



# TEST REPORT



Report No. : KES-EM250774

Page 1 / 40

**KES Co., Ltd.**

#3002, #3503, #3701, 40, Simin-daero365beon-gil, Dongan-gu, Anyang-si, Gyeonggi-do, 14057, Republic of Korea  
Tel : +82-31-425-6200, Fax : +82-31-341-3838

## 1. Client

Applicant : Hanwha Vision Co., Ltd

Applicant Address : 6, Pangyo-ro 319Beon-gil, Bundang-gu, Seongnam-si, Gyeonggi-do, Republic of Korea

## 2. Sample Description

Product name : NETWORK CAMERA

Model/Type No. : PNM-C19183RVTP

Variant Model : -

Manufacturer : 1. HANWHA VISION VIETNAM COMPANY LIMITED  
2. D-TECH CO.,LTD.

Manufacturer Address : 1. Lot O-2, Que Vo Industrial Zone extended Area, Nam Son Ward, Bac Ninh City, Bac Ninh Province, Vietnam  
2. 173-25, Saneop-ro, Gwonseon-gu, Suwon-si, Gyeonggi- do, Korea (Suwon Industrial Complex)

3. Date of Receipt : Mar. 04, 2025

4. Test date : Mar. 12, 2025 ~ Mar. 13, 2025

5. Date of Issue : Apr. 09, 2025

6. Test Results : In Compliance

*Tested by*

*Reviewed by*

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Dong Hyun, Won  
EMC Test Engineer

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Dong Hun, Jang  
EMC Technical Manager

This test report is not related to KS Q ISO/IEC 17025 and KOLAS.

KES-QP16-F01(00-23-01-01)

KES Co., Ltd.

The authenticity of this test report can be found on the verification page of our website ([www.kes.co.kr](http://www.kes.co.kr))



REPORT REVISION HISTORY

Date	Test Report No.	Revision History
Apr. 09, 2025	KES-EM250774	Issued

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## TABLE OF CONTENTS

1.0	General Product Description .....	4
1.1	Test Voltage & Frequency .....	7
1.2	Variant Model Differences .....	7
1.3	Device Modifications .....	7
1.4	Equipment Under Test .....	7
1.5	Support Equipments .....	7
1.6	External I/O Cabling .....	8
1.7	EUT Operating Mode(s) .....	8
1.8	Configuration .....	9
1.9	Remarks when standards applied .....	10
1.10	Calibration Details of Equipment Used for Measurement .....	10
1.11	Test Facility .....	10
1.12	Laboratory Accreditations and Listings .....	11
2.0	Test Regulations .....	12
2.1	Conducted Emissions at Mains Power Ports .....	13
2.2	Radiated Electric Field Emissions(Below 1 GHz) .....	15
2.3	Radiated Electric Field Emissions(Above 1 GHz) .....	17
APPENDIX A – TEST DATA .....		19
Conducted Emissions at Mains Power Ports .....		19
Radiated Electric Field Emissions(Below 1 GHz) .....		21
Radiated Electric Field Emissions(Above 1 GHz) .....		23
Test Setup Photos and Configuration .....		25
Conducted Emissions at Mains Power Ports .....		25
Radiated Electric Field Emissions(Below 1 GHz) .....		26
Radiated Electric Field Emissions(Above 1 GHz) .....		26
EUT External Photographs .....		27
EUT Internal Photographs .....		29



Report No. : KES-EM250774

## 1.0 General Product Description

**Main Specifications of EUT are:**

Spec Display Name	3CH camera	PTZ
<b>Video</b>		
Imaging Device	1/2.8" CMOS: each CH	1/2.8"
Resolution	2592x1944, 2560x1440, 1920x1080, 1280x960, 1280x720, 800x600, 800x448, 720x576, 720x480, 640x480, 640x360, 320x240	2592x1520, 2560x1440, 1920x1080, 1280x1024, 1280x960, 1280x720, 1024x768, 800x600, 800x448, 720x576, 720x480, 640x480, 640x360, 320x240
Max. Framerate	H.265/H.264: Max. 30fps/25fps (60Hz/50Hz) MJPEG: Max. 30fps/25fps (60Hz/50Hz) (@5MP Max. 5fps)	H.265/H.264: Max. 30fps/25fps (60Hz/50Hz) MJPEG: Max. 30fps/25fps (60Hz/50Hz) (@4MP Max. 5fps)
NETD	None	None
Pixel Size	None	None
Min. Illumination	Color: 0.08Lux (F2.0, 1/30sec) BW: 0.007Lux (F2.0, 1/30sec, 30IRE), 0Lux(IR LED on)	Color: 0.05Lux(F2.0, 1/30sec, 30IRE) BW: 0.005Lux(F2.0, 1/30sec, 30IRE)
Video Out	USB: Micro USB Type C, 1280x720 for installation	None
Video Transmission Distance	None	
<b>Lens</b>		
Focal Length (Zoom Ratio)	2.4mm	5.42~98.29mm(18x) zoom
Max. Aperture Ratio	F2.0	F2.0(Wide)~F3.27(Tele)
Angular Field of View	[5M] H: 123°/ V: 91°/ D: 159°	H: 53.1°(Wide)~3.39°(Tele) V: 31.75°(Wide)~1.98°(Tele) D: 60.8°(Wide)~3.92°(Tele)
Min. Object Distance	0.5m(1.64ft)	5.0m(16.40ft)
Focus Control	Fixed Focal	Oneshot AF, Focus save
Lens Type	Fixed Iris	auto iris(DC with hall sensor)
Mount Type	M12	None
Optional Lens	None	None
<b>Pan / Tilt / Rotate</b>		
Pan / Tilt / Rotate Range	None	-
Pan Range	None	360° Endless
Pan Speed	None	600°/sec, Manual: 0.024°/sec~250°/sec
Tilt Range	None	0°~90°
Tilt Speed	None	Max: 500°/sec, Manual: 0.024°/sec~250°/sec
Rotate Range	None	None
Sequence	None	Preset(300ea), Swing, Group(6ea), Trace, Tour, Auto Run, Schedule
Preset Accuracy	None	Up to ±0.2°
<b>Operational</b>		
Camera Title	Displayed up to 85 characters	
Direction Indicator	None	Support
Day & Night	Auto(ICR)	
Backlight Compensation	BLC, WDR, SDR	BLC, HLC, WDR, SDR
Wide Dynamic Range	extremeWDR(120dB)	
Digital Noise Reduction	WiseNRII(Based on AI engine), SSNR V	
Digital Image Stabilization	None	Support
Defog	Support	Support
Motion Detection	8ea, 8point Polygonal zones	
Privacy Masking	12ea(4 per ch), 4point quadrangle zones - Color: Grey/Green/Red/Blue/Black/White	12ea, 4point quadrangle zones - Color: Grey/Green/Red/Blue/Black/White
Gain Control	Low / Middle / High	Off / Max Gain / Manual
White Balance	ATW / AWC / Manual / Indoor / Outdoor	ATW / Narrow ATW / AWC / Manual / Indoor / Outdoor / Mercury / Sodium
LDC	Support	None
Electronic Shutter Speed	Minimum / Maximum / Anti flicker(1/5~1/12,000sec) Auto Prefer shutter control(Based on AI engine)	
Digital PTZ	None	None
Video Rotation	None	Flip, Mirror



Report No. : KES-EM250774

Analytics	Classified object type: Person/Face/Vehicle/License plate Attributes: Vehicle (Color and Type: Car/Bus/Truck/Motorcycle/Bicycle), Person (upper and bottom clothing color) Support BestShot per object Analytics events based on AI engine - Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit), Motion detection AI Analytics events - Motion detection(W/O WiseAI), Tampering, Virtual area(Appear/Disappear)  * Audio detection(via optional I/O box)	Classified object type: Person/Face/Vehicle/License plate Attributes: Vehicle (Color and Type: Car/Bus/Truck/Motorcycle/Bicycle), Person (upper and bottom clothing color) Support Detection Shot per object Analytics events based on AI engine - Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit) Analytics events - Motion detection, Tampering, Virtual area(Appear/Disappear)  * Audio detection (via optional I/O box)
Business Intelligence	Based on AI engine: People counting, Vehicle counting, Queue management, Heatmap	None
Serial Interface	None	None
Alarm I/O	via optional I/O box	via optional I/O box
Alarm Triggers	Analytics, Network disconnect, Alarm input(Via optional I/O box SPM-4210), App event, Schedule, MQTT subscription	
Alarm Events	When alarm trigger occurred - File upload(image): e-mail/FTP - Notification: e-mail - Recording: SD/SDHC/SDXC or NAS recording at event triggers - Alarm output(with NW I/O box SPM-4210) - Handover: PTZ preset, Send message by HTTP/HTTPS/TCP - MQTT: publication	
Audio In	via optional I/O box	via optional I/O box
Audio Out	via optional I/O box	via optional I/O box
IR Viewable Length	15m(49.21ft) 10m(32.8ft) under 3m height installation	None
IR Illuminator (Optional)	None	None
Water Removal	None	None
Auto Tracking	None	Object auto tracking(Person/Vehicle), Target lock tracking
Coaxial Protocol	None	None
Color Palettes	None	None
<b>Radiometry</b>		
Temperature Detect Range	None	
Temperature Accuracy	None	
Temperature Detection	None	
Additional	None	
<b>Network</b>		
Ethernet	Metal shielded RJ-45(10/100/1000BASE-T)	
Video Compression	H.265/H.264: Main/Baseline/High, MJPEG	
Audio Compression	None	
Smart Codec	Manual(Sea area), WiseStream (Option: AI engine)	Manual(Sea area), WiseStreamII
Video Quality Adjustment	H.264/H.265: Target bitrate level control MJPEG: Target bitrate level control	
Bitrate Control	H.264/H.265: CBR or VBR MJPEG: VBR	
Streaming	Unicast(5 users per profile) / Multicast Multiple streaming(Up to 4 profiles per channel)	Unicast(5 users per profile) / Multicast Multiple streaming(Up to 3 profiles)
Protocol	IPv4, IPv6, TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP,RTSP, NTP, HTTP, HTTPS, SSL/TLS/StartTLS, DHCP, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, PIM-SM, UPnP, Bonjour, LLDP, CDP, SRTP(TCP, UDP Unicast), MQTT	
Security	FIPS 140-3 HTTPS(SSL) Login Authentication Digest Login Authentication IP Address Filtering User access log 802.1X Authentication(EAP-TLS, EAP-LEAP, EAP-PEAP MSCHAPv2) Device Certificate(Hanwha Private Root CA, pre-installed)	
SIP support (VoIP, Peer-to-peer, SIP/P	None	None
Application Programming Interface	ONVIF Profile S/T/G/M SUNAPI(HTTP API) Wisenet open platform	



