EMC TEST REPORT

Project No.	LBE091880	**Revision No.**	None
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	2009.06.26	
EUT Equipment Under Test	**Kind of product**	**CCTV Monitor**	
	Model No.	**SMT-1923P**	
		Variant Model	None
	Manufacturer	Samsung Electronics Co., Ltd. 416 Maetan 3-Dong, Yeongtong-Gu,Suwon-Si, Gyeonggi-Do, 443-742 Korea	
Applied Standards		AS/NZS CISPR22:2006	
Issued date		2009.07.07	

Test result : **Complied**

The equipment under test has found to be compliant with the applied standards.
(Refer to the attached test result for more detail.)

Tested by : Hyun Jeong Jang	**Reviewed by :** 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.

The test results in this report only apply to the tested sample. This report must not be reproduced, except in full, without written permission from SEC EMC Laboratory.

SAMSUNG

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1. Summary of test results

1.1 Emission

The EUT has been tested according to the following specifications:

Test type	Applied standard	Result	Remarks
Conducted emission	AS/NZS CISPR 22:2006	Complied	Minimum margin is 13.5 dB at 0.176 MHz
Radiated emission		Complied	Minimum margin is 3.1 dB at 81.344 MHz

2. General Information

2.1 Test facility

The SEC EMC Laboratory is located on Samsung Electronics Co., Ltd. at 416 Maetan 3-Dong, Yeongtong-Gu, Suwon-Si, Gyeonggi-Do, South Korea.
All testing are performed in Semi-anechoic chambers conforming to the site attenuation Characteristics defined by ANSI C63.4, CISPR 22, 16-1 and 16-2. and Shielded rooms.

The SEC EMC Laboratory is operated as testing laboratory in accordance with the requirements of ISO/IEC 17025:2005.

2.2 Accreditation and listing

Laboratory Qualifications		Remarks
	KOLAS(Korea Laboratory Accreditation Scheme)	Accredited : 124
	Radio Research Laboratory	Accredited : KR0004
	FCC(Federal Communications Commission)	Accredited : KR0004
	National Voluntary Laboratory Accreditation Program	Lab Code: 200623-0
	Norges Elektriske Materiellkontroll	Accredited : ELA 195
	VCCI (Voluntary Control Council for Interference by Information Technology Equipment)	C-2421,R-2224
	China Quality Certification Center	5-053, 5-054
	TUV Rhineland	H9354285
	GOST(GOSTSTANDART)	ROSTEST
	Elektrotechnicky Zkusebni Ustav	Reg. No.: 001
Industry Canada	IC(Industry Canada)	Assigned Code: 5871

3. Test Setup configuration

3.1 Cable description & Peripherals

The type(s) of cables which were connected to the ports (of the EUT) are as follows:

No.	Connected cable	To	Length[m]	Ferrite Core. [Y/N]
1	Power (EUT)	AC adapter	1.8	N
2	Video out A	From CCTV Camera	0.5	N
3	Video out B	From CCTV Camera	0.5	N
4	S-Video 1	Cable	0.8	N
5	S-Video 2	Cable	0.8	N
6	VGA	From CCTV EUT	1.0	N
7	Audio In	1 kΩ Termination	-	-
8	Power (Camera A)	AC adapter	1.8	N
9	Power (Camera B)	AC adapter	1.8	N
10	Power (DVR)	AC adapter	1.8	N

The peripherals which were interconnected to the EUT during the test are as follows:

Description	Model No.	Serial No.	Manufacturer	Cable Type
CCTV Monitor	SMT-1923P	-	Samsung	-
AC adapter	ADP-5412VE	DBCB01719	Samsung	-
CCTV Camera (A)	SCC-B5223P	ZAPV6V1S400008P	Samsung	-
AC adapter (A)	DAD12050DKA	-	Samsung	-
CCTV Camera (B)	SCC-B2335P	-	Samsung	-
AC adapter (B)	YK-12060K	-	Samsung	-
Digital Video Recorder	SHR-6042	-	Samsung	-
Ac adapter (Digital Video Recorder)	ADP-5412VE	DBC600803	Samsung	-

3.2 EUT operating mode(s)

To achieve compliance applied standard specification, the following mode(s) were made during compliance testing:

Operating Mode 1	CCTV Monitoring (Video A)
Operating Mode 2	CCTV Monitoring (Video B)
Operating Mode 3	DVR Monitoring (Standby)

3.3 EUT Description

The following features describe EUT represented by this report:

Model Name		SMT-1723	SMT-1923
Sales Area		World Wide	
Broadcasting System		NTSC/PAL System	
Panel	Inch	17"	19"
	Display Type	SXGA a-Si TFT LCD	
	Resolution (HxV)	1280 X 1024	
	Brightness(cd/m2)	300	
	Contrast	1000:1	
	Response Time	5msec	
	Viewing Angle Degree	80/80/80/80	
	Active Display Area	337.92mm(H) x 270.336mm(V)	376.32mm(H) x 301.056mm(V)
	Pixel Pitch(mm)	0.264mm(H) x 0.264mm(V)	0.294mm(H) x 0.294mm(V)
Picture	Scan System	Progressive	
	CVBS Resolution	NTSC:600TVL PAL:620TVL	
	A/D bits	10 bits	
	Scanning frequency	Horizontal: 30 kHz – 81 kHz, Vertical: 56 Hz – 75 Hz	
	Color System	NTSC 3.58/PAL	
	Screen Mode	4:3	
	3D Comb Filter	Yes	
	Noise Reduction	Yes	
	PIP/PBP	Yes/Yes	
	Freeze	Yes	
	Under Scan	Yes	
Video	Composite	2CH input, 1.0Vp-p, 75Ω terminated, Loop Through out, BNC Type	
	S-Video	1CH input(Y/C), Loop Through out	
	VGA	1CH input	
Audio		2Channel input, 2W Stereo, RCA Type	
OSD	Language	12 Language (Eng/ Chn /Fre/Ger/Spa/Ita/Por/Dut/Swe/Rus/Kor/Jpn)	
HAS Stand	Lift	0 ~ 100mm	
	Tilt	-5° ~ 25°	
	Swivel	-165° ~ +165°	
Dimensions(WxDxH)	Net	371.0mm x 219.8mm x 367.6mm (Lowest) 371.0mm x 219.8mm x 467.6mm (Hightest)	412.0mm x 219.8mm x 398.5mm (Lowest) 412.0mm x 219.8mm x 498.5mm (Hightest)
Weight	Net Weight	5.9Kg	6.8Kg
Electric Performance	Power Supply	DC 12V	DC 12V
	Power Consumption	42W	42W
Operating condition	Temperature	0°C – +40°C	
	Humidity	20% – 90% (non-condensation)	

3.4 Details of Sampling

Customer selected, single unit.

