

EMC TEST REPORT

Test item : LED TV Monitor
Model No. : 39LP645H-UH
Order No. : DEMC1305-01496
Date of receipt : 2013-05-06
Test duration : 2013-05-13 ~ 2013-05-14
Use of report : FCC CoC Marking
Date of Issue : 2013-05-15

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 : (21 ~ 25) °C,
Humidity : 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.

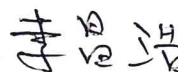
This test report shall not be reproduced except in full, without the written approval of DIGITAL EMC CO., LTD.

Tested by:



Manager
MyungJin Song

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.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.	39LP645H-UH
EUT Type	LED TV Monitor
Serial No	NONE
FCC ID	BEJ39LP645HUH
Type of Sample Tested	Pre-Production
High Frequency	800 MHz
Rating	AC 100-240 V~ 50/60 Hz, 1.5 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)
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	05-13	25	40
Radiated Disturbance	05-14	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]
0.15585	L	49.3	Quasi-Peak	65.7	16.4

(2) Radiated Emission (USB MODE)

Frequency [MHz]	Pol.	Result [dB(μ V/m)]	Detector	Limit [dB(μ V/m)]	Margin [dB]
279.775	H	39.9	Average	46.0	6.1

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' Pattern mode, 1920 x 1080 Resolution
- HDMI MODE : 'H' Pattern mode, 1920 x 1080 Resolution
- USB MODE : USB video file play

5.3 Support Equipment Used

Unit	Model No.	Serial No.	Manufacturer	CABLE				Backshell	FCC ID
				Connect type	Length (m)	ferrite core	shield		
KEYBOARD	KB-065	CN11163233	HP	USB	1.7	Not use	Shield	Plastic	DOC
MOUSE	M-UAE96	LZ751AP 01L3	LOGITECH Inc.	USB	1.8	Not use	Shield	Plastic	DOC
PRINTER	SRP-770	SRP770080 60035	BICSOLON	USB POWER	1.9 1.8	Use Not use	Shield Non-shield	Plastic	DOC
CD/DVD PLAYER	DVP-NS92V	2000407	SONY EMCS.	POWER AV	1.8 1.7	Not use Not use	Non-shield Non-shield	Plastic	VER
PC	VOSTRO460	6J7JXBX	DELL	POWER HDMI USB USB USB DSUB	1.8 2.0 1.8 1.7 1.9 1.8	Not use Use Not use Use Use Use	Non-shield Shield Shield Shield Shield Shield	Plastic	DOC
Remote controller	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

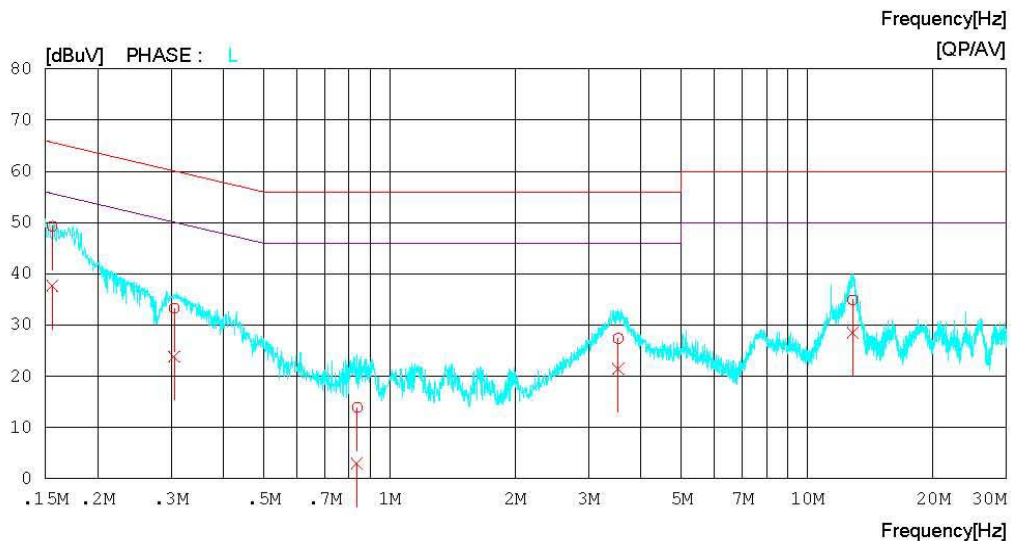
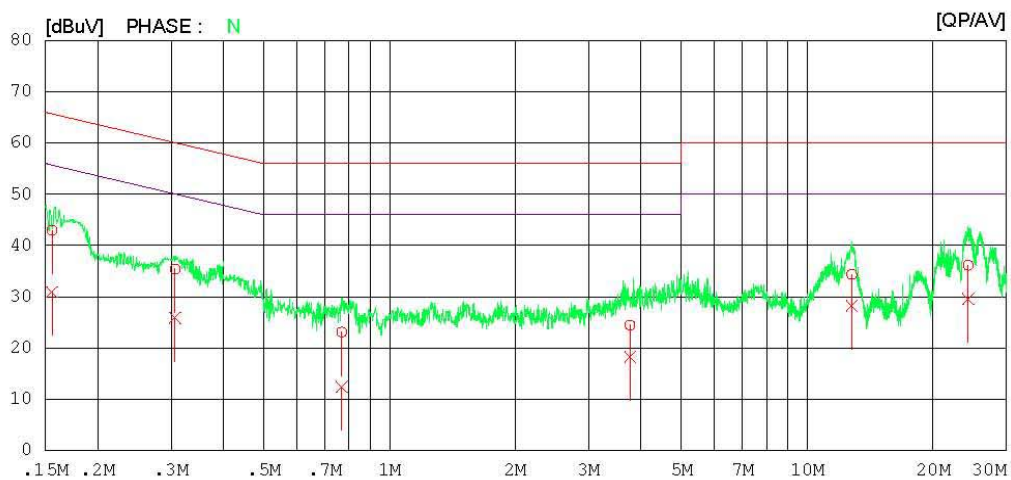
Digital EMC
Date : 2013-05-13

Model No. : 39LP645H-UH
Type :
Serial No. :
Test Condition : DSUB

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi. : 25 °C 40 % R.H.
Operator :

Memo :

LIMIT : CISPR22_B QP
CISPR22_B AV



Results of Conducted Emission

Digital EMC
Date : 2013-05-13

Model No. : 39LP645H-UH
Type :
Serial No. :
Test Condition : DSUB

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi. : 25 °C 40 % 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	0.15563	42.7	30.7	0.2	42.9	30.9	65.7	55.7	22.8	24.8	N
2	0.30675	35.2	25.7	0.2	35.4	25.9	60.1	50.1	24.7	24.2	N
3	0.76891	22.9	12.3	0.2	23.1	12.5	56.0	46.0	32.9	33.5	N
4	3.76700	24.1	17.9	0.3	24.4	18.2	56.0	46.0	31.6	27.8	N
5	12.78450	33.6	27.5	0.7	34.3	28.2	60.0	50.0	25.7	21.8	N
6	24.30550	35.1	28.6	1.0	36.1	29.6	60.0	50.0	23.9	20.4	N
7	0.15585	49.1	37.4	0.2	49.3	37.6	65.7	55.7	16.4	18.1	L
8	0.30518	33.0	23.6	0.2	33.2	23.8	60.1	50.1	26.9	26.3	L
9	0.83680	13.7	2.8	0.2	13.9	3.0	56.0	46.0	42.1	43.0	L
10	3.52900	27.1	21.2	0.3	27.4	21.5	56.0	46.0	28.6	24.5	L
11	12.85150	34.2	27.8	0.7	34.9	28.5	60.0	50.0	25.1	21.5	L

