



TEST REPORT



Report No. : KES-EM243532

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KES Co., Ltd.

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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. : TNV-C8014RM

Variant Model : TNV-C8034RM, SPG-VAN23W

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 : Oct. 15, 2024

4. Test date : Oct. 29, 2024 ~ Oct. 31, 2024

5. Date of Issue : Nov. 14, 2024

6. Test Results : In Compliance

Tested by

Reviewed by

Sung Keun, Park
EMC Test Engineer

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).

**REPORT REVISION HISTORY**

Date	Test Report No.	Revision History
Nov. 14, 2024	KES-EM243532	Issued

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1.0 General Product Description

Main Specifications of DUT are:

Item		Issue
Power		DC 12 V, DC 24 V
Test Power		DC 13.5 V, DC 27 V
I/O Port		4Pin 1 EA, SPEAKER 1 EA, MIC 1 EA, Micro SD Slot 1 EA
Unused Port		Micro 5 Pin 1 EA
Function	Product Features	NETWORK CAMERA
	Wireless Function	N/A
Components		EUT 1 EA



Internal highest operating frequency : 1.866 MHz

Video	
Imaging Device	1/2.8" CMOS
Resolution	2592x1944, 2560x1440, 1920x1080, 1280x960, 1280x720, 800x600, 800x448, 720x576, 720x480, 640x480, 640x360, 320x240
Max. Framerate	H.265/H.264: Max. 30fps/25fps(60Hz/50Hz) (WDR on/off) MJPEG: Max. 30fps(@5MP Max. 5fps)
Min. Illumination	Color: 0.03Lux (F1.6, 1/30sec) BW: 0.003Lux (F1.6, 1/30sec, 30IRE), 0Lux(IR LED on)
Video Out	USB: Micro USB Type B, 1280x720 for installation
Lens	
Focal Length (Zoom Ratio)	3.0mm fixed focal
Max. Aperture Ratio	F1.6
Angular Field of View	H: 100°/ V: 73°/ D: 129°
Min. Object Distance	0.5m (1.64ft)
Focus Control	Fixed
Lens Type	Fixed IRIS
Mount Type	M12
Pan / Tilt / Rotate	
Pan / Tilt / Rotate Range	±5° / 0°~67° / ±90°
Operational	
Camera Title	Displayed up to 85 characters
Day & Night	Auto(ICR)
Backlight Compensation	BLC, WDR, SSDR, Clear HDR
Wide Dynamic Range	120dB
Digital Noise Reduction	WiseNR II (Based on AI engine) SSNR V
Digital Image Stabilization	Support(built-in gyro sensor)
Defog	Support : Manual
Motion Detection	8ea, 8point polygonal zones
Privacy Masking	32ea, 4point quadrangle zones - Color: Gray/Green/Red/Blue/Black/White Dynamic Privacy Mask - Mosaic
Gain Control	Low / Middle / High
White Balance	ATW / AWC / Manual / Indoor / Outdoor
LDC	Support
Electronic Shutter Speed	Minimum / Maximum / Anti flicker (1/5~1/25,000sec) Prefer shutter control(Based on AI engine)
Digital PTZ	Support
Video Rotation	Flip, Mirror, Hallway view(90°/270°)
Analytics	Classified object type: Person/Vehicle(Type:car/bus/truck/motorcycle/bicycle) Attributes: Person(Upper/lower clothes color), Vehicle(Type:car/bus/truck/motorcycle/bicycle and color) Support BestShot Analytics events based on AI engine - Motion detection*, Object detection, Virtual line*(Crossing/Direction), Virtual area*(Loitering/Intrusion/Enter/Exit) Analytics events - Defocus detection, Tampering, Shock detection , Virtual area(Appear/Disappear) * Some of the video analytics only works with people and vehicle detection



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Business Intelligence	Based on AI engine: People counting, Vehicle counting, Queue management, Heatmap
Serial Interface	None
Alarm I/O	None
Alarm Triggers	Analytics, Network disconnect, MQTT subscription
Alarm Events	When alarm trigger occurred - File upload(image) : e-mail/FTP/SFTP - Notification : e-mail - Recording : SD/SDHC/SDXC or NAS recording at event triggers - Handover(PTZ preset, Send message by HTTP/HTTPS/TCP/Custom String) - Audio clip playback - MQTT: publication
Audio Streaming	None
Audio In	Selectable(Mic in/Line in/Built-in mic)
Audio Out	Line out
Light Type	IR LED (850nm)
Light Viewable Length	20m(65.62ft) (QA컨펌대기중)
Network	
Ethernet	M12(10/100BASE-T)
Video Compression	H.265/H.264: Main/High, MJPEG
Audio Compression	G.711 u-law /G.726 selectable G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps AAC-LC: 48Kbps at 16KHz
Smart Codec	Manual(Sea area), WiseStreamIII(Based on AI engine)
Video Quality Adjustment	H.264/H.265: Target bitrate level control MJPEG: Quality Level control
Bitrate Control	H.264/H.265: CBR or VBR MJPEG: VBR
Streaming	Unicast(20 users) / Multicast 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
SIP support (VoIP, Peer-to-peer)	None
Security	None
Application Programming Interface	ONVIF Profile S/G/T/M SUNAPI(HTTP API) Hanwha Vision Open Platform
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)
Access Control	IP-based access control
Data Protect	Encryption credentials, Encrypt compress for live recording file
Audit	Access / System / Event Log management
Device ID	Device certificate(Hanwha Vision Root CA)
Secure Storage	SDcard partition encrypt
Security Certificate	None
General	
Webpage Language	English, Korean, Simplified Chinese, Traditional Chinese, French, Italian, Spanish, German, Japanese, Russian, Portuguese, Czech, Polish, Turkish, Dutch, Hungarian, Greek
Web Viewer	None
Edge Storage	Micro SD/SDHC/SDXC 1slot 256GB
Memory	2GB RAM, 1GB Flash



Environmental & Electrical	
Operating Temperature / Humidity	-40°C~+55°C(-40°F~+131°F) / 0~100% RH(Condensing) * Start up should be done at above -30°C Humidity control /w Air vapor control
Storage Temperature / Humidity	-40°C~+55°C(-40°F~+131°F) / 0~95% RH
Wind Load	None
EPA(Effective Projected Area)	None
Certification	IP66, IK10
Input Voltage	PoE(IEEE802.3af, Class3)
Power Consumption	PoE: Max 7.2W, typical 4.2W
Mechanical	
Color / Material	White / Aluminum
RAL Code	RAL9003
Product Dimensions / Weight	106x105x55mm(4.17x4.13x2.17"), 466g(1.03 lb)
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, EN 61000-3-2, EN 61000-3-3 VCCI CISPR 32 Class A RCM AS/NZS CISPR 32 Class A Railway/Vehicle Application EN50121-4, EN50121-3-2
Safety	UL 62368-1, CAN/CSA C22.2 NO. 62368-1 IEC/EN 62471
Environment	IEC/EN 63000 IEC/EN 60529 IP66, IEC/EN 62262 IK10 Railway/Vehicle Application JIS E 5006, IEC62236-3-2, IEC62236-4, EN50121-4, , JIS E 4031, EN50498, EN50155, IEC/EN61373, EN45545-2 HL3,
Video	None
Compatible Models	
Dome Cover	SPB-VAN23W, SPG-VAN23W
Other Compatible Models	SBD-110GPA
DORI (EN62676-4 standard)	
Detect (25PPM/ 8PPF)	43.5m(142.71ft)
Observe (63PPM/ 19PPF)	17.5m(57.09ft)
Recognize (125PPM/ 38PPF)	8.7m(28.54ft)
Identify (250PPM/ 76PPF)	4.3m(14.27ft)



1.1 Test Voltage & Frequency

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

Voltage ☒ DC 27 V ☒ DC 13.5 V

1.2 Variant Model Differences

- TNV-C8034RM : Fixed Lens Difference
- SPG-VAN23W : Add derivative model for vendor management

1.3 Device Modifications

Not applicable

1.4 Configuration

Description	Model Number	Serial Number	Manufacturer	Remarks
NETWORK CAMERA	TNV-C8014RM	-	HANWHA VISION VIETNAM COMPANY LIMITED	DUT

1.5 System Configuration

Description	Model Number	Serial Number	Manufacturer	Remarks
-	-	-	-	-

1.6 Support Equipments

Description	Model Number	Serial Number	Manufacturer	Remarks
Laptop	LG15U56	605NZ8J002174	LG Electronics	-
Laptop Adaptor	ADS-65AI-19-3	EAY65689605	SHENZHEN HONOR ELECTRONIC CO.,LTD.	-
Phone	SHV-E330S	-	Samsung	-
NETWORK SWITCH	SPN-10080P	-	Hanwha Vision Co., Ltd.	-
Headset	K550	-	Britz®	-
Micro SD Card	-	-	Sandisk	-
4Pin to RJ-45 Connector	-	-	-	-



1.7 External I/O Cabling

■ #1, #2

Start		END		Cable Spec.	
Description	I/O Port	Description	I/O Port	Length	Shield
NETWORK CAMERA (DUT)	4Pin	4Pin to RJ-45 Connector	4Pin	-	-
	SPEAKER	Headset	3.5 mm	1.8	U
	MIC		3.5 mm	1.8	U
	Micro SD Card Slot	Micro SD Card	Micro SD Card Slot	-	-
Laptop	3.5 mm	Phone	3.5 mm	1.5	U
	DC IN	Laptop Adaptor	DC OUT	1.6	U
	RJ-45	NETWORK SWITCH	RJ-45	1.0	U
NETWORK SWITCH	RJ-45(PoE)	4Pin to RJ-45 Connector	RJ-45	3.5	U

* Unshielded=U, Shielded=S

1.8 DUT Operating Mode(s)

Mode	Test mode	operating
#1	DC 12 V	1. Monitoring EUT Using Web Viewer, 2. Ping Test Mode 3. After the test, check if the EUT video has been recorded normally.
#2	DC 24 V	1. Monitoring EUT Using Web Viewer, 2. Ping Test Mode 3. After the test, check if the EUT video has been recorded normally.

