



EMC TEST REPORT

Test Report No. : KES-EM-21T0592
Date of Issue : Jul. 13, 2021
Product name : NETWORK CAMERA
Model/Type No. : XNO-6083R
Variant Model : -
Applicant : Hanwha Techwin Co., Ltd.
Applicant Address : 6, Pangyo-ro 319Beon-gil, Bundang-gu, Seongnam-si,
Gyeonggi-do, Republic of Korea
Manufacturer : 1. HANWHA TECHWIN SECURITY VIETNAM CO.,LTD.
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 : Jun. 15, 2021
Test date : Jul. 01, 2021 ~ Jul. 04, 2021
Test Results : ☒ **In Compliance** ☐ **Not in Compliance**

Tested by

Ki Man, 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.

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REPORT REVISION HISTORY

| Date | Test Report No. | Revision History |
|---------------|-----------------|------------------|
| Jul. 13, 2021 | KES-EM-21T0592 | Issued |
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1.0 General Product Description

Main Specifications of EUT are:

| | |
|-----------------------------|--|
| Video | |
| Imaging Device | 1/2.8" progressive CMOS |
| Resolution | 1920x1080, 1280x1024, 1280x960, 1280x720, 1024x768, 800x600, 800x448, 720x576, 720x480, 640x480, 640x360, 320x240 |
| Max. Framerate | H.265/H.264: Max. 120fps/100fps(60Hz/50Hz)(WDR off) Max. 60fps/50fps(60Hz/50Hz)(WDR on) MJPEG: Max. 30fps/25fps(60Hz/50Hz) |
| NETD | None |
| Pixel Size | None |
| Min. Illumination | (TBD) Color: 0.011Lux(F1.4, 1/30sec, 30IRE) B/W : 0.0011Lux(F1.4, 1/30sec, 30IRE), 0Lux(IR LED on), 30/25fps Color: 0.022Lux(F1.4, 1/60sec, 30IRE) B/W : 0.0022Lux(F1.4, 1/60sec, 30IRE), 0Lux(IR LED on), 60/50fps Color: 0.022Lux(F1.4, 1/60sec, 30IRE) B/W : 0.0022Lux(F1.4, 1/60sec, 30IRE), 0Lux(IR LED on), 120/100fps |
| Video Out | CVBS: 1.0 Vp-p / 75Ω composite, 720x480(N), 720x576(P) for installation USB: Micro USB Type B, 1280x720 for installation |
| Video Transmission Distance | None |
| Lens | |
| Focal Length (Zoom Ratio) | 2.8~12mm(4.3x) motorized varifocal |
| Max. Aperture Ratio | F1.4 |
| Angular Field of View | H : 119.5°(Wide) ~ 27.9°(Tele) V : 62.8°(Wide) ~ 15.7°(Tele) D : 142.1°(Wide) ~ 32.0°(Tele) |
| Min. Object Distance | 0.5m(1.64ft) |
| Focus Control | Simple focus, Manual |
| Lens Type | DC auto iris with hall sensor (IR corrected) |

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| | |
|-----------------------------|---|
| Mount Type | None |
| Optional Lens | None |
| Pan / Tilt / Rotate | |
| Pan / Tilt / Rotate Range | None |
| Pan Range | None |
| Pan Speed | None |
| Tilt Range | None |
| Tilt Speed | None |
| Rotate Range | None |
| Sequence | None |
| Preset Accuracy | None |
| Operational | |
| Camera Title | Displayed up to 85 characters |
| Direction Indicator | None |
| Day & Night | Auto(ICR) |
| Backlight Compensation | BLC, HLC, WDR, SSDR |
| Wide Dynamic Range | extremeWDR (150dB) |
| Digital Noise Reduction | WiseNRⅡ(Based on AI engine), SSNR V |
| Digital Image Stabilization | Support(built-in gyro sensor) |
| Defog | Support |
| Motion Detection | 8ea, 8point Polygonal zones |
| Privacy Masking | 32ea, Quadrangle zones - Color : Gray, Green, Red, Blue, Black, White - Mosaic |
| Gain Control | Support |
| White Balance | ATW / Narrow ATW / AWC / Manual / Indoor / Outdoor |
| LDC | Support (Fill/stretch mode) |
| Electronic Shutter Speed | Minimum / Maximum / Anti flicker (2~1/12,000sec) Auto prefer shutter control(Based on AI engine) |
| Digital PTZ | Support |
| Video Rotation | Flip, Mirror, Hallway view(90°/270°) |
| Analytics | - Analytics events based on AI engine(NPU) : Object detection (Person/Face/Vehicle(car/truck/bus/bicycle/motorcycle)/Licence plate), IVA |

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| | |
|---------------------------|---|
| | (Virtual line/Area, Enter/Exit, Loitering, direction, intrusion) - Analytics events : Defocus detection, Motion detection, Tampering, Fog detection, Audio detection, Sound classification, Shock detection, Appear/Disappear |
| Business Intelligence | Based on AI engine(NPU) : People counting, Queue management, Heatmap |
| Serial Interface | None |
| Alarm I/O | 2 configurable I/O ports, DC 12V output(Max. 50mA) |
| Alarm Triggers | Analytics, Network disconnect, Alarm input, App event, Time schedule |
| Alarm Events | When alarm trigger occurred - File upload(image) : e-mail/FTP - Notification : e-mail - Recording : SD/SDHC/SDXC or NAS recording at event triggers - Alarm output - Handover(PTZ preset, Send message by HTTP/HTTPS/TCP) - Audio clip playback - PTZ preset |
| Audio In | Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm |
| Audio Out | Line out, Max.output level: 1Vrms |
| IR Viewable Length | WiseIR 50m(164.04ft)(TBD) |
| IR Illuminator (Optional) | None |
| Water Removal | None |
| Auto Tracking | None |
| Coaxial Protocol | None |
| Color Palettes | None |
| Radiometry | |
| Temperature Detect Range | None |
| Temperature Accuracy | None |
| Temperature Detection | None |
| Additional | None |
| Network | |
| Ethernet | Metal shielded RJ-45(10/100/1000BASE-T) |
| Video Compression | H.265/H.264: Main/High, MJPEG |

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| | |
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| Audio Compression | G.711 u-law /G.726 Selectable G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps AAC-LC: 48Kbps at 16KHz |
| Smart Codec | Manual(5ea area), WiseStreamⅡ, WiseStreamⅢ(Based on AI engine) |
| Video Quality Adjustment | H.264/H.265: Target bitrate level control MJPEG: Target bitrate level control |
| Bitrate Control | H.264/H.265: CBR or VBR MJPEG: VBR |
| Streaming | Unicast(20 users) / Multicast Multiple streaming(Up to 10 profiles, 3 virtual channel support) |
| Protocol | IPv4, IPv6, TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, UPnP, Bonjour, LLDP, SRTP (TCP, UDP Unicast) |
| Security | TPM 2.0 (FIPS 140-2 level 2) HTTPS(SSL) Login Authentication Digest Login Authentication IP Address Filtering User access log 802.1X Authentication(EAP-TLS, EAP-LEAP, EAP-PEAP MSCHAPv2) Device Certificate(Hanwha Techwin Root CA, pre-installed) Secure by default certificate(TBD) Secure OS/Boot/Storage, Verify firmware forgery |
| Application Programming Interface | ONVIF Profile S/G/T SUNAPI(HTTP API) Wisenet open platform |
| General | |
| Webpage Language | English, Korean, Chinese, French, Italian, Spanish, German, Japanese, Russian, Swedish,, Portuguese, Czech, Polish, Turkish, Dutch, Greek, Hungarian |
| Web Viewer | None |
| Edge Storage | Micro SD/SDHC/SDXC 2slot Max. 1TB (512GB * 2) |
| Memory | 2GB RAM, 512MB Flash |

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| Environmental & Electrical | |
|---------------------------------------|---|
| Operating Temperature / Humidity | -50°C ~ +60°C(-58°F ~ +140°F) NEMA TS-2 : 74°C * Start up should be done at above -30°C less than 95%RH(non-condensing) Humidity control /w GORE vent |
| Storage Temperature / Humidity | -50°C ~ +60°C(-58°F ~ +140°F) / Less than 90% RH |
| Certification | IP66/IP67, NEMA4X, IK10 |
| Input Voltage | PoE+(IEEE802.3at, Class4), 12VDC |
| Power Consumption | TBD Power redundancy failover |
| Mechanical | |
| Color / Material | White / Aluminum Hard-coated window |
| RAL Code | RAL7022 |
| Product Dimensions / Weight | Ø91x368.6mm(Ø3.85"x14.51"), 2.2kg(4.85 lb) (TBD) |
| Compatible Conduit hole / Gangbox | 3/4" (M25) single, double, 4" octagon, 4" square |
| Hanging Mount (Dome) | None |
| Skin Cover (Dome) | None |
| Weather Cap (Dome) | None |
| Power Module | None |
| Backbox | None |
| DORI (EN62676-4 standard) | |
| Detect (25PPM/ 8PPF) | Wide: 22.4m(73.47ft) / Tele: 154.6m(507.18ft) |
| Observe (63PPM/ 19PPF) | Wide: 9.0m(29.39ft) / Tele: 61.8m(202.87ft) |
| Recognize (125PPM/ 38PPF) | Wide: 4.5m(14.69ft) / Tele: 30.9m(101.44ft) |
| Identify (250PPM/ 76PPF) | Wide: 2.2m(7.35ft) / Tele: 15.5m(50.72ft) |

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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.

☒ AC 120 V, 60 Hz ☒ PoE

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 | XNO-6083R | - | HANWHA TECHWIN SECURITY VIETNAM CO.,LTD. | EUT |

1.5 Support Equipments

| Description | Model Number | Serial Number | Manufacturer | Remarks |
|------------------|-----------------------------|----------------|---|---------|
| Adaptor | 2ACB022F | - | Channel Well Technology (Guangzhou) Co., Ltd. | - |
| PoE Adaptor | PSE156G 4-Pair,Hi- Power | - | - | - |
| Notebook | P95G001 | 8KM8HT2 | DELL | - |
| Notebook Adaptor | LA65NS2-01 | - | LITE-ON TECHNOLOGY (CHANGZHOU)CO.,LTD. | - |
| Alarm1 | - | - | - | - |
| Alarm2 | - | - | - | - |
| Smartphone | LG-SU760 | 108KPQJ0186212 | LG | - |
| Headset | K550 | - | Britz® | - |
| Micro SD Card1 | - | - | Sandisk | 8 GB |
| Micro SD Card2 | - | - | Sandisk | 8 GB |

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1.6 External I/O Cabling

■ DC Mode

| Start | | END | | Cable Spec. | |
|----------------------|-------------|------------------|-------------|-------------|--------|
| Description | I/O Port | Description | I/O Port | Length | Shield |
| NETWORK CAMERA (EUT) | RJ-45 (LAN) | Notebook | RJ-45 (LAN) | 3.0 | S |
| | Slot | Micro SD Card1 | Slot | - | - |
| | Slot | Micro SD Card2 | Slot | - | - |
| | 3 Pin | Alarm1 | 3 Pin | 3.0 | U |
| | 2 Pin | Alarm2 | 2 Pin | 3.0 | U |
| | 3.5 mm | Headset | 3.5 mm | 1.7 | U |
| | 3.5 mm | | | 1.7 | U |
| | 2 Pin | Adaptor | 2 Pin | 1.6 | U |
| Notebook | 3.5 mm | Smartphone | 3.5 mm | 0.8 | U |
| | JACK | Notebook Adaptor | JACK | 1.7 | U |