< HDMI MODE >



Results of Conducted Emission

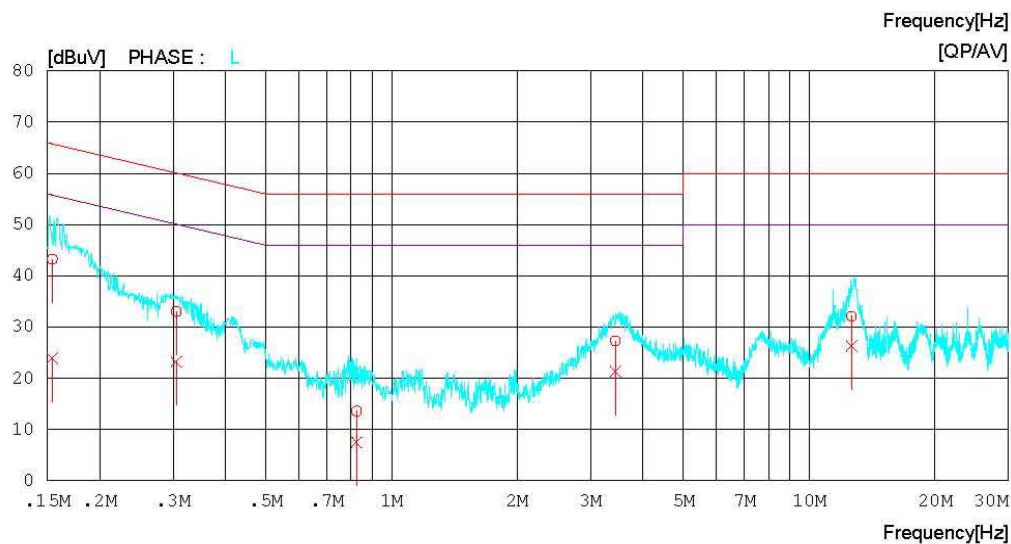
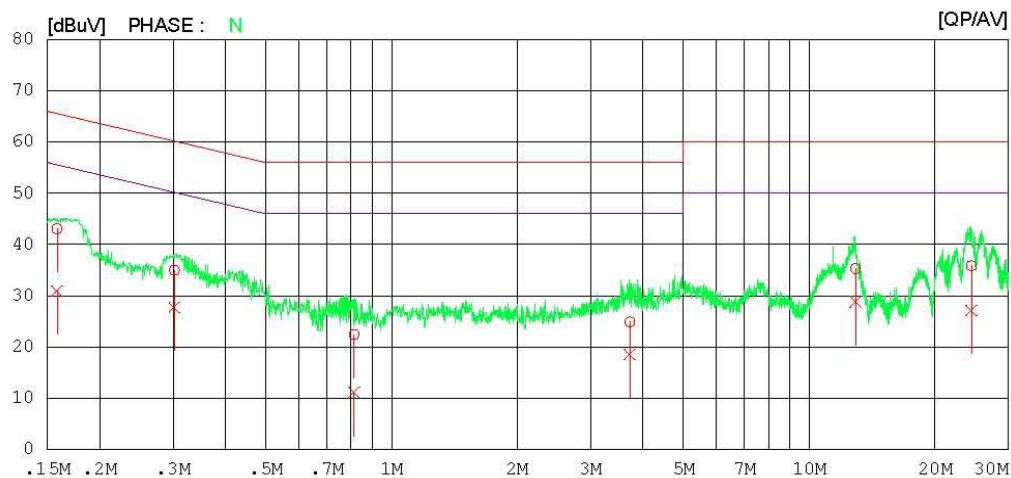
Digital EMC
Date : 2013-05-13

Model No. : 39LP645H-UH
Type :
Serial No. :
Test Condition : HDMI

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi. : 25 °C 40 % R.H.
Operator :

Memo :

LIMIT : CISPR22_B QP
CISPR22_B AV



Results of Conducted Emission

Digital EMC
Date : 2013-05-13

Model No. : 39LP645H-UH
Type :
Serial No. :
Test Condition : HDMI

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi. : 25 °C 40 % 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	0.15828	42.8	30.7	0.2	43.0	30.9	65.6	55.6	22.6	24.7	N
2	0.30231	34.8	27.5	0.2	35.0	27.7	60.2	50.2	25.2	22.5	N
3	0.81395	22.2	10.9	0.2	22.4	11.1	56.0	46.0	33.6	34.9	N
4	3.71950	24.6	18.2	0.3	24.9	18.5	56.0	46.0	31.1	27.5	N
5	12.91400	34.6	28.1	0.7	35.3	28.8	60.0	50.0	24.7	21.2	N
6	24.46500	34.8	26.2	1.0	35.8	27.2	60.0	50.0	24.2	22.8	N
7	0.15425	43.0	23.7	0.2	43.2	23.9	65.8	55.8	22.6	31.9	L
8	0.30556	32.8	23.1	0.2	33.0	23.3	60.1	50.1	27.1	26.8	L
9	0.82569	13.4	7.3	0.2	13.6	7.5	56.0	46.0	42.4	38.5	L
10	3.43800	27.0	21.1	0.3	27.3	21.4	56.0	46.0	28.7	24.6	L
11	12.62650	31.4	25.6	0.7	32.1	26.3	60.0	50.0	27.9	23.7	L

< USB MODE >



Results of Conducted Emission

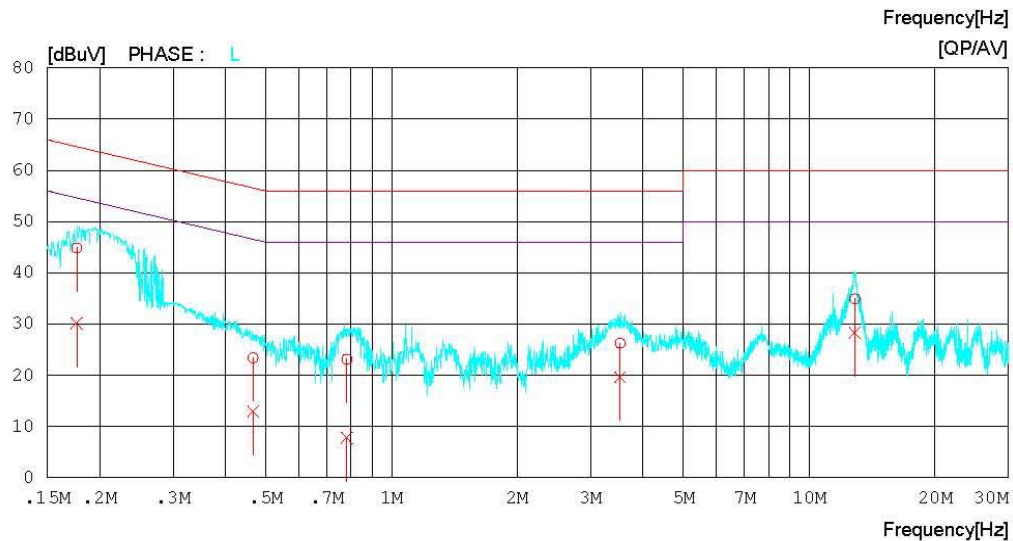
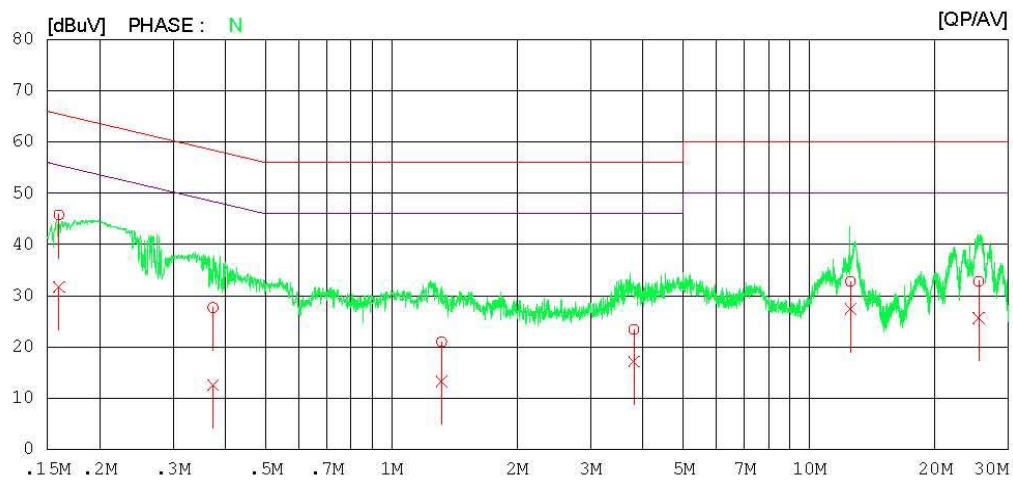
Digital EMC
Date : 2013-05-13

