

VERIFICATION OF FCC PART 15 COMPLIANCE

*KES hereby verify that the subject product complies with all the
electromagnetic emission specified in the FCC Rule Part 15*

Product Description:	NETWORK CAMERA
Model/Brand Name:	SNO-L6013RN
Variant Model:	-
FCC Rule Part(s):	FCC 47CFR Part 15 Subpart B Class A Part 15.107(b) & Part 15.109(b)
FCC Procedure:	Verification
Applicant Name:	Samsung Techwin Co., Ltd.
Applicant Address:	84, Jeongdong-ro, Seongsan-gu, Changwon-si, Gyeongsangnam-do, Korea
Manufacturer Name:	TIANJIN SANSUNG TECHWIN OPTO-ELECTRONIC CO.,LTD.
Manufacturer Address:	No.11 Weiliu Road. Micro-Electronic Industrial Park Jingang Road Tianjin, 300385, China
Test Report Reference No.:	KES-E1-15T0046

NETWORK CAMERA, Model SNO-L6013RN has been tested in accordance with the measurement procedures specified in FCC 47CFR Part 15 Subpart B class A and has been shown to be complied with the electromagnetic emission limits specified in FCC Rule Part 15 Subpart B class A. A testing of the sample product has been valid for the sample tested based on the reference test report, KES-E1-15T0046

Date of Issue: 02. 26. 2015

Dong Hun, Jang
Technical Manager
Signature:



KES.Co., Ltd.

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EMI Test Report for FCC

DoC / Verification

Test Report No. : KES-E1-15T0046
Date of Issue : 02. 26. 2015
Description of Product : NETWORK CAMERA
Model No. : SNO-L6013RN
Variant Model : -
Applicant : Samsung Techwin Co., Ltd.
Applicant's Address : 84, Jeongdong-ro, Senogsan-gu, Changwon-si, Gyeongsangnam-do, Korea
Manufacturer : TIANJIN SAMSUNG TECHWIN OPTO-ELECTRONIC CO.,LTD
Manufacturer's Address : No.11 Weiliu Road. Micro-Electronic Industrial Park Jingang Road Tianjin 300385, China
Standards : FCC Part 15 Subpart B
- Part 15.107(b) : Conducted Emission
- Part 15.109(b) : Radiated Emission
Date of Receipt : 02.05.2015
Test Date : 02.12.2015
Test Results : ☒ Pass ☐ Fail

The test results relate only to the items tested.

Tested by:

Dae Hyun, Kim
Test Engineer

Reviewed by:

Dong Hun, Jang
Technical Manager



Testing Laboratories for Safety and RF Compliance
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Testing Laboratories for EMC Compliance
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1. General Information

1.1 Introduction

The EMI Test Report of Information Technology Equipment is prepared on behalf of named applicant in accordance with the ANSI C63.4-2009. The test results reported in this document relate only to the item that was tested.

The detailed description of the measurement facility was found to be in compliance with the requirement of Section 2.948 of the FCC Rules. The Federal Communications Commission has the reports on file and is listed under Registration Number. The scope of the accreditation covers the FCC Method - 47 CFR Part 15 or 18 of the Commission's Rules.

All measurements contained in this report were conducted in accordance with ANSI C63.4-2009. The instrumentation utilized for the measurements conforms with CISPR16 Specification for Radio Disturbance and Immunity Measuring Apparatus and Methods. Some accessories are used to increase sensitivity and prevent overloading of the measuring instrument. Calibration checks are performed yearly on the instruments by a local calibration laboratories.

All radiated and conducted emission measurements are performed manually at KES Co., Ltd. (hereinafter referred to as "KES"), 473-29, Gayeo-ro, Yeosu-si, Gyeonggi-do, 469-803 Korea

The radiated emission measurements required by the FCC Rules were performed on 3 meter or 10 meter, Open Area Test Site, test range maintained by KES. Complete ANSI 63.4-2009 description and site attenuation measurement data records are maintained at the test facility and have been placed on file with the Federal Communications Commission. The power line conducted emission measurements were performed in a shielded enclosure also located at the same facility.

The KES EMC test facilities in Yeosu-si are designated testing laboratory according to ISO/IEC 17025 by Radio Research Agency(RRA), Korea Communications Commission.

1.2 Geographic location



KES Office Latitude : 37°23'54.59"N, Longitude : 126°58'14.66"E



KES OATS Latitude : 37°13'58.03"N, Longitude : 127°37'21.95"E

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1.3 Laboratory Accreditations and Listings

Country	Agency	Scope of Accreditation	Logo
USA	FCC	3 & 10 meter Open Area Test Sites and one conducted site to perform FCC Part 15/18 measurements.	
KOREA	KCC	EMC (10 meter Open Area Test Site and two conducted sites) Radio(3 & 10 meter Open Area Test Sites and one conducted site)	 KR0100
Canada	IC	3 & 10 meter Open Area Test Sites and one conducted site	 4769B-1
Europe	TUV_SUD	EMC EN 55011, EN 55022, EN 61000-3-2, EN 61000-3-3, EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4, EN 55014-1, EN 61326 EN 50130-4, EN 55024, EN 55014-2 EN 61204-3, EN 60601-1-2, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-8, EN 61000-4-11	

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1.4 Product Description

Samsung Techwin Co., Ltd., NETWORK CAMERA, Model No: SNO-L6013RN or the "E.U.T".

Main Specifications of EUT are

Imaging Device	1/2.9" 2.19M CMOS
Total Pixels	2,000(H) x 1,121(V)
Effective Pixels	1,984(H) x 1,105(V)
Scanning System	Progressive
Min. Illumination	Color:0.3Lux(1/30sec,F1.8,50IRE),0.005Lux(2sec,50IRE) Color:0.1Lux(1/30sec,F1.8,30IRE) B/W : 0 Lux (IR LED on)
Focal Length (Zoom Ratio)	3.6mm
Max. Aperture Ratio	F1.8
Angular Field of View	H: 86.5°, V: 47.8°, D: 101.2° (±5%)
Min. Object Distance	0.5m
Lens Type	Fixed
Mount Type	Board type
IR Viewable Length	15m
Camera Title	Off / On (Displayed up to 15 characters)
Day & Night	True Day & Night
Backlight Compensation	Off / BLC
Contrast Enhancement	SSDR(SamsungSuperDynamicRange) (Off / On)
Digital Noise Reduction	SSNR(Off / On)
Motion Detection	Off / On (4ea rectangler zones)
Privacy Masking	Off / On (6ea rectangler zones)
Gain Control	Off / Low / Middle / High
White Balance	ATW / AWC / Manual / Indoor / Outdoor
LDC(Lens distortion control)	On/Off (5 levels with Min/Max)
Electronic Shutter Speed	Minimum / Maximum / Anti flicker
Flip / Mirror	Flip / Mirror / Hallway view
Intelligent Video Analytics	Motion Detection with metadata, Tampering
Alarm Triggers	Motiondetection, Tampering Detection, SD card error
Alarm Events	FileuploadviaFTPandE-Mail LocalstoragerecordingatEvent NotificationviaE-Mail



