

## ***FCC EVALUATION REPORT FOR CERTIFICATION***

**Applicant : LG Electronics Inc.**

**19-1, Cheongho-ri, Jinwi-myeon,**

**Pyeongteak-si, Gyeonggi-do, Korea.**

**Attn: Mr. Myoung-Kyu Lee, Chief research engineer**

**Date of Issue : January 11, 2010**

**Order Number: GETEC-C1-09-284**

**Test Report Number: GETEC-E3-09-165**

**Test Site: Gumi College EMC Center**

**FCC Registration Number: (100749, 443957)**

**FCC ID.: BEJ26LD360LUA**

**Applicant: LG Electronics Inc.**

<b>Rule Part(s)</b>	<b>: FCC Part 15 Subpart B</b>
<b>Equipment Class</b>	<b>: Class B computing device peripheral (JBP)</b>
<b>EUT Type</b>	<b>: LCD TV/Monitor</b>
<b>Type of Authority</b>	<b>: Certification</b>
<b>Model Name</b>	<b>: 26LD360L-UA</b>
<b>Trade Name</b>	<b>: LG</b>

**This equipment has been shown to be in compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.4-2003 / Canadian standard ICES-003**

**I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the vest of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.**

**Tested by,**

**Reviewed by,**



**Hyoung Seop Kim, Associate Engineer**  
**GUMI College EMC center**



**Jae-Hoon Jeong, Senior Engineer**  
**GUMI College EMC center**



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*Scope: Measurement and determination of electromagnetic emissions (EME) of radio frequency devices including intentional and / or unintentional radiators for compliance with technical rules and regulations of the Federal Communications Commission.*

## 1. General Information

**Applicant: LG Electronics Inc.**

**Applicant Address: 19-1, Cheongho-ri, Jinwi-myeon, Pyeongteak-si, Gyeonggi-do, Korea.**

**Manufacturer: LG Electronics Inc.**

**Manufacturer Address: 19-1, Cheongho-ri, Jinwi-myeon, Pyeongteak-si, Gyeonggi-do, Korea.**

**Contact Person: Mr. Myoung-Kyu Lee, Chief research engineer**

**Tel Number: +82-31-610-9623**

- **FCC ID.** BEJ26LD360LUA
- **EUT Type** LCD TV/Monitor
- **Model Name** 26LD360L-UA
- **Trade Name** LG
- **Serial Number** Prototype
- **Rule Part(s)** FCC Part 15 Subpart B
- **Type of Authority** Certification
- **Test Procedure(s)** ANSI C63.4 (2003) / Canadian standard ICES-003
- **Dates of Test** December 28, 2009 ~ January 7, 2010
- **Place of Test** **Gumi College EMC Center** ( FCC Registration Number: 100749, 443957)  
407, Bugok-dong, Gumi-si, Gyeongbuk, Korea.
- **Test Report Number** GETEC-E3-09-165
- **Dates of Issue** January 11, 2010



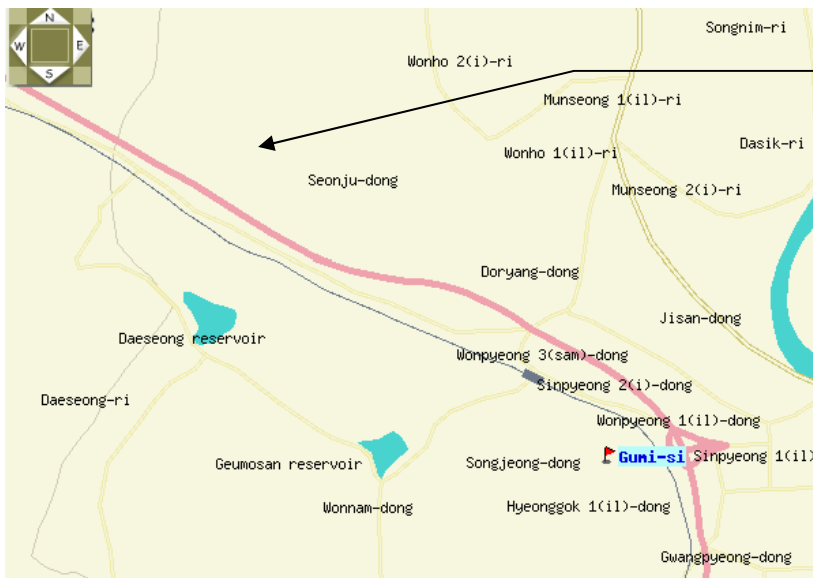
## 2. Introduction

The measurement procedure described in American National Standard for Methods of Measurement of Radio-Nose Emissions From Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz (ASNI C63.4-2003) was used in determining radiated and conducted emissions emanating from **LG Electronics Inc. LCD TV/Monitor (Model Name: 26LD360L-UA)**

These measurement tests were conducted at **Gumi College EMC Center**.

The site address is 407, Bugok-dong, Gumi-si, Gyeongbuk, Korea.

This test site is one of the highest point of Gumi 1 college at about 200 km away from Seoul city and 40 km away from Daegu city. It is located in the valley surrounded by mountains in all directions where ambient radio signal conditions are quiet and a favorable area to measure the radio frequency interference on open field test site for the computing and ISM devices manufactures. The detailed description of the measurement facility was found to be in compliance with the requirements of §2.948 according to ANSI C63.4 (2003)



**GUMI COLLEGE EMC CENTER**  
407, Bugok-dong, Gumi-si,  
Gyeongbuk 730-711, Korea.  
Tel: +82-54-440-1195  
Fax: +82-54-440-1199

Fig 1. The map above shows the Gumi College in vicinity area.



### 3. Product Information

#### 3.1 Description of EUT

The Equipment under Test (EUT) is the **LG Electronics Inc. LCD TV/Monitor (Model Name: 26LD360L-UA)**  
**FCC ID.: BEJ26LD360LUA**

MODELS		26LD350(26LD350-UB) 26LD360L(26LD360-UA)	32LD350 (32LD350-UB)
Dimensions (Width x Height x Depth)	With stand	26.2 x 19.8 x 8.8 inches 667.0 x 504.0 x 224.0 mm	31.6 x 22.9 x 8.8 inches 805.0 x 583.0 x 224.0 mm
	Without stand	26.2 x 17.5 x 3.1 inches 667.0 x 446.2 x 80.0 mm	31.6 x 20.7 x 3.1 inches 805.0 x 528.0 x 79.9 mm
Weight	With stand	19.6 lbs / 8.9 kg	25.3 lbs / 11.5 kg
	Without stand	17.1 lbs / 7.8 kg	22.7 lbs / 10.3 kg
Power requirement Television System Program Coverage External Antenna Impedance		AC100-240V ~ 50/60Hz NTSC-M, ATSC, 64 & 256 QAM VHF 2-13, UHF 14-69, CATV 1-135, DTV 2-69, CADTV 1-135 75 ohm	
Environment condition	Operating Temperature Operating Humidity	32 ~ 104°F (0 ~ 40°C) Less than 80%	
	Storage Temperature Storage Humidity	-4 ~ 140°F (-20 ~ 60°C) Less than 85%	

**Maximum Frequency range** : 400 MHz



### 3.2 Support Equipment / Cables used

#### 3.2.1 Used Support Equipment

Description	Manufacturer	Model Name	S/N & FCC ID
PC	Hewlett Packard	D530	S/N: CNG34800PY FCC ID: DoC
Video card	ATI	ATI RV360(9600)	S/N: SN0402017176 FCC ID: DoC
Keyboard	COMPAQ	166516-AD6	S/N: B13BBOR391006D FCC ID: AQ6-23K15
PS2 mouse	LOGITECH	M-S69	S/N: 334684-108 FCC ID: JNZ211443
DVD player	LG Electronics Inc	LC-954	S/N: 3850R-Z674K FCC ID: DoC
Headset	GOWOONSORI	GW-500M	S/N: N/A FCC ID: DoC
Printer	Hewlett Packard	970CXI	S/N: MY9B01F1FG FCC ID: DoC
TV signal generator	FLUKE	54200	S/N: 831011 FCC ID: DoC
USB memory stick	SM Electronics	UDD-32M	S/N: N/A FCC ID: DoC

*See "Appendix D – Test Setup Photographs" for actual system test set-up*



### 3.2.2 Used Cable(s)

Cable Name	Condition	Description
Power cable	Connected to the EUT	1.8 m unshielded
RGB in cable	Connected to the EUT and PC	1.8 m shielded with two ferrite cores
HDMI/DVI cable	Connected to the EUT and PC	1.95 m shielded
Audio in (RGB/DVI) cable	Connected to the EUT and PC	1.8 m shielded
Remote control in cable	Connected to the EUT and PC	1.8 m shielded
RS-232C in cable (Control & Service)	Connected to the EUT and PC	1.8 m shielded
AV in cable	Connected to the EUT and DVD player	3.0 m shielded
Component cable	Connected to the EUT and DVD player	2.0 m shielded
Component sound cable	Connected to the EUT and DVD player	3.0 m shielded
Antenna cable	Connected to the EUT and TV signal generator	10.0 m shielded
Headphone cable	Connected to the EUT and Headset	2.75 m shielded

### 3.3 Modification Item(s)

- None



## 4. Description of tests

### 4.1 Test Condition

The EUT was installed, arranged and operated in a manner that is most representative of equipment as typically used. The measurements were carried out while varying operating modes and cable positions within typically arrangement to determine maximum emission level.

The representative and worst test mode(s) were noted in the test report.

- Test Voltage / Frequency : AC 120 V / 60 Hz

- Test Mode(s)

- **Monitor mode**

Radiated emission: 1 360 \* 768 / 60 Hz (RGB: Analog, HDMI/DVI: Digital)

Conducted emission: 1 360 \* 768 / 60 Hz (RGB: Analog, HDMI/DVI: Digital)

1 024 \* 768 / 60 Hz (RGB: Analog), 640 \* 480 / 60 Hz (RGB: Analog)

- ◆ Operating test pattern

- "H" character scrolling mode (Font size: 10)
- Black background white character
- Brightness and contrast was adjusted as maximum level
- 1 kHz sound tone with winamp player

- **USB memory stick play mode**

- ◆ Operating test pattern

- Continuous playback mode with picture file and 1 kHz audio files.

***"The verification report for TV/AV mode would be issued by LG Electronics Inc."***



## 4.2 Conducted Emission

The Line conducted emission test facility is inside a 4 m × 8 m × 2.5 m shielded enclosure. (FCC Registration No.: 100749)

The EUT was placed on a non-conducting 1.0 m by 1.5 m table, which is 0.8 m in height and 0.4 m away from the vertical wall of the shielded enclosure.

The EUT is powered from the Rohde & Schwarz LISN (ESH2-Z5) and the support equipment is powered from the Rohde & Schwarz LISN (ESH3-Z5). Powers to the LISN are filtered by high-current high insertion loss power line filter.

Sufficient time for EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition.

The RF output of the LISN was connected to the EMI test receiver (Rohde & Schwarz, ESCS30).

The EMI test receiver was scanned from 150 kHz to 30 MHz with 20 ms sweep time to determine the frequency producing the maximum EME from the EUT. The frequency producing the maximum level was re-examined using Quasi-Peak mode of the EMI test receiver.

The bandwidth of Quasi-peak mode was set to 9 kHz. Each emission was maximized consistent with typical applications by varying the configuration of the test sample. Interface cables were connected to the available interface ports of the test unit. The effect of varying the position of cables was investigated to find the configuration that produces maximum diagram emission. Excess cable lengths were bundled at center with 30 cm ~ 40 cm.

