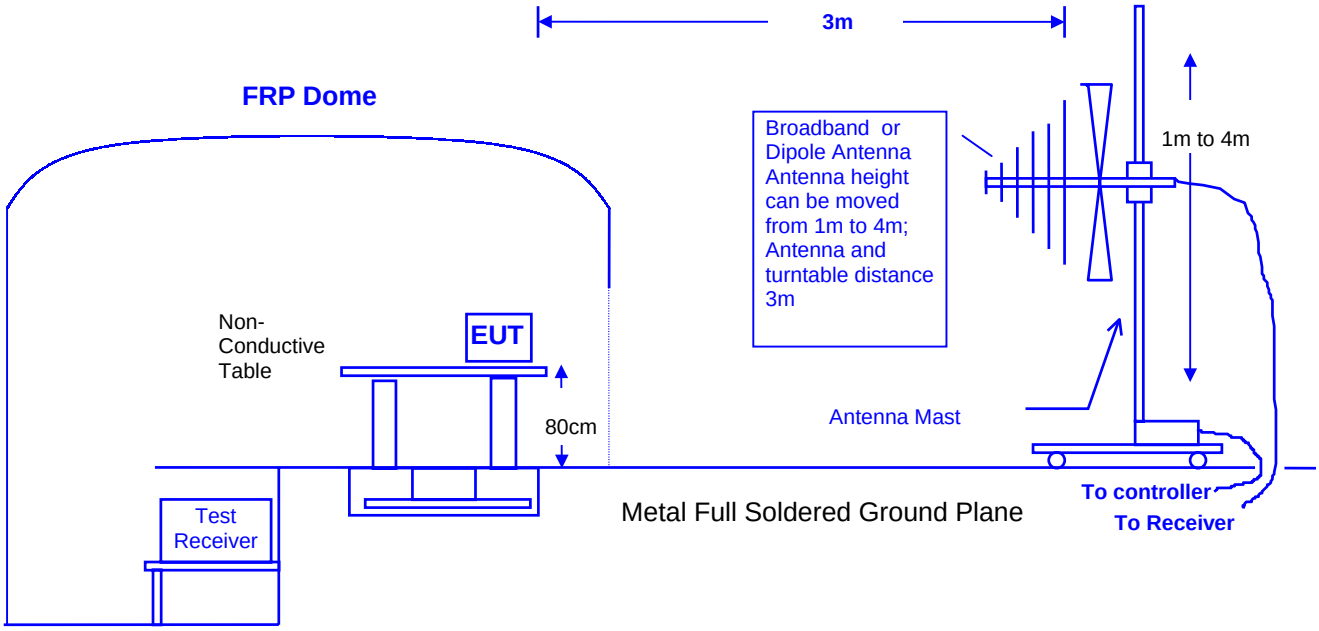
The following test equipments are used during the radiated emission tests:
Radiated test was performed on: ☒Site #1 ☐Site #2 ☐Site #3 ☐Site #4

Item	Instrument	Manufacturer	Type	Serial No.	Last Cal.
1	Test Receiver	Rohde & Schwarz	ESCS30	825022/003	06/25/03
2	Spectrum Analyzer	Advantest	R3272	82420372	07/10/03
3	Spectrum Analyzer	HP	E4407B	39240339	08/16/03
4	Power Meter	Rohde & Schwarz	NRVS	100666	02/26/03
5	Power Sensor	Rohde & Schwarz	NRV-Z32	8360191058	05/19/03
6	Pre-Amplifier	HP	8447D	2944A08273	10/11/03
7	BILOG ANTENNA	SCHAFFNER	CBL6112B	2812	12/02/03
8	Horn Antenna	Electro-Metrics	EM-6961	103318	05/30/03
9	Horn Antenna	Schwarzbeck	BBHA 9120	D243	12/18/03
10	RF Cable	GesTek	N/A	GTK-E-A149-01	12/26/03
11	Open Site	GesTek	N/A	A1	12/03/03
12	Test Program Software	GesTek	N/A	GTK-E-S001-01	N/A

Note: All measurement critical items of test instrumentation were within their calibration period of 1 year.

4.2 OPEN TEST SITE SETUP DIAGRAM

Note: This is a reprehensive setup diagram for Table-top EUT.
For Floor-standing EUT, the table will be removed with all others setup condition remain the same.



