

## **VS DISPLAY TECHNOLOGY (HK) LTD**

### **SPECIFICATION FOR LCD MODULE**

Model No.: VS-RTD2665HC-V2

| <b>ORGANIZED BY</b> | <b>CHECKED BY</b> | <b>APPROVED BY</b>  |
|---------------------|-------------------|---------------------|
| <b>RAJU PAU</b>     | <b>JOHNSON</b>    | <b>CRISTAL RAMY</b> |

#### **COMPANY CONTACT:**

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**URL: WWW.VSLCD.COM**

## 1.Functional Overview

SG26eDP\_UTH\_WS R 10.2 motherboard has the most popular Type-C interface functions:

- 1.Easy projection;
2. OTG function, can connect the mouse and keyboard, work at anytime and anywhere, it is mobile workbench.

Type-C chip uses Realtek's USB 3.1 Type-C control chip RTS5450, which can support data transmission, intelligent charging and image display functions.

SG26e DP\_UTH\_WS R10.2 motherboard can output the HDMI signal of PC to LCD module, and output Type-C signal from PC to LCD Module, and EDP signal also can be supported. The scheme design is mainly used to match TFT LCD PANEL. The color reproduction can support 24bit, up to 16.7 megapixels, ADC frequency up is 165MHz, and HDR(High-Dynamic Range) image output is supported. If brightness between 360nit with 400nits, the output is the best effect. The special functions of color enhancement and color engine,make color reproduction more lifelike, more brightly more vivid,while it supporting HCP function. It has an exquisite style of OSD interface and a variety of optional OSD languages. The input signal with the highest resolution of 2560x1440 can be realized.

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IC Table

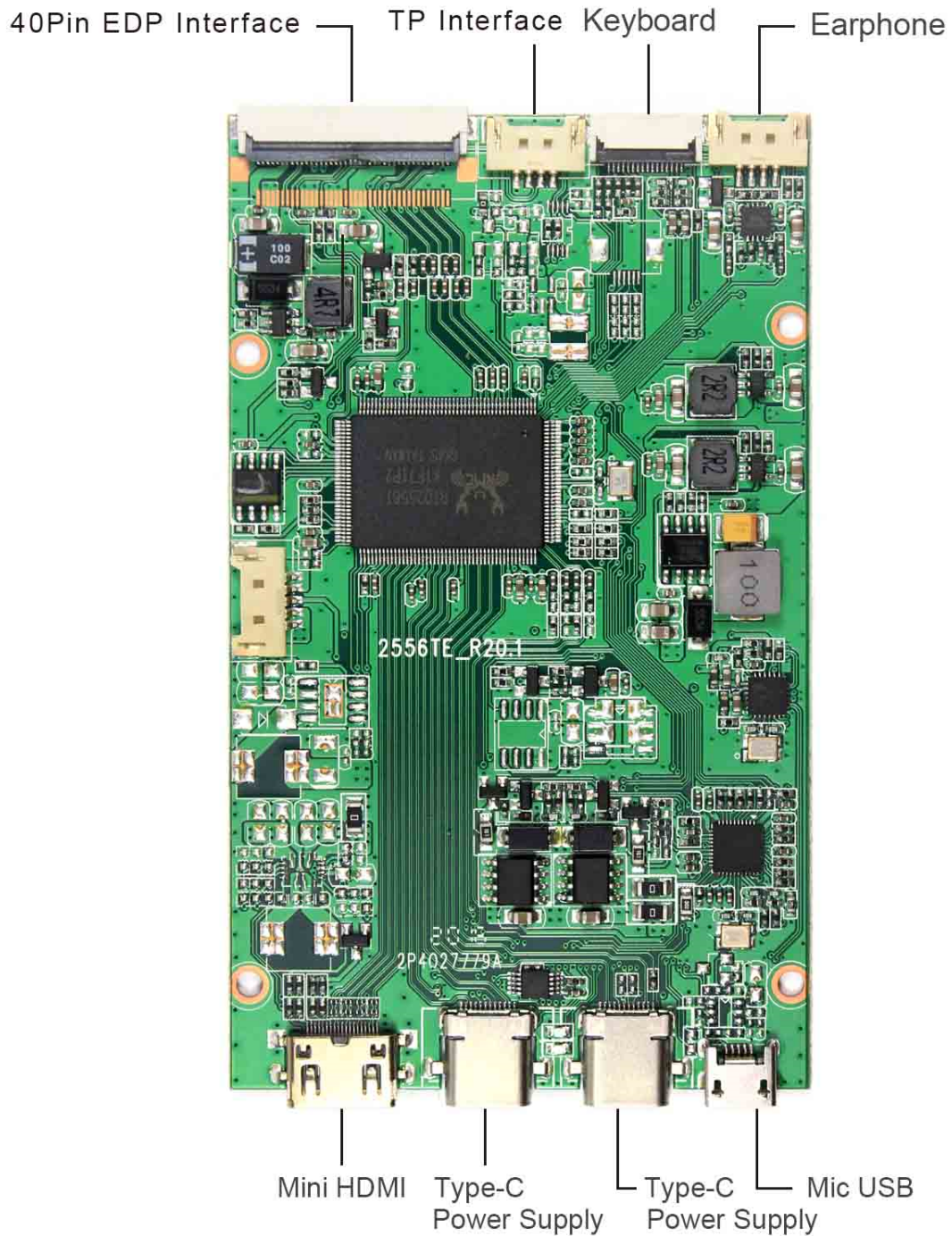
| IC        | Input Connector                            |                                            | Rotate         | OD  | FRC            | HDR |
|-----------|--------------------------------------------|--------------------------------------------|----------------|-----|----------------|-----|
|           | HDMI                                       | DP                                         |                |     |                |     |
| RTD2556Q  | 1920X1080P@144Hz<br>To ,<br>2560*1440@60Hz | 1920X1080P@165Hz<br>To ,<br>2560*1440@75Hz | NO             | NO  | NO             | NO  |
| RTD2556QR |                                            |                                            | 1920*1080@60HZ | Yes | 1920*1080@60HZ | NO  |
| RTD2556U  |                                            |                                            | NO             | NO  | NO             | Yes |
| RTD2556UT |                                            |                                            | 1920*1080@60HZ | Yes | 1920*1080@60HZ | Yes |