Each EME reported was calibrated using the R/S signal generator

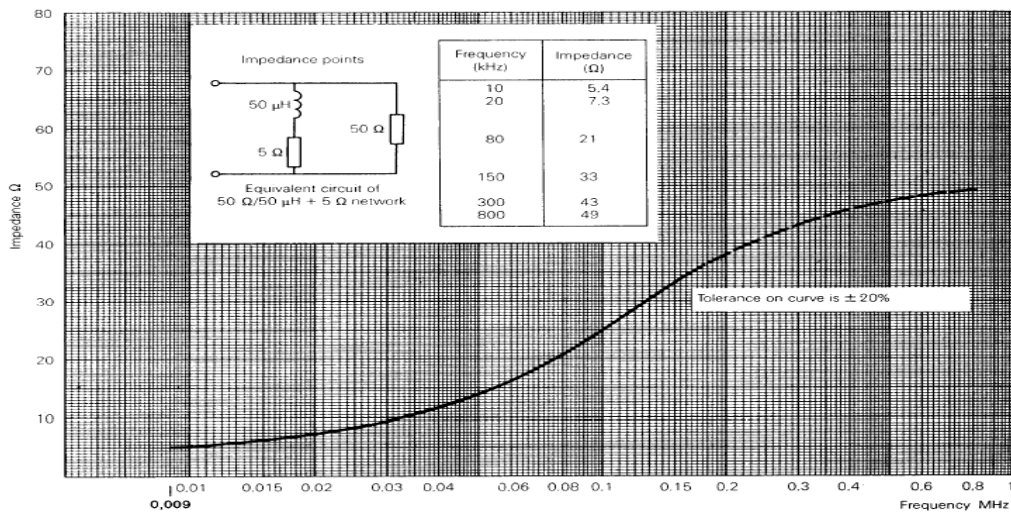


Fig 2. Impedance of LISN



### 4.3 Radiated Emission

The measurements were conducted in a 3 m anechoic chamber (FCC Registration No.: 443957) using broadband antennas to determine the frequency producing the maximum EME. Appropriate precaution was taken to ensure that all EME from the EUT were maximized and investigated. The technology configuration, mode of operation and turntable azimuth with respect to antenna was noted for each frequency found.

Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition.

Each frequency found during pre-scan measurements was re-examined and investigated using an EMI test receiver. The detector function was set to CISPR quasi-peak mode average mode and the bandwidth of the receiver was set to 120 kHz or 1 MHz depending on the frequency or type of signal.

The EUT, support equipment and interconnecting cables were reconfigured to the setup producing the maximum emission for the frequency and were placed on top of a 0.8 m high non-metallic 1.0 m × 1.5 m table.

The turntable containing the test sample was rotated; the antenna height was varied from 1 m to 4 m and stopped at the azimuth or height producing the maximum emission.

Each EME reported was calibrated using the R/S signal generator

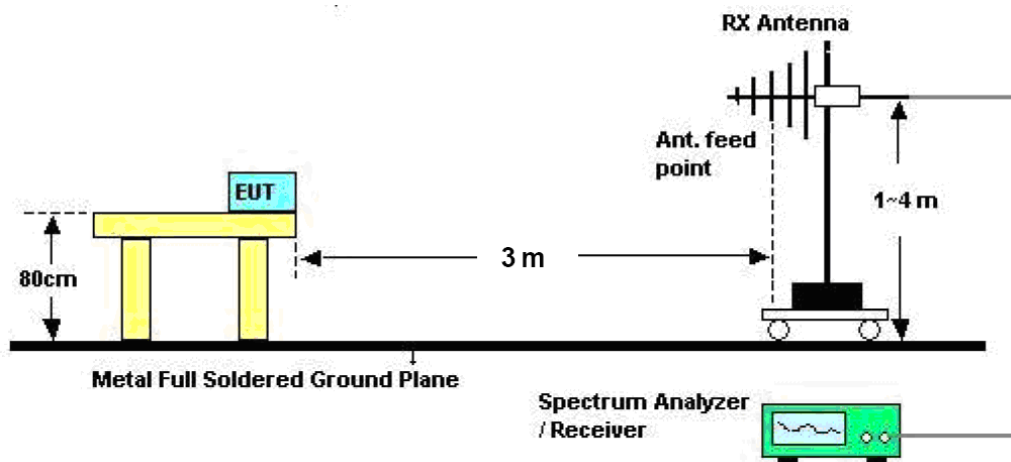


Fig 3. Dimensions of test site.



## 5. Conducted Emission

### 5.1 Operating Environment

Temperature : 24 °C  
Relative Humidity : 42 % R.H.

### 5.2 Test Set-up

The conducted emission measurements were performed in the shielded room.

The EUT was placed on wooden table, 0.8 m heights above the floor, 0.4 m from the reference ground plane (GRP) wall and 0.8 m from AMN.

AMN is bonded on horizontal reference ground plane.

The ground plane, which was electrically bonded to the shield room, ground system and all power lines entering the shield room, were filtered.

### 5.3 Measurement Uncertainty

The measurement uncertainty was calculated in accordance with ISO “Guide to the expression of uncertainty in measurement.”

The measurement uncertainty was given with a confidence of 95 %.

Test Items	Uncertainty	Remark
Conducted emission (9 kHz ~ 150 kHz)	± 2.69 dB	Confidence levels of 95 % (k=2)
Conducted emission (150 kHz ~ 30 MHz)	± 4.16 dB	Confidence levels of 95 % (k=2)



#### 5.4 Limit

RFI Conducted	FCC Limit(dB) Class B	
	Quasi-Peak	Average
Freq. Range		
150 kHz ~ 0.5 MHz	66 ~ 56*	56 ~ 46*
0.5 MHz ~ 5 MHz	56	46
5 MHz ~ 30 MHz	60	50

\*Limits decreases linearly with the logarithm of frequency.

#### 5.5 Test Equipment used

Model Name	Manufacturer	Description	Serial Number	Due to Calibration
■ - ESCS30	Rohde & Schwarz	EMI test receiver	839809/003	12. 10. 2010
■ - ESH3-Z5	Rohde & Schwarz	LISN	838979/020	12. 10. 2010
■ - ESH2-Z5	Rohde & Schwarz	LISN	829991/009	12. 10. 2010
□ - ISN T8	TESEQ. GmbH	ISN	24568	10. 16. 2010

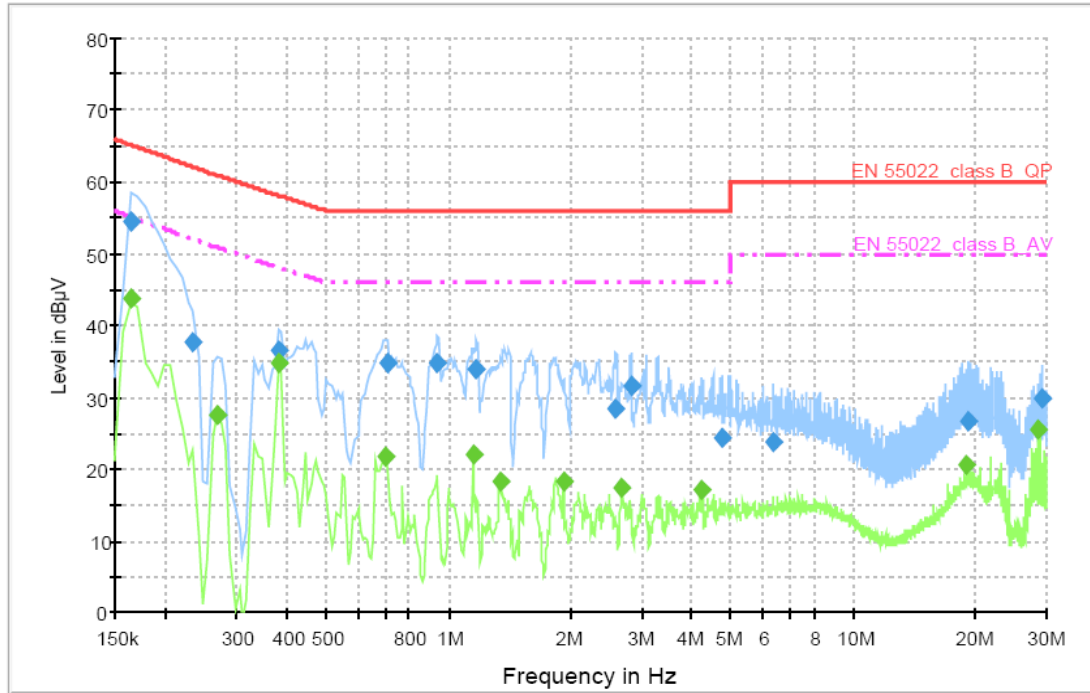
#### 5.6 Test data for Conducted Emission

- Test Date : December 28, 2009
- Resolution Bandwidth : 9 kHz
- Frequency Range : 0.15 MHz ~ 30 MHz



◆ Test resolution: 1 360 \* 768 / 60 Hz (RGB: Analog)

### Voltage with 4-Line-LISN\_L1



#### Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.164000	54.4	1000.000	9.000	GND	L1	10.0	10.8	65.2	
0.234000	37.8	1000.000	9.000	GND	L1	10.0	24.3	62.1	
0.381000	36.4	1000.000	9.000	GND	L1	10.0	21.7	58.1	
0.710000	34.6	1000.000	9.000	GND	L1	10.0	21.4	56.0	
0.941000	34.8	1000.000	9.000	GND	L1	10.0	21.2	56.0	
1.172000	33.9	1000.000	9.000	GND	L1	10.1	22.1	56.0	
2.600000	28.5	1000.000	9.000	GND	L1	10.1	27.5	56.0	
2.845000	31.5	1000.000	9.000	GND	L1	10.1	24.5	56.0	
4.735000	24.2	1000.000	9.000	GND	L1	10.2	31.8	56.0	
6.331000	23.8	1000.000	9.000	GND	L1	10.3	36.2	60.0	
19.190000	26.6	1000.000	9.000	GND	L1	11.0	33.4	60.0	
29.277000	30.0	1000.000	9.000	GND	L1	11.4	30.0	60.0	

