



FCC EVALUATION REPORT FOR CERTIFICATION

Applicant : LG Electronics Inc.

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

Pyeongteak-si, Gyeonggi-do, Korea.

Attn: Mr. Sang-Wook Lee, Chief research engineer

Date of Issue : August 25, 2010

Order Number: GETEC-C1-10-168

Test Report Number: GETEC-E3-10-089

Test Site: Gumi College EMC Center

FCC Registration Number: (100749, 443957)

FCC ID.: BEJHX350TJE

Applicant: LG Electronics Inc.

Rule Part(s)	: FCC Part 15 Subpart B
Equipment Class	: Class B computing device peripheral (JBP)
EUT Type	: DLP PROJECTOR
Type of Authority	: Certification
Model Name	: HX350T-JE
Trade Name	: LG

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 best 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,

Soon-Hoon Jeong, 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. Sang-Wook Lee, Chief research engineer

Tel Number: +82-31-610-9623

- **FCC ID.** BEJHX350TJE
- **EUT Type** DLP PROJECTOR
- **Model Name** HX350T-JE
- **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** August 19 ~ 20, 2010
- **Place of Test** **Gumi College EMC Center** (FCC Registration Number: 100749, 443957)
407, Bugok-dong, Gumi-si, Gyeongbuk, Korea.
- **Test Report Number** GETEC-E3-10-089
- **Dates of Issue** August 25, 2010



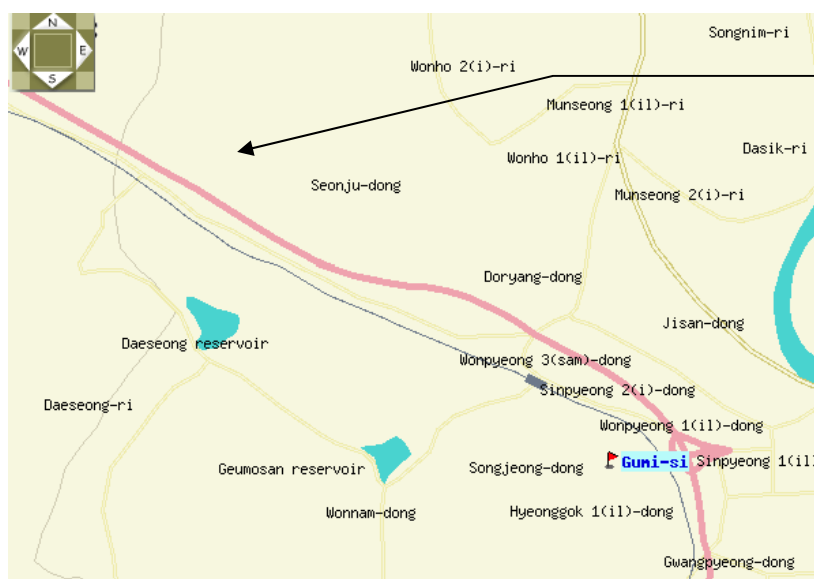
2. Introduction

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. DLP PROJECTOR (Model Name: HX350T-JE)**

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)



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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. DLP PROJECTOR (Model Name: HX350T-JE)**
FCC ID.: BEJHX350TJE

MODEL	HX350T (HX350T-JE)
Resolution	1024 (Horizontal) x 768 (Vertical) pixel
Horizontal / Vertical Ratio	4:3 (horizontal:vertical)
Panel size (mm)	13.97
Projection distance (Screen size)	0.55 m - 2.75 m (50.8 cm - 254.0 cm)
Projection Offset	110 %
Remote control distance	6 m
Video compatibility	NTSC/PAL/SECAM/NTSC4.43/PAL-M/PAL-N/PAL-60
AC-DC Adapter	LG, SD-B191A, 19.5 V  , 5.64 A
Audio Output	1 W + 1 W
Television System	NTSC-M, ATSC, 64 & 256 QAM
Program Coverage	VHF 2 - 13, UHF 14 - 69, CATV 1 - 135, DTV 2 - 69, CADTV 1 - 135
External Antenna Impedance	75 Ω
Height (mm)	57.5 (without foot), 61.0 (with foot)
Width (mm)	160
Length (mm)	134.5
Weight (g)	790
USB Device	5 V, 0.5 A (max)

-. 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
Key board	COMPAQ	166516-AD6	S/N: B13BBOR391006D FCC ID.: AQ6-23K15
PS2 mouse	LOGITECH	M-S69	S/N: 334684-108 FCC ID.: JNZ211443
Joy stick	MICROSOFT	X05-92626	S/N: 9262600296169 FCC ID.: DoC
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
USB memory stick	LG Electronics Inc.	UM5 2GB	S/N: 003RLRZN37758 FCC ID.: DoC
TV signal generator	FLUKE	54200	S/N: 831011 FCC ID.: DoC

See “Appendix D – Test Setup Photographs” for actual system test set-up

3.2.2 System configuration

Description	Manufacturer	Model Name	S/N & FCC ID.
Adapter ^{*1)}	LG Electronics Inc.	SD-B191A	S/N: RA07000153 FCC ID.: N/A

1) Input ratings: AC (100 – 240) V~, (50 – 60) Hz, 1.8 A / Output ratings: DC 19.5 V, 5.64 A



3.2.3 Used Cable(s)

Cable Name	Condition	Description
Power cable	Connected to the adapter	1.80 m unshielded
Adapter cable	Connected to the EUT	1.80 m shielded with a ferrite core
RGB(Analog) in cable	Connected to the EUT and PC	1.80 m shielded with two ferrite cores
HDMI/DVI(Digital) in cable	Connected to the EUT and PC	2.00 m shielded
Audio in cable	Connected to the EUT and PC	1.80 m shielded
Video in cable	Connected to the EUT and DVD player	1.50 m shielded
Headset cable	Connected to the EUT and headset	2.75 m shielded
Antenna cable	Connected to the EUT and TV signal generator	10.00 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)
 - . Projection mode
 - Radiated emission: 1 680 × 1 050 / 60 Hz (RGB: Analog, HDMI/DVI: Digital)
 - Conducted emission: 1 680 × 1 050 / 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
 - . Continuous playback of 1 kHz audio file with winamp player
 - . USB memory stick play mode
 - ◆ Operating test pattern
 - . Continuous playback mode with video files

“The verification report for 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

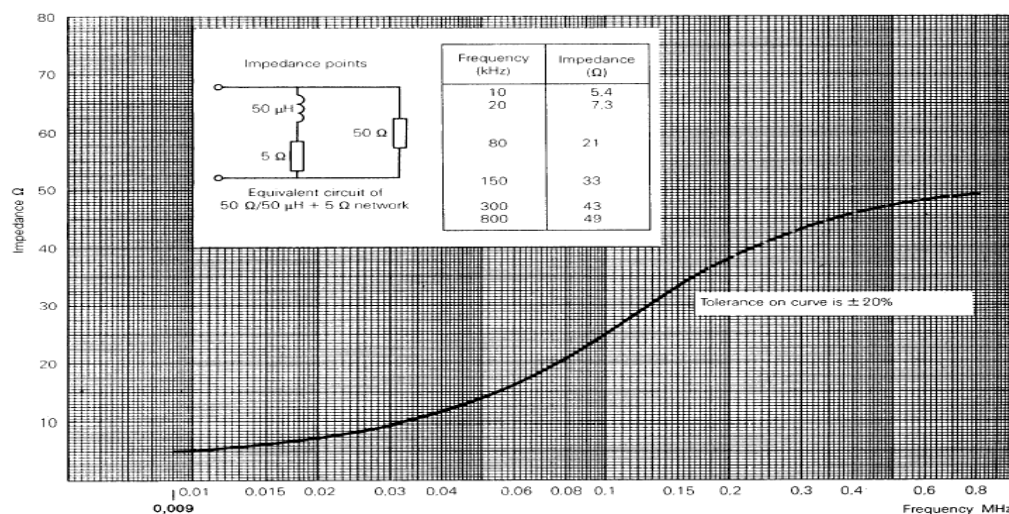


Fig 2. Impedance of LISN



4.3 Radiated Emission

Preliminary measurements were conducted 3 m semi anechoic chamber 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 note for each frequency found.

Final measurements were made 3 m chamber (FCC registration No.: 443957) and/or 10 m OATS (FCC registration No.: 100749).

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 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 1 to 4 meter and stopped at the azimuth or height producing the maximum emission.

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

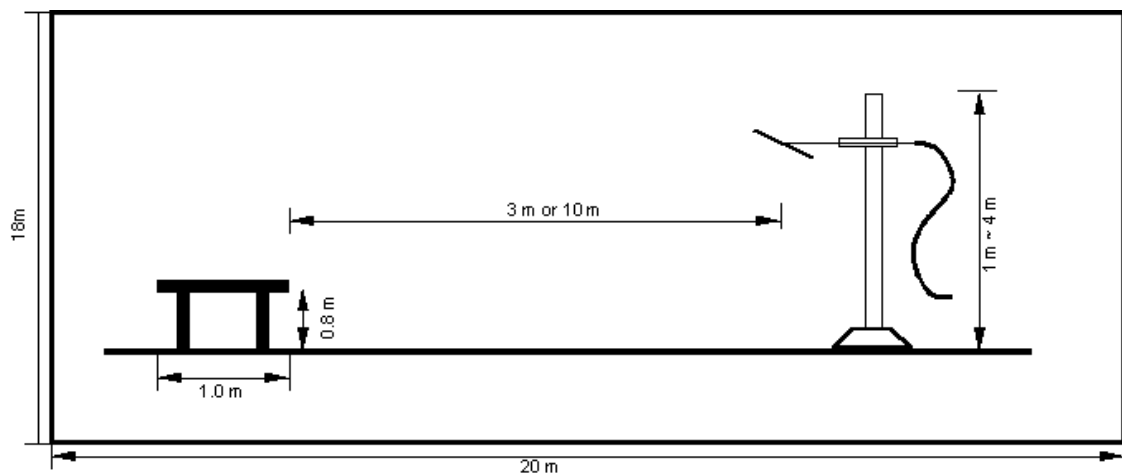


Fig 3. Dimensions of test site.



5. Conducted Emission

5.1 Operating Environment

Temperature : 26 °C
Relative Humidity : 56 % 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 & ISN.

