APPLICATION FOR CERTIFICATION
On Behalf of
LITE-ON IT Corp.
CD-RW DRIVE
Model : (1)LTR-16101B (2)AI-CDRW161040B

FCC ID: PPQRW1001

Prepared for : LITE-ON IT Corp.
6F., 16, Sec. 4, Nanking E. Rd.,
Taipei, Taiwan, R.O.C.

Prepared By : Taiwan Tokin EMC Eng. Corp.
No. 53-11, Tin-Fu Tsun, Lin-Kou,
Taipei Hsien, Taiwan, R.O.C.

Tel : (02) 2609-9301, 2609-2133
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File Number	:	ATM-G90111R4
Report Number	:	TTEMC-F01067
Date of Test	:	Feb. 17~21, 2001
Date of Report	:	Jun. 15, 2001

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TEST REPORT CERTIFICATION

Applicant	:	LITE-ON IT Corp.
Manufacturer #1	:	LITE-ON IT Corp.
Manufacturer #2	:	LITE-ON Electronic Technology (HK) Co., Ltd.
EUT Description	:	CD-RW DRIVE
FCC ID	:	PPQRW1001
		(A) MODEL NO. : (1)LTR-16101B (2)AI-CDRW161040B
		(B) SERIAL NO. : N/A
		(C) POWER SUPPLY : DC 5V/12V (Via PC, AC 120V/60Hz)

Measurement Procedure Used :

FCC RULES AND CISPR 22 (DOCKET NO. 92-152, SEP. 1993) AND
FCC / ANSI C63.4-1992
(FCC Part 15/2001 and CISPR 22/1997)

The device described above was tested by TAIWAN TOKIN EMC ENG. CORP. to determine the maximum emission levels emanating from the device. The maximum emission levels were compared to the CISPR 22 Class B limits both radiated and conducted emissions.

The measurement results are contained in this test report and TAIWAN TOKIN EMC ENG. CORP. is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT to be technically compliance with the FCC official limits.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of Taiwan Tokin EMC Eng. corp.

Date of Test : Feb. 17 ~ 21, 2001

Prepared by : 6/18/2001
(CHERRY WANG)

Test Engineer : 6/18/2001
(ALLEN WANG)

Approve & Authorized Signer : 6/18/01
(JACKIE DENG)

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

Description	:	CD-RW DRIVE (ATAPI/E-IDE Interface, Speed: 16x10x40)
Model Number	:	(1)LTR-16101B (2)AI-CDRW161040B Above two models are identical, except for brand different. (1) LTR-16101B for LITE-ON brand; (2) AI-CDRW161040B for TDK brand. The Model LTR-16101B is test sample in this test report.
FCC ID	:	PPQRW1001
Applicant	:	LITE-ON IT Corp. 6F, 16, Sec. 4, Nanking E. Rd., Taipei, Taiwan, R.O.C.
Manufacturer #1	:	LITE-ON IT Corp. 3F., 60, Park Avenue. II, Hsinchu Science-Based Ind. Park, Hsinchu City, Taiwan, R.O.C.
Manufacturer #2	:	LITE-ON Electronic Technology (HK) Co., Ltd. N., San Heng Rd., Heng Jiao Ind. Zone, Xi Chen Zone, Shi Jie Town, Dong Guan City, Guang Dong Province, China.
Data of Receipt of Sample	:	Jan. 31, 2001
Date of Test	:	Feb. 17 ~ 21, 2001

1.2. Tested Supporting System Details

1.2.1. PERSONAL COMPUTER

Mother Board	:	ASUS, M/N P5A FCC ID. By DoC
CPU	:	AMD K6-2 266MHz
PC Case	:	Enlight, M/N EN7105C
S.P.S.	:	SPI, M/N FSP250-61GT S/N W13562611
Floppy Driver 3.5”	:	Mitsumi, M/N D353M3
Hard Disk Driver	:	Seagate, M/N ST34321A S/N VTJ00534
VGA Card	:	ELSA, M/N Gloria-Synergy FCC ID KJGP2EASY
Sound Card	:	Dataexpert, M/N MED6617
CD-RW DRIVE(EUT)	:	**Lite-On, M/N LTR-16101B**
Power Cord	:	Non-Shielded, Detachable, 1.8m

1.2.2. MONITOR

Model Number	:	CM752ET
Serial Number	:	T8E004372
FCC ID	:	By DoC
Manufacturer	:	Hitachi
BSMI ID Number	:	7872A004
Data Cable	:	Shielded, Detachable, 1.8m
Power Cord	:	Non-Shielded, Detachable, 1.5m

1.2.3. KEYBOARD

Model Number	:	5121
Serial Number	:	J83300816
FCC ID	:	E5XKBM104M10UC
Manufacturer	:	Behavior Tech Computer Corp.
Data Cable	:	Shielded, Undetachable, 1.0m

1.2.4. PRINTER

Model Number	:	2225C+
Serial Number	:	3121S96627
FCC ID	:	DSI6XU2225
Manufacturer	:	Hewlett Packard
Power Adapter	:	Hewlett Packard, M/N 82241A Non-Shielded, Undetachable, 2.0m
Data Cable	:	Shielded, Detachable, 1.2m

1.2.5. MODEM #1

Model Number	:	DM-1414
Serial Number	:	980034394
FCC ID	:	IFAXDM1414
Manufacturer	:	Aceex
Data Cable	:	Shielded, Detachable, 1.2m
Power Adapter	:	Amigo, Model AM-91000A Non-Shielded, Undetachable, 1.8m

1.2.6. MODEM #2

Model Number	:	DM-1414
Serial Number	:	980034393
FCC ID	:	IFAXDM1414
Manufacturer	:	Aceex
Data Cable	:	Shielded, Detachable, 1.2m
Power Adapter	:	Amigo, Model AM-91000A Non-Shielded, Undetachable, 1.8m

