EMC TEST REPORT

Test item	: LED TV Monitor
Model No.	: 55GA7900-UA
Order No.	: DEMC1302-00541
Date of receipt	: 2013-02-12
Test duration	: 2013-02-19 ~ 2013-02-21
Use of report	: FCC CoC Marking
Date of Issue	: 2013-02-25

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 : (20 ~ 22) °C,
Humidity : (40 ~ 42) % 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:

Engineer
SeHyun Kim

Reviewed by:

General Manager
ChangHo Lee

PRESIDENT OF DIGITAL EMC CO., LTD.

Copyright © 2013, DIGITAL EMC CO., LTD.

CONTENTS

1. General Remarks 3

2. Test Laboratory 3

3. General Information of EUT 4

4. Test Summary 5

4.1 Applied standards and test results 5

4.2 Test environment and conditions 5

4.3 Test result Summary 5

5. Test Set-up and operation mode 6

5.1 Principle of Configuration Selection 6

5.2 Test Operation Mode 6

5.3 Support Equipment Used 6

6. Test Results : Emission 7

6.1 Conducted Disturbance 7

6.2 Radiated Disturbance 12

Appendix 1 26

List of Test and Measurement Instruments 26

Appendix 2 28

Report Revision History 28

Copyright © 2013, DIGITAL EMC CO., LTD.

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”.

Copyright © 2013, DIGITAL EMC CO., LTD.

3. General Information of EUT

Model No.	55GA7900-UA
EUT Type	LED TV Monitor
Serial No	NONE
FCC ID	BEJ55GA7900UA
Type of Sample Tested	Pre-Production
High Frequency	max 800MHz
Rating	AC 100-240 V~ 50/60 Hz, 1.5 A
Supplied Power for Test	AC 120 V, 60 Hz
Applicant	LG Electronics Inc. 19-1, Cheongho-ri, Jinwi-myeon, Pyeongtaek-si, Gyeonggi-do, 451-713, Korea
Manufacturer	LG Electronics Inc. 19-1, Cheongho-ri, Jinwi-myeon, Pyeongtaek-si, Gyeonggi-do, 451-713, Korea

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
1360 x 768	47.712	60.015
1280 x 1024 HDMI-PC	63.981	60.02
1920 x 1080	67.5	60.00

Copyright © 2013, DIGITAL EMC CO., LTD.

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	02-19	22	40
Radiated Disturbance	02-21	20	42

4.3 Test result Summary

(1) Conducted Emission (HDMI MODE)

Frequency [MHz]	Phase	Result [dBμV]	Detector	Limit [dBμV]	Margin [dB]
0.40204	**L1**	**38.2**	Average	**47.8**	**9.6**

(2) Radiated Emission (HDMI MODE)

Frequency [MHz]	Pol.	Result [dB(μV/m)]	Detector	Limit [dB(μV/m)]	Margin [dB]
5956.657	**V**	**46.0**	Average	**54.0**	**8.0**

Copyright © 2013, DIGITAL EMC CO., LTD.

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	VOSTRO430	8K77SBX	DELL	POWER HDMI USB USB USB	1.8 1.8 1.8 1.8 1.0	Not use Not use Not use Not use Not use	Non-shield Shield Shield Shield Shield	Plastic	DOC
KEYBOARD	SKG-3000UB	TAKB601239K	MONITEREY INTERNATIONAL CORP	USB	1.8	Not use	Shield	Plastic	DOC
MOUSE	1484	352700021372	MICROSOFT CORPORATION	USB	1.8	Not use	Shield	Plastic	DOC
CD/DVD PLAYER	DVP-NS92V	2000407	SONY EMCS	POWER AV	1.8 1.6	Not use Not use	Non-shield Non-shield	Plastic	VER
USB MEMORY	Cruzer Z37	N/A	Sandisk	USB	-	-	-	-	DOC
PRINTER	SRP-770	SRP77008060035	BICSOLON	POWER USB	1.8 1.0	Not use Not use	Non-shield	Plastic	DOC
Headset	COV903	N/A	COSY	STEREO	1.5	Not use	Non-shield	Plastic	DOC
Remote Control	AN-MR400Q	N/A	OHSUNG ELECTRONIC	-	-	-	-	-	-

Copyright © 2013, DIGITAL EMC CO., LTD.

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

Copyright © 2013, DIGITAL EMC CO., LTD.

