EMC TEST REPORT

Test item	: LED TV Monitor
Model No.	: 47LN5790-UI
Order No.	: DEMC1302-00477
Date of receipt	: 2013-02-04
Test duration	: 2013-02-14 ~ 2013-02-15
Use of report	: FCC CoC Marking
Date of Issue	: 2013-02-21

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 : 20 °C,
Humidity : (37 ~ 38) % R.H.

Test result : ☒ Comply ☐ Not Comply

Tested by:

Engineer
HyungJun Kim

Reviewed by:

General Manager
ChangHo Lee

PRESIDENT OF DIGITAL EMC CO., LTD.

CONTENTS

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.digitalemc.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.	47LN5790-UI
EUT Type	LED TV Monitor
Serial No	NONE
FCC ID	BEJ47LN5790UI
Type of Sample Tested	Pre-Production
High Frequency	790 MHz
Rating	AC 100-240 V~ 50/60 Hz, 1.1 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

HDMI (PC) supported mode

Resolution	Horizontal Frequency (KHz)	Vertical Frequency (Hz)
640 x 350	31.468	70.09
720 x 400	31.469	70.08
640 x 480	31.469	59.94
800 x 600	37.879	60.31
1024 x 768	48.363	60.00
1152 x 864	54.348	60.053
1360 x 768	47.712	60.015
1280 x 1024	63.981	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 (℃)	Humidity (% R.H.)
Conducted Disturbance	02-14	20	37
Radiated Disturbance	02-15	20	38

4.3 Test result Summary

(1) Conducted Emission (USB MODE)

Frequency [MHz]	Phase	Result [dBμV]	Detector	Limit [dBμV]	Margin [dB]
0.81946	**N**	**46.6**	Quasi-Peak	**56.0**	**9.4**

(2) Radiated Emission (HDMI MODE)

Frequency [MHz]	Pol.	Result [dB(μV/m)]	Detector	Limit [dB(μV/m)]	Margin [dB]
1480.769	**H**	**50.9**	Average	**54.0**	**3.1**

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

- HDMI MODE : 1920x1080 Resolution (Worst case)
- USB MODE : USB record file play
- HDMI MODE & USB MODE : “H” characters scroll 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	DC8CMF	G3RZKBX	DELL INC.	POWER HDMI USB USB USB	1.8 1.8 1.8 1.8 1.5	Not use Not use Not use Not use Not use	Non-shield Shield Shield Shield Shield	Plastic	DOC
KEYBOARD	KB-065	CN111363232	HP	USB	1.8	Not use	Shield	Plastic	DOC
MOUSE	1094	X817158-002	MICROSOFT CORPORATION	USB	1.6	Not use	Shield	Plastic	DOC
CD/DVD PLAYER	DVP-NS92V	2000407	SONY EMCS.	POWER Component	1.8 1.6	Not use Not use	Non-shield Non-shield	Plastic	VER
USB MEMORY	CRUZER 4GB	N/A	SANDISK	USB	-	-	-	Plastic	DOC
PRINT	EPSON Aculaser M1200	LWTZ181070	EPSON	POWER USB	1.5 1.8	Not use Not use	Non-shield Shield	Plastic	DOC
HEADSET	COV9	N/A	COSY	Headphone	2.5	Not use	Non-shield	Plastic	DOC
REMOTE CONTROL	AKB73756542	N/A	HANSUNG ELECTRONICS CO., LTD.	-	-	-	-	-	-
SOUND BAR	NB2338A	N/A	LG Electronics (U.S.A.), Inc.	-	-	-	-	-	-
Adaptor	DA-48A18	N/A	Yang Ming Industrial	DC Power AC Power	1.6 1.6	- -	Shield Non-shield	Plastic	-

