User Guide Standards

E Ink Luvia Evaluation Kit for 28" (VB3300-PHA) EPD

Table of Contents

1 Introduction

Luvia evaluation kit support to highlight the features and benefits of the ePaper display driven by LVDS interface. This document will provide details on how to operate the Luvia evaluation kit with 28" monochrome LVDS interface panel. Please make sure if you already prepare following components on hand before starting to operate.
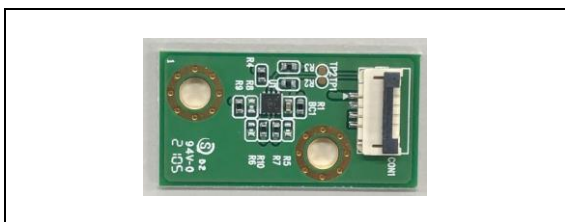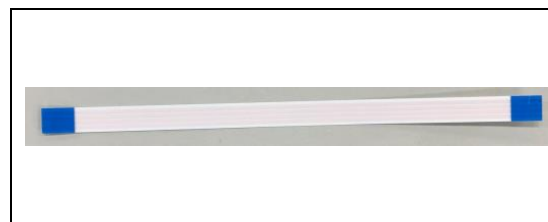
(1) Luvia evaluation kit

LT-1000 timing control board×1

FFC cable×2

Temperature sensor board×1

Cable for temperature sensor board
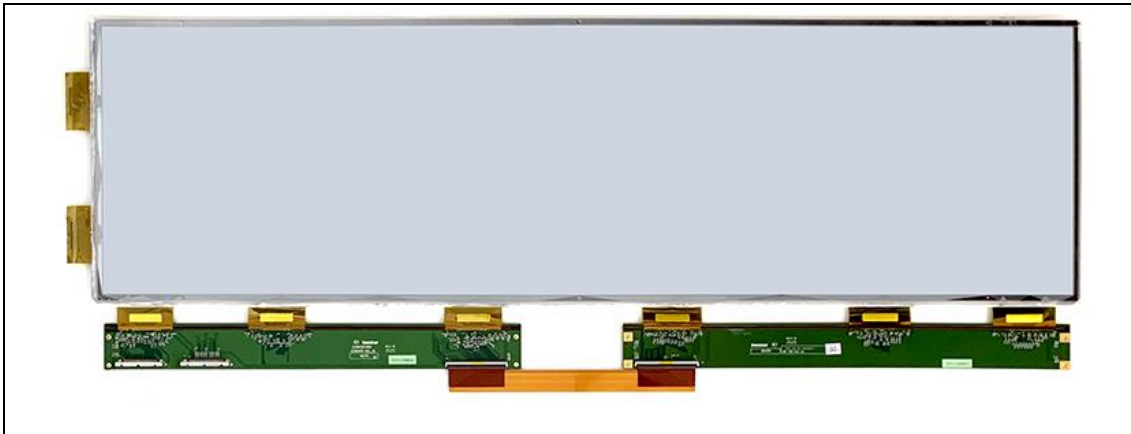

Power adaptor×1
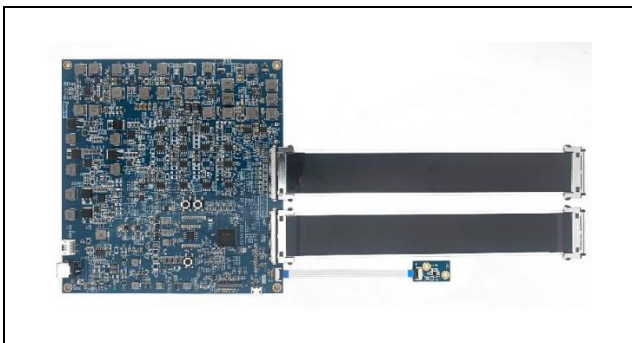
(2)   28 inch monochrome ePaper display

28" monochrome ePaper display

2   Hardware Setup Guide

This section describes the hardware setup procedures of the Luvia evaluation kit for 28" monochrome ePaper display.