Report No. : KES-EM250774

Security		
OS / Firmware Protect	Secure boot, Verify firmware forgery, Firmware encryption	
User authentication	Digest Authentication, Privent brute-force attack	
Network authentication	802.1X Authentication(EAP-TLS, EAP-LEAP, EAP-PEAP MSCHAPv2)	
Secure Communication	HTTPS, SRTP, WSS(Websocket secure)	
Access Control	IP address filtering	
Data Protect	Authentication information encryption, ZIP compression encryption	
Audit	User Access/System/Event log	
Device ID	Device Certificate(Hanwha Techwin Root CA, pre-installed)	
Secure Storage	FIPS 140-3	
Security Certificate	Secure by default	
General		
Webpage Language	English, Korean, Chinese, French, Italian, Spanish, German, Japanese, Russian, Portuguese, Czech, Polish, Turkish, Dutch, Greek, Hungarian	
Web Viewer	None	
Edge Storage	Micro SD/SDHC/SDXC 2slot Max. 2TB(1TBx2)	
Memory	8GB RAM, 8GB eMMC	4GB RAM, 512MB Flash
Environmental & Electrical		
Operating Temperature / Humidity	-40°C~-+55°C(-40°F~-+131°F) * Start up should be done at above -35°C 0~95% RH(non-condensing), Humidity control /w AIR vent	
Storage Temperature / Humidity	-50°C~-+60°C(-58°F~-+140°F) / 0~90% RH	
Certification	IP66, NEMA4X, IK10	
Input Voltage	PoE++(IEEE802.3bt type 3, Class6)	
Power Consumption	PoE++: Max 42W, typical 32W	
Mechanical		
Color / Material	White / Aluminum Hard-coated dome bubble	
RAL Code	RAL9003	
Product Dimensions / Weight	Ø251.4x212, weight 4.8kg	
Compatible Conduit hole / Gangbox	3/4" (M25)/ single, double, 4" octagon, 4" square	
Hanging Mount (Dome)	SBP-250HMMW	
Skin Cover (Dome)	None	
Weather Cap (Dome)	None	
Power Module	None	
Backbox	None	
Certifications & Standards		
Network	None	
EMC	FCC 47 CFR 15 Subpart B Class A ICES-3(A)/NMB-3(A) CE/UKCA - EN 55032 Class A, EN 50130-4 VCCI CISPR 32 Class A RCM AS/NZS CISPR 32 Class A KS C 9832 Class A , KS C 9835	
Safety	UL 62368-1, CAN/CSA C22.2 NO. 62368-1 IEC 62471	
Environment	EN IEC 63000 IEC 60529 IP66, IEC 62262 IK10 NEMA 250 type 4X	
Video	None	
DORI (EN62676-4 standard)		
Detect (25PPM/ 8PPF)	28.1m(92.35ft)	Wide: 103.7m(340.4ft) / Tele: 1751.8m(5474.5ft)
Observe (63PPM/ 19PPF)	11.3m(36.94ft)	Wide: 41.5m(136.2ft) / Tele: 700.7m(2299.0ft)
Recognize (125PPM/ 38PPF)	5.6m(18.47ft)	Wide: 20.7m(68.1ft) / Tele: 350.4m(1149.5ft)
Identify (250PPM/ 76PPF)	2.8m(9.23ft)	Wide: 10.4m(34.0ft) / Tele: 175.2m(574.8ft)



## 1.1 Test Voltage & Frequency

Unless indicated otherwise on the individual data sheet or test results, the test voltage and frequency was as indicated below.

☒ AC 120 V, 60 Hz (Fiber PoE Injector Input Power)

## 1.2 Variant Model Differences

Not applicable

## 1.3 Device Modifications

Not applicable

## 1.4 Equipment Under Test

Description	Model Number	Serial Number	Manufacturer	Remarks
NETWORK CAMERA	PNM-C19183RVTP	-	HANWHA VISION VIETNAM COMPANY LIMITED	EUT
Fiber PoE Injector	PT-PSE109GBRO-AH-S	-	Dongguan PROCET Network Technology Co.,Ltd	R-R-LJ9-PSE109GBR O-A02

## 1.5 Support Equipments

Description	Model Number	Serial Number	Manufacturer	Remarks
Notebook1	P95G001	9JM8HT2	DELL INC.	-
Notebook1 Adapter	HA65NM130	-	Chicony Power Technology (Suzhou)Co.,Ltd.	-
Notebook2	LG15N54	506NZGK000615	엘지전자(주)	-
Notebook2 Adapter	PA-1650-43(65W)	OF58U63849302Y609	엘지전자(주)	-
PoE Adapter	PT-PSE106GBR-AH-S	-	Dongguan PROCET Network Technology Co.,Ltd	-
Micro SD Card1	-	-	TKR	8 GB
Micro SD Card2	-	-	Transcend	32 GB



## 1.6 External I/O Cabling

Start		END		Cable Spec.	
Description	I/O Port	Description	I/O Port	Length	Shield
NETWORK CAMERA (EUT)	RJ-45 (PoE)	Fiber PoE Injector (EUT)	RJ-45 (PoE)	1.8	U
	Micro SD Slot	Micro SD Card1	Micro SD Slot	-	-
	Micro SD Slot	Micro SD Card2	Micro SD Slot	-	-
Fiber PoE Injector (EUT)	RJ-45 (LAN)	Notebook1	RJ-45 (LAN)	3.1	U
	SFP (Optical)	PoE Adapter	SFP (Optical)	5.2	U
	Ground	Enclosure ground	Ground	1.6	-
PoE Adapter	RJ-45 (LAN)	Notebook2	RJ-45 (LAN)	1.6	U
Notebook1	DC Jack	Notebook1 Adapter	Line	2.0	U
Notebook2	DC Jack	Notebook2 Adapter	Line	1.8	U

\* Unshielded=U, Shielded=S

## 1.7 EUT Operating Mode(s)

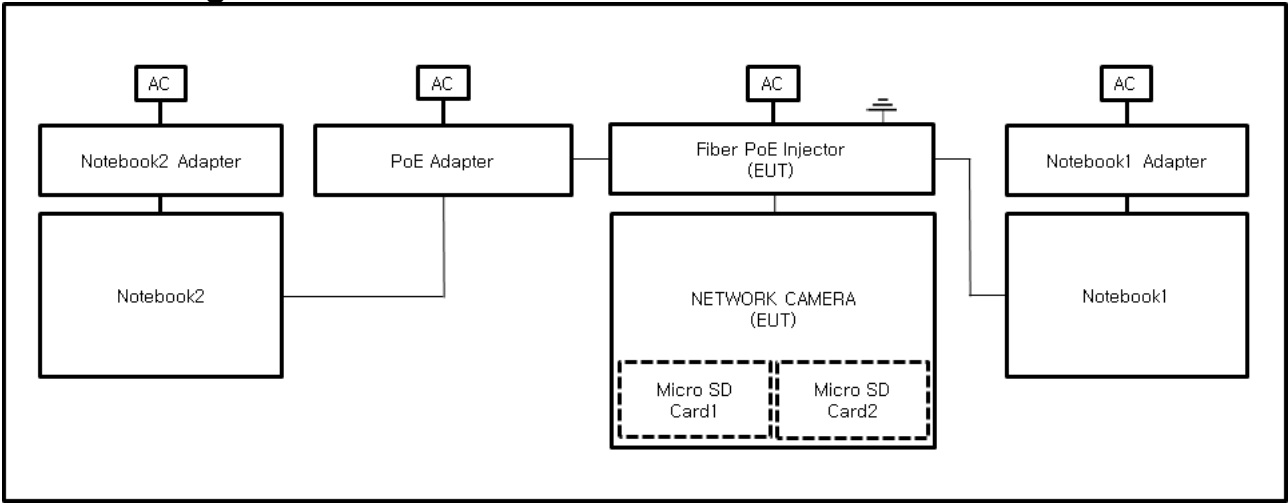
Test mode	Normal operating
Operating	<ul style="list-style-type: none"><li>- Check the network behavior of the EUT with the Notebook1's Ping Test.</li><li>- View images of the camera through the Web Viewer.</li><li>- Check the operation of the SFP port through of the PoE Adapter with the Notebook2's Ping Test.</li><li>- After testing, check the recording with Micro SD Card.</li></ul>

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





1.8 Configuration





## 1.9 Remarks when standards applied

N/A

## 1.10 Calibration Details of Equipment Used for Measurement

Test equipment and test accessories are calibrated on regular basis. The maximum time between calibrations is one year or what is recommended by the manufacturer, whichever is less.

