



產 品 承 認 書

Specification for approval

Customer name :
 Product : 3.5" Sunlight readable LCD with Touch
 Model : TRIO-RTP4-035EDTF
 Type :
 Version : 1.1
 Date : 8 DEC,2010

Customer Approval

客戶承認欄

Date of Signature 承認日期：_____

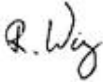

RayShine Photonics Corp.

Approved	Reviewed	prepared
Raymond	Lawrence	Paula

TRIO-RTP4-035EDTF

3.5" Sunlight Readable TFT LCD With Sunlight readable touch panel

Preliminary Specifications

Customer: MaxID Pty Ltd		
Date: 8 Dec, 2010		
Approved by	Checked by	Prepared by
		Paula
Doc.No.: TRIO-RTP4-035EDTF Version 1.1		

Specification Changing History

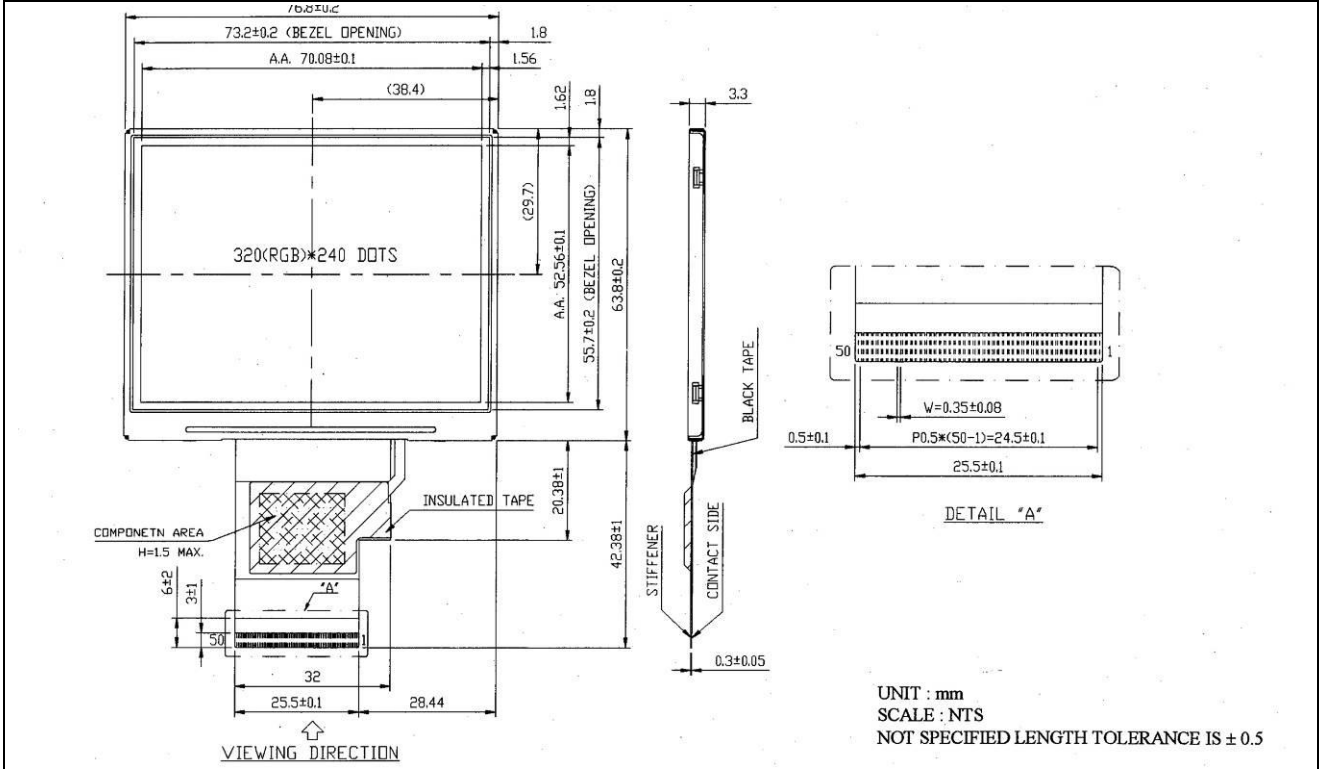
Date of Revision	Version	Model NO.	Revision	Remarks
11 Feb, 2009	1.0	-	Initial version	
8 DEC, 2010	1.1		Correct the Model NO from TRIO-RTP4-035EDTLY to TRIO-RTP4-035EDTF	

