

TEST REPORT

This laboratory is accredited by Radio Research Laboratory and National Voluntary Laboratory Accreditation Program. The tests reported herein have been performed in accordance with its terms of accreditation.

Test Report No. : LR500112302Q
Issue Date : February 21, 2023
Applied Standard : FCC Part 15, Subpart B
Trade Name : Hanwha Vision Co., Ltd
Category : NETWORK CAMERA
Model Name : XNP-6040HN
Additional Model name : -
Serial Number : Identification

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.



Revision history

| Revision | Date of issue | Test report No. | Description |
|----------|---------------|-----------------|-------------------------------------------|
| 0 | 07.21.2017 | LR500111707G | Initial |
| 1 | 21.02.2023 | LR500112302Q | Change company name and manufacturer name |



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★★★★★★★★★★★★

LTA Certification

Applicant / Manufacture

Company name : Hanwha Vision Co., Ltd
Address : 6, Pangyo-ro 319 Beon-gil, Bundang-gu, Seongnam-si, Gyeonggi-do, 13488, KOREA
Telephone /Facsimile : +82-70-7147-8753(<http://hanhwa-security.com>)

Factory #1

Company name : HANWHA VISION VIETNAM COMPANY LIMITED
Address : Lot O-2, Que Vo Industrial Zone extended area ,Nam Son commune, Bac Ninh city,Bac Ninh province, Vietnam

Factory #1

Company name : D-TECH CO.,LTD.
Address : 173-25, Saneop-ro, Gwonseon-gu, Suwon-si, Gyeonggi-do, Korea
(Suwon Industrial Complex)

Equipment Under Test (EUT)

Category : NETWORK CAMERA
Brand : Hanwha Vision Co., Ltd
Model name : XNP-6040HN
Serial number : Identification
Intended environment : Industrial area
Date of receipt : July 20, 2017
EUT condition : Pre-production, not damaged
Operating Mode : Capture mode (Adapter, PoE)
Interface ports : DC IN, LAN, ALARM, RS485, SPEAKER, MIC
Power rating : DC 12 V
Test memory size : -
Crystal/Oscillator(s) : -
Firmware version : XXXX

Model Description

- NONE

Model Specification

- NONE

*** To be continued next page ***

LTA Certification –cont.-

Test Performed

Test started & completed : July 18-20, 2017
Location : LTA Co., Ltd.

Test Specification

Purpose of the test : Compliance test to the following standard
Applied standard : FCC Part 15, Subpart B
Classification : Class A
Deviations from Standard : N/A
Test Method

Test Results

| Measurement | Results* | Test method |
|-----------------------|----------|------------------|
| Radiated disturbance | Complies | ANSI C 63.4-2014 |
| Conducted disturbance | Complies | ANSI C 63.4-2014 |

* : The compliance statement is based on nominal value only.

Modification performed by the lab.:

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

Laboratory's Certificate

Report number : LR500112302Q
Issue date : February 21, 2023

This test report is issued under the authority of:

The test was supervised by:



Young Kyu Shin, Technical Manager



Jong Chae Kim, Test Engineer

The results in this report apply only to the sample(s) tested.

It is not allowed to copy this report even partly without the allowance of the test laboratory.

General information's

Purpose

This document is based on the Electromagnetic Interference (EMI) tests performed on the “XNP-6040HN”. The measurements were performed according to the measurement procedure described in ANSI C 63.4-2014. The tests were carried out in order to confirm whether the electromagnetic emissions from the EUT(Equipment Under Test), are within the class A limits defined in FCC Part 15, Subpart B- “Section 15.107- Conducted limits” and “Section 15.109-Radiated emission limits”.

Test Performed

Company name : LTA Co., Ltd.
 Address : 243, Jubug-ri, Yangji-Myeon, Youngin-Si, Kyunggi-Do, Korea. 449-822
 Telephone : +82-31-323-6008
 Facsimile : +82-31-323-6010

Measurement uncertainty

Radiated disturbance (30 to 1000MHz) : +3.94 [dB] , -3.94 [dB] (k=2)
 (1GHz to 18GHz) : +3.46 [dB] , -3.46 [dB] (k=2)
 Conducted disturbance (0.15 to 30MHz) : +1.46 [dB] , -1.46 [dB] (k=2)

The coverage factor k=2 yields approx. a 95% level of confidence for near-normal distribution typical of most measurement results.

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 | 2017-09-30 | ECT accredited Lab. |
| RRA | KOREA | KR0049 | - | EMC accredited Lab. |
| FCC | U.S.A | 649054 | 2019-04-13 | FCC CAB |
| VCCI | JAPAN | R-2133(10 m), C-2307 | 2017-06-21 | VCCI registration |
| VCCI | JAPAN | T-2009 | 2017-12-23 | VCCI registration |
| VCCI | JAPAN | G-847 | 2018-12-13 | VCCI registration |
| IC | CANADA | 5799A-1 | 2019-11-07 | IC filing |
| KOLAS | KOREA | NO.551 | 2017-01-08 | KOLAS accredited Lab. |

Brief Information

1-1 Test Summary

| Parameter | Applied Standard | Status (note 1) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------------------|
| I. Emission | | |
| Radiated disturbance | FCC Part 15.109 | C |
| Conducted disturbance | FCC Part 15.107 | C |
| Note 1: C=Complies NC=Not Complies NT=Not Tested NA=Not Applicable * The data in this test report are traceable to the national or international standards. | | |

Frequency range to be scanned:

0.15 MHz - 30 MHz as conducted measurement

5th harmonic of the highest frequency or 40 GHz, whichever is lower

Bandwidth:

Measured by the CISPR quasi-peak function Bandwidth is 9 kHz in the frequency 0.15 MHz to 30 MHz and 120 kHz in the frequency 30 MHz to 6,000 MHz.

Measured by the CISPR Peak function Bandwidth is 1MHz in the frequency 1 GHz to 40 GHz.

A sample calculation:

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

Emission Level= meter reading + COR.F

1-2 Variant Model

- NONE

1-3 Capture mode (Adapter, PoE) of the EUT

The tests have been conducted with the following operational mode(s) of the EUT.

| Name of mode in the report | Description |
|-------------------------------|-----------------------------|
| Capture mode (Adapter, PoE) : | Capture mode (Adapter, PoE) |

1-4 Modification

None

1-5 List of EUT and accessory

| EUT | | | | |
|----------------|----------------|------------|-------------------------------------------------------------------|--------------|
| Category | Model Name | Serial No. | Manufacturer | Remarks |
| NETWORK CAMERA | XNP-6040HN | N/A | HANWHA VISION VIETNAM COMPANY LIMITED D-TECH CO.,LTD. | — |
| ACCESSORY | | | | |
| Category | Model Name | Serial No. | Manufacturer | Remarks |
| Notebook | P56 | N/A | HANSUNG | - |
| Speaker | N/A | N/A | N/A | - |
| Controller | CNB-SC3100 | N/A | CNB | - |
| Mobile Phone | IM-A770K | N/A | SKY | - |
| Alarm | DS-360 | N/A | dmcall | - |
| Adapter | 24CB022F | N/A | CWT | Adapter mode |
| PoE | NEXT-PEG4806JT | N/A | NEXT | PoE mode |



1-6 Cable List

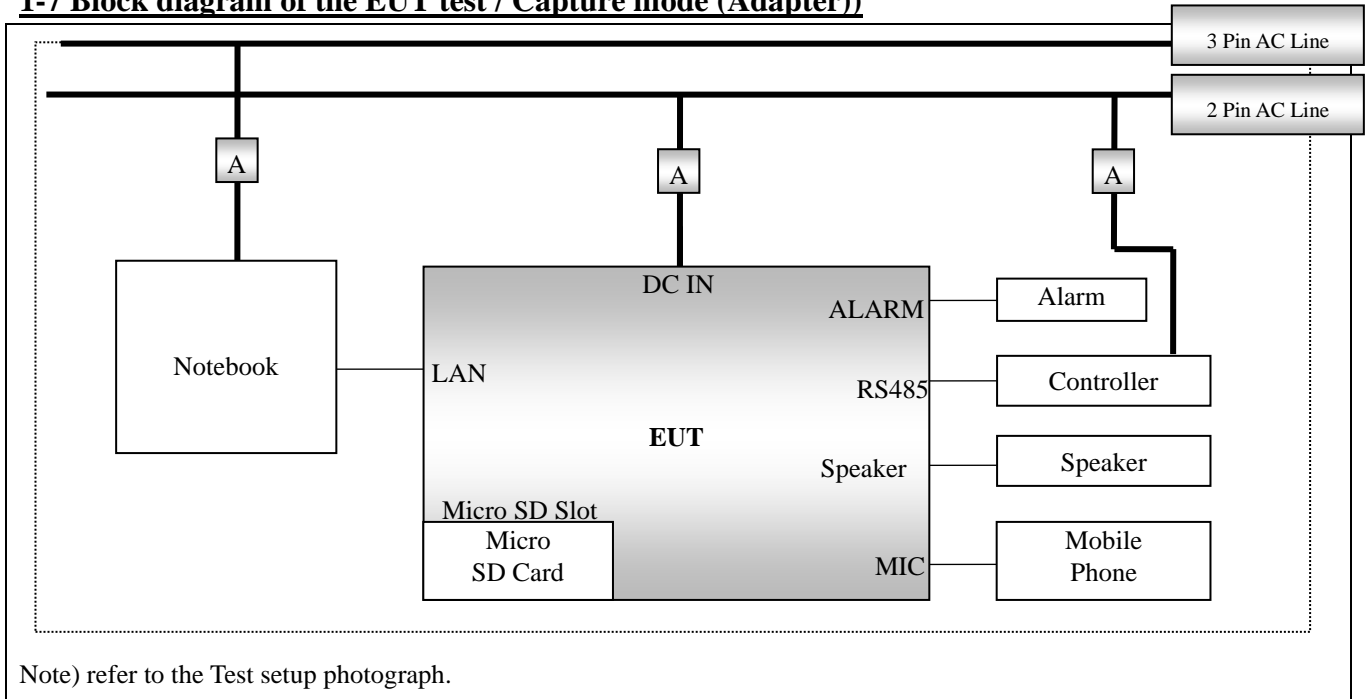
Cable List (Captrue mode (Adapter))

| Type | Length (m) | Shielding (Cable/backshell) | Remarks | |
|---------------|---------------|--------------------------------|---------------|-------|
| | | | From | to |
| Adapter | 1.2 | NO/NO | DC IN | - |
| Notebook | 3.0 | NO/NO | LAN | LAN |
| Alarm | 0.1 | NO/NO | ALARM | - |
| Controller | 1.0 | NO/NO | RS485 | RS485 |
| Speaker | 1.0 | NO/NO | Speaker | - |
| Mobile Phone | 1.5 | NO/NO | MIC | - |
| Micro SD Card | - | - | Micro SD Card | - |
| Adapter | 1.2 | NO/NO | DC IN | - |
| Adapter | 1.2 | NO/NO | DC IN | - |

