

EXHIBIT 4. TECHNICAL INFORMATION :**ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT**

CLASS B COMPUTING DEVICE
CERTIFICATION TO FCC PART 15 REQUIREMENT

PRODUCT	TFT LCD MONITOR		
FCC ID	BRFLT138AA		
MODEL NO.	LT138AA	SERIAL NO.	N/A
APPLICANT & ADDRESS	KOREA ELECTRONICS CO., LTD. 275-7, YANGJAE-DONG, SEOCH-KU, SEOUL, 137-130, KOREA		

REPORT NO.	OTC-RF-9712162	ISSUE DATE	December 30, 1997
PREPARED BY :	ONETECH CORPORATION 2 F. KUNHAN B/D, 1557-11, SEOCHO-DONG, SEOCHO-KU, SEOUL 137-070 KOREA (TEL)02-587-9037(FAX)02-587-9039		

TABLE OF CONTENTS

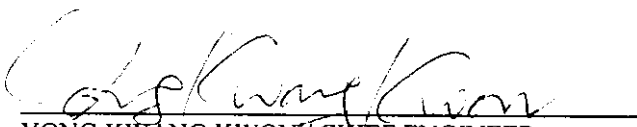
	page
1. VERIFICATION OF COMPLIANCE.....	1
2. GENERAL INFORMATION	2
2.1 Product Description.....	2
2.2 Related Submittal(s) / Grant(s).....	2
2.3 Test System Details	3
2.4 Test Methodology	3
2.5 Test Facility.....	3
3. SYSTEM TEST CONFIGURATION	4
3.1 Justification	4
3.2 EUT exercise Software	4
3.3 Cable Description.....	5
3.4 Noise Suppression Parts on Cable	5
3.5 Equipment Modifications.....	6
3.6 Configuration of Test System	6
4. PRELIMINARY TESTS	7
4.1 AC Powerline Conducted Emissions Tests	7
4.2 Radiated Emissions Tests	7
5. CONDUCTED AND RADIATED MEASUREMENT PHOTOS	8
6. FINAL CONDUCTED AND RADIATED EMISSION TESTS SUMMARY	10
6.1 Conducted Emissions Tests	10
6.2 Radiated Emission Tests.....	11
7. FIELD STRENGTH CALCULATION.....	12
8. LIST OF TEST EQUIPMENT	13

1. VERIFICATION OF COMPLIANCE

APPLICANT : KOREA ELECTRONICS CO., LTD.
275-7, YANGJAE-DONG, SEOCH-KU, SEOUL, 137-130, KOREA .
CONTACT PERSON : Eui-Yeun, Kim / Associate engineer
TELEPHONE NO : 82-546-467-3553
FCC ID : BRFLT138AA MODEL NO/NAME : LT138AA
SERIAL NUMBER : N/A
DATE : December 30, 1997

DEVICE TYPE	ITE-UNINTENTIONAL RADIATOR
E.U.T. DESCRIPTION	TFT LCD MONITOR
THIS REPORT CONCERNS	ORIGINAL GRANT
MEASUREMENT PROCEDURES	ANSI C63.4/1992
TYPE OF EQUIPMENT TESTED	PRE-PRODUCTION
KIND OF EQUIPMENT AUTHORIZATION REQUESTED	CERTIFICATION
EQUIPMENT WILL BE OPERATED UNDER FCC RULES PART(S)	FCC CLASS B
MODIFICATIONS ON THE EQUIPMENT TO ACHIEVE COMPLIANCE	No
FINAL TESTS WERE CONDUCTED ON	3 METER OPEN TEST SITE

The above equipment was tested by ONETECH CORPORATION for compliance with the requirement set forth in the FCC Rules and Regulations. This said equipment in the configuration described in this report, shows the maximum emission levels emanating from equipment are within the compliance requirements.


YONG KWANG KWON, CHIEF ENGINEER
EMC TESTING DEPARTMENT
ONETECH Testing & Eval. Lab.
SEOUL KOREA

2. GENERAL INFORMATION

2.1 Product Description

The KOREA ELECTRONICS CO., LTD., Model LT138AA(referred to as the EUT in the this report) is a TFT LCD MONITOR. Product specification information described herein was obtained from product data sheet or user's manual.