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

< HDMI MODE >

Digital EMC

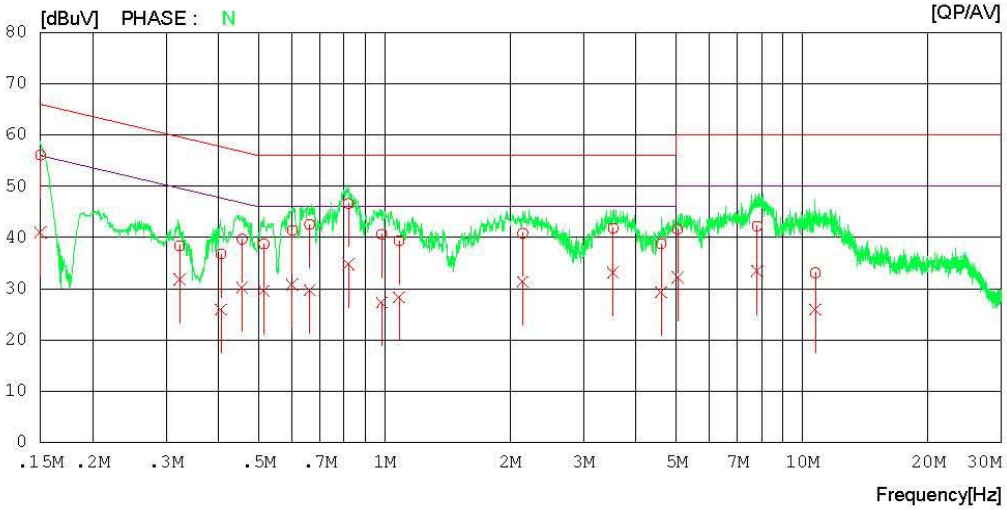
Results of Conducted Emission

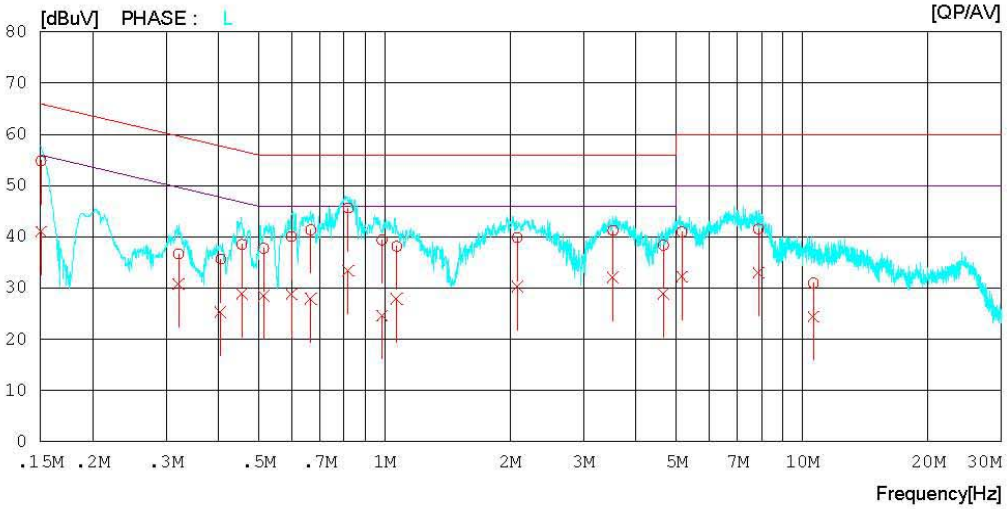
Digital EMC
Date : 2013-02-13

Model No.	:	47LN5790-UI	Referrence No.	:	
Type	:		Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi.	:	20 'C 37 % R.H
Test Condition	:	HDMI	Operator	:	

Memo :

LIMIT : CISPR22_B QP
CISPR22_B AV





Results of Conducted Emission

Digital EMC
Date : 2013-02-13

Model No.	:	47LN5790-UI	Referrence No.	:	
Type	:		Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi.	:	20 'C 37 % R.H
Test Condition	:	HDMI	Operator	:	

Memo :

LIMIT : CISPR22_B QP
CISPR22_B AV

NO	FREQ	READING QP	READING AV	C.FACTOR	RESULT QP	RESULT AV	LIMIT QP	LIMIT AV	MARGIN QP	MARGIN AV	PHASE
	[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	
1	0.15016	55.8	40.8	0.2	56.0	41.0	66.0	56.0	10.0	15.0	N
2	0.32345	38.2	31.6	0.2	38.4	31.8	59.6	49.6	21.2	17.8	N
3	0.40609	36.6	25.7	0.2	36.8	25.9	57.7	47.7	20.9	21.8	N
4	0.45603	39.5	30.0	0.2	39.7	30.2	56.8	46.8	17.1	16.6	N
5	0.51436	38.5	29.3	0.2	38.7	29.5	56.0	46.0	17.3	16.5	N
6	0.60150	41.1	30.6	0.2	41.3	30.8	56.0	46.0	14.7	15.2	N
7	0.66185	42.3	29.5	0.2	42.5	29.7	56.0	46.0	13.5	16.3	N
8	0.81946	46.4	34.6	0.2	46.6	34.8	56.0	46.0	9.4	11.2	N
9	0.98495	40.4	27.1	0.2	40.6	27.3	56.0	46.0	15.4	18.7	N
10	1.08350	39.1	28.0	0.3	39.4	28.3	56.0	46.0	16.6	17.7	N
11	2.14300	40.5	31.0	0.3	40.8	31.3	56.0	46.0	15.2	14.7	N
12	3.52700	41.5	32.8	0.3	41.8	33.1	56.0	46.0	14.2	12.9	N
13	4.59350	38.4	28.9	0.4	38.8	29.3	56.0	46.0	17.2	16.7	N
14	5.03300	41.2	31.8	0.4	41.6	32.2	60.0	50.0	18.4	17.8	N
15	7.80000	41.7	32.9	0.5	42.2	33.4	60.0	50.0	17.8	16.6	N
16	10.75550	32.4	25.2	0.7	33.1	25.9	60.0	50.0	26.9	24.1	N
17	0.15063	54.7	40.8	0.2	54.9	41.0	66.0	56.0	11.1	15.0	L
18	0.32123	36.5	30.6	0.2	36.7	30.8	59.7	49.7	23.0	18.9	L
19	0.40516	35.5	25.1	0.2	35.7	25.3	57.7	47.7	22.0	22.4	L
20	0.45568	38.3	28.8	0.2	38.5	29.0	56.8	46.8	18.3	17.8	L
21	0.51413	37.6	28.3	0.2	37.8	28.5	56.0	46.0	18.2	17.5	L
22	0.59900	39.9	28.6	0.2	40.1	28.8	56.0	46.0	15.9	17.2	L
23	0.66621	41.2	27.7	0.2	41.4	27.9	56.0	46.0	14.6	18.1	L
24	0.81819	45.4	33.2	0.2	45.6	33.4	56.0	46.0	10.4	12.6	L
25	0.98686	39.2	24.4	0.2	39.4	24.6	56.0	46.0	16.6	21.4	L
26	1.07000	37.8	27.6	0.3	38.1	27.9	56.0	46.0	17.9	18.1	L
27	2.07950	39.6	30.0	0.3	39.9	30.3	56.0	46.0	16.1	15.7	L
28	3.52400	41.0	31.8	0.3	41.3	32.1	56.0	46.0	14.7	13.9	L
29	4.65600	38.0	28.5	0.4	38.4	28.9	56.0	46.0	17.6	17.1	L
30	5.15800	40.6	31.8	0.4	41.0	32.2	60.0	50.0	19.0	17.8	L
31	7.86500	41.0	32.5	0.5	41.5	33.0	60.0	50.0	18.5	17.0	L
32	10.64150	30.3	23.7	0.7	31.0	24.4	60.0	50.0	29.0	25.6	L