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## 2.Feature

|          |                                    |                                                       |                                                                  |
|----------|------------------------------------|-------------------------------------------------------|------------------------------------------------------------------|
| Model No | SG26eDP_UTH_WS_R10.2               |                                                       |                                                                  |
| SIGNAL   | Computer<br>Type-C<br>Mobile Phone | MAX Resolution                                        | 2560*1440                                                        |
|          |                                    | COLOR                                                 | 32bit                                                            |
|          |                                    | HS                                                    | 31.5-94.038KHz                                                   |
|          |                                    | VS                                                    | 60-75Hz                                                          |
|          |                                    | HDMI                                                  | HDMI (T.M.D.S)                                                   |
|          |                                    | USB                                                   | USB2.0 ( MAX 500mA)                                              |
|          |                                    | Type-C                                                | Support data transmission Intelligent charging and image display |
|          | Output                             | PANEL                                                 | eDP                                                              |
|          |                                    | Rotate                                                | Optional                                                         |
| Power    | Input Voltage                      | 5V/12V                                                |                                                                  |
|          | Panel Voltage                      | 3.3V/5V/12V                                           |                                                                  |
|          | Operate                            | Standard Standby                                      |                                                                  |
|          | Standby                            | <0.3W                                                 |                                                                  |
|          | BL_EN                              | ON                                                    | 5V                                                               |
|          |                                    | OFF                                                   | 0V                                                               |
|          | ADJ                                | MAX                                                   | 5V                                                               |
|          |                                    | MIN                                                   | 0V                                                               |
|          | OSD                                | Brightness Contrast Auto Correction Phase Clock Reset |                                                                  |
|          | Language                           | English                                               |                                                                  |
|          | Button                             | POWER、LEFT、RIGHT、AUTO、MENU                            |                                                                  |
|          |                                    |                                                       |                                                                  |

