



TEST REPORT



Report No. : KES-EM251379

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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 THERMAL CAMERA

Model/Type No. : TNO-C3080T

Variant Model : TNO-C3082T, TNO-C3060T, TNO-C3062T

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 : Apr. 16, 2025

4. Test date : Apr. 30, 2025 ~ May. 01, 2025

5. Date of Issue : Jun. 13, 2025

6. Test Results : In Compliance

Tested by

Reviewed by

Seong Jun, 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
Jun. 13, 2025	KES-EM251379	Issued

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1.0 General Product Description

Main Specifications of EUT are:

	TNO-C3080T
Video	
Imaging Device	Uncooled micro bolometer (Spectral range: 8~14 μ m)
Resolution	768x576, 584x432(support)
Max. Frame Rate	H.265/H.264/MPEG: Max. 30fps
NETD	< 20mk
Pixel Size	17 μ m
Min. Illumination	None
Video Out	USB, Micro USB Type B, 768x576 for installation
Video Transmission Distance	None
Lens	
Focal Length (Zoom Ratio)	60mm fixed focal
Max. Aperture Ratio	F1.2
Angular Field of View	H: 6.2° / V: 4.7° / D: 7.7°
Min. Object Distance	160/0.288 mfted
Focus Control	88.3m
Lens Type	Fixed
Mount Type	Athermalized
Optional Lens	None
Pan / Tilt / Rotate	
Pan / Tilt / Rotate Range	0°~350° / 0°~90° / 0°~350°
Operational	
Camera Title	Displayed up to 85 characters
Motion Detection	Sea, Spot polygonal zones
Privacy Masking	Sea, Rectangle zones
Video Rotation	- color / Gray, Black, White Rip, Mirror, Halfway view(50%/25%)
Analytics	
Classified object type: Person/Vehicle	Support BestShot
Analytics events based on AI engine	Analytics events based on AI engine
- Motion detection, Object detection, Virtual line(Crossing/Direction), Virtual area(Looting/Intrusion/Enter/Exit)	
Analytics events	- Tampering, Audio detection, Sound classification, Shock detection, Virtual area(Sneak/Disappear)
Business Intelligence	
Serial Interface	None
Alarm I/O	RS-485
Alarm Triggers	2 configurable I/O ports - Support extra alarm I/O via optional (PM-4210 I/O box)
Alarm Events	
When alarm trigger occurred	Analytics, Network disconnect, Alarm input, Time schedule, MQTT subscription
- File upload(image) e-mail/PTP/SFTP	
- File upload(video clip): PTP/SFTP	
- Notification: e-mail	
- Recording: ID/SDHC/SDXC or NAS recording at event triggers	
- Alarm output	
- Handover: PTZ preset	
- MQTT publication	
Audio Streaming	
Audio In	None
Audio Out	Separable(mic in/line in)
Color Palettes	Line out
Color Palettes	Whitehot, Blackhot, Rainbow, Rainbow2, Sepia, Red, Iron, Custom, Hybrid palettes

Radiometry	
Temperature Detect Range	None
Temperature Accuracy	None
Temperature Detection	None
Additional	Temperature change detection (3 areas)
Network	
Ethernet	Metal shielded RJ-45/10/100/1000BASE-T1
Video Compression	H.265/H.264: Main/Baseline/High, MPEG
Audio Compression	G.711 u-law / G.726 Selectable G.726ADPCM: 8KHz, G.711: 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps AAC-LC: 48Kbps at 16KHz
Smart Codes	Manual(Sea area), WiseStreamIII, WiseStreamIII(Based on AI engine)
Video Quality Adjustment	None
Bitrate Control	H.264/H.265: CBR or VBR MPEG: VBR
Streaming	Unicast(2 users) / Multicast Multiple streaming(up to 10 profiles)
SP support (VoIP, Peer-to-peer, SIP/PBX integration)	None
Security	None
Application Programming Interface	ONVIF Profile S/G/MI GUNA4(H/PTP API) Hanulva Vision Open Platform
Security	
OS / Firmware Protect	Secure boot, Signed firmware, Firmware encryption
User authentication	Digest Authentication, Prevent brute-force attack
Network authentication	802.1X Authentication(EAP-TLS, EAP-LEAP, EAP-PEAP, MSCHAPv2)
Secure Communication	HTTPS, SFTP, WS(S/Websoclet secure)
Access Control	Access control based on IP address
Data Protect	Authentication information encryption, ZIP compression encryption
Audit	User Access/System/Event log management
Device ID	Device Certificate/Hanulva Private Root CA)
Secure Storage	Secure element, SSDard partition encrypt
Security Certificate	Secure element(RPS 140-3 level1, CC EAL6+)
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 Max. 1TB
Memory	2GB RAM, 512MB Flash
Environmental & Electrical	
Operating Temperature / Humidity	-40°C~+60°C/-40%~+140% / +74°C/+165%/(MAX) based on / 0~95% RH(non-condensing)
Storage Temperature / Humidity	-50°C~+60°C/-50%~+140% / Less than 95% RH
Input Voltage	PoE IEEE802.3af Class1, 12VDC
Power Consumption	PoE: Max 10.8W, typical 9W 12VDC: Max 9.6W, typical 7.7W

Mechanical	
Color / Material	White / Aluminum + PC
RAL Code	RAL9003
Product Dimensions / Weight	ø107.3 x 275mm(ø4.22/10.83"), 2340g(5.22 lb)
Compatible Conduit hole / Gangbox	Conduit hole : SBP-060BA(Sold separately) Gangbox : single, double, 4" octagon, 4" square
Backbox	Included
Ceiling Mount (Assy)	None
Wall Mount	None
Pole Mount	SBD-180PMW, SBP-300PMW2
In-ceiling Mount	None
Parapet Mount	None
Corner Mount	SBP-300KMW1
Tilt Mount	None
Housing (Box)	None
Cabinet	SBP-300NBW
Gang Plate	None
Conduit Adaptor	SBP-060BA
Other Compatible Models	None



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

1.2 Variant Model Differences

- 1) TNO-C3082T : Basic model and SW difference
- 2) TNO-C3060T: Fixed Lens (non-electronic/focal distance specification difference) from existing Model
- 3) TNO-C3062T: Fixed Lens (non-electronic/focal distance specification difference) and SW difference from base model

1.3 Device Modifications

Not applicable

1.4 Equipment Under Test

Description	Model Number	Serial Number	Manufacturer	Remarks
NETWORK THERMAL CAMERA	TNO-C3080T	-	HANWHA VISION VIETNAM COMPANY LIMITED	EUT

1.5 Support Equipments

Description	Model Number	Serial Number	Manufacturer	Remarks
Adapter	2ACB022F	-	Channel Well Technology(Guangzhou) Co., Ltd.	-
PoE Injector	GS728TPP	-	NETGEAR INC	-
Notebook	NT500R5W	-	Samsung Eelcotronics Co., Ltd.	-
Notebook Adapter	PA-1400-96	-	LITE-ON TECHNOLOGY CHANGZHOU CO.,LTD	-
Micro SD Card	-	-	SanDisk	-
LED Alarm	PRO-SL	-	SENSOR PRO	-
Button Alarm	-	-	-	-
Earphone	-	-	-	-
Smartphone	SM-N950N	-	Samsung Eelcotronics Co., Ltd.	-
Controller	SPC-1010	-	SamSung Techwin Co.,Ltd.	-
Controller Adpater	AP-12005A	-	A Power Co., Ltd.	-



1.6 External I/O Cabling

■mode 1

Start		END		Cable Spec.	
Description	I/O Port	Description	I/O Port	Length	Shield
NETWORK THERMAL CAMERA (EUT)	2 Pin	AC/DC Adapter	2 Pin	1.6	U
	Micro SD Card Slot	Micro SD Card	Micro SD Card Slot	-	-
	RJ-45 (LAN)	Notebook	RJ-45 (LAN)	3.1	S
	Alarm IN (2 PIN)	Button Alarm	Alarm OUT	3.1	U
	Alarm OUT (2 PIN)	LED Alarm	Alarm IN	3.1	U
	Audio IN	Smartphone	3.5 mm	1.0	U
	Audio OUT	Earphone	3.5 mm	1.4	U
	RS-485 (2 PIN)	Controller	2 Pin	3.1	U
Notebook	DC Jack	Notebook Adapter	DC Jack	1.6	U
Controller	DC Jack	Controller Adapter	DC Jack	1.0	U

* Unshielded=U, Shielded=S

■mode 2

Start		END		Cable Spec.	
Description	I/O Port	Description	I/O Port	Length	Shield
NETWORK THERMAL CAMERA (EUT)	RJ-45 (PoE)	PoE Injector	RJ-45 (PoE)	3.1	S
	Micro SD Card Slot	Micro SD Card	Micro SD Card Slot	-	-
	Alarm IN (2 PIN)	Button Alarm	Alarm OUT	3.1	U
	Alarm OUT (2 PIN)	LED Alarm	Alarm IN	3.1	U
	Audio IN	Smartphone	3.5 mm	1.0	U
	Audio OUT	Earphone	3.5 mm	1.4	U
	RS-485 (2 PIN)	Controller	2 Pin	3.1	U
Notebook	DC Jack	Notebook Adapter	DC Jack	1.6	U
Controller	DC Jack	Controller Adapter	DC Jack	1.0	U

* Unshielded=U, Shielded=S



1.7 EUT Operating Mode(s)

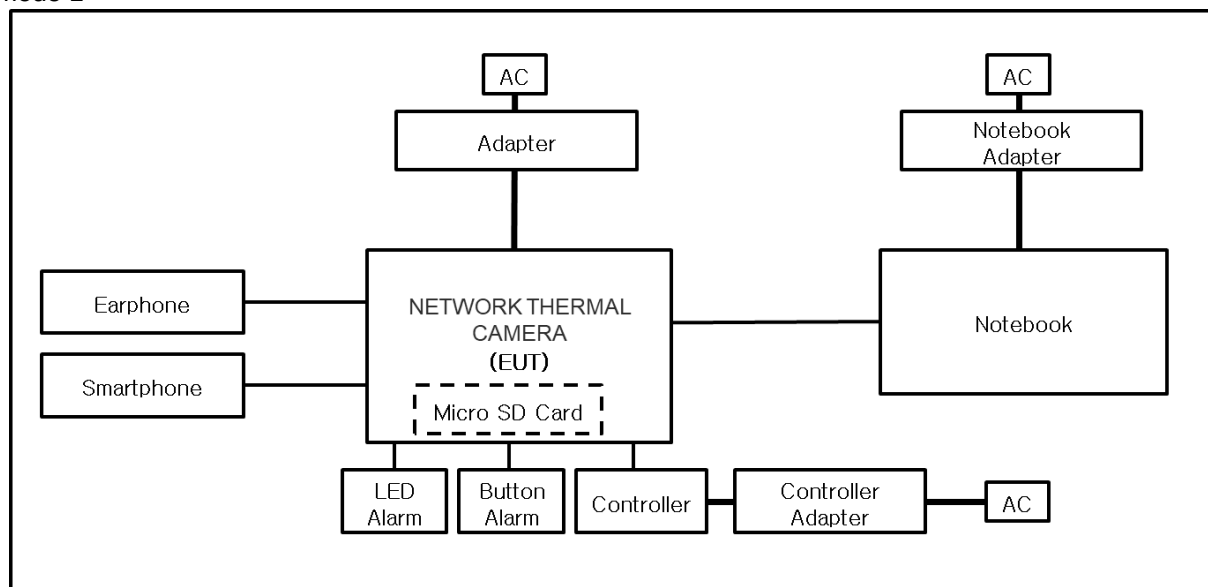
Test mode		Normal operating
mode 1	Adapter	- IP from the test equipment to the laptop was tested by Ping Test on the laptop. - The test was conducted by checking whether the camera image was output normally in the Web Viewer. - After the test, I checked whether the video was recorded normally on the Micro SD Card.
mode 2	PoE	

