



## EMC TEST REPORT For RCM

Test Report No. : KES-EM-20T0276  
Date of Issue : Apr. 16, 2020  
Product name : NETWORK CAMERA  
Model/Type No. : XND-9082RF  
Variant Model : XND-8082RF  
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)  
Date of Receipt : Apr. 03, 2020  
Test date : Apr. 08, 2020 ~ Apr. 09, 2020  
Test Results : ☒ **In Compliance** ☐ **Not in Compliance**

Tested by

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EMC Test Engineer

Reviewed by

Dong-Hun, Jang  
EMC Technical Manager

**KES Co., Ltd.**

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**REPORT REVISION HISTORY**

| Date          | Test Report No. | Revision History |
|---------------|-----------------|------------------|
| Apr. 16, 2020 | KES-EM-20T0276  | Issued           |
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## 1.0 General Product Description

### Main Specifications of EUT are:

| Video                       | XND-9082RF                                                                                                                                                                                                                                                       |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Imaging Device              | 1/2.8" 8.46M CMOS                                                                                                                                                                                                                                                |
| Effective Pixels            | 3864(H)x2192(V)                                                                                                                                                                                                                                                  |
| NETD                        | None                                                                                                                                                                                                                                                             |
| Pixel Size                  | None                                                                                                                                                                                                                                                             |
| Min. Illumination           | Color: 0.05Lux(F1.2, 1/30sec)<br>B/W: 0Lux(IR LED On)                                                                                                                                                                                                            |
| Video Out                   | CVBS: 1.0 Vp-p / 75Ω composite, 720x480(N), 720x576(P) for installation<br>USB: Micro USB Type B, 1280x720 for installation                                                                                                                                      |
| Lens                        |                                                                                                                                                                                                                                                                  |
| Focal Length (Zoom Ratio)   | 2.8~8.4mm(3x) motorized varifocal                                                                                                                                                                                                                                |
| Max. Aperture Ratio         | F1.2(Wide)~F2.8(Tele)                                                                                                                                                                                                                                            |
| Angular Field of View       | H: 114°(Wide)~40.2°(Tele) / V: 62.0°(Wide)~22.5°(Tele) / D: 133.0°(Wide)~46.3°(Tele)                                                                                                                                                                             |
| Min. Object Distance        | 0.7m (2.23ft)                                                                                                                                                                                                                                                    |
| Focus Control               | Simple focus                                                                                                                                                                                                                                                     |
| Lens Type                   | DC Auto Iris, P iris                                                                                                                                                                                                                                             |
| Mount Type                  | None                                                                                                                                                                                                                                                             |
| Optional Lens               | None                                                                                                                                                                                                                                                             |
| Pan / Tilt / Rotate         |                                                                                                                                                                                                                                                                  |
| Pan / Tilt / Rotate Range   | 0°~360° / -45°~85° / 0°~355°                                                                                                                                                                                                                                     |
| Pan Range                   | None                                                                                                                                                                                                                                                             |
| Pan Speed                   | None                                                                                                                                                                                                                                                             |
| Tilt Range                  | None                                                                                                                                                                                                                                                             |
| Tilt Speed                  | None                                                                                                                                                                                                                                                             |
| Rotate Range                | None                                                                                                                                                                                                                                                             |
| Sequence                    | None                                                                                                                                                                                                                                                             |
| Preset Accuracy             | None                                                                                                                                                                                                                                                             |
| Azimuth                     | None                                                                                                                                                                                                                                                             |
| Auto Tracking               | None                                                                                                                                                                                                                                                             |
| Operational                 |                                                                                                                                                                                                                                                                  |
| IR Viewable Length          | 40m(131.23ft)                                                                                                                                                                                                                                                    |
| Camera Title                | Off / On (Up to 85 characters)<br>- W/W : English / Numeric / Special characters<br>- China : English / Numeric / Special / Chinese characters<br>- Common : Multi-line (Max. 5), Color (Grey / Green / Red / Blue / Black / White),<br>Auto scale by resolution |
| Day & Night                 | Auto(ICR)/Color/BW/External/Schedule                                                                                                                                                                                                                             |
| Backlight Compensation      | BLC, HLC, WDR                                                                                                                                                                                                                                                    |
| Wide Dynamic Range          | 150dB                                                                                                                                                                                                                                                            |
| Contrast Enhancement        | SSDR (Off / On)                                                                                                                                                                                                                                                  |
| Digital Noise Reduction     | SSNR V                                                                                                                                                                                                                                                           |
| Digital Image Stabilization | Support(built-in gyro sensor)                                                                                                                                                                                                                                    |
| Defog                       | Support                                                                                                                                                                                                                                                          |
| Motion Detection            | 8ea, 8point Polygonal zones                                                                                                                                                                                                                                      |
| Privacy Masking             | 32ea, polygonal zones<br>- Color : Gray, Green, Red, Blue, Black, White<br>- Mosaic                                                                                                                                                                              |
| Gain Control                | Support                                                                                                                                                                                                                                                          |
| White Balance               | ATW / Narrow ATW / AWC / Manual / Indoor / Outdoor                                                                                                                                                                                                               |
| LDC                         | Support                                                                                                                                                                                                                                                          |
| Electronic Shutter Speed    | Minimum / Maximum / Anti flicker (1/5~1/12,000sec)                                                                                                                                                                                                               |
| Digital PTZ                 | Support(Preset, Group)                                                                                                                                                                                                                                           |
| Video Rotation              | Flip, Mirror, Hallway view(90°/270°)                                                                                                                                                                                                                             |

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|                             |                                                                                                                                                                                                                                        |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Analytics                   | Defocus detection, Directional detection, Motion detection, Digital auto tracking, Appear/Disappear, Enter/Exit, Loitering, Tampering, Virtual line, Audio detection, Sound classification, Shock detection, Face/upper body detection |
| Business Intelligence       | People counting, Queue management, Heatmap                                                                                                                                                                                             |
| Serial Interface            | None                                                                                                                                                                                                                                   |
| Alarm I/O                   | 2 configurable I/O ports                                                                                                                                                                                                               |
| Alarm Triggers              | Analytics, Network disconnect, Alarm input                                                                                                                                                                                             |
| Alarm Events                | File upload via FTP and e-mail<br>Notification via e-mail<br>SD/SDHC/SDXC or NAS recording at event triggers<br>Alarm output<br>Handover<br>Audio playback                                                                             |
| Audio In                    | Selectable(mic in/line in)<br>Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm                                                                                                                                                     |
| Audio Out                   | Line out, Max.output level: 1Vrms                                                                                                                                                                                                      |
| IR Illuminator (Optional)   | None                                                                                                                                                                                                                                   |
| Wiper                       | None                                                                                                                                                                                                                                   |
| Coaxial Protocol            | None                                                                                                                                                                                                                                   |
| Video Transmission Distance | None                                                                                                                                                                                                                                   |
| <b>Radiometry</b>           |                                                                                                                                                                                                                                        |
| Temperature detect range    | None                                                                                                                                                                                                                                   |
| Temperature accuracy        | None                                                                                                                                                                                                                                   |
| Temperature detection       | None                                                                                                                                                                                                                                   |
| Additional                  | None                                                                                                                                                                                                                                   |
| <b>Network</b>              |                                                                                                                                                                                                                                        |
| Ethernet                    | RJ-45(10/100/1000BASE-T)                                                                                                                                                                                                               |
| Video Compression           | H.265/H.264: Main/High, MJPEG                                                                                                                                                                                                          |
| Resolution                  | 3840x2160, 3328x1872, 3072x1728, 2592x1944, 2688x1520, 1920x1080, 1600x1200, 1280x1024, 1280x960, 1280x720, 1024x768, 800x600, 800x448, 720x576, 720x480, 640x480, 640x360, 320x240                                                    |
| Max. Framerate              | H.265/H.264: Max. 30fps/25fps(60Hz/50Hz)<br>MJPEG: Max. 15fps/12fps(60Hz/50Hz)                                                                                                                                                         |
| Smart Codec                 | Manual(5ea area), WiseStreamII                                                                                                                                                                                                         |
| Video Quality Adjustment    | H.264/H.265: Target bitrate level control<br>MJPEG: Quality level control                                                                                                                                                              |
| Bitrate Control             | H.264/H.265: CBR or VBR<br>MJPEG: VBR                                                                                                                                                                                                  |
| Streaming                   | Unicast(20 users) / Multicast<br>Multiple streaming(Up to 3 profiles)                                                                                                                                                                  |
| Audio Compression           | G.711 u-law /G.726 Selectable<br>G.726(ADPCM) 8KHz, G.711 8KHz<br>G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps<br>AAC-LC: 48Kbps at 16KHz                                                                                                     |
| 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                    | HTTPS(SSL) Login Authentication<br>Digest Login Authentication<br>IP Address Filtering<br>User access log<br>802.1X Authentication(EAP-TLS, EAP-LEAP)<br>Device Certificate(Hanwha Techwin Root CA)                                    |
| Edge Storage                | Micro SD/SDHC/SDXC 2slot 512GB(256Gx2)                                                                                                                                                                                                 |