## 1.11 Test Facility

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

## 1.12 Measurement Procedure

### - Conducted Emissions

The conducted emission levels were measured on each current-carrying line with the spectrum analyzer operating in the CISPR quasi-peak mode (or peak mode if applicable). The initial step in collecting conducted data is a spectrum analyzer peak scan of the measurement range. If the conducted emission exceed the average limit with the instrument set to the quasi-peak mode, the measurements are made in the average mode. The emission spectrum was scanned from 150 kHz to 30 MHz. The highest emission amplitudes relative to the appropriate limits were measured and have been recorded. Quasi-peak readings are distinguished with a "QP".

### - Radiated Electric Field Emissions

The test was done at a SEMI ANECHOIC CHAMBER with quasi-peak detector. The final test data was measured using a Quasi-Peak detector below 1 GHz at 10 m or 3 m distance and a Peak and Average detector above 1 GHz at 3 m distance. Test was proceeded worst case test mode and cable configuration.

Measurements were made with the antenna positioned in both the horizontal and vertical planes of polarization. The antenna height was varied from 1 m to 4 m and the EUT was rotated 360° to find the maximum emitting point for each frequency.

Measurement procedures was In accordance with ANSI C63.4-2014 7.3.3, 7.3.4, 8.3.1.1, 8.3.1.2, 8.3.2.1, 8.3.2.2



### 1.13 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



## 2.0 Test Regulations

The emissions tests were performed according to following regulations:

☒ **47 CFR Part 15, Subpart B**

☐ CISPR 22:2009 +A1:2010

☐ Class A

☐ Class B

☒ ANSI C63.4a-2017

☒ Class A

☐ Class B

☒ **IC Regulation ICES-003 Issue 7**

☐ CAN/CSA-CISPR 32:17

☐ Class A

☐ Class B

☒ ANSI C63.4a-2017

☒ Class A

☐ Class B





## 2.1 Conducted Emissions at Mains Power Ports

**Test Date**

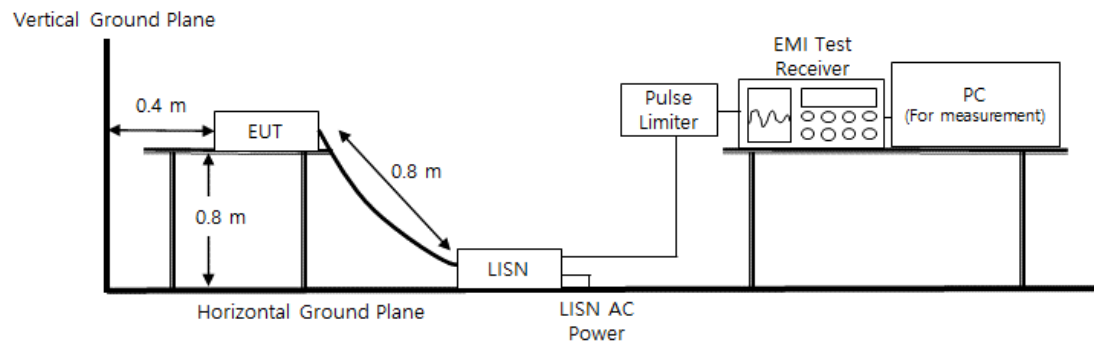
Mar. 13, 2025

**Test Location**

Electro wave Shieldroom #6

**Test Equipment**

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due	calibration interval
<input checked="" type="checkbox"/>	EMI Test S/W	EMC32	R & S	9.12.00	-	-
<input checked="" type="checkbox"/>	EMI TEST RECEIVER	ESR3	R & S	101783	11, 06, 2025	1 Year
<input checked="" type="checkbox"/>	LISN	ENV216	R & S	101786	01, 09, 2026	1 Year
<input checked="" type="checkbox"/>	ARTIFICIAL MAINS NETWORK	ESH2-Z5	R & S	100450	11, 06, 2025	1 Year
<input checked="" type="checkbox"/>	PULSE LIMITER	ESH3-Z2	R & S	101915	11, 06, 2025	1 Year

**Diagram of test setup**



### Test Conditions

Temperature: (23,3 ± 0,1) °C  
Relative Humidity: (46,0 ± 0,1) % R.H.

### Frequency Range of Measurement

150 kHz to 30 MHz

### Instrument Settings

IF Band Width: 9 kHz

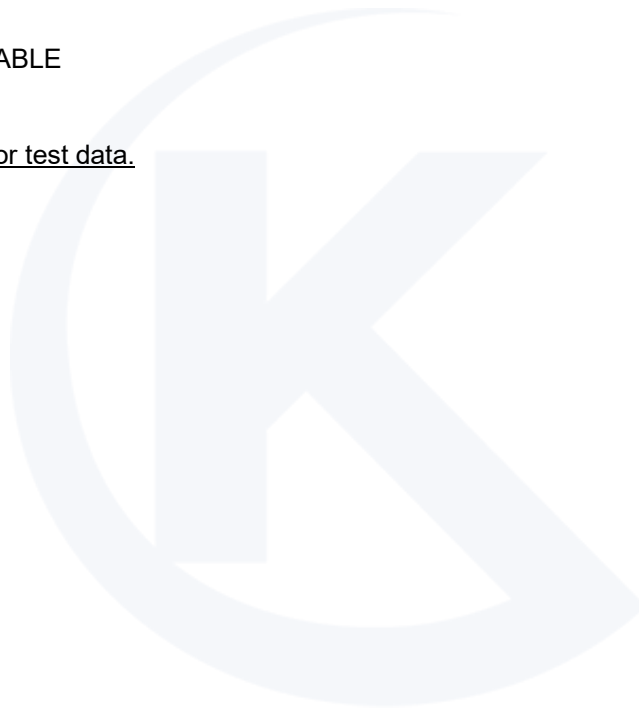
### Test Results

The requirements are:

- ☒ PASS
- ☐ NOT PASS
- ☐ NOT APPLICABLE

### Remarks

See Appendix A for test data.





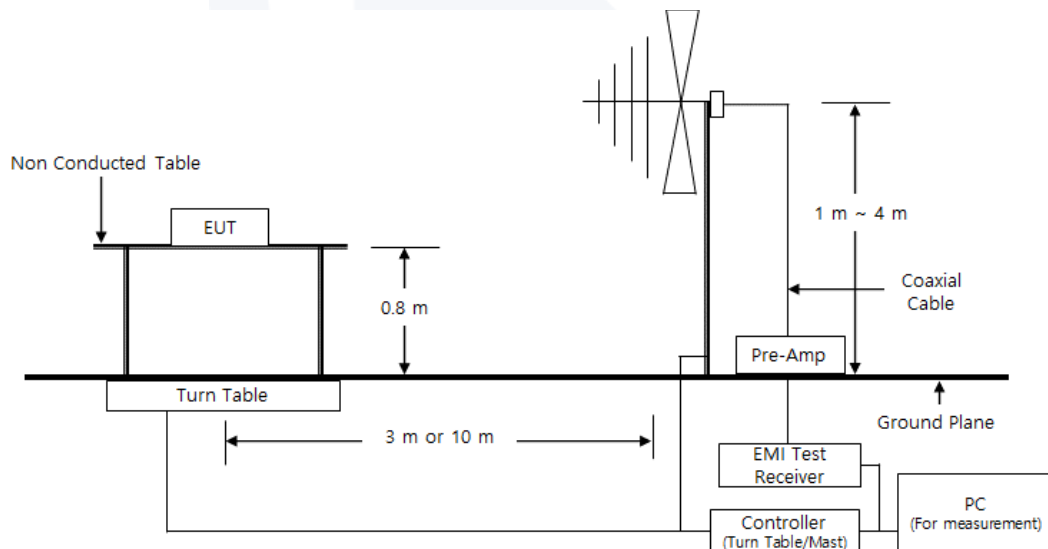
## 2.2 Radiated Electric Field Emissions(Below 1 GHz)

**Test Date**

Mar. 12, 2025

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

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due	calibration interval
<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	02, 13, 2026	1 Year
<input checked="" type="checkbox"/>	AMPLIFIER	SCU 01	R & S	100603	11, 06, 2025	1 Year
<input checked="" type="checkbox"/>	BILOG ANTENNA	VULB 9168	SCHWARZBECK	9168-461	05, 09, 2026	2 Year
<input checked="" type="checkbox"/>	ATTENUATOR	6806.17.A	HUBER+SUHNER	-	02, 13, 2026	1 Year

**Diagram of test setup**



### Test Conditions

Temperature: (23,2 ± 0,1) °C  
Relative Humidity: (46,1 ± 0,1) % R.H.

