



TEST REPORT



Report No. : KES-EM252073

Page 1 / 38

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 : +82-31-381-3838

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. : XNB-A9004

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 Province, Vietnam
2. 173-25, Saneop-ro, Gwonseon-gu, Suwon-si, Gyeonggi- do, Korea (Suwon Industrial Complex)

3. Date of Receipt : Jun. 09, 2025

4. Test date : Jul. 09, 2025 ~ Jul. 10, 2025

5. Date of Issue : Aug. 21, 2025

6. Test Results : In Compliance

Tested by

Reviewed by

Keo Il, Lee
EMC Test Engineer

Dae Jung, Choi
EMC Technical Manager

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

**REPORT REVISION HISTORY**

Date	Test Report No.	Revision History
Aug. 21, 2025	KES-EM252073	Issued

This report shall not be reproduced except in full, without the written approval of KES Co., Ltd. This document may be altered or revised by KES Co., Ltd. personnel only, and shall be noted in the revision section of the document. Any alteration of this document not carried out by KES Co., Ltd. will constitute fraud and shall nullify the document.



TABLE OF CONTENTS

1.0	General Product Description.....	4
1.1	Test Voltage & Frequency	8
1.2	Variant Model Differences	8
1.3	Device Modifications	8
1.4	Equipment Under Test	8
1.5	Support Equipments	8
1.6	External I/O Cabling.....	9
1.7	EUT Operating Mode(s).....	11
1.8	Configuration.....	12
1.9	Remarks when standards applied	13
1.10	Calibration Details of Equipment Used for Measurement.....	13
1.11	Test Facility	13
1.12	Laboratory Accreditations and Listings	13
2.0	Test Regulations	14
2.1	Conducted Emissions at Mains Power Ports.....	15
2.2	Conducted Emissions at Telecommunication Ports.....	16
2.3	Radiated Electric Field Emissions(Below 1 GHz).....	17
2.4	Radiated Electric Field Emissions(Above 1 GHz)	18
APPENDIX A – TEST DATA		19
Conducted Emissions at Mains Power Ports		19
Conducted Emissions at Telecommunication Ports		21
Radiated Electric Field Emissions(Below 1 GHz)		23
Radiated Electric Field Emissions(Above 1 GHz).....		25
Test Setup Photos and Configuration.....		27
Conducted Emissions at Mains Power Ports		27
Conducted Emissions at Telecommunication Ports		28
Radiated Electric Field Emissions(Below 1 GHz)		30
Radiated Electric Field Emissions(Above 1 GHz).....		32
EUT External Photographs.....		34
EUT Internal Photographs.....		35



1.0 General Product Description

Main Specifications of EUT are:

Division		Specificity
Internal highest operating frequency		Above 108 MHz
Power	Rated Power	DC 12 V (AC/DC Adapter), PoE
	Test Power	AC 240 V, 50 Hz
Ports	I/O Port	DC(2 Pin) 1 EA, RJ-45 1 EA, AUDIO IN 1 EA, AUDIO OUT 1 EA, 5 Pin 1 EA, 6 Pin 1 EA (Alarm In, Alarm Out, RS-485), Micro SD Card Slot 2 EA
	Unused Port / Service Port	USB Type-C 1 EA
Components		Camera 1 EA
Ethernet Speed		100 Mbps



		XNB-A9004
Video		
Imaging Device	Size	1/1.8"
	Type	CMOS
Resolution		3840x2160, 3328x1872, 3072x1728, 2592x1944, 2560x1440, 1920x1080, 1600x1200, 1280x960, 1280x720, 1024x768, 800x600, 640x480, 640x360, 320x240, 320x180, 2688x1512
Max. Framerate	H.265/H.264	30fps/25fps(60Hz/50Hz)
	MJPEG	30fps(@8MP Max. 5fps)
Video Out		USB: Micro USB Type C
Lens		
Focus Control		Simple focus
Lens Type		DC auto iris, P iris(IR corrected), Manual, I-CS
Mount Type		C mount, CS mount
Operational		
Day & Night		Auto(ICR)
Backlight Compensation		BLC, HLC, WDR, SSDR
Wide Dynamic Range (dB)		120
Digital Noise Reduction		WiseNR II (Based on AI engine), SSNR V
Digital Image Stabilization		Support
Defog		Support
Motion Detection	Quantity	8ea
	Shape	8point Polygonal zones
Privacy Masking	Quantity	32ea
	Shape	8point 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
Video Rotation		Flip, Mirror, Hallway view(90°/270°)
Serial Interface		RS-485(Samsung-T, Pelco-D/P, Panasonic, Bosch, AD, GE, Vicon, Honeywell)
Alarm Interface	In/Out	2 configurable I/O ports
	Others	Support extra alarm I/O via optional I/O box
Alarm Triggers		Analytics, Network disconnect, Alarm input, 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, Audio clip playback, MQTT: publication, SIP: call generation
Audio In		Selectable(mic in/line in), Built-in mic
Audio Out		Line out



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), Motion detection, Face mask detection, Social distancing detection, Slip & fall detection, Virtual area(Loitering/Intrusion/Enter/Exit/Appear/Disappear)
	Normal	Defocus detection, Tampering, Audio detection, Shock detection
Business Intelligence	Based on AI Engine	People counting, Queue management, Heatmap, Vehicle counting, Crowd counting
	Normal	None
Network		
Ethernet		Metal shielded RJ-45(10/100BASE-T)
Video Compression		H.265/H.264: Main/Baseline/High, MJPEG
Audio Compression		G.711(PCM): 8kHz(64kbps), G.726(ADPCM): 8kHz(16/24/32/40kbps), AAC-LC: 16kHz(48kbps), OPUS: 48kHz(64kbps)
Smart Codec		WiseStream(Based on AI engine)
Bitrate Control		H.265/H.264: CBR or VBR, MJPEG: VBR
Streaming	Unicast	Up to 20 users
	Multicast	Support
	Multiple Streaming	Up to 5 profiles, 3 virtual channel support
Protocol		IPv4, IPv6, TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, FTP, SFTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, UPnP, Bonjour, LLDP, CDP, SRTP(TCP, UDP Unicast), MQTT, SMTP(StartTLS), SIP, Syslog
SIP support (VoIP, Peer-to-peer, SIP/PBX integration)		Tested with Cisco, Grandstream, Yealink VoIP phones and Asterisk PBX software
Application Programming Interface	ONVIF	S, G, T, M
	Others	SUNAPI(HTTP API), Hanwha Vision Open Platform
	OnCloud(미사용 항목)	OnCloud edge recording, compatible with Hanwha SD cards up to 1TB
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+), ETSI EN 303 645, IEC 62443-4-1



General		
Memory	RAM	4GB
	Flash	8GB eMMC
Edge Storage	Micro SD/SDHC/SDXC	Max. 1TB x 2slot(Total 2TB)
	SSD	None
Environmental & Electrical		
Operating Condition	Temperature	-10°C~+55°C(+14°F~+131°F)
	Humidity	0~95% RH(non-condensing)
Storage Condition	Temperature	-50°C~+60°C(-58°F~+140°F)
	Humidity	0~90% RH(non-condensing)
Input Voltage		PoE(IEEE802.3af, Class3), 12VDC
Power Consumption	PoE	Max. 10.7W, typical 9.5W
	12VDC	Max. 9.9W, typical 8.7W
Wisepower		Power monitoring, ECO mode
Power Redundance Failover		Support
Mechanical		
Color		Black
Material		Aluminum
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	None
RAL Code		RAL9005
Product Dimensions		81(W)x67(H)x165(D)mm(3.19x2.64x6.48")
Product Weight		851g(1.88lb)
Certifications & Standards		
EMC		FCC 47 CFR 15 Subpart B Class A, ICES-3(A)/NMB-3(A), CE/UKCA - EN55032 Class A, EN 50130-4, EN 61000-3-2, EN 61000-3-3, 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		IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-6, IEC 60068-2-14, IEC 60068-2-27, IEC 60068-2-78



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 240 V, 50 Hz (AC/DC Adpater) ☒ PoE

1.2 Variant Model Differences

Not applicable

1.3 Device Modifications

Not applicable

1.4 Equipment Under Test

Description	Model Number	Serial Number	Manufacturer	Remarks
NETWORK CAMERA	XNB-A9004	-	HANWHA VISION VIETNAM COMPANY LIMITED	EUT

1.5 Support Equipments

Description	Model Number	Serial Number	Manufacturer	Remarks
Lens Module	SL1250P	-	Theia	-
AC/DC Adapter	FSP060-DIBAN2	-	Zhonghan Electronics(Shenzhen) Co., Ltd.	-
PoE Injector	PT-PSE109GBRO-D	-	Creative Lianjie Network Technology Co.Ltd	-
Laptop PC	P95G001	-	DELL INC.	-
Laptop PC Adapter	HA65NM130	-	Chicony Power Technology(Suzhou)Co.,Ltd.	-
Tablet PC	MD528KH/A	-	Apple Inc.	-
Controller	SPC-1010	-	Samsung Techwin Co.,Ltd.	-
Controller Adapter	AP-12005A	-	APOWER Co.	-
Micro SD Card 1	-	-	SanDisk	-
Micro SD Card 2	-	-	SanDisk	-
LED Alarm	PRO-SL	-	SENSOR PRO	-
Button Alarm	-	-	-	-
Earphone	CX100	-	Sennheiser	-



1.6 External I/O Cabling

■ mode 1

Start		END		Cable Spec.	
Description	I/O Port	Description	I/O Port	Length	Shield
NETWORK CAMERA (EUT)	DC(2 Pin)	AC/DC Adapter	2 Pin	1.5	U
	RJ-45(LAN)	Laptop PC	RJ-45	3.3	U
	AUDIO IN	Tablet PC	3.5 mm	1.0	U
	AUDIO OUT	Earphone	3.5 mm	1.5	U
	5 Pin	Lens Module	5 Pin	0.1	U
	Micro SD Card Slot	Micro SD Card 1	Micro SD Card Slot	-	-
	Micro SD Card Slot	Micro SD Card 2	Micro SD Card Slot	-	-
	Alarm In (3 Pin)	Button Alarm	2 Pin	3.5	U
	Alarm Out (2 Pin)	LED Alarm	2 Pin	3.5	U
	RS-485	Controller	2 Pin	3.1	U
	Frame ground	Ground	Frame ground	1.5	-
Controller	DC Jack	Controller Adapter	DC Jack	1.5	U
Laptop PC	DC Jack	Laptop PC Adapter	DC Jack	1.8	U

