0	Declaration of Conformity
😡 Hanwha	3
Type of equipment:	NETWORK CAMERA
Brand Name /Trade Mark:	НАЛШНА
Type designation /model:	SMT-4032A
Applicant:	Hanwha Techwin Company Limited
In accordance with the following	a Diractivas.
In accordance with the following 2004/108/EC	The Electromagnetic Compatibility Directive
Including amendments by the CE	
including amendments by the CE	Warking Directive 95/08/EEC
2011/65/EU	Restriction of the use of certain hazardous substances in electrical and
	electronic equipment (recast)
The following harmonized Euro	pean standards or technical specifications have been applied:
EN 55022:2010	Limits and methods of measurement of radio disturbance characteristics of
EN 55024:2010	information technology equipment Limits and methods of measurement of Immunity characteristics of
LIV 35024.2010	Information technology equipment
EN 61000-3-2:2014	Limits – Limits for harmonic current emissions (equipment imput current <=
EN 61000-3-3:2013	16 A per phase) Limitation of voltage changes, voltage fluctuations and flicker in public low-
EN 01000-3-3.2015	voltage supply systems, for equipment with rated current <= 16 A per phase
	and not subject to conditional connection
EN 61000-4-2:2009	Electrostatic discharge immunity test
EN 61000-4-3:2006+A2:2010	Radiated, radio-frequency, electromagnetic field immunity test
EN 61000-4-4:2012	Electrical fast transient/burst immunity test
EN 61000-4-5:2014	Surge immunity test
EN 61000-4-6:2009	Immunity to conducted disturbances, induced by radio-frequency fields
EN 61000-4-11:2004	Voltage dips, short interruptions and voltage variations immunity tests
	ts and/or their packaging signifies that Hanwha Techwin Company Limited e available to the European Union authorities.
Place and date of issue:	1204, Changwon-daero, Seongsan-gu, Chang-won-si, Gyeongsangnam- do,Korea / Sep 10, 2015
Authorized Signatory:	Name : Jei Soon, Kang

Signatur : Romf



www.kes.co.kr

Test report No.: KES-E1-15T0257 Page (1) of (99)

# **CE Conformance EMC Test Report**

Test Report No.	:	KES-E1-15T0257
Date of Issue	:	09. 10. 2015
Description of Product	t:	LCD MONITOR
Model No.	:	SMT-4032A
Variant Model	:	-
Applicant	:	Hanwha Techwin Company Limited
Address	:	1204, Changwon-daero, Seongsan-gu, Chang-won-si, Gyeongsangnam-do, Korea
Manufacturer	:	Tianjin Samsung Electronics Co.,Ltd.
Address	:	Weisi Rd., Micro-Electronic Industrial Park, Jingang Rd.Xiqing Dist, Tianjin, 300385 China
Applicable Regulation	:	EMC Directive 2004/108/EC
		EN 55022:2010
		EN 55024:2010
		EN 61000-3-2:2014
		EN 61000-3-3:2013

Date of Receipt:08. 12. 2015Test Date:09. 02. 2015 ~ 09. 03. 2015

Tested by:

Kang Hyeon, Kim Test Engineer

**Reviewed by:** 

Dong Hun, Jang Technical Manager



Testing Laboratories for Safety and RF Compliance C-3701 40, Simin-daero 365beon-gil, Dongan-gu, Anyang-si, Gyeonggi-do, 14057, Korea Tel: +82-31-425-6200 / Fax: +82-31-424-0450

Testing Laboratories for EMC Compliance 473-29, Gayeoro, Yeoju-si, Gyeonggi-do,12658, Korea Tel : +82-31-883-5092 / Fax: +82-31-883-5169

> This report shall not be reproduced except in full, without the written approval of KES Co., Ltd. The test results in the report only apply to the tested sample.



