

EMC TEST REPORT

Samsung Electronics Co., Ltd.

416 Maetan 3-Dong, Yeongtong-Gu,
Suwon-Si, Gyeonggi-Do, 443-742 Korea
(Tel: 031 277 7752, Fax: 031 277 7753)

Project No. : LBE060302
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**1. Applicant**

- Name of organization : Samsung Electronics Co., Ltd.
- Address : 416 Maetan 3-Dong, Yeongtong-Gu, Suwon-Si,
Gyeonggi-Do, 443-742 Korea
- Date of application : 2006. 01. 13

2. Purpose for the report : Approval for EMC

3. Kind of product : Digital Camcorder (Model name : SC-X210L)

4. Date of test : 2006.01. 20 ~ 2006.01.26

5. Applied standard : FCC Part 15:2003 Subpart B

6. Test result : **PASS**

The equipment under test has found to be compliant with the applied standards.

(Refer to the attached test result for more detail.)

7. FCC ID : A3L06MM2MX2

Tested by

Name : Sang Kyu, Seo

Reviewed by

Name : No Cheon Park

This report is the test result about the sphere accredited by KOLAS which signed the Mutual Recognition Arrangement of International Laboratory Accreditation Cooperation.

2006. 02. 01

Samsung Electronics Co., Ltd.
Chief of CS Management Center

TEST RESULT

Test Report No. : LBE060302

Applicant / Address : Samsung Electronics Co., Ltd.
416 Maetan 3-Dong, Yeongtong-Gu, Suwon-Si, Gyeonggi-Do
443-742 Korea

Manufacture / Address : Samsung Electronics Co., Ltd.
416 Maetan 3-Dong, Yeongtong-Gu, Suwon-Si, Gyeonggi-Do
443-742 Korea

EUT :

1. Product name : Digital Camcorder
2. Model name : SC-X210L
3. Brand name : Samsung
4. Variant model : SC-MM10, SC-MM11, SC-MM12,
SC-MM14, SC-X205L, SC-X220L
SC-X204L

Test Method : **ANSI C 63.4:2003**

Test Result : **PASS**
The equipment under test has found to be compliant
with the applied standards

Test Lab. : CS Management Center, Samsung Electronics Co., Ltd.



Tested by : Sang Kyu, Seo

Reviewed by : No Cheon Park

Date of Issue : 2006. 02. 01

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1. General information

1.1 Basic information related product

Applicant	Samsung Electronics Co., Ltd.
Model name	SC-X210L
Applicant address	416 Maetan 3-Dong, Yeongtong-Gu, Suwon-Si, Gyeonggi-Do 443-742 Korea
Contact person	Jei Soon, Kang
Kind of product	Digital Camcorder
Valiant model	SC-MM10, SC-MM11, SC-MM12, SC-MM14, SC-X205L, SC-X220L, SC-X204L
Manufacturer	Samsung Electronics Co., Ltd. 416 Maetan 3-Dong, Yeongtong-Gu, Suwon-Si, Gyeonggi-Do 443-742 Korea
Rated power	AC 120 V, 60 Hz
New / Alternative / Permissive change information	New

1.2 Detail Information related product

1.2.1 Specification

Model Name	SC-X205(L)/X210(L)/X220(L)	
The Sports Camcorder System		
Movie Recording System	MPEG4 AVI Format	
Photo System	JPEG (640x480, DPOF, Exif 2.2)	
MP3	Stereo Playing	
Voice	WAVE File Recording/Play (8KHz Sampling, 16 bit, Stereo)	
Memory	Internal memory	512MB (SC-X205L)
		1GB (SC-X210L)
		2GB (SC-X220L)
	External memory	SD MMC
CCD Pixel	1/6 inch CCD, 680K(Maximum)	
Optical Zoom Ratio	x10	
Focal Length	f=2.4~24mm, F1.8~2.4	
Minimum Illumination	3.0 Lux	
LCD monitor	2.0" Transmission Type, 230K	
Connectors		
USB	Mini-B type (USB 2.0 High Speed)	
DC Power In connector	Proprietary 3 pins connector	
Multi jack	Earphones	Ø 3.5 Stereo
	AV Input/Output	Video (1.0p_p, 75Ω), Audio (-7.5dBm 47KΩ, Stereo) External CMOS Camera
General		
Operating Temperature	0°C-40°C (32°F-104°F)	
Operating Humidity	10%-80%	
Power Source	3.8V (Li-Polymer Battery Pack), 4.8V (AC Adapter)	
Power Consumption	2.8W (LCD ON)	
Dimensions (WxHxD)	2.41 inch X 3.68 inch X 1.19 inch	
Weight	5.29 oz	
Built-in Microphone	Omni-directional condenser microphone	

Model Name	SC-X205(L)/X210(L)/X220(L)
AC Adapter	
Power Requirement	AC 100 ~ 240V, 50 / 60 Hz
DC Output	DC 4.8V, 1.0 A
Operating Temperature	0°C (32°F) ~ 40° (104°F)
Dimensions	2.76 inch X 1.17 inch X 2.33 inch
Weight	3.00 oz.

Model Name	XC-L2N
External CMOS Camera	
CMOS Pixel	1/4 inch CMOS, 320K(Maximum)
Video Resolution	640x480 (VGA)
Exposure	Auto
White Balance	Auto
Focus Type	Fixed
Focal Length	f=5.56mm, F2.0
Connector	
AV Output	Video (1.0Vp_p), Audio (-7.5dBm 47KΩ, Input : mono)
General	
Operating Temperature	0°C~40°C (32°F~104°F)
Operating Humidity	20%~80%
Power Source	B+ (3.2V~4.8V)
Power Consumption	0.7W
Dimensions (LxHxD)	3.67 inch X 1.37 inch X 1.31 inch
Weight	3.39 oz.
Built-in Microphone	Omni-directional condenser microphone

The product design and specifications are subject to change without notice for better performance and quality.

1.3 Operating mode and condition

The system was configured for testing in typical fashion use. Cables were attached to each of the available I/O Ports. Where applicable, peripherals were attached to the I/O cables.

The mode of operation utilized for testing was selected to best simulate typical EUT use.

- External Camera : AV Port
- External Memory : MMC/SD Slot
- PC Camera : USB
- Power : DC Jack

1.4 Equipment modifications

No equipment modifications were required.

1.5 Test procedure

1.5.1 Conducted emission

EUT was placed on a platform nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The rear of tabletop was located 40 cm to the vertical conducting ground plane.

The rear of EUT, including peripherals was aligned and flush with rear of tabletop.

All other surfaces of tabletop was at least 80 cm from any other grounded conducting surface.

I/O cables and AC cables that were connected to the peripherals were bundled in center.

They were folded back and forth forming a bindle 30 cm to 40 cm long and were handed at a 40 cm height to the ground plane.

Each EUT current-carrying power lead, except the ground(safety) lead, were individually connected through a LISN to the input power source.

All unused 50 ohm connectors of the LISN were resistively terminated in 50 ohm when not connected to the measuring equipment.

Frequency Band [MHz]	Instrument	Detector	Resolution Bandwidth	Video Bandwidth
0.15 to 30	EMI Receiver	Quasi-Peak	9 kHz	-
		Average	9 kHz	-

1.5.2 Radiated emission

EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The rear of EUT, including peripherals was aligned and flush with rear of tabletop.

The I/O cables that were connected to the peripherals were bundle in center.

They were folded back and forth forming a bundle 30 cm to 40 cm long and were hanged 40 cm height to the ground plane.

Test was made with the antenna positioned in both the horizontal and vertical planes of polarization.

The measurement antenna was varied in height above the conducting ground plane and the turn table azimuth was varied to obtain the maximum signal strength

The system configuration, clock speed, mode of operation or video resolution, turntable azimuth with respect to the antenna were noted for each frequency found.

The spectrum was scanned from 30 to 1 000 MHz using biconiLog antenna.

Also, the EMI Receiver was scanned from 1 000 to 2 000 MHz using linearly polarization

Double ridge horn antennas were used. The explanation of measuring instrument setup when

Respective function is used in any frequency band is as following;

Frequency Band [MHz]	Instrument	Detector	Resolution Bandwidth	Video Bandwidth
30 to 1 000	EMI Receiver	Quasi-Peak	120 kHz	-
Above 1 000	EMI Receiver	Peak	1 MHz	1 MHz

1.6 Test configuration

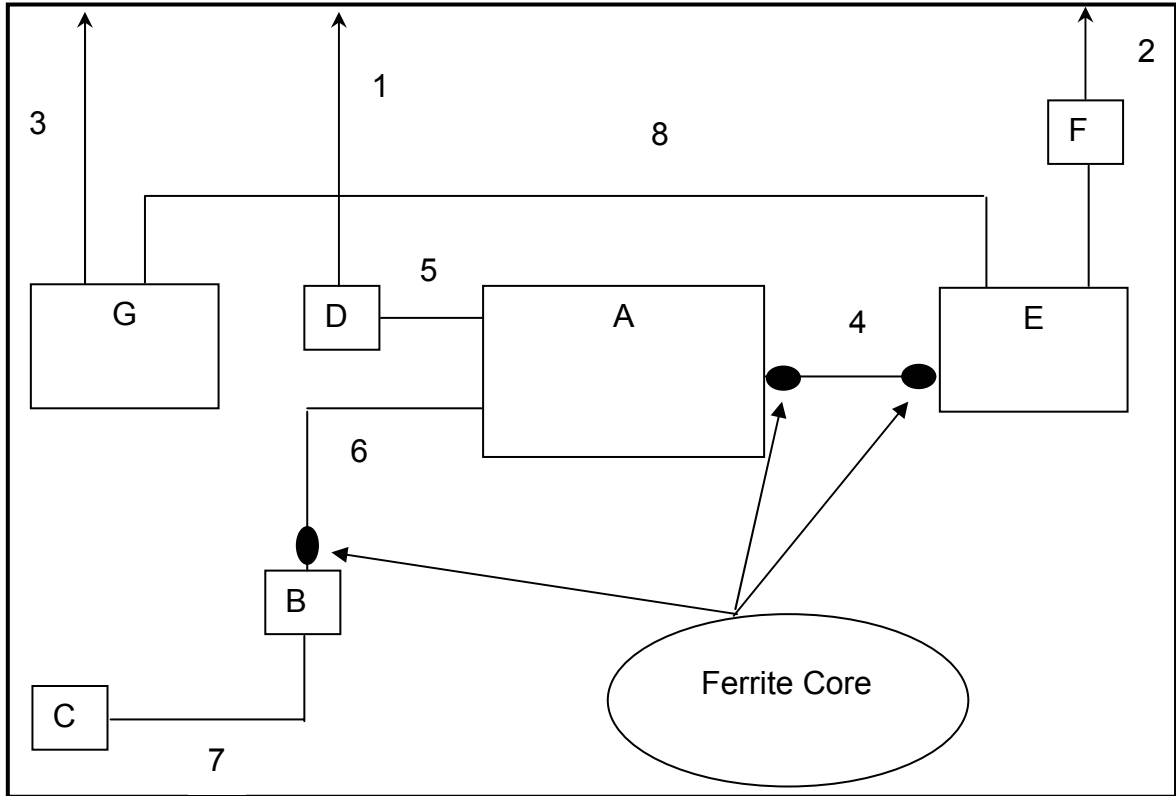
1.6.1 Used EUT and peripherals

Mark	Item	Model No.	Serial No.	Manufacturer	Note
A	Digital Camcorder	SC-X210L	-	SAMSUNG	A3L06MM2MX2
B	Remote Control	-	-	SAMSUNG	-
C	External Camera	-	-	SAMSUNG	-
D	AC Adapter	AA-M2DG	6DA03119	Dong Yang NP	-
E	Note PC	P40	SKU29REXB00004T	SAMSUNG	DcC
F	AC Adapter(Note PC)	API1AD02	CNBA4400162ABJ6F 42B1986	Acbel Electronic C o., Ltd	-
G	Printer	ML-1740	BABX820386E	SAMSUNG	A3LML-1710P