< USB MODE >

Digital EMC

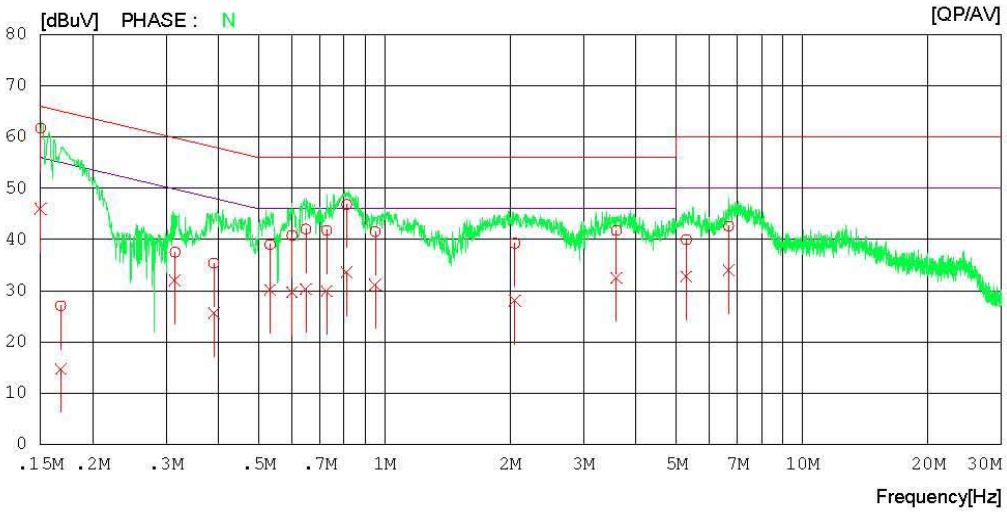
Results of Conducted Emission

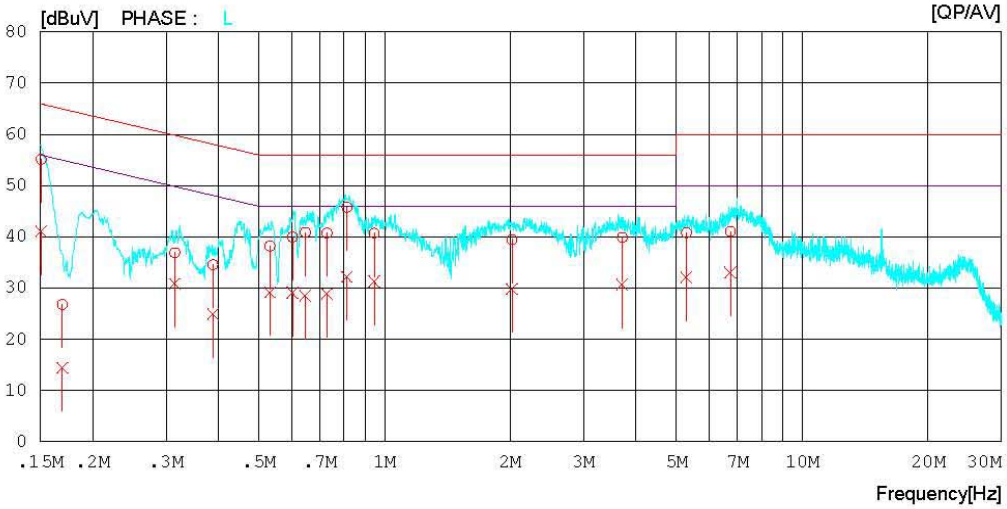
Digital EMC
Date : 2013-02-14

Model No.	:	47LN5790-UI	Referrence No.	:	
Type	:		Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi.	:	20 'C 37 % R.H
Test Condition	:	USB	Operator	:	

Memo :

LIMIT : CISPR22_B QP
CISPR22_B AV





Results of Conducted Emission

Digital EMC
Date : 2013-02-14

Model No.	:	47LN5790-UI	Referrence No.	:	
Type	:		Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi.	:	20 'C 37 % R.H
Test Condition	:	USB	Operator	:	

Memo :

LIMIT : CISPR22_B QP
CISPR22_B AV

NO	FREQ	READING QP	READING AV	C.FACTOR	RESULT QP	RESULT AV	LIMIT QP	LIMIT AV	MARGIN QP	MARGIN AV	PHASE
	[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	
1	0.15016	61.5	45.8	0.2	61.7	46.0	66.0	56.0	4.3	10.0	N
2	0.16796	26.8	14.5	0.2	27.0	14.7	65.1	55.1	38.1	40.4	N
3	0.31528	37.3	31.8	0.2	37.5	32.0	59.8	49.8	22.3	17.8	N
4	0.39018	35.2	25.4	0.2	35.4	25.6	58.1	48.1	22.7	22.5	N
5	0.53251	38.8	29.9	0.2	39.0	30.1	56.0	46.0	17.0	15.9	N
6	0.60040	40.6	29.5	0.2	40.8	29.7	56.0	46.0	15.2	16.3	N
7	0.64853	41.8	30.1	0.2	42.0	30.3	56.0	46.0	14.0	15.7	N
8	0.72755	41.6	29.7	0.2	41.8	29.9	56.0	46.0	14.2	16.1	N
9	0.81238	46.6	33.4	0.2	46.8	33.6	56.0	46.0	9.2	12.4	N
10	0.95000	41.3	31.0	0.2	41.5	31.2	56.0	46.0	14.5	14.8	N
11	2.05250	38.9	27.7	0.3	39.2	28.0	56.0	46.0	16.8	18.0	N
12	3.58700	41.4	32.2	0.3	41.7	32.5	56.0	46.0	14.3	13.5	N
13	5.28100	39.5	32.3	0.4	39.9	32.7	60.0	50.0	20.1	17.3	N
14	6.66850	42.1	33.5	0.5	42.6	34.0	60.0	50.0	17.4	16.0	N
15	0.15071	54.9	40.9	0.2	55.1	41.1	66.0	56.0	10.9	14.9	L
16	0.16925	26.6	14.3	0.2	26.8	14.5	65.0	55.0	38.2	40.5	L
17	0.31488	36.7	30.6	0.2	36.9	30.8	59.8	49.8	22.9	19.0	L
18	0.38855	34.4	24.7	0.2	34.6	24.9	58.1	48.1	23.5	23.2	L
19	0.53199	38.0	29.0	0.2	38.2	29.2	56.0	46.0	17.8	16.8	L
20	0.60238	39.8	28.9	0.2	40.0	29.1	56.0	46.0	16.0	16.9	L
21	0.64650	40.7	28.4	0.2	40.9	28.6	56.0	46.0	15.1	17.4	L
22	0.72849	40.6	28.6	0.2	40.8	28.8	56.0	46.0	15.2	17.2	L
23	0.81266	45.6	32.0	0.2	45.8	32.2	56.0	46.0	10.2	13.8	L
24	0.94500	40.5	31.1	0.2	40.7	31.3	56.0	46.0	15.3	14.7	L
25	2.01900	39.2	29.5	0.3	39.5	29.8	56.0	46.0	16.5	16.2	L
26	3.70950	39.6	30.4	0.3	39.9	30.7	56.0	46.0	16.1	15.3	L
27	5.28500	40.4	31.8	0.4	40.8	32.2	60.0	50.0	19.2	17.8	L
28	6.73350	40.6	32.6	0.5	41.1	33.1	60.0	50.0	18.9	16.9	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	5th 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