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 μ V/m) Class B	
Freq. Range	Quasi-Peak	Average
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	Impedance Network	24568	10. 16. 2010

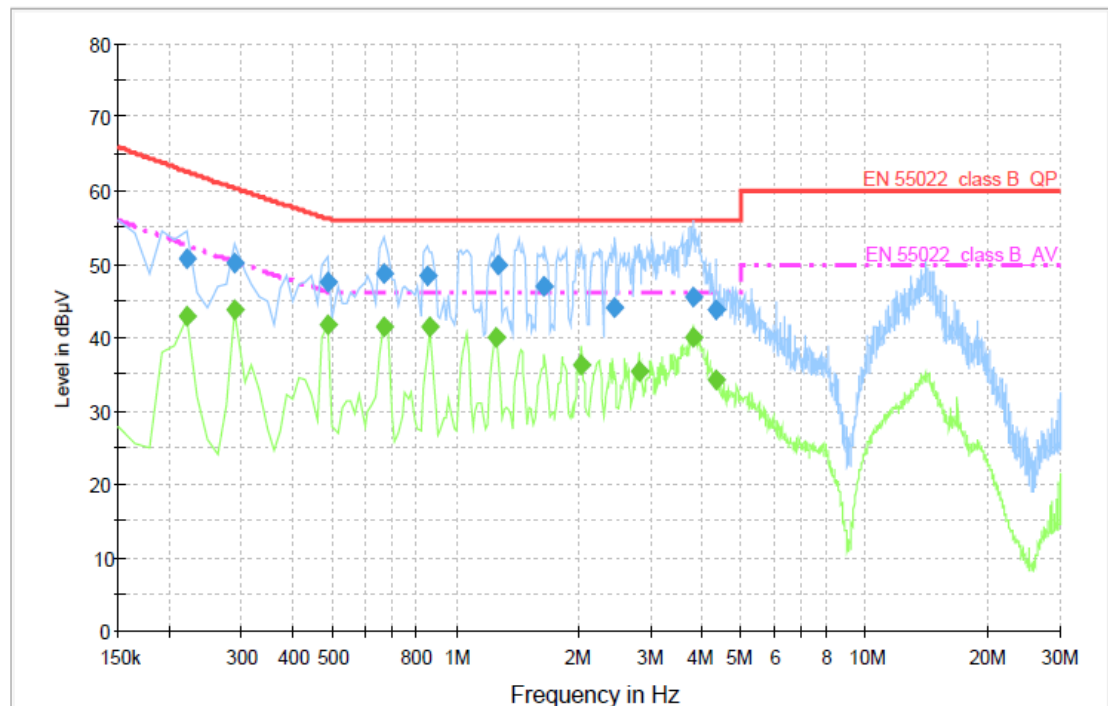
5.6 Test data for Conducted Emission

-. Test Date : August 20, 2010
-. Resolution Bandwidth : 9 kHz
-. Frequency Range : 0.15 MHz ~ 30 MHz



◆ Operating condition: 1 680 × 1 050 / 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
0.220000	50.8	1000.000	9.000	GND	L1	10.0	11.8	62.6	
0.290000	50.0	1000.000	9.000	GND	L1	10.0	10.3	60.3	
0.486000	47.5	1000.000	9.000	GND	L1	10.0	8.7	56.2	
0.668000	48.7	1000.000	9.000	GND	L1	10.0	7.3	56.0	
0.850000	48.3	1000.000	9.000	GND	L1	10.0	7.7	56.0	
1.270000	49.9	1000.000	9.000	GND	L1	10.1	6.1	56.0	
1.648000	46.9	1000.000	9.000	GND	L1	10.1	9.1	56.0	
2.446000	44.1	1000.000	9.000	GND	L1	10.1	11.9	56.0	
3.804000	45.6	1000.000	9.000	GND	L1	10.2	10.4	56.0	
4.322000	43.9	1000.000	9.000	GND	L1	10.2	12.1	56.0	

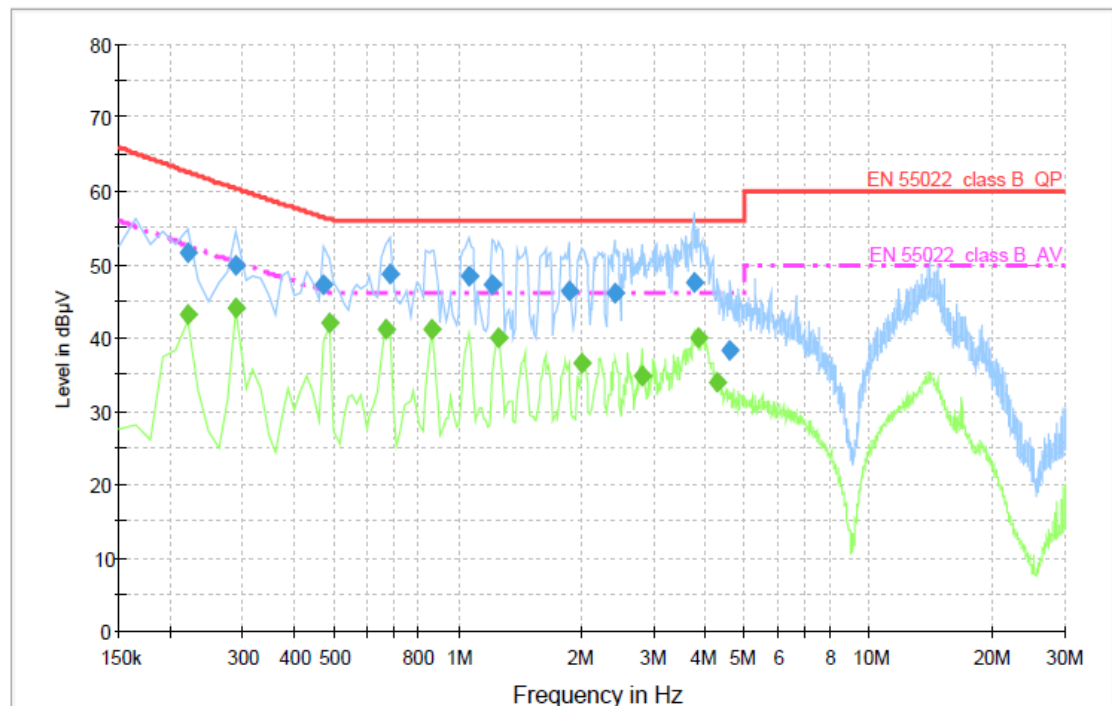
Final Measurement Detector 2

Frequency (MHz)	Average (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.220000	43.0	1000.000	9.000	GND	L1	10.0	9.6	52.6	
0.290000	43.8	1000.000	9.000	GND	L1	10.0	6.5	50.3	
0.486000	41.8	1000.000	9.000	GND	L1	10.0	4.4	46.2	
0.668000	41.4	1000.000	9.000	GND	L1	10.0	4.6	46.0	
0.864000	41.3	1000.000	9.000	GND	L1	10.0	4.7	46.0	
1.256000	39.9	1000.000	9.000	GND	L1	10.1	6.1	46.0	
2.026000	36.4	1000.000	9.000	GND	L1	10.1	9.6	46.0	
2.796000	35.2	1000.000	9.000	GND	L1	10.1	10.8	46.0	
3.804000	40.1	1000.000	9.000	GND	L1	10.2	5.9	46.0	
4.322000	34.1	1000.000	9.000	GND	L1	10.2	11.9	46.0	

< 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
0.220000	51.5	1000.000	9.000	GND	N	10.0	11.1	62.6	
0.290000	49.9	1000.000	9.000	GND	N	10.0	10.4	60.3	
0.472000	47.3	1000.000	9.000	GND	N	10.0	9.1	56.4	
0.682000	48.7	1000.000	9.000	GND	N	10.0	7.3	56.0	
1.060000	48.4	1000.000	9.000	GND	N	10.1	7.6	56.0	
1.214000	47.2	1000.000	9.000	GND	N	10.1	8.8	56.0	
1.858000	46.4	1000.000	9.000	GND	N	10.1	9.6	56.0	
2.404000	46.1	1000.000	9.000	GND	N	10.1	9.9	56.0	
3.748000	47.6	1000.000	9.000	GND	N	10.2	8.4	56.0	
4.588000	38.3	1000.000	9.000	GND	N	10.2	17.7	56.0	

Final Measurement Detector 2

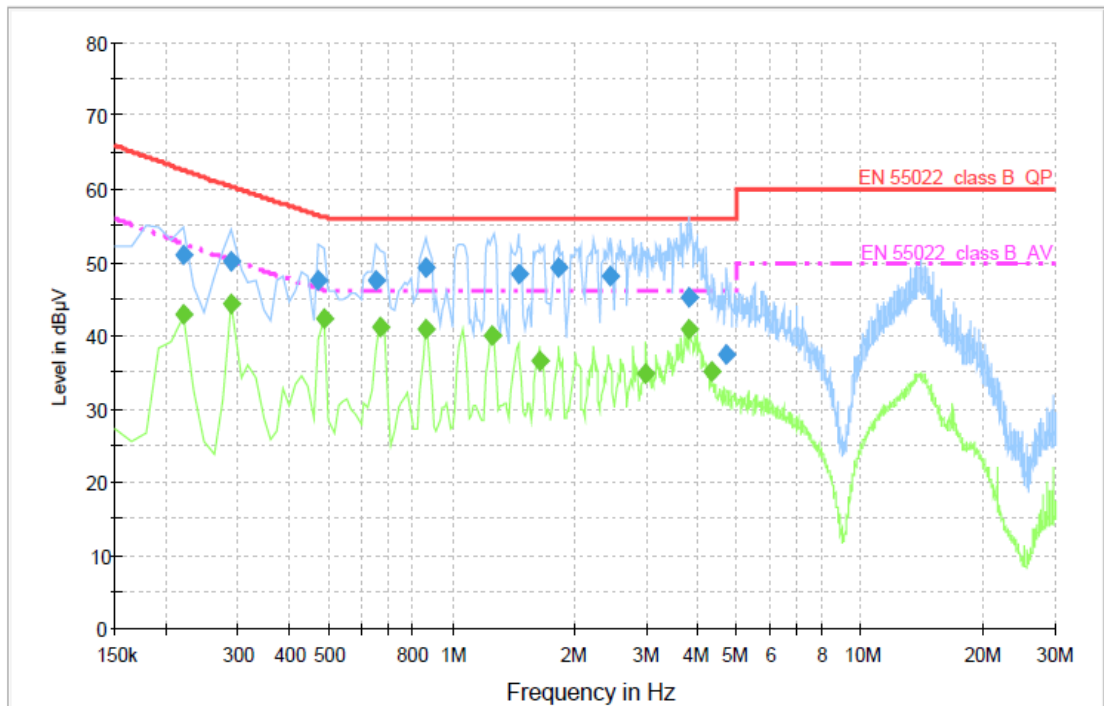
Frequency (MHz)	Average (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.220000	43.2	1000.000	9.000	GND	N	10.0	9.4	52.6	
0.290000	44.1	1000.000	9.000	GND	N	10.0	6.2	50.3	
0.486000	41.9	1000.000	9.000	GND	N	10.0	4.3	46.2	
0.668000	41.2	1000.000	9.000	GND	N	10.0	4.8	46.0	
0.864000	41.3	1000.000	9.000	GND	N	10.0	4.7	46.0	
1.256000	39.9	1000.000	9.000	GND	N	10.1	6.1	46.0	
2.012000	36.4	1000.000	9.000	GND	N	10.1	9.6	46.0	
2.796000	34.7	1000.000	9.000	GND	N	10.1	11.3	46.0	
3.846000	39.9	1000.000	9.000	GND	N	10.2	6.1	46.0	
4.294000	33.9	1000.000	9.000	GND	N	10.2	12.1	46.0	

