



PHILIPS

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	FCC Test Report	Report No.: TYR87-2021 Date : 13 August, 2002 Page : Page 1 of 32
Customer : Philips Electronics Industries Name : Mr. S.T. Huang – EE LCD Address : 5, Tze Chiang 1 Road, Zip/City : Chungli Industrial Park, Country : Chungli, Taiwan, R.O.C.		
Equipment Under Test (including peripherals) : FCC ID. : A3KM101 Model Name : 6634-0AN Serial Number : TY0207422 Description : 19" XGA color monitor, Max. resolution 1600x1200/75Hz		
EMC Standards : FCC Part 15 of October 01,1999 Class B ANSI C63.4-1992 Result : PASSED the limits/test-levels in the standards. Note : 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.		
Date of receipt of EUT : 22 Jul. 2002 Date of performance of test : 24 Jul., 2002 to 29 Jul., 2002		
 C.C. Wu - EMC Test Engineer  Ronnie Yang - EMC Manager NVLAP Signatory		

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	Passed	
Radiated emission	FCC Part 15	Passed	

Remark:

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

2. General Information of EUT

The EUT, 19" color monitor :

Model No. : 6634-0AN

FCC ID : A3KM101

Brand : IBM

The color monitor automatically scans horizontal frequencies between 30KHz and 96KHz , 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 1600x1200 pixels.

The monitor has 10 factory-preset modes as indicated in the following table:

#	Resolution	Hor (kHz)	Ver (Hz)	H-pol	V-pol
1	720x400	31.469	70.087	-	+
2	640 x 480	31.469	59.940	-	-
3	640 x 480	43.269	85.008	-	-
4	800 x 600	46.875	75.000	+	+
5	800 x 600	53.674	85.061	+	+
6	1024 x 768	60.023	75.029	+	+
7	1024 x 768	68.677	84.997	+	+
8	1280 x 1024	79.976	75.024	+	+
9	1280 x 1024	91.146	85.024	+	+
10	1600 x 1200	93.750	75.000	+	+

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

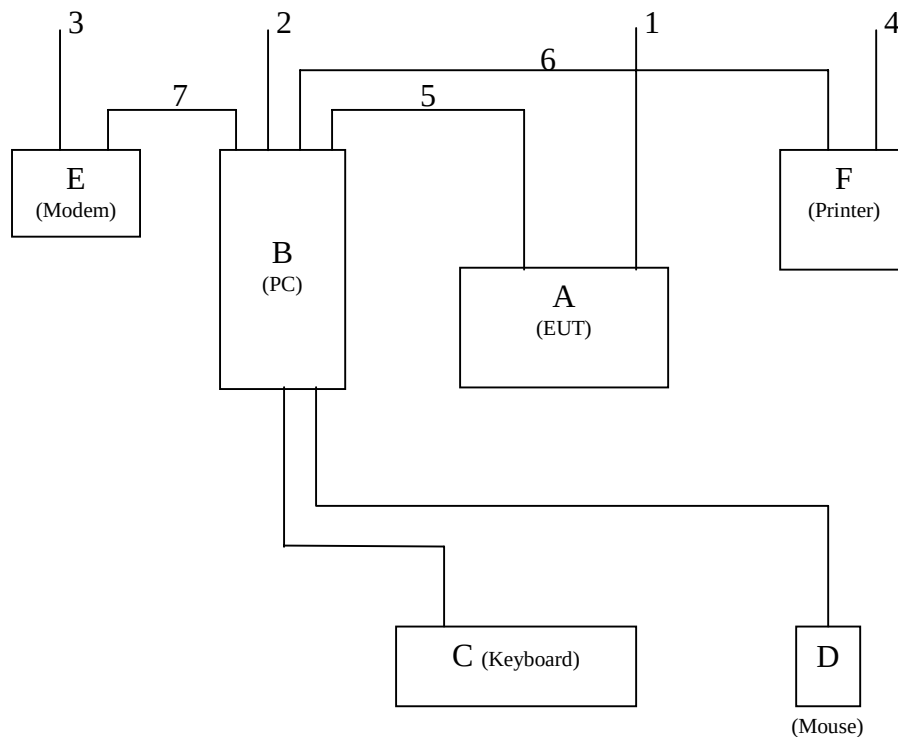
The system was configured for testing in a typical fashion (as a customer would normally use it) according to ANSI C63.4-1992, please see the photographs for detail. For system measurement, the EUT “6634-0AN” were connected to:

	Description	Brand/ Model No.	Serial No.	FCC ID	Remark
A	Monitor	IBM 6634-0AN	TY0207422	A3KM101	EUT
B	PC	IBM Aptiva V66M	11S8138A	FCC logo	
C	Keyboard	IBM KB-7993	0017954	FCC Logo	
D	Mouse	IBM 12J3619	23-034616	DZL211120	
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

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	EMI02-038-C	1600x1200	93.7KHz/75Hz	D-sub
		1280x1024	91.1KHz/85Hz	D-sub
Radiated	EMI02-038-R	1600x1200	93.7KHz/75Hz	D-sub
		1280x1024	91.1KHz/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” patten 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

Conducted Emissions		
FCC Part 15		
Operating conditions EUT:		
EUT powered on with scrolling “H” pattern.		
Limits:		
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
Test Result :		
Passed FCC Class B Limits		
Option:		
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.		
Remark:		
Date of Test	: 24 Jul., 2002 to 29 Jul., 2002	
Test Engineer	: C.C.Wu	
For detail measurement results see next pages.		