< HDMI MODE_30 MHz ~ 1 GHz >

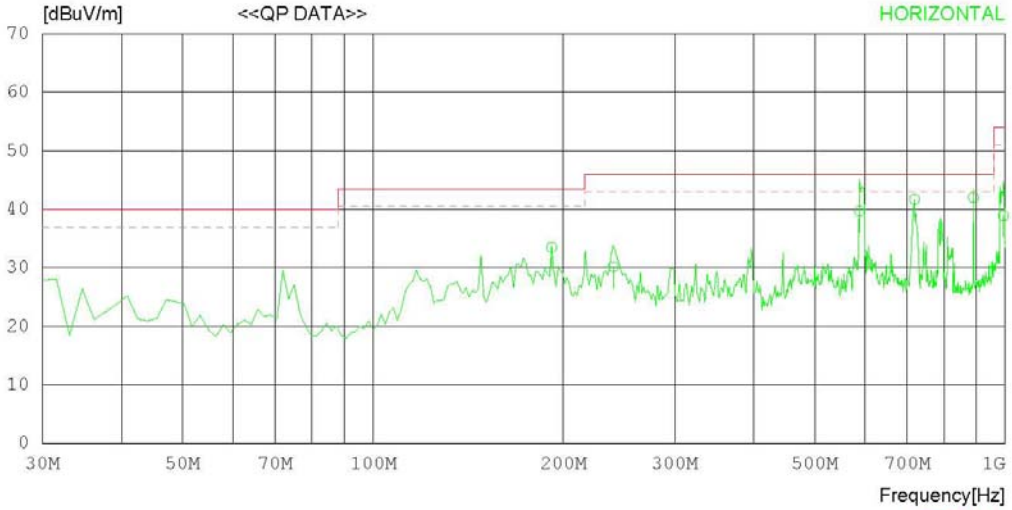
RADIATED EMISSION

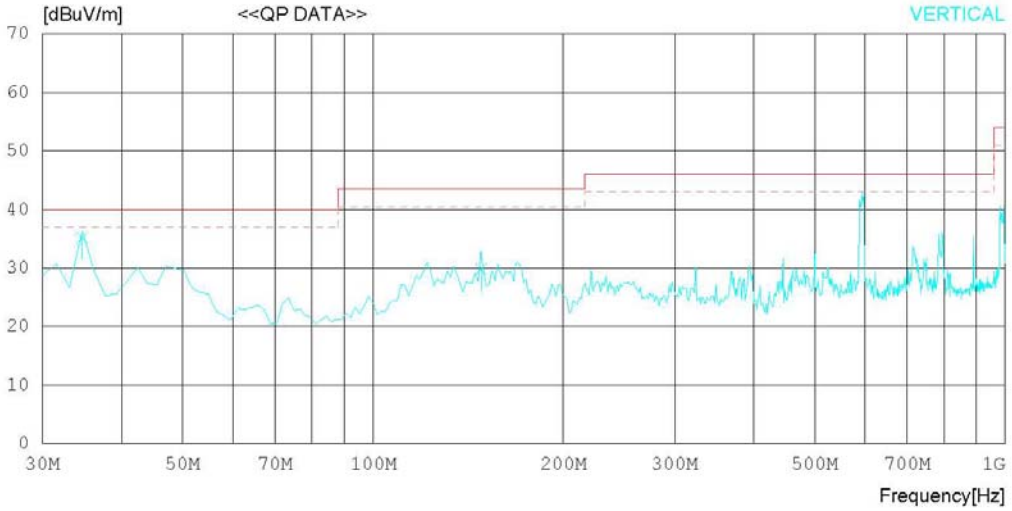
Date : 2013-02-15

Model Name	:	47LN5790-UI	Reference No.	:	
Model No.	:		Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi	:	20 'C 38 % R.H
Test Condition	:	HDMI	Operator	:	

Memo :

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





RADIATED EMISSION

Date : 2013-02-15

Model Name	:	47LN5790-UI	Reference No.	:	
Model No.	:		Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi	:	20 '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	191.667	45.6	9.7	2.2	24.0	33.5	43.5	10.0	126	358
2	239.856	39.4	12.1	2.5	23.8	30.2	46.0	15.8	105	1
3	588.060	40.5	18.5	4.1	23.4	39.7	46.0	6.3	100	0
4	718.638	42.1	18.8	4.6	23.8	41.7	46.0	4.3	110	0
5	891.188	39.2	20.7	5.2	23.1	42.0	46.0	4.0	100	358
6	993.786	33.9	22.2	5.5	22.7	38.9	54.0	15.1	100	167
----- Vertical ------										
7	34.663	42.6	15.4	1.1	23.9	35.2	40.0	4.8	100	176
8	148.141	41.8	10.5	1.7	24.2	29.8	43.5	13.7	100	337

