ECMG Worldwide Certification Solutions
ECMG-Worldwide-Certification-Solution, Inc.
www.ecmg-global.com

EMI Test Report

On Model Name: TOUCH MONITOR

Model Number: TM-19,TM-19W,TM-17,TM-15,TM-12,TM-10.4

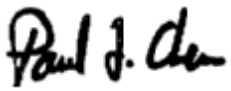
Trade name: LEADINGTOUCH

FCC ID Number: WYALTF0001

Prepared for LeadingTouch Technology Co., Ltd.

According to FCC Part 15:2007, Class B

Test Report #:	BEI-0811-10106-FCCID
Prepared by:	May Wang
Reviewed by:	Jawen Yin
QC Manager:	Paul Chen

Test Report Released by:  Feb. 4. 2009

Paul Chen Date

Test Location

Tests performed at ECMG Worldwide Certification Solution Inc. (China) in a Certified ANSI Semi-Anechoic Chamber and Shielded Room performed testing.

Test Site Location:	*Shenzhen Academy of Metrology and Quality Inspection.* *Bldg. of Metrology & Quality Inspection, Longzhu Road, Shenzhen, Guangdong, China.*
Tel:	*86-755-26941617*
Fax:	*86-755-26941615*
FCC Registration Number:	*274801*
CNAS Nunber:	*L0579*

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Opinions and Interpretations

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Statement of Measurement Uncertainty

The data and results referenced in the document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities that can account for a nominal measurement error. Furthermore, component and process variability of devices similar to that tested may result in additional deviation.

Administrative Data

Test Sample	*: TOUCH MONITOR*
Model Number	*: TM-19,TM-19W,TM-17,TM-15,TM-12,TM-10.4*
Model Tested	*: TM-19*
Date Tested	*: December 24, 2008*
Applicant	*: LeadingTouch Technology CO., Ltd.*
	NO.538,NO.18 FUKANG ROAD,CHANGPING DISTRICT BEIJING CHINA
Telephone	*: +86-010-51090970*
Fax	*: +86-010-51090979*

EUT Description

LeadingTouch Technology CO., Ltd. model tested TM-19 (referred to as the EUT in this report) is a TOUCH MONITOR.

Type of Dirive

please refer to differences statement letter for Details.

Technology Specification:

Monitor type: *TOUCH MONITOR*

Max. Resolution : *1280 x 1024 resolution (SXGA)*

Power adapter: *100V-240Vac ~ 1A-0.5A, 50Hz/60Hz*

Consumption:

Mode	*Power Consumption*
On	*<30W*
Sleep	*<4W*
Off	*<2W*

AC adapter information as below:

Manufacturer: *Gospell Digital Technology Co., LTD.*

Model number: *GP008CX*

Input: *100V-240Vac ~ 1A-0.5A, 50Hz/60Hz*

Output: *12V DC = 4.2A*

The EUT is a TOUCH MONITOR which input/output ports as follows:

(1) One VGA Port: *Connected with PC (unshided,without ferrite cores)*

(2) One DC In Port: *Connected with Power(unshided,with 1 ferrite cores)*

(3)One DVI Port: *Connected with PC (unshided,with 2 ferrite cores)*

(4)One serial port: *Connected with PC (unshided,with 2 ferrite cores)*

(5) One USB port: *Connected with PC (unshided,with 2 ferrite cores)*

Note : For more information please refer to user's manual.

Operating Mode of EUT

*Let the EUT worked in testing mode (Running "H" Pattern 640*480@60Hz，Running "H"Pattern 1024*768@60Hz, Running "H" Pattern 1280*1024@75Hz) and touch monitor operation mode (running touch monitor software drived)and measured it.*

All testing will be carried out respectively in USB touch monitor operation mode and Serial ports touch monitor operation mode.

The worst product is model TM-19(model TM-19 with maximal display screen and power), So it is used for all test.

*The EUT's Max. resolution bandwidth is 1280*1024@75Hz VGA&DVI, the highest frequency which the EUT operates is between 108-500MHz, so the Upper frequency of radiated emission measurement range is up to 2GHz, other resolution bandwidth that operates frenquency is below 108MHz, so the Upper frequency of radiated emission measurement range is up to 1GHz.*

Note: "EUT" means "touch monitor".

Test Summary

The Electromagnetic Compatibility requirements on model TM-19 for this test are stated below. All results listed in this report relate exclusively to this above-mentioned model as the Equipment Under Test. This report confers no approval or endorsement upon any other component, host or subsystem used in the test set-up.

Emission Tests				
Specifications	***Description***	***Test Results***	***Test Point***	***Remark***
FCC Part 15.107 Class B per ANSI C63.4 2003	*Conducted Emission*	*Passed*	*AC Input Port*	*Attachment 1*
FCC Part 15.109 Class B per ANSI C63.4 2003	*Radiated Emission*	*Passed*	*Enclosure*	*Attachment 2*
Note : Please refer to following test data for details.				

Test Mode Justification

This device complies with Part 15 of the FCC rules. Operations is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

Equipment Modification

Any modifications installed previous to testing by LeadingTouch Technology CO., Ltd. will be incorporated in each production model sold or leased in United States.

There were no modifications installed by ECMG Worldwide Certification Solution Inc. (China) test personnel.

Note :please refer to final sample statement letter for Details.