1.6.2 Used cable description

No	Connect Cable	Length [m]	Shielded [Y/N]	Remark
1	Power (EUT)	1.5	No	-
2	Power (Note PC)	1.5	No	-
3	Power (Printer)	1.5	No	-
4	USB Cable(Note PC)	1.5	Yes	-
5	DC In Cable(Note PC)	1.5	No	-
6	Remote Control Cable	1.5	No	-
7	External Camera Cable	1.5	No	-
8	USB Cable (Printer)	1.5	Yes	-

1.6.3 Block diagram



1.7 Applied Standards

Test standard	Test method
FCC Part 15:2003 Subpart B	ANSI C63.4:2003

1.8 Test Facility

1.8.1 General information

The sites are constructed in conformance with the requirements of ANSI C63.4 and CISPR 22, 16-1, 16-2.

This EMC Testing Lab. is accredited by Korea Laboratory Accreditation Scheme(KOLAS) which signed the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement

(MRA) for the above test item(s) and test method(s).

This Lab. is operated as testing laboratory in accordance with the requirements of ISO/IEC 17025:1998.

1.8.2 Accreditation and listing



1.8.3 Measurement uncertainty

(According to CISPR 16-4 and Lab. 34)

Test item	Measurement uncertainty
Conducted emission	± 3.3 dB
Radiated emission Horizontal	± 4.0 dB
Vertical	± 4.4 dB

2. Summary of test results

Result : PASS

The equipment under test(EUT) has been found to comply with the applied standards.

Section of the product standard		Applied standard	Test result
3.1	Conducted Emission	FCC Part 15:2003 Subpart B	Complied
3.2	Radiated Emission	FCC Part 15:2003 Subpart B	Complied

3. Description of individual tests

3.1 Conducted emission

3.1.1 Test information

Test engineer	Sang Kyu, Seo
Test date	January 26, 2006
Climate condition	Ambient temperature : 21.2 , Relative humidity : 35 % Atmospheric pressure 1 017 hPa
Test place	Shielded room # 1

3.1.2 Test equipment

Equipment	Model name	Manufacturer	Serial no.	Calibration	
				Next date	Interval (Month)
Test Software	EMC 32	R&S	None	N/A	N/A
Field strength meter	ESCI	R&S	100136	2006-04-17	12
L.I.S.N	ENV216	R&S	100116	2006-09-08	12
L.I.S.N	ENV216	R&S	100107	2006-08-18	12

EUT Test Setup

The EUT was set up as per normal use on a wooden table, 0.4 m from a vertical ground reference plane, At least 0.8 m from other conduction surfaces and 0.8 m from the LISN.

See photo.

Test Result

Measurement Results

Pass
The measured emissions of the EUT have found to be below the specified limits.

SAMSUNG ELECTRONICS EMC Report

Test Information

EUT Name: SC-X210L
Serial Number:
Test Description: FCC Part 15
Operating Conditions: 110VAC, 60Hz
Operator Name: SSK
Comment: Set camera_rec_internal
Description: Camcorder

Hardware Setup: Voltage with 2-Line-LISN - [EMI conducted]

Subrange 1
Frequency Range: 150kHz - 30MHz
Receiver: ESCI 3
Transducer: ENV216 / Receiver-2-Line-LISN ENV216

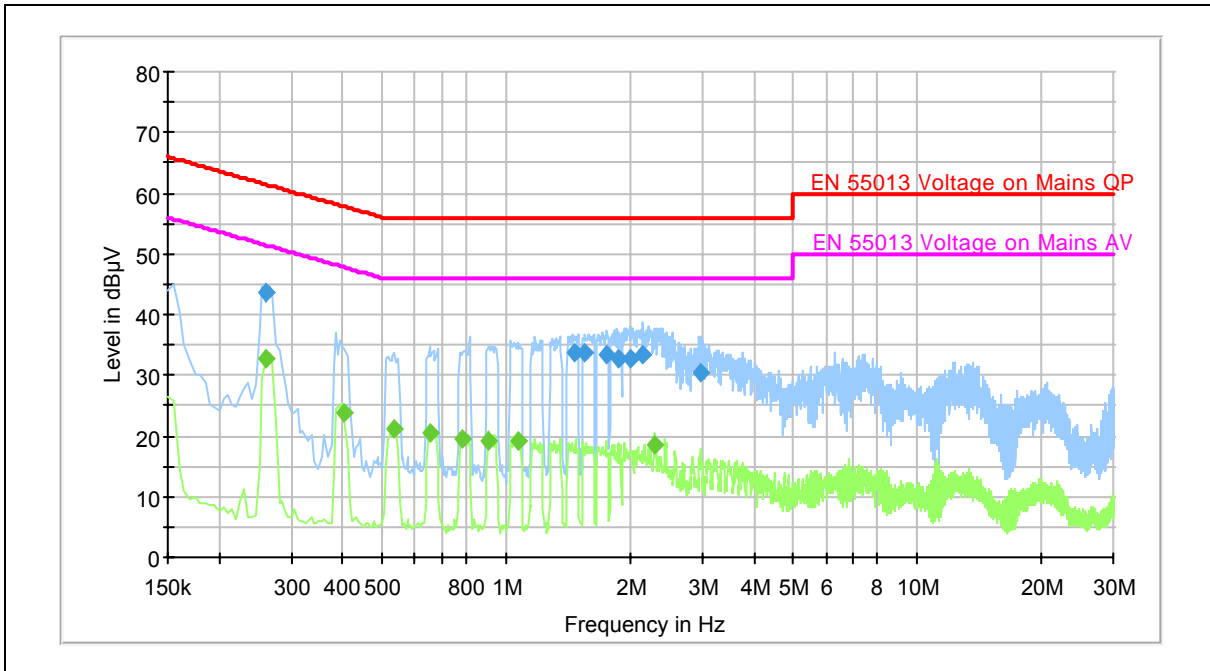
Scan Setup: EN55013_2-Line-LISN fin [EMI conducted]

Hardware Setup: Voltage with 2-Line-LISN
Level Unit: dB μ V

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
150kHz - 30MHz	QuasiPeak; Average	9kHz	15s	ESCI 3

EN55013 with 2-Line-LISN

Operating Mode 1) Set camera_rec_internal



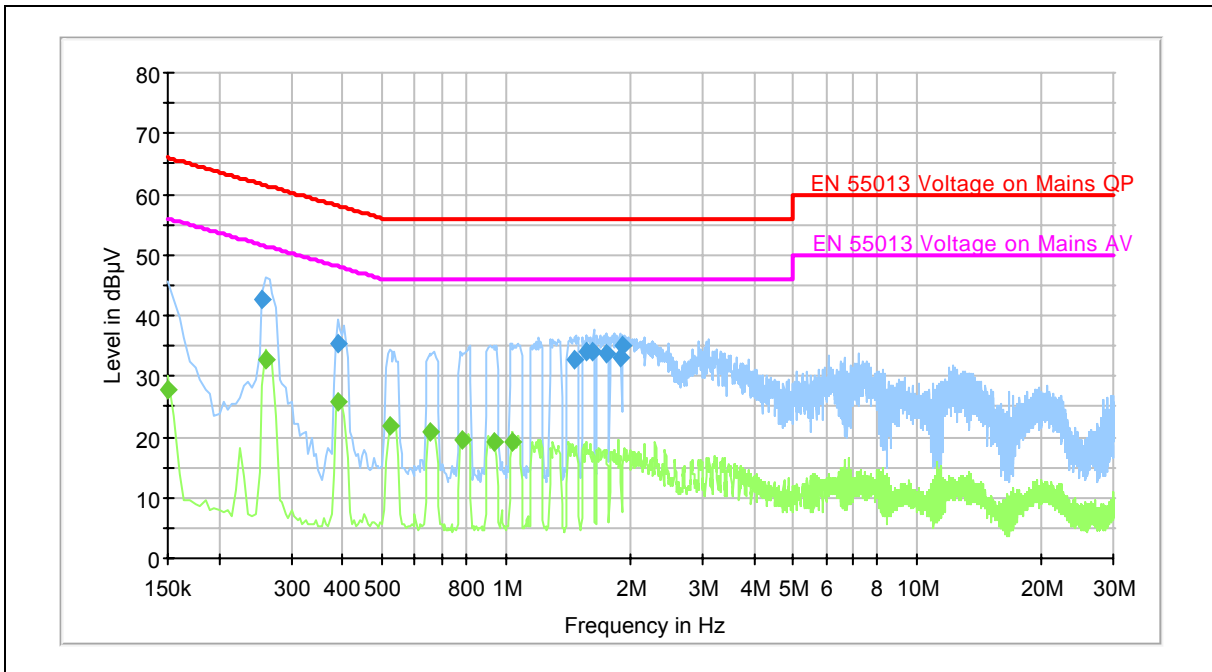
Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dB µ V)	Corr. (dB)	Margin (dB)	Limit (dB µ V)	Line
0.260500	43.7	9.6	17.8	61.4	N
1.459500	33.8	9.6	22.2	56.0	N
1.550500	33.7	9.6	22.3	56.0	N
1.760500	33.5	9.6	22.5	56.0	N
1.864500	32.7	9.6	23.3	56.0	N
2.005500	32.7	9.6	23.3	56.0	N
2.140500	33.5	9.6	22.5	56.0	N
2.984500	30.4	9.6	25.6	56.0	N

Final Measurement Detector 2

Frequency (MHz)	Average (dB µ V)	Corr. (dB)	Margin (dB)	Limit (dB µ V)	Line
0.260500	32.7	9.6	18.7	51.4	N
0.404500	23.8	9.6	23.9	47.8	N
0.534500	21.0	9.6	25.0	46.0	N
0.655500	20.4	9.6	25.6	46.0	N
0.779500	19.4	9.6	26.6	46.0	N
0.905500	19.1	9.6	26.9	46.0	N
1.065500	19.0	9.6	27.0	46.0	N
2.305500	18.4	9.6	27.6	46.0	N