Model No. : 39LP645H-UH
Type :
Serial No. :
Test Condition : USB

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi. : 25 °C 40 % R.H.
Operator :

Memo :

LIMIT : CISPR22_B QP
CISPR22_B AV



Results of Conducted Emission

Digital EMC
Date : 2013-05-13

Model No. : 39LP645H-UH
Type :
Serial No. :
Test Condition : USB

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi. : 25 °C 40 % 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	0.15986	45.6	31.5	0.2	45.8	31.7	65.5	55.5	19.7	23.8	N
2	0.37396	27.5	12.3	0.2	27.7	12.5	58.4	48.4	30.7	35.9	N
3	1.31900	20.7	13.0	0.3	21.0	13.3	56.0	46.0	35.0	32.7	N
4	3.80750	23.1	16.9	0.3	23.4	17.2	56.0	46.0	32.6	28.8	N
5	12.55900	32.1	26.7	0.7	32.8	27.4	60.0	50.0	27.2	22.6	N
6	25.47750	31.8	24.7	1.0	32.8	25.7	60.0	50.0	27.2	24.3	N
7	0.17636	44.7	29.9	0.2	44.9	30.1	64.7	54.7	19.8	24.6	L
8	0.46650	23.2	12.7	0.2	23.4	12.9	56.6	46.6	33.2	33.7	L
9	0.78214	23.0	7.6	0.2	23.2	7.8	56.0	46.0	32.8	38.2	L
10	3.52550	26.0	19.3	0.3	26.3	19.6	56.0	46.0	29.7	26.4	L
11	12.86150	34.2	27.6	0.7	34.9	28.3	60.0	50.0	25.1	21.7	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

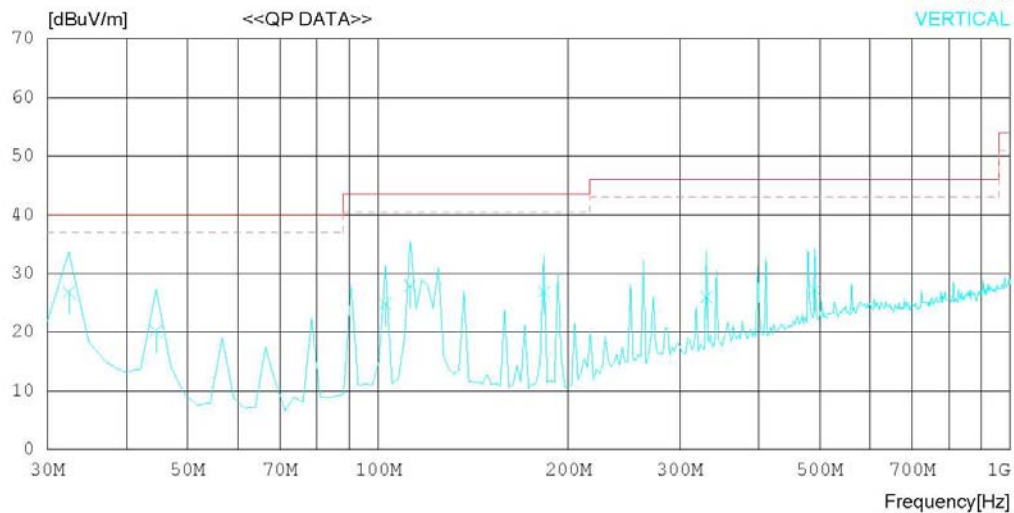
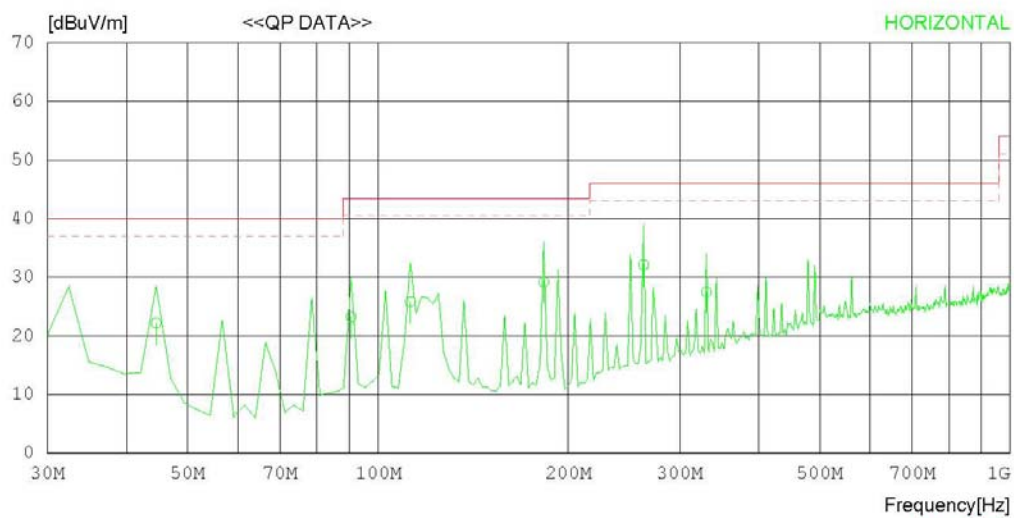
Date : 2013-05-14

Model Name : 39LP645H-UH
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 : 2013-05-14

Model Name : 39LP645H-UH	Reference No. :
Model No. :	Power Supply : 120 V 60 Hz
Serial No. :	Temp/Humi : 21 °C 40 % 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	44.550	31.5	13.8	1.1	24.2	22.2	40.0	17.8	322	32
2	90.625	36.9	9.1	1.5	24.2	23.3	43.5	20.2	306	23
3	112.450	37.2	11.2	1.5	24.1	25.8	43.5	17.7	232	358
4	182.775	41.3	9.7	2.2	24.0	29.2	43.5	14.3	211	145
5	262.800	40.2	13.0	2.6	23.7	32.1	46.0	13.9	100	36
6	330.700	33.6	14.4	3.1	23.6	27.5	46.0	18.5	100	239
----- Vertical -----										
7	32.425	33.1	16.6	1.0	23.9	26.8	40.0	13.2	213	102
8	44.550	29.5	13.8	1.1	24.2	20.2	40.0	19.8	185	32
9	102.750	36.7	10.8	1.4	24.1	24.8	43.5	18.7	100	353
10	112.450	39.3	11.2	1.5	24.1	27.9	43.5	15.6	132	322
11	182.775	39.0	9.7	2.2	24.0	26.9	43.5	16.6	154	314
12	330.700	32.1	14.4	3.1	23.6	26.0	46.0	20.0	100	358
13	490.749	29.3	17.2	3.8	23.1	27.2	46.0	18.8	100	213

