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FCC Test Report

for

LCD TV

Applicant : **LG Electronics Inc.**

Model Number : **32LD320H-UA**

Manufacturer : **LG Electronics Inc.**

Test Standard : **ANSI C 63.4:2003**
FCC Part 15 Subpart B
(Type of Device : Class B Computing Device Peripheral (JBP))

Date of Tests : **October 28 ~ 29, 2010**

Date of Issue : **November 03, 2010**

Tested by : D.H.EUN/Assistant Manager

Reviewed by : Y.K.SHIN/Manager

This test result only responds to the tested sample.

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1. General Remarks

This Report describes the emission characteristics of the tested product.

If the product will be used with additional equipment other than those mentioned in this report or if the tested product will be used against the manufacture's specifications, the compliance with the relevant standards for the system has to be ensured.

2. Test Laboratory

Digital EMC Co., Ltd. has been accredited / filed / authorized by the agencies listed in the following table;

Certificate	Nation	Agency	Code	Mark
Accreditation	Korea	KOLAS	393	ISO/IEC 17025
Site Filing	USA	FCC	101842	Test Facility list & NSA Data
	Japan	VCCI	C-1427 R-1364, R-3385 T-1442	Test Facility list & NSA Data
Certification	Korea	KCC	KR0034	Test Facility list & NSA Data
	Germany	TUV	ROK0924C	ISO/IEC 17025

Quality control in the testing laboratory is implemented as per ISO/IEC 17025 which is the “General requirements for the competents of calibration and testing laboratory”.

DIGITAL EMC CO., LTD.

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3. General Information of EUT

3.1 Product Information

Equipment under Test	LCD TV
Model No.	32LD320H-UA
Serial No	NONE
Type of Sample Tested	Pre-Production
Rating Power Supply	AC110V
High Frequency	667MHz
Supplied Power for Test	AC120V, 60Hz
Applicant	LG Electronics Inc. 19-1, Cheongho-ri, Jinwi-myeon, Pyeongtaek-si, Gyeonggi-do, Korea
Manufacturer	LG Electronics Inc. 19-1, Cheongho-ri, Jinwi-myeon, Pyeongtaek-si, Gyeonggi-do, Korea
Factory	LG Electronics Reynosa, Inc. LG Electronics USA, Inc_Reynosa 9801 South Cage Blvd. Suite 3F Pharr, TX. 78577
Date of Receipt of Sample	2010-10-07

< Product Specifications >

Resolution	Horizontal Frequency(kHz)	Vertical Frequency(Hz)
640x350	31.468	70.09
720x400	31.469	70.08
640x480	31.469	59.94
800x600	37.879	60.31
1024x768	48.363	60.00
1280x768	47.776	59.87
1360x768	47.712	60.015

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4. Test Summary

4.1 Summary of tests

The applied standards to evaluate the compliance of requirements is 47CFR Part 15, Subpart B and the measurement procedures specified in ANSI C63.4 are performed.

Test Items	Applied Standards	Status
Emission		
Conducted Emission	FCC Part 15 Subpart B	C
Radiated Emission	FCC Part 15 Subpart B	C
Note 1: C=Conform NC=Not Conform NT=Not Tested NA=Not Applicable		

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5. Test Set-up and operation mode

5.1 Principle of Configuration Selection

Emission : The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the instructions for use.

5.2 Test Operation Mode

- DSUB mode : Resolution 1360*768 MAX, “H” character scroll
- HDMI mode : Resolution 1360*768 MAX, “H” character scroll
- USB mode : USB file play

EUT is the following operational conditions apply:

a) Set the contrast control to maximum.

b) Set the brightness control to maximum or at raster extinction if raster extinction occurs at less thanmaximum brightness.

c) For color monitors, use white letters on a black background to represent all colors.

d) Select the worse case of positive or negative video if both alternatives are available.

e) Set character size and number of characters per line so that the typical maximum number of charac-ters per screen is displayed.

f) For a monitor that has no graphics capabilities, regardless of the video card used, a pattern consistingof random text shall be displayed. For a monitor with graphics capability, even though another videocard may be needed to accomplish a graphic display, a screen pattern consisting of lines of scrollingH’s should be displayed. For a monitor that has no text capabilities, use a typical display. That pat-tern should be used for the remainder of the tests.

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5.3 Support Equipment Used

Unit	Model No.	Serial No.	Manufacturer	CABLE			Backshell	FCC ID
				Connect type	Length (m)	shield		
PC	DN-V60	671K9NCP100 324M	SAMSUNG	PS/2 Power DSUB DVI to HDMI LPT	1.6 1.8 1.8 2.0 1.9	Shield Non-shield Shield Shield Shield	Plastic Plastic Plastic Metal Metal	DOC
Keyboard	SKG-3300VB	TAKZ200031M	MONITEREY INTERNATIONAL CORP	PS/2	1.6	Shield	Plastic	DOC
Mouse	M-VAE96	LZ751AP01MC	MONITEREY INTERNATIONAL CORP	PS/2	1.6	Shield	Plastic	DOC
Printer	SRP-770	N.A	BIXOLON	Power LPT	1.8 1.9	Non-shield Shield	Plastic Metal	DOC
USB Memory	U1	N/A	AXXEN	USB	-	-	Plastic	DOC

NOTE

- See “APPENDIX 1 Photographs” for actual system test setup

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6. Test Results : Emission

6.1 Conducted Emission

RESULT : COMPLY

6.1.1 Measurement Procedure

In the range of 0.15MHz to 30MHz, the conducted emission was measured and set-up was made accordance with **ANSI C63.4:2003.**

If the EUT is table top equipment, it was placed on a wooden table with a height of 0.8m above the reference ground plane and 0.4m from the conducting wall of the shielded room.

Also if the EUT is floor-standing equipment, it was placed on a non-conducted support with a height up to 0.15m above the reference ground plane.

Connect the EUT's power source lines to the appropriate power mains / peripherals through the LISN. All the other peripherals are connected to the 2nd LISN, if any.

Unused measuring port of the LISN was resistively terminated by 50 ohm terminator.

The measuring port of the LISN for EUT was connected to spectrum analyzer.

Using TOYO conducted emission test software, the emissions were scanned from 150KHz to 30MHz with peak detector mode.

After scanning over the frequency range, suspected emissions were selected to perform final measurement. When performing final measurement, the receiver was used which has Quasi-Peak detector and Average detector.

By varying the configuration of the test sample and the cable routing it was attempted to maximize the emission.

For further description of the configuration refer to the picture of the test set-up.

6.1.2 List of Test and Measurement Instruments

Name of Instrument	Model No.	Serial No.	Manufacturer	Cal. Date	Next Cal. Date
EMI TEST RECEIVER	ESCI	100364	R&S	2010.05.12	2011.05.12
DC BLOCK	KFL-007	7-1581-5	Hyuplip	-	-
LISN	LISN1600	197204	TTI	2010.07.02	2011.07.02
LISN(EUT)	ESH2-Z5	828739/006	R&S	2010.10.01	2011.10.01
50 ohm Terminator	CT-01	N/A	TME	2010.01.12	2011.01.12

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6.1.3 Limit for Conducted Emission

(1) Conducted Emission at mains ports of class A

Frequency range (MHz)	Limits dB(μV)	
	Quasi-peak	Average
0.15 to 0.50	79	66
0.50 to 30	73	60
Note The lower limit shall apply at the transition frequencies.		

(2) Conducted Emission at mains ports of class B

Frequency range (MHz)	Limits dB(μV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50
Note 1 The lower limit shall apply at the transition frequencies. Note 2 The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.5MHz.		

6.1.4 Test Result

Test date	October 28, 2010
Ambient Temperature	20 ℃
Relative Humidity	31 % R.H.

Result : For the measurement data, see next page.

Note) 1. Emission Level = Reading Value + Correction Factor.

2. Correction Factor = Cable Loss + Insertion Loss of LISN

3. Margin = Limit - Emission level

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Test Result

< DSUB MODE >

Digital EMC

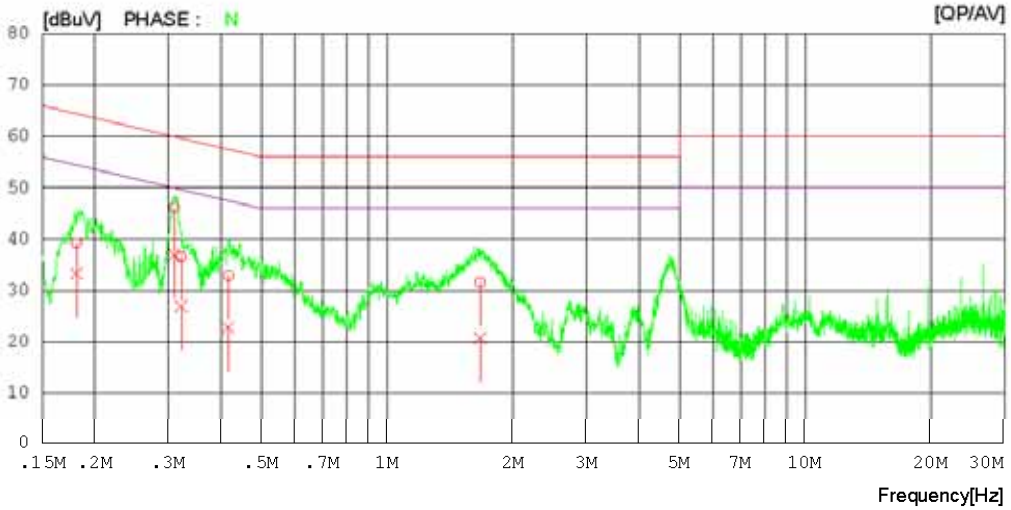
Results of Conducted Emission

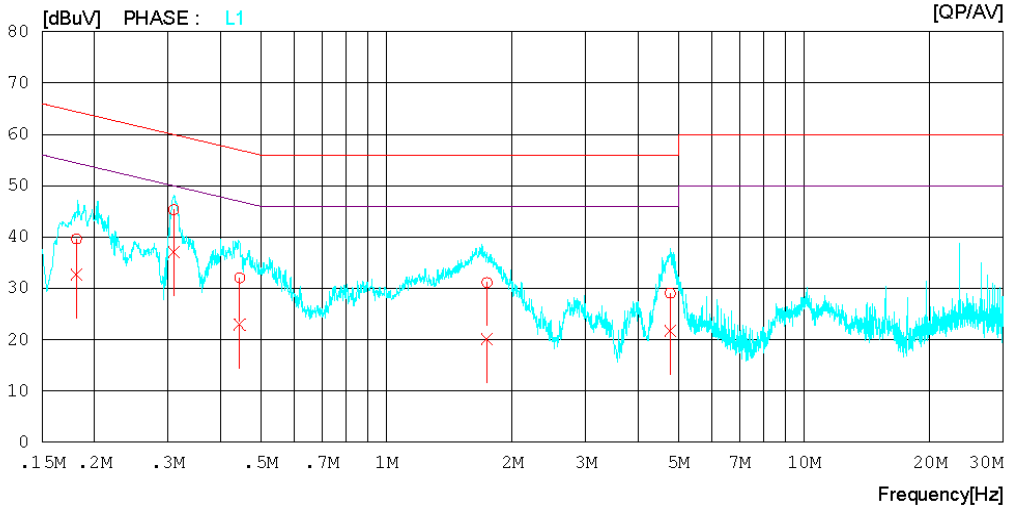
Digital EMC
Date : 2010/10/28

Model No.	:	32LD320H-UA	Referrence No.	:	
Type	:		Power Supply	:	120V 60Hz
Serial No.	:		Temp/Humi.	:	20 ℃ 31 % R.H.
Test Condition	:	DSUB	Operator	:	

