EMC TEST REPORT

FCC EVALUATION REPORT FOR CERTIFICATION

Korea Standard Technology

Test report No.: KST-FCC0409

Manufacturer's Name : Megavision Co., Ltd.

Manufacturer's Address: 799 Anyang Megavalley,Room 504 Kwangyang-Dong , Dongan-Gu, Anyang-Shi, Kyunggi-Do , KOREA

EUT's:

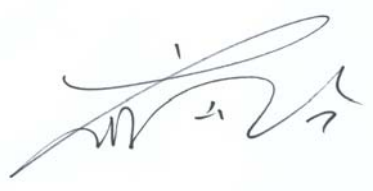
FCC ID	**:**	**QJSMV171**
Product Name	**:**	**LCD MONITOR**
Model Number(s)	**:**	**MV171**
Product Options	**:**	**None**
Category	**:**	**FCC Part 15 sub. part B Class B Digital Device**

Supplementary Information

The device bearing the brand name and FCC ID specified above has been shown to comply with the applicable technical standards as indicated in the measurement report and was tested in accordance with measurement procedures specified in ANSI C63.4-1992.

I attest to the accuracy of data and all measurements reported herein were performed by or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

Issue Date : May 6 , 2004

Tested by: 

Choi, Jae-Rak

Approved by: 

Lee, Woen-Woo

Contents

1. Description of Device

1) Kind of equipment:	LCD MONITOR
2) FCC ID:	QJSMV171
3) Model Name:	MV171
4) Serial No.:	None
5) Type of Sample Tested:	Pre-production
6) High Frequency Used:	24.576MHz 12.000MHz
7) Adapter	Model name: LSE0107A1240 Manufacturer: LI SHIN INTERNATIONAL ENTERPRISE CORP. Serial no: A20412094116
8) Power Rating:	1phase AC100-240V, 1.0A, 50/60Hz Output: DC 12V, 3.33A
9) Tested Power supply:	1phase AC120V, 60Hz
10) Date of Manufacture:	May , 2004
11) Manufacture:	Megavision Co., Ltd
12) Description of Operating:	Scroll All “H” Character Resolution 1024*768 Vertical Frequency: 75Hz
13) Dates of Test:	May 04, 2004
14) Place of Tests:	Korea Standard Technology EMC site
15) Test Report No:	KST-FCC0409

2. Test Facility

The open field test site and conducted measurement facility are used for these testing, where are located following address and drawing. This site was fully described in a report dated November 14, 2002, that was submitted to the FCC.

Korea Standard Technology (KOSTEC Co., Ltd)

Head office:
302 City Bild, 1600-3 Kwanyang-dong, Dongan-gu, Anyang-shi, Kyunggi-do, Korea
Telephone No : 82-31-388-2051
Facsimile No: 82-31-388-2052

Test Lab
:180-254, Annyung-Ri, Taean-Yup, Hwasung-shi, Kyunggi-do, Korea
Telephone No : 82-31-222-4251
Facsimile No: 82-31-222-4252

