



KES Co., Ltd.

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www.kes.co.kr

Report No.:

KES-EM-22T0586-R1

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EMC TEST REPORT For RCM

Test Report No. : KES-EM-22T0586-R1
Date of Issue : Feb. 24, 2023
Product name : NETWORK INTERCOM
Model/Type No. : TID-600R
Variant Model : -
Applicant : Hanwha Vision Co., Ltd
Applicant Address : 6, Pangyo-ro 319Beon-gil, Bundang-gu, Seongnam-si,
Gyeonggi-do, Republic of Korea
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 commune, Bac Ninh city, Bac Ninh province, Vietnam
2. 173-25, Saneop-ro, Gwonseon-gu, Suwon-si, Gyeonggi- do,
Korea (Suwon Industrial Complex)
Date of Receipt : Jun. 30, 2022
Test date : Jul. 01, 2022 ~ Jul. 02, 2022
Test Results : ☒ **In Compliance** ☐ **Not in Compliance**

Tested by

Ju-Won, Yun
EMC Test Engineer

Reviewed by

Dong-Hun, Jang
EMC Technical Manager

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



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REPORT REVISION HISTORY

Date	Test Report No.	Revision History
Jul. 18, 2022	KES-EM-22T0586	Issued
Feb. 24, 2023	KES-EM-22T0586-R1	Change the Applicant and manufacturer at the request of the customer.

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1.0 General Product Description

Main Specifications of EUT are:

	TID-600R
Video	
Imaging Device	1/2.8" CMOS
Resolution	1920x1080, 1280x1024, 1280x960, 1280x720, 1024x768, 800x600, 800x448, 720x576, 720x480, 640x480, 640x360, 320x240
Max. Framerate	H.265/H.264 : Max. 60fps/50fps(60Hz/50Hz) MJPEG: Max. 30fps/25fps(60Hz/50Hz)
Min. Illumination	Color: 0.018lux (F1.6, 1/30sec) BW: 0 Lux (IR LED On)
Video Out	CVBS: 1.0 Vp-p / 75Ω composite, 720x480(N), 720x576(P) for installation
Lens	
Focal Length (Zoom Ratio)	1.6mm fixed focal
Max. Aperture Ratio	F1.6
Angular Field of View	H: 180° / V: 114° / D: 180°
Min. Object Distance	0.3m
Focus Control	Fixed
Operational	
IR Viewable Length	5m
Camera Title	Displayed up to 85 characters
Day & Night	Auto(ICR)
Backlight Compensation	BLC, HLC, WDR, SSDR
Wide Dynamic Range	WDR(150dB)
Digital Noise Reduction	SSNRV
Digital Image Stabilization	Support
Defog	Support
Motion Detection	8ea, 8point polygonal zones
Privacy Masking	32ea, polygonal zones - Color: Grey/Green/Red/Blue/Black/White - Mosaic
Gain Control	Low / Middle / High
White Balance	ATW / AWC / Manual / Indoor / Outdoor
Electronic Shutter Speed	Minimum / Maximum / Anti flicker (2~1/12,000sec)
Analytics	Directional detection, Motion detection, Appear/Disappear, Enter/Exit, Loitering, Tampering, Virtual line, Audio detection, Shock detection, Sound classification
Alarm I/O	Input 2ea / Output 1ea , Relay out 1ea (12VDC Max. 550mA with 2A adapter) Tampering switch, Touchless call
Alarm Triggers	Analytics, Network disconnect, Alarm input

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Alarm Events	File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output Handover Audio playback
Audio Streaming	Two-way/one-way selectable, Full duplex, Echo cancellation and noise reduction
Audio In	Built-in mic
Audio Out	Built-in speaker: 85dB at 0.5m
Network	
Ethernet	Metal shielded RJ-45(10/100BASE-T)
Video Compression	H.265/H.264: Main/Baseline/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 Opus 8/16KHz
Smart Codec	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	Multiple streaming(Up to 10 profiles)
Protocol	IPv4, IPv6, TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTSP, RTP, HTTP, HTTPS, SSL/TLS, PPPoE, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, PIM-SM, UPnP, Bonjour, SRTP, SIP 2.0(RFC 3261 and companion RFCs)
SIP support (VoIP, Peer-to-peer, SIP/PBX integration)	Tested with Cisco, Grandstream, Yealink VoIP phones and Asterisk PBX software
Security	HTTPS(SSL) login authentication, Digest login authentication, IP address filtering, User access log, 802.1X authentication(EAP-TLS, EAP-LEAP), Device certificate(Hanwha Techwin Root CA)
Application Programming Interface	ONVIF Profile S SUNAPI(HTTP API) Wisenet open platform
General	
Webpage Language	English, Korean, Chinese, French, Italian, Spanish, German, Japanese, Russian, Swedish, Portuguese, Czech, Polish, Turkish, Dutch, Hungarian, Greek
Edge Storage	Micro SD/SDHC/SDXC 1slot 256GB
Memory	2GB RAM
Environmental & Electrical	
Operating Temperature / Humidity	-30°C~+55°C(-22°F ~ +131°F) / Less than 95% RH
Storage Temperature / Humidity	-50°C~+55°C / Less than 95% RH
Certification	IP65, IK08, NEMA4X, Safety(UL), EMC(FCC, CE)
Input Voltage	PoE, 12VDC
Power Consumption	PoE: Max 12.95W, typical 9.1W 12VDC: Max 17.6W, typical 7W * 12VDC power consumption includes 12VDC/550mA relay out.
Mechanical	
Color / Material	Dark gray / Aluminium
RAL Code	RAL7022
Product dimensions / weight	49(W)x165(H)x48(D)mm(1.93x6.50x1.89") / 490g
DORI	
Detect (25PPM/ 8PPF)	25.04m
Observe (63PPM/ 19PPF)	10.02m
Recognize (125PPM/ 38PPF)	5.01m
Identify (250PPM/ 76PPF)	2.50m

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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 (PoE), 50 Hz

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 INTERCOM	TID-600R	-	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 Adapter	PSE156G	-	-	-
Notebook	P95G001	9JM8HT2	Wistron Infocom (Chengdu) Company Limited	-
Notebook Adapter	LA65NS2-01	-	LITE-ON TECHNOLOGY (CHANGZHOU)CO.,LTD.	-
Monitor	SMT-2232	C95V67VF90002 5B	Weihai Daewoo Electronics Co., Ltd.	-
Alarm	PRO-SL	-	SENSOR PRO	-
Button alarm	-	-	-	-
Door lock jig	-	-	-	-
Micro SD Card	-	-	SanDisk	-

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1.6 External I/O Cabling

■ DC MODE

Start		END		Cable Spec.	
Description	I/O Port	Description	I/O Port	Length	Shield
NETWORK INTERCOM (EUT)	RJ-45	Notebook	RJ-45	3.0	U
	DC In	Adapter	DC Out	1.2	U
	BNC	Monitor	BNC	3.0	S
	Alarm OUT	Alarm	Alarm IN	3.2	U
	Alarm IN	Button alarm	Alarm OUT	3.6	U
	2 Pin	Door lock jig	2 Pin	0.5	U
	SLOT	Micro SD Card	SLOT	-	-

* Unshielded=U, Shielded=S

■ PoE MODE

Start		END		Cable Spec.	
Description	I/O Port	Description	I/O Port	Length	Shield
NETWORK INTERCOM (EUT)	RJ-45 (PoE)	PoE Adapter	RJ-45 (PoE)	3.0	U
	BNC	Monitor	BNC	3.0	S
	Alarm OUT	Alarm	Alarm IN	3.2	U
	Alarm IN	Button alarm	Alarm OUT	3.6	U
	2 Pin	Door lock jig	2 Pin	0.5	U
	SLOT	Micro SD Card	SLOT	-	-
Notebook	RJ-45 (LAN)	PoE Adapter	RJ-45 (LAN)	1.2	U

* Unshielded=U, Shielded=S



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1.7 EUT Operating Mode(s)

■ DC / PoE MODE

Test Mode	operating
Operation	Tested by checking camera video output from monitor and laptop and checking whether it works normally while doing PING TEST.

