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EMC TEST REPORT For FCC

Test Report No.	:	CTK03-F081
Date of Issue	:	October 2, 2003
Model/Type No:	:	P42SX
Kind of Product	:	PDP TV Monitor
Applicant	:	KORTEK Corporation
Applicant Address	:	1385-15 Juan-5Dong,Nam-Ku,Incheon,Korea
Manufacturer	:	KORTEK Corporation
Manufacturer Address	:	1385-15 Juan-5Dong,Nam-Ku,Incheon,Korea
Contact Person	:	Kyu-dong, Kim
Telephone	:	+82-32-860-3151
Received Date	:	June 25, 2003
Test period	:	Start: September 22, 2003 End: September 22, 2003
Test Results	:	☒ **In Compliance** ☐ **Not in Compliance**

The test results presented in this report relate only to the object tested.

CERTiTEK Standards Laboratory Co., Ltd. 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).

Tested by

Y. J. Park

Young-Joon, Park
EMC Test Engineer
Date: October 2, 2003

Reviewed by

J. H. Hong

James Hong
EMC Technical Manager
Date: October 2, 2003

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REPORT REVISION HISTORY

Date	Revision	Page No
Oct., 30, 2003	(CTK03-F081) Issued	All

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1.0 General Product Description

1.0.1 Tested Equipment

☒ Unless otherwise indicated, all tests were conducted on Model P42SX.

☐ Tests performed on Model _____ were considered to be representative of Model(s) _____.

1.0.2 Equipment Size, Mobility and Identification

Dimensions: 1031(W) by 634(H) by 79(D) ☒ mm ☐ in
Mobility: ☐ Hand-Held ☒ Table-top ☐ Floor-standing
Serial No.: -

1.0.3 Electrical Ratings

Input: AC 100V-240V, 50/60Hz
Output: Not applicable

1.0.4 Test Voltage & Frequency

Unless indicated otherwise on the individual data sheet or test results, the test voltage and frequency was as indicated below.

Voltage: 120V
Frequency: 60Hz

1.0.5 Clock & Other Frequencies Utilized

6.0MHz, 14.318MHz, 18.432MHz, 20.0MHz, 20.25MHz

1.1 Model Differences

Not applicable.

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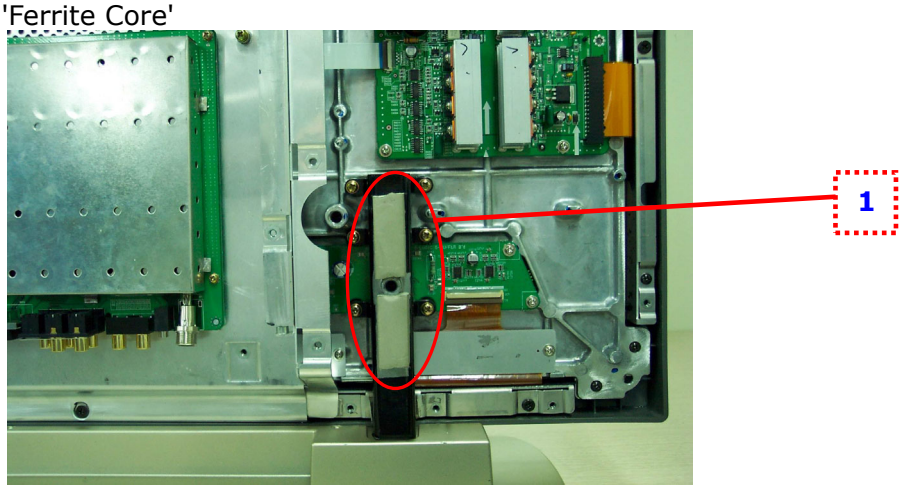
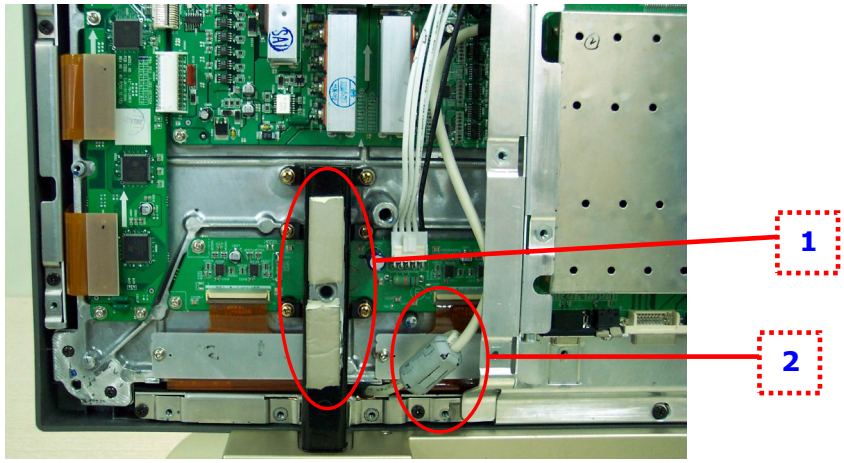
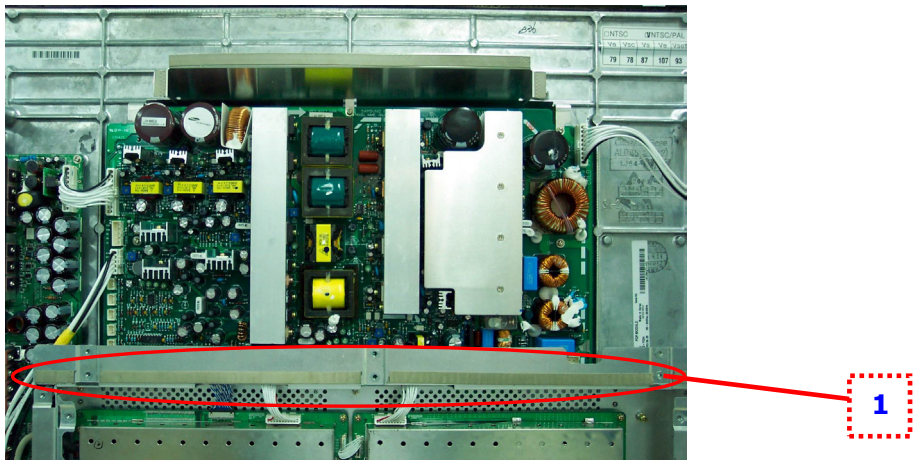
1.2 Device Modifications

