User Guide Standards

MeeNote Evaluation Kit

Table of Contents

MeeNote EVK operation SOP

1 Introduction

The MeeNote evaluation kit supports to drive Kaleido plus color ePaper displays with touch and front light functions. This article will provide detailed information on how to use the MeeNote evaluation kit to drive a Kaleido plus color ePaper panel.

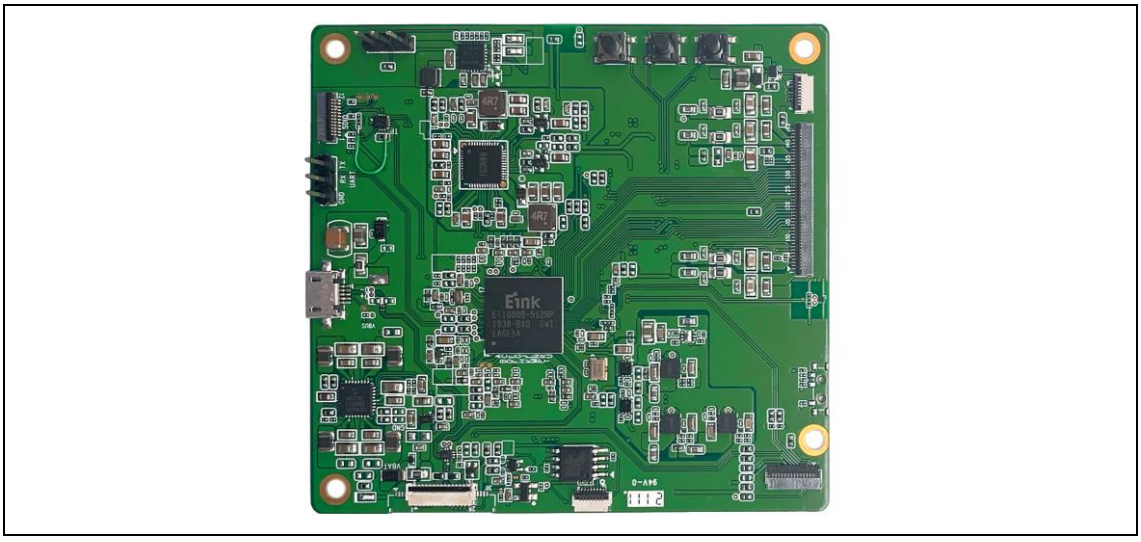
The MeeNote evaluation kit can support

MeeNote driving board	Kaleido plus color ePaper displays module	Accessories
Driving board (EPD 25V, TP 3.3V)	6" ePaper Display (SC1452-FOA)	Adaptor board for 6" touch×1 Adaptor board for 6" front light×1 Adaptor board for 6" EPD (45pin to 34pin)×1 8 pin FFC×1 12 pin FFC×1 45 pin FFC×1
	7.8" ePaper Display (SC1452-GHA)	Adaptor board for 7.8" touch×1 Adaptor board for 7.8" front light×1 8 pin FFC×1 12 pin FFC×1

Before starting any operations, please make sure that the following components are ready.

(1) MeeNote evaluation kit with 6" EPD module (SC1452-FOA)

