DEKRA Testing and Certification (Shanghai) Ltd
5F, 217# Jiangchangsan Road, Shibei Hi-Tech Park, Shanghai, P.R.C. (200436)
Tel.: +86 21 6056 7512
Fax: +86 21 6056 7555

Contact
Mr. James Yu
Tel: 021-60567666*7735
E-Mail: james.yu@dekra.com
Report Issue Date: 2018.12.29

TEST REPORT

Test Report No. : 6045680.50QS
Project no. : 6045680

Client	:	Imigy Lighting Electric Co., Ltd. No.366, Hengchangjing Road, Zhoushi Town, Kunshan City, Suzhou, Jiangsu, China.
Date sample received	:	2018.12.17
Product	:	LED CeilingLight
Product description	:	Please refer to next page(s).
Model	:	C0500
Test Requested	:	Test of RoHS conformity (2011/65/EU) and its subsequent amendments directive (EU) 2015/863
Test Method	:	Please refer to next page(s).
Result	:	Please refer to next page(s).
Conclusion	:	Requirement passed
Testing Period	:	2018.12.17—2018.12.28

Signed for and on behalf of
DEKRA Testing and Certification (Shanghai) Ltd

Yu Feixiong（郁飞雄）
Project Manager

Shao Baijun（邵柏君）
Test Engineer

Picture of the product

TEST RESULTS

sample-no.	sample designation	Pb (%)	Cd (%)	Hg (%)	Cr VI (%)	PBB (%)	PBDE (%)	DEHP* (%)	BBP* (%)	DBP* (%)	DIBP* (%)
001	white plastic(lampshade)	< 0.1	< 0.01	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
002	transparent plastic(ring)	< 0.1	< 0.01	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
003	white plastic(reflective piece)	< 0.1	< 0.01	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
004	white coating(base)	< 0.1	< 0.01	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
005	silvery metal(base)	< 0.1	< 0.01	< 0.1	< 0.1	N/A	N/A	N/A	N/A	N/A	N/A
006	white rubber(mat)	< 0.1	< 0.01	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
007	white foam	< 0.1	< 0.01	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
008	white glue	< 0.1	< 0.01	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
009	white PCB(body)	< 0.1	< 0.01	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
010	yellow LED(body)	< 0.1	< 0.01	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
011	silvery metal(soldering tin)	< 0.1	< 0.01	< 0.1	< 0.1	N/A	N/A	N/A	N/A	N/A	N/A
012	silver-blue metal(screw)	< 0.1	< 0.01	< 0.1	< 0.1[1)]	N/A	N/A	N/A	N/A	N/A	N/A
013	white plastic(wire fixed block)	< 0.1	< 0.01	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
014	white plastic(wire fixed block)	< 0.1	< 0.01	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
015	silvery metal(wire fixed block)	< 0.1	< 0.01	< 0.1	< 0.1	N/A	N/A	N/A	N/A	N/A	N/A
016	silvery metal(contact piece)(wire fixed block)	< 0.1	< 0.01	< 0.1	< 0.1[1)]	N/A	N/A	N/A	N/A	N/A	N/A
017	silver-blue metal(screw)	< 0.1	< 0.01	< 0.1	< 0.1[1)]	N/A	N/A	N/A	N/A	N/A	N/A
018	silvery metal(terminal)	< 0.1	< 0.01[2)]	< 0.1	< 0.1	N/A	N/A	N/A	N/A	N/A	N/A
019	golden metal(circlip)	< 0.1	< 0.01	< 0.1	< 0.1	N/A	N/A	N/A	N/A	N/A	N/A
020	yellow-green plastic(wire jacket)	< 0.1	< 0.01	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
021	blue plastic(wire jacket)	< 0.1	< 0.01	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
022	brown plastic(wire jacket)	< 0.1	< 0.01	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
023	silvery metal(wire coil)	< 0.1	< 0.01	< 0.1	< 0.1	N/A	N/A	N/A	N/A	N/A	N/A
024	silvery metal(soldering tin)	< 0.1	< 0.01	< 0.1	< 0.1	N/A	N/A	N/A	N/A	N/A	N/A
025	white plastic(wire jacket)	< 0.1	< 0.01	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
026	white plastic(shell)	< 0.1	< 0.01	< 0.1	< 0.1	< 0.1[3)]	< 0.1[3)]	< 0.1	< 0.1	< 0.1	< 0.1
027	white plastic(base)	< 0.1	< 0.01	< 0.1	< 0.1	< 0.1[3)]	< 0.1[3)]	< 0.1	< 0.1	< 0.1	< 0.1
028	white plastic(cover)	< 0.1	< 0.01	< 0.1	< 0.1	< 0.1[3)]	< 0.1[3)]	< 0.1	< 0.1	< 0.1	< 0.1
029	silvery metal(screw)	< 0.1	< 0.01	< 0.1	< 0.1	N/A	N/A	N/A	N/A	N/A	N/A
030	silvery metal(soldering tin)	< 0.1[4)]	< 0.01[2)]	< 0.1[5)]	< 0.1[1)]	N/A	N/A	N/A	N/A	N/A	N/A
031	green PCB(body)	< 0.1	< 0.01	< 0.1	< 0.1	< 0.1[3)]	< 0.1[3)]	< 0.1	< 0.1	< 0.1	< 0.1
032	black diode(body)	1.3[4)] a)	< 0.01	< 0.1	< 0.1	< 0.1[3)]	< 0.1[3)]	N/A	N/A	N/A	N/A
033	black IC(body)	< 0.1	< 0.01	< 0.1	< 0.1	< 0.1[3)]	< 0.1[3)]	N/A	N/A	N/A	N/A
034	black chip resistor(body)	< 0.1[4)]	< 0.01[2)]	< 0.1[5)]	< 0.1[1)]	< 0.1[3)]	< 0.1[3)]	N/A	N/A	N/A	N/A

