

EMC TEST REPORT

Test item : LED TV Monitor
Model No. : 47LP870H-UA
Order No. : DEMC1304-01249
Date of receipt : 2013-04-10
Test duration : 2013-04-17 ~ 2013-04-18
Use of report : FCC CoC Marking
Date of Issue : 2013-04-25

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 ~ 23) °C,
Humidity : (40 ~ 45) % 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.

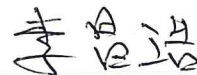
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Tested by:



Engineer
KyungMin Jeong

Reviewed by:



Technical Manager
ChangHo Lee

PRESIDENT OF DIGITAL EMC CO., LTD.

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1. General Remarks

This report contains the result of tests performed by:

DIGITAL EMC CO., LTD.

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

<http://www.digitalemcc.com>

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

2. Test Laboratory

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

Certificate	Nation	Agency	Code	Mark
Accreditation	Korea	KOLAS	393	ISO/IEC 17025
Site Filing	USA	FCC	101842 678747	Test Facility list & NSA Data
	Canada	IC	5740A-1 5740A-2	Test Facility list & NSA Data
	Japan	VCCI	C-1427 R-1364, R-3385 T-1442, G-338	Test Facility list & NSA Data
Certification	Korea	KC	KR0034	Test Facility list & NSA Data
	Germany	TUV	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.	47LP870H-UA
EUT Type	LED TV Monitor
Serial No	NONE
FCC ID	BEJ47LP870HUA
Type of Sample Tested	Pre-Production
High Frequency	800 MHz
Rating	AC 100-240 V~ 50/60 Hz, 1.2 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)
640x350	31.46	70.09
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
1152x864 RGB-PC	54.34	60.05
1360 x 768	47.71	60.01
1280 x 1024 HDMI-PC	63.98	60.02
1920 x 1080 RGB-PC	67.50	60.00
1920x1080 HDMI-PC	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	04-18	23	40
Radiated Disturbance	04-17	19	45

4.3 Test result Summary

(1) Conducted Emission (USB MODE)

Frequency [MHz]	Phase	Result [dBμV]	Detector	Limit [dBμV]	Margin [Db]
14.937	L	43.0	Average	50.0	7.0

(2) Radiated Emission (DSUB MODE)

Frequency [MHz]	Pol.	Result [dB(μV/m)]	Detector	Limit [dB(μV/m)]	Margin [dB]
890.099	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' Pattern mode, 1920 x 1080 Resolution
- HDMI MODE : 'H' Pattern mode, 1920 x 1080 Resolution
- USB MODE : USB recorded 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	VOSTRO460	6J7JXBX	DELL	POWER	1.8	Not use	Non-shield	Plastic	DOC
				HDMI	1.7	Not use	Shield	Metal	
				DSUB	1.6	Not use	Shield	Metal	
				USB	1.6	Not use	Shield	Metal	
				USB	1.4	Not use	Shield	Metal	
				STEREO	1.4	Not use	Non-shield	Metal	
				USB	1.5	Not use	Shield	Metal	
KEYBOARD	KB-065	CN11163233	HP	USB	1.6	Not use	Shield	Metal	DOC
MOUSE	M-UAE96	N/A	Logitech	USB	1.4	Not use	Shield	Metal	DOC
CD/DVD PLAYER	DVP-NS92V	2001499	SONY EMCS.	POWER	1.8	Not use	Non-shield	Plastic	VER
				RCA	1.6	Not use	Non-shield	Metal	
USB MEMORY	K-5	N/A	SAMSUNG	USB	-	Not use	-	-	DOC
PRINTER	SRP-770	SRP770080	BIXOLON	USB	1.6	Not use	Shield	Plastic	DOC
		60035		POWER	1.5	Not use	Non-shield		
Headset	COV909	N/A	COSY	STEREO	2.0	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

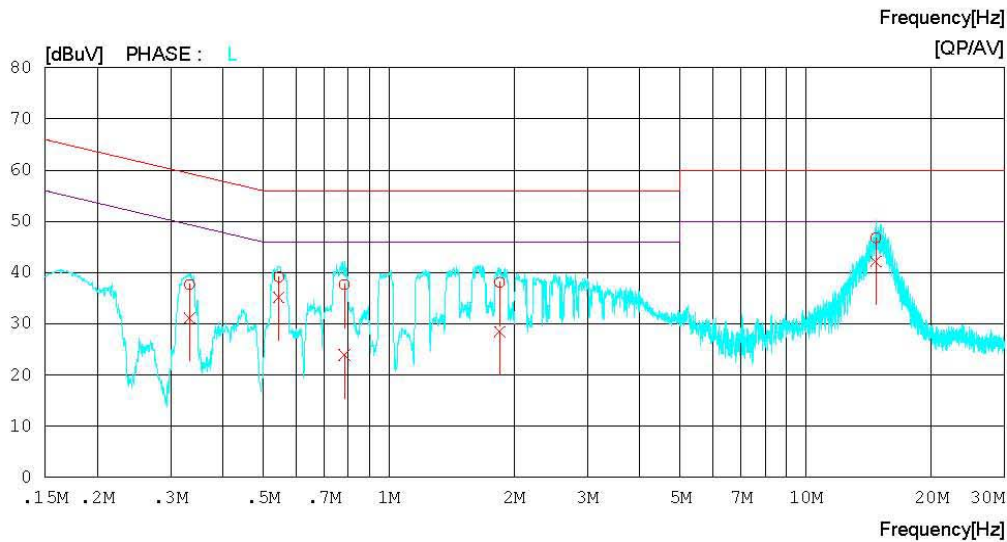
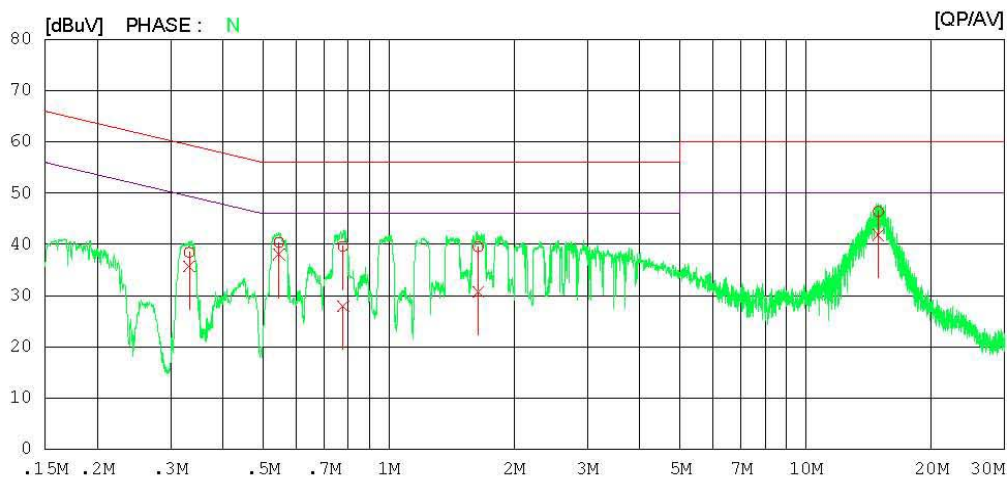
Digital EMC
Date : 2013-04-18

Model No. : 47LP870H-UA
Type :
Serial No. :
Test Condition : DSUB

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi. : 23 °C 40 % R.H.
Operator :

Memo :

