

EMC TEST REPORT

Test item : LED TV Monitor
Model No. : 32LN549E-UA
Order No. : DEMC1302-00866
Date of receipt : 2013-02-28
Test duration : 2013-03-07 ~ 2013-03-08
Use of report : FCC CoC Marking
Date of Issue : 2013-03-14

Applicant : LG Electronics Inc.

19-1, 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 : (19 ~ 21) °C,
Humidity : (38 ~ 40) % 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.

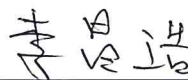
This test report shall not be reproduced except in full, without the written approval of DIGITAL EMC CO., LTD.

Tested by:



Engineer
HyungJun Kim

Reviewed by:



General Manager
ChangHo Lee

PRESIDENT OF DIGITAL EMC CO., LTD.

CONTENTS

1. General Remarks	3
2. Test Laboratory	3
3. General Information of EUT	4
4. Test Summary	5
4.1 Applied standards and test results	5
4.2 Test environment and conditions	5
4.3 Test result Summary	5
5. Test Set-up and operation mode	6
5.1 Principle of Configuration Selection	6
5.2 Test Operation Mode	6
5.3 Support Equipment Used	6
6. Test Results : Emission	7
6.1 Conducted Disturbance	7
6.2 Radiated Disturbance	14
Appendix 1	34
List of Test and Measurement Instruments	34
Appendix 2	36
Report Revision History	36

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	ROK1221C	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.	32LN549E-UA
EUT Type	LED TV Monitor
Serial No	NONE
FCC ID	BEJ32LN549EUA
Type of Sample Tested	Pre-Production
High Frequency	800 MHz
Rating	AC 100-240 V~ 50/60 Hz, 1.3 A
Supplied Power for Test	AC 120 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

RCB (PC), HDMI (PC) supported mode

Resolution	Horizontal Frequency (KHz)	Vertical Frequency (Hz)
720 x 400	31.46	70.08
640 x 480	31.46	59.94
800 x 600	37.87	60.31
1024 x 768	48.36	60.00
1360 x 768	47.71	60.01
1280 x 1024	63.98	60.02
1920 x 1080	67.50	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 (°C)	Humidity (% R.H.)
Conducted Disturbance	03-07	19	38
Radiated Disturbance	03-08	20	39
	03-08	21	40

4.3 Test result Summary

(1) Conducted Emission (DSUB MODE)

Frequency [MHz]	Phase	Result [dB μ V]	Detector	Limit [dB μ V]	Margin [dB]
0.15168	N	56.8	Quasi-Peak	65.9	9.1

(2) Radiated Emission (DSUB MODE)

Frequency [MHz]	Pol.	Result [dB(μ V/m)]	Detector	Limit [dB(μ V/m)]	Margin [dB]
236.747	H	42.5	Quasi-Peak	46.0	3.5

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 : “H” characters scroll on the LCD TV screen.
- HDMI MODE : 1920x1080 Resolution (Worst case) “H” characters scroll on the LCD TV screen.
- USB MODE : USB record file play

5.3 Support Equipment Used

Unit	Model No.	Serial No.	Manufacturer	CABLE				Backshell	FCC ID
				Connect type	Length (m)	ferrite core	shield		
PC	DC8CMF	G3RZKBX	DELL INC.	POWER	1.8	Not use	Non-shield	Plastic	DOC
				HDMI	1.8	Not use	Shield		
				USB	1.8	Not use	Shield		
				USB	1.8	Not use	Shield		
				USB	1.5	Not use	Shield		
				DSUB	1.6	Not use	Shield		
KEYBOARD	KB-065	CN111363232	HP	USB	1.8	Not use	Shield	Plastic	DOC
MOUSE	1094	X817158-002	MICROSOFT CORPORATION	USB	1.6	Not use	Shield	Plastic	DOC
CD/DVD PLAYER	DVP-NS92V	2000407	SONY EMCS	POWER COMPONENT	1.8 1.6	Not use Not use	Non-shield Non-shield	Plastic	VER
USB MEMORY	Cruzer 4GB	N/A	SANDISK	USB	-	-	-	-	DOC
PRINTER	Aculaser M1200	LWTZ181070	EPSON	USB	1.8	Not use	Shield	Plastic	-
				AC POWER	1.5	Not use	Non-shield		
HEADSET	COV903	N/A	COSY	HEADPHONE	2.5	Not use	Non-shield	Plastic	DOC
REMOTE CONTROL	AKB73755414	N/A	HANSUNG ELECTRONIC	-	-	-	-	-	-

6. Test Results : Emission

6.1 Conducted Disturbance

6.1.1 Measurement Procedure

In the range of 0.15 MHz to 30 MHz, 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 0.8 m above the reference ground plane and 0.4 m 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 0.15 m 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 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(μV)			
	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 0.15 MHz to 0.5 MHz.				

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

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

3. Margin = Limit - Emission level

Test Result

< DSUB MODE >



Results of Conducted Emission

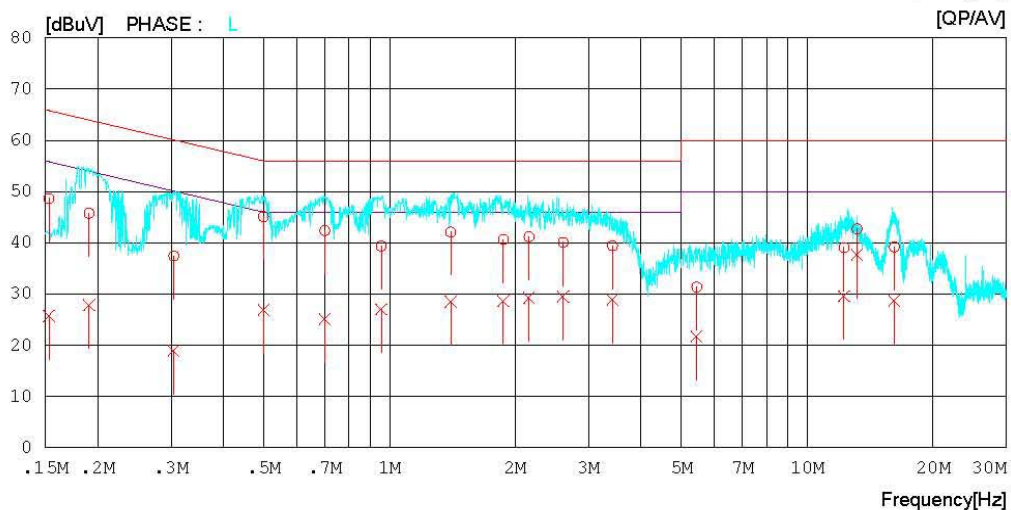
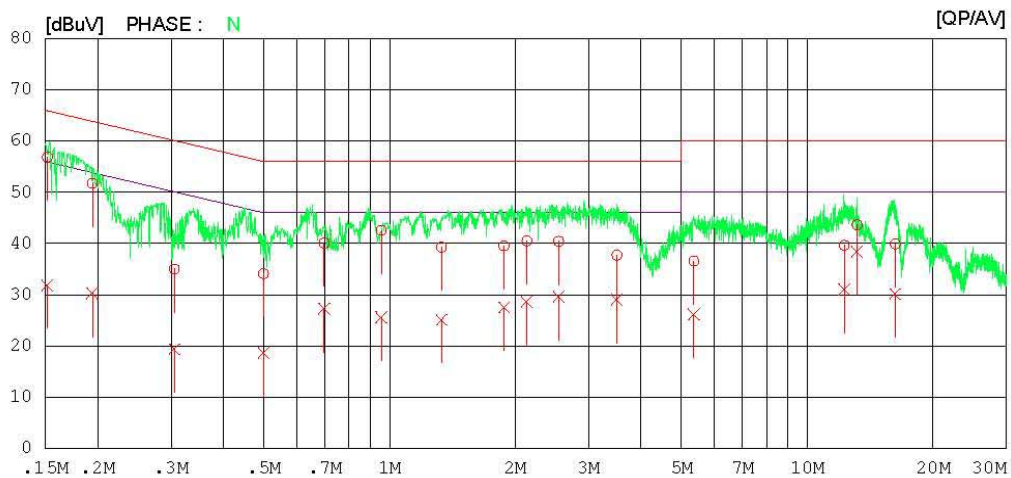
Digital EMC
Date : 2013-03-07

Model No. : 32LN549E-UA
Type :
Serial No. :
Test Condition : DSUB

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi. : 19 °C 38 % R.H.
Operator :

Memo :