The following modifications were necessary for compliance:

1) Reinforced with 'Gasket'
2) Reinforced with 'Ferrite Core'







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1.3 EUT Configuration(s)

See Appendix A for individual test set-up configuration(s). The following peripheral devices and/or interface cables were connected during the measurement:

☒ Peripheral Devices

Device	Manufacturer	Model No.	Serial No.	FCC ID or DoC
PC	Samsung	M6050	812092ERB00347	DOC
Keyboard	SAMSUNG	SEM-DT35	33008103	DOC
Mouse(PS/2)	SAMSUNG	OMS3CB	0303009872	DOC
Mouse(USB)	SAMSUNG	OMS3CB	0303009877	DOC
Mouse(Serial)	Microsoft	BASM1	4475951-20000	DOC
DVD	Ludens	-	-	-
Earphone	PLANTRONICS	-	-	-

☒ Cable Description

#	Description	Ferrited	Length (m)	Other Details
1	EUT Power Cable, Unshielded	No	1.8	Connect to AC Power
2	ANTENA Cable, Shielded	No	1.5	Connect to EUT
3	Earphone Cable, Unshielded	No	3.0	Between EUT and Earphone
4	PC Power Cable, Unshielded	No	1.8	Connect to AC Power
5	Audio In Cable, Unshielded	No	1.8	Between EUT and PC
6	DVI Cable, Shielded	Yes	1.8	Between EUT and PC
7	PC In Cable, Shielded	Yes	1.8	Between EUT and PC
8	Audio In Cable, Unshielded	No	1.8	Between EUT and DVD
9	S-Video In Cable, Unshielded	No	1.5	Between EUT and DVD
10	Video In Cable, Unshielded	No	1.8	Connect to EUT
11	Scart In Cable, Shielded	No	1.2	Connect to EUT
12	Component In Cable, Unshielded	No	1.5	Connect to EUT
13	Speaker Out Cable, Unshielded	No	1.5	Connect to EUT
14	DVD Power Cable, Unshielded	No	1.5	Connect to DVD
15	Keyboard Cable, Shielded	No	1.5	Between PC and Keyboard
16	Mouse Cable, Shielded	No	1.8	Between PC and Mouse (PS/2)
17	Mouse Cable, Shielded	No	1.8	Between PC and Mouse (USB)
18	Mouse Cable, Shielded	No	2.0	Between PC and Mouse (Serial)

n/a = not available

1.4 Test Software

☐ Pinging

☒ Name / Manufacturer / Version / Type of pattern

- EMC Test / Compaq Computer / 1.0 / Scrolling 'H'