(1)   Hardware requirements for drive 28" monochrome ePaper display

Luvia evaluation kit

Windows PC (Prepare by customer)
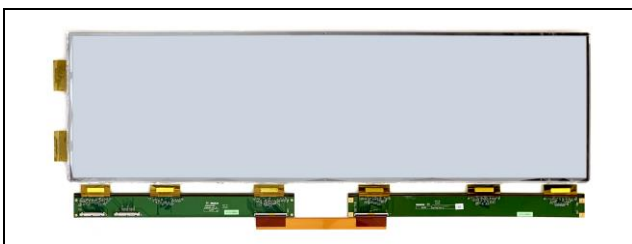
28" EPD panel

(2) Table 1 Minimum PC Requirements (Prepare by customer)

CPU	Pentium III 800 MHz or higher
RAM	128MB or higher
Required Software	Windows 7 or higher version
Interface	USB port

(3) Connect method of Luvia kit with 28"monochrome ePaper display

Connect the Luvia evaluation board with 28" ePaper display is shown as following figure 2.1.

Figure 2.1

3   How to Demo the Picture

(1)   Recommend picture format

The picture is recommend in BMP (24bit) or JPG (24bit) format and size needs to fit the resolution of 28" ePaper display (3840*1080).
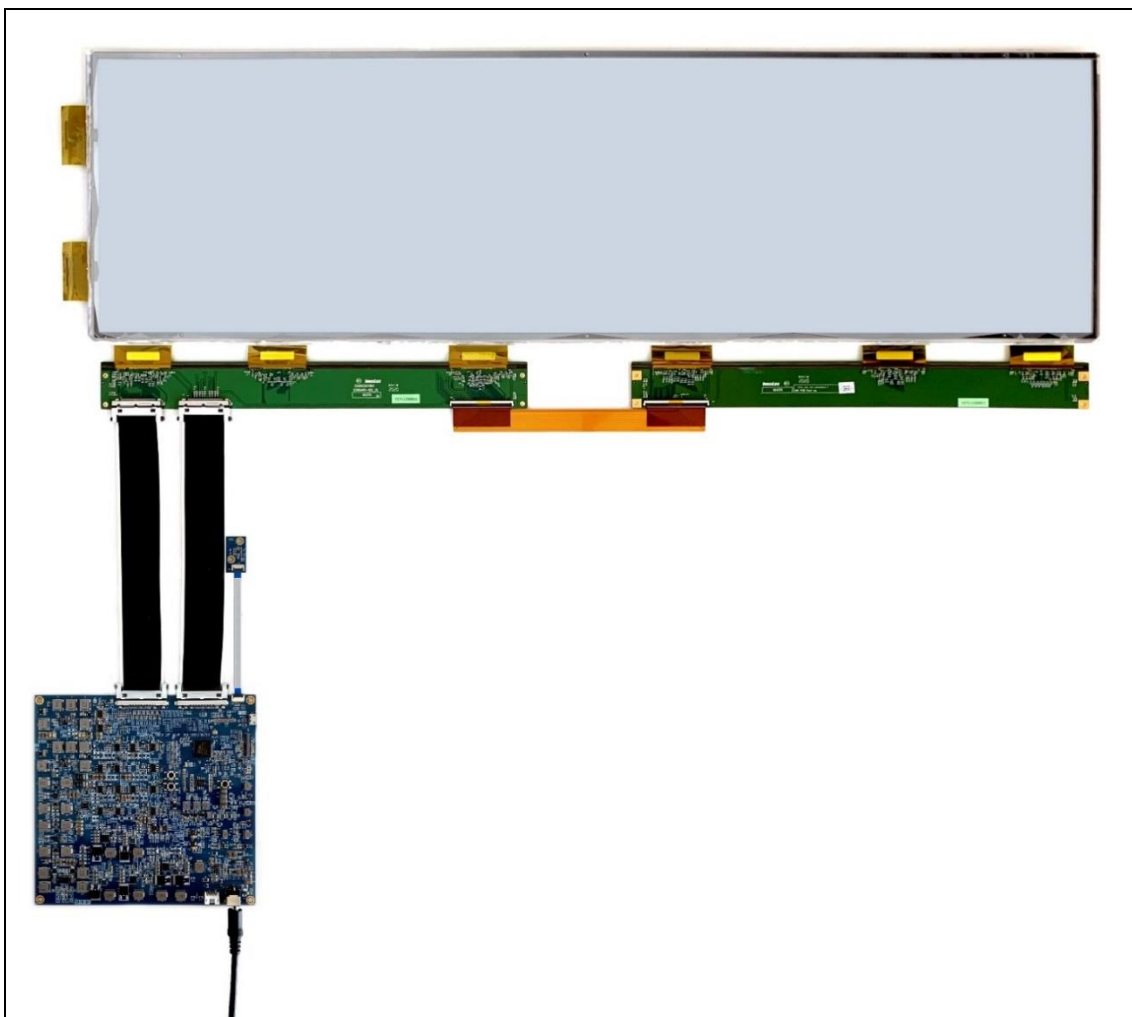
(2)   Operating procedures