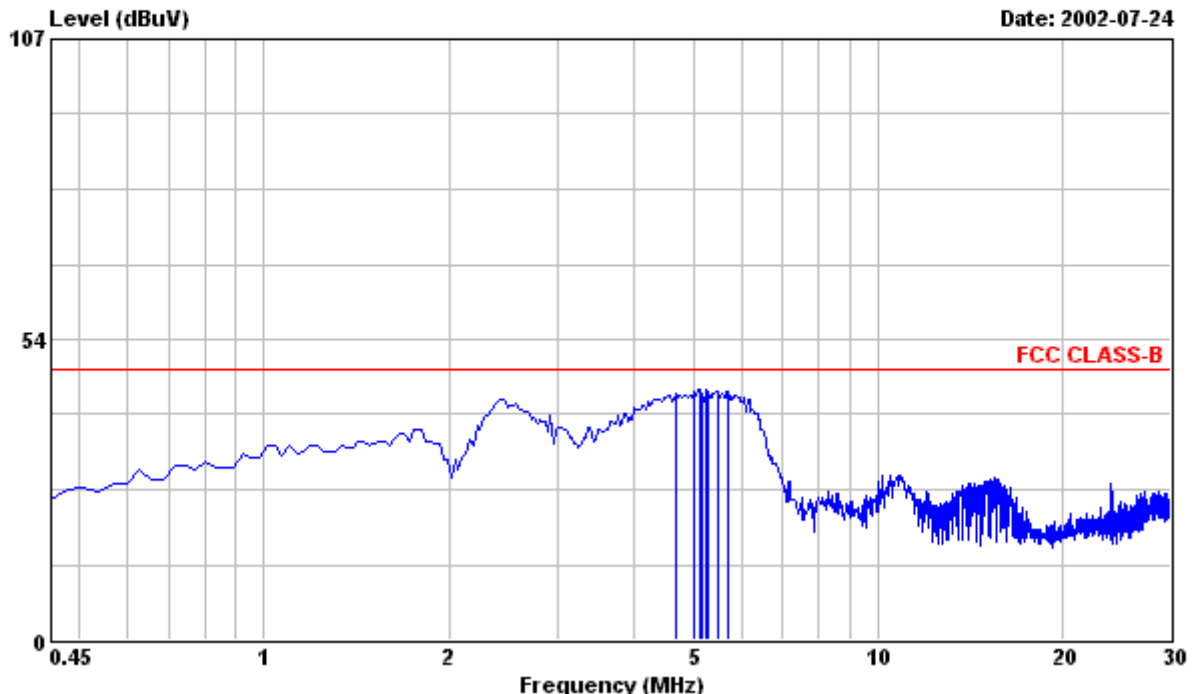


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Data#: 1

File#: C:\Program Files\es\EMIO2-038-C(IBM 6634-0AS).emi



Site : PHILIPS EMI Shielding Room
Condition : FCC CLASS-B FCC_LCI_L1 LINE
EUT : IBM 6634-0AN Serial No:TY0207422
Power : 120VAC
Memo : 1. EMI EVALUATION FOR FCC SAMPLE.
: 2. 2ND MODEL LPD TUBE,RUN IBM V1.8
: FONT 16 "H" PATTERN.
: 3. 1600x1200/75Hz 93.7KHz MODE WITH
: IBM Aptiva V66M 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
4.676	43.50	48.00	0.33	43.83	-4.17	
5.001	43.80	48.00	0.30	44.10	-3.90	
5.119	44.10	48.00	0.31	44.41	-3.59	
5.178	43.70	48.00	0.32	44.02	-3.98	
5.237	44.29	48.00	0.33	44.62	-3.38	
5.296	43.90	48.00	0.33	44.23	-3.77	
5.474	43.80	48.00	0.35	44.15	-3.85	
5.710	43.80	48.00	0.37	44.17	-3.83	

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

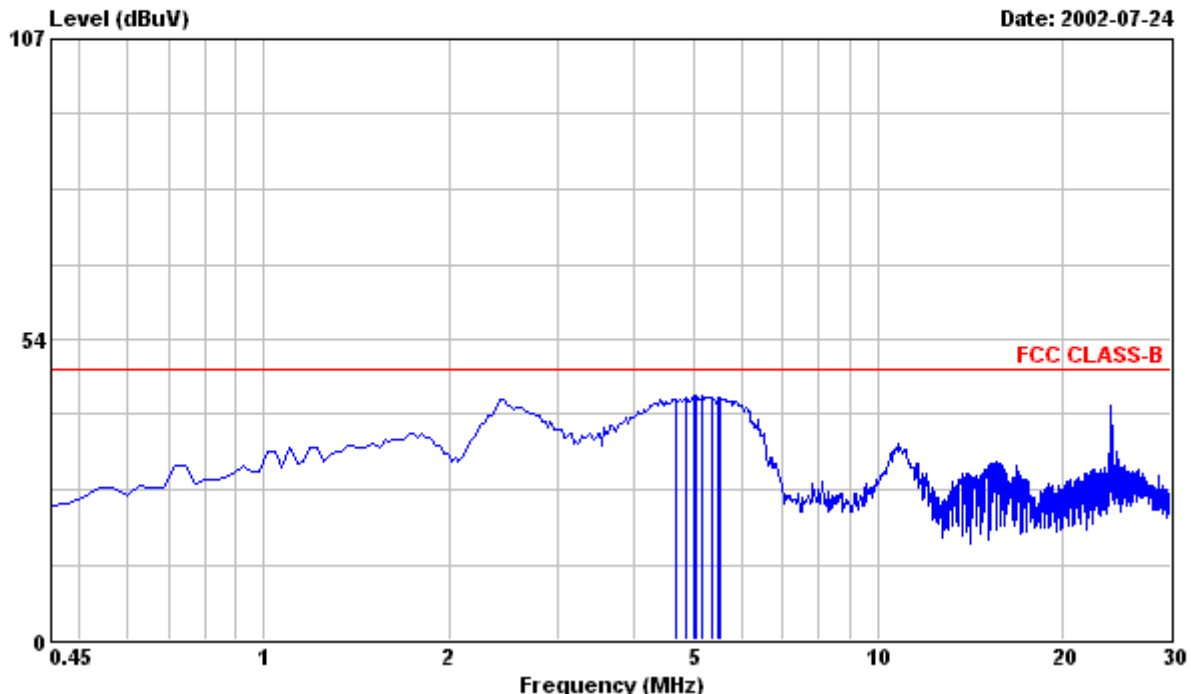


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Data#: 2

File#: C:\Program Files\ex\EMI02-038-C(IBM 6634-0AS).emi



Site : PHILIPS EMI Shielding Room
Condition : FCC CLASS-B FCC_LCI_L2 NEUTRAL
EUT : IBM 6634-0AN Serial No:TY0207422
Power : 120VAC
Memo : 1. EMI EVALUATION FOR FCC SAMPLE.
: 2. 2ND MODEL LPD TUBE,RUN IBM V1.8
: FONT 16 "H" PATTERN.
: 3. 1600x1200/75Hz 93.7KHz MODE WITH
: IBM Aptiva V66M 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
4.676	42.60	48.00	0.33	42.93	-5.07	
4.883	42.80	48.00	0.31	43.11	-4.89	
5.001	43.30	48.00	0.30	43.60	-4.40	
5.060	43.10	48.00	0.31	43.41	-4.59	
5.178	43.20	48.00	0.32	43.52	-4.48	
5.355	42.70	48.00	0.34	43.04	-4.96	
5.474	42.90	48.00	0.35	43.25	-4.75	
5.533	42.70	48.00	0.35	43.05	-4.95	

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

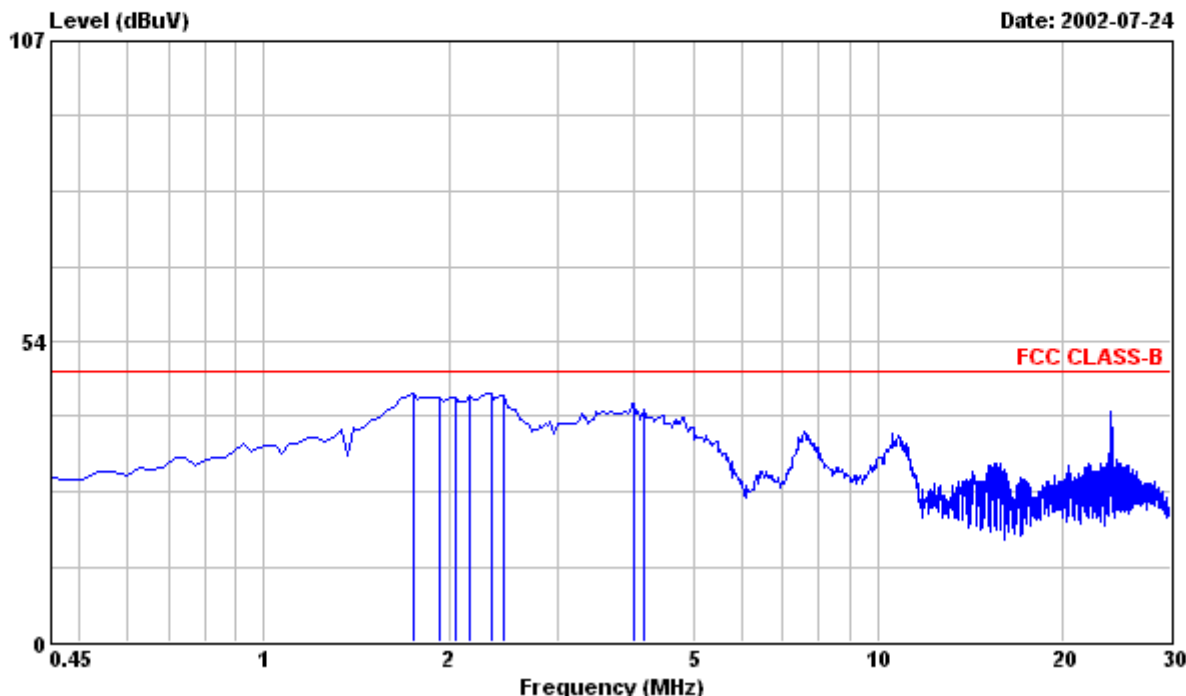


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Data#: 3

File#: C:\Program Files\es\EMIO2-038-C(IBM 6634-0AS).emi



Site : PHILIPS EMI Shielding Room
Condition : FCC CLASS-B FCC_LCI_L1 LINE
EUT : IBM 6634-0AN Serial No:TY0207422
Power : 220VAC
Memo : 1. EMI EVALUATION FOR FCC SAMPLE.
: 2. 2ND MODEL LPD TUBE,RUN IBM V1.8
: FONT 16 "H" PATTERN.
: 3. 1600x1200/75Hz 93.7KHz MODE WITH
: IBM Aptiva V66M 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
1.750	44.00	48.00	0.40	44.40	-3.60	
1.928	43.20	48.00	0.40	43.60	-4.40	
2.046	43.00	48.00	0.40	43.40	-4.60	
2.164	43.60	48.00	0.40	44.00	-4.00	
2.341	44.00	48.00	0.40	44.40	-3.60	
2.459	43.30	48.00	0.40	43.70	-4.30	
3.996	41.90	48.00	0.40	42.30	-5.70	
4.173	41.10	48.00	0.38	41.48	-6.52	

