

EMC TEST REPORT

Test item : LED TV Monitor
Model No. : 50GA6400-UD
Order No. : DEMC1301-00416
Date of receipt : 2013-01-30
Test duration : 2013-02-02 ~ 2013-02-05
Use of report : FCC CoC Marking
Date of Issue : 2013-02-07

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 : (38 ~ 40) % R.H.

Test result : Comply Not Comply

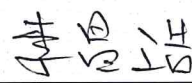
The test results presented in this test report are limited only to the sample supplied by applicant and the use of this test report is inhibited other than its purpose.
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Tested by:



Manager
MyungJin Song

Reviewed by:



General 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.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.	50GA6400-UD
EUT Type	LED TV Monitor
Serial No	NONE
FCC ID	BEJ50GA6400UD
Type of Sample Tested	Pre-Production
High Frequency	Max 800 MHz
Rating	AC 100-240 V~ 50/60 Hz, 1.6 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	31.468	70.09
720x400	31.469	70.08
640x480	31.469	59.94
800x600	37.879	60.31
1024x768	48.363	60.00
1360x768	47.712	60.015
1280x1024 HDMI-PC	63.981	60.02
1920x1080	67.50	60.00

4. Test Summary

4.1 Applied standards and test results

Test Items	Applied Standards	Results
Conducted Disturbance	ANSI C63.4:2003	C
Radiated Disturbance	ANSI C63.4:2003	C
C=Comply N/C=Not Comply N/T=Not Tested N/A=Not Applicable		

The data in this test report are traceable to the national or international standards.

4.2 Test environment and conditions

Test Items	Test date (MM-DD)	Temp (°C)	Humidity (% R.H.)
Conducted Disturbance	02-05	23	40
Radiated Disturbance	02-02	19	38

4.3 Test result Summary

(1) Conducted Emission (USB MODE)

Frequency [MHz]	Phase	Result [dB μ V]	Detector	Limit [dB μ V]	Margin [dB]
14.2155	L1	35.8	Average	50.0	14.2

(2) Radiated Emission (HDMI MODE)

Frequency [MHz]	Pol.	Result [dB(μ V/m)]	Detector	Limit [dB(μ V/m)]	Margin [dB]
556.324	H	41.5	Quasi-Peak	46.0	4.5

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

- HDMI MODE : 1920x1080 Resolution (Worst case)
- USB MODE : USB record 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	VOSTRO220	G3RZKBX	DELL INC.	POWER	1.8	Not use	Non-shield	Plastic	DOC
				HDMI	1.8	Not use	Shield		
				PS2	1.8	Not use	Non-shield		
				PS2	1.8	Not use	Non-shield		
				USB	1.6	Not use	Shield		
KEYBOARD	SKG-210P	TAKSC1225 6D	MONITERY INTERNATIONAL CORP	USB	1.8	Not use	Shield	Plastic	DOC
MOUSE	M-SBF96	LZ948B105 W1	LOGITECH INC.	PS2	1.8	Not use	Shield	Plastic	DOC
CD/DVD PLAYER	DVP-NS92V	2001499	SONY EMCS.	POWER AV	1.8 1.6	Not use Not use	Non-shield Non-shield	Plastic	VER
USB MEMORY	Sandisk Cruzer Z37 4G	N/A	Sandisk	USB	-	-	-	Plastic	DOC
PRINTER	SRP-770	SRP770080 60035	Bixolon	POWER USB	1.5 1.6	Not use Not use	Non-shield Shield	Plastic	DOC
Remote Control	AN-MR400Q	N/A	OHSUNG ELECTRONIC	-	-	-	-	-	-
Headset	COV903	N/A	COSY	STEREO	2.0	Not use	Non-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

