

EMC TEST REPORT

Test item : LED LCD TV monitor
Model No. : 47LM4700-UE
Order No. : 1207-01239
Date of receipt : 2012-07-24
Test duration : 2012-07-30 ~ 2012-08-01
Use of report : FCC CoC Marking
Date of Issue : 2012-08-02

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 : (24 ~ 27) °C,
Humidity : (43 ~ 54) % 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:

Reviewed by:



Engineer
H.J.KIM



General Manager
C.H.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	ROK1124C	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.	47LM4700-UE
EUT Type	LED LCD TV monitor
Serial No	N/A
FCC ID	BEJ47LM4700UE
Type of Sample Tested	Pre-Production
High Frequency	667 MHz
Rating	AC 100-240 V, ~ 50/60 Hz
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(DTV) supported mode

Resolution	Horizontal Frequency (KHz)	Vertical Frequency (Hz)
720x480p	31.47	59.94
	31.50	60.00
1280x720p	44.96	59.94
	45.00	60.00
1920x1080i	33.72	59.94
	33.75	60.00
1920x1080p	26.97	23.976
	27.00	24.00
	33.71	29.97
	33.75	30.00
	67.432	59.94
	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	07-30	27	43
Radiated Disturbance	08-01	26	54
	07-31	24	46

4.3 Test result Summary

(1) Conducted Emission (DSUB MODE)

Frequency [MHz]	Phase	Result [dB μ V]	Detector	Limit [dB μ V]	Margin [dB]
2.46900	N	33.8	Average	46.0	12.2

(2) Radiated Emission (USB MODE)

Frequency [MHz]	Pol.	Result [dB(μ V/m)]	Detector	Limit [dB(μ V/m)]	Margin [dB]
749.728	V	41.3	Quasi-Peak	46.0	4.7

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 – Resolution : 1920 X 1080 Resolution (Worst Case)
- HDMI MODE – Resolution : 1920 X 1080 Resolution (Worst Case)
- USB MODE

5.3 Support Equipment Used

Unit	Model No.	Serial No.	Manufacturer	CABLE			Backshell	FCC ID
				Connect type	Length (m)	shield		
PC	DCSCMF	G3RZKBX	DELL	POWER	1.8	Non-shield	Plastic	DOC
				HDMI	1.8	Shield		
				DSUB	1.8	Shield		
				USB	1.8	Shield		
				USB	1.8	Shield		
				USB	1.5	Shield		
KEYBOARD	SKG-3000UB	TAKB24503Y	MONITEREY INTERNATIONAL CORP	USB	1.8	Shield	Plastic	DOC
MOUSE	SML-510PB	TAKS903519Z	MONITEREY INTERNATIONAL CORP	USB	1.8	Shield	Plastic	DOC
CD/DVD PLAYER	DVP-NS92V	2000407	SONY EMCS	POWER AV	1.8 1.6	Non-shield Non-shield	Plastic	VER
USB MEMORY	JEWERLY	N/A	AXXEN	USB	-	-	-	DOC
PRINTER	SRP-770	SRP77008060035	BIXOLON	USB	1.8	Shield	Plastic	DOC

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

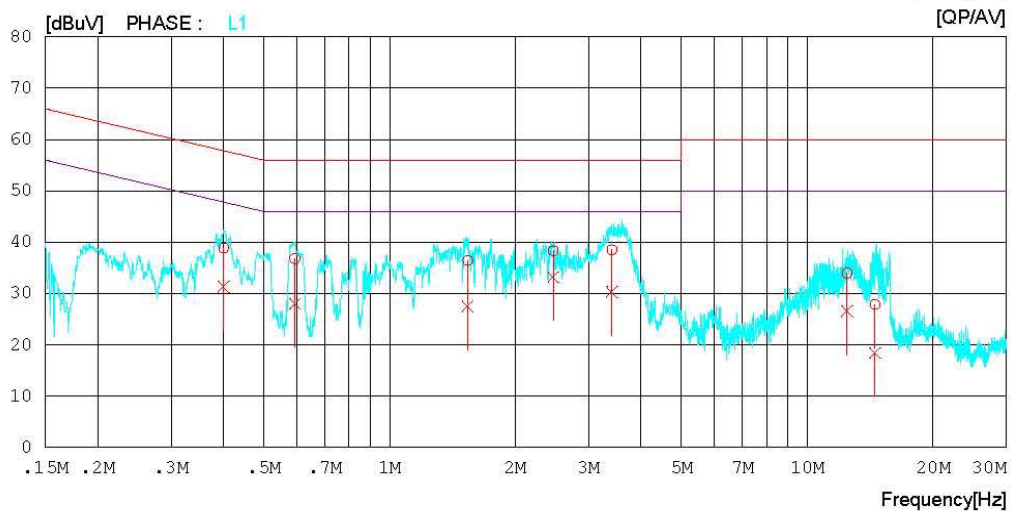
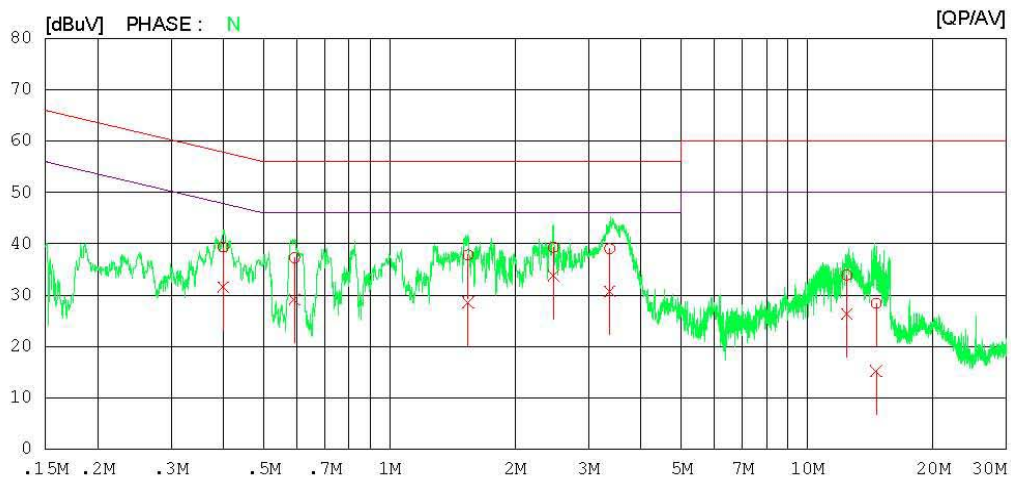
Digital EMC
Date : 2012-07-30

Model No. : 47LM4700-UE
Type :
Serial No. :
Test Condition : DSUB

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi. : 27 °C 43 % R.H.
Operator :

Memo :

