EMC TEST REPORT For CE

Test Report No.	:	KES-E1-16T0054-R2
Date of Issue	:	Oct. 23, 2017
Product name	:	NETWORK CAMERA
Model/Type No.	:	SNB-6011BP
Variant Model	:	SNB-6011BN
Applicant	:	Hanwha Techwin Co., Ltd.
Applicant Address	:	1204, Changwon-daero, Seongsan-gu, Changwon-si, Gyeongsangnam-do, korea
Manufacturer	:	Hanwha Techwin(Tianjin) Co., Ltd.
Manufacturer Address	:	No.11 Weiliu Rd,Micro-Electronic Industrial Park, TEDA, Tianjin, 300385, People's Republic of China
Date of Receipt	:	Jan. 20, 2016
Test date	:	Feb. 11, 2016 – Feb. 15, 2016
Test Results	:	☒ **In Compliance** ☐ **Not in Compliance**

Tested by

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EMC Test Engineer

Reviewed by

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EMC Technical Manager

REPORT REVISION HISTORY

Date	Test Report No.	Revision History
Feb. 19, 2016	KES-E1-16T0054	Issued
Jul. 08, 2016	KES-E1-16T0054-R1	Buyers demand models, and other hardware features are not changed
Oct. 23, 2017	KES-E1-16T0054-R2	Standard Revision

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1.0 General Product Description

Main Specifications of E.U.T are:

Video	
Imaging Device	1/2.8" PS 2.38M CMOS
Total Pixels	1952(H) x 1116(V)
Effective Pixels	1944(H) x 1104(V)
Scanning System	Progressive
Min. Illumination(50IRE)	Color : 0.3Lux (1/30sec, F2.0, 50IRE)
S / N Ratio	-
Video Out	CVBS : 1.0 Vp-p / 75Ω composite, 720x480(N), 720x576(P), for installation - DIP connector type
Lens	
Focal Length (Zoom Ratio)	2.4mm Fixed
Max. Aperture Ratio	2.0
Angular Field of View	H : 134.3˚ / V : 70.9˚
Min. Object Distance	0.3m
Focus Cotrol	-
Lens Type	-
Mount Type	RJ-12 connected with main unit
Alarm I/O	Input 1ea / Output 1ea
Ethernet	RJ-45 (10/100BASE-T)
Video Compression Format	H.264 (MPEG-4 Part 10/AVC), Motion JPEG
Environmental	
Operating Temperature / Humidit	-10°C ~ +55°C(+14°F ~ +131°F) / Less than 90% RH
Storage Temperature / Humidity	-30°C ~ +60°C (-22°F ~ +140°F) / Less than 90% RH
Power Consumption	PoE : 7.5W DC12V : 6.5W
Mechanical	
Color / Material	Camera **Header** : Black / Plastic Main Unit : Ivory / Plastic
Dimension (WxHxD)	Camera Header : Φ24×50mm Main unit : W131.1xH28xD86mm
Weight	Camera **unit** (Include 1.5M Cable) : **80g** **or** Camera **unit (Include 8M Cable) : 315g** Main unit : 255g

1.1 Test Voltage & Frequency

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

Voltage ☐ 220 Vac ☐ 230 Vac ☐ 240 Vac ☒ PoE ☒ 12 Vdc

Frequency ☐ 50 Hz ☐ 60 Hz ☐ Hz

1.2 Variant Model Differences

Variant Model	Differences
SNB-6011BN	Buyers demand models, and other hardware features are not changed

1.3 Device Modifications

Not applicable

1.4 Equipment Under Test

Description	Model Number	Serial Number	Manufacturer	Remarks
NETWORK CAMERA	SNB-6011BP	-	Hanwha Techwin(Tianjin) Co., Ltd.	E.U.T

1.5 Support Equipments

Description	Model Number	Serial Number	Manufacturer	Remarks
PoE	PD3001GC/AC	RD9356082016964200	Power Dsine	-
Notebook	LG15N54	410NZET022292	LG Electronics Nanjing Display Co., Ltd.	-
Notebook adaptor	ADP-90WH B	84ZW19F6655	DELTA ELECTRONICS, INC.	-
Alarm Zig	-	-	-	-

1.6 External I/O Cabling

- DC 12V

Start		END		Cable Spec.	
Description	**I/O Port**	**Description**	**I/O Port**	**Length**	**Shield**
NETWORK CAMERA (E.U.T)	DC 12V IN	Adaptor	DC 12V OUT	1.0	U
	RS-485	Alarm Zig	RS-485	3.0	U
	3.5 mm	Headset	3.5 mm	1.6	U
	RJ-45	Notebook	RJ-45	3.0	U
	Micro SD card slot	Micro SD card	Micro SD card slot	-	-

* Unshielded=U, Shielded=S

- PoE

Start		END		Cable Spec.	
Description	**I/O Port**	**Description**	**I/O Port**	**Length**	**Shield**
NETWORK CAMERA (E.U.T)	RJ-45	PoE	RJ-45	1.1	U
	RS-485	Alarm Zig	RS-485	3.0	U
	3.5 mm	Headset	3.5 mm	1.6	U
	RJ-45	Notebook	RJ-45	3.0	U
	Micro SD card slot	Micro SD card	Micro SD card slot	-	-
PoE	RJ-45	Notebook	RJ-45	3.0	U

* Unshielded=U, Shielded=S

1.7 E.U.T Operating Mode(s)

Equipment under test was operated during the measurement under the following conditions:

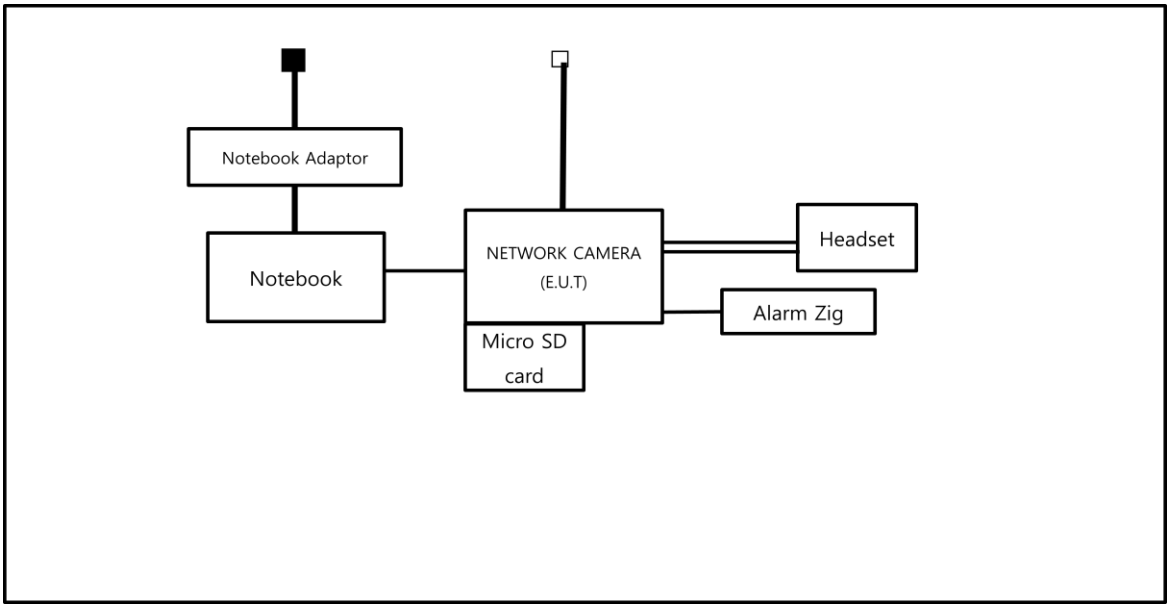
Test mode	Normal operating
DC 12V	1.Place the EUT as shown in the following layout. 2.Tested by running the PING TEST, and making sure that the camera is operating normally.
PoE	1.Place the EUT as shown in the following layout by using PoE adaptor. 2.Tested by running the PING TEST, and making sure that the camera is operating normally.

- Input power condition during the measurements was DC 12V

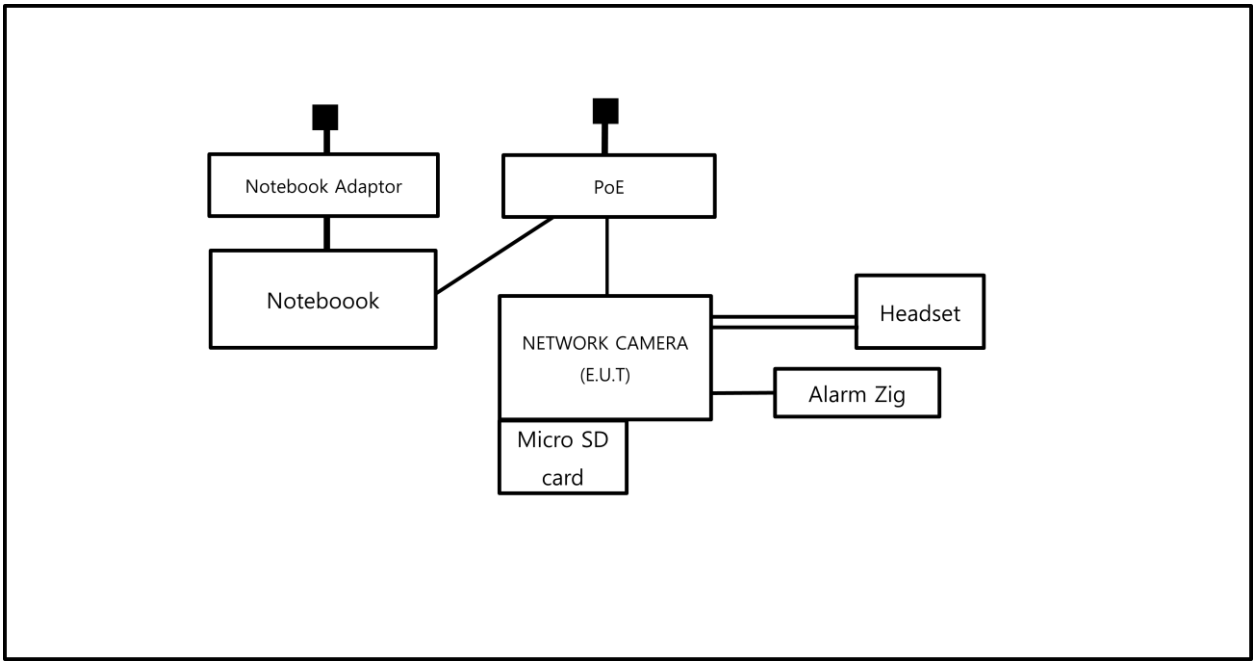
1.8 Configuration

■ AC Main
□ DC Main

- DC 12V



- PoE



1.9 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.

1.10 Test Facility

The measurement facility is located at 473-29 Gayeo-ro, Yeoju-si, Gyeonggi-do, 12658, Korea. The sites are constructed in conformance with the requirements of ANSI C63.4 and CISPR Publication 22.

1.11 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.	
JAPAN	**VCCI**	Mains Ports Conducted Interference Measurement, Telecommunication Ports Conducted Disturbance Measurement and Radiation 10 meter site, Facility for measuring radiated disturbance above 1 GHz	R-4308, C-4798, T-2311, G-914
KOREA	**MSIP**	EMI (10 meter Open Area Test Site and two conducted sites) Radio(3 & 10 meter Open Area Test Sites and one conducted site) EMS (ESD, RS, EFT/Burst, Surge, CS, Magnetic, Dips and interruptions)	KR0100
Canada	**IC**	3 & 10 meter Open Area Test Sites and one conducted site	4769B-1
Europe	**CE**	EMI (10 meter Open Area Test Site and two conducted sites) Radio(3 & 10 meter Open Area Test Sites and one conducted site) EMS (ESD, RS, EFT/Burst, Surge, CS, Magnetic, Dips and interruptions)	
International	**KOLAS**	EMI (10 meter Open Area Test Site and two conducted sites) Radio(3 & 10 meter Open Area Test Sites and one conducted site) EMS (ESD, RS, EFT/Burst, Surge, CS, Magnetic, Dips and interruptions)	KOREA LABORATORY ACCREDITATION SCHEME KOLAS TESTING NO. 489

2.0 Test Regulations

The emissions tests were performed according to following regulations:

☒ **EMC – Directive 2014/30/EU**

☐ EN 61000-6-3:2011		
☐ EN 61000-6-1:2007		
☐ EN 61000-6-4:2007 +A1:2011		
☐ EN 61000-6-2:2005		
☐ EN 55011:2007 +A1:2010	☐ Group 1 ☐ Class A	☐ Group 2 ☐ Class B
☐ EN 55014-1:2006 +A2:2011		
☐ EN 55014-2:1997 +A2:2008		
☐ EN 55015:2013		
☒ EN 55032:2012	☒ Class A	☐ Class B
☐ EN 55024:2010		
☒ EN 50130-4:2011		
☐ EN 61000-3-2:2014		
☐ EN 61000-3-3:2013		
☐ EN 61326-1:2013		
☐ VCCI V-3 / 2013.04	☐ Class A	☐ Class B
☐ AS / NZS CISPR22:2009 +A1:2010	☐ Class A	☐ Class B
☐ 47 CFR Part 15, Subpart B / ANSI C63.4-2009	☐ Class A	☐ Class B
☐ IC Regulation ICES-003 : 2012 / ANSI C63.4-2014	☐ Class A	☐ Class B
☐ CISPR 22:2009 +A1:2010	☐ Class A	☐ Class B

☐ **R&TTE – Directive 1999/5/EC**

☐ EN 301 489-1 V1.9.2

- ☐ Equipment for fixed use
- ☐ Equipment for vehicular use
- ☐ Equipment for portable use

☐ EN 301 489-3 V1.6.1

☐ EN 301 489-17 V2.2.1

☐ EN 60945:2002

2.1 Conducted Emissions at Mains Power Ports

Test Date
N/A

Test Location
Electro wave Shieldroom

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☐	EMI Test Receiver	ESR3	R&S	101783	05, 06, 2016
☐	LISN	ENV216	R&S	101137	02, 04, 2017
☐	LISN	ENV216	R&S	101786	05, 06, 2016
☐	Electro wave Shieldroom	-	SEMITEC	-	-

Test Conditions
Temperature: ℃
Relative Humidity: %

.

Frequency Range of Measurement
150 ㎑ to 30 ㎒

Instrument Settings
IF Band Width: 9 ㎑

Test Results
The requirements are:

☐ PASS
☐ NOT PASS
☒ NOT APPLICABLE

Remarks
Because the E.U.T power is PoE, limits are not specified.

2.2 Conducted Emissions at Telecommunication Ports

Test Date
Feb. 11, 2016

Test Location
Electro wave Shieldroom

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	EMI Test Receiver	ESR3	R&S	101783	05, 06, 2016
☒	LISN	ENV216	R&S	101137	02, 04, 2017
☒	LISN	ENV216	R&S	101786	05, 06, 2016
☒	8-Wire ISN CAT3	CAT3 8158	Schwarzbeck Mess	8158-0019	04, 02, 2016
☒	8-Wire ISN CAT5	CAT5 8158	Schwarzbeck Mess	8158-0030	04, 02, 2016
☐	8-Wire ISN CAT6	NTFM 8158	Schwarzbeck Mess	8158-0029	08, 14, 2016
☒	Electro wave Shieldroom	-	SEMITEC	-	-

Test Conditions
Temperature: 25,3 ℃
Relative Humidity: 37,2 %

Frequency Range of Measurement
150 ㎑ to 30 ㎒

Instrument Settings
IF Band Width: 9 ㎑

Test Results
The requirements are:

☒ PASS
☐ NOT PASS
☐ NOT APPLICABLE

Remarks
See Appendix A for test data.

2.3 Radiated Electric Field Emissions(Below 1 ㎓)

Test Date
Feb. 11, 2016

Test Location
☐ Open Area Test Site #1 ☒ Open Area Test Site #2

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	EMI Test Receiver	ESR3	R&S	101781	05, 06, 2016
☒	Trilog-Broadband Antenna	VULB 9163	SCHWARZBECK	9168-713	05, 15, 2017
☒	Open Area Test Site	-	KES	-	-
☒	Antenna Mast	-	DAEIL EMC	-	-
☒	Turn Table	-	DAEIL EMC	-	-

Test Conditions
Temperature: 2,0 ℃
Relative Humidity: 47,0 %

Frequency Range of Measurement
30 ㎒ to 1 ㎓

Instrument Settings
IF Band Width: 120 ㎑

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 ㎓)

Test Date
Feb. 11, 2016

Test Location
Semi Anachoic Chamber #2

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	EMI Test Receiver	ESU26	R&S	100552	05, 06, 2016
☒	Broadband Coaxial Preamplifier	BBV 9718	Schwarzbeck Mess - Elektronik	9718-246	10, 23, 2016
☒	DOUBLE RIDGED HORN ANTENNA	SAS-571	A.H.SYSTEM,INC	781	05, 07, 2017
☒	Semi Anachoic Chamber #2	-	SEMITEC	-	-
☒	Antenna Mast	-	AUDIX	-	-
☒	Turn Table	-	AUDIX	-	-

Test Conditions
Temperature: 25,3 ℃
Relative Humidity: 37,2 %

Frequency Range of Measurement
1 ㎓ to 6 ㎓

Instrument Settings
IF Band Width: 1 ㎒

Test Results
The requirements are:

☒ PASS
☐ NOT PASS
☐ NOT APPLICABLE

Remarks
See Appendix A for test data.