1.2.7. MOUSE

Model Number	:	M-S35
Serial Number	:	LZA82103143
FCC ID	:	DZL211029
BSMI ID Number	:	4862A011
Manufacturer	:	Logitech
Data Cable	:	Non-Shielded, Undetachable, 1.8m

1.2.8. USB MOUSE #1

Model Number	:	CREUBB
Serial Number	:	N/A
FCC ID	:	NHM-CREUBE
BSMI ID Number	:	3872F083
Manufacturer	:	CRE Technology Co., Ltd.
Data Cable	:	Shielded, Undetachable, 1.8m

1.2.9. USB MOUSE #2

Model Number	:	CREUBB
Serial Number	:	N/A
FCC ID	:	NHM-CREUBE
BSMI ID Number	:	3872F083
Manufacturer	:	CRE Technology Co., Ltd.
Data Cable	:	Shielded, Undetachable, 1.8m

1.2.10. MICROPHONE

Model Number	:	HD-303
Serial Number	:	N/A
Manufacturer	:	Multimedia Microphone System
Data Cable	:	Non-Shielded, Undetachable, 2.2m

1.2.11. SPEAKER

Model Number	:	J-008
Serial Number	:	J80547825
Manufacturer	:	(J-S) JAZZ HIPSTER
Data Cable	:	Non-Shielded, Undetachable, 1m

1.2.12. WALKMAN

Model Number	:	RQ-P35LT-K
Serial Number	:	HA08717
Manufacturer	:	Panasonic
Data Cable	:	Non-Shielded, Detachable, 1.8m

1.2.13. EARPHONE #1

Model Number	:	N/A
Serial Number	:	N/A
Manufacturer	:	Panasonic
Data Cable	:	Non-Shielded, Undetachable, 1.1m

1.2.14. EARPHONE #2 (LINK TO EUT)

Model Number	:	N/A
Serial Number	:	N/A
Manufacturer	:	Panasonic
Data Cable	:	Non-Shielded, Undetachable, 1.1m

1.2.15. GAME PAD

Model Number	:	JI-1073
Serial Number	:	N/A
Manufacturer	:	Super Cobra
Data Cable	:	Non-Shielded, Undetachable, 1.3m

1.3. Description of Test Facility

Site Description (No. 4 Open Site)	:	Mar. 31, 2000 file on Federal Communication Commission FCC Engineering Laboratory 7435 Oakland Mills Road Columbia, MD 21046, U.S.A.
Anechoic Chamber Description	:	May 16, 2000 Re-file on Federal Communication Commission FCC Engineering Laboratory 7435 Oakland Mills Road Columbia, MD 21046, U.S.A.
Name of Firm	:	Taiwan Tokin EMC Eng. Corp.
Site Location #1	:	No. 53-11, Tin-Fu Tsun, Lin-Kou, Taipei Hsien, Taiwan, R.O.C.
Site Location #2	:	No. 67-4, Tin-Fu Tsun, Lin-Kou, Taipei Hsien, Taiwan, R.O.C.
NVLAP Lab Code	:	200077-0

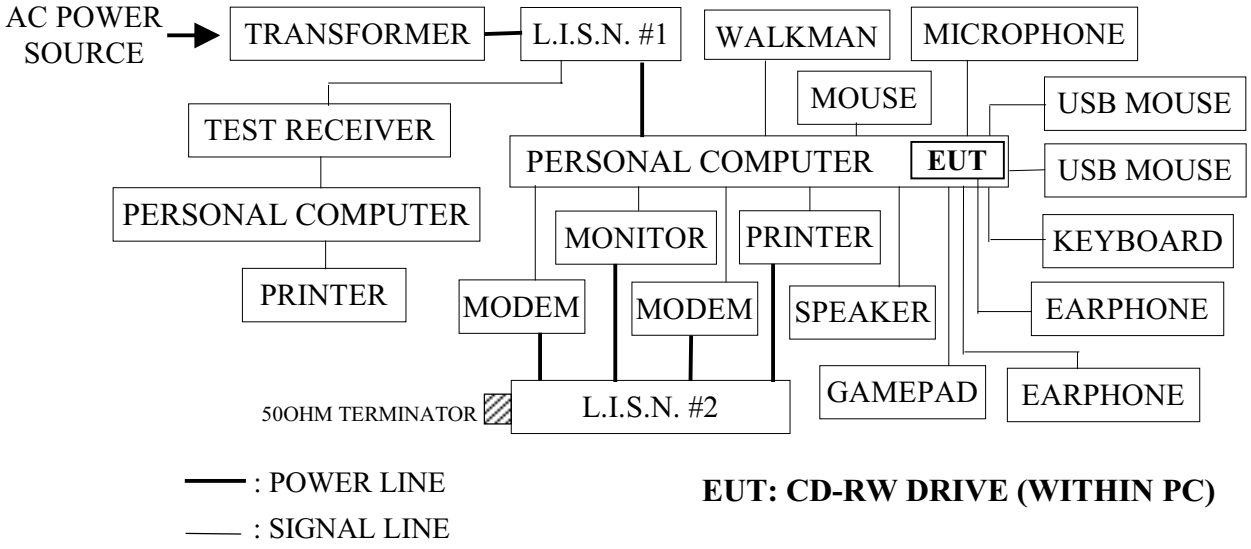
2. POWERLINE CONDUCTED TEST

2.1. Test Equipment

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

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde & Schwarz	ESCS 30	825442/020	Jun. 27, 00’	1 Year
2.	L.I.S.N. #1	Kyoritsu	KNW-407	8-1370-10	May 31, 00’	1 Year
3.	L.I.S.N. #2	Kyoritsu	KNW-407	8-1370-9	May 31, 00’	1 Year

2.2. Block Diagram of Test Setup



2.3. Powerline Conducted Emission Limit (CISPR 22, Class B)

Frequency	Maximum RF Line Voltage	
	Quasi-Peak Level	Average Level
150KHz ~ 500KHz	66 ~ 56 dB	56 ~ 46 dB
500KHz ~ 5MHz	56 dB	46 dB
5MHz ~ 30MHz	60 dB	50 dB

Remark: If the average limit is met when using a Quasi-Peak detector, the EUT shall be deemed to meet both limits and measurement with the average detector is unnecessary.

