

CERTIFICATE of EMC Compliance

Report No : EMC-FCC-2396
Type of equipment : Network Camera
Model Name : SNP-5430HN
Applicant : Samsung Techwin Co., Ltd.
84, Jeongdong-ro, Seongsan-gu,
Changwon-si, Gyeongsangnam-do, Korea
Manufacturer#1 : Samsung Techwin Co., Ltd.
84, Jeongdong-ro, Seongsan-gu,
Changwon-si, Gyeongsangnam-do, Korea
Manufacturer#2 : TIANJIN SAMSUNG TECHWIN
OPTO-ELECTRONIC CO., LTD
No.11 Weiliu Road. Micro-Electronic Industrial
Park Jingang Road Tianjin 300385, China
Test standards : FCC part 15 subpart B, Class A
Classification : Verification

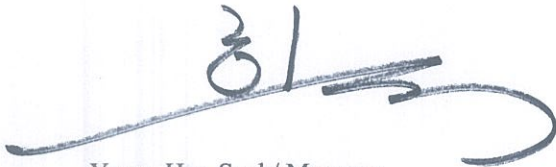
The above equipment was tested by EMC compliance Testing Laboratory for with the requirements of FCC Rules and Regulations. The results of testing in this report apply to the product / system which was tested only.

These results are deemed satisfactory evidence of compliance with ICES-003 of the Canadian Interference-Causing Equipment Regulations.

Laboratory

EMC compliance Ltd.
65, Sinwon-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 443-390, Korea

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Yeom, Han-Seok/ Manager

EMI TEST REPORT

Test report No : EMC-FCC-2396
Type of Equipment : Network Camera
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No.11 Weiliu Road. Micro-Electronic Industrial
Park Jingang Road Tianjin 300385, China
Test standards : FCC part 15 subpart B, Class A
Classification : Verification
Test Procedure and Items
- Radiated Emissions Measurement : ANSI C63.4-2009
Testing Laboratory : EMC Compliance Ltd.
Test result : Complied

The above equipment was tested by EMC compliance Testing Laboratory for compliance with the requirements of FCC Rules and Regulations. The results of testing in this report apply to the product/system which was tested only. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

These results are deemed satisfactory evidence of compliance with ICES-003 of the Canadian Interference-Causing Equipment Regulations.

Date of receipt: 2014. 05. 19

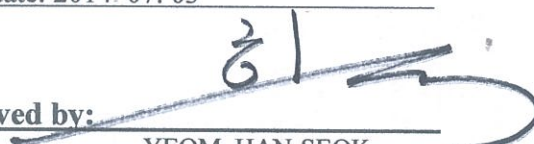
Date of testing: 2014. 06. 05

Issued date: 2014. 07. 03

Tested by:


KIM, JIN-WON

Approved by:


YEOM, HAN-SEOK

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1. Applicant information

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Contact name: **Kang Jei Soon**

Manufacturer#1: Samsung Techwin Co., Ltd.
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Contact name: **Kang Jei Soon**

Manufacturer#2: TIANJIN SAMSUNG TECHWIN OPTO-ELECTRONIC CO., LTD
Address: No.11 Weiliu Road. Micro-Electronic Industrial Park
Jingang Road Tianjin 300385, China

2. Laboratory information

Address

EMC compliance Ltd.

65, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 443-390, Korea

Telephone Number: 82 31 336 9919

Facsimile Number: 82 505 299 8311

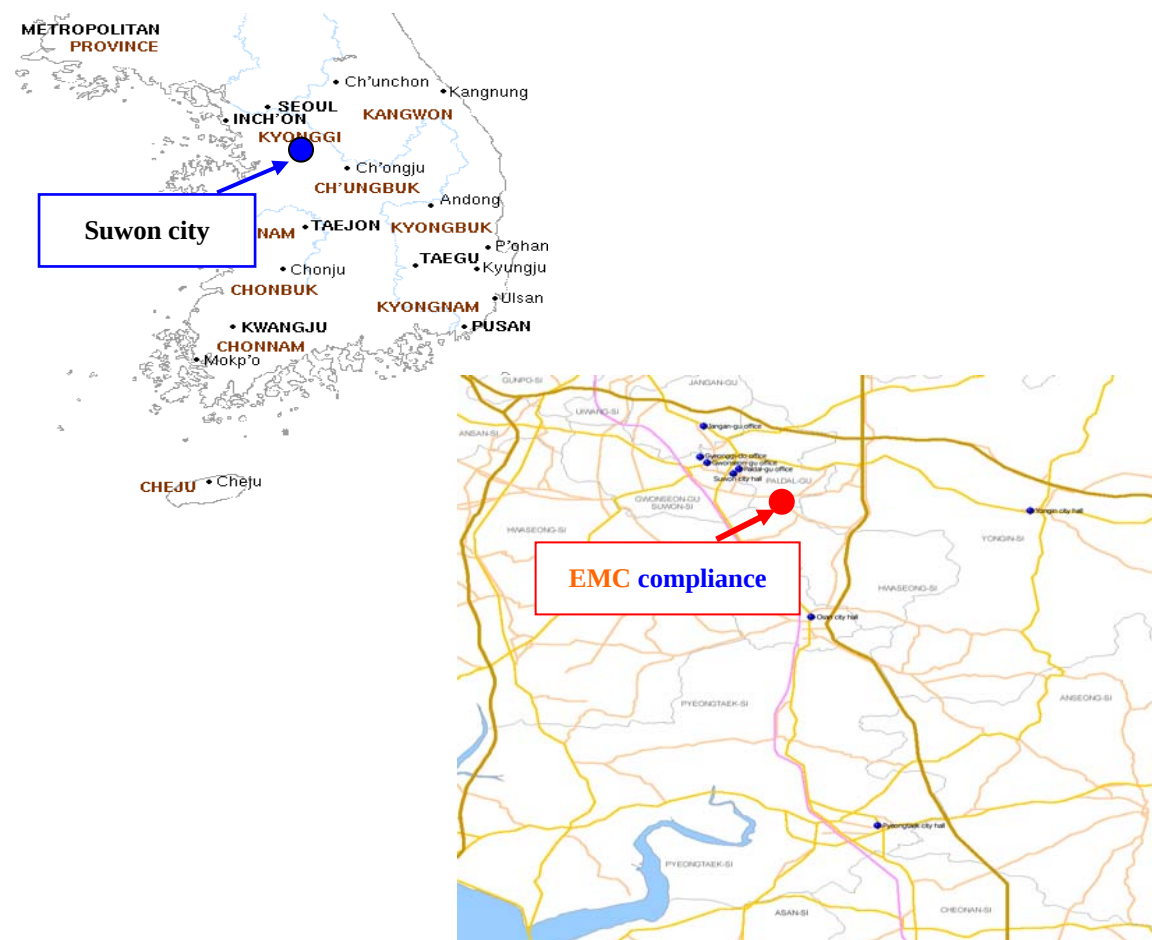
FCC CAB.: KR0040

VCCI Registration No. : R-3327, G-198, C-3706, T-1849

Industry Canada Registration No.: 8035A

KOLAS NO.: 231

SITE MAP



3. Test system configuration

3.1 Operation environment

	Temperature	Humidity	Pressure
Chamber(10 m)	: 24.6 °C	54.9 % R.H.	-

Test site

These testing items were performed following locations;

Test item	Test site
Conducted Emission	Shielded Room
Radiated Emission	10 m Chamber

3.2 Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC.

The factors contributing to uncertainties are test receiver, cable loss, antenna factor calibration, Antenna directivity, antenna factor variation with height, antenna phase center variation, antenna frequency interpolation, measurement distance variation, site imperfection, mismatch, and system repeatability. Based on CISPR 16-4-2, the measurement uncertainty level with a 95 % confidence level was applied.

