

EMC TEST REPORT For FCC



Test Report No. : 2004120017
Date of Issue : December 28, 2004
FCC ID : NLMDIGIMAXV700
Model/Type No. : Digimax V700
Kind of Product : Digital Camera
Applicant : Samsung Techwin Co., Ltd.
Applicant Address : 145-3, Sangdaewon 1-Dong, Jungwon-Gu, Sungham-City,
Kyungki-Do, Korea
Manufacturer : Samsung Techwin Co., Ltd.
Manufacturer Address : 42, Sungju-dong, Changwon City, Kyungnam, Korea
Contact Person : Mr. LEE BYOUNG KYU/Research Engineer
Telephone : +82-31-740-8469
Received Date : December 16, 2004
Test period : Start : December 17, 2004 End : December 17, 2004
Test Results : ☒ **In Compliance** ☐ **Not in Compliance**

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

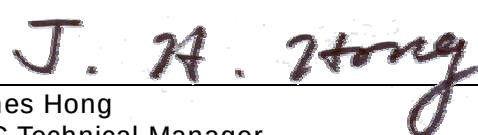
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Tested by



Young-Joon, Park
EMC Test Engineer
Date: December 28, 2004

Reviewed by



James Hong
EMC Technical Manager
Date: December 28, 2004

REPORT REVISION HISTORY

Date	Revision	Page No
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1.0 General Product Description

1.0.1 Tested Equipment

- ☒ Unless otherwise indicated, all tests were conducted on Model Digimax V700.
- ☐ Tests performed on Model _____ were considered to be representative of Model(s) _____.

1.0.2 Equipment Size, Mobility and Identification

Dimensions: 105(W) by 56.5(H) by 30.2(D) ☒ mm ☐ in

Mobility: ☒ Hand-held ☒ Table-top ☐ Built-in

☐ Traveling ☐ Floor-standing

Serial No.: Prototype

1.0.3 Electrical Ratings

Adapter

Input: AC 100-250V, 50/60Hz, 0.3A

Output: DC 3.3V, 2.0A

EUT

Input: DC 3.3V

Output: -

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: 120Vac

Frequency: 60Hz

1.0.5 Clock & Other Frequencies Utilized

12MHz, 15.4MHz, 67.5MHz, 108MHz

1.1 Model Differences

Not applicable

1.2 Device Modifications

The following modifications were necessary for compliance:

Not applicable

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 C63.4-2001 7.2.3, 7.2.4, 8.3.1.1, 8.3.1.2

1.9 Laboratory Accreditations and Listings

Country	Agency	Scope of Accreditation	Logo
USA	FCC	3 & 10 meter Open Area Test Sites and one conducted site 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	EMI (10 meter Open Area Test Site and two conducted sites) EMS (ESD, RS, EFT/Burst, Surge, CS, Magnetic, Dips and interruptions)	 No. 51, KR0025
International	KOLAS	EMC	 NO. 179
Europe	GLAS	EMC EN 55011, EN 55022, EN 61000-6-3, EN 61000-6-4, EN 61000-3-2, EN 61000-3-3, EN 61000-6-1, EN 61000-6-2, EN 50130-4, EN 55024, EN 61204-3, EN 60601-1-2, 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	 No.13000796-02

2.0 Emissions Test Regulations

The emissions tests were performed according to following regulations:

- | | | |
|--|----------------------------------|---|
| ☐ EN 50081-1:1992 | ☐ Class A | ☐ Class B |
| ☐ EN 61000-6-3:2001 | ☐ Class A | ☐ Class B |
| ☐ EN 50081-2:1993 | ☐ Class A | ☐ Class B |
| ☐ EN 61000-6-4:2001 | ☐ Class A | ☐ Class B |
| ☐ EN 50083-2:2001 | | |
| ☐ 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 55014-1:2000 | | |
| ☐ EN 55014-1:2000 +A1:2001 | | |
| ☐ EN 55015:2000 | | |
| ☐ EN 55015:2000 +A1:2001 | | |
| ☐ EN 55022:1994 +A1:1995 +A2:1997 | ☐ Class A | ☐ Class B |
| ☐ EN 55022:1998 | ☐ Class A | ☐ Class B |
| ☐ EN 55022:1998 +A1:2000 | ☐ Class A | ☐ Class B |
| ☐ EN 61000-3-2:1995 +A1:1998 +A2:1998 +A14:2000 | | |
| ☐ EN 61000-3-2:2000 | | |
| ☐ EN 61000-3-3:1995 | | |
| ☐ EN 61000-3-3:1995 +A1:2001 | | |
| ☐ VCCI V-3/2003.04 | ☐ Class A | ☐ Class B |
| ☐ AS/NZS 3548:1995 +A1:1997 +A2:1997 | ☐ Class A | ☐ Class B |
| ☒ FCC Part 15 Subpart B | ☐ Class A | ☒ Class B |
| ☒ CISPR 22:1997 | ☐ 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. | | |
| ☐ CISPR 22:1997 +A1:2000 | ☐ Class A | ☐ Class B |

