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Chongqing Road, Heping Community, Fuhai Street
Bao'an District, Shenzhen, Guangdong, China

EC - Certification of Conformity

Registration No. AGC02281190905E2

Certificate Holder

Product Designation Keychain with light in the shape of an oval tube

Brand Name N/A

Model / Series Models KL3130, 9211

Manufacturer

Requirement	Applied Standards	Document Evidence	Result
EMC Directive	EN 55015:2013+A1:2015 EN 61547:2009	Test Report: AGC02281190905EE01	Conform

CE EMC tested

Signed by General Manager (King Zhang)
Issue Date: Oct. 11, 2019

Recognized by Attestation of Global Compliance (Shenzhen) Co., Ltd. in accordance with the EMC Directive 2014/30/EU. The certificate doesn't imply assessment of the production. The Applicant of the certificate is authorized to use this certificate in connection with EC declaration of conformity to the Directive. The certificate is only applicable to the equipments described above. This certificate shall not be re-produced except in full without the written approval of Attestation of Global Compliance (Shenzhen) Co., Ltd.
Note: This certificate is part of the full test report(s) and should be used in conjunction with it.

Version: 2.1

EMC Test Report

Report No.: AGC02281190905EE01

PRODUCT DESIGNATION	:	Keychain with light in the shape of an oval tube
BRAND NAME	:	N/A
MODEL NAME	:	KL3130, 9211
CLIENT	:	
DATE OF ISSUE	:	Oct.10, 2019
STANDARD(S)	:	EN 55015:2013+A1:2015 EN 61547:2009
REPORT VERSION	:	V1.0

***A**ttestation of **G**lobal **C**ompliance (Shenzhen) Co., Ltd*

REPORT REVISE RECORD

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Oct.10, 2019	Valid	Initial release

TABLE OF CONTENTS

1. VERIFICATION OF CONFORMITY

Applicant	
Address	
Manufacturer	
Address	
Factory	
Address	
Product Designation	Keychain with light in the shape of an oval tube
Brand Name	N/A
Test Model	KL3130
Series Model	9211
Model Description	All the same expect for the model name.
Date of test	Sep.29, 2019 to Oct.09, 2019
Deviation	None
Condition of Test Sample	Normal
Test Result	Pass
Report Template	AGCRT-EC-LT/DC(2013-03-01)

The above equipment was tested by Attestation of Global Compliance (Shenzhen) Co., Ltd. for compliance with the requirements set forth in the Technical Standards mentioned above. This said equipment in the configuration described in this report shows the maximum emission levels emanating from equipment and the level of the immunity endurance of the equipment are within the compliance requirements.
The test results of this report relate only to the tested sample identified in this report.

Prepared By

Faler Yang(Yang Feiyue)
Project Engineer — Oct.10, 2019

Reviewed By

Erik Yang(Yang Jianmin)
Reviewer — Oct.10, 2019

Approved By

Forrest Lei(Lei Yonggang)
Authorized Officer — Oct.10, 2019

2. SYSTEM DESCRIPTION

TEST MODE DESCRIPTION		
NO.	**TEST MODE DESCRIPTION**	**WORST**
1	Lighting	V
Note: 1. V means EMI worst mode.		

3. MEASUREMENT UNCERTAINTY

The uncertainty is calculated using the methods suggested in the “Guide to the Expression of Uncertainty in measurement” (GUM) published by ISO.

- Uncertainty of Radiated Emission, Uc = ±3.9dB

4. PRODUCT INFORMATION

Housing Type	Plastic and metal
EUT Input Rating	DC 6V by button cell

I/O Port Information (☐Applicable ☒Not Applicable)

I/O Port of EUT			
I/O Port Type	**Number**	**Cable Description**	**Tested With**
--	--	--	--

Note:
1. All the above "--" means that EUT has no cable.
2. All the cables were provided by AGC Lab.

5. SUPPORT EQUIPMENT

Device Type	Manufacturer	Model Name	Serial No.	Data Cable	Power Cable
--	--	--	--	--	--

Note:
1. "-- "means no any support device during testing.

6. TEST FACILITY

Site	Attestation of Global Compliance (Shenzhen) Co., Ltd
Location	1-2/F, Building 19, Junfeng Industrial Park, Chongqing Road, Heping Community, Fuhai Street, Bao 'an District, Shenzhen, Guangdong, China

TEST EQUIPMENT OF RADIATED EMISSION TEST

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Due
TEST RECEIVER	R&S	ESCI	10096	Jun.12, 2019	Jun.11, 2020
ANTENNA	SCHWARZBECK	VULB9168	D69250	Sep.20, 2019	Sep.19, 2020

RADIATED ELECTROMAGNETIC DISTURBANCE TEST

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Due
TEST RECEIVER	R&S	ESPI	101206	Jun.12, 2019	Jun.11, 2020
Triple Loop Antenna	LAPLACE	RF300	N/A	Feb.19, 2019	Feb.18, 2020

TEST EQUIPMENT OF ESD TEST

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Due
ESD Simulator	Schaffner	NSG 438	782	Oct.25, 2018	Oct.24, 2019

TEST EQUIPMENT OF RS IMMUNITY TEST

Description	Manufacturer	Model	S/N	Cal. Date	Cal. Due
SIGNAL GENERATOR	R&S	E4421B	MY43351603	Jun.12, 2019	Jun.11, 2020
ANTENNA	SCHWARZBCK	VULB9168	D69250	Sep.20, 2019	Sep.19, 2020
POWER SENSOR	R&S	URV5-Z4	100124	May.17, 2019	May.16, 2020
POWER METER	R&S	NRVD	8323781027	May.17, 2019	May.16, 2020
POWER AMPLIFIER	KALMUS	7100LC	04-02/17-06-001	Jun.12, 2019	Jun.11, 2020
RF AMPLIFIER	Milmega	AS0104-55_55	1004793	Jun.12, 2019	Jun.11, 2020
HORN ANTENNA	ETS LINDGREN	3117	00034609	May.17, 2019	May.16, 2020

TEST EQUIPMENT OF PFMF TEST

Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
PFMF system	HTEC	HPFMF	161701	Aug.27, 2019	Aug.28, 2020

7. TEST ITEMS AND THE RESULTS

Test item	Test Requirement	Test Method	Class/Severity	Result
CONDUCTED EMISSION	EN 55015	EN 55015	0.009MHz -30MHz	N/A
RADIATED EMISSION	EN 55015	EN 55015	30MHz -300MHz	Pass
RADIATED ELECTROMAGNETIC DISTURBANCE	EN 55015	EN 55015	0.009MHz -30MHz	Pass
Harmonic current emission	EN 61000-3-2	EN 61000-3-2	Class C	N/A
Voltage fluctuations & flicker	EN 61000-3-3	EN 61000-3-3	§5 of EN 61000-3-3	N/A
Electrostatic Discharge Immunity	EN 61547	EN 61000-4-2	± 8.0 kV (Air Discharge) ± 4.0 kV (Contact Discharge) ± 4.0 kV (Indirect Discharge)	Pass
Radiated RF Electromagnetic	EN 61547	EN 61000-4-3	3V/m with 80% AM. 1kHz Modulation.	Pass
Electrical fast transient/burst Immunity	EN 61547	EN 61000-4-4	+/- 1kV for Power Supply Lines	N/A
SURGE IMMUNITY	EN 61547	EN 61000-4-5	>25W +/-1kV (Line to Line) +/-2kV (Line to Ground) ≤25W +/-0.5kV (Line to Line) +/-1kV (Line to Ground)	N/A
Immunity to Conducted Disturbances Induced by RF fields	EN 61547	EN 61000-4-6	3V with 80% AM. 1 kHz Modulation	N/A
Power Frequency Magnetic Fields	EN 61547	EN61000-4-8	50/60 Hz, 3A/m	Pass
Voltage dips and short interruptions immunity	EN 61547	EN 61000-4-11	PHASE ANGLE 0, 45, 90, 135, 180, 225, 270, 315 degrees	N/A

Note：N/A means not applicable.

8. EN 55015 RADIATED EMISSION TEST

8.1. LIMITS OF RADIATED DISTURBANCES

AT 10M DISTANCES

Frequency (MHz)	Distance (m)	Maximum Field Strength Limit (dBuV/m Q.P.)
30-230	10	30.00
230-300	10	37.00

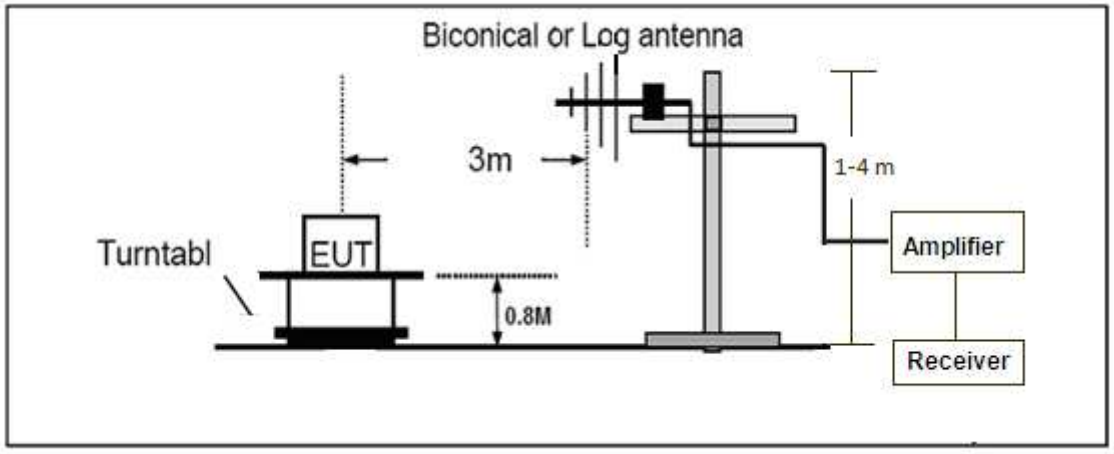
AT 3M DISTANCES

Frequency (MHz)	Distance (m)	Maximum Field Strength Limit (dBuV/m Q.P.)
30-230	3	40.00
230-300	3	47.00

Note: The lower limit shall apply at the transition frequency.

8.2. BLOCK DIAGRAM OF TEST SETUP

System Diagram of Connections between EUT and Simulators

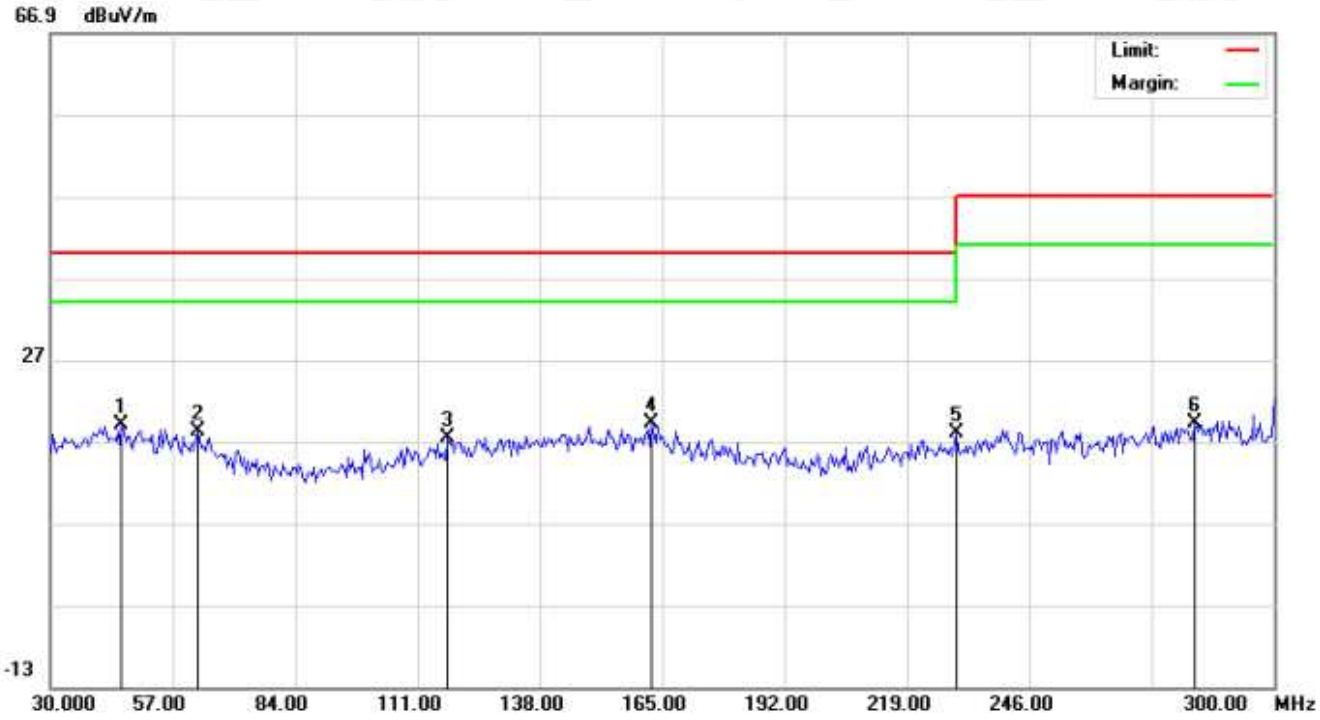


8.3. PROCEDURE OF RADIATED EMISSION TEST

(1) The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. When the EUT is a tabletop system, a wooden turntable with a height of 0.8 meters is used which is placed on the ground plane as per EN 55015 (see Test Facility for the dimensions of the ground plane used).When the EUT is a floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.
(2) Support equipment, if needed, was placed as per EN 55015.
(3) All I/O cables were positioned to simulate typical actual usage as per EN 55015.
(4) The EUT was turned on.
(5) The antenna was placed at 3 meters away from the EUT as stated in EN 55015. The antenna connected to the Analyzer via a cable and at times a pre-amplifier would be used.
(6) The Analyzer / Receiver quickly scanned from 30MHz to 1000MHz. The EUT test program was started. Emissions were scanned and measured rotating the EUT to 360 degrees and positioning the antenna 1 to 4 meters above the ground plane, in both the vertical and the horizontal polarization, to maximize the emission reading level.
(7) The test mode(s) were scanned during the test:
(8) Recorded at least the six highest emissions. Emission frequency, amplitude, antenna position, polarization and turntable position were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit and Q.P./Peak reading is presented.

8.4. TEST RESULT OF RADIATED EMISSION TEST

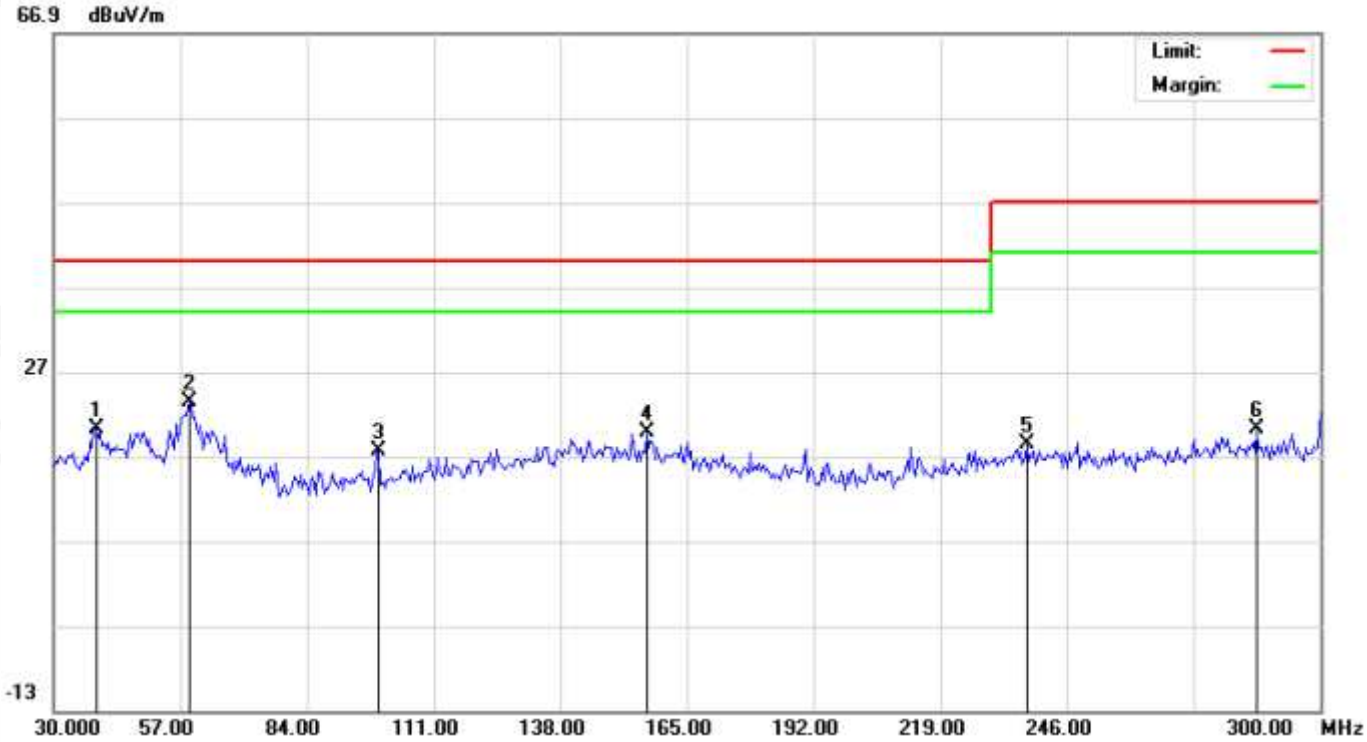
Radiated Emission Test at 3m Distance-Horizontal



