

**KES Co., Ltd.**

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www.kes.co.kr

Report No.:

KES-EM-20T0744-R1

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# EMC TEST REPORT For RCM

Test Report No. : KES-EM-20T0744-R1

Date of Issue : Feb. 24, 2023

Product name : LENS MODULE

Model/Type No. : SLA-T2480VA

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)

Date of Receipt : Oct. 06, 2020

Test date : Oct. 12, 2020 ~ Oct. 13, 2020

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

Tested by

Dae Jung, Choi  
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.

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**REPORT REVISION HISTORY**

| Date          | Test Report No.   | Revision History                                                     |
|---------------|-------------------|----------------------------------------------------------------------|
| Oct. 28, 2020 | KES-EM-20T0744    | Issued                                                               |
| Feb. 24, 2023 | KES-EM-20T0744-R1 | Change the Applicant and manufacturer at the request of the customer |
|               |                   |                                                                      |
|               |                   |                                                                      |
|               |                   |                                                                      |
|               |                   |                                                                      |
|               |                   |                                                                      |
|               |                   |                                                                      |
|               |                   |                                                                      |
|               |                   |                                                                      |

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## 1.0 General Product Description

### Main Specifications of EUT are:

|                                  |                                                   |
|----------------------------------|---------------------------------------------------|
| <b>Video</b>                     |                                                   |
| Imaging Device                   | 1/2.8" 2M CMOS                                    |
| Total Pixels                     | 1945(H) x 1109(V) 2.16M                           |
| Effective Pixels                 | 1945(H) x 1097(V) 2.13M                           |
| Scanning System                  | Progressive Scan                                  |
| Min. Illumination                | Color : 0.45lux(F2.0, 1/30sec)                    |
| S / N Ratio                      | 50dB                                              |
| Wide Dynamic Range               | 120dB                                             |
| Day & Night                      | Electrical                                        |
| <b>Lens</b>                      |                                                   |
| Focal Length (Zoom Ratio)        | 2.4mm                                             |
| Max. Aperture Ratio              | F2.0                                              |
| Angular Field of View            | H: 138°, V: 73°, D: 165°                          |
| Min. Object Distance             | 0.3m(0.98ft)                                      |
| Focus Control                    | -                                                 |
| Lens Type                        | Fixed focal                                       |
| Mount Type                       | RJ12 connected with main unit                     |
| <b>Environmental</b>             |                                                   |
| Operating Temperature / Humidity | -10°C ~ +55°C (-14°F ~ +131°F) / Less than 90% RH |
| Storage Temperature / Humidity   | -50°C ~ +60°C (-58°F ~ +140°F) / Less than 90% RH |
| Ingress Protection               | -                                                 |
| Vandal Resistance                | -                                                 |
| <b>Mechanical</b>                |                                                   |
| Color / Material                 | Lens : Black / Plastic, Metal<br>Cable : Black    |
| Dimension (WxHxD)                | Lens : W30 x H27.9 x D45<br>Cable : 8m            |
| Weight                           | 328g                                              |



## 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.

Voltage ☒ 240 Vac ☐ 100 Vac ☐ 24 Vac ☐ 12 Vdc ☐ PoE

Frequency ☒ 50 Hz ☐ 60 Hz ☐ 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-T2480VA  | -             | HANWHA VISION<br>VIETNAM COMPANY<br>LIMITED | EUT     |

## 1.5 Support Equipments

| Description    | Model Number | Serial Number       | Manufacturer                                       | Remarks |
|----------------|--------------|---------------------|----------------------------------------------------|---------|
| NETWORK CAMERA | PNM-9000QB   | -                   | HANWHA TECHWIN<br>SECURITY VIETNAM<br>CO.,LTD.     | -       |
| LENS MODULE    | SLA-T1080FA  | -                   | HANWHA TECHWIN<br>SECURITY VIETNAM<br>CO.,LTD.     | -       |
| LENS MODULE    | SLA-T4680A   | -                   | HANWHA TECHWIN<br>SECURITY VIETNAM<br>CO.,LTD.     | -       |
| LENS MODULE    | SLA-T2480A   | -                   | HANWHA TECHWIN<br>SECURITY VIETNAM<br>CO.,LTD.     | -       |
| DC Adaptor     | 2ACB022F     | -                   | Channel Well<br>Technology<br>(Guangzhou) Co.,Ltd. | -       |
| Monitor        | SMT-2232     | C95V67VF90002<br>5B | Weihai Daewoo<br>Electronics 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) | 6 Pin    | NETWORK CAMERA | 6 Pin    | 15.0        | S      |
| NETWORK CAMERA    | 6 Pin    | LENS MODULE    | 6 Pin    | 15.0        | S      |
|                   | 6 Pin    | LENS MODULE    | 6 Pin    | 15.0        | S      |
|                   | 6 Pin    | LENS MODULE    | 6 Pin    | 15.0        | S      |
|                   | HDMI     | Monitor        | HDMI     | 1.5         | S      |