035	brown chip capacitor(body)	< 0.1	< 0.01	< 0.1	< 0.1	< 0.1[3)]	< 0.1[3)]	N/A	N/A	N/A	N/A
036	white glue	< 0.1	< 0.01	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
037	red plastic(capacitor)	< 0.1	< 0.01	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
038	blue capacitor(body)	< 0.1	< 0.01	< 0.1	< 0.1	< 0.1	< 0.1	N/A	N/A	N/A	N/A
039	black diode(body)	1.4[4)] a)	< 0.01	< 0.1	< 0.1	< 0.1[3)]	< 0.1[3)]	N/A	N/A	N/A	N/A
040	green plastic(shell)(electrolytic capacitor)	< 0.1	< 0.01	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
041	black ferrite(inductor)	< 0.1	< 0.01	< 0.1	< 0.1	N/A	N/A	N/A	N/A	N/A	N/A
042	black plastic(sheath)(inductor)	< 0.1	< 0.01	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
043	gray resistor(body)	< 0.1	< 0.01	< 0.1	< 0.1	< 0.1	< 0.1	N/A	N/A	N/A	N/A
044	black plastic(bracket)(transformer)	< 0.1	< 0.01	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
045	transparent rubber(sheath)(transformer)	< 0.1	< 0.01	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
046	yellow plastic(adhesive tape)(transformer)	< 0.1	< 0.01	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
047	black ferrite(framework)(transformer)	< 0.1	< 0.01	< 0.1	< 0.1	N/A	N/A	N/A	N/A	N/A	N/A
048	copper-colored metal(loop)(transformer)	< 0.1	< 0.01	< 0.1	< 0.1	N/A	N/A	N/A	N/A	N/A	N/A
049	black metal(radiation fin)	< 0.1	< 0.01	< 0.1	< 0.1	N/A	N/A	N/A	N/A	N/A	N/A
050	silvery metal(screw)	< 0.1	< 0.01	< 0.1	< 0.1	N/A	N/A	N/A	N/A	N/A	N/A
051	black controlled silicon(body)	< 0.1	< 0.01	< 0.1	< 0.1	< 0.1	< 0.1	N/A	N/A	N/A	N/A
052	black plastic(base)(inductor)	< 0.1	< 0.01	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
053	green ferrite(inductor)	< 0.1	< 0.01	< 0.1	< 0.1	N/A	N/A	N/A	N/A	N/A	N/A
054	yellow metal(loop)(inductor)	< 0.1	< 0.01	< 0.1	< 0.1	N/A	N/A	N/A	N/A	N/A	N/A
055	green plastic(wire fixed block)	< 0.1	< 0.01	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
056	silver-blue metal(screw)	< 0.1	< 0.01	< 0.1	< 0.1[1)]	N/A	N/A	N/A	N/A	N/A	N/A
057	silvery metal(wire fixed block)	< 0.1	< 0.01[2)]	< 0.1	< 0.1	N/A	N/A	N/A	N/A	N/A	N/A
058	silvery metal(wire fixed block)	< 0.1	< 0.01	< 0.1	< 0.1[1)]	N/A	N/A	N/A	N/A	N/A	N/A
059	black plastic(shell)(electrolytic capacitor)	< 0.1	< 0.01	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
060	silvery metal(shell)(electrolytic capacitor)	< 0.1	< 0.01	< 0.1	< 0.1	N/A	N/A	N/A	N/A	N/A	N/A
061	black rubber(sealed mat)(electrolytic capacitor)	< 0.1	< 0.01	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
062	brown paper(electrolytic capacitor)	< 0.1	< 0.01	< 0.1	< 0.1	< 0.1	< 0.1	N/A	N/A	N/A	N/A
063	gray metal(electrolytic capacitor)	< 0.1	< 0.01	< 0.1	< 0.1	N/A	N/A	N/A	N/A	N/A	N/A
064	white plastic(sheath)	< 0.1	< 0.01	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
065	white rubber(washer)	< 0.1	< 0.01	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
066	silver-blue metal(screw)	< 0.1	< 0.01	< 0.1	< 0.1[1)]	N/A	N/A	N/A	N/A	N/A	N/A