LIMIT : CISPR22_B QP
CISPR22_B AV



Results of Conducted Emission

Digital EMC
Date : 2012-07-30

Model No. : 47LM4700-UE
Type :
Serial No. :
Test Condition : DSUB

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi. : 27 °C 43 % 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	0.39986	39.0	31.2	0.3	39.3	31.5	57.9	47.9	18.6	16.4	N
2	0.59304	37.1	28.9	0.2	37.3	29.1	56.0	46.0	18.7	16.9	N
3	1.54300	37.5	28.3	0.3	37.8	28.6	56.0	46.0	18.2	17.4	N
4	2.46900	39.0	33.5	0.3	39.3	33.8	56.0	46.0	16.7	12.2	N
5	3.36700	38.7	30.3	0.4	39.1	30.7	56.0	46.0	16.9	15.3	N
6	12.45200	33.1	25.5	0.8	33.9	26.3	60.0	50.0	26.1	23.7	N
7	14.63450	27.5	14.3	0.9	28.4	15.2	60.0	50.0	31.6	34.8	N
8	0.40081	38.6	31.0	0.3	38.9	31.3	57.8	47.8	18.9	16.5	L1
9	0.59350	36.6	27.8	0.2	36.8	28.0	56.0	46.0	19.2	18.0	L1
10	1.54000	36.1	27.2	0.3	36.4	27.5	56.0	46.0	19.6	18.5	L1
11	2.46800	38.0	32.9	0.3	38.3	33.2	56.0	46.0	17.7	12.8	L1
12	3.40900	38.1	29.9	0.4	38.5	30.3	56.0	46.0	17.5	15.7	L1
13	12.46250	33.2	25.8	0.8	34.0	26.6	60.0	50.0	26.0	23.4	L1
14	14.53000	27.0	17.6	0.9	27.9	18.5	60.0	50.0	32.1	31.5	L1

< HDMI MODE >



Results of Conducted Emission

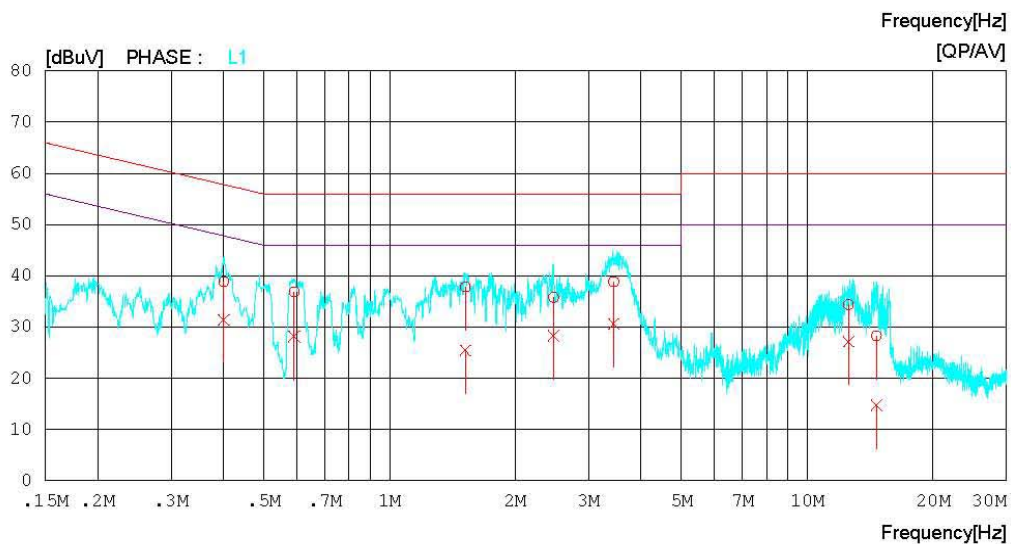
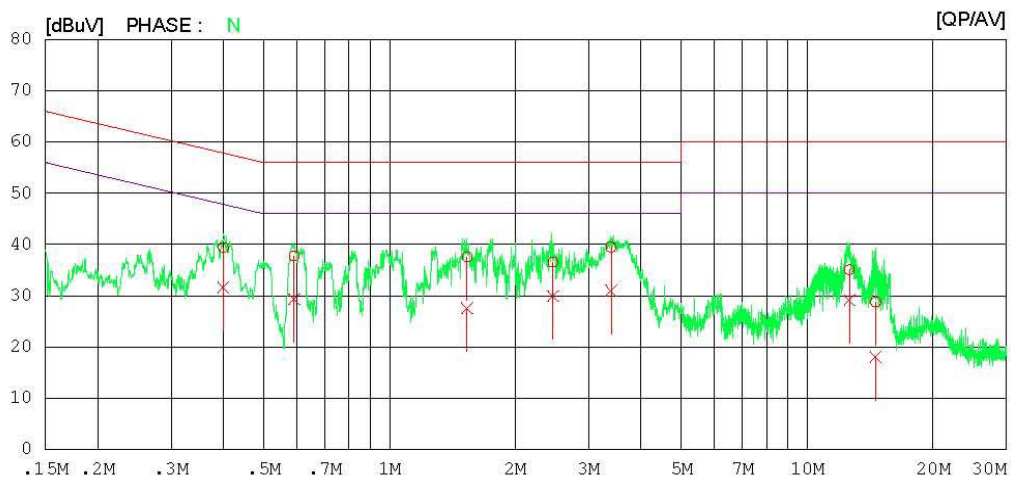
Digital EMC
Date : 2012-07-30

Model No. : 47LM4700-UE
Type :
Serial No. :
Test Condition : HDMI

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi. : 27 °C 43 % R.H.
Operator :

Memo :

LIMIT : CISPR22_B QP
CISPR22_B AV



Results of Conducted Emission

Digital EMC
Date : 2012-07-30

Model No. : 47LM4700-UE
Type :
Serial No. :
Test Condition : HDMI

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi. : 27 °C 43 % 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	0.40048	39.1	31.3	0.3	39.4	31.6	57.8	47.8	18.4	16.2	N
2	0.59098	37.5	29.1	0.2	37.7	29.3	56.0	46.0	18.3	16.7	N
3	1.53350	37.3	27.3	0.3	37.6	27.6	56.0	46.0	18.4	18.4	N
4	2.46200	36.2	29.6	0.3	36.5	29.9	56.0	46.0	19.5	16.1	N
5	3.39450	39.1	30.6	0.4	39.5	31.0	56.0	46.0	16.5	15.0	N
6	12.63450	34.2	28.2	0.9	35.1	29.1	60.0	50.0	24.9	20.9	N
7	14.58950	27.9	17.2	0.9	28.8	18.1	60.0	50.0	31.2	31.9	N
8	0.40076	38.6	31.1	0.3	38.9	31.4	57.8	47.8	18.9	16.4	L1
9	0.59121	36.7	28.0	0.2	36.9	28.2	56.0	46.0	19.1	17.8	L1
10	1.52050	37.5	25.1	0.3	37.8	25.4	56.0	46.0	18.2	20.6	L1
11	2.47250	35.5	28.0	0.3	35.8	28.3	56.0	46.0	20.2	17.7	L1
12	3.44250	38.5	30.2	0.4	38.9	30.6	56.0	46.0	17.1	15.4	L1
13	12.55850	33.6	26.4	0.8	34.4	27.2	60.0	50.0	25.6	22.8	L1
14	14.65200	27.4	13.8	0.9	28.3	14.7	60.0	50.0	31.7	35.3	L1