* Unshielded=U, Shielded=S



■ mode 2

Start		END		Cable Spec.	
Description	I/O Port	Description	I/O Port	Length	Shield
NETWORK CAMERA (EUT)	RJ-45(PoE)	PoE Injector	RJ-45(PoE)	3.3	U
	AUDIO IN	Tablet PC	3.5 mm	1.0	U
	AUDIO OUT	Earphone	3.5 mm	1.5	U
	5 Pin	Lens Module	5 Pin	0.1	U
	Micro SD Card Slot	Micro SD Card 1	Micro SD Card Slot	-	-
	Micro SD Card Slot	Micro SD Card 2	Micro SD Card Slot	-	-
	Alarm In (3 Pin)	Button Alarm	2 Pin	3.5	U
	Alarm Out (2 Pin)	LED Alarm	2 Pin	3.5	U
	RS-485	Controller	2 Pin	3.1	U
	Frame ground	Ground	Frame ground	1.5	-
Controller	DC Jack	Controller Adapter	DC Jack	1.5	U
Laptop PC	DC Jack	Laptop PC Adapter	DC Jack	1.8	U
	RJ-45	PoE Injector	RJ-45(LAN)	3.3	U

* Unshielded=U, Shielded=S



1.7 EUT Operating Mode(s)

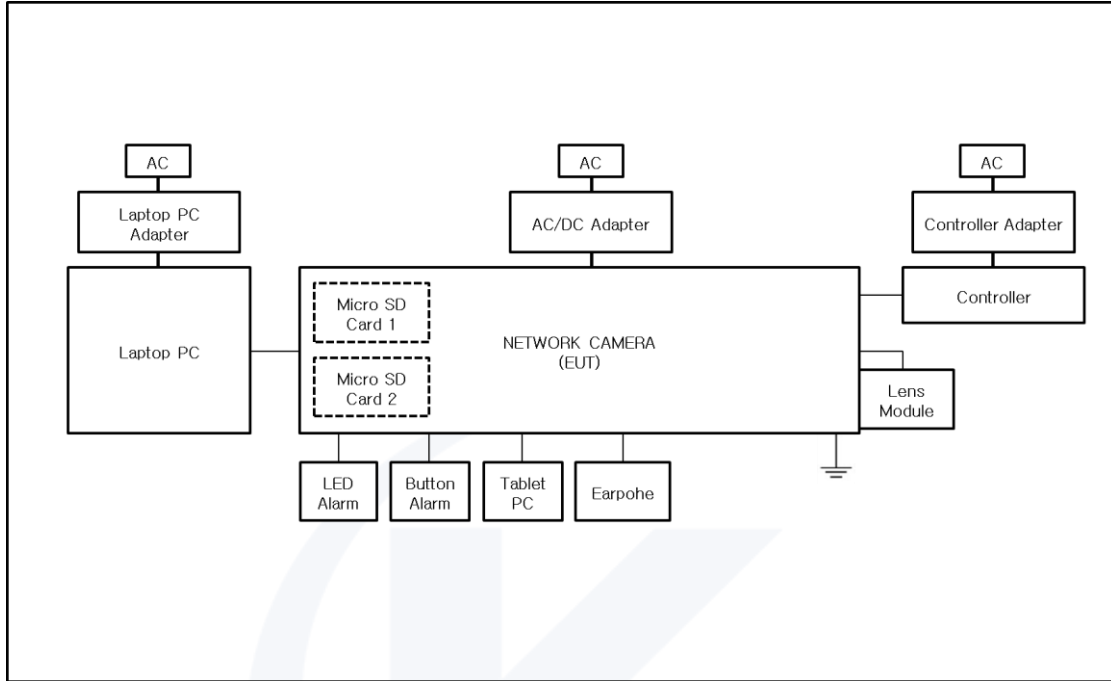
Test mode		Normal operating
Mode 1	AC/DC Adapter	- Checked the network status of the EUT with the laptop Ping Test - Checked the EUT camera operation while watching streaming of through the Web Viewer.
Mode 2	PoE	- Checked whether EUT recognized Micro SD Cards insterted. After testing, check the data saving in Micro SD Cards. - Checked normal operation of LED Alarm, Button Alarm, Controller in the tests. - After connection Tablet PC to EUT, inserted 1 kHz sine wave audio to EUT and checked the audio playing in the tests.

EUT Test operating S/W		
Name	Version	Manufacture Company
Web Viewer	-	HANWHA VISION VIETNAM COMPANY LIMITED

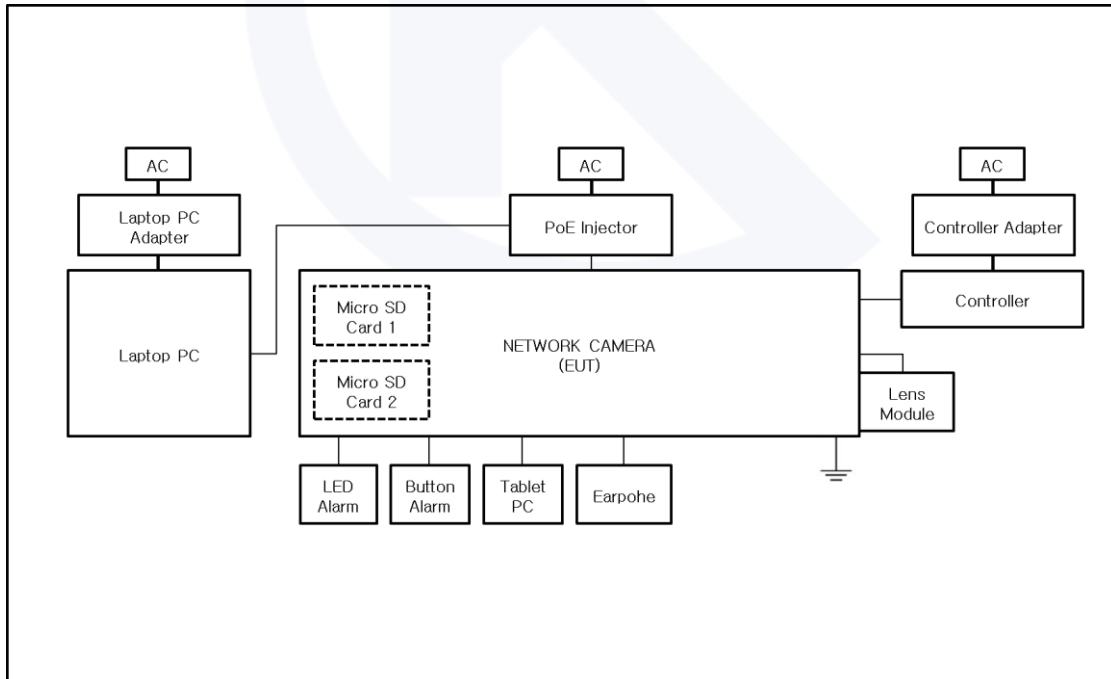


1.8 Configuration

■ mode 1



■ mode 2



**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 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:

☒ **AS/NZS CISPR 32:2015 AMD 1:2020**

☒ Class A

☐ Class B





2.1 Conducted Emissions at Mains Power Ports

Test Date

Jul. 10, 2025

Test Location

Electro wave Shieldroom #6

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	EMI Test S/W	EMC32	R & S	9.12.00	-
☒	EMI TEST RECEIVER	ESR3	R & S	101783	11, 06, 2025
☒	LISN	ENV216	R & S	101786	01, 09, 2026
☒	ARTIFICIAL MAINS NETWORK	ESH2-Z5	R & S	100450	11, 06, 2025
☒	PULSE LIMITER	ESH3-Z2	R & S	101915	11, 06, 2025

Test Conditions

Temperature: (23,0 ± 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

RemarksSee Appendix A for test data.



2.2 Conducted Emissions at Telecommunication Ports

Test Date

Jul. 10, 2025

Test Location

Electro wave Shieldroom #6

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	EMI Test S/W	EMC32	R & S	9.12.00	-
☒	EMI TEST RECEIVER	ESR3	R & S	101783	11, 06, 2025
☒	LISN	ENV216	R & S	101786	01, 09, 2026
☒	ARTIFICIAL MAINS NETWORK	ESH2-Z5	R & S	100450	11, 06, 2025
☒	PULSE LIMITER	ESH3-Z2	R & S	101915	11, 06, 2025
☒	8-WIRE ISN CAT3,5	ENY81	R & S	100174	11, 12, 2025

Test Conditions

Temperature: (23,0 ± 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

RemarksSee Appendix A for test data.



2.3 Radiated Electric Field Emissions(Below 1 GHz)

Test Date

Jul. 09, 2025

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

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	EMI Test S/W	EP5/RE	TOYO Corporation	6.0.0	-
☒	EMI TEST RECEIVER	ESU26	R & S	100551	02, 13, 2026
☒	AMPLIFIER	SCU 01	R & S	100603	11, 06, 2025
☒	BILOG ANTENNA	VULB 9168	SCHWARZBECK	9168-461	05, 09, 2026
☒	ATTENUATOR	6806.17.A	HUBER+SUHNER	-	02, 13, 2026

Test Conditions

Temperature: (23,5 ± 0,1) °C

Relative Humidity: (46,0 ± 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

RemarksSee Appendix A for test data.



2.4 Radiated Electric Field Emissions(Above 1 GHz)

Test Date

Jul. 10, 2025

Test Location

SEMI ANECHOIC CHAMBER #5

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	EMI Test S/W	ES10/RE	TOYO Corporation	2022.01.000	-
☒	EMI TEST RECEIVER	ESU26	Rohde & Schwarz	100552	02, 13, 2026
☒	HORN ANTENNA	BBHA 9120D	SCHWARZBECK	9120D-1802	11, 04, 2025
☒	PREAMPLIFIER	8449B	HP	3008A00538	04, 30, 2026
☒	ATTENUATOR	8491B	HP	23094	02, 13, 2026

Test Conditions

Temperature: (23,1 ± 0,1) °C

Relative Humidity: (46,0 ± 0,1) % 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.
- The Average of the test data is the cispr average result.



