





# PHILIPS

<p>Philips Electronics Industries (Taiwan) Ltd - EMC Lab. 5, Tze Chiang 1 Road, Chungli Industrial Park, Chungli, Taoyuan, Taiwan Tel.: +886-3-454-9862 Fax.: +886-3-454-9887 E-mail: ronnie.yang@philips.com</p>	<h2>FCC Test Report</h2>	<p>Report No.: TYR87-2018</p> <p>Date : 15 July, 2002</p> <p>Page : Page 1 of 32</p>
<p><b>Customer</b> : Philips Electronics Industries</p> <p><b>Name</b> : Mr. S.T. Huang – EE LCD</p> <p><b>Address</b> : 5, Tze Chiang 1 Road,</p> <p><b>Zip/City</b> : Chungli Industrial Park,</p> <p><b>Country</b> : Chungli, Taiwan, R.O.C.</p>		
<p><b>Equipment Under Test</b> (including peripherals) :</p> <p><b>FCC ID.</b> : A3KM113</p> <p><b>Model Name</b> : 107B40</p> <p><b>Serial Number</b> : TY0206382</p> <p><b>Description</b> : 17" XGA color monitor, Max. resolution 1280x1024/75Hz</p>		
<p><b>EMC Standards</b> : FCC Part 15 of October 01,1999 Class B ANSI C63.4-1992</p> <p><b>Result</b> : PASSED the limits/test-levels in the standards.</p> <p><b>Note</b> : The results in this report apply only to the sample(s) and mode(s) tested. It is the manufacturer's responsibility to assume the continued EMC compliance of production models.</p>		
<p><b>Date of receipt of EUT</b> : 08 Jul. 2002</p> <p><b>Date of performance of test</b> : 09 Jul., 2002 to 10 Jul., 2002</p>		
<div style="display: flex; justify-content: space-around;"><div style="text-align: center;"> C.C. Wu - EMC Test Engineer</div><div style="text-align: center;"> Ronnie Yang - EMC Manager NVLAP Signatory</div></div>		

Philips Electronics Industries (Taiwan) Ltd

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## 1. Summary of test results

Test	Standard	Result	Note
Emission, ANSI C63.4-1992			
Conducted emission	FCC Part 15	<b>Passed</b>	
Radiated emission	FCC Part 15	<b>Passed</b>	

Remark:

The test sample fully complies with the requirements set forth in : FCC Part 15 Class B.

## 2. General Information of EUT

The EUT, 17" color monitor :

Model No. : 107B40  
 FCC ID : A3KM113  
 Brand : Philips

The color monitor automatically scans horizontal frequencies between 30KHz and 86KHz , and vertical frequencies between 50Hz and 160Hz. This color monitor displays sharp and brilliant images of text and graphics with a maximum resolution up to 1280x1024 pixels.

The monitor has 8 factory-preset modes as indicated in the following table:

	Resolution	H. freq.	V. freq.	H.	V.
1.	720 x 400	31.5 KHz	70Hz (VGA)	-	+
2.	640 x 480	37.5 KHz	75Hz (VGA)	-	-
3.	800 x 600	46.9 KHz	75Hz (VESA)	+	+
4.	800 x 600	53.67 KHz	85Hz (VESA)	+	+
5.	1024 x 768	60.0 KHz	75Hz (VESA)	+	+
6.	1024 x 768	68.7 KHz	85Hz (VESA)	+	+
7.	1280 x 1024	80.0 KHz	75Hz (VESA)	+	+
8.	640 x 480	43.3 KHz	85Hz	-	-

### 3. Test Equipment

Test equipment used for line Conducted and Radiated emissions as following.  
All equipment were calibrated according to ANSI C63.4-1992 and ISO-9000 requirement unless otherwise specified.

Traceability to R.O.C. and international standards is assured by using calibrated all equipment.

- For Conducted Emissions Test:

Test Equipment	Model No.	Serial No.	Last Calibrate	Next Calibrate
Spectrum	HP8568B	2415A00346	08/15/2001	08/15/2002
EMI Receiver	R & S ESVS30	841977/006	06/13/2002	06/13/2003
LISN	EMCO 3825/2	9311-2153	06/13/2002	06/13/2003
LISN	EMCO 3825/2	9311-2154	06/13/2002	06/13/2003
RF Cable	8-meter	N/A	05/29-2002	05/29/2003

- For Radiated Emissions Test:

Test Equipment	Model No.	Serial No.	Last Calibrate	Next Calibrate
Spectrum	HP8568B	2415A00346	08/15/2001	08/15/2002
RF Preselector	HP85685A	2901A00946	08/15/2001	08/15/2002
QP Adapter	HP85650A	2043A00366	08/15/2001	08/15/2002
EMI Receiver	HP85460A	3441A00199	09/11/2001	09/11/2002
RFI Filter Section	HP85460A	3330A00177	09/11/2001	09/11/2002
EMI Receiver	R & S ESVS30	841977/006	06/13/2002	06/13/2003
Biconical Antenna	EMCO 3110B	3222	06/04/2002	06/04/2003
Biconical Antenna	EMCO 3110B	3224	06/04/2002	06/04/2003
Log-Periodic Antenna	EMCO 3146A	1424	06/04/2002	06/04/2003
Log-Periodic Antenna	EMCO 3146A	1425	06/04/2002	06/04/2003
Turn Table	EMCO 1060	1068	05/27/2002	05/27/2003
Antenna Tower	EMCO 1050	1113	05/27/2002	05/27/2003
RF Cable	M17/75-RG214-NE	N/A	05/27/2002	05/27/2003

#### 4. Test Configuration of EUT and Peripherals

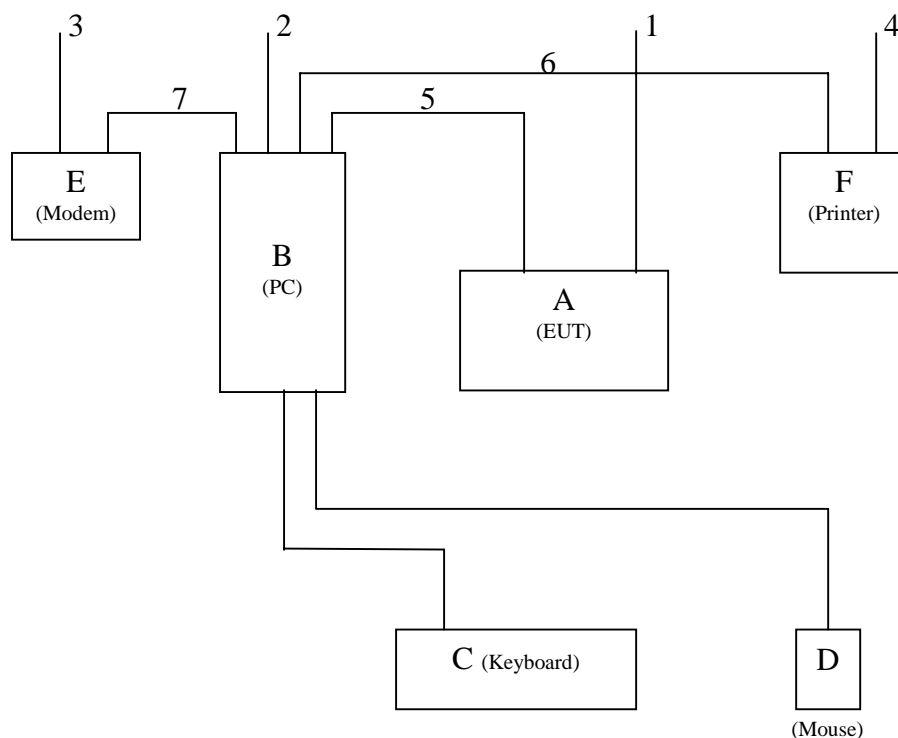
The system was configured for testing in a typical fashion ( as a customer would normally use it ) according to ANSI C63.4-1992, please see the photographs for detail. For system measurement, the EUT “107B40” were connected to:

	Description	Brand/ Model No.	Serial No.	FCC ID	Remark
A	Monitor	Philips 107B40	TY0206382	A3KM113	EUT
B	PC	Compaq ENC P866	5K15FXHZ2013	FCC Logo	
C	Keyboard	Compaq KB-9963	B26950GGALP13Q	FCC Logo	
D	Mouse	Compaq M-S48a		JNZ201213	
E	Modem	USRobotics 268	2680559278575	CJE-0318	
F	Printer	HP 2225C	3145S02419	DSI6XU2225	

#### Connected Cables

No.	Description	Manufacturer	Length	Shielded	Remark
1	Power Cord	Long Shine	1.8 meters	No	for EUT
2	Power Cord	Acer	1.8 meters	No	for PC
3	Power Cord	Aceex	2.0 meters	No	for Modem
4	Power Cord	HP	1.8 meters	No	for Printer
5	Video Cable	Long Shine	1.5 meters	Yes	
6	Printer Cable	HP	1.8 meters	Yes	
7	Modem Cable	Aceex	1.5 meters	Yes	

#### System Block Diagram of Test Configuration



## 5. Test Procedure

Test was performed by:

PHILIPS ELECTRONICS INDUSTRIES (TAIWAN) LTD.  
CONSUMER ELECTRONICS DIVISION  
- EMC LAB

5, Tze Chiang 1 Road, Chungli Industrial Park  
P.O. Box 123, Chungli, Taoyuan, Taiwan  
Tel : 886-3-4549862 Fax : 886-3-4549887  
Internet: [ronnie.yang@philips.com](mailto:ronnie.yang@philips.com)

The test was performed in accordance with ANSI C63.4-1992, “AMERICAN NATIONAL STANDARD FOR MEASUREMENT OF RADIO-NOISE EMISSION FROM LOW-VOLTAGE ELECTRICAL AND ELECTRONIC EQUIPMENT IN THE RANGE OF 9KHz TO 40GHz”

Both conducted and radiated testing were performed according to the procedure in ANSI C63.4-1992. Conducted testing was performed in screen room and radiated testing was performed in open site at an antenna to EUT distance of 3-meter on horizontal and vertical polarization.