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

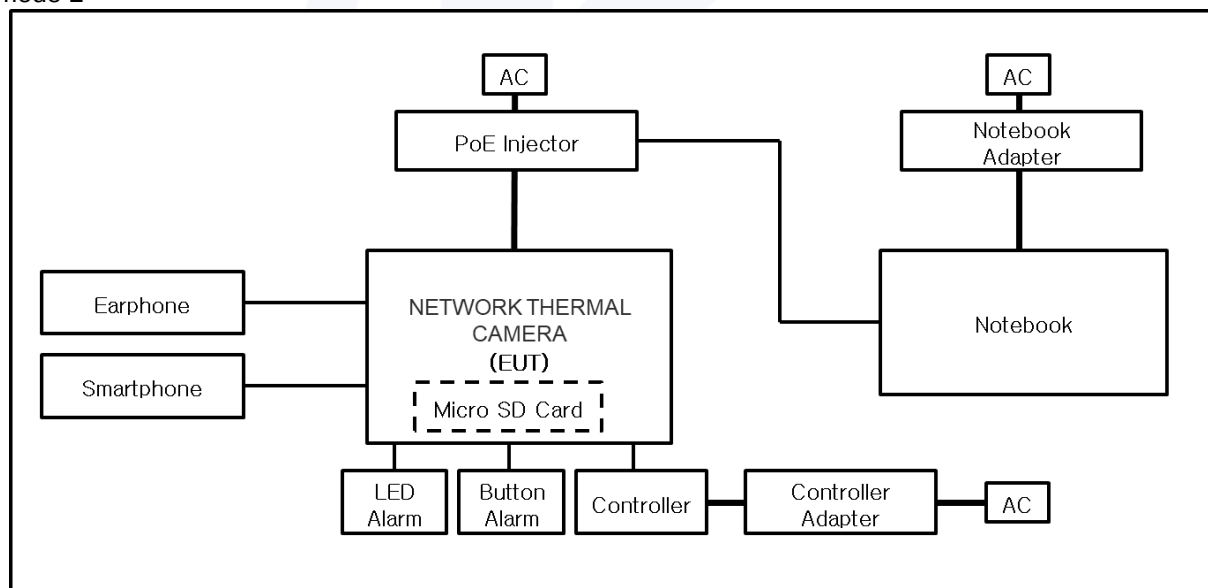


1.8 Configuration

■mode 1



■mode 2





1.9 Remarks when standards applied

Micro 5 Pin ports are not used and have not been tested.

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





Test Conditions

Temperature: (23,6 ± 0,1) °C
Relative Humidity: (46,2 ± 0,1) % R.H.

Frequency Range of Measurement

150 kHz to 30 MHz

Instrument Settings

IF Band Width: 9 kHz

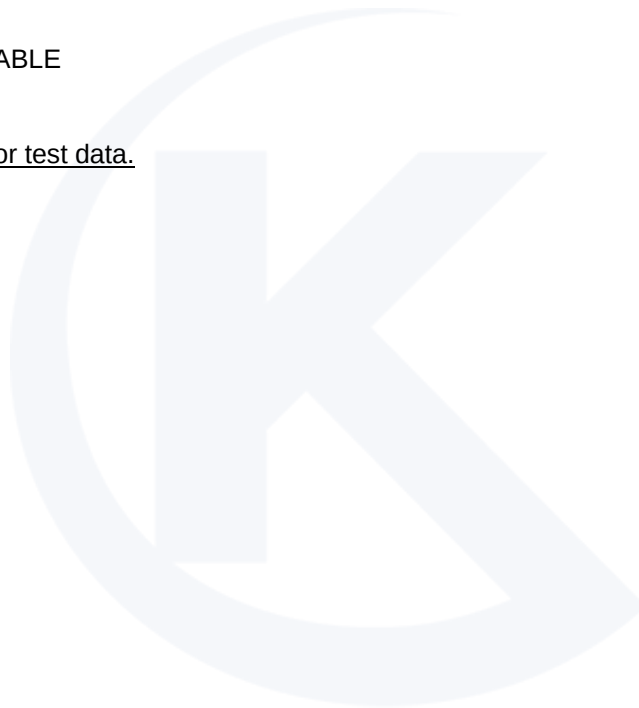
Test Results

The requirements are:

- ☒ PASS
- ☐ NOT PASS
- ☐ NOT APPLICABLE

Remarks

See Appendix A for test data.





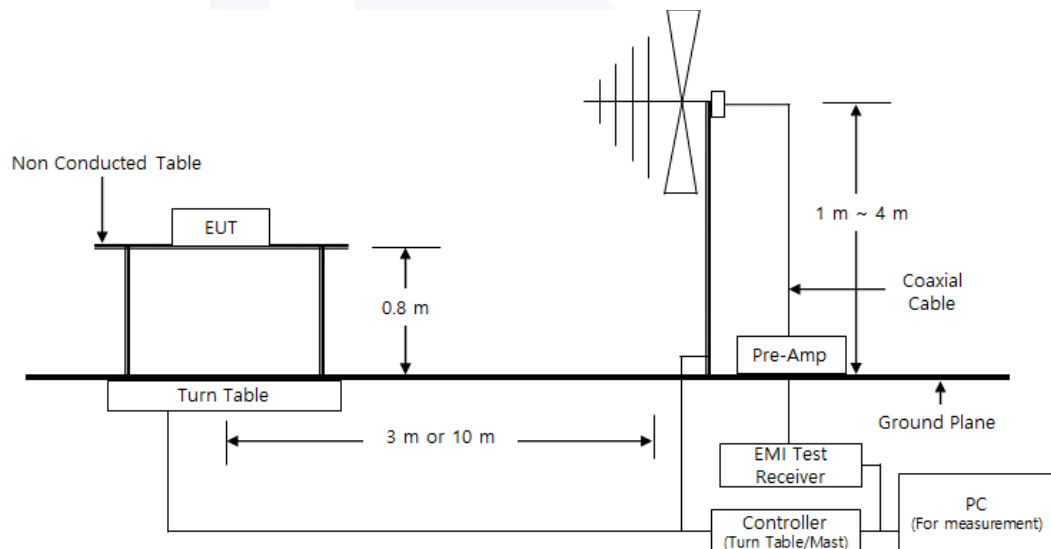
2.2 Radiated Electric Field Emissions(Below 1 GHz)

Test Date

Apr. 30, 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
☒	EMI Test S/W	EP5/RE	TOYO Corporation	6.0.0	-	-
☒	EMI TEST RECEIVER	ESW8	R & S	101319	03, 24, 2026	1 Year
☒	AMPLIFIER	SCU 01	R & S	100603	11, 06, 2025	1 Year
☒	BILOG ANTENNA	VULB 9168	SCHWARZBECK	9168-461	05, 09, 2026	2 Year
☒	ATTENUATOR	6806.17.A	HUBER+SUHNER	-	02, 13, 2026	1 Year

Diagram of test setup



Test Conditions

Temperature: (23,3 ± 0,1) °C
Relative Humidity: (46,2 ± 0,1) % R.H.

Frequency Range of Measurement

30 MHz to 1 GHz

Instrument Settings

IF Band Width: 120 kHz

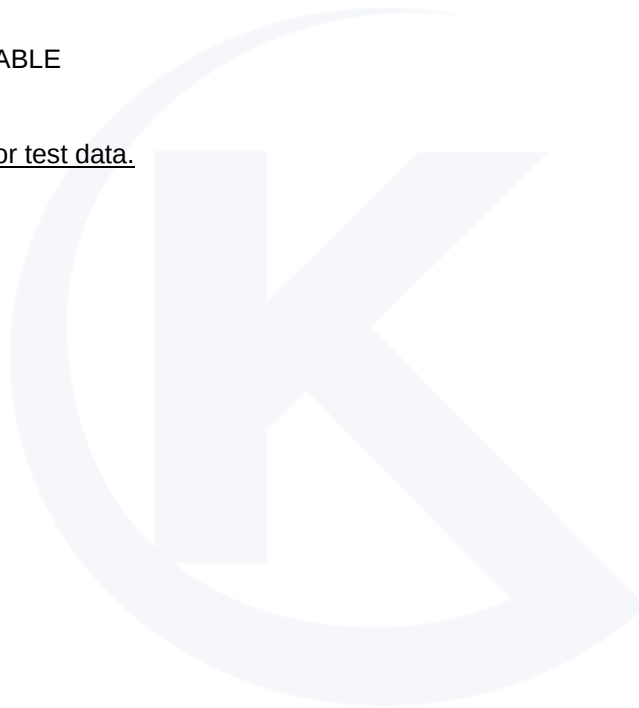
Test Results

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

May. 01, 2025

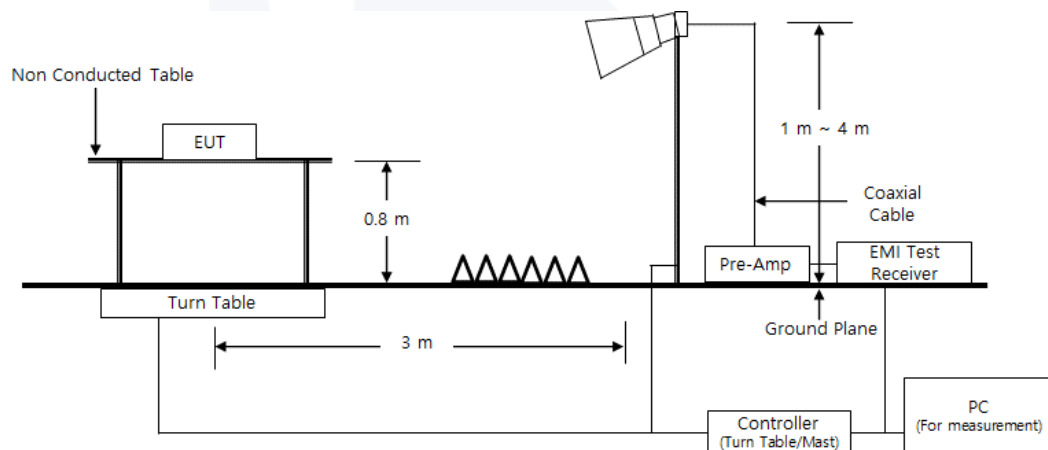
Test Location

SEMI ANECHOIC CHAMBER #5

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due	calibration interval
☒	EMI Test S/W	ES10/RE	TOYO Corporation	2022.01.000	-	-
☒	EMI TEST RECEIVER	ESU26	Rohde & Schwarz	100552	02, 13, 2026	1 Year
☒	HORN ANTENNA	BBHA 9120D	SCHWARZBECK	9120D-1802	11, 04, 2025	1 Year
☒	PREAMPLIFIER	8449B	HP	3008A00899	03, 05, 2026	1 Year
☒	ATTENUATOR	8491B	HP	23094	02, 13, 2026	1 Year

Diagram of test setup





Test Conditions

Temperature: (23,4 ± 0,1)°C
Relative Humidity: (46,1 ± 0,1) % 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.