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

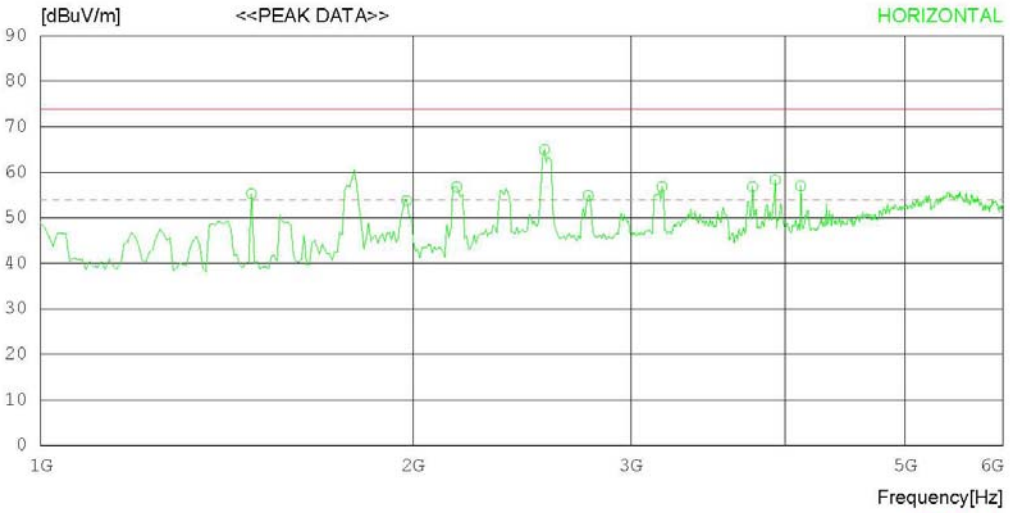
RADIATED EMISSION

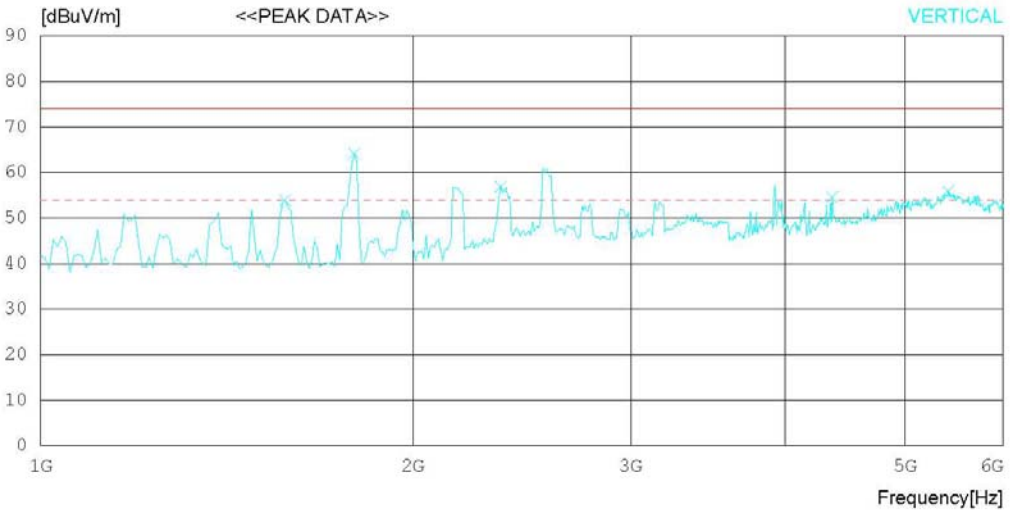
Date : 2013-02-15

Model Name	:	47LN5790-UI	Reference No.	:	
Model No.	:		Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi	:	20 'C 38 % R.H
Test Condition	:	HDMI	Operator	:	

Memo :

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





RADIATED EMISSION

Date : 2013-02-15

Model Name	:	47LN5790-UI	Reference No.	:	
Model No.	:		Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi	:	20 'C 38 % 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	1480.769	51.8	24.6	7.4	28.5	55.3	74.0	18.7	100	182
2	1977.564	49.3	24.6	8.4	28.5	53.8	74.0	20.2	100	1
3	2169.873	51.0	25.5	8.8	28.5	56.8	74.0	17.2	100	1
4	2554.494	56.2	27.6	9.6	28.4	65.0	74.0	9	100	179
5	2770.844	44.9	28.3	10.1	28.4	54.9	74.0	19.1	100	211
6	3179.504	45.4	28.9	10.9	28.4	56.8	74.0	17.2	100	1
7	3764.448	43.1	29.6	12.4	28.3	56.8	74.0	17.2	100	1
8	3924.707	43.8	30.0	12.8	28.3	58.3	74.0	15.7	100	153
9	4117.017	41.9	30.3	13.1	28.3	57.0	74.0	17	100	184
----- Vertical ------										
10	1576.923	50.2	24.6	7.6	28.5	53.9	74.0	20.1	100	358
11	1793.269	59.9	24.6	8.1	28.5	64.1	74.0	9.9	100	197
12	2354.171	49.6	26.6	9.2	28.5	56.9	74.0	17.1	100	206
13	4365.411	38.8	30.7	13.3	28.2	54.6	74.0	19.4	100	153
14	5415.074	34.5	34.6	14.9	28.1	55.9	74.0	18.1	100	358

