Product Specification

AU OPTRONICS CORPORATION

(V) Preliminary Specifications
( ) Final Specifications

Module	**7”(7.00”) HD 16:10 Color TFT-LCD without LED Backlight design**
Model Name	B070ATN01

Customer	**Date**	**Approved by**	**Date**
Checked & Approved by	**Date**	**Prepared by**	**Date**
		Johnny Tu	07/02/2013
Note: This Specification is subject to change without notice.		**NBBU Marketing Division AU Optronics corporation**	

Contents

Record of Revision

Version and Date	Page	Old description	New Description	Remark
0.1 2013/07/02	All	First Edition for Customer		

1. Handling Precautions

1) Since front polarizer is easily damaged, pay attention not to scratch it.
2) Be sure to turn off power supply when inserting or disconnecting from input connector.
3) Wipe off water drop immediately. Long contact with water may cause discoloration or spots.

2. General Description

B070ATN01 is a Color Active Matrix liquid Crystal Display composed of a TFT LCD panel. The screen format is intended to support the 16:10 WXGA, 800(H) x 1280(V) screen.

B070ATN01 is designed for a display unit of notebook style personal computer and industrial machine.

2.1 General Specification

The following items are characteristics summary on the table at 25 ℃ condition:

Items	Unit	Specifications			
Screen Diagonal	[mm]	178.03			
Active Area	[mm]	153.6 X90			
Pixels H x V		1024 x 3(RGB) x 600			
Pixel Pitch	[mm]	0.150X0.150			
Pixel Format		R.G.B. Vertical Island			
Display Mode		Normally white			
Response Time	[ms]	8 typ.			
Big Q-cut Physical Size	[mm]		Min.	Typ.	Max.
		Length	637.0	637.2	637.4
		Width	585.4	585.6	585.8
		Thickness	0.8	0.8	0.8
Small Q-cut Physical Size	[mm]		Min.	Typ.	Max.
		Length	637.0	637.2	637.4
		Width	487.8	488.0	488.2
		Thickness	0.8	0.8	0.8
Glass Thickness	[mm]	0.4			

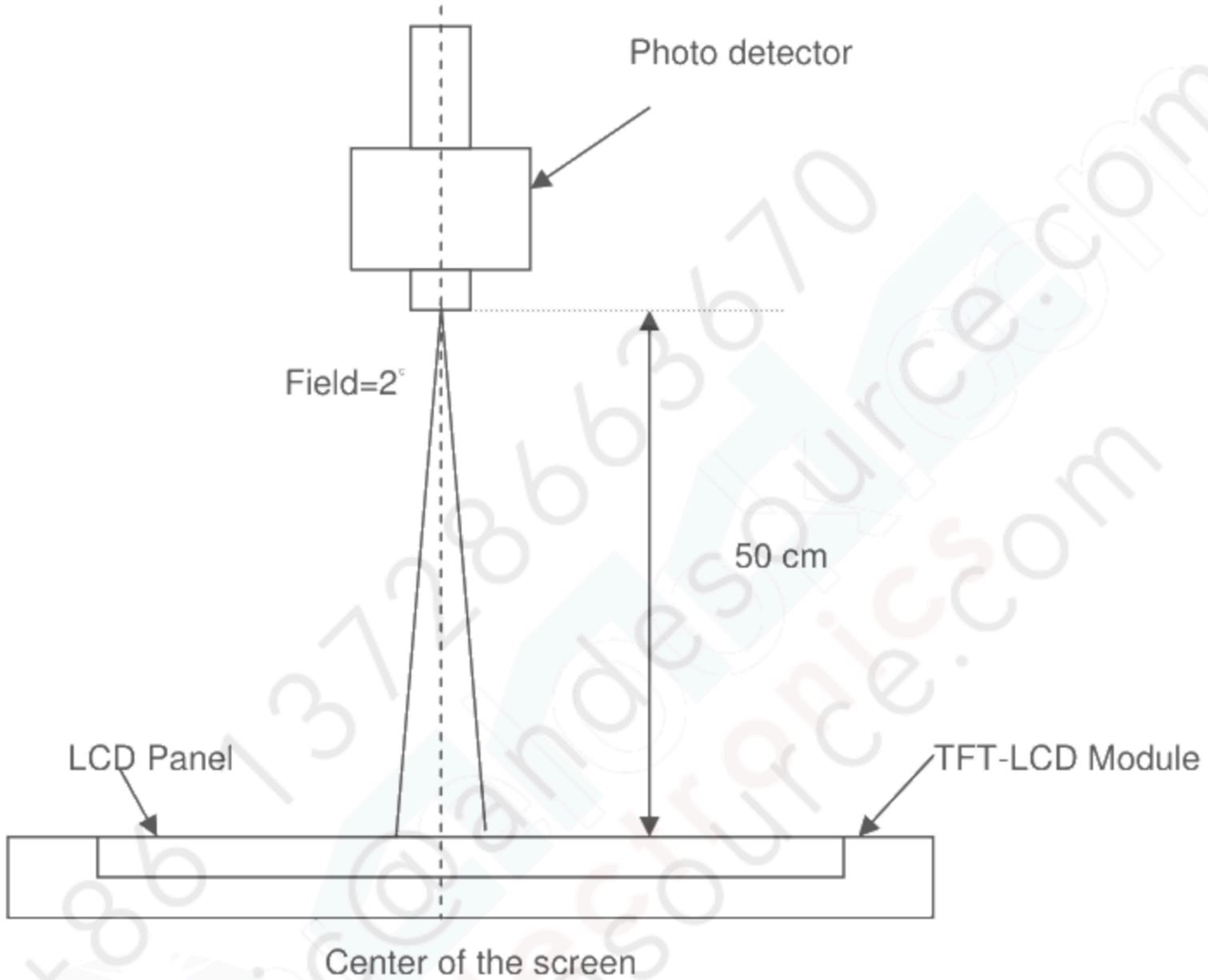
2.2 Optical Characteristics

The optical characteristics are measured under stable conditions at 25℃ (Room Temperature) :