LIMIT : CISPR22_B QP
CISPR22_B AV



Results of Conducted Emission

Digital EMC
Date : 2013-04-18

Model No. : 47LP870H-UA
Type :
Serial No. :
Test Condition : DSUB

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi. : 23 °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	0.33249	38.2	35.5	0.2	38.4	35.7	59.4	49.4	21.0	13.7	N
2	0.54550	40.2	37.8	0.2	40.4	38.0	56.0	46.0	15.6	8.0	N
3	0.77750	39.4	27.7	0.2	39.6	27.9	56.0	46.0	16.4	18.1	N
4	1.63950	39.2	30.4	0.3	39.5	30.7	56.0	46.0	16.5	15.3	N
5	14.93550	45.6	41.0	0.8	46.4	41.8	60.0	50.0	13.6	8.2	N
6	0.33319	37.5	31.0	0.2	37.7	31.2	59.4	49.4	21.7	18.2	L
7	0.54533	39.0	34.9	0.2	39.2	35.1	56.0	46.0	16.8	10.9	L
8	0.78291	37.5	23.7	0.2	37.7	23.9	56.0	46.0	18.3	22.1	L
9	1.84600	37.8	28.2	0.3	38.1	28.5	56.0	46.0	17.9	17.5	L
10	14.73350	46.0	41.4	0.8	46.8	42.2	60.0	50.0	13.2	7.8	L

< HDMI MODE >



Results of Conducted Emission

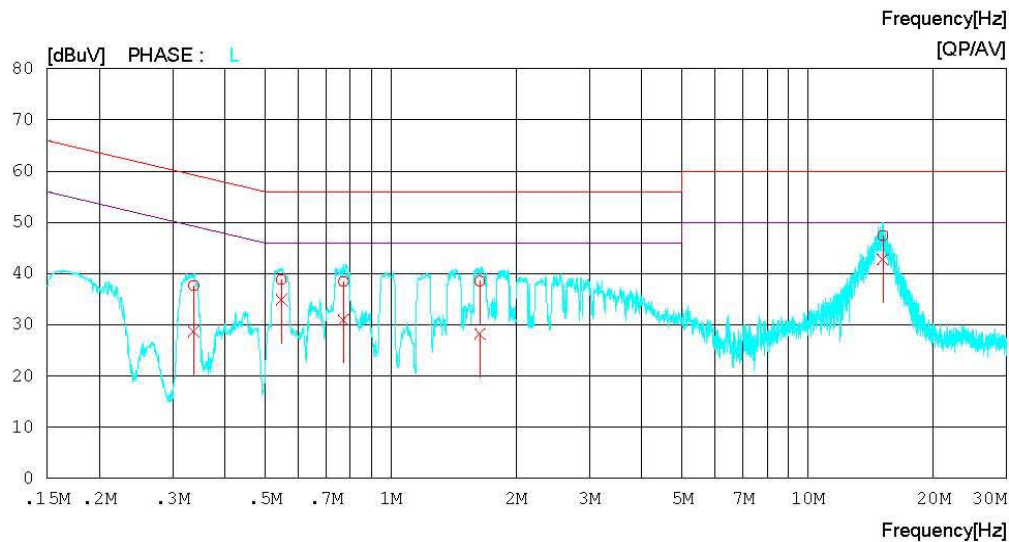
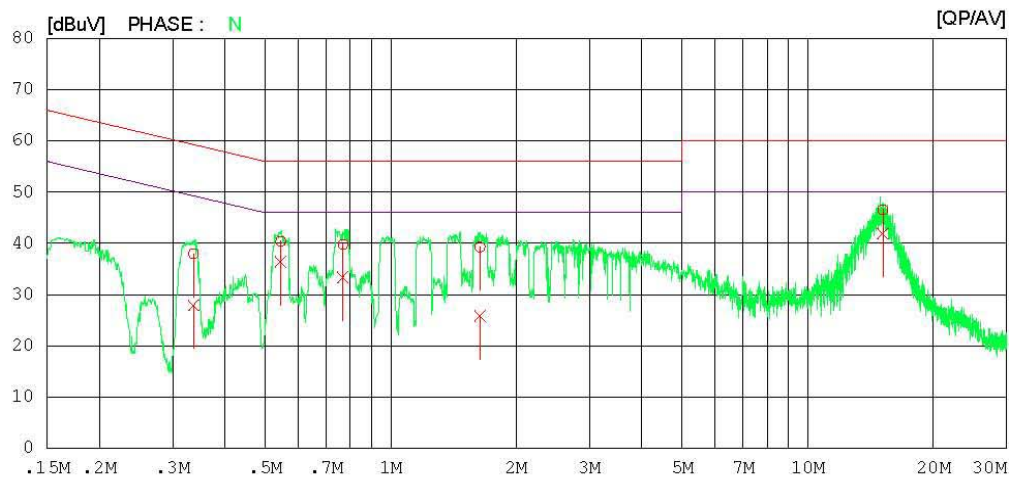
Digital EMC
Date : 2013-04-18

Model No. : 47LP870H-UA
Type :
Serial No. :
Test Condition : HDMI

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi. : 23 °C 40 % R.H.
Operator :

Memo :

LIMIT : CISPR22_B QP
CISPR22_B AV



Results of Conducted Emission

Digital EMC
Date : 2013-04-18

Model No. : 47LP870H-UA
Type :
Serial No. :
Test Condition : HDMI

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi. : 23 °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	0.33690	37.8	27.7	0.2	38.0	27.9	59.3	49.3	21.3	21.4	N
2	0.54490	40.2	36.2	0.2	40.4	36.4	56.0	46.0	15.6	9.6	N
3	0.76836	39.6	33.2	0.2	39.8	33.4	56.0	46.0	16.2	12.6	N
4	1.63850	39.0	25.5	0.3	39.3	25.8	56.0	46.0	16.7	20.2	N
5	15.13850	45.8	41.1	0.8	46.6	41.9	60.0	50.0	13.4	8.1	N
6	0.33731	37.5	28.5	0.2	37.7	28.7	59.3	49.3	21.6	20.6	L
7	0.54675	38.6	34.7	0.2	38.8	34.9	56.0	46.0	17.2	11.1	L
8	0.77104	38.3	30.8	0.2	38.5	31.0	56.0	46.0	17.5	15.0	L
9	1.63650	38.2	28.0	0.3	38.5	28.3	56.0	46.0	17.5	17.7	L
10	15.13900	46.7	41.9	0.8	47.5	42.7	60.0	50.0	12.5	7.3	L