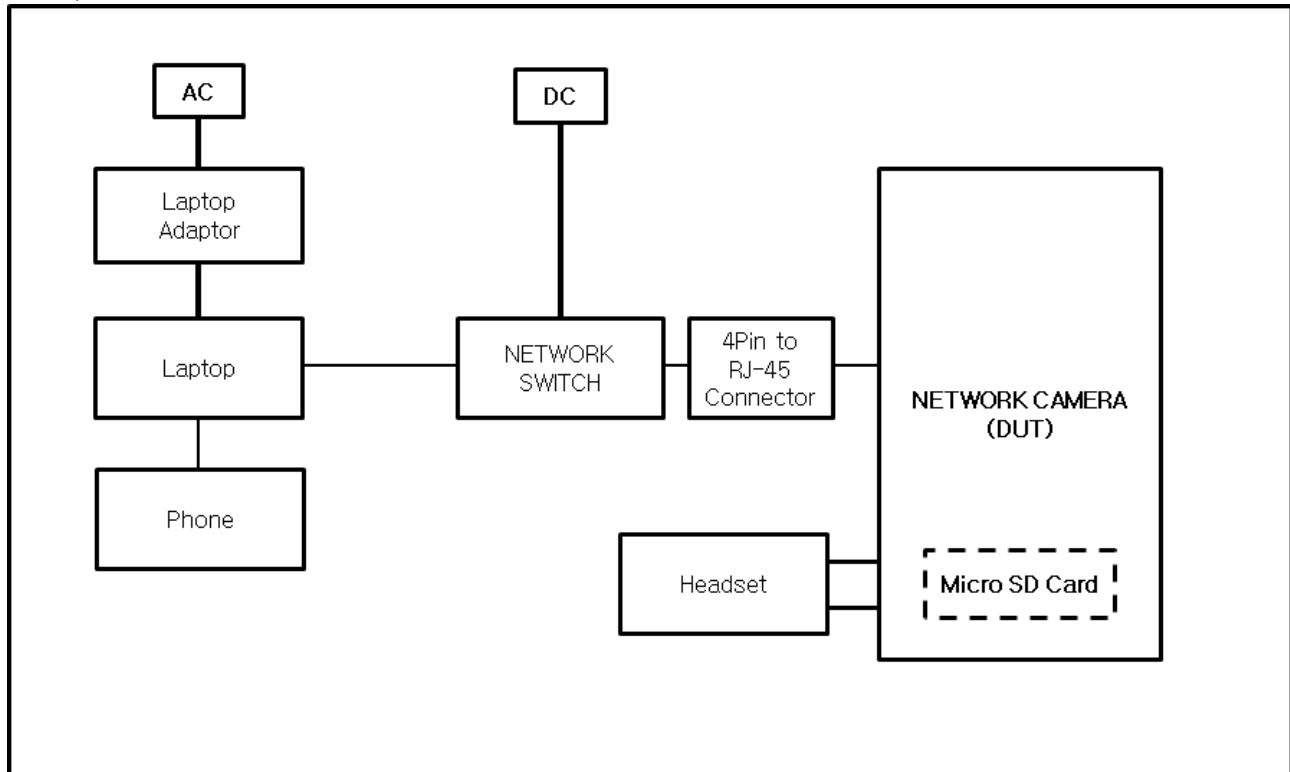
EUT Test operating S/W		
Name	Version	Manufacture Company
Web Viewer	-	Hanwha Vision Co., Ltd.



1.9 Configuration

- ☐ DC Main(13.5 V dc)
- ☐ DC Main(27.0 V dc)

■ #1, #2



**1.10 Remarks when standards applied**

The Micro 5 pin port was excluded from the test because it was for administrators.

1.11 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.

1.12 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

1.13 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:

☒ **EMC – Directive 2014/30/EU**

☒ EN 50498:2010

☒ **EMC – Regulations 2016**

☒ EN 50498:2010





3.0 Criteria for compliance

Test Items	Test Sample	Test Mode	Test Severity Level	FPSC	Result Pass/Fail
Radiated Disturbance	#1	-	Average	Does not exceed the limit value	Pass
Conducted Transient Disturbance	#1	-	Positive: +75 V / +150 V Negative: -100 V / -450 V	Does not exceed the limit value	Pass
Conducted Transient Immunity	#1	-	Level III	Class C	Pass

Functional performance status classification

Class A: all functions of a device/system perform as designed during and after exposure to disturbance.

Class B: all functions of a device/system perform as designed during exposure. However, one or more of them can go beyond specified tolerance. All functions return automatically to within normal limits after exposure is removed. Memory functions shall remain class A.

Class C: one or more functions of a device/system do not perform as designed during exposure but return automatically to normal operation after exposure is removed.

Class D: one or more functions of a device/system do not perform as designed during exposure and do not return to normal operation until exposure is removed and the device/system is reset by simple "operator/use" action.

Class E: one or more functions of a device/system do not perform as designed during and after exposure and cannot be returned to proper operation without repairing or replacing the device/system.



3.1 Radiated Disturbance(30 MHz ~ 1 000 MHz)

Test Date

Oct. 29, 2024

Test Location

SEMI ANECHOIC CHAMBER #1

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
<input checked="" type="checkbox"/>	EMI Test S/W	EP5/RE	TOYO Corporation	6.0.0	-
<input checked="" type="checkbox"/>	EMI TEST RECEIVER	ESR3	R & S	101781	01, 10, 2025
<input checked="" type="checkbox"/>	BICONICAL ANTENNA	VHBB 9124	Schwarzbeck	01051	03, 25, 2026
<input checked="" type="checkbox"/>	LOG-PERIODIC ANTENNA	VULP 9118 A	Schwarzbeck	702	03, 25, 2026
<input checked="" type="checkbox"/>	AMPLIFIER	8447F	HP	2634A02036	02, 13, 2025
<input checked="" type="checkbox"/>	ATTENUATOR	6806.17.A	HUBER+SUHNER	-	02, 13, 2025
<input checked="" type="checkbox"/>	LISN	NNBM8124	SCHWARZBECK	01816	07, 29, 2025
<input checked="" type="checkbox"/>	LISN	NNBM8124	SCHWARZBECK	01820	07, 29, 2025

Test Conditions

Temperature: (22,2 ± 0,3) °C

Relative Humidity: (46,4 ± 0,2) % R.H.

Frequency Range of Measurement

30 MHz to 1 GHz

Instrument Settings

IF Band Width: 120 kHz

Scan time : 100 ms/MHz

**Test Limits**

Frequency (MHz)	Level (dBuV/m)	
	Broadband	Narrowband
30 to 75	$62 - 25.13 \log (F/30)$	$52 - 25.13 \log (F/30)$
75 to 400	$52 + 15.13 \log (F/75)$	$42 + 15.13 \log (F/75)$
400 to 1 000	63	53

Test Results

The requirements are:

- ☒ PASS
☐ NOT PASS
☐ NOT APPLICABLE

Remarks- See Appendix A for test data.