Operating Mode 2) Set camera_rec_external



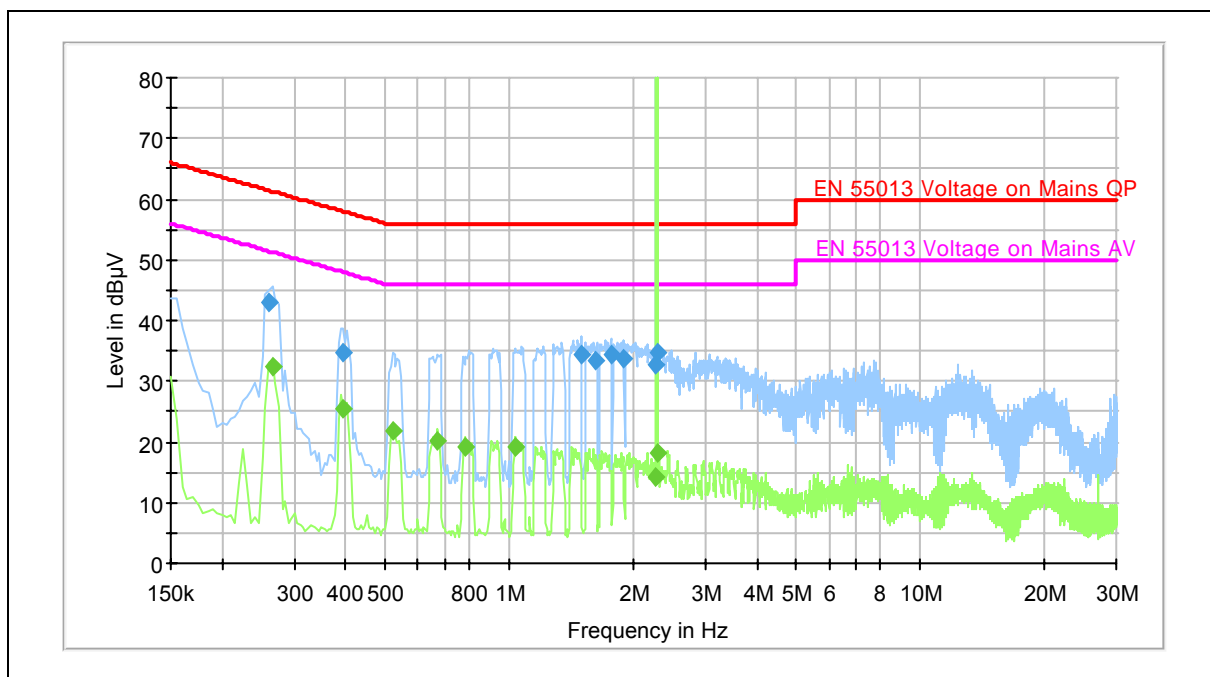
Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dB µ V)	Corr. (dB)	Margin (dB)	Limit (dB µ V)	Line
0.255500	42.7	9.6	18.9	61.6	N
0.390500	35.2	9.6	22.8	58.1	N
1.470500	32.7	9.6	23.3	56.0	L1
1.565500	34.0	9.6	22.0	56.0	N
1.625500	34.1	9.6	21.9	56.0	N
1.750500	33.7	9.6	22.3	56.0	N
1.894500	33.1	9.6	22.9	56.0	N
1.920500	35.1	9.6	20.9	56.0	N

Final Measurement Detector 2

Frequency (MHz)	Average (dB µ V)	Corr. (dB)	Margin (dB)	Limit (dB µ V)	Line
0.150000	27.8	9.6	28.2	56.0	N
0.260500	32.8	9.6	18.6	51.4	N
0.390500	25.7	9.6	22.4	48.1	N
0.520500	21.7	9.6	24.3	46.0	N
0.650500	20.7	9.6	25.3	46.0	N
0.779500	19.7	9.6	26.3	46.0	N
0.930500	19.1	9.6	26.9	46.0	N
1.035500	19.0	9.6	27.0	46.0	N

Operating Mode 3) External camera_rec_internal



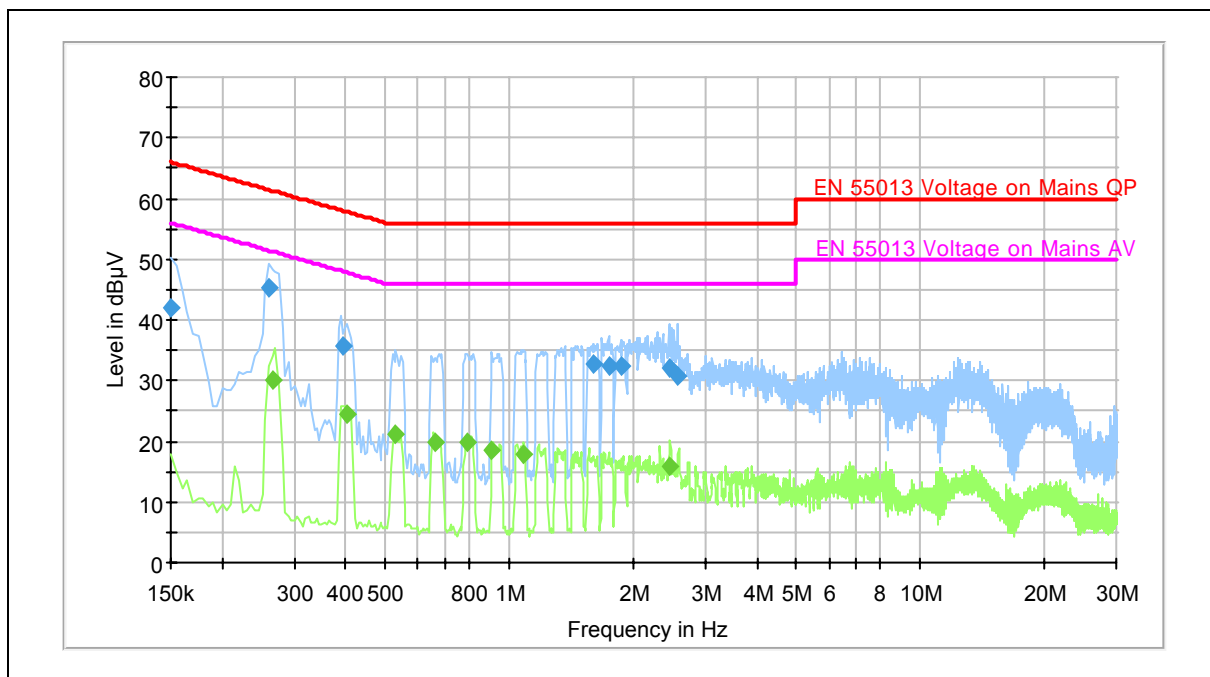
Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dB µ V)	Corr. (dB)	Margin (dB)	Limit (dB µ V)	Line
0.260500	42.9	9.6	18.5	61.4	N
0.395500	34.8	9.6	23.1	57.9	N
1.490500	34.4	9.6	21.6	56.0	N
1.625500	33.5	9.6	22.5	56.0	N
1.765500	34.5	9.6	21.5	56.0	N
1.900500	33.6	9.6	22.4	56.0	N
2.280500	32.7	9.6	23.3	56.0	N
2.304500	34.8	9.6	21.2	56.0	N

Final Measurement Detector 2

Frequency (MHz)	Average (dB µ V)	Corr. (dB)	Margin (dB)	Limit (dB µ V)	Line
0.265500	32.5	9.6	18.8	51.3	N
0.394500	25.5	9.6	22.5	48.0	N
0.520500	21.9	9.6	24.1	46.0	N
0.670500	20.3	9.6	25.7	46.0	N
0.784500	19.0	9.6	27.0	46.0	N
1.039500	19.3	9.6	26.7	46.0	N
2.275500	14.2	9.6	31.8	46.0	N
2.304500	18.1	9.6	27.9	46.0	N

Operating Mode 4) Internal camera_rec_external



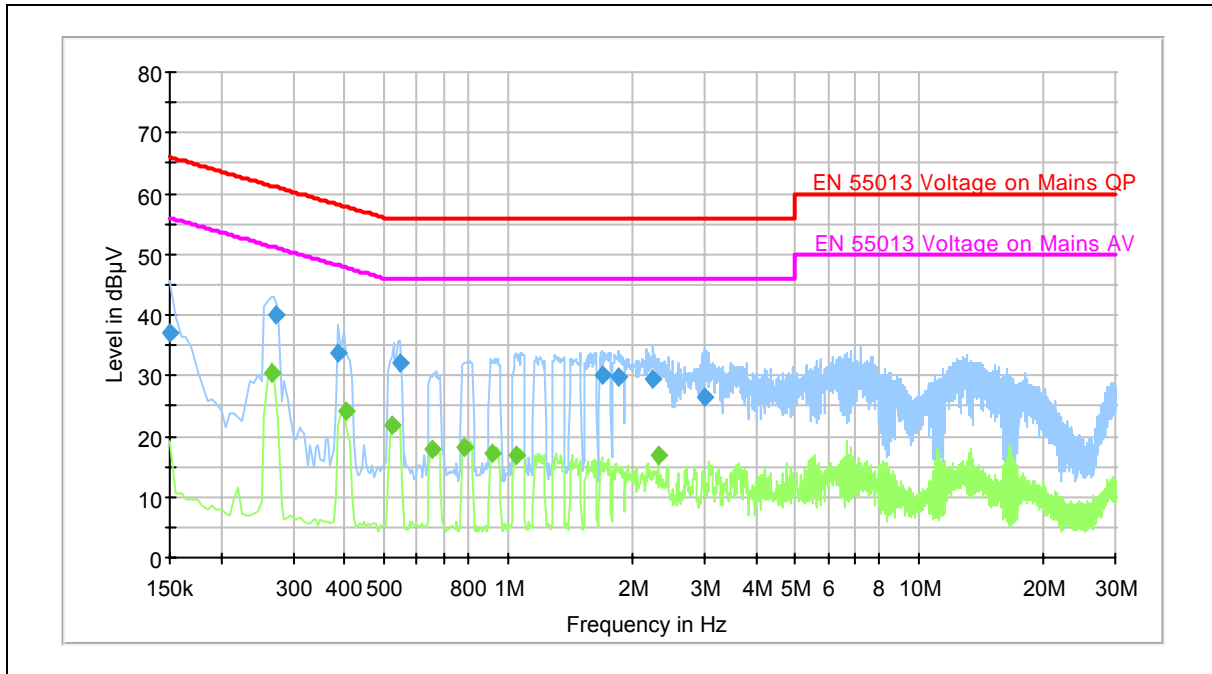
Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dB µ V)	Corr. (dB)	Margin (dB)	Limit (dB µ V)	Line
0.150000	41.9	9.6	24.1	66.0	N
0.260500	45.2	9.6	16.2	61.4	L1
0.394500	35.8	9.6	22.2	58.0	N
1.595500	32.9	9.6	23.1	56.0	N
1.745500	32.5	9.6	23.5	56.0	N
1.869500	32.3	9.6	23.7	56.0	N
2.449500	32.1	9.6	23.9	56.0	N
2.560500	30.8	9.6	25.2	56.0	N