< HDMI MODE >

Digital EMC

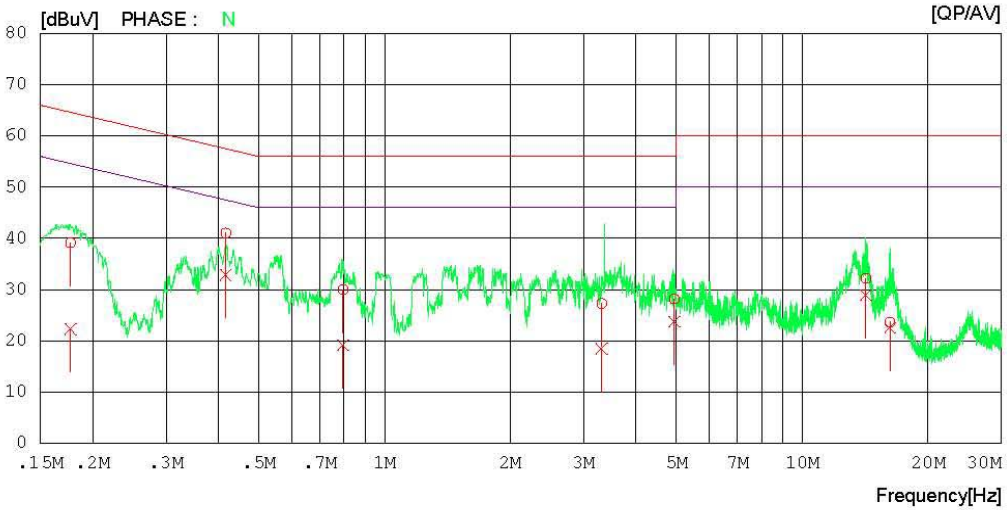
Results of Conducted Emission

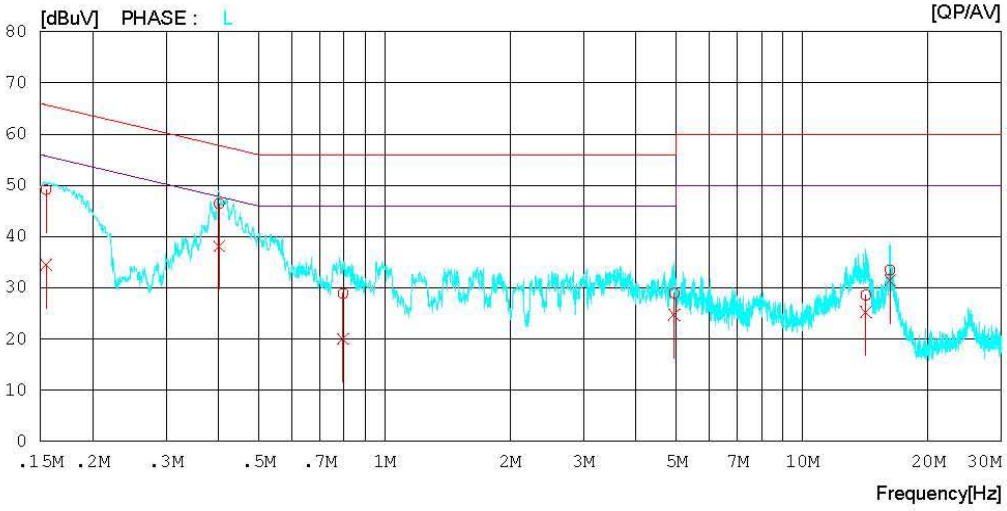
Digital EMC
Date : 2013-02-18

Model No.	:	55GA7900-UA	Referrence No.	:	
Type	:		Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi.	:	22 'C 40 % R.H.
Test Condition	:	HDMI	Operator	:	

Memo :

LIMIT : CISPR22_B QP
CISPR22_B AV





Copyright © 2013, DIGITAL EMC CO., LTD.

Results of Conducted Emission

Digital EMC
Date : 2013-02-18

Model No.	:	55GA7900-UA	Referrence No.	:	
Type	:		Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi.	:	22 'C 40 % 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	0.17724	38.9	22.1	0.2	39.1	22.3	64.6	54.6	25.5	32.3	N
2	0.41703	40.8	32.7	0.2	41.0	32.9	57.5	47.5	16.5	14.6	N
3	0.79544	29.8	19.0	0.2	30.0	19.2	56.0	46.0	26.0	26.8	N
4	3.31250	27.0	18.1	0.3	27.3	18.4	56.0	46.0	28.7	27.6	N
5	4.94050	27.8	23.3	0.4	28.2	23.7	56.0	46.0	27.8	22.3	N
6	14.21200	31.5	28.2	0.7	32.2	28.9	60.0	50.0	27.8	21.1	N
7	16.22800	22.9	21.7	0.8	23.7	22.5	60.0	50.0	36.3	27.5	N
8	0.15483	49.0	34.3	0.2	49.2	34.5	65.7	55.7	16.5	21.2	L
9	0.40204	46.2	38.0	0.2	46.4	38.2	57.8	47.8	11.4	9.6	L
10	0.79528	28.7	19.8	0.2	28.9	20.0	56.0	46.0	27.1	26.0	L
11	4.94000	28.6	24.3	0.4	29.0	24.7	56.0	46.0	27.0	21.3	L
12	14.21650	27.9	24.6	0.7	28.6	25.3	60.0	50.0	31.4	24.7	L
13	16.23200	32.7	30.6	0.8	33.5	31.4	60.0	50.0	26.5	18.6	L

Copyright © 2013, DIGITAL EMC CO., LTD.

