2.69
Product Specification
Rev. P6

Customer Name	:	
Product Name	:	2.69"
Model Name		
Description	:	2.69" (SVGA) AMOLED

ORODS YUANSHENG Optoelectronics Technology CO. LTD

Revision History

Rev.	ECN No.	Description of Change	Date	Prepared
P0		Initial issue	Nov.06. 2018	
P1			Dec.13. 2018	
P2		Crosstalk Spec	Jan.16. 2019	
P3		Content Check	Jan.30. 2019	
P4		Figure Update	Apr.17. 2019	
P5		Content amend	Jul.27. 2021	
P6		Content amend	Aug.26. 2021	

Content

1. General Description

1-1. Introduction

BOE 2.69” Olson is a color active matrix AMOLED module using Low Temperature Poly-silicon TFT’s (Thin Film Transistors) as active switching devices. This module has a 2.69inch diagonally measured active area with 800RGBx600 resolutions (800horizontal by 600vertical pixel arrays). Each pixel is divided into RED, GREEN, BLUE dots which are arranged in vertical stripe and this module can display 16.7M colors.

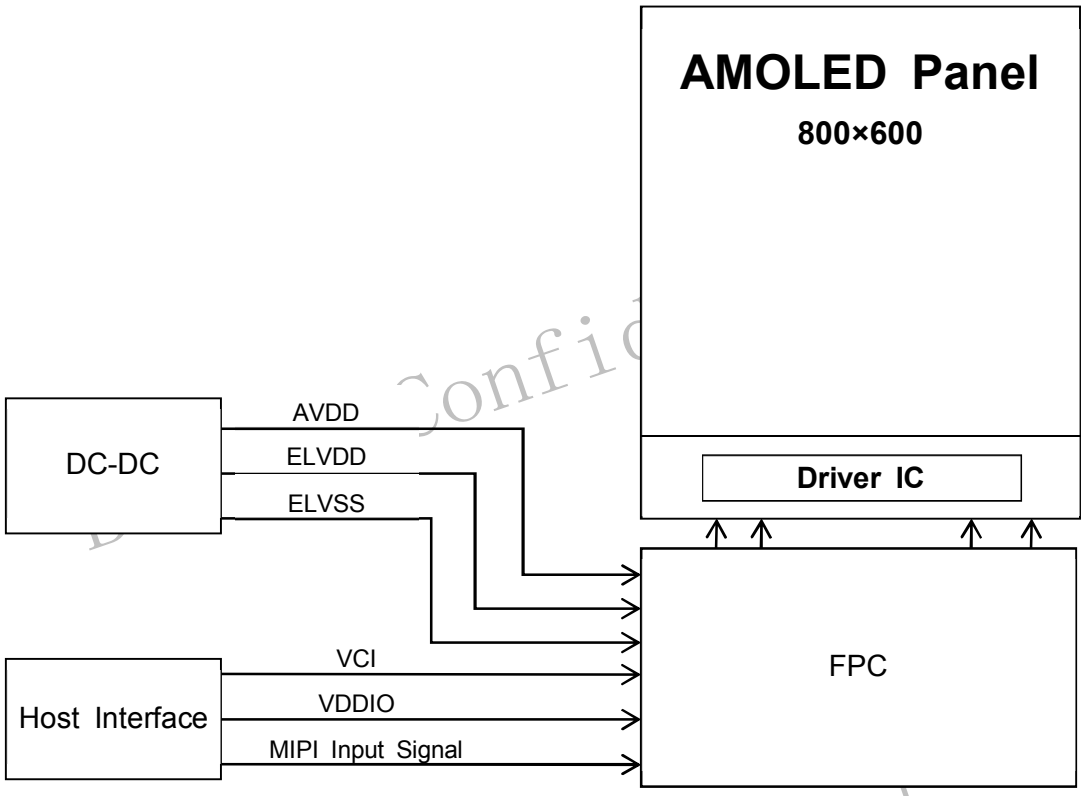

Figure 1.1

1-2. Features

1) Display Colors : 16.7M
2) Display Format : 2.69” Pentile RGB : 800×600
3) Interface : MIPI DSI 2-lane

2. Mechanical Specification

Table 2.1

Item	Specifications	Unit	Remark
Panel outline	56.6(W) × 47.25(H)×0.505(T)	mm	
Number of dots	1600(W) × Pentile × 600(H)	Dots	
Active area	54.6(W) × 40.95(H)	mm	
Diagonal Inch	2.69	inch	
Pixel pitch	68.25(W) × 68.25(H)	um	
PPI	372		
Pixel Arrangement	Pentile		
Weight	TBD	g	
Glass Thickness	0.20 (LTPS glass without PF) 0.305 (TSP)	mm	