Make sure Luvia kit and 28" EPD as well as PC are connected

A.   Connect the 28-inch ePaper display to the Luvia evaluation kit (refer to Figure 2.1)

B.   The PC is connected to the Luvia evaluation kit via a Micro-USB cable.

C.   Execute the "T1000_Windows_AP.exe" software and click the "Connect" button to ensure that the software is successfully connected to the physical drive. (refer to Figure 3.1)
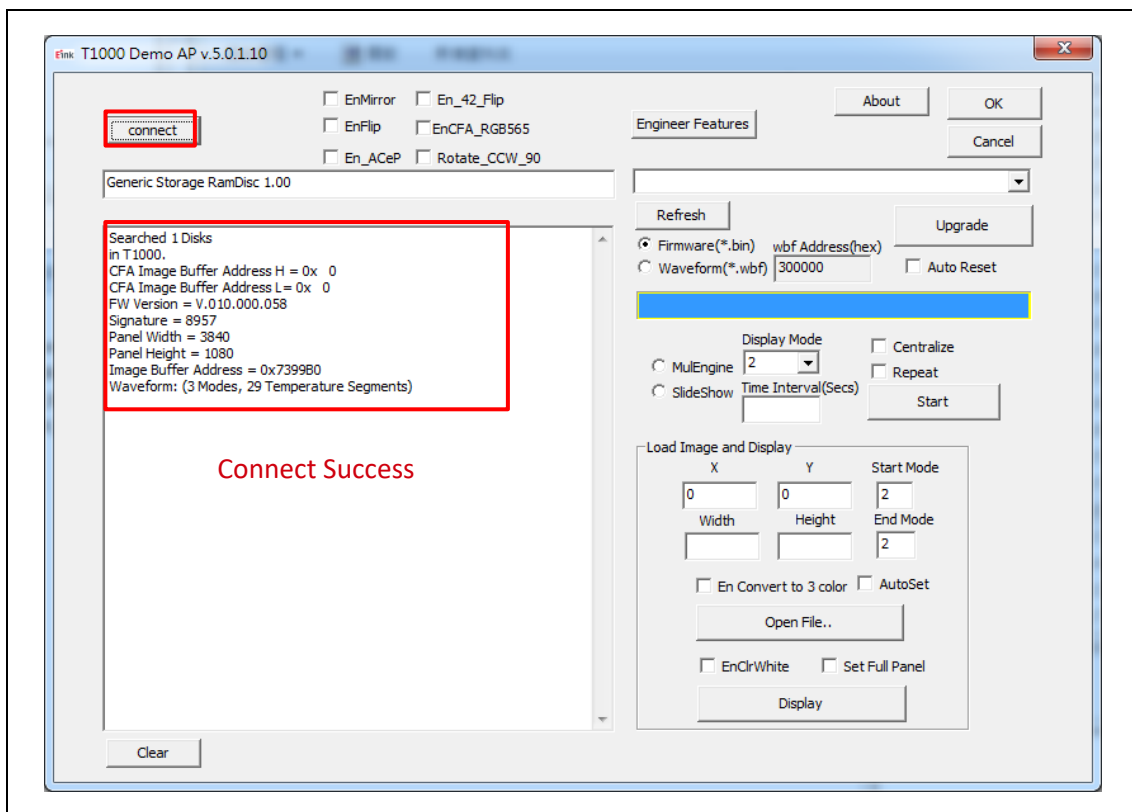

