

# Product Specifications

Product Model: PCB 2H2M6311 40 V1.1

Product Code: A00786

Update date: 2025.08.21

|          |           |           |
|----------|-----------|-----------|
| Drafting | Review    | Approval  |
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## 1. Product Overview.

The PCB\_2H2M6311\_40\_V1.1 is a multi-functional display driver board that supports HDMI signal input, OSD menu, button-based brightness/contrast adjustment, etc. It supports a maximum MIPI output resolution of 1920x1200@60Hz, image rotation (90/270 degrees), 3.5mm headphone output, and 2x3W power amplifier output. It also supports IIC touch functionality (please contact the manufacturer for supported chip models).

## 2. Product features.

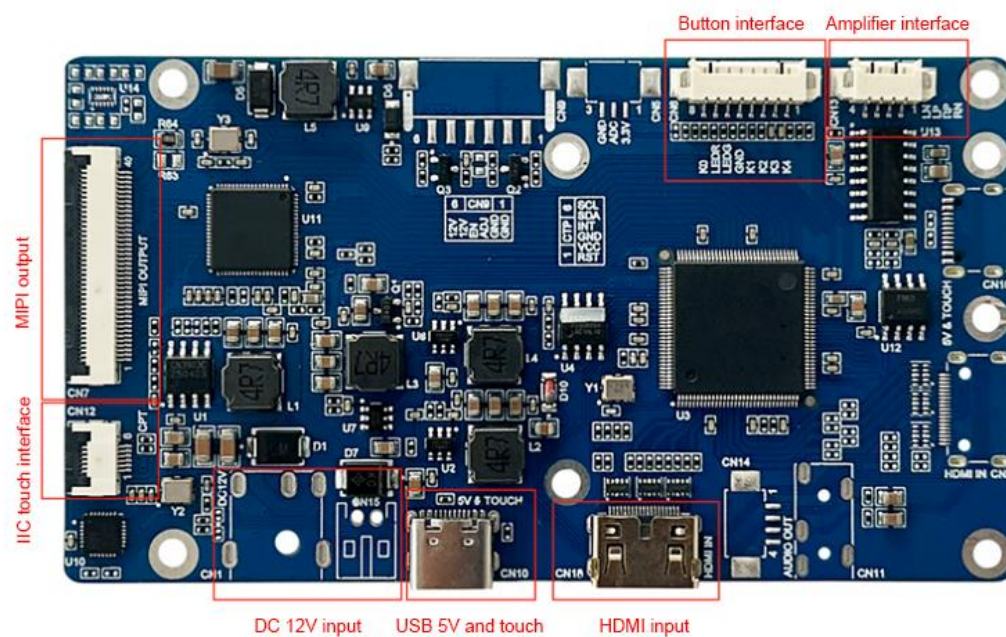
| Functions     | Describe                                                |
|---------------|---------------------------------------------------------|
| Signal input  | HDMI 1.4a                                               |
| Signal output | 4 lane MIPI, 1.8Gbps/lane                               |
| Buttons       | Supports multi-language OSD menu operation and OSD menu |
| Audio         | 3.5mm headphone output, 2x3W amplifier output.          |
| Touch         | Supports some IIC interface touchscreens.               |

Note:IIC touch is currently supported on GT series.

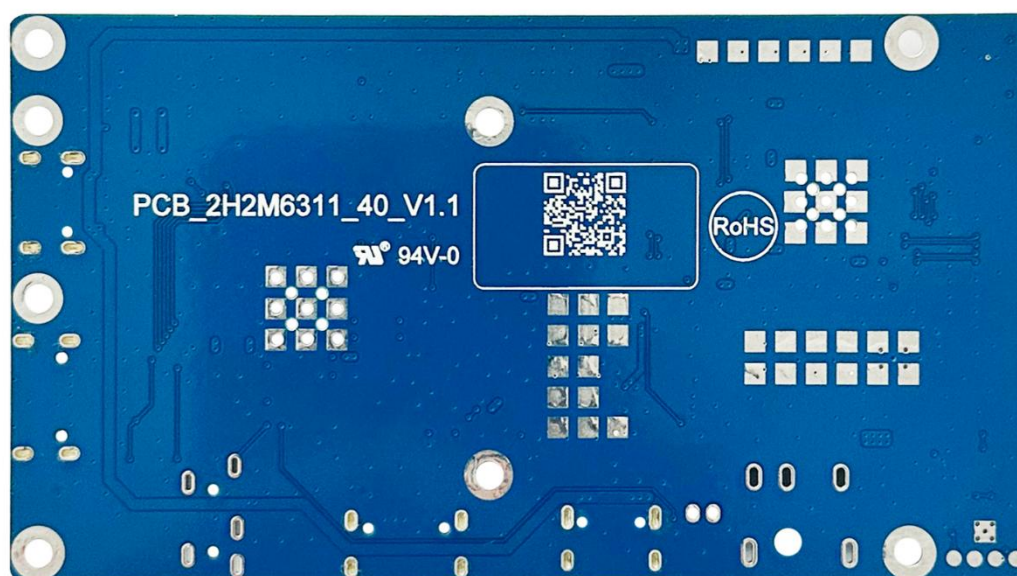
## 3. Interface function description.