* Unshielded=U, Shielded=S

■ PoE Mode

| Start | | END | | Cable Spec. | |
|----------------------|-------------|------------------|-------------|-------------|--------|
| Description | I/O Port | Description | I/O Port | Length | Shield |
| NETWORK CAMERA (EUT) | RJ-45 (PoE) | PoE Adaptor | RJ-45 (PoE) | 3.0 | S |
| | Slot | Micro SD Card1 | Slot | - | - |
| | Slot | Micro SD Card2 | Slot | - | - |
| | 3 Pin | Alarm1 | 3 Pin | 3.0 | U |
| | 2 Pin | Alarm2 | 2 Pin | 3.0 | U |
| | 3.5 mm | Headset | 3.5 mm | 1.7 | U |
| | 3.5 mm | | | 1.7 | U |
| Notebook | RJ-45 (LAN) | PoE Adaptor | RJ-45 (LAN) | 3.5 | S |
| | 3.5 mm | Smartphone | 3.5 mm | 0.8 | U |
| | JACK | Notebook Adaptor | JACK | 1.7 | U |

* Unshielded=U, Shielded=S

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1.7 EUT Operating Mode(s)

| Test Mode | operating |
|-----------|---------------------------|
| DC Mode | EUT Monitoring, Ping Test |
| PoE Mode | |

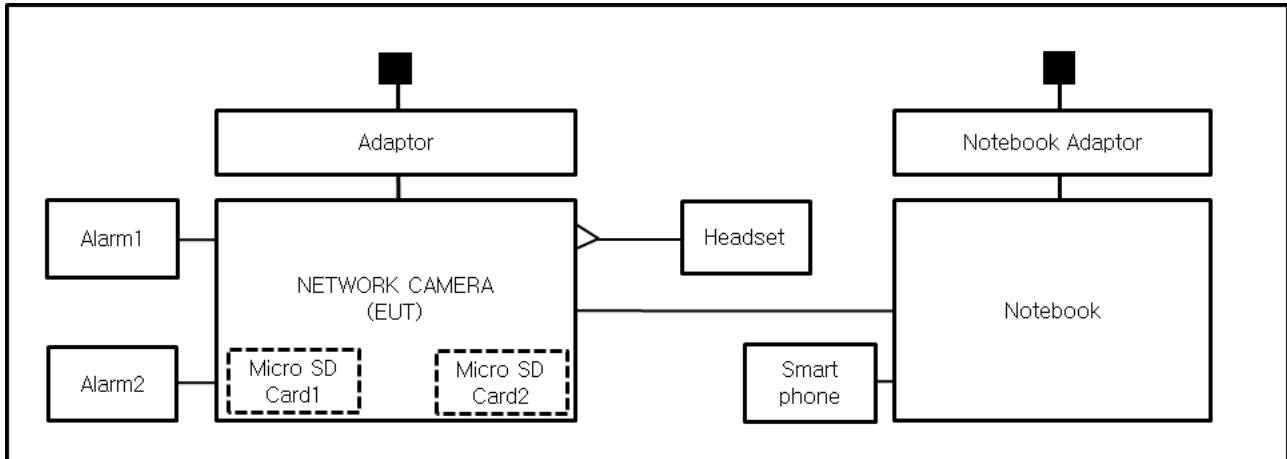
| EUT Test operating S/W | | |
|------------------------|---------|--------------------------|
| Name | Version | Manufacture Company |
| Web Viewer | - | Hanwha Techwin Co., Ltd. |

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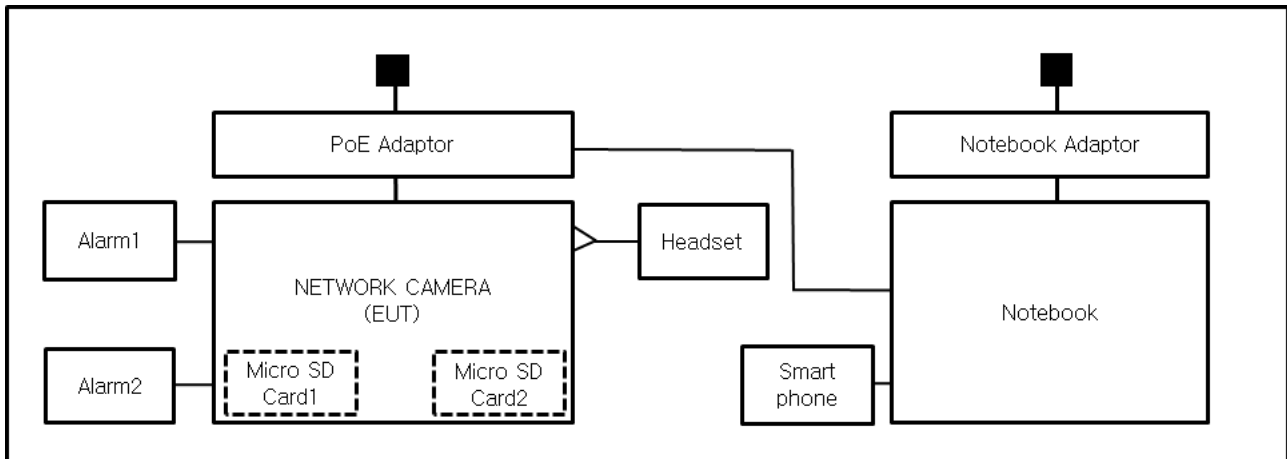
1.8 Configuration

■ AC Main
 □ DC Main

■ DC Mode



■ PoE Mode



1.9 Remarks when standards applied

- USB ports, VIDEO ports are not used and have not been tested.







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. The sites are constructed in conformance with the requirements of ANSI C63.4:2014 and CISPR 16-1-4:2012

1.12 Laboratory Accreditations and Listings

| Country | Agency | Scope of Accreditation | Logo |
|---------------|---------|--|--|
| KOREA | RRA | EMI (3 m & 10 m Semi-Anechoic Chamber , 10 m Open Area 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, 10 m Open Area and Conducted test site to perform FCC Part 15/18 measurements. |  KR0100 |
| Canada | ISED | 3 m & 10 m Semi-Anechoic Chamber and Conducted test site |  23298-1 |
| 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-20056, C-20036, T-20040, G-20057 |
| Europe | TÜV SÜD | EMI (3 m & 10 m Semi-Anechoic Chamber , 10 m Open Area 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:

☐ **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 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"/> VCCI-CISPR 32:2016 | <input type="checkbox"/> Class A | <input type="checkbox"/> Class B |
| <input type="checkbox"/> AS/NZS CISPR32:2015 | <input type="checkbox"/> Class A | <input type="checkbox"/> Class B |
| <input checked="" 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 checked="" type="checkbox"/> ANSI C63.4-2017 | <input checked="" type="checkbox"/> Class A | <input type="checkbox"/> Class B |
| <input checked="" type="checkbox"/> IC Regulation ICES-003 Issue 7 | | |
| <input checked="" type="checkbox"/> CAN/CSA CISPR 32-17 | <input checked="" type="checkbox"/> Class A | <input type="checkbox"/> Class B |
| <input type="checkbox"/> ANSI C63.4-2017 | <input type="checkbox"/> Class A | <input type="checkbox"/> Class B |
| <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 | | |

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2.1 Conducted Emissions at Mains Power Ports

Test Date

Jul. 01, 2021

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, 15, 2022 |
| <input checked="" type="checkbox"/> | LISN | ENV216 | R & S | 101787 | 12, 29, 2021 |
| <input checked="" type="checkbox"/> | LISN | ESH2-Z5 | R & S | 100450 | 12, 29, 2021 |
| <input checked="" type="checkbox"/> | PULSE LIMITER | ESH3-Z2 | R & S | 101915 | 12, 29, 2021 |

Test Conditions

Temperature: (24,6 ± 0,2) °C

Relative Humidity: (46,7 ± 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.

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Report No.:

KES-EM-21T0592

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2.2 Radiated Electric Field Emissions(Below 1 GHz)

Test Date

Jul. 01, 2021

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, 01, 2022 |
| <input checked="" type="checkbox"/> | AMPLIFIER | SCU 01 | R & S | 100603 | 11, 25, 2021 |
| <input checked="" type="checkbox"/> | TRILOG-BROADBAND ANTENNA | VULB9163 | Schwarzbeck | 715 | 12, 08, 2022 |
| <input checked="" type="checkbox"/> | ATTENUATOR | 8491A | HP | 32173 | 03, 10, 2022 |

Test Conditions

Temperature: (24,4 ± 0,2) °C

Relative Humidity: (46,5 ± 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.

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2.3 Radiated Electric Field Emissions(Above 1 GHz)

Test Date

Jul. 04, 2021

Test Location

SEMI ANECHOIC CHAMBER #5

Test Equipment

| Used | Description | Model Number | Manufacturer | Serial Number | Cal. Due |
|-------------------------------------|-------------------|--------------|------------------|---------------|--------------|
| <input checked="" type="checkbox"/> | EMI Test S/W | EP5/RE | TOYO Corporation | 6.0.120 | - |
| <input checked="" type="checkbox"/> | EMI TEST RECEIVER | ESU26 | Rohde & Schwarz | 100552 | 04, 01, 2022 |
| <input checked="" type="checkbox"/> | HORN ANTENNA | BBHA 9120D | SCHWARZBECK | 9120D-1802 | 12, 14, 2021 |
| <input checked="" type="checkbox"/> | PREAMPLIFIER | 8449B | HP | 3008A00538 | 06, 21, 2022 |

Test Conditions

Temperature: (24,5 ± 0,2) °C

Relative Humidity: (47,0 ± 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

RemarksSee Appendix A for test data.