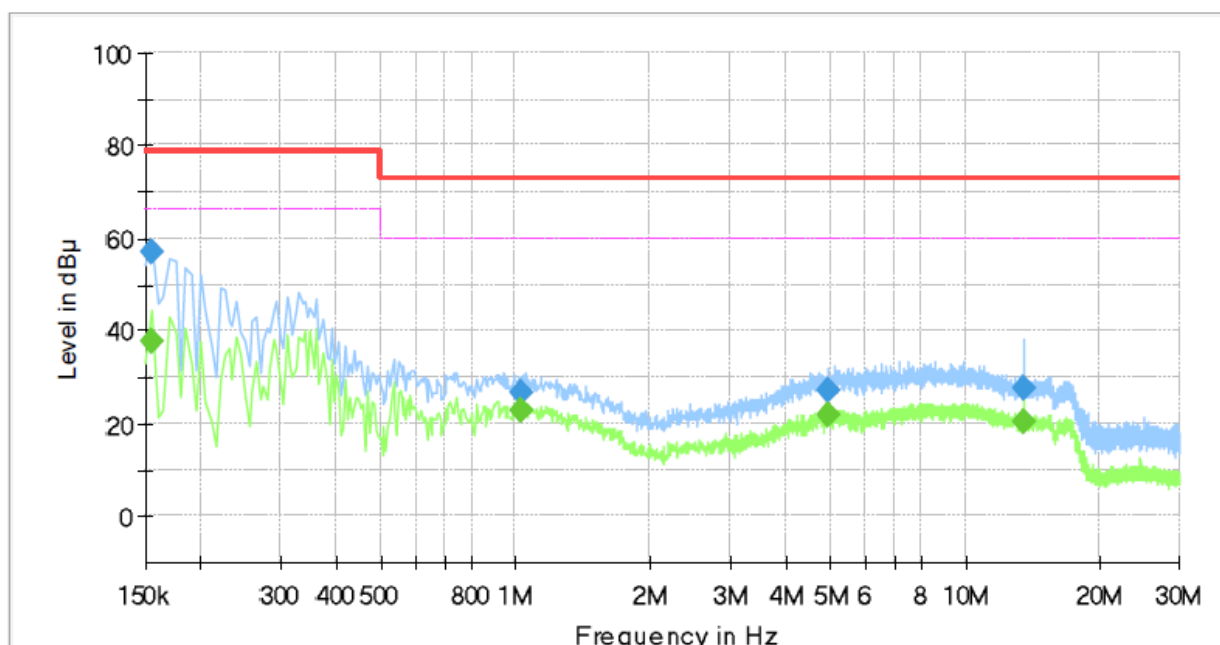
APPENDIX A – TEST DATA

Conducted Emissions at Mains Power Ports

■ mode 1

HOT LINE

Test Description: Conducted Emission
Job No.: KES-EM251379
Phase: L
Mode: mode 1
Operator Name: KES



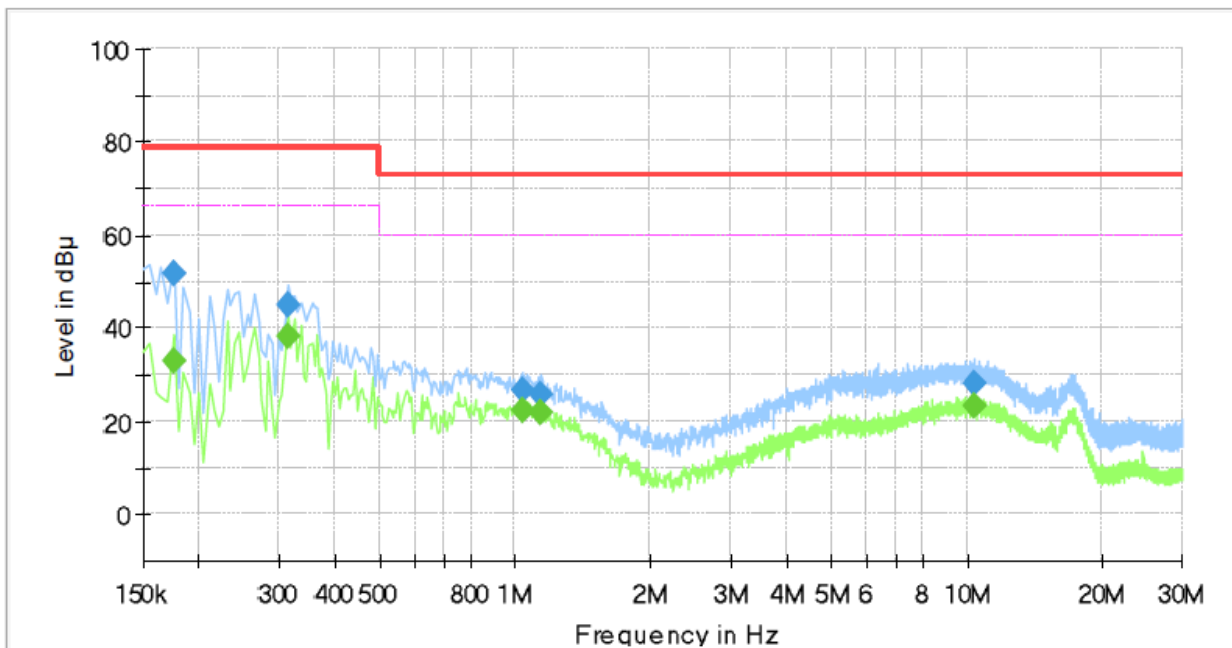
Final_Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.155000	---	37.88	66.00	28.12	1000.0	9.000	L1	19.5
0.155000	56.91	---	79.00	22.09	1000.0	9.000	L1	19.5
1.025000	---	22.71	60.00	37.29	1000.0	9.000	L1	19.6
1.025000	26.70	---	73.00	46.30	1000.0	9.000	L1	19.6
4.945000	---	21.61	60.00	38.39	1000.0	9.000	L1	19.9
4.945000	27.04	---	73.00	45.96	1000.0	9.000	L1	19.9
13.555000	---	20.46	60.00	39.54	1000.0	9.000	L1	20.2
13.555000	27.72	---	73.00	45.28	1000.0	9.000	L1	20.2



NEUTRAL LINE

Test Description: Conducted Emission
Job No.: KES-EM251379
Phase: N
Mode: mode 1
Operator Name: KES

**Final Result**

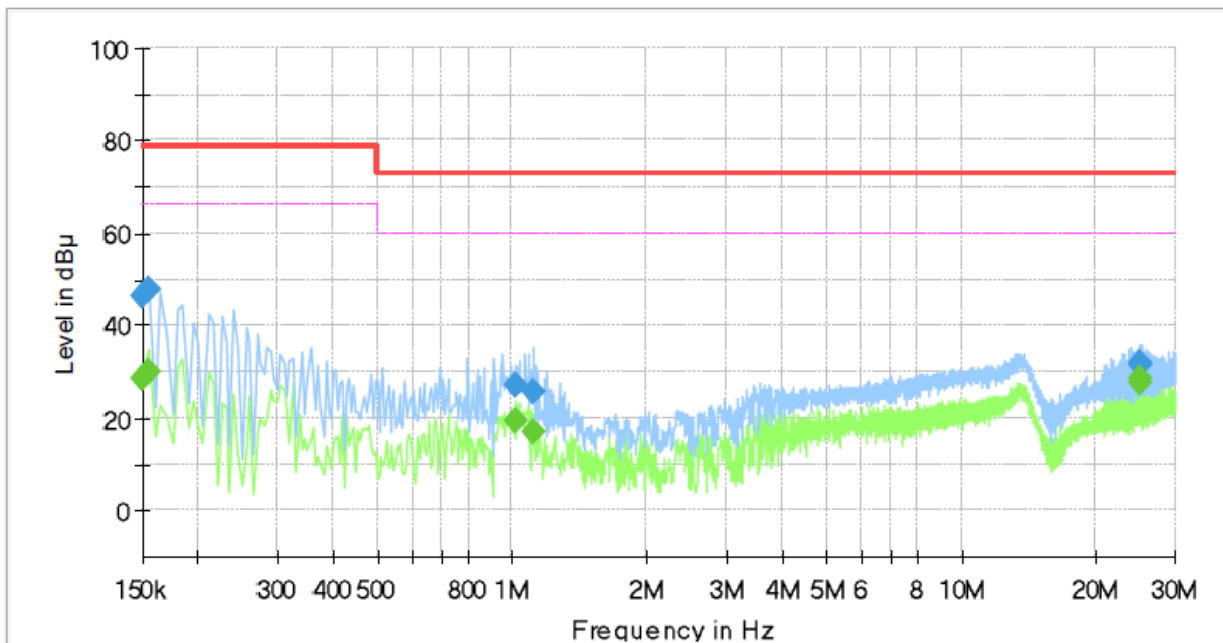
Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.175000	---	33.06	66.00	32.94	1000.0	9.000	N	19.5
0.175000	51.87	---	79.00	27.13	1000.0	9.000	N	19.5
0.315000	---	38.38	66.00	27.62	1000.0	9.000	N	19.5
0.315000	45.22	---	79.00	33.78	1000.0	9.000	N	19.5
1.035000	---	22.50	60.00	37.50	1000.0	9.000	N	19.6
1.035000	26.84	---	73.00	46.16	1000.0	9.000	N	19.6
1.145000	---	21.66	60.00	38.34	1000.0	9.000	N	19.6
1.145000	25.69	---	73.00	47.31	1000.0	9.000	N	19.6
10.385000	---	23.25	60.00	36.75	1000.0	9.000	N	20.0
10.385000	28.26	---	73.00	44.74	1000.0	9.000	N	20.0



■mode 2

HOT LINE

Test Description: Conducted Emission
Job No.: KES-EM251379
Phase: L
Mode: mode 2
Operator Name: KES