3. Electro-optical Characteristics

The test of optical specifications shall be measured in a dark room (ambient luminance ≤1lux and temperature = 25±2℃) with the equipment of Luminance meter. We refer to θ, Ø=0º (=θ_3) as the 3 o’clock direction (the “right”), θ, Ø=90º (= θ_{12}) as the 12 o’clock direction (“upward”), θ, Ø=180º (= θ_9) as the 9 o’clock direction (“left”) and θ, Ø=270º (= θ_6) as the 6 o’clock direction (“bottom”). While scanning θ and/or Ø, the center of the measuring spot on the Display surface shall stay.

Table 5.1

Item		Symbol	Condition	Min.	Typ.	Max.	Unit	Note
Viewing Angle	Horizontal	θ_3	CR ratio≥1600	80	-	-	°	Note1
		θ_9						
	Vertical	θ_6						
		θ_{12}						
Brightness			θ=0° At Center	380	420	460	nit	
Contrast ratio		CR	θ=0°	100,000:1	-	-	-	Note2
Brightness Uniformity		LRU	W255	75	80	-	%	Note3
Color of	White	x_W	θ=0°	0.2790	0.2990	0.3190	CIE	Note4
		y_W		0.2949	0.3149	0.3349		
	Red	x_R		0.638	0.668	0.698		

CIE coordinate		y_R		0.302	0.332	0.362	1931	
	Green	x_G		0.191	0.226	0.261		
		y_G		0.684	0.719	0.754		
	Blue	x_B		0.108	0.138	0.168		
		y_B		0.025	0.055	0.085		
Color Gamut			θ=0° vs. NTSC	-	100	-	%	
Response Time			G To G			1	ms	
Cross Talk(5nit)			Window: black Background: gray127	-	3.5	5	%	Note5
Cross Talk(100nit&420nit)					-	3		
Colorshift			W255	3(30°)	4(45°)	5(60°)	JNCD	
Gamma			Subsection Control	1.9	2.2	2.5	-	-
Life time	LT93 B10		Room temperature	-	240	-	hrs	
	LT93 B10		50℃		72		hrs	

Notes :

1. Viewing angle is the angle at which the contrast ratio is greater than 1600:1. The viewing angles are determined for the horizontal or 3, 9 o'clock direction and the vertical or 6, 12 o'clock direction with respect to the optical axis which is normal to the panel surface (see Figure 3).

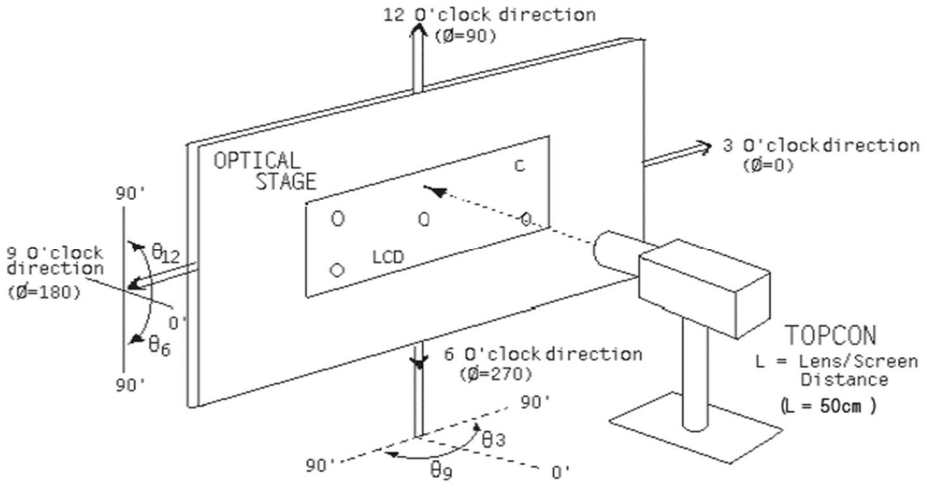

Figure 5.1

2. Contrast measurements shall be made at viewing angle of θ= 0º and at the center of the panel surface. Luminance shall be measured with all pixels in the view field set first to white, then to the dark (black) state. (see Figure 3) Luminance Contrast Ratio (CR) is defined mathematically.

$$\mathrm{CR} = \frac{\text{Luminance when displaying a white raster}}{\text{Luminance when displaying a black raster}}$$