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APPENDIX A – TEST DATA

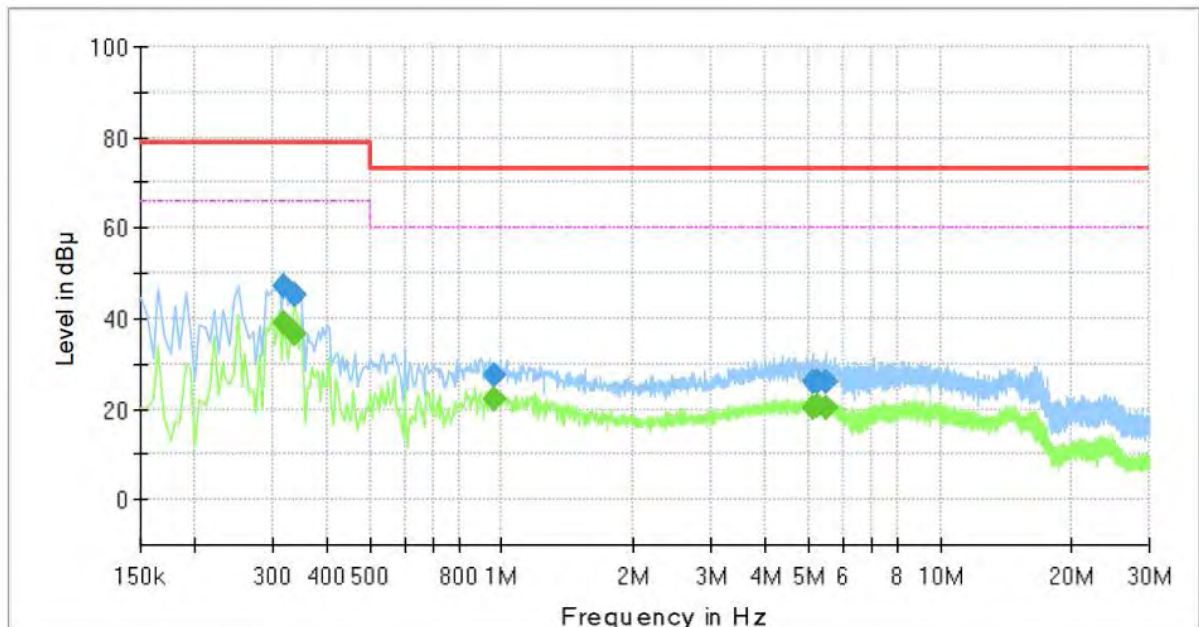
Conducted Emissions at Mains Power Ports

■ DC Mode

HOT LINE

Common Information

| | |
|-------------------|--------------------|
| Test Description: | Conducted Emission |
| Model No.: | XNO-6083R |
| Phase: | L1 |
| Mode: | DC |
| Operator Name: | KES |



Final Result

| Frequency (MHz) | QuasiPeak (dBμV) | CAverage (dBμV) | Limit (dBμV) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Line | Corr. (dB) |
|-----------------|------------------|-----------------|--------------|-------------|-----------------|-----------------|------|------------|
| 0.320000 | --- | 39.22 | 66.00 | 26.78 | 1000.0 | 9.000 | L1 | 19.5 |
| 0.320000 | 47.10 | --- | 79.00 | 31.90 | 1000.0 | 9.000 | L1 | 19.5 |
| 0.335000 | --- | 36.64 | 66.00 | 29.36 | 1000.0 | 9.000 | L1 | 19.5 |
| 0.335000 | 45.14 | --- | 79.00 | 33.86 | 1000.0 | 9.000 | L1 | 19.5 |
| 0.965000 | --- | 22.27 | 60.00 | 37.73 | 1000.0 | 9.000 | L1 | 20.0 |
| 0.965000 | 27.39 | --- | 73.00 | 45.61 | 1000.0 | 9.000 | L1 | 20.0 |
| 5.105000 | --- | 20.49 | 60.00 | 39.51 | 1000.0 | 9.000 | L1 | 19.6 |
| 5.105000 | 26.01 | --- | 73.00 | 46.99 | 1000.0 | 9.000 | L1 | 19.6 |
| 5.260000 | --- | 20.54 | 60.00 | 39.46 | 1000.0 | 9.000 | L1 | 19.6 |
| 5.260000 | 26.23 | --- | 73.00 | 46.77 | 1000.0 | 9.000 | L1 | 19.6 |
| 5.495000 | --- | 20.36 | 60.00 | 39.64 | 1000.0 | 9.000 | L1 | 19.6 |
| 5.495000 | 25.99 | --- | 73.00 | 47.01 | 1000.0 | 9.000 | L1 | 19.6 |

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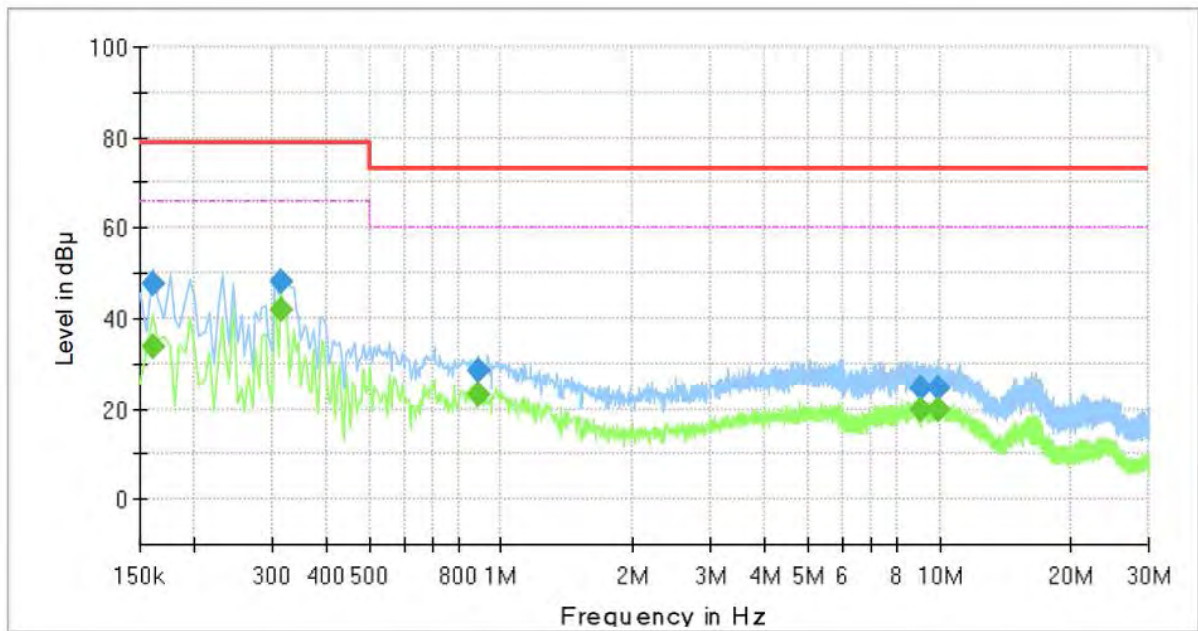
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NEUTRAL LINE

Common Information

| | |
|-------------------|--------------------|
| Test Description: | Conducted Emission |
| Model No.: | XNO-6083R |
| Phase: | N |
| Mode: | DC |
| Operator Name: | KES |



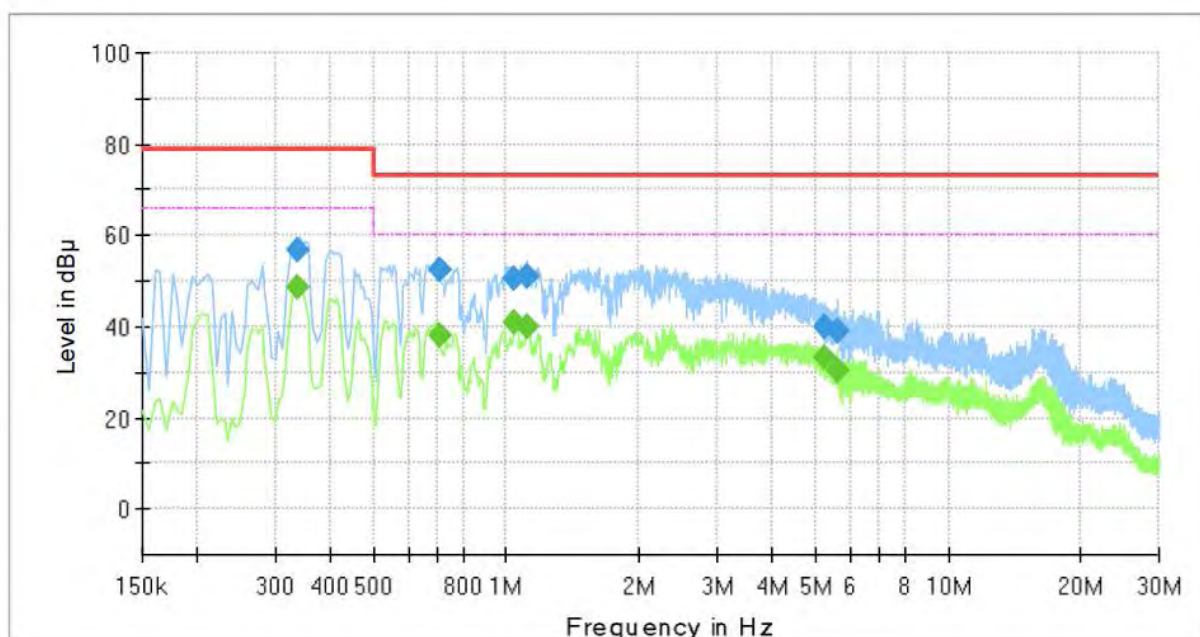
Final Result

| Frequency (MHz) | QuasiPeak (dBμV) | CAverage (dBμV) | Limit (dBμV) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Line | Corr. (dB) |
|-----------------|------------------|-----------------|--------------|-------------|-----------------|-----------------|------|------------|
| 0.160000 | --- | 33.82 | 66.00 | 32.18 | 1000.0 | 9.000 | N | 19.4 |
| 0.160000 | 47.66 | --- | 79.00 | 31.34 | 1000.0 | 9.000 | N | 19.4 |
| 0.315000 | --- | 42.00 | 66.00 | 24.00 | 1000.0 | 9.000 | N | 19.5 |
| 0.315000 | 48.16 | --- | 79.00 | 30.84 | 1000.0 | 9.000 | N | 19.5 |
| 0.885000 | --- | 23.35 | 60.00 | 36.65 | 1000.0 | 9.000 | N | 20.0 |
| 0.885000 | 28.40 | --- | 73.00 | 44.60 | 1000.0 | 9.000 | N | 20.0 |
| 9.060000 | --- | 19.57 | 60.00 | 40.43 | 1000.0 | 9.000 | N | 19.7 |
| 9.060000 | 24.65 | --- | 73.00 | 48.35 | 1000.0 | 9.000 | N | 19.7 |
| 9.880000 | --- | 19.88 | 60.00 | 40.12 | 1000.0 | 9.000 | N | 19.8 |
| 9.880000 | 24.82 | --- | 73.00 | 48.18 | 1000.0 | 9.000 | N | 19.8 |

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PoE Mode
HOT LINE
Common Information

| | |
|-------------------|--------------------|
| Test Description: | Conducted Emission |
| Model No.: | XNO-6083R |
| Phase: | L1 |
| Mode: | PoE |
| Operator Name: | KES |