| Seat number        | Describe                                                  |
|--------------------|-----------------------------------------------------------|
| CN1 / CN15         | 12V power input                                           |
| CN2 / CN18         | HDMI input                                                |
| CN10 / CN19 / CN14 | USB 5V input                                              |
| CN11               | Φ3.5 headphone output (default empty, can be added if     |
| CN13               | Power amplifier output 2*3W (LR=4Ω)                       |
| CN6                | Button interface                                          |
| CN9                | Backlight control (default empty, can be added if needed) |
| CN7                | MIPI signal output (for connecting to MIPI screen)        |
| CN12               | Touch screen interface                                    |

## Top view (interface description)

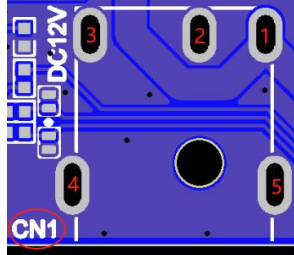


## Bottom view (definition/description)

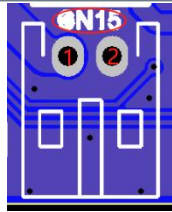


## 4. Interface definition.

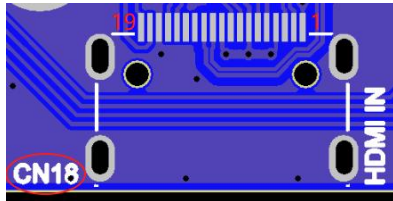
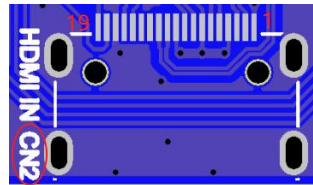
### 4.1 CN1: 12V Power input

| Pin | Pin marking | Top view corresponding to serial number<br>(Interface description: DC-044A 5.5*2.1mm) |
|-----|-------------|---------------------------------------------------------------------------------------|
| 1   | 12V         |     |
| 2   | GND         |                                                                                       |
| 3   | GND         |                                                                                       |
| 4   | GND         |                                                                                       |
| 5   | GND         |                                                                                       |

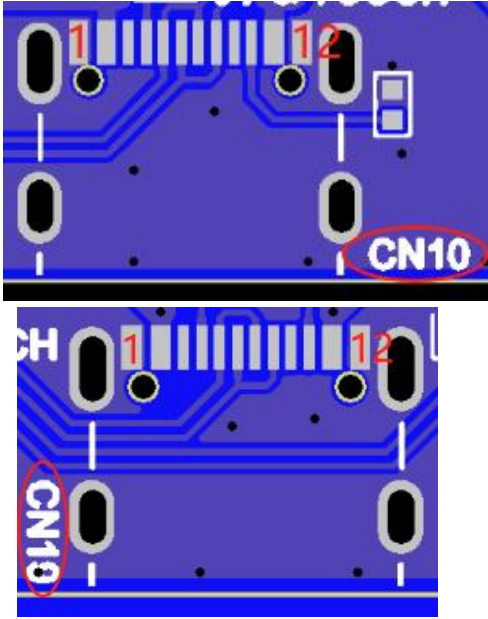
### 4.2 CN2: Built-in 12V power input

| Pin | Pin marking | Top view corresponding to serial number<br>(Interface description: PH2.0mm-4Pin)     |
|-----|-------------|--------------------------------------------------------------------------------------|
| 1   | 12V         |  |
| 2   | GND         |                                                                                      |

