



### 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, Sunghnam-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.

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*

*Reviewed by*

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

James Hong  
EMC Technical Manager  
Date: December 28, 2004



## REPORT REVISION HISTORY

Date	Revision	Page No
December 28, 2004	Issued (2004120017)	All

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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	<b>FCC</b>	3 & 10 meter Open Area Test Sites and one conducted site to perform FCC Part 15/18 measurements.	 93250
JAPAN	<b>VCCI</b>	10 meter Open Area Test Site and one conducted site.	 R-948, C-986
KOREA	<b>MIC</b>	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	<b>KOLAS</b>	EMC	 NO. 119
Europe	<b>GLAS</b>	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:

- |  |                                  |   |
|--|----------------------------------|---|
| <input type="checkbox"/> EN 50081-1:1992                               | <input type="checkbox"/> Class A | <input type="checkbox"/> Class B            |
| <input type="checkbox"/> EN 61000-6-3:2001                             | <input type="checkbox"/> Class A | <input type="checkbox"/> Class B            |
| <input type="checkbox"/> EN 50081-2:1993                               | <input type="checkbox"/> Class A | <input type="checkbox"/> Class B            |
| <input type="checkbox"/> EN 61000-6-4:2001                             | <input type="checkbox"/> Class A | <input type="checkbox"/> Class B            |
| <input type="checkbox"/> EN 50083-2:2001                               |                                  |   |
| <input type="checkbox"/> EN 55011:1998 +A1:1999                        | <input type="checkbox"/> Group 1 | <input type="checkbox"/> Group 2            |
|  | <input type="checkbox"/> Class A | <input type="checkbox"/> Class B            |
| <input type="checkbox"/> EN 55013:1990 +A12:1994 +A13:1996 +A14:1999   |                                  |   |
| <input type="checkbox"/> EN 55013:2001                                 |                                  |   |
| <input type="checkbox"/> EN 55014-1:2000                               |                                  |   |
| <input type="checkbox"/> EN 55014-1:2000 +A1:2001                      |                                  |   |
| <input type="checkbox"/> EN 55015:2000                                 |                                  |   |
| <input type="checkbox"/> EN 55015:2000 +A1:2001                        |                                  |   |
| <input type="checkbox"/> EN 55022:1994 +A1:1995 +A2:1997               | <input type="checkbox"/> Class A | <input type="checkbox"/> Class B            |
| <input type="checkbox"/> EN 55022:1998                                 | <input type="checkbox"/> Class A | <input type="checkbox"/> Class B            |
| <input type="checkbox"/> EN 55022:1998 +A1:2000                        | <input type="checkbox"/> Class A | <input type="checkbox"/> Class B            |
| <input type="checkbox"/> EN 61000-3-2:1995 +A1:1998 +A2:1998 +A14:2000 |                                  |   |
| <input type="checkbox"/> EN 61000-3-2:2000                             |                                  |   |
| <input type="checkbox"/> EN 61000-3-3:1995                             |                                  |   |
| <input type="checkbox"/> EN 61000-3-3:1995 +A1:2001                    |                                  |   |
| <input type="checkbox"/> VCCI V-3/2003.04                              | <input type="checkbox"/> Class A | <input type="checkbox"/> Class B            |
| <input type="checkbox"/> AS/NZS 3548:1995 +A1:1997 +A2:1997            | <input type="checkbox"/> Class A | <input type="checkbox"/> Class B            |
| <input checked="" type="checkbox"/> FCC Part 15 Subpart B              | <input type="checkbox"/> Class A | <input checked="" type="checkbox"/> Class B |
| <input checked="" type="checkbox"/> CISPR 22:1997                      | <input type="checkbox"/> Class A | <input checked="" type="checkbox"/> 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.
- |   |                                  |                                  |
|---|----------------------------------|----------------------------------|
| <input type="checkbox"/> CISPR 22:1997 +A1:2000 | <input type="checkbox"/> Class A | <input type="checkbox"/> 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
<input checked="" type="checkbox"/>	Field Strength Meter	Rohde & Schwarz	ESHS30	828144/002	2005-02-07
<input checked="" type="checkbox"/>	LISN	EMCO	3825/2	9607-2574	2005-09-03
<input checked="" type="checkbox"/>	LISN	EMCO	3825/2	9409-2246	2005-09-03
<input type="checkbox"/>	Field Strength Meter	Rohde & Schwarz	ESHS30	862024/001	2005-02-24
<input type="checkbox"/>	LISN	Rohde & Schwarz	ESH3-Z5	100207	2005-12-15
<input type="checkbox"/>	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
<input checked="" type="checkbox"/>	Field Strength Meter	Rohde & Schwarz	ESVS30	826638/008	2005-04-08
<input checked="" type="checkbox"/>	ULTRA Broadband Antenna	Rohde & Schwarz	HL562	361324/014	2005-05-21
<input type="checkbox"/>	Biconical Antenna	EMCO	3110	9202-1510	2005-04-09
<input type="checkbox"/>	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

