

# DMG48270F043\_01WN

## product description:

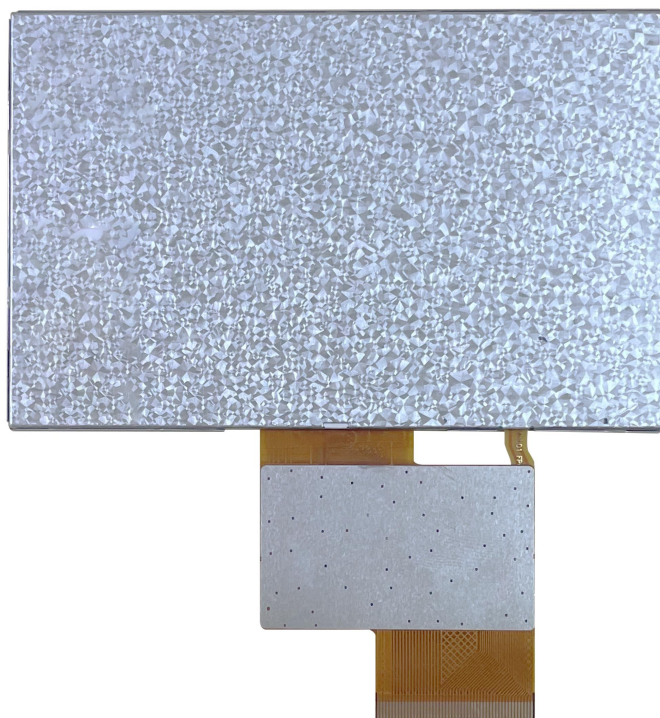
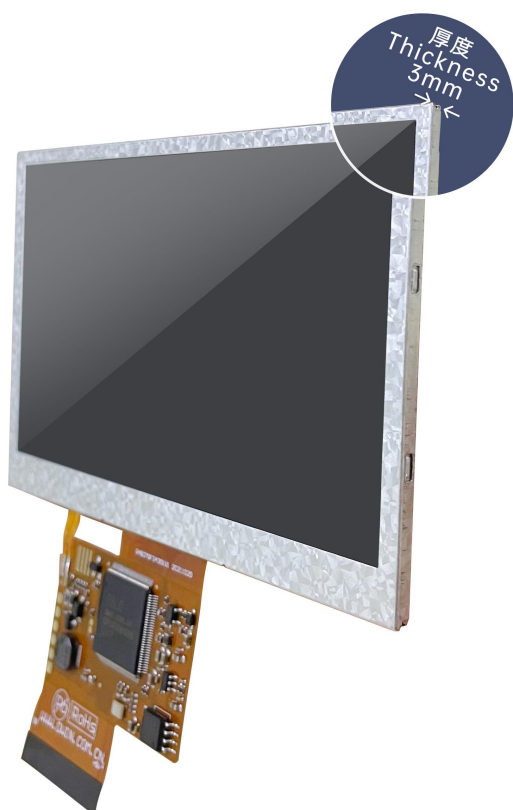
- based on T5L0 chip, running DGUS II system.
- 4.3 Inch, 480\*272 resolution, 262K color, TN screen, normal viewing angle.
- No touch version, product thickness only 3mm.
- COF structure, the entire core circuit of the smart screen is fixed on the LCD module FPC. It is suitable for light and thin structures, demanding cost requirements, and simple production.

## application.

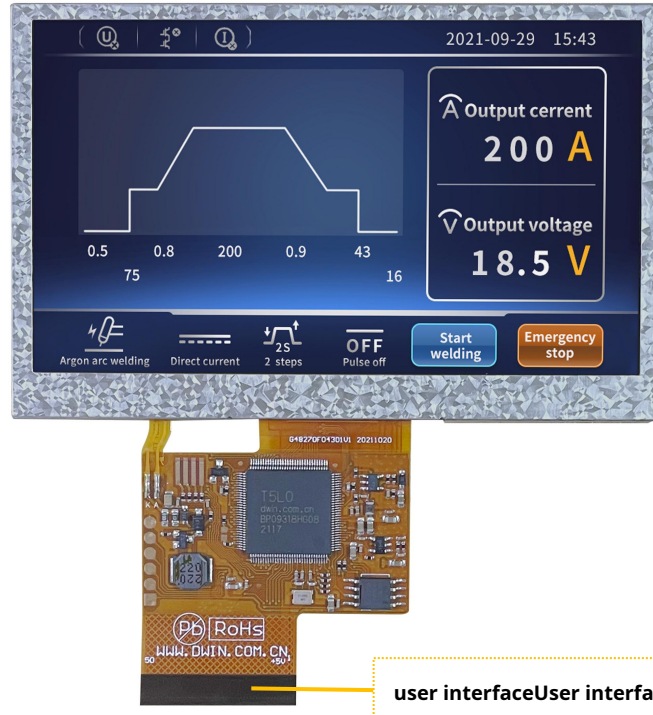
- total cable 50 individual pin pin, lead out the user CPU nuclear IO, UART, CAN, AD, PWM. Waiting for the interface, the secondary development is very convenient.

