

Test Report
Model : YY-35XX

Tested to EN55022(1995)
Results from Preliminary Scan in 3 meter Chamber

Date: Oct 01, 2003

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Tested by Wallace Tsai

Date: Oct.01, 2003

Approved by Hubert Chou

Date: Oct.01, 2003

1. Introduction

The purpose of this evaluation is to present the results of the EMC Emissions tests on the Yeong Yang chassis. The testing was carried out by Yeong Yang at Hometek Technology Inc test facilities located at Hometek Technology Inc 13F, 2, Chien Ba Road, Chung Ho City 235 Taipei, Taiwan ROC

2. References

Radiated Emissions (as per EN55022:1995)
Power Line Conduction ((as per EN55022:1995)

3. Equipment Under Test (EUT)

3.1. EUT:

Yeong Yang YY-35XX Personal Computer Chassis



3.2. EUT Configuration

Description	Supplier	Model/Part Number
Chassis	Yeong Yang	YY-35XX
Power Supply	FSP	FSP 350-60PN(PF)
Chassis Fans	TOP	DF1208BM
Processor	Intel	Intel P4 3G, Quantity:1
Chipset	Intel	
Processor Thermal solution	Glacialtech	Igloo 4200, speed 3200RPM
Motherboard	AOPEN	MX4 GER
Memory	Kingston	DDR400 512MB, Quantity: 2
Hard Drive	Seagate	40G , Quantity: 1
DVD ROM	LITEON	16X , Quantity: 1
Floppy Drive	Mitsumi	D353M3 , Quantity: 1
Graphics Card	None	

3.3. Support Equipment - 3 meter Chamber

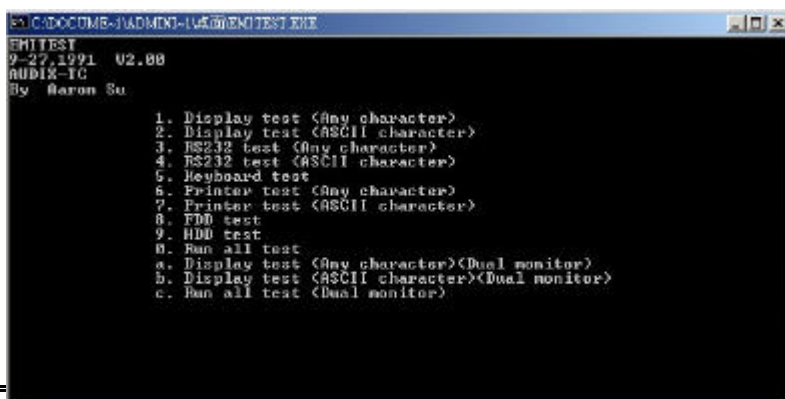
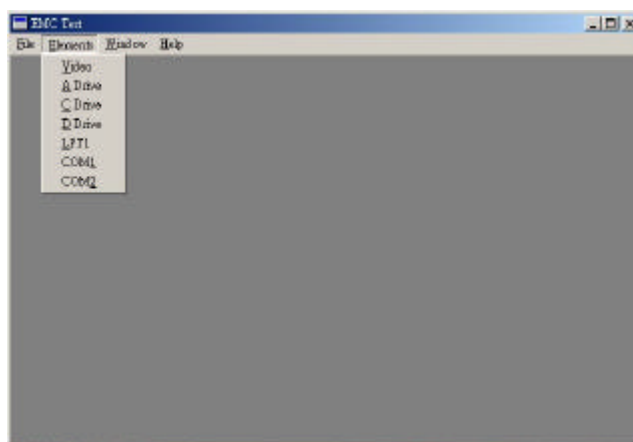
Supplier	Description	Model/Part Number
AST	Keyboard	PS2/SK2000
AST	Keyboard	USB/SK2695
Logitech	Mouse	PS2/MS34
Logitech	Mouse	USB/BJ58
Hitachi	Monitor	CM769ET
HP	Printer	DJ400
ACEEX	Modem	1414
JASS	Speaker	J008

3.4. EUT Comments

EUT tested with, 3.0GHZ Intel Pentium 4 Processors with active heat sink and fan. An I/O shield was supplied with motherboard and used in this chassis.