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

RADIATED EMISSION

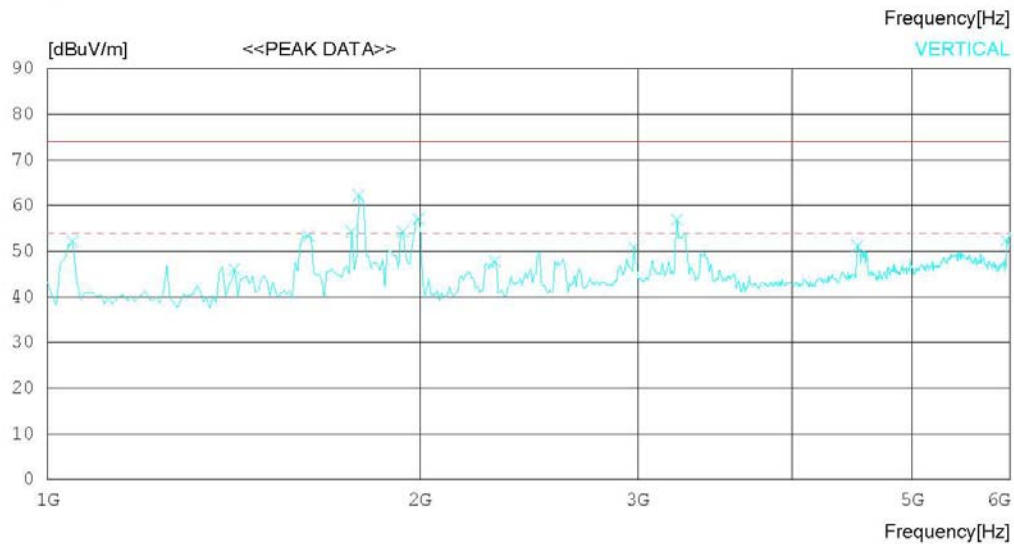
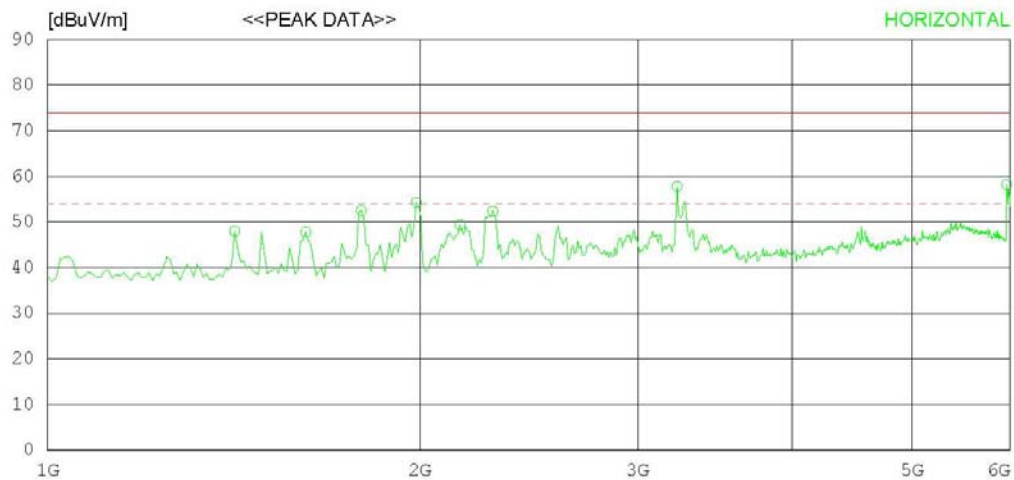
Date : 2013-05-14

Model Name : 39LP645H-UH
Model No. :
Serial No. :
Test Condition : DSUB

Reference No. :
Power Supply : 120V 60Hz
Temp/Humi : 21 °C 40 % 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 : 2013-05-14

Model Name	: 39LP645H-UH	Reference No.	:
Model No.	:	Power Supply	: 120V 60Hz
Serial No.	:	Temp/Humi	: 21 °C 40 % 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	1416.667	59.9	24.5	3.9	40.3	48.0	74.0	26	100	145
2	1616.987	58.9	24.6	4.2	39.9	47.8	74.0	26.2	100	358
3	1793.269	63.1	24.6	4.5	39.7	52.5	74.0	21.5	100	358
4	1985.577	64.5	24.6	4.7	39.5	54.3	74.0	19.7	100	58
5	2153.847	58.5	25.4	4.9	39.4	49.4	74.0	24.6	100	203
6	2290.067	60.6	26.2	5.0	39.4	52.4	74.0	21.6	100	358
7	3227.581	62.2	28.9	5.9	39.2	57.8	74.0	16.2	100	237
8	5959.937	56.4	32.1	8.4	38.7	58.2	74.0	15.8	100	72
----- Vertical -----										
9	1048.077	66.0	23.9	3.4	41.1	52.2	74.0	21.8	100	1
10	1416.667	58.0	24.5	3.9	40.3	46.1	74.0	27.9	100	172
11	1625.000	64.5	24.6	4.2	39.9	53.4	74.0	20.6	100	1
12	1761.218	65.2	24.6	4.4	39.8	54.4	74.0	19.6	100	205
13	1785.256	73.0	24.6	4.4	39.7	62.3	74.0	11.7	100	203
14	1937.500	64.8	24.6	4.6	39.6	54.4	74.0	19.6	100	172
15	1993.589	67.3	24.6	4.7	39.5	57.1	74.0	16.9	100	1
16	2298.080	56.0	26.3	5.0	39.4	47.9	74.0	26.1	100	163
17	2979.180	55.6	28.9	5.7	39.3	50.9	74.0	23.1	100	1
18	3227.581	61.3	28.9	5.9	39.2	56.9	74.0	17.1	100	225
19	4517.652	51.7	31.0	7.1	38.6	51.2	74.0	22.8	100	1
20	5959.937	50.6	32.1	8.4	38.7	52.4	74.0	21.6	100	191

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

RADIATED EMISSION

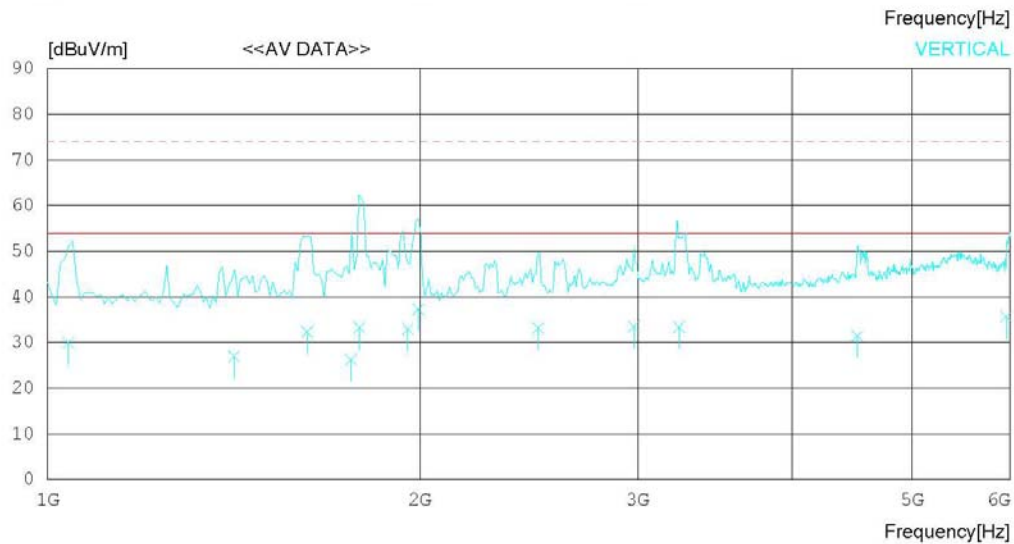
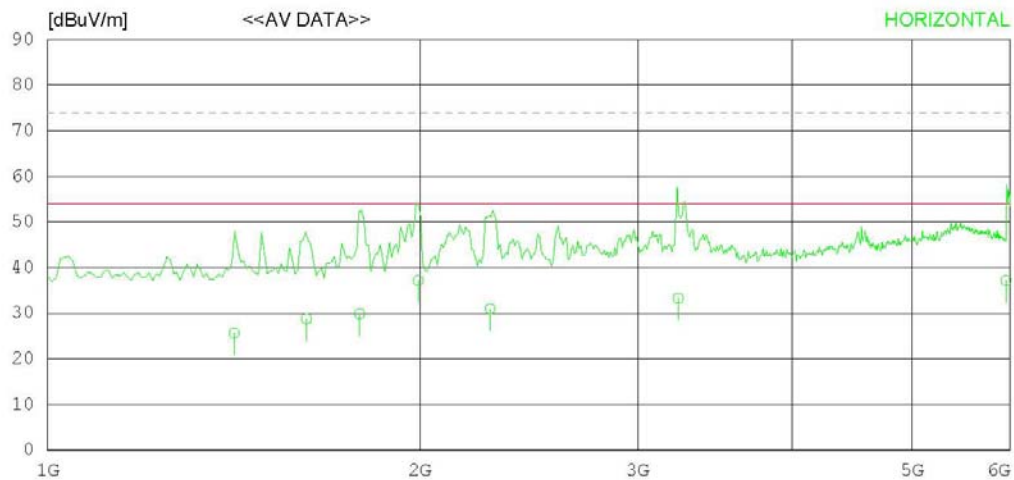
Date : 2013-05-14

Model Name : 39LP645H-UH
Model No. :
Serial No. :
Test Condition : DSUB

Reference No. :
Power Supply : 120V 60Hz
Temp/Humi : 21 °C 40 % 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 : 2013-05-14

