

# EMC TEST REPORT

Test item : LCD TV Monitor  
Model No. : 32LS3500-UD  
Order No. : 1201-00093  
Date of receipt : 2012-01-20  
Test duration : 2012-02-01 ~ 2012-02-04  
Use of report : FCC CoC Marking  
Date of Issue : 2012-02-07

Applicant : LG Electronics Inc.

9-1, Cheongho-ri, Jinwi-myeon, Pyeongtaek-si, Gyeonggi-do, 451-713, Korea

Test laboratory : Digital EMC Co., Ltd.

683-3, Yubang-Dong, Cheoin-Gu, Yongin-Si, Gyeonggi-Do, 449-080, Korea

Test specification : ANSI C 63.4:2003  
FCC Part 15 Subpart B  
(Type of Device : Class B Personal Computers  
and Peripherals (JBP))

Test environment : Temperature : (18 ~ 20) °C,  
Humidity : (28 ~ 34) % R.H.

Test result :  Comply  Not Comply

The test results presented in this test report are limited only to the sample supplied by applicant and the use of this test report is inhibited other than its purpose.

This test report shall not be reproduced except in full, without the written approval of DIGITAL EMC CO., LTD.

Tested by:



Assistant Manager  
D.H.EUN

Reviewed by:



General Manager  
C.H.LEE

The above test report is the accredited test results by Korea Laboratory Accreditation Scheme, which signed the ILAC-MRA.

**PRESIDENT OF DIGITAL EMC CO., LTD.**

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## 1. General Remarks

This report contains the result of tests performed by:

**DIGITAL EMC CO., LTD.**

Address : 683-3, Yubang-Dong, Cheoin-Gu, Yongin-Si, Gyeonggi-Do, 449-080, Korea

<http://www.digitalemcc.com>

Tel: +82-31-321-2664 Fax: +82-31-321-1664

## 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 678747	Test Facility list & NSA Data
	Canada	IC	5740A-1 5740A-2	Test Facility list & NSA Data
	Japan	VCCI	C-1427 R-1364, R-3385 T-1442, G-338	Test Facility list & NSA Data
Certification	Korea	KC	KR0034	Test Facility list & NSA Data
	Germany	TUV	ROK1028C	ISO/IEC 17025

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

### 3. General Information of EUT

Model No.	32LS3500-UD
EUT Type	LCD TV Monitor
Serial No	NONE
FCC ID	BEJ32LS3500UD
Type of Sample Tested	Pre-Production
High Frequency	800 MHz
Rating	AC100-240 V~, 50/60 Hz, 0.6 A
Supplied Power for Test	AC120 V, 60 Hz
Applicant	LG Electronics Inc. 19-1, Cheongho-ri, Jinwi-myeon, Pyeongtaek-si, Gyeonggi-do, 451-713, Korea
Manufacturer	LG Electronics Inc. 19-1, Cheongho-ri, Jinwi-myeon, Pyeongtaek-si, Gyeonggi-do, 451-713, Korea

Resolution	Horizontal Frequency (KHz)	Vertical Frequency (Hz)
720x400	31.469	70.08
640x480	31.469	59.94
800x600	37.879	60.31
1024x768	48.363	60.00
1360x768	47.712	60.015
1280x1024	63.981	60.02
1920x1080	67.5	60.00

## 4. Test Summary

### 4.1 Applied standards and test results

Test Items	Applied Standards	Results
Conducted Disturbance	ANSI C63.4:2003	C
Radiated Disturbance	ANSI C63.4:2003	C
C=Comply N/C=Not Comply N/T=Not Tested N/A=Not Applicable		

The data in this test report are traceable to the national or international standards.

### 4.2 Test environment and conditions

Test Items	Test date (MM-DD)	Temp ( )	Humidity (% R.H.)	Pressure (hPa)
Conducted Disturbance	02-01	18	34	-
Radiated Disturbance	02-03	20	31	
	02-04	19	28	

### 4.3 Test result Summary

#### (1) Conducted Emission(HDMI MODE)

Frequency [MHz]	Phase	Result [dB $\mu$ V]	Detector	Limit [dB $\mu$ V]	Margin [dB]
4.83100	N	41.1	Quasi-Peak	56.0	14.9

#### (2) Radiated Emission(USB MODE)

Frequency [MHz]	Pol.	Result [dB( $\mu$ V/m)]	Detector	Limit [dB( $\mu$ V/m)]	Margin [dB]
34.975	V	36.6	Quasi-Peak	40.0	3.4

## 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

- HDMI MODE – Resolution : 1920 x 1080 Resolution (Worst Case)
- USB MODE

### 5.3 Support Equipment Used

Unit	Model No.	Serial No.	Manufacturer	CABLE			Backshell	FCC ID
				Connect type	Length (m)	shield		
PC	VOSTRO430	9K77SBX	DELL	POWER	1.8	Non-shield	Plastic	DOC
				HDMI	1.8	Shield		
				AV	1.6	Non-shield		
				PS/2	1.6	Non-shield		
				PS/2	1.8	Non-shield		
KEYBOARD	SKG-210PB	TAKSB24503Y	MONITERY INTERNATIONAL CORP	PS/2	1.6	Non-shield	Plastic	DOC
MOUSE	SML-510PB	TAKS903519Z	MONITERY INTERNATIONAL CORP	PS/2	1.8	Non-shield	Plastic	DOC
CD/DVD PLAYER	DVP-NS92V	2000407	SONY EMCS	POWER	1.8	Non-shield	Plastic	DOC
				AV	1.6			
USB MEMORY	JEWERLY	N/A	AXXEN	USB	-	-	-	DOC

## 6. Test Results : Emission

### 6.1 Conducted Disturbance

#### 6.1.1 Measurement Procedure

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

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 2<sup>nd</sup> 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 conducted emission test software, the emissions were scanned 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 Limit for Conducted Disturbance

(1) Conducted disturbance at mains ports.

Frequency range (MHz)	Limits dB( $\mu$ V)			
	Quasi-peak		Average	
	Class A	Class B	Class A	Class B
0.15 to 0.50	79	66 to 56	66	56 to 46
0.50 to 5	73	56	60	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.