TABLE OF CONTENTS

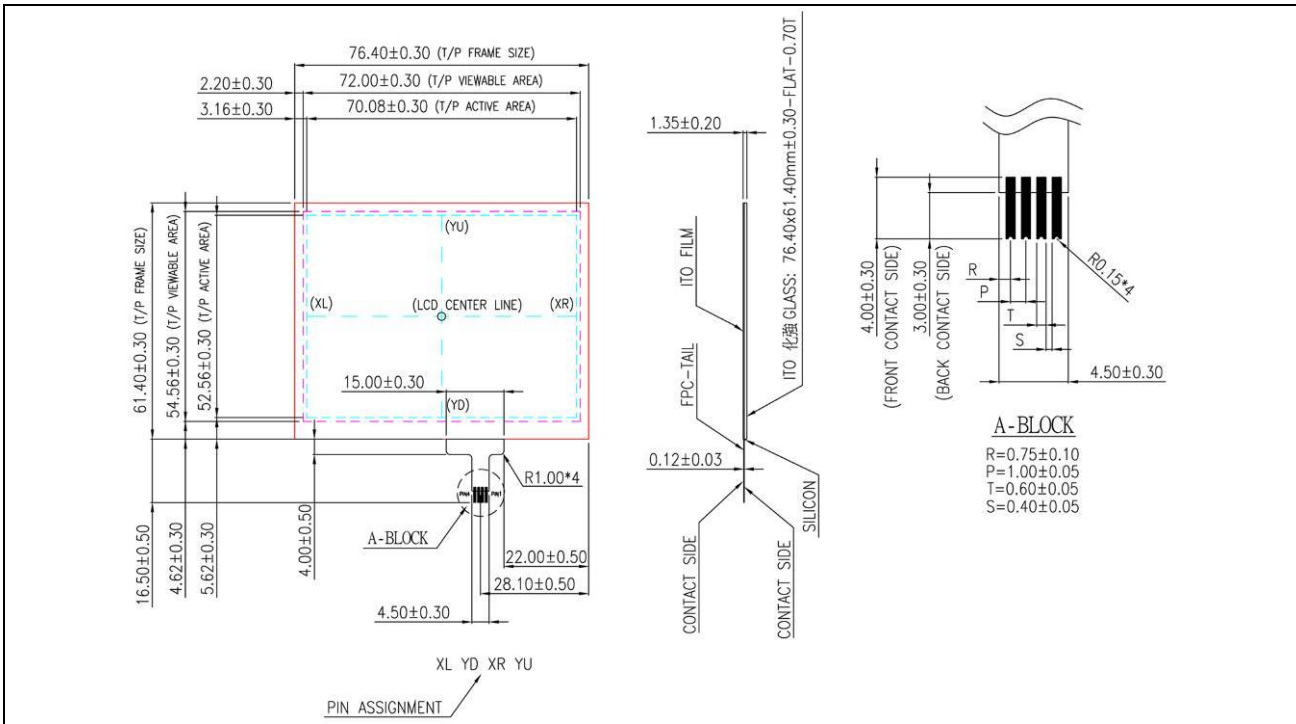
1. ENGINEERING DRAWING	page 5
1-1. LCD outline drawing	page 5
1-2. Touch outline drawing	page 5
2. CHARACTERISTIC OF RT-TRIULCD (THOUCH SCREEN)	page 6
2-1 Features	page 6
2-2 Dimensions	page 6
2-3 Environmental characteristics	page 6
2-4 Optical characteristics	page 6
2-5 Electrical characteristics	page 7
2-6 Mechanical characteristics	page 7
2-7 Reliability	page 7
2-8 Durability	page 7
2-9 Linearity Inspection Method	page 8
2-10 Appearance Inspections	page 8
2-11 Installation Guide	page 9
2-12 Warranty	page 10
2-13 Durability Testing Method	page 11
3. CHARACTERISTIC OF TRIO-LCD	page 12
3-1 General Specification	page 12
3-2 Optical Characteristics(without brightness Characteristics)	page 12
3-3 Electrical Specification	page 13
3-4 Pin description	page 13
3-5 Brightness and Sunlight readable solution	page 14
APPENDIX I : LCD Inspection Criterias	page 16

1. Engineering Drawing

1-1 LCD Outline Drawing



1-2 Touch Outline Drawing





2. CHARACTERISTIC OF RT-TRIO LCD (TOUCH SCREEN)

2-1. FEATURES

Type	Low Reflectance Sunlight Readable Touch Screen (Patent): Four-Wire Analog Resistive Touch
ITO/GLASS	0.7mm ;Chemical Strengthened
Input Mode	Stylus or Finger
Connector	FPC

2-2. DIMENSIONS (unit: mm)

- (1) Frame Size : 76.40±0.30 x 61.40±0.30
- (2) View Area : 72.00±0.30 x 54.56±0.30
- (3) Active Area : 70.08±0.30 x 52.56±0.30
- (4) Total Thickness : 1.35±0.20
- (5) Tail Length_h : 16.5±0.50

2-3. ENVIRONMENTAL CHARACTERISTICS

	Status	Temperature
(1)	Operation	-10℃~60℃
(2)	Storage	-30~75℃

Note: The environment is of normal atmosphere pressure.

2-4. OPTICAL CHARACTERISTICS

	Item	Specification
(1)	Light transmission/ Transparency	≥72±2% (At 550 nm wavelength and Combine with TRIO LCD)
(2)	Reflectance	<2% for Low R; < 6% for Medium R(At 550 nm wavelength)

**2-5. ELECTRICAL CHARACTERISTICS**

Item		Specification
(1)	Terminal Resistance	XL-XR : 400~1200Ω · YU-YD : 50~700Ω
(2)	Linearity Tolerance	≤2.0 % (Test method reference item 9 on Page 7)
(3)	Operation Voltage	5VDC
(4)	Insulation	≥ 10MΩ, 25VDC
(5)	Operative Resistance	≤ 2KΩ

2-6. MECHANICAL CHARACTERISTICS

Item		Condition	Specification
(1)	Activation Force	Stylus R0.8	Avg: 5~50g
(2)	Impact	Φ22.0mm Steel Ball, 45g, Height=30cm	1 time, no damage (Impact at center area)
(3)	Hardness	3H	JIS with 500 g force

