



CONFORMANCE TEST REPORT FOR EN 55022 / EN 55024

Report No.:15-07-RBF-042

According to:

- **Electromagnetic Compatibility Directive: 2004/108/EC**
- **Low Voltage Directive: 2006/95/EC**
- **Radio Equipment and Telecommunications Terminal Equipment: 1999/5/EC**
- **Machinery Directives: 2006/42/EC**




Client: Aaeon Technology Inc.
Product: PICO-IMX6
Model No.: PICO-IMX6-A10-xxxx
Serial Model : (x - Where x may be any combination of alphanumeric characters or "-" or blank for marketing purpose)
Manufacturer/supplier: Aaeon Technology Inc.

Date test item received : 2015/07/23
Date test campaign completed : 2015/08/04
Date of issue : 2015/08/06

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Total number of pages of this test report: 36 pages

Total number of pages of this test photos: 12 pages

Test Engineer  Brian Huang	Checked By  S. S. Liou	Approved By  S. S. Liou
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ELECTRONICS TESTING CENTER, TAIWAN
NO. 34, LIN 5, DINGFU VIL., LINKOU DIST.,
NEW TAIPEI CITY, TAIWAN, 24442, R.O.C.

TEL: (02) 26023052
INT: +886-2-26023052
FAX: (02) 26100910
INT: +886-2-26100910



Laboratory Introduction: Electronics Testing Center, Taiwan is recognized, filed and mutual recognition arrangement as following:

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- ② ISO/IEC 17025: BSMI, TAF, DGT, NVLAP, CCIBLAC, UL, Compliance
- ③ Filing: FCC, Industry Canada, VCCI
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- ⑤ FCC Registration Number: 90588, 91094, 91095

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1 TEST REPORT CERTIFICATION

Client : Aaeon Technology Inc.
Address : 5F, No. 135, Lane 235, Pao Chiao Rd., Hsin-Tien Dist, New Taipei City, 231, Taiwan, R.O.C
Manufacturer : Aaeon Technology Inc.
Address : 5F, No. 135, Lane 235, Pao Chiao Rd., Hsin-Tien Dist, New Taipei City, 231, Taiwan, R.O.C
EUT : PICO-IMX6
Trade Name : Aaeon
Model No. : PICO-IMX6-A10-xxxx
Serial Model : (x - Where x may be any combination of alphanumeric characters or "-"or blank for marketing purpose)
Test Standard : Emissions
EN 55022: 2010+AC:2011 (Class A)
EN 55011:2009 /A1:2010 (Class A)
CISPR 22:2008
EN61000-3-2:2006/A1:2009/
A2:2009 EN61000-3-3:2013
Immunity
EN 55024:2010
EN 61000-6-1:2007
CISPR 24:2010
IEC 61000-4-2:2008
IEC 61000-4-3:2006/A1:2007/A2:2010
IEC 61000-4-4:2012
IEC 61000-4-5:2014
IEC 61000-4-6:2013
IEC 61000-4-8:2009
IEC 61000-4-11:2004

The testing described in this report has been carried out to the best of our knowledge and ability, and our responsibility is limited to the exercise of reasonable care. This certification is not intended to believe the sellers from their legal and/or contractual obligations.

2 GENERAL INFORMATIONS

2.1 Description of EUT:

Panel PC

2.2 Related Information of EUT:

Power Supply : 120V60Hz

Rating

Test Power

Voltage : 120V60Hz

Power Line : Nonshielded Shielded None , length: 1.8 m

Signal Line : Nonshielded Shielded None , length: _____ m

Control Line : Nonshielded Shielded None , length: _____ m

Data Line : Nonshielded Shielded None , length: _____ m

* For more detailed features, please refer to User's Manual.

2.3 Tested Configuration:

The EUT connected with the following peripheral devices.

Following peripheral devices and interface cables were connected during the measurement:

Device	Manufacturer	Model	Description
PICO-IMX6 *	Aaeon Technology Inc.	PICOIMX6-A10-0001; PICOIMX6-A10-0002	1.8m Unshielded AC Adapter Power Cord
NB	Lenovo	7298 RN1	1.8m Unshielded AC Power Cord
Mouse	DELL	SK-8115	1.5m Shielded Cable
KeyBoard	DELL	M056UC	1.5m Shielded Cable
Monitor	SNOY	KDL-20S4000	1.8m Unshielded AC Power Cord

Remark "*" means equipment under test.

2.4 Deviation Record:

(If any deviation from additions to or exclusions from test method must be stated)

N/A

2.5 Modification Record:

No modifications were required. (That is the EUT complied with the requirement as tested.)

2.6 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Electromagnetic Interference		
Measurement	Frequency	Uncertainty
Conducted emissions	9.0 kHz ~ 30MHz	±2.5dB(Mains)
Conducted emission at telecommunication ports	150kHz ~ 30MHz	±2.22dB(Voltage)
		±2.88dB(Current)
Magnetic emissions	9kHz ~ 30MHz	±2.5dB
Radiated emissions	30MHz ~ 1GHz	±3.90dB(30MHz ≤ f ≤ 300MHz)
		±3.95dB(300MHz < f ≤ 1GHz)
	Above 1GHz	±4.42dB(1GHz ≤ f ≤ 18GHz)
		±4.86dB(18GHz ≤ f ≤ 40GHz)
Electromagnetic Susceptibility		
Measurement	Item	Uncertainty
Electrostatic Discharges (ESD)	---	±0.22(A) · 58.67(V)
Radiated RF electromagnetic Fields	---	±1.2(dBμV)
Electrical Fast Transients and bursts	---	±2.95(V)
Surges	---	±2.95(V)
Conducted Disturbances, induced by RF fields	---	±2.5(dB)
Power-frequency Magnetic Field	---	±1.49(dB)
Voltage Dips, Interruptions, and variations	---	±4.18(V)

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2

2.7 EUT Operation Modes

Mode	Description
---	---

3 SUMMARY OF TEST RESULTS

3.1 Emissions:

3.1.1 Conducted Emissions

■ -PASS(Neutral)

EMI value to the limit: -35.79 dB at 0.31 MHz

■ -PASS(Line)

EMI value to the limit: -38.71 dB at 0.2094 MHz

3.1.2 Conducted Telecommunication ports Test Data (ISN)

■ -PASS(10M)

EMI value to the limit: -47.14 dB at 0.4305 MHz

■ -PASS(100M)

EMI value to the limit: -20.16 dB at 16.226 MHz

3.1.3 Radiated Emissions

■ -PASS(Horizontal)

EMI value to the limit: -13.3 dB at 31.94 MHz

■ -PASS(Vertical)

EMI value to the limit: -8 dB at 31.94 MHz

3.1.4 Harmonics Current Emissions

■ -PASS -

The harmonics current values were under the limits of the class D equipment of the EN 61000-3-2

3.1.5 Voltage Fluctuations and Flicker

■ -PASS

The voltage fluctuations and flicker values were under the limits of the EN 61000-3-3 requirements.

3.2 Immunity:

3.2.1 Immunity Criteria:

The results of all of the immunity tests performed on the EUT were evaluated according to the following criteria, and according to the manufacturer's specifications for the EUT:

Performance criterion A: The EUT continued to operate as intended. No degradation of performance or loss of function was allowed below a performance level specified by the manufacturer, when the EUT was used as intended.

Performance criterion B: The EUT continued to operate as intended after the test. No degradation of performance or loss of function was allowed below a performance level specified by the manufacturer, when the EUT was used as intended. During the test, degradation of performance was however allowed. No change of actual operating state or stored data was allowed.

Performance criterion C: Temporary loss of function was allowed, provided the function was self recoverable or could be restored by the operation of the controls.

3.2.2 Electrostatic Discharge Immunity:

- - No Degradation of Function
- - Distortion of Function
- - Error of Function

Requirement: Criterion B (or better)

- Satisfies Criterion A
- Satisfies Criterion B
- Satisfies Criterion C

3.2.3 RF Radiated Fields Immunity:

- - No Degradation of Function
- - Distortion of Function
- - Error of Function

Requirement: Criterion A

- Satisfies Criterion A
- Satisfies Criterion B
- Satisfies Criterion C

3.2.4 EFT/Burst Immunity:

- - No Degradation of Function
- - Distortion of Function
- - Error of Function

- Requirement: Criterion B (or better)**
- Satisfies Criterion A
 - Satisfies Criterion B
 - Satisfies Criterion C

3.2.5 Surge Immunity:

- - No Degradation of Function
- - Distortion of Function
- - Error of Function

- Requirement: Criterion B (or better)**
- Satisfies Criterion A
 - Satisfies Criterion B
 - Satisfies Criterion C

3.2.6 RF Common Mode Immunity:

- - No Degradation of Function
- - Distortion of Function
- - Error of Function

- Requirement: Criterion A**
- Satisfies Criterion A
 - Satisfies Criterion B
 - Satisfies Criterion C

3.2.7 Power Frequency Magnetic Field Immunity:

- - No Degradation of Function
- - Distortion of Function
- - Error of Function

- Requirement: Criterion A**
- Satisfies Criterion A
 - Satisfies Criterion B
 - Satisfies Criterion C

3.2.8 Voltage Interruptions and Voltage Dips Immunity:

- - No Degradation of Function
- - Distortion of Function
- - Error of Function

- Requirement: Criterion C (or better)**
- Satisfies Criterion A
 - Satisfies Criterion B
 - Satisfies Criterion C