3.5. Software

The program used to exercise the EUT was the EMC test software EMCTEST.exe and EMITEST.exe which was running under Microsoft Windows XP. Video resolution was set at 800x600. *The EMC test software version is designed to exercise the various EUT components in a manner similar to typical use*



4. Test Result (Radiated Emissions)

4.1. Test Setup

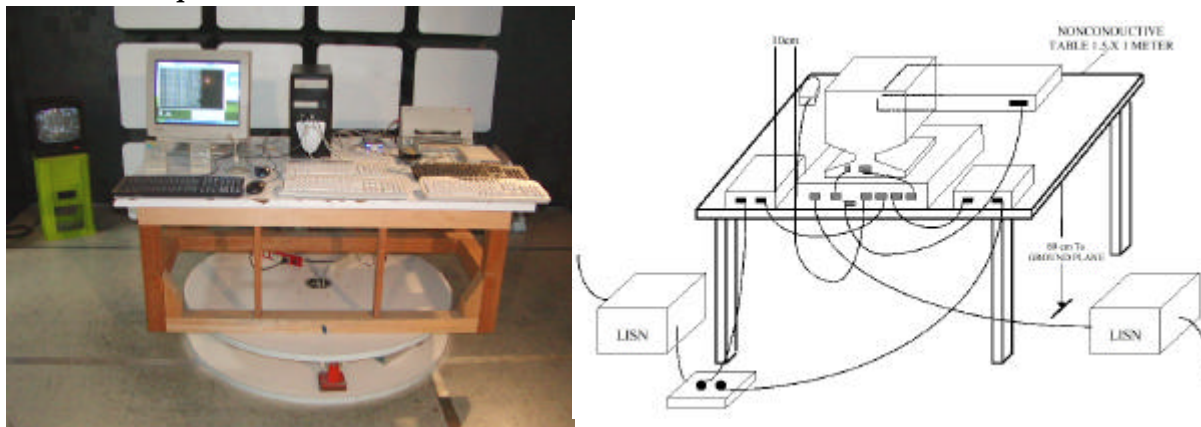


Figure 4.1.1. Generic Test set up for the Yeong Yang YY-35XX Personal Computer chassis

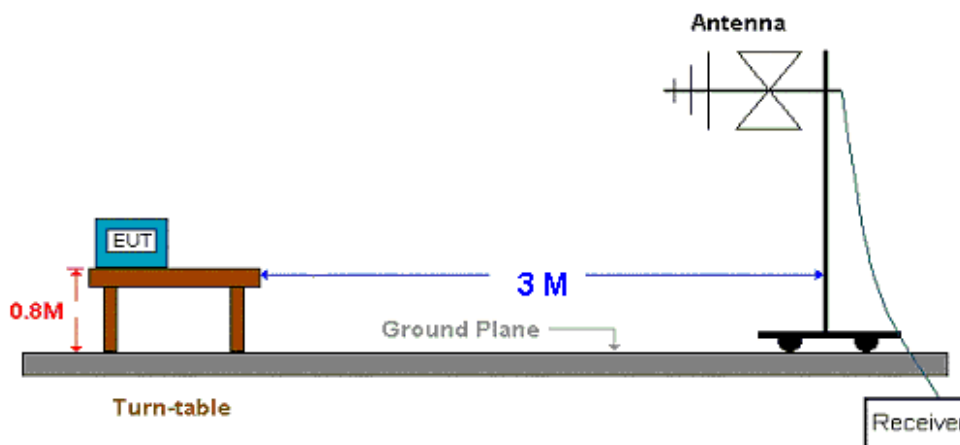


Figure 4.1.2. Generic Test set up at 3-Meter Chamber

Environmental Status

22.5 degree C Temperature, 62% Humidity and 1010mB Barometric Pressure

4.2. Test Facilities - Conducted power line test/Radiated Emissions Test

Description	Supplier	Model/Date of Cal.
EMI Receiver	ROHDE & SCHWARZ	ESHS30 / Mar 2000
LISN	SCHWARZ BECK	NNLK 8121/Mar 2000
LISN	ROHDE & SCHWARZ	ESH3-Z5/Mar 2000
ESXS-K 1	ROHDE & SCHWARZ	1082.9678.02 840.913/246
Cables	10Khz~30Mhz	No.10/Jul 2000
Antenna	ROHDE & SCHWARZ	HZ-12 842899/08 30~300Mhz / Jul 2000
Antenna	ROHDE & SCHWARZ	HZ-13 842007/0004 300~1000Mhz / Jul 2000

4.3. Test Procedure - EUT is tested in 3 meter Anechoic Chamber as outlined below

4.3.1. Conductive power line test

4.3.1.1.. The EUT was placed 0.4 meter from the conducting wall of shielding room and 0.8 meters above the ground plane

4.3.1.2. The frequency range from 0.15Mhz to 30Mhz were investigated

4.3.1.3. The LISN used was 50Ohm / 50 uHenry as specified by EN55022

4.3.1.4. All the support peripherals are connect to the other LISN.

4.3.1.5. Cables and peripherals were moved to find the maximum emission levels for each frequency.

4.3.2. Radiated Emission Test

4.3.2.1. The EUT was placed on a table. The top of the table was 0.8 meters above the ground plane and 3 meters from the antenna. The antenna was positioned 1.5 meters up from the ground plane.