Final Measurement Detector 2

Frequency (MHz)	Average (dB µ V)	Corr. (dB)	Margin (dB)	Limit (dB µ V)	Line
0.265500	30.1	9.6	21.2	51.3	L1
0.404500	24.5	9.6	23.2	47.8	N
0.525500	21.1	9.6	24.9	46.0	N
0.659500	19.9	9.6	26.1	46.0	L1
0.790500	19.7	9.6	26.3	46.0	L1
0.905500	18.6	9.6	27.4	46.0	L1
1.085500	17.9	9.6	28.1	46.0	N
2.460500	15.7	9.6	30.3	46.0	N

Operating Mode 5) Play_internal



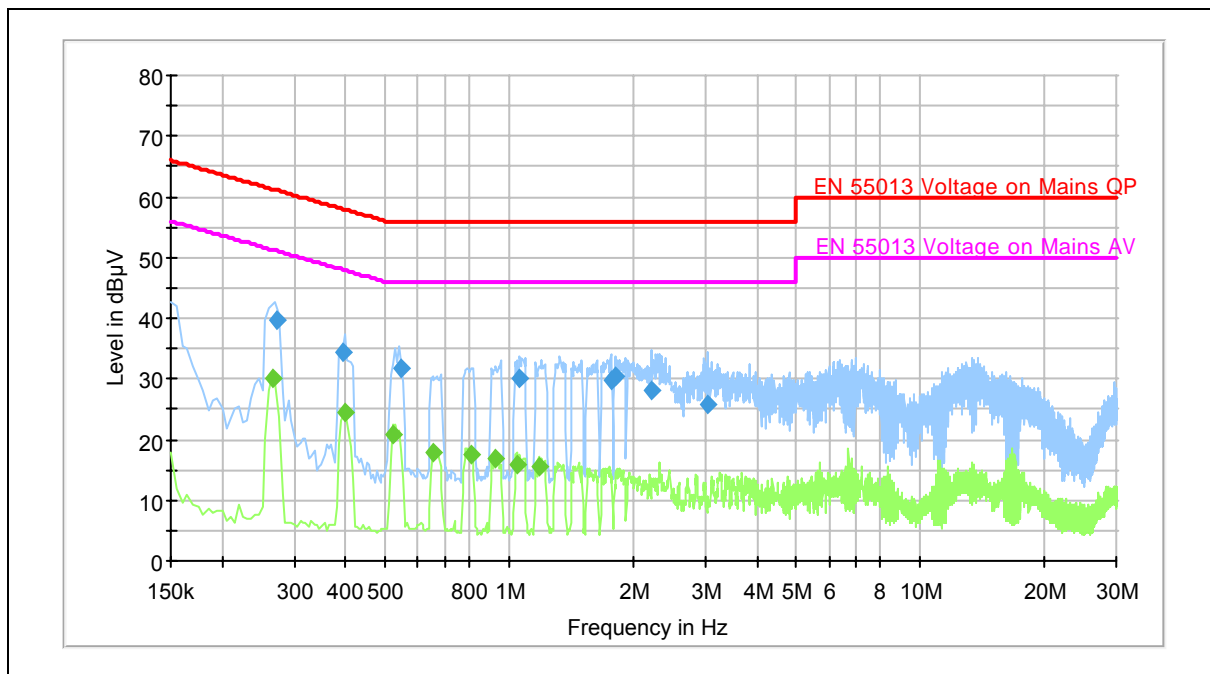
Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dB µ V)	Corr. (dB)	Margin (dB)	Limit (dB µ V)	Line
0.150000	37.2	9.6	28.8	66.0	N
0.270500	40.0	9.6	21.1	61.1	N
0.385500	33.8	9.6	24.4	58.2	N
0.545500	32.1	9.6	23.9	56.0	N
1.690500	30.0	9.6	26.0	56.0	N
1.845500	29.7	9.6	26.3	56.0	N
2.255500	29.5	9.6	26.5	56.0	N
3.015500	26.6	9.6	29.4	56.0	N

Final Measurement Detector 2

Frequency (MHz)	Average (dB µ V)	Corr. (dB)	Margin (dB)	Limit (dB µ V)	Line
0.265500	30.3	9.6	20.9	51.3	N
0.404500	24.0	9.6	23.8	47.8	N
0.520500	21.7	9.6	24.3	46.0	N
0.649500	17.7	9.6	28.3	46.0	L1
0.779500	18.0	9.6	28.0	46.0	L1
0.909500	17.1	9.6	28.9	46.0	L1
1.050500	16.7	9.6	29.3	46.0	N
2.320500	16.8	9.6	29.2	46.0	N

Operating Mode 6) Play_external



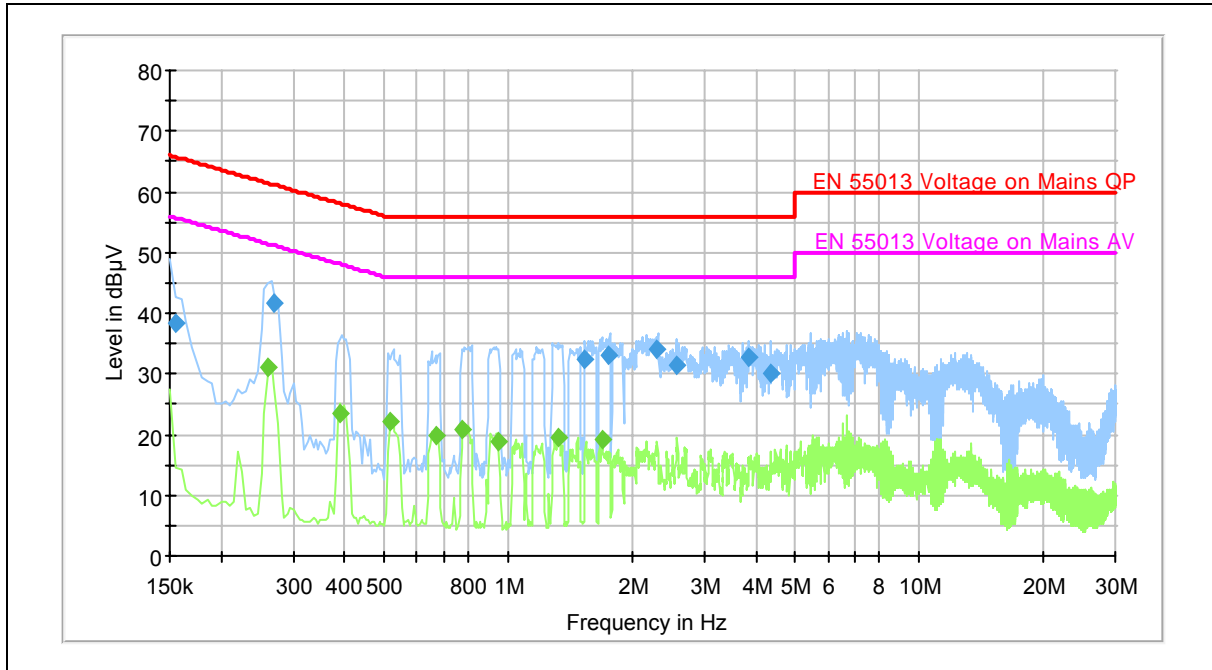
Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dB µ V)	Corr. (dB)	Margin (dB)	Limit (dB µ V)	Line
0.270500	39.8	9.6	21.3	61.1	N
0.395500	34.5	9.6	23.5	57.9	N
0.544500	31.6	9.6	24.4	56.0	N
1.060500	30.1	9.6	25.9	56.0	N
1.769500	29.9	9.6	26.1	56.0	N
1.805500	30.4	9.6	25.6	56.0	N
2.225500	28.0	9.6	28.0	56.0	N
3.035500	25.7	9.6	30.3	56.0	N

Final Measurement Detector 2

Frequency (MHz)	Average (dB µ V)	Corr. (dB)	Margin (dB)	Limit (dB µ V)	Line
0.265500	30.1	9.6	21.2	51.3	N
0.400500	24.5	9.6	23.3	47.8	N
0.520500	20.9	9.6	25.1	46.0	N
0.650500	17.7	9.6	28.3	46.0	L1
0.809500	17.5	9.6	28.5	46.0	L1
0.925500	17.0	9.6	29.0	46.0	L1
1.049500	15.8	9.6	30.2	46.0	N
1.184500	15.6	9.6	30.4	46.0	N

Operating Mode 7) PC cam



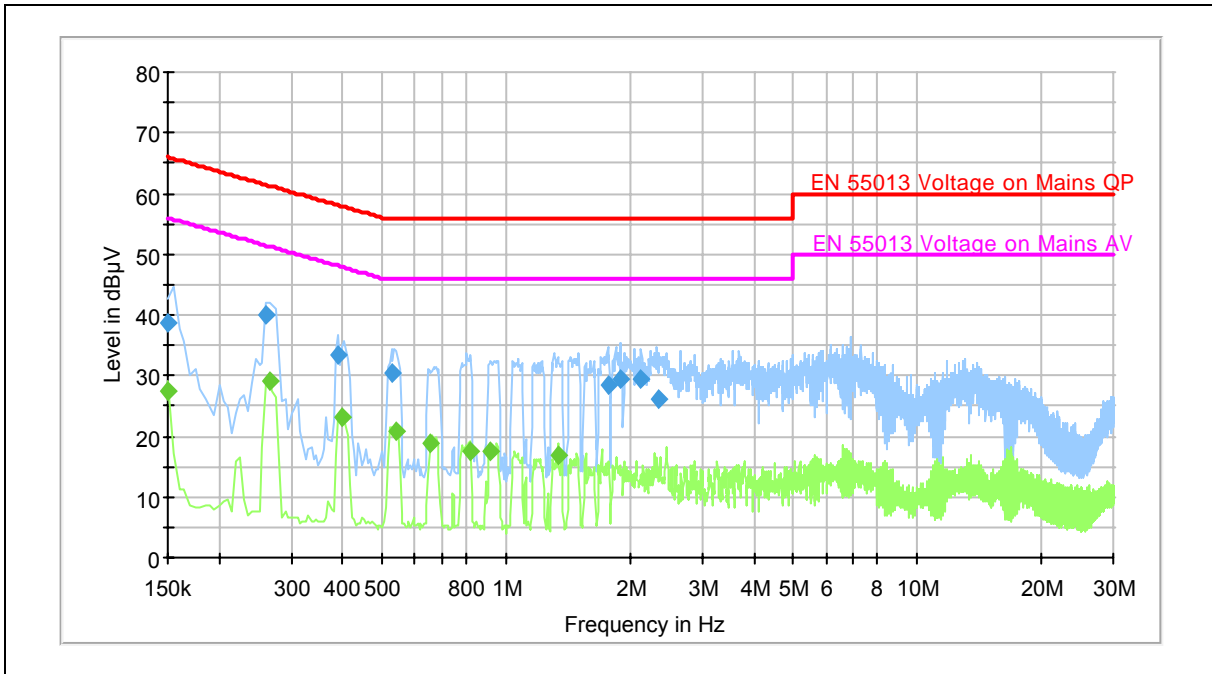
Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dB µ V)	Corr. (dB)	Margin (dB)	Limit (dB µ V)	Line
0.154500	38.2	9.6	27.5	65.8	L1
0.269500	41.8	9.6	19.4	61.1	N
1.535500	32.5	9.6	23.5	56.0	N
1.760500	33.1	9.6	22.9	56.0	N
2.305500	34.0	9.6	22.0	56.0	N
2.560500	31.5	9.6	24.5	56.0	N
3.835500	32.8	9.6	23.2	56.0	N
4.350500	30.0	9.6	26.0	56.0	N

