

User Guide Standards

Luvia Evaluation Kit for 25.3" Kaleido[™] 3 ePaper Display (SD1452-PEA)



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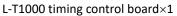
ePaper Display Update SOP

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 E Ink Kaleido[™] 3 LVDS interface panel. Please make sure if you already prepare following components on hand before starting to operate.

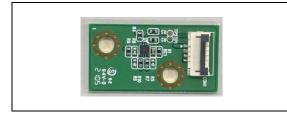
(1) Luvia evaluation kit







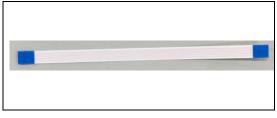
FFC cable×2



Temperature sensor board×1



Power adaptor $\times 1$



Cable for temperature sensor board

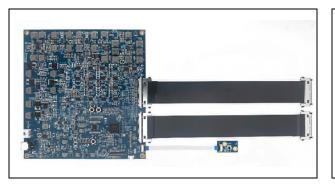
(2) 25.3 inch Kaleido[™] 3 ePaper display



25.3" Kaleido[™] 3 ePaper display

2 Hardware Setup Guide

This section describes the hardware setup procedures of the Luvia evaluation kit for 25.3″ Kaleido[™] 3 ePaper display.



(1) Hardware requirements for drive 25.3" Kaleido[™] 3 ePaper display



Luvia evaluation kit

Windows PC (Prepare by customer)



25.3" EPD panel



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

(2) Connect method of Luvia kit with 25.3" Kaleido[™] 3 ePaper display

Connect the Luvia evaluation board with 25.3" 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) format and size needs to fit the resolution of 25.3" ePaper display (3200*1800).

(2) Operating procedures

After power up, check power indicator LED if is lighting.

(3) Make sure Luvia kit and 25.3" EPD as well as PC are connected

- Connect the 25.3-inch ePaper display to the Luvia evaluation kit (refer to Figure 2.1)
- The PC is connected to the Luvia evaluation kit via a Micro-USB cable.
- 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)

connect	EnMirror En_42_Flip EnFlip EnCFA_RGB565 En_ACeP Rotate_CCW_90	□ En_E4 □ En_E5	About OK Engineer Features Cancel
Generic Storage RamDisc 1.00			475_VZY318_TP0101_EC133UJ1C1_SD1452-NCB_TC.wbf 🔍
Searched 1 Disks FW Version = V.010.000.058 Signature = 8957 Panel Width = 3200 Panel Height = 1800		*	Refresh Upgrade C Firmware(*.bin) wbf.Address(hex) G Waveform(*.wbf) 300000
Image Buffer Address = 0x7BE83 Waveform: (4 Modes, 26 Temper			C SlideShow Display Mode 2 Time Interval(Secs) Start
Connec	ct Success		Load Image and Display X Y Start Mode 0 0 2 Width Height End Mode 3200 1800 2
			Open File
		-	Display
Clear			

Figure 3.1

(4) Update picture to ePaper display

Execute T1000 Demo AP (refer to Figure 3.2)

- Enable "AutoSet" and "Set full Panel" (step 1&2)
- Click "Open File.." to choose the color mapping picture (step 3&4)
- Set "Start mode" and "End mode" to 2 (step 5)
- Click "Display" button to show selected picture on ePaper display (step 6)

Image: Sector				
comed Ferfe Ferfe Ferfe Comed Farter > Deno Ferfe	Eink T1000 Demo AP v.5.0.1.14			E
<pre> Pattern Demo</pre>		EnFlip EnCFA_RGB565		Engineer Features Cancel 475_V2Y318_TP0101_EC133UJ1C1_SD1452-NCB_TC.wbf Refrech
connet EnMirror En_42_Flip En_54 Enrice Enrice About OK Generic Storage RamDisc 1.00 France France Cancel Version = V.000.058 Signature = 8957 Panel Width = 3200 Panel Height = 1800 Image Buffer Address = 0x7EB33 Weefform: (4Modes, 52 Temperature Segments) Display Mode Centralize Decode Image Time = 1404 Sciencies Start Start Sending Image Time = 1307 Display Status = 0 Start Start Success Vidth Height = 160 Start Midde Understand Start Start Start Start Success Open File Open File Open File	001.bmp 005.bmp 005.bmp 005.bmp	Image files (*.bmp; *.jpg.)	٩	C Firmware(".bin) wbf Address(hex) Waveform(".wbf) 300000 C SildeShow C SildeShow C SildeShow C SildeShow C SildeShow
	connect Generic Storage RamDisc 1.00 Searched 1 Disks FW Version = V.010.000.058 Signature = 8957 Panel Width = 3200 Panel Height = 1800 Image Euffer Address = 0.x7BEI Waveform: (4 Modes, 26 Tempy Decode Image File: D.Product width = 3200 Decode Image Time = 1404 Sending Image File to Device Send Image Time = 3307 Display time = 1451	EnFlip FEnCFA_RGB565 En_ACEP Rotate_CCW_90		About OK Engineer Features Cancel 475_VZY38_TP0101_EC133UJC1_SD14524VCB_TC.wbf ▼ Refresh Upgrade Firmware(*.bin) wbf Address(hex) Waveform(*.wbf) 300000 SildeShow Ime IntervalGecs) SildeShow Time IntervalGecs) Start Start Load Image and Display Height Height End Mode 3200 1800 Image and Display Y Start Mode Q Q Q Y Start Mode Image and Display Y Y AutoSet Open File Open File.

