



EMC TEST REPORT For VCCI

Test Report No. : KES-E1-18T0018
Date of Issue : Jan. 08, 2018
Product name : Network Camera
Model/Type No. : LNV-6070RN
Variant Model : -
Applicant : Hanwha Techwin Co., Ltd.
Applicant Address : 1204, Changwon-daero, Seongsan-gu, Changwon-si,
Gyeongsangnam-do, Korea
Manufacturer : Hanwha Techwin (Tianjin) Co., Ltd.
Manufacturer Address : No.11 Weiliu Rd, Micro-Electronic Industrial
Park, TEDA, Tianjin, 300385, People's Republic of China.

Equipment authorization : ☐ Declaration of Conformity
☒ Verification
☐ Certification

Date of Receipt : Dec. 21, 2017
Test date : Jan. 02, 2018 ~ Jan. 03, 2018
Test Results : ☒ In Compliance ☐ Not in Compliance

Tested by

Sung Min, Choi
EMC Test Engineer

Reviewed by

Dong-Hun, Jang
EMC Technical Manager

This test report is not related to KOLAS.

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REPORT REVISION HISTORY

| Date | Test Report No. | Revision History |
|---------------|-----------------|------------------|
| Jan. 08, 2018 | KES-E1-18T0018 | Issued |
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1.0 General Product Description

Main Specifications of EUT are:

| | |
|---------------------------------|---|
| Video | |
| Imaging Device | 1/2.9" 2.19M CMOS |
| Total Pixels | 2,000(H) × 1,121(V) |
| Effective Pixels | 1,984(H) × 1,105(V) |
| Scanning System | Progressive |
| Min. Illumination | Color : 0.095Lux (1/30sec, F1.6) 0.003Lux (2sec, F1.6) B/W : 0Lux (IR LED on) |
| Lens | |
| Focal Length (Zoom Ratio) | 3.2~10mm (3.1x) varifocal |
| Max. Aperture Ratio | F1.6~2.9 |
| Angular Field of View | H : 101.6°(Wide) ~ 31.3°(Tele) V : 54.1°(Wide) ~ 17.8°(Tele) D : 120.6°(Wide) ~ 36.0°(Tele) |
| Min. Object Distance | 0.5m(1.64ft) |
| Focus Control | Manual |
| Lens Type | DC auto iris |
| Mount Type | Board type |
| Pan / Tilt / Rotate | |
| Pan / Tilt / Rotate Range | 0~350° / 0~67° / 0~355° |
| Operational | |
| IR Viewable Length | 30m |
| Camera Title | Off / On (Displayed up to 15 characters) |
| Day & Night | Auto(ICR) / Color / B/W / Schedule |
| Backlight Compensation | Off / BLC / WDR |
| Wide Dynamic Range | 120dB |
| Contrast Enhancement | SSDR(Off / On) |
| Digital Noise Reduction | SSNR(Off / On) |
| Motion Detection | Off / On (4ea rectangular zones) |
| Privacy Masking | Off / On (6ea rectangular zones) |
| Gain Control | Off / Low / Middle / High |
| White Balance | ATW / AWC / Manual / Indoor / Outdoor |
| LDC(Lens distortion correction) | On/Off (5 levels with Min/Max) |
| Electronic Shutter Speed | Minimum / Maximum / Anti flicker |
| Flip / Mirror | Flip / Mirror / Hallway view |
| Intelligent Video Analytics | Motion Detection, Tampering |
| Alarm Triggers | Motion detection, Tampering Detection, SD card error |
| Alarm Events | File upload via FTP and E-Mail Local storage recording at Event Notification via E-Mail |