APPENDIX A – TEST DATA

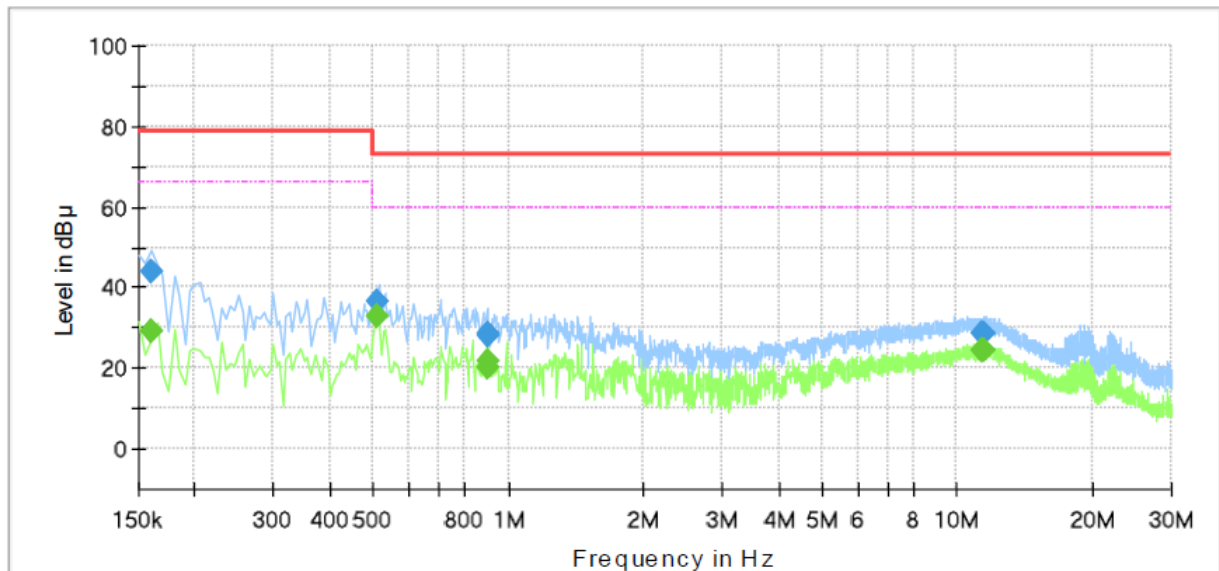
Conducted Emissions at Mains Power Ports

■ mode 1

HOT LINE

Common Information

Test Description: Conducted Emission
Job No.: KES-EM252073
Phase: L
Mode: Mode 1
Operator Name: KES



Final_Result

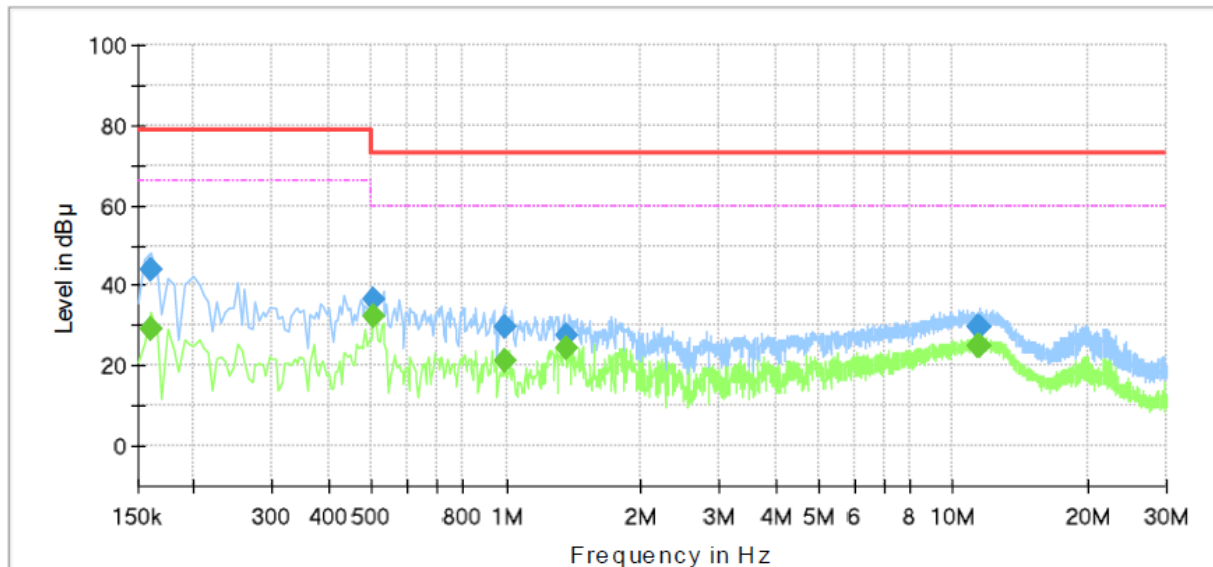
Frequency (MHz)	QuasiPeak (dB μ V)	CAverage (dB μ V)	Limit (dB μ V)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.160000	---	28.94	66.00	37.06	1000.0	9.000	L1	19.5
0.160000	43.99	---	79.00	35.01	1000.0	9.000	L1	19.5
0.510000	---	32.74	60.00	27.26	1000.0	9.000	L1	19.6
0.510000	36.64	---	73.00	36.36	1000.0	9.000	L1	19.6
0.895000	---	20.13	60.00	39.87	1000.0	9.000	L1	19.6
0.895000	28.47	---	73.00	44.53	1000.0	9.000	L1	19.6
0.900000	---	21.85	60.00	38.15	1000.0	9.000	L1	19.6
0.900000	28.00	---	73.00	45.00	1000.0	9.000	L1	19.6
11.305000	---	24.48	60.00	35.52	1000.0	9.000	L1	20.1
11.305000	28.77	---	73.00	44.23	1000.0	9.000	L1	20.1
11.515000	---	24.32	60.00	35.68	1000.0	9.000	L1	20.1
11.515000	28.77	---	73.00	44.23	1000.0	9.000	L1	20.1



NEUTRAL LINE

Common Information

Test Description: Conducted Emission
Job No.: KES-EM252073
Phase: N
Mode: Mode 1
Operator Name: KES



Final_Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.160000	---	29.14	66.00	36.86	1000.0	9.000	N	19.5
0.160000	43.86	---	79.00	35.14	1000.0	9.000	N	19.5
0.505000	---	32.52	60.00	27.48	1000.0	9.000	N	19.5
0.505000	36.62	---	73.00	36.38	1000.0	9.000	N	19.5
0.990000	---	21.01	60.00	38.99	1000.0	9.000	N	19.6
0.990000	29.61	---	73.00	43.39	1000.0	9.000	N	19.6
1.360000	---	24.32	60.00	35.68	1000.0	9.000	N	19.6
1.360000	27.60	---	73.00	45.40	1000.0	9.000	N	19.6
11.315000	---	24.85	60.00	35.15	1000.0	9.000	N	20.1
11.315000	29.63	---	73.00	43.37	1000.0	9.000	N	20.1
11.450000	---	24.91	60.00	35.09	1000.0	9.000	N	20.1
11.450000	29.72	---	73.00	43.28	1000.0	9.000	N	20.1

◆ 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))

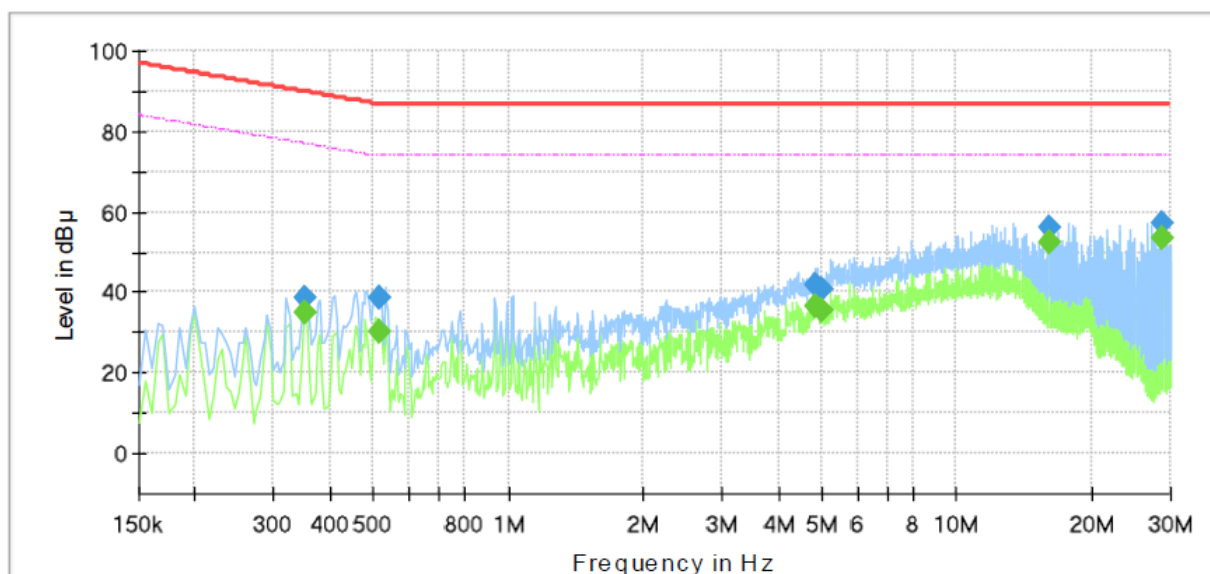
**Conducted Emissions at Telecommunication Ports**

■ mode 1

[100 Mbps]

Common Information

Test Description: Telecommunication Emission
Job No.: KES-EM252073
Mode : Mode 1
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)
0.350000	---	35.12	76.96	41.84	1000.0	9.000	Single Line	19.5
0.350000	38.53	---	89.96	51.43	1000.0	9.000	Single Line	19.5
0.515000	---	30.15	74.00	43.85	1000.0	9.000	Single Line	19.5
0.515000	38.54	---	87.00	48.46	1000.0	9.000	Single Line	19.5
4.865000	---	36.71	74.00	37.29	1000.0	9.000	Single Line	19.5
4.865000	41.76	---	87.00	45.24	1000.0	9.000	Single Line	19.5
4.980000	---	35.23	74.00	38.77	1000.0	9.000	Single Line	19.5
4.980000	40.97	---	87.00	46.03	1000.0	9.000	Single Line	19.5
16.165000	---	52.22	74.00	21.78	1000.0	9.000	Single Line	19.8
16.165000	55.85	---	87.00	31.15	1000.0	9.000	Single Line	19.8
28.685000	---	53.23	74.00	20.77	1000.0	9.000	Single Line	20.2
28.685000	56.97	---	87.00	30.03	1000.0	9.000	Single Line	20.2

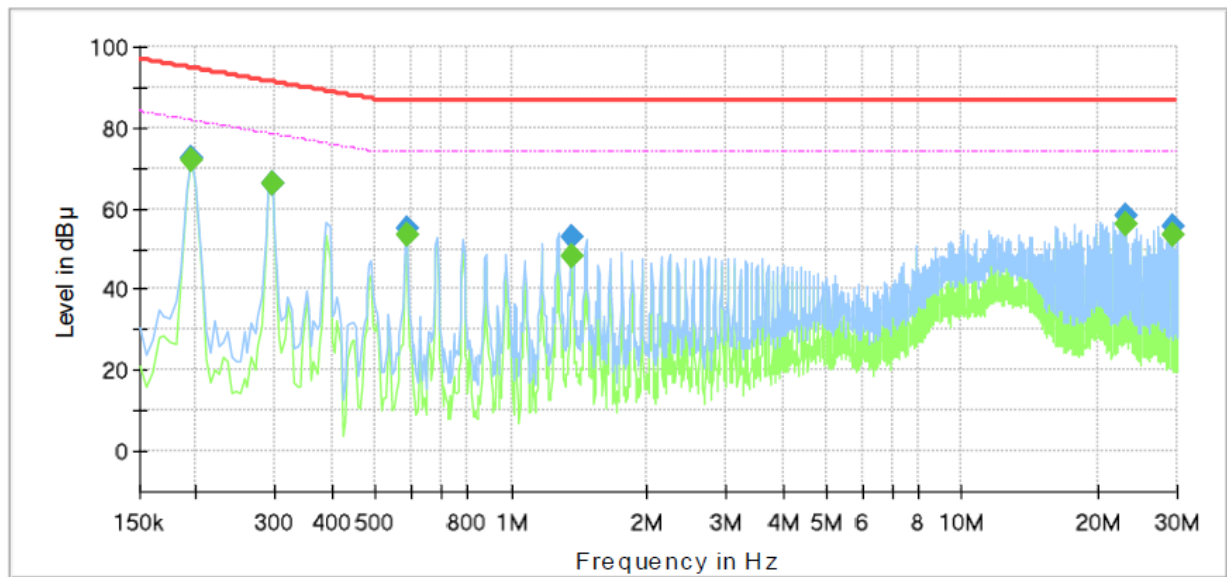


■ mode 2

[100 Mbps]