First, pre-scan all modes in screen room then select **2 higher modes** (worst case) were tested and reported.

The line conductive interference was tested with 110VAC and 220VAC receptively.

Unshielded power cord was used during test.  
**D-sub I/F cable with two ferrite cores was used.**

Tested and reported modes as following:

Test Item	File No.	Resolution	Frequencies	I/F Cable
Conducted	<b>EMI02-033-C</b>	1280x1024	80KHz/75Hz	D-sub
		1024x768	68.7KHz/85Hz	D-sub
Radiated	<b>EMI02-033-R</b>	1280x1024	80KHz/75Hz	D-sub
		1024x768	68.7KHz/85Hz	D-sub

Set up the EUT and all peripherals as chapter 6 of ANSI C63.4-1992 for AC power line conducted emissions testing and radiated emissions testing.

Turn on the power of EUT and all peripherals, select an appropriate displaying mode using the “setup” software. Then run an EMI test program “HTEST.EMI” as a basic software to execute the EUT operating under test. A pattern of scrolling H’s should be displayed on the monitor.

Step 1 : Run the "HTEST.EMI" on personal computer then sends "H" character to monitor continuously until full screen.

Step 2 : Personal computer sends a complete line of continuously repeating "H" to HP 2225C printer.

Step 3 : Personal computer sends a file of "H" pattern to floppy disk then read a file of "H" pattern from floppy disk.

Step 4 : Personal computer sends a file of "H" pattern to hard disk then read a file of "H" pattern from hard disk.

Step 5 : Personal computer sends a file of "H" pattern to USRobotics 268 modem.

Step 6 : Return to step 1

All data in this report are "PEAK" value within 15dB margin unless otherwise noted.

## 6. Measurement Uncertainty

The system uncertainty listed below are based on the instrument absolute specifications, and do not include uncertainties of the equipment under test.

### Uncertainty for Radiated Emissions Test at 3 meters Test Site.

Source of Measurement Uncertainty	Uncertainty/dB
Antenna factor calibration	+/-2.0
Cable loss calibration	+/-0.5
Receiver specification	+/-1.0
Antenna position ver.	+/-2.0
Measurement distance ver.	+/-0.5
Site imperfections	+/-2.0
Mismatch	+/-1.1
System repeatability	+/-0.5

### Uncertainty for Conducted Emissions Test at 3 meters Test Site.

Source of Measurement Uncertainty	Uncertainty/dB
LISN specification	+/-2.0
Cable loss calibration	+/-0.5
Receiver specification	+/-1.0
Pulse limiter Spec.	+/-0.3
Measurement distance ver.	+/-0.5
Site imperfections	+/-2.0
System repeatability	+/-0.5

<h2 style="margin: 0;">Conducted Emissions</h2> <h3 style="margin: 0;">FCC Part 15</h3>		
<b>Operating conditions EUT:</b>  EUT powered on with scrolling “H” pattern.		
<b>Limits:</b>		
Frequency range (MHz)	Class A (dBuv) QP	Class B (dBuv) QP
0.45 – 1.705	60.0	48.0
1.705 – 30.0	69.5	48.0
<b>Test Result :</b>  <div style="text-align: center; font-weight: bold; font-size: 1.2em;">Passed FCC Class B Limits</div>		
<b>Option:</b> The following option may be employed if the conducted emissions exceed the limits, as appropriate, when measured using instrumentation employing a quasi-peak detector function: If the level of the emission measured using the quasi-peak instrumentation is 6dB, or, more higher than the level of the same emission measured with instrumentation having an average detector and a 9KHz minimum bandwidth, that emission is considered broadband and the level obtained with the quasi-peak detector may be reduced by 13dB for comparison to the limits.		
<b>Remark:</b>		
<b>Date of Test</b>	: 09 Jul., 2002 to 10 Jul., 2002	
<b>Test Engineer</b>	: C.C.Wu	
For detail measurement results see next pages.		

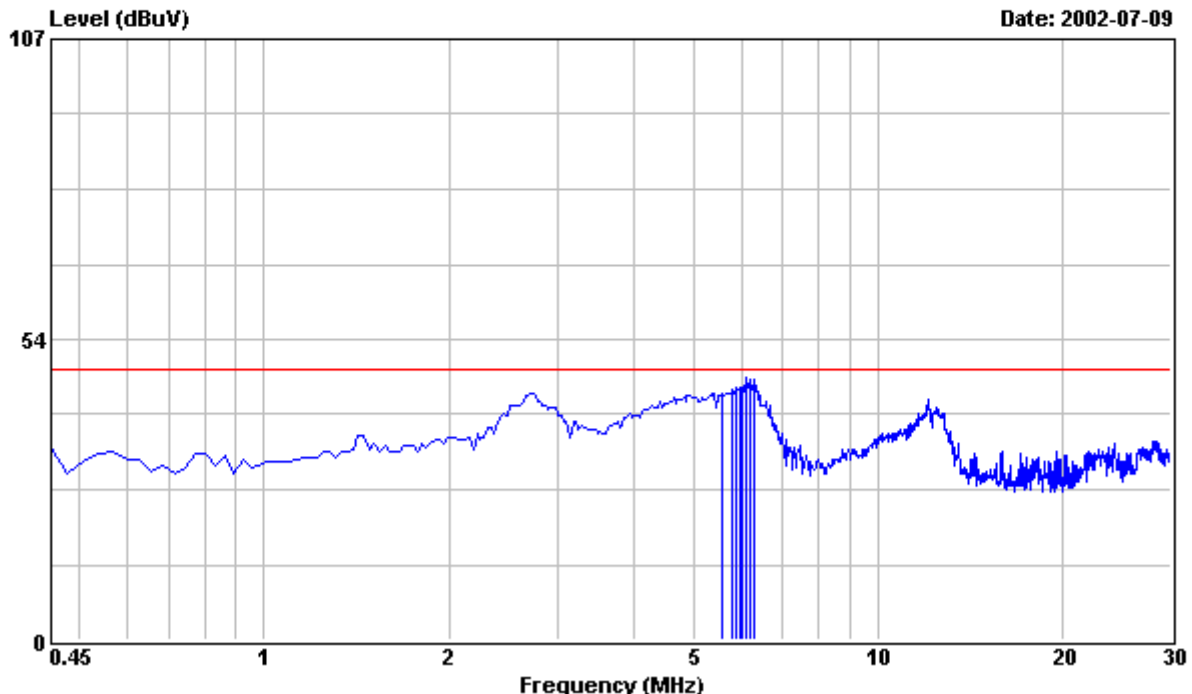


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Tel:+886-3-4549862 Fax:+886-3-4549887

Data#: 1

File#: C:\Program Files\em3\EMI02-033-C.emi



Site : PHILIPS EMI Shielding Room  
Condition : FCC CLASS-B FCC\_LCI\_L1 LINE  
EUT : PHILIPS 107B40 Serial No:TY0206382  
Power : 120VAC  
Memo : 1. EMI EVALUATION FOR FCC SAMPLE.  
: 2. 2ND MODEL SAMSUNG TUBE,RUN IBM  
: V1.8 FONT 16 "H" PATTERN.  
: 3. 1280X1024/75Hz 80KHz MODE WITH  
: COMPAQ ENC/P866/20E/8/128A TAI PC,  
: S3 Trio 3D/2X VIDEO CARD WAS TESTED.

