LTA
Laboratory for Test & Approval Co., Ltd.
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http://www.ltalab.com

EMC TEST REPORT

Dates of Tests: January 26 – February 2, 2018
Test Report S/N: LR500121802A
Test Site : LTA Co., Ltd.

Model No. **NC-S680-3ZXH**

APPLICANT **IDIS CO., LTD.**

Manufacturing Description	:	**Network Camera**
Manufacturer	:	**IDIS CO., LTD.**
Brand	:	**-**
Model name	:	**NC-S680-3ZXH**
Additional Model	:	**NC-S650-3ZXH, DC-S3883HRX, DC-S3583HRX, MNC5880SR, MNC5580SR**
Test Device Serial No.:	:	**Identification**
Directive	:	**Electromagnetic Compatibility Directive 2014/30/EU**
Rule Part(s)	:	**EN 55032:2015/AC:2016-07**
		EN 50130-4:2011/A1:2014
		EN 61000-3-2:2014
		EN 61000-3-3:2013
Date of issue	:	**February 05, 2018**

This test report is issued under the authority of:

Jin Ho Seo, Technical Manager

The test was supervised by:

Young Ho, Bang, Test Engineer

This test result only responds to the tested sample. It is not allowed to copy this report even partly without the allowance of the test laboratory. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

NVLAP LAB CODE 200723-0

Revision	Date of issue	Test report No.	Description
0	05.01.2018	LR500121802A	Initial

TABLE OF CONTENTS

1. General information's

1-1 Test Performed

Company name : **LTA Co., Ltd.**
Address : 243 Jubug-ri, Yangji-myeon, Cheoin-gu, Yongin-si, Gyeonggi-do 449-822, Korea
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Quality control in the testing laboratory is implemented as per ISO/IEC 17025 which is the "General requirements for the competents of calibration and testing laboratory".

1-2 Accredited agencies

LTA Co., Ltd. is approved to perform EMC testing by the following agencies:

Agency	Country	Accreditation No.	Validity	Reference
NVLAP	U.S.A	200723-0	Updating	ECT accredited Lab.
RRA	KOREA	KR0049	-	EMC accredited Lab.
FCC	U.S.A	649054	2019-04-13	FCC CAB
VCCI	JAPAN	C-4948, T-2416, R-4483(10 m), G-847	2020-09-10 2020-09-10 2020-10-15 2018-12-13	VCCI registration
IC	CANADA	5799A-1	2019-11-07	IC filing
KOLAS	KOREA	NO.551	2021-08-20	KOLAS accredited Lab.

2. Information's about test item

2-1 Client / Manufacturer

Company name	:	IDIS CO., LTD.
Address	:	8-10, TECHNO 3-RO, YUSEONG-GU, DAEJEON, KOREA
Telephone /Facsimile	:	+82-70-7147-8361

Factory 1

Company name	:	IDIS CO., LTD.
Address	:	8-10, TECHNO 3-RO, YUSEONG-GU, DAEJEON, KOREA

2-2 Equipment Under Test (EUT)

Class	:	A
Category	:	Network Camera
Brand	:	-
Model name	:	NC-S680-3ZXH
Additional model name	:	DC-S3883HRX, MNC5880SR (Additional models are marketing purpose..) NC-S650-3ZXH, DC-S3583HRX, MNC5580SR (Additional models support a resolution of 5 M.)
Serial number	:	Identification
Date of receipt	:	January 09, 2018
EUT condition	:	Pre-production, not damaged
Interface Ports	:	AC IN, LAN, Alarm, Audio IN/OUT ,CVBS
Power rating	:	AC 24 V (by Adapter), DC 48 V (by PoE)
Modulator	:	-
Crystal/Oscillator(s)	:	-
Firmware version	:	xxxx

2-3 Modification

-NONE

2-4 Test conditions

Temp. / Humid. / Pressure	:	+(15 - 25) ℃ / (30 - 51) % R.H. / (100) kPa
Tested Model	:	NC-S680-3ZXH
Test mode	:	REC mode (Adapter, PoE)
Tested Voltage	:	AC 230 V, 50 Hz

2-5 EUT

Equipment	Model No.	Serial No.	Manufacturer
Network Camera	**NC-S680-3ZXH**	**N/A**	**IDIS CO., LTD.**

2-6 Accessary / REC mode (Adapter)

Equipment	Model No.	Serial No.	Manufacturer
Adapter	HD06005-14003	N/A	DaeYoue Electronic Co., Ltd.
Notebook	P56	N/A	HANSUNG
Speaker	N/A	N/A	N/A
Mobile Phone	Galaxy 3	N/A	Samsung
Alarm	N/A	N/A	N/A
Monitor	CVM54LNKR	N/A	Hi TRON
Micro SD Card	N/A	N/A	N/A

Accessary / REC mode (PoE)

Equipment	Model No.	Serial No.	Manufacturer
PoE Adapter	POE75U-1UP	N/A	PHIHONG
Notebook	P56	N/A	HANSUNG
Speaker	N/A	N/A	N/A
Mobile Phone	Galaxy 3	N/A	Samsung
Alarm	N/A	N/A	N/A
Monitor	CVM54LNKR	N/A	Hi TRON
Micro SD Card	N/A	N/A	N/A

2-7 System Configuration

Equipment	Model No.	Serial No.	Manufacturer
Board 1	N/A	N/A	N/A
Board 2	N/A	N/A	N/A
Board 3	SENSOR, NC, S680, 3ZXH, V0.2	N/A	N/A
Board 4	N/A	N/A	N/A
Board 5	N/A	N/A	N/A
Board 6	N/A	N/A	N/A
Board 7	N/A	N/A	N/A
Board 8	N/A	N/A	N/A
Board 9	N/A	N/A	N/A

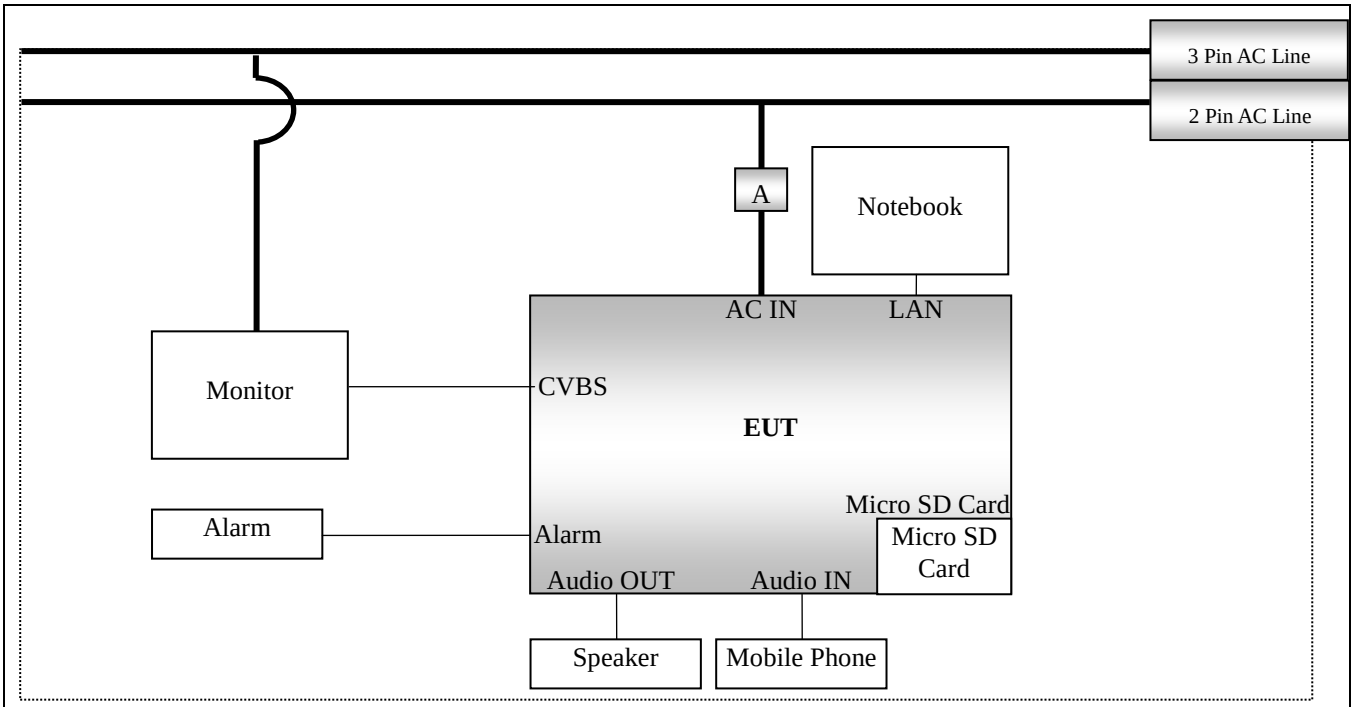
2-8 Cable List / REC mode (Adapter)

From		To		Length	Shielding	
Type	I/O Port	Type	I/O Port	(m)	Cable	backshell
EUT	AC IN	AC Adapter	AC OUT	1.0	NO	Plastic
	Alarm	Alarm	Alarm	0.3	NO	Plastic
	CVBS	Monitor	Video IN	0.8	NO	Metal
	Audio OUT	Speaker	Audio IN	0.5	NO	Plastic
	Audio IN	Mobile Phone	Audio OUT	0.5	NO	Plastic
	LAN	Notebook	LAN	3.0	NO	Plastic
	Micro SD Card	Micro SD Card	-	-	-	Plastic
Monitor	AC IN	AC Power Source	3 Pin AC Line	1.0	NO	Plastic

/ REC mode (PoE)

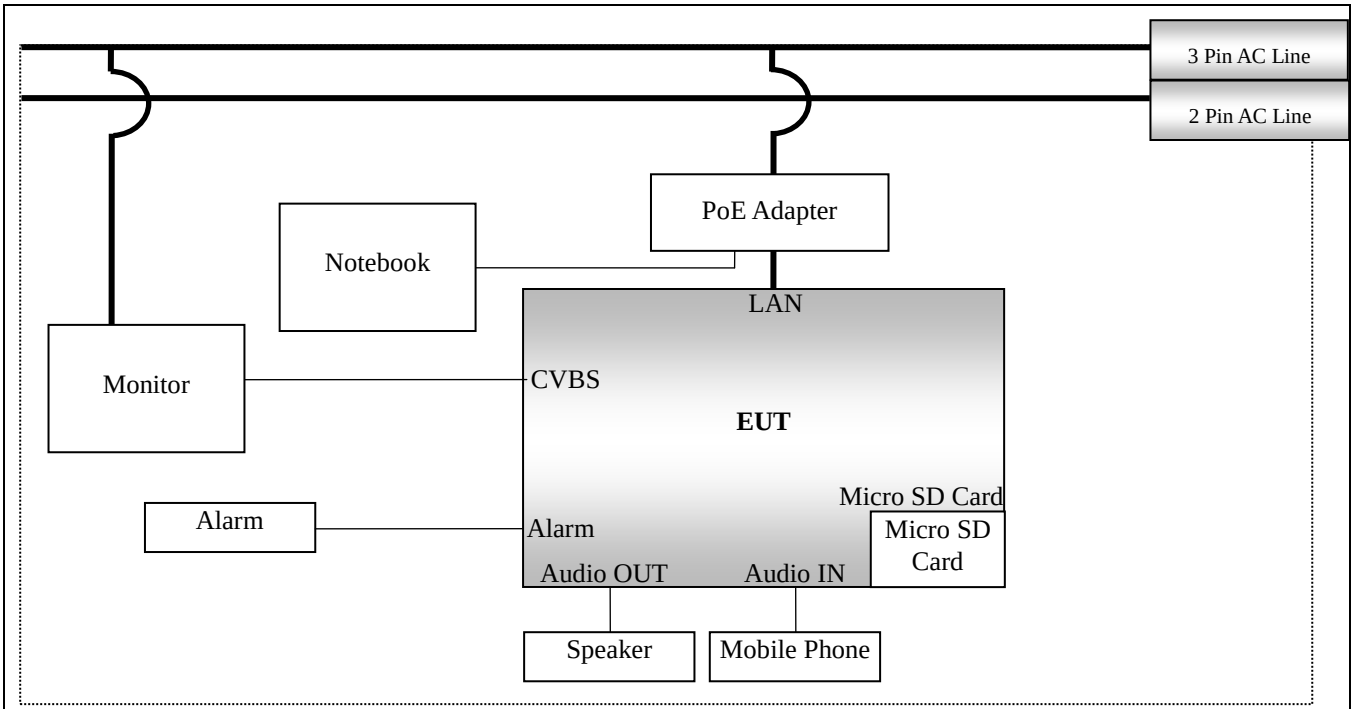
From		To		Length	Shielding	
Type	I/O Port	Type	I/O Port	(m)	Cable	backshell
EUT	LAN	PoE Adapter	LAN	3.0	NO	Plastic
	Alarm	Alarm	Alarm	0.3	NO	Plastic
	CVBS	Monitor	Video IN	0.8	NO	Metal
	Audio OUT	Speaker	Audio IN	0.5	NO	Plastic
	Audio IN	Mobile Phone	Audio OUT	0.5	NO	Plastic
	Micro SD Card	Micro SD Card	-	-	-	Plastic
Notebook	LAN	PoE Adapter	LAN	3.0	NO	Plastic
PoE Adapter	AC IN	AC Power Source	3 Pin AC Line	1.2	NO	Plastic
Monitor	AC IN	AC Power Source	3 Pin AC Line	1.0	NO	Plastic

2-9 Block diagram of the EUT test / REC mode (Adapter)



Note) refer to the Test setup photograph.

/ REC mode (PoE)



Note) refer to the Test setup photograph.

3. Test Report

3.1 Summary of tests

Parameter	Applied Standard	Status
I. Emission		
Radiated Emission	EN 55032:2015/AC:2016-07	C
Conducted Emission	EN 55032:2015/AC:2016-07	C
Harmonic Current Emission	EN 61000-3-2:2014	NA
Voltage Fluctuations and Flicker	EN 61000-3-3:2013	C
II. Immunity		
Electrostatic Discharge	EN 61000-4-2:2009	C
RF Electromagnetic field (80 MHz to 2.7 GHz)	EN 61000-4-3:2006/A2:2010	C
Fast Transients Common mode	EN 61000-4-4:2012	C
Surges, line to line and line to ground	EN 61000-4-5:2014	C
RF common mode (0.15 MHz to 100 MHz)	EN 61000-4-6:2014	C
Voltage dips and Interruptions	EN 61000-4-11:2004	C

Note 1: C=Complies NC=Not Complies NT=Not Tested NA=Not Applicable

Note 2: The data in this test report are traceable to the national or international standards.

3.2 EMISSION

3.2.1 Conducted emissions

Definition:

The test assesses the ability of the EUT to limit its internal noise from being present on the AC mains Power In/Output/Telecommunication ports.

We were performed the test according to LTA procedure LTA-QI-04.

Test method	:	EN 55032:2015/AC:2016-07
Measurement Frequency range	:	150 kHz - 30 MHz
Measurement RBW	:	9 kHz
Test mode	:	REC mode (Adapter, PoE)
Result	:	**Complies**

Measurement Data:

- Refer to the Next page (Maximum emission configuration)

A sample calculation:

COR. F (correction factor)= LISN Insertion loss + Cable loss + Pulse Limiter Factor

Emission Level= meter reading + COR.F

Limits for conducted disturbance at the mains ports of class A ITE

Frequency Range	Quasi-peak	Average
(0.15 - 0.5) MHz	79 dBuV	66 dBuV
(0.5 – 30) MHz	73 dBuV	60 dBuV
Note: The limits will decrease with the frequency logarithmically within 0.15MHz to 0.5MHz		

Limits for conducted disturbance at the mains ports of class B ITE

Frequency Range	Quasi-peak	Average
(0.15 – 0.5) MHz	(66 – 56) dBuV	(56 - 46) dBuV
(0.5 – 5) MHz	56 dBuV	46 dBuV
(5 – 30) MHz	60 dBuV	50 dBuV
Note: The limits will decrease with the frequency logarithmically within 0.15 MHz to 0.5 MHz		

Limits of conducted common mode (asymmetric mode) disturbance at telecommunication ports in the frequency range 0.15 MHz to 30 MHz for class A equipment

Frequency Range	Voltage limits		Current limits	
	Quasi-peak	Average	Quasi-peak	Average
(0.15 - 0.5) MHz	(97 − 87) dBuV	(84 − 74) dBuV	(53 − 43) dBuV	(40 − 30) dBuV
(0.5 – 30) MHz	87 dBuV	74 dBuV	43 dBuV	30 dBuV

Note 1: The limits decrease linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.

Note 2: The current and voltage disturbance limits are derived for use with an impedance stabilization network (ISN) which presents a common mode (asymmetric mode) impedance of 150Ω to the telecommunication port under test (conversion factor is 20 $\log_{10}$ 150/I= 44 dB)

Limits of conducted common mode (asymmetric mode) disturbance at telecommunication ports in the frequency range 0.15 MHz to 30 MHz for class B equipment

Frequency Range	Voltage limits		Current limits	
	Quasi-peak	Average	Quasi-peak	Average
(0.15 - 0.5) MHz	(84 − 74) dBuV	(74 − 64) dBuV	(40 − 30) dBuV	(30 − 20) dBuV
(0.5 – 30) MHz	74 dBuV	64 dBuV	30 dBuV	20 dBuV

Note 1: The limits decrease linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.

Note 2: The current and voltage disturbance limits are derived for use with an impedance stabilization network (ISN) which presents a common mode (asymmetric mode) impedance of 150Ω to the telecommunication port under test (conversion factor is 20 $\log_{10}$ 150/I= 44 dB)

Conducted emissions (LINE) / REC mode (Adapter)

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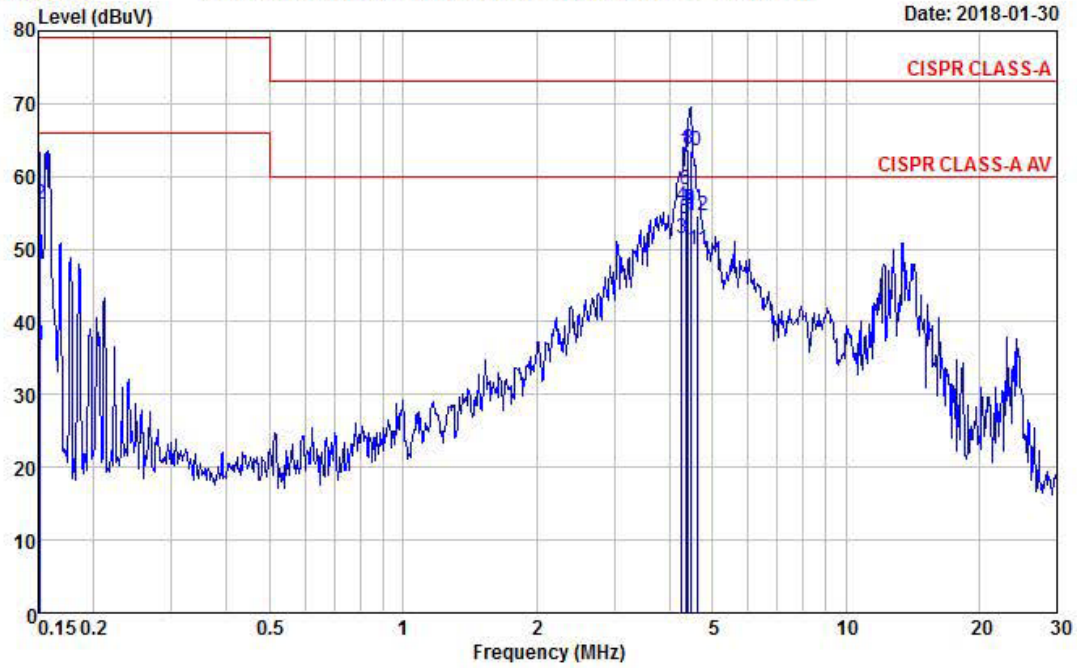
Fax:+82-31-3236010

EUT / Model No. : NC-S680-3ZXH | Phase : LINE
Test Mode : REC mode | Test Power : 230 / 50
Temp. / Humi. : 24 / 34 | Test Engineer : BANG Y H

Data: 2981 File: D:\Conducted Data\2018\LTA_Conduction_2018_1.EM6 (3126)



Freq	RD QP	RD AV	C.F	Result QP	Result AV	Limit QP	Limit AV	Margin QP	Margin AV
MHz	dBuV	dBuV	dB	dBuV	dBuV	dBuV	dBuV	dB	dB
0.151	36.82	17.38	19.43	56.25	36.81	79.00	66.00	22.75	29.19
4.266	36.41	31.99	19.47	55.88	51.46	73.00	60.00	17.12	8.54
4.344	38.62	34.77	19.46	58.08	54.23	73.00	60.00	14.92	5.77
4.399	44.21	35.96	19.46	63.67	55.42	73.00	60.00	9.33	4.58
4.469	44.11	35.99	19.46	63.57	55.45	73.00	60.00	9.43	4.55
4.625	35.07	30.37	19.47	54.54	49.84	73.00	60.00	18.46	10.16

Remarks: C.F (Correction Factor) = Insertion loss + Cable loss + Pulse Limiter

Conducted emissions (NEUTRAL) / REC mode (Adapter)

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Fax:+82-31-3236010

EUT / Model No. : NC-S680-3ZXH Phase : NEUTRAL
Test Mode : REC mode Test Power : 230 / 50
Temp. / Humi. : 24 / 34 Test Engineer : BANG Y H