3.2 Conducted Transient Disturbance

Test Date

Oct. 29, 2024

Test Location

SHIELD ROOM #4

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
<input type="checkbox"/>	EMS Test S/W	iso.control	EM TEST	5.5.3	-
<input type="checkbox"/>	ULTRA COMPACT SIMULATOR	UCS 200N50	EM TEST	P1610176206	11, 09, 2024
<input checked="" type="checkbox"/>	VOLTAGE DROP SIMULATOR	VDS 200N50	EM TEST	P1605171484	11, 09, 2024
<input checked="" type="checkbox"/>	DIGITAL OSCILLOSCOPE	TDS7254B	Tektronix	B020418	11, 09, 2024
<input checked="" type="checkbox"/>	High Voltage Probe	P5100	Tektronix	-	02, 13, 2025
<input checked="" type="checkbox"/>	SINGLE LINE ARTIFICIAL NETWORK	AN 2050N	EM TEST	P1614178324	03, 05, 2025
<input checked="" type="checkbox"/>	ELECTRONIC SWITCH	BS 200N100	EM TEST	P1751211788	03, 05, 2025
<input checked="" type="checkbox"/>	RS-BOX	RS-BOX	EM TEST	P1739204186	03, 05, 2025

Test Conditions

Temperature: (22,6 ± 0,3) °C

Relative Humidity: (46,7 ± 0,2) % R.H.

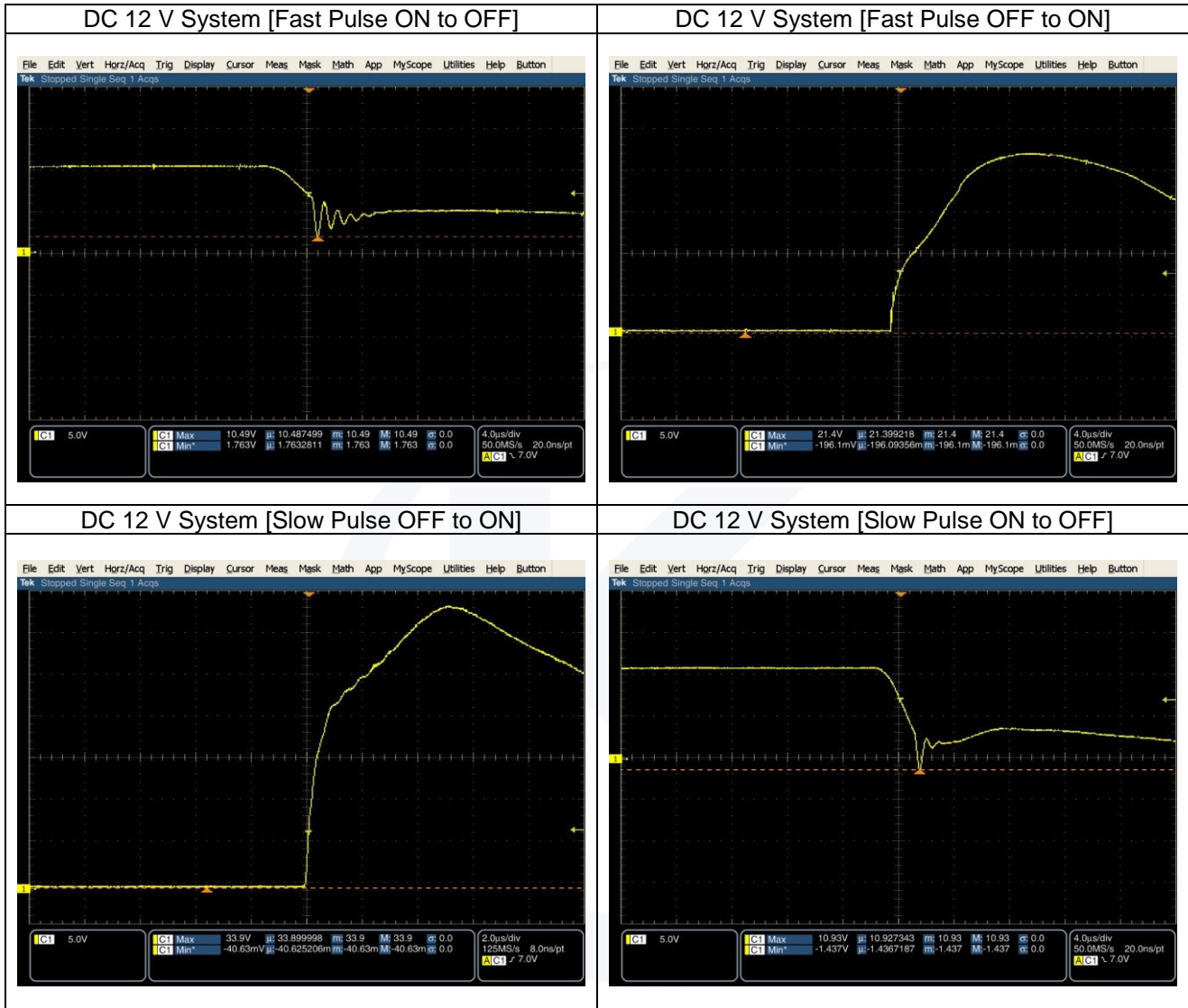
**Requirements**

Polarity	Transient Voltage	
	12 V System	24 V System
+ (Positive)	+75 V	+150 V
- (Negative)	-100 V	-450 V



**Test Result**

#1

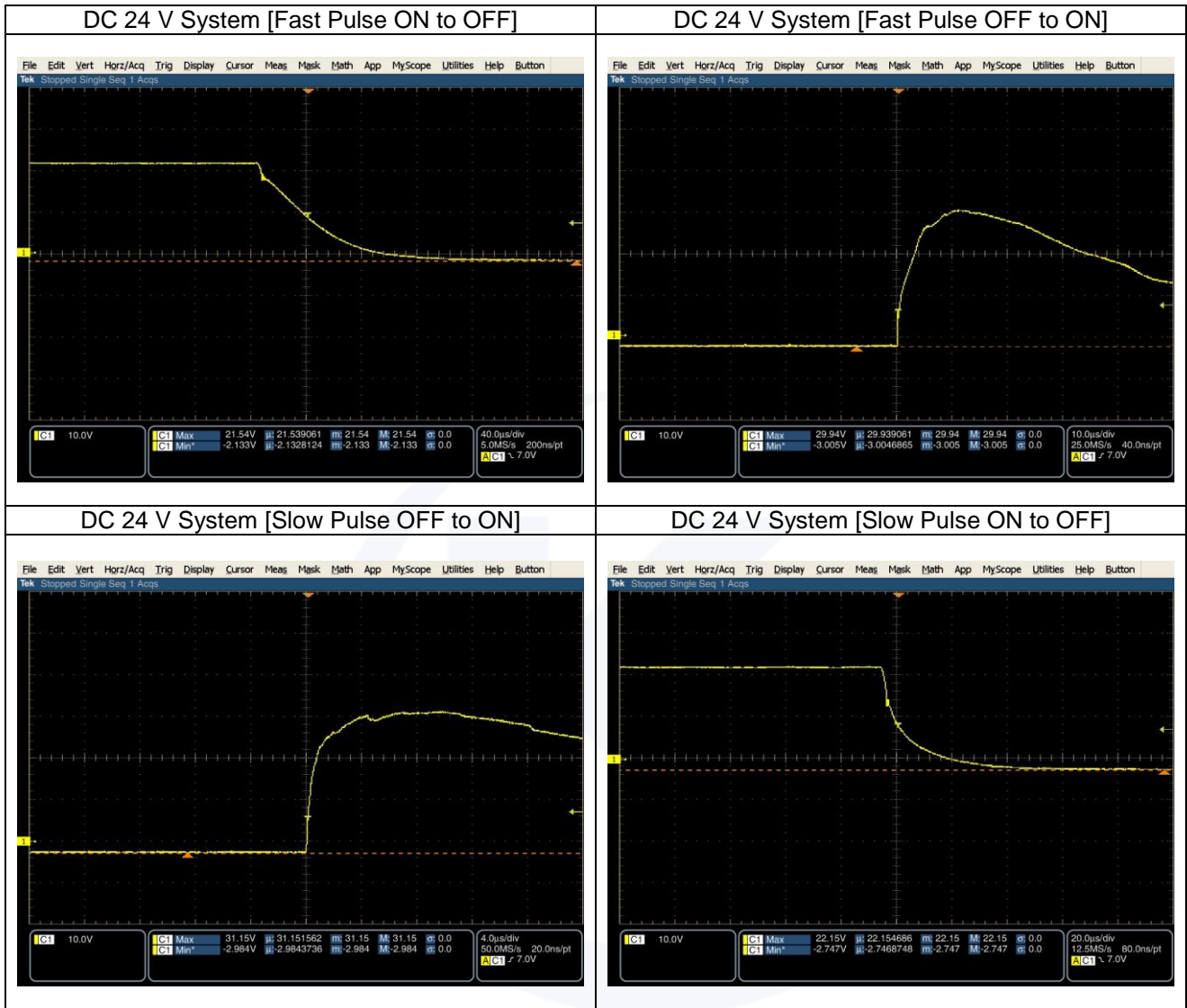




Test Mode	Fast Pulse		Slow Pulse	
	ON to OFF	OFF to ON	ON to OFF	OFF to ON
Peak amplitude(V)	-	+	-	+
	-11.74	7.90	-14.94	20.40
Sampling rate(MS/s)	-	+	-	+
	50	50	50	125
Trigger level(V)	7.0	7.0	7.0	7.0