2.1 Conducted Voltage Emissions

Test Date

December 17, 2004

Test Location

Shielded Room

Test Equipment

	Name of Equipment	Manufacturer	Model No.	Serial No.	Due Date
☒	Field Strength Meter	Rohde & Schwarz	ESHS30	828144/002	2005-02-07
☒	LISN	EMCO	3825/2	9607-2574	2005-09-03
☒	LISN	EMCO	3825/2	9409-2246	2005-09-03
☐	Field Strength Meter	Rohde & Schwarz	ESHS30	862024/001	2005-02-24
☐	LISN	Rohde & Schwarz	ESH3-Z5	100207	2005-12-15
☐	LISN	EMCO	3825/2	9206-1971	2005-12-15

Frequency Range of Measurement

150 kHz to 30 MHz

Test Results

The requirements are:

☒ MET

Frequency (MHz)	Measured Data (dBuV)	Margin (dB)	Remark
3.73	42.8	3.2	Average

☐ NOT MET

Frequency (MHz)	Measured Data (dBuV)	Margin (dB)	Remark

☐ NOT APPLICABLE

Remarks

See Appendix A for test data.

2.2 Radiated Electric Field Emissions

Test Date

December 17, 2004

Test Location

☒ Testing was performed at a test distance of 3 meter Open Area Test Site

Test Equipment

	Name of Equipment	Manufacturer	Model No.	Serial No.	Due Date
☒	Field Strength Meter	Rohde & Schwarz	ESVS30	826638/008	2005-04-08
☒	ULTRA Broadband Antenna	Rohde & Schwarz	HL562	361324/014	2005-05-21
☐	Biconical Antenna	EMCO	3110	9202-1510	2005-04-09
☐	Log-periodic Antenna	EMCO	3146	9607-4567	2005-04-06

Frequency Range of Measurement

30 MHz to 2 GHz

Test Results

The requirements are:

☒ MET

Frequency (MHz)	Measured Data (dBuV/m)	Margin (dB)	Remark
433.01	42.8	3.2	Quasi-Peak

