

EMC TEST REPORT

Test item : LED TV Monitor
Model No. : 32LP645H-UH
Order No. : DEMC1303-00964
Date of receipt : 2013-03-12
Test duration : 2013-03-21 ~ 2013-03-25
Use of report : FCC CoC Marking
Date of Issue : 2013-03-26

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 : (17 ~ 19) °C,
Humidity : (37 ~ 39) % 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.

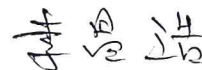
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Tested by:



Assistant Manager
HyungJun Kim

Reviewed by:



Technical 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.digitalemccom>

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.	32LP645H-UH
EUT Type	LED TV Monitor
Serial No	NONE
FCC ID	BEJ32LP645HUH
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

RGB (PC), HDMI (PC) supported mode

Resolution	Horizontal Frequency (KHz)	Vertical Frequency (Hz)
720x400	31.46	70.08
640x480	31.46	59.94
800x600	37.87	60.31
1024x768	48.36	60.00
1360x768	47.71	60.01
1280x1024	63.98	60.02
1920x1080	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	03-25	17	39
Radiated Disturbance	03-21	17	38
	03-22	19	37

4.3 Test result Summary

(1) Conducted Emission (HDMI MODE)

Frequency [MHz]	Phase	Result [dB μ V]	Detector	Limit [dB μ V]	Margin [dB]
0.16651	N	56.8	Quasi-Peak	65.1	8.3

(2) Radiated Emission (DSUB MODE)

Frequency [MHz]	Pol.	Result [dB(μ V/m)]	Detector	Limit [dB(μ V/m)]	Margin [dB]
190.112	H	40.5	Quasi-Peak	43.5	3.0

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, 1920x1080 Resolution
- HDMI MODE : 'H' characters scroll on the LCD TV screen, 1920x1080 Resolution
- USB MODE : Video on the LCD TV screen

5.3 Support Equipment Used

Unit	Model No.	Serial No.	Manufacturer	CABLE				Backshell	FCC ID
				Connect type	Length (m)	ferrite core	shield		
PC	VOSTRO460	6L7JXBX	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	SKG-3000UB	TAKB601231H	MONITEREY INTERNATIONAL CORP.	USB	1.8	Not use	Shield	Plastic	DOC
Mouse	MS111-T	CN-0KW2YH-71616-23T-0X4L	DELL INC.	USB	1.6	Not use	Shield	Plastic	DOC
CD/DVD PLAYER	DVP-NS92V	2001499	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	-	Not use Not use	-	-	DOC
PRINTER	EPSON Aculaser M1200	LWTZ181070	EPSON	POWER	1.8	-	Shield	Plastic	DOC
				USB	1.5		Non-shield		
HEADSET	COV903	NONE	COSY	STEREO	2.5	Not use	Non-shield	Plastic	DOC
REMOTE CONTROL	AKB73755414	N/A	HANSUNG ELECTRONICS CO., LTD.	-	-	-	-	-	-

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

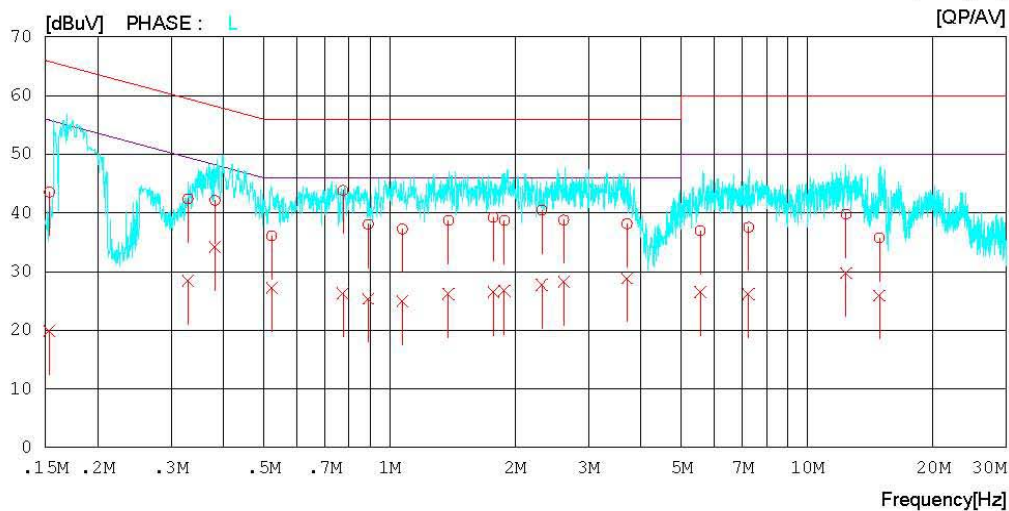
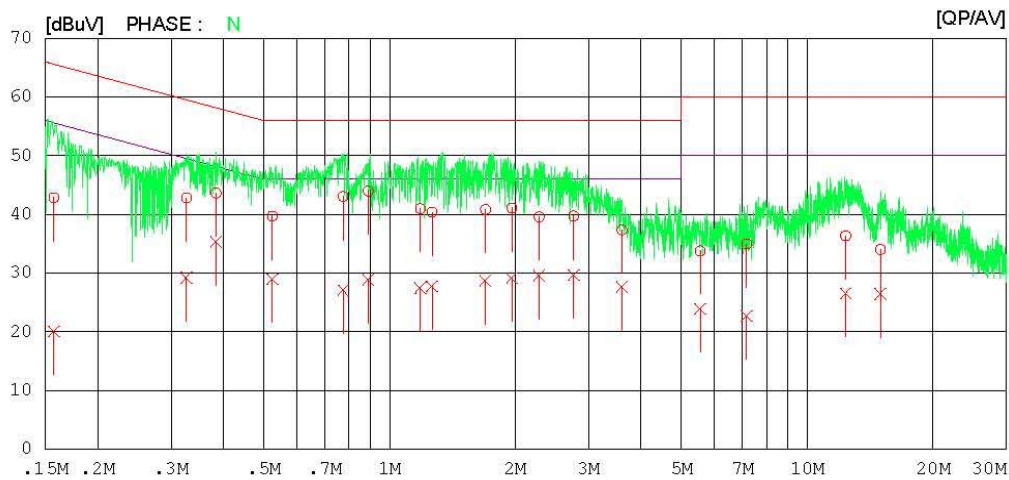
Digital EMC
Date : 2013-03-25

Model No. : 32LP645H-UH
Type :
Serial No. :
Test Condition : DSUB

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi. : 17 °C 39 % R.H
Operator :

Memo :