2.5 Harmonic Current Emissions

Test Date
N/A

Test Location
Electro wave Shieldroom

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☐	AC Source	ACS 500 N	EM TEST	V1024106760	08, 13, 2016
☐	Digital Power Analyzer	DPA 500 N	EM TEST	V1024106759	08, 13, 2016

Test Conditions
Temperature: 25,3 ℃
Relative Humidity: 55,7 %

Classification of Equipment for Harmonic Current Emissions
☐ Class A
☐ Class B
☐ Class C(Below 25 W)
☐ Class C(Above 25 W)
☐ Class D

Test Results
The requirements are:

☐ PASS
☐ NOT PASS
☒ NOT APPLICABLE

Remarks
Becauser the E.U.T power is less than 75 W, limits are not specified.

2.6 Voltage Fluctuations and Flicker

Test Date
N/A

Test Location
Electro wave Shieldroom

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☐	AC Source	ACS 500 N	EM test	V1024106760	08, 13, 2016
☐	Digital Power Analyzer	DPA 500 N	EM test	V1024106759	08, 13, 2016

Test Conditions
Temperature: 25,3 ℃
Relative Humidity: 55,7 %

Test Results
The requirements are:

☐ PASS
☐ NOT PASS
☒ NOT APPLICABLE

Remarks
Because the E.U.T power PoE, limits are not specified

3.0 Criteria for compliance

Criteria for compliance was based on the following guidelines:
EN 50130-4:2011 +A1:2014 Alarm systems-Part 4: Electromagnetic compatibility Product family standard: Immunity requirements for components of fire, intruder and social alarm systems

The variety and the diversity of the apparatus within the scope of this document makes it difficult to define precise criteria for the evaluation of the immunity test results.

If as a result of the application of the tests defined in this standard, the apparatus becomes dangerous or unsafe then the apparatus shall be deemed to have failed the test.

A functional description and a definition of performance by the manufacture and noted in the test report, based on the following criteria:

Electrostatic discharge

There shall be no damage, malfunction or change of status due to the conditioning.

Flickering of an indicator during the application of discharge is permissible, providing that is no residual change in the EUT or any change in outputs, which could be interpreted by associated equipment as a change.

Radiated electromagnetic fields

There shall be no damage, malfunction or change of status due to the conditioning.

Flickering of an indicator during the application of discharge is permissible, providing

which could be interpreted by associated equipment as a change, and no such

Flickering of indicators occurs at a field strength of 3 V/m.

For components of CCTV systems, where the picture is allowed at 10 V/m, providing.

(a) there is no permanent damage or change to EUT

(e.g. no corruption of memory or changes to programmable setting etc.)

(b) at 3 V/m, any deterioration of the picture is so minor that the system could still be used; and

(c) there is no observable deterioration of the picture at 1 V/m.

Fast transient burst / slow high energy voltage surge

There shall be no damage, malfunction or change of status due to the conditioning.

Flickering of an indicator during the application of discharge is permissible, providing

That there is no residual is permissible, providing that there is no residual change in the EUT or any change in outputs, which could be interpreted by associated equipment as a change.

Conducted RF immunity

There shall be no damage, malfunction or change of status due to the conditioning.

Flickering of an indicator during the application of discharge is permissible, providing

That there is no residual is permissible, providing that there is no residual change in the EUT or any change in outputs, which could be interpreted by associated equipment as a change,

and no such flickering of indicators oeuvres at U = 130 dBμV.

For component of CCTV systems, where the status is monitored by observing the TV picture,

then deterioration of the picture is allowed at U = 140 dBμV, providing:

(a) there is no permanent damage or change to the EUT

(e.g. no corruption of memory or changes to programmable settings etc.)

(b) at U = 130 dBμV, any deterioration of the picture is so minor that the system could

still be used; and

(c) there in no observable deterioration of the picture at U = 120 dBμV.

Voltage dip/interruption / Voltage variation

There shall be no damage, malfunction or change of status due to the conditioning.

Flickering of an indicator during the conditioning is permissible, providing that there is no residual change in the EUT or any change in outputs, which could be interpreted by associated equipment as a change. The EUT shall meet the acceptance criteria for the functional test, after the conditioning.

3.1 Electrostatic Discharge

Reference Standard
EN 61000-4-2:2009

Test Date
Feb. 15, 2016

Test Location
EMS-ESD: Electro wave Shieldroom

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	ESD SIMULATOR	ESS-2000	Noise Ken	ESS01Z0454	10, 23, 2016
☒	HCP	-	Noise Ken	-	-
☒	VCP	-	Noise Ken	-	-

Test Conditions
Temperature: 18,7 ℃
Relative Humidity: 39,8 %
Atmospheric Pressure: 100,3 kPa

Test Specifications
Discharge Factor: ≥ 1 s

Discharge Impedance: 330 ohm / 150 pF

Kind of Discharge: Air, Contact (direct and indirect)

Polarity: Positive and Negative

Number of Discharge: 10 at all locations for Air discharge
10 at all locations for Contact discharge

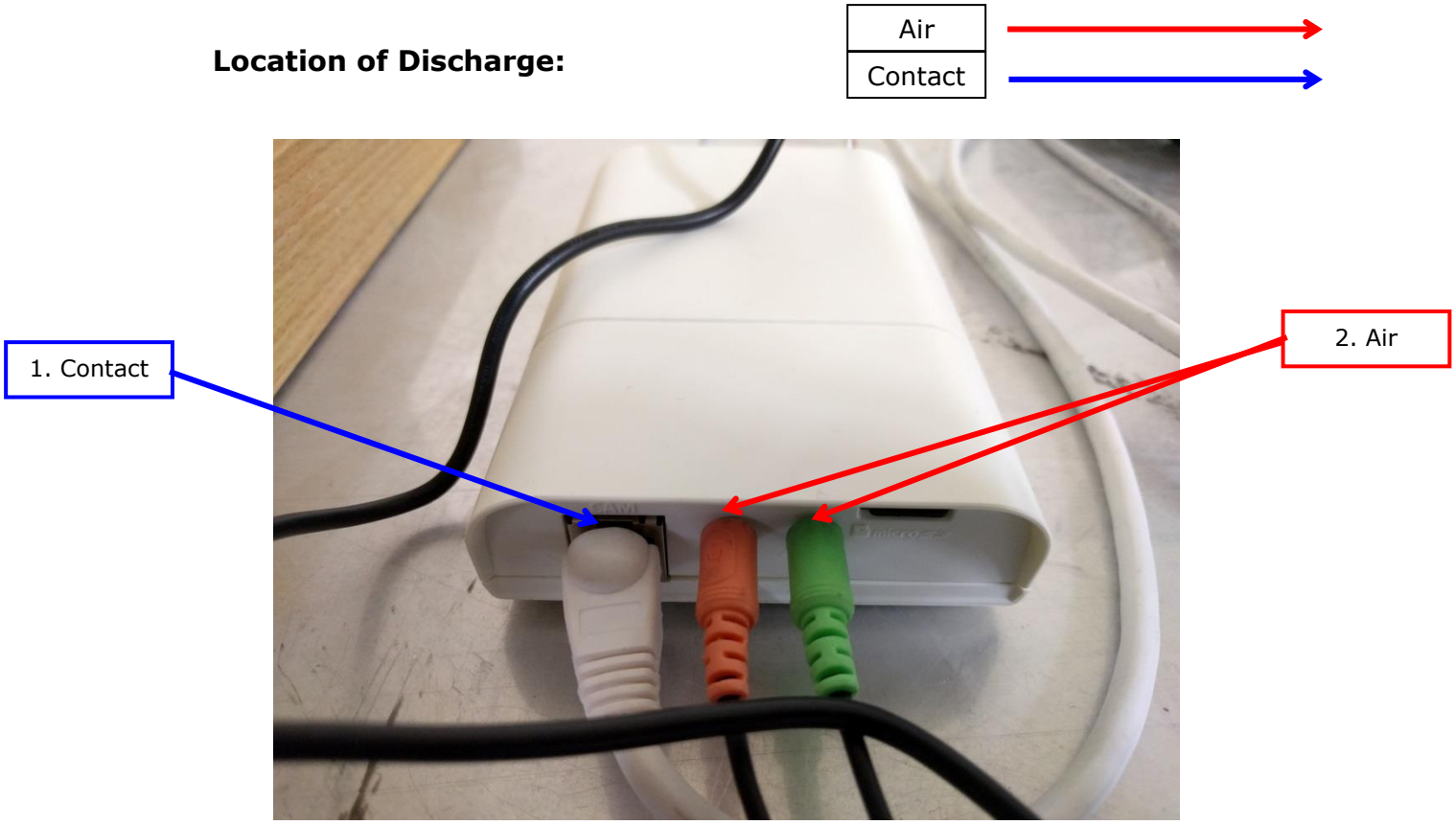
Discharge Voltage:

Contact	Air	HCP	VCP
☐ 2 kV	☒ 2 kV	☐ 2 kV	☐ 2 kV
☐ 4 kV	☒ 4 kV	☐ 4 kV	☐ 4 kV
☒ 6 kV	☐ 6 kV	☒ 6 kV	☒ 6 kV
☐ 8 kV	☒ 8 kV	☐ 8 kV	☐ 8 kV
☐ 15 kV	☐ 15 kV	☐ 15 kV	☐ 15 kV

Notes: HCP: Horizontal coupling plane
VCP: Vertical coupling plane

Required Performance Criteria: ☒ Complied

Location of Discharge:



Test Data

- DC 12V

Indirect Discharge

No.	Test Point	Discharge Method	Performance Observation	Remarks
1	HCP Contact	Contact Discharge	Complied	-
2	VCP Contact	Contact Discharge	Complied	-

Direct Discharge

No.	Test Point	Discharge Method	Performance Observation	Remarks
1	RJ-45	Contact Discharge	Complied	-
2	3.5㎜	Air Discharge	Complied	-
-	-	-	-	-

- PoE

Indirect Discharge

No.	Test Point	Discharge Method	Performance Observation	Remarks
1	HCP Contact	Contact Discharge	Complied	-
2	VCP Contact	Contact Discharge	Complied	-

Direct Discharge

No.	Test Point	Discharge Method	Performance Observation	Remarks
1	RJ-45	Contact Discharge	Complied	-
2	3.5㎜	Air Discharge	Complied	-
-	-	-	-	-

Note: "Blank" = Not performed

Observations:
Complied – No degradation of function

Test Results

☒ PASS Required Performance Criteria
☐ NOT PASS Required Performance Criteria

Remarks

PASS Required Performance Criteria.

3.2 Radiated Electric Field Immunity

Reference Standard
EN 61000-4-3:2006 +A2:2010

Test Date
Feb. 12, 2016

Test Location
EMS-RS: ☐ Semi Anachoic Chamber #1 ☒ Semi Anachoic Chamber #2

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☐	Integrated measurement system for EMS	IMS	R&S	100027	08, 13, 2016
☐	Average Power Sensor	NRP-Z91	R&S	100784	08, 13, 2016
☐	Power Amplifier	100W1000M1	AMPLIFIER RESEARCH	19510	08, 13, 2016
☐	High Power Dual Directional Coupler	C3910	WERLATONE	30447	08, 13, 2016
☐	Hybrid Log-Periodic Antenna	HLP-2603	EMC Automation (TDK)	100400	-
☐	Semi Anachoic Chamber #1	-	KES	-	-
☒	SiGNAL GENERATOR	SMB 100A	R&S	108252	08, 13, 2016
☒	BROADBAND AMPLIFIER	BBA100	R&S	101239	08, 13, 2016
☒	BROADBAND AMPLIFIER	100S1G6M1	AR	579931	08, 13, 2016
☒	POWER METER	NRP2	R&S	103475	08, 13, 2016
☒	AVG POWER SENSOR	NRP-Z91	R&S	102526	08, 13, 2016
☒	AVG POWER SENSOR	NRP-Z91	R&S	102527	08, 13, 2016
☒	Stacked Log.-Per.Antenna	STLP 9128 D	Schwarzbeck	9128D038	-
☒	Semi Anachoic Chamber #2		SEMITEC	-	-

Test Conditions

Temperature: 26,6 ℃
Relative Humidity: 40,9 %
Atmospheric Pressure: 100,3 kPa

Test Specifications

Antenna Polarization: Horizontal & vertical unless indicated otherwise

Antenna Distance: ☒ 3 m

Field Strength: ☐ 1 V/m ☐ 3 V/m
☒ 10 V/m

Frequency Range: ☐ 80 MHz to 1 GHz ☐ 1,4 GHz to 2,7 GHz
☒ 80 MHz to 2,7 GHz

Modulation: ☒ AM, 80 %, 1 kHz sine wave
☒ PM, 1 Hz (0,5 s ON : 0,5 s OFF)

Frequency step: ☒ 1 % step

Dwell Time: ☒ 1 s ☐ 3 s

# of Sides Radiated: ☒ 4

Required Performance Criteria: ☒ Complied

Test Data

- DC 12V

Side Exposed	Observation	
	Horizontal	Vertical
Front	Complied	Complied
Right	Complied	Complied
Back	Complied	Complied
Left	Complied	Complied

- PoE

Side Exposed	Observation	
	Horizontal	Vertical
Front	Complied	Complied
Right	Complied	Complied
Back	Complied	Complied
Left	Complied	Complied

Note: "Blank" = Not performed

Observations:
Complied – No degradation of function

Test Results

☒ PASS Required Performance Criteria
☐ NOT PASS Required Performance Criteria

Remarks

PASS Required Performance Criteria.

3.3 Electrical Fast Transients/Bursts

Reference Standard
EN 61000-4-4:2012

Test Date
Feb. 13, 2016

Test Location
EMS-EFT: Electro wave Shieldroom

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	Ultra Compact Simulator	UCS 500 N5	EM TEST	V0936105120	07, 14, 2016
☒	Capacitive Coupling Clamp	HFK	EM TEST	070925	07, 14, 2016
☒	MotorVariac	MV2616	EM TEST	V0936105123	07, 14, 2016
☐	Transient Test System	TRA3000F-S-D-V	EMC PARTNER AG	1524	04, 01, 2016
☐	MotorVariac	VAR-EXT1000	EMC PARTNER AG	1507	04, 01, 2016
☐	Capacitive Coupling Clamp	CN-EFT1000	EMC PARTNER AG	1528	04, 01, 2016

Test Conditions

Temperature:	25,3 ℃
Relative Humidity:	55,7 %
Atmospheric Pressure:	99,3 ㎪

Test Specifications

Pulse Amplitude & Polarity: (AC Power Lines)	☐ ± 1.0 ㎸ ☐ ± 4.0 ㎸	☐ ± 2.0 ㎸
Pulse Amplitude & Polarity: (Other supply / Signal Lines)	☐ ± 0.5 ㎸ ☐ ± 2.0 ㎸	☒ ± 1.0 ㎸
Burst Period:	☒ 300 ㎳	☐ 2 s
Repetition Rate:	☐ 5 ㎑	☒ 100 ㎑
Duration of Test Voltage:	☒ ≥ 1 min	
Required Performance Criteria:	☒ Complied	

Test Data

- DC 12V

☐ Input a.c. power ports – Coupling/Decoupling Network used

Mode of Application	OBSERVATIONS	
	(+) Burst (㎸)	(-) Burst (㎸)
-	-	-

☒ Input d.c. power ports – Coupling/Decoupling Network used

Mode of Application	OBSERVATIONS	
	(+) Burst (㎸)	(-) Burst (㎸)
L - N	Complied	Complied

☒ Signal ports and telecommunication ports – Coupling Clamp used

Mode of Application	OBSERVATIONS	
	(+) Burst (㎸)	(-) Burst (㎸)
RJ-45	Complied	Complied
RS-485	Complied	Complied

- PoE

☐ Input a.c. power ports – Coupling/Decoupling Network used

Mode of Application	OBSERVATIONS	
	(+) Burst (㎸)	(-) Burst (㎸)
-	-	-

☐ Input d.c. power ports – Coupling/Decoupling Network used

Mode of Application	OBSERVATIONS	
	(+) Burst (㎸)	(-) Burst (㎸)
-	-	-

☒ Signal ports and telecommunication ports – Coupling Clamp used

Mode of Application	OBSERVATIONS	
	(+) Burst (㎸)	(-) Burst (㎸)
RJ-45	Complied	Complied
RS-485	Complied	Complied

Note: "Blank" = Not performed

Observations:
A – No degradation of function
B – Distortion/Error of function (self-recoverable)
C – Loss of function

Test Results

☒ PASS Required Performance Criteria
☐ NOT PASS Required Performance Criteria

Remarks

PASS Required Performance Criteria.

3.4 Surge Transients

Reference Standard
EN 61000-4-5:2014

Test Date
Feb. 13, 2016

Test Location
EMS-Surge: Electro wave Shieldroom

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	Ultra Compact Simulator	UCS 500 N5	EM TEST	V0936105120	07, 14, 2016
☒	MotorVariac	MV2616	EM TEST	V0936105123	07, 14, 2016
☐	CDN	CNV 504N	EM TEST	V0936105121	04, 01, 2016
☐	Transient Test System	TRA3000F-S-D-V	EMC PARTNER AG	1524	04, 01, 2016
☐	MotorVariac	VAR-EXT1000	EMC PARTNER AG	1507	04, 01, 2016

Test Conditions
Temperature: 25,3 ℃
Relative Humidity: 55,7 %
Atmospheric Pressure: 99,3 kPa

Test Specifications
AC Power Lines
Source Impedance: 12 ohm for common mode and 2 ohm for differential mode

Surge Amplitude:
Common Mode
☐ (0,5 / 1,0 / 2,0) kV
Differential Mode
☐ (0,5 / 1,0) kV
Signal lines
☐ (0,5 / 1,0) kV

Number of Surges: ☐ 5 surges per angle

Angle: ☐ 0°, 90°, 180°, 270° (input a.c. power port)

Polarity: ☐ Positive & Negative

Repetition Rate: ☐ 1 surge per min ☐ 1 surge per 30 sec.