< HDMI MODE >



Results of Conducted Emission

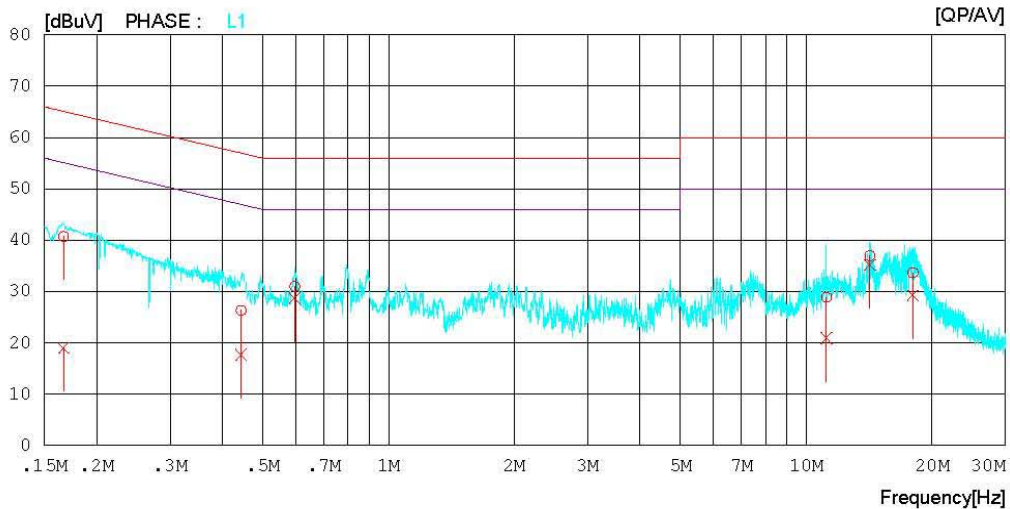
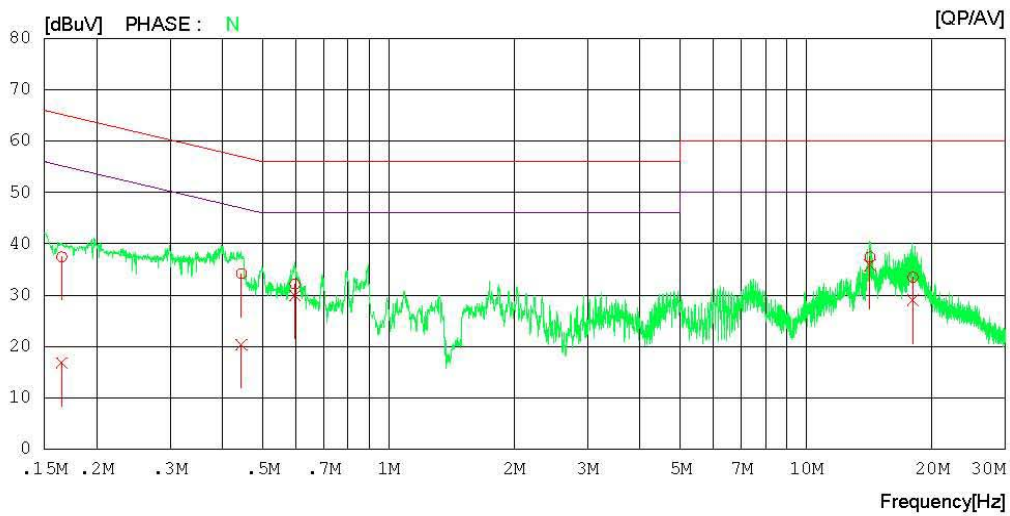
Digital EMC
Date : 2013-02-05

Model No. : 50GA6400-UD
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 : 2013-02-05

Model No.	: 50GA6400-UD	Reference No.	:
Type	:	Power Supply	: 120 V 60 Hz
Serial No.	:	Temp/Humi.	: 23 °C 40 % R.H.
Test Condition	: HDMI	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	0.16519	37.2	16.6	0.2	37.4	16.8	65.2	55.2	27.8	38.4	N
2	0.44423	34.0	20.1	0.2	34.2	20.3	57.0	47.0	22.8	26.7	N
3	0.59734	31.9	29.7	0.2	32.1	29.9	56.0	46.0	23.9	16.1	N
4	14.21500	36.7	35.1	0.7	37.4	35.8	60.0	50.0	22.6	14.2	N
5	18.01500	32.6	28.1	0.9	33.5	29.0	60.0	50.0	26.5	21.0	N
6	0.16681	40.5	18.8	0.2	40.7	19.0	65.1	55.1	24.4	36.1	L1
7	0.44381	26.1	17.5	0.2	26.3	17.7	57.0	47.0	30.7	29.3	L1
8	0.59699	30.8	28.5	0.2	31.0	28.7	56.0	46.0	25.0	17.3	L1
9	11.18300	28.2	20.3	0.7	28.9	21.0	60.0	50.0	31.1	29.0	L1
10	14.21350	36.3	34.5	0.7	37.0	35.2	60.0	50.0	23.0	14.8	L1
11	18.01500	32.8	28.3	0.9	33.7	29.2	60.0	50.0	26.3	20.8	L1