2-7. RELIABILITY

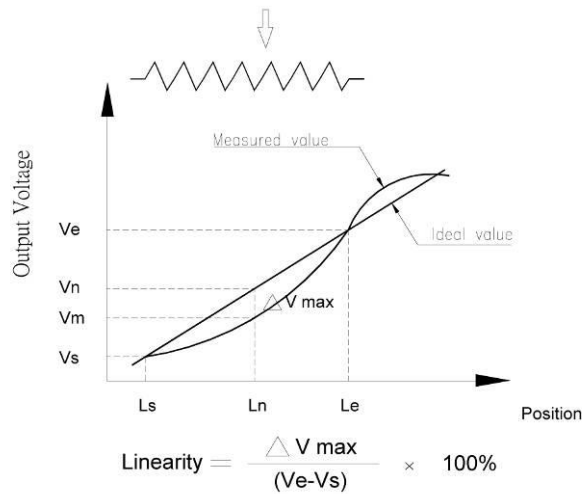
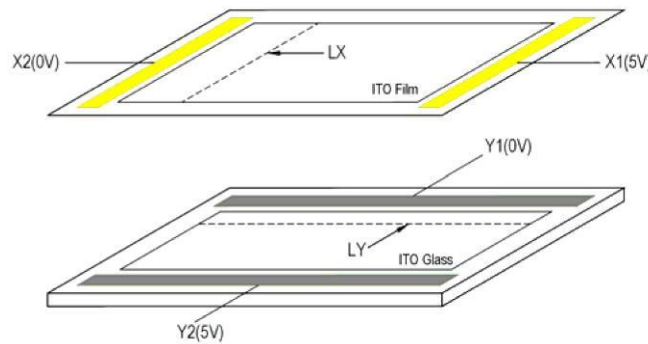
Item		Condition	Specification
(1)	Constant Temperature and Humidity	60°C, 95%RH, 240 hrs and normalized for 4 hrs	After the reliability test, the Film layer may have the condition of bubble ; but the electrical characteristics till satisfy (1)of item 4; (1),(2),(4) of item 5
(2)	Heat Cycle	80°C, 240 hrs and normalized for 4 hrs	
(3)	Cold Cycle	-40°C, 240 hrs and normalized for 4 hr	
(4)	Thermal Cycle	-40~80°C, 0.5hr each, 10 cycles and normalized for 4 hrs	

2-8. DURABILITY

Item		Condition	Specification
(1)	Finger Touch	1 Million times, R8, Silicon Rubber	Satisfy (1),(2),(4) of item 5
(2)	Pen Sliding	100,000 times, R0.8, Stylus	Satisfy (1),(2),(4) of item 5

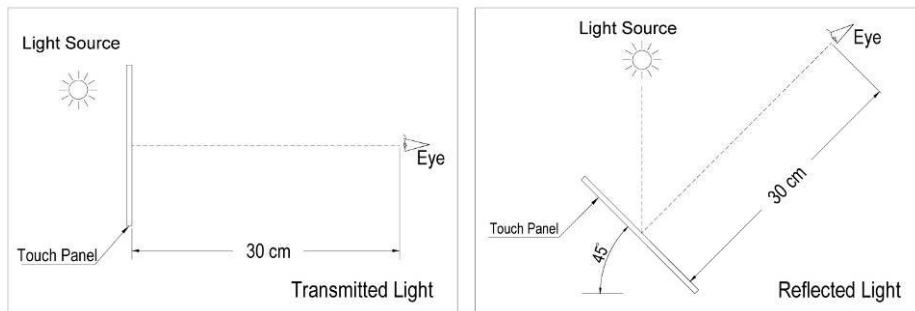
2-9. LINEARITY INSPECTION METHOD

Voltage (DC 5V) is applied to X1 or Y2 and ground (0V) is applied to X2 or Y1. Use stylus to draw straight lines (LX and LY) at 5 mm intervals within active area and detect the voltage at Y2 or X1 to Measure the voltage differences between X1 and X2 or Y1 and Y2.



2-10. APPEARANCE INSPECTIONS

- (1) The flaws and impurities are allowed outside viewing area except for those affecting electrical functions.
- (2) The inspection shall be performed by using one 1200±200LUX fluorescent lamp as back or side light. The panel shall be placed at 30cm away from eyes as shown below.



(3) Glass flaw

Corner flaw		Please refer to page 12, item 14
Edge flaw		Please refer to page 12, item 14
Progressive flaw		Not allowed

T=Glass thickness

2-11. INSTALLATION GUIDE

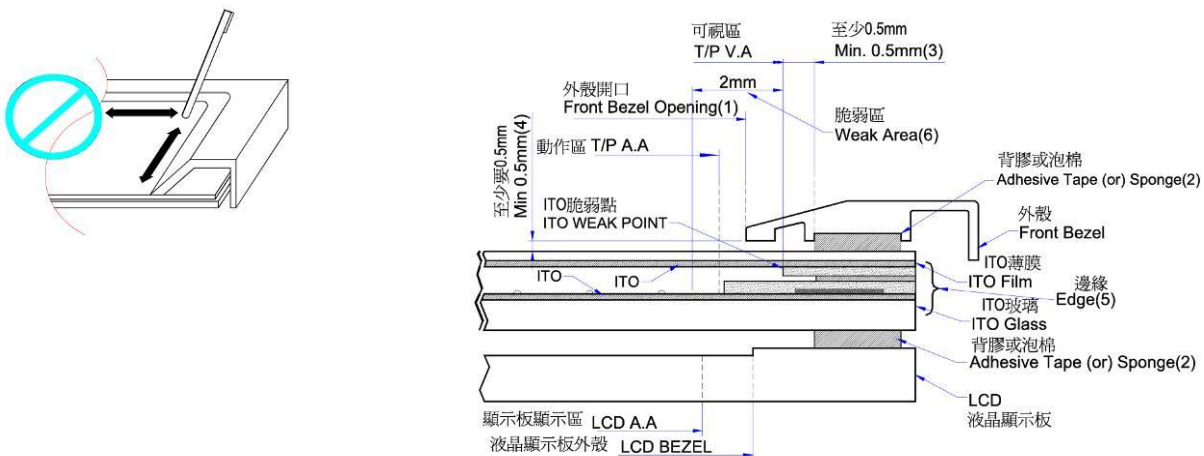
- (1) Front Bezel Opening must be located between View Area and Active Area.
- (2) Elastic materials are recommended as supports to fix the Touch Panel.
- (3) Support materials must be designed out of the Silver Bar.
- (4) Front Bezel Opening must be designed with enough gap to the Touch Panel surface in any conditions.
- (5) After mounting, avoid direct metal contact with edges of the Touch Panel.