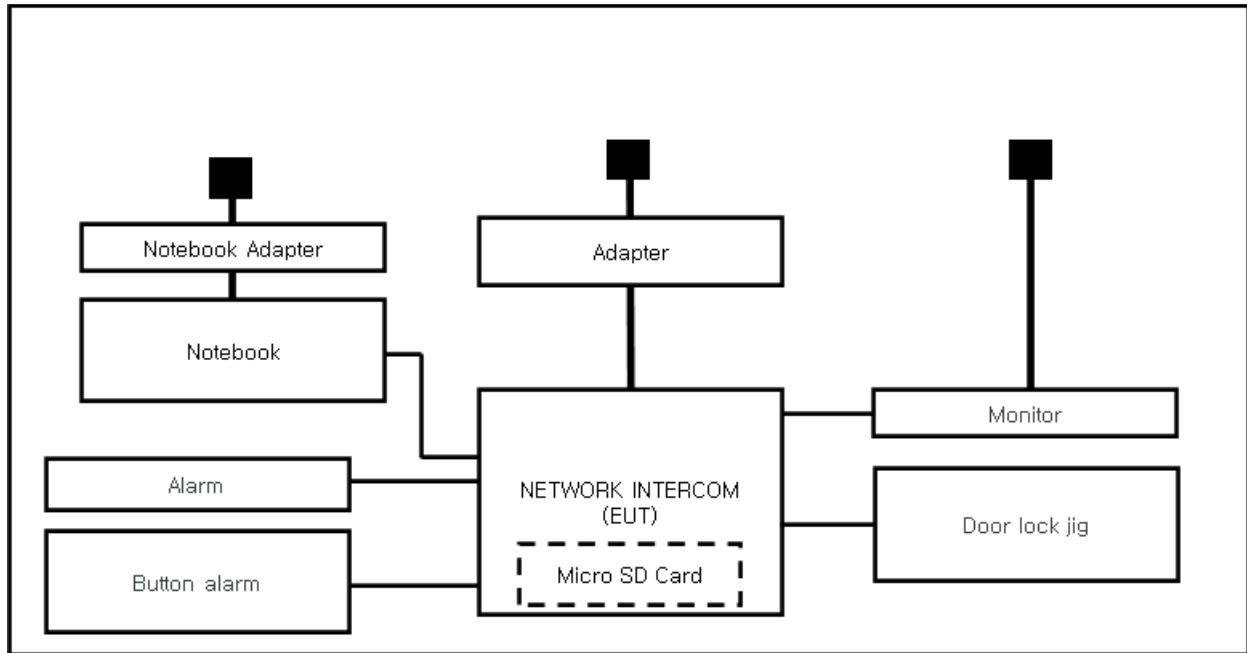
EUT Test operating S/W		
Name	Version	Manufacture Company
Web Viewer	-	Hanwha Vision Co., Ltd

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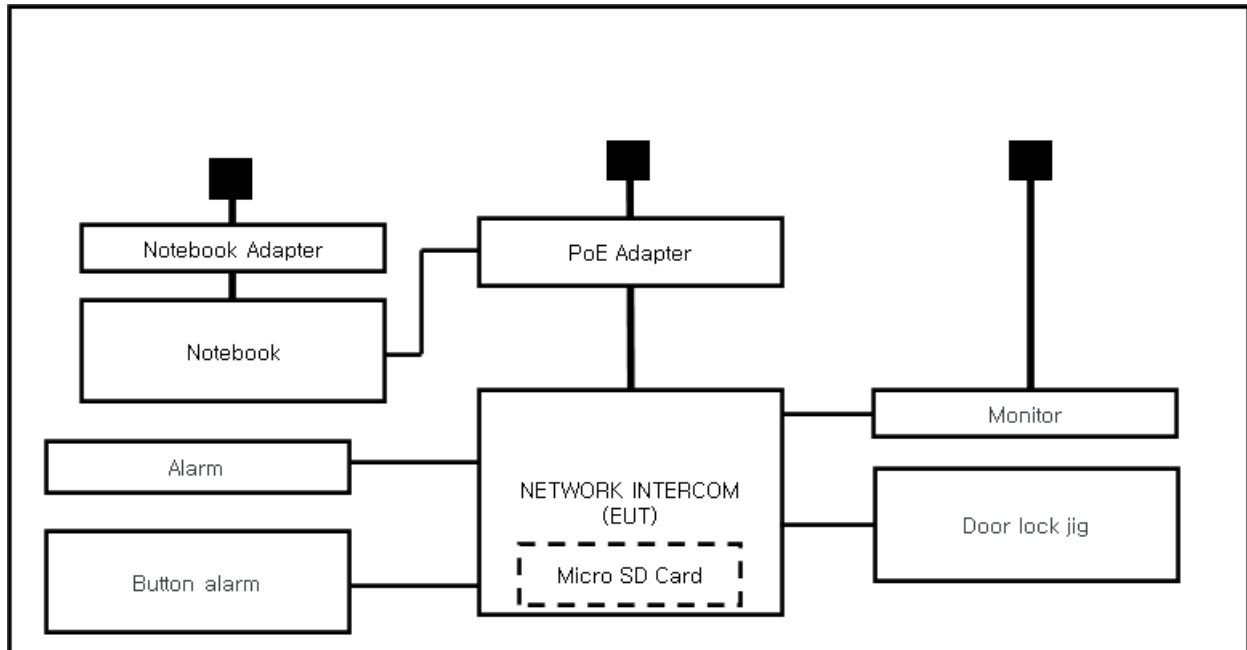
1.8 Configuration

■ AC Main
 □ DC Main

■ DC MODE



■ PoE MODE



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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 0004

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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

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2.1 Conducted Emissions at Mains Power Ports

Test Date

Jul. 02, 2022

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	12, 28, 2022
☒	LISN	ENV216	R & S	101787	12, 27, 2022
☒	LISN	ESH2-Z5	R & S	100450	12, 27, 2022
☒	PULSE LIMITER	ESH3-Z2	R & S	101915	12, 27, 2022

Test Conditions

Temperature: (24,3 ± 0,1) °C

Relative Humidity: (44,2 ± 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.

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2.2 Conducted Emissions at Telecommunication Ports

Test Date

Jul. 02, 2022

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	12, 28, 2022
☒	LISN	ENV216	R & S	101787	12, 27, 2022
☒	LISN	ESH2-Z5	R & S	100450	12, 27, 2022
☒	PULSE LIMITER	ESH3-Z2	R & S	101915	12, 27, 2022
☒	8-WIRE ISN CAT3,5	ENY81	R & S	100174	12, 28, 2022
☐	8-WIRE ISN CAT6	ENY81-CAT6	R & S	101665	12, 28, 2022

Test Conditions

Temperature: (24,3 ± 0,1) °C

Relative Humidity: (44,2 ± 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.
- For Ethernet interfaces, measurements are required at the highest data rate supported by the interface.



2.3 Radiated Electric Field Emissions(Below 1 GHz)

Test Date

Jul. 01, 2022

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	03, 31, 2023
☒	AMPLIFIER	SCU 01	R & S	100603	11, 24, 2022
☒	TRILOG-BROADBAND ANTENNA	VULB9163	Schwarzbeck	715	12, 08, 2022
☒	ATTENUATOR	8491A	HP	32173	03, 08, 2023

Test Conditions

Temperature: (24,3 ± 0,1) °C
Relative Humidity: (44,5 ± 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.



2.4 Radiated Electric Field Emissions(Above 1 GHz)

Test Date

Jul. 01, 2022

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	03, 31, 2023
☒	HORN ANTENNA	BBHA 9120D	SCHWARZBECK	9120D-1802	12, 16, 2022
☒	PREAMPLIFIER	8449B	HP	3008A00538	06, 02, 2023

Test Conditions

Temperature: (24,5 ± 0,1) °C

Relative Humidity: (44,8 ± 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.

APPENDIX A – TEST DATA

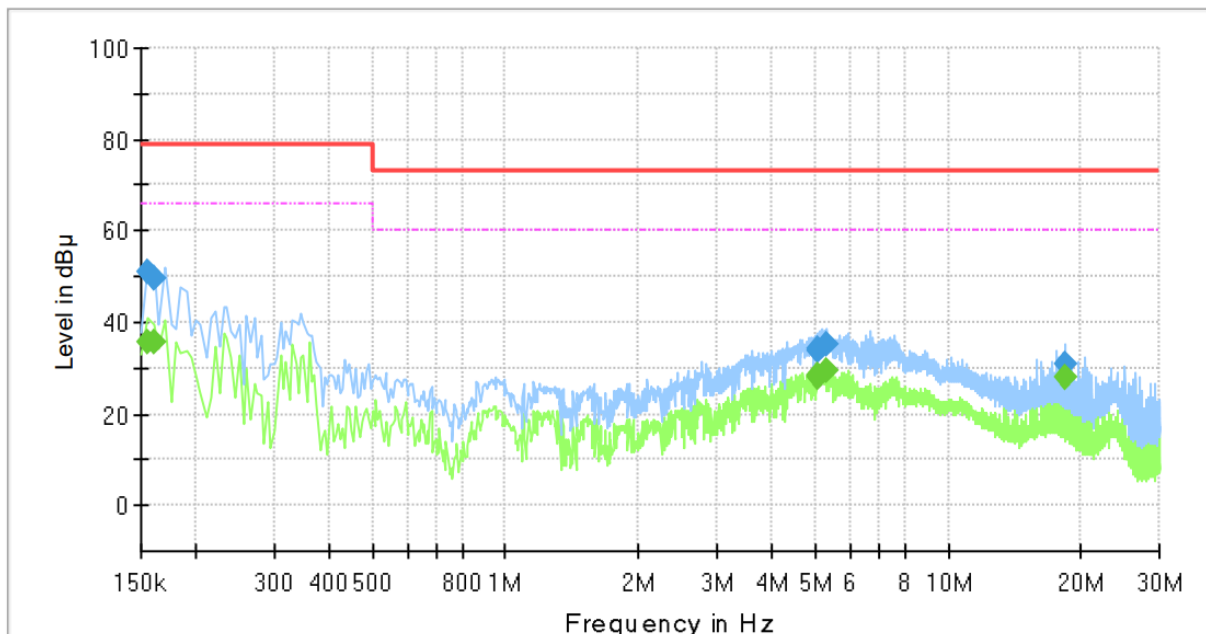
Conducted Emissions at Mains Power Ports