< USB MODE >

Digital EMC

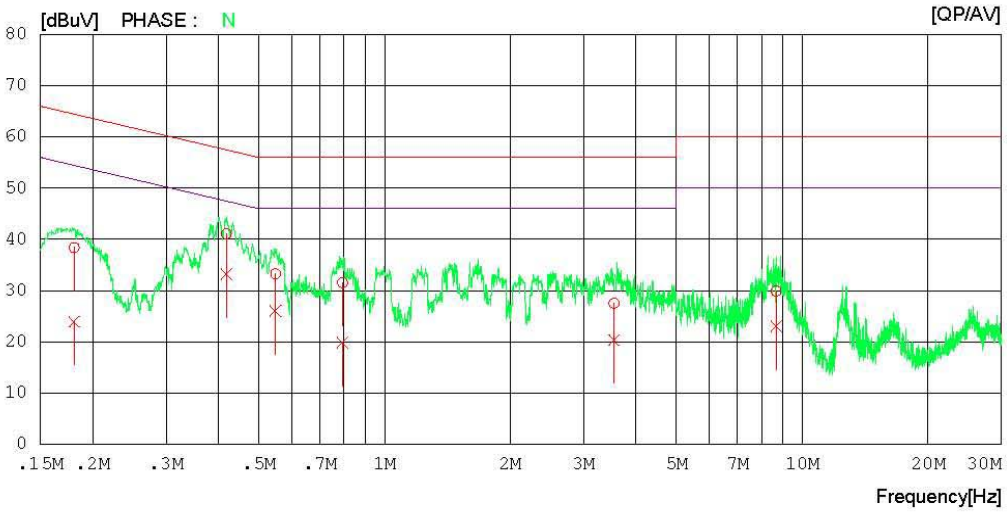
Results of Conducted Emission

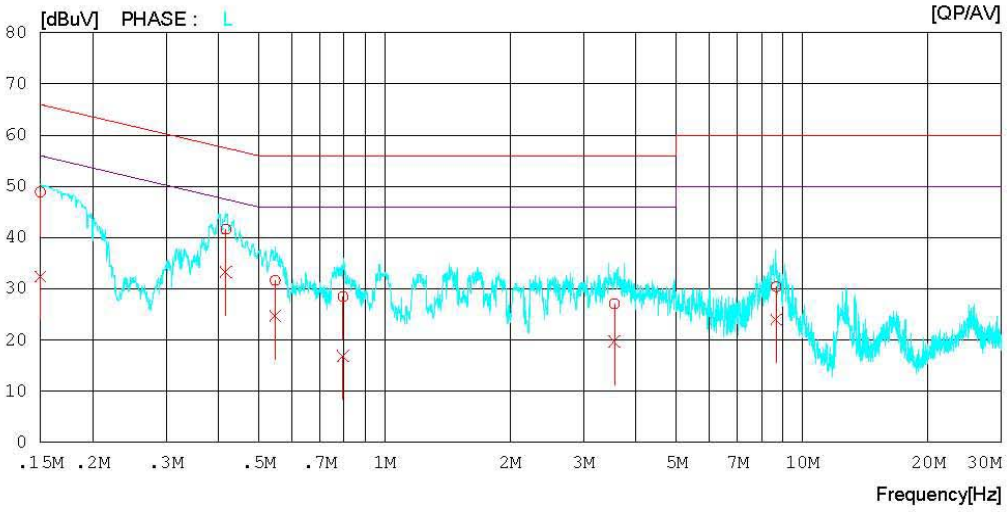
Digital EMC
Date : 2013-02-19

Model No.	:	55GA7900-UA	Referrence No.	:	
Type	:		Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi.	:	22 'C 40 % R.H.
Test Condition	:	USB	Operator	:	

Memo :

LIMIT : CISPR22_B QP
CISPR22_B AV





Copyright © 2013, DIGITAL EMC CO., LTD.

Results of Conducted Emission

Digital EMC
Date : 2013-02-19

Model No.	:	55GA7900-UA	Referrence No.	:	
Type	:		Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi.	:	22 'C 40 % 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	0.18080	38.2	23.7	0.2	38.4	23.9	64.4	54.4	26.0	30.5	N
2	0.41841	40.9	33.0	0.2	41.1	33.2	57.5	47.5	16.4	14.3	N
3	0.54841	33.1	25.8	0.2	33.3	26.0	56.0	46.0	22.7	20.0	N
4	0.79379	31.3	19.6	0.2	31.5	19.8	56.0	46.0	24.5	26.2	N
5	3.54600	27.2	20.0	0.3	27.5	20.3	56.0	46.0	28.5	25.7	N
6	8.66600	29.2	22.3	0.7	29.9	23.0	60.0	50.0	30.1	27.0	N
7	0.15000	48.7	32.2	0.2	48.9	32.4	66.0	56.0	17.1	23.6	L
8	0.41726	41.4	33.1	0.2	41.6	33.3	57.5	47.5	15.9	14.2	L
9	0.54771	31.5	24.5	0.2	31.7	24.7	56.0	46.0	24.3	21.3	L
10	0.79519	28.3	16.7	0.2	28.5	16.9	56.0	46.0	27.5	29.1	L
11	3.55100	26.7	19.5	0.3	27.0	19.8	56.0	46.0	29.0	26.2	L
12	8.66750	29.7	23.3	0.7	30.4	24.0	60.0	50.0	29.6	26.0	L

Copyright © 2013, DIGITAL EMC CO., LTD.

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.

Copyright © 2013, DIGITAL EMC CO., LTD.

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

Copyright © 2013, DIGITAL EMC CO., LTD.