4 TEST DATA & RELATED INFORMATIONS

4.1 Emissions:

4.1.1 Conducted Emissions Test:

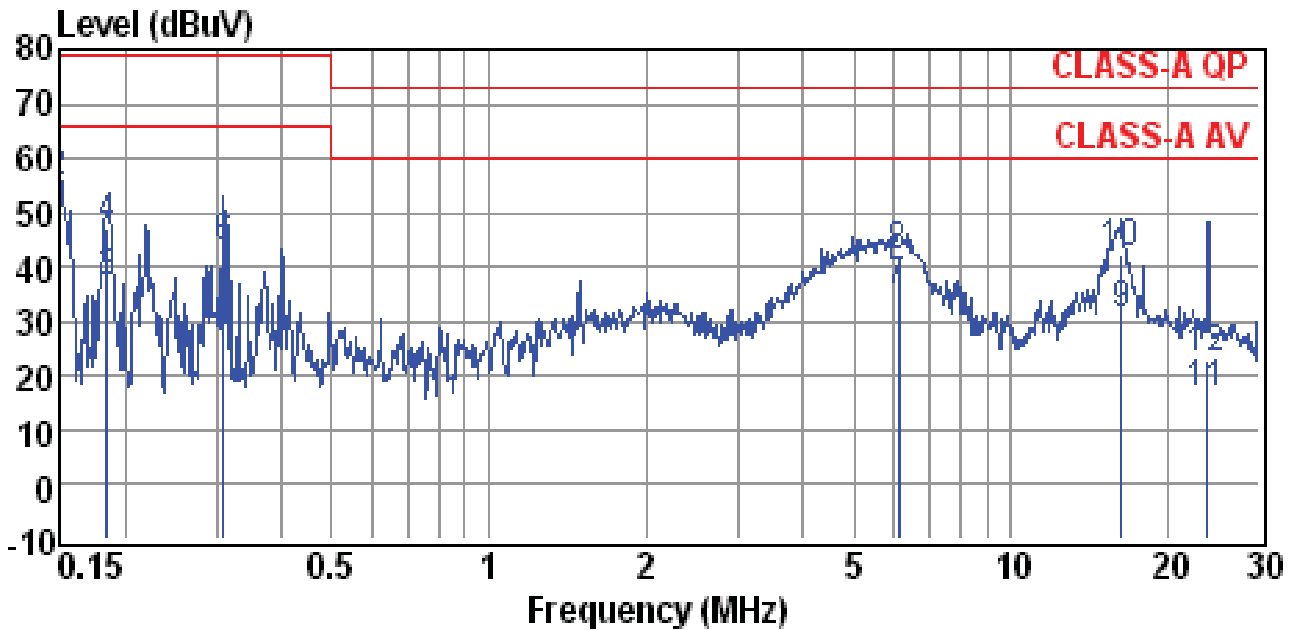
4.1.1.1 Conducted Emissions Test Data:

A. Operating Conditions of the EUT: Operation Mode

Test Date: Jun. 23, 2015

Test Specification	EN 55022	
Climatic Condition	Ambient Temperature: <u>28</u> °C	Relative Humidity: <u>56</u> % RH
Power Supply System	AC Power: <u>230</u> Vac <u>50</u> Hz	

Test data see the next pages.

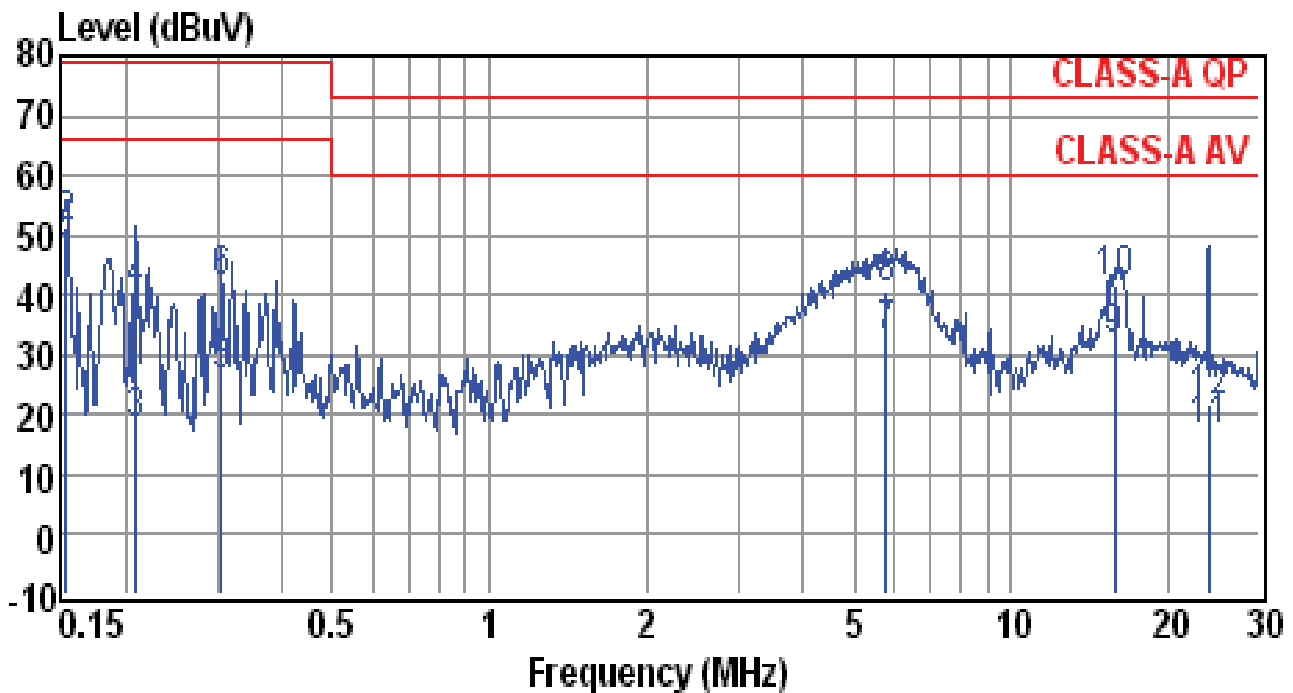


Site	: conducted #1	Date	: 07-23-2015
Condition	: CLASS-A QP	LISN	: NEUTRAL
Tem / Hum	: 28 °C / 56%	Test Mode	: Operation mode
EUT	: PICO-IMX6	Power Rating	: AC 230V50Hz
Memo	:	Memo	:

Freq (MHz)	Reading (dBuV)	Factor (dB)	Emission Level (dBuV)	Limit Line (dBuV)	Over Limit (dB)	Remark
0.1500	29.43	20.14	49.57	66.00	-16.43	Average
0.1500	34.90	20.14	55.04	79.00	-23.96	QP
0.1854	16.91	20.14	37.05	66.00	-28.95	Average
0.1854	27.25	20.14	47.39	79.00	-31.61	QP
0.3100	8.50	20.15	28.65	66.00	-37.35	Average
0.3100	23.06	20.15	43.21	79.00	-35.79	QP
6.0890	14.73	20.40	35.13	60.00	-24.87	Average
6.0890	21.15	20.40	41.55	73.00	-31.45	QP
16.3120	10.40	20.69	31.09	60.00	-28.91	Average
16.3120	21.58	20.69	42.27	73.00	-30.73	QP
23.8880	-4.01	20.63	16.62	60.00	-43.38	Average
23.8880	2.06	20.63	22.69	73.00	-50.31	QP

Note :

1. Result = Reading + Factor
2. Factor = LISN Factor + Cable Loss



Site	: conducted #1	Date	: 07-23-2015
Condition	: CLASS-A QP	LISN	: LINE
Tem / Hum	: 28 °C / 56%	Test Mode	: Operation mode
EUT	: PICO-IMX6	Power Rating	: AC 230V50Hz
Memo	:	Memo	:

Freq (MHz)	Reading (dBUV)	Factor (dB)	Emission Level (dBUV)	Limit Line (dBUV)	Over Limit (dB)	Remark
0.1540	24.49	20.13	44.62	66.00	-21.38	Average
0.1540	30.55	20.13	50.68	79.00	-28.32	QP
0.2094	-2.02	20.13	18.11	66.00	-47.89	Average
0.2094	20.16	20.13	40.29	79.00	-38.71	QP
0.3067	5.77	20.14	25.91	66.00	-40.09	Average
0.3067	21.85	20.14	41.99	79.00	-37.01	QP
5.7740	12.38	20.38	32.76	60.00	-27.24	Average
5.7740	20.16	20.38	40.54	73.00	-32.46	QP
15.8010	11.46	20.84	32.30	60.00	-27.70	Average
15.8010	20.85	20.84	41.69	73.00	-31.31	QP
24.0150	-4.17	21.07	16.90	60.00	-43.10	Average
24.0150	0.99	21.07	22.06	73.00	-50.94	QP

Note :

