VERIFICATION OF COMPLIANCE

This Verification of Compliance is hereby issued to the below named company. The test results of this report relate only to the tested sample identified in this report.

Technical Standard: **FCC Part 15 Class A (DoC)**
IC ICES-003 Issue 4

General Information

Applicant: SMART HOME ENGINEERING CORP.
10F. No. 493, Chung-Cheng Rd., Hsin Tien City,
Taipei 231, Taiwan (R.O.C.)

Product Description

EUT Description: Extended Long Range HDMI to DVI + Audio Converter

Model Number: HE01SXXX
(Where X = any alpha character "a"-"z", "A" - "Z", or numeric character "0"-"9", or combination of alpha and numeric characters. That is used for market reason.)

Laboratory Name: ***Compliance Certification Services Inc. (Hsin-Chu Lab).***
Rm. 258, Bldg. 17, NO.195, Sec.4 Chung Hsing Rd.,
ChuTung Chen, Hsinchu, Taiwan 310, R.O.C
Tel: +886-3-5910068 / Fax: +886-3-5825720

This device has been shown to be in compliance with and was tested in accordance with the measurement procedures specified in the Standards & Specifications listed above and as indicated in the measurement report number: 80328303-D

Jason Chang

Jason Chang / Team Leader

Date: April 03, 2008

Declaration of Conformity Documentation

The following equipment:

***Type of Product** : **Extended Long Range HDMI to DVI + Audio Converter**

*** Model Number** : **HE01SXXX**

(Where X = any alpha character “a”-“z”, “A” - “Z”, or numeric character “0”-“9”, or combination of alpha and numeric characters. That is used for market reason.)

*** Report Number** : **80328303-D**

is herewith confirmed to comply with the requirements of FCC Part 15 / IC ICES-003 Rules. Operation is subject to the following two conditions:
(1)This device may not cause harmful interference, and
(2)This device must accept any interference received, including interference that may cause undesired operation.

The result of electromagnetic emission has been evaluated by Compliance Certification Services Inc. EMC laboratory (**NVLAP Lab. Code : 200118-0**) and showed in the test report.

It is understood that each unit marketed is identical to the device as tested, and any changes to the device which could adversely affect the emission characteristics will require retest.

The following importer / manufacturer is responsible for this declaration :

Company Name :

Company Address :

Telephone : Facimile :

Name (Full name) Position :

Person is responsible for making this declaration :

Name (Full name) Position / Title

Legal Signature Date

FCC 47 CFR PART 15 SUBPART B AND ANSI C63.4 : 2003

IC ICES-003 Issue 4

TEST REPORT

For

Extended Long Range HDMI to DVI + Audio Converter

Model : HE01SXXX

(Where X = any alpha character “a”-“z”, “A” - “Z”, or numeric character “0”-“9”, or combination of alpha and numeric characters. That is used for market reason.)

Issued for

SMART HOME ENGINEERING CORP.

10F. No. 493, Chung-Cheng Rd., Hsin Tien City,

Taipei 231, Taiwan (R.O.C.)

Issued by

Compliance Certification Services Inc.
Hsinchu Lab.
Rm. 258, Bldg. 17, NO.195, Sec.4 Chung HsingRd.,
ChuTung Chen, Hsinchu, Taiwan 310, R.O.C
TEL: (03) 591-0068
FAX: (03) 582-5720

Testing Laboratory 0240

NVLAP LAB CODE 200118-0

Note: *This report shall not be reproduced except in full, without the written approval of Compliance Certification Services Inc. This document may be altered or revised by Compliance Certification Services Inc. personnel only, and shall be noted in the revision section of the document. The client should not use it to claim product endorsement by TAF, NVLAP or any government agencies. The test results in the report only apply to the tested sample.*

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1. TEST REPORT CERTIFICATION

Applicant ：SMART HOME ENGINEERING CORP.

Address ：10F. No. 493, Chung-Cheng Rd., Hsin Tien City, Taipei 231, Taiwan (R.O.C.)

Equipment Under Test ：Extended Long Range HDMI to DVI + Audio Converter

Model ：HE01SXXX
(Where X = any alpha character “a”-“z”, “A” - “Z”, or numeric character “0”-“9”, or combination of alpha and numeric characters. That is used for market reason.)

Tested Date ：December 13 ~ 26, 2007

APPLICABLE STANDARD	
STANDARD	**TEST RESULT**
FCC Part 15 Subpart B AND ANSI C63.4:2003 IC ICES-003 Issue 4	No non-compliance noted

Approved by: ***Reviewed by:***

Jason Chang

Jason Chang
Team Leader of Hsinchu Laboratory
Compliance Certification Services Inc.

檢測報告專用章

Alan Fan

Alan Fan
Team Leader of Hsinchu Laboratory
Compliance Certification Services Inc.

WE HEREBY CERTIFY THAT: The measurements shown in the attachment were made in accordance with the procedures indicated, and the energy emitted by the equipment was found to be within the limits applicable. We assume full responsibility for the accuracy and completeness of these measurements and vouch for the qualifications of all persons taking them.

2. EUT DESCRIPTION

2.1 DESCRIPTION OF EUT & POWER

Product Name	Extended Long Range HDMI to DVI + Audio Converter
Model Number	HE01SXXX (Where X = any alpha character “a”-“z”, “A” - “Z”, or numeric character “0”-“9”, or combination of alpha and numeric characters. That is used for market reason.)
Power Source	5VDC (FORM POWER ADAPTER)
Test Voltage	120VAC / 60Hz
I/O Port	EUT1 : DVI PORT × 1, AUDIO PORT × 1, VIDEO PORT × 1 EUT2 : RJ45 PORT × 1, HDMI PORT × 1 EUT3 : RJ45 PORT × 1, HDMI PORT × 1

Power Adapter :

No.	Manufacturer	Model No.	Power Input	Power Output
1	CD COMING DATA	CP0520	100~240V~50；60Hz 0.5A	+5V, 2A
2	CD COMING DATA	CP0520	100~240V~50；60Hz 0.5A	+5V, 2A
3	CD COMING DATA	CP0520	100~240V~50；60Hz 0.5A	+5V, 2A

Remark :

1. For more details, please refer to the User’s manual of the EUT.

2.2 DESCRIPTION OF TEST MODE

1	800dpi × 600dpi mode
2	1024dpi × 768dpi mode
3	1600dpi × 1200dpi mode

The test modes are customer’s demand.

3. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.4 and FCC CFR 47 Part 15 Subpart B, IC ICES-003 Issue 4.

4. FACILITIES AND ACCREDITATION

4.1 FACILITIES

All measurement facilities used to collect the measurement data are located at Rm.258, Bldg.17, NO.195 , Sec. 4, Chung Hsing Rd., Chu-Tung Chen. Hsin-Chu, Taiwan 310 R.O.C.
The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 and CISPR Publication 22.

4.2 EQUIPMENT

Radiated emissions are measured with one or more of the following types of linearly polarized antennas: tuned dipole, biconical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with preselectors and quasi-peak detectors are used to perform radiated measurements.
Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers.
Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.
All receiving equipment conforms to CISPR Publication 16-1, “Radio Interference Measuring Apparatus and Measurement Methods.”

4.3 LABORATORY ACCREDITATIONS LISTINGS

The test facilities used to perform radiated and conducted emissions tests are accredited by National Voluntary Laboratory Accreditation Program for the specific scope of accreditation under Lab Code: 200118-0 to perform Electromagnetic Interference tests according to FCC PART 15 AND CISPR 22 requirements. No part of this report may be used to claim or imply product endorsement by NVLAP or any agency of the US Government. In addition, the test facilities are listed with Federal Communications Commission (registration no: 90585 and 90584).

4.4 LABORATORY ACCREDITATIONS AND LISTINGS

Country	Agency	Scope of Accreditation	Logo
USA	NVLAP	EN 55014-1, AS/NZS 1044, CNS 13783-1, IEC/CISPR 14-1, IEC/CISPR 22, EN 55022, EN 61000-3-2, EN 61000-3-3, ANSI C63.4, AS/NZS CISPR 22, AS/NZS 3548, IEC 61000-4-2/3/4/5/6/8/11	200118-0
USA	FCC	3/10 meter Open Area Test Sites to perform FCC Part 15/18 measurements	90585, 90584
Japan	VCCI	3/10 meter Open Area Test Sites to perform conducted/radiated measurements	R-1229/1189 C-1250/1294
Taiwan	TAF	FCC Method-47 CFR Part 15 Subpart C,D,E CISPR 11, FCC METHOD-47 CFR Part 18, EN 55011, CNS 13803, CISPR 13, CNS 13439, FCC Method-47 CFR Part 15 Subpart B, CISPR 14-1, EN 55014-1, CNS 13783-1, EN 55015, CNS 14115, CISPR 22, EN 55022, VCCI CNS 13438, EN 61000-4-2/3/4/5/6/8/11	Testing Laboratory 0240
Taiwan	BSMI	CNS 13803, CNS 13438, CNS 13439, CNS 13783-1, CNS 14115	SL2-IS-E-0002 SL2-IN-E-0002 SL2-A1-E-0002 SL2-R1-E-0002 SL2-R2-E-0002 SL2-L1-E-0002
Canada	Industry Canada	RSS-GEN Issue 2	IC 4417-1

** No part of this report may be used to claim or imply product endorsement by NVLAP or any agency of the US Government.*

5. CALIBRATION AND UNCERTAINTY

5.1 MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

5.2 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Radiated Emission, 30 to 1000 MHz	+/- 3.2 dB
Radiated Emission, 1 to 26.5 GHz	+/- 3.2 dB
Power Line Conducted Emission	+/- 2.1 dB

Uncertainty figures are valid to a confidence level of 95%

6. SETUP OF EQUIPMENT UNDER TEST

SUPPORT EQUIPMENT

No.	Product	Manufacturer	Model No.	Serial No.	FCC ID
1	PC	HP	hp Compaq d330 uT	SGH410083D	DoC
2	Monitor	DELL	2407WFPB	DOC	----------
3	Mouse	HP	M-S34	LZE95050431	DZL211029
4	Keyboard	Genuine	K288	206628621	FKD48AK288
5	Printer	HP	C6431D	CN19T6S011	DoC
6	Modem	ZYXEL	Omni 56K	S1Z4107729	1880MN156K
7	Extended Long Range HDMI to DVI + Audio Converter	------	HE01SXXX	----------	----------

No.	Signal cable description
1	DVI TO HDMI CABLE ╳ 1, Shielded cable 1.8m with a ferrite core
2	DVI TO DVI CABLE ╳ 1, Shielded cable 1.8m with two ferrite cores
3	RJ45 CABLE ╳ 1, Shielded cable 20m with two ferrite cores

SETUP PIAGRAM FOR TESTS

EUT & peripherals setup diagram is shown in appendix setup photos.

EUT OPERATING CONDITION

1. PC Connect EUT1 to DVI port.
2. EUT1 Connect EUT2 to HDMI port.
3. EUT2 Connect EUT3 to RJ45 port.
4. EUT3 Connect Monitor to DVI port.
5. Start test.

7. EMISSION TEST

7.1 RADIATED EMISSIONS

LIMITS

All emanation from a class A computing device or system , including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified below：

Frequency (MHz)	Distance (METERS)	Field Strengths(dBμV/m)	
		CLASS A	CLASS B
30－230	10	40	30
230－1000	10	47	37

Note：

(1) The tighten limit shall apply at the edge between two frequency bands.
(2) Distance refers to the distance in meters between the measuring instrument antenna and the closest point of any part of the device or system.

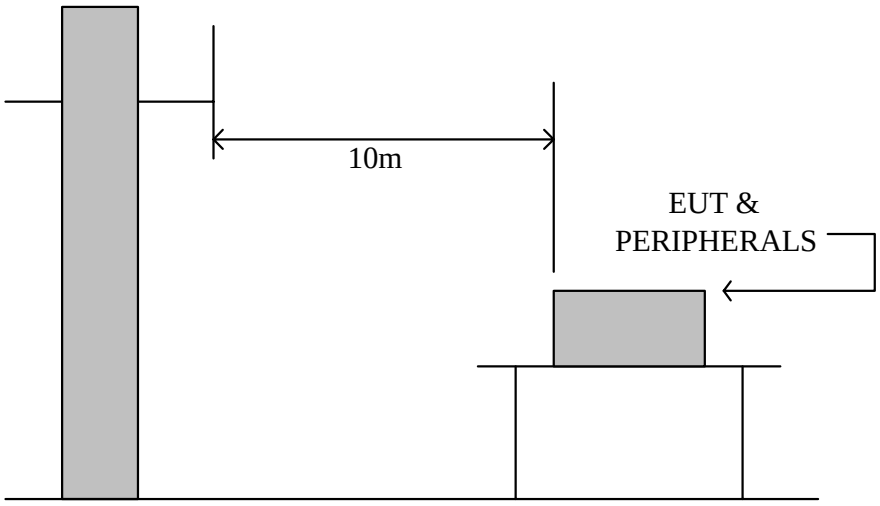
TEST EQUIPMENT

The following test equipment is utilized in making the measurements contained in this report.

Manufacturer or Type	Model No.	Serial No.	Date of Calibration	Calibration Period	Remark
SCHAFFER BILOG ANTENNA	CBL6112B	2696	April 19, 2007	1 Year	FINAL
R/S TEST RECEIVER	ESCS 30	826547/004	October 31, 2007	1 Year	FINAL
OPEN SITE	----------	No.1	May 06, 2007	1 Year	FINAL
BELDEN N TYPE COAXIAL CABLE	9913-30M	002	April 27, 2007	1 Year	FINAL

TEST SETUP

The diagram below shows the test setup which is utilized to make these measurements.



Antenna Elevation Variable

TEST PROCEDURE

The devices under test were placed on a rotatable table top 0.8 meter above ground. The table was rotated 360 degrees to determine the position of the highest radiation. EUT is set 10 meters from the interference receiving antenna which is mounted on the top of a variable height mast. The antenna height is varied between one meter and four meters above ground to find the maximum value of the field strength both horizontal polarization and vertical polarization of the antenna are set to make the measurement. The bandwidth setting on the E.M.I. meter (R/S TEST RECEIVER) is 120 KHz.

The levels are quasi peak value readings. The frequency spectrum from 30MHz to 1000MHz was investigated.