Test Result

< HDMI MODE_30 MHz ~ 1 GHz >

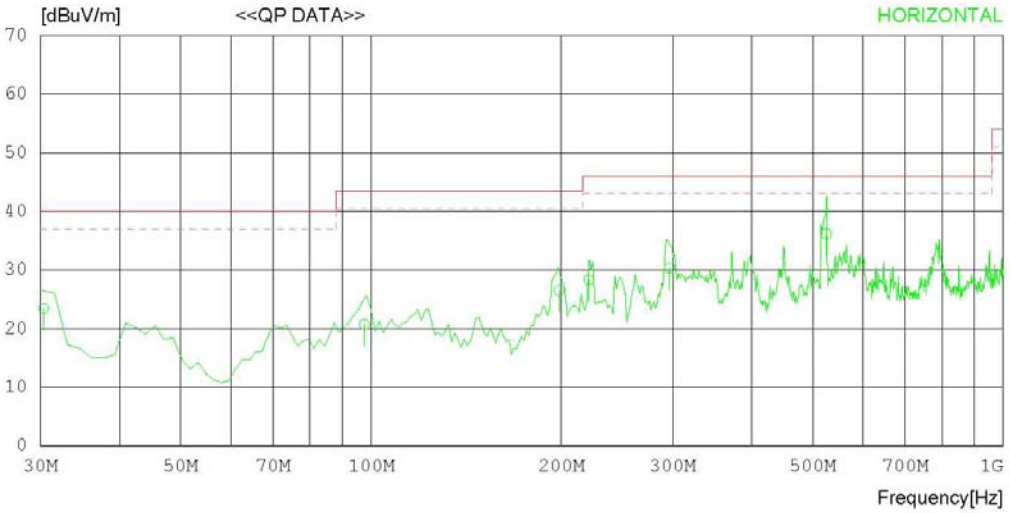
RADIATED EMISSION

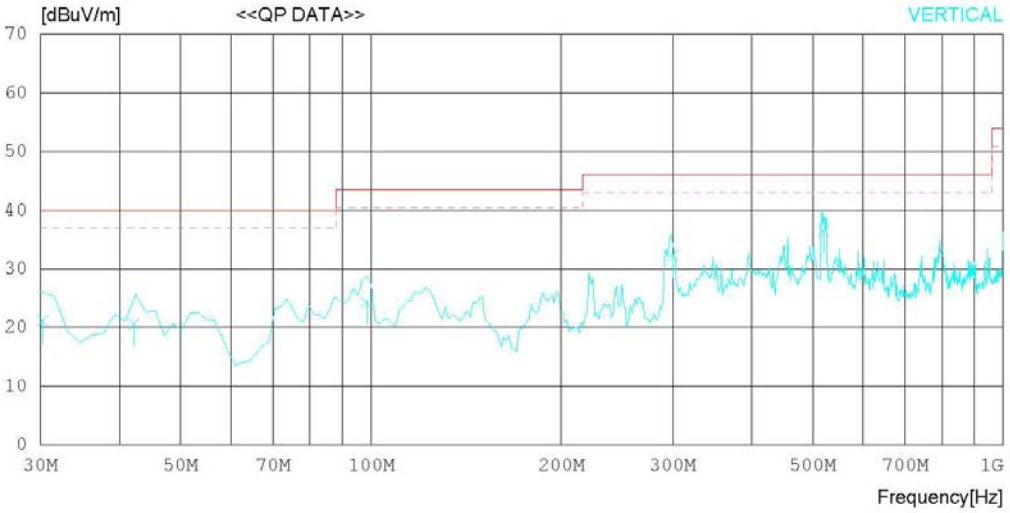
Date : 2013-02-21

Model Name	:	55GA7900-UA	Reference No.	:	
Model No.	:		Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi	:	20 'C 42 % R.H.
Test Condition	:	HDMI	Operator	:	

Memo :

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





Copyright © 2013, DIGITAL EMC CO., LTD.

RADIATED EMISSION

Date : 2013-02-21

Model Name	:	55GA7900-UA	Reference No.	:	
Model No.	:		Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi	:	20 'C 42 % 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	30.337	28.6	17.7	0.9	23.8	23.4	40.0	16.6	100	139
2	97.584	33.1	10.3	1.4	24.1	20.7	43.5	22.8	100	149
3	198.502	38.4	9.7	2.3	23.9	26.5	43.5	17.0	100	147
4	221.024	38.8	11.0	2.4	23.9	28.3	46.0	17.7	301	150
5	296.415	37.4	13.7	2.8	23.6	30.3	46.0	15.7	400	143
6	525.157	37.7	17.7	3.9	23.1	36.2	46.0	9.8	300	155
----- Vertical ------										
7	30.229	26.3	17.8	0.9	23.8	21.2	40.0	18.8	400	135
8	42.165	30.4	13.3	1.1	24.2	20.6	40.0	19.4	100	155
9	98.471	36.6	10.4	1.4	24.1	24.3	43.5	19.2	100	142
10	300.003	39.4	13.7	2.8	23.6	32.3	46.0	13.7	199	144
11	520.045	38.1	17.6	3.9	23.1	36.5	46.0	9.5	100	151

Copyright © 2013, DIGITAL EMC CO., LTD.