Conducted emission measurement (C.L: Approx 95 %, k = 2)		
Shielded Room (CE#1)	9 kHz ~ 150 kHz: ± 3.82 dB 150 kHz ~ 30 MHz: ± 3.43 dB	
Shielded Room (CE#2)	9 kHz ~ 150 kHz: ± 3.82 dB 150 kHz ~ 30 MHz: ± 3.43 dB	
Shielded Room (CE#3)	9 kHz ~ 150 kHz: ± 4.00 dB 150 kHz ~ 30 MHz: ± 3.63 dB	
Radiated Emission measurement (C.L: Approx 95 %, k = 2)		
10 m Chamber (#F4)	30 MHz ~ 300 MHz	3 m: + 4.56 dB, - 4.58 dB 10 m: + 4.56 dB, - 4.56 dB
	300 MHz ~ 1 000 MHz	3 m: + 4.84 dB, - 4.85 dB 10 m: + 4.71 dB, - 4.72 dB
	1 GHz ~ 6 GHz	3 m: + 6.19 dB, - 6.20 dB
	6 GHz ~ 18 GHz	3 m: + 6.41 dB, - 6.53 dB
10 m Chamber (#F2)	30 MHz ~ 300 MHz	3 m: + 4.86 dB, - 4.88 dB 10 m: + 4.86 dB, - 4.86 dB
	300 MHz ~ 1 000 MHz	3 m: + 4.98 dB, - 4.99 dB 10 m: + 4.85 dB, - 4.87 dB
	1 GHz ~ 6 GHz	3 m: + 6.19 dB, - 6.20 dB
	6 GHz ~ 18 GHz	3 m: + 6.41 dB, - 6.53 dB

4. Description of E.U.T.

4.1 General information

Video	SNP-5430	SNP-5430H
Imaging Device	1/4" Progressive Scan CMOS	
Total Pixels	1392(H) x 1076(V), 1.49M	
Effective Pixels	1368(H) x 1049(V), 1.43M	
Scanning System	Progressive	
Min. Illumination	Color : 0.5 Lux (F1.4, 50IRE) B/W : 0.05 Lux (F1.4, 50IRE) Color : ? Lux (F1.4, 30IRE) B/W : ? Lux (F1.4, 30IRE)	
S / N Ratio	50dB	
Video Out	CVBS : 1.0 Vp-p / 75Ω composite, 720x576(P), for installation	
Lens	SNP-5430	SNP-5430H
Focal Length (Zoom)	3.5 ~ 150.5 mm(Optical 43X)	
Max. Aperture Ratio	1.4 (Wide) ~ 4.9 (Tele)	
Angular Field of View	H : 53.92° (Wide) ~ 1.396° (Tele) / V : 44.08° (Wide) ~ 1.12° (Tele)	
Min. Object Distance	Wide 1.5m ,Tele 2m	Wide 1.4m ,Tele 1.9m
Focus Control	Auto / Manual / One Push	
Lens Type	DC Auto Iris	
Mount Type	Board-in type	
Pan/Tilt/Rotate		
Pan Range	360° Endless	
Pan Speed	Preset : 700°/sec, Manual : 0.024°/sec ~ 120°/sec	
Tilt Range	210° (-15° ~ 195°)	
Tilt Speed	Preset : 700°/sec, Manual : 0.024°/sec ~ 120°/sec	
Rotate Range	-	
Preset	255ea	
Preset Accuracy	±0.2°	
Auto Tracking	Off / On	
Operational		
Camera Title	Off / On (Displayed up to 45 characters)	
Day & Night	Auto (ICR) / Color / B/W	
Backlight Compensation	Off / BLC / HLC	
Wide Dynamic Range	120dB	
Contrast Enhancement	SSDR (Samsung Super Dynamic Range) (Off / On)	
Digital Noise Reduction	SSNR III (2D+3D Noise Filter) (Off / On)	
Digital Image Stabilization	Off / On	
Defog	Auto/Manual/Off	
Motion Detection	Off / On (4ea Rectangle zone)	
Privacy Masking	Off / On (32 Zones of Rectangle zone)	
Gain Control	Off / Low / Middle / High	
White Balance	ATW / AWC / Manual / Indoor / Outdoor / Mercury / Sodium	
Electronic Shutter Speed	Minimum / Maximum / Anti flicker (2 ~ 1/12,000sec)	
Digital Zoom	16x	

Flip / Mirror	Off / On
Intelligent Video An	Tampering, Virtual Line, Enter/Exit, Appear / Disappear, Audio Detection, Face Detection
Alarm I/O	Input 4ea / Output 2ea (Relay)
Audio In	Selectable (Mic IN/Line IN), Supply voltage: 2.5VDC(4mA), Input impedance: approx. 2K Ohm
Audio out	Line out (3.5mm Mono jack), Max output level: 1 Vrms
Serial Interface	RS-485 - Samsung-T/E, Pelco-D/P, Sungjin, Panasonic, Bosch, AD, GE, Vicon, Honeywell
Alarm Triggers	Motion detection, Tampering, Audio Detection, Face Detecton, Video Analytics, Alarm Input, Network Disconnection
Alarm events	File upload via FTP and E-Mail Notification via E-Mail, TCP and HTTP local storage(SD/SDHC/SDXC) or NAS recording at Network disconnected & Event (Alarm Triggers) External output
Network	
Ethernet	RJ-45 (10/100BASE-T)
Video Compression	H.264 (MPEG-4 Part 10/AVC), Motion JPEG
Resolution	1280x1024 / 1280x960 / 1280x720 / 1024x768 / 800x600 / 800x450 / 640x480 / 640x360 / 320x240 / 320x180
Max. Framerate	H.264 : Max 60fps at all resolutions Motion JPEG : 1280x1024 / 1280x960 / 1280x720 / 1024x768 : Max. 15 fps 800x600 / 800x450 / 640x480 / 640x360 / 320x240 / 320x180 : Max. 30fps
Smart Codec	Manual Mode (area-based : 5EA) Face detection Mode
Video Quality Adjust	H.264 : Compression Level, Target Bitrate Level Control MJPEG : Quality Level Control
Bitrate Control Meth	H.264 : CBR or VBR, Motion JPEG : VBR
Streaming Capability	Multiple Streaming (Up to 10 Profiles)
Audio Compression	G.711 u-law /G.726 Selectable G.726 (ADPCM) 8KHz, G.711 8KHz G.726 : 16Kbps, 24Kbps, 32Kbps, 40Kbps
Audio Communicatio	Bi-directional
IP	IPv4, IPv6
Protocol	TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP,RTSP, NTP, HTTP, HTTPS, SSL, DHCP, PPPoE, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, PIM-SM, UPnP, Bonjour
Security	HTTPS(SSL) Login Authentication Digest Login Authentication IP Address Filtering User access Log 802.1x Authentication

Streaming Method	Unicast / Multicast	
Max. User Access	15 users at Unicast Mode	
Edge Storage	SD/SDHC/SDXC (SNP-5430 : Micro-SD Type, SNP-5430H : SD Type) - motion Images recorded in the SD/SDHC/SDXC memory card can be downloaded. NAS(Network Attached Storage)	
Application Program	ONVIF Profile S SUNAPI(HTTP API) SVNP 1.2	
Webpage Language	English, French, German, Spanish, Italian, Chinese, Korean, Russian, Japanese, Swedish, Danish, Portuguese, Turkish, Polish, Czech, Rumanian, Serbian, Dutch, Croatia, Hungary, Greek, Finnish, Norwegian	
Web Viewer	Supported OS : Windows XP / VISTA / 7 / 8 / 8.1, MAC OS X 10.7 / 10.8 Supported Browser : Microsoft Internet Explorer (Ver. 8~11), Mozilla Firefox (Ver. 9~19) , Google Chrome (Ver. 15~32) Apple Safari (Ver. 6.0.2(Mac OS X 10.8, 10.7 Only), 5.1.7) * Mac OS X Only	
Central Management	SmartViewer, SSM	
Environmental	SNP-5430	SNP-5430H
Operating Temperature	-10°C ~ +55°C(+14°F ~ +131°F) / Less than 90% RH	24V AC: -50°C ~ +55°C (-58°F ~ +131°F) / ~ 90% RH PoE+ : -30°C ~ +55°C (-22°F ~ +131°F) / ~ 90% RH
Storage Temperature / Humidity	-30°C ~ +60°C (-22°F ~ +140°F) / Less than 90% RH	
Ingress Protection	-	IP66
Vandal Resistance	IK10 (with SHP-3701H)	IK9
Electrical	SNP-5430	SNP-5430H
Input Voltage / Current	AC24V±10%,PoE+(IEEE802.3at,Class3)	
Power Consumption	20W	24W Max(Heater Off), 65W Max(Heater On, AC24V)
Mechanical	SNP-5430	SNP-5430H
Color / Material	Ivory / Plastic+Metal	
Dimension (WxHxD)	H218 x Ø152 mm	H293.6 x Ø220 mm
Weight	2.2Kg	3.3Kg

