Size	Product model	Category	DRIVER IC	Full refresh time(s)	Partial refresh time(s)	Typical operating current (mA)	Deep sleep mode current(uA)
1.54″	GDEW0154T8	Old model	UC8151C	4	0.6	2.2	5
	GDEW0154T8D	New model	UC8151D	3.8	0.6	2.2	5
	GDEW0154I9F	Old model	UC8151C	4	0.6	2.2	5
	GDEW0154I9FD	New model	UC8151D	3.8	0.6	2.2	5
2.13″	GDEW0213T5	Old model	UC8151C	3.8	0.6	2	5
	GDEW0213T5D	New model	UC8151D	3.6	0.6	1.8	5
	GDEW0213I5F	Old model	UC8151C	3.8	0.6	2	5
	GDEW0213I5FD	New model	UC8151D	3.6	0.6	1.8	5
2.9″	GDEW029T5	Old model	UC8151C	3.6	0.6	2.2	5
	GDEW029T5D	New model	UC8151D	3.4	0.6	2	5
	GDEW029I6F	Old model	UC8151C	3.6	0.6	2.2	5
	GDEW029I6FD	New model	UC8151D	3.4	0.6	2	5

Remark:The driver program needs to be updated and see the program description for updates.

program description:(Take 1.54 inch as an example)

1 The reset function: EPD_W21_Init()

UC8151C

```
void EPD_W21_Init(void)
{
  EPD_W21_RST_0;    // Module reset
  delay_xms(10);//At least 10ms delay
  EPD_W21_RST_1;
  delay_xms(10);//At least 10ms delay
}
```

UC8151D
It needs to be reset three times

```
void EPD_W21_Init(void)
{
  EPD_W21_RST_0;    // Module reset
  delay_xms(10);//At least 10ms delay
  EPD_W21_RST_1;
  delay_xms(10);//At least 10ms delay

  EPD_W21_RST_0;    // Module reset
  delay_xms(10);//At least 10ms delay
  EPD_W21_RST_1;
  delay_xms(10);//At least 10ms delay

  EPD_W21_RST_0;    // Module reset
  delay_xms(10);//At least 10ms delay
  EPD_W21_RST_1;
  delay_xms(10);//At least 10ms delay
}
```

2 Basic initialization function: EPD_init()

UC8151C

```c
//UC8151C
void EPD_init(void)
{
    EPD_W21_Init(); //Electronic paper IC reset

    EPD_W21_WriteCMD(0x06);     //boost soft start
    EPD_W21_WriteDATA (0x17);    //A
    EPD_W21_WriteDATA (0x17);    //B
    EPD_W21_WriteDATA (0x17);    //C

    EPD_W21_WriteCMD(0x04);  //Power on
    lcd_chkstatus();          //waiting for the elec

    EPD_W21_WriteCMD(0x00);      //panel setting
    EPD_W21_WriteDATA(0x1f);      //LUT from OTP
    EPD_W21_WriteDATA(0x0d);      //VCOM to 0V fast

    EPD_W21_WriteCMD(0x61);      //resolution setti
    EPD_W21_WriteDATA (0x98);  //152
    EPD_W21_WriteDATA (0x00); //152
    EPD_W21_WriteDATA (0x98);

    EPD_W21_WriteCMD(0X50);      //VCOM AND DATA INT
    EPD_W21_WriteDATA(0x97);      //WBmode:VBDF 17|D7
}
```

UC8151D

```c
//UC8151D
void EPD_init(void)
{
    EPD_W21_Init(); //Electronic paper IC reset

    EPD_W21_WriteCMD(0x04);
    lcd_chkstatus();//waiting for the electronic pa

    EPD_W21_WriteCMD(0x00);      //panel setting
    EPD_W21_WriteDATA(0x1f);      //LUT from OTP, KW-

    EPD_W21_WriteCMD(0X50);      //VCOM AND DATA INT
    EPD_W21_WriteDATA(0x97);      //WBmode:VBDF 17|D7
}
```

3 Local refresh initialization function:

UC8151C

```c
void EPD_display_init(void)
{
    HRES=0x98;              //152
    VRES_byte1=0x00;        //152
    VRES_byte2=0x98;
    EPD_W21_Init();
    EPD_W21_WriteCMD(0x01);      //POWER SETTING
    EPD_W21_WriteDATA (0x03);
    EPD_W21_WriteDATA (0x00);
    EPD_W21_WriteDATA (0x2b);
    EPD_W21_WriteDATA (0x2b);
    EPD_W21_WriteDATA (0x03);

    EPD_W21_WriteCMD(0x06);          //boost soft st
    EPD_W21_WriteDATA (0x17);    //A
    EPD_W21_WriteDATA (0x17);    //B
    EPD_W21_WriteDATA (0x17);    //C

    EPD_W21_WriteCMD(0x04);
    lcd_chkstatus();

    EPD_W21_WriteCMD(0x00);      //panel setting
    EPD_W21_WriteDATA(0xbf);      //LUT from OTP, 128
    EPD_W21_WriteDATA(0x0d);      //VCOM to 0V fast

    EPD_W21_WriteCMD(0x30);      //PLL setting
    EPD_W21_WriteDATA (0x3c);    // 3a 100HZ   29 15

    EPD_W21_WriteCMD(0x61);      //resolution settin
    EPD_W21_WriteDATA (HRES);
    EPD_W21_WriteDATA (VRES_byte1);
    EPD_W21_WriteDATA (VRES_byte2);

    EPD_W21_WriteCMD(0x82);      //vcom_DC setting
    EPD_W21_WriteDATA (0x12);

    EPD_W21_WriteCMD(0X50);      //VCOM AND DATA INT
    EPD_W21_WriteDATA(0x97);      //WBmode:VBDF 17|D7
}
```

UC8151D (delete 0x0d)

```c
//UC8151D
void EPD_init_LUT(void)
{
    EPD_W21_Init();
    EPD_W21_WriteCMD(0x01);      //POWER SETTING
    EPD_W21_WriteDATA (0x03);
    EPD_W21_WriteDATA (0x00);
    EPD_W21_WriteDATA (0x2b);
    EPD_W21_WriteDATA (0x2b);
    EPD_W21_WriteDATA (0x03);

    EPD_W21_WriteCMD(0x06);          //boost soft
    EPD_W21_WriteDATA (0x17);    //A
    EPD_W21_WriteDATA (0x17);    //B
    EPD_W21_WriteDATA (0x17);    //C

    EPD_W21_WriteCMD(0x04);
    lcd_chkstatus();

    EPD_W21_WriteCMD(0x00);      //panel setting
    EPD_W21_WriteDATA(0xbf);      //LUT from OTP,

    EPD_W21_WriteCMD(0x30);
    EPD_W21_WriteDATA (0x3C);        // 3A 100HZ

    EPD_W21_WriteCMD(0x61);      //resolution set
    EPD_W21_WriteDATA (0x98);    //152
    EPD_W21_WriteDATA (0x00);    //152
    EPD_W21_WriteDATA (0x98);

    EPD_W21_WriteCMD(0x82);      //vcom_DC settir
    EPD_W21_WriteDATA (0x12);

    EPD_W21_WriteCMD(0X50);      //VCOM AND DATA
    EPD_W21_WriteDATA(0x97);      //WBmode:VBDF 1
}
```

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Approved by：Yubao Liu	Date：2021/03/05