Technical Report No.: 68.210.20.1058.02

Date: 2020-10-29

Client:	Name: Shenzhen Linsn Led Co.,Ltd. Address: Building 4,Huaze Industry Park,Zhoushi Road, Shiyan Town,BaoAn,Shenzhen,China. Contact person: Patrick Liu
Manufacturing place:	Manufacturer's name/address: Same as client Factory's name: Same as client Factory's address: Same as client
Test subject:	Product: LED display mask Type: EV960-6.67/8/10 Trade mark: --
Test specification:	IEC 60695-11-20:1999
Purpose of examination:	• Test according to the test specification
Test result:	The test results show that the presented product is in compliance with the specified requirements

Doc No: ITC-TTW0902.02E – Rev.7

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1 Description of the test subject

1.1 Function

Manufacturer's specification for intended use: --

1.2 Consideration of the foreseeable use

☐ Not applicable
☒ Covered through the applied standard
☐ Covered by the following comment
☐ Covered by attached risk analysis

1.3 Technical Data

N/A

2 Order

2.1 Date of Purchase Order, Customer's Reference

2020-09-11

2.2 Receipt of Test Sample, Condition, Location

Samples were received on 2020-09-29, TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch, E&E Department, Building 12&13, Zhiheng Wisdomland Business Park, Nantou Checkpoint Road 2, Nanshan District, 518052 Shenzhen, China

2.3 Date of Testing

2020-09-29 to 2020-10-29

2.4 Location of Testing

TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch E&E Department, Building 12&13, Zhiheng Wisdomland Business Park, Nantou Checkpoint Road 2, Nanshan District, 518052 Shenzhen, China

2.5 Points of Non-compliance or Exceptions of the Test Procedure

None

3 Test Results

☒ Decision rule according to IEC Guide 115:2007, clause 4.4.3, 4.5.1 (accuracy method) was applied.

3.1 Test procedure and requirement:

Clause 7.3 of IEC 60695-11-20:1999 – Bar test specimens

Bar test specimens shall measure 125 mm ± 5 mm long by 13,0 mm ± 0,5 mm wide, and shall be provided in the minimum thickness normally supplied. The thickness shall not exceed 13,0 mm. Edges shall be smooth, and the radius on the corners shall not exceed 1,3 mm. Other thicknesses may be used by agreement between the interested parties and, if so, shall be noted in the test report.

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Subclause 8.1 of IEC 60695-11-20:1999 – Conditioning

Prior to being tested, the samples are conditioned in a circulating air oven for a period of 168 h ± 2h at 70°C±2°C and 50%±5% relative humidity, Once removed from the conditioning chamber, teh test specimens shall be tested within 1h.

Subclause 8.2 of IEC 60695-11-20:1999 – Bar procedure

8.2.1 Using the ring stand , clamp the bar test specimen using the upper 6 mm of its length with the longitudinal axis vertical so that the lower end of the bar test specimen is 300 mm ± 10 mm above a horizontal layer of cotton, which is approximately 50 mm × 50 mm × 6 mm uncompressed thickness and has a maximum mass of 0,08 g.

8.2.2 With the central axis of the burner tube vertical, place the burner remote from the bar test specimen and set the burner to produce a standardized 500 W nominal test flame, conforming to IEC 60695-11-3, flames A, B, C or D. Wait for a minimum of 5 min to allow the burner conditions to reach equilibrium. Support the burner on the burner mounting block or fixture, so that the burner tube is positioned at an angle of 20° ± 5° from the vertical.

8.2.3 With the narrow edge of the bar test specimen facing the burner, apply the flame of the burner centrally to the lower front corner of the bar test specimen at an angle of 20° ± 5° from the vertical, so that the tip of the blue cone just touches the bar test specimen.

Apply the flame for 5 s ± 0,5 s and then remove it for 5 s ± 0,5 s. Repeat the operation until the bar test specimen has been subjected to five applications of the test flame. If the bar test specimen drips particles, shrinks or elongates during the test, adjust the burner position so that the tip of the inner blue cone is just in contact with the remaining portion of the bar test specimen, ignoring any strings of molten material. Following each flame application, immediately withdraw the burner sufficiently so there is no effect on the bar test specimen.

NOTE 1 It may be necessary to hand-hold the burner and mounting block to accomplish this.

NOTE 2 Withdrawing the burner a distance of 150 mm from the bar test specimen following each flame application has been found satisfactory.

8.2.4 After the fifth application of the flame to the bar test specimen, immediately remove the burner sufficiently from the bar test specimen so that there is no effect on the bar test specimen and, simultaneously, using the timing device, begin measurement, to the nearest second, of the afterflame time t1, and the afterglow time t2. Note and record t1, t2, and t1 plus t2. Note and record also whether any flaming particles or drops fall from the bar test specimen and, if so, whether they ignite the cotton.