1) The analysis by X-ray fluorescence spectrometry showed a detection for Cr. The verification and quantification of Cr (VI) was performed by photometric analysis.

2) The analysis by X-ray fluorescence spectrometry showed a detection for Cd. The verification and quantification of Cd was performed by ICP-OES.

3) The analysis by X-ray fluorescence spectrometry showed a detection for Br. The verification and quantification of PBB/PBDE was performed by GC-MS.

4) The analysis by X-ray fluorescence spectrometry showed a detection for Pb. The verification and quantification of Pb was performed by ICP-OES.

5) The analysis by X-ray fluorescence spectrometry showed a detection for Hg. The verification and quantification of Hg was performed by ICP-OES.

N/A: Not applicable

a) The annex to directive 2011/65/EU (exemptions of RoHS-directive) contains following point:

“7(a), Lead in high melting temperature type solders (i.e. lead- based alloys containing 85 % by weight or more lead)”

*=With reference to IEC62321-8:2017, Analysis was performed by GC-MS.

Description of the analysis procedure (brief version):

Test of RoHS conformity

The measurements are performed according to IEC 62321-3-1 : 2013, “Electrotechnical products - Determination of levels of six regulated substances”.

The product is divided in single material samples. The materials are analysed on different parameters of the RoHS-directive to assure that the complete product is RoHS-conform or not. At first a XRF (X-ray fluorescence spectrometry) screening is performed. For every sample following statements can be made.

Table: Screening limits in mg/kg for regulated elements in various matrices

Element	Polymers	Metals	Composite Material
Cd	BL ≤ (70-3σ) < X < (130+3σ) ≤ OL	BL ≤ (70-3σ) < X < (130+3σ) ≤ OL	LOD < X < (150+3σ) ≤ OL
Pb	BL ≤ (700-3σ) < X < (1300+3σ) ≤ OL	BL ≤ (700-3σ) < X < (1300+3σ) ≤ OL	BL ≤ *(500*-3σ) < *X* < *(1500*+3σ) ≤ OL
Hg	BL ≤ (700-3σ) < X < (1300+3σ) ≤ OL	BL ≤ (700-3σ) < X < (1300+3σ) ≤ OL	BL ≤ *(500*-3σ) < *X* < *(1500*+3σ) ≤ OL
Br	BL ≤ (300-3σ) < X		BL ≤ *(250*-3σ) < *X*
Cr	BL ≤ (700-3σ) < X	BL ≤ (700-3σ) < X	BL ≤ *(500*-3σ) < *X*

Below limit (**BL**): the tested material complies to the RoHS directive.

Inconclusive (**X**): If the level of the measurement is around the maximum allowed, or if the level for Chrome or Bromine is too high, other more accurate methods are needed to determine the exact level or the composition of Chrome and Bromine.

Over limit (**OL**): If the level of lead, mercury or cadmium is well above the maximum allowed levels (the XRF uncertainty is taken into account), the tested material does not comply with the RoHS directive.

In case of **inconclusive** XRF results, following analysis procedures are applied:

In order to examine the material samples for the heavy metals cadmium, lead and mercury they are digested in acid and the solutions are used to carry out the analysis for the heavy metals by ICP-OES or atomic-absorption spectroscopy.