4.3 RADIATED EMISSION LIMIT

☒ General Radiated Emission Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

Frequency	Distance	Field Strength	
MHz	Meter	μV/M	dBμV/M
30 to 88	3	100	40.0
88 to 216	3	150	43.5
216 to 960	3	200	46.0
Above 960	3	500	54.0

Remarks :

1. RF Voltage (dBuV/m) = 20 log RF Voltage (uV/m)
2. In the Above Table, the tighter limit applies at the band edges.
3. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

☒ Fundamental and Harmonics Emission Limits (15.249)

Frequency	Distance	Field Strength of Fundamental		Field Strength of Harmonics	
MHz	Meter	μV/M	dBμV/M	μV/M	dBμV/M
902-928	3	50	94	500	54
2400-2483.5	3	50	94	500	54
5725-5875	3	50	94	500	54

Remarks :

1. RF Voltage (dBuV/m) = 20 log RF Voltage (uV/m)
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 equipment, which is listed on 4.2 was, 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.

The device under test, installed in a representative system as described in section 4.2, was placed on a non-conductive table whose total height equaled 80 cm. This table can be rotated 360 degree. The measurement antenna was mounted to a non-conductive mast capable of moving the antenna vertically. Antenna height was varied from 1 meter to 4 meters and the system under test was rotated from 0 degree through 360 degrees relative to the antenna position and polarization (Horizontal and Vertical). Also the I/O cable position was investigated to find the maximum emission condition.

4.5 OPERATING CONDITION OF EUT

Same as section 2.6.

4.6 RADIATED EMISSION DATA

The measurement range of radiated emissions from **30 MHz to 10 Harminics** was investigated. All readings below 1GHz are quasi-peak values with a resolution bandwidth of 120 KHz. Above 1GHz are peak and avg. values with a resolution bandwidth of 1MHz. The initial step in collecting radiated emission data is a spectrum analyzer peak scans of the measurement range for all the test modes and then use test receiver for final measurement. Then the worst modes were reported the following data pages.

