

## Verification Report

No. CANEC1609100901

Date: 26 May 2016

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TOPWIN INTERNATIONAL CORP., LIMITED

10B B TOWER XUESONG BUILDING, TAIRAN LIU ROAD, FUTIAN DISTRICT, SHENZHEN, CHINA

Sample Name : TW144NPQQ812 LCD Display Moulde (Second Batch)  
SGS Job No. : CP16-030307 - SZ  
Tested Basic Model No. TW144NPQQ812  
(P.O. No.) :  
Material No. : TW144NPQQ812  
Date of Sample Received : 18 May 2016  
Verification Period : 18 May 2016 - 26 May 2016  
Verification Requested : With reference to RoHS Directive 2011/65/EU recasting 2002/95/EC.  
Verification Method : Please refer to next page(s).  
Verification Result : Please refer to next page(s).  
Verification Conclusion : Based on the verification results of the submitted samples, the results of Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs) comply with the limits as set by RoHS Directive 2011/65/EU Annex II; recasting 2002/95/EC.  
Note : The test results are related only to the tested items. The report shall not be reproduced except in full without the written approval of the testing laboratory.

Signed for and on behalf of  
SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch

*Jenny*

Jenny Liao  
Approved Signatory



SGS-CSTC Standards Technical Services Co., Ltd.  
Guangzhou Branch Testing Chemical Laboratory

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Verification Method :

1. With reference to IEC 62321-2:2013, review was performed for the samples disjointed from the submitted articles.
2. With reference to IEC 62321-1:2013, tests were performed for the samples indicated by the photos in this report
  - (1) With reference to IEC 62321-3-1:2013, screening by EDXRF spectroscopy
  - (2) Wet chemical test method
    - a. With reference to IEC 62321-5:2013, determination of Cadmium by ICP-OES
    - b. With reference to IEC 62321-5:2013, determination of Lead by ICP-OES
    - c. With reference to IEC 62321-4:2013, determination of Mercury by ICP-OES
    - d. With reference to IEC 62321-7-1:2015 & IEC 62321:2008, determination of Hexavalent chromium by Colorimetric method using UV-Vis.
    - e. With reference to IEC 62321-6:2015, determination of PBBs and PBDEs by GC-MS



In accordance with the result of material risk assessment, the following disjointed parts in the submitted sample have been verified.

Part No.	Part Description	BOM No.	Restricted Substances	Results of EDXRF (1)	Result of Wet Chemical Testing(2) (mg/kg)	Conclusion on EU RoHS	Sample Submitted / Resubmitted Date
1	White plastic frame	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL BL BL	--- --- --- --- --- ---	Comply Comply Comply Comply Comply Comply	18 May 2016
2	Grey transparent adhesive plastic sheet (on No.1)	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL BL BL	--- --- --- --- --- ---	Comply Comply Comply Comply Comply Comply	18 May 2016
3	Grey transparent glass sheet w/ liquid (on No.1)	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL BL BL	--- --- --- --- --- ---	Comply Comply Comply Comply Comply Comply	18 May 2016
4	Black glue (on No.3)	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL BL BL	--- --- --- --- --- ---	Comply Comply Comply Comply Comply Comply	18 May 2016



Part No.	Part Description	BOM No.	Restricted Substances	Results of EDXRF (1)	Result of Wet Chemical Testing(2) (mg/kg)	Conclusion on EU RoHS	Sample Submitted / Resubmitted Date
5	Grey transparent adhesive plastic sheet (on No.3)	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL BL BL	--- --- --- --- --- ---	Comply Comply Comply Comply Comply Comply	18 May 2016
6	Brown "FPC" (connected w/ No.3)	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL BL BL	--- --- --- --- --- ---	Comply Comply Comply Comply Comply Comply	18 May 2016
7	Silvery metal solder (on No.6)	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL --- ---	--- --- --- --- --- ---	Comply Comply Comply Comply --- ---	18 May 2016
8	Black adhesive plastic sheet (on No.1)	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL BL BL	--- --- --- --- --- ---	Comply Comply Comply Comply Comply Comply	18 May 2016