### Frequency Range of Measurement

30 MHz to 1 GHz

### Instrument Settings

IF Band Width: 120 kHz

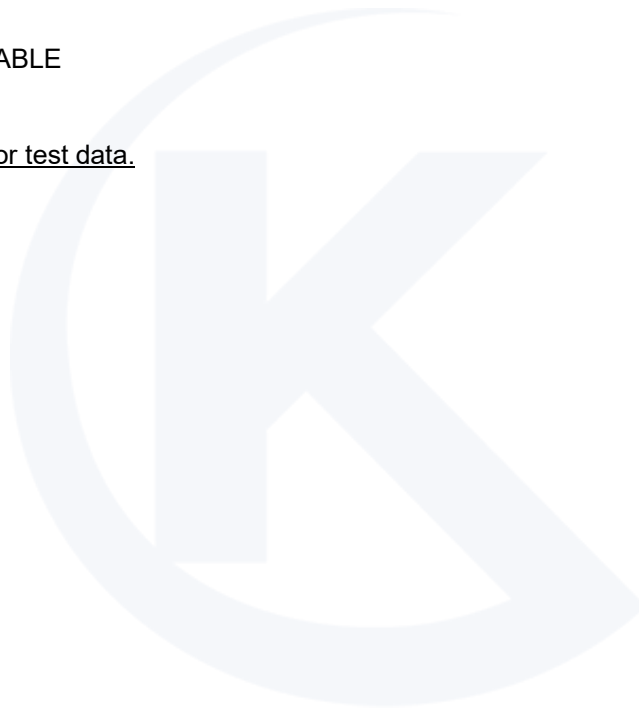
### Test Results

The requirements are:

- ☒ PASS
- ☐ NOT PASS
- ☐ NOT APPLICABLE

### Remarks

See Appendix A for test data.







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

### Test Date

Mar. 12, 2025

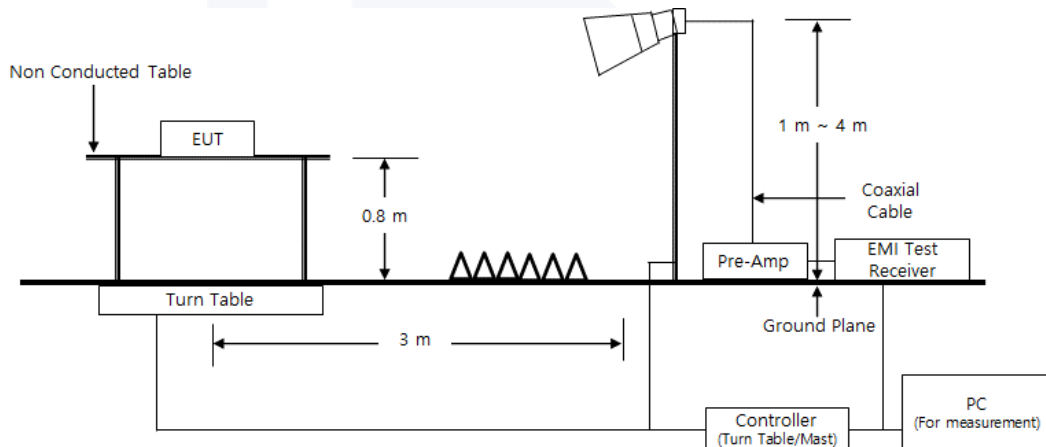
### Test Location

SEMI ANECHOIC CHAMBER #5

### Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due	calibration interval
<input checked="" type="checkbox"/>	EMI Test S/W	ES10/RE	TOYO Corporation	2022.01.000	-	-
<input checked="" type="checkbox"/>	EMI TEST RECEIVER	ESU26	Rohde & Schwarz	100552	02, 13, 2026	1 Year
<input checked="" type="checkbox"/>	HORN ANTENNA	BBHA 9120D	SCHWARZBECK	9120D-1802	11, 04, 2025	1 Year
<input checked="" type="checkbox"/>	PREAMPLIFIER	8449B	HP	3008A00538	04, 30, 2025	1 Year
<input checked="" type="checkbox"/>	ATTENUATOR	8491B	HP	23094	02, 13, 2026	1 Year

### Diagram of test setup





### Test Conditions

Temperature:  $(23,3 \pm 0,1)^{\circ}\text{C}$   
Relative Humidity:  $(46,2 \pm 0,1) \% \text{ R.H.}$

### Frequency Range of Measurement

1 GHz to 5 GHz

### Instrument Settings

IF Band Width: 1 MHz

### Test Results

The requirements are:

- ☒ PASS
- ☐ NOT PASS
- ☐ NOT APPLICABLE

### Remarks

See Appendix A for test data.

The Average of the test data is the cispr average result.



## APPENDIX A – TEST DATA

### Conducted Emissions at Mains Power Ports

HOT LINE

Test Description:

Conducted Emission

Job No.:

KES-EM250774

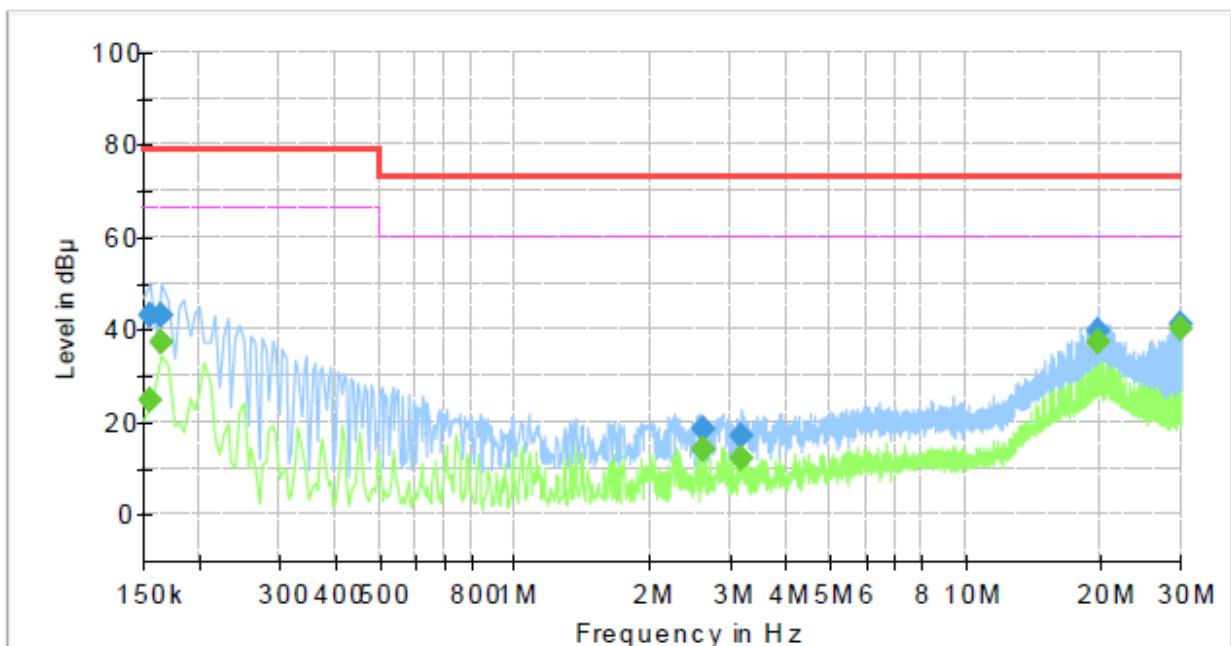
Phase:

L

Mode:

Operator Name:

KES



### Final Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.155000	—	24.78	66.00	41.22	1000.0	9.000	L1	19.5
0.155000	42.94	—	79.00	36.06	1000.0	9.000	L1	19.5
0.165000	—	37.37	66.00	28.63	1000.0	9.000	L1	19.5
0.165000	43.20	—	79.00	35.80	1000.0	9.000	L1	19.5
2.615000	—	13.97	60.00	46.03	1000.0	9.000	L1	19.7
2.615000	18.67	—	73.00	54.33	1000.0	9.000	L1	19.7
3.195000	—	12.41	60.00	47.59	1000.0	9.000	L1	19.8
3.195000	17.14	—	73.00	55.86	1000.0	9.000	L1	19.8
19.740000	—	37.29	60.00	22.71	1000.0	9.000	L1	20.3
19.740000	39.73	—	73.00	33.27	1000.0	9.000	L1	20.3
29.980000	—	40.33	60.00	19.67	1000.0	9.000	L1	20.7
29.980000	41.03	—	73.00	31.97	1000.0	9.000	L1	20.7



## NEUTRAL LINE

Test Description:

Conducted Emission

Job No.:

KES-EM250774

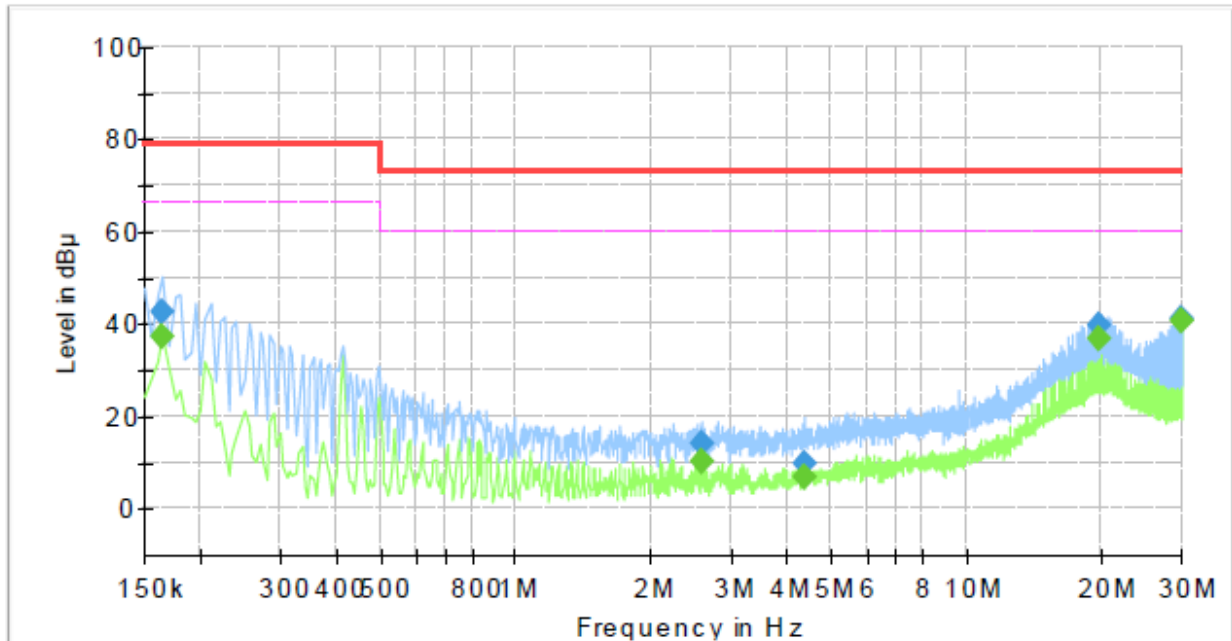
Phase:

N

Mode:

Operator Name:

KES

**Final Result**

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.165000	—	37.24	66.00	28.76	1000.0	9.000	N	19.5
0.165000	42.60	—	79.00	36.40	1000.0	9.000	N	19.5
2.575000	—	10.39	60.00	49.61	1000.0	9.000	N	19.7
2.575000	14.00	—	73.00	59.00	1000.0	9.000	N	19.7
4.385000	—	6.70	60.00	53.30	1000.0	9.000	N	19.8
4.385000	9.82	—	73.00	63.18	1000.0	9.000	N	19.8
19.735000	—	36.99	60.00	23.01	1000.0	9.000	N	20.3
19.735000	39.46	—	73.00	33.54	1000.0	9.000	N	20.3
29.980000	—	40.50	60.00	19.50	1000.0	9.000	N	20.6
29.980000	41.15	—	73.00	31.85	1000.0	9.000	N	20.6

## ◆ Calculation

$$\text{QuasiPeak [dBuV]} / \text{CAverage [dBuV]} = \text{Reading Value [dBuV]} + \text{Corr. [dB]}$$

QuasiPeak / CAverage : The Final Value

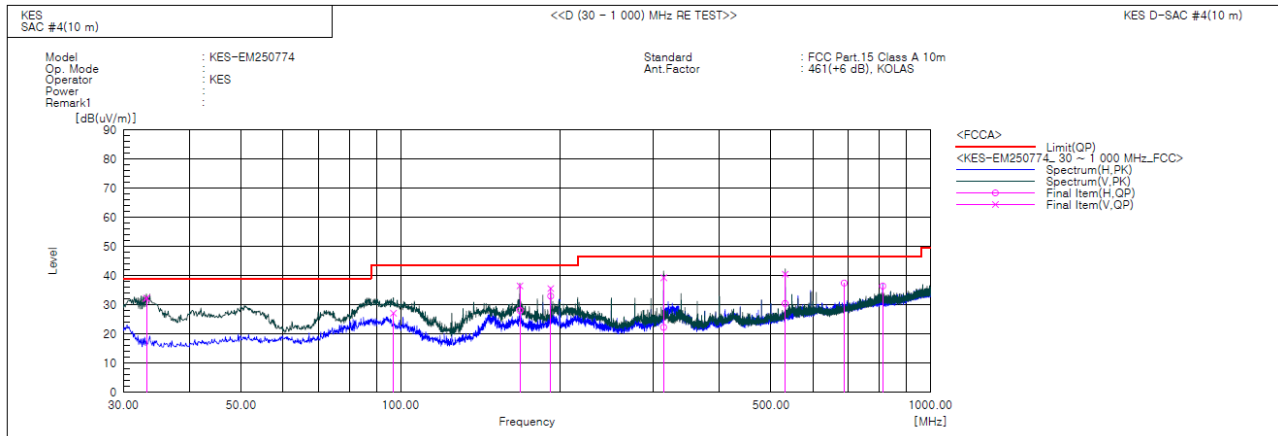
Reading Value : Not shown in the table.

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

**Radiated Electric Field Emissions(Below 1 GHz)**

■ mode 1

- 47 CFR Part 15, Subpart B

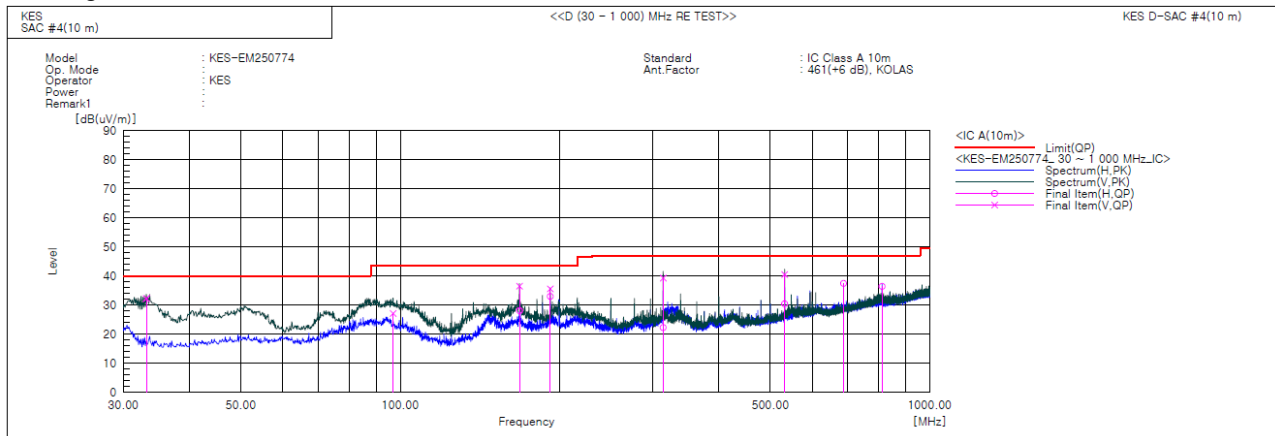
**Final Result**

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	33.153	V	54.7	-22.4	32.3	39.0	6.7	112.0	270.0	
2	96.930	V	52.5	-25.4	27.1	43.5	16.4	109.0	239.0	
3	167.984	V	56.4	-19.9	36.5	43.5	7.0	148.0	22.0	
4	168.009	H	48.0	-19.9	28.1	43.5	15.4	201.0	301.0	
5	191.988	H	54.7	-21.7	33.0	43.5	10.5	400.0	136.0	
6	191.990	V	57.3	-21.7	35.6	43.5	7.9	100.0	251.0	
7	313.833	V	55.8	-16.5	39.3	46.5	7.2	150.0	145.0	
8	313.851	H	38.8	-16.5	22.3	46.5	24.2	198.0	191.0	
9	532.006	V	49.9	-9.4	40.5	46.5	6.0	114.0	358.0	
10	532.011	H	39.8	-9.4	30.4	46.5	16.1	389.0	342.0	
11	687.579	H	42.8	-5.4	37.4	46.5	9.1	400.0	327.0	
12	812.594	H	39.9	-3.5	36.4	46.5	10.1	400.0	4.0	



Report No. : KES-EM250774

## - IC Regulation ICES-003 Issue 7



## Final Result

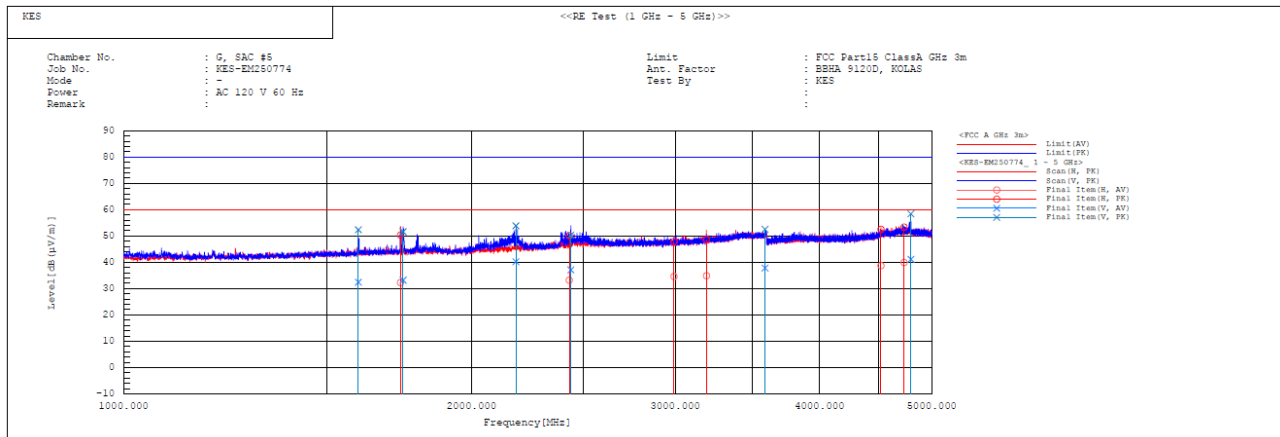
No.	Frequency [MHz]	(P)	Reading QP [dB(μV)]	c.f [dB(1/m)]	Result QP [dB(μV/m)]	Limit QP [dB(μV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]	Remark
1	33.153	V	54.7	-22.4	32.3	40.0	7.7	112.0	270.0	
2	96.930	V	52.5	-25.4	27.1	43.5	16.4	109.0	239.0	
3	167.984	V	56.4	-19.9	36.5	43.5	7.0	148.0	22.0	
4	168.009	H	48.0	-19.9	28.1	43.5	15.4	201.0	301.0	
5	191.988	H	54.7	-21.7	33.0	43.5	10.5	400.0	136.0	
6	191.990	V	57.3	-21.7	35.6	43.5	7.9	100.0	251.0	
7	313.833	V	55.8	-16.5	39.3	47.0	7.7	150.0	145.0	
8	313.851	H	38.8	-16.5	22.3	47.0	24.7	198.0	191.0	
9	532.006	V	49.9	-9.4	40.5	47.0	6.5	114.0	358.0	
10	532.011	H	39.8	-9.4	30.4	47.0	16.6	389.0	342.0	
11	687.579	H	42.8	-5.4	37.4	47.0	9.6	400.0	327.0	
12	812.594	H	39.9	-3.5	36.4	47.0	10.6	400.0	4.0	

