

# Smart Panlee

## Smart Serial LCD Module

ZX3D50CE02S-USRC-4832



## Features:

1. Support rapid prototyping
2. Based on Wireless-Tag's WT32-S3-WROVER-N8R2 module

## Core Materials (Table 0):

No.	Name	Model	Remark
1	ESP32 module	WT32-S3-WROVER-N8R2	
2	LCD module	ZX3D50C4832I	
3			

## Hardware Interface:

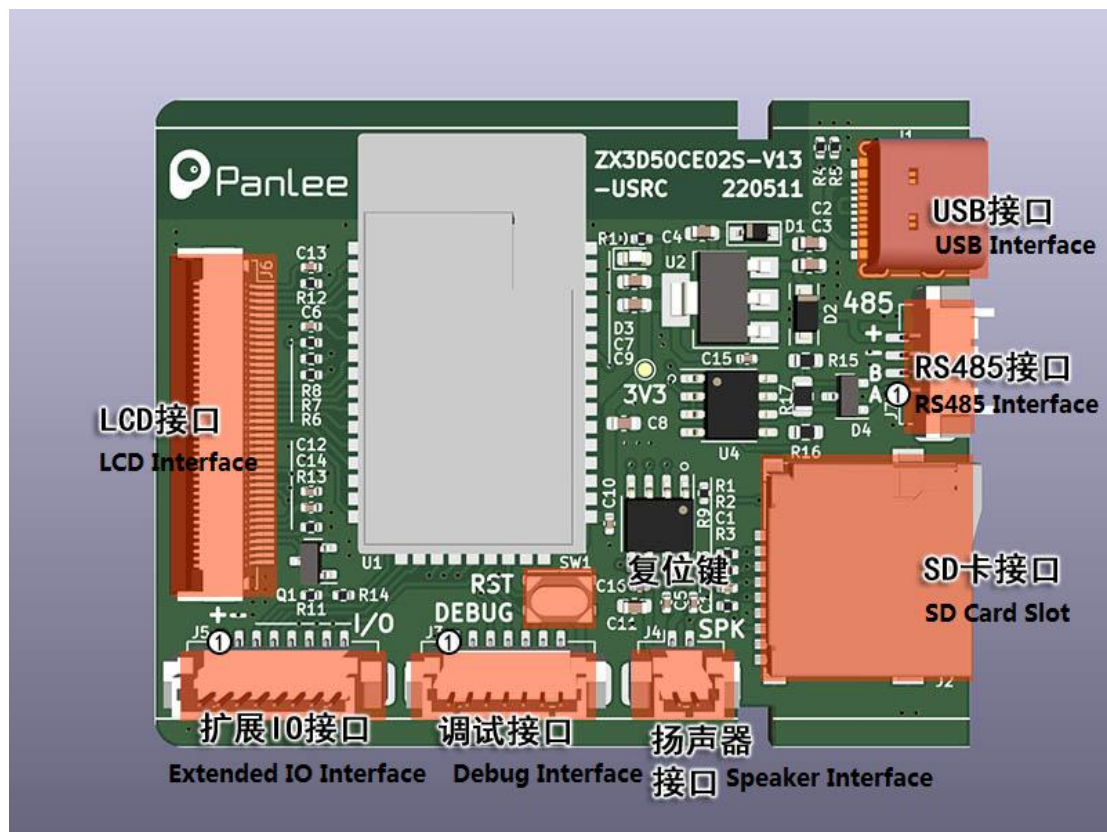


Fig.1 Hardware Interface

## Interface Description:

[1] Debug Interface (Table 1)

Pin	Description	Module Pin	Voltage Range	Remark
1	+5V	-	5V	
2	+3.3V	-	3.3V	For reference, not for power input
3	ESP_TXD	TXD0	3.3V TTL	
4	ESP_RXD	RXD0	3.3V TTL	
5	EN	EN	0-3.3V	Chip enable
6	BOOT	GPIO 0	0-3.3V	
7	GND	GPIO 14	0V	Ground

[2] Extended IO Interface (Table 2)

Pin	Description	Module Pin	Voltage Range	Remark
1	+5V	-	5V±5%	Power supply or output voltage
2	GND	-	0V	Ground
3	EXT_IO1	GPIO 10	0-3.3V	Extended IO
4	EXT_IO2	GPIO 11	0-3.3V	
5	EXT_IO3	GPIO 12	0-3.3V	
6	EXT_IO4	GPIO 13	0-3.3V	
7	EXT_IO5	GPIO 14	0-3.3V	
8	EXT_IO6	GPIO 21	0-3.3V	

[3] RS485 Interface (Table 3)

Pin	Description	Remark
1	RS485-A	RS485 bus
2	RS485-B	

3	GND	Ground
4	+5V	Power supply or output voltage

[4] LCM Interface (Table 4)

Description	Module Pin	Remark
BL_PWM	GPIO 45	Backlight control, active high
LCD_RESET	GPIO 4	LCD reset, multiplexed with touch reset
LCD_RS	GPIO 0	Command/Data selection
LCD_WR	GPIO 47	Write clock
LCD_TE	GPIO 48	Frame sync
LCD_DB0	GPIO 9	LCD data interface, 8bit MCU (8080)
LCD_DB1	GPIO 46	
LCD_DB2	GPIO 3	
LCD_DB3	GPIO 8	
LCD_DB4	GPIO 18	
LCD_DB5	GPIO 17	
LCD_DB6	GPIO 16	
LCD_DB7	GPIO 15	
TP_INT	GPIO 7	Touch interrupt
TP_SDA	GPIO 6	Touch IIC data
TP_SCL	GPIO 5	Touch IIC clock
TP_RST	GPIO 4	Touch reset, multiplexed with LCD reset