< USB MODE >



Results of Conducted Emission

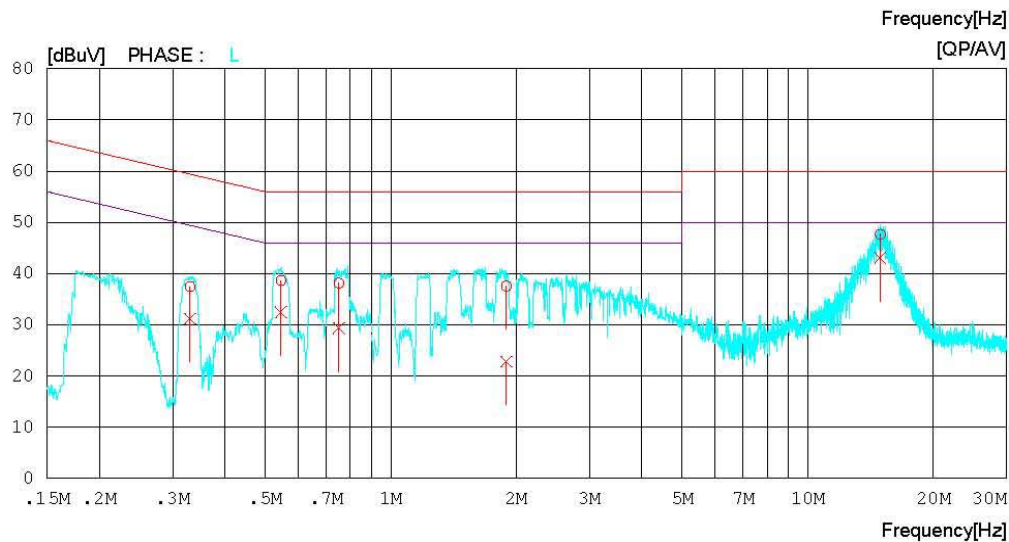
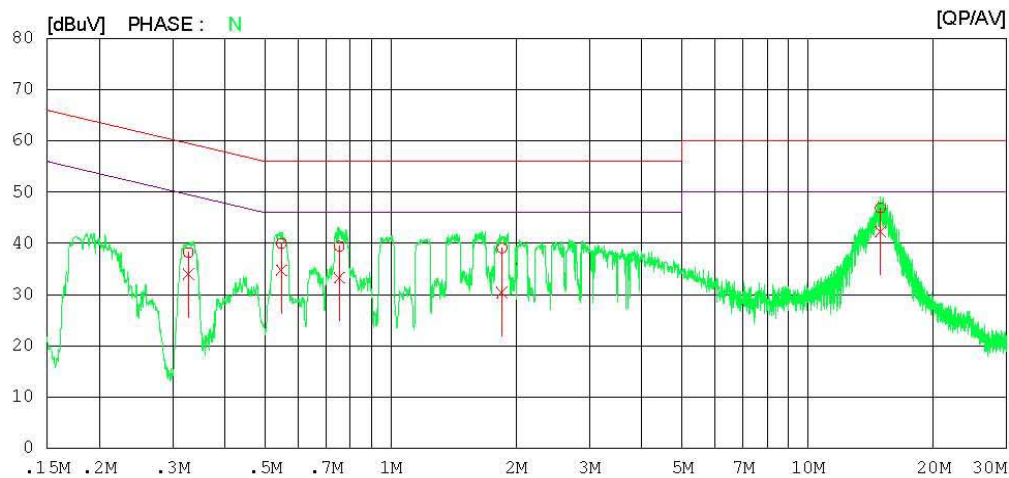
Digital EMC
Date : 2013-04-18

Model No. : 47LP870H-UA
Type :
Serial No. :
Test Condition : USB

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi. : 23 °C 40 % R.H.
Operator :

Memo :

LIMIT : CISPR22_B QP
CISPR22_B AV



Results of Conducted Emission

Digital EMC
Date : 2013-04-18

Model No. : 47LP870H-UA
Type :
Serial No. :
Test Condition : USB

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi. : 23 °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	0.32754	38.0	33.8	0.2	38.2	34.0	59.5	49.5	21.3	15.5	N
2	0.54715	39.8	34.5	0.2	40.0	34.7	56.0	46.0	16.0	11.3	N
3	0.75344	39.2	33.1	0.2	39.4	33.3	56.0	46.0	16.6	12.7	N
4	1.84850	38.8	30.1	0.3	39.1	30.4	56.0	46.0	16.9	15.6	N
5	14.93550	46.1	41.5	0.8	46.9	42.3	60.0	50.0	13.1	7.7	N
6	0.33021	37.2	31.0	0.2	37.4	31.2	59.4	49.4	22.0	18.2	L
7	0.54553	38.5	32.3	0.2	38.7	32.5	56.0	46.0	17.3	13.5	L
8	0.75158	37.9	29.2	0.2	38.1	29.4	56.0	46.0	17.9	16.6	L
9	1.89400	37.3	22.5	0.3	37.6	22.8	56.0	46.0	18.4	23.2	L
10	14.93700	46.9	42.2	0.8	47.7	43.0	60.0	50.0	12.3	7.0	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

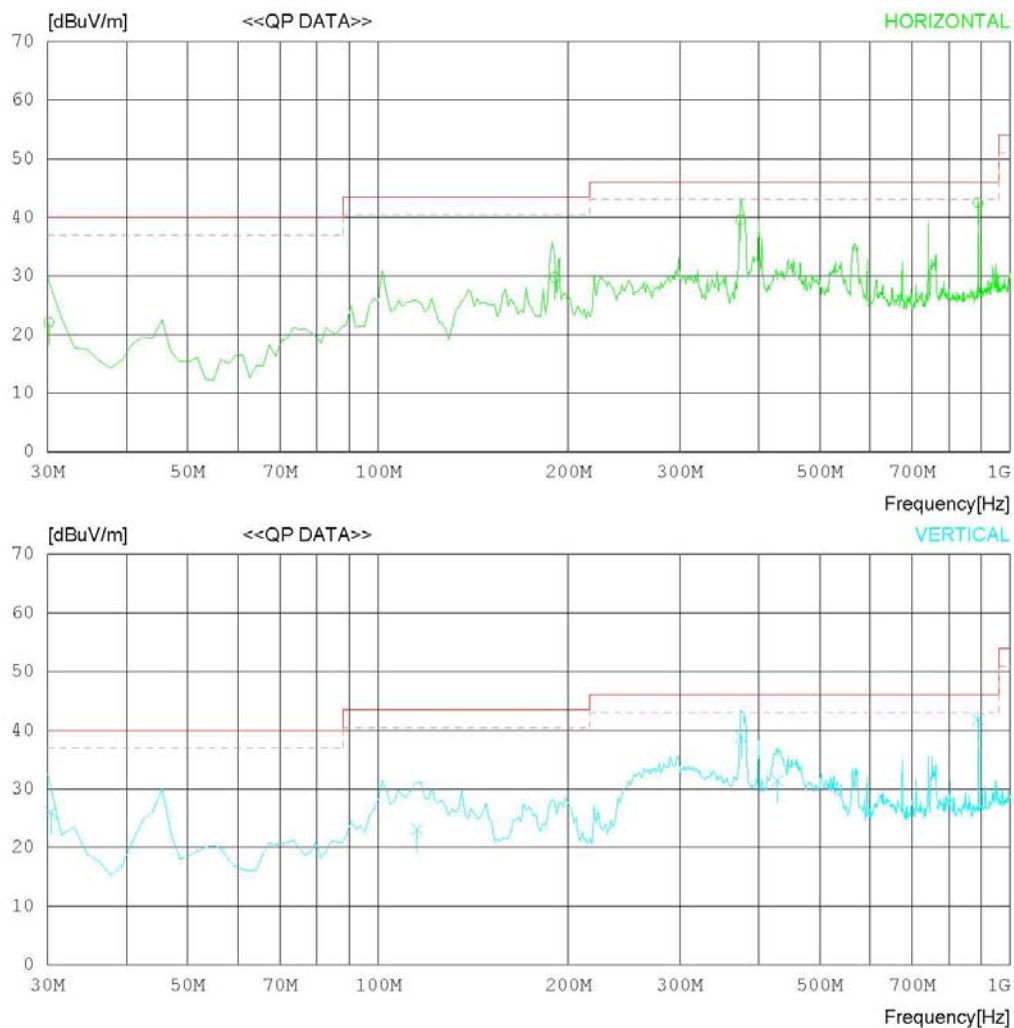
Date : 2013-04-17

Model Name : 47LP870H-UA
Model No. :
Serial No. :
Test Condition : DSUB

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi : 19 °C 45 % R.H.
Operator :

Memo :

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



RADIATED EMISSION

Date : 2013-04-17

Model Name : 47LP870H-UA	Reference No. :
Model No. :	Power Supply : 120 V 60 Hz
Serial No. :	Temp/Humi : 19 °C 45 % 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	30.147	27.3	17.8	0.8	23.8	22.1	40.0	17.9	100	217
2	190.548	41.8	9.7	2.2	24.0	29.7	43.5	13.8	100	164
3	374.806	44.3	15.5	3.4	23.6	39.6	46.0	6.4	384	264
4	890.099	39.4	20.7	5.2	22.8	42.5	46.0	3.5	100	255
----- Vertical -----										
5	30.384	31.2	17.7	0.9	23.8	26.0	40.0	14.0	100	226
6	115.336	34.3	11.4	1.5	24.1	23.1	43.5	20.4	100	196
7	375.445	43.6	15.5	3.4	23.6	38.9	46.0	7.1	234	167
8	428.115	34.9	16.4	3.5	23.4	31.4	46.0	14.6	165	358
9	890.112	38.8	20.7	5.2	22.8	41.9	46.0	4.1	100	226