1.5 EUT Operating Mode(s)

Equipment under test was operated during the measurement under the following conditions:

☒ Test program (H-Pattern) ☒ Test program (color bar)
☐ Standby ☐ Test program (customer specific)
☒ Resolution/ Refresh Rate - 1024 x768 / 85Hz(PC), 1280x1024(DVI)

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1.6 Calibration Details of Equipment Used for Measurement

Test equipment and test accessories are calibrated on regular basis. The maximum time between calibrations is one year or what is recommended by the manufacturer, whichever is less. All test equipment calibrations are traceable to the Korea Research Institute of Standards and Science (KRISS), therefore, all test data recorded in this report is traceable to KRISS.

1.7 Test Facility

The measurement facility is located at 386-1, Ho-Dong, Yongin-City, Kyungki-Do, Korea 449-100. The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 and CISPR Publication 22.

1.8 Measurement Procedure

Preliminary AC power line conducted emissions tests were performed shielded room. To find worst mode, several typical mode and typical cable position were tested.
Final AC power line conducted emissions test was performed shielded room. (location is same as Preliminary test)
Based on the preliminary tests of the EUT, final test was proceeded worst case test mode and cable configuration.

Preliminary radiated emissions test were performed anechoic chamber (Distance of antenna and EUT was 3 m). To find worst mode, several typical mode and typical cable position were tested and peak level and frequency were recorded.

Final radiated emissions test was performed Open Area Test Site. Based on the preliminary tests of the EUT, final test was proceeded worst case test mode and cable configuration.

* Measurement procedures was In accordance with ANSI C63.4-1992 7.2.3, 7.2.4, 8.3.1.1, 8.3.1.2

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1.9 Laboratory Accreditations and Listings

Country	Agency	Scope of Accreditation	Logo
USA	**FCC**	3 and 10 meter Open Area Test Sites to perform FCC Part 15/18 measurements.	93250
JAPAN	**VCCI**	10 meter Open Area Test Site and one conducted site.	R-948, C-986
KOREA	**MIC**	10 meter Open Area Test Site and EMS (ESD, RS, EFT/Burst, Surge)	No. 51, KR0025
International	**KOLAS**	EMC	
Europe	**GLAS**	EMC EN 55011, EN 55022, EN 55024, EN 61326, EN 50130-4, EN 50081-1, EN 50081-2, EN 50082-1, EN 50082-2, EN 61000-6-2, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-8, EN 61000-4-11, EN 61000-3-2, EN 61000-3-3	No.13000796-02

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2.0 Emissions Test Regulations

The emissions tests were performed according to following regulations:

☐ EN 50081-1:1992

☐ EN 55011:1998 +A1:1999 ☐ Group 1 ☐ Group 2
☐ Class A ☐ Class B

☐ EN 55013:1990 +A12:1994 +A13:1996 +A14:1999
☐ EN 55013:2001

☐ EN 55014-1:1993 +A1:1997 +A2:1999 ☐ Household appliances and similar
☐ Portable tools
☐ Semiconductor devices
☐ EN 55014-1:2000
☐ EN 55014-2:1997

☐ EN 55015:1996 +A1:1997 +A2:1999
☐ EN 55015:2000

☐ EN 55020:1994 +A11:1996 +A13:1999 +A14:1999
☐ EN 55020:1994 +A11:1996 +A12:1999 +A13:1999 +A14:1999

☐ EN 55022:1994 +A1:1995 +A2:1997 ☐ Class A ☐ Class B
☐ EN 55022:1998 +A1:2000 ☐ Class A ☐ Class B

☐ EN 61000-3-2:1995 +A1:1998 +A2:1998
☐ EN 61000-3-2:1995 +A1:1998 +A2:1998 +A14:2000
☐ EN 61000-3-2:2000
☐ EN 61000-3-3:1995

☐ VCCI V-3/99.05 : 1999 ☐ Class A ☐ Class B

☒ FCC Part 15 SUBPART B ☐ Class A ☒ Class B

☐ AS 3548 (1992) ☐ Class A ☐ Class B

☒ CISPR 22 (1993) ☐ Class A ☒ Class B
The unit was tested to CISPR 22 and complied with the alternate methods allowed by FCC under paragraphs 15.107 and 15.109.