## Specification Parameters:

[1] Display Parameters (Table 5)

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<b>Display Type</b>	LCD
<b>Driver IC Model</b>	ST7796UI
<b>Viewing Angle</b>	FULL
<b>Resolution</b>	480*320
<b>Interface</b>	MCU8080 8Bit
<b>Color</b>	RGB565
<b>Backlight Type</b>	LED
<b>Backlight Brightness</b>	

[2] GPIO Interface Parameters (Table 6)

	Test Condition	Min	Typ	Max	Unit
<b>GPIO Voltage Level</b>	Output High, I <sub>out</sub> = 4mA	3.0	3.3	-	V
	Output Low, I <sub>out</sub> = -4mA	-	0	0.3	V
	Input High	2.4	3.3	3.3	V
	Input Low	0	-	0.5	V
	<b>Baud Rate</b>	3150~2500000bps, typical value: 115200bps			
<b>Data Format</b>	UART: N81/E81/O81/N82 4 modes (OS configuration)				
<b>Interface Cable</b>	8Pin MX1.25				

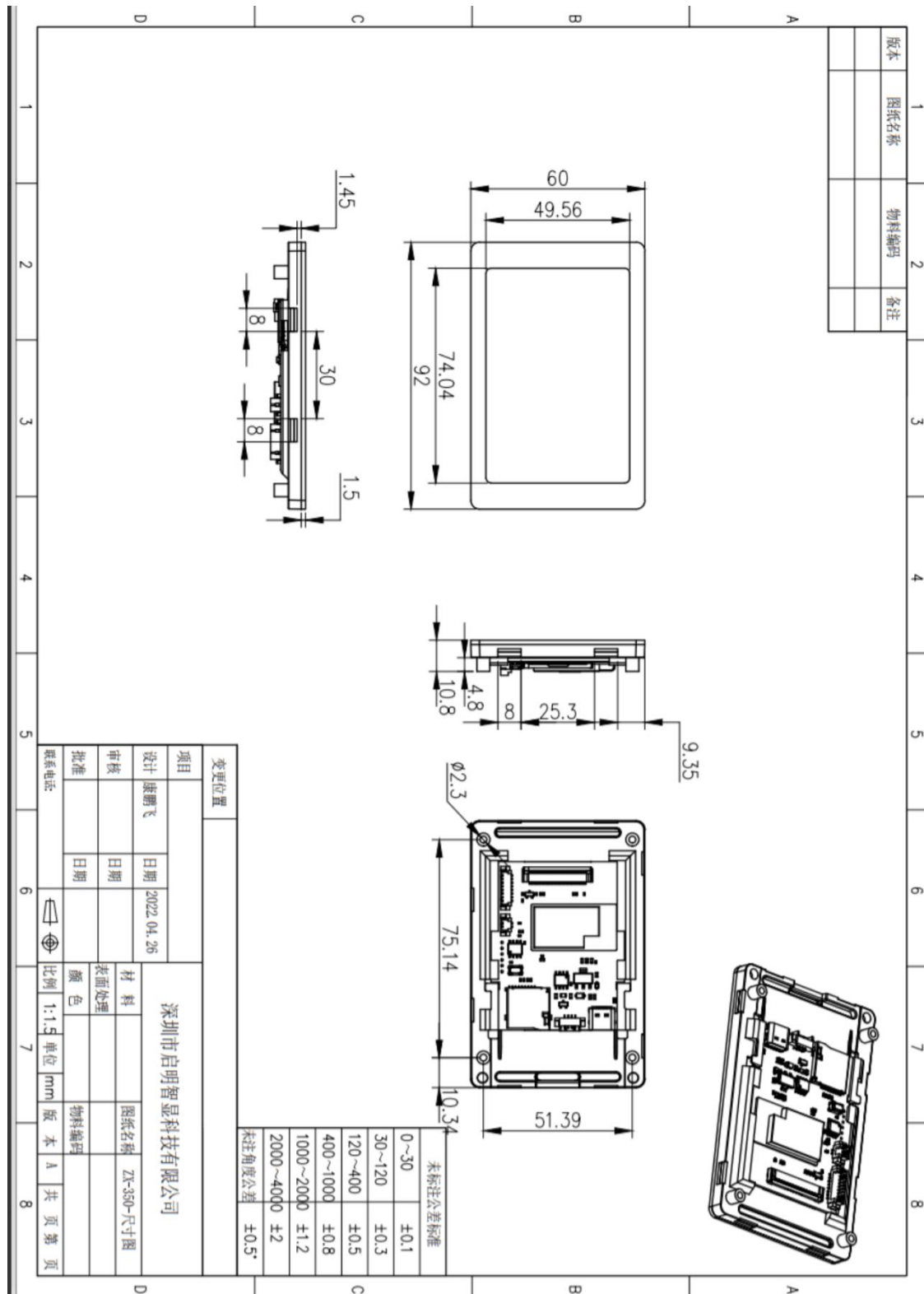
[3] Electrical Specifications (Table 7)

Parameter	Test Condition	Min	Typ	Max	Unit
Rated Power		4.7	5.0	5.5	V
Operating Voltage	USB provides 5V power, with maximum backlight brightness	170	175	190	mA

[4] Operating Environment (Table 8)

<b>Operating Temperature</b>	-20°C~70°C (5V @ 60% RH)
<b>Storage Temperature</b>	-30°C~80°C
<b>Conformal Coating</b>	None
<b>Operating Humidity</b>	10%~90%RH, typical value: 60%RH

## Outline Dimensional Drawing (Fig.2)



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