3.5 Measurement uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus: (According to CISPR 16-4 and UKAS Lab 34.)

Test type			Measurement uncertainty (C.L. 95%, k = 2)
Conducted Disturbance	Main terminal		± 3.5 dB
Radiated Disturbance	Horizontal	30 to 300 MHz	± 4.77 dB
		300 to 1 GHz	± 5.00 dB
	Vertical	30 to 300 MHz	± 5.03 dB
		300 to 1 GHz	± 5.03 dB

4. Results of individual test

4.1 Conducted emission

The mains lead arranged to follow the shortest possible path between the receiver and artificial mains network on the ground. The EUT tuned to a standard test signal as defined in rules.
A TV Signal generator is connected to the receiver for this purpose and to give a noise-free picture, the input signal was sufficiently strong.

Limits for conducted disturbance at mains ports of class A

Frequency range Limits MHz	Limits dB(μV)	
	Quasi-peak	Average
0,15 to 0,50	79	66
0,50 to 30	73	60

Note 1: 1 μV is regarded as 0 dB.
Note 2: If the average limit is met in the measurement with quasi-peak detector, the measurement with average detector at the same frequency is unnecessary.
Note 3: The lower limit shall apply at the transition frequency.

Limits for conducted disturbance at the mains ports of class B

Frequency range Limits MHz	Limits dB(μV)	
	Quasi-peak	Average
0,15 to 0,50	66 to 56	56 to 46
0,50 to 5	56	46
5 to 30	60	50

Note 1: 1 μV is regarded as 0 dB.
Note 2: The limits shall decreases linearly with the logarithm of the frequency in the range 150 - 500 kHz.
Note 3: If the average limit is met in the measurement with quasi-peak detector, the measurement with average detector is unnecessary.
Note 4: The lower limit shall apply at the transition frequency.

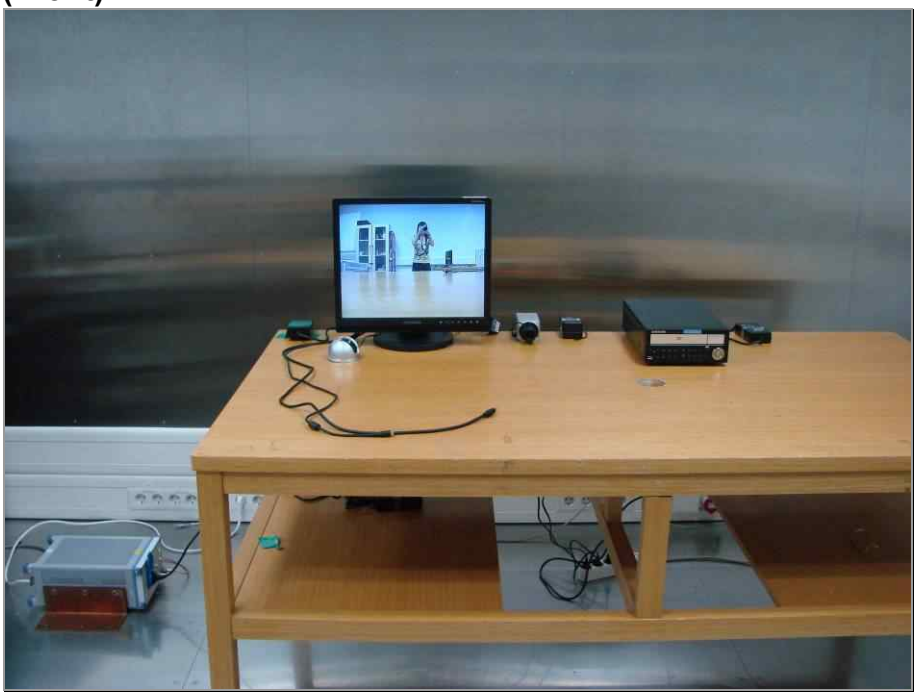
4.1.1 Test instrumentation

Test instrumentations which were used in the Conducted disturbance test are as follows;

Test instrumentation	Model name	Manufacturer	Serial or Firmware (No./Ver.)	Calibration	
				Date	Interval (Month)
Field strength meter	ESCI	R&S	100370	2009-05-07	12
L.I.S.N	ENV216	R&S	100456	2008-09-12	12
L.I.S.N	ESH3-Z5	R&S	100261	2009-04-03	12

4.1.2 Photograph of the test Configuration

(Front)



4.1.3 Test result

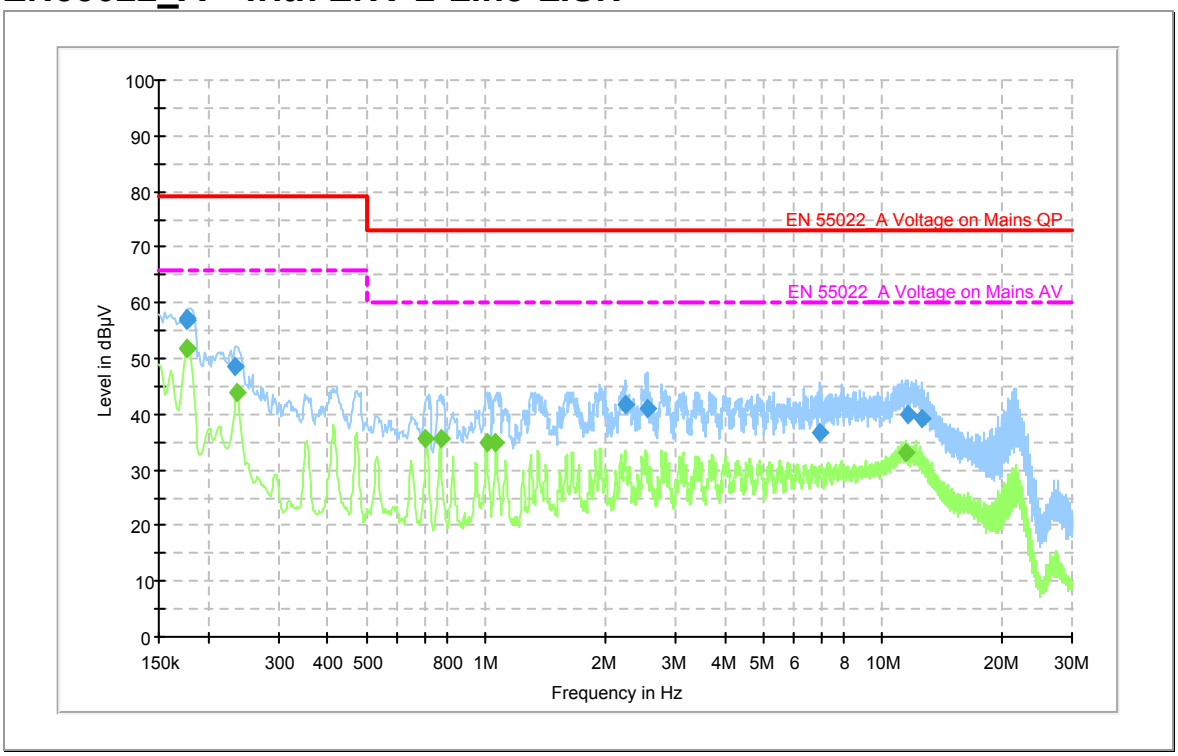
Operating condition	CCTV Monitoring (Video A)					
Test date	2009-07-01		**Test engineer**		Hyun Jeong Jang	
Climate condition	**Ambient temperature**	24.6℃	**Relative humidity**	53%	**Atmospheric Pressure**	99.8KPa
Test place	Shielded Room #1					
Note	* QP : Quasi-peak, AV: Average * Result = Level(QP or AV) + Corr. (LISN Insertion loss + Cable loss) * Margin = Limit - Level					