4.2 Product description

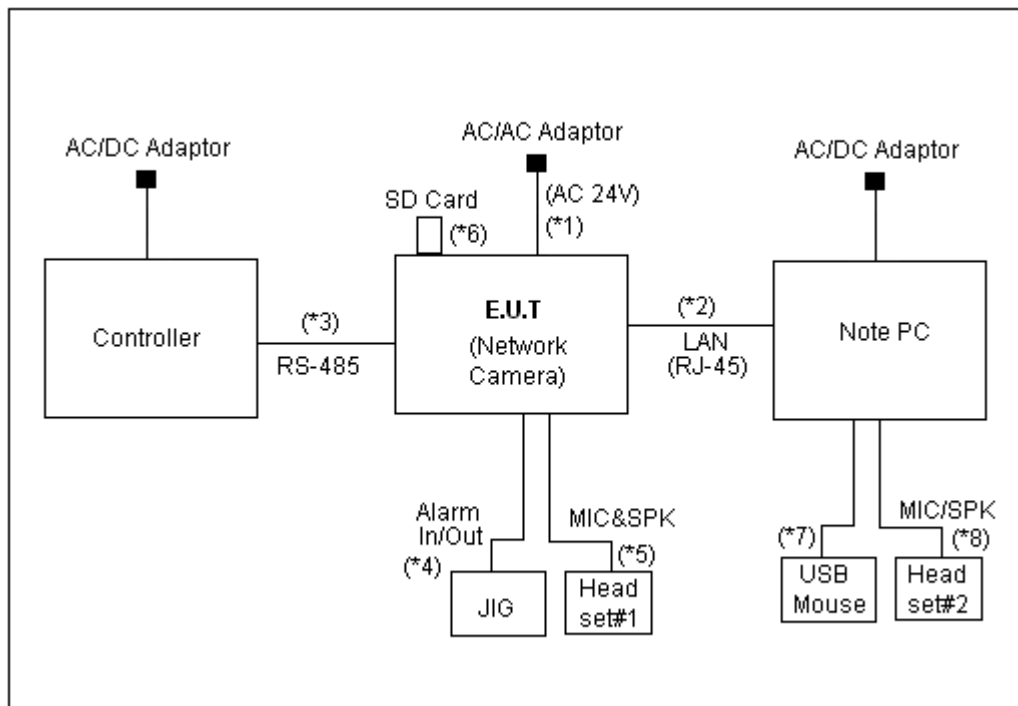
Type of product	Network Camera
Model name (Basic)	SNP-5430HN
Model name (Variant)	-
Difference	-
Trade name	-
Serial no	Engineering Sample
Testing voltage	AC 24 V, PoE
Product rating	AC 24 V, PoE
Internal clock frequency	Above 108 MHz
Note	* AC/AC adaptor was not provided by the manufacturer. * PoE Switch was not provided by the manufacturer.

4.3 Auxiliary equipments

Type	Model / Part #	Serial number	Manufacturer
Note PC	PSLQ0K-02N005	3A045920Q	TOSHIBA
USB Mouse	1088	-	Microsoft
Headset#1	SHS-250V	-	SAMSUNG
Headset#2	SHS-250V	-	SAMSUNG
JIG	-	-	-
Controller	SCC-1000	EW089028913	SAMSUNG
SD Card	-	-	SanDisk
AC/AC Adaptor (AC 24V)	STA-220	Z9530003901A	Samsung Techwin
PoE Switch	GS108P	26V13A3W507E8	NETGEAR

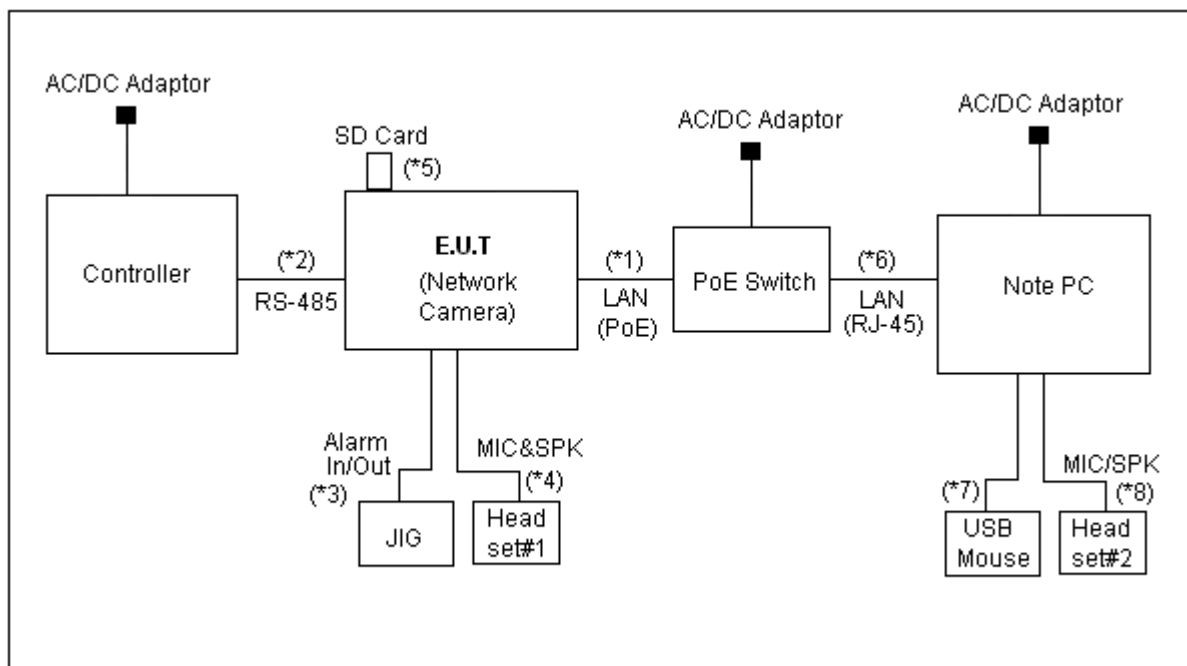
4.4 Test configuration

#1- AC 24V



Note *	Start		End		Cable	
	Name	I/O port	Name	I/O port	Length (m)	Spec.
1	EUT (Network Camera)	Power	AC/AC Adaptor	Power	1.5	Non-Shield
2		LAN(RJ-45)	Note PC	LAN(RJ-45)	3.0	Non-Shield
3		RS-485	Controller	RS-485	3.0	Non-Shield
4		Alarm In/Out	JIG	Alarm In/Out	3.0	Non-Shield
5		MIC&SPK	Headset#1	MIC&SPK	2.0	Non-Shield
6		Micro SD	Micro SD Card	Micro SD	Direct	-
7	Note PC	USB	USB Mouse	USB	1.5	Shield
8		MIC/SPK	Headset#2	MIC/SPK	2.0	Non-Shield

#2- PoE



* Power supplied from PoE Switch

Note *	Start		End		Cable	
	Name	I/O port	Name	I/O port	Length (m)	Spec.
1	EUT (Network Camera)	LAN(PoE)	PoE Switch	LAN(PoE)	3.0	Non-Shield
2		RS-485	Controller	RS-485	3.0	Non-Shield
3		Alarm In/Out	JIG	Alarm In/Out	3.0	Non-Shield
4		MIC&SPK	Headset#1	MIC&SPK	2.0	Non-Shield
5		SD Card	Micro SD Card	SD Card	Direct	-
6	Note PC	LAN(RJ-45)	PoE Switch	LAN(RJ-45)	2.0	Non-Shield
7		USB	USB Mouse	USB	1.5	Shield
8		MIC/SPK	Headset#2	MIC/SPK	2.0	Non-Shield

4.5 Operating conditions

The EUT was configured as normal intended use.