LIMIT : CISPR22_B QP
CISPR22_B AV



Results of Conducted Emission

Digital EMC
Date : 2013-03-07

Model No. : 32LN549E-UA
Type :
Serial No. :
Test Condition : DSUB

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi. : 19 °C 38 % R.H.
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	0.15168	55.0	30.0	1.8	56.8	31.8	65.9	55.9	9.1	24.1	N
2	0.19426	50.5	28.9	1.3	51.8	30.2	63.9	53.9	12.1	23.7	N
3	0.30555	34.1	18.5	0.9	35.0	19.4	60.1	50.1	25.1	30.7	N
4	0.49961	33.4	18.0	0.7	34.1	18.7	56.0	46.0	21.9	27.3	N
5	0.69794	39.6	26.8	0.5	40.1	27.3	56.0	46.0	15.9	18.7	N
6	0.95568	42.2	25.2	0.4	42.6	25.6	56.0	46.0	13.4	20.4	N
7	1.33300	38.9	24.7	0.4	39.3	25.1	56.0	46.0	16.7	20.9	N
8	1.88050	39.2	27.2	0.3	39.5	27.5	56.0	46.0	16.5	18.5	N
9	2.13450	40.2	28.3	0.3	40.5	28.6	56.0	46.0	15.5	17.4	N
10	2.54150	40.2	29.4	0.2	40.4	29.6	56.0	46.0	15.6	16.4	N
11	3.50400	37.5	28.8	0.2	37.7	29.0	56.0	46.0	18.3	17.0	N
12	5.35250	36.3	26.0	0.2	36.5	26.2	60.0	50.0	23.5	23.8	N
13	12.26500	39.2	30.6	0.4	39.6	31.0	60.0	50.0	20.4	19.0	N
14	13.16950	43.2	38.0	0.4	43.6	38.4	60.0	50.0	16.4	11.6	N
15	16.25800	39.5	29.7	0.4	39.9	30.1	60.0	50.0	20.1	19.9	N
16	0.15295	46.9	23.9	1.8	48.7	25.7	65.8	55.8	17.1	30.1	L
17	0.19096	44.5	26.6	1.3	45.8	27.9	64.0	54.0	18.2	26.1	L
18	0.30450	36.5	18.0	0.9	37.4	18.9	60.1	50.1	22.7	31.2	L
19	0.49955	44.4	26.3	0.7	45.1	27.0	56.0	46.0	10.9	19.0	L
20	0.70004	41.9	24.6	0.5	42.4	25.1	56.0	46.0	13.6	20.9	L
21	0.95585	39.0	26.7	0.4	39.4	27.1	56.0	46.0	16.6	18.9	L
22	1.40200	41.7	28.1	0.4	42.1	28.5	56.0	46.0	13.9	17.5	L
23	1.87350	40.3	28.4	0.3	40.6	28.7	56.0	46.0	15.4	17.3	L
24	2.15800	40.9	29.0	0.3	41.2	29.3	56.0	46.0	14.8	16.7	L
25	2.60600	39.9	29.3	0.2	40.1	29.5	56.0	46.0	15.9	16.5	L
26	3.42000	39.2	28.7	0.2	39.4	28.9	56.0	46.0	16.6	17.1	L
27	5.44050	31.2	21.5	0.2	31.4	21.7	60.0	50.0	28.6	28.3	L
28	12.25150	38.7	29.2	0.4	39.1	29.6	60.0	50.0	20.9	20.4	L
29	13.16600	42.4	37.3	0.4	42.8	37.7	60.0	50.0	17.2	12.3	L
30	16.17850	38.8	28.3	0.4	39.2	28.7	60.0	50.0	20.8	21.3	L

< HDMI MODE >



Results of Conducted Emission

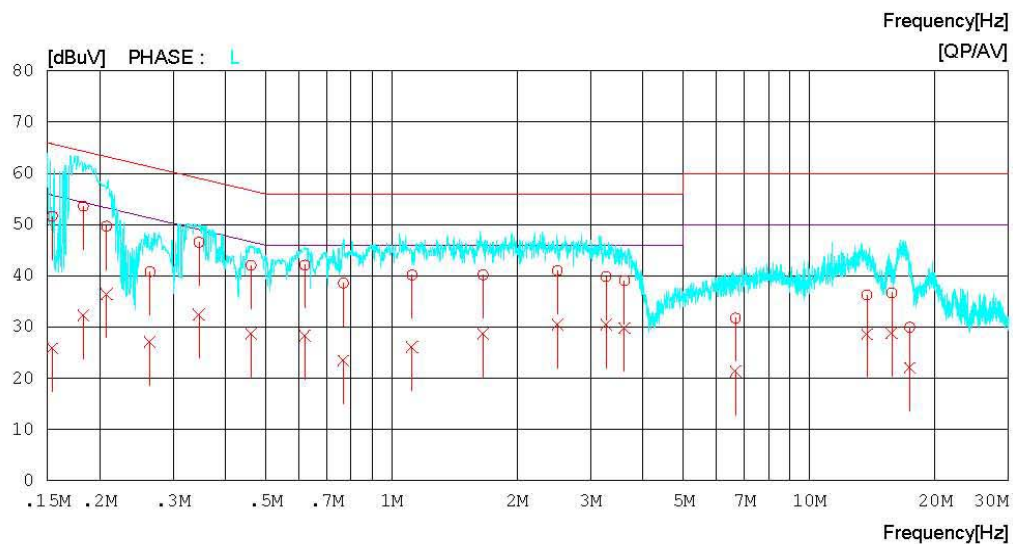
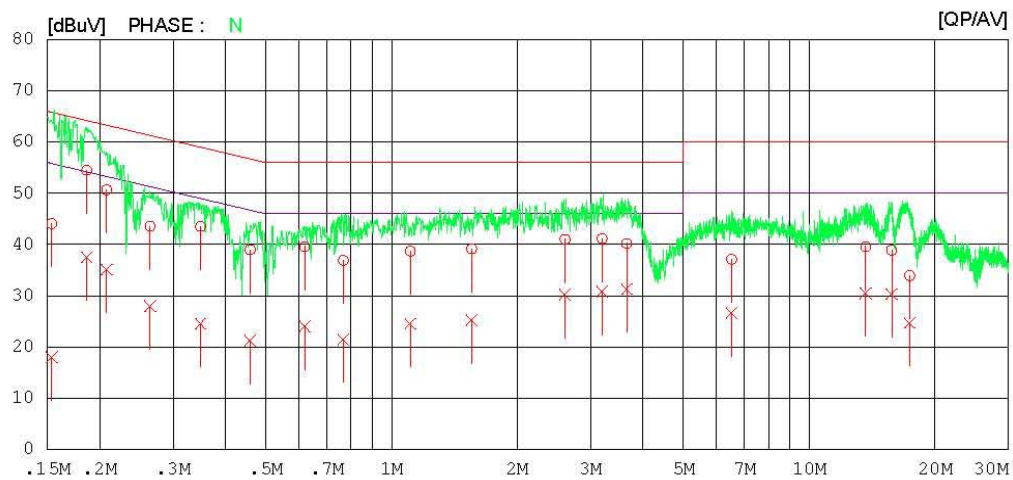
Digital EMC
Date : 2013-03-07

Model No. : 32LN549E-UA
Type :
Serial No. :
Test Condition : HDMI

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi. : 19 °C 38 % R.H.
Operator :

Memo :

LIMIT : CISPR22_B QP
CISPR22_B AV



Results of Conducted Emission

Digital EMC
Date : 2013-03-07

Model No. : 32LN549E-UA
Type :
Serial No. :
Test Condition : HDMI

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi. : 19 °C 38 % R.H.
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	0.15374	42.3	16.2	1.8	44.1	18.0	65.8	55.8	21.7	37.8	N
2	0.18639	53.1	36.1	1.4	54.5	37.5	64.2	54.2	9.7	16.7	N
3	0.20809	49.5	33.9	1.2	50.7	35.1	63.3	53.3	12.6	18.2	N
4	0.26433	42.6	27.0	1.0	43.6	28.0	61.3	51.3	17.7	23.3	N
5	0.34888	42.6	23.6	0.9	43.5	24.5	59.0	49.0	15.5	24.5	N
6	0.45895	38.3	20.5	0.7	39.0	21.2	56.7	46.7	17.7	25.5	N
7	0.61988	39.0	23.4	0.6	39.6	24.0	56.0	46.0	16.4	22.0	N
8	0.76706	36.4	21.0	0.5	36.9	21.5	56.0	46.0	19.1	24.5	N
9	1.11050	38.3	24.1	0.4	38.7	24.5	56.0	46.0	17.3	21.5	N
10	1.55600	38.8	24.9	0.3	39.1	25.2	56.0	46.0	16.9	20.8	N
11	2.60300	40.8	30.1	0.2	41.0	30.3	56.0	46.0	15.0	15.7	N
12	3.19500	40.9	30.6	0.2	41.1	30.8	56.0	46.0	14.9	15.2	N
13	3.65850	40.0	31.1	0.2	40.2	31.3	56.0	46.0	15.8	14.7	N
14	6.52550	36.8	26.3	0.3	37.1	26.6	60.0	50.0	22.9	23.4	N
15	13.65950	39.2	30.1	0.4	39.6	30.5	60.0	50.0	20.4	19.5	N
16	15.75550	38.4	29.9	0.4	38.8	30.3	60.0	50.0	21.2	19.7	N
17	17.41400	33.4	24.2	0.5	33.9	24.7	60.0	50.0	26.1	25.3	N
18	0.15426	49.8	24.1	1.8	51.6	25.9	65.8	55.8	14.2	29.9	L
19	0.18289	52.2	30.9	1.4	53.6	32.3	64.4	54.4	10.8	22.1	L
20	0.20796	48.5	35.2	1.2	49.7	36.4	63.3	53.3	13.6	16.9	L
21	0.26415	39.8	26.1	1.0	40.8	27.1	61.3	51.3	20.5	24.2	L
22	0.34608	45.7	31.6	0.9	46.6	32.5	59.1	49.1	12.5	16.6	L
23	0.46134	41.3	28.0	0.7	42.0	28.7	56.7	46.7	14.7	18.0	L
24	0.62016	41.5	27.8	0.6	42.1	28.4	56.0	46.0	13.9	17.6	L
25	0.76748	38.1	23.0	0.5	38.6	23.5	56.0	46.0	17.4	22.5	L
26	1.12050	39.8	25.7	0.4	40.2	26.1	56.0	46.0	15.8	19.9	L
27	1.65700	39.9	28.4	0.3	40.2	28.7	56.0	46.0	15.8	17.3	L
28	2.49750	40.8	30.4	0.2	41.0	30.6	56.0	46.0	15.0	15.4	L
29	3.26650	39.7	30.3	0.2	39.9	30.5	56.0	46.0	16.1	15.5	L
30	3.61200	38.9	29.6	0.2	39.1	29.8	56.0	46.0	16.9	16.2	L
31	6.66200	31.5	21.1	0.3	31.8	21.4	60.0	50.0	28.2	28.6	L
32	13.76250	35.9	28.2	0.4	36.3	28.6	60.0	50.0	23.7	21.4	L
33	15.75400	36.3	28.5	0.4	36.7	28.9	60.0	50.0	23.3	21.1	L
34	17.40300	29.5	21.6	0.5	30.0	22.1	60.0	50.0	30.0	27.9	L