Model Name	: 39LP645H-UH	Reference No.	:
Model No.	:	Power Supply	: 120V 60Hz
Serial No.	:	Temp/Humi	: 21 °C 40 % 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	1415.359	37.6	24.5	3.9	40.3	25.7	54.0	28.3	100	234
2	1619.205	39.9	24.6	4.2	39.9	28.8	54.0	25.2	100	94
3	1787.683	40.6	24.6	4.4	39.7	29.9	54.0	24.1	100	358
4	1994.234	47.4	24.6	4.7	39.5	37.2	54.0	16.8	100	58
5	2280.202	39.2	26.2	5.0	39.4	31.0	54.0	23.0	100	358
6	3234.179	37.7	28.9	5.9	39.2	33.3	54.0	20.7	100	237
7	5953.551	35.4	32.1	8.4	38.7	37.2	54.0	16.8	100	72
----- Vertical -----										
8	1039.907	43.8	23.9	3.4	41.1	30.0	54.0	24.0	100	221
9	1415.359	38.9	24.5	3.9	40.3	27.0	54.0	27.0	100	202
10	1621.929	43.5	24.6	4.2	39.9	32.4	54.0	21.6	100	299
11	1759.645	37.1	24.6	4.4	39.8	26.3	54.0	27.7	100	205
12	1787.683	44.0	24.6	4.4	39.7	33.3	54.0	20.7	100	203
13	1955.929	43.2	24.6	4.7	39.5	33.0	54.0	21.0	100	172
14	1995.035	47.5	24.6	4.7	39.5	37.3	54.0	16.7	100	188
15	2494.500	39.9	27.4	5.2	39.3	33.2	54.0	20.8	100	163
16	2979.638	38.2	28.9	5.7	39.3	33.5	54.0	20.5	100	1
17	3238.888	37.8	28.9	5.9	39.2	33.4	54.0	20.6	100	225
18	4517.652	32.0	31.0	7.1	38.6	31.5	54.0	22.5	100	189
19	5958.051	33.9	32.1	8.4	38.7	35.7	54.0	18.3	100	158

< HDMI MODE _ 30 MHz ~ 1 GHz >

RADIATED EMISSION

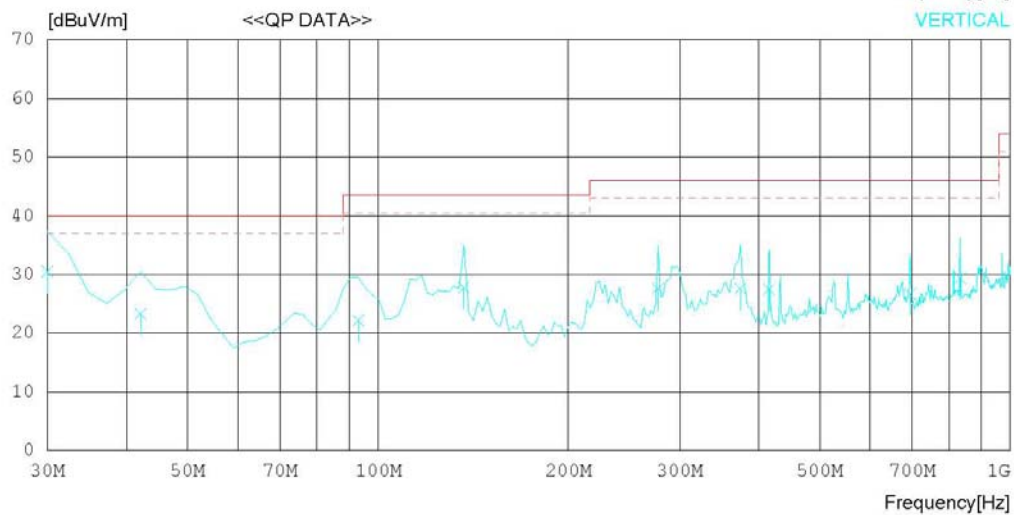
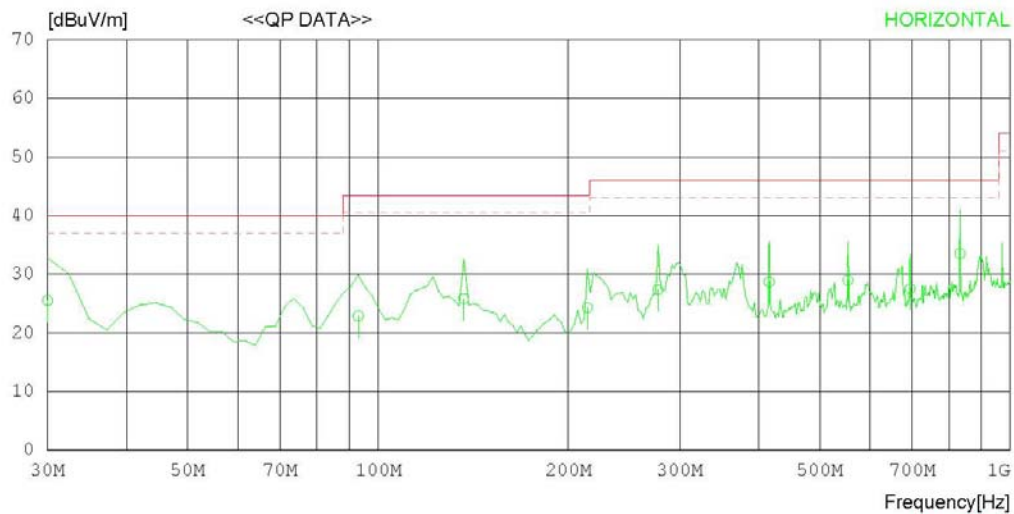
Date : 2013-05-14

Model Name : 39LP645H-UH
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 : 2013-05-14

Model Name : 39LP645H-UH
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

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	30.000	30.6	17.9	0.8	23.8	25.5	40.0	14.5	200	358
2	93.050	36.1	9.5	1.5	24.2	22.9	43.5	20.6	312	133
3	136.700	37.2	11.2	1.6	24.2	25.8	43.5	17.7	211	343
4	214.300	35.3	10.5	2.4	23.9	24.3	43.5	19.2	100	32
5	277.350	35.1	13.3	2.7	23.7	27.4	46.0	18.6	100	320
6	415.574	32.4	16.2	3.5	23.4	28.7	46.0	17.3	206	23
7	553.799	30.1	18.1	3.8	23.0	29.0	46.0	17.0	236	101
8	694.448	27.2	18.5	4.6	22.8	27.5	46.0	18.5	200	45
9	832.672	31.3	20.2	4.8	22.8	33.5	46.0	12.5	100	134
----- Vertical -----										
10	30.000	35.6	17.9	0.8	23.8	30.5	40.0	9.5	187	137
11	42.125	33.1	13.3	1.1	24.2	23.3	40.0	16.7	132	152
12	93.050	35.4	9.5	1.5	24.2	22.2	43.5	21.3	133	345
13	136.700	39.2	11.2	1.6	24.2	27.8	43.5	15.7	100	352
14	277.350	35.3	13.3	2.7	23.7	27.6	46.0	18.4	165	314
15	374.350	32.3	15.5	3.4	23.6	27.6	46.0	18.4	122	325
16	415.574	31.2	16.2	3.5	23.4	27.5	46.0	18.5	100	229
17	694.448	26.4	18.5	4.6	22.8	26.7	46.0	19.3	129	161
18	832.672	27.2	20.2	4.8	22.8	29.4	46.0	16.6	100	358