#2





Test Mode	Fast Pulse		Slow Pulse	
	ON to OFF	OFF to ON	ON to OFF	OFF to ON
Peak amplitude(V)	-	+	-	+
	-29.13	2.94	-29.75	4.15
Sampling rate(MS/s)	-	+	-	+
	5	25	12.5	50
Trigger level(V)	7.0	7.0	7.0	7.0



3.3 Conducted Transient Immunity

Reference Standard

BS EN 50498:2010(ISO 7637-2:2004 Pulse)

Test Date

Oct. 31, 2024

Test Location

SHIELD ROOM #4

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
<input checked="" type="checkbox"/>	EMS Test S/W	iso.control	EM TEST	5.5.3	-
<input checked="" type="checkbox"/>	ULTRA COMPACT SIMULATOR	UCS 200N50	EM TEST	P1610176206	11, 09, 2024
<input checked="" type="checkbox"/>	VOLTAGE DROP SIMULATOR	VDS 200N50	EM TEST	P1605171484	11, 09, 2024

Test Conditions

Temperature: (22,3 ± 0,2) °C
Relative Humidity: (46,5 ± 0,2) % R.H.
Atmospheric Pressure: (100,4 ± 0,2) kPa

**Test Specifications**

Requirements				
Test pulse	Test severity level III US (V)		Functional status for systems	Minimum number of pulses or test time
	12 V system	24 V system	Not related to immunity related functions	
1	-75	-450	D	5000 pulses
2a	+37	+37	D	5000 pulses
2b	+10	+20	D	10 pulses
3a	-112	-150	D	1 h
3b	+75	+150	D	1 h
4	-6	-12	D	1 pulse
<input type="checkbox"/> Immunity related functions			<input checked="" type="checkbox"/> Not related to immunity related functions	

**Test Results**

■ #1, #2

Test pulse	Test Voltage [V]		Performance Criteria	pulses or test time	Performance Result	
	12 V system	24 V system	Not related to immunity related functions		<input checked="" type="checkbox"/> 12 V	<input checked="" type="checkbox"/> 24 V
1	-75	-450	D	5000 pulses	C	C
2a	+37	+37	A	5000 pulses	A	A
2b	+10	+20	D	10 pulses	C	C
3a	-112	-150	A	1 h	A	A
3b	+ 75	+ 150	A	1 h	A	A
4	-6	-12	A	1 pulse	C	C

Test Results

- ☒ PASS Required Performance Criteria
☐ NOT PASS Required Performance Criteria

Remarks

The DUT was turned off to on repeatedly during exposure, but returned to normal operation automatically after exposure.

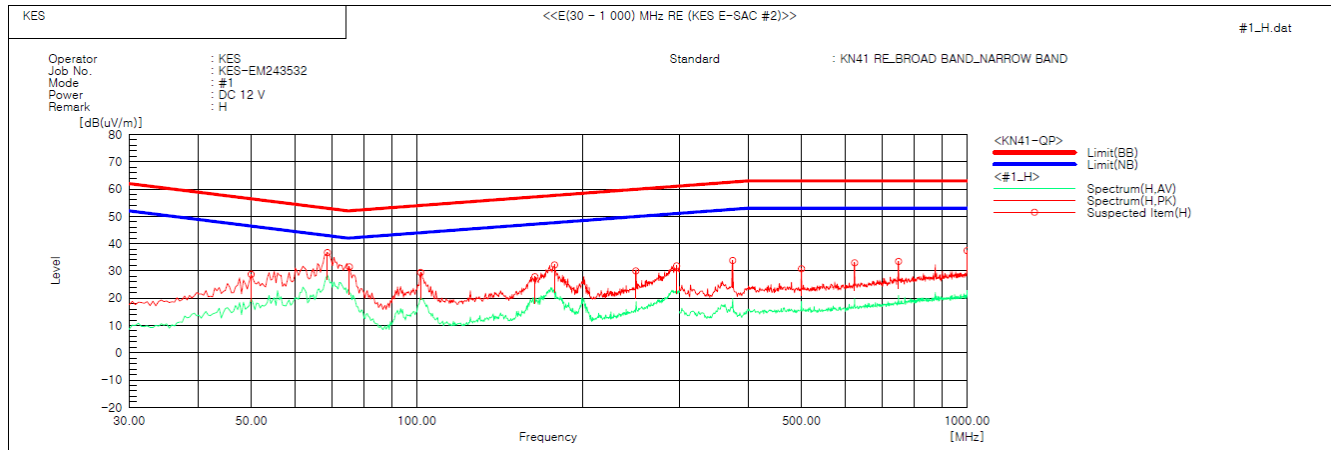


APPENDIX A – TEST DATA

Radiated Disturbance(30 MHz ~ 1 000 MHz)

■ #1

H

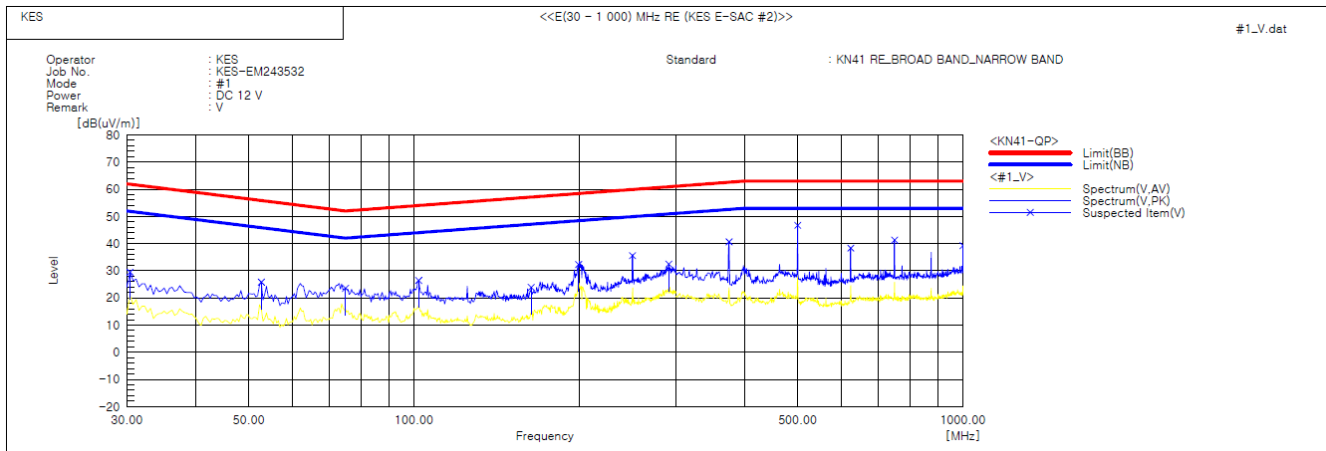


Spectrum Selection

No.	Frequency [MHz]	(P)	Reading [dB(uV)]	c.f [dB(1/m)]	Result PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin AV [dB]	Height [cm]	Remark
1	49.957	H	39.9	-11.2	28.7	46.4	17.7	100.0	
2	68.739	H	48.0	-11.3	36.7	43.0	6.3	100.0	
3	75.391	H	43.4	-11.9	31.5	42.0	10.5	100.0	
4	101.609	H	41.5	-12.0	29.5	44.0	14.5	100.0	
5	163.826	H	37.2	-9.3	27.9	47.1	19.2	100.0	
6	177.913	H	38.0	-5.8	32.2	47.7	15.5	100.0	
7	249.913	H	33.6	-3.6	30.0	49.9	19.9	100.0	
8	296.478	H	30.3	1.5	31.8	51.0	19.2	100.0	
9	375.073	H	39.7	-5.9	33.8	52.6	18.8	100.0	
10	499.855	H	34.3	-3.5	30.8	53.0	22.2	100.0	
11	624.638	H	34.9	-1.9	33.0	53.0	20.0	100.0	
12	750.435	H	33.4	0.0	33.4	53.0	19.6	100.0	
13	1000.000	H	35.5	1.9	37.4	53.0	15.6	100.0	