< USB MODE >



Results of Conducted Emission

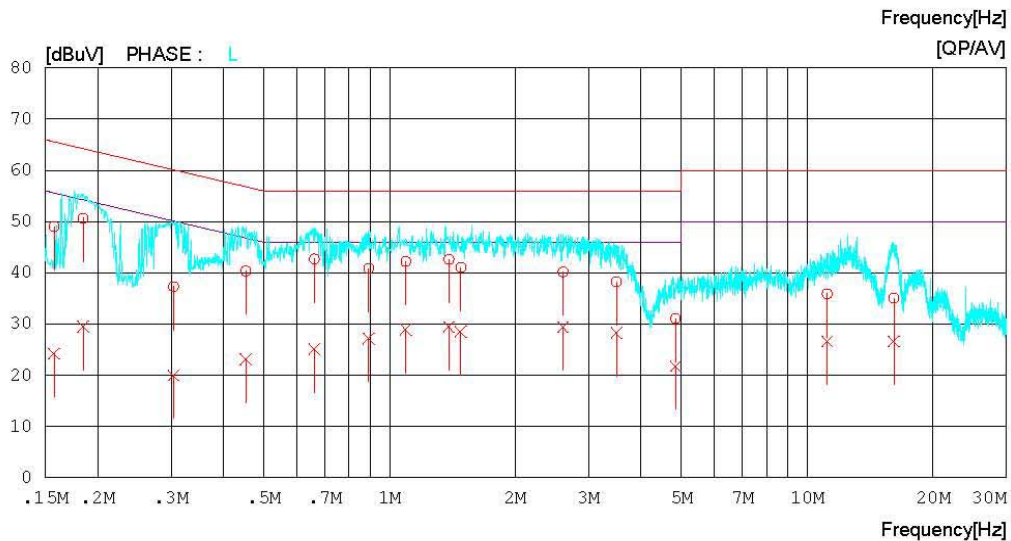
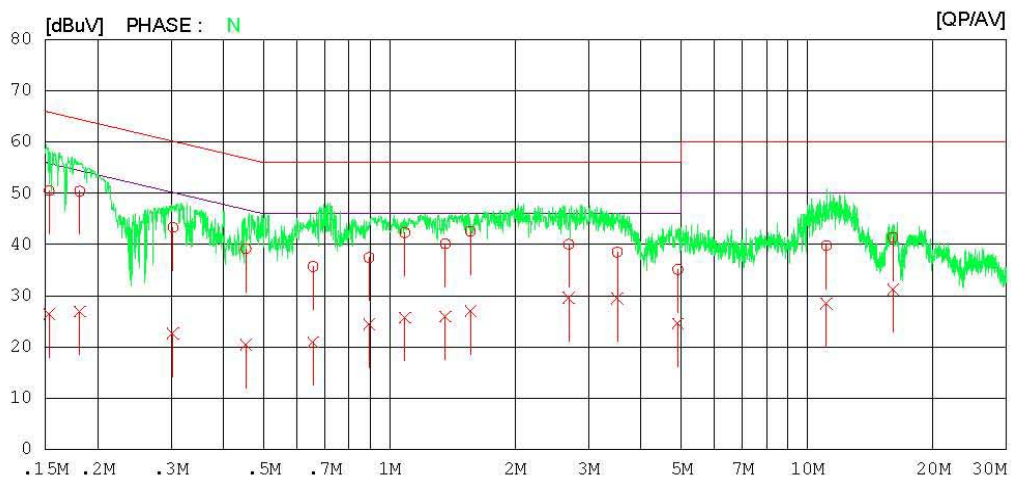
Digital EMC
Date : 2013-03-07

Model No. : 32LN549E-UA
Type :
Serial No. :
Test Condition : USB

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi. : 19 °C 38 % R.H.
Operator :

Memo :

LIMIT : CISPR22_B QP
CISPR22_B AV



Results of Conducted Emission

Digital EMC
Date : 2013-03-07

Model No. : 32LN549E-UA
Type :
Serial No. :
Test Condition : USB

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi. : 19 °C 38 % R.H.
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	0.15326	48.7	24.7	1.8	50.5	26.5	65.8	55.8	15.3	29.3	N
2	0.18136	49.0	25.6	1.4	50.4	27.0	64.4	54.4	14.0	27.4	N
3	0.30301	42.4	21.7	0.9	43.3	22.6	60.2	50.2	16.9	27.6	N
4	0.45330	38.5	19.7	0.7	39.2	20.4	56.8	46.8	17.6	26.4	N
5	0.65661	35.1	20.3	0.6	35.7	20.9	56.0	46.0	20.3	25.1	N
6	0.89381	37.0	24.0	0.4	37.4	24.4	56.0	46.0	18.6	21.6	N
7	1.08800	41.9	25.3	0.4	42.3	25.7	56.0	46.0	13.7	20.3	N
8	1.36100	39.7	25.5	0.4	40.1	25.9	56.0	46.0	15.9	20.1	N
9	1.56400	42.3	26.8	0.3	42.6	27.1	56.0	46.0	13.4	18.9	N
10	2.68700	39.8	29.4	0.2	40.0	29.6	56.0	46.0	16.0	16.4	N
11	3.51100	38.3	29.3	0.2	38.5	29.5	56.0	46.0	17.5	16.5	N
12	4.90000	34.9	24.4	0.2	35.1	24.6	56.0	46.0	20.9	21.4	N
13	11.11950	39.4	28.1	0.4	39.8	28.5	60.0	50.0	20.2	21.5	N
14	16.05450	41.0	30.8	0.4	41.4	31.2	60.0	50.0	18.6	18.8	N
15	0.15733	47.3	22.6	1.7	49.0	24.3	65.6	55.6	16.6	31.3	L
16	0.18475	49.3	28.1	1.4	50.7	29.5	64.3	54.3	13.6	24.8	L
17	0.30424	36.4	19.1	0.9	37.3	20.0	60.1	50.1	22.8	30.1	L
18	0.45273	39.6	22.4	0.7	40.3	23.1	56.8	46.8	16.5	23.7	L
19	0.66075	42.1	24.5	0.6	42.7	25.1	56.0	46.0	13.3	20.9	L
20	0.89138	40.5	26.8	0.4	40.9	27.2	56.0	46.0	15.1	18.8	L
21	1.09450	41.8	28.5	0.4	42.2	28.9	56.0	46.0	13.8	17.1	L
22	1.38750	42.2	29.0	0.4	42.6	29.4	56.0	46.0	13.4	16.6	L
23	1.48200	40.6	28.1	0.4	41.0	28.5	56.0	46.0	15.0	17.5	L
24	2.60250	40.0	29.2	0.2	40.2	29.4	56.0	46.0	15.8	16.6	L
25	3.49500	38.0	28.1	0.2	38.2	28.3	56.0	46.0	17.8	17.7	L
26	4.84100	30.9	21.6	0.2	31.1	21.8	56.0	46.0	24.9	24.2	L
27	11.16450	35.5	26.2	0.4	35.9	26.6	60.0	50.0	24.1	23.4	L
28	16.13050	34.7	26.3	0.4	35.1	26.7	60.0	50.0	24.9	23.3	L

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 0.8 m above the reference ground plane and 3 m or 10 m 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 0.15 m above the reference ground plane.

Rotate the EUT from (0 - 360)° and position the receiving antenna at heights from (1 - 4) m 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 1 GHz frequency range, Quasi-Peak detector with 120 kHz RBW was used.