☐ NOT MET

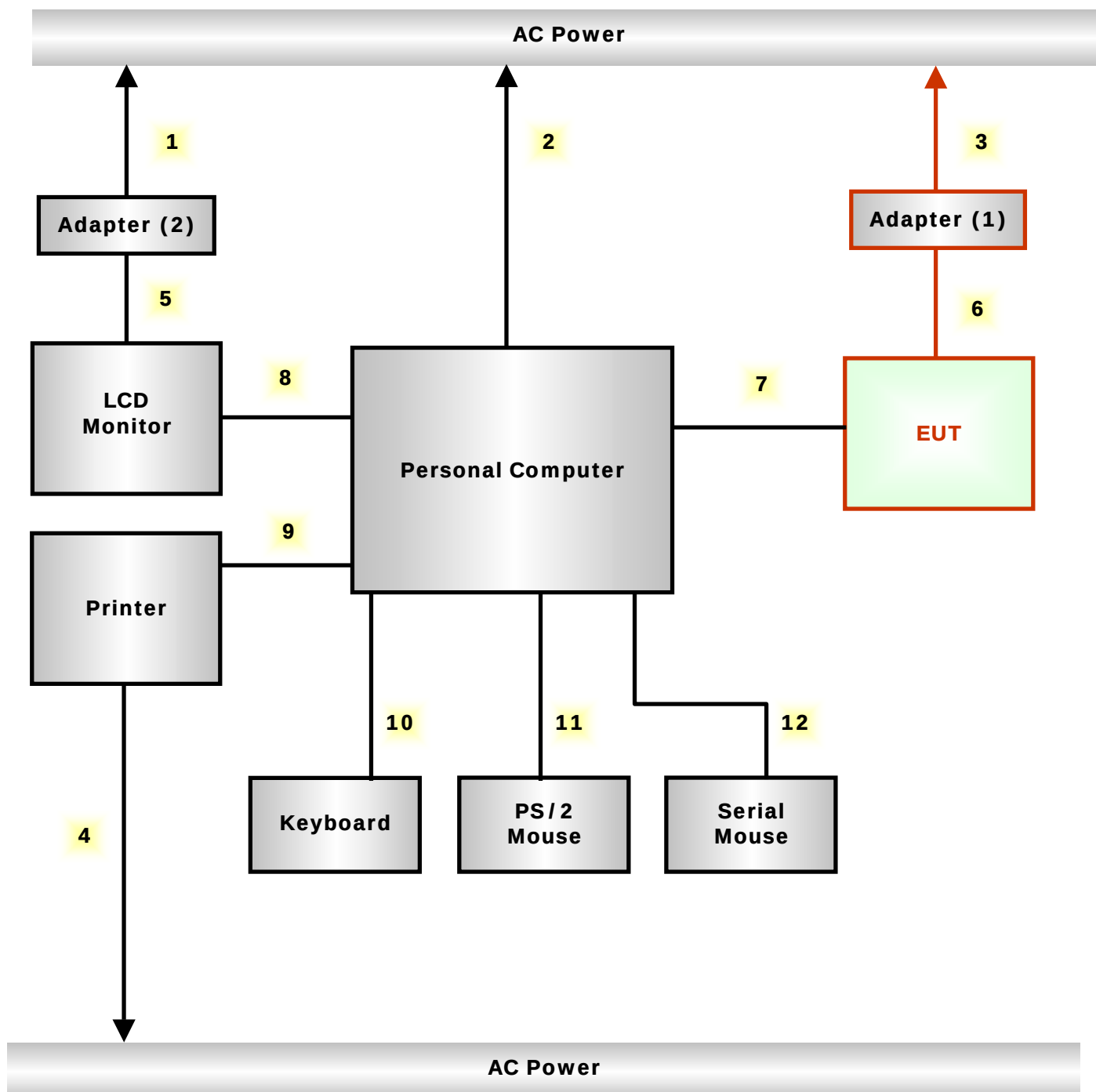
Frequency (MHz)	Measured Data (dBuV/m)	Margin (dB)	Remark