Memo :

LIMIT : CISPR22_B QP
CISPR22_B AV





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Results of Conducted Emission

Digital EMC
Date : 2010/10/28

Model No.	:	32LD320H-UA	Referrence No.	:	
Type	:		Power Supply	:	120V 60Hz
Serial No.	:		Temp/Humi.	:	20 'C 31 % R.H.
Test Condition	:	DSUB	Operator	:	

Memo :

LIMIT : CISPR22_B QP
CISPR22_B AV

NO	FREQ [MHz]	READING QP [dBuV]	READING AV [dBuV]	C.FACTOR [dB]	RESULT QP [dBuV]	RESULT AV [dBuV]	LIMIT QP [dBuV]	LIMIT AV [dBuV]	MARGIN QP [dBuV]	MARGIN AV [dBuV]	PHASE
1	0.18085	39.0	33.1	0.2	39.2	33.3	64.4	54.4	25.2	21.1	N
2	0.30943	45.8	36.6	0.3	46.1	36.9	60.0	50.0	13.9	13.1	N
3	0.32173	36.3	26.6	0.3	36.6	26.9	59.7	49.7	23.1	22.8	N
4	0.41748	32.6	22.5	0.3	32.9	22.8	57.5	47.5	24.6	24.7	N
5	1.66800	31.2	20.4	0.3	31.5	20.7	56.0	46.0	24.5	25.3	N
6	0.18101	39.4	32.5	0.2	39.6	32.7	64.4	54.4	24.8	21.7	L1
7	0.30948	45.0	36.8	0.3	45.3	37.1	60.0	50.0	14.7	12.9	L1
8	0.44498	31.7	22.7	0.3	32.0	23.0	57.0	47.0	25.0	24.0	L1
9	1.73950	30.9	19.8	0.3	31.2	20.1	56.0	46.0	24.8	25.9	L1
10	4.78100	28.6	21.2	0.5	29.1	21.7	56.0	46.0	26.9	24.3	L1

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< HDMI MODE >

Digital EMC

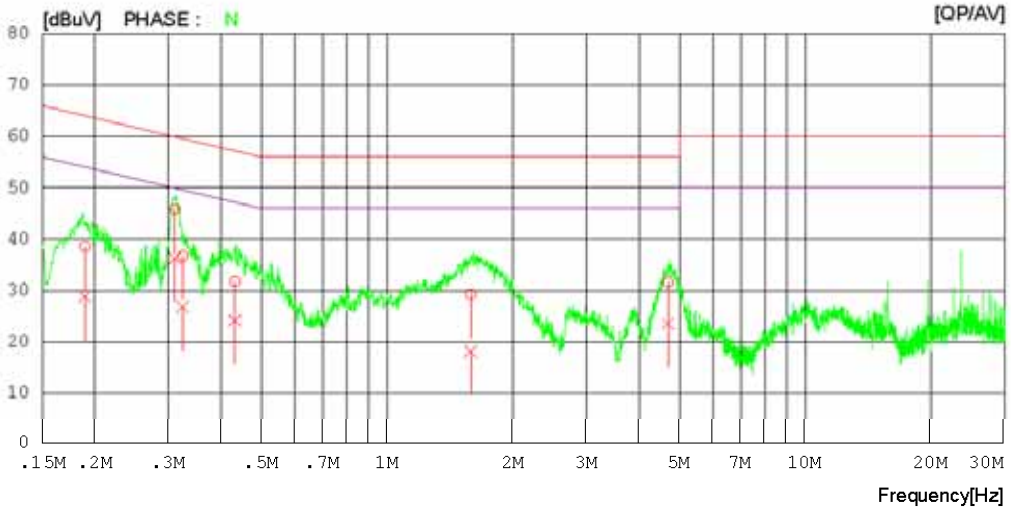
Results of Conducted Emission

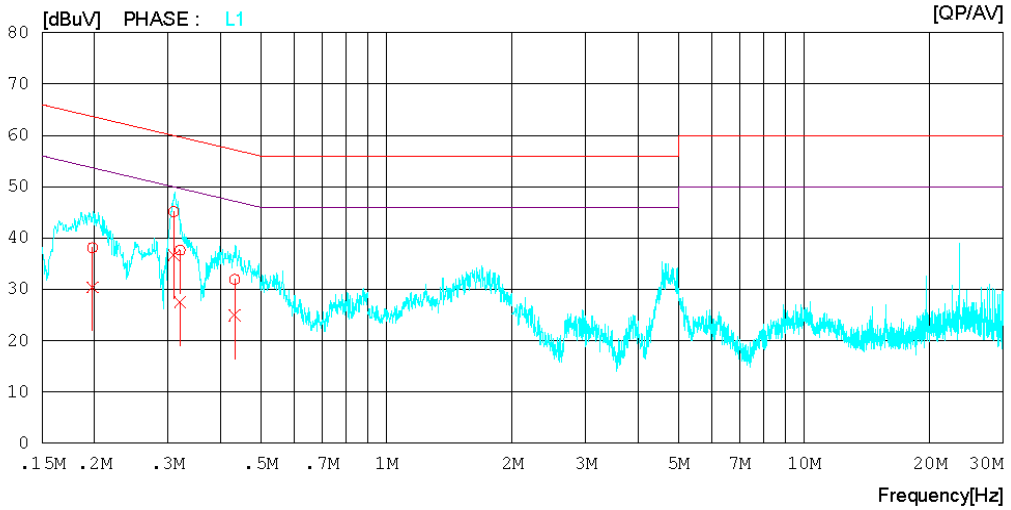
Digital EMC
Date : 2010/10/28

Model No.	:	32LD320H-UA	Referrence No.	:	
Type	:		Power Supply	:	120V 60Hz
Serial No.	:		Temp/Humi.	:	20 ℃ 31 % R.H.
Test Condition	:	HDMI	Operator	:	

Memo :

LIMIT : CISPR22_B QP
CISPR22_B AV





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Results of Conducted Emission

Digital EMC
Date : 2010/10/28

Model No.	:	32LD320H-UA	Referrence No.	:	
Type	:		Power Supply	:	120V 60Hz
Serial No.	:		Temp/Humi.	:	20 'C 31 % R.H.
Test Condition	:	HDMI	Operator	:	

Memo :

LIMIT : CISPR22_B QP
CISPR22_B AV

NO	FREQ [MHz]	READING QP [dBuV]	READING AV [dBuV]	C.FACTOR [dB]	RESULT QP [dBuV]	RESULT AV [dBuV]	LIMIT QP [dBuV]	LIMIT AV [dBuV]	MARGIN QP [dBuV]	MARGIN AV [dBuV]	PHASE
1	0.18939	38.3	28.7	0.2	38.5	28.9	64.1	54.1	25.6	25.2	N
2	0.31050	45.5	36.0	0.3	45.8	36.3	60.0	50.0	14.2	13.7	N
3	0.32426	36.4	26.5	0.3	36.7	26.8	59.6	49.6	22.9	22.8	N
4	0.43250	31.5	23.8	0.3	31.8	24.1	57.2	47.2	25.4	23.1	N
5	1.58350	28.9	17.8	0.3	29.2	18.1	56.0	46.0	26.8	27.9	N
6	4.69050	31.1	23.0	0.5	31.6	23.5	56.0	46.0	24.4	22.5	N
7	0.19778	37.9	30.2	0.2	38.1	30.4	63.7	53.7	25.6	23.3	L1
8	0.30949	44.9	36.4	0.3	45.2	36.7	60.0	50.0	14.8	13.3	L1
9	0.32066	37.3	27.2	0.3	37.6	27.5	59.7	49.7	22.1	22.2	L1
10	0.43314	31.7	24.7	0.3	32.0	25.0	57.2	47.2	25.2	22.2	L1