Scan Setup: EN55022_A_ENV 2-Line-LISN fin [EMI conducted]

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

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

EN55022_A with ENV 2-Line-LISN



Final Measurement Detector 1

Frequency (MHz)	Quasi Peak (dB μ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.176 500	57.1	L1	9.6	21.9	79.0
0.177 500	56.9	N	9.6	22.1	79.0
0.233 500	48.7	N	9.6	30.3	79.0
2.249 500	41.6	N	9.7	31.4	73.0
2.555 500	40.8	L1	9.7	32.2	73.0
6.967 500	36.7	L1	9.8	36.3	73.0
11.529 500	40.0	N	9.9	33.0	73.0
12.538 500	39.2	L1	9.9	33.8	73.0

Final Measurement Detector 2

Frequency (MHz)	Average (dB μ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.176 500	52.0	N	9.6	14.0	66.0
0.177 500	52.0	N	9.6	14.0	66.0
0.236 500	43.9	N	9.6	22.1	66.0
0.707 500	35.5	N	9.6	24.5	60.0
0.767 500	35.5	N	9.6	24.5	60.0
1.004 500	34.8	N	9.6	25.2	60.0
1.061 500	35.0	N	9.6	25.0	60.0
11.464 500	33.2	L1	9.9	26.8	60.0

Operating condition	CCTV Monitoring (Video B)					
Test date	2009-07-01		**Test engineer**		Hyun Jeong Jang	
Climate condition	**Ambient temperature**	24.6℃	**Relative humidity**	53%	**Atmospheric Pressure**	99.8KPa
Test place	Shielded Room #1					
Note	* QP : Quasi-peak, AV: Average * Result = Level(QP or AV) + Corr. (LISN Insertion loss + Cable loss) * Margin = Limit - Level					

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

Subrange 1

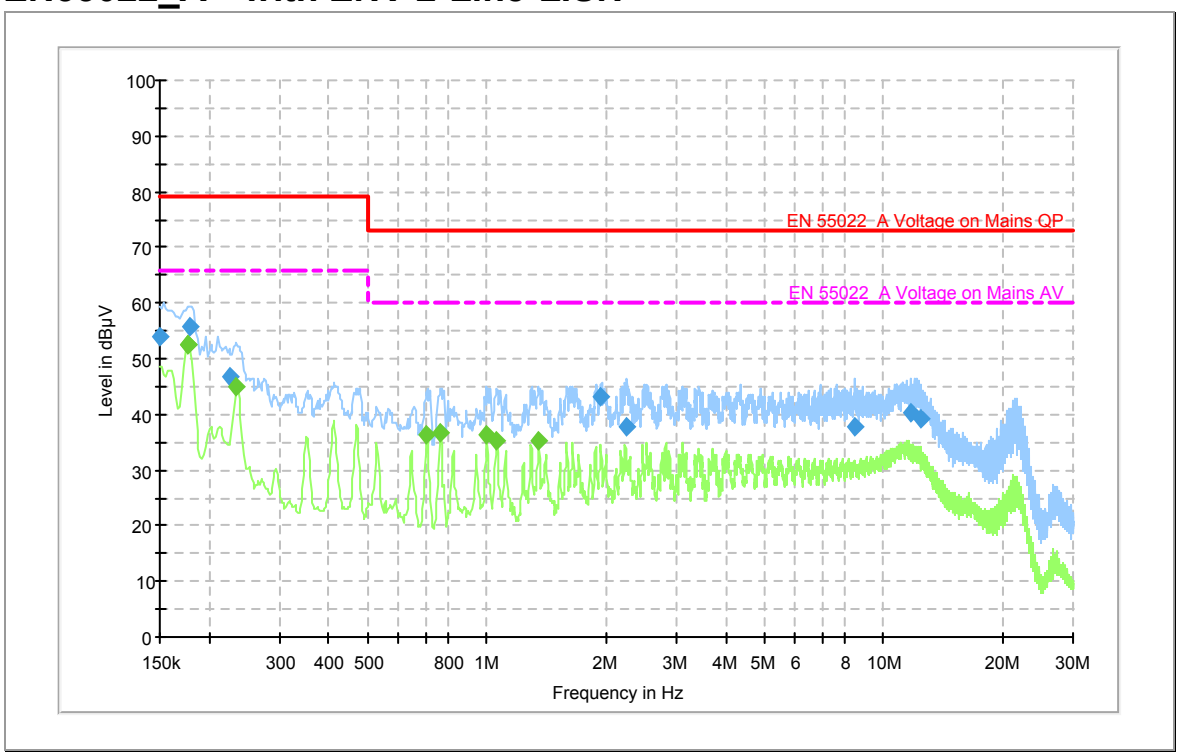
Frequency Range:	150kHz - 30MHz
Receiver:	ESCI 3
Transducer:	ENV216 / Receiver-2-Line-LISN ENV216

Scan Setup: EN55022_A_ENV 2-Line-LISN fin [EMI conducted]

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

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

EN55022_A with ENV 2-Line-LISN



Final Measurement Detector 1

Frequency (MHz)	Quasi Peak (dB μ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.150 000	54.0	L1	9.6	25.0	79.0
0.179 500	55.9	L1	9.6	23.1	79.0
0.226 500	46.8	L1	9.6	32.2	79.0
1.940 500	43.1	L1	9.7	29.9	73.0
2.252 500	37.9	N	9.7	35.1	73.0
8.462 500	37.7	L1	9.8	35.3	73.0
11.720 500	40.3	N	9.9	32.7	73.0
12.404 500	39.3	L1	9.9	33.7	73.0