< USB MODE >



Results of Conducted Emission

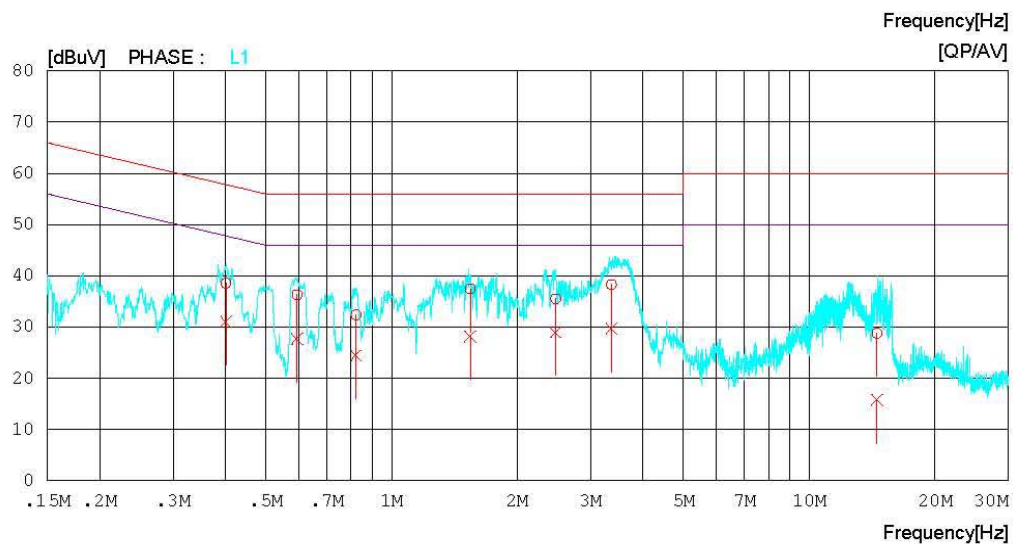
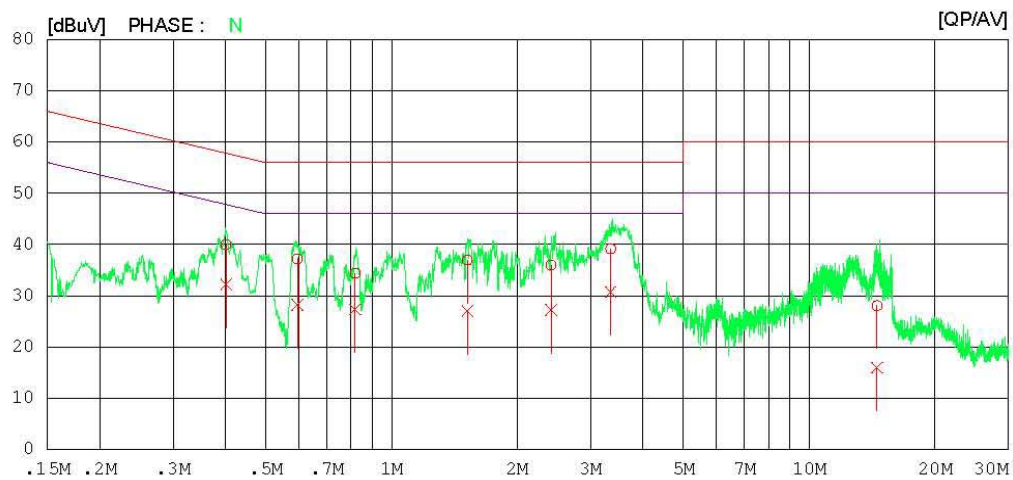
Digital EMC
Date : 2012-07-30

Model No. : 47LM4700-UE
Type :
Serial No. :
Test Condition : USB

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi. : 27 °C 43 % R.H.
Operator :

Memo :

LIMIT : CISPR22_B QP
CISPR22_B AV



Results of Conducted Emission

Digital EMC
Date : 2012-07-30

Model No. : 47LM4700-UE
Type :
Serial No. :
Test Condition : USB

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi. : 27 °C 43 % 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	0.40156	39.7	31.9	0.3	40.0	32.2	57.8	47.8	17.8	15.6	N
2	0.59554	37.0	28.0	0.2	37.2	28.2	56.0	46.0	18.8	17.8	N
3	0.81861	34.1	27.0	0.3	34.4	27.3	56.0	46.0	21.6	18.7	N
4	1.51900	36.6	26.7	0.3	36.9	27.0	56.0	46.0	19.1	19.0	N
5	2.41150	35.6	26.9	0.3	35.9	27.2	56.0	46.0	20.1	18.8	N
6	3.34800	38.7	30.3	0.4	39.1	30.7	56.0	46.0	16.9	15.3	N
7	14.53950	27.2	15.0	0.9	28.1	15.9	60.0	50.0	31.9	34.1	N
8	0.40156	38.3	30.8	0.3	38.6	31.1	57.8	47.8	19.2	16.7	L1
9	0.59449	36.1	27.5	0.2	36.3	27.7	56.0	46.0	19.7	18.3	L1
10	0.82221	32.1	24.2	0.3	32.4	24.5	56.0	46.0	23.6	21.5	L1
11	1.54450	37.2	27.9	0.3	37.5	28.2	56.0	46.0	18.5	17.8	L1
12	2.47350	35.2	28.7	0.3	35.5	29.0	56.0	46.0	20.5	17.0	L1
13	3.36200	37.9	29.3	0.4	38.3	29.7	56.0	46.0	17.7	16.3	L1
14	14.53350	27.9	14.9	0.9	28.8	15.8	60.0	50.0	31.2	34.2	L1

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 10m 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 (10m distance)	Class B Equipment (3m 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

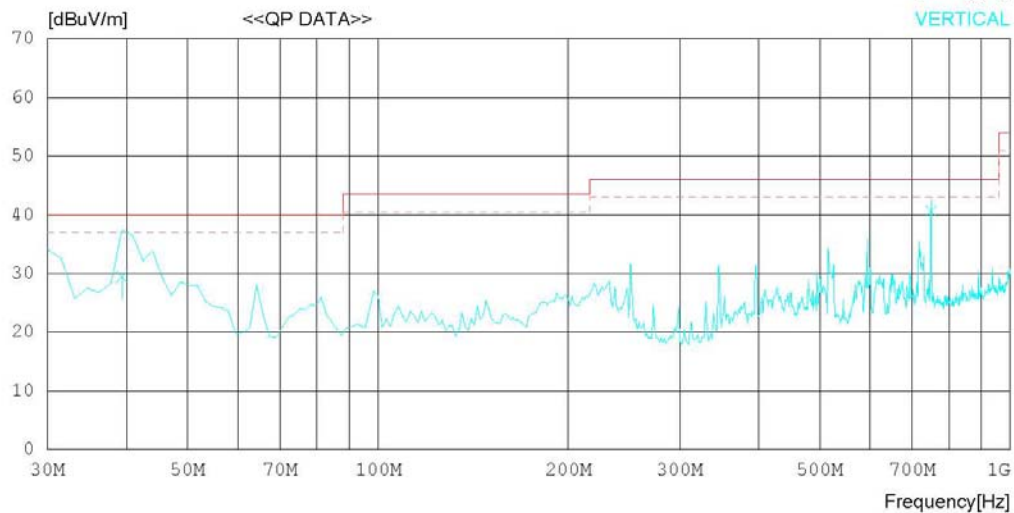
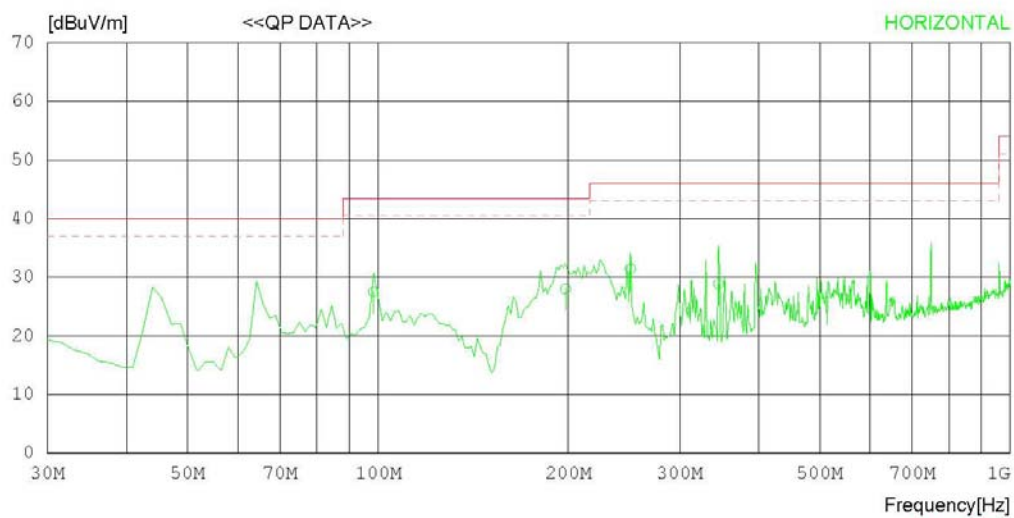
Date : 2012-08-01