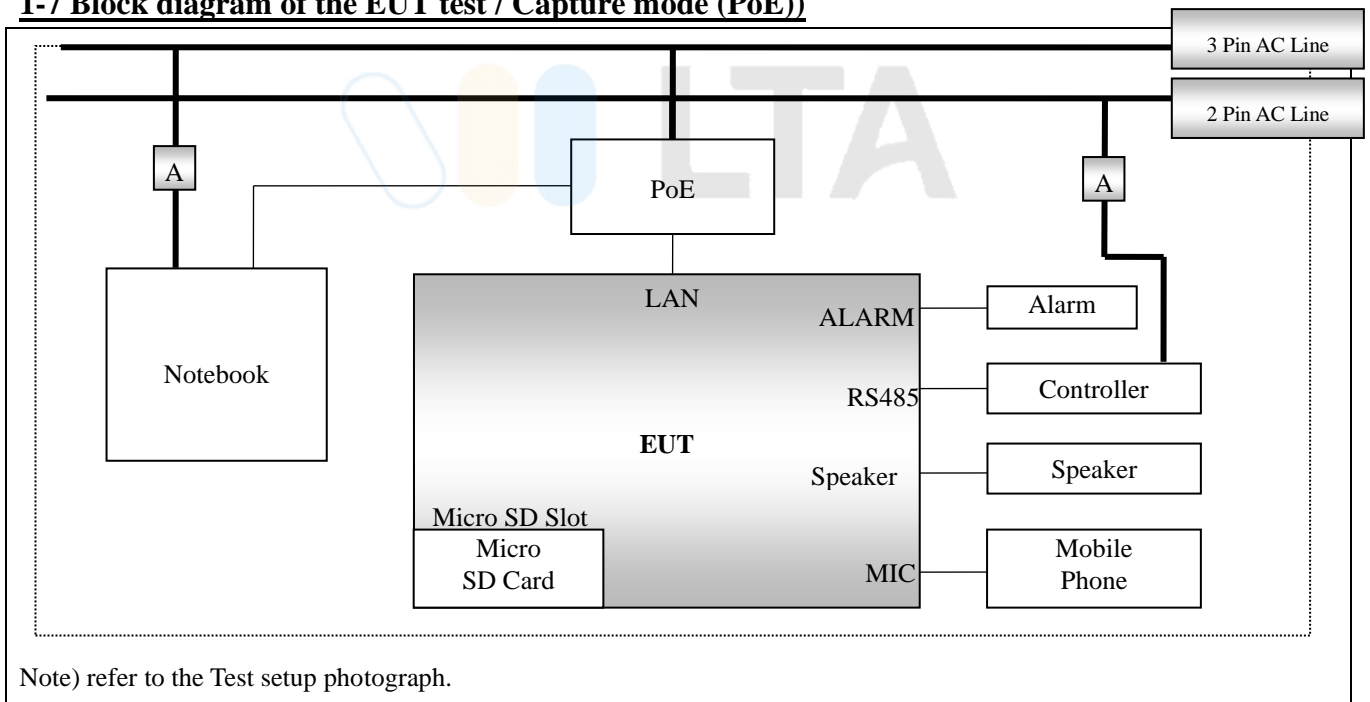
Cable List (Capture mode (PoE))

| Type | Length (m) | Shielding (Cable/backshell) | Remarks | |
|---------------|---------------|--------------------------------|---------------|-------|
| | | | From | to |
| PoE | 3.0 | NO/NO | LAN | OUT |
| Alarm | 0.1 | NO/NO | ALARM | - |
| Controller | 1.0 | NO/NO | RS485 | RS485 |
| Speaker | 1.0 | NO/NO | Speaker | - |
| Mobile Phone | 1.5 | NO/NO | MIC | - |
| Micro SD Card | - | NO/NO | Micro SD Card | - |
| Adapter | 1.2 | - | DC IN | - |
| PoE | 3.0 | NO/NO | LAN | IN |
| Adapter | 1.2 | NO/NO | DC IN | - |

1-7 Block diagram of the EUT test / Capture mode (Adapter))



1-7 Block diagram of the EUT test / Capture mode (PoE))



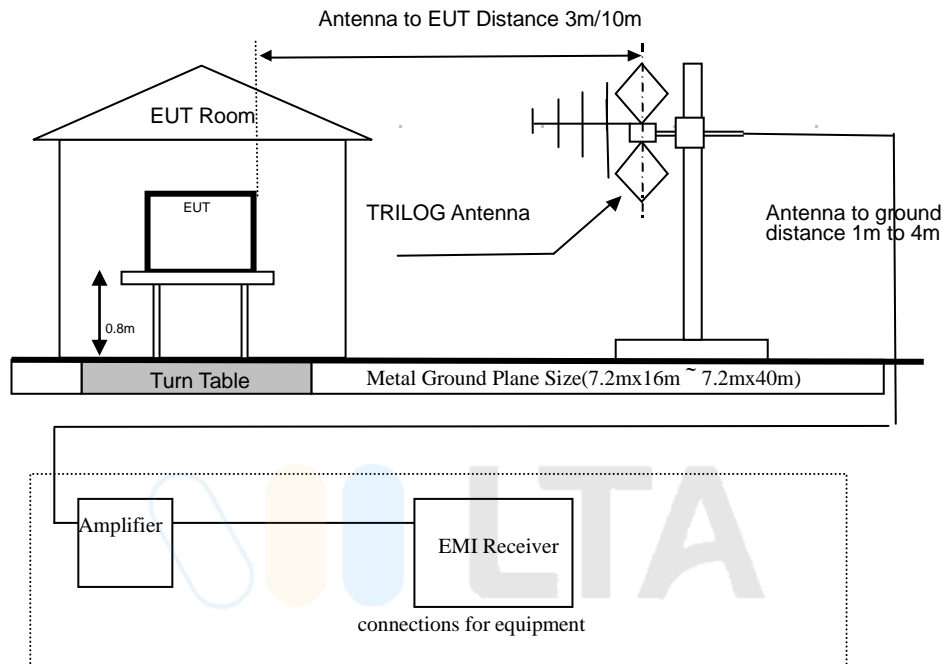
2- Test Site Description

1-Facility

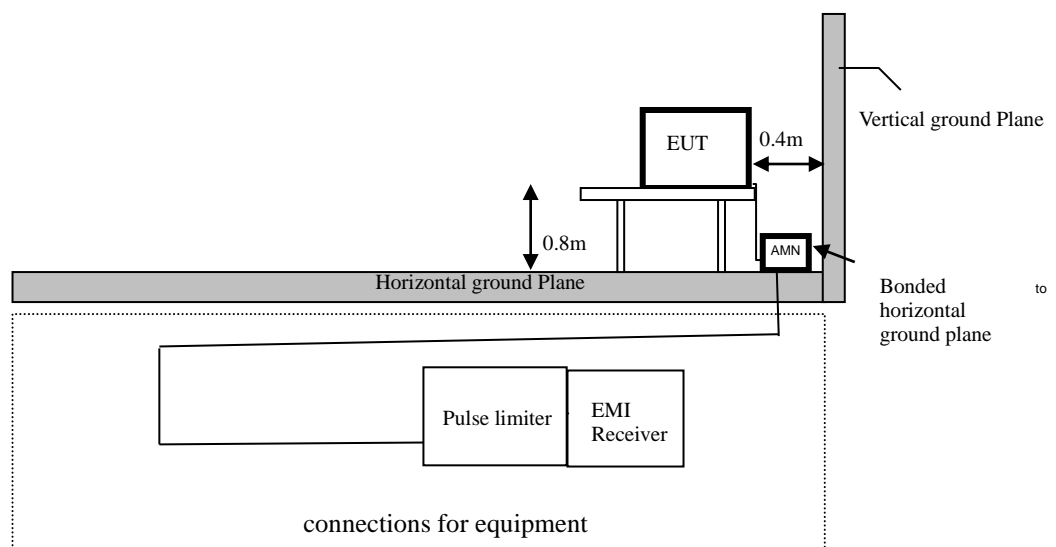
All the testing facilities are periodically serviced as a daily check for equipment and cables systems, an every 6 months facility check for the facilities and a monthly check and annual calibration for testing equipment according to ISO/IEC 17025. All the testing facilities are used as the same specifications shown below. There are descriptions both for radiated disturbance measurement and conducted disturbance measurement conformed by ANSI C 63.4-2014.

The NSA measurement of the OATS was performed on February 25, 2017 according to ANSI C 63.4:2014

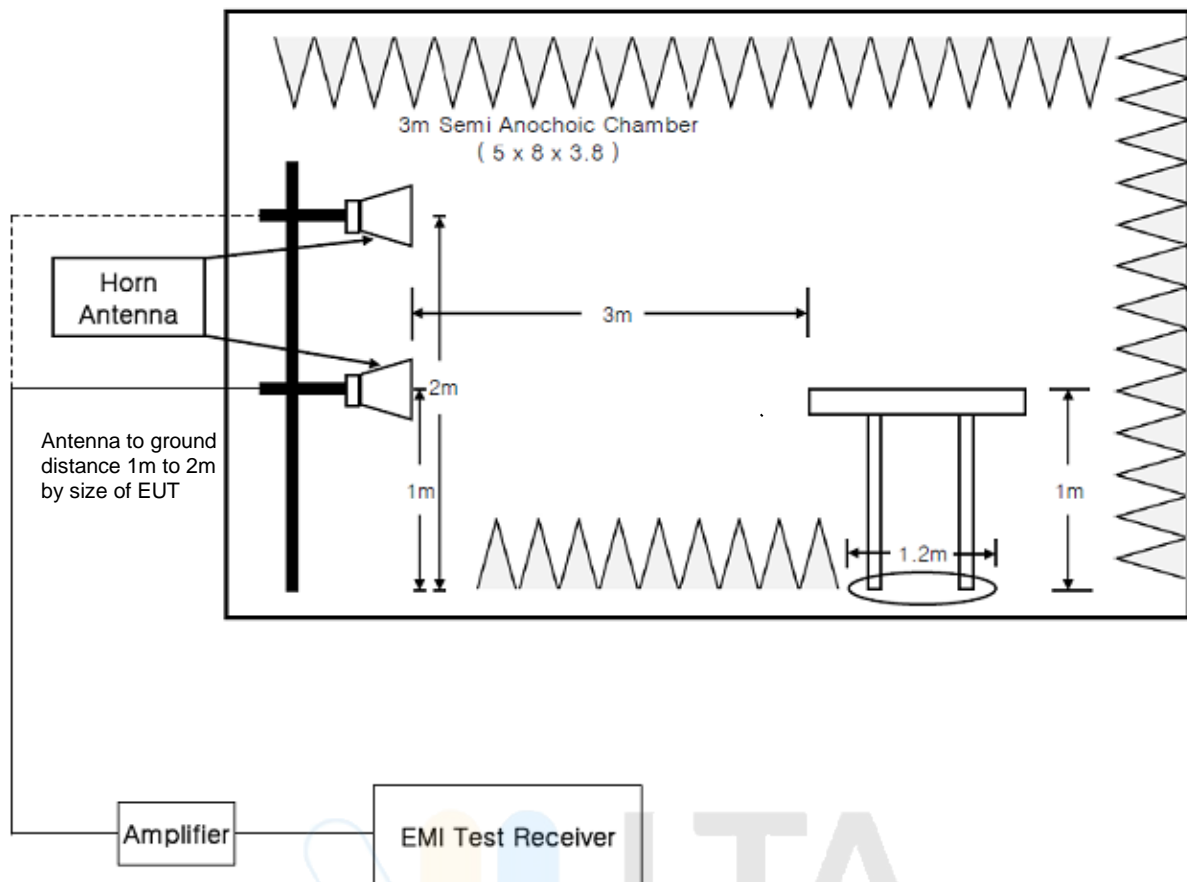
2-1 Radiated Disturbance Measurement – Below 1GHz



2-2 Conducted Disturbance Measurement



2-3 Radiated Disturbance Measurement – Above 1GHz



3- Test Procedure

3-1 Radiated Disturbance Measurements – Below 1GHz

- Test site is met the requirements of ANSI C 63.4-2014 and the distance between the EUT and the antenna is adjusted 3 m/10 m.
- The turntable can be rotated 360 degrees.
- The antenna can be adjusted between 1m and 4m in height above the ground.
- The EUT is placed on the non-conducting table with 0.8m height on the turntable.
- Measurements are carried out using a EMI test receiver with peak detectors (100 kHz bandwidth) and an EMI receiver with quasi-peak detectors(120 kHz bandwidth).
- Refer to the list of test equipment used for the test.
- TRILOG antenna are used as wideband antenna.
- The TRILOG antenna is used in the frequency range of 30 MHz to 1 000 MHz, the Horn antenna is used in the frequency range of 1GHz to 18 GHz.
- A variable attenuator is used for verifying amplifier's linearity.
- Rotating the turntable and adjusting the height of the antenna are carried out by control buttons on the console.
- Refer to "Brief Information"(page 7-10) about details of the EUT and configuration of the cables.
- Measurement is carried out by a LTA operator as manual operation.
 - searching for some of High disturbance frequency points than the other points with the following settings; bandwidth 100 kHz, frequency range 10 MHz between 30MHz and 300 MHz and frequency range 50 MHz between 300 MHz and 1 GHz.
 - searching the worst direction with the maximum level of the disturbance wave in rotating the turntable 360 degrees at each searched frequency point.
 - setting the height of the antenna with the maximum level of the disturbance wave from 1m to 4m.
 - reading the disturbance level by the EMI receiver with quasi-peak detectors (120 kHz bandwidth) according to ANSI C 63.4-2014.
 - measuring to vertical and horizontal polarization.
 - calculating the measurement result with the following formula or equation:
(Measurement result= measured value + antenna factor + antenna cable loss)

3-2 Conducted Disturbance Measurements

- The measurement is carried out on an open site with horizontal and metallic ground plane.
- An AMN(Artificial Mains Network) with a nominal impedance ($50\ \Omega/50\ \mu\text{H}$) as defined in ANSI C 63.4-2014., shall be utilized.
- The AMN is grounded on a horizontal metal ground plane.
- Measurement is carried out using an EMI receiver with quasi-peak detectors and average detector.
(Refer to the List of test equipment used for the test.)
- The shortest distance between the EUT and the AMN is 0.8m.
- The EUT is placed on the non-conducting table with 0.8m height.
- A remote switch is used for changing phases between Line (L) and Neutral (N).
- Refer to "Brief Information"(page 7-10) about details of the EUT and configuration of the cables.

