

Customer's Name

TO. \_\_\_\_\_



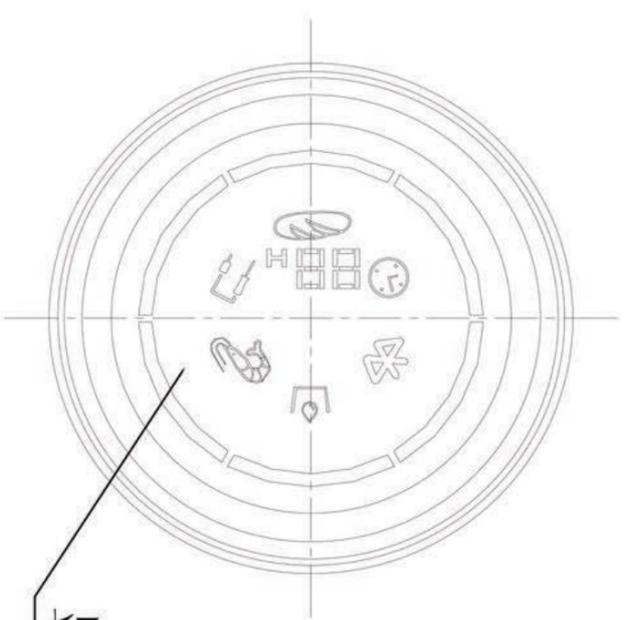
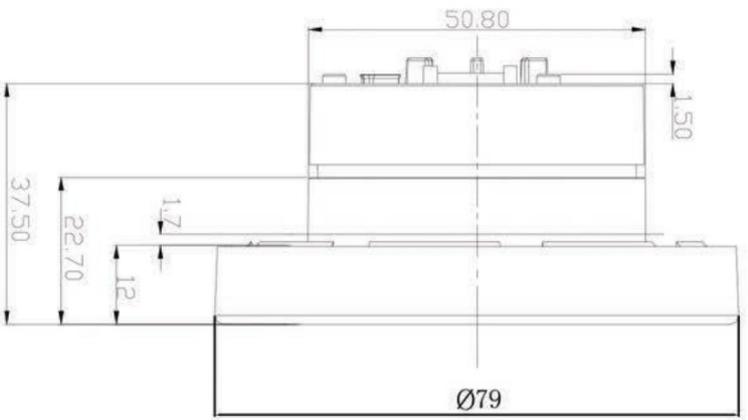
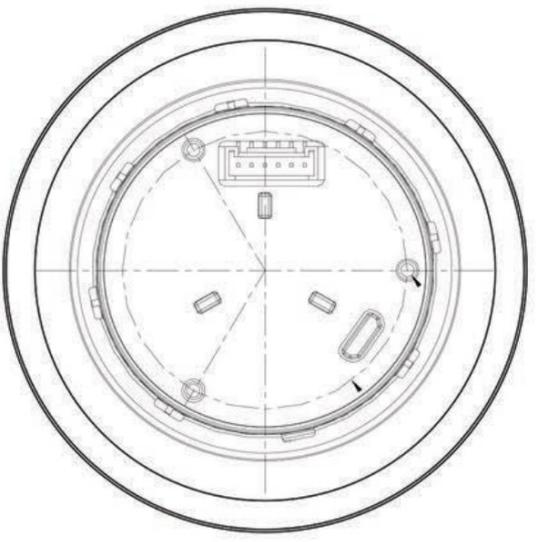
# Approval Sheet

DATE 2021-12-14  
\_\_\_\_\_

PART DSP9-N1TFDB-ASN  
\_\_\_\_\_

CONTENTS	
DESCRIPTION	CUSTOMER'S APPROVAL
Assembled Drawing	
Specification	
LED sheet	

DIMENSION	TOLERANCE
≤10	± 0.3
10~100	± 0.5
≥100	± 0.8



显示区域



LCD Type	2.1" TFT, Transmissive
Resolution	Normally white, TN 480(RGB)*480
View Direction	ALL o'clock
Color depth	262K
Interface types	UART
Operating voltage	5.0V DC
With TP/Lens	wit Lens
Surface Luminance	250 cd/m <sub>2</sub> (type)
Operating temperature	-20°C ~ 70°C
Storage temperature	-30°C ~ 85°C
Color chromaticity	[white]X:Y:

NO	2018/9/15	JOHNSON	ALEN	MIRE	ORIGINAL DESIGN
VER	DATE	APPROVAL	CONFIRM	DESIGN	ENGINEERING RECORD DESCRIPTION

UNIT	SCALE	ANGLE TER	VIEW	MODE
mm	1 : 1	± 3°		PUSH SWITCH

DSP9-N1TFDR-ASN

1. Product overview:

2.1-inch round screen, 480x480 resolution;

Knob + confirmation key can realize human-computer interaction;

Capacitive touch screen can realize human-computer interaction; (touch is an optional function)

UART communication supports up to 115200bps communication rate;

Can store pictures and fonts, and can update through the serial port

Storage capacity can be customized, up to 128 M;

Support RTC clock function, optional;

Display data can be manipulated through variables;

Support U disk upgrade, file reading and writing, database storage;

LINUX HMI solution, supporting secondary development;

## 5. Product parameters:

Show performance parameters	Parameter	Data	Illustration
	2.1 inches	RGB666 18-bit color high-definition	NTSC:72%
	Display size (AA Resolution)	display 53.28 mm	-
	Angle of View	480°480 pixels	
		IPS	Typical value 80°/80°/80°/80° (L/R/U/D)-
	View Backlight Mode	LED	
	Brightness	300 Cd/m <sup>2</sup> -	

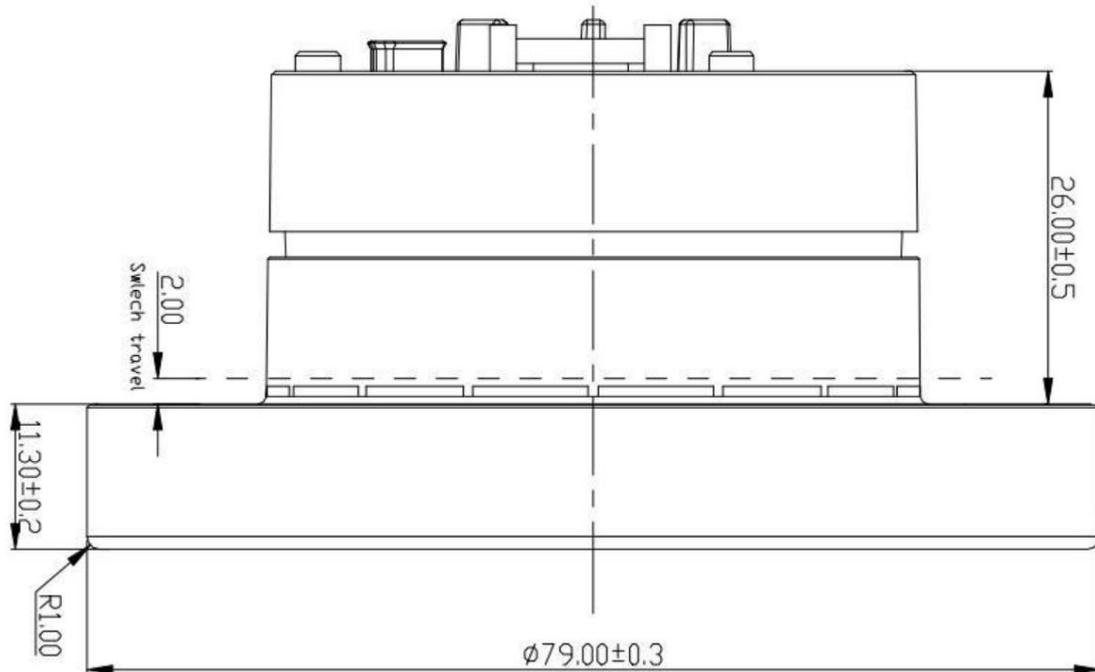
Electrical performance parameters	Arameter	Test Conditions	Minimun value	Typical value	Maximum value	unit	
	Operating Voltage	-	-	5.0	-	V	
	Working current	VCC=±5V	Brightest backlight		190	-	mA
			Backlight Off		110		mA
Recommended working power supply: 5V 1A DC regulated power supply.							
Reliability parameters	Working temperature	5V voltage, humidity 60%	-20	25	70	°C	
	Storage temperature	-	-30	25	80	°C	
	Working humidity	-	10%	60%	90%	RH	
	Three-proof treatment	-	-	none	-	-	
	ESD protection level			-			
	Aging time before delivery-					H	
Interface performance parameters	Serial baud rate		1200	115200		bps	
			-	-	-	bps	
	Serial port output level (TXD & BUSY)	Output 1, I out=1mA	3.0	3.2		V	
		Output 0, I out=-1mA	-	0.1	-	V	
	VOHmin=2.48V @IOH=-4mA VOLmax=0.44 @IOH=-4mA						
	Serial port input level (RXD)	Input 1, Iin=1mA	1.5	3.3	15	V	
		Input 0, Iin=-1mA	-15	0.0	0.5	V	
		VIHmin=1.5V VILmax=0.5V					
	Serial mode	1 way UART					
	User Interface Mode	UART/6P/2.0 connector					
USB interface	MICRO USB						
SD card interface	none						