Final Measurement Detector 2

Frequency (MHz)	Average (dB μ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.175 500	52.4	L1	9.6	13.6	66.0
0.176 500	52.5	N	9.6	13.5	66.0
0.234 500	44.8	N	9.6	21.2	66.0
0.705 500	36.4	N	9.6	23.6	60.0
0.763 500	36.6	N	9.6	23.4	60.0
0.998 500	36.2	N	9.6	23.8	60.0
1.056 500	35.4	L1	9.6	24.6	60.0
1.351 500	35.3	N	9.6	24.7	60.0

Operating condition	DVR Monitoring (Standby)					
Test date	2009-07-01		**Test engineer**		Hyun Jeong Jang	
Climate condition	**Ambient temperature**	24.6℃	**Relative humidity**	53%	**Atmospheric Pressure**	99.8KPa
Test place	Shielded Room #1					
Note	* QP : Quasi-peak, AV: Average * Result = Level(QP or AV) + Corr. (LISN Insertion loss + Cable loss) * Margin = Limit - Level					

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

Subrange 1

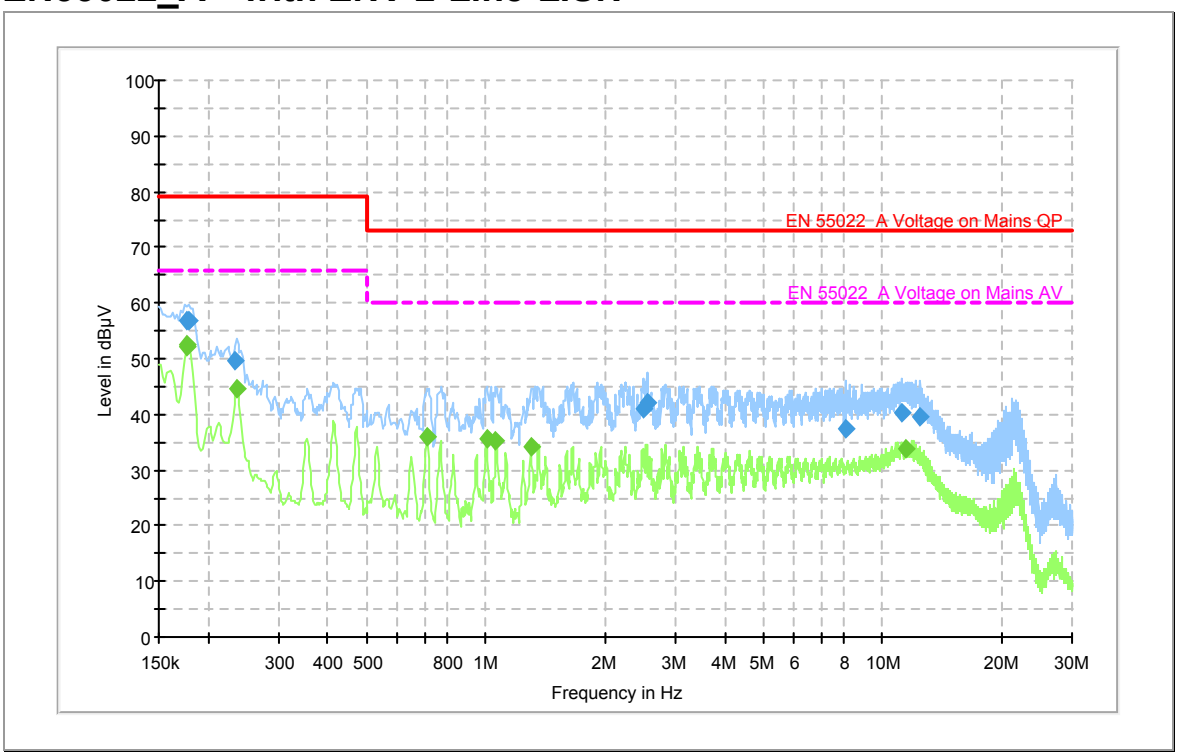
Frequency Range:	150kHz - 30MHz
Receiver:	ESCI 3
Transducer:	ENV216 / Receiver-2-Line-LISN ENV216

Scan Setup: EN55022_A_ENV 2-Line-LISN fin [EMI conducted]

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

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

EN55022_A with ENV 2-Line-LISN



Final Measurement Detector 1

Frequency (MHz)	Quasi Peak (dB μ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.175 500	56.8	N	9.6	22.2	79.0
0.178 500	56.9	L1	9.6	22.1	79.0
0.234 500	49.6	N	9.6	29.4	79.0
2.503 500	40.9	L1	9.7	32.1	73.0
2.549 500	42.1	L1	9.7	30.9	73.0
8.045 500	37.5	L1	9.8	35.5	73.0
11.154 500	40.3	N	9.9	32.7	73.0
12.477 500	39.5	L1	9.9	33.5	73.0

Final Measurement Detector 2

Frequency (MHz)	Average (dB μ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.176 500	52.2	N	9.6	13.8	66.0
0.177 500	52.3	N	9.6	13.7	66.0
0.236 500	44.5	N	9.6	21.5	66.0
0.709 500	36.1	N	9.6	23.9	60.0
1.003 500	35.6	N	9.6	24.4	60.0
1.062 500	35.4	N	9.6	24.6	60.0
1.299 500	34.1	L1	9.6	25.9	60.0
11.488 500	33.8	L1	9.9	26.2	60.0

4.2 Radiated emission

The EUT's antenna terminal connected to a 75 ohm resistive termination equal to the impedance specified for the antenna.
Starting with the front of the receiver under test facing the measuring antenna, the measuring antenna is adjusted for horizontal polarization measurement and its height varied between 1 m and 4 m until the maximum reading is obtained. The receiver under test is then rotated about its centre until the maximum meter reading is obtained, after which the measuring antenna height is again varied between 1 m and 4 m and the maximum reading noted.
The procedure is repeated for vertical polarization of the measuring antenna, the height being varied from 2m to 4 m in this case.