LIMIT : CISPR22_B QP
CISPR22_B AV



Results of Conducted Emission

Digital EMC
Date : 2013-03-25

Model No. : 32LP645H-UH
Type :
Serial No. :
Test Condition : DSUB

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi. : 17 °C 39 % 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	0.15721	42.8	20.0	0.1	42.9	20.1	65.6	55.6	22.7	35.5	N
2	0.32655	42.7	29.1	0.1	42.8	29.2	59.5	49.5	16.7	20.3	N
3	0.38435	43.5	35.2	0.1	43.6	35.3	58.2	48.2	14.6	12.9	N
4	0.52418	39.6	28.9	0.1	39.7	29.0	56.0	46.0	16.3	17.0	N
5	0.77454	43.0	27.0	0.1	43.1	27.1	56.0	46.0	12.9	18.9	N
6	0.88943	43.9	28.7	0.1	44.0	28.8	56.0	46.0	12.0	17.2	N
7	1.18550	40.9	27.3	0.1	41.0	27.4	56.0	46.0	15.0	18.6	N
8	1.26500	40.3	27.6	0.1	40.4	27.7	56.0	46.0	15.6	18.3	N
9	1.69850	40.7	28.6	0.1	40.8	28.7	56.0	46.0	15.2	17.3	N
10	1.96450	41.0	29.0	0.1	41.1	29.1	56.0	46.0	14.9	16.9	N
11	2.28400	39.5	29.4	0.1	39.6	29.5	56.0	46.0	16.4	16.5	N
12	2.75900	39.6	29.6	0.1	39.7	29.7	56.0	46.0	16.3	16.3	N
13	3.60300	37.2	27.6	0.1	37.3	27.7	56.0	46.0	18.7	18.3	N
14	5.54650	33.6	23.7	0.2	33.8	23.9	60.0	50.0	26.2	26.1	N
15	7.16350	34.7	22.5	0.2	34.9	22.7	60.0	50.0	25.1	27.3	N
16	12.36600	36.0	26.3	0.3	36.3	26.6	60.0	50.0	23.7	23.4	N
17	14.98050	33.7	26.2	0.3	34.0	26.5	60.0	50.0	26.0	23.5	N
18	0.15344	43.4	19.8	0.1	43.5	19.9	65.8	55.8	22.3	35.9	L
19	0.32934	42.3	28.3	0.1	42.4	28.4	59.5	49.5	17.1	21.1	L
20	0.38231	42.0	34.1	0.1	42.1	34.2	58.2	48.2	16.1	14.0	L
21	0.52238	36.0	27.1	0.1	36.1	27.2	56.0	46.0	19.9	18.8	L
22	0.77349	43.7	26.2	0.1	43.8	26.3	56.0	46.0	12.2	19.7	L
23	0.88984	38.0	25.2	0.1	38.1	25.3	56.0	46.0	17.9	20.7	L
24	1.07400	37.1	24.9	0.1	37.2	25.0	56.0	46.0	18.8	21.0	L
25	1.38350	38.6	26.1	0.1	38.7	26.2	56.0	46.0	17.3	19.8	L
26	1.77300	39.1	26.4	0.1	39.2	26.5	56.0	46.0	16.8	19.5	L
27	1.88400	38.6	26.6	0.1	38.7	26.7	56.0	46.0	17.3	19.3	L
28	2.31500	40.3	27.6	0.1	40.4	27.7	56.0	46.0	15.6	18.3	L
29	2.61550	38.7	28.2	0.1	38.8	28.3	56.0	46.0	17.2	17.7	L
30	3.70400	38.0	28.7	0.1	38.1	28.8	56.0	46.0	17.9	17.2	L
31	5.54750	36.8	26.3	0.2	37.0	26.5	60.0	50.0	23.0	23.5	L
32	7.23900	37.4	26.0	0.2	37.6	26.2	60.0	50.0	22.4	23.8	L
33	12.39050	39.5	29.5	0.3	39.8	29.8	60.0	50.0	20.2	20.2	L
34	14.89400	35.5	25.6	0.3	35.8	25.9	60.0	50.0	24.2	24.1	L

< HDMI MODE >



Results of Conducted Emission

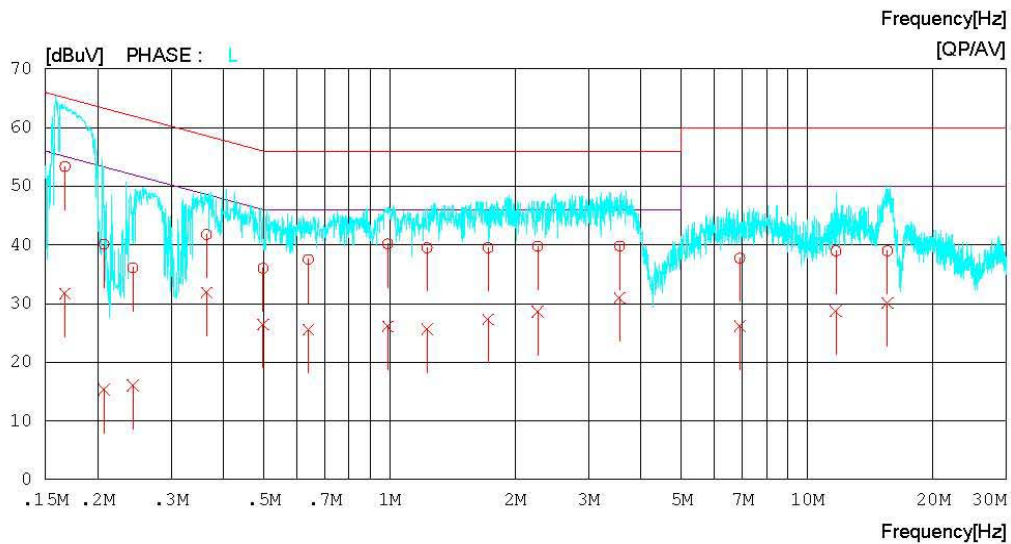
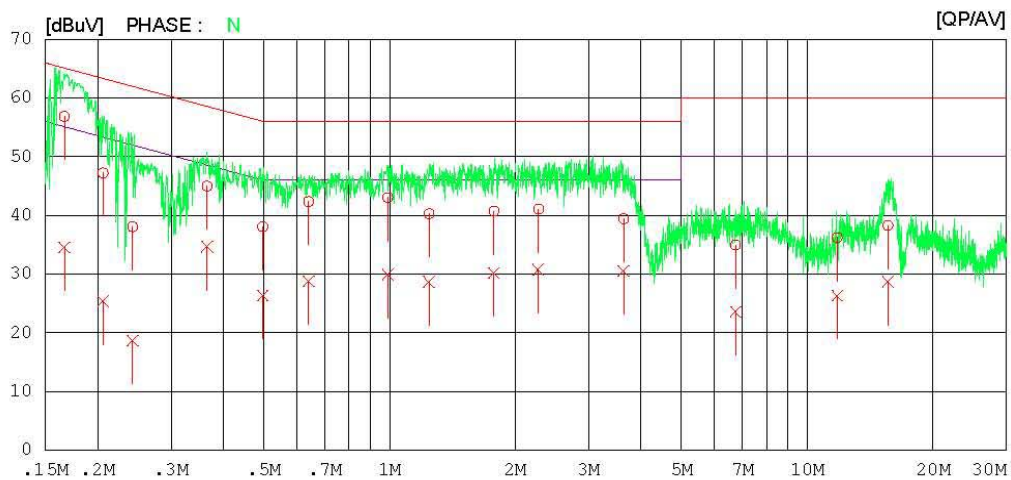
Digital EMC
Date : 2013-03-25

Model No. : 32LP645H-UH
Type :
Serial No. :
Test Condition : HDMI

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi. : 17 °C 39 % R.H
Operator :

Memo :

LIMIT : CISPR22_B QP
CISPR22_B AV



Results of Conducted Emission

Digital EMC
Date : 2013-03-25

Model No. : 32LP645H-UH
Type :
Serial No. :
Test Condition : HDMI

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi. : 17 °C 39 % 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	0.16651	56.7	34.4	0.1	56.8	34.5	65.1	55.1	8.3	20.6	N
2	0.20620	47.1	25.3	0.1	47.2	25.4	63.4	53.4	16.2	28.0	N
3	0.24274	38.0	18.6	0.1	38.1	18.7	62.0	52.0	23.9	33.3	N
4	0.36626	44.9	34.6	0.1	45.0	34.7	58.6	48.6	13.6	13.9	N
5	0.49733	38.0	26.2	0.1	38.1	26.3	56.0	46.0	17.9	19.7	N
6	0.64036	42.3	28.7	0.1	42.4	28.8	56.0	46.0	13.6	17.2	N
7	0.99106	42.9	29.9	0.1	43.0	30.0	56.0	46.0	13.0	16.0	N
8	1.24350	40.2	28.6	0.1	40.3	28.7	56.0	46.0	15.7	17.3	N
9	1.77750	40.6	30.1	0.1	40.7	30.2	56.0	46.0	15.3	15.8	N
10	2.27300	41.0	30.7	0.1	41.1	30.8	56.0	46.0	14.9	15.2	N
11	3.63700	39.3	30.4	0.1	39.4	30.5	56.0	46.0	16.6	15.5	N
12	6.73950	34.7	23.4	0.2	34.9	23.6	60.0	50.0	25.1	26.4	N
13	11.80750	35.9	26.0	0.3	36.2	26.3	60.0	50.0	23.8	23.7	N
14	15.61150	38.0	28.4	0.3	38.3	28.7	60.0	50.0	21.7	21.3	N
15	0.16715	53.3	31.6	0.1	53.4	31.7	65.1	55.1	11.7	23.4	L
16	0.20743	40.0	15.3	0.1	40.1	15.4	63.3	53.3	23.2	37.9	L
17	0.24310	36.0	16.0	0.1	36.1	16.1	62.0	52.0	25.9	35.9	L
18	0.36481	41.7	31.8	0.1	41.8	31.9	58.6	48.6	16.8	16.7	L
19	0.49769	35.9	26.3	0.1	36.0	26.4	56.0	46.0	20.0	19.6	L
20	0.63919	37.4	25.5	0.1	37.5	25.6	56.0	46.0	18.5	20.4	L
21	0.99065	40.1	26.0	0.1	40.2	26.1	56.0	46.0	15.8	19.9	L
22	1.23150	39.4	25.5	0.1	39.5	25.6	56.0	46.0	16.5	20.4	L
23	1.72300	39.4	27.2	0.1	39.5	27.3	56.0	46.0	16.5	18.7	L
24	2.26400	39.7	28.5	0.1	39.8	28.6	56.0	46.0	16.2	17.4	L
25	3.55750	39.7	30.9	0.1	39.8	31.0	56.0	46.0	16.2	15.0	L
26	6.90050	37.5	26.0	0.2	37.7	26.2	60.0	50.0	22.3	23.8	L
27	11.71200	38.7	28.5	0.3	39.0	28.8	60.0	50.0	21.0	21.2	L
28	15.56500	38.7	29.8	0.3	39.0	30.1	60.0	50.0	21.0	19.9	L