TEST RESULTS

No non-compliance noted

Product Name	Extended Long Range HDMI to DVI + Audio Converter	**Test Date**	2007/12/26
Model	HE01SXXX	**Test By**	YJ. Jeng
Test Mode	800dpi ㄨ 600dpi mode	**TEMP & Humidity**	25.3℃, 50%

Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading at 10m(dBμV)		Limits (dBμV/m)	Emission Level at 10m(dBμV/m)	
			Horizontal	Vertical		Horizontal	Vertical
40.33	13.82	1.00	12.30	10.20	40.00	27.12	25.02
200.37	9.20	2.10	14.10	12.80	40.00	25.40	24.10
600.33	18.60	3.80	8.30	8.10	47.00	30.70	30.50
720.35	19.23	4.24	8.80	8.00	47.00	32.27	31.47
800.33	19.90	4.50	8.90	8.30	47.00	33.30	32.70
1000.00	21.40	5.10	7.50	7.20	47.00	34.00	33.70

Remark: *Emission level (dBμV/m) =Antenna Factor (dB/m) + Cable loss (dB) + Meter Reading (dBμV).*

Product Name	Extended Long Range HDMI to DVI + Audio Converter	**Test Date**	2007/12/26
Model	HE01SXXX	**Test By**	YJ. Jeng
Test Mode	1024dpi ㄨ 768dpi mode	**TEMP & Humidity**	25.3℃, 50%

Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading at 10m(dBμV)		Limits (dBμV/m)	Emission Level at 10m(dBμV/m)	
			Horizontal	Vertical		Horizontal	Vertical
198.05	9.16	2.08	16.70	13.50	40.00	27.94	24.74
520.01	18.08	3.52	10.70	10.80	47.00	32.30	32.40
650.07	19.00	4.10	10.30	8.50	47.00	33.40	31.60
846.03	20.27	4.68	13.70	8.70	47.00	38.65	33.65
910.02	20.58	4.82	10.60	10.50	47.00	36.00	35.90
974.03	21.14	5.00	7.30	9.50	47.00	33.44	35.64

Remark: *Emission level (dBμV/m) =Antenna Factor (dB/m) + Cable loss (dB) + Meter Reading (dBμV).*

Product Name	Extended Long Range HDMI to DVI + Audio Converter	**Test Date**	2007/12/26
Model	HE01SXXX	**Test By**	YJ. Jeng
Test Mode	1600dpi ㄨ 1200dpi mode	**TEMP & Humidity**	25.3℃, 50%

Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading at 10m(dBμV)		Limits (dBμV/m)	Emission Level at 10m(dBμV/m)	
			Horizontal	Vertical		Horizontal	Vertical
420.05	16.24	3.12	18.10	16.30	47.00	37.46	35.66
560.07	18.76	3.72	16.20	14.10	47.00	38.68	36.58
700.00	18.90	4.20	17.40	15.70	47.00	40.50	38.80
754.04	19.72	4.32	12.80	11.20	47.00	36.83	35.23
840.03	20.22	4.66	18.10	17.30	47.00	42.98	42.18
980.00	21.20	5.02	12.70	10.50	47.00	38.92	36.72

Remark: *Emission level (dBμV/m) =Antenna Factor (dB/m) + Cable loss (dB) + Meter Reading (dBμV).*

7.2 POWERLINE CONDUCTED EMISSIONS

LIMITS

Frequency (MHz)	Maximum Rf Line Voltage (dBμV)			
	CLASS A		CLASS B	
	Q.P.	Ave.	Q.P.	Ave.
0.15 - 0.50	79	66	66-56*	56-46*
0.50 - 5.00	73	60	56	46
5.00 - 30.0	73	60	60	50

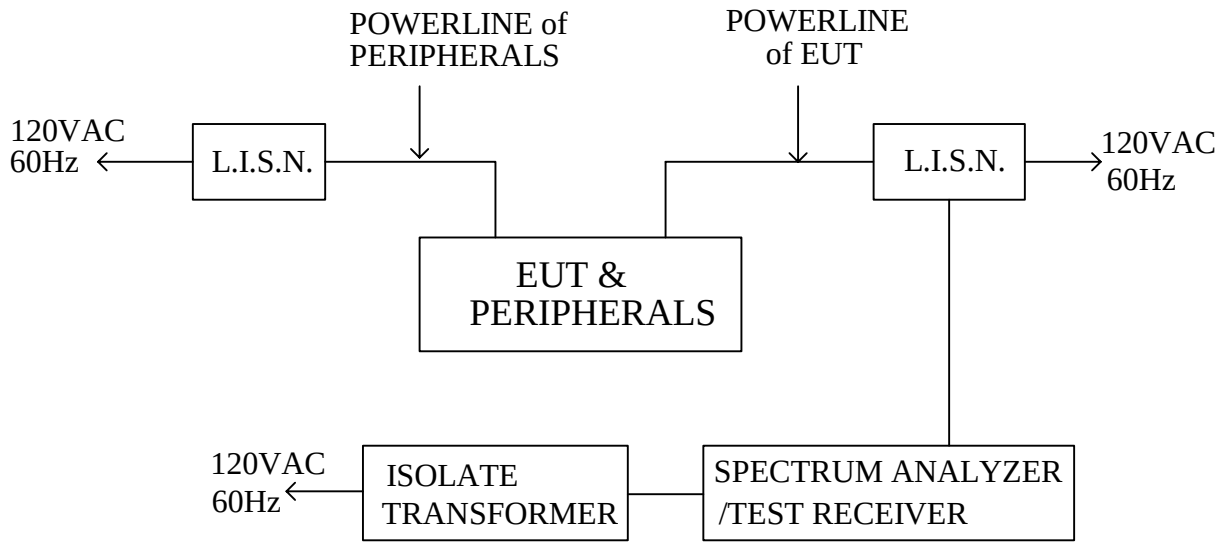
* Decreasing linearly with the logarithm of the frequency

TEST EQUIPMENT

The following test equipment is used during the conducted powerline tests：

Manufacturer or Type	Model No.	Serial No.	Date of Calibration	Calibration Period	Remark
SCHWARZBECK L.I.S.N	NSLK 8127	8127-465	July 09, 2007	1 Year	FINAL
CHASE L.I.S.N	NNLK 8129	8129118	January 26, 2007	1 Year	FINAL
R & S TEST RECEIVER	ESHS30	838550/003	January 31, 2007	1 Year	FINAL
KEENE SHIELDED ROOM	5983	No.1	N/A	N/A	FINAL
R & S PULSE LIMIT	ESH3-Z2	10117	September 17, 2007	1 Year	FINAL
BELDEN N TYPE COAXIAL CABLE	8268 M17/164	003	September 14, 2007	1 Year	FINAL

TEST SETUP



TEST PROCEDURE

The test procedure is performed in a 12ft×12ft×8ft(L×W×H) shielded room.

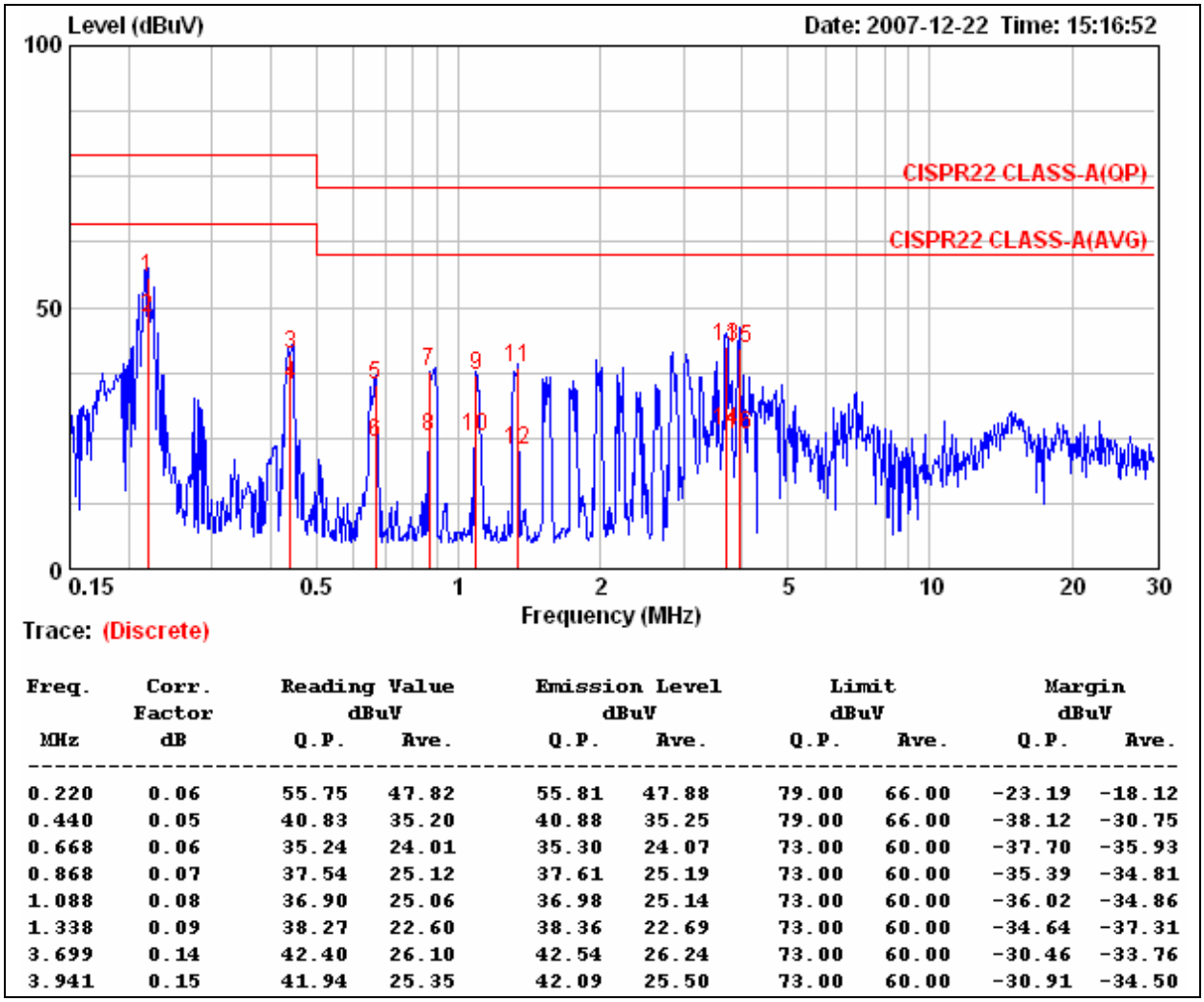
The EUT along with its peripherals were placed on a 1.0m(W)× 1.5m(L) and 0.8m in height wooden table and the EUT was adjusted to maintain a 0.4 meter space from a vertical reference plane. The EUT was connected to power mains through a line impedance stabilization network (LISN) which provides 50 ohm coupling impedance for measuring instrument and the chasis ground was bounded to the horizontal ground plane of shielded room. All peripherals were connected to the second LISN and the chasis ground also bounded to the horizontal ground plane of shielded room. The excess power cable between the EUT and the LISN was bundled. The power cables of peripherals were unbundled. All connecting cables of EUT and peripherals were moved to find the maximum emission.

TEST RESULTS

No non-compliance noted

Product Name	Extended Long Range HDMI to DVI + Audio Converter	Test Date	2007/12/22
Model	HE01SXXX	Test By	YJ. Jeng
Test Mode	EUT1 : 800dpi × 600dpi mode	TEMP & Humidity	26.9℃, 50%

LINE



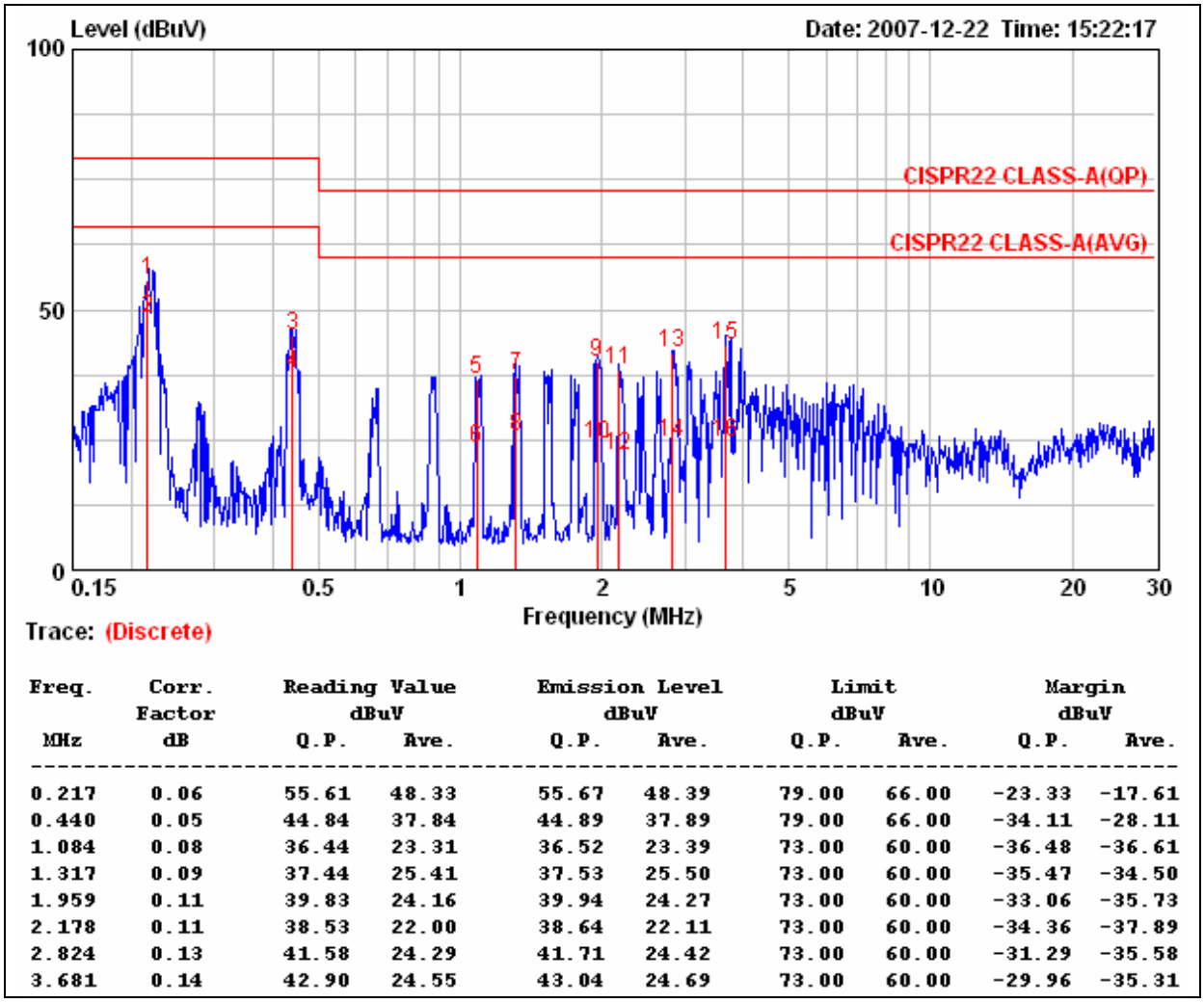
Freq. MHz	Corr. Factor dB	Reading Value dBuV Q.P.	Reading Value dBuV Ave.	Emission Level dBuV Q.P.	Emission Level dBuV Ave.	Limit dBuV Q.P.	Limit dBuV Ave.	Margin dBuV Q.P.	Margin dBuV Ave.
0.220	0.06	55.75	47.82	55.81	47.88	79.00	66.00	-23.19	-18.12
0.440	0.05	40.83	35.20	40.88	35.25	79.00	66.00	-38.12	-30.75
0.668	0.06	35.24	24.01	35.30	24.07	73.00	60.00	-37.70	-35.93
0.868	0.07	37.54	25.12	37.61	25.19	73.00	60.00	-35.39	-34.81
1.088	0.08	36.90	25.06	36.98	25.14	73.00	60.00	-36.02	-34.86
1.338	0.09	38.27	22.60	38.36	22.69	73.00	60.00	-34.64	-37.31
3.699	0.14	42.40	26.10	42.54	26.24	73.00	60.00	-30.46	-33.76
3.941	0.15	41.94	25.35	42.09	25.50	73.00	60.00	-30.91	-34.50

Remark:

1. Correction Factor = Insertion loss + cable loss
2. Margin value = Emission level – Limit value

Product Name	Extended Long Range HDMI to DVI + Audio Converter	Test Date	2007/12/22
Model	HE01SXXX	Test By	YJ. Jeng
Test Mode	EUT1 : 800dpi × 600dpi mode	TEMP & Humidity	26.9℃, 50%

