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.: TYR87-2052 Date : 24 July, 2003 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. : A3KM118
Model Name : 170N4
Serial Number : TY0304346
Description : 17" SXGA LCD color monitor, Max. resolution 1280x1024/75Hz

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 : 18 Jul. 2003

Date of performance of test : 20 Jul., 2003 to 21 Jul., 2003

C.C. Wu - EMC Test Engineer

Ronnie Yang - EMC Manager

Table of contents

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, 17" color monitor :

Model No. : 170N4
FCC ID : A3KM118
Brand : PHILIPS

The color monitor automatically scans horizontal frequencies between 30KHz and 82KHz , and vertical frequencies between 56Hz and 76Hz. This color monitor displays sharp and brilliant images of text and graphics with a maximum resolution up to 1280x1024 pixels.

The monitor has 16 factory-preset modes as indicated in the following table:

#	Resolution	H-Frequency	Pixel rate	V-Frequency	Comment
1	640X350	31.5KHz	25.175	70Hz	IBM VGA 10h
2	720X400	31.5KHz	28.322	70Hz	IBM VGA 3h
3	640X480	37.5KHz	31.501	75Hz	
4	640X480	35.0KHz	30.24	67Hz	
5	640X480	31.5KHz	25.175	60Hz	
6	800X600	35.2KHz	36	56Hz	
7	800X600	46.9KHz	49.498	75Hz	
8	800X600	37.9KHz	40	60Hz	
9	832X624	49.7KHz	57.28	75Hz	MAC
10	1024X768	60.0KHz	78.75	75Hz	
11	1024X768	48.4KHz	65	60Hz	
12	1152X870	68.7KHz	100	75Hz	MAC
13	1152X900	71.8KHz	108	76Hz	SUN Mode II
14	1280X1024	64.0KHz	108	60Hz	
15	1280X1024	80.0KHz	135	75Hz	
16	688X556	31.3KHz	27	50Hz	TV-PAL

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	2928A04640	02/27/2003	02/27/2004
EMI Receiver	R & S ESVS30	841977/006	02/27/2003	02/27/2004
LISN	EMCO 3825/2	9311-2153	06/16/2003	06/16/2004
LISN	EMCO 3825/2	9311-2154	06/16/2003	06/16/2004
RF Cable	8-meter	N/A	09/15-2002	09/15/2003

- For Radiated Emissions Test:

Test Equipment	Model No.	Serial No.	Last Calibrate	Next Calibrate
Spectrum	HP8568B	2928A04640	09/02/2002	09/02/2003
RF Preselector	HP85685A	2620A00338	09/02/2002	09/02/2003
QP Adapter	HP85650A	2811A01324	09/02/2002	09/02/2003
EMI Receiver	R & S ESVS30	841977/006	02/27/2003	02/27/2004
Biconical Antenna	EMCO 3110B	3224	09/19/2002	09/19/2003
Log-Periodic Antenna	EMCO 3146A	1425	09/19/2002	09/19/2003
Turn Table	EMCO 1060	1068	09/15/2002	09/15/2003
Antenna Tower	EMCO 1050	1113	09/15/2002	09/15/2003
RF Cable	M17/75-RG214-NE	N/A	09/15/2002	09/15/2003

4. Test Configuration of EUT and Peripherals

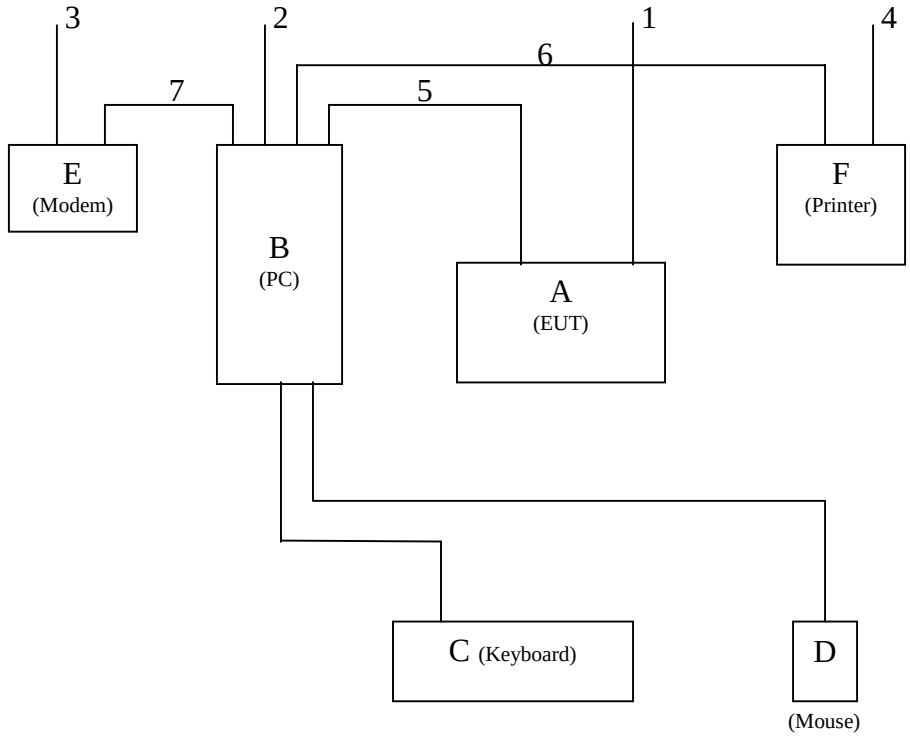
The system was configured for testing in a typical fashion (as a customer would normally use it) according to ANSI C63.4-1992, please see the photographs for detail. For system measurement, the EUT "170N4" were connected to:

	Description	Brand/ Model No.	Serial No.	FCC ID	Remark
A	Monitor	Philips 170N4	TY0304346	A3KM118	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	Hayes 231AA	A22231081770	BFJ9D9308US	
F	Printer	HP 2225C	2934S55406	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.
Audio cable with one ferrite core was used.

Tested and reported modes as following:

Test Item	File No.	Resolution	Frequencies	I/F Cable
Conducted	EMI03-031-C	1280x1024	80KHz/75Hz	D-sub
		1024x768	60KHz/75Hz	D-sub
Radiated	EMI03-031-R	1280x1024	80KHz/75Hz	D-sub
		1024x768	60KHz/75Hz	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" patter 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

7. Conducted Emissions Test

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	: 20 Jul., 2003 to 21 Jul., 2003
Test Engineer	: C.C.Wu

For detail measurement results see next pages.

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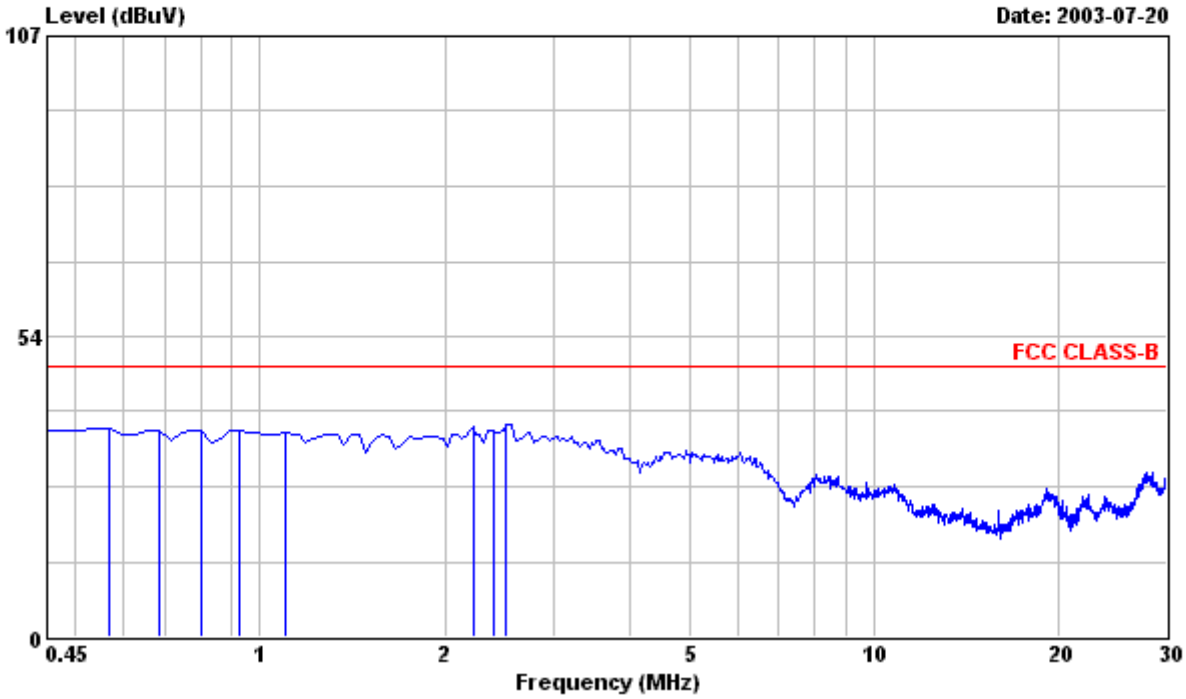

