Next Vision Display
Brighten The Future

# NEXT VISION DISPLAY

## SPECIFICATION

**CUSTOMER :** _____

**MODULE NO.:** NT043-R001ME

| | |
|---|---|
| Version | V1.0 |
| Engineer | |
| Date | 2022/09/25 |

| Customer: |
|---|
| Approved by |


**NEXT VISION DISPLAY CO., LTD.**

地址: 中國上海小木橋路600號
ADD: 600 XIAO MU QIAO ROAD, SHANGHAI, CHINA

WEB: www.nextvisiondisplay.com

TECHNICAL: technical@nextvisiondisplay.com
MARKETING: marketing@nextvisiondisplay.com
SALES: sales@nextvisiondisplay.com



Represented by:

first FC components
**FIRST Components s.r.l.**
www.first-components.com
sales@first-components.com
+39 0332 1888005

## General Description

This main Module has a **4.3** inch diagonally measured active display area with 480(RGB)X272 resolution. Each pixel is divided into Red, Green and Blue sub-pixels and dots which are arranged in vertical stripes.LCD color is determined with 16.7M colors signal for each pixel.

### General Features

| Item | Display Panel | Remark |
|---|---|---|
| Display Mode | Normally White, Transmissive LCD | |
| Viewing Direction | 12 O'CLOCK | |
| Input Signals | RGB | |
| Outside Dimensions | 105.5mm(W)*67.2mm(H)*3.0mm(T) | |
| Effective Area | - | |
| Active Area | 95.04mm(W)×53.856mm(H) | |
| Number of Pixels | 480×RGB×272Pixels | |
| Pixel Pitch | 0.198mm(H)×0.198mm(W) | |
| Pixel Arrangement | RGB Vertical stripes | |
| Drive IC | NV3047 | |

## Absolute Maximum Ratings

The following are maximum values which, if exceeded may cause operation or damage to the unit.

| ITEM | Symbol | Min. | Typ. | Max. | Unit | Remark |
|---|---|---|---|---|---|---|
| Power for Circuit Driving | VDD | | 3.3 | | V | |
| Power for Circuit Logic | VCI | | 3.3 | | V | |
| LC Operating Voltage *1) | Vop | | 3.3 | | V | |
| LED Forward Voltage | $V_f$ | - | 12.8 | - | V | |
| LED Forward Current | Ir | - | 40 | - | mA | |
| LCD Luminance | $B_P$ | - | 500 | - | $cd/m^2$ | |
| Storage Humidity | $H_{ST}$ | 10 | 60 | 90 | %RH | At 25±5℃ |
| Storage Temperature | $T_{ST}$ | -20 | 65 | 70 | ℃ | |
| Operating Ambient Humidity | $H_{OP}$ | 10 | 60 | 90 | %RH | |
| Operating Ambient temperature | $T_{OP}$ | -10 | 60 | 65 | ℃ | |

Note:

*1) Liquid Crystal driving voltage.
Due to the characteristics of LC Material, this voltage vary with environmental temperature.

*2) Temp. >60℃, Absolute humidity shall be less than 90%RH at 60℃

*3) Temp. ≤60℃, 90%RH MAX.

# Electrical Specification

## Main Window Display

(Unless specified, the ambient temperature Ta=25℃)

| Properties | | Sym. | Min | Typ. | Max | Unit | Note |
|---|---|---|---|---|---|---|---|
| Power for Circuit Driving | | VDD | | 3.3 | | V | Note |
| Power for Circuit Logic | | VCI | | 3.3 | | V | Note |
| BLU Driving Logic | | Vbat | - | - | - | V | |
| Logic Input Voltage | Low Voltage | VIL | 0 | - | 0.2VDD | V | |
| | High Voltage | VIH | 0.8VDD | - | VDD | V | |
| Logic Output Voltage | Low Voltage | VOL | 0 | - | 0.1VDD | V | |
| | High Voltage | VOH | 0.9VDD | - | VDD | V | |
| Power Consumption | White | $P_w$ | T.B.D | T.B.D | T.B.D | mW | |
| | Black | $P_b$ | T.B.D | T.B.D | T.B.D | mW | |
| | Vertical Stripe | $P_v$ | T.B.D | T.B.D | T.B.D | mW | |

