

**KES Co., Ltd.**

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

Report No.:

KES-EM-22T0005-R1

Page (1) of (26)

EMC TEST REPORT

Test Report No. : KES-EM-22T0005-R1

Date of Issue : Feb. 24, 2023

Product name : LENS MODULE

Model/Type No. : SLA-T4680A

Variant Model : -

Applicant : Hanwha Vision Co., Ltd

Applicant Address : 6, Pangyo-ro 319Beon-gil, Bundang-gu, Seongnam-si,
Gyeonggi-do, Republic of Korea

Manufacturer : 1. HANWHA VISION VIETNAM COMPANY LIMITED
2. D-TECH CO.,LTD.

Manufacturer Address : 1. Lot O-2, Que Vo Industrial Zone extended area,
Nam Son commune, Bac Ninh city, Bac Ninh province, Vietnam
2. 173-25, Saneop-ro, Gwonseon-gu, Suwon-si, Gyeonggi- do,
Korea (Suwon Industrial Complex)

Equipment authorization : **Supplier's Declaration of Conformity**

Date of Receipt : Dec. 09, 2021

Test date : Dec. 17, 2021

Test Results : ☒ **In Compliance** ☐ **Not in Compliance**

Tested by

Kang Hyeon, Kim
EMC Test Engineer

Reviewed by

Dong-Hun, Jang
EMC Technical Manager

This test report is not related to KS Q ISO/IEC 17025 and KOLAS.

This report shall not be reproduced except in full, without the written approval of KES Co., Ltd.
The results shown in this test report refer only to the sample(s) tested unless otherwise stated.
The authenticity of the test report, contact kes@kes.co.kr

**KES Co., Ltd.**

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

Report No.:

KES-EM-22T0005-R1

Page (2) of (26)

REPORT REVISION HISTORY

Date	Test Report No.	Revision History
Jan. 03, 2022	KES-EM-22T0005	Issued
Feb. 24, 2023	KES-EM-22T0005-R1	Change the Applicant and manufacturer at the request of the customer

This report shall not be reproduced except in full, without the written approval of KES Co., Ltd. This document may be altered or revised by KES Co., Ltd. personnel only, and shall be noted in the revision section of the document. Any alteration of this document not carried out by KES Co., Ltd. will constitute fraud and shall nullify the document.

This report shall not be reproduced except in full, without the written approval of KES Co., Ltd.
The results shown in this test report refer only to the sample(s) tested unless otherwise stated.
The authenticity of the test report, contact kes@kes.co.kr



KES Co., Ltd.

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

Report No.:

KES-EM-22T0005-R1

Page (3) of (26)

TABLE OF CONTENTS

1.0	General Product Description.....	4
1.1	Test Voltage & Frequency	5
1.2	Variant Model Differences	5
1.3	Device Modifications	5
1.4	Equipment Under Test.....	5
1.5	Support Equipments	5
1.6	External I/O Cabling	6
1.7	EUT Operating Mode(s)	6
1.8	Configuration	7
1.9	Remarks when standards applied	8
1.10	Calibration Details of Equipment Used for Measurement	8
1.11	Test Facility	8
1.12	Laboratory Accreditations and Listings	9
2.0	Test Regulations.....	10
2.1	Conducted Emissions at Mains Power Ports	11
2.2	Radiated Electric Field Emissions(Below 1 GHz)	12
2.3	Radiated Electric Field Emissions(Above 1 GHz)	13
APPENDIX A – TEST DATA.....		14
Conducted Emissions at Mains Power Ports.....		14
Radiated Electric Field Emissions(Below 1 GHz)		16
Radiated Electric Field Emissions(Above 1 GHz)		18
Test Setup Photos and Configuration		19
Conducted Emissions at Mains Power Ports.....		19
Radiated Electric Field Emissions(Below 1 GHz)		20
Radiated Electric Field Emissions(Above 1 GHz)		21
EUT External Photographs		22
EUT Internal Photographs		23

This report shall not be reproduced except in full, without the written approval of KES Co., Ltd.
The results shown in this test report refer only to the sample(s) tested unless otherwise stated.
The authenticity of the test report, contact kes@kes.co.kr



1.0 General Product Description

Main Specifications of EUT are:

Video

Imaging Device	1/2.8" 2MP CMOS
Minimum Illumination	Color: 0.06Lux (F2.5, 1/30sec)

Lens

Focal Length (Zoom Ratio)	4.6mm fixed focus
Maximum Aperture Ratio	F2.5
Angular Field of View	H: 73 °, V: 39 °, D: 85 °
Mount Type	RJ12 connected with main unit
Focus Control	Fixed

Mechanical

Color / Material	Black / Plastic
Product dimensions / weight	Ø24x49.8mm, 310g



1.1 Test Voltage & Frequency

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

☒ AC 120 V, 60 Hz

1.2 Variant Model Differences

Not applicable

1.3 Device Modifications

Not applicable

1.4 Equipment Under Test

Description	Model Number	Serial Number	Manufacturer	Remarks
LENS MODULE	SLA-T4680A	-	HANWHA VISION VIETNAM COMPANY LIMITED	EUT

1.5 Support Equipments

Description	Model Number	Serial Number	Manufacturer	Remarks
NETWORK CAMERA	PNM-9000QB	-	HANWHA TECHWIN SECURITY VIETNAM CO.,LTD.	-
LENS MODULE	SLA-T2480A	-	HANWHA TECHWIN SECURITY VIETNAM CO.,LTD.	-
LENS MODULE	SLA-T4680VA	-	HANWHA TECHWIN SECURITY VIETNAM CO.,LTD.	-
PoE Injector	-	-	REPOTEC	-
Monitor	23MA53D	303KKMH9Z019	LG	-
Monitor adapter	PSAB-L205A	EAY62850201	LG Innotek Yantai Co. Ltd.	-



1.6 External I/O Cabling

Start		END		Cable Spec.	
Description	I/O Port	Description	I/O Port	Length	Shield
LENS MODULE (EUT)	RJ-12	NETWORK CAMERA	RJ-12	8.2	S
NETWORK CAMERA	RJ-12	LENS MODULE	RJ-12	8.2	S
	RJ-12	LENS MODULE	RJ-12	8.2	S
	HDMI	Monitor	HDMI	1.5	S
	RJ-45 (PoE)	PoE	RJ-45 (PoE)	1.0	S
Monitor	DC Jack	Monitor adapter	DC Jack	1.4	U

