SMART DISPLAY MODULE SPECIFICATION

4.3 Inch Smart Display with TOUCH	
Model:	UEDX48270043E-WB-A
Version:	V3.1
Date:	2024-08-24

Customer Confirmation

Approved by	Notes

REVISION HISTORY

Revision	Date	Contents of Revision Change	Remark
V1.0	20240611	Preliminary release	
V2.0	20240628	Change to English version	
V2.1	20240709	Change header	
V2.2	20240713	Updated mechanical drawing	
V3.0	20240723	Add schematic	
V3.1	20240802	Add schematic,environment configuration and SDK links	
	20240824	Add a program example link for lvgl V9	

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1. Introduction

1.1 Features

Brief Info:

1) Two buttons: a reset button and a boot button.
2) Backup IO: download ports and multiple IO leads to use on both sides of the periphery.
3) Power: DC 5V, 300mA

System

1) OS: RTOS
2) CPU: ESP32-S3 240Mhz
3) RAM: 8MB
4) Flash: 16MB
5) Interface: UART/USB
6) Support 2.4GHz Wi-Fi、BLE 5、BLE Mesh

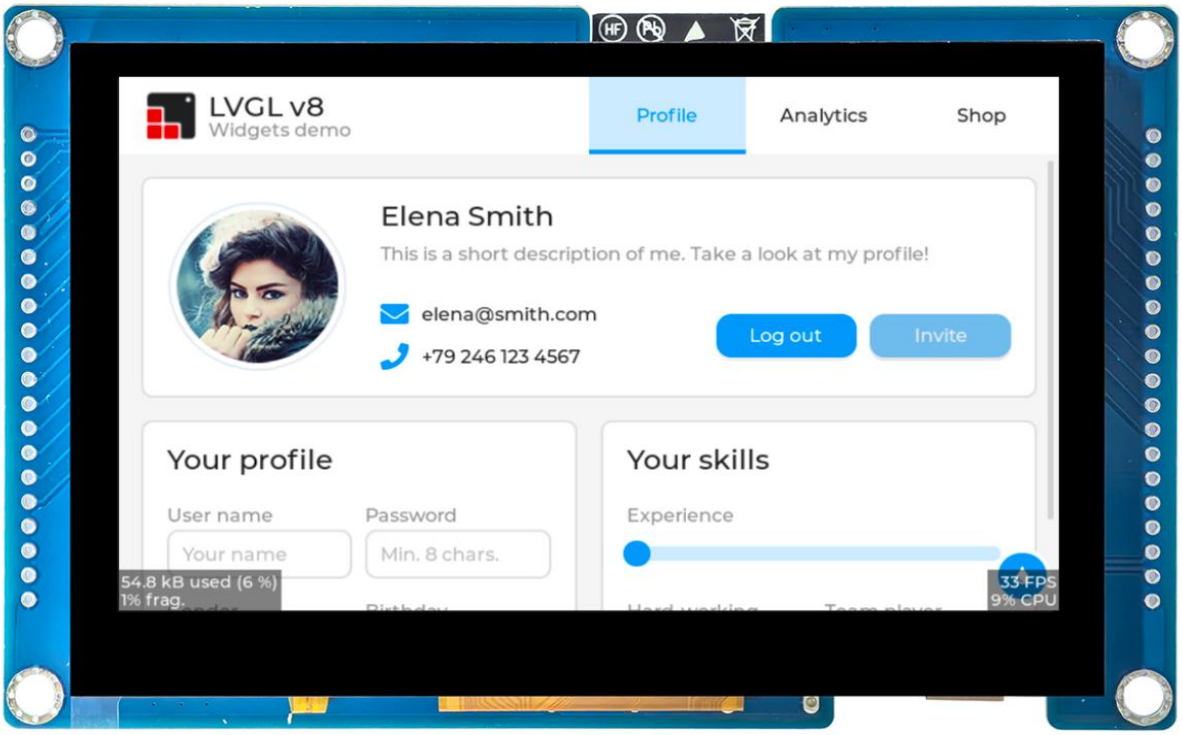
Display

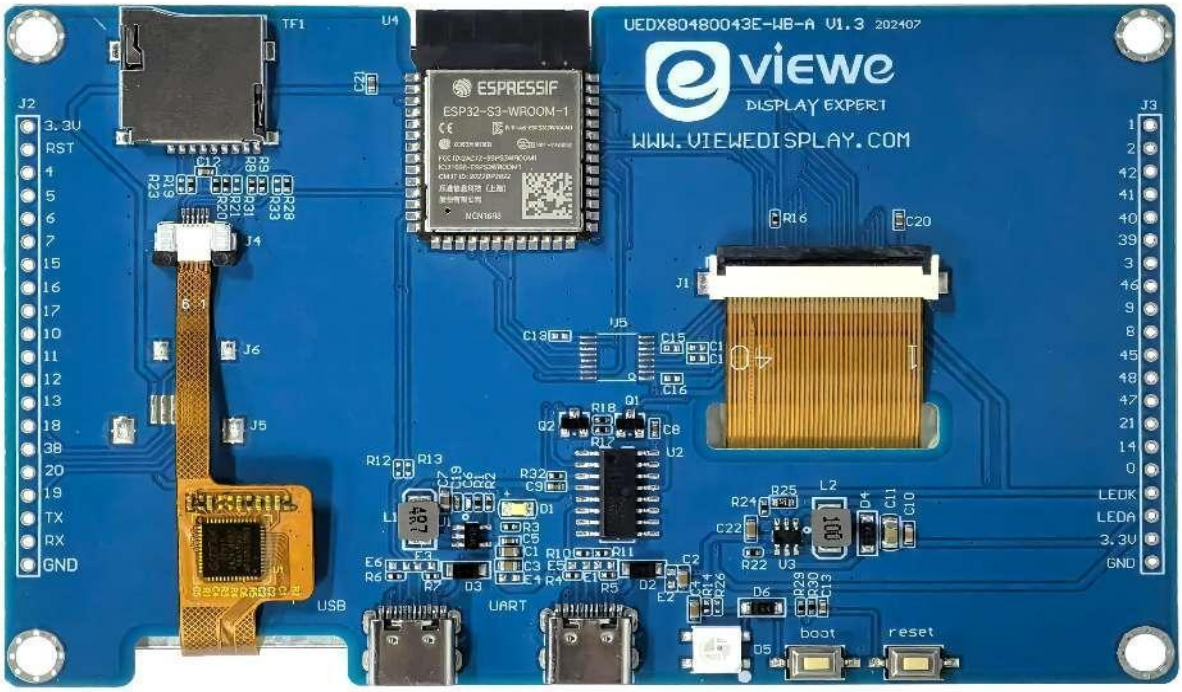
1) Size: 4.3 Inch
2) Resolution: 480*272
3) Mode: IPS
4) Interface Mode：40PIN RGB 24bits
5) Driver IC： ST7283-G4-1-E
6) Brightness: 350 cd/m^2
7) Pixel Density：128 PPI
8) Touch: CTP