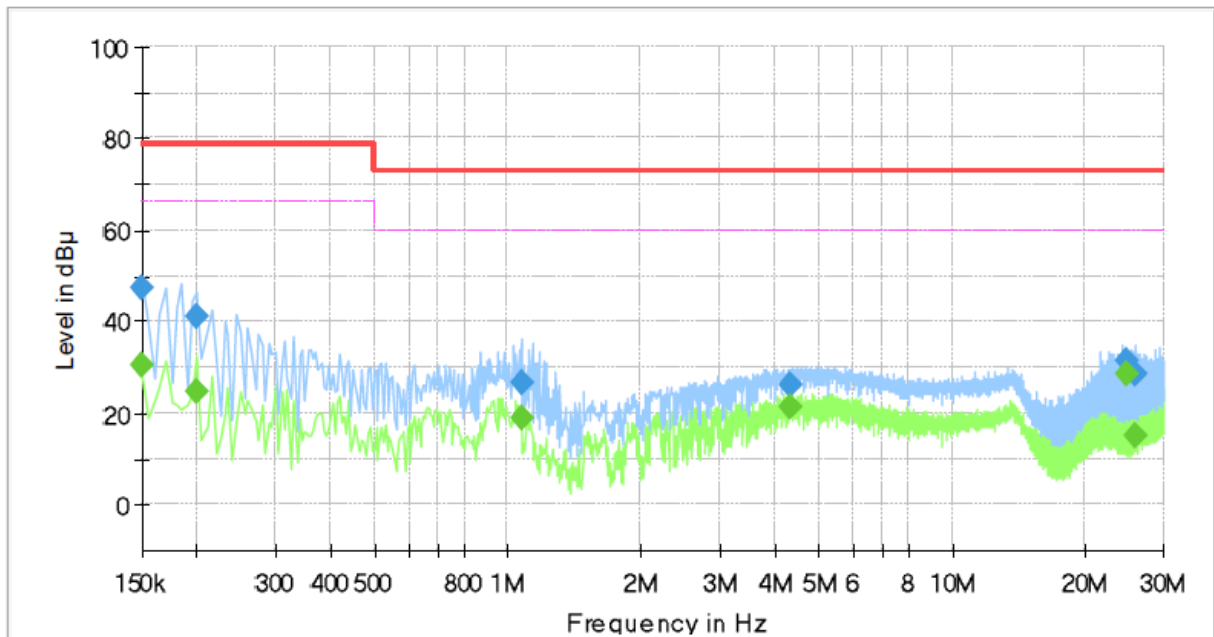
Final Result

Frequency (MHz)	QuasiPeak (dB u V)	CAverage (dB u V)	Limit (dB u V)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.150000	---	28.82	66.00	37.18	1000.0	9.000	L1	19.5
0.150000	46.42	---	79.00	32.58	1000.0	9.000	L1	19.5
0.155000	---	30.22	66.00	35.78	1000.0	9.000	L1	19.5
0.155000	48.01	---	79.00	30.99	1000.0	9.000	L1	19.5
1.020000	---	19.57	60.00	40.43	1000.0	9.000	L1	19.6
1.020000	27.20	---	73.00	45.80	1000.0	9.000	L1	19.6
1.115000	---	17.12	60.00	42.88	1000.0	9.000	L1	19.6
1.115000	25.93	---	73.00	47.07	1000.0	9.000	L1	19.6
24.910000	---	27.51	60.00	32.49	1000.0	9.000	L1	20.5
24.910000	31.45	---	73.00	41.55	1000.0	9.000	L1	20.5
25.115000	---	28.60	60.00	31.40	1000.0	9.000	L1	20.5
25.115000	32.05	---	73.00	40.95	1000.0	9.000	L1	20.5



NEUTRAL LINE

Test Description: Conducted Emission
Job No.: KES-EM251379
Phase: N
Mode: mode 2
Operator Name: KES

**Final Result**

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.150000	---	30.29	66.00	35.71	1000.0	9.000	N	19.5
0.150000	47.20	---	79.00	31.80	1000.0	9.000	N	19.5
0.200000	---	24.53	66.00	41.47	1000.0	9.000	N	19.5
0.200000	41.30	---	79.00	37.70	1000.0	9.000	N	19.5
1.075000	---	19.10	60.00	40.90	1000.0	9.000	N	19.6
1.075000	26.57	---	73.00	46.43	1000.0	9.000	N	19.6
4.320000	---	21.43	60.00	38.57	1000.0	9.000	N	19.8
4.320000	26.36	---	73.00	46.64	1000.0	9.000	N	19.8
24.610000	---	28.76	60.00	31.24	1000.0	9.000	N	20.5
24.610000	31.64	---	73.00	41.36	1000.0	9.000	N	20.5
26.015000	---	15.22	60.00	44.78	1000.0	9.000	N	20.5
26.015000	28.73	---	73.00	44.27	1000.0	9.000	N	20.5

◆ Calculation

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

QuasiPeak / CAverage : The Final Value

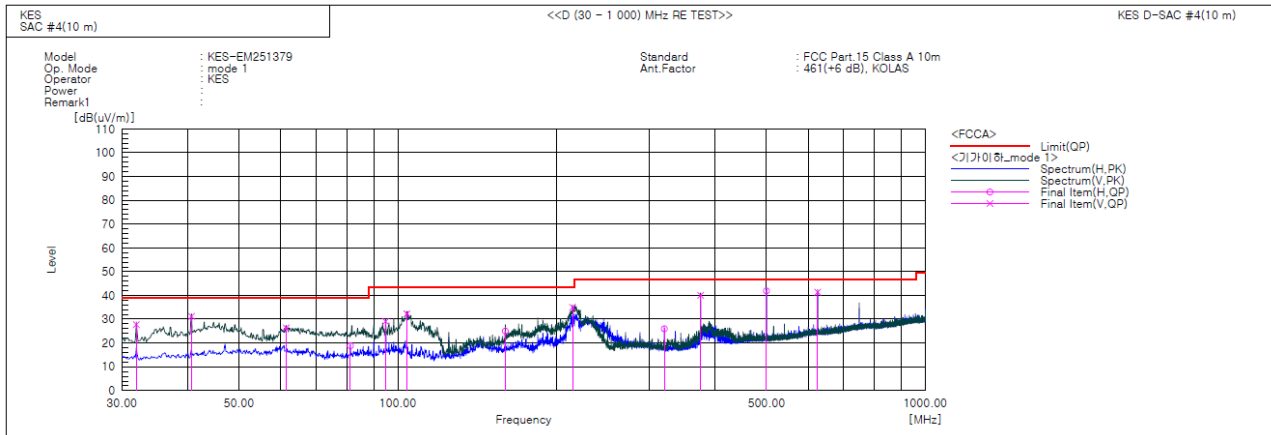
Reading Value : Not shown in the table.

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

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

■ mode 1

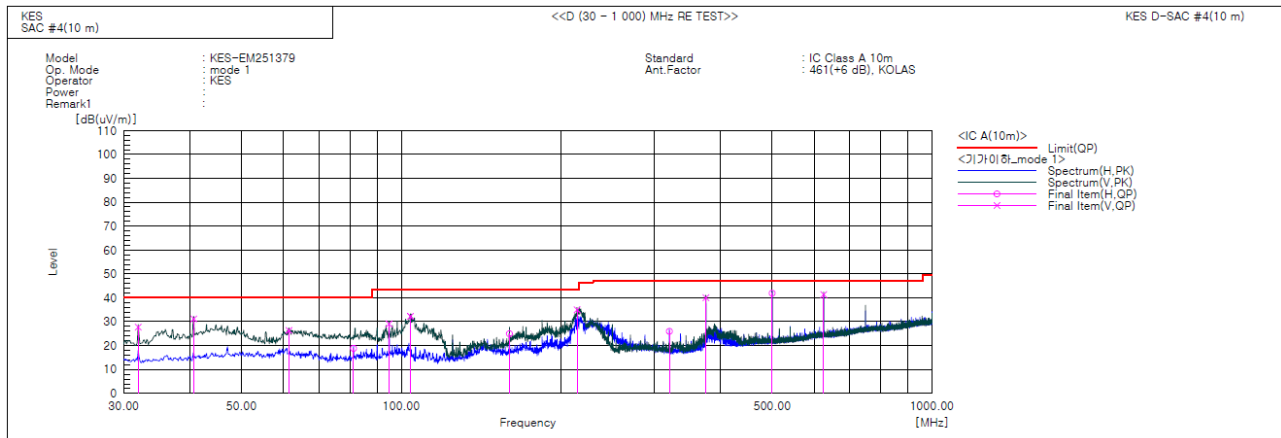
- 47 CFR Part 15, Subpart B

**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	31.940	V	50.3	-22.5	27.8	39.0	11.2	190.0	284.0	
2	40.670	V	53.0	-21.8	31.2	39.0	7.8	166.0	218.0	
3	61.404	V	47.8	-21.4	26.4	39.0	12.6	148.0	115.0	
4	81.289	H	44.5	-25.7	18.8	39.0	20.2	322.0	237.0	
5	94.869	V	54.8	-25.7	29.1	43.5	14.4	186.0	218.0	
6	104.084	V	56.5	-24.2	32.3	43.5	11.2	105.0	144.0	
7	159.980	H	44.4	-19.4	25.0	43.5	18.5	390.0	92.0	
8	214.421	V	56.5	-21.5	35.0	43.5	8.5	144.0	260.0	
9	320.030	H	42.3	-16.3	26.0	46.5	20.5	307.0	17.0	
10	374.956	V	54.7	-14.6	40.1	46.5	6.4	197.0	209.0	
11	499.965	H	52.0	-10.1	41.9	46.5	4.6	398.0	228.0	
12	624.974	V	47.9	-6.5	41.4	46.5	5.1	198.0	89.0	



- IC Regulation ICES-003 Issue 7



Final Result

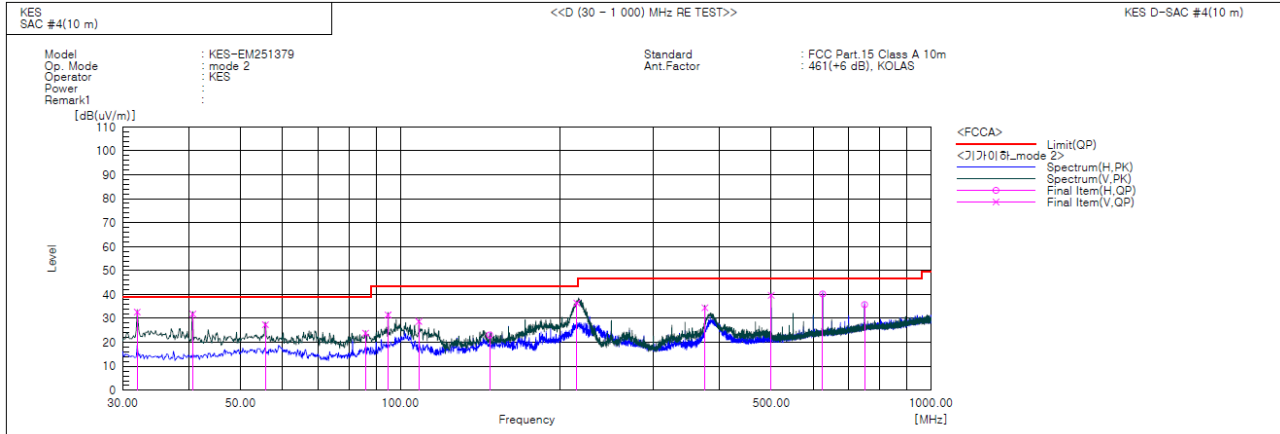
No.	Frequency [MHz]	(P)	Reading QP [dB(uV)]	c.f [dB(1/m)]	Result QP [dB(uV/m)]	Limit QP [dB(uV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]	Remark
1	31.940	V	50.3	-22.5	27.8	40.0	12.2	190.0	284.0	
2	40.670	V	53.0	-21.8	31.2	40.0	8.8	166.0	218.0	
3	61.404	V	47.8	-21.4	26.4	40.0	13.6	148.0	115.0	
4	81.289	H	44.5	-25.7	18.8	40.0	21.2	322.0	237.0	
5	94.869	V	54.8	-25.7	29.1	43.5	14.4	186.0	218.0	
6	104.084	V	56.5	-24.2	32.3	43.5	11.2	105.0	144.0	
7	159.980	H	44.4	-19.4	25.0	43.5	18.5	390.0	92.0	
8	214.421	V	56.5	-21.5	35.0	43.5	8.5	144.0	260.0	
9	320.030	H	42.3	-16.3	26.0	47.0	21.0	307.0	17.0	
10	374.956	V	54.7	-14.6	40.1	47.0	6.9	197.0	209.0	
11	499.965	H	52.0	-10.1	41.9	47.0	5.1	398.0	228.0	
12	624.974	V	47.9	-6.5	41.4	47.0	5.6	198.0	89.0	