Memory characteristics	Type	Parameter	Minimum value	Typical value	Unit of maximum	
	FLASH memory	Total capacity	-	-	128	MB
		Font storage space			32	MB
		Full-screen picture storage quantity-			200	width

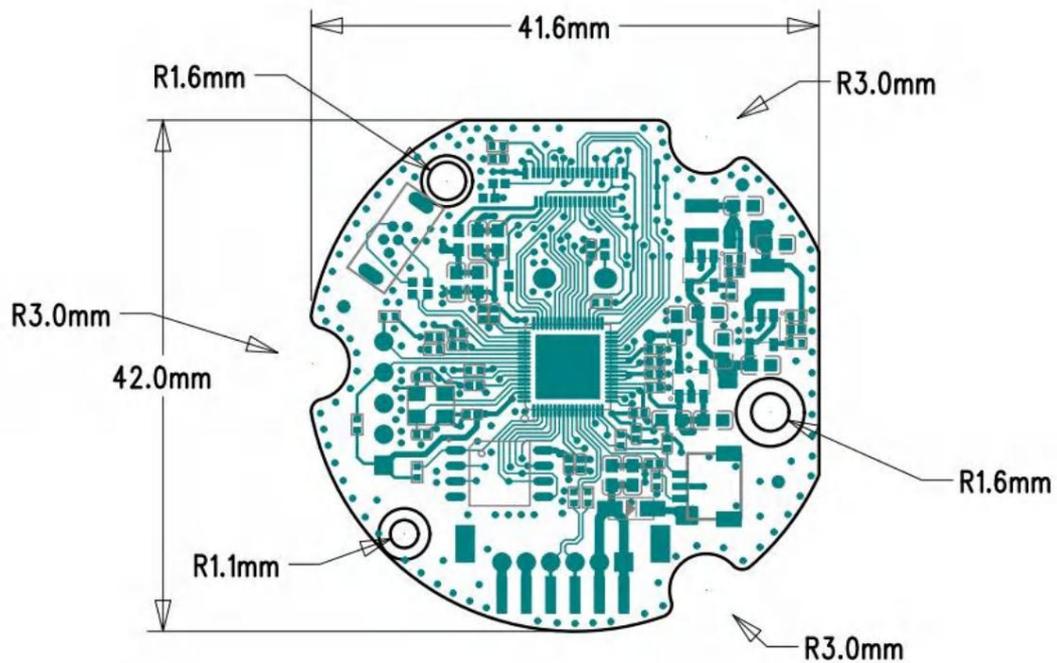
6. Software reference materials: If necessary, please contact the sales.

7. Product size chart:

Structural parts (the unmarked tolerance is  $\pm 0.30\text{mm}$ , unit: mm):



PCB (the unmarked tolerance is  $\pm 0.30\text{mm}$ , unit: mm):



### 1. UART interface definition (6P/2.0 connector)



GND/GND/TXD/RXD/+5V/+5V

CON1 pin number	Pin name	USB1 pin number	Pin name	Illustration
1	DC5V	1	Power input+	
2	DC5V	2	Power input+	
3	RXD	3	Serial port receives data	
4	TXD	4	Serial port to send data	
5	GND	5	GND	
6	GND	6	GND	

### 2. DC power supply and UART interface docking cable docking plug (6P/2.0mm white without buckle or with buckle):

Without buckle

PH-6P/2.0mm connector

红 RED

黑 BLACK

白 WHITE

黄 YELLOW

橙 ORANGER

绿 GREEN

buckle

HX20020-6P/2.0mm connector

红 RED

黑 BLACK

白 WHITE

黄 YELLOW

橙 ORANGER

绿 GREEN

8. Physical assembly legend:



PCBA assembly legend



Screen + cover assembly legend