Required Performance Criteria: ☐ Complied

Other supply / Signal Lines

Source Impedance: 42 ohm for common mode
Surge Amplitude: Common Mode
☒ (0,5 / 1,0) kV

Number of Surges: ☒ 5 Surges

Polarity: ☒ Positive & Negative

Repetition Rate: ☐ 1 surge per min ☒ 1 surge per 30 sec.

Required Performance Criteria: ☒ Complied

Test Data

- DC 12V

☐ Line to Line – Differential Mode

Mode of Application	OBSERVATIONS	
	(+) Surge (㎸)	(-) Surge (㎸)
-	-	-

☐ Line to Earth – Common Mode

Mode of Application	OBSERVATIONS	
	(+) Surge (㎸)	(-) Surge (㎸)
-	-	-

Signal Lines

☒ Line to Earth – Common Mode

Mode of Application	OBSERVATIONS	
	(+) Surge (㎸)	(-) Surge (㎸)
RJ-45	Complied	Complied

- PoE

☐ Line to Line – Differential Mode

Mode of Application	OBSERVATIONS	
	(+) Surge (㎸)	(-) Surge (㎸)
-	-	-

☐ Line to Earth – Common Mode

Mode of Application	OBSERVATIONS	
	(+) Surge (㎸)	(-) Surge (㎸)
-	-	-

Signal Lines

☒ Line to Earth – Common Mode

Mode of Application	OBSERVATIONS	
	(+) Surge (㎸)	(-) Surge (㎸)
RJ-45	Complied	Complied

Note: "Blank" = Not performed

Observations:
A – No degradation of function
B – Distortion/Error of function (self-recoverable)
C – Loss of function

Test Results

☒ PASS Required Performance Criteria
☐ NOT PASS Required Performance Criteria

Remarks

No any function degraded during the test.

3.5 Conducted Disturbance

Reference Standard
EN 61000-4-6:2009

Test Date
Feb. 15, 2016

Test Location
EMS-CS: Electro wave Shieldroom

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	Continuous Wave Generator	CWS 500N1	EM TEST	V0936105119	09, 25, 2016
☒	6dB Attenuator	ATT6	EM TEST	1208-34	08, 13, 2016
☒	CDN	CDN-M2/M3N	EM TEST	0909-06	08, 13, 2016
☐	CDN	CDN-T2-RJ11	EM TEST	0909-07	08, 13, 2016
☐	CDN	CDN-T4	EM TEST	0909-08	08, 13, 2016
☐	CDN	CDN-T8RJ45	EM TEST	0909-09	08, 13, 2016
☐	CDN	CDN-AF2	EM TEST	0909-10	08, 13, 2016
☐	CDN	CDN-AF4	EM TEST	0909-11	08, 13, 2016
☒	EM Injection Clamp	EM 101	Liithi	35943	02, 04, 2017
☐	Continuous Wave Generator	CWS 500 N1	EM TEST	P1251106910	04, 01, 2016
☐	6 dB Attenuator	ATT6/75	EM TEST	1012-35	04, 01, 2016
☐	CDN	CDN-M2/M3N	EM TEST	0213-10	04, 01, 2016
☐	EM Injection Clamp	EM 101	Liithi	36152	04, 06, 2016

Test Conditions
Temperature: 26,1 ℃
Relative Humidity: 37,3 %
Atmospheric Pressure: 100,7 kPa

Test Specifications

Frequency range: ☒ 150 ㎑ to 100 ㎒ ☐ 10 ㎑ to 30 ㎒
☐ 150 ㎑ to 230 ㎒ ☐ 10 ㎑ to 100 ㎒

Voltage Level: ☐ 1 Vrms ☐ 3 Vrms
☒ 10 Vrms

Modulation: ☒ AM, 80 %, 1 ㎑ sine wave
☒ PM, 1 ㎐ (0,5 s ON : 0,5 s OFF)

Frequency step: ☒ 1 % step

Dwell Time: ☒ 1 s ☐ 3 s

Required Performance Criteria: ☒ Complied

Test Data

- DC 12V

☐ Input a.c. power ports

Coupling Location (Line Stressed)	Coupling Method	Observation

☒ Input d.c. power ports

Coupling Location (Line Stressed)	Coupling Method	Observation
Input d.c. power port	CDN (☒M2, ☐M3)	Complied

☒ Signal ports and telecommunication ports

Coupling Location (Line Stressed)	Coupling Method	Observation
RJ-45	EM Injection Clamp	Complied
RS-485	EM Injection Clamp	Complied

- PoE

☒ Input a.c. power ports

Coupling Location (Line Stressed)	Coupling Method	Observation
-	-	-

☐ Input d.c. power ports

Coupling Location (Line Stressed)	Coupling Method	Observation
-	-	-

☒ Signal ports and telecommunication ports

Coupling Location (Line Stressed)	Coupling Method	Observation
RJ-45	EM Injection Clamp	Complied
RS-485	EM Injection Clamp	Complied

Notes: CDN = Coupling Decoupling Network
EMC = Electro Magnetic Clamp
"blank" = Not performed

Observations:
A – No degradation of function
B – Distortion/Error of function (self-recoverable)
C – Loss of function

Test Results

☒ PASS Required Performance Criteria
☐ NOT PASS Required Performance Criteria

Remarks

No any function degraded during the test.

3.6 Voltage Dips and Short Interruptions

Reference Standard
N/A

Test Date
Electro wave Shieldroom

Test Location
EMS-Voltage dip: Electro wave Shieldroom

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☐	Ultra Compact Simulator	UCS 500 N5	EM TEST	V0936105120	07, 14, 2016
☐	Capacitive Coupling Clamp	HFK	EM TEST	070925	07, 14, 2016
☐	MotorVariac	MV2616	EM TEST	V0936105123	07, 14, 2016
☐	Transient Test System	TRA3000F-S-D-V	EMC PARTNER AG	1524	04, 01, 2016
☐	MotorVariac	VAR-EXT1000	EMC PARTNER AG	1507	04, 01, 2016
☐	Capacitive Coupling Clamp	CN-EFT1000	EMC PARTNER AG	1528	04, 01, 2016

Test Conditions
Temperature: ℃
Relative Humidity: %
Atmospheric Pressure: kPa

Test Specifications & Observations/Remarks

Test Level	Duration [in period/ms (50 Hz)]	Results
☐ 20 % dip	☐ 250 /10	_____
☐ 30 % dip	☐ 25 /10	_____
☐ 60 % dip	☐ 10 /10	_____
☐ 100 % dip	☐ 250 /10	_____

- Voltage cariations

☐ Unom + 10 %	☐ 253 V (ac)	_____
☐ Unom + 15 %	☐ 195.5 V (ac)	_____

Observations:
A – No response observed from E.U.T
B – Unit shuts down then automatically restarts when full voltage is restored.
C – Unit shuts down then manually restarts when full voltage is restored or Loss of function.

Test Results
☐ PASS Required Performance Criteria
☐ NOT PASS Required Performance Criteria
☒ NOT APPLICABLE

Remarks
Because the E.U.T power PoE, limits are not specified

APPENDIX A – TEST DATA

Conducted Emissions at Mains Power Ports

[HOT]

N/A

[NEUTRAL]

N/A

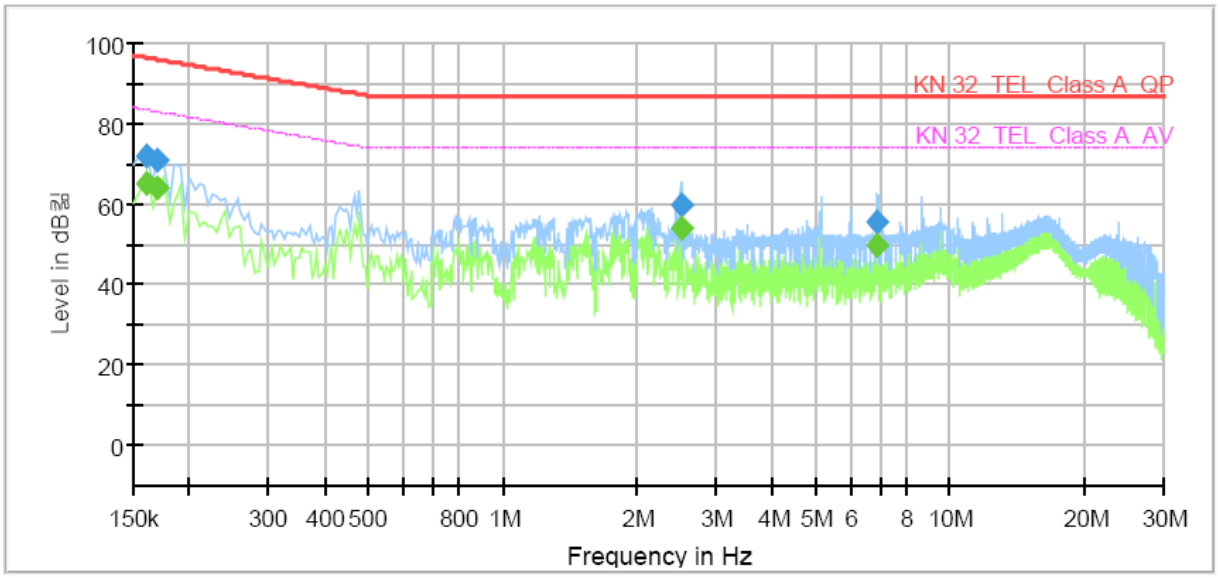
Conducted Emissions at Telecommunication Ports

- DC 12V

[10 Mbps]

Common Information

Test Description:	Telecommunication Emission
Model No.:	SNB-6011BP
Mode	DC 12V_10Mbps
Operator Name:	KES



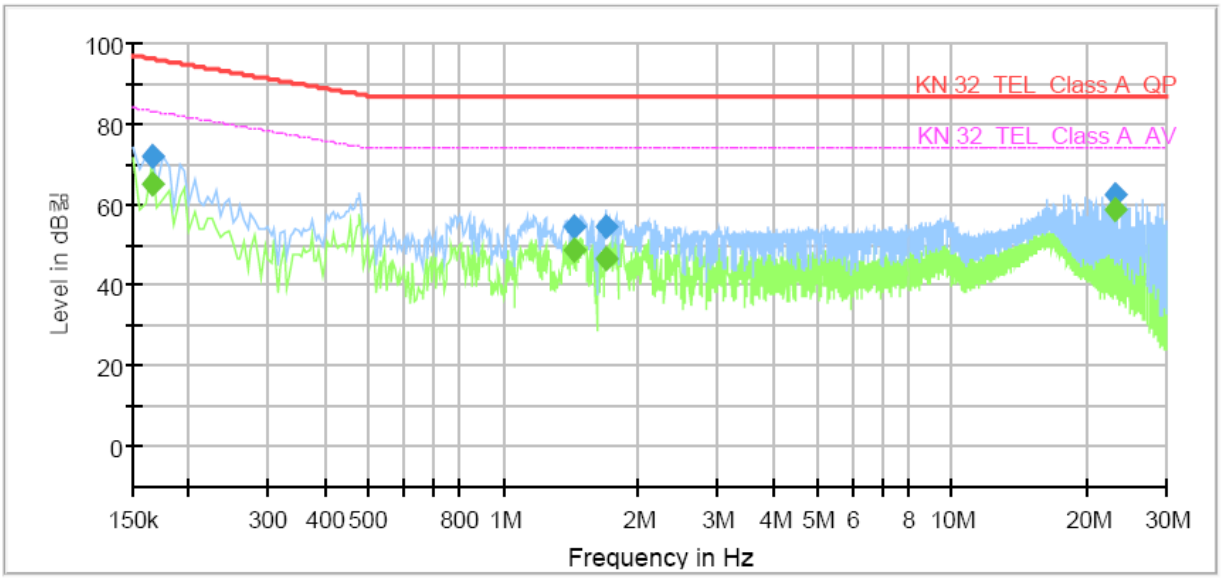
Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.160000	---	65.07	83.46	18.39	1000.0	9.000	Single Line	10.3
0.160000	72.05	---	96.46	24.41	1000.0	9.000	Single Line	10.3
0.170000	---	63.81	82.96	19.15	1000.0	9.000	Single Line	10.3
0.170000	70.72	---	95.96	25.24	1000.0	9.000	Single Line	10.3
2.500000	---	53.91	74.00	20.09	1000.0	9.000	Single Line	9.9
2.500000	59.55	---	87.00	27.45	1000.0	9.000	Single Line	9.9
6.900000	---	49.86	74.00	24.14	1000.0	9.000	Single Line	10.0
6.900000	55.78	---	87.00	31.22	1000.0	9.000	Single Line	10.0

[100 Mbps]

Common Information

Test Description:	Telecommunication Emission
Model No.:	SNB-6011BP
Mode	DC 12V_100Mbps
Operator Name:	KES



Final_Result

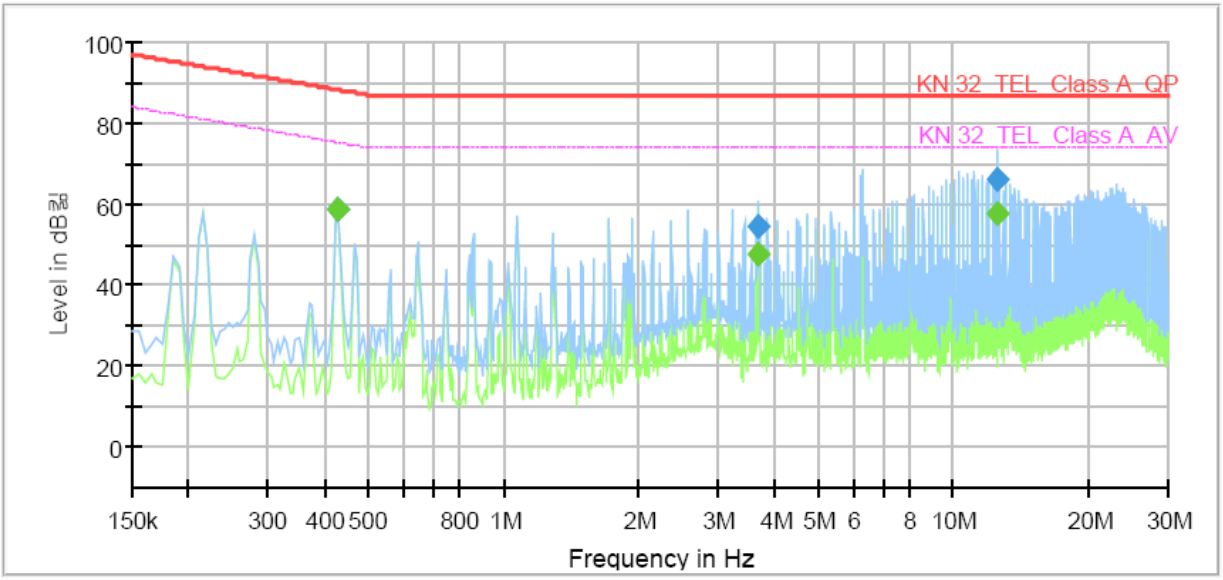
Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.165000	---	64.91	83.21	18.30	1000.0	9.000	Single Line	9.8
0.165000	71.88	---	96.21	24.33	1000.0	9.000	Single Line	9.8
1.435000	---	48.68	74.00	25.32	1000.0	9.000	Single Line	9.5
1.435000	54.33	---	87.00	32.67	1000.0	9.000	Single Line	9.5
1.690000	---	46.77	74.00	27.23	1000.0	9.000	Single Line	9.5
1.690000	54.35	---	87.00	32.65	1000.0	9.000	Single Line	9.5
23.130000	---	58.84	74.00	15.16	1000.0	9.000	Single Line	9.6
23.130000	62.60	---	87.00	24.40	1000.0	9.000	Single Line	9.6

- PoE

[10 Mbps]

Common Information

Test Description:	Telecommunication Emission
Model No.:	SNB-6011BP
Mode	PoE_10Mbps
Operator Name:	KES



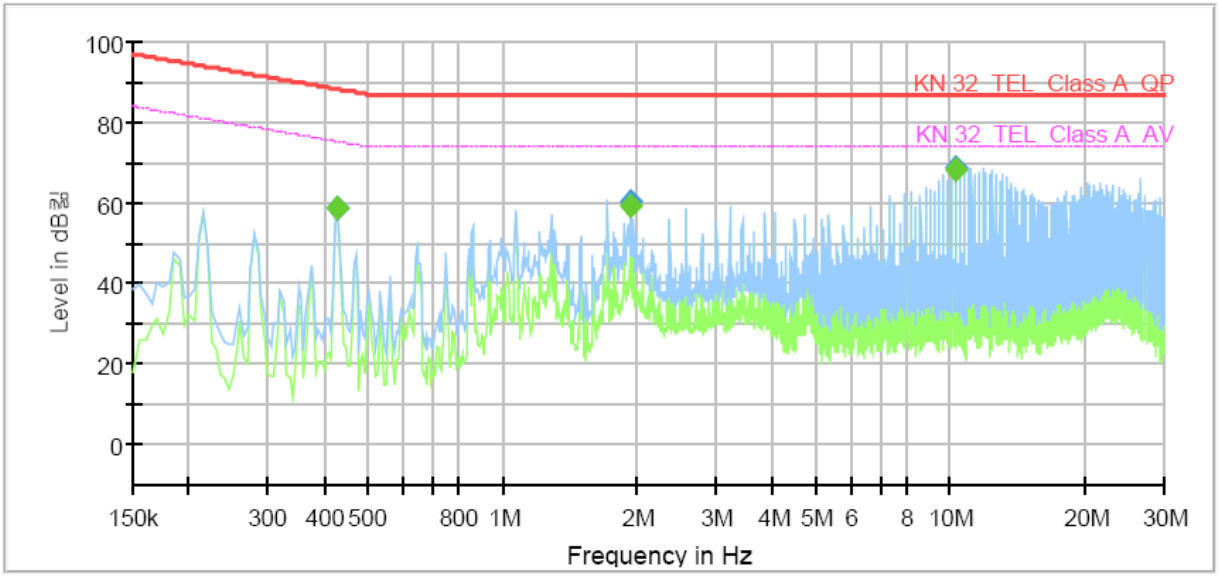
Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.430000	---	58.79	75.25	16.46	1000.0	9.000	Single Line	10.1
0.430000	58.78	---	88.25	29.47	1000.0	9.000	Single Line	10.1
3.695000	---	47.77	74.00	26.23	1000.0	9.000	Single Line	9.9
3.695000	54.30	---	87.00	32.70	1000.0	9.000	Single Line	9.9
12.500000	---	57.73	74.00	16.27	1000.0	9.000	Single Line	10.1
12.500000	66.07	---	87.00	20.93	1000.0	9.000	Single Line	10.1