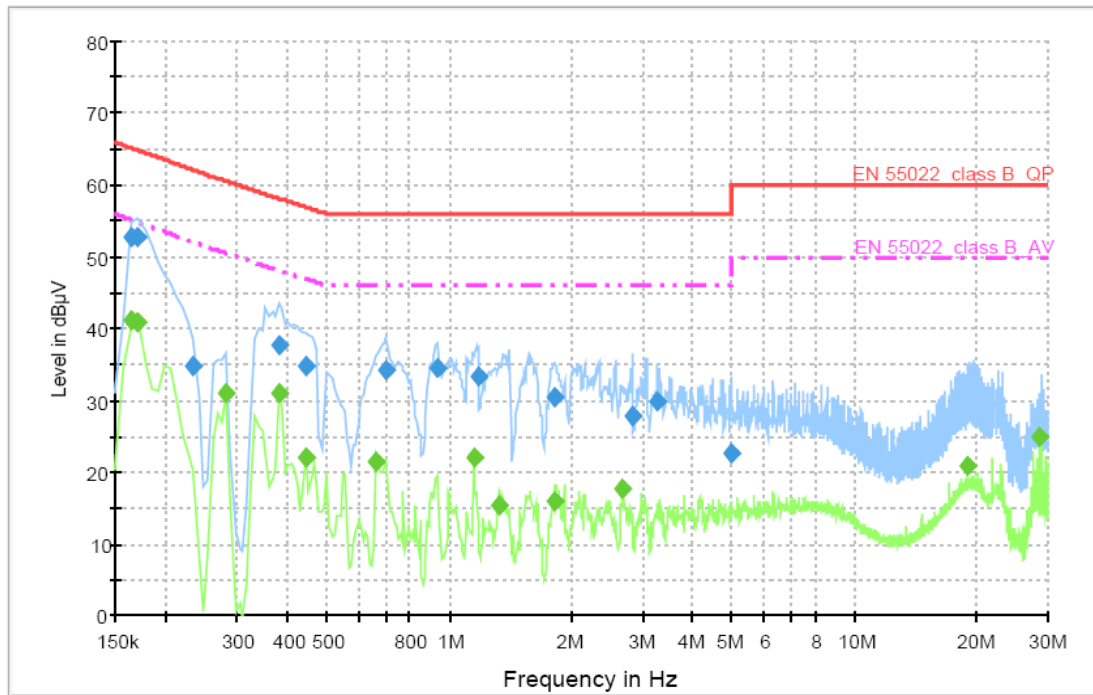
#### Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.164000	43.7	1000.000	9.000	GND	L1	10.0	11.5	55.2	
0.269000	27.6	1000.000	9.000	GND	L1	10.0	23.3	50.9	
0.381000	34.8	1000.000	9.000	GND	L1	10.0	13.3	48.1	
0.703000	21.7	1000.000	9.000	GND	L1	10.0	24.3	46.0	
1.151000	22.0	1000.000	9.000	GND	L1	10.1	24.0	46.0	
1.340000	18.3	1000.000	9.000	GND	L1	10.1	27.7	46.0	
1.921000	18.3	1000.000	9.000	GND	L1	10.1	27.7	46.0	
2.684000	17.5	1000.000	9.000	GND	L1	10.1	28.5	46.0	
4.224000	17.0	1000.000	9.000	GND	L1	10.2	29.0	46.0	
18.987000	20.6	1000.000	9.000	GND	L1	11.0	29.4	50.0	
28.486000	25.6	1000.000	9.000	GND	L1	11.4	24.4	50.0	

< Fig 4. Conducted emission result (Live line)>



### Voltage with 4-Line-LISN\_N



#### Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.164000	52.8	1000.000	9.000	GND	N	10.0	12.4	65.2	
0.171000	52.6	1000.000	9.000	GND	N	10.0	12.2	64.8	
0.234000	34.9	1000.000	9.000	GND	N	10.0	27.2	62.1	
0.381000	37.6	1000.000	9.000	GND	N	10.0	20.5	58.1	
0.444000	34.8	1000.000	9.000	GND	N	10.0	22.1	56.9	
0.696000	34.1	1000.000	9.000	GND	N	10.0	21.9	56.0	
0.934000	34.4	1000.000	9.000	GND	N	10.0	21.6	56.0	
1.179000	33.2	1000.000	9.000	GND	N	10.1	22.8	56.0	
1.823000	30.4	1000.000	9.000	GND	N	10.1	25.6	56.0	
2.831000	27.9	1000.000	9.000	GND	N	10.1	28.1	56.0	
3.279000	29.9	1000.000	9.000	GND	N	10.1	26.1	56.0	
4.952000	22.5	1000.000	9.000	GND	N	10.2	33.5	56.0	

#### Final Measurement Detector 2

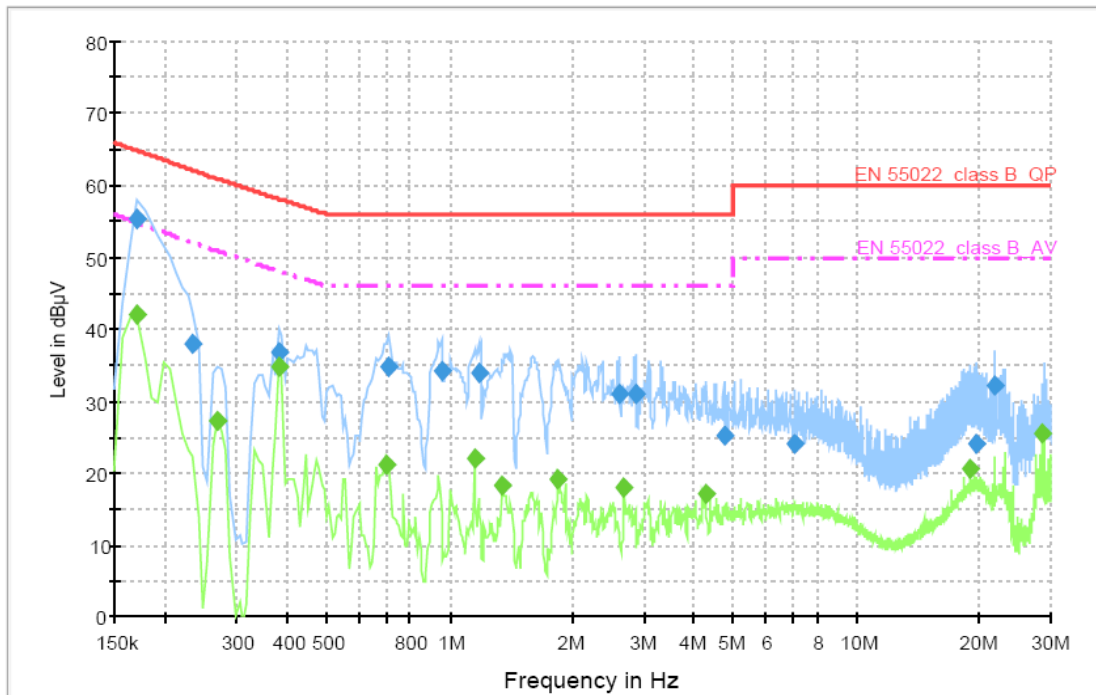
Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.164000	41.2	1000.000	9.000	GND	N	10.0	14.0	55.2	
0.171000	40.8	1000.000	9.000	GND	N	10.0	14.0	54.8	
0.283000	31.0	1000.000	9.000	GND	N	10.0	19.5	50.5	
0.381000	30.9	1000.000	9.000	GND	N	10.0	17.2	48.1	
0.444000	22.0	1000.000	9.000	GND	N	10.0	24.9	46.9	
0.661000	21.4	1000.000	9.000	GND	N	10.0	24.6	46.0	
1.151000	22.0	1000.000	9.000	GND	N	10.1	24.0	46.0	
1.326000	15.3	1000.000	9.000	GND	N	10.1	30.7	46.0	
1.823000	16.0	1000.000	9.000	GND	N	10.1	30.0	46.0	
2.684000	17.6	1000.000	9.000	GND	N	10.1	28.4	46.0	
18.987000	20.9	1000.000	9.000	GND	N	10.7	29.1	50.0	
28.486000	25.0	1000.000	9.000	GND	N	10.8	25.0	50.0	

< Fig 5. Conducted emission result (Neutral line)>



◆ Test resolution: 1 024 \* 768 / 60 Hz (RGB: Analog)

### Voltage with 4-Line-LISN\_L1



#### Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.171000	55.4	1000.000	9.000	GND	L1	10.0	9.4	64.8	
0.234000	38.1	1000.000	9.000	GND	L1	10.0	24.0	62.1	
0.381000	36.7	1000.000	9.000	GND	L1	10.0	21.4	58.1	
0.710000	34.7	1000.000	9.000	GND	L1	10.0	21.3	56.0	
0.955000	34.3	1000.000	9.000	GND	L1	10.0	21.7	56.0	
1.179000	34.0	1000.000	9.000	GND	L1	10.1	22.0	56.0	
2.621000	30.9	1000.000	9.000	GND	L1	10.1	25.1	56.0	
2.859000	31.0	1000.000	9.000	GND	L1	10.1	25.0	56.0	
4.721000	25.1	1000.000	9.000	GND	L1	10.2	30.9	56.0	
7.038000	24.0	1000.000	9.000	GND	L1	10.3	36.0	60.0	
19.603000	24.1	1000.000	9.000	GND	L1	11.0	35.9	60.0	
21.955000	32.1	1000.000	9.000	GND	L1	11.1	27.9	60.0	

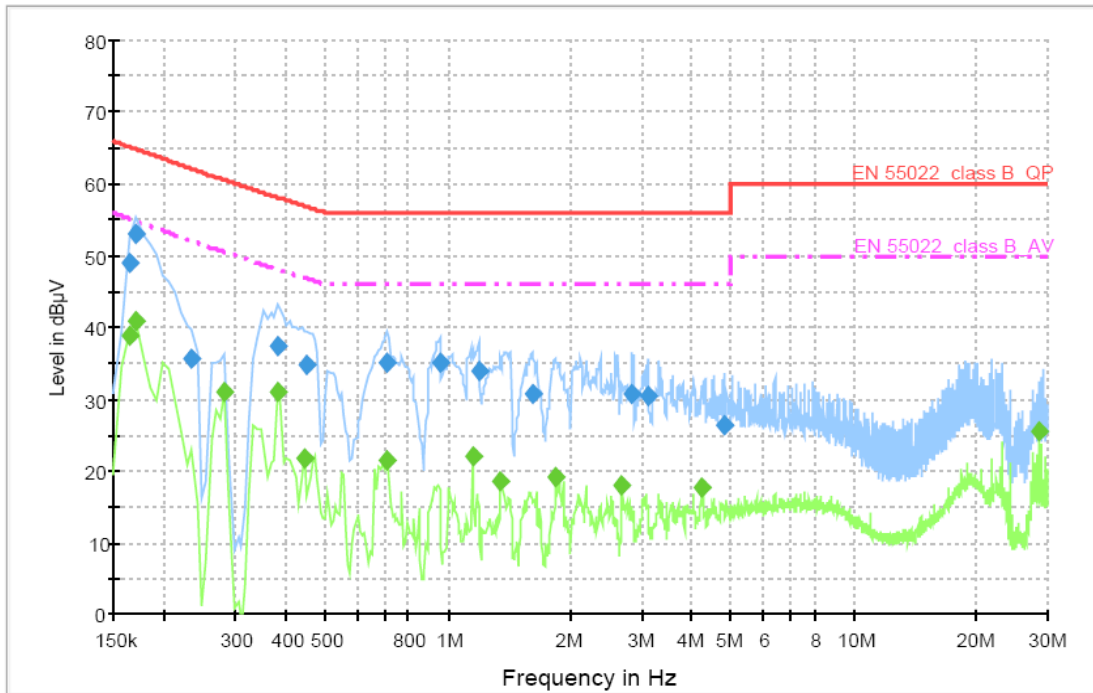
#### Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.171000	42.0	1000.000	9.000	GND	L1	10.0	12.8	54.8	
0.269000	27.3	1000.000	9.000	GND	L1	10.0	23.6	50.9	
0.381000	34.9	1000.000	9.000	GND	L1	10.0	13.2	48.1	
0.703000	21.2	1000.000	9.000	GND	L1	10.0	24.8	46.0	
1.151000	22.2	1000.000	9.000	GND	L1	10.1	23.8	46.0	
1.347000	18.3	1000.000	9.000	GND	L1	10.1	27.7	46.0	
1.851000	19.1	1000.000	9.000	GND	L1	10.1	26.9	46.0	
2.691000	17.9	1000.000	9.000	GND	L1	10.1	28.1	46.0	
4.252000	17.2	1000.000	9.000	GND	L1	10.2	28.8	46.0	
18.987000	20.5	1000.000	9.000	GND	L1	11.0	29.5	50.0	
28.486000	25.4	1000.000	9.000	GND	L1	11.4	24.6	50.0	