CHASSIS TYPE	Plastic
CPU SPEED TESTED	166 MHz
LIST OF EACH OSC. OR CRY. FREQ.(FREQ.>=1MHz)	7.98MHz, 65MHz
POWER SUPPLY / MODEL NAME / S.N	DC 12.0V, 2.92A from AC/DC Adapter / SA35-3130 / N/A
NUMBER OF LAYERS	2 Layers
MAX. RESOLUTION	1024 X 768 non-Interlaced
MAX. HOR./VERT. FREQUENCY(KHz / Hz)	35.1 ~ 60.0 KHz / 56 ~ 75 Hz
POWER REQUIREMENTS	90 ~ 260V, 50/60Hz
NO. OF EXTERNAL CONNECTOR	3 (D-sub VGA connector, DC in, Audio in)

Model Differences:

No other model differences have been mentioned.

2.2 Related Submittal(s) / Grant(s)

Original submittal only

2.3 Test System Details

The Model numbers for all equipment used in the tested system are:

Model	Manufacturer	FCC ID	Description	Connected to
LT138AA	KOREA ELECTRONICS	BRFLT138AA	TFT LCD Monitor (EUT)	N/A
SA35-3130	ASTEC	N/A	ADAPTER	EUT
Compaq Deskpro2000	COMPAQ	CNT75MDEBV5	Personal Computer	EUT
M-S34	COMPAQ	DZL211029	MOUSE	PC
020-0470	CARDINAL	GDE0196	MODEM	PC
2225C	HP	DSI6XU2225	PRINTER	PC
247430-AD1	COMPAQ	DOC	KEYBOARD	PC

2.4 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 3 meters.

2.5 Test Facility

The open area test site and conducted measurement facility used to collect the radiated data is located on at 426-1 Daessangryung-Ri, Chowol-Myun, Kwangju-Kun, Kyunggi-Do 464-080 Korea. Detailed description of test facility was submitted to the Commission on January 24, 1996(31040/SIT, 1200F2).

3. SYSTEM TEST CONFIGURATION

3.1 Justification

The device was configured for testing in a typical fashion (as a customer would normally use it). During the tests, the following components inside the EUT were installed.

DEVICE TYPE	MANUFACTURER	MODEL/PART NUMBER	FCC ID
MAIN BOARD	KOREA ELECTRONICS	27002444T	N/A
TERMINAL BOARD	KOREA ELECTRONICS	PLTZO1	N/A
OSD B'D	KOREA ELECTRONICS	PLTC01	N/A

3.2 EUT exercise Software

The GWBASIC Program used during radiated and conducted testing was designed to exercise the various system components in a manner similar to a typical use. This program was included into HOST. Once loaded, this program sequentially exercises each system component in turn. The sequence used is:(1) series of H characters are printed on the monitor until the screen is completely full, (2) copy series of H characters to mass storage device(if one is used), (3) print series of H characters to printer. The complete cycle takes about 20 seconds and is repeated continuously.

3.3 Cable Description

	Power Cord Shielded (Y/N)	I/O cable Shielded (Y/N)	Length (M)
TFT LCD MONITOR(EUT)	N	Y	1.8(P), 1.5(D)
ADAPTER	N	N/A	1.8(P)
PERSONAL COMPUTER	N	N/A	1.8(P)
PARALLEL	N	Y	1.8(P), 1.2(D)
KEYBOARD	N/A	N	1.8(D)
SERIAL	N	Y	1.8(P), 1.2(D)
MOUSE	N/A	N	1.2(D)

* The marked "(D)" means the Data Cable and "(P)" means the Power Cable.