#### KES Co., Ltd.

C-3701, 40, Simin-daero 365beon-gil, Dongan-gu, Anyang-si, Gyeonggi-do, 14057, Korea Tel: +82-31-425-6200 / Fax: +82-31-424-0450 www.kes.co.kr Test report No.: KES-E1-15T0257 Page (2) of (99)

# **Revision history**

Revision	Date of issue	Test report No.	Description
-	09. 10. 2015	KES-E1-15T0257	Initial



#### KES Co., Ltd.

C-3701, 40, Simin-daero 365beon-gil, Dongan-gu, Anyang-si, Gyeonggi-do, 14057, Korea Tel: +82-31-425-6200 / Fax: +82-31-424-0450 www.kes.co.kr Test report No.: KES-E1-15T0257 Page (3) of (99)

# TABLE OF CONTENTS

1	General Information ·····	
2	Product Labelling Requirements ·····	10
3	Applicable Regulations	11
4	Test standards and results	
5	Test Performed ·····	
	5.1 Conducted Emission Measurements ·····	
	5.2 Radiated Emission Measurements	
	5.3 Harmonics / Voltage Fluctuations Measurements ·····	
	5.4 Electrostatic Discharge Immunity	60
	5.5 Radio-frequency electromagnetic field Amplitude modulated Immunity	62
	5.6 Fast Transients Immunity	
	5.7 Surge Immunity ·····	
	5.8 Radio-frequency continuous conducted Immunity	71
	5.9 Voltage Dips and Interruptions Immunity	73
6	Test Setup Photographs ·····	75
		75
		78
	6.3 Harmonics / Voltage Fluctuations Measurements ·····	82
	6.4 Electrostatic Discharge Immunity	
	6.5 Radio frequency electromagnetic field immunity	
	6.6 Fast Transients Immunity	
	6.7 Surge Immunity ·····	
	6.8 Radio-frequency continuous conducted Immunity	89
	6.9 Voltage Dips and Interruptions Immunity	
7	External Photographs ·····	91
8	Internal Photographs	93
	Appendix A	
	Appendix B ·····	99

This report shall not be reproduced except in full, without the written approval of KES Co., Ltd. The test results in the report only apply to the tested sample.



# 1. General Information

#### 1.1 Introduction

The EMC Test Report for CE Declaration of Conformity is prepared on behalf of named applicant in accordance with the EMC Directive(2004/108/EC) of the European Economic Community. The test results reported in this document relate only to the item that was tested.

All radiated emission, conducted emission measurements required by the EMC Directive were performed manually at KES Co., Ltd. (here in after called KES), 473-29, Gayeo-ro, Yeoju-si, Gyeonggi-do, 469-803 KOREA.

The radiated emission measurements performed on 10 meter, Open Area Test Site, test range maintained by KES. Complete ANSI63.4;2009 description and site attenuation measurement data records are maintained at the test facility and have been placed on file with the Federal Communications Commission.

All immunity measurements required by the EMC Directive were performed manually at

KES Co., Ltd. (here in after called KES), 473-29, Gayeo-ro, Yeoju-si, Gyeonggi-do, 469-803 KOREA.

The immunity measurements were performed in a shielded enclosure and/or anechoic chamber also located at the same facility.

The KES EMC test facilities in Yeoju-si are designated testing laboratory according to ISO/IEC 17025 by Radio Research Agency(RRA), Korea Communication Commission.



C-3701, 40, Simin-daero 365beon-gil, Dongan-gu, Anyang-si, Gyeonggi-do, 14057, Korea Tel: +82-31-425-6200 / Fax: +82-31-424-0450 www.kes.co.kr Test report No.: KES-E1-15T0257 Page (5) of (99)

## **1.2** Product Description for Equipment Under Test (E.U.T)

Hanwha Techwin Company Limited, LCD MONITOR, Model No: SMT-4032A or the "E.U.T" as referred to in this

report is base model.