< Fig 6. Conducted emission result (Live line)>



## Voltage with 4-Line-LISN\_N



### Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.164000	48.9	1000.000	9.000	GND	N	10.0	16.3	65.2	
0.171000	53.1	1000.000	9.000	GND	N	10.0	11.7	64.8	
0.234000	35.8	1000.000	9.000	GND	N	10.0	26.3	62.1	
0.381000	37.4	1000.000	9.000	GND	N	10.0	20.7	58.1	
0.451000	34.7	1000.000	9.000	GND	N	10.0	22.1	56.8	
0.710000	35.1	1000.000	9.000	GND	N	10.0	21.0	56.0	
0.955000	34.9	1000.000	9.000	GND	N	10.0	21.1	56.0	
1.193000	33.8	1000.000	9.000	GND	N	10.1	22.2	56.0	
1.620000	30.8	1000.000	9.000	GND	N	10.1	25.2	56.0	
2.845000	30.6	1000.000	9.000	GND	N	10.1	25.4	56.0	
3.104000	30.4	1000.000	9.000	GND	N	10.1	25.6	56.0	
4.784000	26.4	1000.000	9.000	GND	N	10.2	29.6	56.0	

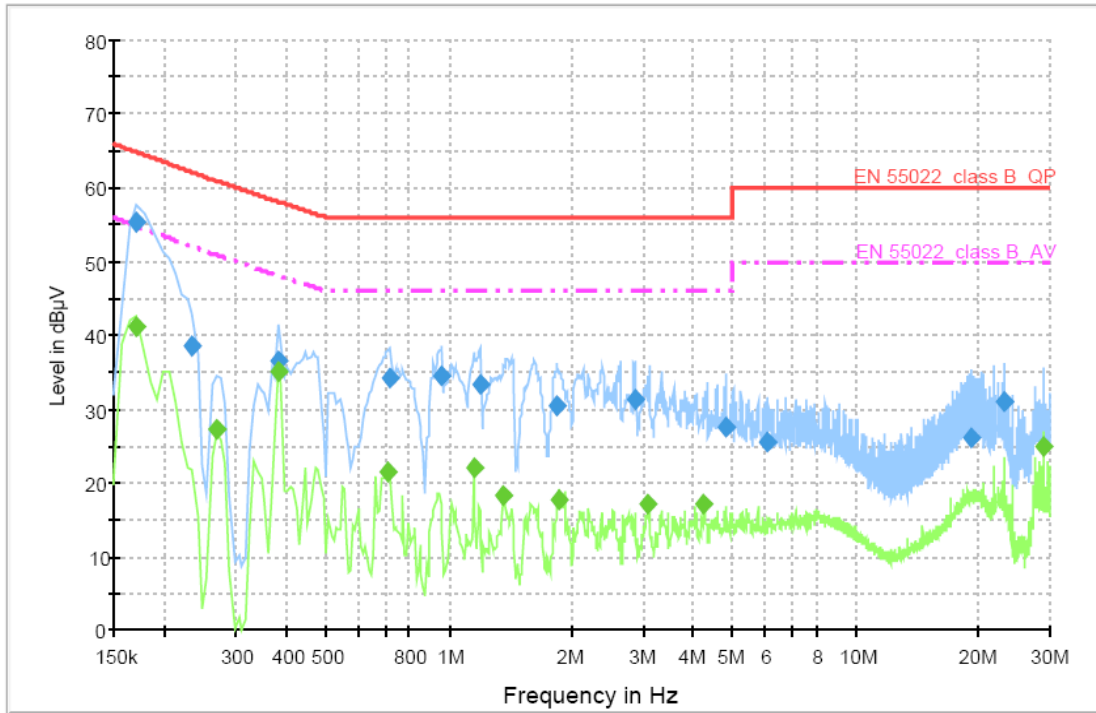
### Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.164000	38.8	1000.000	9.000	GND	N	10.0	16.4	55.2	
0.171000	40.8	1000.000	9.000	GND	N	10.0	14.0	54.8	
0.283000	31.1	1000.000	9.000	GND	N	10.0	19.4	50.5	
0.381000	30.9	1000.000	9.000	GND	N	10.0	17.2	48.1	
0.444000	21.8	1000.000	9.000	GND	N	10.0	25.1	46.9	
0.710000	21.4	1000.000	9.000	GND	N	10.0	24.6	46.0	
1.151000	22.2	1000.000	9.000	GND	N	10.1	23.8	46.0	
1.347000	18.6	1000.000	9.000	GND	N	10.1	27.4	46.0	
1.851000	19.2	1000.000	9.000	GND	N	10.1	26.8	46.0	
2.691000	17.9	1000.000	9.000	GND	N	10.1	28.1	46.0	
4.224000	17.5	1000.000	9.000	GND	N	10.2	28.5	46.0	
28.486000	25.4	1000.000	9.000	GND	N	10.8	24.6	50.0	

< Fig 7. Conducted emission result (Neutral line)>



◆ Test resolution: 640 \* 480 / 60 Hz (RGB: Analog)  
**Voltage with 4-Line-LISN\_L1**



**Final Measurement Detector 1**

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.171000	55.4	1000.000	9.000	GND	L1	10.0	9.4	64.8	
0.234000	38.5	1000.000	9.000	GND	L1	10.0	23.6	62.1	
0.381000	36.6	1000.000	9.000	GND	L1	10.0	21.5	58.1	
0.717000	34.3	1000.000	9.000	GND	L1	10.0	21.7	56.0	
0.962000	34.4	1000.000	9.000	GND	L1	10.0	21.6	56.0	
1.193000	33.4	1000.000	9.000	GND	L1	10.1	22.6	56.0	
1.844000	30.4	1000.000	9.000	GND	L1	10.1	25.6	56.0	
2.880000	31.2	1000.000	9.000	GND	L1	10.1	24.8	56.0	
4.805000	27.6	1000.000	9.000	GND	L1	10.2	28.4	56.0	
6.086000	25.5	1000.000	9.000	GND	L1	10.2	34.5	60.0	
19.302000	25.9	1000.000	9.000	GND	L1	11.0	34.1	60.0	
23.173000	31.0	1000.000	9.000	GND	L1	11.2	29.0	60.0	

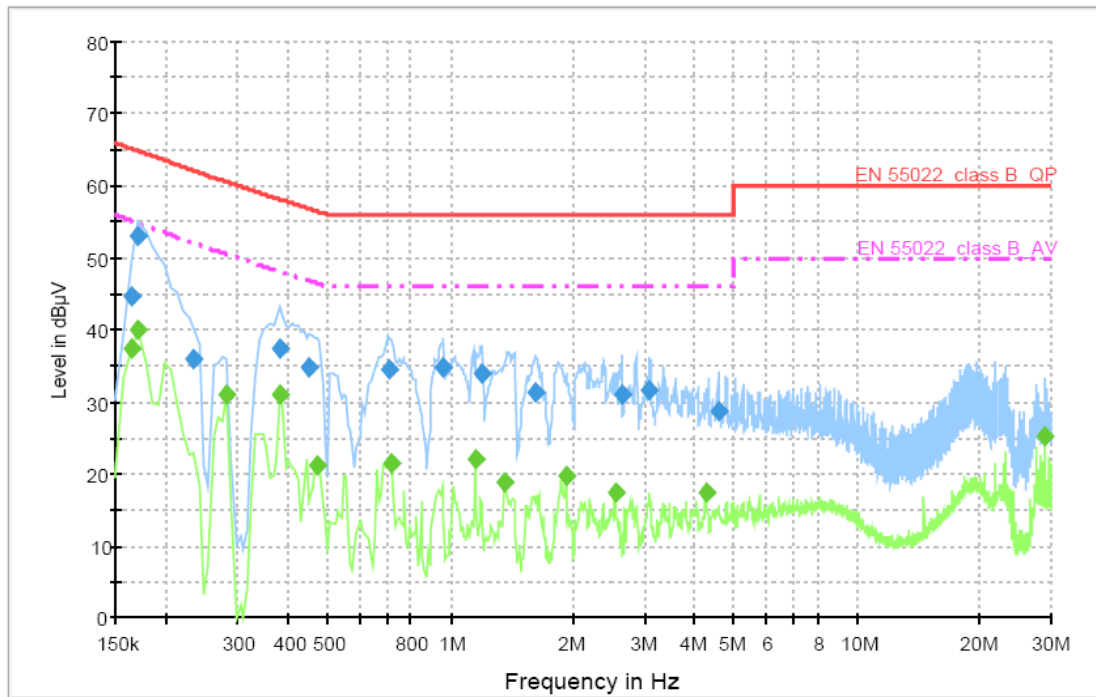
**Final Measurement Detector 2**

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.171000	41.3	1000.000	9.000	GND	L1	10.0	13.6	54.8	
0.269000	27.2	1000.000	9.000	GND	L1	10.0	23.7	50.9	
0.381000	35.0	1000.000	9.000	GND	L1	10.0	13.1	48.1	
0.710000	21.5	1000.000	9.000	GND	L1	10.0	24.5	46.0	
1.151000	22.2	1000.000	9.000	GND	L1	10.1	23.8	46.0	
1.368000	18.1	1000.000	9.000	GND	L1	10.1	27.9	46.0	
1.858000	17.7	1000.000	9.000	GND	L1	10.1	28.3	46.0	
3.090000	17.0	1000.000	9.000	GND	L1	10.1	29.0	46.0	
4.224000	17.1	1000.000	9.000	GND	L1	10.2	28.9	46.0	
28.969000	25.0	1000.000	9.000	GND	L1	11.4	25.0	50.0	

< Fig 8. Conducted emission result (Live line)>



### Voltage with 4-Line-LISN\_N



#### Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.164000	44.7	1000.000	9.000	GND	N	10.0	20.5	65.2	
0.171000	53.0	1000.000	9.000	GND	N	10.0	11.8	64.8	
0.234000	36.1	1000.000	9.000	GND	N	10.0	26.0	62.1	
0.381000	37.3	1000.000	9.000	GND	N	10.0	20.8	58.1	
0.451000	34.7	1000.000	9.000	GND	N	10.0	22.1	56.8	
0.710000	34.5	1000.000	9.000	GND	N	10.0	21.5	56.0	
0.962000	34.7	1000.000	9.000	GND	N	10.0	21.3	56.0	
1.200000	33.8	1000.000	9.000	GND	N	10.1	22.2	56.0	
1.620000	31.2	1000.000	9.000	GND	N	10.1	24.8	56.0	
2.642000	31.1	1000.000	9.000	GND	N	10.1	24.9	56.0	
3.097000	31.5	1000.000	9.000	GND	N	10.1	24.5	56.0	
4.567000	28.8	1000.000	9.000	GND	N	10.2	27.2	56.0	

#### Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.164000	37.4	1000.000	9.000	GND	N	10.0	17.8	55.2	
0.171000	40.0	1000.000	9.000	GND	N	10.0	14.8	54.8	
0.283000	31.1	1000.000	9.000	GND	N	10.0	19.4	50.5	
0.381000	30.9	1000.000	9.000	GND	N	10.0	17.2	48.1	
0.472000	21.2	1000.000	9.000	GND	N	10.0	25.2	46.4	
0.717000	21.5	1000.000	9.000	GND	N	10.0	24.5	46.0	
1.151000	22.0	1000.000	9.000	GND	N	10.1	24.0	46.0	
1.361000	18.9	1000.000	9.000	GND	N	10.1	27.1	46.0	
1.921000	19.6	1000.000	9.000	GND	N	10.1	26.4	46.0	
2.544000	17.5	1000.000	9.000	GND	N	10.1	28.5	46.0	
4.252000	17.4	1000.000	9.000	GND	N	10.2	28.6	46.0	
28.969000	25.1	1000.000	9.000	GND	N	10.8	24.9	50.0	