EUT Sample Photos

Front View

Rear View

Side View

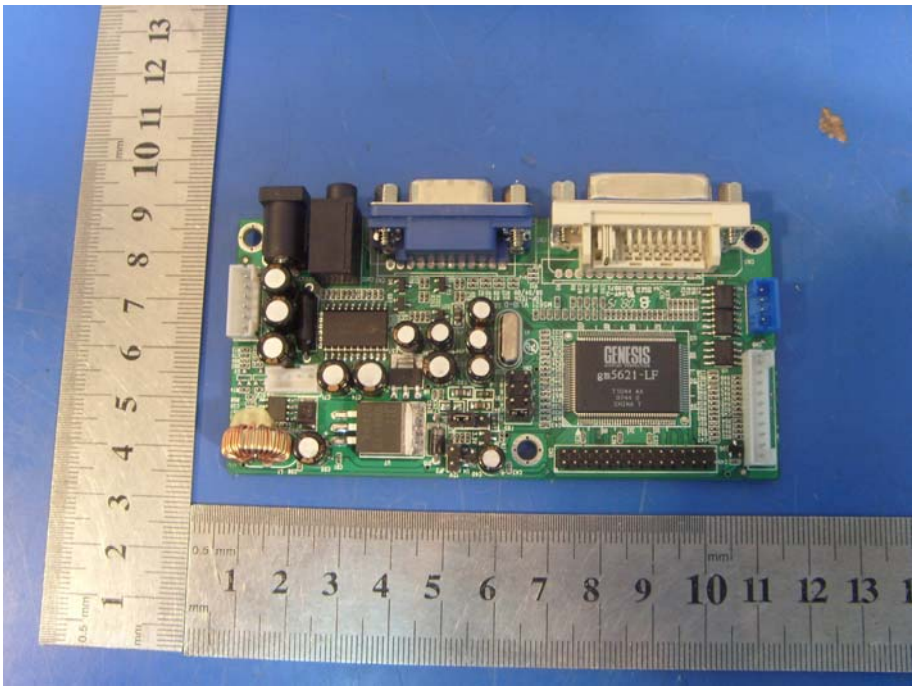
I/O Ports View

Screen- Rear View

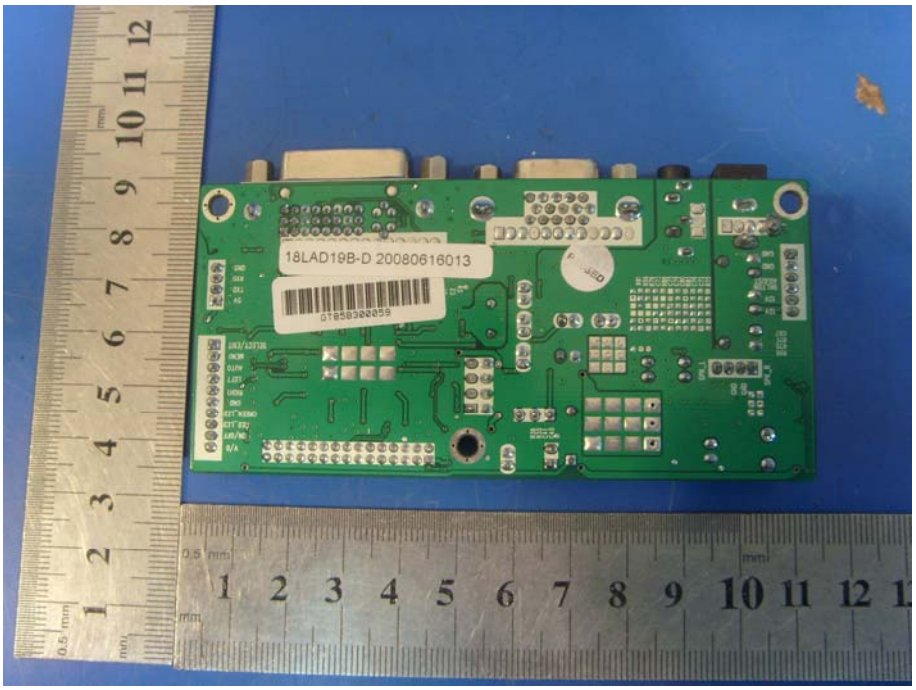
Screen- Label View

Inside View #1

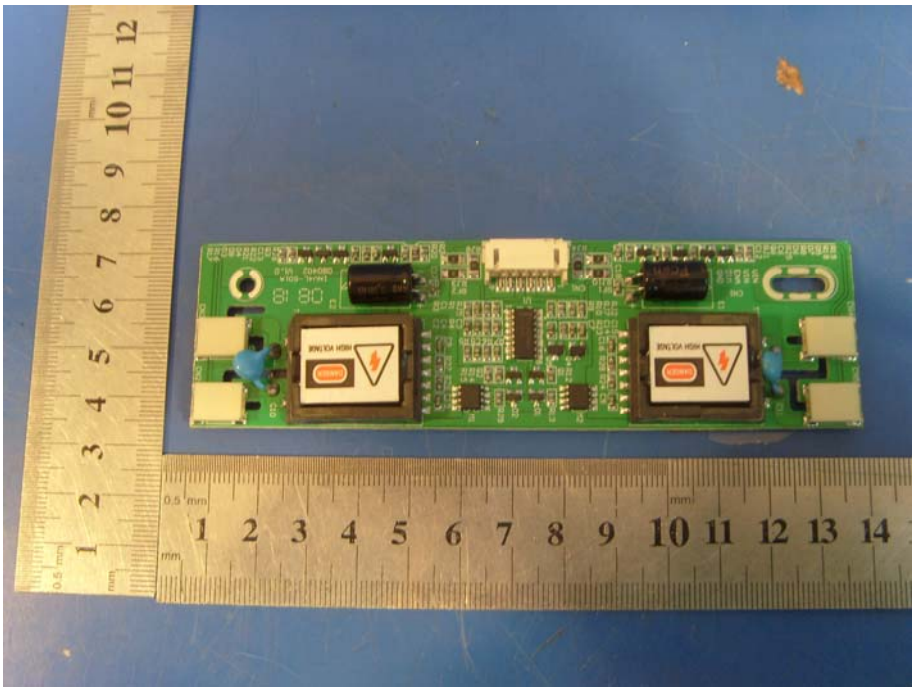
Inside View #2



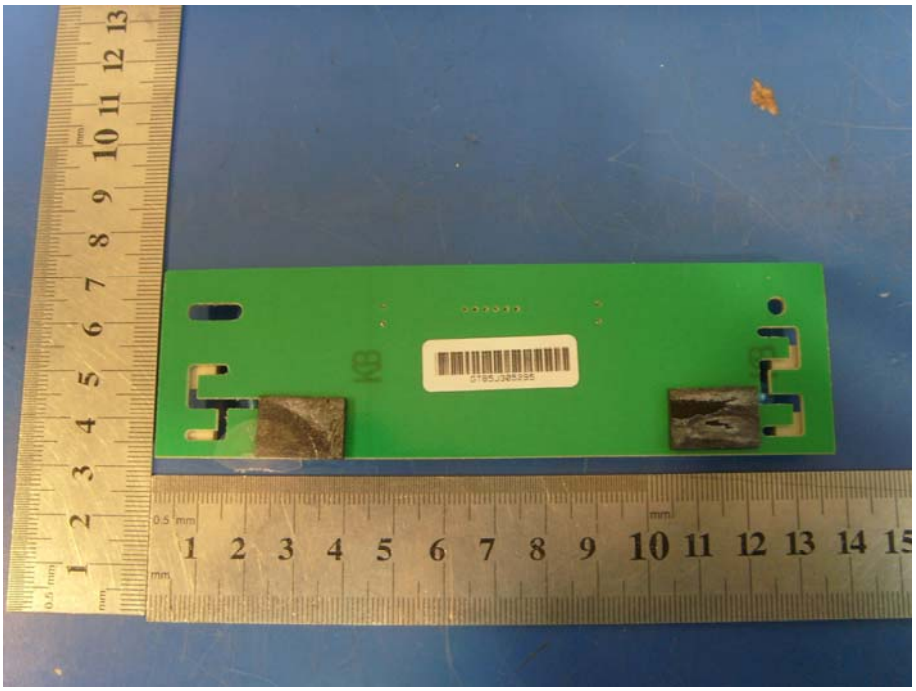
Main Board- Front View



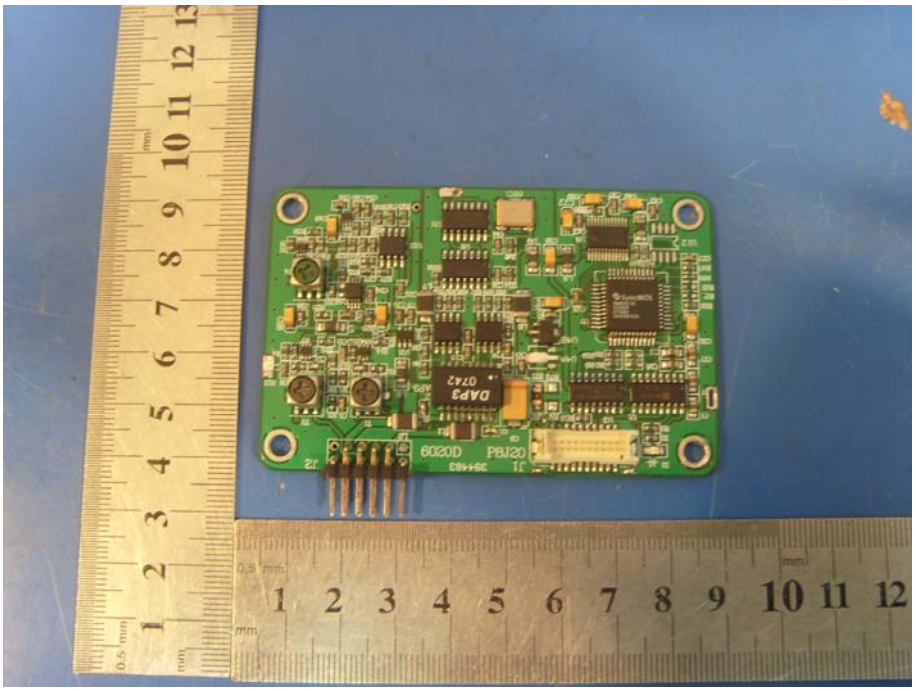
Main Board -Rear View



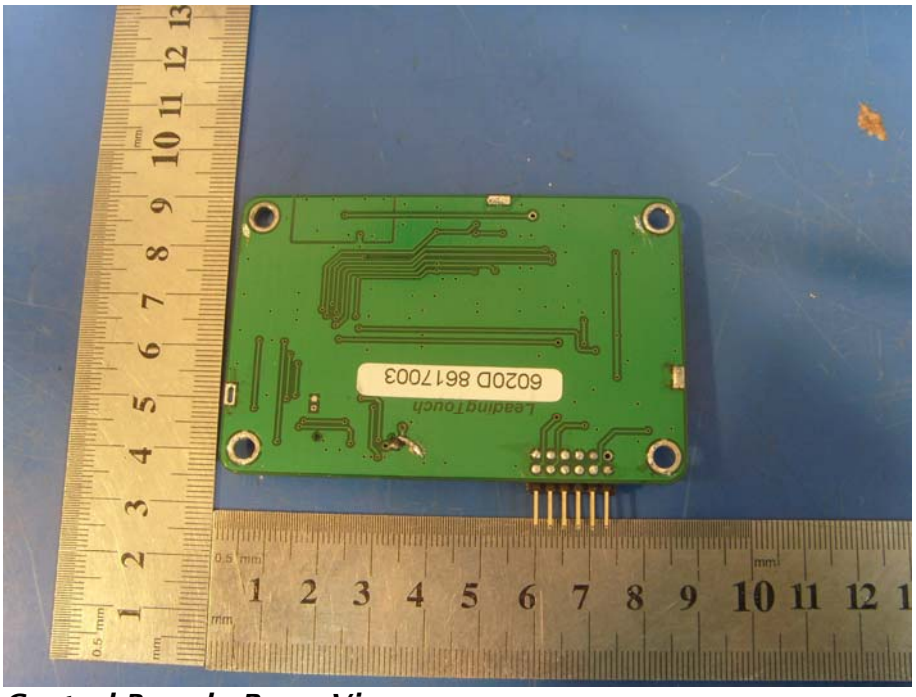
PCBA- Front View



PCBA -Rear View



Control Board - Front View



Control Board - Rear View

Adapter View

DVI Cable View

VGA Cable View

USB Cable View

Serial Port Cable View

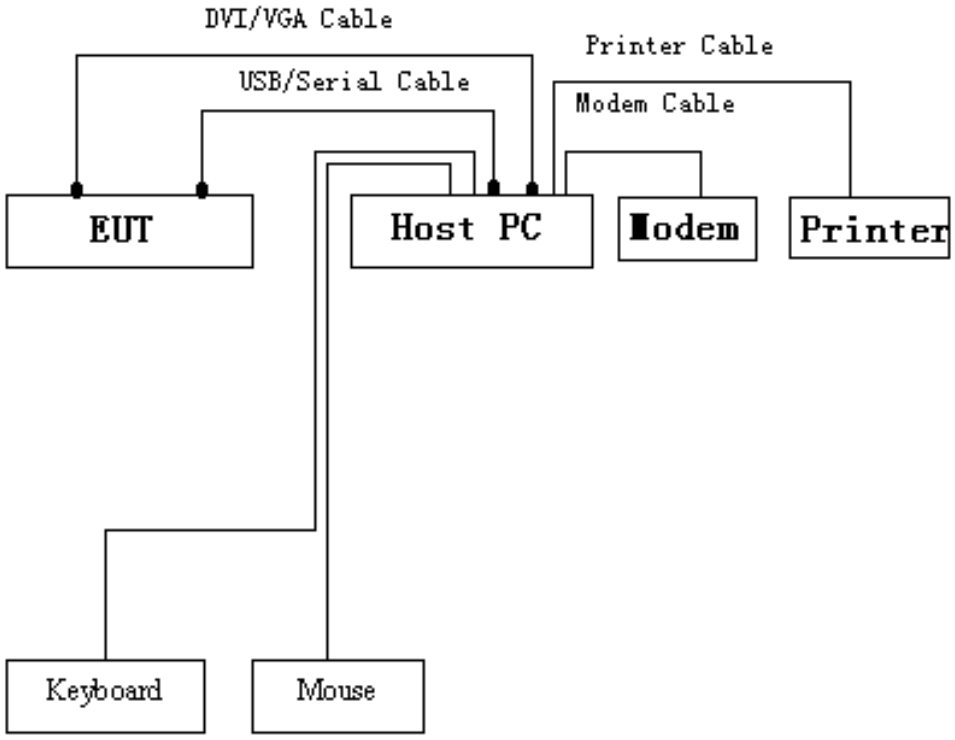
Test System Details

EUT	
Model Number:	TM-19,TM-19W,TM-17,TM-15,TM-12,TM-10.4
Model Tested:	TM-19
Description:	TOUCH MONITOR
Manufacture:	LeadingTouch Technology CO., Ltd.

Support Equipment			
Description	**Model Number**	**Serial Number**	**Manufacturer**
Host PC	P9111A	CN31104336	HP
Parallel Printer	PIXMAiP1180	N/A	Canon
Modem	TL-R410	N/A	TP-Link
Keyboard	SK-/815 (L)	41A5289	Lenovo
Mouse	MO28UOL	N/A	Lenovo

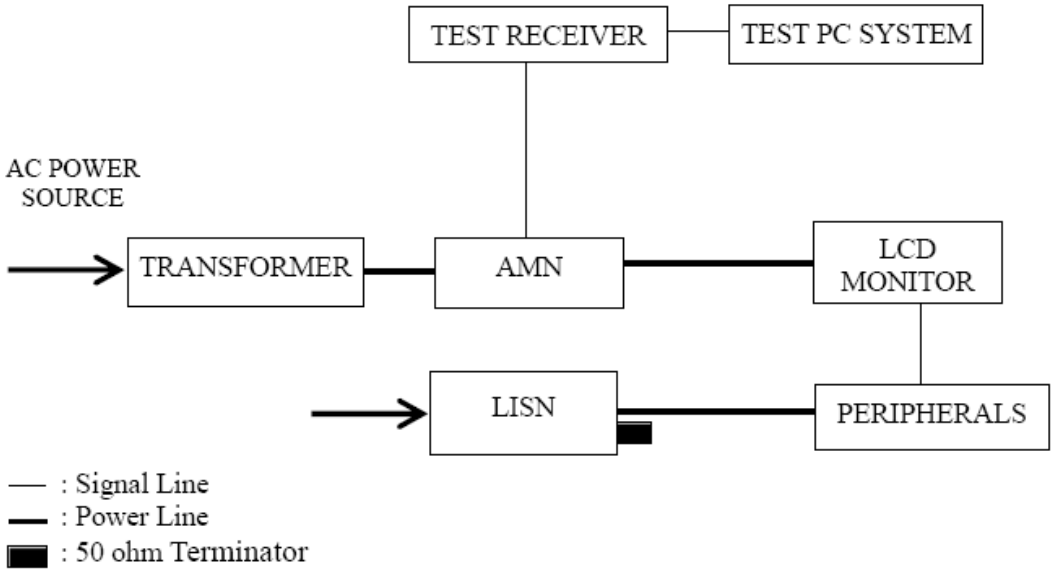
Cable Description					
Description	**From**	**To**	**Length (Meters)**	**Shielded (Y/N)**	**Ferrite (Y/N)**
AC Power Cable	Plug	Terminal	1.2	N	N
DC Power Cable	Plug	Terminal	1.2	N	Y
VGA Cable	EUT	Host PC	1.6	N	N
DVI Cable	EUT	Host PC	1.5	N	Y
Keyboard cable	Keyboard	Host PC	1.6	N	N
Mouse Cable	Mouse	Host PC	1.6	N	N
Serial ports cable	EUT	Host PC	1.5	N	Y
USB cable	EUT	Host PC	1.5	N	Y
Modem Cable	Modem	Host PC	1.2	N	N
Printer Cable	Printer	Host PC	1.2	N	N

Configuration of Tested System

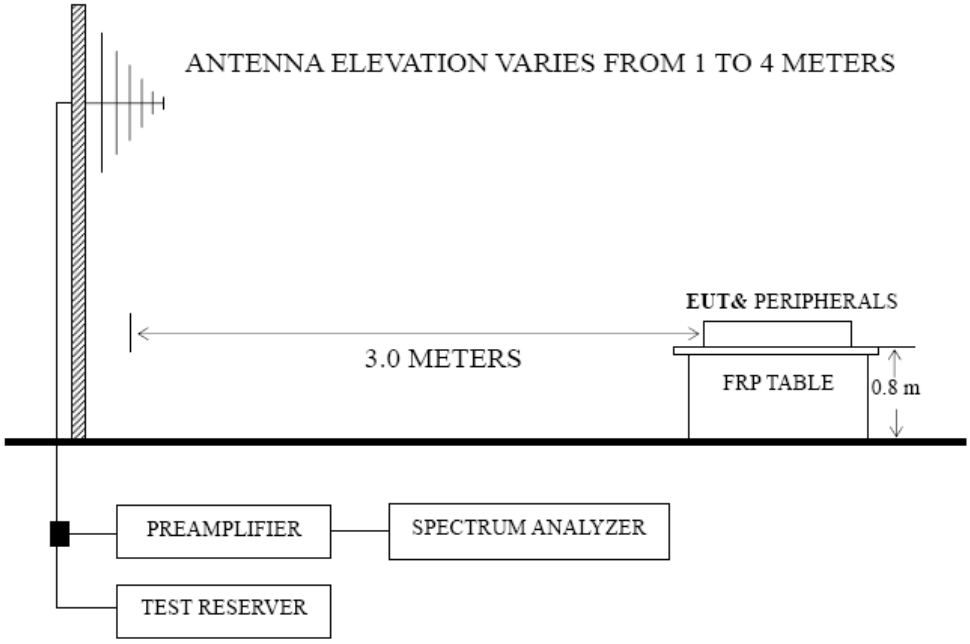


■: **Ferrite Core**

Block Diagram of Testing Installation

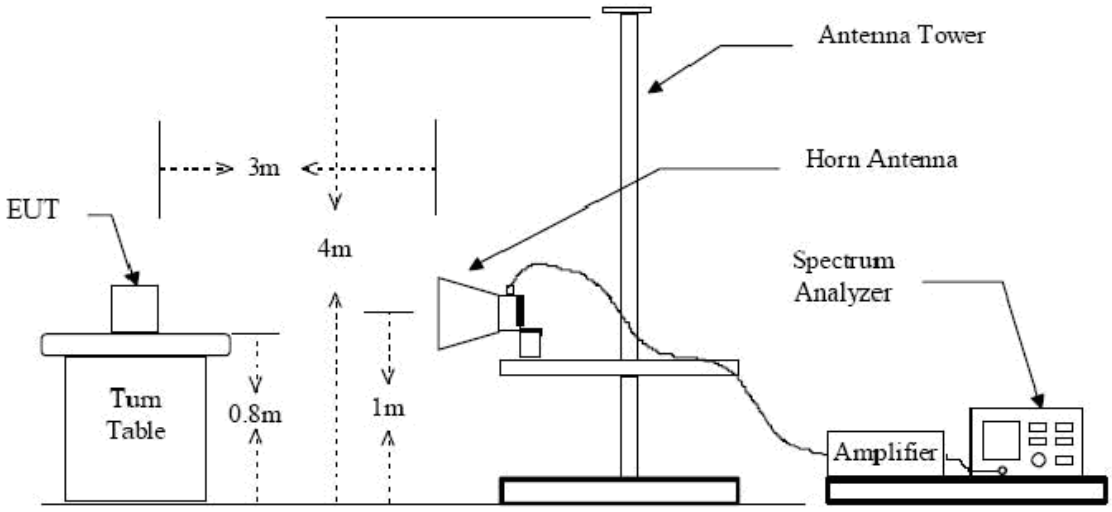


Conducted Emissions Test Set-up photograph



■ : 50 ohm Coaxial Switch

Radiated Emission Test Set up Photograph(below 1GHz)



Radiated Emission Test Set up Photograph(above 1GHz)

