

SMART DISPLAY MODULE SPECIFICATION

7.6 Inch Smart Display	
Model:	UEDX80800076-HMD-RB-A
Version:	V1.0
Date:	2024-09-23

Customer Confirmation

Approved by	Notes

REVISION HISTORY

Revision	Date	Contents of Revision Change	Remark
V1.0	20240923	Preliminary release	

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1. Introduction

1.1 Features

Brief Info:

- 1) 7.6inch standard monitor with 800*800 hardware resolution.
- 2) Also monitor Raspberry Pi, BB Black, Banana Pi and other mainstream mini PCS
- 3) When used as a Raspberry Pi monitor, it supports Raspbian, Ubuntu, WIN10IOT and other systems, with single o'clock control and no drive
- 4) When used as a computer monitor, it supports Windows 7/8/81/10, five-point touch, free drive
- 5) Support common game consoles such as Microsoft PS4, XBOX360 and Ren Tianxue

Adapter board: PCBA-UEDX-H2MIPI30P-TP

- 1) Chip:IT6616FN
 - a) Conforms to HDMI 1.4B and HDCP1.4 standards
 - b) Support RGB and YCbCr 444/422/420 formats
 - c) CSC(Color Space Conversion) matrix and RGB/YCbCr422/YCbCr444 conversion are supported
 - d) Serial data rate up to 3.0Gbps, capable of supporting HDMI video up to 4Kx2K@30Hz 444, 4Kx2K@60Hz 420.
 - e) Supports HDMI1.4 3D format
 - f) Power supply :1.2V and 3.3V
 - g) 56-pin 8x8 QFN package
 - h) RoHS compliant (100% green available)
- 2) Signal Input: HDMI 1.4 (mini HDMI)
- 3) Signal Output: dual-mode MIPI CSI/DSI
- 4) Power Suppl: :5V DC,0.1W in standby mode and 0.7W in board working mode
- 5) Backlight: 80mA Max (can be changed according to screen backlight)
- 6) Relative humidity: $\leq 80\%$
- 7) Temperature Storage Range: $-20^{\circ}\text{C}\sim+85^{\circ}\text{C}$;
- 8) Temperature Operating Range: $0^{\circ}\text{C}\sim+70^{\circ}\text{C}$;
- 9) Notes
 - a) Keep the circuit board away from strong static electricity.
 - b) Pay attention to check the direction of the connection line and screen voltage is correct before power, otherwise it will damage the LCD module.
 - c) Avoid metal falling in the circuit board when the circuit board is working.
 - d) Do not push or pull the connector when the circuit board is working.
 - e) Do not disassemble the module.
 - f) If the motherboard surface is dirty, please clean with a soft cloth (non-wet cloth).

Display:

- 1) Size: 7.6 Inch
- 2) Pixel Driving element: IPS
- 3) Resolution: 800(W)*3(RGB)*800(H)
- 4) Pixel Arrangement: RGB Vertical Stripe
- 5) Interface Mode: MIPI 4lane
- 6) Driver IC: ILI9881C
- 7) Backlight Type: White LED
- 8) Display mode: Normally Black
- 9) LED life time: 30,000 Hours
- 10) Operation Temperature: -20~70°C
- 11) Storage Temperature: -30~80°C

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1.2 Appearance picture



2. Product information

2.1 Display Interface Description

Pin No.	Symbol	I/O	Description
1	LEDA	P	Power supply for backlight anode
2-3	LEDK1/2	P	Power supply for backlight cathode
4	VCI	P	Power supply for analog circuits
5	IOVCC	P	Power supply to the internal logic power regulator
6	RESET	I	External reset pin
7	TE	O	Tearing effect output pin
8	PWM	O	LCD backlight control pwm output pin
9	GND	P	Power Ground
10	D0P	I/O	Mipi DSI differential data pair Data0
11	D0N	I/O	Mipi DSI differential data pair Data0
12	GND	P	Power Ground
13	D1P	I	Mipi DSI differential data pair Data1
14	D1N	I	Mipi DSI differential data pair Data1
15	GND	P	Power Ground
16	CLKP	I	Mipi DSI differential clock pair
17	CLKN	I	Mipi DSI differential clock pair
18	GND	P	Power Ground
19	D2P	I	Mipi DSI differential data pair Data2
20	D2N	I	Mipi DSI differential data pair Data2
21	GND	P	Power Ground
22	D3P	I	Mipi DSI differential data pair Data3
23	D3N	I	Mipi DSI differential data pair Data3
24	GND	P	Power Ground
25	TP_INT	I	TP INT Signal
26	TP_SDA	I/O	TP I2C data input/out put pin
27	TP_SCL	I	TP I2C clock input
28	TP_RST	I	TP I2C RST Active Low
29	TP_VCI	P	Power supply
30	TP_IOVCC	P	Power supply