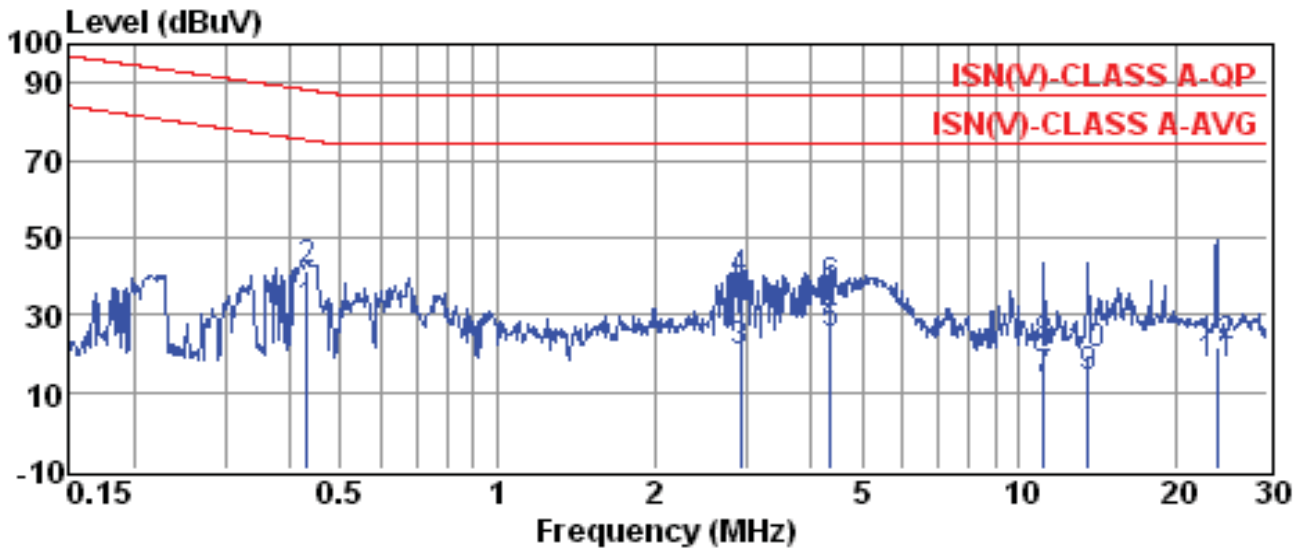
1. Resu = Reading + Factor
2. actor = LISN Factor + Cable Loss

4.1.2 Conducted Telecommunication ports Test (ISN):**4.1.2.1.1 Radiated Emissions Test Data:**A. Operating Conditions of the EUT: Operation Mode

Test Date: Jun. 23, 2015

Test Specification	EN 55022	
Climatic Condition	Ambient Temperature: <u>24</u> °C	Relative Humidity: <u>63</u> % RH
Power Supply System	AC Power: <u>230</u> Vac <u>50</u> Hz	

Test data see the next pages.

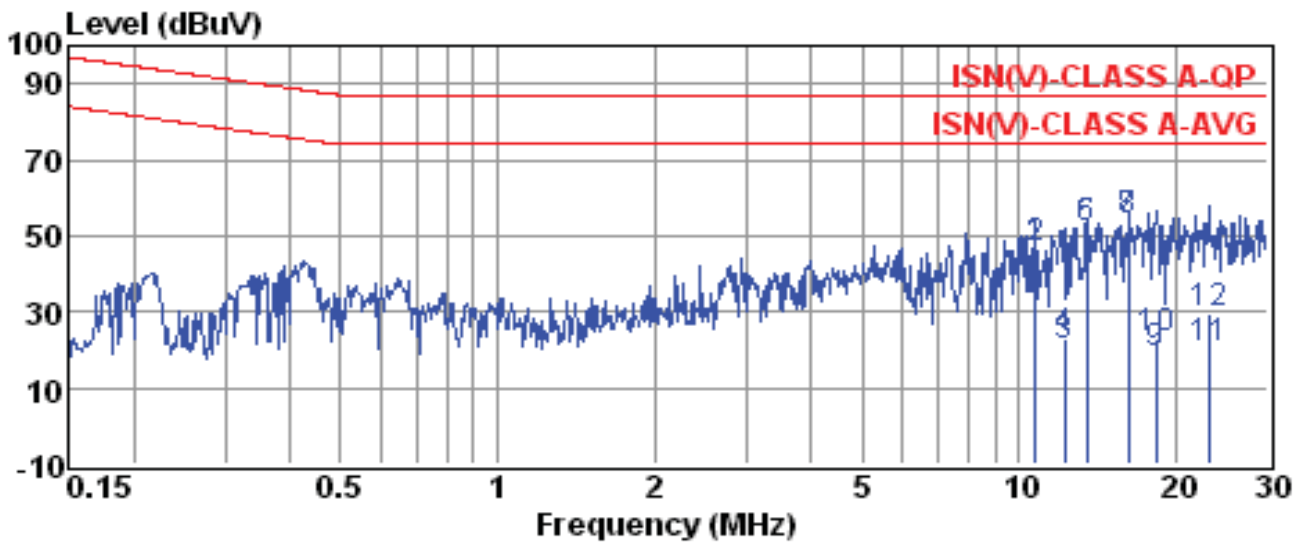


Site	: conducted #1	Date	: 07-23-2015
Condition	: ISN(V)-CLASS A-QP	LISN	:
Tem / Hum	: 24 °C / 63%	Test Mode	: Operation mode
EUT	: PICO-IMX6	Power Rating	: 230V50Hz
Memo	: 10M	Memo	:

Freq (MHz)	Reading (dBuV)	Factor (dB)	Emission Level (dBuV)	Limit Line (dBuV)	Over Limit (dB)	Remark
0.4305	10.54	19.99	30.53	75.24	-44.71	Average
0.4305	21.11	19.99	41.10	88.24	-47.14	QP
2.9310	0.48	20.01	20.49	74.00	-53.51	Average
2.9310	18.81	20.01	38.82	87.00	-48.18	QP
4.3610	4.79	20.01	24.80	74.00	-49.20	Average
4.3610	16.86	20.01	36.87	87.00	-50.13	QP
11.1980	-6.95	20.03	13.08	74.00	-60.92	Average
11.1980	1.43	20.03	21.46	87.00	-65.54	QP
13.6230	-6.44	20.03	13.59	74.00	-60.41	Average
13.6230	-0.59	20.03	19.44	87.00	-67.56	QP
24.0150	-2.82	20.03	17.21	74.00	-56.79	Average
24.0150	1.77	20.03	21.80	87.00	-65.20	QP

Note :

1. Resu = Reading + Factor
2. actor = LISN Factor + Cable Loss



Site	: conducted #1	Date	: 07-23-2015
Condition	: ISN(V)-CLASS A-QP	LISN	:
Tem / Hum	: 24 °C / 63%	Test Mode	: Operation mode
EUT	: PICO-IMX6	Power Rating	: 230V50Hz
Memo	: 100M	Memo	:

Freq (MHz)	Reading (dBuV)	Factor (dB)	Emission Level (dBuV)	Limit Line (dBuV)	Over Limit (dB)	Remark
10.7900	26.63	20.03	46.66	74.00	-27.34	Average
10.7900	26.57	20.03	46.60	87.00	-40.40	QP
12.2530	0.87	20.03	20.90	74.00	-53.10	Average
12.2530	2.66	20.03	22.69	87.00	-64.31	QP
13.4790	31.93	20.03	51.96	74.00	-22.04	Average
13.4790	31.90	20.03	51.93	87.00	-35.07	QP
16.2260	33.82	20.02	53.84	74.00	-20.16	Average
16.2260	33.87	20.02	53.89	87.00	-33.11	QP
18.3280	-1.17	20.03	18.86	74.00	-55.14	Average
18.3280	2.84	20.03	22.87	87.00	-64.13	QP
23.1400	0.30	20.02	20.32	74.00	-53.68	Average
23.1400	9.18	20.02	29.20	87.00	-57.80	QP

Note :

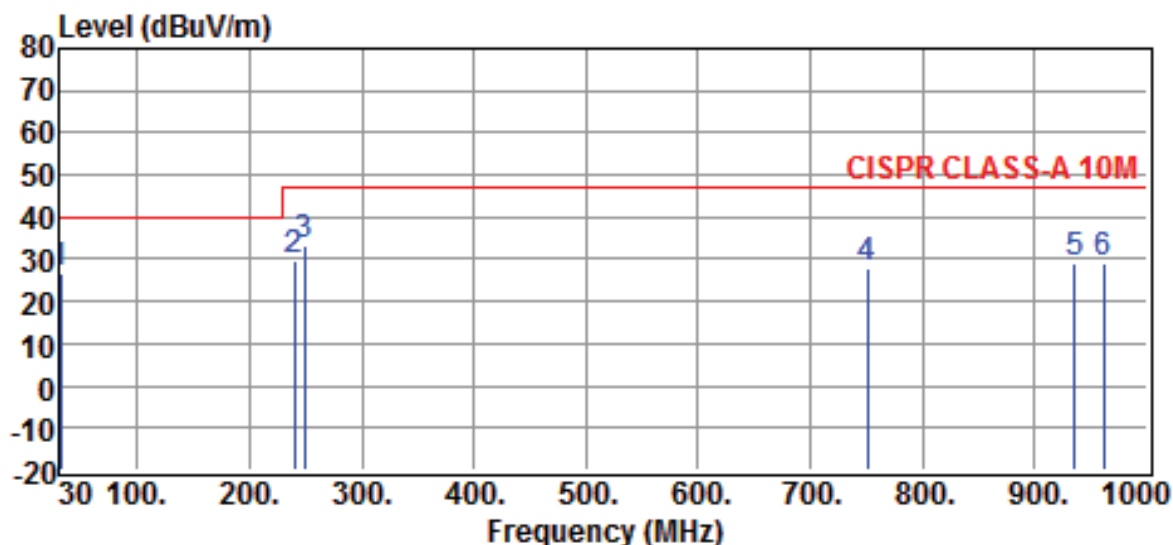
1. Resu = Reading + Factor
2. actor = LISN Factor + Cable Loss

4.1.3 Radiated Emissions Test:**4.1.3.1 Radiated Emissions Test Data:**A. Operating Conditions of the EUT: Operation Mode

Test Date: Jun. 21, 2015

Test Specification	EN 55022	
Climatic Condition	Ambient Temperature: <u>28</u> °C	Relative Humidity: <u>53</u> % RH
Power Supply System	AC Power: <u>230</u> Vac <u>50</u> Hz	

Test data see the next pages.