ATTACHMENT 1 - CONDUCTED EMISSION TEST RESULTS

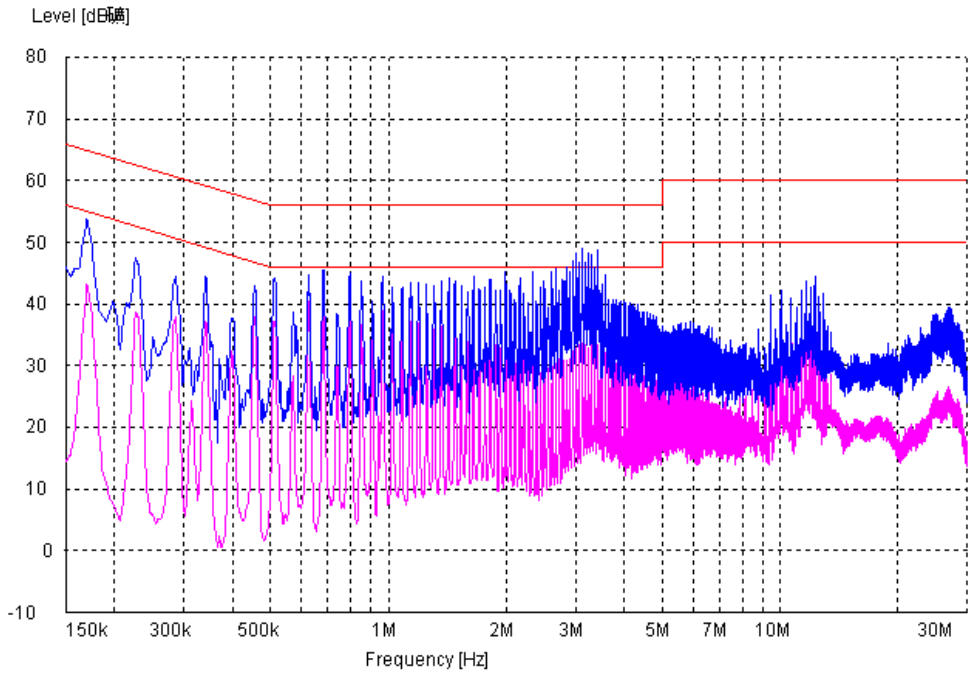
CLIENT:	LeadingTouch Technology CO., Ltd.	**TEST STANDERD:**	FCC Part 15, Class B
MODEL NUMBERS:	TM-19,TM-19W,TM-17,TM-15,TM-12,TM-10.4	**PRODUCT:**	TOUCH MONITOR
EUT MODEL:	TM-19	**EUT DESIGNATION:**	Information Technology Equipment
TEMPERATURE:	23°C	**HUMIDITY:**	47%RH
ATM PRESSURE:	101.0kPa	**GROUNDING:**	Through AC Power Cord
TESTED BY:	May Wang	**DATE OF TEST:**	December 24, 2008
TEST REFERENCE:	ANSI C63.4: 2003		
TEST PROCEDURE:	The EUT was set up according to the guideline of ANSI C63.4: 2003 for conducted emissions. The measurement was using a AMN on each line and an EMI receiver peak scan was made at the frequency measurement range. The six highest significant peaks were then marked, and these signals were then quasi-peaked and averaged. The frequency range investigated was from 150KHz to 30MHz.		
TESTED RANGE:	150kHz to 30MHz		
TEST VOLTAGE:	120VAC / 60Hz		
RESULTS:	According to the recorded data in following data table, the EUT complied with the FCC PART 15: 2007 ,Class B, with the worst margin reading of: **For USB Touch Monitor Opretion Mode:** by -**4.9 dB** at **0.626 MHz** of AV detector in the **Line L** for DVI Mode 1280*1024@75Hz. The test results relate only to the equipment under test provided by client.		
CHANGES OR MODIFICATIONS:	There were no modifications installed by ECMG Worldwide Certification Solution Inc. (China) test personnel.		
M. UNCERTAINTY:	Freq. ± 2x10-7 x Center Freq., Amp ± 2.6 dB		

15.107 Conducted limit:

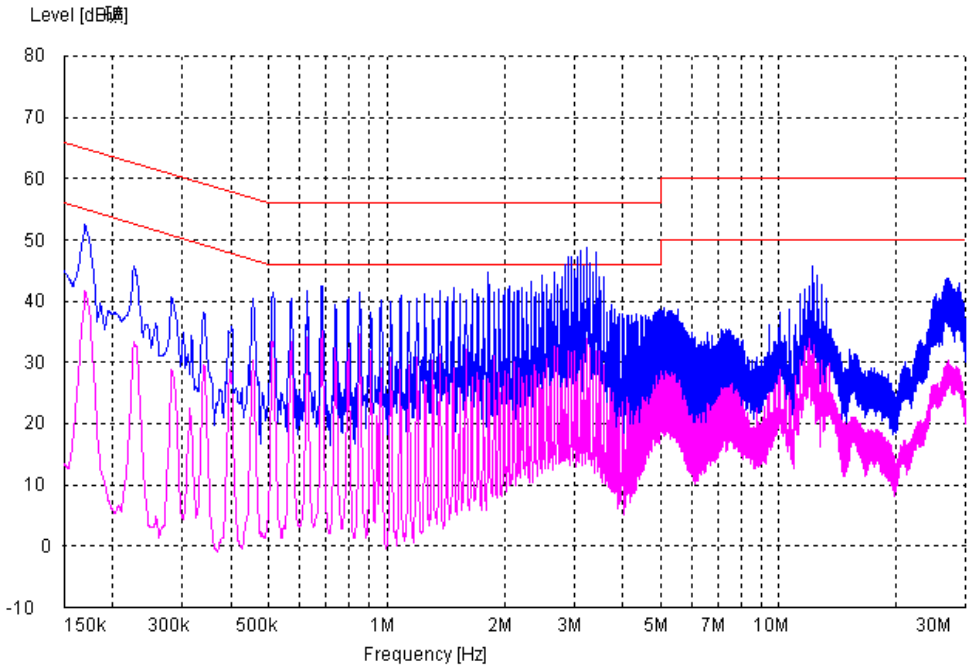
Except for Class A digital devices, for equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 μH/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the band edges.

Frequency of Emission (MHz)	***Conducted Limit (dBμV)***	
	Quasi-Peak	***Average***
0.15-0.5	*66 to 56**	*56 to 46**
0.5-5	*56*	*46*
5-30	*60*	*50*
1) The lower limit shall apply at the transition frequencies. *2) The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz~0.50 MHz*		

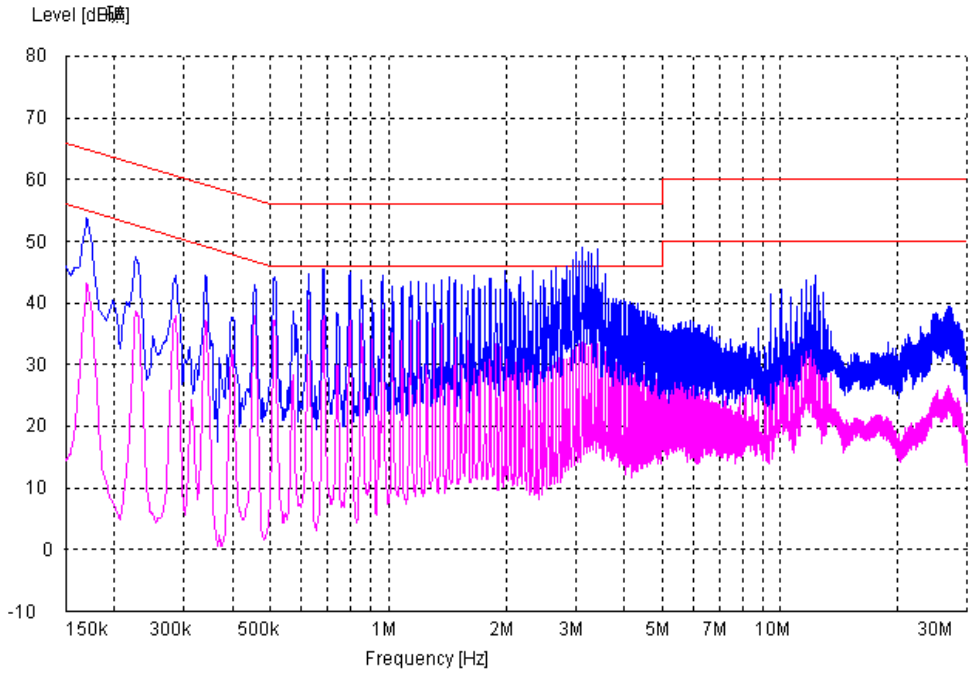
For USB Touch Monitor Operation Mode:



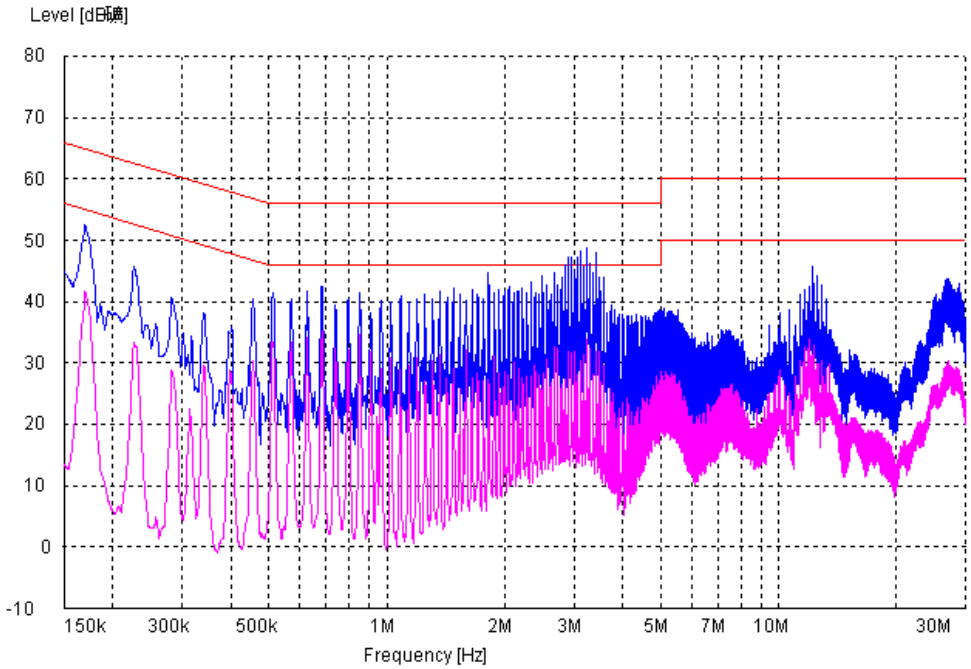
Line L Conducted Emission Graph (VGA Mode 640*480@60Hz)



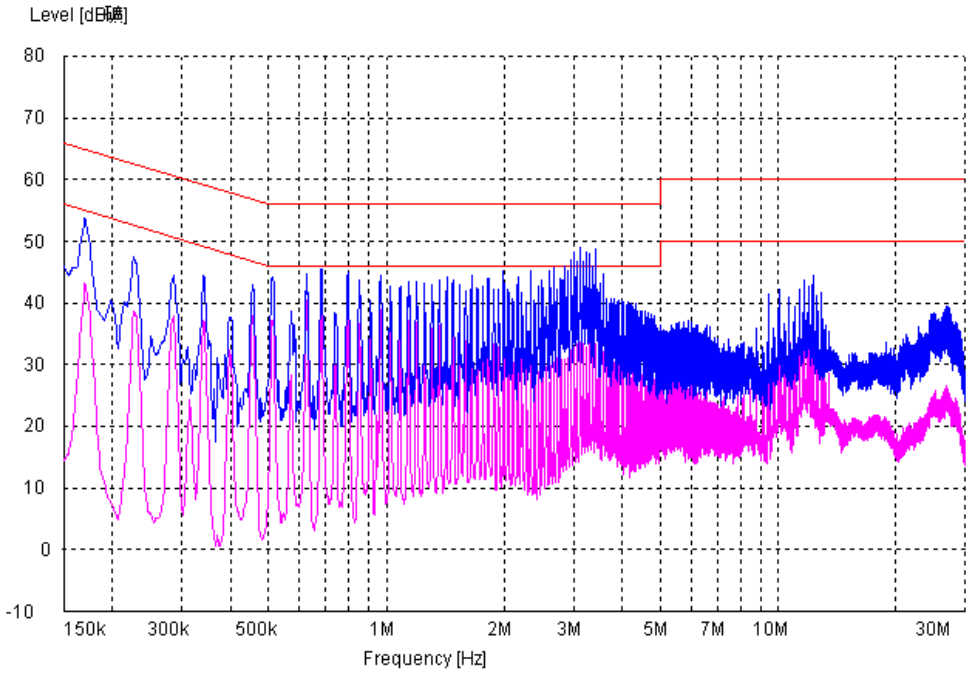
Line N Conducted Emission Graph (VGA Mode 640*480@60Hz)



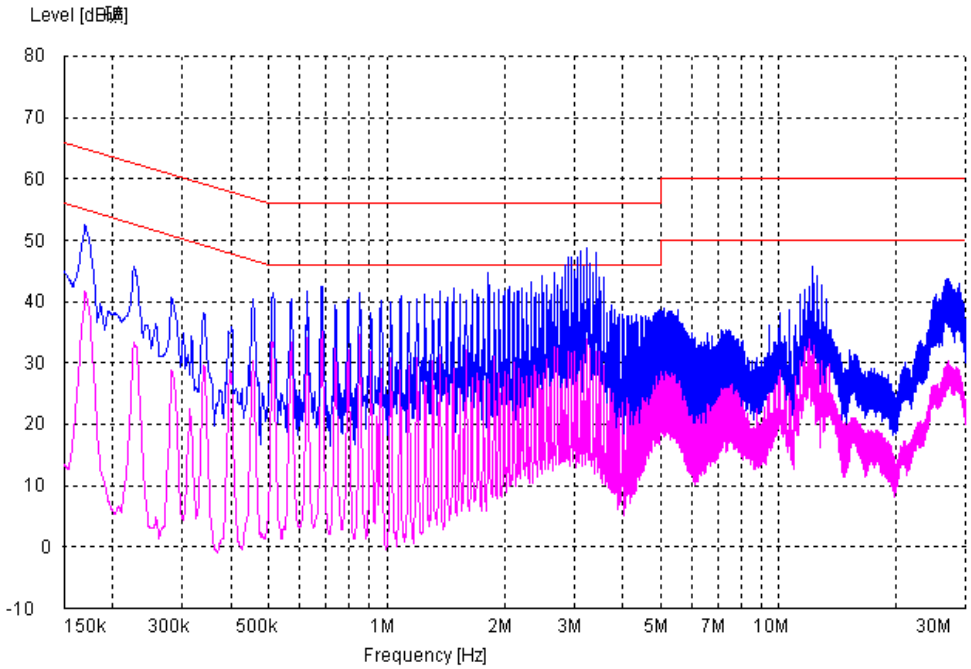
Line L Conducted Emission Graph (VGA Mode 1024x768@60 Hz)