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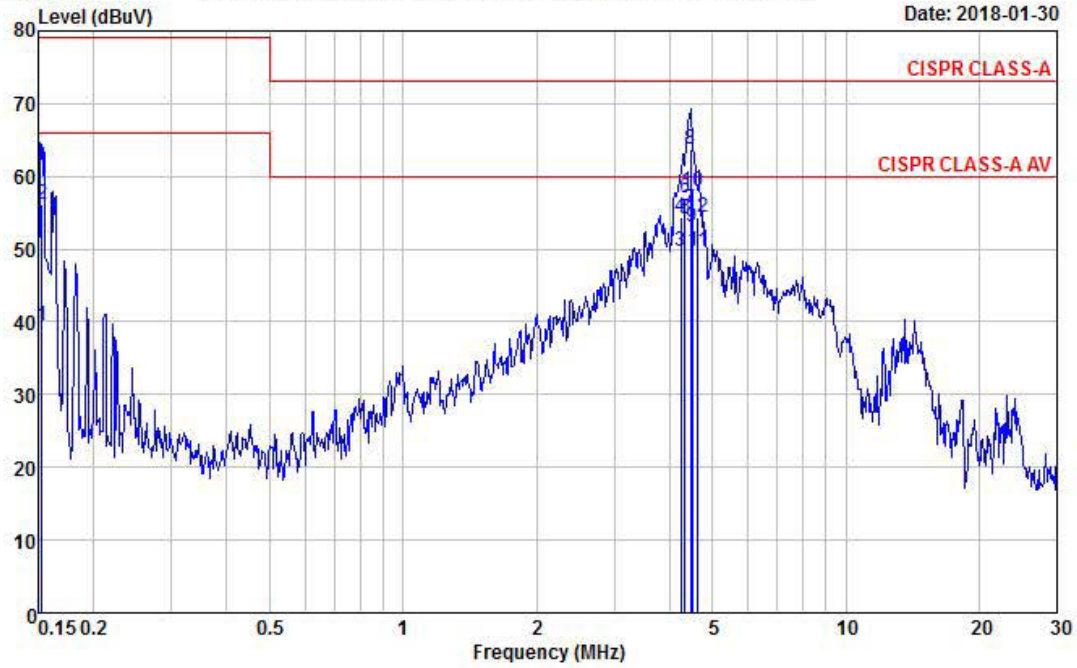

Freq	RD QP	RD AV	C.F	Result QP	Result AV	Limit QP	Limit AV	Margin QP	Margin AV
MHz	dBuV	dBuV	dB	dBuV	dBuV	dBuV	dBuV	dB	dB
0.153	36.70	20.05	19.41	56.11	39.46	79.00	66.00	22.89	26.54
4.235	34.97	30.23	19.46	54.43	49.69	73.00	60.00	18.57	10.31
4.335	37.53	34.66	19.45	56.98	54.11	73.00	60.00	16.02	5.89
4.469	44.24	36.05	19.45	63.69	55.50	73.00	60.00	9.31	4.50
4.492	38.50	33.68	19.46	57.96	53.14	73.00	60.00	15.04	6.86
4.625	34.85	30.20	19.46	54.31	49.66	73.00	60.00	18.69	10.34

Remarks: C.F (Correction Factor) = Insertion loss + Cable loss + Pulse Limiter

Conducted emissions (TEL_10 M) / REC mode (Adapter)

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EUT / Model No. : NC-S680-3ZXH
Phase : TEL_10M
Test Mode : REC mode
Test Power : 230 / 50
Temp. / Humi. : 24 / 34
Test Engineer : BANG Y H

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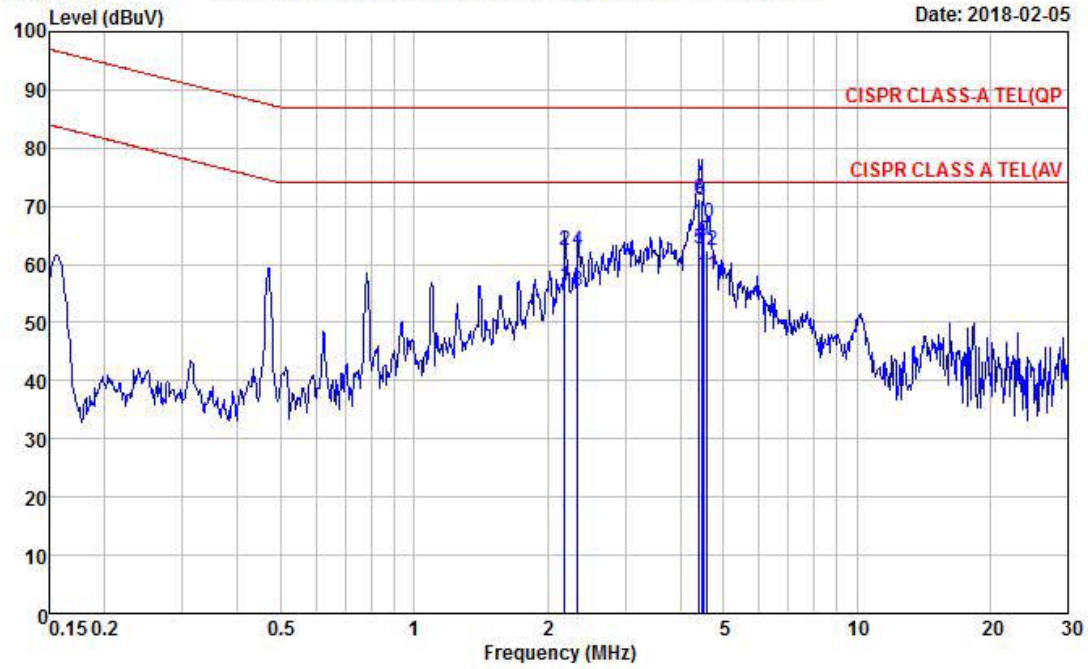

Freq	RD QP	RD AV	C.F	Result QP	Result AV	Limit QP	Limit AV	Margin QP	Margin AV
MHz	dBuV	dBuV	dB	dBuV	dBuV	dBuV	dBuV	dB	dB
2.190	42.91	36.82	19.47	62.38	56.29	87.00	74.00	24.62	17.71
2.346	42.92	35.92	19.46	62.38	55.38	87.00	74.00	24.62	18.62
4.398	51.75	43.27	19.48	71.23	62.75	87.00	74.00	15.77	11.25
4.470	51.62	43.19	19.48	71.10	62.67	87.00	74.00	15.90	11.33
4.518	47.65	44.48	19.48	67.13	63.96	87.00	74.00	19.87	10.04
4.602	42.86	38.86	19.49	62.35	58.35	87.00	74.00	24.65	15.65

Remarks: C.F (Correction Factor) = Insertion loss + Cable loss + Pulse Limiter

Conducted emissions (TEL_1000 M) / REC mode (Adapter)

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EUT / Model No. : NC-S680-3ZXH Phase : TEL_1000M
Test Mode : REC mode Test Power : 230 / 50
Temp. / Humi. : 24 / 34 Test Engineer : BANG Y H

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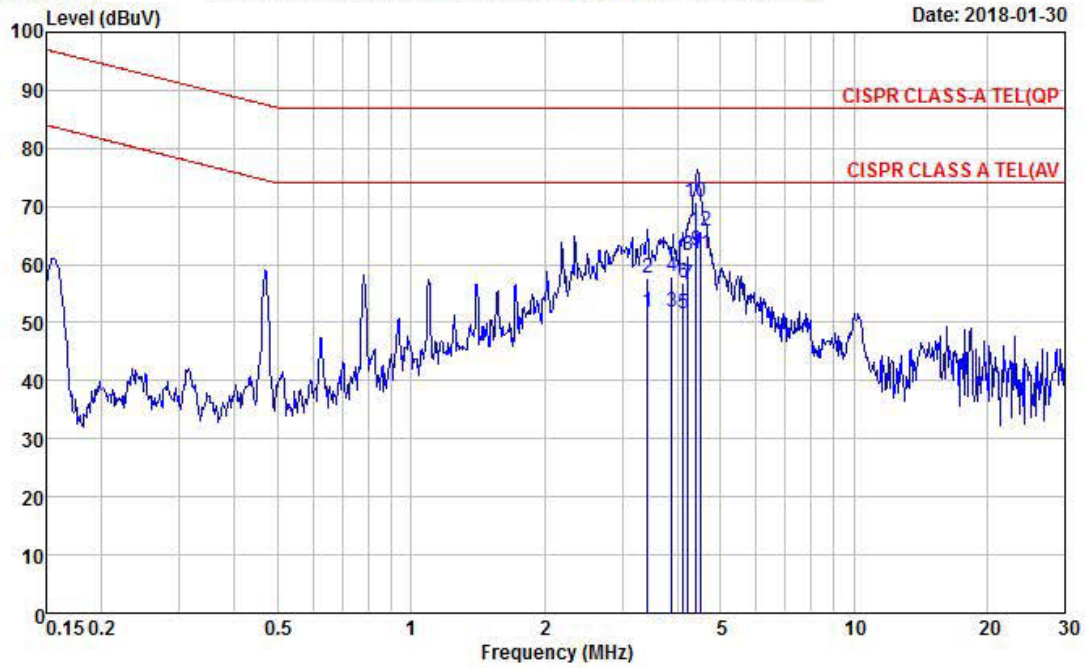

Freq	RD QP	RD AV	C.F	Result QP	Result AV	Limit QP	Limit AV	Margin QP	Margin AV
MHz	dBuV	dBuV	dB	dBuV	dBuV	dBuV	dBuV	dB	dB
3.426	38.60	32.76	19.04	57.64	51.80	87.00	74.00	29.36	22.20
3.876	38.93	32.71	19.06	57.99	51.77	87.00	74.00	29.01	22.23
4.118	37.88	32.56	19.07	56.95	51.63	87.00	74.00	30.05	22.37
4.218	42.44	37.47	19.07	61.51	56.54	87.00	74.00	25.49	17.46
4.398	51.68	43.39	19.07	70.75	62.46	87.00	74.00	16.25	11.54
4.516	46.73	42.65	19.07	65.80	61.72	87.00	74.00	21.20	12.28

Remarks: C.F (Correction Factor) = Insertion loss + Cable loss + Pulse Limiter

Conducted emissions (TEL_10 M) / REC mode (PoE_OUT)

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EUT / Model No. : NC-S680-3ZXH
Phase : TEL_10M_OUT
Test Mode : REC mode(PoE)
Test Power : 230 / 50
Temp. / Humi. : 24 / 34
Test Engineer : BANG Y H

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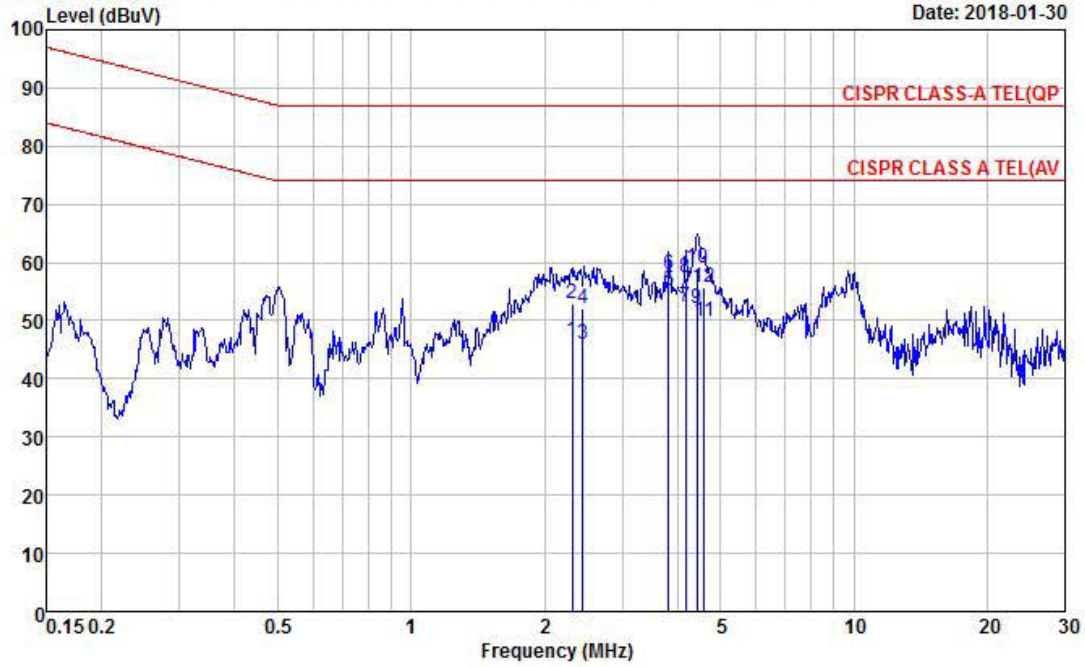

Freq	RD QP	RD AV	C.F	Result QP	Result AV	Limit QP	Limit AV	Margin QP	Margin AV
MHz	dBuV	dBuV	dB	dBuV	dBuV	dBuV	dBuV	dB	dB
2.310	33.42	26.99	19.47	52.89	46.46	87.00	74.00	34.11	27.54
2.441	32.55	26.38	19.45	52.00	45.83	87.00	74.00	35.00	28.17
3.825	38.46	35.82	19.46	57.92	55.28	87.00	74.00	29.08	18.72
4.172	37.78	32.92	19.48	57.26	52.40	87.00	74.00	29.74	21.60
4.421	39.56	32.71	19.48	59.04	52.19	87.00	74.00	27.96	21.81
4.589	36.10	30.51	19.48	55.58	49.99	87.00	74.00	31.42	24.01

Remarks: C.F (Correction Factor) = Insertion loss + Cable loss + Pulse Limiter

Conducted emissions (TEL_1000 M) / REC mode (PoE_OUT)

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EUT / Model No. : NC-S680-3ZXH Phase : TEL_1000M_OUT
Test Mode : REC mode(PoE) Test Power : 230 / 50
Temp. / Humi. : 24 / 34 Test Engineer : BANG Y H

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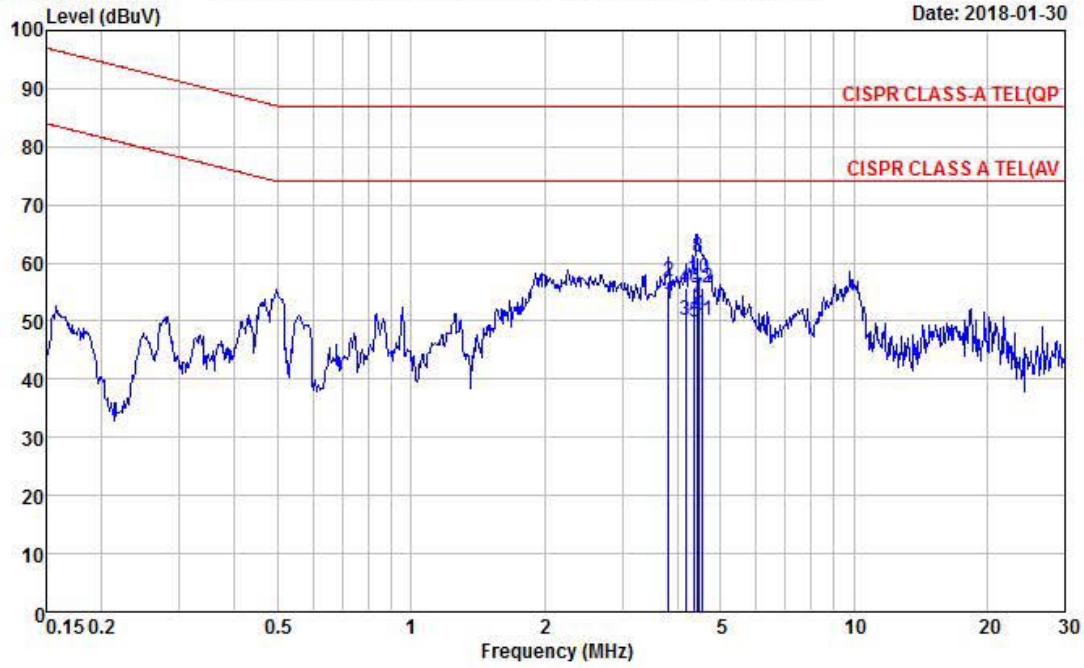

Freq	RD QP	RD AV	C.F	Result QP	Result AV	Limit QP	Limit AV	Margin QP	Margin AV
MHz	dBuV	dBuV	dB	dBuV	dBuV	dBuV	dBuV	dB	dB
3.825	37.79	33.97	19.05	56.84	53.02	87.00	74.00	30.16	20.98
4.174	36.55	31.19	19.07	55.62	50.26	87.00	74.00	31.38	23.74
4.361	36.74	30.77	19.07	55.81	49.84	87.00	74.00	31.19	24.16
4.433	41.99	34.86	19.07	61.06	53.93	87.00	74.00	25.94	20.07
4.477	38.22	31.93	19.07	57.29	51.00	87.00	74.00	29.71	23.00
4.558	36.59	30.99	19.07	55.66	50.06	87.00	74.00	31.34	23.94

Remarks: C.F (Correction Factor) = Insertion loss + Cable loss + Pulse Limiter

3.2.2 Radiated Emission

Definition:

The test assesses the ability of ancillary equipment to limit their internal noise from being radiated from the enclosure. We were performed the test according to LTA procedure LTA-QI-04.

Test method	:	EN 55032:2015/AC:2016-07
Measuring Distance	:	10 m for below 1 GHz / 3 m for above 1 GHz
Measurement Frequency range	:	30 MHz – 6 000 MHz
Measurement RBW	:	120 kHz @ 10 m / 1 MHz @ 3 m
Test mode	:	REC mode (Adapter, PoE)
Result	:	**Complies**

Measurement Data:

- Refer to the Next page (Maximum emission configuration)

- The highest internal source of an EUT is 1.25 GHz, the measurement shall only be made up to 6 GHz.
  (The highest internal source of an EUT : 1.25 GHz)

A sample calculation:

COR. F (correction factor)= Antenna factor + Cable loss- Amp.gain- Distance correction

Emission Level= meter reading + COR.F

Limit of 10 m for below 1 GHz

CLASS A

Frequency Range	Quasi-peak
(30 – 230) MHz	40 dBuV/m
(230 – 1 000) MHz	47 dBuV/m

CLASS B

Frequency Range	Quasi-peak
(30 – 230) MHz	30 dBuV/m
(230 – 1 000) MHz	37 dBuV/m

Limit of 3m for above 1 GHz

CLASS A

Frequency Range	Average Limit @ 3m (dBµV/m)	Peak limit @ 3m (dBµV/m)
(1 000 – 3 000) MHz	56	76
(3 000 – 6 000) MHz	60	80
NOTE:	The lower limit applies at the transition frequency.	

CLASS B

Frequency Range	Average Limit @ 3m (dBµV/m)	Peak limit @ 3m (dBµV/m)
(1 000 – 3 000) MHz	50	70
(3 000 – 6 000) MHz	54	74
NOTE:	The lower limit applies at the transition frequency.	