* Unshielded=U, Shielded=S

1.7 EUT Operating Mode(s)

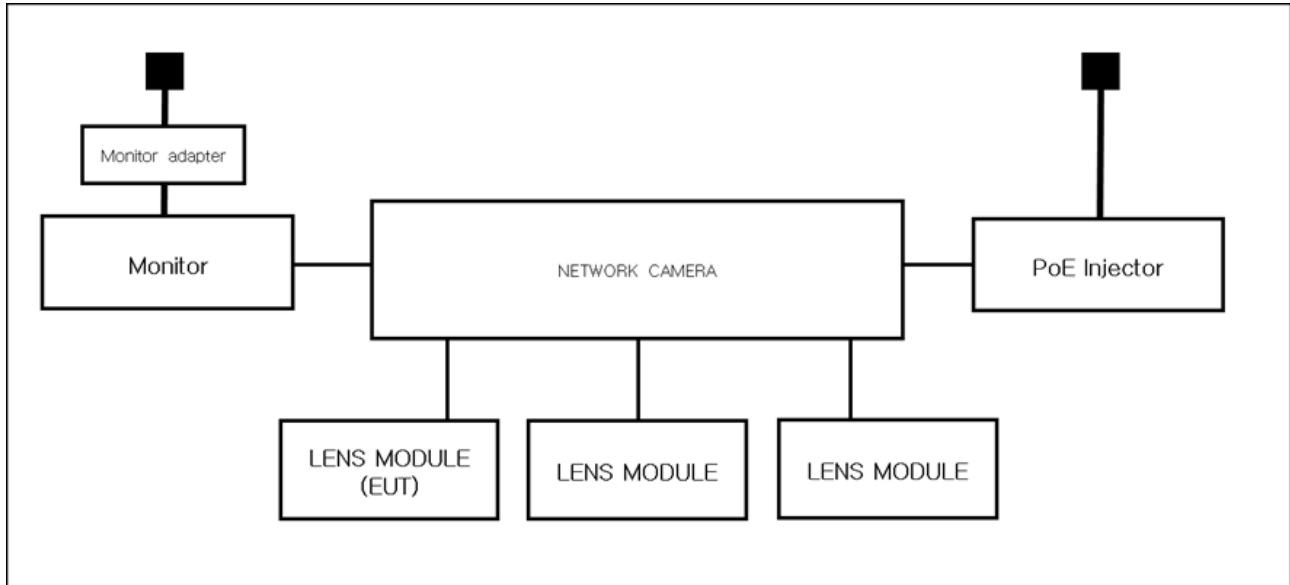
Test Mode	operating
Operation mode	Monitoring EUT

EUT Test operating S/W		
Name	Version	Manufacture Company
-	-	-

1.8 Configuration

■ AC Main

□ DC Main



This report shall not be reproduced except in full, without the written approval of KES Co., Ltd.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated.

The authenticity of the test report, contact kes@kes.co.kr



1.9 Remarks when standards applied

- The power test-related conductive interference test (main power port) test is tested simultaneously because the PNM-9000QB was tested by connecting the SLA-T4680VA, SLA-T4680A and SLA-T2480A cameras together.

* SLA-T4680VA, SLA-T4680A and SLA-T2480A products can be verified simultaneously.

1.10 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.

1.11 Test Facility

The measurement facility is located at 473-21, Gayeo-ro, Yeosu-si, Gyeonggi-do, 12658, Korea, Republic of. The sites are constructed in conformance with the requirements of ANSI C63.4a-2017 and CISPR 16-1-4:2019

1.12 Laboratory Accreditations and Listings

Country	Agency	Scope of Accreditation	Logo
KOREA	RRA	EMI (3 m & 10 m Semi-Anechoic Chamber and conducted test site) EMS (ESD, RS, EFT/Burst, Surge, CS, Magnetic, Dips and interruptions)	 KR0100
International	KOLAS	EMI (3 m & 10 m Semi-Anechoic Chamber and conducted test site) EMS (ESD, RS, EFT/Burst, Surge, CS, Magnetic, Dips and interruptions)	 KT489
USA	FCC	3 m & 10 m Semi-Anechoic Chamber Conducted test site to perform FCC Part 15/18 measurements.	 KR0100
Canada	ISED	3 m & 10 m Semi-Anechoic Chamber and Conducted test site	 23298
JAPAN	VCCI	EMI (3 m & 10 m Semi-Anechoic Chamber and conducted test site)	 C-20136, T-20137, R-20181, G-20176
Europe	TÜV SÜD	EMI (3 m & 10 m Semi-Anechoic Chamber and conducted test site) EMS (ESD, RS, EFT/Burst, Surge, CS, Magnetic, Dips and interruptions)	 CARAT 001633 0004



2.0 Test Regulations

The emissions tests were performed according to following regulations:

☒ **47 CFR Part 15, Subpart B**

☐ CISPR 22:2009 +A1:2010

☐ Class A

☐ Class B

☒ ANSI C63.4a-2017

☒ Class A

☐ Class B

☒ **IC Regulation ICES-003 Issue 7**

☐ CAN/CSA-CISPR 32:17

☐ Class A

☐ Class B

☒ ANSI C63.4a-2017

☒ Class A

☐ Class B

**KES Co., Ltd.**

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

Report No.:

KES-EM-22T0005-R1

Page (11) of (26)

2.1 Conducted Emissions at Mains Power Ports

Test Date

Dec. 17, 2021

Test Location

Electro wave Shieldroom #3

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	EMI Test S/W	EMC32	R & S	9.12.00	-
☒	EMI TEST RECEIVER	ESU26	R & S	100517	08, 05, 2022
☒	LISN	ENV216	R & S	101786	01, 19, 2022
☒	LISN	ENV216	R & S	101137	01, 19, 2022

Test Conditions

Temperature: (22,6 ± 0,4) °C

Relative Humidity: (43,8 ± 0,3) % R.H.

Frequency Range of Measurement

150 kHz to 30 MHz

Instrument Settings

IF Band Width: 9 kHz

Test Results

The requirements are:

- ☒ PASS
☐ NOT PASS
☐ NOT APPLICABLE

RemarksSee Appendix A for test data.