Ethernet	RJ-45 (10/100BASE-T)
Video Compression Format	H.264, MJPEG
Resolution	1920x1080 / 1280x960 / 1280x720 / 1024x768 / 800x600 / 720x576 / 640x480 / 320x240
Max. Framerate	H.264:Max30fpsatallresolutions MJPEG:Max1fpsat1920x1080/1280x1024/1280x720/1024x768,Max.15fpsatotherresolution
Video Quality Ajustment	H.264:TargetBitrateLevelControl MJPEG:QualityLevelControl
Bitrate control method	H.264:CBRorVBR MJPEG:VBR
Streaming Capability	Multiple Streaming(Up to 3 Profiles)
Audio I/O	Line-in
Audio Compression Format	G.711u-law/G.726Selectable G.726(ADPCM)8KHz,G.7118KHz G.726:16Kbps,24Kbps,32Kbps,40Kbps
Audio Communication	Uni-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)LoginAuthentication DigestLoginAuthentication IPAddressFiltering UseraccessLog 802.1XAuthentication
Streaming Method	Unicast / Multicast
Max. User Access	6 users at Unicast Mode
Edge storage	MicroSD/SDHCMax32G,NAS (MotionimagesrecordedinthetSDmemorycardcanbedownloaded) (ManualrecordingatLocalPC)
Application Programming Interface	ONVIFProfileS,G SUNAPI(HTTPAPI)
Webpage Language	English,French,German,Spanish,Italian,Chinese,Korean, Russian,Japanese,Swedish,Denish,Portuguese,Turkish,Polish,Czech,Rumanian,Serbian,Dutch,Croatia,Hungary,Greek,Finnish,Norwegian
Web Viewer	SupportedOS:WindowsXP/VISTA/7/8/8.1,MACOSX10.7~10.10 SupportedBrowser:MicrosoftInternetExplorer(Ver.8~11),MozillaFirefox(Ver.9~35), Google Chrome (Ver. 15~40), Apple Safari (Ver. 8.0.2(Mac OS X 10.10), 8.0.2(Mac OS X 10.9), 6.0.2 (Mac OS X 10.8, 10.7 only), 5.1.7) * Mac OS X only
Central Management Software	SmartViewer
Operating Temperature / Humidity	-30°C ~ +55°C / Less than 90% RH
Storage Temperature / Humidity	-30°C~+60°C(-22°F~+140°F)/ Less than 90% RH
Ingress Protection	IP66
Input Voltage / Current	PoE
Power Consumption	Max. 7.0W
Color / Material	Dark gray / Plastic
Dimension (WxHxD)	Φ58.6mm x 86mm(선철드 제외)
Weight	300g

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1.5 Equipment Under Test

Description	Model Number	Serial Number	Manufacturer	Remarks
NETWORK CAMERA	SNO-L6013RN	-	TIANJIN SAMSUNG TECHWIN OPTO-ELECTRONIC CO., LTD	EUT

1.6 Support Equipments

Description	Model Number	Serial Number	Manufacturer	Remarks
Notebook	LG15N54	410NZET022292	LG Electronics Inc.	-
Adapter	ADP-90WH B	84ZW19F1557	DELTA ELECTRONICS(JIANGSU) LTD.	-
PoE Adapter	PD3001GC/AC	RD9356082016964 200	Power Dsine	-
Mike	CMK-303	-	CAMAC	-

1.7 External I/O Cabling

Description	Length (m)	Port / From	Port/To	Remarks
NETWORK CAMERA	3.0	PoE / NETWORK CAMERA	PoE / PoE Adapter	Unshielded
PoE Adapter	2.5	RJ-45 / PoE Adapter	RJ-45 / NOTEBOOK	Unshielded
NETWORK CAMERA	1.6	2.5 mm / NETWORK CAMERA	2.5 mm / Mike	Unshielded

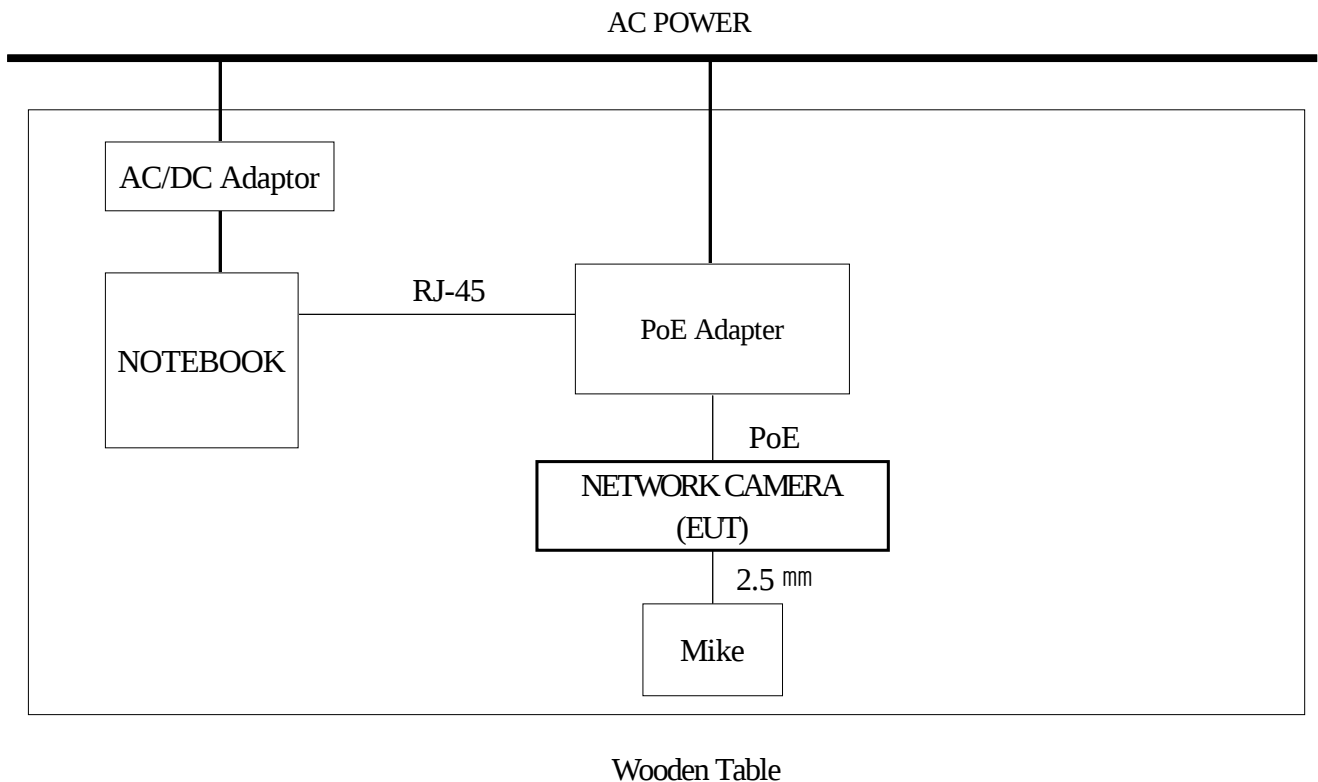
1.8 Special Accessories

As shown in section 1.10, all interface cables used for compliance testing are shielded as normally supplied or by use respective component manufacturers.

1.9 E.U.T Modifications

No modifications were made to the E.U.T in order to achieve and maintain compliance to the standards described in this report.

1.10 Configuration of Test System



※ Test Operating Mode

- Ping test
- web view monitoring

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2. Summary of Tests

FCC Part Section(s)	Parameter	Test Condition	Status (note 1)
15.109(b)	Emission limits	Radiated	C
15.107(b)	Conducted limits	Conducted	N/A

Note 1 : C=Complies N/C=Not Complies N/T=Not Tested N/A=Not Applicable

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2.1 Conducted Emission Measurements

2.1.1 Test Methods

The power line conducted emission measurements were performed in a shielded enclosure, using the setup in accordance with ANSI C63.4-2009 conducted emission measurement procedure.