\* Unshielded=U, Shielded=S

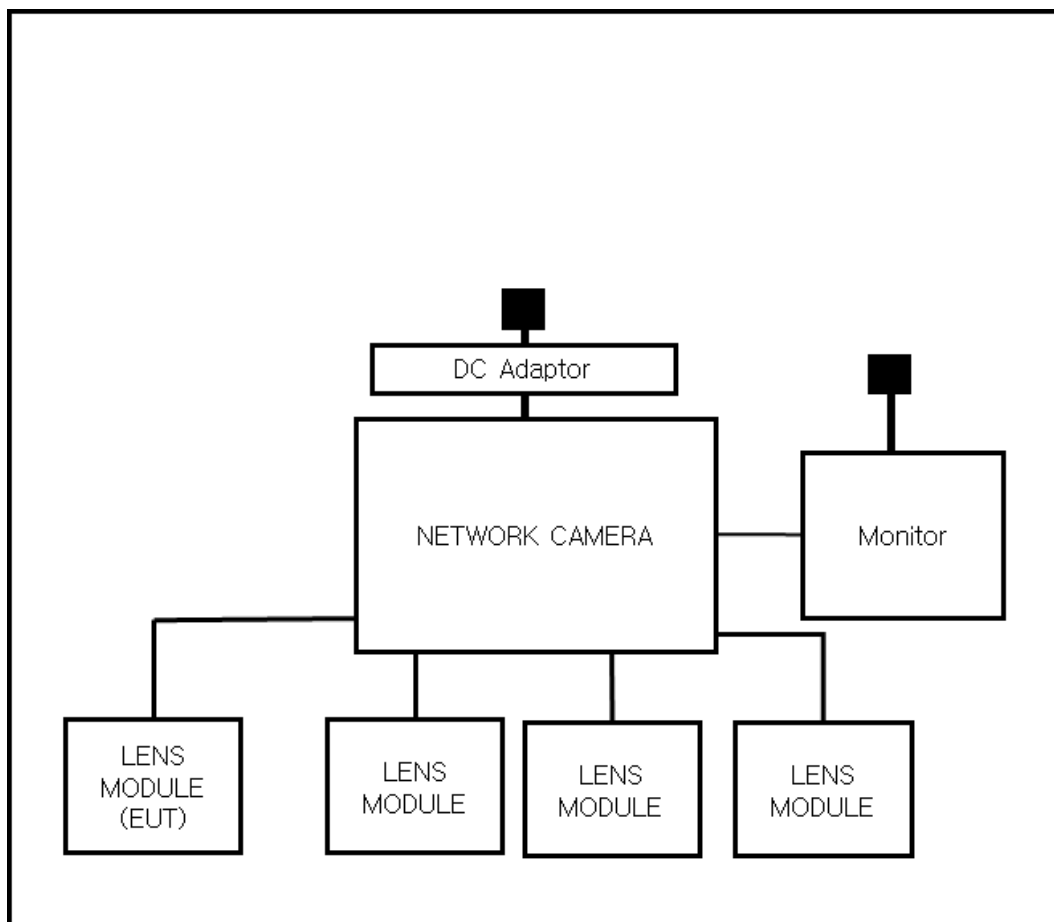
## 1.7 EUT Operating Mode(s)

| Test Mode      | operating      |
|----------------|----------------|
| Operation mode | Monitoring EUT |

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

## 1.8 Configuration

■ AC Main  
 □ DC Main



## 1.9 Remarks when standards applied

N/A

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

## 2.0 Test Regulations

The emissions tests were performed according to following regulations:

☐ **EMC – Directive 2014/30/EU**

☐ EN 61000-6-3:2011

☐ EN 61000-6-1:2007

☐ EN 61000-6-4:2007 +A1:2011

☐ EN 61000-6-2:2005

☐ EN 55011:2007 +A1:2010

☐ Group 1

☐ Group 2

☐ Class A

☐ Class B

☐ EN 55014-1:2006 +A2:2011

☐ EN 55014-2:1997 +A2:2008

☐ EN 55015:2013

☐ EN 55032:2015

☐ Class A

☐ Class B

☐ EN 55024:2010

☐ EN 50130-4:2011 +A1:2014

☐ EN 61000-3-2:2014

☐ EN 61000-3-3:2013

☐ EN 61326-1:2013



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- |                                                                |                                             |                                  |
|----------------------------------------------------------------|---------------------------------------------|----------------------------------|
| <input type="checkbox"/> <b>VCCI-CISPR 32:2016</b>             | <input type="checkbox"/> Class A            | <input type="checkbox"/> Class B |
| <input checked="" type="checkbox"/> <b>AS/NZS CISPR32:2015</b> | <input checked="" type="checkbox"/> Class A | <input type="checkbox"/> Class B |
| <br>                                                           |                                             |                                  |
| <input type="checkbox"/> <b>47 CFR Part 15, Subpart B</b>      |                                             |                                  |
| <input type="checkbox"/> CISPR 22:2009 +A1:2010                | <input type="checkbox"/> Class A            | <input type="checkbox"/> Class B |
| <input type="checkbox"/> ANSI C63.4-2009                       |                                             |                                  |
| <br>                                                           |                                             |                                  |
| <input type="checkbox"/> <b>IC Regulation ICES-003 : 2016</b>  |                                             |                                  |
| <input type="checkbox"/> CAN/CSA CISPR 22-10                   | <input type="checkbox"/> Class A            | <input type="checkbox"/> Class B |
| <input type="checkbox"/> ANSI C63.4-2014                       |                                             |                                  |
| <br>                                                           |                                             |                                  |
| <input type="checkbox"/> <b>RE- Directive 2014/53/EU</b>       |                                             |                                  |
| <br>                                                           |                                             |                                  |
| <input type="checkbox"/> EN 301 489-1 V1.9.2                   |                                             |                                  |
| <input type="checkbox"/> Equipment for fixed use               |                                             |                                  |
| <input type="checkbox"/> Equipment for vehicular use           |                                             |                                  |
| <input type="checkbox"/> Equipment for portable use            |                                             |                                  |
| <br>                                                           |                                             |                                  |
| <input type="checkbox"/> EN 301 489-3 V1.6.1                   |                                             |                                  |
| <input type="checkbox"/> EN 301 489-17 V2.2.1                  |                                             |                                  |
| <input type="checkbox"/> EN 60945:2002                         |                                             |                                  |

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## 2.1 Conducted Emissions at Mains Power Ports

### Test Date

Oct. 12, 2020

### Test Location

Electro wave Shieldroom #6

### Test Equipment

| Used                                | Description       | Model Number | Manufacturer | Serial Number | Cal. Due     |
|-------------------------------------|-------------------|--------------|--------------|---------------|--------------|
| <input checked="" type="checkbox"/> | EMI Test S/W      | EMC32        | R & S        | 9.12.00       | -            |
| <input checked="" type="checkbox"/> | EMI TEST RECEIVER | ESR3         | R & S        | 101783        | 01, 20, 2021 |
| <input checked="" type="checkbox"/> | LISN              | ENV216       | R & S        | 101787        | 01, 02, 2021 |
| <input checked="" type="checkbox"/> | LISN              | ESH2-Z5      | R & S        | 100450        | 01, 02, 2021 |
| <input checked="" type="checkbox"/> | PULSE LIMITER     | ESH3-Z2      | R & S        | 101915        | 01, 02, 2021 |

### Test Conditions

Temperature: 22,3 °C  
Relative Humidity: 46,7 % 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

### Remarks

See Appendix A for test data.