V



Spectrum Selection

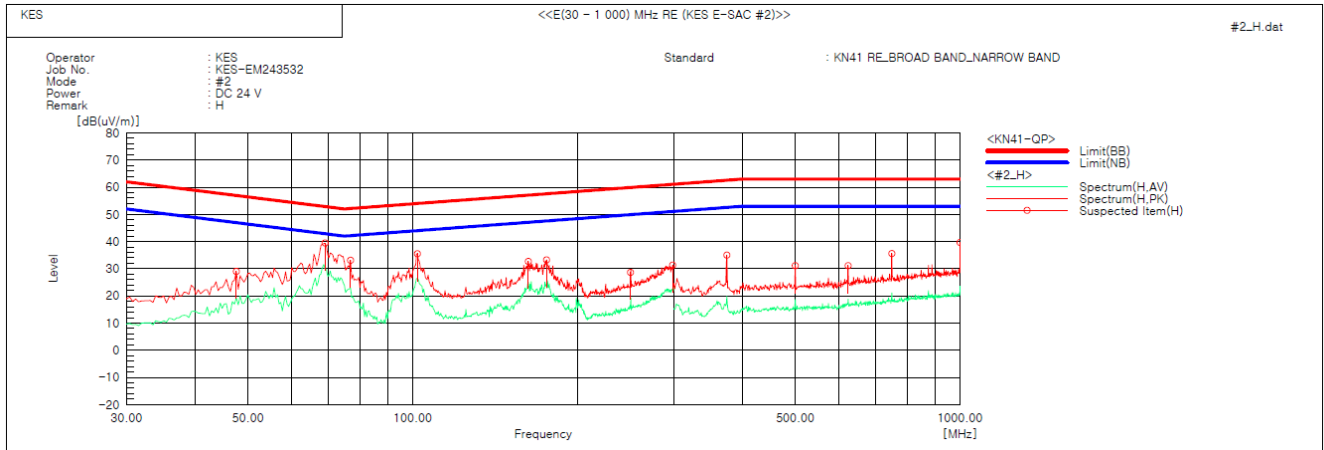
No.	Frequency [MHz]	(P)	Reading [dB(uV)]	c.f [dB(1/m)]	Result PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin AV [dB]	Height [cm]	Remark
1	30.391	V	40.1	-10.6	29.5	51.9	22.4	100.0	
2	52.696	V	36.5	-10.7	25.8	45.9	20.1	100.0	
3	75.000	V	35.7	-12.1	23.6	42.0	18.4	100.0	
4	102.000	V	37.5	-11.1	26.4	44.0	17.6	100.0	
5	163.435	V	32.1	-8.2	23.9	47.1	23.2	100.0	
6	199.435	V	39.2	-6.9	32.3	48.4	16.1	100.0	
7	249.913	V	39.4	-3.8	35.6	49.9	14.3	100.0	
8	291.000	V	33.4	-0.9	32.5	50.9	18.4	100.0	
9	375.073	V	46.2	-5.5	40.7	52.6	11.9	100.0	
10	499.855	V	50.3	-3.5	46.8	53.0	6.2	100.0	
11	624.638	V	39.8	-1.4	38.4	53.0	14.6	100.0	
12	750.435	V	41.1	0.2	41.3	53.0	11.7	100.0	
13	1000.000	V	37.2	2.1	39.3	53.0	13.7	100.0	

* Since the peak measurement value is smaller than the narrowband allowable value, re-measurement of narrowband and wideband was not performed.



■ #2

H

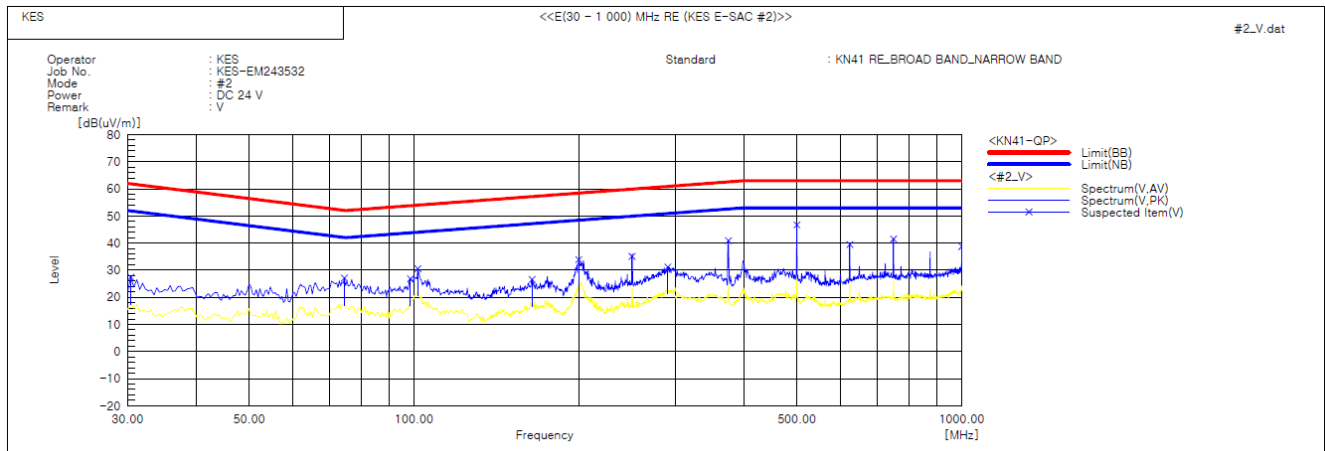


Spectrum Selection

No.	Frequency [MHz]	(P)	Reading [dB(uV)]	c.f [dB(1/m)]	Result PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin AV [dB]	Height [cm]	Remark
1	47.609	H	40.2	-11.2	29.0	47.0	18.0	100.0	
2	69.130	H	50.8	-11.3	39.5	42.9	3.4	100.0	
3	76.957	H	45.1	-12.0	33.1	42.2	9.1	100.0	
4	102.000	H	47.5	-12.0	35.5	44.0	8.5	100.0	
5	162.652	H	42.2	-9.5	32.7	47.1	14.4	100.0	
6	175.565	H	39.5	-6.2	33.3	47.6	14.3	100.0	
7	249.913	H	32.3	-3.6	28.7	49.9	21.2	100.0	
8	298.435	H	29.7	1.7	31.4	51.1	19.7	100.0	
9	375.073	H	40.9	-5.9	35.0	52.6	17.6	100.0	
10	499.855	H	34.6	-3.5	31.1	53.0	21.9	100.0	
11	624.638	H	33.1	-1.9	31.2	53.0	21.8	100.0	
12	750.435	H	35.6	0.0	35.6	53.0	17.4	100.0	
13	1000.000	H	37.8	1.9	39.7	53.0	13.3	100.0	



V



Spectrum Selection

No.	Frequency [MHz]	(P)	Reading [dB(uV)]	c.f [dB(1/m)]	Result PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin AV [dB]	Height [cm]	Remark
1	30.391	V	38.0	-10.6	27.4	51.9	24.5	100.0	
2	74.609	V	39.2	-12.1	27.1	42.1	15.0	100.0	
3	98.478	V	38.2	-11.4	26.8	43.8	17.0	100.0	
4	101.609	V	41.8	-11.2	30.6	44.0	13.4	100.0	
5	164.217	V	34.8	-8.2	26.6	47.1	20.5	100.0	
6	199.826	V	40.8	-6.9	33.9	48.4	14.5	100.0	
7	249.913	V	38.9	-3.8	35.1	49.9	14.8	100.0	
8	290.609	V	32.1	-0.9	31.2	50.9	19.7	100.0	
9	375.073	V	46.4	-5.5	40.9	52.6	11.7	100.0	
10	499.855	V	50.3	-3.5	46.8	53.0	6.2	100.0	
11	624.638	V	40.9	-1.4	39.5	53.0	13.5	100.0	
12	750.435	V	41.3	0.2	41.5	53.0	11.5	100.0	
13	1000.000	V	36.7	2.1	38.8	53.0	14.2	100.0	

* Since the peak measurement value is smaller than the narrowband allowable value, re-measurement of narrowband and wideband was not performed.