2.1.2 Test Equipments

Description	Manufacturer	Model Number	Serial Number	Cal. Due
EMI Receiver/Signal Analyzer	Narda S.T.S / PMM	PMM 9010F	020WW31006	04. 04. 2015
LISN	R&S	ENV216	101137	02. 10. 2016
LISN	EMCO	3810/2	2228	-
Electro wave Shieldroom	SEMITEC	-	-	-

2.1.3 Test Environments

Ambient Temperatures	Relative Humidity
see the data	see the data

2.1.4 Test Limits

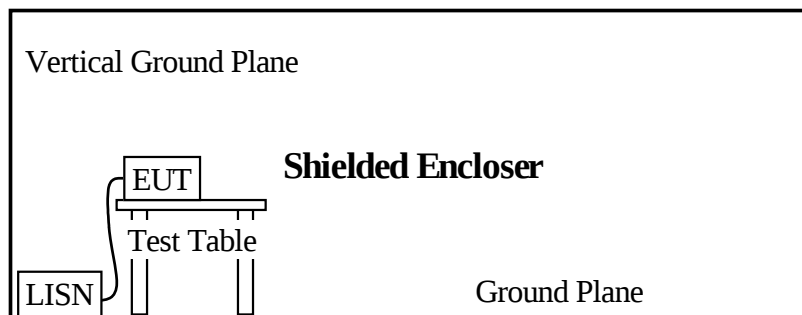
Frequency (MHz)	15.107 Conducted limits			
	Class B (dB μ V)		Class A (dB μ V)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 to 0.50	66.0 to 56.0	56.0 to 46.0	79.0	66.0
0.50 to 5.00	56.0	46.0	73.0	60.0
5.00 to 30.00	60.0	50.0	73.0	60.0

2.1.5 Test Procedure

Conducted emission levels were measured on each current-carrying line with the EMI TEST Receiver operating in the CISPR quasi-peak mode (or peak mode if applicable). The Receiver's 6 dB bandwidth was set to 9 kHz. The initial step in collecting conducted data is a EMI TEST Receiver 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".

The conducted emission test was performed with the E.U.T exercise program loaded, and the emissions were scanned between 150 kHz to 30 MHz on the HOT side and NEUTRAL side, herein referred to as H and N, respectively.

2.1.6 Test Configuration



2.1.7 Test Results

N/A : This E.U.T operate by POE power.



2.1.8 Test Data

Temperature: °C Humidity: % R.H. Test Date: Tested by:
Polarization: HOT

N/A



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Polarization: NEUTRAL

N/A

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2.2 Radiated Emission Measurements

2.2.1 Test Methods

The radiated emission measurements were performed in a Open Area Test Site (OATS) and 3 m full chamber, using the setup in accordance with ANSI C63.4-2009 radiated emission measurement procedure.

2.2.2 Test Equipments

Description	Manufacturer	Model Number	Serial Number	Cal. Due
EMI TEST Receiver	R & S	ESVS10	826008/014	04. 04. 2015
Trilog-Broadband Antenna	SCHWARZBECK	VULB 9168	9168-385	05. 09. 2015
OATS	KES	-	-	-
Antenna Mast	DAEIL EMC	-	-	-
Turn Table	DAEIL EMC	-	-	-
EMI TEST Receiver	R & S	ESR7	101190	08. 13. 2015
PREAMPLIFIER	8449B	H.P	3008A00538	07. 23. 2015
Double Ridged Horn Antenna	A-H-SYSTEM,INC	SAS-571	781	05. 13. 2015
RS Chamber (EMI 18GHz)	SEMITEC	-	-	-
Antenna Mast	AUDIX	-	-	-
Turn Table	AUDIX	-	-	-

2.2.3 Test Environments

Ambient Temperatures	Relative Humidity
see the data	see the data

2.2.4 Test Limits

Frequency (MHz)	15.109 Radiated emission limits			
	Class B @ 3 m		Class A @ 10 m	
	(dB μ V/m)	(μ V/m)	(dB μ V/m)	(μ V/m)
30 to 88	40.0	100	39.0	90
88 to 216	43.5	150	43.5	150
216 to 960	46.0	200	46.4	210
above 960	54.0	500	49.5	300

Frequency (MHz)	CISPR Publication 22			
	Class B @ 3 m (dB μ V/m)		Class A @ 3 m (dB μ V/m)	
	PK	AV	PK	AV
above 1 000	74	54	80	60

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2.2.5 Test Procedure

Before final measurements of radiated emission were made at the OATS, the E.U.T was scanned in semi-anechoic chamber in order to determine its emission spectrum signature. The physical arrangement of the test system and associated cabling was varied in order to determine the effect on the E.U.T's emission in amplitude, direction and frequency. This process was repeated during final radiated emission measurements at the OATS range, at each frequency, in order to ensure that maximum emissions amplitudes were attained.

The radiated emission test was performed with E.U.T exercise program loaded, and the emissions were scanned between 30 MHz to 1 000 MHz using a R&S ESVS10 EMI TEST Receiver and 1 000 MHz to 6 000 MHz using a spectrum analyzer. The EMI TEST Receiver's 6 dB bandwidth was set to 120 kHz and 1 MHz, and EMI TEST Receiver was operated in the CISPR quasi-peak detection mode. At each frequency, the E.U.T was rotated 360 degrees, and the antenna was raised and lowered from 1 to 4 meters in order to determine the maximum emission levels. Measurements were taken using both HORIZONTAL and VERTICAL antenna polarization, herein referred to as H and V, respectively.