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## 2.2 Conducted Emissions at Telecommunication Ports

**Test Date**

N/A

**Test Location**

Electro wave Shieldroom #6

**Test Equipment**

| Used                     | Description       | Model Number | Manufacturer | Serial Number | Cal. Due     |
|--------------------------|-------------------|--------------|--------------|---------------|--------------|
| <input type="checkbox"/> | EMI Test S/W      | EMC32        | R & S        | 9.12.00       | -            |
| <input type="checkbox"/> | EMI TEST RECEIVER | ESR3         | R & S        | 101783        | 01, 20, 2021 |
| <input type="checkbox"/> | LISN              | ENV216       | R & S        | 101787        | 01, 02, 2021 |
| <input type="checkbox"/> | LISN              | ESH2-Z5      | R & S        | 100450        | 01, 02, 2021 |
| <input type="checkbox"/> | PULSE LIMITER     | ESH3-Z2      | R & S        | 101915        | 01, 02, 2021 |
| <input type="checkbox"/> | 8-WIRE ISN CAT3,5 | ENY81        | R & S        | 100174        | 01, 07, 2021 |
| <input type="checkbox"/> | 8-WIRE ISN CAT6   | ENY81-CAT6   | R & S        | 101665        | 01, 07, 2021 |
| <input type="checkbox"/> | CDN               | CDNS502A     | TESEQ        | 40431         | 01, 02, 2021 |

**Test Conditions**

Temperature:

°C

Relative Humidity:

% 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

**Remarks**Does not apply because no IP is assigned

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## 2.3 Radiated Electric Field Emissions(Below 1 GHz)

### Test Date

Oct. 12, 2020

### Test Location

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

### Test Equipment

| Used                                | Description              | Model Number | Manufacturer     | Serial Number | Cal. Due     |
|-------------------------------------|--------------------------|--------------|------------------|---------------|--------------|
| <input checked="" type="checkbox"/> | EMI Test S/W             | EP5/RE       | TOYO Corporation | 6.0.0         | -            |
| <input checked="" type="checkbox"/> | EMI TEST RECEIVER        | ESU26        | R & S            | 100551        | 04, 01, 2021 |
| <input checked="" type="checkbox"/> | AMPLIFIER                | SCU 01       | R & S            | 100603        | 11, 25, 2020 |
| <input checked="" type="checkbox"/> | TRILOG-BROADBAND ANTENNA | VULB9163     | Schwarzbeck      | 715           | 11, 29, 2020 |
| <input checked="" type="checkbox"/> | ATTENUATOR               | 8491A        | HP               | 32173         | 03, 10, 2021 |

### Test Conditions

Temperature: 22,7 °C  
Relative Humidity: 52,0 % 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

### Remarks

See Appendix A for test data.

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## 2.4 Radiated Electric Field Emissions(Above 1 GHz)

**Test Date**

Oct. 13, 2020

**Test Location**

SEMI ANECHOIC CHAMBER #3

**Test Equipment**

| Used                                | Description                | Model Number | Manufacturer     | Serial Number | Cal. Due     |
|-------------------------------------|----------------------------|--------------|------------------|---------------|--------------|
| <input checked="" type="checkbox"/> | EMI Test S/W               | EP5/RE       | TOYO Corporation | 6.0.0         | -            |
| <input checked="" type="checkbox"/> | EMI TEST RECEIVER          | ESR7         | R & S            | 101190        | 08, 05, 2021 |
| <input checked="" type="checkbox"/> | PREAMPLIFIER               | 8449B        | AGILENT          | 3008A01967    | 04, 20, 2021 |
| <input type="checkbox"/>            | ATTENUATOR                 | 8491A        | HP               | 35496         | 03, 10, 2021 |
| <input checked="" type="checkbox"/> | DOUBLE RIDGED HORN ANTENNA | SAS-571      | A.H.SYSTEM,INC   | 781           | 03, 11, 2021 |

**Test Conditions**

Temperature: 22,1 °C  
Relative Humidity: 51,1 % R.H.