Test mode	Normal operating
1	Web Viewer Monitoring Test.
	Alarm In/Out Test.
	Controller Test.
	Ping Test.

* Note: 2 types of powers are available for the product, that are AC 24 V, PoE.

Therefore, tests were performed for 2 different types of powers.

5. Summary of test results

In the above configuration tested, The EUT complied with the requirement of the specification

5.1 Summary of EMI emission test results

FCC Part 15 Subpart B (Class A)

ANSI C63.4 – 2009

Applied	Test items	Test method	Result
☐	Conducted Emission	ANSI C63.4 – 2009	N/A
☒	Radiated Emission	ANSI C63.4 – 2009	Complied

6. Test results

6.1 Radiated Emission

Test specification	FCC Part 15, Section 15.109(g), Class A		
Testing voltage	AC 24 V, PoE		
Test facility	10 m Chamber (#F4)		
Test distance	10 m, 3 m		
Date	2014. 06. 05		
Temperature (°C)	24.6 °C	Humidity (% R.H.)	54.9 % R.H.
Remarks	Complied		

6.1.1 Limits of radiated emission measurement

Frequency [MHz]	Class A (dB(μ V/m)) @ 10 m	Class B (dB(μ V/m)) @ 3 m
30-88	39	40
88-216	43.5	43.5
216-960	46.4	46
Above 960	49.5	54

*** Note- Alternative standard: CISPR, Pub. 22 ***

6.1.2 Measurement procedure

The test was done at a 10 m chamber with a quasi-peak detector. EUT was placed on a non-metallic table height of 0.8 m above the reference ground plane. Cables were folded back and forth forming a bundle 0.3 m to 0.4 m long and were hanged at a 0.4 m height to the ground plane.

Cables connected to EUT were fixed to cause maximum emission. Test was made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna was varied in height above the conducting ground plane to obtain the maximum signal strength.

6.1.3 Used equipments

Equipment	Model no.	Serial no.	Makers	Next Cal. Date	Used
Test Receiver	ESCI7	100732	R&S	2015.01.27	☒
Test Receiver	ESCI	100001	R&S	2014.07.25	☐
Test Receiver	ESCI	100710	R&S	2014.10.28	☐
Test Receiver	ESR	101078	R&S	2015.02.24	☐
Bi-Log Antenna	VULB 9168	375	SCHWARZBECK	2015.10.16	☒
Amplifier	310	186280	SONOMA INSTRUMENT	2015.01.27	☒
3 dB Attenuator	8491A	16861	HP	2014.07.08	☒
Antenna Mast	AM4.0	079/3440509	MATURO	-	☒
Turn Table	CO2000-SOFT	-	MATURO	-	☒
Amplifier	8449B	3008A01802	AGILENT	2014.09.03	☒
Horn ANT	3115	00086706	ETS	2014.09.05	☒
Spectrum Analyzer	FSP7	100289	R&S	2014.11.25	☐

6.1.4 Sample calculation

The field strength is calculated adding the antenna Factor, cable loss and, Antenna pad adding, subtracting the amplifier gain from the measured reading.

The sample calculation is as follow:

$$\text{Result} = \text{M.R} + \text{C.F}(\text{A.F} + \text{C.L} + 3 \text{ dB Att} - \text{A.G})$$

M.R = Meter Reading

C.F = Correction Factor

A.F = Antenna Factor

C.L = Cable Loss

A.G= Amplifier Gain

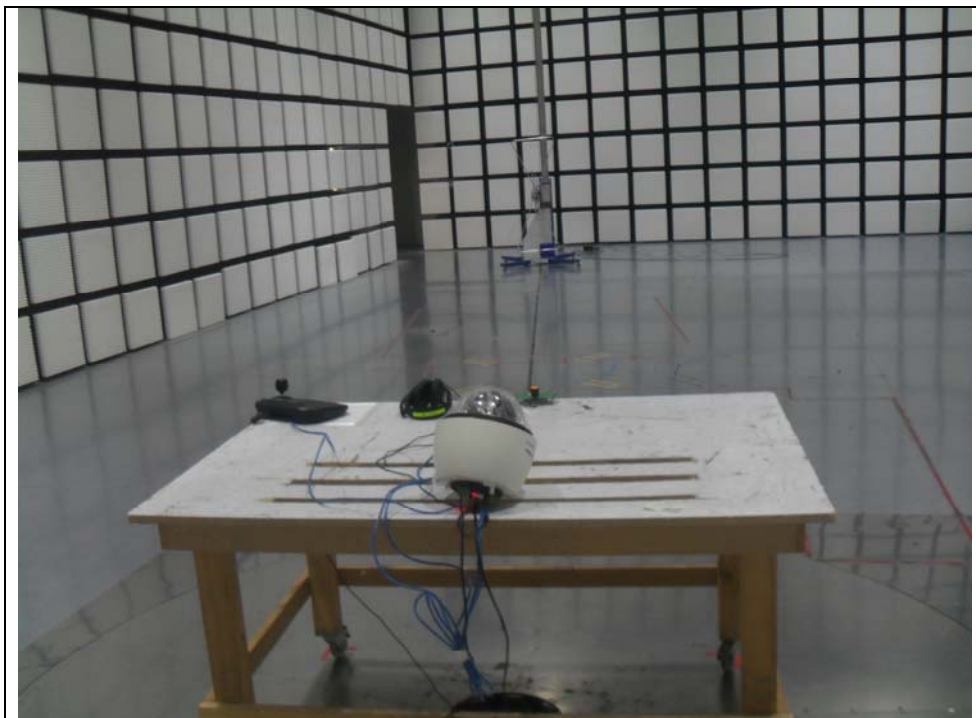
3 dB Att = 3 dB Attenuator

If M.R is 30 dB, A.F 12 dB, C.L 5 dB, 3 dB, A.G 35 dB

The result is $30 + 12 + 5 + 3 - 35 = 15 \text{ dB}(\mu\text{V/m})$

6.1.5 Photographs of test setup

* 30 MHz ~ 1 GHz (#1- AC 24V)



* 1 GHz ~ 6 GHz (#1- AC 24V)



* 30 MHz ~ 1 GHz (#2-PoE)