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



◆ Operating condition: 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
0.220000	51.1	1000.000	9.000	GND	L1	10.0	11.5	62.6	
0.290000	50.2	1000.000	9.000	GND	L1	10.0	10.1	60.3	
0.472000	47.4	1000.000	9.000	GND	L1	10.0	9.0	56.4	
0.654000	47.6	1000.000	9.000	GND	L1	10.0	8.4	56.0	
0.864000	49.3	1000.000	9.000	GND	L1	10.0	6.7	56.0	
1.452000	48.5	1000.000	9.000	GND	L1	10.1	7.5	56.0	
1.830000	49.2	1000.000	9.000	GND	L1	10.1	6.8	56.0	
2.446000	48.2	1000.000	9.000	GND	L1	10.1	7.8	56.0	
3.804000	45.2	1000.000	9.000	GND	L1	10.2	10.8	56.0	
4.714000	37.4	1000.000	9.000	GND	L1	10.2	18.6	56.0	

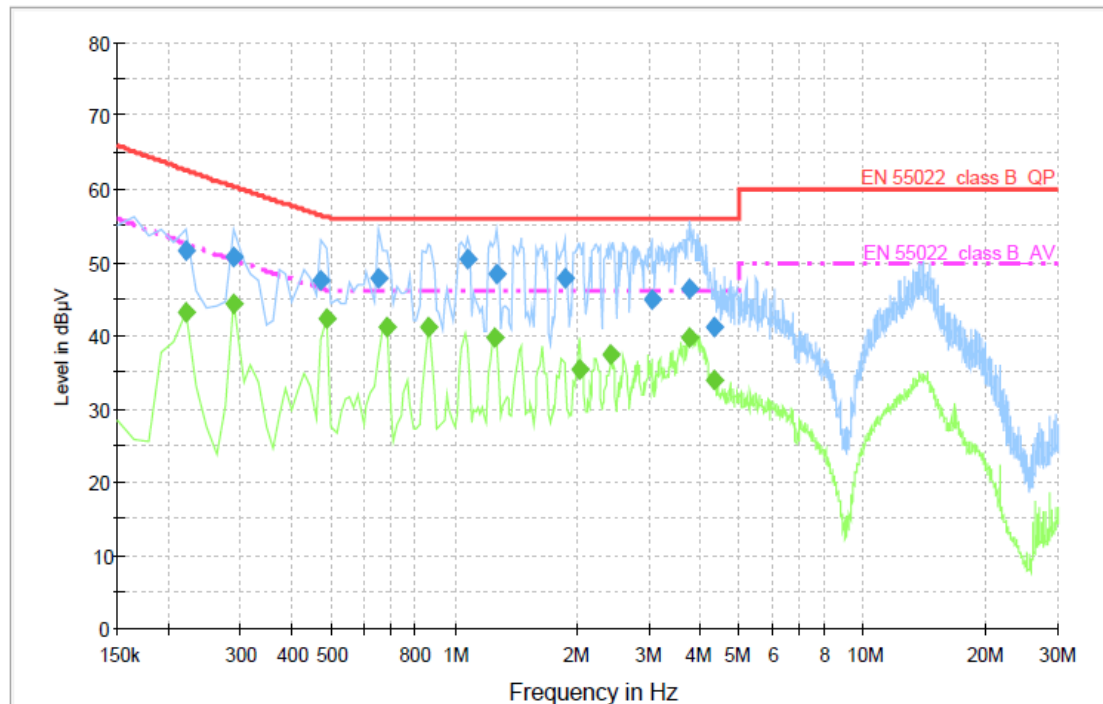
Final Measurement Detector 2

Frequency (MHz)	Average (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.220000	43.0	1000.000	9.000	GND	L1	10.0	9.6	52.6	
0.290000	44.3	1000.000	9.000	GND	L1	10.0	6.0	50.3	
0.486000	42.2	1000.000	9.000	GND	L1	10.0	4.0	46.2	
0.668000	41.2	1000.000	9.000	GND	L1	10.0	4.8	46.0	
0.864000	40.8	1000.000	9.000	GND	L1	10.0	5.2	46.0	
1.256000	40.0	1000.000	9.000	GND	L1	10.1	6.0	46.0	
1.634000	36.7	1000.000	9.000	GND	L1	10.1	9.3	46.0	
2.992000	34.8	1000.000	9.000	GND	L1	10.1	11.2	46.0	
3.804000	41.0	1000.000	9.000	GND	L1	10.2	5.0	46.0	
4.322000	35.0	1000.000	9.000	GND	L1	10.2	11.0	46.0	

< 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
0.220000	51.6	1000.000	9.000	GND	N	10.0	11.0	62.6	
0.290000	50.6	1000.000	9.000	GND	N	10.0	9.7	60.3	
0.472000	47.5	1000.000	9.000	GND	N	10.0	8.9	56.4	
0.654000	47.7	1000.000	9.000	GND	N	10.0	8.3	56.0	
1.074000	50.5	1000.000	9.000	GND	N	10.1	5.5	56.0	
1.270000	48.3	1000.000	9.000	GND	N	10.1	7.7	56.0	
1.858000	47.8	1000.000	9.000	GND	N	10.1	8.2	56.0	
3.048000	44.9	1000.000	9.000	GND	N	10.1	11.1	56.0	
3.776000	46.5	1000.000	9.000	GND	N	10.2	9.5	56.0	
4.322000	41.1	1000.000	9.000	GND	N	10.2	14.9	56.0	

Final Measurement Detector 2

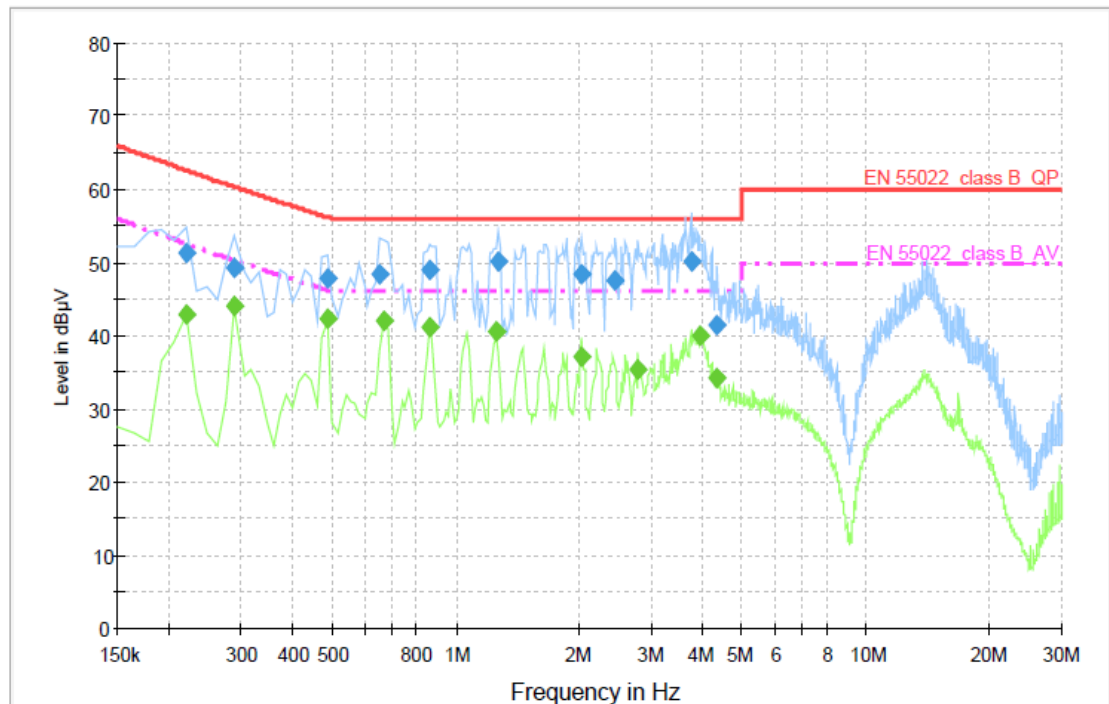
Frequency (MHz)	Average (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.220000	43.2	1000.000	9.000	GND	N	10.0	9.4	52.6	
0.290000	44.3	1000.000	9.000	GND	N	10.0	6.0	50.3	
0.486000	42.2	1000.000	9.000	GND	N	10.0	4.0	46.2	
0.682000	41.0	1000.000	9.000	GND	N	10.0	5.0	46.0	
0.864000	41.1	1000.000	9.000	GND	N	10.0	4.9	46.0	
1.256000	39.7	1000.000	9.000	GND	N	10.1	6.3	46.0	
2.026000	35.3	1000.000	9.000	GND	N	10.1	10.7	46.0	
2.418000	37.4	1000.000	9.000	GND	N	10.1	8.6	46.0	
3.776000	39.8	1000.000	9.000	GND	N	10.2	6.2	46.0	
4.322000	34.0	1000.000	9.000	GND	N	10.2	12.0	46.0	

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



◆ Operating condition: 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
0.220000	51.4	1000.000	9.000	GND	L1	10.0	11.2	62.6	
0.290000	49.4	1000.000	9.000	GND	L1	10.0	10.9	60.3	
0.486000	47.9	1000.000	9.000	GND	L1	10.0	8.3	56.2	
0.654000	48.4	1000.000	9.000	GND	L1	10.0	7.6	56.0	
0.864000	49.0	1000.000	9.000	GND	L1	10.0	7.0	56.0	
1.270000	50.1	1000.000	9.000	GND	L1	10.1	5.9	56.0	
2.026000	48.5	1000.000	9.000	GND	L1	10.1	7.5	56.0	
2.446000	47.5	1000.000	9.000	GND	L1	10.1	8.5	56.0	
3.748000	50.2	1000.000	9.000	GND	L1	10.2	5.8	56.0	
4.336000	41.3	1000.000	9.000	GND	L1	10.2	14.7	56.0	