Site : PHILIPS EMI Shielding Room
Condition : FCC CLASS-B FCC_LCI_L1 LINE
EUT : PHILIPS 17ON4 Serial No:TY0304346
Power : 120VAC
Memo : 1. EMI EVALUATION FOR FCC SAMPLE.
: 2. 2ND MODEL QDI PANEL,RUN IBM V1.8
: FONT 16 ARIAL "H" PATTERN.
: 3. AUDIO WITH HEADPHONE.
: 4. 1280x1024/75Hz 80KHz MODE WITH COMPAQ
: ENC/P866/20E/8/128A TAI PC,ATI RADEON
: VE DDR VIDEO CAR WAS TESTED.

Frequency	Peak Reading	QP Reading	Limit LINE	Factor	Emission Lavel	Over Limit	Remark
0.568	36.90	---	48.00	0.26	37.16	-10.84	Peak
0.686	36.30	---	48.00	0.31	36.61	-11.39	Peak
0.805	36.50	---	48.00	0.35	36.85	-11.15	Peak
0.923	36.20	---	48.00	0.38	36.58	-11.42	Peak
1.100	36.10	---	48.00	0.40	36.50	-11.50	Peak
2.223	37.00	---	48.00	0.40	37.40	-10.60	Peak
2.400	36.40	---	48.00	0.40	36.80	-11.20	Peak
2.519	37.50	---	48.00	0.40	37.90	-10.10	Peak

Remarks: 1. All Readings are Peak & Quasi-Peak Values.
2. Emission Lavel (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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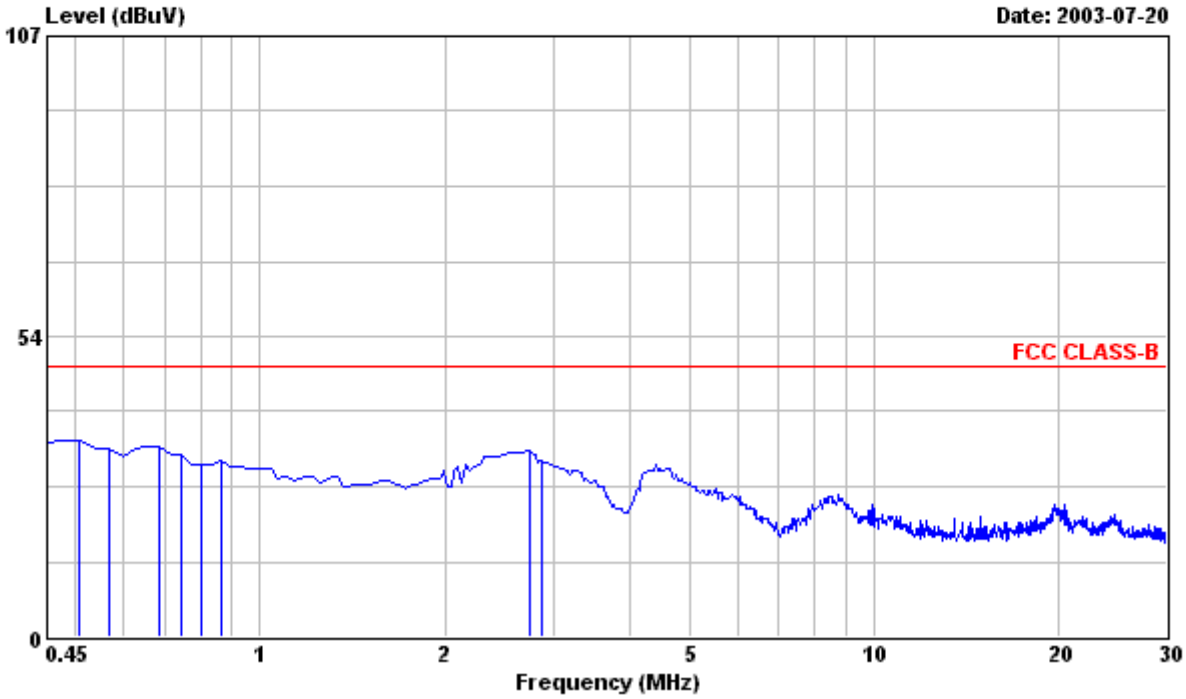

Site : PHILIPS EMI Shielding Room
Condition : FCC CLASS-B FCC_LCI_L2 NEUTRAL
EUT : PHILIPS 170N4 Serial No:TY0304346
Power : 120VAC
Memo : 1. EMI EVALUATION FOR FCC SAMPLE.
: 2. 2ND MODEL QDI PANEL,RUN IBM V1.8
: FONT 16 ARIAL "H" PATTERN.
: 3. AUDIO WITH HEADPHONE.
: 4. 1280x1024/75Hz 80KHz MODE WITH COMPAQ
: ENC/P866/20E/8/128A TAI PC,ATI RADEON
: VE DDR VIDEO CAR WAS TESTED.

Frequency	Peak Reading	QP Reading	Limit	Factor	Emission Lavel NEUTRAL	Over Limit	Remark
0.509	34.90	---	48.00	0.23	35.13	-12.87	Peak
0.568	33.20	---	48.00	0.26	33.46	-14.54	Peak
0.686	33.70	---	48.00	0.31	34.01	-13.99	Peak
0.746	32.30	---	48.00	0.33	32.63	-15.37	Peak
0.805	30.50	---	48.00	0.35	30.85	-17.15	Peak
0.864	30.90	---	48.00	0.36	31.26	-16.74	Peak
2.755	32.80	---	48.00	0.40	33.20	-14.80	Peak
2.873	30.90	---	48.00	0.40	31.30	-16.70	Peak

Remarks: 1. All Readings are Peak & Quasi-Peak Values.
2. Emission Lavel (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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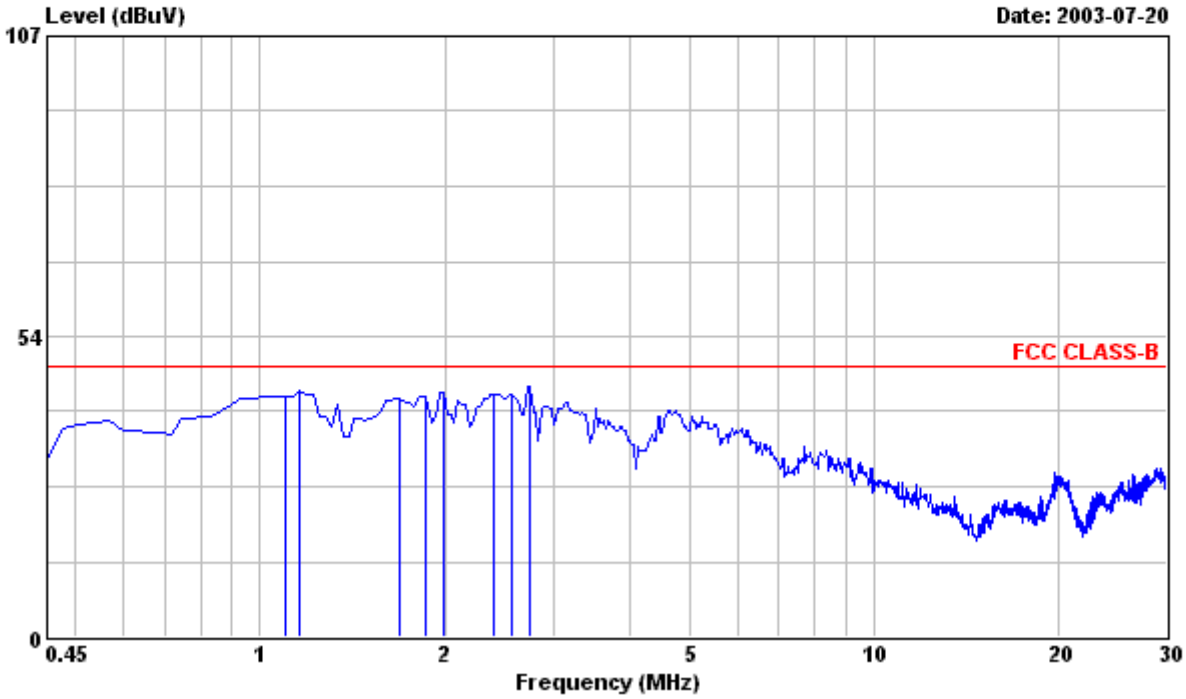