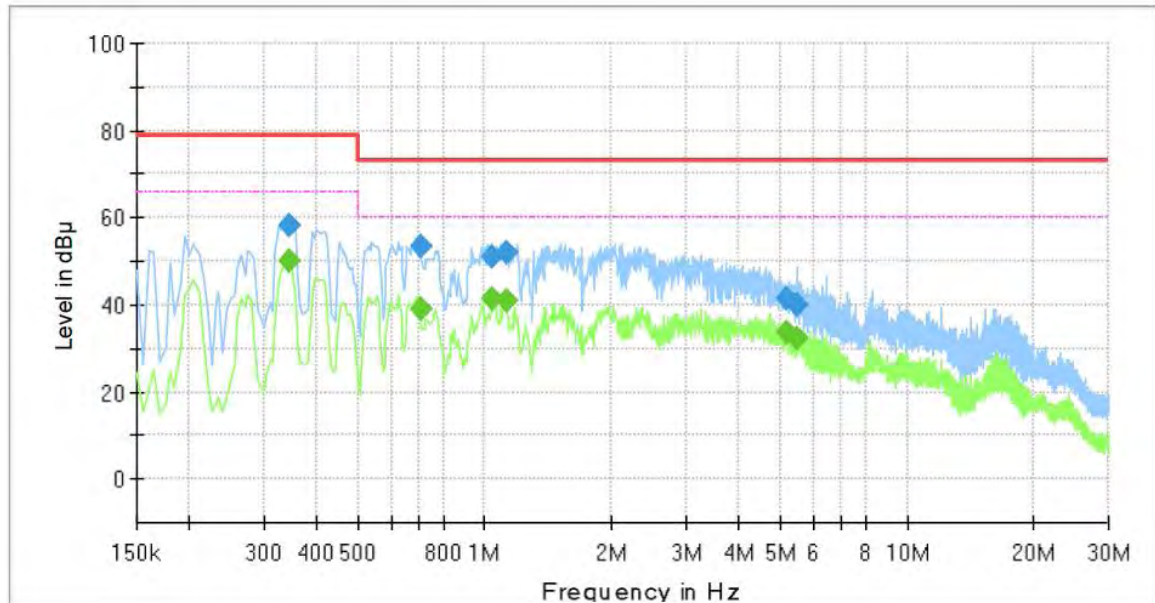

Final Result

| Frequency (MHz) | QuasiPeak (dBμV) | CAverage (dBμV) | Limit (dBμV) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Line | Corr. (dB) |
|-----------------|------------------|-----------------|--------------|-------------|-----------------|-----------------|------|------------|
| 0.335000 | --- | 48.83 | 66.00 | 17.17 | 1000.0 | 9.000 | L1 | 19.5 |
| 0.335000 | 56.70 | --- | 79.00 | 22.30 | 1000.0 | 9.000 | L1 | 19.5 |
| 0.705000 | --- | 38.17 | 60.00 | 21.83 | 1000.0 | 9.000 | L1 | 19.9 |
| 0.705000 | 52.68 | --- | 73.00 | 20.32 | 1000.0 | 9.000 | L1 | 19.9 |
| 1.045000 | --- | 40.75 | 60.00 | 19.25 | 1000.0 | 9.000 | L1 | 20.1 |
| 1.045000 | 50.50 | --- | 73.00 | 22.50 | 1000.0 | 9.000 | L1 | 20.1 |
| 1.115000 | --- | 39.80 | 60.00 | 20.20 | 1000.0 | 9.000 | L1 | 20.1 |
| 1.115000 | 51.09 | --- | 73.00 | 21.91 | 1000.0 | 9.000 | L1 | 20.1 |
| 5.270000 | --- | 33.16 | 60.00 | 26.84 | 1000.0 | 9.000 | L1 | 19.6 |
| 5.270000 | 39.95 | --- | 73.00 | 33.05 | 1000.0 | 9.000 | L1 | 19.6 |
| 5.645000 | --- | 30.58 | 60.00 | 29.42 | 1000.0 | 9.000 | L1 | 19.6 |
| 5.645000 | 38.79 | --- | 73.00 | 34.21 | 1000.0 | 9.000 | L1 | 19.6 |

NEUTRAL LINE

Common Information

| | |
|-------------------|--------------------|
| Test Description: | Conducted Emission |
| Model No.: | XNO-6083R |
| Phase: | N |
| Mode: | PoE |
| Operator Name: | KES |



Final Result

| Frequency (MHz) | QuasiPeak (dBμV) | CAverage (dBμV) | Limit (dBμV) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Line | Corr. (dB) |
|-----------------|------------------|-----------------|--------------|-------------|-----------------|-----------------|------|------------|
| 0.345000 | --- | 50.03 | 66.00 | 15.97 | 1000.0 | 9.000 | N | 19.5 |
| 0.345000 | 58.26 | --- | 79.00 | 20.74 | 1000.0 | 9.000 | N | 19.5 |
| 0.705000 | --- | 38.85 | 60.00 | 21.15 | 1000.0 | 9.000 | N | 19.9 |
| 0.705000 | 53.34 | --- | 73.00 | 19.66 | 1000.0 | 9.000 | N | 19.9 |
| 1.045000 | --- | 41.31 | 60.00 | 18.69 | 1000.0 | 9.000 | N | 20.0 |
| 1.045000 | 51.04 | --- | 73.00 | 21.96 | 1000.0 | 9.000 | N | 20.0 |
| 1.125000 | --- | 41.14 | 60.00 | 18.86 | 1000.0 | 9.000 | N | 20.1 |
| 1.125000 | 51.97 | --- | 73.00 | 21.03 | 1000.0 | 9.000 | N | 20.1 |
| 5.200000 | --- | 33.59 | 60.00 | 26.41 | 1000.0 | 9.000 | N | 19.6 |
| 5.200000 | 41.40 | --- | 73.00 | 31.60 | 1000.0 | 9.000 | N | 19.6 |
| 5.470000 | --- | 32.04 | 60.00 | 27.96 | 1000.0 | 9.000 | N | 19.6 |
| 5.470000 | 39.77 | --- | 73.00 | 33.23 | 1000.0 | 9.000 | N | 19.6 |

◆ 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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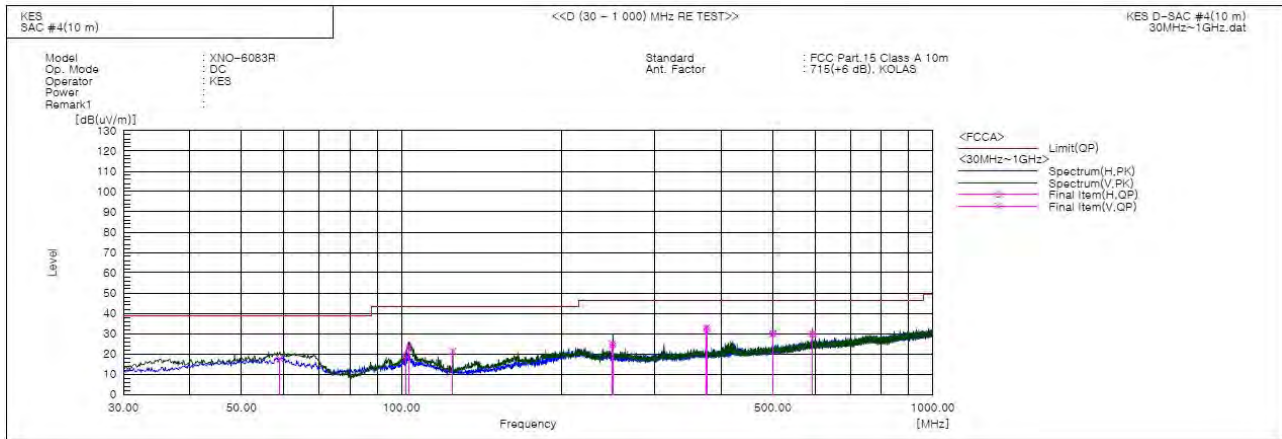
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Radiated Electric Field Emissions(Below 1 GHz)

- 47 CFR Part 15, Subpart B

■ DC Mode



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 | 59.100 | V | 39.4 | -21.8 | 17.6 | 39.0 | 21.4 | 142.0 | 234.0 | |
| 2 | 102.114 | H | 41.9 | -22.5 | 19.4 | 43.5 | 24.1 | 331.0 | 113.0 | |
| 3 | 103.114 | V | 45.8 | -22.5 | 23.3 | 43.5 | 20.2 | 271.0 | 44.0 | |
| 4 | 124.939 | V | 46.2 | -24.8 | 21.4 | 43.5 | 22.1 | 367.0 | 128.0 | |
| 5 | 249.489 | V | 44.2 | -19.1 | 25.1 | 46.5 | 21.4 | 221.0 | 23.0 | |
| 6 | 249.948 | H | 43.4 | -19.1 | 24.3 | 46.5 | 22.2 | 367.0 | 241.0 | |
| 7 | 374.956 | V | 47.7 | -14.8 | 32.9 | 46.5 | 13.6 | 100.0 | 165.0 | |
| 8 | 375.812 | H | 46.7 | -14.8 | 31.9 | 46.5 | 14.6 | 400.0 | 337.0 | |
| 9 | 499.965 | H | 41.7 | -11.6 | 30.1 | 46.5 | 16.4 | 389.0 | 271.0 | |
| 10 | 499.988 | V | 41.5 | -11.6 | 29.9 | 46.5 | 16.6 | 106.0 | 256.0 | |
| 11 | 594.055 | H | 38.3 | -8.6 | 29.7 | 46.5 | 16.8 | 400.0 | 90.0 | |
| 12 | 594.155 | V | 38.5 | -8.6 | 29.9 | 46.5 | 16.6 | 100.0 | 52.0 | |

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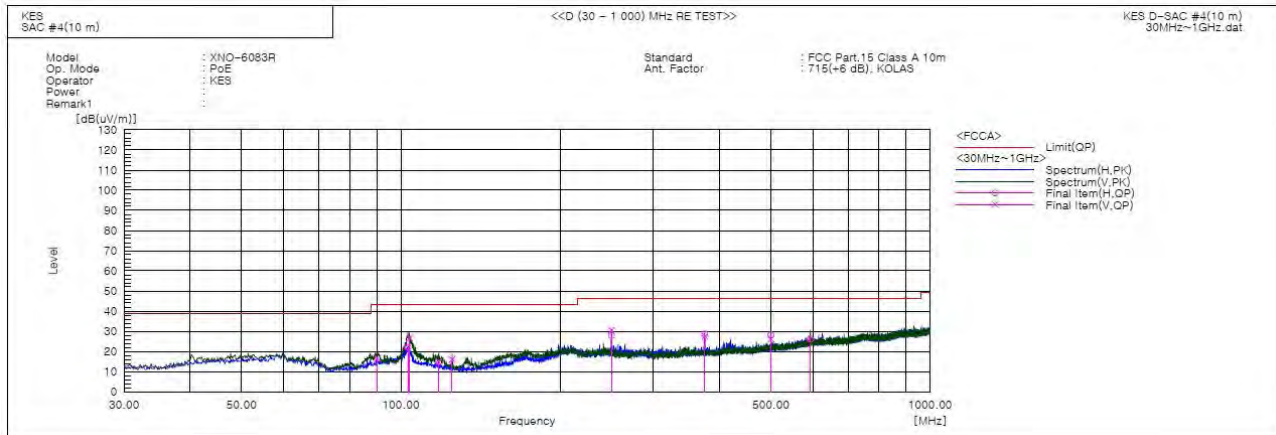


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Page (24) of (43)