Final Measurement Detector 2

Frequency (MHz)	Average (dB µ V)	Corr. (dB)	Margin (dB)	Limit (dB µ V)	Line
0.260500	31.2	9.6	20.2	51.4	N
0.390500	23.3	9.6	24.7	48.1	L1
0.515500	22.1	9.6	23.9	46.0	N
0.669500	19.7	9.6	26.3	46.0	N
0.775500	20.7	9.6	25.3	46.0	L1
0.940500	18.9	9.6	27.1	46.0	L1
1.329500	19.3	9.6	26.7	46.0	L1
1.695500	19.0	9.6	27.0	46.0	N

Operating Mode 8) Mass storage_internal



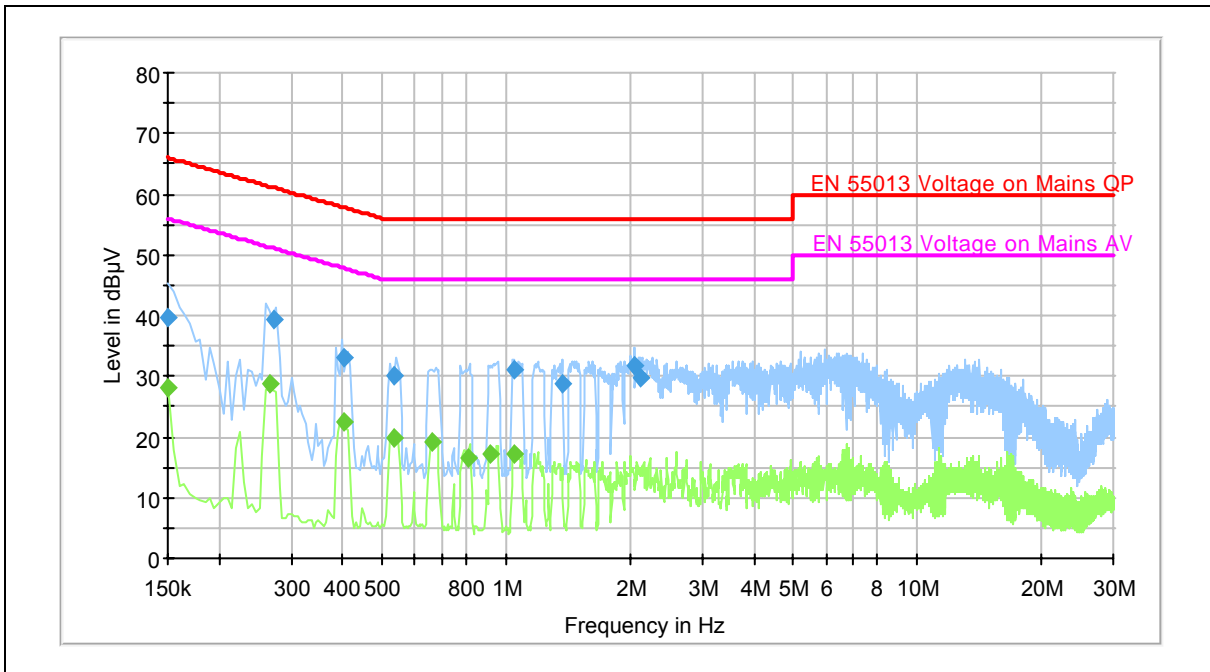
Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dB µ V)	Corr. (dB)	Margin (dB)	Limit (dB µ V)	Line
0.150500	38.8	9.6	27.2	66.0	L1
0.260500	39.9	9.6	21.6	61.4	N
0.390500	33.3	9.6	24.7	58.1	N
0.525500	30.4	9.6	25.6	56.0	N
1.765500	28.6	9.6	27.4	56.0	N
1.900500	29.5	9.6	26.5	56.0	N
2.125500	29.4	9.6	26.6	56.0	N
2.334500	26.2	9.6	29.8	56.0	N

Final Measurement Detector 2

Frequency (MHz)	Average (dB µ V)	Corr. (dB)	Margin (dB)	Limit (dB µ V)	Line
0.150000	27.3	9.6	28.7	56.0	L1
0.265500	29.1	9.6	22.2	51.3	N
0.399500	23.1	9.6	24.8	47.9	N
0.540500	20.7	9.6	25.3	46.0	N
0.655500	18.9	9.6	27.1	46.0	L1
0.815500	17.4	9.6	28.6	46.0	L1
0.914500	17.4	9.6	28.6	46.0	L1
1.335500	16.9	9.6	29.1	46.0	L1

Operating Mode 9) Mass storage_external



Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dB µ V)	Corr. (dB)	Margin (dB)	Limit (dB µ V)	Line
0.150000	39.6	9.6	26.4	66.0	N
0.270500	39.2	9.6	21.9	61.1	N
0.404500	32.9	9.6	24.9	57.8	N
0.535500	30.2	9.6	25.8	56.0	N
1.045500	31.1	9.6	24.9	56.0	L1
1.365500	28.8	9.6	27.2	56.0	N
2.055500	31.6	9.6	24.4	56.0	N
2.130500	29.6	9.6	26.4	56.0	N

Final Measurement Detector 2

Frequency (MHz)	Average (dB µ V)	Corr. (dB)	Margin (dB)	Limit (dB µ V)	Line
0.150000	28.1	9.6	27.9	56.0	L1
0.265500	28.8	9.6	22.5	51.3	N
0.404500	22.5	9.6	25.3	47.8	N
0.534500	19.8	9.6	26.2	46.0	N
0.660500	19.1	9.6	26.9	46.0	L1
0.810500	16.6	9.6	29.4	46.0	L1
0.910500	17.2	9.6	28.8	46.0	L1
1.050500	17.3	9.6	28.7	46.0	L1

3.2 Radiated emission

3.2.1 Test information

Test engineer	Sang Kyu, Seo
Test date	January 20, 2006
Climate condition	Ambient temperature : 22 , Relative humidity : 42 % Atmospheric pressure 1019 hPa
Test place	10 m Semi-anechoic Chamber

3.2.2 Test equipment

Equipment	Model name	Manufacturer	Serial no.	Calibration	
				Next date	Interval
Bi-con Antenna	CBL6141A	SCHAFFNER	4268	2006-05-24	12
Bi-con Antenna	CBL6141A	SCHAFFNER	4266	2006-05-24	12
EMI Receiver	ESI26	R&S	100289	2006-04-11	12
EMI Receiver	ESI26	R&S	100291	2006-04-12	12
AMPLIFIER	310N	SONOMA	251674	2006-03-08	12
AMPLIFIER	310N	SONOMA	251677	2006-03-08	12
Ant Mast	MA4000	Inn-co	-	N/A	
Ant Mast	MA4000	Inn-co	-	N/A	
Ant Mast	MA2000	Inn-co	-	N/A	
Mast Controller	CO2000	Inn-co	-	N/A	
RF Selector	NS4900	TOYO	-	N/A	

EUT Test Setup

EUT set up in semi-anechoic chamber. EUT positioned at 3 m from antenna in center of table.

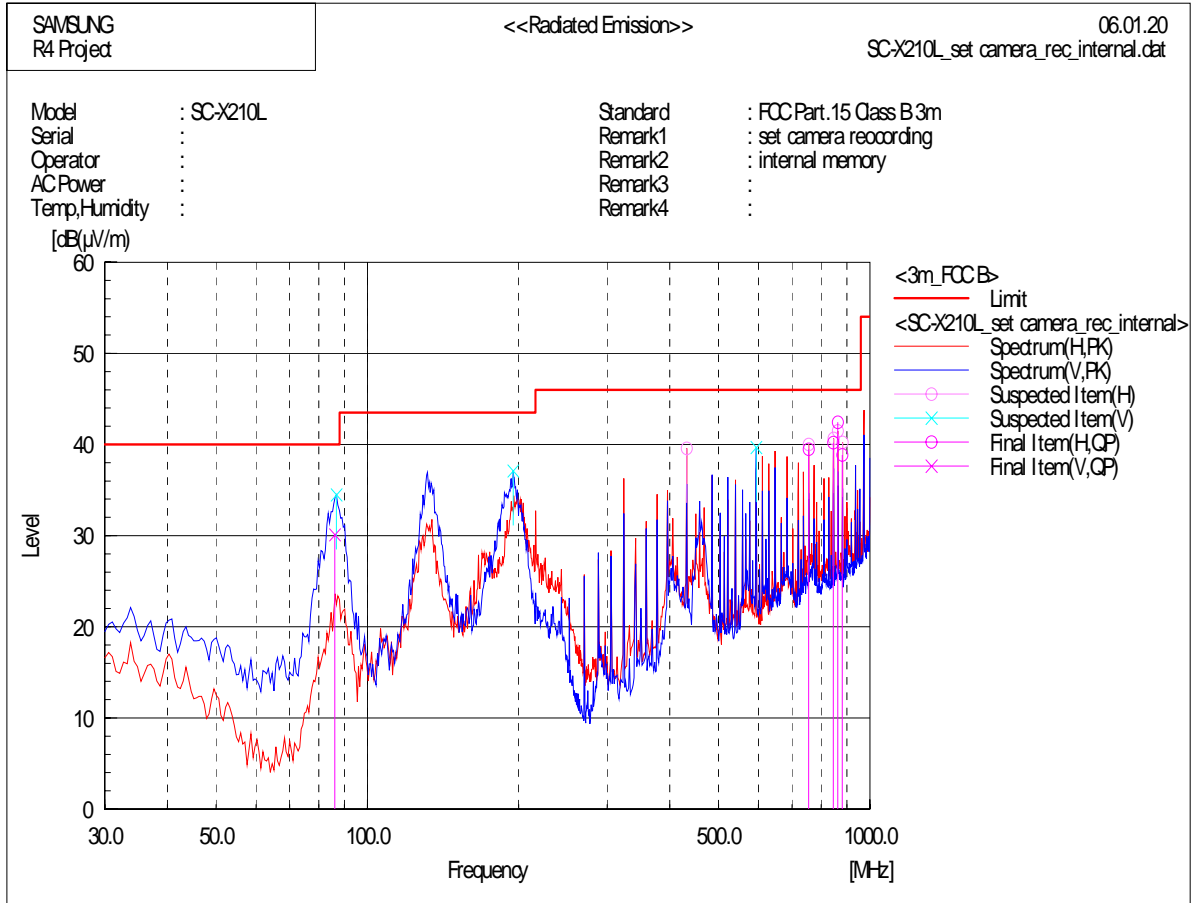
All ports terminated into characteristic loads.