2.4. EUT's Configuration during Compliance Measurement

The following equipment are installed on RF LINE VOLTAGE measurement to meet the Commission requirement and operating in a manner which tends to maximize its emission characteristics in a normal application.

2.4.1. CD-RW DRIVE (EUT)

Model Number	:	LTR-16101B
Serial Number	:	N/A
FCC ID	:	PPQRW1001
Manufacturer	:	LITE-ON IT Corp.

2.4.2. Support Simulators : As in section 1.2.

2.5. Operating Condition of EUT

2.5.1. Setup the EUT and simulator as shown on 2.2.

2.5.2. Turned on the power of all equipment.

2.5.3. READ DATA Mode: The personal computer sent "H" character to monitor through EUT (CD-RW DRIVE). The EUT was running self-test software "H" by MS-DOS during all testing.

2.5.4. WRITE DATA Mode: The personal computer "Word, Excel, ….. file" to EUT (CD-RW DRIVE) through "Easy CD Creator Deluxe" program. The EUT wrote down the Word, Excel, ….. file during all testing.

2.5.5. The other peripheral devices were drove and operated in turn during all testing.

2.5.6. Repeat above procedure from 2.5.3. to 2.5.5.

2.6. Test Procedure

The EUT (within PC) was connected to the power mains through a line impedance stabilization network (L.I.S.N. #1) and the other peripheral devices power cord were connected to the power mains through a line impedance stabilization network (L.I.S.N. #2) This provided a 50 ohm coupling impedance for the measuring equipment. (Please refer to the block diagram of the test setup and photographs.)
Both sides of A.C. line were checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables were changed according to FCC ANSI C63.4-1992 on conducted measurement.

The bandwidth of R&S Test Receiver ESCS 30 was set at 10KHz.

The frequency range from 150KHz to 30MHz is checked.

All the test results are listed in section 2.7.

2.7. Test Results

PASSED.

Two kinds of test modes were done during conducted measurement and all the test results are listed in the following pages. (6 Page)

EUT：CD-RW DRIVE M/N：LTR-16101B

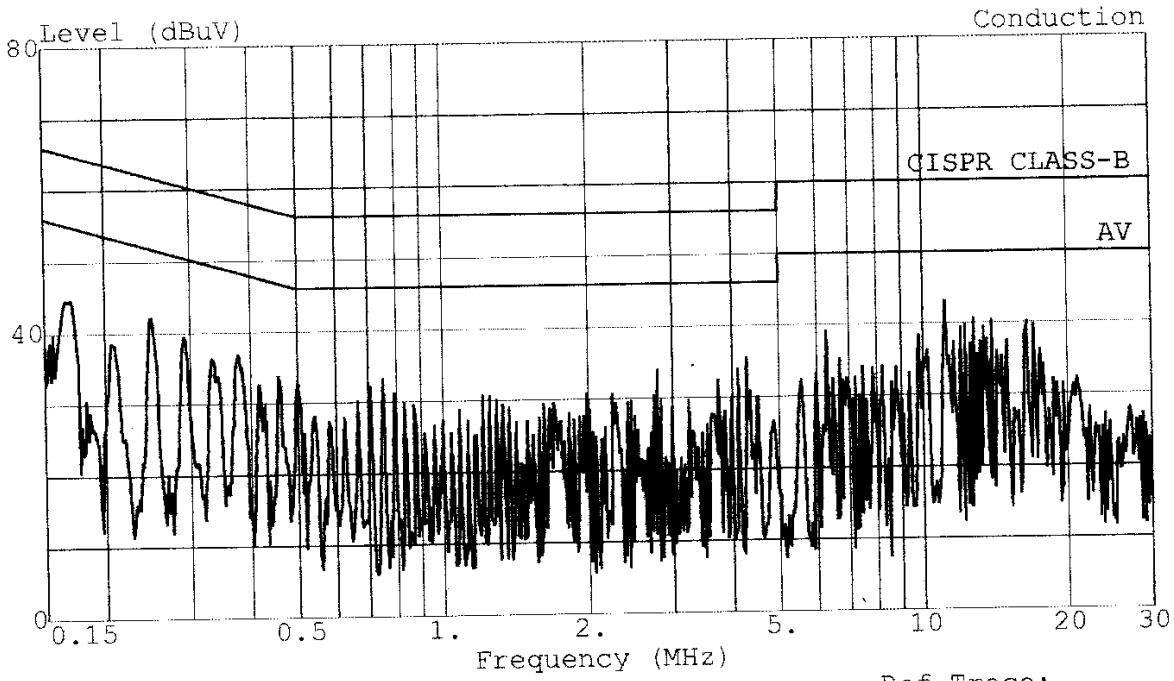
Test Date：Feb. 19, 2001 Temperature：23℃ Humidity：50%

Test Mode		Reference Data #
1.	READ DATA	# 447；# 446.
2.	WRITE DATA	# 439, (440, 441)；# 442, (444, 445).

TAIWAN TOKIN EMC ENG. CORP.