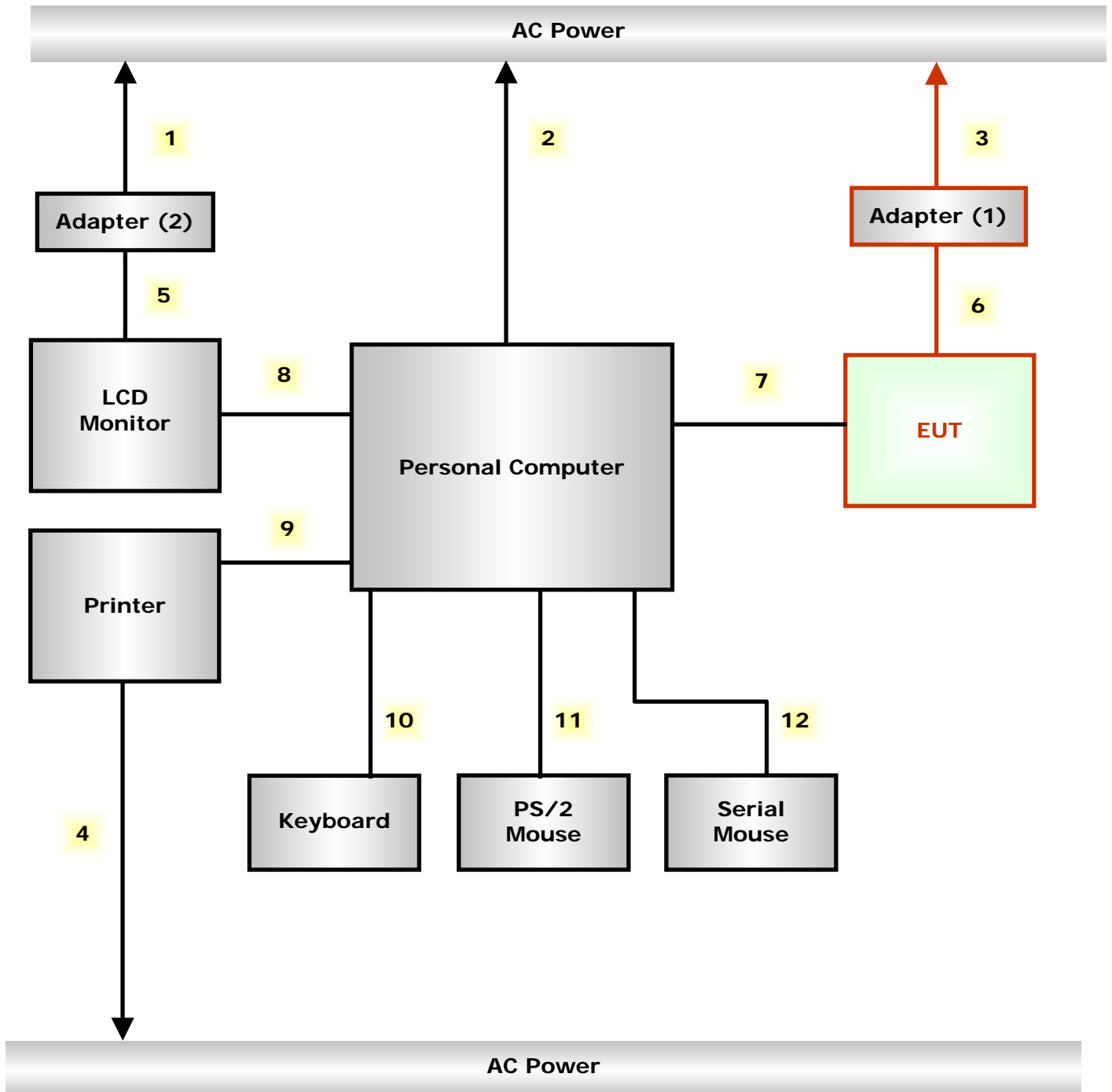
Frequency (MHz)	Measured Data (dBuV/m)	Margin (dB)	Remark