Test Result

Measurement Results

Pass
The measured emissions of the EUT have found to be below the specified limits.

Operating Mode 1) Set camera_rec_internal



Final Result

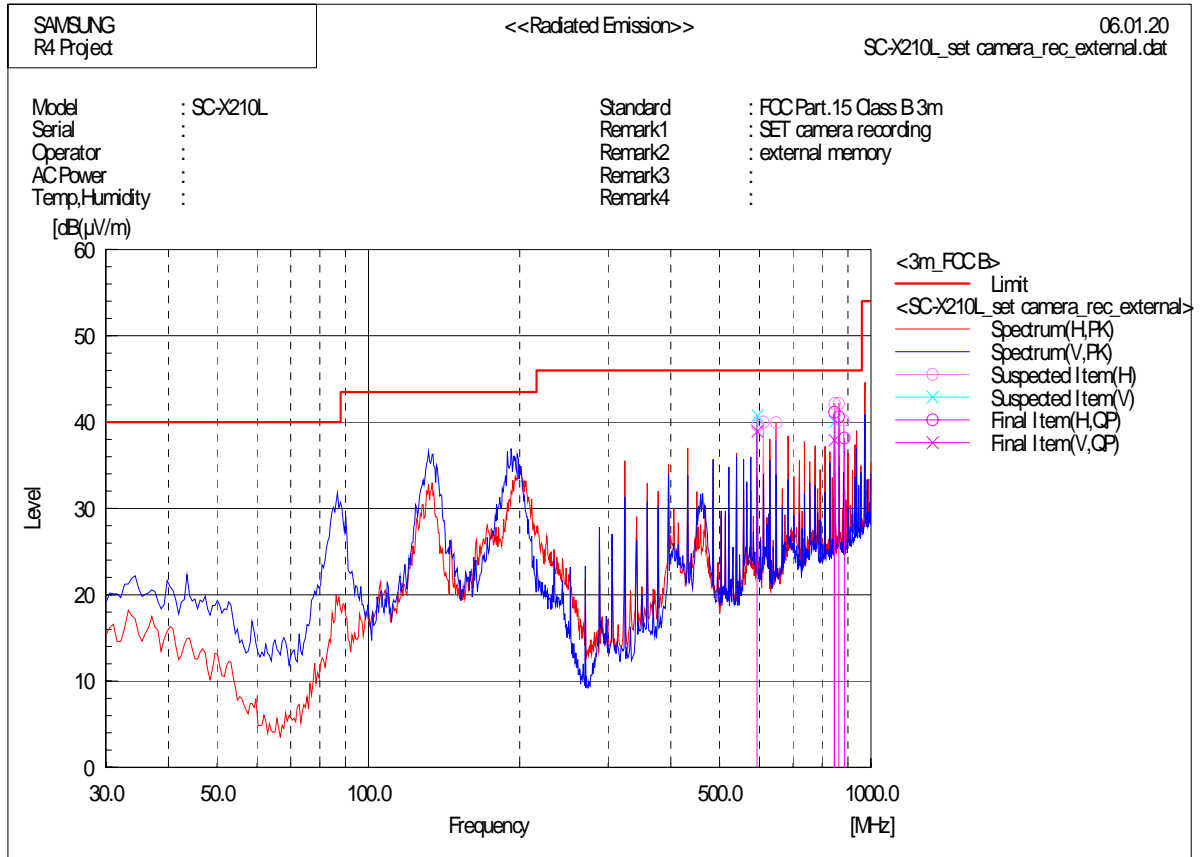
--- Horizontal Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	864.005	44.5	-2.1	42.4	46.0	3.6	
2	845.993	42.7	-2.5	40.2	46.0	5.8	
3	882.017	41.0	-2.1	38.9	46.0	7.1	
4	756.003	43.2	-3.7	39.5	46.0	6.5	

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	86.172	52.8	-22.7	30.1	40.0	9.9	

Operating Mode 2) Set camera_rec_external



Final Result

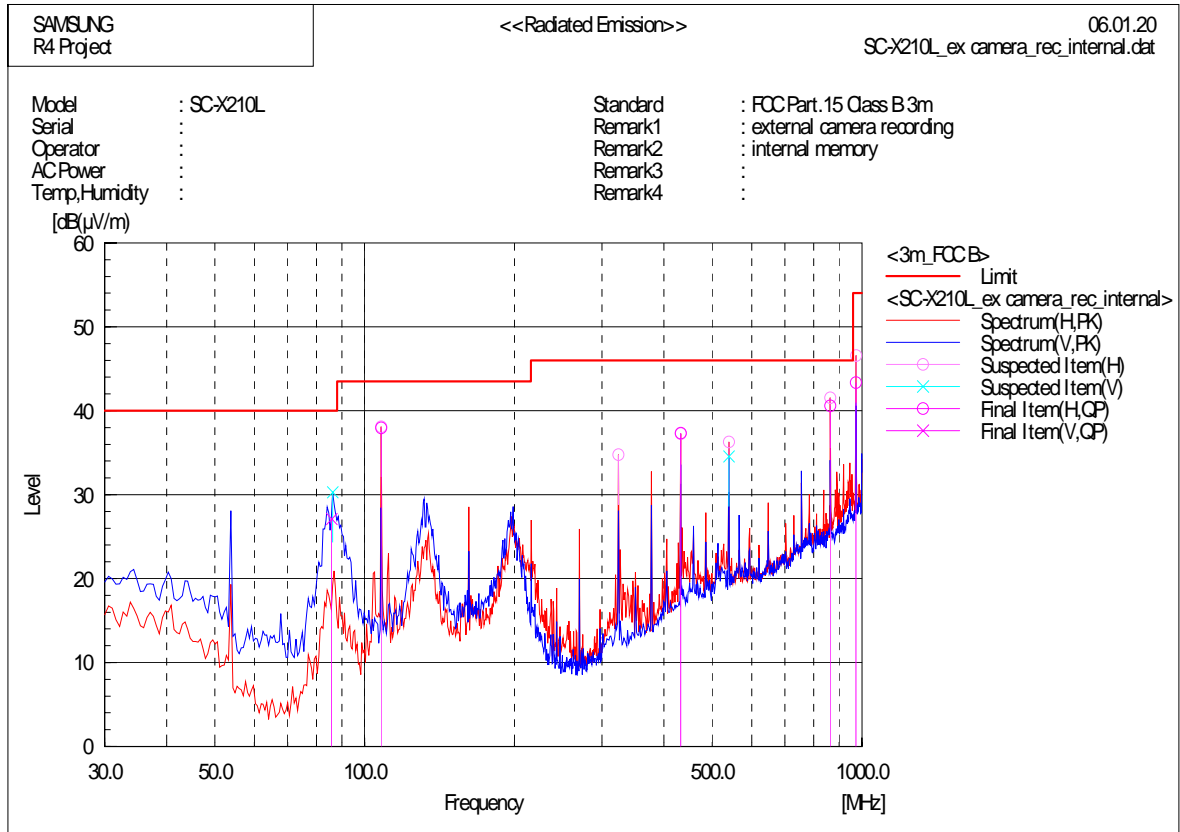
--- Horizontal Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	863.991	42.7	-2.1	40.6	46.0	5.4	
2	845.993	43.7	-2.5	41.2	46.0	4.8	
3	885.594	40.2	-2.0	38.2	46.0	7.8	

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	594.007	46.5	-7.6	38.9	46.0	7.1	
2	845.993	40.4	-2.5	37.9	46.0	8.1	

Operating Mode 3) External camera_rec_internal



Final Result

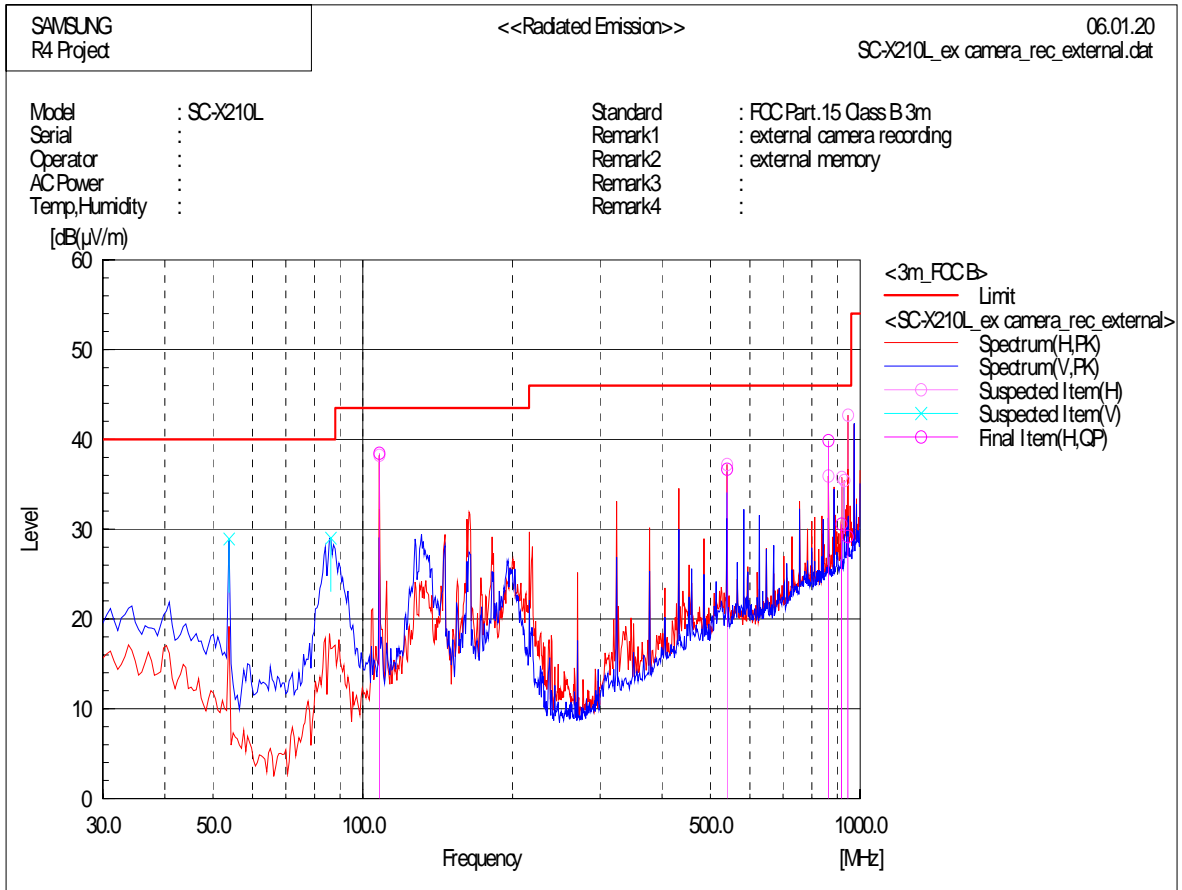
--- Horizontal Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	863.977	42.7	-2.1	40.6	46.0	5.4	
2	108.000	58.3	-20.3	38.0	43.5	5.5	
3	972.007	42.4	0.9	43.3	54.0	10.7	
4	431.997	48.4	-11.1	37.3	46.0	8.7	