## Test Result

### < HDMI MODE >



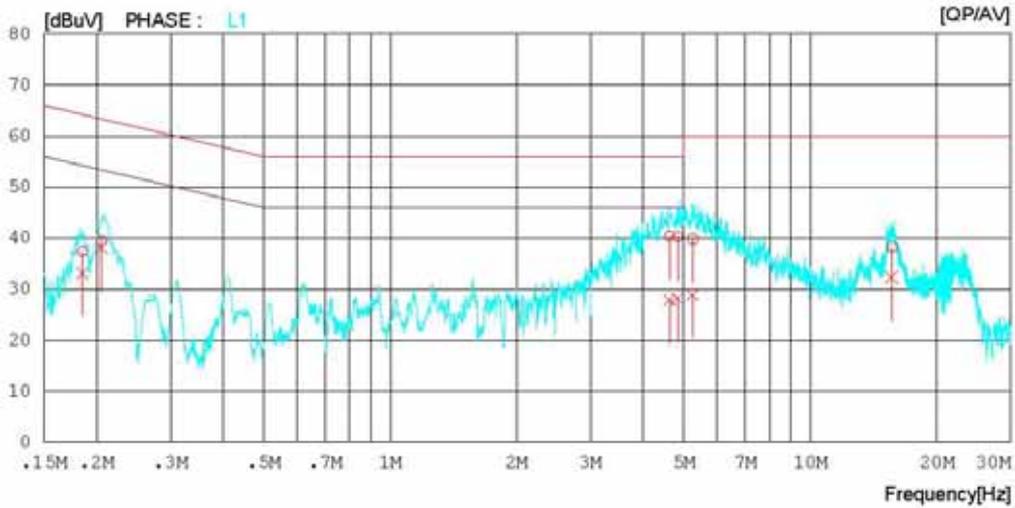
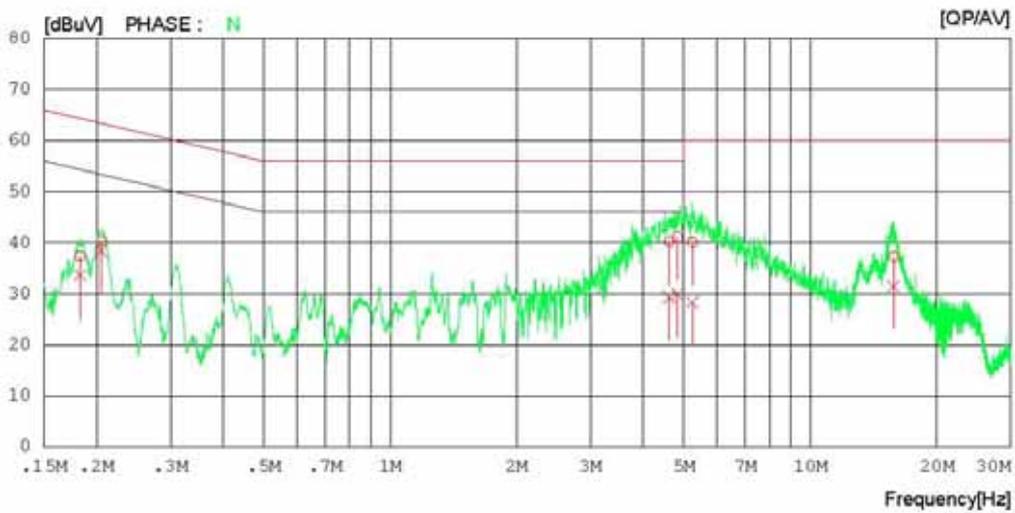
### Results of Conducted Emission

Digital EMC  
 Date : 2012-02-01

Model No. : 32LS3500-UD  
 Type :  
 Serial No. :  
 Test Condition : HDMI

Reference No. :  
 Power Supply : 120V 60Hz  
 Temp/Humi. : 18 °C 34 % R.H.  
 Operator :

Memo :  
 LIMIT : CISPR22\_B OP  
 CISPR22\_B AV



## Results of Conducted Emission

Digital EMC  
Date : 2012-02-01

Model No.	: 32LS3500-UD	Reference No.	:
Type	:	Power Supply	: 120V 60Hz
Serial No.	:	Temp/Humi.	: 18 'C 34 % R.H.
Test Condition	: HDMI	Operator	:
Memo	:		
LIMIT : CISPR22_B QP			
CISPR22_B AV			

NO	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN		PHASE
		QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]			
1	0.18300	37.2	33.3	0.2	37.4	33.5	64.3	54.3	26.9	20.8	N
2	0.20559	40.1	38.2	0.2	40.3	38.4	63.4	53.4	23.1	15.0	N
3	4.61650	39.8	29.0	0.4	40.2	29.4	56.0	46.0	15.8	16.6	N
4	4.83100	40.7	29.5	0.4	41.1	29.9	56.0	46.0	14.9	16.1	N
5	5.24500	39.7	27.9	0.4	40.1	28.3	60.0	50.0	19.9	21.7	N
6	15.79300	36.2	30.4	1.0	37.2	31.4	60.0	50.0	22.8	18.6	N
7	0.18515	37.2	33.0	0.2	37.4	33.2	64.3	54.3	26.9	21.1	L1
8	0.20556	39.3	37.9	0.2	39.5	38.1	63.4	53.4	23.9	15.3	L1
9	4.62500	40.1	27.6	0.4	40.5	28.0	56.0	46.0	15.5	18.0	L1
10	4.84050	39.9	27.8	0.4	40.3	28.2	56.0	46.0	15.7	17.8	L1
11	5.25200	39.5	28.6	0.4	39.9	29.0	60.0	50.0	20.1	21.0	L1
12	15.64950	37.3	31.3	1.0	38.3	32.3	60.0	50.0	21.7	17.7	L1