NOT APPLICABLE

### Remarks

See Appendix A for test data

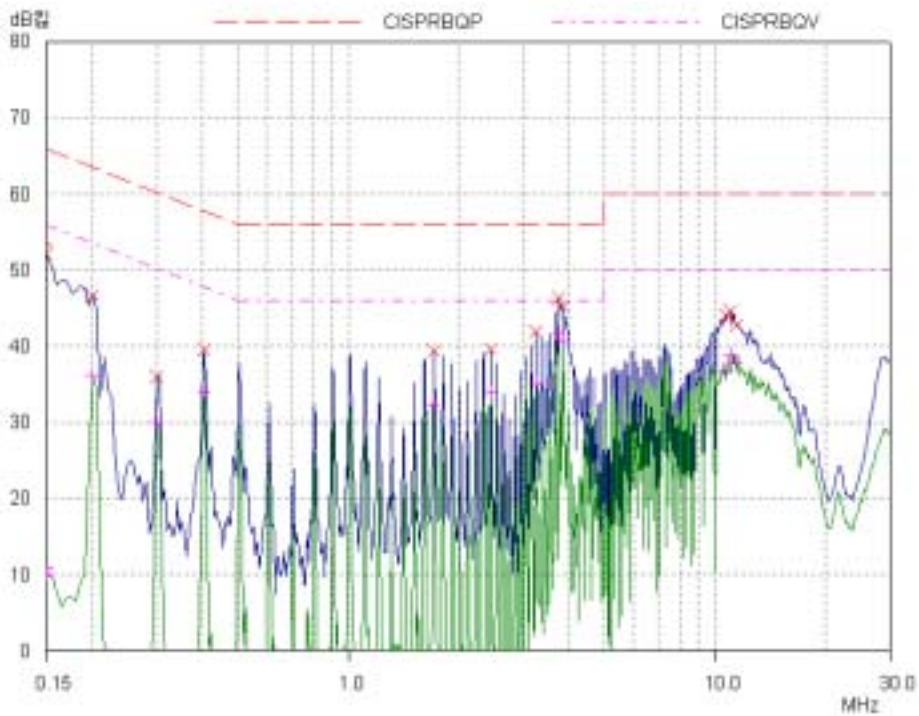
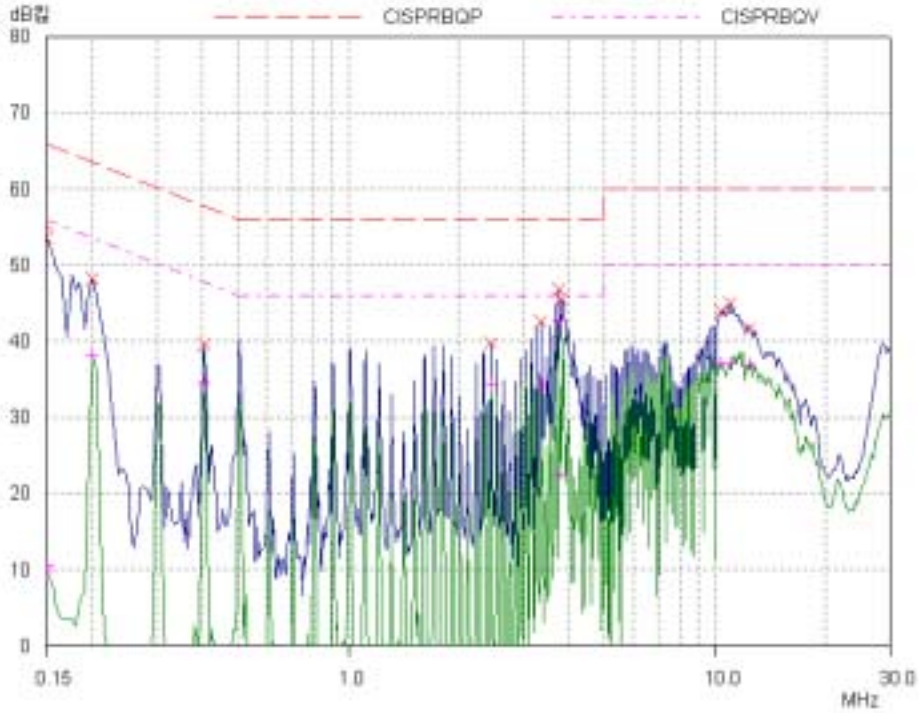
## Configuration



## APPENDIX A – TEST DATA

### Conducted Voltage Emissions (Quasi-Peak reading)

Frequency [MHz]	Correction Factor		Line	Quasi-peak				Average			
	LISN	Cable		Limit	Reading	Result	Margin	Limit	Reading	Result	Margin
				[dBuV]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[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