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

RADIATED EMISSION

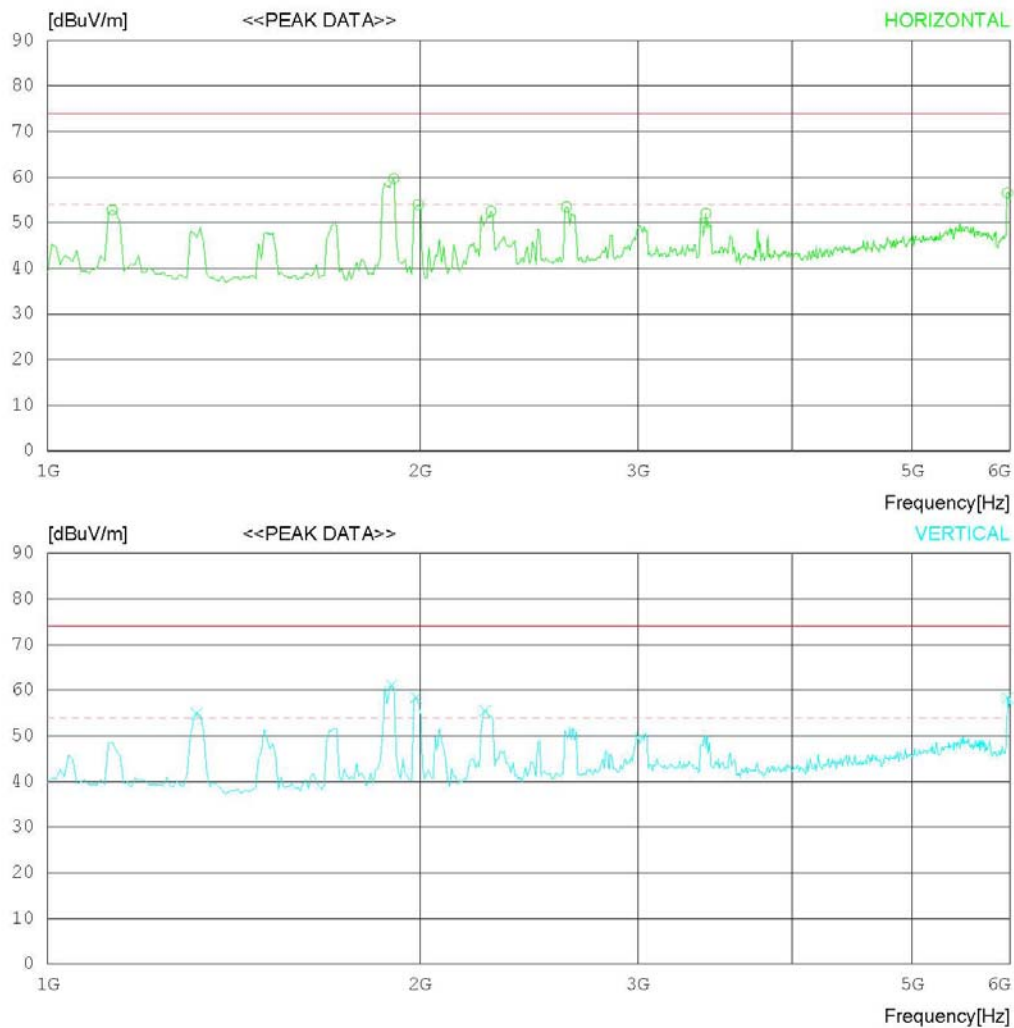
Date : 2013-04-17

Model Name : 47LP870H-UA
Model No. :
Serial No. :
Test Condition : DSUB

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi : 19 °C 45 % 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 : 2013-04-17

Model Name : 47LP870H-UA	Reference No. :
Model No. :	Power Supply : 120 V 60 Hz
Serial No. :	Temp/Humi : 19 °C 45 % 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	1128.205	66.1	24.1	3.5	40.9	52.8	74.0	21.2	100	1
2	1905.448	70.1	24.6	4.6	39.6	59.7	74.0	14.3	100	1
3	1993.589	64.2	24.6	4.7	39.5	54.0	74.0	20	100	233
4	2282.054	60.7	26.2	5.0	39.4	52.5	74.0	21.5	100	226
5	2626.611	59.7	27.8	5.3	39.3	53.5	74.0	20.5	100	1
6	3403.866	56.2	28.9	6.1	39.1	52.1	74.0	21.9	100	1
7	5967.950	54.9	32.0	8.4	38.7	56.6	74.0	17.4	100	76
----- Vertical -----										
8	1320.513	67.2	24.4	3.8	40.5	54.9	74.0	19.1	100	212
9	1897.436	71.5	24.6	4.6	39.6	61.1	74.0	12.9	100	358
10	1985.577	68.7	24.6	4.7	39.5	58.5	74.0	15.5	100	358
11	2258.016	63.9	26.0	5.0	39.4	55.5	74.0	18.5	100	358
12	5975.962	56.6	32.0	8.4	38.7	58.3	74.0	15.7	100	358

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

RADIATED EMISSION

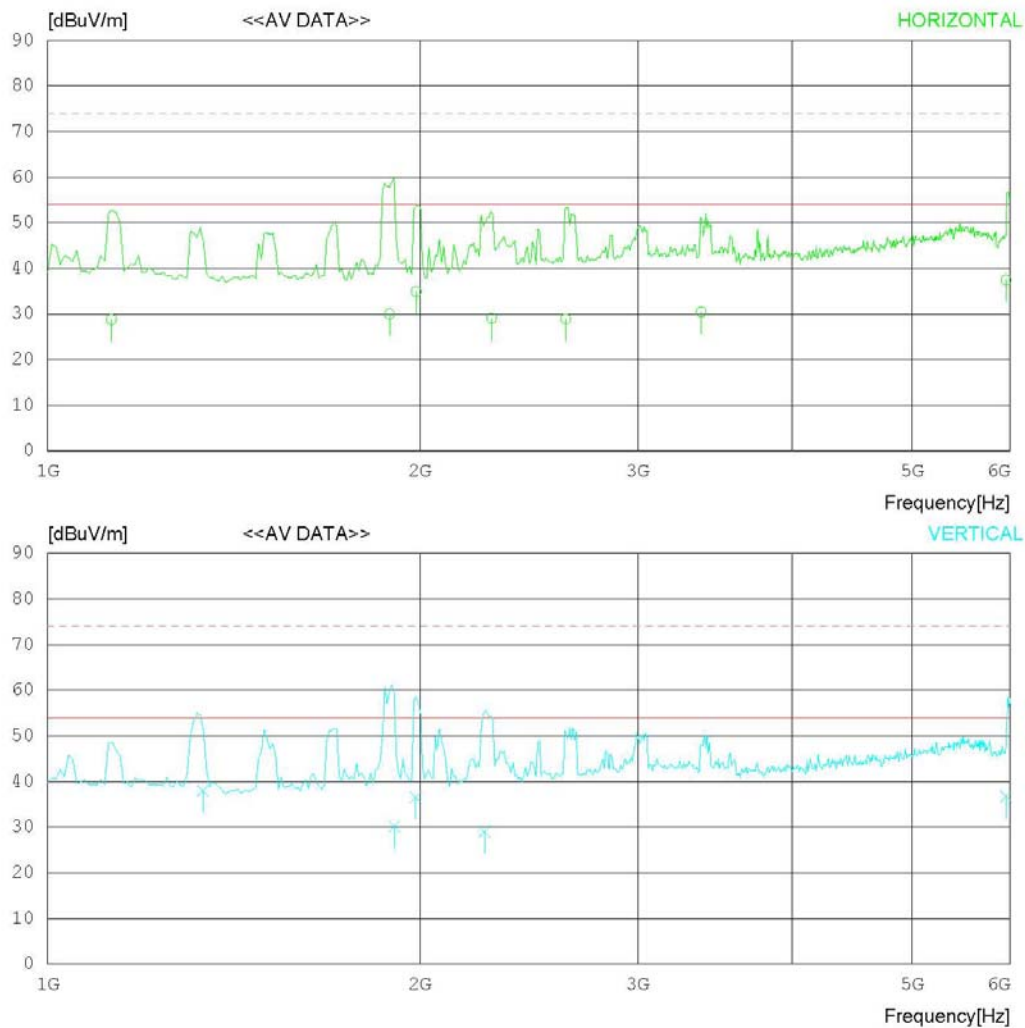
Date : 2013-04-17

Model Name : 47LP870H-UA
Model No. :
Serial No. :
Test Condition : DSUB

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi : 19 °C 45 % 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 : 2013-04-17