< USB MODE >



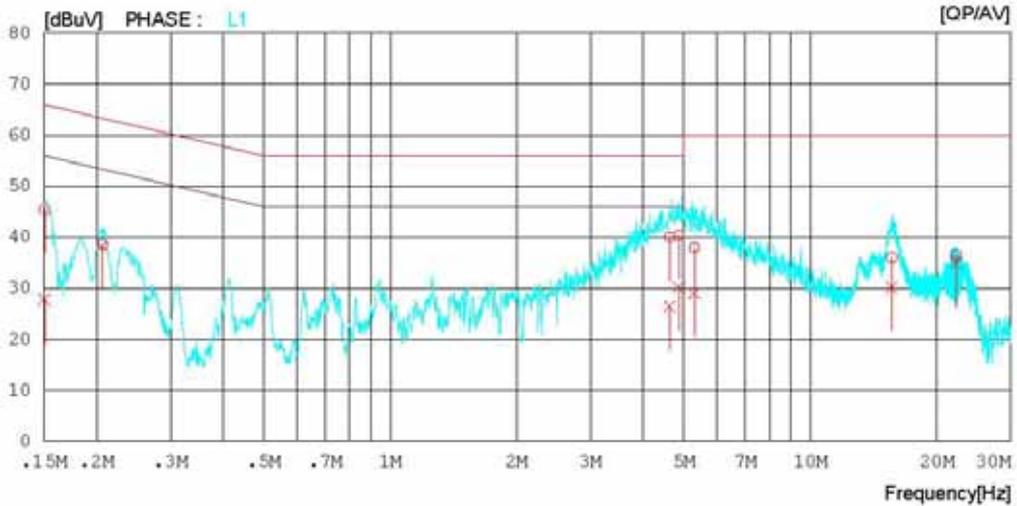
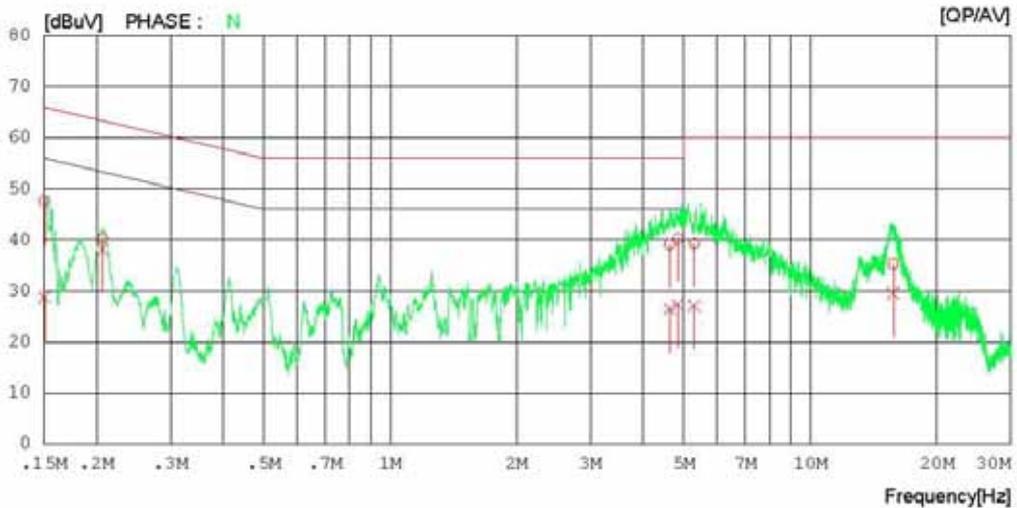
### Results of Conducted Emission

Digital EMC  
 Date : 2012-02-01

Model No. : 32LS3500-UD  
 Type :  
 Serial No. :  
 Test Condition : USB

Reference No. :  
 Power Supply : 120V 60Hz  
 Temp/Humi. : 18 °C 34 % R.H.  
 Operator :

Memo :  
 LIMIT : CISPR22\_B OP  
 CISPR22\_B AV



## Results of Conducted Emission

Digital EMC  
Date : 2012-02-01

Model No.	: 32LS3500-UD	Reference No.	:
Type	:	Power Supply	: 120V 60Hz
Serial No.	:	Temp/Humi.	: 18 'C 34 % R.H.
Test Condition	: USB	Operator	:
Memo	:		
LIMIT : CISPR22_B QP			
CISPR22_B AV			

NO	FREQ [MHz]	READING		C. FACTOR [dB]	RESULT		LIMIT		MARGIN		PHASE
		QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	
1	0.15025	47.2	28.5	0.3	47.5	28.8	66.0	56.0	18.5	27.2	N
2	0.20664	40.1	37.9	0.2	40.3	38.1	63.3	53.3	23.0	15.2	N
3	4.62900	38.7	26.0	0.4	39.1	26.4	56.0	46.0	16.9	19.6	N
4	4.84500	39.8	26.9	0.4	40.2	27.3	56.0	46.0	15.8	18.7	N
5	5.29300	38.8	26.7	0.4	39.2	27.1	60.0	50.0	20.8	22.9	N
6	15.75100	34.3	28.6	1.0	35.3	29.6	60.0	50.0	24.7	20.4	N
7	0.15037	45.2	27.5	0.3	45.5	27.8	66.0	56.0	20.5	28.2	L1
8	0.20653	38.4	38.1	0.2	38.6	38.3	63.3	53.3	24.7	15.0	L1
9	4.62900	39.6	26.0	0.4	40.0	26.4	56.0	46.0	16.0	19.6	L1
10	4.86700	40.0	29.8	0.4	40.4	30.2	56.0	46.0	15.6	15.8	L1
11	5.29850	37.5	28.6	0.4	37.9	29.0	60.0	50.0	22.1	21.0	L1
12	15.62350	35.0	29.2	1.0	36.0	30.2	60.0	50.0	24.0	19.8	L1
13	22.21200	35.4	33.7	1.2	36.6	34.9	60.0	50.0	23.4	15.1	L1

## 6.2 Radiated Disturbance

### 6.2.1 Measurement Procedure

The radiated disturbance was measured and set-up was made accordance with **ANSI C63.4**.

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 in the **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 Limit for Radiated Disturbance

- The test frequency range of Radiated Disturbance 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	5 <sup>th</sup> harmonic of the highest frequency or 40GHz, whichever is lower

### (1) Limit for Radiated Emission below 1000MHz

Frequency range (MHz)	Class A Equipment (10m distance)	Class B Equipment (3m distance)
	Quasi-peak (dB $\mu$ V/m)	Quasi-peak (dB $\mu$ V/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.

Frequency range (MHz)	Class A Equipment (10m distance)	Class B Equipment (10m distance)
	Quasi-peak (dB $\mu$ V/m)	Quasi-peak (dB $\mu$ V/m)
30 to 230	40	30
230 to 1000	47	37

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

Frequency (GHz)	Class A Equipment		Class B Equipment	
	Peak (dB $\mu$ V/m)	Average (dB $\mu$ V/m)	Peak (dB $\mu$ V/m)	Average (dB $\mu$ V/m)
1 to 40	80	60	74	54

