



TEST REPORT



Report No. : KES-EM254061

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KES Co., Ltd.

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1. Client

- Name : Hanwha Vision Co., Ltd.
- Address : 6, Pangyo-ro 319beon-gil, Bundang-gu, Seongnam-si, Gyeonggi-do, Republic of Korea

2. Sample Description

- Product item : NETWORK CAMERA
- Model name : XNV-A8016R
- Variant model : -
- Manufacturer etc. : HANWHA VISION VIETNAM COMPANY LIMITED
- Manufacturer address : Lot O-2, Que Vo Industrial Zone Extended Area, Nam Son Ward, Bac Ninh Province, Vietnam
- Manufacturer etc. : D-TECH CO.,LTD.
- Manufacturer address : 173-25, Saneop-ro, Gwonseon-gu, Suwon-si, Gyeonggi-do, Korea (Suwon Industrial Complex)

3. Date of test : 2025. 11. 21. ~ 2025. 11. 22.

4. Location of Test : Permanent Testing Lab
○ Address : 473-21, Gayeo-ro, Yeoju-si, Gyeonggi-do, 12658, Republic of Korea

5. Test method used : EN 55032:2015/A1:2020, EN 50130-4:2011/A1:2014

6. Test result : PASS

The results shown in this test report refer only to the sample(s) tested unless otherwise stated.
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This laboratory is not accredited for the test results marked *.
This test report is not related to KOLAS accreditation.

Affirmation	Tested by	Technical Manager by
	Name : EunGu Jeon	Name : DongHun Jang

2025. 12. 29.

KES Co., Ltd.

**REPORT REVISION HISTORY**

Date	Test Report No.	Revision History
2025. 12. 29.	KES-EM254061	Issued

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Use of uncertainty of measurement for decisions on conformity (decision rule):

- ☒ No decision rule is specified by the standard, when comparing the measurement result with the applicable limit according to the specification in that standard. The decisions on conformity are made without applying the measurement uncertainty ("simple acceptance" decision rule, previously known as "accuracy method").
- ☐ Other (to be specified, for example when required by the standard or client)



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1 Laboratory Information

1.1 Test Location

Category	Details
Address	473-21, Gayeo-ro, Yeosu-si, Gyeonggi-do, 12658, Republic of Korea
Telephone Number	031-883-5092
Facsimile Number	031-883-5169

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

1.2 Laboratory Accreditations and Listings

Country	Agency	Scope of Accreditation	Logo
KOREA	RRA	EMI (3 m & 10 m Semi-Anechoic Chamber and conducted test site) EMS (ESD, RS, EFT/Burst, Surge, CS, Magnetic, Dips and interruptions)	 KR0100
International	KOLAS	EMI (3 m & 10 m Semi-Anechoic Chamber and conducted test site) EMS (ESD, RS, EFT/Burst, Surge, CS, Magnetic, Dips and interruptions)	 KT489
USA	FCC	3 m & 10 m Semi-Anechoic Chamber Conducted test site to perform FCC Part 15/18 measurements.	 KR0100
Canada	ISED	3 m & 10 m Semi-Anechoic Chamber and Conducted test site	 23298
JAPAN	VCCI	EMI (3 m & 10 m Semi-Anechoic Chamber and conducted test site)	 C-20136, T-20137, R-20181, G-20176
Europe	TÜV SÜD	EMI (3 m & 10 m Semi-Anechoic Chamber and conducted test site) EMS (ESD, RS, EFT/Burst, Surge, CS, Magnetic, Dips and interruptions)	 CARAT 001633 0008



2 Test Summary

2.1 Class and Voltage

Test Class	Test Voltage
Class A	PoE

2.2 Summary of Test Results

Regulation
EMC Directive 2014/30/EU EMC Regulations SI 2016/1091

Test Item	Test Standard		Test Result	Remark
Conducted Emissions at Mains Power Ports	EN 55032:2015/A1:2020		N/A	NOTE 1
Conducted Emissions at Telecommunication Ports			PASS	-
Radiated Emissions(Below 1 GHz)			PASS	-
Radiated Emissions(Above 1 GHz)			PASS	-
Harmonic Current Emissions	EN IEC 61000-3-2:2019		N/A	NOTE 1
Voltage Fluctuations and Flicker	EN 61000-3-3:2013/A2:2021		N/A	NOTE 1
Electrostatic Discharge	EN 50130-4:2011/A1:2014	EN 61000-4-2:2009	PASS	-
Continuous RF electromagnetic field disturbances		EN IEC 61000-4-3:2020	PASS	-
Electrical Fast Transients/Bursts		EN 61000-4-4:2012	PASS	NOTE 1
Surge		EN 61000-4-5 :2014/A1:2017	PASS	NOTE 1
Continuous Induced RF Disturbances		EN IEC 61000-4-6:2023	PASS	NOTE 1
Voltage Dips and Interruptions		EN IEC 61000-4-11:2020	N/A	NOTE 1

* N/A: Not Applicable

(NOTE 1)The EUT uses PoE power, so it is not applicable.



2.3 Remarks when standards applied

N/A

2.4 Variant Model Differences

N/A

2.5 Device Modifications

N/A





3 General Product Description

Video		
Imaging Device	Size	1/2.8"
	Type	CMOS
Resolution		2592x1944, 2560x1440, 1920x1080, 1280x1024, 1280x960, 1280x720, 1024x768, 800x600, 800x448, 720x576, 720x480, 640x480, 640x360, 320x240, 320x180
Max. Framerate	H.265/H.264	30fps/25fps(60Hz/50Hz)
	MJPEG	30fps(@5MP Max. 5fps)
Min. Illumination (Lux)	Color(1/30sec, 30IRE)	0.015
	BW(1/30sec, 30IRE)	0.0015
Lens		
Focal Length (mm)		3.0
Zoom Ratio	Digital	None
Max Aperture Ratio (F number)	Wide	1.6
	Tele	1.6
Min. Object Distance		0.4m(1.31ft)
Focus Control		Manual
Lens Type		Fixed iris
Pan / Tilt / Rotate		
Pan / Tilt / Rotate Range	Pan	0°~351°
	Tilt	0°~64°
	Rotate	±90°
Operational		
Day & Night		Auto(ICR)
Backlight Compensation		BLC, HLC, WDR, SSDR
Wide Dynamic Range (dB)		120
Digital Noise Reduction		WiseNRⅡ(Based on AI engine), SSNRV
Digital Image Stabilization		Support
Defog		Support
Motion Detection	Quantity	8ea



	Shape	8point Polygonal zones
Privacy Masking	Quantity	32ea
	Shape	Polygonal zones
	Color / Option	Gray, Green, Red, Blue, Black, White, Mosaic, Purple, Yellow
	Dynamic Privacy Masking: Color / Option	Gray, Green, Red, Blue, Black, White, Mosaic, Purple, Yellow
Gain Control		Off, Max gain, Manual
White Balance		ATW, NarrowATW, AWC, Manual, Indoor, Outdoor
LDC		Support(Fill/stretch mode)
Electronic Shutter	Mode	Minimum, Maximum, Anti flicker, Prefer shutter control(Based on AI engine)
	Speed Range	2~1/30,000sec
Digital PTZ		Support
Video Rotation		Flip, Mirror, Hallway view(90°/270°)
Alarm Interface	Others	Support alarm I/O via optional I/O box
Alarm Triggers		Analytics, Network disconnect, Alarm input, App event, Time schedule, MQTT subscription, Day/Night, Storage disruption
Alarm Events When Alarm Trigger Occurred		File upload(image): e-mail/FTP/SFTP, File upload(video clip): FTP/SFTP, Notification: e-mail, Recording: SD/SDHC/SDXC or NAS recording at event triggers, Alarm output, Handover: PTZ preset, send message by HTTP/HTTPS/TCP, MQTT: publication
Audio In		Support via optional I/O box
Audio Out		Support via optional I/O box
Light Type		IR LED
Light Viewable Length	IR	25m (82.02ft)
IR Wavelength		850nm
Analytics		
Classified Object Type		Person, Face, Vehicle, License plate
Attributes	Person	Upper/Lower clothes color, Gender, Bag
	Vehicle	Type(car, bus, truck, motorcycle, bicycle), Color