Site : PHILIPS EMI Shielding Room
Condition : FCC CLASS-B FCC_LCI_L1 LINE
EUT : PHILIPS 17ON4 Serial No:TY0304346
Power : 220VAC
Memo : 1. EMI EVALUATION FOR FCC SAMPLE.
: 2. 2ND MODEL QDI PANEL,RUN IBM V1.8
: FONT 16 ARIAL "H" PATTERN.
: 3. AUDIO WITH HEADPHONE.
: 4. 1280x1024/75Hz 80KHz MODE WITH COMPAQ
: ENC/P866/20E/8/128A TAI PC,ATI RADEON
: VE DDR VIDEO CAR WAS TESTED.

Frequency	Peak Reading	QP Reading	Limit LINE	Factor	Emission Lavel	Over Limit	Remark
1.100	42.40	---	48.00	0.40	42.80	-5.20	Peak
1.159	43.30	---	48.00	0.40	43.70	-4.30	Peak
1.691	42.00	---	48.00	0.40	42.40	-5.60	Peak
1.868	42.30	---	48.00	0.40	42.70	-5.30	Peak
1.987	43.20	---	48.00	0.40	43.60	-4.40	Peak
2.400	42.90	---	48.00	0.40	43.30	-4.70	Peak
2.578	42.90	---	48.00	0.40	43.30	-4.70	Peak
2.755	44.10	---	48.00	0.40	44.50	-3.50	Peak

Remarks: 1. All Readings are Peak & Quasi-Peak Values.
2. Emission Lavel (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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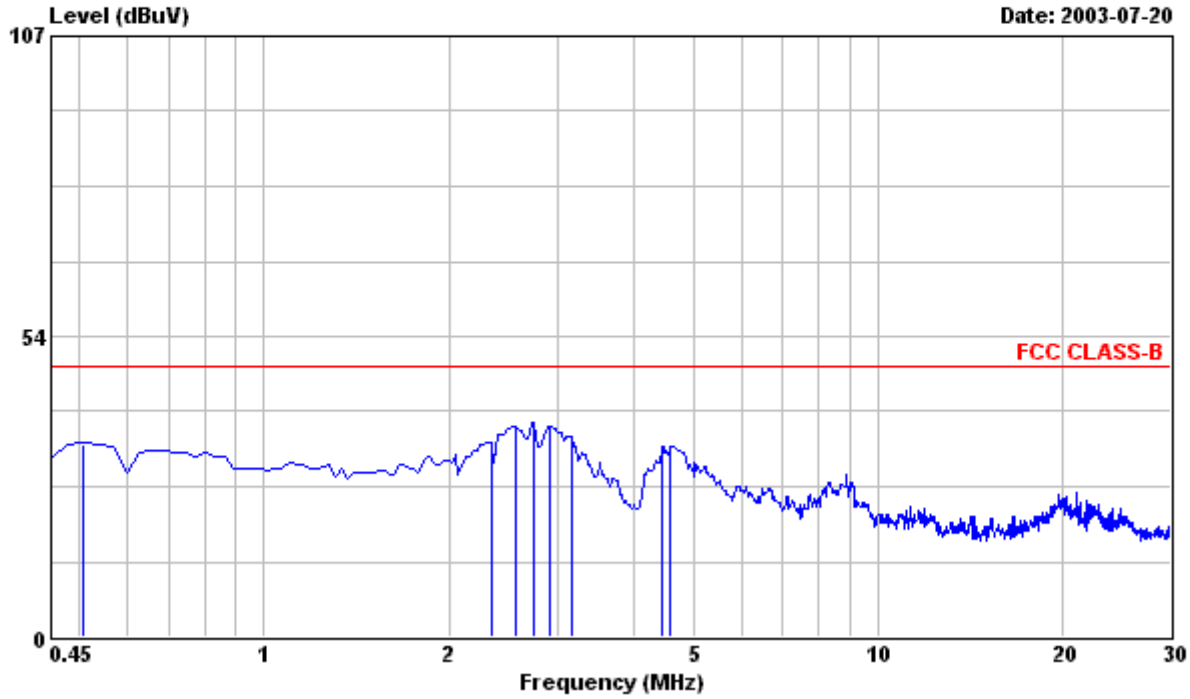

Site : PHILIPS EMI Shielding Room
Condition : FCC CLASS-B FCC_LCI_L2 NEUTRAL
EUT : PHILIPS 170N4 Serial No:TY0304346
Power : 220VAC
Memo : 1. EMI EVALUATION FOR FCC SAMPLE.
: 2. 2ND MODEL QDI PANEL,RUN IBM V1.8
: FONT 16 ARIAL "H" PATTERN.
: 3. AUDIO WITH HEADPHONE.
: 4. 1280x1024/75Hz 80KHz MODE WITH COMPAQ
: ENC/P866/20E/8/128A TAI PC,ATI RADEON
: VE DDR VIDEO CAR WAS TESTED.

Frequency	Peak Reading	QP Reading	Limit	Factor	Emission Lavel NEUTRAL	Over Limit	Remark
0.509	34.50	---	48.00	0.23	34.73	-13.27	Peak
2.341	34.30	---	48.00	0.40	34.70	-13.30	Peak
2.578	36.90	---	48.00	0.40	37.30	-10.70	Peak
2.755	37.60	---	48.00	0.40	38.00	-10.00	Peak
2.932	36.90	---	48.00	0.40	37.30	-10.70	Peak
3.169	35.40	---	48.00	0.40	35.80	-12.20	Peak
4.439	33.40	---	48.00	0.35	33.75	-14.25	Peak
4.587	33.60	---	48.00	0.34	33.94	-14.06	Peak