Item		Symbol	Conditions	Min.	Typ.	Max.	Unit	Note
Viewing Angle		θ_R	Horizontal (Right) CR = 10 (Left)	-	45	-	degree	1, 4
		θ_L		-	45	-		
		ϕ_H	Vertical (Upper) CR = 10 (Lower)	-	15	-		
		ϕ_L		-	35	-		
Transmittance		%			4.9%			
Cross talk		%			4.0%			1, 2
Response Time		T_{RT}	Rising + Falling	-	8	-	msec	1, 3
Color / Chromaticity Coodinates	Red	Rx	CIE 1931	TBD	TBD	TBD		1, @C-light
		Ry		TBD	TBD	TBD		
	Green	Gx		TBD	TBD	TBD		
		Gy		TBD	TBD	TBD		
	Blue	Bx		TBD	TBD	TBD		
		By		TBD	TBD	TBD		
	White	Wx		0.283	0.313	0.343		
		Wy		0.299	0.329	0.359		
NTSC		%		-	50	-		

Note 1: Measurement method

The LCD module should be stabilized at given temperature for 30 minutes to avoid abrupt temperature change during measuring. In order to stabilize the luminance, the measurement should be executed after lighting Backlight for 30 minutes in a stable, windless and dark room, and it should be measured in the center of screen.



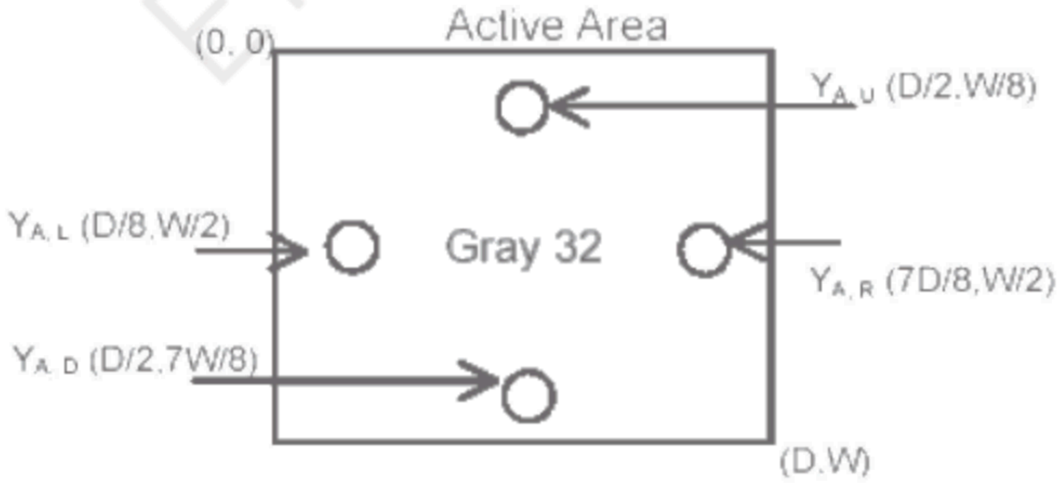
Note 2： Definition of Cross Talk (CT)

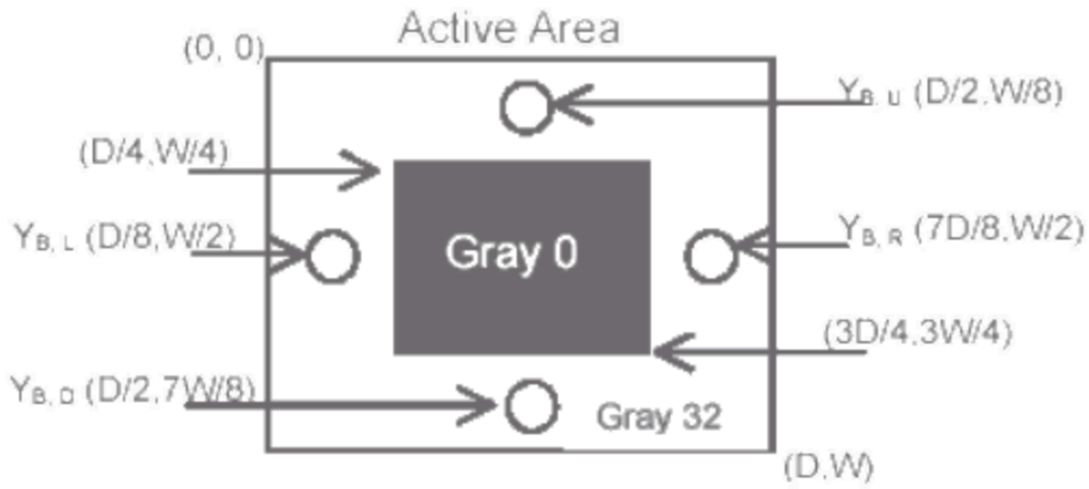
$$CT = | Y_B - Y_A | / Y_A \times 100\ (\%)$$