	Face	Age, Gender, Face mask, Glasses
Re-ID		Person
Thumbnail		BestShot
Analytics Events	Based on AI Engine	Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit), Motion detection, Face mask detection, Social distancing detection, Slip & fall detection, Stopped vehicle, Virtual area(Loitering/Intrusion/Enter/Exit/Appear/Disappear)
	Normal	Defocus detection, Tampering, Audio detection
Business Intelligence	Based on AI Engine	People counting, Queue management, Heatmap, Vehicle counting, Crowd counting
Network		
Ethernet		Metal shielded RJ-45(10/100BASE-T)
Video Compression		H.265/H.264: Main/Baseline/High, MJPEG
Audio Compression		None
Smart Codec		Manual, WiseStream(Based on AI engine)
Bitrate Control		H.265/H.264: CBR or VBR, MJPEG: VBR, MJPEG: VBR
Streaming	Unicast	Up to 20 users
	Multicast	Support
	Multiple Streaming	Up to 5 profiles
Protocol		IPv4, IPv6, TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, FTP, SFTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, UPnP, Bonjour, LLDP, CDP, SRTP(TCP, UDP Unicast), MQTT, PIM-SM, SMTP(StartTLS), SIP, Syslog
SIP support (VoIP, Peer-to-peer, SIP/PBX integration)		Support
Application Programming Interface	ONVIF	S, G, T, M
	Others	SUNAPI(HTTP API), Hanwha Vision Open Platform



Direct Cloud Connection		Support
Security		
OS / Firmware Protect		Encrypted firmware, Secure boot, Signed firmware
User authentication		Digest authentication, Prevent brute-force attack
Network authentication		IEEE 802.1X(EAP-TLS, EAP-LEAP, EAP-PEAP, MSCHAPv2)
Secure Communication		HTTPS, WSS(WebSocket Secure), SRTP, 802.1AE(MACsec)
Access Control		IP-based access control, MAC-based access control, Auto logout
Data Protect		Encryption credentials, Encrypt compress for live recording file export
Audit		Access / System / Event Log management
Device ID		Device certificate(Hanwha Vision Root CA)
Secure Storage		SDcard partition encrypt(AES-256), Secure element
Supply Chain Security		SBOM
Security Certificate		Secure element(FIPS 140-3 level3, CC EAL6+), Consumer IoT Security Standard (ETSI EN 303 645)
General		
Memory	RAM	4GB
	Flash	8GB eMMC
Edge Storage	Micro SD/SDHC/SDXC	Max. 1TB x 1slot
Edge Storage(OnCloud)	Micro SD/SDHC/SDXC	Max. 1TB x 1slot *Hanwha Vision branded microSD cards have been certified and recommended for OnCloud edge recording.
Environmental & Electrical		
	Humidity	0~100% RH(condensing)
	Others	+74°C(+165°F)(Max) based on NEMA-TS 2(2.2.7), Start up should be done at above -30°C
Storage Condition	Temperature	-50°C~+60°C(-58°F~+140°F)
	Humidity	0~90% RH(non-condensing)
Input Voltage		PoE(IEEE802.3af, Class3)
Power Consumption	PoE	PoE: Max. 7.9W, typical 6.2W
Wisepower		Power monitoring, ECO mode
Mechanical		
Color		White
Material		Aluminum, Hard-coated dome
Material Management	Declaration	RoHS(EU RoHS directive 2011/65/EU and IEC/EN 63000:2018), REACH(Regulation (EC) No. 1907/2006), Conflict mineral policy(Section 1502 of US Dodd Frank Act)
	Recycle Rate	Recycled plastic %
RAL Code		RAL9003
Product Dimensions		Ø120x65.5mm(Ø4.72x2.58")
Product Weight		555g(1.22b)



4 EUT Setup and Operation Mode

4.1 EUT Configuration

Product Name	Model Number	Serial Number	Manufacturer	Remarks
NETWORK CAMERA	XNV-A8016R	-	HANWHA VISION VIETNAM COMPANY LIMITED	EUT
PoE Injector	PT-PSE109GBRO- AH-2	-	Dongguan PROCET Network Technology Co.,Ltd	-
Laptop	P95G001	9JM8HT2	DELL INC.	-
Laptop Adaptor	HA65NM130	-	Chicony Power Technology(Suzhou)C o.,Ltd.	-
Micro SD Card	-	-	SanDisk	-

4.2 System Configuration

Product Name	Model Number	Serial Number	Manufacturer	Remarks
-	-	-	-	-



4.3 External I/O Cabling

Start		End		Cable Spec.	
Product Name	I/O Port	Product Name	I/O Port	Length(m)	Shield
EUT	RJ-45 (PoE)	PoE Injector	RJ-45 (PoE)	3.5	U
	Micro SD Slot	Micro SD Card	Micro SD Slot	-	-
Laptop	RJ-45 (LAN)	PoE Injector	RJ-45 (LAN)	0.8	U
	DC Jack	Laptop Adaptor	DC Jack	1.6	U

* Unshielded=U, Shielded=S

4.4 EUT Operating Mode(s)

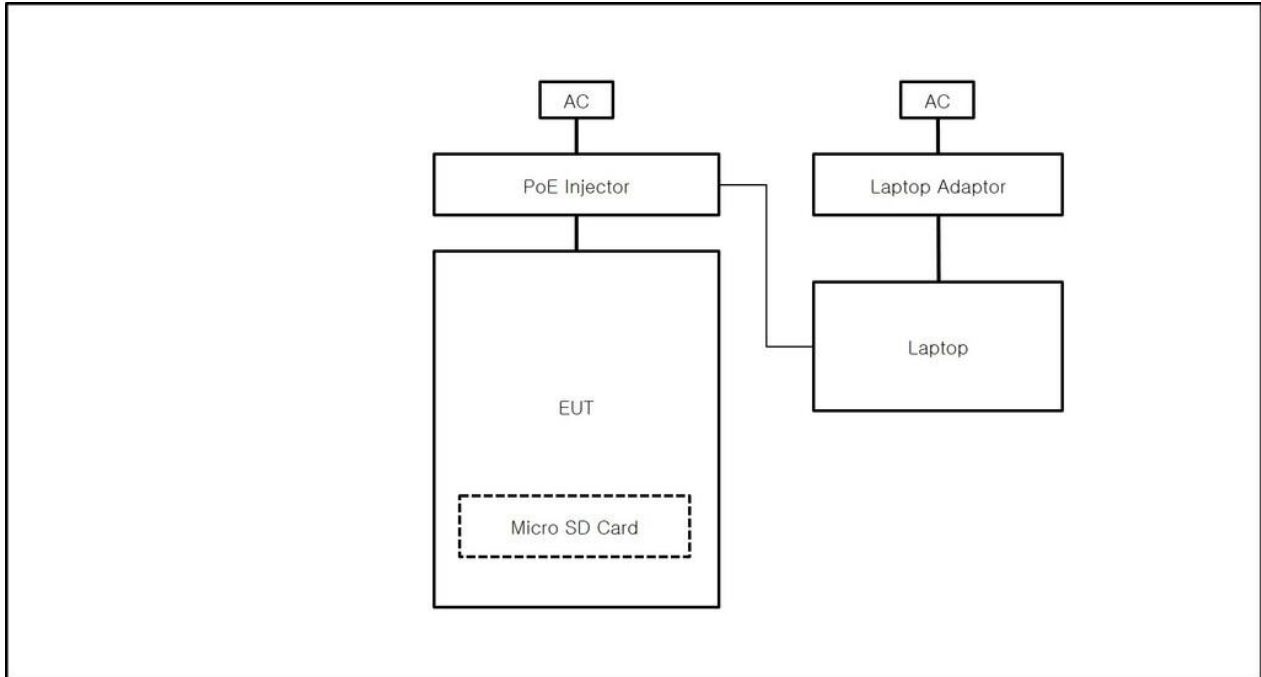
Category	Mode	Operating
Mode 1	Operation	- View images of the EUT through Web Viewer in Laptop. - Check the network of the EUT through Ping test on Laptop.

