

SMART DISPLAY MODULE SPECIFICATION

2.1 Inch Smart Knob Display with Wi-Fi /BLE					
Model:	UEDX48480021-MD80E				
Version:	V3.0				
Date:	2024-07-30				

Customer Confirmation 客户确认

Approved by	Notes



REVISION HISTORY

Revision	Date	Contents of Revision Change Remark
V1.0	20221014	Preliminary release
V2.0	20240218	Change to English version
V3.0	20240730	Add schemata, GitHub project links, and environment configuration links
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Page: 3 / 10



TABLE of CONTENTS

1. INTRODUCTION	4
	4
1.2 Appearance picture	5
2. PRODUCT INFORMATION	
2.1 Interface Description	6
2.2 Display Information	6
	7
2.4 Reliability Test	7
	7
3. MECHANICAL DRAWING	8
4. SCHEMATIC	9
5.1 Arduino relevant information 5.2 IDF rele	10
5.1 Arduino relevant information	10
5.2 IDF relevant information	10

Page: 4 / 10

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1. Introduction

1.1 Features

Brief Info:

1) Outline Dimension: φ80 Round

2) Interaction Method: Rotate and Press

3) Shell Color: Black/White/Silver/Customized

4) Power: DC 5V, 1A

System

1) OS: RTOS

2) CPU: ESP32-S3 240Mhz

3) RAM: 8MB4) Flash: 16MB

5) Interface: UART/USB

6) Support 2.4GHz Wi-Fi、BLE 5、BLE Mesh

Display

1) Size: 2.1 Inch

2) Resolution: 480*480

3) Mode: IPS

4) Brightness: 300 cd/m²

5) Touch: without

Other

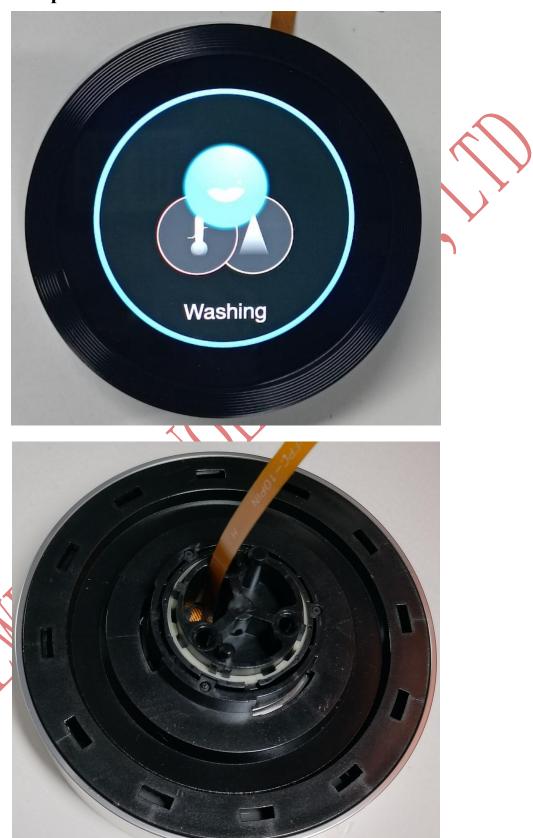
1) Operation Temperature: -20~70°C

2) Storage Temperature: -30~80°C

Page: 5 / 10



1.2 Appearance picture





2. Product information

2.1 Interface Description

Pin NO.	Symbol	Description	Voltage Range	Remarks
1	VCC	Power 5V	5V	
2	ADC	GPIO3, ADC IO	0-3.3V	
3	GND	Grounds	0V	
4	NC	NC	-	
5	NC	NC	-	
6	RX	UART Receive	0-3.3V	
7	TX	UART Transmit	0-3.3V	
8	RST	Reset signal, do not connect if not in use	0-3.3V	
9	D+	USB D+	3.3V	
10	D-	USB D-	3.3V	

The connector specifications is 10PIN 0.5mm pitch

2.2 Display Information

Item	Parameter	Description
Color	65K colors	R5G6B5 16bits
AA	53.28(W)*53.28(H)	2.1 inch
Resolution	480*480	Round
Backlight	LED	30000Hour Min
Brightness	300 cd/m ²	

Page: 7 / 10



2.3 Voltage & Current

Item	Conditions	Min	Тур	Max	Unit
Power Voltage	DC	4. 0	5.0	5.5	V
Operation	VCC= +5V, Maximum backlight current	-	320	-	mA
Current	VCC= +5V,backlight off	-	100	-	mA
Recommended power supply:5V 1A DC					