Hexavalent chromium is checked by extracting the sample with water at 100 °C (determination of Cr VI in colorless and colored chromate coating on metals) respectively with alkaline extraction at 90-95 °C (determination of Cr VI in polymers and electronic components) followed by photometric analysis.

In the case of metallic components with a surface coating containing hexavalent Chromium (passivation) the concentration is expressed in mg of Chromium VI per component. In order to obtain further information about the concentration on the surface coating it is necessary to know the weight per unit area of the coating and the surface area of the component. Information about surface coatings is to be provided by the client.

The examination for bromine-based flame retardant products is carried out by gas chromatography-mass spectrometry after extraction by solvents; this involves the individual analysis and quantification of the substances specified in the RoHS. The current valid regulations relating to exceptions in respect of the analysed substances are to be taken into account by the client.

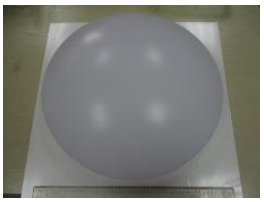
The following Polybrominated Biphenyls (PBBs) and PolybrominatedDiphenyl Ethers (PBDEs) are analyzed:

2-Bromobiphenyl PBB2, Dibromobiphenyl PBB15, Tribromobiphenyl PBB30, Tetrabromobiphenyl PBB52, Pentabromobiphenyl PBB103, Hexabromobiphenyl PBB153, Heptabromobiphenyl PBB250, Octabromobiphenyl PBB250, Nonabromobiphenyl PBB250, Decabromobiphenyl PBB209, Bromodiphenylether BDE2, Dibromodiphenylether BDE15, Tribromodiphenylether BDE30, Tetrabromodiphenylether BDE62, Pentabromodiphenylether BDE99, Hexabromodiphenylether BDE153, Heptabromodiphenylether BDE183, Octabromodiphenylether BDE203, Nonabromodiphenylether BDE206, Decabromodiphenylether BDE209.

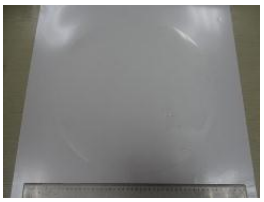
Limits according to RoHS (2011/65/EU) and its subsequent amendments directive (EU) 2015/863 / Test methods (additional chemical analysis):

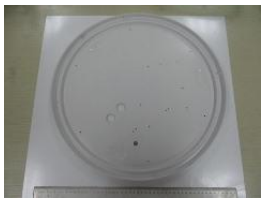
Parameter	Limits according to RoHS	Test method
Cadmium	0,01 % (100 mg/kg or 0,1 g/kg)	IEC62321-5:2013
Lead	0,1 % (1000 mg/kg or 1 g/kg)	IEC62321-5:2013
Hexavalent Chromium	0,1 % (1000 mg/kg or 1 g/kg)	Metal: IEC62321-7-1:2015 Non-metal: IEC62321-7-2:2017
Mercury	0,1 % (1000 mg/kg or 1 g/kg)	IEC62321-4:2013/AMD1:2017
PBB and PBDE	0,1 % (1000 mg/kg or 1 g/kg)	IEC62321-6:2015
DEHP	0,1 % (1000 mg/kg or 1 g/kg)	IEC62321-8:2017
BBP	0,1 % (1000 mg/kg or 1 g/kg)	IEC62321-8:2017
DBP	0,1 % (1000 mg/kg or 1 g/kg)	IEC62321-8:2017
DIBP	0,1 % (1000 mg/kg or 1 g/kg)	IEC62321-8:2017