Frequency MHz	Peak Reading dBuV	Limit dBuV	Factor dB	Emission Level dBuV	Over Limit dBuV	※ LINE
5.592	43.60	48.00	0.36	43.96	-4.04	
5.769	44.10	48.00	0.38	44.48	-3.52	
5.887	44.70	48.00	0.39	45.09	-2.91	
5.946	44.60	48.00	0.40	45.00	-3.00	
6.005	44.40	48.00	0.40	44.80	-3.20	
6.124	46.30	48.00	0.40	46.70	-1.30	
6.183	45.80	48.00	0.40	46.20	-1.80	
6.301	46.00	48.00	0.40	46.40	-1.60	

Remarks: 1. All Readings are Peak .  
2. Emission Level (dBuV) = Factor (dB) + Meter Reading (dBuV)  
3. Factor (dB/m) = LISN Loss (dB) + Cable Loss (dB)

Tested by : C.C.Wu

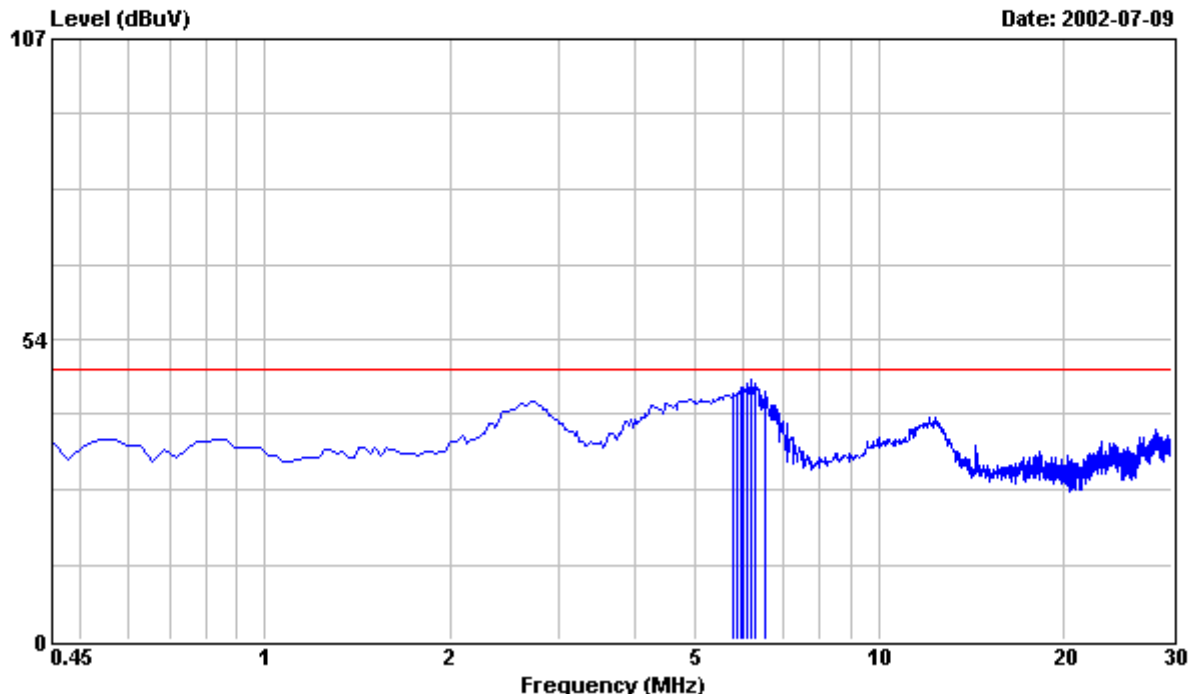


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Data#: 2

File#: C:\Program Files\em3\EMI02-033-C.emi



Site : PHILIPS EMI 3M open site  
Condition : FCC CLASS-B FCC\_LCI\_L2 NEUTRAL  
EUT : PHILIPS 107B40 Serial No:TY0206382  
Power : 120VAC  
Memo : 1. EMI EVALUATION FOR FCC SAMPLE.  
: 2. 2ND MODEL SAMSUNG TUBE,RUN IBM  
: V1.8 FONT 16 "H" PATTERN.  
: 3. 1280X1024/75Hz 80KHz MODE WITH  
: COMPAQ ENC/P866/20E/8/128A TAI PC,  
: S3 Trio 3D/2X VIDEO CARD WAS TESTED.

Frequency MHz	Peak Reading dBuV	Limit dBuV	Factor dB	Emission Level dBuV	Over Limit dBuV	※ NEUTRAL
5.769	43.40	48.00	0.38	43.78	-4.22	
5.887	43.60	48.00	0.39	43.99	-4.01	
5.946	44.60	48.00	0.40	45.00	-3.00	
6.005	44.60	48.00	0.40	45.00	-3.00	
6.124	45.30	48.00	0.40	45.70	-2.30	
6.183	45.80	48.00	0.40	46.20	-1.80	
6.301	45.20	48.00	0.40	45.60	-2.40	
6.537	43.80	48.00	0.40	44.20	-3.80	

Remarks: 1. All Readings are Peak .  
2. Emission Level (dBuV) = Factor (dB) + Meter Reading (dBuV)  
3. Factor (dB/m) = LISN Loss (dB) + Cable Loss (dB)

Tested by : C.C.Wu

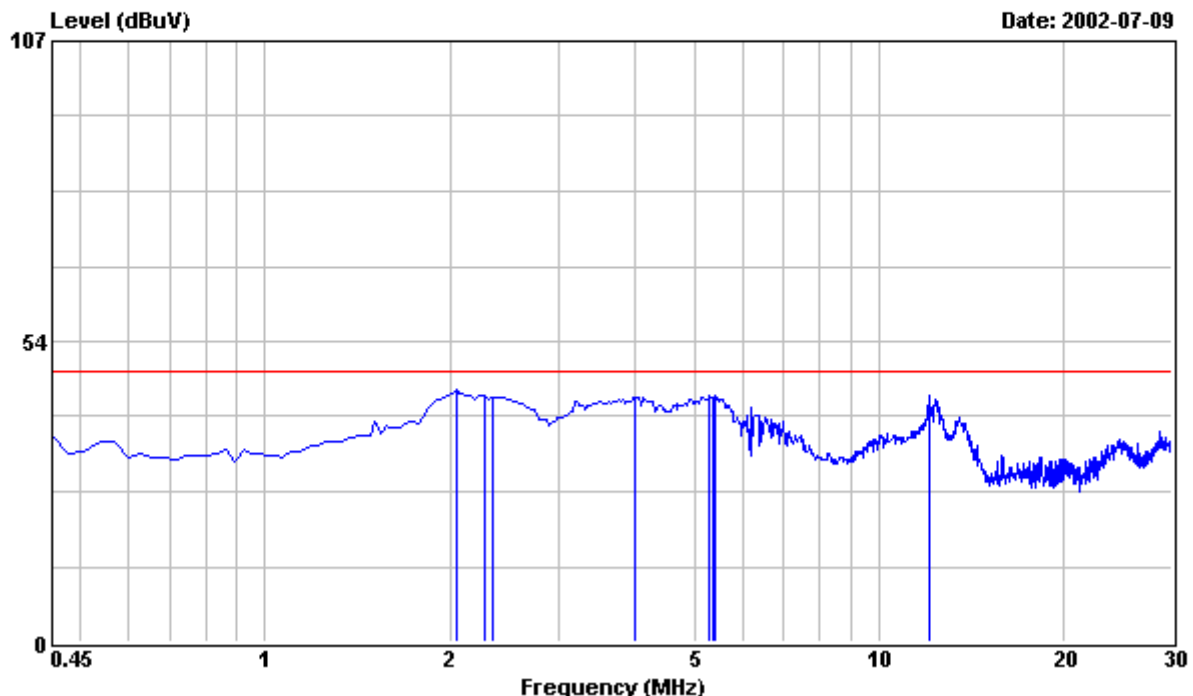


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Data#: 3

File#: C:\Program Files\em3\EMI02-033-C.emi



Site : PHILIPS EMI Shielding Room  
Condition : FCC CLASS-B FCC\_LCI\_L1 LINE  
EUT : PHILIPS 107B40 Serial No:TY0206382  
Power : 220VAC  
Memo : 1. EMI EVALUATION FOR FCC SAMPLE.  
: 2. 2ND MODEL SAMSUNG TUBE,RUN IBM  
: V1.8 FONT 16 "H" PATTERN.  
: 3. 1280X1024/75Hz 80KHz MODE WITH  
: COMPAQ ENC/P866/20E/8/128A TAI PC,  
: S3 Trio 3D/2X VIDEO CARD WAS TESTED.