2.4 Reliability Test

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

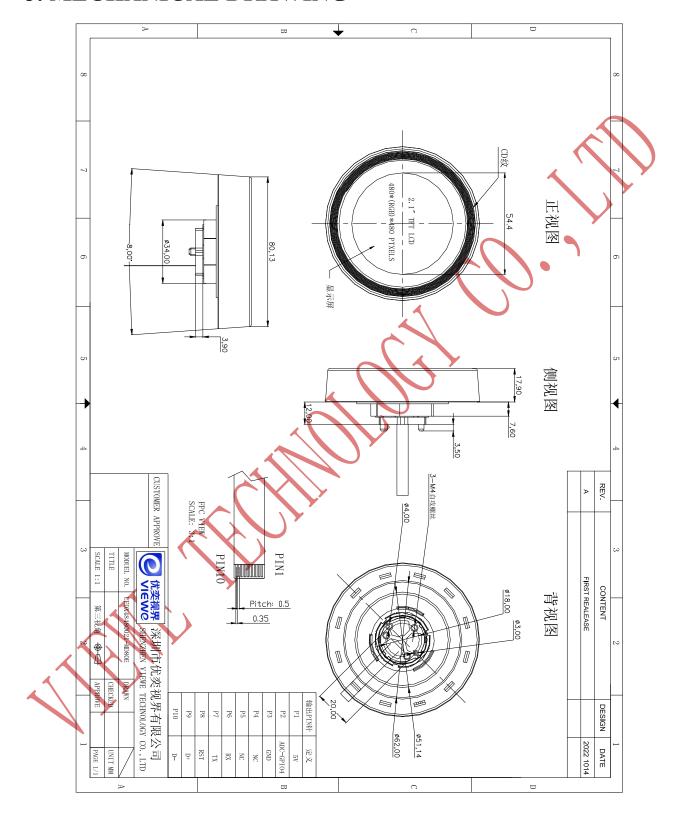
2.5 Related software

Software name	Version	Software associated configuration	Development environment configuration link
Arduino IDE	2.0.17 (esp32)	 Board: ESP32S3 Dev Module CPU Frequency: 240MHz (WiFi) Flash Frequency: NO Flash Mode: QIO 80MHz Flash Size: 16MB (128Mb) Partition Scheme: Default 4MB with spiffs (1.2MB APP/1.5MB SPIFFS) PSRAM: OPI PSRAM 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)

Page: 8 / 10

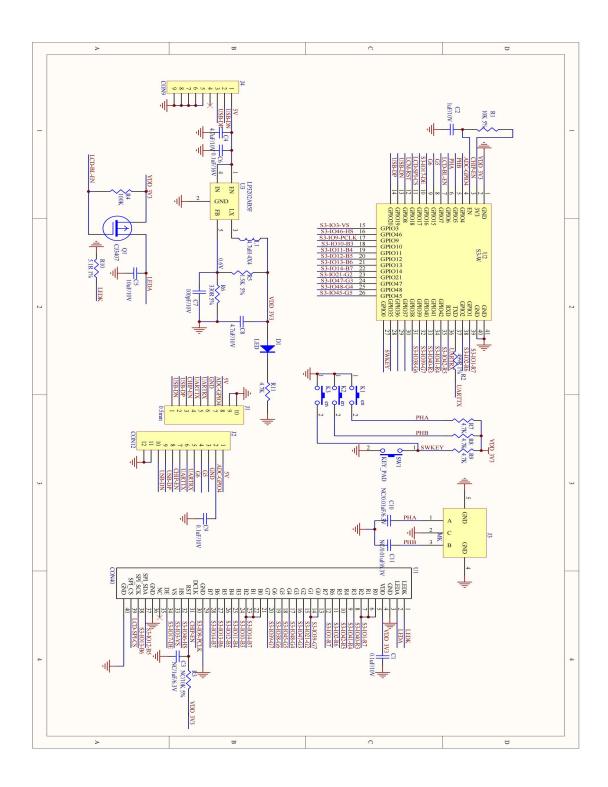


3. MECHANICAL DRAWING





4. Schematic





5. Related downloads

5.1 Arduino relevant information

ESP32-Arduino/examples/UEDX48480021-MD80E-Arduino-SDK at
main • VIEWESMART/ESP32-Arduino (github.com)

5.2 IDF relevant information

ESP32-IDF/examples/UEDX48480021-MD80E-SDK at main • VIEWESMART/ESP32(N) (github.com)