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2.1 Conducted Voltage Emissions

Test Date
September 22, 2003

Test Location
EMI-CE: Shielded Room

Test Instruments

☒ Field Strength Meter	Rohde & Schwarz	ESHS30	828144/002

Test Accessories

☐ LISN	EMCO	3825/2	9206-1971
☒ LISN	EMCO	3825/2	9409-2246
☒ LISN	EMCO	3825/2	9607-2574
☒ Control PC	HP	Vectra 500	SG72000192

Frequency Range of Measurement
☒ 150 kHz to 30 MHz
☐ 450 kHz to 30 MHz
☐ _____

Instrument Settings
IF Band Width: 9 kHz

Test Results
The requirements are:

☒ MET minimum margin is 3.1 dBuV at 13.27 MHz
☐ NOT MET limit exceeded by maximum of ___ dBuV at _____ MHz
☐ NOT APPLICABLE

Remarks
See Appendix A for test data.

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2.2 Radiated Electric Field Emissions

Test Date
September 22, 2003

Test Location
☒ EMI-OATS: Testing was performed at a test distance of 10 m
☐ EMI-OATS: Testing was performed at a test distance of 3 m

Test Instruments

☒ Field Strength Meter	Rohde & Schwarz	ESVS30	826638/008

Test Accessories

☒ ULTRA Broadband Antenna	Rohde & Schwarz	HL562	361324/014
☐ Biconical Antenna	Schwarzbeck	BBA9106	41-00201
☐ Biconical Antenna	EMCO	3110B	9607-2564
☐ Log-periodic Antenna	EMCO	3146	9607-4567

Frequency Range of Measurement
30 MHz to 1 GHz

Instrument Settings
IF Band Width: 120 kHz

Test Results
The requirements are:

☒ MET minimum margin is 3.5 dB (uV/m) at 520.56 MHz
☐ NOT MET limit exceeded by maximum of ____ dB(uV/m) at _____ MHz
☐ NOT APPLICABLE

Remarks
See Appendix A for test data

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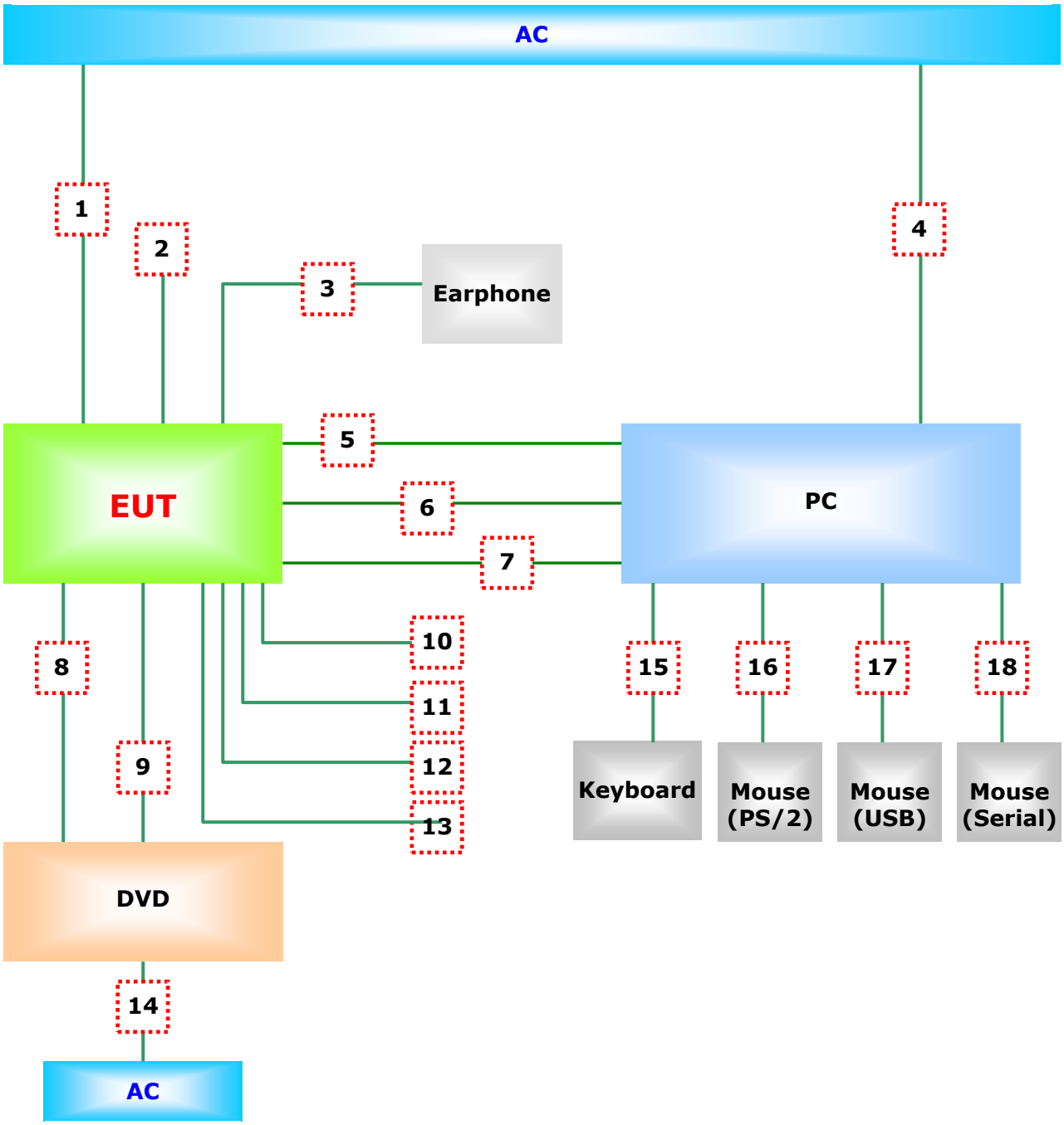
Configuration