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

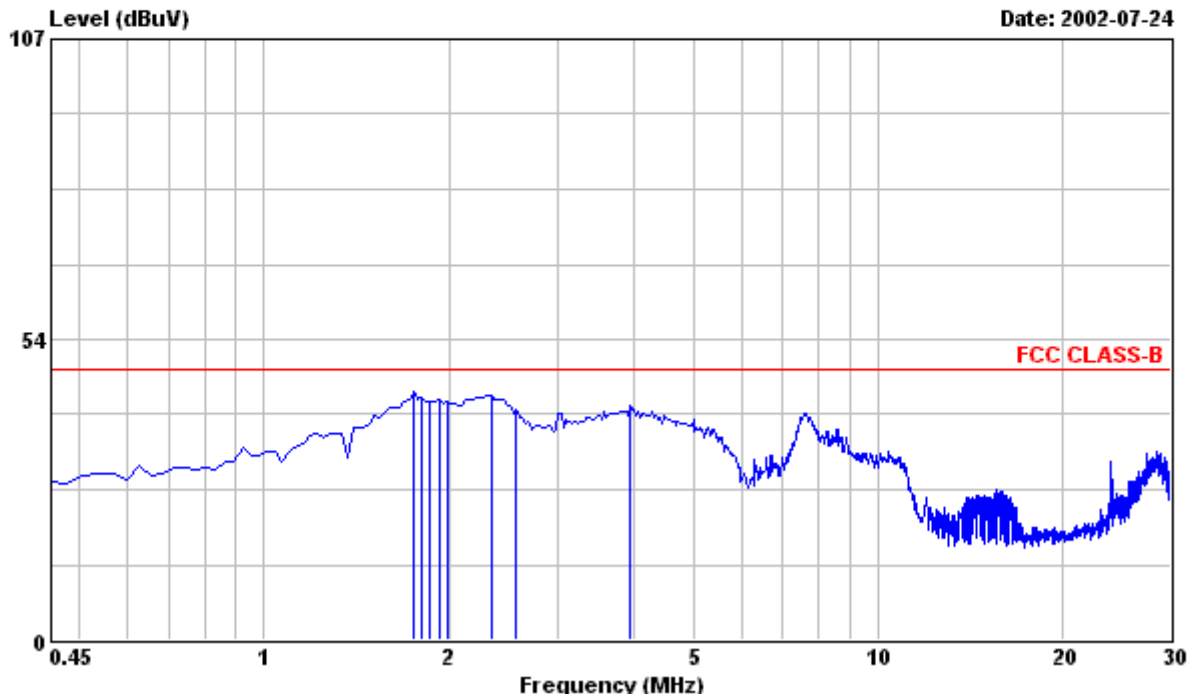


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Data#: 4

File#: C:\Program Files\em3\EMI02-038-C(IBM 6634-0AS).emi



Site : PHILIPS EMI Shielding Room
Condition : FCC CLASS-B FCC_LCI_L2 NEUTRAL
EUT : IBM 6634-0AN Serial No:TY0207422
Power : 220VAC
Memo : 1. EMI EVALUATION FOR FCC SAMPLE.
: 2. 2ND MODEL LPD TUBE,RUN IBM V1.8
: FONT 16 "H" PATTERN.
: 3. 1600x1200/75Hz 93.7KHz MODE WITH
: IBM Aptiva V66M 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
1.750	44.00	48.00	0.40	44.40	-3.60	
1.809	42.60	48.00	0.40	43.00	-5.00	
1.868	42.20	48.00	0.40	42.60	-5.40	
1.928	42.40	48.00	0.40	42.80	-5.20	
1.987	41.90	48.00	0.40	42.30	-5.70	
2.341	43.20	48.00	0.40	43.60	-4.40	
2.578	40.50	48.00	0.40	40.90	-7.10	
3.937	41.50	48.00	0.40	41.90	-6.10	

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

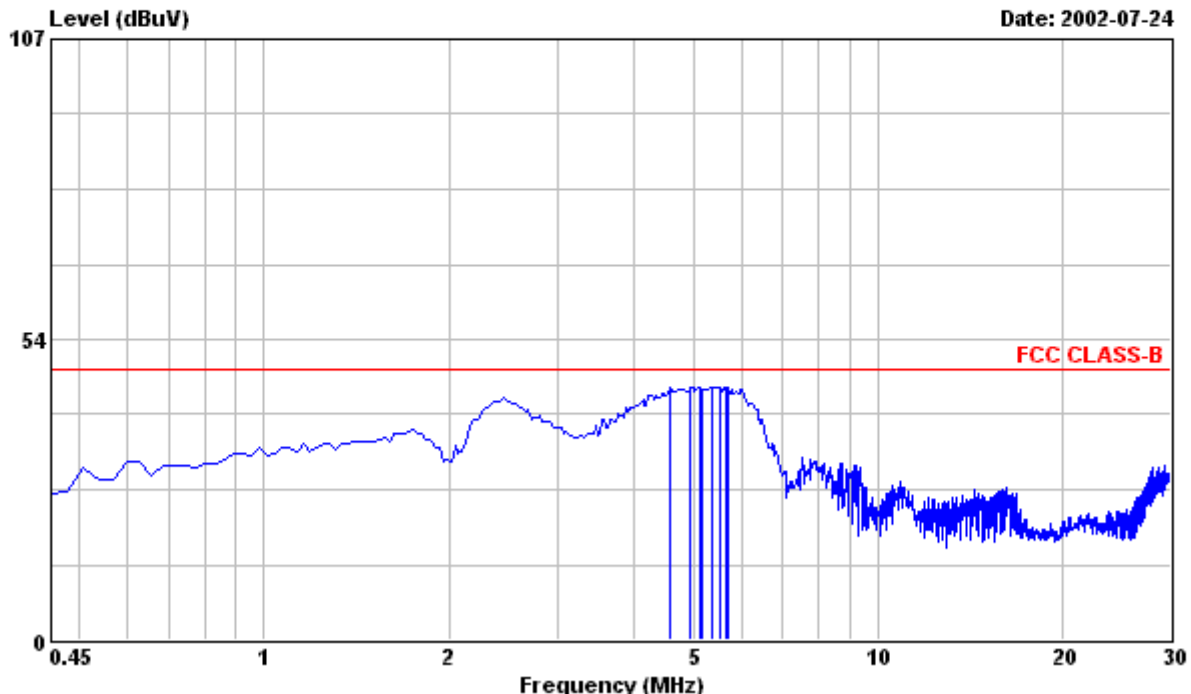


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Site : PHILIPS EMI Shielding Room
Condition : FCC CLASS-B FCC_LCI_L1 LINE
EUT : IBM 6634-0AN Serial No:TY0207422
Power : 120VAC
Memo : 1. EMI EVALUATION FOR FCC SAMPLE.
: 2. 2ND MODEL LPD TUBE,RUN IBM V1.8
: FONT 14 "H" PATTERN.
: 3. 1280x1024/85Hz 91.1KHz MODE WITH
: IBM Aptiva V66M 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
4.587	44.50	48.00	0.34	44.84	-3.16	
4.942	44.61	48.00	0.30	44.91	-3.09	
5.119	44.60	48.00	0.31	44.91	-3.09	
5.178	44.40	48.00	0.32	44.72	-3.28	
5.355	44.60	48.00	0.34	44.94	-3.06	
5.533	44.60	48.00	0.35	44.95	-3.05	
5.651	44.60	48.00	0.37	44.97	-3.03	
5.710	44.40	48.00	0.37	44.77	-3.23	