Part No.	Part Description	BOM No.	Restricted Substances	Results of EDXRF (1)	Result of Wet Chemical Testing(2) (mg/kg)	Conclusion on EU RoHS	Sample Submitted / Resubmitted Date
9	Yellow adhesive plastic sheet (on No.6)	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL BL BL	--- --- --- --- --- ---	Comply Comply Comply Comply Comply Comply	18 May 2016
10	White plastic sheet (on No.8)	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL BL BL	--- --- --- --- --- ---	Comply Comply Comply Comply Comply Comply	18 May 2016
11	Black/ white "FPC" (on No.8)	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL BL BL	--- --- --- --- --- ---	Comply Comply Comply Comply Comply Comply	18 May 2016
12	White adhesive plastic sheet (on No.1)	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL BL BL	--- --- --- --- --- ---	Comply Comply Comply Comply Comply Comply	18 May 2016



Part No.	Part Description	BOM No.	Restricted Substances	Results of EDXRF (1)	Result of Wet Chemical Testing(2) (mg/kg)	Conclusion on EU RoHS	Sample Submitted / Resubmitted Date
13	Black adhesive sponge sheet (on No.1)	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL BL BL	--- --- --- --- --- ---	Comply Comply Comply Comply Comply Comply	18 May 2016
14	White paper sheet (on No.13)	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL BL BL	--- --- --- --- --- ---	Comply Comply Comply Comply Comply Comply	18 May 2016



Remark :

- (1) (a) There are the results on total Br while test items on restricted substances are PBBs and PBDEs. There is the result on total Cr while test item on restricted substances is Cr(VI).
- (b) Results are obtained by EDXRF for primary screening, and further chemical testing by ICP-OES (for Cd, Pb, Hg), UV-Vis (for Cr(VI)) and GC-MS (for PBBs, PBDEs) is recommended to be performed, if the concentration exceeds the below warning value according to IEC62321-3-1:2013 (unit: mg/kg).

Element	Polymer	Metal	Composite Materials
Cd	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$LOD < X < (150+3\sigma) \leq OL$
Pb	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$
Hg	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$
Br	$BL \leq (300-3\sigma) < X$	--	$BL \leq (250-3\sigma) < X$
Cr	$BL \leq (700-3\sigma) < X$	$BL \leq (700-3\sigma) < X$	$BL \leq (500-3\sigma) < X$

(c) BL = Below Limit, OL = Over Limit, IN = Inconclusive, LOD = Limit of Detection, -- = Not regulated.

(d) The XRF screening test for RoHS elements - The reading may be different to the actual content in the sample be of non-uniformity composition.

- (2) (a) mg/kg = 0.0001%, MDL = Method detection Limit, ND = Not Detected (<MDL), --- = Not conducted, - = Without BOM.

(b) Unit and MDL in wet chemical test

Test Item	Pb	Cd	Hg
Unit	mg/kg	mg/kg	mg/kg
MDL	10	10	10

The MDL for single compound of PBBs and PBDEs is 100 mg/kg,  
 MDL of Cr(VI) for polymer and composite sample is 10 mg/kg,  
 MDL of Cr(VI) for metal sample is 0.10 µg/cm<sup>2</sup>.