Where

Y_A = Luminance of measured location without gray level 0 pattern (cd/m2)

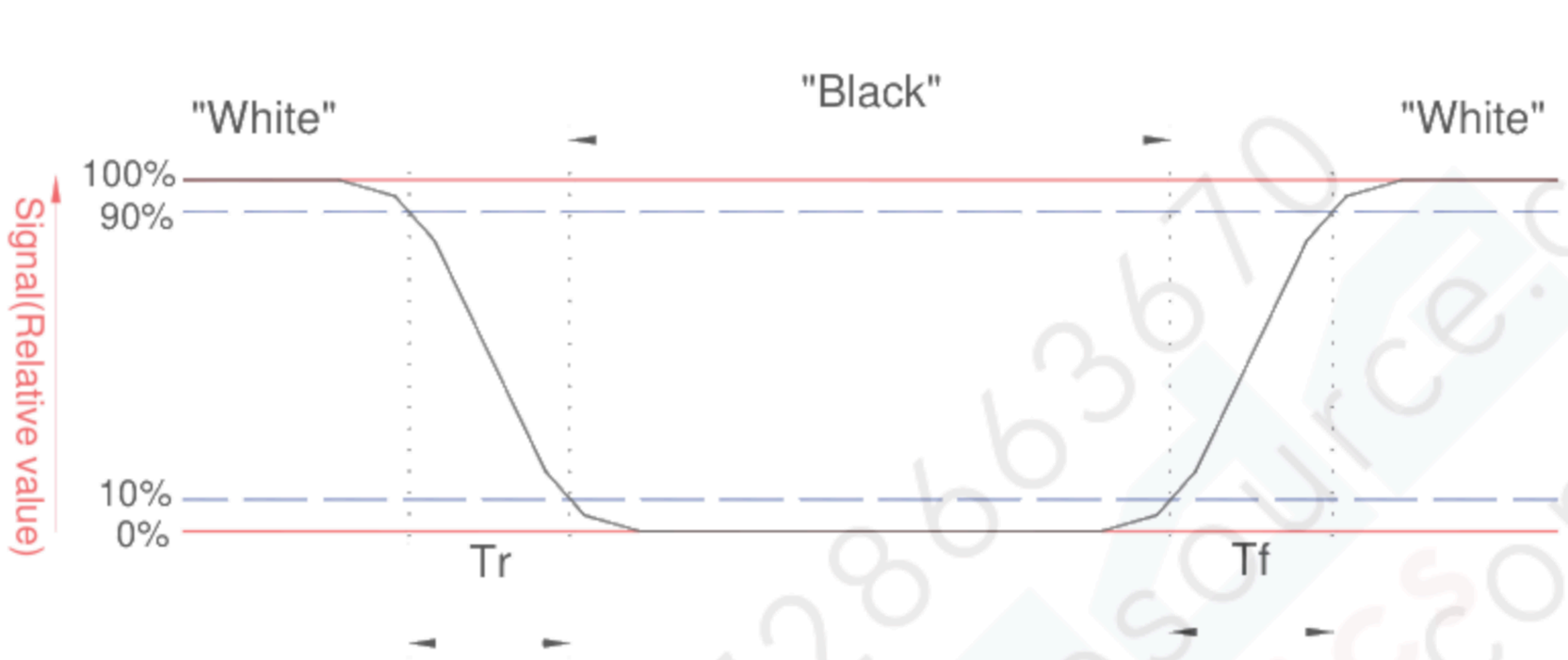
Y_B = Luminance of measured location with gray level 0 pattern (cd/m2)