- above 1 GHz : Antenna height is fixed to 1.00 m

2.2.6 Field Strength Calculation

F.S = Field Strength

M.R = Meter Reading

A.F = Antenna Factor

C.L = Cable Loss

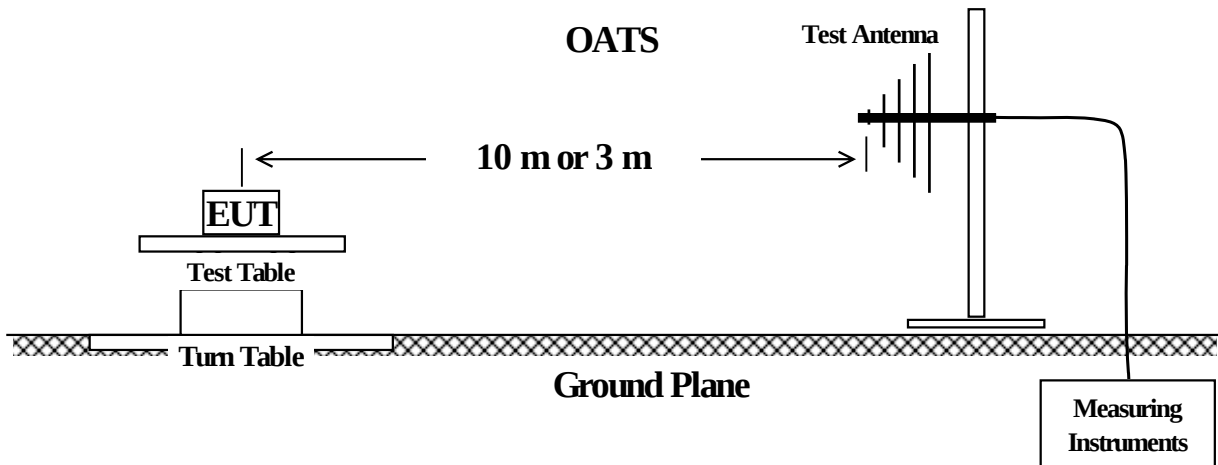
A.G= Amplifier Gain

* Below 1 GHz : $F.S(dB\mu V/m) = M.R(dB\mu V) + [A.F(dB/m) + C.L(dB)]$

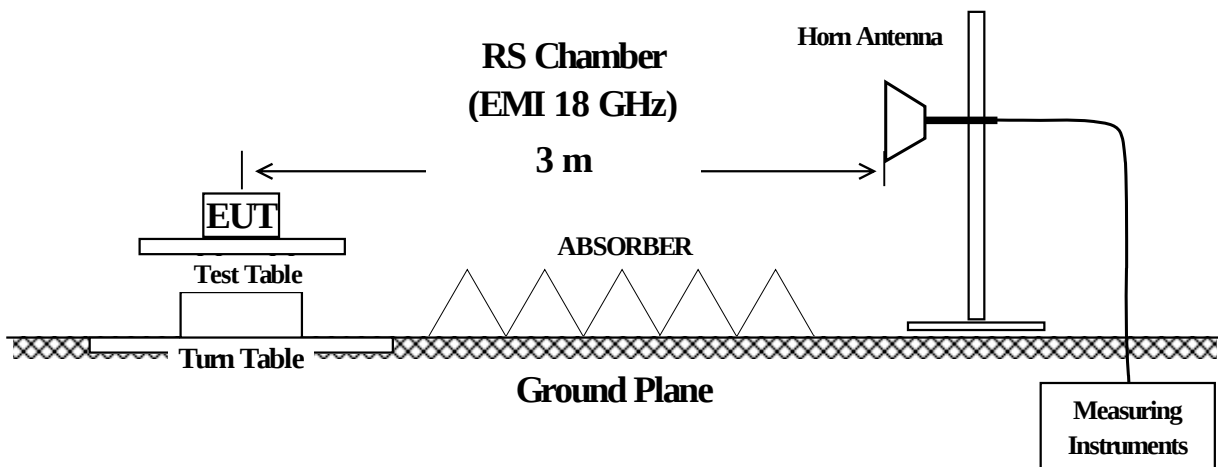
* Above 1 GHz : $F.S(dB\mu V/m) = M.R(dB\mu V) + [A.F(dB/m) + C.L(dB)] - A.G(dB)$

2.2.7 Test Configuration

* Below 1 GHz



* Above 1 GHz



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2.2.8 Test Results

Below 1 GHz: According to the data in section 2.2.9, the E.U.T complied with the FCC 15.109 limits.

Above 1 GHz :According to the data in section 2.2.9, the E.U.T complied with the CISPR22 standards.

2.2.9 Test Data*** Below 1 GHz**

Temperature: 2.0 °C Humidity: 35.0 % R.H. Test Date: 02. 12. 2015 Tested by: Dae Hyun, Kim

Frequency (MHz)	Amplitude (dB μ V/m)	Antenna		Correction Factor		Corrected Amplitude (dB μ V/m)	Applicable Limit (dB μ V/m)	Margin (dB)
		Polar. (H/V)	Height (m)	Ant. (dB)	Cable (dB)			
111.327	13.900	V	1.000	10.250	2.480	26.630	43.500	16.870
186.205	19.700	H	3.840	11.140	3.290	34.130	43.500	9.370
186.205	17.300	V	1.270	11.140	3.290	31.730	43.500	11.770
223.121	15.300	H	4.000	10.740	3.640	29.680	46.400	16.720
297.337	18.100	H	3.270	13.310	4.350	35.760	46.400	10.640
334.874	19.100	H	3.900	14.160	4.650	37.910	46.400	8.490

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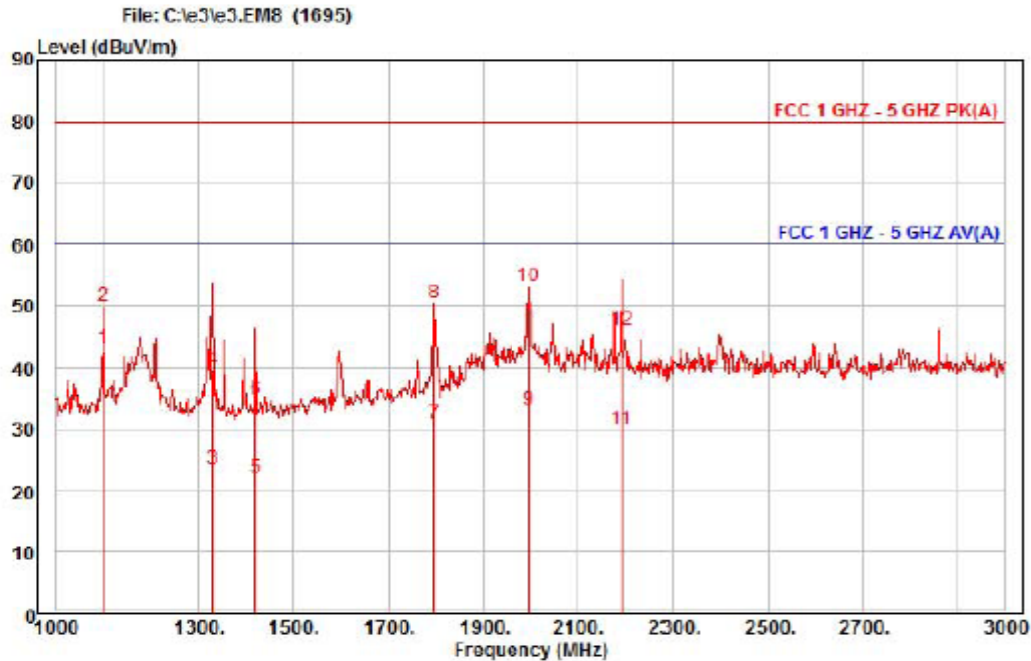
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* Above 1 GHz

Temperature: 24.5 °C Humidity: 35.1 % R.H. Test Date: 02. 12. 2015 Tested by: Dae Hyun, Kim



Site : chamber
Condition: FCC 1 GHZ - 5 GHZ PK(A) 3m HORN ANT (2014.03.10) horizontal
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project : NETWORK CAMERA
EUT : SNO-L6013RN
Mode :
Memo : 1 ~ 3 GHz

	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1 pp	1100.00	50.12	23.40	5.68	36.03	91	60.00	-16.83	horizontal	Average
2	1100.00	57.05	23.40	5.68	36.03	91	80.00	-29.90	horizontal	Peak
3	1330.00	28.66	24.33	6.24	35.65	115	60.00	-36.42	horizontal	Average
4	1330.00	44.71	24.33	6.24	35.65	115	80.00	-40.37	horizontal	Peak
5	1420.00	26.42	24.70	6.46	35.50	115	60.00	-37.92	horizontal	Average
6	1420.00	39.09	24.70	6.46	35.50	115	80.00	-45.25	horizontal	Peak
7	1796.00	31.41	26.90	7.37	34.87	129	60.00	-29.19	horizontal	Average
8	1796.00	51.12	26.90	7.37	34.87	129	80.00	-29.48	horizontal	Peak
9	1998.00	31.54	28.18	7.86	34.53	156	60.00	-26.95	horizontal	Average
10 pk	1998.00	51.61	28.18	7.86	34.53	156	80.00	-26.88	horizontal	Peak
11	2194.00	27.35	28.61	8.27	34.40	119	60.00	-30.17	horizontal	Average
12	2194.00	43.60	28.61	8.27	34.40	119	80.00	-33.92	horizontal	Peak