- Measurement is carried out as manual operation.
 - detecting the maximized emission level using the maxhold function after setting the spectrum analyzer bandwidth 1KHz and the frequency range from 150 kHz to 1 MHz , 1 MHz to 5 MHz and 5 MHz to 30 MHz.
 - searching the maximum frequency point of the disturbance wave in each frequency range.
 - reading the disturbance level of quasi-peak, average and Line (L) and Neutral (N) in 9 kHz bandwidth by the EMI receiver.
 - calculating the measurement result with the following formula or equation.
(Result = Reading + Cor.F.)
(Margin = Limit- Result)

3-3 Radiated Disturbance Measurements – Above 1GHz

- Test site is met the requirements of ANSI C 63.4-2014 and the distance between the EUT and the antenna is adjusted 3m.
- The turntable can be rotated 360 degrees.
- The antenna can be adjusted between 1m in height above the ground.
- The EUT is placed on the non-conducting table with 1m height on the turntable.
- Measurements are carried out using a EMI test receiver with peak detectors (1 MHz bandwidth) and an EMI receiver with peak and average detectors(1 MHz bandwidth).
- Refer to the list of test equipment used for the test.
- HORN antenna are used as wideband antenna.
- The HORN antenna is used in the frequency range of 1 GHz to 18 GHz.
- A variable attenuator is used for verifying amplifier's linearity.
- Rotating the turntable and adjusting the height of the antenna are carried out by control buttons on the console.
- Refer to "Brief Information"(page 7-10) about details of the EUT and configuration of the cables.
- Measurement is carried out by a LTA operator as manual operation.
 - searching the worst direction with the maximum level of the disturbance wave in rotating the turntable 360 degrees at each searched frequency point.
 - setting the height of the antenna with the maximum level of the disturbance wave from 1 m
 - reading the disturbance level by the EMI receiver with peak and average detectors (1MHz bandwidth) according to ANSI C 63.4-2014.
 - measuring to vertical and horizontal polarization.
 - calculating the measurement result with the following formula or equation:
(Measurement result= measured value + antenna factor + antenna cable loss)

4- List of Equipment Used For the Tests

| | Description | Model No. | Serial No. | Manufacturer | Interval | LAST Cal. |
|----|-----------------------------------|-------------|---------------|---------------------|----------|-----------|
| 1 | EMI TEST Receiver | ESR | 101499 | Rohde & Schwarz | 1 year | Jul-17 |
| 2 | Pulse Limiter | ESH3-Z2 | 100710 | Rohde & Schwarz | 1 year | Mar-17 |
| 3 | DIGITAL THERMO HYGROMETER | TH-611 | NONE | BODYCOM | 1 year | Sep-16 |
| 4 | DTV Signal Generator | MFG-100 | 15M2002 | MFLO | 1 year | Mar-17 |
| 5 | Color TV Pattern Generator | PM-5518-TX | LO5333 | Philips | - | - |
| 6 | LISN | ESH3-Z6 | 100378 | Rohde & Schwarz | 1 year | Sep-16 |
| 7 | LISN(main) | ESH3-Z5 | 893045/017 | Rohde & Schwarz | 1 year | Mar-17 |
| 8 | LISN(sub) | ENV216 | 100408 | Rohde & Schwarz | 1 year | Sep-16 |
| 9 | ISN | ISN T800 | 27109 | TESEQ | 1 year | Jan-17 |
| 10 | ISN | ENY81-CA6 | 101565 | Rohde & Schwarz | 1 year | Jan-17 |
| 11 | CURRENT PROBE | EZ-17 | 100508 | Rohde & Schwarz | 1 year | Jan-17 |
| 12 | LISN | ESH3-Z6 | 100378 | Rohde & Schwarz | 1 year | Sep-16 |
| 13 | EMI TEST Receiver | ESC17 | 100772 | Rohde & Schwarz | 1 year | Sep-16 |
| 14 | Amplifier (25 dB) | 8447D | 2944A07974 | HP | 1 year | Sep-16 |
| 15 | DIGITAL THERMO HYGROMETER | TESTEK-303A | TAEGUANG | - | 1 year | Mar-17 |
| 16 | STEP TRANSFORMER | INA6502 | 34270 | SCHAFFNER | 1 year | Sep-16 |
| 17 | Log.-Per. Antenna | VULP 9118 | 9118 A 401 | SCHWARZBECK | 2 year | Apr-17 |
| 18 | Biconical Antenna | VHA 9103 | VHA 9103-2315 | SCHWARZBECK | 2 year | Apr-17 |
| 19 | TRILOG Antenna | VULB9160 | 9160-3237 | SCHWARZBECK | 2 year | May-17 |
| 20 | TRILOG Antenna | VULB9160 | 9160-3237 | SCHWARZBECK | 2 year | Apr-17 |
| 21 | Amplifier (25 dB) | 8449B | 3008A00337 | HP | 1 year | Mar-17 |
| 22 | Spectrum Analyzer (~ 26.5 GHz) | E4407B | MY45108946 | Agilent | 1 year | Mar-17 |
| 23 | HORN ANTENNA | 3115 | 55005 | ETS | 2 year | May-17 |
| 24 | HORN ANTENNA | 3115 | 55005 | ETS | 2 year | Apr-17 |
| 25 | Universal Power Analyzer | PM6000 | 1.00007E+11 | Voltech Instruments | 1 year | Mar-17 |
| 26 | Reference Impedance Network | ES4152 | 9074424 | NF Corp. | 1 year | Sep-16 |
| 27 | TEST PROGRAM | AUDIX | - | e3_Ver: 5.5.201a | - | - |

5-1 Radiated Disturbance Measurements (Below 1GHz) / Capture mode (Adapter) _ V



4, Songjuro 236Beon-gil, yanggi-myeon,
Yongin-si, Gyeonggi-do, Korea
Tel : +82-31-3236008,9
Fax : +82-31-3236010
www.ltalab.com

EUT/Model No.: XNP-6040HN

Temp/Humi: 25 / 48

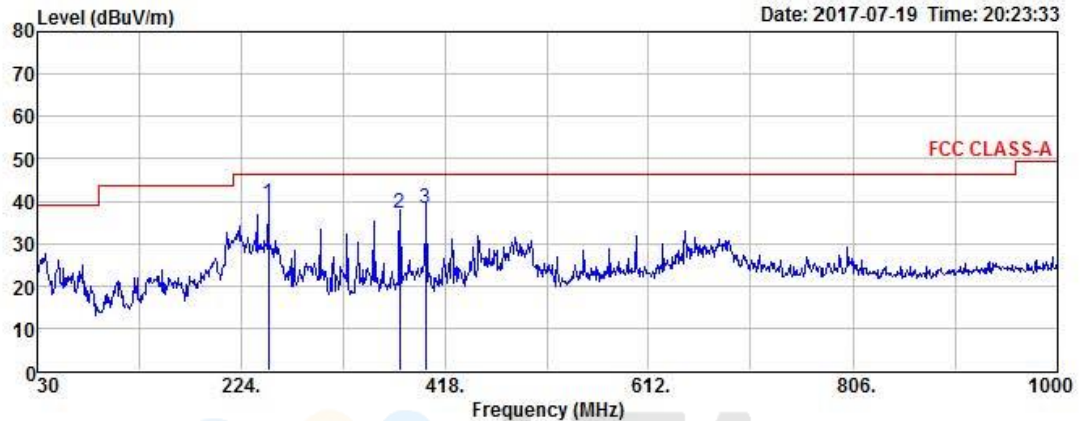
Test Mode : Capture mode (Adapter)

Tested by: KANG M G

Data: 1974

File: C:\Program Files (x86)\e3\1707-1.EM6 (2056)

Date: 2017-07-19 Time: 20:23:33



| Freq | Reading | C.F | Result | Limit | Margin | Height | Angle | Polarity |
|--------|---------|--------|--------|--------|--------|--------|-------|----------|
| MHz | dBuV | dB | QP | dBuV/m | dB | cm | deg | |
| 250.19 | 54.26 | -14.87 | 39.39 | 46.40 | 7.01 | 144 | 210 | VERTICAL |
| 375.32 | 48.76 | -11.81 | 36.95 | 46.40 | 9.45 | 180 | 64 | VERTICAL |
| 400.00 | 49.87 | -11.46 | 38.41 | 46.40 | 7.99 | 108 | 36 | VERTICAL |

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

TEST EQUIPMENT USED: 13, 14, 15, 19, 27

-Continue

(Below 1GHz) / Capture mode (Adapter) _ H



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Yongin-si, Gyeonggi-do, Korea
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Fax : +82-31-3236010
www.ltalab.com

EUT/Model No.: XNP-6040HN

Temp/Humi: 25 / 48

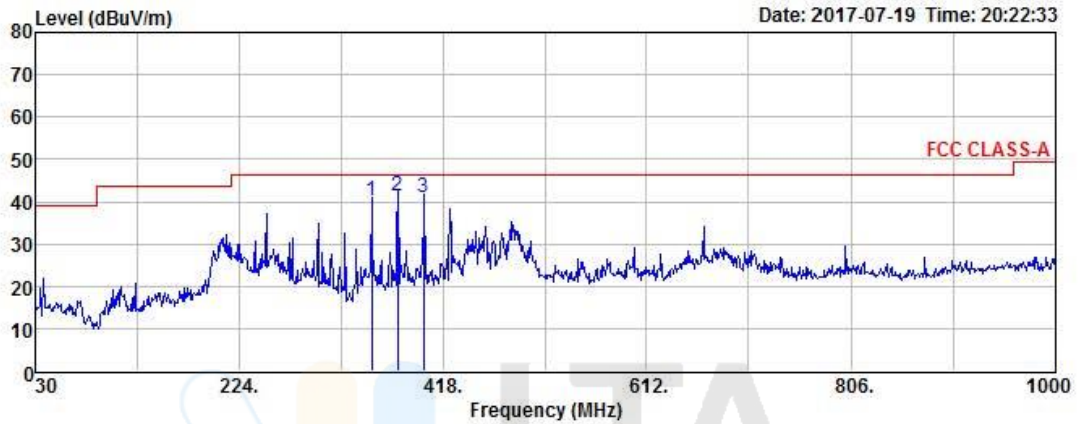
Test Mode : Capture mode (Adapter)