Frequency MHz	Peak Reading dBuV	Limit dBuV	Factor dB	Emission Level dBuV	Over Limit * LINE dBuV
2.046	44.40	48.00	0.40	44.80	-3.20
2.282	43.50	48.00	0.40	43.90	-4.10
2.341	43.20	48.00	0.40	43.60	-4.40
3.996	43.20	48.00	0.40	43.60	-4.40
5.296	43.40	48.00	0.33	43.73	-4.27
5.355	43.30	48.00	0.34	43.64	-4.36
5.414	43.50	48.00	0.34	43.84	-4.16
12.093	43.10	48.00	0.65	43.75	-4.25

Remarks: 1. All Readings are Peak .  
2. Emission Level (dBuV) = Factor (dB) + Meter Reading (dBuV)  
3. Factor (dB/m) = LISN Loss (dB) + Cable Loss (dB)

Tested by : C.C.Wu

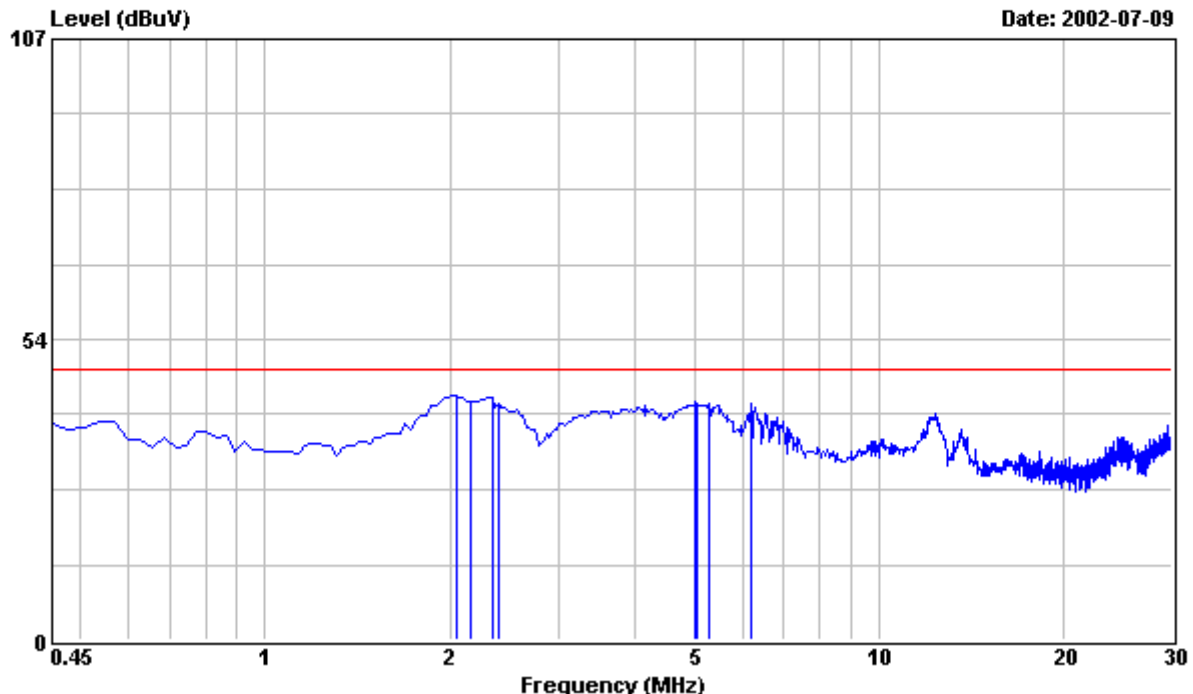


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Data#: 4

File#: C:\Program Files\em3\EMI02-033-C.emi



Site : PHILIPS EMI Shielding Room  
Condition : FCC CLASS-B FCC\_LCI\_L2 NEUTRAL  
EUT : PHILIPS 107B40 Serial No:TY0206382  
Power : 220VAC  
Memo : 1. EMI EVALUATION FOR FCC SAMPLE.  
: 2. 2ND MODEL SAMSUNG TUBE,RUN IBM  
: V1.8 FONT 16 "H" PATTERN.  
: 3. 1280X1024/75Hz 80KHz MODE WITH  
: COMPAQ ENC/P866/20E/8/128A TAI PC,  
: S3 Trio 3D/2X VIDEO CARD WAS TESTED.

Frequency MHz	Peak Reading dBuV	Limit dBuV	Factor dB	Emission Level dBuV	Over Limit dBuV	※ NEUTRAL
2.046	43.20	48.00	0.40	43.60	-4.40	
2.164	42.20	48.00	0.40	42.60	-5.40	
2.341	42.60	48.00	0.40	43.00	-5.00	
2.400	41.60	48.00	0.40	42.00	-6.00	
5.001	42.10	48.00	0.30	42.40	-5.60	
5.060	41.80	48.00	0.31	42.11	-5.89	
5.296	41.60	48.00	0.33	41.93	-6.07	
6.183	41.80	48.00	0.40	42.20	-5.80	

Remarks: 1. All Readings are Peak .  
2. Emission Level (dBuV) = Factor (dB) + Meter Reading (dBuV)  
3. Factor (dB/m) = LISN Loss (dB) + Cable Loss (dB)

Tested by : C.C.Wu

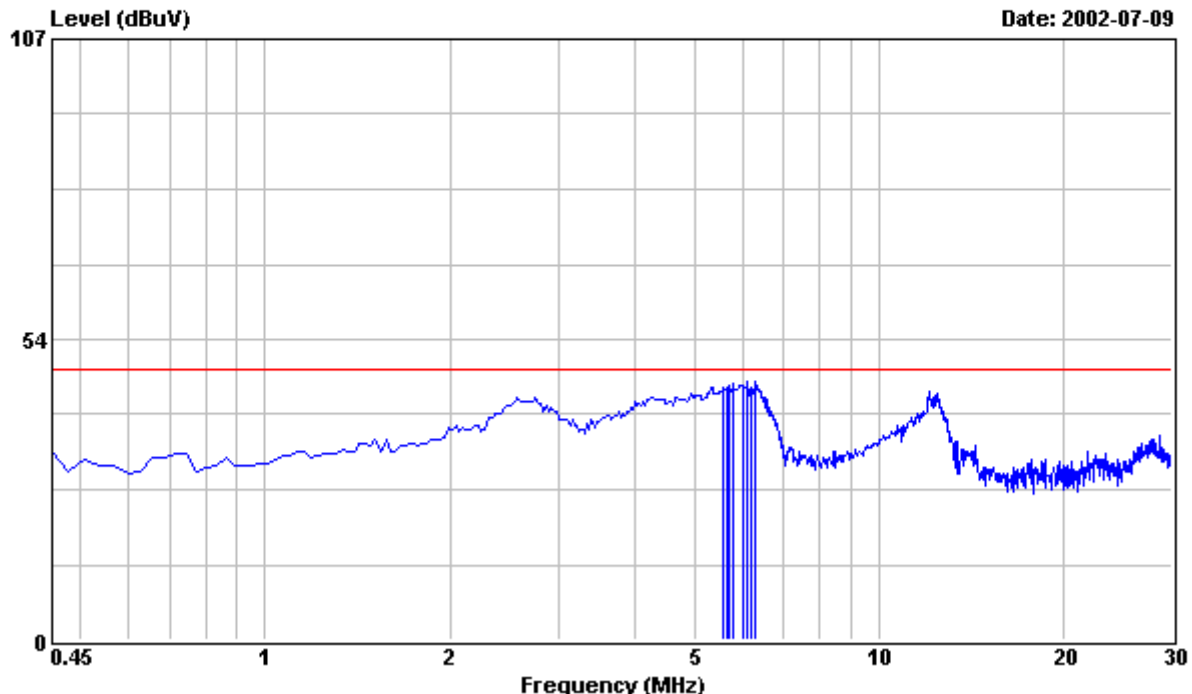


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Data#: 5

File#: C:\Program Files\em3\EMI02-033-C.emi



Site : PHILIPS EMI Shielding Room  
Condition : FCC CLASS-B FCC\_LCI\_L1 LINE  
EUT : PHILIPS 107B40 Serial No:TY0206382  
Power : 120VAC  
Memo : 1. EMI EVALUATION FOR FCC SAMPLE.  
: 2. 2ND MODEL SAMSUNG TUBE,RUN IBM  
: V1.8 FONT 14 "H" PATTERN.  
: 3. 1024X768/85Hz 68.7KHz MODE WITH  
: COMPAQ ENC/P866/20E/8/128A TAI PC,  
: S3 Trio 3D/2X VIDEO CARD WAS TESTED.

Frequency MHz	Peak Reading dBuV	Limit dBuV	Factor dB	Emission Level dBuV	Over Limit dBuV	※ LINE
5.592	44.50	48.00	0.36	44.86	-3.14	
5.651	44.50	48.00	0.37	44.87	-3.13	
5.710	44.90	48.00	0.37	45.27	-2.73	
5.769	45.40	48.00	0.38	45.78	-2.22	
6.005	45.00	48.00	0.40	45.40	-2.60	
6.124	45.60	48.00	0.40	46.00	-2.00	
6.183	44.50	48.00	0.40	44.90	-3.10	
6.301	45.50	48.00	0.40	45.90	-2.10	

Remarks: 1. All Readings are Peak .  
2. Emission Level (dBuV) = Factor (dB) + Meter Reading (dBuV)  
3. Factor (dB/m) = LISN Loss (dB) + Cable Loss (dB)