*(6) The area between the View Area and Active Area is Anti-input Area and also Weak Area.

It is absolutely forbidden to draw lines along the edge of the Bezel Opening in the Weak Area because it will cause ITO layer to damage and failure of the Touch Panel.

*(7) If the applications of customer need to draw lines along the edges, please contact RayShine's engineer to discuss the design of the Front Bezel.

*(8) This installation guide is only for customer reference.



*Note: Please take attention seriously on items (6), (7) and (8).

2-12. WARRANTY

With the exceptions listed below, all RayShine's products are guaranteed free of manufacturing defects for a period of up to one year. All defected products will be repaired or exchanged free of charge if determined to be the responsibility of RayShine. RayShine reserves the sole discretion in determining the causes and the responsibilities of any defects or damages. For details, please refer to RayShine's "Product Warrant Policy".

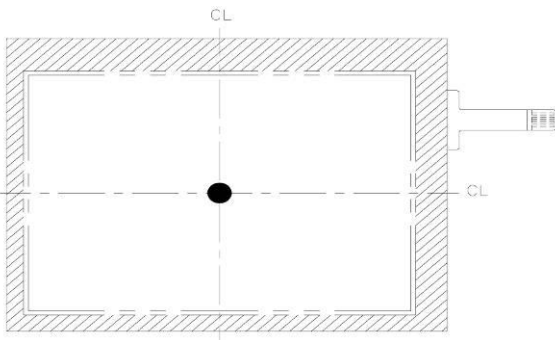
List of Exceptions:

1. Damages caused by improper handling of clients, including and not limited to, during shipping or manufacturing processes.
2. Damages caused by disasters, either by natural causes or human factors, after the delivery of products.
3. Any repairs, modifications or disassembling of RayShine's products without prior notification to and the consent of RayShine.

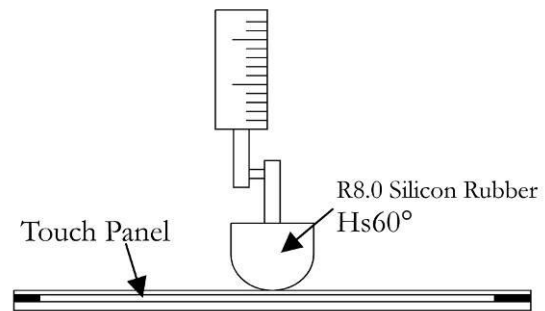
2-13. DURABILITY TESTING METHOD

1. Finger Touch:

- Test Position: Center of Active Area (Fig. 1)
- Test Pen R8.0 Silicon Rubber Hs50~60°. (Fig .2)
- Test method: Knock at the single point



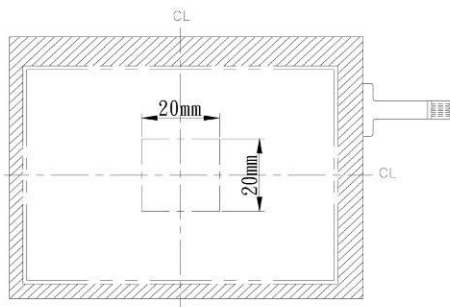
[Fig.1]



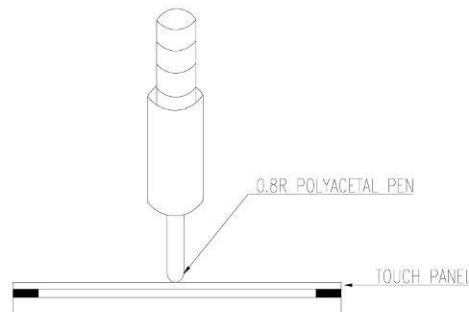
[Fig.2]

2. Pen Sliding:

- Test Position: Center of Active Area, 40mm×40mm. (Fig 3)
- Test Pen R0.8 polyacetal Stylus. (Fig .4)
- Test Method: Write in active area.



[Fig. 3]



[Fig. 4]

**3.CHARACTERISTICS OF TRIO-LCD 【EDT ET035009DM6(RoHS) Version1 Jun 22, 2007】****3-1 General Specification**

Module Size	76.8 (W) x 63.8 (H) x 3.3 (D) mm
Effective Display Area	70.08 (H) x 52.56 (W) mm
Driver Element	a-si TFT Active Matrix
Dor Number	320(W)×RGB×240(H) Dots
Dot Pitch	0.073(W)×0.219(H)mm
Interface Mode	NA
Pixel Arrangement	Stripe
Display Colors	262K(24 BIT) colors
Surface Treatment	High Efficiency AR coating (Haze <15)
Operating Temp	-20 °C - 70 °C
Storage Temp	-30 °C - 80 °C
Weight	NA
RoHS Compliant	RoHS Compliance

3-2 Optical Characteristics (Without brightness characteristics)

		Symbol	Min	Typ	Max	Unit
Contrast Ratio		CR	350	450		
Response Time (Rise)		Tr		15	20	msec
(Decay)		Tf		35	50	msec
Viewing Angle (CR≥10)	X Axis, Right	x+	70	75		deg.
	X Axis, Left	x-	70	75		deg.
	Y Axis, Up	y+	50	55		deg.
	Y Axis, Down	y-	70	75		deg.