Limits for radiated emission of digital devices

Frequency range Limits (MHz)	Field strength (μV/m)	
	Class A (a distance of 10 meters)	Class B (a distance of 3 meters)
30 to 88	90	100
88 to 216	150	150
216 to 960	210	200
Above 960	300	500

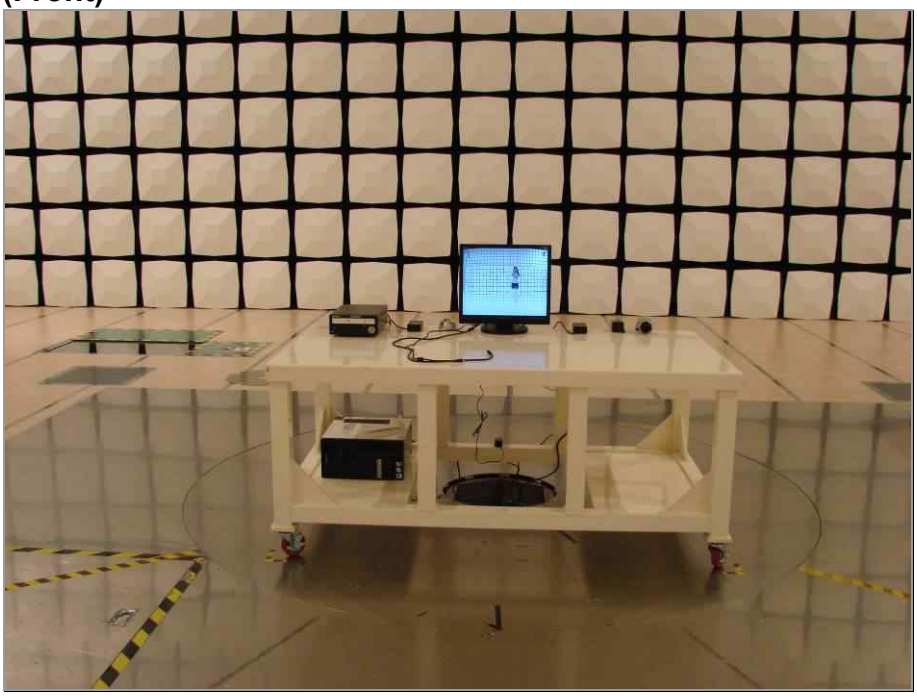
4.2.1 Test instrumentation

Test instrumentations which were used in the Radiated disturbance are as follows:

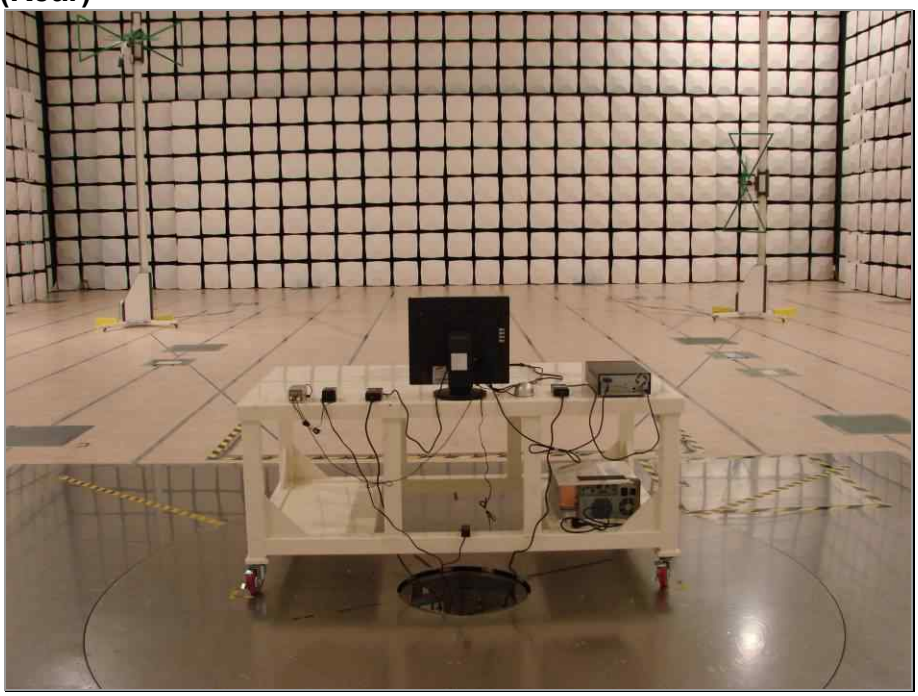
Test instrumentation	Model name	Manufacturer	Serial or Firmware (No./Ver.)	Calibration	
				Date	Interval (Month)
Bi-con Antenna	CBL6112D	SCHAFFNER	22603	2009-04-23	24
Bi-con Antenna	CBL6112D	SCHAFFNER	22601	2009-04-23	24
EMI Receiver	ESIB-26	R&S	100288	2009-05-07	12
EMI Receiver	ESIB-26	R&S	832692/002	2009-04-17	12
AMPLIFIER	310N	SONOMA	251674	2009-05-20	12
AMPLIFIER	310N	SONOMA	186467	2009-05-20	12
Ant Mast	MA4000	INN CO	-	N/A	N/A
Ant Mast	MA4000	INN CO	-	N/A	N/A
Mast Controller	CO2000	INN CO	CO2000/212/9700305/L	N/A	N/A
Mast Controller	CO2000	INN CO	CO2000/187/9271204/L	N/A	N/A
Test software	EP5/RE	TOYO	VER 3.1.20	N/A	N/A
RF Selector	NS4900	TOYO	-	N/A	N/A

4.3.2 Photograph of the test Configuration

(Front)