3.4 Noise Suppression Parts on Cable

	Ferrite Bead (Y/N)	Location	Metal Hood (Y/N)	Location
TFT LCD MONITOR(EUT)	Y	BOTH END	Y	BOTH END
ADAPTER	Y	EUT END	Y	EUT END
PERSONAL COMPUTER	N	N/A	N/A	N/A
PARALLEL	N	N/A	Y	BOTH END
KEYBOARD	N	N/A	Y	PC END
SERIAL	N	N/A	Y	BOTH END
MOUSE	N	N/A	Y	PC END

3.5 Equipment Modifications

To achieve compliance to CLASS B levels, the following change(s) were made by ONETECH CORPORATION during compliance testing : "There was no Modified items during EMI test"

3.6 Configuration of Test System

Line Conducted Test : EUT was connected to AC adapter and adapter was connected to LISN, all supporting equipments were connected to another LISN. Preliminary Powerline Conducted Emission tests were performed by using the procedure in ANSI C63.4/1992 7.2.3 to determine the worse operating conditions.

Radiated Emission Test : Preliminary radiated emissions tests were conducted using the procedure in ANSI C63.4/1992 8.3.1.1 to determine the worse operating conditions. Final radiated emission tests were conducted at 3 meter open area test site.

4. PRELIMINARY TESTS

4.1 AC Powerline Conducted Emissions Tests

During Preliminary Tests, the following operating mode was investigated

Processor Speed(MHz)	Video Resolution	The Worse operating condition
Pentium-166MHz	640 X 480 NON-INTERLACED	
Pentium-166MHz	800 X 600 NON-INTERLACED	
Pentium-166MHz	1024 X 768 NON-INTERLACED	X

4.2 Radiated Emissions Tests

During Preliminary Tests, the following operating mode was investigated

Processor Speed(MHz)	Video Resolution	The Worse operating condition
Pentium-166MHz	640 X 480 NON-INTERLACED	
Pentium-166MHz	800 X 600 NON-INTERLACED	
Pentium-166MHz	1024 X 768 NON-INTERLACED	X

Tested by : Gea Won, Lee

Date : December 16, 1997

6. FINAL CONDUCTED AND RADIATED EMISSION TESTS SUMMARY

Per preliminary tests, the following normal mode of operations were selected which shown the maximum emissions level.