Radiated Emission (Below 1 GHz) / REC mode (Adapter)_V

LTA
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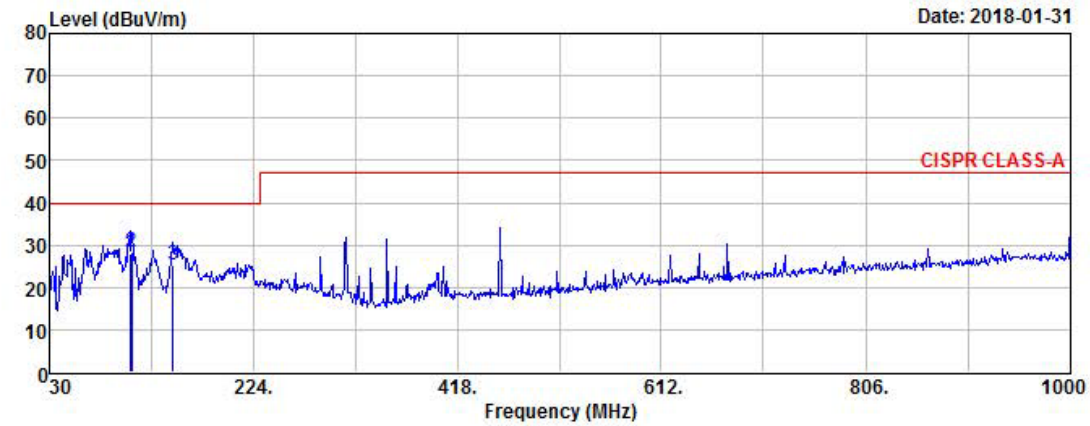
www.ltalab.com

EUT/Model No.: NC-S680-3ZXH Temp/Humi: 19 / 41

Test Mode : REC mode Tested by: BANG Y H

Data: 1421 File: C:\Program Files (x86)\e3\1801-2.EM6 (1571)



Freq	Reading	C.F	Result QP	Limit	Margin	Height	Angle	Polarity
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	deg	
106.63	47.85	-19.82	28.03	40.00	11.97	100	214	VERTICAL
108.57	47.92	-19.53	28.39	40.00	11.61	100	313	VERTICAL
147.37	41.89	-16.81	25.08	40.00	14.92	100	21	VERTICAL

Remarks: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain

Radiated Emission (Below 1 GHz) / REC mode (Adapter) _H

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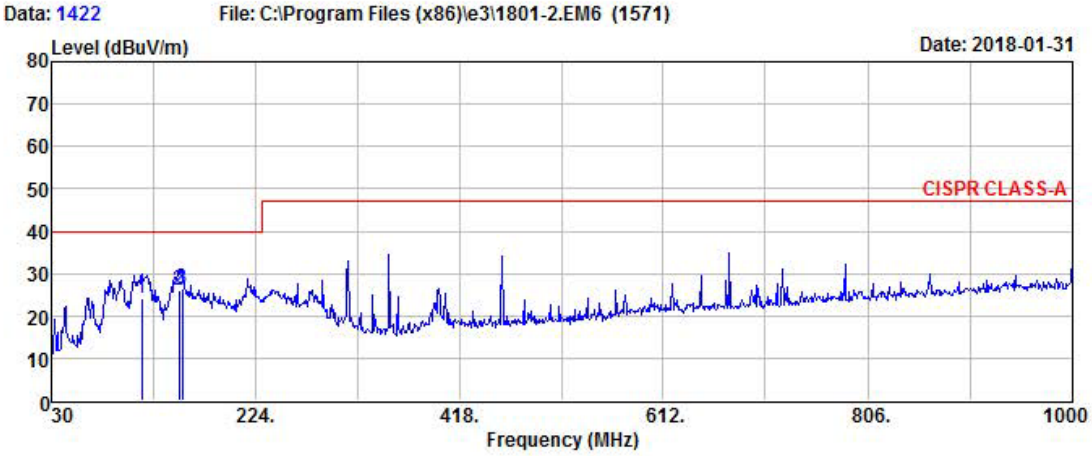
www.ltalab.com

EUT/Model No.: NC-S680-3ZXH Temp/Humi: 19 / 41

Test Mode : REC mode Tested by: BANG Y H



Freq	Reading	C.F	Result QP	Limit	Margin	Height	Angle	Polarity
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	deg	
116.33	42.62	-18.67	23.95	40.00	16.05	216	32	HORIZONTAL
151.25	42.81	-16.72	26.09	40.00	13.91	227	81	HORIZONTAL
154.16	42.92	-16.69	26.23	40.00	13.77	319	62	HORIZONTAL

Remarks: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain

Radiated Emission (Below 1 GHz) / REC mode (PoE) _V

LTA
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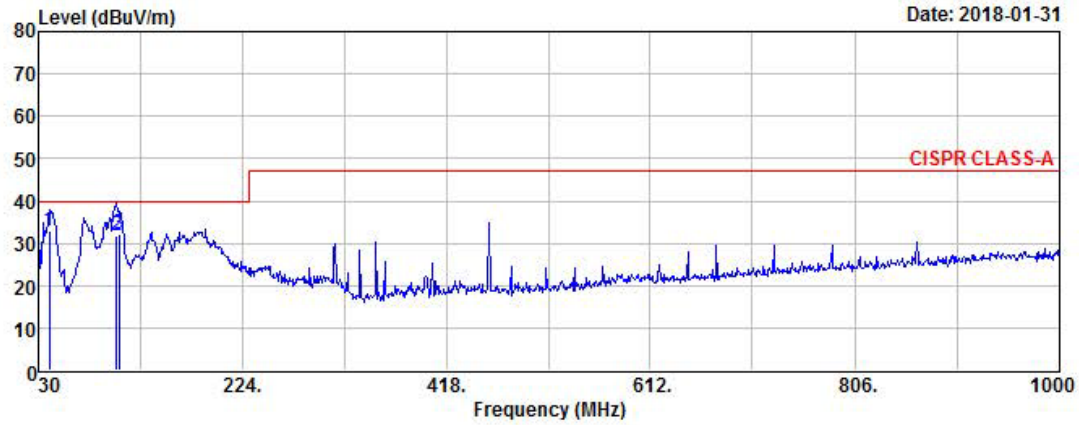
EUT/Model No.: NC-S680-3ZXH Temp/Humi: 19 / 23

Test Mode : REC mode(PoE) Tested by: BANG Y H

Data: 1510 File: C:\Program Files (x86)\e3\1801-2.EM6 (1571)



Freq	Reading	C.F	Result QP	Limit	Margin	Height	Angle	Polarity
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	deg	
40.67	51.87	-18.93	32.94	40.00	7.06	100	124	VERTICAL
104.69	51.89	-20.13	31.76	40.00	8.24	100	322	VERTICAL
106.63	51.95	-19.82	32.13	40.00	7.87	100	121	VERTICAL

Remarks: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain

Radiated Emission (Below 1 GHz) / REC mode (PoE) _H

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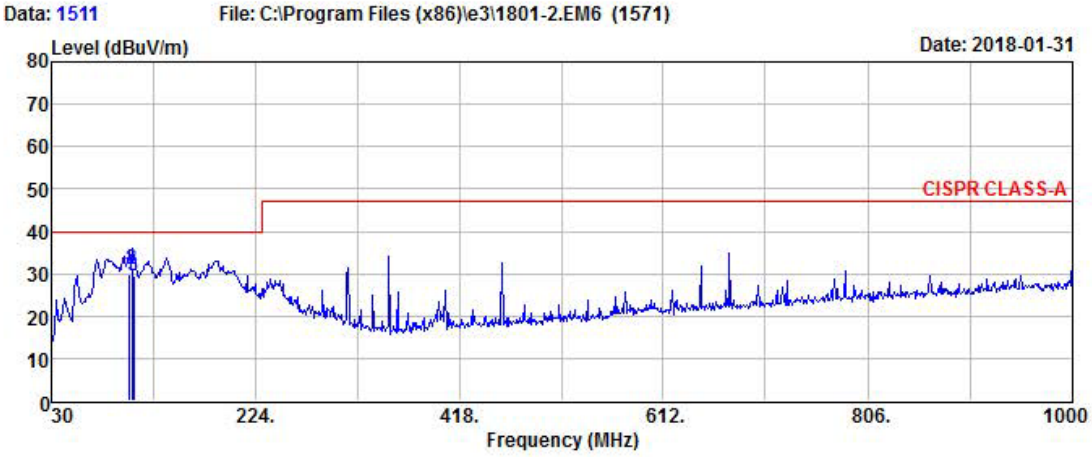
www.ltalab.com

EUT/Model No.: NC-S680-3ZXH Temp/Humi: 19 / 23

Test Mode : REC mode(PoE) Tested by: BANG Y H



Freq	Reading	C.F	Result QP	Limit	Margin	Height	Angle	Polarity
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	deg	
104.69	50.17	-20.13	30.04	40.00	9.96	215	87	HORIZONTAL
106.63	50.92	-19.82	31.10	40.00	8.90	216	22	HORIZONTAL
108.57	48.92	-19.53	29.39	40.00	10.61	135	188	HORIZONTAL

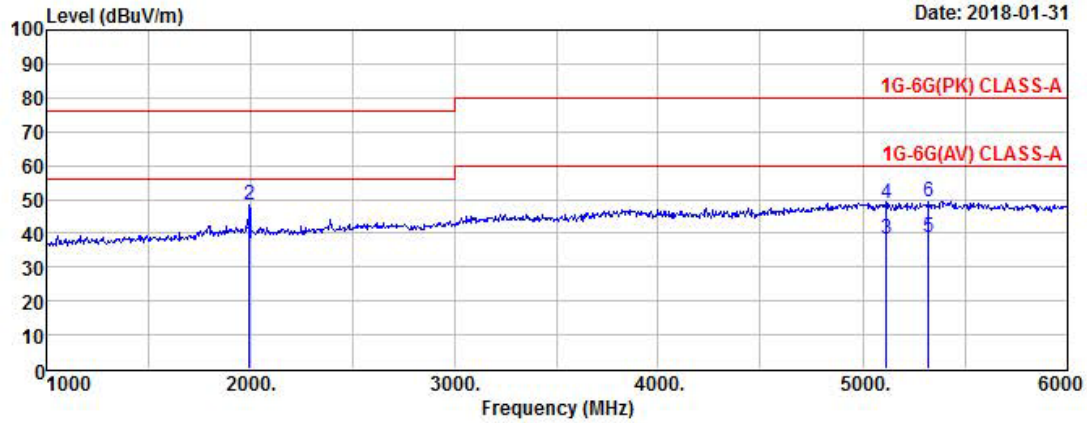
Remarks: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain

Radiated Emission (Above 1 GHz) / REC mode (Adapter)

EUT/Model No.: NC-S680-3ZXH Temp/Humi: 19 / 41

Test Mode : REC mode Tested by: BANG Y H

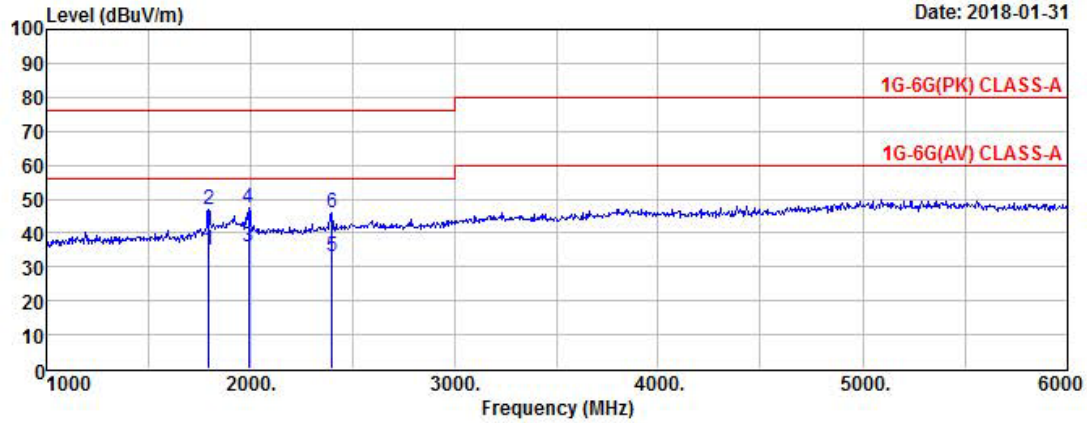
Data: 1438 File: C:\Program Files (x86)\e3\1801-2.EM6 (1571)



EUT/Model No.: NC-S680-3ZXH Temp/Humi: 19 / 41

Test Mode : REC mode Tested by: BANG Y H

Data: 1437 File: C:\Program Files (x86)\e3\1801-2.EM6 (1571)



Manufacture : IDIS CO., LTD.

Model : NC-S680-3ZXH

TEST mode : REC mode

Ver Data: 1437 Hor Data: 1438

Test Date	Temp.: [℃]	Humidity : [%]	Distance (m)
2018-01-31	19	41	4.5

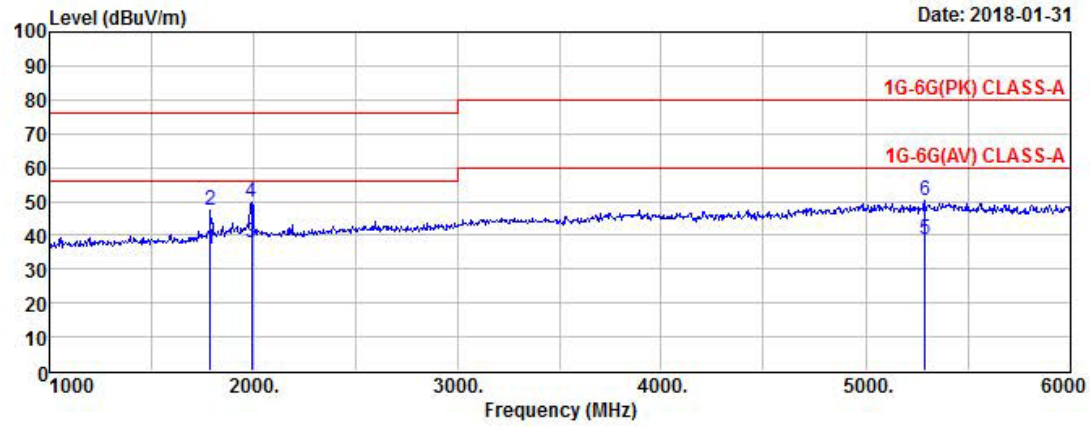
Freq.(MHz)	Reading(PK)	Reading(AV)	C.F	Result(PK)	Result(AV)	Limit(PK)	Limit(AV)	Margin(PK)	Margin(AV)	Height	Angle	Polarity
MHz	dBuV	dBuV	dB	dBuV/m	dBuV/m	dBuV/m	dBuV/m	dB	dB	cm	deg	Hor/Ver
1995.0	51.9	40.3	0.18	52.06	40.51	76.0	56.0	23.94	15.49	100	12	H
5110.0	38.4	27.7	14.01	52.37	41.69	80.0	60.0	27.63	18.31	100	63	H
5320.0	38.6	27.8	14.27	52.91	42.10	80.0	60.0	27.09	17.90	100	92	H
1795.0	51.2	39.3	-0.95	50.28	38.39	76.0	56.0	25.72	17.61	100	63	V
1990.0	50.9	39.5	0.16	51.03	39.63	76.0	56.0	24.97	16.37	100	41	V
2400.0	47.3	34.4	2.37	49.69	36.76	76.0	56.0	26.31	19.24	100	144	V

Radiated Emission (Above 1 GHz) / REC mode (PoE)

EUT/Model No.: NC-S680-3ZXH Temp/Humi: 19 / 23

Test Mode : REC mode(PoE) Tested by: BANG Y H

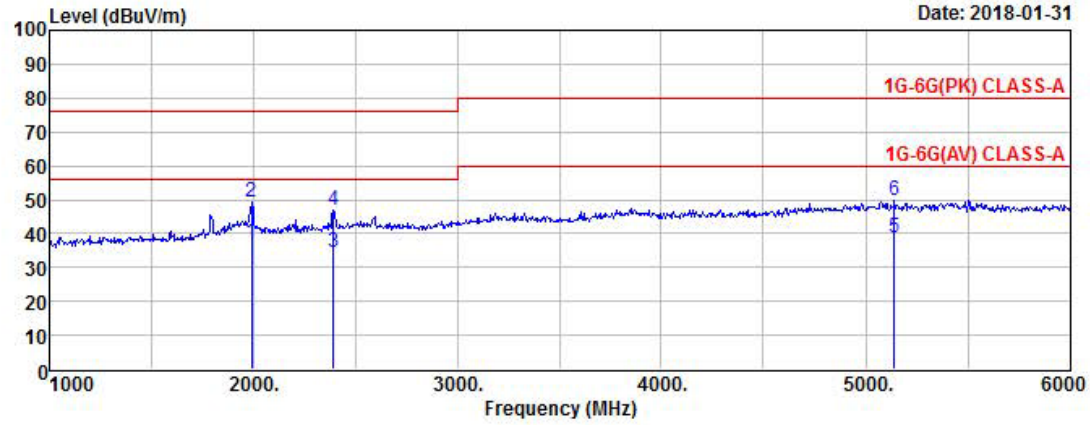
Data: 1523 File: C:\Program Files (x86)\e3\1801-2.EM6 (1571)



EUT/Model No.: NC-S680-3ZXH Temp/Humi: 19 / 23

Test Mode : REC mode(PoE) Tested by: BANG Y H

Data: 1522 File: C:\Program Files (x86)\e3\1801-2.EM6 (1571)



Manufacture : IDIS CO., LTD.

Model : NC-S680-3ZXH

TEST mode : REC mode

Ver Data: 1522 Hor Data: 1523

Test Date	Temp.: [℃]	Humidity : [%]	Distance (m)
2018-01-31	19	41	4.5

Freq.(MHz)	Reading(PK)	Reading(AV)	C.F	Result(PK)	Result(AV)	Limit(PK)	Limit(AV)	Margin(PK)	Margin(AV)	Height	Angle	Polarity
MHz	dBuV	dBuV	dB	dBuV/m	dBuV/m	dBuV/m	dBuV/m	dB	dB	cm	deg	Hor/Ver
1790.0	52.0	40.4	-0.96	51.05	39.48	76.0	56.0	24.95	16.52	100	63	H
1990.0	53.2	41.3	0.16	53.36	41.50	76.0	56.0	22.64	14.50	100	11	H
5285.0	39.8	28.1	14.15	53.96	42.29	80.0	60.0	26.04	17.71	100	64	H
1990.0	52.8	40.7	0.16	52.98	40.88	76.0	56.0	23.02	15.12	100	24	V
2395.0	47.9	35.5	2.35	50.29	37.81	76.0	56.0	25.71	18.19	100	63	V
5135.0	39.3	28.3	13.92	53.25	42.25	80.0	80.0	26.75	37.75	100	11	V

3.2.3 Harmonic Current (AC power input port)

Definition:

This part deals with the Limitation of harmonic currents injected into the public supply system.

We were performed the test according to LTA procedure LTA-QI-04.

Test method	:	EN 61000-3-2:2014
Test mode	:	REC mode (Adapter)
Measured power	:	≤75 W
Result	:	**Not Applicable**

Measurement Data:

Harmonic Current / REC mode (Adapter)

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BSEN61000-3-2:2014
Fluctuating Harmonics

Instrument Details		
Instrument Model	PPA5511	
Serial Number	162-04957	
Firmware Version	2.168	
N4L Calibration Date	18th September 2017	
Instrument Version	Standard	
Test Settings		
Class	Class A	
Mode	Measured	
Equipment Under Test		
Brand	IDIS CO., LTD.	
Model	NC-S680-3ZXH	
Serial	N/A	
Impedance Network ID	N/A	
Test Conditions		
	User Entered	**Measured**
Rated Voltage	N/A	230.531V
Rated Current	N/A	263.767mA
Rated Frequency	N/A	50.000Hz
Rated Power	N/A	33.510W
Additional Test Information		
Measured Power Factor	0.551	
Max Current THD	70.68%	
Max THC	153.127mA	
Max Power	33.593W	
Max F.Current	217.516mA	
Average F.Current	216.723mA	
Minimum Current	100A	
Test Duration	2.5 minutes	
Additional Test Details		
Operator	N/A	
Lab Name	N/A	
Location	N/A	
Notes		
Signature		

Results	**Test - N/A. Rated Power < 75W**

Test not applicable

With the exception of lighting equipment section 7 of the BSEN61000-3-2:2014 standard declares that no Harmonic current limits are specified for equipment with a rated power of

3.2.4 Voltage Variation and Flicking (AC power input port)

Definition:

This section is concerned with the limitation of voltage fluctuations and flicker impressed on the public low-voltage system.

We were performed the test according to LTA procedure LTA-QI-04.

Test method	:	EN61000-3-3:2013
Test mode	:	REC mode (Adapter)
Result	:	**Complies**

Measurement Data:

Voltage Variation and Flicking / REC mode (Adapter)

30th January 2018 - 23:46:32	Page 1/2	IECSoft v2_5a

IEC61000-3-3:2013 Ed.3.0
Flickermeter

Instrument Details	
Instrument Model	PPA5511
Serial Number	162-04957
Firmware Version	2.168
N4L Calibration Date	18th September 2017
Instrument Version	Standard
Test Settings	
Class	Voltage
Mode	Normal (4%)
Minimum Current	10A
PST	10.00 minutes
PLT	1 PSTs
Equipment Under Test	
Brand	IDIS CO., LTD.
Model	NC-S680-3ZXH
Serial	N/A
Impedance Network ID	N/A

Test Conditions		
	User Entered	**Measured**
Rated Voltage	N/A	230.894V
Rated Current	N/A	N/A
Rated Frequency	N/A	50.000Hz
Rated Power	N/A	N/A
D max	0.0659% (Limit: 4.0%)	
T max	0.0000 s (Limit: 0.5 s)	
DC max	0.0084% (Limit: 3.3%)	

Additional Test Details	
Operator	N/A
Lab Name	N/A
Location	N/A
Notes	
Signature	
Results	**Phase1: PASS**

30th January 2018 - 23:46:32	Ph:1 Page 2/2	IECSoft v2_5a
IEC61000-3-3:2013 Ed.3.0 Flickermeter		
Instrument Details		
Instrument Model	PPA5511	
Instrument Serial	162-04957	
Instrument Firmware	2.168	
Equipment Under Test		
Brand	IDIS	
Model	NC-S680-3ZXH	
Serial	N/A	

Flicker Test Results

PST no.	Status	DC (%)	Dmax (%)	Tmax (s)	PST	PST Lim	PLT	PLT Lim
1	Phase1: PASS	0.008	0.06585	0	0.082	1.00	0.082	0.65

3.3 IMMUNITY

3.3.1 Electrostatic Discharge

Definition:

The test assesses the ability of the EUT to operate as intended in the event of an electrostatic discharge.

We were performed the test according to LTA procedure LTA-QI-04.