Main Board



MeeNote driving board (EPD 25V, TP 3.3V)×1

Accessories

Adaptor board for 6" touch×1

Adaptor board for 6" front light×1

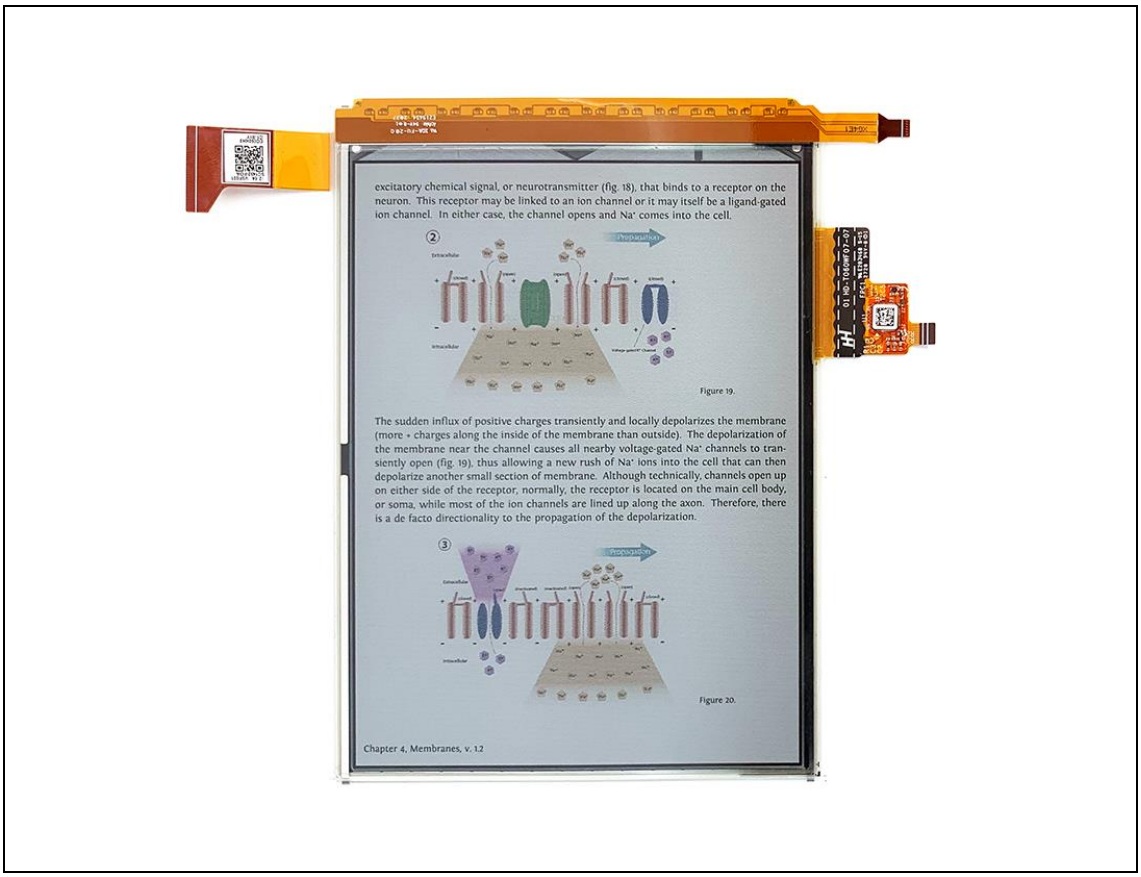
Adaptor board for 6" EPD×1

8 Pin FFC for front light×1

12 Pin FFC for touch panel×1

45 Pin FFC for 6" EPD×1

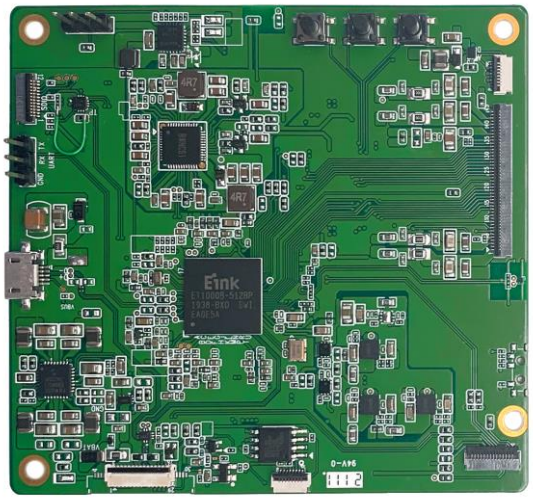
EPD module



6" Kaleido plus color ePaper display (SC1452-FOA)

(2) MeeNote evaluation kit with 7.8" EPD module (SC1452-GHA)

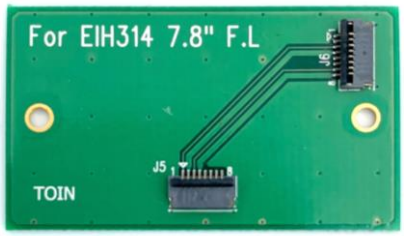
Main Board



MeeNote driving board (EPD 25V, TP 3.3V)×1

Accessories

Adaptor board for 7.8" touch×1



Adaptor board for 7.8" front light×1

8 Pin FFC for front light×1

12 Pin FFC for touch panel×1

EPD module

7.8" Kaleido plus color ePaper display (SC1452-GHA)

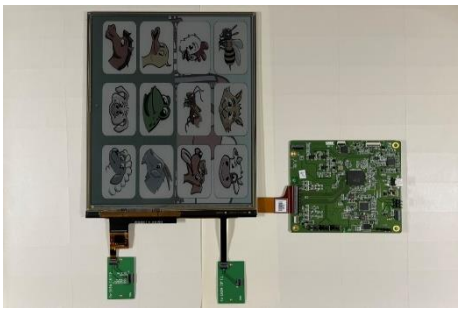
2 Hardware Setup Guide

This section describes the hardware setup procedures of the MeeNote evaluation kit for Kaleido plus color ePaper display.

(1) Hardware requirements for driving Kaleido plus color ePaper display

You need one of 6" or 7.8" MeeNote EVK kit packages, and a DC power source of 4.2V (it can be a battery pack or a DC power supply) and desktop computer or laptop equipped with Windows OS (DC power source and computers are not included in the MeeNote EVK packages).

MeeNote evaluation kit
With 6" Kaleido plus color EPD panel



MeeNote evaluation kit
With 7.8" Kaleido plus color EPD panel

Minimum PC Requirements

CPU	Pentium III 800 MHz or higher
RAM	128MB or higher
OS	Windows 10
Interface	USB 2.0 port or higher version

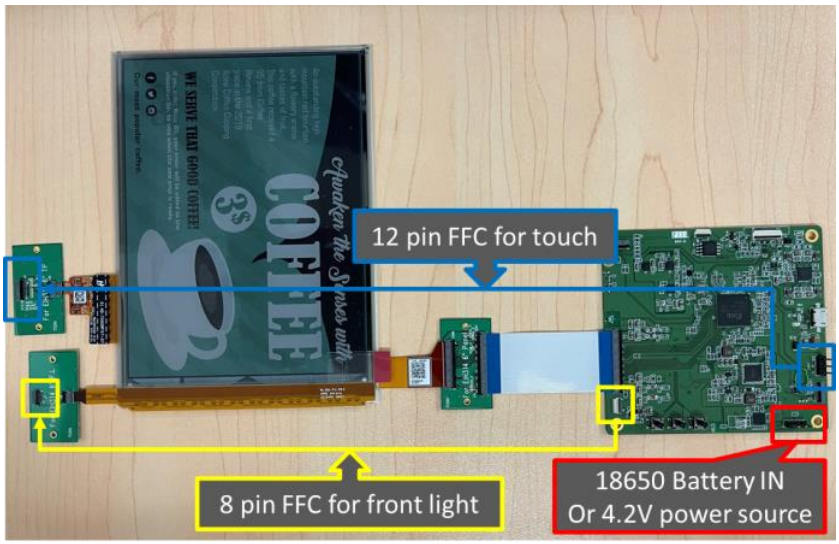
Windows PC (Prepare by customer)

Battery box (not included in the package, to be prepared by user)

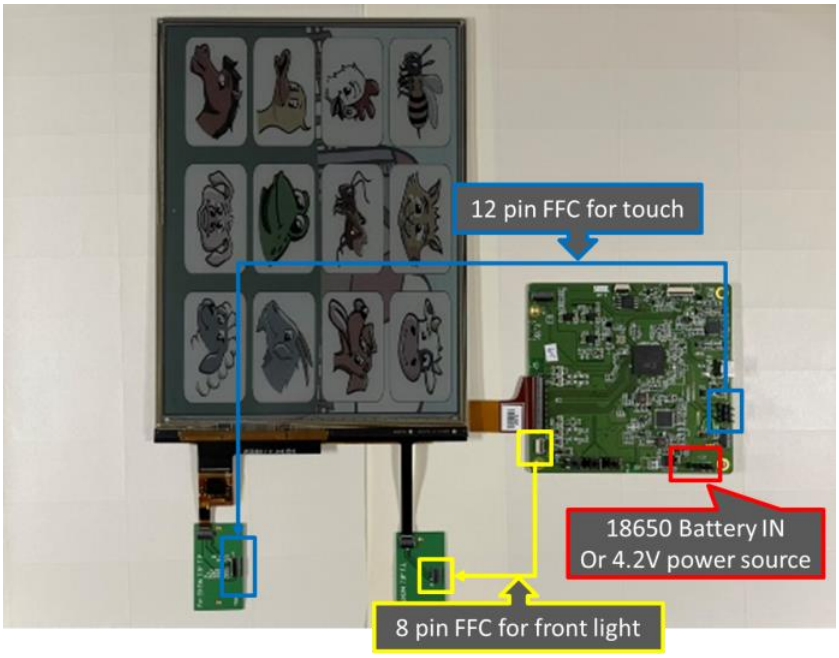
18650 Battery (not included in the package, to be prepared by user)

(2) Connect method of MeeNote kit with Kaleido plus color ePaper display

Connecting the MeeNote evaluation board with Kaleido plus color ePaper display as shown in figure 2.1.