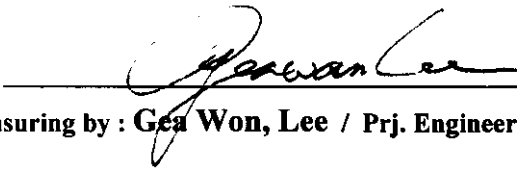
6.1 Conducted Emissions Tests

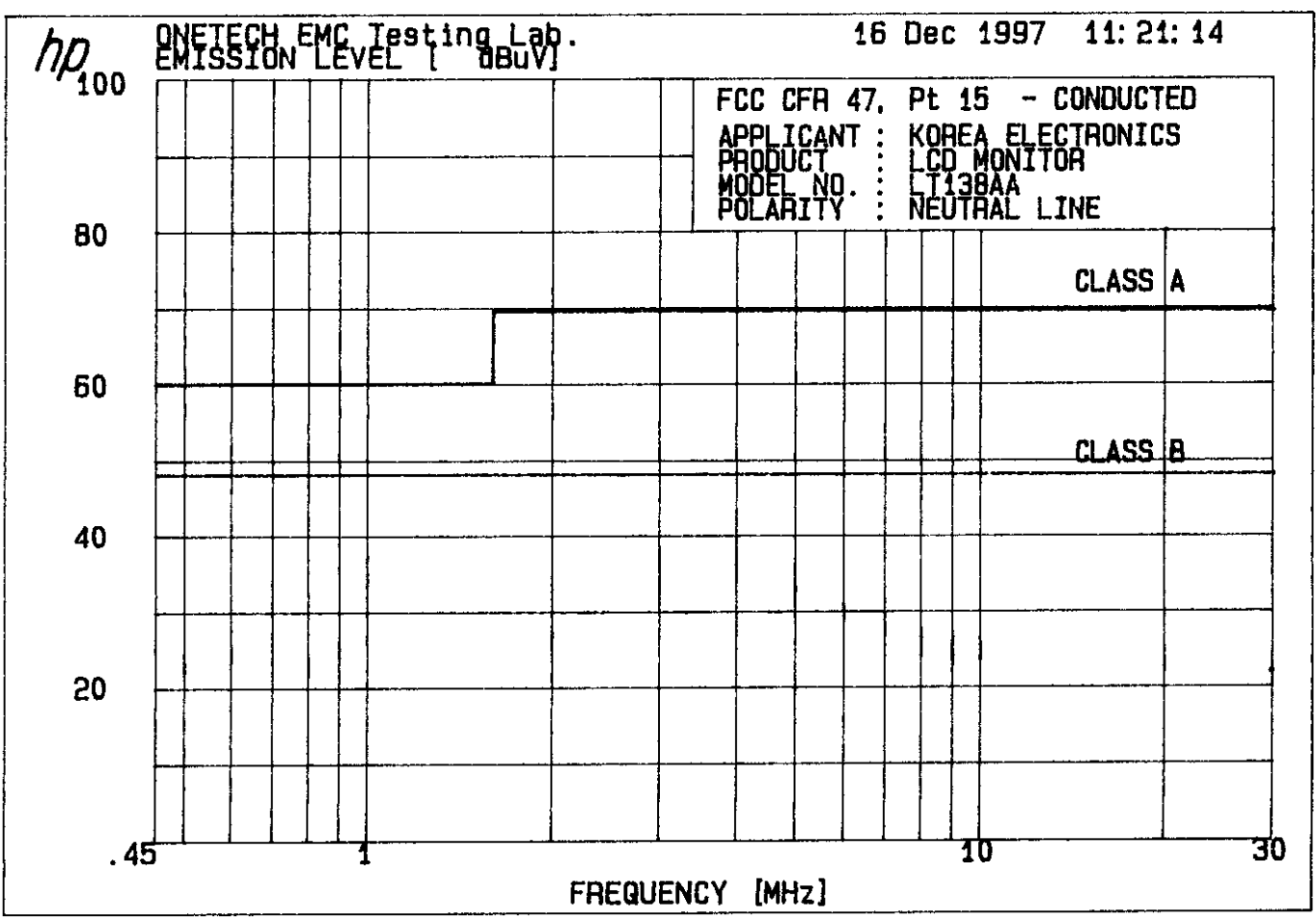
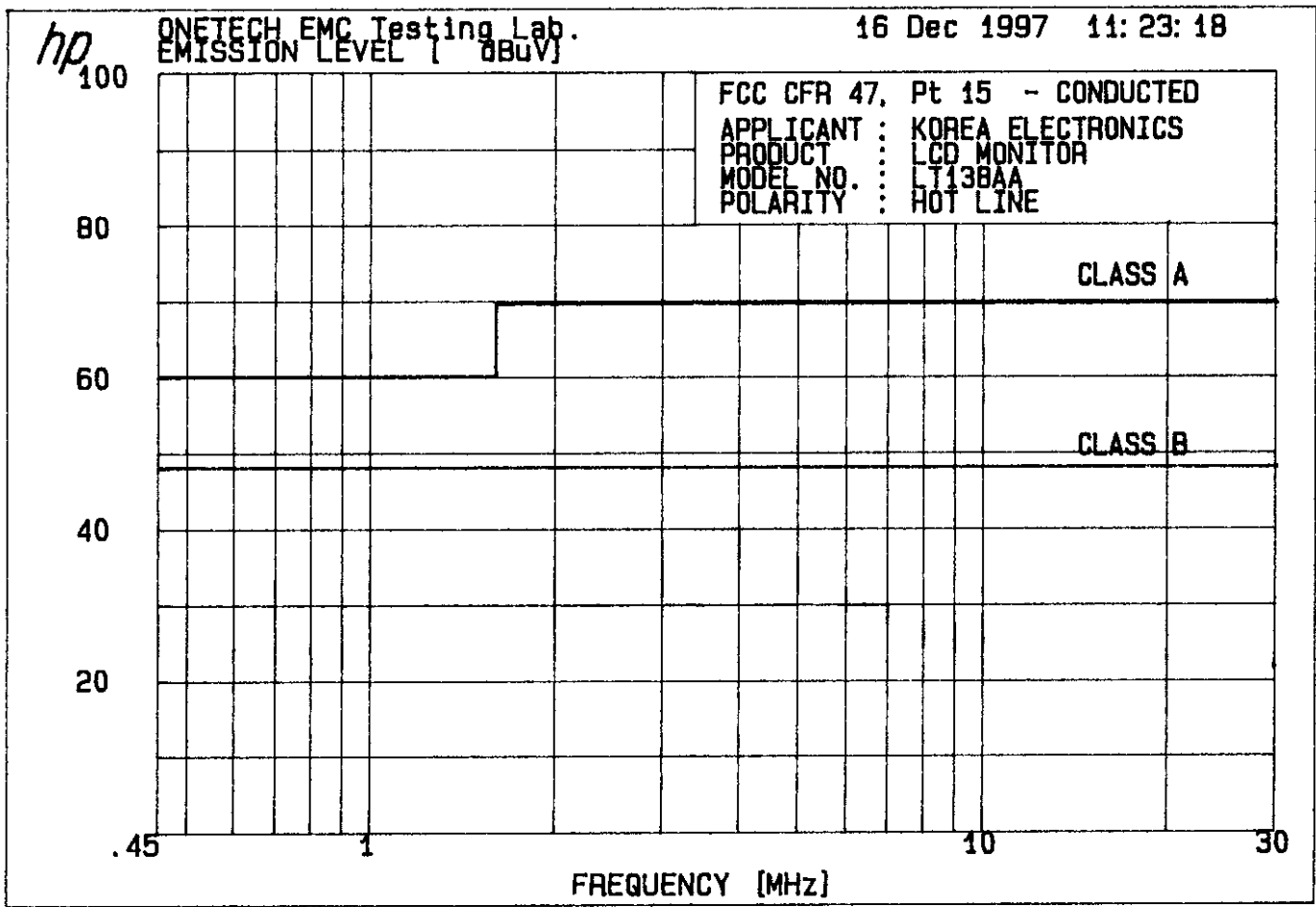
Humidity Level : 53 % Temperature : 22°C
Limits apply to : FCC CFR 47, PART 15, SUBPART B
Type of Tests : CLASS B
Result : PASSED BY -7.90 dB