## Features:

- Based on T5L0, running DGUS II system.
- 4.3 inch, 480\*272 pixels resolution, 262K colors, TN-TFT-LCD, normal viewing angle.
- Smart screen without TP, product thickness of only 3mm.
- COF structure. The entire core circuit of the smart screen is fixed on the FPC of LCM, featured by light and thin structure, low cost and easy production.
- 50 pins interfaces, including IO, UART, CAN, AD, PWM from CPU core for easy secondary development.



## 1 External interface External Interface



PIN	Definition	I/O	Functional Description
serial number	definition		Function description
1	+5V	I	power input,DC3.6-5.5V. Power supply, DC3.6-5.5V.
2	+5V	I	
3	GND	GND	
4	GND	GND	
5	GND	GND	
6	AD7	I	5roadADCenter,3.3Vpower supply as a reference,12bitResolution, Input Voltage Range0-3.3V. remove AD6, the rest of the data is passed throughUART3send in real time toOSkernel, the sampling speed is 16KHz. AD1andAD5in parallel,AD3andAD7Used in parallel, it can be equivalent to two circuits32KHz sampling AD.AD1,AD3,AD5,AD7Used together in parallel, it can be equivalent to one road64KHz sampling AD; do the data1024accumulated and then divided by64, obtained by oversampling1road64Hz 16bit ofAD value.
7	AD6	I	
8	AD5	I	
9	AD3	I	
10	AD1	I	5 input ADCs. 12-bit resolution in case of 3.3V power supply. 0-3.3V input voltage. Except for AD6, the rest data is sent to OS core via UART3 in real time with 16KHz sampling rate. AD1 and AD5 can be used in parallel, and AD3 and AD7 can be used in parallel, which equals to two 32KHz sampling AD. AD1, AD3, AD5, AD7 can be used in parallel, which equals to a 64KHz sampling AD; the data is summed 1024 times and then divided by 64 to obtain a 64Hz 16bit AD value by oversampling.
11	+ 3.3	O	3.3Voutput, maximum load150mA. 3.3V output, maximum load of 150mA.
12	SPK	O	externalMOSFETto drive the buzzer or speaker, the external10Kdrop down toGNDMake sure power up is low. External MOSFET to drive buzzer or speaker. The external 10K resistor should be pulled down to the ground to ensure that power-on is low level.
13	SD_CD	IO	SD/SDHCinterface,SD_CKin close proximitySDcard interfaceGNDone by one22pF capacitance. SD/SDHC interface,The SD_CK connects a 22pF capacitor to GND near the SD card interface.
14	SD_CK	O	
15	SD_D3	IO	
16	SD_D2	IO	
17	SD_D1	IO	
18	SD_D0	IO	

19	PWM0	O	2road16bit PWMoutput, external to10Kdrop down toGNDMake sure power up is low. OS nuclear can passUART3for real-time control.
20	PWM1	O	2 16-bit PWM output. The external 10K resistor should be pulled down to the ground to ensure that power-on is low level. The OS core can be controlled in real time via UART3.
twenty one	P3.3	IO	If usingRX8130orSD2058 I2C RTC, connecting the twoIOsuperior. SCL catchP3.2,SDAcatchP3.3and10Kpull up to3.3V. If using RX8130 or SD2058 I2C RTC to connect to both IOs, SCL should be connected to P3.2,and SDA connected to P3.3 in parallel with 10K resistor pull-up to 3.3V.
twenty two	P3.2	IO	
twenty three	P3.1/EX1	IO	Can be used as an external interrupt at the same time1Input, supports two modes of low level or falling edge interrupt. It can be used as an external interrupt 1 input at the same time, and supports both low voltage level or trailing edge interrupt modes.
twenty four	P3.0/EX0	IO	Can be used as an external interrupt at the same time0Input, supports two modes of low level or falling edge interrupt. It can be used as an external interrupt 0 input at the same time, and supports both low voltage level or trailing edge interrupt modes.
25	P2.7	IO	IOmouthIO interface
26	P2.6	IO	IOmouthIO interface
27	P2.5	IO	IOmouthIO interface
28	P2.4	IO	IOmouthIO interface
29	P2.3	IO	IOmouthIO interface
30	P2.2	IO	IOmouthIO interface
31	P2.1	IO	IOmouthIO interface
32	P2.0	IO	IOmouthIO interface
33	P1.7	IO	IOmouthIO interface
34	P1.6	IO	IOmouthIO interface
35	P1.5	IO	IOmouthIO interface
36	P1.4	IO	IOmouthIO interface
37	P1.3	IO	IOmouthIO interface
38	P1.2	IO	IOmouthIO interface
39	P1.1	IO	IOmouthIO interface
40	P1.0	IO	IOmouthIO interface
41	UART4_TXD	O	serial port4 UART4
42	UART4_RXD	I	
43	UART5_TXD	O	serial port5 UART5
44	UART5_RXD	I	
45	P0.0	IO	IOmouthIO interface
46	P0.1	IO	IOmouthIO interface
47	CAN_TX	O	CANinterfaceCAN interface
48	CAN_RX	I	
49	UART2_TXD	O	serial port2 UART2(OSnuclearUART0serial portUART0 serial port of OS core)
50	UART2_RXD	I	