**Frequency Range of Measurement**

1 GHz to 6 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.

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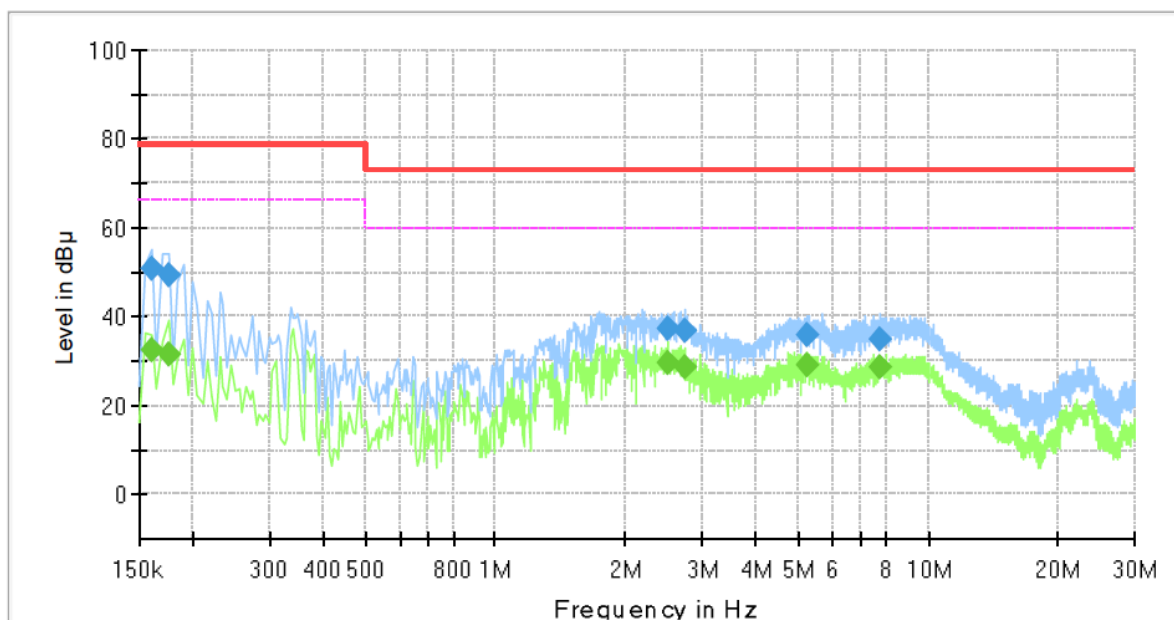
## APPENDIX A – TEST DATA

### Conducted Emissions at Mains Power Ports

HOT LINE

#### Common Information

|                   |                    |
|-------------------|--------------------|
| Test Description: | Conducted Emission |
| Model No.:        | SLA-T2480VA        |
| Phase:            | L1                 |
| Mode:             |                    |
| Operator Name:    | KES                |



#### Final Result

| Frequency (MHz) | QuasiPeak (dBμV) | CAverage (dBμV) | Limit (dBμV) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Line | Corr. (dB) |
|-----------------|------------------|-----------------|--------------|-------------|-----------------|-----------------|------|------------|
| 0.160000        | ---              | 32.23           | 66.00        | 33.77       | 1000.0          | 9.000           | L1   | 19.5       |
| 0.160000        | 50.86            | ---             | 79.00        | 28.14       | 1000.0          | 9.000           | L1   | 19.5       |
| 0.175000        | ---              | 31.63           | 66.00        | 34.37       | 1000.0          | 9.000           | L1   | 19.5       |
| 0.175000        | 49.49            | ---             | 79.00        | 29.51       | 1000.0          | 9.000           | L1   | 19.5       |
| 2.510000        | ---              | 29.77           | 60.00        | 30.23       | 1000.0          | 9.000           | L1   | 20.2       |
| 2.510000        | 37.24            | ---             | 73.00        | 35.76       | 1000.0          | 9.000           | L1   | 20.2       |
| 2.745000        | ---              | 28.53           | 60.00        | 31.47       | 1000.0          | 9.000           | L1   | 20.1       |
| 2.745000        | 36.67            | ---             | 73.00        | 36.33       | 1000.0          | 9.000           | L1   | 20.1       |
| 5.220000        | ---              | 28.91           | 60.00        | 31.09       | 1000.0          | 9.000           | L1   | 19.5       |
| 5.220000        | 35.68            | ---             | 73.00        | 37.32       | 1000.0          | 9.000           | L1   | 19.5       |
| 7.760000        | ---              | 28.48           | 60.00        | 31.52       | 1000.0          | 9.000           | L1   | 19.6       |
| 7.760000        | 35.03            | ---             | 73.00        | 37.97       | 1000.0          | 9.000           | L1   | 19.6       |