Model Name : 47LP870H-UA
Model No. :
Serial No. :
Test Condition : DSUB

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi : 19 °C 45 % R.H.
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	1126.076	42.1	24.1	3.5	40.9	28.8	54.0	25.2	100	231
2	1889.455	40.4	24.6	4.6	39.6	30.0	54.0	24.0	100	220
3	1985.788	45.1	24.6	4.7	39.5	34.9	54.0	19.1	100	233
4	2285.121	37.3	26.2	5.0	39.4	29.1	54.0	24.9	100	226
5	2623.794	35.1	27.8	5.3	39.3	28.9	54.0	25.1	100	165
6	3375.596	34.5	28.9	6.1	39.1	30.4	54.0	23.6	100	164
7	5954.166	35.7	32.1	8.4	38.7	37.5	54.0	16.5	100	76
----- Vertical -----										
8	1335.064	50.2	24.4	3.8	40.4	38.0	54.0	16.0	100	212
9	1907.137	40.6	24.6	4.6	39.6	30.2	54.0	23.8	100	143
10	1984.679	46.8	24.6	4.7	39.5	36.6	54.0	17.4	100	183
11	2255.035	37.4	26.0	5.0	39.4	29.0	54.0	25.0	100	206
12	5953.846	34.9	32.1	8.4	38.7	36.7	54.0	17.3	100	322

< HDMI MODE_30 MHz ~ 1 GHz >

RADIATED EMISSION

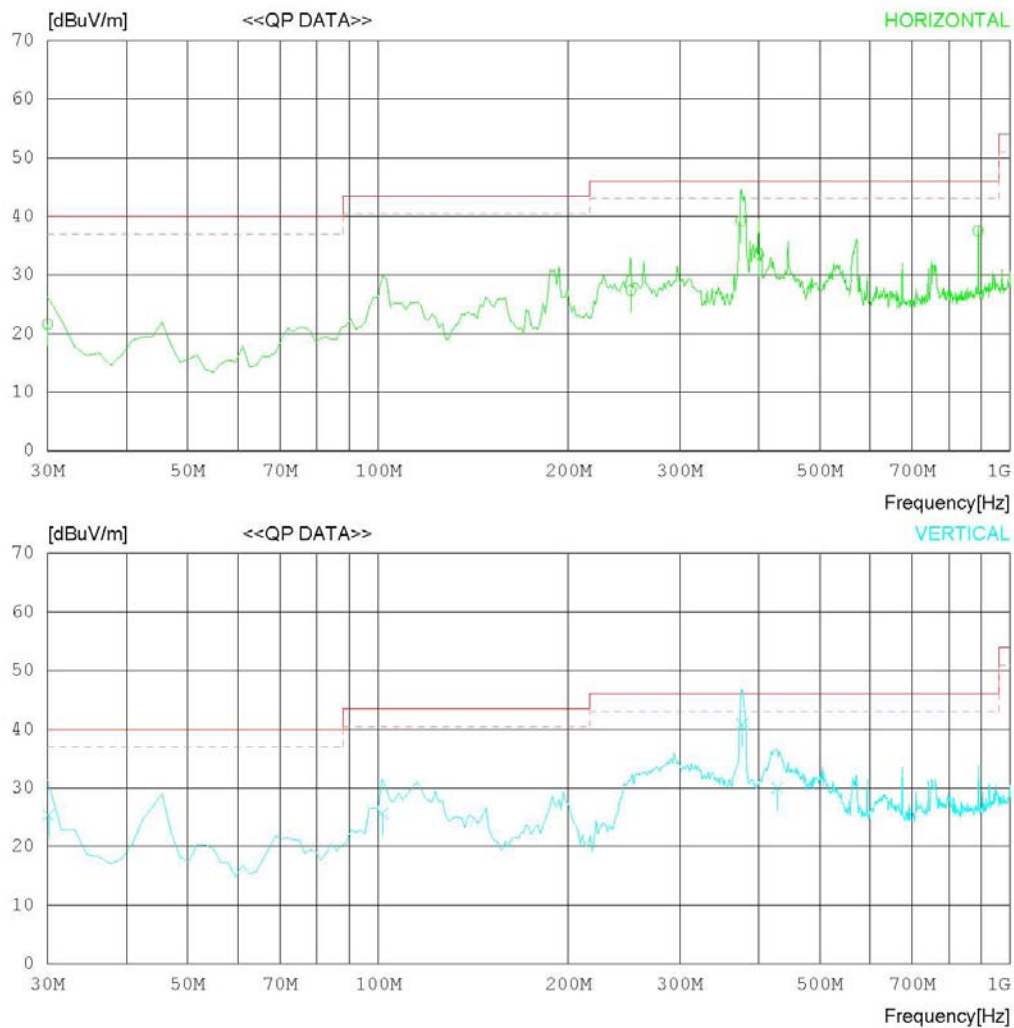
Date : 2013-04-17

Model Name : 47LP870H-UA
Model No. :
Serial No. :
Test Condition : HDMI

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi : 19 °C 45 % R.H.
Operator :

Memo :

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



RADIATED EMISSION

Date : 2013-04-17

Model Name : 47LP870H-UA
Model No. :
Serial No. :
Test Condition : HDMI

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi : 19 °C 45 % 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	26.7	17.9	0.8	23.8	21.6	40.0	18.4	264	206
2	251.061	35.9	12.7	2.6	23.8	27.4	46.0	18.6	199	335
3	374.615	43.9	15.5	3.4	23.6	39.2	46.0	6.8	168	170
4	399.800	37.5	16.0	3.5	23.5	33.5	46.0	12.5	100	207
5	890.109	34.4	20.7	5.2	22.8	37.5	46.0	8.5	234	206
----- Vertical -----										
6	30.109	30.6	17.8	0.8	23.8	25.4	40.0	14.6	100	231
7	101.608	37.6	10.7	1.4	24.1	25.6	43.5	17.9	100	349
8	376.632	45.6	15.5	3.4	23.6	40.9	46.0	5.1	235	224
9	428.119	33.5	16.4	3.5	23.4	30.0	46.0	16.0	206	199

