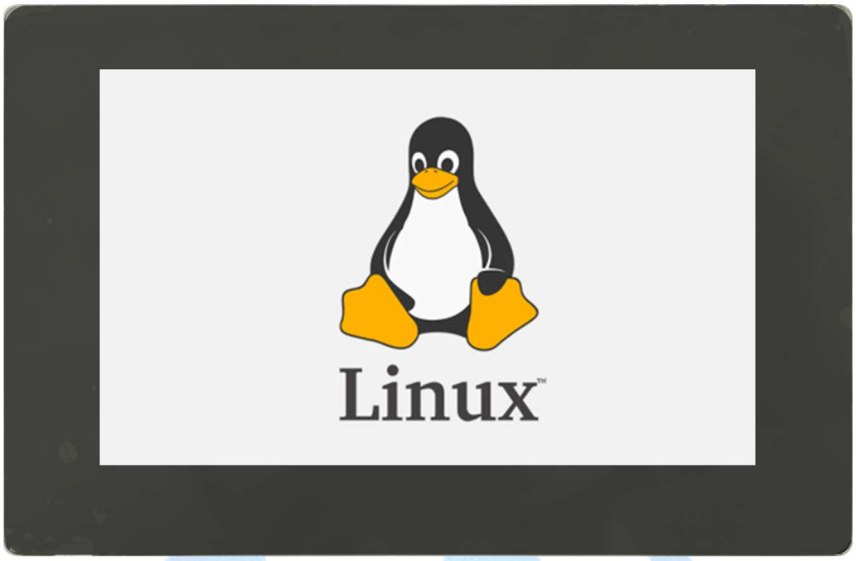
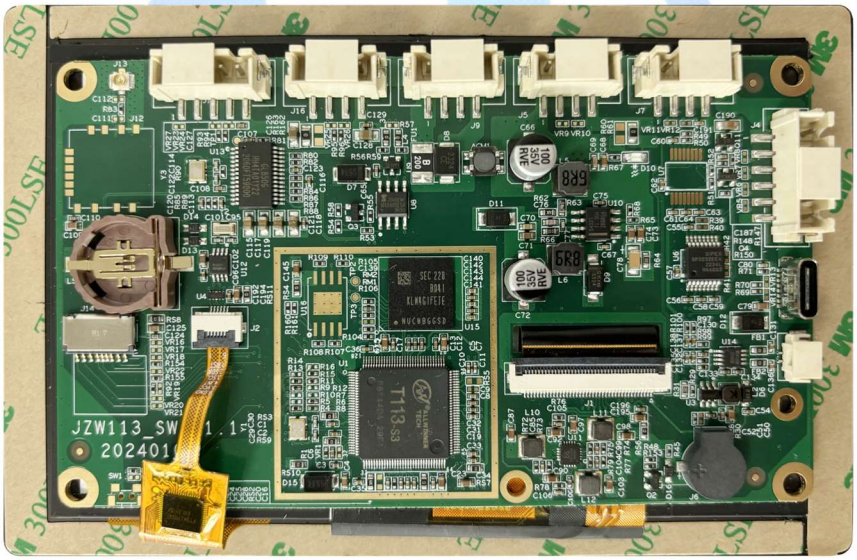
P80480ZK050C_T01

5.0 Inches, 800xRGBx480, 16.7M Colors, Linux LCM





HY80480ZK050_T01_V1.1, is a Linux industrial control machine, widely used in industrial display terminal products, vehicle terminal products, industrial automation terminal products, such as: intelligent home appliance control terminal, intelligent self-service terminal, intelligent retail terminal, O2O intelligent equipment, industrial control host, robot equipment, etc.

In terms of hardware, it adopts industrial master control, Cortex-A7 dual-core 32-bit processor, single-core frequency 1.2GHz, memory 128MB, storage EMMC4G, support RTOS+LVGL,linux+qt5.12 system, ultra-low power consumption. It adopts HIFI4 DSP video encoding and H.265 hard decoding. Multi-channel video output, rich interface, support for a variety of peripheral expansion, the display adopts industrial 5 inch industrial control screen (resolution 800*480), adopts industrial capacitive touch (FT3427)), one RS485 interface, two UART interface, two RS232 interface, two USB 2.0 interface, 1 USB OTG interface, onboard speaker amplifier, onboard WIFI, is your best choice in human-computer interaction, device control terminal, industrial control projects.