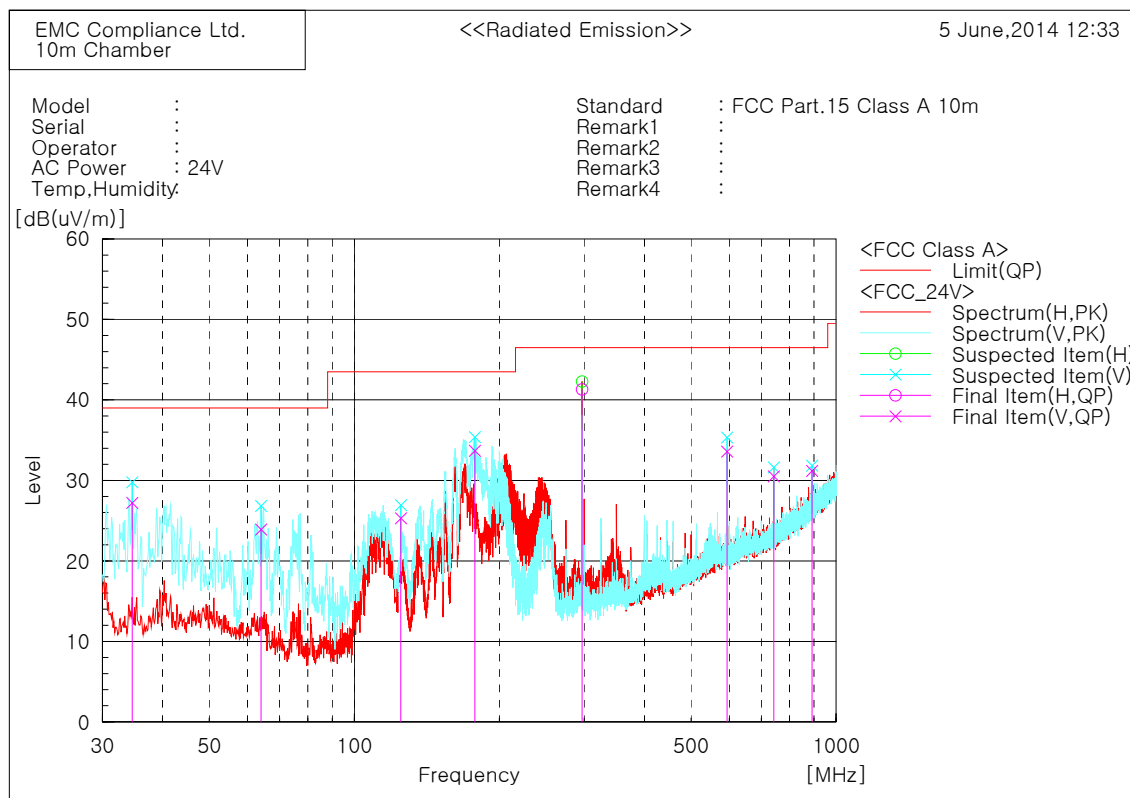
* 1 GHz ~ 6 GHz (#2-PoE)



6.1.6 Radiated emission measurement result

* Graph and Data

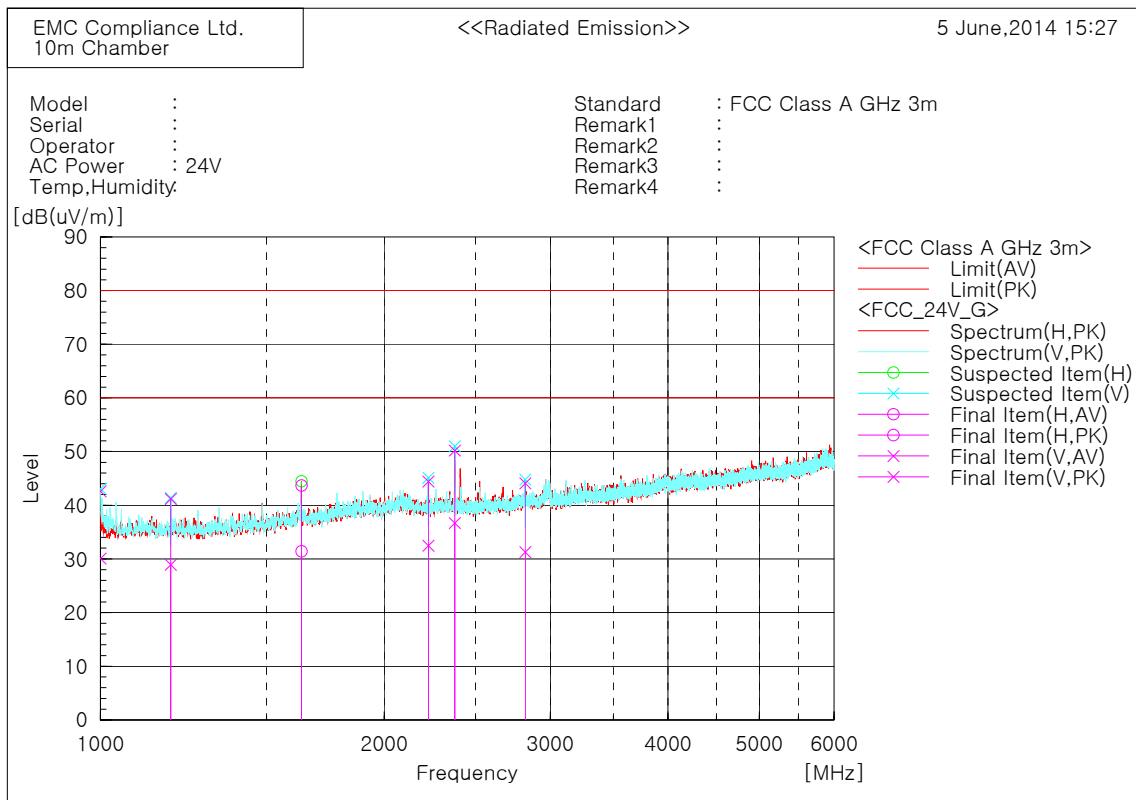
* 30 MHz ~ 1 GHz (SNP-5430HN)_#1- AC 24V



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]
1	34.608	V	42.8	-15.6	27.2	39.0	11.8	400.0	0.3
2	64.071	V	39.9	-16.0	23.9	39.0	15.1	100.0	166.9
3	124.939	V	41.1	-15.8	25.3	43.5	18.2	100.0	31.6
4	177.925	V	48.1	-14.4	33.7	43.5	9.8	100.0	301.6
5	296.993	H	53.5	-12.2	41.3	46.5	5.2	400.0	289.7
6	594.055	V	38.2	-4.6	33.6	46.5	12.9	299.0	254.7
7	742.465	V	32.6	-2.1	30.5	46.5	16.0	299.0	79.9
8	890.996	V	30.3	0.9	31.2	46.5	15.3	400.0	250.8