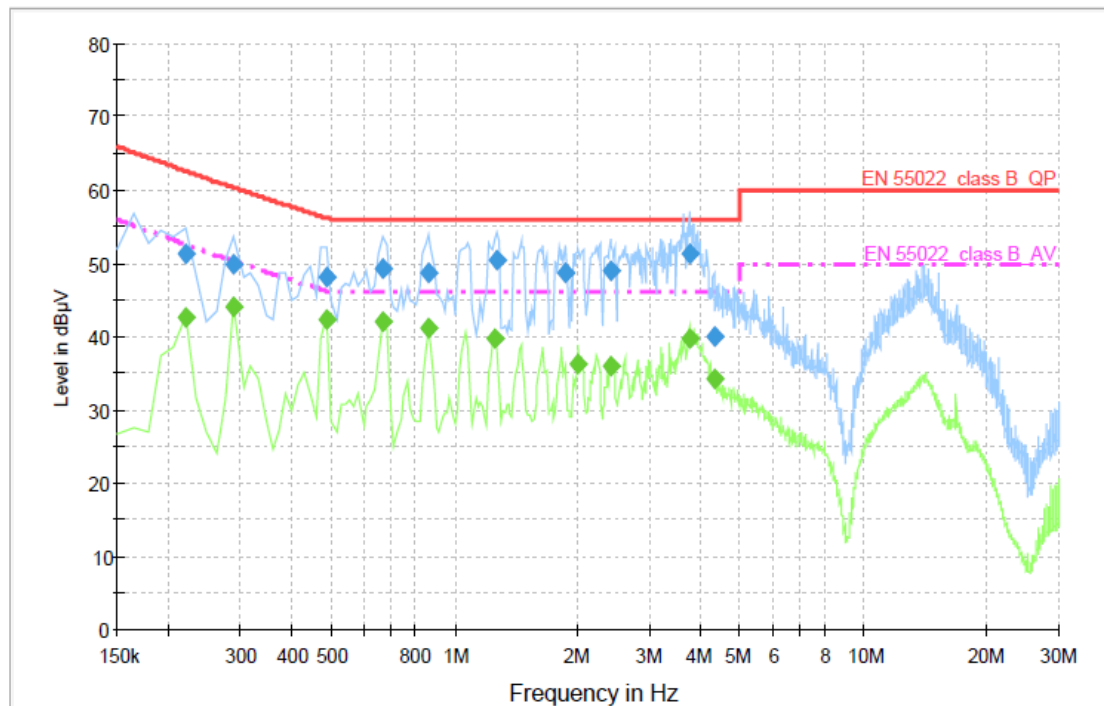
Final Measurement Detector 2

Frequency (MHz)	Average (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.220000	43.0	1000.000	9.000	GND	L1	10.0	9.6	52.6	
0.290000	43.9	1000.000	9.000	GND	L1	10.0	6.4	50.3	
0.486000	42.2	1000.000	9.000	GND	L1	10.0	4.0	46.2	
0.668000	42.0	1000.000	9.000	GND	L1	10.0	4.0	46.0	
0.864000	41.1	1000.000	9.000	GND	L1	10.0	4.9	46.0	
1.256000	40.6	1000.000	9.000	GND	L1	10.1	5.4	46.0	
2.026000	37.0	1000.000	9.000	GND	L1	10.1	9.0	46.0	
2.782000	35.4	1000.000	9.000	GND	L1	10.1	10.6	46.0	
3.930000	40.1	1000.000	9.000	GND	L1	10.2	5.9	46.0	
4.308000	34.1	1000.000	9.000	GND	L1	10.2	11.9	46.0	

< 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
0.220000	51.3	1000.000	9.000	GND	N	10.0	11.3	62.6	
0.290000	49.9	1000.000	9.000	GND	N	10.0	10.4	60.3	
0.486000	48.2	1000.000	9.000	GND	N	10.0	8.0	56.2	
0.668000	49.3	1000.000	9.000	GND	N	10.0	6.8	56.0	
0.864000	48.8	1000.000	9.000	GND	N	10.0	7.2	56.0	
1.270000	50.5	1000.000	9.000	GND	N	10.1	5.5	56.0	
1.858000	48.7	1000.000	9.000	GND	N	10.1	7.3	56.0	
2.404000	49.0	1000.000	9.000	GND	N	10.1	7.0	56.0	
3.748000	51.2	1000.000	9.000	GND	N	10.2	4.8	56.0	
4.308000	39.9	1000.000	9.000	GND	N	10.2	16.1	56.0	

Final Measurement Detector 2

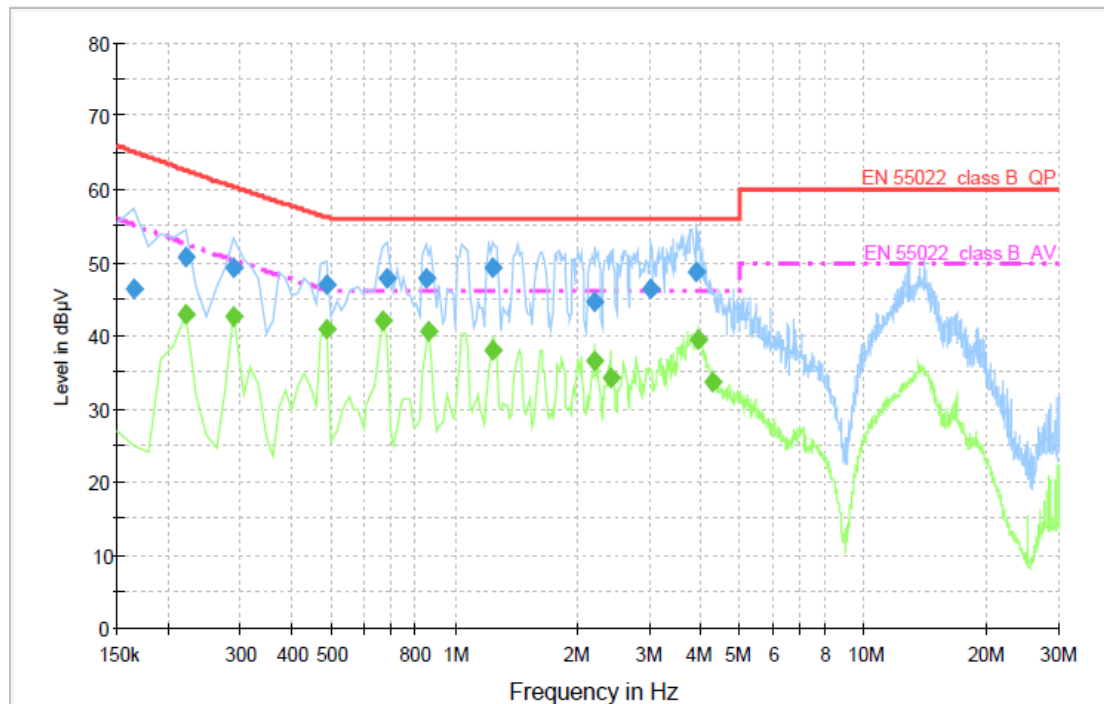
Frequency (MHz)	Average (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.220000	42.7	1000.000	9.000	GND	N	10.0	9.9	52.6	
0.290000	44.0	1000.000	9.000	GND	N	10.0	6.3	50.3	
0.486000	42.3	1000.000	9.000	GND	N	10.0	4.0	46.2	
0.668000	42.0	1000.000	9.000	GND	N	10.0	4.0	46.0	
0.864000	41.1	1000.000	9.000	GND	N	10.0	4.9	46.0	
1.256000	39.9	1000.000	9.000	GND	N	10.1	6.1	46.0	
2.012000	36.3	1000.000	9.000	GND	N	10.1	9.7	46.0	
2.404000	35.9	1000.000	9.000	GND	N	10.1	10.1	46.0	
3.748000	39.8	1000.000	9.000	GND	N	10.2	6.2	46.0	
4.322000	34.2	1000.000	9.000	GND	N	10.2	11.8	46.0	

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



◆ Operating condition: 1 680 × 1 050 / 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
0.164000	46.3	1000.000	9.000	GND	L1	10.0	18.9	65.2	
0.220000	50.8	1000.000	9.000	GND	L1	10.0	11.8	62.6	
0.290000	49.4	1000.000	9.000	GND	L1	10.0	10.9	60.3	
0.486000	47.0	1000.000	9.000	GND	L1	10.0	9.2	56.2	
0.682000	47.9	1000.000	9.000	GND	L1	10.0	8.1	56.0	
0.850000	47.8	1000.000	9.000	GND	L1	10.0	8.2	56.0	
1.242000	49.2	1000.000	9.000	GND	L1	10.1	6.8	56.0	
2.208000	44.6	1000.000	9.000	GND	L1	10.1	11.4	56.0	
3.020000	46.4	1000.000	9.000	GND	L1	10.1	9.6	56.0	
3.902000	48.6	1000.000	9.000	GND	L1	10.2	7.4	56.0	