< USB MODE >



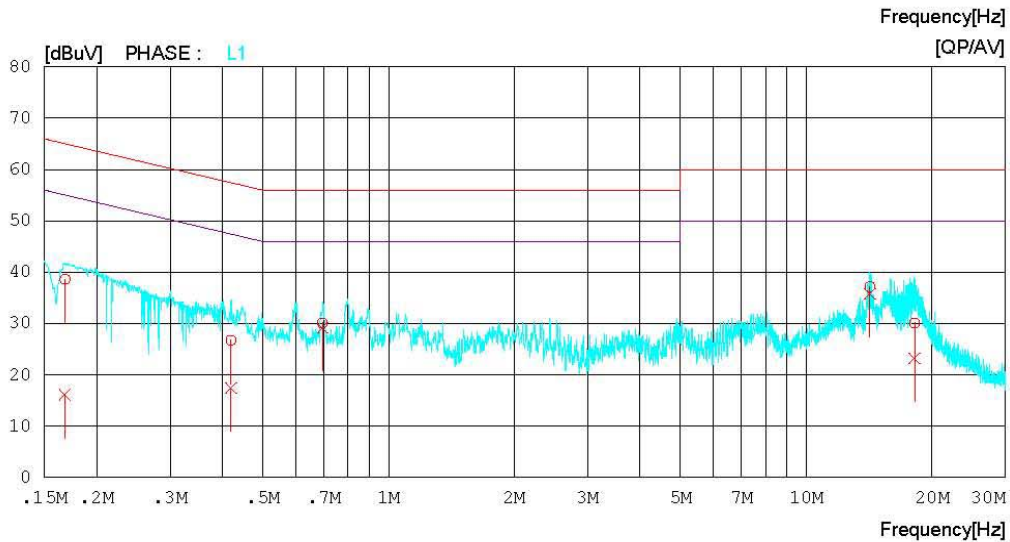
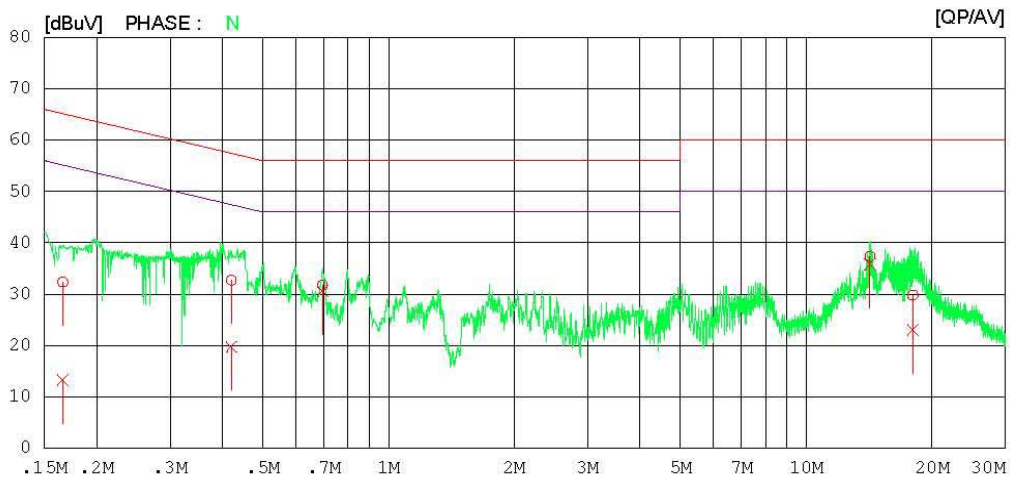
Results of Conducted Emission

Digital EMC
Date : 2013-02-05

Model No.	: 50GA6400-UD	Reference No.	:
Type	:	Power Supply	: 120 V 60 Hz
Serial No.	:	Temp/Humi.	: 23 °C 40 % R.H.
Test Condition	: USB	Operator	:

Memo :

LIMIT : CISPR22_B QP
CISPR22_B AV



Results of Conducted Emission

Digital EMC
 Date : 2013-02-05

Model No.	: 50GA6400-UD	Reference No.	:
Type	:	Power Supply	: 120 V 60 Hz
Serial No.	:	Temp/Humi.	: 23 °C 40 % R.H.
Test Condition	: USB	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	0.16605	32.2	13.1	0.2	32.4	13.3	65.2	55.2	32.8	41.9	N
2	0.42064	32.5	19.5	0.2	32.7	19.7	57.4	47.4	24.7	27.7	N
3	0.69559	31.5	30.4	0.2	31.7	30.6	56.0	46.0	24.3	15.4	N
4	14.21400	36.6	35.1	0.7	37.3	35.8	60.0	50.0	22.7	14.2	N
5	18.01300	28.9	22.1	0.9	29.8	23.0	60.0	50.0	30.2	27.0	N
6	0.16815	38.4	15.9	0.2	38.6	16.1	65.1	55.1	26.5	39.0	L1
7	0.41936	26.6	17.3	0.2	26.8	17.5	57.5	47.5	30.7	30.0	L1
8	0.69535	29.9	29.0	0.2	30.1	29.2	56.0	46.0	25.9	16.8	L1
9	14.21550	36.5	35.1	0.7	37.2	35.8	60.0	50.0	22.8	14.2	L1
10	18.16850	29.3	22.3	0.9	30.2	23.2	60.0	50.0	29.8	26.8	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 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 (dB μ V/m)	Quasi-peak (dB μ V/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 (dB μ V/m)	Quasi-peak (dB μ V/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 (dB μ V/m)	Average (dB μ V/m)	Peak (dB μ V/m)	Average (dB μ V/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