## 3.Outline



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### 4.Model Table

| Mode Table |            |         |        |
|------------|------------|---------|--------|
| Mode       | Resolution | HS(KHz) | VS(Hz) |
| WQXGA      | 2560*1440  | 88.8    | 60     |
| WUXGA      | 1920*1200  | 74.556  | 60     |
| 1080P      | 1920*1080  | 67.5    | 60     |
| UXGA       | 1680*1050  | 59.8    | 60     |
| WXGA+      | 1440*900   | 55.5    | 60     |
| SXGA       | 1280*1024  | 63.5    | 60     |
|            |            | 80.0    | 75     |
| XGA        | 1024*768   | 48.4    | 60     |
|            |            | 56.5    | 70     |
|            |            | 60.0    | 75     |
| SVGA       | 800*600    | 37.9    | 60     |
|            |            | 47.2    | 72     |
|            |            | 46.9    | 75     |
| VGA        | 640*480    | 31.5    | 60     |
|            |            | 37.9    | 72     |
|            |            | 37.5    | 75     |
| DOS        | 720*400    | 31.5    | 70     |

## 5.Interface

### ◆CN1 Mini HDMI

| Item | Definition | Description |
|------|------------|-------------|
| 1    | DATA2+     | Date        |
| 2    | GND        | Ground      |
| 3    | DATA2-     | Date        |
| 4    | DATA1+     | Date        |
| 5    | GND        | Ground      |
| 6    | DATA1-     | Date        |
| 7    | DATA0+     | Date        |
| 8    | GND        | Ground      |
| 9    | DATA0-     | Date        |
| 10   | DCLK+      | CLK         |
| 11   | HDMI_DET   | Test        |
| 12   | DCLK-      | CLK         |
| 13   | NC         | NC          |
| 14   | NC         | NC          |
| 15   | HDMI_SCL   | DDC         |
| 16   | HDMI_SDA   | DDC         |
| 17   | GND        | Ground      |
| 18   | HDMI5V     | HDMI5V      |
| 19   | HDMI_HPD   | HPD         |

### ◆CN13 Type-C

| Item | Definition | Description                                             |
|------|------------|---------------------------------------------------------|
| 1    | DET        | Input Detect                                            |
| 2    | TX1+       | Positive half of Second SuperSpeed TX differential pair |
| 3    | TX1-       | Negative half of Second SuperSpeed TX differential pair |
| 4    | VBUS       | Bus Power                                               |
| 5    | CC1        | Configuration Channel                                   |
| 6    | D+         | Positive half of the USB2.0 differential pair           |
| 7    | D-         | Negative half of the USB2.0 differential pair           |
| 8    | SUB1       | Reserved for Future Use (RFU)                           |

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|    |      |                                                         |
|----|------|---------------------------------------------------------|
| 9  | VBUS | Bus Power                                               |
| 10 | RX2- | Negative half of Third SuperSpeed RX differential pair  |
| 11 | RX2+ | Positive half of Third SuperSpeed RX differential pair  |
| 12 | GND  | Ground                                                  |
| 13 | GND  | Ground                                                  |
| 14 | TX2+ | Positive half of Third SuperSpeed TX differential pair  |
| 15 | TX2- | Negative half of Third SuperSpeed TX differential pair  |
| 16 | VBUS | Bus Power                                               |
| 17 | CC2  | Configuration Channel                                   |
| 18 | D+   | Positive half of the USB2.0 differential pair           |
| 19 | D-   | Negative half of the USB2.0 differential pair           |
| 20 | SBU2 | Reserved for Future Use (RFU)                           |
| 21 | VBUS | Bus Power                                               |
| 22 | RX1- | Negative half of Second SuperSpeed RX differential pair |
| 23 | RX1+ | Positive half of Second SuperSpeed RX differential pair |
| 24 | GND  | Ground                                                  |
| 25 | GND  | Ground                                                  |
| 26 | GND  | Ground                                                  |
| 27 | GND  | Ground                                                  |
| 28 | GND  | Ground                                                  |

## ◆CN12 Micro USB

| Item | Definition | Description |
|------|------------|-------------|
| 1    | GND        | Ground      |
| 2    | GND        | Ground      |
| 3    | D+         | Data        |
| 4    | D-         | Data        |
| 5    | 5V         | 5V          |