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

RADIATED EMISSION

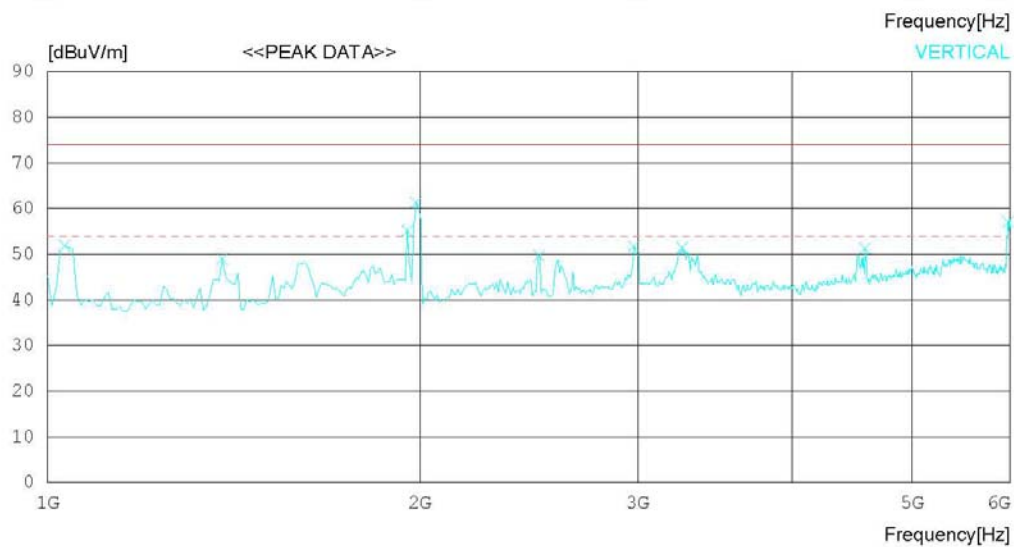
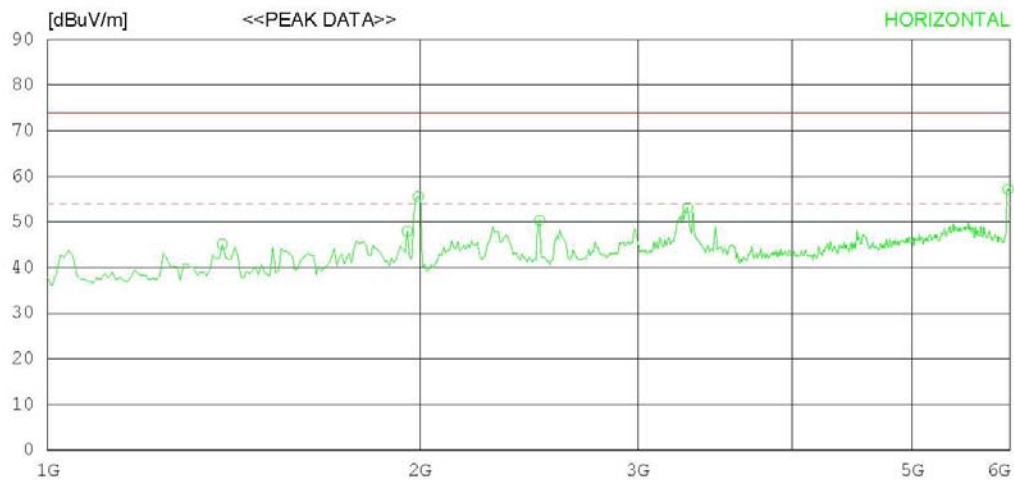
Date : 2013-05-14

Model Name : 39LP645H-UH
Model No. :
Serial No. :
Test Condition : HDMI

Reference No. :
Power Supply : 120V 60Hz
Temp/Humi : 21 °C 40 % 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 : 2013-05-14

Model Name	: 39LP645H-UH	Reference No.	:
Model No.	:	Power Supply	: 120V 60Hz
Serial No.	:	Temp/Humi	: 21 °C 40 % 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	1384.615	57.1	24.5	3.9	40.3	45.2	74.0	28.8	100	115
2	1953.525	58.2	24.6	4.7	39.5	48.0	74.0	26	100	1
3	1993.589	65.8	24.6	4.7	39.5	55.6	74.0	18.4	100	1
4	2498.404	57.1	27.4	5.2	39.3	50.4	74.0	23.6	100	1
5	3291.685	57.3	28.9	6.0	39.1	53.1	74.0	20.9	100	1
6	5975.962	55.5	32.0	8.4	38.7	57.2	74.0	16.8	100	1
----- Vertical -----										
7	1032.051	65.7	23.9	3.4	41.1	51.9	74.0	22.1	100	201
8	1384.615	60.9	24.5	3.9	40.3	49.0	74.0	25	100	137
9	1953.525	65.4	24.6	4.7	39.5	55.2	74.0	18.8	100	358
10	1985.577	71.6	24.6	4.7	39.5	61.4	74.0	12.6	100	1
11	2498.404	56.4	27.4	5.2	39.3	49.7	74.0	24.3	100	358
12	2979.180	56.5	28.9	5.7	39.3	51.8	74.0	22.2	100	157
13	3259.633	55.9	28.9	5.9	39.2	51.5	74.0	22.5	100	358
14	4581.753	51.5	31.2	7.2	38.6	51.3	74.0	22.7	100	207
15	5975.962	55.4	32.0	8.4	38.7	57.1	74.0	16.9	100	167

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

RADIATED EMISSION

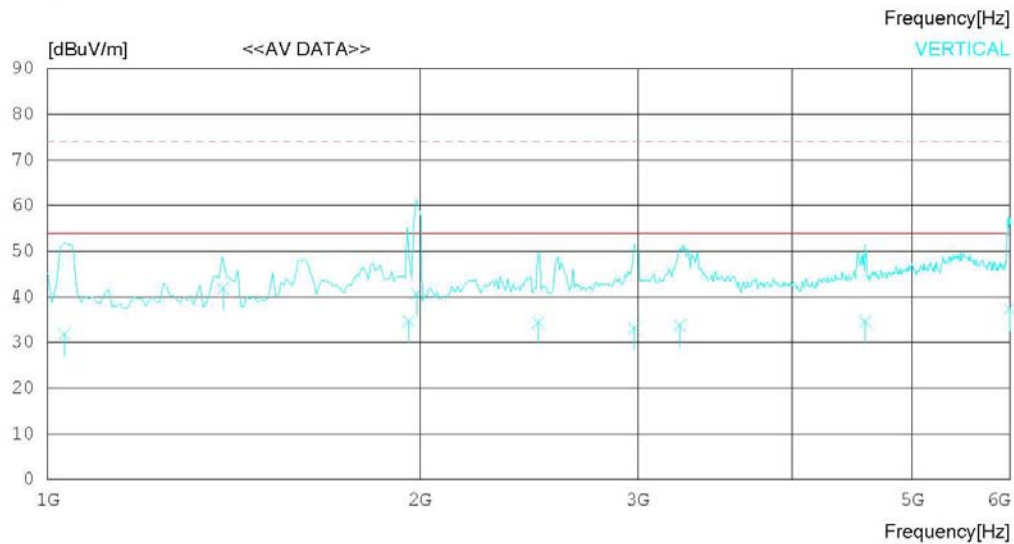
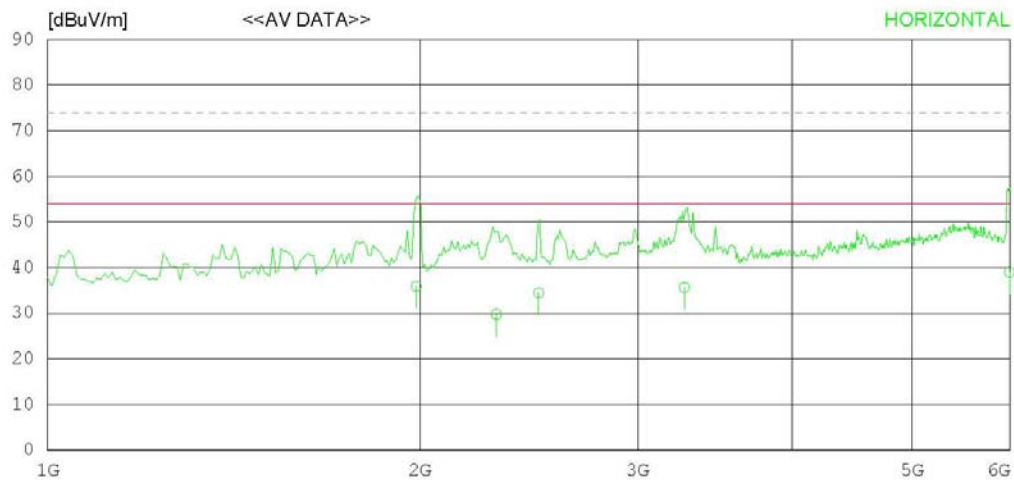
Date : 2013-05-14

Model Name : 39LP645H-UH
Model No. :
Serial No. :
Test Condition : HDMI

Reference No. :
Power Supply : 120V 60Hz
Temp/Humi : 21 °C 40 % 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 : 2013-05-14