■ DC MODE

HOT LINE

Common Information

Test Description:	Conducted Emission
Model No.:	TID-600R
Phase:	
Mode:	DC
Operator Name:	KES



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Final Result

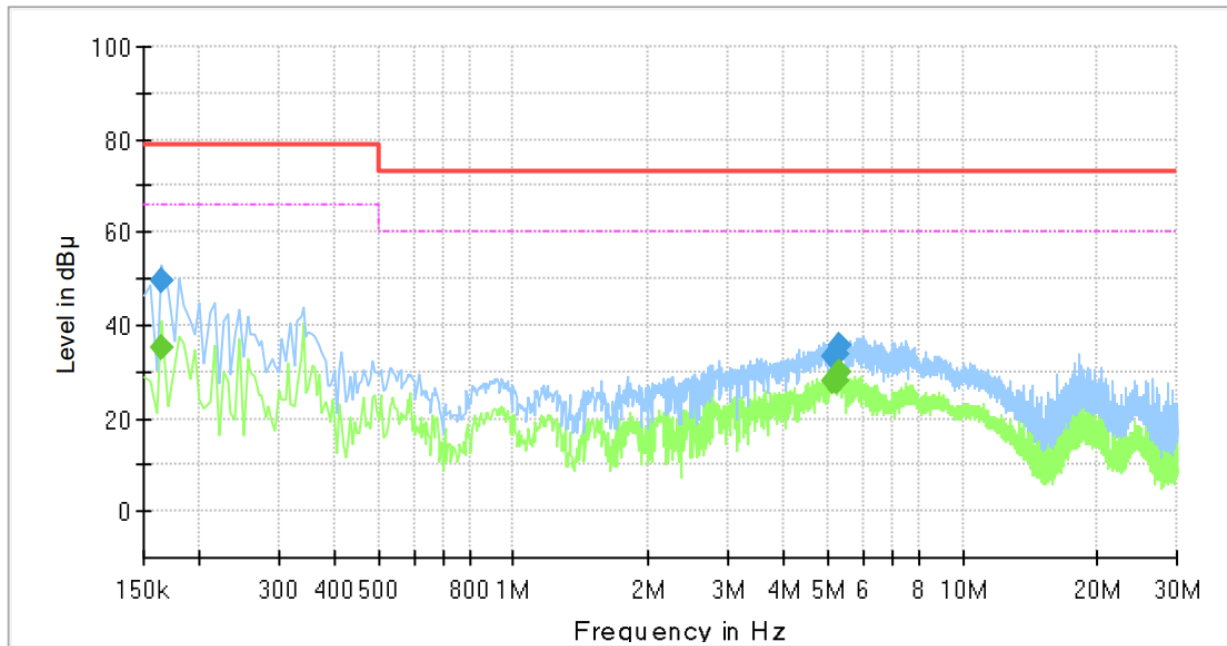
Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.155000	---	35.67	66.00	30.33	1000.0	9.000	L1	19.4
0.155000	50.84	---	79.00	28.16	1000.0	9.000	L1	19.4
0.160000	---	35.68	66.00	30.32	1000.0	9.000	L1	19.4
0.160000	49.70	---	79.00	29.30	1000.0	9.000	L1	19.4
5.075000	---	28.02	60.00	31.98	1000.0	9.000	L1	19.6
5.075000	33.88	---	73.00	39.12	1000.0	9.000	L1	19.6
5.085000	---	28.43	60.00	31.57	1000.0	9.000	L1	19.6
5.085000	34.00	---	73.00	39.00	1000.0	9.000	L1	19.6
5.310000	---	29.25	60.00	30.75	1000.0	9.000	L1	19.6
5.310000	35.14	---	73.00	37.86	1000.0	9.000	L1	19.6
18.305000	---	27.71	60.00	32.29	1000.0	9.000	L1	20.0
18.305000	30.90	---	73.00	42.10	1000.0	9.000	L1	20.0

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NEUTRAL LINE

Common Information

Test Description: Conducted Emission
 Model No.: TID-600R
 Phase:
 Mode: DC
 Operator Name: KES



Final Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.165000	---	35.30	66.00	30.70	1000.0	9.000	N	19.4
0.165000	49.57	---	79.00	29.43	1000.0	9.000	N	19.4
5.110000	---	27.77	60.00	32.23	1000.0	9.000	N	19.6
5.110000	33.21	---	73.00	39.79	1000.0	9.000	N	19.6
5.225000	---	27.90	60.00	32.10	1000.0	9.000	N	19.6
5.225000	33.52	---	73.00	39.48	1000.0	9.000	N	19.6
5.305000	---	30.09	60.00	29.91	1000.0	9.000	N	19.6
5.305000	35.56	---	73.00	37.44	1000.0	9.000	N	19.6

◆ Calculation

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

QuasiPeak / CAverage : The Final Value

Reading Value : Not shown in the table.

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

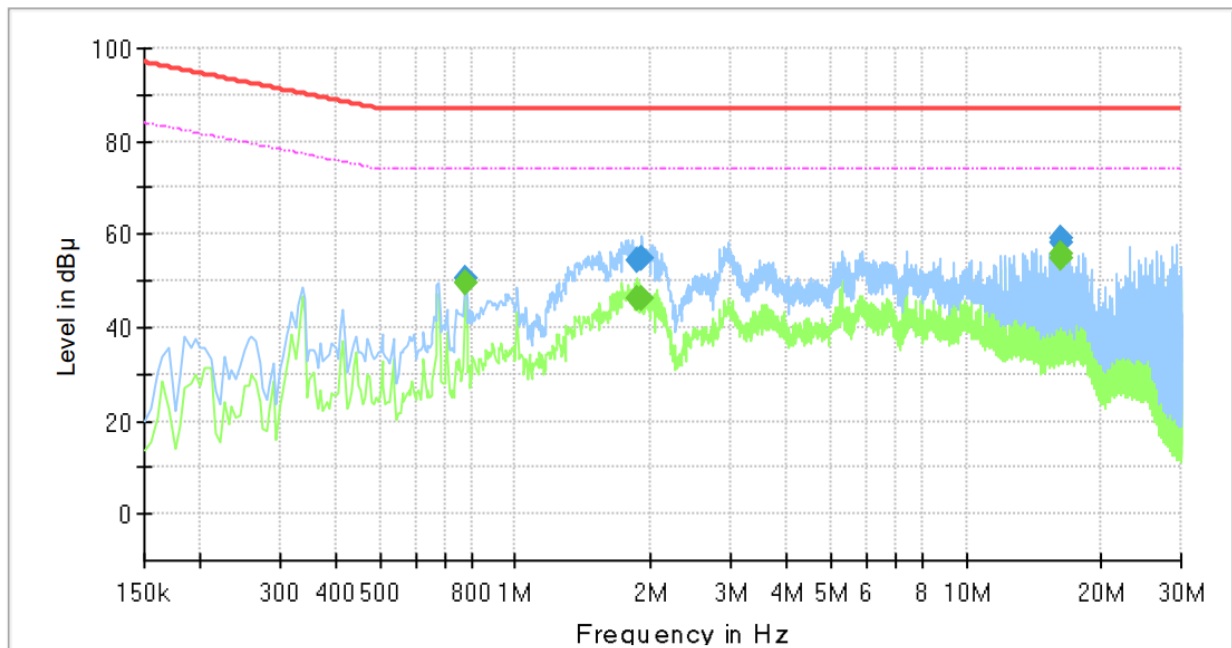
Conducted Emissions at Telecommunication Ports