< USB MODE >



Results of Conducted Emission

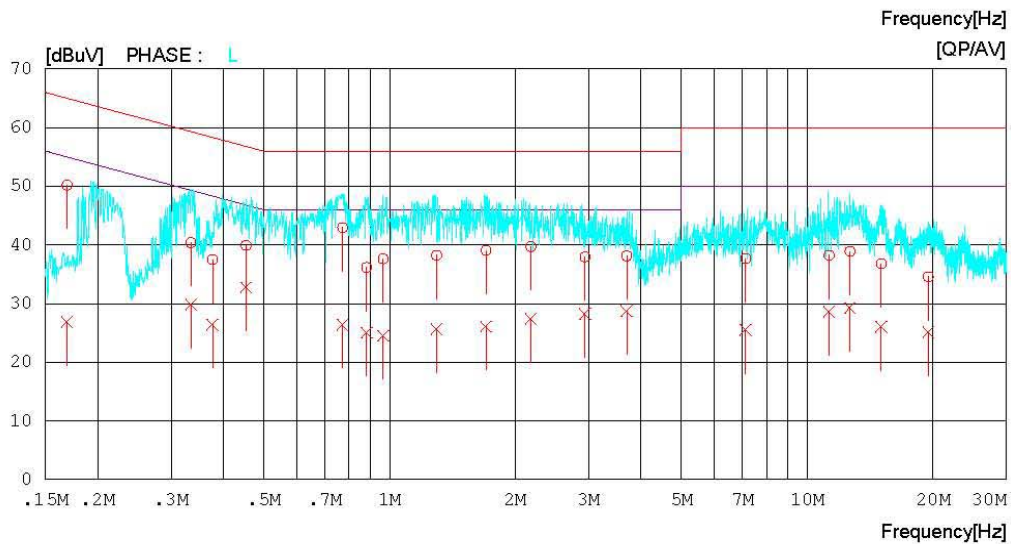
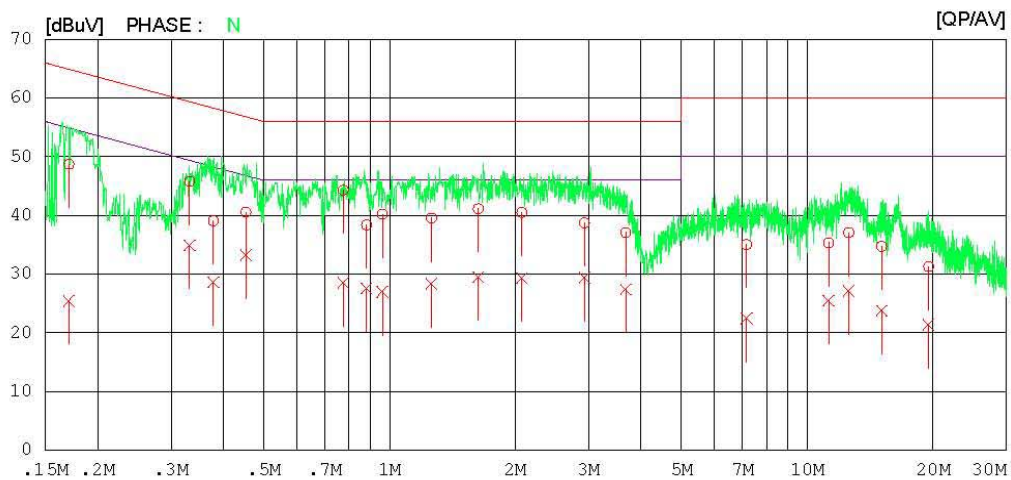
Digital EMC
Date : 2013-03-25

Model No. : 32LP645H-UH
Type :
Serial No. :
Test Condition : USB

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi. : 17 °C 39 % R.H
Operator :

Memo :

LIMIT : CISPR22_B QP
CISPR22_B AV



Results of Conducted Emission

Digital EMC
Date : 2013-03-25

Model No. : 32LP645H-UH
Type :
Serial No. :
Test Condition : USB

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi. : 17 °C 39 % 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	0.17075	48.6	25.3	0.1	48.7	25.4	64.9	54.9	16.2	29.5	N
2	0.33209	45.7	34.8	0.1	45.8	34.9	59.4	49.4	13.6	14.5	N
3	0.37851	39.0	28.5	0.1	39.1	28.6	58.3	48.3	19.2	19.7	N
4	0.45350	40.5	33.1	0.1	40.6	33.2	56.8	46.8	16.2	13.6	N
5	0.77534	44.2	28.5	0.1	44.3	28.6	56.0	46.0	11.7	17.4	N
6	0.88071	38.3	27.5	0.1	38.4	27.6	56.0	46.0	17.6	18.4	N
7	0.96125	40.1	26.9	0.1	40.2	27.0	56.0	46.0	15.8	19.0	N
8	1.26050	39.4	28.2	0.1	39.5	28.3	56.0	46.0	16.5	17.7	N
9	1.63050	41.0	29.4	0.1	41.1	29.5	56.0	46.0	14.9	16.5	N
10	2.07250	40.4	29.2	0.1	40.5	29.3	56.0	46.0	15.5	16.7	N
11	2.93000	38.6	29.3	0.1	38.7	29.4	56.0	46.0	17.3	16.6	N
12	3.68050	37.0	27.3	0.1	37.1	27.4	56.0	46.0	18.9	18.6	N
13	7.16100	34.8	22.2	0.2	35.0	22.4	60.0	50.0	25.0	27.6	N
14	11.26100	35.1	25.2	0.3	35.4	25.5	60.0	50.0	24.6	24.5	N
15	12.57400	36.8	26.9	0.3	37.1	27.2	60.0	50.0	22.9	22.8	N
16	15.08350	34.4	23.5	0.3	34.7	23.8	60.0	50.0	25.3	26.2	N
17	19.53550	30.9	21.0	0.4	31.3	21.4	60.0	50.0	28.7	28.6	N
18	0.16918	50.1	26.8	0.1	50.2	26.9	65.0	55.0	14.8	28.1	L
19	0.33481	40.3	29.7	0.1	40.4	29.8	59.3	49.3	18.9	19.5	L
20	0.37700	37.4	26.3	0.1	37.5	26.4	58.3	48.3	20.8	21.9	L
21	0.45368	39.8	32.7	0.1	39.9	32.8	56.8	46.8	16.9	14.0	L
22	0.77231	42.8	26.3	0.1	42.9	26.4	56.0	46.0	13.1	19.6	L
23	0.88146	36.1	24.9	0.1	36.2	25.0	56.0	46.0	19.8	21.0	L
24	0.96544	37.5	24.4	0.1	37.6	24.5	56.0	46.0	18.4	21.5	L
25	1.29700	38.1	25.5	0.1	38.2	25.6	56.0	46.0	17.8	20.4	L
26	1.70300	39.0	26.0	0.1	39.1	26.1	56.0	46.0	16.9	19.9	L
27	2.18000	39.6	27.3	0.1	39.7	27.4	56.0	46.0	16.3	18.6	L
28	2.93850	37.8	28.1	0.1	37.9	28.2	56.0	46.0	18.1	17.8	L
29	3.69900	38.0	28.6	0.1	38.1	28.7	56.0	46.0	17.9	17.3	L
30	7.12050	37.5	25.3	0.2	37.7	25.5	60.0	50.0	22.3	24.5	L
31	11.28600	37.9	28.3	0.3	38.2	28.6	60.0	50.0	21.8	21.4	L
32	12.65950	38.6	28.9	0.3	38.9	29.2	60.0	50.0	21.1	20.8	L
33	15.04250	36.5	25.7	0.3	36.8	26.0	60.0	50.0	23.2	24.0	L
34	19.49450	34.2	24.8	0.4	34.6	25.2	60.0	50.0	25.4	24.8	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