4.5 Test operating S/W

Name	Version	Manufacture Company
Web Viewer	-	Hanwha Vision Co., Ltd.



4.6 Configuration



Mode 1



5 General Performance Criteria

Criteria for compliance was based on the following guidelines:

EN 50130-4 Alarm systems-Part 4: Electromagnetic compatibility Product family standard: Immunity requirements for components of fire, intruder and social alarm systems

The variety and the diversity of the apparatus within the scope of this document makes it difficult to define precise criteria for the evaluation of the immunity test results.

If as a result of the application of the tests defined in this standard, the apparatus becomes dangerous or unsafe then the apparatus shall be deemed to have failed the test.

A functional description and a definition of performance by the manufacture and noted in the test report, based on the following criteria:

Electrostatic discharge

There shall be no damage, malfunction or change of status due to the conditioning.

Flickering of an indicator during the application of discharge is permissible, providing that is no residual change in the EUT or any change in outputs, which could be interpreted by associated equipment as a change.

Radiated electromagnetic fields

There shall be no damage, malfunction or change of status due to the conditioning.

Flickering of an indicator during the application of discharge is permissible, providing which could be interpreted by associated equipment as a change, and no such Flickering of indicators occurs at a field strength of 3 V/m.

For components of CCTV systems, where the picture is allowed at 10 V/m, providing.

(a) there is no permanent damage or change to EUT

(e.g. no corruption of memory or changes to programmable setting etc.)

(b) at 3 V/m, any deterioration of the picture is so minor that the system could still be used; and

(c) there is no observable deterioration of the picture at 1 V/m.

Fast transient burst / slow high energy voltage surge

There shall be no damage, malfunction or change of status due to the conditioning.

Flickering of an indicator during the application of discharge is permissible, providing

That there is no residual is permissible, providing that there is no residual change in the EUT or any change in outputs, which could be interpreted by associated equipment as a change.

**Conducted RF immunity**

There shall be no damage, malfunction or change of status due to the conditioning.

Flickering of an indicator during the application of discharge is permissible, providing

That there is no residual is permissible, providing that there is no residual change in the EUT or any

change in outputs, which could be interpreted by associated equipment as a change,

and no such flickering of indicators oeuvres at $U = 130 \text{ dB}\mu\text{V}$.

For component of CCTV systems, where the status is monitored by observing the TV picture,

then deterioration of the picture is allowed at $U = 140 \text{ dB}\mu\text{V}$, providing:

(a) there is no permanent damage or change to the EUT

(e.g. no corruption of memory or changes to programmable settings etc.)

(b) at $U = 130 \text{ dB}\mu\text{V}$, any deterioration of the picture is so minor that the system could still be used; and

(c) there in no observable deterioration of the picture at $U = 120 \text{ dB}\mu\text{V}$.

Voltage dip/interruption / Voltage variation

There shall be no damage, malfunction or change of status due to the conditioning.

Flickering of an indicator during the conditioning is permissible, providing that there is no residual

change in the EUT or any change in outputs, which could be interpreted by associated equipment

as a change. The EUT shall meet the acceptance criteria for the functional test, after the conditioning.

◆ Calculation**- Conducted Emissions**

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))

- Radiated Emissions(Below 1 GHz)

Result(QP) [dB($\mu\text{V}/\text{m}$)] = (Reading(QP)[dB(μV)] + c.f[dB(1/m)])

Margin(QP)[dB] = Limit[dB($\mu\text{V}/\text{m}$)] - Result(QP) [dB($\mu\text{V}/\text{m}$)]

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 Emissions(Above 1 GHz)

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

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

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

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



6 Test Item

6.1 Conducted Emissions at Telecommunication Ports

6.1.1 Test Equipment

Equipment Name	Model Number	Manufacturer	Serial No.	Cal. Date	Next Cal. Date	Used
SHIELD ROOM #6	-	DYMSTEC	-	-	-	■
EMC32 Measurement Software	EMC32	R&S	9.12.00	-	-	■
EMI TEST RECEIVER	ESR3	Rohde & Schwarz	101783	2025-11-03	2026-11-03	■
LISN	ENV216	Rohde & Schwarz	101786	2025-01-09	2026-01-09	■
ARTIFICIAL MAINS NETWORK	ESH2-Z5	Rohde & Schwarz	100450	2025-11-03	2026-11-03	■
PULSE LIMITER	ESH3-Z2	Rohde & Schwarz	101915	2025-11-03	2026-11-03	■
8-WIRE ISN CAT6	ENY81-CAT6	Rohde & Schwarz	101666	2025-02-27	2026-02-27	■

6.1.2 Test Location : SHIELD ROOM #6

6.1.3 Test Conditions :

Temperature	Relative Humidity
(22.3 ~ 22.4) °C	(35.7 ~ 35.8) % R.H.



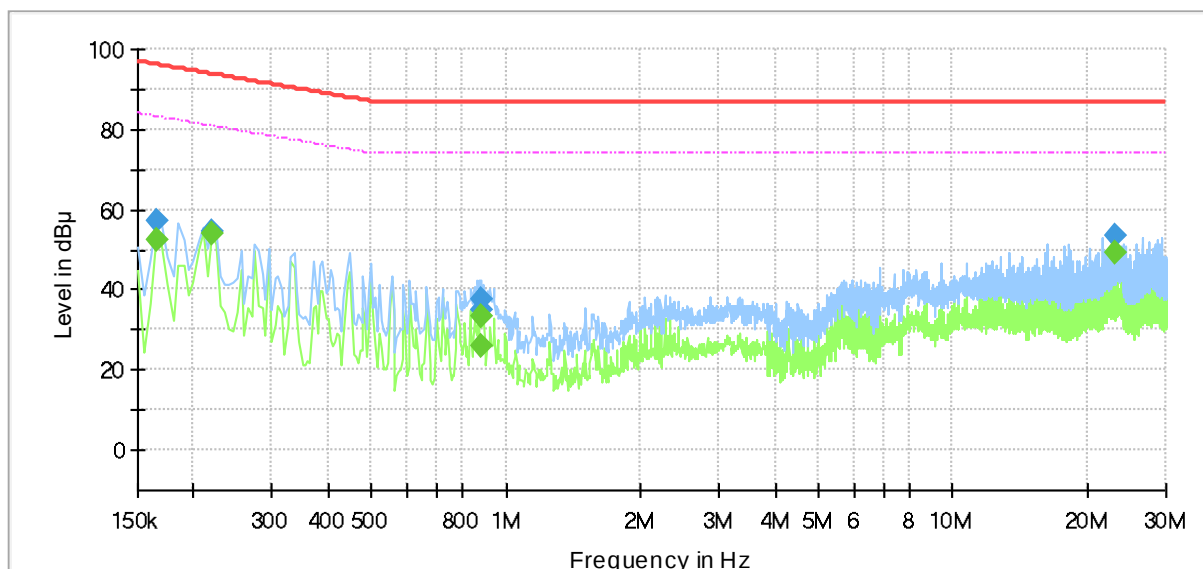
6.1.4 Test Result

- Test Date : 2025-11-21
- Test Mode : Mode 1

Test Report

Common Information

Test Description: Telecommunication Emission
Job No.: KES-EM254061
Mode :
Speed : 100 Mbps
Operator Name: KES



Final_Result

Frequency (MHz)	QuasiPeak (dB μV)	CAverage (dB μV)	Limit (dB μV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.165000	—	52.55	83.21	30.66	1000.0	9.000	Single Line	19.7
0.165000	57.04	—	96.21	39.17	1000.0	9.000	Single Line	19.7
0.220000	—	53.80	80.82	27.02	1000.0	9.000	Single Line	19.6
0.220000	54.70	—	93.82	39.12	1000.0	9.000	Single Line	19.6
0.880000	—	25.81	74.00	48.19	1000.0	9.000	Single Line	19.3
0.880000	35.12	—	87.00	51.88	1000.0	9.000	Single Line	19.3
0.885000	—	33.33	74.00	40.67	1000.0	9.000	Single Line	19.3
0.885000	37.79	—	87.00	49.21	1000.0	9.000	Single Line	19.3
23.130000	—	49.05	74.00	24.95	1000.0	9.000	Single Line	19.9
23.130000	53.27	—	87.00	33.73	1000.0	9.000	Single Line	19.9

6.1.5 Remark

Complies with the test requirements.