Note:

The recommended operating conditions refer to a range in which operation of this product is guaranteed. Should this range is exceeded, the operation cannot be guaranteed even if the values may be without the absolute maximum ratings.
Accordingly, please make sure that the module is used within this range. And these current values are measured under the condition that all devices are stopped, each component is stable and logic signal is input.

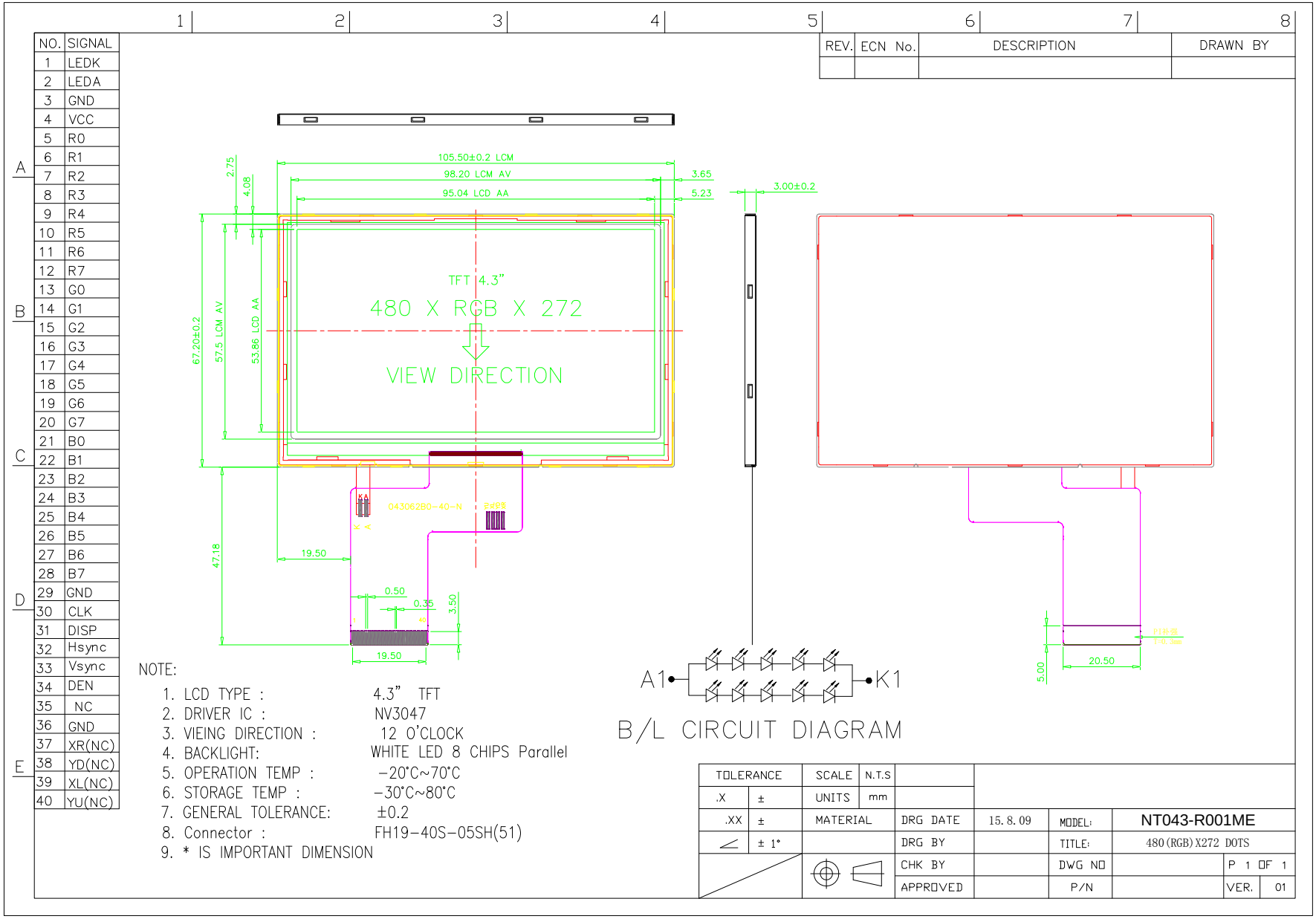
## Optical Specification

| Item | | Symbol | Condition | Min. | Typ. | Max. | Unit | Note |
|---|---|---|---|---|---|---|---|---|
| Transmittance (with Polarizer) | | T (%) | Θ=0 Normal viewing angle | — | (6.6) | — | % | Measuring with normal polarizer，Reference Only Base on Vop=5.1V |
| Transmittance (without Polarizer) | | T (%) | | — | (23.45) | — | % | |
| Contrast Ratio | | CR | | 640 | 800 | — | — | (1)(2) |
| Response Time | | $T_{R+}T_F$ | | — | 30 | 40 | msec | (1)(3) |
| Color Gamut | (%) | | | 45 | 50 | — | % | C-light |
| Color Chromaticity (CIE1931) | White | $W_x$ | | — | (0.320) | — | — | (1)(4) CF glass C-light |
| | | $W_y$ | | — | (0.345) | — | | |
| | Red | $R_x$ | | — | (0.629) | — | — | |
| | | $R_Y$ | | — | (0.326) | — | | |
| | Green | $G_x$ | | — | (0.337) | — | — | |
| | | $G_Y$ | | — | (0.546) | — | | |
| | Blue | $B_x$ | | — | (0.136) | — | — | |
| | | $B_Y$ | | — | (0.143) | — | | |