Model Name : 47LM4700-UE
Model No. :
Serial No. :
Test Condition : DSUB

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi : 26 °C 54 % R.H
Operator :

Memo :

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



RADIATED EMISSION

Date : 2012-08-01

Model Name : 47LM4700-UE	Reference No. :
Model No. :	Power Supply : 120 V 60 Hz
Serial No. :	Temp/Humi : 26 °C 54 % 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	345.560	35.4	14.3	3.3	24.1	28.9	46.0	17.1	100	358
2	98.398	38.3	10.6	1.4	22.8	27.5	43.5	16.0	361	157
3	197.885	39.8	9.2	2.3	23.3	28.0	43.5	15.5	100	86
4	250.737	40.1	12.3	2.6	23.6	31.4	46.0	14.6	100	358
----- Vertical -----										
5	39.327	37.5	13.8	1.1	23.0	29.4	40.0	10.6	100	221
6	749.728	40.6	19.5	4.6	24.0	40.7	46.0	5.3	100	10

< DSUB MODE _ (1 ~ 6) GHz_Peak >

RADIATED EMISSION

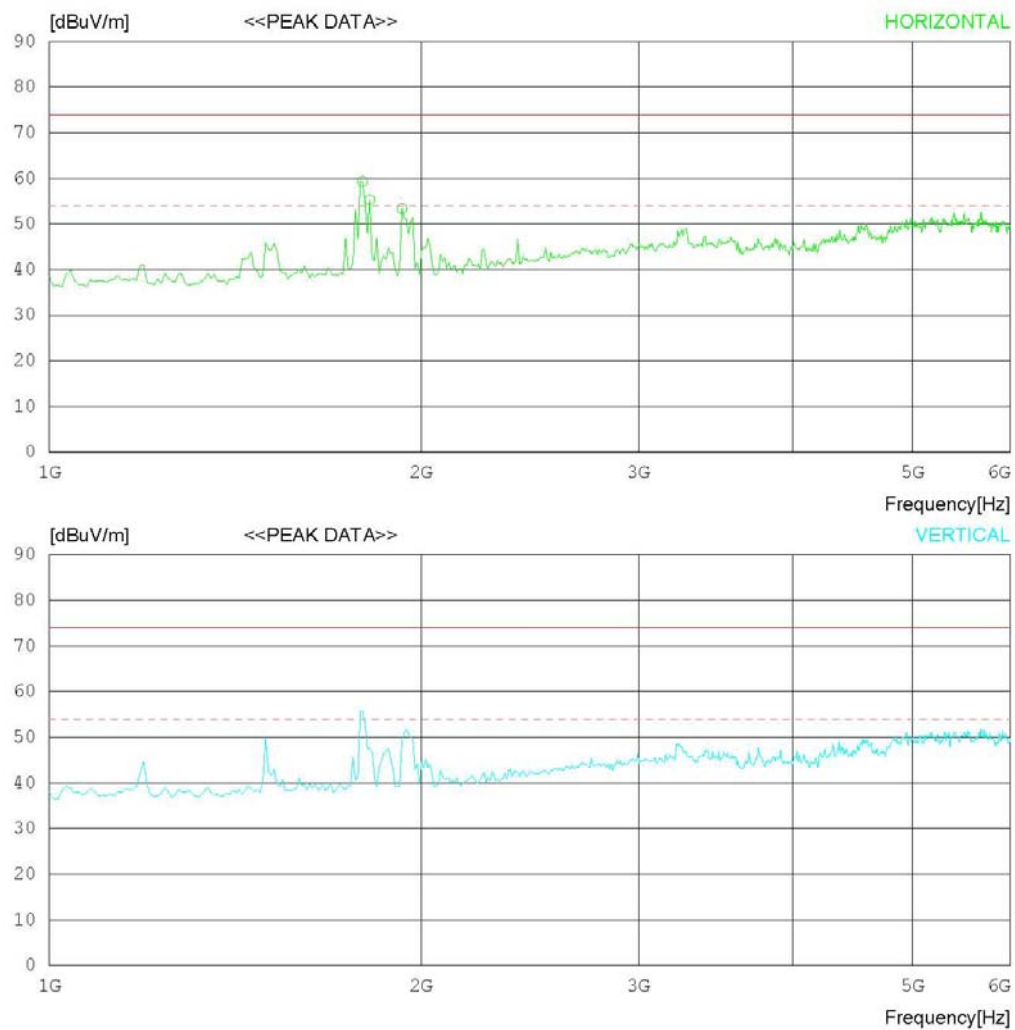
Date : 2012-07-31

Model Name : 47LM4700-UE
Model No. :
Serial No. :
Test Condition : DSUB

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi : 24 °C 46 % 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 : 2012-07-31

Model Name : 47LM4700-UE	Reference No. :
Model No. :	Power Supply : 120 V 60 Hz
Serial No. :	Temp/Humi : 24 °C 46 % 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	READING PEAK	ANT FACTOR	LOSS	GAIN	RESULT	LIMIT	MARGIN	ANTENNA	TABLE
	[MHz]	[dBuV]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[cm]	[DEG]
----- Horizontal -----										
1	1793.269	68.4	24.6	8.1	41.8	59.3	74.0	14.7	100	1
2	1817.307	64.4	24.6	8.1	41.8	55.3	74.0	18.7	100	1
3	1929.487	62.2	24.6	8.3	41.7	53.4	74.0	20.6	100	1

< DSUB MODE _ (1 ~ 6) GHz_Average >

RADIATED EMISSION

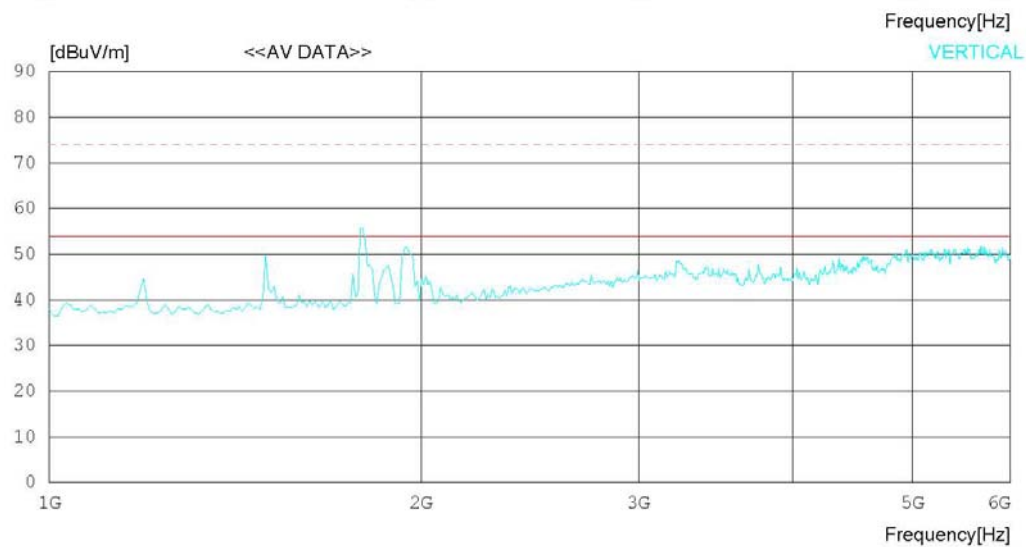
Date : 2012-07-31

Model Name : 47LM4700-UE
Model No. :
Serial No. :
Test Condition : DSUB

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi : 24 °C 46 % 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 : 2012-07-31