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## Test Result

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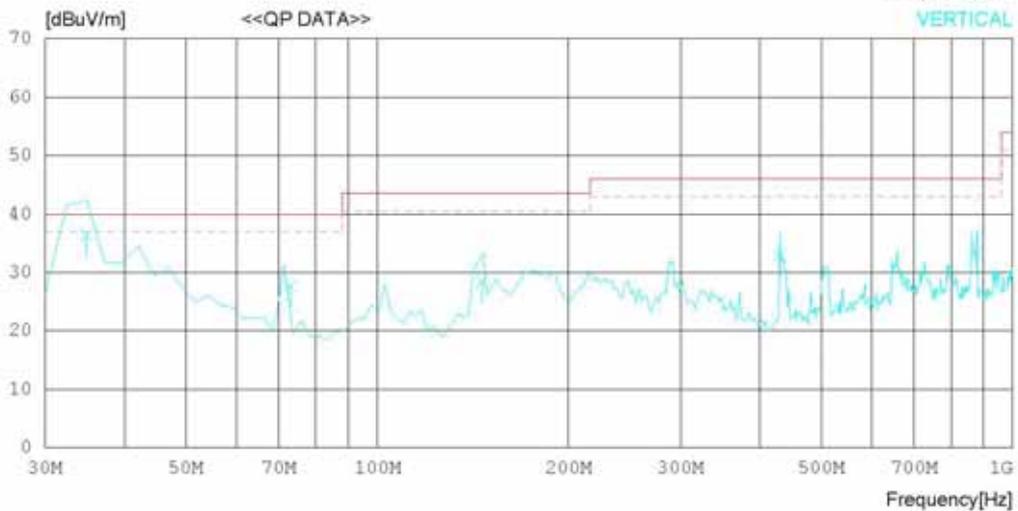
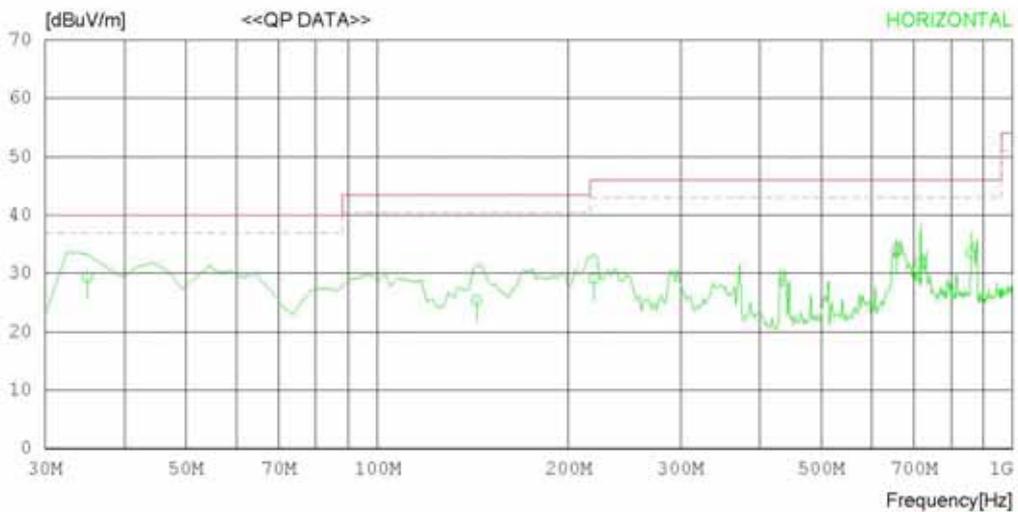
< HDMI MODE\_30 MHz ~ 1 GHz >

### RADIATED EMISSION

Date : 2012-02-03

Model Name	: 32LS3500-UD	Reference No.	:
Model No.	:	Power Supply	: 120V 60Hz
Serial No.	:	Temp/Humi	: 20 °C 31 % R.H.
Test Condition	: HDMI	Operator	:

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



## RADIATED EMISSION

Date : 2012-02-03

Model Name	: 32LS3500-UD	Reference No.	:
Model No.	:	Power Supply	: 120V 60Hz
Serial No.	:	Temp/Humi	: 20°C 31 % 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	34.935	34.8	16.7	0.9	23.1	29.3	40.0	10.7	301	1
2	143.383	36.0	10.8	1.6	23.0	25.4	43.5	18.1	301	1
3	219.160	39.3	11.0	2.2	23.4	29.1	46.0	16.9	100	1
4	657.774	35.7	18.8	4.0	24.5	34.0	46.0	12.0	100	138
5	716.505	32.5	19.1	4.3	24.1	31.8	46.0	14.2	201	0
6	859.725	31.8	20.6	4.5	23.4	33.5	46.0	12.5	100	216
----- Vertical -----										
7	34.875	41.9	16.7	0.9	23.1	36.4	40.0	3.6	100	358
8	73.000	42.7	6.6	1.2	22.8	27.7	40.0	12.3	100	217
9	146.100	39.2	10.7	1.7	23.1	28.5	43.5	15.0	100	358
10	430.000	37.8	16.5	3.1	24.6	32.8	46.0	13.2	100	358
11	877.138	31.4	20.6	4.6	23.3	33.3	46.0	12.7	100	358

< HDMI MODE\_1 GHz ~ 6 GHz\_Peak >

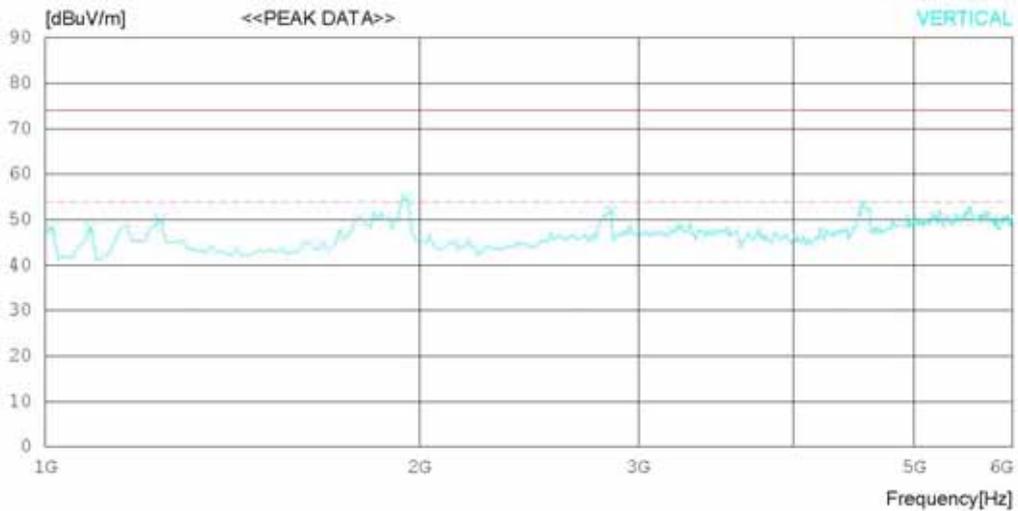
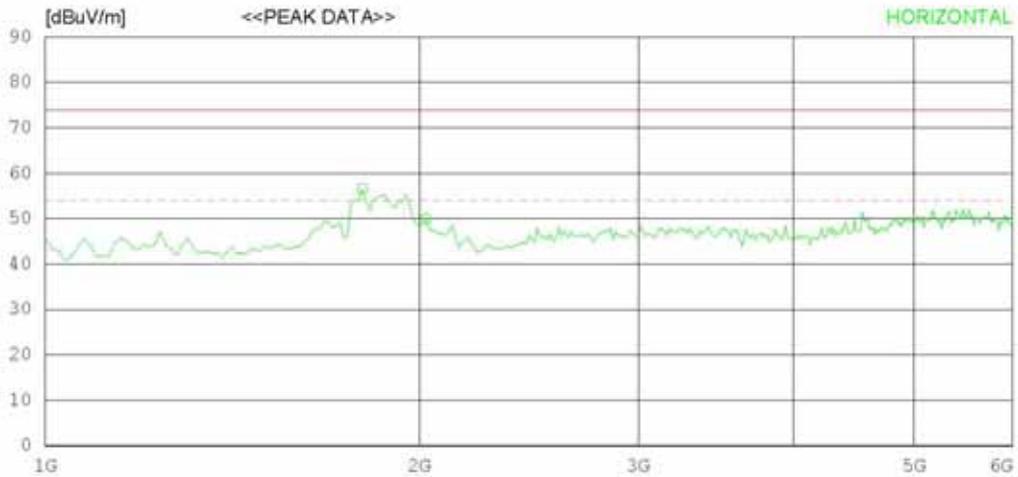
### RADIATED EMISSION