Other

1) Operation Temperature：-20~70℃
2) Storage Temperature：-30~80℃

1.2 Appearance picture





2. Product information

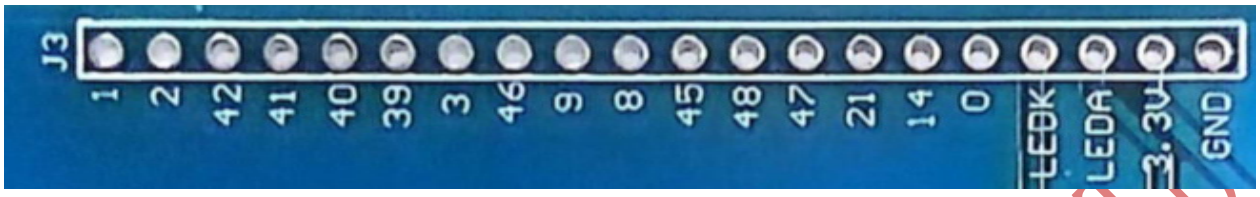
2.1 Interface Description

Pin NO.	Symbol	Description	Voltage Range	Current Occupancy
1	3.3V	Power 3.3V	3.3V	Power 3.3V
2	RST	High: on, enables the chip Low: off, the chip powers off. Note: Do not leave the EN pin floating	0-3.3V	Note: Do not leave the EN pin floating
3	4	RTC_GPIO4, GPIO4, TOUCH4, ADC1_CH3	0-3.3V	GPIO4
4	5	RTC_GPIO5, GPIO5, TOUCH5, ADC1_CH4	0-3.3V	GPIO5
5	6	RTC_GPIO6, GPIO6, TOUCH6, ADC1_CH5	0-3.3V	GPIO6
6	7	RTC_GPIO7, GPIO7, TOUCH7, ADC1_CH6	0-3.3V	GPIO7
7	15	RTC_GPIO15, GPIO15, U0RTS, ADC2_CH4, XTAL_32K_P	0-3.3V	GPIO15
8	16	RTC_GPIO16, GPIO16, U0CTS, ADC2_CH5, XTAL_32K_N	0-3.3V	GPIO16
9	17	RTC_GPIO17, GPIO17, U1TXD, ADC2_CH6	0-3.3V	GPIO17
10	10	RTC_GPIO10, GPIO10, TOUCH10, ADC1_CH9, FSPICS0, FSPIIO4, SUBSPICS0	0-3.3V	SUBSPICS0
11	11	RTC_GPIO11, GPIO11, TOUCH11, ADC2_CH0, FSPID, FSPIIO5, SUBSPID	0-3.3V	GPIO11
12	12	RTC_GPIO12, GPIO12, TOUCH12, ADC2_CH1, FSPICLK, FSPIIO6, SUBSPICLK	0-3.3V	SUBSPICLK
13	13	RTC_GPIO13, GPIO13, TOUCH13, ADC2_CH2, FSPIQ, FSPIIO7, SUBSPIQ	0-3.3V	GPIO13
14	18	RTC_GPIO18, GPIO18, U1RXD, ADC2_CH7, CLK_OUT3	0-3.3V	GPIO18
15	38	GPIO38, FSPIWP, SUBSPIWP	0-3.3V	GPIO38
16	20	RTC_GPIO20, GPIO20, U1CTS, ADC2_CH9, CLK_OUT1, USB_D+	0-3.3V	USB_D+
17	19	RTC_GPIO19, GPIO19, U1RTS, ADC2_CH8, CLK_OUT2, USB_D-	0-3.3V	USB_D-
18	TX	U0TXD, GPIO43, CLK_OUT1	0-3.3V	U0TXD
19	RX	U0RXD, GPIO44, CLK_OUT2	0-3.3V	U0RXD
20	GND	Grounds	0V	Grounds