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

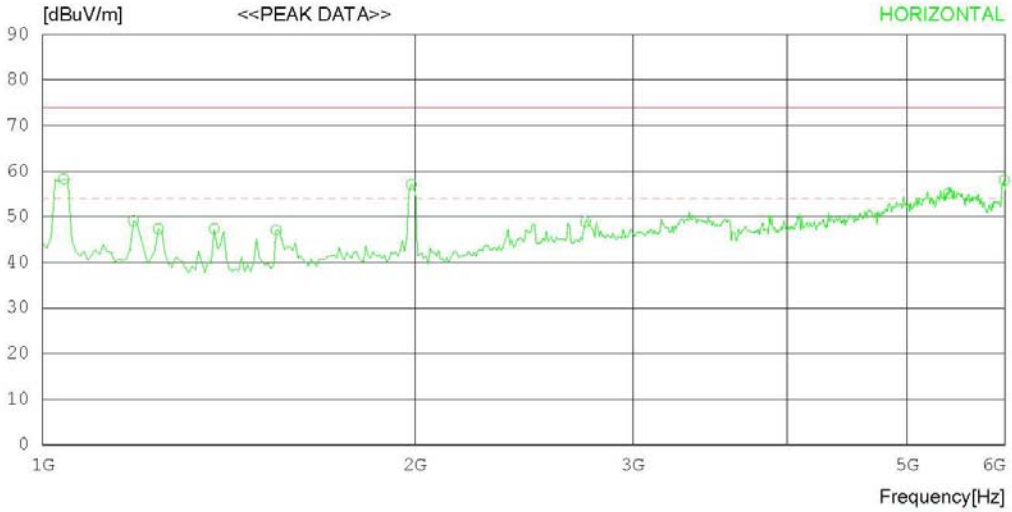
RADIATED EMISSION

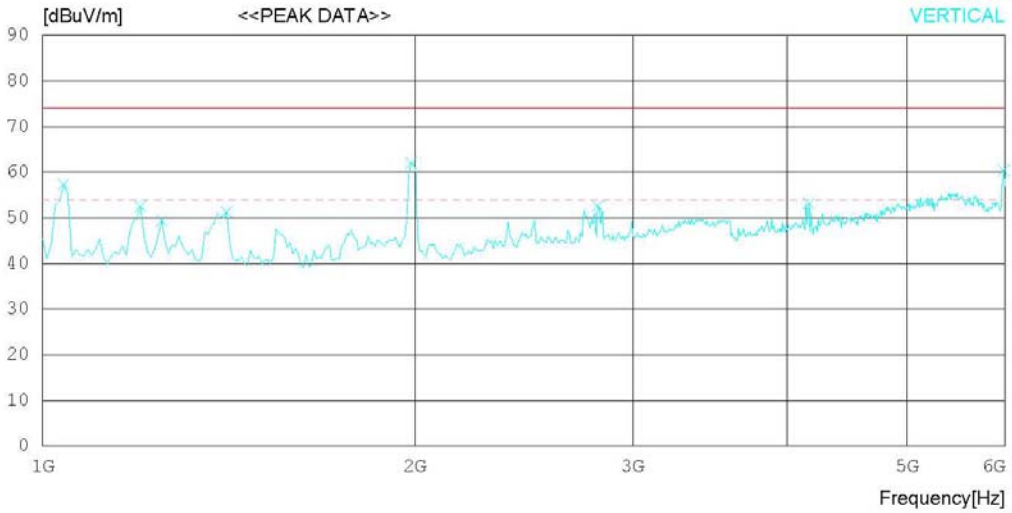
Date : 2013-02-21

Model Name	:	55GA7900-UA	Reference No.	:	
Model No.	:		Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi	:	20 'C 42 % 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)





Copyright © 2013, DIGITAL EMC CO., LTD.

RADIATED EMISSION

Date : 2013-02-21

Model Name	:	55GA7900-UA	Reference No.	:	
Model No.	:		Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi	:	20 'C 42 % 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	1040.064	57.0	23.9	5.9	28.5	58.3	74.0	15.7	100	236
2	1184.295	47.0	24.2	6.4	28.5	49.1	74.0	24.9	100	358
3	1240.385	45.1	24.2	6.6	28.5	47.4	74.0	26.6	100	189
4	1376.602	44.3	24.5	7.1	28.5	47.4	74.0	26.6	100	358
5	1544.872	43.4	24.6	7.6	28.5	47.1	74.0	26.9	100	148
6	1985.577	52.6	24.6	8.4	28.5	57.1	74.0	16.9	100	358
7	2746.805	39.1	28.2	10.0	28.4	48.9	74.0	25.1	100	358
8	5399.048	33.6	34.6	15.0	28.1	55.1	74.0	18.9	100	358
9	5991.988	38.5	31.9	15.8	28.2	58.0	74.0	16	100	66
----- Vertical ------										
10	1040.064	56.0	23.9	5.9	28.5	57.3	74.0	16.7	100	166
11	1200.320	50.4	24.2	6.4	28.5	52.5	74.0	21.5	100	199
12	1248.397	47.0	24.3	6.6	28.5	49.4	74.0	24.6	100	1
13	1408.654	48.1	24.5	7.2	28.5	51.3	74.0	22.7	100	1
14	1985.577	57.5	24.6	8.4	28.5	62.0	74.0	12	100	1
15	2810.908	42.5	28.4	10.1	28.4	52.6	74.0	21.4	100	1
16	4165.093	38.1	30.4	13.1	28.3	53.3	74.0	20.7	100	144
17	5983.975	40.9	31.9	15.8	28.2	60.4	74.0	13.6	100	134

Copyright © 2013, DIGITAL EMC CO., LTD.

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

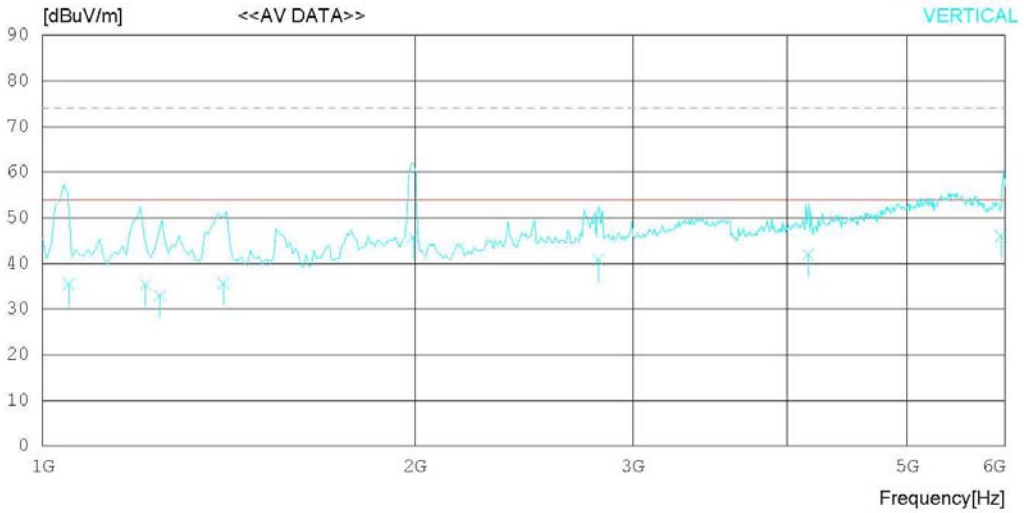
RADIATED EMISSION

Date : 2013-02-21

Model Name	:	55GA7900-UA	Reference No.	:	
Model No.	:		Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi	:	20 'C 42 % 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)



Copyright © 2013, DIGITAL EMC CO., LTD.

RADIATED EMISSION

Date : 2013-02-21

Model Name	:	55GA7900-UA	Reference No.	:	
Model No.	:		Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi	:	20 'C 42 % 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	1041.471	35.1	23.9	5.9	28.5	36.4	54.0	17.6	100	146
2	1183.258	32.2	24.2	6.4	28.5	34.3	54.0	19.7	100	139
3	1247.151	31.0	24.3	6.6	28.5	33.4	54.0	20.6	100	148
4	1372.303	30.2	24.5	7.1	28.5	33.3	54.0	20.7	100	152
5	1541.499	31.1	24.6	7.6	28.5	34.8	54.0	19.2	100	144
6	1983.528	33.2	24.6	8.4	28.5	37.7	54.0	16.3	100	156
7	2744.717	29.4	28.2	10.0	28.4	39.2	54.0	14.8	100	150
8	5394.119	24.3	34.5	15.0	28.1	45.7	54.0	8.3	100	139
9	5993.585	25.5	31.9	15.8	28.2	45.0	54.0	9.0	100	147
----- Vertical ------										
10	1050.131	34.2	23.9	5.9	28.5	35.5	54.0	18.5	100	144
11	1211.215	33.1	24.2	6.5	28.5	35.3	54.0	18.7	100	151
12	1244.177	30.6	24.3	6.6	28.5	33.0	54.0	21.0	100	148
13	1401.255	32.4	24.5	7.2	28.5	35.6	54.0	18.4	100	152
14	1993.990	41.2	24.6	8.4	28.5	45.7	54.0	8.3	100	150
15	2814.685	30.6	28.4	10.2	28.4	40.8	54.0	13.2	100	139
16	4160.352	26.8	30.4	13.1	28.3	42.0	54.0	12.0	100	147
17	5956.657	26.3	32.1	15.8	28.2	46.0	54.0	8.0	100	139