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| | |
|----------------------------------|--|
| Network | |
| Ethernet | RJ-45 (10/100BASE-T) |
| Video Compression Format | H.264, MJPEG |
| Resolution | 1920x1080 / 1280x1024 / 1280x960 / 1280x720 / 1024x768 / 800x600 / 800x448 / 720x576 / 640x480 / 640x360 / 320x240 |
| Max. Framerate | H.264 : Max. 30fps at all resolutions MJPEG : Max. 1fps at 1920x1080/1280x1024/1280x720/1024x768, Max. 15fps at other resolution |
| WiseStreamII | Support |
| Video Quality Adjustment | H.264/MJPEG : Target Bitrate Level Control |
| Bitrate control method | H.264 : CBR or VBR, MJPEG : VBR |
| Streaming Capability | Multiple streaming(up to 3 profiles) |
| Audio I/O | - |
| Audio Compression Format | - |
| Audio Communication | - |
| IP | IPv4, IPv6 |
| Protocol | TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, PPPoE, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, PIM-SM, UPnP, Bonjour |
| Security | HTTPS(SSL), Login Authentication, Digest Login Authentication IP Address Filtering, User access Log, 802.1X Authentication(EAP-TLS, EAP-LEAP) |
| Streaming Method | Unicast / Multicast |
| Max. User Access | 6 users at Unicast Mode |
| Edge storage | Micro SD/SDHC/SDXC Max 32G - Motion images recorded in the SD memory card can be downloaded - Manual recording at Local PC |
| Application Programming Inter | ONVIF Profile S, G SUNAPI(HTTP API) |
| Webpage Language | English, French, German, Spanish, Italian, Chinese, Korean, Russian, Japanese, Swedish, Danish, Portuguese, Turkish, Polish, Czech, Rumanian, Serbian, Dutch, Croatia, Hungary, Greek, Finnish, Norwegian |
| Web Viewer | Supported OS : Windows 7, 8, 10, Mac OS X 10.10, 10.11, 10.12 Non-plugin Webviewer - Supported Browser : Google Chrome 63, MS Edge 41, Mozilla Firefox 57 (Window 64bit only), Apple Safari 11 (Mac OS X only) Plug-in Webviewer Supported Browser: MS-Edge 44 |
| Central Management Software | SmartViewer, SSM |
| Environmental | |
| Operating Temperature / Humidity | -30°C ~ +55°C / Less than 90% RH * Start up should be done at above -20°C |
| Storage Temperature / Humidity | -30°C ~ +60°C (-22°F ~ +140°F) / Less than 90% RH |
| Ingress Protection | IP66 |
| Vandal Resistance | IK10 |
| Electrical | |
| Input Voltage / Current | PoE(IEEE802.3af, Class3) |
| Power Consumption | 6.5W |
| Mechanical | |
| Color / Material | White / Aluminum, Plastic |
| Dimension (WxHxD) | Ø 137.8 mm(5.43") x 106.1(4.18")mm |
| Weight | 515g(1.16lb) |

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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 ☐ 230 Vac ☐ 100 Vac ☐ 24 Vac ☐ 5 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 |
|----------------|--------------|---------------|-----------------------------------|---------|
| Network Camera | LNV-6070RN | - | Hanwha Techwin (Tianjin) Co.,Ltd. | E.U.T |

1.5 Support Equipments

| Description | Model Number | Serial Number | Manufacturer | Remarks |
|-------------------|---------------|---------------|----------------------------------|---------|
| PoE Adapter | POE 36U-1AT-R | P90215791A1 | PHIHONG | - |
| Notebook Computer | LG15N54 | 410NZGK015231 | LG | - |
| Adapter | ADP-90WH B | 84ZW19F1663 | DELTA ELECTRONICS (JIANGSU) LTD. | - |

1.6 External I/O Cabling

| Start | | END | | Cable Spec. | |
|------------------------|--------------|-------------|--------------|-------------|--------|
| Description | I/O Port | Description | I/O Port | Length | Shield |
| Network Camera (E.U.T) | RJ-45 (POE) | POE Adaptor | RJ-45 (POE) | 3.0 | U |
| Notebook Computer | RJ-45 (DATA) | POE Adaptor | RJ-45 (DATA) | 3.0 | U |

* Unshielded=U, Shielded=S

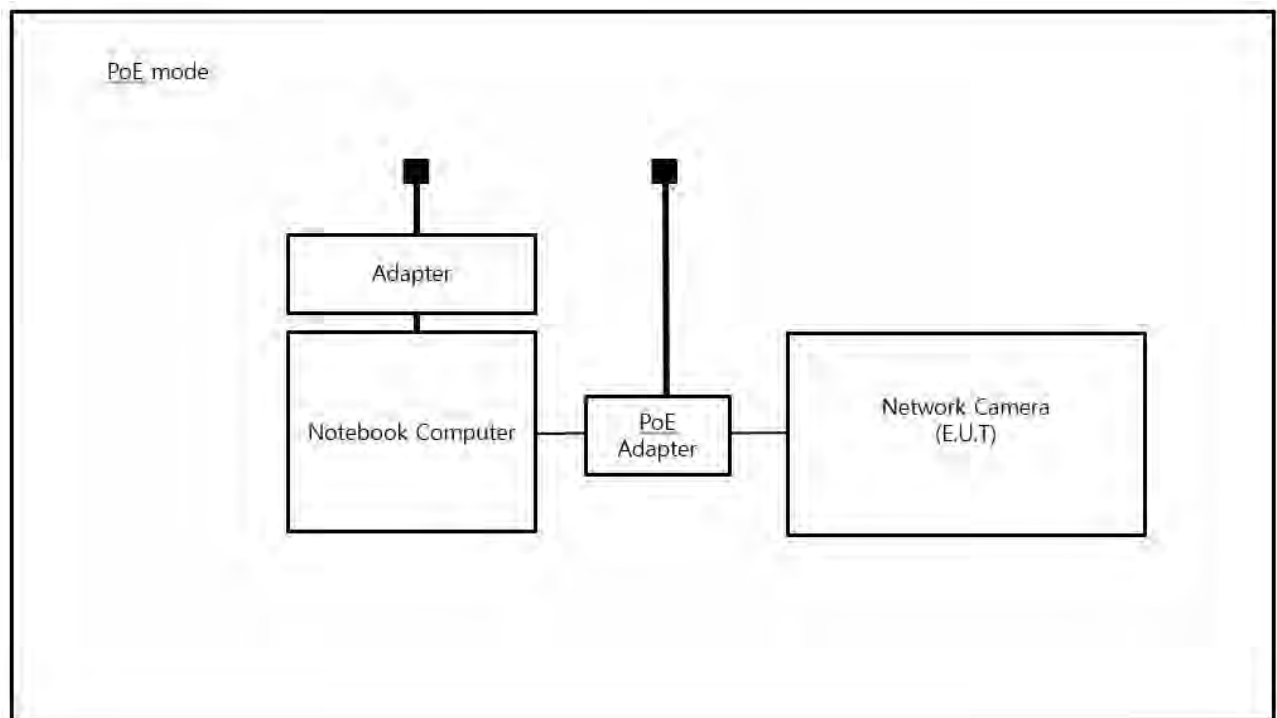
1.7 EUT Operating Mode(s)