Report No. : KES-EM251379

■ mode 2

- 47 CFR Part 15, Subpart B



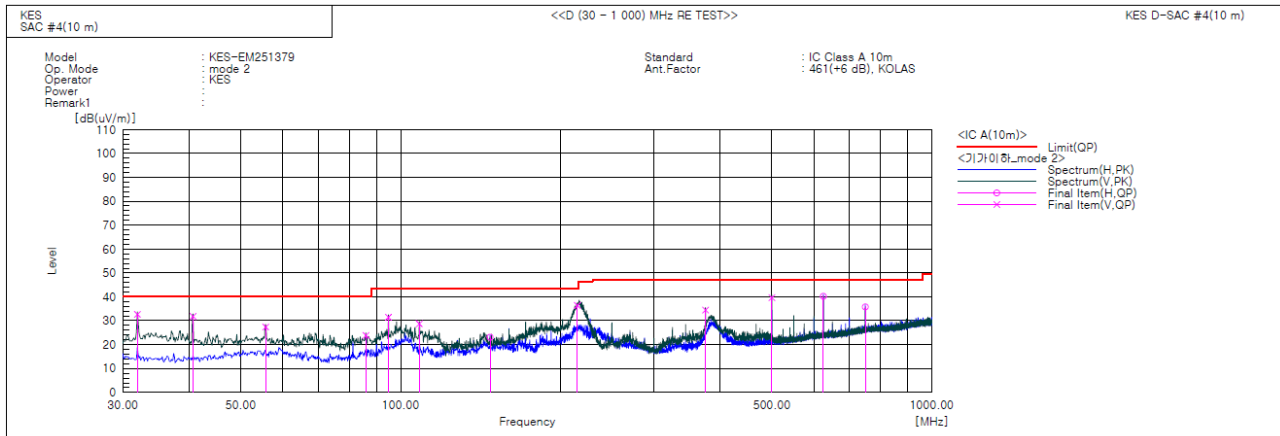
Final Result

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	31.940	V	55.2	-22.5	32.7	39.0	6.3	194.0	268.0	
2	40.670	V	53.6	-21.8	31.8	39.0	7.2	166.0	197.0	
3	55.705	V	48.4	-21.0	27.4	39.0	11.6	176.0	327.0	
4	86.018	V	50.0	-26.1	23.9	39.0	15.1	105.0	107.0	
5	94.869	V	57.2	-25.7	31.5	43.5	12.0	184.0	197.0	
6	108.449	V	52.3	-23.6	28.7	43.5	14.8	147.0	60.0	
7	147.370	H	42.5	-19.4	23.1	43.5	20.4	337.0	80.0	
8	215.149	V	57.8	-21.4	36.4	43.5	7.1	110.0	311.0	
9	374.956	V	49.1	-14.6	34.5	46.5	12.0	197.0	193.0	
10	499.965	V	49.8	-10.1	39.7	46.5	6.8	190.0	40.0	
11	624.974	H	46.7	-6.5	40.2	46.5	6.3	391.0	91.0	
12	750.104	H	39.6	-3.8	35.8	46.5	10.7	314.0	56.0	



Report No. : KES-EM251379

- IC Regulation ICES-003 Issue 7



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	31.940	V	55.2	-22.5	32.7	40.0	7.3	194.0	268.0	
2	40.670	V	53.6	-21.8	31.8	40.0	8.2	166.0	197.0	
3	55.705	V	48.4	-21.0	27.4	40.0	12.6	176.0	327.0	
4	86.018	V	50.0	-26.1	23.9	40.0	16.1	105.0	107.0	
5	94.869	V	57.2	-25.7	31.5	43.5	12.0	184.0	197.0	
6	108.449	V	52.3	-23.6	28.7	43.5	14.8	147.0	60.0	
7	147.370	H	42.5	-19.4	23.1	43.5	20.4	337.0	80.0	
8	215.149	V	57.8	-21.4	36.4	43.5	7.1	110.0	311.0	
9	374.956	V	49.1	-14.6	34.5	47.0	12.5	197.0	193.0	
10	499.965	V	49.8	-10.1	39.7	47.0	7.3	190.0	40.0	
11	624.974	H	46.7	-6.5	40.2	47.0	6.8	391.0	91.0	
12	750.104	H	39.6	-3.8	35.8	47.0	11.2	314.0	56.0	

◆ Calculation

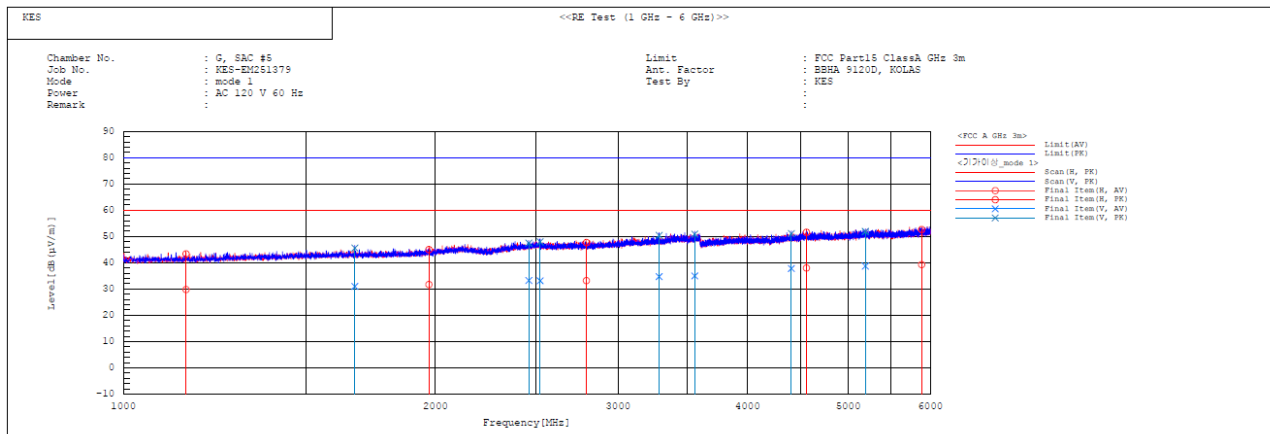
$$\text{Result(QP)} [\text{dB}(\mu\text{V/m})] = (\text{Reading(QP)}[\text{dB}(\mu\text{V})] + \text{c.f}[\text{dB}(1/\text{m})])$$
$$\text{Margin(QP)}[\text{dB}] = \text{Limit}[\text{dB}(\mu\text{V/m})] - \text{Result(QP)} [\text{dB}(\mu\text{V/m})]$$

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)**

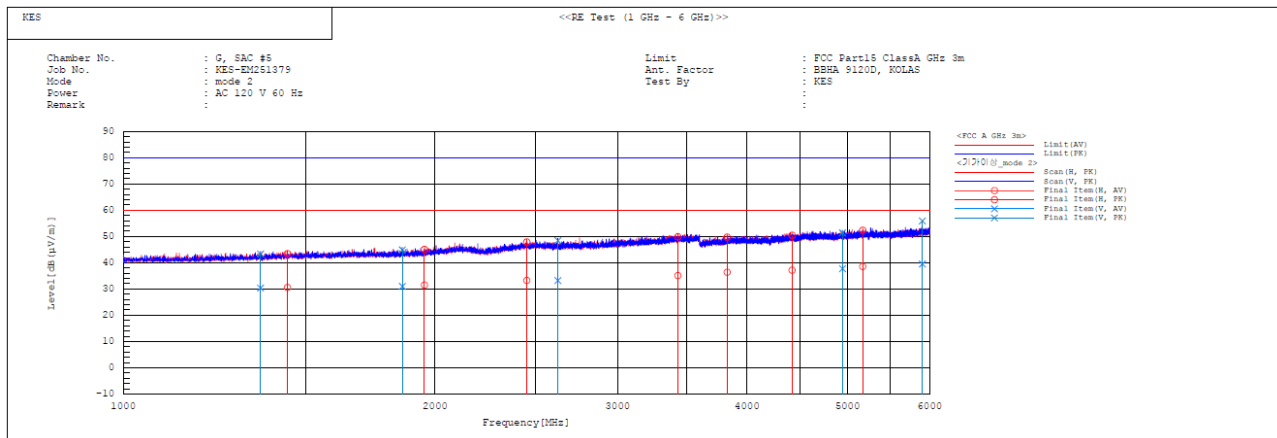
■ mode 1

**Final Result**

No.	Frequency [MHz]	Pol	Reading AV [dB (μV)]	Reading PK [dB (μV)]	c.f [dB (1/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	1149.748	H	29.8	43.4	0.0	43.4	60.0	80.0	30.2	36.6	372.0	149.5	
2	1672.250	V	28.8	43.4	2.2	45.6	60.0	80.0	29.0	34.4	221.0	63.3	
3	1971.212	H	28.6	41.9	3.1	45.0	60.0	80.0	28.3	35.0	324.0	6.8	
4	2460.989	V	28.4	42.6	4.9	47.5	60.0	80.0	26.7	32.5	192.0	192.3	
5	2523.243	V	28.0	42.9	5.1	48.0	60.0	80.0	26.9	32.0	128.0	110.9	
6	2786.987	H	27.5	42.0	5.7	47.7	60.0	80.0	26.8	32.3	298.0	117.4	
7	3286.901	V	27.8	43.5	6.9	50.4	60.0	80.0	25.3	29.6	294.0	4.6	
8	3557.009	V	27.5	43.4	7.5	50.9	60.0	80.0	25.0	29.1	300.0	309.7	
9	4408.617	V	27.5	40.8	10.3	51.1	60.0	80.0	22.2	28.9	160.0	0.5	
10	4557.789	H	27.3	40.9	10.7	51.6	60.0	80.0	22.0	28.4	271.0	165.0	
11	5195.144	V	26.8	40.0	11.9	51.9	60.0	80.0	21.3	28.1	218.0	172.5	
12	5687.325	H	26.2	39.6	13.1	52.7	60.0	80.0	20.7	27.3	334.0	129.4	



mode 2



Final Result

No.	Frequency [MHz]	Pol	Reading AV [dB (μV)]	Reading PK [dB (μV)]	c.f [dB (1/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	1357.182	V	29.4	42.3	1.0	43.3	60.0	80.0	29.6	36.7	215.0	157.0	
2	1440.601	H	29.2	42.1	1.4	43.5	60.0	80.0	29.4	36.5	268.0	38.4	
3	1859.901	V	28.3	42.2	2.7	44.9	60.0	80.0	29.0	35.1	190.0	53.2	
4	1953.101	H	28.5	42.1	3.0	45.1	60.0	80.0	28.5	34.9	310.0	158.4	
5	2452.246	H	28.4	43.0	4.9	47.9	60.0	80.0	26.7	32.1	320.0	1.5	
6	2627.302	V	27.9	43.1	5.3	48.4	60.0	80.0	26.8	31.6	134.0	359.3	
7	3430.761	H	27.8	42.6	7.3	49.9	60.0	80.0	24.9	30.1	378.0	1.5	
8	3827.389	H	27.7	41.1	8.7	49.8	60.0	80.0	23.6	30.2	330.0	205.5	
9	4420.901	H	26.9	40.2	10.3	50.5	60.0	80.0	22.8	29.5	396.0	134.7	
10	4945.644	V	26.3	40.0	11.4	51.4	60.0	80.0	22.3	28.6	160.0	47.7	
11	5171.217	H	26.7	40.5	11.9	52.4	60.0	80.0	21.4	27.6	324.0	4.3	
12	5905.352	V	26.4	42.8	13.1	55.9	60.0	80.0	20.5	24.1	231.0	324.2	