Model Name : 47LM4700-UE	Reference No. :
Model No. :	Power Supply : 120 V 60 Hz
Serial No. :	Temp/Humi : 24 °C 46 % 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	READING	ANT	LOSS	GAIN	RESULT	LIMIT	MARGIN	ANTENNA	TABLE
		AV	FACTOR							
	[MHz]	[dBuV]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[cm]	[DEG]
----- Horizontal -----										
1	1793.269	41.3	24.6	8.1	41.8	32.2	54.0	21.8	100	1
2	1817.307	36.9	24.6	8.1	41.8	27.8	54.0	26.2	100	1
3	1929.487	38.0	24.6	8.3	41.7	29.2	54.0	24.8	100	1

< HDMI MODE_30 MHz ~ 1 GHz >

RADIATED EMISSION

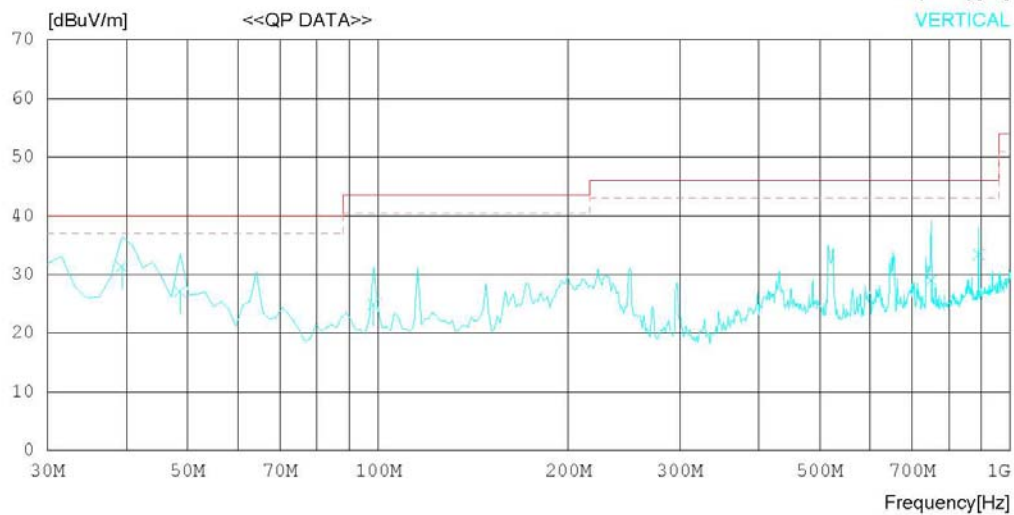
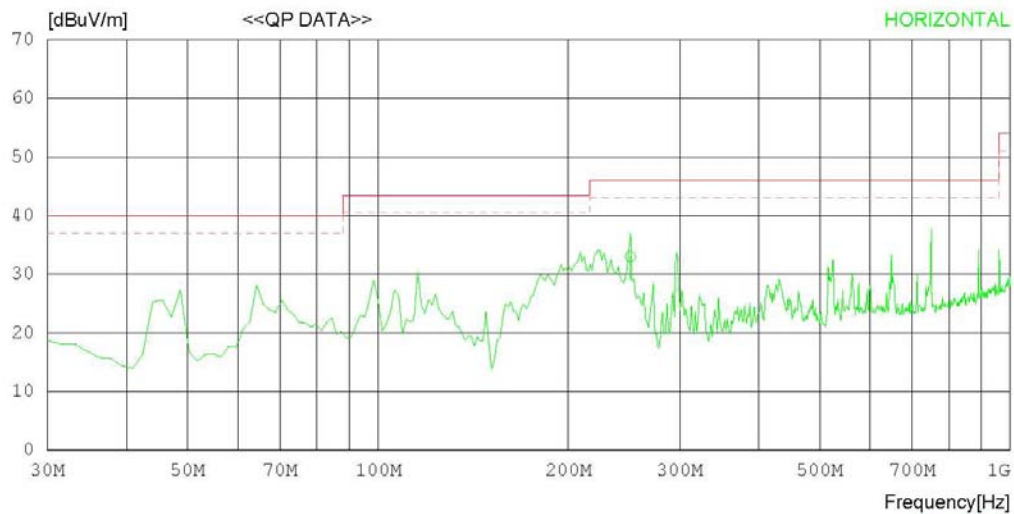
Date : 2012-08-01

Model Name : 47LM4700-UE
Model No. :
Serial No. :
Test Condition : HDMI

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi : 26 °C 54 % R.H
Operator :

Memo :

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



RADIATED EMISSION

Date : 2012-08-01

Model Name : 47LM4700-UE	Reference No. :
Model No. :	Power Supply : 120 V 60 Hz
Serial No. :	Temp/Humi : 26 °C 54 % 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	250.737	41.7	12.3	2.6	23.6	33.0	46.0	13.0	243	1
----- Vertical -----										
2	39.327	39.4	13.8	1.1	23.0	31.3	40.0	8.7	100	358
3	749.728	28.9	19.5	4.6	24.0	29.0	46.0	17.0	100	358
4	48.654	39.9	8.7	1.3	22.8	27.1	40.0	12.9	100	358
5	98.398	35.7	10.6	1.4	22.8	24.9	43.5	18.6	100	358
6	891.188	30.8	20.6	5.2	23.2	33.4	46.0	12.6	124	146