## ◆ Calculation

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

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

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

**Radiated Electric Field Emissions(Above 1 GHz)****Final Result**

No.	Frequency [MHz]	Pol	Reading AV [dB(μV)]	Reading PK [dB(μV)]	c.f [dB(1/m)]	Result AV [dB(μV/m)]	Result PK [dB(μV/m)]	Limit AV [dB(μV/m)]	Limit PK [dB(μV/m)]	Margin AV [dB]	Margin PK [dB]	Height [cm]	Angle [deg]	Remark
1	1596.810	V	30.8	50.8	1.6	32.4	52.4	60.0	80.0	27.6	27.6	112.0	8.1	
2	1736.484	H	30.2	48.2	2.1	32.3	50.3	60.0	80.0	27.7	29.7	199.0	346.8	
3	1745.236	V	31.1	49.5	2.1	33.2	51.6	60.0	80.0	26.8	28.4	118.0	311.8	
4	2184.879	V	36.4	50.1	3.8	40.2	53.9	60.0	80.0	19.8	26.1	101.0	101.8	
5	2429.950	H	28.4	45.3	4.8	33.2	50.1	60.0	80.0	26.8	29.9	400.0	316.1	
6	2437.551	V	32.3	45.5	4.8	37.1	50.3	60.0	80.0	22.9	29.7	104.0	248.2	
7	2993.909	H	28.2	41.5	6.4	34.6	47.9	60.0	80.0	25.4	32.1	400.0	39.9	
8	3193.231	H	28.3	42.0	6.6	34.9	48.6	60.0	80.0	25.1	31.4	210.0	263.2	
9	3588.328	V	30.4	45.1	7.4	37.8	52.5	60.0	80.0	22.2	27.5	100.0	163.6	
10	4520.081	H	27.8	41.6	10.9	38.7	52.5	60.0	80.0	21.3	27.5	398.0	99.0	
11	4731.926	H	28.3	41.8	11.6	39.9	53.4	60.0	80.0	20.1	26.6	384.0	269.5	
12	4798.461	V	29.4	46.7	11.7	41.1	58.4	60.0	80.0	18.9	21.6	109.0	51.0	



## - PK

Frequency (MHz)	Reading PK (dBuV)	Polarization	Height ( m )	ANT Factor (dB)	Cable Loss (dB)	Preamplifier Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
5 638.700	40.500	V	1.000	32.550	8.470	33.880	47.640	80.000	32.360
5 663.100	41.700	H	1.000	32.650	8.480	33.840	48.990	80.000	31.010

## - PK

Frequency (MHz)	Reading CISPR AV (dBuV)	Polarization	Height ( m )	ANT Factor (dB)	Cable Loss (dB)	Preamplifier Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
5 638.700	27.200	V	1.000	32.550	8.470	33.880	34.340	60.000	25.660
5 663.100	27.700	H	1.000	32.650	8.480	33.840	34.990	60.000	25.010

## ◆ Calculation

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

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

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

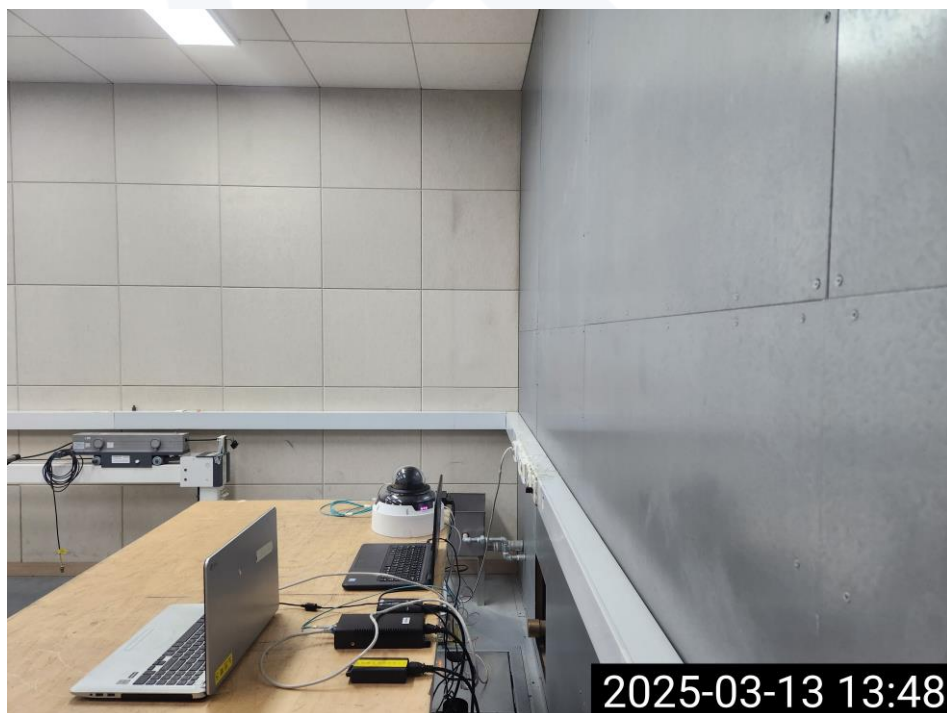
Limit(PK/CAV) : Limit value, c.f : (ANT Factor + Cable Loss - Preamplifier Factor), Margin: Margin value





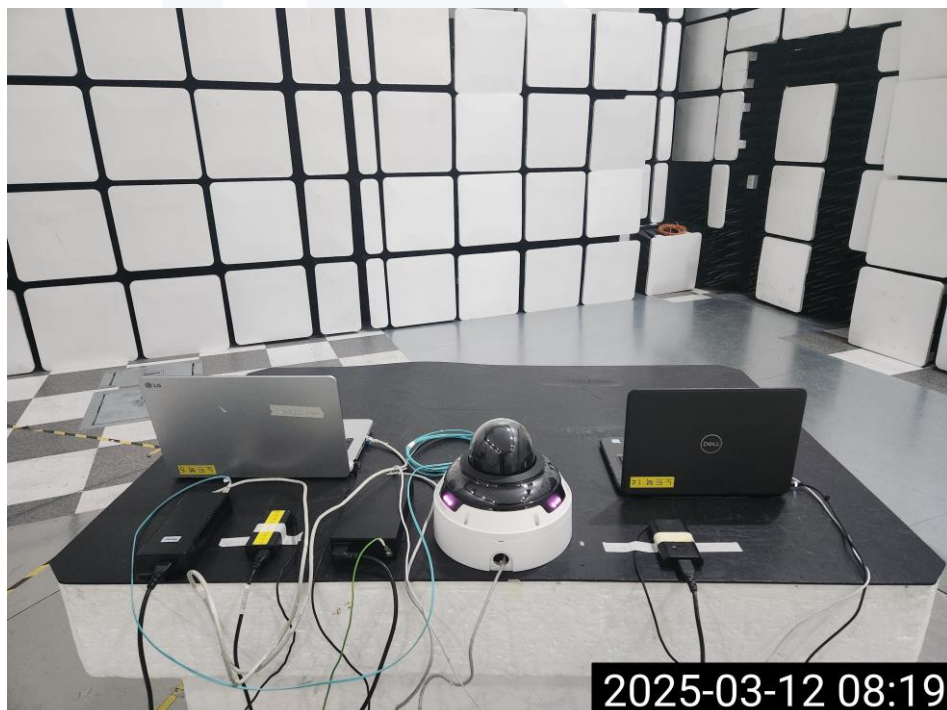
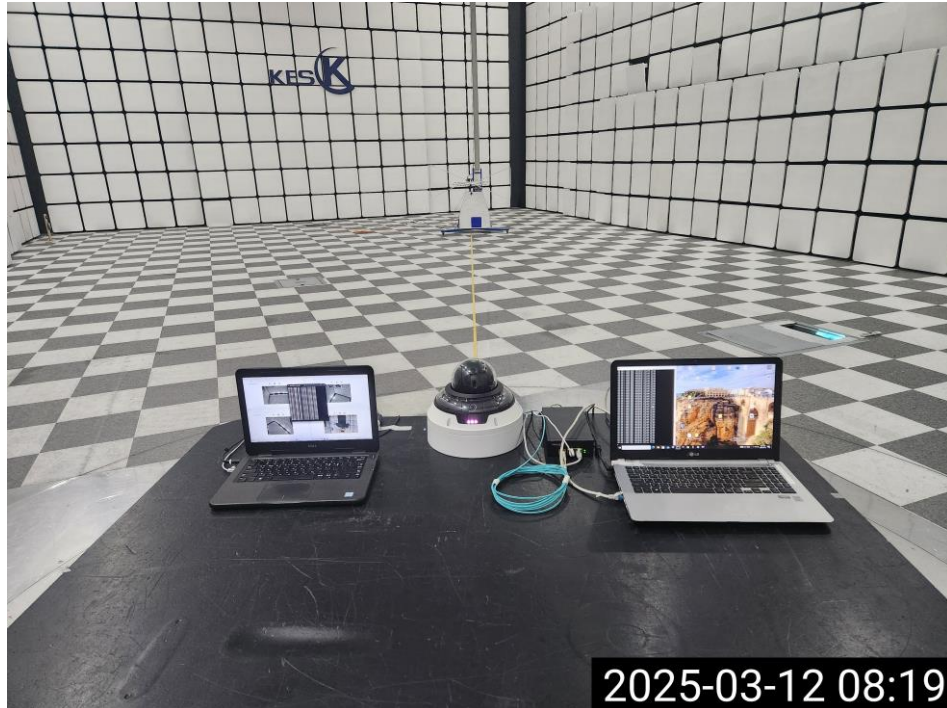
## Test Setup Photos and Configuration