[100 Mbps]

Common Information

Test Description:	Telecommunication Emission
Model No.:	SNB-6011BP
Mode	PoE_100Mbps
Operator Name:	KES



Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.430000	---	58.81	75.25	16.44	1000.0	9.000	Single Line	9.6
0.430000	58.79	---	88.25	29.46	1000.0	9.000	Single Line	9.6
1.930000	---	59.30	74.00	14.70	1000.0	9.000	Single Line	9.5
1.930000	60.32	---	87.00	26.68	1000.0	9.000	Single Line	9.5
10.300000	---	68.19	74.00	5.81	1000.0	9.000	Single Line	9.5
10.300000	68.55	---	87.00	18.45	1000.0	9.000	Single Line	9.5

Radiated Electric Field Emissions(Below 1 ㎓)

- DC 12V

Frequency	Amplitude	ANT Polar. (H/V)	ANT. Height	Correction Factor		Corrected Amplitude	Applicable Limit	Margin [dB]
[㎒]	[dBμV]		[m]	ANT. [dB/m]	Cable [dB]	[dBμV/m]	[dBμV/m]	
148.42	10.23	V	1.00	8.14	2.76	21.13	40.00	18.87
225.47	11.89	H	4.00	11.87	3.54	27.30	40.00	12.70
300.09	11.51	V	1.00	13.38	4.21	29.10	47.00	17.90
371.25	16.21	H	3.53	15.03	4.82	36.06	47.00	10.94
446.18	12.38	V	1.00	16.35	5.37	34.10	47.00	12.90
519.74	10.38	H	3.31	17.53	5.86	33.77	47.00	13.23

* H : Horizontal, V : Vertical

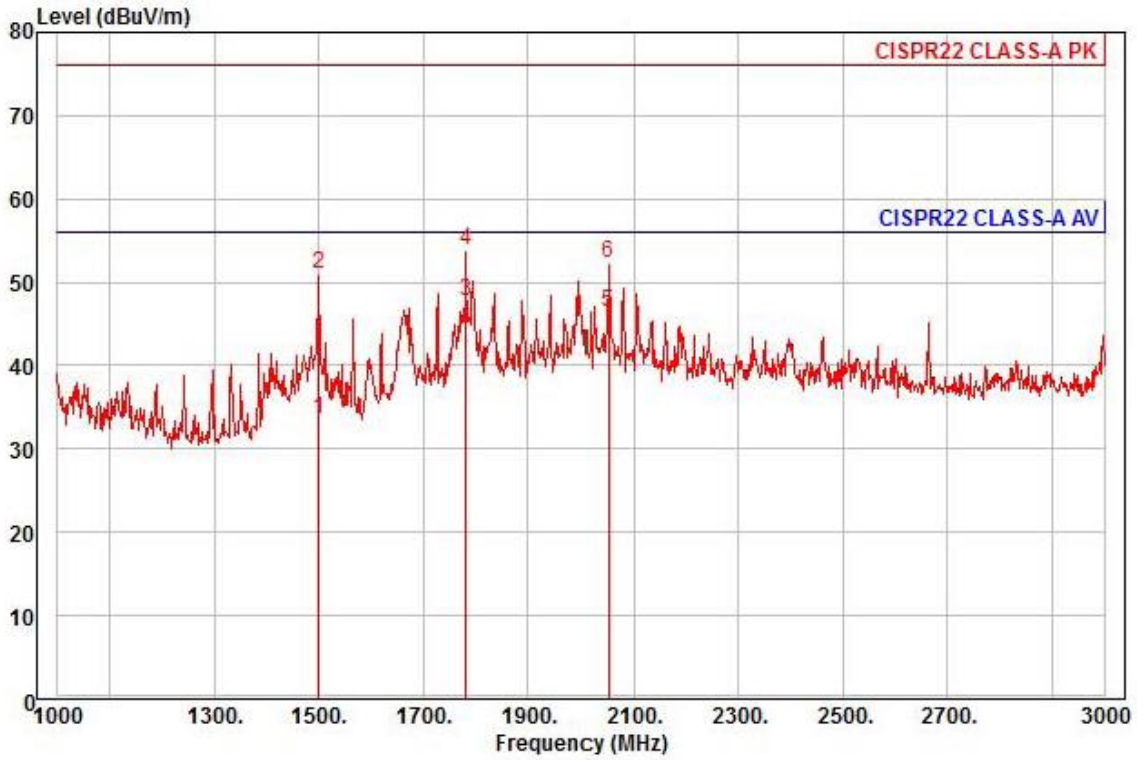
- PoE

Frequency	Amplitude	ANT Polar. (H/V)	ANT. Height	Correction Factor		Corrected Amplitude	Applicable Limit	Margin [dB]
[㎒]	[dBμV]		[m]	ANT. [dB/m]	Cable [dB]	[dBμV/m]	[dBμV/m]	
148.46	11.94	V	1.00	8.14	2.76	22.84	40.00	17.16
250.69	9.42	H	3.87	12.42	3.81	25.65	47.00	21.35
300.13	12.08	V	1.00	13.38	4.21	29.67	47.00	17.33
350.77	11.03	H	4.00	14.56	4.67	30.26	47.00	16.74
400.05	8.76	V	1.00	15.70	5.04	29.50	47.00	17.50
519.75	7.79	H	3.48	17.53	5.86	31.18	47.00	15.82

* H : Horizontal, V : Vertical

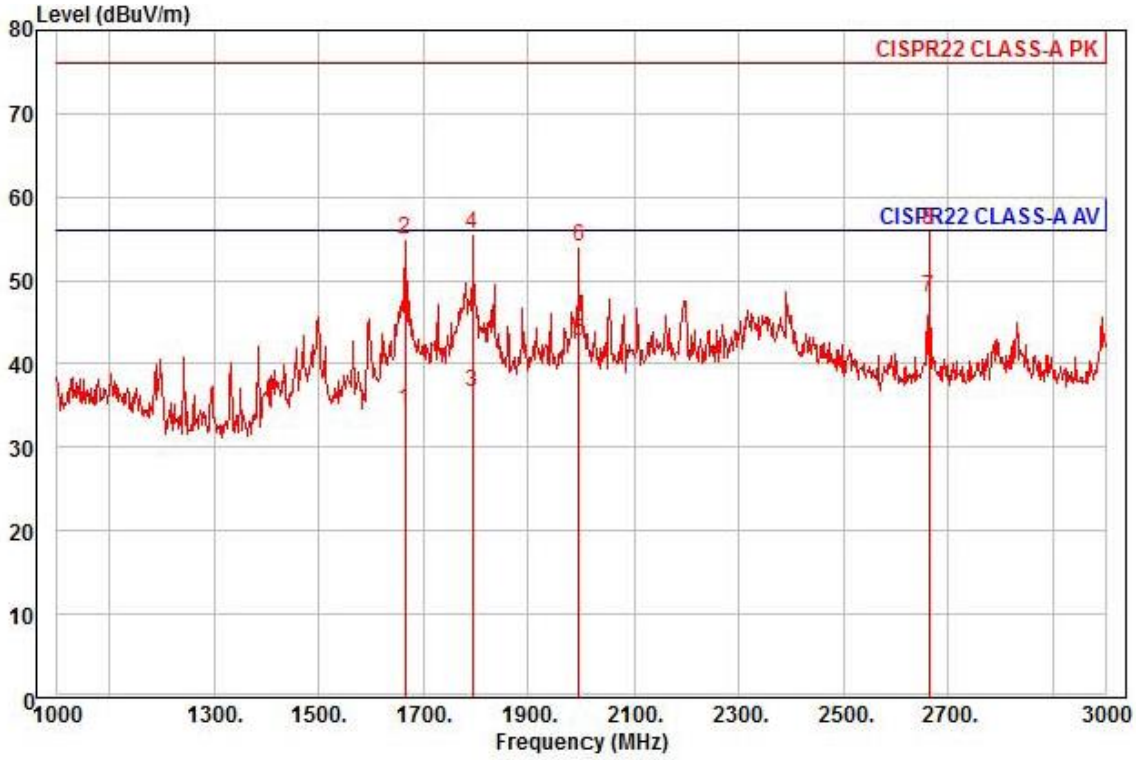
Radiated Electric Field Emissions(Above 1 ㎓)

- DC 12V



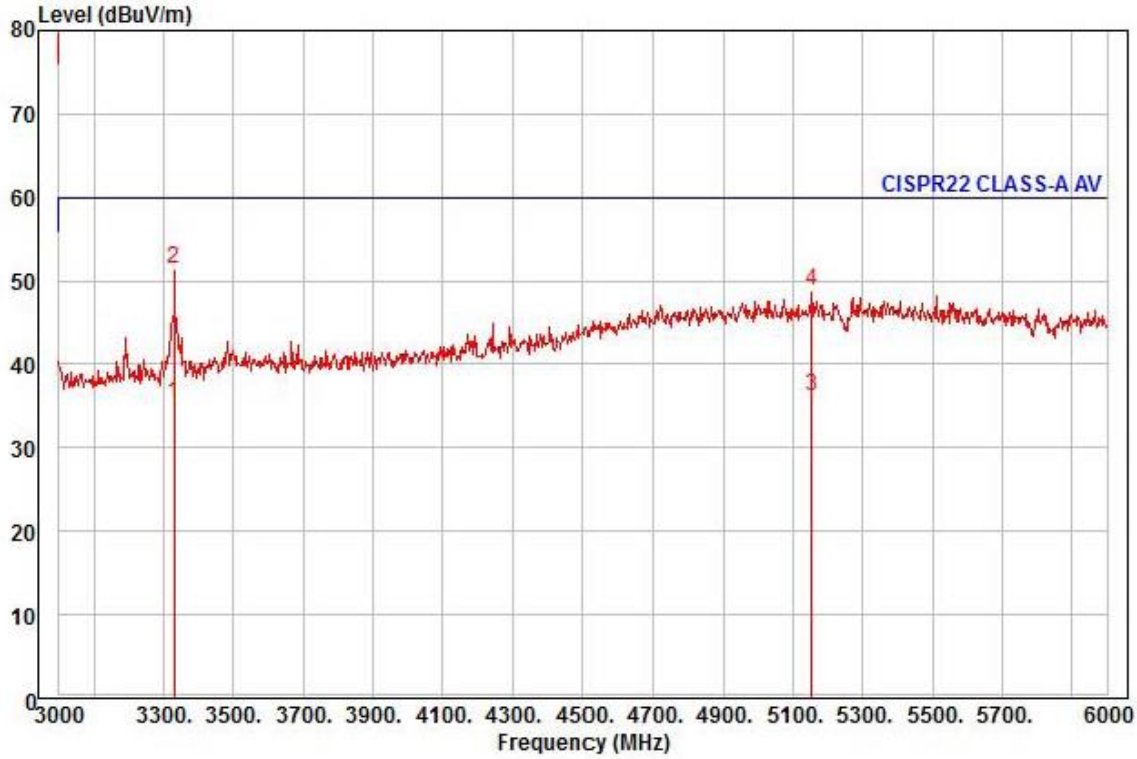
Site : chamber
Condition: CISPR22 CLASS-A PK 3m HORN781(2015.05.07) horizontal
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project :
Model : SNB-6011BP
Mode : DC 12V
Memo :

	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	1500.00	39.66	25.90	7.96	39.88	43	56.00	-22.36	horizontal	Average
2	1500.00	57.13	25.90	7.96	39.88	43	76.00	-24.89	horizontal	Peak
3 pp	1782.00	51.67	27.01	8.75	39.74	22	56.00	-8.31	horizontal	Average
4 pk	1782.00	57.74	27.01	8.75	39.74	22	76.00	-22.24	horizontal	Peak
5	2052.00	48.70	28.01	9.43	39.66	168	56.00	-9.52	horizontal	Average
6	2052.00	54.59	28.01	9.43	39.66	168	76.00	-23.63	horizontal	Peak



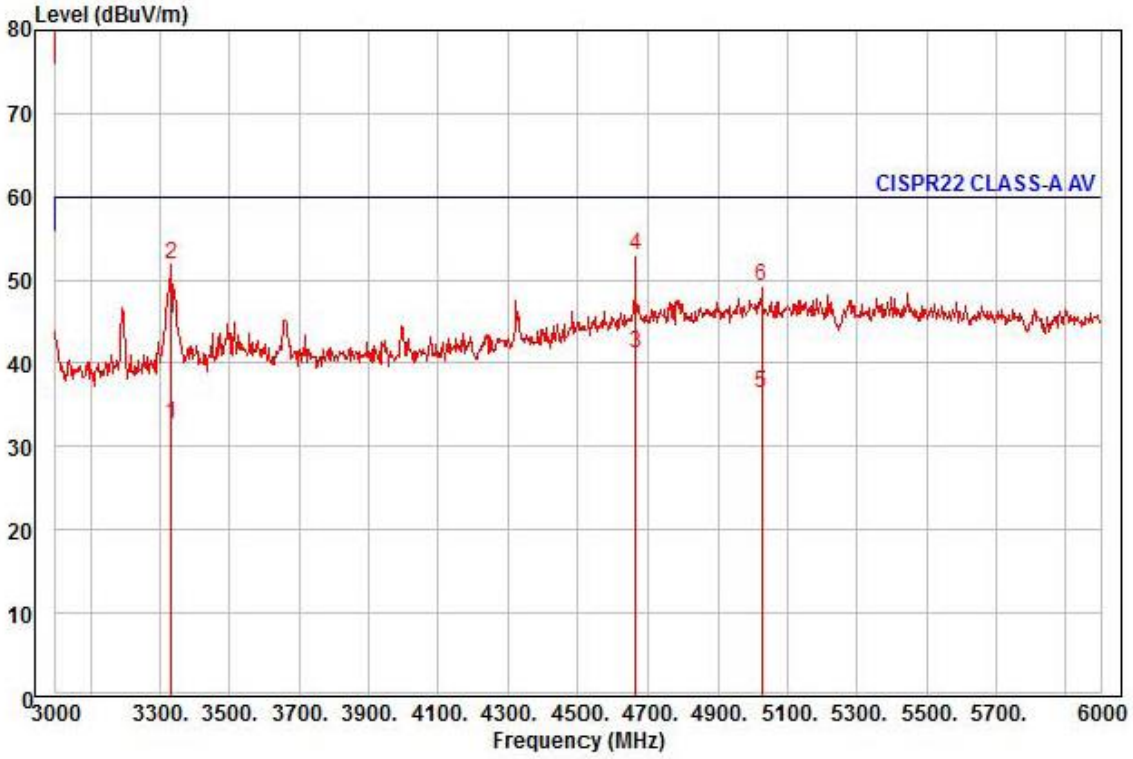
Site : chamber
Condition: CISPR22 CLASS-A PK 3m HORN781(2015.05.07) vertical
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project :
Model : SNB-6011BP
Mode : DC 12V
Memo :

	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	1666.00	39.24	26.55	8.43	39.79	337	56.00	-21.57	vertical	Average
2	1666.00	59.64	26.55	8.43	39.79	337	76.00	-21.17	vertical	Peak
3	1794.00	40.58	27.06	8.78	39.73	334	56.00	-19.31	vertical	Average
4	1794.00	59.48	27.06	8.78	39.73	334	76.00	-20.41	vertical	Peak
5	1998.00	45.11	27.87	9.34	39.63	36	56.00	-13.31	vertical	Average
6	1998.00	56.45	27.87	9.34	39.63	36	76.00	-21.97	vertical	Peak
7 pp	2664.00	48.11	29.51	10.42	40.02	87	56.00	-7.98	vertical	Average
8 pk	2664.00	56.08	29.51	10.42	40.02	87	76.00	-20.01	vertical	Peak



Site : chamber
Condition: CISPR22 CLASS-A PK 3m HORN781(2015.05.07) horizontal
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project :
Model : SNB-6011BP
Mode : DC 12V
Memo :