< Fig 9. Conducted emission result (Neutral line)>



◆ Test resolution: 1 360 \* 768 / 60 Hz (HDMI/DVI: Digital)

### Voltage with 4-Line-LISN\_L1



#### Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.171000	55.4	1000.000	9.000	GND	L1	10.0	9.4	64.8	
0.234000	38.1	1000.000	9.000	GND	L1	10.0	24.0	62.1	
0.381000	36.7	1000.000	9.000	GND	L1	10.0	21.4	58.1	
0.710000	34.7	1000.000	9.000	GND	L1	10.0	21.3	56.0	
1.151000	31.8	1000.000	9.000	GND	L1	10.1	24.2	56.0	
1.179000	33.6	1000.000	9.000	GND	L1	10.1	22.4	56.0	
2.593000	28.9	1000.000	9.000	GND	L1	10.1	27.1	56.0	
2.831000	28.4	1000.000	9.000	GND	L1	10.1	27.6	56.0	
4.770000	26.5	1000.000	9.000	GND	L1	10.2	29.5	56.0	
6.877000	22.0	1000.000	9.000	GND	L1	10.3	38.0	60.0	
19.638000	24.5	1000.000	9.000	GND	L1	11.0	35.5	60.0	
21.955000	32.0	1000.000	9.000	GND	L1	11.1	28.0	60.0	

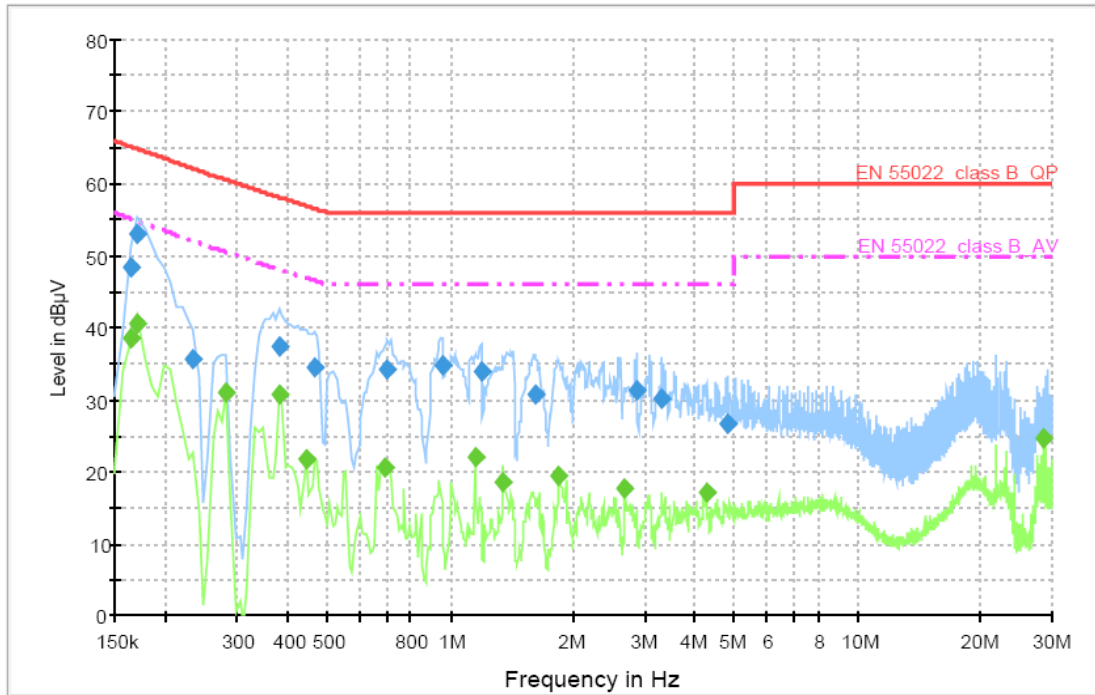
#### Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.164000	42.6	1000.000	9.000	GND	L1	10.0	12.6	55.2	
0.269000	27.3	1000.000	9.000	GND	L1	10.0	23.6	50.9	
0.381000	34.9	1000.000	9.000	GND	L1	10.0	13.2	48.1	
0.703000	21.1	1000.000	9.000	GND	L1	10.0	24.9	46.0	
1.151000	22.0	1000.000	9.000	GND	L1	10.1	24.0	46.0	
1.347000	18.6	1000.000	9.000	GND	L1	10.1	27.4	46.0	
1.844000	17.5	1000.000	9.000	GND	L1	10.1	28.5	46.0	
2.684000	16.1	1000.000	9.000	GND	L1	10.1	29.9	46.0	
4.224000	17.2	1000.000	9.000	GND	L1	10.2	28.8	46.0	
19.519000	19.7	1000.000	9.000	GND	L1	11.0	30.3	50.0	
28.486000	25.6	1000.000	9.000	GND	L1	11.4	24.4	50.0	

< Fig 10. Conducted emission result (Live line)>



## Voltage with 4-Line-LISN\_N



### Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.164000	48.5	1000.000	9.000	GND	N	10.0	16.7	65.2	
0.171000	53.0	1000.000	9.000	GND	N	10.0	11.8	64.8	
0.234000	35.7	1000.000	9.000	GND	N	10.0	26.5	62.1	
0.381000	37.4	1000.000	9.000	GND	N	10.0	20.7	58.1	
0.465000	34.6	1000.000	9.000	GND	N	10.0	22.0	56.6	
0.703000	34.1	1000.000	9.000	GND	N	10.0	21.9	56.0	
0.955000	34.9	1000.000	9.000	GND	N	10.0	21.1	56.0	
1.193000	33.8	1000.000	9.000	GND	N	10.1	22.2	56.0	
1.620000	30.7	1000.000	9.000	GND	N	10.1	25.3	56.0	
2.866000	31.4	1000.000	9.000	GND	N	10.1	24.6	56.0	
3.314000	30.2	1000.000	9.000	GND	N	10.1	25.8	56.0	
4.784000	26.5	1000.000	9.000	GND	N	10.2	29.5	56.0	

### Final Measurement Detector 2

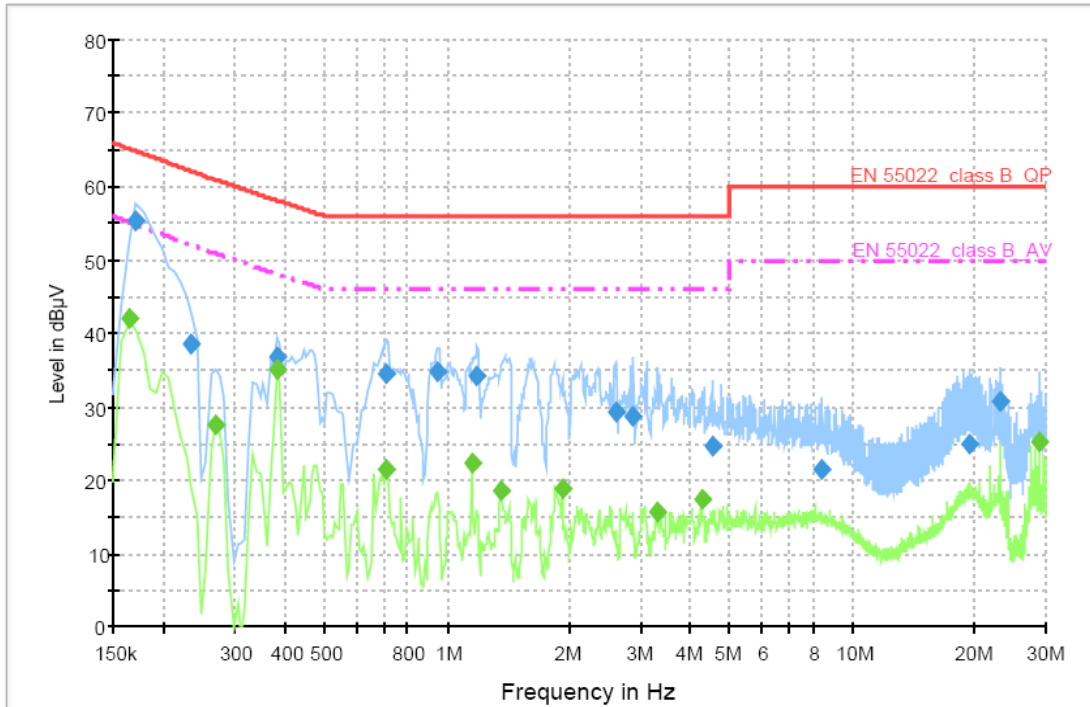
Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.164000	38.7	1000.000	9.000	GND	N	10.0	16.5	55.2	
0.171000	40.7	1000.000	9.000	GND	N	10.0	14.1	54.8	
0.283000	31.0	1000.000	9.000	GND	N	10.0	19.5	50.5	
0.381000	30.9	1000.000	9.000	GND	N	10.0	17.2	48.1	
0.444000	21.7	1000.000	9.000	GND	N	10.0	25.2	46.9	
0.689000	20.5	1000.000	9.000	GND	N	10.0	25.5	46.0	
1.151000	22.2	1000.000	9.000	GND	N	10.1	23.8	46.0	
1.347000	18.6	1000.000	9.000	GND	N	10.1	27.4	46.0	
1.851000	19.3	1000.000	9.000	GND	N	10.1	26.7	46.0	
2.691000	17.8	1000.000	9.000	GND	N	10.1	28.2	46.0	
4.252000	17.1	1000.000	9.000	GND	N	10.2	28.9	46.0	
28.486000	24.5	1000.000	9.000	GND	N	10.8	25.5	50.0	

< Fig 11. Conducted emission result (Neutral line)>



◆ Test resolution: USB play mode

**Voltage with 4-Line-LISN\_L1**



**Final Measurement Detector 1**

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.171000	55.5	1000.000	9.000	GND	L1	10.0	9.3	64.8	
0.234000	38.4	1000.000	9.000	GND	L1	10.0	23.7	62.1	
0.381000	36.8	1000.000	9.000	GND	L1	10.0	21.3	58.1	
0.710000	34.6	1000.000	9.000	GND	L1	10.0	21.4	56.0	
0.948000	34.8	1000.000	9.000	GND	L1	10.0	21.2	56.0	
1.186000	34.2	1000.000	9.000	GND	L1	10.1	21.8	56.0	
2.628000	29.3	1000.000	9.000	GND	L1	10.1	26.7	56.0	
2.887000	28.7	1000.000	9.000	GND	L1	10.1	27.3	56.0	
4.539000	24.8	1000.000	9.000	GND	L1	10.2	31.2	56.0	
8.417000	21.4	1000.000	9.000	GND	L1	10.3	38.6	60.0	
19.393000	25.0	1000.000	9.000	GND	L1	11.0	35.0	60.0	
23.173000	30.8	1000.000	9.000	GND	L1	11.2	29.2	60.0	