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|                                   |                                                                                                                                                                                                                   |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Application Programming Interface | ONVIF Profile S/G/T<br>SUNAPI(HTTP API)<br>Wisenet open platform                                                                                                                                                  |
| Webpage Language                  | English, Korean, Chinese, French, Italian, Spanish, German, Japanese, Russian, Swedish,,<br>Portuguese, Czech, Polish, Turkish, Dutch, Hungarian, Greek                                                           |
| Web Viewer                        | Supported OS: Windows 8.1 or later, Mac OS X 10.13 or later<br>Recommended Browser: Google Chrome<br>Supported Browser: MS Explore11, MS Edge, Mozilla Firefox(Window 64bit only), Apple<br>Safari(Mac OS X only) |
| Memory                            | 4GB RAM, 512MB Flash                                                                                                                                                                                              |
| <b>Environmental</b>              |                                                                                                                                                                                                                   |
| Operating Temperature / Humidity  | -25°C ~ +60°C (-13°F ~ +140°F) / Less than 95% RH (non condensing)                                                                                                                                                |
| Storage Temperature / Humidity    | -50°C ~ +60°C(-58°F ~ +140°F) / Less than 90% RH                                                                                                                                                                  |
| Certification                     | IP52, Plenum rate, IK10                                                                                                                                                                                           |
| <b>Electrical</b>                 |                                                                                                                                                                                                                   |
| Input Voltage                     | PoE(IEEE802.3af), 12VDC                                                                                                                                                                                           |
| Power Consumption                 | PoE : typ 10.7W, max 12.95W<br>12VDC : typ 9.0W, max 11.5W                                                                                                                                                        |
| <b>Mechanical</b>                 |                                                                                                                                                                                                                   |
| Color / Material                  | White / Aluminum                                                                                                                                                                                                  |
| RAL Code                          | RAL9003                                                                                                                                                                                                           |
| Product dimensions / weight       | Ø205x163mm(8.07x6.42"), Weight : 1.95kg                                                                                                                                                                           |
| Conduit hole                      | -                                                                                                                                                                                                                 |
| Hanging mount(Dome)               | -                                                                                                                                                                                                                 |
| Skin cover(Dome)                  | -                                                                                                                                                                                                                 |
| Weather cap(Dome)                 | -                                                                                                                                                                                                                 |
| Power module                      | -                                                                                                                                                                                                                 |
| Backbox                           | -                                                                                                                                                                                                                 |

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

Frequency ☒ 50 Hz ☐ 60 Hz ☐ Hz

## 1.2 Variant Model Differences

Added a simple variant model for the purpose of the vendor management and a country of origin for the dualization.

## 1.3 Device Modifications

Not applicable

## 1.4 Equipment Under Test

| Description    | Model Number | Serial Number | Manufacturer                             | Remarks |
|----------------|--------------|---------------|------------------------------------------|---------|
| NETWORK CAMERA | XND-9082RF   | -             | HANWHA TECHWIN SECURITY VIETNAM CO.,LTD. | EUT     |

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## 1.5 Support Equipments

| Description      | Model Number         | Serial Number | Manufacturer                               | Remarks |
|------------------|----------------------|---------------|--------------------------------------------|---------|
| AC/DC Adapter    | SW48-12003500-W      | -             | SHENZHEN RIHUIDA ELECTRONICS CO.,LTD.      | -       |
| PoE Adapter      | PT-PSE109GBRO-AH     | -             | Dongguan PROCET Network Technology Co.,Ltd | -       |
| Notebook         | ProBook4430s         | -             | HP                                         | -       |
| Notebook Adapter | SeriesPPP0009H       | -             | CHICONY POWER TECHNOLOGY (SUZHOU) CO.,LTD, | -       |
| Speaker          | BR1000A Cuve Black 2 | -             | DONGGUAN EDIFIER TECHNOLOGY Co., Ltd       | -       |
| MIC              | MP1000               | -             | -                                          | -       |
| Alarm            | -                    | -             | -                                          | -       |
| Button Alarm     | -                    | -             | -                                          | -       |
| Smartphone       | SHV-E210L            | R33D713KA3F   | SAMSUNG TECHWIN CO., LTD.                  | -       |
| Micro SD Card    | -                    | -             | SanDisk                                    | 4 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     | Notebook      | RJ-45     | 3.5         | U      |
|                      | Audio Out | Speaker       | 3.5 mm    | 1.4         | U      |
|                      | Audio In  | MIC           | 3.5 mm    | 1.4         | U      |
|                      | Alarm Out | Alarm         | Alarm In  | 3.0         | U      |
|                      | Alarm In  | Button Alarm  | Alarm Out | 3.0         | U      |
|                      | SLOT      | Micro SD Card | SLOT      | -           | -      |
| Notebook             | 3.5 mm    | Smartphone    | 3.5 mm    | 0.5         | 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 Adapter   | RJ-45     | 3.5         | S      |
|                      | Audio Out | Speaker       | 3.5 mm    | 1.4         | U      |
|                      | Audio In  | MIC           | 3.5 mm    | 1.4         | U      |
|                      | Alarm Out | Alarm         | Alarm In  | 3.0         | U      |
|                      | Alarm In  | Button Alarm  | Alarm Out | 3.0         | U      |
|                      | SLOT      | Micro SD Card | SLOT      | -           | -      |
| Notebook             | RJ-45     | PoE Adapter   | RJ-45     | 3.0         | S      |
|                      | 3.5 mm    | Smartphone    | 3.5 mm    | 0.5         | U      |

\* Unshielded=U, Shielded=S



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### 1.7 EUT Operating Mode(s)

| Test mode            | operating                                                                                                                                                                                                                                                                     |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DC Mode,<br>PoE Mode | After placing the test equipment and peripheral devices as shown in the layout below, the tests were conducted while checking the 1KHz output from the smartphone, the camera video output from the notebook and verifying that they were operating normally while PING TEST. |

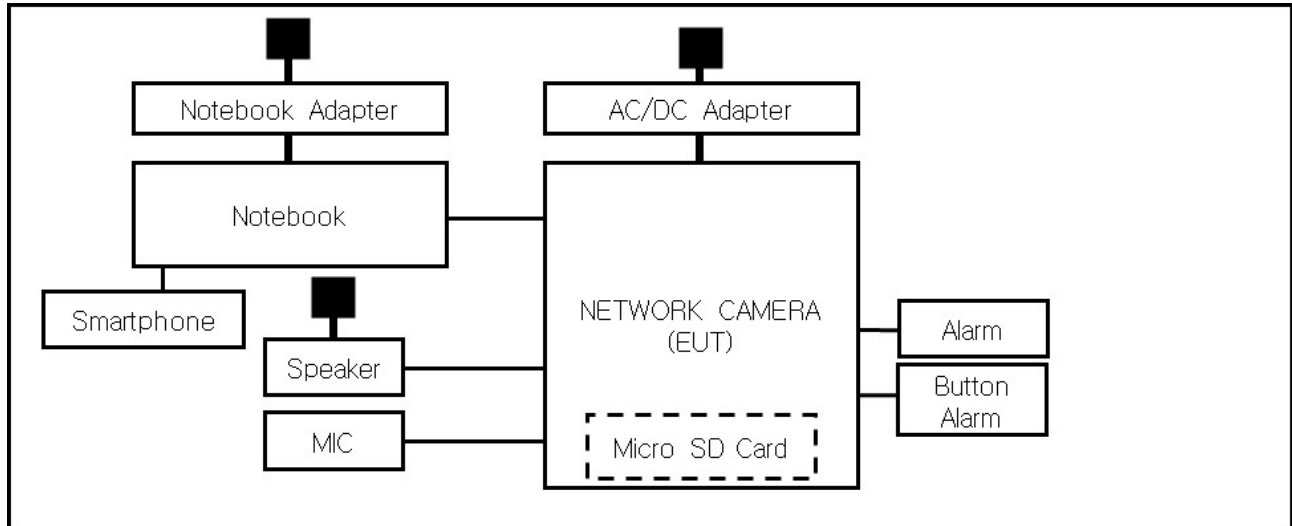
| EUT Test operating S/W |         |                     |
|------------------------|---------|---------------------|
| Name                   | Version | Manufacture Company |
| Web Viewer             | -       | -                   |

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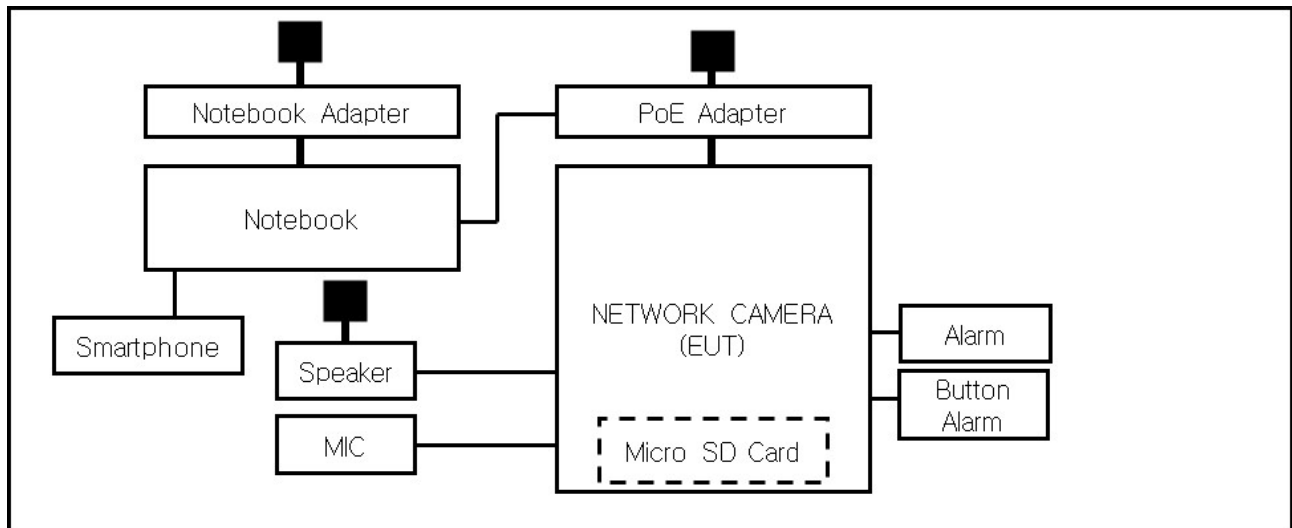
## 1.8 Configuration

■ AC Main  
 □ DC Main

### ■ DC Mode



### ■ PoE Mode



## 1.9 Remarks when standards applied

The USB port and VIDEO port are excluded for testing as the manager port.