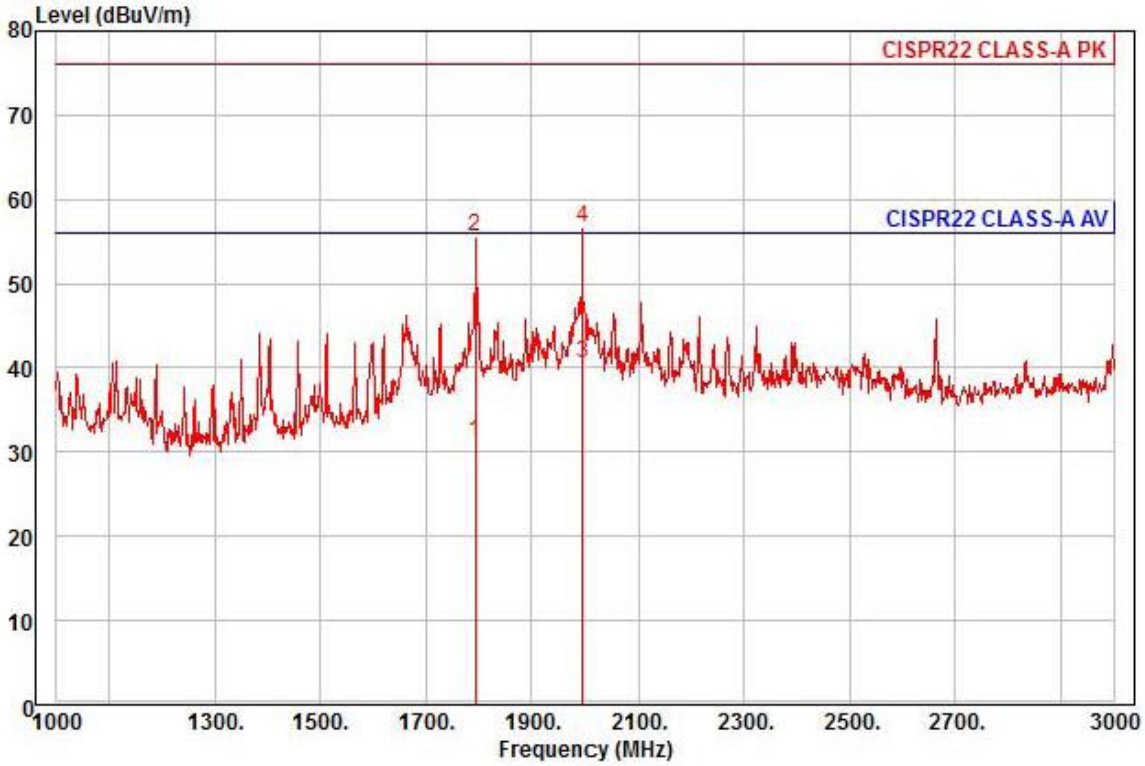
	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1	3330.00	32.60	30.88	12.07	40.28	222	60.00	-24.73	horizontal	Average
2 pk	3330.00	48.72	30.88	12.07	40.28	222	80.00	-28.61	horizontal	Peak
3 pp	5154.00	23.73	37.41	15.51	40.39	202	60.00	-23.74	horizontal	Average
4	5154.00	36.38	37.41	15.51	40.39	202	80.00	-31.09	horizontal	Peak



Site : chamber
Condition: CISPR22 CLASS-A PK 3m HORN781(2015.05.07) vertical
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project :
Model : SNB-6011BP
Mode : DC 12V
Memo :

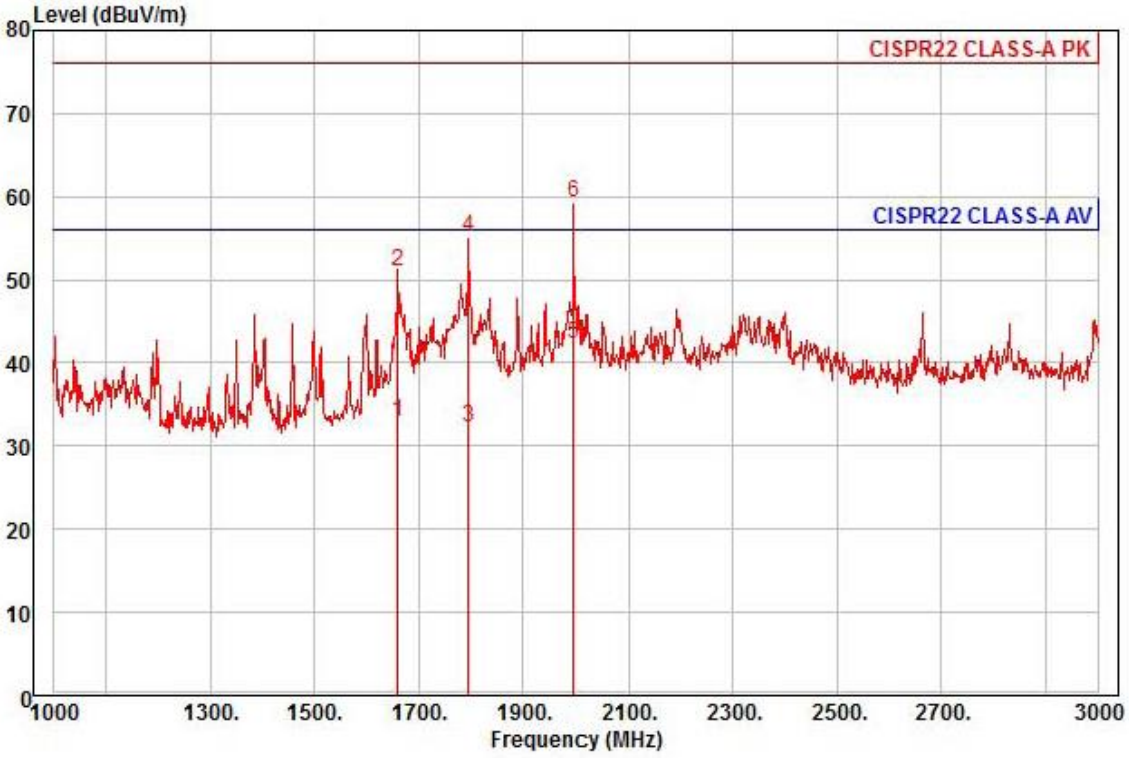
	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1	3333.00	30.00	30.89	12.08	40.28	139	60.00	-27.31	vertical	Average
2	3333.00	49.08	30.89	12.08	40.28	139	80.00	-28.23	vertical	Peak
3 pp	4662.00	31.15	35.79	14.72	40.41	4	60.00	-18.75	vertical	Average
4 pk	4662.00	42.80	35.79	14.72	40.41	4	80.00	-27.10	vertical	Peak
5	5025.00	23.69	37.67	15.36	40.41	1	60.00	-23.69	vertical	Average
6	5025.00	36.56	37.67	15.36	40.41	1	80.00	-30.82	vertical	Peak

- PoE



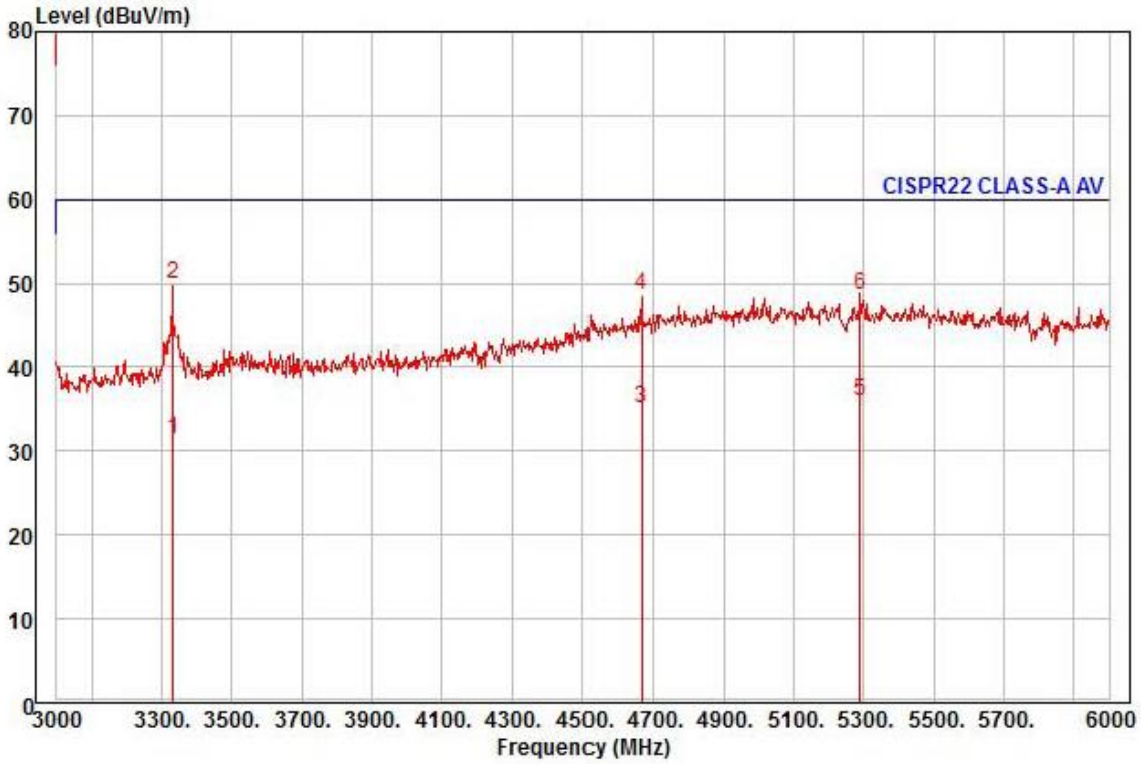

```
Site      : chamber
Condition: CISPR22 CLASS-A PK 3m HORN781(2015.05.07) horizontal
         : RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project   :
Model     : SNB-6011BP
Mode      : PoE
Memo      :
```

	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	1794.00	35.13	27.06	8.78	39.73	280	56.00	-24.76	horizontal	Average
2	1794.00	59.38	27.06	8.78	39.73	280	76.00	-20.51	horizontal	Peak
3 pp	1998.00	42.88	27.87	9.34	39.63	212	56.00	-15.54	horizontal	Average
4 pk	1998.00	59.20	27.87	9.34	39.63	212	76.00	-19.22	horizontal	Peak



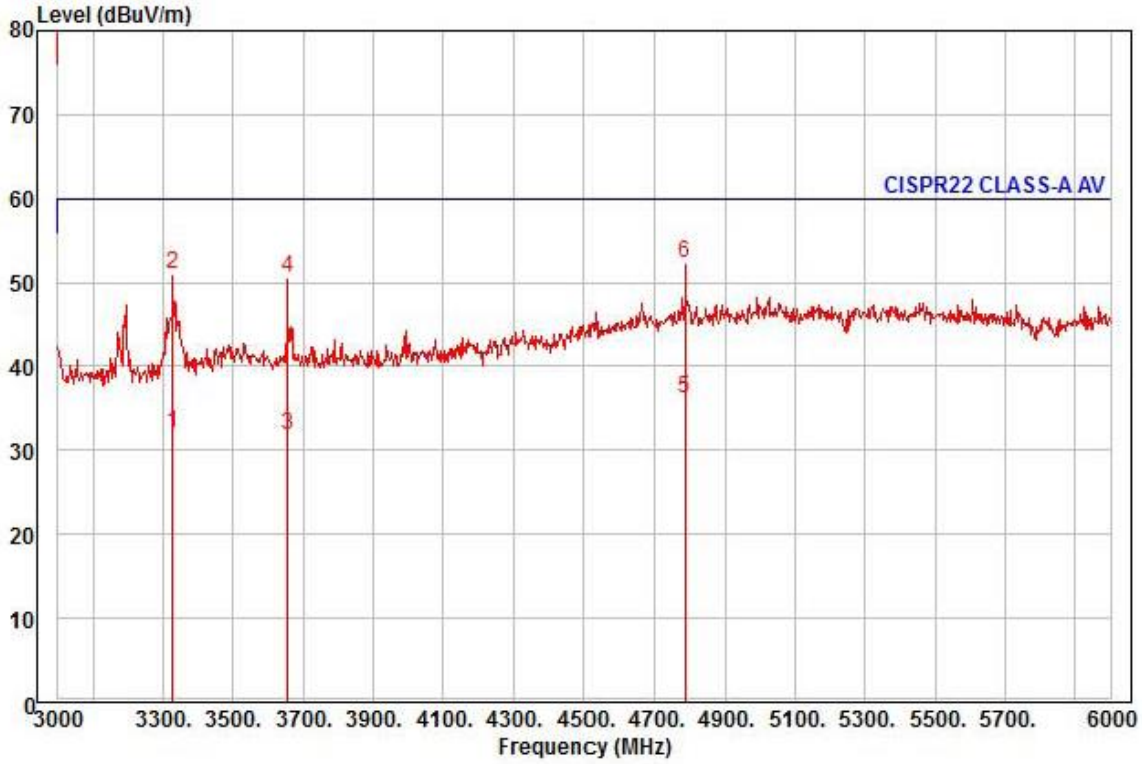
Site : chamber
Condition: CISPR22 CLASS-A PK 3m HORN781(2015.05.07) vertical
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project :
Model : SNB-6011BP
Mode : PoE
Memo :

	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	1660.00	37.82	26.53	8.41	39.80	96	56.00	-23.04	vertical	Average
2	1660.00	55.87	26.53	8.41	39.80	96	76.00	-24.99	vertical	Peak
3	1796.00	36.20	27.07	8.79	39.73	10	56.00	-23.67	vertical	Average
4	1796.00	58.93	27.07	8.79	39.73	10	76.00	-20.94	vertical	Peak
5 pp	1998.00	44.64	27.87	9.34	39.63	85	56.00	-13.78	vertical	Average
6 pk	1998.00	61.72	27.87	9.34	39.63	85	76.00	-16.70	vertical	Peak



Site : chamber
Condition: CISPR22 CLASS-A PK 3m HORN781(2015.05.07) horizontal
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project :
Model : SNB-6011BP
Mode : PoE
Memo :

	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	3333.00	28.60	30.89	12.08	40.28	15	60.00	-28.71	horizontal	Average
2 pk	3333.00	47.24	30.89	12.08	40.28	15	80.00	-30.07	horizontal	Peak
3	4665.00	24.87	35.81	14.73	40.41	95	60.00	-25.00	horizontal	Average
4	4665.00	38.41	35.81	14.73	40.41	95	80.00	-31.46	horizontal	Peak
5 pp	5289.00	23.59	37.14	15.67	40.37	52	60.00	-23.97	horizontal	Average
6	5289.00	36.17	37.14	15.67	40.37	52	80.00	-31.39	horizontal	Peak



Site : chamber
Condition: CISPR22 CLASS-A PK 3m HORN781(2015.05.07) vertical
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project :
Model : SNB-6011BP
Mode : PoE
Memo :

	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	3327.00	29.46	30.88	12.06	40.28	225	60.00	-27.88	vertical	Average
2	3327.00	48.25	30.88	12.06	40.28	225	80.00	-29.09	vertical	Peak
3	3657.00	27.97	31.43	12.82	40.34	150	60.00	-28.12	vertical	Average
4	3657.00	46.59	31.43	12.82	40.34	150	80.00	-29.50	vertical	Peak
5 pp	4785.00	25.10	36.49	14.94	40.41	205	60.00	-23.88	vertical	Average
6 pk	4785.00	41.37	36.49	14.94	40.41	205	80.00	-27.61	vertical	Peak