Date : 2012-02-04

Model Name : 32LS3500-UD	Reference No. :
Model No. :	Power Supply : 120V 60Hz
Serial No. :	Temp/Humi : 19 °C 28 % 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)



## RADIATED EMISSION

Date : 2012-02-04

Model Name	: 32LS3500-UD	Reference No.	:
Model No.	:	Power Supply	: 120V 60Hz
Serial No.	:	Temp/Humi	: 19 °C 28 % 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	1800.000	66.6	25.2	6.6	41.8	56.6	74.0	17.4	100	224
2	2025.000	59.4	25.3	7.0	41.7	50.0	74.0	24	100	358
----- Vertical -----										
3	1012.500	61.3	23.7	4.8	41.8	48.0	74.0	26	100	200
4	1087.500	61.1	23.9	5.0	41.8	48.2	74.0	25.8	100	159
5	1237.500	62.0	24.3	5.4	41.8	49.9	74.0	24.1	100	159
6	1950.000	64.2	25.2	6.9	41.7	54.6	74.0	19.4	100	173
7	2850.000	56.8	28.4	8.5	41.8	51.9	74.0	22.1	100	1
8	4550.000	53.7	30.9	10.7	42.0	53.3	74.0	20.7	100	201

< HDMI MODE\_1 GHz ~ 6 GHz\_Average >

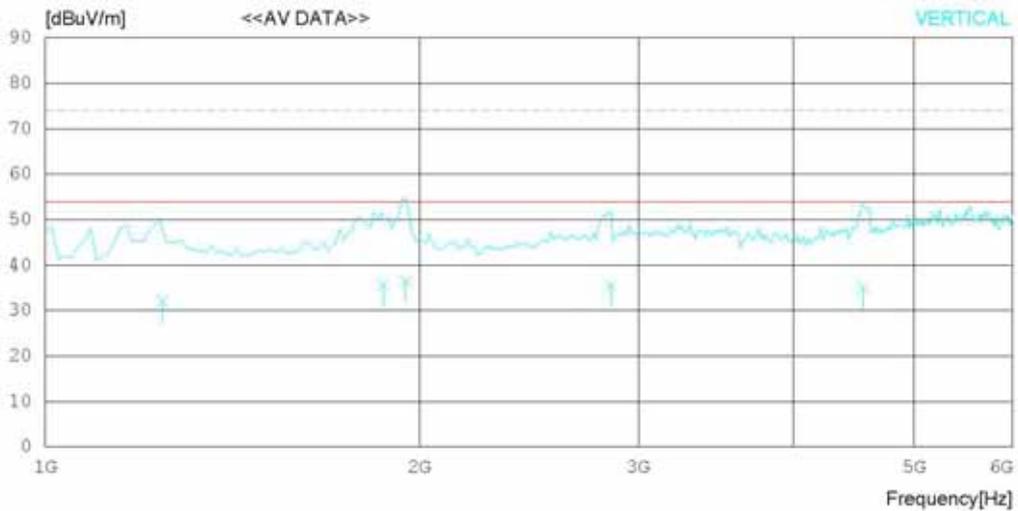
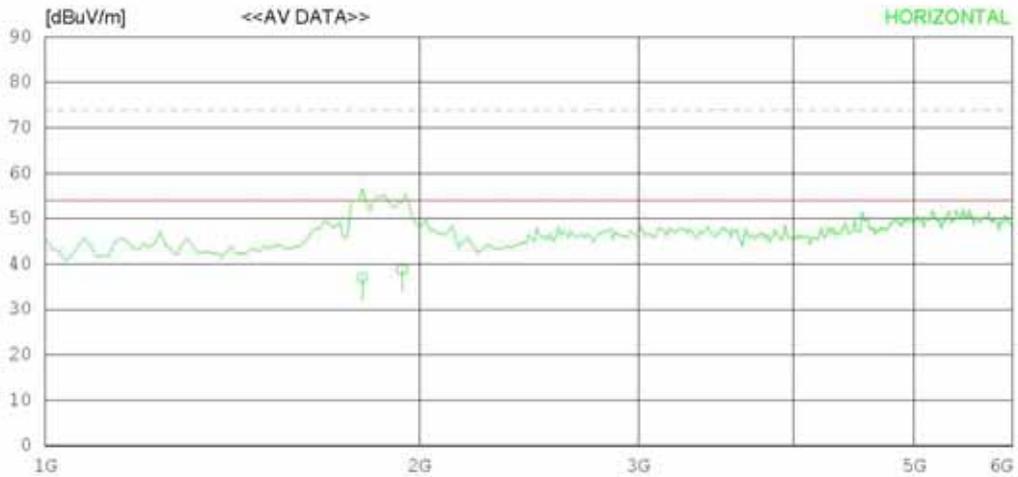
## RADIATED EMISSION

Date : 2012-02-04

Model Name	: 32LS3500-UD	Reference No.	:
Model No.	:	Power Supply	: 120V 60Hz
Serial No.	:	Temp/Humi	: 19 °C 28 % 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)