Common Information

Test Description: Telecommunication Emission
Job No.: KES-EM252073
Mode : Mode 2
Speed : 100 Mbps
Operator Name: KES



Final_Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.195000	---	72.06	81.82	9.76	1000.0	9.000	Single Line	19.7
0.195000	72.39	---	94.82	22.43	1000.0	9.000	Single Line	19.7
0.295000	---	66.02	78.38	12.36	1000.0	9.000	Single Line	19.6
0.295000	66.24	---	91.38	25.14	1000.0	9.000	Single Line	19.6
0.585000	---	53.54	74.00	20.46	1000.0	9.000	Single Line	19.5
0.585000	55.04	---	87.00	31.96	1000.0	9.000	Single Line	19.5
1.365000	53.03	---	87.00	33.97	1000.0	9.000	Single Line	19.4
1.365000	---	47.94	74.00	26.06	1000.0	9.000	Single Line	19.4
23.130000	---	56.11	74.00	17.89	1000.0	9.000	Single Line	20.1
23.130000	58.15	---	87.00	28.85	1000.0	9.000	Single Line	20.1
29.235000	---	53.29	74.00	20.71	1000.0	9.000	Single Line	20.2
29.235000	55.66	---	87.00	31.34	1000.0	9.000	Single Line	20.2

◆ Calculation

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

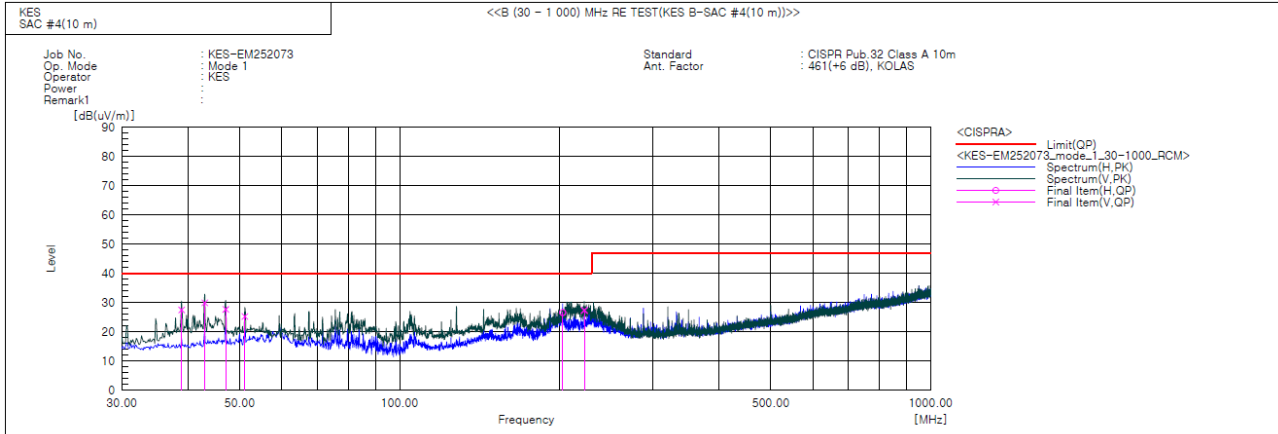
QuasiPeak / CAverage : The Final Value

Reading Value : Not shown in the table.

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

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

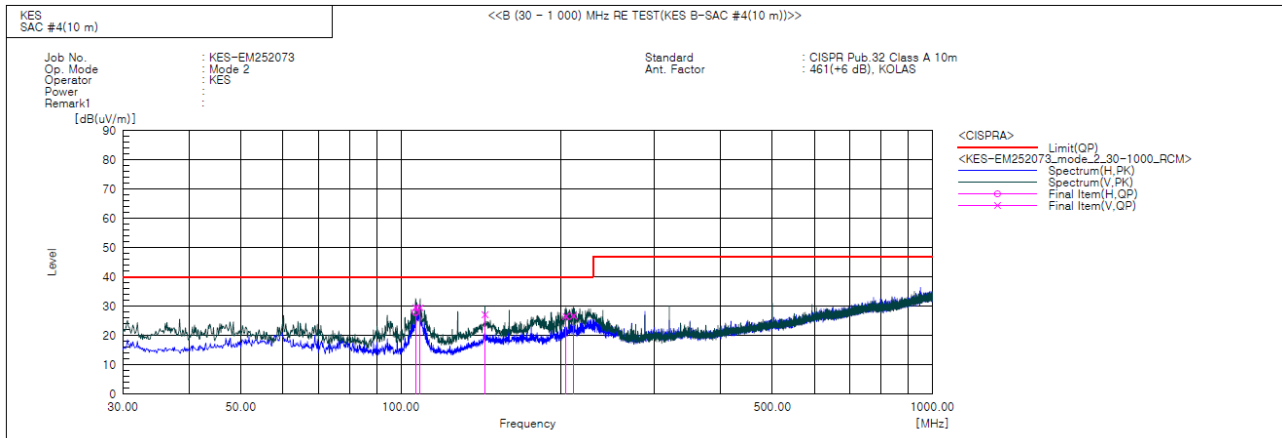
■ mode 1

**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	38.851	V	49.4	-21.9	27.5	40.0	12.5	104.0	12.0	
2	42.974	V	51.4	-21.5	29.9	40.0	10.1	106.0	356.0	
3	47.096	V	48.8	-21.1	27.7	40.0	12.3	106.0	207.0	
4	51.098	V	46.2	-20.9	25.3	40.0	14.7	109.0	83.0	
5	202.781	H	48.4	-21.8	26.6	40.0	13.4	400.0	247.0	
6	222.666	V	48.5	-21.1	27.4	40.0	12.6	115.0	192.0	



■ mode 2



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	106.630	V	53.5	-23.9	29.6	40.0	10.4	103.0	99.0	
2	106.630	H	51.8	-23.9	27.9	40.0	12.1	392.0	179.0	
3	108.813	V	53.1	-23.6	29.5	40.0	10.5	102.0	76.0	
4	143.975	V	46.7	-19.6	27.1	40.0	12.9	118.0	122.0	
5	204.479	V	48.3	-21.8	26.5	40.0	13.5	115.0	205.0	
6	211.390	V	48.3	-21.6	26.7	40.0	13.3	130.0	250.0	

◆ Calculation

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

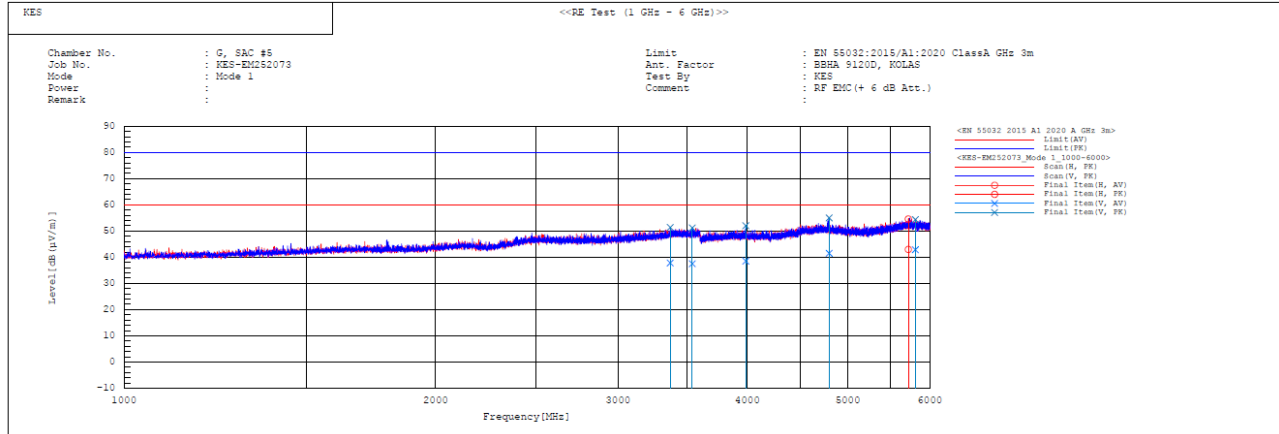
Margin(QP)[dB] = Limit[dB(μV/m)] - Result(QP) [dB(μV/m)]

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

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

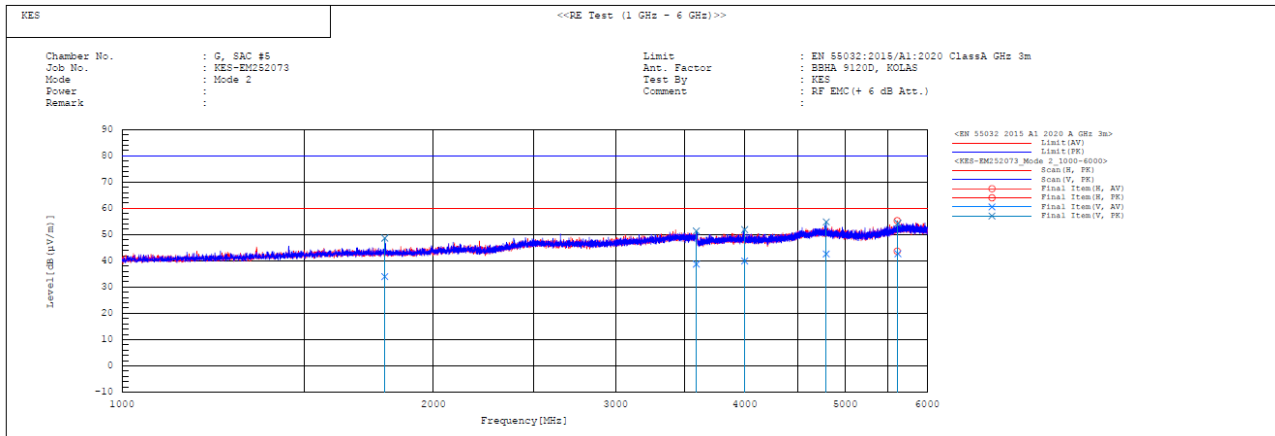
■ mode 1

**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	3370.523	V	30.7	44.3	7.1	37.8	51.4	60.0	80.0	22.2	28.6	100.0	340.3	
2	3539.556	V	30.1	43.8	7.4	37.5	51.2	60.0	80.0	22.5	28.8	100.0	152.8	
3	3987.034	V	29.6	43.1	8.9	38.5	52.0	60.0	80.0	21.5	28.0	100.0	132.3	
4	4797.680	V	29.7	43.2	11.8	41.5	55.0	60.0	80.0	18.5	25.0	100.0	167.8	
5	5721.635	H	29.1	40.7	13.9	43.0	54.6	60.0	80.0	17.0	25.4	100.0	317.7	
6	5811.050	V	28.6	40.2	14.2	42.8	54.4	60.0	80.0	17.2	25.6	100.0	83.2	



mode 2



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	1795.174	V	31.8	46.4	2.2	34.0	48.6	60.0	60.0	26.0	31.4	100.0	179.7	
2	3550.209	V	31.2	43.8	7.5	38.7	51.3	60.0	60.0	21.3	28.7	100.0	141.1	
3	3997.630	V	31.0	43.0	8.9	39.9	51.9	60.0	60.0	20.1	29.1	100.0	130.6	
4	4794.449	V	30.9	43.1	11.7	42.6	54.8	60.0	60.0	17.4	25.2	100.0	157.4	
5	5614.550	H	30.1	41.7	13.6	43.7	55.3	60.0	60.0	16.3	24.7	100.0	330.0	
6	5622.359	V	29.1	40.7	13.6	42.7	54.3	60.0	60.0	17.3	25.7	100.0	335.9	