Core Board	
CPU	1.2GHz CORTEK-A7 Quad-core
RAM	128MB DDR3
eMMC	Nand Flash 128MB/256 MB or EMMC 4G
GPU	HIFI DSP
Power Management	PMIC
System Version	
RTOS	RTOS +LVGL
Linux	Linux +Flythings linux+QT5.12
Display	
Color	16.7M (16777216) colors, 24-bit color 8R8G8B.
Active Area (A.A.)	108.0 mm(W)×64.8 mm(H), 800*480.
View Area (V.A.)	110.4 mm(W)×67.1 mm(H), 800*480.
Resolution	800*480
Touch	capacitive screen, resistive screen is optional
Brightness	300nit

Optical Specifications

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Viewing Angle (CR≧10)	θL	Φ=180° (9 o′ clock)	—	70	—	Degree
	θR	Φ=0° (3 o′ clock)	—	70	—	
	θT	Φ=90° (12 o′ clock)	—	50	—	
	θB	Φ=270° (6 o′ clock)	—	70	—	

Voltage & Current

Item	Condition	Min.	Typ.	Max.	Unit
Power Voltage		5	12	28	V
Operation Current	—	—	400	—	mA

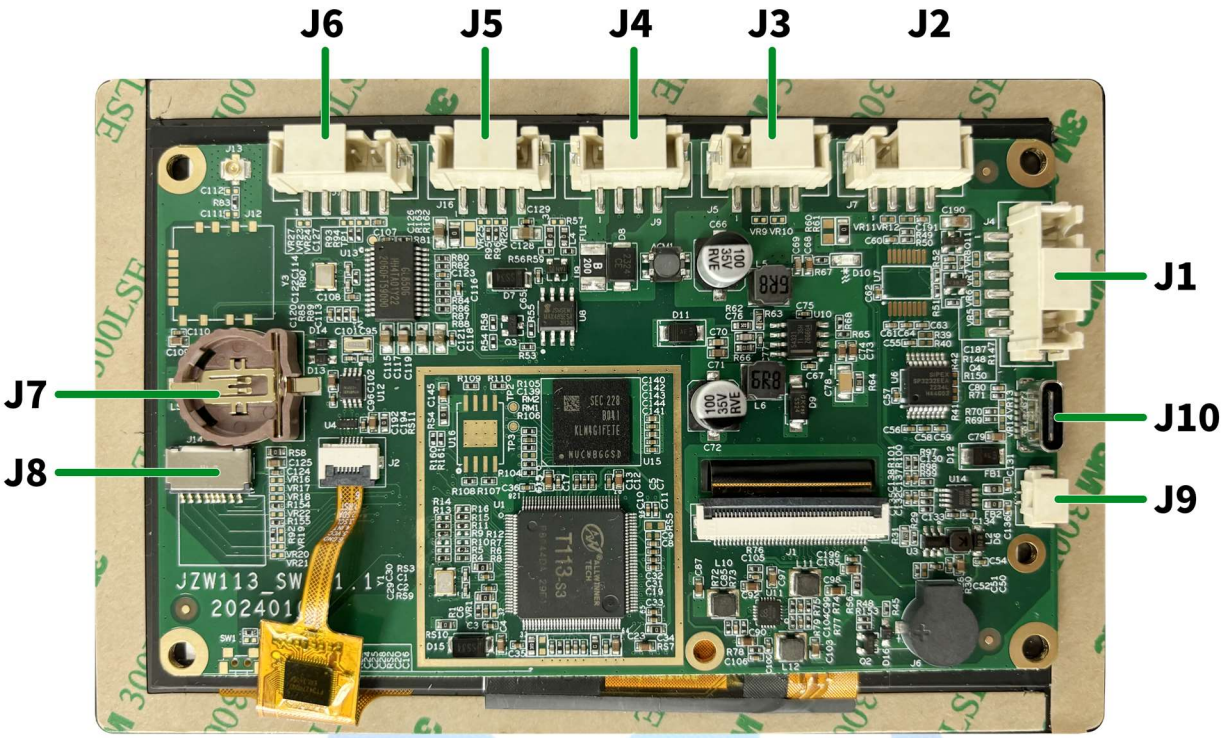
Power Supply	12V 2A DC (Recommended).