## Main Specifications of EUT are:

li Display Screen Size(Diagonal) Max. Resolution Brightness Contrast Ratio Aspect Ratio	mage )	40"(101.6cm) 1,920 x 1,080 350cd/m <sup>2</sup> 5000:1	
Screen Size(Diagonal) Max. Resolution Brightness Contrast Ratio		1,920 x 1,080 350cd/m'	
Max. Resolution Brightness Contrast Ratio		1,920 x 1,080 350cd/m'	
Brightness Contrast Ratio		350cd/m <sup>2</sup>	
Contrast Ratio			
		5000:1	
Aspect Ratio			
		16:9	
Viewing Angle (H/V)		178°/178°	
Display Color		16.7 million	
Response Time		8ms(G to G)	
Video System		NTSC/PAL	
Panel Life		50,000 hours	
Filter Type		3D combfilter	
Interface			
Video	Connector	VGA, DVI, HDMI, Component(CVBS Common)	
(	Connector	Analog D-sub(15 pin), DVI-D	
1	nput Signal	0.7Vp-p±5%	
RGB/DVI	Available Format	640 x 480@60Hz/66Hz/72Hz/75Hz (VGA), 720 x 400@70Hz, 800 x 600@56Hz/60Hz/72Hz/75Hz (SVGA), 832 x 624@75Hz, 1,024 x 768@60Hz/70Hz/75Hz (XGA), 1,152 x 864@75Hz, 1,280 x 720@60Hz, 1,280 x 800@60Hz, 1,280 x 1,024@60Hz/75Hz (SXGA), 1,360 x 768@60Hz, 1,440 x 900@60Hz, 1,600 x 900@60Hz, 1,680 x 1,050@60Hz, 1,920 x 1,080@60Hz	
(	Connector	HDMI	
номі	Available Format	640x480p@60Hz, 720x480i@60Hz, 720x480p@60Hz, 720x576i@50Hz, 720x576p@50 Hz, 1,280x720p@50Hz/60Hz, 1,920x1,080i@50Hz/60Hz, 1,920x1,080p@50Hz/60Hz	
Audio	Connector	RS232C(L/R) Stereo mini jack	
(	Dutput Signal	Loop-through line level(PC only), Speakers : 10Wx2	
Application Support		Remote Controller	
On Screen Display (OS	D)		
Functions		VESA <sup>™</sup> DPM Compatible	
Language		Chinese(Traditional, Simplified), English, French, German, Italian, Japanese, Korean, Polish, Portuguese, Russian, Spanish, Swedish, Turkish	

This report shall not be reproduced except in full, without the written approval of KES Co., Ltd. The test results in the report only apply to the tested sample.



#### KES Co., Ltd.

C-3701, 40, Simin-daero 365beon-gil, Dongan-gu, Anyang-si, Gyeonggi-do, 14057, Korea Tel: +82-31-425-6200 / Fax: +82-31-424-0450 www.kes.co.kr Test report No.: KES-E1-15T0257 Page (6) of (99)

General			
Electrical	Input Voltage	AC 100 ~ 240V(+/- 10%), 50/60Hz	
	Power Consumption	Max. 121W	
Environmental	Operating Temperature	0 ~ +40°C (+32°F ~ +104°F)	
	Operating Humidity	10% ~ 80% (non-condensing)	
	Dimensions with Stand	925.4 x 612.6 x 311.0mm	
	Dimensions without Stand	906.6 x 527.7 x 49.9mm	
	Bezel Size	9.5/15.0mm(Top/Bottom)	
Mechanical	Weight	7.5Kg	
	Cabanet Color	Black	
	Rack Mount	Optional	
	VESA Mounts Interface	200 x 200mm	
Accorcony	BNC Input Cable(Gender)	RCA to BNC Cable	
Accessory	Foot Stand	SBM-320ST(Optional)	