This report shall not be reproduced except in full, without the written approval of KES Co., Ltd.
The results shown in this test report refer only to the sample(s) tested unless otherwise stated.
The authenticity of the test report, contact kes@kes.co.kr

**KES Co., Ltd.**

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

Report No.:

KES-EM-22T0005-R1

Page (12) of (26)

2.2 Radiated Electric Field Emissions(Below 1 GHz)

Test Date

Dec. 17, 2021

Test Location☐ OPEN AREA TEST SITE #2☒ SEMI ANECHOIC CHAMBER #4(10m)**Test Equipment**

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	EMI Test S/W	EP5/RE	TOYO Corporation	6.0.0	-
☒	EMI TEST RECEIVER	ESU26	R & S	100551	04, 01, 2022
☒	AMPLIFIER	SCU 01	R & S	100603	11, 24, 2022
☒	TRILOG-BROADBAND ANTENNA	VULB9163	Schwarzbeck	715	12, 08, 2022
☒	ATTENUATOR	8491A	HP	32173	03, 10, 2022

Test Conditions

Temperature: (22,4 ± 0,3) °C

Relative Humidity: (43,5 ± 0,3) % R.H.

Frequency Range of Measurement

30 MHz to 1 GHz

Instrument Settings

IF Band Width: 120 kHz

Test Results

The requirements are:

- ☒ PASS
☐ NOT PASS
☐ NOT APPLICABLE

RemarksSee Appendix A for test data.

This report shall not be reproduced except in full, without the written approval of KES Co., Ltd.
The results shown in this test report refer only to the sample(s) tested unless otherwise stated.
The authenticity of the test report, contact kes@kes.co.kr

**KES Co., Ltd.**

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

Report No.:

KES-EM-22T0005-R1

Page (13) of (26)

2.3 Radiated Electric Field Emissions(Above 1 GHz)

Test Date

Nov. 17, 2021

Test Location

SEMI ANECHOIC CHAMBER #5

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	EMI Test S/W	EP5/RE	TOYO Corporation	6.0.120	-
☒	EMI TEST RECEIVER	ESU26	Rohde & Schwarz	100552	04, 01, 2022
☒	HORN ANTENNA	BBHA 9120D	SCHWARZBECK	9120D-1802	12, 16, 2022
☒	PREAMPLIFIER	8449B	HP	3008A00538	06, 21, 2022

Test Conditions

Temperature: (22,1 ± 0,4) °C

Relative Humidity: (43,6 ± 0,4) % R.H.

Frequency Range of Measurement

1 GHz to 5 GHz

Instrument Settings

IF Band Width: 1 MHz

Test Results

The requirements are:

☒ PASS☐ NOT PASS☐ NOT APPLICABLE**Remarks**See Appendix A for test data.

This report shall not be reproduced except in full, without the written approval of KES Co., Ltd.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated.

The authenticity of the test report, contact kes@kes.co.kr



KES Co., Ltd.

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

Report No.:

KES-EM-22T0005-R1

Page (14) of (26)

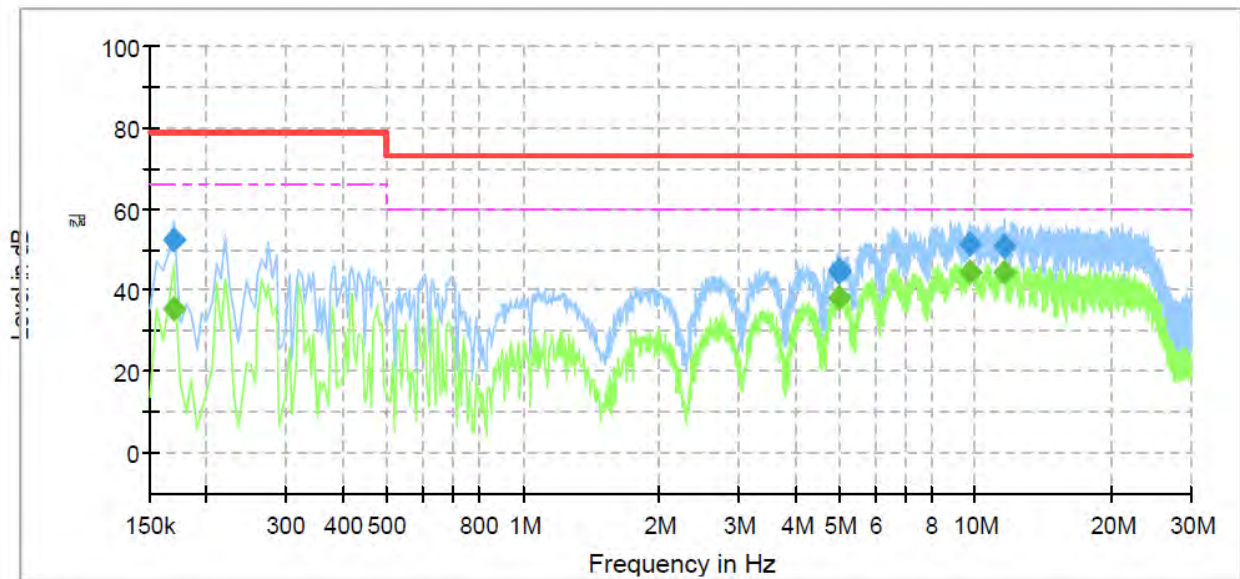
APPENDIX A – TEST DATA

Conducted Emissions at Mains Power Ports

HOT LINE

Common Information

Test Description: Conducted Emission
Model No.: SLA-T4680A
Mode: FCC
Operator Name: KES



Final Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.170000	---	35.67	66.00	30.33	1000.0	9.000	L1	9.6
0.170000	52.66	---	79.00	26.34	1000.0	9.000	L1	9.6
5.005000	---	38.01	60.00	21.99	1000.0	9.000	L1	9.9
5.005000	44.85	---	73.00	28.15	1000.0	9.000	L1	9.9
5.020000	---	38.00	60.00	22.00	1000.0	9.000	L1	9.9
5.020000	44.71	---	73.00	28.29	1000.0	9.000	L1	9.9
9.720000	---	44.30	60.00	15.70	1000.0	9.000	L1	9.6
9.720000	51.23	---	73.00	21.77	1000.0	9.000	L1	9.6
11.595000	---	44.50	60.00	15.50	1000.0	9.000	L1	9.7
11.595000	50.94	---	73.00	22.06	1000.0	9.000	L1	9.7

This report shall not be reproduced except in full, without the written approval of KES Co., Ltd.