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

RADIATED EMISSION

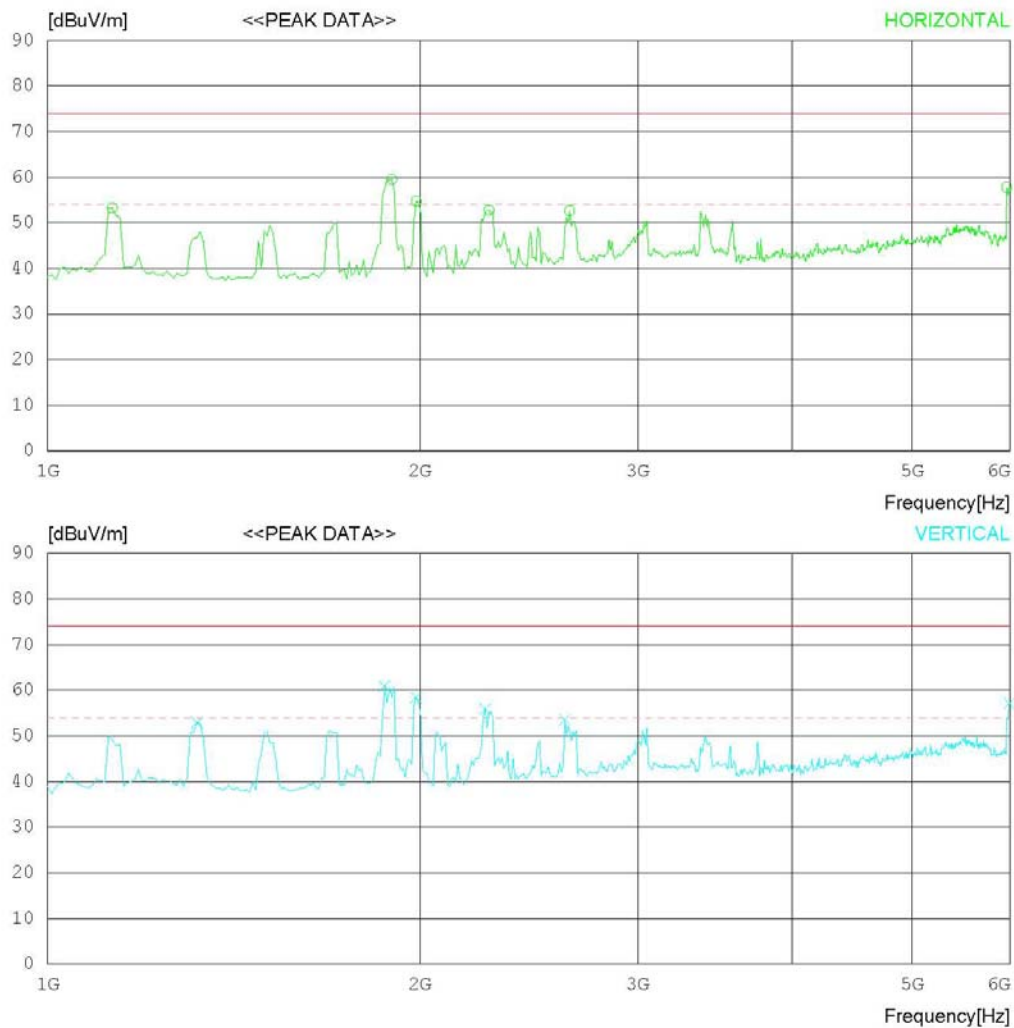
Date : 2013-04-17

Model Name : 47LP870H-UA
Model No. :
Serial No. :
Test Condition : HDMI

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi : 19 °C 45 % 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 : 2013-04-17

Model Name : 47LP870H-UA	Reference No. :
Model No. :	Power Supply : 120 V 60 Hz
Serial No. :	Temp/Humi : 19 °C 45 % 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	1128.205	66.6	24.1	3.5	40.9	53.3	74.0	20.7	100	358
2	1897.436	69.9	24.6	4.6	39.6	59.5	74.0	14.5	100	244
3	1985.577	64.9	24.6	4.7	39.5	54.7	74.0	19.3	100	229
4	2274.042	61.1	26.1	5.0	39.4	52.8	74.0	21.2	100	358
5	2642.637	58.7	27.9	5.4	39.3	52.7	74.0	21.3	100	358
6	5959.937	56.0	32.1	8.4	38.7	57.8	74.0	16.2	100	73
----- Vertical -----										
7	1320.513	65.2	24.4	3.8	40.5	52.9	74.0	21.1	100	1
8	1873.397	71.3	24.6	4.6	39.6	60.9	74.0	13.1	100	1
9	1985.577	68.6	24.6	4.7	39.5	58.4	74.0	15.6	100	358
10	2258.016	64.3	26.0	5.0	39.4	55.9	74.0	18.1	100	211
11	2618.598	59.7	27.8	5.3	39.3	53.5	74.0	20.5	100	1
12	5991.988	55.5	31.9	8.4	38.7	57.1	74.0	16.9	100	1

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

RADIATED EMISSION

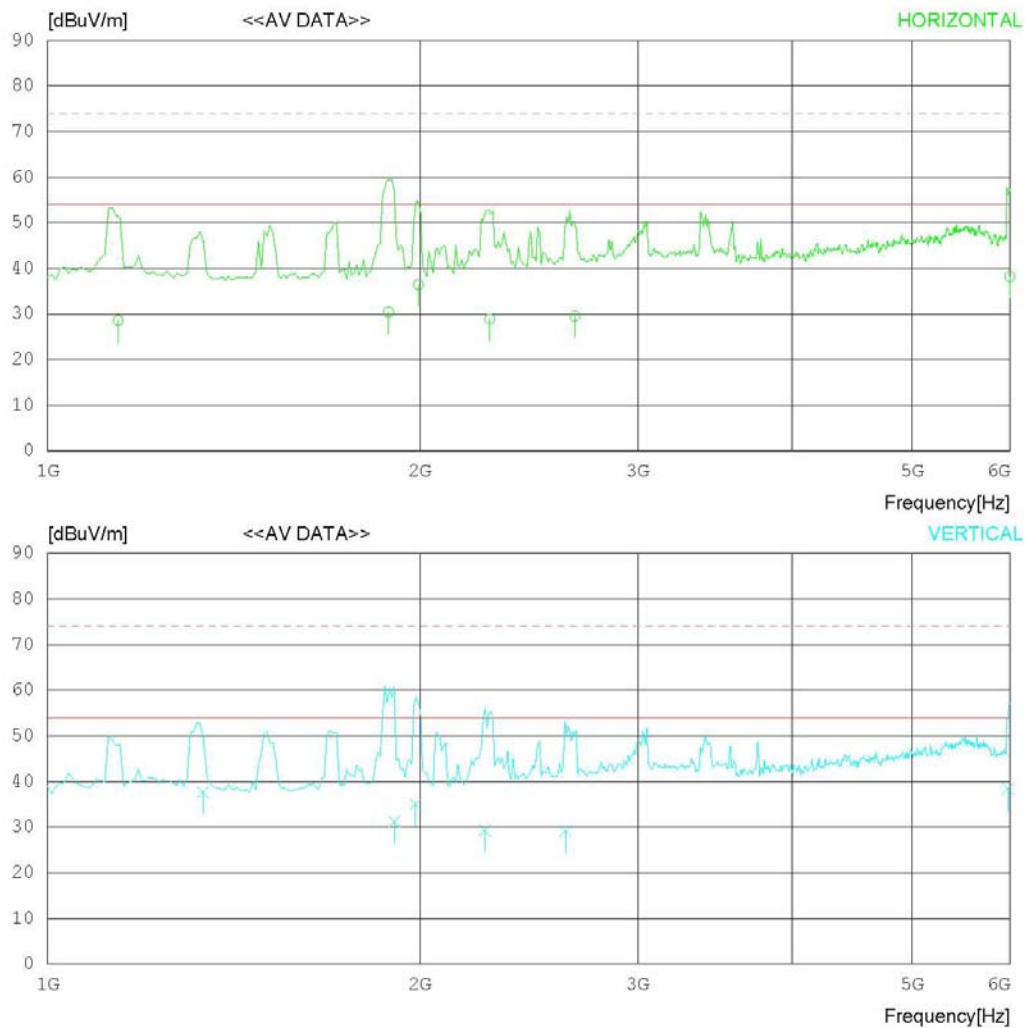
Date : 2013-04-17

Model Name : 47LP870H-UA
Model No. :
Serial No. :
Test Condition : HDMI

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi : 19 °C 45 % 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 : 2013-04-17