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

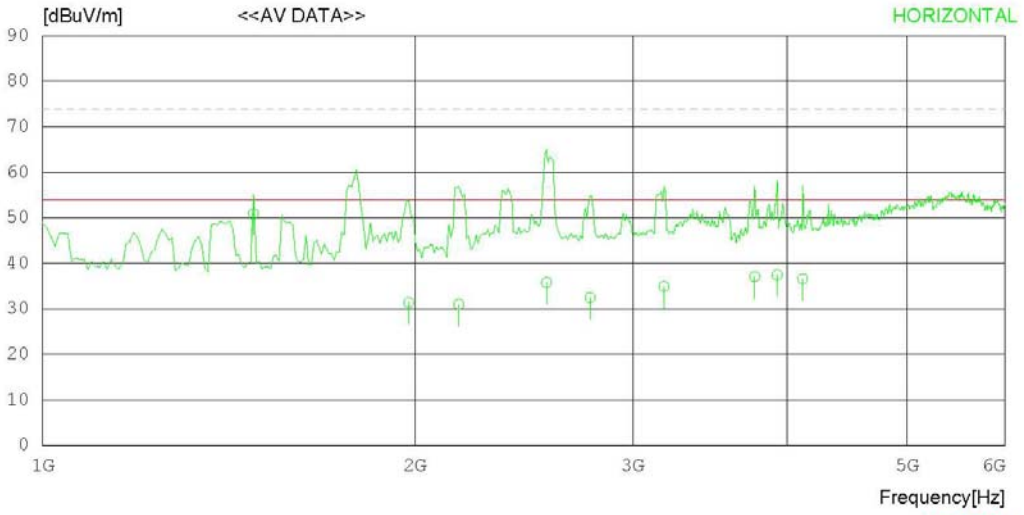
RADIATED EMISSION

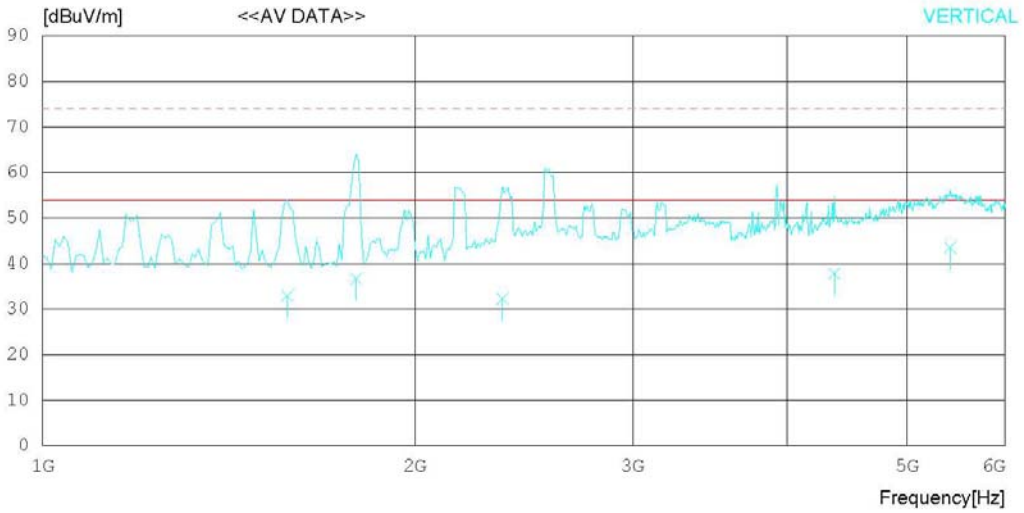
Date : 2013-02-15

Model Name	:	47LN5790-UI	Reference No.	:	
Model No.	:		Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi	:	20 'C 38 % R.H
Test Condition	:	HDMI	Operator	:	

Memo :

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





RADIATED EMISSION

Date : 2013-02-15

Model Name	:	47LN5790-UI	Reference No.	:	
Model No.	:		Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi	:	20 'C 38 % 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	1480.769	47.4	24.6	7.4	28.5	50.9	54.0	3.1	100	182
2	1977.564	26.9	24.6	8.4	28.5	31.4	54.0	22.6	100	1
3	2169.873	25.2	25.5	8.8	28.5	31.0	54.0	23.0	100	1
4	2554.494	27.0	27.6	9.6	28.4	35.8	54.0	18.2	100	179
5	2770.844	22.5	28.3	10.1	28.4	32.5	54.0	21.5	100	211
6	3179.504	23.5	28.9	10.9	28.4	34.9	54.0	19.1	100	1
7	3764.448	23.4	29.6	12.4	28.3	37.1	54.0	16.9	100	1
8	3924.707	23.0	30.0	12.8	28.3	37.5	54.0	16.5	100	153
9	4117.017	21.5	30.3	13.1	28.3	36.6	54.0	17.4	100	184
----- Vertical ------										
10	1576.923	29.2	24.6	7.6	28.5	32.9	54.0	21.1	100	358
11	1793.269	32.5	24.6	8.1	28.5	36.7	54.0	17.3	100	197
12	2354.171	25.0	26.6	9.2	28.5	32.3	54.0	21.7	100	206
13	4365.411	22.0	30.7	13.3	28.2	37.8	54.0	16.2	100	153
14	5415.074	22.1	34.6	14.9	28.1	43.5	54.0	10.5	100	358

< USB MODE_30 MHz ~ 1 GHz >

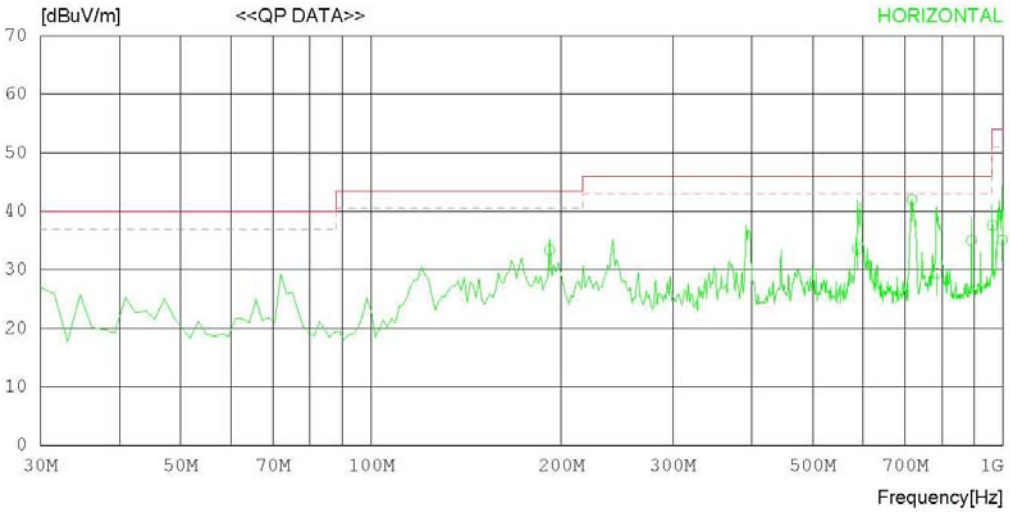
RADIATED EMISSION

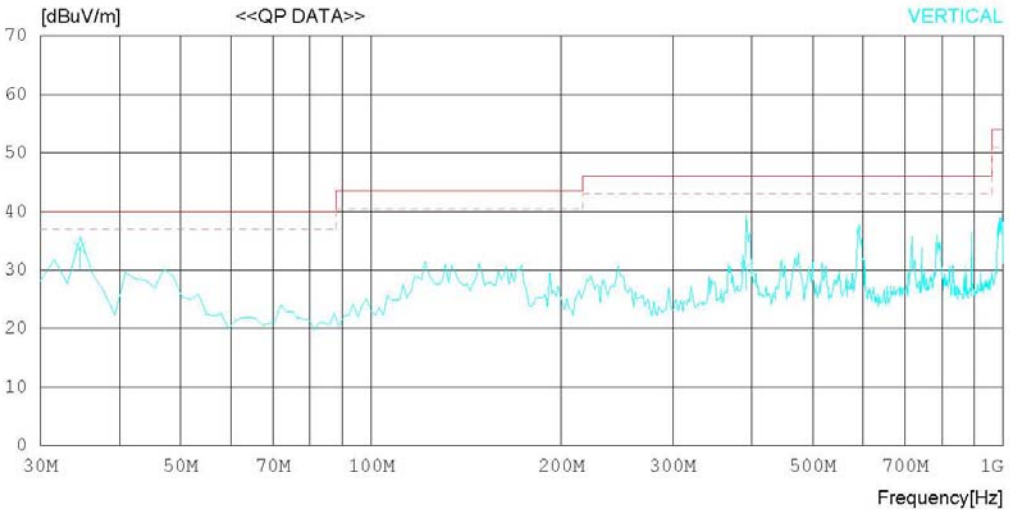
Date : 2013-02-15

Model Name	:	47LN5790-UI	Reference No.	:	
Model No.	:		Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi	:	20 'C 38 % R.H
Test Condition	:	USB	Operator	:	