Test method	:	EN 61000-4-2:2009
Temperature / Humidity / Pressure	:	20 ℃ / 40 % RH / 100 kPa
Discharge Impedance	:	(330 ±10 %) Ω / (150 ±10 %) pF
Type of Discharge (air discharge)	:	± 2, 4, 8 kV
Type of Discharge (contact discharge)	:	± 6 kV
Number of discharges at each point	:	At least four contact discharge from point ± 100. (at least 50 times at each point of the contact discharge)
Discharge Repetition on Rate	:	1 / sec
Test mode	:	REC mode (Adapter, PoE)
Performance Criteria	:	Refer to the appendix B
Result	:	**Complies**

Measurement Data:

ESD Test Point and Result

1. Indirect Discharge

No.	Position	Kind of Discharge	Results	Remarks
1	HCP	Contact	Complies	No reaction recognized
2	VCP	Contact	Complies	No reaction recognized

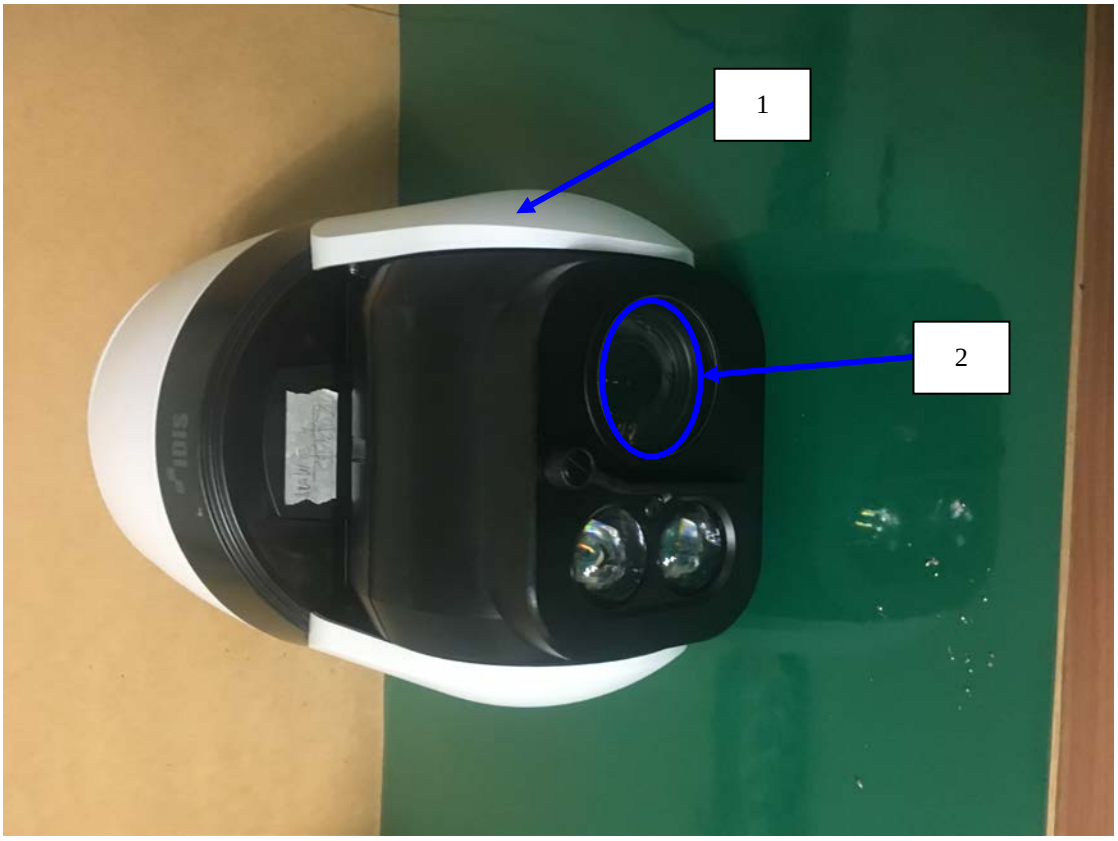
2. Direct Discharge

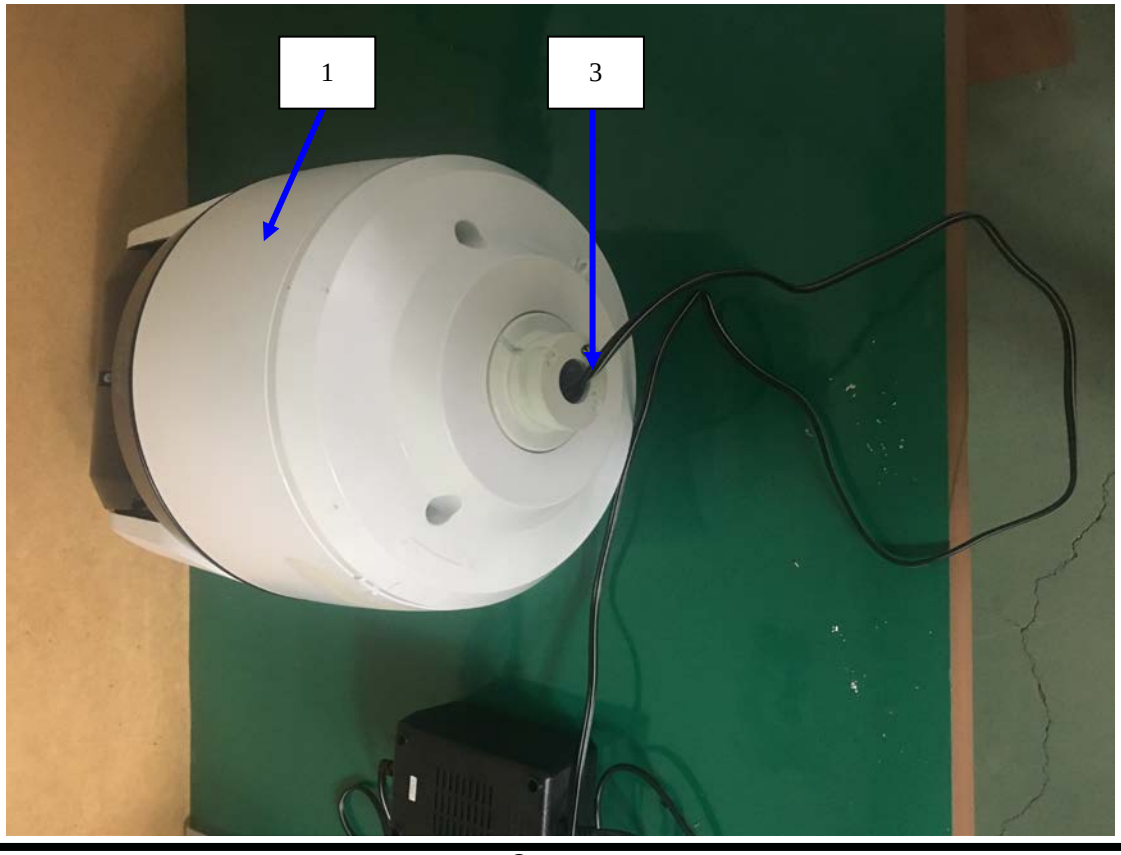
No.	Position	Kind of Discharge	Result	Remarks
1	Enclosure	Air	Complies	No reaction recognized
2	Lens	Air	Complies	No reaction recognized
3	AC IN	Air	Complies	No reaction recognized

※ Results are complies in each test mode.

Air discharge
Contact discharge

ESD TEST POINT





3.3.2 RF Electromagnetic Field (80 MHz to 2.7 GHz)

Definition:

The test assesses the ability of the EUT to operate as intended in the presence of a radio frequency electromagnetic field disturbance.

We were performed the test according to LTA procedure LTA-QI-04.

Test method	:	EN 61000-4-3:2006/A2:2010
Temperature / Humidity / Pressure	:	21 ℃ / 48 % RH / 100 kPa
Frequency range	:	80 MHz to 2.7 GHz
Test level	:	10 V/m (measured unmodulated)
Amplitude Modulation	:	AM, 80 %, 1㎑ Audio signal PM, 1 ㎐ (0.5s ON : 0.5s OFF)
Step size	:	1 % of fundamental
Test mode	:	REC mode (Adapter, PoE)
Performance Criteria	:	Refer to the appendix B
Result	:	**Complies**

Measurement Data:

MODE : REC mode (Adapter)

Port	Side	Result	Remarks
Horizontal	Front	Complies	No reaction recognized
	Left	Complies	No reaction recognized
	Rear	Complies	No reaction recognized
	Right	Complies	No reaction recognized
Vertical	Front	Complies	No reaction recognized
	Left	Complies	No reaction recognized
	Rear	Complies	No reaction recognized
	Right	Complies	No reaction recognized

MODE : REC mode (PoE)

Port	Side	Result	Remarks
Horizontal	Front	Complies	No reaction recognized
	Left	Complies	No reaction recognized
	Rear	Complies	No reaction recognized
	Right	Complies	No reaction recognized
Vertical	Front	Complies	No reaction recognized
	Left	Complies	No reaction recognized
	Rear	Complies	No reaction recognized
	Right	Complies	No reaction recognized

※ Results are complies in each test mode.

3.3.3 Electrical fast transients

Definition:

The test assesses the ability of the EUT to operate as intended in the event of fast transients presence on one of the input/output ports.

We were performed the test according to LTA procedure LTA-QI-04.

Test method	:	EN 61000-4-4:2012
Temperature / Humidity / Pressure	:	21 ℃ / 41 % RH / 100 kPa
Cable length	:	> 3 m
Test level	:	± 1.0 kV(signal line), ±2.0 kV (line to line (AC))
Repetition frequency	:	100 ㎑
Test mode	:	REC mode (Adapter, PoE)
Performance Criteria	:	Refer to the appendix B
Result	:	**Complies**

Measurement Data:

MODE : REC mode (Adapter)

power Line	Test level	Result	Remarks
L – N - PE	+2.0 kV	Complies	No reaction recognized
	-2.0 kV	Complies	No reaction recognized

Signal Line	Test level	Result	Remarks
LAN	+1.0 kV	Complies	No reaction recognized
	-1.0 kV	Complies	No reaction recognized

MODE : REC mode (PoE)

Signal Line	Test level	Result	Remarks
PoE	+1.0 kV	Complies	No reaction recognized
	-1.0 kV	Complies	No reaction recognized

※ Results are complies in each test mode.

3.3.4 Surge

Definition:

The test assesses the ability of the EUT to operate as intended in the event of surge presence on the AC main power input ports.

We were performed the test according to LTA procedure LTA-QI-04.

Test method	:	EN 61000-4-5:2014
Temperature / Humidity / Pressure	:	20 ℃ / 38 % RH / 100 kPa
Test level	:	± 0.5, 1.0 kV (AC Power port Line to Line, Signal Line) ± 0.5, 1.0, 2.0 kV (AC Power port Line to Ground)
Polarity	:	LINE / NEUTRAL
Wave shape	:	1.2/ 50 μs pulse, 10/700 μs pulse (unshielded symmetrical communication lines)
Number of surges	:	5 (at each phase)
Test mode	:	REC mode (Adapter, PoE)
Performance Criteria	:	Refer to the appendix B
Result	:	**Complies**

Measurement Data:

MODE : REC mode (Adapter)

Phase	Line	level	Result	Phase	Line	level	Result
0°	Line(L) to line(N)	+0.5, 1 kV	Complies	90°	Line(L) to line(N)	+0.5, 1 kV	Complies
		-0.5, 1 kV	Complies			-0.5, 1 kV	Complies
	Line(L) to ground(PE)	+0.5, 1, 2 kV	Complies		Line(L) to ground(PE)	+0.5, 1, 2 kV	Complies
		-0.5, 1, 2 kV	Complies			-0.5, 1, 2 kV	Complies
	Line(N) to ground(PE)	+0.5, 1, 2 kV	Complies		Line(N) to ground(PE)	+0.5, 1, 2 kV	Complies
		-0.5, 1, 2 kV	Complies			-0.5, 1, 2 kV	Complies
180°	Line(L) to line(N)	+0.5, 1 kV	Complies	270°	Line(L) to line(N)	+0.5, 1 kV	Complies
		-0.5, 1 kV	Complies			-0.5, 1 kV	Complies
	Line(L) to ground(PE)	+0.5, 1, 2 kV	Complies		Line(L) to ground(PE)	+0.5, 1, 2 kV	Complies
		-0.5, 1, 2 kV	Complies			-0.5, 1, 2 kV	Complies
	Line(N) to ground(PE)	+0.5, 1, 2 kV	Complies		Line(N) to ground(PE)	+0.5, 1, 2 kV	Complies
		-0.5, 1, 2 kV	Complies			-0.5, 1, 2 kV	Complies

Line	level	Result
LAN	+0.5, 1.0 kV	Complies
	-0.5, 1.0 kV	Complies

MODE : REC mode (PoE)

Line	level	Result
PoE	+0.5, 1.0 kV	Complies
	-0.5, 1.0 kV	Complies

3.3.5 Conducted disturbances, induced by radio-frequency fields

Definition:

The test assesses the ability of the EUT to operate as intended in the presence of a radio frequency electromagnetic disturbance on the input/output ports.

We were performed the test according to LTA procedure LTA-QI-04.

Test method	:	EN 61000-4-6:2014
Temperature / Humidity / Pressure	:	24 ℃ / 40 % RH / 100 kPa
Frequency range	:	0.15 ㎒ – 100 ㎒
Test level	:	10 Vrms unmodulated
Amplitude Modulation	:	AM, 80 %, 1 ㎑ Audio signal PM, 1 ㎐ (0.5s ON : 0.5s OFF)
Step size	:	1 % of fundamental.
Test mode	:	REC mode (Adapter, PoE)
Performance Criteria	:	Refer to the appendix B
Result	:	**Complies**

Measurement Data:

MODE : REC mode (Adapter)

Port	Mode	Result	Remarks
Power	REC mode	Complies	No reaction recognized

Signal Line	Mode	Result	Remarks
LAN	REC mode	Complies	No reaction recognized

MODE : REC mode (PoE)

Signal Line	Mode	Result	Remarks
PoE	REC mode	Complies	No reaction recognized

※ Results are complies in each test mode.

3.3.6 Mains supply voltage dips, short interruptions

Definition:

The test assesses the ability of the EUT to operate as intended in the event of voltage dips and interruptions present on the AC mains power input ports.

We were performed the test according to LTA procedure LTA-QI-04.

Test method	:	EN 61000-4-11:2004
Temperature / Humidity / Pressure	:	21 ℃ / 41 % RH / 100 kPa
Voltage droop	:	20 % for duration of 250 cycle 30 % for duration of 25 cycle 60 % for duration of 10 cycle
Voltage Interruption	:	100 % for duration of 250 cycle
Ut	:	230 Vac, 50 Hz
Test mode	:	REC mode (Adapter)
Performance Criteria	:	Refer to the appendix B
Result	:	**Complies**

Measurement Data:

MODE : REC mode (Adapter)

Test Level %Ut	Voltage droop and interruptions %Ut	Duration of Reduction (period)	Result	Remarks
80	20	250	Complies	No reaction recognized
70	30	25	Complies	No reaction recognized
40	60	10	Complies	No reaction recognized
0	100	250	Complies	EUT OFF during the test. Re-operation about user's control. After the test, EUT was operated normally.

3.3.7 Mains supply voltage variations

Definition:

The test assesses the ability of the EUT to operate as intended in the event of voltage variations present on the AC mains power input ports.

We were performed the test according to LTA procedure LTA-QI-04.

Test method	:	EN 50130-4:2011/A1:2014 Clause 7
Temperature / Humidity / Pressure	:	20 ℃ / 50 % RH / 100 kPa
Supply Voltage maximum	:	*U*nom + 10 %
Supply Voltage minimum	:	*U*nom – 15 %
Ut	:	230 Vac
Test mode	:	REC mode (Adapter)
Performance Criteria	:	Refer to the appendix B
Result	:	**Complies**

Measurement Data:

*U*nom = Nominal mains voltage. Where provision is made to adapt the equipment to suit a number of nominal supply voltages (e.g. by transformer tap changing), the above conditioning severity shall be applied for each nominal voltage, with the equipment suitably adapted. For equipment which is claimed to be suitable for a range of nominal mains voltages (e.g. 220/240 V) without adaptation, *U*max = (Maximum *U*nom) + 10 %, and *U*min = (Minimum *U*nom) p 15 %. In any case the range of *U*nom must include the European nominal mains voltage of 230 V.

2 **Mains supply voltage variations**

230 V, 50 Hz

Test LevelCondition		Test Level (V)	Result	Remarks
Unom	+10%	253	Complies	No reaction recognized
Unom	-15%	195.5	Complies	No reaction recognized

APPENDIX A

TEST EQUIPMENT AND ANCILLARIES USED FOR TESTS

To facilitate inclusion on each page of the test equipment used for related tests, each item of test equipment are identified by the Test Laboratory.

Conducted emissions

	Item	Model Name	Manufacturer	Serial No.	Next Cal.	Interval
☒	EMI TEST Receiver	ESR	Rohde & Schwarz	101499	2018.07.11	1 year
☒	Pulse Limiter	ESH3-Z2	Rohde & Schwarz	100710	2018.03.20	1 year
☒	ISN	ISN T800	TESEQ	27109	2019.01.23	1 year
☒	ISN	ENY81-CA6	Rohde & Schwarz	101565	2019.01.23	1 year
☒	LISN	ENV216	Rohde & Schwarz	100408	2018.09.07	1 year
☒	LISN	LT32C/10	AFJ	32031518210	2018.11.24	1 year
☒	TEST PROGRAM	e3_Ver: 5.5.201a	AUDIX	-	-	-

Radiated Emission – Below 1 GHz

	Item	Model Name	Manufacturer	Serial No.	Next Cal.	Interval
☒	EMI TEST Receiver	ESU	Rohde & Schwarz	100092	2018.12.21	1 year
☒	Amplifier (25 dB)	8447D	HP	2944A07684	2018.09.07	1 year
☒	TRILOG Antenna	VULB9160	SCHWARZBECK	9160-3237	2019.05.16	2 year
☒	TEST PROGRAM	e3_Ver: 6.2009-10-12a	AUDIX	-	-	-

Radiated Emission – Above 1 GHz

	Item	Model Name	Manufacturer	Serial No.	Next Cal.	Interval
☒	EMI TEST Receiver	ESU	Rohde & Schwarz	100092	2018.12.21	1 year
☒	Amplifier (25 dB)	8447D	HP	3008A00337	2018.03.20	1 year
☒	HORN ANTENNA	3115	ETS	00055005	2019.05.16	2 year
☒	TEST PROGRAM	e3_Ver: 6.2009-10-12a	AUDIX	-	-	-

Harmonic Current / Voltage Variation and Flicking

	Item	Model Name	Manufacturer	Serial No.	Next Cal.	Interval
☒	Precision Power Analyzer	PPA551	Newtons4th Ltd	162-04957	2018.09.18	1 year
☒	Reference Impedance Network	ES4152	NF Corp.	9074424	2018.09.07	1 year
☐	DTV Signal Generator	MFG-100	MFLO	15M2002	2018.03.20	1 year
☐	Color TV Pattern Generator	PM-5518-TX	Philips	LO5333	-	-

Electrostatic Discharge

	Item	Model Name	Manufacturer	Serial No.	Next Cal.	Interval
☒	ESD Slimulator	ESS-2000	NOISEKEN	8000C03241	2018.12.06	1 year

RF Electromagnetic Field

	Item	Model Name	Manufacturer	Serial No.	Next Cal.	Interval
☒	Signal Generator	E4432B	Agilent	MY41310632	2018.05.22	1 year
☒	Power Meter	E4419B	Agilent	GB38410133	2018.06.09	1 year
☒	RF POWER AMPLIFIER	ITA0300KL-300	INFINITECH	0300KL 1507 001	-	-
☒	RF POWER AMPLIFIER	ITA2000KL-120	INFINITECH	200KL 1507 001	-	-
☒	RF POWER AMPLIFIER	ITA4500KL-70	INFINITECH	4500KL 1507 001	-	-
☒	RF POWER AMPLIFIER	ITA0750KL-300	INFINITECH	0750KL 1507 001	-	-
☒	Log.-Per.Antenna (80 ㎒ ~3 ㎓)	K9128	RAPA	NONE	-	-

Electrical fast transients

	Item	Model Name	Manufacturer	Serial No.	Next Cal.	Interval
☒	Compact Generator	Compact NX	EMTEST	P1725200196	2018.12.22	1 year
☒	AC Power Source	Variac NX	EMTEST	P1745207276	-	-
☒	Capacitive Coupling Clamp	CCI	EMTEST	P1744207071	2018.12.22	1 year

Surge

	Item	Model Name	Manufacturer	Serial No.	Next Cal.	Interval
☒	Compact Generator	Compact NX	EMTEST	P1725200196	2018.12.22	1 year
☒	AC Power Source	Variac NX	EMTEST	P1745207276	-	-
☒	CDN(10/700)	CNV 508T5	EMTEST	P1742204978	2018.12.22	1 year

Conducted disturbances, induced by radio-frequency fields

	Item	Model Name	Manufacturer	Serial No.	Next Cal.	Interval
☒	Signal generator	SML03	R&S	103026/0013	2018.03.20	1 year
☒	POWER METER	NRVD	R&S	101689	2018.03.20	1 year
☒	RF Power Amplifier	FLL75A	FRANKONIA	1033	-	-
☒	EM INJECTION CLAMP	TSIC-23	F.C.C	529	2018.06.12	1 year
☒	CDN (M2)	TSCDN-M2-16A	F.C.C	07008	2018.09.07	1 year
☒	CDN (M3)	TSCDN-M3-16A	F.C.C	07017	2018.09.07	1 year

Mains supply voltage dips, short interruptions

	Item	Model Name	Manufacturer	Serial No.	Next Cal.	Interval
☒	Compact Generator	Compact NX	EMTEST	P1725200196	2018.12.22	1 year
☒	AC Power Source	Variac NX	EMTEST	P1745207276	-	-

Mains supply voltage variations

	Item	Model Name	Manufacturer	Serial No.	Next Cal.	Interval
☒	Compact Generator	Compact NX	EMTEST	P1725200196	2018.12.22	1 year
☒	AC Power Source	Variac NX	EMTEST	P1745207276	-	-

APPENDIX B

PERFORMANCE CRITERIA

Performance criteria

The variety and the diversity of the equipment within the scope of this standard makes it difficult to define a precise functional test for evaluation of the EUT performance:

− where a relevant European product performance standard (EN) exists, which defines a suitable functional test for assessing the performance of the EUT before and after environmental or EMC tests (e.g. EN 54 series for fire alarm systems, EN 50131 series for intruder alarm systems), the functional test to be applied and its acceptance criteria shall be as defined in that standard;

− where no relevant European product performance standard (EN) exists or in the absence of a functional test(s) being prescribed in the relevant performance standard (EN), the functional test(s) shall be at least a test or measurement of the main function(s) of the equipment. The acceptance criteria for this functional test shall be that there is no change in the functioning of the equipment and no significant change in any measurement (e.g. sensitivity of a detector), which shall also remain within specification.