Model Name : 47LP870H-UA	Reference No. :
Model No. :	Power Supply : 120 V 60 Hz
Serial No. :	Temp/Humi : 19 °C 45 % 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	1140.378	41.9	24.1	3.5	40.9	28.6	54.0	25.4	100	229
2	1886.423	40.8	24.6	4.6	39.6	30.4	54.0	23.6	100	244
3	1994.653	46.6	24.6	4.7	39.5	36.4	54.0	17.6	100	229
4	2277.205	37.1	26.2	5.0	39.4	28.9	54.0	25.1	100	165
5	2668.442	35.4	28.0	5.4	39.3	29.5	54.0	24.5	100	116
6	5996.500	36.7	31.8	8.4	38.7	38.2	54.0	15.8	100	73
----- Vertical -----										
7	1335.044	49.8	24.4	3.8	40.4	37.6	54.0	16.4	100	178
8	1906.733	41.6	24.6	4.6	39.6	31.2	54.0	22.8	100	165
9	1984.358	45.2	24.6	4.7	39.5	35.0	54.0	19.0	100	305
10	2255.115	37.7	26.0	5.0	39.4	29.3	54.0	24.7	100	211
11	2623.929	35.3	27.8	5.3	39.3	29.1	54.0	24.9	100	144
12	5975.653	36.7	32.0	8.4	38.7	38.4	54.0	15.6	100	264

< USB MODE_30 MHz ~ 1 GHz >

RADIATED EMISSION

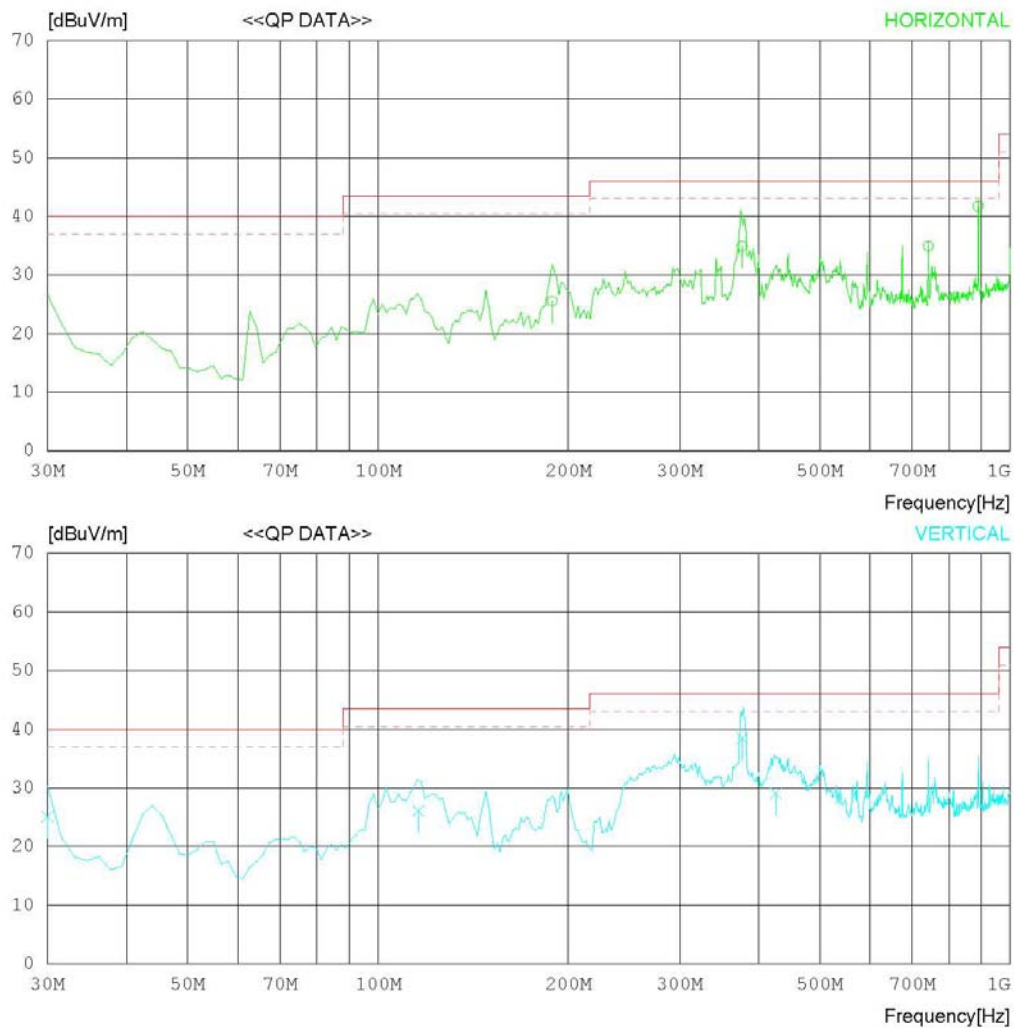
Date : 2013-04-17

Model Name : 47LP870H-UA
Model No. :
Serial No. :
Test Condition : USB

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi : 19 °C 45 % R.H.
Operator :

Memo :

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



RADIATED EMISSION

Date : 2013-04-17

Model Name : 47LP870H-UA
Model No. :
Serial No. :
Test Condition : USB

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi : 19 °C 45 % 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	188.558	37.6	9.7	2.2	24.0	25.5	43.5	18.0	229	111
2	376.306	39.6	15.5	3.4	23.6	34.9	46.0	11.1	186	123
3	742.094	33.9	19.2	4.6	22.8	34.9	46.0	11.1	100	232
4	890.156	38.6	20.7	5.2	22.8	41.7	46.0	4.3	400	264
----- Vertical -----										
5	30.000	30.2	17.9	0.8	23.8	25.1	40.0	14.9	100	358
6	115.916	37.3	11.4	1.5	24.1	26.1	43.5	17.4	100	142
7	376.845	43.2	15.5	3.4	23.6	38.5	46.0	7.5	206	169
8	426.119	32.6	16.4	3.5	23.4	29.1	46.0	16.9	236	188