PoE Mode



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 | 90.383 | V | 40.6 | -24.1 | 16.5 | 43.5 | 27.0 | 142.0 | 300.0 | |
| 2 | 103.114 | H | 44.5 | -22.5 | 22.0 | 43.5 | 21.5 | 331.0 | 179.0 | |
| 3 | 103.841 | V | 49.2 | -22.5 | 26.7 | 43.5 | 16.8 | 102.0 | 323.0 | |
| 4 | 117.906 | V | 38.4 | -23.6 | 14.8 | 43.5 | 28.7 | 267.0 | 300.0 | |
| 5 | 124.939 | V | 40.8 | -24.8 | 16.0 | 43.5 | 27.5 | 100.0 | 121.0 | |
| 6 | 249.787 | V | 49.7 | -19.1 | 30.6 | 46.5 | 15.9 | 100.0 | 188.0 | |
| 7 | 249.948 | H | 47.0 | -19.1 | 27.9 | 46.5 | 18.6 | 352.0 | 134.0 | |
| 8 | 374.956 | H | 43.5 | -14.8 | 28.7 | 46.5 | 17.8 | 400.0 | 44.0 | |
| 9 | 375.156 | V | 42.3 | -14.8 | 27.5 | 46.5 | 19.0 | 100.0 | 136.0 | |
| 10 | 499.965 | V | 37.7 | -11.6 | 26.1 | 46.5 | 20.4 | 111.0 | 136.0 | |
| 11 | 500.086 | H | 39.7 | -11.6 | 28.1 | 46.5 | 18.4 | 351.0 | 359.0 | |
| 12 | 594.055 | H | 34.8 | -8.6 | 26.2 | 46.5 | 20.3 | 400.0 | 82.0 | |

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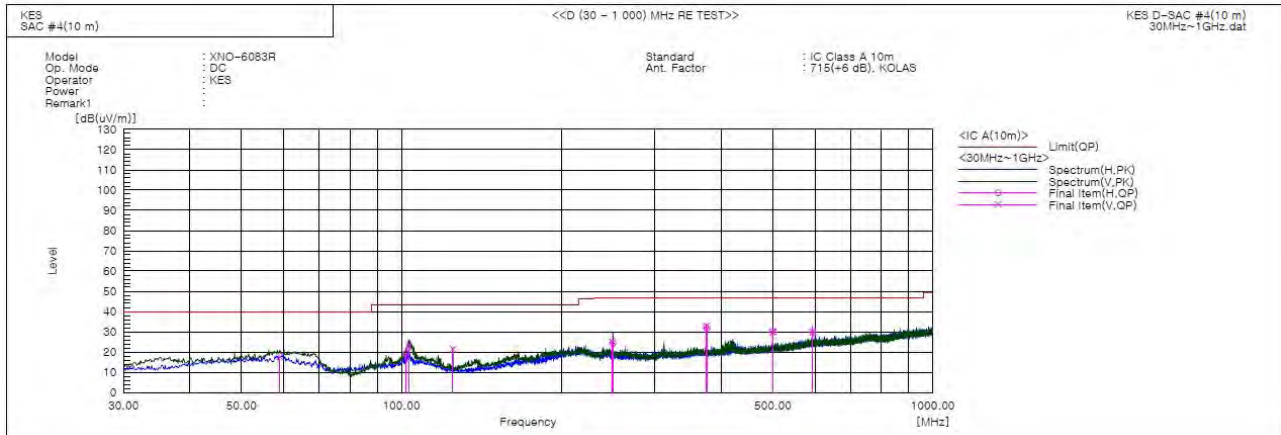
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Report No.:
KES-EM-21T0592
Page (25) of (43)

- IC Regulation ICES-003 Issue 7

■ DC Mode



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 | 59.100 | V | 39.4 | -21.8 | 17.6 | 40.0 | 22.4 | 142.0 | 234.0 | |
| 2 | 102.114 | H | 41.9 | -22.5 | 19.4 | 43.5 | 24.1 | 331.0 | 113.0 | |
| 3 | 103.114 | V | 45.8 | -22.5 | 23.3 | 43.5 | 20.2 | 271.0 | 44.0 | |
| 4 | 124.939 | V | 46.2 | -24.8 | 21.4 | 43.5 | 22.1 | 367.0 | 128.0 | |
| 5 | 249.489 | V | 44.2 | -19.1 | 25.1 | 47.0 | 21.9 | 221.0 | 23.0 | |
| 6 | 249.948 | H | 43.4 | -19.1 | 24.3 | 47.0 | 22.7 | 367.0 | 241.0 | |
| 7 | 374.956 | V | 47.7 | -14.8 | 32.9 | 47.0 | 14.1 | 100.0 | 165.0 | |
| 8 | 375.812 | H | 46.7 | -14.8 | 31.9 | 47.0 | 15.1 | 400.0 | 337.0 | |
| 9 | 499.965 | H | 41.7 | -11.6 | 30.1 | 47.0 | 16.9 | 389.0 | 271.0 | |
| 10 | 499.988 | V | 41.5 | -11.6 | 29.9 | 47.0 | 17.1 | 106.0 | 256.0 | |
| 11 | 594.055 | H | 38.3 | -8.6 | 29.7 | 47.0 | 17.3 | 400.0 | 90.0 | |
| 12 | 594.155 | V | 38.5 | -8.6 | 29.9 | 47.0 | 17.1 | 100.0 | 52.0 | |

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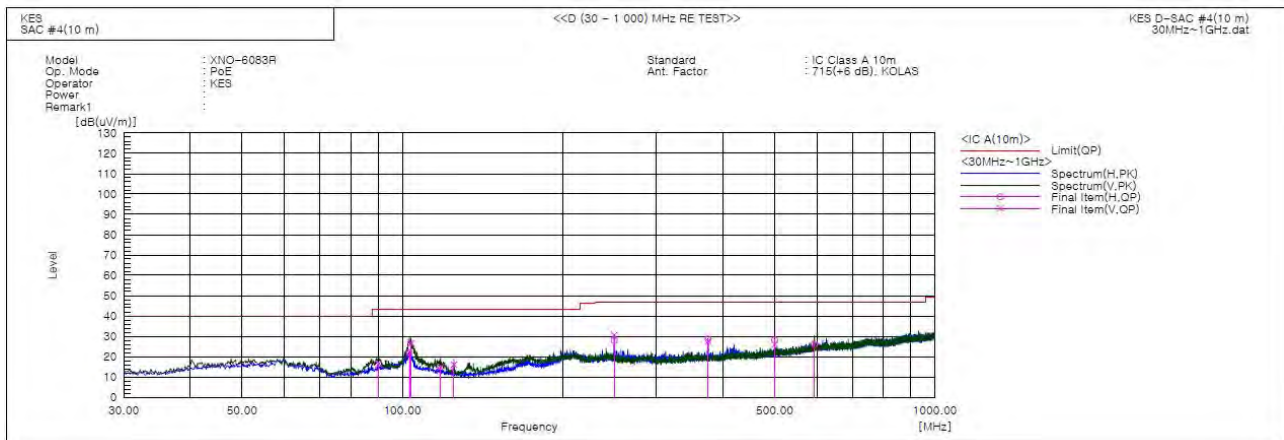


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KES-EM-21T0592
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■ PoE Mode



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 | 90.383 | V | 40.6 | -24.1 | 16.5 | 43.5 | 27.0 | 142.0 | 300.0 | |
| 2 | 103.114 | H | 44.5 | -22.5 | 22.0 | 43.5 | 21.5 | 331.0 | 179.0 | |
| 3 | 103.841 | V | 49.2 | -22.5 | 26.7 | 43.5 | 16.8 | 102.0 | 323.0 | |
| 4 | 117.906 | V | 38.4 | -23.6 | 14.8 | 43.5 | 28.7 | 267.0 | 300.0 | |
| 5 | 124.939 | V | 40.8 | -24.8 | 16.0 | 43.5 | 27.5 | 100.0 | 121.0 | |
| 6 | 249.787 | V | 49.7 | -19.1 | 30.6 | 47.0 | 16.4 | 100.0 | 188.0 | |
| 7 | 249.948 | H | 47.0 | -19.1 | 27.9 | 47.0 | 19.1 | 352.0 | 134.0 | |
| 8 | 374.956 | H | 43.5 | -14.8 | 28.7 | 47.0 | 18.3 | 400.0 | 44.0 | |
| 9 | 375.156 | V | 42.3 | -14.8 | 27.5 | 47.0 | 19.5 | 100.0 | 136.0 | |
| 10 | 499.965 | V | 37.7 | -11.6 | 26.1 | 47.0 | 20.9 | 111.0 | 136.0 | |
| 11 | 500.086 | H | 39.7 | -11.6 | 28.1 | 47.0 | 18.9 | 351.0 | 359.0 | |
| 12 | 594.055 | H | 34.8 | -8.6 | 26.2 | 47.0 | 20.8 | 400.0 | 82.0 | |

◆ 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)]

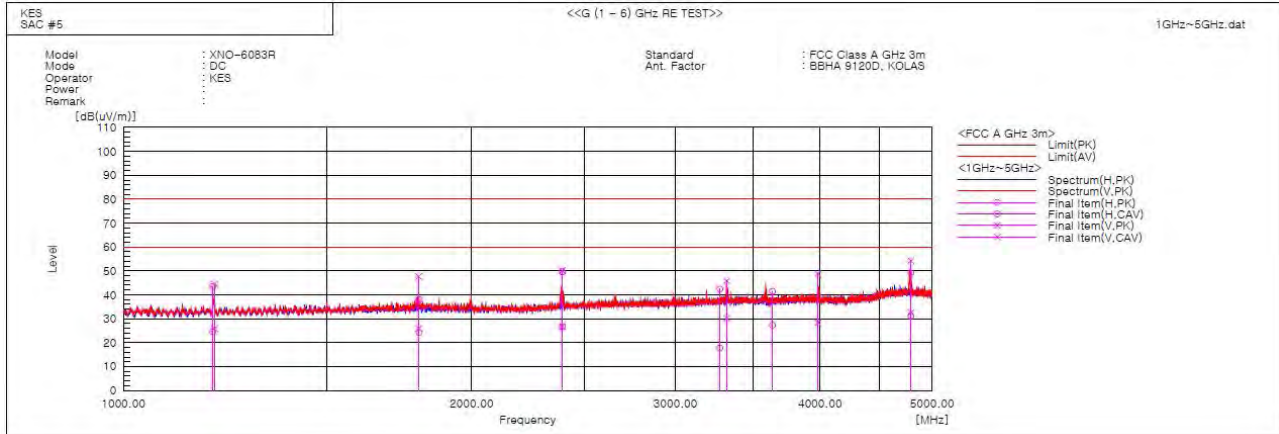
Reading(QP) : Reading value, Result(QP) : Reading value + Factor value

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



Radiated Electric Field Emissions(Above 1 GHz)