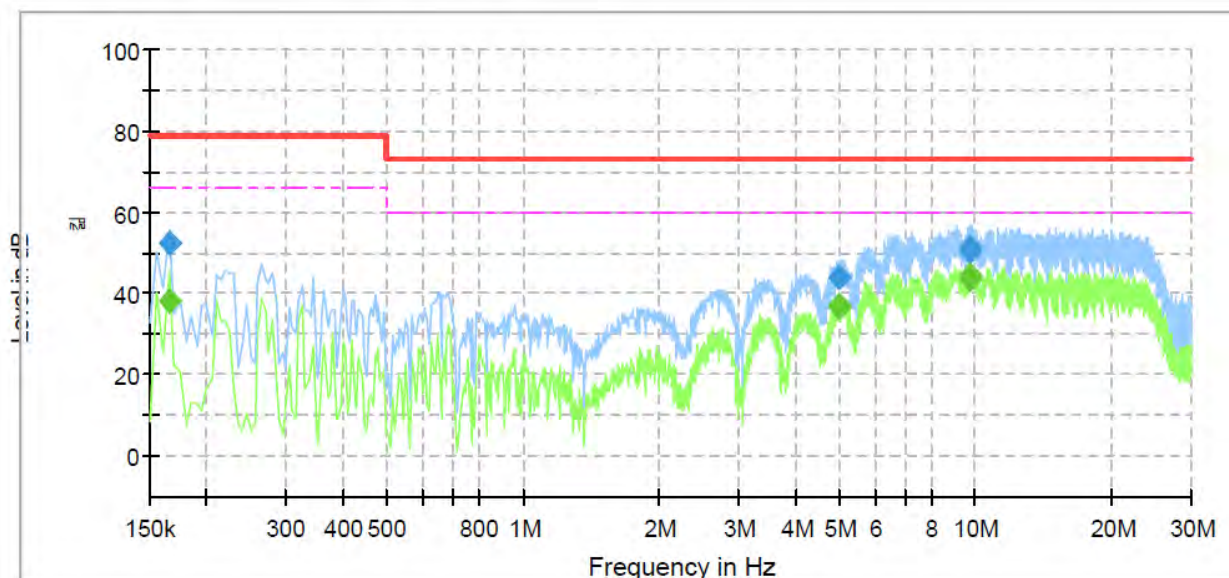
The results shown in this test report refer only to the sample(s) tested unless otherwise stated.

The authenticity of the test report, contact kes@kes.co.kr

NEUTRAL LINE

Common Information

Test Description:	Conducted Emission
Model No.:	SLA-T4680A
Mode	FCC
Operator Name:	KES



Final Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.165000	---	38.33	66.00	27.67	1000.0	9.000	N	9.5
0.165000	52.25	---	79.00	26.75	1000.0	9.000	N	9.5
4.985000	---	36.73	60.00	23.27	1000.0	9.000	N	9.9
4.985000	43.80	---	73.00	29.20	1000.0	9.000	N	9.9
5.015000	---	36.88	60.00	23.12	1000.0	9.000	N	9.9
5.015000	44.01	---	73.00	28.99	1000.0	9.000	N	9.9
9.690000	---	43.51	60.00	16.49	1000.0	9.000	N	9.6
9.690000	50.46	---	73.00	22.54	1000.0	9.000	N	9.6
9.780000	---	44.56	60.00	15.44	1000.0	9.000	N	9.6
9.780000	51.23	---	73.00	21.77	1000.0	9.000	N	9.6

◆ Calculation

$$\text{QuasiPeak [dBuV]} / \text{CAverage [dBuV]} = \text{Reading Value [dBuV]} + \text{Corr. [dB]}$$

QuasiPeak / CAverage : The Final Value

Reading Value : Not shown in the table.

Corr. : Correction values (LISN FACTOR + (Cable Loss + Pulse Limiter FACTOR))

This report shall not be reproduced except in full, without the written approval of KES Co., Ltd.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated.

The authenticity of the test report, contact kes@kes.co.kr



KES Co., Ltd.

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

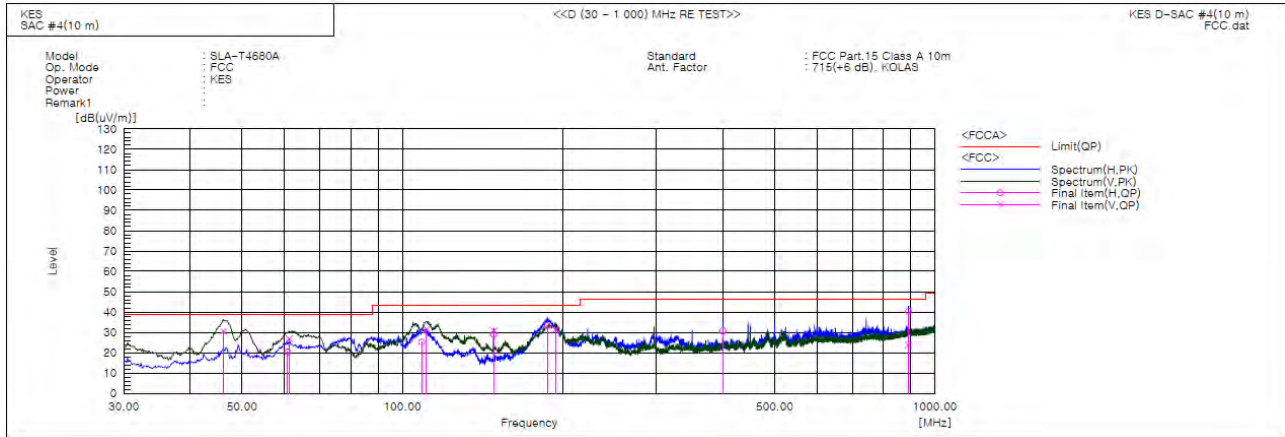
Report No.:

KES-EM-22T0005-R1

Page (16) of (26)

Radiated Electric Field Emissions(Below 1 GHz)