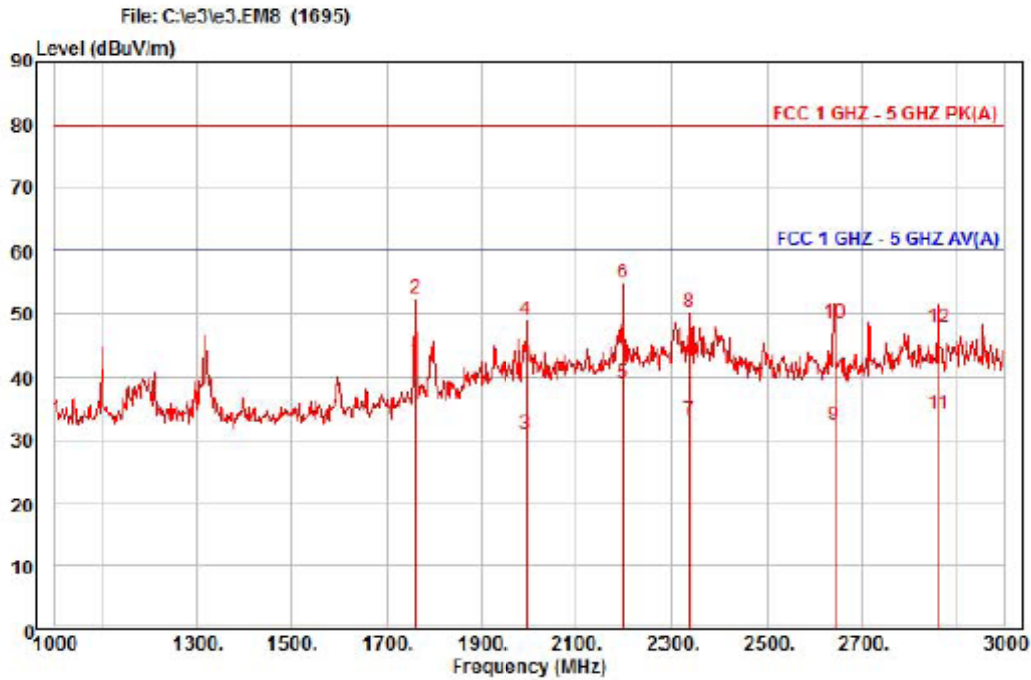
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Test report No.:
KES-E1-15T0046
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Site : chamber
Condition: FCC 1 GHZ - 5 GHZ PK(A) 3m HORN ANT (2014.03.10) vertical
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project : NETWORK CAMERA
EUT : SNO-L6013RN
Mode :
Memo : 1 ~ 3 GHz

		Read	Ant	Cable	Preamp	TPos	Limit	Over			
	Freq	Level	Factor	Loss	Factor		Line	Limit	Pol/Phase	Remark	
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB			
1	pp	1760.00	43.75	26.67	7.28	34.93	27	60.00	-17.23	vertical	Average
2		1760.00	53.48	26.67	7.28	34.93	27	80.00	-27.50	vertical	Peak
3		1996.00	29.46	28.16	7.85	34.54	205	60.00	-29.07	vertical	Average
4		1996.00	47.68	28.16	7.85	34.54	205	80.00	-30.85	vertical	Peak
5		2200.00	36.39	28.62	8.28	34.39	251	60.00	-21.10	vertical	Average
6	pk	2200.00	52.43	28.62	8.28	34.39	251	80.00	-25.06	vertical	Peak
7		2336.00	29.90	28.91	8.57	34.30	123	60.00	-26.92	vertical	Average
8		2336.00	47.16	28.91	8.57	34.30	123	80.00	-29.66	vertical	Peak
9		2642.00	27.66	29.54	9.21	34.09	19	60.00	-27.68	vertical	Average
10		2642.00	43.93	29.54	9.21	34.09	19	80.00	-31.41	vertical	Peak
11		2862.00	28.31	29.98	9.67	33.94	0	60.00	-25.98	vertical	Average
12		2862.00	42.10	29.98	9.67	33.94	0	80.00	-32.19	vertical	Peak

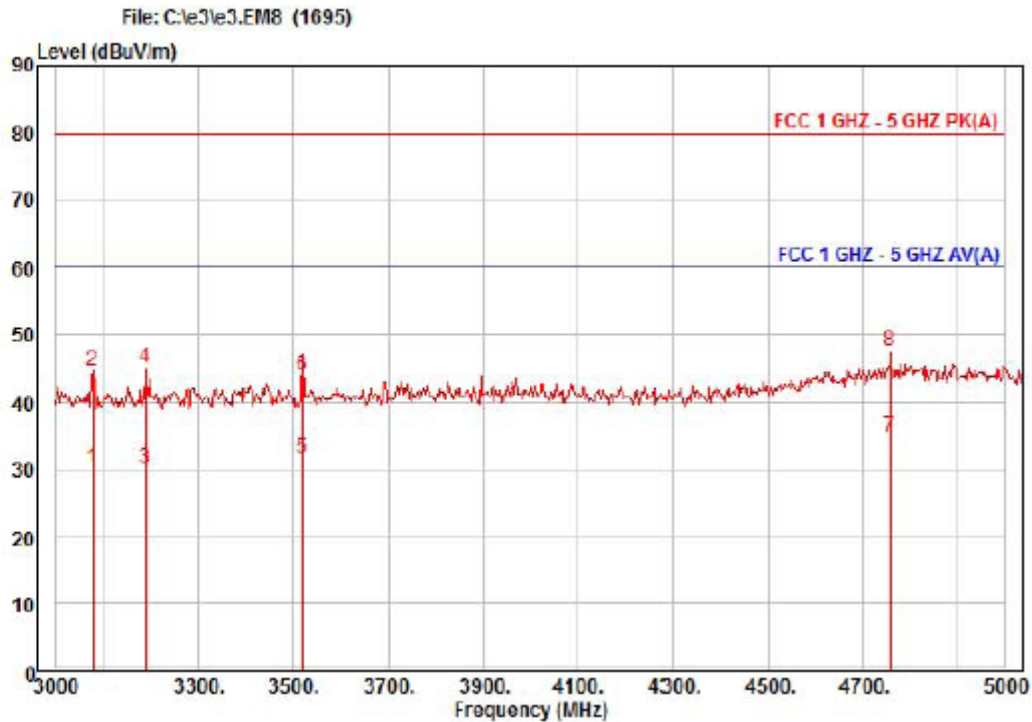
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Site : chamber
Condition: FCC 1 GHZ - 5 GHZ PK(A) 3m HORN ANT (2014.03.10) horizontal
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project : NETWORK CAMERA
EUT : SNO-L6013RN
Mode :
Memo : 3 ~ 5 GHz

	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1	3078.00	23.77	30.28	10.08	33.93	345	60.00	-29.80	horizontal	Average
2	3078.00	38.30	30.28	10.08	33.93	345	80.00	-35.27	horizontal	Peak
3	3189.00	23.67	30.32	10.25	34.05	124	60.00	-29.81	horizontal	Average
4	3189.00	38.56	30.32	10.25	34.05	124	80.00	-34.92	horizontal	Peak
5	3519.00	24.80	30.49	10.77	34.43	151	60.00	-28.37	horizontal	Average
6	3519.00	37.16	30.49	10.77	34.43	151	80.00	-36.01	horizontal	Peak
7	4758.00	22.85	32.91	12.77	33.64	143	60.00	-25.11	horizontal	Average
8 pk	4758.00	35.64	32.91	12.77	33.64	143	80.00	-32.32	horizontal	Peak