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 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
(see Clause 6), after the conditioning.

Radiated electromagnetic fields

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, and no such flickering of indicators occurs at a field strength of 3 V/m.
For components of CCTV systems, where the status is monitored by observing the TV picture, then deterioration of the picture is allowed at 10 V/m, providing.
(a) there is no permanent damage or change to the 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.
The EUT shall meet the acceptance criteria for the functional test(see Clause 6), after the conditioning.

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 the bursts 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
(see Clause 6), after the conditioning.

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 the surges 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
(see Clause 6), after the conditioning.

Conducted RF immunity

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, and no such flickering of indicators occurs at U0 = 130 dBμV.
For components of CCTV systems, where the status is monitored by observing the TV picture, then deterioration of the picture is allowed at U0 = 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 U0 = 130 dBμV, 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 U0 = 120 dBμV.
The EUT shall meet the acceptance criteria for the functional test(see Clause 6), after the conditioning.

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(see Clause 6), after the conditioning.

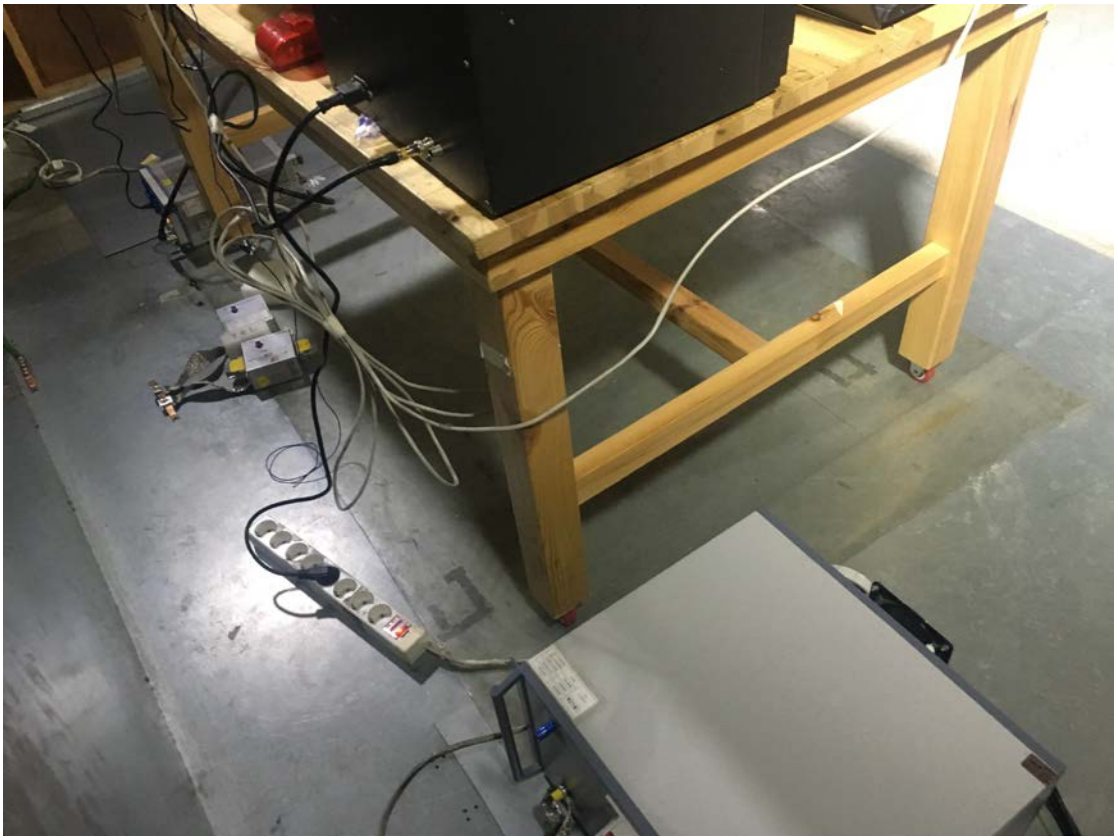
Mains supply voltage variations

There shall be no damage, malfunction or change of status due to the different supply voltage conditions. The EUT shall meet the acceptance criteria for the functional test(see Clause 6), during the conditioning.

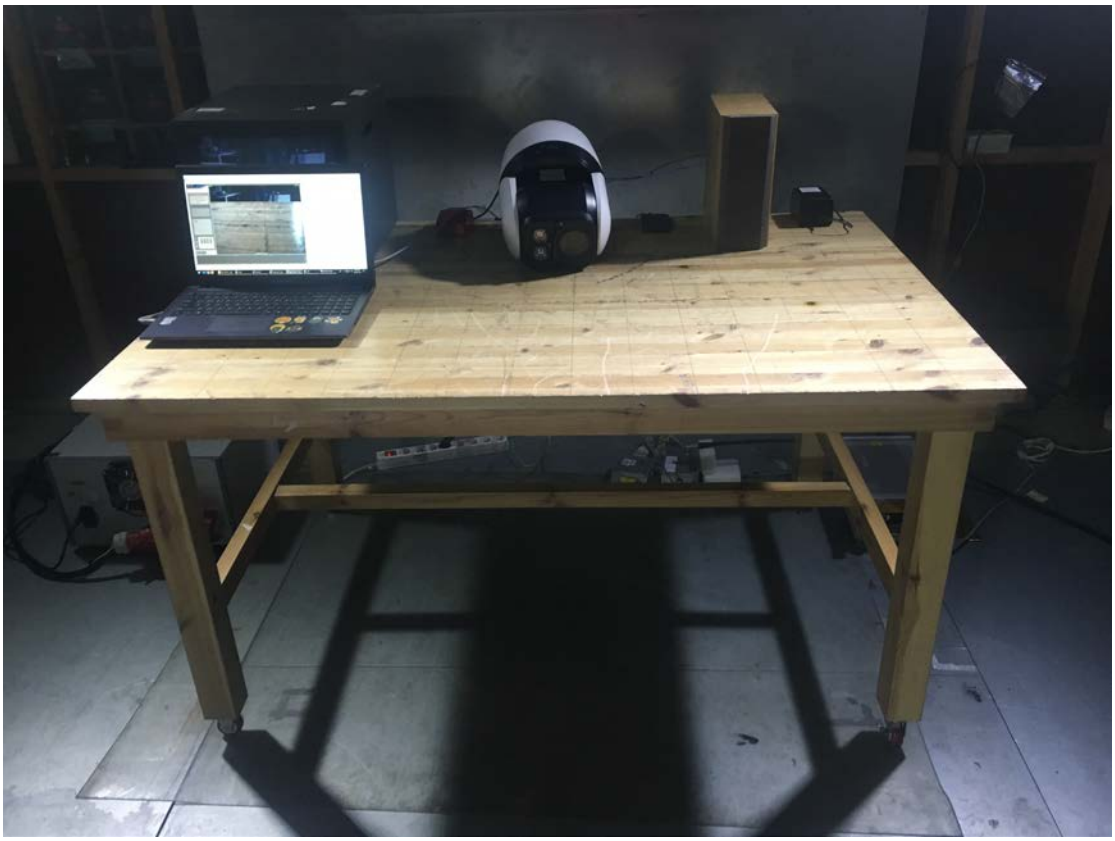
APPENDIX C

PHOTOGRAPHS

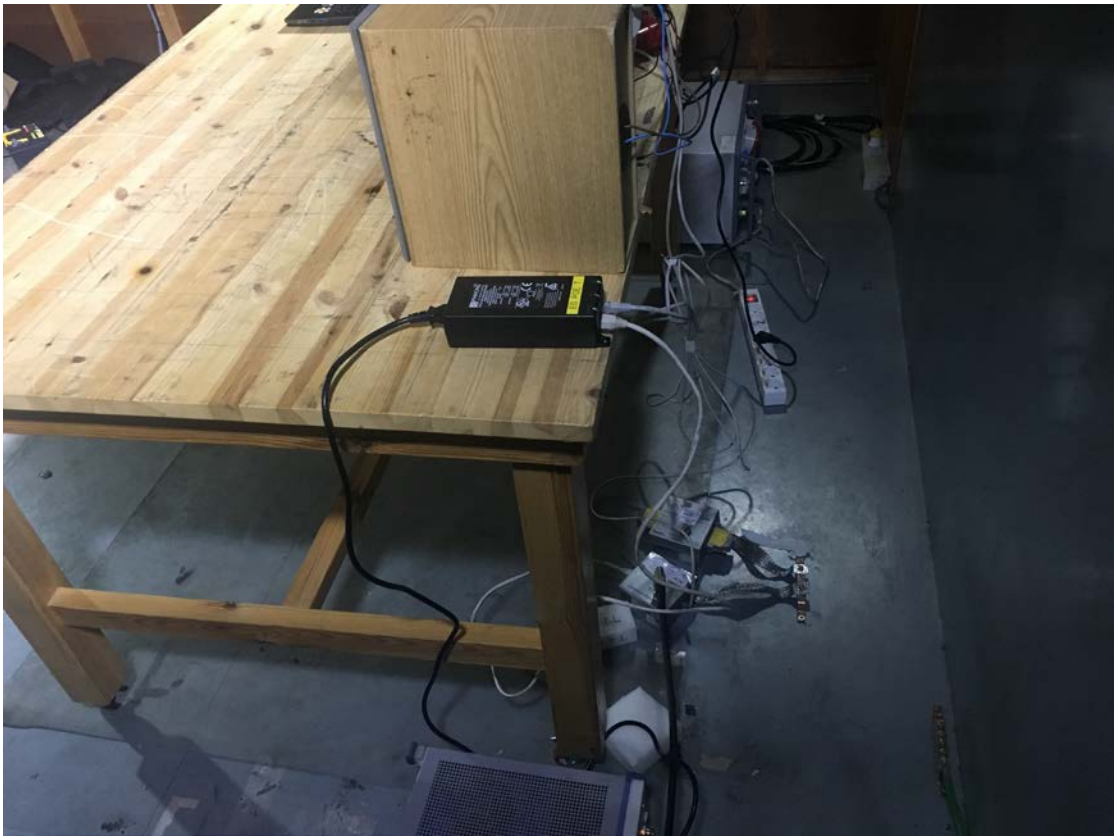
Conducted emission (Maximum emission configuration) / REC mode (Adapter)



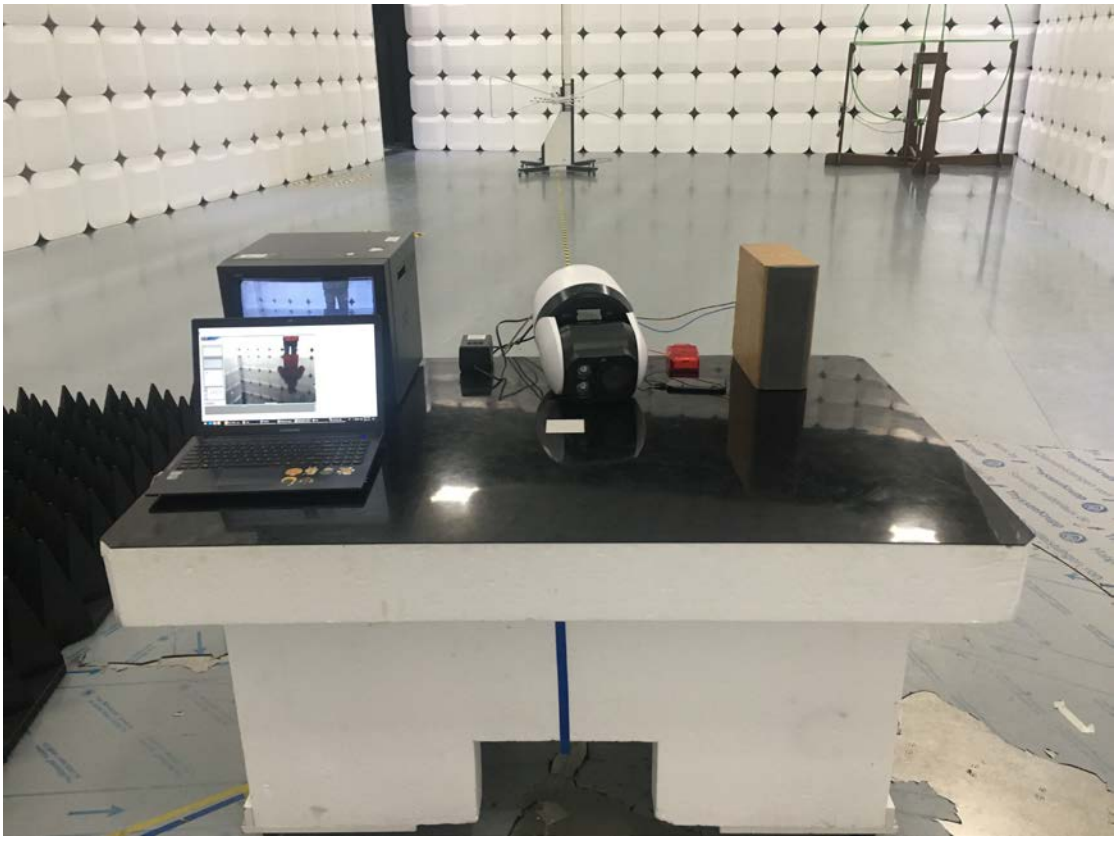
Conducted emission (Maximum emission configuration) / TEL _ REC mode (Adapter)



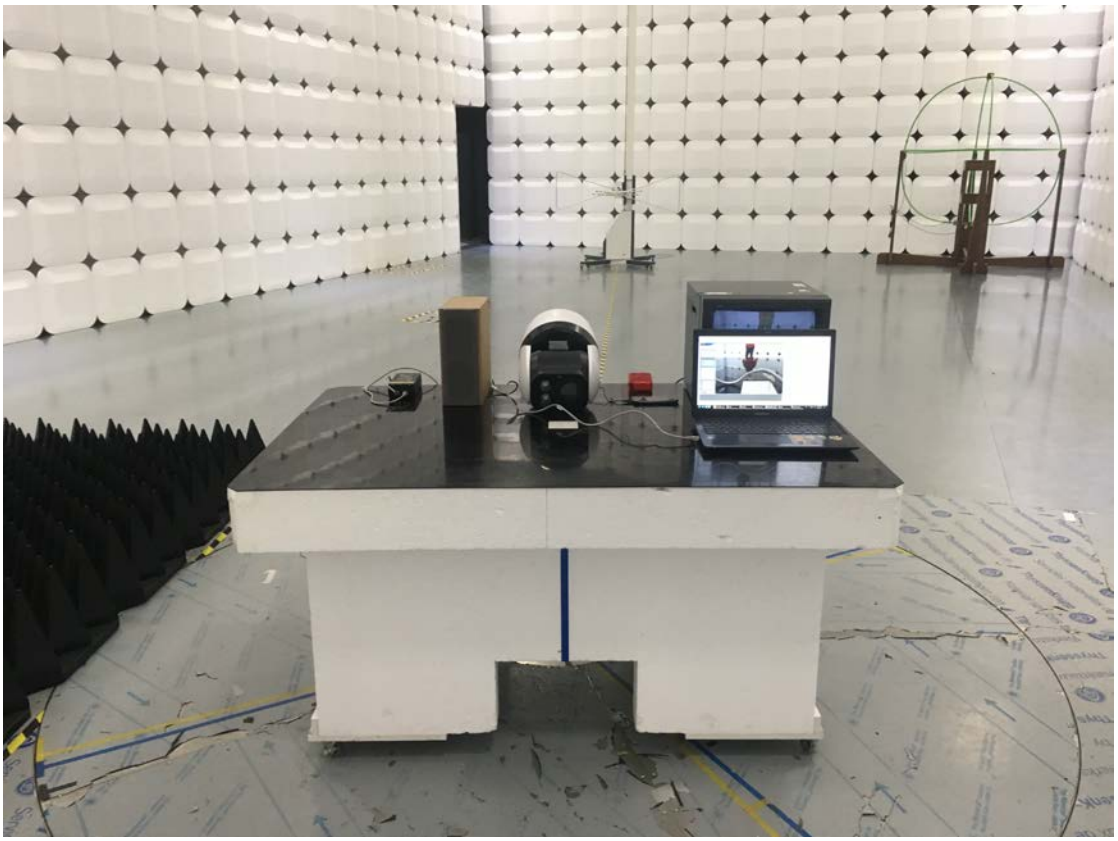
Conducted emission (Maximum emission configuration) / TEL _ REC mode (PoE)

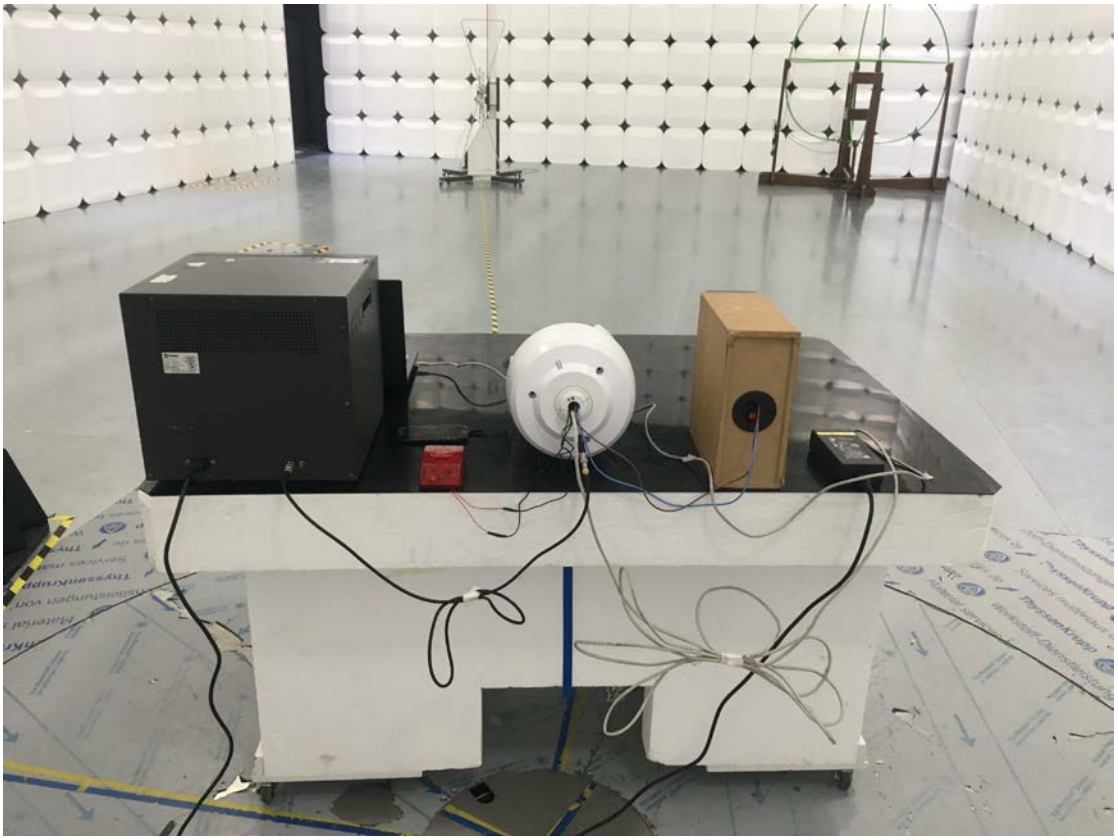


Radiated emission (Maximum emission configuration)-Below 1 GHz / REC mode (Adapter)