- 47 CFR Part 15, Subpart B



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(uV)]	c.f [dB(1/m)]	Result QP [dB(uV/m)]	Limit QP [dB(uV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]	Remark
1	46.126	V	51.7	-21.2	30.5	39.0	8.5	185.0	150.0	
2	60.919	H	42.3	-22.0	20.3	39.0	18.7	336.0	63.0	
3	61.283	V	48.9	-22.1	26.8	39.0	12.2	123.0	104.0	
4	108.691	H	47.4	-22.2	25.2	43.5	18.3	321.0	251.0	
5	110.995	V	53.7	-22.2	31.5	43.5	12.0	100.0	348.0	
6	148.461	V	55.9	-25.2	30.7	43.5	12.8	100.0	179.0	
7	148.367	H	54.2	-25.2	29.0	43.5	14.5	400.0	141.0	
8	187.261	H	55.8	-22.5	33.3	43.5	10.2	329.0	2.0	
9	193.930	V	52.8	-21.4	31.4	43.5	12.1	100.0	182.0	
10	400.055	H	44.7	-14.0	30.7	46.5	15.8	305.0	105.0	
11	890.996	H	44.5	-4.1	40.4	46.5	6.1	362.0	261.0	
12	891.118	V	27.9	-4.1	23.8	46.5	22.7	101.0	232.0	

This report shall not be reproduced except in full, without the written approval of KES Co., Ltd.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated.

The authenticity of the test report, contact kes@kes.co.kr



KES Co., Ltd.

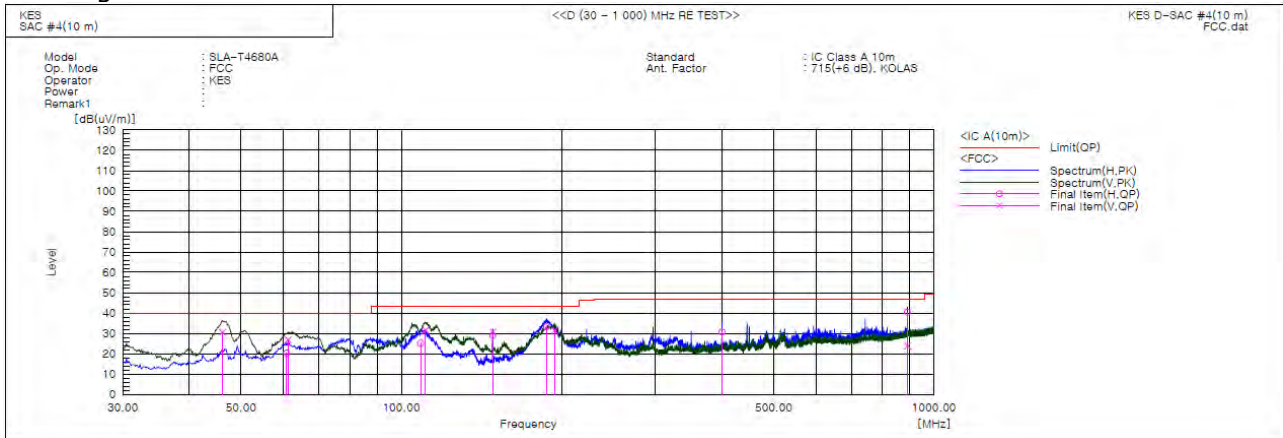
3701, 40, Simin-daero 365beon-gil,
Dongan-gu, Anyang-si, Gyeonggi-do, 14057, Korea
Tel: +82-31-425-6200 / Fax: +82-31-424-0450
www.kes.co.kr

Report No.:

KES-EM-22T0005-R1

Page (17) of (26)

- IC Regulation ICES-003 Issue 7



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(uV)]	c.f [dB(1/m)]	Result QP [dB(uV/m)]	Limit QP [dB(uV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]	Remark
1	46.126	V	51.7	-21.2	30.5	40.0	9.5	185.0	150.0	
2	60.919	H	42.3	-22.0	20.3	40.0	19.7	336.0	63.0	
3	61.283	V	48.9	-22.1	26.8	40.0	13.2	123.0	104.0	
4	108.691	H	47.4	-22.2	25.2	43.5	18.3	321.0	251.0	
5	110.995	V	53.7	-22.2	31.5	43.5	12.0	100.0	348.0	
6	148.461	V	55.9	-25.2	30.7	43.5	12.8	100.0	179.0	
7	148.367	H	54.2	-25.2	29.0	43.5	14.5	400.0	141.0	
8	187.261	H	55.8	-22.5	33.3	43.5	10.2	329.0	2.0	
9	193.930	V	52.8	-21.4	31.4	43.5	12.1	100.0	182.0	
10	400.055	H	44.7	-14.0	30.7	47.0	16.3	305.0	105.0	
11	890.996	H	44.5	-4.1	40.4	47.0	6.6	362.0	261.0	
12	891.118	V	27.9	-4.1	23.8	47.0	23.2	101.0	232.0	

◆ Calculation - SAC #4(10 m)

Result(QP) [dB(μ V/m)] = (Reading(QP)[dB(μ V)] + c.f[dB(1/m)])

Margin(QP)[dB] = Limit[dB(μ V/m)] - Result(QP) [dB(μ V/m)]

Reading(QP) : Reading value, Result(QP) : Reading value + Factor value

Limit(QP) : Limit value, c.f : (ANT Factor + Cable Loss - Preamplifier Factor), Margin: Margin value

This report shall not be reproduced except in full, without the written approval of KES Co., Ltd.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated.

The authenticity of the test report, contact kes@kes.co.kr



KES Co., Ltd.