## 2 Specifications Specification Parameters

### 2.1 Product parameters Product Parameters

Smart screen model <b>Model</b>	DMG48270F043_01WN
Master chip <b>Main Chip</b>	T5L0
user interface <b>User Interface</b>	50Pin_0.5mm FPC
<b>FLASH</b>	8M Bytes
UI Version <b>UI Version</b>	TA/DGUSII
Power supply <b>Power Supply</b>	USB powered by USB power supply
display color <b>Display Color</b>	262K color 262K colors
size <b>Dimensions</b>	4.3Inch 4.3 inches
Resolution <b>Resolution</b>	480*272
field size (VA) <b>View Area</b>	98.20mm (W)×57.50mm (H)
Display size (AA) <b>Active Area</b>	95.04mm (W)×53.86mm (H)
Viewing angle L/R/U/D <b>Viewing Angle</b>	Normal viewing angle, typical value 70°/70°/30°/40°(L/R/U/D) Normal viewing angle, typical value of 70°/70°/30°/40°(L/R/U/D)
Backlight life <b>Backlight Service Life</b>	>10000Hours (continuous work at maximum brightness, brightness halved time) >10000 hours (Time of the brightness decaying to 50% on the condition of continuous working with the maximum brightness)
brightness <b>Brightness</b>	250nit
Backlight adjustment <b>Brightness Control</b>	100level brightness adjustment (when the brightness is adjusted to the maximum brightness 1%~30% flickering phenomenon may occur, it is not recommended to use in this range) 0~100 grade (When the brightness is adjusted to 1%~30% of the maximum brightness, flickering may occur and is not recommended to use in this range)

## 2.2 Serial port parameters Interface Parameters

parameter Item	Test Conditions Conditions	minimum Min	Typical value Typ	maximum value Max	unit Unit
Serial port baud rate <b>Baudrate</b>	User Defined (Hardware Profile Settings) User Set(Configure the CFG file)	3150	115200	3225600	bps
Serial output level <b>Output Voltage(TXD)</b>	Output 1	3.0	3.3	-	V
	Output 0	-	0	0.3	V
Serial input level <b>Input Voltage(RXD)</b>	Input 1	-	-	3.3	V
	Input 0	0	-	0.5	V
Serial mode <b>Interface</b>	UART2: TTL; UART4: TTL;(OS can only be used after configuration Only available after OS configuration) UART5: TTL;(OS can only be used after configuration Only available after OS configuration)				
Data Format <b>Data Format</b>	UART2: N81; UART4: N81/E81/O81/N82; Four modes are available (OS configuration) 4 modes (OS configuration) UART5: N81/E81/O81/N82; Four modes are available (OS configuration) 4 modes (OS configuration)				

## 2.3 Electrical Specifications Electrical specifications

rated power <b>Rated Power</b>	<5W	
Operating Voltage <b>Operating Voltage</b>	3.6~5.5V, typ.5V 3.6~5.5V, typical value of 5V	
Working current <b>Operating Current</b>	220mA	VCC=5V, the maximum backlight brightness VCC=5V, max backlight
	78mA	VCC=5V, the backlight is off VCC=5V, backlight off
Recommended power supply: 5V 1ADC stabilized power supply Recommended power supply: 5V 1A DC		

## 2.4 working environment Operating Environment

Operating temperature <b>Operating Temperature</b>	- 10°C~60°C
storage temperature <b>Storage Temperature</b>	- 20°C~70°C
Working humidity <b>Operating Humidity</b>	10%~90%RH, typ.60%RH 10%~90%RH, typical value of 60%RH

### 3reliability testReliability Test

Smart screen products have undergone a series of process reliability tests before mass production.ESD, pulse and surge, waterproof and other tests to ensure product quality.

