SMART DISPLAY MODULE SPECIFICATION

1.5 Inch Smart Knob Display with Touch	
Model:	UEDX46460015-WB-A
Version:	V1.1
Date:	2024-10-16

Customer Confirmation

Approved by	Notes

REVISION HISTORY

Revision	Date	Contents of Revision Change	Remark
V1.0	20241010	Preliminary release	
V1.1	20241016	Add GitHub project links, and environment confi links	

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1. Introduction

1.1 Features

Brief Info:

1) Outline Dimension: φ 51.6 Round
2) Interaction Method: Rotate and Press
3) Shell Color: Black/Silver/Customized
4) Power: DC 5V, 100mA

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

Note: The Bluetooth and WIFI functions are still under test, we will complete them as soon as possible, please forgive the inconvenience caused to you

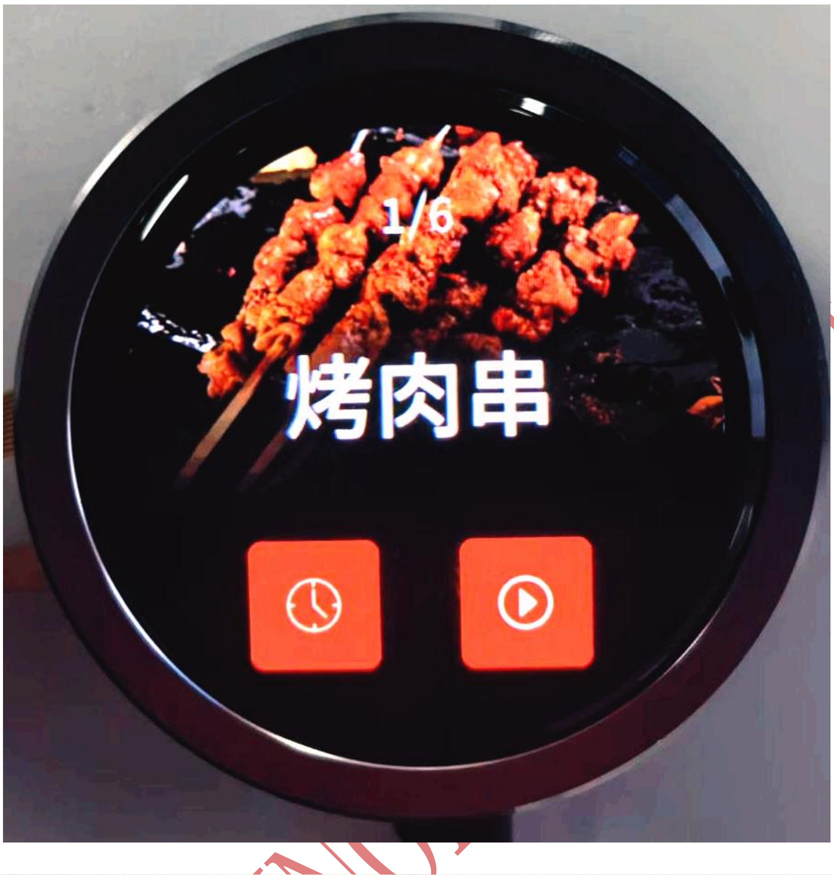
Display

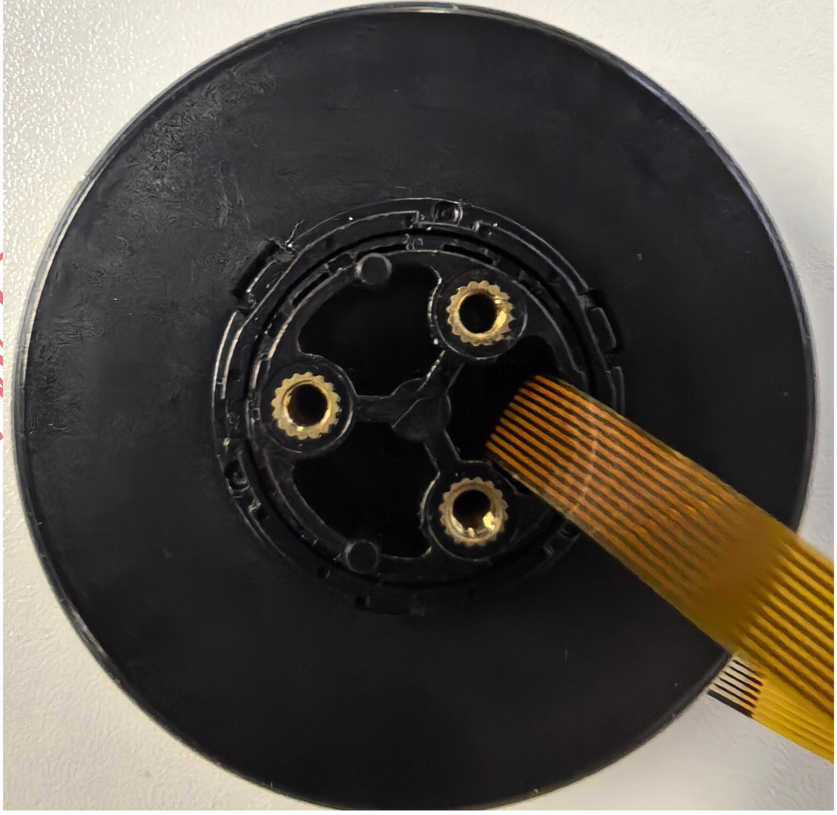
1) Size: 1.5 Inch
2) Resolution: 466*466
3) Mode: AMOLED
4) Driver IC: CO5300AF-42
5) Interface type: QSPI
6) Brightness: 1000 cd/m^2
7) Touch IC: CST820