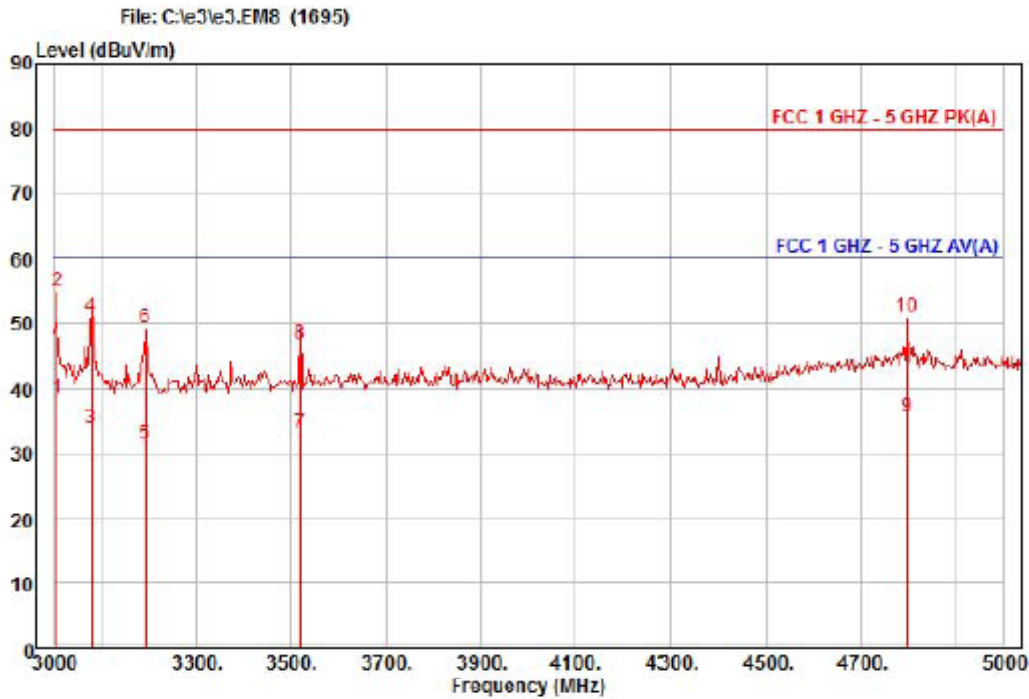
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Test report No.:
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Site : chamber
Condition: FCC 1 GHz - 5 GHz PK(A) 3m HORN ANT (2014.03.10) vertical
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project : NETWORK CAMERA
EUT : SNO-L6013RN
Mode :
Memo : 3 ~ 5 GHz

		Read	Ant	Cable	Preamp	TPos	Limit	Over		
	Freq	Level	Factor	Loss	Factor		Line	Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1	pp	3006.00	32.24	30.25	9.97	33.85	0	60.00	-21.39	vertical Average
2	pk	3006.00	48.68	30.25	9.97	33.85	0	80.00	-24.95	vertical Peak
3		3078.00	27.41	30.28	10.08	33.93	359	60.00	-26.16	vertical Average
4		3078.00	44.46	30.28	10.08	33.93	359	80.00	-29.11	vertical Peak
5		3192.00	24.92	30.32	10.26	34.06	101	60.00	-28.56	vertical Average
6		3192.00	42.88	30.32	10.26	34.06	101	80.00	-30.60	vertical Peak
7		3519.00	26.27	30.49	10.77	34.43	40	60.00	-26.90	vertical Average
8		3519.00	39.89	30.49	10.77	34.43	40	80.00	-33.28	vertical Peak
9		4797.00	23.14	33.05	12.84	33.57	181	60.00	-24.54	vertical Average
10		4797.00	38.71	33.05	12.84	33.57	181	80.00	-28.97	vertical Peak

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3. Product Labelling Requirements

3.1 FCC Statement

Product shall be labelled the following statement on the user's manual:

This device complies with part 15 of the FCC Rules. Operation in 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.

Note : When the device is so small or for such use that it is not practicable to place the statement on it, the information shall be placed in prominent location in the instruction manual or pamphlet supplied to the user. However, the FCC identifier or unique identifier, as appropriate, must be displayed on the device.



4. Test Setup Photographs

4.1 Conducted Emission

N/A

N/A

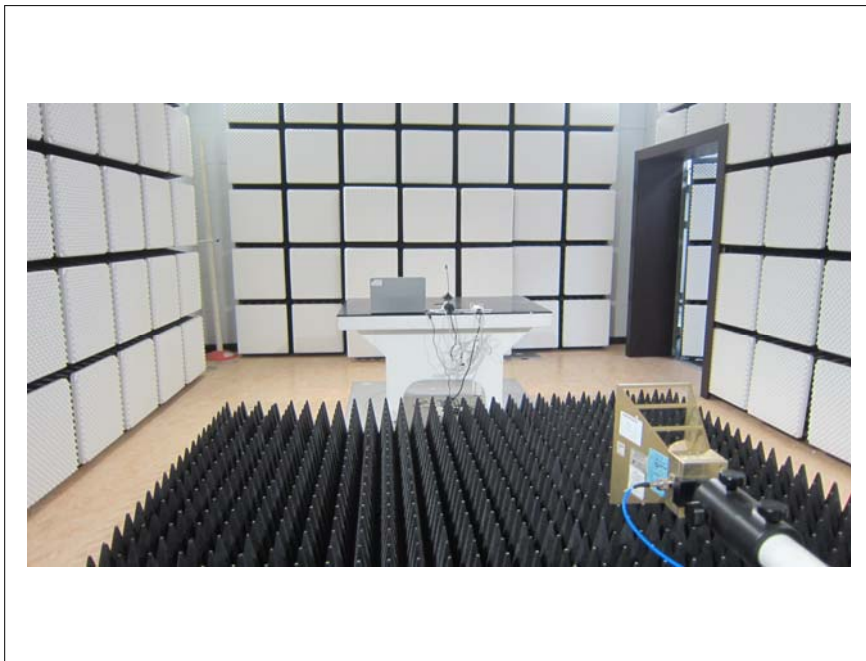
4.2 Radiated Emission

- Below 1 GHz



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- Above 1 GHz



5. External Photographs

5.1 E.U.T: Front View



5.2 E.U.T: Rear View



5.3 E.U.T: Label View (Location)



This device complies with part 15 of the FCC Rules. Operation in 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.