The following picture shows the pins with 20 pind spacing between 2.54mm

Pin NO.	Symbol	Description	Voltage Range	Current Occupancy
1	1	RTC_GPIO1, GPIO1, TOUCH1, ADC1_CH0	0-3.3V	GPIO1
2	2	RTC_GPIO2, GPIO2, TOUCH2, ADC1_CH1	0-3.3V	GPIO2
3	42	MTMS, GPIO42	0-3.3V	GPIO42
4	41	MTDI, GPIO41, CLK_OUT1	0-3.3V	GPIO41
5	40	MTDO, GPIO40, CLK_OUT2	0-3.3V	GPIO40
6	39	MTCK, GPIO39, CLK_OUT3, SUBSPICS1	0-3.3V	GPIO39
7	3	RTC_GPIO3, GPIO3, TOUCH3, ADC1_CH2	0-3.3V	GPIO3
8	46	GPIO46	0-3.3V	GPIO46
9	9	RTC_GPIO9, GPIO9, TOUCH9, ADC1_CH8, FSPIHD, SUBSPIHD	0-3.3V	GPIO9
10	8	RTC_GPIO8, GPIO8, TOUCH8, ADC1_CH7, SUBSPICS1	0-3.3V	GPIO8
11	45	GPIO45	0-3.3V	GPIO45
12	48	SPICLK_N_DIFF,GPIO48, SUBSPICLK_N_DIFF	0-3.3V	GPIO48
13	47	SPICLK_P_DIFF,GPIO47, SUBSPICLK_P_DIFF	0-3.3V	GPIO47
14	21	RTC_GPIO21, GPIO21	0-3.3V	GPIO21
15	14	RTC_GPIO14, GPIO14, TOUCH14, ADC2_CH3, FSPIWP, FSPIDQS, SUBSPIWP	0-3.3V	GPIO14
16	0	RTC_GPIO0, GPIO0	0-3.3V	GPIO0
17	LEDK	BL-	TDB	BL-
18	LEDA	BL+	TDB	BL+
19	3.3V	Power 3.3V	3.3V	Power 3.3V
20	GND	Grounds	0V	Grounds

The picture below shows a 1*21 needle row with a spacing of 2.54mm



The following picture shows the boot button on the left and the reset button on the right.

The following figure is the schematic diagram of USB. USB is used for power and download.

2.2 Display Information

Item	Specification	Unit	Remark
Pixel Driving element	IPS TFT	-	-
Screen Size	4.3	Inch	Diagonal
Resolution	480(W)*3(RGB)*272(H)	Dots	-
Interface	RGB 24bits	-	40PIN
Module Power Consumption	0.765	Watt	Typ.
Active Area	95.02(W)*53.85(H)	mm	-
Pixel pitch (W*H)	0.198(W)*0.198(H)	mm	-
Module Size (W*H*D)	105.52(W)*67.17(H)*3.0(D)	mm	-
Luminance	350	cd/m^2	Typ.
Viewing Direction	ALL	O'clock	-
Display Color	16.7M	Colors	24bits

2.3 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	50	280	150	mA
	VCC= +5V,backlight off	-	150	-	mA
Recommended power supply:5V 1A DC					