■ DC Mode



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 | 1195.000 | H | 50.7 | 31.8 | -7.2 | 43.5 | 24.6 | 80.0 | 60.0 | 36.5 | 35.4 | 141.0 | 318.7 | |
| 2 | 1198.750 | V | 51.6 | 33.0 | -7.1 | 44.5 | 25.9 | 80.0 | 60.0 | 35.5 | 34.1 | 251.0 | 180.1 | |
| 3 | 1799.375 | V | 52.2 | 30.4 | -4.5 | 47.7 | 25.9 | 80.0 | 60.0 | 32.3 | 34.1 | 103.0 | 154.3 | |
| 4 | 1801.250 | H | 42.5 | 28.8 | -4.5 | 38.0 | 24.3 | 80.0 | 60.0 | 42.0 | 35.7 | 243.0 | 260.1 | |
| 5 | 2394.375 | V | 52.9 | 29.4 | -2.7 | 50.2 | 26.7 | 80.0 | 60.0 | 29.8 | 33.3 | 267.0 | 19.4 | |
| 6 | 2395.000 | H | 52.3 | 29.4 | -2.7 | 49.6 | 26.7 | 80.0 | 60.0 | 30.4 | 33.3 | 348.0 | 161.8 | |
| 7 | 3276.875 | H | 42.6 | 18.1 | -0.2 | 42.4 | 17.9 | 80.0 | 60.0 | 37.6 | 42.1 | 251.0 | 253.1 | |
| 8 | 3321.875 | V | 45.9 | 30.3 | -0.1 | 45.8 | 30.2 | 80.0 | 60.0 | 34.2 | 29.8 | 351.0 | 287.9 | |
| 9 | 3638.750 | H | 41.4 | 27.2 | 0.1 | 41.5 | 27.3 | 80.0 | 60.0 | 38.5 | 32.7 | 234.0 | 251.4 | |
| 10 | 3983.125 | V | 47.2 | 26.9 | 1.5 | 48.7 | 28.4 | 80.0 | 60.0 | 31.3 | 31.6 | 400.0 | 126.3 | |
| 11 | 4792.500 | V | 49.4 | 27.7 | 4.9 | 54.3 | 32.6 | 80.0 | 60.0 | 25.7 | 27.4 | 108.0 | 152.6 | |
| 12 | 4794.375 | H | 44.3 | 26.3 | 4.9 | 49.2 | 31.2 | 80.0 | 60.0 | 30.8 | 28.8 | 100.0 | 106.1 | |

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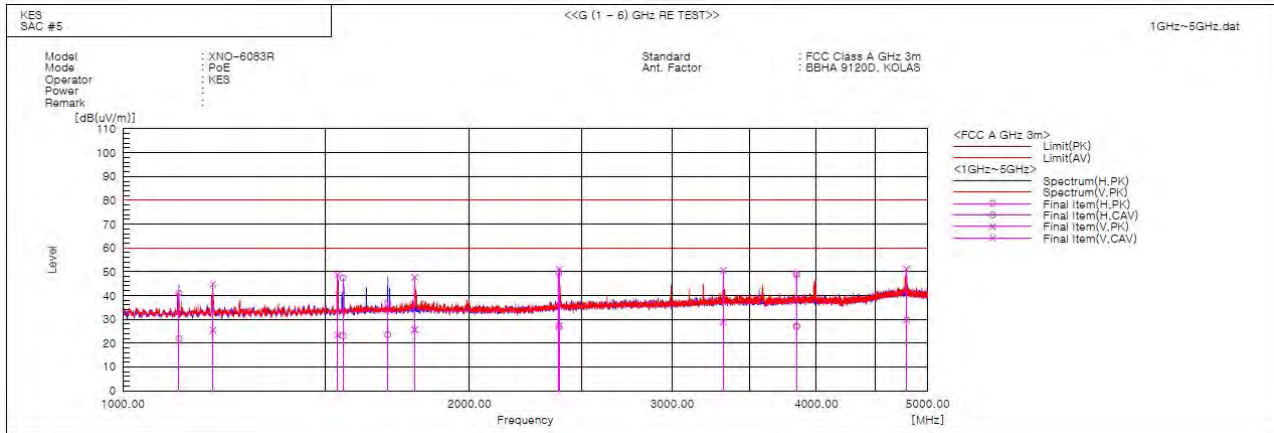


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PoE Mode



Final Result

| No. | Frequency [MHz] | (P) | Reading PK [dB(μV)] | Reading CAV [dB(μV)] | c.f [dB(1/m)] | Result PK [dB(μV/m)] | Result CAV [dB(μV/m)] | Limit PK [dB(μV/m)] | Limit AV [dB(μV/m)] | Margin PK [dB] | Margin CAV [dB] | Height [cm] | Angle [deg] | Remark |
|-----|-----------------|-----|---------------------|----------------------|---------------|----------------------|-----------------------|---------------------|---------------------|----------------|-----------------|-------------|-------------|--------|
| 1 | 1118.750 | H | 48.7 | 29.5 | -7.6 | 41.1 | 21.9 | 80.0 | 60.0 | 38.9 | 38.1 | 344.0 | 345.7 | |
| 2 | 1197.500 | V | 52.0 | 32.6 | -7.2 | 44.8 | 25.4 | 80.0 | 60.0 | 35.2 | 34.6 | 133.0 | 194.0 | |
| 3 | 1536.250 | V | 54.3 | 29.0 | -5.6 | 48.7 | 23.4 | 80.0 | 60.0 | 31.3 | 36.6 | 100.0 | 65.6 | |
| 4 | 1553.125 | H | 52.9 | 28.6 | -5.5 | 47.4 | 23.1 | 80.0 | 60.0 | 32.6 | 36.9 | 100.0 | 339.8 | |
| 5 | 1698.750 | H | 41.8 | 28.5 | -4.9 | 36.9 | 23.6 | 80.0 | 60.0 | 43.1 | 36.4 | 224.0 | 261.4 | |
| 6 | 1792.500 | V | 52.2 | 30.2 | -4.5 | 47.7 | 25.7 | 80.0 | 60.0 | 32.3 | 34.3 | 167.0 | 161.2 | |
| 7 | 2391.250 | H | 52.0 | 29.3 | -2.7 | 49.3 | 26.6 | 80.0 | 60.0 | 30.7 | 33.4 | 101.0 | 164.3 | |
| 8 | 2393.750 | V | 53.9 | 30.2 | -2.7 | 51.2 | 27.5 | 80.0 | 60.0 | 28.8 | 32.5 | 100.0 | 215.3 | |
| 9 | 3321.250 | V | 50.7 | 29.0 | -0.1 | 50.6 | 28.9 | 80.0 | 60.0 | 29.4 | 31.1 | 400.0 | 301.5 | |
| 10 | 3846.875 | H | 47.8 | 26.1 | 1.0 | 48.8 | 27.1 | 80.0 | 60.0 | 31.2 | 32.9 | 331.0 | 136.6 | |
| 11 | 3846.875 | H | 47.9 | 26.1 | 1.0 | 48.9 | 27.1 | 80.0 | 60.0 | 31.1 | 32.9 | 100.0 | 136.6 | |
| 12 | 4791.250 | V | 46.2 | 25.0 | 4.9 | 51.1 | 29.9 | 80.0 | 60.0 | 28.9 | 30.1 | 215.0 | 167.8 | |

◆ Calculation

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

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

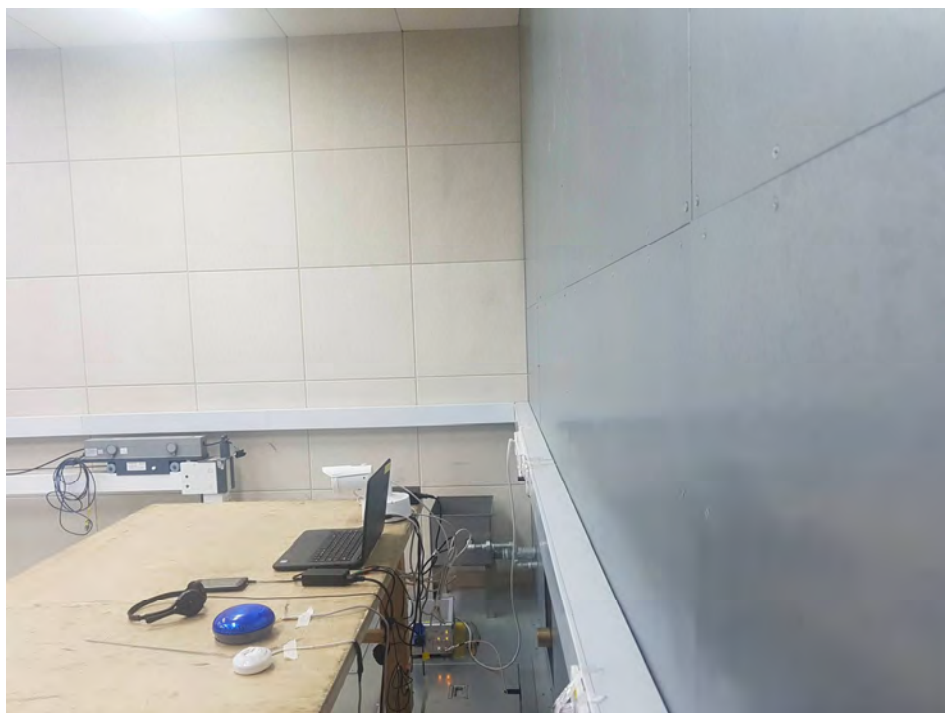
Conducted Emissions at Mains Power Ports

■ DC Mode



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■ PoE Mode



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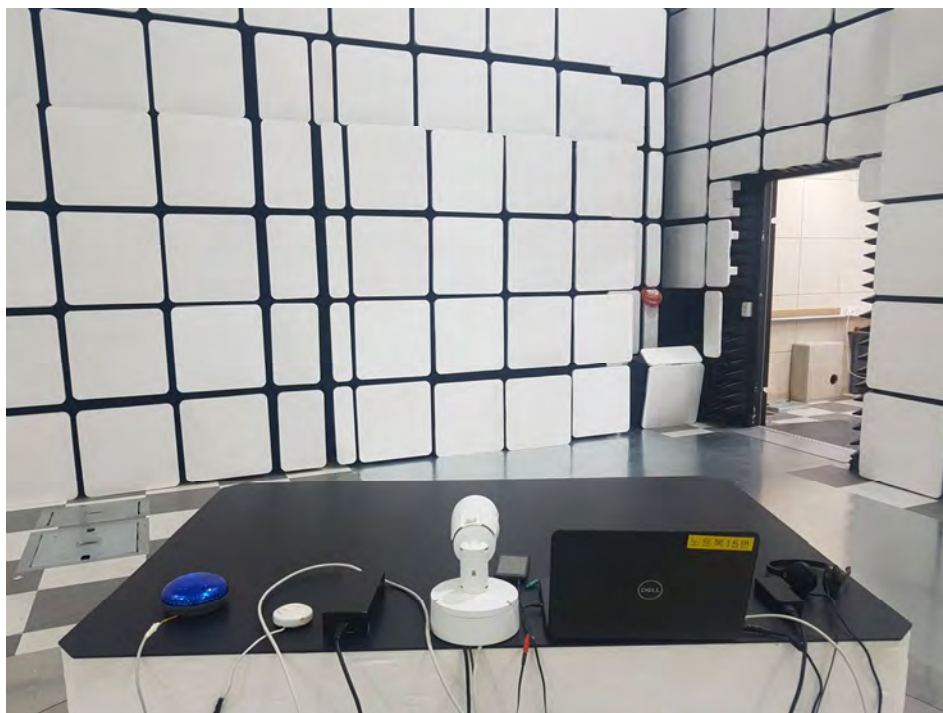
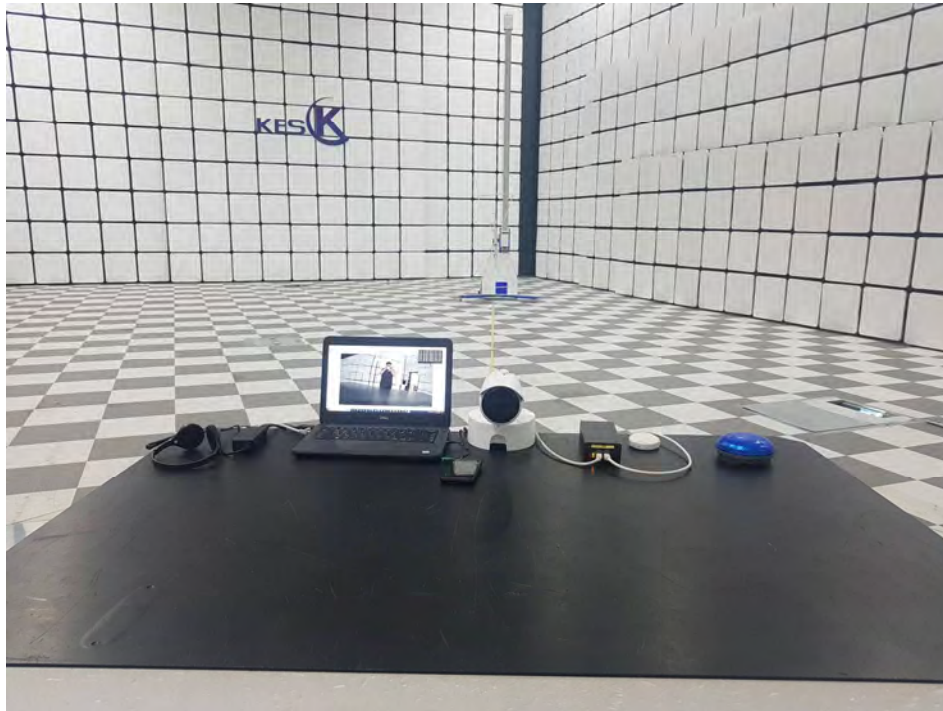
Radiated Electric Field Emissions(Below 1 GHz)