Tested by : C.C.Wu

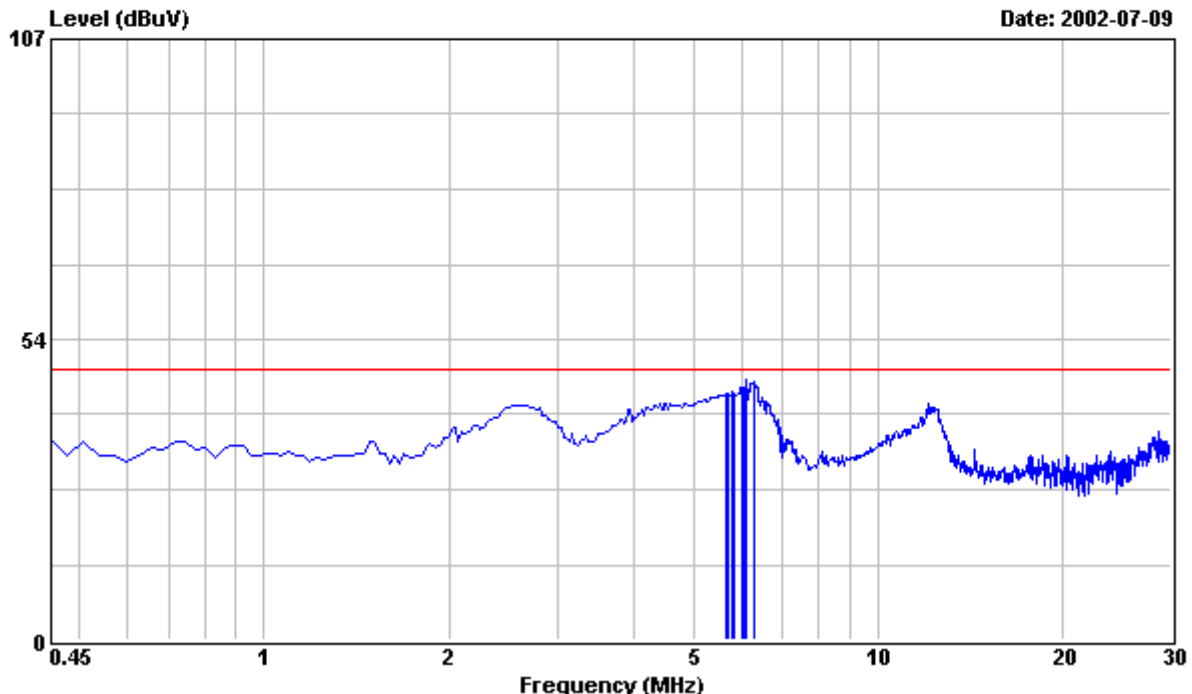


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Data#: 6

File#: C:\Program Files\em3\EMI02-033-C.emi



Site : PHILIPS EMI Shielding Room  
Condition : FCC CLASS-B FCC\_LCI\_L2 NEUTRAL  
EUT : PHILIPS 107B40 Serial No:TY0206382  
Power : 120VAC  
Memo : 1. EMI EVALUATION FOR FCC SAMPLE.  
: 2. 2ND MODEL SAMSUNG TUBE,RUN IBM  
: V1.8 FONT 14 "H" PATTERN.  
: 3. 1024X768/85Hz 68.7KHz MODE WITH  
: COMPAQ ENC/P866/20E/8/128A TAI PC,  
: S3 Trio 3D/2X VIDEO CARD WAS TESTED.

Frequency MHz	Peak Reading dBuV	Limit dBuV	Factor dB	Emission Level dBuV	Over Limit dBuV	※ NEUTRAL
5.651	43.60	48.00	0.37	43.97	-4.03	
5.710	43.40	48.00	0.37	43.77	-4.23	
5.769	44.00	48.00	0.38	44.38	-3.62	
5.828	43.40	48.00	0.38	43.78	-4.22	
6.005	44.40	48.00	0.40	44.80	-3.20	
6.065	44.50	48.00	0.40	44.90	-3.10	
6.124	45.80	48.00	0.40	46.20	-1.80	
6.301	45.60	48.00	0.40	46.00	-2.00	

Remarks: 1. All Readings are Peak .  
2. Emission Level (dBuV) = Factor (dB) + Meter Reading (dBuV)  
3. Factor (dB/m) = LISN Loss (dB) + Cable Loss (dB)

Tested by : C.C.Wu

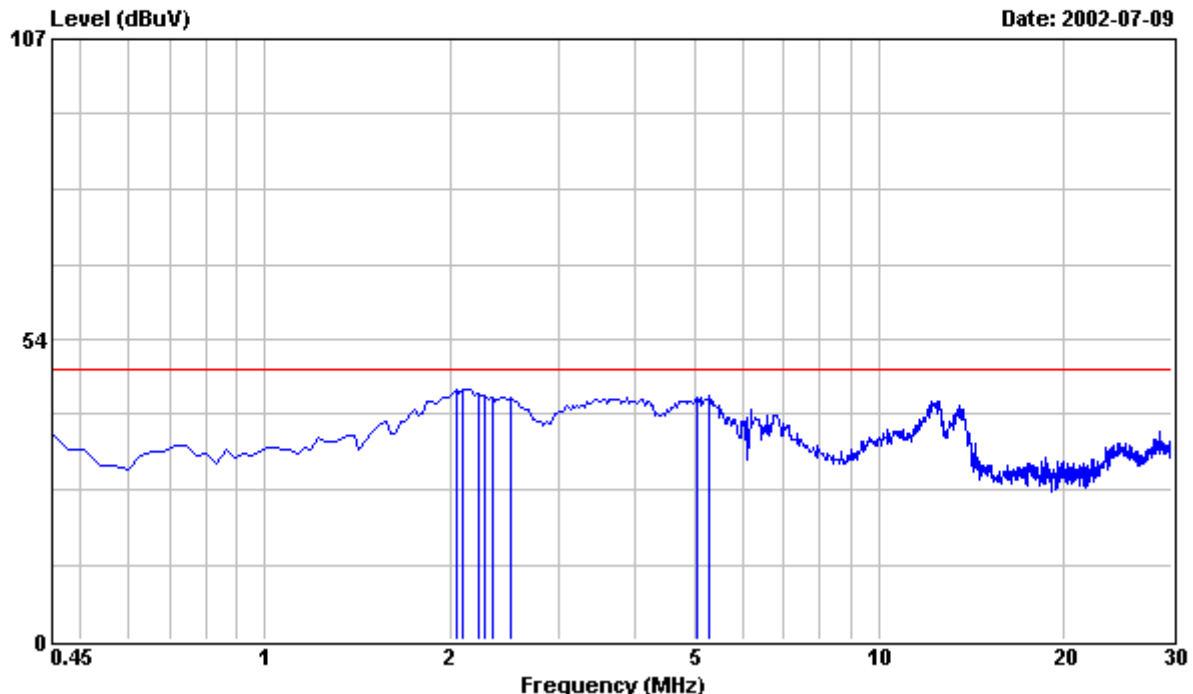


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Data#: 7

File#: C:\Program Files\em3\EMI02-033-C.emi



Site : PHILIPS EMI Shielding Room  
Condition : FCC CLASS-B FCC\_LCI\_L1 LINE  
EUT : PHILIPS 107B40 Serial No:TY0206382  
Power : 220VAC  
Memo : 1. EMI EVALUATION FOR FCC SAMPLE.  
: 2. 2ND MODEL SAMSUNG TUBE,RUN IBM  
: V1.8 FONT 14 "H" PATTERN.  
: 3. 1024X768/85Hz 68.7KHz MODE WITH  
: COMPAQ ENC/P866/20E/8/128A TAI PC,  
: S3 Trio 3D/2X VIDEO CARD WAS TESTED.

Frequency MHz	Peak Reading dBuV	Limit dBuV	Factor dB	Emission Level dBuV	Over Limit dBuV	※ LINE
2.046	44.30	48.00	0.40	44.70	-3.30	
2.105	44.30	48.00	0.40	44.70	-3.30	
2.223	43.40	48.00	0.40	43.80	-4.20	
2.282	43.10	48.00	0.40	43.50	-4.50	
2.341	42.80	48.00	0.40	43.20	-4.80	
2.519	42.90	48.00	0.40	43.30	-4.70	
5.060	43.00	48.00	0.31	43.31	-4.69	
5.296	43.20	48.00	0.33	43.53	-4.47	

Remarks: 1. All Readings are Peak .  
2. Emission Level (dBuV) = Factor (dB) + Meter Reading (dBuV)  
3. Factor (dB/m) = LISN Loss (dB) + Cable Loss (dB)