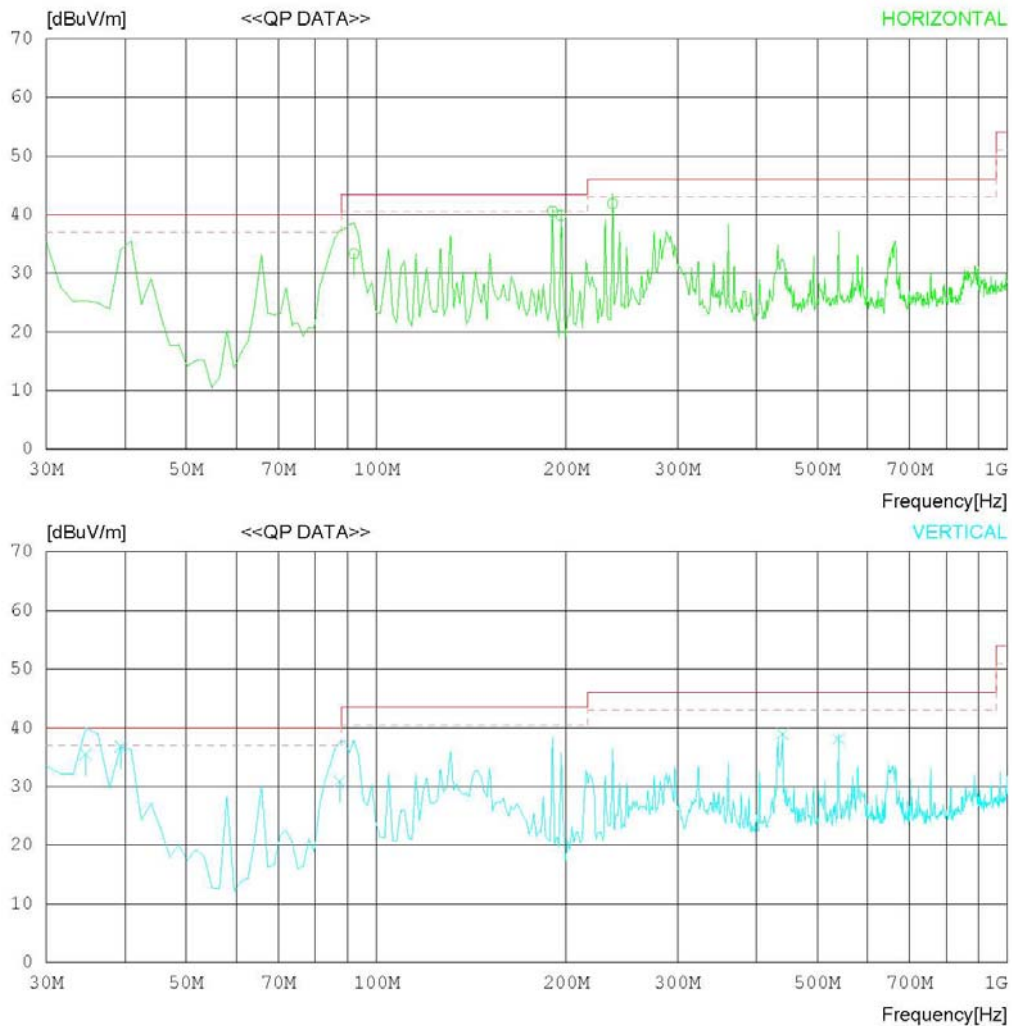
Date : 2013-03-21

Model Name : 32LP645H-UH
Model No. :
Serial No. :
Test Condition : DSUB

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi : 17 °C 38 % R.H
Operator :

Memo :

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



RADIATED EMISSION

Date : 2013-03-21

Model Name : 32LP645H-UH	Reference No. :
Model No. :	Power Supply : 120 V 60 Hz
Serial No. :	Temp/Humi : 17 °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	92.180	46.6	9.4	1.5	24.2	33.3	43.5	10.2	352	64
2	190.112	52.6	9.7	2.2	24.0	40.5	43.5	3.0	168	326
3	196.330	51.8	9.7	2.3	24.0	39.8	43.5	3.7	177	262
4	236.747	51.3	11.9	2.5	23.8	41.9	46.0	4.1	127	1

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

RADIATED EMISSION

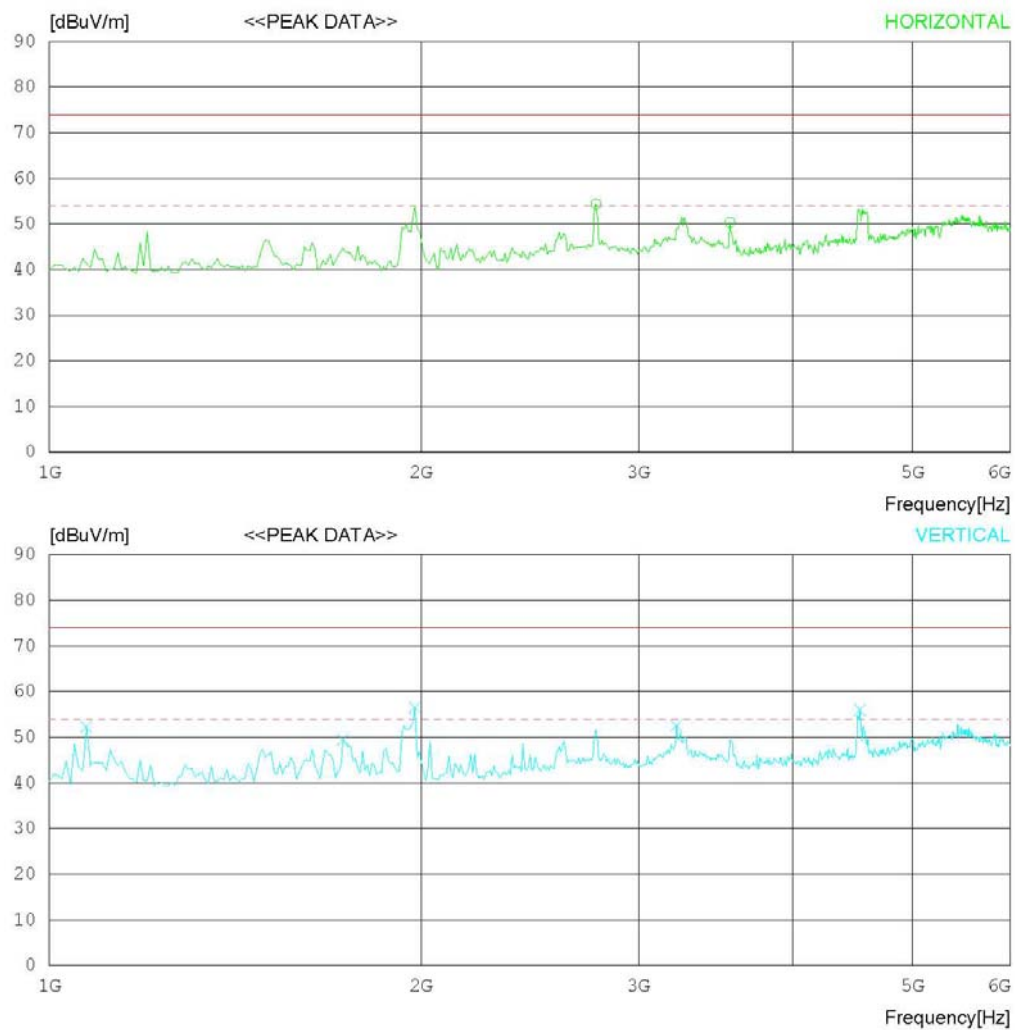
Date : 2013-03-22

Model Name : 32LP645H-UH
Model No. :
Serial No. :
Test Condition : DSUB

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi : 19 °C 37 % 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 : 2013-03-22