■ DC Mode



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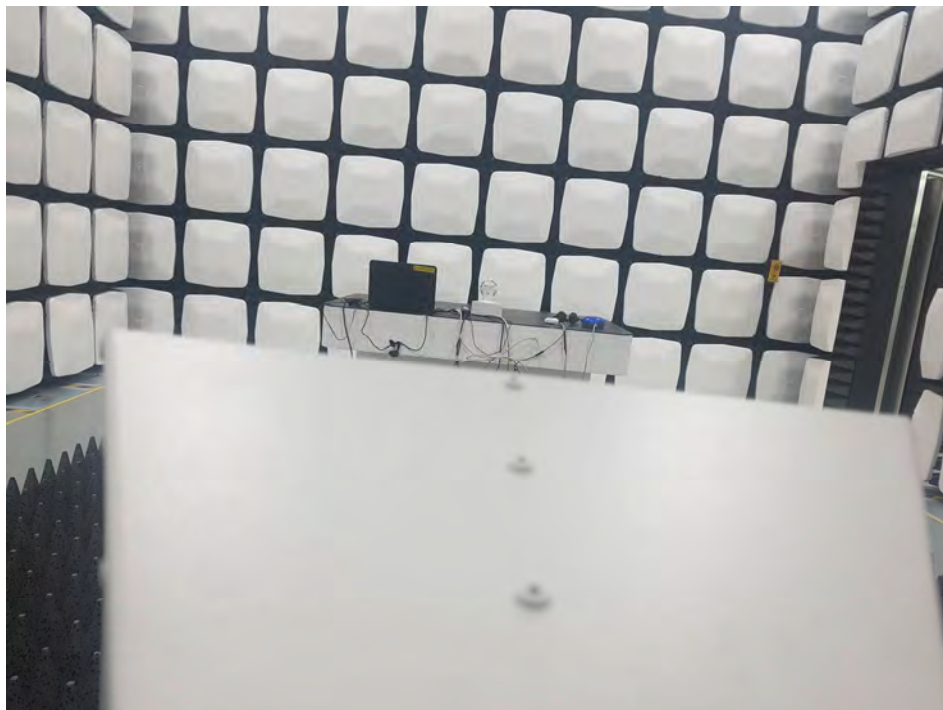
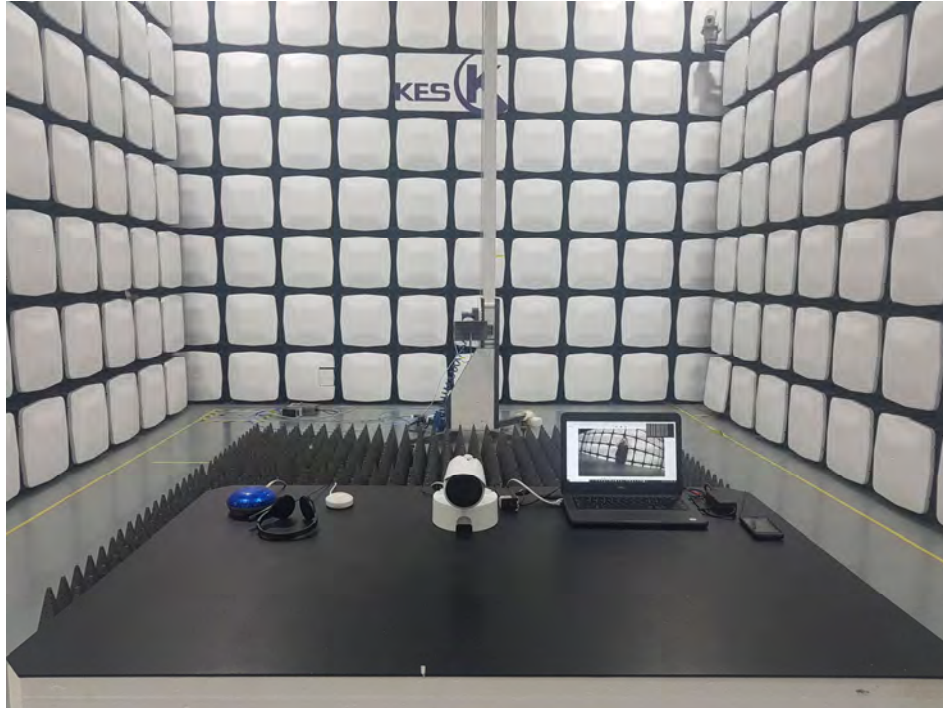
■ PoE Mode



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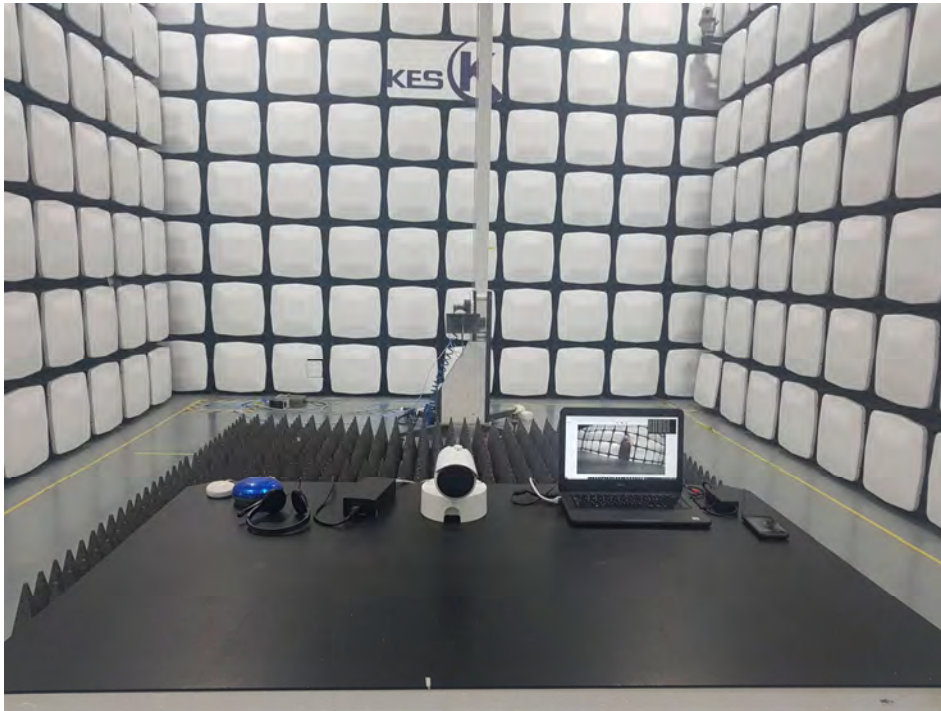
Radiated Electric Field Emissions(Above 1 GHz)

■ DC Mode



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■ PoE Mode



EUT External Photographs

(Top)



(Bottom)



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EUT Internal Photographs

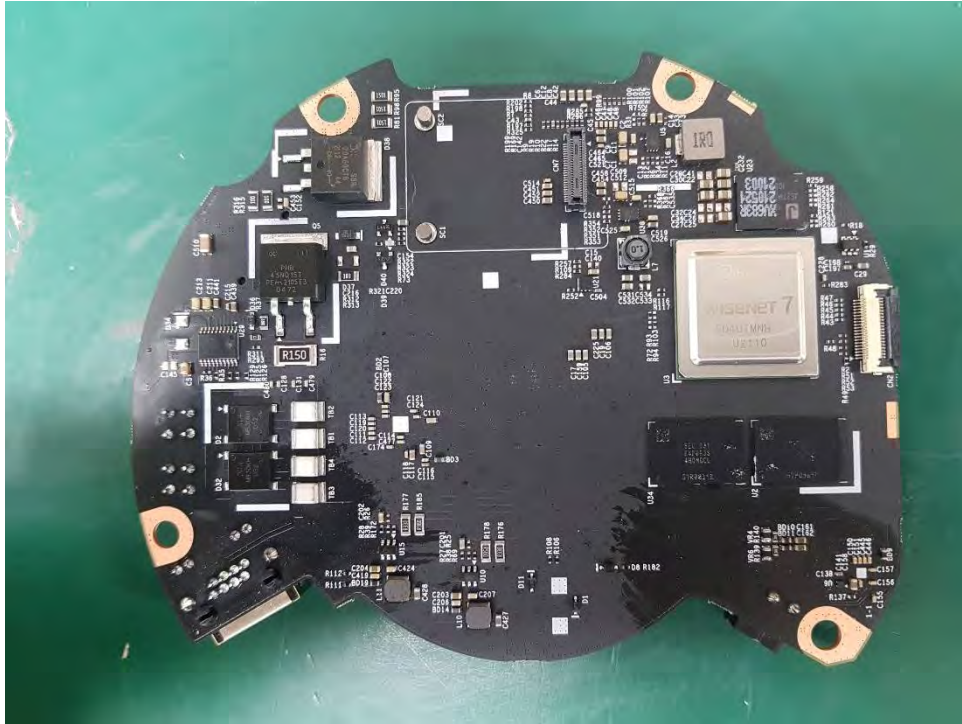
(Internal View)