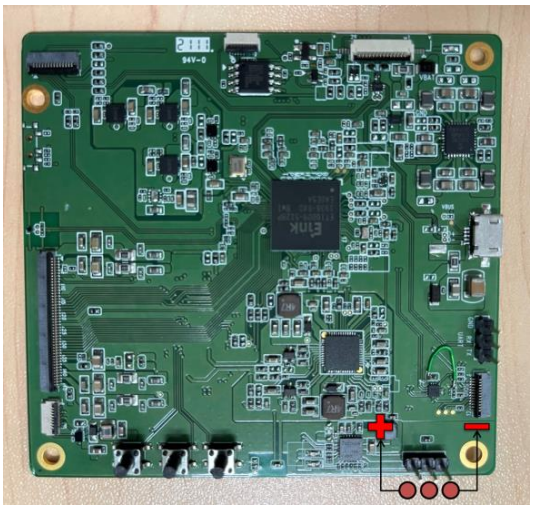
Connecting method of 6" Kaleido package



Connecting method of 7.8" Kaleido package

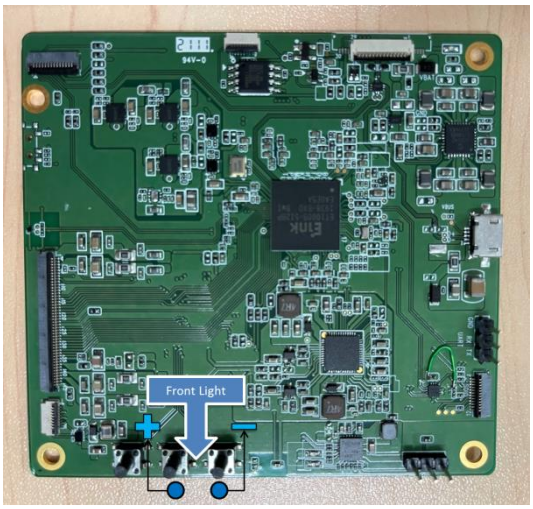
Figure 2.1

Connecting the 4.2V battery pack or 4.2V power source as shown in figure 2.2.a below. Front light control method is shown in figure 2.2.b. Power key control method (press to boot up, long press 5 sec to shutdown) is shown in figure 2.2.c.



Connecting method of power source

Figure 2.2.a



Front light control

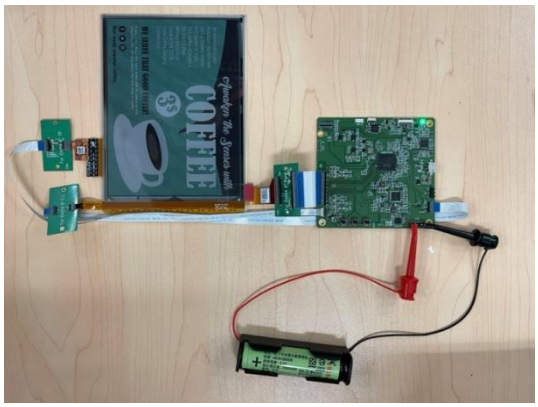
Figure 2.2.b

Power key control

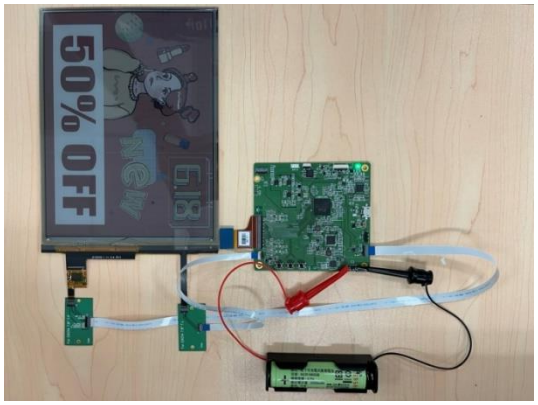
Figure 2.2.c

After connecting all the boards and accessories, your evaluation kits should look like Figure 2.3 depending on the package you choose.

Please be noted that when connecting the EVK, always remember to connect the power source first before connecting the USB to the computer.



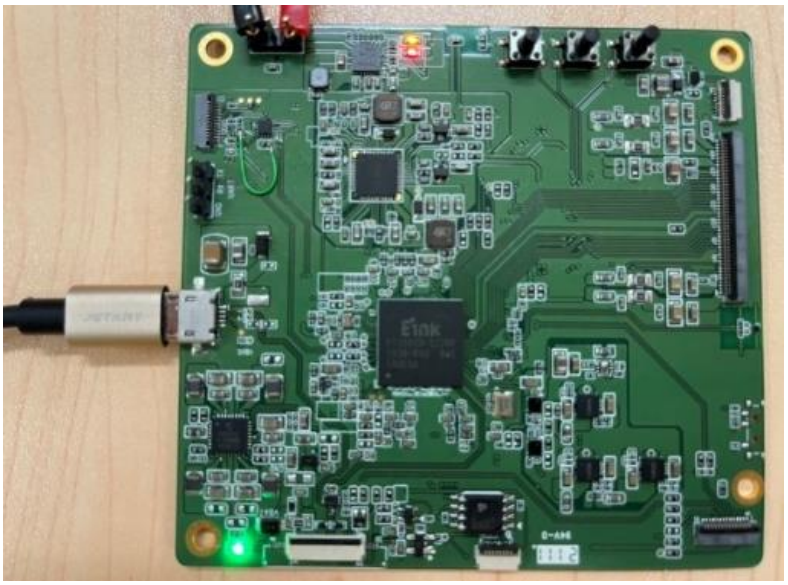
Connected result of 6" Kaleido package



Connected result of 7.8" Kaleido package

Figure 2.3

LED indicator status is shown as figure 2.4.