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

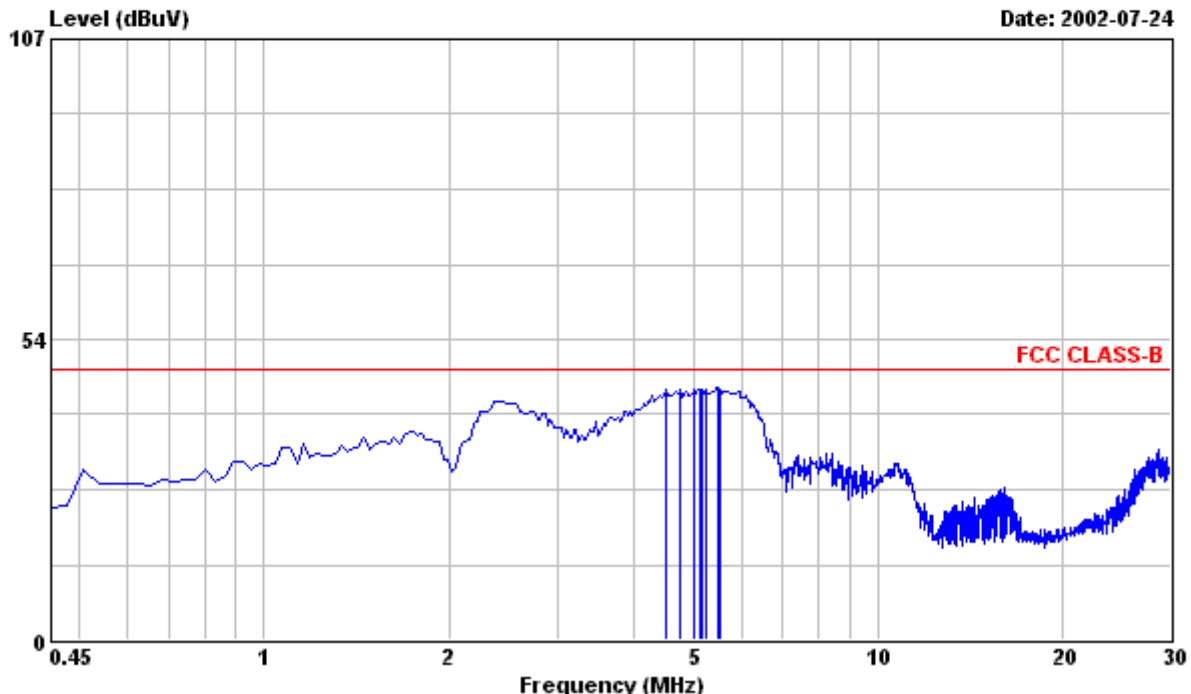


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EUT : IBM 6634-0AN Serial No:TY0207422
Power : 120VAC
Memo : 1. EMI EVALUATION FOR FCC SAMPLE.
: 2. 2ND MODEL LPD TUBE,RUN IBM V1.8
: FONT 14 "H" PATTERN.
: 3. 1280x1024/85Hz 91.1KHz MODE WITH
: IBM Aptiva V66M PC,S3 Trio 3D/2X
: VIDEO CARD WAS TESTED.

Frequency MHz	Peak Reading dBuV	Limit dBuV	Factor dB	Emission Level dBuV	Over Limit dBuV	※ NEUTRAL
4.528	44.11	48.00	0.34	44.45	-3.55	
4.764	44.10	48.00	0.32	44.42	-3.58	
5.001	44.20	48.00	0.30	44.50	-3.50	
5.119	44.10	48.00	0.31	44.41	-3.59	
5.178	44.10	48.00	0.32	44.42	-3.58	
5.237	44.29	48.00	0.33	44.62	-3.38	
5.474	44.50	48.00	0.35	44.85	-3.15	
5.533	44.10	48.00	0.35	44.45	-3.55	

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

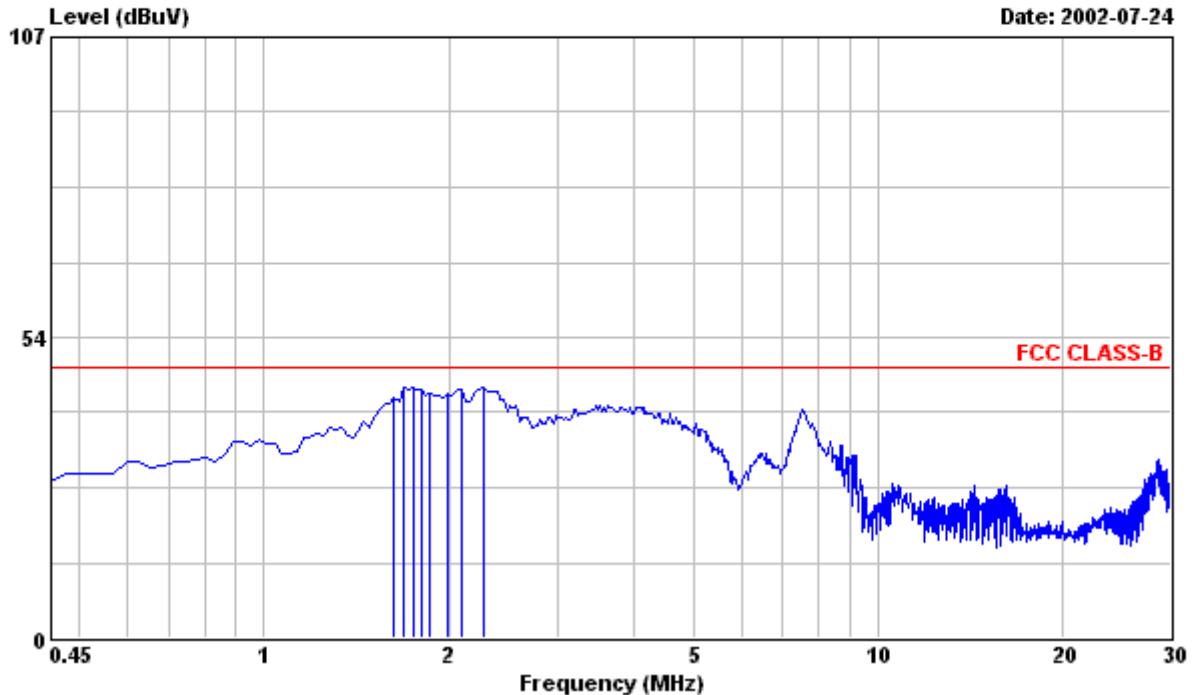


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Data#: 7

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Site : PHILIPS EMI Shielding Room
Condition : FCC CLASS-B FCC_LCI_L1 LINE
EUT : IBM 6634-0AN Serial No:TY0207422
Power : 220VAC
Memo : 1. EMI EVALUATION FOR FCC SAMPLE.
: 2. 2ND MODEL LPD TUBE,RUN IBM V1.8
: FONT 14 "H" PATTERN.
: 3. 1280x1024/85Hz 91.1KHz MODE WITH
: IBM Aptiva V66M 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
1.632	42.50	48.00	0.40	42.90	-5.10	
1.691	44.10	48.00	0.40	44.50	-3.50	
1.750	44.30	48.00	0.40	44.70	-3.30	
1.809	43.80	48.00	0.40	44.20	-3.80	
1.868	43.20	48.00	0.40	43.60	-4.40	
1.987	43.00	48.00	0.40	43.40	-4.60	
2.105	43.90	48.00	0.40	44.30	-3.70	
2.282	44.10	48.00	0.40	44.50	-3.50	