MIC(Ministry of Information and Communication) No: **KR0042**

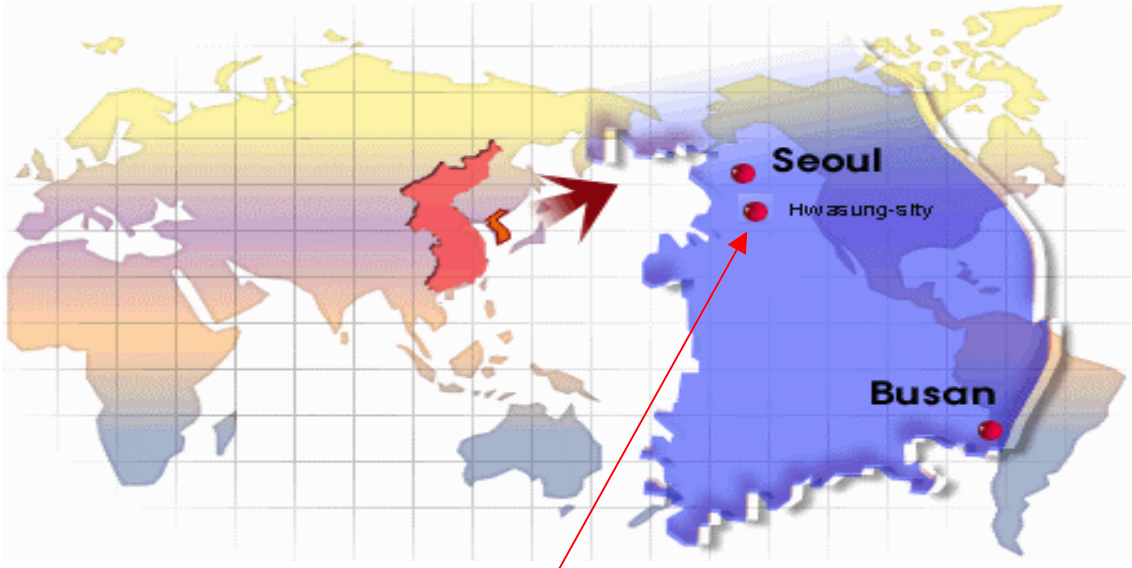
FCC Filing No. : **525762**

VCCI Membership Number : **2005**

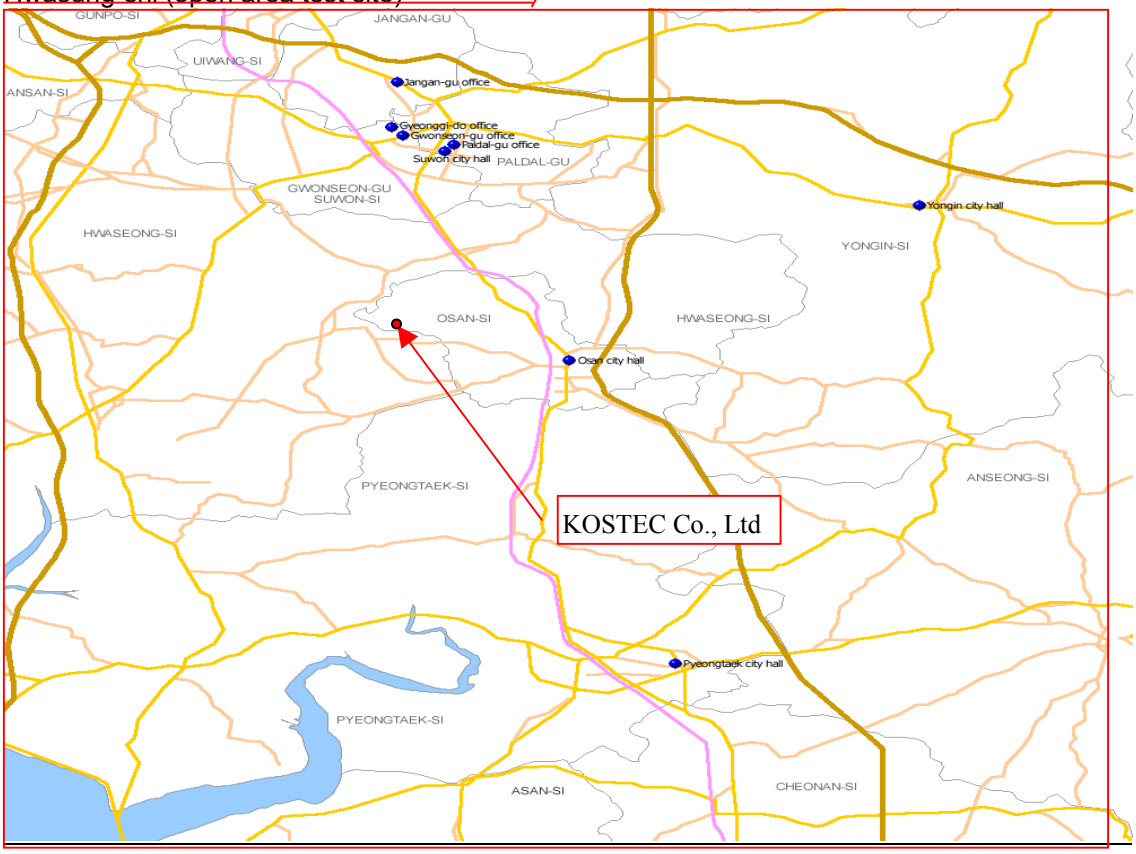
VCCI Registration Number : **R-1657 / C-1763**