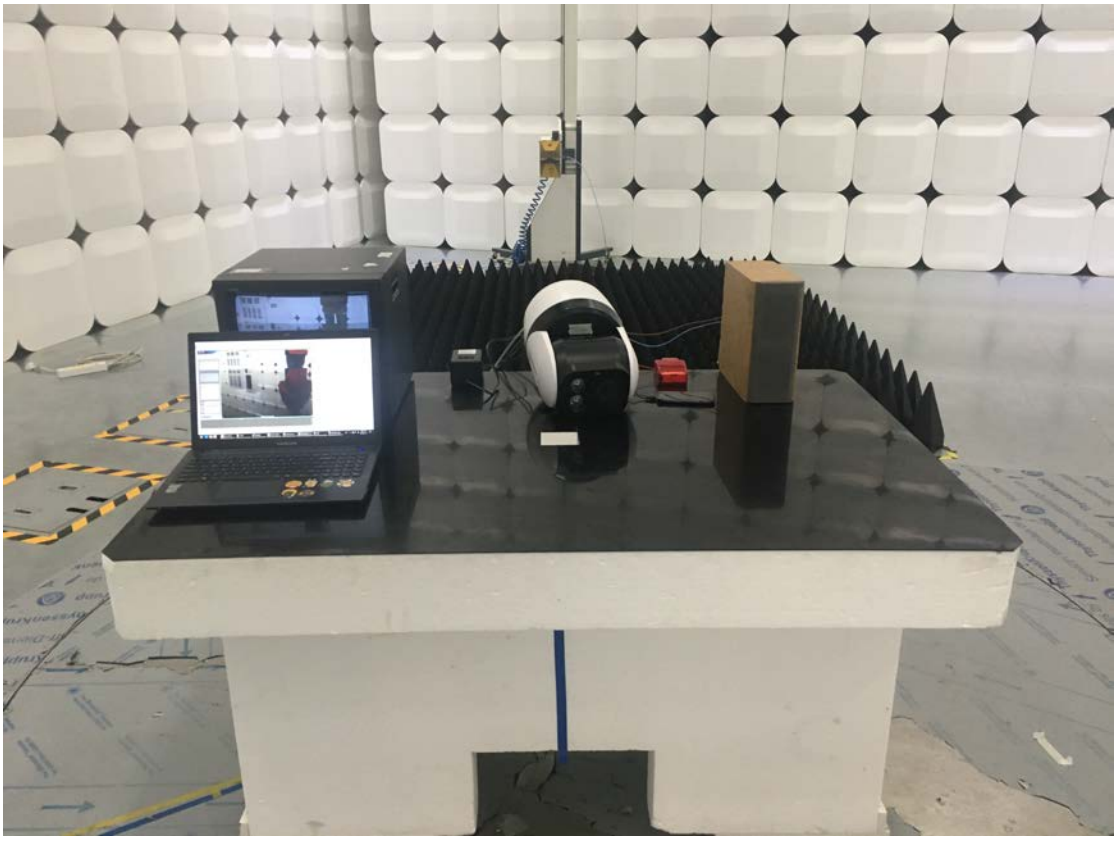


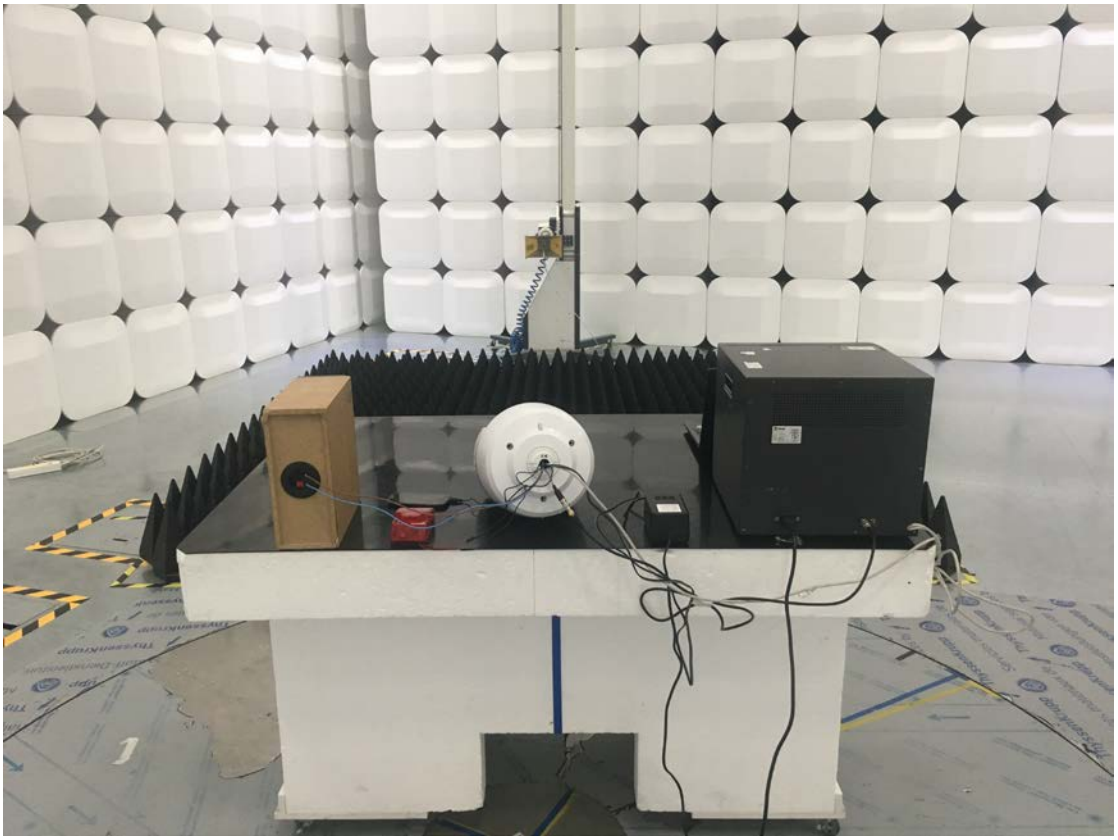
Radiated emission (Maximum emission configuration)-Below 1 GHz / REC mode (PoE)



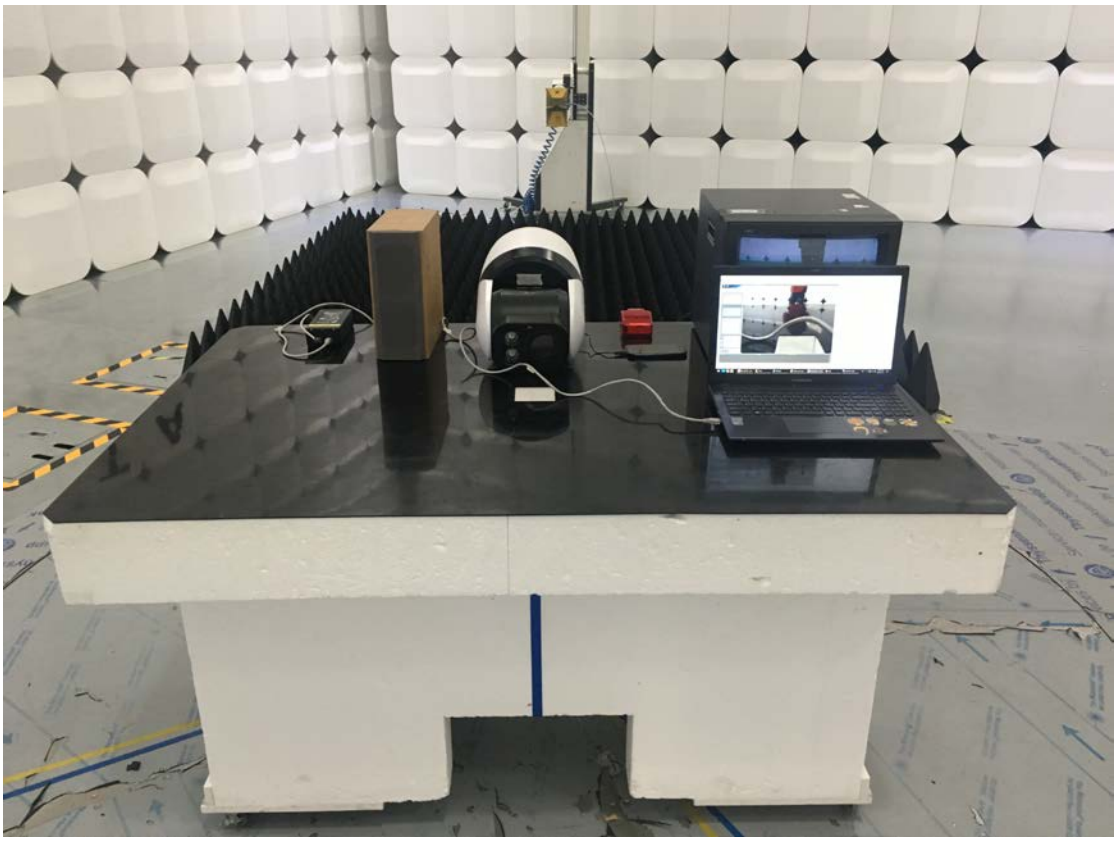


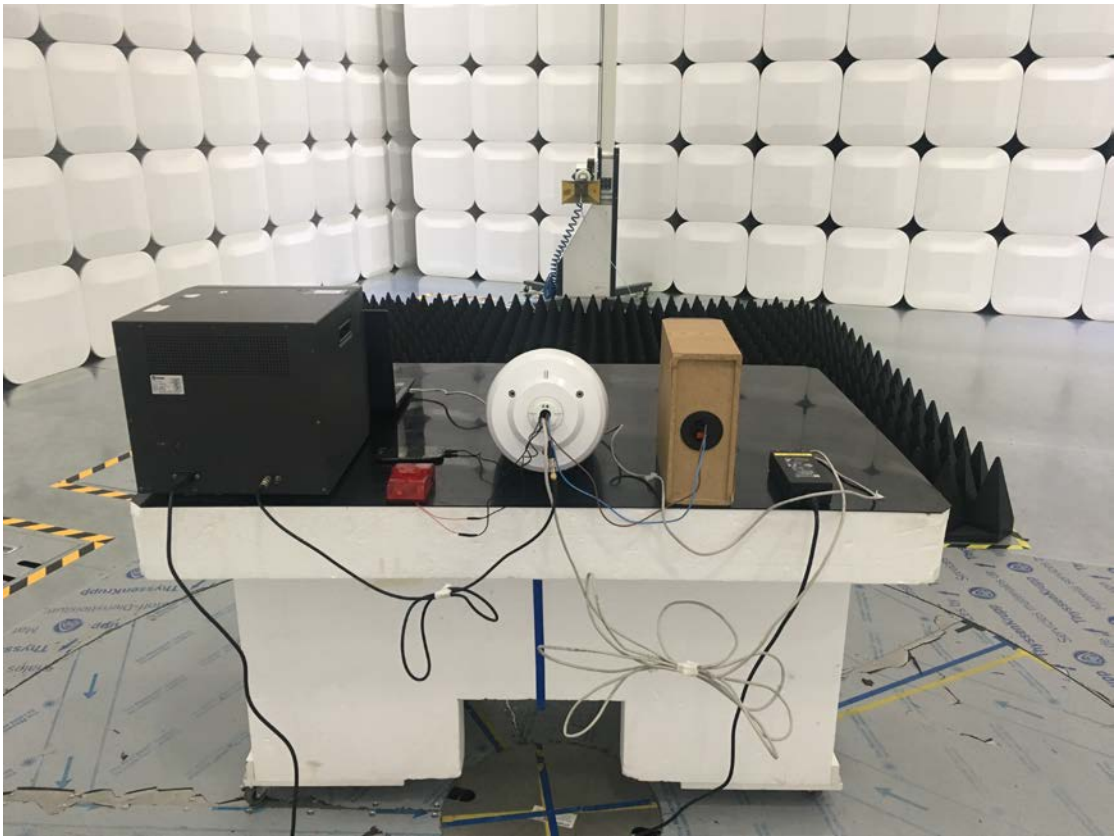
Radiated emission (Maximum emission configuration)- Above 1 GHz / REC mode (Adapter)





Radiated emission (Maximum emission configuration)- Above 1 GHz / REC mode (PoE)



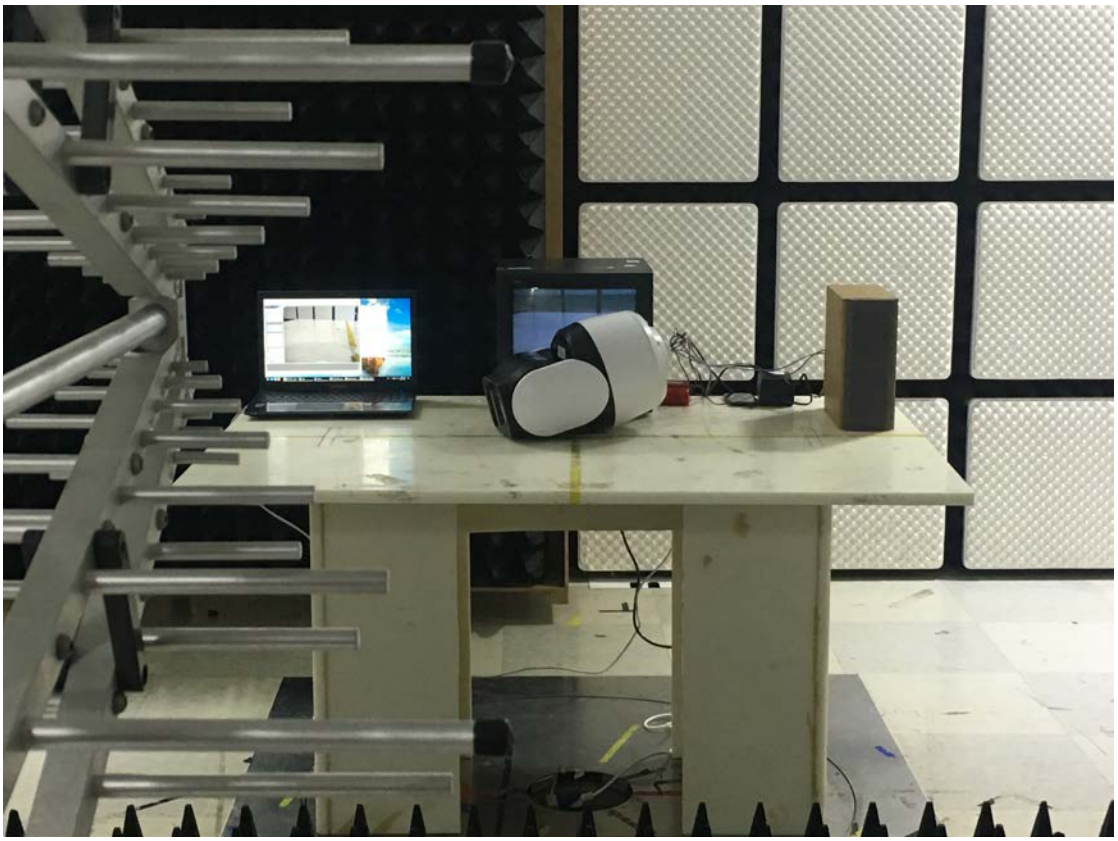


Harmonic Current / Voltage Variation and Flicking _ REC mode (Adapter)

Electrostatic discharge / REC mode (Adapter)

Electrostatic discharge / REC mode (PoE)

RF Electromagnetic Field / REC mode (Adapter)



RF Electromagnetic Field / REC mode (PoE)

Electrical fast transients / REC mode (Adapter)

Electrical fast transients / REC mode (PoE)

Surge / REC mode (Adapter)

Surge / REC mode (PoE)

Conducted Disturbances, Induced by Radio-Frequency Fields / REC mode (Adapter)

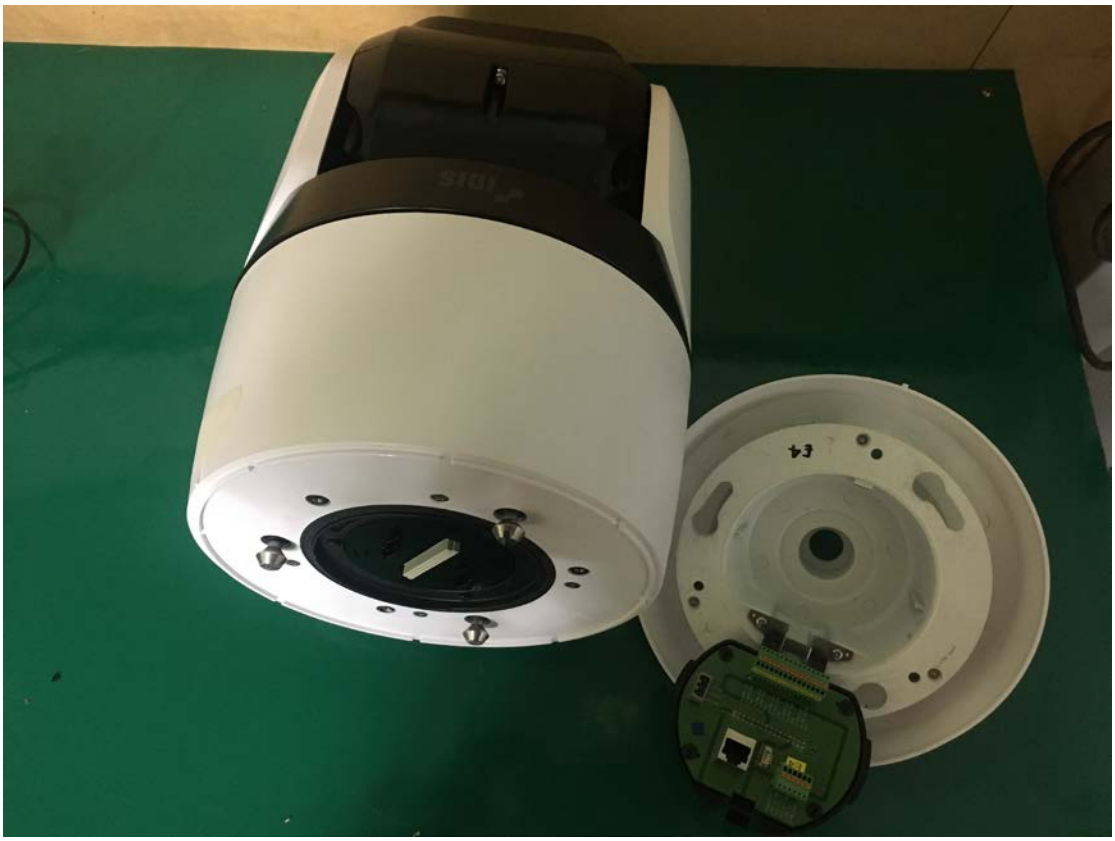
Conducted Disturbances, Induced by Radio-Frequency Fields / REC mode (PoE)

Mains supply voltage dips, short interruptions / REC mode (Adapter)

Mains supply voltage variations / REC mode (Adapter)

EUT

EUT



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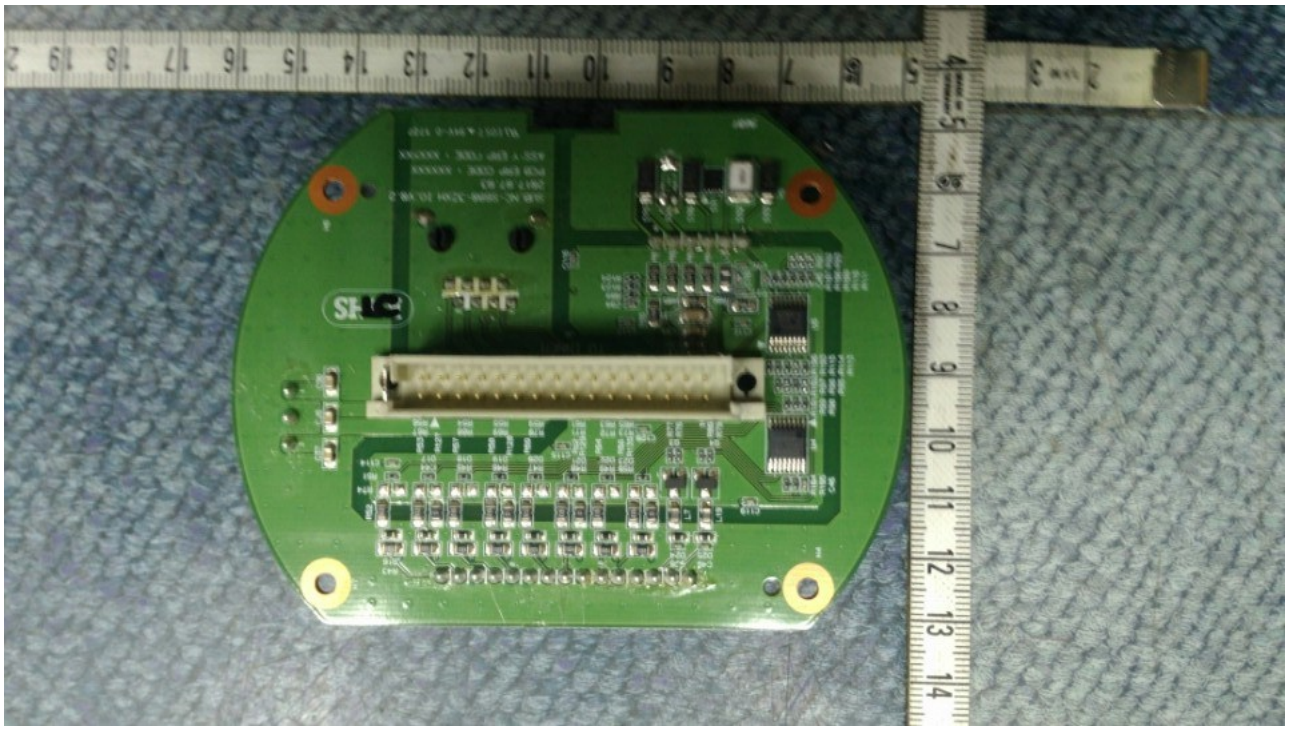