6.2 Radiated Emissions(Below 1 GHz)

6.2.1 Test Equipment

Equipment Name	Model Number	Manufacturer	Serial No.	Cal. Date	Next Cal. Date	Used
SEMI ANECHOIC CHAMBER #4(10 m)	-	DYMSTEC	-	-	-	■
EP5/RE Software	EP5/RE	TOYO	6.0.0	-	-	■
EMI TEST RECEIVER	ESU26	Rohde & Schwarz	100551	2025-02-13	2026-02-13	■
AMPLIFIER	SCU 01	Rohde & Schwarz	100603	2025-11-03	2026-11-03	■
BILOG ANTENNA	VULB 9168	SCHWARZBEC K	9168-461	2024-05-09	2026-05-09	■
ATTENUATOR	6806.17.A	HUBER+SUHNE R	-	2025-02-13	2026-02-13	■

6.2.2 Test Location : SEMI ANECHOIC CHAMBER #4(10 m) Measurement Distance : □ 3 m, ■ 10 m

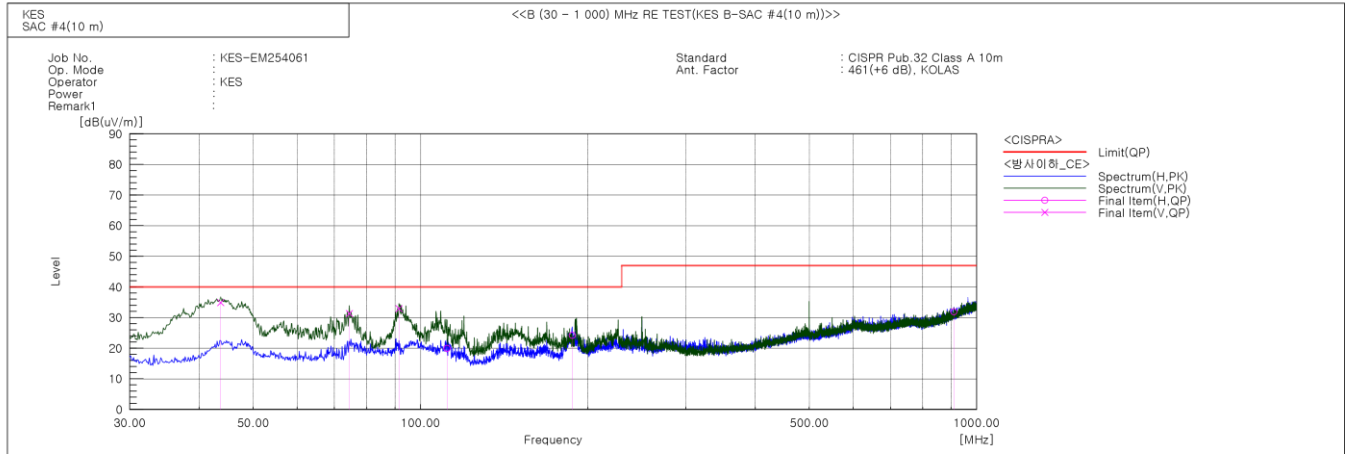
6.2.3 Test Conditions :

Temperature	Relative Humidity
(19.6 ~ 19.7) °C	(36.8 ~ 36.9) % R.H.



6.2.4 Test Result

- Test Date : 2025-11-21
- Test Mode : Mode 1



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	43.701	V	55.8	-20.9	34.9	40.0	5.1	121.0	348.0	
2	74.499	V	55.0	-23.7	31.3	40.0	8.7	133.0	33.0	
3	91.474	V	58.7	-25.8	32.9	40.0	7.1	162.0	250.0	
4	111.601	H	43.0	-23.1	19.9	40.0	20.1	316.0	359.0	
5	187.504	H	45.7	-21.5	24.2	40.0	15.8	374.0	163.0	
6	909.911	H	34.1	-2.2	31.9	47.0	15.1	392.0	182.0	

※ The data is the result measured by the detector in Quasi-Peak mode on the Peak graph.

6.2.5 Remark

Complies with the test requirements.



6.3 Radiated Emissions(Above 1 GHz)

6.3.1 Test Equipment

Equipment Name	Model Number	Manufacturer	Serial No.	Cal. Date	Next Cal. Date	Used
SEMI ANECHOIC CHAMBER #5	-	SY Corporation	-	-	-	■
ES10/RE Software	ES10/RE	TOYO	2022.01.000	-	-	■
EMI TEST RECEIVER	ESU26	Rohde & Schwarz	100552	2025-02-13	2026-02-13	■
PREAMPLIFIER	8449B	HP	3008A00538	2025-04-30	2026-04-30	■
HORN ANTENNA	BBHA 9120D	SCHWARZBEC K	9120D-1802	2025-11-05	2026-11-05	■
ATTENUATOR	8491B	HP	23094	2025-02-13	2026-02-13	■

6.3.2 Test Location : SEMI ANECHOIC CHAMBER #5

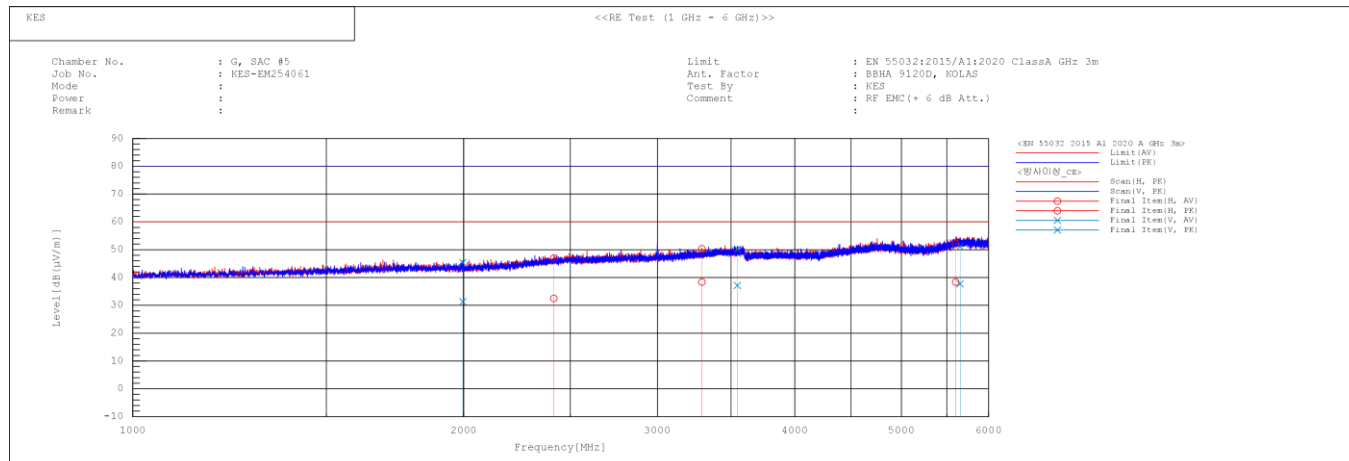
6.3.3 Test Conditions :

Temperature	Relative Humidity
(23.1 ~ 23.2) °C	(36.9 ~ 37.0) % R.H.