Harmonic Current Emissions and Voltage Fluctuations and Flicker

N/A

Test Setup Photos and Configuration

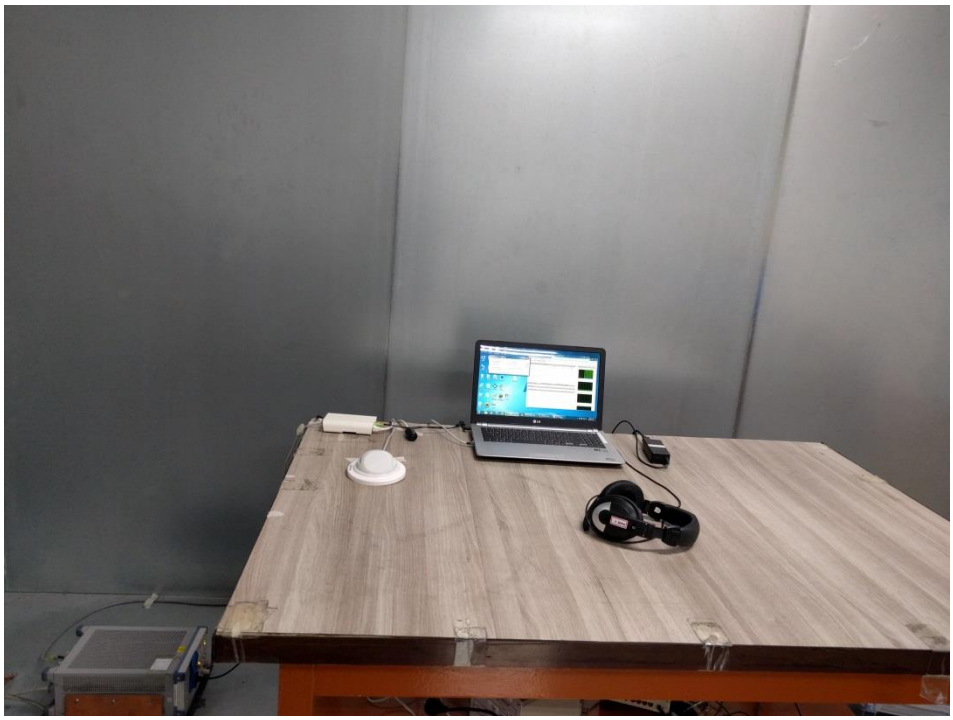
Conducted Voltage Emissions

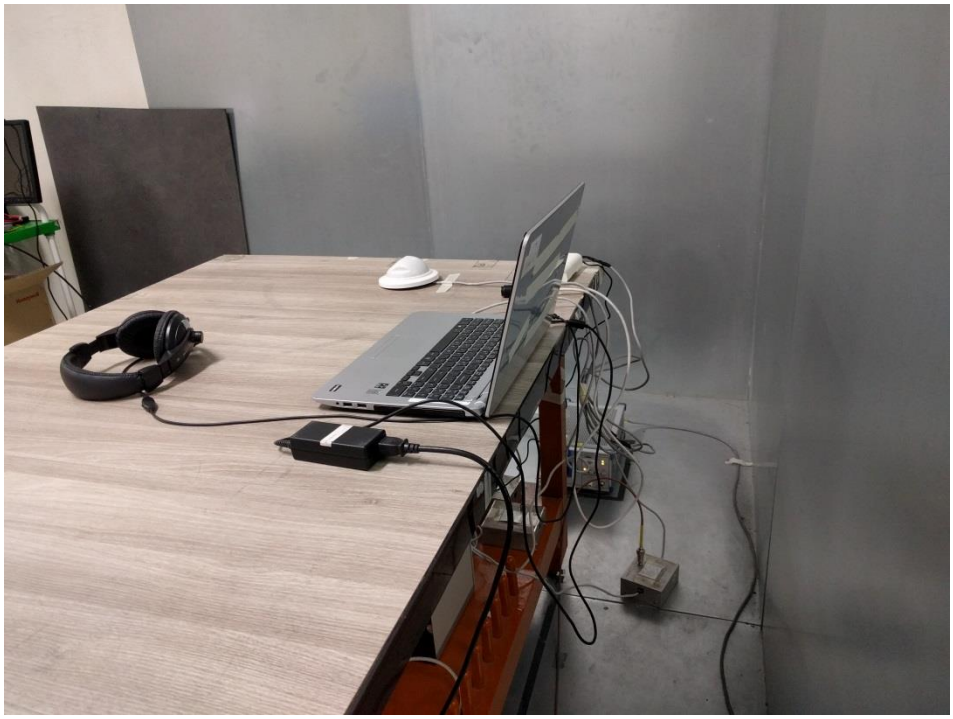
N/A

N/A

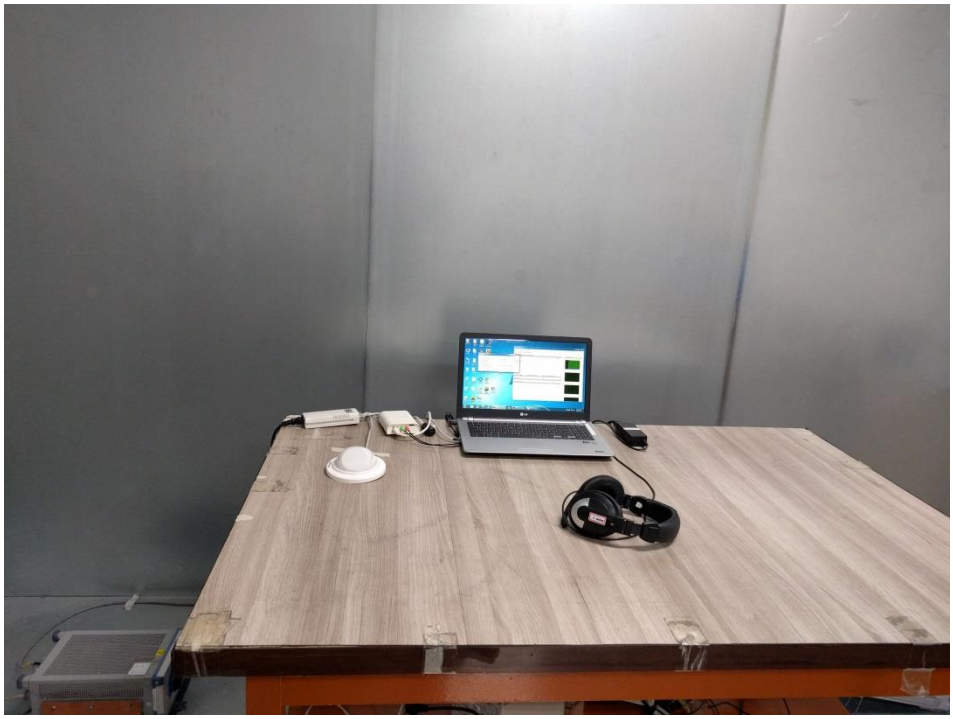
Conducted Emissions at Telecommunication Ports

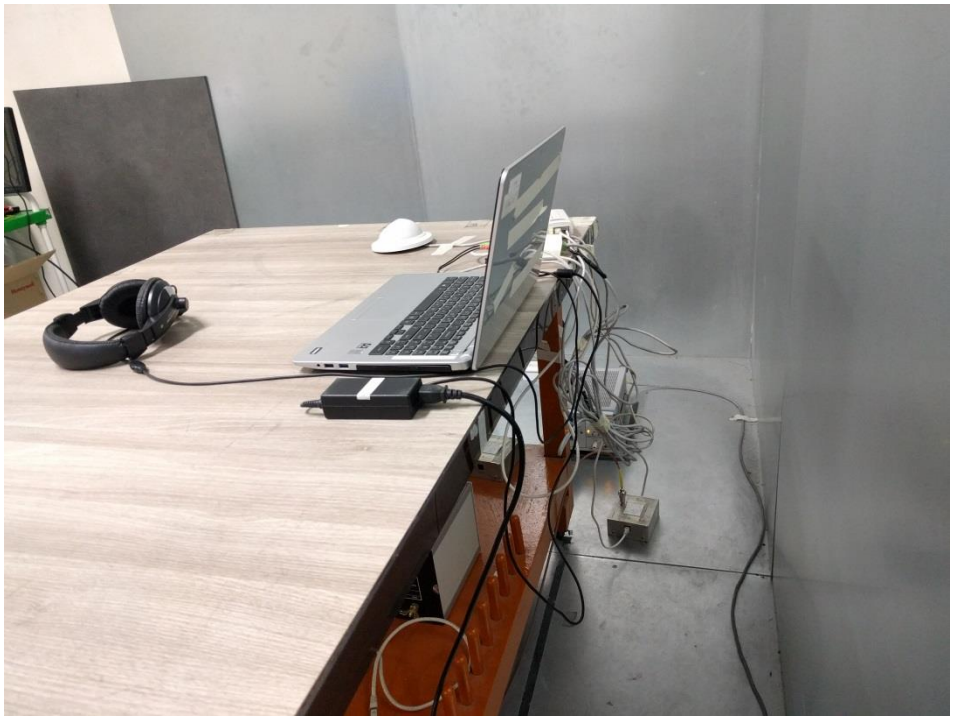
- DC 12V





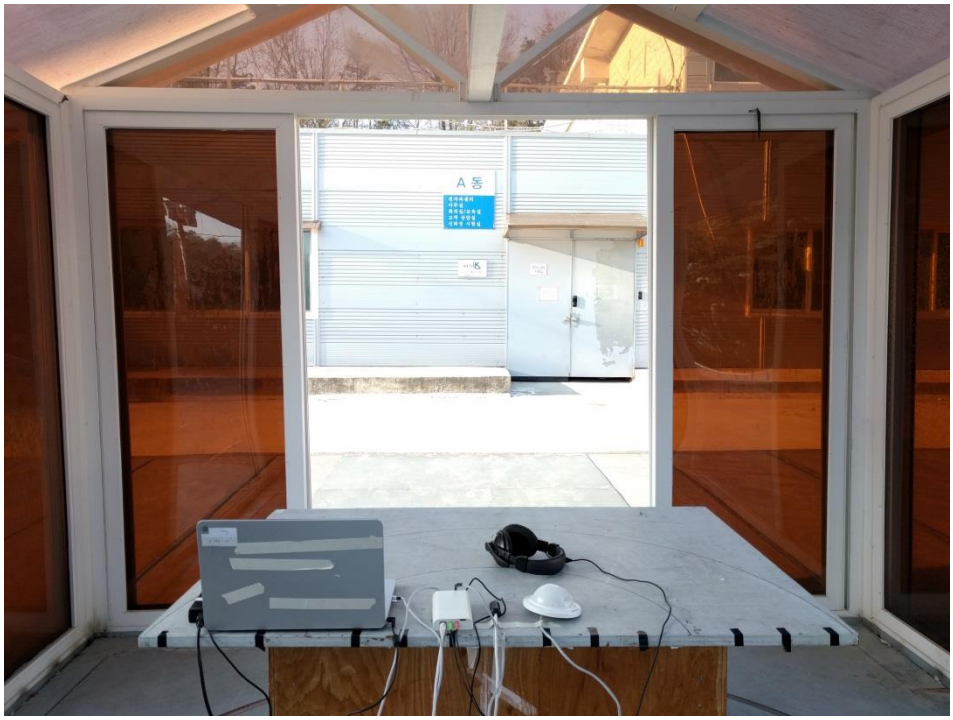
- PoE



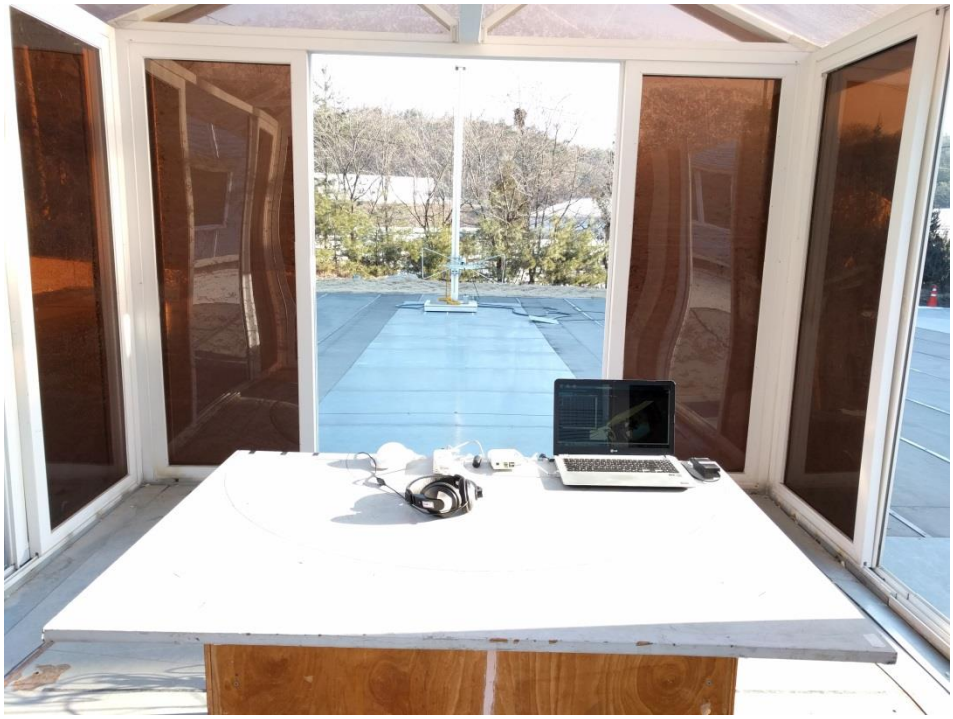


Radiated Electric Field Emissions(Below 1 ㎓)

- DC 12V

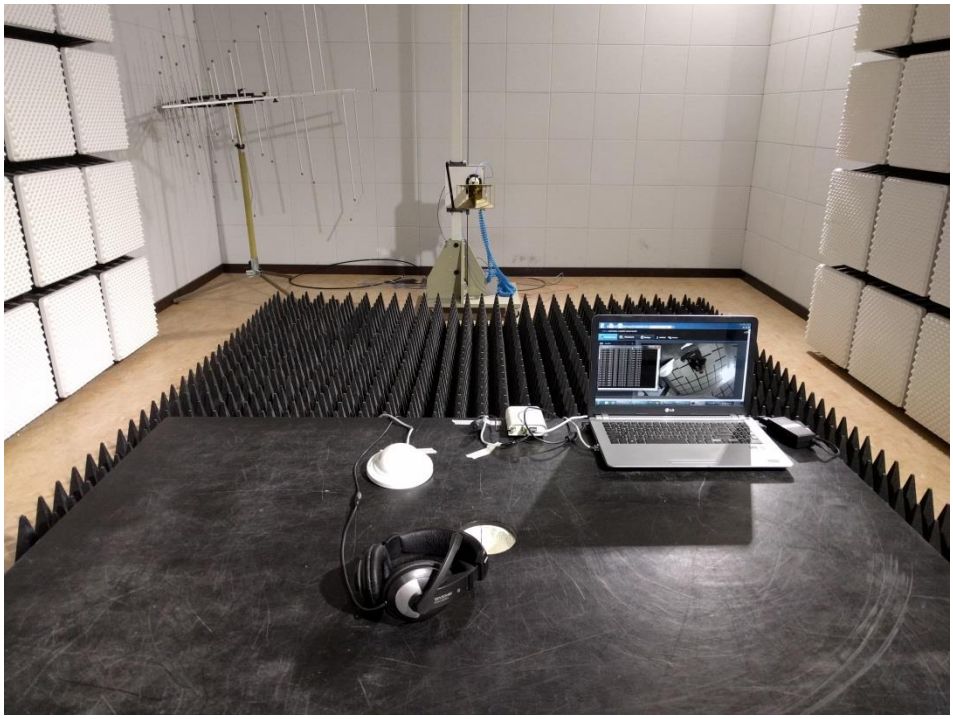


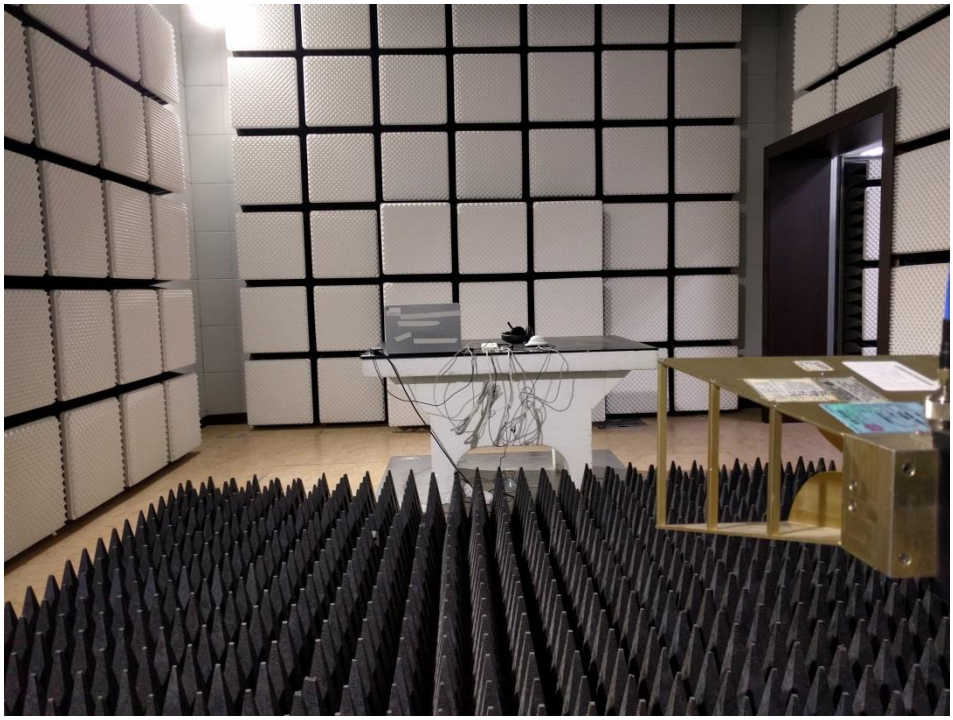
- PoE



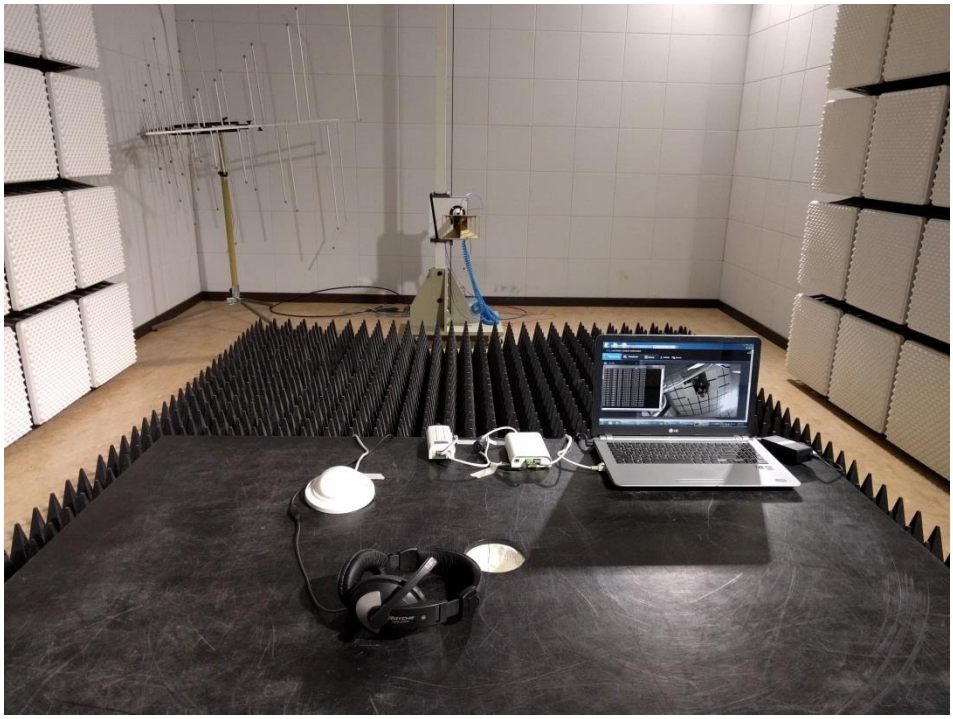
Radiated Electric Field Emissions(Above 1 ㎓)