Memo :

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





RADIATED EMISSION

Date : 2013-02-15

Model Name	:	47LN5790-UI	Reference No.	:	
Model No.	:		Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi	:	20 'C 38 % R.H
Test Condition	:	USB	Operator	:	

Memo :

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

No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	191.667	45.5	9.7	2.2	24.0	33.4	43.5	10.1	100	358
2	588.060	34.4	18.5	4.1	23.4	33.6	46.0	12.4	213	145
3	717.084	42.4	18.8	4.6	23.8	42.0	46.0	4.0	100	151
4	783.927	28.3	19.8	4.8	23.5	29.4	46.0	16.6	178	359
5	891.188	32.2	20.7	5.2	23.1	35.0	46.0	11.0	100	121
6	961.141	33.4	21.7	5.4	22.9	37.6	54.0	16.4	300	133
7	996.895	30.1	22.2	5.5	22.7	35.1	54.0	18.9	300	0
----- Vertical ------										
8	34.663	41.2	15.4	1.1	23.9	33.8	40.0	6.2	100	1
9	392.195	34.4	15.9	3.5	23.5	30.3	46.0	15.7	100	115

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

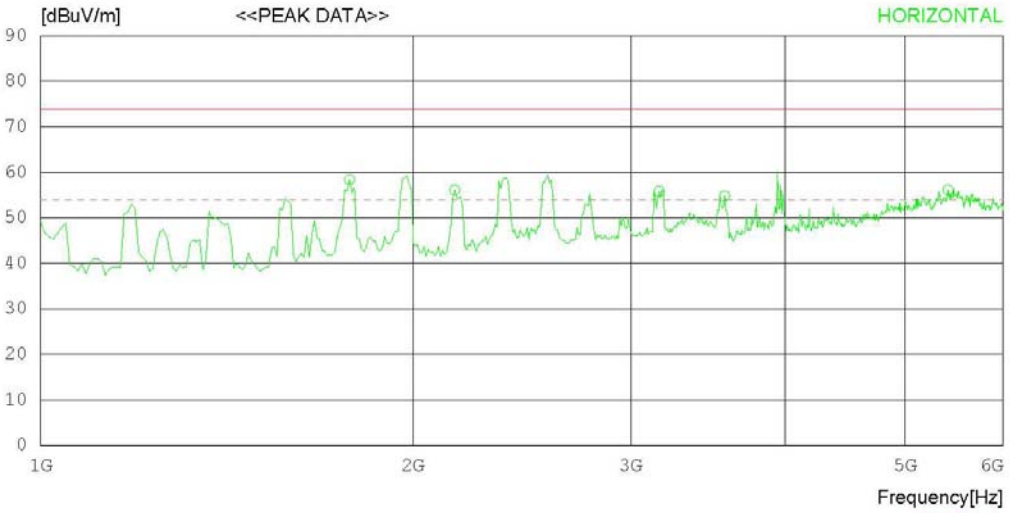
RADIATED EMISSION

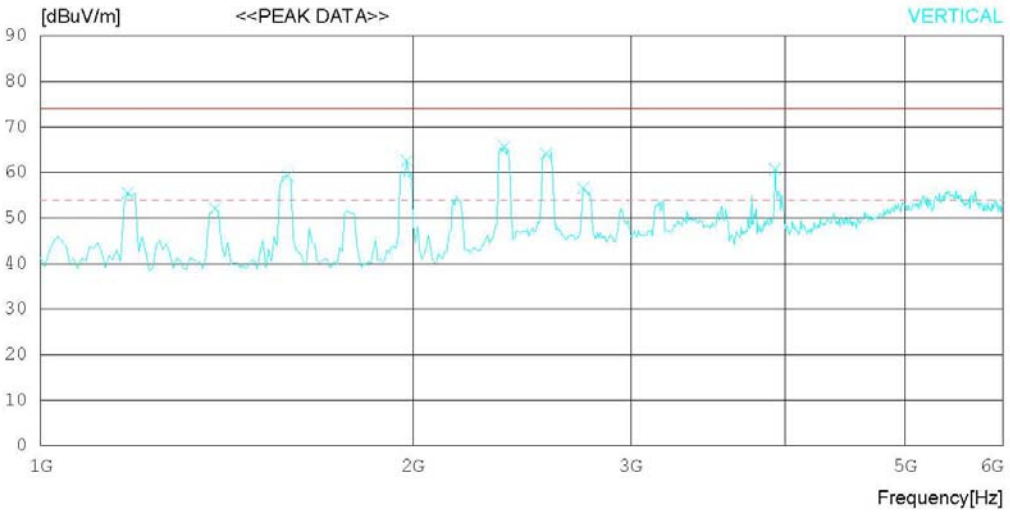
Date : 2013-02-15

Model Name	:	47LN5790-UI	Reference No.	:	
Model No.	:		Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi	:	20 'C 38 % 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)