6.3.4 Test Result

- Test Date : 2025-11-21
- Test Mode : Mode 1



- ※ The data is the result of measured by the detector in PK and CISPR Average on the Peak graph.
- ※ The Average of the test data is the cispr average result.

6.3.5 Remark

Complies with the test requirements.



6.4 Electrostatic Discharge

6.4.1 Test Equipment

Equipment Name	Model Number	Manufacturer	Serial No.	Cal. Date	Next Cal. Date	Used
SHIELD ROOM #6	-	DYMSTEC	-	-	-	■
ESD SIMULATOR	ESS-2000	NoiseKen	ESS01Z0454	2025-01-21	2026-01-21	■
HCP	-	KES	-	-	-	■
VCP	-	Noise Ken	-	-	-	■

6.4.2 Test Location : SHIELD ROOM #6

6.4.3 Test Conditions :

Temperature	Relative Humidity
Temperature(15 ~ 35) °C	(22.3 ~ 22.4) °C
Relative Humidity(30 ~ 60) % R.H.	(35.7 ~ 35.8) % R.H.
Atmospheric Pressure(86 ~ 106) kPa	(100.9 ~ 100.9) kPa

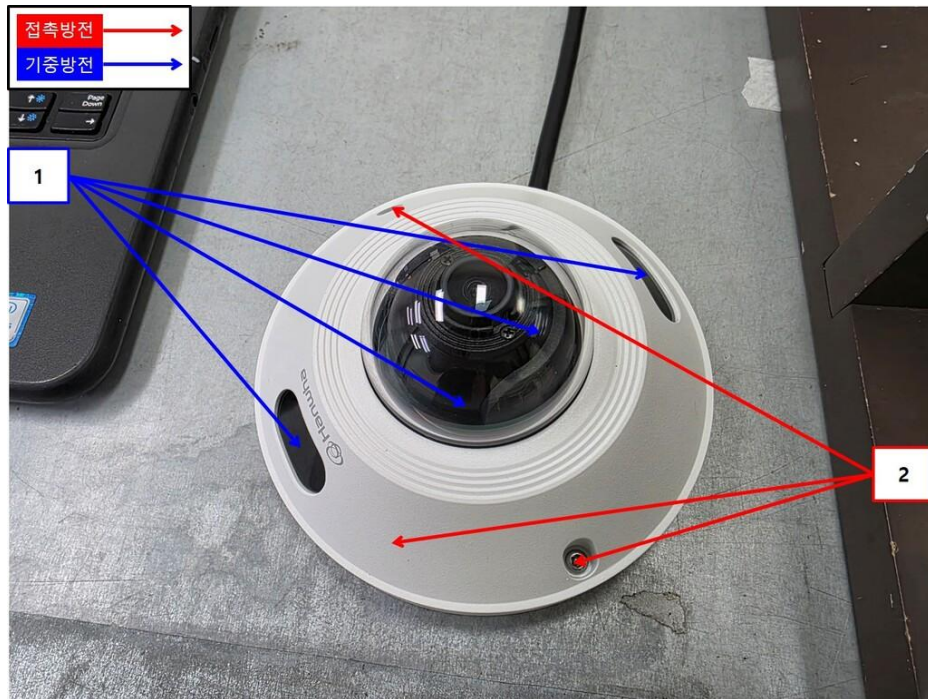
6.4.4 Test Specifications :

Discharge Factor	: 1 s
Discharge Impedance	: 330 Ω / 150 pF
Kind of Discharge	: Direct Discharge - Contact Discharge, Air Discharge Indirect Discharge - HCP, VCP
Polarity	: Positive and Negative
Number of Discharge	: 10 at all locations for Contact Discharge, 10 at all locations for Air Discharge
Performance Criteria	: Complied
Discharge Voltage	:

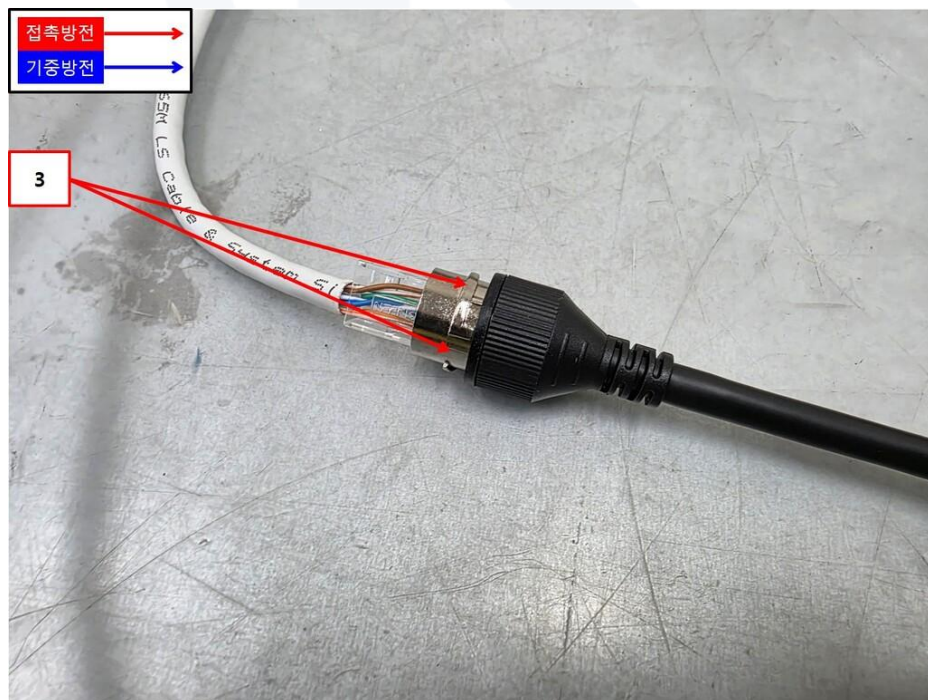
Type	Direct Discharge		Indirect Discharge	
	Contact Discharge	Air Discharge	Horizontal Coupling Plane	Vertical Coupling Plane
Test Voltage	-	± 2 kV	-	-
	± 6 kV	± 4 kV	± 6 kV	± 6 kV
	-	± 8 kV	-	-



6.4.5 Location of Discharge



<Location of Discharge-1>



<Location of Discharge-2>



6.4.6 Test Result

- Test Date : 2025-11-21
- Test Mode : Mode 1

○ Indirect Discharge

No.	Test Point	Discharge Method	Observations	Remarks
1	HCP Contact	Contact Discharge	Complied	-
2	VCP Contact	Contact Discharge	Complied	-

○ Direct Discharge

No.	Test Point	Discharge Method	Observations	Remarks
1	Enclosure1	Air Discharge	Complied	-
2	Enclosure2, Screw	Contact Discharge	Complied	-
3	Port	Contact Discharge	Complied	-

6.4.7 Remark

No loss of performance of function.