4.3.2.2. The frequency range from 30MHz to 1000MHz, the measurement were made at 3 meters, with a Bi-log antenna.

4.4. Test spec

4.4.1. Limit of conducted power line emission class B

Frequency Range	Quasi Peak	Average
0.15~0.5Mhz	66-56 dBuV	56-46 dBuV
0.5~5Mhz	56dBuV	46dBuV
5~30Mhz	60dBuV	50dBuV

4.4.2. Limit of Radiated emission class B

Frequency Range	Measurement Distance	Limit (cBuV/m)
30~230Mhz	10 (M)	30
230~1000Mhz	10 (M)	37

4.5. Test Results

Preliminary Scan result in 3 meter Chamber, see attachments.

4.6. Summary :

1. PC ONLY: **PASS.**
- 2.FRONT USB(CORE): **PASS.**
- 3.FULL SYSTEM: **PASS**

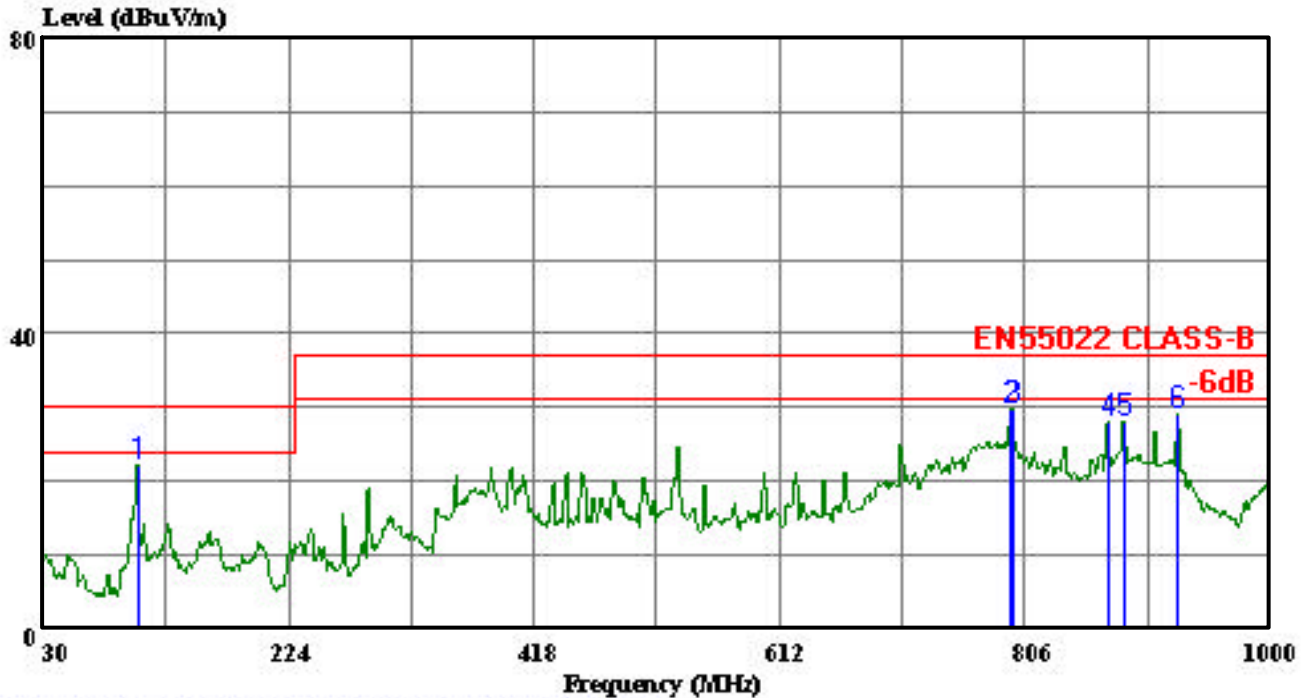


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HomeTek Technology Inc.