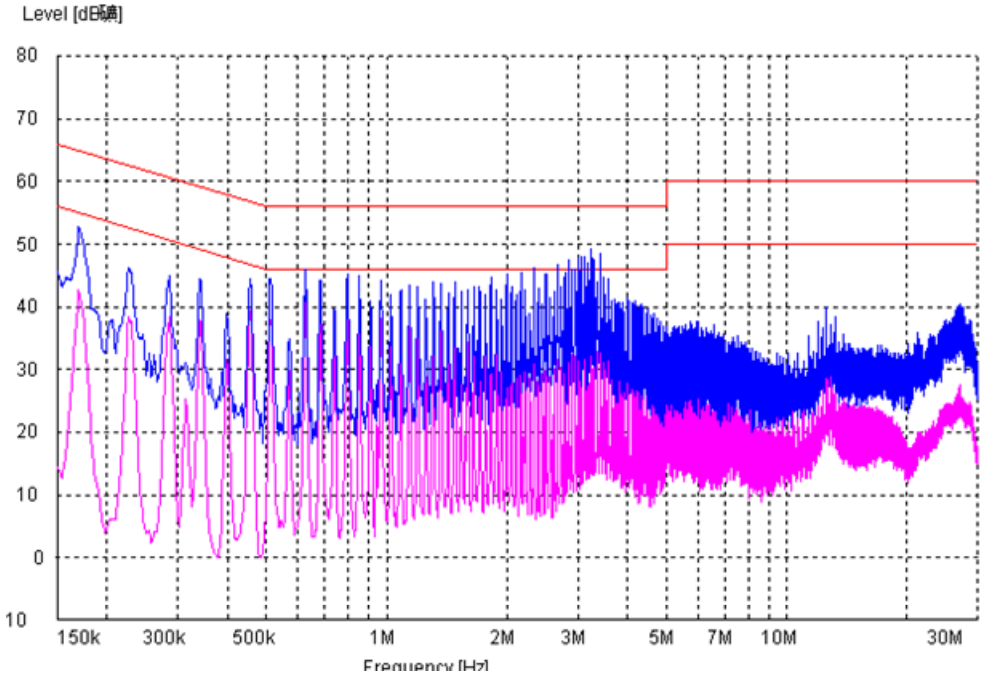
Line N Conducted Emission Graph (VGA Mode 1024x768@60 Hz)



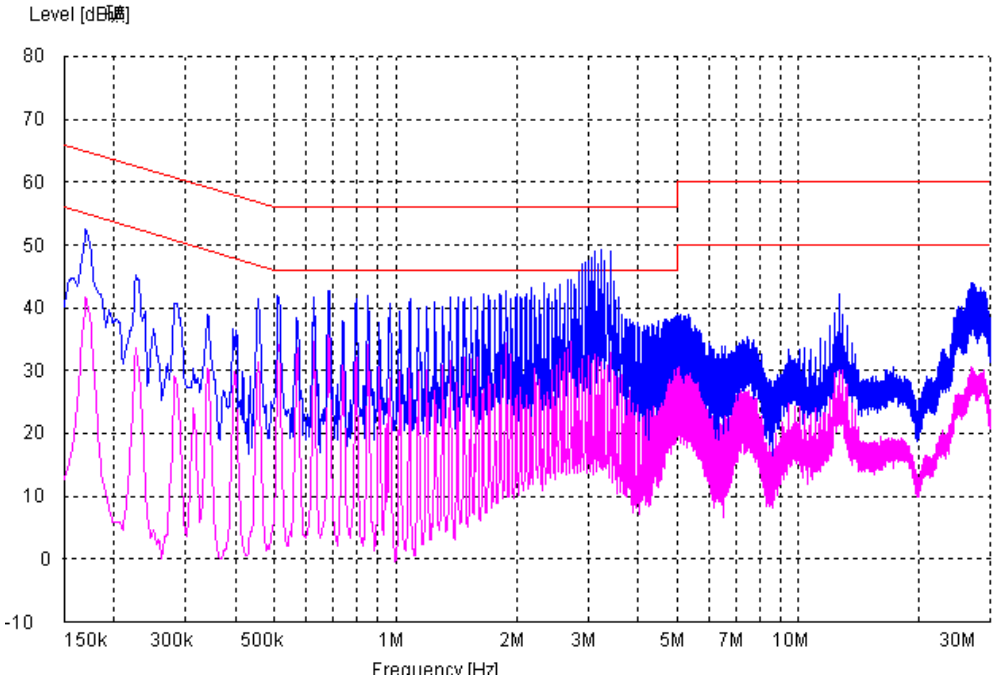
Line L Conducted Emission Graph (VGA Mode 1280x1024@75 Hz)



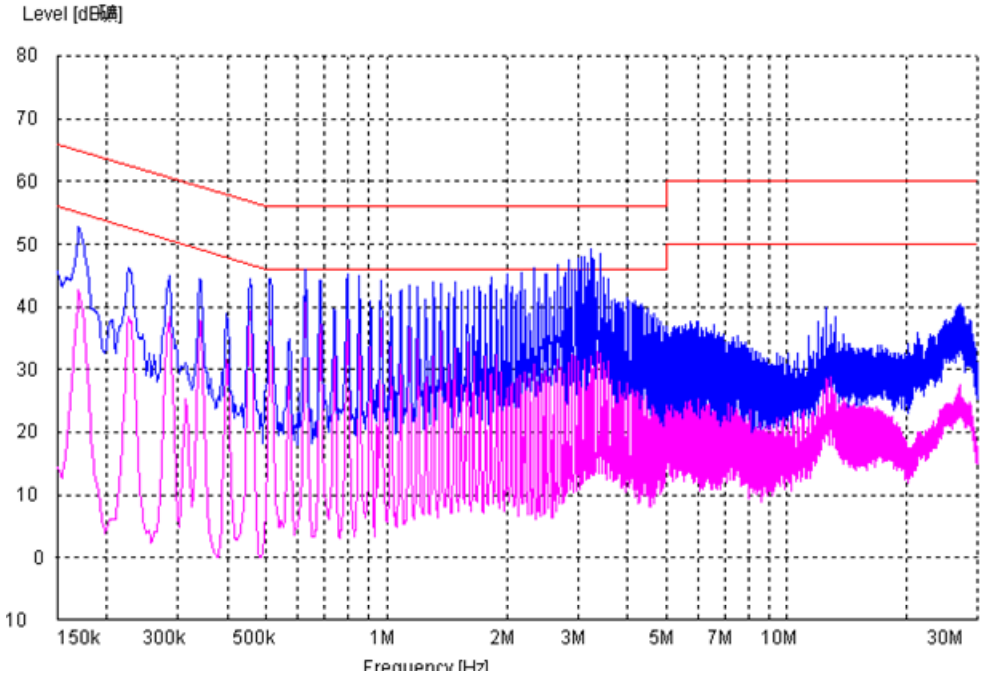
Line N Conducted Emission Graph (VGA Mode 1280x1024@75 Hz)



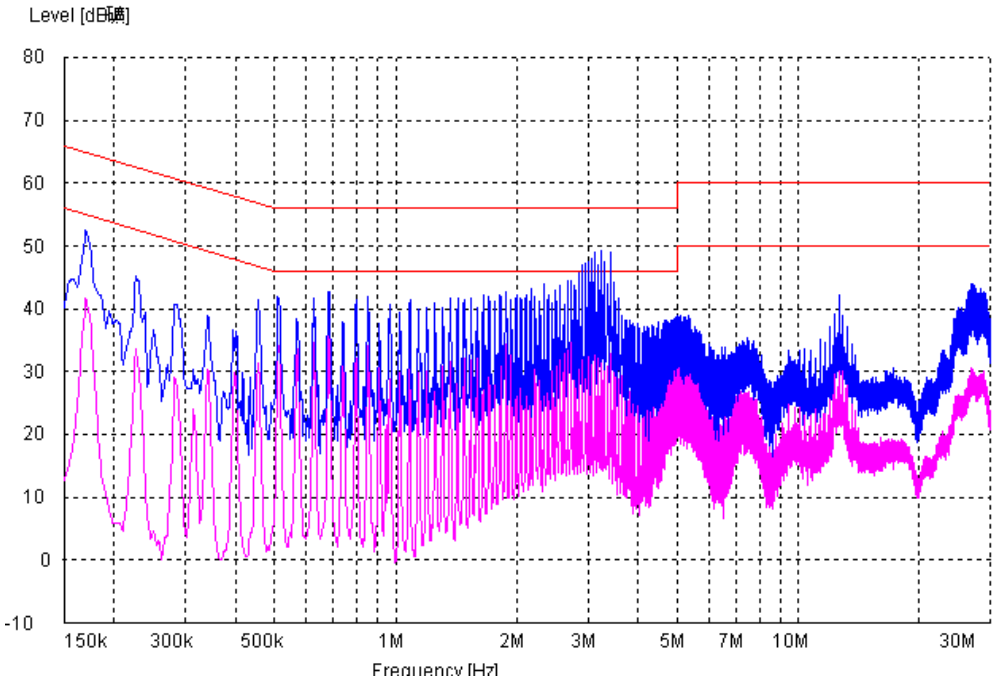
Line L Conducted Emission Graph(DVI Mode 640*480@60Hz)



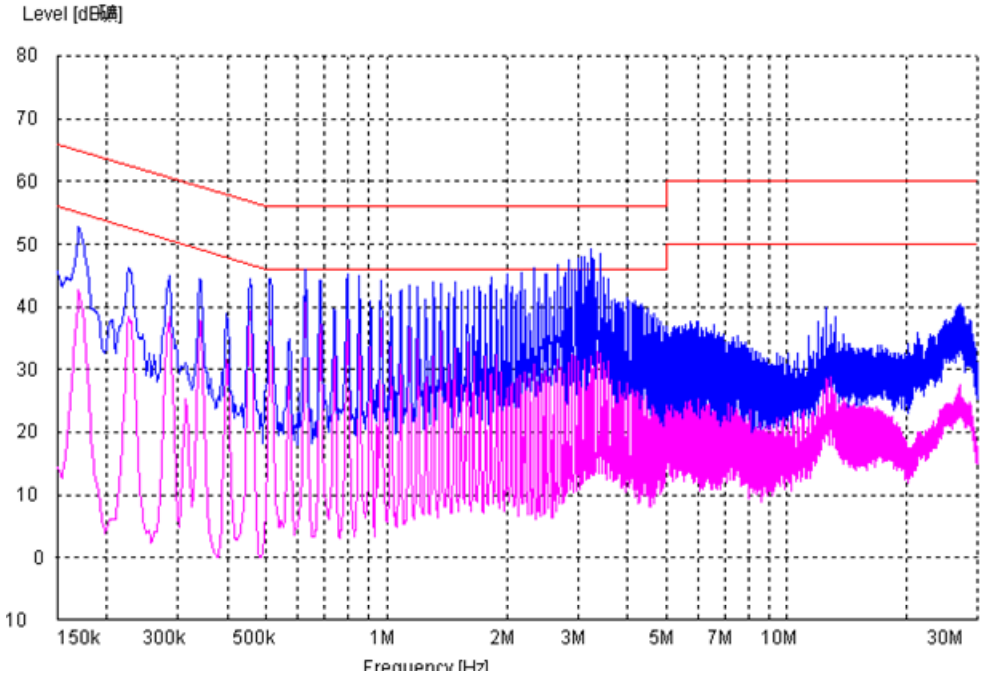
Line N Conducted Emission Graph(DVI Mode 640*480@60Hz)



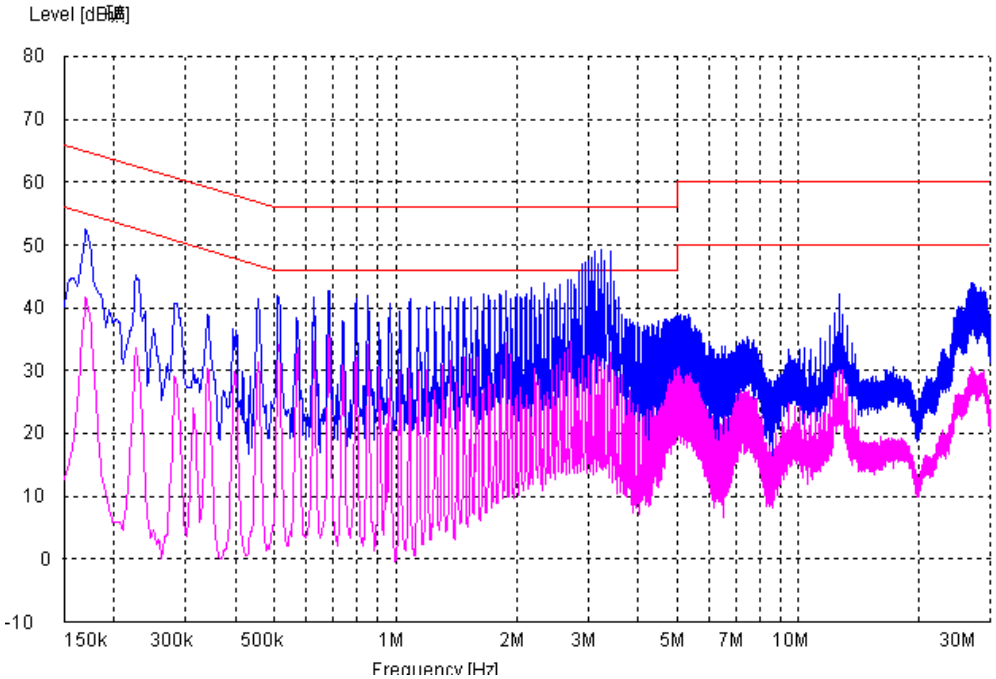
Line L Conducted Emission Graph(DVI Mode 1024x768@60 Hz)



Line N Conducted Emission Graph(DVI Mode 1024x768@60 Hz)