| Viewing Angle | Hor. | $\Theta_L$ | CR>10 | 70 | 80 | — | — | (1)(4) Measuring with normal polarizer，Reference Only |
| | | $\Theta_R$ | | 70 | 80 | — | | |
| | Ver. | $\Theta_U$ | | 50 | 60 | — | | |
| | | $\Theta_D$ | | 60 | 70 | — | | |
| Optima View Direction | | Free | | | | | | (5) |

## Pin Description

| Pin NO. | Symbol | Description |
|---|---|---|
| 1 | LEDK | LED BACKLIGHT(CATHODE) |
| 2 | LEDA | LED BACKLIGHT(ANODE) |
| 3 | GND | GROUND |
| 4 | VCC | POWER SUPPLY 3.3V |
| 5 | R0 | RED DATA |
| 6 | R1 | RED DATA |
| 7 | R2 | RED DATA |
| 8 | R3 | RED DATA |
| 9 | R4 | RED DATA |
| 10 | R5 | RED DATA |
| 11 | R6 | RED DATA |
| 12 | R7 | RED DATA |
| 13 | G0 | GREEN DATA |
| 14 | G1 | GREEN DATA |
| 15 | G2 | GREEN DATA |
| 16 | G3 | GREEN DATA |
| 17 | G4 | GREEN DATA |
| 18 | G5 | GREEN DATA |
| 19 | G6 | GREEN DATA |
| 20 | G7 | GREEN DATA |
| 21 | B0 | BLUE DATA |
| 22 | B1 | BLUE DATA |
| 23 | B2 | BLUE DATA |
| 24 | B3 | BLUE DATA |
| 25 | B4 | BLUE DATA |
| 26 | B5 | BLUE DATA |
| 27 | B6 | BLUE DATA |
| 28 | B7 | BLUE DATA |
| 29 | GND | GROUND |
| 30 | CLK | CLOCK SIGNAL |
| 31 | DISP | DISPLAY ON/OFF |
| 32 | HSYNC | HORIZONTAL SYNC INPUT IN RGB MODE |
| 33 | VSYNC | VERTICAL SYNC INPUT IN RGB MODE |
| 34 | DEN | DATA ENABLE |
| 35 | NC | NC |
| 36 | GND | GROUND |
| 37 | XR(NC) | TOUCH PLANE PIN/NC |
| 38 | YD(NC) | TOUCH PLANE PIN/NC |
| 39 | XL(NC) | TOUCH PLANE PIN/NC |
| 40 | YU(NC) | TOUCH PLANE PIN/NC |