### Conducted Emissions at Mains Power Ports





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





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







## EUT External Photographs

(Top)



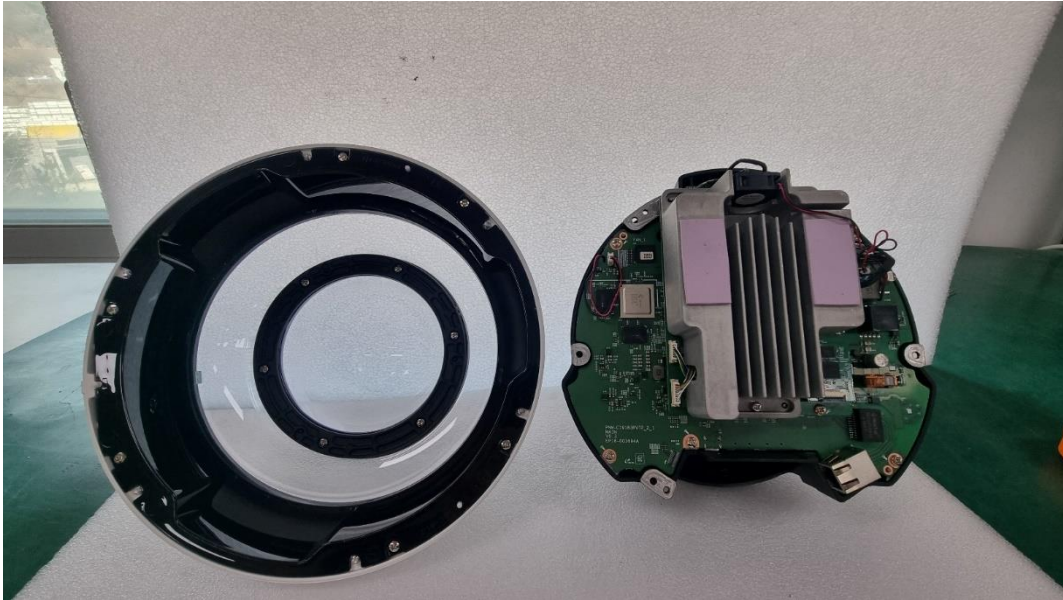
(Bottom)





## EUT Internal Photographs

(Internal View)





## EUT Internal View – Main Board 1

(Top)



(Bottom)

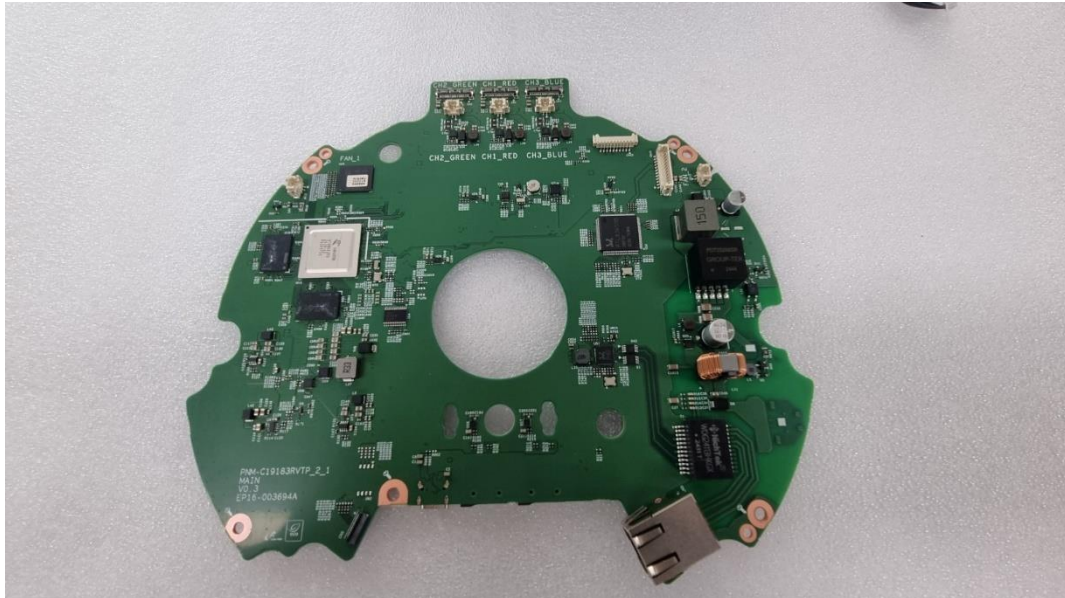




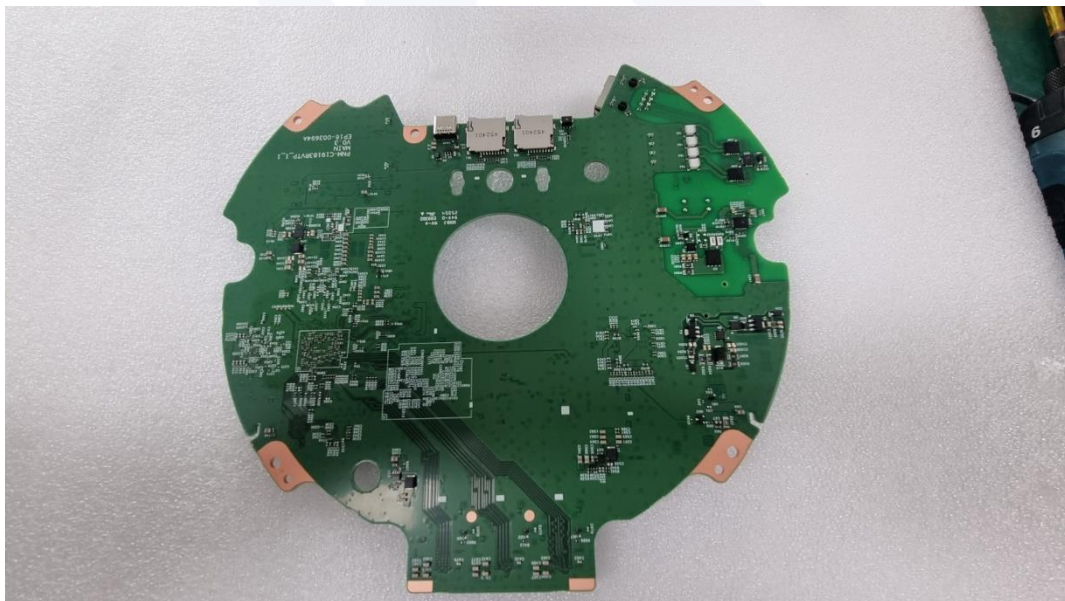


## EUT Internal View – Main Board 2

(Top)



(Bottom)





## EUT Internal View – Board 1

(Top)



(Bottom)

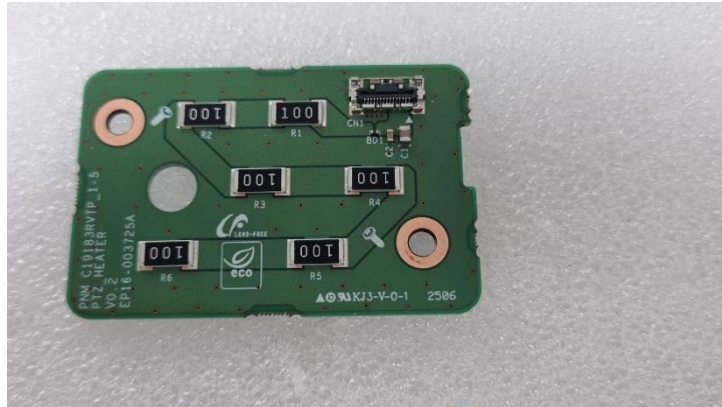






## EUT Internal View – Board 2

(Top)



(Bottom)



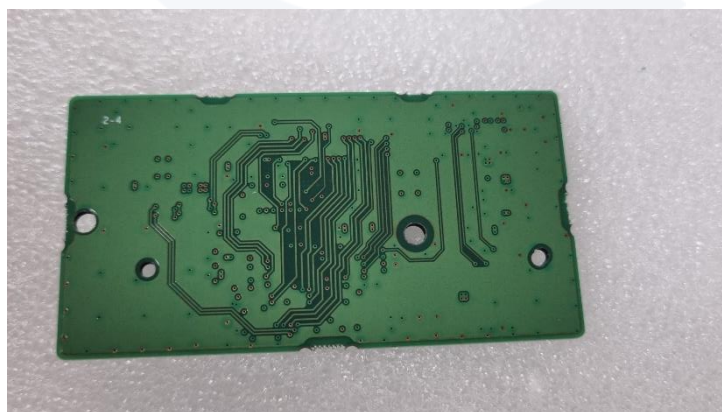


## EUT Internal View – Board 3

(Top)