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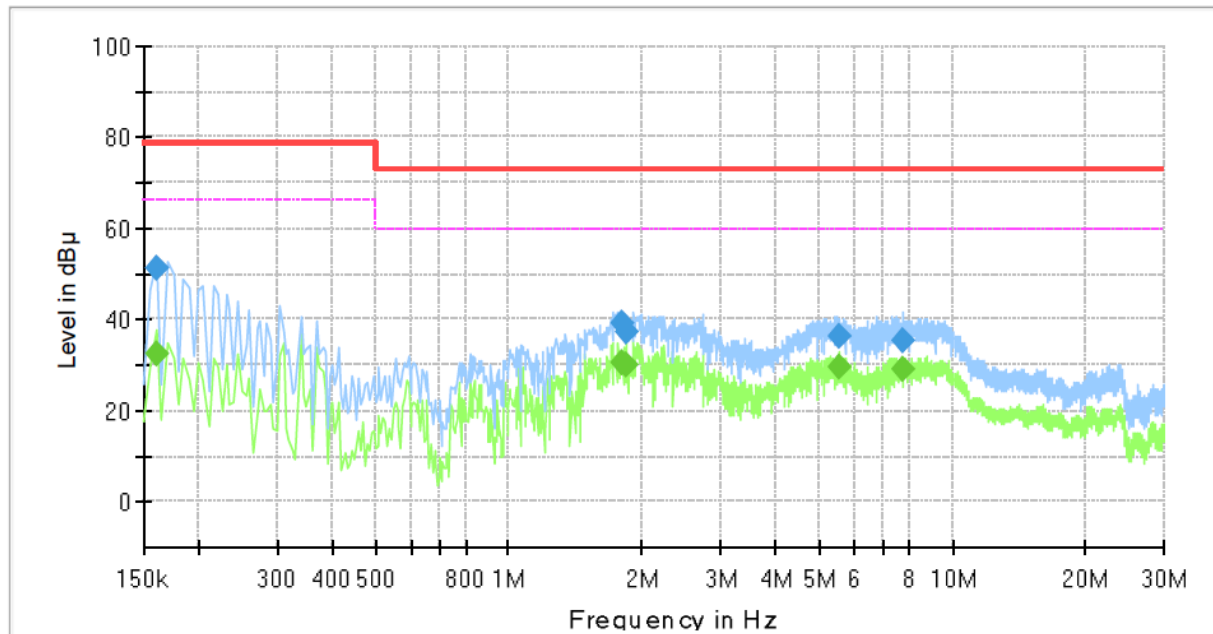
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## NEUTRAL LINE

## Common Information

|                   |                    |
|-------------------|--------------------|
| Test Description: | Conducted Emission |
| Model No.:        | SLA-T2480VA        |
| Phase:            | N                  |
| Mode:             |                    |
| Operator Name:    | KES                |



## Final Result

| Frequency (MHz) | QuasiPeak (dBμV) | CAverage (dBμV) | Limit (dBμV) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Line | Corr. (dB) |
|-----------------|------------------|-----------------|--------------|-------------|-----------------|-----------------|------|------------|
| 0.160000        | ---              | 32.63           | 66.00        | 33.37       | 1000.0          | 9.000           | N    | 19.4       |
| 0.160000        | 51.16            | ---             | 79.00        | 27.84       | 1000.0          | 9.000           | N    | 19.4       |
| 1.795000        | ---              | 30.60           | 60.00        | 29.40       | 1000.0          | 9.000           | N    | 20.2       |
| 1.795000        | 38.97            | ---             | 73.00        | 34.03       | 1000.0          | 9.000           | N    | 20.2       |
| 1.845000        | ---              | 30.16           | 60.00        | 29.84       | 1000.0          | 9.000           | N    | 20.2       |
| 1.845000        | 37.16            | ---             | 73.00        | 35.84       | 1000.0          | 9.000           | N    | 20.2       |
| 5.570000        | ---              | 29.45           | 60.00        | 30.55       | 1000.0          | 9.000           | N    | 19.6       |
| 5.570000        | 36.11            | ---             | 73.00        | 36.89       | 1000.0          | 9.000           | N    | 19.6       |
| 7.715000        | ---              | 28.98           | 60.00        | 31.02       | 1000.0          | 9.000           | N    | 19.6       |
| 7.715000        | 35.39            | ---             | 73.00        | 37.61       | 1000.0          | 9.000           | N    | 19.6       |

### ◆ 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))

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### Conducted Emissions at Telecommunication Ports

[1 000 Mbps]

N/A

#### ◆ Calculation

QuasiPeak[dBuV] / CAverage [dBuV] = Reading Value[dBuV] + Corr. [dB]

QuasiPeak / CAverage : The Final Value

Reading Value : Not shown in the table.