LED color	Status	Meaning
RED	Flash	Abnormal charging
	Light	Charging
	Dark	Full of charge
Orange	Light	Charging IC POWER GOOD indicator
Green	Light	Boot up
	Dark	Shutdown

Figure 2.4

3 How to Demo the Picture

(1) Recommend picture format

The picture is recommended in BMP (24bit) or JPG (24bit) format and size needs to fit the resolution of 7.8" Kaleido plus color ePaper display SC1452-GHA [1404(H) ×1872(V)] or 6" Kaleido plus color ePaper display SC1452-FOA [1072(H) × 1448(V)]

(2) Operating procedures

Make sure MeeNote kit 6"/7.8" EPD and PC are connected properly.

- Connect the 6"/7.8" Kaleido plus color ePaper display to the MeeNote evaluation kit (refer to Figure 2.1)
- The PC is connected to the MeeNote evaluation kit via a Micro-USB cable.
- Execute the "E_Ink_Tool_for_MeeNote_EVK_V5.0.1.4.exe" software select SC1452-FOA /SC1452-GHA and click the "connect" button to ensure that the software is successfully connected to the physical drive (refer to Figure 3.1)

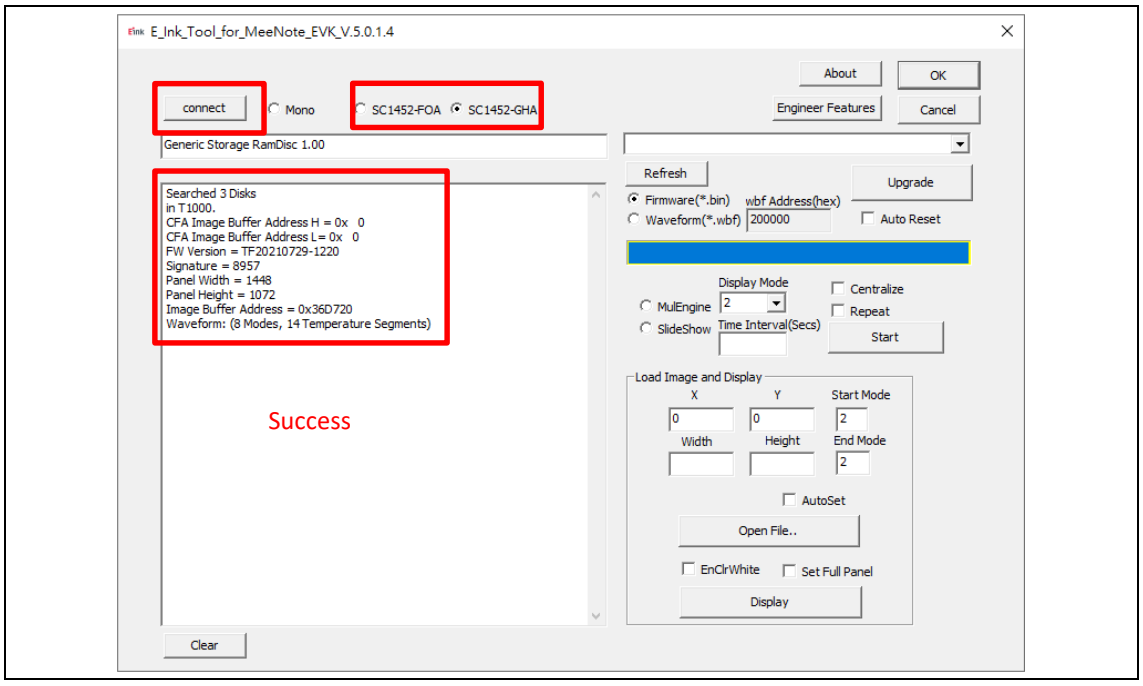


Figure 3.1

Update single picture to ePaper display

- Execute E_Ink_Tool_for_MeeNote_EVK_V5.0.1.4.exe and select SC1452-FOA or SC1452-GHA (refer to Figure 3.2)
- Enable " AutoSet" and "Set full Panel" (step 1&2)
- Click "Open File.." to choose a picture (step 3&4)
- Set "Start mode" and "End mode" to 3 (step 5)
- Click "Display" button to show the selected picture on Kaleido plus color ePaper display (step 6)