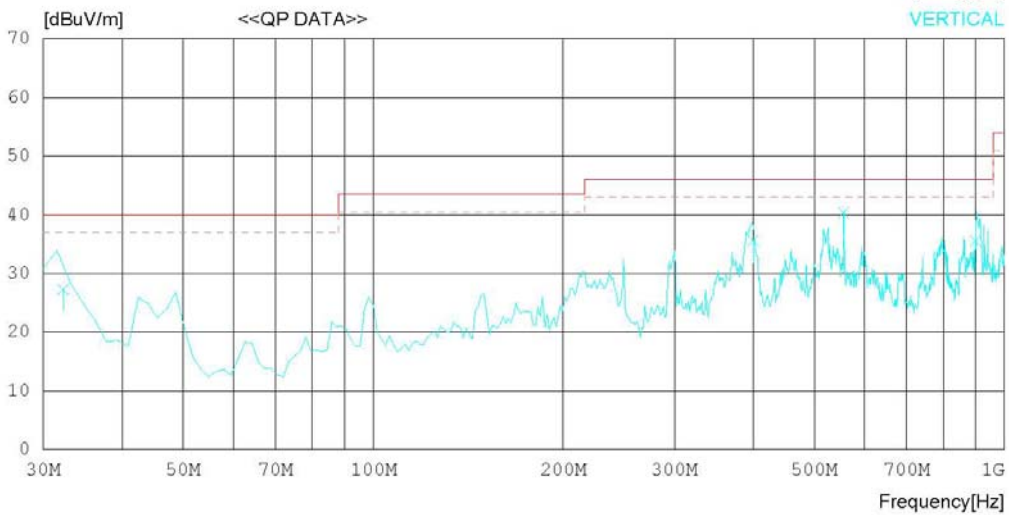
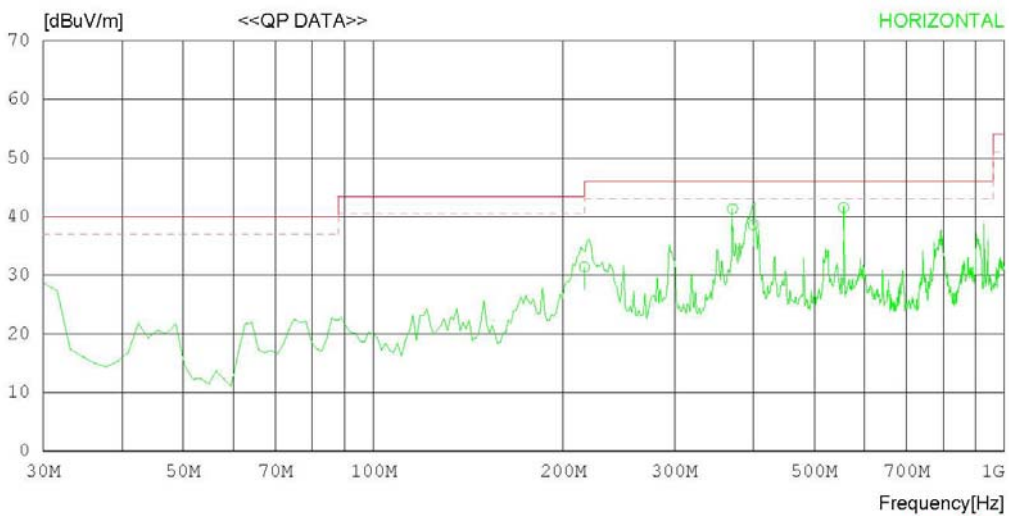
Date : 2013-02-02

Model Name : 50GA6400-UD
Model No. :
Serial No. :
Test Condition : HDMI

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi : 19 °C 38 % R.H.
Operator :

Memo :

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



RADIATED EMISSION

Date : 2013-02-02

Model Name	: 50GA6400-UD	Reference No.	:
Model No.	:	Power Supply	: 120 V 60 Hz
Serial No.	:	Temp/Humi	: 19 °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	215.996	42.3	10.6	2.4	23.9	31.4	43.5	12.1	100	1
2	370.883	46.1	15.4	3.4	23.6	41.3	46.0	4.7	100	228
3	399.996	42.6	16.0	3.5	23.5	38.6	46.0	7.4	100	135
4	556.324	42.8	18.1	3.8	23.2	41.5	46.0	4.5	201	225
----- Vertical -----										
5	32.282	33.6	16.7	0.9	23.9	27.3	40.0	12.7	100	115
6	399.990	39.6	16.0	3.5	23.5	35.6	46.0	10.4	100	358
7	556.323	41.6	18.1	3.8	23.2	40.3	46.0	5.7	100	358
8	900.826	32.6	20.8	5.3	23.1	35.6	46.0	10.4	100	142

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

RADIATED EMISSION

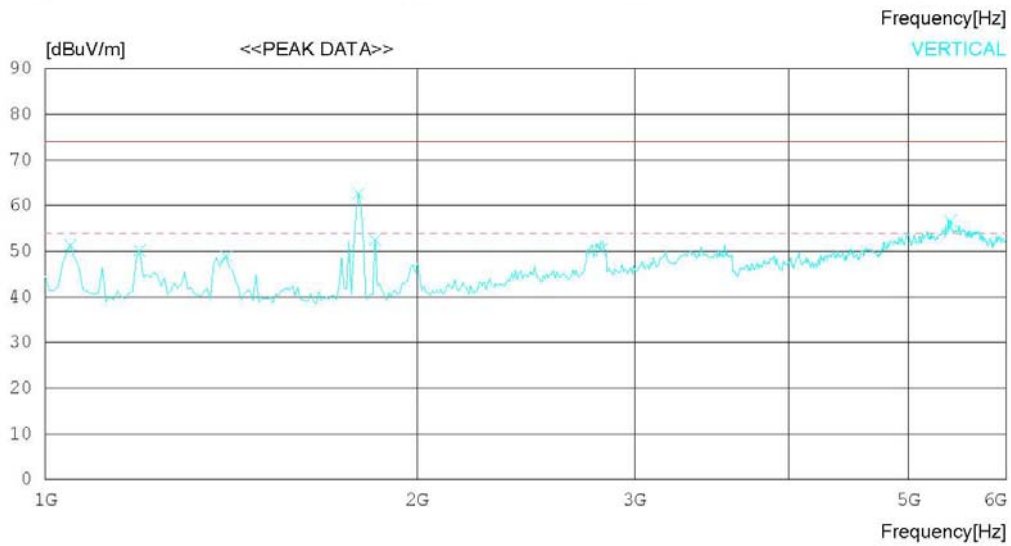
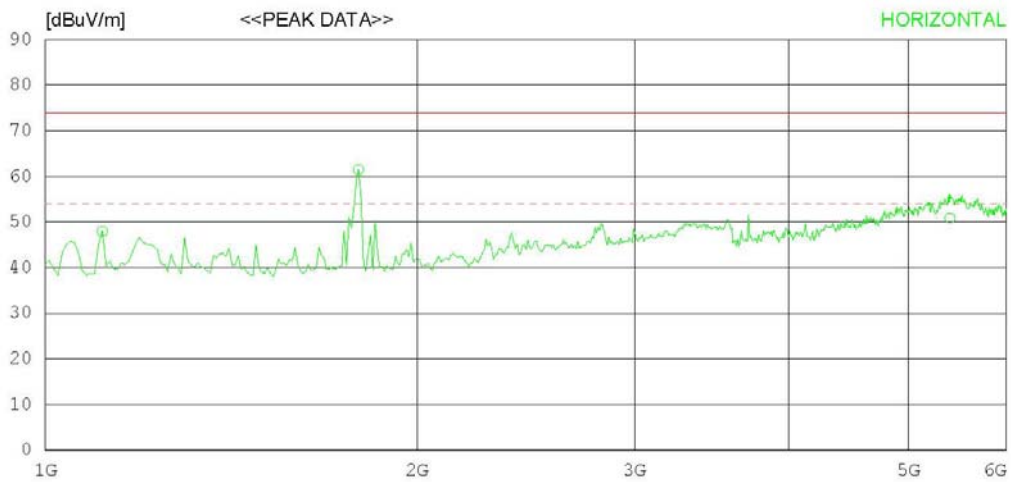
Date : 2013-02-02