Model Name	: 32LP645H-UH	Reference No.	:
Model No.	:	Power Supply	: 120 V 60 Hz
Serial No.	:	Temp/Humi	: 19 °C 37 % 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	2770.844	57.9	28.3	5.5	37.3	54.4	74.0	19.6	100	358
2	3556.112	52.1	29.0	6.3	37.0	50.4	74.0	23.6	100	143
----- Vertical -----										
3	1072.115	63.6	24.0	3.4	38.7	52.3	74.0	21.7	100	189
4	1729.166	58.3	24.6	4.4	37.8	49.5	74.0	24.5	100	227
5	1977.564	64.8	24.6	4.7	37.6	56.5	74.0	17.5	100	1
6	3219.568	55.0	28.9	5.9	37.2	52.6	74.0	21.4	100	200
7	4533.677	54.4	31.0	7.2	36.6	56.0	74.0	18	100	1

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

RADIATED EMISSION

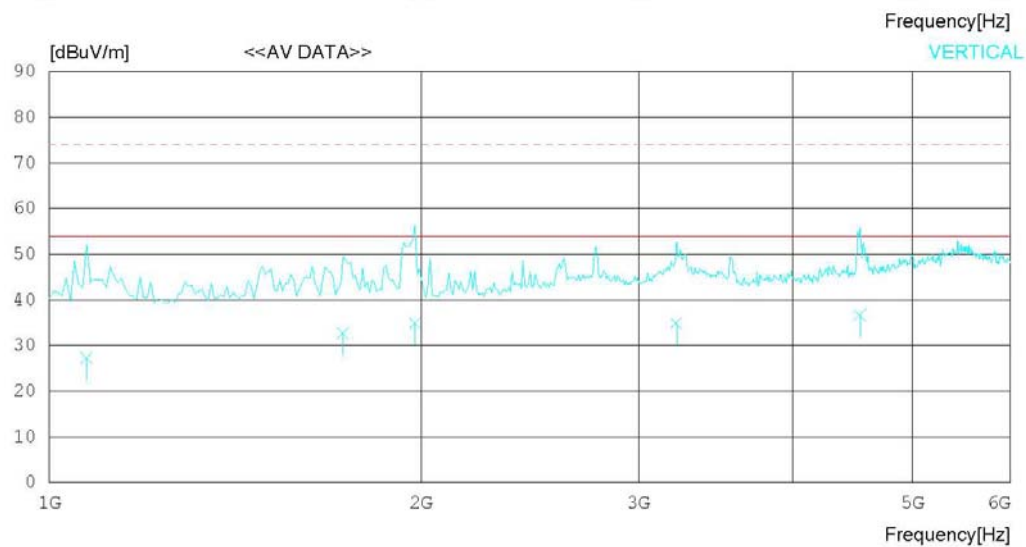
Date : 2013-03-22

Model Name : 32LP645H-UH
Model No. :
Serial No. :
Test Condition : DSUB

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi : 19 °C 37 % 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 : 2013-03-22

Model Name : 32LP645H-UH	Reference No. :
Model No. :	Power Supply : 120 V 60 Hz
Serial No. :	Temp/Humi : 19 °C 37 % 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	2770.844	39.4	28.3	5.5	37.3	35.9	54.0	18.1	100	358
2	3556.112	35.0	29.0	6.3	37.0	33.3	54.0	20.7	100	143
----- Vertical -----										
3	1072.115	38.6	24.0	3.4	38.7	27.3	54.0	26.7	100	189
4	1729.166	41.5	24.6	4.4	37.8	32.7	54.0	21.3	100	227
5	1977.564	43.2	24.6	4.7	37.6	34.9	54.0	19.1	100	1
6	3219.568	37.3	28.9	5.9	37.2	34.9	54.0	19.1	100	200
7	4533.677	35.1	31.0	7.2	36.6	36.7	54.0	17.3	100	1

< HDMI MODE_30 MHz ~ 1 GHz >

RADIATED EMISSION

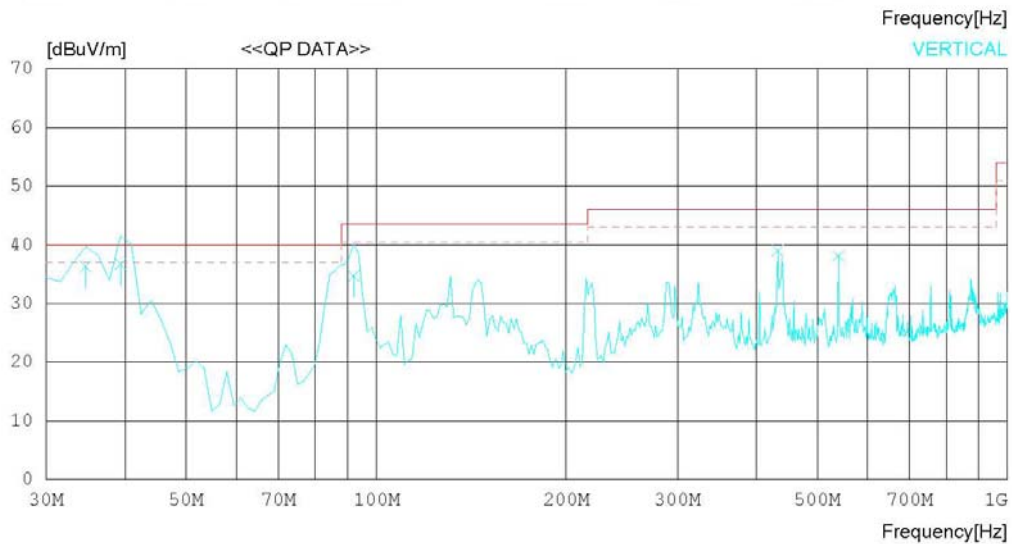
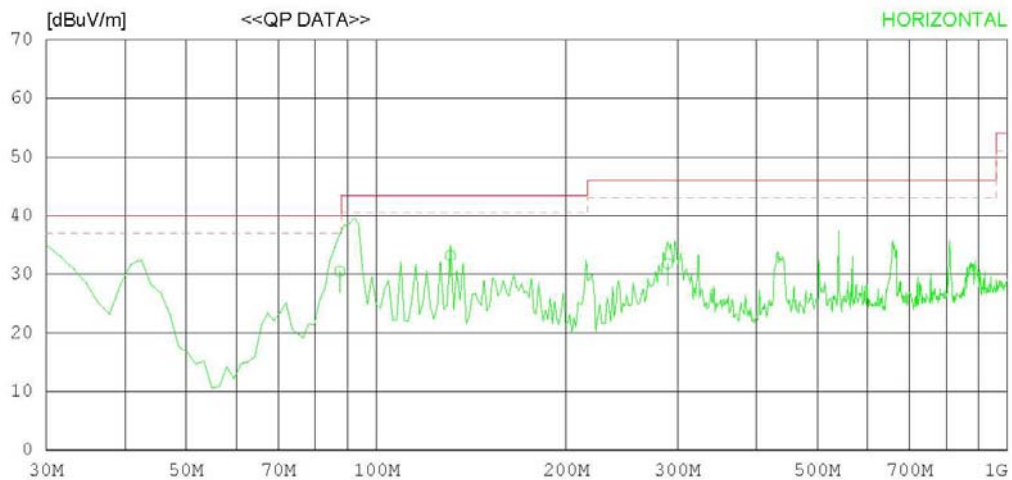
Date : 2013-03-21