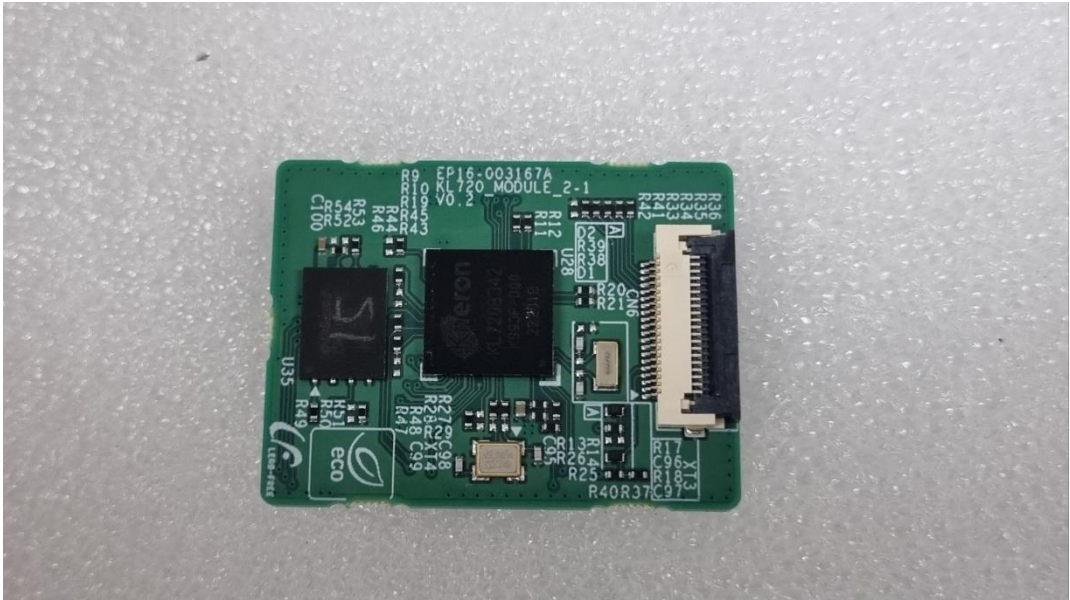


(Bottom)





EUT Internal View – Module Board  
(Top)



(Bottom)



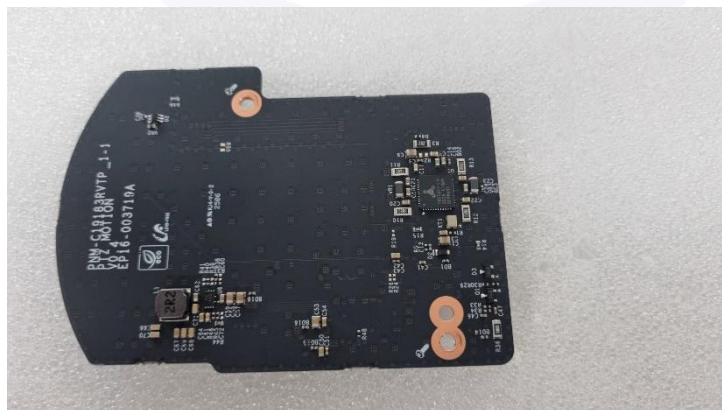


## EUT Internal View – Motion Board

(Top)



(Bottom)

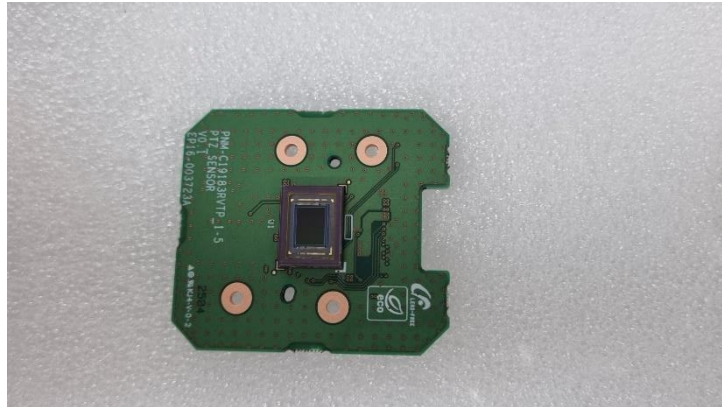




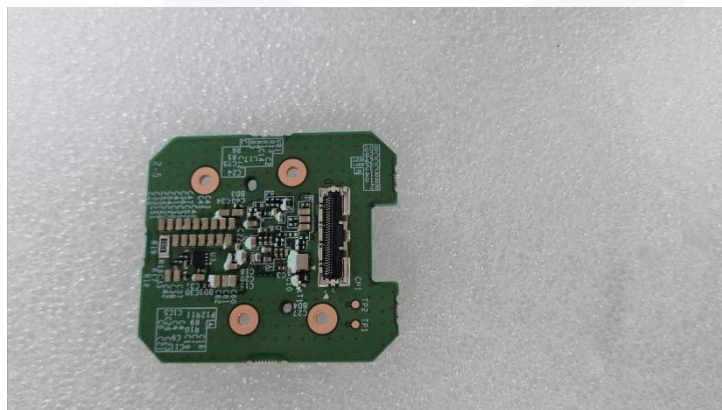


## EUT Internal View – Sensor Board

(Top)



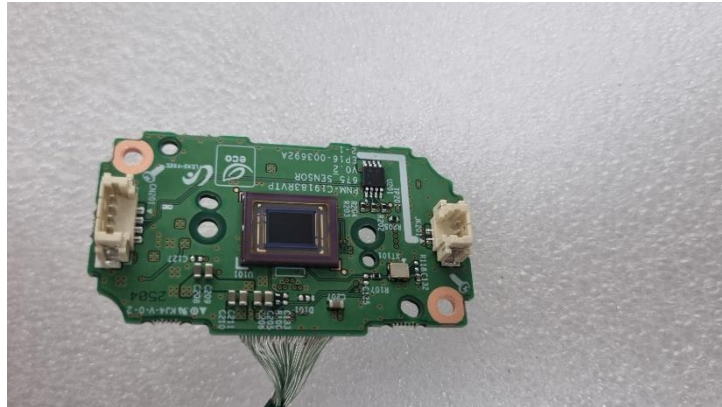
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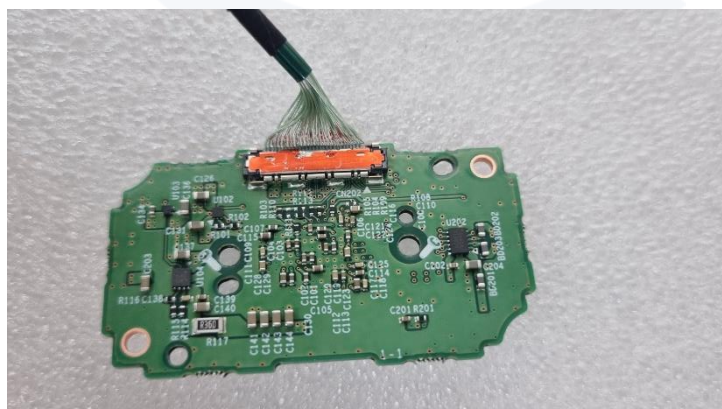


## EUT Internal View – Lens board

(Top)



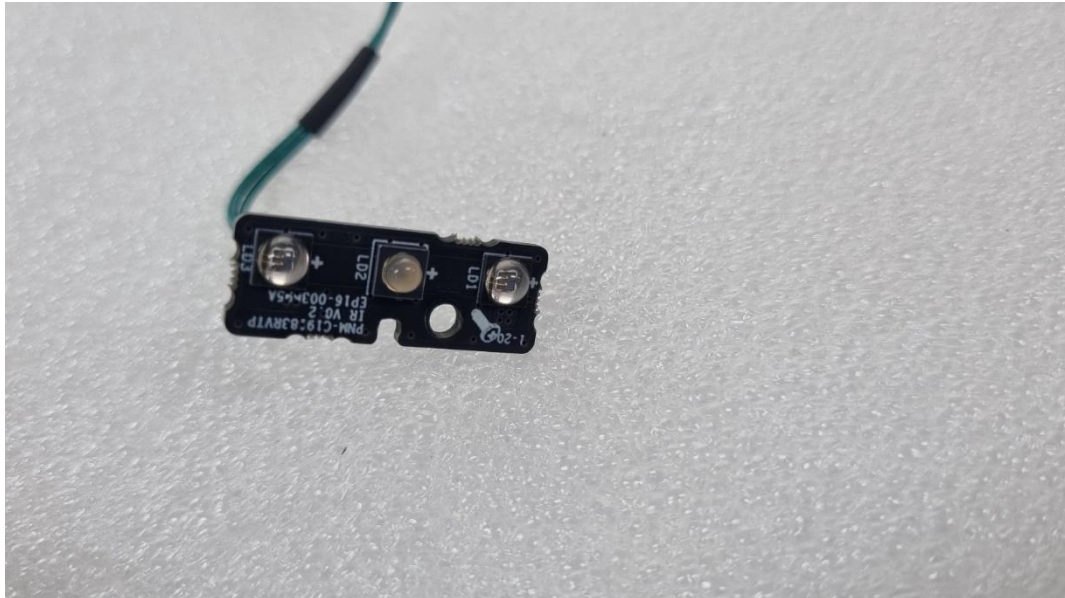
(Bottom)





## EUT Internal View – LED board

(Top)



(Bottom)





### Label Photographs

#### FCC Label



NETWORK CAMERA

PNM-C19183RVTP

#### IC Label

### CAN ICES-003(A) / NMB-003(A)

This device complies with ICES-003 Canada Rules Operation is subject to the following two conditions:  
(1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

The End.