■ DC MODE

[100 Mbps]

Common Information

Test Description:	Telecommunication Emission
Model No.:	TID-600R
Mode :	DC
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)
0.775000	---	49.41	74.00	24.59	1000.0	9.000	Single Line	19.9
0.775000	50.49	---	87.00	36.51	1000.0	9.000	Single Line	19.9
1.865000	---	46.30	74.00	27.70	1000.0	9.000	Single Line	20.2
1.865000	54.56	---	87.00	32.44	1000.0	9.000	Single Line	20.2
1.910000	---	46.42	74.00	27.58	1000.0	9.000	Single Line	20.2
1.910000	54.61	---	87.00	32.39	1000.0	9.000	Single Line	20.2
16.165000	---	54.91	74.00	19.09	1000.0	9.000	Single Line	19.7
16.165000	58.03	---	87.00	28.97	1000.0	9.000	Single Line	19.7
16.230000	---	55.80	74.00	18.20	1000.0	9.000	Single Line	19.7
16.230000	59.07	---	87.00	27.93	1000.0	9.000	Single Line	19.7

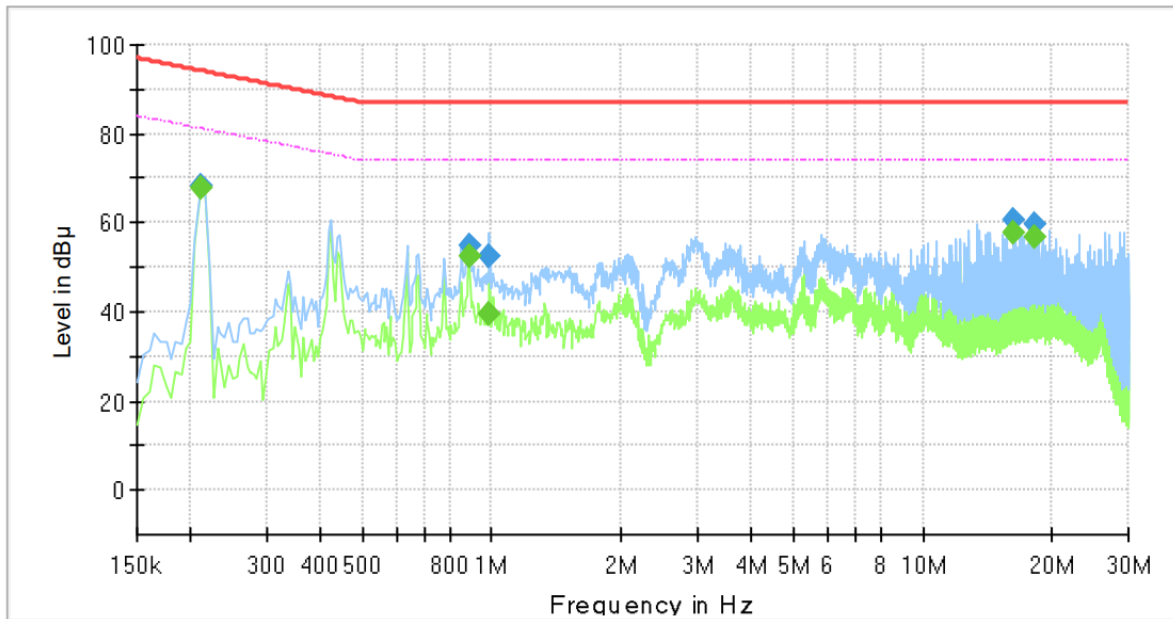
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■ PoE MODE

[100 Mbps]

Common Information

Test Description:	Telecommunication Emission
Model No.:	TID-600R
Mode :	PoE
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)
0.210000	---	68.02	81.21	13.19	1000.0	9.000	Single Line	19.7
0.210000	68.07	---	94.21	26.14	1000.0	9.000	Single Line	19.7
0.885000	---	52.58	74.00	21.42	1000.0	9.000	Single Line	20.0
0.885000	54.62	---	87.00	32.38	1000.0	9.000	Single Line	20.0
0.985000	---	39.42	74.00	34.58	1000.0	9.000	Single Line	20.0
0.985000	52.64	---	87.00	34.36	1000.0	9.000	Single Line	20.0
16.230000	---	57.77	74.00	16.23	1000.0	9.000	Single Line	19.7
16.230000	60.82	---	87.00	26.18	1000.0	9.000	Single Line	19.7
18.245000	---	56.57	74.00	17.43	1000.0	9.000	Single Line	19.8
18.245000	59.68	---	87.00	27.32	1000.0	9.000	Single Line	19.8

◆ Calculation

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

QuasiPeak / CAverage : The Final Value

Reading Value : Not shown in the table.

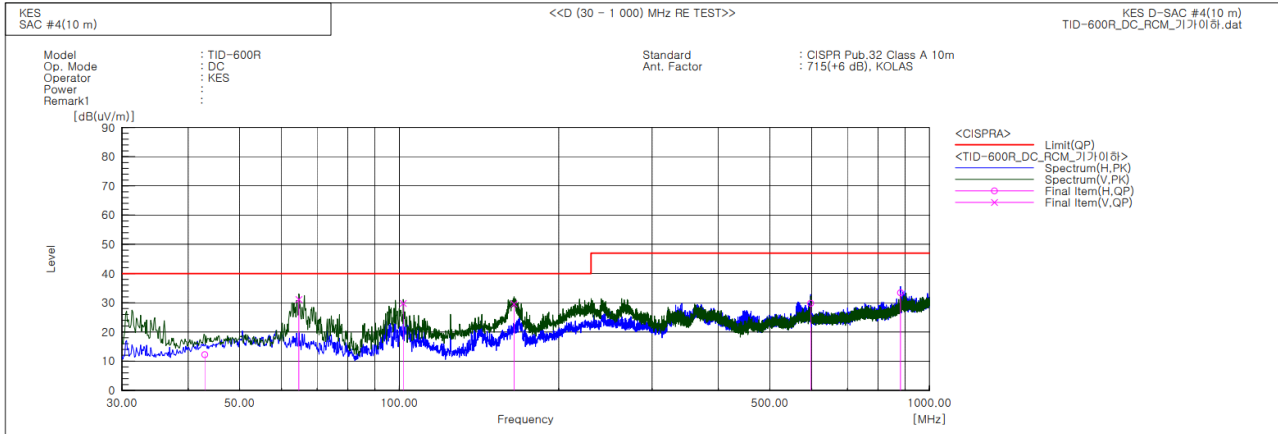
Corr. : Correction values (ISN FACTOR + (Cable Loss + Pulse Limiter FACTOR))

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Radiated Electric Field Emissions(Below 1 GHz)

■ DC MODE



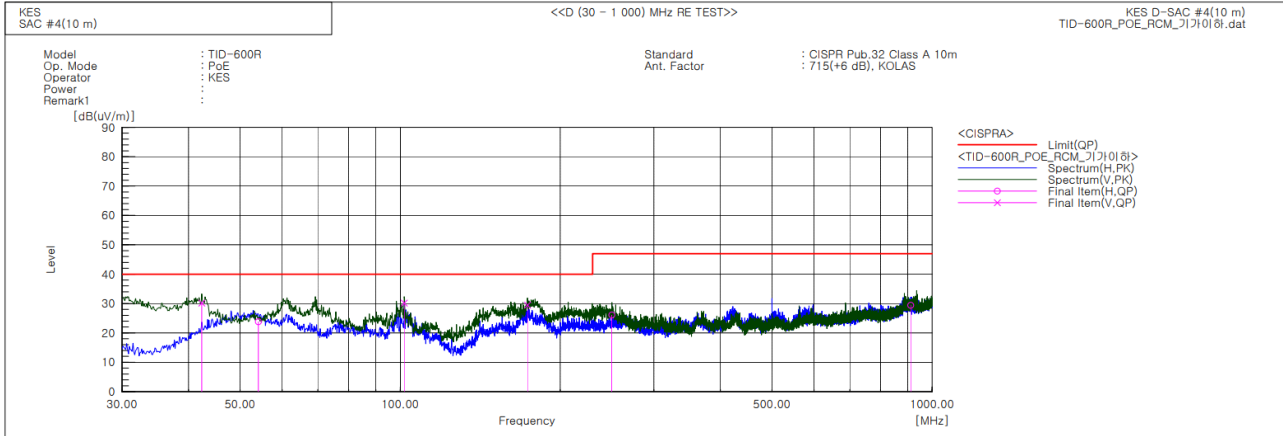
Final Result

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	42.974	H	33.9	-21.7	12.2	40.0	27.8	182.0	45.4	
2	64.678	V	54.3	-23.2	31.1	40.0	8.9	153.0	295.3	
3	101.780	V	52.3	-22.5	29.8	40.0	10.2	100.0	257.3	
4	164.588	V	54.1	-24.5	29.6	40.0	10.4	100.0	275.6	
5	597.086	H	38.3	-8.5	29.8	47.0	17.2	400.0	323.4	
6	881.781	H	37.8	-4.4	33.4	47.0	13.6	400.0	4.4	