3. Uniformity. LRU Refer to figure as below：

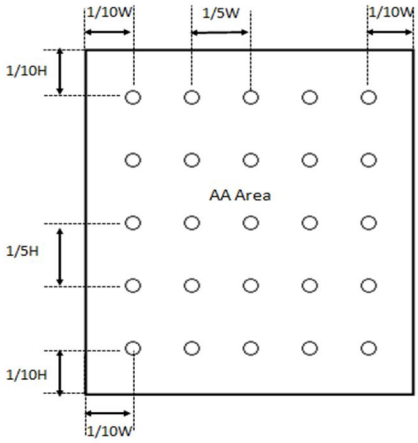

Figure 5.2

Uniformity measurements shall be made atθ=0° and at the different points of the panel surface. Luminance shall be measured with all pixels in the view field set to W/R/G/B at 255 Gary level, respectively.
Luminance uniformity=Lmin/Lmax ×100%

4. The color chromaticity coordinates specified in Table 4 shall be calculated from the spectral data measured with all pixels first in red, green, blue and white. Measurements shall be made at the center of the panel.
5. Crosstalk measurement shall be done at the center of the different pattern and the result shall be calculated as follow formula.
   a. measure luminance at the center.
   b. calculate cross talk as below equation:

$$\text{Crosstalk(V)}=\left|\frac{L_{Vinf}-L_{ref}}{L_{ref}}\right|\times 100\%$$

$$\text{Crosstalk(H)}=\left|\frac{L_{hinf}-L_{ref}}{L_{ref}}\right|\times 100\%$$

Figure 5.3

.