NEUTRAL



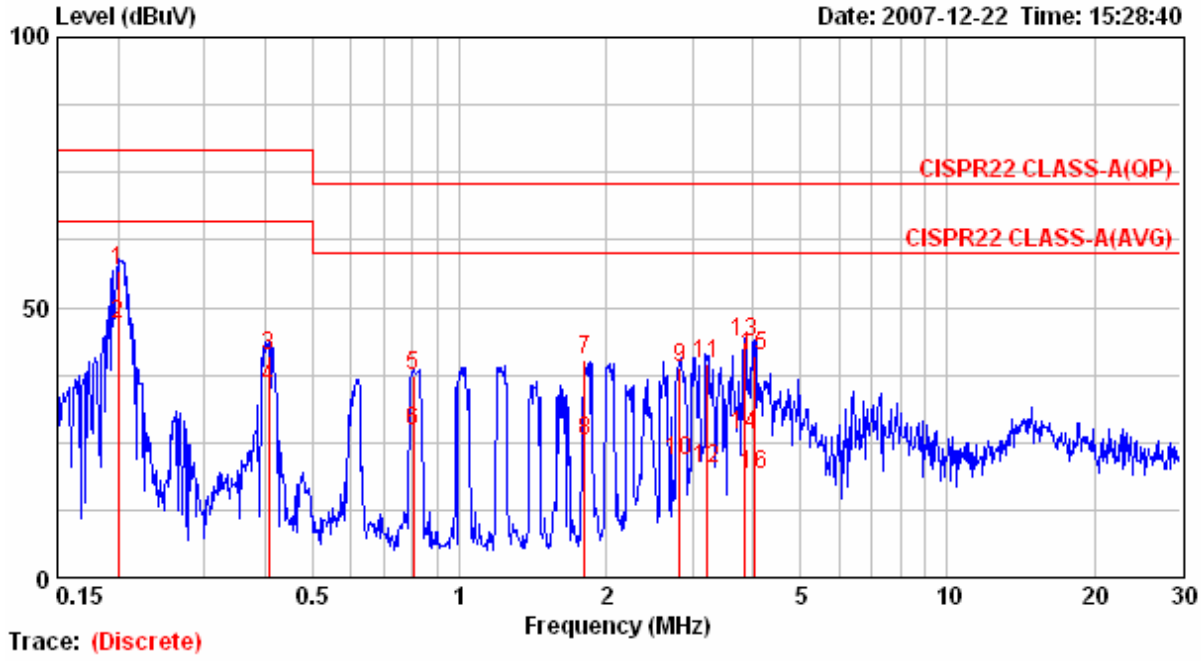
Freq. MHz	Corr. Factor dB	Reading Value dBuV Q.P.	Reading Value dBuV Ave.	Emission Level dBuV Q.P.	Emission Level dBuV Ave.	Limit dBuV Q.P.	Limit dBuV Ave.	Margin dBuV Q.P.	Margin dBuV Ave.
0.217	0.06	55.61	48.33	55.67	48.39	79.00	66.00	-23.33	-17.61
0.440	0.05	44.84	37.84	44.89	37.89	79.00	66.00	-34.11	-28.11
1.084	0.08	36.44	23.31	36.52	23.39	73.00	60.00	-36.48	-36.61
1.317	0.09	37.44	25.41	37.53	25.50	73.00	60.00	-35.47	-34.50
1.959	0.11	39.83	24.16	39.94	24.27	73.00	60.00	-33.06	-35.73
2.178	0.11	38.53	22.00	38.64	22.11	73.00	60.00	-34.36	-37.89
2.824	0.13	41.58	24.29	41.71	24.42	73.00	60.00	-31.29	-35.58
3.681	0.14	42.90	24.55	43.04	24.69	73.00	60.00	-29.96	-35.31

Remark:

1. Correction Factor = Insertion loss + cable loss
2. Margin value = Emission level – Limit value

Product Name	Extended Long Range HDMI to DVI + Audio Converter	Test Date	2007/12/22
Model	HE01SXXX	Test By	YJ. Jeng
Test Mode	EUT1 : 1024dpi ㄨ 768dpi mode	TEMP & Humidity	26.9℃, 50%

LINE



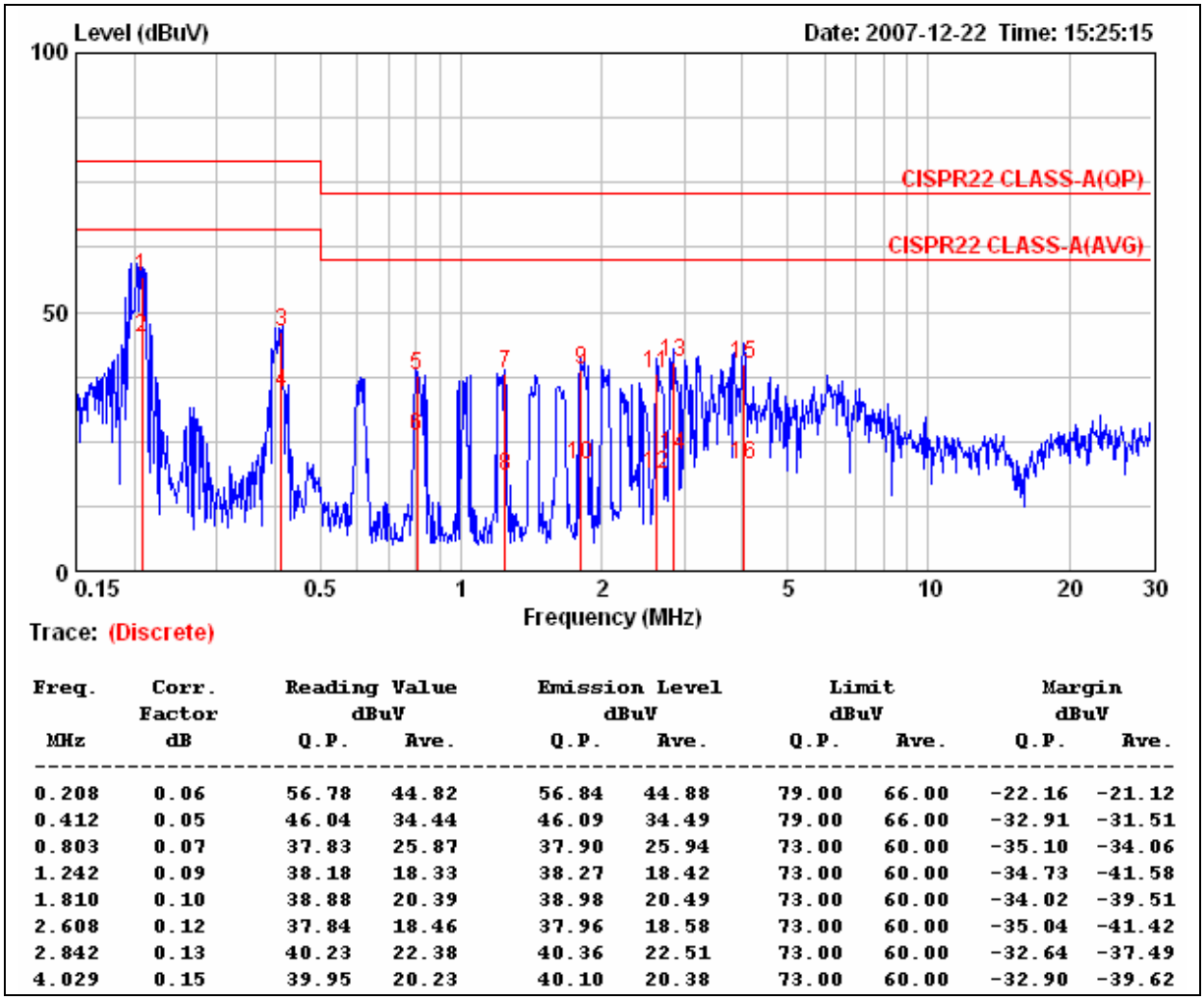
Freq. MHz	Corr. Factor dB	Reading Value dBuV Q.P.	Reading Value dBuV Ave.	Emission Level dBuV Q.P.	Emission Level dBuV Ave.	Limit dBuV Q.P.	Limit dBuV Ave.	Margin dBuV Q.P.	Margin dBuV Ave.
0.200	0.06	56.64	46.95	56.70	47.01	79.00	66.00	-22.30	-18.99
0.406	0.05	41.04	35.11	41.09	35.16	79.00	66.00	-37.91	-30.84
0.804	0.07	37.44	26.94	37.51	27.01	73.00	60.00	-35.49	-32.99
1.808	0.10	40.01	25.27	40.11	25.37	73.00	60.00	-32.89	-34.63
2.826	0.13	38.71	21.42	38.84	21.55	73.00	60.00	-34.16	-38.45
3.210	0.13	39.45	19.84	39.58	19.97	73.00	60.00	-33.42	-40.03
3.827	0.15	43.38	26.18	43.53	26.33	73.00	60.00	-29.47	-33.67
4.006	0.15	40.82	18.98	40.97	19.13	73.00	60.00	-32.03	-40.87

Remark:

1. *Correction Factor = Insertion loss + cable loss*
2. *Margin value = Emission level – Limit value*

Product Name	Extended Long Range HDMI to DVI + Audio Converter	Test Date	2007/12/22
Model	HE01SXXX	Test By	Vic Lin
Test Mode	EUT1 : 1024dpi ｘ 768dpi mode	TEMP & Humidity	26.9℃, 50%

NEUTRAL



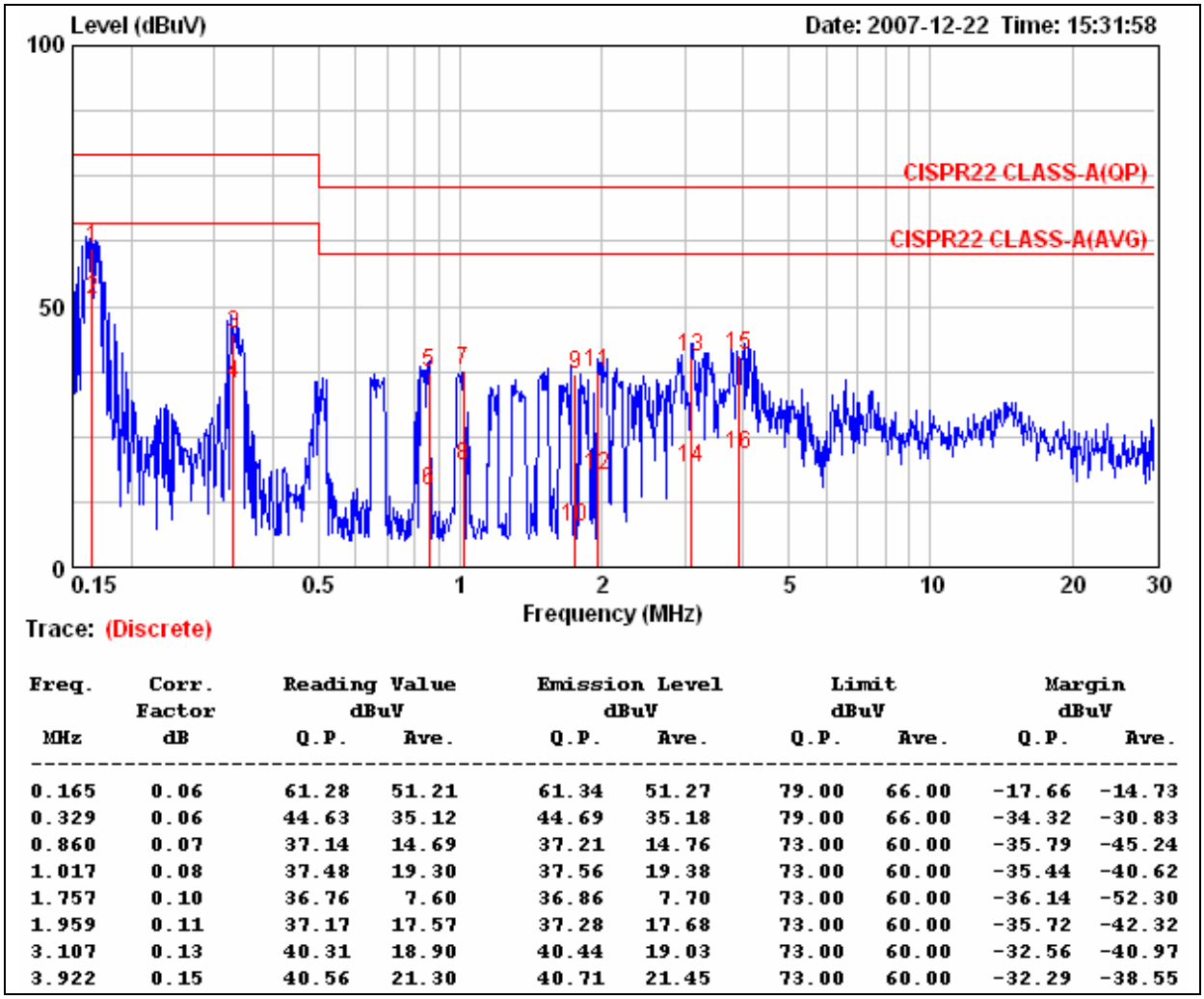
Freq. MHz	Corr. Factor dB	Reading Value dBuV Q.P.	Reading Value dBuV Ave.	Emission Level dBuV Q.P.	Emission Level dBuV Ave.	Limit dBuV Q.P.	Limit dBuV Ave.	Margin dBuV Q.P.	Margin dBuV Ave.
0.208	0.06	56.78	44.82	56.84	44.88	79.00	66.00	-22.16	-21.12
0.412	0.05	46.04	34.44	46.09	34.49	79.00	66.00	-32.91	-31.51
0.803	0.07	37.83	25.87	37.90	25.94	73.00	60.00	-35.10	-34.06
1.242	0.09	38.18	18.33	38.27	18.42	73.00	60.00	-34.73	-41.58
1.810	0.10	38.88	20.39	38.98	20.49	73.00	60.00	-34.02	-39.51
2.608	0.12	37.84	18.46	37.96	18.58	73.00	60.00	-35.04	-41.42
2.842	0.13	40.23	22.38	40.36	22.51	73.00	60.00	-32.64	-37.49
4.029	0.15	39.95	20.23	40.10	20.38	73.00	60.00	-32.90	-39.62

Remark:

1. Correction Factor = Insertion loss + cable loss
2. Margin value = Emission level – Limit value

Product Name	Extended Long Range HDMI to DVI + Audio Converter	Test Date	2007/12/22
Model	HE01SXXX	Test By	YJ. Jeng
Test Mode	EUT1 : 1600dpi ﾒ 1200dpi mode	TEMP & Humidity	26.9℃, 50%