Model Name : 50GA6400-UD
Model No. :
Serial No. :
Test Condition : HDMI

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi : 19 °C 38 % 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 : 2013-02-02

Model Name : 50GA6400-UD	Reference No. :
Model No. :	Power Supply : 120 V 60 Hz
Serial No. :	Temp/Humi : 19 °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	1112.179	46.4	24.0	6.1	28.5	48.0	74.0	26	100	358
2	1793.269	57.4	24.6	8.0	28.5	61.5	74.0	12.5	100	358
3	5399.048	34.5	34.6	10.2	28.4	50.9	74.0	23.1	100	358
----- Vertical -----										
4	1048.077	50.0	23.9	5.9	28.5	51.3	74.0	22.7	100	1
5	1192.308	48.1	24.2	6.4	28.5	50.2	74.0	23.8	100	325
6	1400.641	45.7	24.5	7.2	28.5	48.9	74.0	25.1	100	154
7	1793.269	58.5	24.6	8.1	28.5	62.7	74.0	11.3	100	18
8	1849.359	48.3	24.6	8.1	28.5	52.5	74.0	21.5	100	1
9	2818.921	42.2	28.4	8.2	28.5	50.3	74.0	23.7	100	1
10	5407.061	35.1	34.6	15.0	28.1	56.6	74.0	17.4	100	213

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

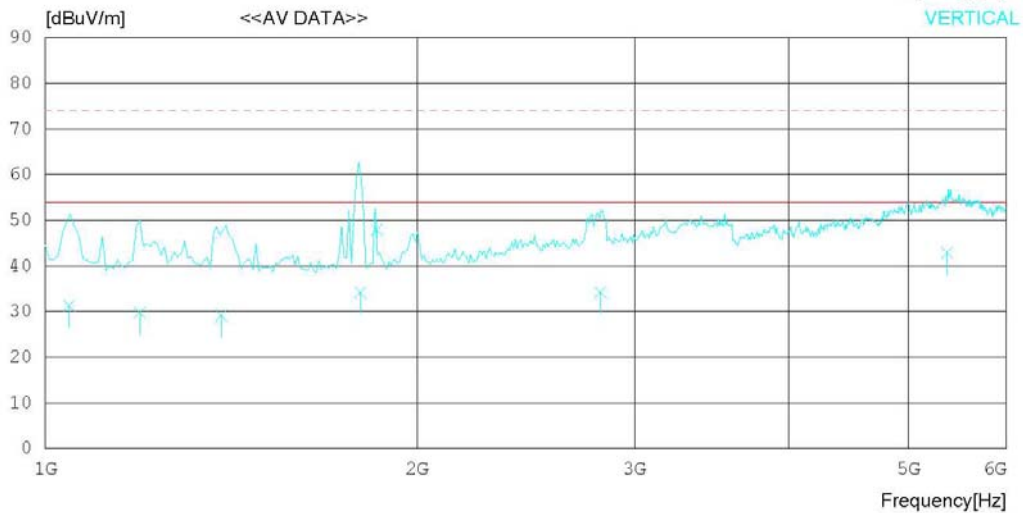
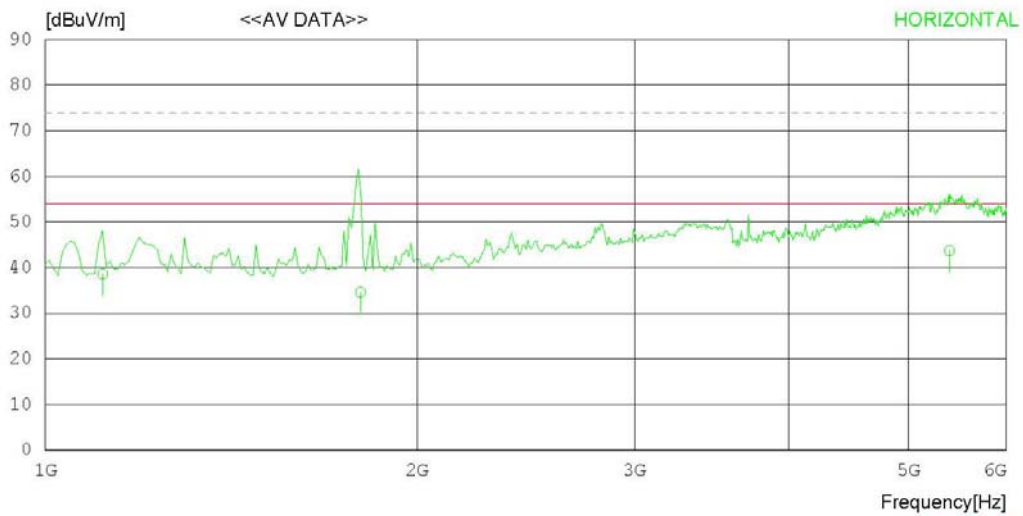
RADIATED EMISSION