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< USB MODE >

Digital EMC

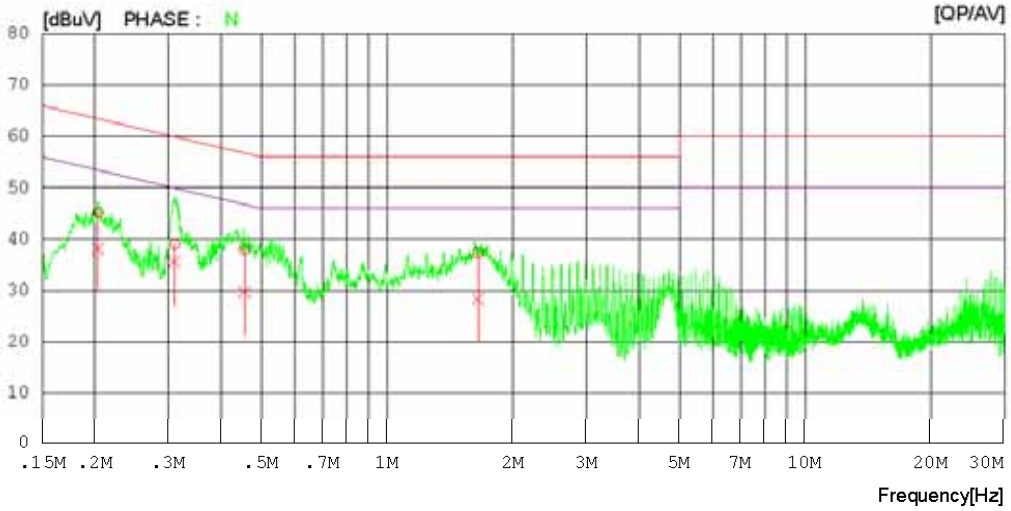
Results of Conducted Emission

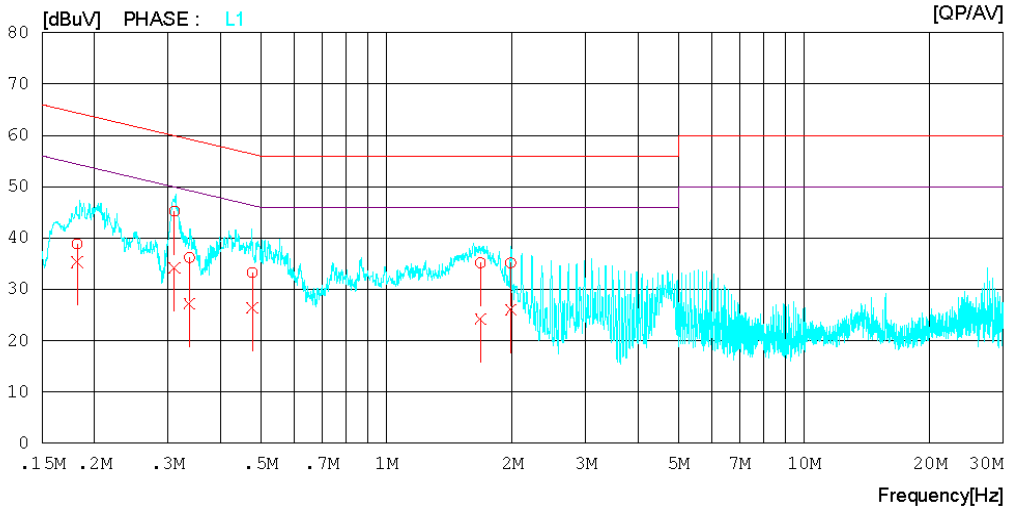
Digital EMC
Date : 2010/10/28

Model No.	:	32LD320H-UA	Referrence No.	:	
Type	:		Power Supply	:	120V 60Hz
Serial No.	:		Temp/Humi.	:	20 ℃ 31 % R.H.
Test Condition	:	USB	Operator	:	

Memo :

LIMIT : CISPR22_B QP
CISPR22_B AV





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Results of Conducted Emission

Digital EMC
Date : 2010/10/28

Model No.	:	32LD320H-UA	Referrence No.	:	
Type	:		Power Supply	:	120V 60Hz
Serial No.	:		Temp/Humi.	:	20 'C 31 % R.H.
Test Condition	:	USB	Operator	:	

Memo :

LIMIT : CISPR22_B QP
CISPR22_B AV

NO	FREQ [MHz]	READING QP [dBuV]	READING AV [dBuV]	C.FACTOR [dB]	RESULT QP [dBuV]	RESULT AV [dBuV]	LIMIT QP [dBuV]	LIMIT AV [dBuV]	MARGIN QP [dBuV]	MARGIN AV [dBuV]	PHASE
1	0.20335	44.9	37.9	0.2	45.1	38.1	63.5	53.5	18.4	15.4	N
2	0.31030	38.7	35.3	0.3	39.0	35.6	60.0	50.0	21.0	14.4	N
3	0.45576	37.6	29.4	0.3	37.9	29.7	56.8	46.8	18.9	17.1	N
4	1.65000	37.1	28.0	0.3	37.4	28.3	56.0	46.0	18.6	17.7	N
5	0.18168	38.6	35.1	0.2	38.8	35.3	64.4	54.4	25.6	19.1	L1
6	0.31068	44.9	33.9	0.3	45.2	34.2	60.0	50.0	14.8	15.8	L1
7	0.33755	35.9	26.9	0.3	36.2	27.2	59.3	49.3	23.1	22.1	L1
8	0.47726	32.9	26.1	0.3	33.2	26.4	56.4	46.4	23.2	20.0	L1
9	1.67900	34.9	23.9	0.3	35.2	24.2	56.0	46.0	20.8	21.8	L1
10	1.98350	34.8	25.7	0.3	35.1	26.0	56.0	46.0	20.9	20.0	L1

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6.2 Radiated Emission

RESULT : COMPLY

6.2.1 Measurement Procedure

The radiated emission was measured and set-up was made accordance with **ANSI C63.4:2003.**
If the EUT is tabletop equipment, it was placed on a wooden table with a height of 0.8m above the reference ground plane and 3m away from the interference receiving antenna **10m semi-anechoic chamber.**
Also if the EUT is floor-standing equipment, it was placed on a non-conducted support with a height up to 0.15m above the reference ground plane.
Rotate the EUT from 0° to 360° and position the receiving antenna at heights from 1 to 4m above the reference ground plane continuously to determine associated with higher emission levels and record them.
The measurement was made in both the vertical and horizontal polarization, and the maximum value is presented in the report.
For below 1GHz frequency range, Quasi-Peak detector with 120kHz RBW was used.
Also Peak and Average detector with 1MHz RBW were used for above 1GHz frequency range.
For further description of the configuration refer to the picture of the test set-up.

6.2.2 List of Test and Measurement Instruments

Radiated Emission (10m Chamber)					
Name of Instrument	**Model No.**	**Serial No.**	**Manufacturer**	**Cal. Date**	**Next Cal. Date**
EMI Test Receiver	ESU	100014	R&S	2010.01.29	2011.01.29
Bilog Antenna	CBL6112D	22609	SCHAFFNER	2009.10.28	2010.10.28
Horn Antenna	BBHA9120A	322	SCHWARZBECK	2010.04.13	2011.04.13
Amplifier(22dB)	8447E	2945A02865	H/P	2010.01.29	2011.01.29
Low Noise Preamplifier	MLA-00108-B02-36	1518831	TSJ	2010.02.08	2011.02.08
Controller	5905A	N/A	TOKIN	-	-
ANT.master	N/A	N/A	TOKIN	-	-

6.2.3 Limit of Radiated Emission

- The test frequency range of Radiated Emission measurements are listed below.

Highest frequency generated or used in the device or on which the device operates or tunes (MHz)	**Upper frequency of measurement range (MHz)**
Below 108	1000
108 – 500	2000
500 – 1000	5000
Above 1000	5th harmonic of the highest frequency or 40GHz, whichever is lower

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(1) Limit for Radiated Emission below 1000MHz

Frequency range (MHz)	Class A Equipment (10m distance)	Class B Equipment (3m distance)
	Quasi-peak limits (dBμV/m)	Quasi-peak limits (dBμV/m)
30 to 88	39.1	40
88 to 216	43.5	43.5
216 to 960	46.4	46
960 to 1000	49.5	54
Note 1 The lower limit shall apply at the transition frequency. Note 2 Additional provisions may be required for cases where interference occurs. Note 3 According to 15.109(g), as an alternative to the radiated emission limit shown above, digital devices may be shown to comply with the standards(CISPR), Pub. 22 shown as below.		
30 to 230	40	30
230 to 1000	47	37

(2) Limits for Radiated Emission in the frequency range 1000 - 2000MHz at a measuring distance of 10m

Frequency (GHz)	Class A Equipment		Class B Equipment	
	peak (dBμV/m)	peak (dBμV/m)	peak (dBμV/m)	Average (dBμV/m)
1 to 2	69.5	49.5	63.5	43.5

(3) Limits for Radiated Emission above 1000MHz at a measuring distance of 3m

Frequency (GHz)	Class A Equipment		Class B Equipment	
	peak (dBμV/m)	peak (dBμV/m)	peak (dBμV/m)	Average (dBμV/m)
1 to 40	80	60	74	54

6.2.4 Test Result

Test date	October 29, 2010
Ambient Temperature	20 ℃
Relative Humidity	38 % R.H.

Result : For the measurement data, see next page

Note) 1. Emission Level = Reading Value + Correction Factor.

2. Correction Factor = Cable loss - Amp gain + Antenna Factor

3. Margin = Limit - Emission level

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Test Result

< DSUB MODE >

- 30MHz-1GHz

Digital EMC

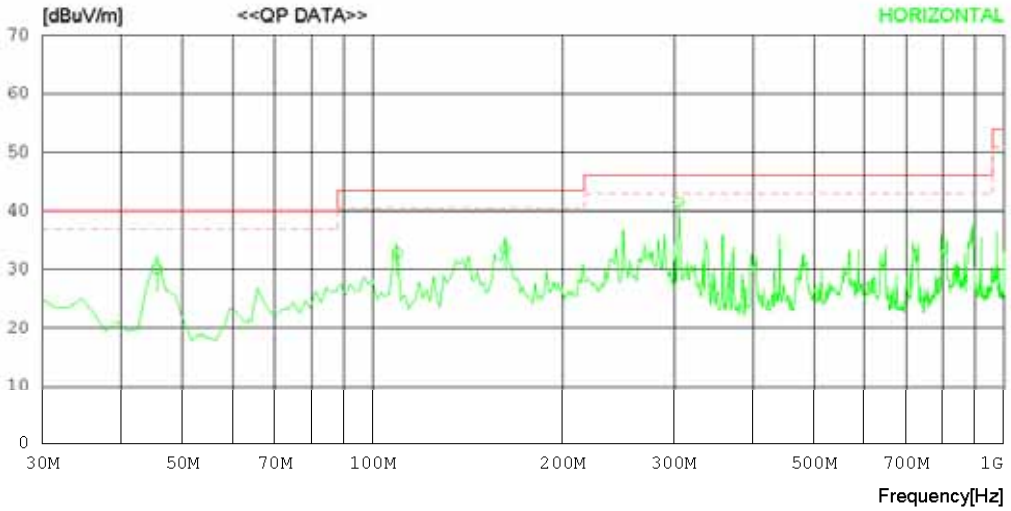
RADIATED EMISSION

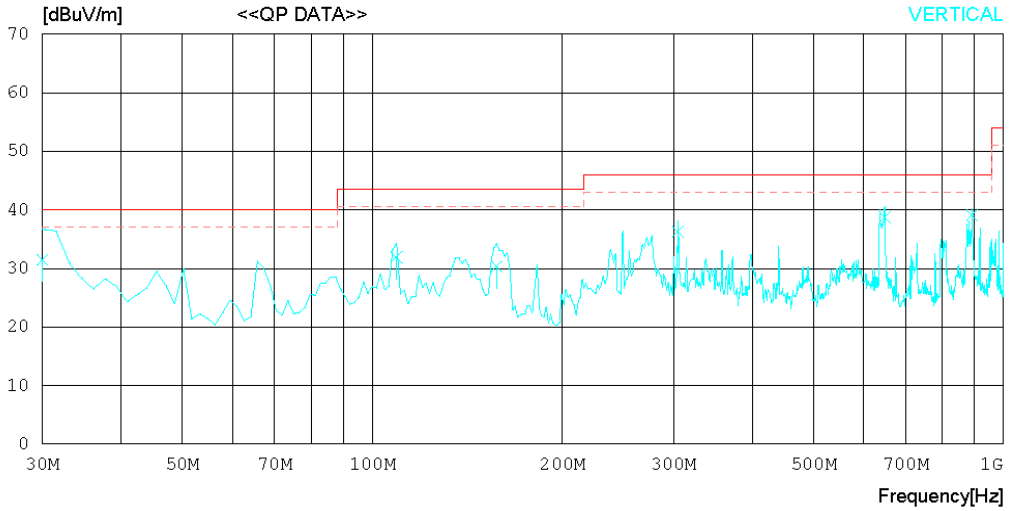
Date : 2010-10-29

Model Name	: 32LD320H-UA	Reference No.	:
Model No.	:	Power Supply	: 120V 60Hz
Serial No.	:	Temp/Humi	: 20'C 38%R.H.
Test Condition	: DSUB	Operator	:

Memo :

LIMIT : FCC Part15 Subpart.B Class B (3m)
MARGIN: 3 dB





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RADIATED EMISSION

Date : 2010-10-29

Model Name	:	32LD320H-UA	Reference No.	:	
Model No.	:		Power Supply	:	120V 60Hz
Serial No.	:		Temp/Humi	:	20'C 38%R.H.
Test Condition	:	DSUB	Operator	:	

Memo :

LIMIT : FCC Part15 Subpart.B Class B (3m)
MARGIN: 3 dB

No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	45.545	38.2	13.7	0.8	22.6	30.1	40.0	9.9	400	1
2	109.279	43.2	11.1	1.2	22.7	32.8	43.5	10.7	299	358
3	162.132	45.1	10.2	1.4	23.1	33.6	43.5	9.9	100	205
4	305.144	49.3	14.0	2.0	23.8	41.5	46.0	4.5	100	265
----- Vertical ------										
5	30.000	36.0	17.4	0.7	22.6	31.5	40.0	8.5	199	358
6	109.279	42.3	11.1	1.2	22.7	31.9	43.5	11.6	100	1
7	157.468	41.6	10.3	1.4	23.0	30.3	43.5	13.2	100	1
8	305.144	44.1	14.0	2.0	23.8	36.3	46.0	9.7	199	358
9	648.686	41.2	18.8	3.0	24.3	38.7	46.0	7.3	100	1
10	891.188	38.2	20.6	3.6	23.3	39.1	46.0	6.9	199	183

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- 1GHz-3GHz_Peak

Digital EMC

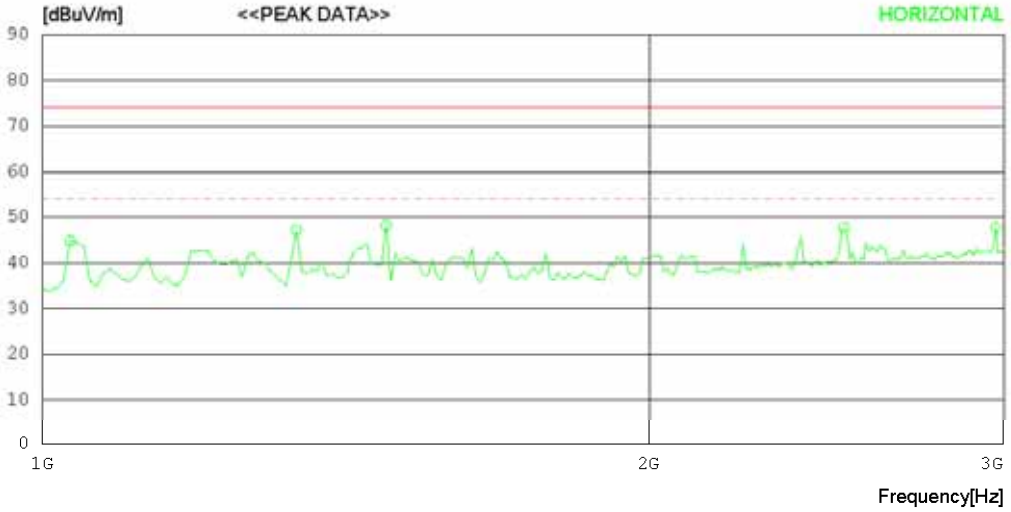
RADIATED EMISSION

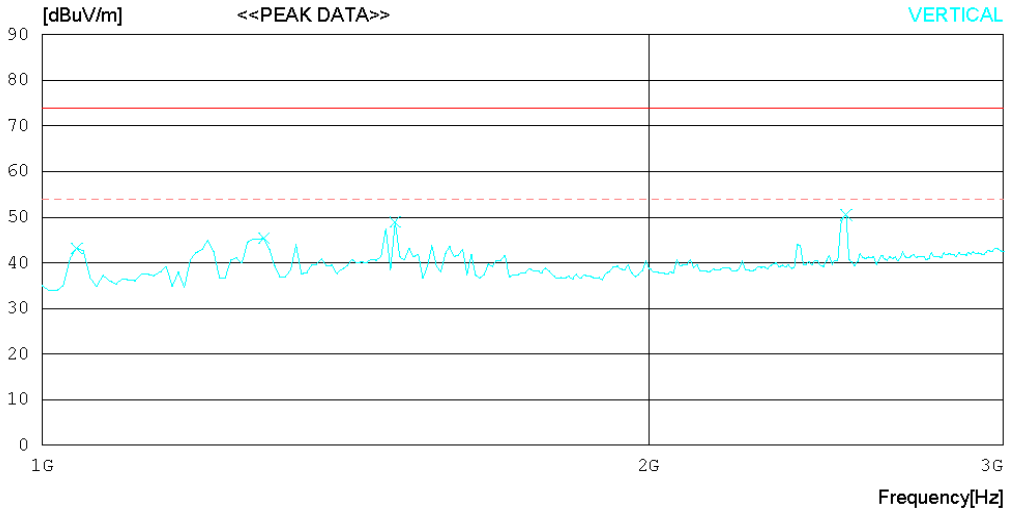
Date : 2010-10-29

Model Name	: 32LD320H-UA	Reference No.	:
Model No.	:	Power Supply	: 120V 60Hz
Serial No.	:	Temp/Humi	: 20'C 38%R.H.
Test Condition	: DSUB	Operator	:

Memo :

LIMIT : FCC Part15 Subpart.B Class B (3m) - 18G(Peak)
FCC Part15 Subpart.B Class B (3m) - 18G(Avg)





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RADIATED EMISSION

Date : 2010-10-29

Model Name	:	32LD320H-UA	Reference No.	:	
Model No.	:		Power Supply	:	120V 60Hz
Serial No.	:		Temp/Humi	:	20'C 38%R.H.
Test Condition	:	DSUB	Operator	:	

Memo :

LIMIT : FCC Part15 Subpart.B Class B (3m) - 18G(Peak)
FCC Part15 Subpart.B Class B (3m) - 18G(Avg)

No.	FREQ [MHz]	READING PEAK [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	1032.051	58.1	23.7	4.9	41.9	44.8	74.0	29.2	100	358
2	1336.538	58.9	24.6	5.6	41.9	47.2	74.0	26.8	100	233
3	1480.769	59.1	25.1	5.9	41.9	48.2	74.0	25.8	100	358
4	2498.404	54.3	27.3	7.7	41.6	47.7	74.0	26.3	100	227
5	2971.167	51.7	28.7	8.7	41.3	47.8	74.0	26.2	100	195
----- Vertical ------										
6	1040.064	56.5	23.7	4.9	41.9	43.2	74.0	30.8	200	199
7	1288.461	57.3	24.5	5.5	41.9	45.4	74.0	28.6	200	1
8	1496.795	59.9	25.1	5.9	41.9	49.0	74.0	25	100	10
9	2506.417	57.0	27.3	7.8	41.6	50.5	74.0	23.5	100	12

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- 1GHz-3GHz_Average

Digital EMC

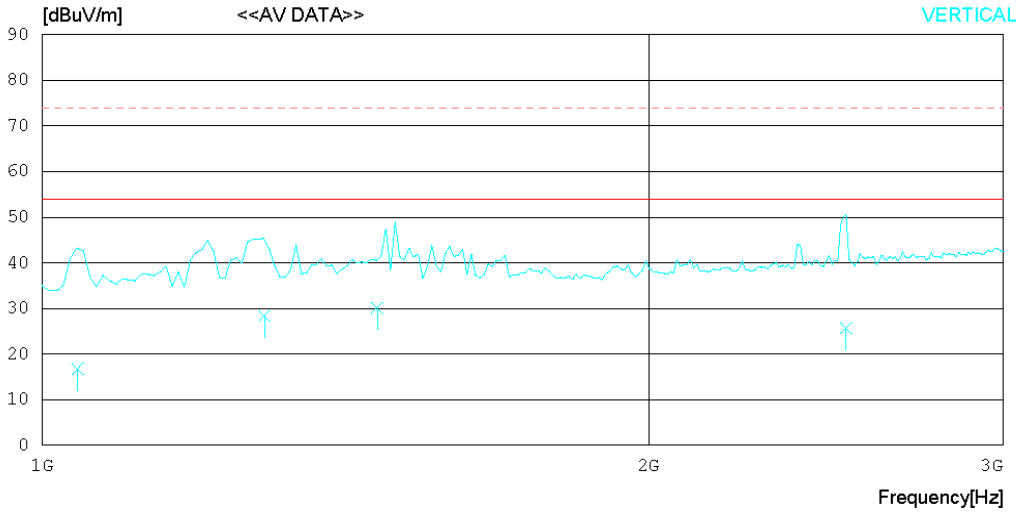
RADIATED EMISSION

Date : 2010-10-29

Model Name	:	32LD320H-UA	Reference No.	:	
Model No.	:		Power Supply	:	120V 60Hz
Serial No.	:		Temp/Humi	:	20'C 38%R.H.
Test Condition	:	DSUB	Operator	:	

Memo :

LIMIT : FCC Part15 Subpart.B Class B (3m) - 18G(Avg)
FCC Part15 Subpart.B Class B (3m) - 18G(Peak)



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RADIATED EMISSION

Date : 2010-10-29

Model Name	:	32LD320H-UA	Reference No.	:	
Model No.	:		Power Supply	:	120V 60Hz
Serial No.	:		Temp/Humi	:	20'C 38%R.H.
Test Condition	:	DSUB	Operator	:	

Memo :

LIMIT : FCC Part15 Subpart.B Class B (3m) - 18G(Avg)
FCC Part15 Subpart.B Class B (3m) - 18G(Peak)