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PoE MODE



Final Result

No.	Frequency	(P)	Reading	c.f	Result	Limit	Margin	Height	Angle	Remark
	[MHz]		QP [dB(uV)]	[dB(1/m)]	QP [dB(uV/m)]	QP [dB(uV/m)]	QP [dB]	[cm]	[deg]	
1	42.368	V	52.0	-21.8	30.2	40.0	9.8	159.0	188.2	
2	54.129	H	45.1	-21.3	23.8	40.0	16.2	400.0	233.5	
3	101.780	V	52.7	-22.5	30.2	40.0	9.8	100.0	288.9	
4	173.439	V	53.5	-24.0	29.5	40.0	10.5	122.0	117.1	
5	249.948	H	45.4	-19.3	26.1	47.0	20.9	400.0	216.0	
6	911.730	H	33.3	-3.9	29.4	47.0	17.6	400.0	19.2	

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)]

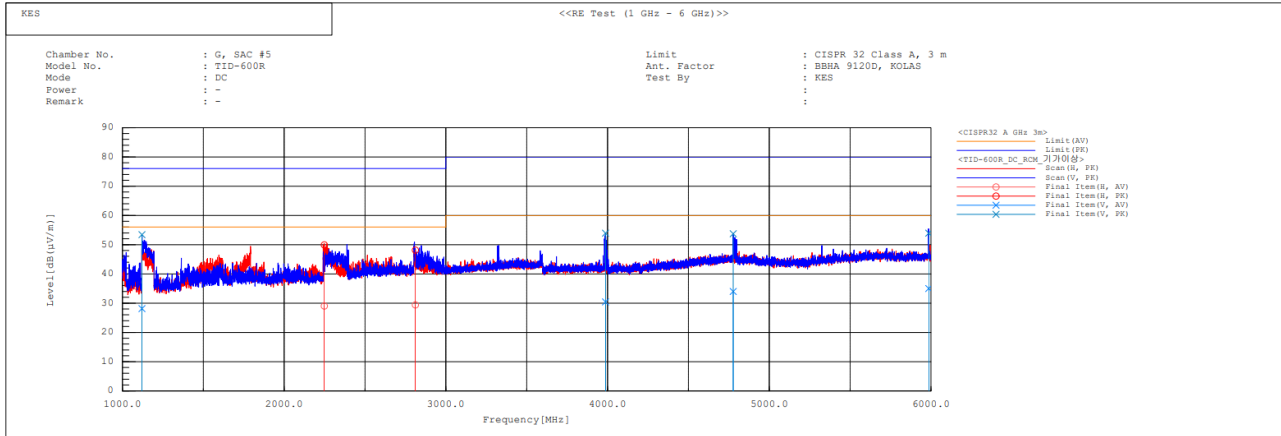
Reading(QP) : Reading value, Result(QP) : Reading value + Factor value

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



Radiated Electric Field Emissions(Above 1 GHz)

■ DC MODE



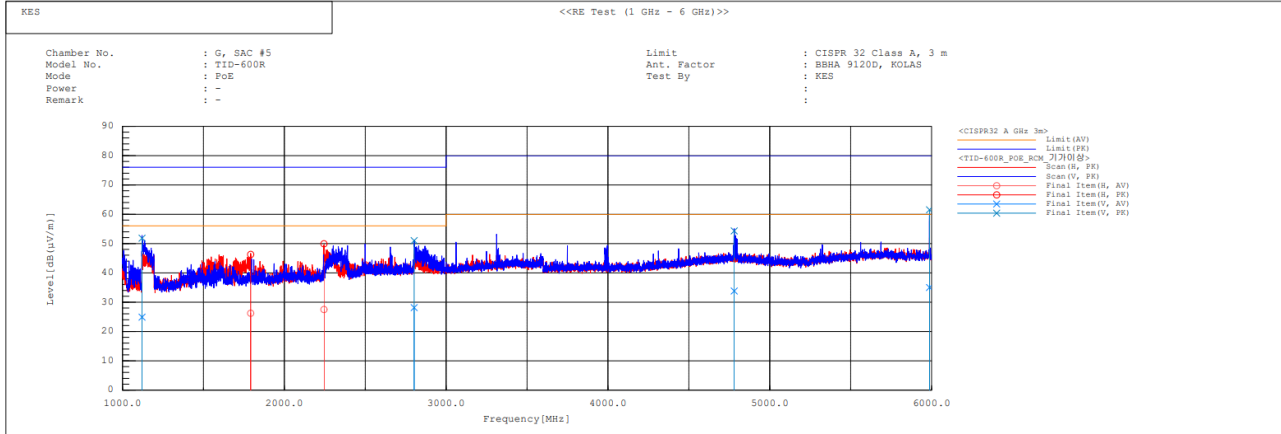
Final Result

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]
1	1121.577	V	35.2	60.5	-7.1	28.1	53.4	56.0	76.0	27.9	22.6	100.0	2.0
2	2249.038	H	31.0	51.9	-2.0	29.0	49.9	56.0	76.0	27.0	26.1	100.0	54.3
3	2811.502	H	29.1	47.8	0.3	29.4	48.1	56.0	76.0	26.6	27.9	100.0	13.6
4	3987.564	V	27.3	50.8	3.1	30.4	53.9	60.0	80.0	29.6	26.1	100.0	170.1
5	4777.316	V	27.6	47.3	6.4	34.0	53.7	60.0	80.0	26.0	26.3	100.0	0.8
6	5986.963	V	26.2	45.1	8.8	35.0	53.9	60.0	80.0	25.0	26.1	100.0	226.0

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PoE MODE



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]
1	1121.760	V	32.0	58.9	-7.1	24.9	51.8	56.0	76.0	31.1	24.2	100.0	1.1
2	1792.415	H	29.9	50.0	-3.7	26.2	46.3	56.0	76.0	29.8	29.7	100.0	95.5
3	2245.779	H	29.5	51.9	-2.0	27.5	49.9	56.0	76.0	28.5	26.1	100.0	112.9
4	2803.328	V	27.8	50.7	0.3	28.1	51.0	56.0	76.0	27.9	25.0	100.0	28.5
5	4781.249	V	27.4	47.9	6.4	33.8	54.3	60.0	80.0	26.2	25.7	100.0	1.1
6	5987.645	V	26.2	52.7	8.8	35.0	61.5	60.0	80.0	25.0	18.5	100.0	76.2

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

Test Setup Photos and Configuration

Conducted Emissions at Mains Power Ports

■ DC MODE



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Conducted Emissions at Telecommunication Ports

■ DC MODE



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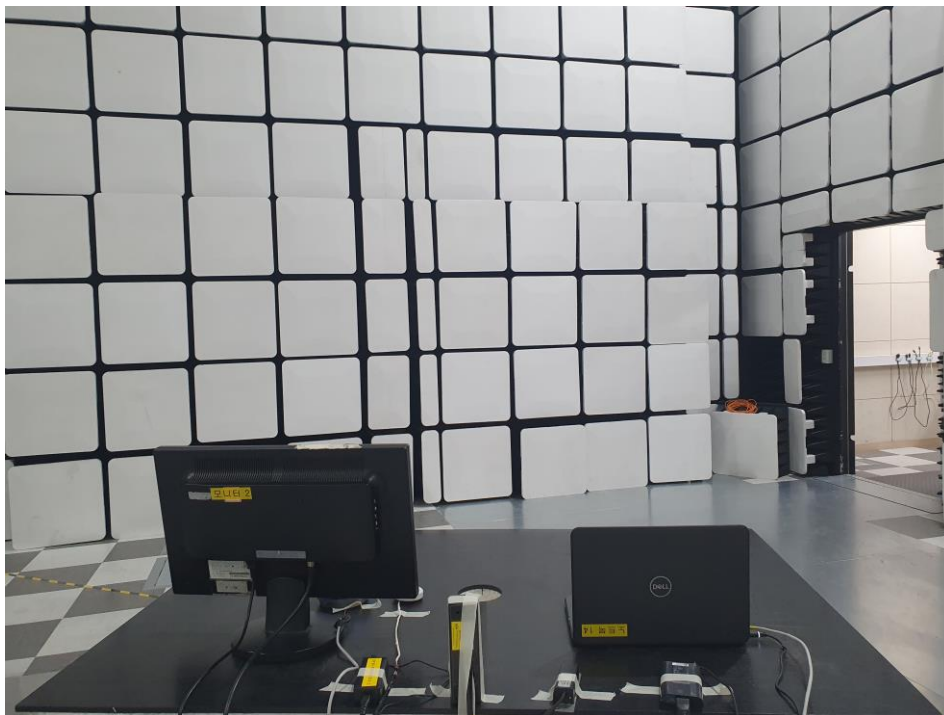
■ PoE MODE