Model Name : 39LP645H-UH	Reference No. :
Model No. :	Power Supply : 120V 60Hz
Serial No. :	Temp/Humi : 21 °C 40 % 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	1985.897	46.1	24.6	4.7	39.5	35.9	54.0	18.1	100	78
2	2305.961	37.9	26.3	5.0	39.4	29.8	54.0	24.2	100	224
3	2495.000	41.2	27.4	5.2	39.3	34.5	54.0	19.5	100	201
4	3272.000	40.0	28.9	6.0	39.2	35.7	54.0	18.3	100	1
5	5992.756	37.4	31.9	8.4	38.7	39.0	54.0	15.0	100	311
----- Vertical -----										
6	1032.051	45.7	23.9	3.4	41.1	31.9	54.0	22.1	100	221
7	1386.217	53.7	24.5	3.9	40.3	41.8	54.0	12.2	100	194
8	1958.353	44.8	24.6	4.7	39.5	34.6	54.0	19.4	100	185
9	1988.686	51.0	24.6	4.7	39.5	40.8	54.0	13.2	100	321
10	2494.474	41.1	27.4	5.2	39.3	34.4	54.0	19.6	100	358
11	2978.356	37.9	28.9	5.7	39.3	33.2	54.0	20.8	100	266
12	3243.276	38.2	28.9	5.9	39.2	33.8	54.0	20.2	100	204
13	4581.753	34.8	31.2	7.2	38.6	34.6	54.0	19.4	100	210
14	5992.756	35.8	31.9	8.4	38.7	37.4	54.0	16.6	100	192

< USB MODE _ 30 MHz ~ 1 GHz >

RADIATED EMISSION

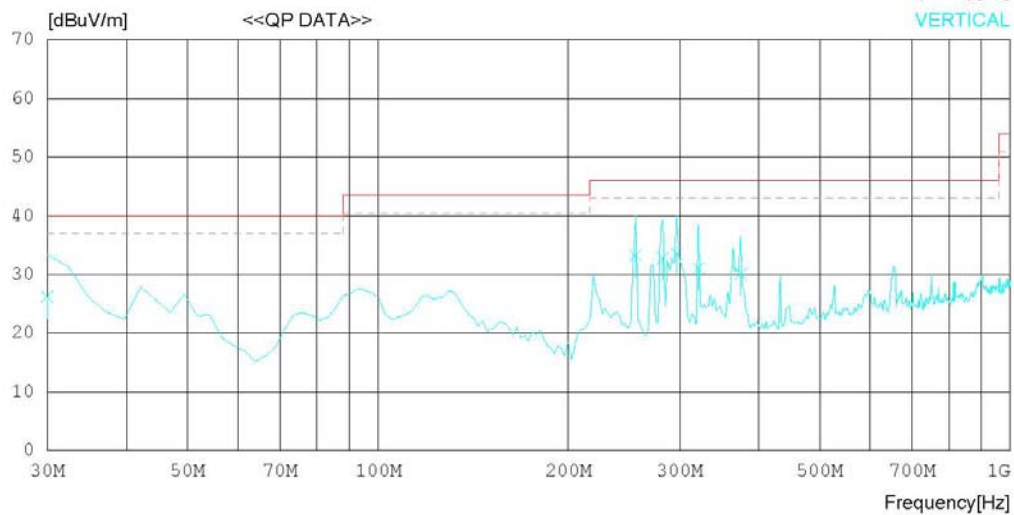
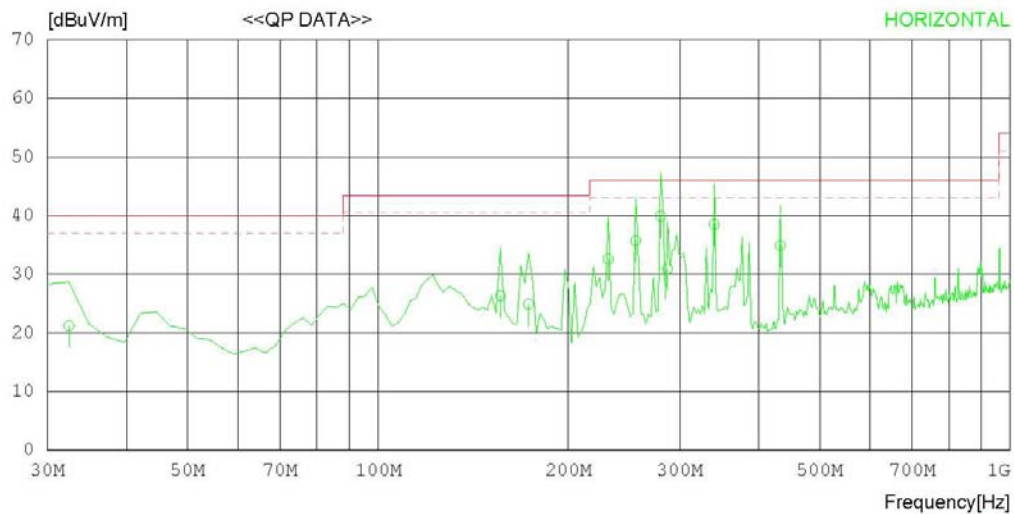
Date : 2013-05-14

Model Name : 39LP645H-UH
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 : 2013-05-14

Model Name : 39LP645H-UH
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

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	32.425	27.5	16.6	1.0	23.9	21.2	40.0	18.8	100	1
2	156.100	38.5	10.2	1.8	24.2	26.3	43.5	17.2	287	14
3	173.075	37.2	9.8	2.0	24.1	24.9	43.5	18.6	302	322
4	231.275	42.3	11.6	2.5	23.8	32.6	46.0	13.4	266	334
5	255.525	44.1	12.8	2.6	23.8	35.7	46.0	10.3	287	351
6	279.775	47.6	13.3	2.7	23.7	39.9	46.0	6.1	100	350
7	287.050	38.3	13.5	2.8	23.7	30.9	46.0	15.1	100	35
8	340.400	44.2	14.7	3.2	23.6	38.5	46.0	7.5	100	54
9	432.549	38.3	16.5	3.5	23.4	34.9	46.0	11.1	100	324
----- Vertical -----										
10	30.000	31.3	17.9	0.8	23.8	26.2	40.0	13.8	211	45
11	255.525	41.7	12.8	2.6	23.8	33.3	46.0	12.7	400	54
12	282.200	40.4	13.4	2.7	23.7	32.8	46.0	13.2	245	345
13	296.750	40.6	13.7	2.8	23.6	33.5	46.0	12.5	232	354
14	321.000	37.5	14.2	3.0	23.6	31.1	46.0	14.9	203	351
15	374.350	34.8	15.5	3.4	23.6	30.1	46.0	15.9	100	180