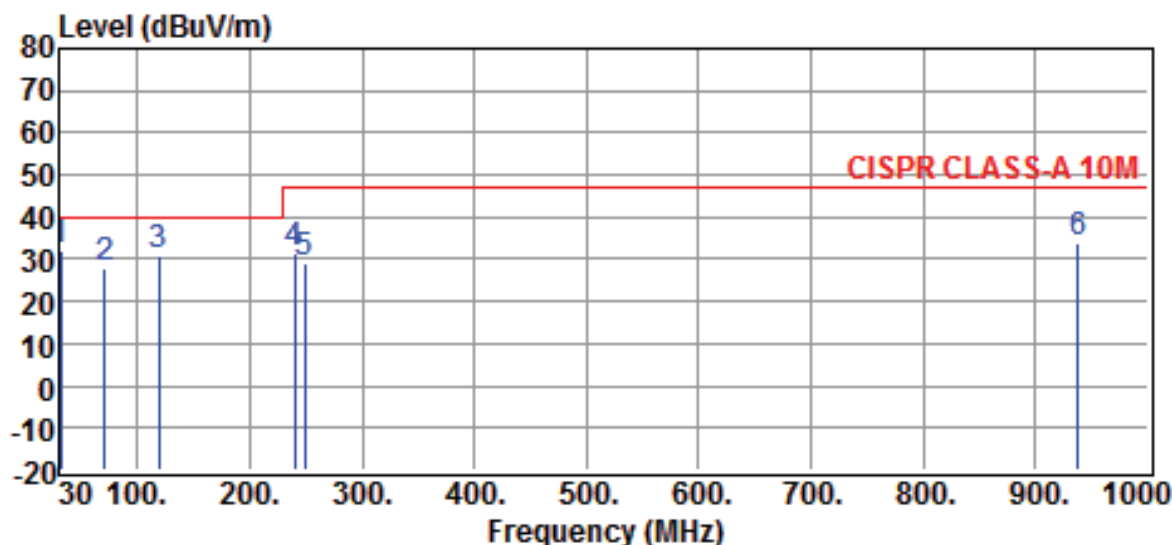


Site	:OPEN SITE	Date	:2015-07-21
Limit	:CISPR CLASS-A 10M	Ant. Pol.	:HORIZONTAL
EUT	:PICO-IMX6	Model	:PICO-IMX6
Power Rating	:AC 230V50Hz	Temp.	:28°C
Engineer	:Brian Huang	Humi.	:53 %
Test Mode	:Operation mode		

Freq MHz	Reading dBuV	Correction Factor dB	Result dBuV/m	Limits dBuV/m	Over limit dB	Detector
31.9400	8.1	18.6	26.7	40.0	-13.3	QP
239.5200	15.6	14.2	29.8	47.0	-17.2	QP
249.2200	17.5	16.1	33.6	47.0	-13.4	QP
750.7100	0.6	27.4	28.0	47.0	-19.0	QP
935.9800	-2.2	31.3	29.1	47.0	-17.9	QP
961.2000	-2.4	31.8	29.4	47.0	-17.6	QP

Note :

1. Result = Reading + Corrected Factor
2. Corrected Factor = Antenna Factor + Cable Loss - Amplifier Gain (if any)
3. The expanded uncertainty of the radiated emission tests is 3.53 dB.
4. The margin value=Limit - Result

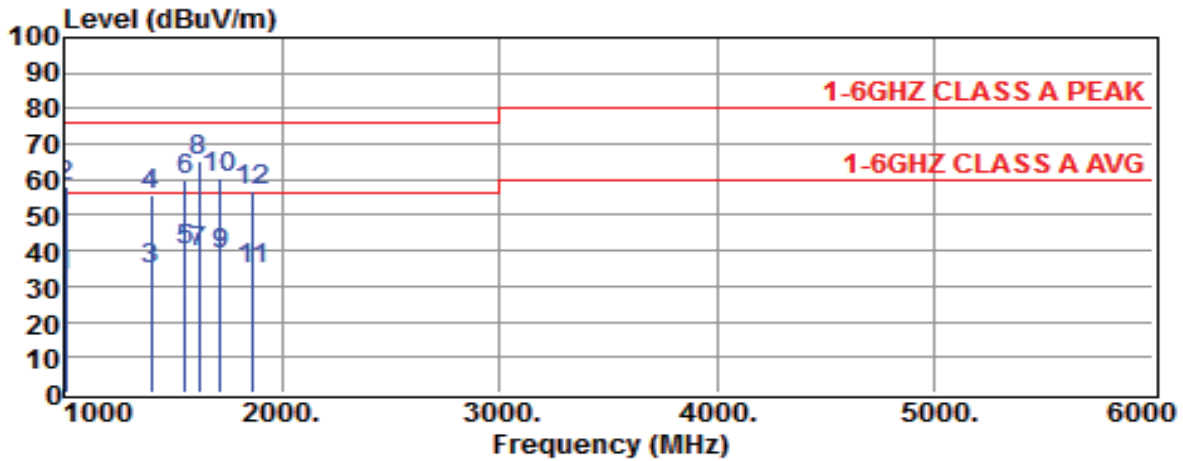


Site	:OPEN SITE	Date	:2015-07-21
Limit	:CISPR CLASS-A 10M	Ant. Pol.	:VERTICAL
EUT	:PICO-IMX6	Model	:PICO-IMX6
Power Rating	:AC 230V50Hz	Temp.	:28°C
Engineer	:Brian Huang	Humi.	:53 %
Test Mode	:Operation mode		

Freq MHz	Reading dBuV	Correction Factor dB	Result dBuV/m	Limits dBuV/m	Over limit dB	Detector
31.9400	13.4	18.6	32.0	40.0	-8.0	QP
70.7400	20.0	7.7	27.7	40.0	-12.3	QP
119.2400	17.5	13.5	31.0	40.0	-9.0	QP
239.5200	17.1	14.2	31.3	47.0	-15.7	QP
249.2200	13.1	16.1	29.2	47.0	-17.8	QP
937.9200	2.5	31.3	33.8	47.0	-13.2	QP

Note :

1. Result = Reading + Corrected Factor
2. Corrected Factor = Antenna Factor + Cable Loss - Amplifier Gain (if any)
3. The expanded uncertainty of the radiated emission tests is 3.53 dB.
4. The margin value=Limit - Result

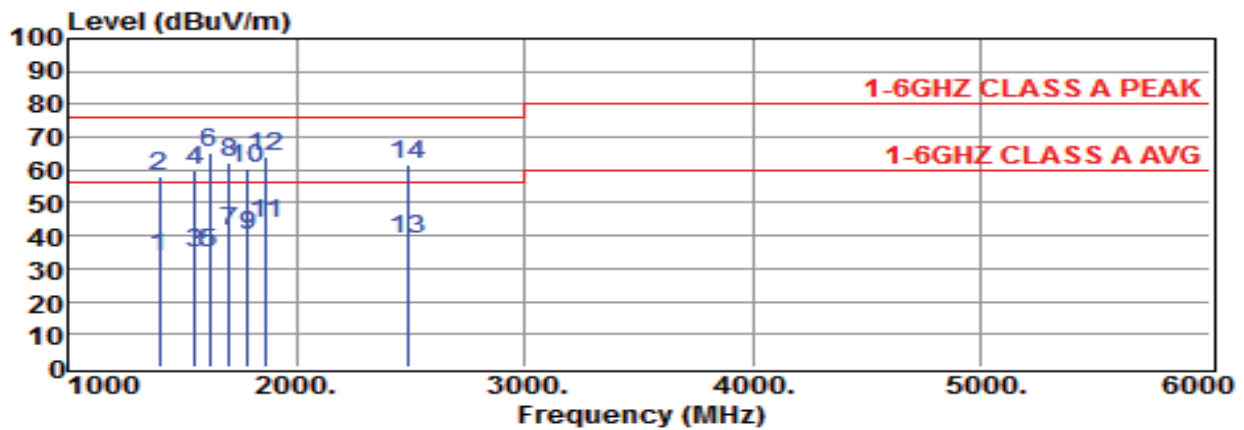


Site	: OPEN SITE	Date	: 2015-07-21
Limit	: 1-6GHZ CLASS A PEAK	Ant. Pol.	: VERTICAL
EUT	: PICO-IMX6	Model	: PICO-IMX6
Power Rating	: AC 230V50Hz	Temp.	: 28°C
Engineer	: Brian Huang	Humi.	: 53 %
Test Mode	: Operation mode		

Freq MHz	Reading dBuV	Correction Factor dB	Result dBuV/m	Limits dBuV/m	Over limit dB	Detector
1010.0000	32.7	0.0	32.7	56.0	-23.3	Average
1010.0000	57.9	0.0	57.9	76.0	-18.1	Peak
1400.0000	34.5	0.0	34.5	56.0	-21.5	Average
1400.0000	55.6	0.0	55.6	76.0	-20.4	Peak
1560.0000	40.2	0.0	40.2	56.0	-15.8	Average
1560.0000	59.9	0.0	59.9	76.0	-16.1	Peak
1620.0000	39.5	0.0	39.5	56.0	-16.5	Average
1620.0000	65.5	0.0	65.5	76.0	-10.5	Peak
1720.0000	38.6	0.0	38.6	56.0	-17.4	Average
1720.0000	60.3	0.0	60.3	76.0	-15.7	Peak
1870.0000	34.9	0.0	34.9	56.0	-21.1	Average
1870.0000	56.7	0.0	56.7	76.0	-19.3	Peak