I: Input; O: Output; P: Power

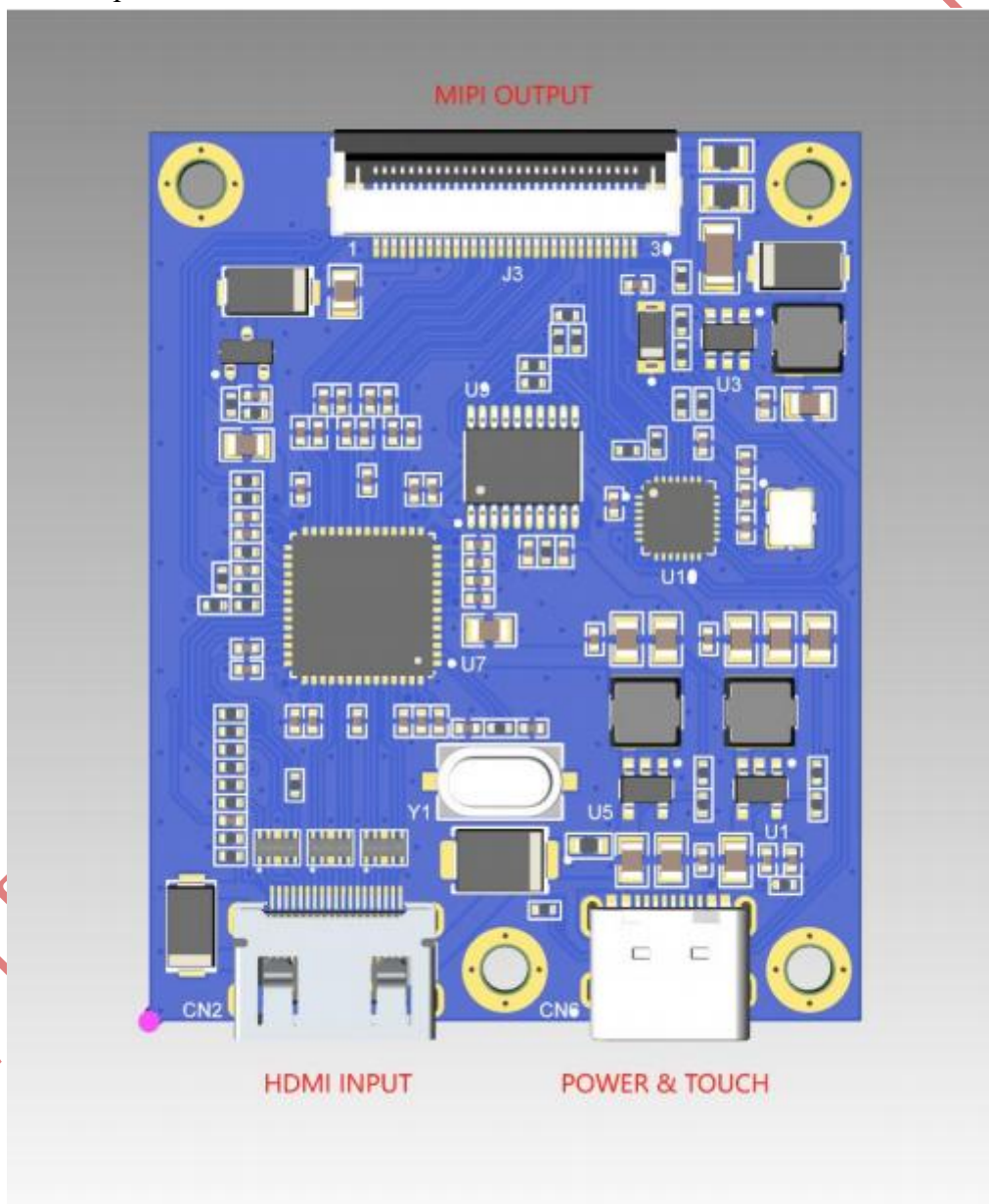
2.2 Hardware Interface Description

PCB is a high performance HDMI-to-MIPI video converter. It integrates an HDMI 1.4 receiver and a dual-mode MIPI CSI/DSI transmitter with MIPI D-PHY, and a USB capacitive touch(optional).

12) CN6: Power & Touch Input/Type-C

13) CN2: mini HDMI Input/mini HDMI

14) J3: MIPI output/MIPI



2.3 Display Information

Item	Parameter	Description
Color	16.7M colors	24bits
AA	135.36(W)*135.36(H)	7.6 inch
Resolution	800(W)*3(RGB)*800(H)	Rectangle
Backlight	LED	30000Hour Min
Brightness	1000 cd/m ²	

2.4 Voltage & Current

Item	Conditions	Min	Typ	Max	Unit
Power Voltage	DC	4.0	5.0	5.5	V
Operation Current	VCC= +5V, Maximum backlight current		225		mA
	VCC= +5V, backlight off	-	150	-	mA
Recommended power supply: 5V 1A DC					

2.5 Reliability Test

Item	Conditions	Min	Typ	Max	Unit
Working Temperature	60%RH at 5V voltage	-20	25	70	C
Storage Temperature	---	-30	25	80	C
Working Humidity	25°C	10%	60%	90%	RH
ESD	---	Contact: ±4KV Air: ±8KV			KV

4. Operating instructions

4.1 Used in Raspberry PI Raspbian/Ubuntu Mate/Win10 IoT Core system

Step 1: Install the official image

- A. Download the latest image from the official
- B. Install the system according to the steps of the official tutorial

Step 2 : Modify the config.txt configuration file Step 1 After the burn is completed, open the config.txt file in the root directory of the Micro SD card and add the following code at the end of the file. Save and safely eject the Micro SD card.

```
hdmi_force_edid_audio=1
max_usb_current=1
hdmi_force_hotplug=1
config_hdmi_boost=7
hdmi_group=2
hdmi_mode=1
hdmi_mode=87
hdmi_drive=2
hdmi_cvt 800 800 60 6 0 0 0
```

Step 3: Insert the Micro SD card into the Raspberry PI, connect the HDMI cable to the Raspberry PI and the LCD, connect the USB cable to any of the four USB ports of the Raspberry PI, connect the other end of the USB cable to the USB port of the LCD, and then power up the Raspberry PI. If the display and touch are normal, the drive is successful.

4.2 How to use it as a computer monitor

Step 1 : Use the HDMI cable to connect the computer HDMI output signal to the LCD HDMI interface;

Step 2: Power the LCD, connect one end of the Type-C line to the LCD adapter board, and connect the other end to the USB interface of the computer; If there are multiple displays, unplug the other display interfaces first and test this LCD as the only display.