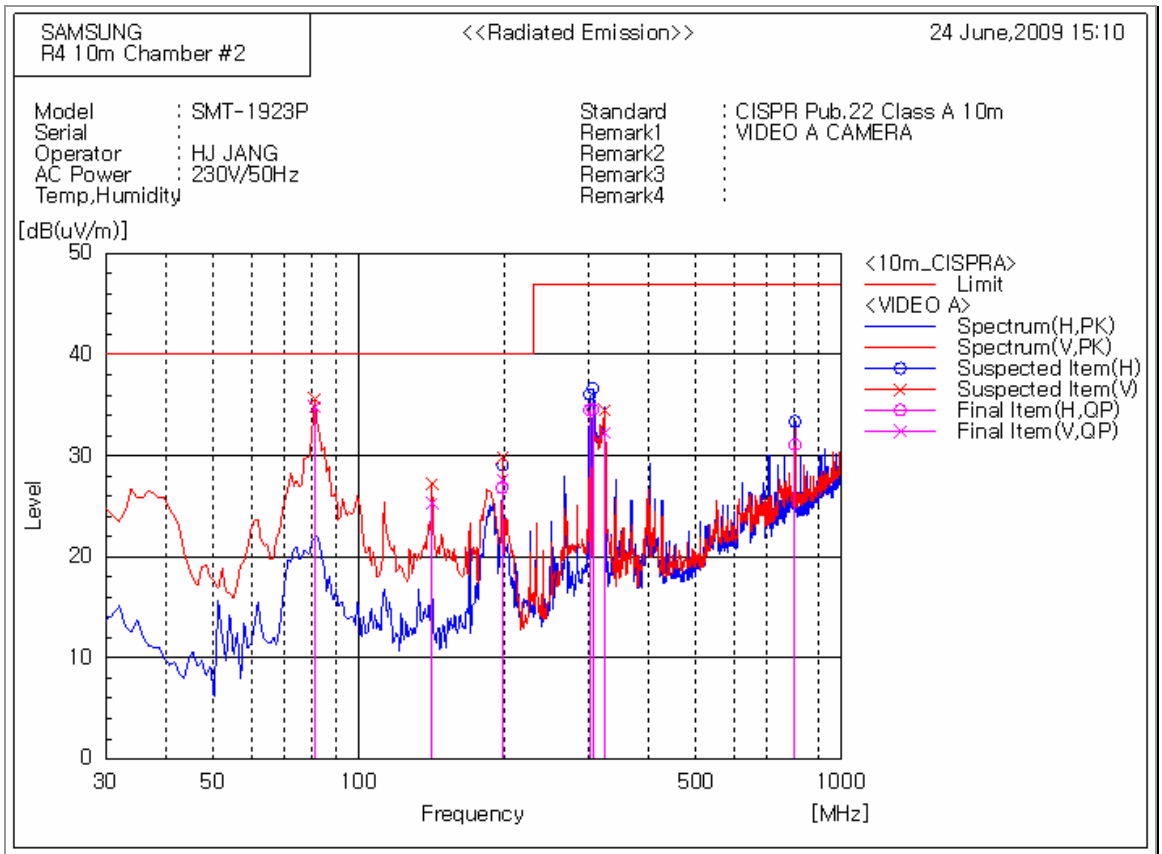


(Rear)



4.3.3 Test results

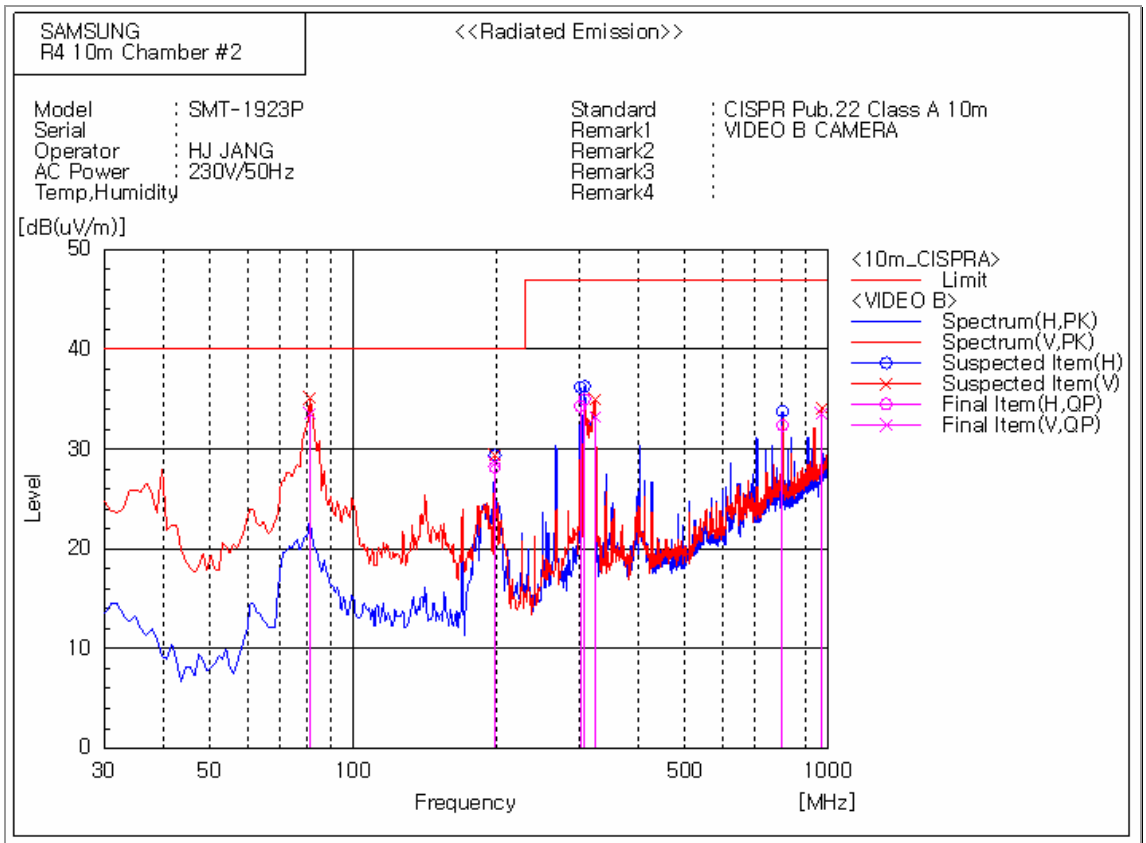
Operating condition	CCTV Monitoring (Video A)					
Test date	2009-06-29		**Test engineer**		Hyun Jeong Jang	
Climate condition	**Ambient temperature**	22.1℃	**Relative humidity**	43%	**Atmospheric Pressure**	100.1KPa
Test place	10m Semi-Anechoic Chamber					
Note	* Test distance : 10 m * Result = Reading + c.f (Antenna factor + Cable loss- Amp Gain) * Margin = Limit – Result					



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(uV)]	c.f [dB(1/m)]	Result QP [dB(uV/m)]	Limit [dB(uV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]	System
1	198.599	H	46.8	-20.0	26.8	40.0	13.2	400.0	116.9	1
2	81.315	V	57.3	-22.4	34.9	40.0	5.1	169.0	299.4	2
3	142.048	V	43.1	-17.8	25.3	40.0	14.7	100.0	274.8	2
4	199.038	V	47.5	-19.9	27.6	40.0	12.4	100.0	18.6	2
5	301.427	H	48.7	-14.2	34.5	47.0	12.5	313.0	354.1	1
6	306.257	H	48.6	-14.0	34.6	47.0	12.4	400.0	343.5	1
7	323.643	V	45.3	-13.1	32.2	47.0	14.8	400.0	299.8	2
8	802.453	H	35.4	-4.3	31.1	47.0	15.9	100.0	329.0	1