# Outline Dimension



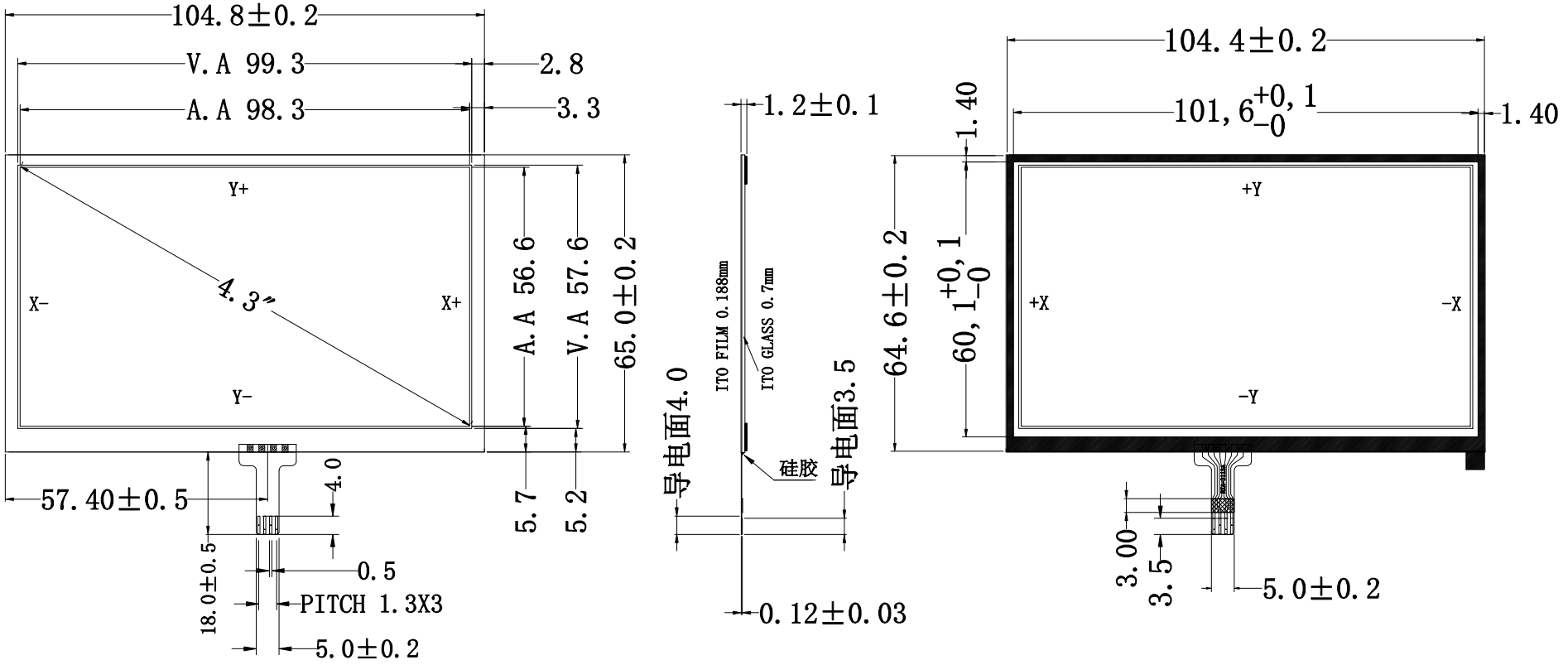

| NO. | SIGNAL |
|---|---|
| 1 | LEDK |
| 2 | LEDA |
| 3 | GND |
| 4 | VCC |
| 5 | R0 |
| 6 | R1 |
| 7 | R2 |
| 8 | R3 |
| 9 | R4 |
| 10 | R5 |
| 11 | R6 |
| 12 | R7 |
| 13 | G0 |
| 14 | G1 |
| 15 | G2 |
| 16 | G3 |
| 17 | G4 |
| 18 | G5 |
| 19 | G6 |
| 20 | G7 |
| 21 | B0 |
| 22 | B1 |
| 23 | B2 |
| 24 | B3 |
| 25 | B4 |
| 26 | B5 |
| 27 | B6 |
| 28 | B7 |
| 29 | GND |
| 30 | CLK |
| 31 | DISP |
| 32 | Hsync |
| 33 | Vsync |
| 34 | DEN |
| 35 | NC |
| 36 | GND |
| 37 | XR(NC) |
| 38 | YD(NC) |
| 39 | XL(NC) |
| 40 | YU(NC) |

NOTE:

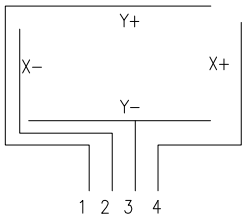
1. LCD TYPE : 4.3" TFT
2. DRIVER IC : NV3047
3. VIEING DIRECTION : 12 O'CLOCK
4. BACKLIGHT: WHITE LED 8 CHIPS Parallel
5. OPERATION TEMP : -20°C~70°C
6. STORAGE TEMP : -30°C~80°C
7. GENERAL TOLERANCE: ±0.2
8. Connector : FH19-40S-05SH(51)
9. * IS IMPORTANT DIMENSION

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| TOLERANCE | | SCALE | N.T.S | | | | |
| .X | ± | UNITS | mm | | | | |
| .XX | ± | MATERIAL | | DRG DATE | 15.8.09 | MODEL: | NT043-R001ME |