## 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 ,<br>10 m Open Area and conducted test site)<br>EMS (ESD, RS, EFT/Burst, Surge, CS,<br>Magnetic, Dips and interruptions)                                             | <br>KR0100                                 |
| International | KOLAS   | EMI (3 m & 10 m Semi-Anechoic Chamber ,<br>and conducted test site)<br>EMS (ESD, RS, EFT/Burst, Surge, CS,<br>Magnetic, Dips and interruptions)                                                            | <br>KT489                                 |
| USA           | FCC     | 3 m & 10 m Semi-Anechoic Chamber, 10 m<br>Open Area and Conducted test site to<br>perform FCC Part 15/18 measurements.                                                                                     | <br>KR0100                                |
| Canada        | ISED    | 3 m & 10 m Semi-Anechoic Chamber and<br>Conducted test site                                                                                                                                                | <br>23298-1                               |
| JAPAN         | VCCI    | Mains Ports Conducted Interference<br>Measurement, Telecommunication Ports<br>Conducted Disturbance Measurement and<br>Radiation 10 meter site, Facility for<br>measuring radiated disturbance above 1 GHz | <br>R-20056, C-20036,<br>T-20040, G-20057 |
| Europe        | TÜV SÜD | EMI (3 m & 10 m Semi-Anechoic Chamber ,<br>10 m Open Area and conducted test site)<br>EMS (ESD, RS, EFT/Burst, Surge, CS,<br>Magnetic, Dips and interruptions)                                             | <br>CARAT 001633 0003                     |

## 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"/> <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**

Apr. 09, 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 | ESU26        | R & S        | 100552        | 04, 01, 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: 23,7 °C  
Relative Humidity: 45,9 % 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

Apr. 09, 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 | ESU26        | R & S        | 100552        | 04, 19, 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 |
| <input type="checkbox"/>            | 8-WIRE ISN CAT3,5 | ENY81        | R & S        | 100174        | 01, 07, 2021 |
| <input checked="" type="checkbox"/> | 8-WIRE ISN CAT6   | ENY81-CAT6   | R & S        | 101665        | 01, 07, 2021 |
| <input type="checkbox"/>            | ISN               | ISN S8       | SCHWARZBECK  | ISN-S8-0019   | 03, 10, 2021 |
| <input type="checkbox"/>            | CDN               | CDNS502A     | TESEQ        | 40431         | 01, 02, 2021 |

### Test Conditions

Temperature: 23,7 °C  
Relative Humidity: 45,9 % 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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## 2.3 Radiated Electric Field Emissions(Below 1 GHz)

**Test Date**

Apr. 09, 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: 23,5 °C  
Relative Humidity: 45,9 % 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

Apr. 08, 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, 06, 2020 |
| <input checked="" type="checkbox"/> | PREAMPLIFIER               | 8449B        | AGILENT          | 3008A01967    | 05, 27, 2020 |
| <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: 23,1 °C  
Relative Humidity: 44,3 % 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.

## APPENDIX A – TEST DATA

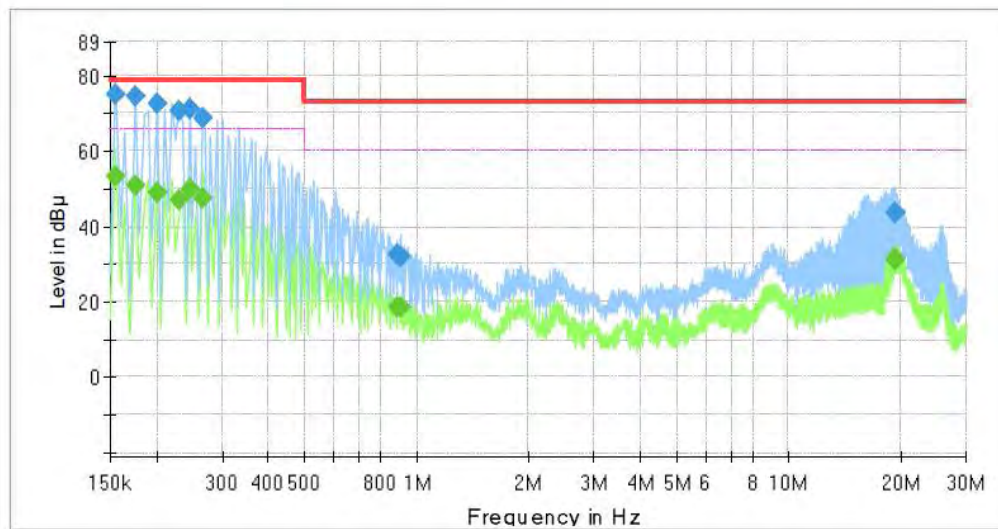
### Conducted Emissions at Mains Power Ports

■ DC Mode

HOT LINE

#### Common Information

|                   |                    |
|-------------------|--------------------|
| Test Description: | Conducted Emission |
| Model No.:        | XND-9082RF         |
| 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) |
|-----------------|------------------|-----------------|--------------|-------------|-----------------|-----------------|------|------------|
| 0.155000        | 74.92            | ---             | 79.00        | 4.08        | 1000.0          | 9.000           | L1   | 19.5       |
| 0.155000        | ---              | 53.15           | 66.00        | 12.85       | 1000.0          | 9.000           | L1   | 19.5       |
| 0.175000        | ---              | 50.78           | 66.00        | 15.22       | 1000.0          | 9.000           | L1   | 19.5       |
| 0.175000        | 74.42            | ---             | 79.00        | 4.58        | 1000.0          | 9.000           | L1   | 19.5       |
| 0.200000        | ---              | 48.79           | 66.00        | 17.21       | 1000.0          | 9.000           | L1   | 19.5       |
| 0.200000        | 72.50            | ---             | 79.00        | 6.50        | 1000.0          | 9.000           | L1   | 19.5       |
| 0.230000        | ---              | 47.26           | 66.00        | 18.74       | 1000.0          | 9.000           | L1   | 19.6       |
| 0.230000        | 70.59            | ---             | 79.00        | 8.41        | 1000.0          | 9.000           | L1   | 19.6       |
| 0.245000        | ---              | 49.83           | 66.00        | 16.17       | 1000.0          | 9.000           | L1   | 19.6       |
| 0.245000        | 71.26            | ---             | 79.00        | 7.74        | 1000.0          | 9.000           | L1   | 19.6       |
| 0.265000        | ---              | 47.53           | 66.00        | 18.47       | 1000.0          | 9.000           | L1   | 19.6       |
| 0.265000        | 68.85            | ---             | 79.00        | 10.15       | 1000.0          | 9.000           | L1   | 19.6       |
| 0.890000        | 32.34            | ---             | 73.00        | 40.66       | 1000.0          | 9.000           | L1   | 19.6       |
| 0.890000        | ---              | 18.77           | 60.00        | 41.23       | 1000.0          | 9.000           | L1   | 19.6       |
| 0.905000        | ---              | 18.44           | 60.00        | 41.56       | 1000.0          | 9.000           | L1   | 19.6       |
| 0.905000        | 32.21            | ---             | 73.00        | 40.79       | 1000.0          | 9.000           | L1   | 19.6       |
| 19.240000       | 43.48            | ---             | 73.00        | 29.52       | 1000.0          | 9.000           | L1   | 20.2       |
| 19.240000       | ---              | 31.23           | 60.00        | 28.77       | 1000.0          | 9.000           | L1   | 20.2       |
| 19.295000       | ---              | 31.45           | 60.00        | 28.55       | 1000.0          | 9.000           | L1   | 20.2       |
| 19.295000       | 43.46            | ---             | 73.00        | 29.54       | 1000.0          | 9.000           | L1   | 20.2       |