## ◆CN4 Micro USB

| Item | Definition | Description |
|------|------------|-------------|
| 1    | GND        | Ground      |
| 2    | GND        | Ground      |
| 3    | D+         | Data        |
| 4    | D-         | Data        |
| 5    | 5V         | 5V          |

## ◆CN3 Earphone

CN3 JACK-3.5  $\phi$  PHONE PJ-342C

## ◆CN9 Speaker UP TO DOWN 1PIN-4PIN

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| Item | Definition | Description |
|------|------------|-------------|
| 1    | L-         |             |
| 2    | L+         |             |
| 3    | R+         |             |
| 4    | R-         |             |

## CN6 Touch Connector

| Item | Definition | Description |
|------|------------|-------------|
| 1    | GND        | Ground      |
| 2    | TM         | D-          |
| 3    | TP         | D+          |
| 4    | VCC        | Power       |

## ◆ CN8 Keyboard

| Item | Definition | Description |
|------|------------|-------------|
| K1   | 5V         |             |
| K2   | IR         |             |
| K3   | MENU       |             |
| K4   | AUTO       |             |
| K5   | RIGHT      |             |
| K6   | LEFT       |             |
| K7   | GND        |             |
| K8   | LED-G      |             |
| K9   | LEG-R      |             |
| K10  | POWER      |             |

## ◆CN13 Type-C Input

| Item | Definition | Description |
|------|------------|-------------|
| 1    | NC         | NC          |
| 2    | NC         | NC          |
| 3    | NC         | NC          |
| 4    | VBUS       | Bus Power   |
| 5    | NC         | NC          |
| 6    | NC         | NC          |

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|    |      |           |
|----|------|-----------|
| 7  | NC   | NC        |
| 8  | NC   | NC        |
| 9  | VBUS | Bus Power |
| 10 | NC   | NC        |
| 11 | NC   | NC        |
| 12 | GND  | Ground    |
| 13 | GND  | Ground    |
| 14 | NC   | NC        |
| 15 | NC   | NC        |
| 16 | VBUS | Bus Power |
| 17 | NC   | NC        |
| 18 | NC   | NC        |
| 19 | NC   | NC        |
| 20 | NC   | NC        |
| 21 | VBUS | Bus Power |
| 22 | NC   | NC        |
| 23 | NC   | NC        |
| 24 | GND  | Ground    |
| 25 | GND  | Ground    |
| 26 | GND  | Ground    |
| 27 | GND  | Ground    |
| 28 | GND  | Ground    |

## ◆CN7 30PIN EDP

| Item | Definition | Description           |
|------|------------|-----------------------|
| 1    | NC         | No Connection         |
| 2    | LED_VCC    | BL POWER              |
| 3    | LED_VCC    | BL POWER              |
| 4    | LED_VCC    | BL POWER              |
| 5    | LED_VCC    | BL POWER              |
| 6    | NC         | No Connection         |
| 7    | NC         | No Connection         |
| 8    | LED_PWM    | LED Dimming Control   |
| 9    | LED_EN     | LED BL_Enable control |
| 10   | GND        | GROUP                 |
| 11   | GND        | GROUP                 |
| 12   | GND        | GROUP                 |
| 13   | GND        | GROUP                 |
| 14   | HPD        | Hot Plug Detect       |
| 15   | GND        | GROUP                 |

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|    |      |                                     |
|----|------|-------------------------------------|
| 16 | GND  | GROUNP                              |
| 17 | NC   | No Connection                       |
| 18 | VCCS | Power Supply                        |
| 19 | VCCS | Power Supply                        |
| 20 | GND  | GROUNP                              |
| 21 | AUX- | Complement Signal-Auxiliary Channel |
| 22 | AUX+ | True Signal-Auxiliary Channel       |
| 23 | GND  | GROUNP                              |
| 24 | ML0+ | True Signal-Main Lane 0             |
| 25 | ML0- | Complement Signal-Lane 0            |
| 26 | GND  | GROUNP                              |
| 27 | ML1+ | True Signal-Main Lane 1             |
| 28 | ML1- | Complement Signal-Lane 1            |
| 29 | GND  | GROUNP                              |
| 30 | NC   | No Connection                       |