4.7 RADIATED EMISSIONS MEASUREMENT RESULTS

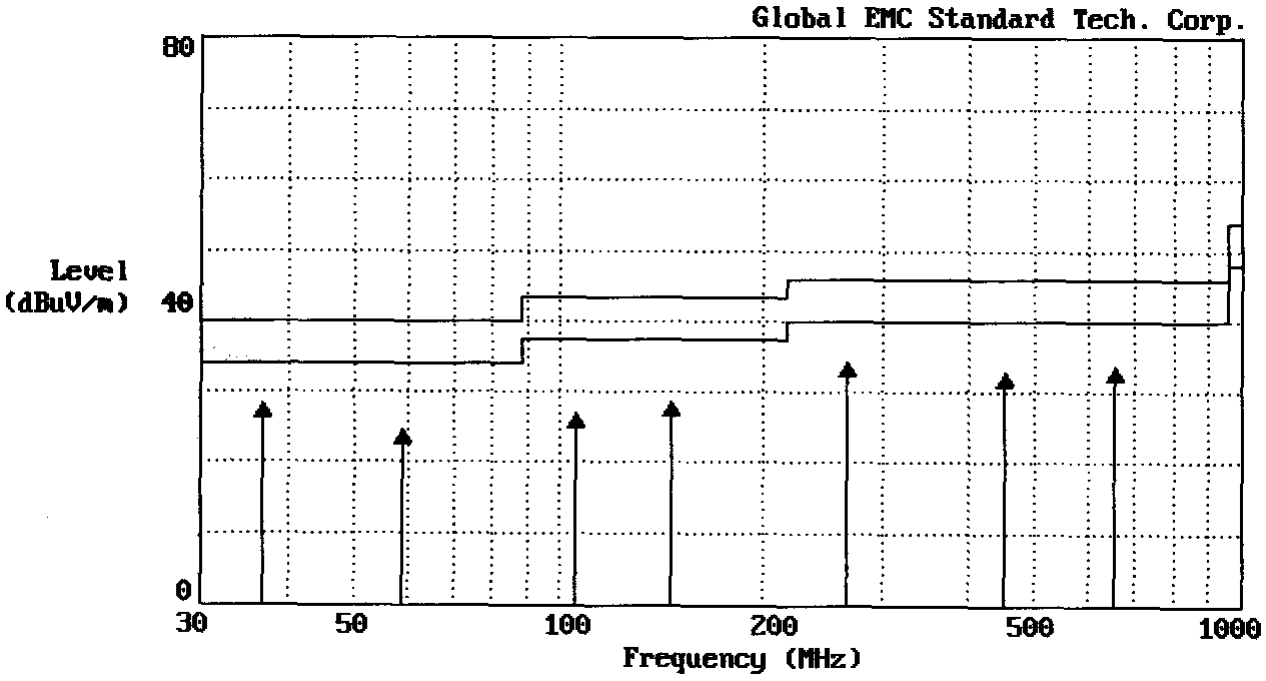
4.7.1 HARMONIC RADIATED EMISSIONS

Date of Test	December 24, 2003	**Temperature**	21 deg/C
EUT	Multi Laser Presenter	**Humidity**	60 %RH
Working Cond.	Channel 1	**Display Pattern**	H Pattern
Antenna distance	3m at **Horizontal**	**Frequency Range**	30-1000MHz

No.	Frequency [MHz]	Cable Loss [dB]	Antenna Factor [dB/m]	Reading Level [dB(uV)]	Emission Level [dB(uV/m)]	Amp. Factor [dB]	Limit [dB(uV/m)]	Margin [dB]
1	36.800	0.92	17.21	10.36	28.49	0.00	40.00	-11.51
2	58.690	1.15	7.99	15.44	24.58	0.00	40.00	-15.42
3	105.690	1.56	11.69	13.69	26.94	0.00	43.50	-16.56
4	145.880	1.82	12.21	14.60	28.63	0.00	43.50	-14.87
5	265.390	2.48	13.21	18.60	34.29	0.00	46.00	-11.71
6	450.900	3.41	17.36	12.03	32.80	0.00	46.00	-13.20
7	653.020	4.20	19.52	10.09	33.81	0.00	46.00	-12.19

Remarks:

1. All Readings below 1GHz are Quasi-Peak.
2. Emission Level= Reading + Antenna Factor + Cable loss (Could have ± 0.01 tolerance due to computer automatically round off calculation).
3. Margin Value=Emission level-Limit value.
4. The gray shadow means this data is the worse case emission level.