Other

1) Operation Temperature： -20~60℃
2) Storage Temperature： -30~70℃

1.2 Appearance picture





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2. Product information

2.1 Connector Interface Description

Pin NO.	Symbol	Description	Voltage Range	Remarks
1	VCC	Power 5V	5V	
2	GPIO38	GPIO38	-	
3	GND	Grounds	0V	
4	GPIO40	GPIO40	-	
5	GPIO39	GPIO39	-	
6	RX	UART Receive	0-3.3V	
7	TX	UART Transmit	0-3.3V	
8	CHIP-EN	CHIP-EN	0-3.3V	
9	D+	USB D+	3.3V	
10	D-	USB D-	3.3V	

The connector specifications is 10PIN 0.5mm pitch

2.2Display interface description

Pin No.	Symbol	I/O	Description
1	**VCI_EN**	P	Power supply
2	**NC**	-	-
3	**NC**	-	-
4	**NC**	-	
5	**QSPI_SI03**	I	QSPI Data3 input pin
6	**QSPI_SI02**	I	QSPI Data2 input pin
6	**QSPI_SI01**	I	QSPI Data1 input pin
7	**QSPI_SI00**	I/O	QSPI Data0 input pin
9	**NC**	-	-
10	**SCL**	I	SPI pclk input signal
11	**NC**	-	-

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12	**CS**	I	Chip selection pin. Low-active
13	**GND**	P	Power Ground
14	**TE**	O	Tearing effect signal is used to synchronize MCU to frame memory
15	**IOVCC**	P	Power supply to the internal logic power regulator
16	**MTP(NC）**	-	-
17	**VBAT**	P	Power supply
18	**RST**	I	The signal will reset the LCM, Signal is active low.
19	**TP_SCL**	I	I2C clock signals for CTP
20	**TP_SDA**	I/O	I2C data signal for CTP
21	**TP_RST**	I	The signal will reset the CTP,Signal is active low
22	**TP_INT**	I	Interrupt signals for CTP
23	**TP_VCC**	P	Power supply for TP
24	**GND**	P	Power Ground

2.3 Display Information

Item	**Parameter**	**Description**
Color	16.7M colors	24bits
AA	38.3052*38.3052	1.51 inch
Resolution	466*466	Round
Brightness	1000cd/m2	-
Interface Mode	QSPI	-
Driver IC	CO5300AF-42	-
Pixel Driving element	AMOLED	-

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	50	100	150	mA
	VCC= +5V,backlight off	-	50	-	mA
Recommended power supply:5V 1A DC					