EUT : TFT LCD MONITOR Date : December 16, 1997
Operating Condition : 1024 X 768 NON-INTERLACED
Detector : CISPR Quasi-Peak (6 dB Bandwidth : 9 KHz)

Power Line Conducted Emissions			FCC CLASS B	
Frequency (MHz)	Amplitude (dB μ V)	conductor	Limit (dB μ V)	Margin (dB)
0.45	38.90	NEUTRAL	48.0	-9.10
0.56	35.00	NEUTRAL	48.0	-13.00
4.05	40.10	NEUTRAL	48.0	-7.90
5.11	38.40	NEUTRAL	48.0	-9.60
21.45	38.30	NEUTRAL	48.0	-9.70
25.69	32.80	HOT	48.0	-15.20

Line Conducted Emissions Tabulated Data


Measuring by : Gea Won, Lee / Prj. Engineer



6.2 Radiated Emission Tests

The following table shows the highest levels of radiated emissions on both polarization of horizontal and vertical.

Humidity Level : 50 %Temperature : 13 °CLimits apply to : FCC CFR 47, PART 15, SUBPART BType of Tests : CLASS BResult : PASSED BY -4.61dBEUT : TFT LCD MONITOR

Date : December 16, 1997

Operating Condition : 1024 X 768 NON-INTERLACEDDetector : CISPR Quasi-Peak (6 dB Bandwidth : 120 KHz)Distance : 3 Meter