Date : 2013-02-02

Model Name	: 50GA6400-UD	Reference No.	:
Model No.	:	Power Supply	: 120 V 60 Hz
Serial No.	:	Temp/Humi	: 19 °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 : 2013-02-02

Model Name	: 50GA6400-UD	Reference No.	:
Model No.	:	Power Supply	: 120 V 60 Hz
Serial No.	:	Temp/Humi	: 19 °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	1112.697	37.0	24.0	6.1	28.5	38.6	54.0	15.4	100	338
2	1799.243	30.4	24.6	8.1	28.5	34.6	54.0	19.4	100	165
3	5395.435	22.3	34.5	15.0	28.1	43.7	54.0	10.3	100	221
----- Vertical -----										
4	1044.964	30.0	23.9	5.9	28.5	31.3	54.0	22.7	100	302
5	1192.480	27.7	24.2	6.4	28.5	29.8	54.0	24.2	100	325
6	1388.349	26.0	24.5	7.1	28.5	29.1	54.0	24.9	100	154
7	1799.506	30.0	24.6	8.1	28.5	34.2	54.0	19.8	100	18
8	1854.447	43.6	24.6	8.2	28.5	47.9	54.0	6.1	100	76
9	2816.397	24.0	28.4	10.2	28.4	34.2	54.0	19.8	100	119
10	5373.794	21.6	34.4	15.0	28.1	42.9	54.0	11.1	100	213

< USB MODE_30 MHz ~ 1 GHz >

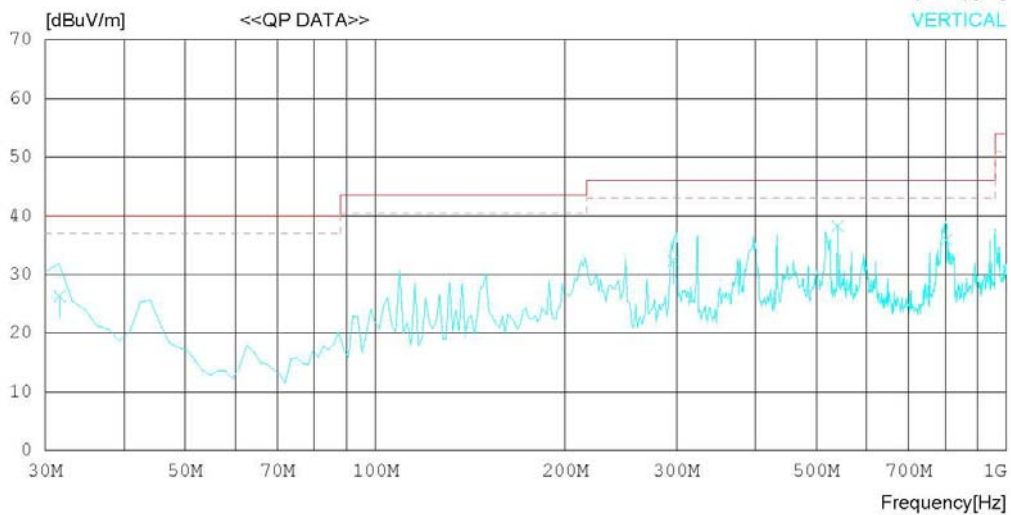
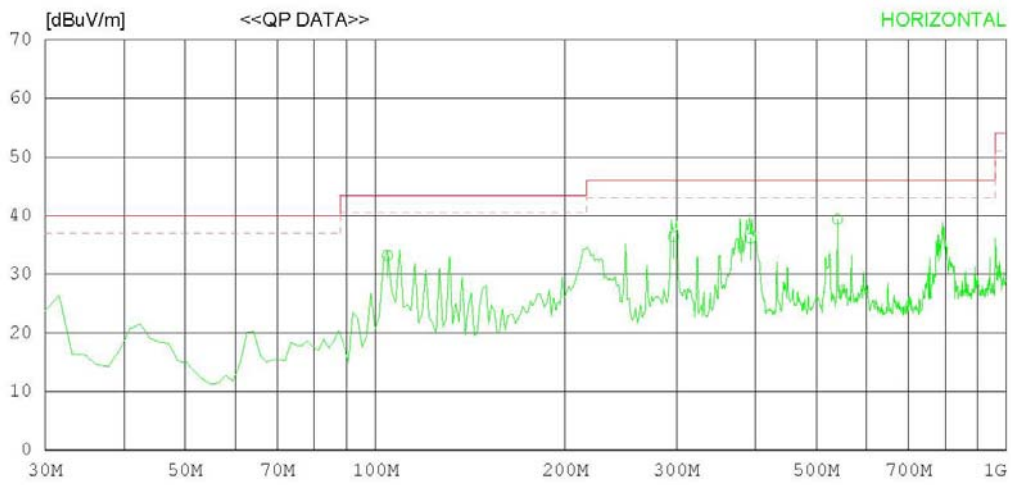
RADIATED EMISSION