## RADIATED EMISSION

Date : 2012-02-04

Model Name	: 32LS3500-UD	Reference No.	:
Model No.	:	Power Supply	: 120V 60Hz
Serial No.	:	Temp/Humi	: 19 °C 28 % 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	1800.000	46.9	25.2	6.6	41.8	36.9	54.0	17.1	100	224
2	1936.513	48.4	25.2	6.9	41.7	38.8	54.0	15.2	100	358
----- Vertical -----										
3	1242.500	44.1	24.4	5.4	41.8	32.1	54.0	21.9	100	159
4	1871.307	45.5	25.2	6.7	41.7	35.7	54.0	18.3	100	159
5	1950.000	46.2	25.2	6.9	41.7	36.6	54.0	17.4	100	173
6	2850.000	40.4	28.4	8.5	41.8	35.5	54.0	18.5	100	1
7	4550.000	35.4	30.9	10.7	42.0	35.0	54.0	19.0	100	201

< USB MODE\_30 MHz ~ 1 GHz >

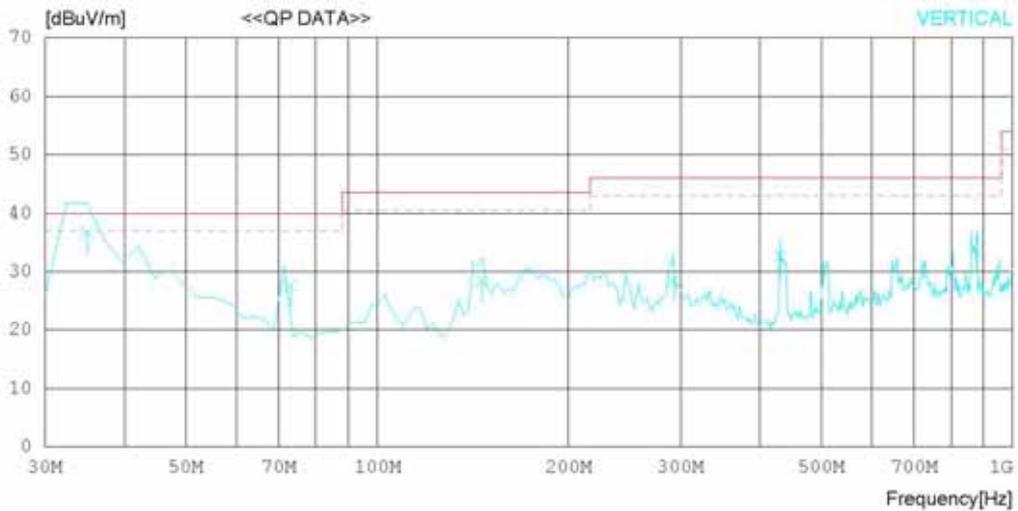
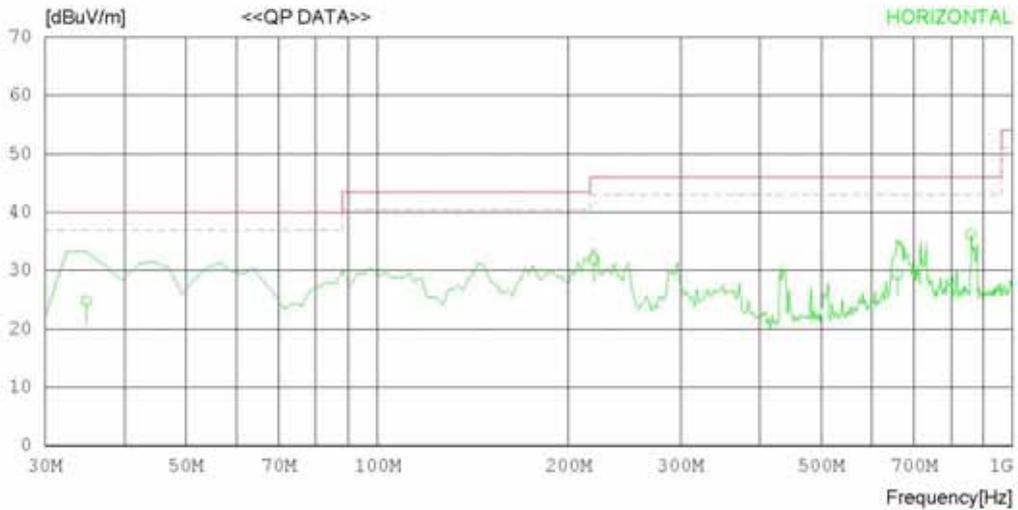
## RADIATED EMISSION

Date : 2012-02-03

Model Name : 32LS3500-UD	Reference No. :
Model No. :	Power Supply : 120V 60Hz
Serial No. :	Temp/Humi : 20 °C 31 % R.H.
Test Condition : USB	Operator :

Memo :

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



## RADIATED EMISSION

Date : 2012-02-03

Model Name : 32LS3500-UD	Reference No. :
Model No. :	Power Supply : 120V 60Hz
Serial No. :	Temp/Humi : 20 °C 31 % 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	34.850	30.3	16.7	0.9	23.1	24.8	40.0	15.2	162	158
2	219.150	42.0	11.0	2.2	23.4	31.8	46.0	14.2	100	242
3	658.073	31.0	18.8	4.0	24.5	29.3	46.0	16.7	198	0
4	859.720	34.4	20.6	4.5	23.4	36.1	46.0	9.9	138	135
----- Vertical -----										
5	34.975	42.1	16.7	0.9	23.1	36.6	40.0	3.4	100	358
6	73.000	42.6	6.6	1.2	22.8	27.6	40.0	12.4	100	358
7	146.069	39.1	10.7	1.7	23.1	28.4	43.5	15.1	100	355
8	292.278	36.2	13.7	2.6	23.8	28.7	46.0	17.3	100	190
9	429.993	37.7	16.5	3.1	24.6	32.7	46.0	13.3	100	358
10	877.076	31.5	20.6	4.6	23.3	33.4	46.0	12.6	100	358