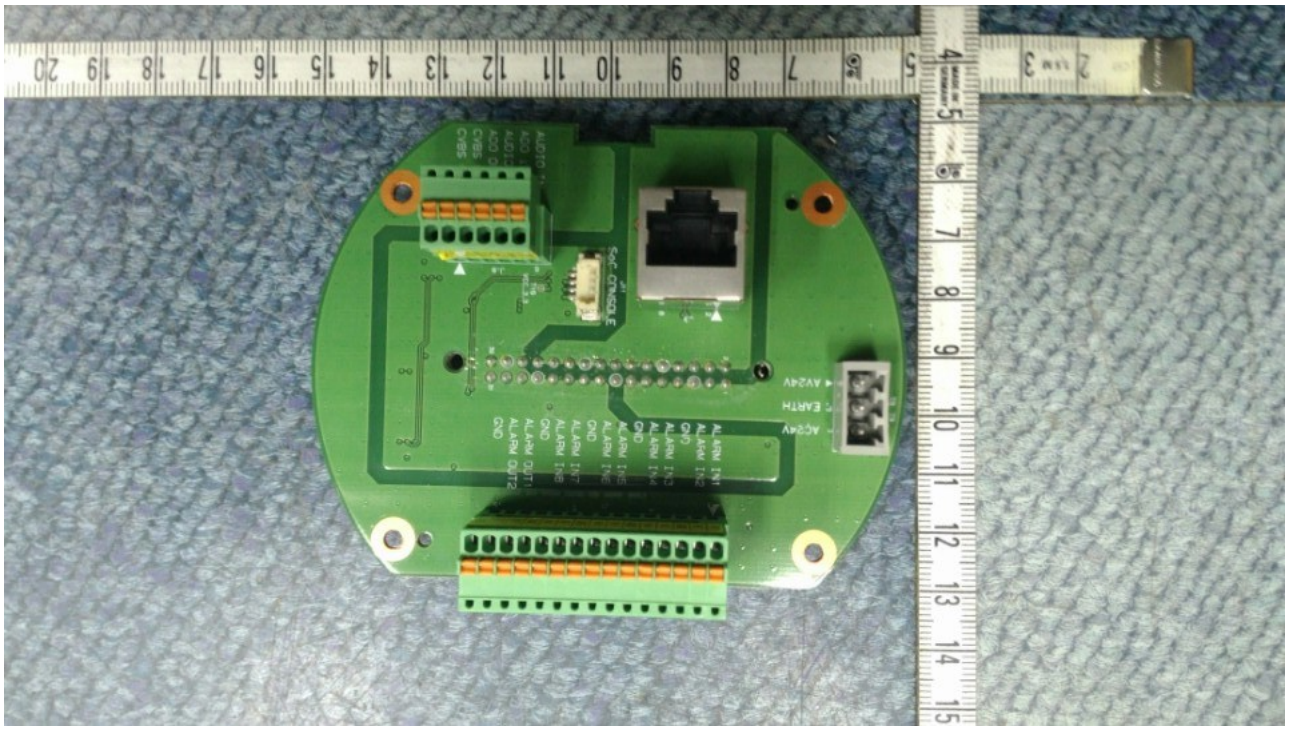

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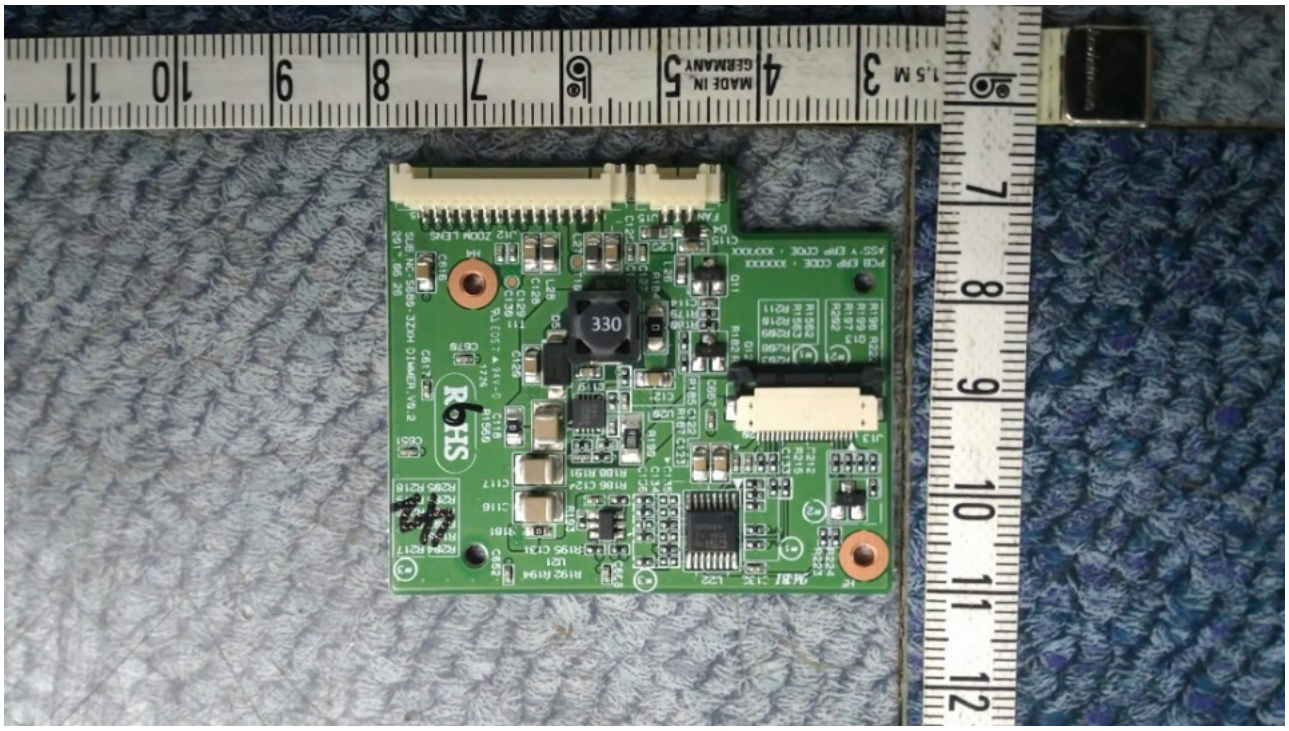

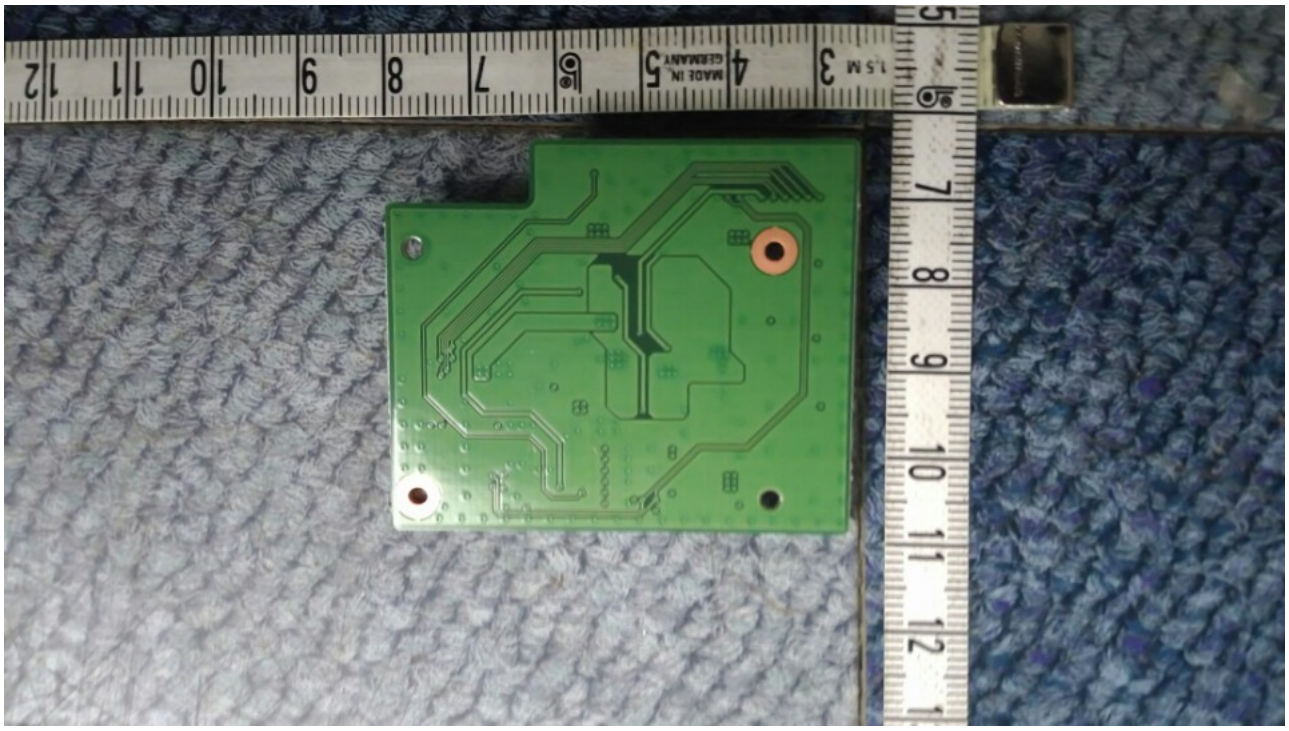

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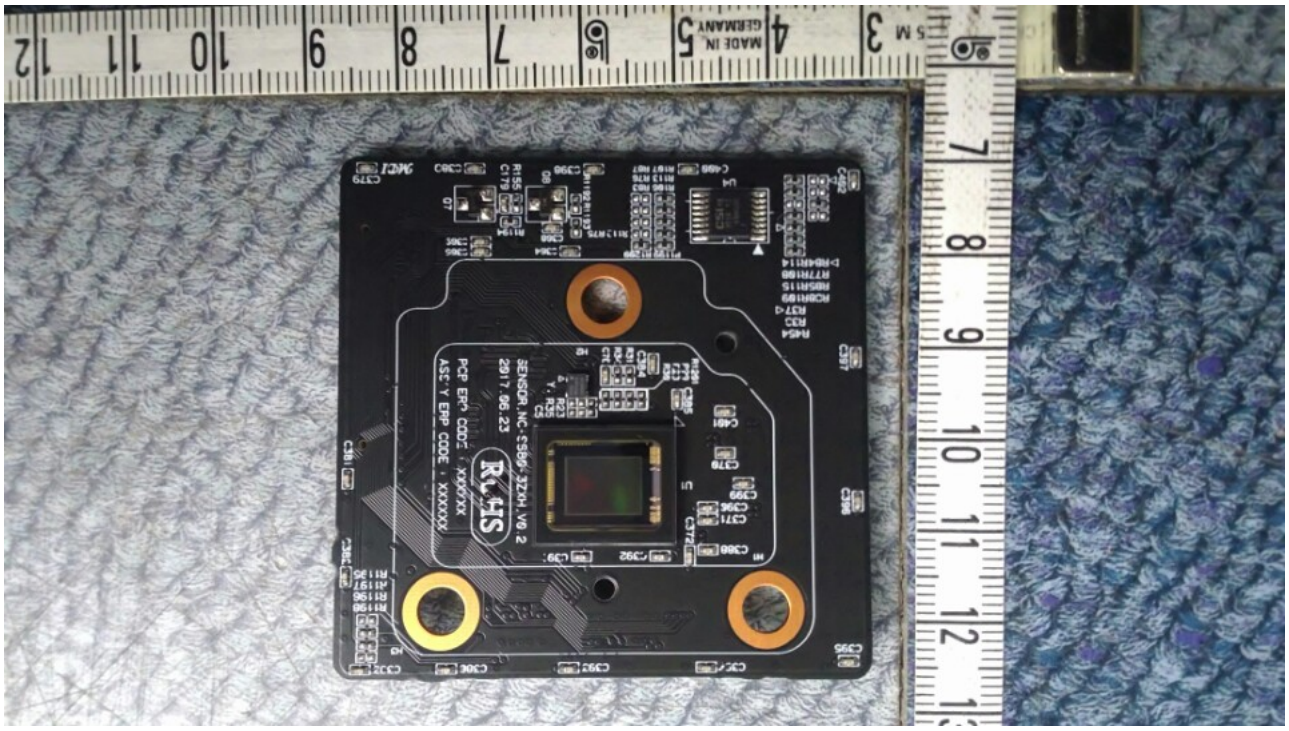
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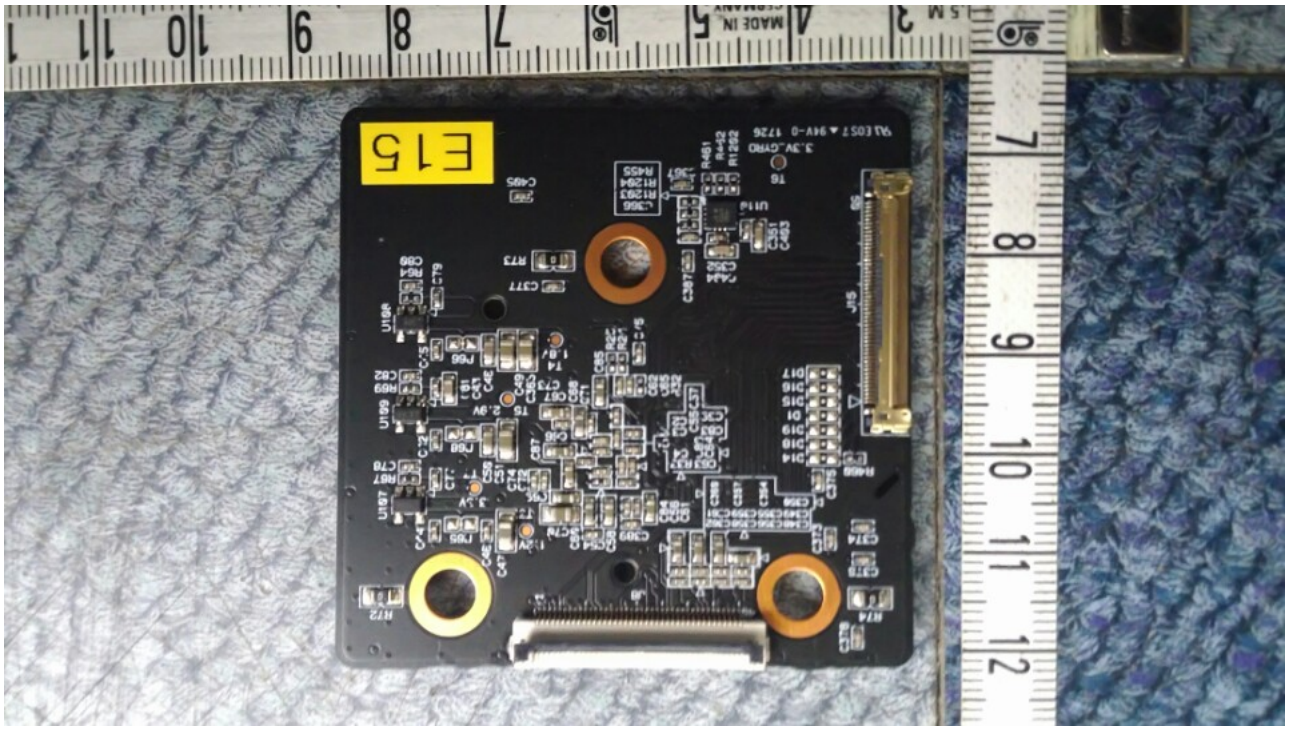
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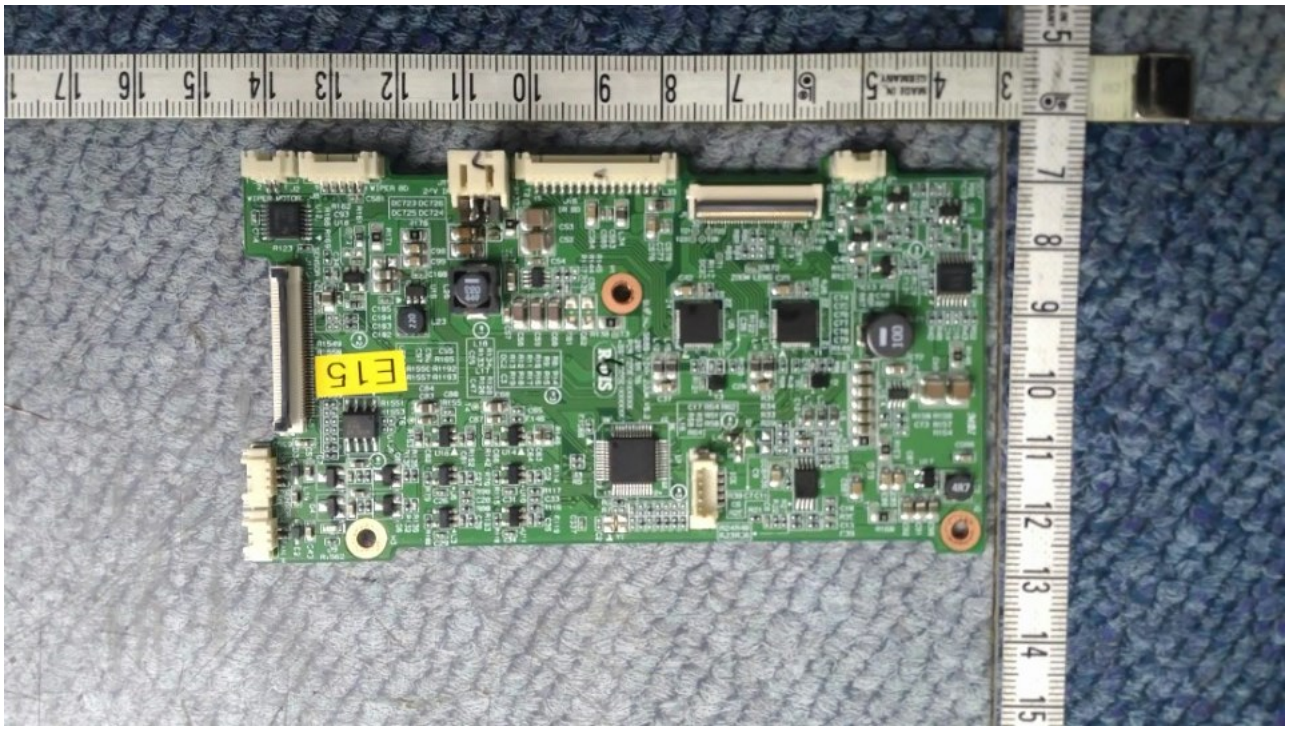

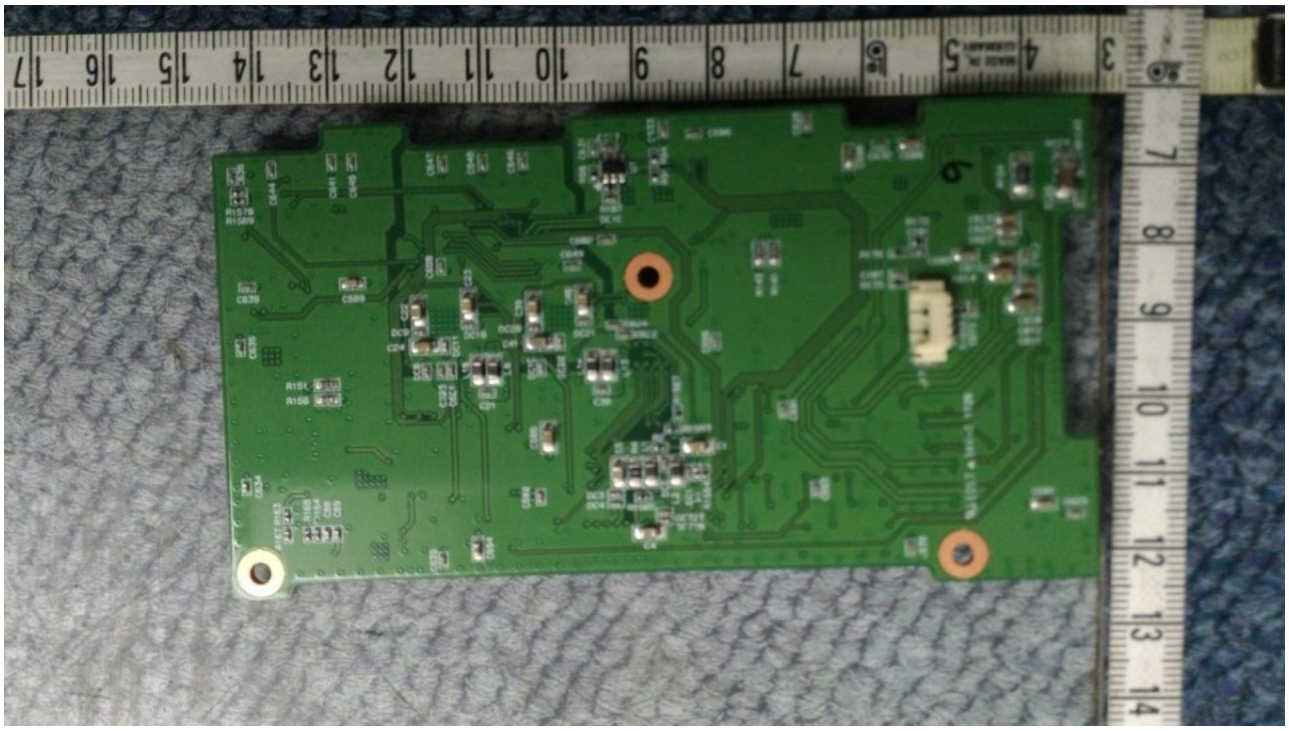

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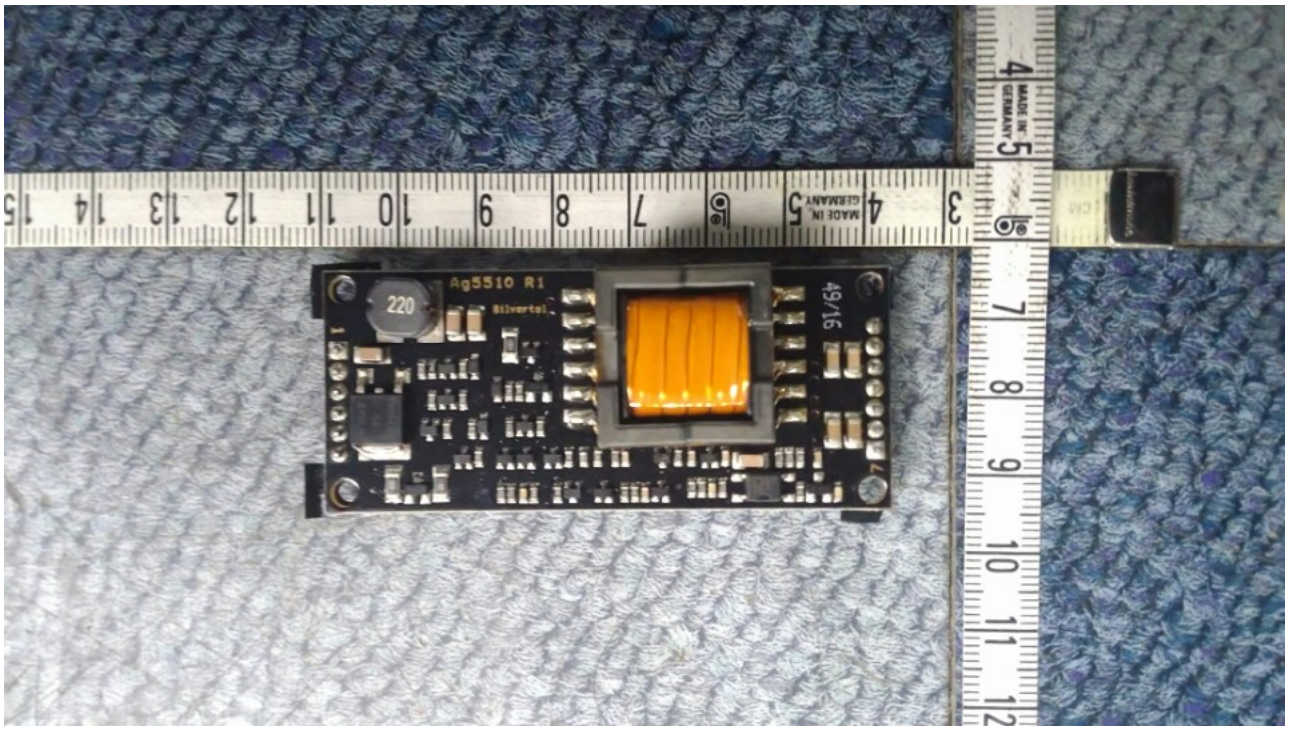