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

RADIATED EMISSION

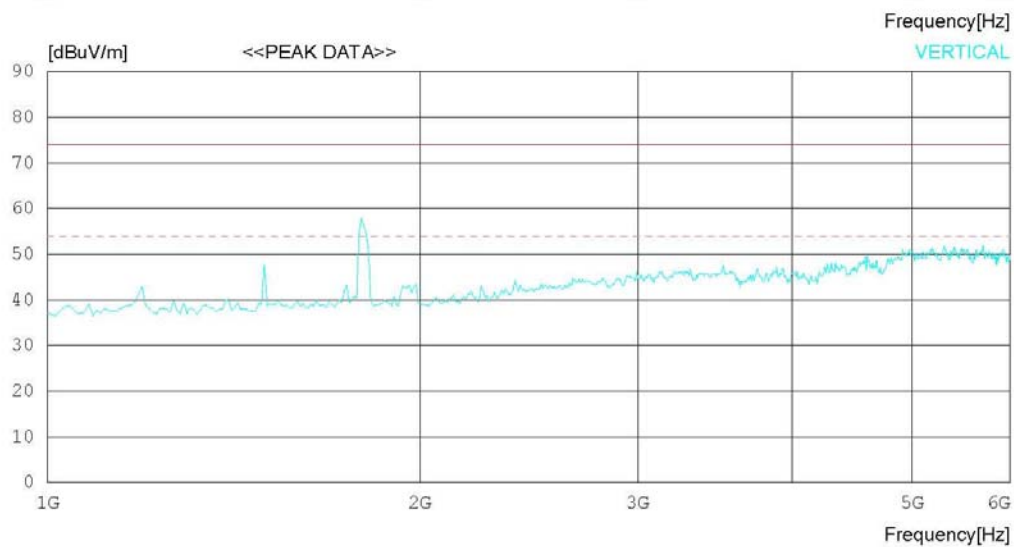
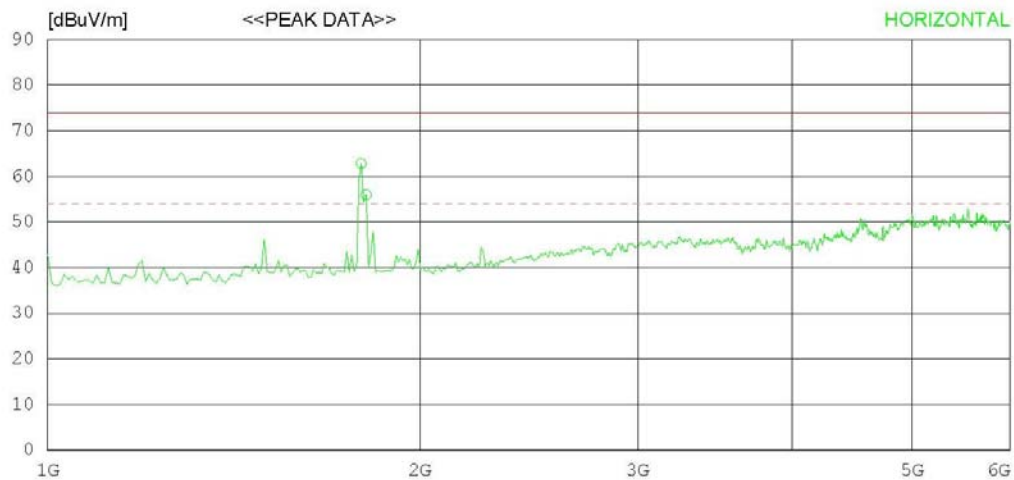
Date : 2012-07-31

Model Name : 47LM4700-UE
Model No. :
Serial No. :
Test Condition : HDMI

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi : 24 'C 46 % 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 : 2012-07-31

Model Name : 47LM4700-UE	Reference No. :
Model No. :	Power Supply : 120 V 60 Hz
Serial No. :	Temp/Humi : 24 °C 46 % 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	READING PEAK	ANT FACTOR	LOSS	GAIN	RESULT	LIMIT	MARGIN	ANTENNA	TABLE
	[MHz]	[dBuV]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[cm]	[DEG]
----- Horizontal -----										
1	1793.269	71.9	24.6	8.1	41.8	62.8	74.0	11.2	100	1
2	1809.295	65.1	24.6	8.1	41.8	56.0	74.0	18	100	1

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

RADIATED EMISSION

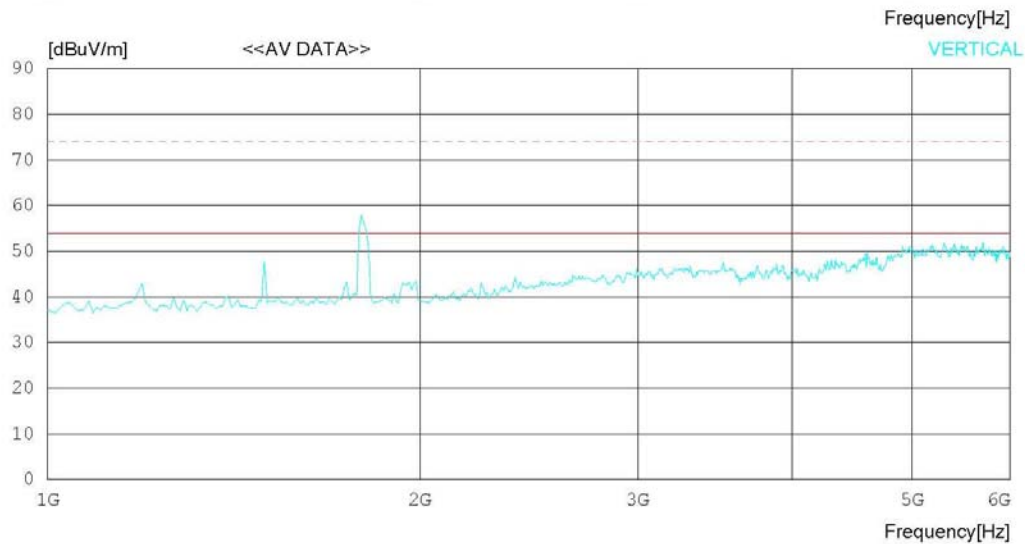
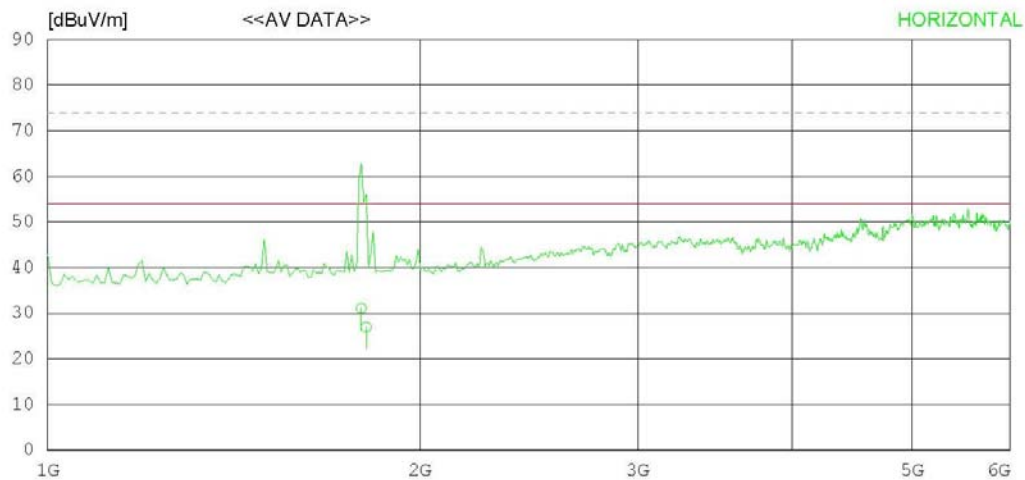
Date : 2012-07-31

Model Name : 47LM4700-UE
Model No. :
Serial No. :
Test Condition : HDMI

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi : 24 °C 46 % 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 : 2012-07-31

Model Name : 47LM4700-UE	Reference No. :
Model No. :	Power Supply : 120 V 60 Hz
Serial No. :	Temp/Humi : 24 °C 46 % 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	READING	ANT	LOSS	GAIN	RESULT	LIMIT	MARGIN	ANTENNA	TABLE
	[MHz]	AV [dBuV]	FACTOR [dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[cm]	[DEG]
----- Horizontal -----										
1	1793.269	40.2	24.6	8.1	41.8	31.1	54.0	22.9	100	1
2	1809.295	36.1	24.6	8.1	41.8	27.0	54.0	27.0	100	1