Date : 2013-02-02

Model Name	: 50GA6400-UD	Reference No.	:
Model No.	:	Power Supply	: 120 V 60 Hz
Serial No.	:	Temp/Humi	: 19 °C 38 % R.H.
Test Condition	: USB	Operator	:

Memo :

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



RADIATED EMISSION

Date : 2013-02-02

Model Name	: 50GA6400-UD	Reference No.	:
Model No.	:	Power Supply	: 120 V 60 Hz
Serial No.	:	Temp/Humi	: 19 °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	104.503	44.9	10.9	1.5	24.1	33.2	43.5	10.3	193	275
2	296.998	43.5	13.7	2.8	23.6	36.4	46.0	9.6	100	87
3	393.154	40.2	15.9	3.5	23.5	36.1	46.0	9.9	100	358
4	540.012	40.9	17.9	3.8	23.2	39.4	46.0	6.6	301	0
----- Vertical -----										
5	31.624	32.2	17.0	0.9	23.8	26.3	40.0	13.7	100	148
6	296.987	39.4	13.7	2.8	23.6	32.3	46.0	13.7	199	358
7	539.886	39.8	17.9	3.8	23.2	38.3	46.0	7.7	100	358
8	803.514	34.5	20.0	4.8	23.4	35.9	46.0	10.1	100	178

RADIATED EMISSION

Date : 2013-02-02

Model Name	: 50GA6400-UD	Reference No.	:
Model No.	:	Power Supply	: 120 V 60 Hz
Serial No.	:	Temp/Humi	: 19 °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	1192.308	46.6	24.2	6.4	28.5	48.7	74.0	25.3	100	358
2	2746.805	41.0	28.2	10.0	28.4	50.8	74.0	23.2	100	214
----- Vertical -----										
3	1048.077	47.1	23.9	5.9	28.5	48.4	74.0	25.6	100	1
4	1376.602	46.5	24.5	7.1	28.5	49.6	74.0	24.4	100	1
5	2794.883	45.8	28.4	10.1	28.4	55.9	74.0	18.1	100	170

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

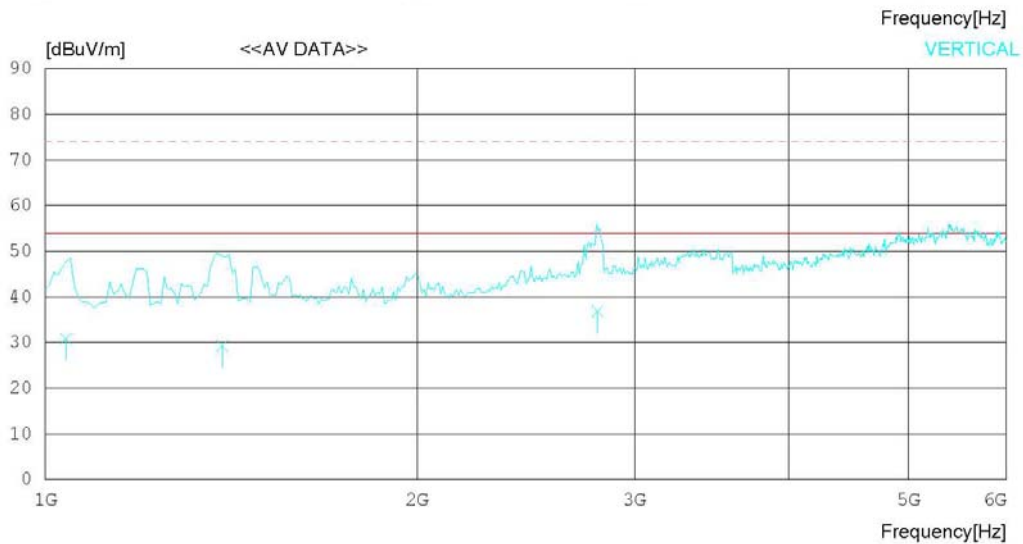
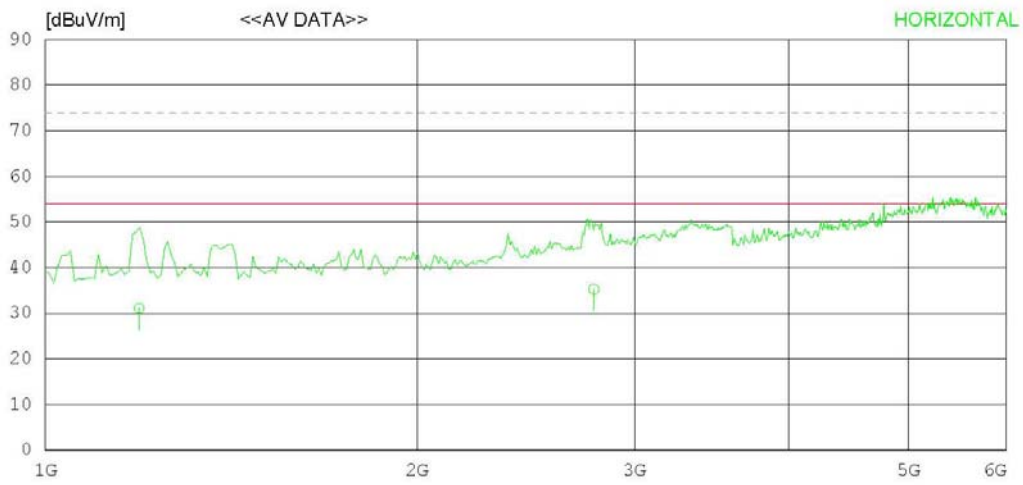
RADIATED EMISSION