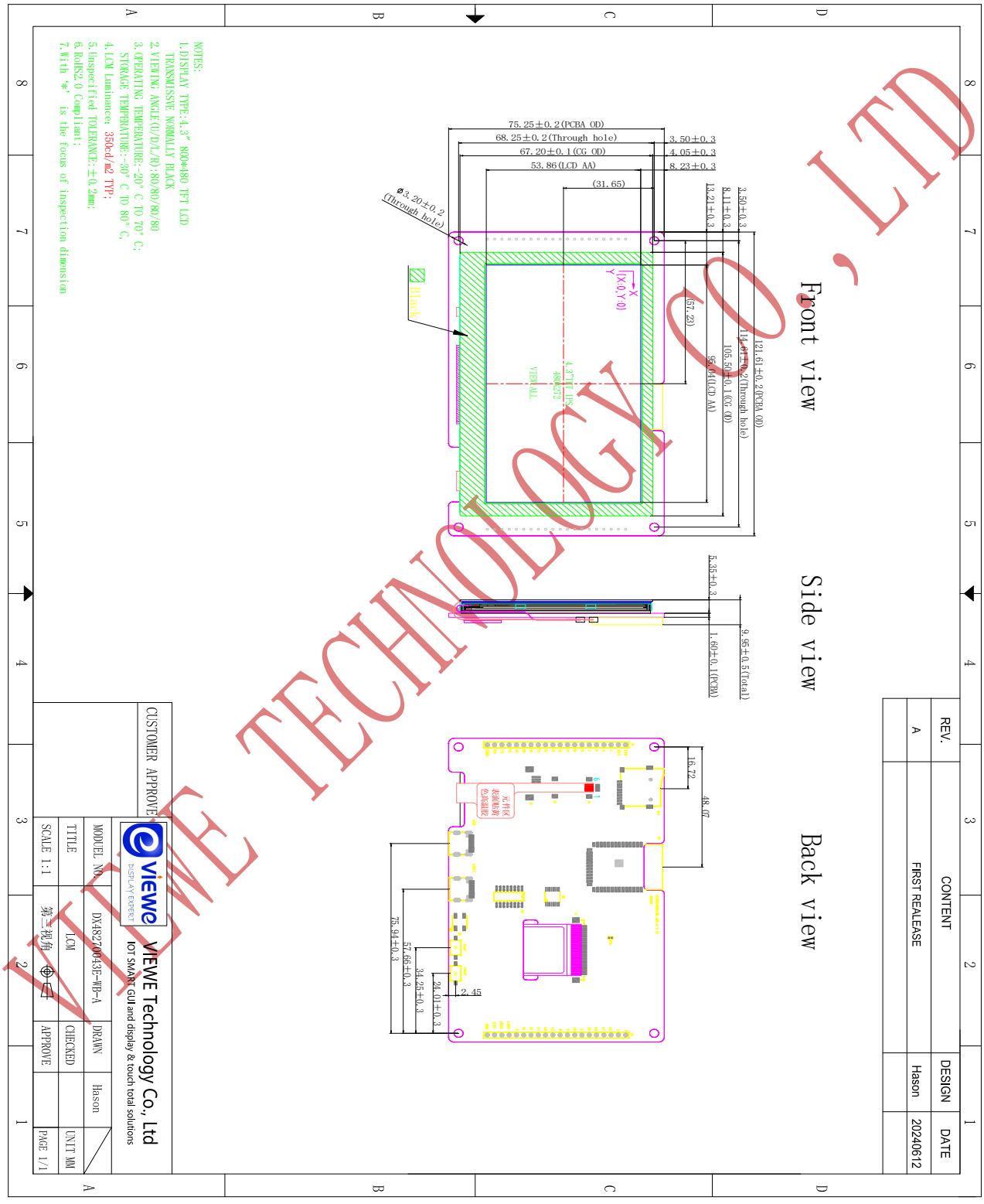
2.4 Reliability Test

Item	Conditions	Min	Typ	Max	Unit
Working Temperature	60%RH at 5V voltage	-20	25	70	C
Storage Temperature	---	-30	25	85	C
Working Humidity	25°C	10%	60%	90%	RH
ESD	---	Contact: ±4KV Air: ±8KV			KV