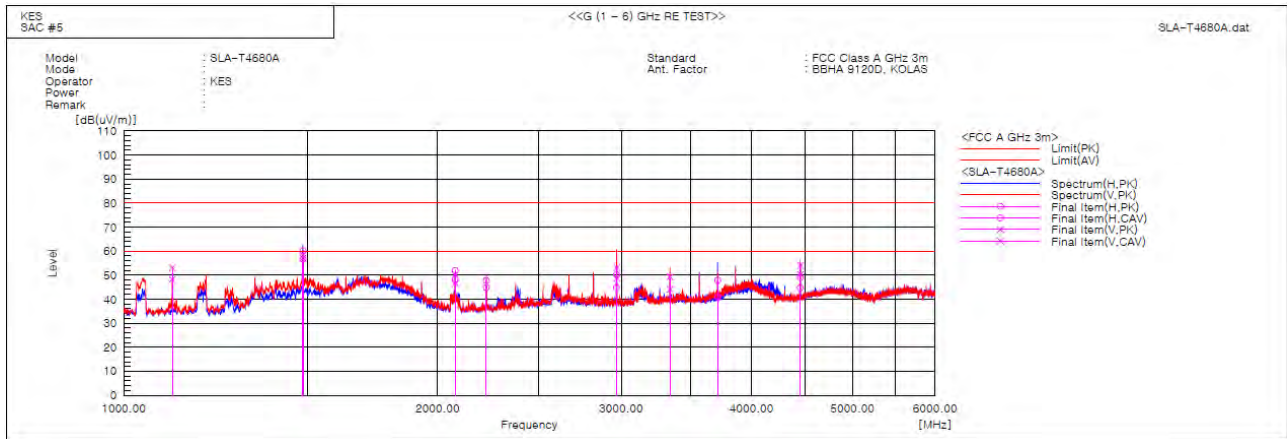
3701, 40, Simin-daero 365beon-gil,
Dongan-gu, Anyang-si, Gyeonggi-do, 14057, Korea
Tel: +82-31-425-6200 / Fax: +82-31-424-0450
www.kes.co.kr

Report No.:

KES-EM-22T0005-R1

Page (18) of (26)

Radiated Electric Field Emissions(Above 1 GHz)



Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(uV)]	Reading CAV [dB(uV)]	c.f [dB(1/m)]	Result PK [dB(uV/m)]	Result CAV [dB(uV/m)]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin CAV [dB]	Height [cm]	Angle [deg]	Remark
1	1113.125	V	60.5	55.7	-7.4	53.1	48.3	80.0	60.0	26.9	11.7	123.0	309.9	
2	1484.943	V	63.7	62.6	-5.4	58.3	57.2	80.0	60.0	21.7	2.8	149.9	324.4	
3	1485.501	H	65.6	62.1	-5.4	60.2	56.7	80.0	60.0	19.8	3.3	342.0	4.4	
4	2078.750	H	55.2	51.3	-3.3	51.9	48.0	80.0	60.0	28.1	12.0	350.0	50.0	
5	2078.750	V	53.7	50.0	-3.3	50.4	46.7	80.0	60.0	29.6	13.3	149.9	314.0	
6	2226.875	H	50.5	47.6	-2.7	47.8	44.9	80.0	60.0	32.2	15.1	200.2	306.6	
7	2969.375	H	50.1	44.7	0.1	50.2	44.8	80.0	60.0	29.8	15.2	398.0	324.0	
8	2970.018	V	53.1	48.7	0.1	53.2	48.8	80.0	60.0	26.8	11.2	149.9	4.0	
9	3341.250	V	48.7	43.5	0.6	49.3	44.1	80.0	60.0	30.7	15.9	101.0	30.5	
10	3712.562	H	46.7	39.8	1.2	47.9	41.0	80.0	60.0	32.1	19.0	314.0	332.6	
11	4455.507	H	45.2	40.8	3.9	49.1	44.7	80.0	60.0	30.9	15.3	287.0	353.9	
12	4455.918	V	50.2	46.4	3.9	54.1	50.3	80.0	60.0	25.9	9.7	107.0	91.1	

◆ Calculation

Result(PK/CAV) [dB(uV/m)] = (Reading(PK/CAV)[dB(uV)] + c.f[dB(1/m)]

Margin(PK/CAV)[dB] = Limit[dB(uV/m)] - Result(PK/CAV) [dB(uV/m)]

Reading(PK/CAV) : Reading value, Result(PK/CAV) : Reading value + Factor value

Limit(QP) : Limit value, c.f : (ANT Factor + Cable Loss - Preamp Factor), Margin: Margin value

This report shall not be reproduced except in full, without the written approval of KES Co., Ltd.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated.