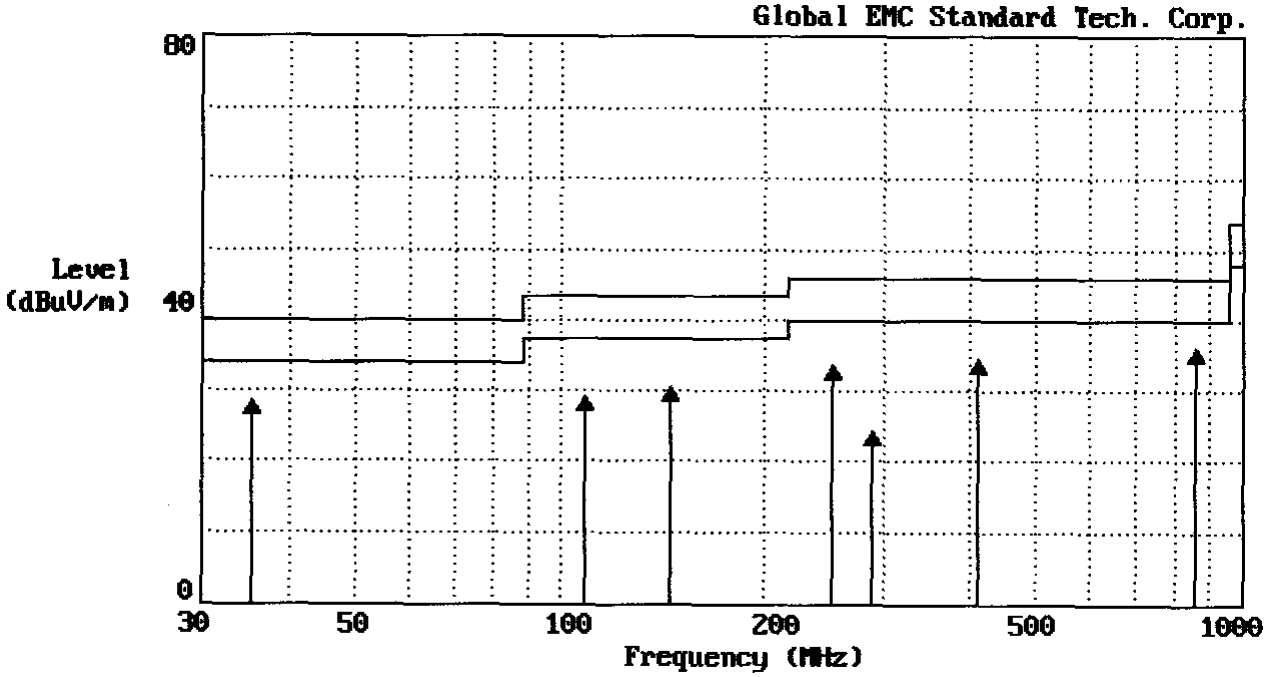


Date of Test	December 24, 2003	**Temperature**	21 deg/C
EUT	Multi Laser Presenter	**Humidity**	60 %RH
Working Cond.	Channel 1	**Display Pattern**	H Pattern
Antenna distance	3m at **Vertical**	**Frequency Range**	30-1000MHz

No.	Frequency [MHz]	Cable Loss [dB]	Antenna Factor [dB/m]	Reading Level [dB(uV)]	Emission Level [dB(uV/m)]	Amp. Factor [dB]	Limit [dB(uV/m)]	Margin [dB]
1	35.200	0.92	18.30	9.30	28.52	0.00	40.00	-11.48
2	108.500	1.55	11.86	15.90	29.31	0.00	43.50	-14.19
3	145.680	1.82	12.21	16.50	30.53	0.00	43.50	-12.97
4	215.550	2.2	12.83	18.60	33.85	0.00	46.00	-12.15
5	288.053	2.60	13.86	8.04	24.50	0.00	46.00	-21.50
6	410.330	3.22	16.76	14.50	34.48	0.00	46.00	-11.52
7	854.150	4.88	20.97	10.57	36.42	0.00	46.00	-9.58

Remarks:

1. All Readings below 1GHz are Quasi-Peak.
2. Emission Level= Reading + Antenna Factor + Cable loss (Could have ± 0.01 tolerance due to computer automatically round off calculation).
3. Margin Value=Emission level-Limit value.
4. The gray shadow means this data is the worse case emission level.



Date of Test	December 20 2003	**Temperature**	21 deg/C
EUT	Multi Laser Presenter	**Humidity**	60 %RH
Working Cond.	Channel 1	**Display Pattern**	H Pattern
Antenna distance	3m at **Horizontal**	**Frequency Range**	Above 1GHz

Peak

No.	Frequency [MHz]	Reading Level [dB(uV)]	Correction Factor [dB/m]	Emission Level [dB(uV/m)]	Limit [dB(uV/m)]	Margin [dB]
1	1834.550	58.09	-7.26	50.83	74.00	-23.17
2	2751.800	57.14	-4.19	52.95	74.00	-21.05
3	3668.500	55.84	-0.93	54.92	74.00	-19.08
4	4586.600	50.55	0.93	51.49	74.00	-22.51
5	5503.800	47.25	2.50	< 49.75	74.00	-24.25
6	6421.100	45.00	3.75	< 48.72	74.00	-25.28

Average

No.	Frequency [MHz]	Reading Level [dB(uV)]	Correction Factor [dB/m]	Emission Level [dB(uV/m)]	Limit [dB(uV/m)]	Margin [dB]
1	3669.050	52.20	-0.93	51.28	54.00	-2.72

Remark

1. All Readings below 1GHz are Quasi-Peak and above 1GHz are peak or average.
2. Spectrum Analizyer Setting(Peak Detector): RBW=1MHz, VBW=1MHZ, Span=100MHz.
3. Spectrum Analizyer Setting(AVG Detector): RBW=1MHz, VBW=30HZ, Span=20MHz.
4. Emission Level= Reading + Correction Factor (Could have ± 0.01 tolerance due to computer automatically round off calculation).
5. Correction Factor= Antenna Factor + Cable Loss – Amplifier Factor
6. Margin Value=Emission level-Limit value.
7. The average measurement was not performed when the peak measured data under the limit of average detection. If the average value is measured, peak measurement should also be supplied.