Tested by : C.C.Wu

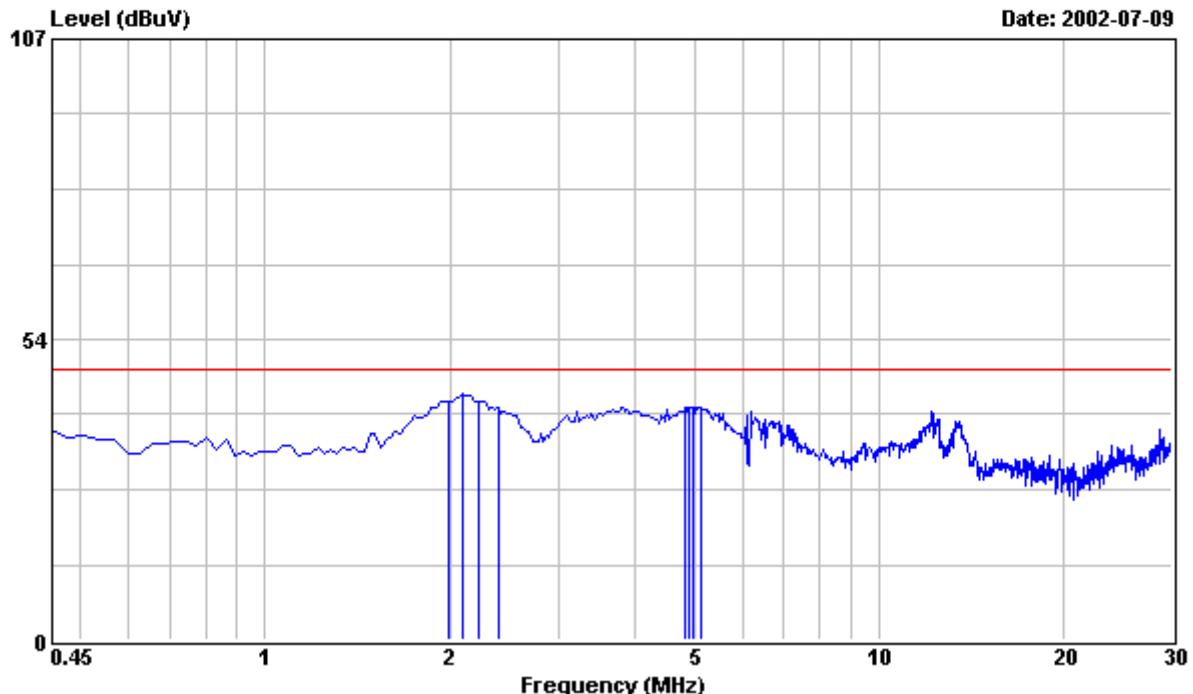


# PHILIPS

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Data#: 8

File#: C:\Program Files\em3\EMI02-033-C.emi



Site : PHILIPS EMI Shielding Room  
Condition : FCC CLASS-B FCC\_LCI\_L2 NEUTRAL  
EUT : PHILIPS 107B40 Serial No:TY0206382  
Power : 220VAC  
Memo : 1. EMI EVALUATION FOR FCC SAMPLE.  
: 2. 2ND MODEL SAMSUNG TUBE,RUN IBM  
: V1.8 FONT 14 "H" PATTERN.  
: 3. 1024X768/85Hz 68.7KHz MODE WITH  
: COMPAQ ENC/P866/20E/8/128A TAI PC,  
: S3 Trio 3D/2X VIDEO CARD WAS TESTED.

Frequency MHz	Peak Reading dBuV	Limit dBuV	Factor dB	Emission Level dBuV	Over Limit dBuV	※ NEUTRAL
1.987	42.20	48.00	0.40	42.60	-5.40	
2.105	43.60	48.00	0.40	44.00	-4.00	
2.223	42.20	48.00	0.40	42.60	-5.40	
2.400	41.10	48.00	0.40	41.50	-6.50	
4.823	41.00	48.00	0.32	41.32	-6.68	
4.912	41.10	48.00	0.31	41.41	-6.59	
4.971	41.00	48.00	0.30	41.30	-6.70	
5.119	41.20	48.00	0.31	41.51	-6.49	

Remarks: 1. All Readings are Peak .  
2. Emission Level (dBuV) = Factor (dB) + Meter Reading (dBuV)  
3. Factor (dB/m) = LISN Loss (dB) + Cable Loss (dB)

Tested by : C.C.Wu

## 8. Radiated Emission Test

## Radiated Emissions

## FCC Part 15

---

Operating conditions EUT:

EUT powered on with scrolling “H” pattern.

---

Limits:

Frequency range (MHz)	Class A at 10m (dBuv) QP	Class B at 3m (dBuv) QP
30.0 – 88.0	39.0	40.0
88.0 – 216.0	43.5	43.5
216.0 – 960.0	46.5	46.0
960.0 – 1000.0	49.5	54.0
Above 1000.0	49.5	54.0 Average

Test Result :

## Passed FCC Class B Limits

Remark:

Date of Test

: 09 Jul., 2002 to 10 Jul., 2002

Test Engineer

: C.C.Wu

For detail measurement results see next pages.

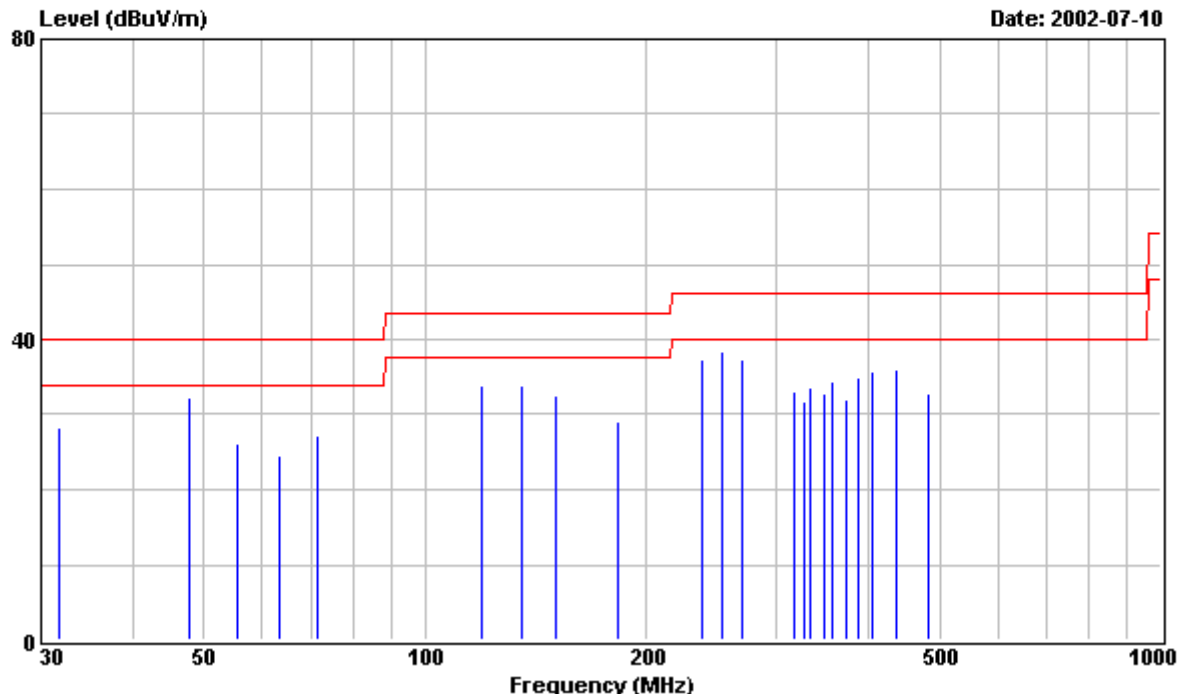


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Data#: 1

File#: C:\Program Files\em3\EMI02-033-R.emi



Site : PHILIPS EMI 3M open site  
Condition : FCC CLASS-B 3m FCC-3M-FACTOR HORIZONTAL  
EUT : PHILIPS 107B40 Serial No:TY0206382  
Power : 120-240VAC  
Memo : 1. EMI EVALUATION FOR FCC SAMPLE.  
: 2. 2ND MODEL SAMSUNG TUBE,RUN IBM  
: V1.8 FONT 16 "H" PATTERN.  
: 3. 1280X1024/75Hz 80KHz MODE WITH  
: COMPAQ ENC/P866/20E/8/128A TAI PC,  
: S3 Trio 3D/2X VIDEO CARD WAS TESTED.

Frequency	Peak Reading	QP reading	Limit	Factor	Emission Level	Over Limit
MHz	dBuV	dBuV	dBuV/m	dB/m	HORIZONTAL dBuV/m	dBuV/m
31.730	13.90	---	40.00	14.33	28.23	-11.77
47.600	21.20	---	40.00	11.13	32.33	-7.67
55.530	15.80	---	40.00	10.28	26.08	-13.92
63.470	14.70	---	40.00	9.94	24.64	-15.36
71.390	17.10	---	40.00	10.05	27.15	-12.85
118.980	21.60	---	43.50	12.34	33.94	-9.56
134.860	21.10	---	43.50	12.89	33.99	-9.51
150.720	19.00	---	43.50	13.43	32.43	-11.07
182.460	14.40	---	43.50	14.65	29.05	-14.45
237.980	17.80	---	46.00	19.58	37.38	-8.62
253.830	17.60	---	46.00	20.71	38.31	-7.69
269.690	15.80	---	46.00	21.59	37.39	-8.61

Remarks: 1. All Readings are Peak & Quasi-peak values.  
2. Emission Level (dBuV/m) = Factor (dB/m) + Meter Reading (dBuV/m)  
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB)