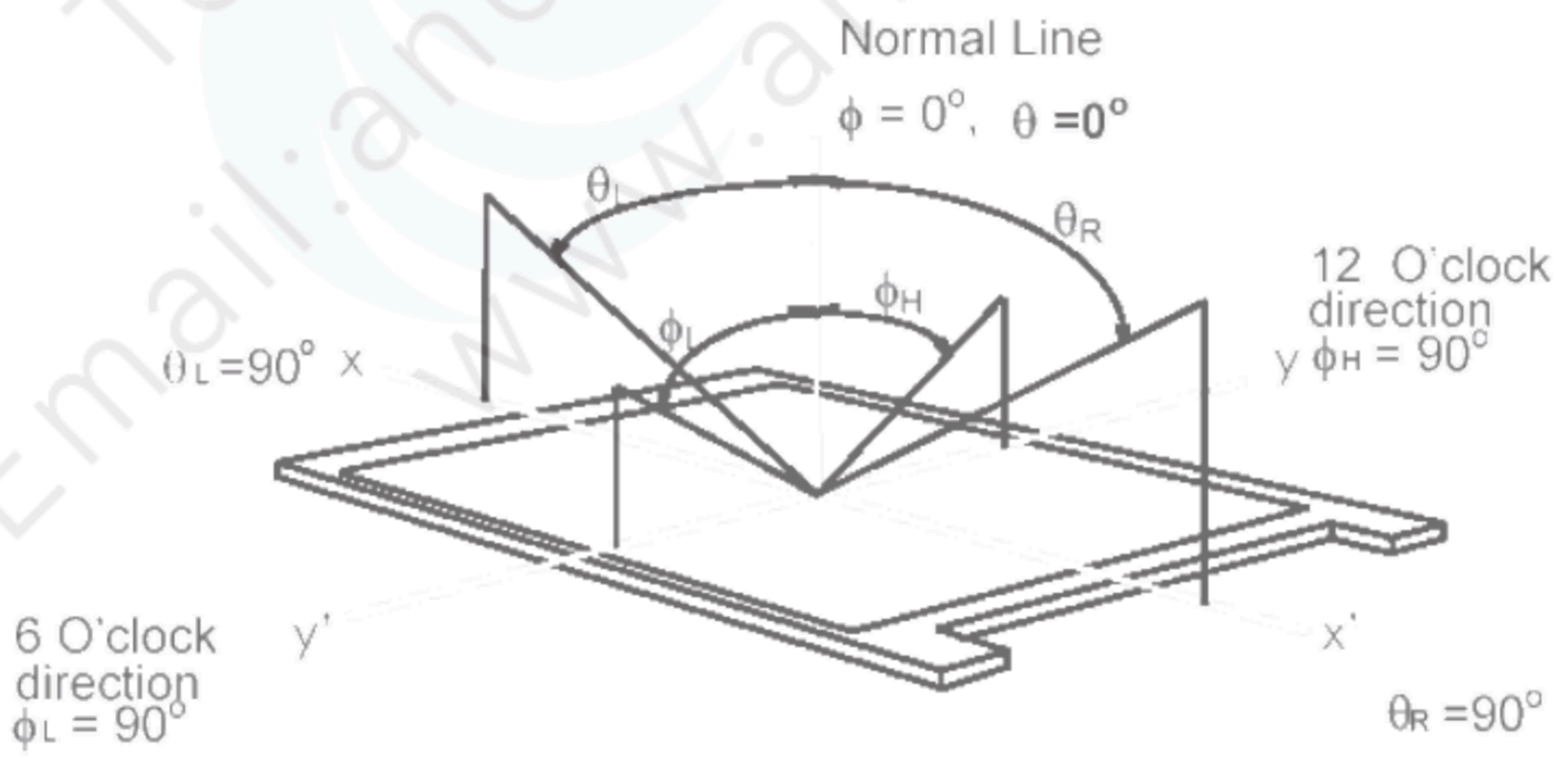
Note 3: Definition of response time:

The output signals of BM-7 or equivalent are measured when the input signals are changed from “Black” to “White” (falling time) and from “White” to “Black” (rising time), respectively. The response time is interval between the 10% and 90% of amplitudes. Refer to figure as below.