Reliability Test					
Item	**Condition**	**Min.**	**Typ.**	**Max.**	**Unit**
Working Temperature	60%RH at 12V voltage	-20	—	85	℃
Storage Temperature	—	-30	25	90	℃
Working Humidity	25℃	—	65%	75%	RH
Protection Paint	—	—	None	—	—

Interface					
Item	**Condition**	**Min.**	**Typ.**	**Max.**	**Unit**
Baud Rate	Standard	—	9600	—	bps
	User Defin	1200	—	115200	bps
Serial Mode	Serial Port*5 (4*RS232, 1* RS485)				
USB	USB DEBUG*1. USB HOST*2.				
Ethernet	—				
Wi-Fi	2.4G				
4G LTE Module	Optional				
GPS	Optional				

Peripherals	
Microphone	—
Loudspeaker	8Ω 3W
IIC	—
TF card	Yes
RTC	Yes

Interface Description



Num.	Interface Name	Description
J1	RS232 interface	RS232_2&3 interface, system communication node ttyS2&ttyS3 Interface definition: GND, TX2, RX2, TX3, RX3, V
J2	UART5 interface	UART5 Serial port, system communication node ttyS5 Interface definition: GND, TX5, RX5, V
J3	UART4 interface	UART4 Serial port, system communication node ttyS4 Interface definition: GND, TX4, RX4, V
J4	RS485&DC_IN	5V to 28V input, 485 port, system communication node ttyS1 Interface definition: DC_IN, A, B, GND
J5	USB interface	USB interface Interface definition: GND, USB DP, USB DM, 5V
J6	USB interface	USB interface, where the PIN5 can be configured with a resistor to supply 5V power Or 12V power supply, reserved for 4G expansion board Interface definition: GPIO_PE0 (4G_PWR_EN) O/3.3V Interface definition: USB_DP, USB_DM, 5V/12V
J7	RTC interface	The external button battery supports power failure time preservation
J8	TF interface	Memory Card
J9	Audio interface	8Ω 3W
J10	OTG interface	OTG function /APP debugging interface/firmware upgrade interface

FlyThings system framework introduction

This system is based on Linux system development, adding a self-developed system framework and GUI interactive system. We call it the FlyThings system. The moral is: the Internet of Things adds a flying ability

System target scenario

1. Replace the use of Android in the following small application scenarios, such as home appliances, access control and other product scenarios with simple functions, high system stability requirements, and high cost-effective requirements
2. Replace the traditional black-and-white display or MCU-driven color display solution, and improve the interactive experience in a low-cost way.
3. The arrival of the Internet of Things and sharing scenarios has brought more demand for display windows and interaction. Provide system support with high cost performance and high stability.

System composition

- Kernel
  - Based on the open source Linux 3.4 kernel version
  - Tailored and optimized for the IoT industry
- system
  - Autonomous GUI framework
  - Web API
  - Multimedia Service
  - IoT platform access
  - Payment platform access capability
  - Remote update system capabilities
  - Ability to push messages remotely
- Development support
  - Provide WYSIWYG configuration GUI development tools
  - Provide complete logic code open writing part
  - Continuously updated documentation and sample support
  - Constantly updated control package and system upgrade service