Date of Test	December 20, 2003	**Temperature**	21 deg/C
EUT	Multi Laser Presenter	**Humidity**	60 %RH
Working Cond.	Channel 1	**Display Pattern**	H Pattern
Antenna distance	3m at **Vertinal**	**Frequency Range**	Above 1GHz

Peak

No.	Frequency [MHz]	Reading Level [dB(uV)]	Correction Factor [dB/m]	Emission Level [dB(uV/m)]	Limit [dB(uV/m)]	Margin [dB]
1	1834.550	59.95	-7.26	52.69	74.00	-21.31
2	2751.800	54.15	-4.19	49.96	74.00	-24.04
3	3669.050	56.43	-0.93	55.51	74.00	-18.49
4	5504.100	46.42	2.50	< 48.92	74.00	-25.08
5	6421.400	43.85	3.72	< 47.57	74.00	-26.43

Average

No.	Frequency [MHz]	Reading Level [dB(uV)]	Correction Factor [dB/m]	Emission Level [dB(uV/m)]	Limit [dB(uV/m)]	Margin [dB]
1	3669.250	53.36	-0.93	52.44	54.00	-1.56

Remark

1. All Readings below 1GHz are Quasi-Peak and above 1GHz are peak or average.
2. Spectrum Analizyer Setting(Peak Detector): RBW=1MHz, VBW=1MHZ, Span=100MHz.
3. Spectrum Analizyer Setting(AVG Detector): RBW=1MHz, VBW=30HZ, Span=20MHz.
4. Emission Level= Reading + Correction Factor (Could have ± 0.01 tolerance due to computer automatically round off calculation).
5. Correction Factor= Antenna Factor + Cable Loss – Amplifier Factor
6. Margin Value=Emission level-Limit value.
7. The average measurement was not performed when the peak measured data under the limit of average detection. If the average value is measured, peak measurement should also be supplied.

4.7.2 FUNDAMEDTAL RADIATED EMISSIONS

Date of Test	January 09, 2004
EUT	Multi Laser Presenter
Test Mode	Channel 1

Horizontal

No.	Frequency [MHz]	Reading Level [dB(uV)]	Correction Factor [dB/m]	Emission Level [dB(uV/m)]	Limit [dB(uV/m)]	Margin [dB]
1	917.34	102.95	-12.29	90.66	94.00	-3.34

Vertical

No.	Frequency [MHz]	Reading Level [dB(uV)]	Correction Factor [dB/m]	Emission Level [dB(uV/m)]	Limit [dB(uV/m)]	Margin [dB]
1	917.34	98.84	-12.46	86.38	94.00	-7.62

Remark

1. All Readings below 1GHz are Quasi-Peak and above 1GHz are peak or average.
2. Spectrum Analizyer Setting(Peak Detector): RBW=1MHz, VBW=1MHZ, Span=100MHz.
3. Spectrum Analizyer Setting(AVG Detector): RBW=1MHz, VBW=30HZ, Span=20MHz.
4. Emission Level= Reading + Correction Factor (Could have ± 0.01 tolerance due to computer automatically round off calculation).
5. Correction Factor= Antenna Factor + Cable Loss – Amplifier Factor
6. Margin Value=Emission level-Limit value.
7. The average measurement was not performed when the peak measured data under the limit of average detection. If the average value is measured, peak measurement should also be supplied.