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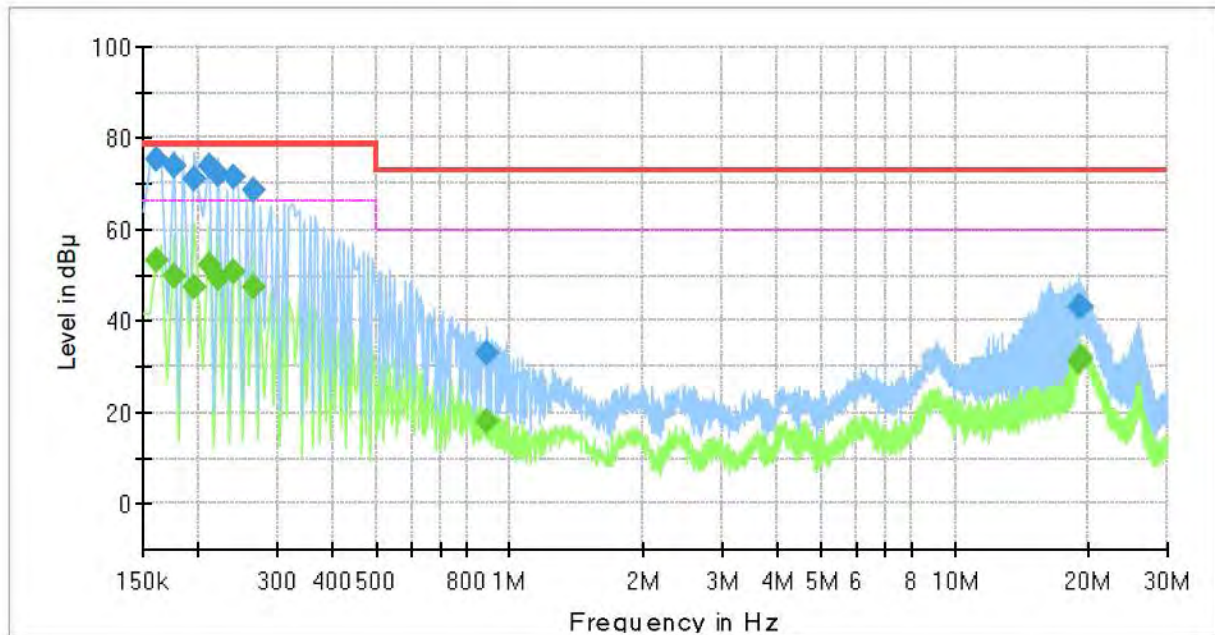
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### NEUTRAL LINE

## Common Information

|                   |                    |
|-------------------|--------------------|
| Test Description: | Conducted Emission |
| Model No.:        | XND-9082RF         |
| Phase:            | N                  |
| Mode:             | DC                 |
| Operator Name:    | KES                |



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## Final Result

| Frequency (MHz) | QuasiPeak (dBμV) | CAverage (dBμV) | Limit (dBμV) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Line | Corr. (dB) |
|-----------------|------------------|-----------------|--------------|-------------|-----------------|-----------------|------|------------|
| 0.160000        | ---              | 53.15           | 66.00        | 12.85       | 1000.0          | 9.000           | N    | 19.5       |
| 0.160000        | 75.38            | ---             | 79.00        | 3.62        | 1000.0          | 9.000           | N    | 19.5       |
| 0.175000        | 73.88            | ---             | 79.00        | 5.12        | 1000.0          | 9.000           | N    | 19.5       |
| 0.175000        | ---              | 49.98           | 66.00        | 16.02       | 1000.0          | 9.000           | N    | 19.5       |
| 0.195000        | ---              | 47.20           | 66.00        | 18.80       | 1000.0          | 9.000           | N    | 19.5       |
| 0.195000        | 71.16            | ---             | 79.00        | 7.84        | 1000.0          | 9.000           | N    | 19.5       |
| 0.210000        | ---              | 52.40           | 66.00        | 13.60       | 1000.0          | 9.000           | N    | 19.5       |
| 0.210000        | 74.08            | ---             | 79.00        | 4.92        | 1000.0          | 9.000           | N    | 19.5       |
| 0.220000        | ---              | 49.29           | 66.00        | 16.71       | 1000.0          | 9.000           | N    | 19.5       |
| 0.220000        | 71.87            | ---             | 79.00        | 7.13        | 1000.0          | 9.000           | N    | 19.5       |
| 0.240000        | ---              | 50.62           | 66.00        | 15.38       | 1000.0          | 9.000           | N    | 19.6       |
| 0.240000        | 71.71            | ---             | 79.00        | 7.29        | 1000.0          | 9.000           | N    | 19.6       |
| 0.265000        | ---              | 47.33           | 66.00        | 18.67       | 1000.0          | 9.000           | N    | 19.6       |
| 0.265000        | 68.84            | ---             | 79.00        | 10.16       | 1000.0          | 9.000           | N    | 19.6       |
| 0.890000        | 32.89            | ---             | 73.00        | 40.11       | 1000.0          | 9.000           | N    | 19.6       |
| 0.890000        | ---              | 18.13           | 60.00        | 41.87       | 1000.0          | 9.000           | N    | 19.6       |
| 18.980000       | 42.96            | ---             | 73.00        | 30.04       | 1000.0          | 9.000           | N    | 20.2       |
| 18.980000       | ---              | 31.04           | 60.00        | 28.96       | 1000.0          | 9.000           | N    | 20.2       |
| 19.215000       | ---              | 32.16           | 60.00        | 27.84       | 1000.0          | 9.000           | N    | 20.3       |
| 19.215000       | 43.18            | ---             | 73.00        | 29.82       | 1000.0          | 9.000           | N    | 20.3       |

### ◆ 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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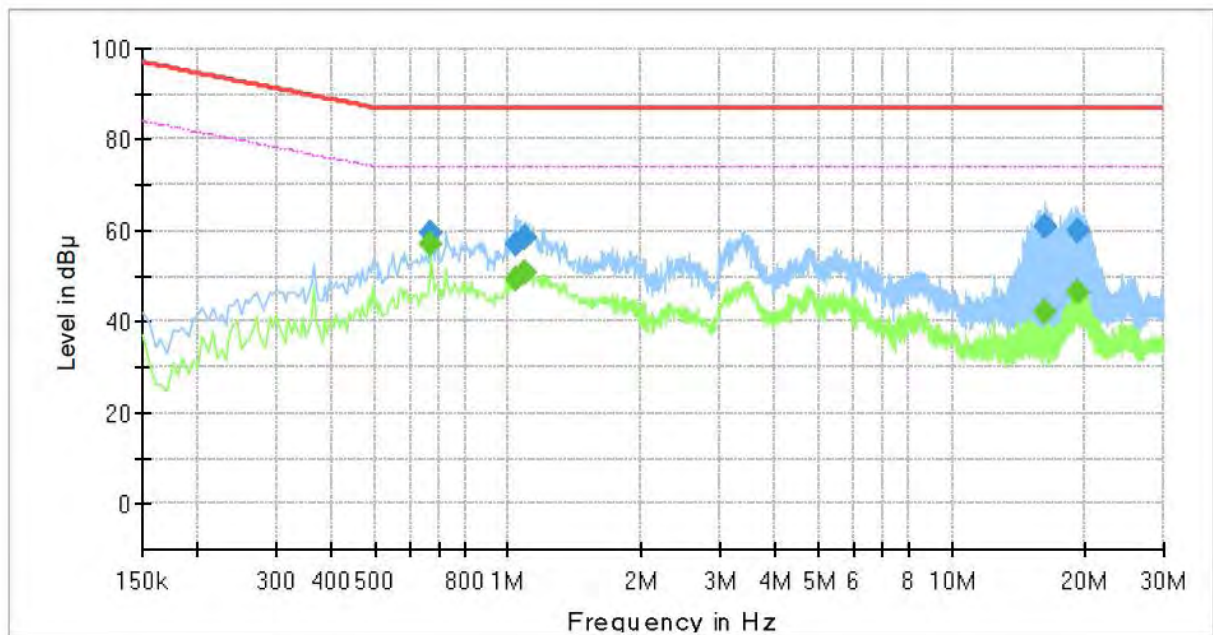
## Conducted Emissions at Telecommunication Ports

■ DC Mode

[1 000 Mbps]

### Common Information

|                   |                            |
|-------------------|----------------------------|
| Test Description: | Telecommunication Emission |
| Model No.:        | XND-9082RF                 |
| Mode :            | DC                         |
| Speed :           | 1 000 Mbps                 |
| Operator Name:    | KES                        |



### Final Result

| Frequency (MHz) | QuasiPeak (dBμV) | CAverage (dBμV) | Limit (dBμV) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Line        | Corr. (dB) |
|-----------------|------------------|-----------------|--------------|-------------|-----------------|-----------------|-------------|------------|
| 0.670000        | ---              | 56.87           | 74.00        | 17.13       | 1000.0          | 9.000           | Single Line | 19.6       |
| 0.670000        | 59.51            | ---             | 87.00        | 27.49       | 1000.0          | 9.000           | Single Line | 19.6       |
| 1.035000        | ---              | 49.13           | 74.00        | 24.87       | 1000.0          | 9.000           | Single Line | 19.5       |
| 1.035000        | 56.84            | ---             | 87.00        | 30.16       | 1000.0          | 9.000           | Single Line | 19.5       |
| 1.085000        | ---              | 50.80           | 74.00        | 23.20       | 1000.0          | 9.000           | Single Line | 19.5       |
| 1.085000        | 58.29            | ---             | 87.00        | 28.71       | 1000.0          | 9.000           | Single Line | 19.5       |
| 16.240000       | ---              | 42.01           | 74.00        | 31.99       | 1000.0          | 9.000           | Single Line | 19.9       |
| 16.240000       | 60.73            | ---             | 87.00        | 26.27       | 1000.0          | 9.000           | Single Line | 19.9       |
| 19.140000       | ---              | 46.58           | 74.00        | 27.42       | 1000.0          | 9.000           | Single Line | 19.9       |
| 19.140000       | 59.92            | ---             | 87.00        | 27.08       | 1000.0          | 9.000           | Single Line | 19.9       |