Test Site:
#53-11 Tingfu Tsun, Linkou,
Taipei, Taiwan R.O.C.
Tel:02-26092133 Fax:02-26099303

Data#: 447 File#: LITEON.EMI Date: 2001-02-19 Time: 09:56:38

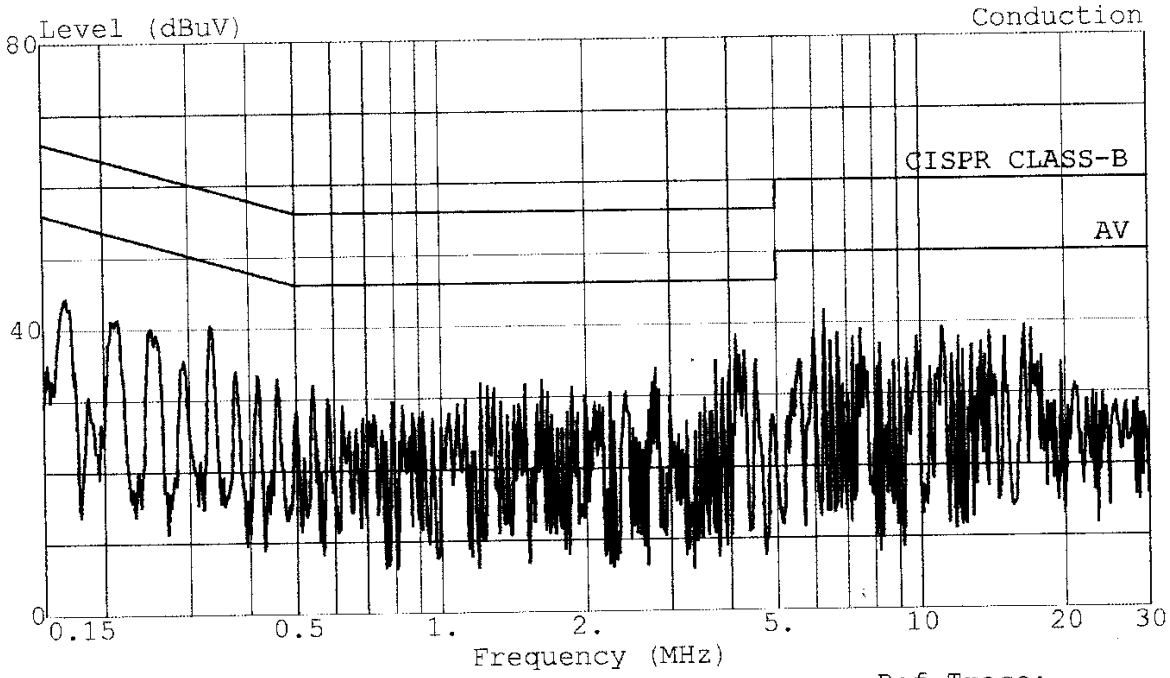


Trace: Ref Trace:
Limit: CISPR CLASS-B Probe: KNW-407 LINE
EUT : CD-RW M/N:LTR-16101B
Power: 120Vac/60Hz
Memo : READ

TAIWAN TOKIN EMC ENG. CORP.

Test Site:
#53-11 Tingfu Tsun, Linkou,
Taipei, Taiwan R.O.C.
Tel:02-26092133 Fax:02-26099303

Data#: 446 File#: LITEON.EMI Date: 2001-02-19 Time: 09:56:09

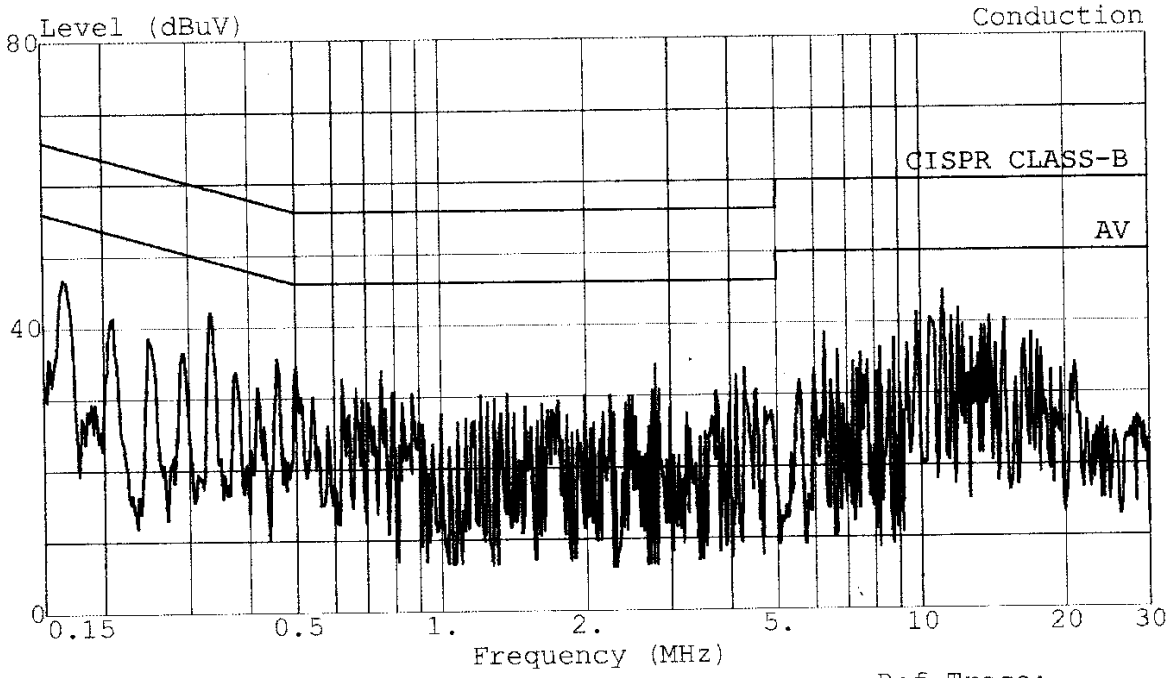


Trace: Ref Trace:
Limit: CISPR CLASS-B Probe: KNW-407 NEUTRAL
EUT : CD-RW M/N:LTR-16101B
Power: 120Vac/60Hz
Memo : READ

TAIWAN TOKIN EMC ENG. CORP.