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

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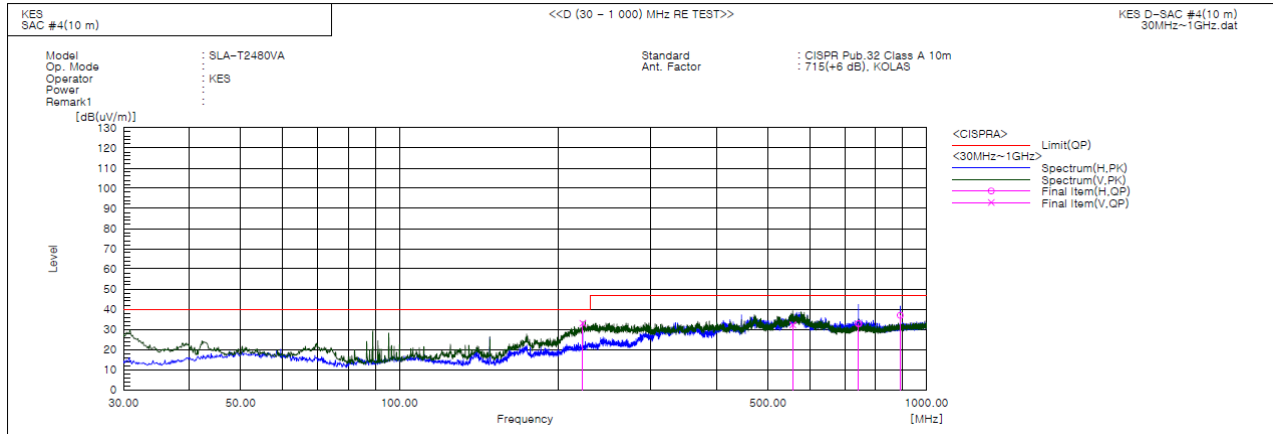
3701, 40, Simin-daero 365beon-gil,  
Dongan-gu, Anyang-si, Gyeonggi-do, 14057, Korea  
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### Radiated Electric Field Emissions(Below 1 GHz)



#### 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   | 222.752         | V   | 53.5                | -20.5         | 33.0                 | 40.0                | 7.0            | 162.0       | 158.0       |        |
| 2   | 557.438         | V   | 43.7                | -11.5         | 32.2                 | 47.0                | 14.8           | 400.0       | 172.0       |        |
| 3   | 742.465         | H   | 40.2                | -7.4          | 32.8                 | 47.0                | 14.2           | 374.0       | 340.0       |        |
| 4   | 890.996         | H   | 42.7                | -5.7          | 37.0                 | 47.0                | 10.0           | 100.0       | 71.0        |        |

#### ◆ Calculation

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

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

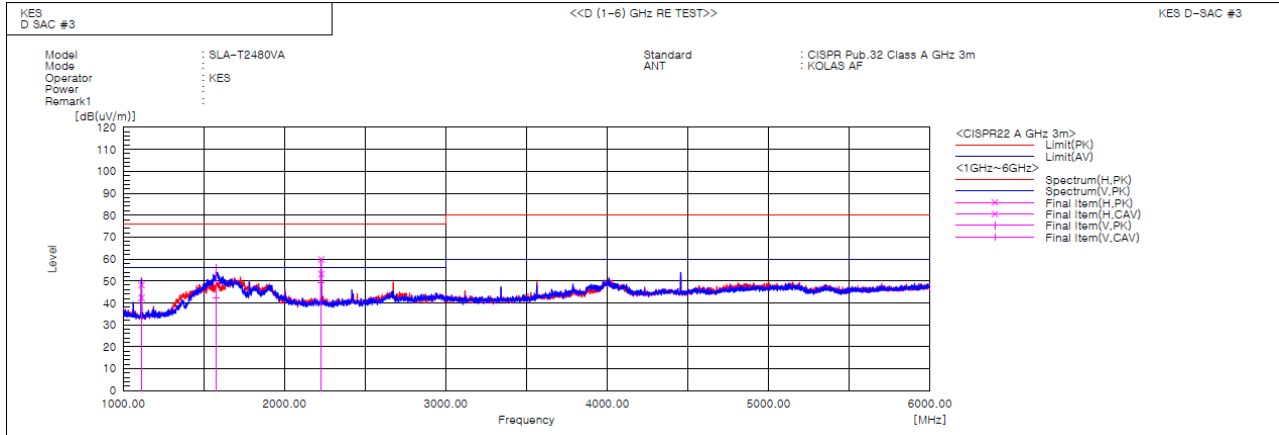
Reading(QP) : Reading value, Result(QP) : Reading value + Factor value