Copyright © 2013, DIGITAL EMC CO., LTD.

< USB MODE_30 MHz ~ 1 GHz >

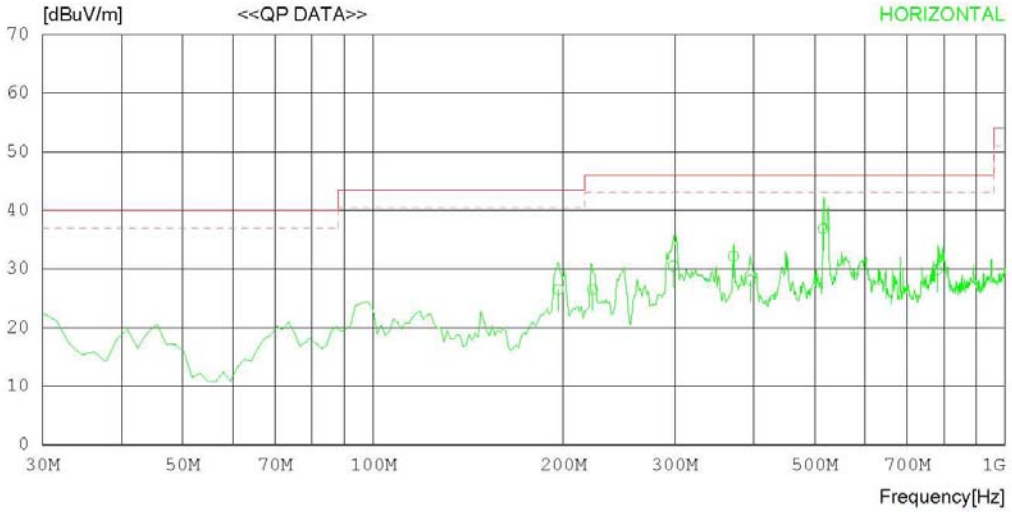
RADIATED EMISSION

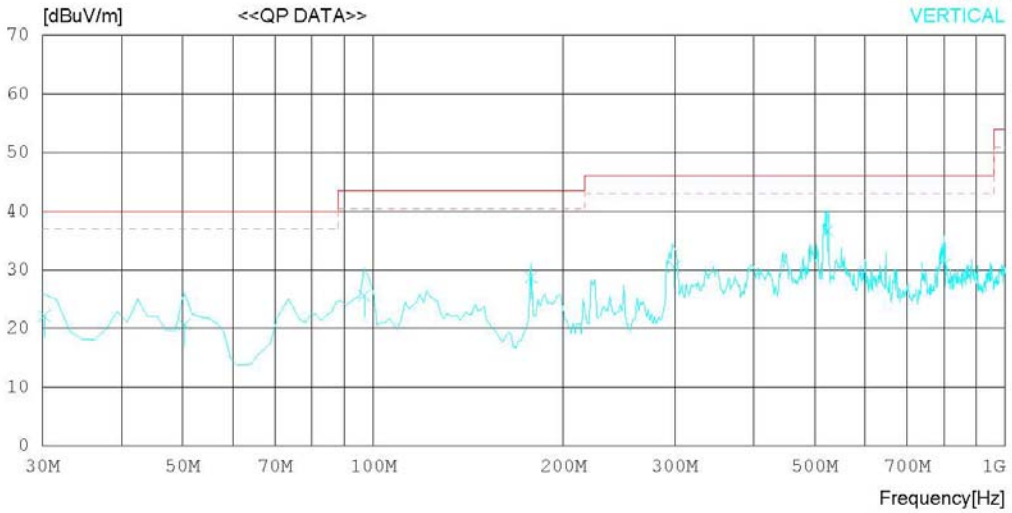
Date : 2013-02-21

Model Name	:	55GA7900-UA	Reference No.	:	
Model No.	:		Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi	:	20 'C 42 % R.H.
Test Condition	:	USB	Operator	:	

Memo :

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





Copyright © 2013, DIGITAL EMC CO., LTD.

RADIATED EMISSION

Date : 2013-02-21

Model Name	:	55GA7900-UA	Reference No.	:	
Model No.	:		Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi	:	20 'C 42 % 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	196.417	38.5	9.7	2.3	24.0	26.5	43.5	17.0	100	154
2	222.411	37.0	11.0	2.4	23.9	26.5	46.0	19.5	199	150
3	298.554	37.6	13.7	2.8	23.6	30.5	46.0	15.5	400	148
4	371.550	37.0	15.4	3.4	23.6	32.2	46.0	13.8	100	132
5	395.441	32.2	15.9	3.5	23.5	28.1	46.0	17.9	100	138
6	515.553	38.5	17.6	3.9	23.1	36.9	46.0	9.1	400	144
7	779.816	28.8	19.7	4.8	23.5	29.8	46.0	16.2	100	151
----- Vertical ------										
8	30.202	27.4	17.8	0.8	23.8	22.2	40.0	17.8	100	144
9	50.370	35.5	8.2	1.4	24.4	20.7	40.0	19.3	400	145
10	96.847	38.2	10.1	1.4	24.1	25.6	43.5	17.9	140	139
11	177.682	41.0	9.8	2.1	24.1	28.8	43.5	14.7	100	147
12	299.511	37.7	13.7	2.8	23.6	30.6	46.0	15.4	400	158
13	523.464	38.2	17.7	3.9	23.1	36.7	46.0	9.3	100	155
14	802.030	29.6	20.0	4.8	23.5	30.9	46.0	15.1	201	130

Copyright © 2013, DIGITAL EMC CO., LTD.