Test Site:
#53-11 Tingfu Tsun, Linkou,
Taipei, Taiwan R.O.C.
Tel:02-26092133 Fax:02-26099303

Data#: 439 File#: LITEON.EMI Date: 2001-02-19 Time: 09:49:18



Trace: Ref Trace:
Limit: CISPR CLASS-B Probe: KNW-407 LINE
EUT : CD-RW M/N:LTR-16101B
Power: 120Vac/60Hz
Memo : WRITE

TAIWAN TOKIN EMC ENG. CORP.

Test Site:
#53-11 Tingfu Tsun, Linkou,
Taipei, Taiwan R.O.C.
Tel:02-26092133 Fax:02-26099303

Data#: 440 File#: LITEON.EMI Date: 2001-02-19 Time: 09:50:15
Conduction
Limit: CISPR CLASS-B Probe: KNW-407 LINE
EUT : CD-RW M/N:LTR-16101B
Power: 120Vac/60Hz
Memo : WRITE

Page: 1

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark
	MHz	dB	dB	dB	dB	dB	dB	dB	
1	0.165	43.76	-21.45	65.21	43.16	0.40	0.20	0.00	QP
2	0.332	38.19	-21.21	59.40	37.69	0.30	0.20	0.00	QP
3	0.751	29.77	-26.23	56.00	29.27	0.30	0.20	0.00	QP
4	2.794	31.36	-24.64	56.00	30.66	0.30	0.40	0.00	QP
5	6.285	36.65	-23.35	60.00	35.75	0.30	0.60	0.00	QP
6	11.139	41.32	-18.68	60.00	40.02	0.60	0.70	0.00	QP

Data#: 441 File#: LITEON.EMI Date: 2001-02-19 Time: 09:51:10
Conduction
Limit: CISPR CLASS-B (AV) Probe: KNW-407 LINE
EUT : CD-RW M/N:LTR-16101B
Power: 120Vac/60Hz
Memo : WRITE

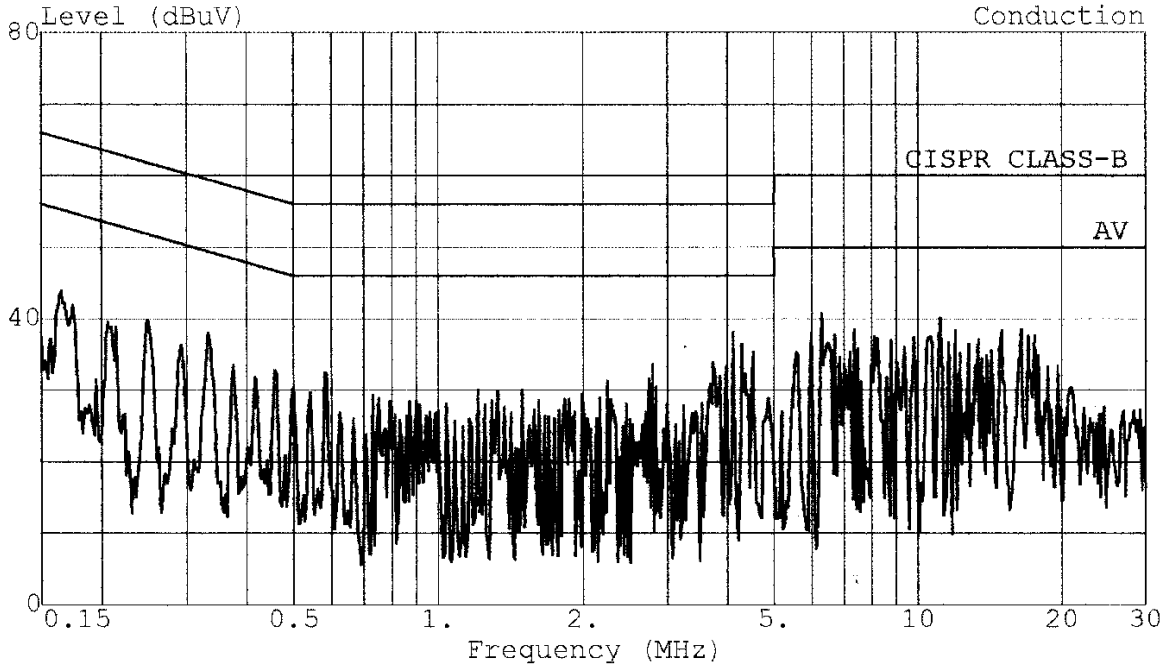
Page: 1

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark
	MHz	dB	dB	dB	dB	dB	dB	dB	
1	0.165	32.75	-22.46	55.21	32.15	0.40	0.20	0.00	Average
2	0.332	29.45	-19.95	49.40	28.95	0.30	0.20	0.00	Average
3	0.751	19.46	-26.54	46.00	18.96	0.30	0.20	0.00	Average
4	2.794	23.46	-22.54	46.00	22.76	0.30	0.40	0.00	Average
5	6.285	25.15	-24.85	50.00	24.25	0.30	0.60	0.00	Average
6	11.139	31.35	-18.65	50.00	30.05	0.60	0.70	0.00	Average

TAIWAN TOKIN EMC ENG. CORP.

Test Site:
#53-11 Tingfu Tsun, Linkou,
Taipei, Taiwan R.O.C.
Tel:02-26092133 Fax:02-26099303

Data#: 442 File#: LITEON.EMI Date: 2001-02-19 Time: 09:52:19



Trace: Ref Trace:
Limit: CISPR CLASS-B Probe: KNW-407 NEUTRAL
EUT : CD-RW M/N:LTR-16101B
Power: 120Vac/60Hz
Memo : WRITE

TOKIN

TAIWAN TOKIN EMC ENG. CORP.