Model Name : 32LP645H-UH
Model No. :
Serial No. :
Test Condition : HDMI

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi : 17 'C 38 % R.H
Operator :

Memo :

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



RADIATED EMISSION

Date : 2013-03-21

Model Name : 32LP645H-UH	Reference No. :
Model No. :	Power Supply : 120 V 60 Hz
Serial No. :	Temp/Humi : 17 °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	87.516	44.6	8.6	1.5	24.2	30.5	40.0	9.5	247	358
2	131.042	44.4	11.5	1.5	24.2	33.2	43.5	10.3	200	1
3	289.599	39.2	13.5	2.8	23.7	31.8	46.0	14.2	107	214
----- Vertical -----										
4	34.663	43.7	15.4	1.1	23.9	36.3	40.0	3.7	100	207
5	39.327	46.5	13.2	1.1	24.1	36.7	40.0	3.3	100	211
6	92.180	48.0	9.4	1.5	24.2	34.7	43.5	8.8	208	358
7	432.611	42.4	16.5	3.5	23.4	39.0	46.0	7.0	155	358
8	539.870	39.6	17.9	3.8	23.2	38.1	46.0	7.9	100	248

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

RADIATED EMISSION

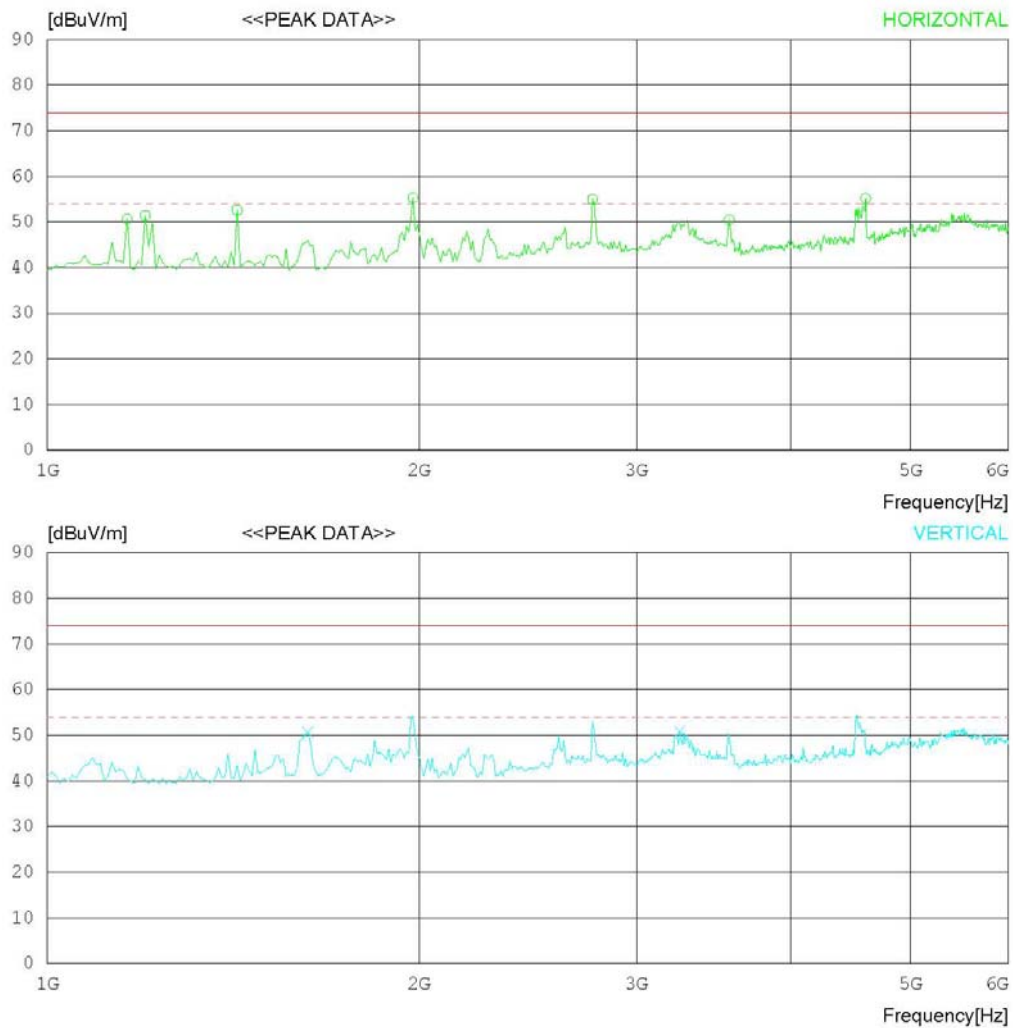
Date : 2013-03-22

Model Name : 32LP645H-UH
Model No. :
Serial No. :
Test Condition : HDMI

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi : 19 °C 37 % 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 : 2013-03-22

Model Name : 32LP645H-UH	Reference No. :
Model No. :	Power Supply : 120 V 60 Hz
Serial No. :	Temp/Humi : 19 °C 37 % 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	1160.256	61.5	24.1	3.6	38.5	50.7	74.0	23.3	100	358
2	1200.320	62.0	24.2	3.6	38.4	51.4	74.0	22.6	100	310
3	1424.679	62.1	24.5	4.0	38.0	52.6	74.0	21.4	100	183
4	1977.564	63.6	24.6	4.7	37.6	55.3	74.0	18.7	100	358
5	2762.831	58.5	28.3	5.5	37.3	55.0	74.0	19	100	225
6	3564.125	52.2	29.0	6.3	37.0	50.5	74.0	23.5	100	358
7	4597.779	53.3	31.2	7.3	36.6	55.2	74.0	18.8	100	358
----- Vertical -----										
8	1625.000	59.7	24.6	4.2	37.8	50.7	74.0	23.3	100	212
9	3251.620	53.3	28.9	5.9	37.2	50.9	74.0	23.1	100	1