☐ NOT APPLICABLE

Remarks

See Appendix A for test data

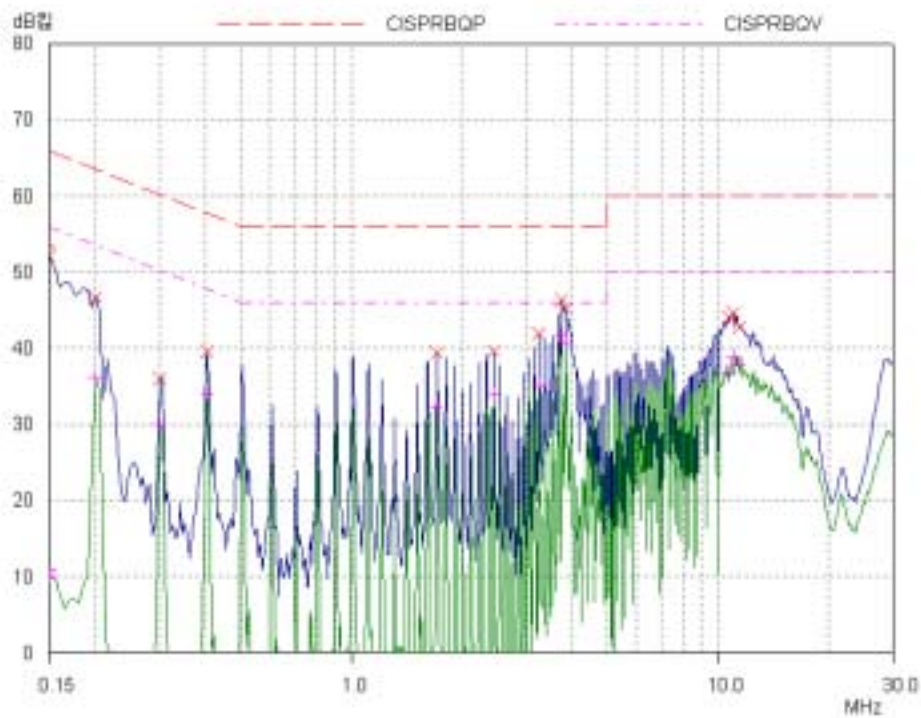
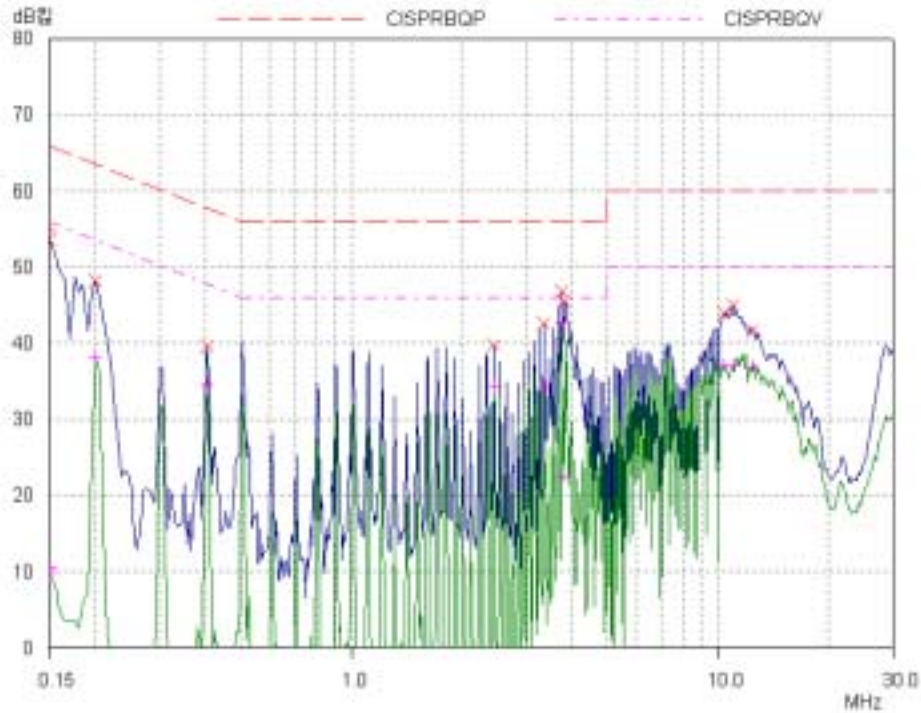
Configuration



APPENDIX A – TEST DATA

Conducted Voltage Emissions (Quasi-Peak reading)

Frequency [MHz]	Correction Factor		Line	Quasi-peak				Average			
	LISN	Cable		Limit [dBuV]	Reading [dBuV]	Result [dBuV]	Margin [dB]	Limit [dBuV]	Reading [dBuV]	Result [dBuV]	Margin [dB]
2.42	0.1	0.2	L	56.0	39.5	39.8	16.2	46.0	34.0	34.3	11.7
3.23	0.1	0.2	N	56.0	41.6	41.9	14.1	46.0	34.9	35.2	10.8
3.73	0.1	0.2	L	56.0	46.6	46.9	9.1	46.0	42.5	42.8	3.2
3.78	0.1	0.2	L	56.0	45.2	45.5	10.5	46.0	22.3	22.6	23.4
3.83	0.1	0.2	N	56.0	44.9	45.2	10.8	46.0	40.4	40.7	5.3
10.99	0.1	0.2	N	60.0	44.3	44.6	15.4	50.0	38.7	39.0	11.1



Radiated Electric Field Emissions (Quasi-Peak reading)

Frequency [MHz]	Reading [dBuV / m]	Pol.	Height [m]	Correction Factor		Limits [dBuV / m]	Result [dBuV / m]	Margin [dB]
				Antenna	Cable			
36.08	15.7	V	1.8	17.20	0.50	40.0	33.4	6.6
108.30	25.3	V	1.0	9.50	1.10	43.5	35.9	7.6
216.31	29.9	H	4.0	7.95	1.80	46.0	39.6	6.4
433.01	25.8	H	4.0	14.10	2.90	46.0	42.8	3.2
539.75	22.6	H	2.3	16.10	3.50	46.0	42.2	3.8
648.25	20.4	V	2.0	17.80	3.70	46.0	41.9	4.1
1081.50	22.8	H	1.0	21.40	5.00	54.0	49.2	4.8
1188.75	18.1	V	2.5	21.40	5.00	54.0	44.5	9.5
1194.25	13.2	V	1.3	23.20	5.55	54.0	41.9	12.1
1601.25	10.3	V	1.5	24.50	5.83	54.0	40.6	13.4