Test Site:
#53-11 Tingfu Tsun, Linkou,
Taipei, Taiwan R.O.C.
Tel:02-26092133 Fax:02-26099303

Data#: 444 File#: LITEON.EMI Date: 2001-02-19 Time: 09:53:27
Conduction
Limit: CISPR CLASS-B Probe: KNW-407 NEUTRAL
EUT : CD-RW M/N:LTR-16101B
Power: 120Vac/60Hz
Memo : WRITE

Page: 1

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark
	MHz	dB	dB	dB	dB	dB	dB	dB	
1	0.165	40.85	-24.36	65.21	40.25	0.40	0.20	0.00	QP
2	0.332	35.04	-24.36	59.40	34.54	0.30	0.20	0.00	QP
3	0.582	29.46	-26.54	56.00	28.96	0.30	0.20	0.00	QP
4	4.114	35.11	-20.89	56.00	34.21	0.30	0.60	0.00	QP
5	6.285	37.81	-22.19	60.00	36.91	0.30	0.60	0.00	QP
6	11.139	37.16	-22.84	60.00	35.86	0.60	0.70	0.00	QP

Data#: 445 File#: LITEON.EMI Date: 2001-02-19 Time: 09:54:00
Conduction
Limit: CISPR CLASS-B (AV) Probe: KNW-407 NEUTRAL
EUT : CD-RW M/N:LTR-16101B
Power: 120Vac/60Hz
Memo : WRITE

Page: 1

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark
	MHz	dB	dB	dB	dB	dB	dB	dB	
1	0.165	29.54	-25.67	55.21	28.94	0.40	0.20	0.00	Average
2	0.332	24.21	-25.19	49.40	23.71	0.30	0.20	0.00	Average
3	0.582	18.22	-27.78	46.00	17.72	0.30	0.20	0.00	Average
4	4.114	26.41	-19.59	46.00	25.51	0.30	0.60	0.00	Average
5	6.285	29.54	-20.46	50.00	28.64	0.30	0.60	0.00	Average
6	11.139	26.25	-23.75	50.00	24.95	0.60	0.70	0.00	Average

3. RADIATED EMISSION TEST

3.1. Test Equipment

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

3.1.1. For 30MHz~1000MHz at No. 4 Open Test Site

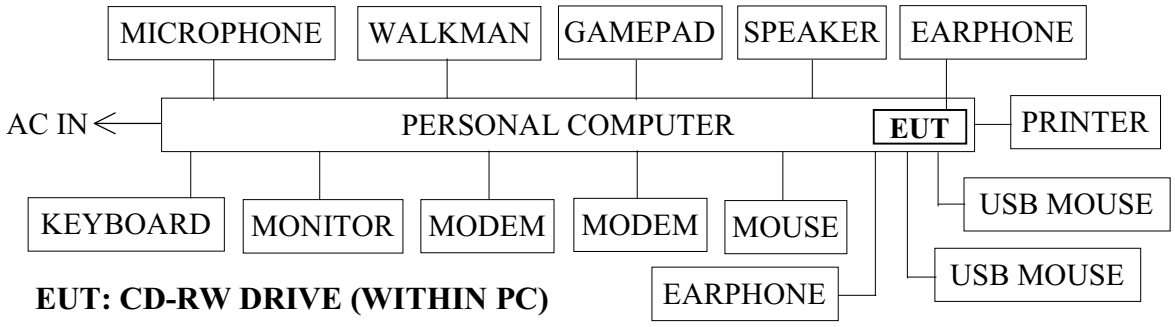
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde&Schwarz	ESVS10	845165/018	Mar.16, 00’	1 Year
2.	Biconical Antenna	Chase	VBA6106A	1263	Feb. 18, 00’	1 Year
3.	Log Periodic Antenna	Chase	UPA6109	1061	Feb. 18, 00’	1 Year

3.1.2. For 1GHz~7GHz at Anechoic Chamber

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	HP	8593EM	3826A00248	Aug. 30, 00’	1Year
3.	Pre-Amplifier (1GHz~7GHz)	HP	8449B	3008A01284	Jul. 03, 00’	1 Year
4.	Double Ridge Horn. Antenna (1GHz~7GHz)	EMCO	3115	9112-3775	Apr. 13, 00’	1 Year

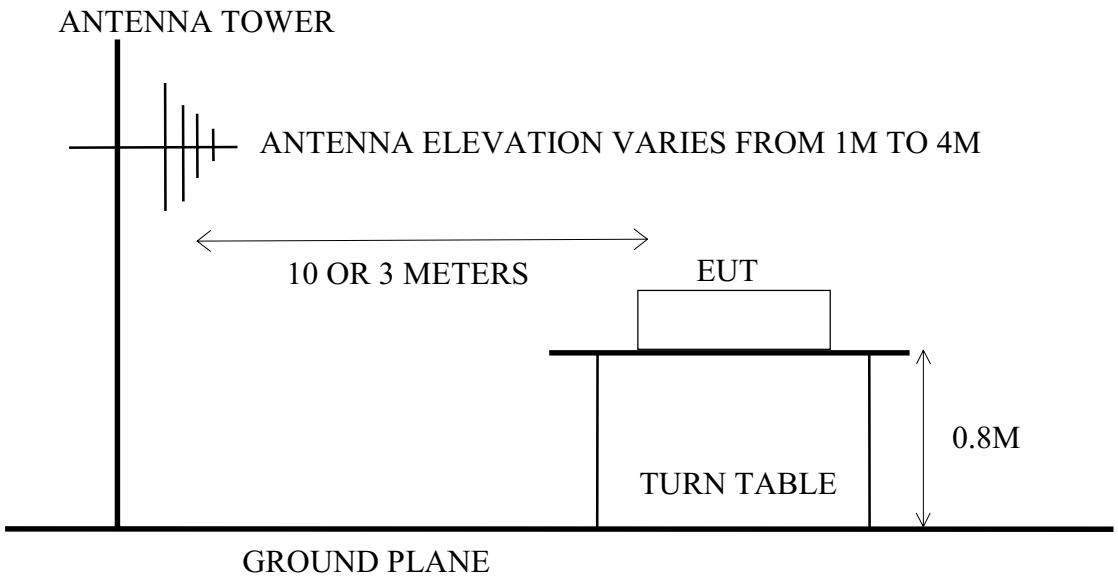
3.2. Block Diagram of Test Setup

3.2.1. Block Diagram of connection between EUT and simulators



EUT: CD-RW DRIVE (WITHIN PC)