The authenticity of the test report, contact kes@kes.co.kr

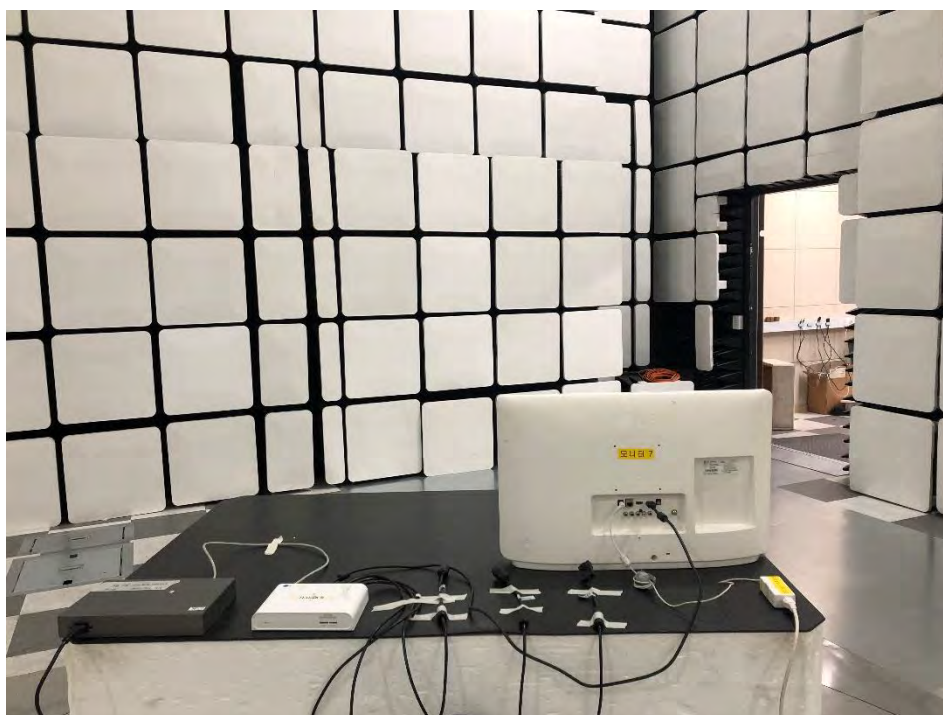
Test Setup Photos and Configuration

Conducted Emissions at Mains Power Ports



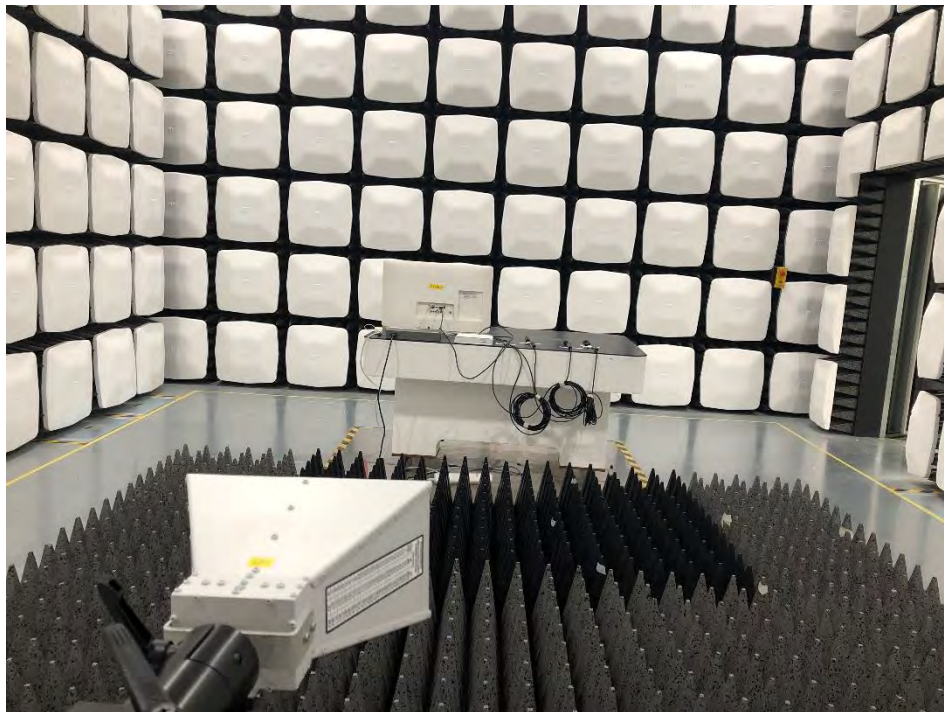
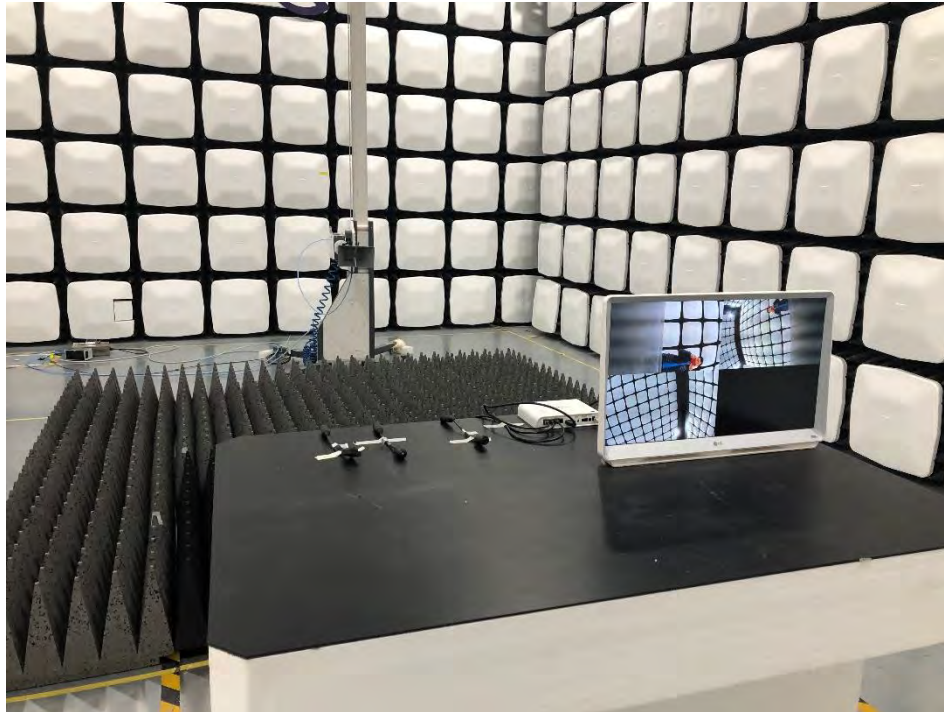
This report shall not be reproduced except in full, without the written approval of KES Co., Ltd.
The results shown in this test report refer only to the sample(s) tested unless otherwise stated.
The authenticity of the test report, contact kes@kes.co.kr

Radiated Electric Field Emissions(Below 1 GHz)



This report shall not be reproduced except in full, without the written approval of KES Co., Ltd.
The results shown in this test report refer only to the sample(s) tested unless otherwise stated.
The authenticity of the test report, contact kes@kes.co.kr

Radiated Electric Field Emissions(Above 1 GHz)



This report shall not be reproduced except in full, without the written approval of KES Co., Ltd.
The results shown in this test report refer only to the sample(s) tested unless otherwise stated.
The authenticity of the test report, contact kes@kes.co.kr

EUT External Photographs

(Top)



(Bottom)



This report shall not be reproduced except in full, without the written approval of KES Co., Ltd.
The results shown in this test report refer only to the sample(s) tested unless otherwise stated.
The authenticity of the test report, contact kes@kes.co.kr