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

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## 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   | 1114.080        | H   | 57.0                | 51.2                 | -8.9          | 48.1                 | 42.3                  | 76.0                | 56.0                | 27.9           | 13.7            | 100.0       | 69.8        |        |
| 2   | 1577.749        | V   | 61.9                | 48.2                 | -6.0          | 55.9                 | 42.2                  | 76.0                | 56.0                | 20.1           | 13.8            | 100.0       | 5.5         |        |
| 3   | 2227.220        | H   | 61.0                | 54.3                 | -1.2          | 59.8                 | 53.1                  | 76.0                | 56.0                | 16.2           | 2.9             | 100.0       | 160.6       |        |
| 4   | 2227.380        | V   | 57.3                | 50.5                 | -1.2          | 56.1                 | 49.3                  | 76.0                | 56.0                | 19.9           | 6.7             | 100.0       | 41.1        |        |

### ◆ Calculation

Result(PK/CAV) [dB( $\mu$ V/m)] = (Reading(PK/CAV)[dB( $\mu$ V)] + c.f[dB(1/m)])

Margin(PK/CAV)[dB] = Limit[dB( $\mu$ V/m)] - Result(PK/CAV) [dB( $\mu$ V/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

## Test Setup Photos and Configuration

### Conducted Emissions at Mains Power Ports



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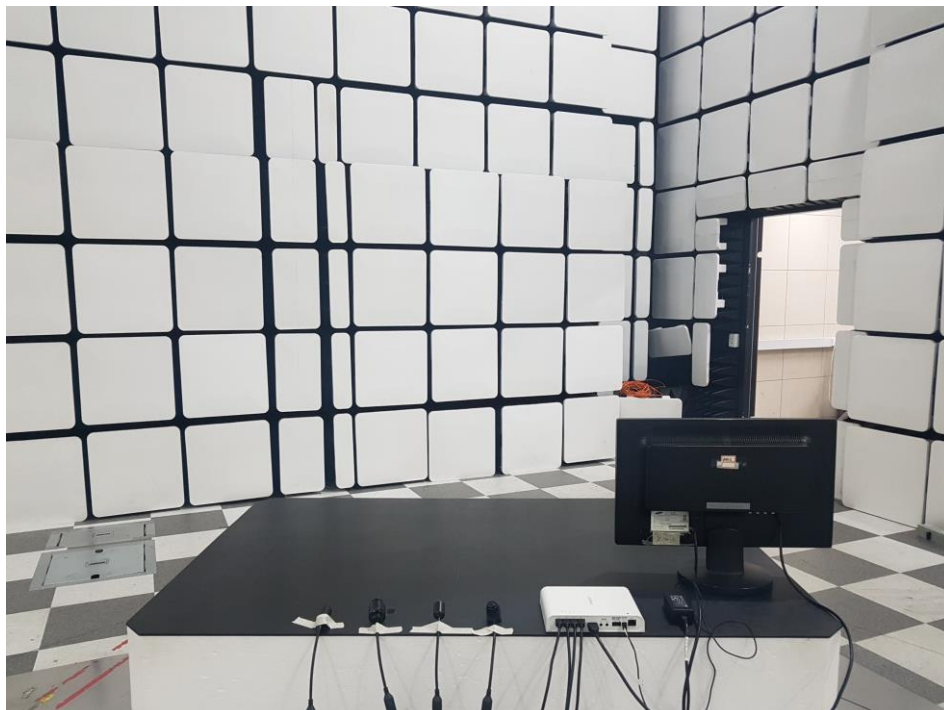
**Conducted Emissions at Telecommunication Ports**

N/A

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## Radiated Electric Field Emissions(Below 1 GHz)



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## Radiated Electric Field Emissions(Above 1 GHz)



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## EUT External Photographs

(Top)



(Bottom)



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## **EUT Internal Photographs**

(Internal View)



## EUT Internal View – LENS

(Top)



(Bottom)



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## EUT Internal View – Board

(Top)



(Bottom)



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