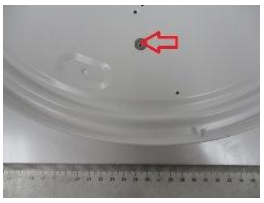
Sample Photos


Test item1

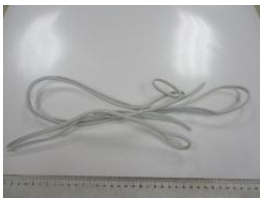

Test item2


Test item3

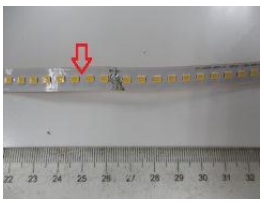

Test item4


Test item5


Test item6

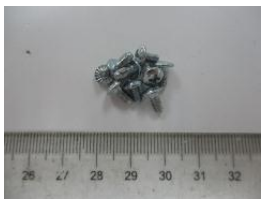

Test item7

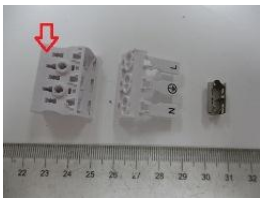

Test item8

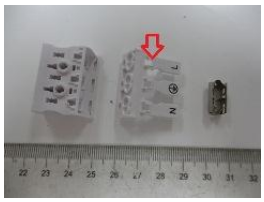

Test item9


Test item10

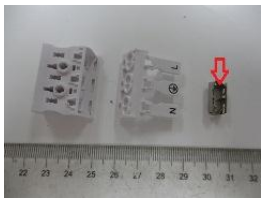

Test item11

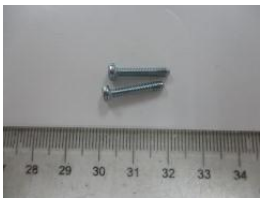

Test item12


Test item13

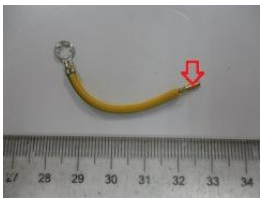

Test item14


Test item15

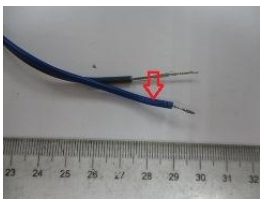

Test item16

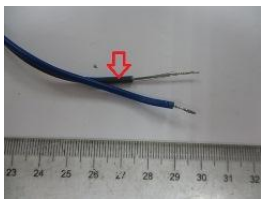

Test item17

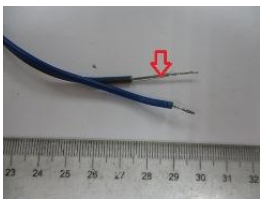

Test item18

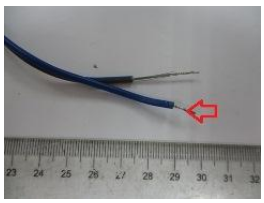

Test item19

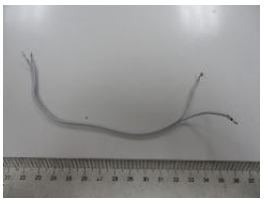

Test item20


Test item21

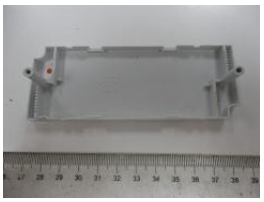

Test item22

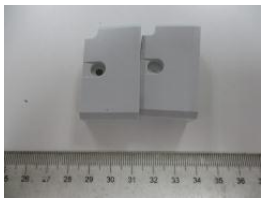

Test item23


Test item24

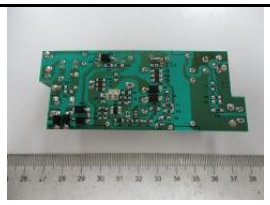

Test item25

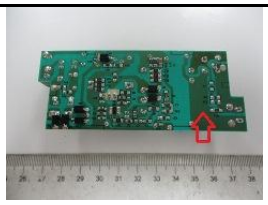

Test item26

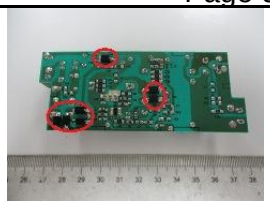

Test item27

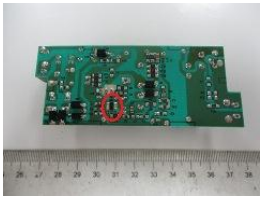

Test item28

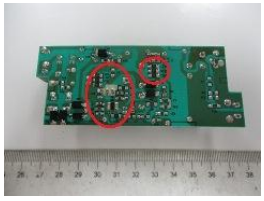

Test item29

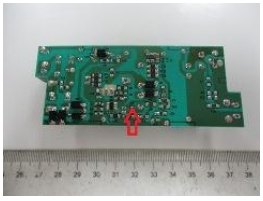

Test item30

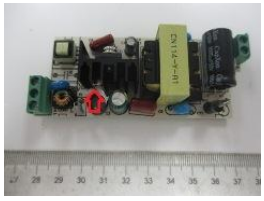

Test item31