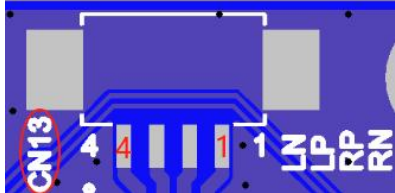
### 4.3 CN2/CN18: HDMI input

| Pin | Pin marking | Pin | Pin marking | (Corresponding serial number in the top view)                                                                                                                                                                                                                  |
|-----|-------------|-----|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1   | DATA2       | 11  | CLK+        | <p>Interface parameters can be found in the model specifications</p> <p>HDMI-519</p>   |
| 2   | DATA2+      | 12  | CLK-        |                                                                                                                                                                                                                                                                |
| 3   | DATA2-      | 13  | NC          |                                                                                                                                                                                                                                                                |
| 4   | DATA1       | 14  | NC          |                                                                                                                                                                                                                                                                |
| 5   | DATA1+      | 15  | SCL         |                                                                                                                                                                                                                                                                |
| 6   | DATA1-      | 16  | SDA         |                                                                                                                                                                                                                                                                |
| 7   | DATA0       | 17  | GND         |                                                                                                                                                                                                                                                                |
| 8   | DATA0+      | 18  | +5V         |                                                                                                                                                                                                                                                                |
| 9   | DATA0-      | 19  | HOT PLUG    |                                                                                                                                                                                                                                                                |
| 10  | CLK SHIELD  |     |             |                                                                                                                                                                                                                                                                |

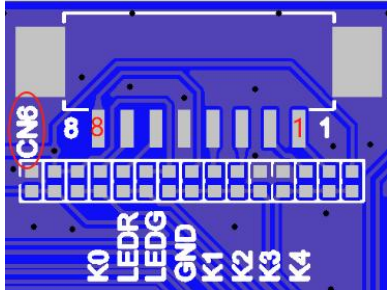
#### 4.4 CN10/CN19: USB 5V and touch signal

| Pin | Pin marking | Top view corresponding serial number                                               |
|-----|-------------|------------------------------------------------------------------------------------|
| 1   | VBUS        |  |
| 2   | GND         |                                                                                    |
| 3   | NC          |                                                                                    |
| 4   | CC1         |                                                                                    |
| 5   | DM          |                                                                                    |
| 6   | DP          |                                                                                    |
| 7   | DM          |                                                                                    |
| 8   | DP          |                                                                                    |
| 9   | NC          |                                                                                    |
| 10  | CC2         |                                                                                    |
| 11  | GND         |                                                                                    |
| 12  | VBUS        |                                                                                    |

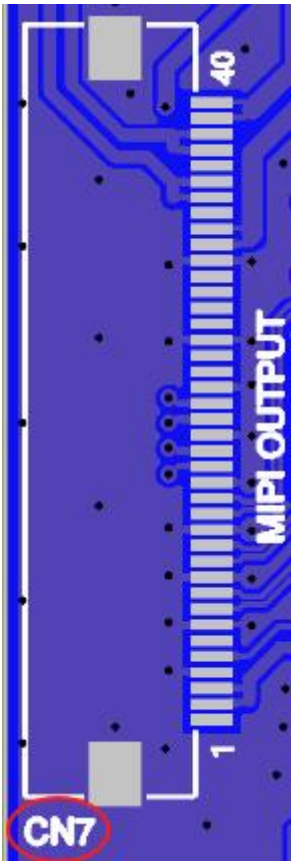
#### 4.5 CN13: Power amplifier output

| Pin | Pin marking | Top view corresponding serial number                                                 |
|-----|-------------|--------------------------------------------------------------------------------------|
| 1   | RN          |  |
| 2   | RP          |                                                                                      |
| 3   | LP          |                                                                                      |
| 4   | LN          |                                                                                      |

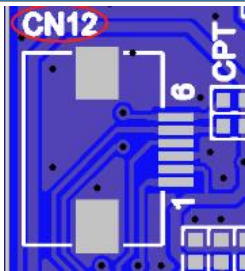
#### 4.6 CN6: keypad interface

| Pin | Pin marking | (Corresponding to the top view diagram) Interface description: PH2.0mm- 12Pin        |
|-----|-------------|--------------------------------------------------------------------------------------|
| 1   | K4          |  |
| 2   | K3          |                                                                                      |
| 3   | K2          |                                                                                      |
| 4   | K1          |                                                                                      |
| 5   | GND         |                                                                                      |
| 6   | LEDG        |                                                                                      |
| 7   | LEDR        |                                                                                      |
| 8   | K0          |                                                                                      |

