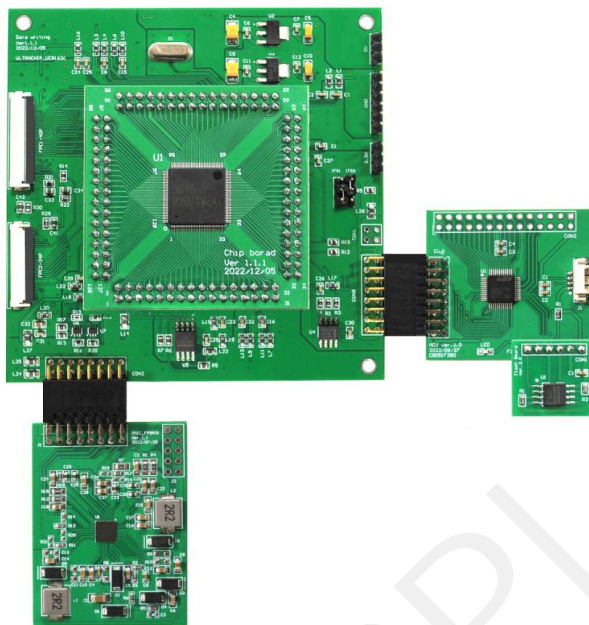




Demo Kit for Parallel Port
E-paper Display
DERPI-UC0B1

Product Specification



Type	Standard
Description	Parallel E-paper Display Demo Kit
Model Name	DERPI-UC0B1
Date	2023/05/17
Revision	1.0

	Design Engineering		
	Approval	Check	Design
			

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GOODDISPLAY

1. Overview

DERPI-UC0B1 is the driver board for parallel port E-paper display with monochrome and with color. The onboard single-chip microcomputer supports driving the parallel port E-paper display.

Part No.	Operating Temp.	Supported Display	Color
DERPI-UC0B1	-20℃ ~ 70℃	GDEW078C01 etc	4096

2. Mechanical Specifications

Parameter	Specification
Model	DERPI-UC0B1
Platform	Keil4
Dimension	145mm x 155mm
Power Supply	DC5V 2A
Operating Temp.	-25 ℃ ~ 70 ℃
Main Function	Learn to drive E-paper display; Test and evaluate E-paper displays; Secondary development based on the board
Additional Functions	5V external power supply interface

3. Main Function Parts

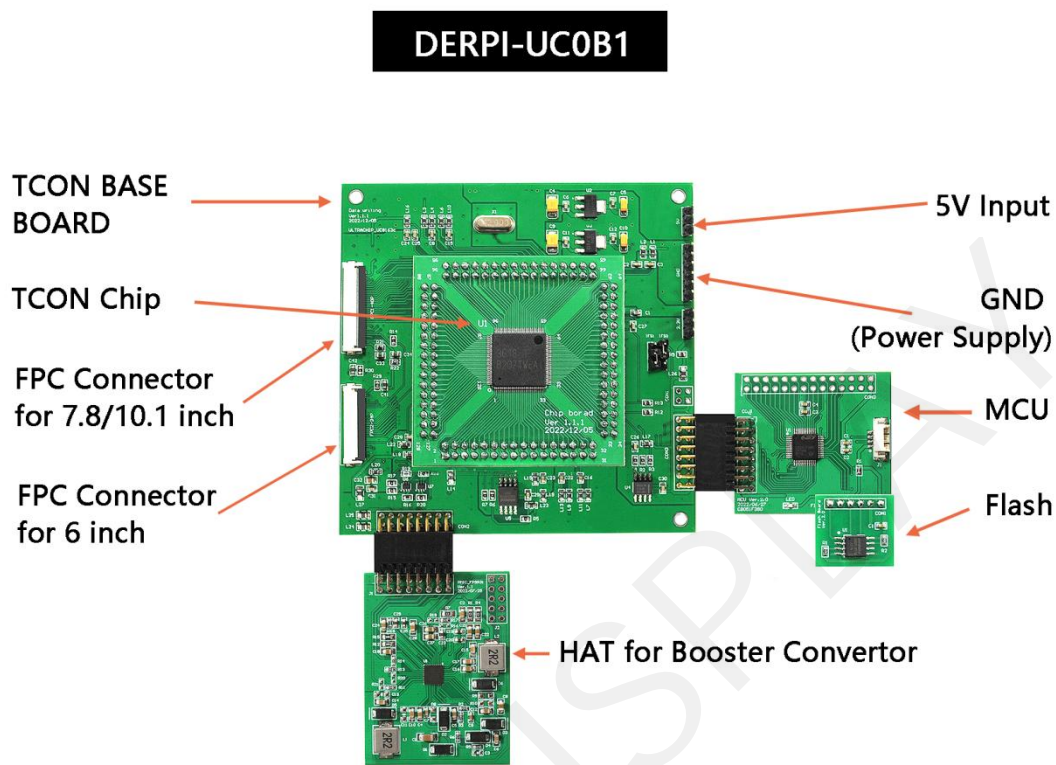


Figure 1 DERPI-UC0B1

4. Function

4.1. MCU and Flash

The MCU stores waveforms and operation codes, and the external Flash is used to store pictures that need to be refreshed. as shown in figure 2:

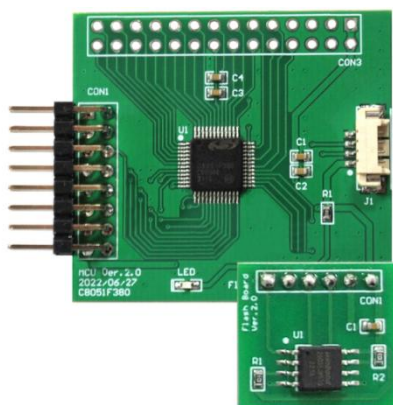


Figure 2 MCU board and Flash

4.2. Boost converter board

The boost converter board is mainly used to provide +22V, -20V, +15V, -15V, and VCOM voltages required for refreshing the parallel port E-paper. The boost of the main board is controlled by the TCON main board. As shown in Figure 3:

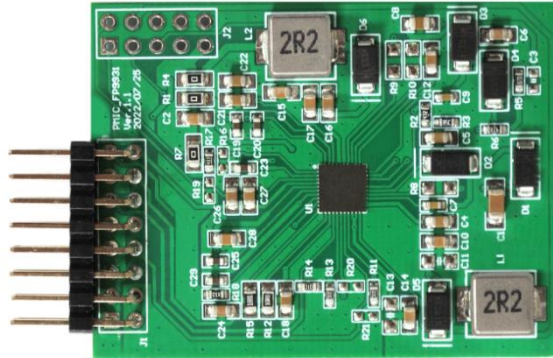


Figure 3 Boost Converter board

4.3. TCON motherboard

The TCON motherboard is mainly used to connect the parallel port electronic paper that needs to be refreshed, and provides the TCON timing control function for the electronic paper, which can support 6-inch, 7.8-inch, 10.1-inch black and white and color screen refresh display. The power supply of the board is DC5V. When using it, an external switching power supply of DC5V 2A or more is required, as shown in Figure 4:

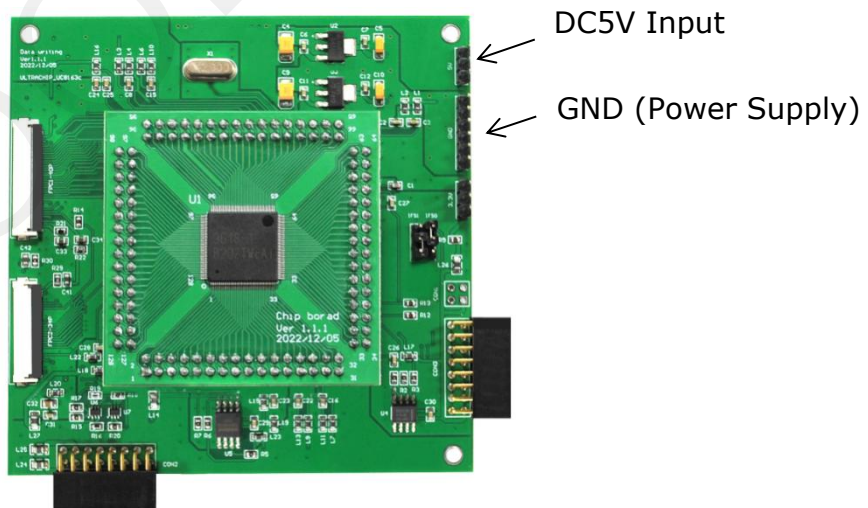


Figure 4 TCON base board and TCON chip

4.4. Operation process

- 1) Connect the parallel port electronic paper to the corresponding FPC interface, pay attention to the screen display face up, and the FPC gold finger face up.
- 2) Confirm that the booster converter board, MCU and TCON main board are connected normally, and connect the DC12V 2A power supply to the 5V and GND positions of the TCON main board.
- 3) Power on the DC5V 2A power supply, wait for about 30s, the parallel port E-paper display will first clear the screen with a full white screen, and then display the pictures in the Demo in sequence.

Note: It takes a while to transfer pictures so please wait patiently.

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