Radiated Emissions		Ant	Correction Factors		Total	FCC CLASS B	
Freq. (MHz)	Amp. (dB μ V)	Pol.	Ant. (dB μ V)	Cable (dB)	Amp. (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
32.35	16.90	V	13.04	1.29	31.23	40.00	-8.77
38.95	12.80	V	11.87	1.66	26.33	40.00	-13.67
45.45	15.70	V	10.65	1.80	28.15	40.00	-11.85
52.05	22.40	V	10.78	1.88	35.06	40.00	-4.94
58.55	17.40	V	10.10	2.00	29.50	40.00	-10.50
84.48	16.10	V	8.04	2.29	26.43	40.00	-13.57
97.47	14.20	V	11.07	2.40	27.67	43.50	-15.83
110.54	10.70	V	13.60	2.49	26.79	43.50	-16.71
130.00	18.40	V	12.70	2.80	33.90	43.50	-9.60
166.63	12.00	V	15.18	3.27	30.45	43.50	-13.05
227.20	14.50	H	10.78	3.51	28.79	46.00	-17.21
259.80	14.20	H	11.54	3.72	29.46	46.00	-16.54
292.60	16.20	H	13.13	4.11	33.44	46.00	-12.56
390.80	22.30	H	14.53	4.56	41.39	46.00	-4.61
405.80	10.50	V	14.85	4.67	30.02	46.00	-15.98
422.00	13.80	V	15.43	4.86	34.09	46.00	-11.91
455.00	16.90	V	16.63	5.20	38.73	46.00	-7.27
585.80	12.20	V	17.83	5.70	35.73	46.00	-10.27



Measuring by : Gea Won, Lee / Prj. Engineer

7. FIELD STRENGTH CALCULATION

Meter readings are compared to the specification limit correcting for antenna and cable losses

+ Meter reading	(dB μV)
+ Cable Loss	(dB)
+ Antenna Factor (Loss)	(dB/meter)

= Corrected Reading	(dB μV /meter)
- Specification Limit	(dB μV /meter)
= dB Relative to Spec	(+/- dB)

8. LIST OF TEST EQUIPMENT

No.	EQUIPMENTS	MFR.	MODEL	SER. NO.	LAST CAL	DUE CAL	USE
1.	Test receiver	R/S	ESVS 30	826638/008	AUG./97	12MONTH	■
2.	Spectrum analyzer	HP	8568B	3026A0226	AUG./97	12MONTH	■
3.	RF preselector	HP	85685A	3107A01264	AUG./97	12MONTH	■
4.	Quasi-Peak Adapter	HP	85650A	3107A01542	AUG./97	12MONTH	■
5.	Signal Generator	HP	8657A	3134A-03919	APRIL/95	12MONTH	
6.	Loop Antenna	EMCO	6502	9108-2668	DEC/96	12MONTH	
7.	Dipole Antenna	EMCO	3121C	9107-745	DEC/96	12MONTH	
8.	Biconical antenna	EMCO	3104C	9109-4441 9109-4443 9109-4444	FEB./97	12MONTH	■
9.	Log Periodic antenna	EMCO	3146	9109-3213 9109-3214 9109-3217	FEB./97	12MONTH	■
10.	LISN	EMCO	3825/2	9109-1867 9109-1869	FEB/97	12MONTH	■
11.	RF Amplifier	HP	8447F	3113A04554	N/A	N/A	
12.	Transient Limiter	HP	11947	N/A	N/A	N/A	
13.	Spectrum Analyzer	HP	8591A	3131A02312	APRIL/95	12MONTH	
14.	Computer System	HP	98581C	98543A	N/A	N/A	■
	Hard disk drive		9153C	CMC762Z9153	N/A	N/A	■
15.	Plotter	HP	7475A	30052 22986	N/A	N/A	■
16.	Position Controller	EMCO	1090	9107-1038	N/A	N/A	■
17.	Turn Table	EMCO	1080-1.21	9109-1576	N/A	N/A	■
18.	Turn Table	ROBOTECH			N/A	N/A	
19.	Antenna Master	EMCO	1070-1	9109-1624	N/A	N/A	■
20.	Antenna Master	COMPLIANCE DESIGN INC	CD M-100		N/A	N/A	