| | |
|-----------|-----------------------------|
| Test mode | operating |
| PoE | E.U.T Monitoring, Ping Test |

| E.U.T Test operating S/W | | |
|--------------------------|---------|--------------------------|
| Name | Version | Manufacture Company |
| Webviewer | - | Hanwha Techwin Co., Ltd. |

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, Yeoju-si, Gyeonggi-do, 12658, Korea. The sites are constructed in conformance with the requirements of ANSI C63.4 and CISPR Publication 22.

1.12 Laboratory Accreditations and Listings

| Country | Agency | Scope of Accreditation | Logo |
|---------------|--------|--|---|
| USA | FCC | 3 & 10 meter Open Area Test Sites and one conducted site to perform FCC Part 15/18 measurements. |  |
| JAPAN | VCCI | Mains Ports Conducted Interference Measurement, Telecommunication Ports Conducted Disturbance Measurement and Radiation 10 meter site, Facility for measuring radiated disturbance above 1 GHz |  R-4308, C-4798, T-2311, G-914 |
| KOREA | MSIP | EMI (10 meter Open Area Test Site and two conducted sites) Radio(3 & 10 meter Open Area Test Sites and one conducted site) EMS (ESD, RS, EFT/Burst, Surge, CS, Magnetic, Dips and interruptions) |  KR0100 |
| Canada | IC | 3 & 10 meter Open Area Test Sites and one conducted site |  4769B-1 |
| Europe | CE | EMI (10 meter Open Area Test Site and two conducted sites) Radio(3 & 10 meter Open Area Test Sites and one conducted site) EMS (ESD, RS, EFT/Burst, Surge, CS, Magnetic, Dips and interruptions) |  |
| International | KOLAS | EMI (10 meter Open Area Test Site and two conducted sites) Radio(3 & 10 meter Open Area Test Sites and one conducted site) EMS (ESD, RS, EFT/Burst, Surge, CS, Magnetic, Dips and interruptions) |  |

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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
☐ Class A

☐ Group 2
☐ Class B

☐ EN 55014-1: 2006 +A2: 2011

☐ EN 55014-2: 1997 +A2: 2008

☐ EN 55015: 2013

☐ EN 61547 : 2009

☐ EN 55032: 2015

☐ Class A

☐ Class B

☐ EN 55024: 2010 +A1: 2015

☐ EN 50130-4: 2011 +A1: 2014

☐ EN 61000-3-2: 2014

☐ EN 61000-3-3: 2013

☐ EN 61326-1: 2013



-
- | | | |
|--|---|----------------------------------|
| <input checked="" type="checkbox"/> VCCI V-3 / 2015.04 | <input checked="" type="checkbox"/> Class A | <input type="checkbox"/> Class B |
| <input type="checkbox"/> AS/NZS CISPR22:2009 +A1:2010 | <input type="checkbox"/> Class A | <input type="checkbox"/> Class B |
| <input type="checkbox"/> 47 CFR Part 15, Subpart 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 | | |
| <input type="checkbox"/> IC Regulation ICES-003 : 2016 | | |
| <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 | | |
| | | |
| <input type="checkbox"/> RE- Directive 2014/53/EU | | |
| | | |
| <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 | | |
| <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 | | |



2.1 Conducted Emissions Mains Power 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 | 101781 | 04, 27, 2018 |
| <input type="checkbox"/> | LISN | ENV216 | R & S | 101787 | 01, 11, 2018 |
| <input type="checkbox"/> | LISN | ESH2-Z5 | R & S | 100450 | 04, 27, 2018 |
| <input type="checkbox"/> | PULSE LIMITER | ESH3-Z2 | R & S | 101915 | 11, 27, 2018 |
| <input type="checkbox"/> | LISN | NNBM8124 | SCHWARZBECK | 8124-1002 | 08, 07, 2018 |
| <input type="checkbox"/> | LISN | NNBM8124 | SCHWARZBECK | 8124-1003 | 08, 07, 2018 |

Test Conditions

Temperature:

℃

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

N/A

2.2 Conducted Emissions at Telecommunication Ports

Test Date
Jan. 02, 2018

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 | 101781 | 04, 27, 2018 |
| <input checked="" type="checkbox"/> | LISN | ENV216 | R & S | 101787 | 01, 11, 2018 |
| <input checked="" type="checkbox"/> | LISN | ESH2-Z5 | R & S | 100450 | 04, 27, 2018 |
| <input checked="" type="checkbox"/> | PULSE LIMITER | ESH3-Z2 | R & S | 101915 | 11, 27, 2018 |
| <input checked="" type="checkbox"/> | 8-WIRE ISN CAT3,5 | ENY81 | R & S | 100174 | 01, 11, 2018 |
| <input type="checkbox"/> | 8-WIRE ISN CAT6 | ENY81-CAT6 | R & S | 101665 | 01, 11, 2018 |
| <input type="checkbox"/> | ISN | ISN S8 | SCHWARZBECK | ISN-S8-0019 | 05, 12, 2018 |
| <input type="checkbox"/> | CDN | CDNS502A | TESEQ | 40431 | 01, 11, 2018 |

Test Conditions
Temperature: 22,4 °C
Relative Humidity: 42,0 % 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.



2.3 Radiated Electric Field Emissions(Below 1 GHz)

Test Date
Jan. 02, 2018

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

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, 18, 2018 |
| <input checked="" type="checkbox"/> | AMPLIFIER | SCU 01 | R & S | 100603 | 11, 27, 2018 |
| <input checked="" type="checkbox"/> | TRILOG-BROADBAND ANTENNA | VULB9163 | Schwarzbeck | 716 | 11, 28, 2018 |

Test Conditions
Temperature: 23,9 °C
Relative Humidity: 41,5 % 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.



2.4 Radiated Electric Field Emissions(Above 1 GHz)

Test Date
Jan. 03, 2018

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, 07, 2018 |
| <input checked="" type="checkbox"/> | PREAMPLIFIER | 8449B | AGILENT | 3008A01967 | 05, 31, 2018 |
| <input type="checkbox"/> | ATTENUATOR | 8491A | HP | 32173 | 03, 24, 2018 |
| <input checked="" type="checkbox"/> | DOUBLE RIDGED HORN ANTENNA | SAS-571 | A.H.SYSTEM,INC | 781 | 05, 02, 2019 |

Test Conditions

Temperature: 23,0 °C
Relative Humidity: 40,7 % 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

N/A

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NEUTRAL LINE

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 (LISN FACTOR + (Cable Loss + Pulse Limiter FACTOR))

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Conducted Emissions at Telecommunication Ports

[10 Mbps]

Common Information

Test Description:

Telecommunication Emission

Model No.:

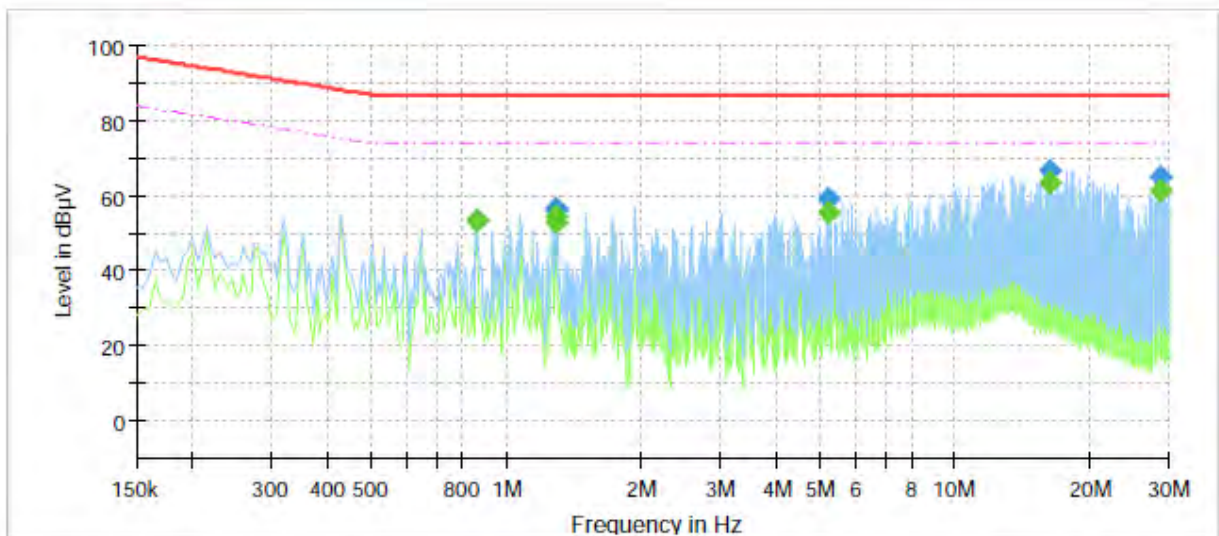
LNV-6070RN

Mode

10M

Operator Name:

KES



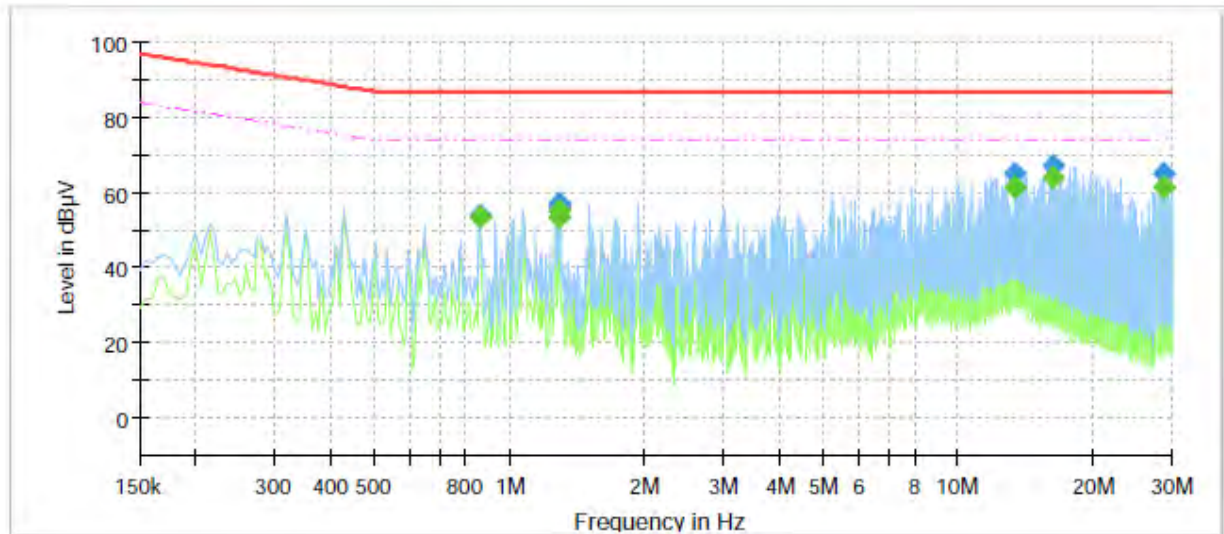
Final Result

| Frequency (MHz) | QuasiPeak (dBμV) | CAverage (dBμV) | Limit (dBμV) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Line | Corr. (dB) |
|-----------------|------------------|-----------------|--------------|-------------|-----------------|-----------------|-------------|------------|
| 0.860000 | 53.47 | --- | 87.00 | 33.53 | 1000.0 | 9.000 | Single Line | 19.9 |
| 0.860000 | --- | 53.35 | 74.00 | 20.65 | 1000.0 | 9.000 | Single Line | 19.9 |
| 1.290000 | 56.85 | --- | 87.00 | 30.15 | 1000.0 | 9.000 | Single Line | 20.0 |
| 1.290000 | --- | 54.74 | 74.00 | 19.26 | 1000.0 | 9.000 | Single Line | 20.0 |
| 1.295000 | 55.97 | --- | 87.00 | 31.03 | 1000.0 | 9.000 | Single Line | 20.0 |
| 1.295000 | --- | 52.96 | 74.00 | 21.04 | 1000.0 | 9.000 | Single Line | 20.0 |
| 5.235000 | 59.34 | --- | 87.00 | 27.66 | 1000.0 | 9.000 | Single Line | 19.5 |
| 5.235000 | --- | 55.84 | 74.00 | 18.16 | 1000.0 | 9.000 | Single Line | 19.5 |
| 16.225000 | --- | 63.54 | 74.00 | 10.46 | 1000.0 | 9.000 | Single Line | 19.9 |
| 16.225000 | 66.88 | --- | 87.00 | 20.12 | 1000.0 | 9.000 | Single Line | 19.9 |
| 28.685000 | --- | 61.32 | 74.00 | 12.68 | 1000.0 | 9.000 | Single Line | 20.7 |
| 28.685000 | 64.97 | --- | 87.00 | 22.03 | 1000.0 | 9.000 | Single Line | 20.7 |

[100 Mbps]

Common Information

Test Description: Telecommunication Emission
Model No.: LNV-6070RN
Mode: 100M
Operator Name: KES