Tested by: KANG M G

Data: 1973

File: C:\Program Files (x86)\e3\1707-1.EM6 (2056)

Date: 2017-07-19 Time: 20:22:33



| Freq | Reading | C.F | Result | Limit | Margin | Height | Angle | Polarity |
|--------|---------|--------|--------|--------|--------|--------|-------|------------|
| MHz | dBuV | dB | dBuV/m | dBuV/m | dB | cm | deg | |
| 350.06 | 52.47 | -12.36 | 40.11 | 46.40 | 6.29 | 213 | 88 | HORIZONTAL |
| 375.00 | 53.35 | -11.82 | 41.53 | 46.40 | 4.87 | 244 | 75 | HORIZONTAL |
| 399.90 | 52.33 | -11.46 | 40.87 | 46.40 | 5.53 | 244 | 351 | HORIZONTAL |

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

-Continue

(Ablo 1GHz) / Capture mode (Adapter)

EUT/Model No.: XNP-6040HN

Temp/Humi: 24 / 45

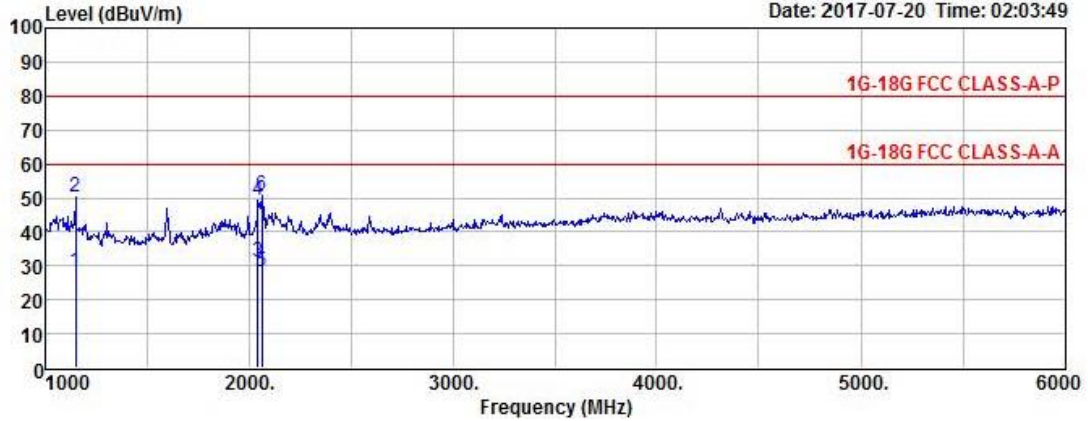
Test Mode : Capture mode (Adapter)

Tested by: KANG M G

Data: 2057

File: C:\Program Files (x86)\e3\1707-1.EM6 (2057)

Date: 2017-07-20 Time: 02:03:49



EUT/Model No.: XNP-6040HN

Temp/Humi: 24 / 45

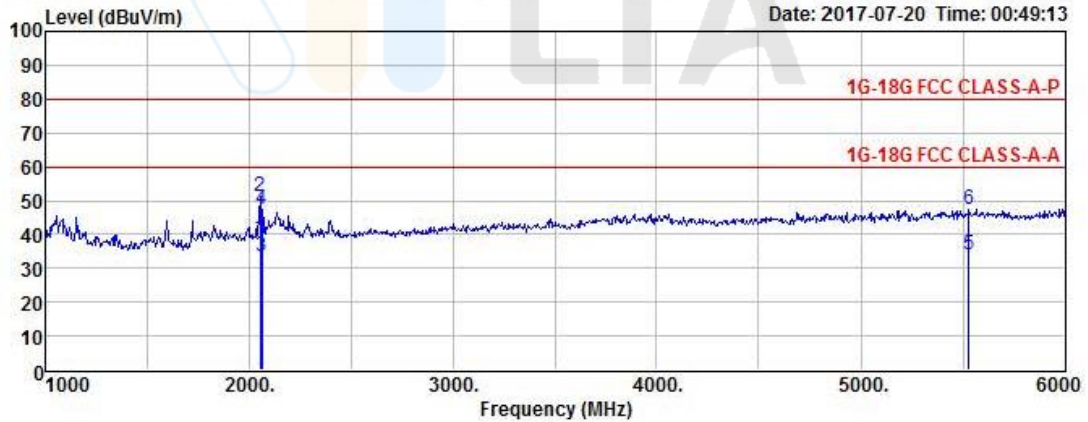
Test Mode : Capture mode (Adapter)

Tested by: KANG M G

Data: 2028

File: C:\Program Files (x86)\e3\1707-1.EM6 (2057)

Date: 2017-07-20 Time: 00:49:13



Manufacture : HANWHA TECHWIN CO., LTD.

Test Date

Temp.:
[°C]

Humidity:
[%]

Barometric
[mbar]

2017/7/20

24

45

Model : XNP-6040HN

TEST mode : Capture mode (Adapter)

| 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 |
| 2055.0 | 53.3 | 40.8 | -0.23 | 53.05 | 40.62 | 80.0 | 60.0 | 26.95 | 19.38 | 100 | 55 | H |
| 2065.0 | 49.8 | 35.8 | -0.18 | 49.62 | 35.63 | 80.0 | 60.0 | 30.38 | 24.37 | 100 | 79 | H |
| 5525.0 | 49.8 | 36.3 | 14.52 | 64.35 | 50.82 | 80.0 | 60.0 | 15.65 | 9.18 | 100 | 35 | H |
| 1150.0 | 58.5 | 36.2 | -5.87 | 52.63 | 30.31 | 80.0 | 60.0 | 27.37 | 29.69 | 100 | 85 | V |
| 2045.0 | 51.7 | 33.7 | -0.3 | 51.36 | 33.38 | 80.0 | 60.0 | 28.64 | 26.62 | 100 | 25 | V |
| 2065.0 | 53.1 | 30.8 | -0.18 | 52.93 | 30.61 | 80.0 | 60.0 | 27.07 | 29.39 | 100 | 202 | V |

TEST EQUIPMENT USED: 13, 21, 23, 27

5-1 Radiated Disturbance Measurements (Below 1GHz) / Capture mode (PoE) _ V



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Yongin-si, Gyeonggi-do, Korea
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Fax : +82-31-3236010
www.ltalab.com

EUT/Model No. : XNP-6040HN

Temp/Humi: 25 / 48

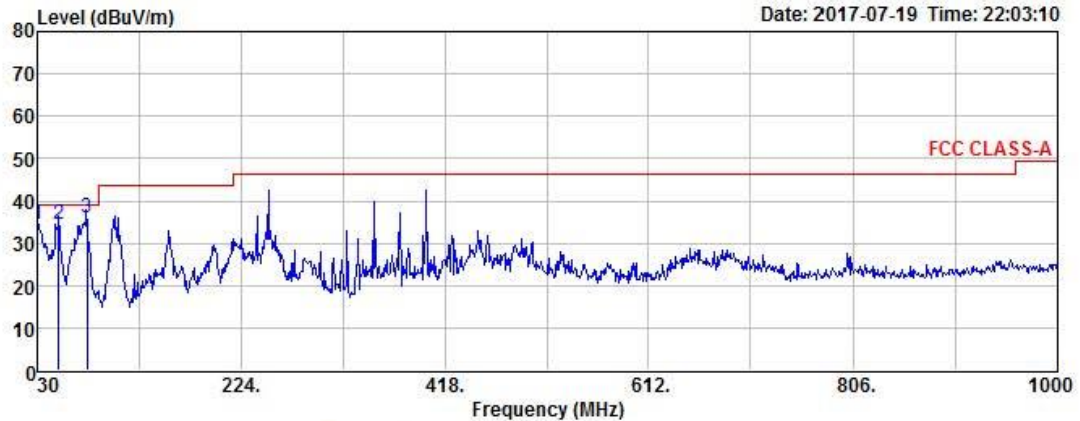
Test Mode : Capture mode (PoE)

Tested by: KANG M G

Data: 1996

File: C:\Program Files (x86)\e3\1707-1.EM6 (2056)

Date: 2017-07-19 Time: 22:03:10



| Freq | Reading | C.F | Result | Limit | Margin | Height | Angle | Polarity |
|-------|---------|--------|--------------|--------|--------|--------|-------|----------|
| MHz | dBuV | dB | QP dBuV/m | dBuV/m | dB | cm | deg | |
| 30.64 | 50.35 | -15.93 | 34.42 | 39.00 | 4.58 | 114 | 216 | VERTICAL |
| 50.44 | 49.22 | -14.86 | 34.36 | 39.00 | 4.64 | 171 | 289 | VERTICAL |
| 77.20 | 54.56 | -18.72 | 35.84 | 39.00 | 3.16 | 130 | 155 | VERTICAL |

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

TEST EQUIPMENT USED: 13, 14, 15, 19, 27

-Continue

(Below 1GHz) / Capture mode (PoE) _ H



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Tel : +82-31-3236008,9
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EUT/Model No.: XNP-6040HN

Temp/Humi: 25 / 48

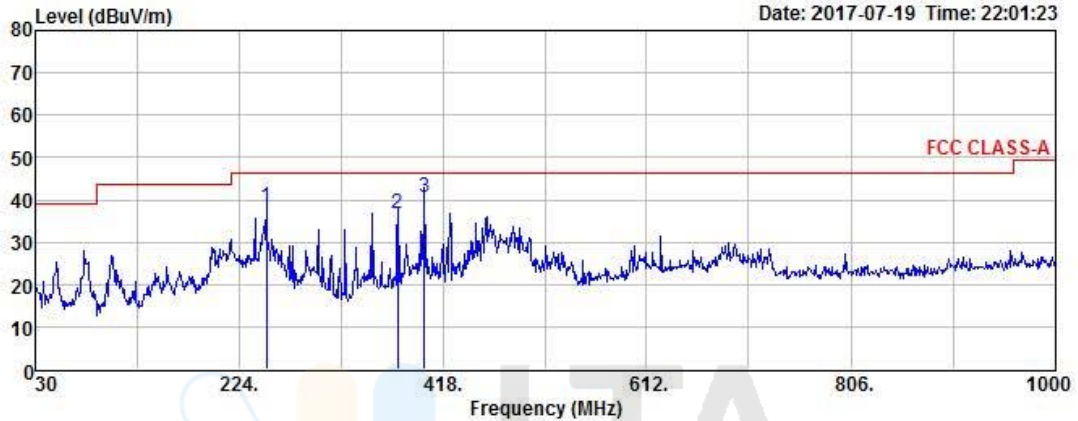
Test Mode : Capture mode (PoE)

Tested by: KANG M G

Data: 1995

File: C:\Program Files (x86)\e3\1707-1.EM6 (2056)

Date: 2017-07-19 Time: 22:01:23



| Freq | Reading | C.F | Result | Limit | Margin | Height | Angle | Polarity |
|--------|---------|--------|--------|--------|--------|--------|-------|------------|
| MHz | dBuV | dB | dBuV/m | dBuV/m | dB | cm | deg | |
| 249.98 | 53.06 | -14.88 | 38.18 | 46.40 | 8.22 | 263 | 72 | HORIZONTAL |
| 375.16 | 48.69 | -11.81 | 36.88 | 46.40 | 9.52 | 335 | 45 | HORIZONTAL |
| 400.21 | 52.22 | -11.45 | 40.77 | 46.40 | 5.63 | 369 | 96 | HORIZONTAL |

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

-Continue

(Ablow 1GHz) / Capture mode (PoE)