3-3 Electrical Specification

Part	Item	Symbol	Value			Unit
			Min	Typ	Max	
Backlight	LED Input Voltage	VDD	19.2	20.4	21.6	V
	LED Current	IDD		20	20	mA
	LED p on Voltage (25°C)	V				Vrms
	LED on Voltage (0°C)	V				Vrms
	Operating Frequency	FL				KHz
	Lamp Life Time	T		30,000	40,000	hours
	Power Consumption	P _w				W
Module	Power Supply Voltage	VCC	3	3.3	3.6	V
	Power Supply Current	I _{cc}		1	2	mA
	Ripple Voltage	V _{pp}				mVp-p

3-4. Pin Description

Pin	Symbol	Description
1~2	VBL-	BACKLIGHT LED GROUND(K)
3~4	VBL+	BACKLIGHT LED POWER(A)
5	NC	NOT USE
6	/RESET	HARDWARE RESET
7	CSB	SPI INTERFACE CHIP SELECT BAR
8	SCK	SPI INTERFACE DATA CLOCK
9	SDI	SPI INTERFACE DATA (INPUT)
10	SDO	SPI INTERFACE DATA (OUTPUT)
11~18	B7~B0	BLUE DATA BIT 7~0
19~26	G7~G0	GREEN DATA BIT 7~0
27~34	R7~R0	RED DATA BIT 7~0
35	DCLK	DOT DATA CLOCK
36	HSYNC	HORIZONTAL SYNC INPUT
37	VSYNC	VERTICAL SYNC INPUT
38	ENB	DATA ENABLE INPUT

39~40	VDD	ANALOG POWER
41~42	VCC	DIGITAL POWER
43	NC	NO USE
44	NC	NO USE
45	NC	NO USE
46	NC	NO USE
47	SHUT	DISPLAY SHUT DOWN TO PUT THE DRIVER INTO SLEEP MODE. CONNECT TO VCC FOR SLEEP MODE. CONNECT TO VSS FOR NORMAL OPERATION MODE.
48	NC	NOT USE
49~50	VSS	GROUND

3-5. Brightness and Sunlight readable solution

Brightness	Symbol	Min	Typ	Max	Unit	Note
TRIO-LCD	B _{white}	360	460		cd/m ²	(1)
RT-TRIO	B _{white}	273	350		cd/m ²	(2)
Outdoor Readability		Outdoor Readability			Unit	Note
RT-TRIO Typ. Brightness	Ambient light (3)					
	Measuring angle	10,000	20,000	30,000	cd/m ²	
Brightness (min)	35°	450	550	650	cd/m ²	a.)
Brightness (max)	35°	550	750	950	cd/m ²	b.)
Reflectance (%)	35°	1~2			%	(4)

Note:

(1)

a.) Measurement Setup:

The sunlight readable LCD module should be stabilized at given temperature for 1 hour to avoid abrupt temperature change during measuring. In order to stabilize the luminance, the measurement should be executed after lighting Backlight for 1 hour in a windless

Address: No.15, 4F-2, Beihuan Rd., Tanzih Township, Taichung County, Taiwan TEL:886-4-25318822

room.

b.) TRIO-LCD Typ. Brightness= EDT LCD Standard Brightness × Brightness increasing rate

(2) RT-TRIO Typ. Brightness= TRIO-LCD Typ. Brightness × Transmission Rate

(3) Ambient light=Equivalent brightness under sunlight

(4) According to RayShine Photonics' Sunlight readable LCD reflectance of ambient light is 1%~2% , we infer the brightness of LCD under different ambient light from the reflectance.

a.)

The Brightness (min.)	= (Ambient light × 1 %) + RT-TRIO Typ. Brightness
-----------------------	--

b.)

The Brightness (max.)	= (Ambient light × 2 %) + RT-TRIO Typ. Brightness
-----------------------	--

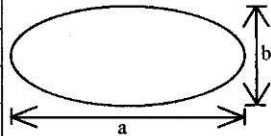
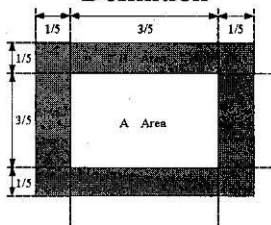


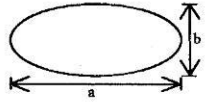
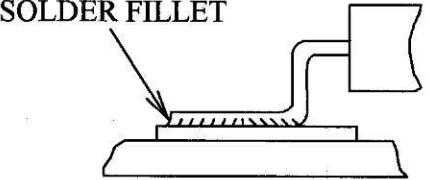
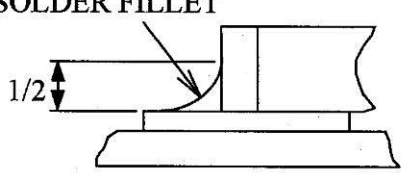
APPENDIX I : LCD Inspection Criterias

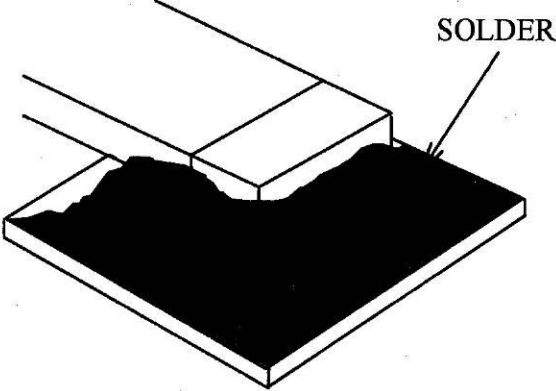
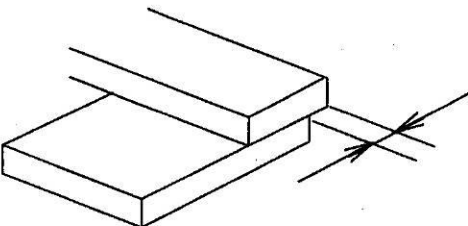
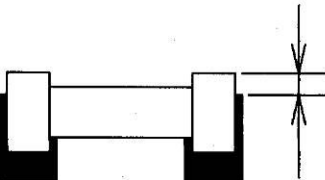
1. VISUAL DEFECTS CLASSIFICATION