Final Result

| Frequency (MHz) | QuasiPeak (dBμV) | CAverage (dBμV) | Limit (dBμV) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Line | Corr. (dB) |
|-----------------|------------------|-----------------|--------------|-------------|-----------------|-----------------|-------------|------------|
| 0.860000 | 53.78 | --- | 87.00 | 33.22 | 1000.0 | 9.000 | Single Line | 20.2 |
| 0.860000 | --- | 53.66 | 74.00 | 20.34 | 1000.0 | 9.000 | Single Line | 20.2 |
| 1.290000 | 57.23 | --- | 87.00 | 29.77 | 1000.0 | 9.000 | Single Line | 20.2 |
| 1.290000 | --- | 55.14 | 74.00 | 18.86 | 1000.0 | 9.000 | Single Line | 20.2 |
| 1.295000 | 56.31 | --- | 87.00 | 30.69 | 1000.0 | 9.000 | Single Line | 20.2 |
| 1.295000 | --- | 53.44 | 74.00 | 20.56 | 1000.0 | 9.000 | Single Line | 20.2 |
| 13.420000 | 65.21 | --- | 87.00 | 21.79 | 1000.0 | 9.000 | Single Line | 20.2 |
| 13.420000 | --- | 61.62 | 74.00 | 12.38 | 1000.0 | 9.000 | Single Line | 20.2 |
| 16.225000 | --- | 63.82 | 74.00 | 10.18 | 1000.0 | 9.000 | Single Line | 20.2 |
| 16.225000 | 67.16 | --- | 87.00 | 19.84 | 1000.0 | 9.000 | Single Line | 20.2 |
| 28.685000 | --- | 61.45 | 74.00 | 12.55 | 1000.0 | 9.000 | Single Line | 20.9 |
| 28.685000 | 65.09 | --- | 87.00 | 21.91 | 1000.0 | 9.000 | Single Line | 20.9 |

◆ Calculation

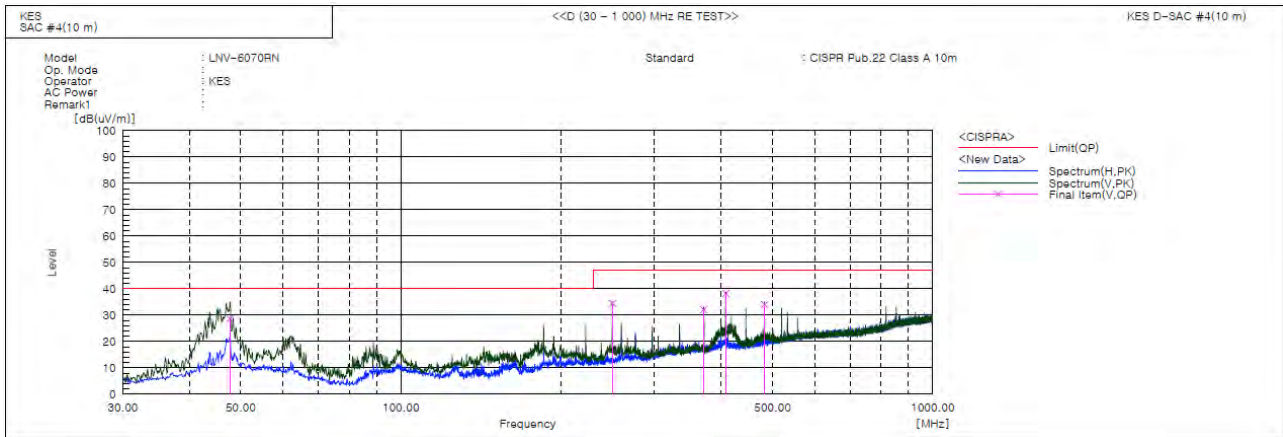
QuasiPeak[dBuV] / CAverage [dBuV] = Reading Value[dBuV] + Corr. [dB]

QuasiPeak / CAverage : The Final Value

Reading Value : Not shown in the table.

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

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 | 47.703 | V | 56.5 | -27.9 | 28.6 | 40.0 | 11.4 | 400.0 | 184.0 | |
| 2 | 249.948 | V | 59.9 | -25.4 | 34.5 | 47.0 | 12.5 | 100.0 | 39.0 | |
| 3 | 371.198 | V | 53.5 | -21.4 | 32.1 | 47.0 | 14.9 | 400.0 | 321.0 | |
| 4 | 408.300 | V | 58.4 | -20.2 | 38.2 | 47.0 | 8.8 | 100.0 | 73.0 | |
| 5 | 482.626 | V | 52.2 | -18.2 | 34.0 | 47.0 | 13.0 | 400.0 | 218.0 | |

◆ Calculation

Corrected Amplitude [dBuV] = Amplitude[dBuV] + Correction Factor [dB]