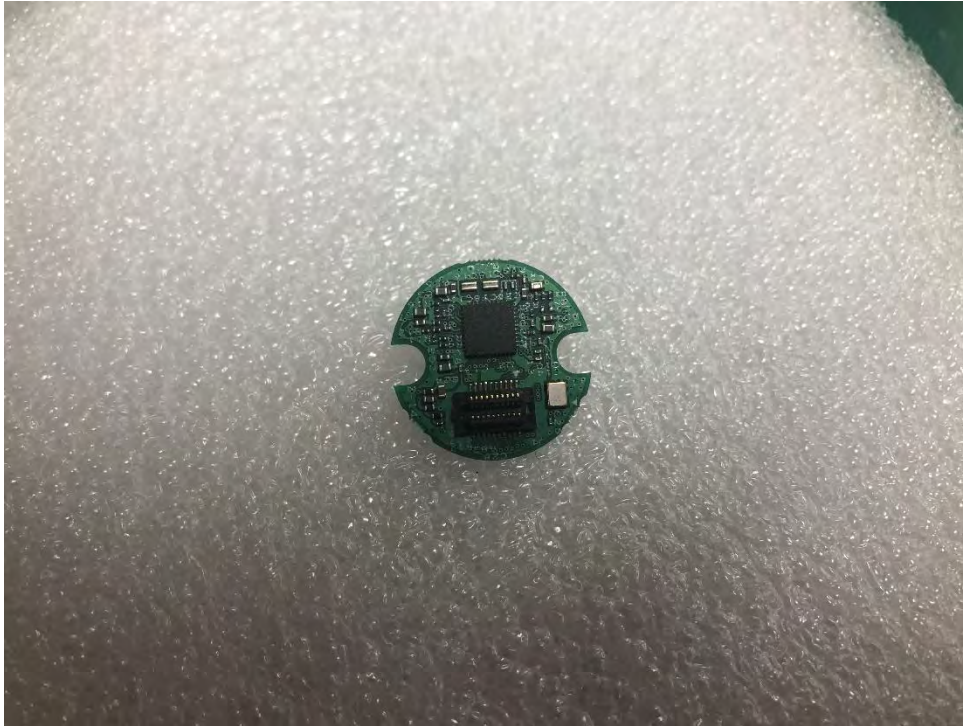
EUT Internal Photographs

(Internal View)



EUT Internal View – Board 1

(Top)



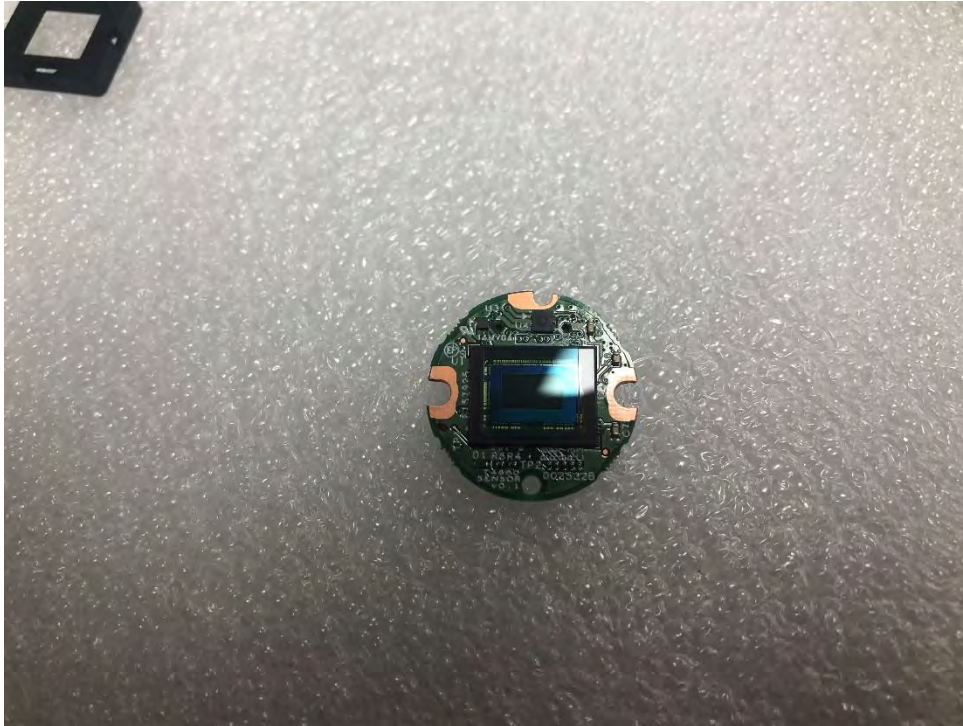
(Bottom)



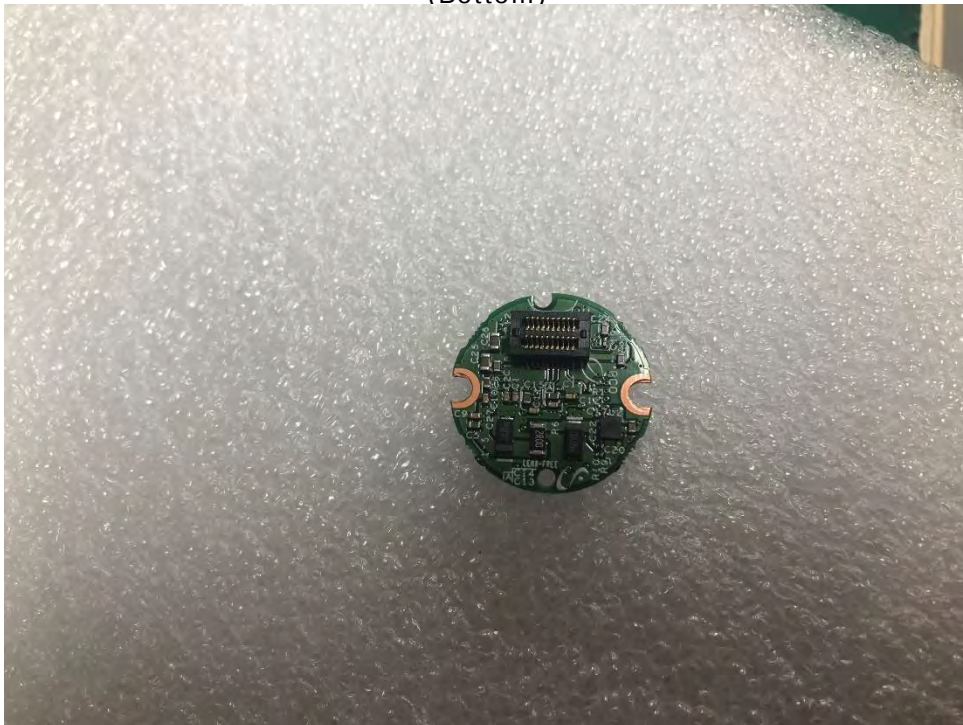
This report shall not be reproduced except in full, without the written approval of KES Co., Ltd.
The results shown in this test report refer only to the sample(s) tested unless otherwise stated.
The authenticity of the test report, contact kes@kes.co.kr

EUT Internal View – Board 2

(Top)



(Bottom)



This report shall not be reproduced except in full, without the written approval of KES Co., Ltd.
The results shown in this test report refer only to the sample(s) tested unless otherwise stated.
The authenticity of the test report, contact kes@kes.co.kr

Label Photographs



CAN ICES-3(A) / NMB-3(A)

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

(1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.