EUT/Model No.: XNP-6040HN

Temp/Humi: 24 / 45

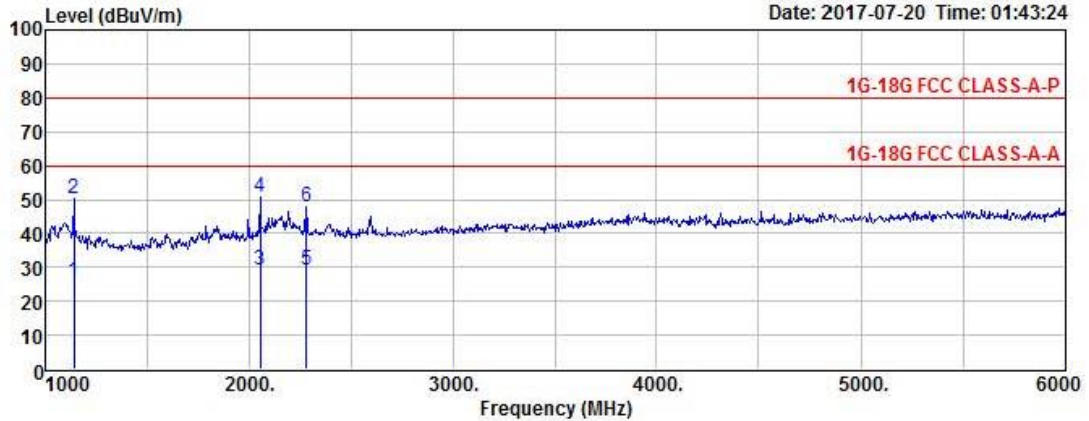
Test Mode : Capture mode (PoE)

Tested by: KANG M G

Data: 2048

File: C:\Program Files (x86)\e3\1707-1.EM6 (2057)

Date: 2017-07-20 Time: 01:43:24



EUT/Model No.: XNP-6040HN

Temp/Humi: 24 / 45

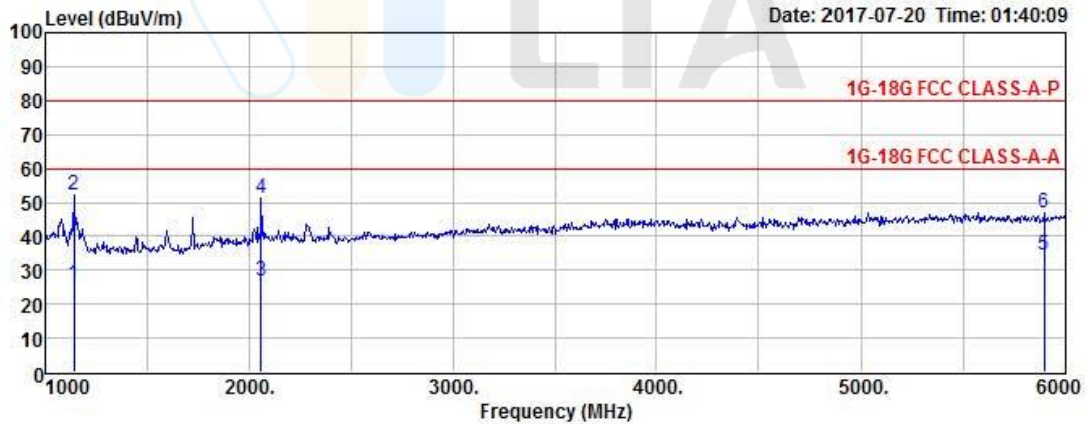
Test Mode : Capture mode (PoE)

Tested by: KANG M G

Data: 2047

File: C:\Program Files (x86)\e3\1707-1.EM6 (2057)

Date: 2017-07-20 Time: 01:40:09



Manufacture : HANWHA TECHWIN CO., LTD.

Test Date

Temp.:
[°C]

Humidity:
[%]

Barometric
[mbar]

2017/7/20

24

45

Model : XNP-6040HN

TEST mode : Capture mode (PoE)

| 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 |
| 1140.0 | 60.2 | 34.1 | -5.99 | 54.21 | 28.09 | 80.0 | 60.0 | 25.79 | 31.91 | 100 | 216 | H |
| 2060.0 | 53.7 | 29.2 | -0.2 | 53.48 | 28.98 | 80.0 | 60.0 | 26.52 | 31.02 | 100 | 331 | H |
| 5895.0 | 34.1 | 21.6 | 15.02 | 49.16 | 36.60 | 80.0 | 60.0 | 30.84 | 23.40 | 100 | 115 | H |
| 1140.0 | 58.5 | 34.2 | -5.99 | 52.53 | 28.19 | 80.0 | 60.0 | 27.47 | 31.81 | 100 | 220 | V |
| 2055.0 | 53.1 | 31.7 | -0.23 | 52.84 | 31.45 | 80.0 | 60.0 | 27.16 | 28.55 | 100 | 146 | V |
| 2280.0 | 49.5 | 30.9 | 0.61 | 50.10 | 31.48 | 80.0 | 60.0 | 29.90 | 28.52 | 100 | 155 | V |

TEST EQUIPMENT USED: 13, 21, 23, 27

5-2 Conducted disturbance Measurements

(LINE) / Capture mode (Adapter)



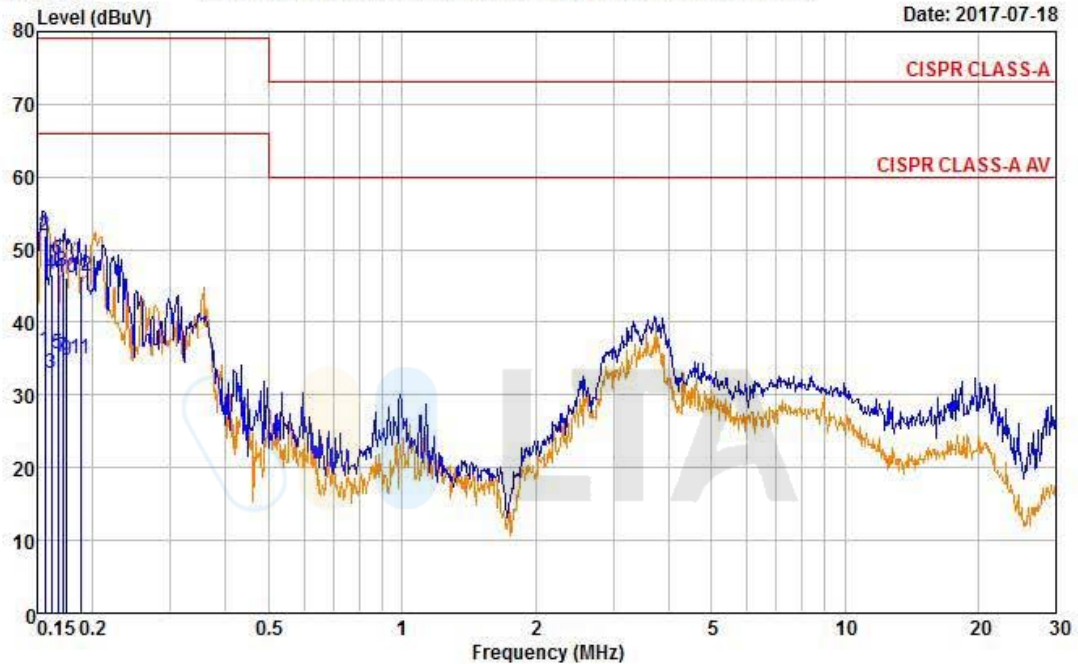
4, Songjuro 236 Beon-gil, Yangji-myeon
Cheoin-gu, Youngin-si, Gyeonggi-do
449-822 Korea
Tel: +82-31-3236008,9
Fax: +82-31-3236010

| | |
|------------------------------------|--------------------------|
| EUT / Model No. : XNP-6040HN | Phase : LINE |
| Test Mode : Capture mode (Adapter) | Test Power : 120 / 60 |
| Temp. / Humi. : 26 / 59 | Test Engineer : KANG M G |

Data: 1466

File: D:\Conducted Data\2017\LTA_Conduction_2017_07.EM6 (1470)

Date: 2017-07-18



| Freq MHz | RD QP dBuV | RD AV dBuV | C.F dB | Result QP dBuV | Result AV dBuV | Limit QP dBuV | Limit AV dBuV | Margin QP dB | Margin AV dB |
|-------------|------------------|------------------|-----------|----------------------|----------------------|---------------------|---------------------|--------------------|--------------------|
| 0.156 | 42.00 | 26.14 | 10.03 | 52.03 | 36.17 | 79.00 | 66.00 | 26.97 | 29.83 |
| 0.162 | 36.46 | 22.88 | 10.02 | 46.48 | 32.90 | 79.00 | 66.00 | 32.52 | 33.10 |
| 0.167 | 38.63 | 25.62 | 10.02 | 48.65 | 35.64 | 79.00 | 66.00 | 30.35 | 30.36 |
| 0.171 | 37.08 | 25.25 | 10.02 | 47.10 | 35.27 | 79.00 | 66.00 | 31.90 | 30.73 |
| 0.175 | 36.20 | 24.76 | 10.02 | 46.22 | 34.78 | 79.00 | 66.00 | 32.78 | 31.22 |
| 0.188 | 36.39 | 25.02 | 10.01 | 46.40 | 35.03 | 79.00 | 66.00 | 32.60 | 30.97 |

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

TEST EQUIPMENT USED: 01, 02, 03, 07, 08, 27

-Continue

(NEUTRAL) / Capture mode (Adapter)



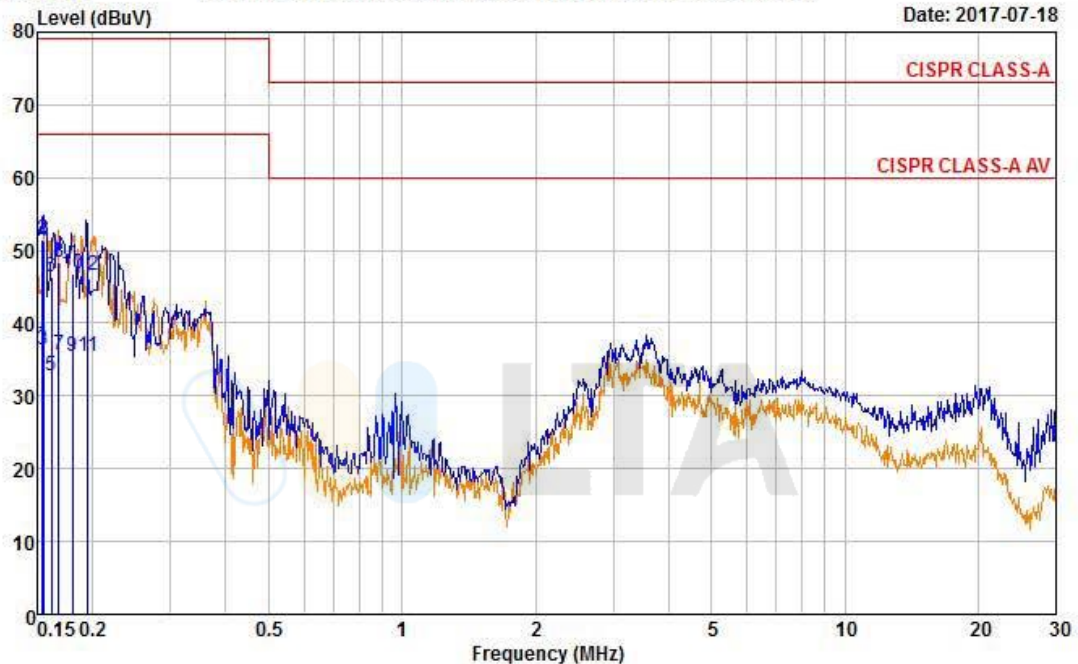
4, Songjuro 236 Beon-gil, Yangji-myeon
Cheoin-gu, Youngin-si, Gyeonggi-do
449-822 Korea
Tel: +82-31-3236008,9
Fax: +82-31-3236010

| | |
|------------------------------------|--------------------------|
| EUT / Model No. : XNP-6040HN | Phase : NEUTRAL |
| Test Mode : Capture mode (Adapter) | Test Power : 120 / 60 |
| Temp. / Humi. : 26 / 59 | Test Engineer : KANG M G |