Figure 3.1

Update picture to ePaper display

A.   Execute T1000 Demo AP (refer to Figure 3.2)
   ● Enable " AutoSet" and "Set full Panel" (step 1&2)

- Click "Open File.." to choose the picture   (step 3&4)
- Set "Start mode" and "End mode" to 3 (step 5)
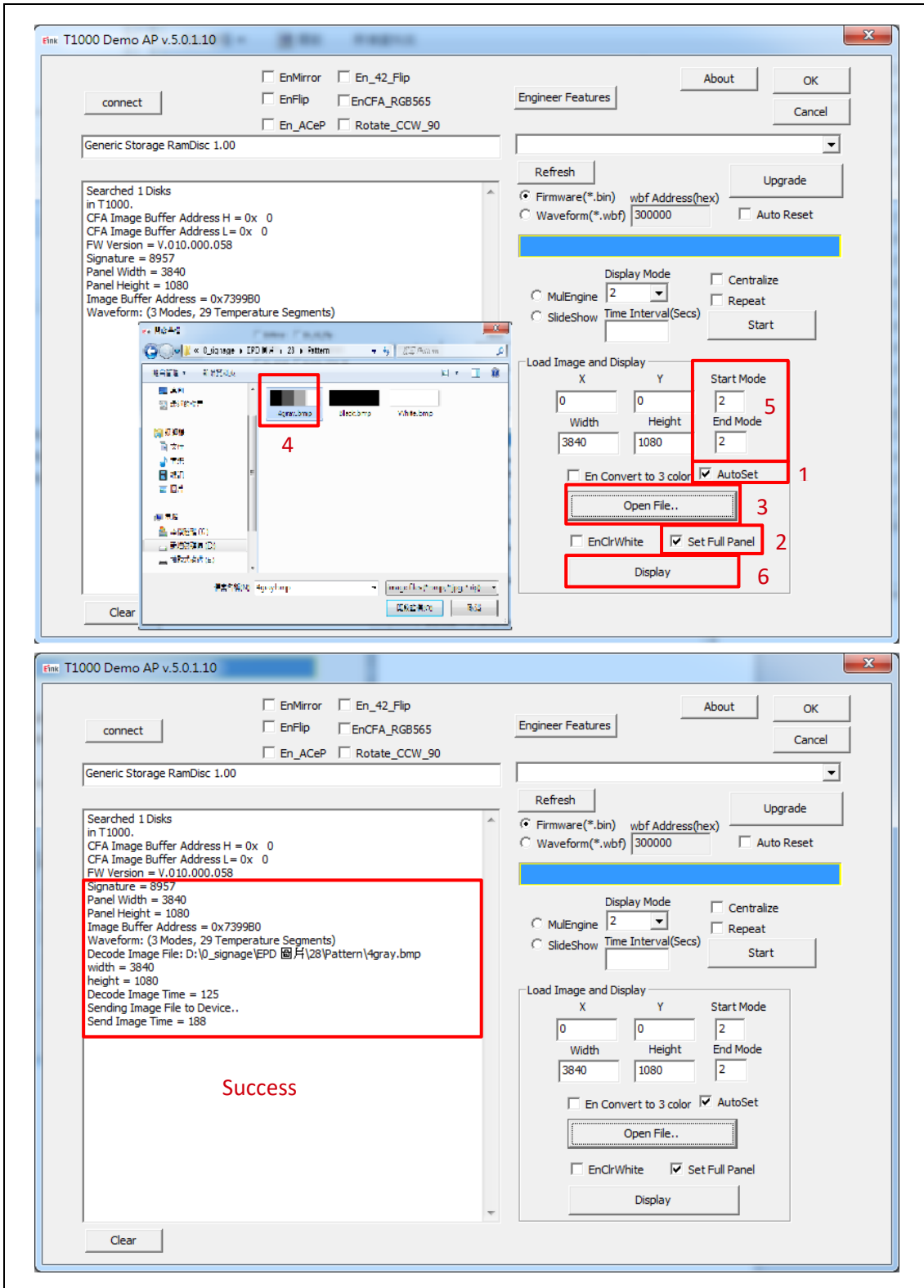- Click " Display" button to show selected picture on ePaper display (step 6)

Figure 3.2 Update picture to 28" ePaper display

Appendix:

A.   How to minimize artifact

- Execute T1000 Demo AP(refer to Fig 3.3)

- Select "EnClrWhite" option

- Set "Start mode" and "End mode" to 0,

- Click "Display" button. ePaper display will show white picture. Repeat above steps if necessary. Unselect "EnClrWhite" option after done with minimizing artifact.

Figure 3.3

B.   How to upgrade firmware

- Execute T1000 Demo AP(refer to Figure 3.4)

- Click the "connect" button (step 1)

- Choose   "Firmware(*.bin) (step 2)

- Click "Refresh" and "choose the FW you want to use. (step 3&4)

- Click " Upgrade" (step 5)