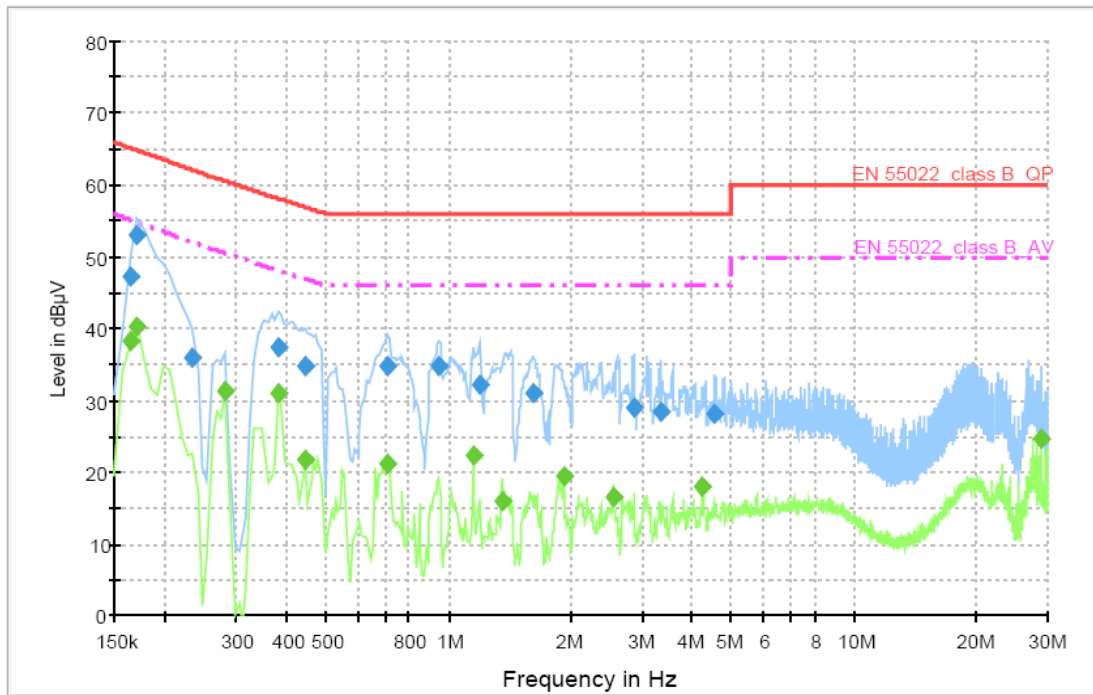
**Final Measurement Detector 2**

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.164000	42.1	1000.000	9.000	GND	L1	10.0	13.1	55.2	
0.269000	27.4	1000.000	9.000	GND	L1	10.0	23.5	50.9	
0.381000	35.1	1000.000	9.000	GND	L1	10.0	13.0	48.1	
0.710000	21.6	1000.000	9.000	GND	L1	10.0	24.4	46.0	
1.151000	22.3	1000.000	9.000	GND	L1	10.1	23.7	46.0	
1.354000	18.5	1000.000	9.000	GND	L1	10.1	27.5	46.0	
1.921000	19.0	1000.000	9.000	GND	L1	10.1	27.0	46.0	
3.314000	15.8	1000.000	9.000	GND	L1	10.1	30.2	46.0	
4.252000	17.3	1000.000	9.000	GND	L1	10.2	28.7	46.0	
28.969000	25.2	1000.000	9.000	GND	L1	11.4	24.8	50.0	

< Fig 12. Conducted emission result (Live line)>



### Voltage with 4-Line-LISN\_N



#### Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.164000	47.1	1000.000	9.000	GND	N	10.0	18.1	65.2	
0.171000	53.1	1000.000	9.000	GND	N	10.0	11.7	64.8	
0.234000	35.9	1000.000	9.000	GND	N	10.0	26.2	62.1	
0.381000	37.3	1000.000	9.000	GND	N	10.0	20.8	58.1	
0.444000	34.8	1000.000	9.000	GND	N	10.0	22.1	56.9	
0.710000	34.7	1000.000	9.000	GND	N	10.0	21.4	56.0	
0.948000	34.8	1000.000	9.000	GND	N	10.0	21.2	56.0	
1.193000	32.1	1000.000	9.000	GND	N	10.1	24.0	56.0	
1.620000	30.9	1000.000	9.000	GND	N	10.1	25.1	56.0	
2.880000	29.1	1000.000	9.000	GND	N	10.1	26.9	56.0	
3.328000	28.5	1000.000	9.000	GND	N	10.1	27.5	56.0	
4.553000	28.1	1000.000	9.000	GND	N	10.2	27.9	56.0	

#### Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.164000	38.1	1000.000	9.000	GND	N	10.0	17.1	55.2	
0.171000	40.4	1000.000	9.000	GND	N	10.0	14.4	54.8	
0.283000	31.4	1000.000	9.000	GND	N	10.0	19.1	50.5	
0.381000	31.0	1000.000	9.000	GND	N	10.0	17.1	48.1	
0.444000	21.8	1000.000	9.000	GND	N	10.0	25.1	46.9	
0.710000	21.2	1000.000	9.000	GND	N	10.0	24.8	46.0	
1.151000	22.3	1000.000	9.000	GND	N	10.1	23.7	46.0	
1.354000	15.9	1000.000	9.000	GND	N	10.1	30.1	46.0	
1.921000	19.4	1000.000	9.000	GND	N	10.1	26.6	46.0	
2.544000	16.5	1000.000	9.000	GND	N	10.1	29.5	46.0	
4.224000	17.9	1000.000	9.000	GND	N	10.2	28.1	46.0	
28.969000	24.5	1000.000	9.000	GND	N	10.8	25.5	50.0	

< Fig 13. Conducted emission result (Neutral line)>



## 6. Radiated Emission

### 6.1 Operating Environment

Temperature : 24 °C  
Relative Humidity : 45 % R.H.

### 6.2 Test Set-up

A preliminary and final measurement was at 3 m anechoic chamber.

The EUT was placed on a non-conductive turntable approximately 0.8 m above the ground plane.

The turntable with EUT was rotated 360°, and the antenna was varied in height between 1.0 m and 4.0 m in order to determine the maximum emission levels.

This procedure was performed for both horizontal and vertical polarization of the receiving antenna.

### 6.3 Measurement Uncertainty

The measurement uncertainty was calculated in accordance with ISO "Guide to the expression of uncertainty in measurement".

The measurement uncertainty was given with a confidence of 95 %.

Test Items	Uncertainty	Remark
Radiated emission (30 MHz ~ 300 MHz, 3 m, Vertical)	± 3.54 dB	Confidence levels of 95 % (k=2)
Radiated emission (30 MHz ~ 300 MHz, 3 m, Horizontal)	± 3.49 dB	Confidence levels of 95 % (k=2)
Radiated emission (300 MHz ~ 1 000 MHz, 3 m, Vertical)	± 3.85 dB	Confidence levels of 95 % (k=2)
Radiated emission (300 MHz ~ 1 000 MHz, 3 m, Horizontal)	± 3.76 dB	Confidence levels of 95 % (k=2)
Radiated emission (30 MHz ~ 300 MHz, 10 m, Vertical)	± 3.21 dB	Confidence levels of 95 % (k=2)
Radiated emission (30 MHz ~ 300 MHz, 10 m, Horizontal)	± 3.32 dB	Confidence levels of 95 % (k=2)
Radiated emission (300 MHz ~ 1 000 MHz, 10 m, Vertical)	± 3.77 dB	Confidence levels of 95 % (k=2)
Radiated emission (300 MHz ~ 1 000 MHz, 10 m, Horizontal)	± 3.84 dB	Confidence levels of 95 % (k=2)



#### 6.4 Limit

Frequency (MHz)	FCC Limit @ 3 m. dB $\mu$ V/m	CISPR Limit @ 10 m. dB $\mu$ V/m
30 ~ 88	40.0	30.0
88 ~ 216	43.5	30.0
216 ~ 230	46.0	30.0
230 ~ 960	46.0	37.0
960 ~ 1 000	54.0	37.0
> 1 000	54.0	No Specified limit

#### 6.5 Test Equipment used

Model Name	Manufacturer	Description	Serial Number	Due to Calibration
■ - ESI	Rohde & Schwarz	EMI test receiver	830482/010	12. 11. 2010
■ - VULB9160	Schwarzbeck	Broadband Test Antenna	3099	07. 21. 2011
■ - BBHA9120D	Schwarzbeck	Horn ANT	597	12. 18. 2010
■ - MCU066	maturo GmbH	Position Controller	1390306	N/A
■ - TT2.5SI	maturo GmbH	Turntable	1390307	N/A
■ - AM 4.0	maturo GmbH	Antenna Mast	1390308	N/A
■ - AFS 44 00101800-25-10P-44	MITEQ	Preamplifier	1258943	11. 12. 2010

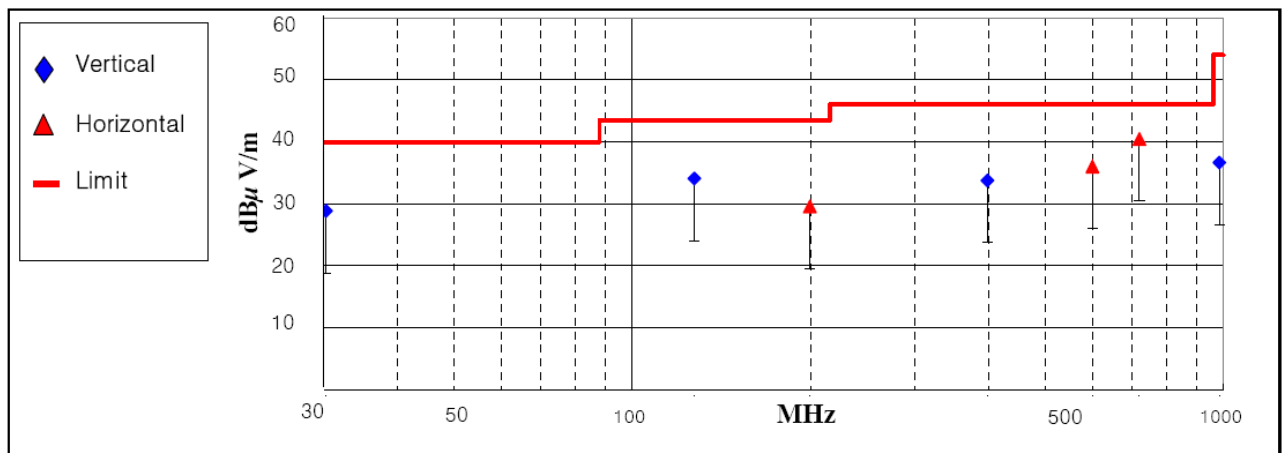


### 6.6 Test data for Radiated Emission

- Test Date : December 28, 2009
- Resolution Bandwidth : 120 kHz/1 MHz
- Frequency Range : 30 MHz ~ 2 000 MHz
- Measurement Distance : 3 m
- Note : The highest frequency of the internal source of the EUT is between 108 MHz and 500 MHz (400 MHz). The measurement was made up to 2 000 MHz.