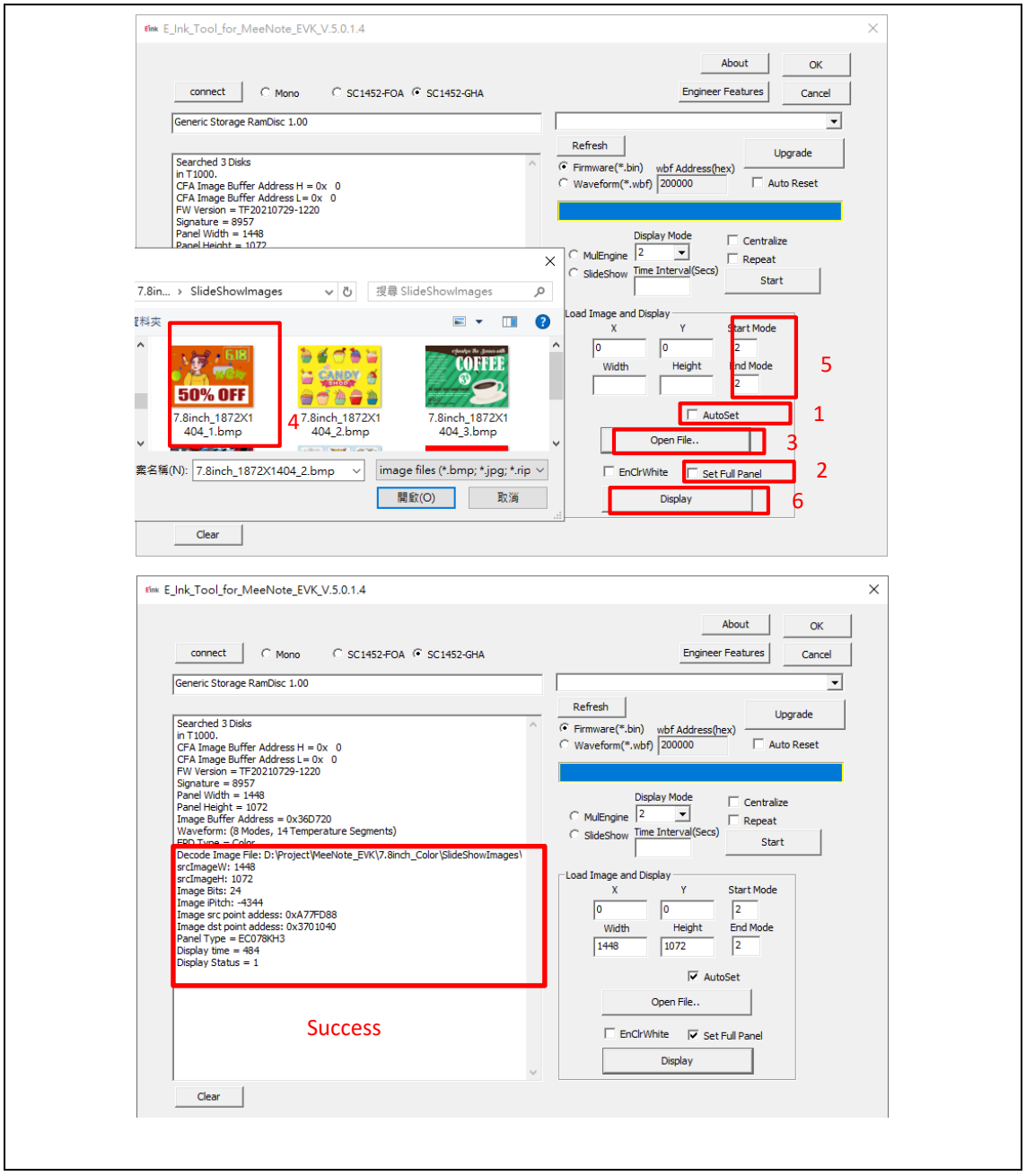


Figure 3.2 Update single picture to Kaleido plus color ePaper display

Update multiple pictures to ePaper display with slideshow

- Execute E_Ink_Tool_for_MeeNote_EVK_V5.0.1.4.exe (refer to Figure 3.3)
- Upload all images under the folder name as “SlideShowImages”
- Select SC1452-FOA or SC1452-GHA and click the “connect” button (step 1)
- Set “Display Mode” and “Time Interval” (step 2&3)
- Enable “ AutoSet” and “Set full Panel” (step 4&5)
- Select “SlideShow” option and click “Start” button (step 6&7)

* Note: If the E_Ink_Tool_for_MeeNote_EVK_V5.0.1.4.exe put in a Demo AP folder, the SlideShowImages folder also needs under Demo AP folder.

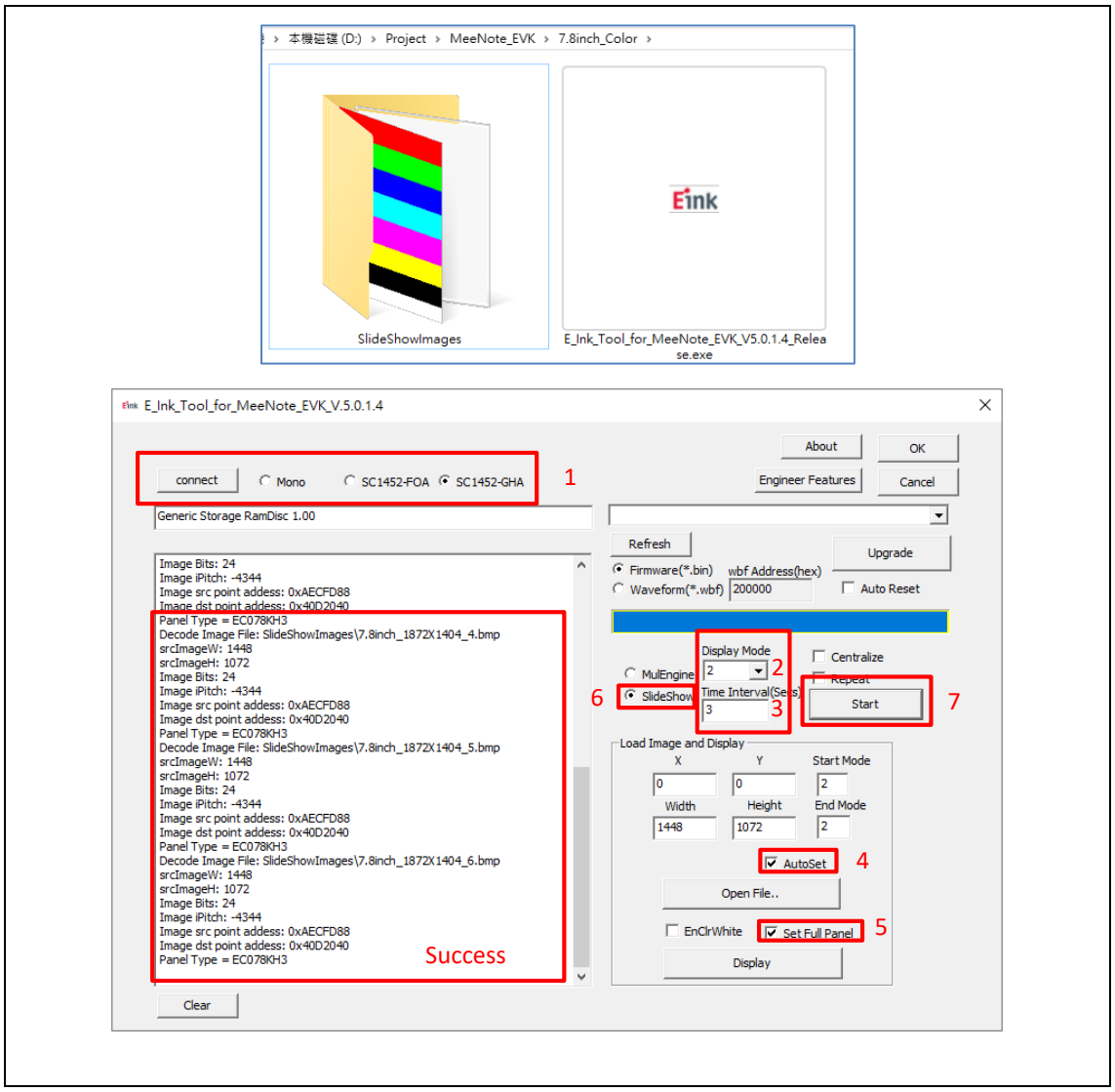


Figure 3.3 Update multiple pictures to ePaper display

4 Appendix:

(1) How to minimize artifact

- Execute E_Ink_Tool_for_MeeNote_EVK_V5.0.1.4.exe and select SC1452-FOA or SC1452-GHA (refer to Fig 3.4)
- Select “EnClrWhite” option
- Set “Start mode” and “End mode” to 2,
- Click “Display” button, ePaper display will show white picture. Repeat above steps if necessary. Unselect “EnClrWhite” option after done with minimizing artifact.