No.	Mk.	Freq.	Reading	Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1		45.7500	-0.90	19.88	18.98	40.00	-21.02	peak
2		62.4000	-0.34	18.45	18.11	40.00	-21.89	peak
3		117.7500	-0.38	17.75	17.37	40.00	-22.63	peak
4	*	162.7500	0.21	18.91	19.12	40.00	-20.88	peak
5		229.8000	0.00	17.94	17.94	40.00	-22.06	peak
6		282.4500	-0.61	19.88	19.27	47.00	-27.73	peak

RESULT: PASS

Radiated Emission Test at 3m Distance-Vertical



No.	Mk.	Freq.	Reading	Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1		39.0000	0.47	19.74	20.21	40.00	-19.79	peak
2	*	58.8000	4.47	18.97	23.44	40.00	-16.56	peak
3		99.3000	1.66	15.94	17.60	40.00	-22.40	peak
4		156.4500	0.63	19.20	19.83	40.00	-20.17	peak
5		237.4500	-0.04	18.48	18.44	47.00	-28.56	peak
6		286.5000	0.37	19.79	20.16	47.00	-26.84	peak

RESULT: PASS

Note：

Measurement (dBuV/m)=Reading(dBuV)+Factor(dB/m)

Factor(dB/m)=Antenna Factor(dB/m)+Cable loss(dB)+Attenuation(dB)for Attenuator

Over= Measurement-Limit

9. EN 55015 RADIATED ELECTROMAGNETIC DISTURBANCE TEST

9.1. LIMITS OF RADIATED ELECTROMAGNETIC DISTURBANCE IN THE RANGE 9 KHZ TO 30 MHZ

Frequency Range	Limits for Loop Diameter dB(uA) *		
	2m	3m	4m
9 KHz-70 KHz	88 *	81 *	75 *
70 KHz-150 KHz	88 to 58 * *	81 to 51 * *	75 to 45 * *
150 kHz-3.0 MHz	58 to 22 * *	51 to 15 * *	45 to 9 * *
3.0 MHz-30 MHz	22 * * *	15 to 16 * * *	9 to 12 * * *

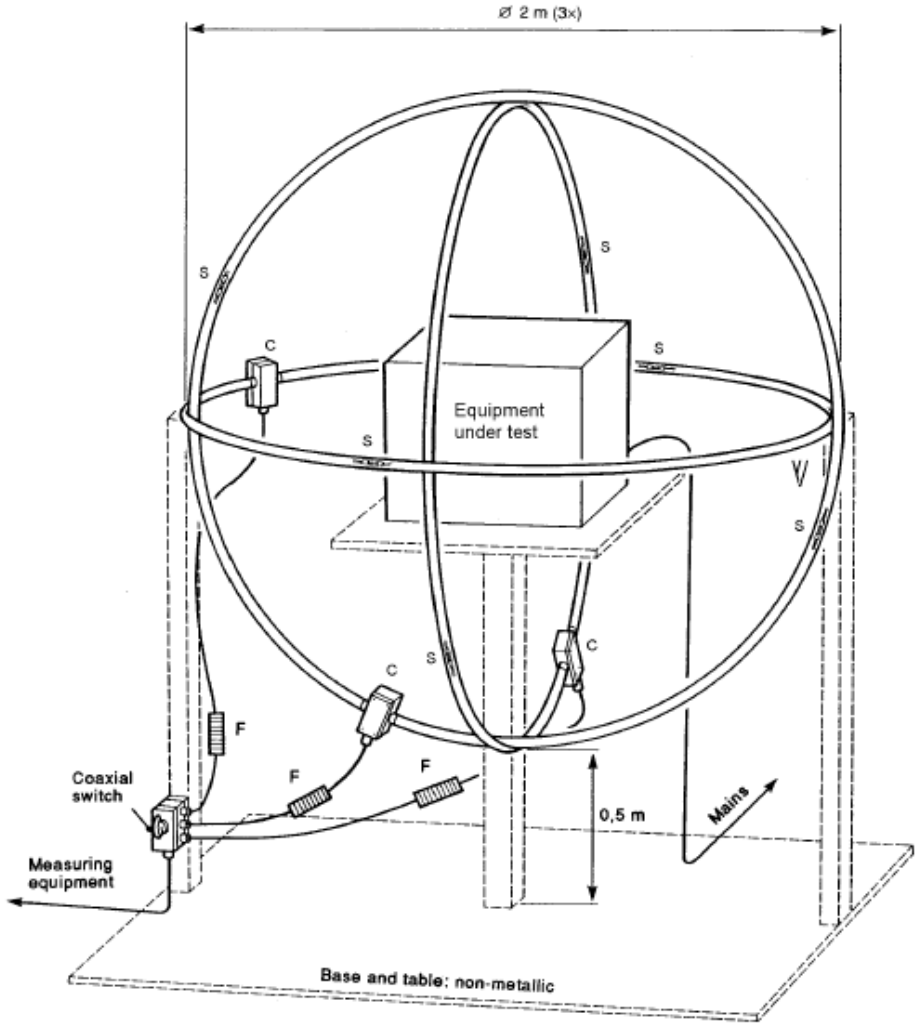
Note:

* At the transition frequency, the lower limit applies.

* * Decreasing linearly with the logarithm of the frequency. For electrode less lamps and luminaries, the limit in the frequency range of 2.2 MHz to 3.0 MHz is 58 dB(uA) for 2m, 51 dB(uA) for 3m and 45 dB(uA) for 4m loop diameter.

* * * Increasing linearly with the logarithm of the frequency.

9.2. BLOCK DIAGRAM OF TEST SETUP

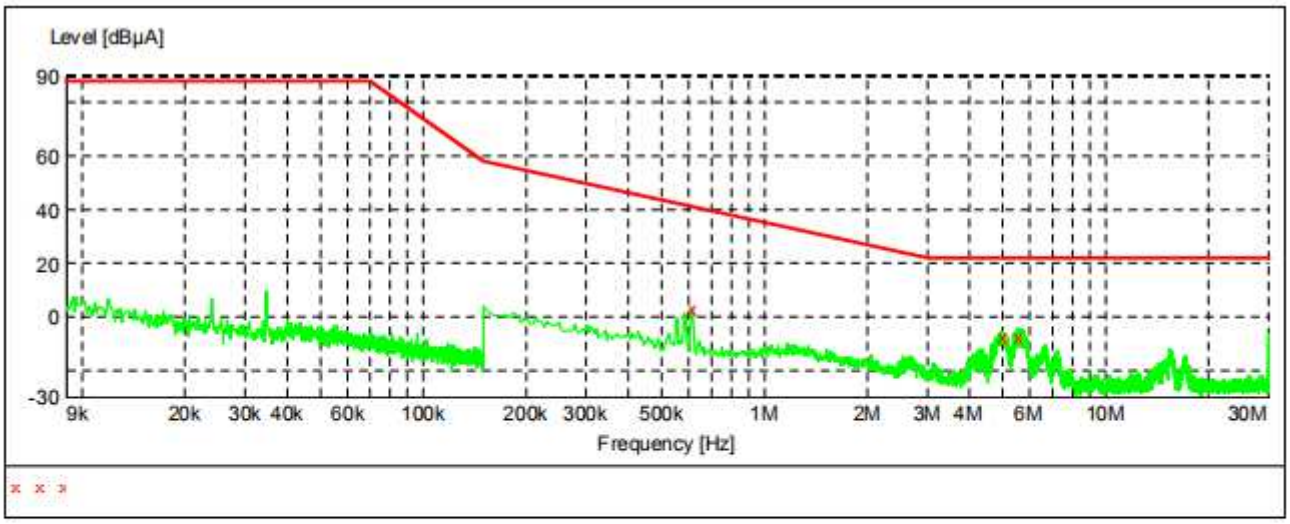


9.3. TEST PROCEDURE

The magnetic component shall be measured by means of a loop antenna as described in EN 55015. The lighting equipment shall be placed in the centre of the antenna, and the position is not critical.
The test object was operated at its upper limit of its rated voltage and its rated frequency. The induced current in the loop antenna is measured by means of a current probe(1V/A) and the CISPR measuring receiver. By means of a coaxial switch the three field directions can be measured in sequence. Each value shall fulfill the requirements given.

9.4. TEST RESULTS OF RADIATED ELECTROMAGNETIC DISTURBANCE

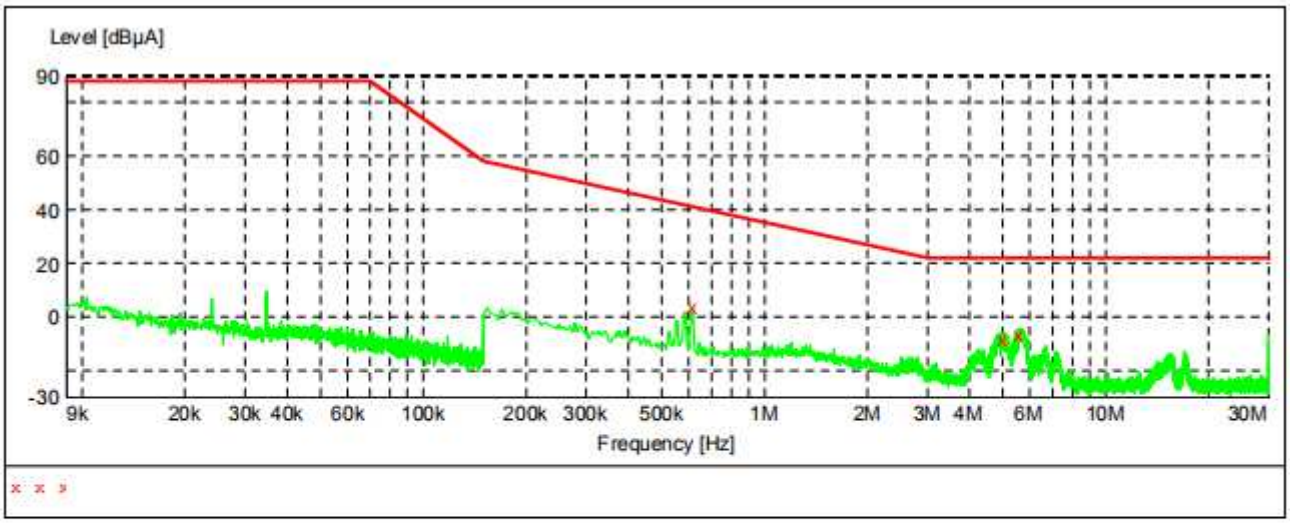
X



MEASUREMENT RESULT:

Frequency MHz	Level dBµA	Transd dB	Limit dBµA	Margin dB	Det.	Loop
0.614000	3.00	-19.7	41	38.1	PK	X
4.946000	-7.60	-21.6	22	29.6	PK	X
5.586000	-7.10	-21.4	22	29.1	PK	X

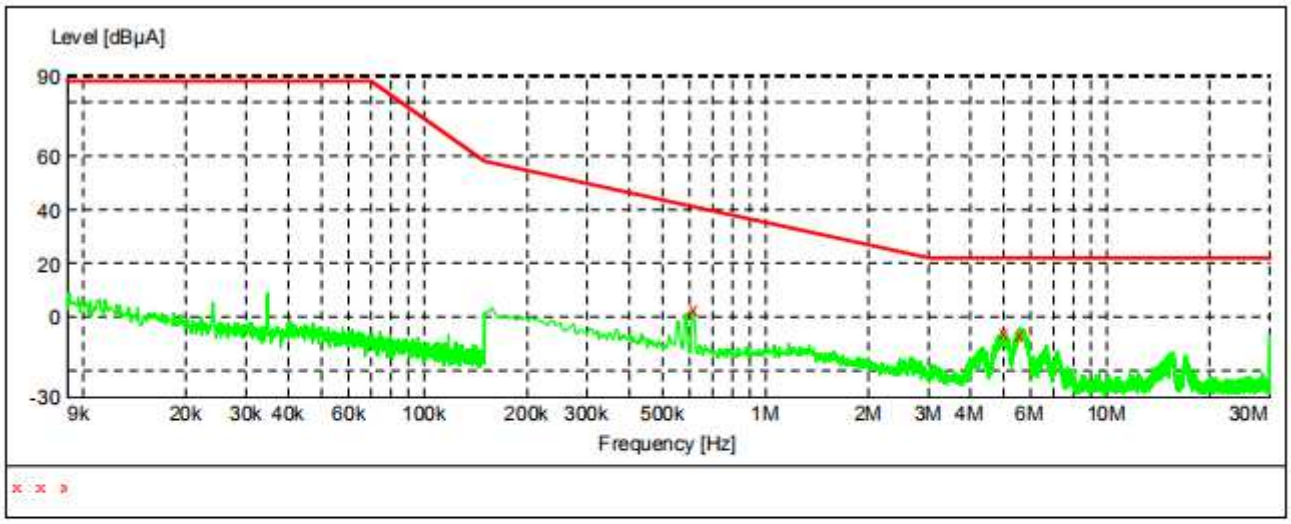
Y



MEASUREMENT RESULT:

Frequency MHz	Level dBµA	Transd dB	Limit dBµA	Margin dB	Det.	Loop
0.614000	3.80	-19.7	41	37.3	PK	Y
4.974000	-7.80	-21.6	22	29.8	PK	Y
5.522000	-6.50	-21.4	22	28.5	PK	Y

Z



MEASUREMENT RESULT:

Frequency MHz	Level dBµA	Transd dB	Limit dBµA	Margin dB	Det.	Loop
0.614000	3.40	-19.7	41	37.7	PK	Z
4.946000	-6.20	-21.6	22	28.2	PK	Z
5.582000	-6.50	-21.4	22	28.5	PK	Z

RESULT: PASS

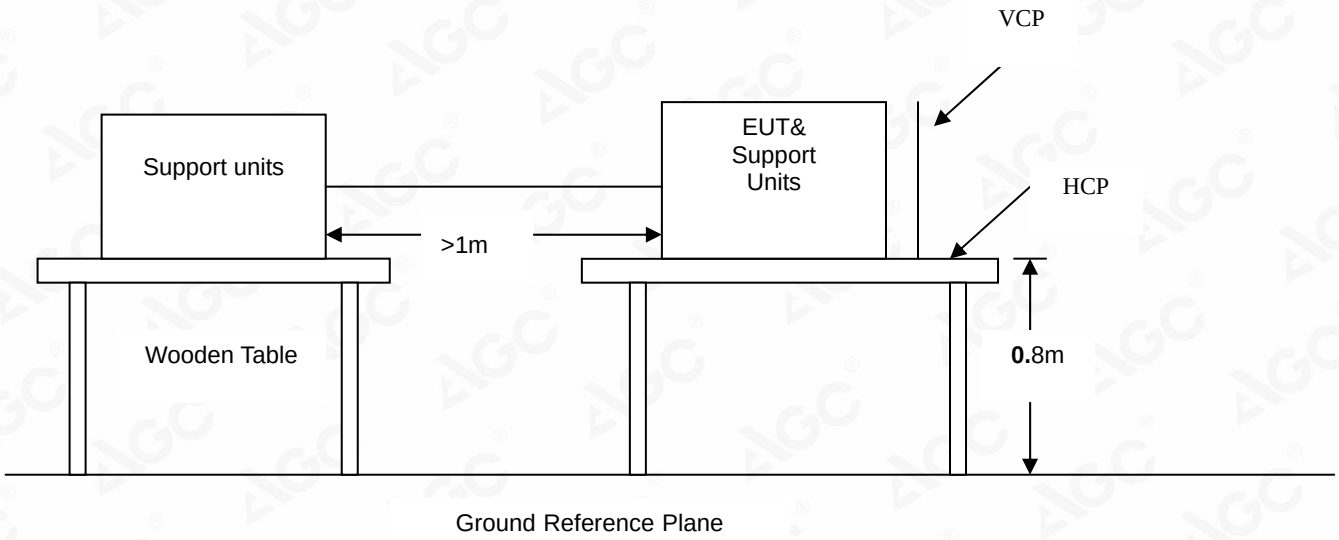
10. EN 61000-4-2 ESD IMMUNITY TEST

ELECTROSTATIC DISCHARGE (ESD) IMMUNITY TEST

Port	Enclosure
Basic Standard	EN 61000-4-2
Test Level	± 8.0 kV (Air Discharge) ± 4.0 kV (Contact Discharge) ± 4.0 kV (Indirect Discharge)
Standard require	B
Tester	Faler
Temperature	23 °C
Humidity	56%

10.1. BLOCK DIAGRAM OF TEST SETUP

(The 470 k ohm resistors are installed per standard requirement)



10.2. TEST PROCEDURE

The EUT was located 0.1 m minimum from all side of the HCP.
The support units were located 1 m minimum away from the EUT.
EUT worked with resistance load, and make sure EUT worked normally.
Actives the communication function if the EUT with such port(s).
As per the requirement of EN 61547: Contact discharge is the preferred test method, twenty discharges (10 with positive and 10 with negative polarity) shall be applied on each accessible metallic part of the enclosure, terminals are excluded. Air discharges shall be used where contact discharges cannot be applied. Discharges shall be applied on the horizontal or vertical coupling planes as specified in EN 61000-4-2.
The following test condition was followed during the tests.
Note: As per the A2 to EN 61000-4-2, a bleed resistor cable is connected between the EUT and HCP during the test.
The electrostatic discharges were applied as follows:

Voltage	Coupling	Test Performance	Result
±4kV	Contact Discharge	No function loss	A
±4kV	Indirect Discharge HCP (Front)	No function loss	A
±4kV	Indirect Discharge HCP (Left)	No function loss	A
±4kV	Indirect Discharge HCP (Back)	No function loss	A
±4kV	Indirect Discharge HCP (Right)	No function loss	A
±4kV	Indirect Discharge VCP (Front)	No function loss	A
±4kV	Indirect Discharge VCP (Left)	No function loss	A
±4kV	Indirect Discharge VCP (Back)	No function loss	A
±4kV	Indirect Discharge VCP (Right)	No function loss	A
±8kV	Air Discharge	No function loss	A

10.3. PERFORMANCE & RESULT

Criteria A:	The apparatus continues to operate as intended. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended. In some cases the performance level may be replaced by a permissible loss of performance.
Criteria B:	The apparatus continues to operate as intended after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended. In some cases the performance level may be replaced by a permissible loss of performance. During the test, degradation of performance is however allowed.
Criteria C:	Temporary loss of function is allowed, provided the functions self recoverable or can be restored by the operation of controls.