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

RADIATED EMISSION

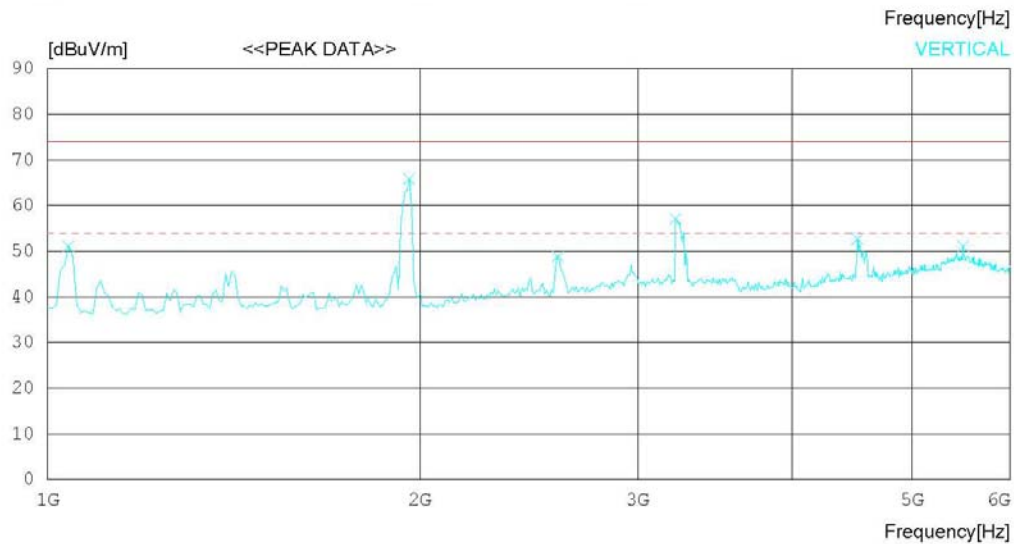
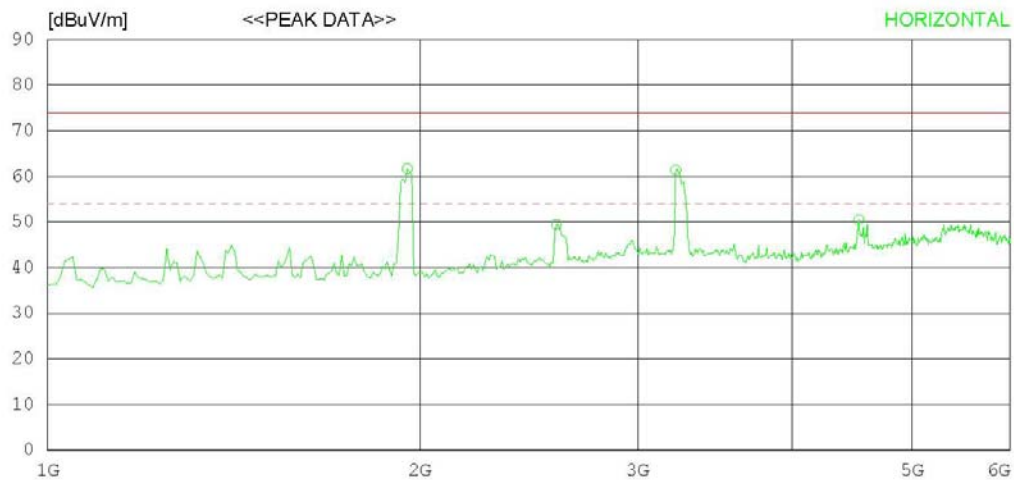
Date : 2013-05-14

Model Name : 39LP645H-UH
Model No. :
Serial No. :
Test Condition : USB

Reference No. :
Power Supply : 120V 60Hz
Temp/Humi : 21 °C 40 % 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 : 2013-05-14

Model Name : 39LP645H-UH	Reference No. :
Model No. :	Power Supply : 120V 60Hz
Serial No. :	Temp/Humi : 21 °C 40 % 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	1953.525	71.9	24.6	4.7	39.5	61.7	74.0	12.3	100	211
2	2578.533	55.8	27.7	5.3	39.3	49.5	74.0	24.5	100	149
3	3219.568	65.8	28.9	5.9	39.2	61.4	74.0	12.6	100	231
4	4525.665	50.9	31.0	7.2	38.6	50.5	74.0	23.5	100	358
----- Vertical -----										
5	1040.064	64.9	23.9	3.4	41.1	51.1	74.0	22.9	100	1
6	1961.538	76.1	24.6	4.7	39.5	65.9	74.0	8.1	100	171
7	2586.546	55.2	27.7	5.3	39.3	48.9	74.0	25.1	100	201
8	3219.568	61.5	28.9	5.9	39.2	57.1	74.0	16.9	100	1
9	4517.652	53.2	31.0	7.1	38.6	52.7	74.0	21.3	100	1
10	5495.201	46.4	35.1	7.9	38.3	51.1	74.0	22.9	100	133

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

RADIATED EMISSION

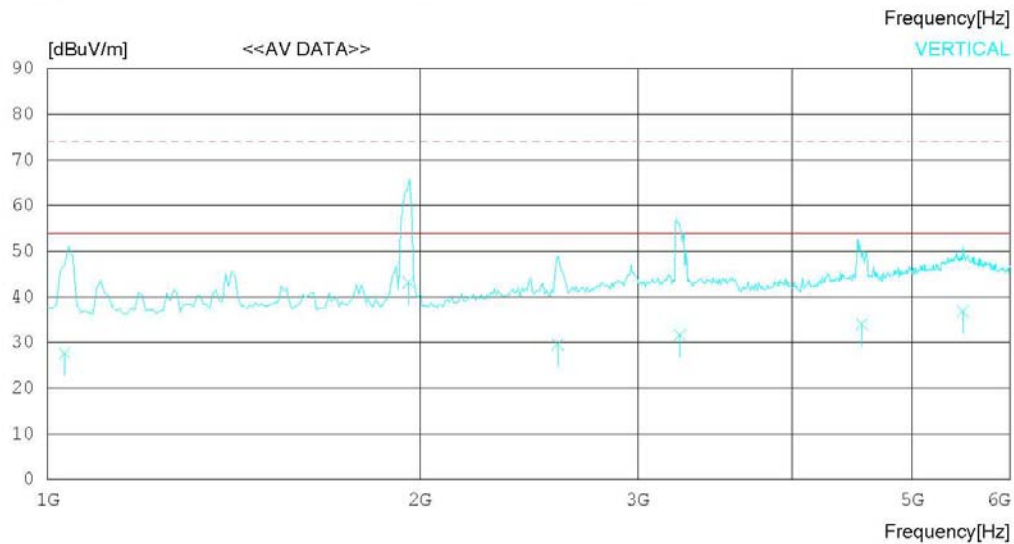
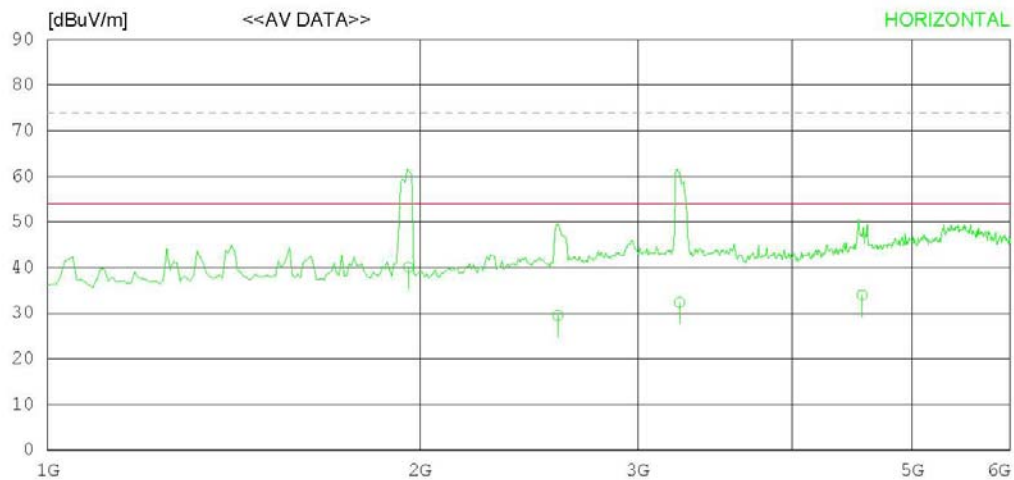
Date : 2013-05-14

Model Name : 39LP645H-UH
Model No. :
Serial No. :
Test Condition : USB

Reference No. :
Power Supply : 120V 60Hz
Temp/Humi : 21 °C 40 % 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 : 2013-05-14

Model Name : 39LP645H-UH	Reference No. :
Model No. :	Power Supply : 120V 60Hz
Serial No. :	Temp/Humi : 21 °C 40 % 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	1957.833	50.3	24.6	4.7	39.5	40.1	54.0	13.9	100	211
2	2584.263	35.8	27.7	5.3	39.3	29.5	54.0	24.5	100	149
3	3242.577	36.8	28.9	5.9	39.2	32.4	54.0	21.6	100	178
4	4553.124	34.3	31.1	7.2	38.6	34.0	54.0	20.0	100	204
----- Vertical -----										
5	1032.788	41.5	23.9	3.4	41.1	27.7	54.0	26.3	100	32
6	1957.833	53.4	24.6	4.7	39.5	43.2	54.0	10.8	100	171
7	2584.263	35.9	27.7	5.3	39.3	29.6	54.0	24.4	100	201
8	3246.577	36.1	28.9	5.9	39.2	31.7	54.0	22.3	100	46
9	4553.124	34.3	31.1	7.2	38.6	34.0	54.0	20.0	100	1
10	5495.201	32.2	35.1	7.9	38.3	36.9	54.0	17.1	100	133

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