RADIATED EMISSION

Date : 2013-02-15

Model Name	:	47LN5790-UI	Reference No.	:	
Model No.	:		Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi	:	20 'C 38 % 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	1777.243	54.3	24.6	8.0	28.5	58.4	74.0	15.6	100	180
2	2161.860	50.3	25.5	8.8	28.5	56.1	74.0	17.9	100	1
3	3163.478	44.4	28.9	10.9	28.4	55.8	74.0	18.2	100	152
4	3572.138	42.1	29.1	11.9	28.3	54.8	74.0	19.2	100	1
5	5415.074	34.7	34.6	14.9	28.1	56.1	74.0	17.9	100	174
----- Vertical ------										
6	1176.282	53.4	24.1	6.4	28.5	55.4	74.0	18.6	100	358
7	1384.615	49.1	24.5	7.1	28.5	52.2	74.0	21.8	100	187
8	1584.936	55.5	24.6	7.7	28.5	59.3	74.0	14.7	100	155
9	1977.564	58.1	24.6	8.4	28.5	62.6	74.0	11.4	100	155
10	2370.197	58.2	26.7	9.3	28.5	65.7	74.0	8.3	100	358
11	2562.507	55.2	27.6	9.7	28.4	64.1	74.0	9.9	100	358
12	2746.805	46.8	28.2	10.0	28.4	56.6	74.0	17.4	100	181
13	3924.707	46.3	30.0	12.8	28.3	60.8	74.0	13.2	100	175

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

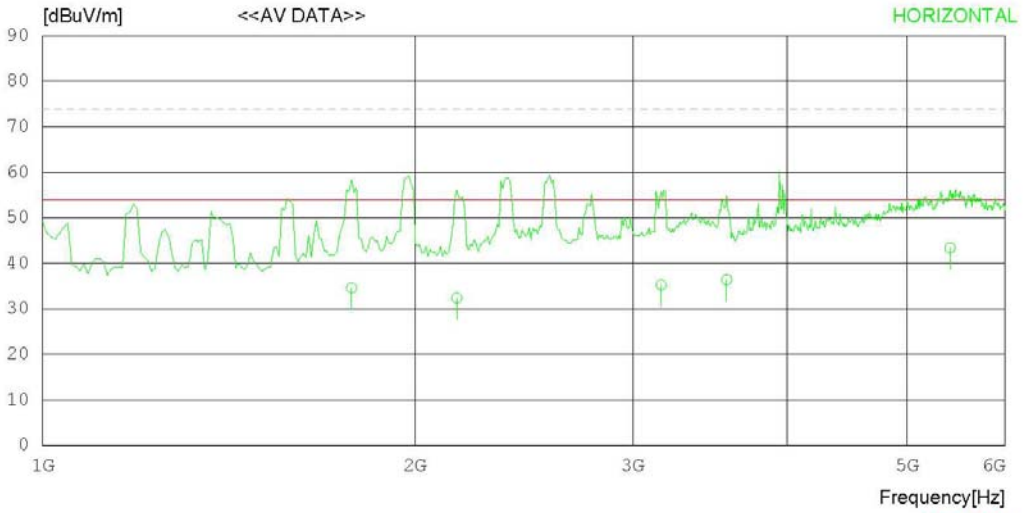
RADIATED EMISSION

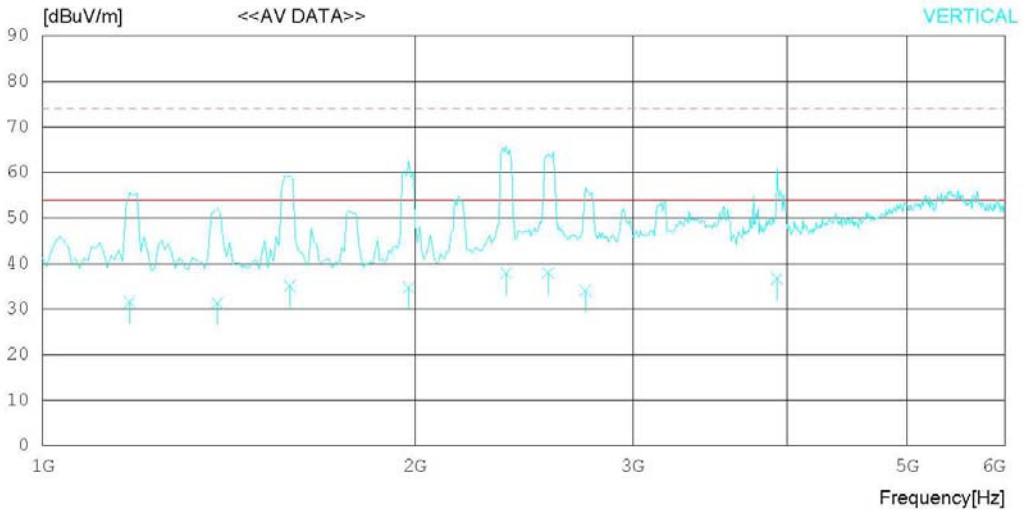
Date : 2013-02-15

Model Name	:	47LN5790-UI	Reference No.	:	
Model No.	:		Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi	:	20 'C 38 % 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)





RADIATED EMISSION

Date : 2013-02-15

Model Name	:	47LN5790-UI	Reference No.	:	
Model No.	:		Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi	:	20 'C 38 % 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	1777.243	30.5	24.6	8.0	28.5	34.6	54.0	19.4	100	180
2	2161.860	26.6	25.5	8.8	28.5	32.4	54.0	21.6	100	1
3	3163.478	23.9	28.9	10.9	28.4	35.3	54.0	18.7	100	152
4	3572.138	23.7	29.1	11.9	28.3	36.4	54.0	17.6	100	1
5	5415.074	22.0	34.6	14.9	28.1	43.4	54.0	10.6	100	174
----- Vertical ------										
6	1176.282	29.6	24.1	6.4	28.5	31.6	54.0	22.4	100	358
7	1384.615	28.2	24.5	7.1	28.5	31.3	54.0	22.7	100	187
8	1584.936	31.3	24.6	7.7	28.5	35.1	54.0	18.9	100	155
9	1977.564	30.2	24.6	8.4	28.5	34.7	54.0	19.3	100	155
10	2370.197	30.4	26.7	9.3	28.5	37.9	54.0	16.1	100	358
11	2562.507	29.1	27.6	9.7	28.4	38.0	54.0	16.0	100	358
12	2746.805	24.3	28.2	10.0	28.4	34.1	54.0	19.9	100	181
13	3924.707	22.2	30.0	12.8	28.3	36.7	54.0	17.3	100	175

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	2012.03.05	2013.03.05
☐	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	2012.03.06	2013.03.06
☒	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
☒	AMPLIFIER	MLA-100M18-B01-25	TSJ	1719458	2012.06.04	2013.06.04
☐	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	2012.03.06	2013.03.06
☐	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	2012.03.05	2013.03.05

Appendix 2

Report Revision History

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