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

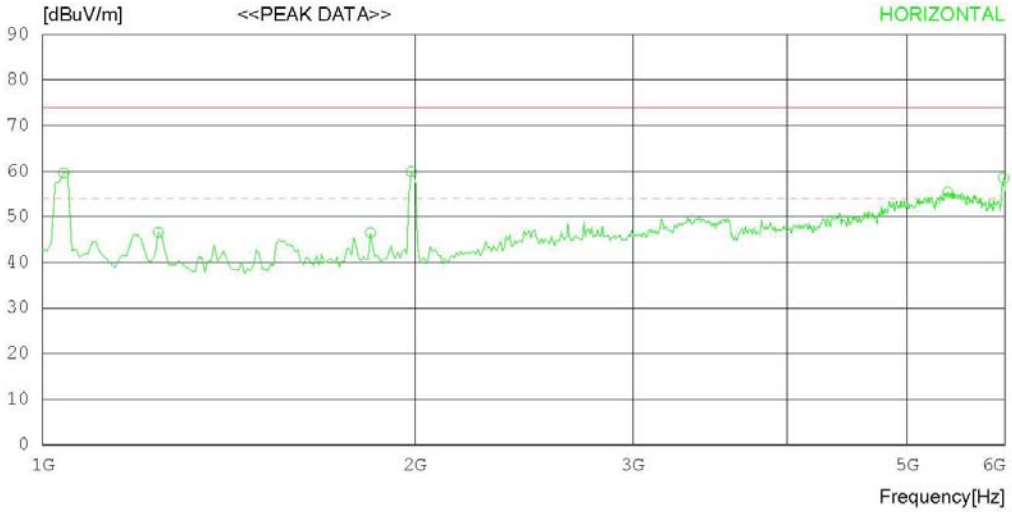
RADIATED EMISSION

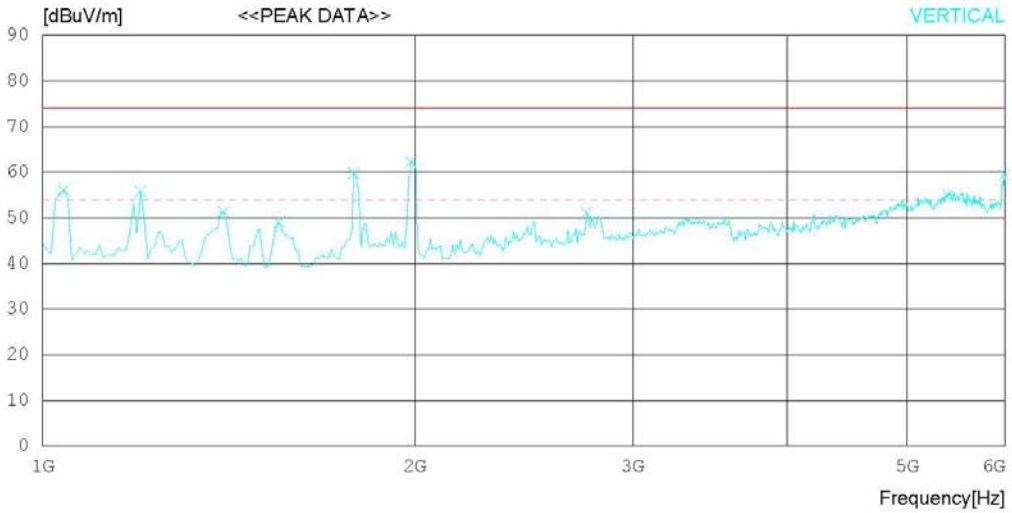
Date : 2013-02-21

Model Name	:	55GA7900-UA	Reference No.	:	
Model No.	:		Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi	:	20 'C 42 % 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)





Copyright © 2013, DIGITAL EMC CO., LTD.

RADIATED EMISSION

Date : 2013-02-21

Model Name	:	55GA7900-UA	Reference No.	:	
Model No.	:		Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi	:	20 'C 42 % 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	1040.064	58.3	23.9	5.9	28.5	59.6	74.0	14.4	100	239
2	1240.385	44.3	24.2	6.6	28.5	46.6	74.0	27.4	100	1
3	1841.346	42.3	24.6	8.1	28.5	46.5	74.0	27.5	100	1
4	1985.577	55.4	24.6	8.4	28.5	59.9	74.0	14.1	100	1
5	5391.036	34.0	34.5	15.0	28.1	55.4	74.0	18.6	100	359
6	5983.975	39.0	31.9	15.8	28.2	58.5	74.0	15.5	100	60
----- Vertical ------										
7	1040.064	54.8	23.9	5.9	28.5	56.1	74.0	17.9	100	358
8	1200.320	53.7	24.2	6.4	28.5	55.8	74.0	18.2	100	203
9	1400.641	48.1	24.5	7.2	28.5	51.3	74.0	22.7	100	358
10	1552.884	45.3	24.6	7.6	28.5	49.0	74.0	25	100	213
11	1785.256	55.6	24.6	8.0	28.5	59.7	74.0	14.3	100	130
12	1985.577	57.8	24.6	8.4	28.5	62.3	74.0	11.7	100	34
13	2754.818	41.4	28.2	10.0	28.4	51.2	74.0	22.8	100	358
14	5391.036	33.6	34.5	15.0	28.1	55.0	74.0	19	100	358
15	5991.988	39.9	31.9	15.8	28.2	59.4	74.0	14.6	100	358

Copyright © 2013, DIGITAL EMC CO., LTD.