Corrected Amplitude : The Final Value, Amplitude : Reading Value,

Correction Factor : ANT FACTOR + Cable loss



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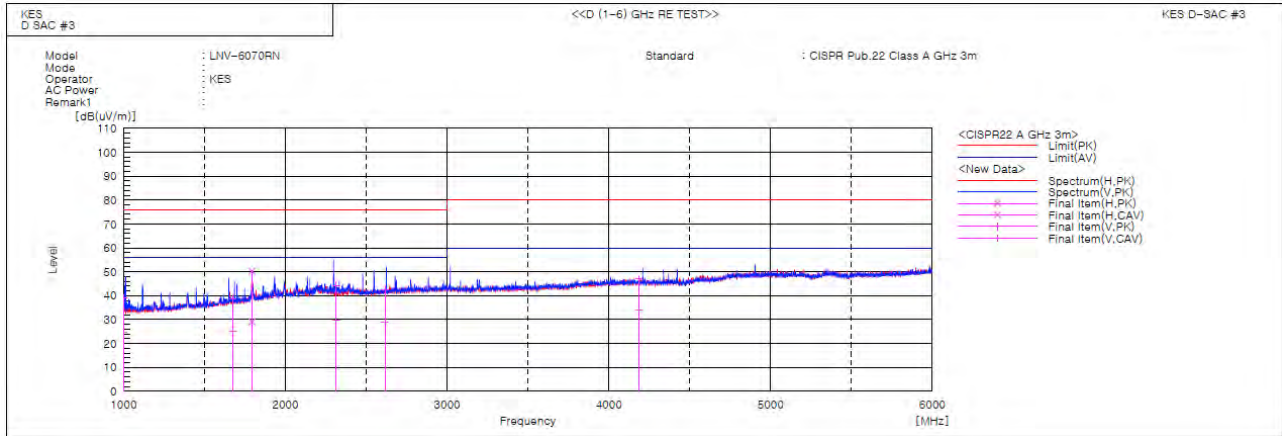
3701, 40, Simin-daero 365beon-gil,
Dongan-gu, Anyang-si, Gyeonggi-do, 14057, Korea
Tel: +82-31-425-6200 / Fax: +82-31-424-0450
www.kes.co.kr

Test report No.:

KES-E1-18T0018

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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 | 1002.242 | V | 48.8 | 34.6 | -9.9 | 38.9 | 24.7 | 76.0 | 56.0 | 37.1 | 31.3 | 101.0 | 258.5 | |
| 2 | 1673.715 | V | 43.0 | 29.6 | -4.4 | 38.6 | 25.2 | 76.0 | 56.0 | 37.4 | 30.8 | 101.0 | 117.1 | |
| 3 | 1793.720 | H | 53.5 | 32.4 | -3.3 | 50.2 | 29.1 | 76.0 | 56.0 | 25.8 | 26.9 | 101.0 | 47.0 | |
| 4 | 2315.047 | V | 44.4 | 29.7 | -0.1 | 44.3 | 29.6 | 76.0 | 56.0 | 31.7 | 26.4 | 101.0 | 148.8 | |
| 5 | 2616.312 | V | 41.4 | 27.9 | 1.1 | 42.5 | 29.0 | 76.0 | 56.0 | 33.5 | 27.0 | 101.0 | 207.8 | |
| 6 | 4186.125 | V | 40.5 | 27.4 | 6.5 | 47.0 | 33.9 | 80.0 | 60.0 | 33.0 | 26.1 | 101.0 | 273.3 | |

◆ Calculation

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

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

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Test report No.:
KES-E1-18T0018
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Test Setup Photos and Configuration