6.5 Continuous RF electromagnetic field disturbances

6.5.1 Test Equipment

Equipment Name	Model Number	Manufacturer	Serial No.	Cal. Date	Next Cal. Date	Used
SEMI ANECHOIC CHAMBER #3	-	DYMSTEC	-	-	-	■
EMC32 Measurement Software	EMC32	R&S	10.10.02	-	-	■
SIGNAL GENERATOR	SMB 100A	Rohde & Schwarz	108252	2025-07-28	2026-07-28	■
HIGH POWER DUAL AMP	SSA532	SUNGSAN	SSA532-001	-	-	■
POWER METER	E4419B	Agilent	GB40203000	2025-02-13	2026-02-13	■
DOUBLE RIDGED HORN ANTENNA	SAS-571	A.H. SYSTEM,INC	781	2025-03-05	2026-03-05	■
AVERAGE POWER SENSOR	E9301A	Agilent	MY52170007	2025-02-13	2026-02-13	■
AVERAGE POWER SENSOR	E9301A	Agilent	MY41498669	2025-02-13	2026-02-13	■
STACKED DOUBLE LOG-PER- ANTENNA	STPL9128 E	SCHWARZBEC K	9128ES-121	-	-	■

6.5.2 Test Location : SEMI ANECHOIC CHAMBER #3

6.5.3 Test Conditions :

Temperature	Relative Humidity
(19.7 ~ 19.9) °C	(36.1 ~ 36.3) % R.H.



6.5.4 Test Specifications :

Antenna Polarization	:	Horizontal & Vertical unless indicated otherwise
Antenna Distance	:	3 m
Field Strength	:	10 V/m (rms)
Frequency Range	:	80 MHz ~ 2.7 GHz
Modulation	:	AM 80 %, 1 kHz, Sine wave PM 1 Hz (0.5 s ON : 0.5 s OFF)
Dwell Time	:	3 s
Frequency Step	:	1 %
Application method	:	4
Performance Criteria	:	Complied



6.5.5 Test Result

- Test Date : 2025-11-22
- Test Mode : Mode 1
- Enclosure Port

Side Exposed	Observations	
	Horizontal	Vertical
Front	Complied	Complied
Rear	Complied	Complied
Right	Complied	Complied
Left	Complied	Complied

6.5.6 Remark

No loss of performance of function.



6.6 Electrical Fast Transients/Bursts

6.6.1 Test Equipment

Equipment Name	Model Number	Manufacturer	Serial No.	Cal. Date	Next Cal. Date	Used
SHIELD ROOM #7	-	DYMSTEC	-	-	-	■
iec.control Software	iec.control	EM TEST	5.4.8	-	-	■
ULTRA COMPACT SIMULATOR	UCS 500N7	EM TEST	P1608172950	2025-11-05	2026-11-05	■
MOTOR VARIAC	MV 2616	EM TEST	P1552169719	2025-11-05	2026-11-05	■
CAPACITIVE COUPLING CLAMP	HFK	EM TEST	P1633183115	2025-11-05	2026-11-05	■

6.6.2 Test Location : SHIELD ROOM #7

6.6.3 Test Conditions :

Temperature	Relative Humidity
(21.7 ~ 21.8) °C	(36.0 ~ 36.1) % R.H.

6.6.4 Test Specifications :

Pulse Amplitude & Polarity	: Input a.c power ports ± 2.0 kV Other supply and Signal ports ± 1 kV
Repetition Rate	: 100 kHz
Impulse Rise Time	: 5 ns ± 30 %
Impulse Period	: 50 ns ± 30 %
Burst Duration	: 15 ms ± 20 %
Burst Period	: 300 ms ± 20 %
Duration of Test Voltage	: 1 min
Application Method	: a.c / d.c power ports (Coupling / Decoupling Network) Other than a.c / d.c power poerts (Capacitive Coupling Clamp)
Performance Criteria	: Complied



6.6.5 Test Result

- Test Date : 2025-11-22
- Test Mode : Mode 1

- Input a.c power ports

Mode of Application	Observations	
	(+) Burst	(-) Burst
N/A	-	-

- Input d.c power ports

Mode of Application	Observations	
	(+) Burst	(-) Burst
N/A	-	-

- Signal ports and telecommunication ports

Mode of Application	Observations	
	(+) Burst	(-) Burst
RJ-45(PoE)	Complied	Complied

6.6.6 Remark

No loss of performance of function.



6.7 Surge

6.7.1 Test Equipment

Equipment Name	Model Number	Manufacturer	Serial No.	Cal. Date	Next Cal. Date	Used
SHIELD ROOM #7	-	DYMSTEC	-	-	-	■
iec.control Software	iec.control	EM TEST	5.4.8	-	-	■
ULTRA COMPACT SIMULATOR	UCS 500N7	EM TEST	P1608172950	2025-11-05	2026-11-05	■
MOTOR VARIAC	MV 2616	EM TEST	P1552169719	2025-11-05	2026-11-05	■
CDN	CNV 508N1	EM TEST	P1610176296	2025-11-05	2026-11-05	■

6.7.2 Test Location : SHIELD ROOM #7

6.7.3 Test Conditions :

Temperature	Relative Humidity
(21.7 ~ 21.9) °C	(36.0 ~ 36.2) % R.H.

6.7.4 Test Specifications :

Surge	: Input a.c power ports	Line to Line ±0.5 kV, ±1.0 kV
		Line to Ground ±0.5 kV, ±1.0 kV, ±2.0 kV
	Other supply / Signal lines	Line to Ground ±0.5 kV, ±1.0 kV
Input a.c / Other supply / Signal lines		
Open-Circuit Voltage Waveform	: 1.2/50 μs	
Short-Circuit Current Waveform	: 8/20 μs	
Number of Applications	: Apply 5 surges for each polarity	
Phase Angle	: 0° ~ 270° (input a.c. power port)	
Polarity	: Positive and Negative	
Repetition Rate	: 1 surge per 30 s	
Performance Criteria	: Complied	



6.7.5 Test Result

○ Test Date : 2025-11-22

● Test Mode : Mode 1

○ Input a.c power ports

Mode of Application	Observations	
	(+) Surge	(-) Surge
N/A	-	-

○ Signal ports and telecommunication ports

Mode of Application	Coupling Method	Observations	
		(+) Surge	(-) Surge
RJ-45(PoE)	CDN	Complied	Complied
RJ-45(PoE)	LINE	Complied	Complied

6.7.6 Remark

No loss of performance of function.



6.8 Continuous Induced RF Disturbances

6.8.1 Test Equipment

Equipment Name	Model Number	Manufacturer	Serial No.	Cal. Date	Next Cal. Date	Used
SHIELD ROOM #7	-	DYMSTEC	-	-	-	■
icd.control Software	icd.control	EM TEST	8.0.0	-	-	■
TEST SYSTEM FOR CONDUCTED AND RADIATED	NSG4070	TESEQ	65585	2025-11-03	2026-11-03	■
ATTENUATOR	ATT 6/80	EM TEST	P1614178148	2025-11-03	2026-11-03	■
CDN	CDN M016	TESEQ	43694	2025-11-03	2026-11-03	■
CDN	CDN M016	TESEQ	43697	2025-11-03	2026-11-03	■
CDN	CDN T8 RJ45	SCHWARZBEC K	00103	2025-07-07	2026-07-07	■

6.8.2 Test Location : SHIELD ROOM #7

6.8.3 Test Conditions :

Temperature	Relative Humidity
(21.6 ~ 21.8)°C	(36.5 ~ 36.7) % R.H.

6.8.4 Test Specifications

Frequency range and Voltage Level	:	0.15 MHz ~ 100 MHz : 10 V(r.m.s)
Modulation	:	AM 80 %, 1 kHz, Sine wave PM 1 Hz (0.5 s ON : 0.5 s OFF)
Dwell Time	:	3 s
Frequency Step	:	1 %
Performance Criteria	:	Complied



6.8.5 Test Result

- Test Date : 2025-11-21
- Test Mode : Mode 1
- Input a.c power ports

Coupling Location (Line Stressed)	Coupling Method	Observations
N/A	-	-

- Input d.c power ports

Coupling Location (Line Stressed)	Coupling Method	Observations
N/A	-	-

- Signal ports and telecommunication ports

Coupling Location (Line Stressed)	Coupling Method	Observations
RJ-45(PoE)	CDN	Complied

6.8.6 Remark

No loss of performance of function.