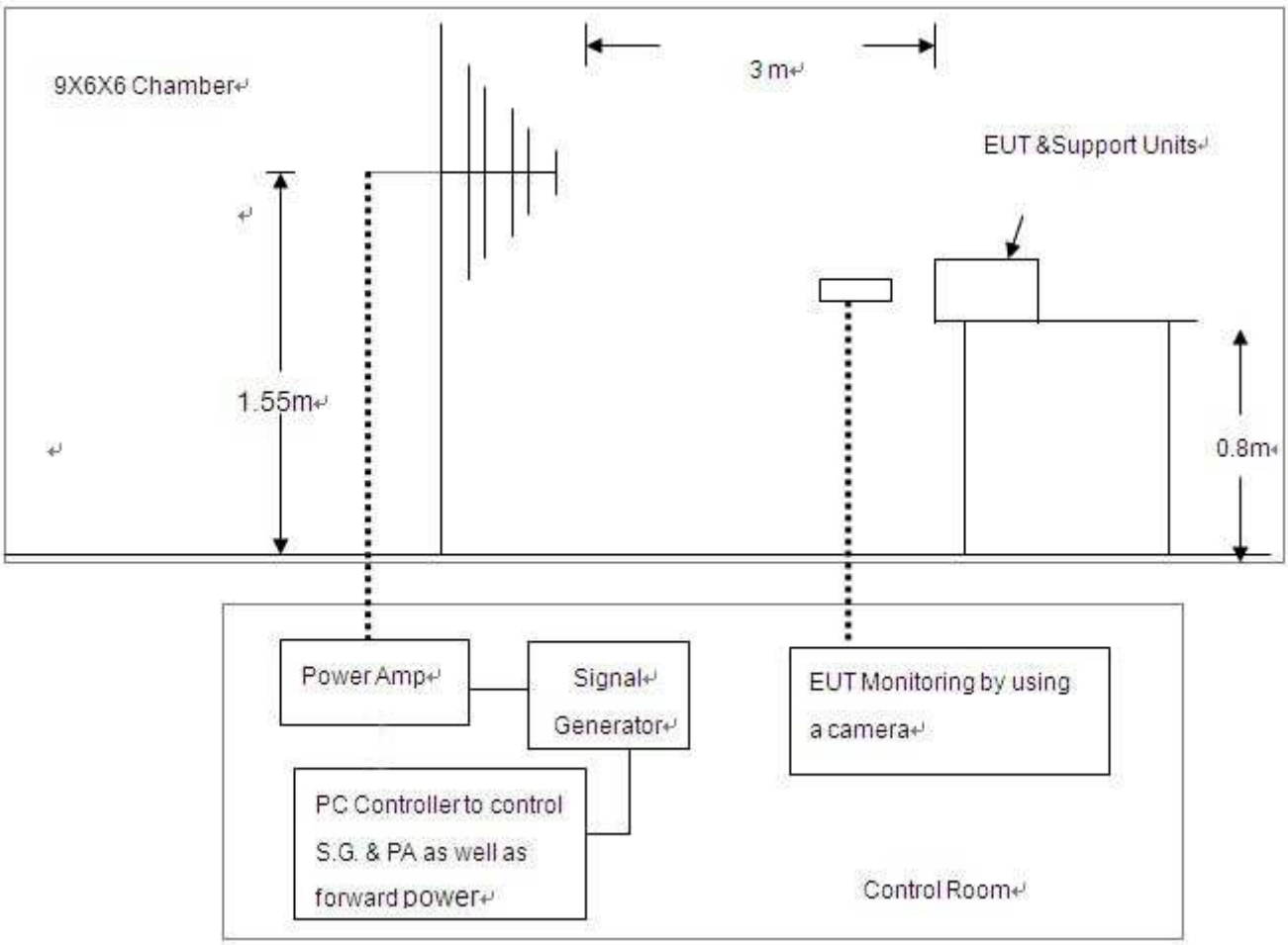
☒***PASS*** ☐***FAIL***

11. EN 61000-4-3 RS IMMUNITY TEST

RADIATED ELECTROMAGNETIC FIELD IMMUNITY TEST

Port	Enclosure
Basic Standard	EN 61000-4-3
Test Level:	3V/m with 80% AM. 1kHz Modulation.
Standard require	A
Tester	Faler
Temperature	22.3°C
Humidity	53.4%

11.1. BLOCK DIAGRAM OF TEST SETUP



11.2. TEST PROCEDURE

The EUT was located at the edge of supporting table keep 3 meter away from transmitting antenna, it just the calibrated square area of field uniformity. The support units were located outside of the uniformity area, but the cable(s) connected with EUT were exposed to the calibrated field as per EN 61000-4-3.
EUT worked with resistance load, and make sure EUT worked normally.
Setting the testing parameters of RS test software per EN 61000-4-3.
Performing the test at each side of with specified level (3V/m) at 1% steps and test frequency from 80MHz to 1000MHz
Recording the test result in following table.

EN 61000-4-3 Final test conditions:
Test level: 3V/m
Steps: 1 % of fundamental
Dwell Time: 1 sec

Range (MHz)	Field	Modulation	Polarity	Position	Test Performance	Result
80-1000	3V/m	AM	H	Front	No function loss	A
80-1000	3V/m	AM	H	Left	No function loss	A
80-1000	3V/m	AM	H	Back	No function loss	A
80-1000	3V/m	AM	H	Right	No function loss	A
80-1000	3V/m	AM	V	Front	No function loss	A
80-1000	3V/m	AM	V	Left	No function loss	A
80-1000	3V/m	AM	V	Back	No function loss	A
80-1000	3V/m	AM	V	Right	No function loss	A

11.3. PERFORMANCE & RESULT

Criteria A:	The apparatus continues to operate as intended. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended. In some cases the performance level may be replaced by a permissible loss of performance.
Criteria B:	The apparatus continues to operate as intended after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended. In some cases the performance level may be replaced by a permissible loss of performance. During the test, degradation of performance is however allowed.
Criteria C:	Temporary loss of function is allowed, provided the functions self recoverable or can be restored by the operation of controls.

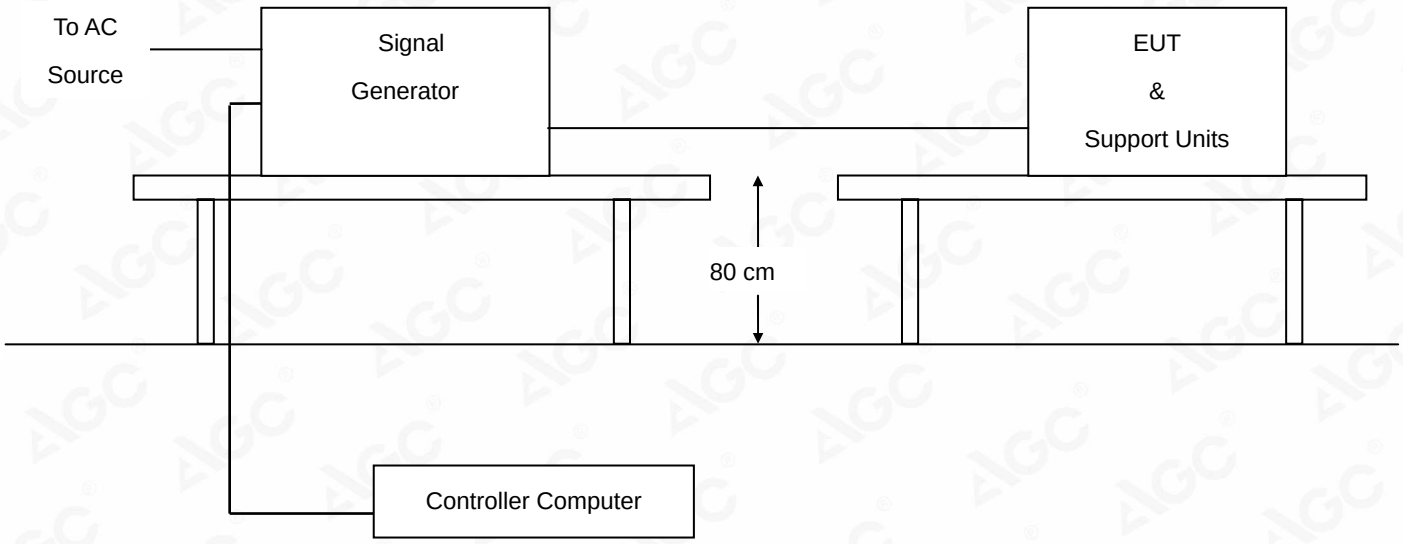
☒***PASS*** ☐***FAIL***

12 EN 61000-4-8 PFMF TEST

POWER FREQUENCY MAGNETIC FIELDS IMMUNITY TEST

Port	Enclosure
Basic Standard	EN 61000-4-8
Requirements	50/60 Hz, 3A/m
Standard require	A
Tester	Faler
Temperature	23 °C
Humidity	56%

12.1. BLOCK DIAGRAM OF TEST SETUP



12.2. TEST PROCEDURE

The EUT shall be subjected to the test magnetic field by using the induction coil of standard dimensions (1m × 1m). The induction coil shall then be rotated by 90° in order to expose the EUT to the test field with different orientations.

Test Conditions:

Frequency	Polarity	Level	Test Performance	Performance Result
50 Hz	X	3 A/m	No function loss	A
50 Hz	Y	3 A/m	No function loss	A
50 Hz	Z	3 A/m	No function loss	A

12.3. PERFORMANCE & RESULT

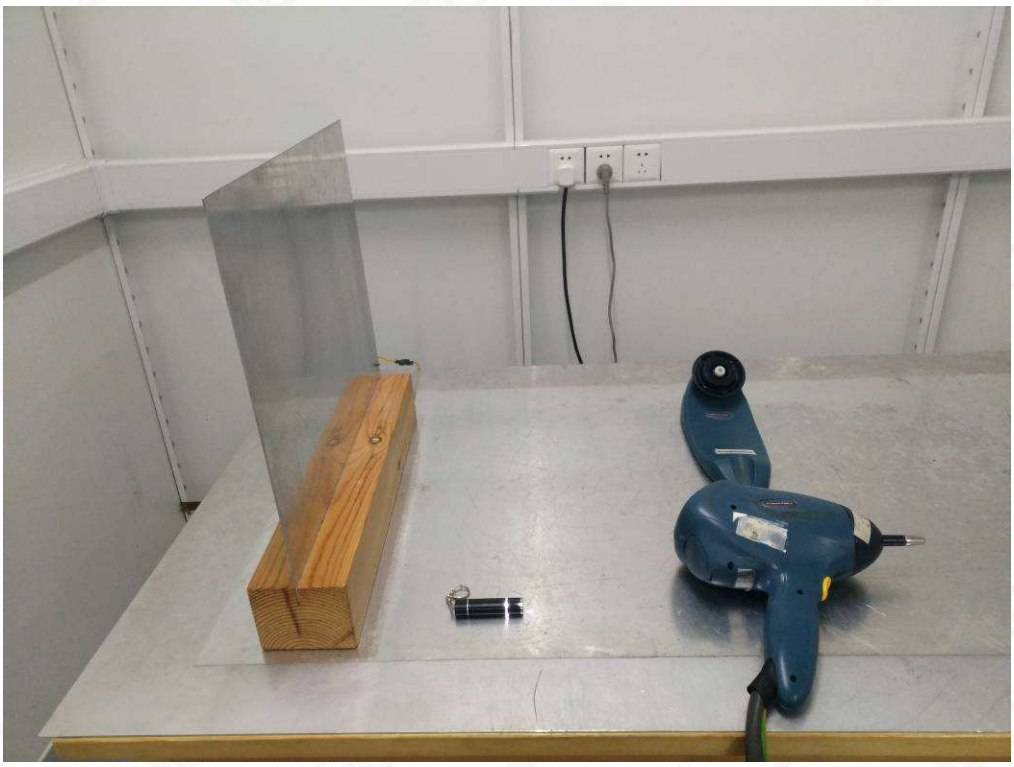
Criteria A:	The apparatus continues to operate as intended. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended. In some cases the performance level may be replaced by a permissible loss of performance.
Criteria B:	The apparatus continues to operate as intended after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended. In some cases the performance level may be replaced by a permissible loss of performance. During the test, degradation of performance is however allowed.
Criteria C:	Temporary loss of function is allowed, provided the functions self recoverable or can be restored by the operation of controls.