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

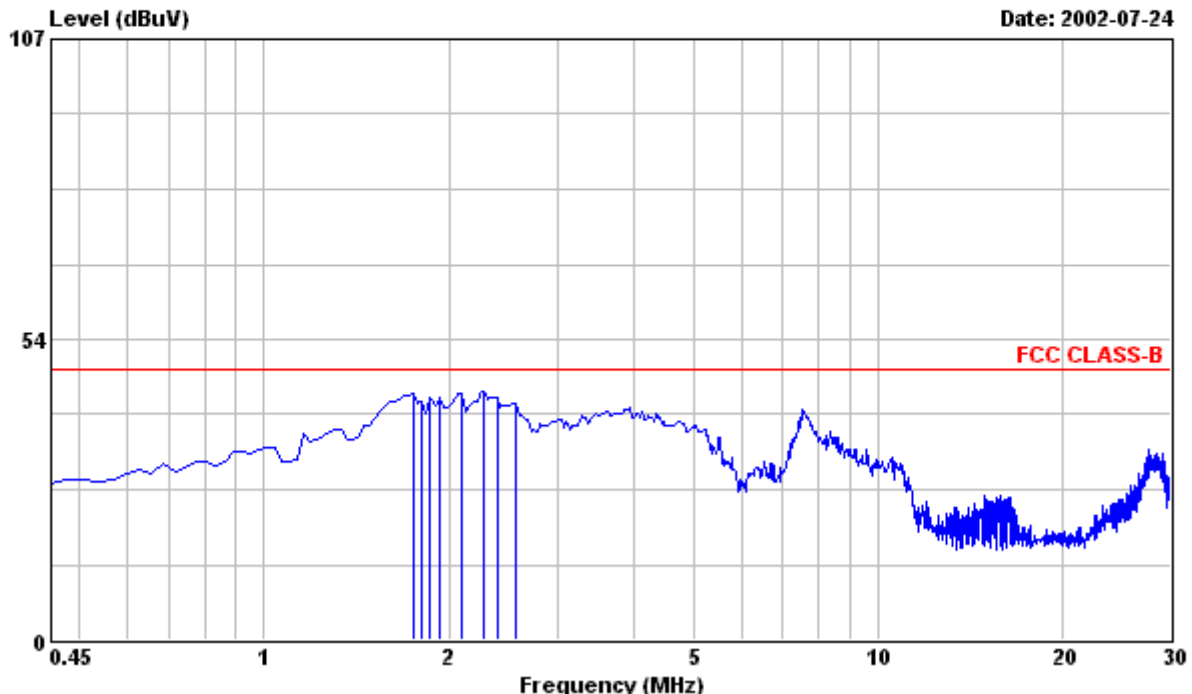


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Data#: 8

File#: C:\Program Files\es\EMI02-038-C(IBM 6634-0AS).emi



Site : PHILIPS EMI Shielding Room
Condition : FCC CLASS-B FCC_LCI_L2 NEUTRAL
EUT : IBM 6634-0AN Serial No:TY0207422
Power : 220VAC
Memo : 1. EMI EVALUATION FOR FCC SAMPLE.
: 2. 2ND MODEL LPD TUBE,RUN IBM V1.8
: FONT 14 "H" PATTERN.
: 3. 1280x1024/85Hz 91.1KHz MODE WITH
: IBM Aptiva V66M 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
1.750	43.30	48.00	0.40	43.70	-4.30	
1.809	42.20	48.00	0.40	42.60	-5.40	
1.868	42.80	48.00	0.40	43.20	-4.80	
1.928	42.60	48.00	0.40	43.00	-5.00	
2.105	43.30	48.00	0.40	43.70	-4.30	
2.282	43.70	48.00	0.40	44.10	-3.90	
2.400	42.90	48.00	0.40	43.30	-4.70	
2.578	41.70	48.00	0.40	42.10	-5.90	

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

Radiated Emissions FCC Part 15																				
Operating conditions EUT: EUT powered on with scrolling “H” pattern.																				
Limits: <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 33%;">Frequency range (MHz)</th> <th style="width: 33%;">Class A at 10m (dBuv) QP</th> <th style="width: 33%;">Class B at 3m (dBuv) QP</th> </tr> </thead> <tbody> <tr> <td>30.0 – 88.0</td> <td>39.0</td> <td>40.0 Quasi-Peak</td> </tr> <tr> <td>88.0 – 216.0</td> <td>43.5</td> <td>43.5 Quasi-Peak</td> </tr> <tr> <td>216.0 – 960.0</td> <td>46.5</td> <td>46.0 Quasi-Peak</td> </tr> <tr> <td>960.0 – 1000.0</td> <td>49.5</td> <td>54.0 Quasi-Peak</td> </tr> <tr> <td>Above 1000.0</td> <td>49.5</td> <td>54.0 Average</td> </tr> </tbody> </table>			Frequency range (MHz)	Class A at 10m (dBuv) QP	Class B at 3m (dBuv) QP	30.0 – 88.0	39.0	40.0 Quasi-Peak	88.0 – 216.0	43.5	43.5 Quasi-Peak	216.0 – 960.0	46.5	46.0 Quasi-Peak	960.0 – 1000.0	49.5	54.0 Quasi-Peak	Above 1000.0	49.5	54.0 Average
Frequency range (MHz)	Class A at 10m (dBuv) QP	Class B at 3m (dBuv) QP																		
30.0 – 88.0	39.0	40.0 Quasi-Peak																		
88.0 – 216.0	43.5	43.5 Quasi-Peak																		
216.0 – 960.0	46.5	46.0 Quasi-Peak																		
960.0 – 1000.0	49.5	54.0 Quasi-Peak																		
Above 1000.0	49.5	54.0 Average																		
Test Result : Passed FCC Class B Limits Remark:																				
Date of Test Test Engineer	: 24 Jul., 2002 to 29 Jul., 2002 : C.C.Wu																			
For detail measurement results see next pages.																				

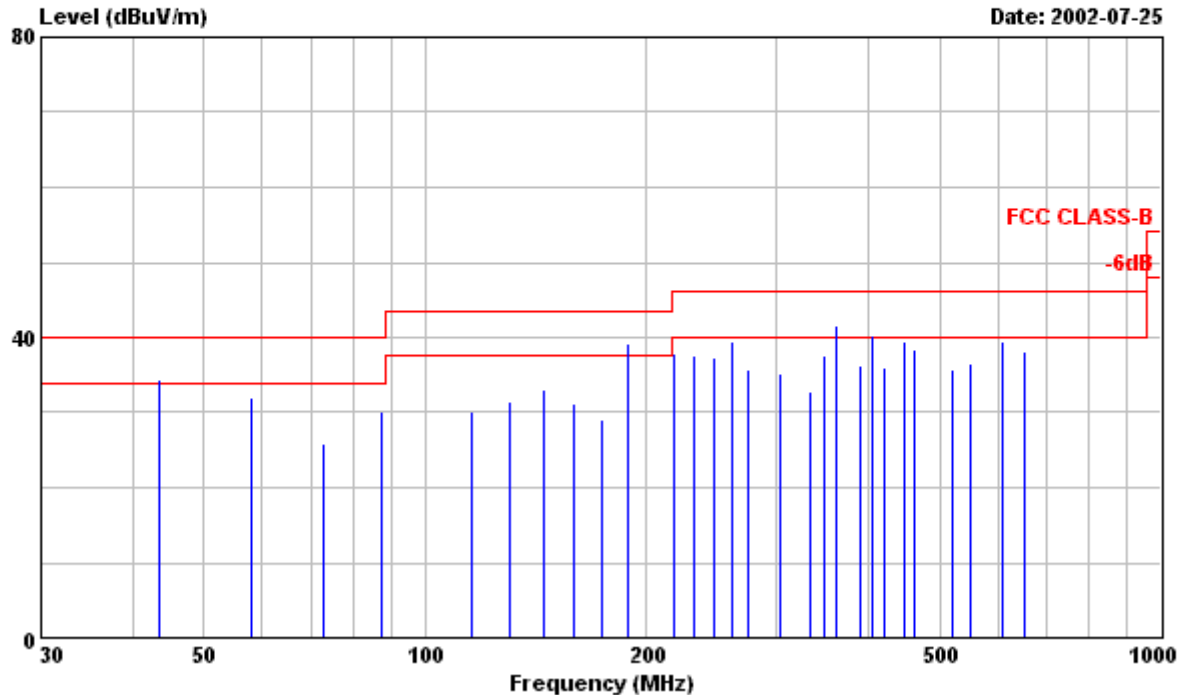


PHILIPS

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Data#: 1

File#: C:\Program Files\em3\EMI02-038-R.emi



Site : PHILIPS EMI 3M open site
Condition : FCC CLASS-B 3m FCC-3M-FACTOR HORIZONTAL
EUT : IBM 6634-0AN Serial No:TY0207422
Power : 120-240VAC
Memo : 1. EMI EVALUATION FOR FCC SAMPLE.
: 2. 2ND MODEL LPD TUBE,RUN IBM V1.8
: FONT 16 "H" PATTERN.
: 3. 1600x1200/75Hz 93.7KHz MODE WITH
: IBM Aptiva V66M PC,S3 Trio 3D/2X
: VIDEO CARD WAS TESTED.