3.2.2. Open Field Test Site (10M) & Anechoic Chamber (3M) Setup Diagram
(10M for 30MHz~ 1000MHz; 3M for 1GHz~7GHz)



3.3. Radiation Limit (CISPR 22, Class B)

All emanations from a class B computing devices or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified below:

FREQUENCY (MHz)	DISTANCE (Meters)	FIELD STRENGTHS LIMITS (dBμV/m)
30 ~ 230	10	30
230 ~ 1000	10	37
1000 ~ 5000	3	53.5 (Average)
1000 ~ 5000	3	73.5 (Peak)

Notes：(1) The tighter limit applies 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) There is no over 1GHz limit in CISPR 22 standard. Therefor, a FCC limit is used based on CFR 47 Part 15.35 (b) and Part 15.109 (g).

3.4. EUT's Configuration during Compliance Measurement

The configuration of EUT and its simulators are same as those used in conducted measurement. Please refer to 2.4.

3.5. Operating Condition of EUT

Same as conducted measurement which is listed in 2.5.

3.6. Test Procedure

The EUT and its simulators were placed on a turn table which was 0.8 meter above the ground. The turn table rotated 360 degrees to determine the position of the maximum emission level. For 30MHz to 1000MHz frequency range, EUT was set 10 meters and for 1GHz to 7GHz frequency range, EUT was set at 3 meters away from the receiving antenna which was mounted on a antenna tower. The antenna moved up and down between 1 to 4 meters for 30MHz to 1000MHz frequency range and for 1GHz to 7GHz frequency range to find out the maximum emission level. Broadband antenna such as calibrated biconical and log- periodical antenna or horn antenna were used as a receiving antenna. Both horizontal and vertical polarization of the antenna were set on measurement. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.4-1992 regulation.

The bandwidth of test receiver ESVS10 was set at 120KHz and resolution bandwidth of spectrum analyzer was set at 1MHz.

The frequency range from 30MHz to 7GHz was checked.

Two kinds of test modes were done during 30MHz~1000MHz frequency range radiated measurement and all the test results are listed in section 3.7.1.
(1) READ DATA (2)WRITE DATA

One test modes (READ DATA Mode) was done during 1GHz~7GHz frequency range radiated measurement and all the test results are listed in section 3.7.2.

3.7. Test Results

PASSED. Please refer to the following pages.

3.8. Radiated Emission Measurement Results

3.8.1. 30MHz to 1000GHz Frequency Range Measurement Results

Distance: 10Meters
All the emissions not report below are too low against the CISPR 22 Class B limit.

Date of Test： Feb. 17, 2001 Temperature： 24℃

EUT： CD-RW DRIVE Humidity： 59%

Test Mode： READ DATA

Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Meter Reading Horizontal dBμV	Emission Level Horizontal dBμV/m	Limits dBμV/m	Margin dB
33.862	19.23	1.19	- 3.47	16.95	30.00	13.05
67.725	12.52	1.70	- 0.76	13.46	30.00	16.54
135.438	19.79	2.61	- 1.91	20.49	30.00	9.51
169.308	20.42	2.97	- 2.96	20.43	30.00	9.57
203.170	20.95	3.23	- 3.09	21.09	30.00	8.91
237.039	22.27	3.48	- 2.75	23.00	37.00	14.00
270.897	23.43	3.84	- 1.25	26.02	37.00	10.98
338.632	13.62	4.41	2.53	20.56	37.00	16.44
406.362	14.68	4.85	5.37	24.90	37.00	12.10
474.090	15.91	5.35	1.51	22.77	37.00	14.23
575.678	19.23	6.13	- 0.96	24.40	37.00	12.60
677.275	20.39	6.70	- 0.19	26.90	37.00	10.10

Remarks： 1. All readings are Quasi-Peak values.

Date of Test： Feb. 17, 2001 Temperature： 24℃

EUT： CD-RW DRIVE Humidity： 59%

Test Mode： READ DATA

	Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Meter Reading Vertical dBμV	Emission Level Vertical dBμV/m	Limits dBμV/m	Margin dB
	33.859	21.66	1.19	- 2.42	20.43	30.00	9.57
	67.722	12.61	1.70	1.24	15.55	30.00	14.45
	135.450	19.31	2.61	- 1.92	20.00	30.00	10.00
	169.314	20.82	2.97	- 1.92	21.87	30.00	8.13
*	**203.178**	**20.72**	**3.23**	**- 2.07**	**21.88**	**30.00**	**8.12**
	237.042	21.47	3.48	- 2.65	22.30	37.00	14.70
	270.906	23.58	3.84	- 1.09	26.33	37.00	10.67
	338.639	13.42	4.41	5.48	23.31	37.00	13.69
	406.367	15.32	4.85	- 0.60	19.57	37.00	17.43
	474.095	16.81	5.35	0.38	22.54	37.00	14.46
	541.823	18.62	5.88	0.19	24.69	37.00	12.31
	643.415	19.37	6.61	- 1.05	24.93	37.00	12.07

Remarks： 1. All readings are Quasi-Peak values.
2. The worst emission was detected at 203.178MHz with corrected signal level of 21.88dBμV/m (limit is 30dBμV/m) when the antenna was at vertical polarization and was at 1m high and the turn table was at 135°.
3. 0° was the table front facing the antenna. Degree is calculated from 0° clockwise facing the antenna.