☒***PASS*** ☐***FAIL***

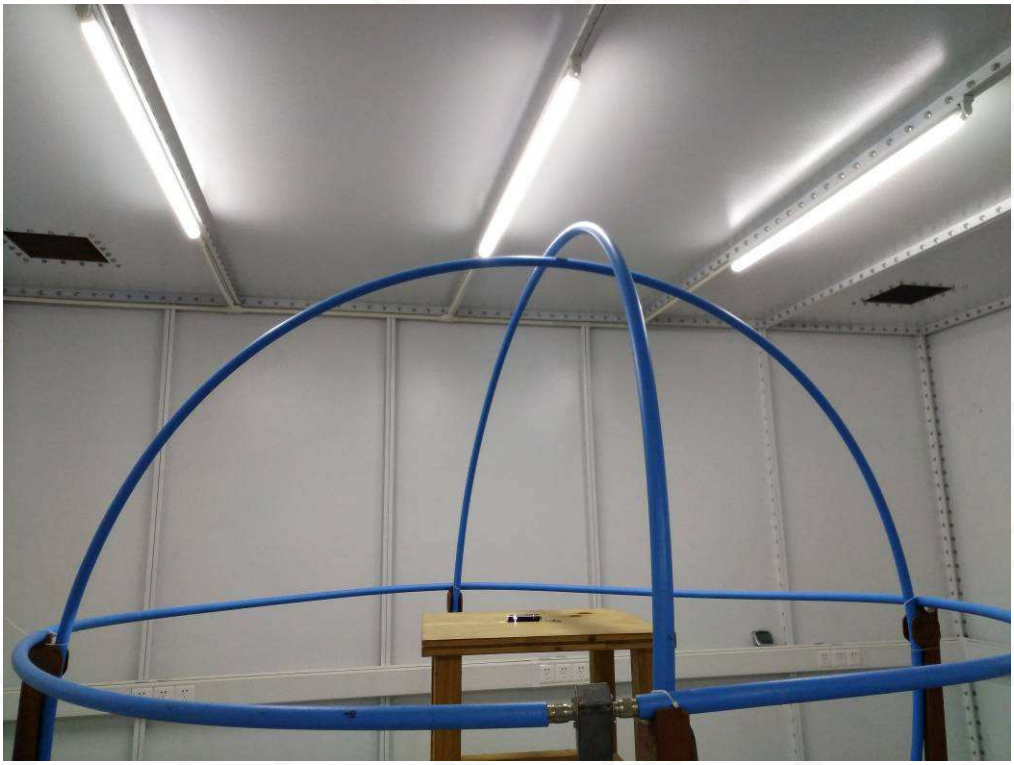
APPENDIX A: PHOTOGRAPHS OF TEST SETUP

EN 55015 RADIATED EMISSION TEST SETUP

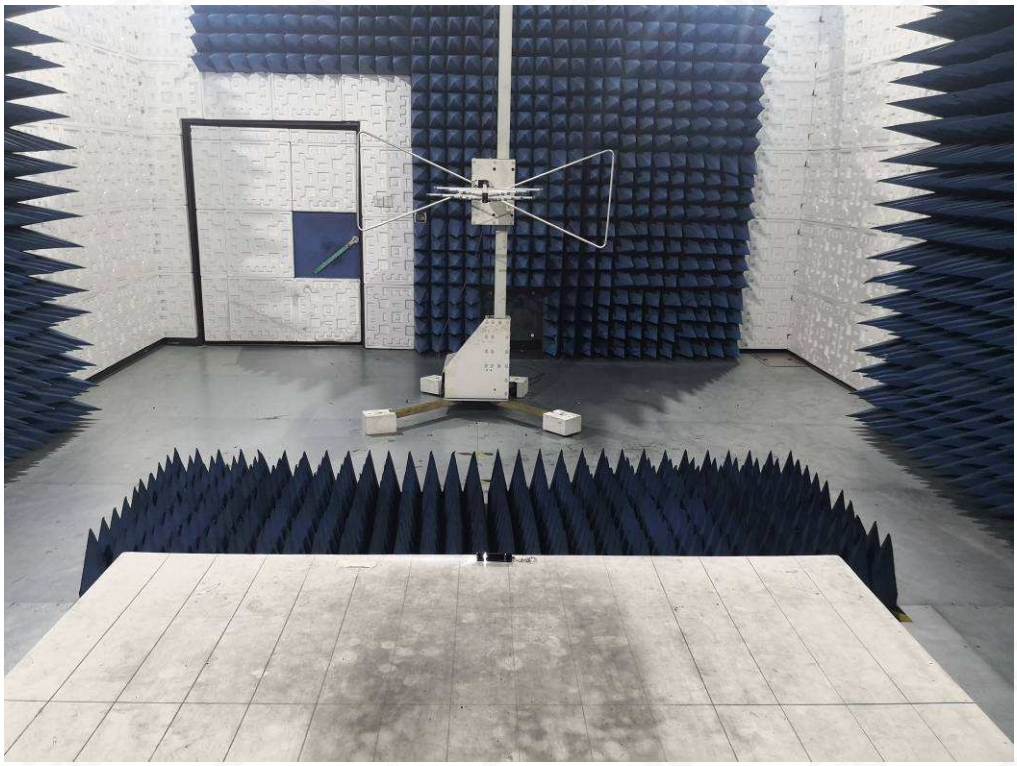
EN 61000-4-2 ESD IMMUNITY TEST SETUP



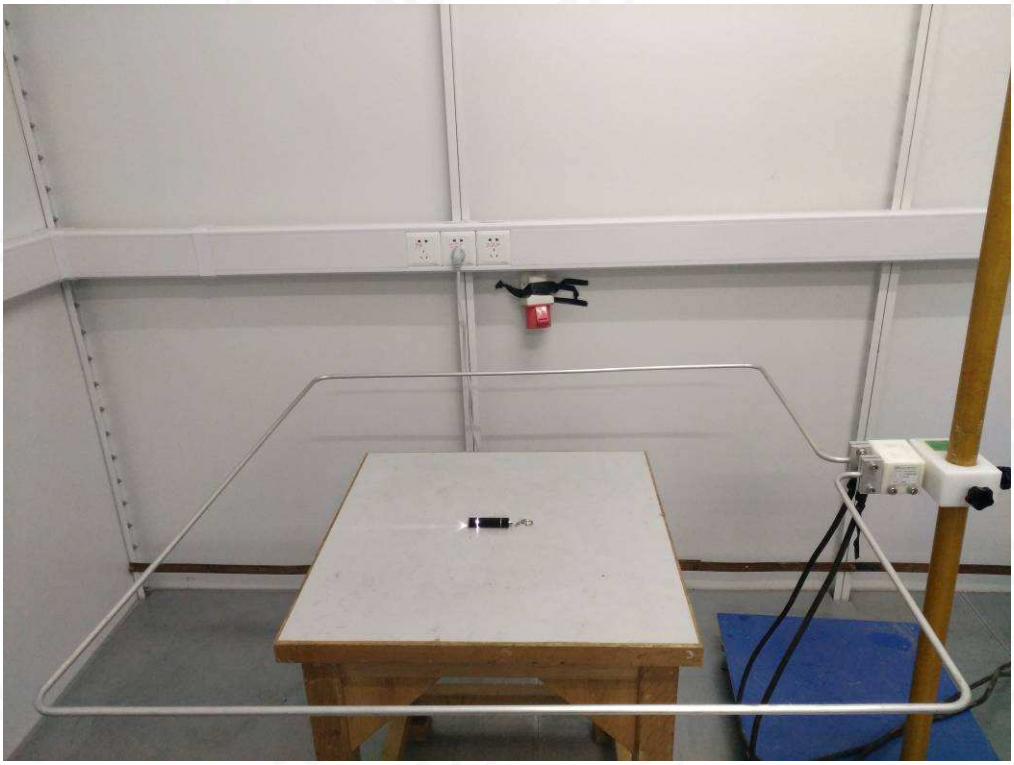
EN 55015 RADIATED ELECTROMAGNETIC DISTURBANCE TEST



EN 61000-4-3 RS IMMUNITY TEST SETUP



EN 61000-4-8 PFMF TEST SETUP



APPENDIX B: PHOTOGRAPHS OF EUT

ALL VIEW OF EUT-1

TOP VIEW OF EUT

BOTTOM VIEW OF EUT

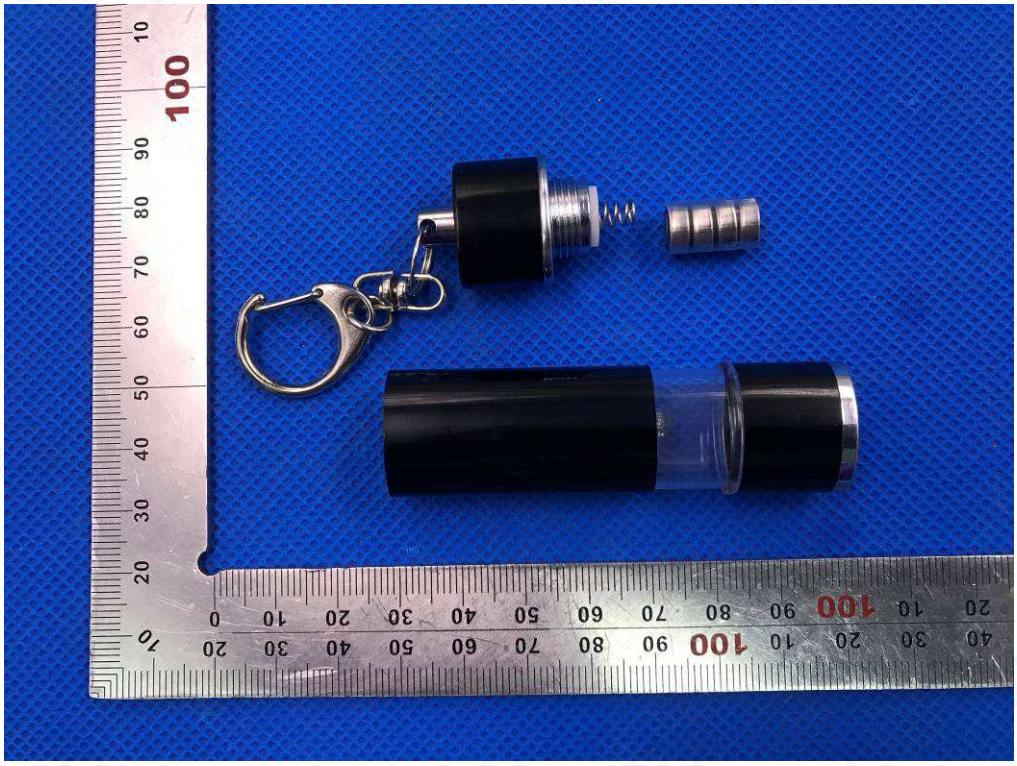
FRONT VIEW OF EUT

BACK VIEW OF EUT

LEFT VIEW OF EUT

RIGHT VIEW OF EUT

OPEN VIEW OF EUT



----END OF REPORT----

Test Report

Report No.: AGC-02281-19-09-02-004 Date: Oct.22, 2019 Page1 of 14

Applicant:

Address:

Test site: 1,6/F.,Building 2,No. 1-4, Chaxi Sanwei Technical Industrial Park, Gushu, Xixiang, Baoan District, Shenzhen, Guangdong, China

Report on the submitted sample(s) said to be:

Sample Name:	Keychain with light in the shape of an oval tube
Model No.:	KL3130
Item No.:	9211
Country of Origin:	CHINA
Country of Destination:	EUROPE
Manufacturer:	Ningbo Worth International Trade.Co.,Ltd
Address:	28th Floor, HuiJin Building, No77 HeYi Road, Ningbo China
Sample Received Date:	Sep.27, 2019
Testing Period:	Sep.27, 2019 to Oct.22, 2019

Test Requested: Please refer to following page(s).

Test Method: Please refer to following page(s).

Test Result: Please refer to following page(s).

Approved by:

Liulinwen, Lewis

Technical Director

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Add: Building 2, No.171, Meihua Road, Shangmeilin, Futian District, Shenzhen, Guangdong China

Test Report

Test Requested:	**Conclusion**
1 As specified by client, to determine the Polycyclic Aromatic Hydrocarbons (PAHs) content in the submitted sample(s) with reference to entry 50, Annex XVII of the REACH Regulation (EC) No 1907/2006.	**Pass**
2 As specified by client, to determine the nickel release in the submitted sample(s) with reference to entry 27, Annex XVII of the REACH Regulation (EC) No 1907/2006 .	**Pass**
3.As specified by client, to determine the Pb, Cd, Hg, Cr^{6+}, PBBs, PBDEs, DBP, BBP, DEHP, DIBP content in the submitted sample in accordance with Directive 2011/65/EU (RoHS) and its amendment directive (EU) 2015/863 on XRF and Chemical Method.	**Pass**

Attestation of Global Compliance Std. & Tech.
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Test Report

Test Result(s):

1. Test Result(s) of Polycyclic Aromatic Hydrocarbons (PAHs)

Unit: mg/kg

Test Item(s)	Test Method /Equipment	MDL	Result(s)	Limit
			1-1	
Benzo[a]anthracene (BaA)	AfPS GS 2014:01 PAK GC-MS	0.1	N.D.	1
Chrysene (CHR)		0.1	N.D.	1
Benzo[b]fluoranthene (BbFA)		0.1	N.D.	1
Benzo[k]fluoranthene (BkFA)		0.1	N.D.	1
Benzo[j]fluoranthene (BjFA)		0.1	N.D.	1
Benzo[a]pyrene (BaP)		0.1	N.D.	1
Benzo[e]pyrene(BeP)		0.1	N.D.	1
Dibenzo[a,h]anthracene (DBAhA)		0.1	N.D.	1
Sum of 8 PAHs		—	N.D.	—
Conclusion		/	**Pass**	/

Note: 1. MDL=Method Detection Limit

2. N.D.=Not Detected(less than method detection limit)

3. "—"=Not regulated

4. As specified by client, only test the designated sample.

2. Test Result(s) of Nickel (Ni) release

Unit: μg/cm^2/week

Test Item(s)	Test Method/equipment	MDL	Result(s)		
			1-2-A	1-2-B	1-2-C
Nickel (Ni) release	EN 12472:2005+A1:2009 EN 1811:2011+A1:2015 ICP-OES	0.05	N.D.	N.D.	N.D.
Conclusion		/	**Pass**	**Pass**	**Pass**

Type of sample	Nickel release (μg/cm^2/week)	
	Pass	Fail
Article with Nickel release limit of 0.5μg/cm^2/week (Non-body piercing)	< 0.88	≥0.88
Article with Nickel release limit of 0.2μg/cm^2/week (Body piercing)	< 0.35	≥0.35

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Test Report

Note:
1. N.D.=not detected (<MDL)
2. MDL=Method Detection Limit
3. μg/cm^2/week = microgram per square centimeter per week
4. As specified by client, the submitted samples were mixed to test.

Sample Description

1-1	Milk white plastic shell
1-2	Silver metal clasp+Silver ring+Silver metal clasp

3.Test Methods:

A:Screening by X-ray Fluorescence Spectrometry (XRF) :With reference to IEC 62321-3-1:2013 Screening – Lead, mercury, cadmium, total chromium and total bromine by X-ray fluorescence spectrometry

B:Chemical test:

Test Item	Test Method	Measuring Instrument	MDL
Cadmium (Cd)	IEC 62321-5:2013	ICP-OES	2 mg/kg
Lead (Pb)	IEC 62321-5:2013	ICP-OES	2 mg/kg
Mercury (Hg)	IEC 62321-4: 2013+A1:2017	ICP-OES	2 mg/kg
Non-metal Hexavalent Chromium (Cr^{6+})	IEC 62321-7-2:2017	UV-Vis	1 mg/kg
Metal Hexavalent Chromium (Cr^{6+})	IEC 62321-7-1:2015	UV-Vis	/
PBBs/PBDEs	IEC 62321-6:2015	GC-MS	5 mg/kg
Di-iso-butyl phthalate (DIBP)	IEC 62321-8:2017	GC-MS	50 mg/kg
Dibutyl phthalate (DBP)		GC-MS	50 mg/kg
Butylbenzyl phthalate (BBP)		GC-MS	50 mg/kg
Di-(2-ethylhexyl) Phthalate (DEHP)		GC-MS	50 mg/kg

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Test Report

Test Results:

A、EU RoHS Directive 2011/65/EU and its amendment directives on XRF

Seq. No.	Tested Part(s)	Results(mg/kg)				
		Cd	Pb	Hg	Cr	Br
1	Transparent lens(lamp shell)(lamp holder)	BL	BL	BL	BL	BL
2	Silver electroplated plastic shell(lamp shell)(lamp holder)	BL	BL	BL	X*	BL
3	Milk white plastic shell(lamp holder)	BL	BL	BL	BL	BL
4	White LED(LED)(lamp holder)	BL	BL	BL	BL	X*
5	Pin(LED)(lamp holder)	BL	BL	BL	BL	N/A
6	Black metal rod(lamp post)	BL	BL	BL	BL	N/A
7	Black rubber ring(lamp post)	BL	BL	BL	BL	BL
8	Transparent plastic post(lamp post)	BL	BL	BL	BL	BL
9	Silver coating(lamp post)	BL	BL	BL	BL	X*
10	Black plastic shell(lamp post)	BL	BL	BL	BL	X*
11	Black plastic shell(lamp holder)	BL	BL	BL	BL	BL
12	Black plastic button(lamp holder)	BL	BL	BL	BL	BL
13	Silver metal sheet(lamp holder)	BL	BL	BL	BL	N/A
14	Metal ring(lamp holder)	BL	BL	BL	BL	N/A
15	Milk white plastic shell(lamp holder)	BL	BL	BL	BL	BL
16	Metal spring(lamp holder)	BL	X*	BL	BL	N/A
17	Silver metal clasp(buckle)	BL	BL	BL	BL	N/A
18	Silvery metal ring(buckle)	BL	BL	BL	X*	N/A
19	Silver metal buckle(buckle)	BL	BL	BL	BL	N/A

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Test Report

Element	Unit	Non-metal	Metal	Composite Material
Cd	mg/kg	BL≤70-3σ<X <130+3σ≤OL	BL≤70-3σ<X <130+3σ≤OL	BL≤50-3σ<X <150+3σ≤OL
Pb	mg/kg	BL≤700-3σ<X <1300+3σ≤OL	BL≤700-3σ<X <1300+3σ≤OL	BL≤500-3σ<X <1500+3σ≤OL
Hg	mg/kg	BL≤700-3σ<X <1300+3σ≤OL	BL≤700-3σ<X <1300+3σ≤OL	BL≤500-3σ<X <1500+3σ≤OL
Cr	mg/kg	BL≤700-3σ<X	BL≤700-3σ<X	BL≤500-3σ<X
Br	mg/kg	BL≤300-3σ<X	N/A	BL≤250-3σ<X

Note: BL= Below Limit
OL= Over limited
X= Inconclusive
"N/A"= Not applicable
*= Scanning by XRF and detected by chemical method. The test results of chemical method please refer to next pages.

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Test Report

Remark:

i Results were obtained by XRF for primary scanning, and further chemical testing by ICP (for Cd, Pb, Hg), UV-Vis (for Cr(VI)) and GC-MS (for PBBs, PBDEs) are recommended to be performed, if the concentration exceeds the above warning value according to IEC 62321-3-1:2013.

ii The XRF scanning test for RoHS elements – The reading may be different to the actual content in the sample be of non-uniformity composition.

iii The maximum permissible limit is quoted from RoHS directive 2011/65/EU and its amendment directive (EU) 2015/863:

RoHS Restricted Substances	Maximum Concentration Value (mg/kg) (by weight in homogenous materials)
Cadmium (Cd)	100
Lead (Pb)	1000
Mercury (Hg)	1000
Hexavalent Chromium (Cr(VI))	1000
Polybrominated biphenyls (PBBs)	1000
Polybrominateddiphenylethers (PBDEs)	1000
Di-iso-butyl phthalate (DIBP)	1000
Dibutyl phthalate (DBP)	1000
Butylbenzyl phthalate (BBP)	1000
Di-(2-ethylhexyl) Phthalate (DEHP)	1000

Disclaimers:

This XRF Scanning report is for reference purposes only. The applicant shall make its/his/her own judgment as to whether the information provided in this XRF screening report is sufficient for its/his/her purposes.

The result shown in this XRF scanning report will differ based on various factors, including but not limited to, the sample size, thickness, area, surface flatness, equipment parameters and matrix effect (e.g. plastic, rubber, metal, glass, ceramic etc.). Further wet chemical pre-treatment with relevant chemical equipment analysis are required to obtain quantitative data.

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Test Report

B、The Test Results of Chemical Method:

1) The Test Results of Pb

Test Item(s)	Unit	Result(s)
		16
Lead(Pb)	mg/kg	22

Note: N.D. = Not Detected or less than MDL
mg/kg = parts per million
MDL = Method Detection Limit

2) The Test Results of non-metal Cr^{6+}

Test Item(s)	Unit	Result(s)	Limit
		2	
Hexavalent Chromium(Cr^{6+})	mg/kg	N.D.	1000

Note: N.D. = Not Detected or less than MDL
mg/kg = parts per million
MDL = Method Detection Limit

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3)The Test Results of metalCr^{6+}

Test Item(s)	MDL	Result(s)	Limit
		18	
Hexavalent Chromium (Cr^{6+})	See note	Negative	#

Note:

- Negative = Absence of Cr(VI) on the tested areas
- MDL = Method Detection Limit
- Boiling-water-extraction:

Number	Colorimetric result (Cr(VI) concentration)	Qualitative result
1	The sample solution is<the 0,10 µg/cm² equivalent comparison standard solution	The sample is negative for Cr(VI) − The Cr(VI) concentration is below the limit ofquantification. The coating is considered a non-Cr(VI) based coating.
2	The sample solution is ≥ the 0,10 µg/cm² and ≤ the0,13 µg/cm² equivalent comparison standard solutions	The result is considered to be inconclusive – Unavoidable coating variations may influence thedetermination.
3	The sample solution is > the 0,13 µg/cm² equivalent comparison standard solution	The sample is positive for Cr(VI) − The Cr(VI) concentration is above the limit of quantification andthe statistical margin of error. The sample coating isconsidered to contain Cr(VI).