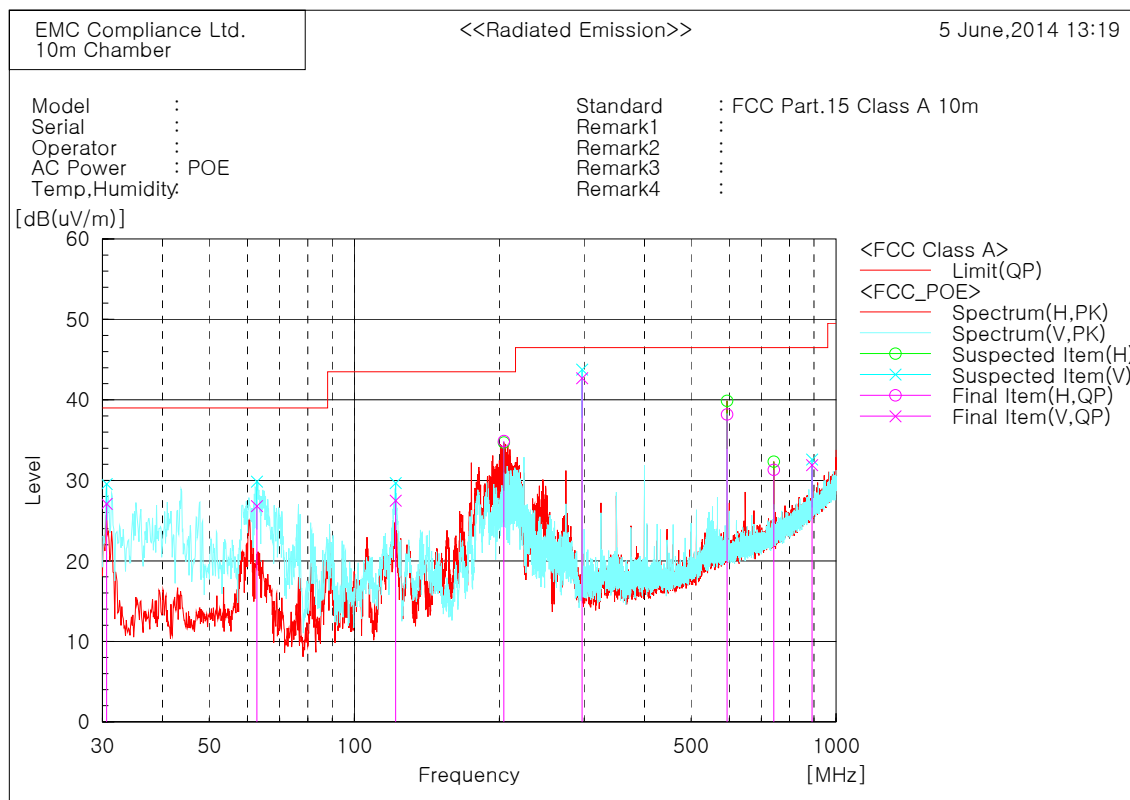
* 1 GHz ~ 6 GHz (SNP-5430HN)_#1- AC 24V



Final Result

No.	Frequency [MHz]	(P)	Reading AV [dB(uV)]	Reading PK [dB(uV)]	c.f [dB(1/m)]	Result AV [dB(uV/m)]	Result PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]	Height [cm]	Angle [deg]
1	1000.000	V	41.8	54.3	-11.7	30.1	42.6	60.0	80.0	29.9	37.4	100.0	348.5
2	1187.500	V	39.6	51.9	-10.7	28.9	41.2	60.0	80.0	31.1	38.8	100.0	25.9
3	1633.750	H	38.5	50.8	-7.1	31.4	43.7	60.0	80.0	28.6	36.3	100.0	313.3
4	2227.500	V	36.4	48.3	-3.9	32.5	44.4	60.0	80.0	27.5	35.6	100.0	63.9
5	2375.625	V	40.4	53.9	-3.7	36.7	50.2	60.0	80.0	23.3	29.8	100.0	290.7
6	2821.875	V	34.1	46.9	-2.8	31.3	44.1	60.0	80.0	28.7	35.9	100.0	70.4

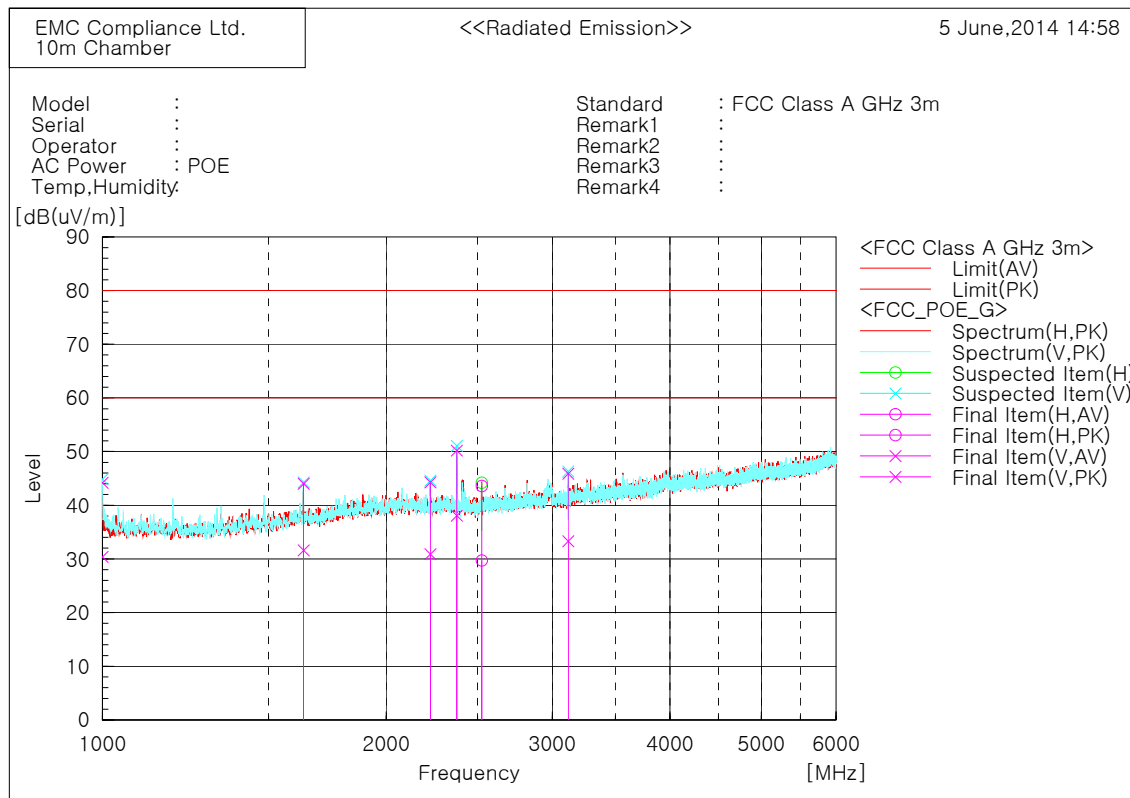
* 30 MHz ~ 1 GHz (SNP-5430HN)_#2- PoE



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]
1	30.606	V	43.1	-16.0	27.1	39.0	11.9	298.0	358.4
2	62.738	V	42.6	-15.8	26.8	39.0	12.2	100.0	275.0
3	121.786	V	43.6	-16.1	27.5	43.5	16.0	100.0	250.4
4	204.358	H	51.5	-16.6	34.9	43.5	8.6	400.0	6.4
5	296.993	V	54.9	-12.2	42.7	46.5	3.8	100.0	348.9
6	594.055	H	42.8	-4.6	38.2	46.5	8.3	100.0	82.9
7	742.465	H	33.4	-2.1	31.3	46.5	15.2	100.0	319.5
8	891.117	V	30.9	1.0	31.9	46.5	14.6	400.0	126.6

* 1 GHz ~ 6 GHz (SNP-5430HN)_#2- PoE



Final Result

No.	Frequency [MHz]	(P)	Reading AV [dB(uV)]	Reading PK [dB(uV)]	c.f [dB(1/m)]	Result AV [dB(uV/m)]	Result PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]	Height [cm]	Angle [deg]
1	1000.000	V	42.1	55.9	-11.7	30.4	44.2	60.0	80.0	29.6	35.8	100.0	196.9
2	1633.750	V	38.7	51.1	-7.1	31.6	44.0	60.0	80.0	28.4	36.0	100.0	234.4
3	2227.500	V	34.8	48.2	-3.9	30.9	44.3	60.0	80.0	29.1	35.7	100.0	66.1
4	2376.250	V	41.8	53.9	-3.7	38.1	50.2	60.0	80.0	21.9	29.8	100.0	304.5
5	2525.000	H	33.3	47.2	-3.6	29.7	43.6	60.0	80.0	30.3	36.4	100.0	86.2
6	3118.750	V	35.1	47.7	-1.8	33.3	45.9	60.0	80.0	26.7	34.1	100.0	165.8