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

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

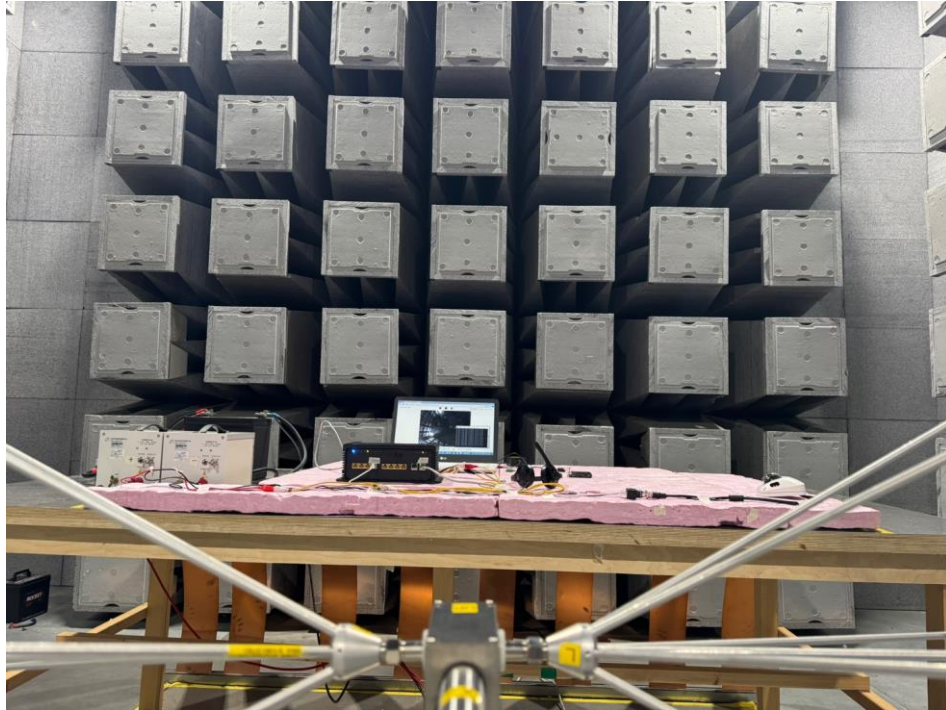
Reading(PK/AV) : Reading value, Result(PK/AV) : Reading value + Factor value

Limit(PK(WB), AV(NB)) : Limit value, c.f : (ANT Factor + Cable Loss - Preamp Factor), Margin: Margin value



Test Setup Photos and Configuration

Radiated Disturbance(30 MHz ~ 1 000 MHz)



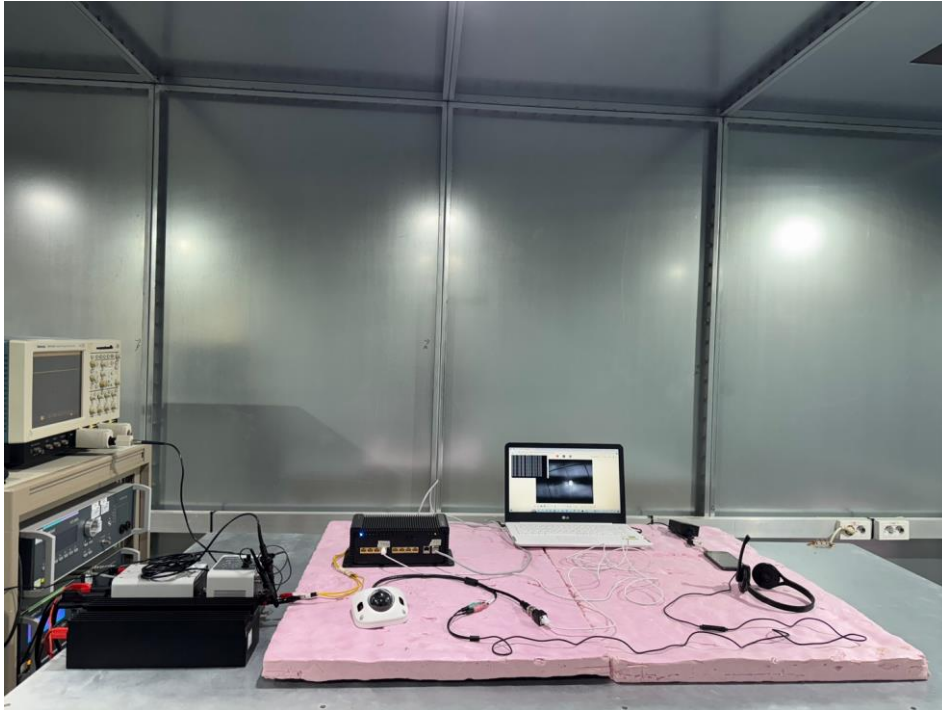
30 MHz ~ 300 MHz



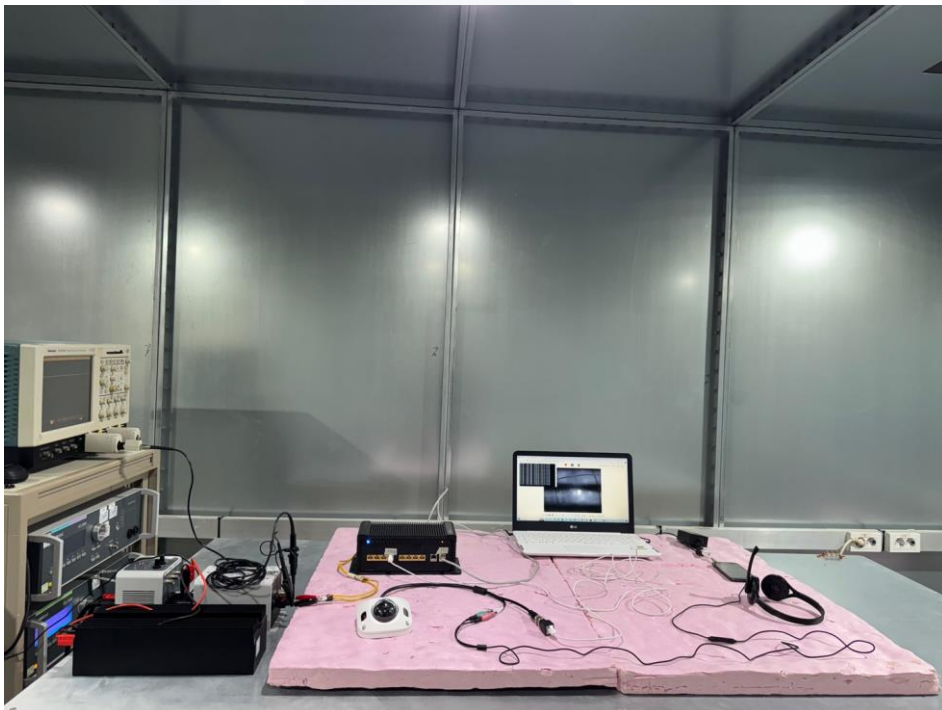
300 MHz ~ 1 000 MHz



Conducted Transient Disturbance



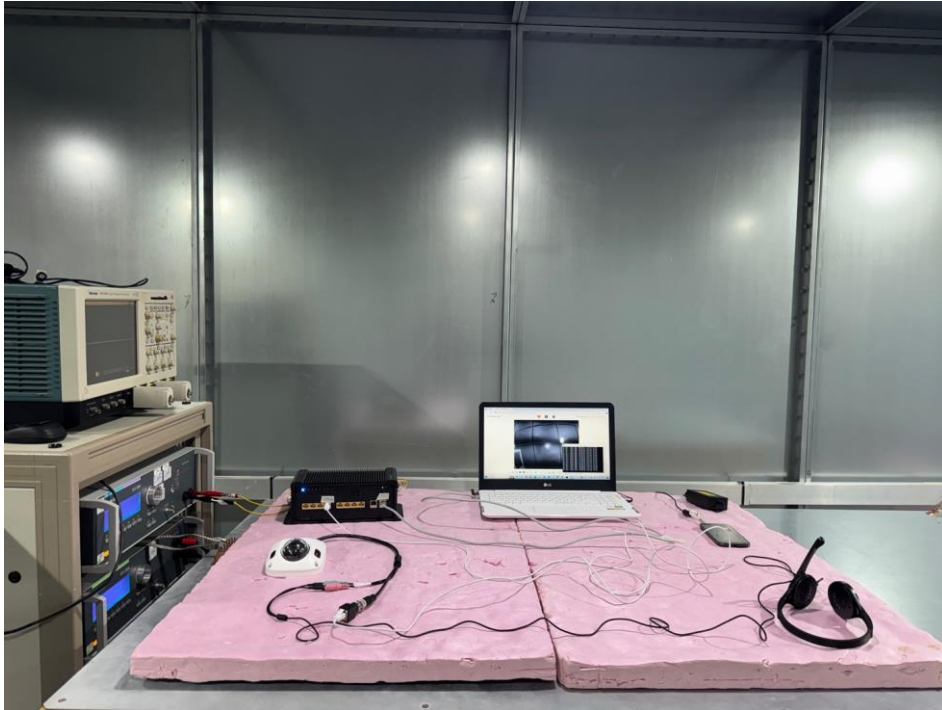
Fast Pulse



Slow Pulse



Conducted Transient Immunity





DUT External Photographs

(Top)



(Bottom)





DUT Internal Photographs

(Internal View)