Also Peak and Average detector with 1 MHz RBW were used for above 1 GHz 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	1 000
108 – 500	2 000
500 – 1 000	5 000
Above 1 000	5 th harmonic of the highest frequency or 40 GHz, whichever is lower

(1) Limit for Radiated Emission below 1 000MHz

Frequency range (MHz)	Class A Equipment (10 m distance)	Class B Equipment (3 m distance)
	Quasi-peak (dBμV/m)	Quasi-peak (dBμV/m)
30 to 88	39.1	40
88 to 216	43.5	43.5
216 to 960	46.4	46
960 to 1 000	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 (10 m distance)	Class B Equipment (10 m distance)
	Quasi-peak (dBμV/m)	Quasi-peak (dBμV/m)
30 to 230	40	30
230 to 1 000	47	37

(2) Limits for Radiated Emission above 1 000MHz at a measuring distance of 3 m

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

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

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

3. Margin = Limit - Emission level

Test Result

< DSUB MODE _ 30 MHz ~ 1 GHz >

RADIATED EMISSION

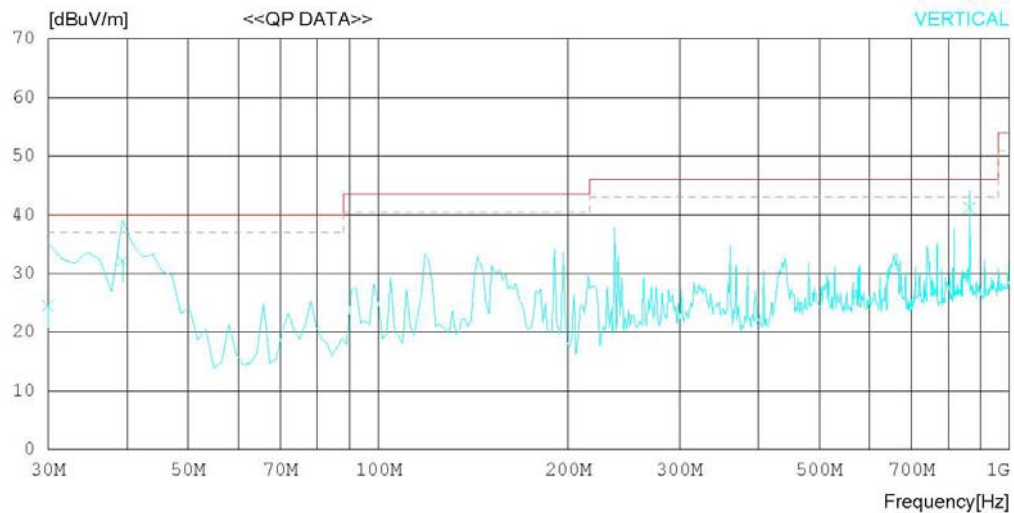
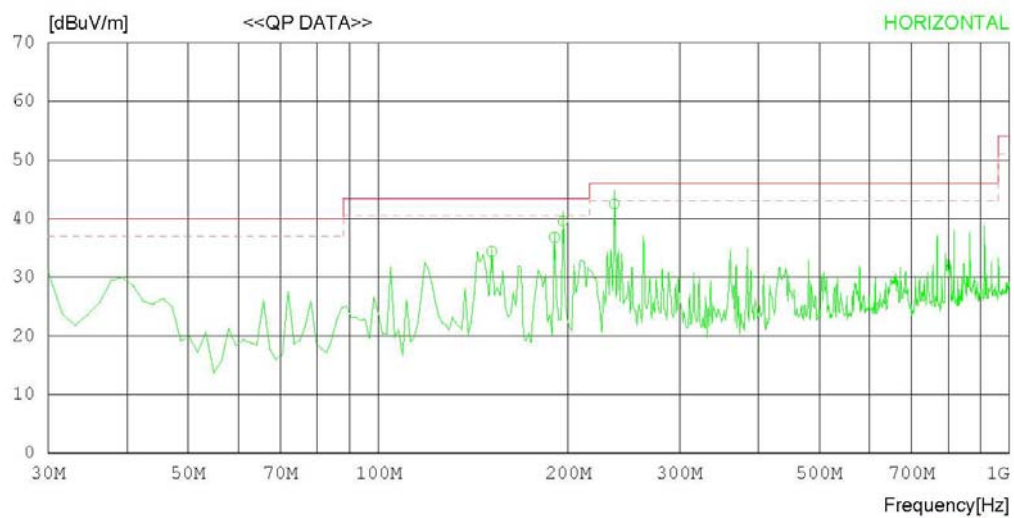
Date : 2013-03-08

Model Name : 32LN549E-UA
Model No. :
Serial No. :
Test Condition : DSUB

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi : 21 'C 40 % R.H
Operator :

Memo :

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



RADIATED EMISSION

Date : 2013-03-08

Model Name : 32LN549E-UA
Model No. :
Serial No. :
Test Condition : DSUB

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi : 21 'C 40 % R.H
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	151.250	46.4	10.4	1.8	24.2	34.4	43.5	9.1	151	1
2	190.112	48.9	9.7	2.2	24.0	36.8	43.5	6.7	100	92
3	196.330	51.6	9.7	2.3	24.0	39.6	43.5	3.9	100	358
4	236.747	51.9	11.9	2.5	23.8	42.5	46.0	3.5	100	358
----- Vertical -----										
5	30.000	29.6	17.9	0.8	23.8	24.5	40.0	15.5	154	358
6	39.327	42.0	13.2	1.1	24.1	32.2	40.0	7.8	100	202
7	864.762	39.0	20.5	4.9	23.2	41.2	46.0	4.8	100	84

< DSUB MODE _ (1 ~ 6) GHz _ Peak >

RADIATED EMISSION

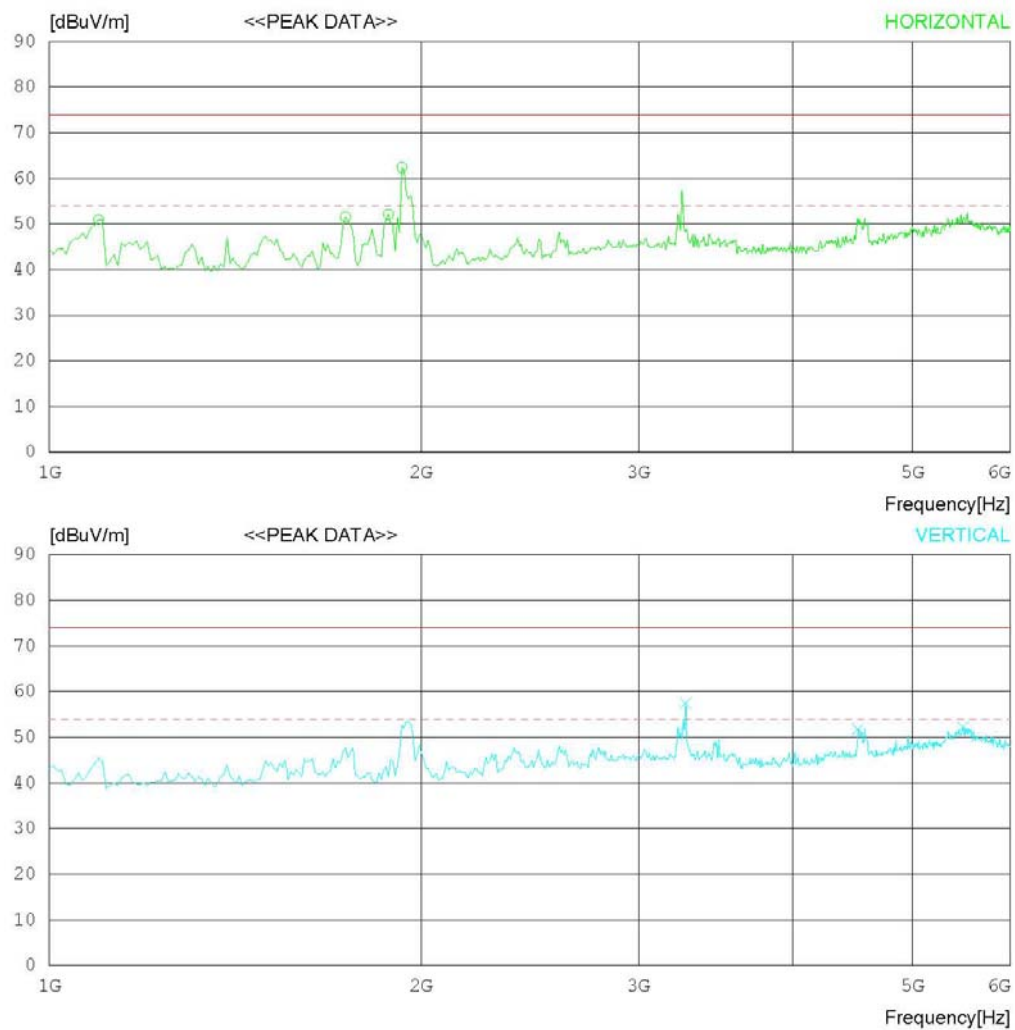
Date : 2013-03-08

Model Name : 32LN549E-UA
Model No. :
Serial No. :
Test Condition : DSUB

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi : 20 °C 39 % 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 : 2013-03-08