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Frequency	Peak Reading	QP reading	Limit	Factor	Emission Level	Over Limit
					HORIZONTAL	
MHz	dBuV	dBuV	dBuV/m	dB/m	dBuV/m	dBuV/m
317.300	16.10	---	46.00	16.85	32.95	-13.05
327.220	14.80	---	46.00	17.04	31.84	-14.16
333.150	16.50	---	46.00	17.18	33.68	-12.32
349.020	15.20	---	46.00	17.49	32.69	-13.31
356.950	16.80	---	46.00	17.63	34.43	-11.57
372.820	14.10	---	46.00	17.93	32.03	-13.97
388.680	16.60	---	46.00	18.21	34.81	-11.19
404.540	17.40	---	46.00	18.46	35.86	-10.14
436.260	17.00	---	46.00	18.90	35.90	-10.10
483.850	13.40	---	46.00	19.51	32.91	-13.09

- Remarks: 1. All Readings are Peak & Quasi-peak values.  
2. Emission Level (dBuV/m) = Factor (dB/m) + Meter Reading (dBuV/m)  
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB)

Tested by : C C.Wu

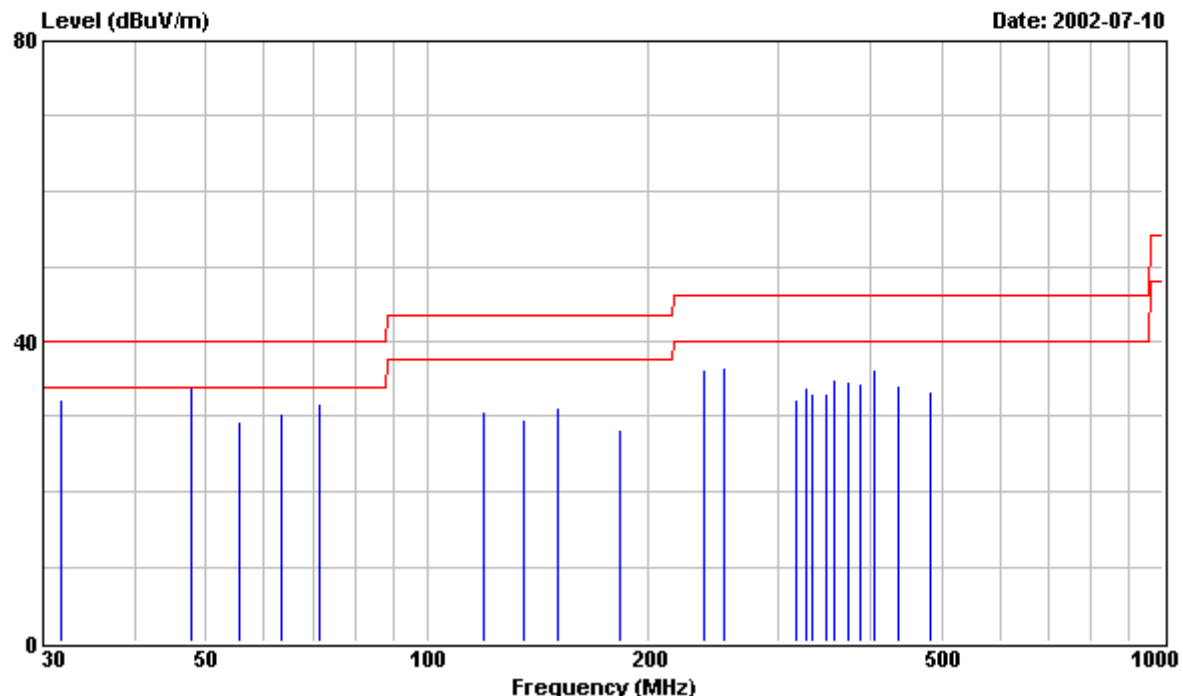


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Data#: 2

File#: C:\Program Files\em3\EMI02-033-R.emi



Site : PHILIPS EMI 3M open site  
Condition : FCC CLASS-B 3m FCC-3M-FACTOR VERTICAL  
EUT : PHILIPS 107B40 Serial No:TY0206382  
Power : 120-240VAC  
Memo : 1. EMI EVALUATION FOR FCC SAMPLE.  
: 2. 2ND MODEL SAMSUNG TUBE,RUN IBM  
: V1.8 FONT 16 "H" PATTERN.  
: 3. 1280X1024/75Hz 80KHz MODE WITH  
: COMPAQ ENC/P866/20E/8/128A TAI PC,  
: S3 Trio 3D/2X VIDEO CARD WAS TESTED.

Frequency	Peak Reading	QP reading	Limit	Factor	Emission Level	Over Limit
MHz	dBuV	dBuV	dBuV/m	dB/m	VERTICAL dBuV/m	dBuV/m
31.730	18.00	---	40.00	14.33	32.33	-7.67
47.600	22.70	---	40.00	11.13	33.83	-6.17
55.530	19.10	---	40.00	10.28	29.38	-10.62
63.470	20.50	---	40.00	9.94	30.44	-9.56
71.390	21.70	---	40.00	10.05	31.75	-8.25
118.980	18.30	---	43.50	12.34	30.64	-12.86
134.860	16.60	---	43.50	12.89	29.49	-14.01
150.720	17.70	---	43.50	13.43	31.13	-12.37
182.460	13.70	---	43.50	14.65	28.35	-15.15
237.980	16.70	---	46.00	19.58	36.28	-9.72
253.830	15.90	---	46.00	20.71	36.61	-9.39
317.300	15.40	---	46.00	16.85	32.25	-13.75

Remarks: 1. All Readings are Peak & Quasi-peak values.  
2. Emission Level (dBuV/m) = Factor (dB/m) + Meter Reading (dBuV/m)  
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB)



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Frequency	Peak Reading	QP reading	Limit	Factor	Emission Level	Over Limit
					VERTICAL	
MHz	dBuV	dBuV	dBuV/m	dB/m	dBuV/m	dBuV/m
327.220	16.90	---	46.00	17.04	33.94	-12.06
333.150	15.80	---	46.00	17.18	32.98	-13.02
349.020	15.60	---	46.00	17.49	33.09	-12.91
356.950	17.40	---	46.00	17.63	35.03	-10.97
372.820	16.70	---	46.00	17.93	34.63	-11.37
388.680	16.20	---	46.00	18.21	34.41	-11.59
404.540	17.70	---	46.00	18.46	36.16	-9.84
436.260	15.20	---	46.00	18.90	34.10	-11.90
483.850	13.90	---	46.00	19.51	33.41	-12.59

- Remarks: 1. All Readings are Peak & Quasi-peak values.  
2. Emission Level (dBuV/m) = Factor (dB/m) + Meter Reading (dBuV/m)  
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB)

Tested by : C C.Wu

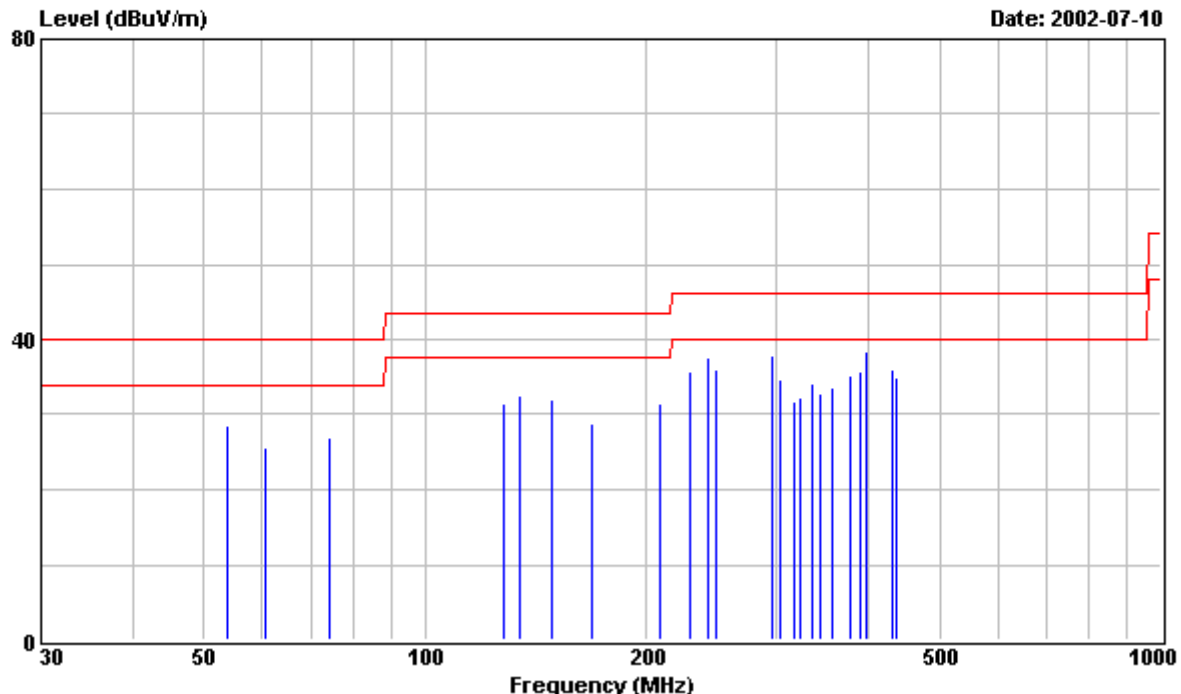


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Data#: 3

File#: C:\Program Files\em3\EMI02-033-R.emi



Site : PHILIPS EMI 3M open site  
Condition : FCC CLASS-B 3m FCC-3M-FACTOR HORIZONTAL  
EUT : PHILIPS 107B40 Serial No:TY0206382  
Power : 120-240VAC  
Memo : 1. EMI EVALUATION FOR FCC SAMPLE.  
: 2. 2ND MODEL SAMSUNG TUBE,RUN IBM  
: V1.8 FONT 14 "H" PATTERN.  
: 3. 1024x768/85Hz 68.7KHz MODE WITH  
: COMPAQ ENC/P866/20E/8/128A TAI PC,  
: S3 Trio 3D/2X VIDEO CARD WAS TESTED.