< USB MODE_30 MHz ~ 1 GHz >

RADIATED EMISSION

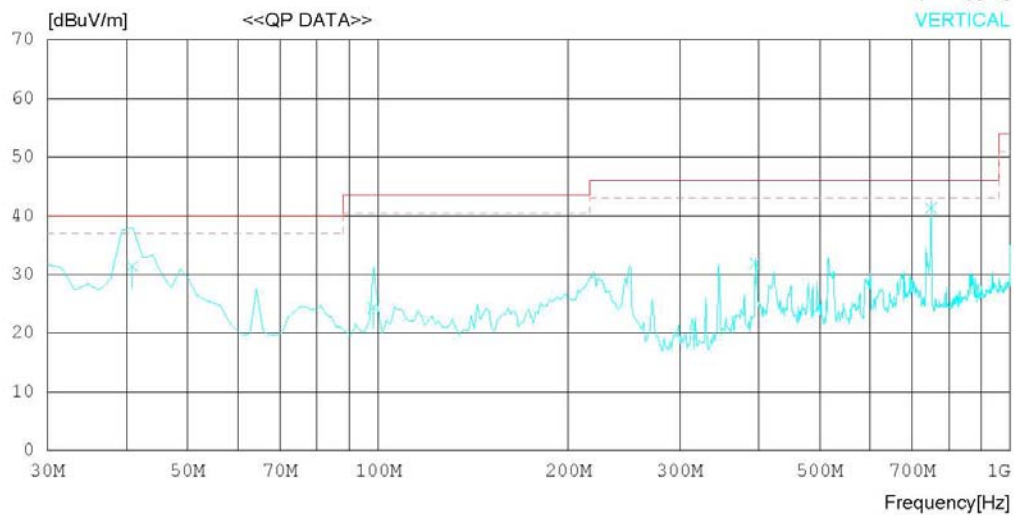
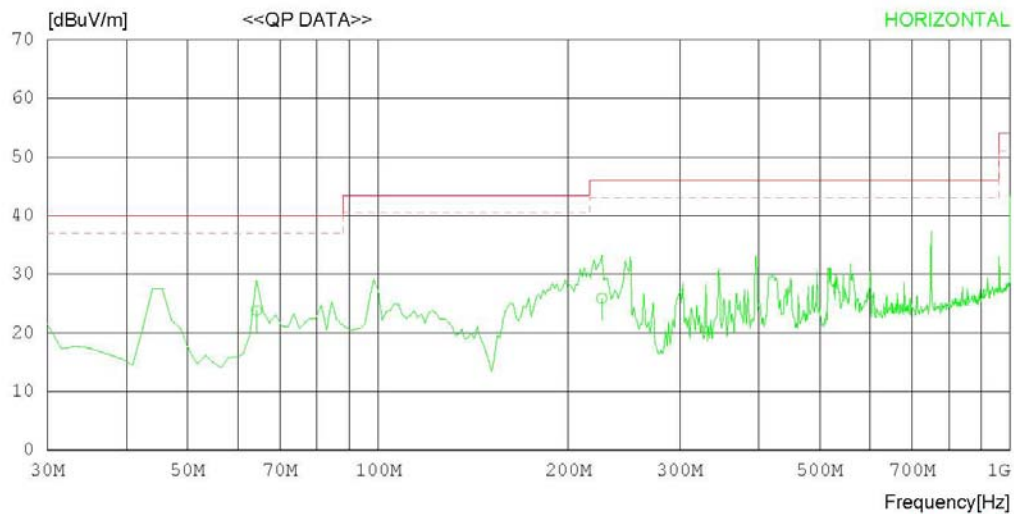
Date : 2012-08-01

Model Name : 47LM4700-UE
Model No. :
Serial No. :
Test Condition : USB

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi : 26 °C 54 % R.H
Operator :

Memo :

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



RADIATED EMISSION

Date : 2012-08-01

Model Name : 47LM4700-UE	Reference No. :
Model No. :	Power Supply : 120 V 60 Hz
Serial No. :	Temp/Humi : 26 °C 54 % 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	64.199	38.5	6.5	1.5	22.7	23.8	40.0	16.2	380	1
2	225.866	36.2	10.8	2.4	23.5	25.9	46.0	20.1	100	1
----- Vertical -----										
3	40.881	40.4	12.9	1.1	23.0	31.4	40.0	8.6	100	176
4	98.398	35.2	10.6	1.4	22.8	24.4	43.5	19.1	100	13
5	395.304	37.3	15.6	3.5	24.5	31.9	46.0	14.1	100	1
6	749.728	41.2	19.5	4.6	24.0	41.3	46.0	4.7	100	5

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

RADIATED EMISSION

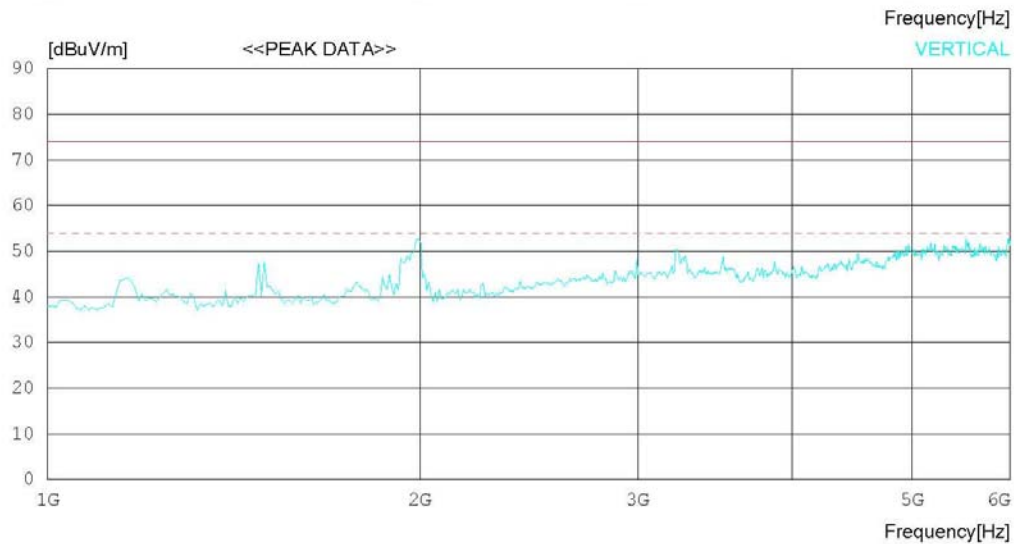
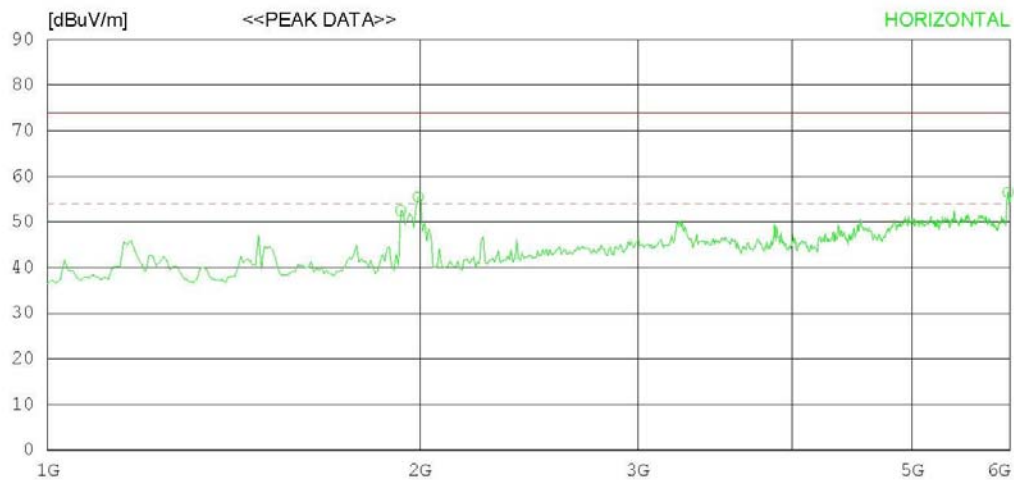
Date : 2012-07-31

Model Name : 47LM4700-UE
Model No. :
Serial No. :
Test Condition : USB

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi : 24 'C 46 % 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 : 2012-07-31