< USB MODE\_1 GHz ~ 6 GHz\_Peak >

## RADIATED EMISSION

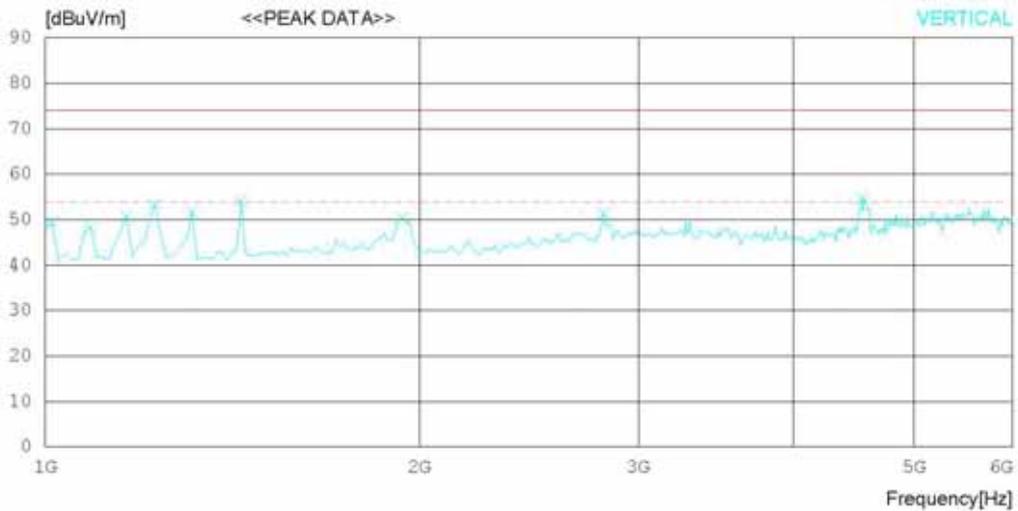
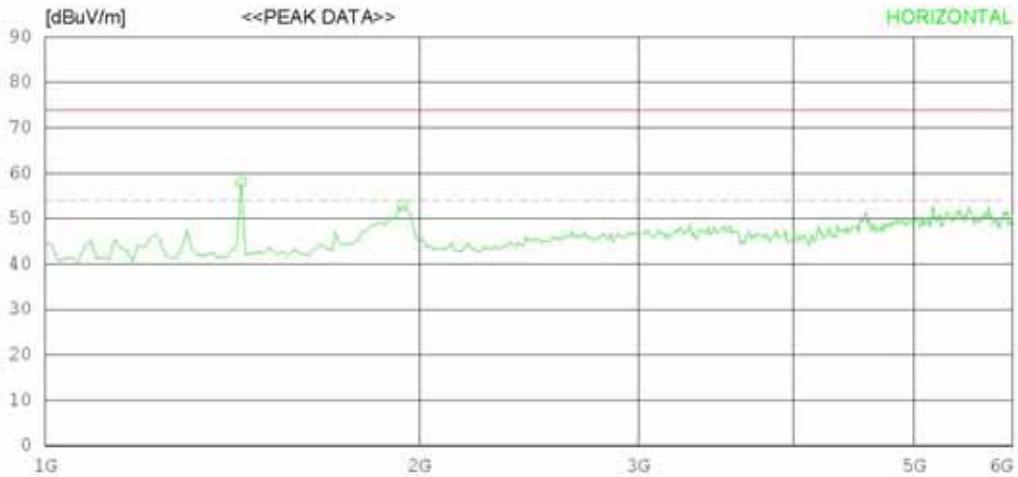
Date : 2012-02-04

Model Name : 32LS3500-UD  
 Model No. :  
 Serial No. :  
 Test Condition : USB

Reference No. :  
 Power Supply : 120V 60Hz  
 Temp/Humi : 19 °C 28 % R.H.  
 Operator :

Memo :

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



## RADIATED EMISSION

Date : 2012-02-04

Model Name	: 32LS3500-UD	Reference No.	:
Model No.	:	Power Supply	: 120V 60Hz
Serial No.	:	Temp/Humi	: 19 °C 28 % 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	1437.500	68.8	25.0	5.8	41.6	58.0	74.0	16	100	138
2	1937.500	62.5	25.2	6.9	41.7	52.9	74.0	21.1	100	230
----- Vertical -----										
3	1012.500	62.5	23.7	4.8	41.8	49.2	74.0	24.8	100	1
4	1087.500	61.1	23.9	5.0	41.8	48.2	74.0	25.8	100	158
5	1162.500	63.3	24.1	5.2	41.9	50.7	74.0	23.3	100	1
6	1225.000	65.7	24.3	5.3	41.8	53.5	74.0	20.5	100	1
7	1312.500	63.4	24.6	5.5	41.8	51.7	74.0	22.3	100	127
8	1437.500	64.9	25.0	5.8	41.6	54.1	74.0	19.9	100	1
9	1937.500	59.9	25.2	6.9	41.7	50.3	74.0	23.7	100	174
10	2812.500	56.4	28.3	8.4	41.7	51.4	74.0	22.6	100	1
11	4537.500	55.1	30.9	10.7	42.0	54.7	74.0	19.3	100	1

< USB MODE\_1 GHz ~ 6 GHz\_Average >

## RADIATED EMISSION

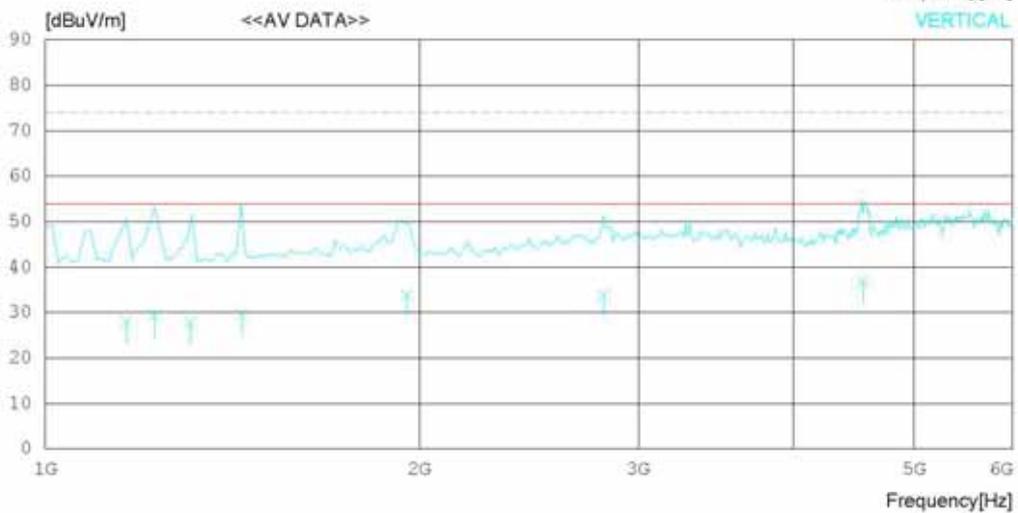
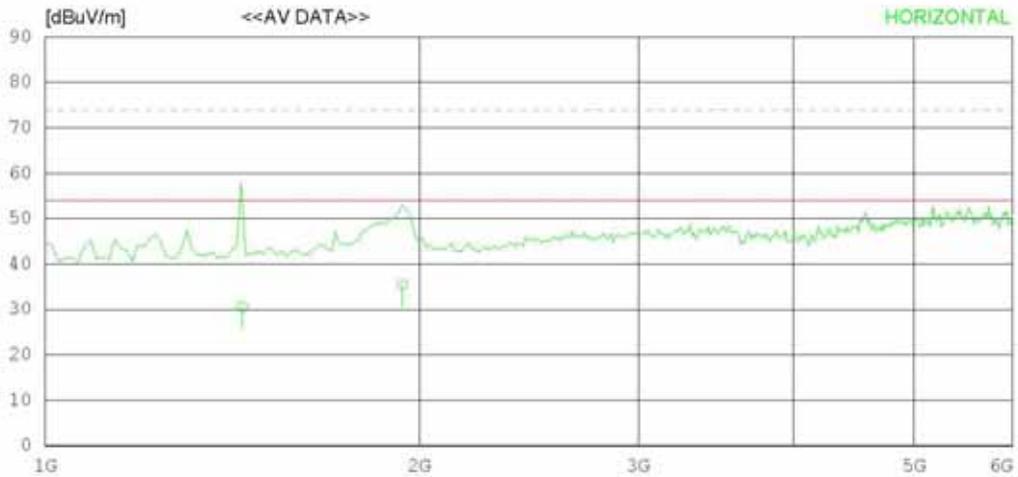
Date : 2012-02-04