8.2.5 Repeat the procedure until all five bar test specimens, conditioned in accordance with 8.1.1, and all five bar test specimens, conditioned in accordance with 8.1.2, have been tested.

8.2.6 If only one test specimen from a set of five bar test specimens for a given con-ditioning treatment does not conform to all of the criteria for a category, another set of five bar test specimens, subjected to the same conditioning, shall be tested. All test specimens from the second set shall conform to all of the specified criteria for the category.

Subclause 8.4 of IEC 60695-11-20:1999 – Classification

The material shall be classified either 5VB (5V = vertical burning), in accordance with the criteria indicated in table 1, based on the behaviour of the bar test specimens and plates. Materials classified either 5VB shall also conform to the criteria for materials classified either V-0, V-1 or V-2 described in IEC 60695-11-10, in the same bar test specimen thickness, in order to assess the extent of burning

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to the holding clamp.

Table 1 – 5VB burning categories

Criteria	5VB
Individual bar test specimen afterflame plus afterglow time after the fifth flame application (t1 + t2) for each individual bar test specimen	≤60 s
Was the cotton indicator (see 6.10) ignited by flaming particles or drops from any bar test specimen?	No
Did the bar test specimen burn up completely?	No
NOTE If the test results are not in accordance with the specified criteria, the material cannot be categorized by this test method.	

Test result:

Test specimens were placed vertical.

After testing, the five test specimens meet the requirements of table 1.

Record / No.	afterflame time t1 (s)	afterglow time t2 (s)	t1+t2 (s)	cotton indicator ignited (Yes/no)	Consumed com-pletely (Yes/no)
Sample 1	1.2	1.0	2.2	No	No
Sample 2	1.1	1.0	2.1	No	No
Sample 3	1.2	1.1	2.3	No	No
Sample 4	1.2	1.0	2.2	No	No
Sample 5	1.4	1.0	2.4	No	No

3.2 Points of non-compliance according to the test specification

N/A

4 Remark

1. The thickness of specimens: 3.07mm; The color of specimens: Black

2. Test environment: Humidity: 52.4%; Temperature: 24.1°C

5 Documentation

- APPENDIX 1 – Product photos.

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6 Summary

The test specification is met.

TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
TÜV SÜD Group

Tested by: Ryan Li
Project Handler

printed name, function & signature

Approved by: Darren Ding
Designated Reviewer

printed name, function & signature

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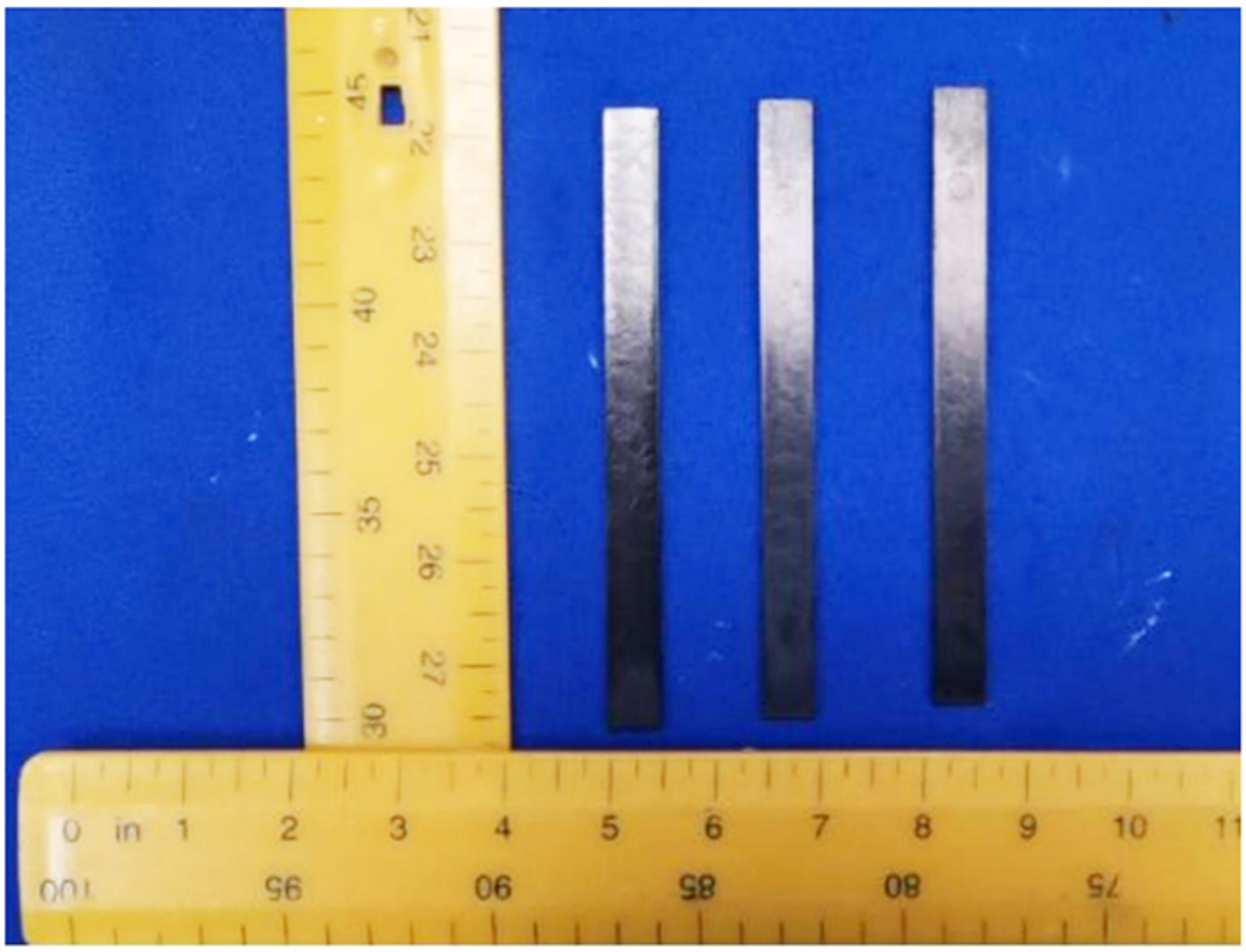
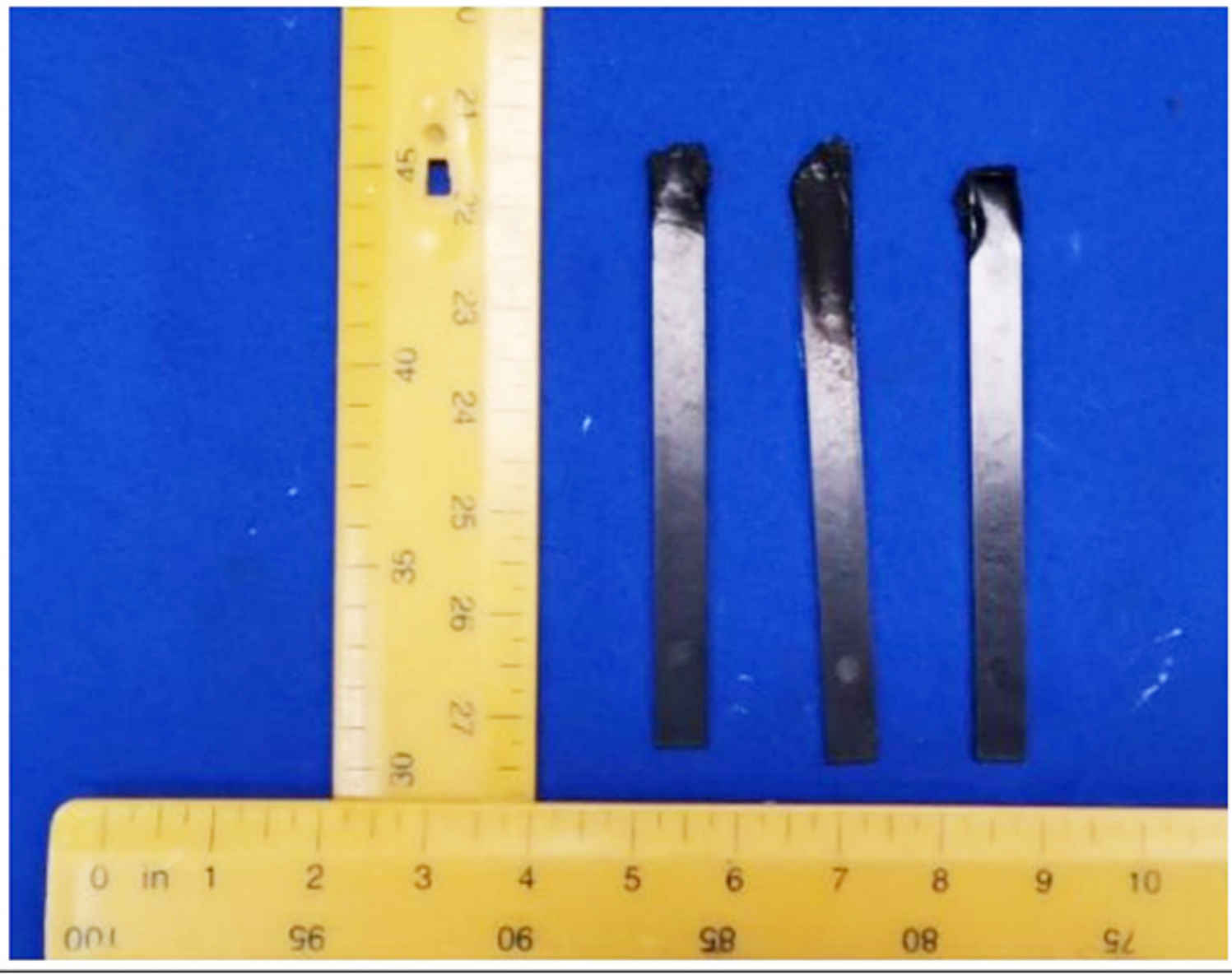
APPENDIX 1