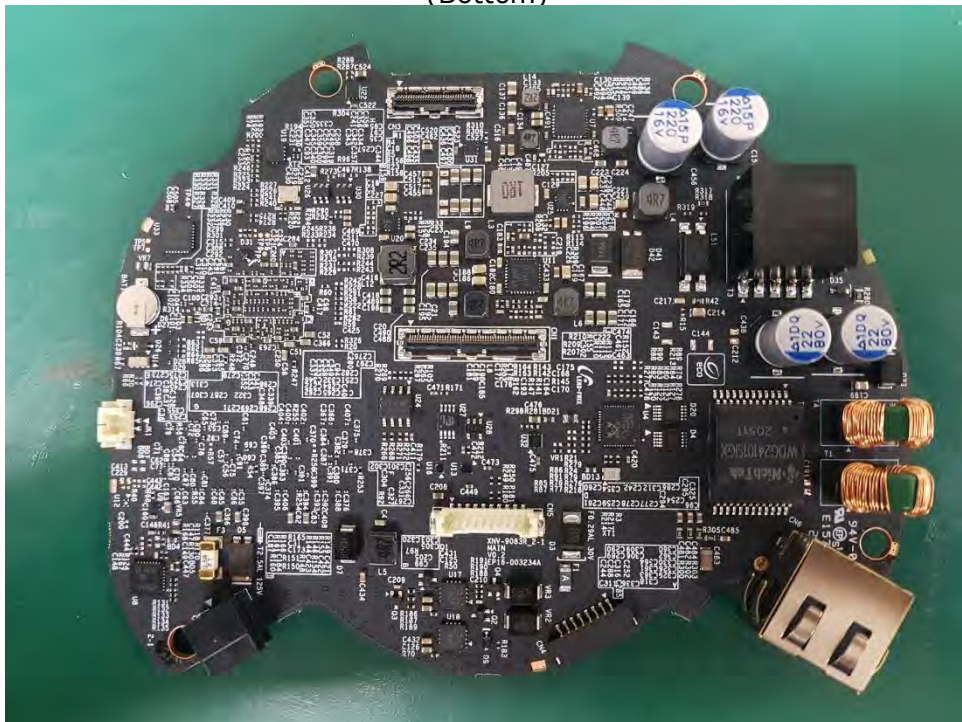
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EUT Internal View – Board 1

(Top)



(Bottom)



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EUT Internal View – Board 2

(Top)



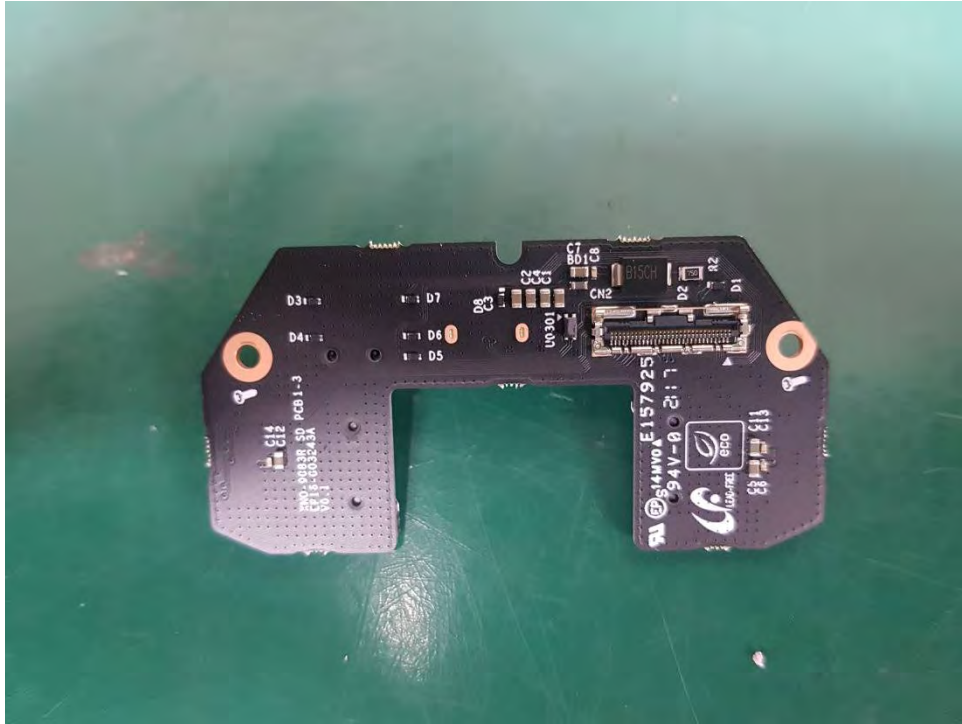
(Bottom)



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EUT Internal View – Board 3

(Top)



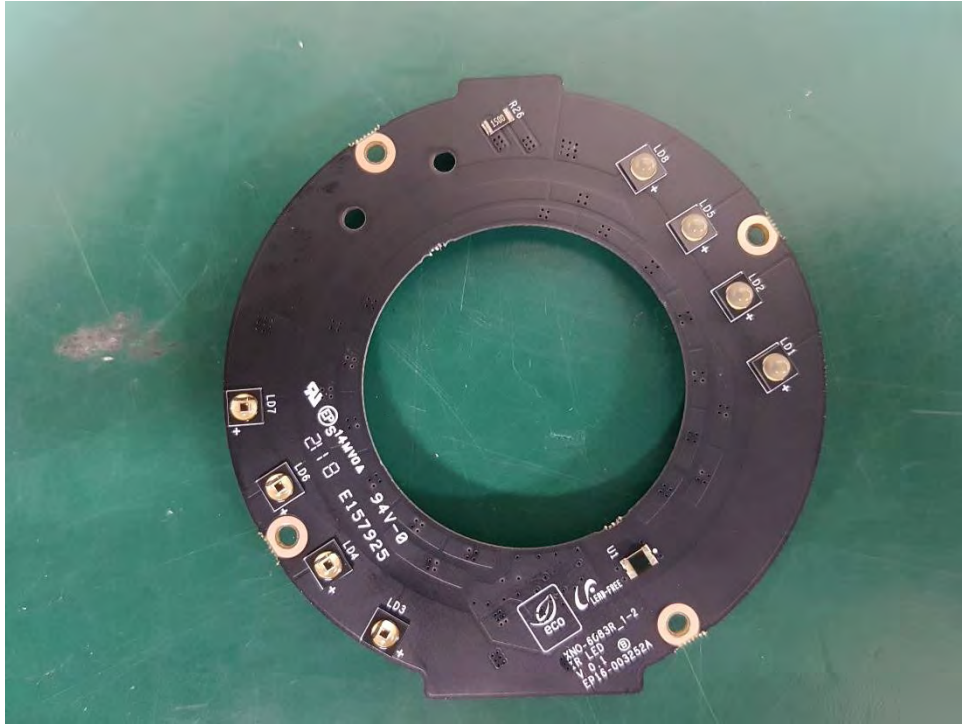
(Bottom)



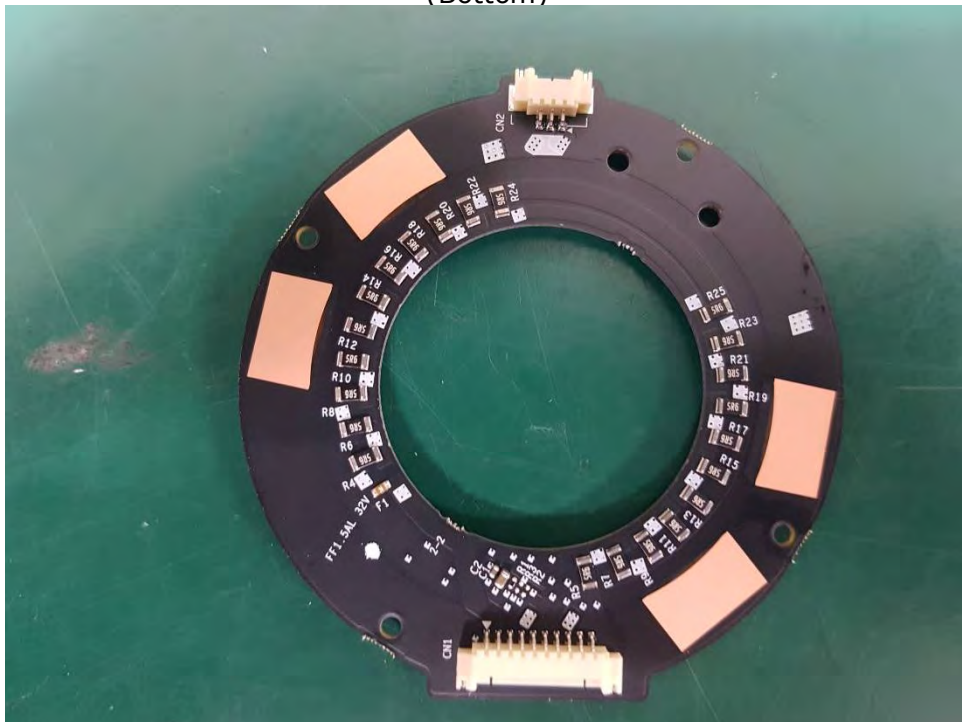
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EUT Internal View – Board 4

(Top)



(Bottom)



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EUT Internal View – Board 5

(Top)



(Bottom)



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EUT Internal View – Lens

(Top)

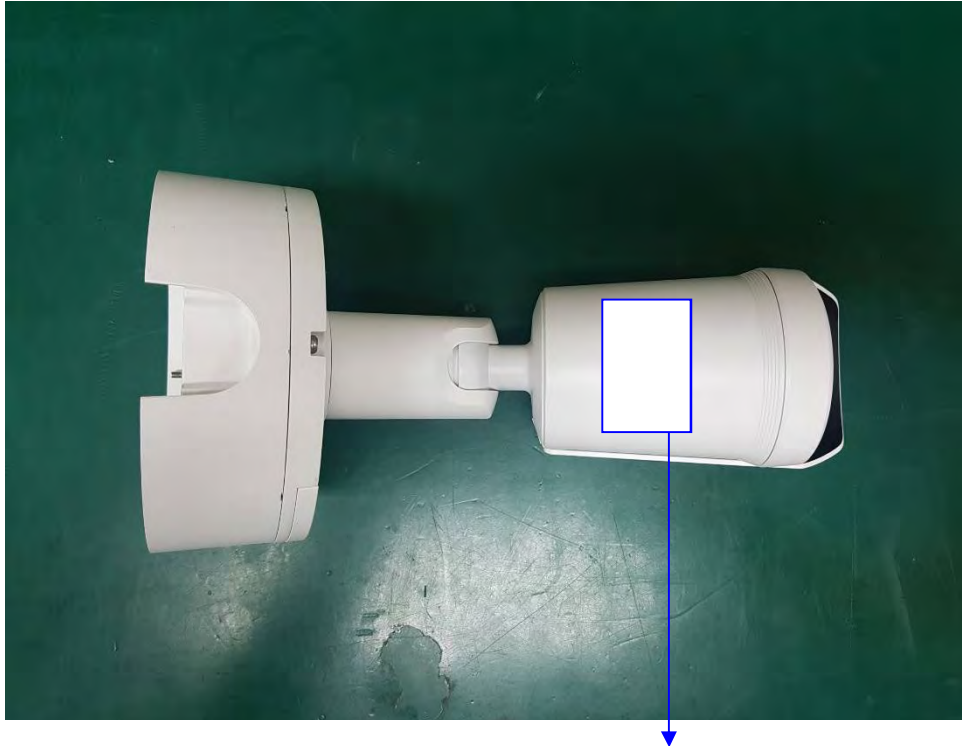


(Bottom)



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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.