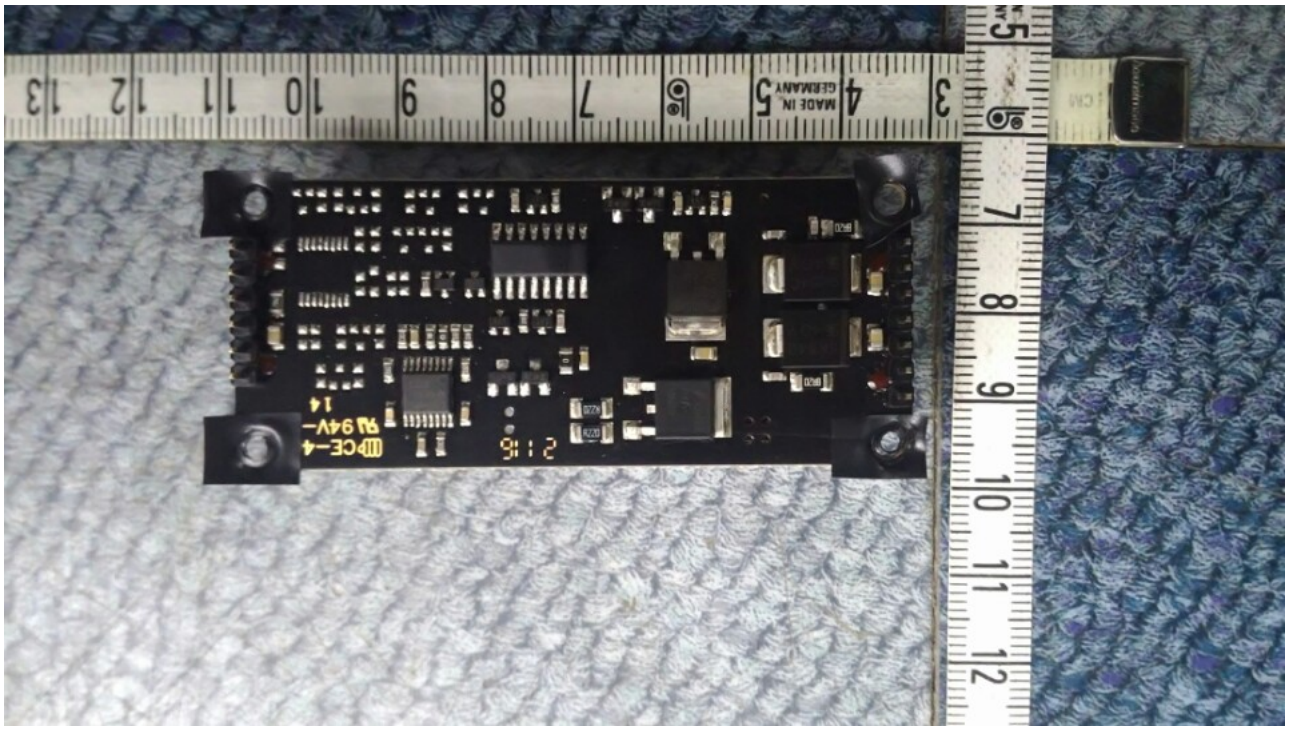

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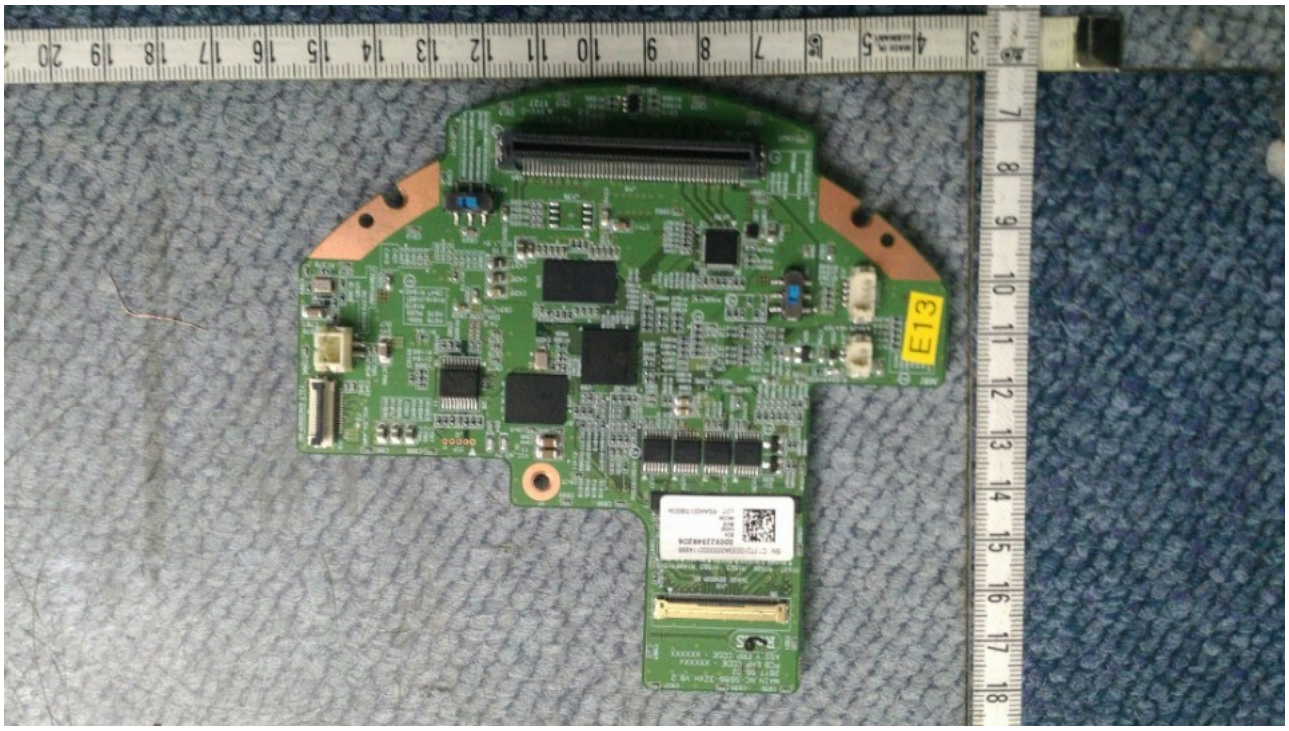

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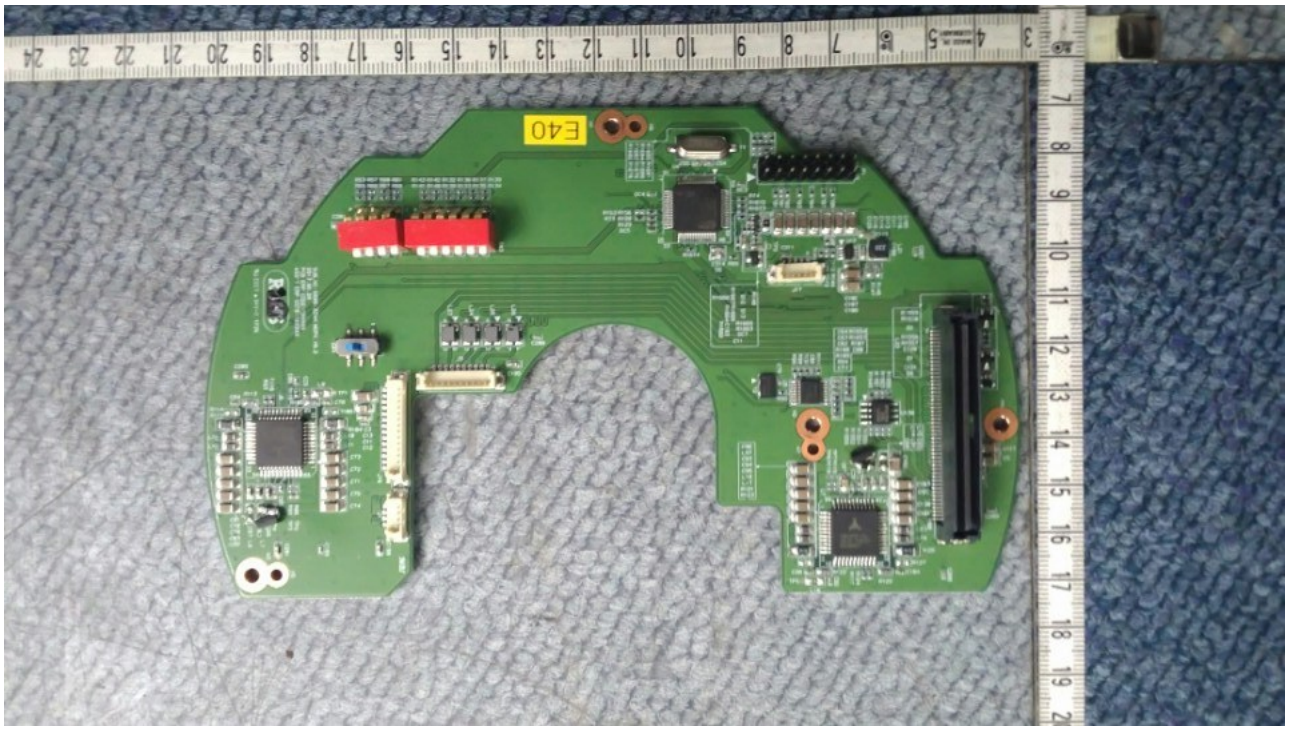

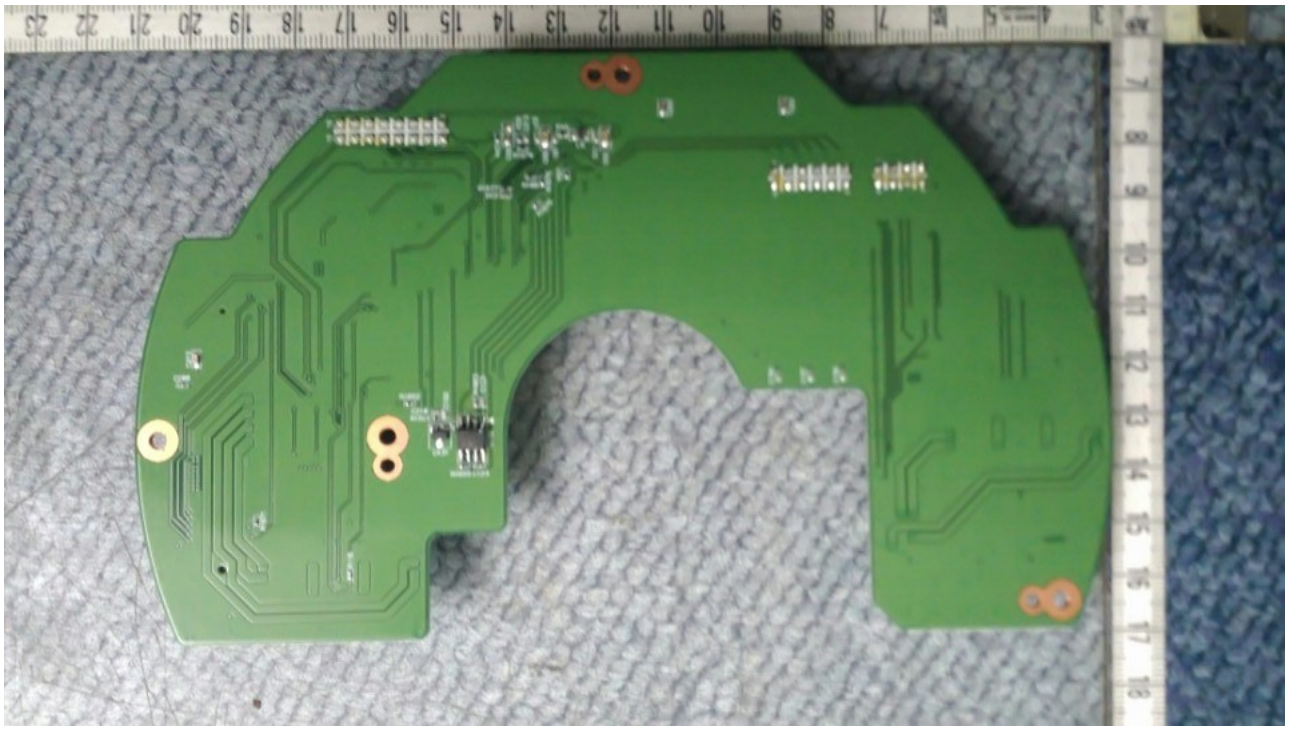

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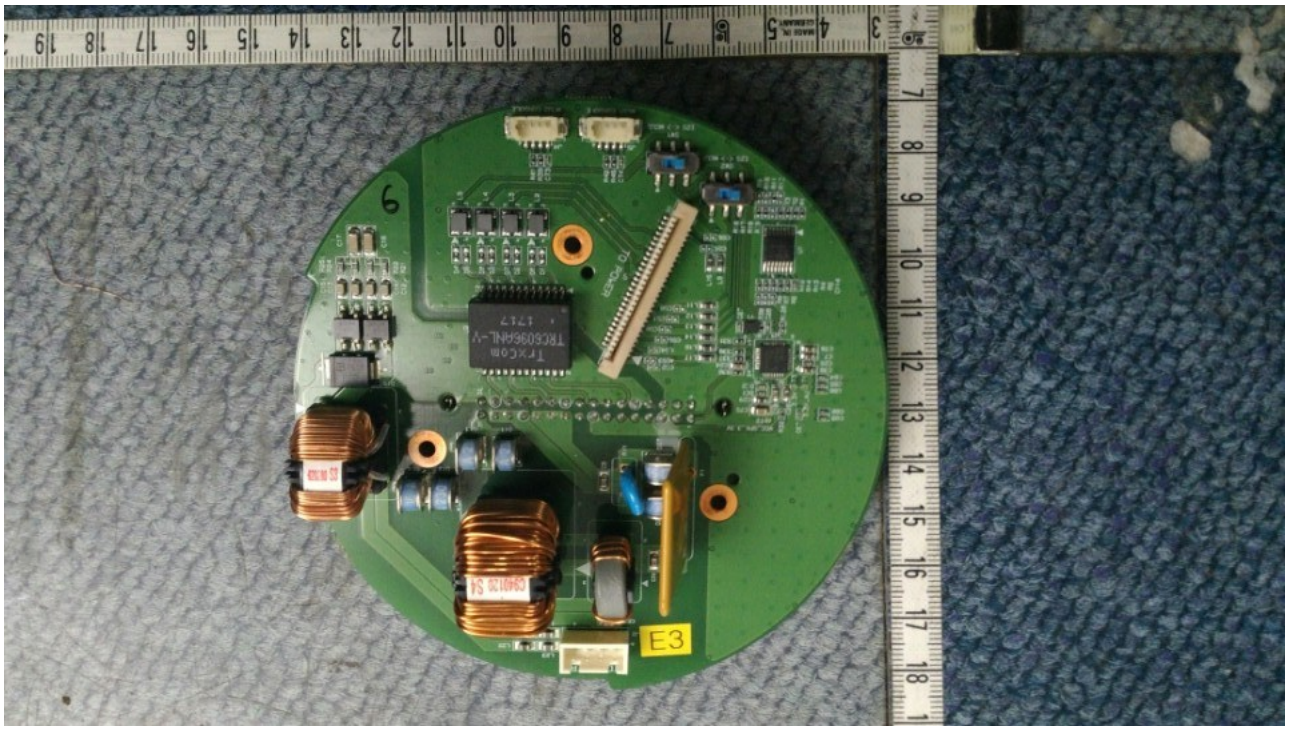

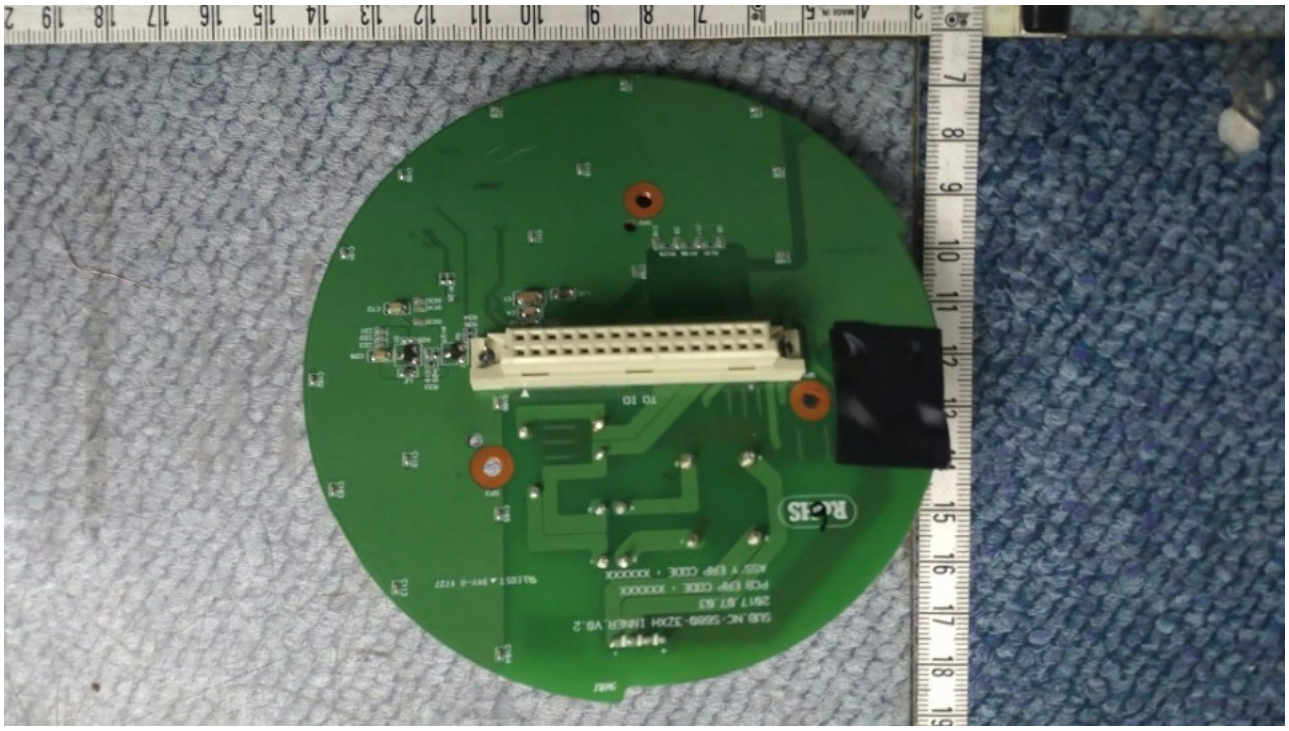

EUT