7. E.U.T. photographs

Front View



Rear View



Left View



Right View



Top View



Bottom View



Label



FCC Label Location

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

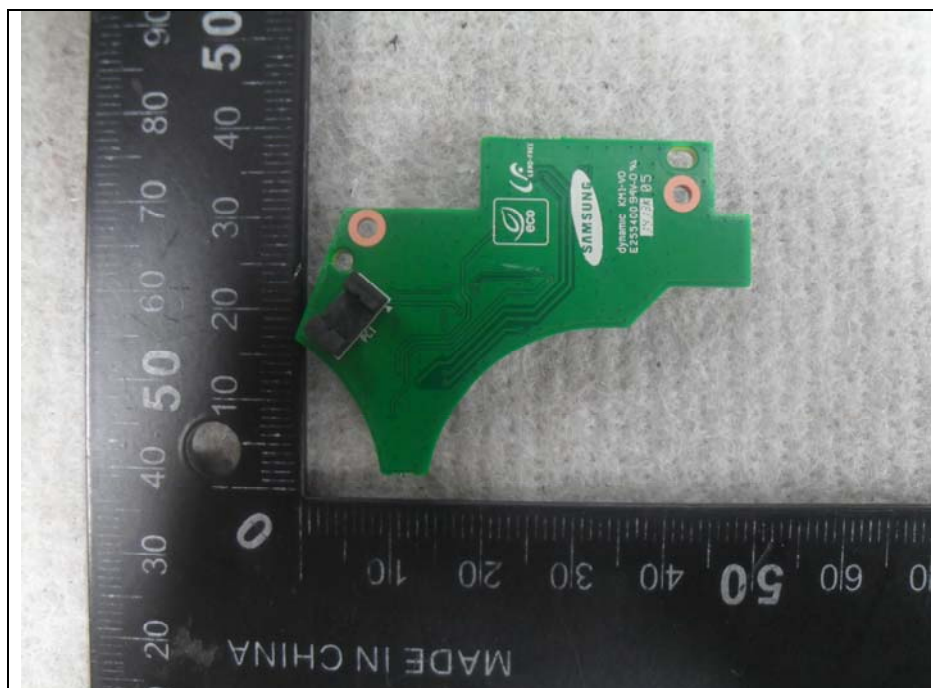
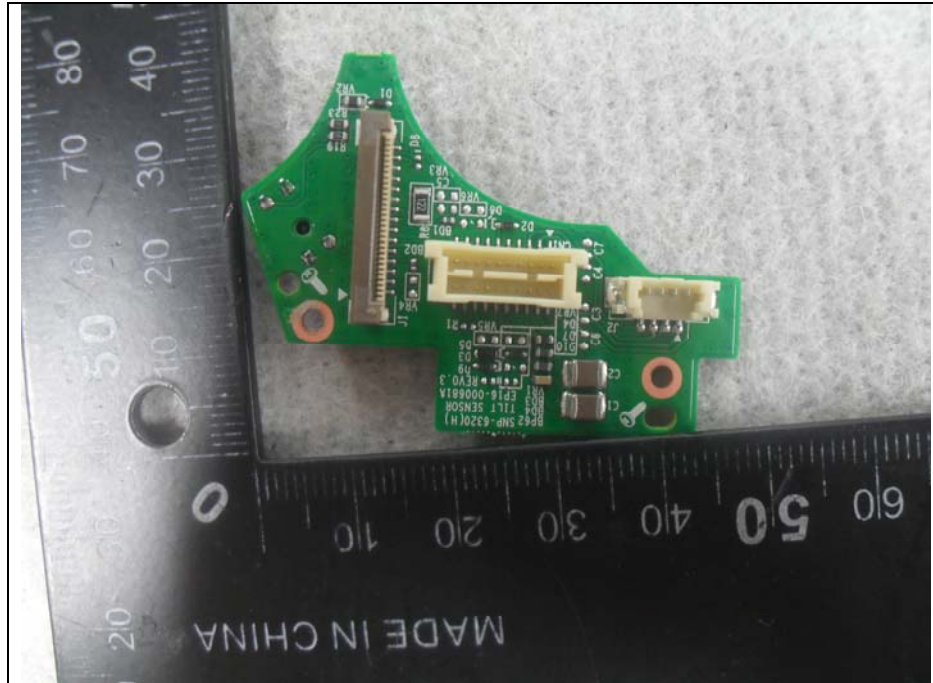
Inside



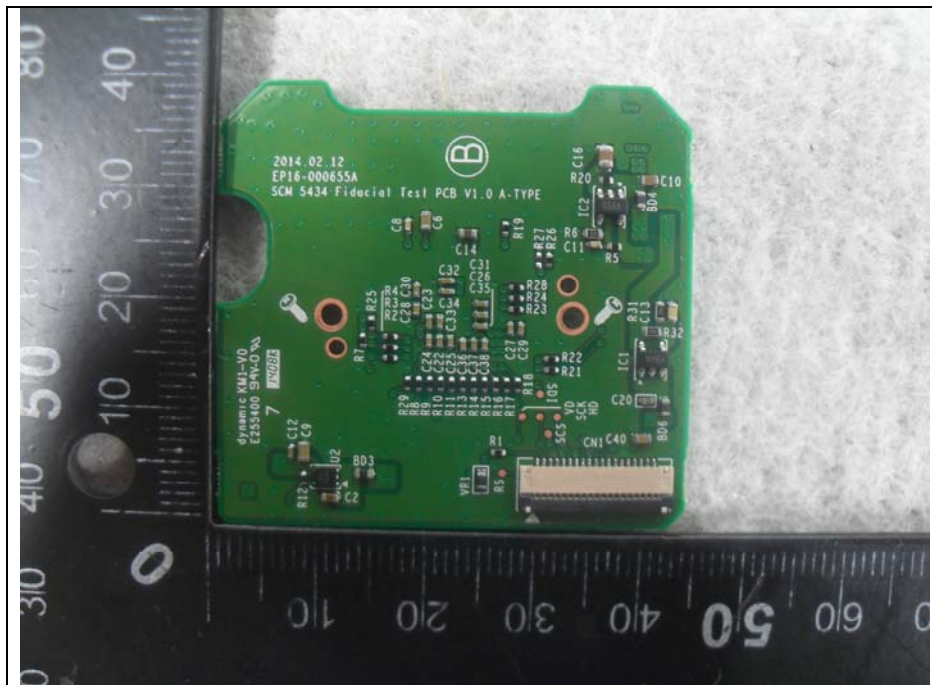
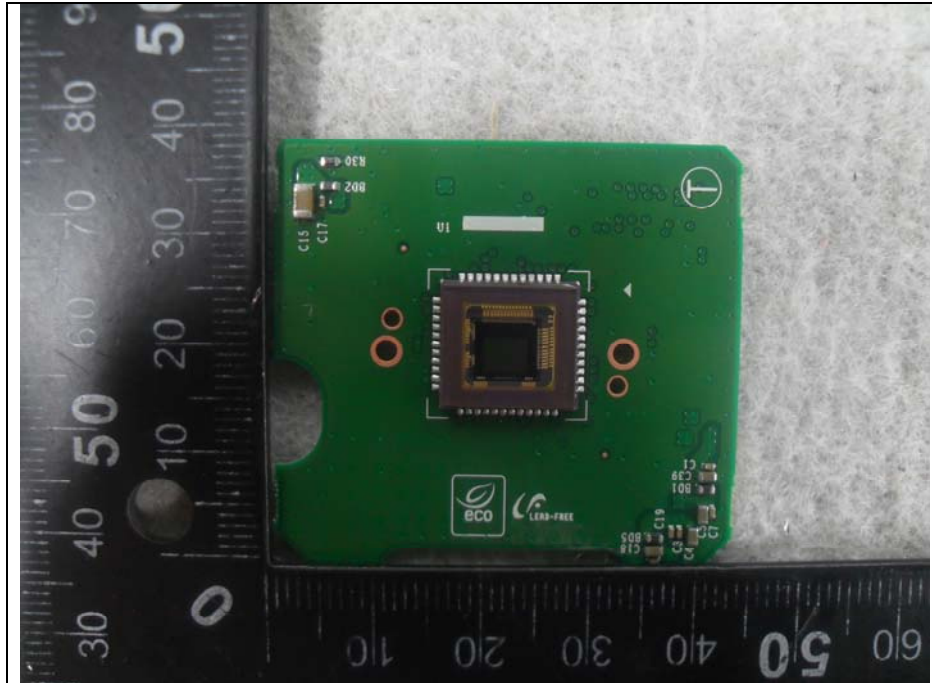
Main Board