- # =Negative indicates the absence of Cr(VI) on the tested areas concentration is below the limit of quantification. The coating is considered a non-Cr(VI) based coating.

Uncertainty indicates the absence of Cr(VI) on the tested areasunavoidable coating variations may influence the determination.

Positive indicates the presence of Cr(VI) on the tested areas concentration is above the limit of quantification andthe statistical margin of error. The sample coating isconsidered to contain Cr(VI).

Storage conditions and production date of the tested sample are unavailable and thus result of Cr(VI) represent status of the sample at the time of testing.

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Test Report

4) The Test Results of PBBs & PBDEs

Unit:mg/kg

Item(s)	MDL	Result(s)			Limit
		4	9	10	
Polybrominated Biphenyls (PBBs)					
Monobromobiphenyl	5	N.D.	N.D.	N.D.	Total PBBs Content <1000
Dibromobiphenyl	5	N.D.	N.D.	N.D.	
Tribromobiphenyl	5	N.D.	N.D.	N.D.	
Tetrabromobiphenyl	5	N.D.	N.D.	N.D.	
Pentabromobiphenyl	5	N.D.	N.D.	N.D.	
Hexabromobiphenyl	5	N.D.	N.D.	N.D.	
Heptabromobiphenyl	5	N.D.	N.D.	N.D.	
Octabromobiphenyl	5	N.D.	N.D.	N.D.	
Nonabromodiphenyl	5	N.D.	N.D.	N.D.	
Decabromodiphenyl	5	N.D.	N.D.	N.D.	
Total content	/	N.D.	N.D.	N.D.	
PolybrominatedDiphenylethers (PBDEs)					
Monobromodiphenyl ether	5	N.D.	N.D.	N.D.	Total PBDEs Content <1000
Dibromodiphenyl ether	5	N.D.	N.D.	N.D.	
Tribromodiphenyl ether	5	N.D.	N.D.	N.D.	
Tetrabromodiphenyl ether	5	N.D.	N.D.	N.D.	
Pentabromodiphenyl ether	5	N.D.	N.D.	N.D.	
Hexabromodiphenyl ether	5	N.D.	N.D.	N.D.	
Heptabromodiphenyl ether	5	N.D.	N.D.	N.D.	
Octabromodiphenyl ether	5	N.D.	N.D.	N.D.	
Nonabromodiphenyl ether	5	N.D.	N.D.	N.D.	
Decabromodiphenyl ether	5	N.D.	187	387	
Total content	/	N.D.	187	387	
Conclusion	/	**Pass**	**Pass**	**Pass**	/

Note: N.D. = Not Detected or less than MDL
mg/kg = parts per million
MDL = Method Detection Limit

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Test Report

5)Test result of DBP, BBP, DEHP, DIBP content

Unit: mg/kg

Test item / Limit / Seq. No.	DIBP	DBP	BBP	DEHP	Conclusion
	1000	1000	1000	1000	
1	N.D.	N.D.	N.D.	N.D.	Pass
2	N.D.	N.D.	N.D.	N.D.	Pass
3	N.D.	N.D.	N.D.	N.D.	Pass
4	N.D.	N.D.	N.D.	N.D.	Pass
7	N.D.	N.D.	N.D.	N.D.	Pass
8	N.D.	N.D.	N.D.	N.D.	Pass
9	N.D.	N.D.	N.D.	N.D.	Pass
10	N.D.	N.D.	N.D.	N.D.	Pass
11	N.D.	N.D.	N.D.	N.D.	Pass
12	N.D.	N.D.	N.D.	N.D.	Pass
15	N.D.	N.D.	N.D.	N.D.	Pass

Note: 1. MDL＝Method Detection Limit
2. N.D.=Not Detected(less than method detection limit)

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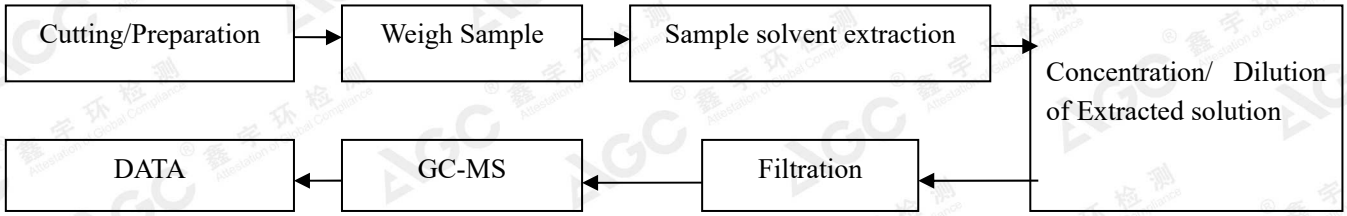
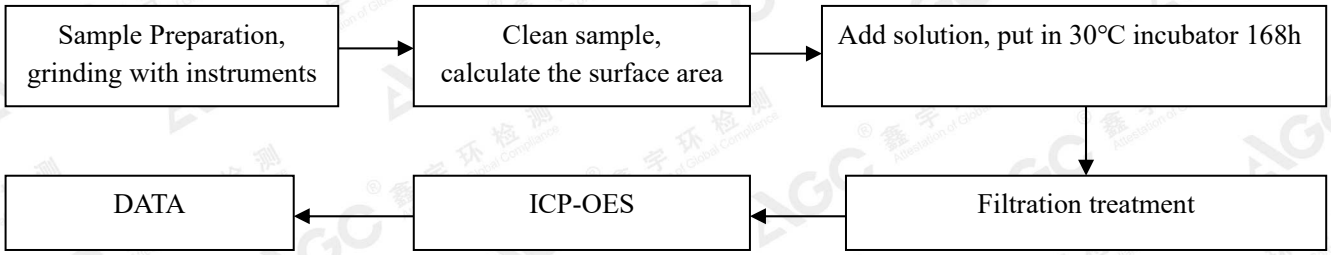
Test Flow Chart

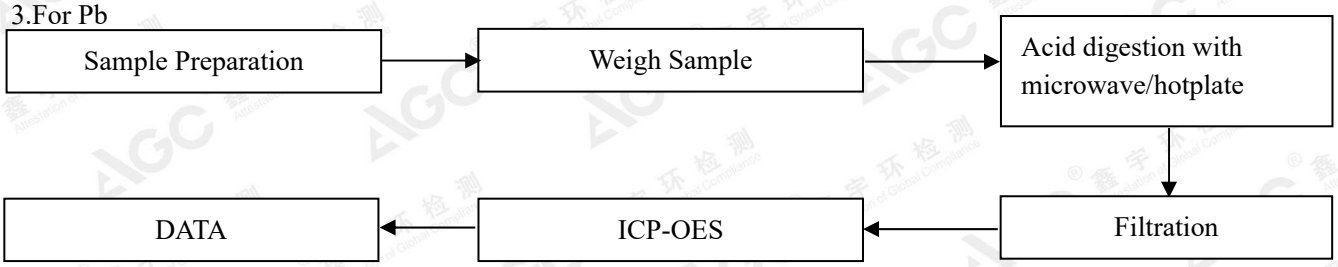
1. For PAHs



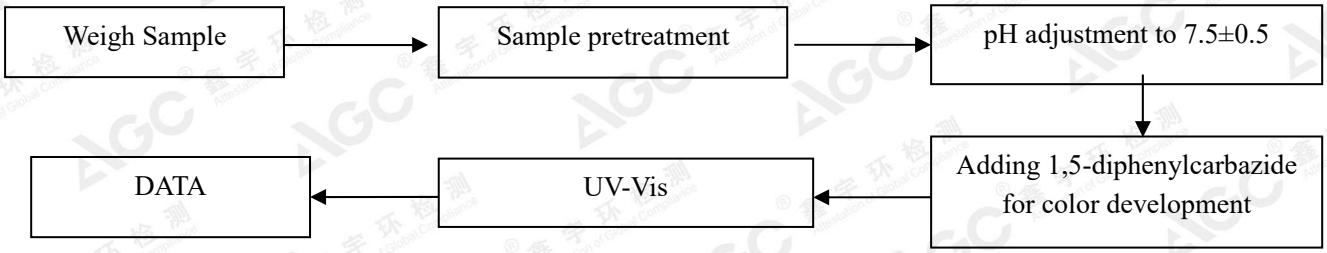
2. For Ni release



3.For Pb



4.For non-metal Cr(Ⅵ)



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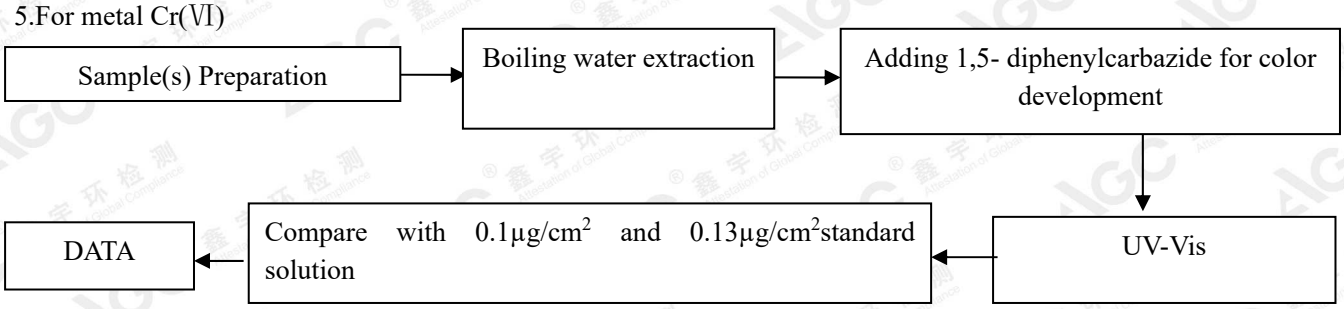
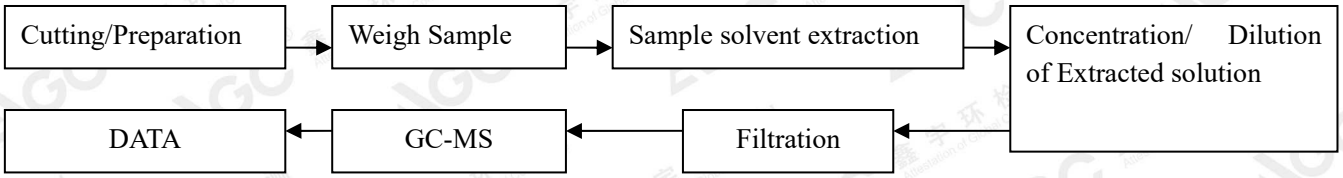
5.For metal Cr(Ⅵ)

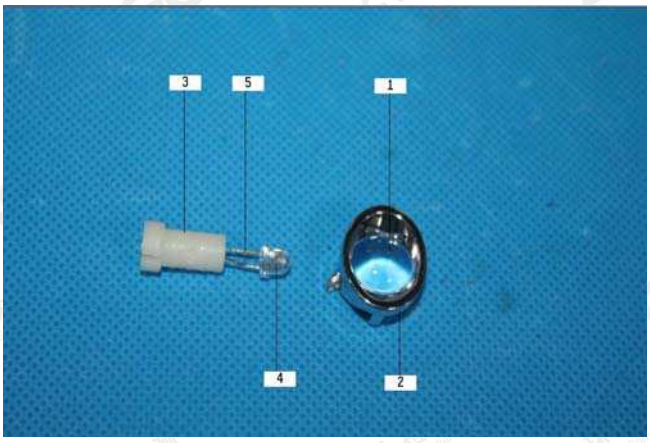


6.For PBBs, PBDEs, DBP, BBP, DEHP, DIBP



Test result on specimen No.7 was resubmitted on Oct.17, 2019.

The photo of the sample



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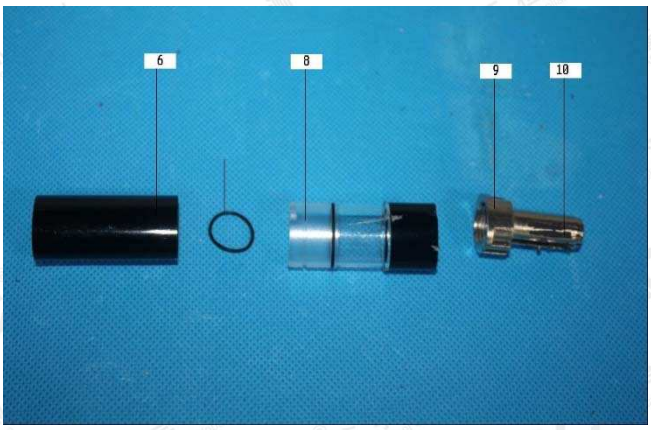

2

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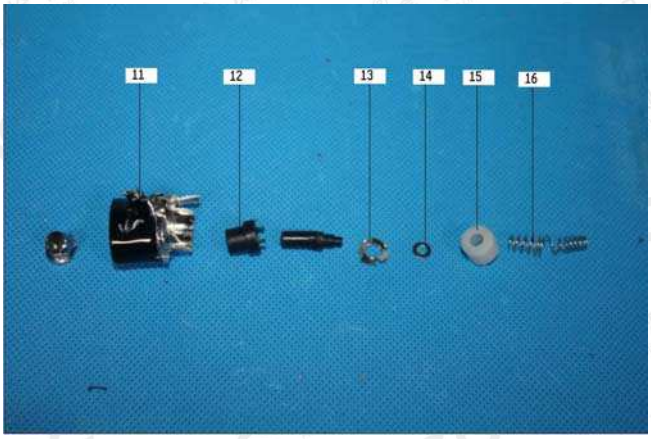
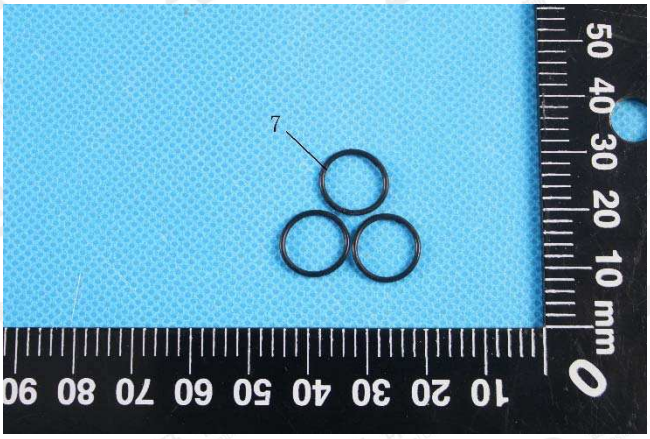
Test Report



3

4



5

6

AGC-02281-19-09-02-004

AGC authenticate the photo only on original report

*** End of Report ***

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TEST REPORT
EN 62471
Photobiological safety of lamps and lamp systems

Report Reference No.....:	EED31L002974	
Compiled by (+ signature).....:	Karen Huang	Karen Huang
Reviewed by (+ signature).....:	Torres He	Torres He
Approved by (+ signature).....:	Nick Liu	Nick Liu
Date of issue.....:	Oct. 30, 2019	
Testing Laboratory.....:	Centre Testing International Group Co., Ltd.	
Address.....:	Hongwei Industrial Zone, Bao'an 70 District, Shenzhen, Guangdong, China	
Applicant's name.....:	HUILIANG PHOTO ELECRRIC CO., LTD	
Address.....:	Simen town industrial park, YUYAO, zhejiang province	
Manufacturer name.....:	HUILIANG PHOTO ELECRRIC CO., LTD	
Address.....:	Simen town industrial park, YUYAO, zhejiang province	
Factory's name.....:	HUILIANG PHOTO ELECRRIC CO., LTD	
Address.....:	Simen town industrial park, YUYAO, zhejiang province	
Test specification:		
Standard.....:	EN 62471: 2008	
Test procedure.....:	Test report	
Non-standard test method.....:	N/A	
Test Report Form No......:	EN62471B	
TTRF Originator.....:	CTI	
Master TRF.....:	Dated 2018-12	
Test item description.....:	LED	
Model/Type reference.....:	WLR-522UWC	
Ratings.....:	3V DC, 20mA	

Check No.: 3915625548

Summary of testing:
The product has been tested according to standard EN62471:2008.

Copy of marking plate:
N/A

Test item particulars.....:

Tested lamp	:	☒ continuous wave lamps ☐ pulsed lamps
Tested lamp system	:	N/A
Lamp classification group	:	☐ exempt ☒ risk 1 ☐ risk 2 ☐ risk 3
Lamp cap	:	N/A
Bulb	:	N/A
Rated of the lamp	:	See page 1
Furthermore marking on the lamp	:	N/A
Seasoning of lamps according IEC standard	:	N/A
Used measurement instrument	:	Lamps and lamp system Photobiological safety performance test systems
Temperature by measurement	:	24,5℃
Information for safety use	:	N/A

Possible test case verdicts:

- test case does not apply to the test object	:	N/A
- test object does meet the requirement	:	P (Pass)
- test object does not meet the requirement	:	F (Fail)

Testing

Date of receipt of test item	:	Oct. 14, 2019
Date (s) of performance of tests	:	Oct. 17, 2019

General remarks:

The test results presented in this report relate only to the object tested.
This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.
"(See Enclosure)" refers to additional information appended to the report.
"(See appended table)" refers to a table appended to the report.