LINE



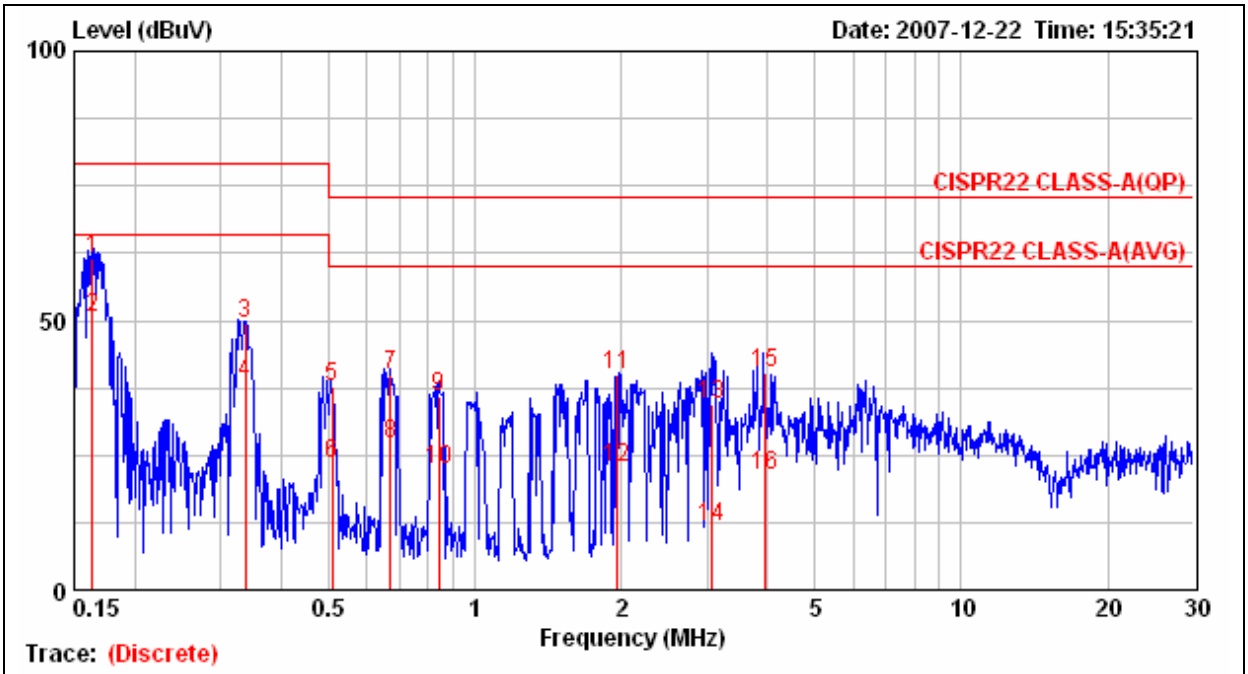
Freq. MHz	Corr. Factor dB	Reading Value dBuV Q.P.	Reading Value dBuV Ave.	Emission Level dBuV Q.P.	Emission Level dBuV Ave.	Limit dBuV Q.P.	Limit dBuV Ave.	Margin dBuV Q.P.	Margin dBuV Ave.
0.165	0.06	61.28	51.21	61.34	51.27	79.00	66.00	-17.66	-14.73
0.329	0.06	44.63	35.12	44.69	35.18	79.00	66.00	-34.32	-30.83
0.860	0.07	37.14	14.69	37.21	14.76	73.00	60.00	-35.79	-45.24
1.017	0.08	37.48	19.30	37.56	19.38	73.00	60.00	-35.44	-40.62
1.757	0.10	36.76	7.60	36.86	7.70	73.00	60.00	-36.14	-52.30
1.959	0.11	37.17	17.57	37.28	17.68	73.00	60.00	-35.72	-42.32
3.107	0.13	40.31	18.90	40.44	19.03	73.00	60.00	-32.56	-40.97
3.922	0.15	40.56	21.30	40.71	21.45	73.00	60.00	-32.29	-38.55

Remark:

1. Correction Factor = Insertion loss + cable loss
2. Margin value = Emission level – Limit value

Product Name	Extended Long Range HDMI to DVI + Audio Converter	Test Date	2007/12/22
Model	HE01SXXX	Test By	Vic Lin
Test Mode	EUT1 : 1600dpi ｘ 1200dpi mode	TEMP & Humidity	26.9℃, 50%

NEUTRAL



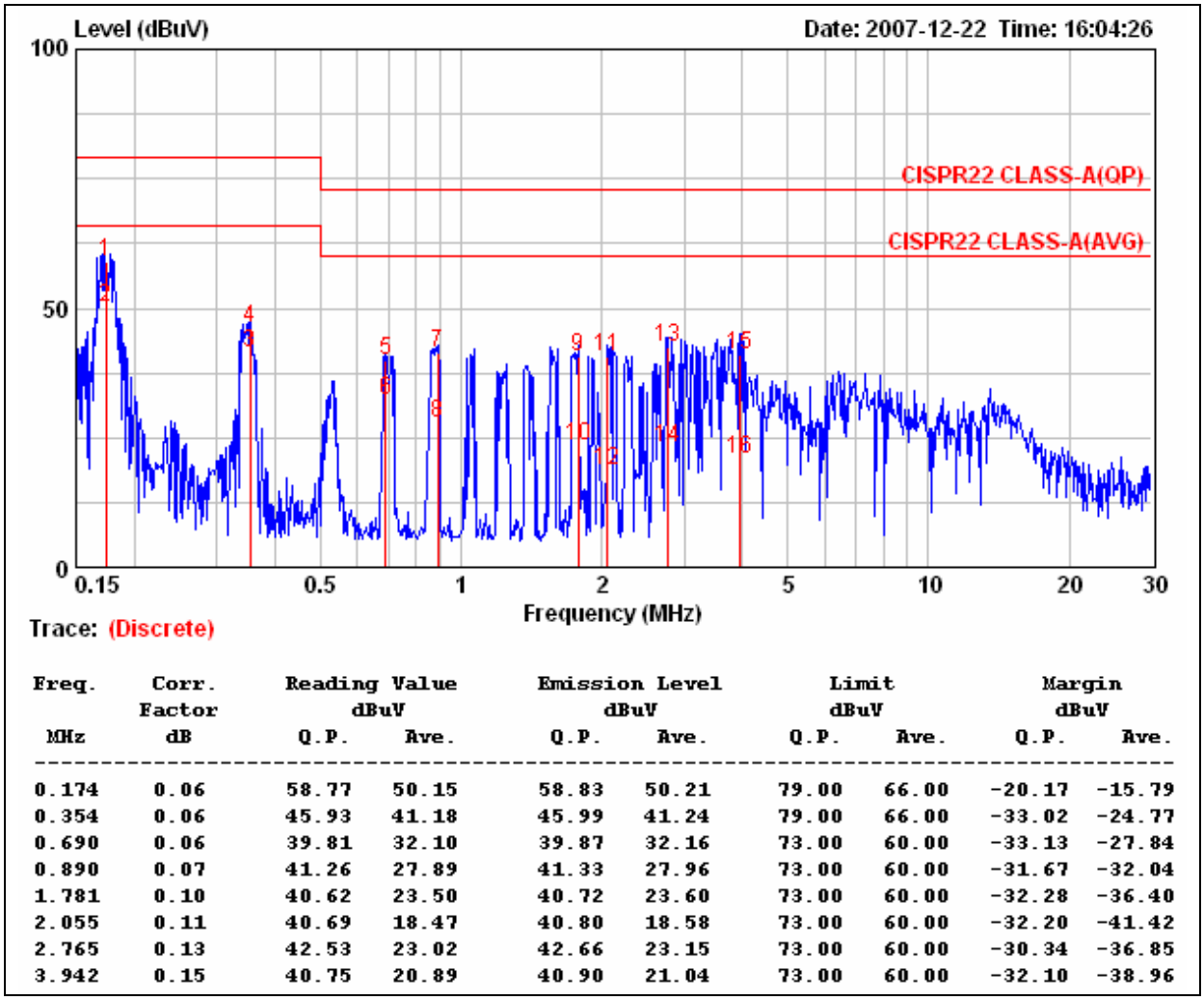
Freq. MHz	Corr. Factor dB	Reading Value dBuV Q.P.	Reading Value dBuV Ave.	Emission Level dBuV Q.P.	Emission Level dBuV Ave.	Limit dBuV Q.P.	Limit dBuV Ave.	Margin dBuV Q.P.	Margin dBuV Ave.
0.163	0.06	61.46	50.54	61.52	50.60	79.00	66.00	-17.48	-15.40
0.337	0.06	49.39	38.43	49.45	38.49	79.00	66.00	-29.56	-27.52
0.508	0.05	37.75	23.25	37.80	23.30	73.00	60.00	-35.20	-36.70
0.672	0.06	39.73	27.10	39.79	27.16	73.00	60.00	-33.21	-32.84
0.844	0.07	35.97	22.38	36.04	22.45	73.00	60.00	-36.96	-37.55
1.967	0.11	39.67	22.52	39.78	22.63	73.00	60.00	-33.22	-37.37
3.074	0.13	34.14	11.44	34.27	11.57	73.00	60.00	-38.73	-48.43
3.933	0.15	40.11	21.25	40.26	21.40	73.00	60.00	-32.74	-38.60

Remark:

1. Correction Factor = Insertion loss + cable loss
2. Margin value = Emission level – Limit value

Product Name	Extended Long Range HDMI to DVI + Audio Converter	Test Date	2007/12/22
Model	HE01SXXX	Test By	YJ. Jeng
Test Mode	EUT2 : 800dpi × 600dpi mode	TEMP & Humidity	26.9℃, 50%

LINE



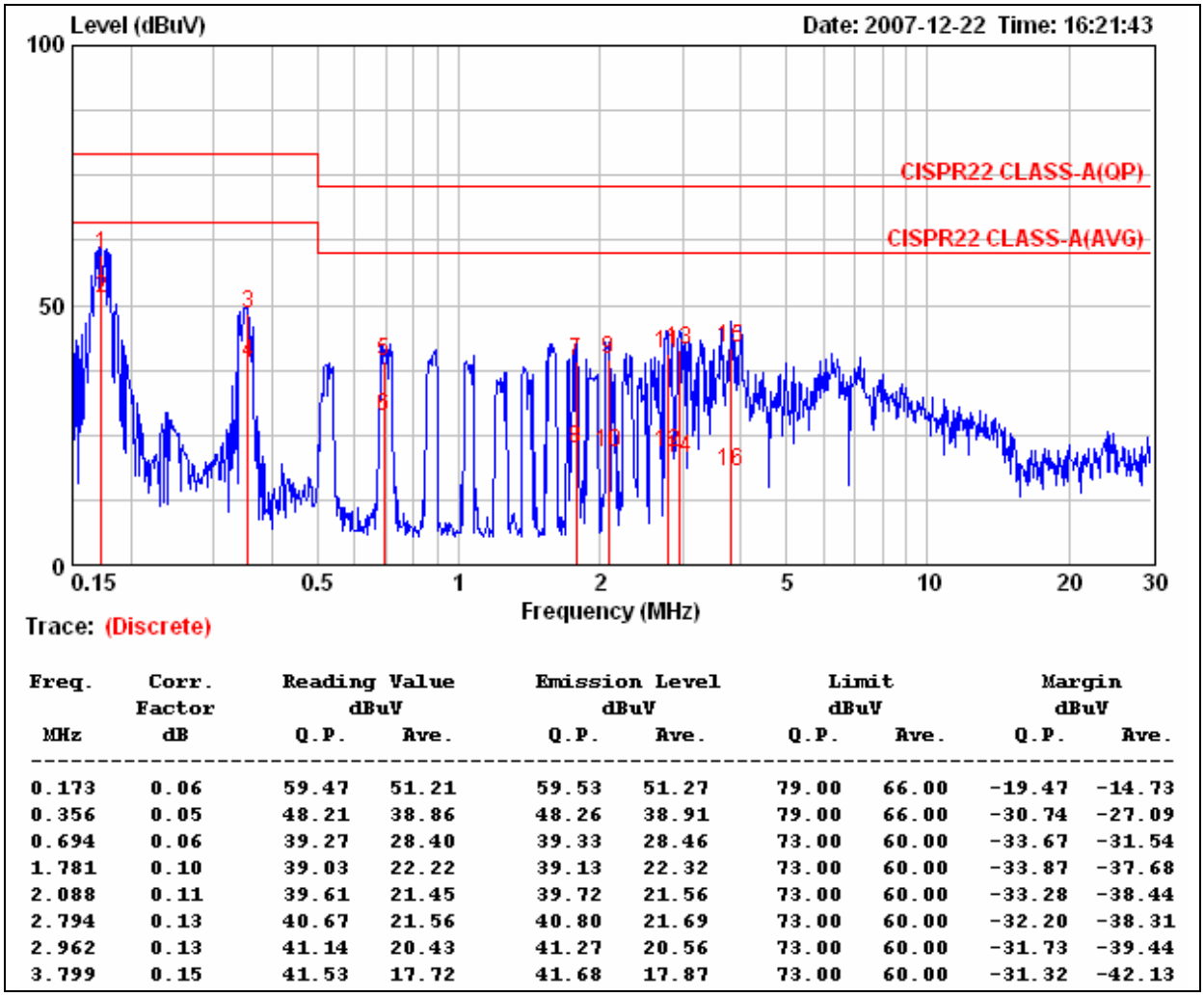
Freq.	Corr. Factor	Reading Value dBuV		Emission Level dBuV		Limit dBuV		Margin dBuV	
MHz	dB	Q.P.	Ave.	Q.P.	Ave.	Q.P.	Ave.	Q.P.	Ave.
0.174	0.06	58.77	50.15	58.83	50.21	79.00	66.00	-20.17	-15.79
0.354	0.06	45.93	41.18	45.99	41.24	79.00	66.00	-33.02	-24.77
0.690	0.06	39.81	32.10	39.87	32.16	73.00	60.00	-33.13	-27.84
0.890	0.07	41.26	27.89	41.33	27.96	73.00	60.00	-31.67	-32.04
1.781	0.10	40.62	23.50	40.72	23.60	73.00	60.00	-32.28	-36.40
2.055	0.11	40.69	18.47	40.80	18.58	73.00	60.00	-32.20	-41.42
2.765	0.13	42.53	23.02	42.66	23.15	73.00	60.00	-30.34	-36.85
3.942	0.15	40.75	20.89	40.90	21.04	73.00	60.00	-32.10	-38.96

Remark:

1. Correction Factor = Insertion loss + cable loss
2. Margin value = Emission level – Limit value

Product Name	Extended Long Range HDMI to DVI + Audio Converter	Test Date	2007/12/22
Model	HE01SXXX	Test By	YJ. Jeng
Test Mode	EUT2 : 800dpi × 600dpi mode	TEMP & Humidity	26.9℃, 50%