(c) ▼ =Metal sample

- a. The sample is positive for CrVI if the CrVI concentration is greater than 0.13 µg/cm<sup>2</sup>.  
The sample coating is considered to contain CrVI
- b. The sample is negative for CrVI if CrVI is ND (concentration less than 0.10 µg/cm<sup>2</sup>).  
The coating is considered a non-CrVI based coating
- c. The result between 0.10 µg/cm<sup>2</sup> and 0.13 µg/cm<sup>2</sup> is considered to be inconclusive  
- unavoidable coating variations may influence the determination

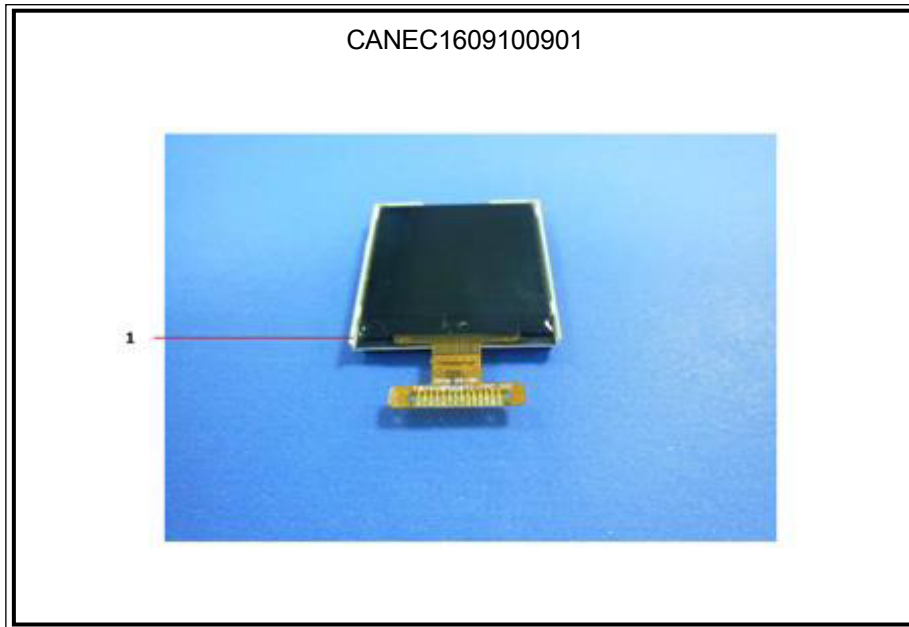
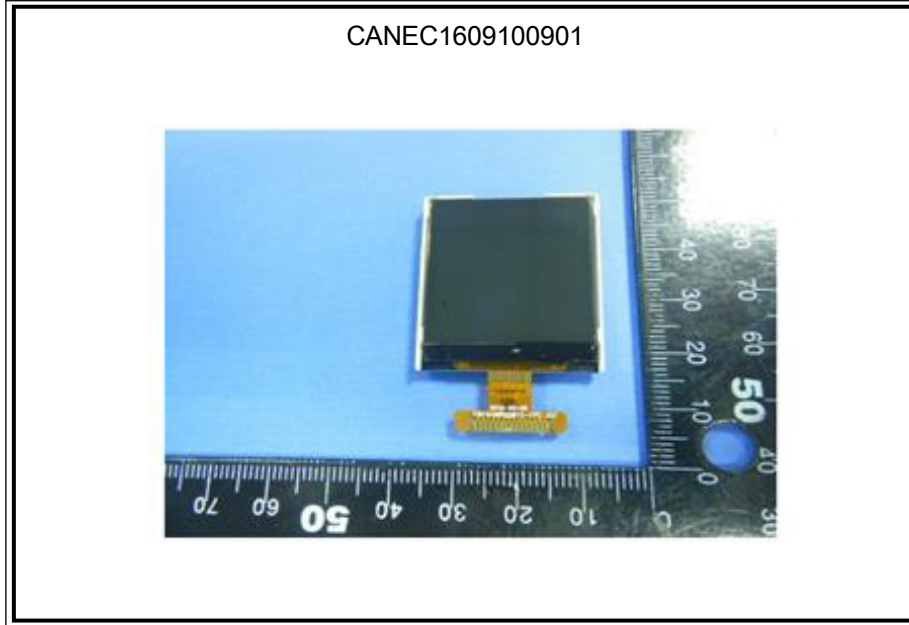
Information on storage conditions and production date of the tested sample is unavailable and thus Cr(VI) results represent status of the sample at the time of testing.