No.	FREQ [MHz]	READING AV [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	1032.051	33.6	23.7	4.9	41.9	20.3	54.0	33.7	100	358
2	1336.538	40.1	24.6	5.6	41.9	28.4	54.0	25.6	100	233
3	1480.769	38.9	25.1	5.9	41.9	28.0	54.0	26.0	100	358
4	2498.404	41.2	27.3	7.7	41.6	34.6	54.0	19.4	100	227
5	2971.167	39.3	28.7	8.7	41.3	35.4	54.0	18.6	100	195
----- Vertical ------										
6	1041.250	30.1	23.7	4.9	41.9	16.8	54.0	37.2	200	199
7	1289.250	40.3	24.5	5.5	41.9	28.4	54.0	25.6	200	1
8	1466.324	41.1	25.0	5.9	41.9	30.1	54.0	23.9	100	10
9	2506.417	32.2	27.3	7.8	41.6	25.7	54.0	28.3	100	12

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- 3GHz-6GHz

Digital EMC

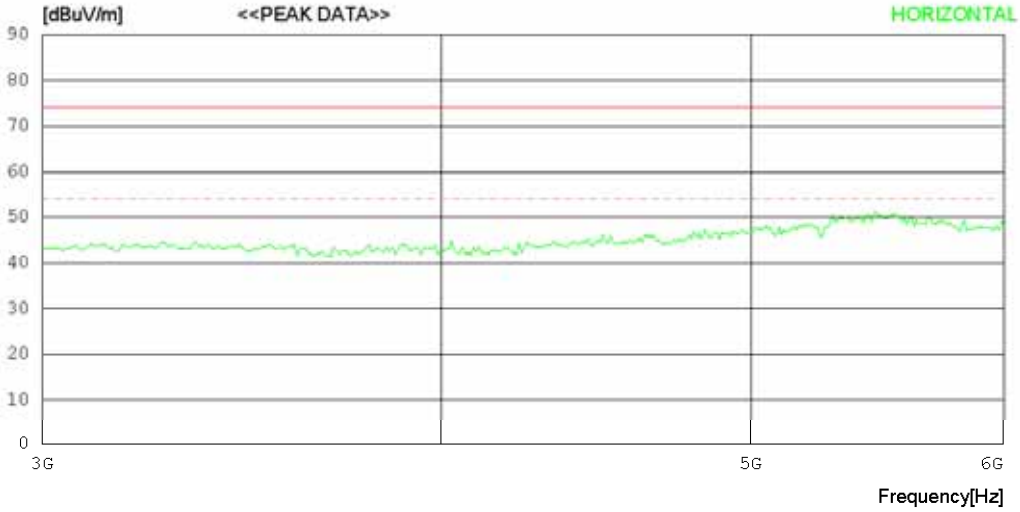
RADIATED EMISSION

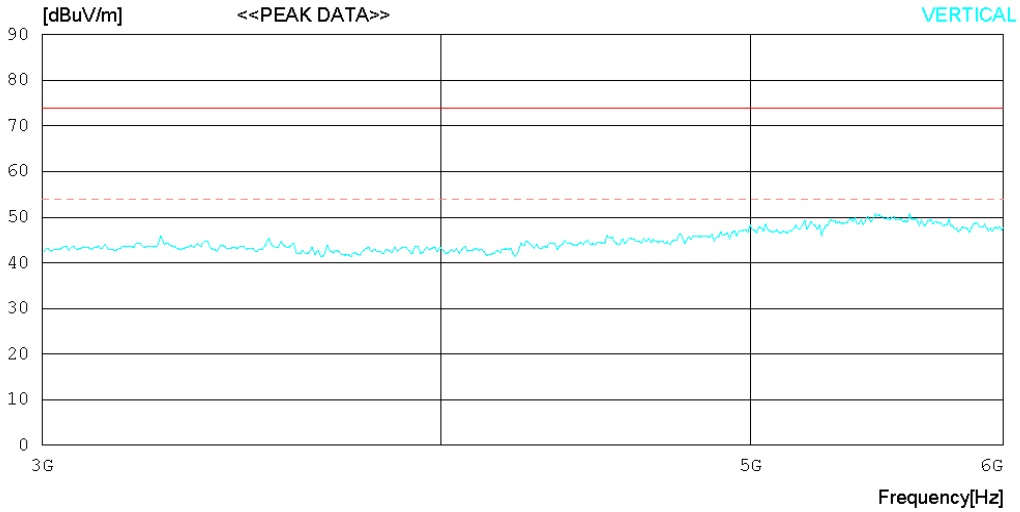
Date : 2010-10-29

Model Name	:	32LD320H-UA	Reference No.	:	
Model No.	:		Power Supply	:	120V 60Hz
Serial No.	:		Temp/Humi	:	20'C 38%R.H.
Test Condition	:	DSUB	Operator	:	

Memo :

LIMIT : FCC Part15 Subpart.B Class B (3m) - 18G(Peak)
FCC Part15 Subpart.B Class B (3m) - 18G(Avg)





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RADIATED EMISSION

Date : 2010-10-29

Model Name	:	32LD320H-UA	Reference No.	:	
Model No.	:		Power Supply	:	120V 60Hz
Serial No.	:		Temp/Humi	:	20'C 38%R.H.
Test Condition	:	DSUB	Operator	:	

Memo :

LIMIT : FCC Part15 Subpart.B Class B (3m) - 18G(Peak)
FCC Part15 Subpart.B Class B (3m) - 18G(Avg)

No.	FREQ [MHz]	READING PEAK [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]

There are no emissions as above data plots.

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< HDMI MODE >

- 30MHz-1GHz

Digital E.M.C

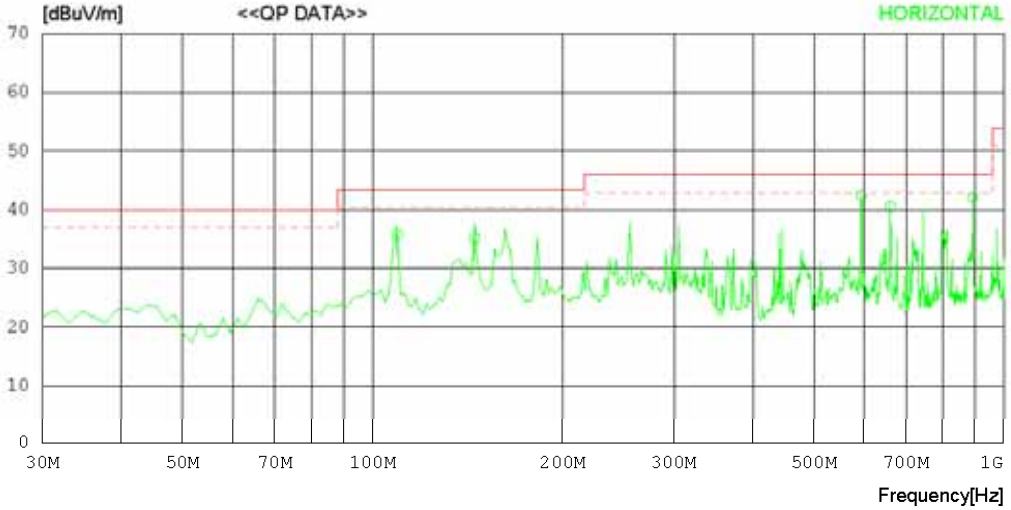
RADIATED EMISSION

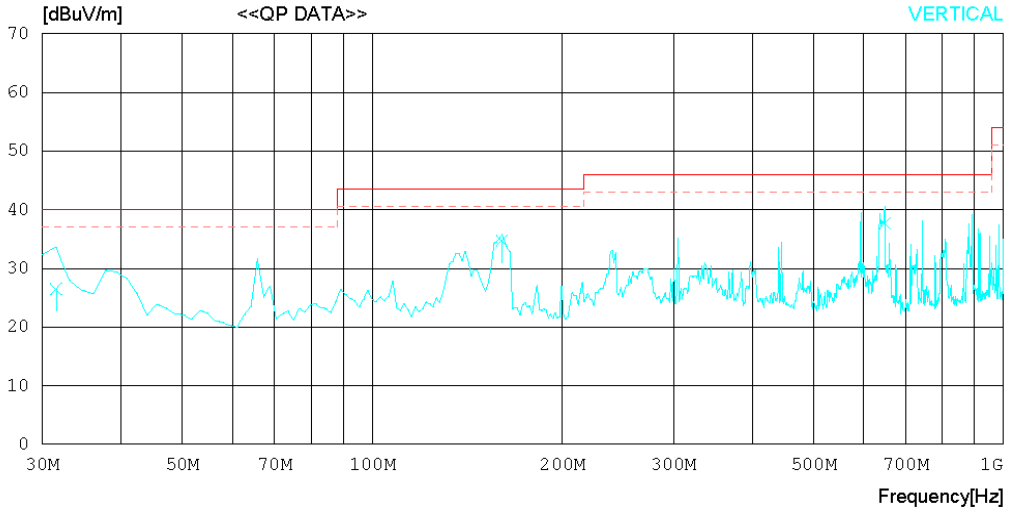
Date : 2010-10-29

Model Name	: 32LD320H-UA	Reference No.	:
Model No.	:	Power Supply	: 120V 60Hz
Serial No.	:	Temp/Humi	: 20'C 38%R.H.
Test Condition	: HDMI	Operator	:

Memo :

LIMIT : FCC Part15 Subpart.B Class B (3m)
MARGIN: 3 dB





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RADIATED EMISSION

Date : 2010-10-29

Model Name	:	32LD320H-UA	Reference No.	:	
Model No.	:		Power Supply	:	120V 60Hz
Serial No.	:		Temp/Humi	:	20'C 38%R.H.
Test Condition	:	HDMI	Operator	:	

Memo :

LIMIT : FCC Part15 Subpart.B Class B (3m)
MARGIN: 3 dB

No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	109.279	46.2	11.1	1.2	22.7	35.8	43.5	7.7	201	75
2	145.032	46.0	10.7	1.4	23.0	35.1	43.5	8.4	201	358
3	594.022	45.2	18.7	2.9	24.4	42.4	46.0	3.6	100	241
4	660.032	42.8	18.8	3.1	24.2	40.5	46.0	5.5	201	0
5	891.188	41.2	20.6	3.6	23.3	42.1	46.0	3.9	201	123
----- Vertical ------										
6	31.554	31.2	17.2	0.7	22.6	26.5	40.0	13.5	100	358
7	160.577	46.2	10.2	1.4	23.1	34.7	43.5	8.8	100	358
8	648.686	40.2	18.8	3.0	24.3	37.7	46.0	8.3	100	358