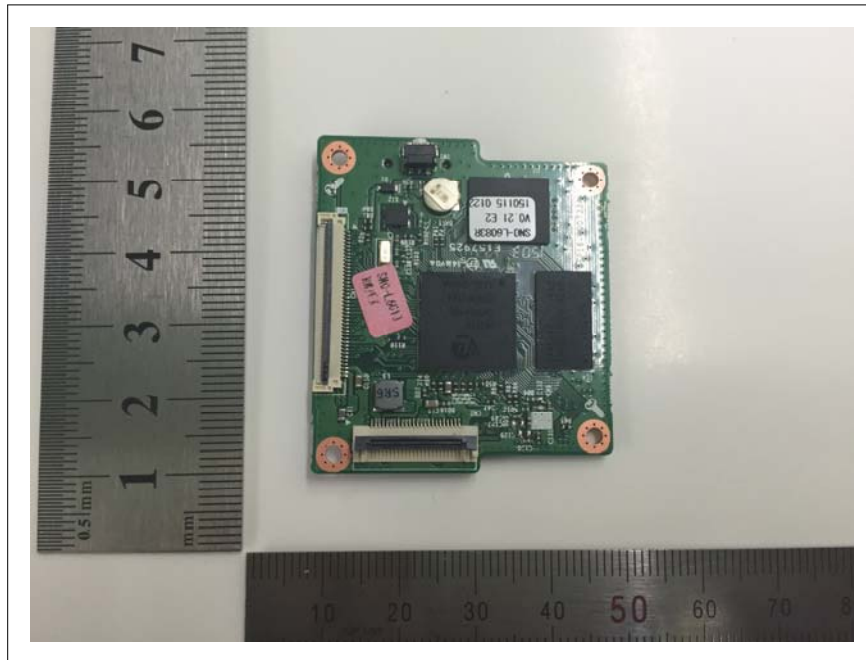
6. Internal Photographs

6.1 E.U.T: Internal View

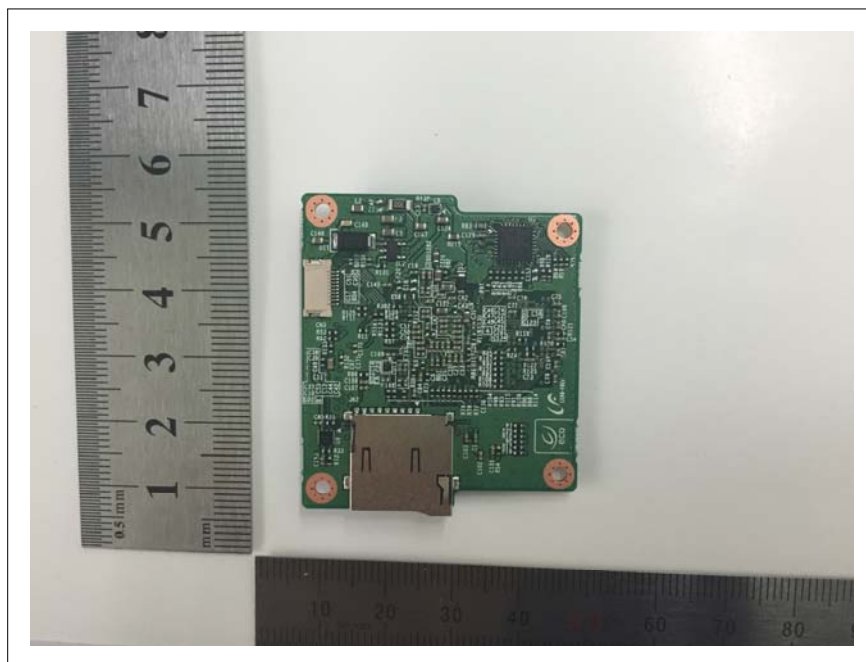


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6.2 E.U.T: Internal View(Top) - Main Board

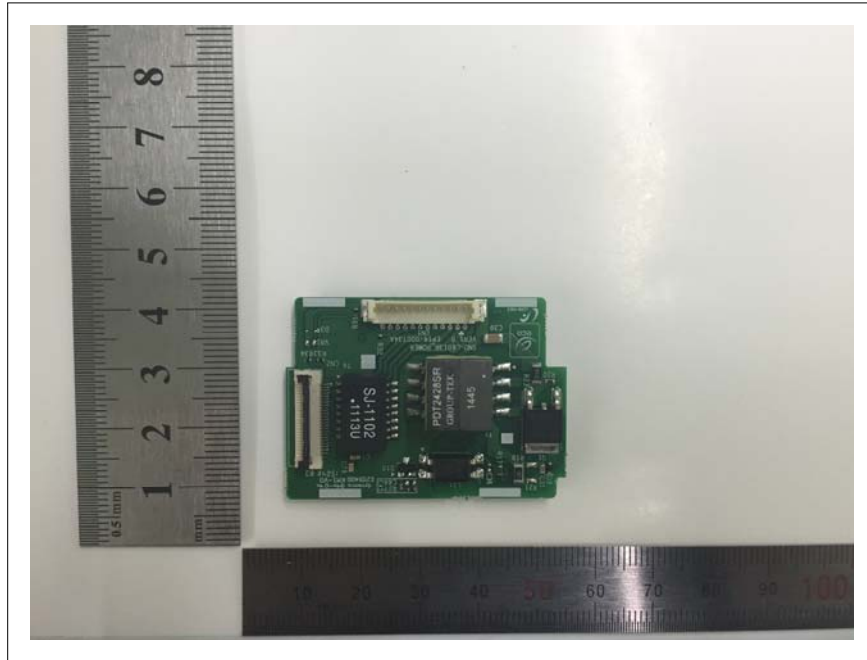


E.U.T: Internal View(Bottom) - Main Board

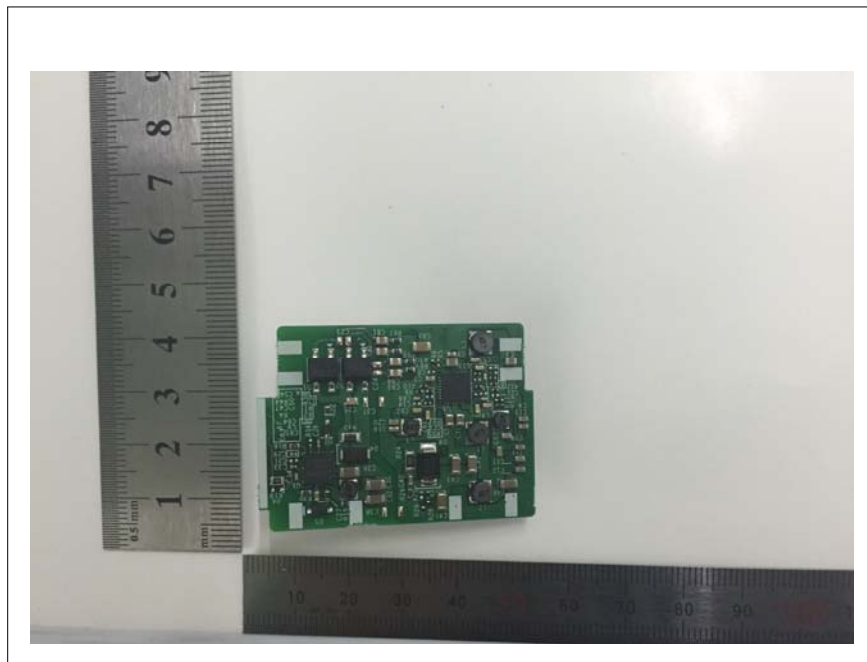


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6.3 E.U.T: Internal View(Top) - Sub Board1