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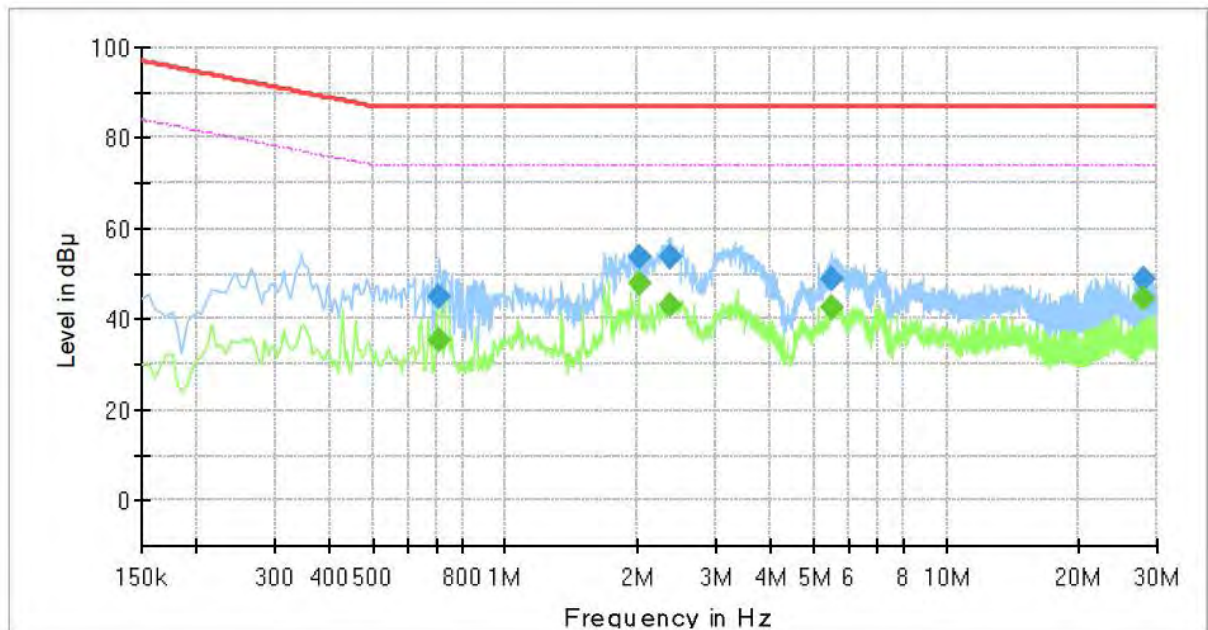
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### ■ PoE Mode

[1 000 Mbps]

## Common Information

|                   |                            |
|-------------------|----------------------------|
| Test Description: | Telecommunication Emission |
| Model No.:        | XND-9082RF                 |
| Mode :            | PoE                        |
| Speed :           | 1 000 Mbps                 |
| Operator Name:    | KES                        |



## Final Result

| Frequency (MHz) | QuasiPeak (dBμV) | CAverage (dBμV) | Limit (dBμV) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Line        | Corr. (dB) |
|-----------------|------------------|-----------------|--------------|-------------|-----------------|-----------------|-------------|------------|
| 0.710000        | ---              | 35.56           | 74.00        | 38.44       | 1000.0          | 9.000           | Single Line | 19.6       |
| 0.710000        | 45.13            | ---             | 87.00        | 41.87       | 1000.0          | 9.000           | Single Line | 19.6       |
| 2.010000        | ---              | 48.01           | 74.00        | 25.99       | 1000.0          | 9.000           | Single Line | 19.5       |
| 2.010000        | 53.73            | ---             | 87.00        | 33.27       | 1000.0          | 9.000           | Single Line | 19.5       |
| 2.375000        | ---              | 42.96           | 74.00        | 31.04       | 1000.0          | 9.000           | Single Line | 19.4       |
| 2.375000        | 53.71            | ---             | 87.00        | 33.29       | 1000.0          | 9.000           | Single Line | 19.4       |
| 5.500000        | ---              | 42.46           | 74.00        | 31.54       | 1000.0          | 9.000           | Single Line | 19.5       |
| 5.500000        | 48.96            | ---             | 87.00        | 38.04       | 1000.0          | 9.000           | Single Line | 19.5       |
| 28.090000       | ---              | 44.48           | 74.00        | 29.52       | 1000.0          | 9.000           | Single Line | 20.0       |
| 28.090000       | 48.73            | ---             | 87.00        | 38.27       | 1000.0          | 9.000           | Single Line | 20.0       |

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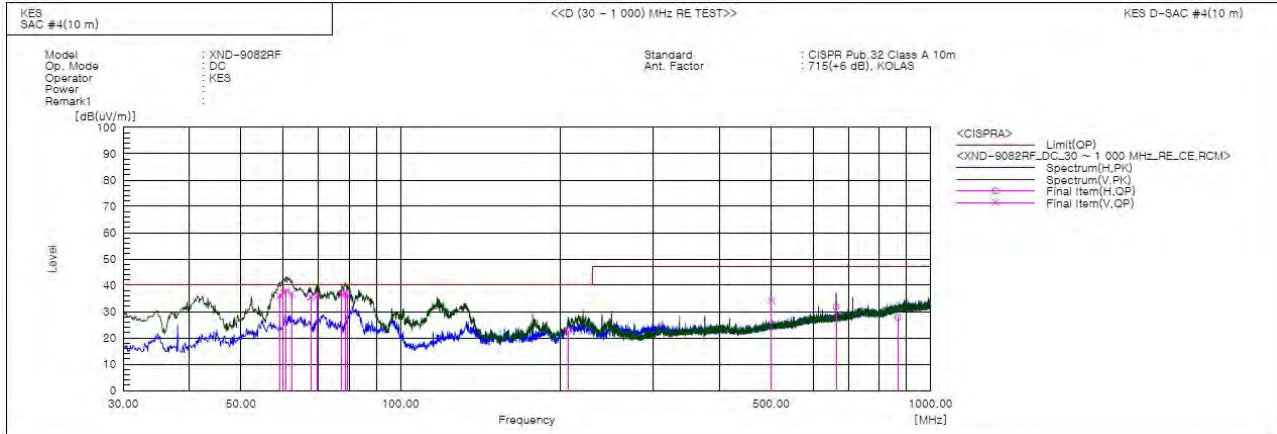
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## Radiated Electric Field Emissions(Below 1 GHz)

### ■ DC Mode



### Final Result

| No. | Frequency<br>[MHz] | (P) | Reading<br>QP<br>[dB(uV)] | c.f<br>[dB(1/m)] | Result<br>QP<br>[dB(uV/m)] | Limit<br>QP<br>[dB(uV/m)] | Margin<br>QP<br>[dB] | Height<br>[cm] | Angle<br>[deg] | Remark |
|-----|--------------------|-----|---------------------------|------------------|----------------------------|---------------------------|----------------------|----------------|----------------|--------|
| 1   | 59.214             | V   | 58.4                      | -22.3            | 36.1                       | 40.0                      | 3.9                  | 100.0          | 55.0           |        |
| 2   | 60.091             | V   | 59.8                      | -22.5            | 37.3                       | 40.0                      | 2.7                  | 134.0          | 27.0           |        |
| 3   | 60.934             | V   | 60.5                      | -22.6            | 37.9                       | 40.0                      | 2.1                  | 134.0          | 136.0          |        |
| 4   | 62.358             | V   | 59.8                      | -22.9            | 36.9                       | 40.0                      | 3.1                  | 148.0          | 55.0           |        |
| 5   | 67.712             | V   | 59.8                      | -24.3            | 35.5                       | 40.0                      | 4.5                  | 100.0          | 190.0          |        |
| 6   | 69.651             | V   | 61.0                      | -24.9            | 36.1                       | 40.0                      | 3.9                  | 127.0          | 226.0          |        |
| 7   | 77.514             | V   | 64.1                      | -27.4            | 36.7                       | 40.0                      | 3.3                  | 129.0          | 128.0          |        |
| 8   | 78.762             | V   | 64.6                      | -27.5            | 37.1                       | 40.0                      | 2.9                  | 139.0          | 128.0          |        |
| 9   | 79.588             | V   | 63.4                      | -27.5            | 35.9                       | 40.0                      | 4.1                  | 132.0          | 155.0          |        |
| 10  | 207.524            | H   | 43.7                      | -21.1            | 22.6                       | 40.0                      | 17.4                 | 384.0          | 242.0          |        |
| 11  | 499.951            | V   | 46.8                      | -12.5            | 34.3                       | 47.0                      | 12.7                 | 131.0          | 341.0          |        |
| 12  | 663.547            | H   | 40.8                      | -8.9             | 31.9                       | 47.0                      | 15.1                 | 381.0          | 206.0          |        |
| 13  | 867.224            | H   | 33.6                      | -5.8             | 27.8                       | 47.0                      | 19.2                 | 398.0          | 122.0          |        |

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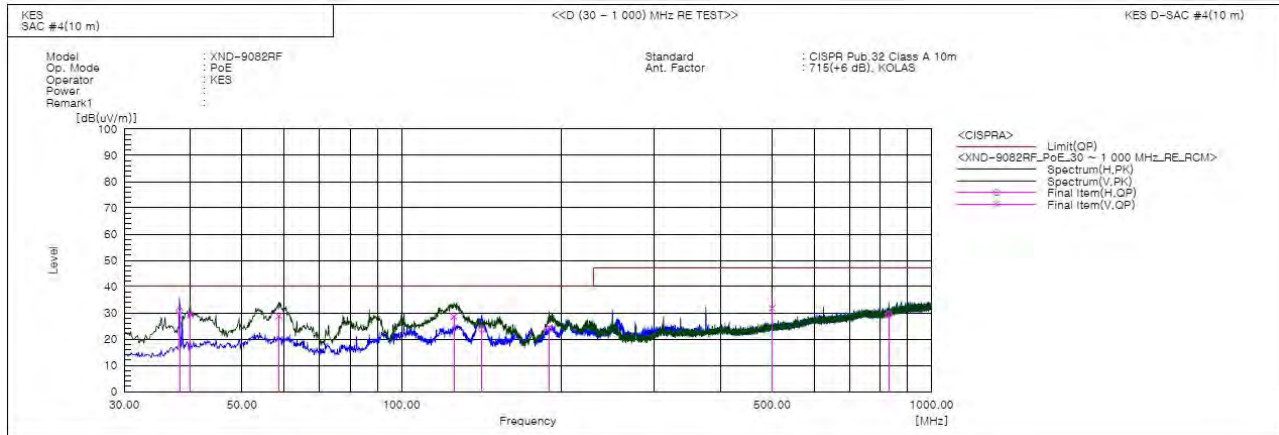