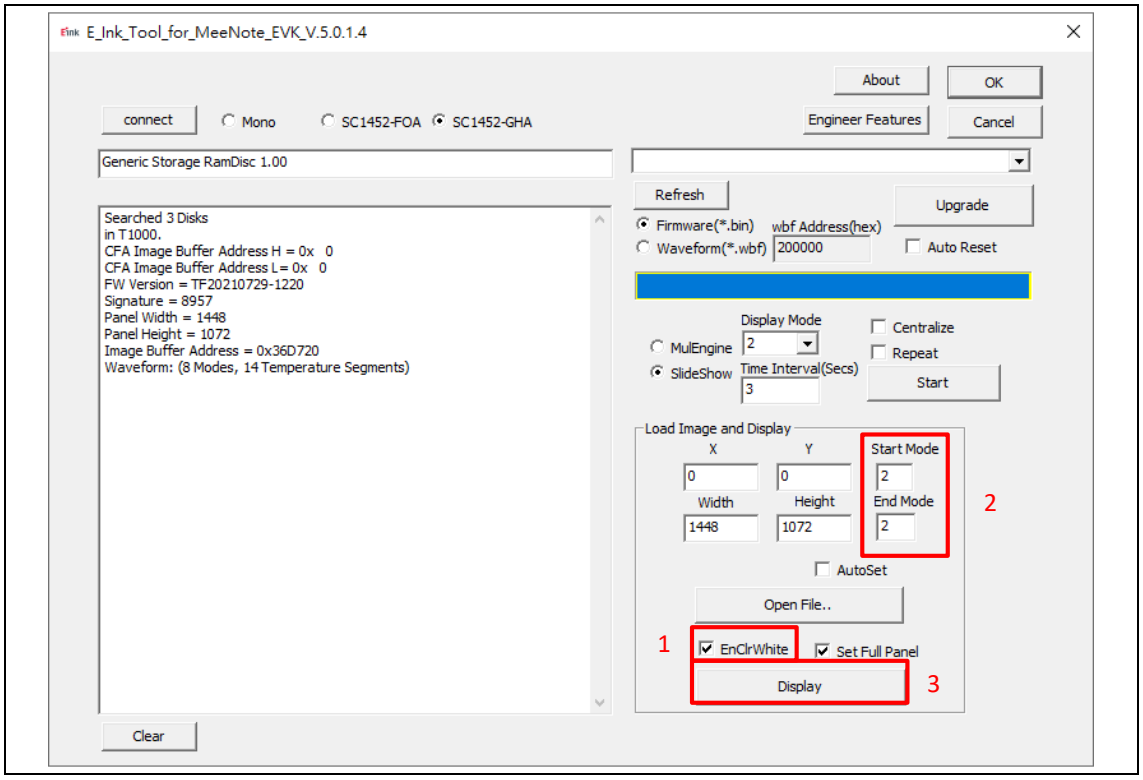


Figure 3.4

(2) How to upgrade firmware

- Execute E_Ink_Tool_for_MeeNote_EVK_V5.0.1.4.exe (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)

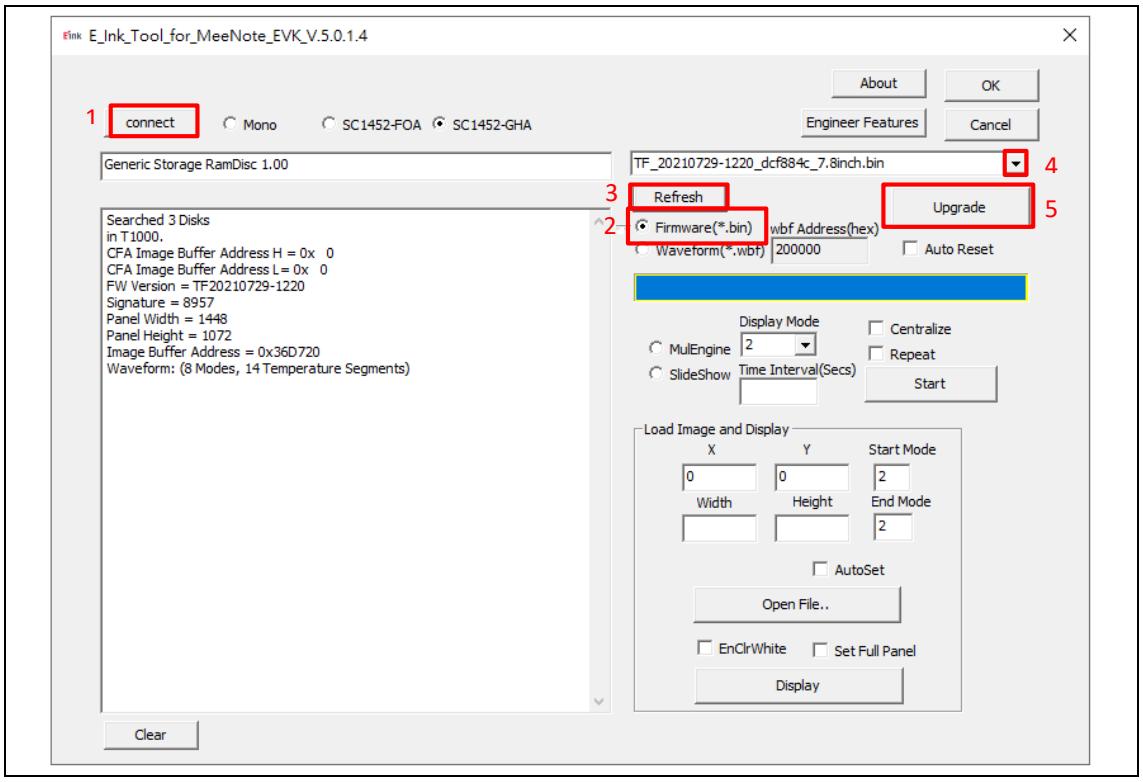


Figure 3.5

(3) How to upgrade waveform

- Execute E_Ink_Tool_for_MeeNote_EVK_V5.0.1.4exe (refer to Figure 3.6)
- Click the “connect” button (step 1)
- Choose “waveform(*.wbf) (step 2)
- Click “Refresh” and “choose the waveform file 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)