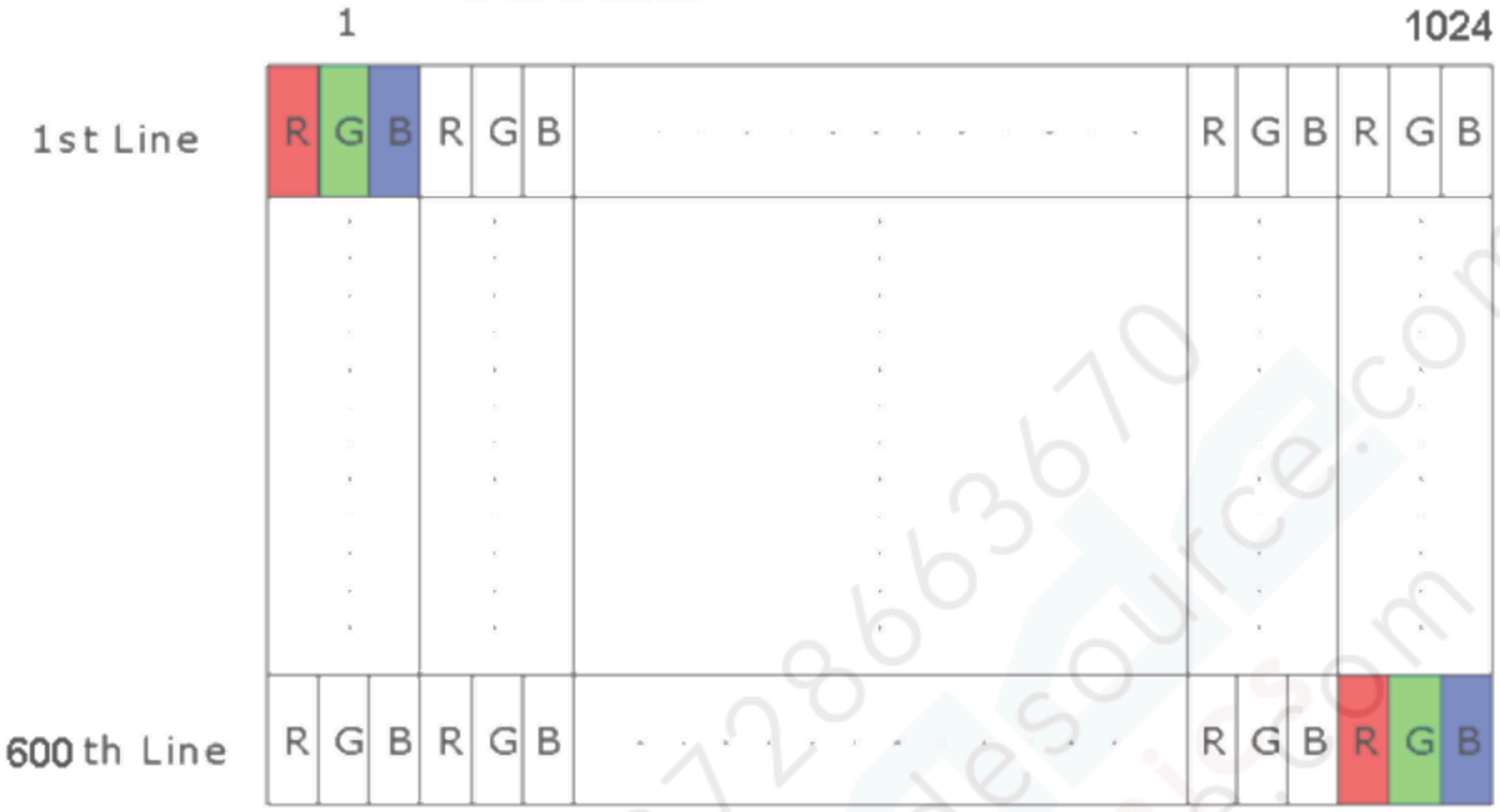
Note 4. Definition of viewing angle

Viewing angle is the measurement of contrast ratio ≧10, at the screen center, over a 180° horizontal and 180° vertical range (off-normal viewing angles). The 180° viewing angle range is broken down as follows; 90° (θ) horizontal left and right and 90° (Φ) vertical, high (up) and low (down). The measurement direction is typically perpendicular to the display surface with the screen rotated about its center to develop the desired measurement viewing angle.



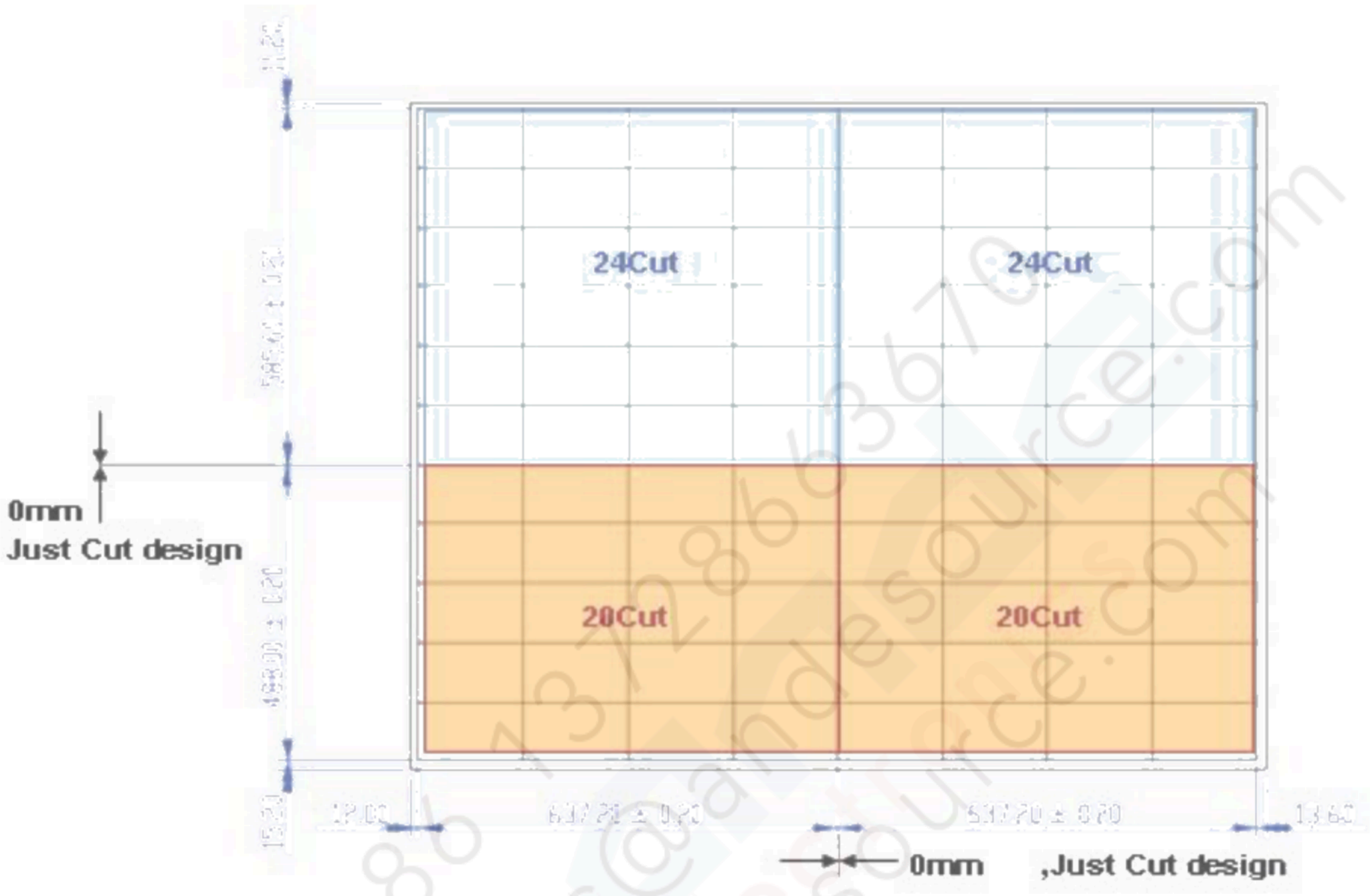
3. Pixel Format Image

Following figure shows the relationship of the input signals and LCD pixel format.