- ◆ Operating Condition: 1 360 \* 768 / 60 Hz (RGB: Analog)
- Detector mode: Quasi- peak detector mode

Frequency (MHz)	Measurement Level				Limit (dBμ V/m)	Margin (dB)	Positioning System		
	Reading	Antenna	Cable	Test Result			Pol. (H/V)	Height (cm)	Angle (°)
	Value(dBμ V)	Factor(dB/m)	Loss(dB)	(dBμ V/m)					
30.36	15.02	11.94	1.89	28.85	40.00	11.15	V	100	182
127.27	18.79	11.86	3.42	34.07	43.50	9.43	V	100	270
199.74	16.01	9.29	4.29	29.59	43.50	13.91	H	109	177
398.65	10.97	15.47	7.31	33.75	46.00	12.25	V	104	0
600.00	8.24	20.34	7.41	35.99	46.00	10.01	H	100	188
720.00	10.34	22.02	8.10	40.46	46.00	5.54	H	224	190
983.28	1.25	25.64	9.76	36.65	54.00	17.35	V	210	0

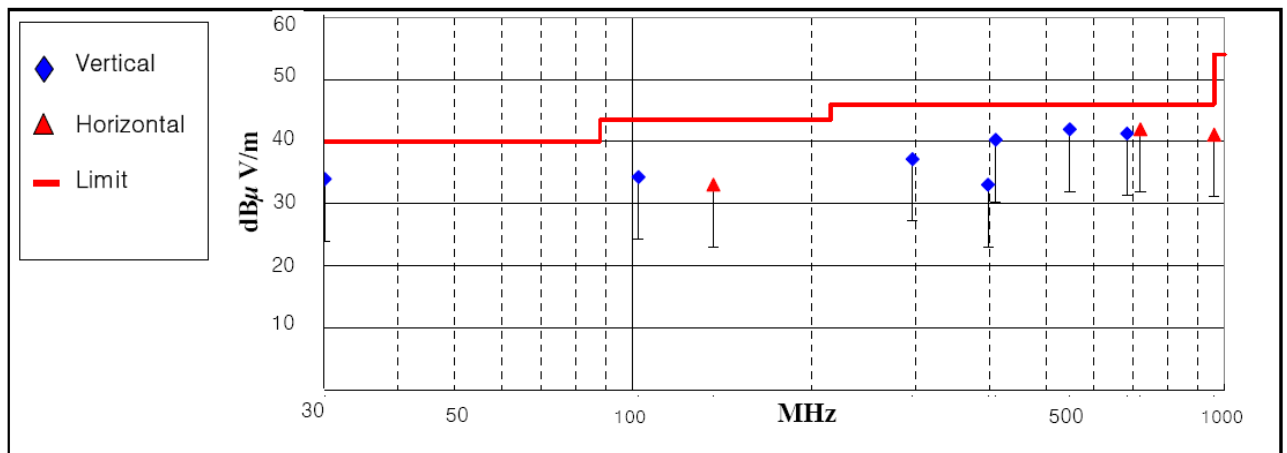


< Fig 14. Radiated emission result (30 MHz ~ 1 000 MHz)>



- ◆ Operating Condition: 1 360 \* 768 / 60 Hz (HDMI/DVI: Digital)  
 Detector mode: Quasi- peak detector mode

Frequency (MHz)	Measurement Level				Limit (dB $\mu$ V/m)	Margin (dB)	Positioning System		
	Reading	Antenna	Cable	Test Result			Pol. (H/V)	Height (cm)	Angle (°)
	Value(dB $\mu$ V)	Factor(dB/m)	Loss(dB)	(dB $\mu$ V/m)					
30.18	20.12	11.95	1.89	33.96	40.00	6.04	V	100	93
102.20	21.54	9.66	3.09	34.29	43.50	9.21	V	100	341
136.82	17.05	12.48	3.54	33.07	43.50	10.43	H	200	167
297.00	18.44	13.18	5.58	37.20	46.00	8.80	V	143	192
398.11	10.29	15.46	7.31	33.06	46.00	12.94	V	100	179
410.40	17.14	15.84	7.29	40.27	46.00	5.73	V	106	180
547.20	16.30	18.53	7.13	41.96	46.00	4.04	V	120	180
684.05	12.02	21.38	7.88	41.28	46.00	4.72	V	100	180
720.00	11.88	22.02	8.10	42.00	46.00	4.00	H	237	206
960.03	5.95	25.56	9.59	41.10	54.00	12.90	H	189	185

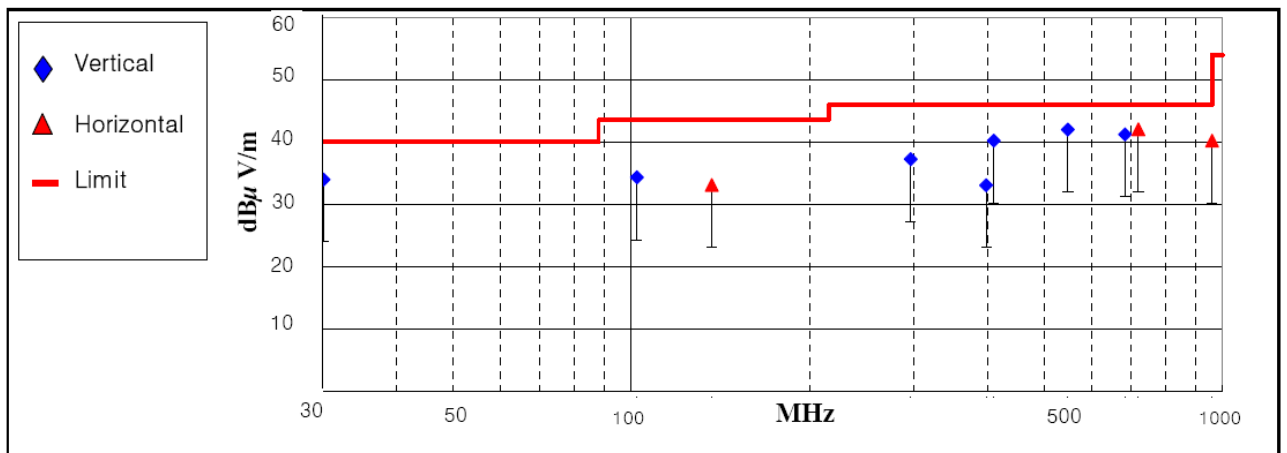


< Fig 15. Radiated emission result (30 MHz ~ 1 000 MHz)>



- ◆ Operating Condition: USB play mode  
 Detector mode: Quasi- peak detector mode

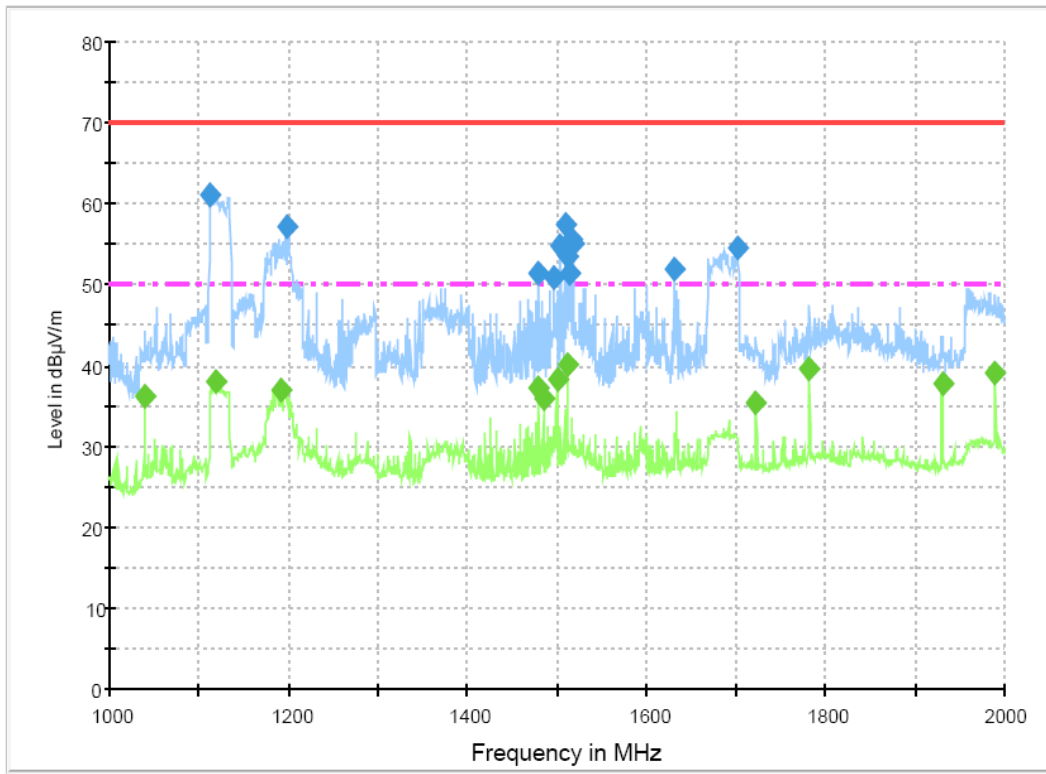
Frequency (MHz)	Measurement Level				Limit (dB $\mu$ V/m)	Margin (dB)	Positioning System		
	Reading	Antenna	Cable	Test Result			Pol. (H/V)	Height (cm)	Angle (°)
	Value(dB $\mu$ V)	Factor(dB/m)	Loss(dB)	(dB $\mu$ V/m)					
30.18	20.10	11.95	1.89	33.94	40.00	6.06	V	127	87
102.19	21.54	9.66	3.09	34.29	43.50	9.21	V	100	0
136.78	17.07	12.48	3.53	33.08	43.50	10.42	H	217	93
297.00	18.45	13.18	5.58	37.21	46.00	8.79	V	100	184
398.12	10.27	15.46	7.31	33.04	46.00	12.96	V	100	181
410.42	17.07	15.84	7.29	40.20	46.00	5.80	V	112	185
547.22	16.31	18.53	7.13	41.97	46.00	4.03	V	109	176
684.07	11.96	21.38	7.88	41.22	46.00	4.78	V	100	185
720.00	11.90	22.02	8.10	42.02	46.00	3.98	H	100	203
960.10	5.05	25.56	9.59	40.20	54.00	13.80	H	142	187



< Fig 16. Radiated emission result (30 MHz ~ 1 000 MHz)>



- ◆ Operating Condition: 1 360 \* 768 / 60 Hz (RGB: Analog)  
 Detector mode: Peak detector mode / Average detector mode  
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### Final Result 1

Frequency (MHz)	MaxPeak-MaxHold (dBµV/m)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
1112.800000	61.1	150.0	V	180.0	-16.1	8.9	70.0	
1197.600000	57.2	100.0	H	180.0	-15.9	12.8	70.0	
1480.000000	51.5	150.0	H	270.0	-14.8	18.5	70.0	
1497.200000	50.9	100.0	V	180.0	-14.8	19.1	70.0	
1504.400000	54.9	150.0	V	180.0	-14.8	15.1	70.0	
1509.200000	57.5	100.0	V	180.0	-14.8	12.5	70.0	
1512.000000	53.5	200.0	H	90.0	-14.7	16.5	70.0	
1514.800000	51.4	100.0	H	180.0	-14.7	18.6	70.0	
1516.400000	55.6	150.0	H	180.0	-14.7	14.4	70.0	
1518.400000	55.1	100.0	V	180.0	-14.7	14.9	70.0	
1631.200000	52.0	100.0	V	90.0	-14.4	18.0	70.0	
1702.400000	54.5	100.0	V	180.0	-14.3	15.5	70.0	

### Final Result 2

Frequency (MHz)	Average-MaxHold (dBµV/m)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
1039.200000	36.1	100.0	H	180.0	-16.4	13.9	50.0	
1120.000000	38.1	150.0	V	180.0	-16.1	11.9	50.0	
1192.400000	37.1	100.0	H	180.0	-15.9	12.9	50.0	
1480.000000	37.3	200.0	V	180.0	-14.8	12.7	50.0	
1485.200000	36.0	150.0	V	0.0	-14.8	14.0	50.0	
1500.000000	38.4	150.0	V	0.0	-14.8	11.6	50.0	
1512.000000	40.2	200.0	H	90.0	-14.7	9.8	50.0	
1722.400000	35.4	150.0	V	180.0	-14.2	14.6	50.0	
1782.000000	39.6	150.0	V	180.0	-14.0	10.4	50.0	
1930.800000	37.7	150.0	H	180.0	-13.3	12.3	50.0	
1990.000000	39.1	100.0	V	180.0	-12.8	10.9	50.0	