- If update is success, please re-plug the power adapter and USB cable (reset)
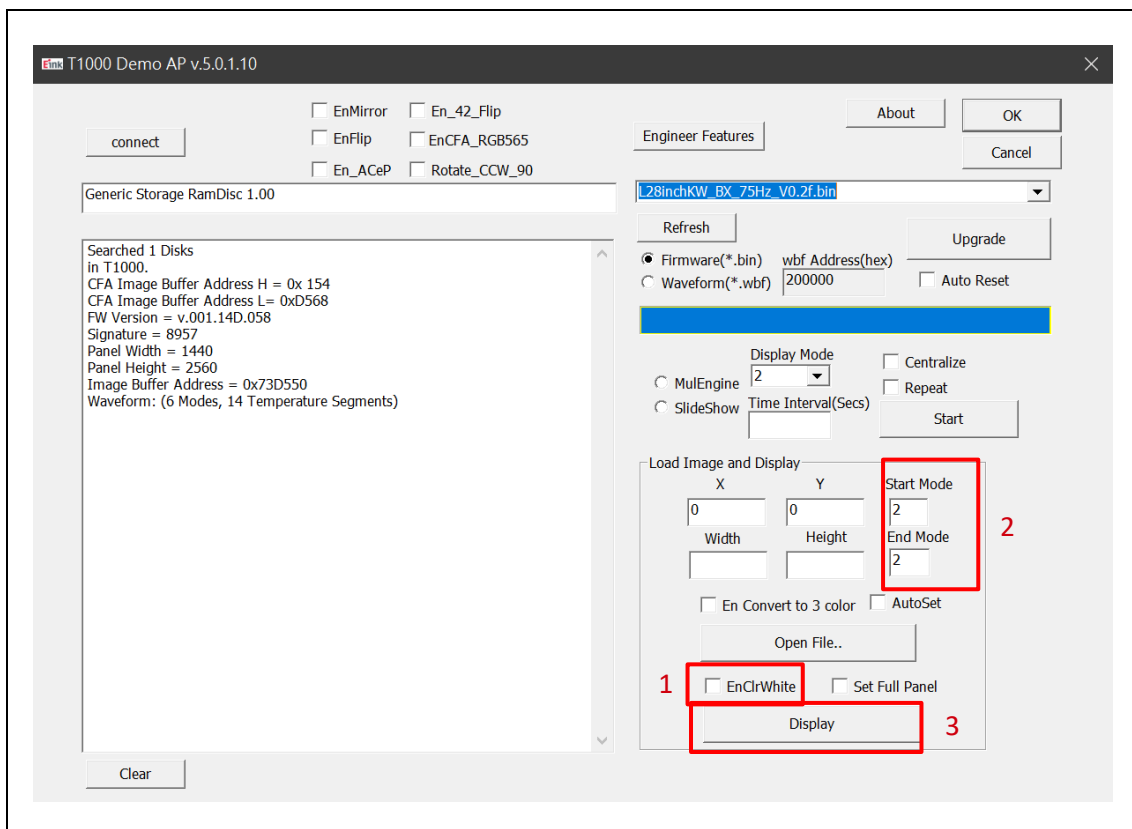
Figure 3.4

C. How to upgrade waveform

- Execute T1000 Demo AP(refer to Figure 3.5)

- Click the "connect" button (step 1)

- Choose "Firmware(*.bin) (step 2)

- Click "Refresh" and "choose the FW you want to use. (step 3&4)

- Click " Upgrade" (step 5)