3. MAP

Korea



Hwasung-shi (open area test site)



4. TEST SYSTEM CONFIGURATION

Operation Environment

Ambient	Temperature (° C)	Humidity (%)	Pressure (hPa)
10m Open Area site	18.4	45	1000
Shielded room:	21.2	45	1003

Test site
These testing were performed following locations ;

Shielded room : Conducted Emission,

10m Open Area Site: Radiated Emission

Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC.
The factors contributing to uncertainties are test receiver, Cable loss, antenna factor calibration, Antenna directivity, antenna factor variation with height, antenna phase center variation, antenna frequency interpolation, measurement distance variation, ite imperfection, mismatch, and system repeatability.
Based on NIS 80,81, The measurement uncertainty level with a 95% confidence level were applied.

sample calculation

Conducted emission

The field strength is calculated by adding the LISN factor, cable loss from the measured reading.
The sample calculation is as follows:

FS = MR + LF + CL
MR = Meter Reading
LF = LISN Factor
CL = Cable Loss

If MR is 30dB, LISN Factor 1dB, CL 1dB
The result (MR) is
30 + 1 + 1 = 32dBuV

5. Description of E.U.T.

Product Description

Manufactured By:	Megavision Co.,Ltd.
Address:	799 Anyang Megavalley,Room 504 Kwangyang-Dong , Dongan-Gu, Anyang-Shi, Kyunggi-Do , KOREA
Model:	MV171
Serial Number:	None

Configuration of EUT

Description	Manufacturer	Model/Part #	Serial Number
LCD Panel	BOEhydis	HT17E13-100	QRQ04410011004731
AD Board	Megavision Co.,Ltd.	MV173V	200402-00298
Inverter Board	P.I.S Corp	AT-0150XH	0414
OSD Board	Megavision Co.,Ltd.	MV171/G	None
Ac/dc adapter	LI SHIN INTERNATIONAL ENTERPRISE CORP.	LSE0107A1240	A20412094116

EUT Used cables

Cable Type	Shield	Length (m)	Ferrite	Connector	Connection Point 1	Connection Point 2
POWER Line	Yes	1.2	-	DC INLET	Ac/dc adapter	Main power source
VGA Out	Yes	1.5	yes	D-sub	EUT	Personal computer

Operating conditions

The operating mode/system were as follows in details:

Operating: After Connected from personal computer to E.U.T by RGB cable(D-sub 15 pin).And then use to “H” pattern program for data transmission and continuously ‘H’ pattern displayed on the LCD Monitor.

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7. TEST RESULTS

7.1 Conducted emission

Measurement procedure

Mains
The measurements were performed in a shielded room. EUT was placed on a non-metallic table height of 0.4m above the reference ground plane. They were folded back and forth forming a bundle 30cm to 40Cm long and were hanged at a 40cm height to the ground plane.
Each EUT power lead, except ground (safety) lead, were individually connected through a LISN to input power source.
Both lines of power cord, hot and neutral, were measured.