Remarks: 1. All Readings are Peak & Quasi-Peak Values.
2. Emission Lavel (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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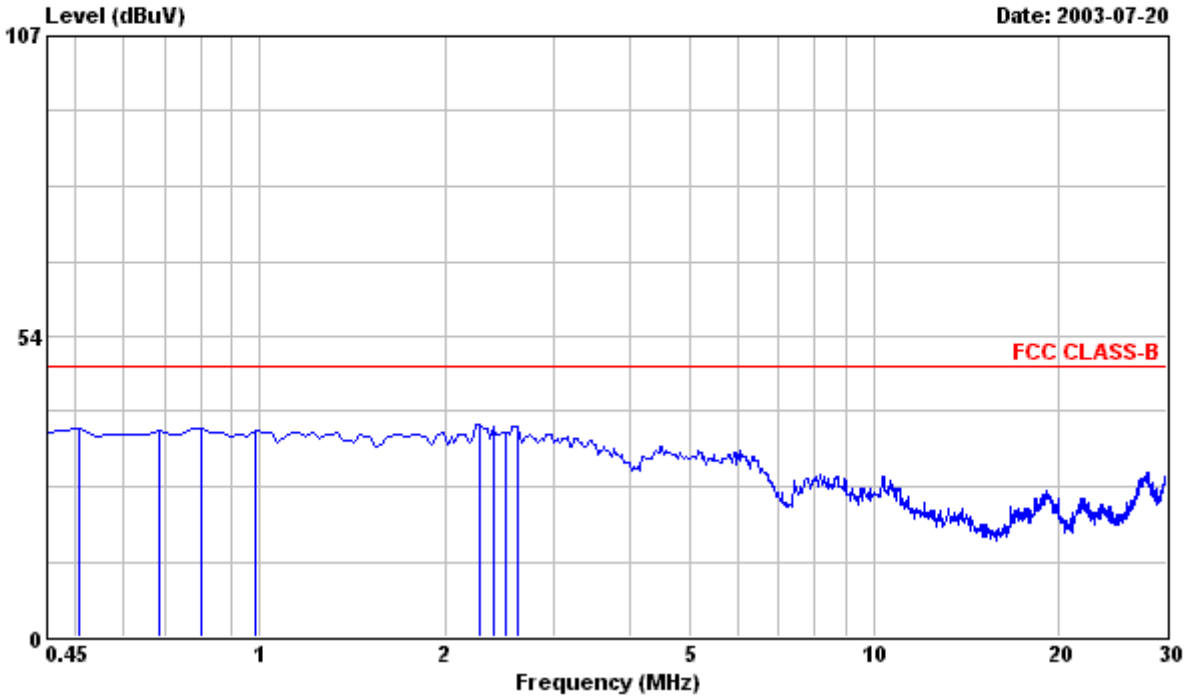

Site : PHILIPS EMI Shielding Room
Condition : FCC CLASS-B FCC_LCI_L1 LINE
EUT : PHILIPS 17ON4 Serial No:TY0304346
Power : 120VAC
Memo : 1. EMI EVALUATION FOR FCC SAMPLE.
: 2. 2ND MODEL QDI PANEL,RUN IBM V1.8
: FONT 14 ARIAL "H" PATTERN.
: 3. AUDIO WITH HEADPHONE.
: 4. 1024x768/75Hz 60KHz MODE WITH COMPAQ
: ENC/P866/20E/8/128A TAI PC,ATI RADEON
: VE DDR VIDEO CAR WAS TESTED.

Frequency	Peak Reading	QP Reading	Limit Line	Factor	Emission Lavel	Over Limit	Remark
0.509	36.80	---	48.00	0.23	37.03	-10.97	Peak
0.686	36.40	---	48.00	0.31	36.71	-11.29	Peak
0.805	36.80	---	48.00	0.35	37.15	-10.85	Peak
0.982	36.50	---	48.00	0.40	36.90	-11.10	Peak
2.282	37.40	---	48.00	0.40	37.80	-10.20	Peak
2.400	36.90	---	48.00	0.40	37.30	-10.70	Peak
2.519	36.10	---	48.00	0.40	36.50	-11.50	Peak
2.637	36.90	---	48.00	0.40	37.30	-10.70	Peak

Remarks: 1. All Readings are Peak & Quasi-Peak Values.
2. Emission Lavel (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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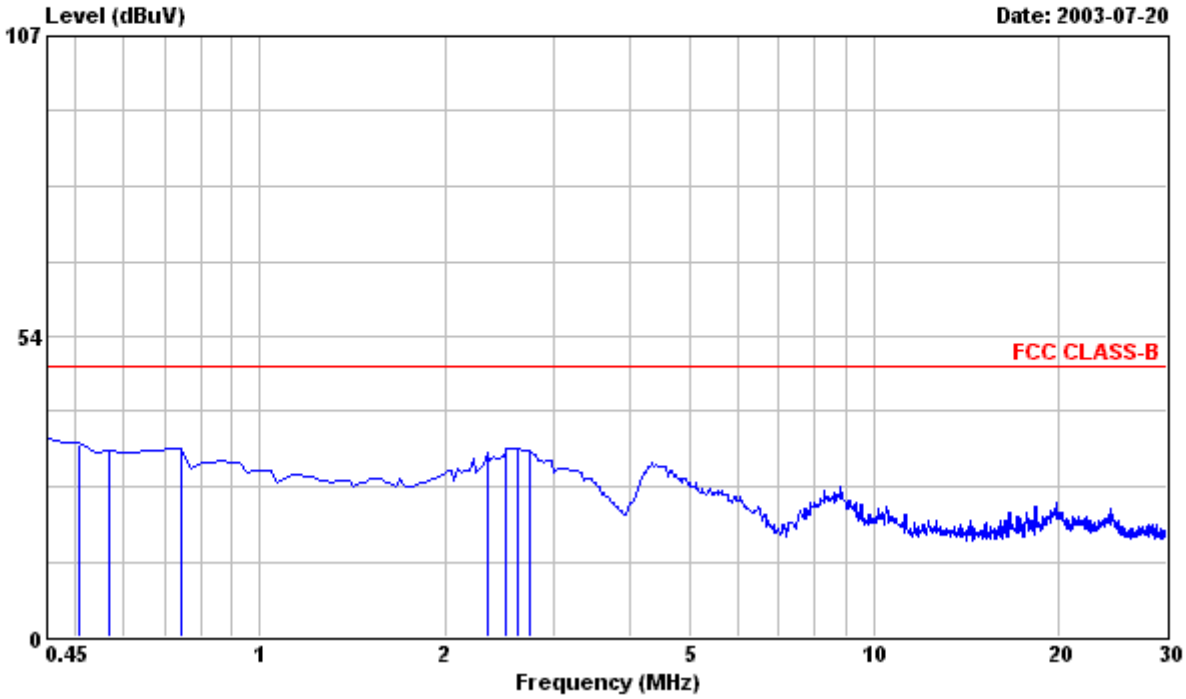

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Condition : FCC CLASS-B FCC_LCI_L2 NEUTRAL
EUT : PHILIPS 170N4 Serial No:TY0304346
Power : 120VAC
Memo : 1. EMI EVALUATION FOR FCC SAMPLE.
: 2. 2ND MODEL QDI PANEL,RUN IBM V1.8
: FONT 14 ARIAL "H" PATTERN.
: 3. AUDIO WITH HEADPHONE.
: 4. 1024x768/75Hz 60KHz MODE WITH COMPAQ
: ENC/P866/20E/8/128A TAI PC,ATI RADEON
: VE DDR VIDEO CAR WAS TESTED.

Frequency	Peak Reading	QP Reading	Limit	Factor	Emission Lavel NEUTRAL	Over Limit	Remark
0.450	35.20	---	48.00	0.20	35.40	-12.60	Peak
0.509	34.50	---	48.00	0.23	34.73	-13.27	Peak
0.568	32.90	---	48.00	0.26	33.16	-14.84	Peak
0.746	33.10	---	48.00	0.33	33.43	-14.57	Peak
2.341	32.40	---	48.00	0.40	32.80	-15.20	Peak
2.519	33.10	---	48.00	0.40	33.50	-14.50	Peak
2.637	33.10	---	48.00	0.40	33.50	-14.50	Peak
2.755	32.90	---	48.00	0.40	33.30	-14.70	Peak