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- 1GHz-3GHz_Peak

Digital EMC

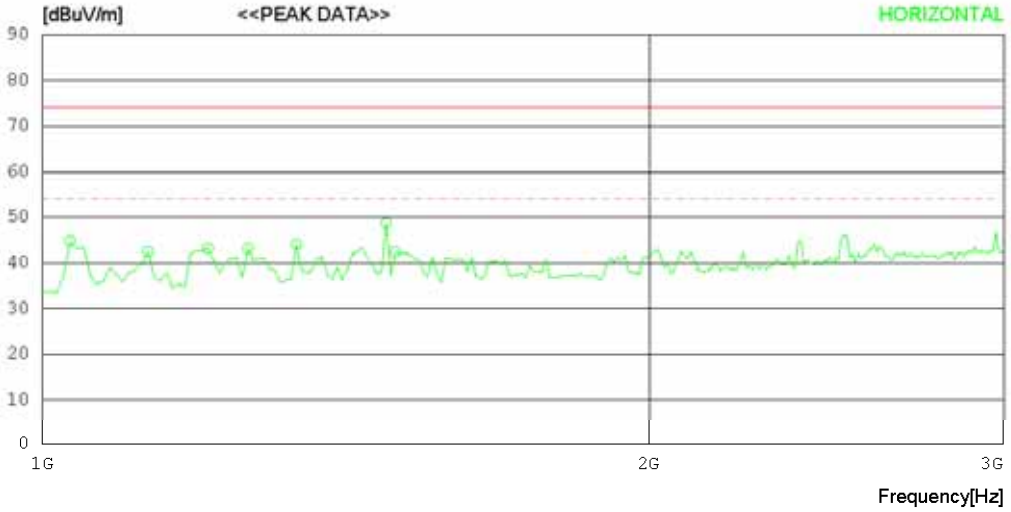
RADIATED EMISSION

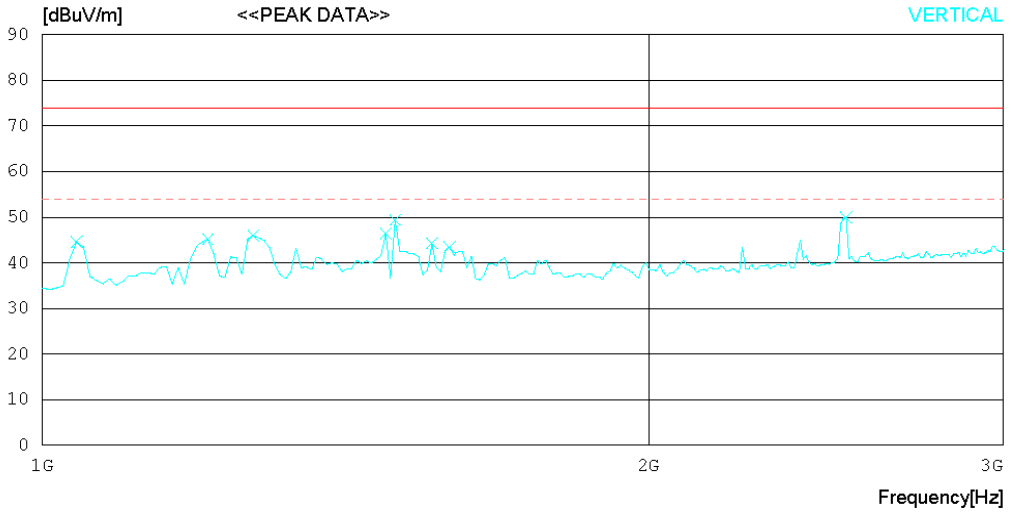
Date : 2010-10-29

Model Name	: 32LD320H-UA	Reference No.	:
Model No.	:	Power Supply	: 120V 60Hz
Serial No.	:	Temp/Humi	: 20'C 38%R.H.
Test Condition	: HDMI	Operator	:

Memo :

LIMIT : FCC Part15 Subpart.B Class B (3m) - 18G(Peak)
FCC Part15 Subpart.B Class B (3m) - 18G(Avg)





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RADIATED EMISSION

Date : 2010-10-29

Model Name	:	32LD320H-UA	Reference No.	:	
Model No.	:		Power Supply	:	120V 60Hz
Serial No.	:		Temp/Humi	:	20'C 38%R.H.
Test Condition	:	HDMI	Operator	:	

Memo :

LIMIT : FCC Part15 Subpart.B Class B (3m) - 18G(Peak)
FCC Part15 Subpart.B Class B (3m) - 18G(Avg)

No.	FREQ [MHz]	READING PEAK [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	1032.051	58.1	23.7	4.9	41.9	44.8	74.0	29.2	101	226
2	1128.205	55.3	24.0	5.1	41.9	42.5	74.0	31.5	101	358
3	1208.333	55.5	24.3	5.3	41.9	43.2	74.0	30.8	101	170
4	1264.423	55.3	24.4	5.4	41.9	43.2	74.0	30.8	101	358
5	1336.538	55.8	24.6	5.6	41.9	44.1	74.0	29.9	101	358
6	1480.769	59.7	25.1	5.9	41.9	48.8	74.0	25.2	101	358
7	1496.795	53.3	25.1	5.9	41.9	42.4	74.0	31.6	101	220
----- Vertical ------										
8	1040.064	57.9	23.7	4.9	41.9	44.6	74.0	29.4	201	1
9	1208.333	57.5	24.3	5.3	41.9	45.2	74.0	28.8	201	1
10	1272.436	58.1	24.4	5.4	41.9	46.0	74.0	28	100	358
11	1480.769	57.3	25.1	5.9	41.9	46.4	74.0	27.6	201	1
12	1496.795	60.3	25.1	5.9	41.9	49.4	74.0	24.6	100	358
13	1560.897	55.0	25.1	6.1	41.9	44.3	74.0	29.7	201	163
14	1592.948	54.1	25.2	6.1	41.9	43.5	74.0	30.5	100	358
15	2506.417	56.5	27.3	7.8	41.6	50.0	74.0	24	100	358

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- 1GHz-3GHz_Average

Digital EMC

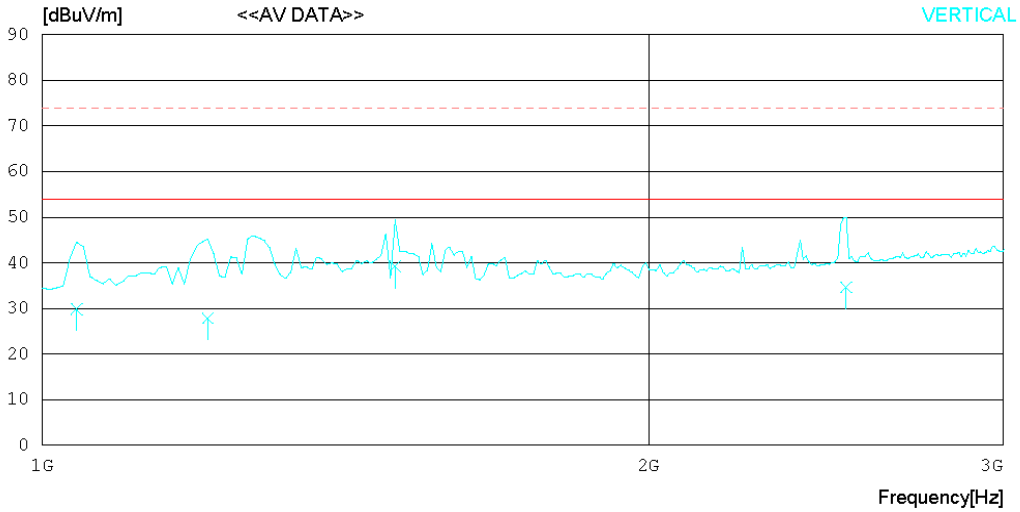
RADIATED EMISSION

Date : 2010-10-29

Model Name	:	32LD320H-UA	Reference No.	:	
Model No.	:		Power Supply	:	120V 60Hz
Serial No.	:		Temp/Humi	:	20'C 38%R.H.
Test Condition	:	HDMI	Operator	:	

Memo :

LIMIT : FCC Part15 Subpart.B Class B (3m) - 18G(Avg)
FCC Part15 Subpart.B Class B (3m) - 18G(Peak)



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RADIATED EMISSION

Date : 2010-10-29

Model Name	:	32LD320H-UA	Reference No.	:	
Model No.	:		Power Supply	:	120V 60Hz
Serial No.	:		Temp/Humi	:	20'C 38%R.H.
Test Condition	:	HDMI	Operator	:	

Memo :

LIMIT : FCC Part15 Subpart.B Class B (3m) - 18G(Avg)
FCC Part15 Subpart.B Class B (3m) - 18G(Peak)

No.	FREQ [MHz]	READING AV [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	1032.051	38.2	23.7	4.9	41.9	24.9	54.0	29.1	101	226
2	1336.538	42.4	24.6	5.6	41.9	30.7	54.0	23.3	101	358
3	1480.769	46.2	25.1	5.9	41.9	35.3	54.0	18.7	101	358
----- Vertical ------										
4	1040.064	43.2	23.7	4.9	41.9	29.9	54.0	24.1	201	1
5	1208.333	40.2	24.3	5.3	41.9	27.9	54.0	26.1	201	1
6	1496.795	50.1	25.1	5.9	41.9	39.2	54.0	14.8	100	358
7	2506.417	41.2	27.3	7.8	41.6	34.7	54.0	19.3	100	358