Model Name : 47LM4700-UE	Reference No. :
Model No. :	Power Supply : 120 V 60 Hz
Serial No. :	Temp/Humi : 24 °C 46 % 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	1929.487	61.3	24.6	8.3	41.7	52.5	74.0	21.5	100	232
2	1993.589	64.2	24.6	8.4	41.7	55.5	74.0	18.5	100	358
3	5975.962	50.8	32.0	15.8	42.1	56.5	74.0	17.5	100	75

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

RADIATED EMISSION

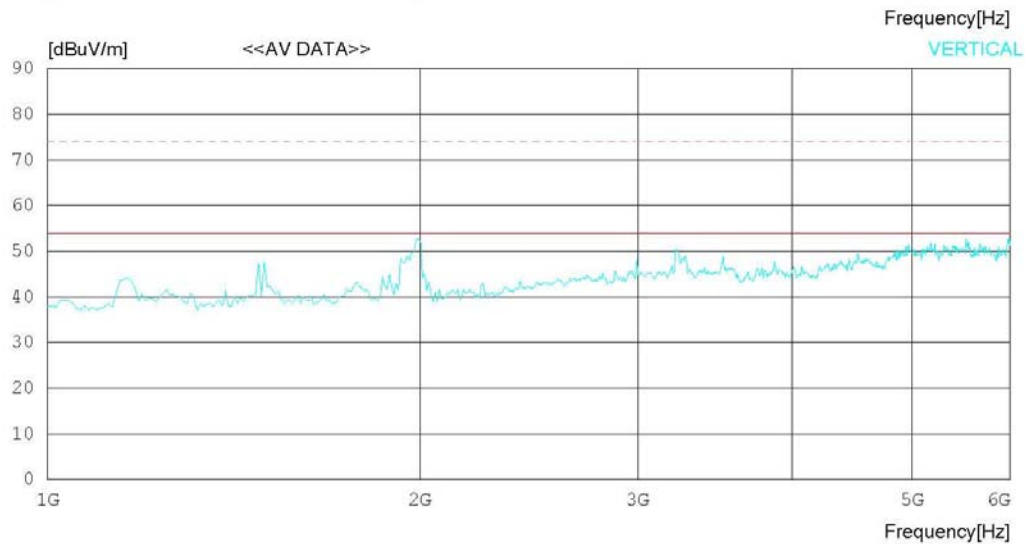
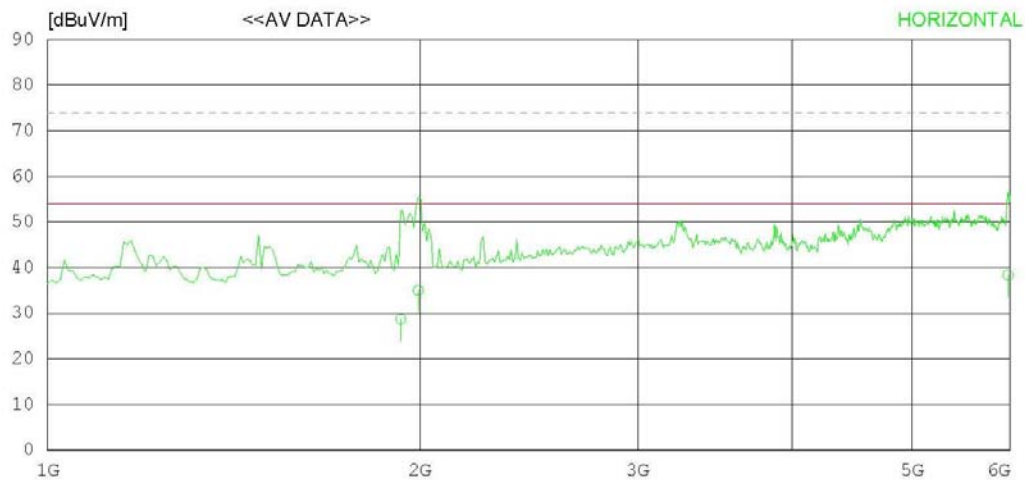
Date : 2012-07-31

Model Name : 47LM4700-UE
Model No. :
Serial No. :
Test Condition : USB

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi : 24 'C 46 % 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 : 2012-07-31

Model Name : 47LM4700-UE	Reference No. :
Model No. :	Power Supply : 120 V 60 Hz
Serial No. :	Temp/Humi : 24 °C 46 % 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	READING	ANT	LOSS	GAIN	RESULT	LIMIT	MARGIN	ANTENNA	TABLE
	[MHz]	AV [dBuV]	FACTOR [dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[cm]	[DEG]
----- Horizontal -----										
1	1929.487	37.5	24.6	8.3	41.7	28.7	54.0	25.3	100	232
2	1993.589	43.7	24.6	8.4	41.7	35.0	54.0	19.0	100	358
3	5975.962	32.7	32.0	15.8	42.1	38.4	54.0	15.6	100	75

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	2012.01.09	2013.01.09
☐ LISN	PMM L2-16B	NARDA S.T.S. / PMM	000WX20305	2011.09.19	2012.09.19
☐ ATTENUATOR	CFA-10BPJ-10	TAMAGAWA ELECTRONICS	1760307E	N/A	N/A
☐ 50 OHM TERMINATOR	CT-01	TME	N/A	2012.01.09	2013.01.09
☒ EMI TEST RECEIVER	ESCI	ROHDE & SCHWARZ	100364	2012.03.06	2013.03.06
☒ LISN	ESH2-Z5	ROHDE & SCHWARZ	828739/006	2011.09.30	2012.09.30
☒ LISN	LISN1600	TTI	197204	2012.07.02	2013.07.02
☒ 50 OHM TERMINATOR	CT-01	TME	N/A	2012.01.09	2013.01.09

2. Radiated Disturbance

Name of Instrument	Model No.	Manufacturer	Serial No.	Cal. Date	Next Cal. Date
☒ EMI TEST RECEIVER	ESU	ROHDE & SCHWARZ	100014	2012.01.09	2013.01.09
☒ BILOG ANTENNA	CBL6112D	SCHAFFNER	22609	2010.12.21	2012.12.21
☒ HORN ANTENNA	BBHA9120A	SCHWARZBECK	322	2012.05.15	2014.05.15
☒ AMPLIFIER	8447E	H/P	2945A02865	2012.01.09	2013.01.09
☒ AMPLIFIER	MLA-00108-B02-36	TSJ	1518831	2012.01.09	2013.01.09
☐ SPECTRUM ANALYZER	E4411B	AGILENT	US41062735	2012.07.11	2013.07.11
☐ AMPLIFIER	8447D	AGILENT	2443A03690	2012.07.01	2013.07.01
☐ BILOG ANTENNA	VULB9160	SCHAFFNER	3151	2010.08.25	2012.08.25
☐ EMI TEST RECEIVER	ESCI	ROHDE & SCHWARZ	100364	2012.03.06	2013.03.06
☐ BICONICAL ANT.	VHA 9103	SCHWARZBECK	91032789	2010.11.29	2012.11.29
☐ LOG-PERIODIC ANT.	UHALP 9108A	SCHWARZBECK	590	2011.07.07	2013.07.07
☐ BICONICAL ANT.	VHA 9103	SCHWARZBECK	91031946	2010.12.21	2012.12.21
☐ LOG-PERIODIC ANT.	UHALP 9108-A1	SCHWARZBECK	1098	2010.11.29	2012.11.29
☐ AMPLIFIER	MLA-100K01-B01-26	TSJ	1252741	2012.03.05	2013.03.05