Note :

1. Result = Reading + Corrected Factor
2. Corrected Factor = Antenna Factor + Cable Loss - Amplifier Gain (if any)
3. The expanded uncertainty of the radiated emission tests is 3.53 dB.
4. The margin value=Limit - Result



Site	: OPEN SITE	Date	: 2015-07-21
Limit	: 1-6GHZ CLASS A PEAK	Ant. Pol.	: HORIZONTAL
EUT	: PICO-IMX6	Model	: PICO-IMX6
Power Rating	: AC 230V50Hz	Temp.	: 28°C
Engineer	: Brian Huang	Humi.	: 53 %
Test Mode	: Operation mode		

Freq MHz	Reading dBUV	Correction Factor dB	Result dBUV/m	Limits dBUV/m	Over limit dB	Detector
1400.0000	33.3	0.0	33.3	56.0	-22.7	Average
1400.0000	57.8	0.0	57.8	76.0	-18.2	Peak
1560.0000	34.8	0.0	34.8	56.0	-21.2	Average
1560.0000	59.9	0.0	59.9	76.0	-16.1	Peak
1620.0000	35.0	0.0	35.0	56.0	-21.0	Average
1620.0000	65.5	0.0	65.5	76.0	-10.5	Peak
1710.0000	41.2	0.0	41.2	56.0	-14.8	Average
1710.0000	62.0	0.0	62.0	76.0	-14.0	Peak
1790.0000	39.9	0.0	39.9	56.0	-16.1	Average
1790.0000	60.4	0.0	60.4	76.0	-15.6	Peak
1870.0000	43.5	0.0	43.5	56.0	-12.5	Average
1870.0000	64.3	0.0	64.3	76.0	-11.7	Peak
2490.0000	38.6	0.0	38.6	56.0	-17.4	Average
2490.0000	61.8	0.0	61.8	76.0	-14.2	Peak

Note :

1. Result = Reading + Corrected Factor
2. Corrected Factor = Antenna Factor + Cable Loss - Amplifier Gain (if any)
3. The expanded uncertainty of the radiated emission tests is 3.53 dB.
4. The margin value=Limit - Result

4.1.4 Harmonics Current Emissions Test:**4.1.4.1 Harmonics Current Emissions Test Data:**A. Operating Conditions of the EUT: Operation Mode

Test Date: Jun. 21, 2015

Test Specification	EN 61000-3-2	
Climatic Condition	Ambient Temperature: <u>26</u> °C	Relative Humidity: <u>51%</u> RH
Power Supply System	AC Power: <u>230</u> Vac <u>50</u> Hz	

Test data see the next page.



Urms = 230.1V Freq = 49.987 Range: 0.5 A
Irms = 0.132A Ipk = 0.290A cf = 2.200
P = 8.872W S = 30.28VA pf = 0.293
THDi = 28.8 % THDu = 0.10 % Class A

Test - Time : 3min (100 %)

Test completed, Result: PASSED

Order	Freq. [Hz]	Iavg [A]	Irms [A]	Imax [A]	Limit [A]	Status
1	50	0.1263	0.1258	0.1334		
2	100	0.0119	0.0132	0.0134	1.0800	
3	150	0.0285	0.0278	0.0322	2.3000	
4	200	0.0086	0.0089	0.0094	0.4300	
5	250	0.0074	0.0070	0.0082	1.1400	
6	300	0.0009	0.0049	0.0065	0.3000	
7	350	0.0072	0.0072	0.0078	0.7700	
8	400	0.0000	0.0034	0.0046	0.2300	
9	450	0.0001	0.0048	0.0051	0.4000	
10	500	0.0000	0.0026	0.0032	0.1840	
11	550	0.0000	0.0045	0.0050	0.3300	
12	600	0.0000	0.0024	0.0027	0.1533	
13	650	0.0000	0.0033	0.0038	0.2100	
14	700	0.0000	0.0020	0.0022	0.1314	
15	750	0.0000	0.0031	0.0035	0.1500	
16	800	0.0000	0.0017	0.0020	0.1150	
17	850	0.0000	0.0029	0.0032	0.1324	
18	900	0.0000	0.0016	0.0020	0.1022	
19	950	0.0000	0.0026	0.0027	0.1184	
20	1000	0.0000	0.0015	0.0018	0.0920	
21	1050	0.0000	0.0022	0.0023	0.1071	
22	1100	0.0000	0.0013	0.0015	0.0836	
23	1150	0.0000	0.0017	0.0019	0.0978	
24	1200	0.0000	0.0012	0.0014	0.0767	
25	1250	0.0000	0.0020	0.0023	0.0900	
26	1300	0.0000	0.0012	0.0013	0.0708	
27	1350	0.0000	0.0017	0.0019	0.0833	
28	1400	0.0000	0.0011	0.0012	0.0657	
29	1450	0.0000	0.0017	0.0019	0.0776	
30	1500	0.0000	0.0010	0.0012	0.0613	
31	1550	0.0000	0.0015	0.0016	0.0726	
32	1600	0.0000	0.0009	0.0011	0.0575	
33	1650	0.0000	0.0016	0.0017	0.0682	
34	1700	0.0000	0.0009	0.0011	0.0541	
35	1750	0.0000	0.0014	0.0015	0.0643	
36	1800	0.0000	0.0008	0.0010	0.0511	
37	1850	0.0000	0.0013	0.0014	0.0608	
38	1900	0.0000	0.0008	0.0009	0.0484	
39	1950	0.0000	0.0012	0.0014	0.0577	
40	2000	0.0000	0.0008	0.0009	0.0460	

4.1.5 Voltage Fluctuations and Flicker Test:

4.1.5.1 Voltage Fluctuations and Flicker Test Data:

A. Operating Conditions of the EUT: Operation Mode

Test Date: Aun. 04, 2015

Test Specification	EN 61000-3-3	
Climatic Condition	Ambient Temperature: <u>26</u> °C	Relative Humidity: <u>58</u> % RH
Power Supply System	AC Power: <u>230</u> Vac <u>50</u> Hz	

	Test Data	Limit	Pass or Fail
Plt	0.072	0.65	Pass
Pst	0.072	1.00	Pass
dt	<u>0.000</u> ms	500 ms	Pass
dmax	<u>0.00</u> %	4.0 %	Pass
dc	<u>0.006</u> %	3.0 %	Pass

4.2 Immunity:**4.2.1 Electrostatic Discharge Immunity Test:****4.2.1.1.1 Electrostatic Discharge Immunity Test Data:**A. Operating Conditions of the EUT: Operation Mode

Test Date: Aug. 04, 2015

Test Specification	IEC 61000-4-2
Climatic Condition	Ambient Temperature: <u>27</u> °C Relative Humidity: <u>50%</u> RH Atmospheric Pressure: <u>991</u> mbar
Power Supply System	AC Power: <u>230</u> Vac <u>50</u> Hz

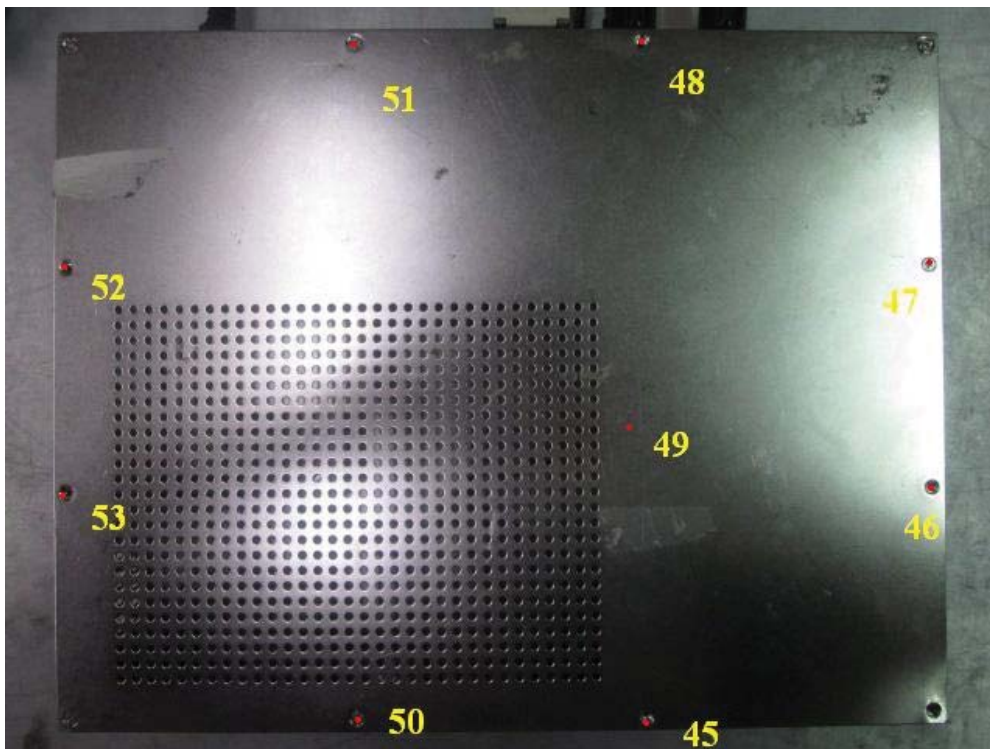
Test data see the next page.