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- 3GHz-6GHz

Digital EMC

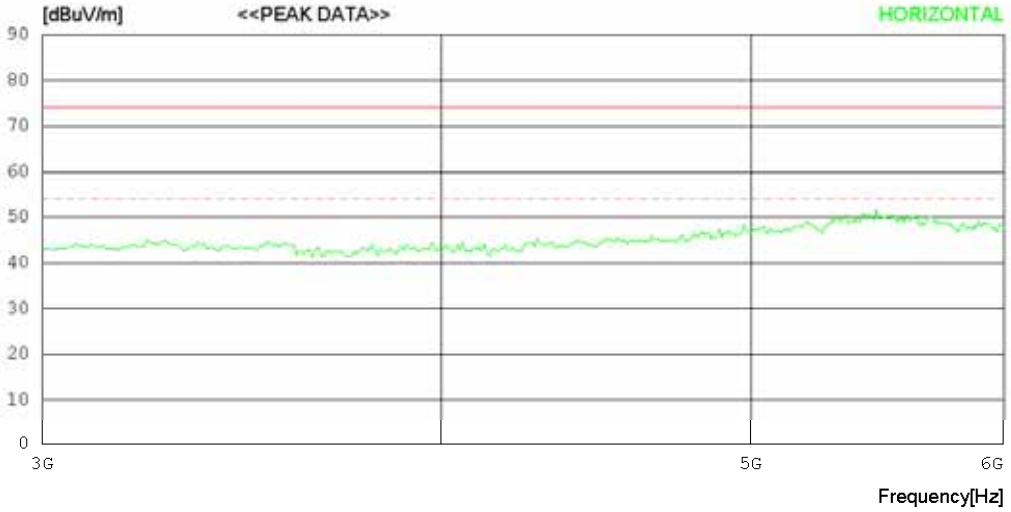
RADIATED EMISSION

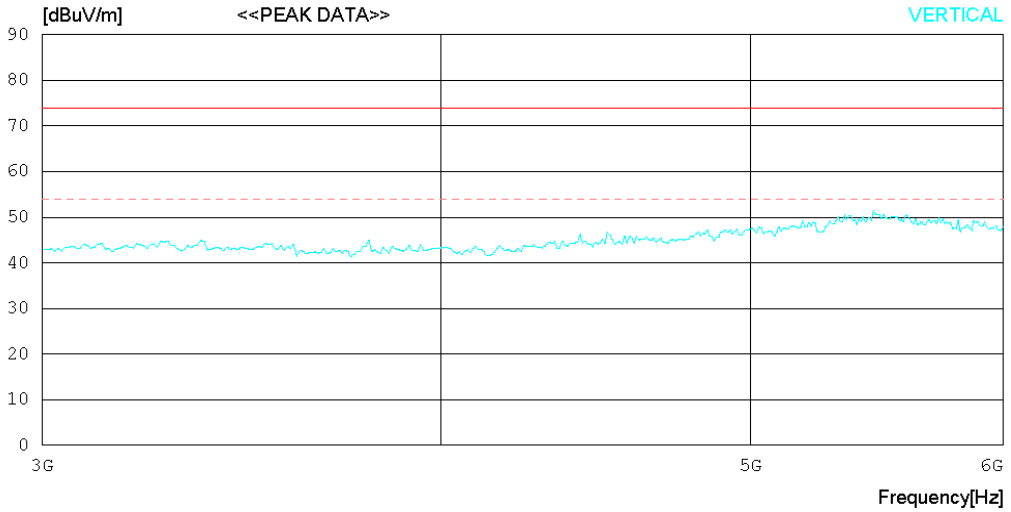
Date : 2010-10-29

Model Name	:	32LD320H-UA	Reference No.	:	
Model No.	:		Power Supply	:	120V 60Hz
Serial No.	:		Temp/Humi	:	20'C 38%R.H.
Test Condition	:	HDMI	Operator	:	

Memo :

LIMIT : FCC Part15 Subpart.B Class B (3m) - 18G(Peak)
FCC Part15 Subpart.B Class B (3m) - 18G(Avg)





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RADIATED EMISSION

Date : 2010-10-29

Model Name	:	32LD320H-UA	Reference No.	:	
Model No.	:		Power Supply	:	120V 60Hz
Serial No.	:		Temp/Humi	:	20'C 38%R.H.
Test Condition	:	HDMI	Operator	:	

Memo :

LIMIT : FCC Part15 Subpart.B Class B (3m) - 18G(Peak)
FCC Part15 Subpart.B Class B (3m) - 18G(Avg)

No.	FREQ [MHz]	READING PEAK [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]

There are no emissions as above data plots.

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< USB MODE >

- 30MHz-1GHz

Digital E.M.C

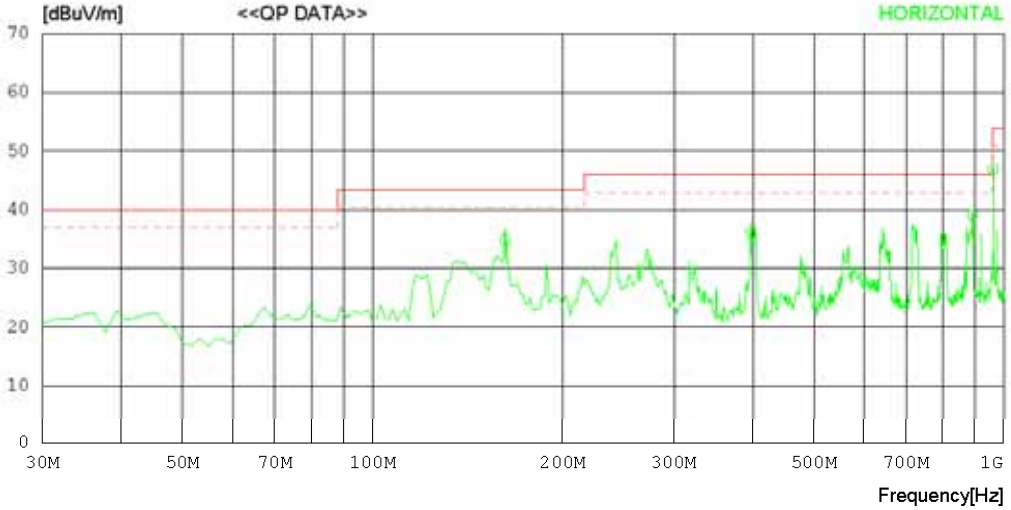
RADIATED EMISSION

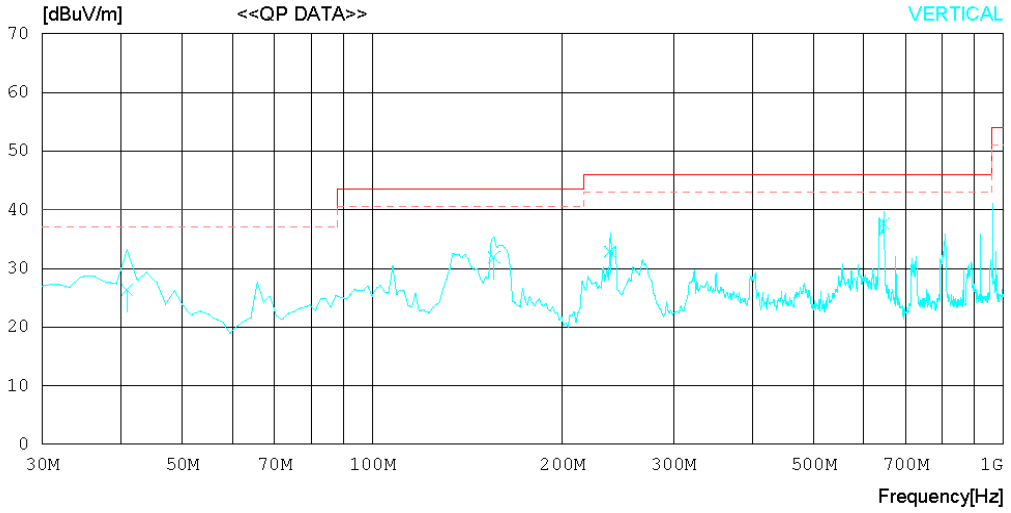
Date : 2010-10-29

Model Name	:	32LD320H-UA	Reference No.	:	
Model No.	:		Power Supply	:	120V 60Hz
Serial No.	:		Temp/Humi	:	20'C 38%R.H.
Test Condition	:	USB	Operator	:	

Memo :

LIMIT : FCC Part15 Subpart.B Class B (3m)
MARGIN: 3 dB





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RADIATED EMISSION

Date : 2010-10-29

Model Name	:	32LD320H-UA	Reference No.	:	
Model No.	:		Power Supply	:	120V 60Hz
Serial No.	:		Temp/Humi	:	20'C 38%R.H.
Test Condition	:	USB	Operator	:	

Memo :

LIMIT : FCC Part15 Subpart.B Class B (3m)
MARGIN: 3 dB

No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	162.132	46.3	10.2	1.4	23.1	34.8	43.5	8.7	100	175
2	396.858	42.3	15.9	2.3	24.3	36.2	46.0	9.8	199	193
3	889.634	38.2	20.6	3.6	23.3	39.1	46.0	6.9	299	227
4	961.141	45.2	21.0	3.7	23.0	46.9	54.0	7.1	100	143
----- Vertical ------										
5	40.881	34.2	13.9	0.8	22.6	26.3	40.0	13.7	100	359
6	155.914	43.2	10.3	1.4	23.0	31.9	43.5	11.6	100	1
7	238.302	42.3	12.3	1.8	23.5	32.9	46.0	13.1	201	358
8	647.131	40.2	18.8	3.0	24.3	37.7	46.0	8.3	201	0

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- 1GHz-3GHz_Peak

Digital EMC

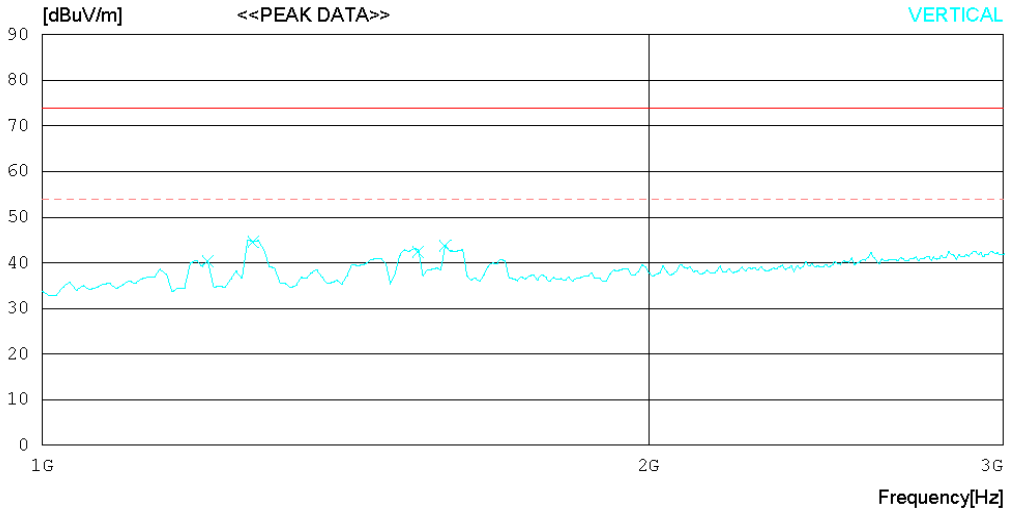
RADIATED EMISSION

Date : 2010-10-29

Model Name	:	32LD320H-UA	Reference No.	:	
Model No.	:		Power Supply	:	120V 60Hz
Serial No.	:		Temp/Humi	:	20'C 38%R.H.
Test Condition	:	USB	Operator	:	

Memo :

LIMIT : FCC Part15 Subpart.B Class B (3m) - 18G(Peak)
FCC Part15 Subpart.B Class B (3m) - 18G(Avg)



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RADIATED EMISSION

Date : 2010-10-29

Model Name	:	32LD320H-UA	Reference No.	:	
Model No.	:		Power Supply	:	120V 60Hz
Serial No.	:		Temp/Humi	:	20'C 38%R.H.
Test Condition	:	USB	Operator	:	

Memo :