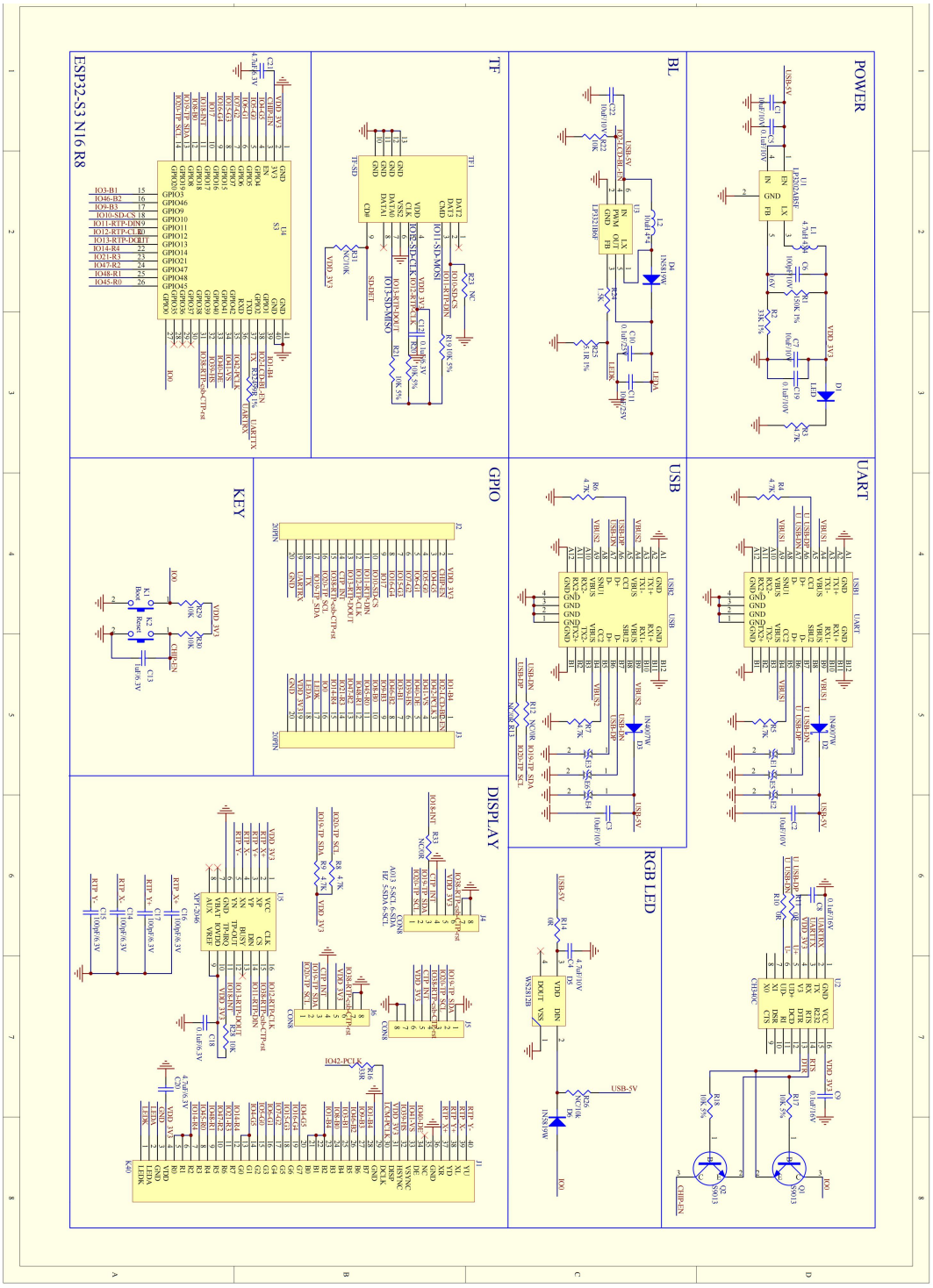
2.5 Related software

Software name	Version	Software associated configuration	Development environment configuration link
Arduino IDE	2.0.17 (esp32)	1. Board: ESP32S3 Dev Module 2. CPU Frequency: 240MHz (WiFi) 3. Flash Frequency: NO 4. Flash Mode: QlO 80MHz 5. Flash Size: 16MB (128Mb) 6. Partition Scheme: Default 4MB with spiffs (1.2MB APP/1.5MB SPIFFS) 7. PSRAM: OPI PSRAM 8. Programmer: Esptool	ESP32-Arduino config (github.com)
ESP-IDF	5.1.1 5.2.2	Once configured, no configuration is required （If you have any problem with the configuration, please contact us, we will help you）	ESP-IDF config (github.com)

3. MECHANICAL DRAWING



4. Schematic



5. Related downloads

5.1 Arduino relevant information

ESP32-Arduino/examples/UEDX80480043E-WB-A-Arduino-SDK at main • VIEWESMART/ESP32-Arduino (github.com)

5.2 Libraries required for Arduino

ESP32-Arduino/examples/4.3inch/libraries at main • VIEWESMART/ESP32-Arduino (github.com).

5.2 IDF relevant information

lvgl is the v8 version:

ESP32-IDF/examples/4.3inch/UEDX80480043E-WB-A-3touch-SDK at main • VIEWESMART/ESP32-IDF (github.com)

lvgl is the v9 version:

ESP32-IDF/examples/4.3inch/UEDX80480043E-WB-A-IDF-SDK at main • VIEWESMART/ESP32-IDF (github.com)