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	85.832	49.9	-22.8	27.1	40.0	12.9	

Operating Mode 4) Internal camera_rec_external

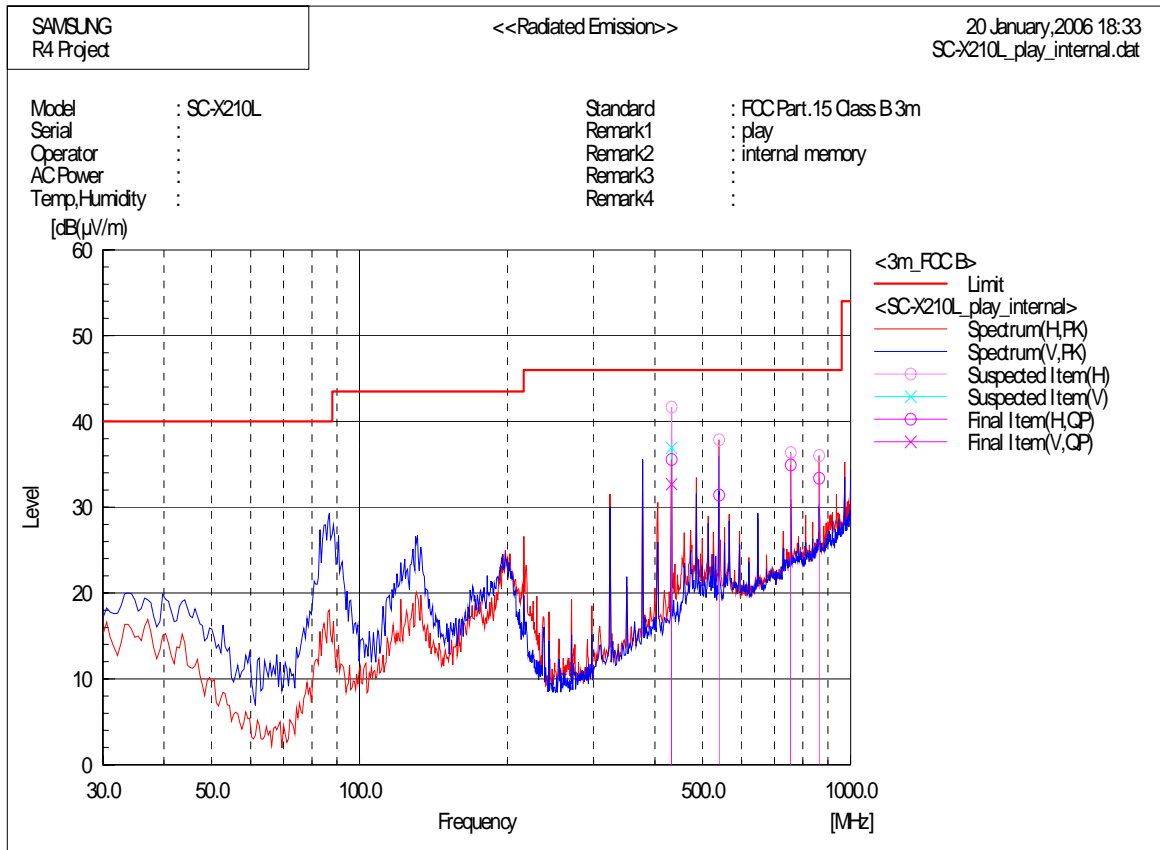


Final Result

--- Horizontal Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c. f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	944.316	29.1	0.1	29.2	46.0	16.8	
2	108.000	58.7	-20.3	38.4	43.5	5.1	
3	539.999	46.1	-9.4	36.7	46.0	9.3	
4	864.019	42.0	-2.1	39.9	46.0	6.1	
5	918.055	31.6	-1.0	30.6	46.0	15.4	

Operating Mode 5) Play_internal



Final Result

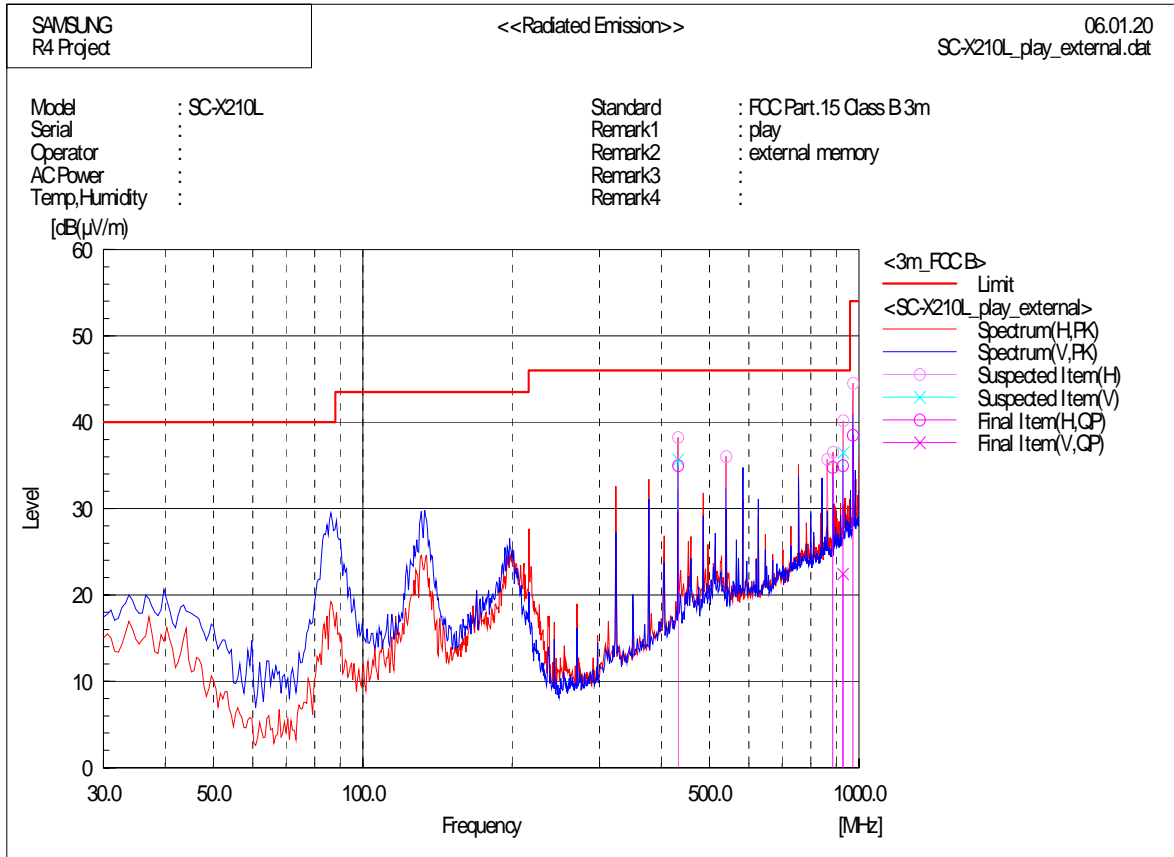
--- Horizontal Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	431.997	46.7	-11.1	35.6	46.0	10.4	
2	540.013	40.8	-9.4	31.4	46.0	14.6	
3	756.003	38.6	-3.7	34.9	46.0	11.1	
4	864.005	35.5	-2.1	33.4	46.0	12.6	

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	431.997	43.8	-11.1	32.7	46.0	13.3	

Operating Mode 6) Play_external



Final Result

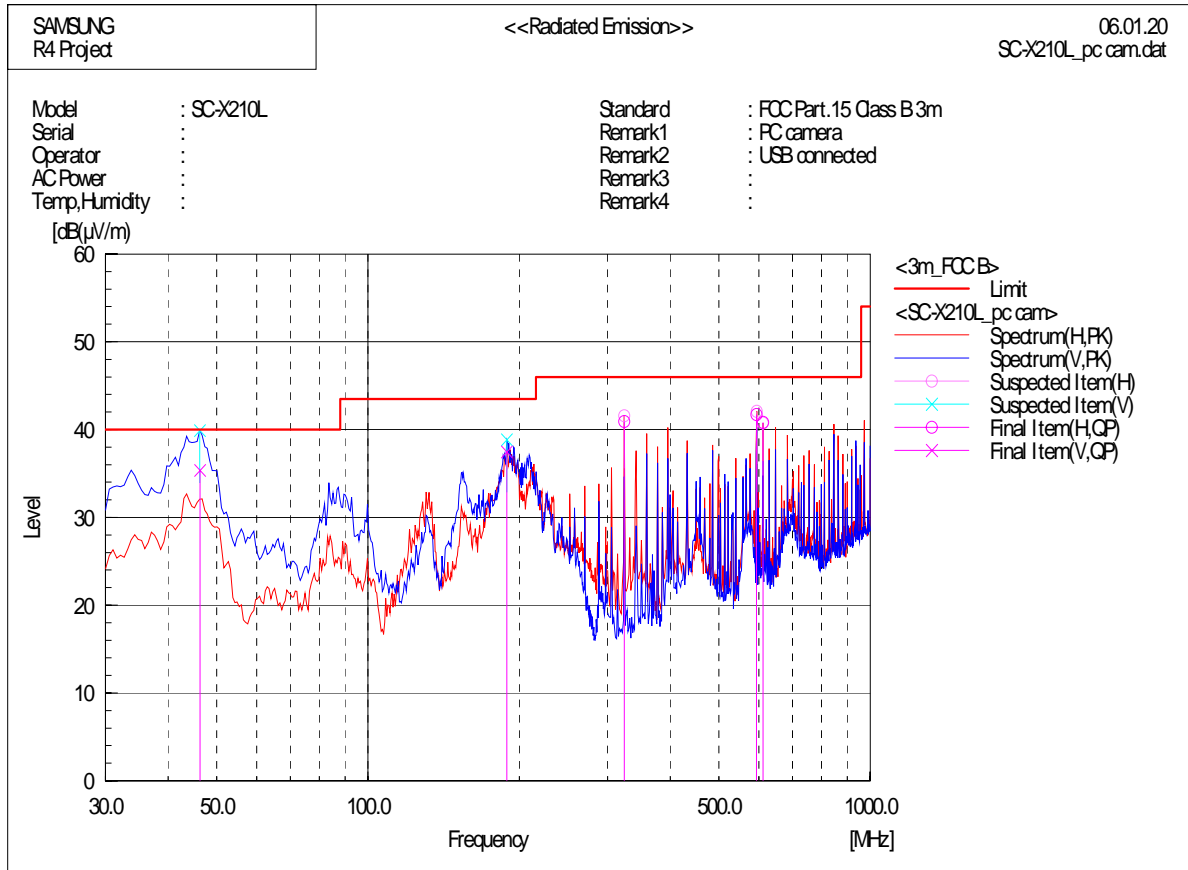
--- Horizontal Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	928.815	35.5	-0.5	35.0	46.0	11.0	
2	432.025	46.1	-11.1	35.0	46.0	11.0	
3	971.993	37.6	0.9	38.5	54.0	15.5	
4	885.580	36.8	-2.0	34.8	46.0	11.2	