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APPENDIX A – TEST DATA

Conducted Voltage Emissions (Quasi-Peak reading)

Frequency	Correction Factor		Line	Quasi-peak				Average			
				Limit	Reading	Result	Margin	Limit	Reading	Result	Margin
[MHz]	LISN	Cable		[dBuV]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dB]
0.15	2.2	0.1	L	66.0	51.7	54.0	12.0	56.0	35.1	37.4	18.6
0.19	1.7	0.1	L	64.0	55.9	57.7	6.3	54.0	48.8	50.6	3.4
0.20	1.7	0.1	L	63.6	56.6	58.4	5.2	53.6	40.8	42.6	11.0
12.68	0.4	0.2	L	60.0	54.6	55.2	4.9	50.0	34.4	35.0	15.0
13.07	0.4	0.2	L	60.0	55.5	56.1	3.9	50.0	33.1	33.7	16.3
13.27	0.4	0.2	L	60.0	56.4	57.0	3.1	50.0	36.0	36.6	13.4
13.47	0.4	0.2	L	60.0	54.1	54.7	5.3	50.0	33.3	33.9	16.2
0.15	2.2	0.1	N	66.0	50.1	52.4	13.6	56.0	22.8	25.1	30.9
0.18	1.7	0.1	N	64.5	54.8	56.6	7.9	54.5	49.1	50.9	3.6
0.20	1.7	0.1	N	63.6	54.0	55.8	7.8	53.6	38.6	40.4	13.2
0.23	0.8	0.1	H	62.4	51.4	52.3	10.2	52.4	44.4	45.3	7.2
12.68	0.4	0.2	H	60.0	53.1	53.7	6.3	50.0	32.7	33.3	16.7
12.87	0.4	0.2	N	60.0	52.6	53.2	6.8	50.0	31.2	31.8	18.2
13.07	0.4	0.2	N	60.0	53.5	54.1	5.9	50.0	30.6	31.2	18.8
13.27	0.4	0.2	N	60.0	53.7	54.3	5.7	50.0	33.9	34.5	15.5

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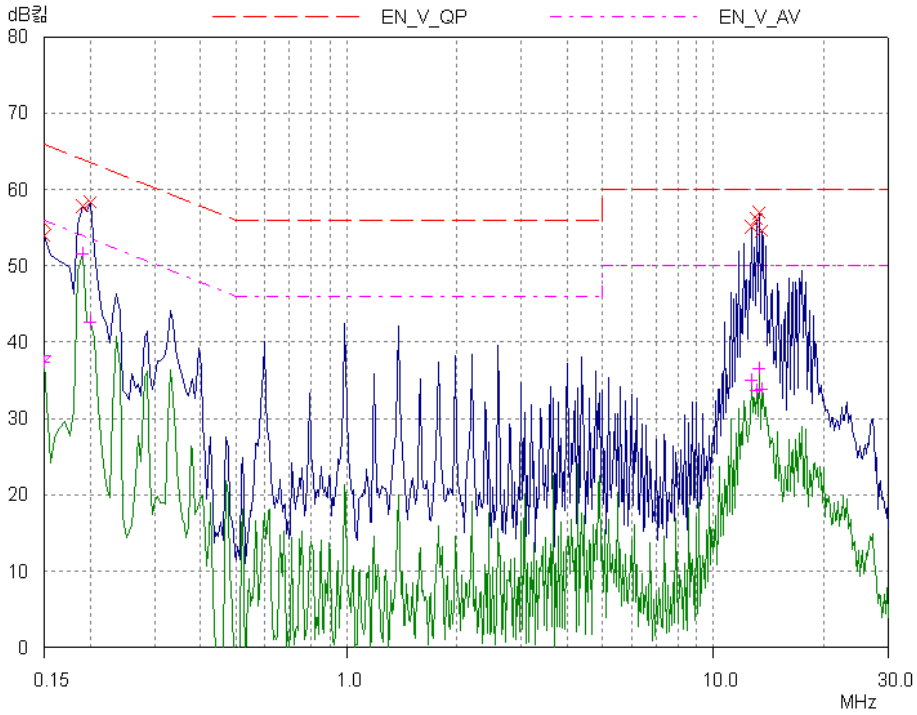