Remarks: 1. All Readings are Peak & Quasi-Peak Values.
2. Emission Lavel (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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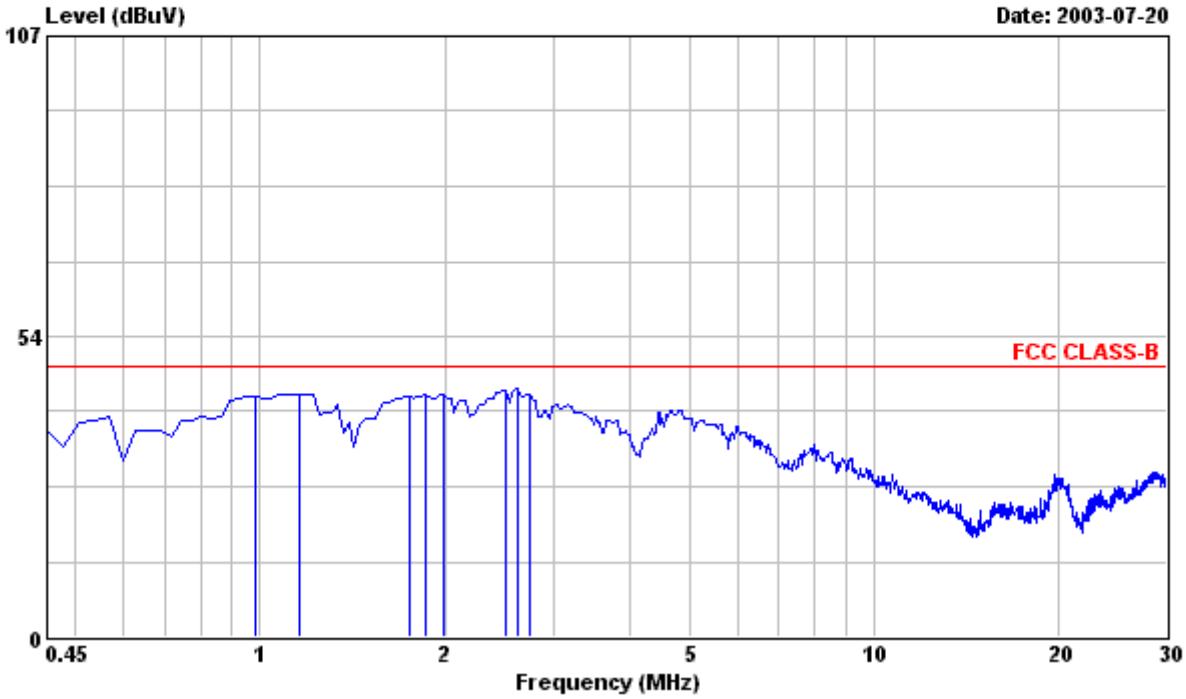

Site : PHILIPS EMI Shielding Room
Condition : FCC CLASS-B FCC_LCI_L1 LINE
EUT : PHILIPS 17ON4 Serial No:TY0304346
Power : 220VAC
Memo : 1. EMI EVALUATION FOR FCC SAMPLE.
: 2. 2ND MODEL QDI PANEL,RUN IBM V1.8
: FONT 14 ARIAL "H" PATTERN.
: 3. AUDIO WITH HEADPHONE.
: 4. 1024x768/75Hz 60KHz MODE WITH COMPAQ
: ENC/P866/20E/8/128A TAI PC,ATI RADEON
: VE DDR VIDEO CAR WAS TESTED.

Frequency	Peak Reading	QP Reading	Limit LINE	Factor	Emission Lavel	Over Limit	Remark
0.982	42.40	---	48.00	0.40	42.80	-5.20	Peak
1.159	42.80	---	48.00	0.40	43.20	-4.80	Peak
1.750	42.30	---	48.00	0.40	42.70	-5.30	Peak
1.868	42.70	---	48.00	0.40	43.10	-4.90	Peak
1.987	42.90	---	48.00	0.40	43.30	-4.70	Peak
2.519	43.30	---	48.00	0.40	43.70	-4.30	Peak
2.637	43.70	---	48.00	0.40	44.10	-3.90	Peak
2.755	42.80	---	48.00	0.40	43.20	-4.80	Peak

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

Tested by : C C.Wu

PHILIPS
Philips Electronics Inductries (Taiwan)., Ltd.
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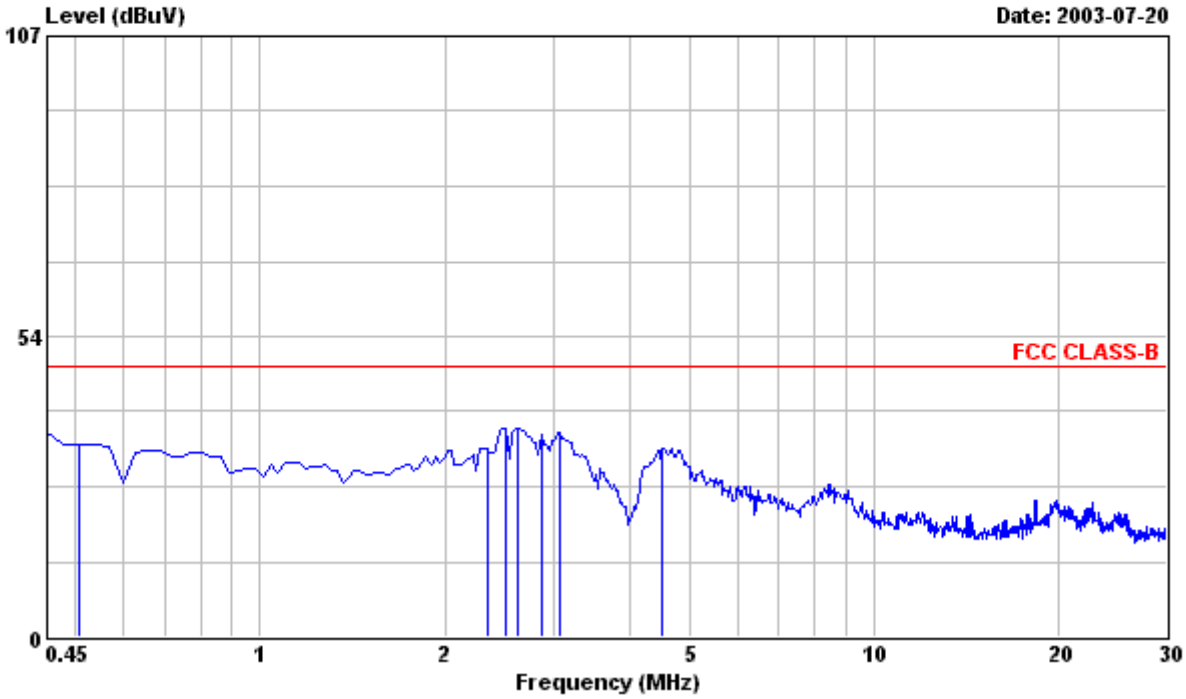
Tel:+886-3-4549862 Fax:+886-3-4549887

Data#: 8 File#: C:\Program Files\e3\EMI03-031-C(170N4 QDI).emi



Site : PHILIPS EMI Shielding Room
Condition : FCC CLASS-B FCC_LCI_L2 NEUTRAL
EUT : PHILIPS 170N4 Serial No:TY0304346
Power : 220VAC
Memo : 1. EMI EVALUATION FOR FCC SAMPLE.
: 2. 2ND MODEL QDI PANEL,RUN IBM V1.8
: FONT 14 ARIAL "H" PATTERN.
: 3. AUDIO WITH HEADPHONE.
: 4. 1024x768/75Hz 60KHz MODE WITH COMPAQ
: ENC/P866/20E/8/128A TAI PC,ATI RADEON
: VE DDR VIDEO CAR WAS TESTED.

Frequency	Peak Reading	QP Reading	Limit	Factor	Emission Lavel NEUTRAL	Over Limit	Remark
0.450	36.30	---	48.00	0.20	36.50	-11.50	Peak
0.509	34.00	---	48.00	0.23	34.23	-13.77	Peak
2.341	33.30	---	48.00	0.40	33.70	-14.30	Peak
2.519	36.60	---	48.00	0.40	37.00	-11.00	Peak
2.637	36.70	---	48.00	0.40	37.10	-10.90	Peak
2.873	35.70	---	48.00	0.40	36.10	-11.90	Peak
3.080	36.10	---	48.00	0.40	36.50	-11.50	Peak
4.528	33.21	---	48.00	0.34	33.55	-14.45	Peak

Remarks: 1. All Readings are Peak & Quasi-Peak Values.
2. Emission Lavel (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	: 20 Jul., 2003 to 21 Jul., 2003
Test Engineer	: C.C.Wu

For detail measurement results see next pages.