◆ 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

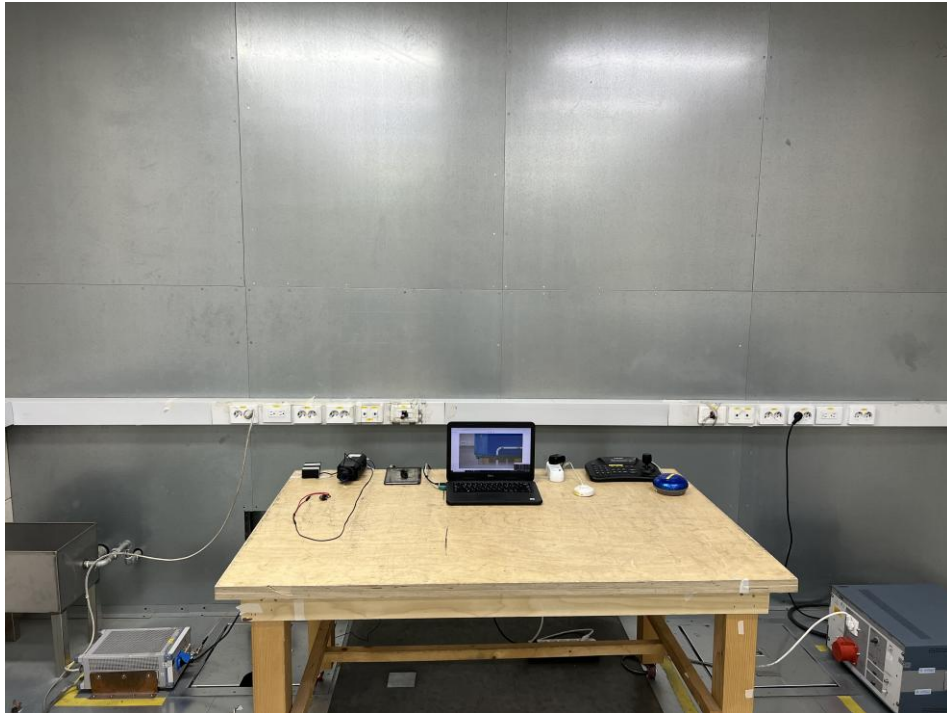
Limit(PK/CAV) : Limit value, c.f : (ANT Factor + Cable Loss - Preamp Factor), Margin: Margin value



Test Setup Photos and Configuration

Conducted Emissions at Mains Power Ports

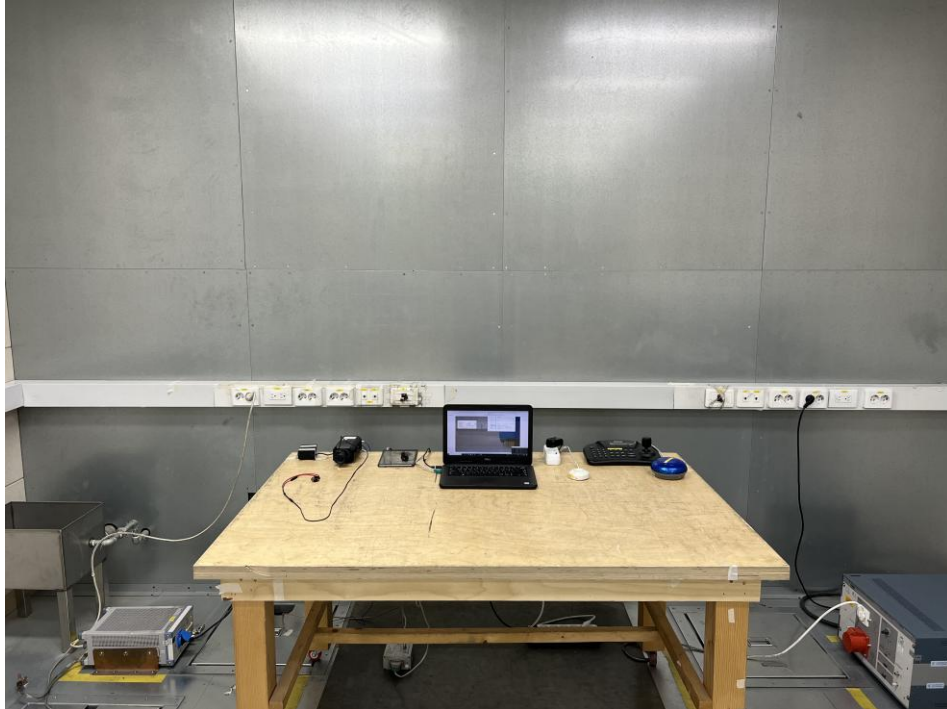
■ mode 1





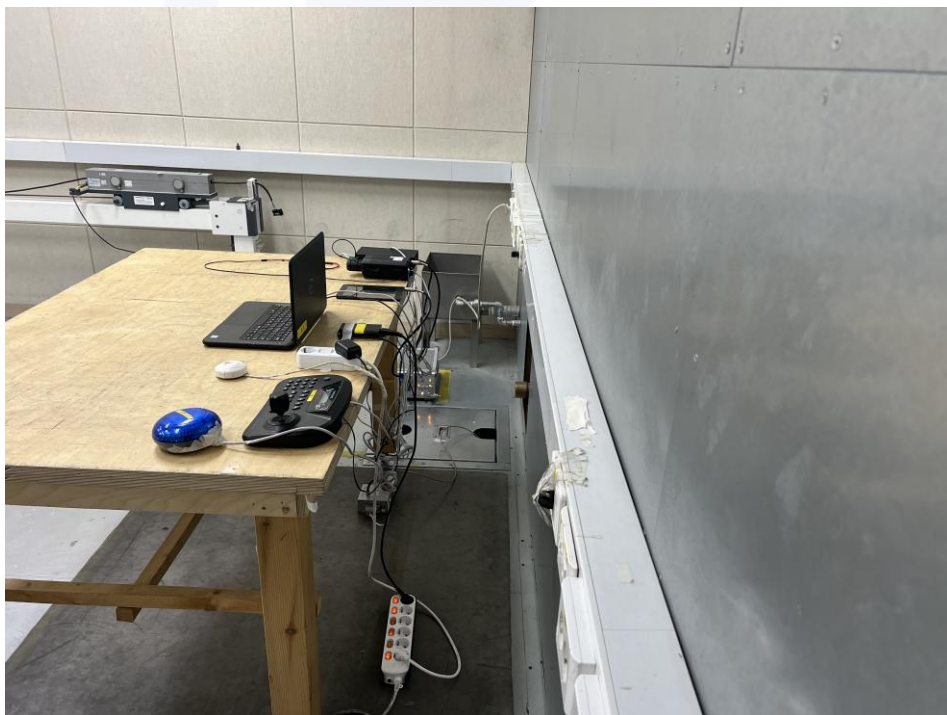
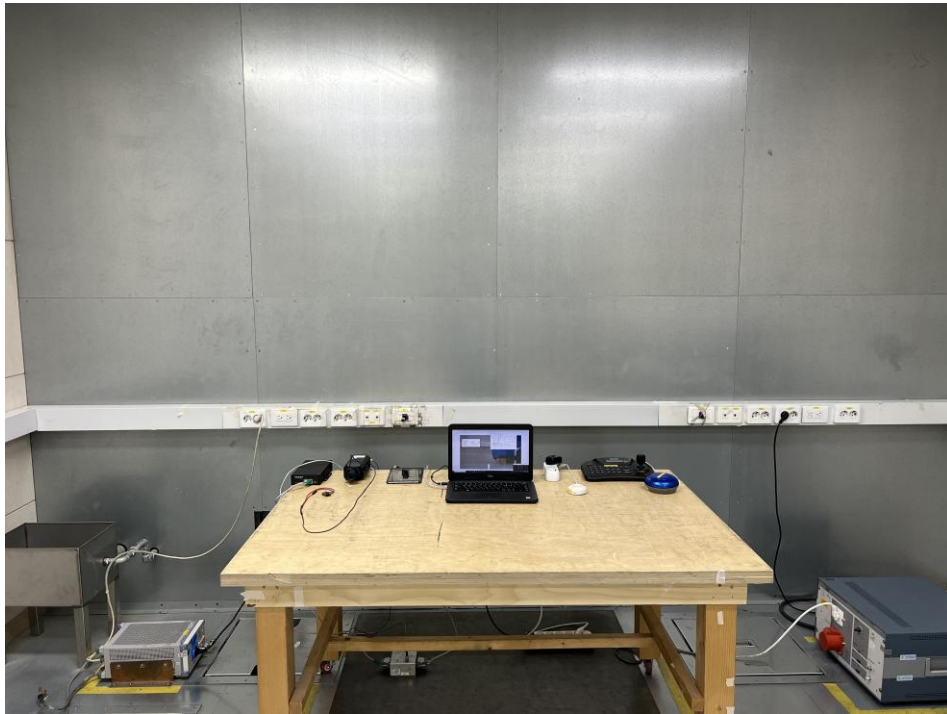
Conducted Emissions at Telecommunication Ports