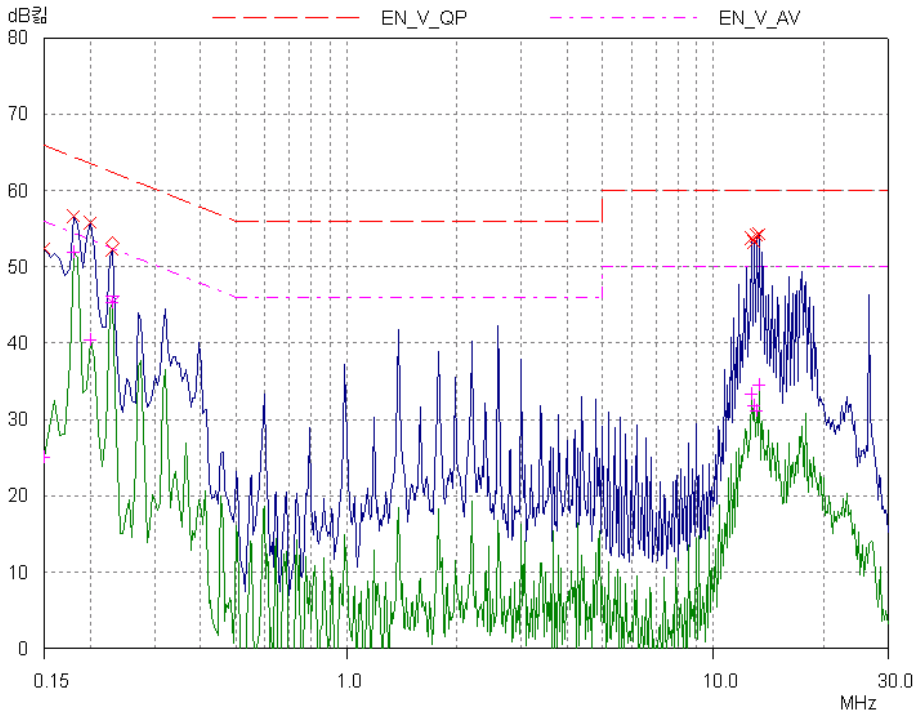

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Radiated Electric Field Emissions (Quasi-Peak reading)

Frequency [MHz]	Reading [dBuV/m]	Pol.	Height [m]	Correction Factor Antenna	Correction Factor Cable	Limits [dBuV/m]	Result [dBuV/m]	Margin [dB]
49.63	17.0	V	1.2	7.9	1.3	30.0	26.2	3.8
72.55	17.5	V	1.5	7.3	1.7	30.0	26.5	3.6
185.96	17.1	H	4.0	6.8	2.6	30.0	26.5	3.6
189.32	15.6	H	3.2	7.0	2.7	30.0	25.3	4.7
196.11	15.3	H	4.0	7.0	2.7	30.0	25.0	5.0
202.85	13.6	H	4.0	7.4	2.8	30.0	23.7	6.3
520.56	12.7	V	1.2	16.0	4.8	37.0	33.5	3.5
660.56	4.0	V	1.5	18.3	5.5	37.0	27.8	9.2
681.53	5.7	V	1.0	18.1	5.5	37.0	29.3	7.7
700.89	4.4	V	1.1	18.4	5.7	37.0	28.5	8.5
709.55	5.4	V	1.0	18.5	5.7	37.0	29.6	7.4
720.01	7.4	V	1.0	18.8	5.9	37.0	32.1	4.9

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