Details of: Product overview before test



Details of: Product overview after test



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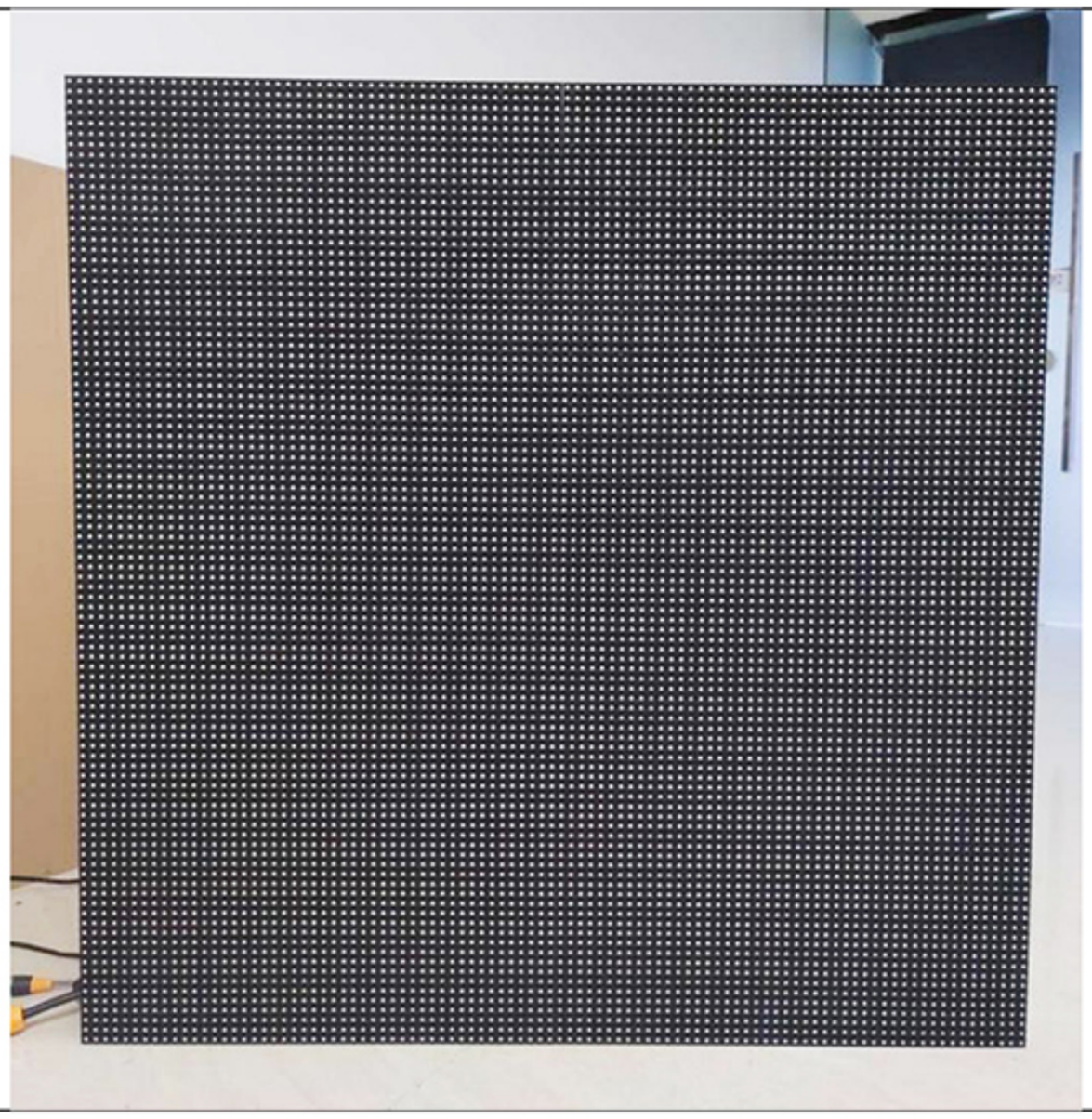
Details of: Overview of LED display



Details of: Overview of LED display

--- End of Report ---

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