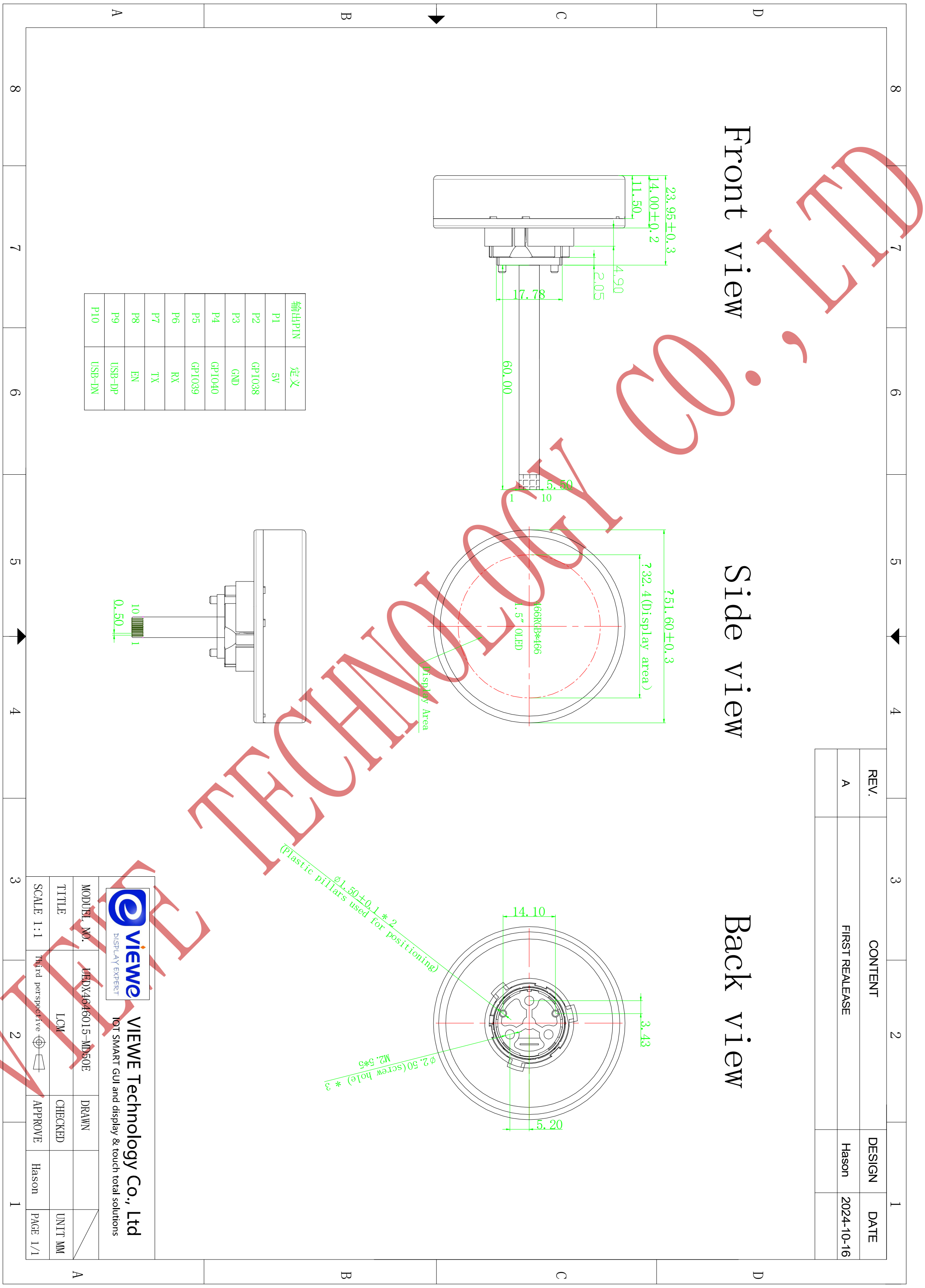
2.5 Reliability Test

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

2.6 Related software

Software name	Version	Software associated configuration	Development environment configuration link
Arduino IDE	Trying to match	1. Board: ESP32S3 Dev Module 2. CPU Frequency: 240MHz (WiFi) 3. Flash Frequency: NO 4. Flash Mode: QIO 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	5.3	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


Front view
23.95±0.3
14.00±0.2
11.50
4.90
2.05
17.78
60.00
5.50
1
10
Side view
?51.60±0.3
?32.4(Display area)
466RGB*466
1.5" OLED
Display Area
10
1
0.50
Back view
14.10
ø1.50±0.1 * 2
(Plastic pillars used for positioning)
ø2.50(screw hole) * 3
M2.5*5
3.43
5.20
A
B
C
D
1
2
3
4
5
6
7
8

输出PIN	定义
P1	5V
P2	GPIO38
P3	GND
P4	GPIO40
P5	GPIO39
P6	RX
P7	TX
P8	EN
P9	USB-DP
P10	USB-DN

REV.	CONTENT	DESIGN	DATE
A	FIRST REALEASE	Hason	2024-10-16

VIEWE Technology Co., Ltd
IOT SMART GUI and display & touch total solutions

MODUEL NO.	UEDX46466015-MD50E	DRAWN		
TITLE	LCM	CHECKED		UNIT MM
SCALE 1:1	Third perspective	APPROVE	Hason	PAGE 1/1

4. Related downloads

4.1 Arduino relevant information

We are working hard to adapt it. Please forgive the inconvenience

4.2 Libraries required for Arduino

We are working hard to adapt it. Please forgive the inconvenience

4.3 IDF relevant information

https://github.com/VIEWESMART/UEDX46460015-MD50ESP32-1.5inch-Touch-Knob-Display/tree/main/examples/ESP-IDF/UEDX46460015-MD50E-IDF