## ◆CN7 EDP

| Item | Definition | Description           |
|------|------------|-----------------------|
| 1    | Touch_VCC  | Touch power supply    |
| 2    | Touch_EN   | Touch enable          |
| 3    | GND        | GROUNP                |
| 4    | DM         | D-                    |
| 5    | DP         | D+                    |
| 6    | GND        | GROUNP                |
| 7    | NC         | No Connection         |
| 8    | NC         | No Connection         |
| 9    | NC         | No Connection         |
| 10   | NC         | No Connection         |
| 11   | NC         | No Connection         |
| 12   | LED_VCC    | BL POWER              |
| 13   | LED_VCC    | BL POWER              |
| 14   | LED_VCC    | BL POWER              |
| 15   | LED_VCC    | BL POWER              |
| 16   | NC         | No Connection         |
| 17   | NC         | No Connection         |
| 18   | LED_PWM    | LED Dimming Control   |
| 19   | LED_EN     | LED BL_Enable control |
| 20   | GND        | GROUNP                |
| 21   | GND        | GROUNP                |
| 22   | GND        | GROUNP                |
| 23   | GND        | GROUNP                |
| 24   | HPD        | Hot Plug Detect       |

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|    |      |                                     |
|----|------|-------------------------------------|
| 25 | GND  | GROUNP                              |
| 26 | GND  | GROUNP                              |
| 27 | NC   | No Connection                       |
| 28 | VCC  | PANEL VCC                           |
| 29 | VCC  | PANEL VCC                           |
| 30 | GND  | GROUNP                              |
| 31 | AUX- | Complement Signal-Auxiliary Channel |
| 32 | AUX+ | True Signal-Auxiliary Channel       |
| 33 | GND  | GROUNP                              |
| 34 | ML0+ | True Signal-Main Lane 0             |
| 35 | ML0- | Complement Signal-Lane 0            |
| 36 | GND  | GROUNP                              |
| 37 | ML1+ | True Signal-Main Lane 1             |
| 38 | ML1- | Complement Signal-Lane 1            |
| 39 | GND  | GROUNP                              |
| 40 | NC   | No Connection                       |

## ◆CN10 EDP

| Item | Definition | Description           |
|------|------------|-----------------------|
| 1    | NC         | No Connection         |
| 2    | LED_VCC    | BL POWER              |
| 3    | LED_VCC    | BL POWER              |
| 4    | LED_VCC    | BL POWER              |
| 5    | LED_VCC    | BL POWER              |
| 6    | NC         | No Connection         |
| 7    | NC         | No Connection         |
| 8    | LED_PWM    | LED Dimming Control   |
| 9    | LED_EN     | LED BL_Enable control |
| 10   | GND        | GROUNP                |
| 11   | GND        | GROUNP                |
| 12   | GND        | GROUNP                |
| 13   | GND        | GROUNP                |
| 14   | HPD        | Hot Plug Detect       |
| 15   | GND        | GROUNP                |
| 16   | GND        | GROUNP                |
| 17   | GND        | GROUNP                |
| 18   | GND        | GROUNP                |
| 19   | NC         | No Connection         |
| 20   | VCC        | PANEL VCC             |
| 21   | VCC        | PANEL VCC             |
| 22   | VCC        | PANEL VCC             |
| 23   | VCC        | PANEL VCC             |
| 24   | GND        | GROUNP                |