TYPE OF DEFECT	INSPECTION ITEM	DEFECT FEATURE	AQL
MAJOR DEFECT	1.DISPLAY ON	<ul style="list-style-type: none"> • DEFECT TO MISS SPECIFIED DISPLAY FUNCTION, FOR ALL AND SPECIFIED DOTS EX: DISCONNECTION, SHORT CIRCUIT ETC 	0.65
	2.BACKLIGHT	<ul style="list-style-type: none"> • NO LIGHT • FLICKERING AND OTHER ABNORMAL ILLUMINATION 	
	3.DIMENSIONS	<ul style="list-style-type: none"> • SUBJECT TO INDIVIDUAL ACCEPTANCE SPECIFICATIONS 	
MINOR DEFECT	1.DISPLAY ZONE	<ul style="list-style-type: none"> • BLACK/WHITE SPOT • BUBBLES ON POLARIZER • NEWTON RING • BLACK/WHITE LINE • SCRATCH • CONTAMINATION • LEVER COLOR SPREED 	1.0
	2.BEZEL ZONE	<ul style="list-style-type: none"> • STAINS • SCRATCHES • FOREIGN MATTER 	
	3.SOLDERING	<ul style="list-style-type: none"> • INSUFFICIENT SOLDER • SOLDERED IN INCORRECT POSITION • CONVEX SOLDERING SPOT • SOLDER BALLS • SOLDER SCRAPS 	
	4.DISPLAY ON (ALL ON)	<ul style="list-style-type: none"> • LIGHT LINE 	

2. MODULE DEFECTS CLASSIFICATION

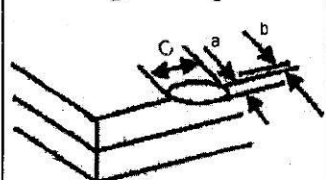
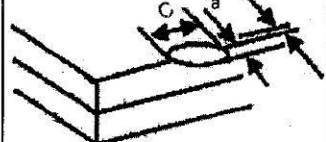
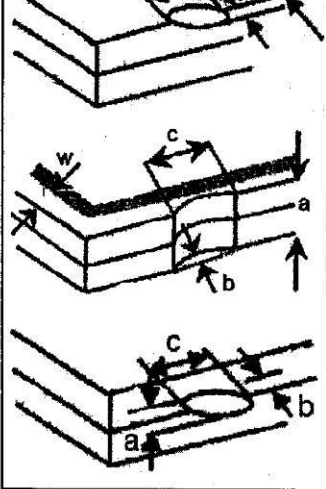
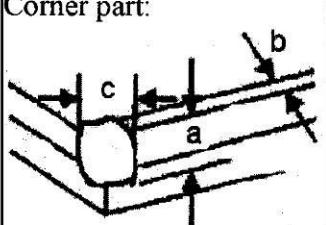
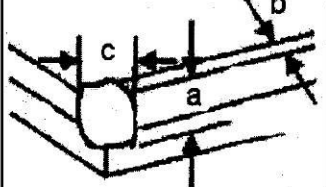
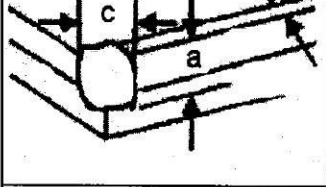
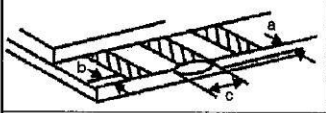