Model Name : 32LN549E-UA	Reference No. :
Model No. :	Power Supply : 120 V 60 Hz
Serial No. :	Temp/Humi : 20 'C 39 % 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	1096.154	62.1	24.0	3.5	38.6	51.0	74.0	23	100	358
2	1737.179	60.4	24.6	4.4	37.8	51.6	74.0	22.4	100	224
3	1881.410	60.6	24.6	4.6	37.7	52.1	74.0	21.9	100	231
4	1929.487	70.8	24.6	4.6	37.6	62.4	74.0	11.6	100	183
----- Vertical -----										
5	3275.659	59.8	28.9	6.0	37.2	57.5	74.0	16.5	100	1
6	4517.652	50.3	31.0	7.1	36.6	51.8	74.0	22.2	100	223
7	5495.201	45.5	35.1	7.9	36.3	52.2	74.0	21.8	100	167

< DSUB MODE _ (1 ~ 6) GHz _ Average >

RADIATED EMISSION

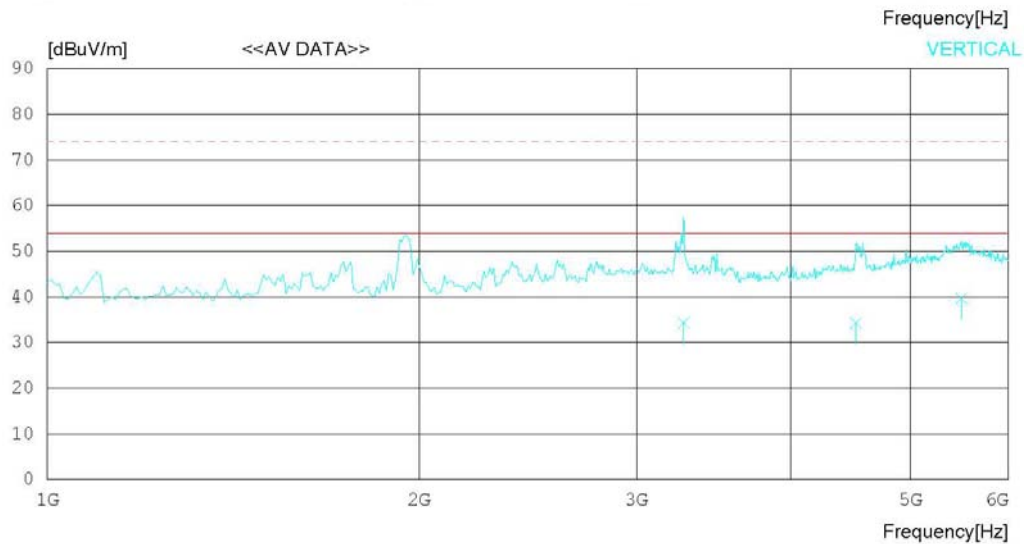
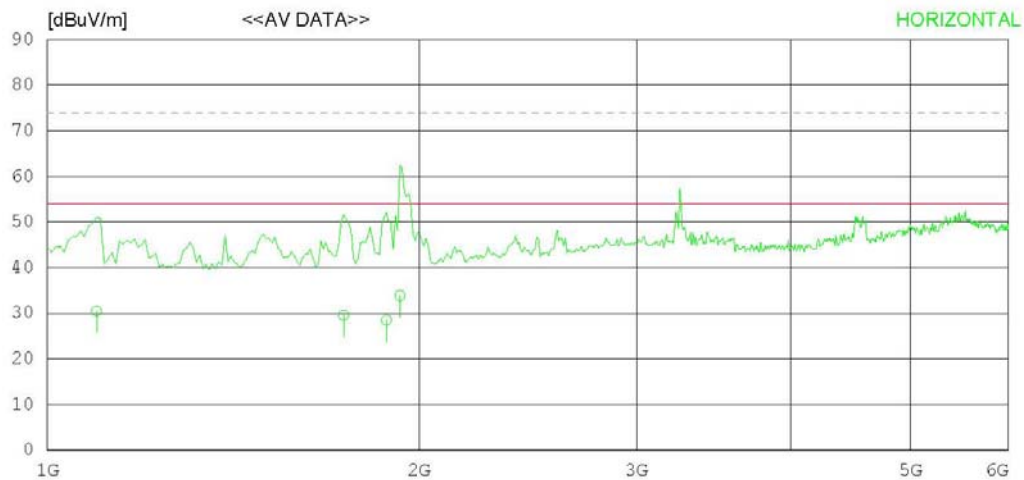
Date : 2013-03-08

Model Name : 32LN549E-UA
Model No. :
Serial No. :
Test Condition : DSUB

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi : 20 °C 39 % 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 : 2013-03-08

Model Name : 32LN549E-UA	Reference No. :
Model No. :	Power Supply : 120 V 60 Hz
Serial No. :	Temp/Humi : 20 °C 39 % 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	1096.154	41.6	24.0	3.5	38.6	30.5	54.0	23.5	100	358
2	1737.179	38.4	24.6	4.4	37.8	29.6	54.0	24.4	100	224
3	1881.410	37.0	24.6	4.6	37.7	28.5	54.0	25.5	100	231
4	1929.487	42.3	24.6	4.6	37.6	33.9	54.0	20.1	100	183
----- Vertical -----										
5	3275.659	36.6	28.9	6.0	37.2	34.3	54.0	19.7	100	1
6	4517.652	32.9	31.0	7.1	36.6	34.4	54.0	19.6	100	223
7	5495.201	33.0	35.1	7.9	36.3	39.7	54.0	14.3	100	167

< HDMI MODE _ 30 MHz ~ 1 GHz >

RADIATED EMISSION

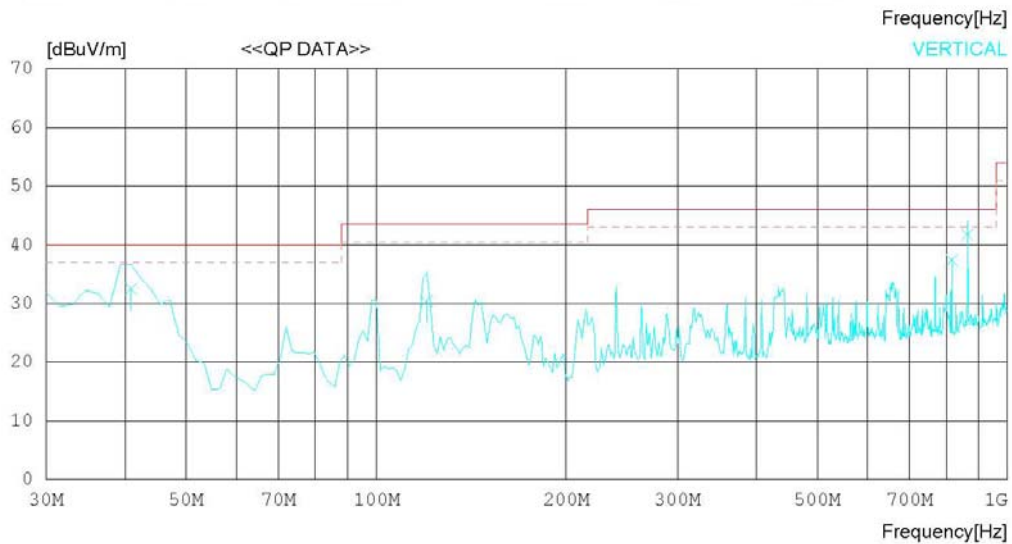
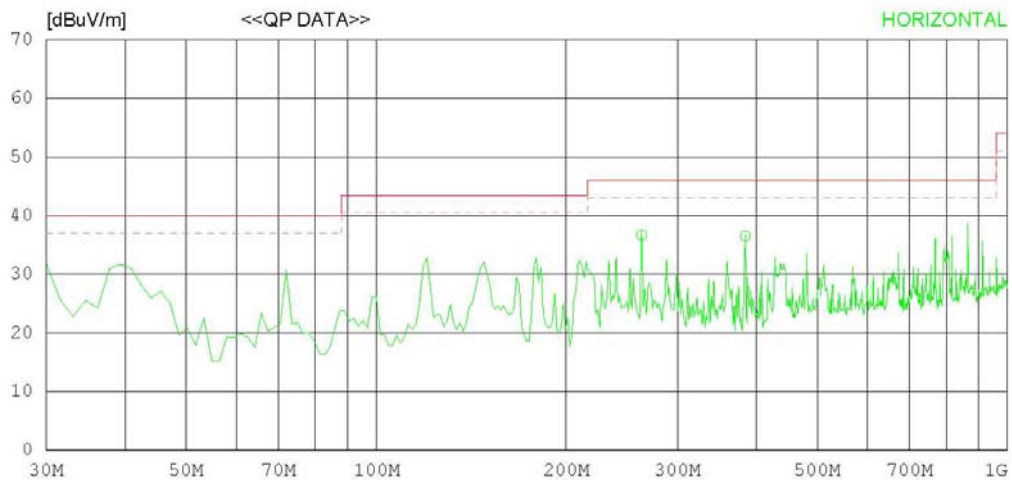
Date : 2013-03-08