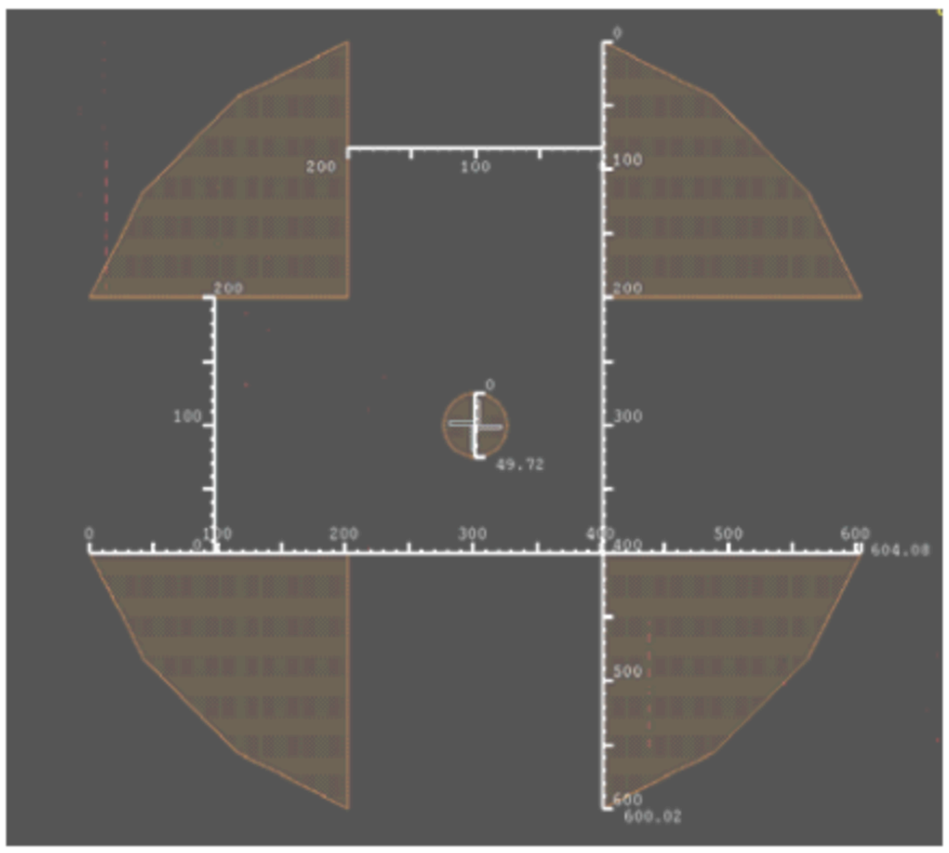


4.Mechanical specification

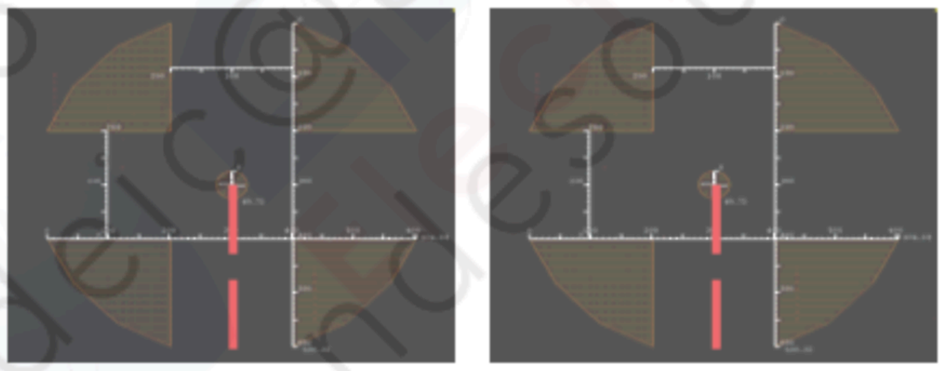
4.1 Outline Dimension of the sheet

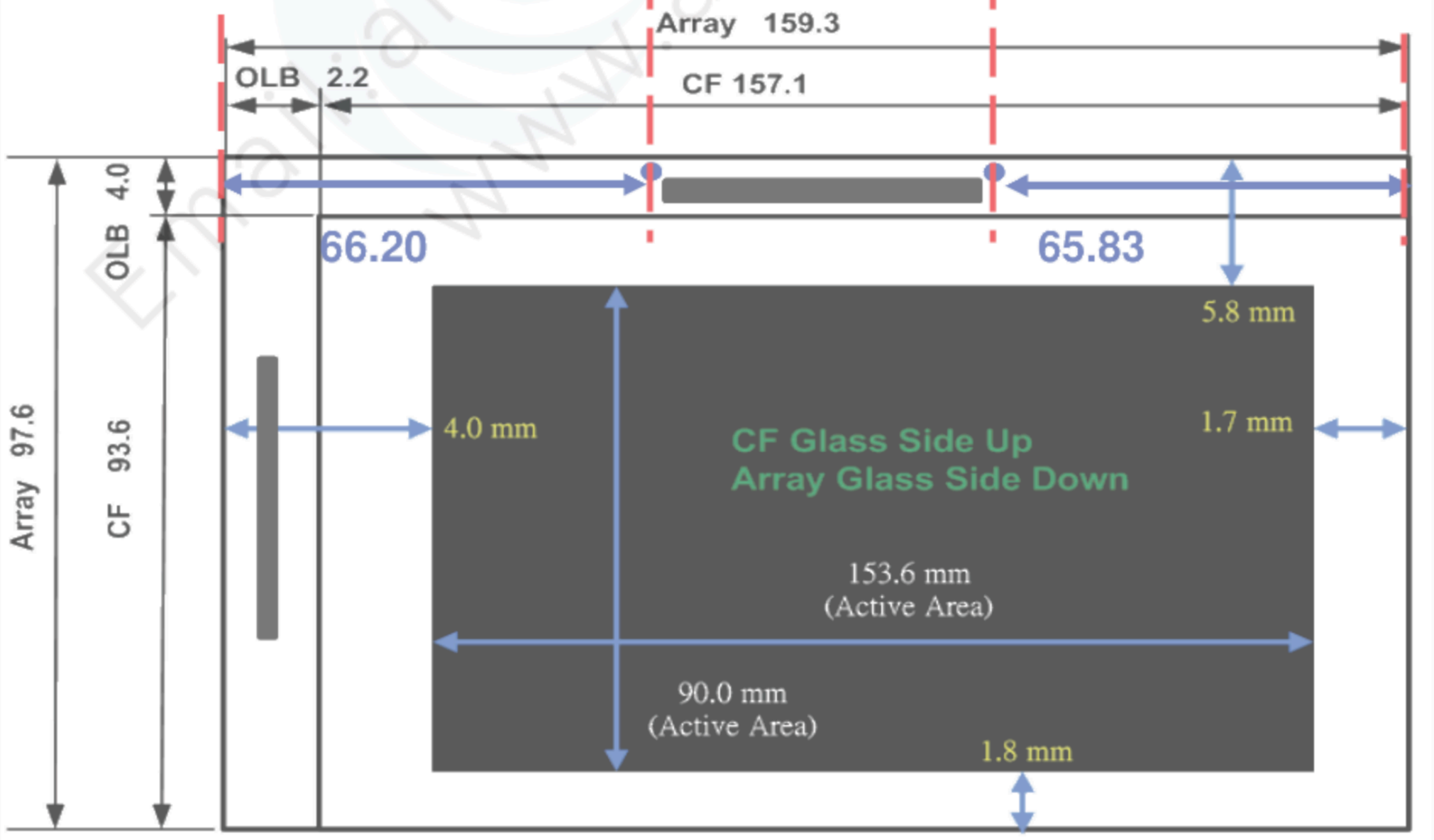


4.2 Test Pad

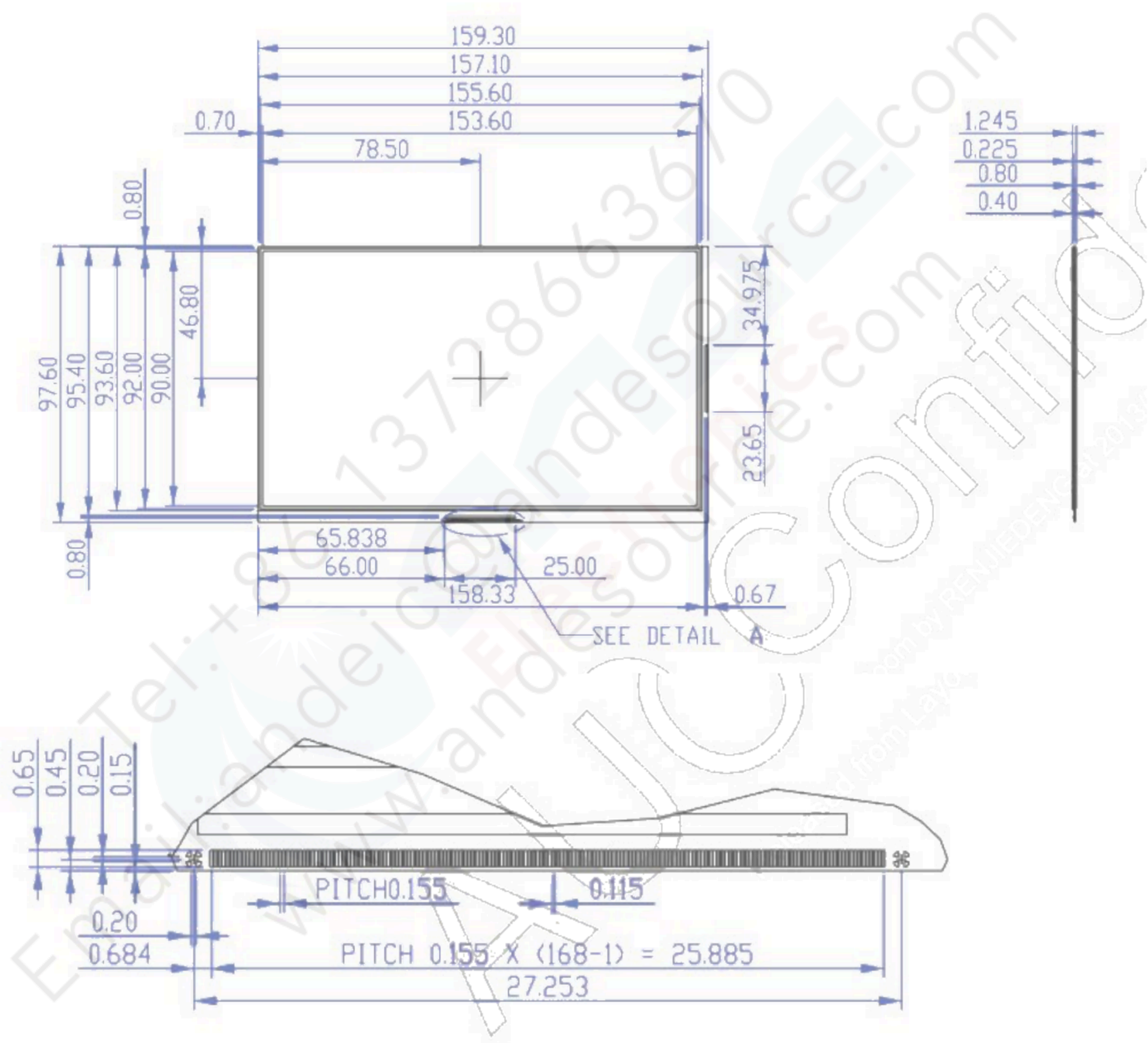


TFT to mark center





4.3 FPC Bonding Pad



5. Panel Reliability Test

Items	Required Condition	Note
Temperature Humidity Bias	Ta= 40℃, 90%RH, 120h	
High Temperature Operation	Ta= 60℃, 120h	
Low Temperature Operation	Ta= -20℃, 120h	
High Temperature Storage	Ta= 60℃, 120h	
Low Temperature Storage	Ta= -30℃, 120h	

6.Packing

TBD

7. FPC Pin Assignment

1	DUMMY	29	AVDD	57	AVDD
2	VCOM	30	AVDD	58	AGND
3	VCOM	31	DUMMY	59	AGND