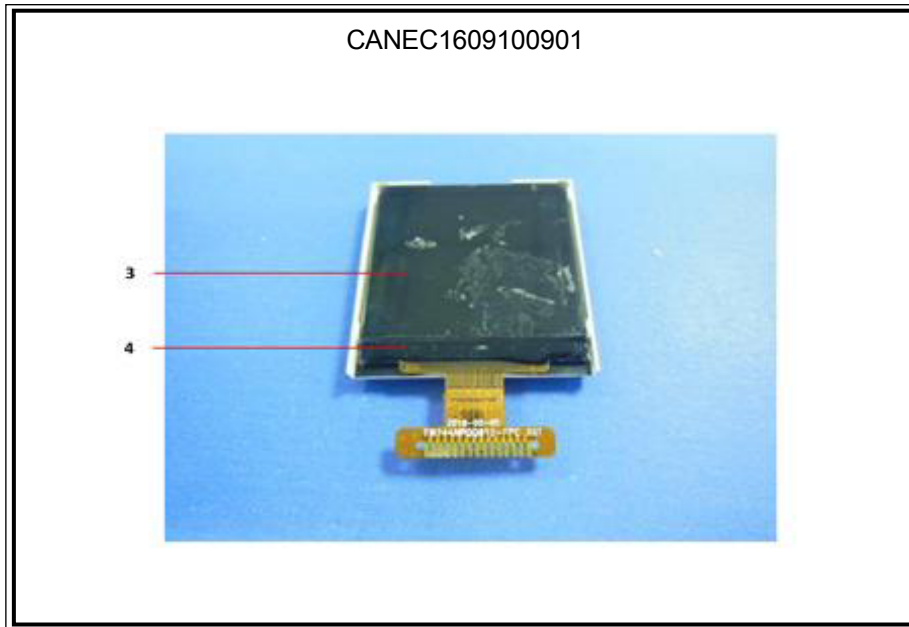
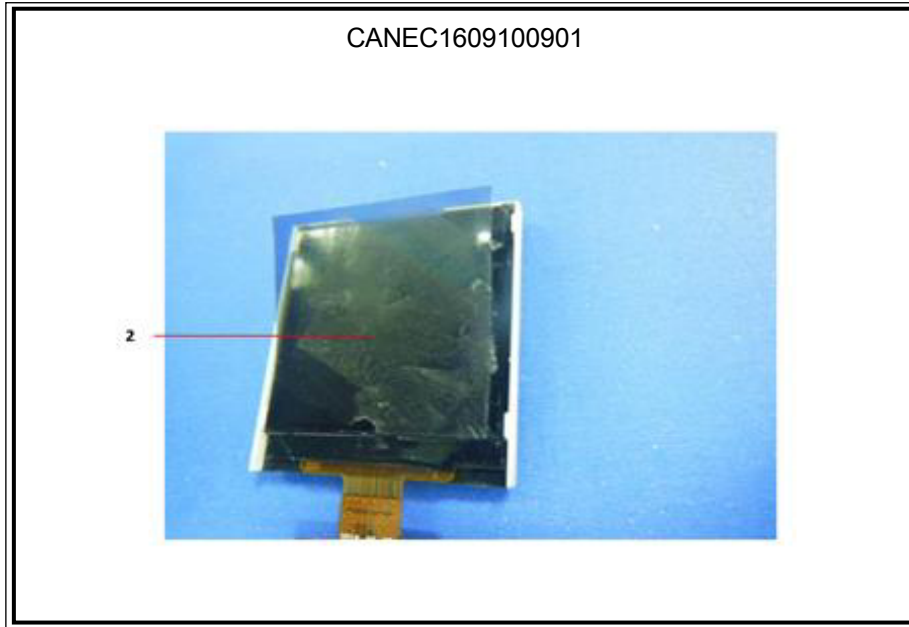
IEC 62321 series is equivalent to EN 62321 series