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

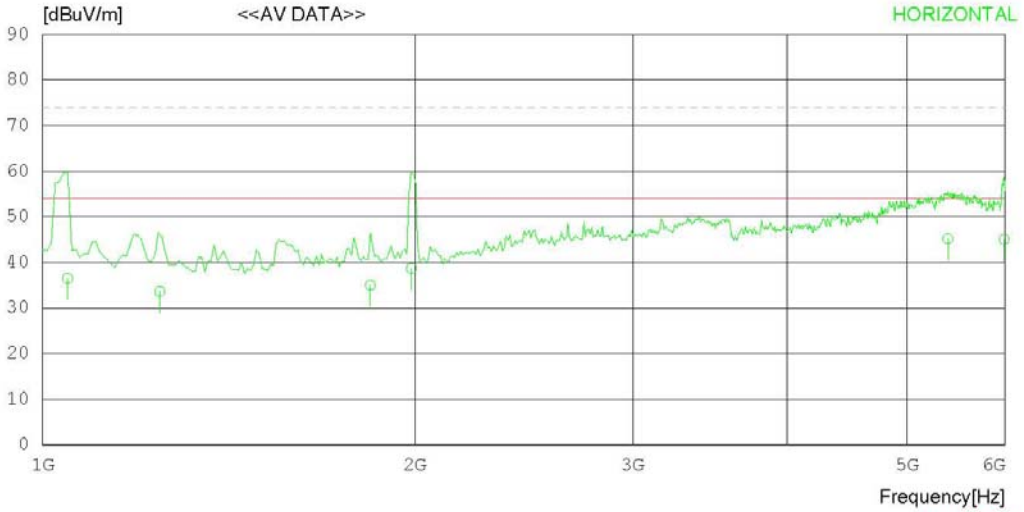
RADIATED EMISSION

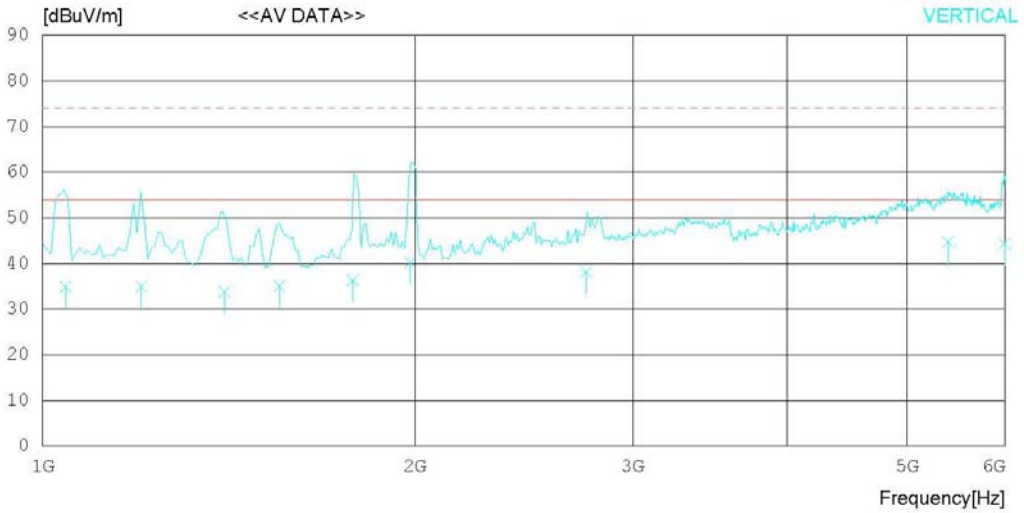
Date : 2013-02-21

Model Name	:	55GA7900-UA	Reference No.	:	
Model No.	:		Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi	:	20 'C 42 % 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)





Copyright © 2013, DIGITAL EMC CO., LTD.

RADIATED EMISSION

Date : 2013-02-21

Model Name	:	55GA7900-UA	Reference No.	:	
Model No.	:		Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi	:	20 'C 42 % 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	1047.518	35.2	23.9	5.9	28.5	36.5	54.0	17.5	100	138
2	1244.117	31.2	24.3	6.6	28.5	33.6	54.0	20.4	100	154
3	1840.147	30.8	24.6	8.1	28.5	35.0	54.0	19.0	100	151
4	1986.358	34.2	24.6	8.4	28.5	38.7	54.0	15.3	100	142
5	5392.474	23.8	34.5	15.0	28.1	45.2	54.0	8.8	100	138
6	5986.477	25.5	31.9	15.8	28.2	45.0	54.0	9.0	100	146
----- Vertical ------										
7	1044.151	33.6	23.9	5.9	28.5	34.9	54.0	19.1	100	141
8	1202.448	32.8	24.2	6.5	28.5	35.0	54.0	19.0	100	152
9	1403.595	30.6	24.5	7.2	28.5	33.8	54.0	20.2	100	148
10	1554.875	31.4	24.6	7.6	28.5	35.1	54.0	18.9	100	139
11	1781.464	32.2	24.6	8.0	28.5	36.3	54.0	17.7	100	143
12	1982.599	35.7	24.6	8.4	28.5	40.2	54.0	13.8	100	141
13	2750.692	28.4	28.2	10.0	28.4	38.2	54.0	15.8	100	150
14	5396.847	23.3	34.5	15.0	28.1	44.7	54.0	9.3	100	154
15	5993.748	24.9	31.9	15.8	28.2	44.4	54.0	9.6	100	146

Copyright © 2013, DIGITAL EMC CO., LTD.

Appendix 1

List of Test and Measurement Instruments

Copyright © 2013, DIGITAL EMC CO., LTD.

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

Copyright © 2013, DIGITAL EMC CO., LTD.

Appendix 2

Report Revision History

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

Copyright © 2013, DIGITAL EMC CO., LTD.