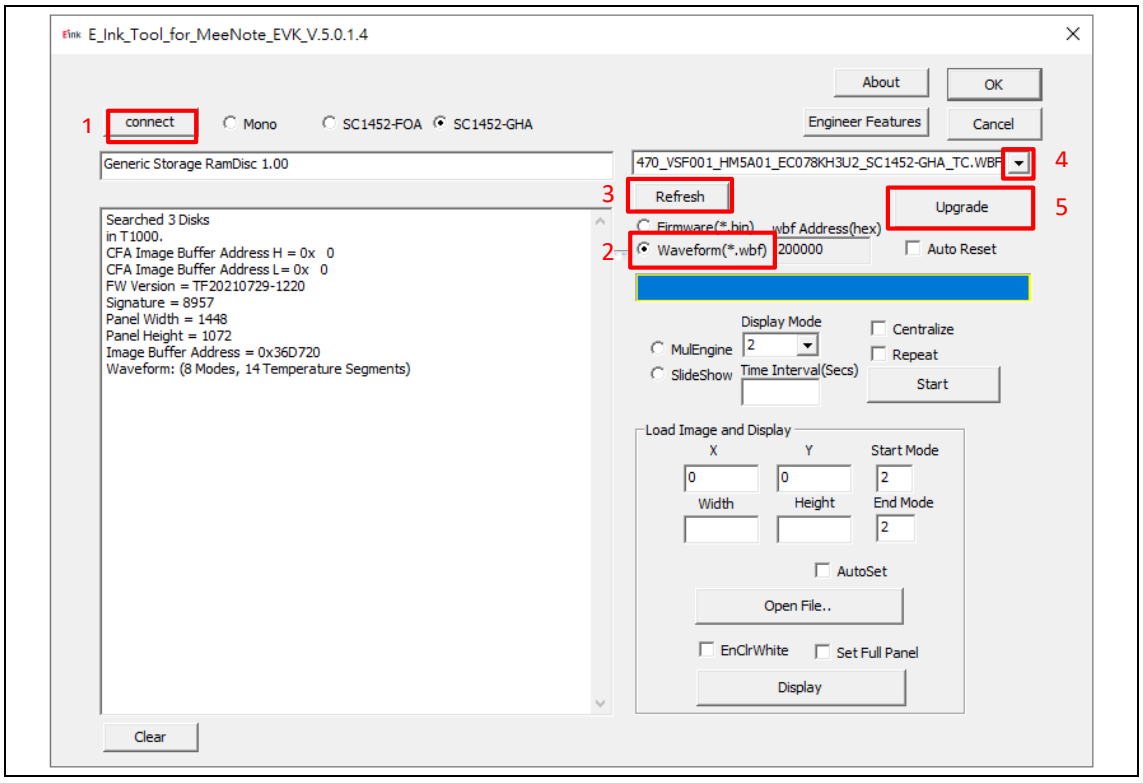


Figure 3.6

(4) How to set VCOM & temperature

● Execute E_Ink_Tool_for_MeeNote_EVK_V5.0.1.4.exe (refer to Figure 3.7)

Set Vcom

1. Click “Engineer Features “button
2. VCOM Set/Get
3. Set/Get VCOM voltage value.
4. Click “Execute” button to Set/Get VCOM.
5. Click “OK” button

Set temperature

1. Click “Engineer Features “button
2. Temperature Set/Get
3. Set/Get temperature value.
4. Click “Execute” button to Set/Get temperature.
5. Click “OK” button

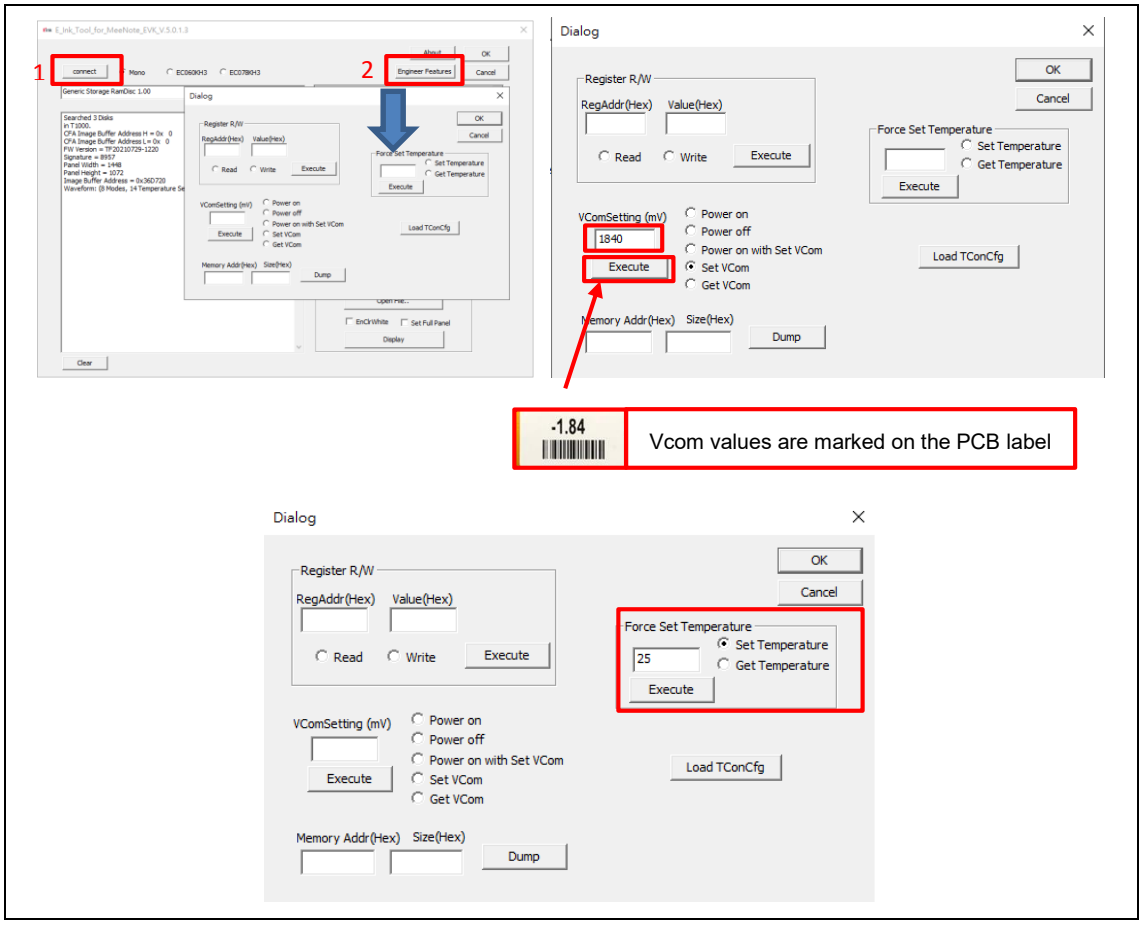


Figure 3.7

(5) Other Features Description for E_Ink_Tool_for_MeeNote_EVK_V5.0.1.4.exe

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

- Mono：Used in BW EPD
- SC1452-FOA：Only used in 6" CFA EPD
- SC1452-GHA：Only used in 7.8" CFA EPD.