Conducted Voltage Emissions

N/A

N/A

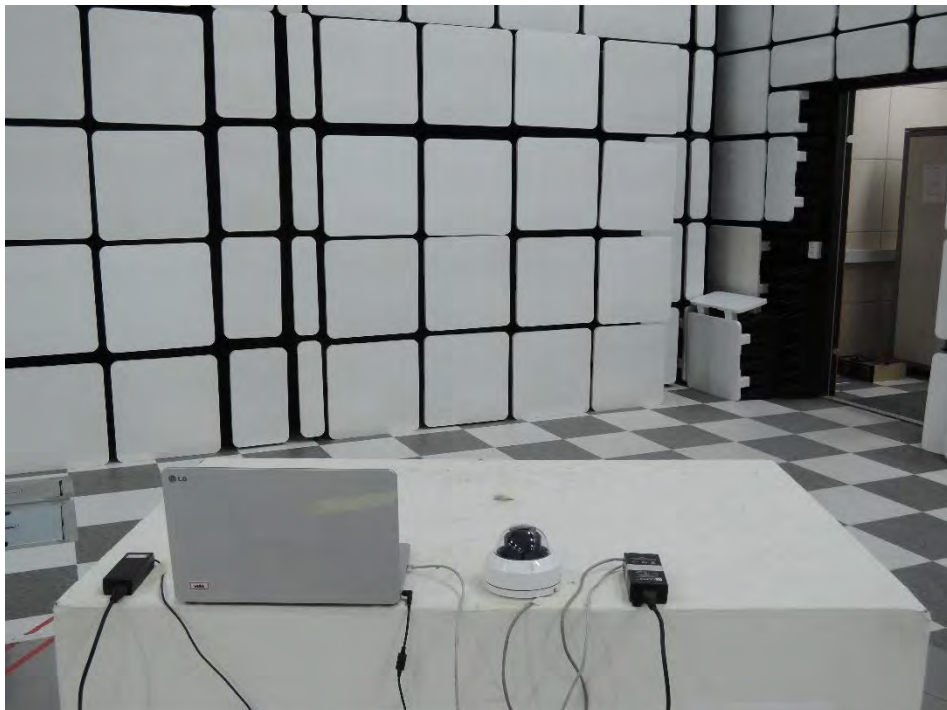
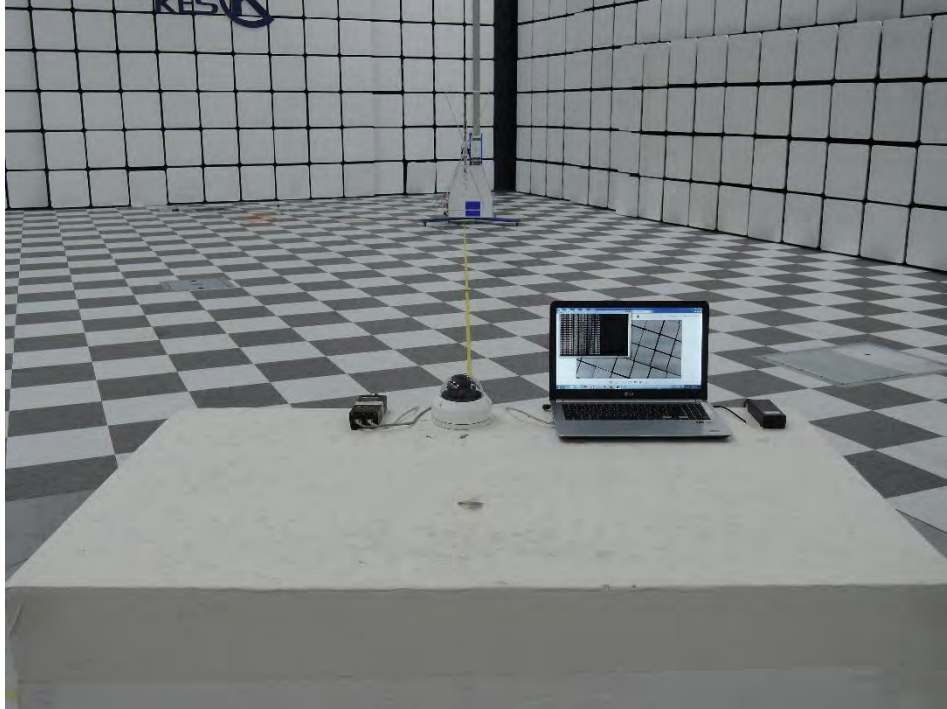
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Conducted Telecommunication Emissions



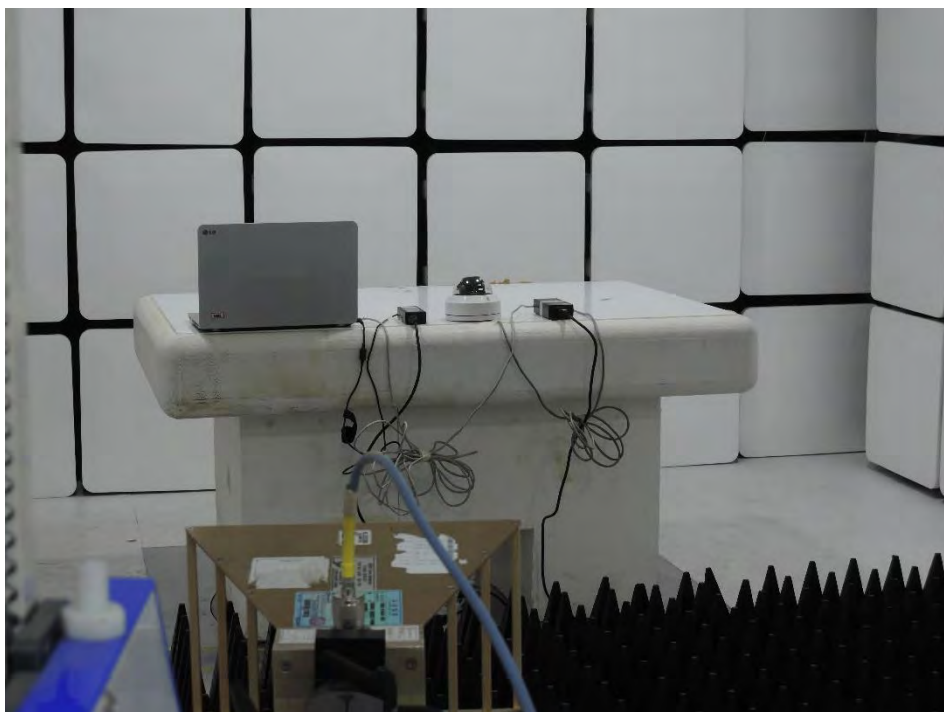
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adiated Electric Field Emissions(Below 1 GHz)



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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 – Main board

(Top)



(Bottom)



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EUT Internal View – Sensor board

(Top)



(Bottom)



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EUT Internal View – LED board 1

(Top)



(Bottom)



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EUT Internal View – LED board 2

(Top)



(Bottom)



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EUT Internal View – Lens

(Top)



(Bottom)



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