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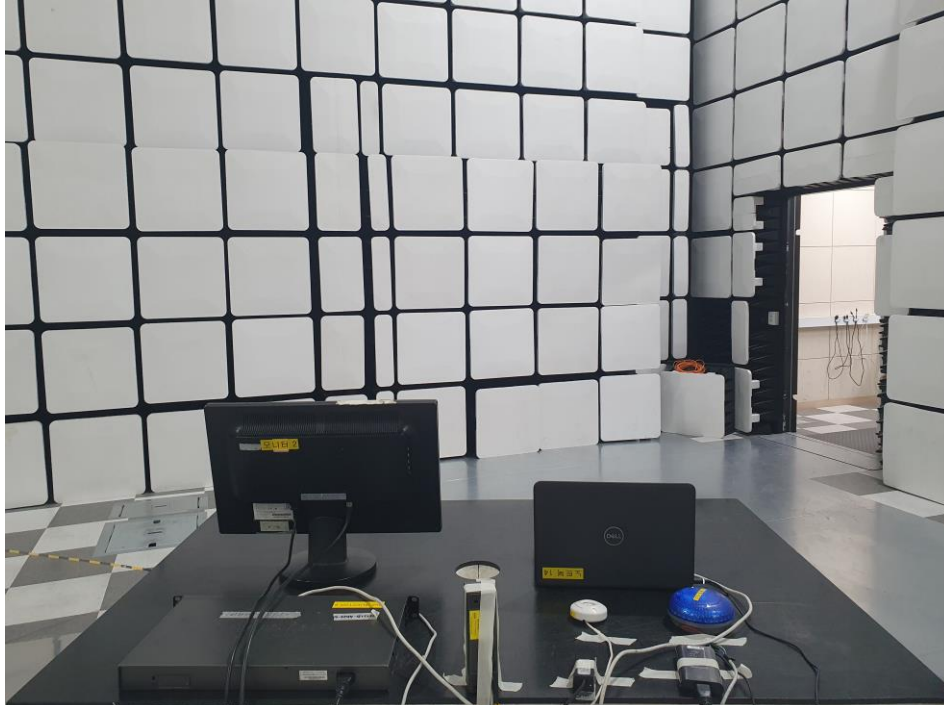
Radiated Electric Field Emissions(Below 1 GHz)

■ DC MODE



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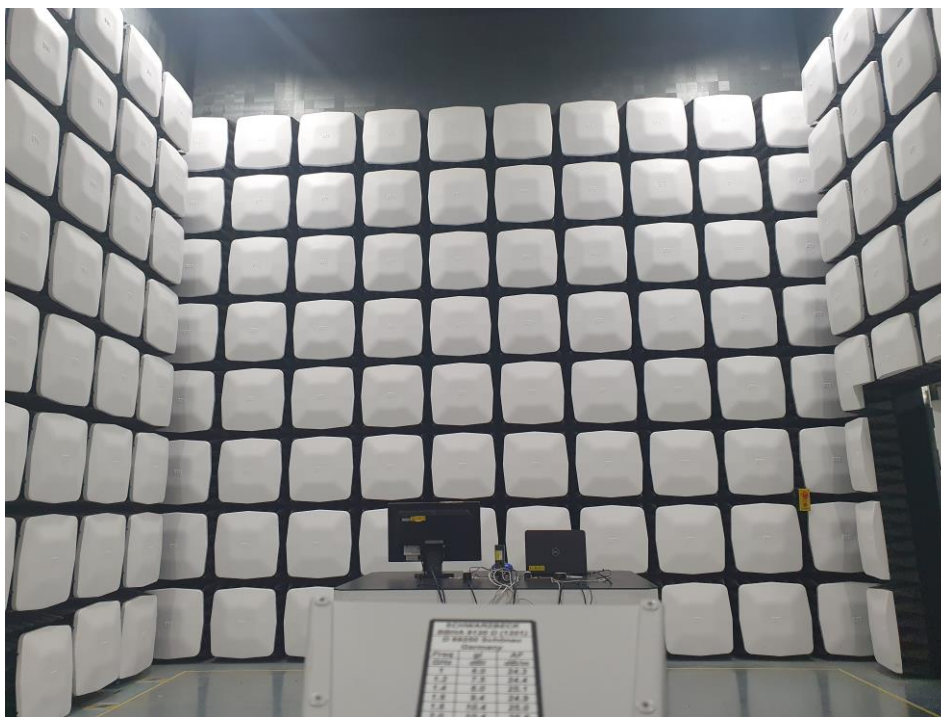
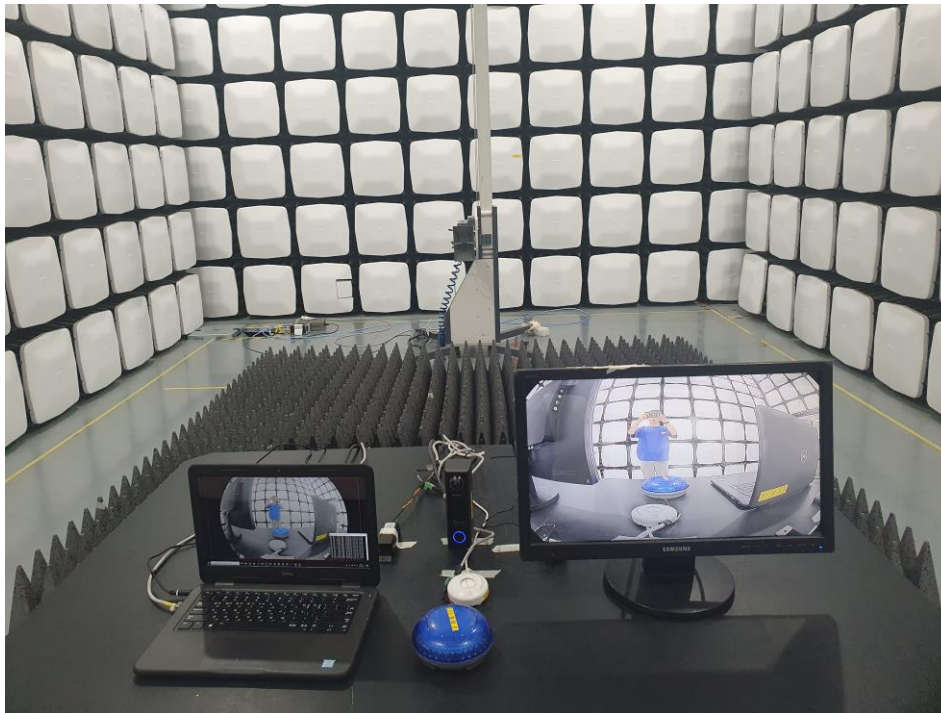
■ PoE MODE