Tel: +82-31-425-6200 / Fax: +82-31-424-0450

www.kes.co.kr

# 1.3 Equipment Under Test

Description	Description Model Number		Serial Number Manufacturer	
LCD MONITOR	SMT-4032A	-	Hanwha Techwin Company Limited	EUT
Remote control	-	-	- SAMSUNG	

# **1.4 Support Equipments**

Description	Model Number	Serial Number	Manufacturer	Remarks
Key board	WPK-400	811NMMEG76923	Goldland Electronics Co., Ltd.	-
mouse	M-U0026	1248HS021ZR8	Logitech	-
Router	A2004+	ACM01480	ipTIME	-
Adaptor	KT10W120100KOD	-	KUANTEN	-

# 1.5 External I/O Cabling

Description	Length (m)	Port / From	Port / To	Remarks
	1.4	D-SUB / LCD MONITOR	D-SUB / PC	Shielded
	1.4	DVI / LCD MONITOR	DVI / PC	Shielded
	1.3	HDMI / LCD MONITOR	HDMI / PC	Shielded
	1.0	RS 232C IN / LCD MONITOR	RS 232C IN / Cable Termination	Unshielded
LCD MONITOR (E.U.T)	1.0	RS 232C OUT / LCD MONITOR	RS 232C out / Cable Termination	Unshielded
(E.U.1)	1.2	Audio in / LCD MONITOR	Audio out / LCD MONITOR	Unshielded
	1.0	Audio out / LCD MONITOR	Audio out / Cable Termination	Unshielded
	1.5	AV In / LCD MONITOR	AV In / Cable Termination	Unshielded
	4.0	RJ-45 / LCD MONITOR	RJ-45 / network	Unshielded

This report shall not be reproduced except in full, without the written approval of KES Co., Ltd. The test results in the report only apply to the tested sample.



#### 1.6 Special Accessories

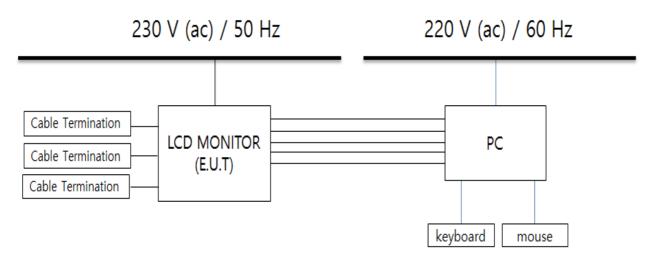
As shown in section 1.9, all interface cables used for compliance testing are shielded as normally supplied or by use respective component manufacturers.

#### 1.7 E.U.T Modifications

No modifications were made to the E.U.T in order to achieve and maintain compliance to the standards described in this report.

#### 1.8 Configuration of Test System

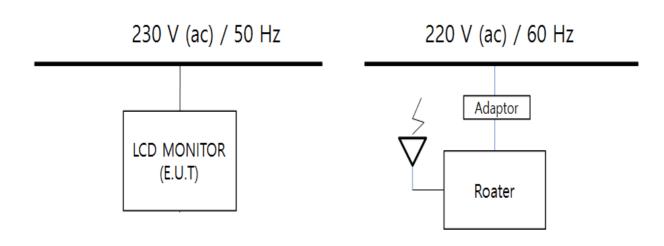
■ D-SUB, DVI, HDMI Mode





C-3701, 40, Simin-daero 365beon-gil, Dongan-gu, Anyang-si, Gyeonggi-do, 14057, Korea Tel: +82-31-425-6200 / Fax: +82-31-424-0450 www.kes.co.kr Test report No.: KES-E1-15T0257 Page (9) of (99)

■ WIFI 2.4 GHz, 5 GHz Mode



#### **1.9Operating condition**

- D-SUB, DVI, HDMI Mode : Normal operation

WIFI 2.4 GHz, 5 GHz : Normal operation

This report shall not be reproduced except in full, without the written approval of KES Co., Ltd. The test results in the report only apply to the tested sample.