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### ■ PoE Mode



### Final Result

| No. | Frequency<br>[MHz] | (P) | Reading<br>QP<br>[dB(μV)] | c.f<br>[dB(1/m)] | Result<br>QP<br>[dB(μV/m)] | Limit<br>QP<br>[dB(μV/m)] | Margin<br>QP<br>[dB] | Height<br>[cm] | Angle<br>[deg] | Remark |
|-----|--------------------|-----|---------------------------|------------------|----------------------------|---------------------------|----------------------|----------------|----------------|--------|
| 1   | 38.135             | H   | 54.7                      | -23.9            | 30.8                       | 40.0                      | 9.2                  | 368.0          | 99.0           |        |
| 2   | 39.938             | V   | 52.4                      | -23.0            | 29.4                       | 40.0                      | 10.6                 | 100.0          | 35.0           |        |
| 3   | 58.715             | V   | 51.1                      | -22.3            | 28.8                       | 40.0                      | 11.2                 | 141.0          | 51.0           |        |
| 4   | 125.519            | V   | 53.4                      | -24.8            | 28.6                       | 40.0                      | 11.4                 | 100.0          | 190.0          |        |
| 5   | 141.692            | H   | 49.8                      | -26.0            | 23.8                       | 40.0                      | 16.2                 | 368.0          | 350.0          |        |
| 6   | 189.815            | V   | 47.2                      | -22.7            | 24.5                       | 40.0                      | 15.5                 | 139.0          | 215.0          |        |
| 7   | 499.958            | V   | 44.3                      | -12.5            | 31.8                       | 47.0                      | 15.2                 | 139.0          | 326.0          |        |
| 8   | 830.248            | H   | 36.3                      | -6.9             | 29.4                       | 47.0                      | 17.6                 | 382.0          | 7.0            |        |

### ◆ 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

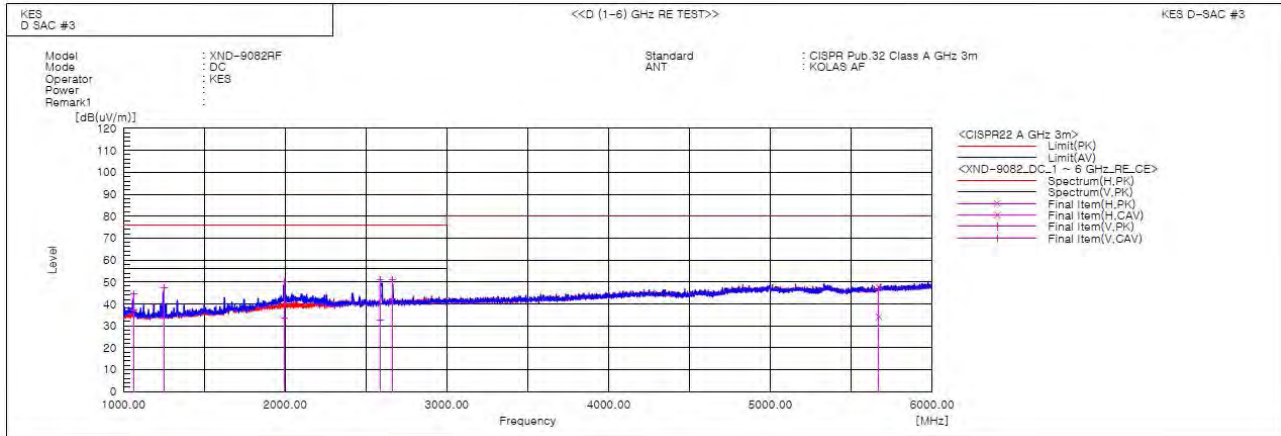
Limit(QP) : Limit value, c.f : (ANT Factor + Cable Loss - Preamp Factor), Margin: Margin value

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## Radiated Electric Field Emissions(Above 1 GHz)

### ■ DC Mode



### Final Result

| No. | Frequency<br>[MHz] | (P) | Reading<br>PK<br>[dB(uV)] | Reading<br>CAV<br>[dB(uV)] | c.f<br>[dB(1/m)] | Result<br>PK<br>[dB(uV/m)] | Result<br>CAV<br>[dB(uV/m)] | Limit<br>PK<br>[dB(uV/m)] | Limit<br>AV<br>[dB(uV/m)] | Margin<br>PK<br>[dB] | Margin<br>CAV<br>[dB] | Height<br>[cm] | Angle<br>[deg] | Remark |
|-----|--------------------|-----|---------------------------|----------------------------|------------------|----------------------------|-----------------------------|---------------------------|---------------------------|----------------------|-----------------------|----------------|----------------|--------|
| 1   | 1062.350           | V   | 53.5                      | 46.1                       | -9.1             | 44.4                       | 37.0                        | 76.0                      | 56.0                      | 31.6                 | 19.0                  | 100.0          | 9.8            |        |
| 2   | 1249.640           | V   | 55.6                      | 41.3                       | -8.0             | 47.6                       | 33.3                        | 76.0                      | 56.0                      | 28.4                 | 22.7                  | 100.0          | 199.0          |        |
| 3   | 1993.080           | V   | 51.9                      | 35.7                       | -2.0             | 49.9                       | 33.7                        | 76.0                      | 56.0                      | 26.1                 | 22.3                  | 100.0          | 5.3            |        |
| 4   | 2590.080           | V   | 50.7                      | 32.2                       | 0.4              | 51.1                       | 32.6                        | 76.0                      | 56.0                      | 24.9                 | 23.4                  | 100.0          | 280.4          |        |
| 5   | 2665.990           | V   | 50.6                      | 41.8                       | 0.6              | 51.2                       | 42.4                        | 76.0                      | 56.0                      | 24.8                 | 13.6                  | 100.0          | 203.6          |        |
| 6   | 5670.532           | H   | 38.9                      | 25.4                       | 8.8              | 47.7                       | 34.2                        | 80.0                      | 60.0                      | 32.3                 | 25.8                  | 100.0          | 64.2           |        |

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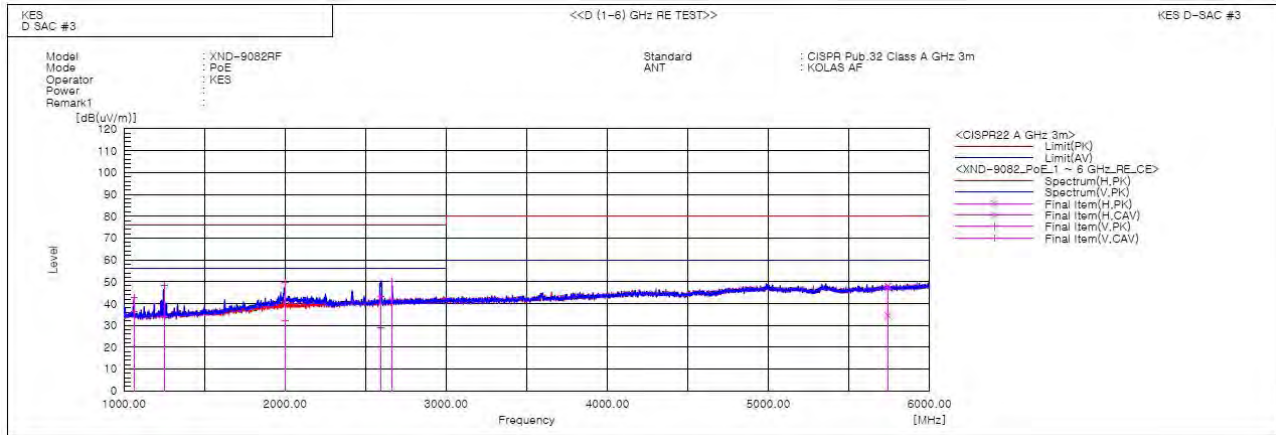


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### PoE Mode



#### 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   | 1062.310        | V   | 51.9                | 45.3                 | -9.1          | 42.8                 | 36.2                  | 76.0                | 56.0                | 33.2           | 19.8            | 100.0       | 15.1        |        |
| 2   | 1249.739        | V   | 56.2                | 42.0                 | -8.0          | 48.2                 | 34.0                  | 76.0                | 56.0                | 27.8           | 22.0            | 100.0       | 209.3       |        |
| 3   | 1998.609        | V   | 51.4                | 34.2                 | -2.0          | 49.4                 | 32.2                  | 76.0                | 56.0                | 26.6           | 23.8            | 100.0       | 5.1         |        |
| 4   | 2594.195        | V   | 43.0                | 28.4                 | 0.4           | 43.4                 | 28.8                  | 76.0                | 56.0                | 32.6           | 27.2            | 100.0       | 277.2       |        |
| 5   | 2665.890        | V   | 49.5                | 41.0                 | 0.6           | 50.1                 | 41.6                  | 76.0                | 56.0                | 25.9           | 14.4            | 100.0       | 201.7       |        |
| 6   | 5740.659        | H   | 38.7                | 25.3                 | 9.3           | 48.0                 | 34.6                  | 80.0                | 60.0                | 32.0           | 25.4            | 100.0       | 111.3       |        |