NEUTRAL



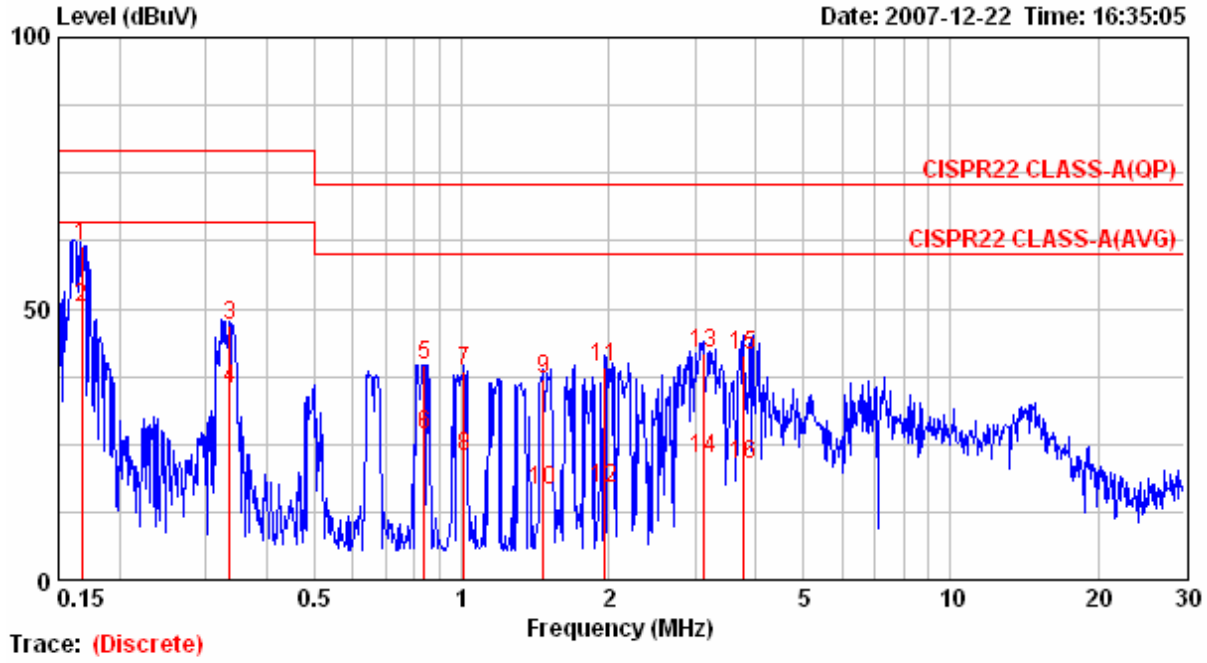
Freq. MHz	Corr. Factor dB	Reading Value dBuV Q.P.	Reading Value dBuV Ave.	Emission Level dBuV Q.P.	Emission Level dBuV Ave.	Limit dBuV Q.P.	Limit dBuV Ave.	Margin dBuV Q.P.	Margin dBuV Ave.
0.173	0.06	59.47	51.21	59.53	51.27	79.00	66.00	-19.47	-14.73
0.356	0.05	48.21	38.86	48.26	38.91	79.00	66.00	-30.74	-27.09
0.694	0.06	39.27	28.40	39.33	28.46	73.00	60.00	-33.67	-31.54
1.781	0.10	39.03	22.22	39.13	22.32	73.00	60.00	-33.87	-37.68
2.088	0.11	39.61	21.45	39.72	21.56	73.00	60.00	-33.28	-38.44
2.794	0.13	40.67	21.56	40.80	21.69	73.00	60.00	-32.20	-38.31
2.962	0.13	41.14	20.43	41.27	20.56	73.00	60.00	-31.73	-39.44
3.799	0.15	41.53	17.72	41.68	17.87	73.00	60.00	-31.32	-42.13

Remark:

1. Correction Factor = Insertion loss + cable loss
2. Margin value = Emission level – Limit value

Product Name	Extended Long Range HDMI to DVI + Audio Converter	Test Date	2007/12/22
Model	HE01SXXX	Test By	YJ. Jeng
Test Mode	EUT2 : 1024dpi ｘ 768dpi mode	TEMP & Humidity	26.9℃, 50%

LINE



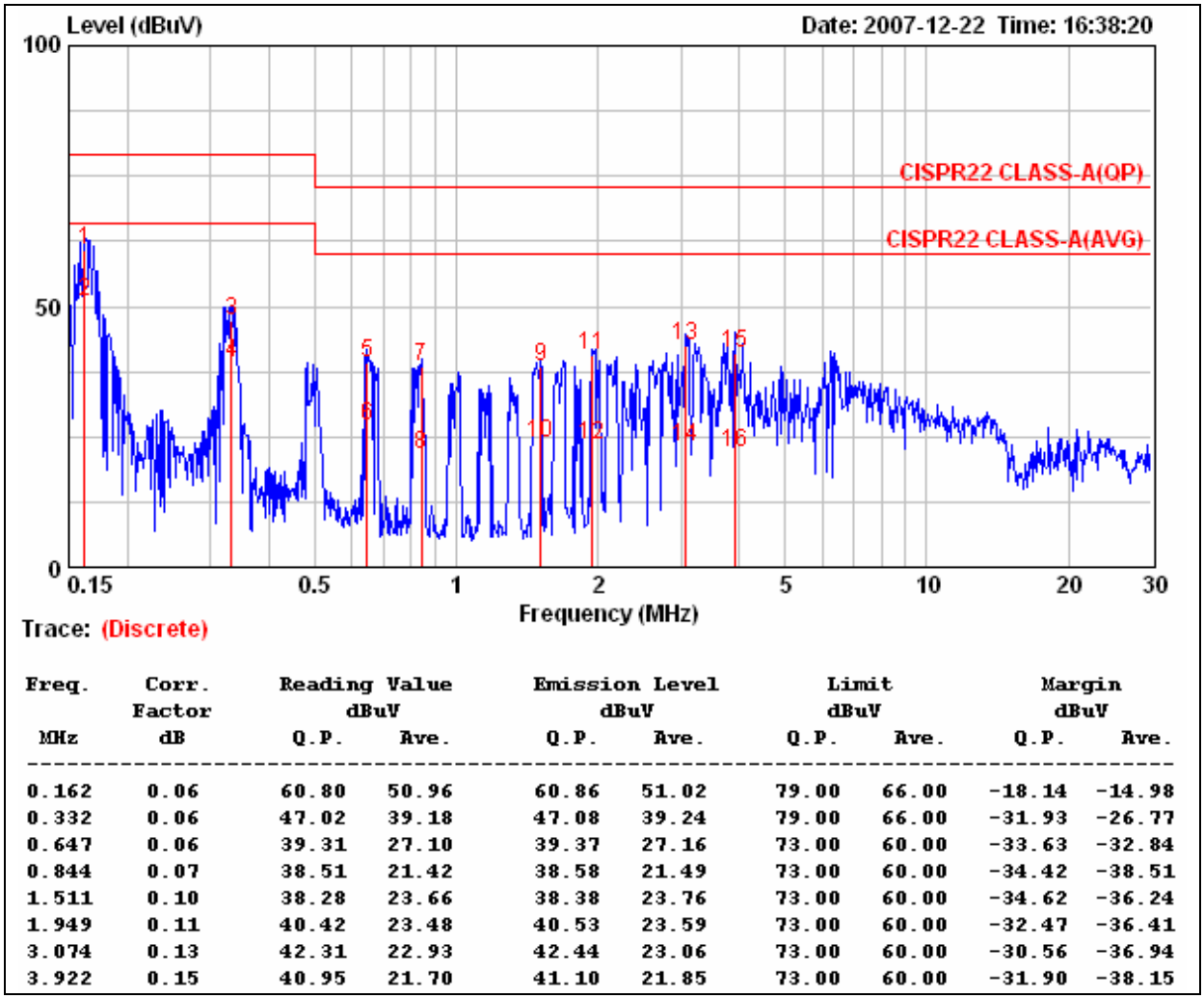
Freq.	Corr. Factor	Reading Value dBuV		Emission Level dBuV		Limit dBuV		Margin dBuV	
MHz	dB	Q.P.	Ave.	Q.P.	Ave.	Q.P.	Ave.	Q.P.	Ave.
0.168	0.06	61.40	49.98	61.46	50.04	79.00	66.00	-17.54	-15.96
0.335	0.06	46.70	35.29	46.76	35.35	79.00	66.00	-32.25	-30.66
0.838	0.07	39.38	26.67	39.45	26.74	73.00	60.00	-33.55	-33.26
1.010	0.08	38.37	22.64	38.45	22.72	73.00	60.00	-34.55	-37.28
1.472	0.09	36.96	16.31	37.05	16.40	73.00	60.00	-35.95	-43.60
1.959	0.11	39.03	16.74	39.14	16.85	73.00	60.00	-33.86	-43.15
3.123	0.13	41.46	22.05	41.59	22.18	73.00	60.00	-31.41	-37.82
3.779	0.15	41.35	21.17	41.50	21.32	73.00	60.00	-31.50	-38.68

Remark:

1. Correction Factor = Insertion loss + cable loss
2. Margin value = Emission level – Limit value

Product Name	Extended Long Range HDMI to DVI + Audio Converter	Test Date	2007/12/22
Model	HE01SXXX	Test By	YJ. Jeng
Test Mode	EUT2 : 1024dpi ㄨ 768dpi mode	TEMP & Humidity	26.9℃, 50%

NEUTRAL



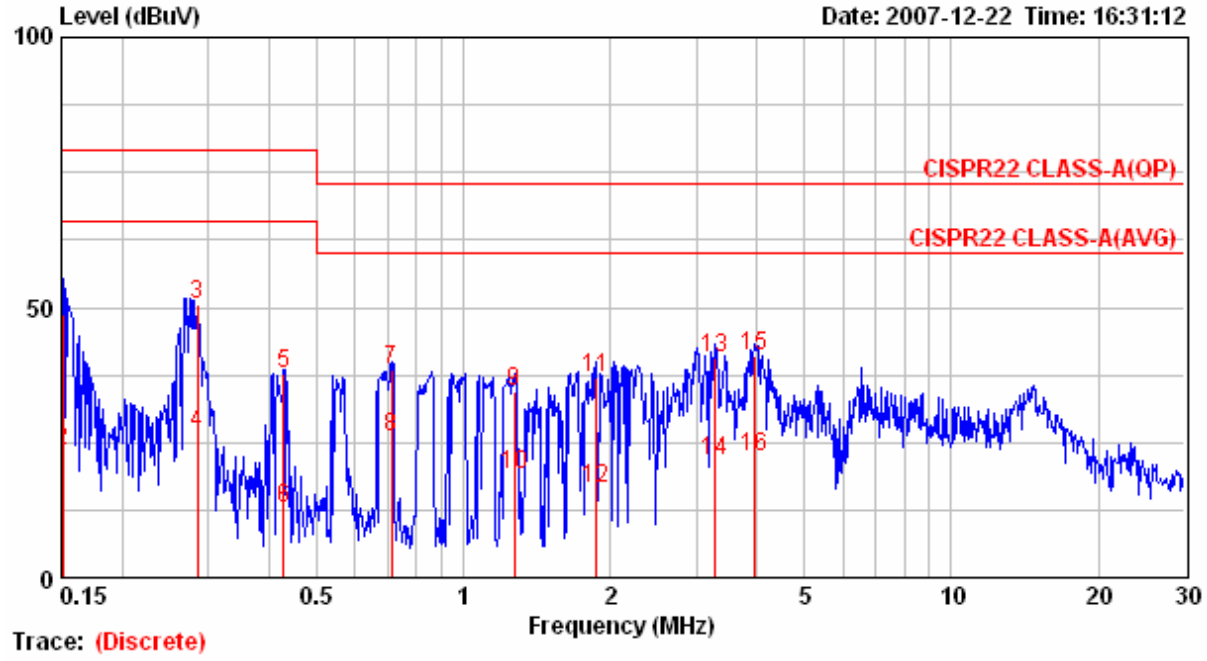
Freq. MHz	Corr. Factor dB	Reading Value dBuV Q.P.	Reading Value dBuV Ave.	Emission Level dBuV Q.P.	Emission Level dBuV Ave.	Limit dBuV Q.P.	Limit dBuV Ave.	Margin dBuV Q.P.	Margin dBuV Ave.
0.162	0.06	60.80	50.96	60.86	51.02	79.00	66.00	-18.14	-14.98
0.332	0.06	47.02	39.18	47.08	39.24	79.00	66.00	-31.93	-26.77
0.647	0.06	39.31	27.10	39.37	27.16	73.00	60.00	-33.63	-32.84
0.844	0.07	38.51	21.42	38.58	21.49	73.00	60.00	-34.42	-38.51
1.511	0.10	38.28	23.66	38.38	23.76	73.00	60.00	-34.62	-36.24
1.949	0.11	40.42	23.48	40.53	23.59	73.00	60.00	-32.47	-36.41
3.074	0.13	42.31	22.93	42.44	23.06	73.00	60.00	-30.56	-36.94
3.922	0.15	40.95	21.70	41.10	21.85	73.00	60.00	-31.90	-38.15

Remark:

1. *Correction Factor = Insertion loss + cable loss*
2. *Margin value = Emission level – Limit value*

Product Name	Extended Long Range HDMI to DVI + Audio Converter	Test Date	2007/12/22
Model	HE01SXXX	Test By	YJ. Jeng
Test Mode	EUT2 : 1600dpi ﾒ 1200dpi mode	TEMP & Humidity	26.9℃, 50%

LINE



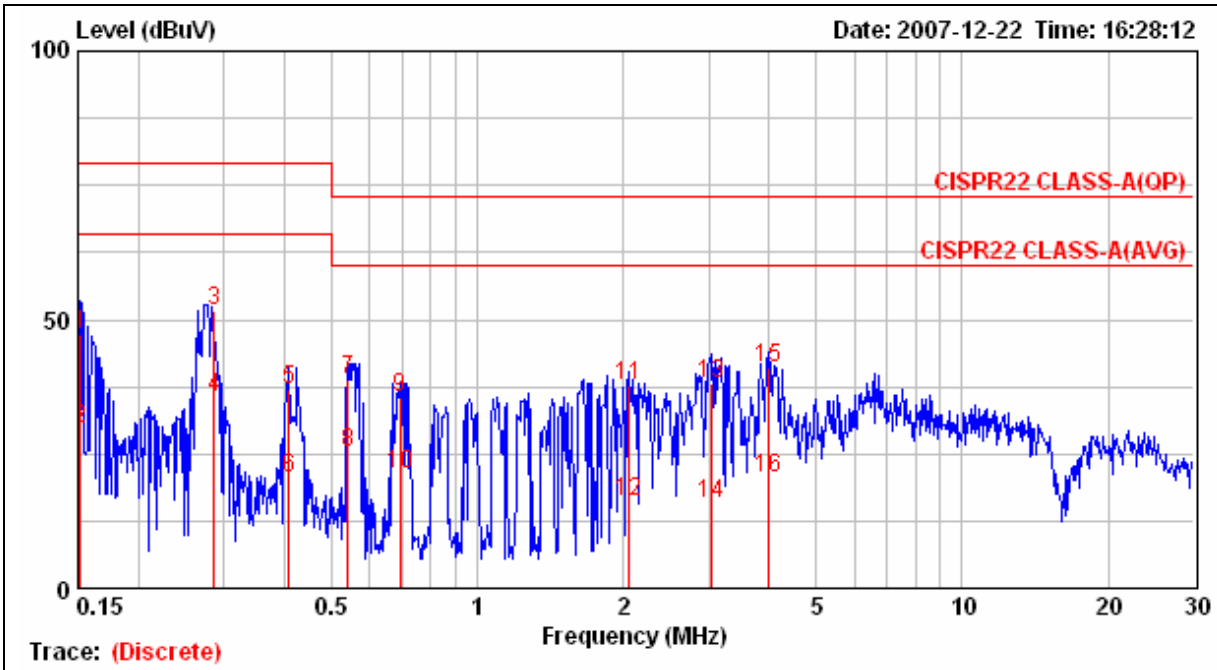
Freq. MHz	Corr. Factor dB	Reading Value dBuV Q.P.	Reading Value dBuV Ave.	Emission Level dBuV Q.P.	Emission Level dBuV Ave.	Limit dBuV Q.P.	Limit dBuV Ave.	Margin dBuV Q.P.	Margin dBuV Ave.
0.151	0.06	48.58	23.26	48.64	23.32	79.00	66.00	-30.36	-42.68
0.285	0.06	50.43	26.54	50.49	26.60	79.00	66.00	-28.51	-39.40
0.428	0.05	37.56	12.83	37.61	12.88	79.00	66.00	-41.39	-53.12
0.712	0.06	38.38	26.00	38.44	26.06	73.00	60.00	-34.56	-33.94
1.269	0.09	34.31	19.10	34.40	19.19	73.00	60.00	-38.60	-40.81
1.878	0.11	37.02	16.55	37.13	16.66	73.00	60.00	-35.87	-43.34
3.276	0.14	40.37	21.39	40.51	21.53	73.00	60.00	-32.49	-38.47
3.964	0.15	40.73	22.23	40.88	22.38	73.00	60.00	-32.12	-37.62

Remark:

1. Correction Factor = Insertion loss + cable loss
2. Margin value = Emission level – Limit value

Product Name	Extended Long Range HDMI to DVI + Audio Converter	Test Date	2007/12/22
Model	HE01SXXX	Test By	YJ. Jeng
Test Mode	EUT2 : 1600dpi ﾒ 1200dpi mode	TEMP & Humidity	26.9℃, 50%

NEUTRAL



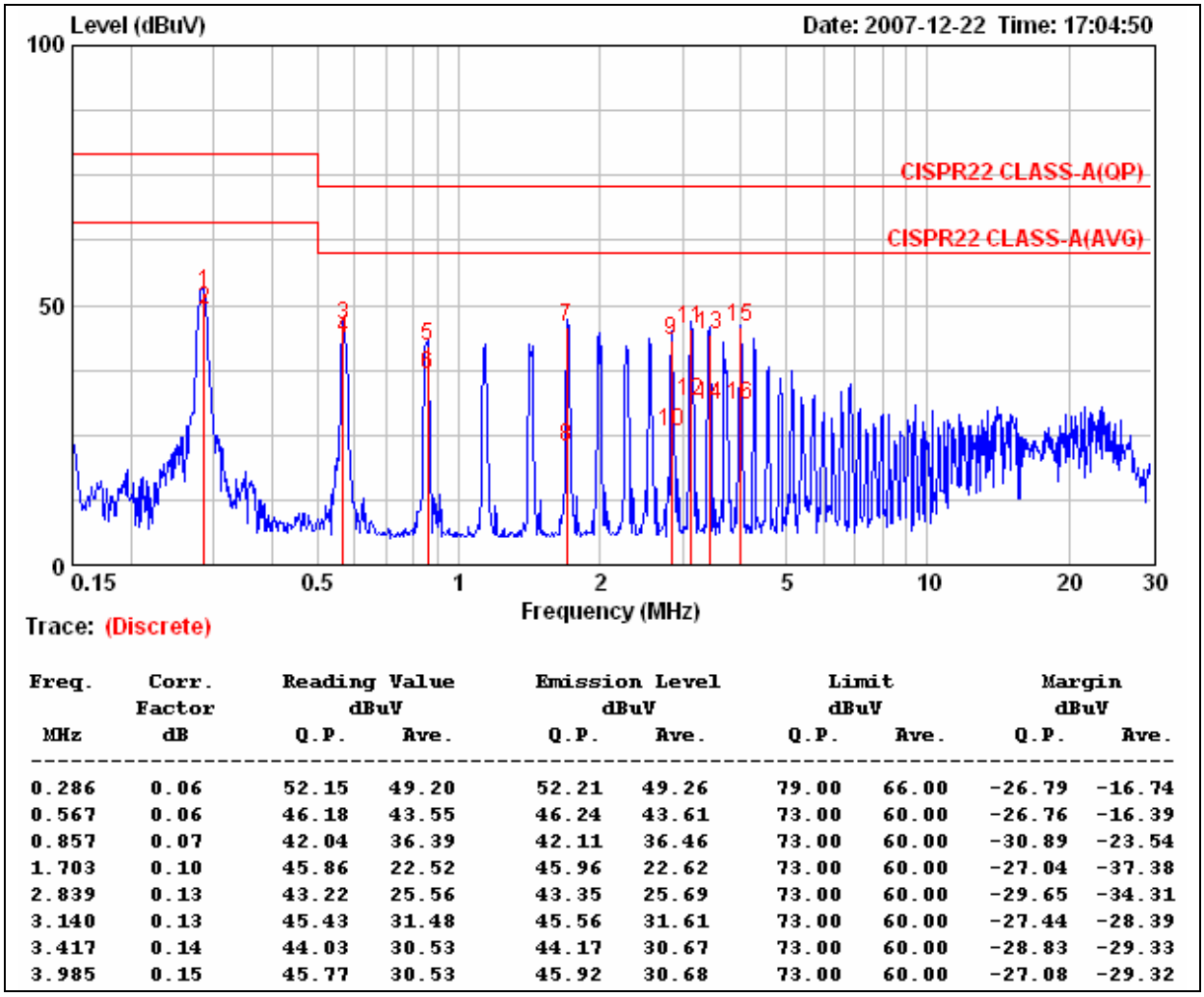
Freq.	Corr. Factor	Reading Value dBuV		Emission Level dBuV		Limit dBuV		Margin dBuV	
MHz	dB	Q.P.	Ave.	Q.P.	Ave.	Q.P.	Ave.	Q.P.	Ave.
0.152	0.06	47.12	29.70	47.18	29.76	79.00	66.00	-31.82	-36.24
0.287	0.06	51.52	35.61	51.58	35.67	79.00	66.00	-27.42	-30.33
0.408	0.05	36.90	20.55	36.95	20.60	79.00	66.00	-42.05	-45.40
0.541	0.05	38.85	25.14	38.90	25.19	73.00	60.00	-34.10	-34.81
0.694	0.06	35.62	21.23	35.68	21.29	73.00	60.00	-37.32	-38.71
2.055	0.11	37.79	15.88	37.90	15.99	73.00	60.00	-35.10	-44.01
3.041	0.13	37.80	15.70	37.93	15.83	73.00	60.00	-35.07	-44.17
3.985	0.15	41.02	20.34	41.17	20.49	73.00	60.00	-31.83	-39.51

Remark:

1. Correction Factor = Insertion loss + cable loss
2. Margin value = Emission level – Limit value

Product Name	Extended Long Range HDMI to DVI + Audio Converter	Test Date	2007/12/22
Model	HE01SXXX	Test By	YJ. Jeng
Test Mode	EUT3 : 800dpi × 600dpi mode	TEMP & Humidity	26.9℃, 50%

LINE



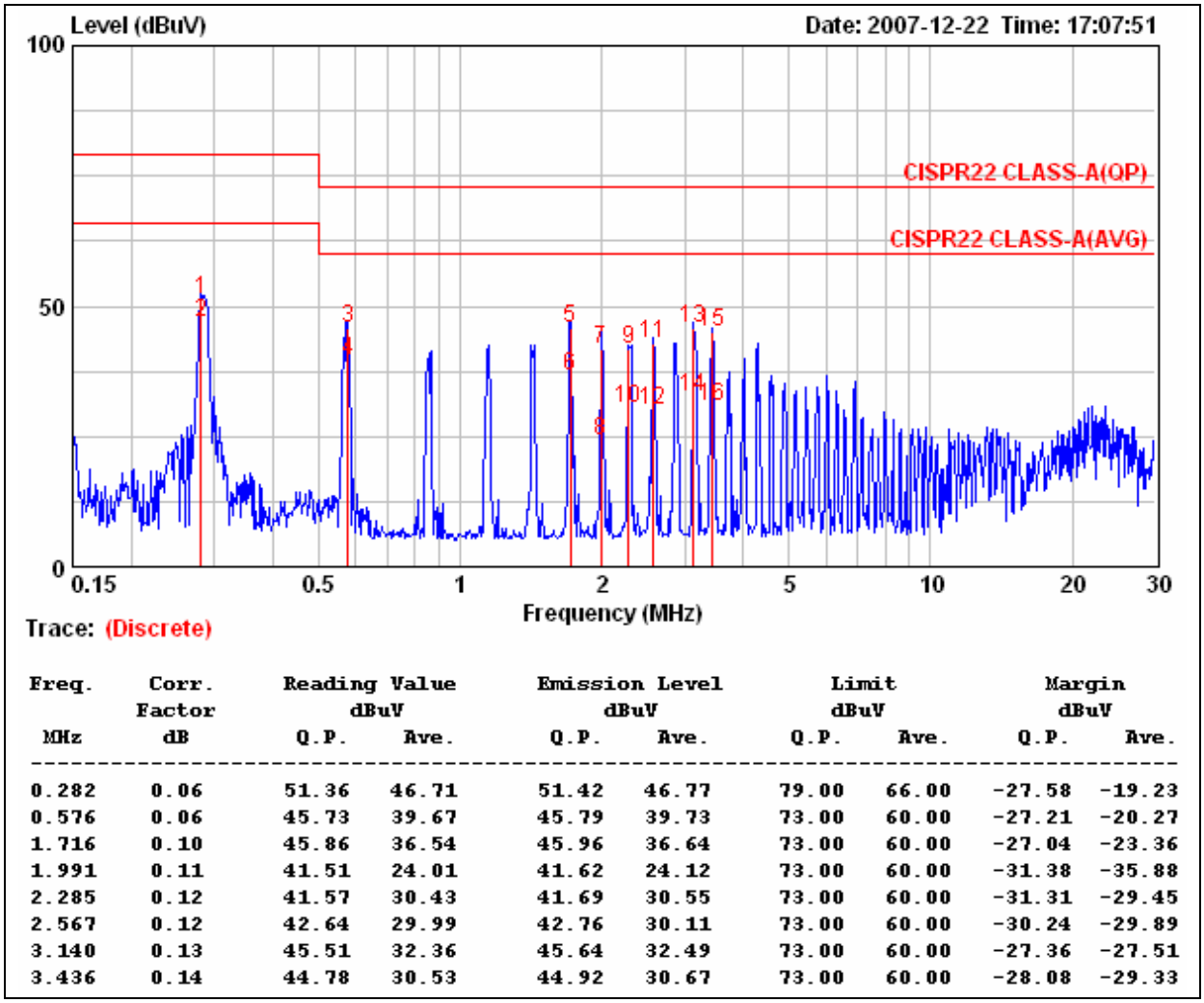
Freq. MHz	Corr. Factor dB	Reading Value dBuV Q.P.	Reading Value dBuV Ave.	Emission Level dBuV Q.P.	Emission Level dBuV Ave.	Limit dBuV Q.P.	Limit dBuV Ave.	Margin dBuV Q.P.	Margin dBuV Ave.
0.286	0.06	52.15	49.20	52.21	49.26	79.00	66.00	-26.79	-16.74
0.567	0.06	46.18	43.55	46.24	43.61	73.00	60.00	-26.76	-16.39
0.857	0.07	42.04	36.39	42.11	36.46	73.00	60.00	-30.89	-23.54
1.703	0.10	45.86	22.52	45.96	22.62	73.00	60.00	-27.04	-37.38
2.839	0.13	43.22	25.56	43.35	25.69	73.00	60.00	-29.65	-34.31
3.140	0.13	45.43	31.48	45.56	31.61	73.00	60.00	-27.44	-28.39
3.417	0.14	44.03	30.53	44.17	30.67	73.00	60.00	-28.83	-29.33
3.985	0.15	45.77	30.53	45.92	30.68	73.00	60.00	-27.08	-29.32

Remark:

1. Correction Factor = Insertion loss + cable loss
2. Margin value = Emission level – Limit value

Product Name	Extended Long Range HDMI to DVI + Audio Converter	Test Date	2007/12/22
Model	HE01SXXX	Test By	YJ. Jeng
Test Mode	EUT3 : 800dpi × 600dpi mode	TEMP & Humidity	26.9℃, 50%

NEUTRAL



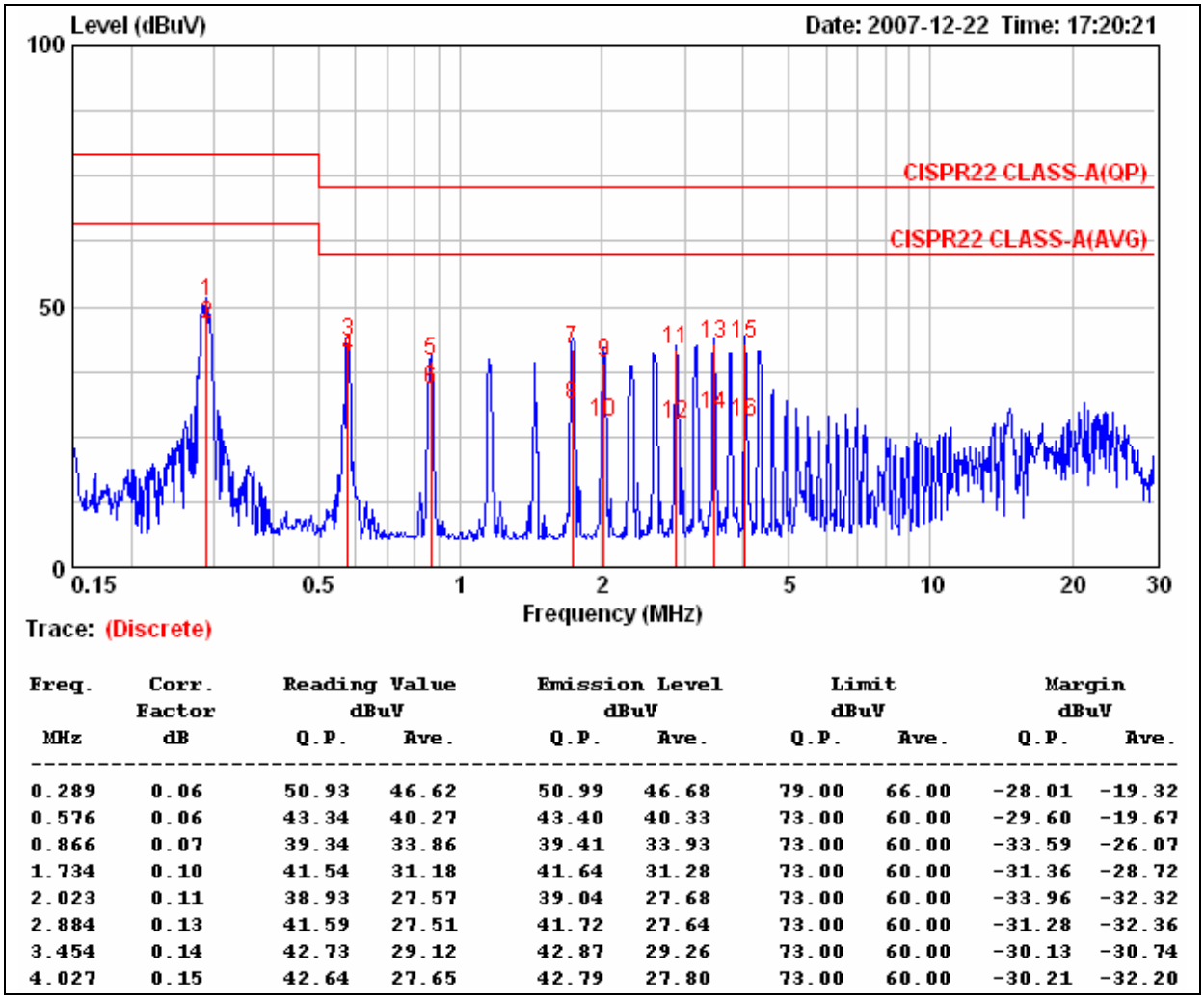
Freq. MHz	Corr. Factor dB	Reading Value dBuV Q.P.	Reading Value dBuV Ave.	Emission Level dBuV Q.P.	Emission Level dBuV Ave.	Limit dBuV Q.P.	Limit dBuV Ave.	Margin dBuV Q.P.	Margin dBuV Ave.
0.282	0.06	51.36	46.71	51.42	46.77	79.00	66.00	-27.58	-19.23
0.576	0.06	45.73	39.67	45.79	39.73	73.00	60.00	-27.21	-20.27
1.716	0.10	45.86	36.54	45.96	36.64	73.00	60.00	-27.04	-23.36
1.991	0.11	41.51	24.01	41.62	24.12	73.00	60.00	-31.38	-35.88
2.285	0.12	41.57	30.43	41.69	30.55	73.00	60.00	-31.31	-29.45
2.567	0.12	42.64	29.99	42.76	30.11	73.00	60.00	-30.24	-29.89
3.140	0.13	45.51	32.36	45.64	32.49	73.00	60.00	-27.36	-27.51
3.436	0.14	44.78	30.53	44.92	30.67	73.00	60.00	-28.08	-29.33