■ mode 1





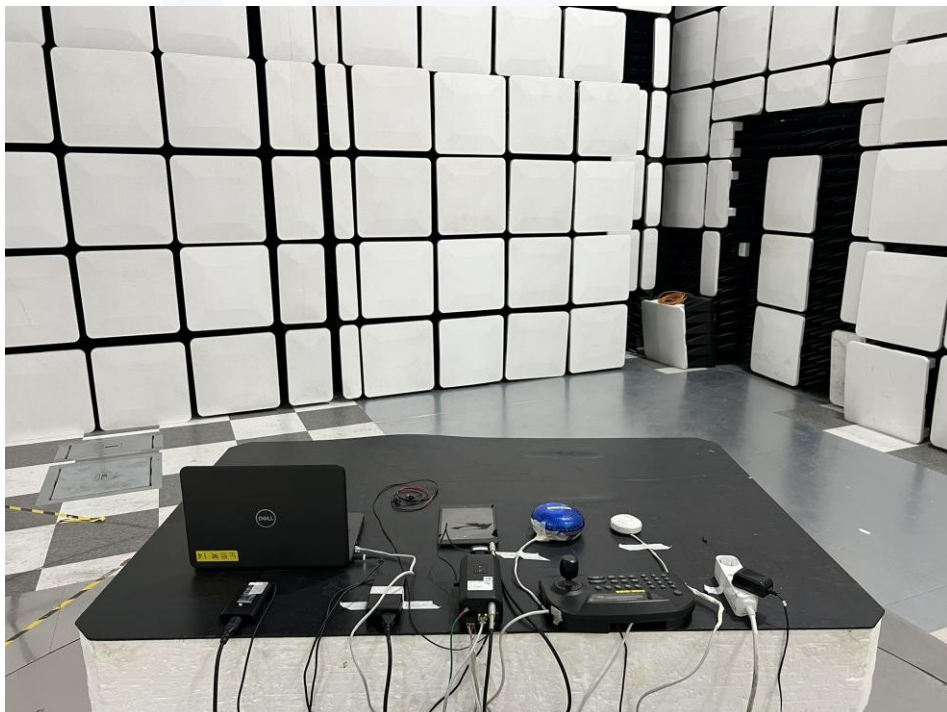
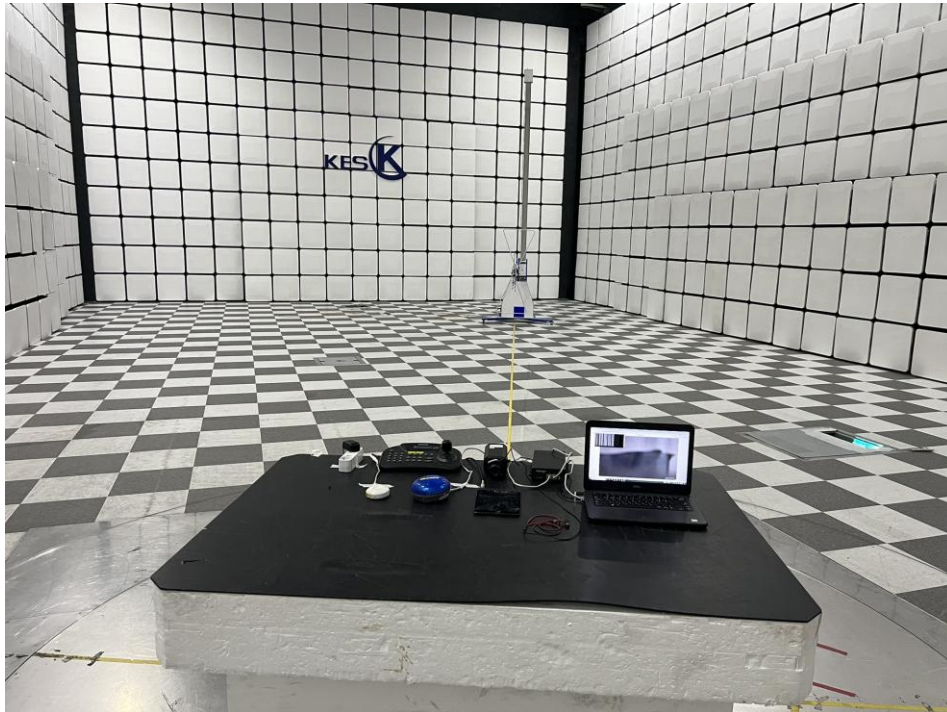
■ mode 2





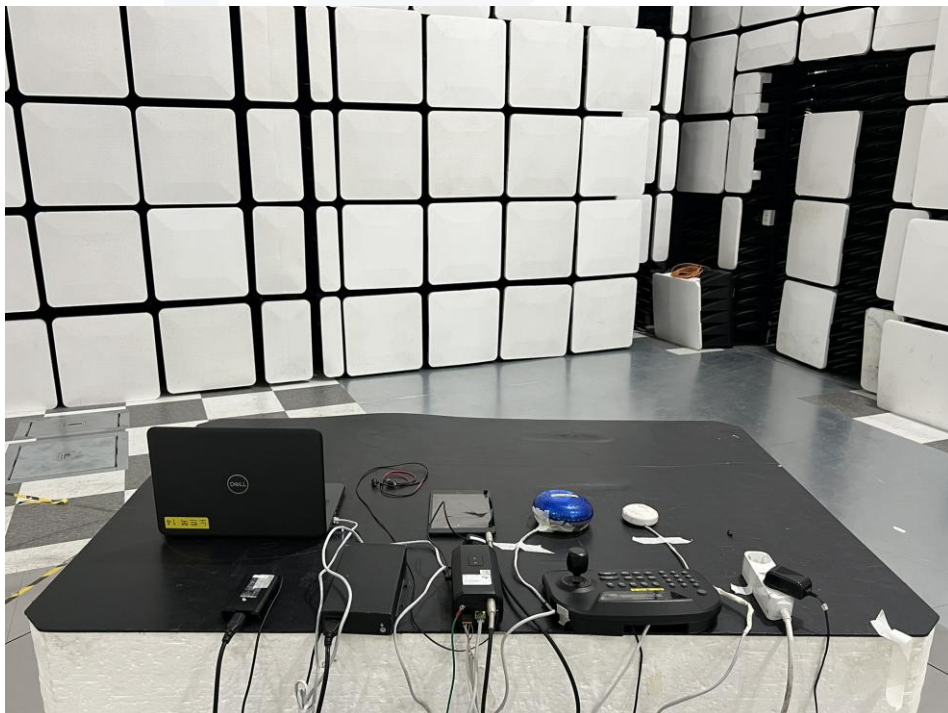
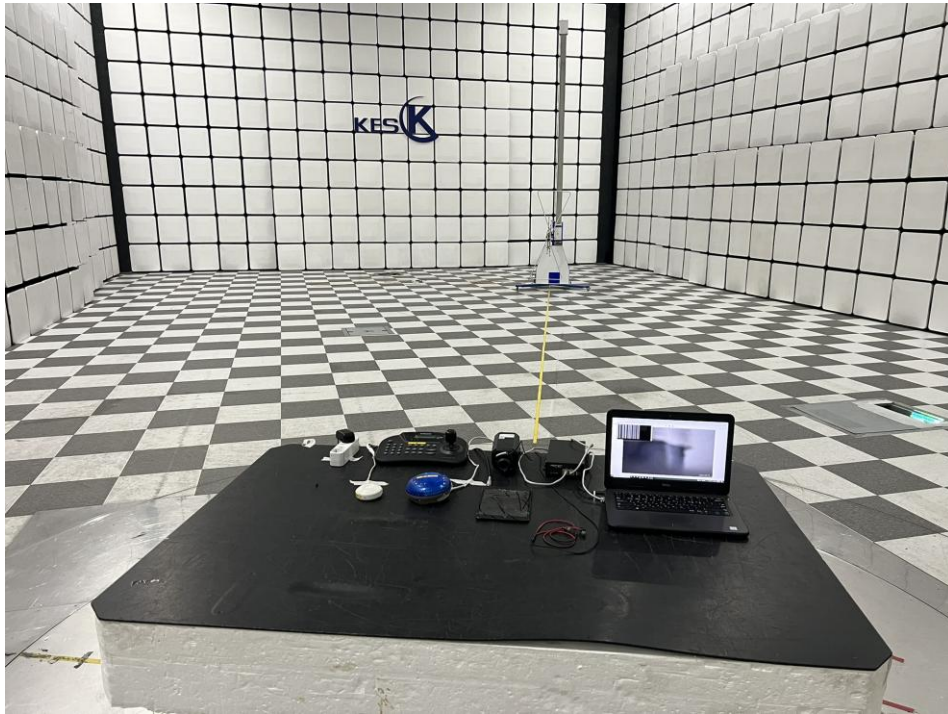
Radiated Electric Field Emissions(Below 1 GHz)

■ mode 1





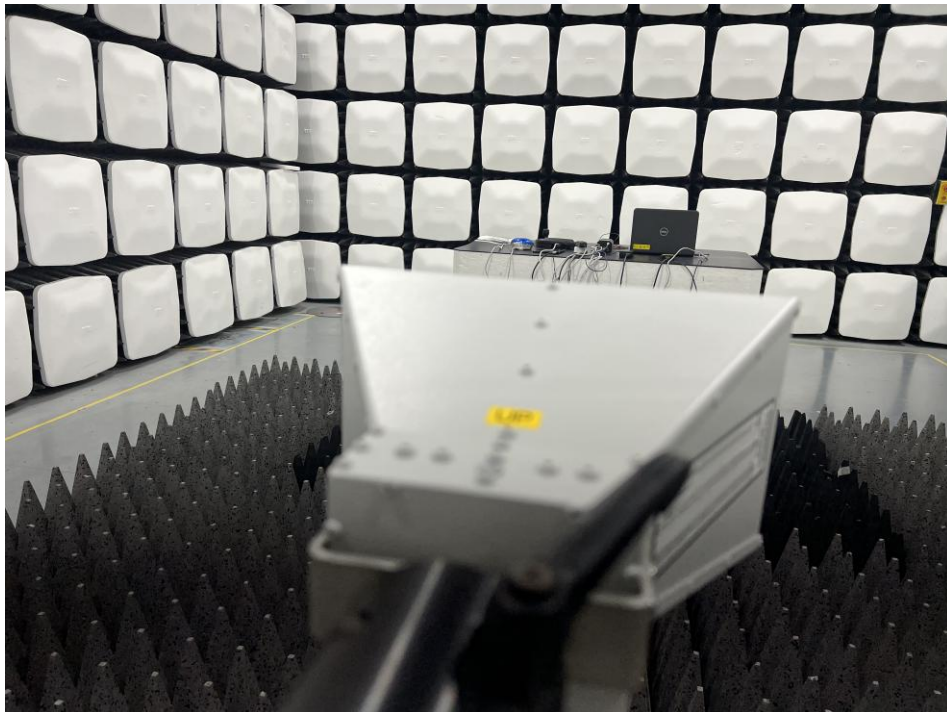
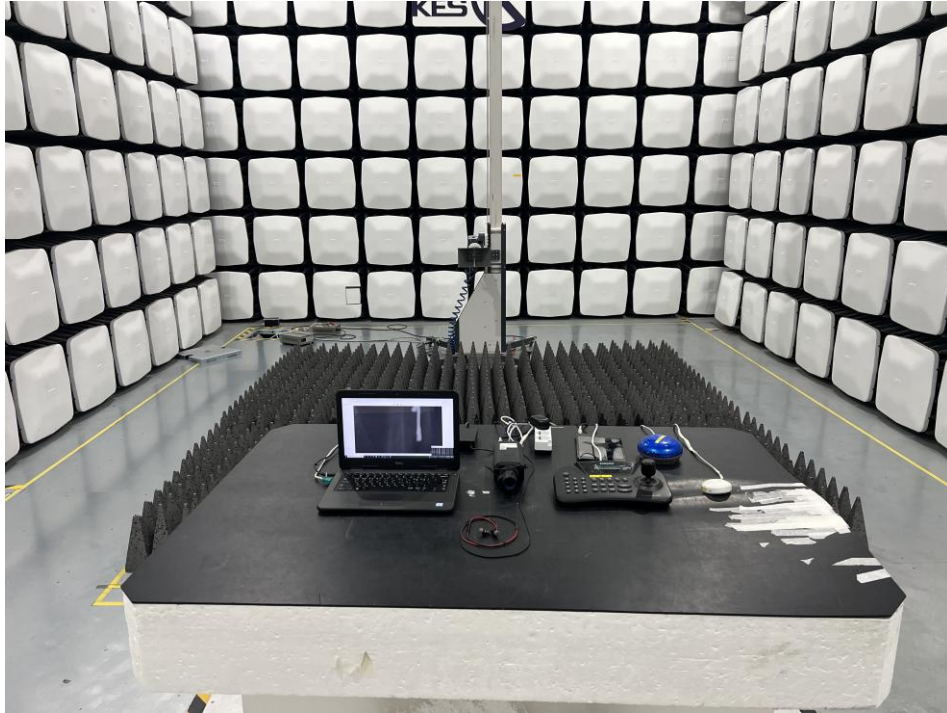
■ mode 2