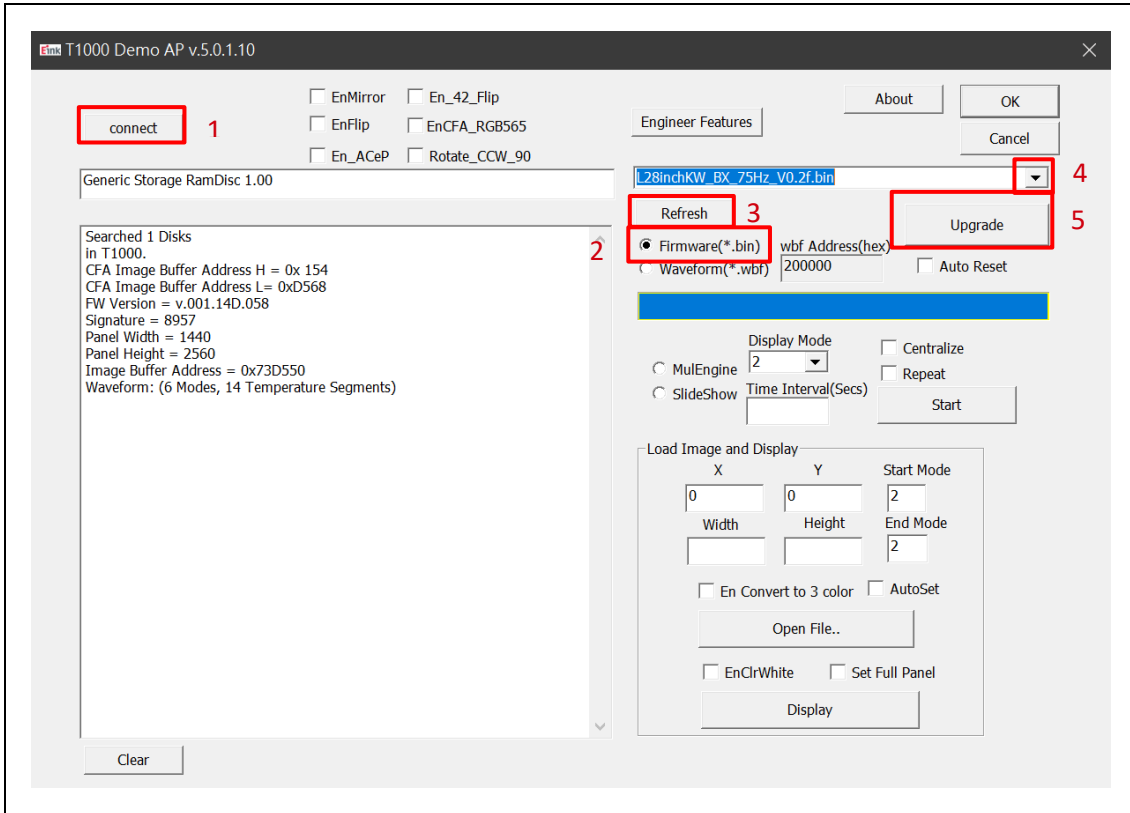- If update is success, please re-plug the power adapter and USB cable(reset)
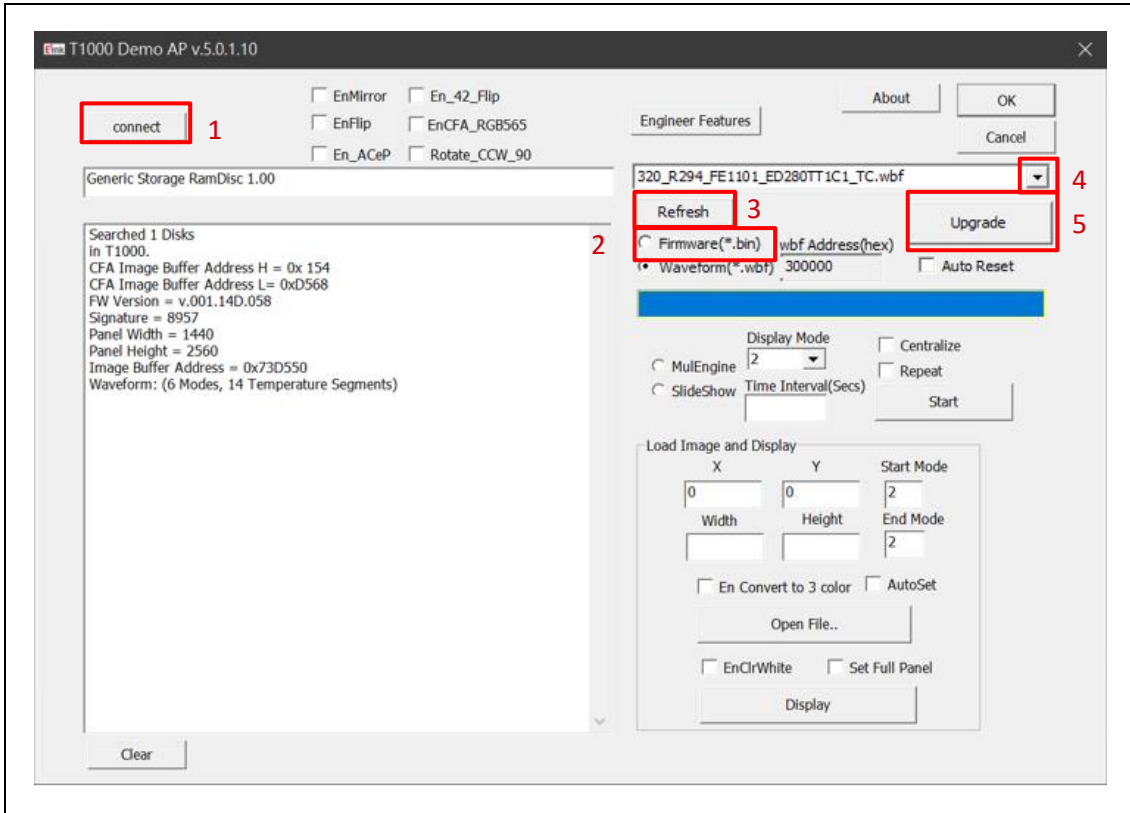
Figure 3.5

D. How to slideshow
- Execute T1000 Demo AP(refer to Figure 3.6)
- Click the "connect" button (step 1)
- Upload all images under the folder name as "SlideShowImages"
- Set "Display Mode" and "Time Interval"
- Select "SlideShow" option and click "Start"botton.