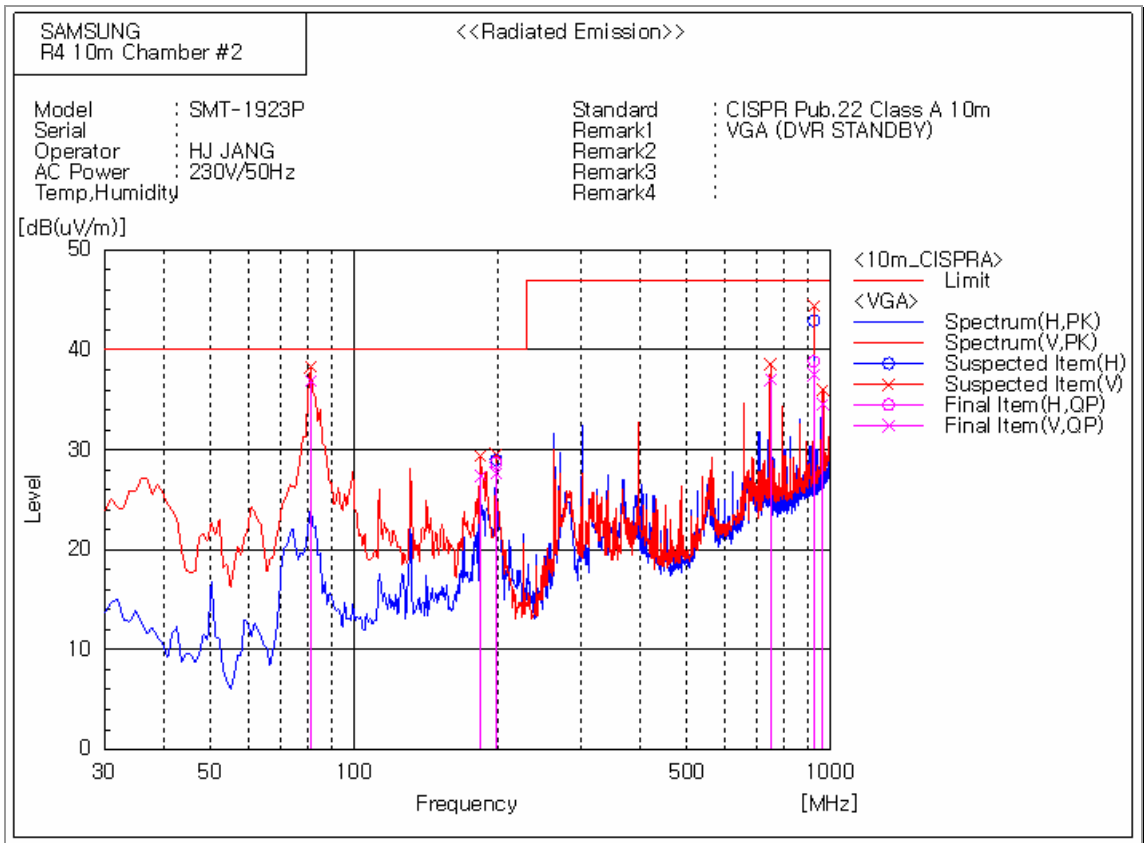
Operating condition	CCTV Monitoring (Video B)					
Test date	2009-06-29		**Test engineer**		Hyun Jeong Jang	
Climate condition	**Ambient temperature**	22.1℃	**Relative humidity**	63%	**Atmospheric Pressure**	100.1KPa
Test place	10m Semi-Anechoic Chamber					
Note	* Test distance : 10 m * Result = Reading + c.f (Antenna factor + Cable loss- Amp Gain) * Margin = Limit – Result					



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(uV)]	c.f [dB(1/m)]	Result QP [dB(uV/m)]	Limit [dB(uV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]	System
1	81.238	V	56.0	-22.4	33.6	40.0	6.4	155.0	359.6	2
2	199.038	V	48.5	-19.9	28.6	40.0	11.4	101.0	12.3	2
3	199.038	H	48.2	-20.0	28.2	40.0	11.8	400.0	81.3	1
4	301.427	H	48.5	-14.2	34.3	47.0	12.7	283.0	356.5	1
5	307.222	H	48.9	-13.9	35.0	47.0	12.0	400.0	344.2	1
6	323.643	V	46.3	-13.1	33.2	47.0	13.8	101.0	54.8	2
7	802.453	H	36.7	-4.3	32.4	47.0	14.6	100.0	328.3	1
8	970.661	V	34.7	-1.1	33.6	47.0	13.4	199.0	18.7	2

Operating condition	DVR Monitoring (Standby)					
Test date	2009-06-29		**Test engineer**		Hyun Jeong Jang	
Climate condition	**Ambient temperature**	22.1℃	**Relative humidity**	63%	**Atmospheric Pressure**	100.1KPa
Test place	10m Semi-Anechoic Chamber					
Note	* Test distance : 10 m * Result = Reading + c.f (Antenna factor + Cable loss- Amp Gain) * Margin = Limit – Result					



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(uV)]	c.f [dB(1/m)]	Result QP [dB(uV/m)]	Limit [dB(uV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]	System
1	923.979	H	41.5	-2.7	38.8	47.0	8.2	400.0	151.0	1
2	81.344	V	59.3	-22.4	36.9	40.0	3.1	169.0	329.7	2
3	923.988	V	39.5	-2.0	37.5	47.0	9.5	198.0	275.7	2
4	749.643	V	41.5	-4.5	37.0	47.0	10.0	200.0	355.9	2
5	199.038	V	47.6	-19.9	27.7	40.0	12.3	100.0	6.7	2
6	184.549	V	46.9	-19.5	27.4	40.0	12.6	100.0	6.7	2
7	965.772	V	35.7	-1.2	34.5	47.0	12.5	400.0	6.8	2
8	199.038	H	48.7	-20.0	28.7	40.0	11.3	400.0	93.7	1

Appendix A – EUT photography

(Front)

(Rear)