- DC 12V





- PoE



Harmonic Current Emissions and Voltage Fluctuations and Flicker

N/A

N/A

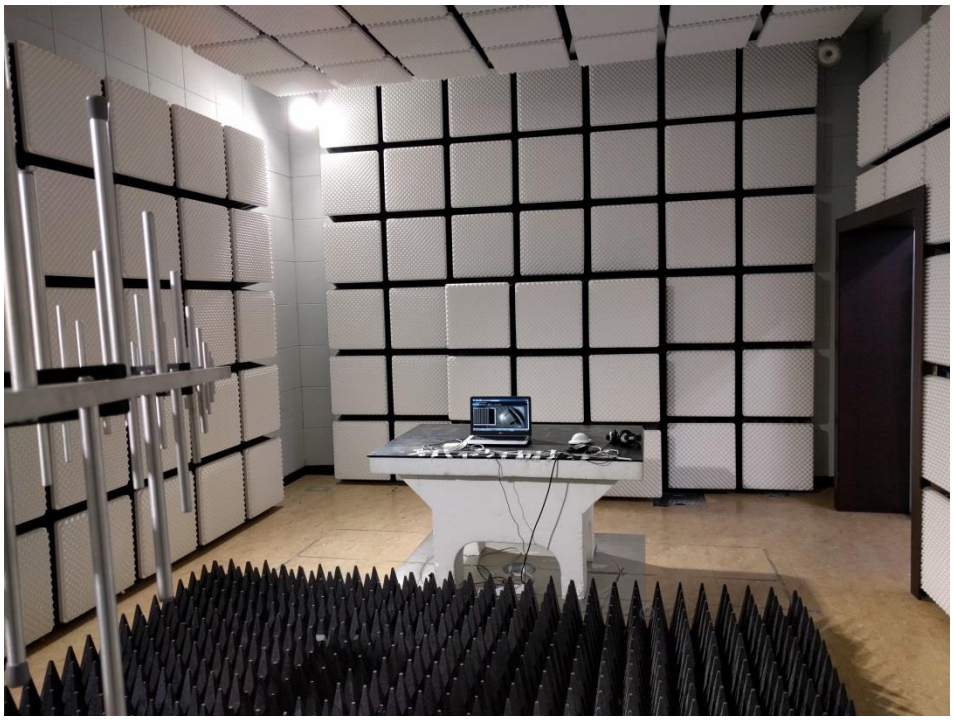
Electrostatic Discharge

- DC 12V

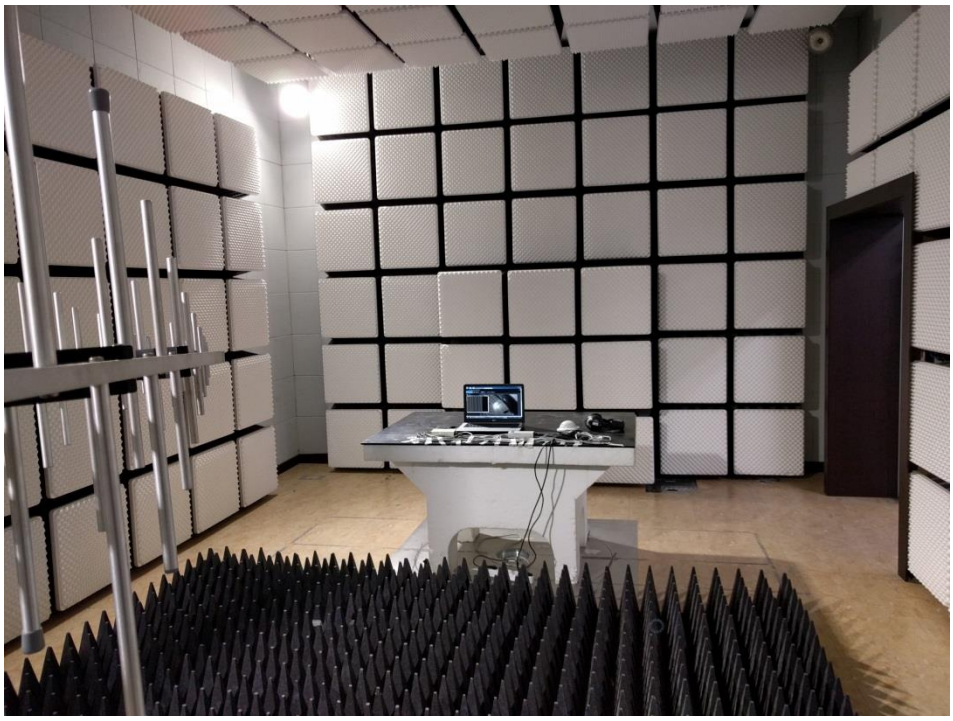
- PoE

Radiated Electric Field Immunity

- DC 12V

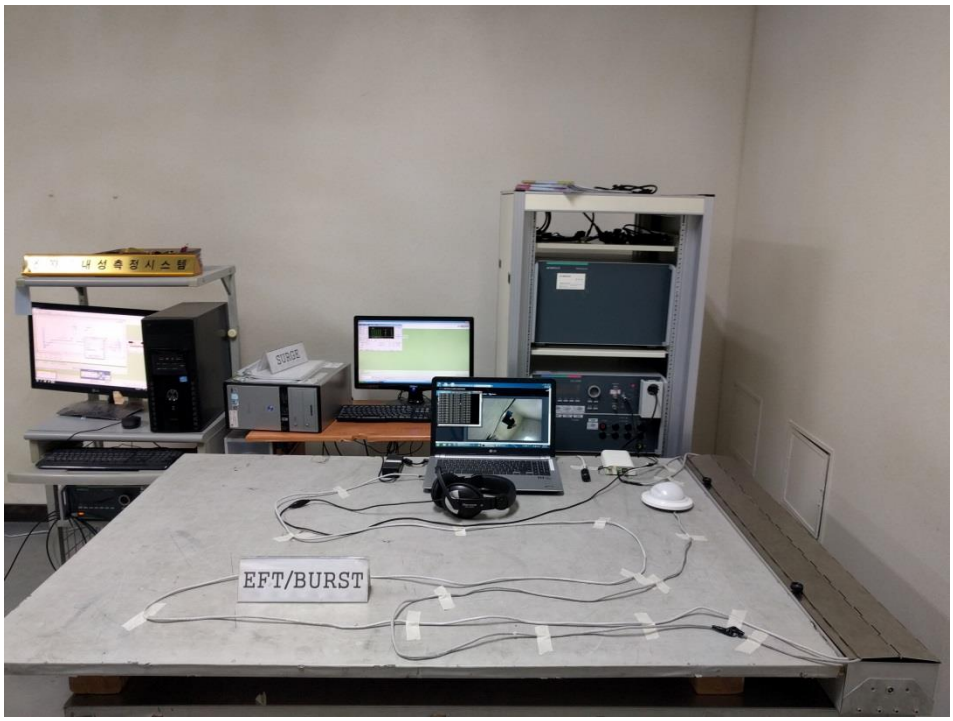


- PoE

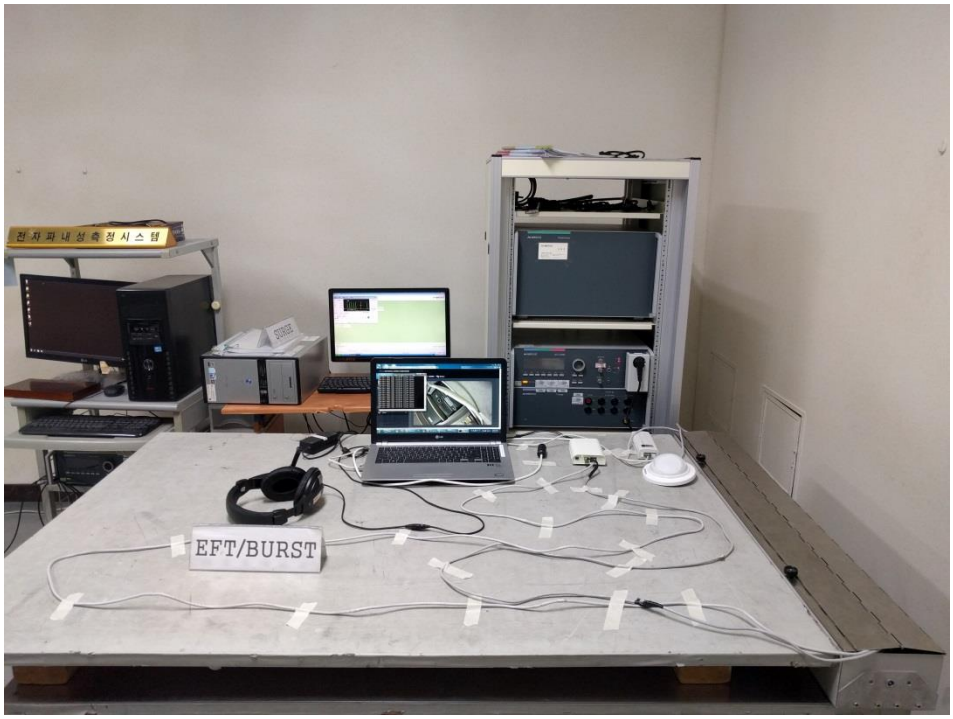


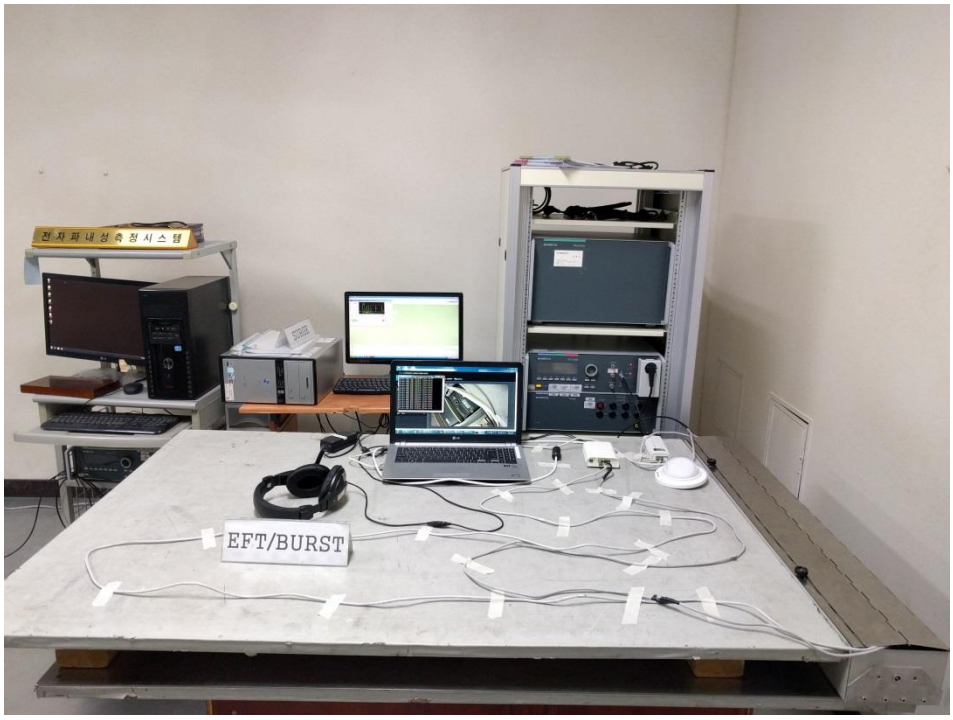
Electrical Fast Transients/Bursts

- DC 12V



- PoE

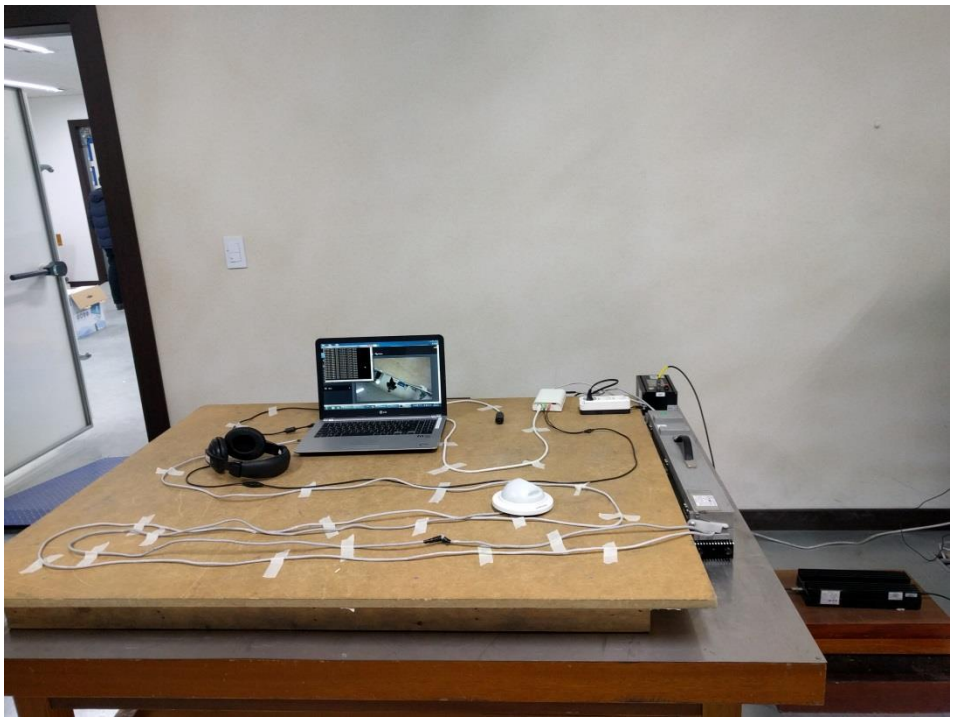




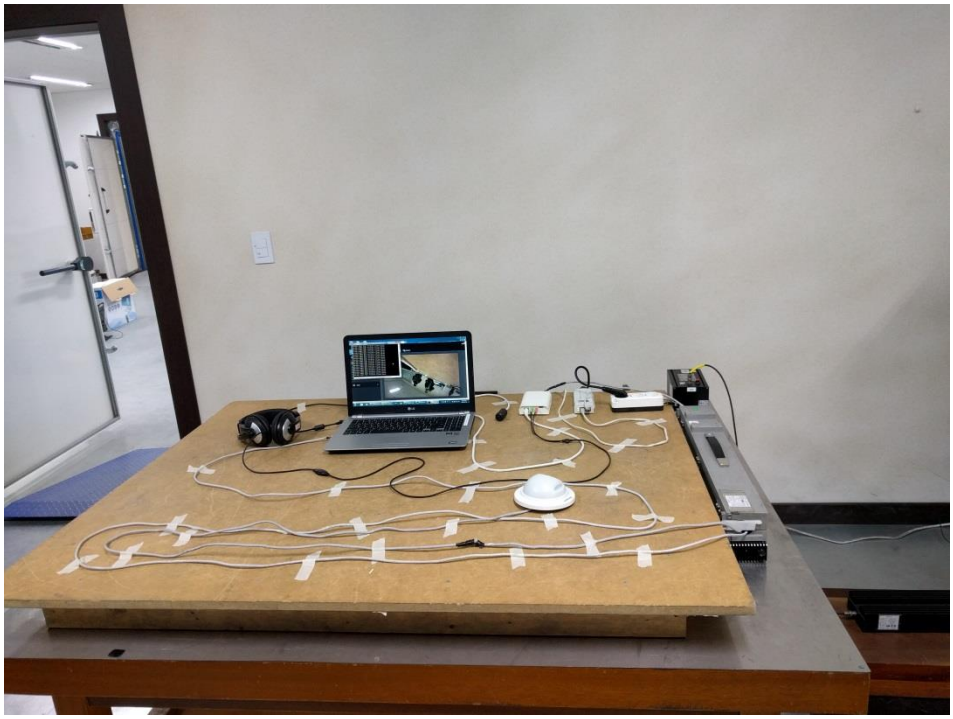
Surge Transients

Conducted Disturbance

- DC 12V



- PoE



Voltage Dips and Short Interruptions

N/A

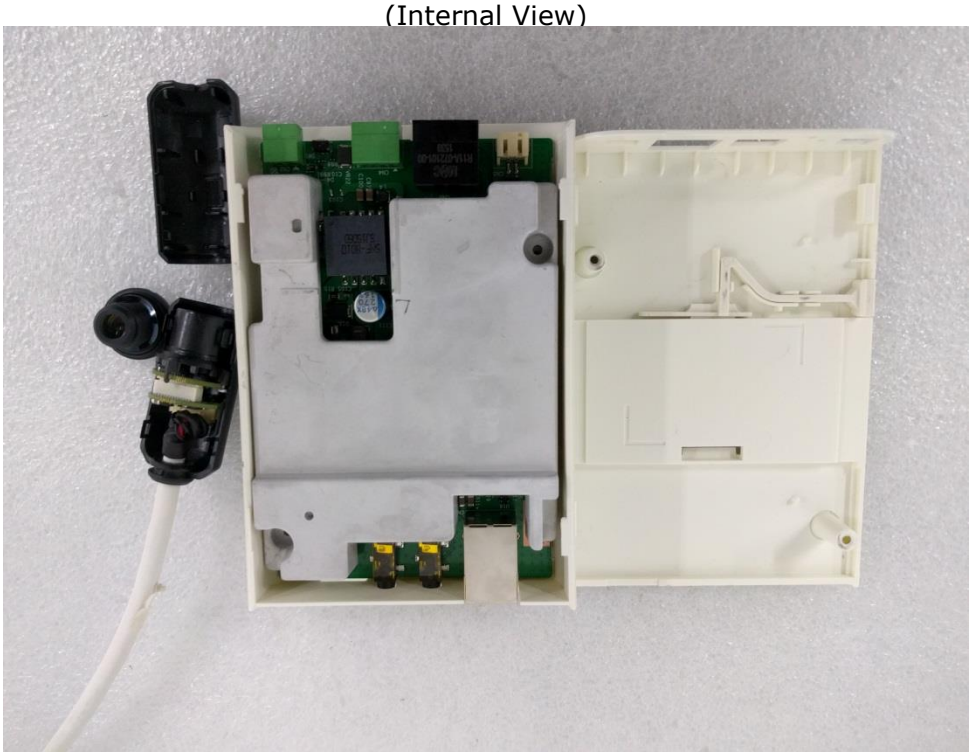
E.U.T External Photographs

(Top)