Model Name : 32LN549E-UA
Model No. :
Serial No. :
Test Condition : HDMI

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi : 21 °C 40 % R.H
Operator :

Memo :

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



RADIATED EMISSION

Date : 2013-03-08

Model Name : 32LN549E-UA	Reference No. :
Model No. :	Power Supply : 120 V 60 Hz
Serial No. :	Temp/Humi : 21 'C 40 % 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	263.173	44.8	13.0	2.6	23.7	36.7	46.0	9.3	100	1
2	384.422	40.8	15.7	3.5	23.5	36.5	46.0	9.5	100	1
----- Vertical -----										
3	40.881	42.6	13.0	1.1	24.2	32.5	40.0	7.5	100	187
4	120.160	41.3	11.6	1.6	24.1	30.4	43.5	13.1	100	139
5	816.572	35.9	20.1	4.8	23.4	37.4	46.0	8.6	198	96
6	864.762	39.5	20.5	4.9	23.2	41.7	46.0	4.3	117	0

< HDMI MODE _ (1 ~ 6) GHz _ Peak >

RADIATED EMISSION

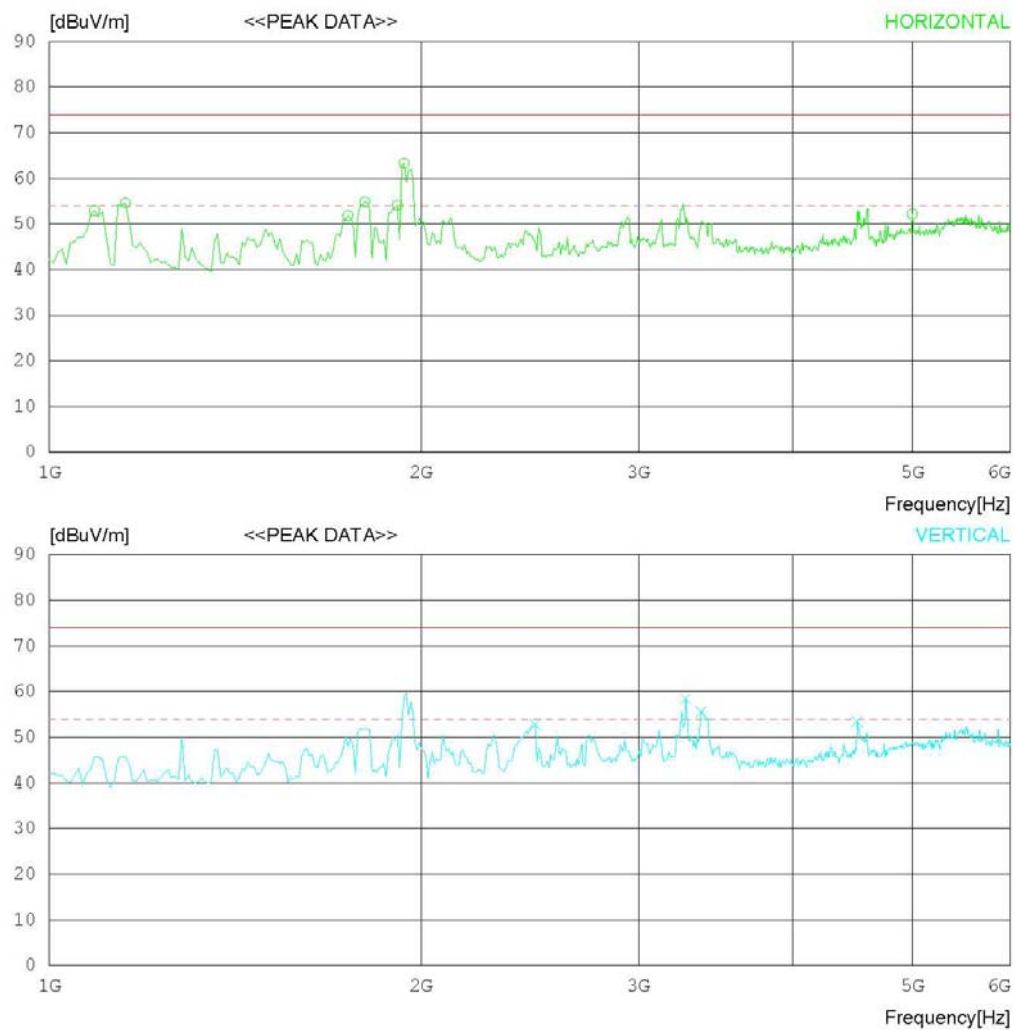
Date : 2013-03-08

Model Name : 32LN549E-UA
Model No. :
Serial No. :
Test Condition : HDMI

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi : 20 °C 39 % 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 : 2013-03-08

Model Name : 32LN549E-UA	Reference No. :
Model No. :	Power Supply : 120 V 60 Hz
Serial No. :	Temp/Humi : 20 °C 39 % 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	1088.141	64.0	24.0	3.5	38.6	52.9	74.0	21.1	100	358
2	1152.244	65.4	24.1	3.6	38.5	54.6	74.0	19.4	100	189
3	1745.192	60.6	24.6	4.4	37.8	51.8	74.0	22.2	100	222
4	1801.282	63.5	24.6	4.5	37.7	54.9	74.0	19.1	100	358
5	1913.461	62.6	24.6	4.6	37.7	54.1	74.0	19.9	100	191
6	1937.500	71.7	24.6	4.6	37.6	63.3	74.0	10.7	100	358
7	4998.414	48.5	32.5	7.9	36.7	52.2	74.0	21.8	100	220
----- Vertical -----										
8	2474.365	57.6	27.3	5.2	37.3	52.8	74.0	21.2	100	1
9	3275.659	60.9	28.9	6.0	37.2	58.6	74.0	15.4	100	1
10	3371.814	57.8	28.9	6.1	37.2	55.6	74.0	18.4	100	1
11	4509.639	52.1	30.9	7.1	36.6	53.5	74.0	20.5	100	1

< HDMI MODE _ (1 ~ 6) GHz _ Average >

RADIATED EMISSION

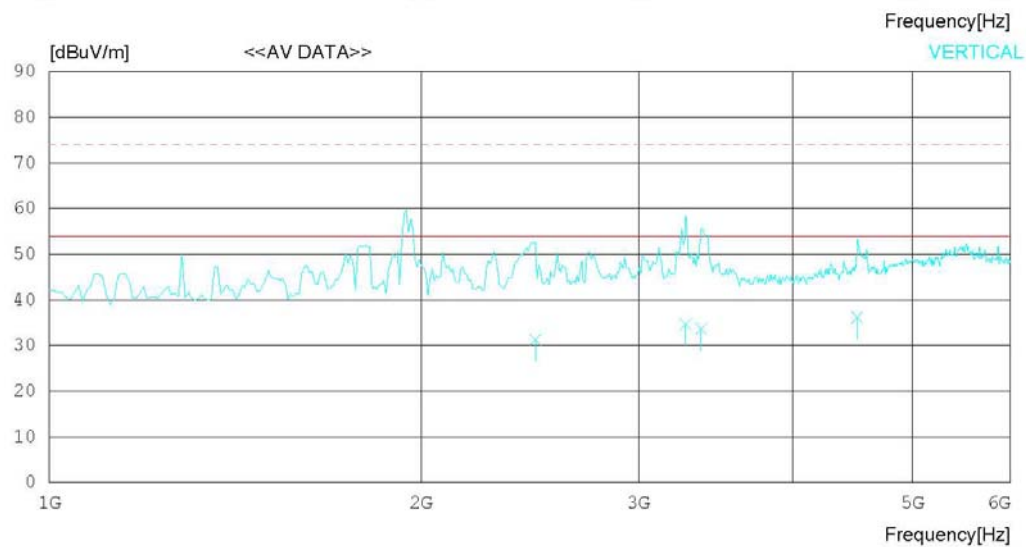
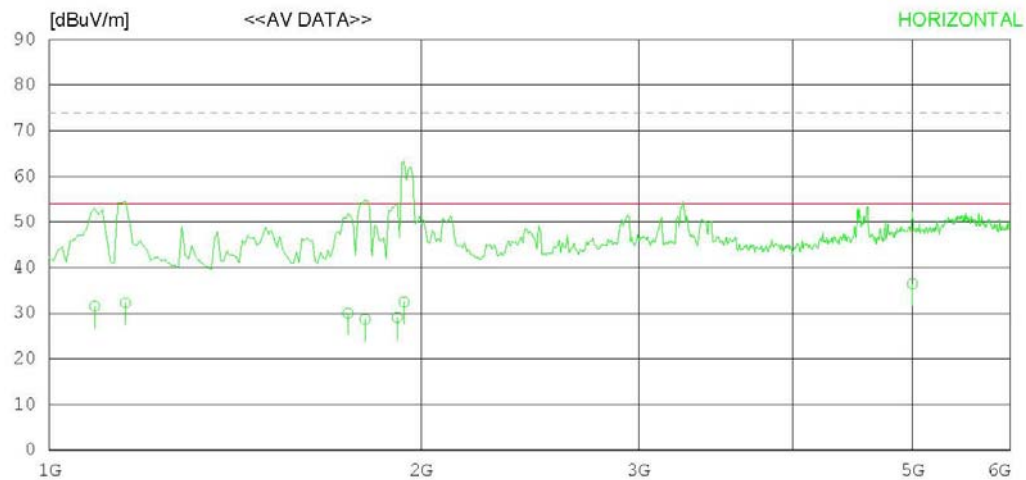
Date : 2013-03-08