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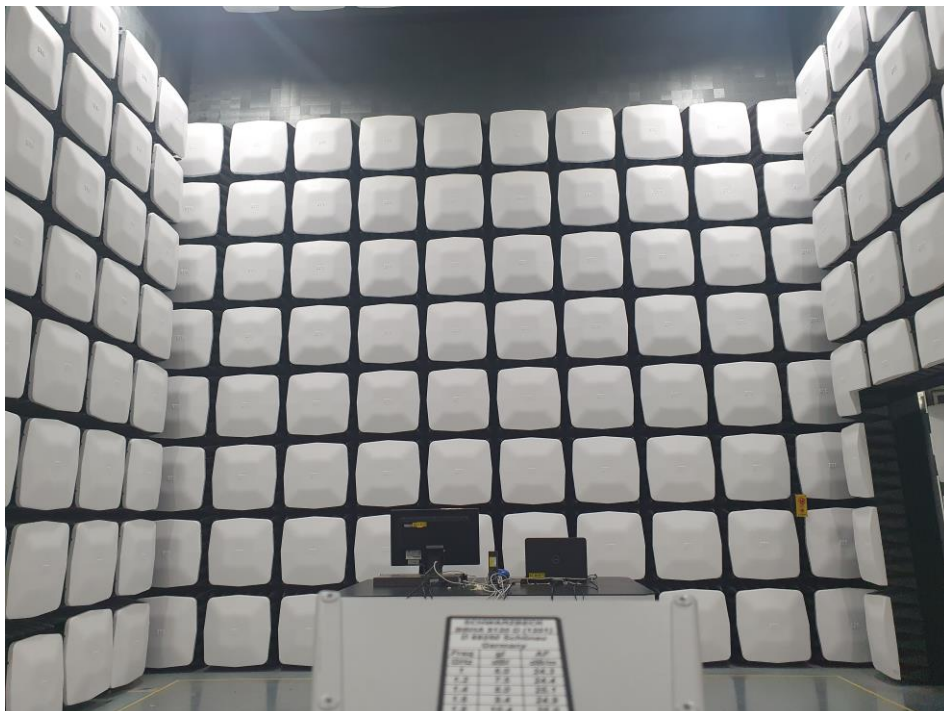
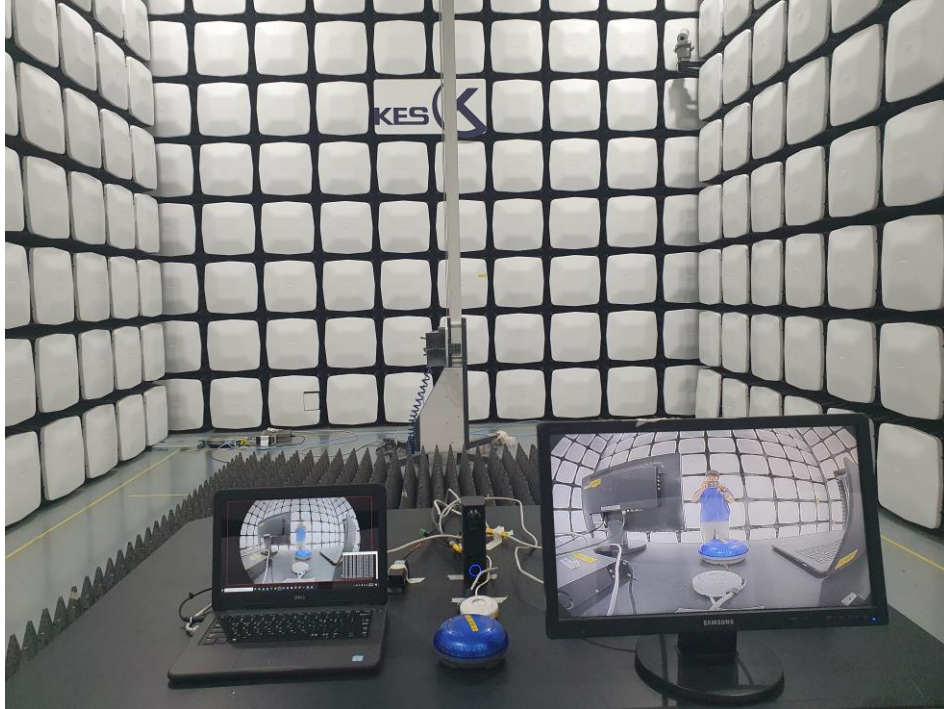
Radiated Electric Field Emissions(Above 1 GHz)

■ DC MODE



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■ PoE MODE



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EUT External Photographs

(Top)



(Bottom)



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EUT Internal Photographs

(Internal View)



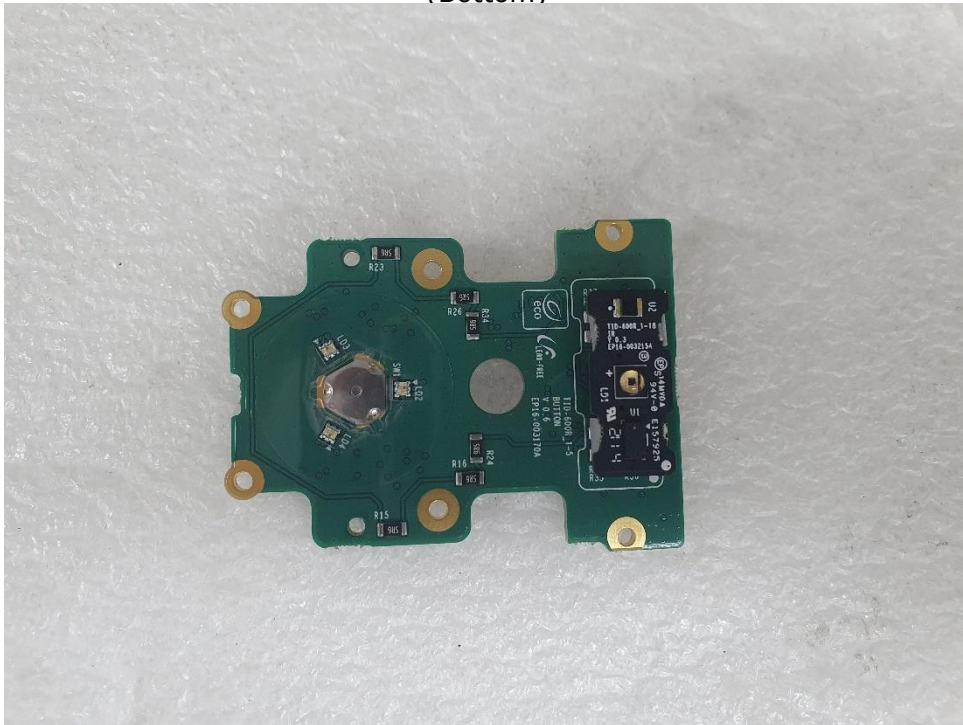
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EUT Internal View –Board 1

(Top)



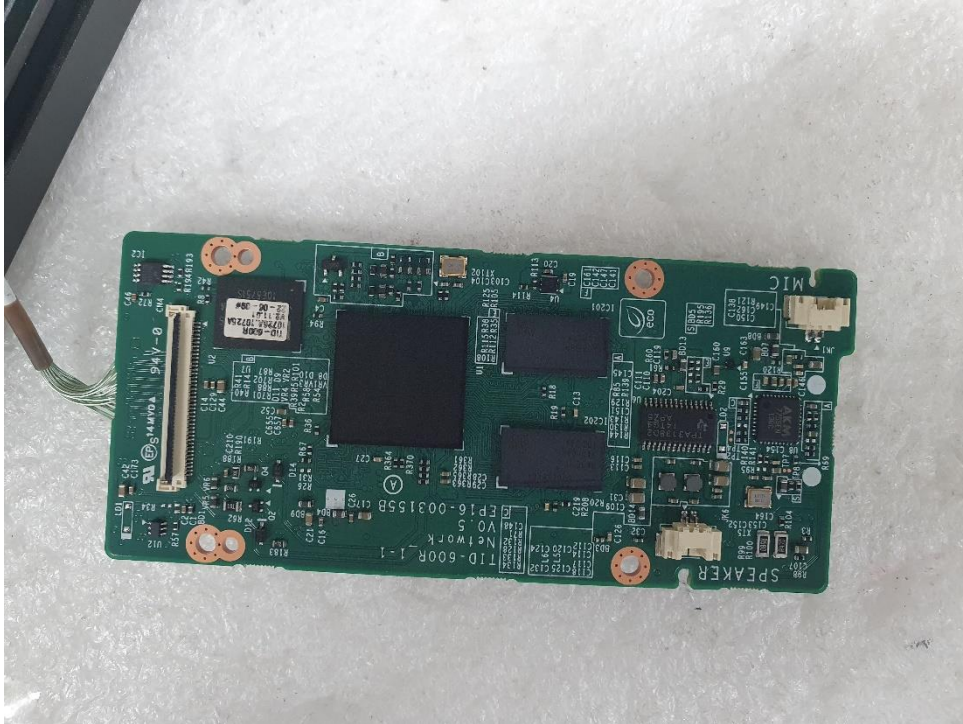
(Bottom)



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EUT Internal View – Board 2

(Top)



(Bottom)