Date of Test： Feb. 17, 2001 Temperature： 24℃

EUT： CD-RW DRIVE Humidity： 59%

Test Mode： WRITE DATA

	Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Meter Reading Horizontal dBμV	Emission Level Horizontal dBμV/m	Limits dBμV/m	Margin dB
	33.850	19.23	1.19	- 3.43	16.99	30.00	13.01
	67.678	12.52	1.70	- 1.82	12.40	30.00	17.60
	135.435	19.79	2.61	- 1.82	20.58	30.00	9.42
	169.301	20.42	2.97	- 2.98	20.41	30.00	9.59
*	**203.163**	**20.95**	**3.23**	**- 2.08**	**22.10**	**30.00**	**7.90**
	237.029	22.27	3.48	- 2.71	23.04	37.00	13.96
	270.891	23.43	3.84	- 2.25	25.02	37.00	11.98
	338.643	13.62	4.41	3.48	21.51	37.00	15.49
	406.385	14.68	4.85	3.42	22.95	37.00	14.05
	474.111	15.91	5.35	- 0.51	20.75	37.00	16.25
	575.741	19.23	6.13	- 0.90	24.46	37.00	12.54
	677.336	20.39	6.70	- 0.22	26.87	37.00	10.13

Remarks： 1. All readings are Quasi-Peak values.

2. The worst emission was detected at 203.163MHz with corrected signal level of 22.10dBμV/m (limit is 30dBμV/m) when the antenna was at horizontal polarization and was at 4m high and the turn table was at 315°.

3. 0° was the table front facing the antenna. Degree is calculated from 0° clockwise facing the antenna.

Date of Test： Feb. 17, 2001 Temperature： 24℃

EUT： CD-RW DRIVE Humidity： 59%

Test Mode： WRITE DATA

Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Meter Reading Vertical dBμV	Emission Level Vertical dBμV/m	Limits dBμV/m	Margin dB
33.880	21.66	1.19	- 3.46	19.39	30.00	10.61
67.676	12.61	1.70	0.17	14.48	30.00	15.52
135.511	19.31	2.61	- 2.92	19.00	30.00	11.00
169.377	20.82	2.97	- 2.99	20.80	30.00	9.20
203.239	20.72	3.23	- 3.12	20.83	30.00	9.17
237.101	21.47	3.48	- 1.65	23.30	37.00	13.70
270.963	23.58	3.84	- 1.10	26.32	37.00	10.68
338.694	13.42	4.41	5.34	23.17	37.00	13.83
406.417	15.32	4.85	- 1.29	18.88	37.00	18.12
474.150	16.81	5.35	0.44	22.60	37.00	14.40
541.866	18.62	5.88	- 0.79	23.71	37.00	13.29
643.463	19.37	6.61	- 1.00	24.98	37.00	12.02

Remarks： 1. All readings are Quasi-Peak values.

3.8.2. 1GHz ~ 7GHz Frequency Range Measurement Results

Distance: 3Meters
The emissions not report below are too low against the FCC official limits.

Date of Test： Feb. 21, 2001 Temperature： 23℃

EUT： CD-RW DRIVE Humidity： 59%

Test Mode： READ DATA

Emission Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Pre-Amp Factor dB	Meter Reading Horizontal dBμV	Emission Level Horizontal dBμV/m	(Peak) Limits dBμV/m	Margin dB
1068.00	25.68	5.49	35.32	59.00	54.85	73.50	18.65
1334.00	26.00	6.00	35.02	59.00	55.98	73.50	17.52
1603.00	26.82	6.52	34.74	50.00	48.60	73.50	24.90
1876.00	28.53	7.06	34.42	50.00	51.17	73.50	22.33
2404.00	29.87	7.86	34.41	46.00	49.32	73.50	24.18

Emission Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Pre-Amp Factor dB	Meter Reading Vertical dBμV	Emission Level Vertical dBμV/m	(Peak) Limits dBμV/m	Margin dB
1071.00	25.68	5.49	35.32	55.00	50.85	73.50	22.65
1339.00	26.00	6.01	35.02	55.00	51.99	73.50	21.51
1600.00	26.82	6.52	34.74	49.00	47.60	73.50	25.90
1868.00	28.48	7.04	34.44	47.00	48.08	73.50	25.42
2401.00	29.86	7.86	34.41	45.00	48.31	73.50	25.19

Remark： 1. Measurement at Anechoic Chamber with test voltage 120V/60Hz.
2. Emission Level = Antenna Factor + Cable Loss + Meter Reading – Pre-Amp Factor.
3. Measurement was up to 7GHz, but above 3GHz the emissions level were too low against the official limit and not report.

Date of Test： Feb. 21, 2001 Temperature： 23℃

EUT： CD-RW DRIVE Humidity： 59%

Test Mode： READ DATA

Emission Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Pre-Amp Factor dB	Meter Reading Horizontal dBμV	Emission Level (Average) Horizontal dBμV/m	Limits dBμV/m	Margin dB
1068.00	25.68	5.49	35.32	46.00	41.85	53.50	11.65
1334.00	26.00	6.00	35.02	50.00	46.98	53.50	6.52
1630.00	26.99	6.58	34.70	46.00	44.87	53.50	8.63
1876.00	28.53	7.06	34.42	40.00	41.17	53.50	12.33
2404.00	29.87	7.86	34.41	38.00	41.32	53.50	12.18

Emission Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Pre-Amp Factor dB	Meter Reading Vertical dBμV	Emission Level (Average) Vertical dBμV/m	Limits dBμV/m	Margin dB
1071.00	25.68	5.49	35.32	49.00	44.85	53.50	8.65
1339.00	26.00	6.01	35.02	50.00	46.99	53.50	6.51
1600.00	26.82	6.52	34.74	43.00	41.60	53.50	11.90
1868.00	28.48	7.04	34.44	41.00	42.08	53.50	11.42
2401.00	29.86	7.86	34.41	39.00	42.31	53.50	11.19

Remark： 1. Measurement at Anechoic Chamber with test voltage 120V/60Hz.
2. Emission Level = Antenna Factor + Cable Loss + Meter Reading – Pre-Amp Factor.
3. Measurement was up to 7GHz, but above 3GHz the emissions level were too low against the official limit and not report.

4. DEVIATION TO TEST SPECIFICATIONS

【NONE】