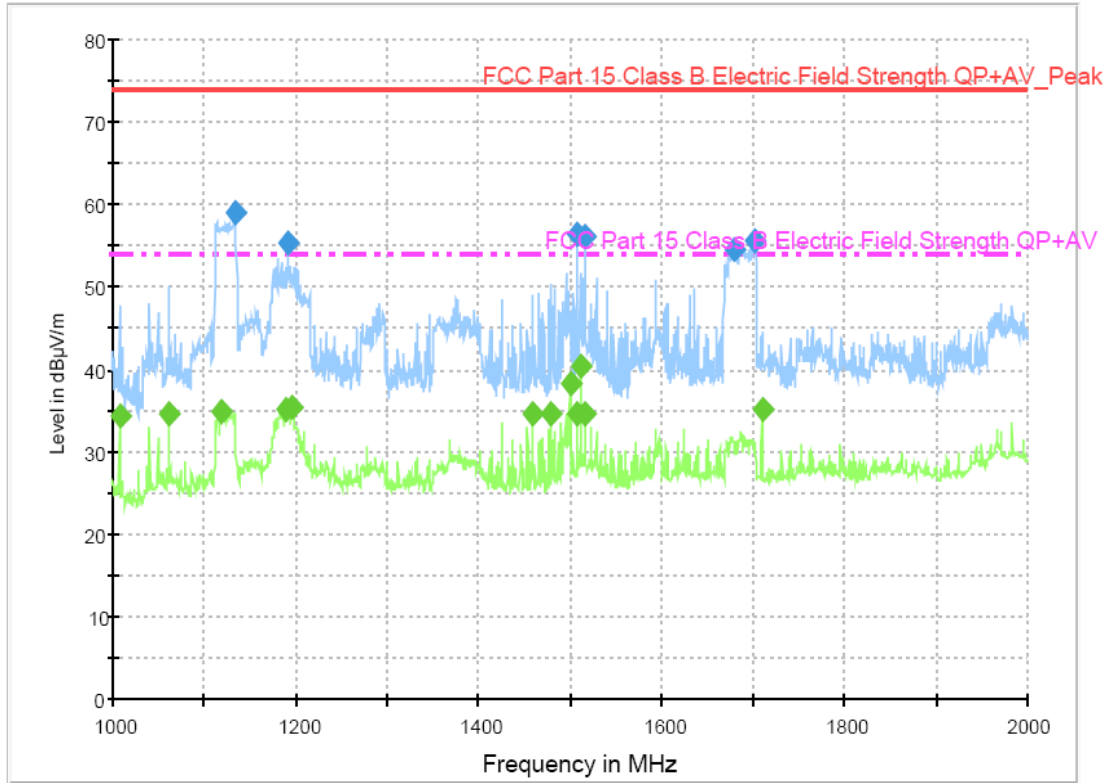
< Fig 17. Radiated emission result (1 000 MHz ~ 2 000 MHz)>



◆ Operating Condition: 1 360 \* 768 / 60 Hz (HDMI/DVI: Digital)

Detector mode: Peak detector mode / Average detector mode

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### Final Result 1

Frequency (MHz)	MaxPeak-MaxHold (dBµV/m)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
1134.400000	59.0	100.0	V	180.0	-16.0	15.0	74.0	
1192.000000	55.3	100.0	H	180.0	-15.9	18.7	74.0	
1507.600000	56.5	100.0	V	180.0	-14.8	17.5	74.0	
1516.800000	56.1	100.0	V	180.0	-14.7	17.9	74.0	
1679.200000	54.6	100.0	V	180.0	-14.4	19.4	74.0	
1702.000000	55.6	100.0	V	180.0	-14.3	18.4	74.0	

### Final Result 2

Frequency (MHz)	Average-MaxHold (dBµV/m)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
1008.000000	34.4	100.0	V	180.0	-16.6	19.6	54.0	
1062.000000	34.6	100.0	V	0.0	-16.3	19.4	54.0	
1120.000000	35.0	100.0	V	180.0	-16.1	19.0	54.0	
1189.200000	35.1	100.0	H	180.0	-15.9	18.9	54.0	
1197.200000	35.4	100.0	H	180.0	-15.9	18.6	54.0	
1458.800000	34.7	100.0	V	0.0	-14.8	19.3	54.0	
1478.800000	34.5	200.0	V	0.0	-14.8	19.5	54.0	
1500.000000	38.2	100.0	V	0.0	-14.8	15.8	54.0	
1507.600000	34.6	100.0	V	180.0	-14.8	19.4	54.0	
1512.000000	40.4	100.0	H	0.0	-14.7	13.6	54.0	
1516.800000	34.6	100.0	V	180.0	-14.7	19.4	54.0	
1710.000000	35.0	200.0	V	180.0	-14.3	19.0	54.0	

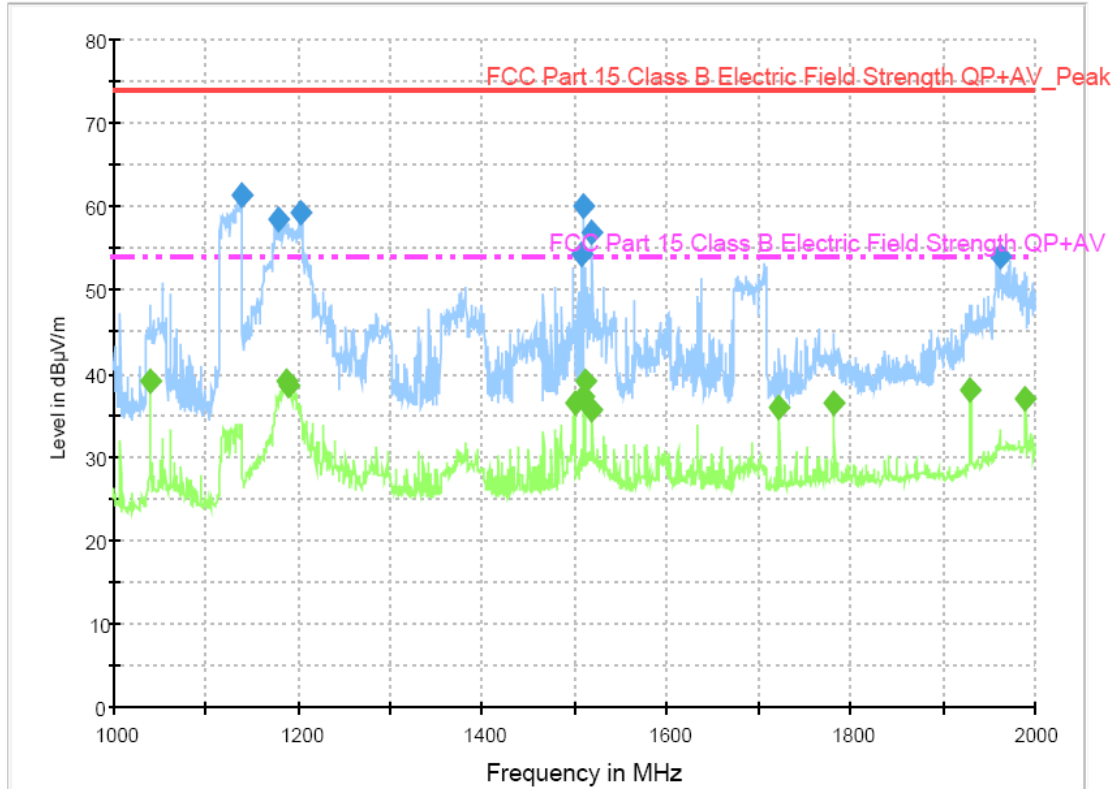
< Fig 18. Radiated emission result (1 000 MHz ~ 2 000 MHz)>



◆ Operating Condition: USB play mode

Detector mode: Peak detector mode / Average detector mode

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### Final Result 1

Frequency (MHz)	MaxPeak-MaxHold (dBµV/m)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
1138.400000	61.3	100.0	V	180.0	-16.0	12.7	74.0	
1178.800000	58.4	200.0	V	180.0	-15.9	15.6	74.0	
1203.600000	59.3	100.0	H	180.0	-15.8	14.7	74.0	
1507.600000	54.3	200.0	V	180.0	-14.8	19.7	74.0	
1510.400000	60.1	100.0	V	180.0	-14.7	13.9	74.0	
1519.600000	56.8	100.0	V	180.0	-14.7	17.2	74.0	
1961.600000	54.0	200.0	V	180.0	-13.0	20.0	74.0	

### Final Result 2

Frequency (MHz)	Average-MaxHold (dBµV/m)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
1039.600000	39.1	100.0	H	180.0	-16.4	14.9	54.0	
1188.000000	39.2	100.0	V	180.0	-15.9	14.8	54.0	
1190.800000	38.6	100.0	V	180.0	-15.9	15.4	54.0	
1500.000000	36.5	100.0	V	0.0	-14.8	17.5	54.0	
1510.400000	37.3	100.0	V	180.0	-14.7	16.7	54.0	
1512.000000	39.1	200.0	V	0.0	-14.7	14.9	54.0	
1519.600000	35.8	100.0	V	180.0	-14.7	18.2	54.0	
1722.800000	35.8	200.0	V	180.0	-14.2	18.2	54.0	
1782.000000	36.4	100.0	H	180.0	-14.0	17.6	54.0	
1930.400000	38.1	100.0	H	180.0	-13.3	15.9	54.0	
1990.000000	36.9	100.0	V	180.0	-12.8	17.1	54.0	

< Fig 19. Radiated emission result (1 000 MHz ~ 2 000 MHz)>



## 7. Sample Calculations

$$\begin{aligned} \text{dB}\mu\text{V} &= 20 \text{ Log}_{10}(\mu\text{V}/\text{m}) \\ \text{dB}\mu\text{V} &= \text{dBm} + 107 \\ \mu\text{V} &= 10^{(\text{dB}\mu\text{V}/20)} \end{aligned}$$

### 7.1 Example 1 :

#### ■ 20.3 MHz

<b>Class B Limit</b>	<b>= 250 <math>\mu\text{V}</math> = 48 dB<math>\mu\text{V}</math></b>
<b>Reading</b>	<b>= 39.2 dB<math>\mu\text{V}</math></b>
<b><math>10^{(39.2\text{dB}\mu\text{V}/20)}</math></b>	<b>= 91.2 <math>\mu\text{V}</math></b>
<b>Margin</b>	<b>= 48 dB<math>\mu\text{V}</math> - 39.2 dB<math>\mu\text{V}</math></b>
	<b>= 8.8 dB</b>

### 7.2 Example 2 :

#### ■ 66.7 MHz

<b>Class B Limit</b>	<b>= 100 <math>\mu\text{V}/\text{m}</math> = 40.0 dB<math>\mu\text{V}/\text{m}</math></b>
<b>Reading</b>	<b>= 31.0 dB<math>\mu\text{V}</math></b>
<b>Antenna Factor + Cable Loss = 5.8 dB</b>	
<b>Total</b>	<b>= 36.8 dB<math>\mu\text{V}/\text{m}</math></b>
<b>Margin</b>	<b>= 40.0 dB<math>\mu\text{V}/\text{m}</math> - 36.8 dB<math>\mu\text{V}/\text{m}</math></b>
	<b>= 3.2 dB</b>



## 8. Recommendation & Conclusion

The data collected shows that the **LG Electronics Inc. LCD TV/Monitor (Model Name: 26LD360L-UA)** was complies with §15.107 and 15.109 of the FCC Rules.