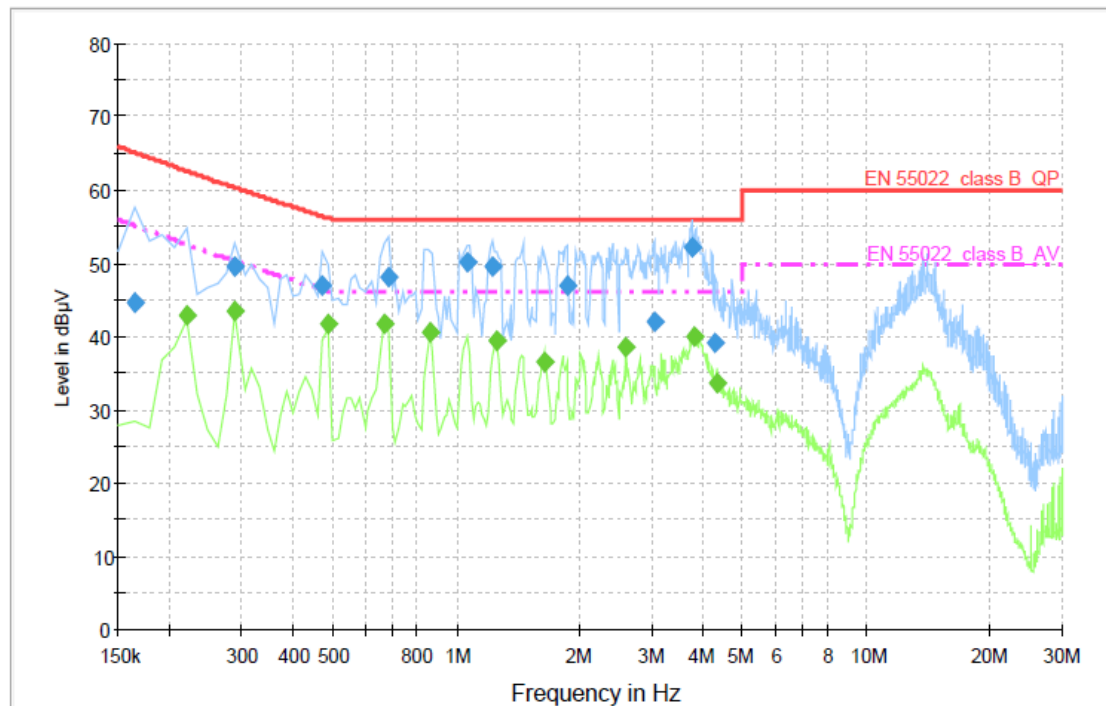
Final Measurement Detector 2

Frequency (MHz)	Average (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.220000	42.8	1000.000	9.000	GND	L1	10.0	9.8	52.6	
0.290000	42.7	1000.000	9.000	GND	L1	10.0	7.6	50.3	
0.486000	40.8	1000.000	9.000	GND	L1	10.0	5.4	46.2	
0.668000	42.0	1000.000	9.000	GND	L1	10.0	4.0	46.0	
0.864000	40.6	1000.000	9.000	GND	L1	10.0	5.4	46.0	
1.242000	38.0	1000.000	9.000	GND	L1	10.1	8.0	46.0	
2.208000	36.4	1000.000	9.000	GND	L1	10.1	9.6	46.0	
2.404000	34.2	1000.000	9.000	GND	L1	10.1	11.8	46.0	
3.916000	39.6	1000.000	9.000	GND	L1	10.2	6.4	46.0	
4.294000	33.7	1000.000	9.000	GND	L1	10.2	12.3	46.0	

< 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	44.7	1000.000	9.000	GND	N	10.0	20.5	65.2	
0.290000	49.5	1000.000	9.000	GND	N	10.0	10.8	60.3	
0.472000	47.0	1000.000	9.000	GND	N	10.0	9.4	56.4	
0.682000	48.3	1000.000	9.000	GND	N	10.0	7.8	56.0	
1.060000	50.1	1000.000	9.000	GND	N	10.1	5.9	56.0	
1.228000	49.6	1000.000	9.000	GND	N	10.1	6.4	56.0	
1.858000	46.9	1000.000	9.000	GND	N	10.1	9.1	56.0	
3.034000	42.1	1000.000	9.000	GND	N	10.1	13.9	56.0	
3.748000	52.2	1000.000	9.000	GND	N	10.2	4.0	56.0	
4.294000	39.3	1000.000	9.000	GND	N	10.2	16.7	56.0	

Final Measurement Detector 2

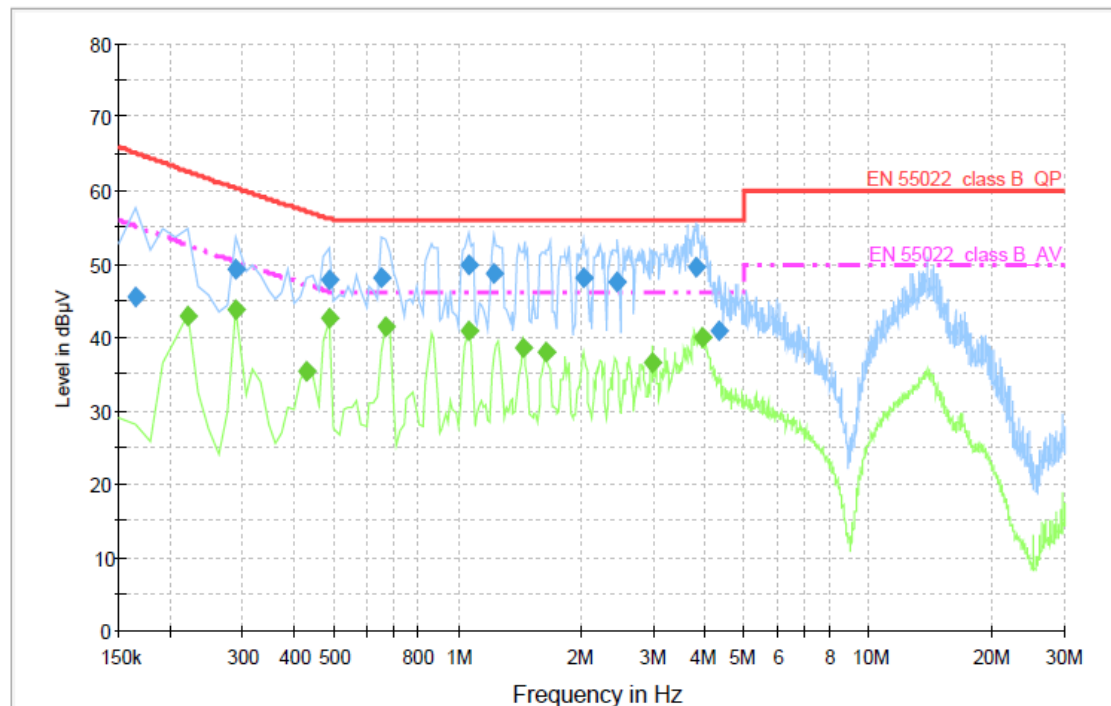
Frequency (MHz)	Average (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.220000	42.8	1000.000	9.000	GND	N	10.0	9.8	52.6	
0.290000	43.5	1000.000	9.000	GND	N	10.0	6.8	50.3	
0.486000	41.6	1000.000	9.000	GND	N	10.0	4.6	46.2	
0.668000	41.7	1000.000	9.000	GND	N	10.0	4.3	46.0	
0.864000	40.5	1000.000	9.000	GND	N	10.0	5.5	46.0	
1.256000	39.3	1000.000	9.000	GND	N	10.1	6.7	46.0	
1.634000	36.6	1000.000	9.000	GND	N	10.1	9.4	46.0	
2.600000	38.7	1000.000	9.000	GND	N	10.1	7.3	46.0	
3.790000	39.9	1000.000	9.000	GND	N	10.2	6.1	46.0	
4.308000	33.6	1000.000	9.000	GND	N	10.2	12.4	46.0	

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



◆ Operating condition: USB memory stick 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
0.164000	45.4	1000.000	9.000	GND	L1	10.0	19.8	65.2	
0.290000	49.3	1000.000	9.000	GND	L1	10.0	11.0	60.3	
0.486000	47.9	1000.000	9.000	GND	L1	10.0	8.3	56.2	
0.654000	48.2	1000.000	9.000	GND	L1	10.0	7.8	56.0	
1.060000	49.7	1000.000	9.000	GND	L1	10.0	6.3	56.0	
1.228000	48.7	1000.000	9.000	GND	L1	10.1	7.3	56.0	
2.026000	48.2	1000.000	9.000	GND	L1	10.1	7.8	56.0	
2.446000	47.5	1000.000	9.000	GND	L1	10.1	8.5	56.0	
3.818000	49.6	1000.000	9.000	GND	L1	10.2	6.4	56.0	
4.308000	40.9	1000.000	9.000	GND	L1	10.2	15.1	56.0	

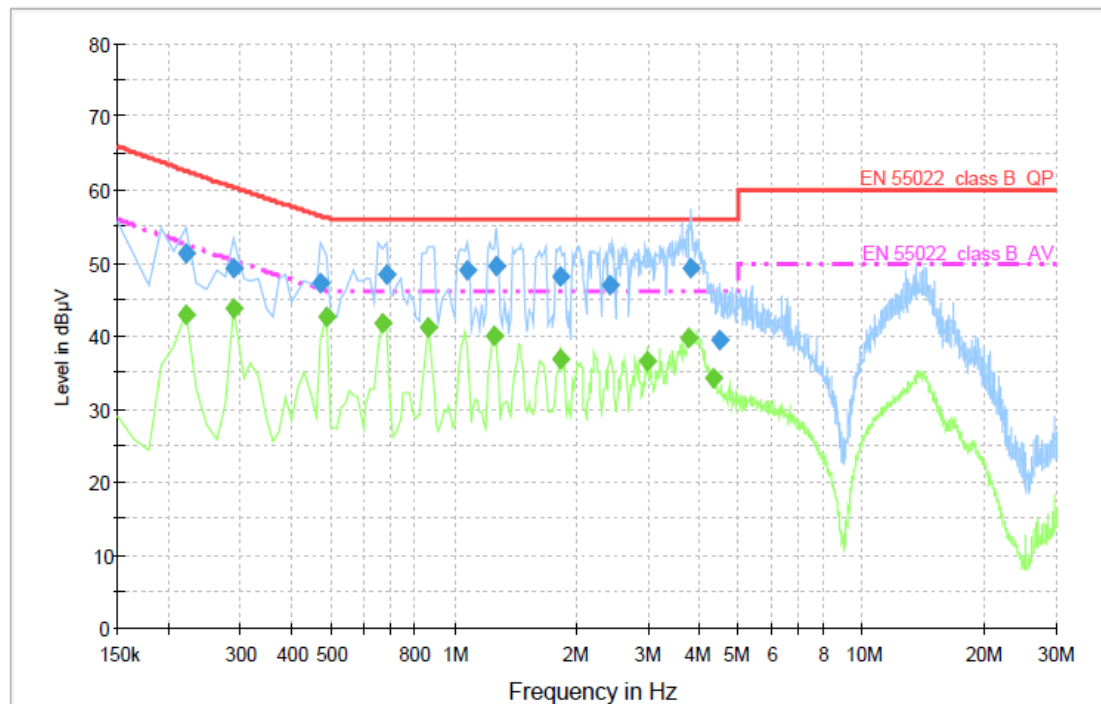
Final Measurement Detector 2

Frequency (MHz)	Average (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.220000	43.0	1000.000	9.000	GND	L1	10.0	9.6	52.6	
0.290000	43.8	1000.000	9.000	GND	L1	10.0	6.5	50.3	
0.430000	35.3	1000.000	9.000	GND	L1	10.0	11.8	47.1	
0.486000	42.2	1000.000	9.000	GND	L1	10.0	4.0	46.2	
0.668000	41.4	1000.000	9.000	GND	L1	10.0	4.6	46.0	
1.060000	40.8	1000.000	9.000	GND	L1	10.0	5.2	46.0	
1.438000	38.6	1000.000	9.000	GND	L1	10.1	7.4	46.0	
1.634000	37.8	1000.000	9.000	GND	L1	10.1	8.2	46.0	
2.992000	36.6	1000.000	9.000	GND	L1	10.1	9.4	46.0	
3.930000	39.9	1000.000	9.000	GND	L1	10.2	6.1	46.0	