The smart screen products undergo a series of procedural reliability tests, including high and low temperature, ESD, pulse and surge, and waterproof tests before mass production to ensure product quality.

#### 3.1electrostatic dischargeESDtestESD Test

Test ambient temperature:25°C

Test temperature: 25°C

Test process: place the product flat on the test bench, and conduct contact and air discharge in turn for the periphery of the iron frame of the serial port screen and the display area, as shown in the figure below4.1shown,

During the experiment, observe whether the screen has any abnormal phenomena such as crash, reset restart, black screen, white screen, blurred screen, abnormal communication, etc. Performance meets criteriaGB/T 17626.2

Blevel and above.

Test process: the product was placed on the test bench to perform contact and air discharge in turn of the serial screen iron frame and display area as shown in Fig.4.1 below. During the experimental process, it was observed whether the screen is dead, black, white, splash, or reboot. According to the experiment results, the performance is in line with the criteria GB/T 17626.2 B level and above.



4.1Electrostatic discharge test chart

#### Electrostatic discharge test

Discharge type <b>Discharge Type</b>	Discharge value <b>Discharge Value</b>	result <b>Result</b>
contact discharge <b>Contact discharge</b>	±4KV	normal work normal operation
air discharge <b>Contact discharge</b>	±4KV	normal work normal operation

### 3.2 electrical fast transient burst EFT test EFT Test

Test ambient temperature: 25°C

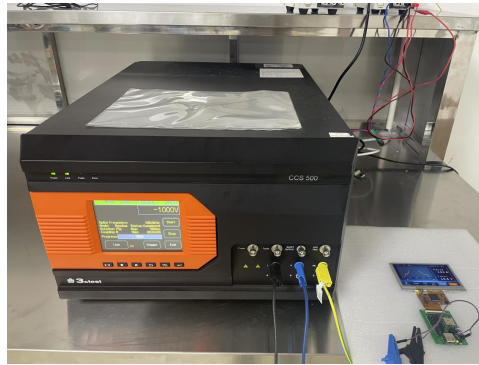
Test temperature: 25°C

Test process: place the product on the test bench, supply power to the screen through the power supply after the pulse group generator is coupled to the pulse group, and connect the serial port signal line to the screen.

The signal after the pulse train is coupled with the pulse train is communicated with the screen through serial port, and observe whether the screen appears reset and restart, black screen, white screen, blurred screen, or abnormal communication.

Often wait for abnormal work. Performance meets GB/T 17626.4 B level and above.

Test process: the product was placed on the test bench to perform contact and the smart screen is energized by the power supply coupled with a EFT generator as shown in Fig. 4.2 below. During the experimental process, it was observed whether abnormal reset, display or touch phenomena occurs. According to the experiment results, the performance is in line with the criteria GB/T 17626.2 B level and above.



4.2 Burst test chart

#### EFT test

Test items Test Item	standard test Test Standard	result Result
power port Power supply	±1KV; 100KHz	normal work normal operation

### 3.3 High and low temperature storage test High and Low Temperature Test

Test ambient temperature: -20~70°C

Test temperature: -20~70°C

Test process: place the product obliquely in the high and low temperature test box, test time 12H, conduct 20 cycle power on and off for several times, and power on after returning to normal temperature naturally

Check the appearance and function, the capacitive screen has no problems such as offset, jumping point, random jumping and failure.

Test process: the product will be placed obliquely in the high and low temperature test chamber for 12h for 20 on and off cycles. Then it will be check at room temperature after power on for the appearance and function, CTP offset situation, jumping point, page random switching and failure.