5. BAND EDGE

5.1 TEST EQUIPMENT

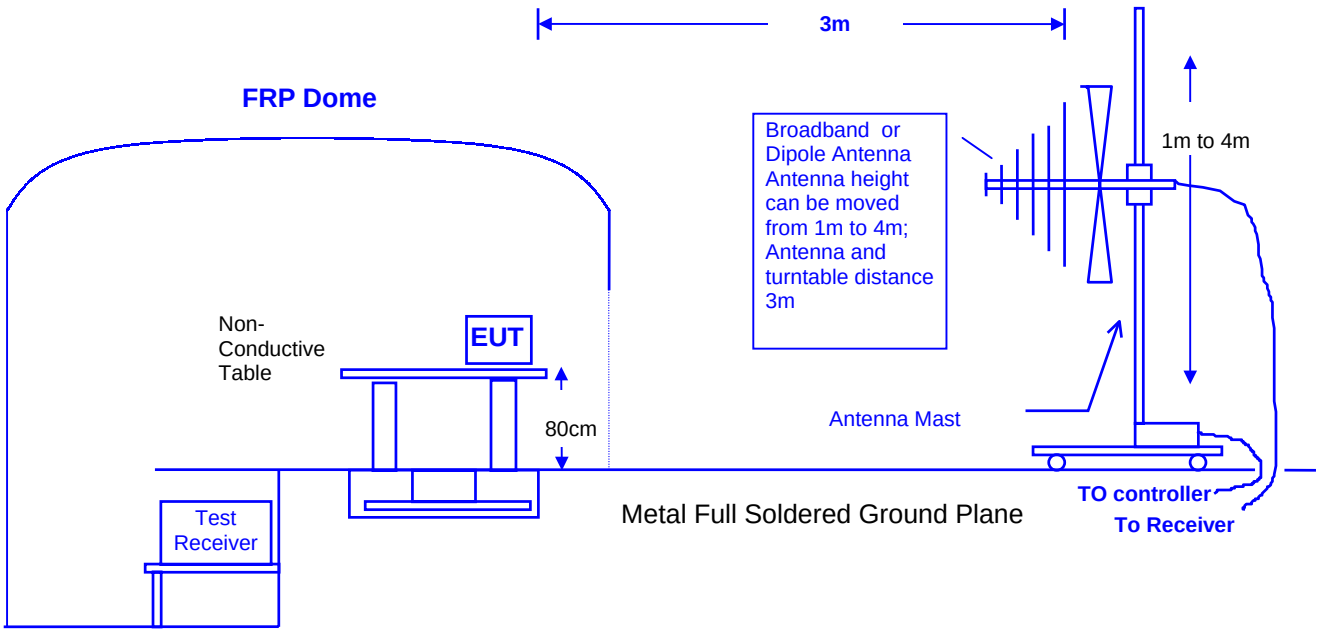
The following test equipments are used during the radiated emission tests:
Radiated test was performed on: ☒Site #1 ☐Site #2 ☐Site #3 ☐Site #4

Item	Instrument	Manufacturer	Type	Serial No.	Last Cal.
1	Test Receiver	Rohde & Schwarz	ESCS30	825022/003	06/25/03
2	Spectrum Analyzer	Advantest	R3272	82420372	07/10/03
3	Spectrum Analyzer	HP	E4407B	39240339	08/16/03
4	Power Meter	Rohde & Schwarz	NRVS	100666	02/26/03
5	Power Sensor	Rohde & Schwarz	NRV-Z32	8360191058	05/19/03
6	Pre-Amplifier	HP	8447D	2944A08273	10/11/03
7	BILOG ANTENNA	SCHAFFNER	CBL6112B	2812	12/02/03
8	Horn Antenna	Electro-Metrics	EM-6961	103318	05/30/03
9	Horn Antenna	Schwarzbeck	BBHA 9120	D243	12/18/03
10	RF Cable	GesTek	N/A	GTK-E-A149-01	12/26/03
11	Open Site	GesTek	N/A	A1	12/03/03

Note: All measurement critical items of test instrumentation were within their calibration period of 1 year.

5.2 BLOCK DIAGRAM OF TEST SETUP

◎ RF Radiated Measurement: ◎



5.3 BAND EDGE LIMIT

In any 100KHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 50dB below that in the 100KHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209 (a) (see Section 15.205(c)).

5.4 EUT CONFIGURATION

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 3 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 C63.4:2000 on radiated measurement.

The bandwidth below 1GHz setting on the field strength meter is 120KHz, above 1GHz are 1MHz.

5.5 OPERATING CONDITION OF EUT

Same as section 2.6.