PHILIPS

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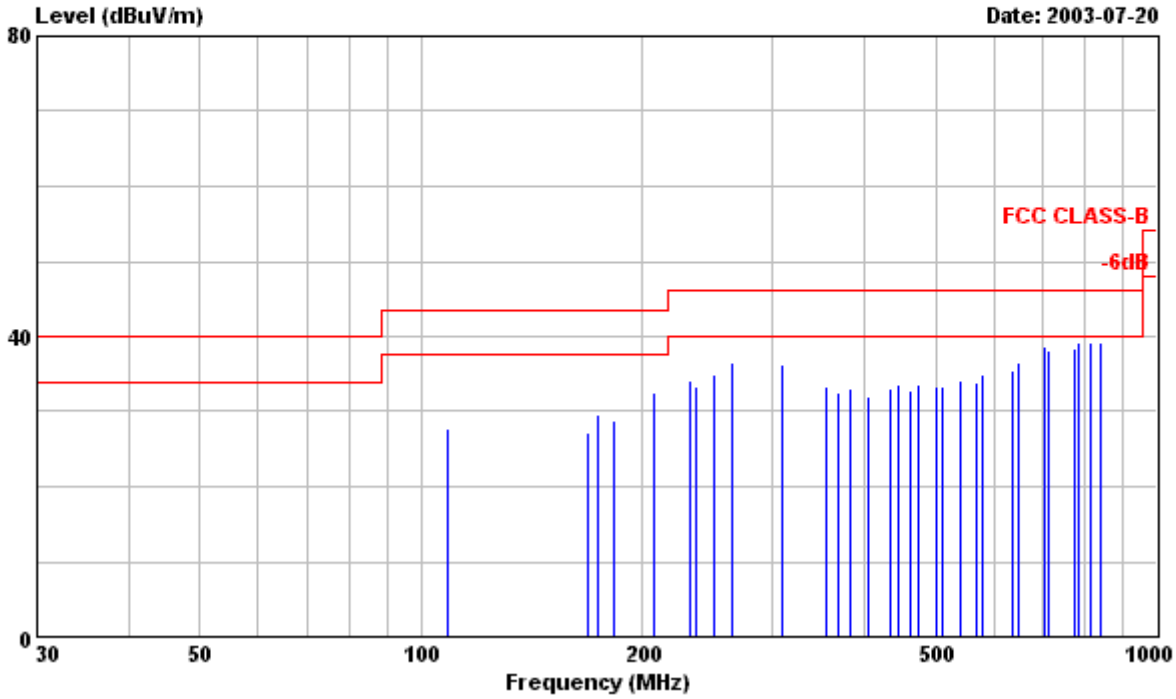
Data#: 1 File#: C:\Program Files\e3\EMI03-031-R.emi



Site : PHILIPS EMI Shielding Room
Condition : FCC CLASS-B 3m FCC-3M-FACTOR HORIZONTAL
EUT : PHILIPS 170N4 Serial No:TY0304346
Power : 120-240VAC
Memo : 1. EMI EVALUATION FOR FCC SAMPLE.
: 2. 2ND MODEL QDI PANEL,RUN IBM V1.8
: FONT 16 ARIAL "H" PATTERN.
: 3. AUDIO WITH HEADPHONE.
: 4. 1280x1024/75Hz 80KHz MODE WITH COMPAQ
: ENC/P866/20E/8/128A TAI PC,ATI RADEON
: VE DDR VIDEO CAR WAS TESTED.

Frequency	Peak Reading	QP reading	Limit	Factor	Emission Lavel	Over Limit	Remark
					HORIZONTAL		
MHz	dBuV	dBuV	dBuV/m	dB/m	dBuV/m	dBuV/m	
108.520	15.80	---	43.50	11.85	27.65	-15.85	Peak
168.300	13.40	---	43.50	13.93	27.33	-16.17	Peak
173.870	15.40	---	43.50	14.07	29.47	-14.03	Peak
182.620	14.10	---	43.50	14.65	28.75	-14.75	Peak
207.680	15.50	---	43.50	17.02	32.52	-10.98	Peak
231.850	15.10	---	46.00	19.06	34.16	-11.84	Peak
236.320	13.90	---	46.00	19.45	33.35	-12.65	Peak
250.640	14.30	---	46.00	20.50	34.80	-11.20	Peak
264.970	15.20	---	46.00	21.33	36.53	-9.47	Peak

Remarks: 1. All Readings are Peak & Quasi-peak values.
2. Emission Lavel (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 MHz	Peak Reading dBuV	QP reading dBuV	Limit dBuV/m	Factor dB/m	Emission Lavel HORIZONTAL dBuV/m	Over Limit dBuV/m	Remark
309.090	19.60	---	46.00	16.66	36.26	-9.74	Peak
354.470	15.70	---	46.00	17.58	33.28	-12.72	Peak
368.800	14.60	---	46.00	17.86	32.46	-13.54	Peak
383.110	14.90	---	46.00	18.10	33.00	-13.00	Peak
405.700	13.60	---	46.00	18.48	32.08	-13.92	Peak
434.680	14.20	---	46.00	18.87	33.07	-12.93	Peak
444.330	14.50	---	46.00	19.02	33.52	-12.48	Peak
463.650	13.40	---	46.00	19.27	32.67	-13.33	Peak
473.320	14.10	---	46.00	19.39	33.49	-12.51	Peak
502.290	13.70	---	46.00	19.76	33.46	-12.54	Peak
511.950	13.30	---	46.00	19.90	33.20	-12.80	Peak
540.930	13.80	---	46.00	20.36	34.16	-11.84	Peak
569.900	13.10	---	46.00	20.80	33.90	-12.10	Peak
579.560	13.90	---	46.00	20.91	34.81	-11.19	Peak
637.520	13.40	---	46.00	22.14	35.54	-10.46	Peak
647.170	14.30	---	46.00	22.35	36.65	-9.35	Peak
705.150	15.20	---	46.00	23.57	38.77	-7.23	Peak
714.780	14.40	---	46.00	23.71	38.11	-7.89	Peak
772.740	14.00	---	46.00	24.46	38.46	-7.54	Peak
782.390	14.60	---	46.00	24.59	39.19	-6.81	Peak
811.380	14.20	---	46.00	24.98	39.18	-6.82	Peak
840.370	13.90	---	46.00	25.42	39.32	-6.68	Peak

Remarks: 1. All Readings are Peak & Quasi-peak values.
2. Emission Lavel (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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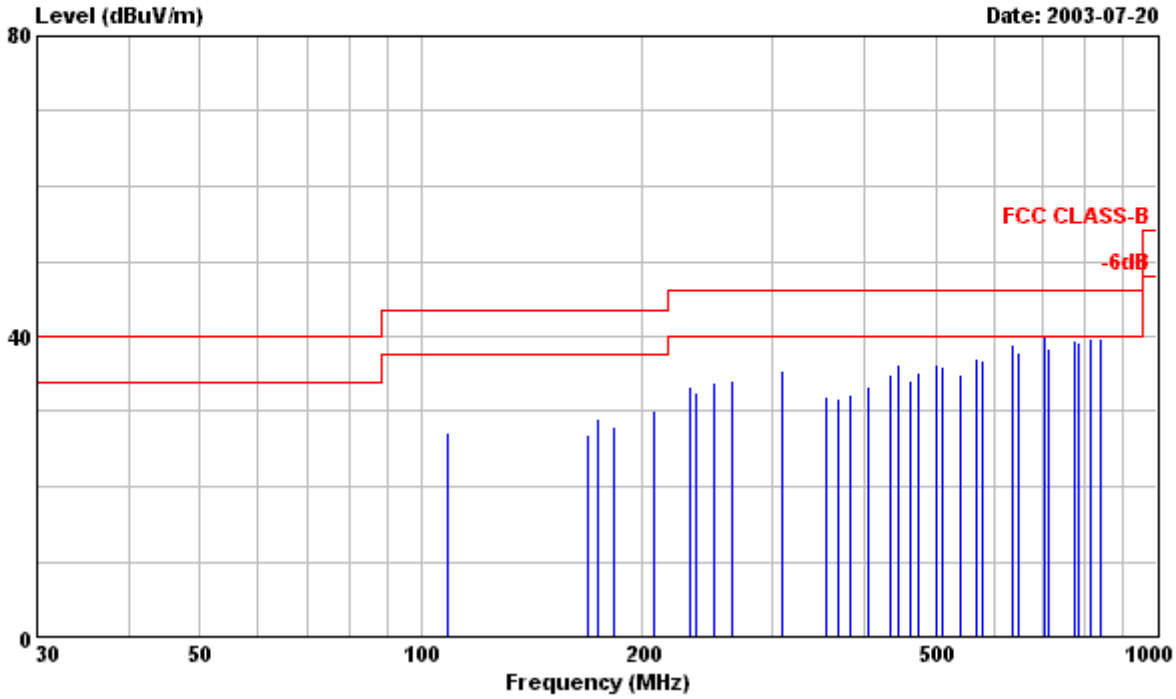