◆ 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

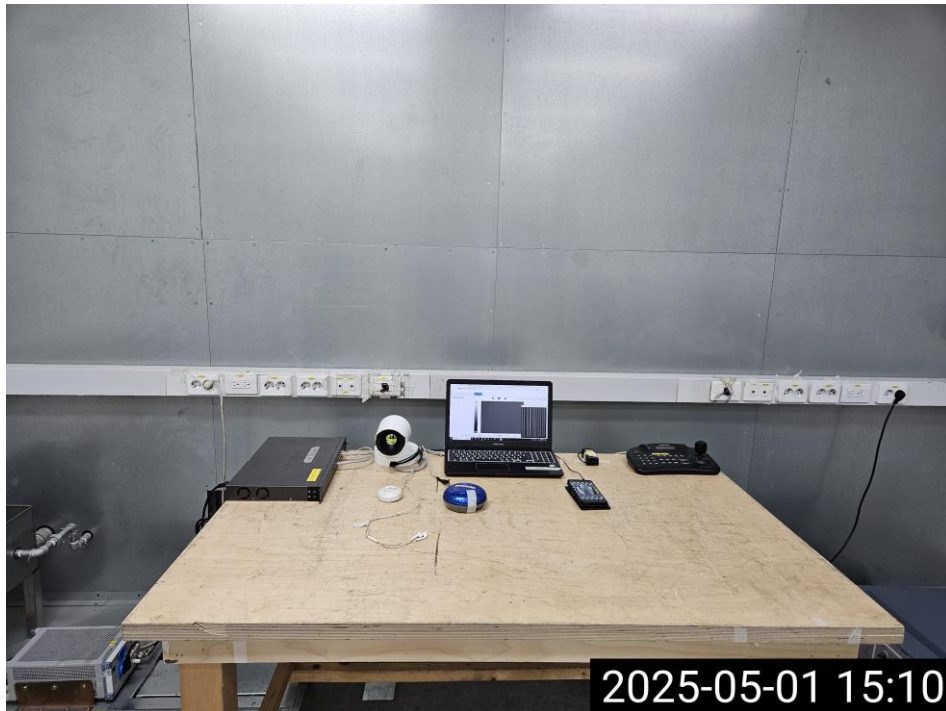
Conducted Emissions at Mains Power Ports

■ mode 1





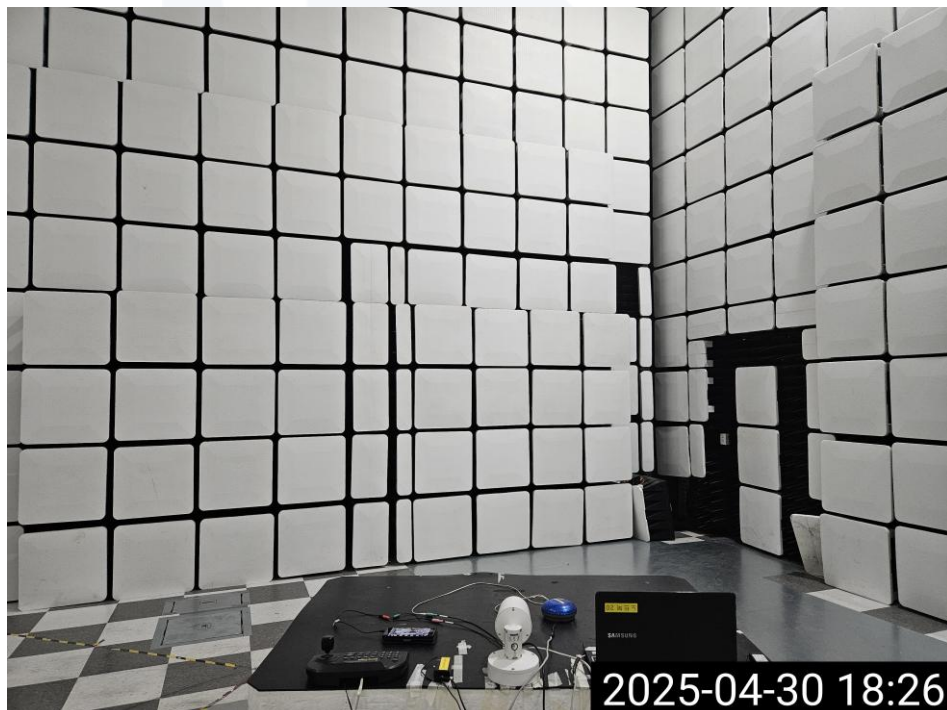
■ mode 2





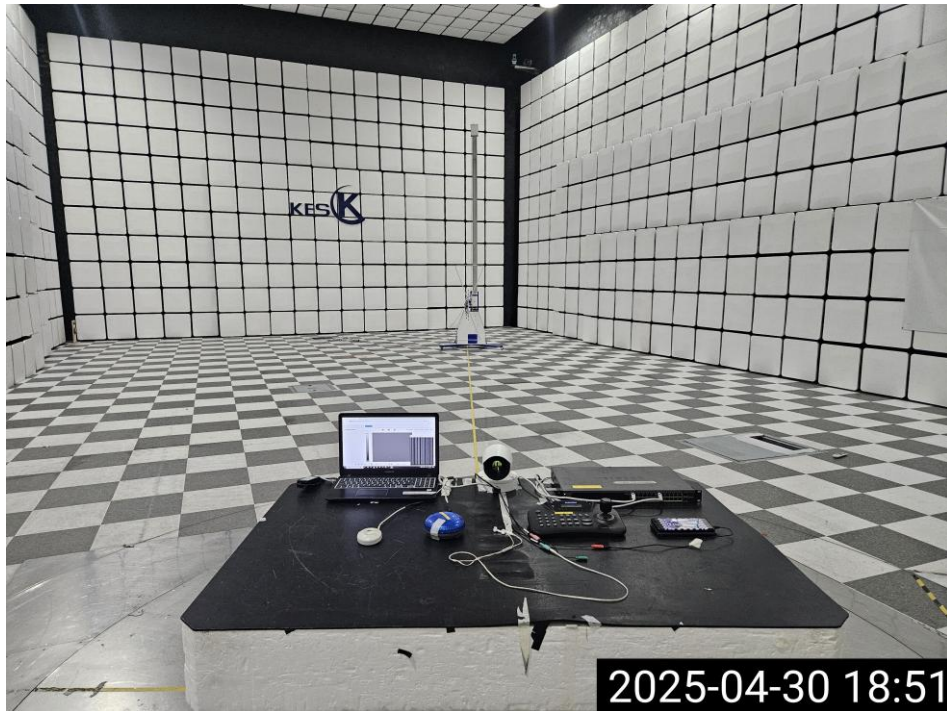
Radiated Electric Field Emissions(Below 1 GHz)

■ mode 1





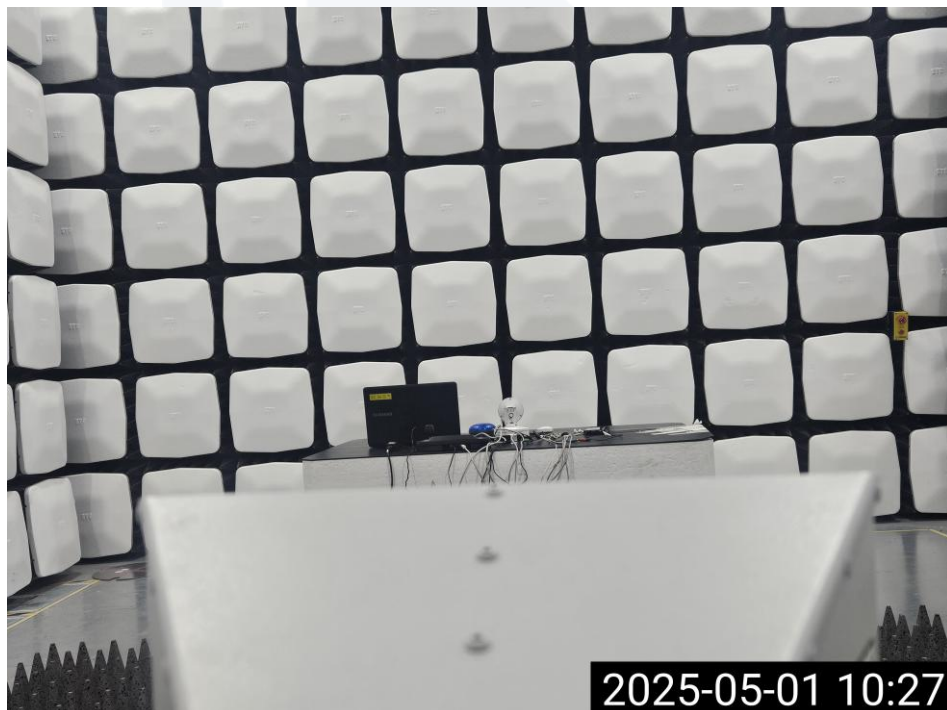
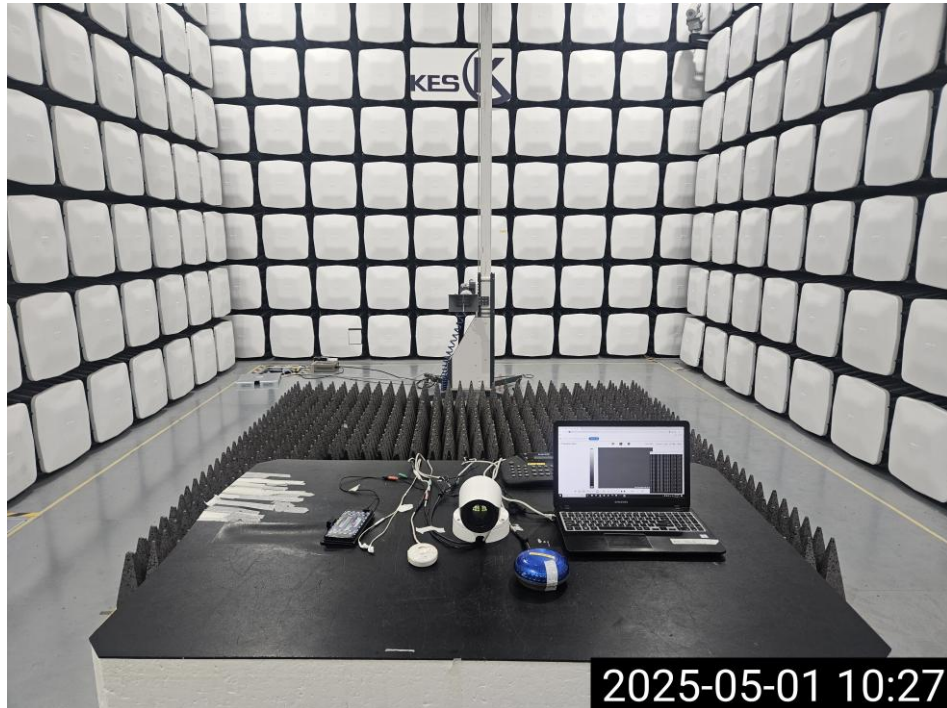
■ mode 2





