



文件編號 Document No. : TVZQA-03-067

作者 Author : 廖家樑

版次 Version : 0

文件中文名稱 Document Chinese Title : INCOMING INSPECTION STANDARD FOR T420HW SERIES TFT-LCD MODULES (300 SERIES)

生效日 Effective Date : 20090203

文件英文名稱 Document English Title : INCOMING INSPECTION STANDARD FOR T420HW TFT-LCD MODULES

AU OPTRONICS CORPORATION

Specification for Approval

INCOMING INSPECTION STANDARD FOR T420HW SERIES TFT-LCD MODULES

The content of this technical information is subject to change without notice. Please contact AU or its agent for further information.

Approved by	Checked by	Prepared by
 Bryan Tseng	 劉其良 GMLiu	 廖家樑 Andy Liao

Customer	Checked & Approved by

1 Scope:

The incoming inspection standards shall be applied to TFT-LCD Modules (hereinafter called "Modules") that supplied by AU Optronics Corporation (hereinafter called "seller").

2 Inspection instruments:

2-1 Pattern generator: Chroma-LCM tester 27012 or equivalent.

2-2 Video board: AU video board or equivalent. The output of the signal should comply with the specifications provided by AU.

3 Inspection Method:

3-1 Ambient condition

A. Temperature: 20 ~ 25°C

B. Humidity: 65±5% RH.

C. Lumination: A single 20W fluorescent lamp (300 to 700 Lux)

3-2 Viewing distance

Be at a distance about 100±5 cm in front of LCD module with naked eyes.

3-3 Viewing Angle

Viewing line should be perpendicular to the surface of the module.

4 Inspection Criteria

■ Electrical Inspection

4-1 Dot Defect

A. Every dot herein means a Sub-Pixel (each Red, Green or Blue color).

B. Bright Dot defect is defined as that the defective area of the dot is larger than 50% of the dot area and should be visible under 2% ND filter.

4-1-1 Bright Dot

Bright Dot is defined as Dot (sub-pixel), which appears bright on the screen when the LCD module displayed at black pattern.

Inspection Item	Criteria
R.G or B 1 dot	Max. 2 allowed
Adjacent 2 dots	1 pair

A partial bright dot damaged less than half size of sub-pixel is not counted as a bright dot defect and should be specified below.

Inspection Item	Criteria
5% ND-Filter Not-visible	Ignored
5% ND-Filter Visible 2% ND-Filter Not-visible	Max. 10 allowed
2% ND-Filter Visible	Max. 7 allowed

4-1-2 Dark Dot

Dark Dot is defined as Dot (sub-pixel), which appears dark on the screen when the LCD Module displays at bright pattern.

Inspection Item	Criteria
R.G or B 1 dot	Max. 9 allowed
Adjacent 2 dots	3 pairs
Adjacent 3 dots	1 pairs

4-1-3

Total amount of Dot Defects	Max. 9 allowed
-----------------------------	----------------

■ Appearance Inspection

4-2 Polarizer Defects

A. Extraneous substances that can be wiped out such as Finger Prints, particles are not considered defects.

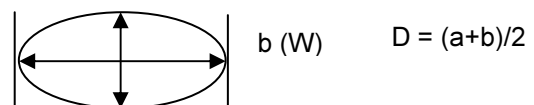
B. Defects on the Black Matrix (outside the Active Area) are not considered defects.

Inspection Items	Criteria
Linear Scratch	$0.15 < W \leq 0.3, L \leq 30, N \leq 10$
Bubble/Dent	$0.5 < D \leq 1.5, N \leq 10$

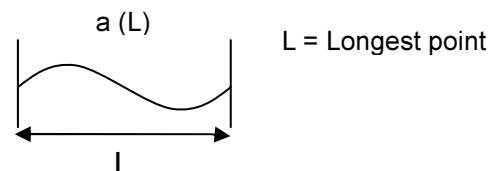
Where, W (mm): Width

L (mm): Length

D (mm): Average diameter



Note) Linear: $a > 2b$, Circular: $a \leq 2b$



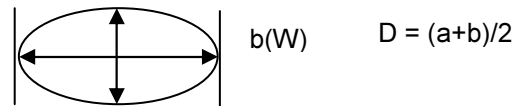
4-3 Foreign Material

Inspection Items	Criteria
Linear	$0.15 < W \leq 0.3, L \leq 30, N \leq 10$
Circular	$0.5 < D \leq 1.5, N \leq 10$

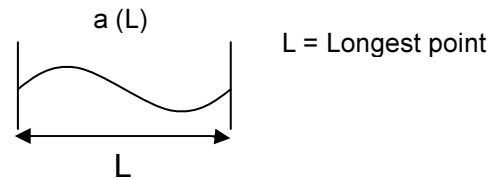
Where, W (mm): Width

L (mm): Length

D (mm): Average diameter



Note) Linear: $a > 2b$, Circular : $a \leq 2b$



4-4 Bezel Appearance

Scratches, minor bends, stains, particles on the Bezel frame are not considered defects.

4-5 Mura

All kinds of Mura shall be Ignored in all kinds of circumstances.

5 Inspection judgment:

5-1 If the number of defects is more than the applicable acceptance level, the lot shall be rejected and the buyer should inform the seller of the result of incoming inspection in writing.

5-2 Issues which is not defined in this criteria shall be discussed by both parties, Customer and Supplier, for better solutions.

6 Precaution:

Please pay attention to the following items when you use the LCD Module.

6-1 Do not twist or bend the module and also avoid any inappropriate external force on display surface during assembly.

6-2 Adopt good ventilation measures. Be sure to use the module within the specified temperature range.

6-3 Avoid dust or oil mist during assembly.

6-4 Follow the correct power sequence while operating. Do not apply the invalid signal otherwise it will cause unexpected shutdown that damages the module.

- 6-5 The response time & brightness might vary at different temperature.
- 6-6 Avoid displaying at certain pattern (e.g. the white pattern) for a long time otherwise it might cause image sticking.
- 6-7 Be sure to turn off the power while connecting or disconnecting the circuit.
- 6-8 Display surface Polarizer scratches easily, please avoid dirt or stains on it and handle with care.
- 6-9 A dewdrop may cause malfunction or worse situation. Wipe off any before using the LCD module.
- 6-10 Sudden temperature change might cause condensation of materials and possible polarizer damage.
- 6-11 High temperature and high humidity might undermine the performance. Do not expose the module to the direct sunlight and so on.
- 6-12 Avoid any acetic acid or chlorine compounds, which are harmful to the LCD module.
- 6-13 Static electricity might damage the LCD module. Avoid direct touch of the module without any grounded device connected.
- 6-14 Do not disassemble and reassemble the module by yourself.
- 6-15 Do not touch the rear of the LCD module directly to avoid possible electric shock by the high voltage of backlight. Make sure the power is off before proceeding.
- 6-16 Avoid any strong vibration or shock, which might cause a broken LCD module.
- 6-17 Store the modules in cool and dry environment with regular packing.
- 6-18 Be careful of possible injury caused by a broken module. Also avoid the pressure added onto the (front or rear) surface of modules, which might cause non-uniformity or other function issue to display.