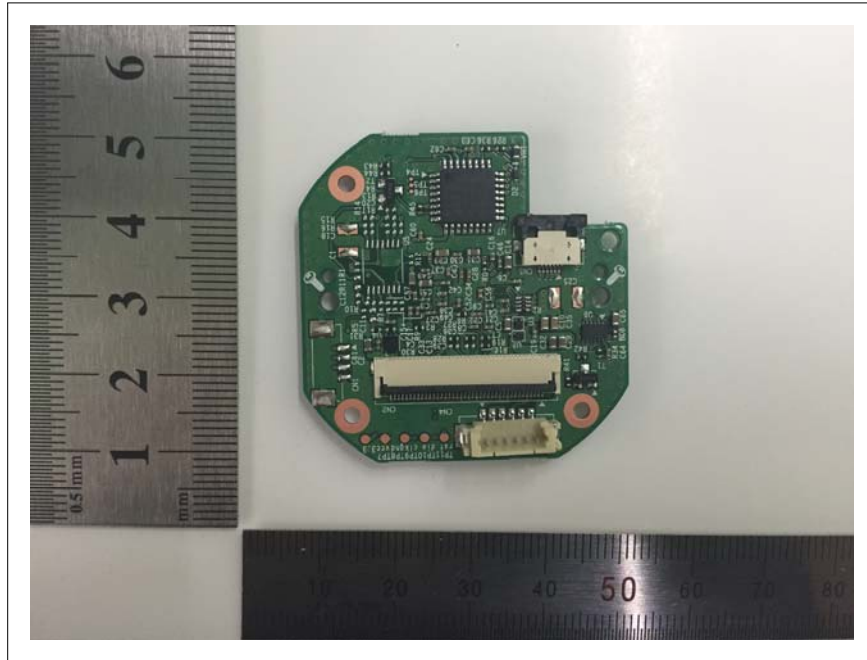


E.U.T: Internal View(Bottom) - Sub Board1

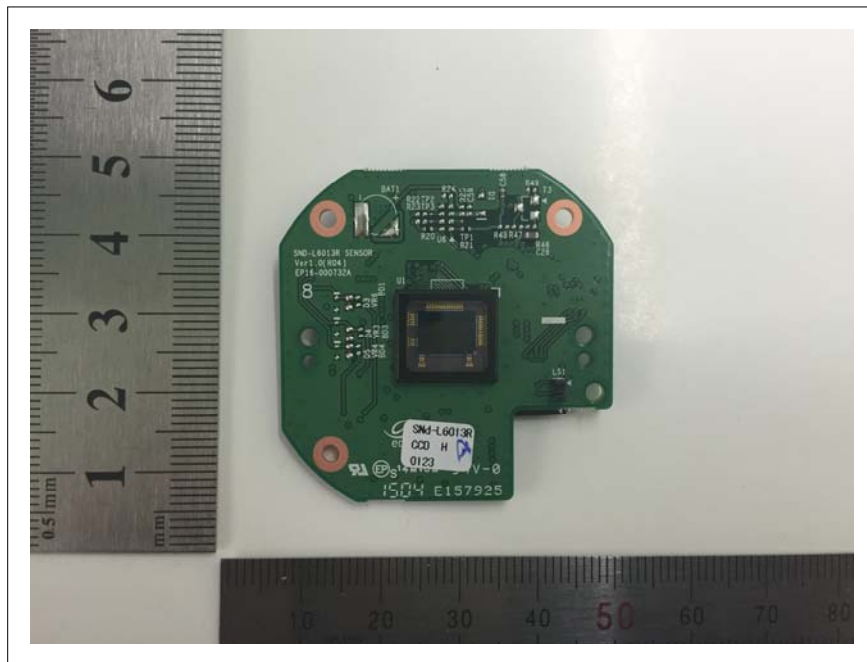


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6.4 E.U.T: Internal View(Top) - Sub Board2



E.U.T: Internal View(Bottom) - Sub Board2

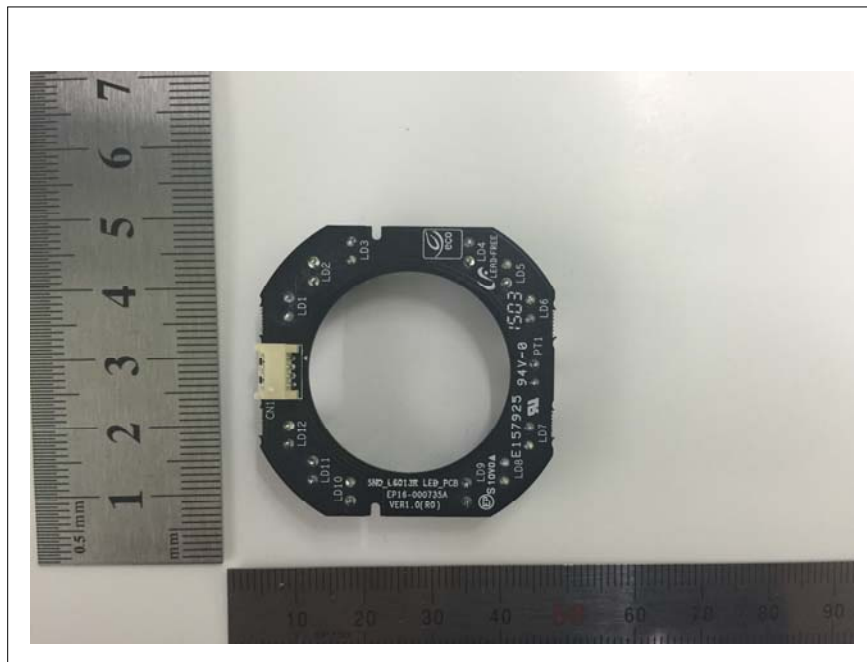


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6.5 E.U.T: Internal View(Top) - LED Board

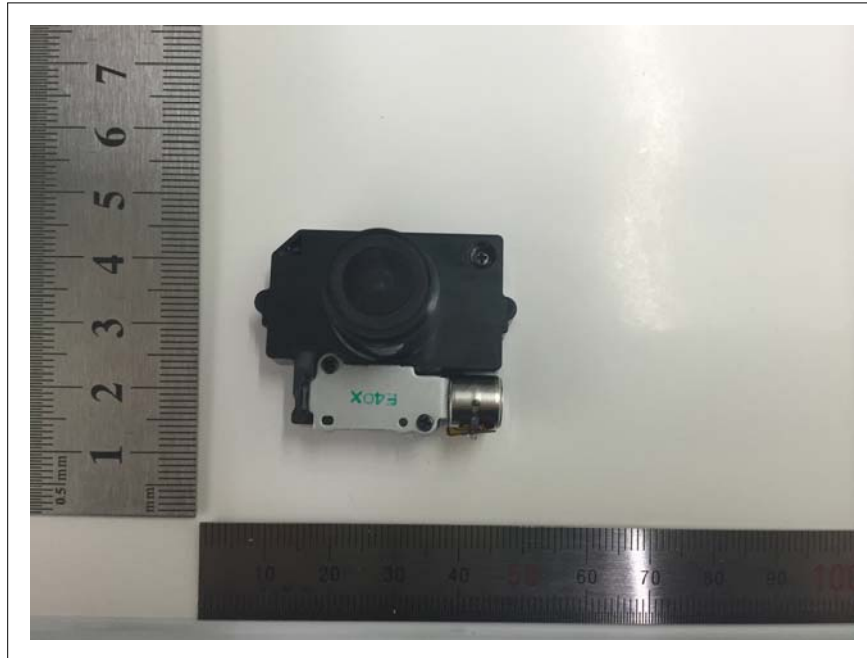


E.U.T: Internal View(Bottom) - LED Board



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6.6 E.U.T: Internal View(Top) - CAMERA



E.U.T: Internal View(Bottom) - CAMERA





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Appendix A - Schematics/Block Diagram

Please see attached document(s).

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Appendix B - User's Manual

Please see attached document(s).

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