< 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
0.220000	51.2	1000.000	9.000	GND	N	10.0	11.4	62.6	
0.290000	49.4	1000.000	9.000	GND	N	10.0	10.9	60.3	
0.472000	47.2	1000.000	9.000	GND	N	10.0	9.2	56.4	
0.682000	48.5	1000.000	9.000	GND	N	10.0	7.5	56.0	
1.074000	49.1	1000.000	9.000	GND	N	10.1	6.9	56.0	
1.270000	49.5	1000.000	9.000	GND	N	10.1	6.5	56.0	
1.816000	48.0	1000.000	9.000	GND	N	10.1	8.0	56.0	
2.404000	46.9	1000.000	9.000	GND	N	10.1	9.1	56.0	
3.818000	49.3	1000.000	9.000	GND	N	10.2	6.7	56.0	
4.476000	39.4	1000.000	9.000	GND	N	10.2	16.6	56.0	

Final Measurement Detector 2

Frequency (MHz)	Average (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.220000	43.0	1000.000	9.000	GND	N	10.0	9.6	52.6	
0.290000	43.7	1000.000	9.000	GND	N	10.0	6.6	50.3	
0.486000	42.2	1000.000	9.000	GND	N	10.0	4.0	46.2	
0.668000	41.6	1000.000	9.000	GND	N	10.0	4.4	46.0	
0.864000	41.1	1000.000	9.000	GND	N	10.0	4.9	46.0	
1.256000	40.0	1000.000	9.000	GND	N	10.1	6.0	46.0	
1.830000	36.9	1000.000	9.000	GND	N	10.1	9.1	46.0	
2.992000	36.4	1000.000	9.000	GND	N	10.1	9.6	46.0	
3.776000	39.8	1000.000	9.000	GND	N	10.2	6.2	46.0	
4.308000	34.2	1000.000	9.000	GND	N	10.2	11.8	46.0	

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



6. Radiated Emission

6.1 Operating Environment

Temperature : 25 °C
Relative Humidity : 48 % 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(Chamber)	Uncertainty	Remark
Radiated emission (30 MHz ~ 300 MHz, 3 m, Vertical)	± 4.32 dB	Confidence levels of 95 % ($k = 2$)
Radiated emission (30 MHz ~ 300 MHz, 3 m, Horizontal)	± 4.21 dB	Confidence levels of 95 % ($k = 2$)
Radiated emission (300 MHz ~ 1 000 MHz, 3 m, Vertical)	± 3.96 dB	Confidence levels of 95 % ($k = 2$)
Radiated emission (300 MHz ~ 1 000 MHz, 3 m, Horizontal)	± 3.97 dB	Confidence levels of 95 % ($k = 2$)



6.4 Limit

Frequency (MHz)	FCC Limit @ 3 m. dB μ V/m	CISPR Limit @ 10 m. dB μ 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

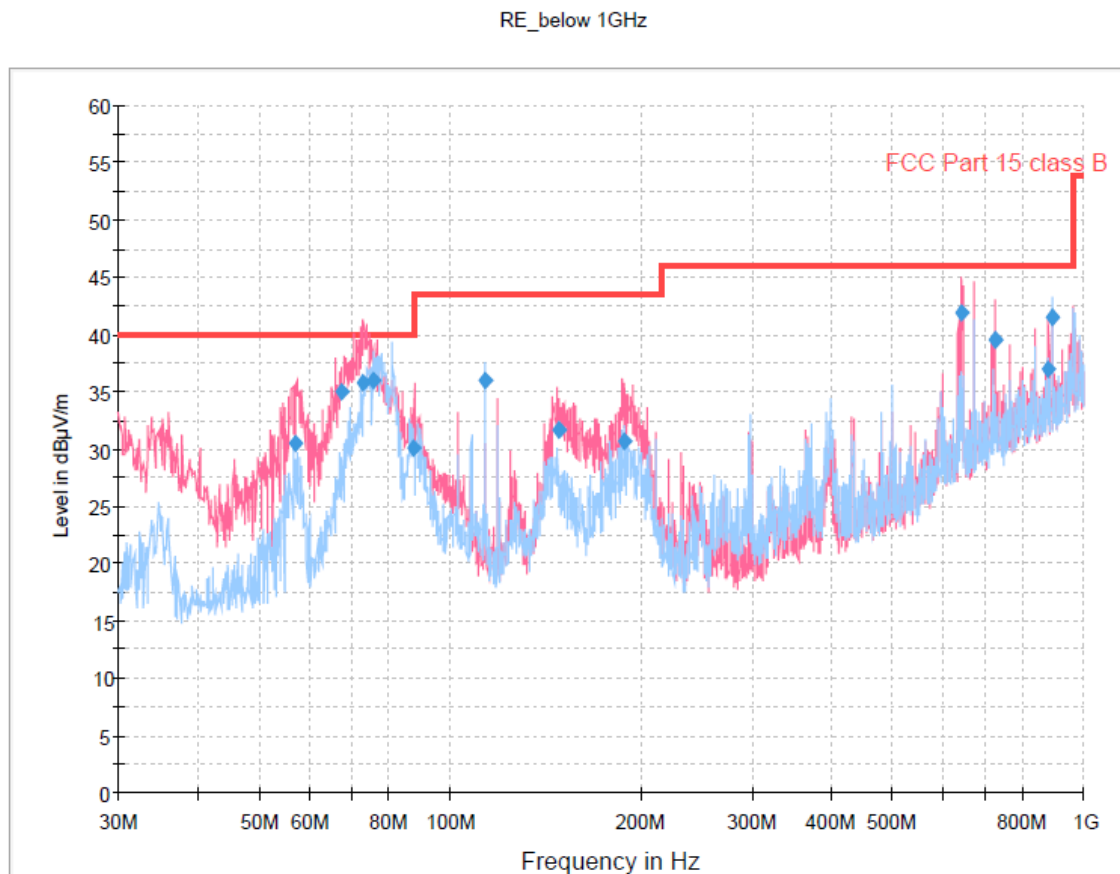
Model Name	Manufacturer	Description	Serial Number	Due to Calibration
■ - ESIB26	Rohde & Schwarz	EMI Test Receiver	830482/010	12. 11. 2010
■ - VULB9160	Schwarzbeck	Broadband Test Antenna	3099	07. 21. 2011
■ - BBHA9120D	Schwarzbeck	Horn ANT	207	12. 22. 2011
■ - MCU066	maturo GmbH	Position Controller	1390306	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 : August 19, 2010
- 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: 1 680 × 1 050 / 60 Hz (RGB: Analog)
Red trace: Vertical polarization, Blue trace: Horizontal polarization



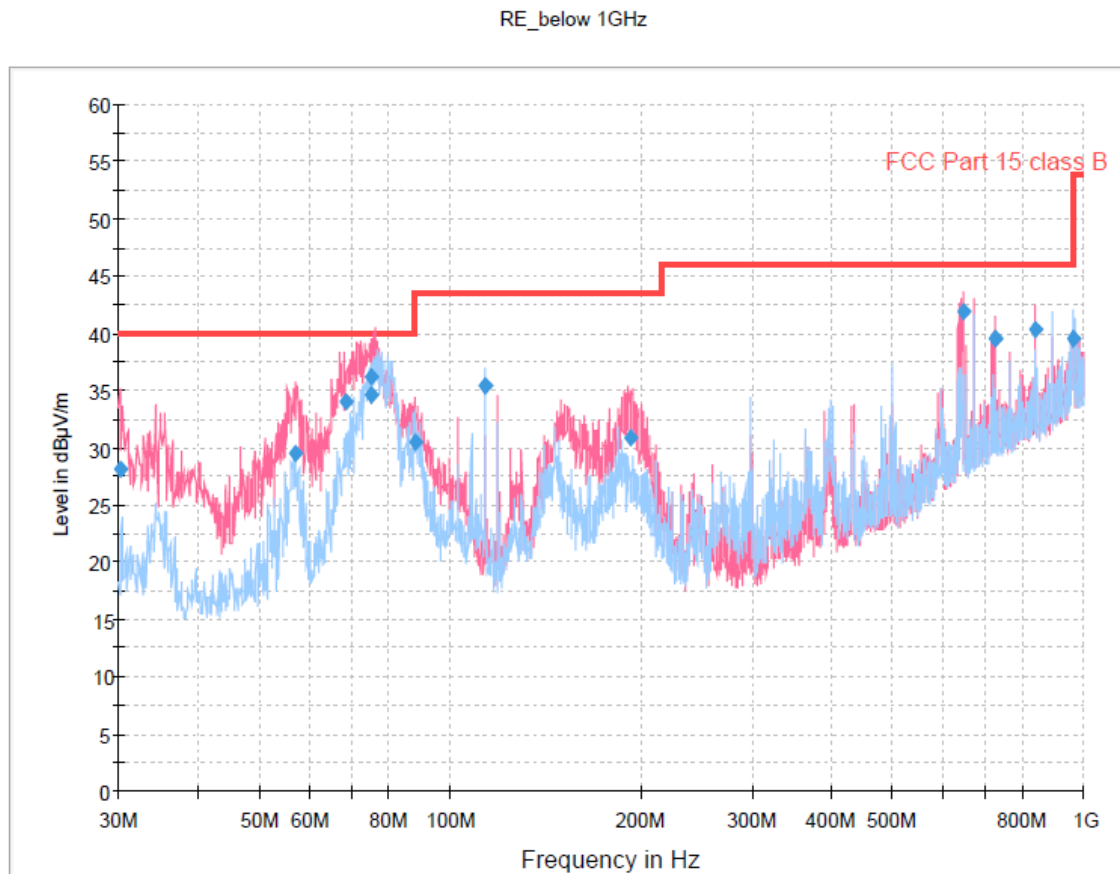
Final Result [1]