7 Test Setup Photos and EUT Photographs

7.1 Test Setup Photos



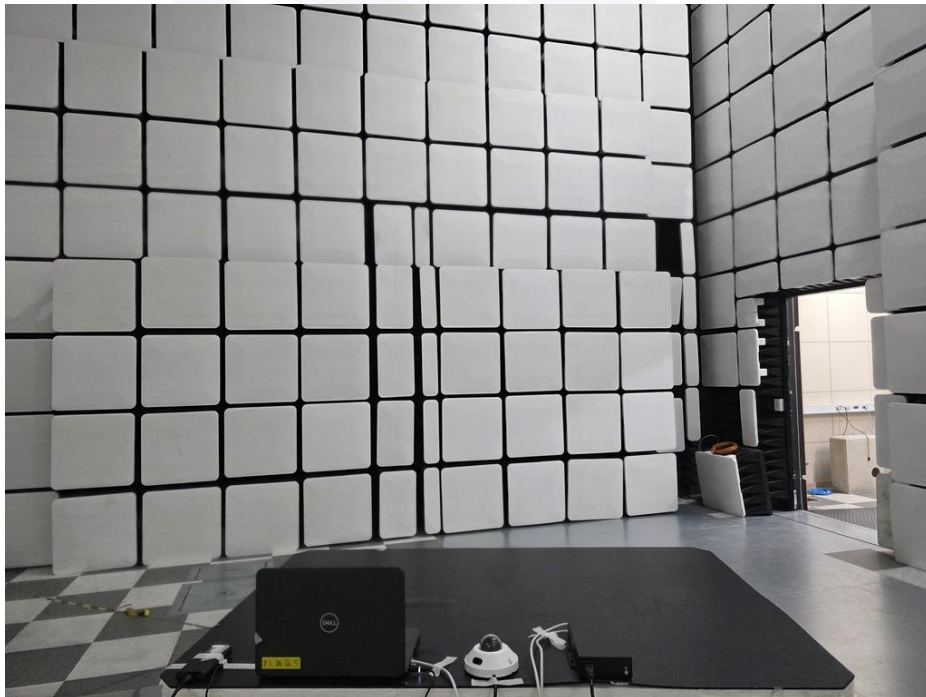
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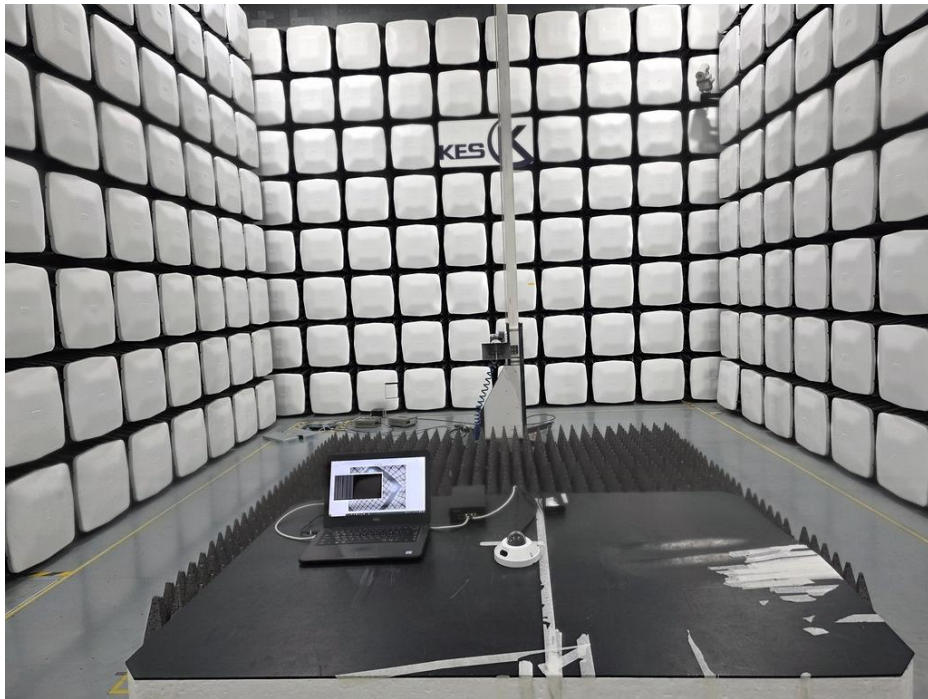
<Conducted Emissions at Telecommunication Ports - Rear>



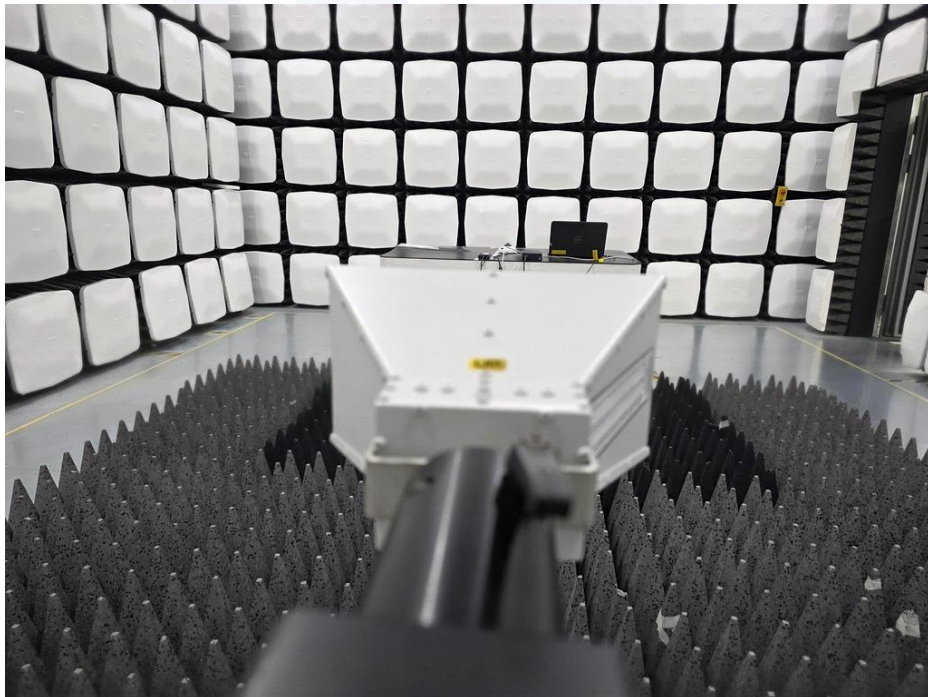
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<Radiated Emissions(Below 1 GHz) - Rear>