5.6 TEST RELULT

Date of Test	January 09, 2004
EUT	Multi Laser Presenter
Working Cond.	Channel 1

Horizontal

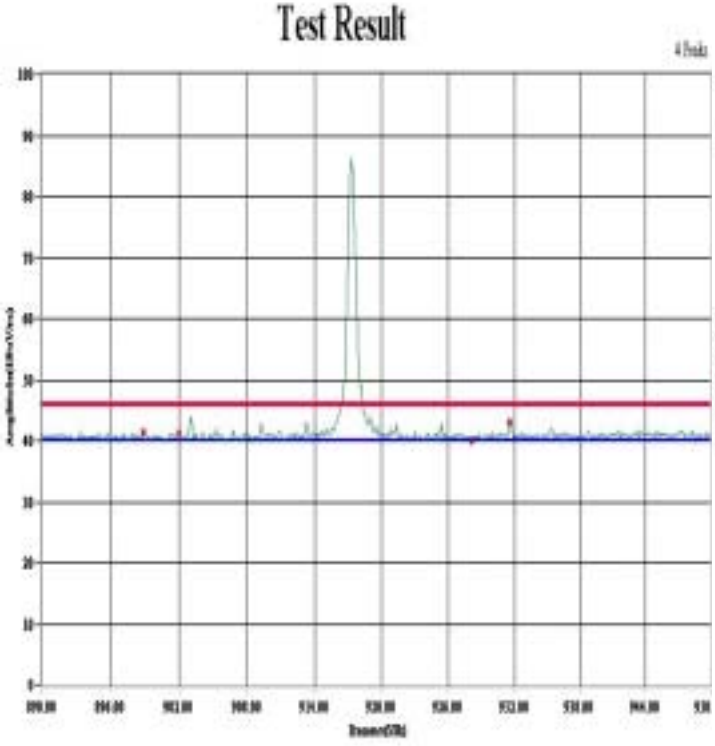
No.	Frequency [MHz]	Reading Level [dB(uV)]	Correction Factor [dB/m]	Emission Level [dB(uV/m)]	Limit [dB(uV/m)]	Margin [dB]
1	898.85	53.90	-12.55	41.35	46.00	-4.65
2	902.00	53.56	-12.55	41.01	46.00	-4.99
3	928.10	52.15	-12.18	39.97	46.00	-6.03
4	931.55	55.13	-12.14	42.99	46.00	-3.01

Vertical

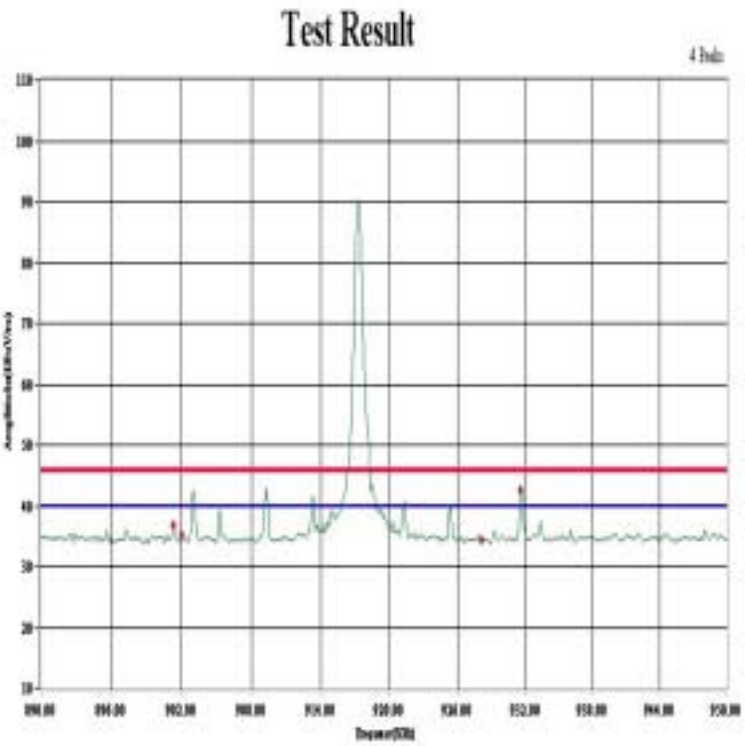
No.	Frequency [MHz]	Reading Level [dB(uV)]	Correction Factor [dB/m]	Emission Level [dB(uV/m)]	Limit [dB(uV/m)]	Margin [dB]
1	901.25	49.36	-12.64	36.72	46.00	-9.28
2	902.00	47.78	-12.64	35.14	46.00	-10.86
3	928.10	46.67	-12.39	34.28	46.00	-11.72
4	931.55	55.05	-12.35	42.70	46.00	-3.30

Note:RBW=100kHz, VBW=100kHz

Horizontal



Vertical



8. EMI REDUCTION METHOD DURING COMPLIANCE TESTING

No modification was made during testing.

Appendix A

Circuit (Block) Diagram

(Shall be added by Applicant)

Appendix B

User Manual

(Shall be added by Applicant)