LIMIT : FCC Part15 Subpart.B Class B (3m) - 18G(Peak)
FCC Part15 Subpart.B Class B (3m) - 18G(Avg)

No.	FREQ [MHz]	READING PEAK [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	1208.333	54.1	24.3	5.3	41.9	41.8	74.0	32.2	100	0
2	1424.679	54.0	24.9	5.8	41.9	42.8	74.0	31.2	100	0
3	1520.833	54.3	25.1	6.0	41.9	43.5	74.0	30.5	100	0
4	1600.961	53.8	25.2	6.2	41.9	43.3	74.0	30.7	100	0
----- Vertical ------										
5	1208.333	52.7	24.3	5.3	41.9	40.4	74.0	33.6	100	190
6	1272.436	56.8	24.4	5.3	41.9	44.6	74.0	29.4	100	159
7	1536.859	53.8	25.1	5.4	41.9	42.4	74.0	31.6	100	151
8	1584.936	54.5	25.2	6.0	41.9	43.8	74.0	30.2	100	159

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- 1GHz-3GHz_Average

Digital EMC

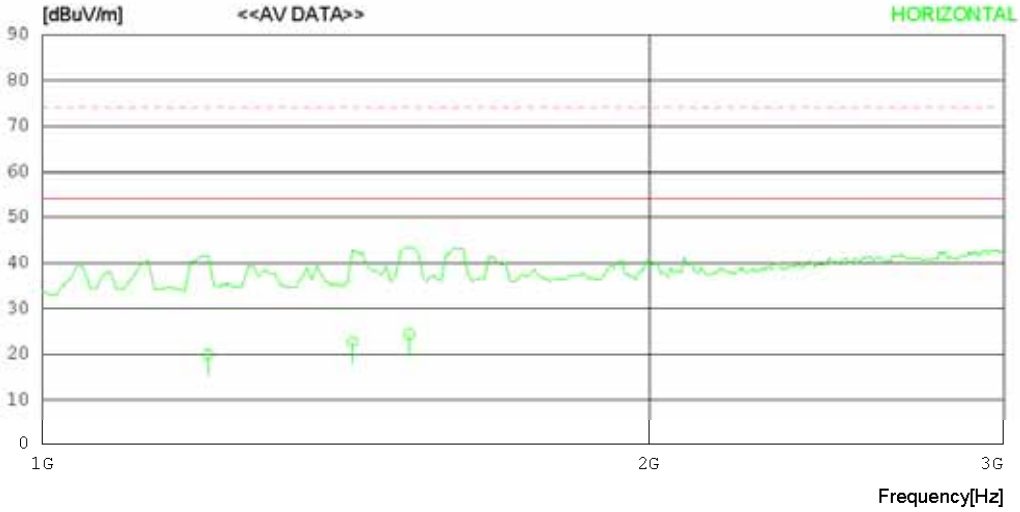
RADIATED EMISSION

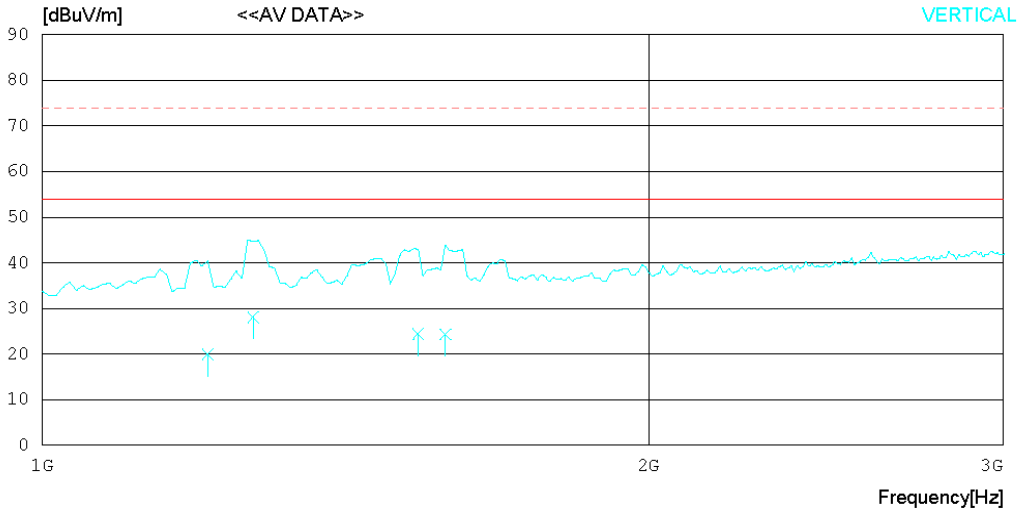
Date : 2010-10-29

Model Name	:	32LD320H-UA	Reference No.	:	
Model No.	:		Power Supply	:	120V 60Hz
Serial No.	:		Temp/Humi	:	20'C 38%R.H.
Test Condition	:	USB	Operator	:	

Memo :

LIMIT : FCC Part15 Subpart.B Class B (3m) - 18G(Avg)
FCC Part15 Subpart.B Class B (3m) - 18G(Peak)





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RADIATED EMISSION

Date : 2010-10-29

Model Name	:	32LD320H-UA	Reference No.	:	
Model No.	:		Power Supply	:	120V 60Hz
Serial No.	:		Temp/Humi	:	20'C 38%R.H.
Test Condition	:	USB	Operator	:	

Memo :

LIMIT : FCC Part15 Subpart.B Class B (3m) - 18G(Avg)
FCC Part15 Subpart.B Class B (3m) - 18G(Peak)

No.	FREQ [MHz]	READING AV [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	1208.333	32.2	24.3	5.3	41.9	19.9	54.0	34.1	100	0
2	1424.679	33.9	24.9	5.8	41.9	22.7	54.0	31.3	100	0
3	1520.833	35.2	25.1	6.0	41.9	24.4	54.0	29.6	100	0
----- Vertical ------										
4	1208.333	32.2	24.3	5.3	41.9	19.9	54.0	34.1	100	190
5	1272.436	40.2	24.4	5.4	41.9	28.1	54.0	25.9	100	159
6	1536.859	35.2	25.1	6.0	41.9	24.4	54.0	29.6	100	151
7	1584.936	34.9	25.2	6.1	41.9	24.3	54.0	29.7	100	159

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- 3GHz-6GHz

Digital EMC

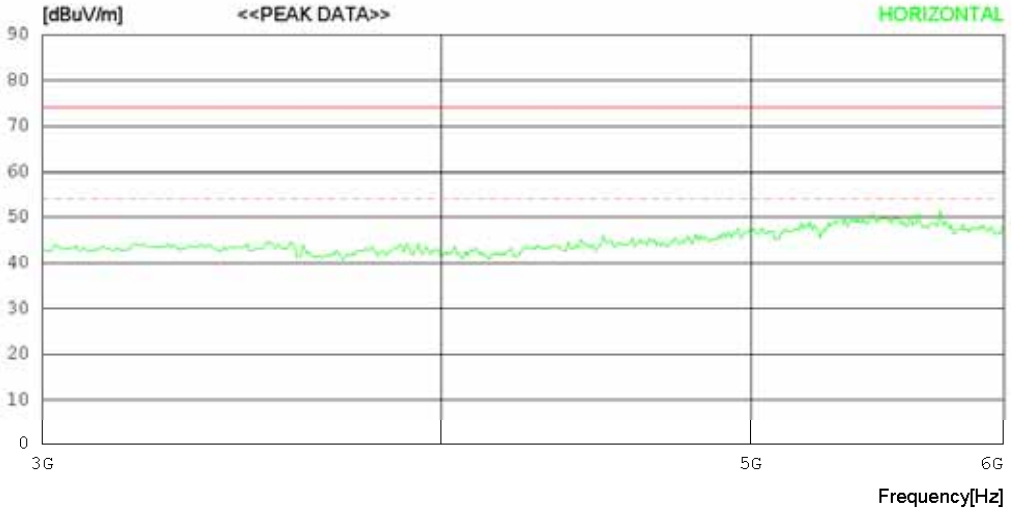
RADIATED EMISSION

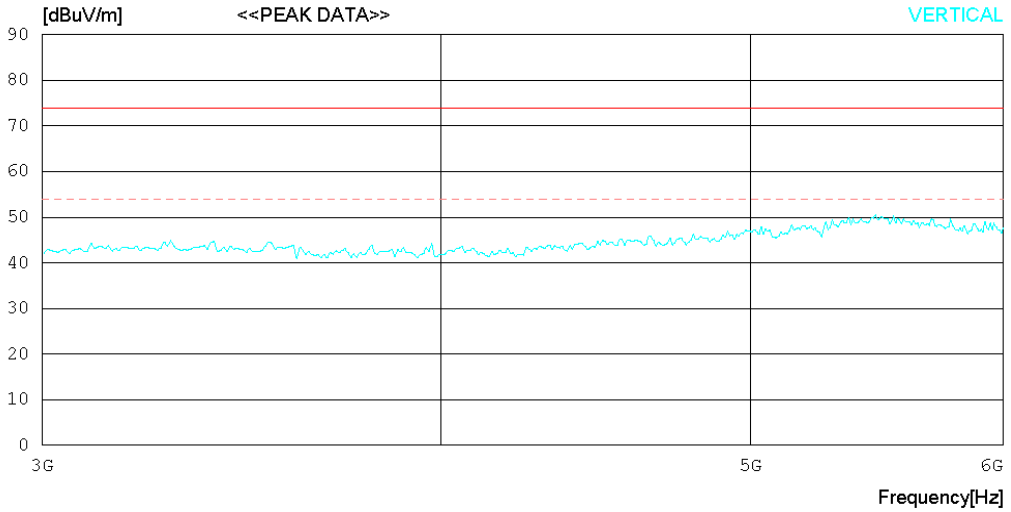
Date : 2010-10-29

Model Name	:	32LD320H-UA	Reference No.	:	
Model No.	:		Power Supply	:	120V 60Hz
Serial No.	:		Temp/Humi	:	20'C 38%R.H.
Test Condition	:	USB	Operator	:	

Memo :

LIMIT : FCC Part15 Subpart.B Class B (3m) - 18G(Peak)
FCC Part15 Subpart.B Class B (3m) - 18G(Avg)





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RADIATED EMISSION

Date : 2010-10-29

Model Name	:	32LD320H-UA	Reference No.	:	
Model No.	:		Power Supply	:	120V 60Hz
Serial No.	:		Temp/Humi	:	20'C 38%R.H.
Test Condition	:	USB	Operator	:	

Memo :

LIMIT : FCC Part15 Subpart.B Class B (3m) - 18G(Peak)
FCC Part15 Subpart.B Class B (3m) - 18G(Avg)

No.	FREQ [MHz]	READING PEAK [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]

There are no emissions as above data plots.

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