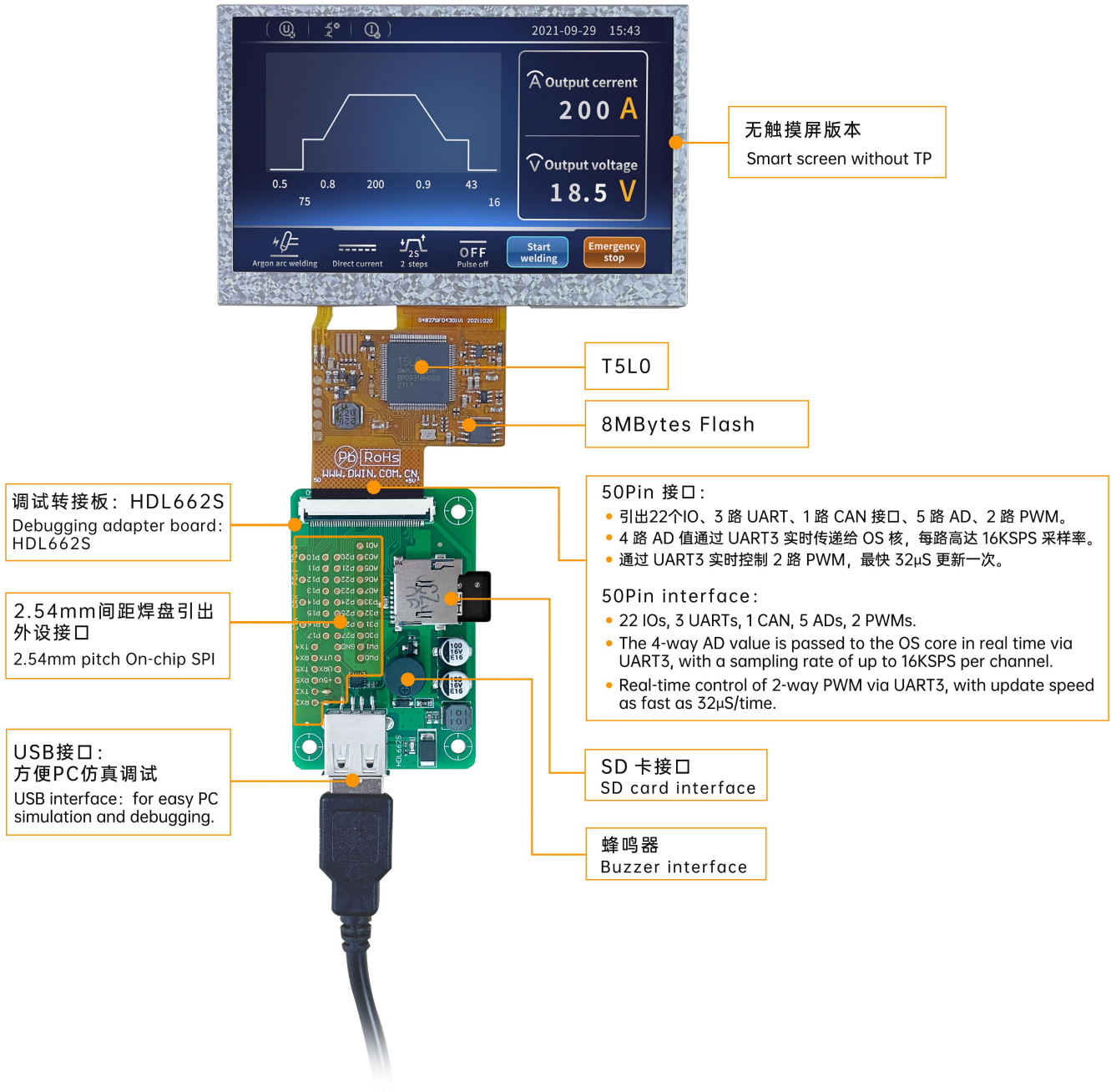
temperature Temperature	result Result
high temperature high temperature (70°C)	normal work normal operation
low temperature low temperature (-20°C)	normal work normal operation



## 4Debug exampleDebug

It is recommended that users who use Diwen smart screen for the first time buy a test kit. For details, please contact customer service.

It is recommended for new users of DWIN smart LCMs to purchase official accessories. For more details, please refer to customer service center.





Debugging steps: open the serial port assistant - custom function command - set command - send.

Operation steps: open serial assistant - custom function command - set command - send.

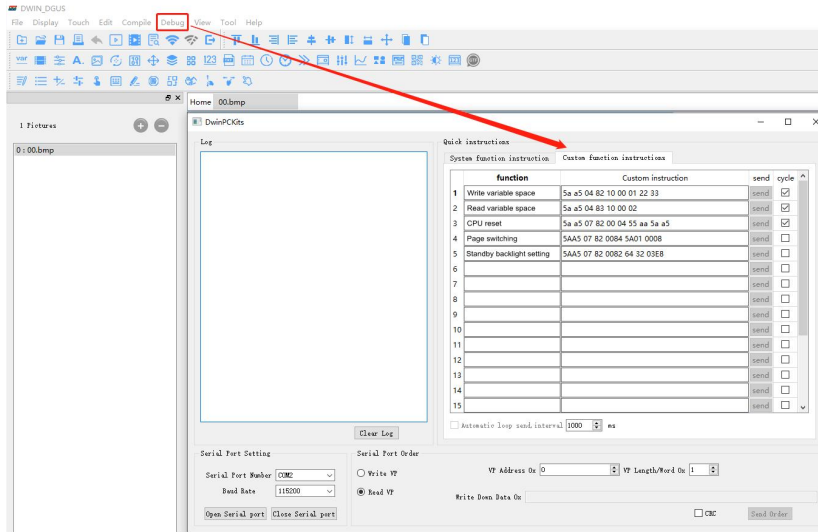
Functional exampleFor example:

(1) debug page cutPage switching

Tx:5AA5 07 82 0084 5A01 0008

(2) standby settingStandby backlight setting

Tx:5AA5 07 82 0082 64 32 03E8



DGUSOperation diagram

### DGUS operation

## 5 T5L0Master chipT5L0 ASIC

T5L0 ASIC It is a low-power, low-cost, GUI and application highly integrated single-chip dual-core

ASIC, 2020 Annual mass production.

T5L0 ASIC is a low-power, cost-effective, GUI and application highly integrated single-chip dual-core ASIC designed by DWIN Technology for small-size LCD and mass produced in 2020.

(1) adopts the most widely used, mature and stable 8051 nuclear, 1T (Single instruction cycle) high-speed work, the highest frequency 250MHz.

Mature and stable 8051 core which is the most widely used with the maximum operating frequency of T5L is up to 250MHz, 1T (single instruction cycle) high speed operation.

(2) alone CPU nuclear (GUI CPU) run DGUS II system:

Separate GUI CPU core running DGUS II System:

- Built-in high-speed video memory, 2.4GB/S bandwidth, 18-bit color display resolutions up to 1024\*768 (TA model), 854\*480 (DGUS model). High-speed display memory, 2.4GB/S bandwidth. 18-bit color display resolution support up to 1024\*768 (TA mode), 854\*480 (DGUS mode).

- 2D Hardware accelerated, animation and icon based UI extremely cool and smooth.

2D hardware acceleration and the UI with animation and icons as its main feature is extremely cool and smooth.

- JPEG Compressed mode to store pictures and icons, greatly reducing external storage to low-cost 16Mbytes SPI Flash.

Images and icons stored in JPEG format. Adopt Low-cost 16Mbytes SPI Flash. High-quality voice compression storage

- and playback.

High quality ratio and sound restoration and playback.

- 128Kbytes variable memory space, memory interface and OS CPU The core exchanges data, and the application is

simple. 128Kbytes variable storage space for exchanging data with OS CPU Core and memory. 2 road 10-bit 800KHz

- DC/DC controller, simplified LED backlight, analog power design and save cost and space.

2 10-bit 800KHz DC/DC controllers simplify LED backlight, analog power design and save cost and space.

- support PC Terminal configuration development and simulation, support for background remote upgrade.

Support DGUS development and simulation on PC. Support backend remote upgrade. (3) alone CPU nuclear (

OS CPU) running user 8051 code or DWIN OS system, saving users from the application CPU:

Separate CPU (OS CPU) core runs user 8051 code or DWIN OS system and user CPU is omitted in practical application:

- standard 8051 architecture and instruction set, 64Kbytes code space, 32Kbytes on-chip RAM.

Standard 8051 core and instruction set, 64Kbytes code space, 32Kbytes on-chip RAM.

- 64-bit Integer math unit (MDU), include 64-bit MAC and 64-bit divider.

64-bit integer mathematical operation unit (MDU), including 64-bit MAC and 64-bit divider.

- Built-in software WDT, 3 individual 16-bit Timers, 12 interrupt signals support up to four levels of interrupt nesting.

Built-in software WDT, 3 16-bit Timers, 12 interrupt signals support up to four levels of interrupt nesting.

- support IAP online simulation and debugging, unlimited number of breakpoints.

Support IAP online simulation and debugging with unlimited breakpoints.

- through DGUS system online upgrade code.

Upgrade code online through DGUS system.

(4) 1Mbytes on-chip Flash, Diwen patented encryption technology to ensure code and data security, to prevent copycats and clones.

1Mbytes on-chip Flash with DWIN patent encryption technology ensure code and data security.

(5) -40°C~+85°C operating temperature range (can be customized -55°C~+105°C working temperature range IC)

Operating temperature ranges from -40°C to +85°C (IC operating temperature customizable from -55°C to 105°C).

(6) low power consumption, strong anti-interference ability, can work stably on both sides PCB design, easy to pass EMC/EMI test.

Low power consumption and strong anti-interference ability. It can work stably on double-sided PCB and passes EMC/EMI test easily.

## 6 COFs Smart screen secondary development COF Screen Secondary Development

standard 8051 Kernel architecture for easy adoption C Language, assembly language development.

Standard 8051 core, easy to develop in C language and assembly language.