### ◆ 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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## Conducted Emissions at Telecommunication Ports

### ■ DC Mode



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**■ PoE Mode**

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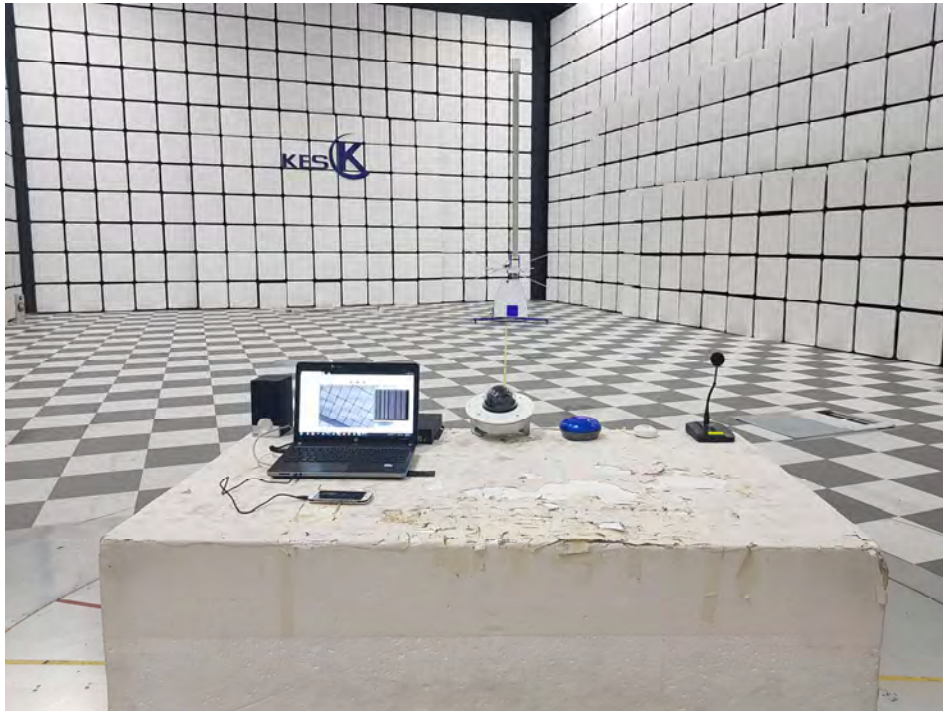
## Radiated Electric Field Emissions(Below 1 GHz)

### ■ DC Mode



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■ PoE Mode

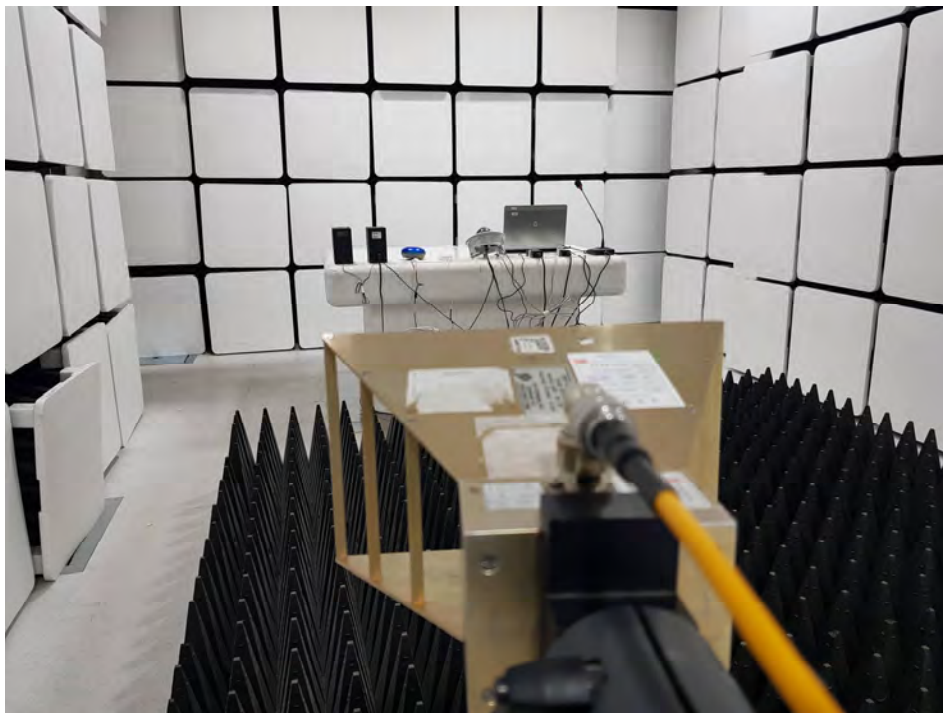
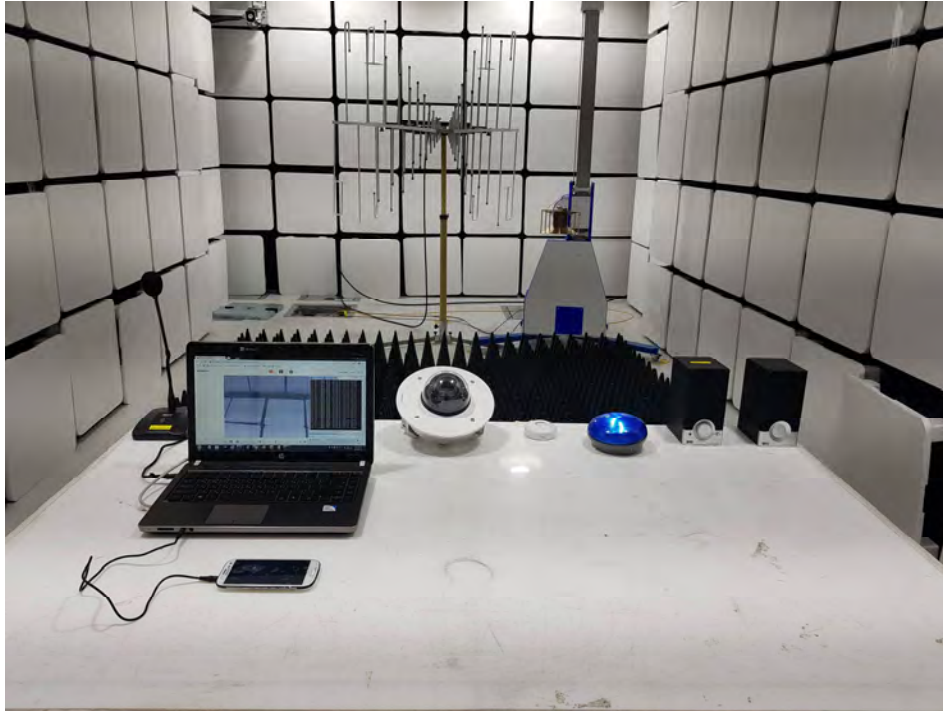