Site : PHILIPS EMI Shielding Room
Condition : FCC CLASS-B 3m FCC-3M-FACTOR VERTICAL
EUT : PHILIPS 170N4 Serial No:TY0304346
Power : 120-240VAC
Memo : 1. EMI EVALUATION FOR FCC SAMPLE.
: 2. 2ND MODEL QDI PANEL,RUN IBM V1.8
: FONT 16 ARIAL "H" PATTERN.
: 3. AUDIO WITH HEADPHONE.
: 4. 1280x1024/75Hz 80KHz MODE WITH COMPAQ
: ENC/P866/20E/8/128A TAI PC,ATI RADEON
: VE DDR VIDEO CAR WAS TESTED.

Frequency	Peak Reading	QP reading	Limit	Factor	Emission Lavel VERTICAL	Over Limit	Remark
MHz	dBuV	dBuV	dBuV/m	dB/m	dBuV/m	dBuV/m	
108.520	15.30	---	43.50	11.85	27.15	-16.35	Peak
168.300	13.00	---	43.50	13.93	26.93	-16.57	Peak
173.870	14.90	---	43.50	14.07	28.97	-14.53	Peak
182.620	13.30	---	43.50	14.65	27.95	-15.55	Peak
207.680	13.10	---	43.50	17.02	30.12	-13.38	Peak
231.850	14.30	---	46.00	19.06	33.36	-12.64	Peak
236.320	13.20	---	46.00	19.45	32.65	-13.35	Peak
250.640	13.40	---	46.00	20.50	33.90	-12.10	Peak
264.970	13.10	---	46.00	21.33	34.43	-11.57	Peak

Remarks: 1. All Readings are Peak & Quasi-peak values.
2. Emission Lavel (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 Lavel VERTICAL	Over Limit	Remark
MHz	dBuV	dBuV	dBuV/m	dB/m	dBuV/m	dBuV/m	
309.090	18.70	---	46.00	16.66	35.36	-10.64	Peak
354.470	14.40	---	46.00	17.58	31.98	-14.02	Peak
368.800	13.80	---	46.00	17.86	31.66	-14.34	Peak
383.110	14.20	---	46.00	18.10	32.30	-13.70	Peak
405.700	14.90	---	46.00	18.48	33.38	-12.62	Peak
434.680	16.10	---	46.00	18.87	34.97	-11.03	Peak
444.330	17.20	---	46.00	19.02	36.22	-9.78	Peak
463.650	14.80	---	46.00	19.27	34.07	-11.93	Peak
473.320	15.70	---	46.00	19.39	35.09	-10.91	Peak
502.290	16.40	---	46.00	19.76	36.16	-9.84	Peak
511.950	16.10	---	46.00	19.90	36.00	-10.00	Peak
540.930	14.60	---	46.00	20.36	34.96	-11.04	Peak
569.900	16.30	---	46.00	20.80	37.10	-8.90	Peak
579.560	15.80	---	46.00	20.91	36.71	-9.29	Peak
637.520	16.90	---	46.00	22.14	39.04	-6.96	Peak
647.170	15.40	---	46.00	22.35	37.75	-8.25	Peak
705.150	16.30	---	46.00	23.57	39.87	-6.13	Peak
714.780	14.80	---	46.00	23.71	38.51	-7.49	Peak
772.740	14.90	---	46.00	24.46	39.36	-6.64	Peak
782.390	14.60	---	46.00	24.59	39.19	-6.81	Peak
811.380	14.80	---	46.00	24.98	39.78	-6.22	Peak
840.370	14.20	---	46.00	25.42	39.62	-6.38	Peak

Remarks: 1. All Readings are Peak & Quasi-peak values.
2. Emission Lavel (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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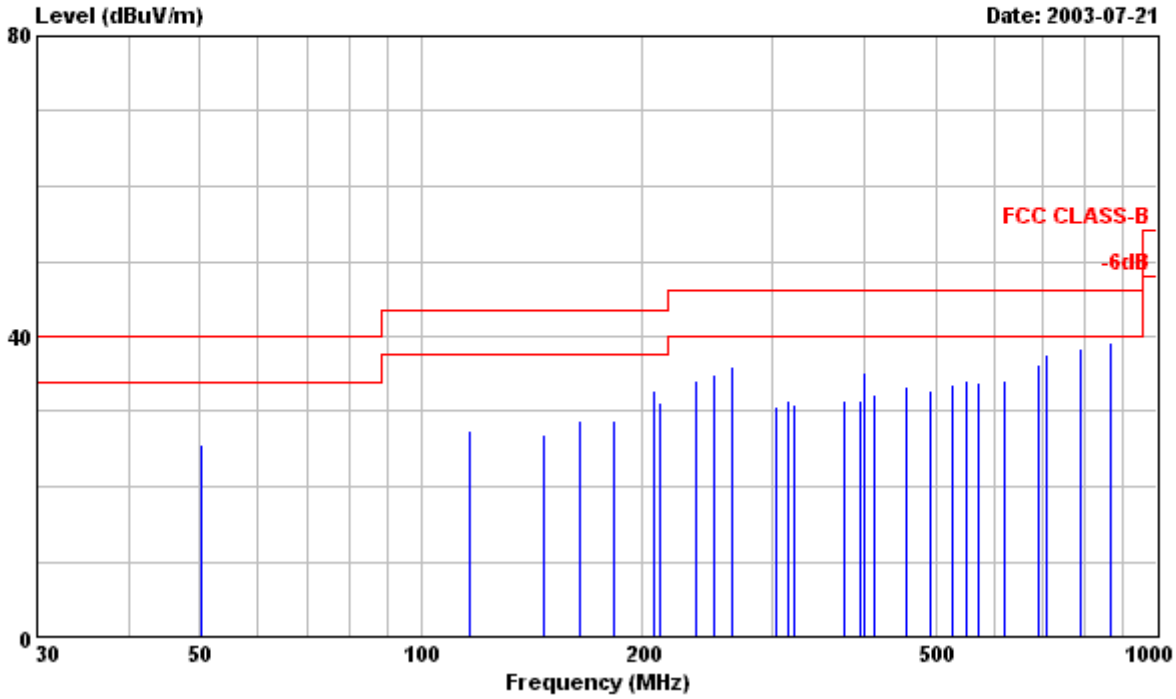

Site : PHILIPS EMI Shielding Room
Condition : FCC CLASS-B 3m FCC-3M-FACTOR HORIZONTAL
EUT : PHILIPS 170N4 Serial No:TY0304346
Power : 120-240VAC
Memo : 1. EMI EVALUATION FOR FCC SAMPLE.
: 2. 2ND MODEL QDI PANEL,RUN IBM V1.8
: FONT 14 ARIAL "H" PATTERN.
: 3. AUDIO WITH HEADPHONE.
: 4. 1024x768/75Hz 60KHz MODE WITH COMPAQ
: ENC/P866/20E/8/128A TAI PC,ATI RADEON
: VE DDR VIDEO CAR WAS TESTED.