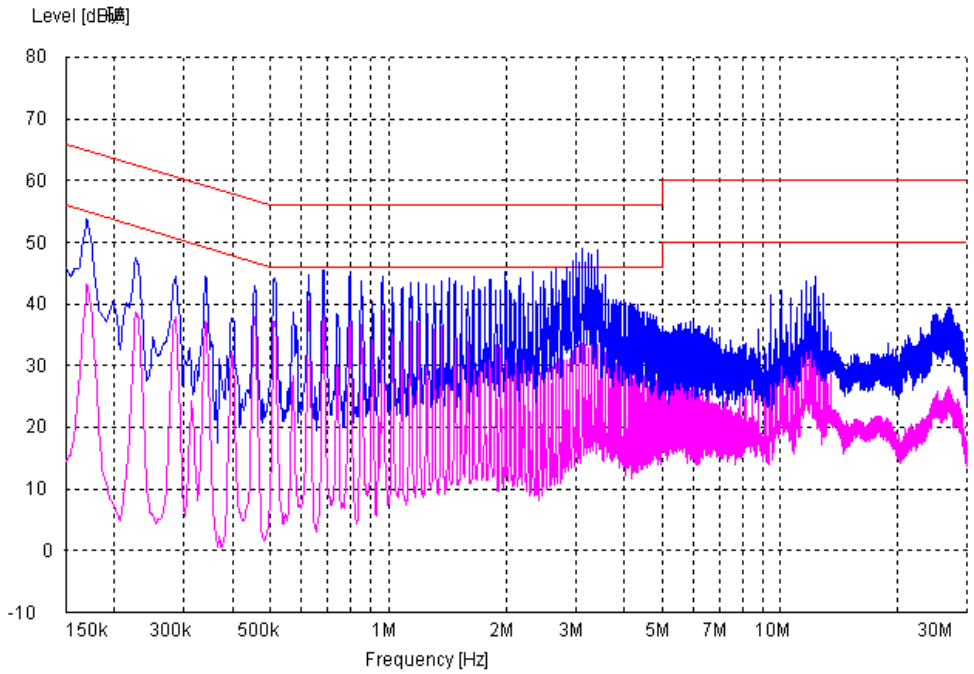


Line L Conducted Emission Graph(DVI Mode 1280x1024@75 Hz)

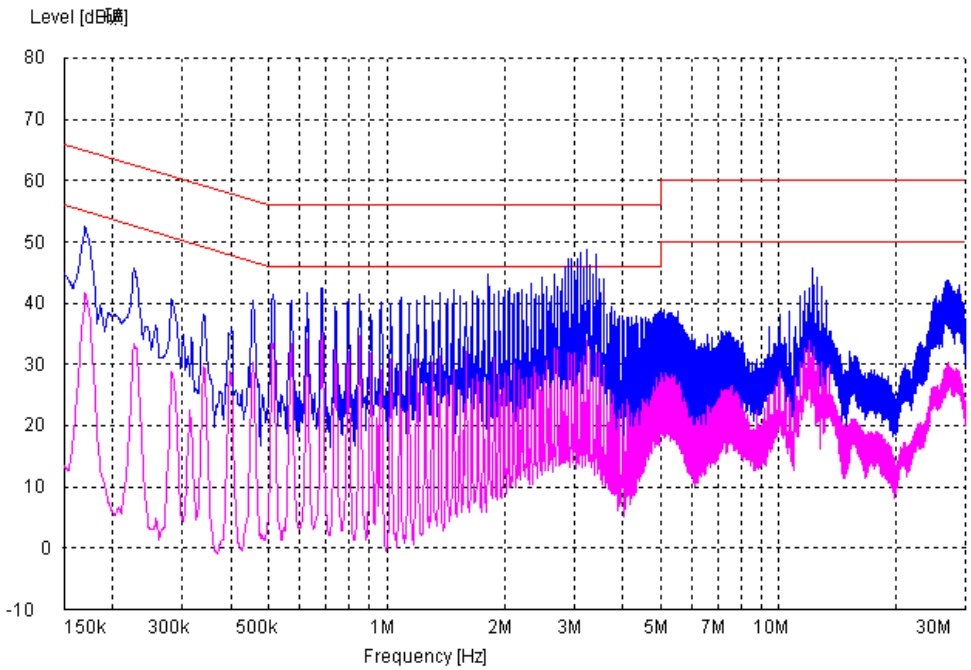


Line N Conducted Emission Graph (DVI Mode 1280x1024@75 Hz)

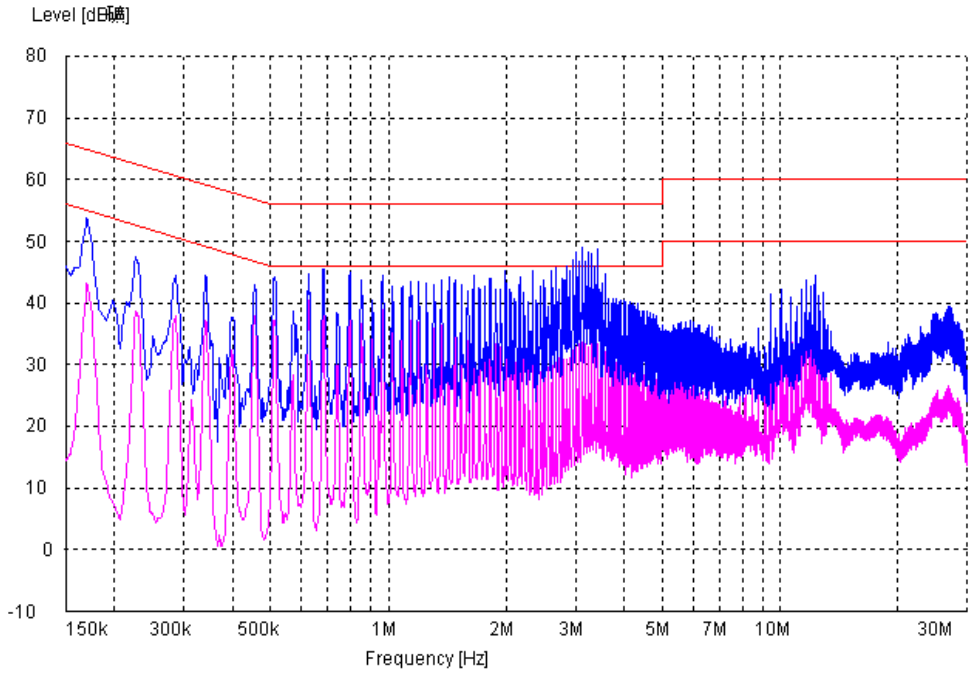
For Serial Ports Touch Monitor Operation Mode:



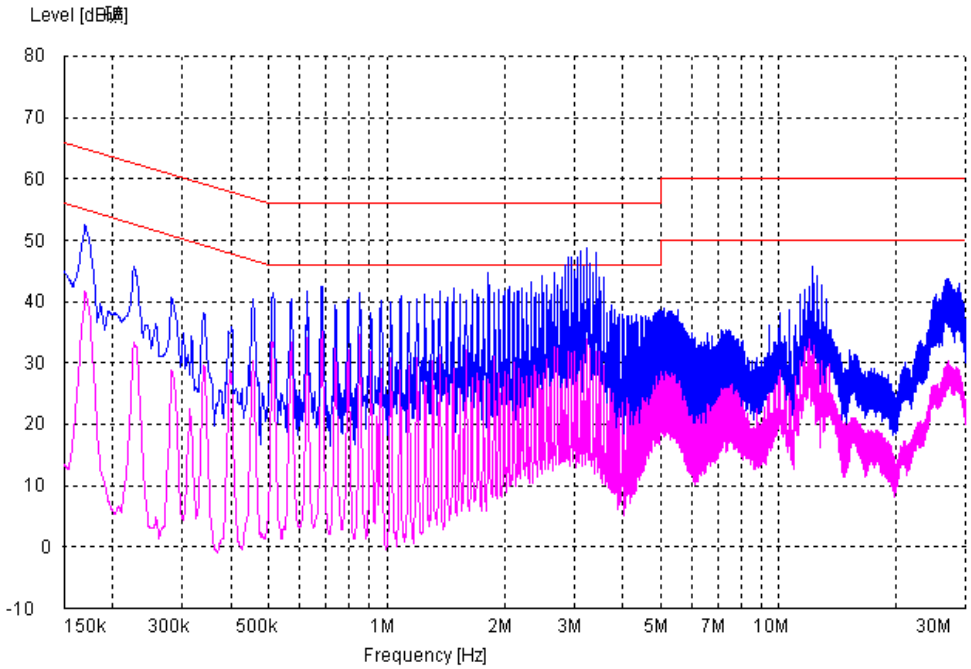
Line L Conducted Emission Graph (VGA Mode 640*480@60Hz)



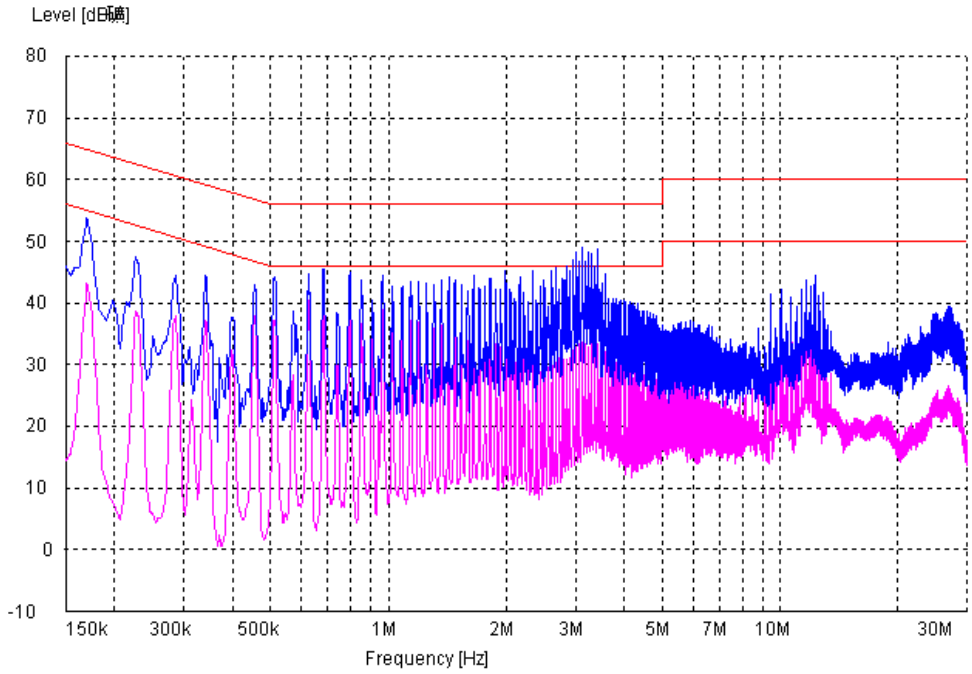
Line N Conducted Emission Graph (VGA Mode 640*480@60Hz)



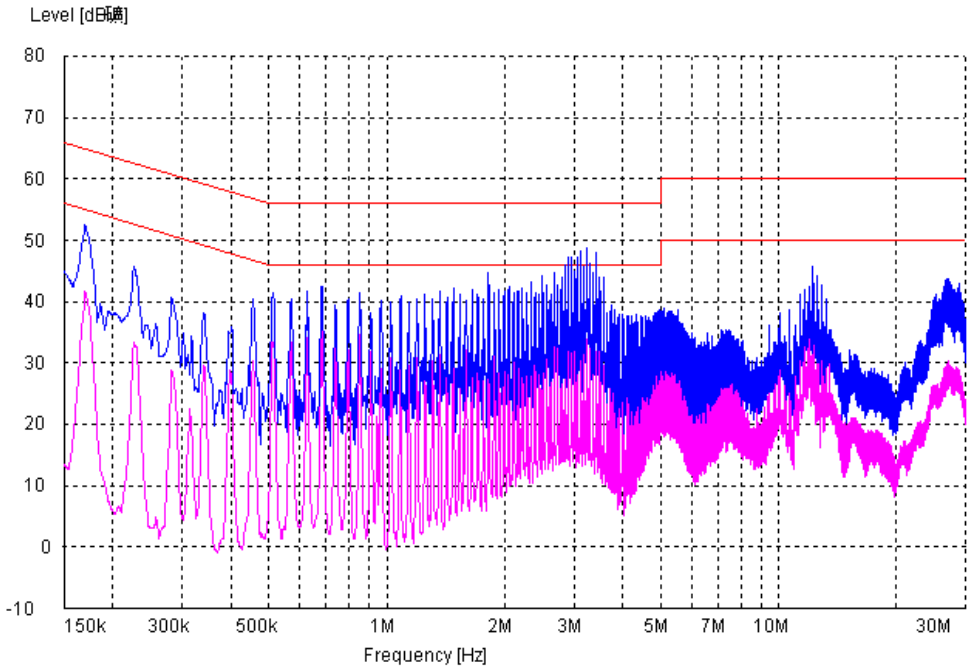
Line L Conducted Emission Graph (VGA Mode 1024x768@60 Hz)