Data#: 729 File#: YEONG YANG CO.,LTD.EMI

Date: 2003-09-29 Time: 16:23:43



HomeTek Technology Inc. (JUNGHE 7*4*3 CHAMBER)

Trace: 727

Ref Trace:

Condition: EN55022 CLASS-B 10m 20030724 HORIZONTAL

EUT : 35XX

POWER: 230V

MEMO : TEST MODE:PC ONLY

: CPU:INTEL P4 3G

: HDD:SEAGATE 40G

: CD-ROM:LITEON AT05P

: POWER:FSP 350-60PN(PF)

: RAM:KINGSTON DDR400 512MB *2

: M/B:AOPEN MX4 GER

Page:

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	MHz	dBuV/m	dBuV/m	Limit	Level	Factor	
				dB	dBuV	dB	
1	104.690	22.30	30.00	-7.70	38.20	-15.90	
2	794.360	29.73	37.00	-7.27	29.20	0.53	
3	796.300	29.62	37.00	-7.38	29.20	0.42	
4	871.960	27.91	37.00	-9.09	29.80	-1.89	
5	884.570	28.17	37.00	-8.83	29.80	-1.63	
6	926.280	29.14	37.00	-7.86	31.40	-2.26	

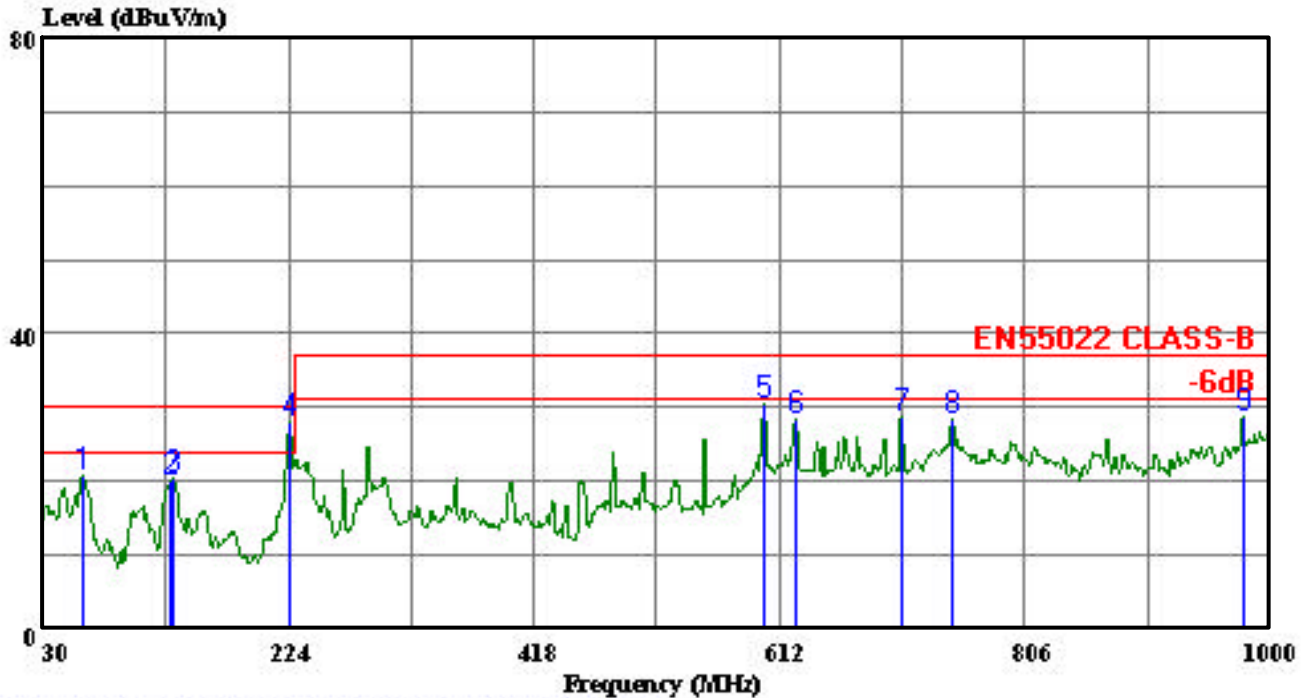


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Date: 2003-09-29 Time: 16:25:54



HomeTek Technology Inc. (JUNGHE 7*4*3 CHAMBER)

Trace: 728

Ref Trace:

Condition: EN55022 CLASS-B 10m 20030724 VERTICAL

EUT : 35XX

POWER: 230V

MEMO : TEST MODE:PC ONLY

: CPU:INTEL P4 3G

: HDD:SEAGATE 40G

: CD-ROM:LITEON AT05P

: POWER:FSP 350-60PN(PF)

: RAM:KINGSTON DDR400 512MB *2

: M/B:AOPEN MX4 GER

Page:

	Freq	Level	Limit	Over	Read		
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				dB	dBuV	dB	
1	61.040	20.62	30.00	-9.38	32.10	-11.48	
2	129.910	20.02	30.00	-9.98	29.20	-9.18	
3	131.850	20.45	30.00	-9.55	30.20	-9.75	
4 !	224.000	27.99	30.00	-2.01	31.60	-3.61	
5	599.390	30.43	37.00	-6.57	32.80	-2.37	
6	625.580	28.55	37.00	-8.45	31.60	-3.05	
7	709.000	28.59	37.00	-8.41	31.20	-2.61	
8	748.770	28.35	37.00	-8.65	27.40	0.95	
9	978.660	28.65	37.00	-8.35	27.80	0.85	

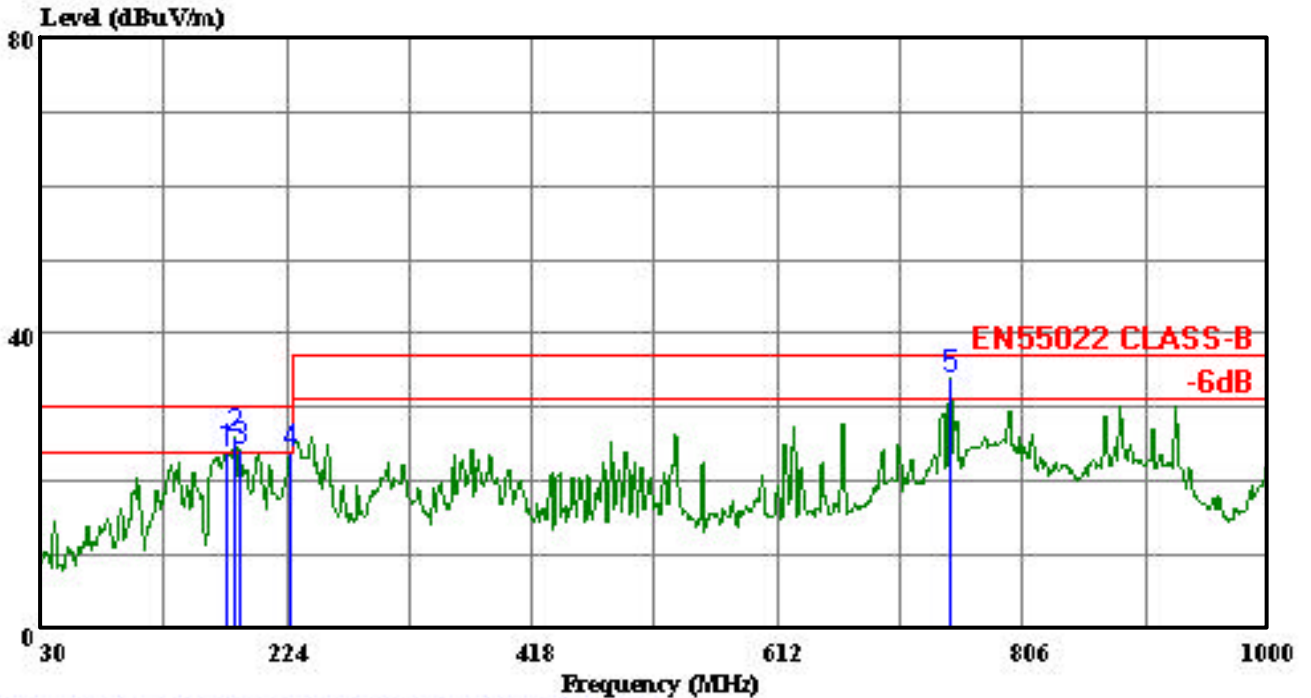


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HomeTek Technology Inc.