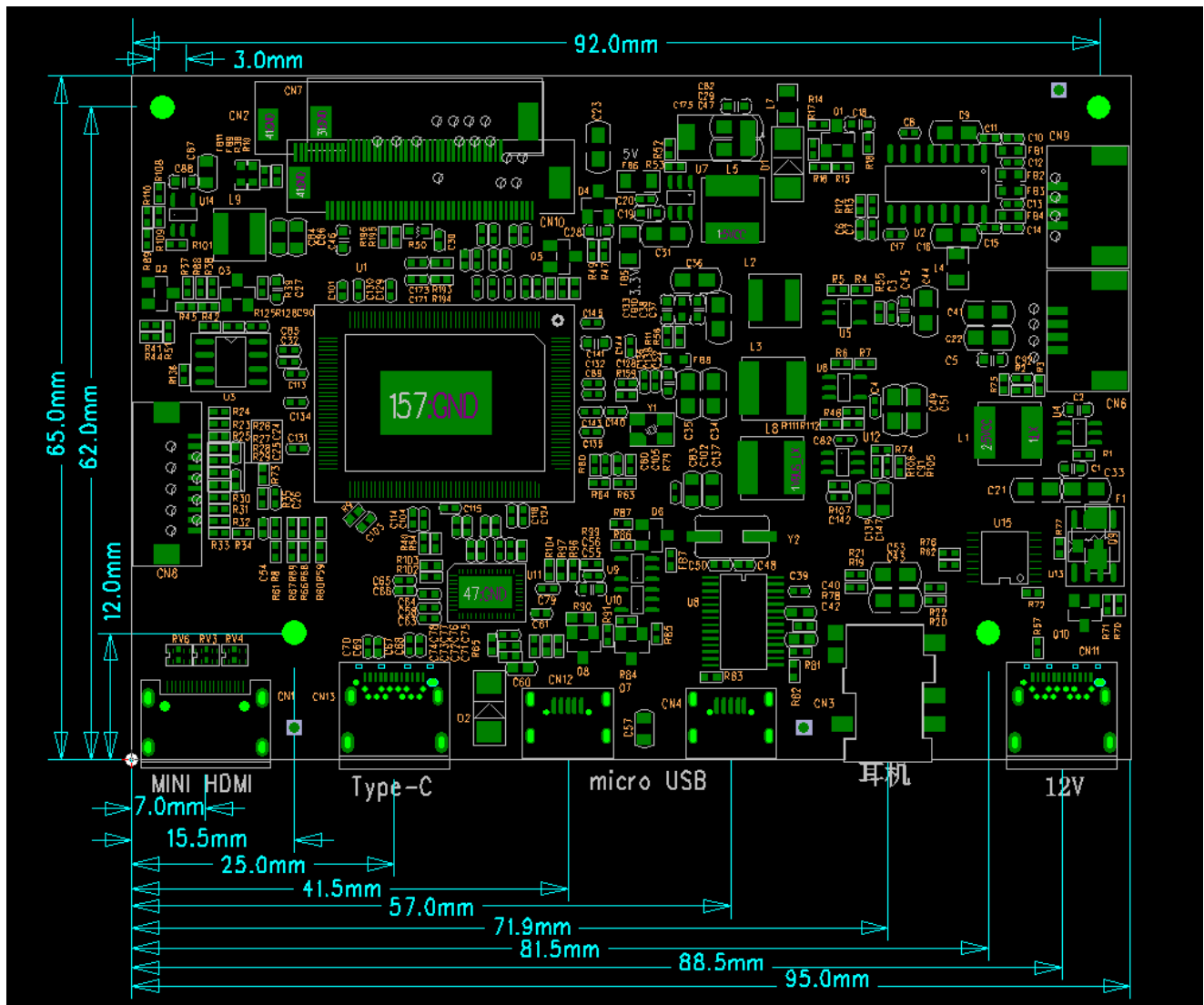
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|    |      |                                     |
|----|------|-------------------------------------|
| 25 | AUX- | Complement Signal-Auxiliary Channel |
| 26 | AUX+ | True Signal-Auxiliary Channel       |
| 27 | GND  | GROUNP                              |
| 28 | ML0+ | True Signal-Main Lane 0             |
| 29 | ML0- | Complement Signal-Lane 0            |
| 30 | GND  | GROUNP                              |
| 31 | ML1+ | True Signal-Main Lane 1             |
| 32 | ML1- | Complement Signal-Lane 1            |
| 33 | GND  | GROUNP                              |
| 34 | ML2+ | True Signal-Main Lane 2             |
| 35 | ML2- | Complement Signal-Lane 2            |
| 36 | GND  | GROUNP                              |
| 37 | ML3+ | True Signal-Main Lane 3             |
| 38 | ML3- | Complement Signal-Lane 3            |
| 39 | GND  | GROUNP                              |
| 40 | NC   | No Connection                       |

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## 6.Dimensions



PCB L=95mm

PCB W=65.0mm

PCB H=8.2mm