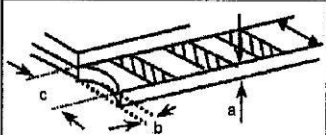
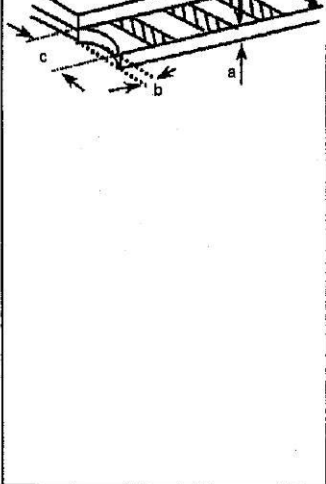
NO.	ITEM	CRITERIA																				
1.	DISPLAY ON INSPECTION	(1)INCORRECT PATTERN (2)MISSING SEGMENT (3)DIM SEGMENT (4)OPERATING VOLTAGE BEYOND SPEC																				
2.	OVERALL DIMENSIONS	(1)OVERALL DIMENSION BEYOND SPEC																				
3.	BLACK SPOTS, FOREIGN MATTER, AND WHITE SPOTS (INCLUDING LIGHT LEAKAGE DUE TO POLARIZING PLATES PINHOLES, ETC.)	<p>(1) SPOTS</p> <table border="1"> <thead> <tr> <th>AVERAGE DIAMETER (mm): D</th> <th>NUMBER OF PIECES PERMITTED</th> <th>MINIMUM SPACE</th> </tr> </thead> <tbody> <tr> <td>$D \leq 0.2$</td> <td>IGNORE</td> <td>—</td> </tr> <tr> <td>$0.2 < D \leq 0.4$</td> <td>5</td> <td>10 mm</td> </tr> <tr> <td>$0.4 < D$</td> <td>0</td> <td></td> </tr> </tbody> </table> <p>NUMBER OF TOTAL PIECES IS TO BE SET WITHIN 5 PIECES. NOTE : THAT WHEN THERE ARE 2 PIECES OR MORE, THEY ARE NOT TO BE CONSIDERED AS CONCENTRATED.</p> <p>(2) BLURRY SPOTS (WHEN FULLY POWERED-ON)</p> <table border="1"> <thead> <tr> <th>AVERAGE DIAMETER (mm): D</th> <th>NUMBER OF PIECES PERMITTED</th> </tr> </thead> <tbody> <tr> <td>$D \leq 0.3$</td> <td>IGNORE</td> </tr> <tr> <td>$0.3 < D \leq 0.75$</td> <td>5</td> </tr> <tr> <td>$0.75 < D$</td> <td>0</td> </tr> </tbody> </table> <p>Note : Diameter $D = (a+b)/2$</p>  <p>NUMBER OF TOTAL PIFCES IS TO BE SET WITHIN 5 PIECES. NOTE : THAT WHEN THERE ARE 2 PIECES OR MORE, THEY ARE NOT TO BE CONSIDERED AS CONCENTRATED.</p>	AVERAGE DIAMETER (mm): D	NUMBER OF PIECES PERMITTED	MINIMUM SPACE	$D \leq 0.2$	IGNORE	—	$0.2 < D \leq 0.4$	5	10 mm	$0.4 < D$	0		AVERAGE DIAMETER (mm): D	NUMBER OF PIECES PERMITTED	$D \leq 0.3$	IGNORE	$0.3 < D \leq 0.75$	5	$0.75 < D$	0
AVERAGE DIAMETER (mm): D	NUMBER OF PIECES PERMITTED	MINIMUM SPACE																				
$D \leq 0.2$	IGNORE	—																				
$0.2 < D \leq 0.4$	5	10 mm																				
$0.4 < D$	0																					
AVERAGE DIAMETER (mm): D	NUMBER OF PIECES PERMITTED																					
$D \leq 0.3$	IGNORE																					
$0.3 < D \leq 0.75$	5																					
$0.75 < D$	0																					
4.	BLACK LINE WHITE LINE NON-DISPLAY	(1)THE BLACK LINE, WHITE LINE ARE WITHIN THE VIEWING AREA. IT IS NOT ALLOW.																				
5.	BLACK LINE WHITE LINE ON-DISPLAY	<p>(1) THE FOLLOWING BLACK LINE , WHITE LINE ARE WITHIN THE VIEWING AREA. WIDTH :Wmm , LENGH :Lmm</p> <table border="1"> <thead> <tr> <th>LENGTH : L</th> <th>WIDTH : W</th> <th>PERMISSIBLE NO.</th> </tr> </thead> <tbody> <tr> <td>$L \leq 0.5$</td> <td>$W \leq 0.1$</td> <td>IGNORE</td> </tr> <tr> <td>$0.5 < L \leq 2.5$</td> <td>$0.1 < W \leq 0.3$</td> <td>4</td> </tr> <tr> <td>$2.5 < L$</td> <td>$0.3 \leq W$</td> <td>NONE</td> </tr> </tbody> </table>	LENGTH : L	WIDTH : W	PERMISSIBLE NO.	$L \leq 0.5$	$W \leq 0.1$	IGNORE	$0.5 < L \leq 2.5$	$0.1 < W \leq 0.3$	4	$2.5 < L$	$0.3 \leq W$	NONE								
LENGTH : L	WIDTH : W	PERMISSIBLE NO.																				
$L \leq 0.5$	$W \leq 0.1$	IGNORE																				
$0.5 < L \leq 2.5$	$0.1 < W \leq 0.3$	4																				
$2.5 < L$	$0.3 \leq W$	NONE																				
6.	SCRATCHES AND DENT ON GLASS POLARIZER	(1) PLS REFER TO THE ABOVE NO.3 AND 4 TO DETERMINE SCRATCHES AND DENT ON POLARIZER OR GLASS																				
7.	DOT DEFECT ON DISPLAY	<table border="1"> <thead> <tr> <th colspan="4">Judgment Criteria</th> </tr> <tr> <th>Area</th> <th>Bright Dot</th> <th>Dark Dot</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>3</td> <td>3</td> <td>4</td> </tr> <tr> <td>B</td> <td>5</td> <td>5</td> <td>5</td> </tr> </tbody> </table> <p>(1)It is defined as Point Defect if defect area>0.5dot (2)It is ignored if defect area≤0.5dot (3)Weak point defect will be defined as Bright Dot if it can be observed through ND filter 6% (4)The distance between 2 dot defect≥5mm (5)Not Allowed Joint point defect</p> <p>Note : A/B Area Definition</p> 	Judgment Criteria				Area	Bright Dot	Dark Dot	Total	A	3	3	4	B	5	5	5				
Judgment Criteria																						
Area	Bright Dot	Dark Dot	Total																			
A	3	3	4																			
B	5	5	5																			

NO.	ITEM	CRITERIA								
8	LINE DEFECT ON DISPLAY	OBVIOUS VERTICAL OR HORIZONTAL LINE DEFECT IS NOT ALLOW								
9	MURA ON DISPLAY	IT'S OK IF MURA IS SLIGHT VISIBLE THROUNG 6% ND FILTER								
10	CF FAIL/SPOT ON DISPLAY	<p>(1)THE FOLLOWING CF FAIL , SPOT ARE WITHIN THE VIEWING AREA</p> <table border="1" data-bbox="539 607 1050 763"> <thead> <tr> <th data-bbox="539 607 794 645">SIZE D</th> <th data-bbox="794 607 1050 645">PERMISSIBLE NO.</th> </tr> </thead> <tbody> <tr> <td data-bbox="539 645 794 683">$D \leq 0.15\text{mm}$</td> <td data-bbox="794 645 1050 683">IGNORED</td> </tr> <tr> <td data-bbox="539 683 794 721">$0.15\text{mm} < D \leq 0.2\text{mm}$</td> <td data-bbox="794 683 1050 721">$N \leq 2$</td> </tr> <tr> <td data-bbox="539 721 794 763">$D > 0.2\text{mm}$</td> <td data-bbox="794 721 1050 763">NOT ALLOWED</td> </tr> </tbody> </table> <p>Note : Diameter $D=(a+b)/2$</p> 	SIZE D	PERMISSIBLE NO.	$D \leq 0.15\text{mm}$	IGNORED	$0.15\text{mm} < D \leq 0.2\text{mm}$	$N \leq 2$	$D > 0.2\text{mm}$	NOT ALLOWED
SIZE D	PERMISSIBLE NO.									
$D \leq 0.15\text{mm}$	IGNORED									
$0.15\text{mm} < D \leq 0.2\text{mm}$	$N \leq 2$									
$D > 0.2\text{mm}$	NOT ALLOWED									
11	UNEVEN COLOR SPREAD , COLORATION	(1)TO BE DETERMINED BASED UPON THE STANDARD SAMPLE.								
12	BEZEL APPEARANCE	<p>(1)BEZEL MAY NOT HAVE RUST, E DEFORMED OR HAVE FINGER PRINTS STAINS OF OTHER CONTAMINATION.</p> <p>(2)BEZEL MUST COMPLY WITH JOB SPECIFICATIONS.</p>								
13	SOLDERING	<p>(1)NO SOLDERING FOUND ON THE SPECIFIED PLACE</p> <p>(2)INSUFFICIENT SOLDER</p> <p>(a)LSI, IC A POOR WETTING OF SOLDER IS BETWEEN LOWER BEND OR "HEEL" OF LEAD AND PAD</p>  <p>(b)CHIP COMPONENT · SOLDER IS LESS THAN 50% OF SIDES AND FRONT FACE WETTING</p> 								