The tested sample(s) and the sample information are provided by the client.
Throughout this report a comma is used as the decimal separator.

When determining the test conclusion, the Measurement Uncertainty of test has been considered.

General product information:
The test current is 20mA.

EN 62471			
Clause	Requirement – Test	Result - Remark	Verdict
4	**EXPOSURE LIMITS**		P
4.1	**General**		P
	The exposure limits in this standard is not less than 0,01ms and not more than any 8-hour period, and should be used as guides in the control of exposure,		P
	Detailed spectral data of a light source are generally required only if the luminance of the source exceeds 10^4 cd • m^{-2},	luminance of the source exceeds 10^4 cd • m^{-2}	P
4.3	**Hazard exposure limits**		P
4.3.1	Actinic UV hazard exposure limit for the skin and eye		P
	The exposure limit for effective radiant exposure is 30 J • m^{-2} within any 8-hour period,		P
	To protect against injury of the eye or skin from ultraviolet radiation exposure produced by a broadband source, the effective integrated spectral irradiance, E_s, of the light source shall not exceed the levels defined by:		P
	$E_s \cdot t = \sum_{200}^{400} \sum_{t} E_\lambda(\lambda,t) \cdot S_{UV}(\lambda) \cdot \Delta t \cdot \Delta\lambda \le 30$ J·m^{-2}		P
	The permissible time for exposure to ultraviolet radiation incident upon the unprotected eye or skin shall be computed by:		P
	$t_{max} = \frac{30}{E_s}$ s		P
4.3.2	Near-UV hazard exposure limit for the eye		P
	For the spectral region 315nm to 400nm (UV-A) the total radiant exposure to the eye shall not exceed 10000 J • m^{-2} for exposure times less than 1000s, For exposure times greater than 1000s (approximately 16 minutes) the UV-A irradiance for the unprotected eye, E_{UVA}, shall not exceed 10 W • m^{-2},		P
	The permissible time for exposure to ultraviolet radiation incident upon the unprotected eye for times less than 1000s, shall be computed by:		P
	$t_{max} \le \frac{10000}{E_{UVA}}$ s		P
4.3.3	Retinal blue light hazard exposure limit		N/A

EN 62471			
Clause	Requirement – Test	Result - Remark	Verdict
	To protect against retinal photochemical injury from chronic blue-light exposure, the integrated spectral radiance of the light source weighted against the blue-light hazard function, B(λ), i,e,, the blue light weighted radiance, L_B, shall not exceed the levels defined by:		N/A
	$L_B \cdot t = \sum_{300}^{700} \sum_{t} L_\lambda(\lambda,t) \cdot B(\lambda) \cdot \Delta t \cdot \Delta\lambda \le 10^6$ J·m^{-2}·sr^{-1}	for t ≤ 10^4s $t_{max} = \frac{10^6}{L_B}$	N/A
	$L_B = \sum_{300}^{700} L_\lambda \cdot B(\lambda) \cdot \Delta\lambda \le 100$ W·m^{-2}·sr^{-1}	for t > 10^4s	N/A
4.3.4	Retinal blue light hazard exposure limit - small source		P
	Thus the spectral irradiance at the eye E_λ, weighted against the blue-light hazard function B(λ) (see Table 4.2) shall not exceed the levels defined by:		P
	$E_B \cdot t = \sum_{300}^{700} \sum_{t} E_\lambda(\lambda,t) \cdot B(\lambda) \cdot \Delta t \cdot \Delta\lambda \le 100$ J·m^{-2}		N/A
	$E_B = \sum_{300}^{700} E_\lambda \cdot B(\lambda) \cdot \Delta\lambda \le 1$ W·m^{-2}		P
4.3.5	Retinal thermal hazard exposure limit		P
	To protect against retinal thermal injury, the integrated spectral radiance of the light source, L_λ, weighted by the burn hazard weighting function R(λ) (from Figure 4.2 and Table 4.2), i,e,, the burn hazard weighted radiance, shall not exceed the levels defined by:		P
	$L_R = \sum_{380}^{1400} L_\lambda \cdot R(\lambda) \cdot \Delta\lambda \le \frac{50000}{\alpha \cdot t^{0,25}}$ W·m^{-2}·sr^{-1}	(10μs ≤ t≤ 10s)	P
4.3.6	Retinal thermal hazard exposure limit – weak visual stimulus		P
	For an infrared heat lamp or any near-infrared source where a weak visual stimulus is inadequate to activate the aversion response, the near infrared (780nm to 1400nm) radiance, L_{IR}, as viewed by the eye for exposure times greater than 10s shall be limited to:		P
	$L_{IR} = \sum_{780}^{1400} L_\lambda \cdot R(\lambda) \cdot \Delta\lambda \le \frac{6000}{\alpha}$ W·m^{-2}·sr^{-1}	for t > 10s	P
4.3.7	Infrared radiation hazard exposure limits for the eye		N/A

EN 62471			
Clause	Requirement – Test	Result - Remark	Verdict
	To avoid thermal injury of the cornea and possible delayed effects upon the lens of the eye (cataractogenesis), ocular exposure to infrared radiation, E_{IR}, over the wavelength range 780nm to 3000nm, for times less than 1000s, shall not exceed:		N/A
	$E_{IR} = \sum_{780}^{3000} E_\lambda \cdot \Delta\lambda \le 18000 \cdot t^{-0,75}$ $W \cdot m^{-2}$	for t ≤ 1000s	N/A
	For times greater than 1000s the limit becomes:		N/A
	$E_{IR} = \sum_{780}^{3000} E_\lambda \cdot \Delta\lambda \le 100$ $W \cdot m^{-2}$	for t > 1000s	N/A
4.3.8	Thermal hazard exposure limit for the skin		P
	Visible and infrared radiant exposure (380nm to 3000nm) of the skin shall be limited to:		P
	$E_H \cdot t = \sum_{380}^{3000} \sum_{t} E_\lambda(\lambda,t) \cdot \Delta t \cdot \Delta\lambda \le 20000 \cdot t^{0,25}$ $J \cdot m^{-2}$		P
5	**MEASUREMENT OF LAMPS AND LAMP SYSTEMS**		P
5.1	**Measurement conditions**		P
	Measurement conditions shall be reported as part of the evaluation against the exposure limits and the assignment of risk classification,		P
5.1.1	Lamp ageing (seasoning)		N/A
	Seasoning of lamps shall be done as stated in the appropriate IEC lamp standard,		N/A
5.1.2	Test environment		P
	For specific test conditions, see the appropriate IEC lamp standard or in the absence of such standards, the appropriate national standards or manufacturer's recommendations,	Temperature maintained at 25 ±1℃; Relative humidity maintained to less than 65%; Airflow minimized when measuring	P
5.1.3	Extraneous radiation		P
	Careful checks should be made to ensure that extraneous sources of radiation and reflections do not add significantly to the measurement results,		P
5.1.4	Lamp operation		P

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Clause	Requirement – Test	Result - Remark	Verdict
	Operation of the test lamp shall be provided in accordance with:		P
	- the appropriate IEC lamp standard, or		P
	- the manufacturer's recommendation		N/A
5.1.5	Lamp system operation		N/A
	The power source for operation of the test lamp shall be provided in accordance with:		N/A
	- the appropriate IEC standard, or		N/A
	- the manufacturer's recommendation		N/A
5.2	**Measurement procedure**		P
5.2.1	Irradiance measurements		P
	Minimum aperture diameter 7mm,		P
	Maximum aperture diameter 50mm,		P
	The measurement shall be made in that position of the beam giving the maximum reading,		P
	The measurement instrument is adequate calibrated,		P
5.2.2	Radiance measurements		P
5.2.2.1	Standard method		P
	The measurements made with an optical system,		P
	The instrument shall be calibrated to read in absolute incident radiant power per unit receiving area and per unit solid angle of acceptance averaged over the field of view (FOV) of the instrument,		P
5.2.2.2	Alternative method		P
	Alternatively to an imaging radiance set-up, an irradiance measurement set-up with a circular field stop placed at the source can be used to perform radiance measurements,		P
5.2.3	Measurement of source size		P
	The determination of α, the angle subtended by a source, requires the determination of the 50% emission points of the source,		P
5.2.4	Pulse width measurement for pulsed sources		N/A

EN 62471			
Clause	Requirement – Test	Result - Remark	Verdict
	The determination of Δt, the nominal pulse duration of a source, requires the determination of the time during which the emission is >50% of its peak value,		N/A
5.3	**Analysis methods**		P
5.3.1	Weighting curve interpolations		P
	To standardize interpolated values, use linear interpolation on the log of given values to obtain intermediate points at the wavelength intervals desired,		P
5.3.2	Calculations		P
	The calculation of source hazard values shall be performed by weighting the spectral scan by the appropriate function and calculating the total weighted energy,		P
5.3.3	Measurement uncertainty		P
	The quality of all measurement results must be quantified by an analysis of the uncertainty,	See Annex C in the norm	P
6	**LAMP CLASSIFICATION**		P
	For the purposes of this standard it was decided that the values shall be reported as follows:	see table 6.1	P
	- for lamps intended for general lighting service (GLS), see definition 3,11, the hazard values shall be reported as either irradiance or radiance values at a distance which produces an illuminance of 500 lux, but not at a distance less than 200mm	320mm, 500Lux	P
	- for all other light sources, including pulsed lamp sources, the hazard values shall be reported at a distance of 200mm		N/A
6.1	**Continuous wave lamps**		P
6.1.1	Exempt group		N/A
	In the exempt group is the lamp, which does not pose any photobiological hazard, This requirement is met by any lamp that does not pose:		N/A
	- an actinic ultraviolet hazard (E_s) within 8-hours exposure (30000s), nor		N/A
	- a near-UV hazard (E_{UVA}) within 1000s (about 16min), nor		N/A
	- a retinal blue-light hazard (L_B) within 10000 s (about 2,8 h), nor		N/A

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Clause	Requirement – Test	Result - Remark	Verdict
	- a retinal thermal hazard (L_R) within 10s, nor		N/A
	- an infrared radiation hazard for the eye (E_{IR}) within 1000s		N/A
6.1.2	Risk Group 1 (Low-Risk)		P
	In this group is the lamp, which exceeds the limits for the Exempt Group but that does not pose:		P
	- an actinic ultraviolet hazard (E_s) within 10000s, nor		P
	- a near ultraviolet hazard (E_{UVA}) within 300s, nor		P
	- a retinal blue-light hazard (L_B) within 100s, nor		P
	- a retinal thermal hazard (L_R) within 10s, nor		P
	- an infrared radiation hazard for the eye (E_{IR}) within 100s		P
	Lamps that emit infrared radiation without a strong visual stimulus and do not pose a near-infrared retinal hazard (L_{IR}), within 100s are in Risk Group 1,		P
6.1.3	Risk Group 2 (Moderate-Risk)		N/A
	This requirement is met by any lamp that exceeds the limits for Risk Group 1 (Low-Risk), but that does not pose:		N/A
	- an actinic ultraviolet hazard (E_s) within 1000s exposure, nor		N/A
	- a near ultraviolet hazard (E_{UVA}) within 100s, nor		N/A
	- a retinal blue-light hazard (L_B) within 0,25s (aversion response), nor		N/A
	- a retinal thermal hazard (L_R) within 0,25s (aversion response), nor		N/A
	- an infrared radiation hazard for the eye (E_{IR}) within 10s		N/A
	Lamps that emit infrared radiation without a strong visual stimulus and do not pose a near infrared retinal hazard (L_{IR}) within 10s are in Risk Group 2,		N/A
6.1.4	Risk Group 3 (High-Risk)		N/A
	Lamps which exceed the limits for Risk Group 2 are in Risk Group 3,		N/A
6.2	**Pulsed lamps**		N/A
	Pulsed lamp criteria shall apply to a single pulse and to any group of pulses within 0,25s,	Continuous wave lamps	N/A

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Clause	Requirement – Test	Result - Remark	Verdict
	A pulsed lamp shall be evaluated at the highest nominal energy loading as specified by the manufacturer,		N/A
	The risk group determination of the lamp being tested shall be made as follows:		N/A
	- a lamp that exceeds the exposure limit shall be classified as belonging to Risk Group 3 (High-Risk)		N/A
	- for single pulsed lamps, a lamp whose weighted radiant exposure or weighted radiance dose is below the EL shall be classified as belonging to the Exempt Group		N/A
	- for repetitively pulsed lamps, a lamp whose weighted radiant exposure or weighted radiance dose is below the EL, shall be evaluated using the Continuous wave risk criteria discussed in clause 6,1, using time averaged values of the pulsed emission		N/A

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Clause	Requirement – Test	Result - Remark	Verdict

Table 4.1	Spectral weighting function for assessing ultraviolet hazards for skin and eye		P
Wavelength[1] λ, nm	**UV hazard function $S_{UV}(\lambda)$**	**Wavelength λ, nm**	**UV hazard function $S_{UV}(\lambda)$**
200	0,030	313*	0,006
205	0,051	315	0,003
210	0,075	316	0,0024
215	0,095	317	0,0020
220	0,120	318	0,0016
225	0,150	319	0,0012
230	0,190	320	0,0010
235	0,240	322	0,00067
240	0,300	323	0,00054
245	0,360	325	0,00050
250	0,430	328	0,00044
254*	0,500	330	0,00041
255	0,520	333*	0,00037
260	0,650	335	0,00034
265	0,810	340	0,00028
270	1,000	345	0,00024
275	0,960	350	0,00020
280*	0,880	355	0,00016
285	0,770	360	0,00013
290	0,640	365*	0,00011
295	0,540	370	0,000093
297*	0,460	375	0,000077
300	0,300	380	0,000064
303*	0,120	385	0,000053
305	0,060	390	0,000044
308	0,026	395	0,000036
310	0,015	400	0,000030

[1] Wavelengths chosen are representative: other values should be obtained by logarithmic interpolation at intermediate wavelengths,

* Emission lines of a mercury discharge spectrum,

EN 62471			
Clause	Requirement – Test	Result - Remark	Verdict

Table 4.2	Spectral weighting functions for assessing retinal hazards from broadband optical sources	P

Wavelength nm	**Blue-light hazard function B(λ)**	**Burn hazard function R(λ)**
300	0,01	--
305	0,01	--
310	0,01	--
315	0,01	--
320	0,01	--
325	0,01	--
330	0,01	--
335	0,01	--
340	0,01	--
345	0,01	--
350	0,01	--
355	0,01	--
360	0,01	--
365	0,01	--
370	0,01	--
375	0,01	--
380	0,01	0,1
385	0,013	0,13
390	0,025	0,25
395	0,05	0,5
400	0,10	1,0
405	0,20	2,0
410	0,40	4,0
415	0,80	8,0
420	0,90	9,0
425	0,95	9,5
430	0,98	9,8
435	1,00	10,0
440	1,00	10,0
445	0,97	9,7
450	0,94	9,4
455	0,90	9,0
460	0,80	8,0
465	0,70	7,0
470	0,62	6,2
475	0,55	5,5
480	0,45	4,5
485	0,40	4,0
490	0,22	2,2
495	0,16	1,6
500-600	$10^{[(450-\lambda)/50]}$	1,0
600-700	0,001	1,0
700-1050	--	$10^{[(700-\lambda)/500]}$
1050-1150	--	0,2
1150-1200	--	$0{,}2\times10^{0{,}02(1150-\lambda)}$
1200-1400	--	0,02

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Clause	Requirement – Test	Result - Remark	Verdict

Table 5.4	Summary of the ELs for the surface of the skin or cornea (irradiance based values)	P

Hazard Name	**Relevant equation**	**Wavelength range nm**	**Exposure duration sec**	**Limiting aperture rad (deg)**	**EL in terms of constant irradiance $W \cdot m^{-2}$**
Actinic UV skin & eye	$E_S = \sum E_\lambda \cdot S(\lambda) \cdot \Delta\lambda$	200 – 400	< 30000	1,4 (80)	30/t
Eye UV-A	$E_{UVA} = \sum E_\lambda \cdot \Delta\lambda$	315 – 400	≤1000 >1000	1,4 (80)	10000/t 10
Blue-light small source	$E_B = \sum E_\lambda \cdot B(\lambda) \cdot \Delta\lambda$	300 – 700	≤100 >100	< 0,011	100/t 1,0
Eye IR	$E_{IR} = \sum E_\lambda \cdot \Delta\lambda$	780 –3000	≤1000 >1000	1,4 (80)	$18000/t^{0,75}$ 100
Skin thermal	$E_H = \sum E_\lambda \cdot \Delta\lambda$	380 – 3000	< 10	2π sr	$20000/t^{0,75}$

Table 5.5	Summary of the ELs for the retina (radiance based values)	P

Hazard Name	**Relevant equation**	**Wavelength range nm**	**Exposure duration sec**	**Field of view radians**	**EL in terms of constant irradiance $W \cdot m^{-2} \cdot sr^{-1}$**
Blue light	$L_B = \sum L_\lambda \cdot B(\lambda) \cdot \Delta\lambda$	300 – 700	0,25 – 10 10-100 100-10000 ≥ 10000	$0,011 \cdot \sqrt{(t/10)}$ 0,011 $0,0011 \cdot \sqrt{t}$ 0,1	$10^6/t$ $10^6/t$ $10^6/t$ 100
Retinal thermal	$L_R = \sum L_\lambda \cdot R(\lambda) \cdot \Delta\lambda$	380 – 1400	< 0,25 0,25 – 10	0,0017 $0,011 \cdot \sqrt{(t/10)}$	$50000/(\alpha \cdot t^{0,25})$ $50000/(\alpha \cdot t^{0,25})$
Retinal thermal (weak visual stimulus)	$L_{IR} = \sum L_\lambda \cdot R(\lambda) \cdot \Delta\lambda$	780 – 1400	> 10	0,011	6000/α

