

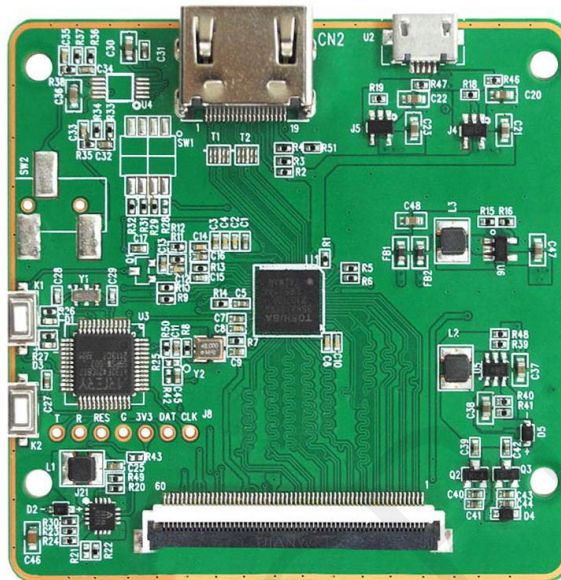


## **Development Board for 2.4 inch OLED Display-DOJ024-HM01**



Dalian Good Display Co., Ltd.

# Product Specifications



<b>Customer</b>	<b>Standard</b>
<b>Description</b>	<b>Development Board For 2.4" OLED</b>
<b>Model Name</b>	<b>DOJ024-HM01</b>
<b>Date</b>	<b>2023/12/06</b>
<b>Revision</b>	<b>1.0</b>

	Design Engineering		
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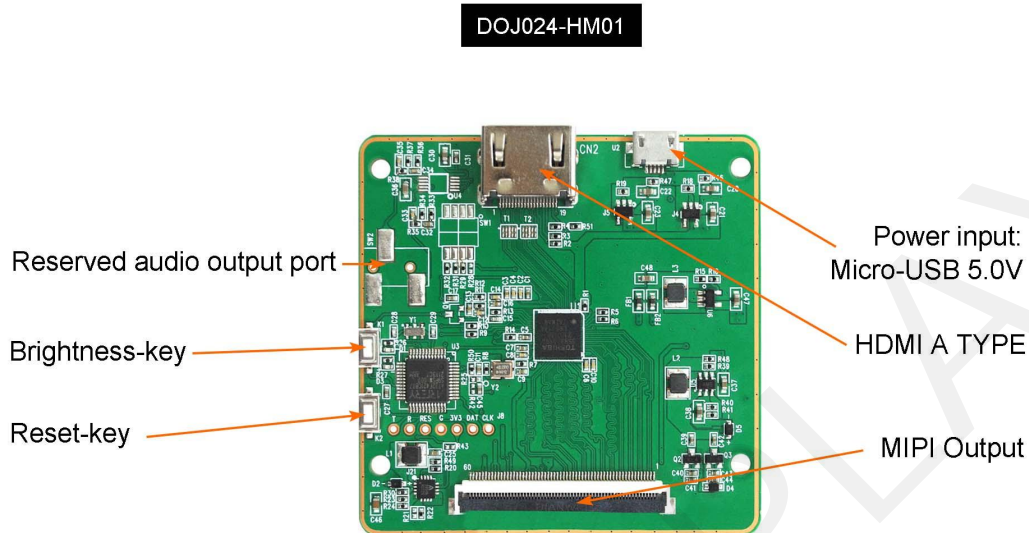
## 1. Overview

This development board is made to drive 2.4-inch OLED. It utilizes the TC358870XBG conversion chip, capable of handling HDMI inputs of up to 297MHz and transmitting video streams at a maximum of 7.2Gbps. It can be configured for single or dual DSI outputs. The development board exclusively exposes the video functionality of the chip, while the audio section remains unexposed. Power is supplied to the development board via MICRO USB, requiring a 5V 1A adapter or USB power from a computer to meet performance requirements.

## 2. Structure Specification

Model	DOJ024-HM01
Outline Size	48x53mm
Power Supply	USB-powered
Sample Program	Can be provided
Operating Temp.	-20 °C ~ 70 °C
Main Function	USB Communication
Main Functions	HDMI to MIPI interface; Testing and evaluating an AM-OLED display screen; Performing secondary development based on this board.

### 3. Diagram



#### 3.1 Resolution

1. Maximum supported resolution: 4096x4096
2. Typical supported resolutions:
  - 1) 1920x1080 @ 60fps
  - 2) 2560x1600 @ 60fps
  - 3) 3840x2160 @ 30fps

#### 3.2 Usage scenarios:

Computer PC and Raspberry Pi

Note 1: Better compatibility with NVIDIA graphics cards. Integrated graphics or A-cards might result in a black screen.

Note 2: Currently not compatible with Android TV boxes or Android development boards.

Linux systems require matching driver board HDMI parameters.

#### 3.3 Power Circuitry

Due to the ESD protection diode being installed between the power supply and ground on the input pins, there is a possibility of current flowing back from the

source device to the HDMI-Rx when the power is turned off. Additionally, it is advisable to isolate the VDD33\_HDMI power from another 3.3V power source because this reverse flow of current could potentially cause damage to it.

## 4. Program Downloading

### 4.1 QSPI Simple Code:

```
//-----IM1=1.8V, IM0=0V settings  
required-----//(0xFE, 0x82)
```

```
(0x09, 0x37)
```

```
(0xFE, 0x00)
```

```
(0xC4, 0x80)
```

```
(0x2A, 0x00, 0x10, 0x01, 0xD1)
```

```
(0x2B, 0x00, 0x00, 0x02, 0x57)
```

```
(0x30, 0x00, 0x01, 0x02, 0x56)
```

```
(0x35, 0x00)
```

```
(0xC2, 0x00)//align external timing
```

```
(0x51, 0xFF)
```

```
(0x12, 0x00)
```

```
(0x11)
```

```
TIME.DELAY(120)
```

```
(0x29)
```

### 4.2 MIPI Simple Code:

```
(0xFE, 0x82)
```

```
(0x09, 0x37)
```

```
(0xFE, 0x00)
```

```
(0x2A, 0x00, 0x10, 0x01, 0xD1)
```

```
(0x2B, 0x00, 0x00, 0x02, 0x57)
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