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

RADIATED EMISSION

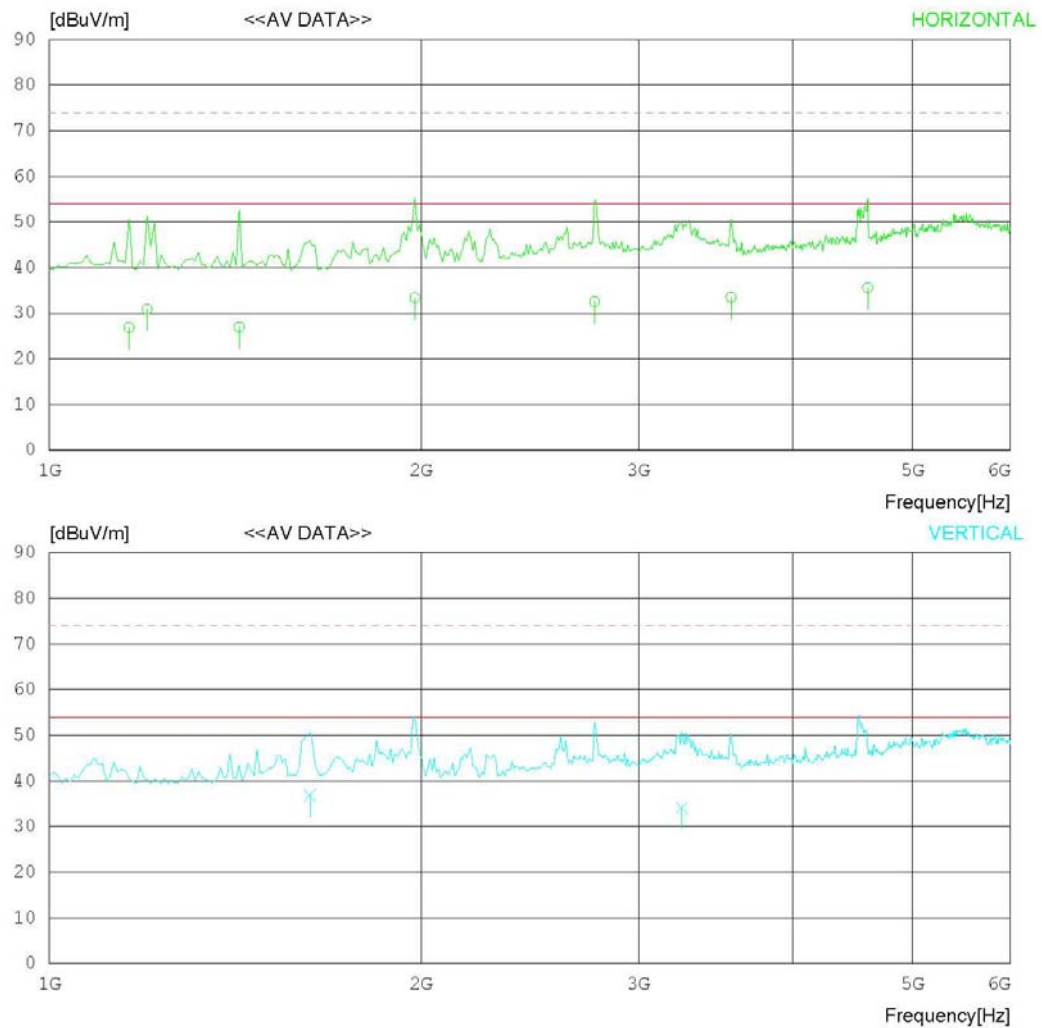
Date : 2013-03-22

Model Name : 32LP645H-UH
Model No. :
Serial No. :
Test Condition : HDMI

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi : 19 °C 37 % 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 : 2013-03-22

Model Name : 32LP645H-UH	Reference No. :
Model No. :	Power Supply : 120 V 60 Hz
Serial No. :	Temp/Humi : 19 °C 37 % 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	1160.256	37.7	24.1	3.6	38.5	26.9	54.0	27.1	100	358
2	1200.320	41.5	24.2	3.6	38.4	30.9	54.0	23.1	100	310
3	1424.679	36.5	24.5	4.0	38.0	27.0	54.0	27.0	100	183
4	1977.564	41.7	24.6	4.7	37.6	33.4	54.0	20.6	100	358
5	2762.831	36.1	28.3	5.5	37.3	32.6	54.0	21.4	100	225
6	3564.125	35.2	29.0	6.3	37.0	33.5	54.0	20.5	100	358
7	4597.779	33.7	31.2	7.3	36.6	35.6	54.0	18.4	100	358
----- Vertical -----										
8	1625.000	45.8	24.6	4.2	37.8	36.8	54.0	17.2	100	212
9	3251.620	36.6	28.9	5.9	37.2	34.2	54.0	19.8	100	1

< USB MODE_30 MHz ~ 1 GHz >

RADIATED EMISSION

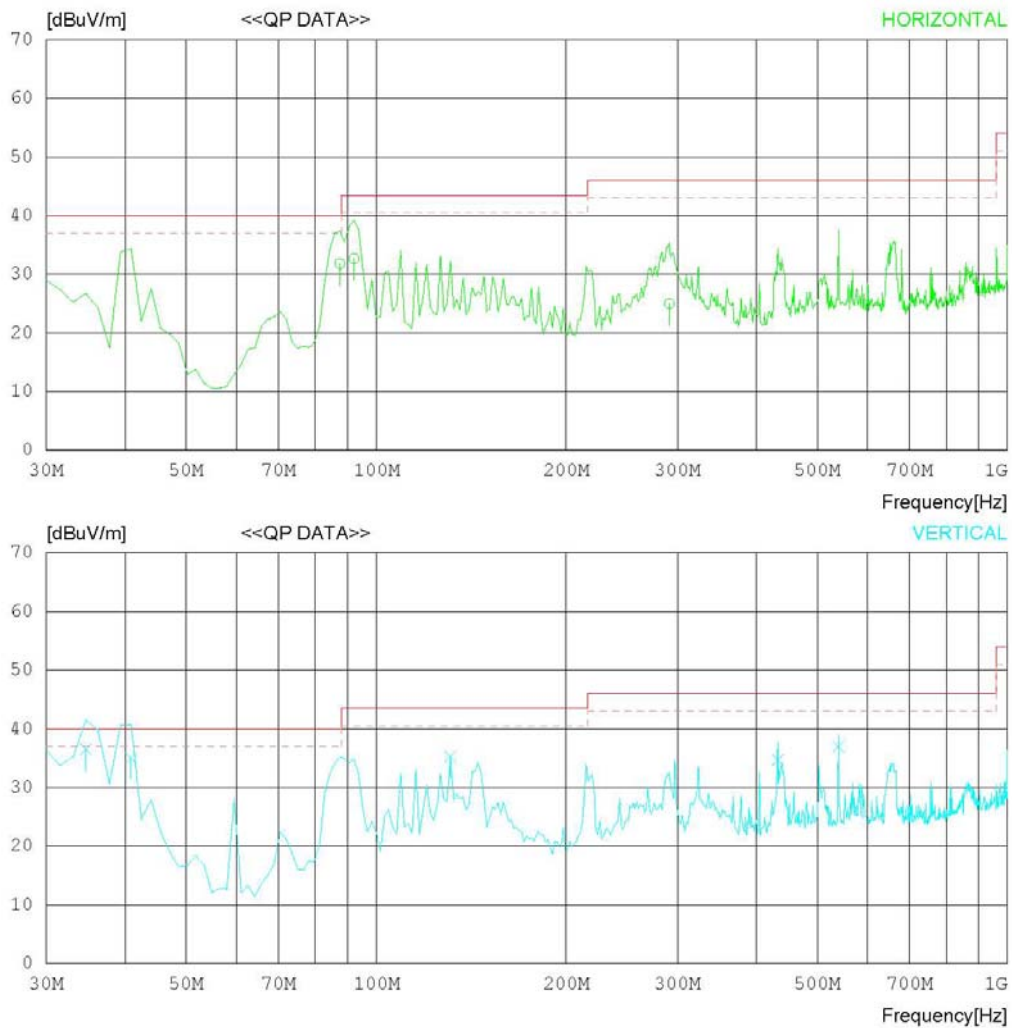
Date : 2013-03-22

Model Name : 32LP645H-UH
Model No. :
Serial No. :
Test Condition : USB

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi : 17 'C 38 % R.H
Operator :

Memo :

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



RADIATED EMISSION

Date : 2013-03-22

Model Name : 32LP645H-UH
Model No. :
Serial No. :
Test Condition : USB

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi : 17 °C 38 % 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	87.516	45.9	8.6	1.5	24.2	31.8	40.0	8.2	364	358
2	92.180	46.0	9.4	1.5	24.2	32.7	43.5	10.8	309	358
3	291.154	32.2	13.6	2.8	23.6	25.0	46.0	21.0	100	358
----- Vertical -----										
4	34.663	43.9	15.4	1.1	23.9	36.5	40.0	3.5	100	1
5	40.881	45.2	13.0	1.1	24.2	35.1	40.0	4.9	100	1
6	131.042	46.5	11.5	1.5	24.2	35.3	43.5	8.2	100	1
7	432.611	38.1	16.5	3.5	23.4	34.7	46.0	11.3	158	358
8	539.870	38.5	17.9	3.8	23.2	37.0	46.0	9.0	100	1