Used equipment

Equipment	Model no.	Serial no.	Makers	Next cal date	Used
Test receiver	ESPI3	100109	R&S	2005.03.17	●
L.I.S.N.	ESH2-Z5	100044	R&S	2005.04.23	●
	ESH2-Z5	100147	R&S	2005.04.23	●

measurement uncertainty
Conducted Emission measurement : ± 2.4dB (K=2)

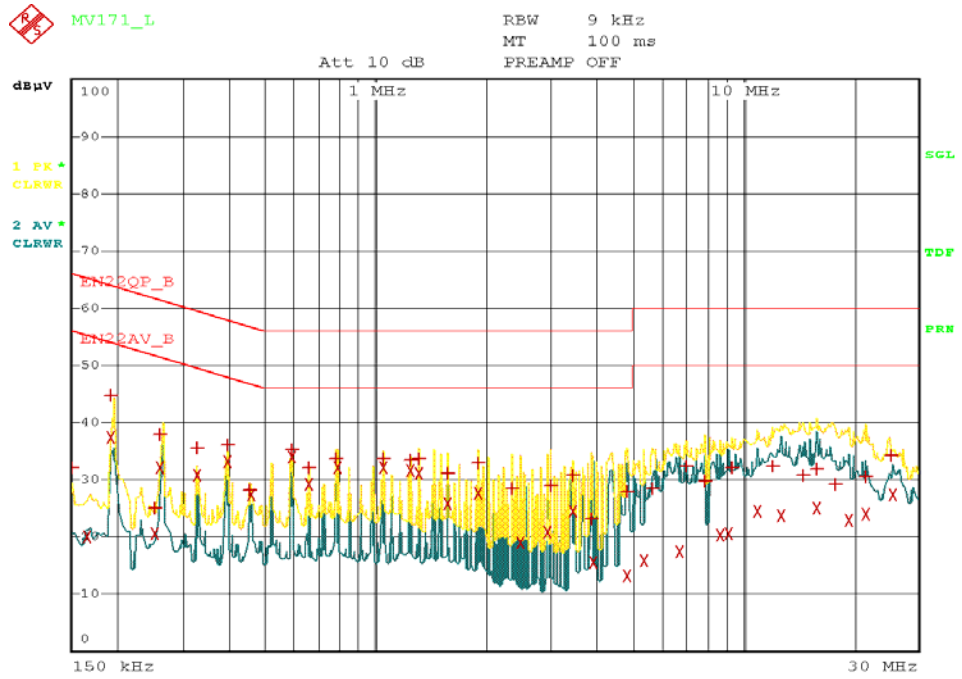
test data

FREQ. (MHz)	LEVEL(dBμV)		LINE Pol	Loss (dB)	LIMIT(dBμV)		MARGIN(dBμV)	
	QP	AV			QP	AV	QP	AV
0.194	44.46	37.29	L	0.29	65.57	55.57	21.40	18.57
0.394	36.08	33.19	L	0.29	61.89	51.89	26.10	18.99
2.738	33.67	29.83	N	0.57	56.00	46.00	22.90	16.74
4.174	33.72	30.17	N	0.68	56.00	46.00	22.96	16.51
7.242	34.49	28.39	N	1.20	60.00	50.00	26.71	22.81
21.682	39.10	35.26	N	1.83	60.00	50.00	22.73	16.57
25.234	34.13	27.29	L	2.32	60.00	50.00	28.19	25.03