Date : 2013-02-02

Model Name	: 50GA6400-UD	Reference No.	:
Model No.	:	Power Supply	: 120 V 60 Hz
Serial No.	:	Temp/Humi	: 19 °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 : 2013-02-02

Model Name	: 50GA6400-UD	Reference No.	:
Model No.	:	Power Supply	: 120 V 60 Hz
Serial No.	:	Temp/Humi	: 19 °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	1191.435	29.0	24.2	6.4	28.5	31.1	54.0	22.9	100	358
2	2780.557	25.3	28.3	10.1	28.4	35.3	54.0	18.7	100	214
----- Vertical -----										
3	1039.060	29.5	23.9	5.9	28.5	30.8	54.0	23.2	100	1
4	1391.064	26.2	24.5	7.1	28.5	29.3	54.0	24.7	100	1
5	2800.557	26.8	28.4	10.1	28.4	36.9	54.0	17.1	100	170

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
<input type="checkbox"/> SPECTRUM ANALYZER	8591E	H/P	3649A05889	2012.03.05	2013.03.05
<input type="checkbox"/> RFI/FIELD INTENSITY METER	KNM-2402	KYORITSU	4N-170-3	2012.07.02	2013.07.02
<input type="checkbox"/> LISN	KNW-407	KYORITSU	8-317-8	2013.01.08	2014.01.08
<input type="checkbox"/> LISN	PMM L2-16B	NARDA S.T.S. / PMM	000WX20305	2012.07.25	2013.07.25
<input type="checkbox"/> 50 OHM TERMINATOR	CT-01	TME	N/A	2013.01.08	2014.01.08
<input checked="" type="checkbox"/> EMI TEST RECEIVER	ESCI	ROHDE & SCHWARZ	100364	2012.03.06	2013.03.06
<input checked="" type="checkbox"/> LISN	ESH2-Z5	ROHDE & SCHWARZ	828739/006	2012.09.18	2013.09.18
<input checked="" type="checkbox"/> LISN	LISN1600	TTI	197204	2012.07.02	2013.07.02
<input checked="" type="checkbox"/> 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
<input checked="" type="checkbox"/> EMI TEST RECEIVER	ESU	ROHDE & SCHWARZ	100014	2013.01.08	2014.01.08
<input checked="" type="checkbox"/> BILOG ANTENNA	CBL6112B	SCHAFFNER	2737	2012.03.22	2014.03.22
<input checked="" type="checkbox"/> HORN ANTENNA	BBHA9120A	SCHWARZBECK	322	2012.05.15	2014.05.15
<input checked="" type="checkbox"/> AMPLIFIER	8447E	H/P	2945A02865	2013.01.08	2014.01.08
<input checked="" type="checkbox"/> AMPLIFIER	MLA-100M18-B01-25	TSJ	1719458	2012.06.04	2013.06.04
<input type="checkbox"/> SPECTRUM ANALYZER	E4411B	AGILENT	US41062735	2012.07.11	2013.07.11
<input type="checkbox"/> AMPLIFIER	8447D	AGILENT	2443A03690	2012.07.01	2013.07.01
<input type="checkbox"/> EMI TEST RECEIVER	ESCI	ROHDE & SCHWARZ	100364	2012.03.06	2013.03.06
<input type="checkbox"/> BICONICAL ANT.	VHA 9103	SCHWARZBECK	91032789	2012.04.10	2014.04.10
<input type="checkbox"/> LOG-PERIODIC ANT.	UHALP 9108A	SCHWARZBECK	590	2012.04.10	2014.04.10
<input type="checkbox"/> BICONICAL ANT.	VHA 9103	SCHWARZBECK	91031946	2012.03.12	2014.03.12
<input type="checkbox"/> LOG-PERIODIC ANT.	UHALP 9108-A1	SCHWARZBECK	1098	2012.03.12	2014.03.12
<input type="checkbox"/> 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