Energy-Storage Capacitor : <u>150</u> pF		Contact Discharge Times : <u>25</u> times/each condition															
Discharge Resistor : <u>330</u> Ω		Air Discharge Times : <u>10</u> times/each condition															
\ Discharge Mode		Contact Discharge								Air Discharge							
\ESD Voltage		<u>2</u> kV		<u>4</u> kV		___ kV		___ kV		<u>2</u> kV		<u>4</u> kV		<u>8</u> kV		___ kV	
\Points\Result\Polarity		+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-
VCP		A	A	A	A	---	---	---	---	---	---	---	---	---	---	---	---
HCP		A	A	A	A	---	---	---	---	---	---	---	---	---	---	---	---
P1~P8		---	---	---	---	---	---	---	---	A	A	A	A	A	A	---	---
P9~P53		A	A	A	A	---	---	---	---	---	---	---	---	---	---	---	---

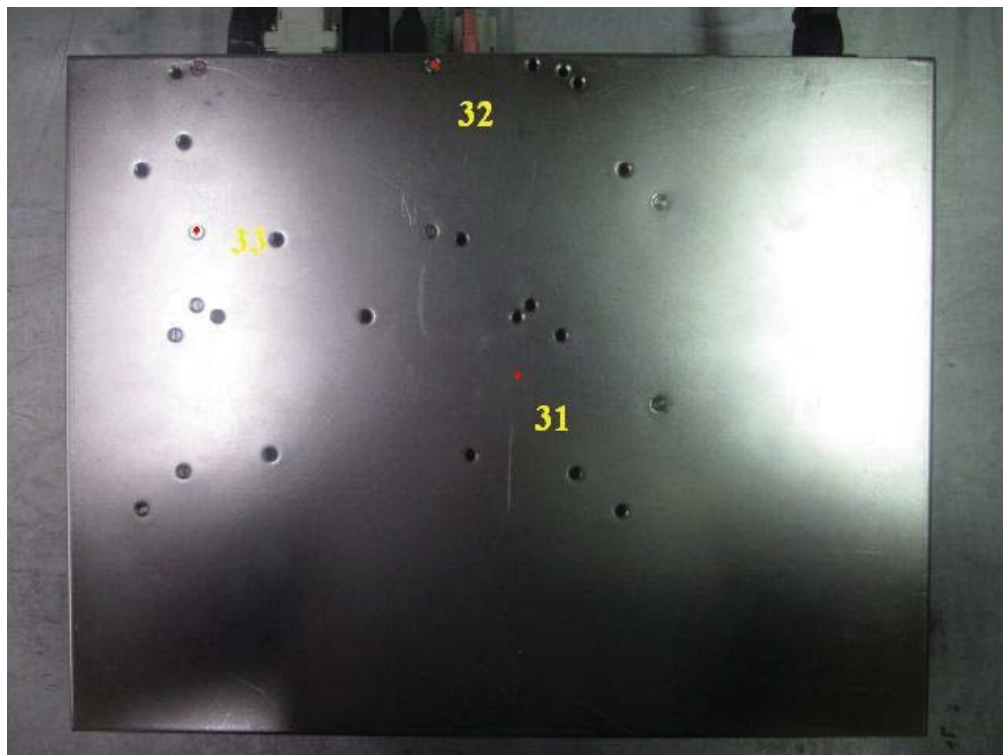
Note : “---“means the test could not be carrier out.

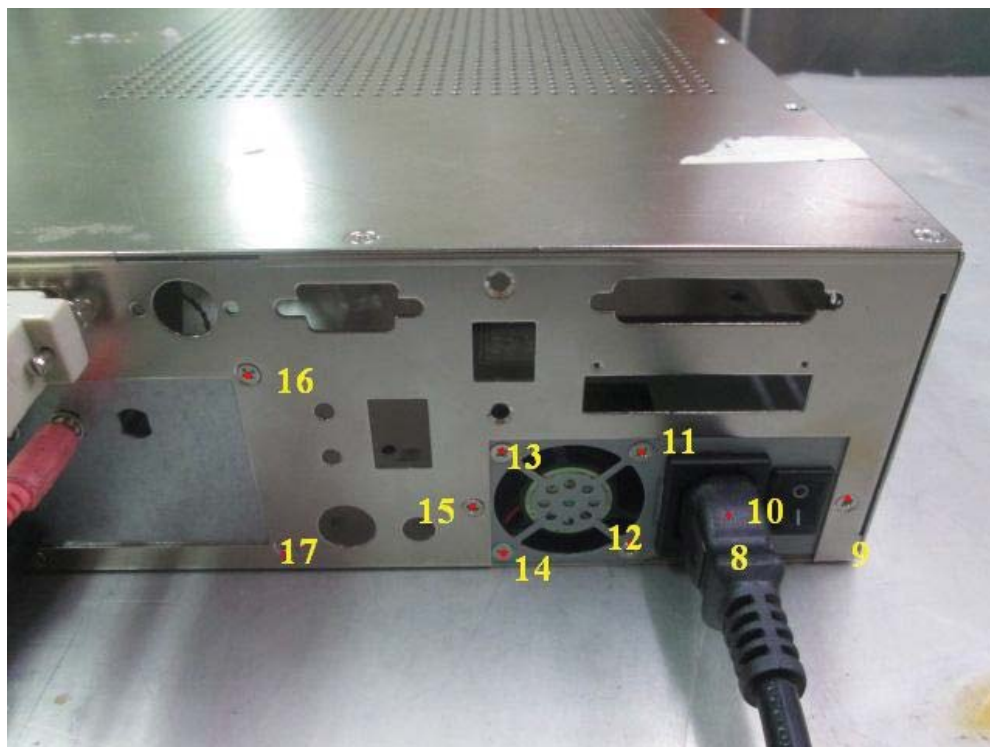
“ A ” means the EUT’s function was correct normal performance during the test.

TEST POINT

TEST POINT



TEST POINT

TEST POINT

4.2.2 RF Radiated Fields Immunity Test:

4.2.2.1 RF Radiated Fields Immunity Test Data:

A. Operating Conditions of the EUT: Operation Mode

Test Date: Aug. 04, 2015

Frequency Range	<u>80</u> MHz ~ <u>1000</u> MHz	Field Strength	<u>3</u> V/m	Modulation (AM 1kHz 80%)
Sweep Rate	: $\leq 1.5 \times 10^{-3}$ octaves/s	Step Size	: ≤ 1 % of preceding frequency value	
Dwell Time	: <u>3</u> s			
Frequency Range (MHz)	Polarization of Device	Directing of Device	Test Result	
<u>80</u> MHz ~ <u>1000</u> MHz	Horizontal	Front	A	
		Rear	A	
		Left	A	
		Right	A	
<u>80</u> MHz ~ <u>1000</u> MHz	Vertical	Front	A	
		Rear	A	
		Left	A	
		Right	A	

Note : “A” means the EUT function was correct during the test.

Test Engineer : Brian Huang

4.2.3 EFT/Burst Immunity Test:

4.2.3.1.1 EFT/Burst Immunity Test Data:

A. Operating Conditions of the EUT: Operation Mode

Test Date: Aug 04, 2015

Test Specification	IEC 61000-4-4	
Climatic Condition	Ambient Temperature: <u>26</u> °C	Relative Humidity: <u>53</u> % RH
	Atmospheric Pressure: <u>991</u> mbar	
Power Supply System	AC Power: <u>230</u> Vac <u>50</u> Hz	

Pulse : 5 /50ns Burst : 15ms /300ms		Repetition Rate : <u>5kHz</u>	Test time : <u>1</u> min/each condition
\Voltage\Polarity\ \Test Point\Mode\Result\ L		<u>1.0kV</u>	
		+	-
Power Line	L	A	A
	N	A	A
	L-N	A	A

Note : “A” means the EUT’s function was correct normal performance during the test.

Pulse : 5 /50ns Burst : 15ms /300ms		Repetition Rate : <u>5kHz</u>	Test time : <u>1</u> min/each condition
\Voltage\Polarity\ \Test Point\Mode\Result\ LINE		<u>0.5kV</u>	
		+	-
Signal Line	LINE	A	A

Note : “A” means the EUT’s function was correct normal performance during the test.

4.2.4 Surge Immunity Test:

4.2.4.1 Surge Immunity Test Data:

A. Operating Conditions of the EUT: Operation Mode

Test Date: Aug. 04, 2015

Test Specification	IEC 61000-4-5	
Climatic Condition	Ambient Temperature: <u>26</u> °C	Relative Humidity: <u>53</u> %RH
	Atmospheric Pressure: <u>991</u> mbar	
Power Supply System	AC Power: <u>230</u> Vac <u>50</u> Hz	

Test data see the next page.

Waveform : 1.2/50µs(8/20µs)		Repetition rate : 60 sec		Times : 5 time/each condition		
\Phase			0°	90°	180°	270°
\Voltage	\Mode	\Polarity	\Result			
0.5kV	L-N	+	A	A	A	A
		-	A	A	A	A
1.0kV	L-N	+	A	A	A	A
		-	A	A	A	A
2.0kV	L	+	A	A	A	A
		-	A	A	A	A
2.0kV	N	+	A	A	A	A
		-	A	A	A	A
2.0kV	PE	+	A	A	A	A
		-	A	A	A	A
2.0kV	L-N	+	A	A	A	A
		-	A	A	A	A
2.0kV	L-PE	+	A	A	A	A
		-	A	A	A	A
2.0kV	N-PE	+	A	A	A	A
		-	A	A	A	A

Note : "A" means the EUT's function was correct normal performance during the test.