Model Name : 32LN549E-UA
Model No. :
Serial No. :
Test Condition : HDMI

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi : 20 °C 39 % 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 : 2013-03-08

Model Name : 32LN549E-UA	Reference No. :
Model No. :	Power Supply : 120 V 60 Hz
Serial No. :	Temp/Humi : 20 °C 39 % 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	1088.141	42.6	24.0	3.5	38.6	31.5	54.0	22.5	100	358
2	1152.244	43.1	24.1	3.6	38.5	32.3	54.0	21.7	100	189
3	1745.192	38.8	24.6	4.4	37.8	30.0	54.0	24.0	100	222
4	1801.282	37.3	24.6	4.5	37.7	28.7	54.0	25.3	100	358
5	1913.461	37.6	24.6	4.6	37.7	29.1	54.0	24.9	100	191
6	1937.500	40.9	24.6	4.6	37.6	32.5	54.0	21.5	100	358
7	4998.414	32.8	32.5	7.9	36.7	36.5	54.0	17.5	100	220
----- Vertical -----										
8	2474.365	36.1	27.3	5.2	37.3	31.3	54.0	22.7	100	1
9	3275.659	37.0	28.9	6.0	37.2	34.7	54.0	19.3	100	1
10	3371.814	35.8	28.9	6.1	37.2	33.6	54.0	20.4	100	1
11	4509.639	34.8	30.9	7.1	36.6	36.2	54.0	17.8	100	1

< USB MODE _ 30 MHz ~ 1 GHz >

RADIATED EMISSION

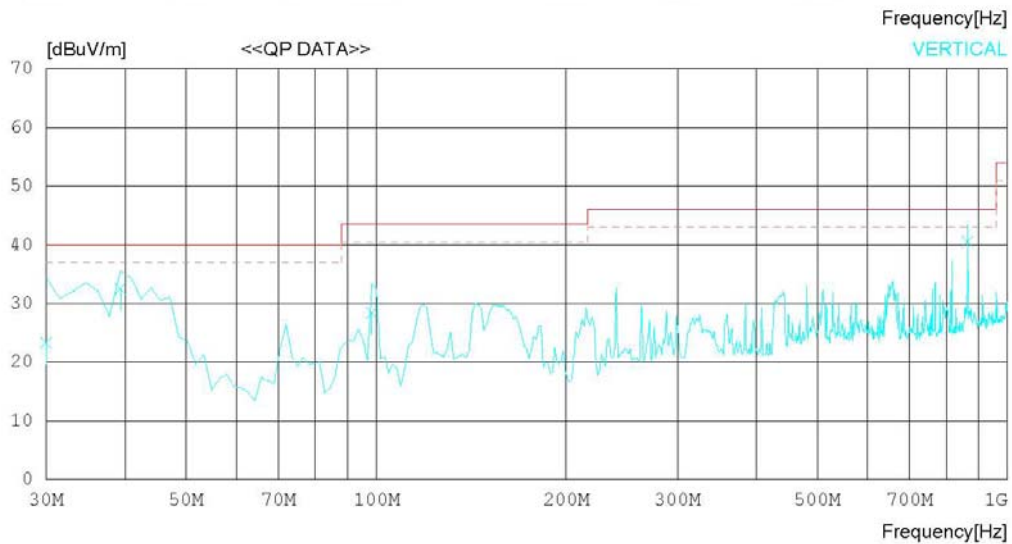
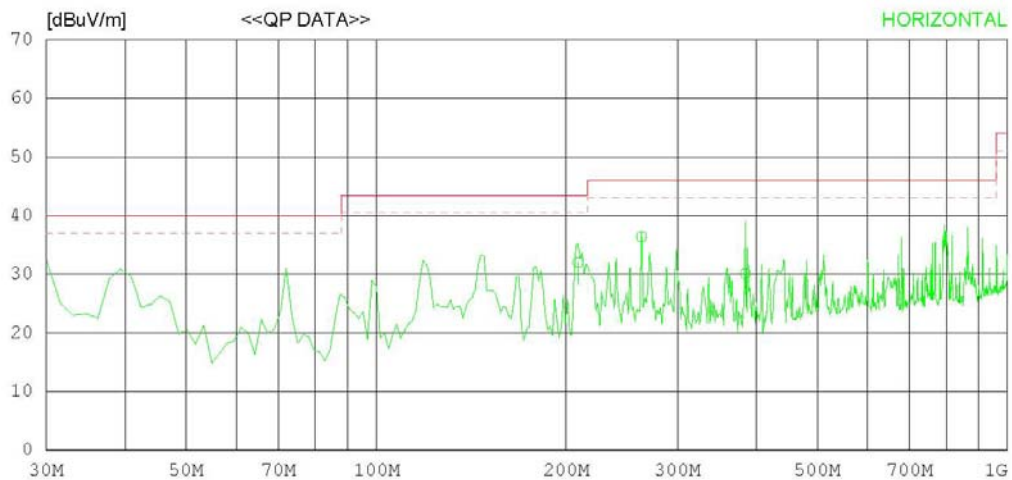
Date : 2013-03-08

Model Name : 32LN549E-UA
Model No. :
Serial No. :
Test Condition : USB

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi : 21 °C 40 % R.H
Operator :

Memo :

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



RADIATED EMISSION

Date : 2013-03-08

Model Name : 32LN549E-UA	Reference No. :
Model No. :	Power Supply : 120 V 60 Hz
Serial No. :	Temp/Humi : 21 'C 40 % 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	208.766	43.4	10.2	2.3	23.9	32.0	43.5	11.5	100	16
2	263.173	44.5	13.0	2.6	23.7	36.4	46.0	9.6	100	339
3	384.422	34.4	15.7	3.5	23.5	30.1	46.0	15.9	100	61
----- Vertical -----										
4	30.000	28.4	17.9	0.8	23.8	23.3	40.0	16.7	140	330
5	39.327	42.3	13.2	1.1	24.1	32.5	40.0	7.5	100	358
6	98.398	40.7	10.4	1.4	24.1	28.4	43.5	15.1	100	110
7	864.762	38.3	20.5	4.9	23.2	40.5	46.0	5.5	100	0

< USB MODE _ (1 ~ 6) GHz _ Peak >

RADIATED EMISSION

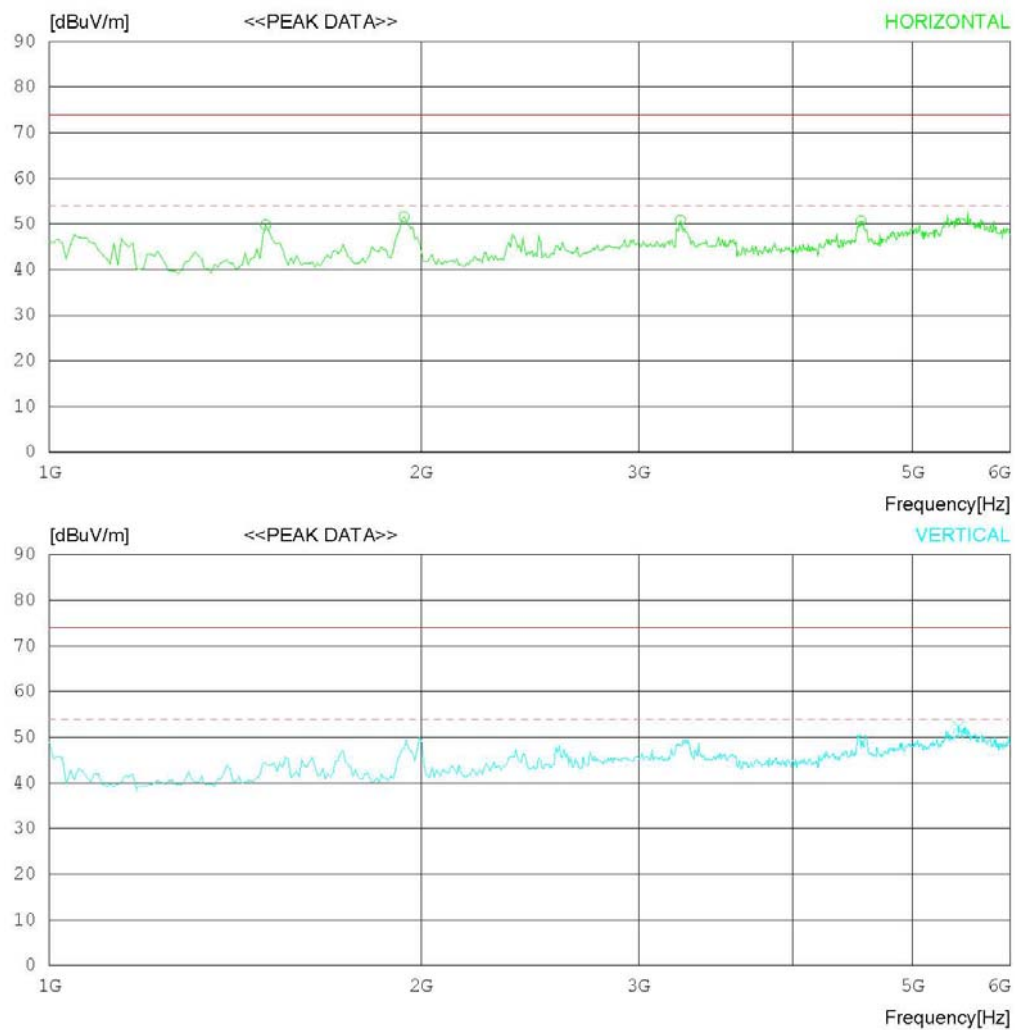
Date : 2013-03-08

Model Name : 32LN549E-UA
Model No. :
Serial No. :
Test Condition : USB

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi : 20 °C 39 % 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 : 2013-03-08