Data#: 737 File#: YEONG YANG CO.,LTD.EMI

Date: 2003-10-01 Time: 14:22:39



HomeTek Technology Inc. (JUNGHE 7*4*3 CHAMBER)

Trace: 735

Ref Trace:

Condition: EN55022 CLASS-B 10m 20030724 HORIZONTAL

EUT : 35XX

POWER: 230V

MEMO : TEST MODE:FRONT USB ONLY

: CPU:INTEL P4 3G

: HDD:SEAGATE 40G

: CD-ROM:LITEON AT05P

: POWER:FSP 350-60PN(PF)

: RAM:KINGSTON DDR400 512MB *2

: M/B:AOPEN MX4 GER

Page:

	Freq	Level	Limit	Over	Read		
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				dB	dBuV	dB	
1 !	176.470	24.04	30.00	-5.96	40.40	-16.36	
2 !	183.260	25.92	30.00	-4.08	42.60	-16.68	
3 !	188.110	24.10	30.00	-5.90	40.40	-16.30	
4 !	226.910	24.00	30.00	-6.00	39.40	-15.40	
5 !	748.770	33.81	37.00	-3.19	36.00	-2.19	

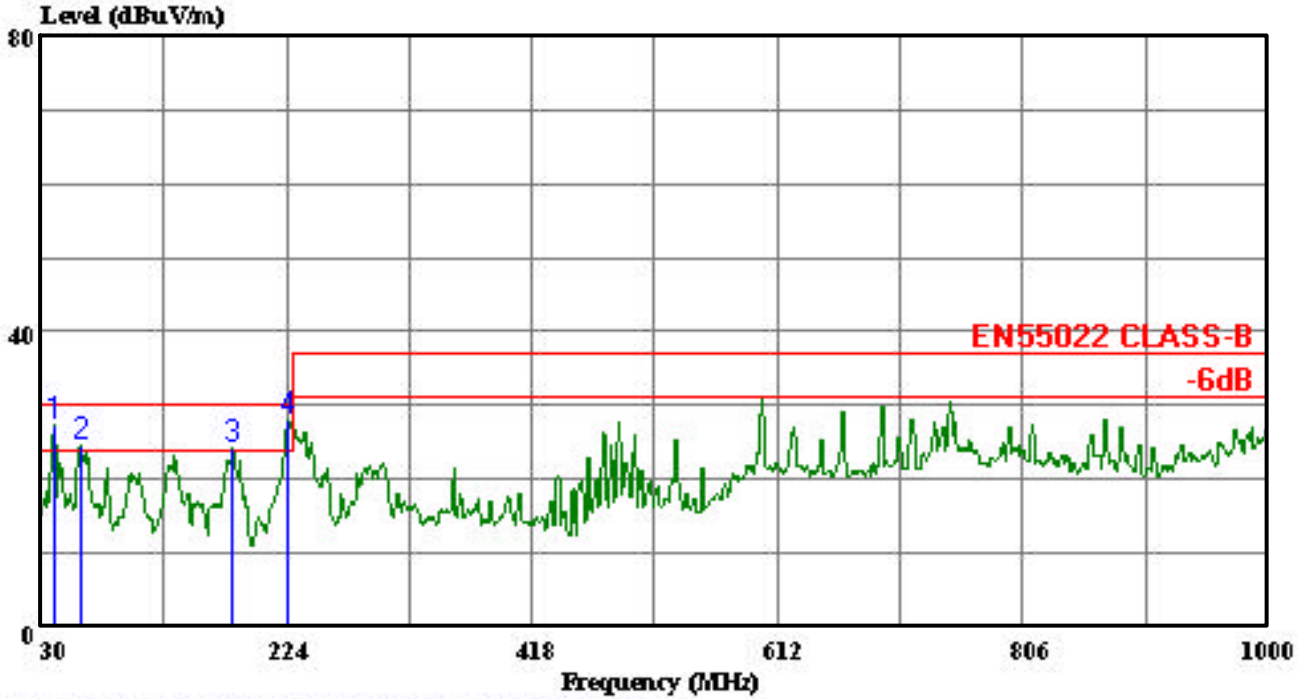


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Data#: 738 File#: YEONG YANG CO.,LTD.EMI

Date: 2003-10-01 Time: 14:23:44



HomeTek Technology Inc. (JUNGHE 7*4*3 CHAMBER)

Trace: 736

Ref Trace:

Condition: EN55022 CLASS-B 10m 20030724 VERTICAL

EUT : 35XX

POWER: 230V

MEMO : TEST MODE:FRONT USB ONLY

: CPU:INTEL P4 3G

: HDD:SEAGATE 40G

: CD-ROM:LITEON AT05P

: POWER:FSP 350-60PN(PF)