∗ Note: If the T1000_Demo_AP.exe put in a Demo AP folder, the slideShowImages folder also needs under Demo AP folder.
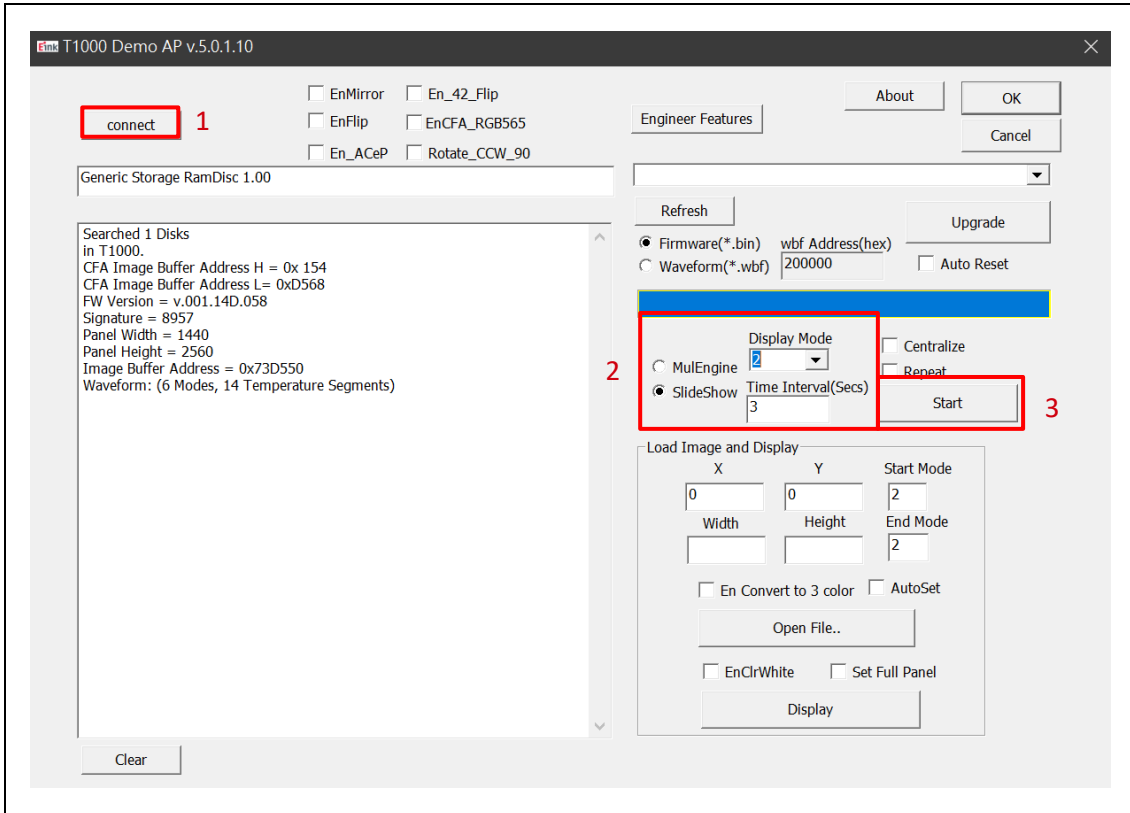
Figure 3.6

E. How to set VCOM & temperature
- Execute T1000 Demo AP (refer to Figure 3.7)
- Set Vcom
  - Click "Engineer Features "button
  - VCOM Set/Get
  - Set/Get VCOM voltage value.
  - Click "Execute" button to Set/Get VCOM.
  - Click "OK" button

- Set temperature
  - Click "Engineer Features "button
  - Temperature Set/Get
  - Set/Get temperature value.
  - Click "Execute" button to Set/Get temperature.
  - Click "OK" button

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Vcom values are marked on the PCB

Figure 3.7

F.   Other Features Description for T1000_Demo_AP.exe

Each of the checkbox described above has to be selected before you load an image using "Open File" button based on different firmware.