5 How to use MeeNote function

(1) Installation

1. Launch MeeNote_EVK.exe
2. Press power key to boot up MeeNote EVK board.
3. Connect your NB and MeeNote EVK board with USB cable.
4. Choose the EPD Type to “SC1452-FOA” or “SC1452-GHA”
5. Wait for a moment then you will see the EPD starting mirror the content from Windows.

Figure 3.8

(2) Configuration of MeeNote.exe

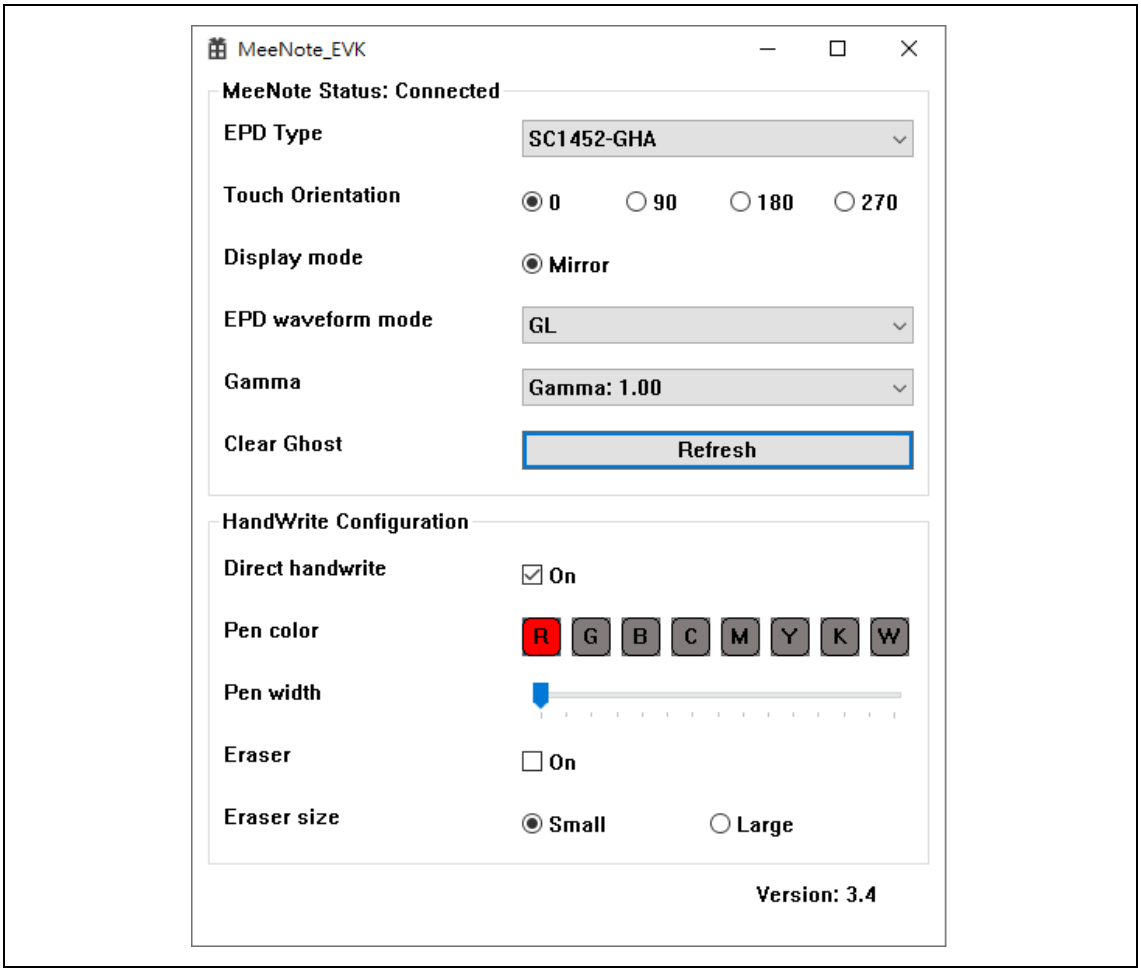


Figure 3.9

- MeeNote status: Used to display the current USB connection status, there are two types, “Connected” and "Disconnected"
- EPD type: Users can choose what kind of EPD type of MeeNote which they are using, “Mono” for black and white EPD, “SC1452-FOA” and “SC1452-GHA” for printed color EPD.
- Touch orientation: Users can adjust the rotation angle of touch panel while the touch coordinate is not normal, there are 4 different angles can be chosen: 0°, 90°, 180°, 270°
- EPD waveform mode: Users can select which EPD waveform mode they would like to use: A2, DU, GL, GC.
- Gamma: Users can adjust the Gamma value to obtain clearer picture quality, there are 7 different values can be set: Auto, 0.25, 0.45, 0.75, 1.00, 1.40, 2.20
- Clear Ghost: Users can press this button to clear ghost by applying GC refresh.
- Direct Handwrite: Direct Handwrite is a technology that allows T1000 to draw lines

directly to obtain faster writing speed. User can enable/disable this feature by the switch.

- Pen color: Users can select the pen color of Direct Handwrite. There are 8 colors can be selected: RED, GREEN, BLUE, CYAN, MAGENTA, YELLOW, BLACK, WHITE. Please note that if you are using a B/W EPD, the color pen will still only display B/W.
- Pen width: Users can select the pen width of Direct Handwrite. There are 15 different levels can be selected.
- Eraser: Users can enable or disable the eraser function of Direct handwrite by the switch.
- Eraser size: Users can select the size of eraser of Direct handwrite, there are 2 sizes can be selected: small, large.

6 Troubleshooting

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

Table 4.1 Troubleshooting

Num	Issue	Possible Cause and Solution
1	T1000 device is not visible on PC	USB cable damage
		Replace USB cable.
2	T1000 device is not visible on PC	Battery in low power
		Recharge Battery to 4.0V ~4.2V .

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● Revision History

Version	Date	Page	Description	Author
0.1	2021/09/28	19	Initial	Will.Yen Alvin.Chen
0.2	2021/10/05	20	Modification for module name change and wording.	Will.Yen Alvin.Chen