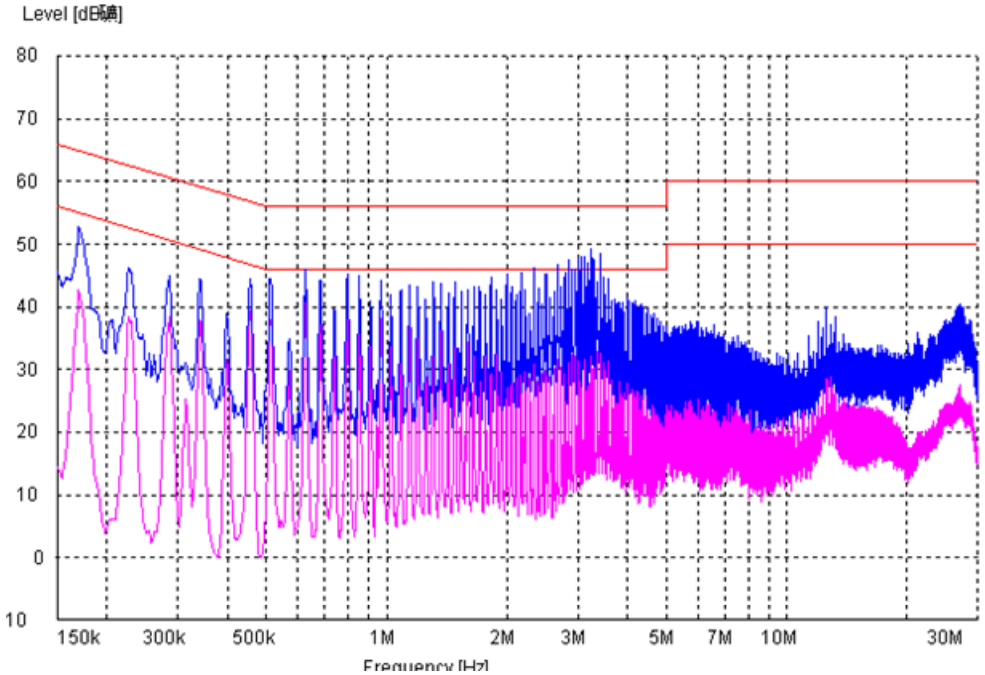
Line N Conducted Emission Graph (VGA Mode 1024x768@60 Hz)



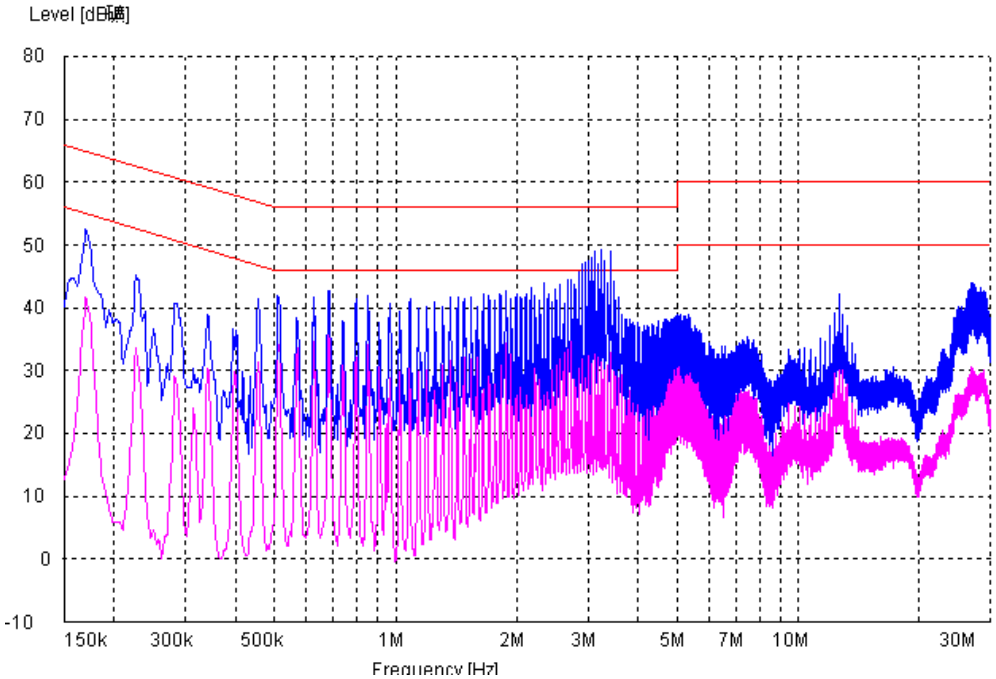
Line L Conducted Emission Graph (VGA Mode 1280x1024@75 Hz)



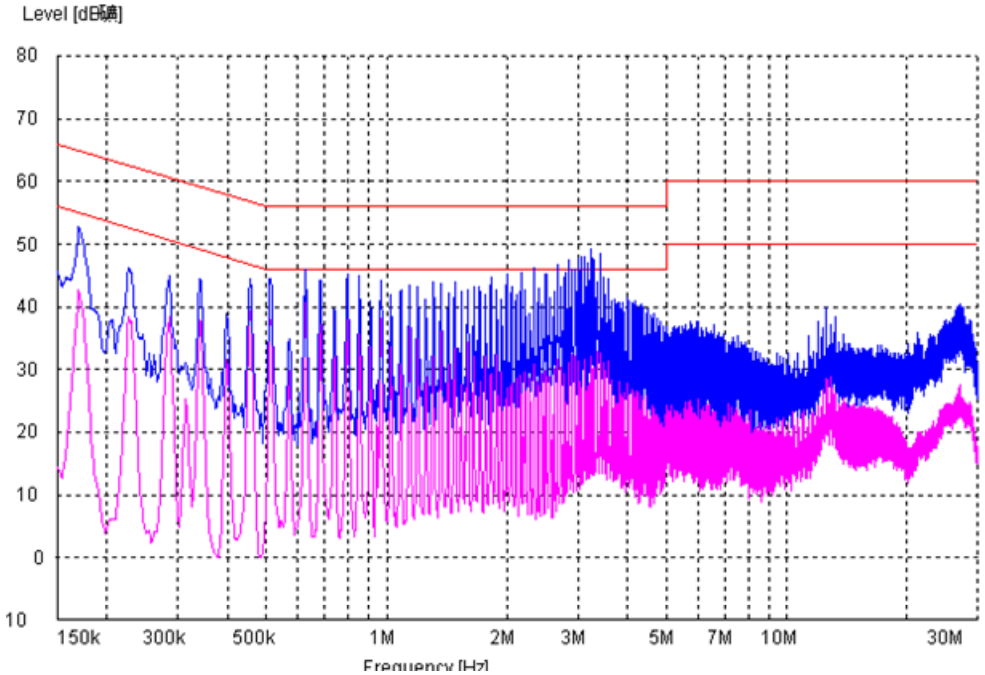
Line N Conducted Emission Graph (VGA Mode 1280x1024@75 Hz)



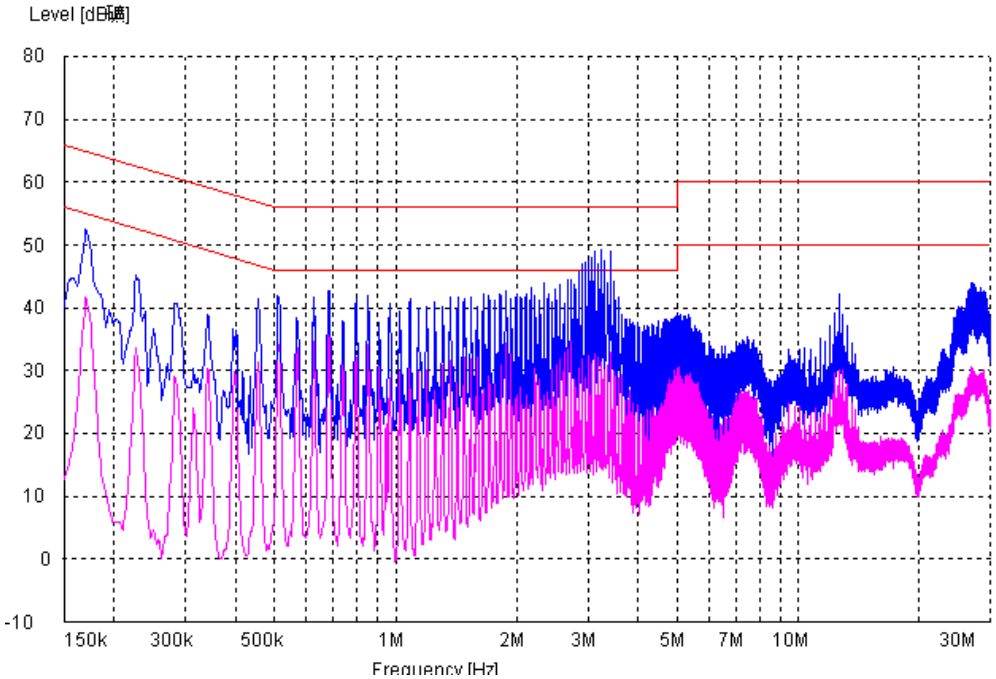
Line L Conducted Emission Graph(DVI Mode 640*480@60Hz)



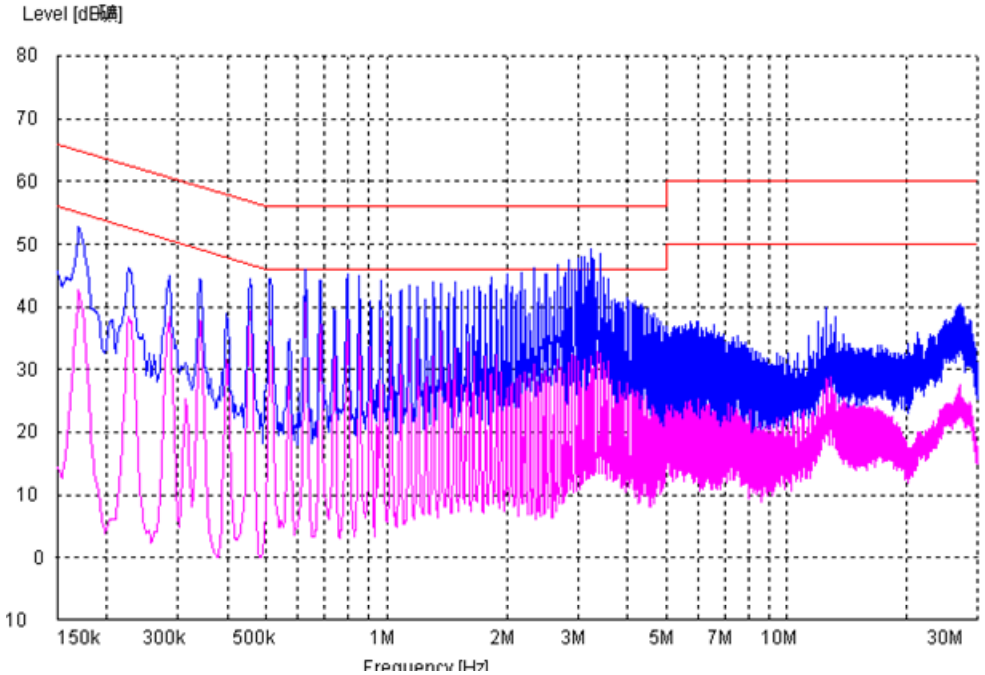
Line N Conducted Emission Graph(DVI Mode 640*480@60Hz)



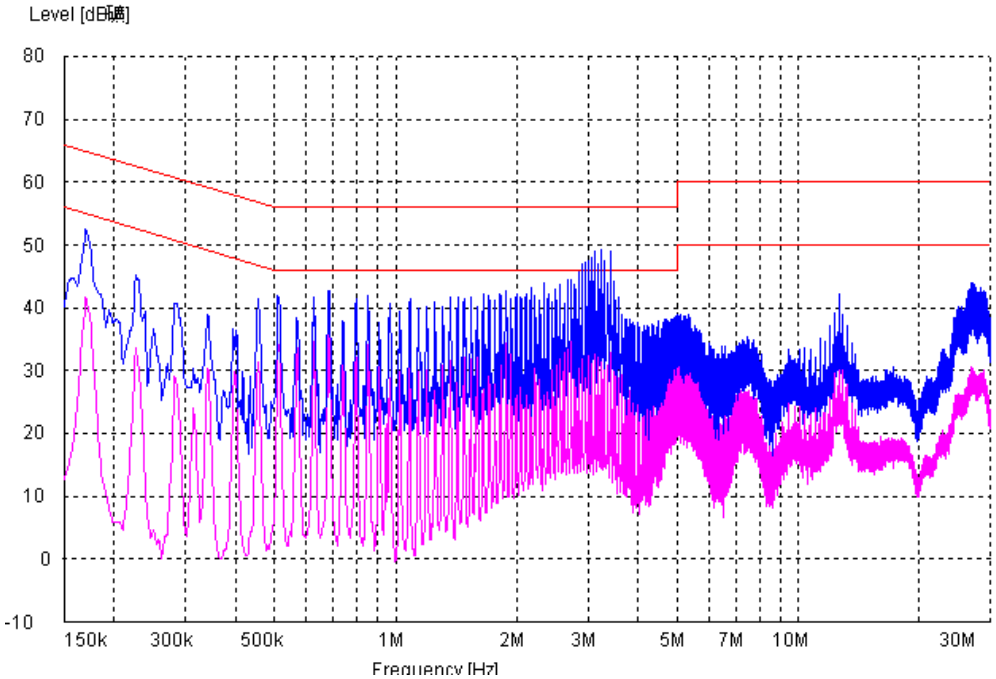
Line L Conducted Emission Graph(DVI Mode 1024x768@60 Hz)



Line N Conducted Emission Graph(DVI Mode 1024x768@60 Hz)



Line L Conducted Emission Graph(DVI Mode 1280x1024@75 Hz)



Line N Conducted Emission Graph (DVI Mode 1280x1024@75 Hz)

Test Data :

For USB Touch Monitor Operation Mode:

Line	Frequency (MHz)	Corrected QP Level (dBµV)	Limits QP (dBµV)	Margin QP (dB)	Frequency (MHz)	Corrected AV Level (dBµV)	Limits AV (dBµV)	Margin QP (dB)
*VGA Mode 640*480@60Hz*								
L	0.652	41.8	56	-14.2	0.652	35.5	46	-10.5
L	3.120	48.1	56	-7.9	3.120	30.4	46	-15.6
L	3.436	45.7	56	-10.3	3.436	31.3	46	-14.7
N	1.819	40.6	56	-15.4	1.819	38.1	46	-7.9
N	2.958	43.2	56	-12.8	2.958	35.8	46	-10.2
N	3.246	45.8	56	-10.2	3.246	32.5	46	-13.5
VGA Mode 1024x768@60 Hz								
L	0.655	45.8	56	-10.2	0.655	34.5	46	-11.5
L	3.126	44.1	56	-11.9	3.126	39.4	46	-6.6
L	3.636	49.7	56	-6.3	3.636	33.3	46	-12.7
N	1.829	45.6	56	-10.4	1.829	30.1	46	-15.9
N	2.928	46.2	56	-9.8	2.928	37.8	46	-8.2
N	3.266	47.5	56	-8.5	3.266	39.5	46	-6.5
VGA Mode 1280x1024@75 Hz								
L	0.682	43.8	56.0	-12.2	0.682	38.0	46.0	-8.0
L	3.122	45.1	56.0	-10.9	3.122	33.4	46.0	-12.6
L	3.406	44.7	56.0	-11.3	3.406	33.3	46.0	-12.7
N	1.818	38.6	56.0	-17.4	1.818	34.1	46.0	-11.9
N	2.958	43.2	56.0	-12.8	2.958	35.0	46.0	-11.0
N	3.236	44.8	56.0	-11.2	3.236	33.0	46.0	-13.0

1) All readings are using a bandwidth of 9 kHz, with a 30 ms sweep time. A video filter was not used.