* Level = test receiver reading value
* Loss = LISN insertion Loss + Cable Loss

Conducted emission test graph

Line. Live



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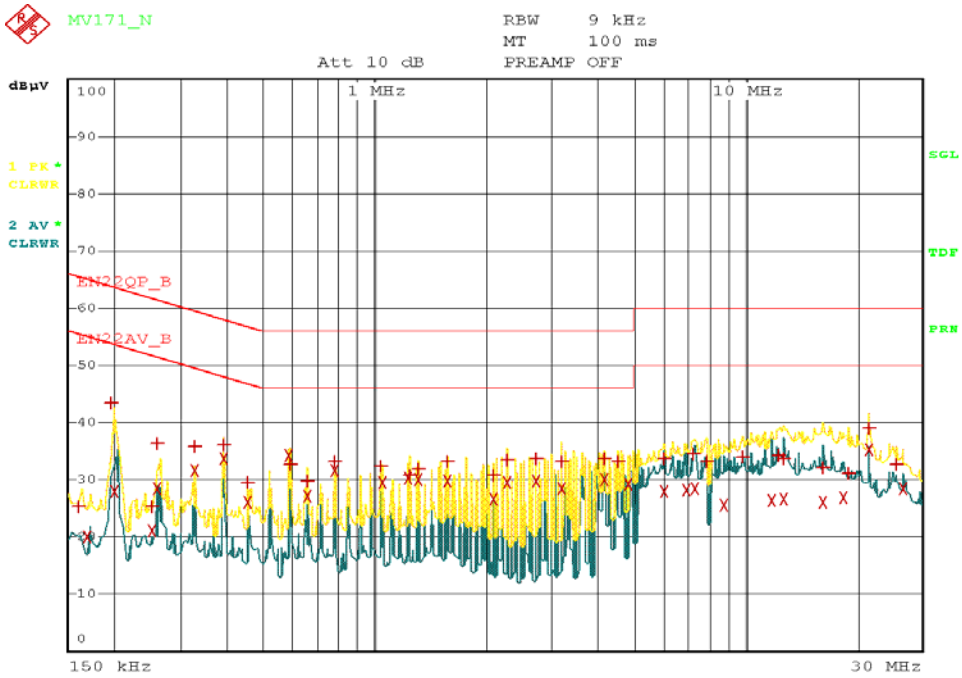
Line. Neutral



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7.2 Radiated Emission

Measurement procedure

A pretest was performed at 3m distances in a semi-anechoic chamber for searching correct frequency.
The final test was done at a 10m open area test site with a quasi-peak detector.
EUT was placed on a non-metallic table height of 0.8m above the reference ground plane.
Cables connected to EUT were fixed to cause maximum emission. 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 to obtain the maximum signal strength.

Used equipment

Equipment	Model no.	Serial no.	Makers	Next cal date	USED
Test receiver	ESCS30	100111	R&S	2005.3.17	●
Ultra broadband antenna	HL562	100075	R&S	2005.3.16	●
Antenna Mast	AT14	none	Daeil EMC	-	●
Turn Table	TT15	none	Daeil EMC	-	●
10m Open area site	None	none	KOSTEC Lab	-	●
chamber(3m)	none	none	FRANCONIA	-	

Measurement uncertainty

Radiated Emission measurement : 30-300MHz +3.96dB / -4.04dB
300-1000MHz +3.04dB / -3.00dB

Test data

Freq (MHz)	Reading (dBuV/m)	P (H/V)	H (m)	A (.)	Antenna (dB)	Cable Loss (dB)	Result (dBuV/m)	Limit (dB)	Margin (dB)
75.00	11.00	V	2.50	270	7.70	3.00	21.70	40.0	18.30
181.93	12.27	V	2.10	240	8.02	4.61	24.90	43.5	18.60
202.82	12.04	H	2.40	0	7.38	5.08	24.50	43.5	19.00
224.11	11.60	V	2.30	270	8.52	4.98	25.10	46.0	20.90
233.86	22.95	H	2.10	45	8.82	5.13	36.90	46.0	9.10
334.09	5.84	H	2.30	270	12.02	6.84	24.70	46.0	21.30
444.35	4.78	H	2.10	270	14.48	7.84	27.10	46.0	18.90
689.67	8.83	H	1.80	45	18.28	9.89	37.00	46.0	9.00

A=turn table Angle / Antenna = antenna factor Cable loss = used cable loss / Result = reading + antenna + loss / Margin = Limit - result
* Receiving Antenna Mode: Horizontal, Vertical / * Test site: 3m Open area site