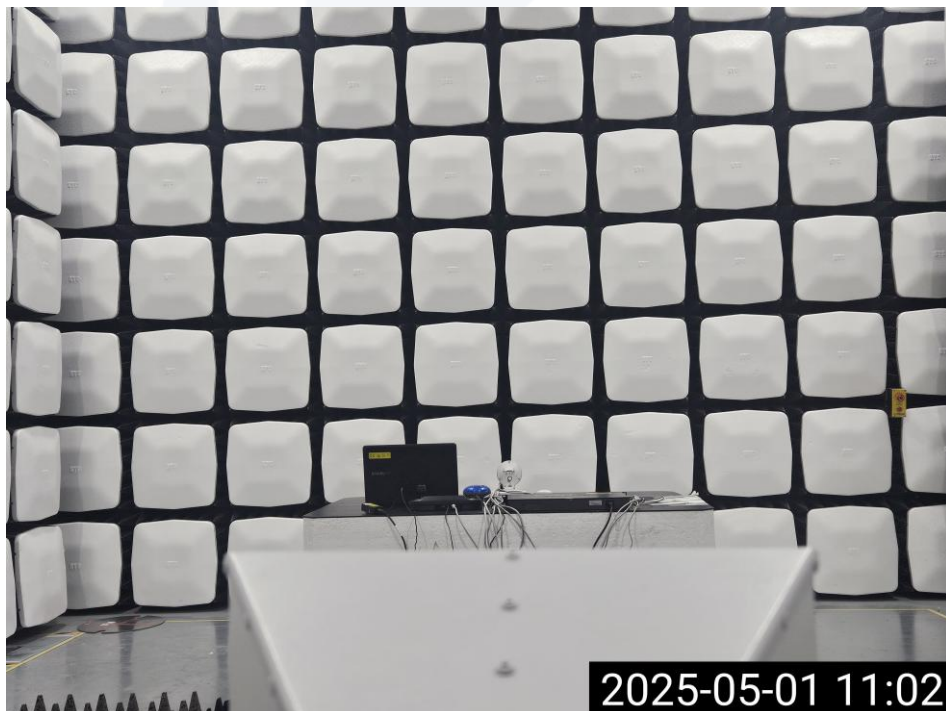
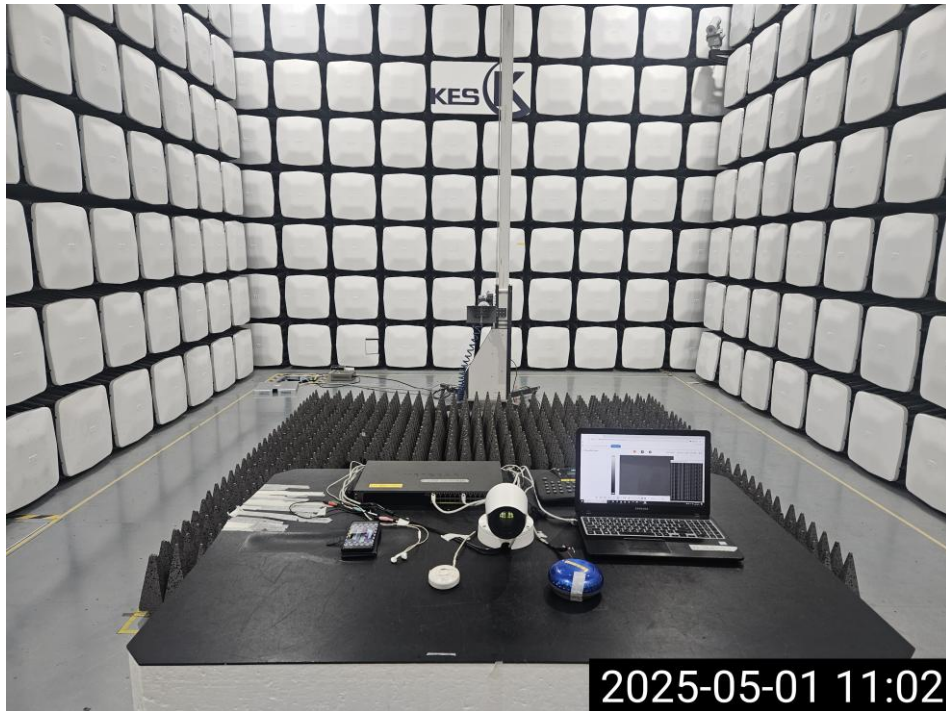
Radiated Electric Field Emissions(Above 1 GHz)

■ mode 1





■ mode 2





EUT External Photographs

(Top)



(Bottom)





EUT Internal Photographs

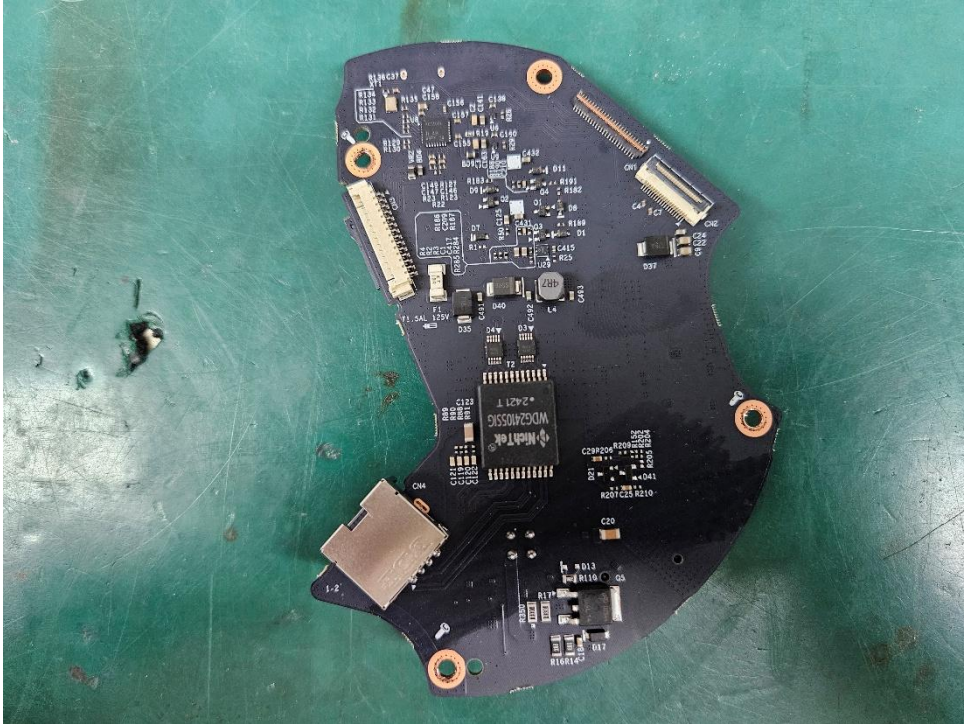
(Internal View)



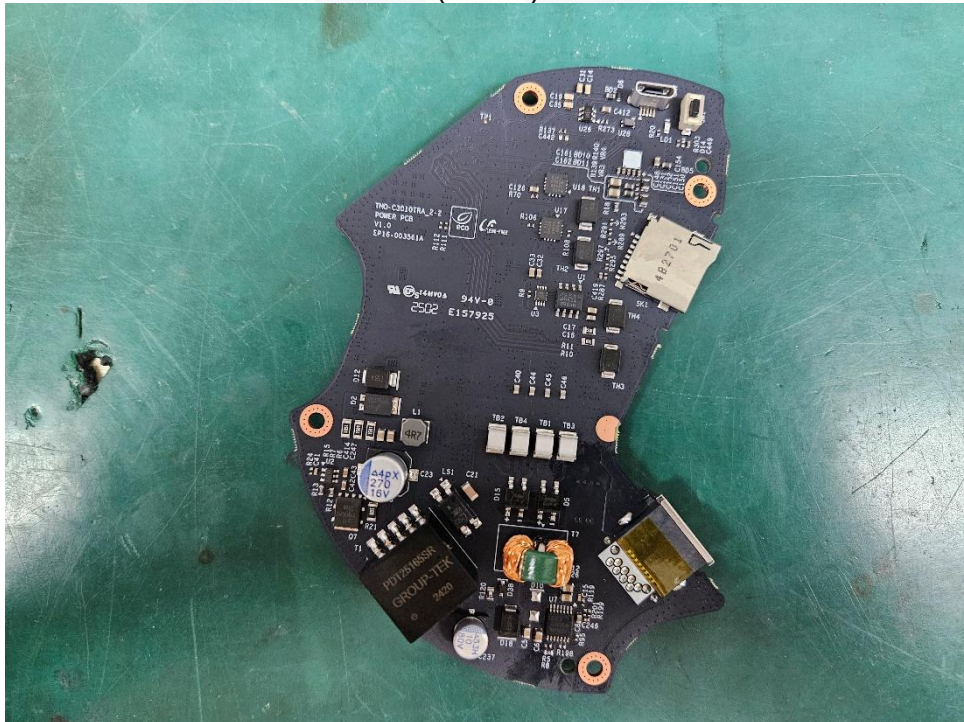


EUT Internal View – PCB 1

(Top)



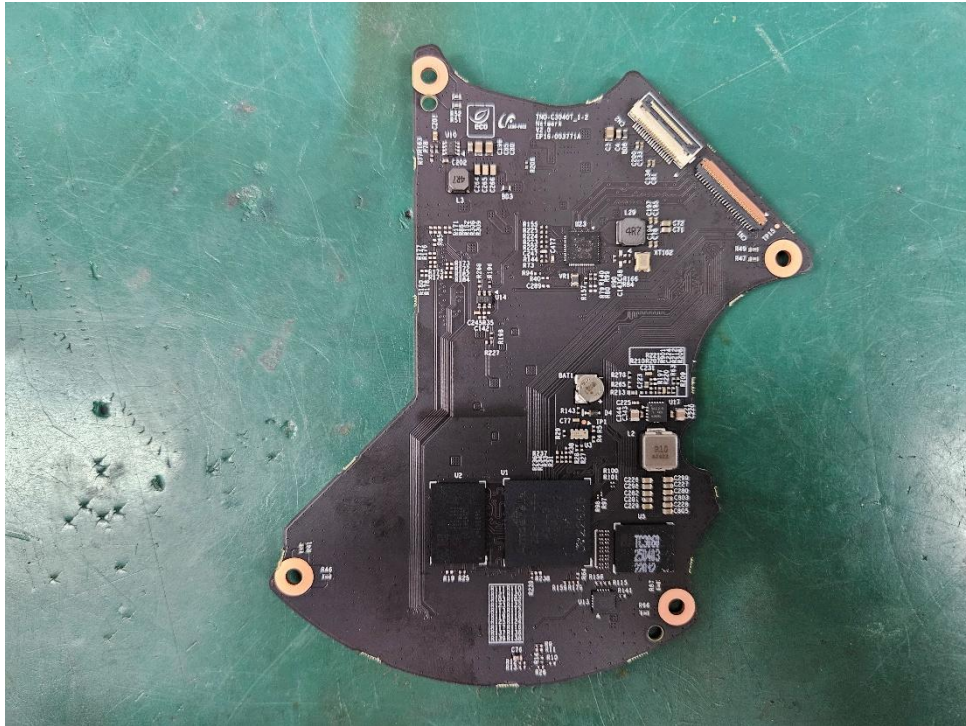
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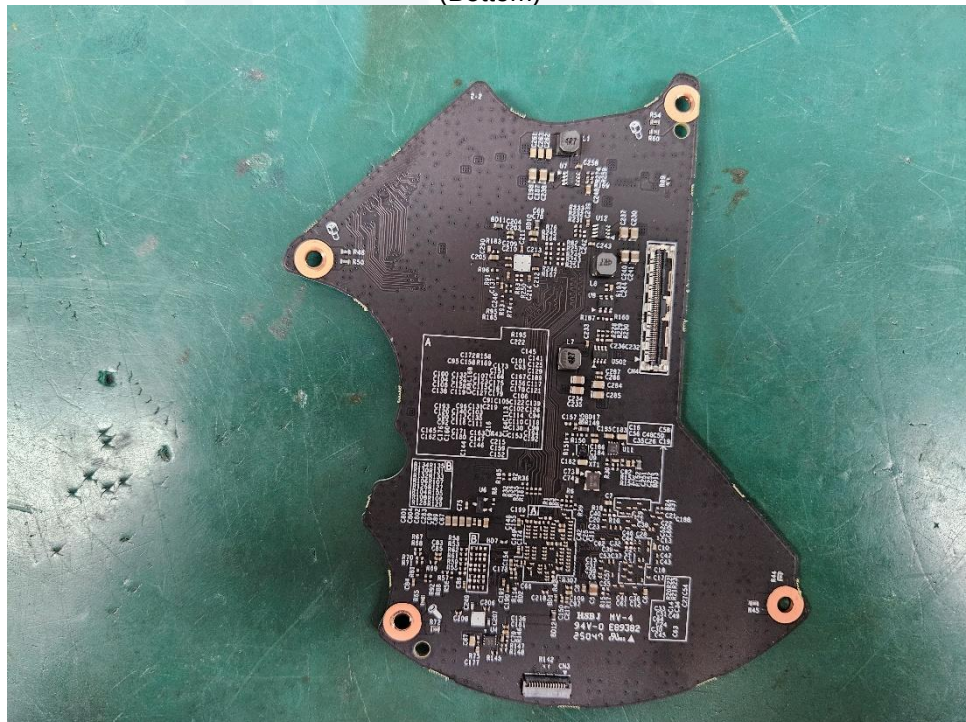