Model Name : 32LN549E-UA	Reference No. :
Model No. :	Power Supply : 120 V 60 Hz
Serial No. :	Temp/Humi : 20 'C 39 % 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	1496.795	59.0	24.6	4.1	37.9	49.8	74.0	24.2	100	165
2	1937.500	60.0	24.6	4.6	37.6	51.6	74.0	22.4	100	198
3	3243.607	53.3	28.9	5.9	37.2	50.9	74.0	23.1	100	209
4	4541.690	49.1	31.0	7.2	36.6	50.7	74.0	23.3	100	358
----- Vertical -----										
5	5447.125	45.9	34.8	7.9	36.3	52.3	74.0	21.7	100	272

< USB MODE _ (1 ~ 6) GHz _ Average >

RADIATED EMISSION

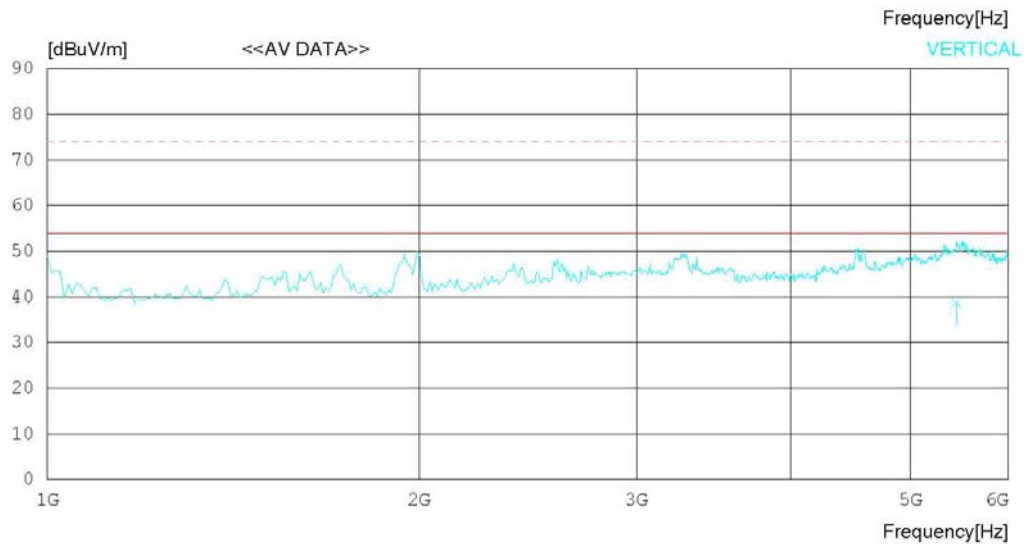
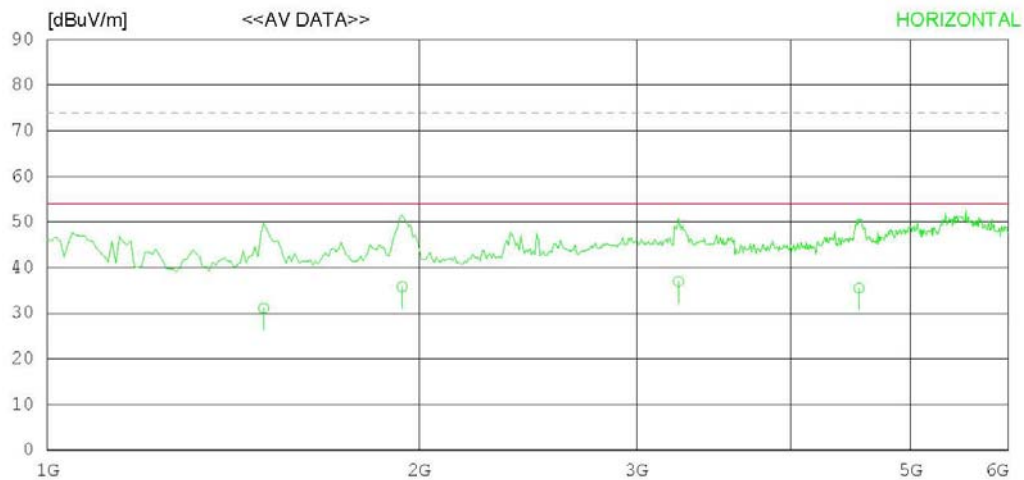
Date : 2013-03-08

Model Name : 32LN549E-UA
Model No. :
Serial No. :
Test Condition : USB

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi : 20 °C 39 % 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 : 2013-03-08

Model Name : 32LN549E-UA	Reference No. :
Model No. :	Power Supply : 120 V 60 Hz
Serial No. :	Temp/Humi : 20 °C 39 % 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	1496.795	40.3	24.6	4.1	37.9	31.1	54.0	22.9	100	165
2	1937.500	44.2	24.6	4.6	37.6	35.8	54.0	18.2	100	198
3	3243.607	39.4	28.9	5.9	37.2	37.0	54.0	17.0	100	209
4	4541.690	33.9	31.0	7.2	36.6	35.5	54.0	18.5	100	358
----- Vertical -----										
5	5447.125	32.3	34.8	7.9	36.3	38.7	54.0	15.3	100	272

Appendix 1

List of Test and Measurement Instruments

To facilitate inclusion on each page of the test equipment used for related tests, each item of test equipment is identified by the Test Laboratory.

1. Conducted Disturbance

Name of Instrument	Model No.	Manufacturer	Serial No.	Cal. Date	Next Cal. Date
☐ SPECTRUM ANALYZER	8591E	H/P	3649A05889	2013.02.28	2014.02.28
☐ RFI/FIELD INTENSITY METER	KNM-2402	KYORITSU	4N-170-3	2012.07.02	2013.07.02
☐ LISN	KNW-407	KYORITSU	8-317-8	2013.01.08	2014.01.08
☐ LISN	PMM L2-16B	NARDA S.T.S. / PMM	000WX20305	2012.07.25	2013.07.25
☐ 50 OHM TERMINATOR	CT-01	TME	N/A	2013.01.08	2014.01.08
☒ EMI TEST RECEIVER	ESCI	ROHDE & SCHWARZ	100364	2013.02.27	2014.02.27
☒ LISN	ESH2-Z5	ROHDE & SCHWARZ	828739/006	2012.09.18	2013.09.18
☒ LISN	LISN1600	TTI	197204	2012.07.02	2013.07.02
☒ 50 OHM TERMINATOR	CT-01	TME	N/A	2013.01.08	2014.01.08

2. Radiated Disturbance

Name of Instrument	Model No.	Manufacturer	Serial No.	Cal. Date	Next Cal. Date
☒ EMI TEST RECEIVER	ESU	ROHDE & SCHWARZ	100014	2013.01.08	2014.01.08
☒ BILOG ANTENNA	CBL6112B	SCHAFFNER	2737	2012.11.06	2014.11.06
☒ HORN ANTENNA	BBHA9120A	SCHWARZBECK	322	2012.05.15	2014.05.15
☒ AMPLIFIER	8447E	H/P	2945A02865	2013.01.08	2014.01.08
☒ PREAMPLIFIER	8449B	AGILENT	3008A01590	2013.02.27	2014.02.27
☐ SPECTRUM ANALYZER	E4411B	AGILENT	US41062735	2012.07.11	2013.07.11
☐ AMPLIFIER	8447D	AGILENT	2443A03690	2012.07.01	2013.07.01
☐ EMI TEST RECEIVER	ESCI	ROHDE & SCHWARZ	100364	2013.02.27	2014.02.27
☐ BICONICAL ANT.	VHA 9103	SCHWARZBECK	91032789	2012.04.10	2014.04.10
☐ LOG-PERIODIC ANT.	UHALP 9108A	SCHWARZBECK	590	2012.04.10	2014.04.10
☐ BICONICAL ANT.	VHA 9103	SCHWARZBECK	91031946	2012.03.12	2014.03.12
☐ LOG-PERIODIC ANT.	UHALP 9108-A1	SCHWARZBECK	1098	2012.03.12	2014.03.12
☐ AMPLIFIER	MLA-100K01-B01-26	TSJ	1252741	2013.02.28	2014.02.28

Appendix 2

Report Revision History

Revision Date	Description	Revised By	Revision Reviewed By
None	Original	N/A	N/A