- EnMirror：Mirror image (source line)
- EnFlip：Flip image (gate line)
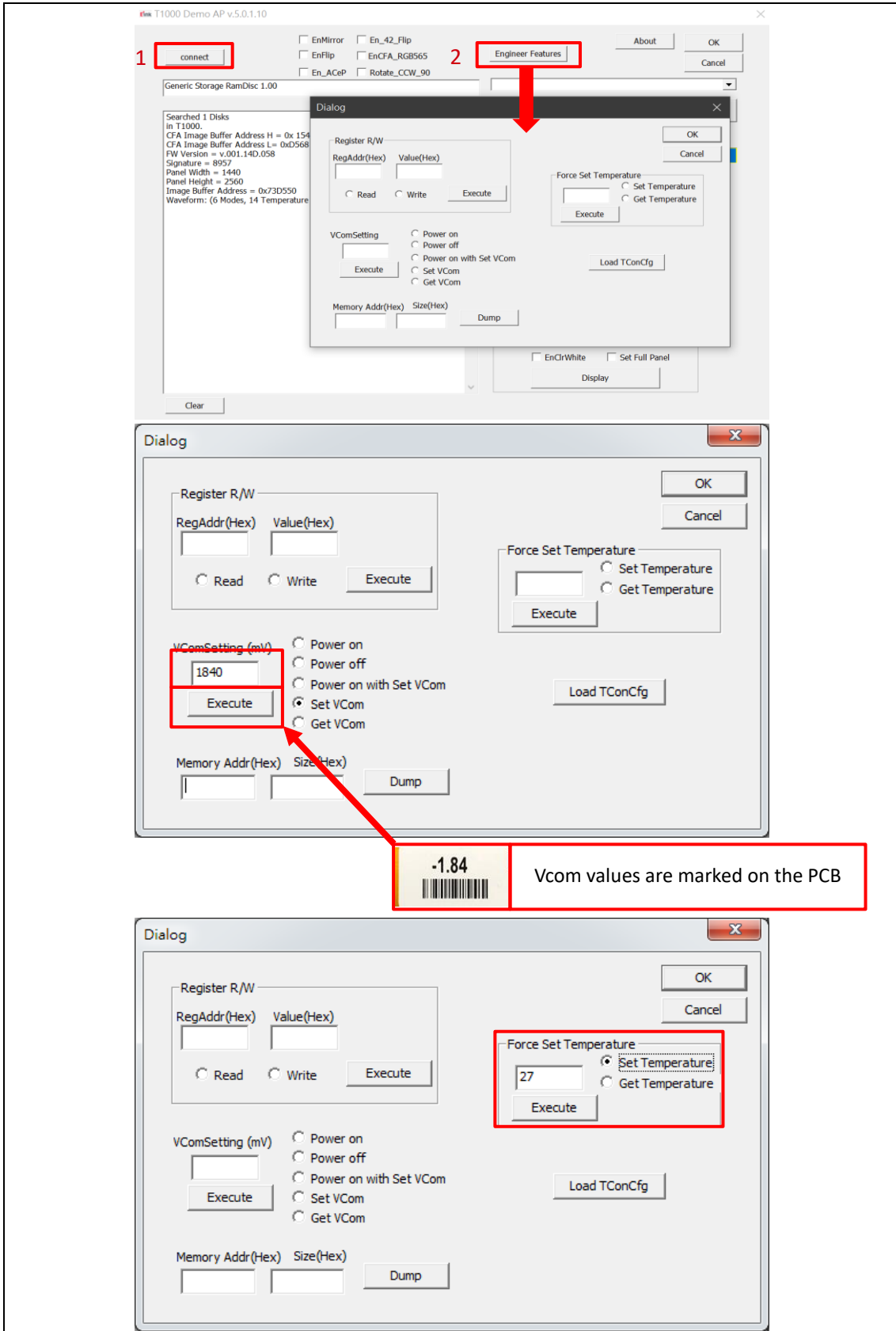- En_42_Flip：Only used in 42" EPD.
- EnCFA_RGB565：Only used in 31.2" CFA EPD.
- Rotate_CCW_90：Only used in 31.2 BW and 31.2 CFA.

4   Troubleshooting

Below is a list of commonly asked questions and basic troubleshooting steps of L-T1000 evaluation board.

Table 4.1 Troubleshooting

No.	Issue	Possible Cause and Solution
1	L-T1000 device is not visible on PC	USB cable damage
		Replace USB cable.

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