EN 62471			
Clause	Requirement – Test	Result - Remark	Verdict

Table 6.1	Emission limits for risk groups of continuous wave lamps (Based on EU Directive 2006/25/EC)								P
Risk	**Action spectrum**	**Symbol**	**Units**	**Emission limits**					
				Exempt	**Result**	**Low risk**	**Result**	**Mod risk**	**Result**
Actinic UV	$S_{UV}(\lambda)$	E_s	$W \cdot m^{-2}$	0,001	2,121E-07	0,003	--	0,03	--
Near UV	--	E_{UVA}	$W \cdot m^{-2}$	0,33	4,469E-03	33	--	100	--
Blue light	$B(\lambda)$	L_B	$W \cdot m^{-2} \cdot sr^{-1}$	100	--	10000	--	4000000	--
Blue light. small source	$B(\lambda)$	E_B	$W \cdot m^{-2}$	0,01	--	1,0	9,415E-01	--	--
Retinal thermal	$R(\lambda)$	L_R	$W \cdot m^{-2} \cdot sr^{-1}$	28000/α	2,536E+04	28000/α	--	71000/α	--
Retinal thermal. weak visual stimulus**	$R(\lambda)$	L_{IR}	$W \cdot m^{-2} \cdot sr^{-1}$	545000 0,0017≤α≤0,011	5,814E-01				
				6000/α 0,011≤α≤0,1	--				
IR radiation. eye	--	E_{IR}	$W \cdot m^{-2}$	100	0,000E+00	570	--	3200	--

* Small source defined as one with α < 0,011radian, Averaging field of view at 10000 s is 0,1radian

** Involves evaluation of non-GLS source

NOTE Angular subtense of apparent source: α = 9,71mrad

Photo Document

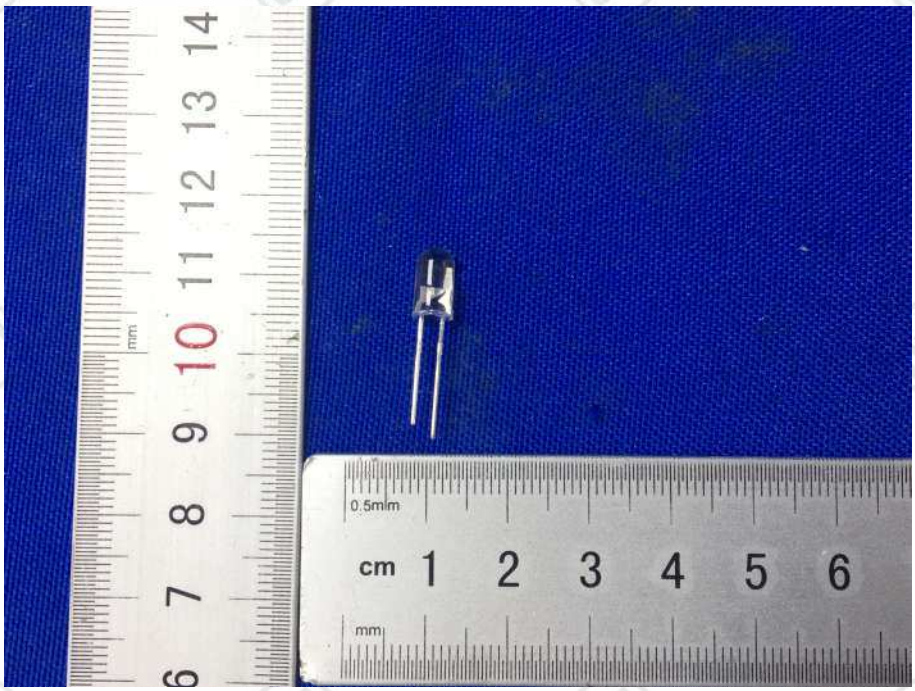

Fig. 1 - Front view of the sample

*** End of Report ***

Auditee :	[redacted]
Audit Date From :	**09/09/2020**
Audit Date To :	**09/09/2020**
Expiry Date of the Audit :	**Please refer to the producer profile in the amfori BSCI platform**
Auditing Company :	**TUEV Rheinland**
Auditor's Name(s) :	**Gary Lu(Lead)**
Auditing Branch (if applicable) :	**TUV Rheinland China**

This is an extract of the on line Audit Report.The complete report is available in the amfori BSCI Platform.
Access www.bsciplatform.org, for entitled users only.

Rating Definitions

Rating	A combination of ratings per Performance Area where:	Consequence
A **Very Good**	• Minimum 7 Performance Areas rated A • No Performance Areas rated C, D or E These are three examples: A A A A A A A A A A A A A A A A A A A A A A A B B B A A A A A A A B B B B B B	The auditee has the level of maturity to maintain its improvement process without the need for a follow-up audit.
B **Good**	• Maximum 3 Performance Areas rated C • No Performance Areas rated D or E These are three examples: A A A A A A B B B B B B B A A A A A B B B B B B B C B B B B B B B B B B C C C	The auditee has the level of maturity to maintain its improvement process without the need for a follow-up audit.
C **Acceptable**	• Maximum 2 Performance Areas rated D • No Performance Areas rated E These are three examples: A A A A A A A A C C C C A A A A B B B B C C C D C C C C C C C C C C D D	The auditee needs follow up to support its progress. Following the completion of the audit, the auditee develops a Remediation Plan within 60 days.
D **Insufficient**	• Maximum 6 Performance Areas rated E These are three examples: A A A A A A A A A D D D A A A B B B C C C D D D E D D D D D D D E E E E E E	The auditee needs follow up to support its progress. Following the completion of the audit, the auditee develops a Remediation Plan within 60 days.
E **Unacceptable**	• Minimum 7 Performance Areas rated E These are three examples: A A A A A A E E E E E E E A A B B C D E E E E E E E E E E E E E E E E E E E E	amfori BSCI Participants shall closely oversee the auditee's progress as the producer may represent a higher risk than other business partners.
Zero Tolerance	**A Zero Tolerance Issue was identified (see amfori BSCI System Manual Part V – Annex 5: amfori BSCI Zero Tolerance Protocol)**	**Immediate actions are required. The amfori BSCI Zero Tolerance Protocol is to be followed.**

Main Auditee Information

Name of producer :	[redacted]		
DBID number :	[redacted]		
Audit ID :	[redacted]		
Address :	[redacted]		
Province :	[redacted]	Country :	**China**
Management Representative :	[redacted]		
Contact person:	[redacted]	Sector :	**Non-Food**
Industry Type :	**Mechanical and electrical engineering**	Product group :	**Electrical supplies**
Product Type :	**flashlight, utility light**		

Audit Details

Audit Range :	☒ **Full Audit**	☐ **Follow-up Audit**	
Audit Scope :	☒ **Main Auditee**	☐ **Main Auditee & Farms**	
Audit Environment :	☒ **Industrial**	☐ **Agricultural**	☐ **Small Producer**
Audit Announcement :	☒ **Fully-Announced**	☐ **Fully-Unannounced**	☐ **Semi-Announced**
Random Unannounced Check (RUC) :	**No**		
Audit extent (if applicable) :	**none**		
Audit interferences or contingencies (if applicable) :	**none**		
Overall rating :	**C**		
Need of follow-up :	**Yes**	If YES, by :	**09/09/2021**

Rating per Performance Area (PA)

PA 1	PA 2	PA 3	PA 4	PA 5	PA 6	PA 7	PA 8	PA 9	PA 10	PA 11	PA 12	PA 13
D	B	A	A	B	D	A	A	A	A	A	A	A

Executive summary of audit report

[redacted]

The auditee rented one 4-storey building (partial 3-storey) used as office building, warehouse and workshop. The construction area by the auditee around 3000 square meters.
There was one flat building located within the same boundary and used by building owner who produced plastic products.
As per site observation and interview, the building owner and the auditee belonged to different owners, and they had independent business license, management and workers; and each factory produce different product. There was no business between the audited factory and building owner except rental.
The auditee did not provide transportation, canteen with kitchen and dormitory to workers.
The main production process included Injection, Assembling, Inspection and Packing. All workers of the auditee recruited by the auditee directly. No security guards used by the auditee, the security guards belongs to building owner. As per claimed by management and document review, normally, there was no obvious peak season in the factory. The management representative was co-operative throughout this audit, and they claimed that they would correct the findings as soon as possible in the closed meeting.
Remark:
1. The APSCA number of auditor (Gary Lu): 21701886
2. The auditee moved from “No 70,Jingang Road, Ningdong Industrial Zone, Liyang Town Economic Development Zone, Ninghai County” to current place since August 2019. The business license had updated on 30 September 2020 accordingly, the previous place around 18km from current place. The auditee had conducted amfori BSCI audit at previous place and DBID number was: 386607. The legal representative and the management not changed after moved the location. As per confirmed by factory management and worker interview, the auditee was no production activities at previous place.
3. In order to match the business license, the factory management requested to update the address from “Ping 'an Middle Road, Qiaotou Hu Street, Ninghai, Ningbo, Zhejiang, China.”to “No. 305, Ping 'an Middle Road, Qiaotou Hu Street, Ninghai, Ningbo, Zhejiang, China.”; only added the road number, two description were same place.
4.Follow documents were not available during the audit:
A. There was no Collective Bargaining agreements in the factory, which makes the Collective Bargaining agreements not applicable;
B. There was no contractor used by the auditee, which makes the Contractor license not applicable;
C. The factory did not obtain the Government Waivers in past one year, which makes the Government Waivers not applicable;
D. There was no agencies used by the auditee, which makes the agency labor contract not applicable.

Ratings Summary

Auditee's background information			
Auditee's name :	[redacted]	Legal status :	**Limited Co.,**
Local Name :		Year in which the auditee was founded :	**2018**
Address :	[redacted]	Contact person (please select) :	[redacted]
Province :	[redacted]	Contact's Email :	[redacted]
City :	**Ningbo**	Auditee's official language(s) for written communications :	[redacted]
Region :	[redacted]	Other relevant languages for the auditee :	**NONE**
Country :	[redacted]	Website of auditee (if applicable) :	**NONE**
GPS coordinates :	[redacted]	Total turnover (in Euros) :	[redacted]
Sector :	**Non-Food**	Of which exports % :	[redacted]
Industry :	**Mechanical and electrical engineering**	Of which domestic market % :	[redacted]
If other, please specify :		Production volume :	**1,000,000 pcs per year**
Product Group :	**Electrical supplies**	Production cost calculation :	**Yes**
If other, please specify :		Lost time injury calculation cost :	**Yes**
Product Type :	**flashlight, utility light**		

Auditee's employment structure at the time of the audit

Total number of workers : **46** Total number of workers in the production unit to be monitored (if applicable) : **0**

	MALE WORKERS	FEMALE WORKERS
Permanent workers	**16**	**30**
Temporary workers	**0**	**0**
In management positions	**2**	**1**
Apprentices	**0**	**0**
On probation	**0**	**0**
With disabilities	**0**	**0**
Migrants (national citizens)	**13**	**22**
Migrants (foreign citizens)	**0**	**0**
Workers on the permanent payroll	**16**	**30**
Production based workers	**0**	**0**
With shifts at night	**2**	**1**
Unionised	**0**	**0**
Pregnant	**-**	**0**
On maternity leave	**-**	**0**

Finding Report

Performance Area 1 : Social Management System and Cascade Effect

Full Audit [Audit Id - [redacted] Audit Date: 09/09/2020 PA Score: D — Deadline date:09/07/2021

GOOD PRACTICES:
NONE

AREAS OF IMPROVEMENT:

The auditee was set up a management system to implement the amfori BSCI conduct of code, social responsibility policy and the social responsibility procedure had established by the auditee. Ms. Yueqin Zhang / GM assistant was responsible to implement amfori BSCI social requirements implement in the factory. The auditee signed the amfori BSCI COC and TOI before this audit. Relative documents kept and maintained properly. The amfori BSCI COC in local language posted in the workshop for workers reading. The auditee established supplier social performance monitor procedure, the main suppliers' social performance monitor records kept for review.
工厂已建立了管理系统来执行amfori BSCI行为守则，工厂已建立了社会责任方针社会责任程序。 工厂的总经理助理张月琴女士负责工厂里amfori BSCI社会责任要求的执行。 工厂在评估前已签了amfori BSCI COC和TOI。 相关的文件合理的保存和维护。 当地语言的amfori BSCI行为守则张贴在工厂里供员工查阅。工厂建立了供应商的社会责任的监控程序，工厂对主要供应商的社会责任的监控记录保留给查看。

1.1 - The factory had established a series of procedures to implement amfori BSCI COC, but inefficient implementation the procedures caused gap to respect this principle. As per management interview, the auditee has conducted amfori BSCI audit in January 2019 at previous place, and the management was aware of amfori BSCI COC, but partial requirements could not be implemented according to amfori BSCI COC completely due to the budget and cost, such as working hours control and social insurance participation. They claimed that they would improve the findings towards amfori BSCI COC continuously. As documents review, the factory did not control the overtime hours, which caused monthly overtime exceeding 36 hours, the social insurance did not cover all workers, and there were findings found in PA7.
工厂建立了一系列的程序去执行amfori BSCI行为准则，但由于未能有效的执行程序导致对于遵守本条原则仍然有差距。 根据管理层访谈，工厂在2019年1月在老的位置行了amfori BSCI的评估，管理层对amfori BSCI行为准则有了解，但是由于成本和预算有部分要求未能完全按照amfori BSCI行为准则的要求来执行, 比如工时管控和社保参保率。 管理层表示他们会朝着amfori BSCI行为准则持续的改善发现点。 根据文件查阅，工厂没有对加班时间进行控制导致月加班超出36小时，社保也未覆盖所有员工，以及在PA7也有问题存在。

1.3 - The factory established management system for business partners, including suppliers, the main suppliers monitor records was provided for review, but the auditee did not communicate amfori BSCI Code of Conduct and Terms of Implementation to suppliers.
工厂建立商业合作伙伴的管理体系，包括供应商,主要供应商的监控记录已提供查阅。但是工厂没有传达amfori BSCI的行为守则和商业伙伴专用实施条款给供应商。

1.4 - Overall observation, the workforce planning procedure had established by factory, but the factory did not recruit enough workers to meet the production task and ineffective control the overtime cased the monthly overtime hours exceed laws requirements.
整体观察，工厂建立了产能规划程序，但工厂没有招聘足够的工人去满足生产任务的需要，并且未有效的控制加班时间导致月加班时间超出法规要求。

Remarks from Auditee:
NONE

Performance Area 2 : Workers Involvement and Protection

Full Audit [Audit Id - [redacted] Audit Date: 09/09/2020 PA Score: B — Deadline date:09/11/2020

GOOD PRACTICES:
NONE

AREAS OF IMPROVEMENT:

The worker representatives freely elected by workers, worker representatives meet and communicate with management quarterly. The factory established annual training plan, which included related laws, working skills, social responsibility issues, health and safety and grievance mechanism, and the auditee provided trainings to workers according the training plan. The suggestion box was equipped onsite, worker could raise the suggestions or complains through the worker representative, team leader or suggestion box etc.
工人代表是由工人自由选举的，工人代表和管理层每季度进行沟通。 工厂建立了年度的培训计划包括相关法律，工作技能，社会责任，健康安全和申诉机制，同时按照培训计划给员工进行了这些培训。 现场有给员工安装了意见箱，员工可以通过意见箱，员工代表或组长等进行建议或申诉。

2.2 - The factory did not define long term goals according to the amfori BSCI COC; such as how to reduce overtime hours to meet the local law required, how to improve the social insurance to meet the law required etc.
工厂没有根据amfori BSCI行为守则来定义长期的目标，如如何减少加班时间符合当地的法规要求，如何改善社保符合当地的法规要求等。

Remarks from Auditee:
NONE

Performance Area 3 : The rights of Freedom of Association and Collective Bargaining

Full Audit [Audit Id - [redacted] Audit Date: 09/09/2020 PA Score: A Deadline date:

GOOD PRACTICES:
NONE

AREAS OF IMPROVEMENT:

In general, the factory respected worker's right of freedom of association and collective bargaining. The factory established a procedure, stipulating the factory would not interfere workers' union activities. The worker representatives could access to workers in workshops freely without any interference from the factory. As per worker interview, the worker representatives and workers were treated equality by the factory.
总的来说，工厂尊重员工的自由结社和集体谈判的权利。 工厂建立了程序规定工厂不会干涉员工的结社活动。 工人代表可以在工作场所自由接触工人，工厂不会干涉。根据工人访谈，工厂平等对待工人代表和工人。

Remarks from Auditee:
NONE

Performance Area 4 : No Discrimination

Full Audit [Audit Id - [redacted] Audit Date: 09/09/2020 PA Score: A Deadline date:

GOOD PRACTICES:
NONE

AREAS OF IMPROVEMENT:

The factory established non-discrimination procedure to stipulate the factory prohibited discrimination on race, color, age, gender and so on. All workers were treated equality in the recruitment, training and promotion process. As per employee roster review, the workers came from different province of China such as Guizhou, Zhejiang etc. As per workers interview, the interviewed workers stated that they never experienced or heard of any discrimination in the factory.
工厂建立了反歧视程序文件, 规定工厂禁止种族、肤色、年龄、性别等方面的歧视。 所有工人在招聘、培训和晋升过程中一视同仁。 根据员工花名册查阅，工厂员工来自中国的不同省份如贵州、浙江等。 根据员工访谈，他们没有经历过或听说过工厂有任何歧视。

Remarks from Auditee:
NONE

Performance Area 5 : Fair Remuneration

Full Audit [Audit Id - [redacted] Audit Date: 09/09/2020 PA Score: B Deadline date:09/07/2021

GOOD PRACTICES:
NONE

AREAS OF IMPROVEMENT:

The factory established procedure on wage and benefit management procedure according to local law. The local Legal minimum wage document collected by the auditee, the local minimum wage standard sets RMB1660 per month since 01 December 2017. Payrolls of 9 sampled workers from different workshops since August 2019 to July 2020 were reviewed randomly. Wage calculated at hourly rate, wage calculated by calendar month. The lowest wage paid by the factory for worker was RMB13.5 per hour, it was more than the legal minimum wage. The factory paid the overtime wage and benefit to workers according to the local law, the factory paid 150%, 200% of normal rate to workers for overtime on weekdays, rest days respectively, and paid 300% of normal rate to workers for overtime on holidays if need. The factory provided statutory holidays, sick leave, and annual leave etc. to workers. Wages paid by cash at end of following month.
工厂按照当地的法规建立了工资和福利管理程序。 工厂收集了当地法定最低工资文件，当地的最低工资标准在2017年12月1日后是人民币1660元/月。 评估中随机抽了9名来自不同车间的工人从2019年8月至2020年7月的工资记录查阅。 工资按照时薪计算，工资按照日历月计算。工厂给员工支付的最低工资为13.5元每小时，高于当地法定最低工资要求。 工厂按照法规给员工计算加班工资和提供福利，工厂按150%, 200%的比率支付工人在正常工作日、休息日的加班工资；按300%的比率支付工人在法定假日的加班工资如有的话。 工厂给员工提供了法定节假日，病假，年假等。员工的工资次月的月底以现金形式发给工人。

5.5 - The social insurance did not cover 100% workers. As per reviewed past 12 months social insurance receipt, based on the last receipt in July 2020, and current social insurance system status; the factory did not purchase endowment insurance, injury insurance, child-birth insurance, unemployment insurance and medical insurance for 23 out of 46 workers. Total 46 workers in the factory, no retired workers, no new worker joined factory in since August 2020. As per interview, both management and interviewed workers stated that partial workers unwilling to participate in social insurance, because it was difficult to transfer to hometown after resign. The factory noticed workers about social insurance issues during the recruiting. The interviewed workers and management claimed that partial workers purchased new rural social pension insurance at their hometown, but management could not provide evidence to proof it. Reference to PRC Labor Law article 72 and Social Insurance Law of the People Republic of China, Article 10, 23, 33, 44 and 53.
社保没有覆盖到100%的员工。 根据查阅过去一年的社保凭证，基于2020年7月的社保凭证和社保系统的显示的状态；工厂没有给46位员工中的23名员工提供养老保险，工伤保险，生育保险，失业保险和医疗保险。工厂总共有46个员工，无退休员工，没有临时工和派遣工，在2020年8月后没有新员工入厂。 根据访谈，管理层和被访谈的员工都表示有部分员工不愿意购买社保，因为当他们辞工后回家乡时社保很难转移回去。 同时工厂在员工入职时已告知员工相关社保事宜。 被访谈的员工和管理层表示部分有在家乡购买新农保，但是管理层未能提供相应的证据。 参考 《中华人民共和国劳动法》第72条和《中华人民共和国社会保险法》第10条， 第23条，第33条，第44条和第53条。

Remarks from Auditee:
NONE

Performance Area 6 : Decent Working Hours

Full Audit [Audit Id - [redacted] Audit Date: 09/09/2020 PA Score: D — Deadline date:09/07/2021

GOOD PRACTICES:
NONE

AREAS OF IMPROVEMENT:

Normal working hour was 8 hours per day and 5 days per week. Two shift arranged for injection workshop:7:30~15:30, 15:30~23:30, one shift arranged for the rest workers, working time 07:30-11:30, 12:30-16:30, overtime work at night was usually 2 hours from 17:30 to 19:30. Factory used finger print to record attendance time. Time records from August 2019 to the audit day had reviewed randomly. Time records for 9 workers from different workshop were randomly selected for review. As per attendance record review, workers worked maximum worked overtime 2 hours per day, maximum worked overtime 18 hours per week, maximum worked overtime 82 hours per month and 1 day off after 6 days consecutive working days, workers worked overtime were voluntarily.
工厂的正常工作时间为每天8小时，每星期上班5天。 工厂给注塑车间安排两个班次，7:30~15:30, 15:30~23:30；其他员工安排了一个班次，工作时间为：07:30-11:30, 12:30-16:30；晚上一般加班时间为2个小时，从17:30到19:30。 工厂用指纹记录员工的考勤。评估中随机抽查了9名不同车间的工人从2019年8月 至评估当天的考勤记录。 根据考勤查阅，员工每天最多加班2小时，每周最多加班18小时，每月最多加班82小时，6天连续工作后休息1天，员工加班是自愿的。

6.2 - Based on reviewing of the attendance records from August 2019 to 01 September 2020, the monthly overtime hours of sampled workers exceeded 36 hours. As per randomly selected of 3 months samples (9 sampled workers for each sampled month) for review, The maximum monthly overtime hours of sampled workers were 32-70 hours In September 2019; The maximum monthly overtime hours of sampled workers were 32-70 hours In November 2019; The maximum monthly overtime hours of sampled workers were 32-70 hours In July 2020; As per management interview, they claimed there were too many orders from clients; the factory could not recruit enough workers, which caused the too much overtime work. As per worker interview, the interviewees stated that the overtime were voluntary in the factory. Reference to PRC Labour Law article 41.
基于查阅2019年8月至2020年9月9日的考勤显示，员工的月加班时间超过36小时。随机抽取的3个月的考勤样本(每个抽样月抽取9个员工样本)进行查阅， 在2019年9月抽样员工的月加班为32-70小时； 在2019年11月抽样员工的月加班为32-70小时； 在2020年7月抽样员工的月加班为32-70小时； 管理层访谈，他们表示客户的订单太多，工厂未能招聘足够多的员工，所以导致加班过多。 根据员工访谈，被访谈的员工表示加班是自愿的。 参考《中华人民共和国劳动法》第41条。

Remarks from Auditee:
NONE

Performance Area 7 : Occupational Health and Safety

Full Audit [Audit Id - [redacted] Audit Date: 09/09/2020 PA Score: A — Deadline date:09/11/2020

GOOD PRACTICES:
NONE

AREAS OF IMPROVEMENT:

As per site observation, factory installed sufficient fire facilities, such as fire extinguishers and fire hydrants in the workshop, warehouse and office. The facilities had inspected monthly. Emergency lights and safety exit signs were installed for safety exit properly and inspected monthly. As per onsite test, the water pressure of fire hydrant was sufficient. Fire inspection reports, Construction Fire Prevention Check & Acceptance Certificates were provided for review. The fire drills conducted at least twice per year; factory provided the fire drill records for review during the audit. The first aid kits boxes placed in each workshop. Training on PPE use was provided for workers regularly, PPEs were provided for worker and free of charge. Potable drinking water was available for workers and free of charge, the drinking water test report kept for review. As per interview and document review, there was no injury happened in the factory in the past one year. The auditee did not provide transportation, canteen with kitchen, and dormitory to workers.
根据现场观察，工厂在车间，仓库，和办公室等安装了足够的消防设施，如灭火器和消防栓, 且每月进行了检查。 安全出口也安装了合适的应急灯和出口标志，每月进行了检查。 根据现场测试，消防栓有足够的水压。 工厂提供了建筑的消防验收报告和建筑工程竣工验收报告供评估。消防演习每年至少进行两次，消防演习的记录在评估中提供查阅。 每个车间放置了急救箱。 工厂定期给员工提供了劳保用品的培训，工厂给员工提供了免费的劳保用品。 工厂免费给员工提供了饮用水, 其测试报告也提供查阅。根据访谈和文件查阅，工厂在过去一年没有发生过工伤的情况。 工厂未给员工提供交通工具，带有厨房的食堂和宿舍。

7.1 - Partial laws not collect by the auditee, such as Code for Design of Building Fire Protection and Prevention (GB 50016).
有部分法规工厂还未收集，如《建筑设计防火规范》（GB 50016）。

7.2 - As per interview and documents review, the injury insurance did not cover 23 out of 46 workers. Reference to Social Insurance Law of the People's Republic of China, Article 33.
根据访谈和文件查阅，工伤保险没有覆盖到46个员工中的23个员工。参考《中华人民共和国社会保险法》第33条。

7.5 - As per documents review and interview, the factory provided OHS training to workers regularly, but there was no training duration and trainer information in the training records.
根据文件查阅和访谈，工厂定期给员工提供了职业健康安全的培训，但是培训记录里没有培训的时长和培训师的信息。

7.17 - Factory could not provide inspection report of one cargo lift and one crane for review, the management claimed that the building owner had applied for inspection, but could not find out the report. Reference to Special Equipment Safety Law of the People's Republic of China （2014）, Article 40.
工厂未能提供一个货梯和一个行车的检验报告给查阅，管理层表示房东已经做了检测，但是没有找到报告。参考《中华人民共和国特种设备安全法》（2014）第四十条。

Remarks from Auditee:
NONE

Performance Area 8 : No Child Labour

Full Audit [Audit Id - [redacted] Audit Date: 09/09/2020 PA Score: A Deadline date:

GOOD PRACTICES:
NONE

AREAS OF IMPROVEMENT:

According to the recruitment procedure, the factory would never hire workers below 16 years old. The factory had to check the workers' original ID cards to verify their ages when they applied for the jobs. All workers' ID cards copy kept in their personnel files. The factory had established a child labor remediation procedure. As per employee roster and personnel files review, all of the employees were above 16 years old currently and the youngest worker was 18 years old and joined the auditee.
根据招聘程序，工厂从不招聘低于16周岁的员工。当工人申请工作时，工厂会查他们的身份证原件来核实年龄。 所有员工的身份证复印件都保存在员工档案中。 工厂已经建立了童工拯救程序。根据花名册和人事档案查阅，现在所有员工都大于16岁，其中最年轻的员工入厂时已经18岁。

Remarks from Auditee:
NONE

Performance Area 9 : Special protection for young workers

Full Audit [Audit Id - [redacted] Audit Date: 09/09/2020 PA Score: A Deadline date:

GOOD PRACTICES:
NONE

AREAS OF IMPROVEMENT:

The factory established young worker protection procedure to indicate that young workers should not work overtime or hazardous positions, the factory would provide health check to the young workers and register the young workers in local labor bureau according to legal requirements. The factory had assessed the risk of young worker risk. No young worker was working in the factory at current.
工厂建立了未成年工保护程序，规定未成年工不能加班，不能在有害岗位工作，工厂应按照法规要求提供体检给未成年工，并在当地劳动局对未成年工进行登记备案。 工厂评估了未成年工的风险。工厂目前没有未成年工在工作。

Remarks from Auditee:
NONE

Performance Area 10 : No Precarious Employment

Full Audit [Audit Id - [redacted] Audit Date: 09/09/2020 PA Score: A Deadline date:

GOOD PRACTICES:
NONE

AREAS OF IMPROVEMENT:

There were no dispatched workers, seasonal workers, migrant workers, student workers and temporary workers in the factory. All workers hired by the factory directly. All workers had signed labor contracts with the factory upon they were hired and a copy was kept by themselves. Working hours, holidays, wages and benefits, resign entitlements, social insurance etc. stated in the labor contracts, and the interviewed workers stated they understood the contents of labor contracts.
工厂没有派遣工、季节工、外劳、学生工和临时工。 所有员工都是工厂直接招聘的。 所有员工在入厂的时候就与工厂签订了劳动合同，并自己留存了一份副本。 工作时间、假期、工资及福利、离职条件、社会保险等内容在劳动合同中已陈述。 访谈的员工表示他们了解劳动合同的内容。

Remarks from Auditee:
NONE

Performance Area 11 : No Bonded Labour

Full Audit [Audit Id - [redacted] Audit Date: 09/09/2020 PA Score: A Deadline date:

GOOD PRACTICES:
NONE

AREAS OF IMPROVEMENT:

The factory had established procedure to prevent forced-labor and prison labor. According to the procedure, the factory would not distrain workers' original ID cards or require deposit during hiring process, the overtime was voluntarily, and the workers could have access to drinking water, toilet freely during working time. The factory also established procedure to prohibit inhumane or degrading treatment, corporal punishment, mental or physical coercion and/or verbal abuse. The procedures communicated to all workers through orientation training and refreshment training. As per workers interview, they had never experienced or heard harassment or abuse case in the factory. Workers worked in the factory voluntarily and they could resign from the factory freely.
工厂建立了防止强迫劳工和监狱工的程序。根据程序，工厂在招聘时不会扣押压工人的身份证原件或收取押金, 加班是自愿的、工人在上班时间可以自由饮水和上厕所。 工厂建立了程序禁止非人道待遇、体罚、精神或肉体/语言的侮辱。 这些程序通过入职培训和年度更新培训沟通给了工人。根据员工访谈，工人从没有经历过或听说过工厂发生过骚扰、虐待的案子。 工人在工厂里工作是自愿在，并且可以自由离职。

Remarks from Auditee:
NONE

Performance Area 12 : Protection of the Environment

Full Audit [Audit Id - [redacted] Audit Date: 09/09/2020 PA Score: A Deadline date:

GOOD PRACTICES:
NONE

AREAS OF IMPROVEMENT:

The auditee had filled Environment Impact Registration Form and provided for review during the audit; the factory had established environment protection policy and procedures. There was no waste found to be dumped in natural environments, or burned on open fires within factory boundary The Factory provided training on the environmental management system to workers. The auditee had filled waste discharge registration on 10 June 2020, and valid to 09 June 2025.
工厂填写了环境影响登记表建设项目环境评估；工厂建立了环境保护政策和程序。 评估中未发现厂区里直接清倒废物或焚烧废物。 工厂给员工进行了环保管理体系的培训。 工厂在2020年6月10日填报排污登记，有效期到2025年6月9日。

Remarks from Auditee:
NONE

Performance Area 13 : Ethical Business Behaviour

Full Audit [Audit Id - [redacted] Audit Date: 09/09/2020 PA Score: A Deadline date:

GOOD PRACTICES:
NONE

AREAS OF IMPROVEMENT:

The factory had established Ethical Business Behavior Procedure. The factory had conducted risk assessment on ethical Business Behavior. The Ethical Business Behavior communicated to all employees through orientation training and refreshment training. Through crosscheck, worker interview, no inconsistency detected during the audit.
工厂建立了商业道德行为程序。工厂进行了商业道德行为的风险评估。 商业道德行为通过入职培训和年度更新培训沟通给了所有员工。 通过交叉验证，以及员工访谈，没有发现不一致。

Remarks from Auditee:
NONE

Summary

Audit Type	Date	Audit Id	PA1	PA2	PA3	PA4	PA5	PA6	PA7	PA8	PA9	PA10	PA11	PA12	PA13	Overall Rating
Full Audit	09/09/2020	[redacted]	D	B	A	A	B	D	A	A	A	A	A	A	A	C

Producer Photos

External photo(s) of the production unit(s)
1. Address.JPG

Photo of fire safety equipment
4. Fire hydrant test.JPG

Photo of the inside of the main production hall
2. Injection workshop.JPG

External photo(s) of the production unit(s)
2. Factory entrance and Production Building.JPG

Photo of non-conformity
NC 5.5 and 7.2 Insufficient social insurance.JPG

Photo of the inside of the main production hall
3. Assembling workshop.JPG

External photo(s) of the production unit(s)
3. Factory nameplate.JPG

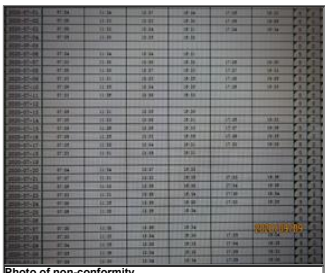

Photo of non-conformity
NC 6.2 monthly overtime exceeded 36 hours.JPG

Photo of the inside of the main production hall
4. Packing.JPG

Photo first aid facilities
First aid kit.JPG

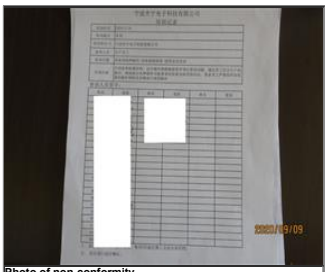

Photo of non-conformity
NC 7.5 no training duration and trainer information.JPG

Photo of the personal protection equipments (if applicable)
PPE reminder.JPG

Photo of fire safety equipment
1. Fire extinguishers. Fire hydrant.JPG

Photo of the code of conduct on display
amfori BSCI COC on display.JPG

Photo of the sanitary facilities
Drinking water.JPG

Photo of fire safety equipment
2. Emergency Light. Safety Exit Sign. Fire alarm.JPG

Photo of the code of conduct on display
amfori BSCI poster.JPG

Photo of the sanitary facilities
Toilet.JPG

Photo of fire safety equipment
3. Fire extinguishers.JPG

Photo of the inside of the main production hall
1. Incoming material storage.JPG