4. Outline Information

4-1. Panel Outline

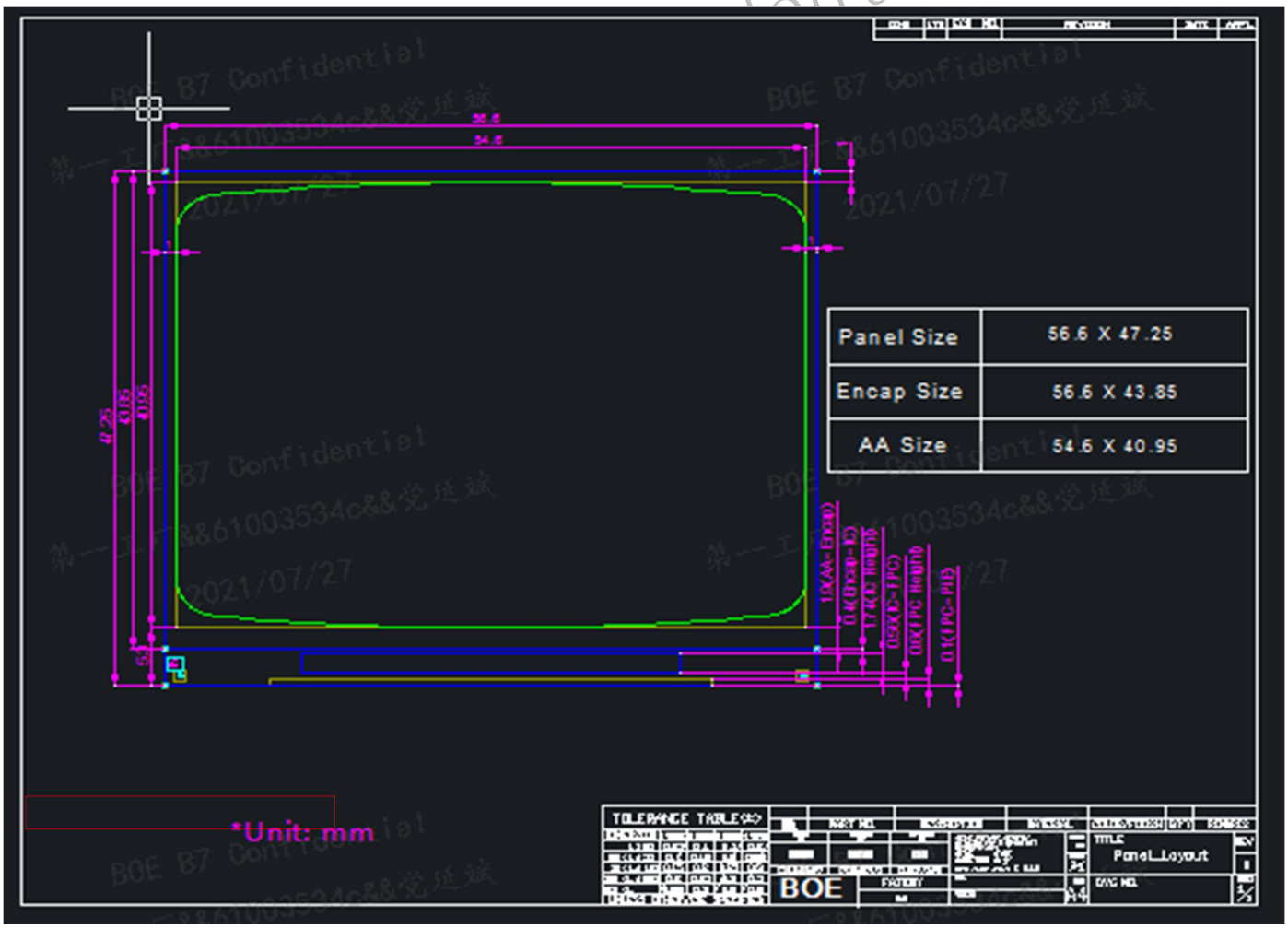

Figure 2.1

4-2. Panel TSP Outline

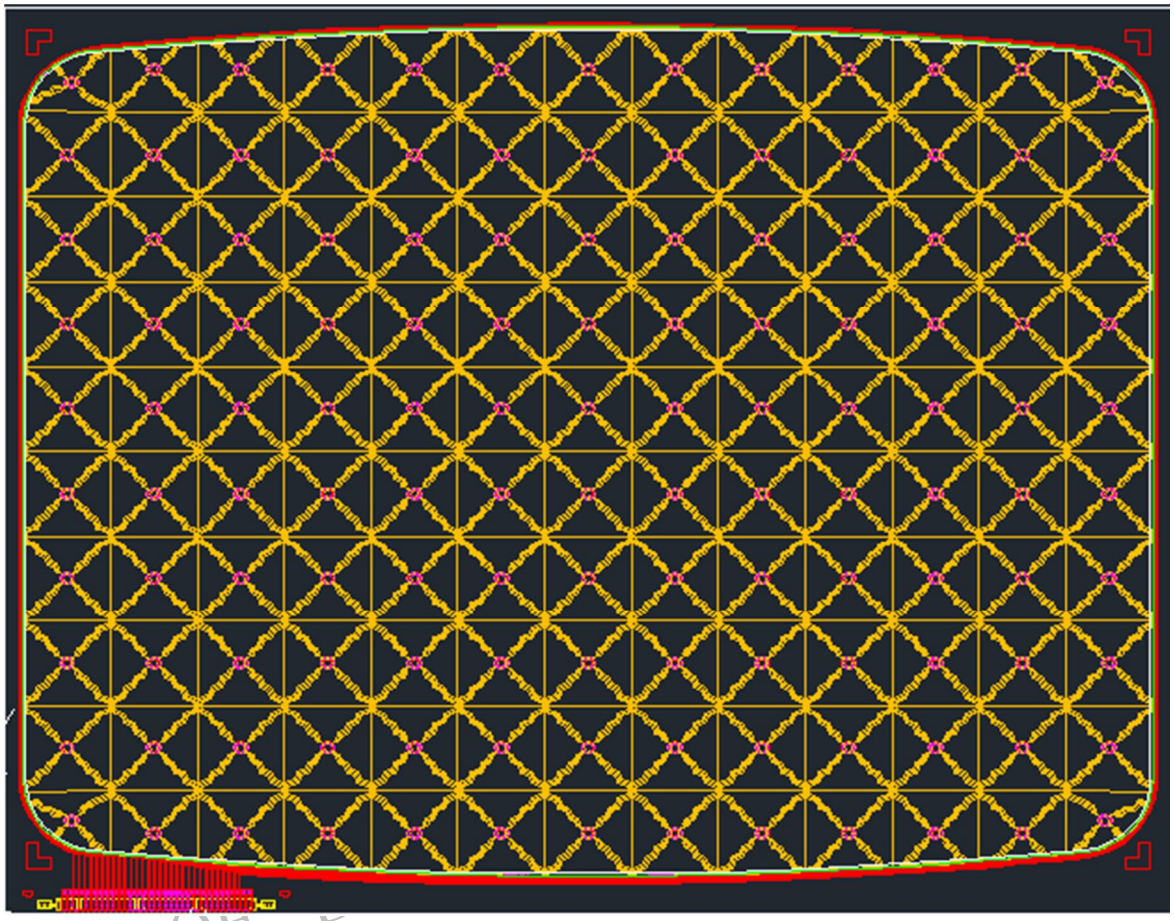

Figure 3.2