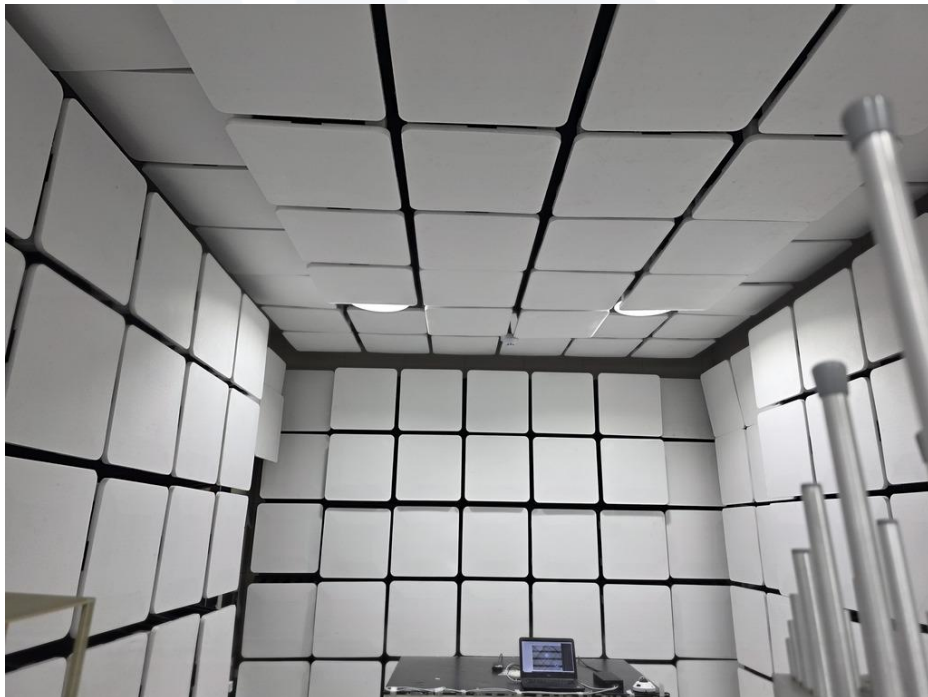
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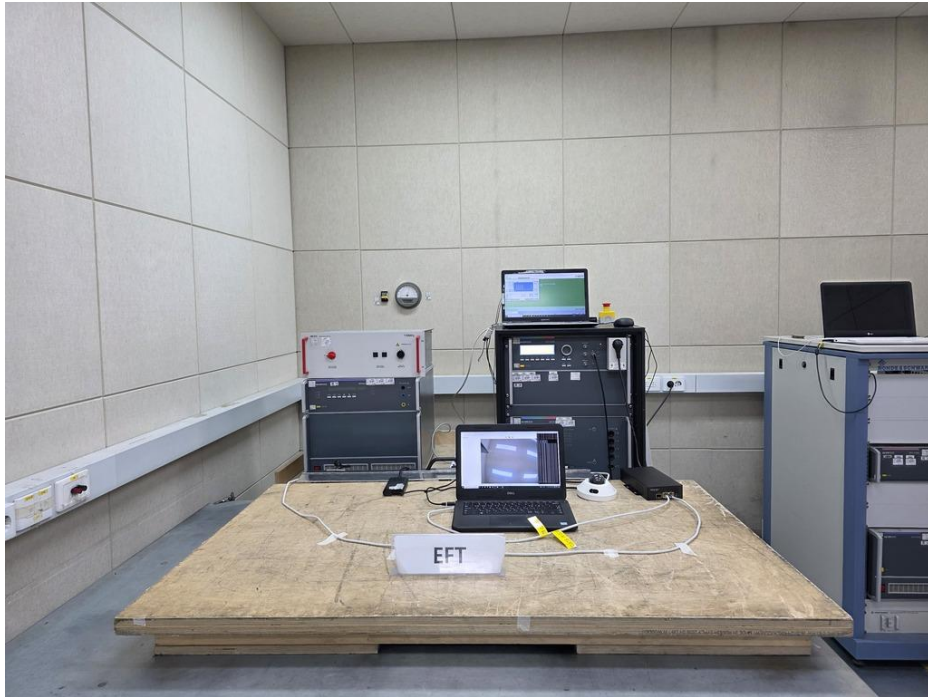
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<Electrostatic Discharge>



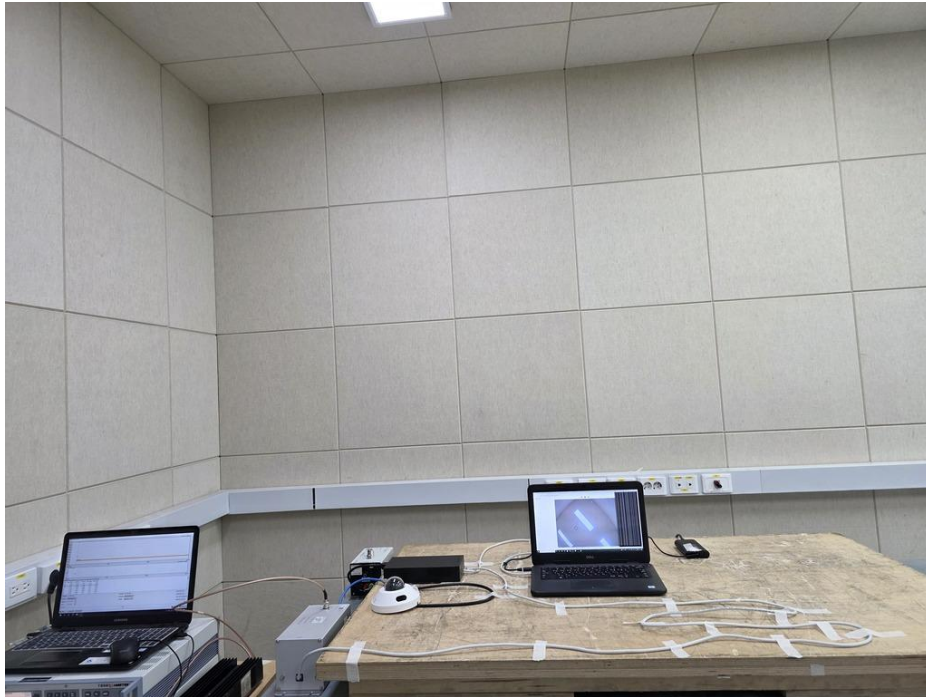
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<Electrical Fast Transients/Bursts>



<Surge>



<Continuous Induced RF Disturbances>



7.2 EUT Photographs



<EUT External Photographs - Top>



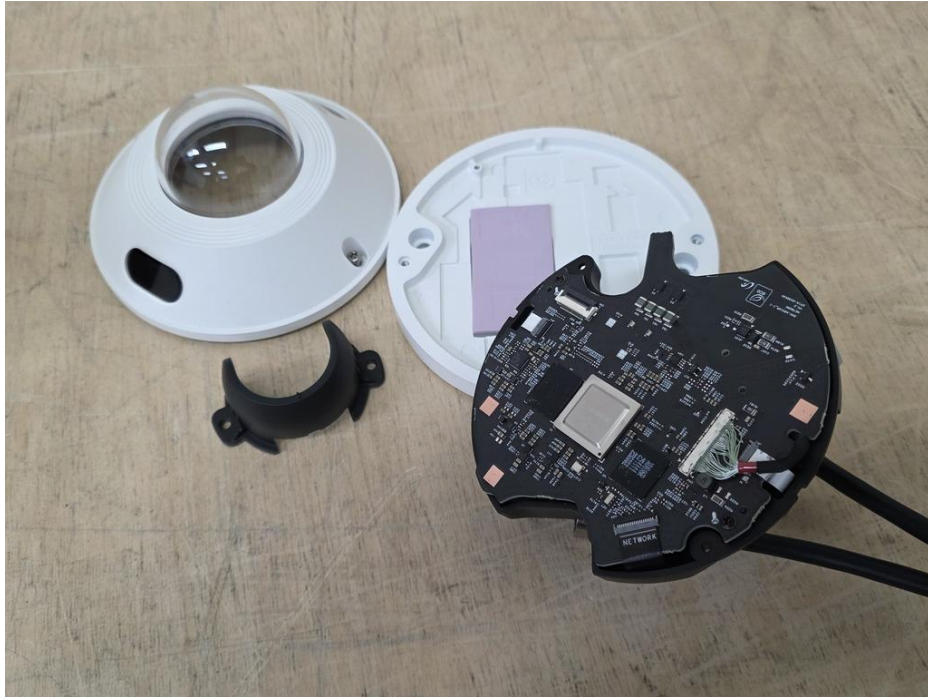
<EUT External Photographs - Bottom>



<Port-1>



<Port-2>



<EUT Internal Photographs>



7.3 Label



Name : Hanwha Vision Co., Ltd.
Product item : NETWORK CAMERA
Model name : XNV-A8016R

The End.