Product advantages

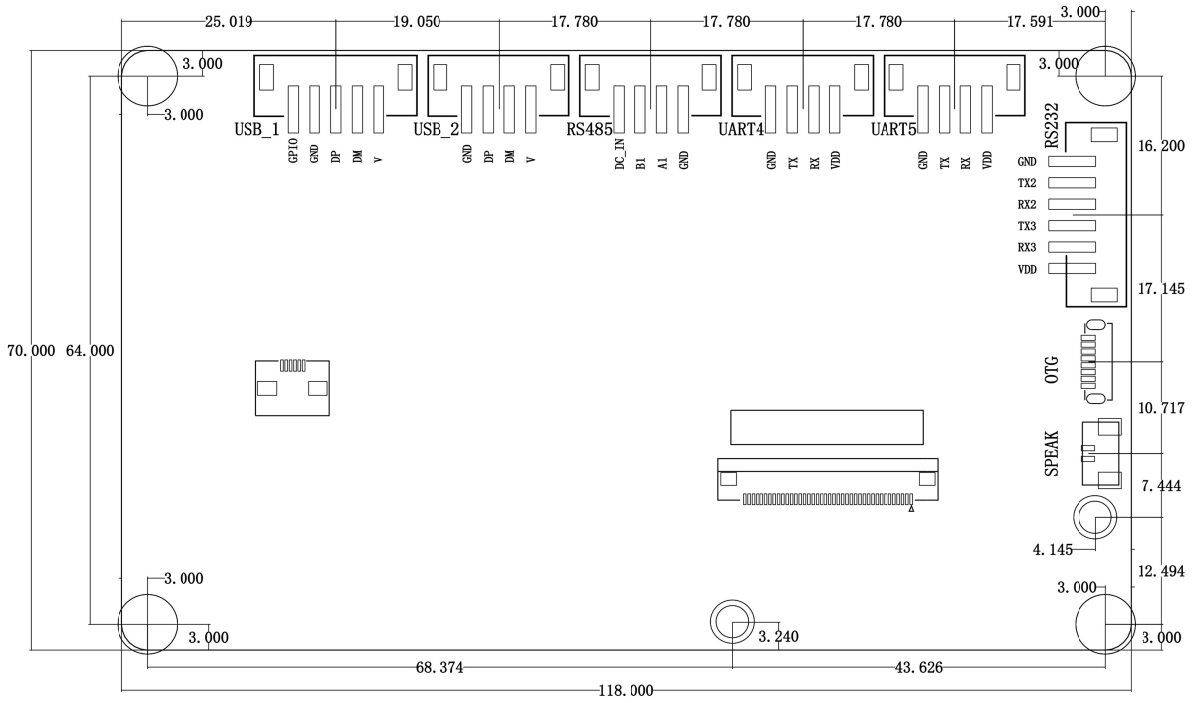
Compare the solution of traditional single-chip serial port screen or single-chip + FPGA display screen

- Provides the latest interactive experience like mobile phones and tablet computers, with high customer acceptance, low product learning costs, and good display effects
- Multi-layer virtualization technology is realized through software, which solves the problem of traditional display schemes limiting the number of layers
- Support png format decoding ability, so that the image layer overlay effect is better
- From the system level, it supports WiFi, Ethernet, 2G, and 4G access capabilities to provide customers with more convenient access to the network; at the same time, it is convenient and fast to access Deep Zhiyun, WeChat Internet of Things, WeChat Pay, Alipay and other platforms, which can be shared The industry provides fast IoT terminal solutions.

- Provide video decoding capabilities, more convenient to display information to users.

Compare Android and traditional Linux solutions

- Provides a stable hardware foundation for testing, saving the cycle of testing and verification of hardware development
- Provide system development work for the Internet of Things + display, saving the time for the system to re-develop and debug the system on the Internet of Things and display
- Provides low-cost and high-efficiency operating capabilities: The current system runs on 1G single-core CPU, 64MBDDR2, 16MB Flash, saving more than 50% of hardware costs
- Provide development tools with configuration + user logic source code to facilitate customers to quickly complete customized development; the development cycle is at least 60% less than the traditional method.
- The deeply customized system has the ability to quickly start in 3 seconds and operate safely in 24 hours * 365 days.



1.Location hole is used as position reference

2.Unmarked Tolerance is +/-0.3mm

Active area is marked in Dash lines

Part No.	**P80480ZK050C_T01_V1.1**					PROCULUS
Datasheet	**A4**	**Drawn by**	**Proculus**	**Date**		
Proportion	**1:1**	**Verified by**		**Date**		
Unit	**mm**	**Confirmed by**		**Date**		