4.2.5 RF Common Mode Immunity Test:

4.2.5.1 RF Common Mode Immunity Test Data:

A. Operating Conditions of the EUT: Operation Mode

Test Date: Aug 04, 2015

Test Specification	IEC 61000-4-6	
Climatic Condition	Ambient Temperature: <u>26</u> °C	Relative Humidity: <u>52</u> %RH
	Atmospheric Pressure: <u>991</u> mbar	
Power Supply System	AC Power: <u>230</u> Vac <u>50</u> Hz	

Frequency Range	<u>0.15</u> MHz ~ <u>80</u> MHz	Test Level	<u>3</u> Vrms	Modulation (AM 1kHz 80%)
Sweep Rate	: $\leq 1.5 \times 10^{-3}$ decades/s	Step Size	: ≤ 1 % of preceding frequency value	
			Dwell Time	: <u>3</u> s
Frequency Range (MHz)	Tested Line		Test Result	
0.15MHz ~80MHz	Power cord		A	
0.15MHz ~80MHz	Clamp		A	

Note : “A” means the EUT’s function was correct normal performance during the test.

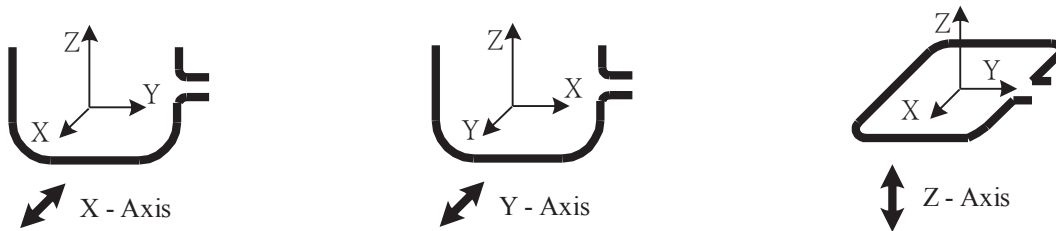
4.2.6 Power Frequency Magnetic Field Immunity Test:

4.2.6.1 Power Frequency Magnetic Field Immunity Test Data:

A. Operating Conditions of the EUT: Operation Mode

Test Date: Aug.04, 2015

Test Specification	IEC 61000-4-8	
Climatic Condition	Ambient Temperature: <u>26</u> °C	Relative Humidity: <u>52</u> % RH
Power Supply System	AC Power: <u>230</u> Vac <u>50</u> Hz	



Magnetic field frequency : <u>50/60</u> Hz		Continuous magnetic field strength : 1A/m
Magnetic field direction	Testing result	
X - Axis	A	
Y - Axis	A	
Z - Axis	A	

Note : “A” means the EUT’s function was correct normal performance during the test.

4.2.7 Voltage Interruptions and Voltage Dips Immunity Test:

4.2.7.1.1 Voltage Interruptions and Voltage Dips Immunity Test Data:

A. Operating Conditions of the EUT: Operation Mode

Test Date: Aug. 04, 2015

Test Specification	IEC 61000-4-11
Climatic Condition	Ambient Temperature: <u>27</u> °C Relative Humidity: <u>51</u> % RH Atmospheric Pressure: <u>1001</u> mbar
Power Supply System	AC Power: <u>230</u> Vac <u>50</u> Hz

Test mode	Voltage dips	Durations (periods)	Interval(s)	Times	Phase	Result
Voltage interruptions	100%	250	10	12	0°/90° /180°/270°	B
Voltage dips in %U _T	100%	0.5	10	12	0°/90° /180°/270°	A
	70%	25	10	12	0°/90° /180°/270°	A

“A” means the EUT’s function was correct normal performance during the test.

Note :

“ B ” EUT reset , After the test, the equipment shall continue to operate as intended without operator intervention.

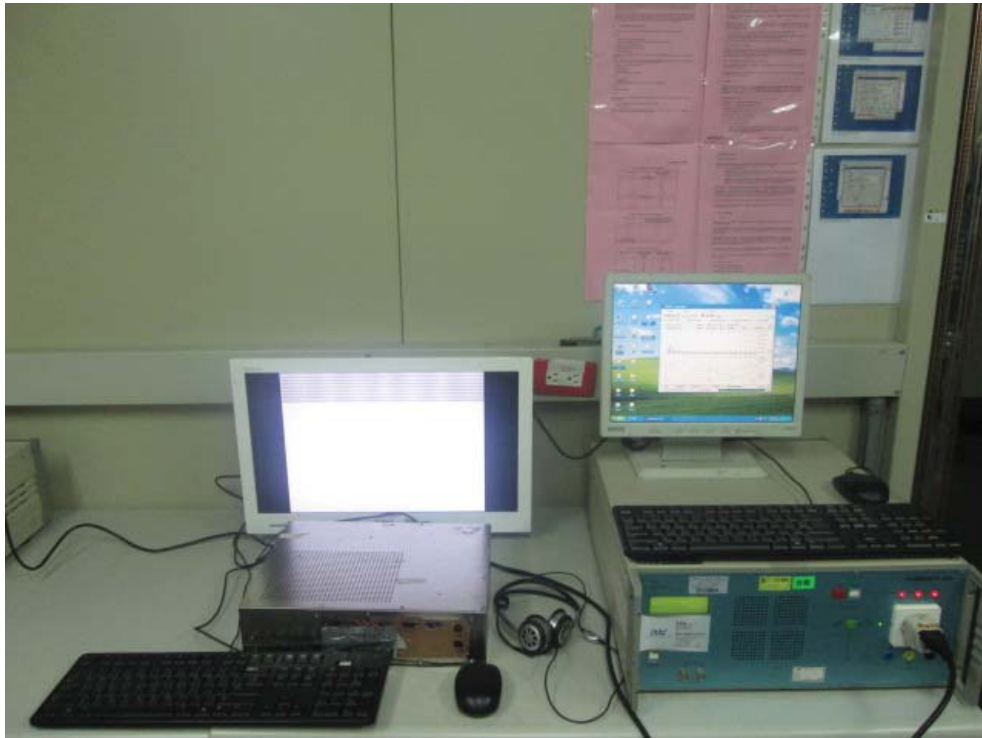
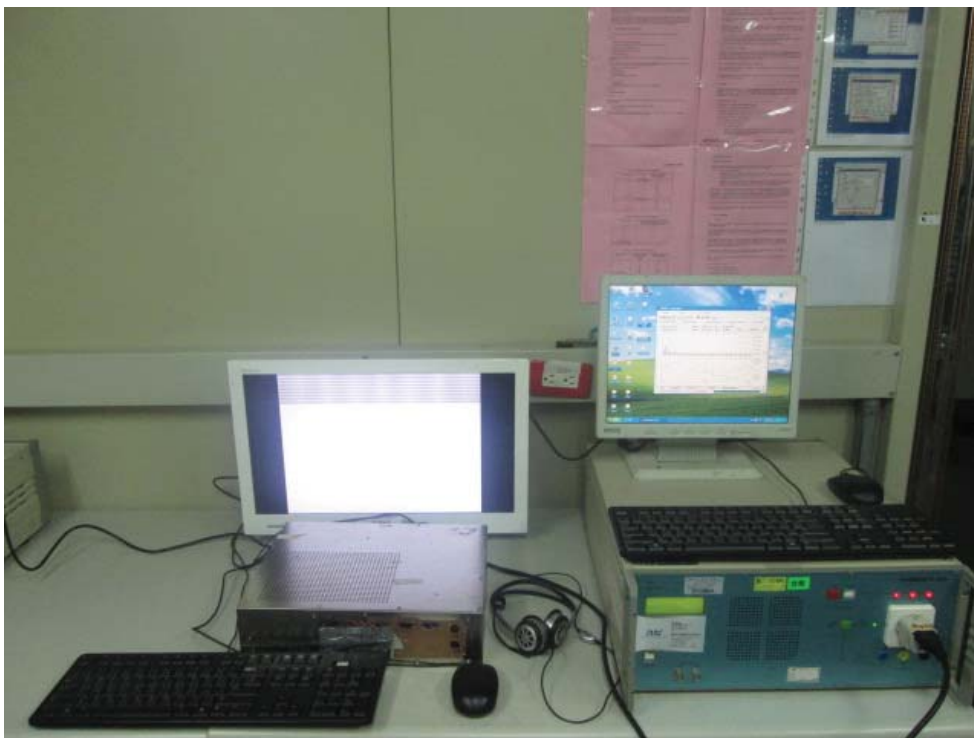
5 EQUIPMENTS LIST FOR TESTING