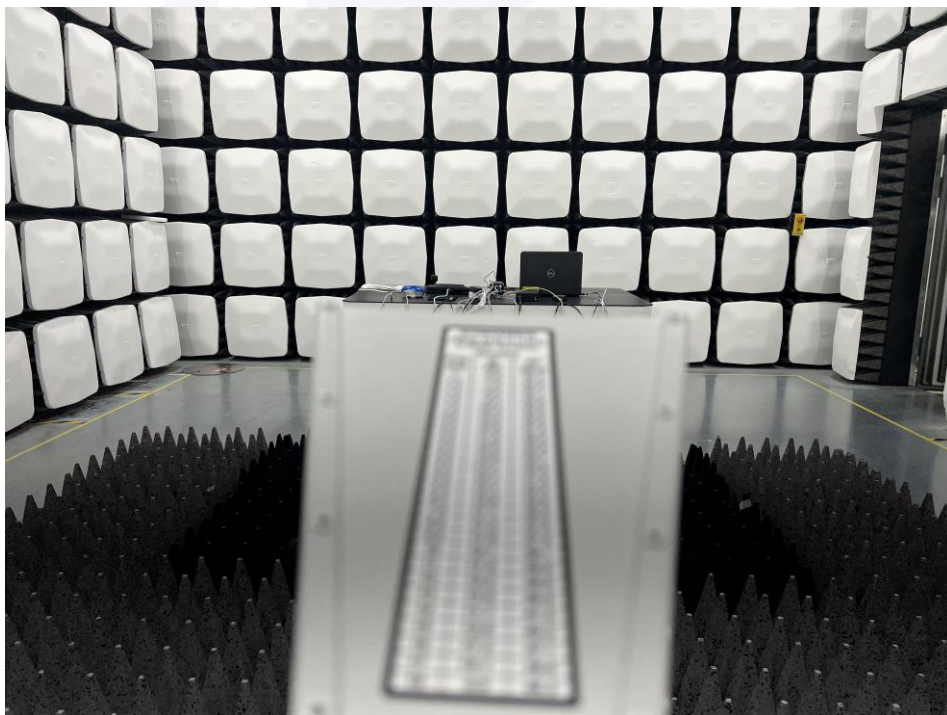
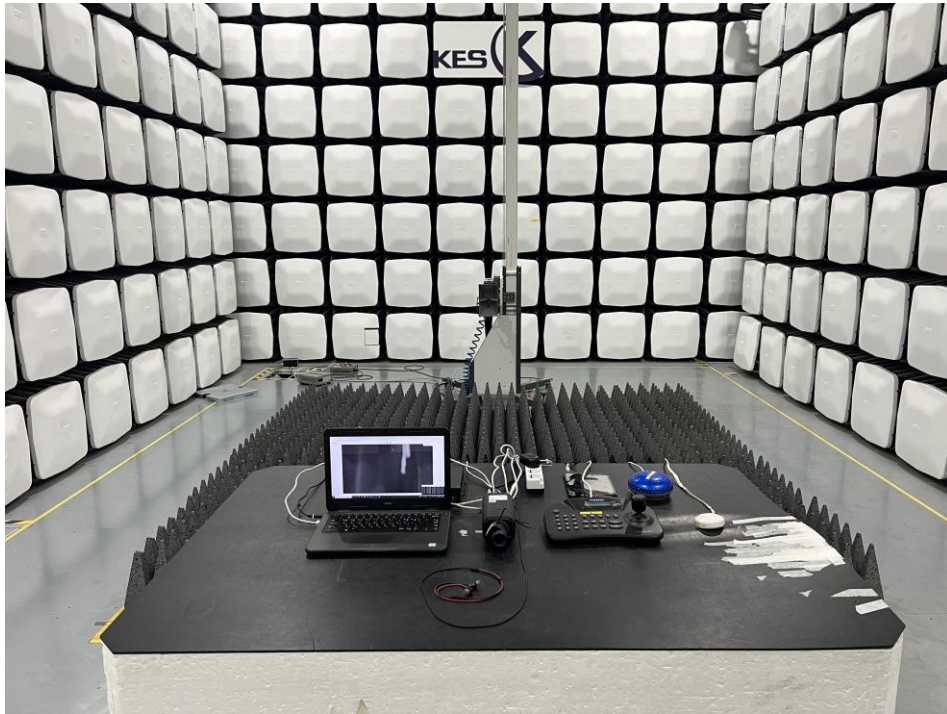
Radiated Electric Field Emissions(Above 1 GHz)

■ mode 1





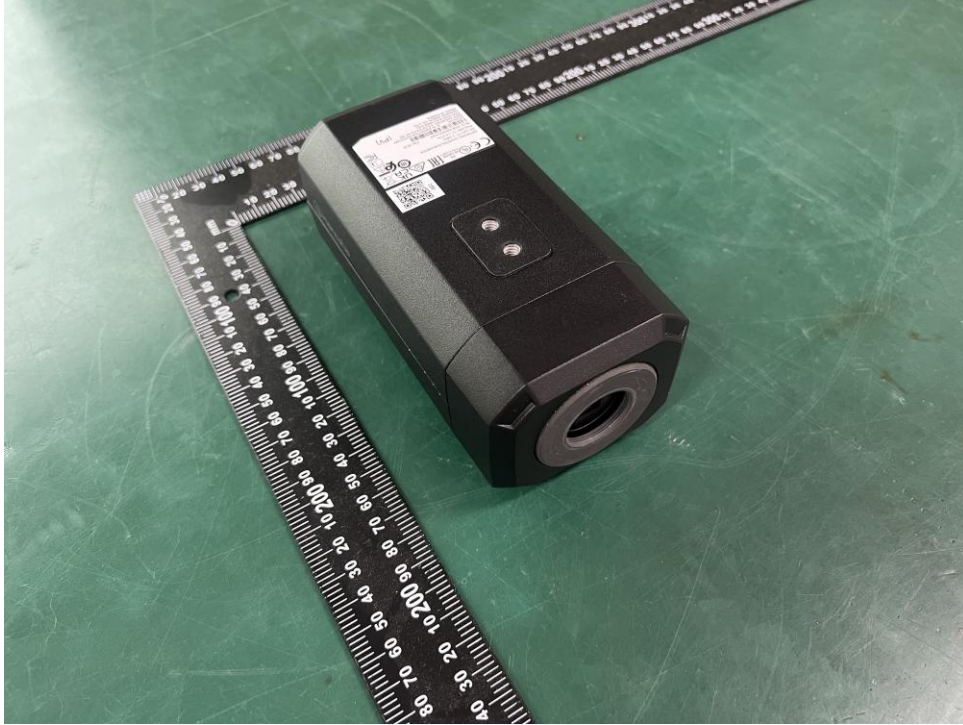
■ mode 2





EUT External Photographs

(Top)



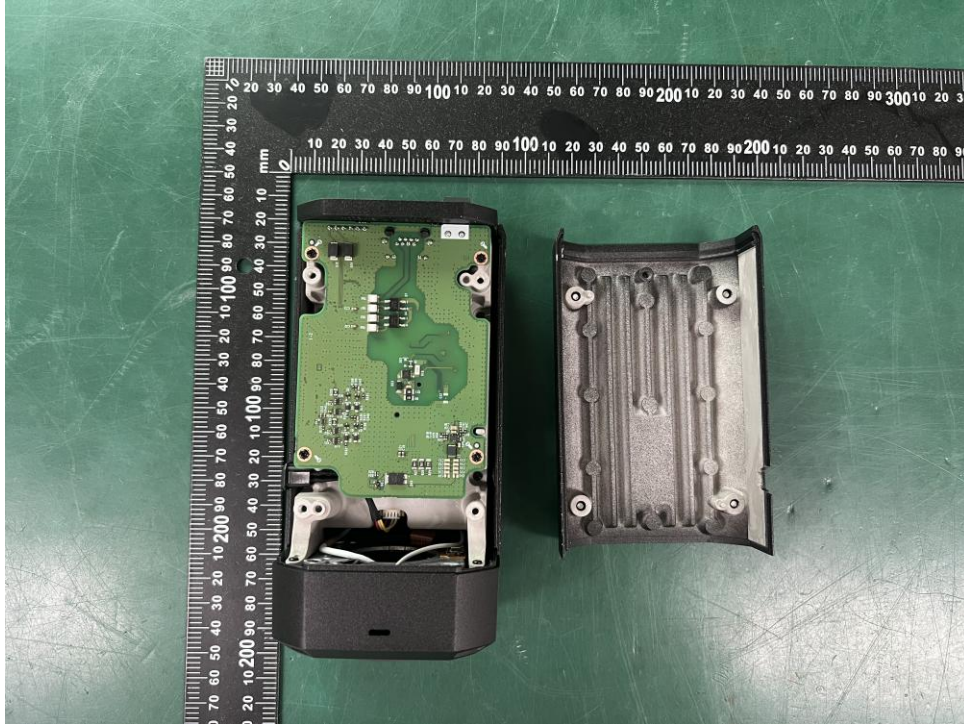
(Bottom)