Model Name : 32LS3500-UD  
 Model No. :  
 Serial No. :  
 Test Condition : USB

Reference No. :  
 Power Supply : 120V 60Hz  
 Temp/Humi : 19 °C 28 % R.H.  
 Operator :

Memo :

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



## RADIATED EMISSION

Date : 2012-02-04

Model Name : 32LS3500-UD	Reference No. :
Model No. :	Power Supply : 120V 60Hz
Serial No. :	Temp/Humi : 19 °C 28 % 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	1440.258	41.4	25.0	5.8	41.6	30.6	54.0	23.4	100	138
2	1938.500	45.0	25.2	6.9	41.7	35.4	54.0	18.6	100	230
----- Vertical -----										
3	1162.500	40.6	24.1	5.2	41.9	28.0	54.0	26.0	100	1
4	1225.000	41.7	24.3	5.3	41.8	29.5	54.0	24.5	100	1
5	1308.628	39.5	24.6	5.5	41.8	27.8	54.0	26.2	100	127
6	1440.250	40.6	25.0	5.8	41.6	29.8	54.0	24.2	100	57
7	1955.000	43.5	25.2	6.9	41.7	33.9	54.0	20.1	100	174
8	2813.718	38.8	28.3	8.4	41.7	33.8	54.0	20.2	100	36
9	4551.500	37.3	30.9	10.7	42.0	36.9	54.0	17.1	100	1

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**Appendix 1**

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**List of Test and Measurement Instruments**

### 1. Conducted Disturbance

Name of Instrument	Model No.	Manufacturer	Serial No.	Cal. Date	Next Cal. Date
<input type="checkbox"/> SPECTRUM ANALYZER	8591E	H/P	3649A05889	2011.03.07	2012.03.07
<input type="checkbox"/> RFI/FIELD INTENSITY METER	KNM-2402	KYORITSU	4N-170-3	2011.07.02	2012.07.02
<input type="checkbox"/> LISN	KNW-407	KYORITSU	8-317-8	2012.01.09	2013.01.09
<input type="checkbox"/> LISN	KNW-242	KYORITSU	8-654-15	2011.07.01	2012.07.01
<input type="checkbox"/> 50 OHM TERMINATOR	CT-01	TME	N/A	2012.01.09	2013.01.09
<input checked="" type="checkbox"/> EMI TEST RECEIVER	ESCI	ROHDE & SCHWARZ	100364	2011.03.08	2012.03.08
<input checked="" type="checkbox"/> LISN	ESH2-Z5	ROHDE & SCHWARZ	828739/006	2011.09.30	2012.09.30
<input checked="" type="checkbox"/> LISN	LISN1600	TTI	197204	2011.07.02	2012.07.02
<input checked="" type="checkbox"/> 50 OHM TERMINATOR	CT-01	TME	N/A	2012.01.09	2013.01.09

### 2. Radiated Disturbance

Name of Instrument	Model No.	Manufacturer	Serial No.	Cal. Date	Next Cal. Date
<input checked="" type="checkbox"/> EMI TEST RECEIVER	ESU	ROHDE & SCHWARZ	100014	2012.01.09	2013.01.09
<input checked="" type="checkbox"/> BILOG ANTENNA	CBL6112B	SCHAFFNER	2737	2010.07.14	2012.07.14
<input checked="" type="checkbox"/> HORN ANTENNA	BBHA9120A	SCHWARZBECK	322	2010.04.13	2012.04.13
<input checked="" type="checkbox"/> AMPLIFIER	8447E	H/P	2945A02865	2012.01.09	2013.01.09
<input checked="" type="checkbox"/> AMPLIFIER	MLA-00108-B02-36	TSJ	1518831	2012.01.09	2013.01.09
<input type="checkbox"/> SPECTRUM ANALYZER	E4411B	AGILENT	US41062735	2011.07.01	2012.07.01
<input type="checkbox"/> AMPLIFIER	8447D	AGILENT	2443A03690	2011.07.01	2012.07.01
<input type="checkbox"/> BILOG ANTENNA	VULB9160	SCHAFFNER	3151	2010.08.25	2012.08.25
<input type="checkbox"/> EMI TEST RECEIVER	ESCI	ROHDE & SCHWARZ	100364	2011.03.08	2012.03.08
<input type="checkbox"/> BICONICAL ANT.	VHA 9103	SCHWARZBECK	91032789	2010.11.29	2012.11.29
<input type="checkbox"/> LOG-PERIODIC ANT.	UHALP 9108A	SCHWARZBECK	590	2010.07.07	2012.07.07
<input type="checkbox"/> BICONICAL ANT.	VHA 9103	SCHWARZBECK	91031946	2010.12.21	2012.12.21
<input type="checkbox"/> LOG-PERIODIC ANT.	UHALP 9108-A1	SCHWARZBECK	1098	2010.11.29	2012.11.29
<input type="checkbox"/> AMPLIFIER	MLA-100K01-B01-26	TSJ	1252741	2011.03.07	2012.03.07