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

RADIATED EMISSION

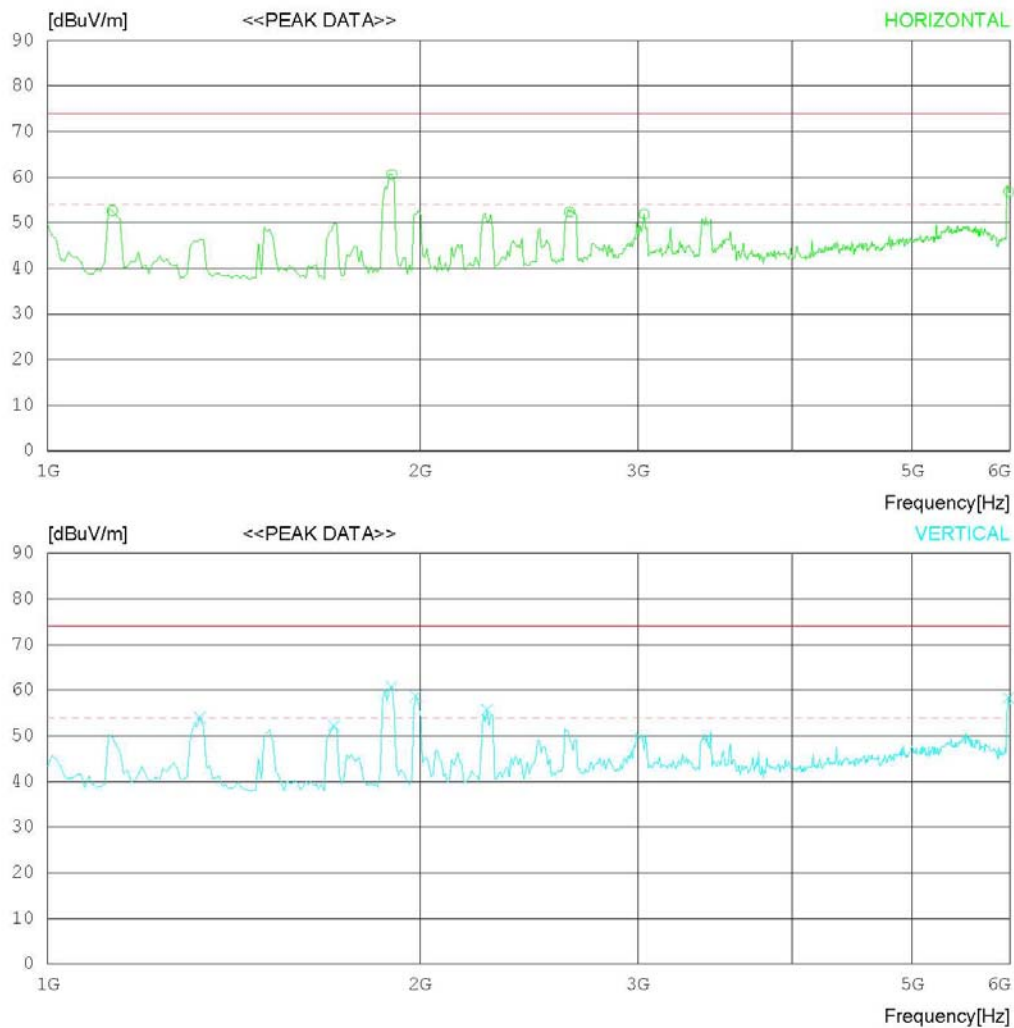
Date : 2013-04-17

Model Name : 47LP870H-UA
Model No. :
Serial No. :
Test Condition : USB

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi : 19 °C 45 % 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 : 2013-04-17

Model Name : 47LP870H-UA	Reference No. :
Model No. :	Power Supply : 120 V 60 Hz
Serial No. :	Temp/Humi : 19 °C 45 % 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	1128.205	66.0	24.1	3.5	40.9	52.7	74.0	21.3	100	1
2	1897.436	71.0	24.6	4.6	39.6	60.6	74.0	13.4	100	1
3	2642.637	58.4	27.9	5.4	39.3	52.4	74.0	21.6	100	1
4	3035.271	56.5	29.0	5.7	39.3	51.9	74.0	22.1	100	223
5	5983.975	55.2	31.9	8.4	38.7	56.8	74.0	17.2	100	75
----- Vertical -----										
6	1328.526	66.2	24.4	3.8	40.4	54.0	74.0	20	100	358
7	1705.128	63.1	24.6	4.3	39.8	52.2	74.0	21.8	100	187
8	1897.436	71.1	24.6	4.6	39.6	60.7	74.0	13.3	100	358
9	1985.577	68.9	24.6	4.7	39.5	58.7	74.0	15.3	100	1
10	2266.029	64.0	26.1	5.0	39.4	55.7	74.0	18.3	100	358
11	5983.975	56.8	31.9	8.4	38.7	58.4	74.0	15.6	100	358

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

RADIATED EMISSION

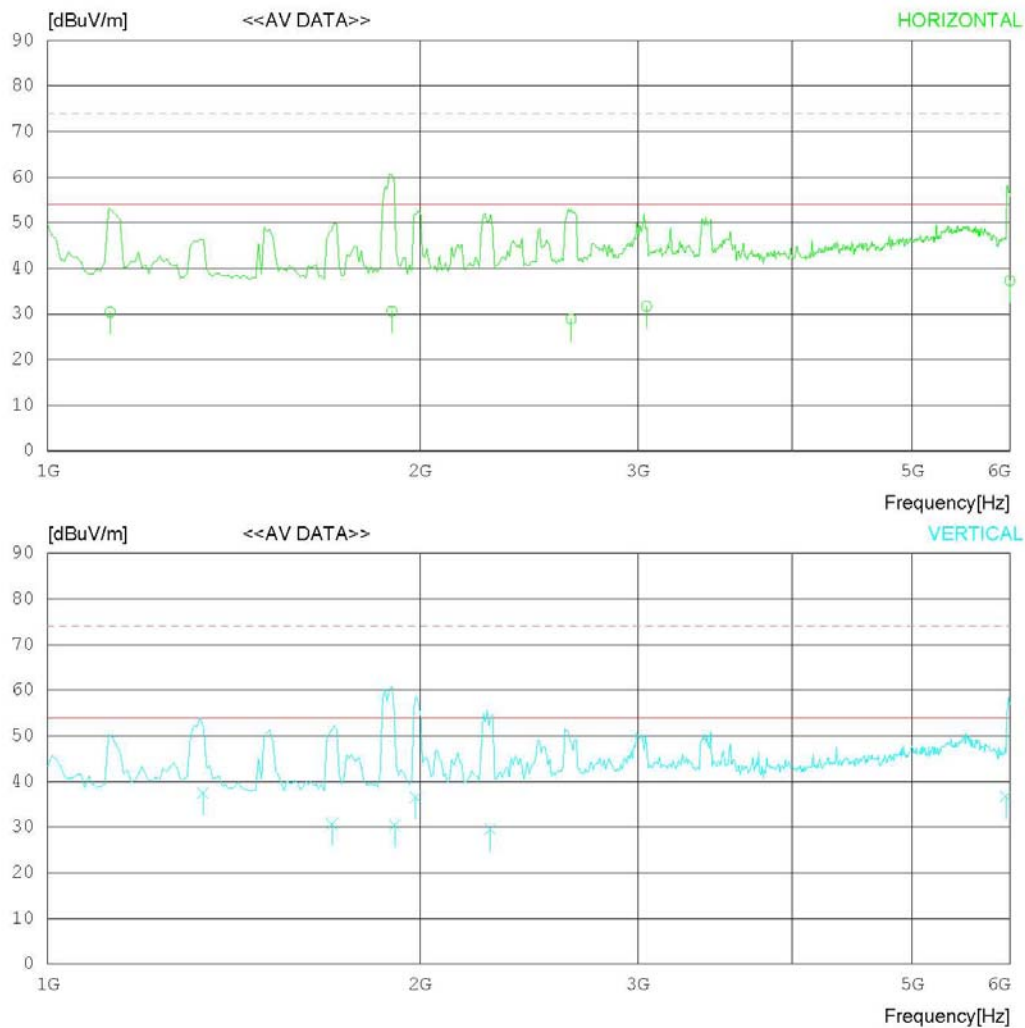
Date : 2013-04-17

Model Name : 47LP870H-UA
Model No. :
Serial No. :
Test Condition : USB

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi : 19 °C 45 % 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 : 2013-04-17

Model Name : 47LP870H-UA	Reference No. :
Model No. :	Power Supply : 120 V 60 Hz
Serial No. :	Temp/Humi : 19 °C 45 % 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	1123.451	43.7	24.1	3.5	40.9	30.4	54.0	23.6	100	105
2	1897.461	41.0	24.6	4.6	39.6	30.6	54.0	23.4	100	226
3	2650.733	34.9	27.9	5.4	39.3	28.9	54.0	25.1	100	241
4	3049.102	36.3	29.0	5.7	39.3	31.7	54.0	22.3	100	223
5	5997.823	35.8	31.8	8.4	38.7	37.3	54.0	16.7	100	75
----- Vertical -----										
6	1335.291	49.7	24.4	3.8	40.4	37.5	54.0	16.5	100	229
7	1698.266	41.6	24.6	4.3	39.8	30.7	54.0	23.3	100	187
8	1908.538	40.8	24.6	4.6	39.6	30.4	54.0	23.6	100	332
9	1984.679	46.8	24.6	4.7	39.5	36.6	54.0	17.4	100	305
10	2280.022	37.7	26.2	5.0	39.4	29.5	54.0	24.5	100	338
11	5953.320	34.9	32.1	8.4	38.7	36.7	54.0	17.3	100	208

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