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

RADIATED EMISSION

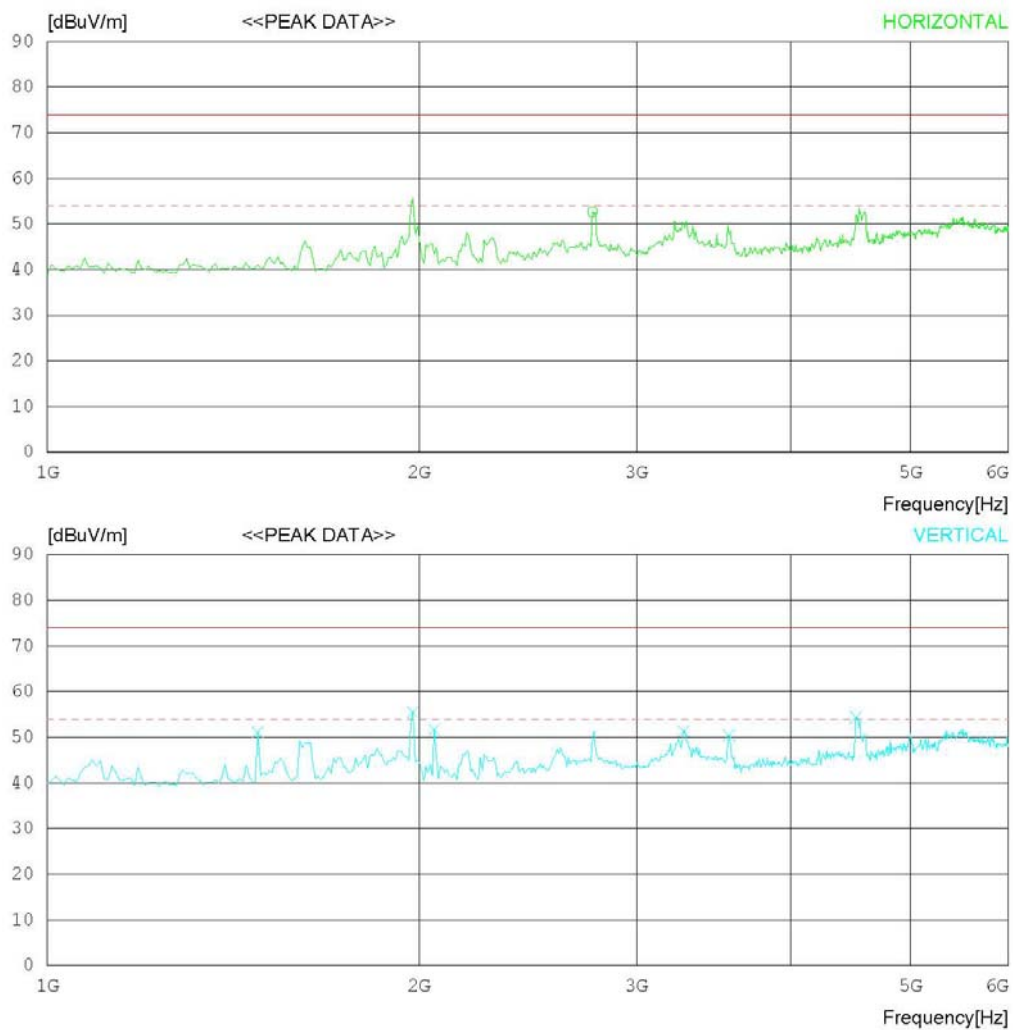
Date : 2013-03-22

Model Name : 32LP645H-UH
Model No. :
Serial No. :
Test Condition : USB

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi : 19 °C 37 % 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 : 2013-03-22

Model Name : 32LP645H-UH	Reference No. :
Model No. :	Power Supply : 120 V 60 Hz
Serial No. :	Temp/Humi : 19 °C 37 % 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	2762.831	56.2	28.3	5.5	37.3	52.7	74.0	21.3	100	222
----- Vertical -----										
2	1480.769	60.4	24.6	4.0	37.9	51.1	74.0	22.9	100	358
3	1977.564	63.8	24.6	4.7	37.6	55.5	74.0	18.5	100	220
4	2057.692	59.6	24.9	4.8	37.6	51.7	74.0	22.3	100	1
5	3275.659	53.7	28.9	6.0	37.2	51.4	74.0	22.6	100	209
6	3564.125	52.2	29.0	6.3	37.0	50.5	74.0	23.5	100	1
7	4517.652	52.9	31.0	7.1	36.6	54.4	74.0	19.6	100	1

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

RADIATED EMISSION

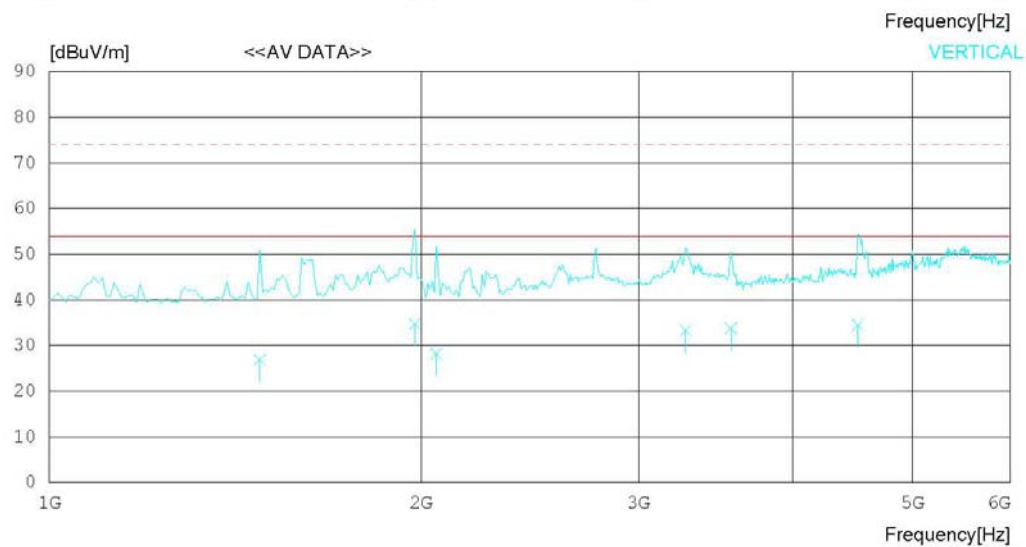
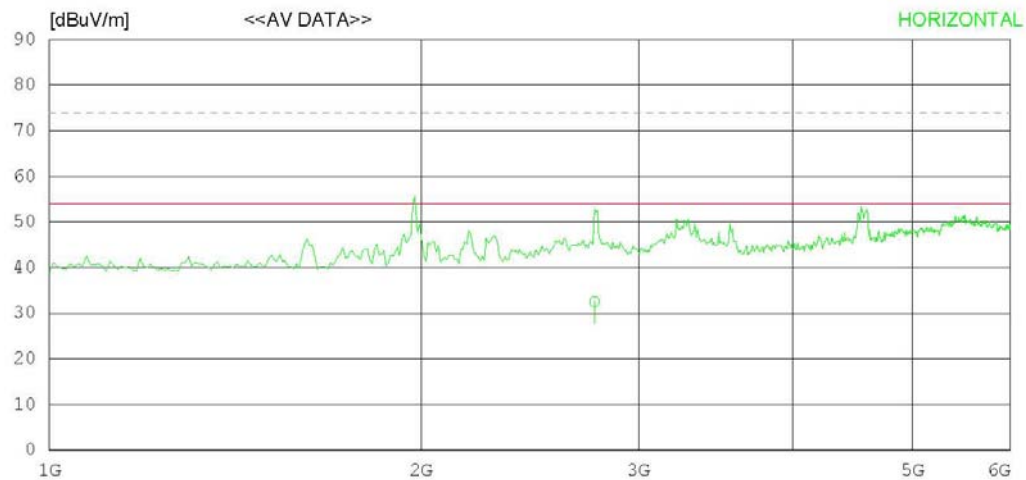
Date : 2013-03-22

Model Name : 32LP645H-UH
Model No. :
Serial No. :
Test Condition : USB

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi : 19 °C 37 % 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 : 2013-03-22

Model Name : 32LP645H-UH	Reference No. :
Model No. :	Power Supply : 120 V 60 Hz
Serial No. :	Temp/Humi : 19 °C 37 % 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	2762.831	36.1	28.3	5.5	37.3	32.6	54.0	21.4	100	222
----- Vertical -----										
2	1480.769	36.2	24.6	4.0	37.9	26.9	54.0	27.1	100	358
3	1977.564	43.1	24.6	4.7	37.6	34.8	54.0	19.2	100	220
4	2057.692	36.1	24.9	4.8	37.6	28.2	54.0	25.8	100	1
5	3275.659	35.6	28.9	6.0	37.2	33.3	54.0	20.7	100	209
6	3564.125	35.5	29.0	6.3	37.0	33.8	54.0	20.2	100	1
7	4517.652	33.0	31.0	7.1	36.6	34.5	54.0	19.5	100	1

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