(Bottom)

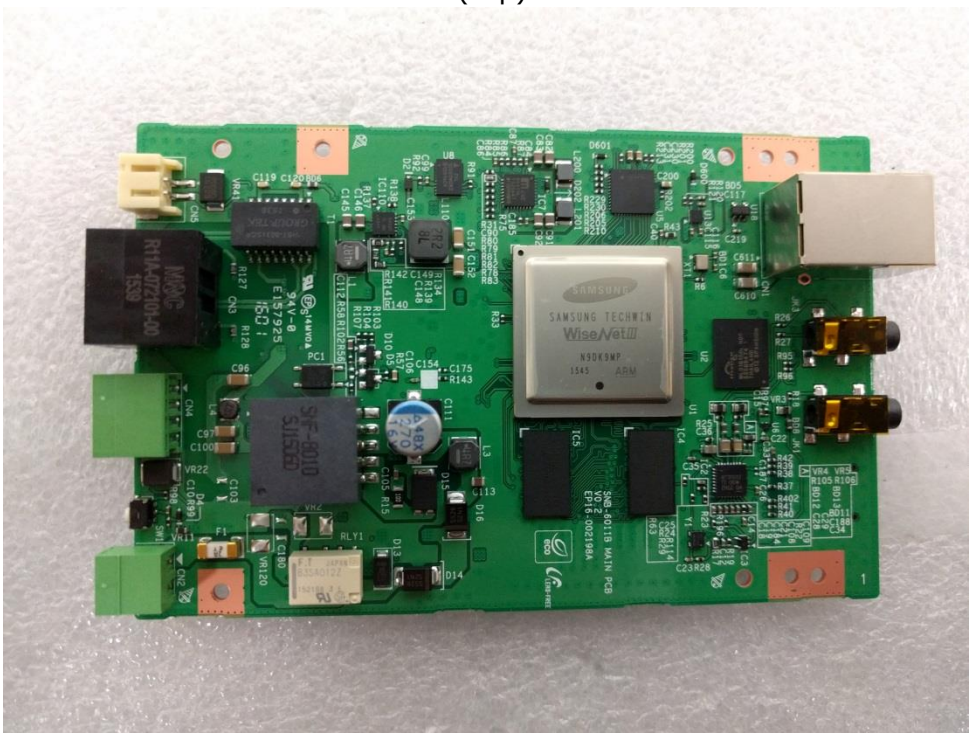
E.U.T Internal Photographs

(Internal View)

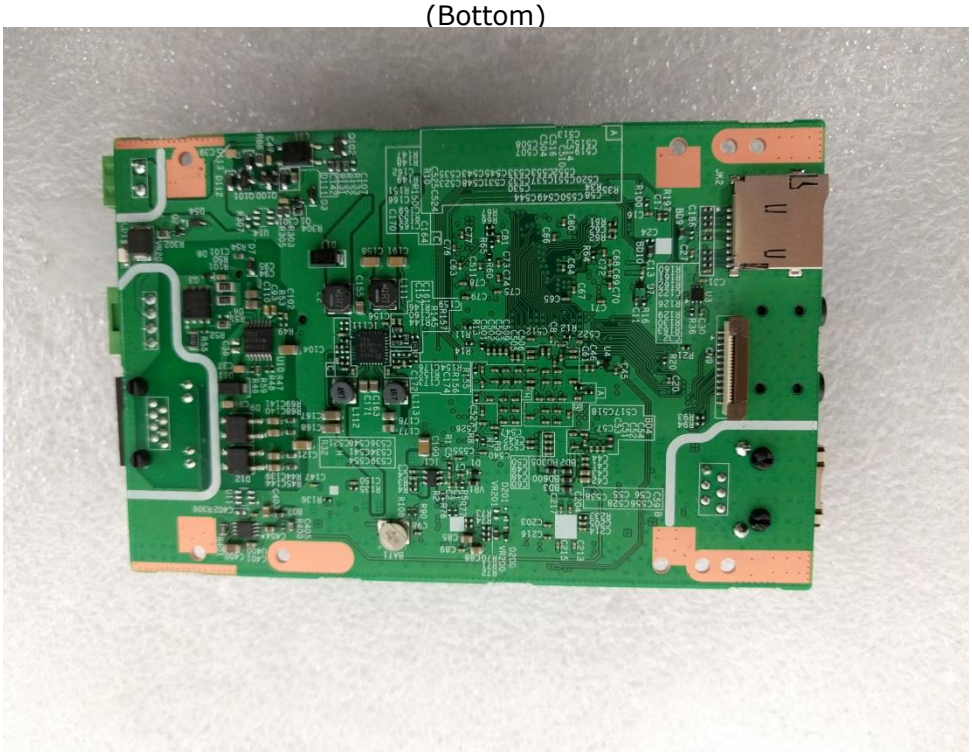


Main Board EUT Internal View –Board 1

(Top)

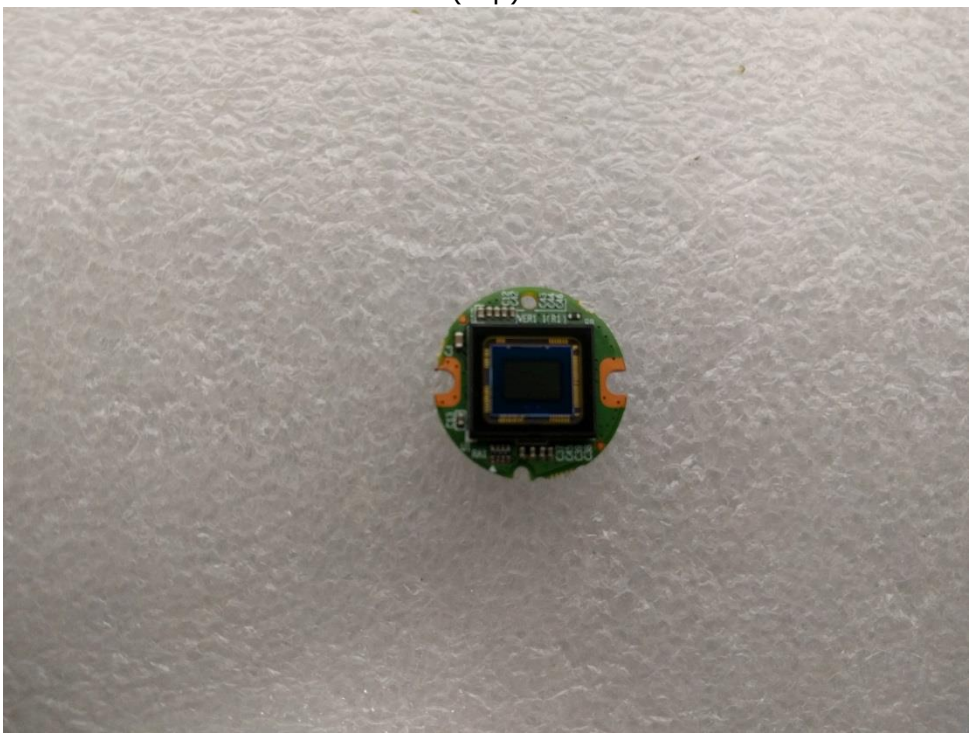


(Bottom)

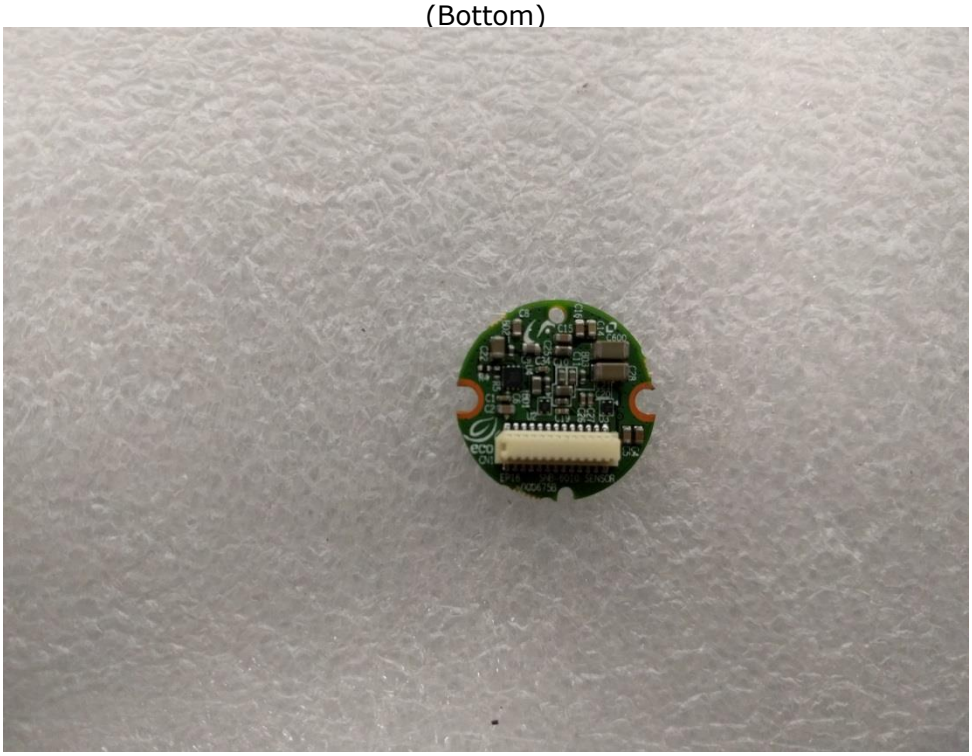


Main Board EUT Internal View –Board 2

(Top)

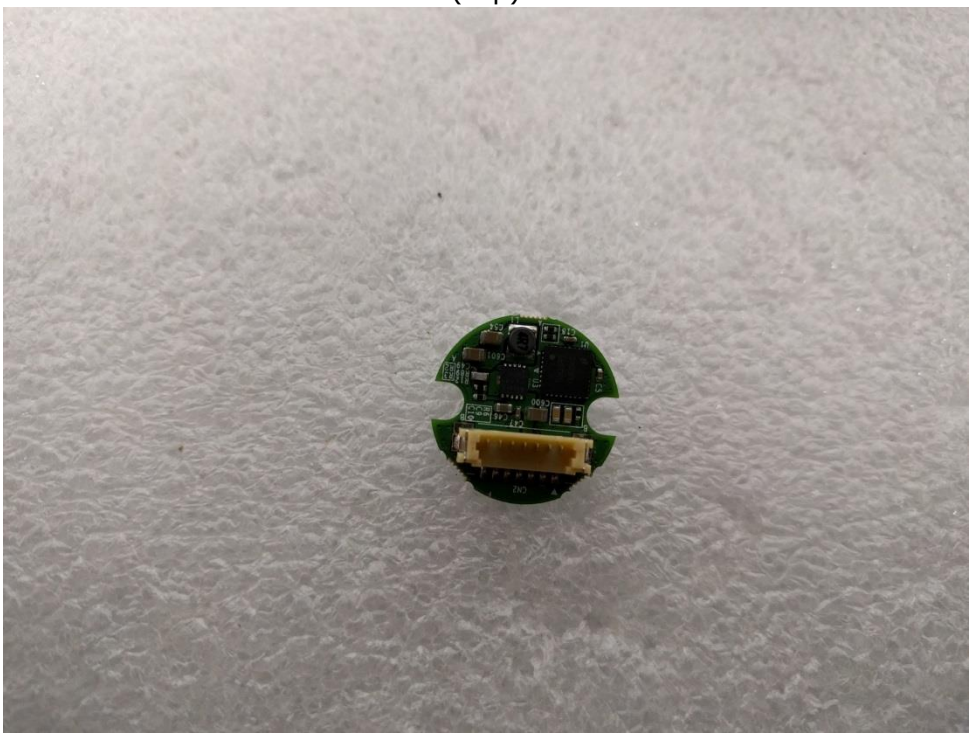


(Bottom)

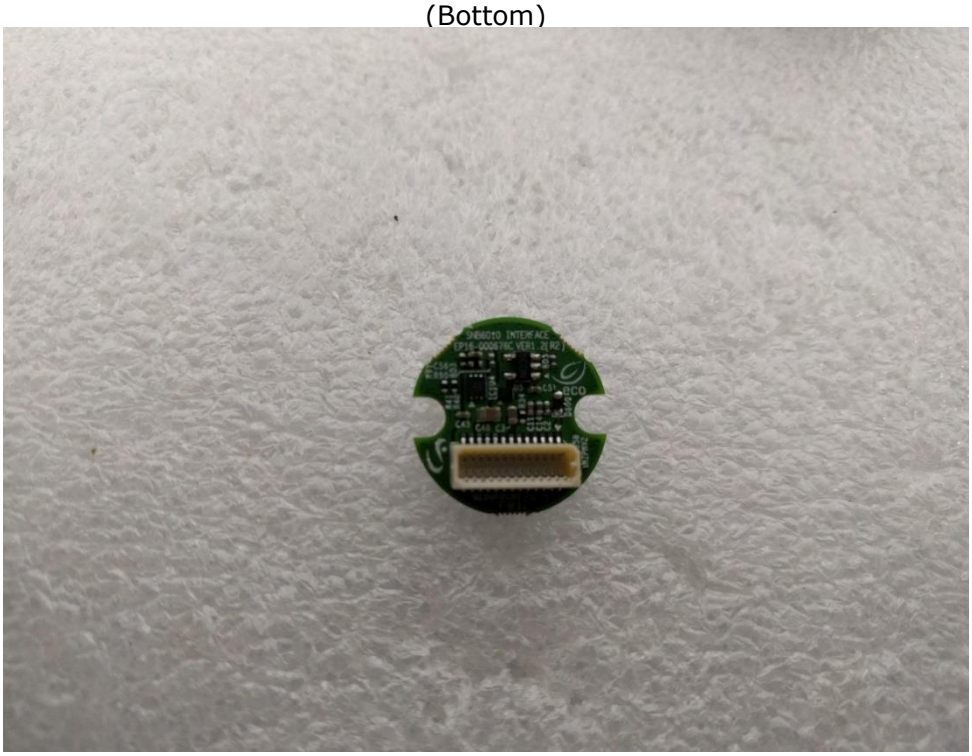


Main Board EUT Internal View –Board 3

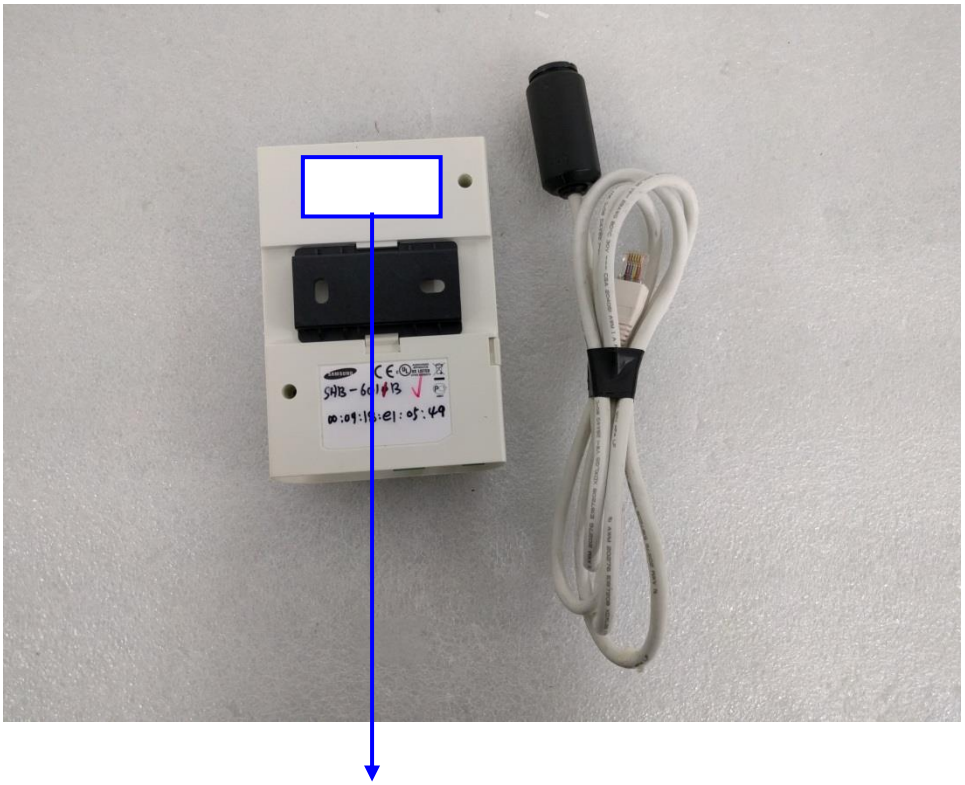
(Top)



(Bottom)



Label and Location



NETWORK CAMERA

Model No : SNB-6011BP

Manufacturer : Hanwha Techwin(Tianjin) Co., Ltd.

Made in of China