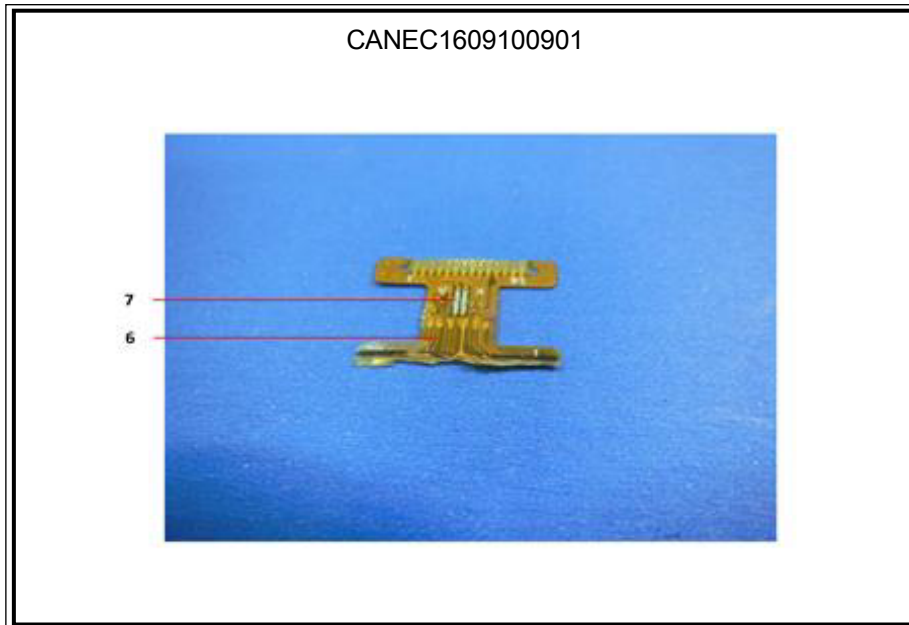
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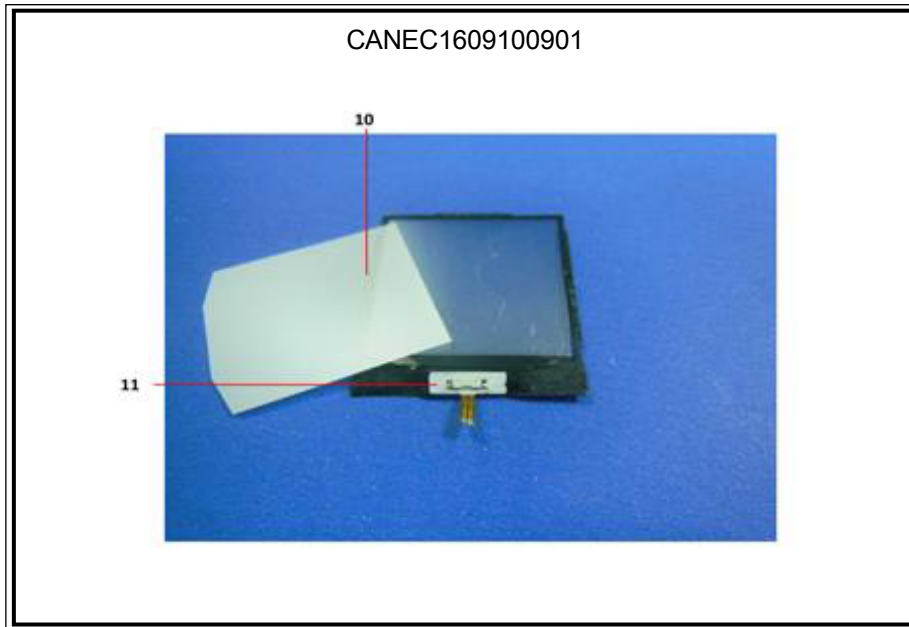