EUT Internal View – PCB 2

(Top)



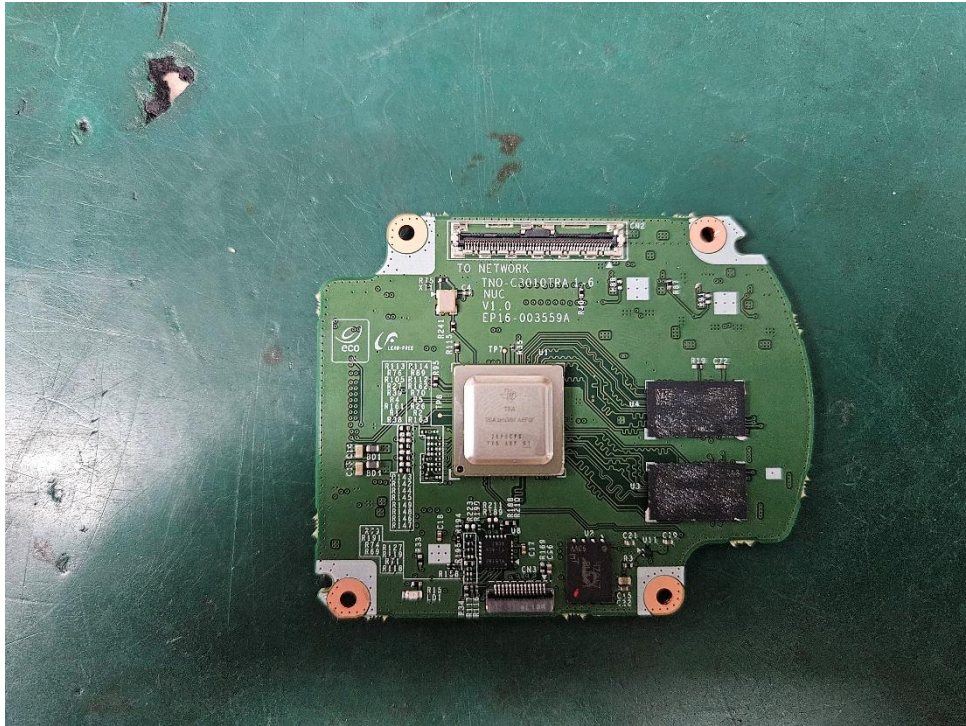
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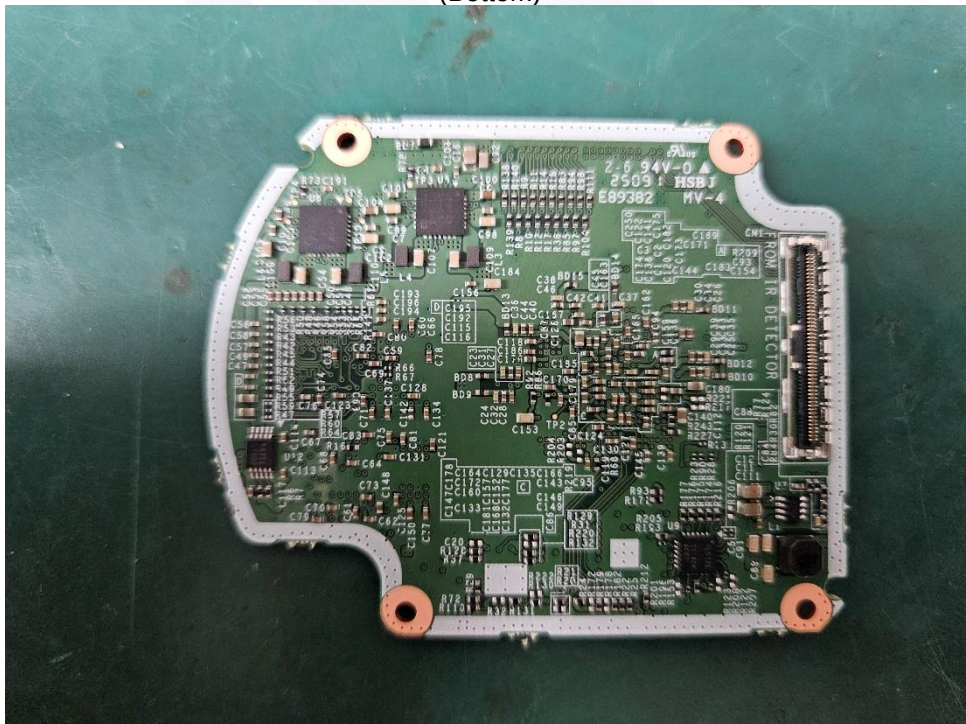


EUT Internal View – PCB 3

(Top)



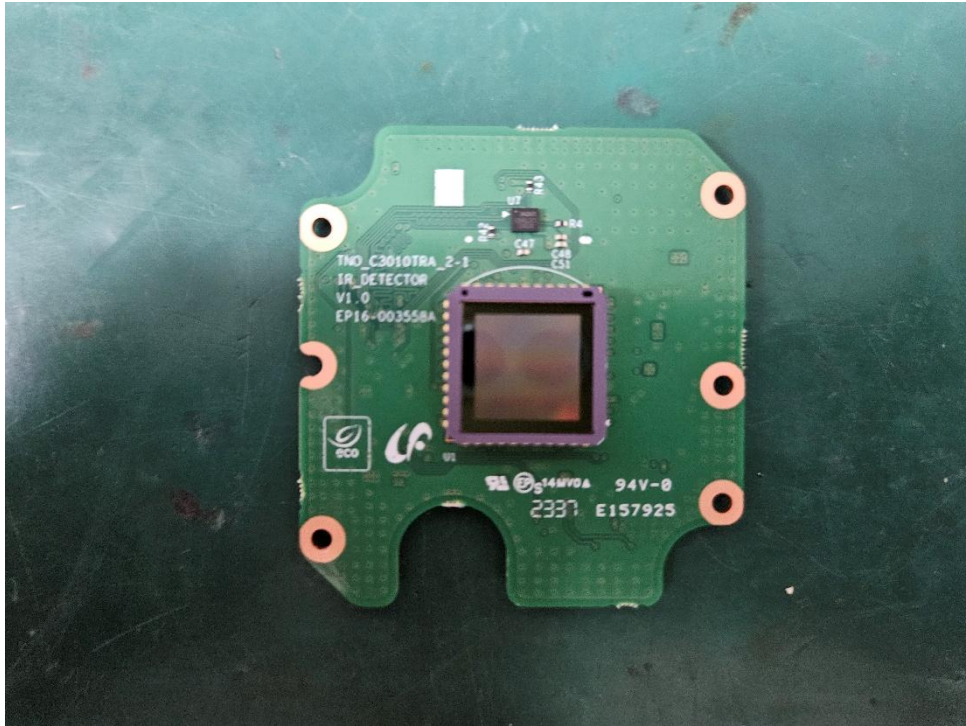
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EUT Internal View – PCB 4

(Top)



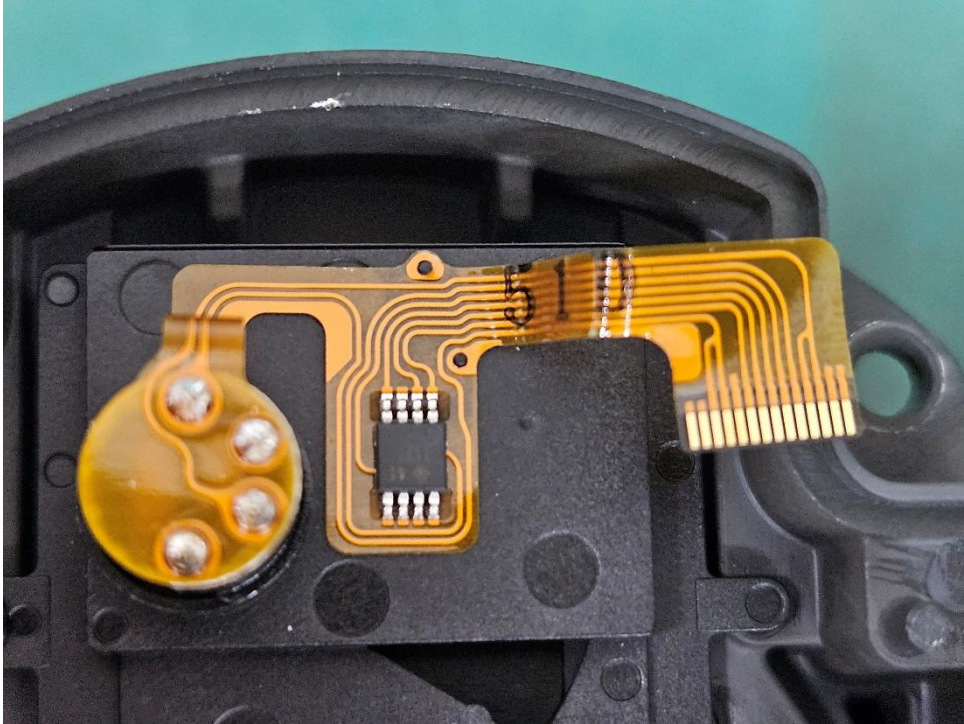
(Bottom)





EUT Internal View – PCB 5

(Top)





Label Photographs

FCC Label



NETWORK THERMAL CAMERA

TNO-C3080T

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.