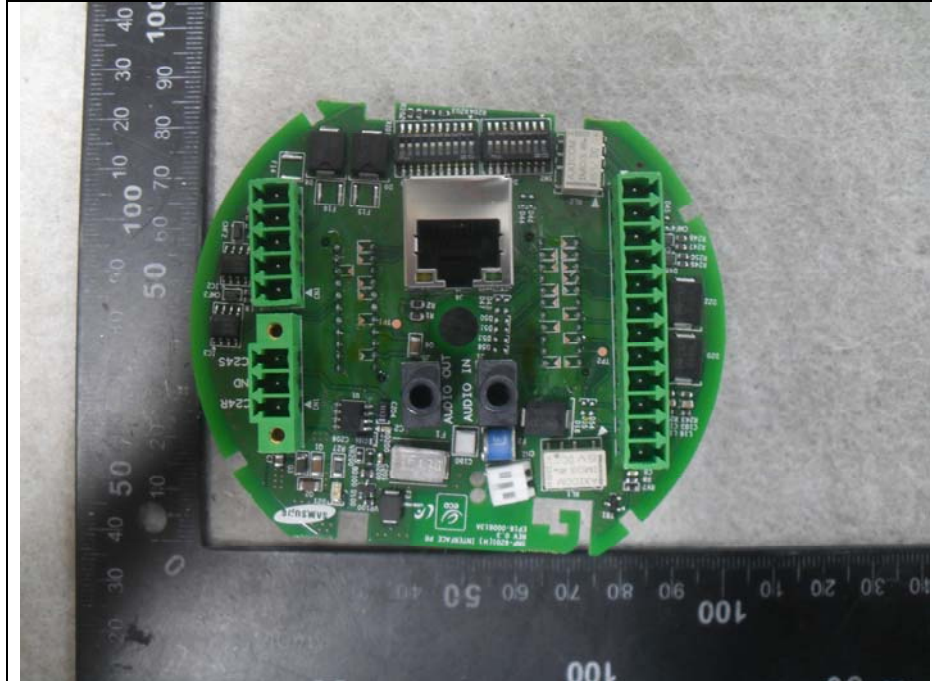
SUB Board



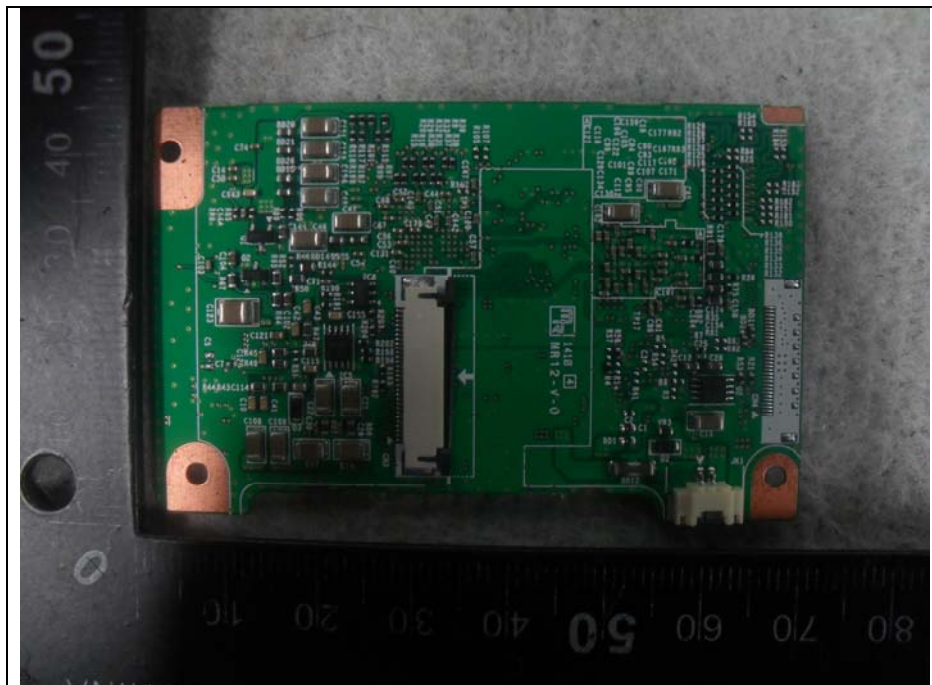
CCD Board



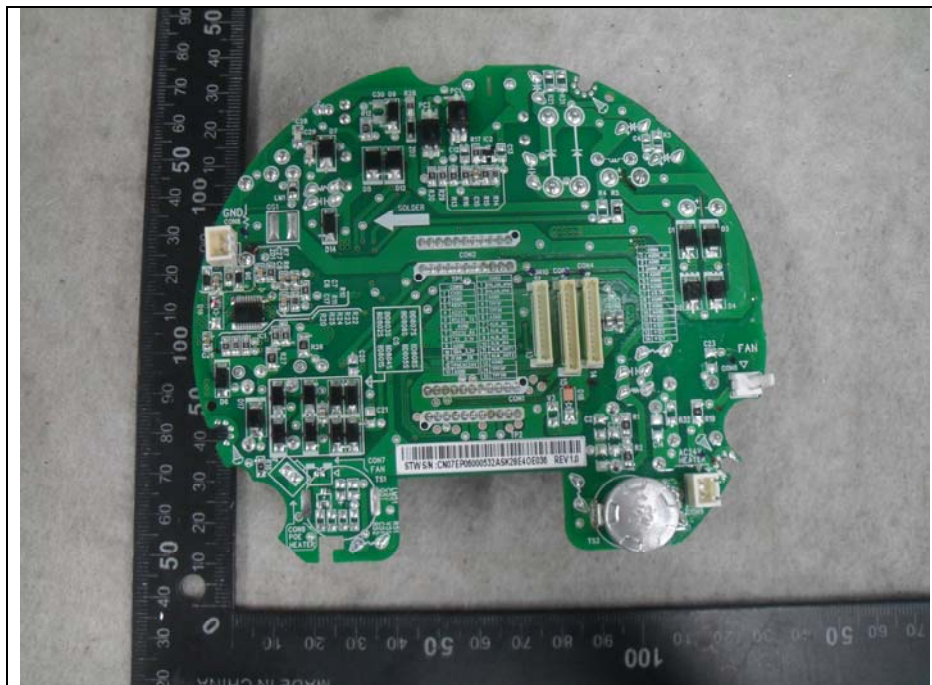
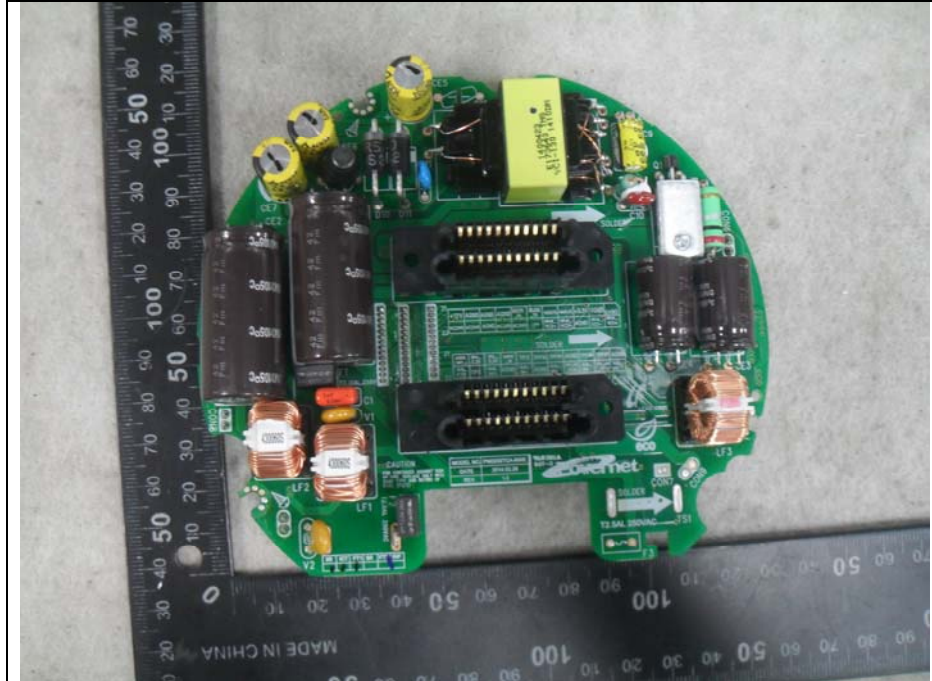
Interface Board



Camera Board



Power Board



SD Board