Frequency (MHz)	QuasiPeak (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
57.262500	30.4	1000.0	120.000	100.0	V	0.0	13.5	9.58	40.00
67.552500	34.9	1000.0	120.000	100.0	V	39.0	12.1	5.08	40.00
72.905000	35.8	1000.0	120.000	100.0	V	0.0	11.1	4.20	40.00
75.821250	36.0	1000.0	120.000	100.0	V	25.0	10.5	4.00	40.00
87.818750	30.1	1000.0	120.000	200.0	V	0.0	9.9	9.90	40.00
113.641250	36.0	1000.0	120.000	200.0	H	210.0	12.8	7.50	43.50
148.152500	31.7	1000.0	120.000	100.0	V	122.0	15.1	11.83	43.50
188.365000	30.7	1000.0	120.000	100.0	V	88.0	13.5	12.81	43.50
643.547500	42.0	1000.0	120.000	100.0	V	39.0	26.6	4.00	46.00
726.117500	39.6	1000.0	120.000	100.0	V	25.0	28.4	6.43	46.00
880.876250	37.0	1000.0	120.000	100.0	V	39.0	31.0	9.01	46.00
890.977500	41.5	1000.0	120.000	200.0	H	233.0	31.1	4.50	46.00

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



- ◆ Operating Condition: 1 680 × 1 050 / 60 Hz (HDMI/DVI: Digital)
Red trace: Vertical polarization, Blue trace: Horizontal polarization



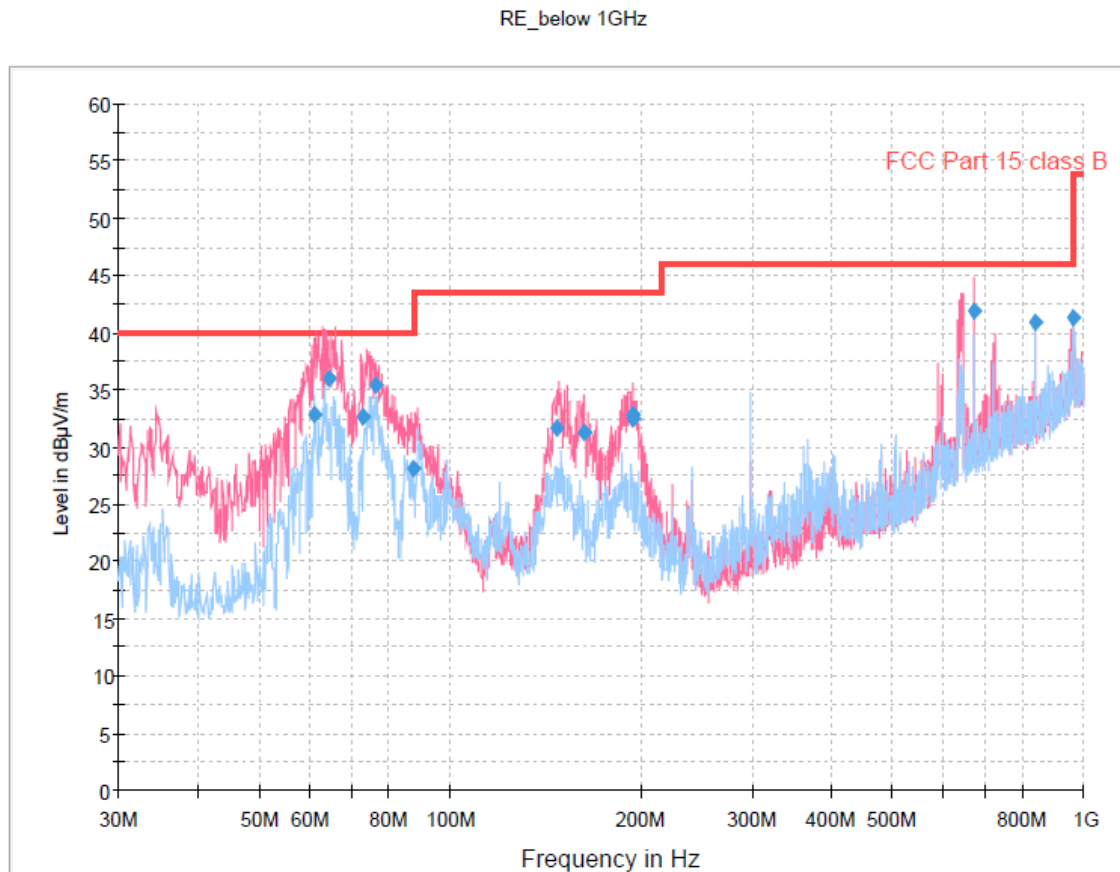
Final Result [1]

Frequency (MHz)	QuasiPeak (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
30.200000	28.2	1000.0	120.000	100.0	V	138.0	12.9	11.84	40.00
57.138750	29.4	1000.0	120.000	100.0	V	350.0	13.5	10.57	40.00
68.483750	34.1	1000.0	120.000	100.0	V	63.0	11.9	5.91	40.00
75.135000	36.0	1000.0	120.000	100.0	V	25.0	10.6	4.00	40.00
75.302500	34.7	1000.0	120.000	100.0	V	75.0	10.6	5.30	40.00
88.618750	30.4	1000.0	120.000	100.0	V	0.0	10.0	13.07	43.50
113.602500	35.5	1000.0	120.000	200.0	H	238.0	12.8	8.00	43.50
192.685000	30.9	1000.0	120.000	100.0	V	126.0	13.0	12.56	43.50
646.051250	42.0	1000.0	120.000	100.0	V	38.0	26.7	4.00	46.00
726.162500	39.5	1000.0	120.000	100.0	V	25.0	28.4	6.50	46.00
840.052500	40.4	1000.0	120.000	100.0	V	51.0	30.4	5.65	46.00
965.461250	39.5	1000.0	120.000	100.0	H	221.0	32.8	6.52	46.00

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



- ◆ Operating Condition: USB memory stick play mode
Red trace: Vertical polarization, Blue trace: Horizontal polarization



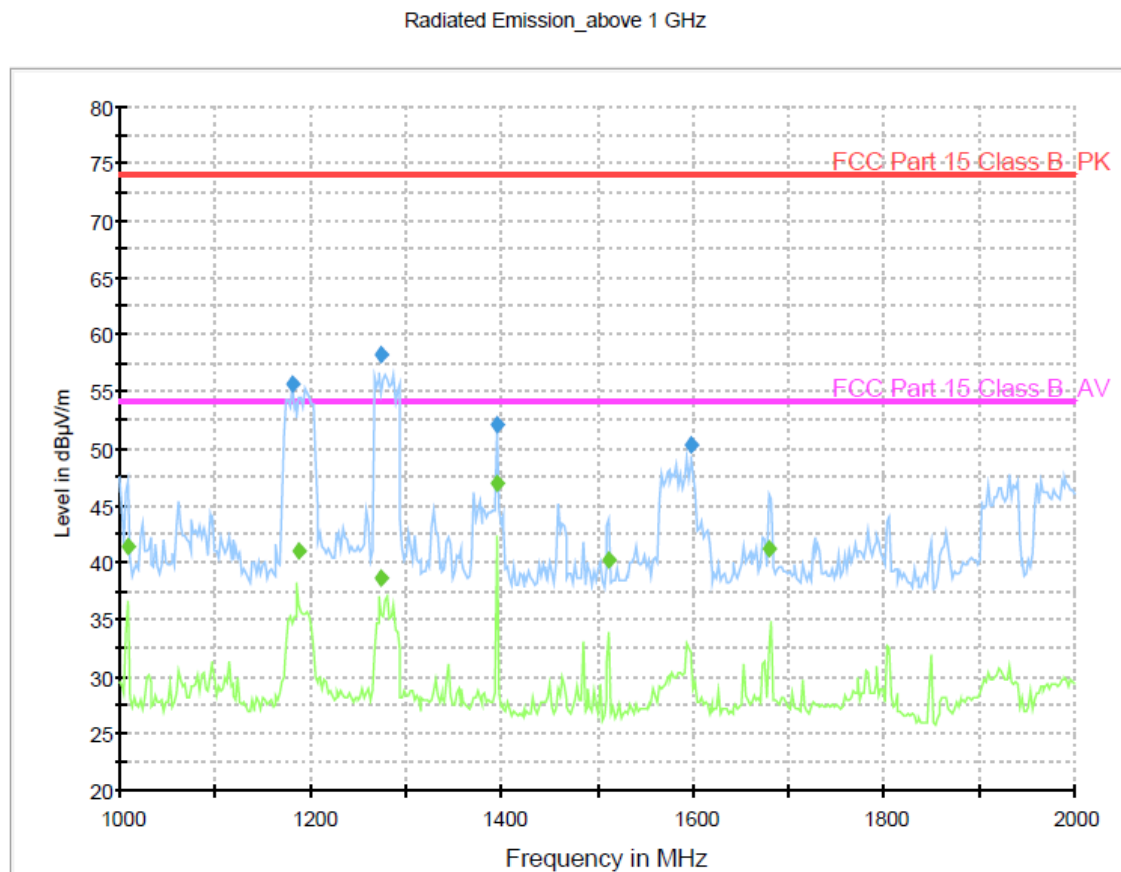
Final Result [1]

Frequency (MHz)	QuasiPeak (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
61.327500	32.8	1000.0	120.000	100.0	V	59.0	13.2	7.24	40.00
64.281250	36.0	1000.0	120.000	100.0	V	20.0	12.7	4.00	40.00
73.155000	32.7	1000.0	120.000	100.0	V	7.0	11.0	7.31	40.00
76.060000	35.4	1000.0	120.000	100.0	V	107.0	10.4	4.62	40.00
87.748750	28.1	1000.0	120.000	100.0	V	313.0	9.9	11.86	40.00
147.320000	31.7	1000.0	120.000	100.0	V	129.0	15.1	11.85	43.50
162.825000	31.2	1000.0	120.000	100.0	V	83.0	15.2	12.32	43.50
194.005000	32.8	1000.0	120.000	100.0	V	59.0	12.8	10.73	43.50
194.070000	32.5	1000.0	120.000	100.0	V	71.0	12.8	11.02	43.50
672.040000	42.0	1000.0	120.000	100.0	V	20.0	27.1	4.00	46.00
840.052500	40.9	1000.0	120.000	100.0	V	20.0	30.4	5.06	46.00
960.008750	41.3	1000.0	120.000	100.0	V	186.0	32.8	4.74	46.00