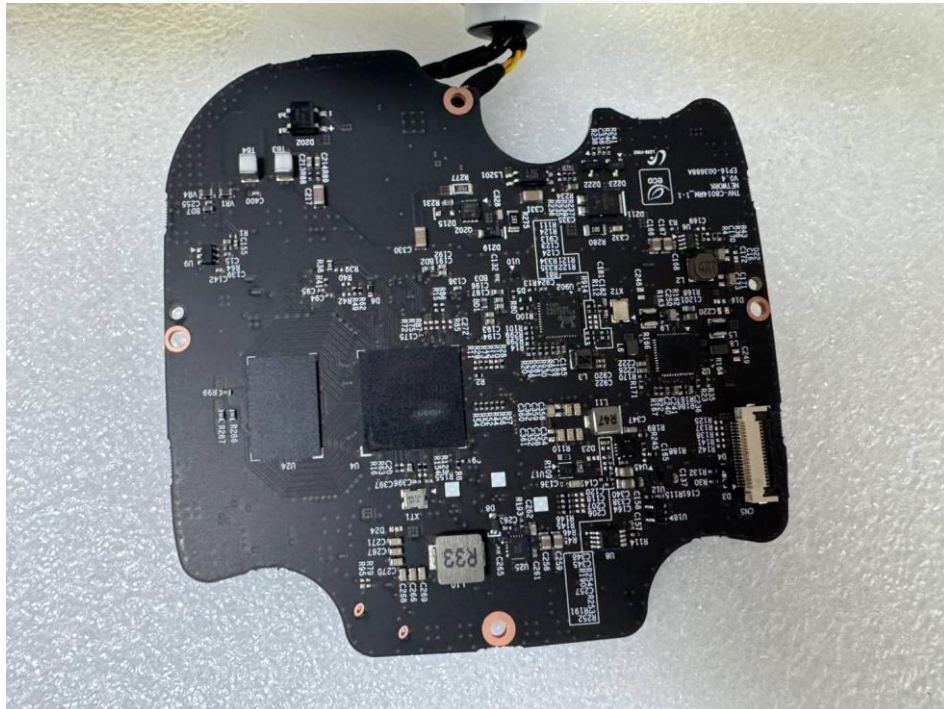


EUT Internal View – Main Board

(Top)



(Bottom)



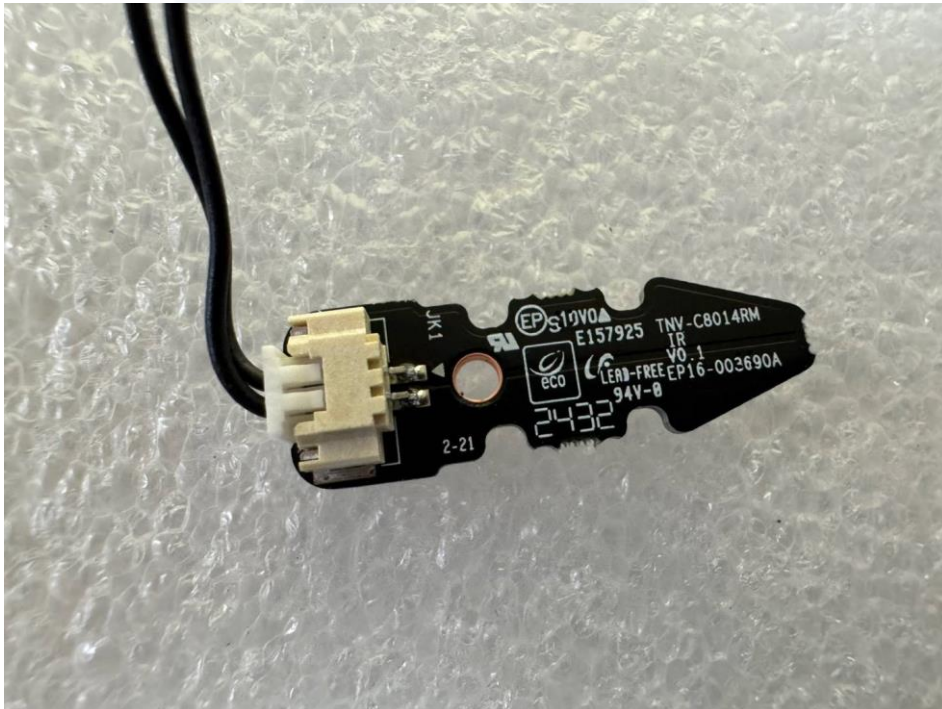


EUT Internal View – Sub Board 1

(Top)



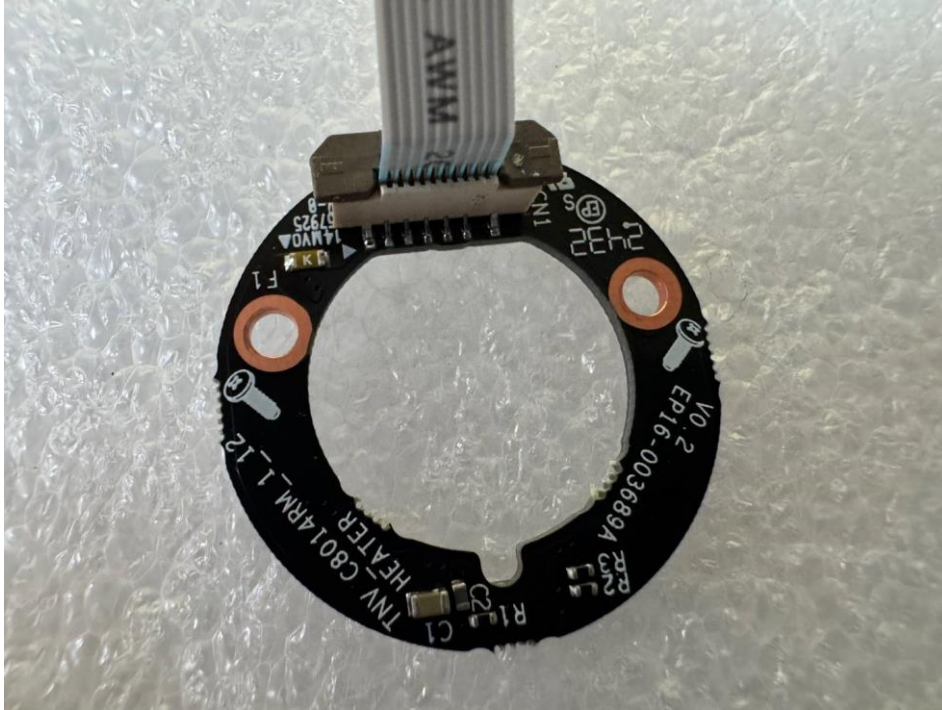
(Bottom)



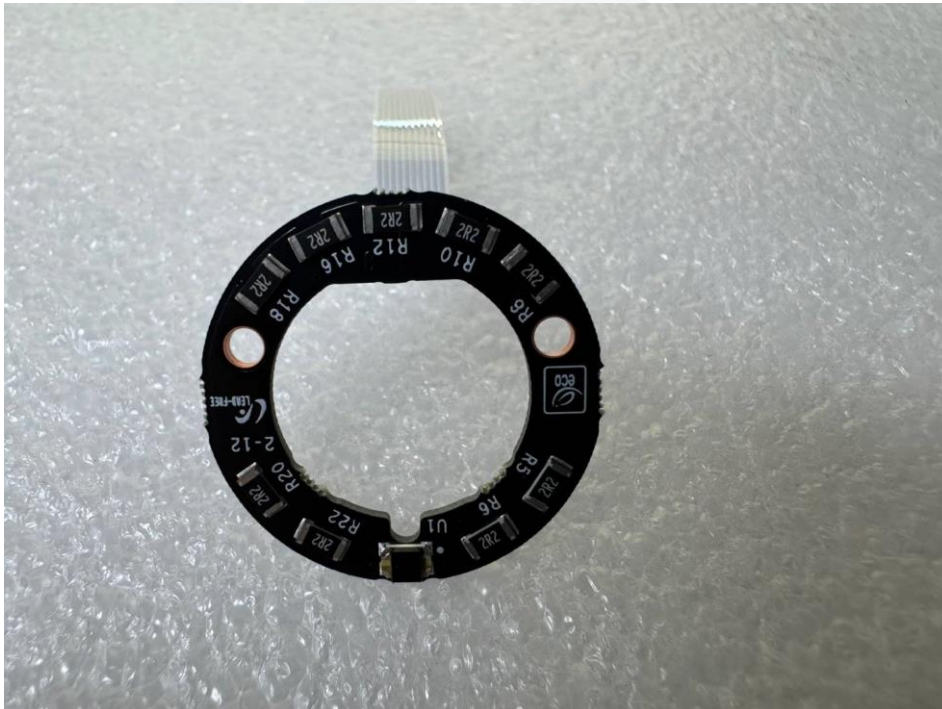


EUT Internal View – Sub Board 2

(Top)