: RAM:KINGSTON DDR400 512MB *2

: M/B:AOPEN MX4 GER

Page:

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				dB	dBuV	dB	
1 !	40.670	27.23	30.00	-2.77	37.25	-10.02	
2 !	61.040	24.42	30.00	-5.58	35.90	-11.48	
3 !	181.320	24.27	30.00	-5.73	36.60	-12.33	
4 !	224.000	28.19	30.00	-1.81	31.80	-3.61	

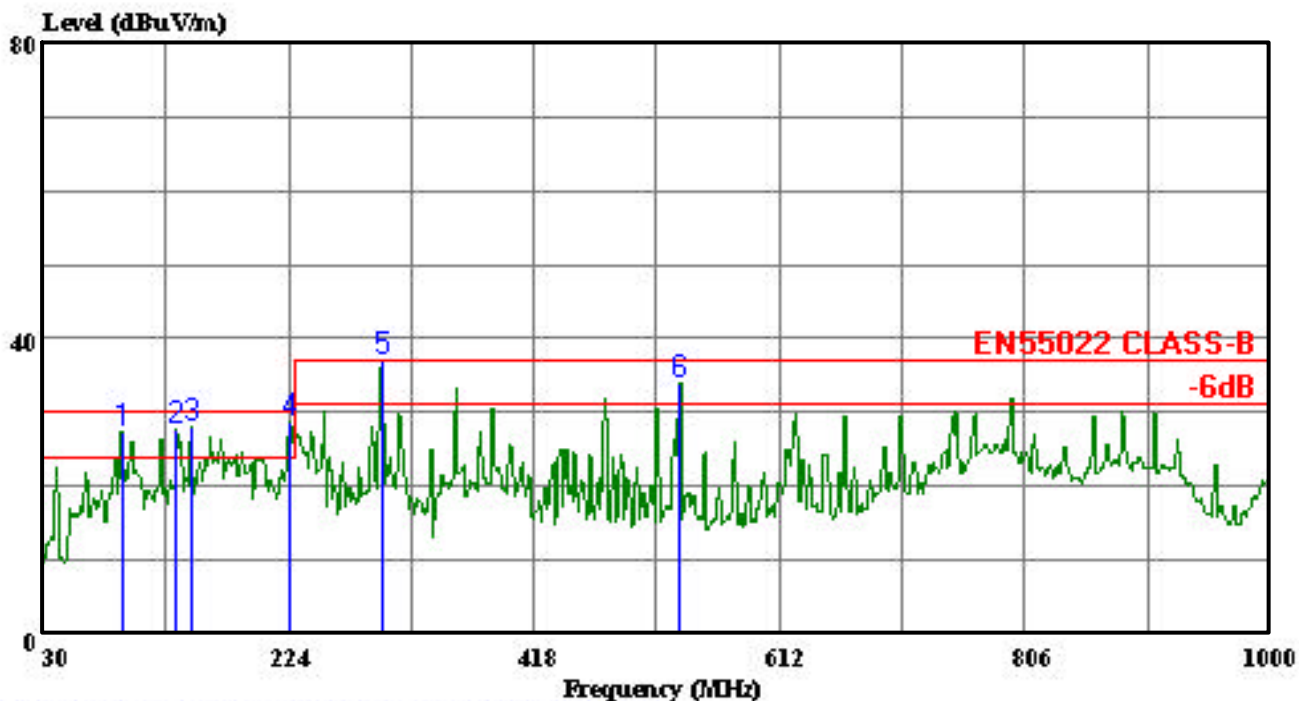


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Data#: 756 File#: YEONG YANG CO.,LTD.EMI

Date: 2003-10-01 Time: 15:02:33



HomeTek Technology Inc. (JUNGHE 7*4*3 CHAMBER)

Trace: 754

Ref Trace:

Condition: EN55022 CLASS-B 10m 20030724 HORIZONTAL

EUT : 35XX

POWER: 230V

MEMO : TEST MODE:FULL SYSTEM

: CPU:INTEL P4 3G

: HDD:SEAGATE 40G

: CD-ROM:LITEON AT05P

: POWER:FSP 350-60PN(PF)

: RAM:KINGSTON DDR400 512MB *2

: M/B:AOPEN MX4 GER

Page:

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			dBuV/m	dB	dBuV	dB	
1 !	92.080	27.48	30.00	-2.52	47.00	-19.52	
2 !	134.760	27.80	30.00	-2.20	44.60	-16.80	
3 !	147.370	28.16	30.00	-1.84	46.10	-17.94	
4 !	224.970	28.67	30.00	-1.33	44.80	-16.13	
5 *	298.690	37.03	37.00	0.03	48.20	-11.17	
6 !	532.460	34.04	37.00	-2.96	42.00	-7.96	