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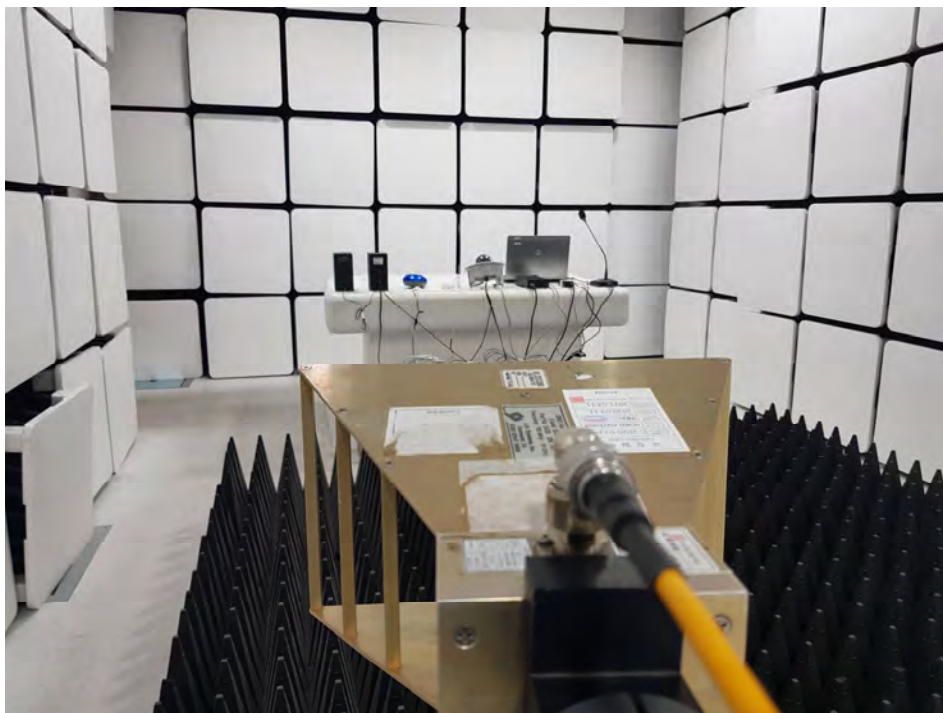
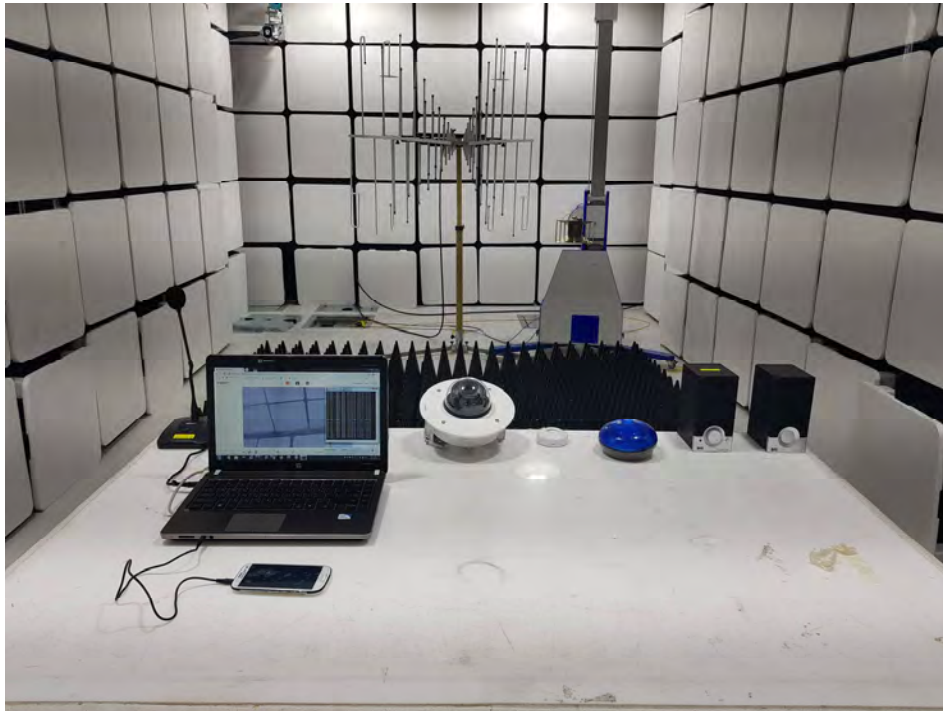
## Radiated Electric Field Emissions(Above 1 GHz)

### ■ DC Mode



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■ PoE Mode



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## EUT External Photographs

(Top)



(Bottom)

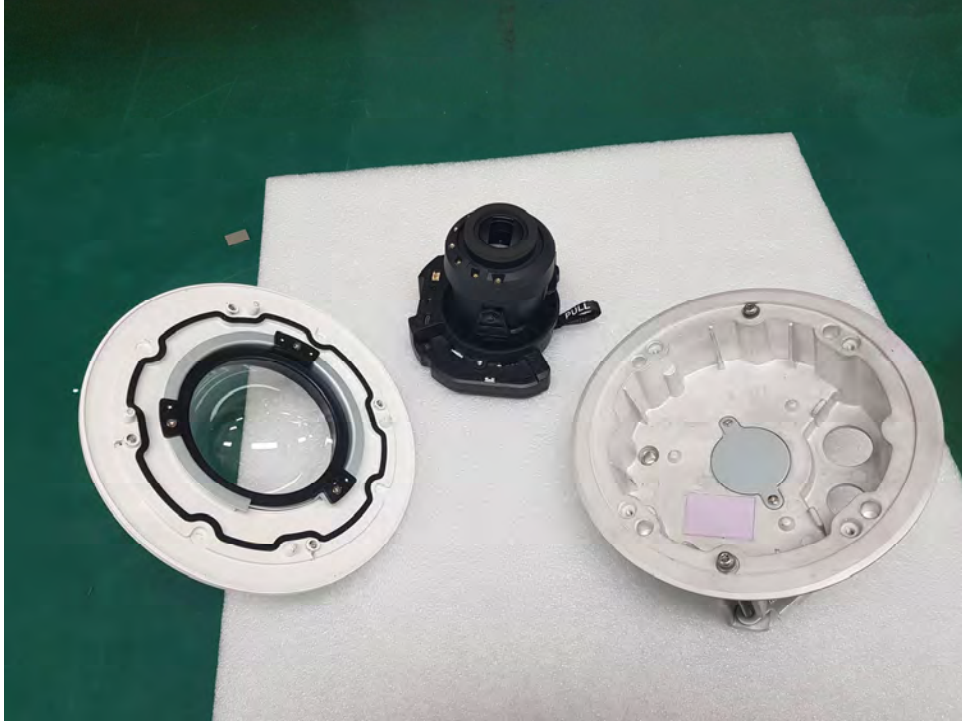


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## EUT Internal Photographs

(Internal View)



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## EUT Internal View – Board 1

(Top)



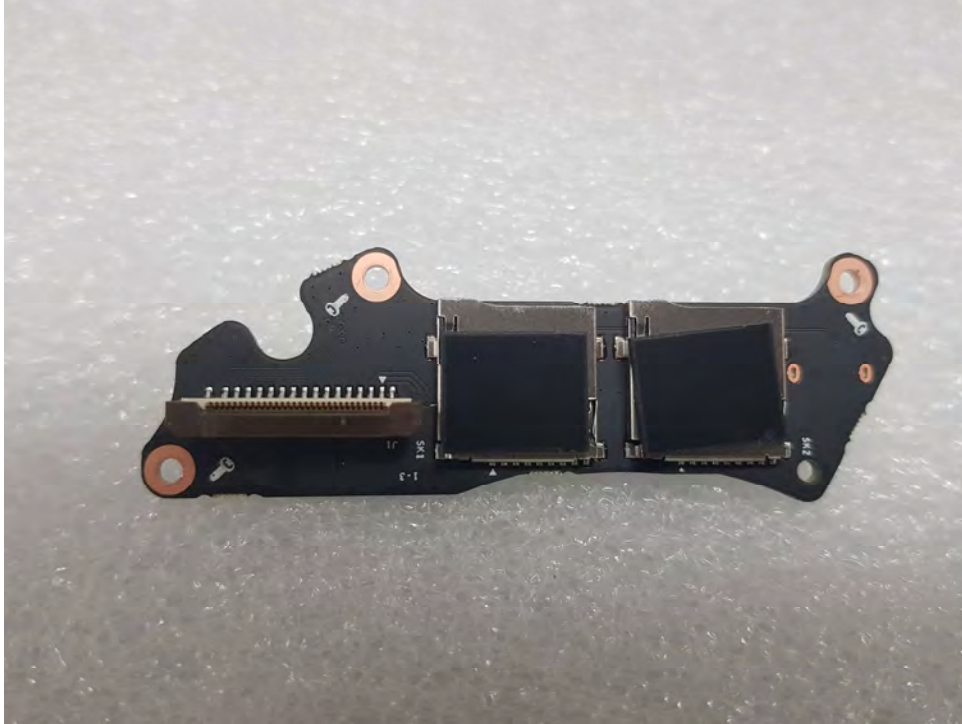
(Bottom)



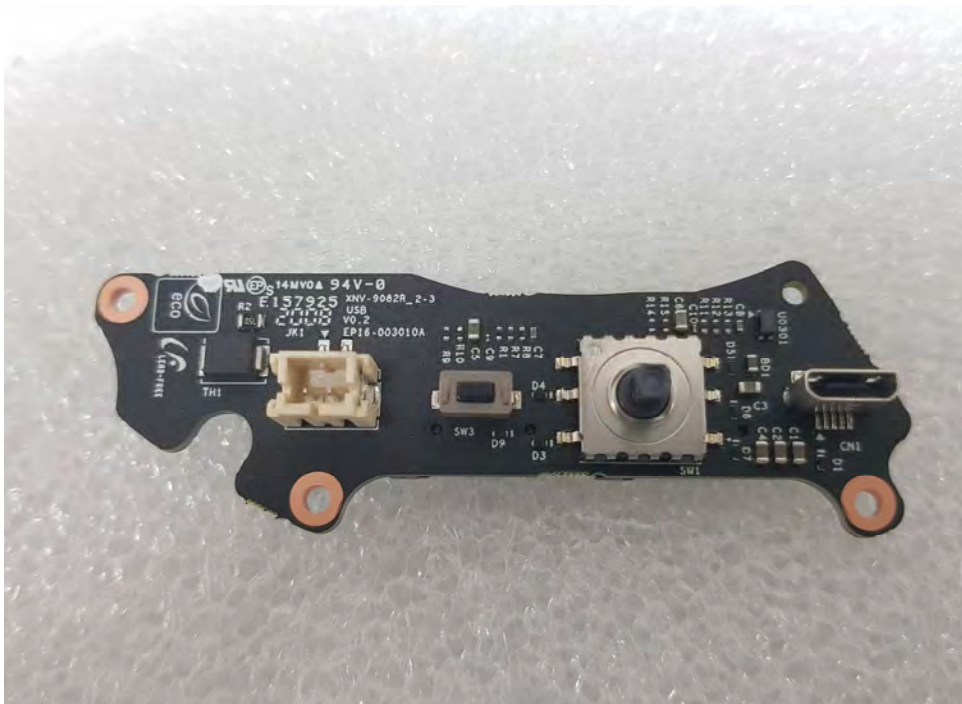
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## EUT Internal View – Board 2

(Top)



(Bottom)



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## EUT Internal View – Board 3

(Top)



(Bottom)



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## EUT Internal View – LENS

(Top)



(Bottom)



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