Data: 1470

File: D:\Conducted Data\2017\LTA_Conduction_2017_07.EM6 (1470)

Date: 2017-07-18



| Freq MHz | RD QP dBuV | RD AV dBuV | C.F dB | Result QP dBuV | Result AV dBuV | Limit QP dBuV | Limit AV dBuV | Margin QP dB | Margin AV dB |
|-------------|------------------|------------------|-----------|----------------------|----------------------|---------------------|---------------------|--------------------|--------------------|
| 0.154 | 41.46 | 27.02 | 10.08 | 51.54 | 37.10 | 79.00 | 66.00 | 27.46 | 28.90 |
| 0.155 | 41.20 | 26.33 | 10.08 | 51.28 | 36.41 | 79.00 | 66.00 | 27.72 | 29.59 |
| 0.162 | 36.18 | 22.59 | 10.08 | 46.26 | 32.67 | 79.00 | 66.00 | 32.74 | 33.33 |
| 0.168 | 38.32 | 25.62 | 10.08 | 48.40 | 35.70 | 79.00 | 66.00 | 30.60 | 30.30 |
| 0.180 | 36.61 | 25.45 | 10.08 | 46.69 | 35.53 | 79.00 | 66.00 | 32.31 | 30.47 |
| 0.195 | 36.43 | 25.40 | 10.08 | 46.51 | 35.48 | 79.00 | 66.00 | 32.49 | 30.52 |

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

5-2 Conducted disturbance Measurements

(LINE) / Capture mode (PoE)



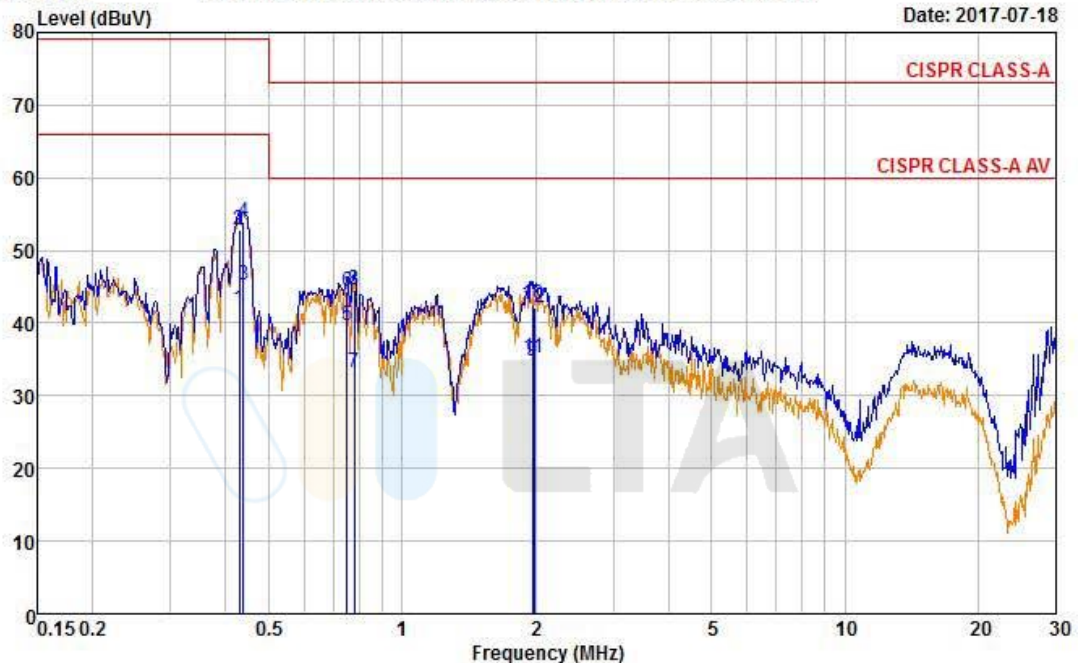
4, Songjuro 236 Beon-gil, Yangji-myeon
Cheoin-gu, Youngin-si, Gyeonggi-do
449-822 Korea
Tel: +82-31-3236008, 9
Fax: +82-31-3236010

| | |
|--------------------------------|--------------------------|
| EUT / Model No. : XNP-6040HN | Phase : LINE |
| Test Mode : Capture mode (PoE) | Test Power : 120 / 60 |
| Temp. / Humi. : 26 / 59 | Test Engineer : KANG M G |

Data: 1530

File: D:\Conducted Data\2017\LTA_Conduction_2017_07.EM6 (1534)

Date: 2017-07-18



| Freq | RD | RD | C.F | Result | Result | Limit | Limit | Margin | Margin |
|-------|-------|-------|-------|--------|--------|-------|-------|--------|--------|
| MHz | QP | AV | | QP | AV | QP | AV | QP | AV |
| | dBuV | dBuV | dB | dBuV | dBuV | dBuV | dBuV | dB | dB |
| 0.429 | 42.88 | 31.80 | 10.00 | 52.88 | 41.80 | 79.00 | 66.00 | 26.12 | 24.20 |
| 0.438 | 43.86 | 35.19 | 10.00 | 53.86 | 45.19 | 79.00 | 66.00 | 25.14 | 20.81 |
| 0.750 | 34.34 | 29.56 | 10.00 | 44.34 | 39.56 | 73.00 | 60.00 | 28.66 | 20.44 |
| 0.781 | 34.54 | 23.26 | 10.00 | 44.54 | 33.26 | 73.00 | 60.00 | 28.46 | 26.74 |
| 1.972 | 32.40 | 24.70 | 10.06 | 42.46 | 34.76 | 73.00 | 60.00 | 30.54 | 25.24 |
| 1.989 | 32.07 | 25.18 | 10.06 | 42.13 | 35.24 | 73.00 | 60.00 | 30.87 | 24.76 |

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

TEST EQUIPMENT USED: 01, 02, 03, 07, 08, 27

-Continue

(NEUTRAL) / Capture mode (PoE)



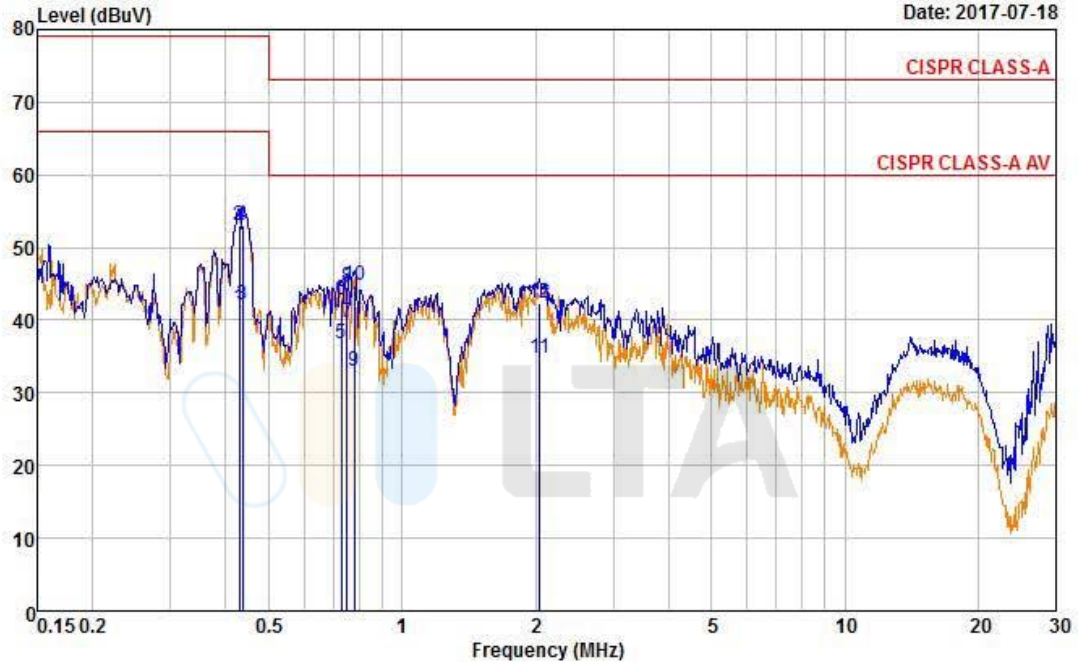
4, Songjuro 236 Beon-gil, Yangji-myeon
Cheoin-gu, Youngin-si, Gyeonggi-do
449-822 Korea
Tel: +82-31-3236008,9
Fax: +82-31-3236010

| | |
|--------------------------------|--------------------------|
| EUT / Model No. : XNP-6040HN | Phase : NEUTRAL |
| Test Mode : Capture mode (PoE) | Test Power : 120 / 60 |
| Temp. / Humi. : 26 / 59 | Test Engineer : KANG M G |

Data: 1534

File: D:\Conducted Data\2017\LTA_Conduction_2017_07.EM6 (1534)

Date: 2017-07-18



| Freq MHz | RD QP dBuV | RD AV dBuV | C.F dB | Result QP dBuV | Result AV dBuV | Limit QP dBuV | Limit AV dBuV | Margin QP dB | Margin AV dB |
|-------------|------------------|------------------|-----------|----------------------|----------------------|---------------------|---------------------|--------------------|--------------------|
| 0.429 | 42.86 | 31.49 | 10.08 | 52.94 | 41.57 | 79.00 | 66.00 | 26.06 | 24.43 |
| 0.436 | 42.86 | 32.04 | 10.08 | 52.94 | 42.12 | 79.00 | 66.00 | 26.06 | 23.88 |
| 0.729 | 32.60 | 26.59 | 10.08 | 42.68 | 36.67 | 73.00 | 60.00 | 30.32 | 23.33 |
| 0.751 | 34.39 | 29.57 | 10.08 | 44.47 | 39.65 | 73.00 | 60.00 | 28.53 | 20.35 |
| 0.781 | 34.67 | 22.88 | 10.08 | 44.75 | 32.96 | 73.00 | 60.00 | 28.25 | 27.04 |
| 2.043 | 32.25 | 24.54 | 10.13 | 42.38 | 34.67 | 73.00 | 60.00 | 30.62 | 25.33 |