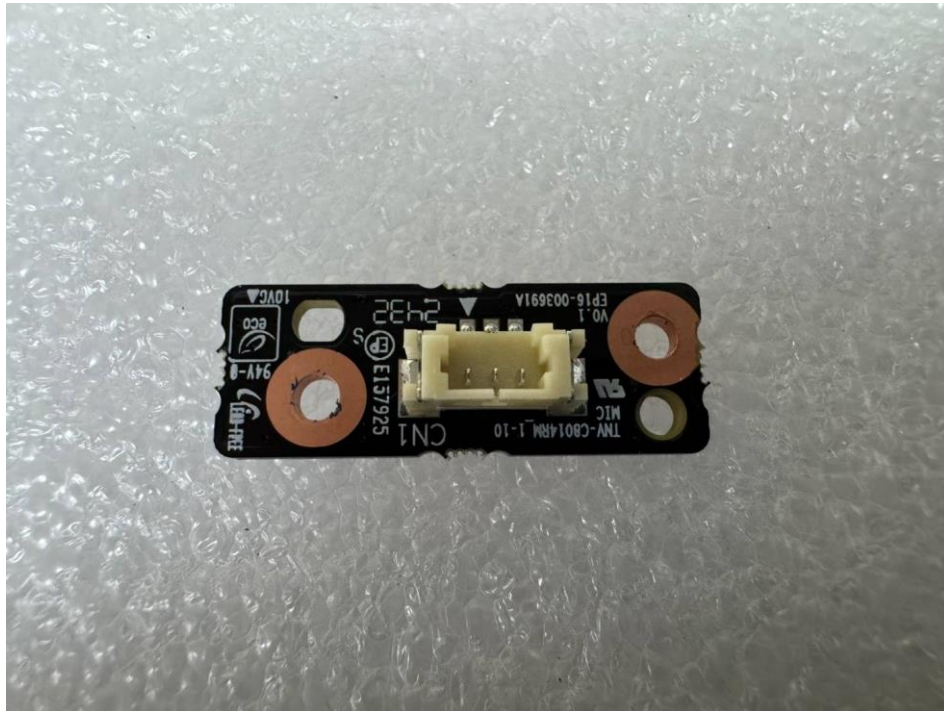
(Bottom)



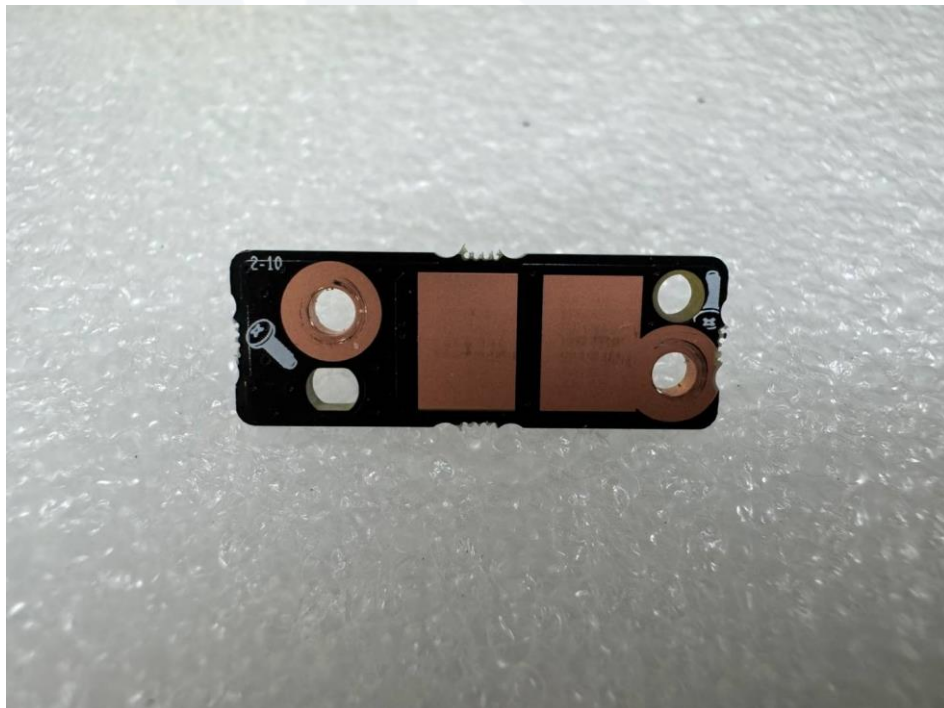


EUT Internal View – Sub Board 3

(Top)



(Bottom)



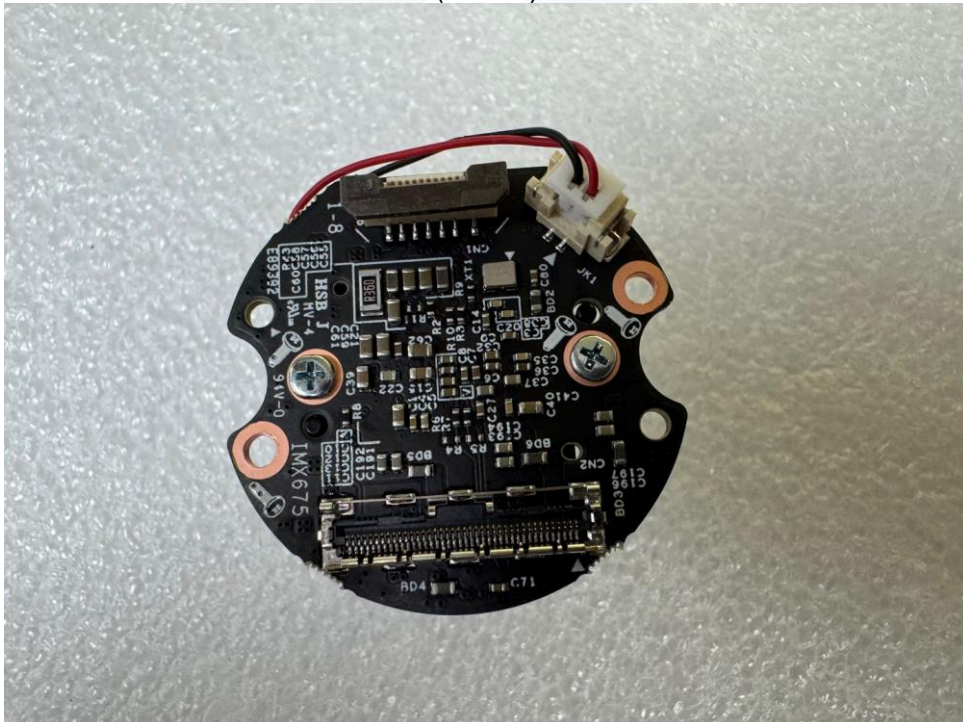


EUT Internal View – Lens Board

(Top)

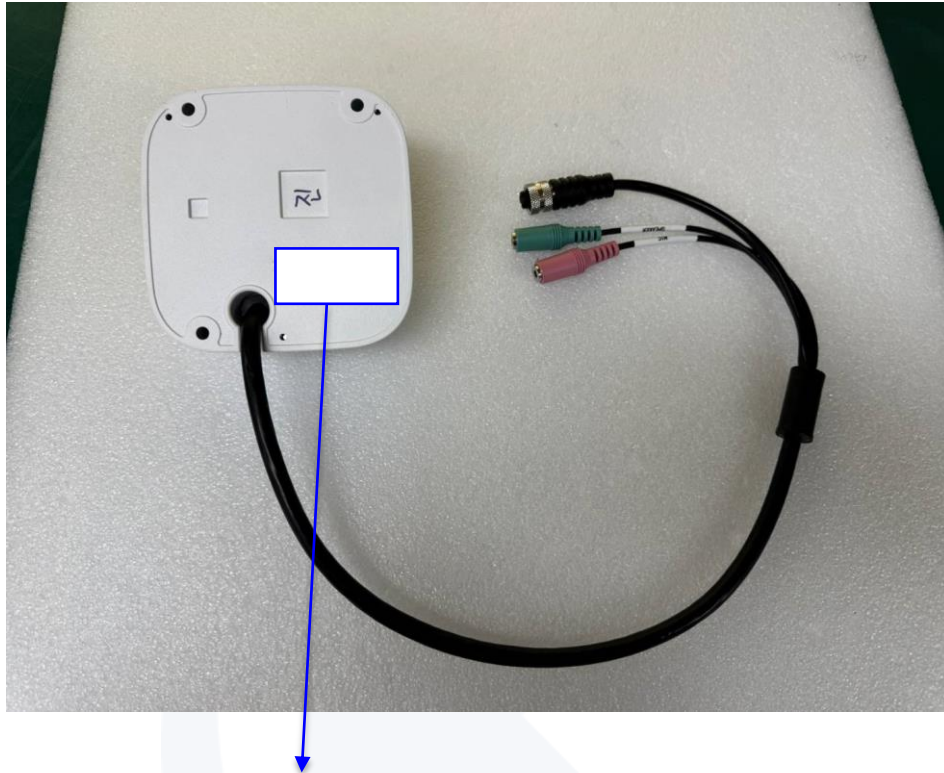


(Bottom)





Label and Location



NETWORK CAMERA

Model No : TNV-C8014RM

Manufacturer : Hanwha Vision Co., Ltd

Made in Korea

**UK
CA** **CE**

The End.