Frequency Peak Reading QP reading Limit Factor Emission Level Over Limit Remark
HORIZONTAL

MHz	dBuV	dBuV	dBuV/m	dB/m	dBuV/m	dBuV/m	
! 43.490	22.80	---	40.00	11.68	34.48	-5.52	Peak
43.490	---	21.74	40.00	11.68	33.42	-6.58	QP
57.970	21.80	---	40.00	10.07	31.87	-8.13	Peak
72.460	15.70	---	40.00	10.09	25.79	-14.21	Peak
86.940	19.30	---	40.00	10.75	30.05	-9.95	Peak
115.930	18.00	---	43.50	12.21	30.21	-13.29	Peak
130.420	18.80	---	43.50	12.71	31.51	-11.99	Peak
144.920	19.70	---	43.50	13.24	32.94	-10.56	Peak
159.390	17.60	---	43.50	13.68	31.28	-12.22	Peak
173.890	15.10	---	43.50	14.07	29.17	-14.33	Peak
! 188.370	24.10	---	43.50	15.22	39.32	-4.18	Peak
! 188.370	---	22.30	43.50	15.22	37.52	-5.98	QP

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	Remark
HORIZONTAL							
MHz	dBuV	dBuV	dBuV/m	dB/m	dBuV/m	dBuV/m	
217.370	20.10	---	46.00	17.88	37.98	-8.02	Peak
231.860	18.50	---	46.00	19.06	37.56	-8.44	Peak
246.350	17.20	---	46.00	20.17	37.37	-8.63	Peak
260.840	18.40	---	46.00	21.12	39.52	-6.48	Peak
275.330	13.90	---	46.00	21.90	35.80	-10.20	Peak
304.300	18.50	---	46.00	16.57	35.07	-10.93	Peak
333.280	15.50	---	46.00	17.18	32.68	-13.32	Peak
347.780	20.20	---	46.00	17.46	37.66	-8.34	Peak
! 362.260	23.90	---	46.00	17.72	41.62	-4.38	Peak
! 362.260	---	22.58	46.00	17.72	40.30	-5.70	QP
391.250	18.10	---	46.00	18.24	36.34	-9.66	Peak
405.740	---	20.31	46.00	18.48	38.79	-7.21	QP
! 405.740	21.80	---	46.00	18.48	40.28	-5.72	Peak
420.210	17.30	---	46.00	18.69	35.99	-10.01	Peak
449.220	20.40	---	46.00	19.08	39.48	-6.52	Peak
463.690	19.20	---	46.00	19.27	38.47	-7.53	Peak
521.640	15.80	---	46.00	20.05	35.85	-10.15	Peak
550.650	16.10	---	46.00	20.51	36.61	-9.39	Peak
608.600	18.00	---	46.00	21.41	39.41	-6.59	Peak
652.070	15.60	---	46.00	22.45	38.05	-7.95	Peak

- 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

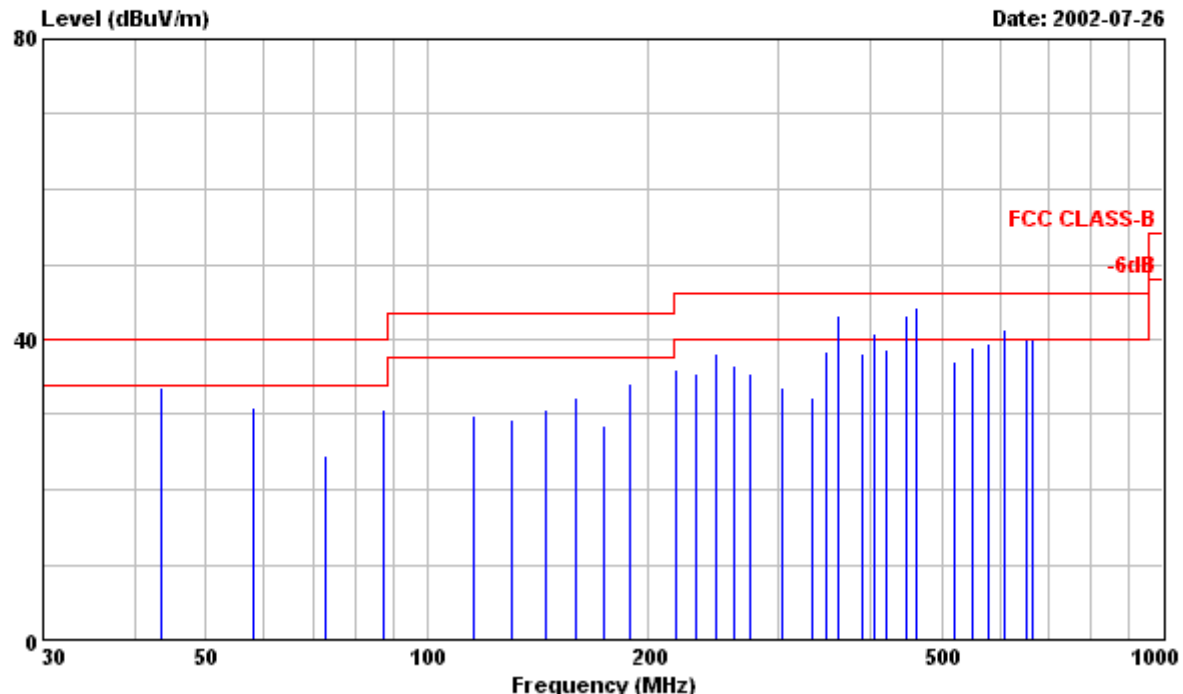


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Data#: 2

File#: C:\Program Files\em3\EMI02-038-R.emi



Site : PHILIPS EMI 3M open site
Condition : FCC CLASS-B 3m FCC-3M-FACTOR VERTICAL
EUT : IBM 6634-0AN Serial No:TY0207422
Power : 120-240VAC
Memo : 1. EMI EVALUATION FOR FCC SAMPLE.
: 2. 2ND MODEL LPD TUBE,RUN IBM V1.8
: FONT 16 "H" PATTERN.
: 3. 1600x1200/75Hz 93.7KHz MODE WITH
: IBM Aptiva V66M PC,S3 Trio 3D/2X
: VIDEO CARD WAS TESTED.