#### 4.7 CN7: MIPI output

| Pin | Pin marking | Pin | Pin marking | (Corresponding serial number in the top view)                                                                                           |
|-----|-------------|-----|-------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| 1   | NC          | 21  | MIPI_D3+    | <p>VDD: default 3.3V</p> <p>VSN/VSP: default NC</p>  |
| 2   | VDD         | 22  | GND         |                                                                                                                                         |
| 3   | VDD         | 23  | NC          |                                                                                                                                         |
| 4   | GND         | 24  | NC          |                                                                                                                                         |
| 5   | RESET       | 25  | GND         |                                                                                                                                         |
| 6   | NC          | 26  | NC          |                                                                                                                                         |
| 7   | GND         | 27  | NC          |                                                                                                                                         |
| 8   | MIPI_D0-    | 28  | NC          |                                                                                                                                         |
| 9   | MIPI_D0+    | 29  | NC          |                                                                                                                                         |
| 10  | GND         | 30  | GND         |                                                                                                                                         |
| 11  | MIPI_D1-    | 31  | LED-        |                                                                                                                                         |
| 12  | MIPI_D1+    | 32  | LED-        |                                                                                                                                         |
| 13  | GND         | 33  | NC          |                                                                                                                                         |
| 14  | MIPI_CLK-   | 34  | VSN         |                                                                                                                                         |
| 15  | MIPI_CLK+   | 35  | VSN         |                                                                                                                                         |
| 16  | GND         | 36  | NC          |                                                                                                                                         |
| 17  | MIPI_D2-    | 37  | VSP         |                                                                                                                                         |
| 18  | MIPI_D2+    | 38  | VSP         |                                                                                                                                         |
| 19  | GND         | 39  | LED+        |                                                                                                                                         |
| 20  | MIPI_D3-    | 40  | LED+        |                                                                                                                                         |

#### 4.8 CN12: IIC touch interface

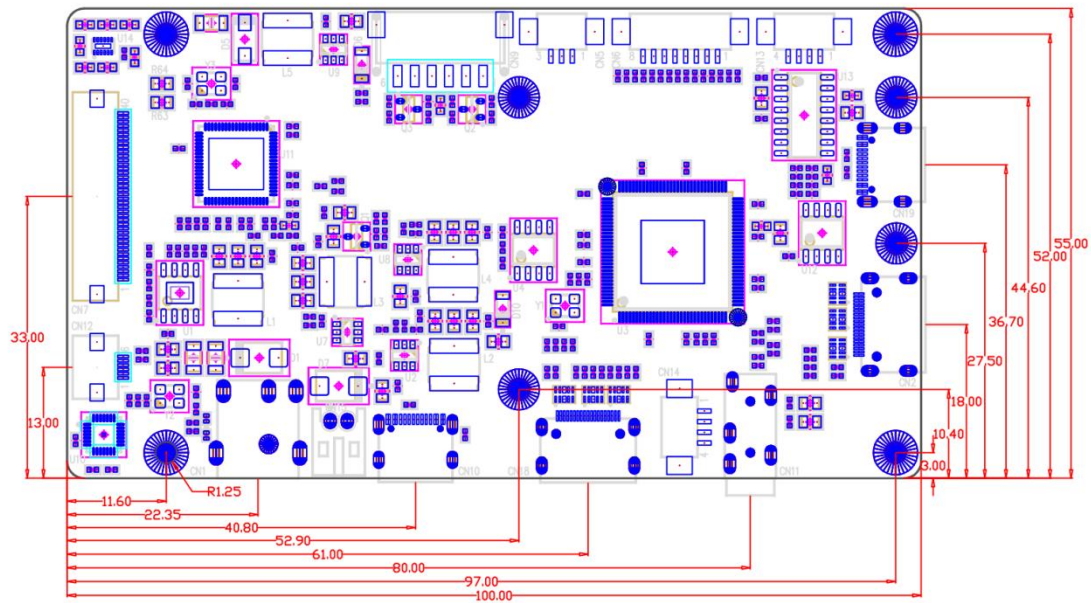
| Pin | Pin marking | (Corresponding serial number in the top view)                                        |
|-----|-------------|--------------------------------------------------------------------------------------|
| 1   | RST         |  |
| 2   | VCC         |                                                                                      |
| 3   | GND         |                                                                                      |
| 4   | INT         |                                                                                      |
| 5   | SDA         |                                                                                      |
| 6   | SCL         |                                                                                      |

## 5. Product dimensions.

## PCB Mechanical dimensions

Unit: mm

Tolerance:  $\pm 0.3\text{mm}$



## 6. Usage environment.

- Relative humidity (non-condensing):  $\leq 80\%$
- Storage conditions: Temperature 30°C to +80°C; Relative humidity 5-85%
- Operating conditions: Temperature 20°C to +70°C; Relative humidity 20-80%

## 7. Precautions.

- Keep the circuit board away from strong static electricity.
- Ensure you use a suitable power adapter; overvoltage or undervoltage may cause abnormal operation or even damage.
- Before powering on, carefully check the direction of the connecting cables and ensure the screen voltage is correct; otherwise, the LCD module may be damaged.
- Avoid dropping metal objects onto the circuit board while it is operating.
- Do not plug or unplug connectors while the circuit board is operating.
- Do not disassemble the module.
- If the mainboard surface is dirty, please clean it with a soft cloth (not a wet cloth).

## 8. Version update.

| Rev.  | Date       | Note          |
|-------|------------|---------------|
| V1.0  | 2024-04-25 | first edition |
| V1.1  | 2025-06-17 |               |
| ..... | .....      |               |
|       |            |               |