2) "QP" means "Quasi-Peak" values, "AV" means "Average" values.

Line	Frequency (MHz)	Corrected QP Level (dBµV)	Limits QP (dBµV)	Margin QP (dB)	Frequency (MHz)	Corrected AV Level (dBµV)	Limits AV (dBµV)	Margin QP (dB)
DVI Mode 640*480@60Hz								
L	0.686	48.8	56.0	-7.2	0.636	37.1	46.0	-8.9
L	3.150	44.9	56.0	-11.1	3.130	40.1	46.0	-5.9
L	3.260	45.5	56.0	-10.5	3.280	35.6	46.0	-10.4
N	0.652	46.4	56.0	-9.6	0.580	36.5	46.0	-9.5
N	2.942	46.4	56.0	-9.6	2.700	37.7	46.0	-8.3
N	3.246	49.6	56.0	-6.4	3.246	35.5	46.0	-10.5
DVI Mode 1024x768@60 Hz								
L	0.580	40.8	56.0	-15.2	0.656	35.1	46.0	-10.9
L	3.150	45.9	56.0	-10.1	3.138	36.1	46.0	-9.9
L	3.240	47.5	56.0	-8.5	3.240	38.1	46.0	-7.9
N	0.682	46.4	56.0	-9.6	0.662	39.4	46.0	-6.6
N	3.020	49.4	56.0	-6.6	2.942	37.7	46.0	-8.3
N	3.246	46.6	56.0	-9.4	3.296	35.5	46.0	-10.5
DVI Mode 1280x1024@75 Hz								
L	0.626	44.8	56.0	-11.2	0.626	41.1	46.0	-4.9
L	3.130	41.9	56.0	-14.1	3.130	31.1	46.0	-14.9
L	3.240	45.5	56.0	-10.5	3.240	32.1	46.0	-13.9
N	0.682	41.4	56.0	-14.6	0.682	36.4	46.0	-9.6
N	2.902	41.4	56.0	-14.6	2.902	32.7	46.0	-13.3
N	3.246	45.6	56.0	-10.4	3.246	32.5	46.0	-13.5

1) All readings are using a bandwidth of 9 kHz, with a 30 ms sweep time. A video filter was not used.

2) "QP" means "Quasi-Peak" values, "AV" means "Average" values.

For Serial Ports Touch Monitor Operation Mode:

Line	Frequency (MHz)	Corrected QP Level (dBµV)	Limits QP (dBµV)	Margin QP (dB)	Frequency (MHz)	Corrected AV Level (dBµV)	Limits AV (dBµV)	Margin QP (dB)
VGA Mode 640*480@60Hz								
L	0.652	39.8	56	-16.2	0.652	35.5	46	-10.5
L	3.120	48.1	56	-7.9	3.120	30.4	46	-15.6
L	3.436	45.7	56	-10.3	3.436	29.8	46	-16.2
N	1.849	38.5	56	-17.5	1.819	38.1	46	-7.9
N	3.320	43.2	56	-12.8	2.958	38.6	46	-7.4
N	3.226	44.2	56	-11.8	3.246	32.5	46	-13.5
VGA Mode 1024x768@60 Hz								
L	0.650	40.8	56	-15.2	0.655	38.6	46	-7.4
L	3.330	41.1	56	-14.9	3.126	39.4	46	-6.6
L	3.636	46.7	56	-9.3	3.636	33.9	46	-12.1
N	1.829	45.6	56	-10.4	1.829	30.1	46	-15.9
N	3.120	43.2	56	-12.8	2.928	35.7	46	-10.3
N	3.266	47.5	56	-8.5	3.266	39.5	46	-6.5
VGA Mode 1280x1024@75 Hz								
L	0.682	43.8	56.0	-12.2	0.682	38.0	46.0	-8.0
L	3.122	45.1	56.0	-10.9	3.122	33.4	46.0	-12.6
L	3.406	44.7	56.0	-11.3	3.406	33.3	46.0	-12.7
N	1.818	38.6	56.0	-17.4	1.818	34.1	46.0	-11.9
N	2.958	43.2	56.0	-12.8	2.958	35.0	46.0	-11.0
N	3.236	44.8	56.0	-11.2	3.236	33.0	46.0	-13.0

1) All readings are using a bandwidth of 9 kHz, with a 30 ms sweep time. A video filter was not used.

2) "QP" means "Quasi-Peak" values, "AV" means "Average" values.

Line	Frequency (MHz)	Corrected QP Level (dBµV)	Limits QP (dBµV)	Margin QP (dB)	Frequency (MHz)	Corrected AV Level (dBµV)	Limits AV (dBµV)	Margin QP (dB)
DVI Mode 640*480@60Hz								
L	0.640	45.8	56.0	-10.2	0.636	39.1	46.0	-6.9
L	3.150	43.5	56.0	-12.5	3.130	40.1	46.0	-5.9
L	3.220	45.5	56.0	-10.5	3.860	35.6	46.0	-10.4
N	0.652	46.4	56.0	-9.6	0.580	39.6	46.0	-6.4
N	2.942	48.5	56.0	-7.5	3.690	37.7	46.0	-8.3
N	3.60	48.6	56.0	-7.4	3.246	33.8	46.0	-12.2
DVI Mode 1024x768@60 Hz								
L	0.635	49.8	56.0	-6.2	0.656	36.1	46.0	-9.9
L	3.150	48.7	56.0	-7.3	4.040	36.0	46.0	-10.0
L	3.650	47.5	56.0	-8.5	3.240	38.1	46.0	-7.9
N	0.682	46.5	56.0	-9.5	0.860	39.4	46.0	-6.6
N	3.120	49.4	56.0	-6.6	2.942	37.7	46.0	-8.3
N	3.246	46.6	56.0	-9.4	3.296	35.5	46.0	-10.5
DVI Mode 1280x1024@75 Hz								
L	0.626	44.8	56.0	-11.2	0.626	41.0	46.0	-5.0
L	3.130	41.9	56.0	-14.1	3.130	31.1	46.0	-14.9
L	3.240	45.5	56.0	-10.5	3.240	32.1	46.0	-13.9
N	0.682	41.4	56.0	-14.6	0.682	36.4	46.0	-9.6
N	2.902	41.4	56.0	-14.6	2.902	32.7	46.0	-13.3
N	3.246	45.6	56.0	-10.4	3.246	32.5	46.0	-13.5

1) All readings are using a bandwidth of 9 kHz, with a 30 ms sweep time. A video filter was not used.

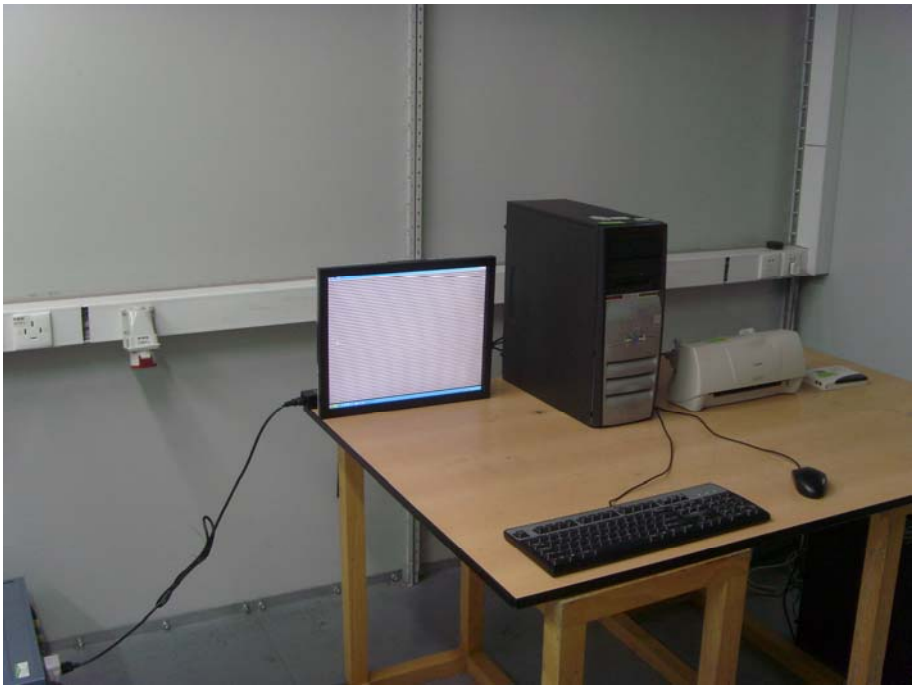
2) "QP" means "Quasi-Peak" values, "AV" means "Average" values.

Test Equipment List :

Test Equipment	Model No.	Manufacturer	Serial No.	Last Cal.	Cal. Interval
EMI test receiver	ESCS30	R&S	830245/009	07/22/2008	07/21/2009
AMN	ESH2-Z5	R&S	100002	07/22/2008	01/27/2009
Note: All testing were performed using internationally recognized standards. All test instruments were calibrated.					

SIGNED BY: _____ ***REVIEWED BY:*** _____

ENGINEER ***SENIOR ENGINEER***



Conducted Emission Test Set-up

ATTACHMENT 2 - RADIATED EMISSION TEST RESULTS

CLIENT:	LeadingTouch Technology CO., Ltd.	**TEST STANDERD:**	FCC Part 15, Class B
MODEL NUMBERS:	TM-19,TM-19W,TM-17, TM-15,TM-12,TM-10.4	**PRODUCT:**	TOUCH MONITOR
EUT MODEL:	TM-19	**EUT DESIGNATION:**	Information Technology Equipment
TEMPERATURE:	23°C	**HUMIDITY:**	47%RH
ATM PRESSURE:	101.0kPa	**GROUNDING:**	Through AC Power Cord
TESTED BY:	May Wang	**DATE OF TEST:**	December 24, 2008
TEST REFERENCE:	ANSI C63.4: 2003		
TEST PROCEDURE:	The EUT was set up according to the guidelines of ANSI C63.4: 2003 for radiated emissions. An EMI receiver peak scan was made at the frequency measurement range (pre-scan) in an Anechoic chamber. Signal discrimination was then performed and the significant peaks marked.These peaks were then quasi-peaked in the frequency range of 30 MHz to 1GHz. Measurement are based on Peak value and Average value detector above 1GHz, the bandwidth of Test Receiver was set at 1MHz.The following data lists the significant emission frequencies, measured levels, correction factors (including cable and antenna correction factors), and the corrected readings against the limits. Explanation of the Correction Factor are given as follows: FS= RA + AF + CF - AG Where: FS = Field Strength RA = Receiver Amplitude AF = Antenna Factor CF = Cable Attenuation Factor AG = Amplifier Gain		
TESTED RANGE:	30MHz to 2,000MHz		
TEST VOLTAGE:	120VAC / 60Hz		
RESULTS:	The EUT meets the requirements of test reference for Radiated Emissions Test. The test results relate only to the equipment under test provided by client.		
CHANGES OR MODIFICATIONS:	There were no modifications installed by ECMG Worldwide Certification Solution Inc. (China) test personnel.		
M. UNCERTAINTY:	Freq. ± 2x10-7 x Center Freq., Amp ± 2.6 dB		

15.109 Limits of Radiated Emission :

The field strength of radiated emissions at a distance of 3 meters shall not exceed the following values:

Frequency of Emission (MHz)	***Field Strength (μV/m)***	***Field Strength (dBμV/m)***
30 - 88	*100*	*40.0*
88 -216	*150*	*43.5*
216 - 960	*200*	*46.0*
Above 960	*500*	*54.0*

1) Emission Level dB (μV/m) = 20 log Emission Level (μV/m)
2) 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.

Test Data :

For USB Touch Monitor Operation Mode (Below 1GHz):

Frequency [MHz]	Antenna Polarization [V/H]	Corrected Reading [dBμV/m]	3 Meters Limits [dBμV/m]	Delta, QP [dB]
VGA Mode 640*480@60Hz				
136.980	H	36.7	43.5	-6.8
158.980	H	37.5	43.5	-6.0
251.360	H	40.2	46.0	-5.8
68.290	V	36.2	40.0	-3.8
130.460	V	35.8	43.5	-7.7
200.113	V	38.9	43.5	-4.6
VGA Mode 1024x768@60 Hz				
136.980	H	36.7	43.5	-6.8
154.218	H	38.5	43.5	-5.0
251.360	H	40.2	46.0	-5.8
63.250	V	36.0	40.0	-4.0
130.460	V	34.8	43.5	-8.7
180.250	V	40.0	43.5	-3.5
VGA Mode 1280x1024@75 Hz				
136.913	H	36.7	43.5	-6.8
174.218	H	38.5	43.5	-5.0
251.310	H	39.7	46.0	-6.3
53.320	V	36.0	40.0	-4.0
111.640	V	38.4	43.5	-5.1
136.230	V	40.2	43.5	-3.3

1) The limits shown are based on Quasi-peak value detector below or equal to 1GHz , the bandwidth of Test Receiver was set at 120 kHz below 1GHz.

2) The frequency range from 1 GHz to 2 GHz was checked for VGA&DVI 1280x1024@75 Hz modes, 30 MHz to 1000MHz was checked for all test modes.

3) The other emission levels that are below the official limit are not reported.