Figure 3.2 Update picture to 25.3" ePaper display

4 Appendix

- (1) 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.

conn	ect	EnFlip	En_42_Flip EnCFA_RGB565 Rotate_CCW_90	□ En_E4 □ En_E5	About OK Engineer Features Cancel
Generic	Storage RamDisc 1.00				475_VZY318_TP0101_EC133UJ1C1_SD1452-NCB_TC.wbf 💌
FW Vers Signatu Panel W Panel Hi Image E Wavefo	d 1 Disks sion = V.010.000.058 re = 8957 idth = 3200 light = 1800 luffer Address = 0x78E8; rm: (4 Modes, 26 Temper	ature Segments		*	Refresh Upgrade C Firmware(*.bin) wbf Address(hex) Waveform(*.wbf) 300000 Image: Control of the sector
width = height = Decode Sending Send Im Display		5.3 Kaleido (Patt	em (Demo (003. bmp		C SlideShow Time Interval(Secs) X Y Start Mode Width Height Start Mode Width Height Start Mode Width Height AutoSet X AutoSet C SlideShow X Y Start Mode C AutoSet X AutoSet C SlideShow C SlideShow
					Open File

Figure 3.3

(2) 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)

ink T1000 Demo AP v.5.0.1.14			
connect 1 Generic Storage RamDisc 1.00 Searched 1 Dicks Fighture 8957 Spanel Width = 3300 Panel Height = 1800 Image Buffer Address = 0x78E8 Waveform: (4 Modes, 26 Tempe	EnMirror En_42_Flip EnFlip EnCFA_RG8565 En_ACEP Rotate_CCW_90	En_E4	E5 Engineer Features Cancel

Figure 3.4

(3) How to upgrade waveform

- Execute T1000 Demo AP (refer to Figure 3.5)
- Click the "connect" button (step 1)
- Choose "Firmware (*.wbf) (step 2)
- Click "Refresh" and "choose the WF 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)

	EnMirror En_42_Flip	En_E4	About	к
connect 1	EnFlip EnCFA_RGB565		Engineer Features Car	icel
Generic Storage RamDisc 1.00	En_ACeP Rotate_CCW_9		VZY318_TP0101_EC133UJ1C1_SD1452-NCB_TC.wbf	- 4
Searched 1 Disks FW Version = V.010.000.058 Signature = 8957 Panel Width = 3200 Panel Height = 1800 Image Buffer Address = 0x78E Waveform: (4 Modes, 26 Temp	838 erature Segments)	2 • w	stresh 3 Upgrade Javeform(*,wbf) 300 000 Josplay Mode 2 J JideShow X 0 0 0 0 0 0 0 0 0 0 0 0 0	5

Figure 3.5

- (4) 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.
- * Time interval requires more than one picture update time.

rim T1000 Demo AP v.5.0.1.14 connect 1	EnMirror En_42_Flip EnFlip EnCFA_RGB565 En_ACeP Rotate_CCW_90	□ En_E4 □ En_E5	About OK Engineer Features Cancel
Generic Storage RamDisc 1.00 Searched 1 Disks FW Version = V.010.000.058 Signature = 8957 Panel Width = 3200 Panel Height = 1800 Image Buffer Address = 0x7BE8 Waveform: (4 Modes, 26 Temper	38 ature Segments)	2	L25mcHKaledo_BX_7SHz_V0.1.bin ▼ Refresh Upgrade Firmware(*.bin) wbf Address(hex) Auto Reset Auto Reset SildeShow Time Interval(Seconstructure) Start Mode Image and Display X Y Start Mode Image and Display Vidth Height End Mode Image and Display Image and Display 3 Load Image and Display Y Start Mode Vidth Height End Mode Image Provide Pro
Clear			

Figure 3.6

- (5) 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

connect	En_ACaP CRotate_CCW_90	Loss Forking	Dialog Register R/W RegAddr(Hex) Value(Hex) C Read C Write Execute VComSetting (mV) Power on 1840 Power on with Set VCom Set VCom Memory Addr(Hex) Size(Hex) Dump	OK Cancel
	Dialog	[-1.84 Vcom values are ma	arked on the PCB label
	RegA	ster R/W ddr(Hex) Value(Hex) Read C Write Execute Setting (mV) C Power on C Power on C Power on with Set	OK Cancel Force Set Temperature 27 C Set Temperature 27 C Get Temperature Execute	

Figure 3.7

(6) How 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.

5 Troubleshooting

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

Table 4.1 Troubleshooting

Num	Issue	Possible Cause and Solution
1	L-T1000 device is not visible on PC	USB cable damage
		Replace USB cable.

6 Contact Information

For more information, please visit

http://www.eink.com

For sales office addresses, please visit

http://www.eink.com/contact_sales.html

7 Legal Information

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Revision History

Version	Date	Pag	Description	Author
0.1	2023/07/26		Initial	Stewark
0.2	2023/08/01		Modified figure and demo operation	Rainy