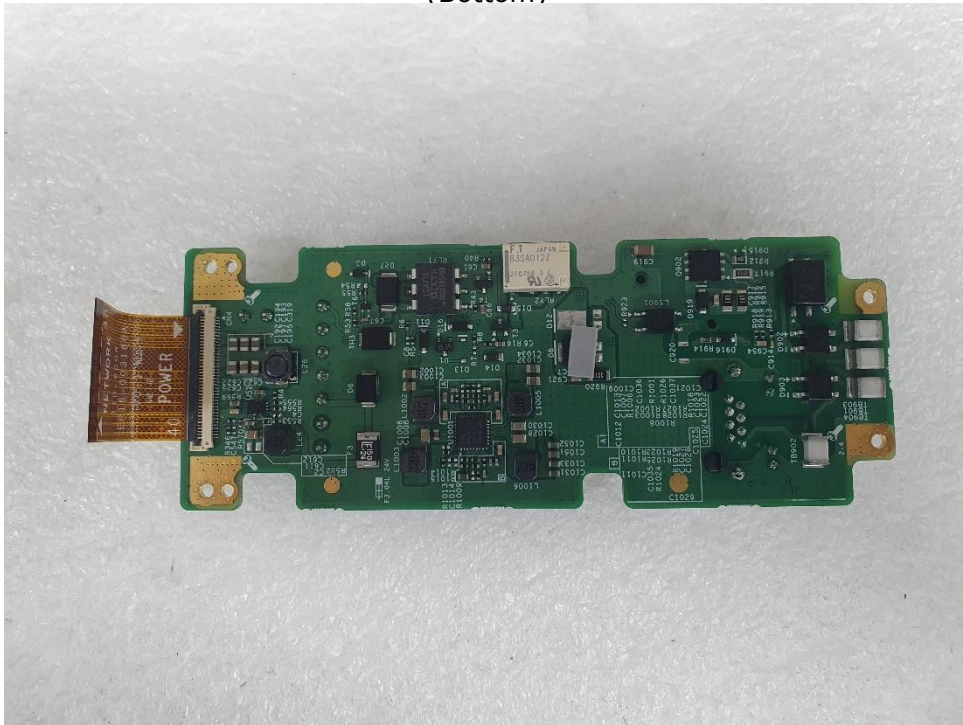
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EUT Internal View – Board 3

(Top)



(Bottom)



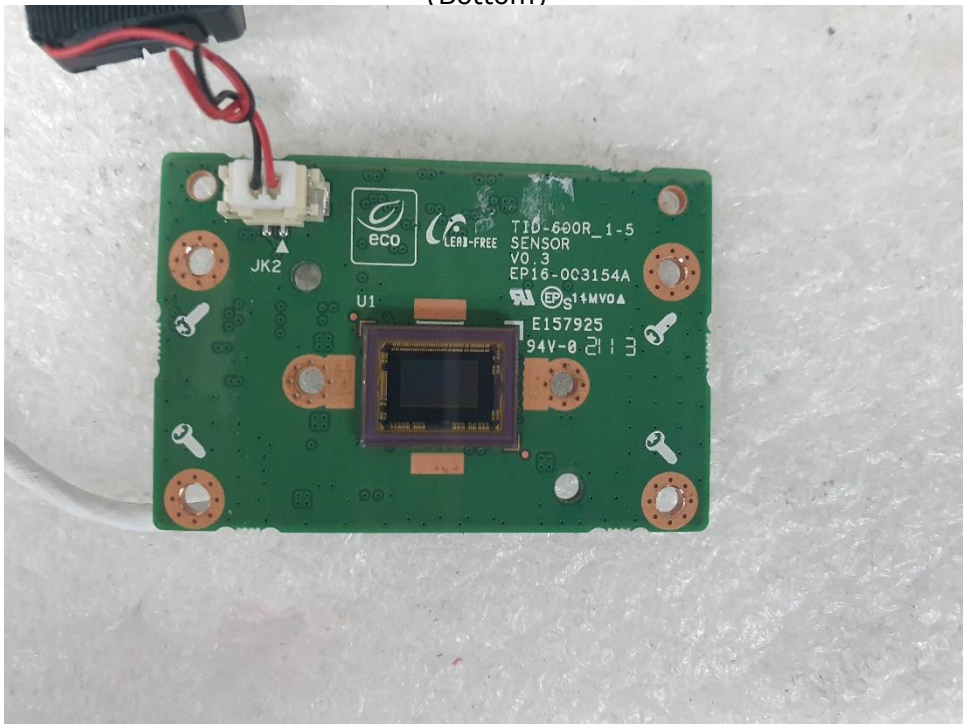
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EUT Internal View – Board 4

(Top)



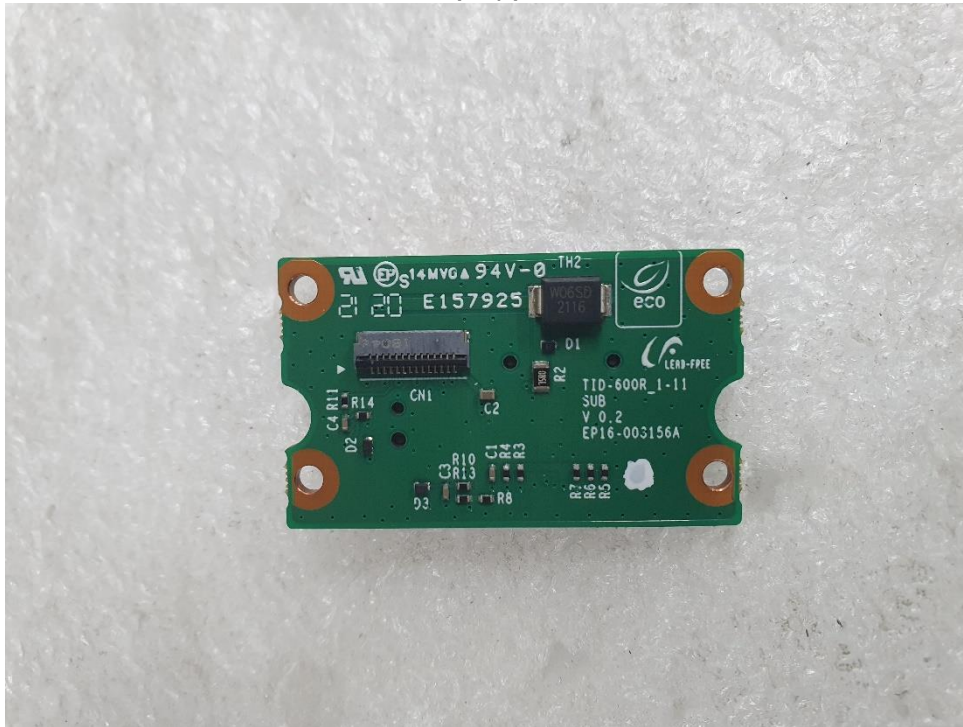
(Bottom)



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EUT Internal View – Board 5

[\(Top\)](#)



(Bottom)



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EUT Internal View – Port 1

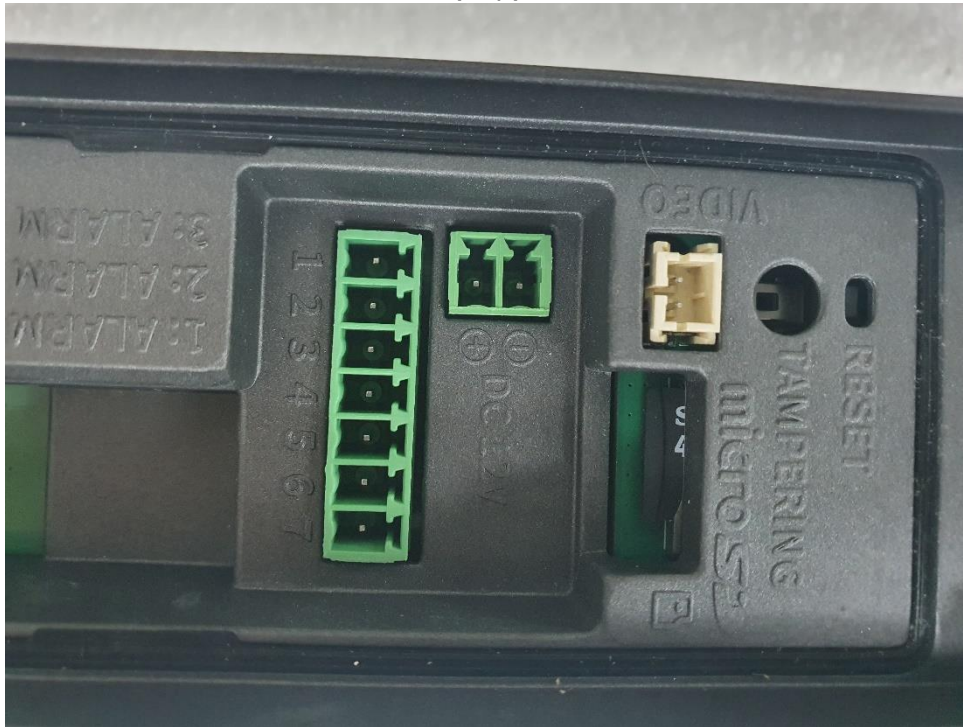
(Top)



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EUT Internal View – Port 2

(Top)



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