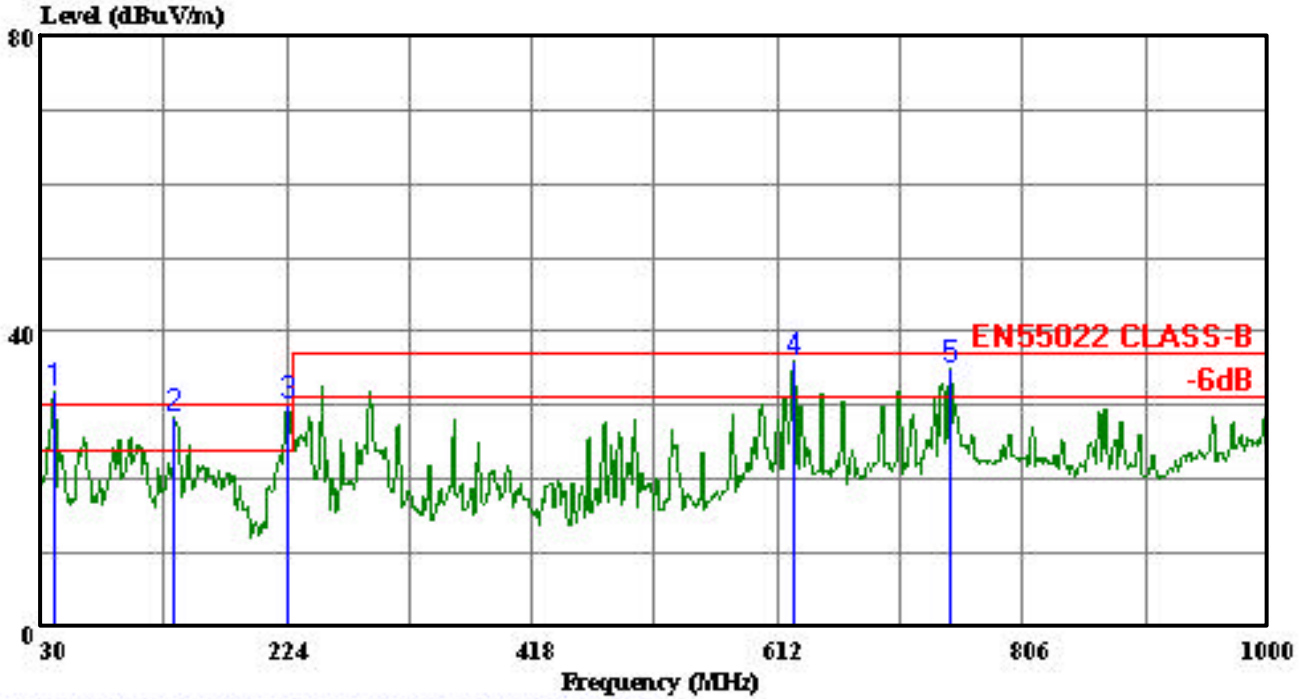


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Data#: 757 File#: YEONG YANG CO.,LTD.EMI

Date: 2003-10-01 Time: 15:05:03



HomeTek Technology Inc. (JUNGHE 7*4*3 CHAMBER)

Trace: 755

Ref Trace:

Condition: EN55022 CLASS-B 10m 20030724 VERTICAL

EUT : 35XX

POWER: 230V

MEMO : TEST MODE:FULL SYSTEM

: CPU:INTEL P4 3G

: HDD:SEAGATE 40G

: CD-ROM:LITEON AT05P

: POWER:FSP 350-60PN(PF)

: RAM:KINGSTON DDR400 512MB *2

: M/B:AOPEN MX4 GER

Page:

	Freq	Level	Limit	Over	Read		Remark
	MHz	dBuV/m	dBuV/m	Limit	Level	Factor	
				dB	dBuV	dB	
1 *	39.700	31.78	30.00	1.78	41.80	-10.02	
2 !	134.760	28.30	30.00	-1.70	39.20	-10.90	
3 *	224.000	30.19	30.00	0.19	33.80	-3.61	
4 !	625.580	36.15	37.00	-0.85	39.20	-3.05	
5 !	748.770	35.15	37.00	-1.85	34.20	0.95	