Frequency	Peak Reading	QP reading	Limit	Factor	Emission Level	Over Limit
MHz	dBuV	dBuV	dBuV/m	dB/m	HORIZONTAL dBuV/m	dBuV/m
53.870	18.10	---	40.00	10.44	28.54	-11.46
60.610	15.70	---	40.00	9.91	25.61	-14.39
74.080	16.80	---	40.00	10.17	26.97	-13.03
127.970	18.80	---	43.50	12.62	31.42	-12.08
134.700	19.70	---	43.50	12.87	32.57	-10.93
148.140	18.60	---	43.50	13.34	31.94	-11.56
168.340	15.00	---	43.50	13.93	28.93	-14.57
208.760	14.50	---	43.50	17.09	31.59	-11.91
228.960	17.00	---	46.00	18.86	35.86	-10.14
242.430	17.80	---	46.00	19.91	37.71	-8.29
249.170	15.60	---	46.00	20.43	36.03	-9.97
296.300	15.00	---	46.00	22.99	37.99	-8.01

Remarks: 1. All Readings are Peak & Quasi-peak values.  
2. Emission Level (dBuV/m) = Factor (dB/m) + Meter Reading (dBuV/m)  
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB)



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Frequency	Peak Reading	QP reading	Limit	Factor	Emission Level	Over Limit
					HORIZONTAL	
MHz	dBuV	dBuV	dBuV/m	dB/m	dBuV/m	dBuV/m
303.020	18.00	---	46.00	16.55	34.55	-11.45
316.490	14.90	---	46.00	16.83	31.73	-14.27
323.240	15.40	---	46.00	16.97	32.37	-13.63
336.680	17.00	---	46.00	17.25	34.25	-11.75
343.430	15.50	---	46.00	17.37	32.87	-13.13
356.900	15.90	---	46.00	17.63	33.53	-12.47
377.100	17.10	---	46.00	18.00	35.10	-10.90
390.560	17.40	---	46.00	18.24	35.64	-10.36
397.300	20.00	---	46.00	18.35	38.35	-7.65
430.960	17.30	---	46.00	18.83	36.13	-9.87
437.700	16.10	---	46.00	18.92	35.02	-10.98

Remarks: 1. All Readings are Peak & Quasi-peak values.  
2. Emission Level (dBuV/m) = Factor (dB/m) + Meter Reading (dBuV/m)  
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB)

Tested by : C C.Wu

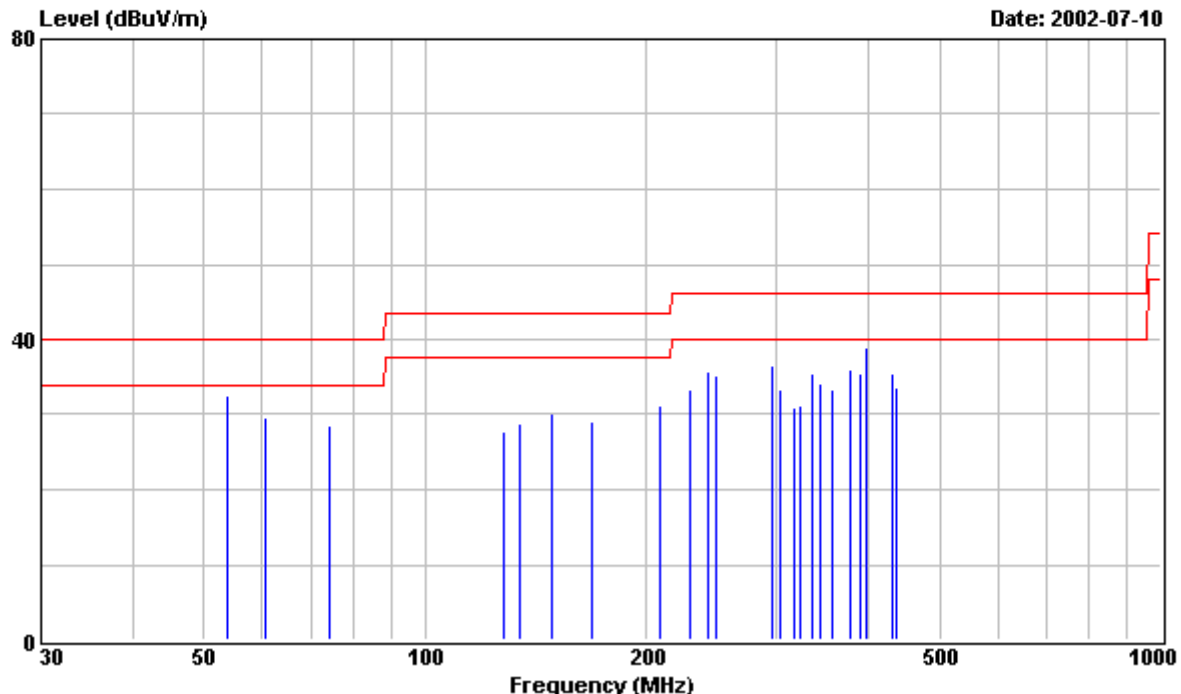


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Data#: 4

File#: C:\Program Files\em3\EMI02-033-R.emi



Site : PHILIPS EMI 3M open site  
Condition : FCC CLASS-B 3m FCC-3M-FACTOR VERTICAL  
EUT : PHILIPS 107B40 Serial No:TY0206382  
Power : 120-240VAC  
Memo : 1. EMI EVALUATION FOR FCC SAMPLE.  
: 2. 2ND MODEL SAMSUNG TUBE,RUN IBM  
: V1.8 FONT 14 "H" PATTERN.  
: 3. 1024x768/85Hz 68.7KHz MODE WITH  
: COMPAQ ENC/P866/20E/8/128A TAI PC,  
: S3 Trio 3D/2X VIDEO CARD WAS TESTED.

Frequency	Peak Reading	QP reading	Limit	Factor	Emission Level	Over Limit
MHz	dBuV	dBuV	dBuV/m	dB/m	VERTICAL dBuV/m	dBuV/m
53.870	---	---	40.00	10.44	32.64	-7.36
60.610	---	---	40.00	9.91	29.51	-10.49
74.080	---	---	40.00	10.17	28.57	-11.43
127.970	---	---	43.50	12.62	27.72	-15.78
134.700	---	---	43.50	12.87	28.77	-14.73
148.140	---	---	43.50	13.34	30.14	-13.36
168.340	---	---	43.50	13.93	29.03	-14.47
208.760	---	---	43.50	17.09	31.09	-12.41
228.960	---	---	46.00	18.86	33.46	-12.54
242.430	---	---	46.00	19.91	35.61	-10.39
249.170	---	---	46.00	20.43	35.13	-10.87
296.300	---	---	46.00	22.99	36.59	-9.41

Remarks: 1. All Readings are Peak & Quasi-peak values.  
2. Emission Level (dBuV/m) = Factor (dB/m) + Meter Reading (dBuV/m)  
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB)



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Frequency	Peak Reading	QP reading	Limit	Factor	Emission Level	Over Limit
MHz	dBuV	dBuV	dBuV/m	dB/m	VERTICAL dBuV/m	dBuV/m
303.020	---	---	46.00	16.55	33.45	-12.55
316.490	---	---	46.00	16.83	31.03	-14.97
323.240	---	---	46.00	16.97	31.27	-14.73
336.680	---	---	46.00	17.25	35.55	-10.45
343.430	---	---	46.00	17.37	34.07	-11.93
356.900	---	---	46.00	17.63	33.43	-12.57
377.100	---	---	46.00	18.00	36.00	-10.00
390.560	---	---	46.00	18.24	35.44	-10.56
397.300	---	---	46.00	18.35	39.05	-6.95
430.960	---	---	46.00	18.83	35.33	-10.67
437.700	---	---	46.00	18.92	33.62	-12.38
437.700	---	---	46.00	18.92	33.62	-12.38

- Remarks: 1. All Readings are Peak & Quasi-peak values.  
2. Emission Level (dBuV/m) = Factor (dB/m) + Meter Reading (dBuV/m)  
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB)

Tested by : C C.Wu