### (1) twenty two road IO mouth 22 IOs:

IO When the port is used as an output, the output control needs to be turned on. After the output strength and peripheral multiplexing are powered on to initialize the configuration, IO subsequent use and standards of 8051 one

To C Language development code example:

To use output function of IO, you need to open the output control, output strength and peripheral multiplexing power-on initialization configuration. Subsequent use of IO is consistent with the standard 8051 as follows.

```
# include "sys.h"
sbit LED1 = P1 0;
sbit KEY1 = P1 1;
//IO pin initialization Pin initialization
void io_init()
{
    PORTDRV = 0x01; //The drive current is 8mA Driving current is 8mA
    P1MDOUT |= 0x01; //Will P1.0 Set as output for driving LED1 lamp Set P1.0 as output to drive LED1 light
    P1MDOUT &= 0xFD; //Will P1.1 Set as input, used to read the level change of the pin Set P1.1 as input to read the voltage level change of the pin
}
void main(void)
{
    u16 cnt_1ms;
    u16 key1_sta; //storage KEY1 level state of the pin Store the voltage level state of the KEY1 pin
    sys_init(); //system initialization System initialization io_init(); //IO pin initialization Pin initialization
    cnt_1ms = 0;

    key1_sta = KEY1;
    while(1)
    {
        cnt_1ms++;
        sys_delay_ms(1); //delay subfunction, LED1 every other 500ms Blink once. Delay sub-function, LED1 blinks every 500ms.
        if(cnt_1ms == 500)
        {
            LED1 = !LED1;
            cnt_1ms = 0;
        }
        //KEY1 When the level of the pin changes, it is updated to the interface If the voltage level of the pin has changed, it will be updated in the interface
        if(key1_sta != KEY1)
        {
            key1_sta = KEY1;
            sys_write_vp(0x1000, (u8*)&key1_sta, 1);
        }
    }
}
```

```

    }
}
}

```

### (2) 3 UARTS:

High-speed serial port, up to 3225600bps, reference code example:

High-speed serial port, supporting up to 3225600bps, as follows.

```

#include "sys.h"
#include "uart2.h"
void main(void)
{
    u16len;
    sys_init();//system initialization
    uart2_init(115200);//Initialize the serial port 2
    while(1)
    {
        if(uart2_rx_sta&UART2_PACKET_OK)//Received serial data packet
        {
            len = uart2_rx_sta&UART2_PACKET_LEN;//Get the length of the serial port data packet, excluding "\r\n" or '\n' length of terminator
            uart2_buf[len++] = 0;//add at the end 2 blank characters
            uart2_buf[len++] = 0;
            printf("T5L_C51:%s\r\n",uart2_buf);//Add the received packet with "T5L_C51:"
            sys_write_vp(0x2000,uart2_buf,len/2+1);//At the same time, the data packets are displayed on the interface
            uart2_rx_sta = 0;//clear the representative has disposed of this serial port package
        }
    }
}

```

### (3) 1 CAN:

just right CANThe special function register of the interface can be configured. Reference code example:

Only the special function registers of the CAN need to be configured as follows.

```

void CanInit()
{
    POMDOUT = 0x04; //P0.2(CAN_TX)configure as output
    P0 = 0xFF; //output high level
    ADR_H = 0xFF; //configure DGUS variable memory address
    ADR_M = 0x00;
    ADR_L = 0x60;
    ADR_INC = 1; //Configure address increment
    RAMMODE = 0x8F; //write mode
}

```

```

while(!APP_ACK);           //Waiting for confirmation,Waiting for confirmation,
APP_ACKhardware pair8051Reply to a request to occupy variable memory,1=OK,0=BUSY, need to continue to wait.Among answers of Hardware to
8051 occupied variable memory request, 1=OK and 0=BUSY, which need to continue to wait.
DATA3 = 0x1A;             //DGUSvariable memory address0xFF:0060assignVariable memory address 0xFF:0060 assignment
DATA2 = 0x17;
DATA1 = 0x0F;
DATA0 = 0;
APP_EN = 1;
while(APP_EN);           //Wait for the data operation to complete, and clear it after the operation is completeWait for the data operation to be completed, and reset after the
operation is completed
DATA3 = 0;               //Acceptance Register0xFF:0061assignment clearAcceptance register 0xFF:0061 assignment reset
DATA2 = 0;
DATA1 = 0;
DATA0 = 0;
APP_EN = 1;
while(APP_EN);           //Wait for the data operation to complete, and clear it after the operation is completeWait for the data operation to be completed, and reset after the
operation is completed
DATA3 = 0xFF;           //Acceptance Mask Register0xFF:0062set all1, do not accept acceptanceAcceptance Mask Register 0xFF:0062 all
set to 1, and no acceptance of reception
DATA2 = 0xFF;
DATA1 = 0xFF;
DATA0 = 0xFF;
APP_EN = 1;
while(APP_EN);           //Wait for the data operation to complete, and clear it after the operation is completeWait for the data operation to be completed, and reset after the
operation is completed
RAMMODE = 0;             //end pairDGUSaccess to variable memoryTerminate access to DGUS variable memory
CAN_CR = 0xA0;           //OpenCANinterface, and configureFF0060-FF0062 Open CAN and configure FF0060-FF0062 //Execute
while(CAN_CR&0x20);     configurationFF0060-FF0062actionExecute the configuration of FF0060-FF0062 //OpenCANinterruptOpen
ECAN = 1;                the CAN interrupt //Turn on total interruptOpen the total interrupt
EA = 1;
}
    
```