Frequency Peak Reading QP reading Limit Factor Emission Level Over Limit Remark
VERTICAL

MHz	dBuV	dBuV	dBuV/m	dB/m	dBuV/m	dBuV/m	
43.490	22.00	---	40.00	11.68	33.68	-6.32	Peak
57.970	20.90	---	40.00	10.07	30.97	-9.03	Peak
72.460	14.40	---	40.00	10.09	24.49	-15.51	Peak
86.940	19.90	---	40.00	10.75	30.65	-9.35	Peak
115.930	17.60	---	43.50	12.21	29.81	-13.69	Peak
130.420	16.70	---	43.50	12.71	29.41	-14.09	Peak
144.920	17.50	---	43.50	13.24	30.74	-12.76	Peak
159.390	18.70	---	43.50	13.68	32.38	-11.12	Peak
173.890	14.40	---	43.50	14.07	28.47	-15.03	Peak
188.370	19.00	---	43.50	15.22	34.22	-9.28	Peak
217.370	18.20	---	46.00	17.88	36.08	-9.92	Peak
231.860	16.40	---	46.00	19.06	35.46	-10.54	Peak

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	Remark
VERTICAL							
MHz	dBuV	dBuV	dBuV/m	dB/m	dBuV/m	dBuV/m	
246.350	18.00	---	46.00	20.17	38.17	-7.83	Peak
260.840	15.40	---	46.00	21.12	36.52	-9.48	Peak
275.330	13.50	---	46.00	21.90	35.40	-10.60	Peak
304.300	17.00	---	46.00	16.57	33.57	-12.43	Peak
333.280	15.10	---	46.00	17.18	32.28	-13.72	Peak
347.780	20.90	---	46.00	17.46	38.36	-7.64	Peak
! 362.260	25.50	---	46.00	17.72	43.22	-2.78	Peak
! 362.260	---	23.69	46.00	17.72	41.41	-4.59	QP
391.250	19.80	---	46.00	18.24	38.04	-7.96	Peak
! 405.740	22.30	---	46.00	18.48	40.78	-5.22	Peak
405.740	---	20.59	46.00	18.48	39.07	-6.93	QP
420.210	20.10	---	46.00	18.69	38.79	-7.21	Peak
! 449.220	24.10	---	46.00	19.08	43.18	-2.82	Peak
! 449.220	---	22.90	46.00	19.08	41.98	-4.02	QP
! 463.690	24.90	---	46.00	19.27	44.17	-1.83	Peak
! 463.690	---	23.33	46.00	19.27	42.60	-3.40	QP
521.640	16.90	---	46.00	20.05	36.95	-9.05	Peak
550.650	18.30	---	46.00	20.51	38.81	-7.19	Peak
579.630	18.60	---	46.00	20.91	39.51	-6.49	Peak
608.600	---	17.79	46.00	21.41	39.20	-6.80	QP
! 608.600	20.00	---	46.00	21.41	41.41	-4.59	Peak
652.070	17.50	---	46.00	22.45	39.95	-6.05	Peak
666.560	17.10	---	46.00	22.77	39.87	-6.13	Peak

- 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

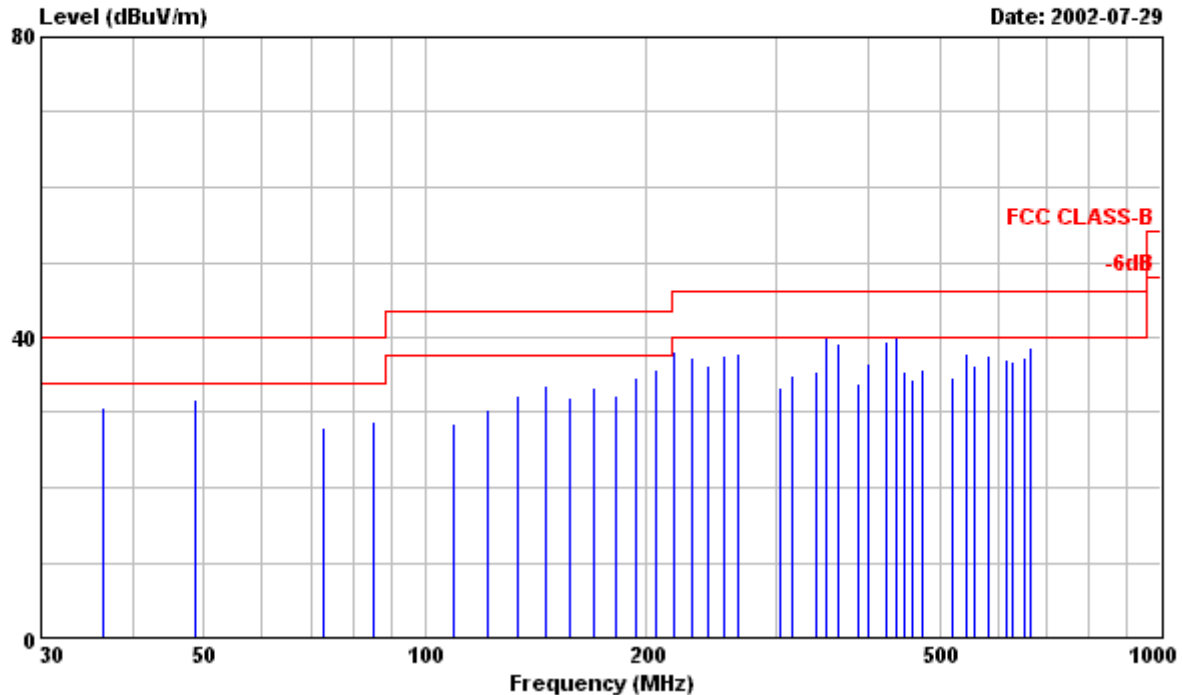


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Data#: 3

File#: C:\Program Files\em3\EMI02-038-R.emi



Site : PHILIPS EMI 3M open site
Condition : FCC CLASS-B 3m FCC-3M-FACTOR HORIZONTAL
EUT : IBM 6634-0AN Serial No:TY0207422
Power : 120-240VAC
Memo : 1. EMI EVALUATION FOR FCC SAMPLE.
: 2. 2ND MODEL LPD TUBE,RUN IBM V1.8
: FONT 14 "H" PATTERN.
: 3. 1280x1024/85Hz 91.1KHz MODE WITH
: IBM Aptiva V66M PC,S3 Trio 3D/2X
: VIDEO CARD WAS TESTED.

Frequency Peak Reading QP reading Limit Factor Emission Level Over Limit Remark
HORIZONTAL

MHz	dBuV	dBuV	dBuV/m	dB/m	dBuV/m	dBuV/m	
36.370	17.50	---	40.00	13.09	30.59	-9.41	Peak
48.500	20.80	---	40.00	11.01	31.81	-8.19	Peak
72.720	18.00	---	40.00	10.12	28.12	-11.88	Peak
84.840	18.20	---	40.00	10.64	28.84	-11.16	Peak
109.070	16.60	---	43.50	11.87	28.47	-15.03	Peak
121.170	17.90	---	43.50	12.41	30.31	-13.19	Peak
133.290	19.40	---	43.50	12.82	32.22	-11.28	Peak
145.400	20.30	---	43.50	13.25	33.55	-9.95	Peak
157.520	18.50	---	43.50	13.63	32.13	-11.37	Peak
169.660	19.30	---	43.50	13.96	33.26	-10.24	Peak
181.780	17.80	---	43.50	14.59	32.39	-11.11	Peak
193.900	19.00	---	43.50	15.73	34.73	-8.77	Peak

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	Remark
HORIZONTAL							
MHz	dBuV	dBuV	dBuV/m	dB/m	dBuV/m	dBuV/m	
206.020	19.00	---	43.50	16.82	35.82	-7.68	Peak
218.110	20.10	---	46.00	17.94	38.04	-7.96	Peak
230.230	18.41	---	46.00	18.92	37.33	-8.67	Peak
242.350	16.30	---	46.00	19.91	36.21	-9.79	Peak
254.460	16.90	---	46.00	20.76	37.66	-8.34	Peak
266.580	16.40	---	46.00	21.43	37.83	-8.17	Peak
302.920	16.70	---	46.00	16.52	33.22	-12.78	Peak
315.050	18.20	---	46.00	16.80	35.00	-11.00	Peak
339.290	18.30	---	46.00	17.30	35.60	-10.40	Peak
351.410	22.40	---	46.00	17.53	39.93	-6.07	Peak
363.520	21.50	---	46.00	17.74	39.24	-6.76	Peak
387.740	15.80	---	46.00	18.19	33.99	-12.01	Peak
399.870	18.20	---	46.00	18.40	36.60	-9.40	Peak
424.080	20.80	---	46.00	18.73	39.53	-6.47	Peak
436.200	---	18.94	46.00	18.90	37.84	-8.16	QP
! 436.200	21.20	---	46.00	18.90	40.10	-5.90	Peak
448.320	16.30	---	46.00	19.06	35.36	-10.64	Peak
460.440	15.30	---	46.00	19.23	34.53	-11.47	Peak
472.570	16.30	---	46.00	19.37	35.67	-10.33	Peak
521.050	14.50	---	46.00	20.05	34.55	-11.45	Peak
545.270	17.50	---	46.00	20.42	37.92	-8.08	Peak
557.390	15.80	---	46.00	20.59	36.39	-9.61	Peak
581.590	16.70	---	46.00	20.94	37.64	-8.36	Peak
617.960	15.30	---	46.00	21.67	36.97	-9.03	Peak
630.080	15.00	---	46.00	21.93	36.93	-9.07	Peak
654.330	14.90	---	46.00	22.51	37.41	-8.59	Peak
666.450	16.00	---	46.00	22.77	38.77	-7.23	Peak