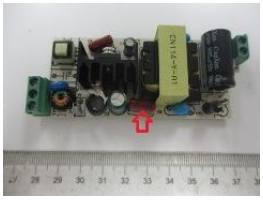

Test item32

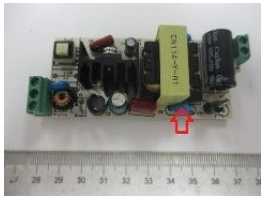

Test item33

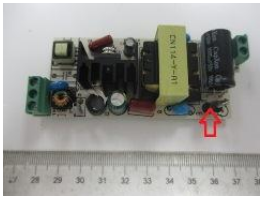

Test item34

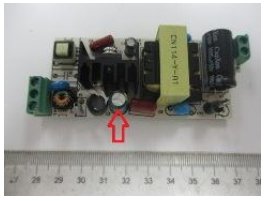

Test item35

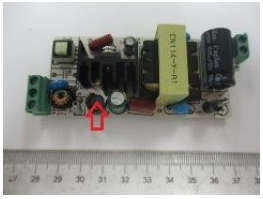

Test item36

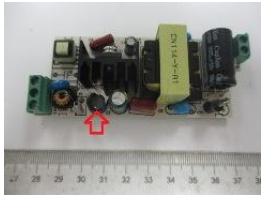

Test item37

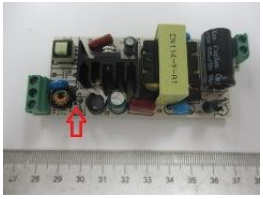

Test item38

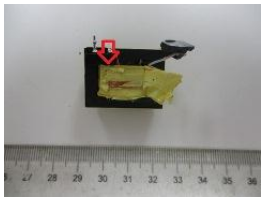

Test item39


Test item40


Test item41


Test item42


Test item43


Test item44

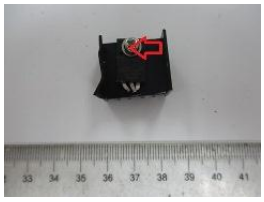

Test item45


Test item46

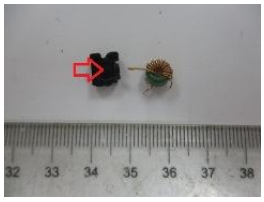

Test item47

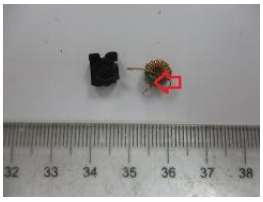

Test item48

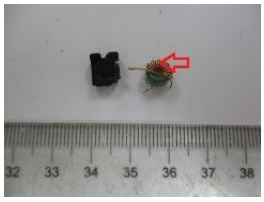

Test item49

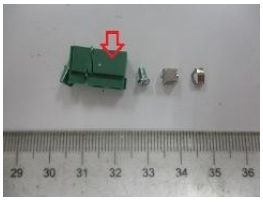

Test item50


Test item51


Test item52

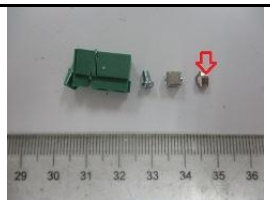

Test item53


Test item54


Test item55


Test item56

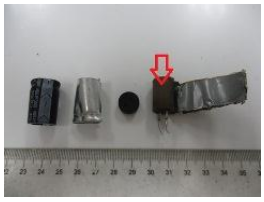

Test item57

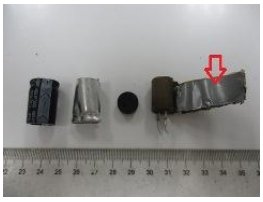

Test item58

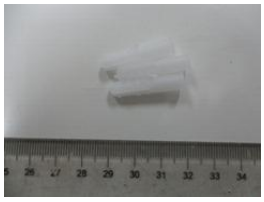

Test item59

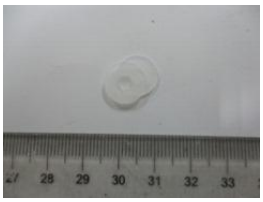

Test item60


Test item61


Test item62


Test item63


Test item64


Test item65


Test item66

---End of Report---

Annex

Information in annex are given by client, the authenticity is guaranteed by client

Reference Model	:	C0280 C0360 C0410-2 C0410