Name	Manufacturer	Model	Calibration Date	Recommended Recal. Date
EMI Test Receiver	Rohde & Schwarz	ESCI	2014/09/09	2015/09/08
LISN	EMCO	3625/2	2014/10/29	2015/10/28
LISN	Rohde & Schwarz	ESH2-Z5	2015/04/09	2016/04/08
Current Probe	Rohde & Schwarz	ESH2-Z1	2014/09/09	2015/09/08
Test Receiver	Rohde & Schwarz	ESVS30	2015/06/03	2016/06/02
Amplifier	HP	8447D	2015/05/29	2016/05/28
EMI Test Receiver	Rohde & Schwarz	ESL	2014/09/26	2015/09/25
Bi-Log Antenna	ETC	MCTD 2786	215/05/16	2016/05/15
Test Receiver	Rohde & Schwarz	ESU40	2014/08/15	2015/08/14
Amplifier	HP	8449B	2014/08/12	2015/08/11
HARMONIC/FLICKER ANALYZER	EMC-PARTNER	Harmonics-1000	2014/11/05	2015/11/04
MiniZAP ESD Simulator	NoiseKen	ESS-2002	2014/07/30	2015/07/29
Antenna	SUNOL SCIENCES	JB6	2014/09/30	2015/09/29
Signal Generator	Rohde & Schwarz	SMB100A	2015/06/25	2016/06/24
Amplifier	Ophir	5172	N/A	N/A
Amplifier	Ophir	5127	N/A	N/A
POWER METER	Boonton	4232A	2015/06/25	2016/06/24
EMC Immunity tester	EMC-Partner	TRANSIENT-2000	2013/10/04	2015/10/03
EMC Immunity tester	TESEQ	NSG3060 & CDN3061	2015/03/09	2016/03/08
Amplifier	AR	600A225M5	N/A	N/A
CDN-M2/M3	FRANKONIA	M2+3	2015/04/30	2016/04/29
CS Clamp	SCHAFFUER	KEMZ801	2014/09/26	2015/09/25
Mfgenerator	EMC-PAPTNER	MF-1000	2014/10/04	2015/10/03
Clamp Meter	CENTER	200	2014/08/29	2016/08/26

ANNEX A: PHOTOS**1. Conducted Emissions Test Setup Photos**

2. Conducted Telecommunication ports Test Data (ISN)

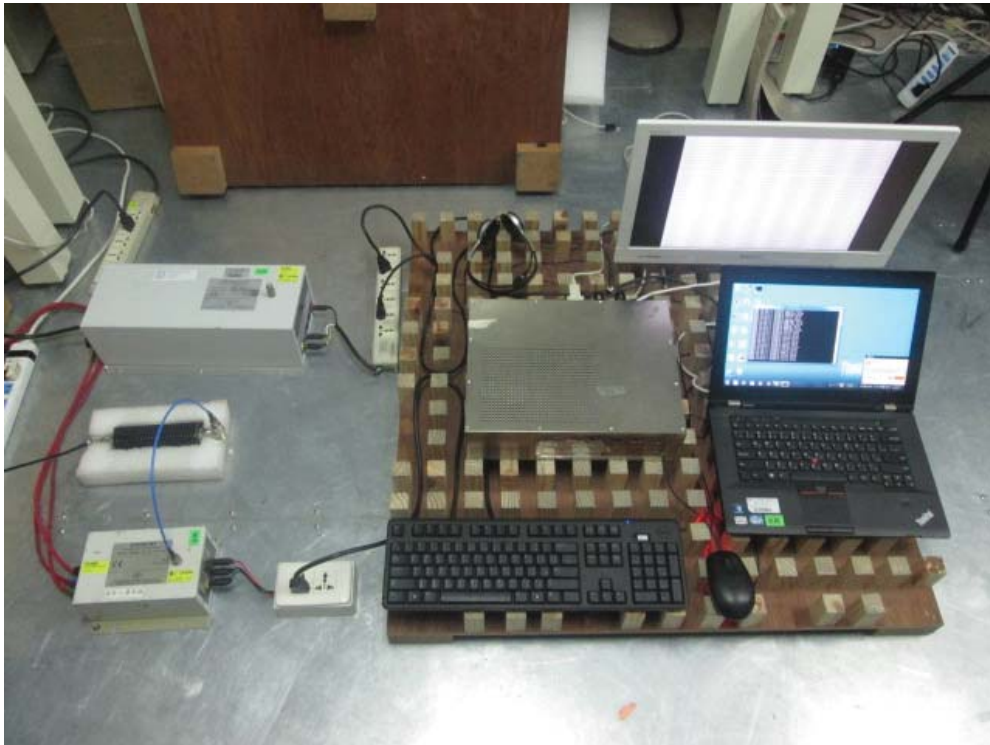
3. Radiated Emissions Test Setup Photos

4. Harmonics Current Emissions Test Setup Photo**5. Voltage Fluctuations and Flicker Test Setup Photos**

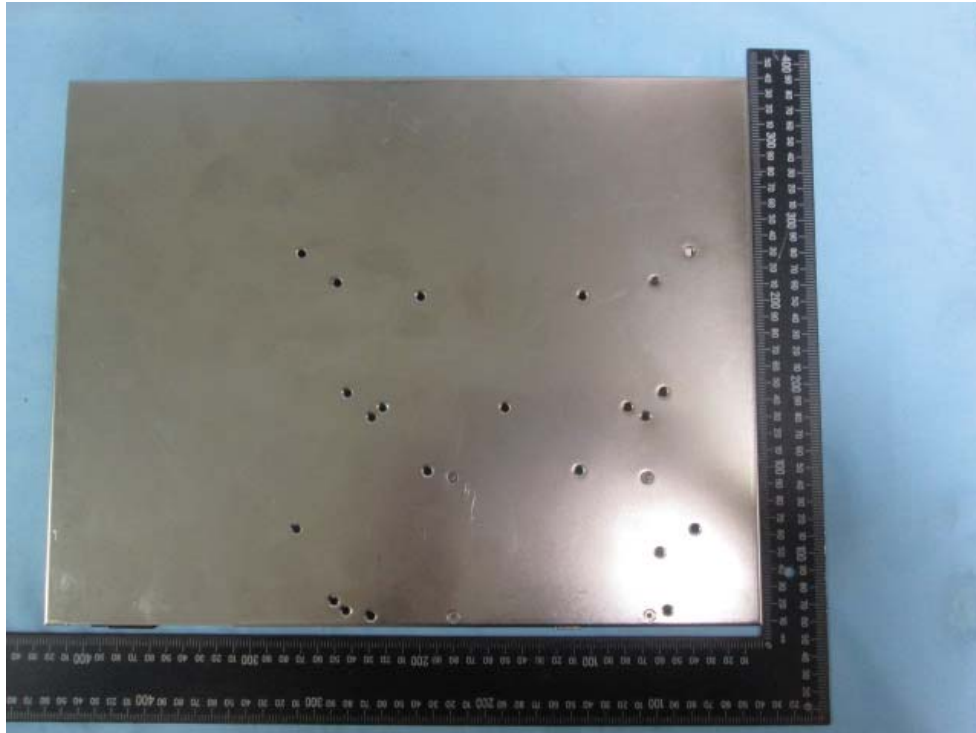
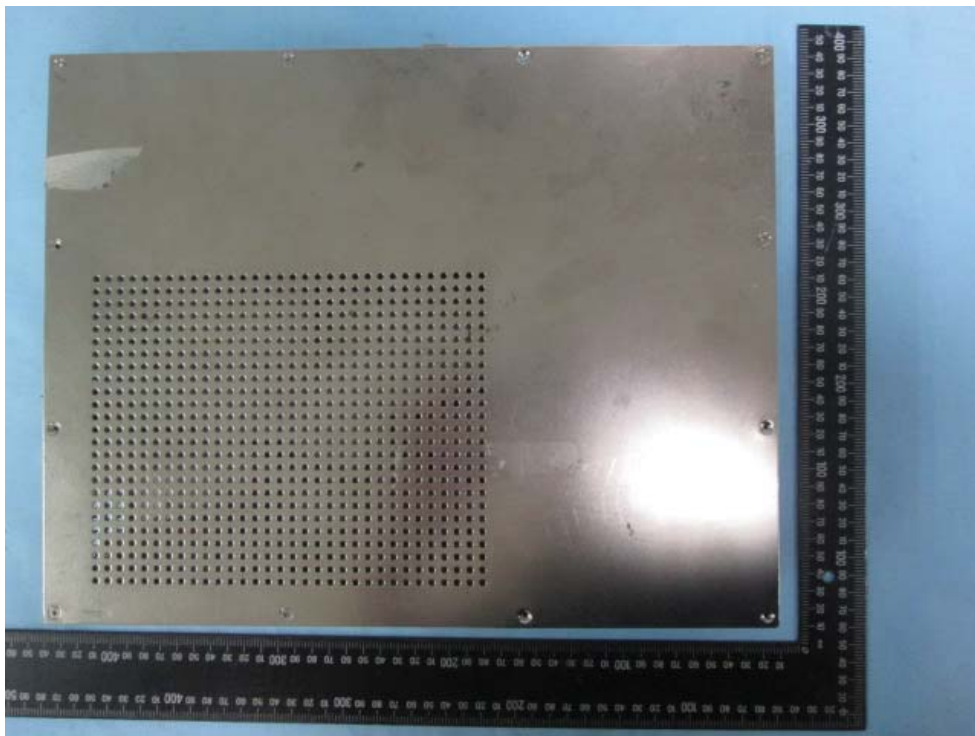
6. Electrostatic Discharge Immunity Test Setup Photo

7. RF Radiated Fields Immunity Test Setup Photo

8. EFT/Burst Immunity Test Setup Photo**9. Surge Immunity Test Setup Photo**

10. RF Common Mode Immunity Test Setup Photo (Power Line)

11. Power Frequency Magnetic Field Immunity Test Setup Photo**12. Voltage Interruptions and Voltage Dips Immunity Test Setup Photo**

13. Outside view 01 of EUT**14. Outside view 02 of EUT**

15. Outside view 03 of EUT**16. Outside view 04 of EUT**

17. Outside view 05 of EUT**18. Outside view 06 of EUT**