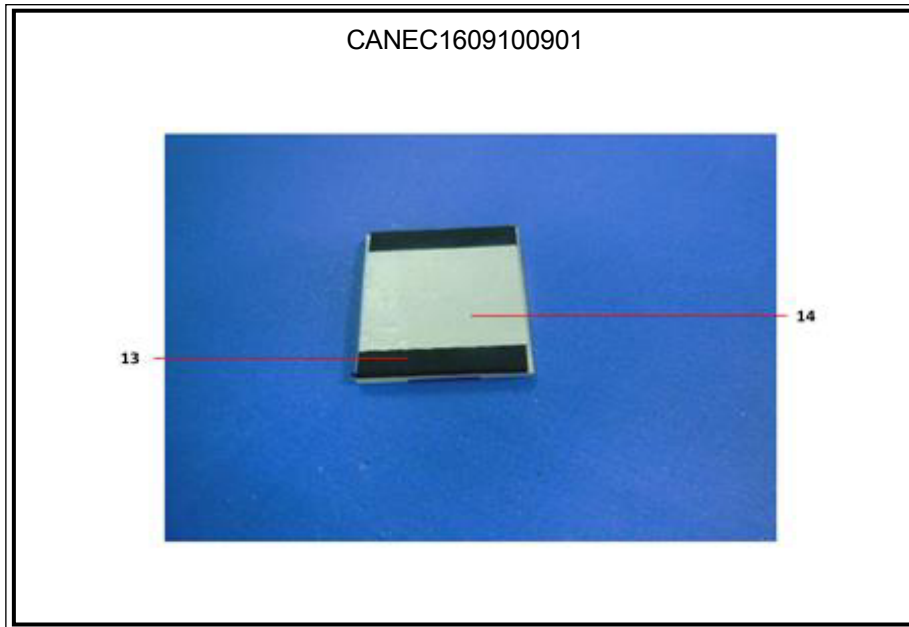
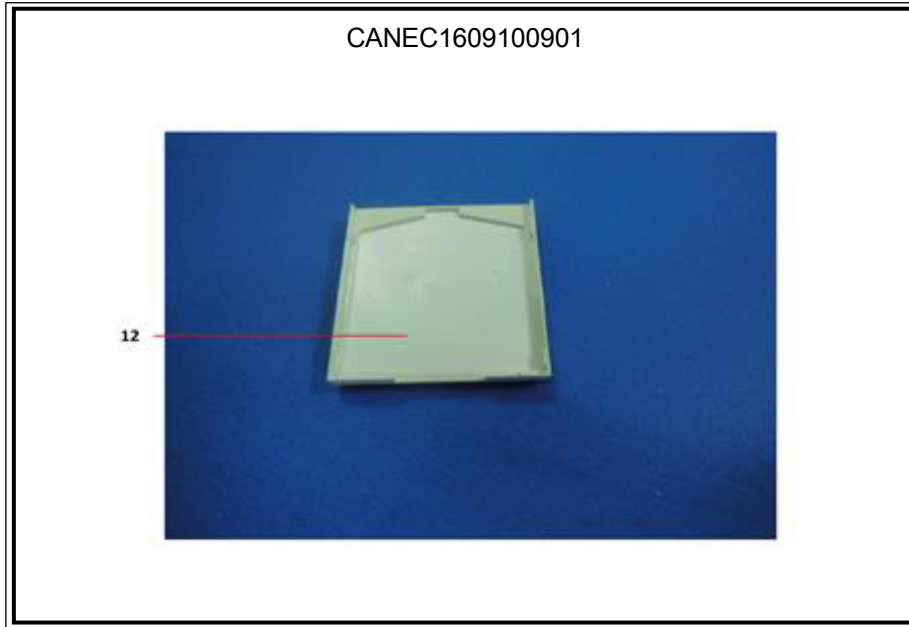
Sample photo:











SGS authenticate the photo on original report only

\*\*\* End of Report \*\*\*