4	DUMMY	32	GND	60	V14
5	COM2_IN	33	GND	61	V13
6	VCOMO	34	DUMMY	62	V12
7	DRVL_B	35	VDD	63	V11
8	DRVL	36	VDD	64	V10
9	DRVH	37	DUMMY	65	V9
10	DRVA	38	DUMMY	66	V8
11	AVDDG	39	UPDN	67	GAML
12	FBA	40	SHLR	68	D00
13	FBH	41	GRB	69	D01
14	FBL	42	STBYB	70	D02
15	PWR_EN	43	DLCKPOL	71	D03
16	VCOMI	44	DUMMY	72	D04
17	DUMMY	45	DUMMY	73	D05
18	DUMMY	46	BIST	74	D06
19	DUMMY	47	IFSEL	75	D07
20	DUMMY	48	MODE	76	D10
21	DUMMY	49	OPDRV	77	D11
22	DUMMY	50	CABA_EN[1]	78	D12
23	DUMMY	51	CABA_EN[0]	79	D13
24	DUMMY	52	VDD	80	D14
25	DUMMY	53	VDD	81	D15
26	AGND	54	GND	82	D16
27	AGND	55	GND	83	D17
28	DUMMY	56	AVDD	84	REV
85	VDD_LVDS	113	V2	141	VDD
86	VDD_LVDS	114	V1	142	GND
87	NINC	115	AGND	143	GND
88	DCLK	116	AGND	144	AVDD
89	DASHD	117	AVDD	145	AVDD
90	D20	118	AVDD	146	AGND
91	D21	119	GND	147	AGND

92	DASHD	120	GND	148	DUMMY
93	D22	121	VDD	149	DUMMY
94	D23	122	VDD	150	COM1_IN
95	DASHD	123	SCL	151	COM1_IN
96	D24	124	SDA	152	COM1_IN
97	D25	125	CSB	153	COM1_IN
98	DASHD	126	SEL[1]	154	VGH
99	D26	127	SEL[0]	155	VGH
100	D27	128	FRAME	156	VGH
101	GND_LVDS	129	DUMMY	157	VGL
102	GND_LVDS	130	DUMMY	158	VGL
103	DEN	131	HFRC	159	VGL
104	DASHD	132	DITHER	160	VDD
105	HSD	133	DIMO	161	VDD
106	VSD	134	PINCTL	162	VDD
107	GAMH	135	NBW	163	GND
108	V7	136	DIMI	164	GND
109	V6	137	DUMMY	165	GND
110	V5	138	DUMMY	166	DUMMY
111	V4	139	DUMMY	167	DUMMY
112	V3	140	VDD	168	DUMMY