Frequency	Peak Reading	QP reading	Limit	Factor	Emission Lavel HORIZONTAL	Over Limit	Remark
MHz	dBuV	dBuV	dBuV/m	dB/m	dBuV/m	dBuV/m	
50.160	14.80	---	40.00	10.78	25.58	-14.42	Peak
116.260	15.20	---	43.50	12.21	27.41	-16.09	Peak
146.440	13.70	---	43.50	13.29	26.99	-16.51	Peak
164.710	14.90	---	43.50	13.83	28.73	-14.77	Peak
182.620	14.10	---	43.50	14.65	28.75	-14.75	Peak
207.680	15.80	---	43.50	17.02	32.82	-10.68	Peak
211.260	13.90	---	43.50	17.35	31.25	-12.25	Peak
236.320	14.80	---	46.00	19.45	34.25	-11.75	Peak
250.640	14.30	---	46.00	20.50	34.80	-11.20	Peak

Remarks: 1. All Readings are Peak & Quasi-peak values.
2. Emission Lavel (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 MHz	Peak Reading dBuV	QP reading dBuV	Limit dBuV/m	Factor dB/m	Emission Lavel HORIZONTAL dBuV/m	Over Limit dBuV/m	Remark
264.970	14.70	---	46.00	21.33	36.03	-9.97	Peak
304.340	14.00	---	46.00	16.57	30.57	-15.43	Peak
315.700	14.60	---	46.00	16.80	31.40	-14.60	Peak
322.250	13.90	---	46.00	16.95	30.85	-15.15	Peak
376.430	13.40	---	46.00	17.98	31.38	-14.62	Peak
394.630	13.10	---	46.00	18.31	31.41	-14.59	Peak
401.020	16.90	---	46.00	18.40	35.30	-10.70	Peak
412.840	13.70	---	46.00	18.59	32.29	-13.71	Peak
455.360	14.20	---	46.00	19.16	33.36	-12.64	Peak
491.750	13.10	---	46.00	19.62	32.72	-13.28	Peak
528.210	13.50	---	46.00	20.16	33.66	-12.34	Peak
552.480	13.90	---	46.00	20.54	34.44	-11.56	Peak
570.670	13.10	---	46.00	20.80	33.90	-12.10	Peak
619.270	12.70	---	46.00	21.67	34.37	-11.63	Peak
692.120	13.00	---	46.00	23.34	36.34	-9.66	Peak
710.340	13.90	---	46.00	23.64	37.54	-8.46	Peak
789.250	13.60	---	46.00	24.70	38.30	-7.70	Peak
868.180	13.40	---	46.00	25.86	39.26	-6.74	Peak

Remarks: 1. All Readings are Peak & Quasi-peak values.
2. Emission Lavel (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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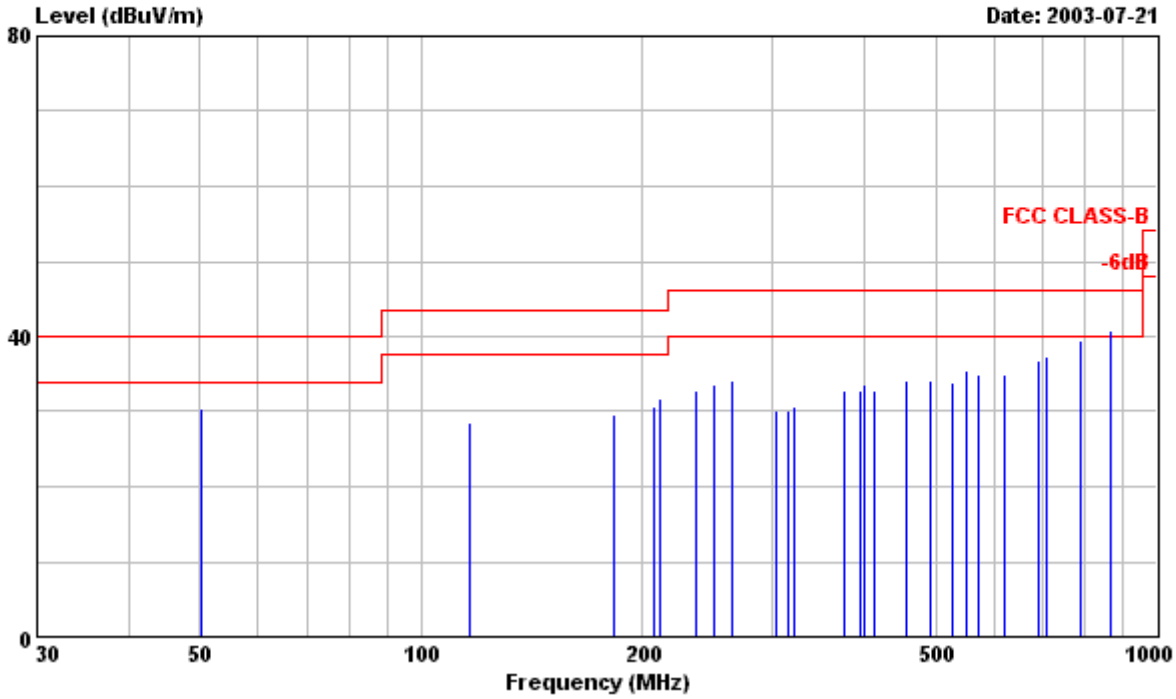
Data#: 4 File#: C:\Program Files\e3\EMI03-031-R.emi



Site : PHILIPS EMI Shielding Room
Condition : FCC CLASS-B 3m FCC-3M-FACTOR VERTICAL
EUT : PHILIPS 170N4 Serial No:TY0304346
Power : 120-240VAC
Memo : 1. EMI EVALUATION FOR FCC SAMPLE.
: 2. 2ND MODEL QDI PANEL,RUN IBM V1.8
: FONT 14 ARIAL "H" PATTERN.
: 3. AUDIO WITH HEADPHONE.
: 4. 1024x768/75Hz 60KHz MODE WITH COMPAQ
: ENC/P866/20E/8/128A TAI PC,ATI RADEON
: VE DDR VIDEO CAR WAS TESTED.

Frequency MHz	Peak Reading dBuV	QP reading dBuV	Limit dBuV/m	Factor dB/m	Emission Lavel VERTICAL dBuV/m	Over Limit dBuV/m	Remark
50.160	19.60	---	40.00	10.78	30.38	-9.62	Peak
116.260	16.40	---	43.50	12.21	28.61	-14.89	Peak
182.620	14.90	---	43.50	14.65	29.55	-13.95	Peak
207.680	13.70	---	43.50	17.02	30.72	-12.78	Peak
211.260	14.40	---	43.50	17.35	31.75	-11.75	Peak
236.320	13.30	---	46.00	19.45	32.75	-13.25	Peak
250.640	13.10	---	46.00	20.50	33.60	-12.40	Peak
264.970	13.00	---	46.00	21.33	34.33	-11.67	Peak
304.340	13.50	---	46.00	16.57	30.07	-15.93	Peak

Remarks: 1. All Readings are Peak & Quasi-peak values.
2. Emission Lavel (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 Lavel	Over Limit	Remark
						VERTICAL		
	MHz	dBuV	dBuV	dBuV/m	dB/m	dBuV/m	dBuV/m	
	315.700	13.20	---	46.00	16.80	30.00	-16.00	Peak
	322.250	13.60	---	46.00	16.95	30.55	-15.45	Peak
	376.430	14.80	---	46.00	17.98	32.78	-13.22	Peak
	394.630	14.40	---	46.00	18.31	32.71	-13.29	Peak
	401.020	15.30	---	46.00	18.40	33.70	-12.30	Peak
	412.840	14.10	---	46.00	18.59	32.69	-13.31	Peak
	455.360	15.20	---	46.00	19.16	34.36	-11.64	Peak
	491.750	14.70	---	46.00	19.62	34.32	-11.68	Peak
	528.210	13.60	---	46.00	20.16	33.76	-12.24	Peak
	552.480	14.80	---	46.00	20.54	35.34	-10.66	Peak
	570.670	14.20	---	46.00	20.80	35.00	-11.00	Peak
	619.270	13.30	---	46.00	21.67	34.97	-11.03	Peak
	692.120	13.50	---	46.00	23.34	36.84	-9.16	Peak
	710.340	13.80	---	46.00	23.64	37.44	-8.56	Peak
	789.250	14.70	---	46.00	24.70	39.40	-6.60	Peak
!	868.180	15.00	---	46.00	25.86	40.86	-5.14	Peak
	868.180	---	11.32	46.00	25.86	37.18	-8.82	QP

Remarks: 1. All Readings are Peak & Quasi-peak values.
2. Emission Lavel (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