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

Conclusions

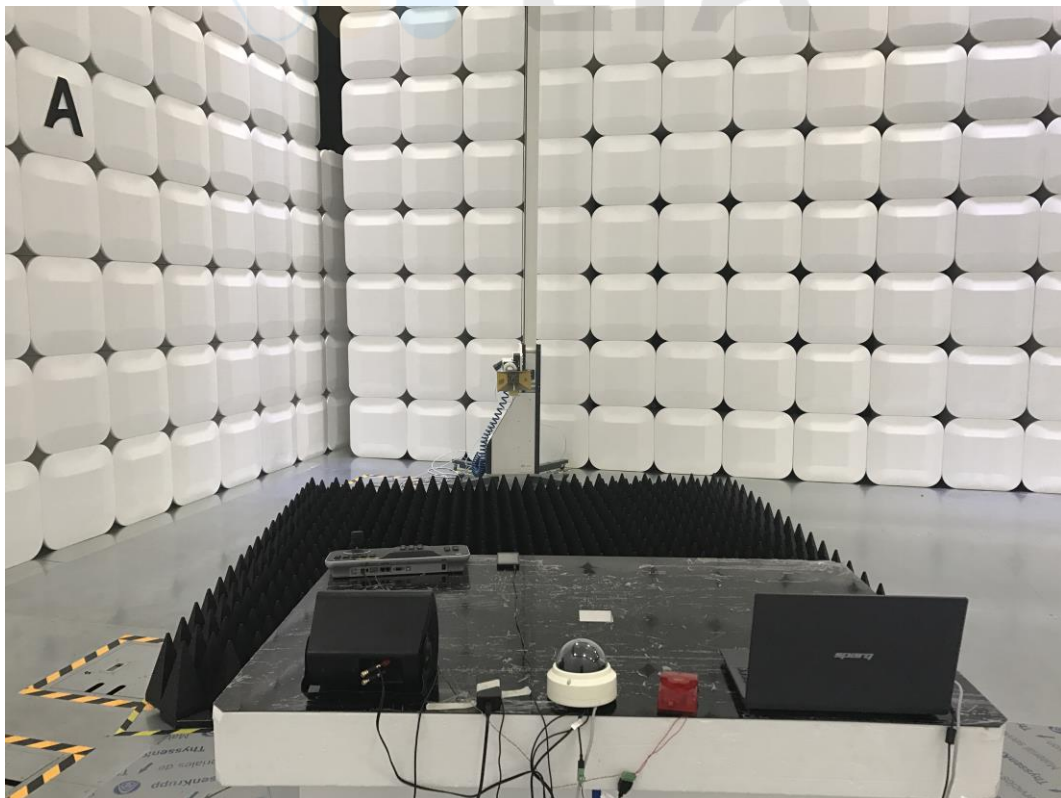
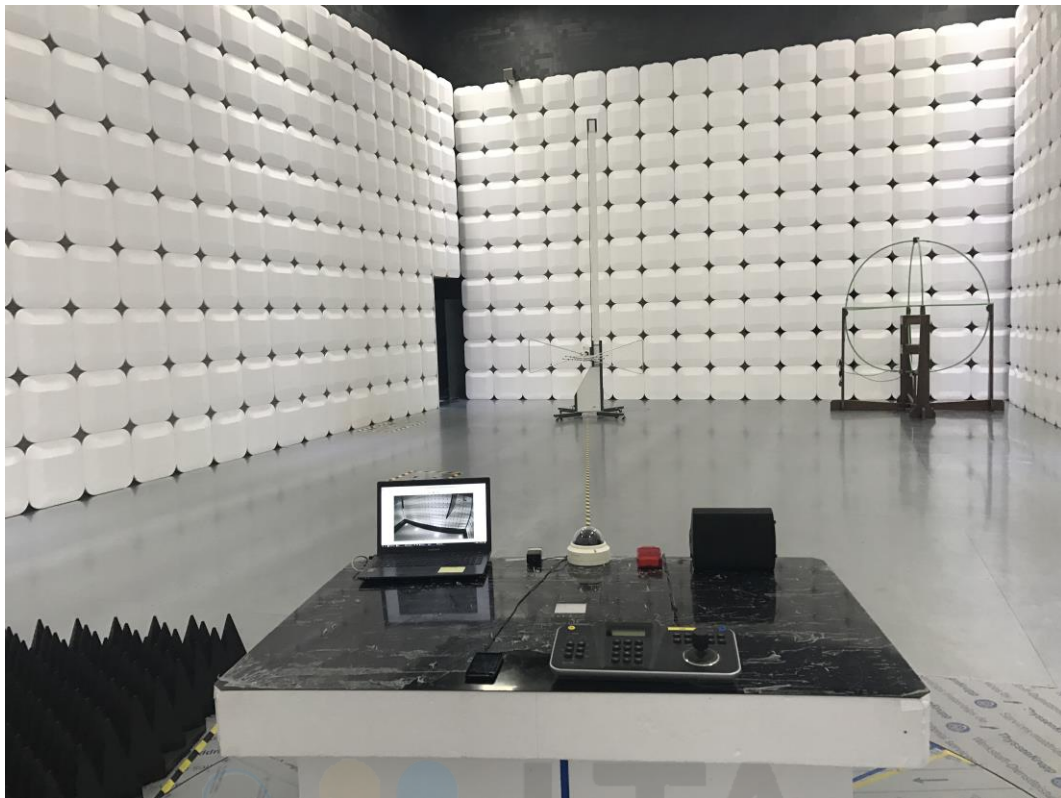
Product models "**XNP-6040HN**" meets all of the Class A requirements of the FCC Part 15, Subpart B. Limits of radio disturbance characteristics of ITE).

(Refer to Test Specification and Test Results in the "LTA certification", page4 and 5.)

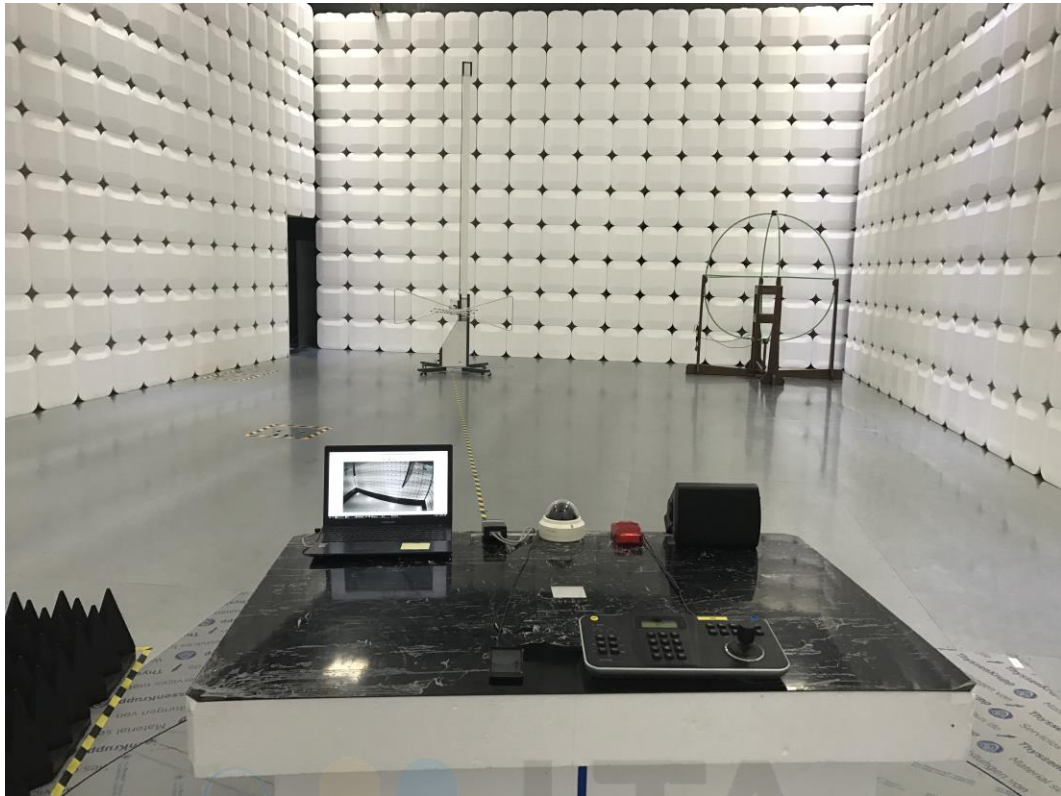
- Capture mode (Adapter, PoE): The highest internal source of an EUT is above 108 MHz, the measurement shall only be made up to 6 GHz.(The highest internal source of an EUT : Above 108 MHz)



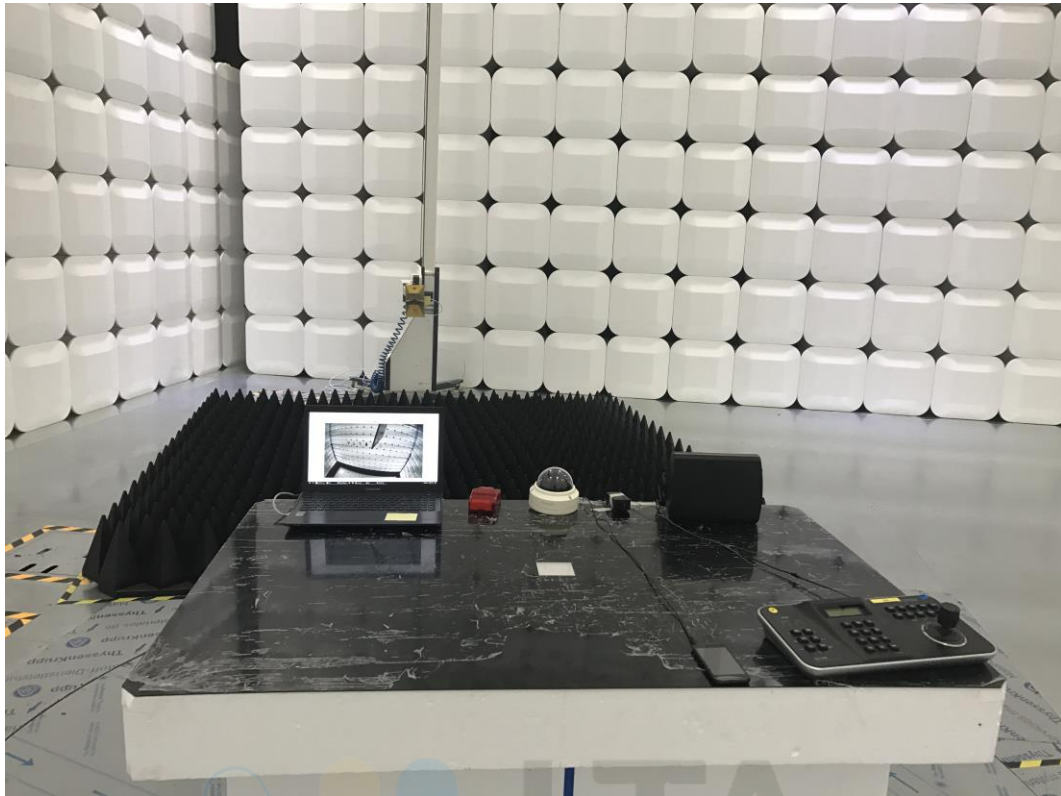
Photograph of the Radiated Disturbance Measurements (Below 1GHz) / Capture mode (Adapter)