Frequency [MHz]	Antenna Polarization [V/H]	Corrected Reading [dBµV/m]	3 Meters Limits [dBµV/m]	Delta, QP [dB]
DVI Mode 640*480@60Hz				
36.820	H	35.8	40.0	-4.2
235.605	H	39.7	46.0	-6.3
312.389	H	41.2	46.0	-4.8
53.320	V	36.5	40.0	-3.5
123.580	V	36.5	43.5	-7.0
136.201	V	39.1	43.5	-4.4
DVI Mode 1024x768@60 Hz				
36.820	H	36.9	40.0	-3.1
235.605	H	39.7	46.0	-6.3
312.389	H	41.2	46.0	-4.8
55.220	V	35.6	40.0	-4.4
123.580	V	38.5	43.5	-5.0
135.202	V	40.3	43.5	-3.2
DVI Mode 1280x1024@75 Hz				
36.820	H	33.8	40.0	-6.2
234.498	H	39.7	46.0	-6.3
312.389	H	43.4	46.0	-2.6
53.320	V	38.0	40.0	-2.0
121.479	V	38.5	43.5	-5.0
136.231	V	40.6	43.5	-2.9

1) The limits shown are based on Quasi-peak value detector below or equal to 1GHz , the bandwidth of Test Receiver was set at 120 kHz below 1GHz.

2) The frequency range from 1 GHz to 2 GHz was checked for VGA&DVI 1280x1024@75 Hz modes, 30 MHz to 1000MHz was checked for all test modes.

3) The other emission levels that are below the official limit are not reported.

For Serial Ports Touch Monitor Operation Mode (below 1GHz):

Frequency [MHz]	Antenna Polarization [V/H]	Corrected Reading [dBµV/m]	3 Meters Limits [dBµV/m]	Delta, QP [dB]
VGA Mode 640*480@60Hz				
150.980	H	37.5	43.5	-6.0
174.238	H	38.6	43.5	-4.9
220.350	H	38.9	46.0	-7.1
65.650	V	37.5	40.0	-2.5
120.560	V	37.8	43.5	-5.7
180.230	V	33.8	43.5	-9.7
VGA Mode 1024x768@60 Hz				
136.978	H	36.5	43.5	-7.0
174.238	H	35.6	43.5	-7.9
251.250	H	38.9	46.0	-7.1
65.650	V	37.5	40.0	-2.5
111.689	V	37.8	43.5	-5.7
180.230	V	39.8	43.5	-3.7
VGA Mode 1280x1024@75 Hz				
126.903	H	35.6	43.5	-7.9
160.238	H	34.6	43.5	-8.9
291.250	H	36.9	46.0	-9.1
93.320	V	32.5	40.0	-7.5
101.600	V	35.5	43.5	-8.0
186.230	V	40.2	43.5	-3.3

1) The limits shown are based on Quasi-peak value detector below or equal to 1GHz , the bandwidth of Test Receiver was set at 120 kHz below 1GHz.

2) The frequency range from 1 GHz to 2 GHz was checked for VGA&DVI 1280x1024@75 Hz modes, 30 MHz to 1000MHz was checked for all test modes.

3) The other emission levels that are below the official limit are not reported.

Frequency [MHz]	Antenna Polarization [V/H]	Corrected Reading [dBµV/m]	3 Meters Limits [dBµV/m]	Delta, QP [dB]
DVI Mode 640*480@60Hz				
35.810	H	36.5	40.0	-3.5
265.503	H	38.6	46.0	-7.4
313.536	H	42.6	46.0	-3.4
53.320	V	35.5	40.0	-4.5
125.650	V	37.5	43.5	-6.0
135.301	V	40.6	43.5	-2.9
DVI Mode 1024x768@60 Hz				
36.820	H	36.9	40.0	-3.1
235.605	H	39.7	46.0	-6.3
312.389	H	41.2	46.0	-4.8
55.220	V	35.6	40.0	-4.4
123.580	V	38.5	43.5	-5.0
135.202	V	40.3	43.5	-3.2
DVI Mode 1280x1024@75 Hz				
35.260	H	30.8	40.0	-9.2
256.350	H	38.6	46.0	-7.4
302.120	H	44.0	46.0	-2.0
53.320	V	38.1	40.0	-1.9
30.290	V	36.5	43.5	-7.0
136.231	V	40.6	43.5	-2.9

1) The limits shown are based on Quasi-peak value detector below or equal to 1GHz , the bandwidth of Test Receiver was set at 120 kHz below 1GHz.

2) The frequency range from 1 GHz to 2 GHz was checked for VGA&DVI 1280x1024@75 Hz modes, 30 MHz to 1000MHz was checked for all test modes.

3) The other emission levels that are below the official limit are not reported.

For USB Touch Monitor Operation Mode(Above 1GHz) :

Frequency [MHz]	Antenna Polarization [V/H]	Corrected Reading [dBµV/m]	Delta, QP [dB]	3 Meters Limits [dBµV/m]	Remark
VGA Mode 1280x1024@75 Hz					
1290.010	H	44.3	-9.7	54	AV
1504.520	H	45.0	-9.0	54	
1720.373	H	46.0	-8.0	54	
1102.010	V	43.5	-10.5	54	
1404.525	V	44.4	-9.6	54	
1621.585	V	44.3	-9.7	54	
1202.284	H	45.9	-28.1	74	PK
1509.380	H	55.8	-18.2	74	
1620.290	H	53.5	-20.5	74	
1102.014	V	51.2	-22.8	74	
1404.525	V	56.0	-18.0	74	
1621.585	V	58.2	-15.8	74	

1) The limits shown are based on Peak value and Average value detector above 1GHz. the bandwidth of Test Receiver was set at 1MHz above 1GHz.

2) The frequency range from 1 GHz to 2 GHz was checked for VGA&DVI Mode 1280x1024@75 Hz, 30 MHz to 1000MHz was checked for all test modes.

3) The other emission levels that are below the official limit are not reported.

Frequency [MHz]	Antenna Polarization [V/H]	Corrected Reading [dBµV/m]	Delta, QP [dB]	3 Meters Limits [dBµV/m]	Remark
DVI Mode 1280x1024@75 Hz					
1202.015	H	42.5	-11.5	54	AV
1504.387	H	43.0	-11.0	54	
1621.585	H	46.0	-7.0	54	
1202.478	V	43.5	-10.5	54	
1504.525	V	48.4	-5.6	54	
1621.585	V	44.3	-9.7	54	
1102.010	H	45.9	-28.1	74	PK
1404.525	H	55.8	-18.2	74	
1621.585	H	53.5	-20.5	74	
1102.010	V	51.2	-22.8	74	
1404.525	V	56.0	-18.0	74	
1621.585	V	57.2	-16.8	74	

1) The limits shown are based on Peak value and Average value detector above 1GHz. the bandwidth of Test Receiver was set at 1MHz above 1GHz.

2) The frequency range from 1 GHz to 2 GHz was checked for VGA&DVI Mode 1280x1024@75 Hz, 30 MHz to 1000MHz was checked for all test modes.

3) The other emission levels that are below the official limit are not reported.

For Serial Ports Touch Monitor Operation Mode(Above 1GHz):

Frequency [MHz]	Antenna Polarization [V/H]	Corrected Reading [dBµV/m]	Delta, QP [dB]	3 Meters Limits [dBµV/m]	Remark
VGA Mode 1280x1024@75 Hz					
1293.011	H	42.3	-11.7	54	AV
1504.500	H	43.5	-10.5	54	
1720.373	H	46.0	-8.0	54	
1102.010	V	43.5	-10.5	54	
1404.525	V	44.4	-9.6	54	
1631.585	V	45.6	-8.4	54	
1202.284	H	45.9	-28.1	74	PK
1519.380	H	55.8	-18.2	74	
1620.290	H	53.5	-20.5	74	
1102.014	V	52.3	-21.7	74	
1410.525	V	56.0	-18.0	74	
1621.585	V	56.3	-17.7	74	

1) The limits shown are based on Peak value and Average value detector above 1GHz. the bandwidth of Test Receiver was set at 1MHz above 1GHz.

2) The frequency range from 1 GHz to 2 GHz was checked for VGA&DVI Mode 1280x1024@75 Hz, 30 MHz to 1000MHz was checked for all test modes.

3) The other emission levels that are below the official limit are not reported.

Frequency [MHz]	Antenna Polarization [V/H]	Corrected Reading [dBµV/m]	Delta, QP [dB]	3 Meters Limits [dBµV/m]	Remark
DVI Mode 1280x1024@75 Hz					
1302.015	H	42.5	-11.5	54	AV
1504.387	H	42.6	-11.4	54	
1621.585	H	46.0	-8.0	54	
1252.478	V	43.5	-10.5	54	
1504.525	V	49.0	-5.0	54	
1621.585	V	44.3	-9.7	54	
1105.010	H	45.9	-28.1	74	PK
1406.525	H	55.8	-18.2	74	
1521.585	H	53.5	-20.5	74	
1102.010	V	52.6	-21.4	74	
1405.525	V	56.0	-18.0	74	
1621.585	V	58.6	-15.4	74	

1) The limits shown are based on Peak value and Average value detector above 1GHz. the bandwidth of Test Receiver was set at 1MHz above 1GHz.

2) The frequency range from 1 GHz to 2 GHz was checked for VGA&DVI Mode 1280x1024@75 Hz, 30 MHz to 1000MHz was checked for all test modes.

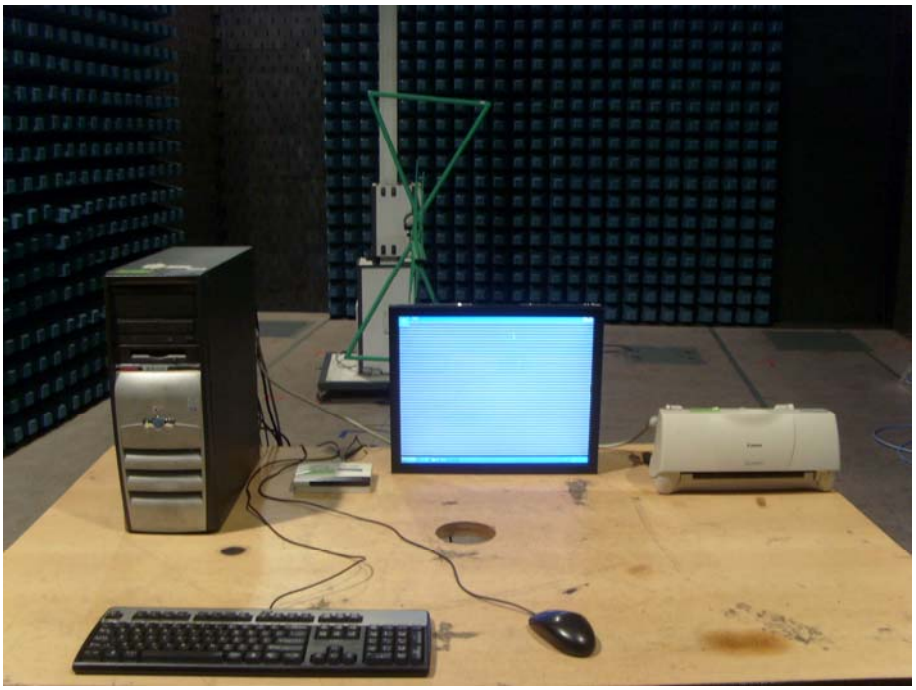
3) The other emission levels that are below the official limit are not reported.

Test Equipment List :

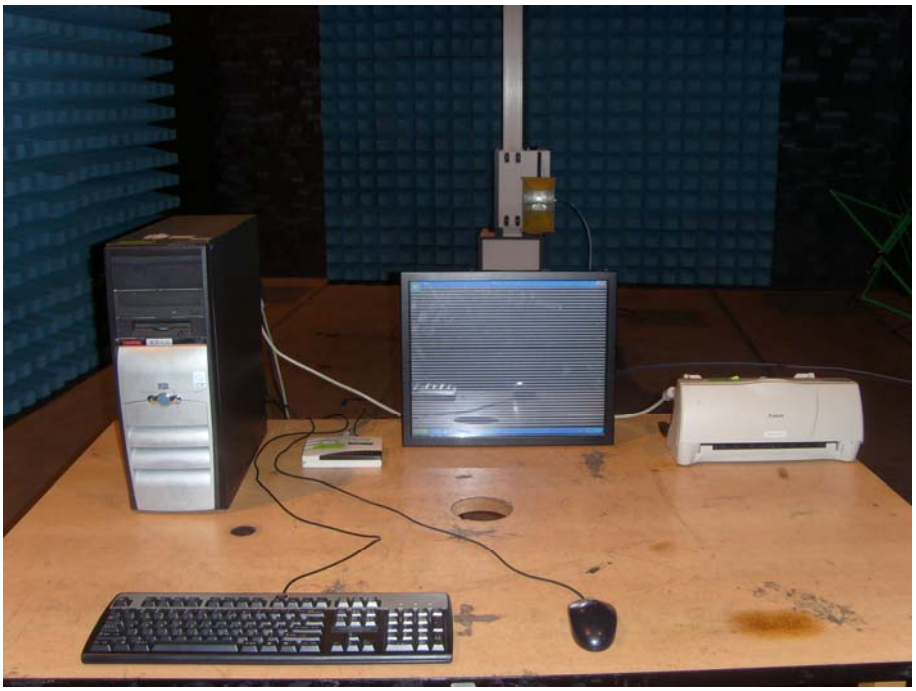
Test Equipment	Model No.	Manufacturer	Serial No.	Last Cal.	Cal. Due
EMI Test Receiver	ESI26	R&S	838736/013	2008/07/25	2009/07/24
Bilog Antenna	CBL6112B	Chase	2591	2008/07/25	2009/07/24
Horn Antenna	HF906	R&S	SB4343	2008/07/25	2009/07/24
3m SEMI-ANECHOIC CHAMBER	9X6X6	Albatross projects	---	2008/07/21	2009/07/20
Note: All testing were performed using internationally recognized standards. All test instruments were calibrated.					

SIGNED BY: _____ ***REVIEWED BY:*** _____

ENGINEER ***SENIOR ENGINEER***



Radiated Emission Test Set-up(Below 1GHz)



Radiated Emission Test Set-up(Above 1GHz)