| ∠ | ± 1° | | | DRG BY | | TITLE: | 480(RGB)X272 DOTS |
| | | | | CHK BY | | DWG NO | P 1 OF 1 |
| | | | | APPROVED | | P/N | VER. 01 |

| REV. | DESCRIPTION | DATE |
|---|---|---|
| | | |




Technical parameters:
1.Structure:Film+glass+FPC
Film:Matt surface Anti Newton ring (0.188mm)
Glass:500 ohm/0.7mm
FPC: Pitch 1.3mm
Total Thickness:1.2mm (tolerance +/- 0.1mm)
2.Circuit Level: DC5V 1mA
3. Insulation resistance > 20M Ohm(DC 25V)
4. Linearity < 1.5%
5. Transparency Rate> 80%
6. Operation Force: 50-120g
7. Lift time: 1million Times
8. Working temp.:
9. Storage temp.:
10. X: 200-900 Ohm Y: 200-700 Ohm
11. Unmarked tolereance: +/- 0.5mm




| PIN | OUT |
|---|---|
| 1 | Y+ |
| 2 | X- |
| 3 | Y- |
| 4 | X+ |

Next Vision Display

NT043-R001ME

| | | | |
|---|---|---|---|
| SCALE: 1 : 1 NOT TO SCALE | | | |
| PAGE: 1 OF 2 | | | |
| GENERAL TOL. 0.50mm | | UNITS MM | |
| APPROVALS | | DATE | MODEL NUMBER : 0400310 |
| APP | Mychan | 2014/04/18 | |
| CHK | Amorll | 2014/04/18 | |
| DWN | Amorll | 2014/04/18 | PROJECTION |

CUSTOMER P/N :

DATE: 2014/04/18