EUT Internal Photographs

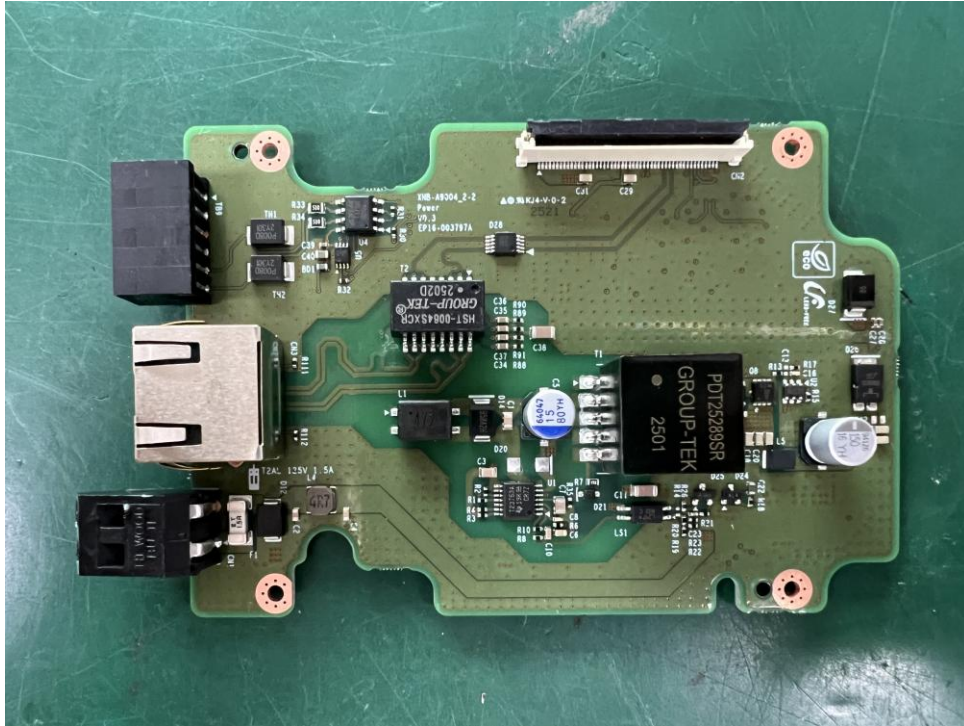
(Internal View)



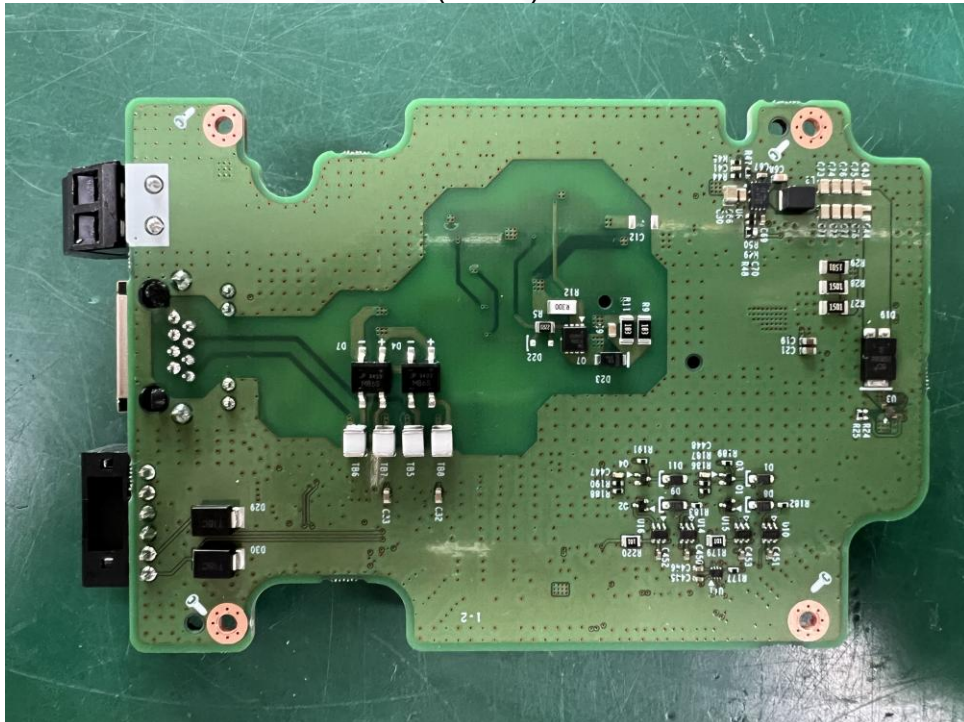


EUT Internal View – Board 1

(Top)



(Bottom)



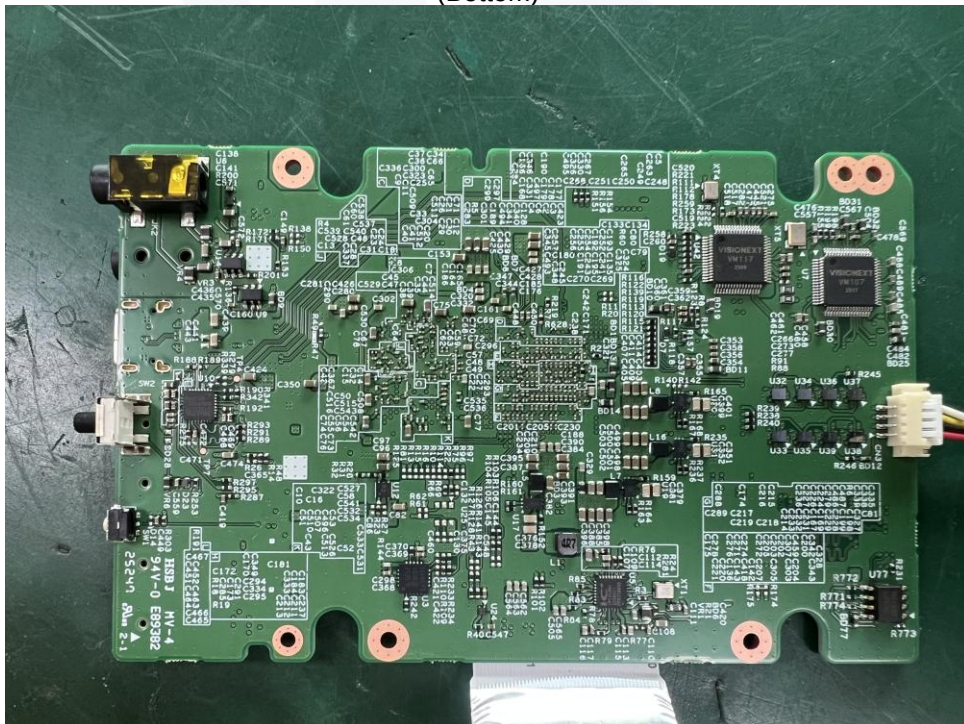


EUT Internal View – Board 2

(Top)



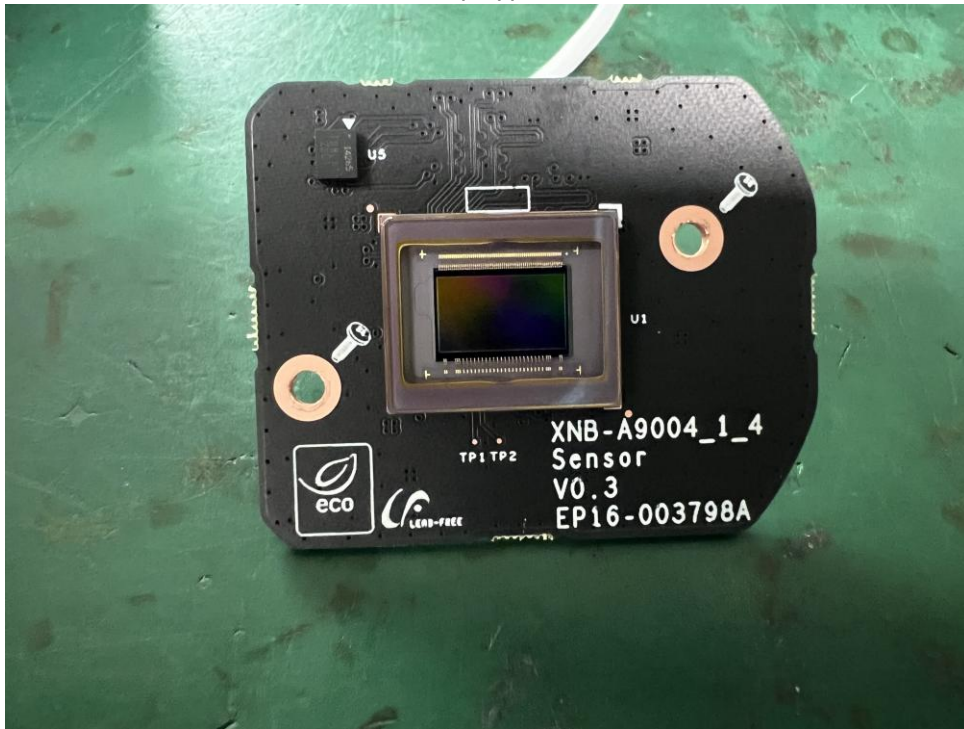
(Bottom)



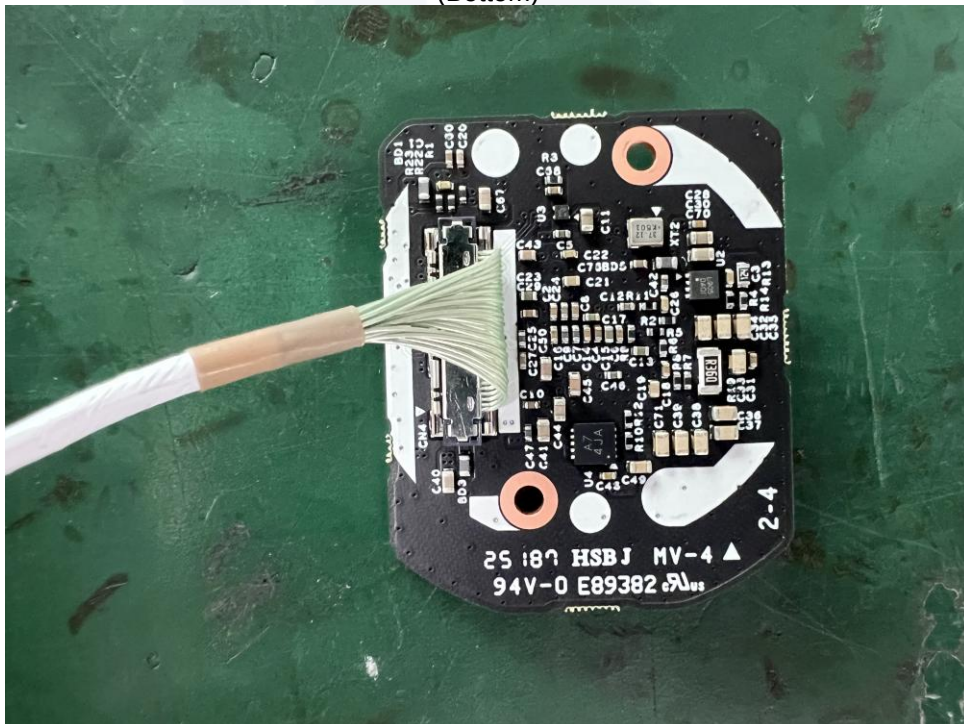


EUT Internal View – Board 3

(Top)



(Bottom)



The End.