NO.	ITEM	CRITERIA
13.	SOLDERING	<ul style="list-style-type: none"> • SOLDER WETS 3 SIDES OF TERMINAL, BUT LESS THAN 25% OF SIDES AND FRONT SURFACE AREA ARE COVERED  <p>(3) PARTS ALIGNMENT</p> <p>(a) LSI, IC LEAD WIDTH IS MORE THAN 50% BEYOND PAD OUTLINE</p>  <p>(b) CHIP COMPONENT COMPONENT IS OFF CENTER, AND MORE THAN 50% OF THE LEADS IS OFF THE PAD OUTLINE</p> 



NO.	ITEM	CRITERIA
13.	SOLDERING	(4)NO UNMELTED SOLDER PASTE MAY BE PRESENT ON THE PCB. (5)NO COLD SOLDER JOINTS, MISSING SOLDER CONNECTIONS, OXIDATION OR ICICLE. (6)NO RESIDUE OR SOLDER BALLS ON PCB. (7)NO SHORT CIRCUITS IN COMPONENTS ON PCB.
14.	BACKLIGHT	(1)NO LIGHT (2)FLICKERING AND OTHER ABNORMAL ILLUMINATION (3)SPOTS OR SCRATCHES THAT APPEAR WHEN LIT MUST BE JUDGED USING LCD SPOT, LINES AND CONTAMINATION STANDARDS. (4)BACKLIGHT DOESN'T LIGHT OR COLOR IS WRONG.
15.	GENERAL APPEARANCE	(1)NO OXIDATION,CONTAMINATION, URVES OR,BENDS ON INTERFACE PIN (OLB) OF TCP. (2)NO CRACKS ON INTERFACE PIN (OLB) OF TCP. (3)NO CONTAMINATION, SOLDER RESIDUE OR SOLDER BALLS ON PRODUCT. (4)THE IC ON THE TCP MAY NOT BE DAMAGED, CIRCUITS. (5)THE UPPERMOST EDGE OF THE PROTECTIVE STRIP ON THE INTERFACE PIN MUST BE PRESENT OR LOOK AS IF IT CAUSE THE INTERFACE PIN TO SEVER. (6)THE RESIDUAL ROSIN OR TIN OIL OF SOLDERING (COMPONENT OR CHIP COMPONENT) IS NOT BURNED INTO BROWN OR BLACK COLOR. (7)SEALANT ON TOP OF THE ITO CIRCUIT HAS NOT HARDENED. (8)PIN TYPE MUST MATCH TYPE IN SPECIFICATION SHEET. (9)LCD PIN LOOSE OR MISSING PINS. (10)PRODUCT PACKAGING MUST THE SAME AS SPECIFIED ON PACKAGING SPECIFICATION SHEET. (11)PRODUCT DIMENSION AND STRUCTURE MUST CONFORM TO PRODUCT SPECIFICATION SHEET. (12)THE APPEARANCE OF HEAT SEAL SHOULD NOT ADMIT ANY DIRT AND BREAK.

NO.	ITEM	CRITERIA			
16.	CRACKED GLASS	THE LCD WITH EXTENSIVE CRACK IS NOT ACCEPTABLE			
		General glass chip :	a	b	c
			$\leq t/2$	< VIEWING AREA	$\leq 1/8X$
			$t/2 > , \leq 2t$	$\leq W/2$	$\leq 1/8X$
			*W=DISTANCE BETWEEN SEALANT AREA AND LCD PANEL EDGE X = LCD SIDE LENGTH t = GLASS THICKNESS		
		Corner part:	a	b	c
			$\leq t/2$	< VIEWING AREA	$\leq 1/8X$
			$> t/2 , \leq 2t$	$\leq W/2$	$\leq 1/8X$
			*W=DISTANCE BETWEEN SEALANT AREA AND LCD PANEL EDGE X=LCD SIDE LENGTH t=GLASS THICKNESS		
		CHIP ON ELECTRODE PAD	a	b	c
	$\leq t$	$\leq 0.5\text{mm}$	$\leq 1/8X$		
	* X=LCD SIDE WIDTH t=GLASS THICKNESS				
	$\leq t$	$\leq 1/8X$	$\leq L$		
	*X=LCD SIDE WIDTH t = GLASS THICKNESS L=ELECTRODE PAD LENGTH ①IF GLASS CHIPPING THE ITO TERMINAL, OVER 2/3 OF THE ITO MUST REMAIN AND BE , INSPECTED ACCORDING TO ELECTRODE TERMINAL SPECIFICATIONS ②IF THE PRODUCT WILL BE HEAT SEALED BY THE CUSTOMER, THE ALIGNMENT MARK MUST NOT BE DAMAGED				