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	928.801	22.9	-0.5	22.4	46.0	23.6	

Operating Mode 7) PC cam



Final Result

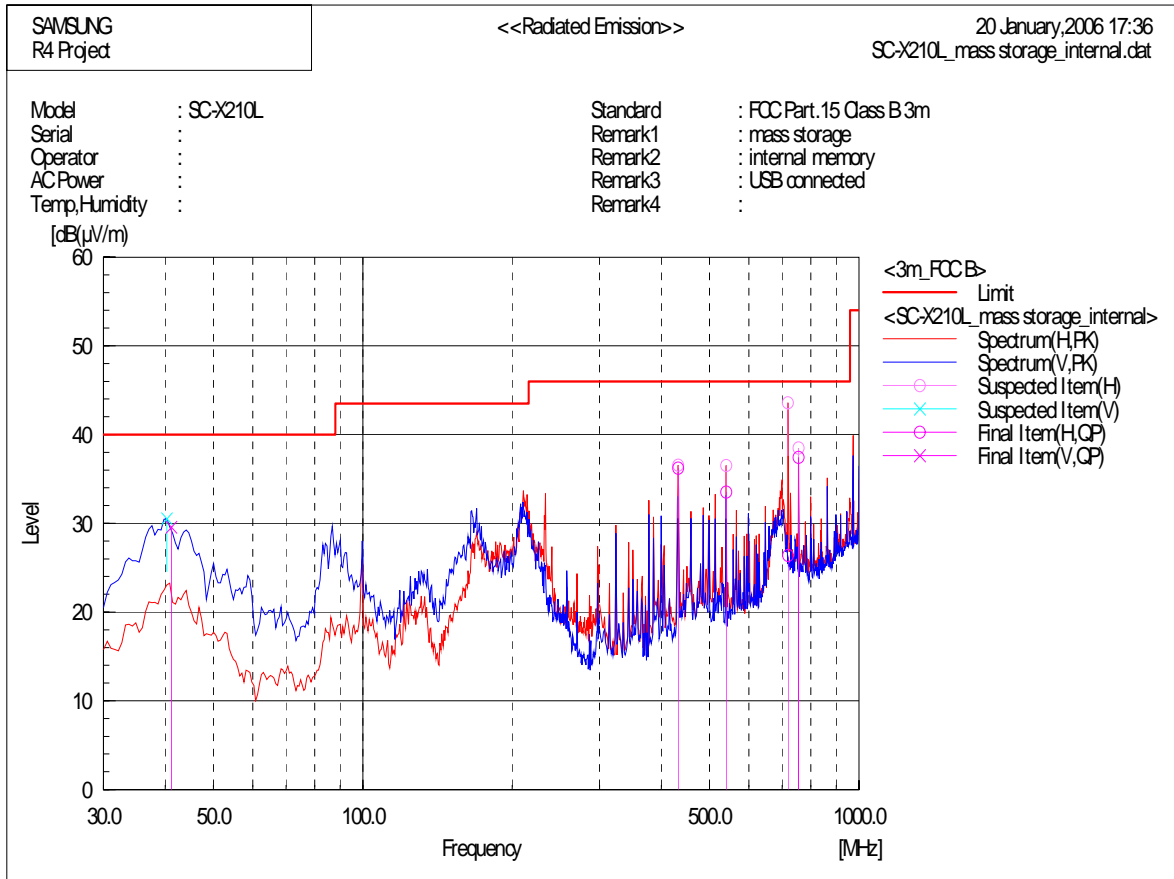
--- Horizontal Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	323.995	55.8	-14.9	40.9	46.0	5.1	
2	593.993	49.3	-7.6	41.7	46.0	4.3	
3	612.005	48.3	-7.5	40.8	46.0	5.2	

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	46.308	52.5	-17.1	35.4	40.0	4.6	
2	189.000	56.7	-19.2	37.5	43.5	6.0	

Operating Mode 8) Mass storage_internal



Final Result

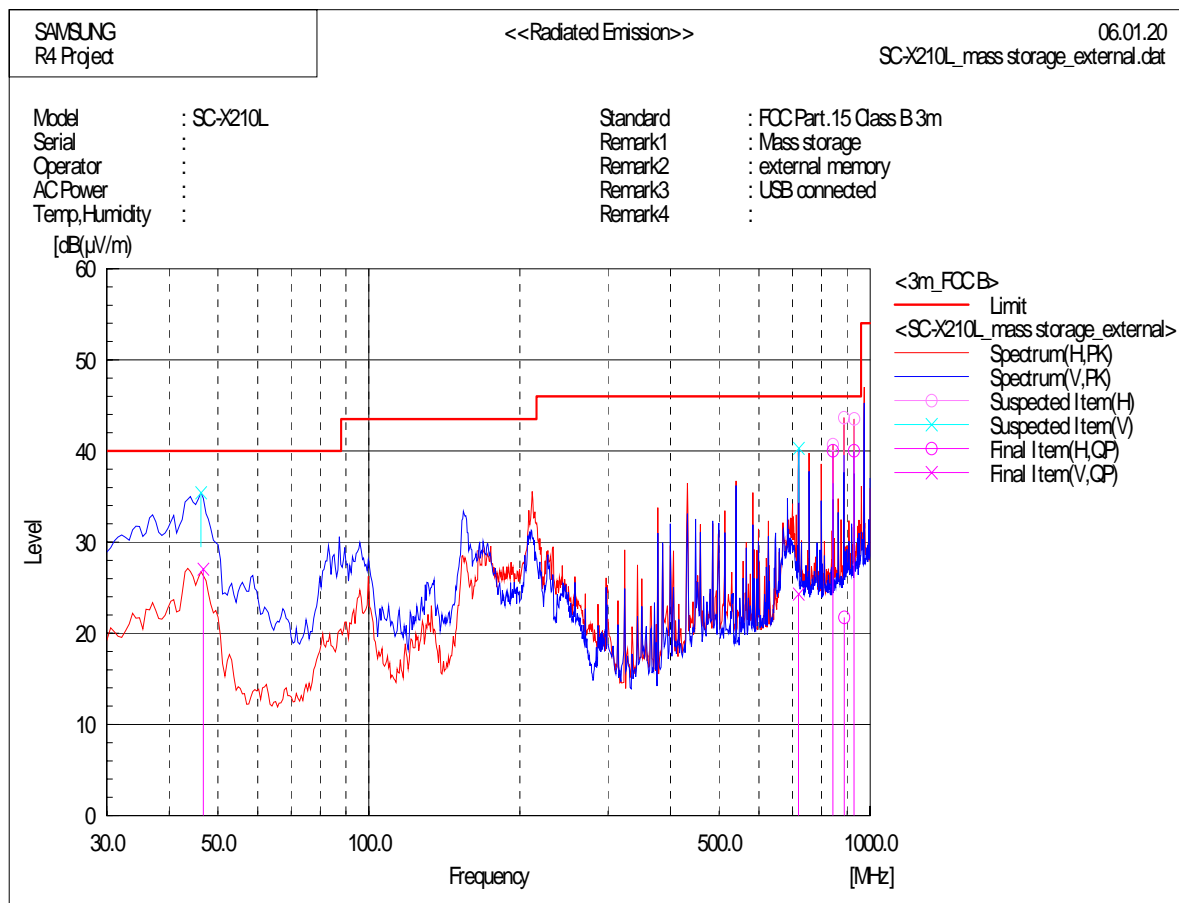
--- Horizontal Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	431.997	47.3	-11.1	36.2	46.0	9.8	
2	539.999	42.9	-9.4	33.5	46.0	12.5	
3	719.979	31.4	-5.0	26.4	46.0	19.6	
4	756.003	41.1	-3.7	37.4	46.0	8.6	

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	41.133	43.7	-14.1	29.6	40.0	10.4	

Operating Mode 9) Mass storage_external



Final Result

--- Horizontal Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	842.395	42.6	-2.6	40.0	46.0	6.0	
2	887.691	23.8	-2.0	21.8	46.0	24.2	
3	928.780	40.5	-0.5	40.0	46.0	6.0	

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	46.779	44.4	-17.4	27.0	40.0	13.0	
2	720.000	29.3	-5.0	24.3	46.0	21.7	

4. Appendix

4.1 Test photography



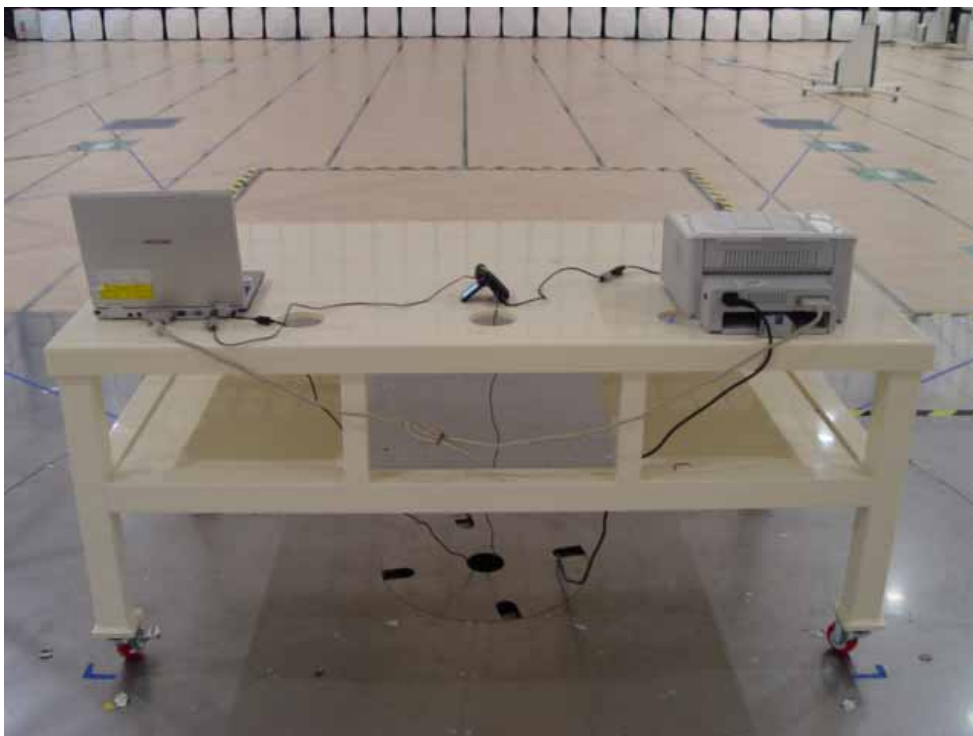
Picture 1. Conducted Emission (Front)



Picture 2. Conducted Emission (Rear)



Picture 3. Radiated emission (Front)



Picture 4. Radiated emission (Rear)

4.2 EUT photography



Picture 5. EUT (Front)



Picture 6. EUT (Rear)



Picture 7. EUT (Right Side)



Picture 8. EUT (Left Side)