Appendix B – Measurement Uncertainty budget

■ Conducted disturbance

Symbol	Source of Uncertainty	Value	Probability distribution	Divisor	c_i	$u_i(y)$	$u_i(y)^2$	v_i or v_{eff}	$u_i(y)^4/v_i$
RI	Receiver Reading	**0.01**	rectangular	1.732	1	0.01	0.000	∞	0
LC	Attenuation AMN-Receiver	**0.23**	normal 2	2.000	1	0.11	0.013	∞	0
LAMN	LISN Voltage division factor	**0.43**	normal 2	2.000	1	0.22	0.046	∞	0
dVSW	Receiver Sine Wave	**1.00**	normal 2	2.000	1	0.50	0.250	∞	0
dVPA	Receiver Pulse Amplitude	**1.50**	rectangular	1.732	1	0.87	0.750	∞	0
dVPR	Receiver Pulse repetition	**1.50**	rectangular	1.732	1	0.87	0.750	∞	0
dVNF	Noise Floor Proximity	**0.00**	rectangular	1.732	1	0.00	0.000	∞	0
dZ	LISN Impedance	**2.70**	triangular	2.449	1	1.10	1.215	∞	0
FSTEP	Frequency step error	**0.33**	rectangular	1.732	1	0.19	0.036	∞	0
M	Mismatch	**-0.07**	U-shaped	1.414	1	-0.05	0.003	∞	0
	Receiver VRC = **0.09**		-						0
	LISN+Cable VRC = **0.09**		-						0
R_S	Measurement System Repeatability	**0.07**	normal 1	1.000	1	0.07	0.006	9	3.41428E-06
R_{EUT}	Repeatability of EUT	**0.00**	normal 1	1.000	1	0.00	0.000		0
$u_c(y)$	Combined Standard Uncertainty		normal			1.75	3.069	2758334	3.41428E-06
U(y)	**Expanded Uncertainty**		**normal k=**	**2.00**		3.5		2758334	

■ Radiated disturbance

- Horizontal

Symbol	Source of Uncertainty	Value	Probability distribution	Divisor	c_i	$u_i(y)$	$u_i(y)^2$	v_i or v_{eff}	$u_i(y)^4$
R_I	Receiver Indication	0.01	rectangular	1.732	1	0.01	0.000	∞	0
dVsw	Receiver Sine Wave	1.00	normal 2	2.000	1	0.50	0.250	∞	0
dVpa	Receiver Pulse Amplitude	1.50	rectangular	1.732	1	0.87	0.750	∞	0
dVpr	Receiver Pulse repetition	1.50	rectangular	1.732	1	0.87	0.750	∞	0
dVnf	Noise Floor Proximity	0.50	normal 2	2.000	1	0.25	0.063	∞	0
A_F	Antenna Factor Calibration	1.00	normal 2	2.000	1	0.50	0.250	∞	0
C_I	Cable Loss	0.21	normal 2	2.000	1	0.11	0.012	∞	0
A_B	Antenna Directivity	0.00	rectangular	1.732	1	0.00	0.000	∞	0
A_H	Antenna Factor Height Dependence	0.50	rectangular	1.732	1	0.29	0.083	∞	0
A_P	Antenna Phase Centre Variation	0.00	rectangular	1.732	1	0.00	0.000	∞	0
A_I	Antenna Factor Frequency Interpolation	0.30	rectangular	1.732	1	0.17	0.030	∞	0
Dcross	Antenna Cross Polarisation	0.00	rectangular	1.732	1	0.00	0.000	∞	0
Dbal	Antenna balance	0.30	rectangular	1.732	1	0.17	0.030	∞	0
S_I	Site Imperfections	4.00	triangular	2.449	1	1.63	2.667	∞	0
D_V	Measurement Distance Variation	0.10	rectangular	1.732	1	0.06	0.003	∞	0
Fstep	Frequency step error	0.00	rectangular	1.732	1	0.00	0.000	∞	0
M	Mismatch	-0.25	U-shaped	1.414	1	-0.18	0.032	∞	0
	Receiver VRC 0.09		-						
	Preamp output + Cable VRC 0.32		-						
M	Mismatch	-1.24	U-shaped	1.414	1	-0.87	0.764	∞	0
	Preamp input VRC 0.40								
	Antenna +Cable VRC 0.33								
R_S	Measurement System Repeatability	0.07	normal 1	1.000	1	0.07	0.005	9	2.66778E-06
R_{EUT}	Repeatability of EUT	0.00	normal 1	1.000	1	0.00	0.000		0
$u_c(F_c)$	Combined Standard Uncertainty		normal			2.39	5.689	12129747	2.66778E-06
$U(F_c)$	**Expanded Uncertainty**		**normal k=**	**2.00**		4.77		12129747	

- Vertical

Symbol	Source of Uncertainty	Value	Probability distribution	Divisor	c_i	$u_i(y)$	$u_i(y)^2$	v_i or v_{eff}	$u_i(y)^4$
R_I	Receiver Indication	0.01	rectangular	1.732	1	0.01	0.000	∞	0
dVsw	Receiver Sine Wave	1.00	normal 2	2.000	1	0.50	0.250	∞	0
dVpa	Receiver Pulse Amplitude	1.50	rectangular	1.732	1	0.87	0.750	∞	0
dVpr	Receiver Pulse repetition	1.50	rectangular	1.732	1	0.87	0.750	∞	0
dVnf	Noise Floor Proximity	0.50	normal 2	2.000	1	0.25	0.063	∞	0
A_F	Antenna Factor Calibration	1.20	normal 2	2.000	1	0.60	0.360	∞	0
C_I	Cable Loss	0.21	normal 2	2.000	1	0.11	0.012	∞	0
A_B	Antenna Directivity	1.00	rectangular	1.732	1	0.58	0.333	∞	0
A_H	Antenna Factor Height Dependence	0.30	rectangular	1.732	1	0.17	0.030	∞	0
A_P	Antenna Phase Centre Variation	0.00	rectangular	1.732	1	0.00	0.000	∞	0
A_I	Antenna Factor Frequency Interpolation	0.30	rectangular	1.732	1	0.17	0.030	∞	0
Dcross	Antenna Cross Polarisation	0.00	rectangular	1.732	1	0.00	0.000	∞	0
Dbal	Antenna balance	0.90	rectangular	1.732	1	0.52	0.270	∞	0
S_I	Site Imperfections	4.00	triangular	2.449	1	1.63	2.667	∞	0
D_V	Measurement Distance Variation	0.10	rectangular	1.732	1	0.06	0.003	∞	0
Fstep	Frequency step error	0.00	rectangular	1.732	1	0.00	0.000	∞	0
M	Mismatch	-0.25	U-shaped	1.414	1	-0.18	0.032	∞	0
	Receiver VRC 0.09		-						
	Preamp output + Cable VRC 0.32		-						
M	Mismatch	-1.24	U-shaped	1.414	1	-0.87	0.764	∞	0
	Preamp input VRC 0.40								
	Antenna +Cable VRC 0.33								
R_S	Measurement System Repeatability	0.05	normal 1	1.000	1	0.05	0.003	9	8.96178E-07
R_{EUT}	Repeatability of EUT	0.00	normal 1	1.000	1	0.00	0.000		0
$u_c(y)$	Combined Standard Uncertainty		normal			2.51	6.316	44520072	8.96178E-07
$U(y)$	**Expanded Uncertainty**		**normal k=**	**2.00**		5.03		44520072	