- 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

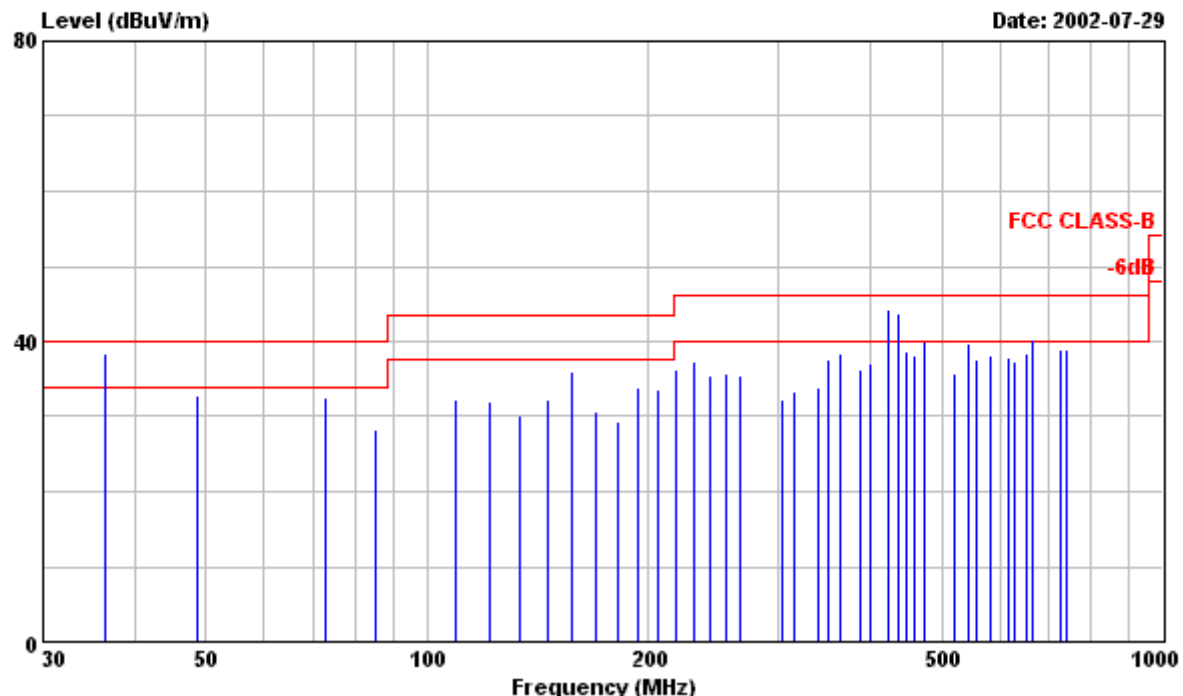


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Data#: 4

File#: C:\Program Files\em3\EMI02-038-R.emi



Site : PHILIPS EMI Shielding Room
Condition : FCC CLASS-B 3m FCC-3M-FACTOR VERTICAL
EUT : IBM 6634-0AN Serial No:TY0207422
Power : 120-240VAC
Memo : 1. EMI EVALUATION FOR FCC SAMPLE.
: 2. 2ND MODEL LPD TUBE,RUN IBM V1.8
: FONT 14 "H" PATTERN.
: 3. 1280x1024/85Hz 91.1KHz MODE WITH
: IBM Aptiva V66M PC,S3 Trio 3D/2X
: VIDEO CARD WAS TESTED.

Frequency Peak Reading QP reading Limit Factor Emission Level Over Limit Remark
VERTICAL

MHz	dBuV	dBuV	dBuV/m	dB/m	dBuV/m	dBuV/m	
! 36.370	---	23.47	40.00	13.09	36.56	-3.44	QP
! 36.370	25.30	---	40.00	13.09	38.39	-1.61	Peak
48.500	21.70	---	40.00	11.01	32.71	-7.29	Peak
72.720	22.30	---	40.00	10.12	32.42	-7.58	Peak
84.840	17.70	---	40.00	10.64	28.34	-11.66	Peak
109.070	20.30	---	43.50	11.87	32.17	-11.33	Peak
121.170	19.60	---	43.50	12.41	32.01	-11.49	Peak
133.290	17.20	---	43.50	12.82	30.02	-13.48	Peak
145.400	18.90	---	43.50	13.25	32.15	-11.35	Peak
157.520	22.30	---	43.50	13.63	35.93	-7.57	Peak
169.660	16.60	---	43.50	13.96	30.56	-12.94	Peak
181.780	14.70	---	43.50	14.59	29.29	-14.21	Peak

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	Remark
					VERTICAL		
MHz	dBuV	dBuV	dBuV/m	dB/m	dBuV/m	dBuV/m	
193.900	18.10	---	43.50	15.73	33.83	-9.67	Peak
206.020	16.70	---	43.50	16.82	33.52	-9.98	Peak
218.110	18.30	---	46.00	17.94	36.24	-9.76	Peak
230.230	18.50	---	46.00	18.92	37.42	-8.58	Peak
242.350	15.50	---	46.00	19.91	35.41	-10.59	Peak
254.460	15.10	---	46.00	20.76	35.86	-10.14	Peak
266.580	14.10	---	46.00	21.43	35.53	-10.47	Peak
302.920	15.80	---	46.00	16.52	32.32	-13.68	Peak
315.050	16.40	---	46.00	16.80	33.20	-12.80	Peak
339.290	16.60	---	46.00	17.30	33.90	-12.10	Peak
351.410	20.10	---	46.00	17.53	37.63	-8.37	Peak
363.520	20.60	---	46.00	17.74	38.34	-7.66	Peak
387.740	18.00	---	46.00	18.19	36.19	-9.81	Peak
399.870	18.80	---	46.00	18.40	37.20	-8.80	Peak
! 424.080	25.60	---	46.00	18.73	44.33	-1.67	Peak
! 424.080	---	24.51	46.00	18.73	43.24	-2.76	QP
! 436.200	24.80	---	46.00	18.90	43.70	-2.30	Peak
! 436.200	---	23.62	46.00	18.90	42.52	-3.48	QP
448.320	19.50	---	46.00	19.06	38.56	-7.44	Peak
460.440	18.80	---	46.00	19.23	38.03	-7.97	Peak
472.570	20.60	---	46.00	19.37	39.97	-6.03	Peak
521.050	15.70	---	46.00	20.05	35.75	-10.25	Peak
545.270	19.20	---	46.00	20.42	39.62	-6.38	Peak
557.390	17.10	---	46.00	20.59	37.69	-8.31	Peak
581.590	17.30	---	46.00	20.94	38.24	-7.76	Peak
617.960	16.30	---	46.00	21.67	37.97	-8.03	Peak
630.080	15.40	---	46.00	21.93	37.33	-8.67	Peak
654.330	15.80	---	46.00	22.51	38.31	-7.69	Peak
! 666.450	17.40	---	46.00	22.77	40.17	-5.83	Peak
727.000	15.10	---	46.00	23.88	38.98	-7.02	Peak
739.120	14.80	---	46.00	24.05	38.85	-7.15	Peak

- 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