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



- ◆ Operating Condition: 1 680 × 1 050 / 60 Hz (RGB: Analog)
Green trace: Average detector, Blue trace: Peak detector



Final Result 1

Frequency (MHz)	MaxPeak (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
1181.760722	55.7	100.0	1000.000	100.0	V	204.0	-15.1	18.3	74.0
1272.745090	58.2	100.0	1000.000	208.0	V	68.0	-14.5	15.8	74.0
1394.989579	52.2	100.0	1000.000	100.0	H	149.0	-14.5	21.8	74.0
1597.798397	50.3	100.0	1000.000	199.0	V	0.0	-13.7	23.7	74.0

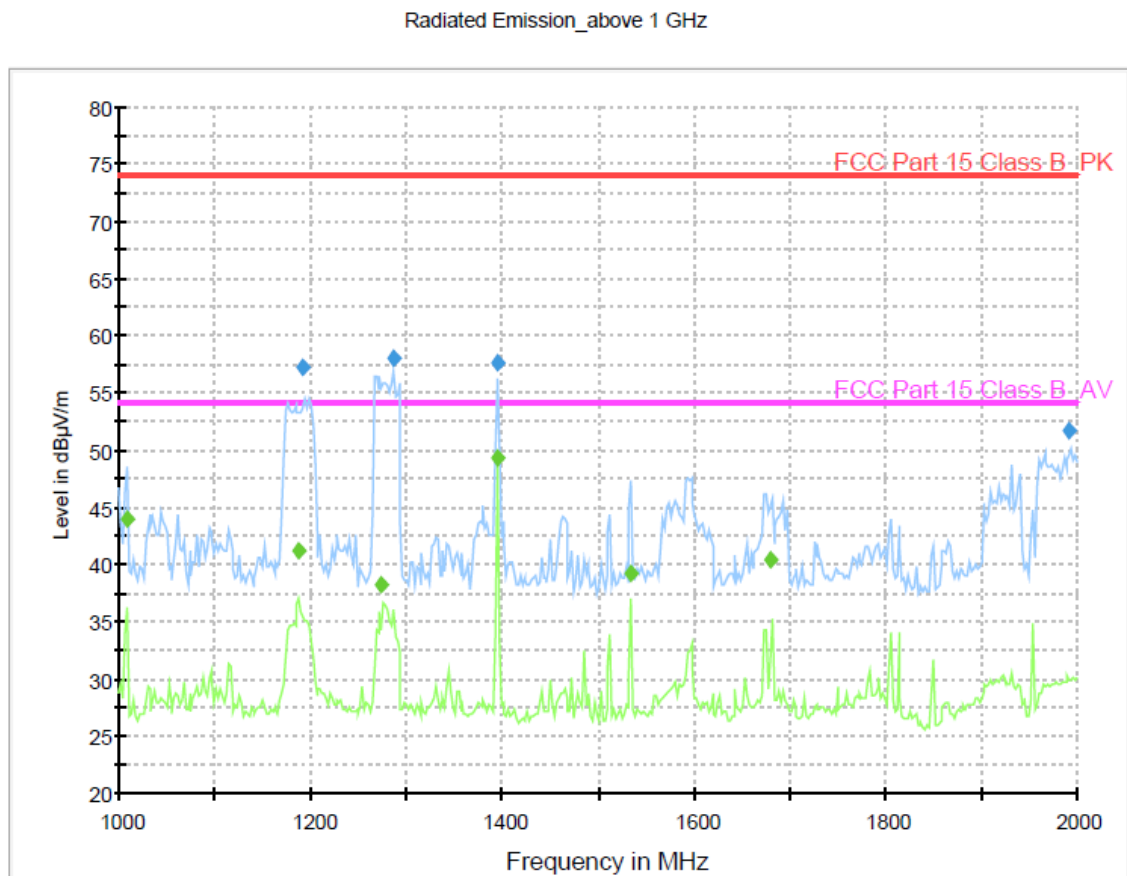
Final Result 2

Frequency (MHz)	Average (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
1008.216032	41.4	100.0	1000.000	100.0	H	122.0	-15.9	12.6	54.0
1188.172746	41.0	100.0	1000.000	100.0	V	315.0	-15.1	13.0	54.0
1273.145090	38.6	100.0	1000.000	100.0	V	4.0	-14.5	15.4	54.0
1394.989579	46.9	100.0	1000.000	100.0	H	149.0	-14.5	7.1	54.0
1512.026052	40.2	100.0	1000.000	100.0	V	23.0	-14.2	13.8	54.0
1679.962725	41.2	100.0	1000.000	100.0	H	37.0	-13.6	12.8	54.0

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



- ◆ Operating Condition: 1 680 × 1 050 / 60 Hz (HDMI/DVI: Digital)
Green trace: Average detector, Blue trace: Peak detector



Final Result 1

Frequency (MHz)	MaxPeak (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
1192.588778	57.2	100.0	1000.000	100.0	V	212.0	-15.1	16.8	74.0
1286.773146	58.0	100.0	1000.000	100.0	V	0.0	-14.4	16.0	74.0
1394.989579	57.7	100.0	1000.000	100.0	H	138.0	-14.5	16.3	74.0
1991.387976	51.7	100.0	1000.000	189.0	V	24.0	-12.8	22.3	74.0

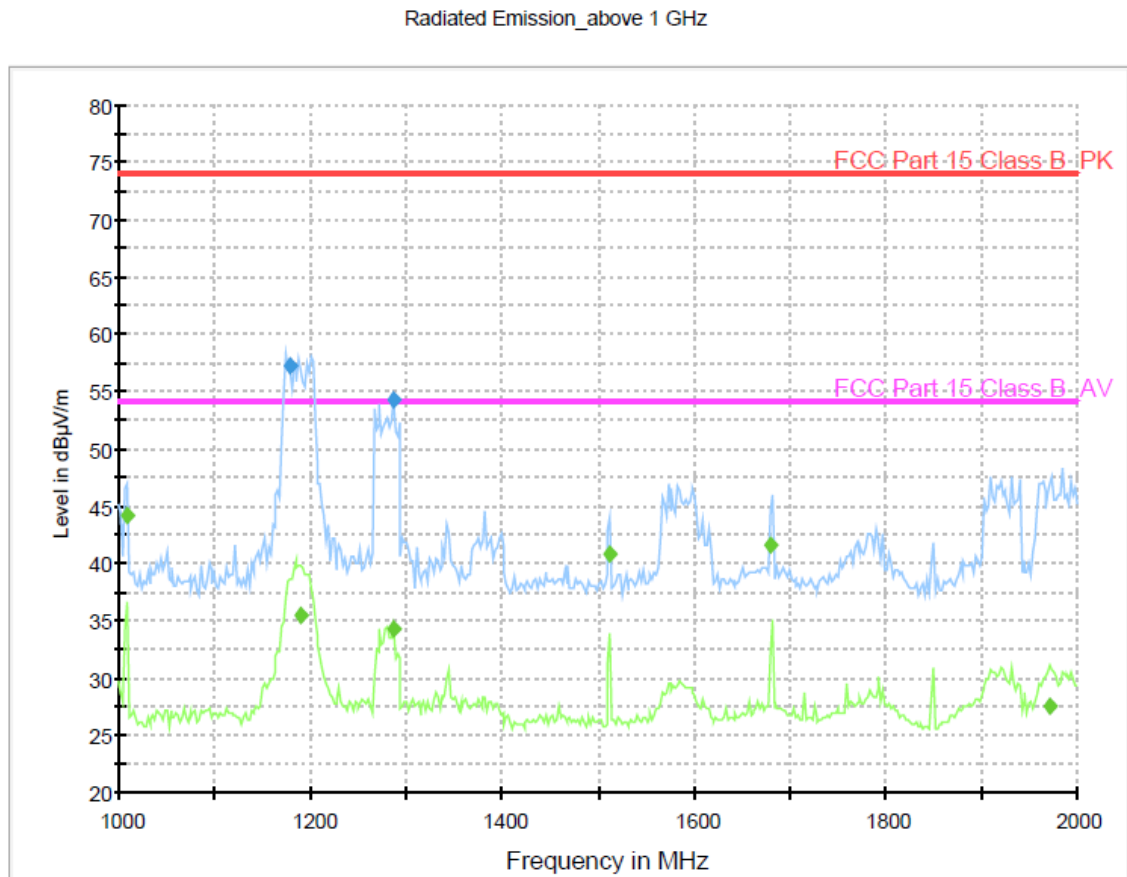
Final Result 2

Frequency (MHz)	Average (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
1008.216032	44.0	100.0	1000.000	100.0	H	131.0	-15.9	10.0	54.0
1188.176754	41.2	100.0	1000.000	183.0	V	0.0	-15.1	12.8	54.0
1273.153106	38.2	100.0	1000.000	100.0	V	4.0	-14.5	15.8	54.0
1394.989579	49.4	100.0	1000.000	100.0	H	138.0	-14.5	4.6	54.0
1534.470140	39.2	100.0	1000.000	100.0	V	118.0	-14.0	14.8	54.0
1679.962725	40.3	100.0	1000.000	100.0	H	42.0	-13.6	13.7	54.0

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



- ◆ Operating Condition: USB memory stick play mode
Green trace: Average detector, Blue trace: Peak detector



Final Result 1

Frequency (MHz)	MaxPeak (dB μ V/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB μ V/m)
1178.948697	57.3	100.0	1000.000	170.0	V	197.0	-15.1	16.7	74.0
1287.173146	54.2	100.0	1000.000	100.0	V	359.0	-14.4	19.8	74.0

Final Result 2

Frequency (MHz)	Average (dB μ V/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB μ V/m)
1008.216032	44.2	100.0	1000.000	100.0	H	129.0	-15.9	9.8	54.0
1188.968738	35.5	100.0	1000.000	100.0	V	204.0	-15.1	18.5	54.0
1287.173146	34.3	100.0	1000.000	100.0	V	359.0	-14.4	19.7	54.0
1512.026052	40.9	100.0	1000.000	100.0	V	23.0	-14.2	13.1	54.0
1679.962725	41.6	100.0	1000.000	100.0	V	350.0	-13.6	12.4	54.0
1970.943888	27.5	100.0	1000.000	256.0	V	57.0	-12.8	26.5	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

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

7.2 Example 2 :

■ 66.7 MHz

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



8. Recommendation & Conclusion

The data collected shows that the **LG Electronics Inc. DLP PROJECTOR (Model Name: HX350T-JE)** was complies with §15.107 and 15.109 of the FCC Rules.