Remark:

1. *Correction Factor = Insertion loss + cable loss*
2. *Margin value = Emission level – Limit value*

Product Name	Extended Long Range HDMI to DVI + Audio Converter	Test Date	2007/12/22
Model	HE01SXXX	Test By	YJ. Jeng
Test Mode	EUT3 : 1024dpi ㄨ 768dpi mode	TEMP & Humidity	26.9℃, 50%

LINE



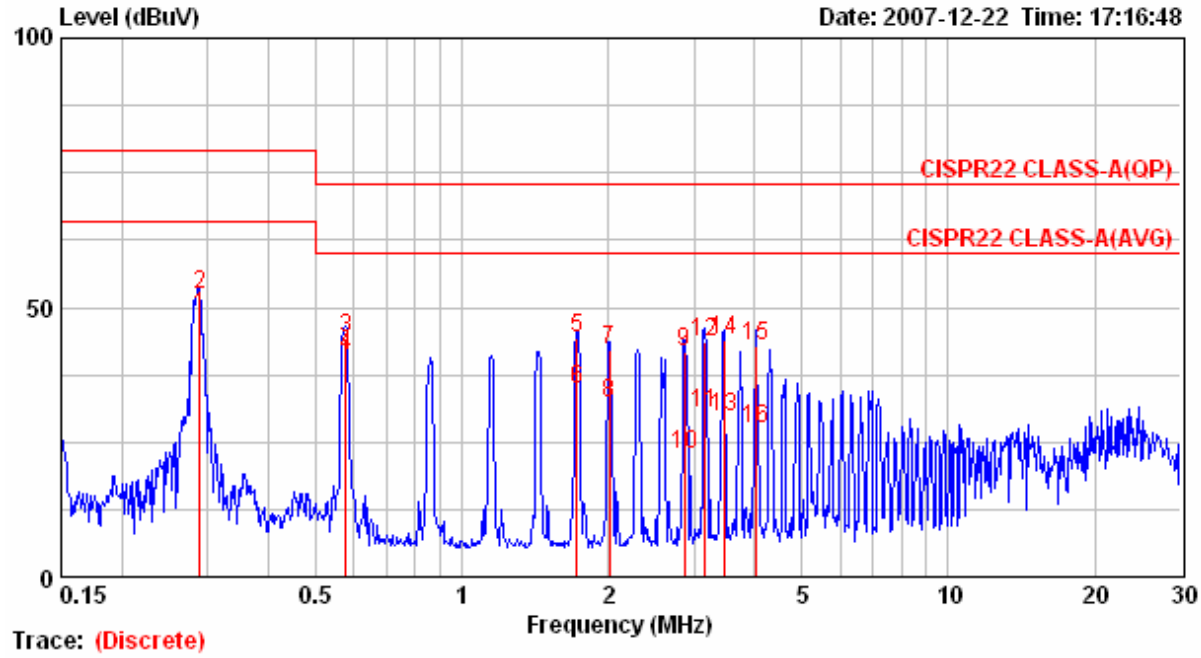
Freq. MHz	Corr. Factor dB	Reading Value dBuV Q.P.	Reading Value dBuV Ave.	Emission Level dBuV Q.P.	Emission Level dBuV Ave.	Limit dBuV Q.P.	Limit dBuV Ave.	Margin dBuV Q.P.	Margin dBuV Ave.
0.289	0.06	50.93	46.62	50.99	46.68	79.00	66.00	-28.01	-19.32
0.576	0.06	43.34	40.27	43.40	40.33	73.00	60.00	-29.60	-19.67
0.866	0.07	39.34	33.86	39.41	33.93	73.00	60.00	-33.59	-26.07
1.734	0.10	41.54	31.18	41.64	31.28	73.00	60.00	-31.36	-28.72
2.023	0.11	38.93	27.57	39.04	27.68	73.00	60.00	-33.96	-32.32
2.884	0.13	41.59	27.51	41.72	27.64	73.00	60.00	-31.28	-32.36
3.454	0.14	42.73	29.12	42.87	29.26	73.00	60.00	-30.13	-30.74
4.027	0.15	42.64	27.65	42.79	27.80	73.00	60.00	-30.21	-32.20

Remark:

1. Correction Factor = Insertion loss + cable loss
2. Margin value = Emission level – Limit value

Product Name	Extended Long Range HDMI to DVI + Audio Converter	Test Date	2007/12/22
Model	HE01SXXX	Test By	YJ. Jeng
Test Mode	EUT3 : 1024dpi ㄨ 768dpi mode	TEMP & Humidity	26.9℃, 50%

NEUTRAL



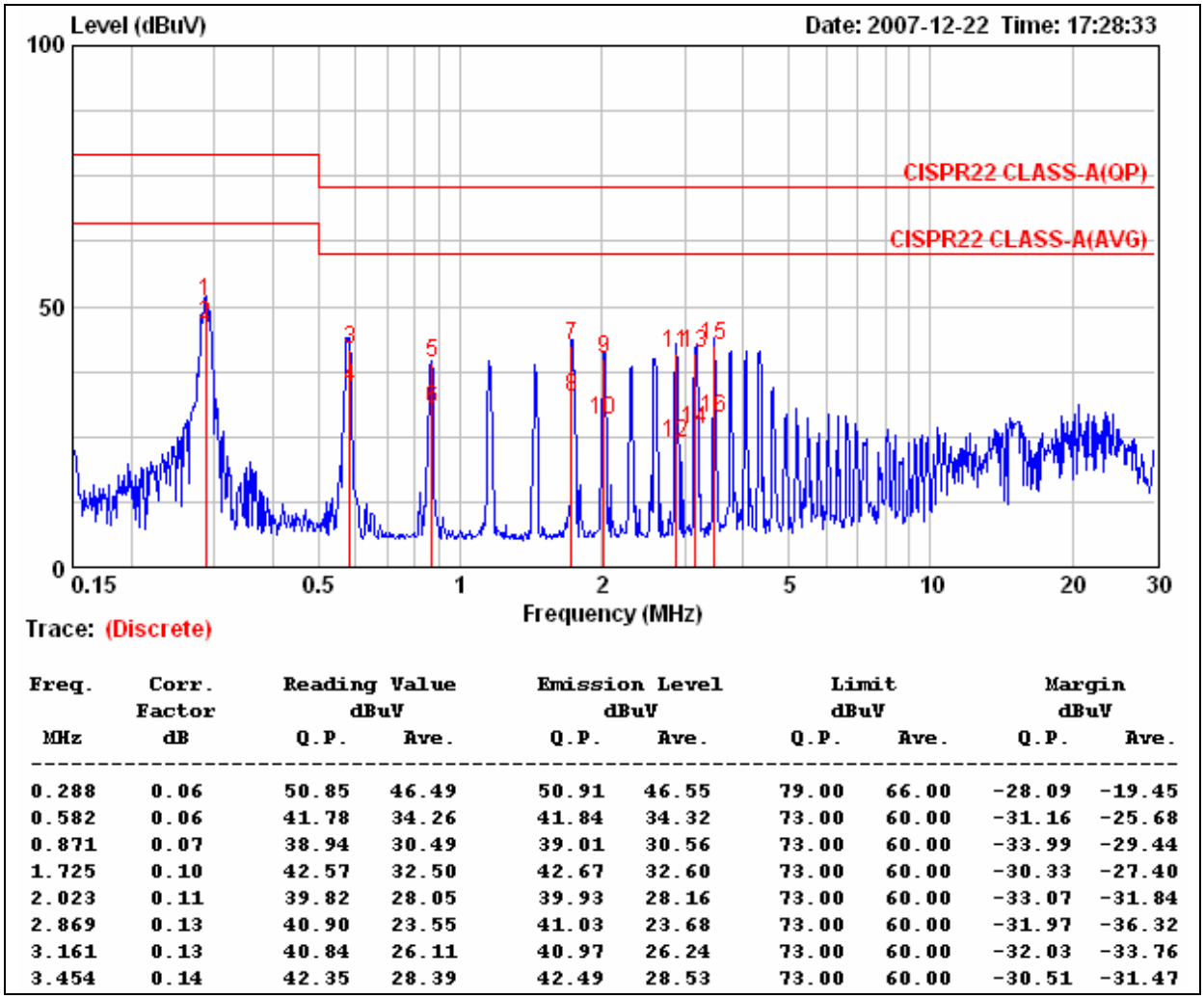
Freq. MHz	Corr. Factor dB	Reading Value dBuV Q.P.	Reading Value dBuV Ave.	Emission Level dBuV Q.P.	Emission Level dBuV Ave.	Limit dBuV Q.P.	Limit dBuV Ave.	Margin dBuV Q.P.	Margin dBuV Ave.
0.289	0.06	52.33	48.47	52.39	48.53	79.00	66.00	-26.61	-17.47
0.576	0.06	44.34	41.08	44.40	41.14	73.00	60.00	-28.60	-18.86
1.725	0.10	44.14	34.86	44.24	34.96	73.00	60.00	-28.76	-25.04
2.012	0.11	41.96	31.99	42.07	32.10	73.00	60.00	-30.93	-27.90
2.861	0.13	41.50	22.72	41.63	22.85	73.00	60.00	-31.37	-37.15
3.156	0.13	43.61	30.35	43.74	30.48	73.00	60.00	-29.26	-29.52
3.454	0.14	43.85	29.61	43.99	29.75	73.00	60.00	-29.01	-30.25
4.021	0.15	42.64	27.45	42.79	27.60	73.00	60.00	-30.21	-32.40

Remark:

1. Correction Factor = Insertion loss + cable loss
2. Margin value = Emission level – Limit value

Product Name	Extended Long Range HDMI to DVI + Audio Converter	Test Date	2007/12/22
Model	HE01SXXX	Test By	YJ. Jeng
Test Mode	EUT3 : 1600dpi ㄨ 1200dpi mode	TEMP & Humidity	26.9℃, 50%

LINE



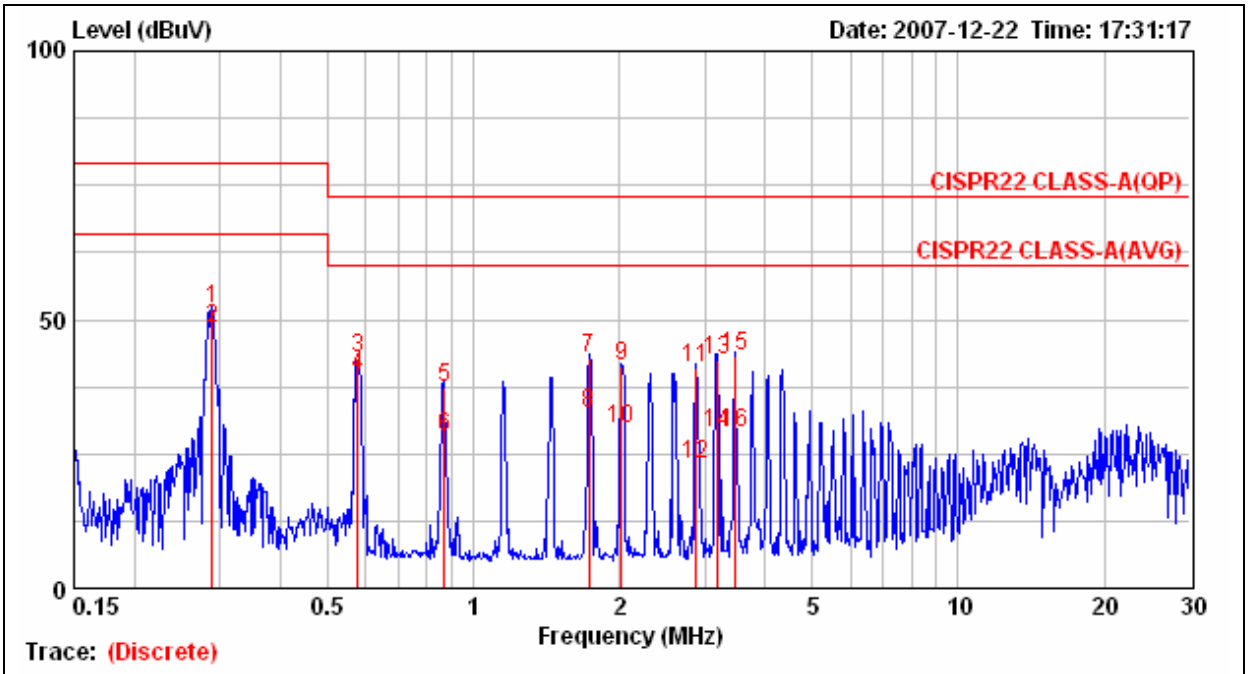
Freq. MHz	Corr. Factor dB	Reading Value dBuV Q.P.	Reading Value dBuV Ave.	Emission Level dBuV Q.P.	Emission Level dBuV Ave.	Limit dBuV Q.P.	Limit dBuV Ave.	Margin dBuV Q.P.	Margin dBuV Ave.
0.288	0.06	50.85	46.49	50.91	46.55	79.00	66.00	-28.09	-19.45
0.582	0.06	41.78	34.26	41.84	34.32	73.00	60.00	-31.16	-25.68
0.871	0.07	38.94	30.49	39.01	30.56	73.00	60.00	-33.99	-29.44
1.725	0.10	42.57	32.50	42.67	32.60	73.00	60.00	-30.33	-27.40
2.023	0.11	39.82	28.05	39.93	28.16	73.00	60.00	-33.07	-31.84
2.869	0.13	40.90	23.55	41.03	23.68	73.00	60.00	-31.97	-36.32
3.161	0.13	40.84	26.11	40.97	26.24	73.00	60.00	-32.03	-33.76
3.454	0.14	42.35	28.39	42.49	28.53	73.00	60.00	-30.51	-31.47

Remark:

1. Correction Factor = Insertion loss + cable loss
2. Margin value = Emission level – Limit value

Product Name	Extended Long Range HDMI to DVI + Audio Converter	Test Date	2007/12/22
Model	HE01SXXX	Test By	YJ. Jeng
Test Mode	EUT3 : 1600dpi ㄨ 1200dpi mode	TEMP & Humidity	26.9℃, 50%

NEUTRAL



Freq. MHz	Corr. Factor dB	Reading Value dBuV Q.P.	Reading Value dBuV Ave.	Emission Level dBuV Q.P.	Emission Level dBuV Ave.	Limit dBuV Q.P.	Limit dBuV Ave.	Margin dBuV Q.P.	Margin dBuV Ave.
0.289	0.06	52.09	48.47	52.15	48.53	79.00	66.00	-26.85	-17.47
0.576	0.06	42.92	39.67	42.98	39.73	73.00	60.00	-30.02	-20.27
0.871	0.07	37.46	28.31	37.53	28.38	73.00	60.00	-35.47	-31.62
1.734	0.10	42.67	32.50	42.77	32.60	73.00	60.00	-30.23	-27.40
2.023	0.11	41.12	29.69	41.23	29.80	73.00	60.00	-31.77	-30.20
2.869	0.13	40.90	22.81	41.03	22.94	73.00	60.00	-31.97	-37.06
3.173	0.13	42.21	28.96	42.34	29.09	73.00	60.00	-30.66	-30.91
3.454	0.14	42.98	28.96	43.12	29.10	73.00	60.00	-29.88	-30.90

Remark:

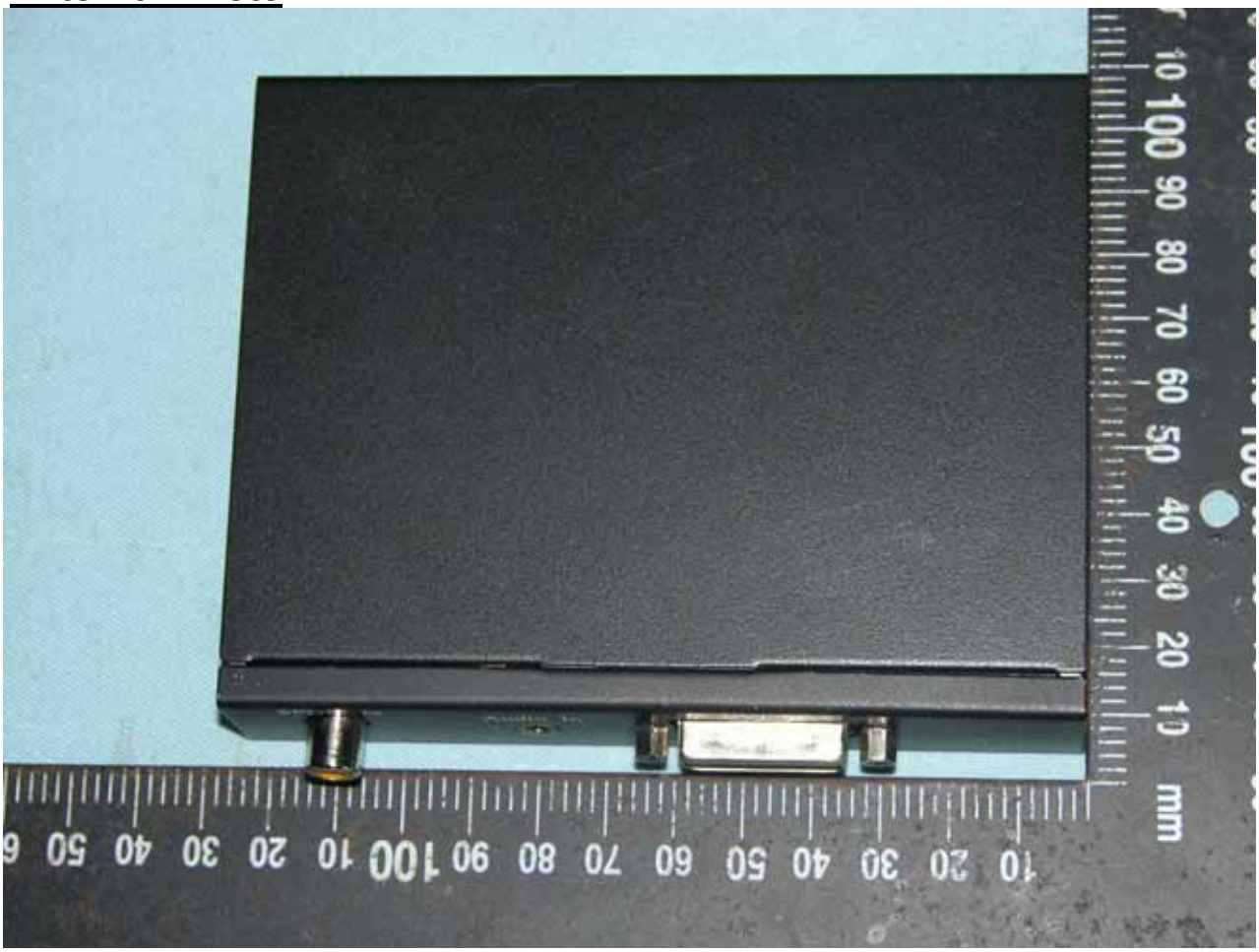
1. Correction Factor = Insertion loss + cable loss
2. Margin value = Emission level – Limit value

APPENDIX SETUP PHOTOS

RADIATED EMISSION MEASUREMENT SETUP

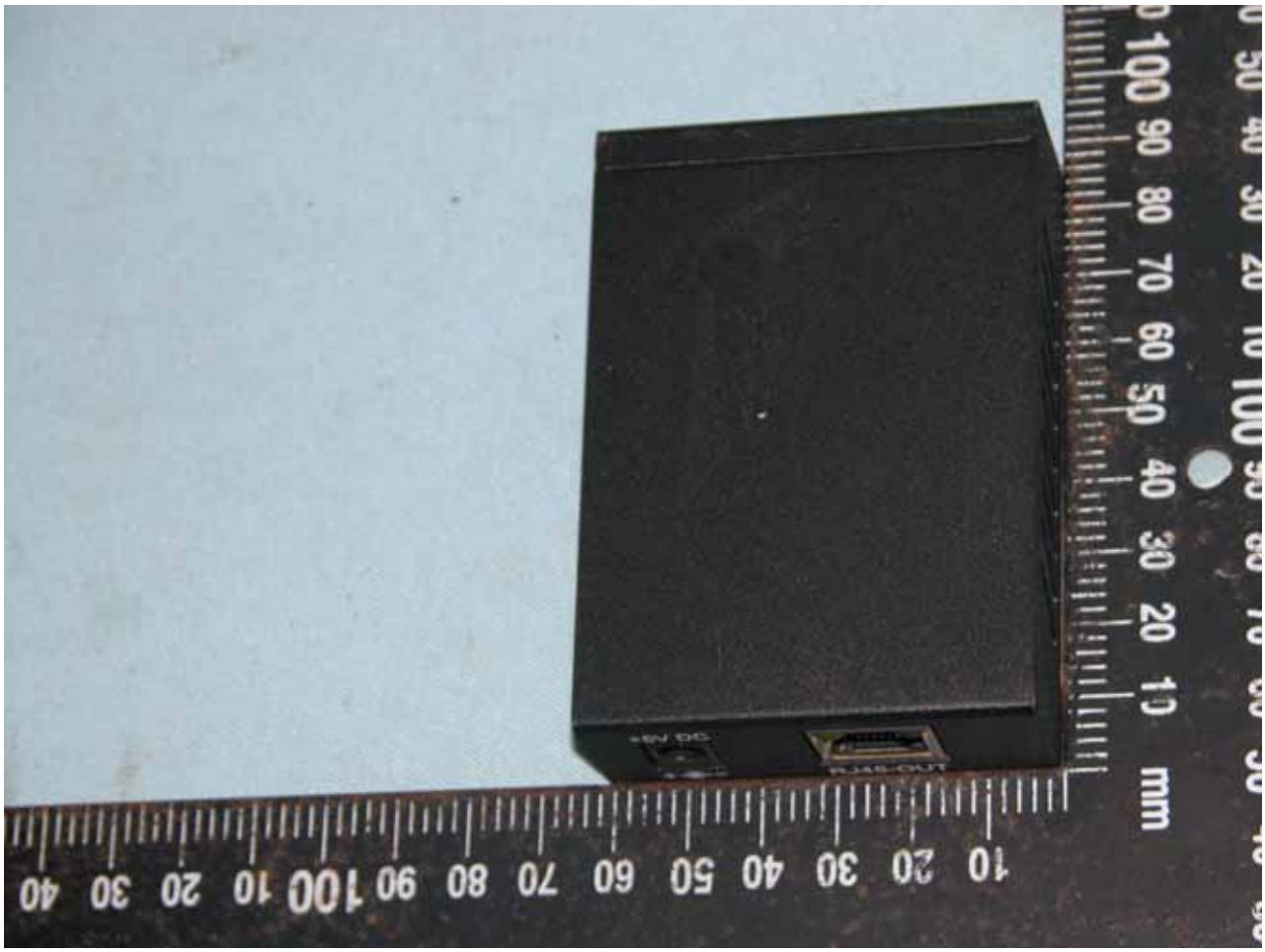
POWERLINE CONDUCTED EMISSION MEASUREMENT SETUP

External Photo

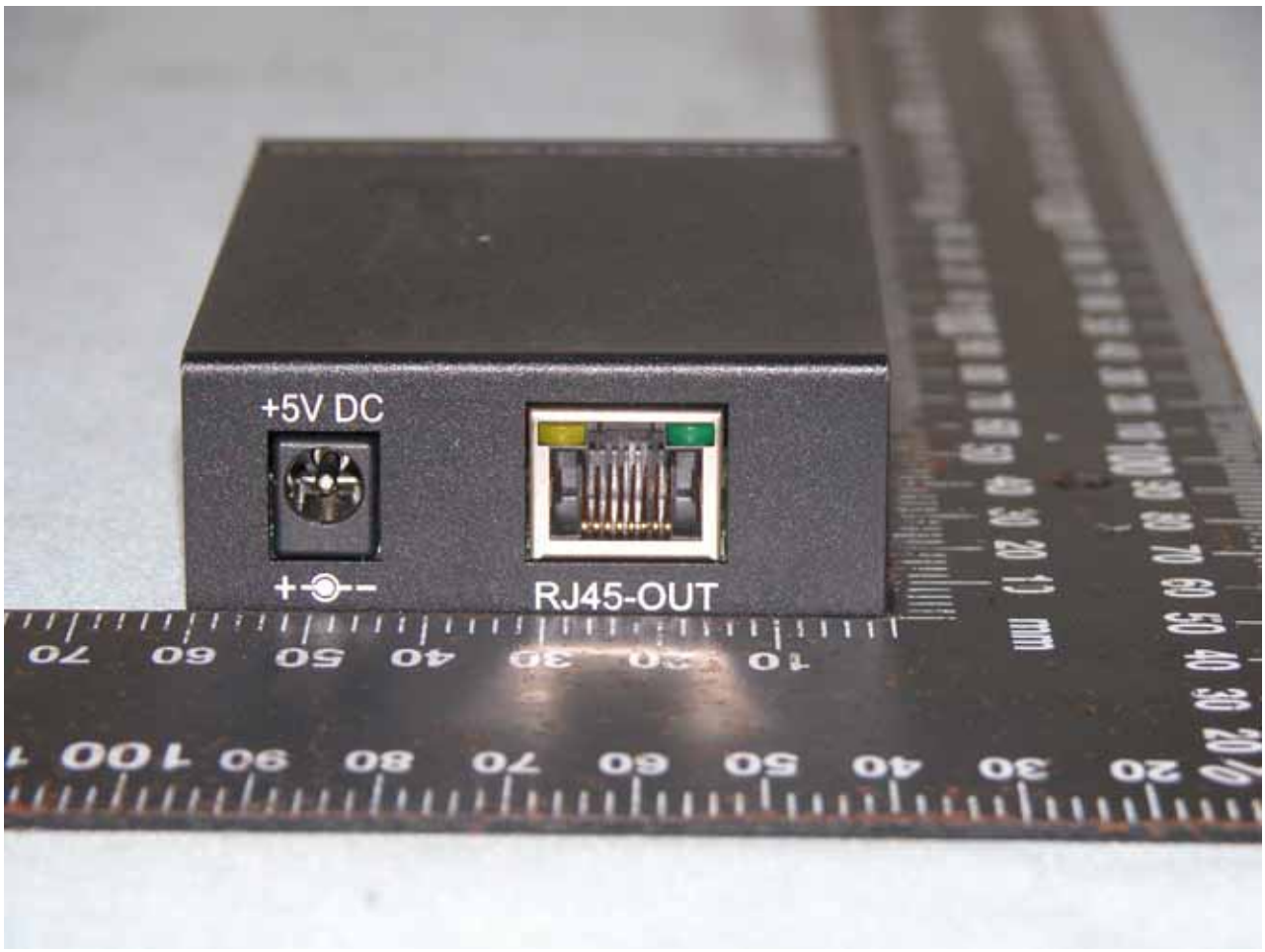


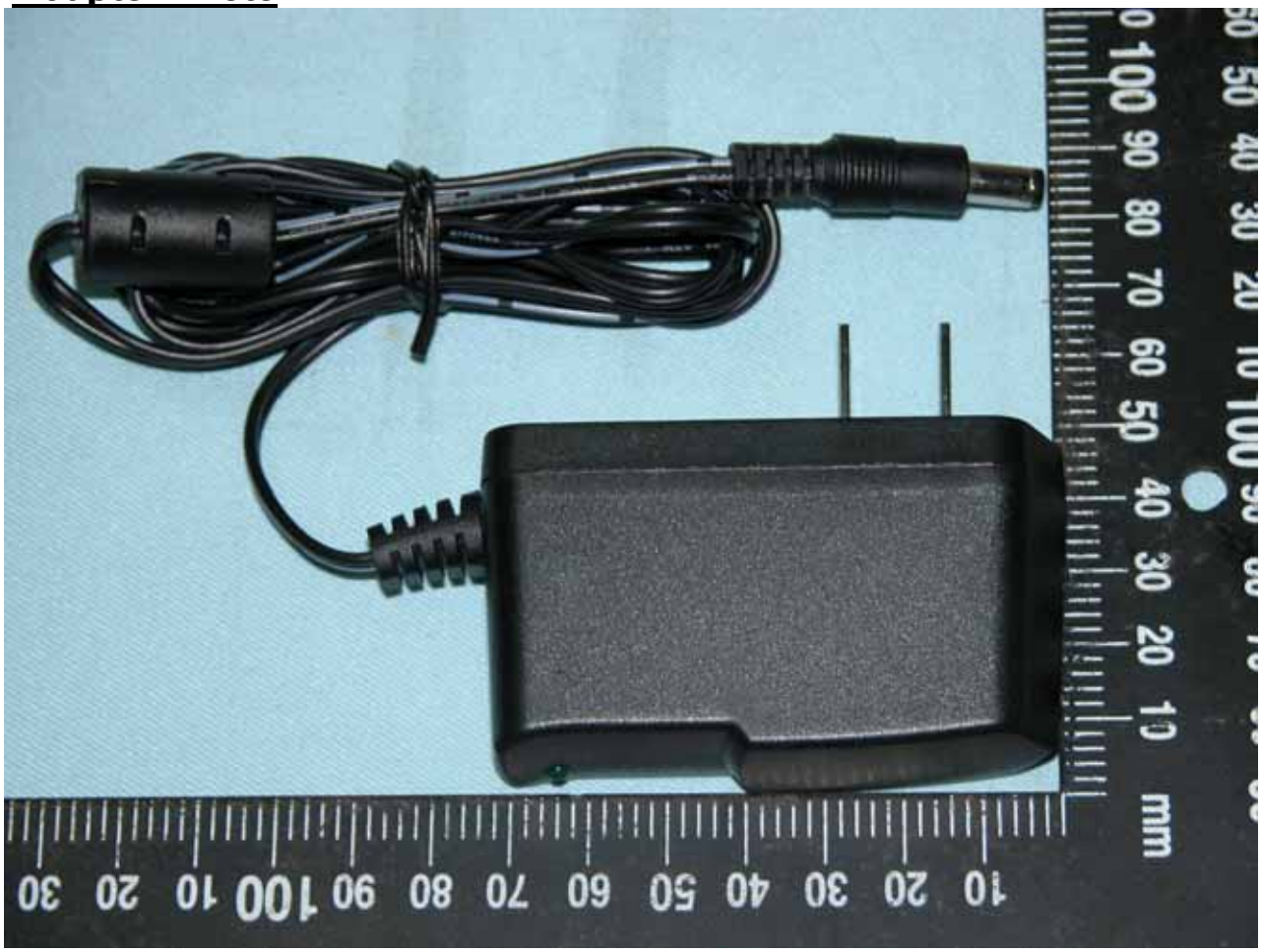
SPDIF In
Audio In
DVI In

HDMI Out
Power
+5VDC


+5V DC
RJ45-OUT
mm

RJ45-OUT
+5V DC
mm


+5V DC
RJ45-OUT

Mode
HDMI-IN

Adapter Photo