#### (4)5roadA/D:12bit, which supports sampling to16bit.

### 5 A/Ds: 12-bit, supports sampling to 16-bit

just rightA/DThe special function register of the interface can be configured. Reference code example:

Only the special function registers of the A/Ds need to be configured as follows.

```

#include "sys.h"
#include "adc.h"
void main(void)
{
    u16 ad;
    float vol;
    sys_init();//system initializationSystem initialization
    while(1)
    
```



```
{
    ad = adc_read_avg(ADC_CHANNEL0,10);//1.read channel0ofadvalueRead the ad value of channel 0 vol =
    ad*(3300.0f/4095);//2.Calculated voltage, unitmV Calculate the voltage in mV sys_write_vp(0x2000,
    (u8*)&ad,1);//renewadvalueUpdate the ad value sys_write_vp(0x2001,(u8*)&vol,2);//Update voltage value
    Update the voltage value
}
}
```

(5) 2roadPWM:16bitHigh precision resolution is adjustable.

## 2 PWMs: 16-bit high accuracy, adjustable resolution.

just rightPWMThe frequency and duty cycle can be configured. Reference code example:

Only need to configure the frequency and duty cycle of PWM as follows.

```
void Pwm_0()
{
    u8 i=0;
    u8 temp[6]={0xAA,0x20,0x42,0x56,0x78,0};//configurepwm_0duty cycle100%
    Write_Dgus(0x87,0x2042);//Configure frequency100khz
    Write_Dgus(0x86,0x5A01);//
    for(i=0;i<5;i++) //checksum
        temp[5]+=temp[i];
    for(i=0;i<6;i++)//Configure duty cycle
        OneSendData3(temp[i]);
}
```

**7Packaging and Physical DimensionsPacking Capacity & Dimension**

sizeDimension				
Dimensions <b>Dimension</b>	105.50(W) × 67.20 (H) × 3.0(T) mm			
Net Weight <b>Net Weight</b>	-			
packaging standardPacking Capacity				
packing box model <b>Model</b>	<b>Box sizeSize</b>	Number of layers (layers) <b>Layer</b>	Quantity/layer (piece) <b>Quantity/Layer</b>	Total quantity (pieces) <b>Quantity(Pcs)</b>
carton <b>Carton:</b>	415mm(L)×250mm(W)×200mm(H)	-	-	100

Disclaimer: Product design improvements or changes without separate notice.

Disclaimer: The product design is subject to alternation and improvement without prior notice.



## 8 Download Data Download

Via Diwen official website [www.dwin.com.cn](http://www.dwin.com.cn), download the corresponding DGUS Tools and product specifications, or enter the Diwen developer forum to view video tutorials,

Application engineering case. For more information, please contact us:

You can download the corresponding DGUS tools and product specification, or go to DWIN Developer Forum to view video tutorials and application engineering cases through DWIN official website [www.dwin.com.cn](http://www.dwin.com.cn). For more information, please contact us at:

consumer hotline Customer service Tel: 400 018 9008

customer service QQ Customer service QQ: 400 018 9008

Customer Service Email Customer service email: [dwinhmi@dwin.com.cn](mailto:dwinhmi@dwin.com.cn)

Devin Developer Forum DWIN Developer Forum: <http://forum.dwin.com.cn>

Thank you for your continuous support to Diwen, your support is the driving force for our progress! thank you all!

Thank you all for continuous support of DWIN, and your approval is the driving force of our progress!

## 9 revision history Record of Revision

VersionRev	dateDate	describeContent	editorEditor
00	2021-10-27	Initial ReleaseFirst Edition	OYKX
01	2021-11-17	Added electrical specificationsAdd Electrical specifications	OYKX
02	2022-03-01	Update physical mapUpdate physical picture	OYKX
03	2022-06-14	Update operating voltageUpdate Operating Voltage	OYKX