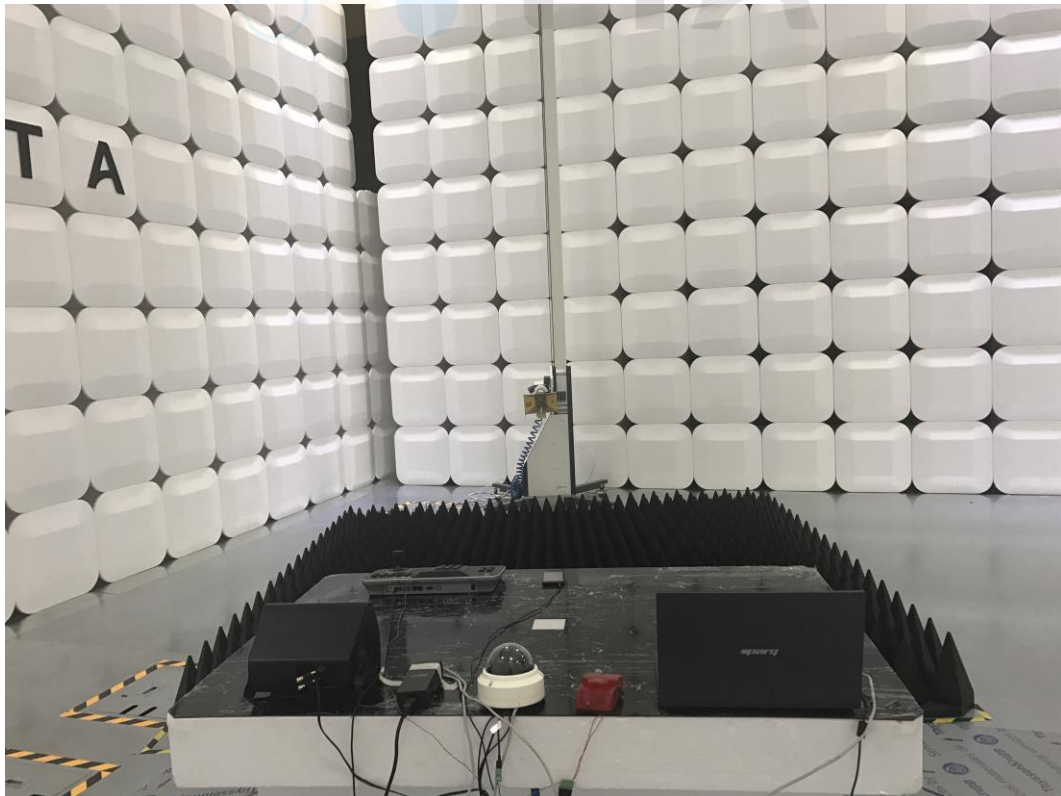
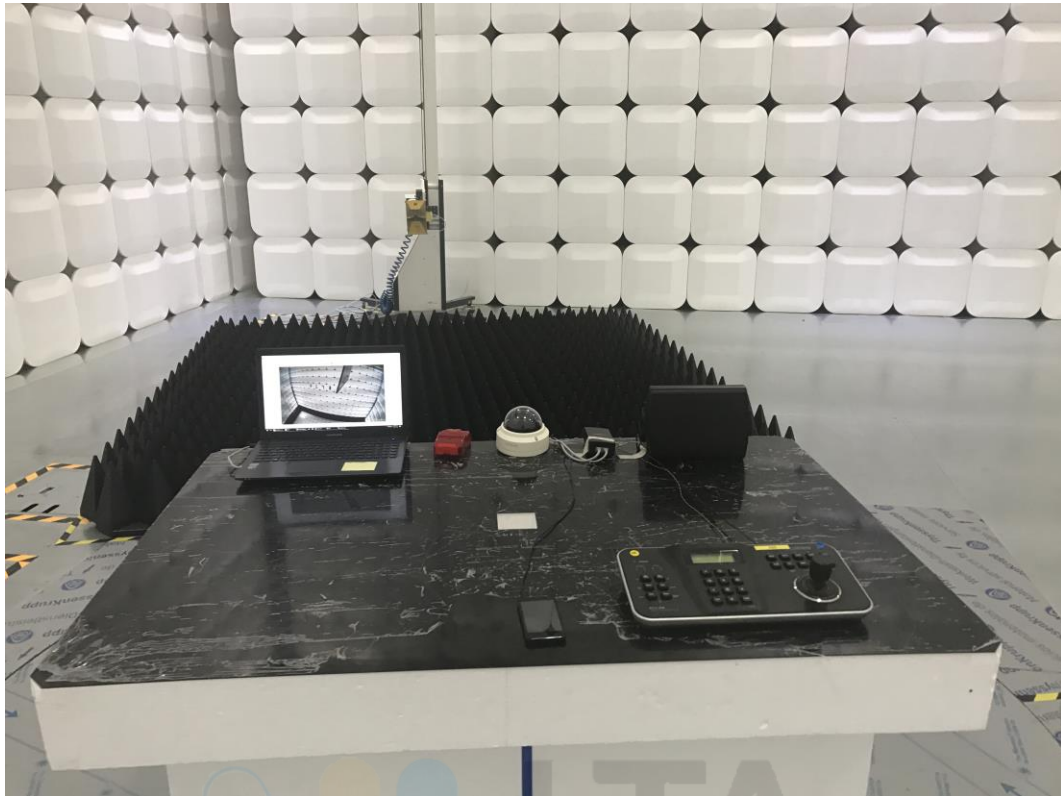
Photograph of the Radiated Disturbance Measurements (Below 1GHz) / Capture mode (PoE)



Photograph of the Radiated Disturbance Measurements (Ablow 1GHz) / Capture mode (Adapter)



Photograph of the Radiated Disturbance Measurements (Ablow 1GHz) / Capture mode (PoE)



**Photograph of the Conducted disturbance Measurements (Maximum emission configuration)
/ Capture mode (Adapter)**



**Photograph of the Conducted disturbance Measurements (Maximum emission configuration)
/ Capture mode (PoE)**



Photograph of the Equipment Under Test



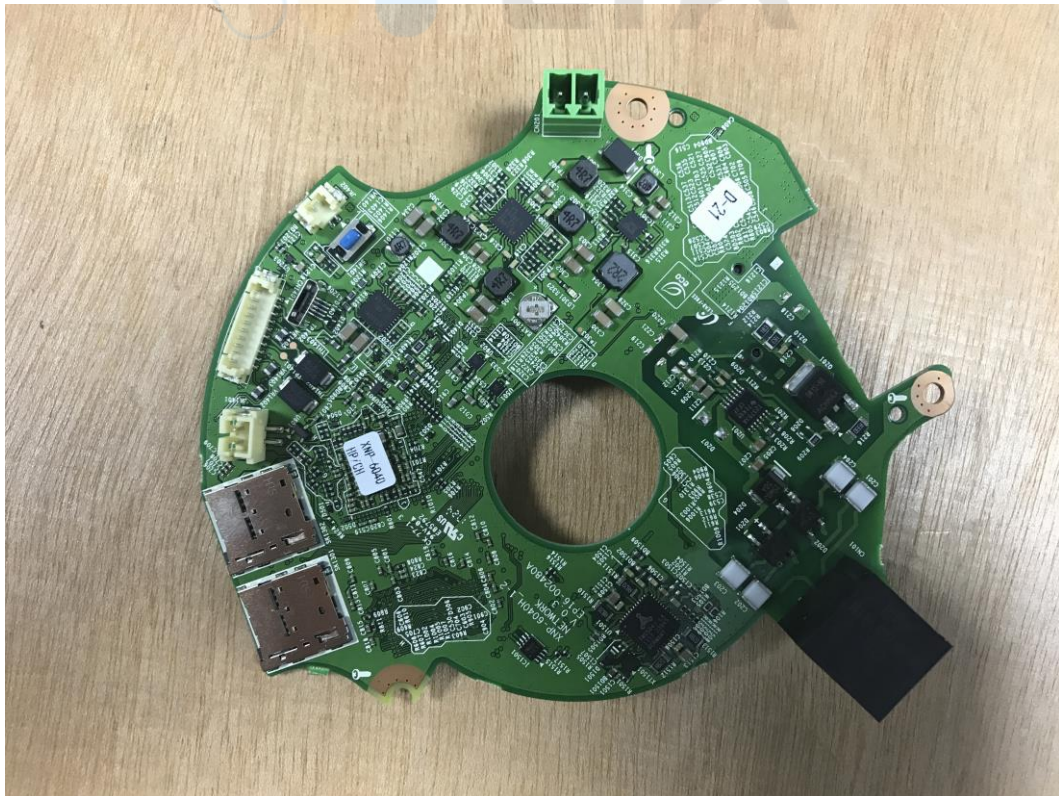
Photograph of the Equipment Under Test



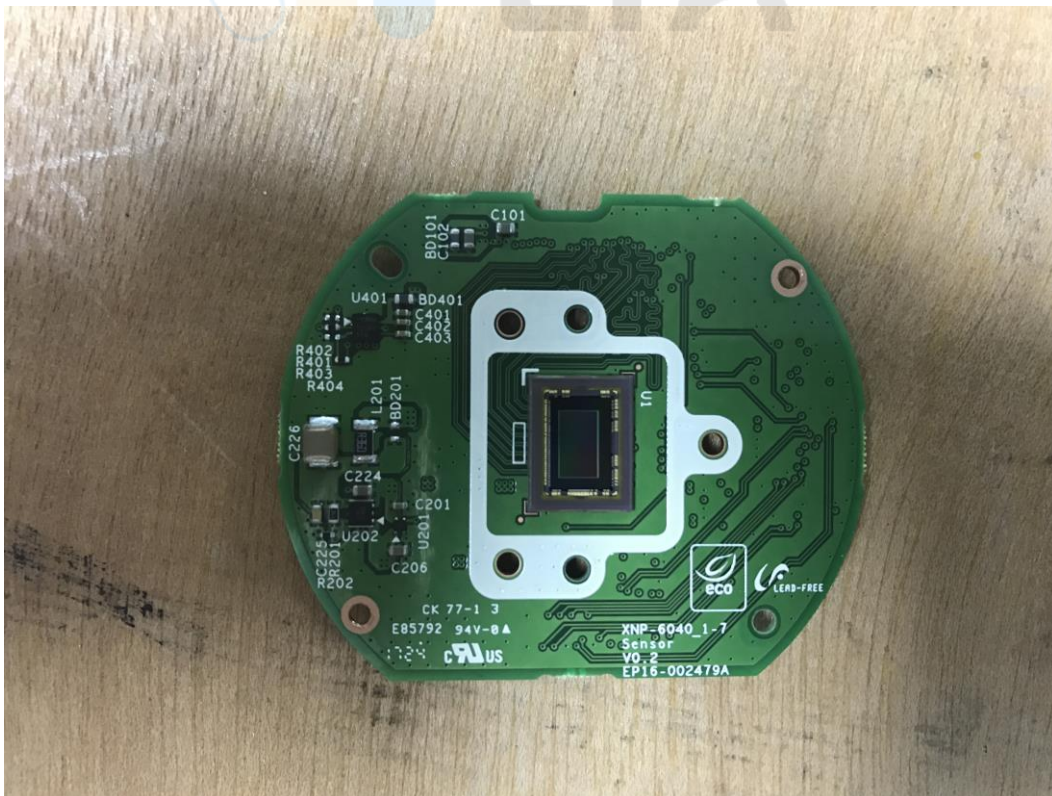
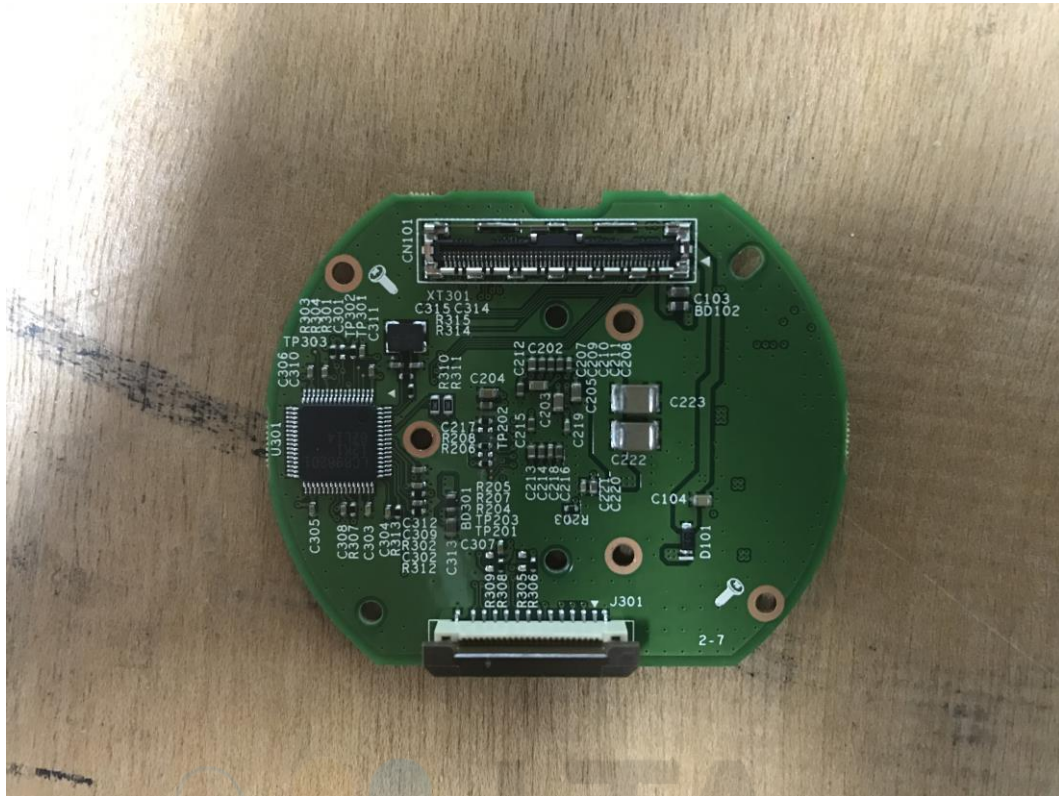
Photograph of the Equipment Under Test



Photograph of the Equipment Under Test



Photograph of the Equipment Under Test



Photograph of the Equipment Under Test

