

# **a-Si TFT LCD Single Chip Driver with 240RGBx320 resolution and 262K color**

## **Application Notes**

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## Revision History

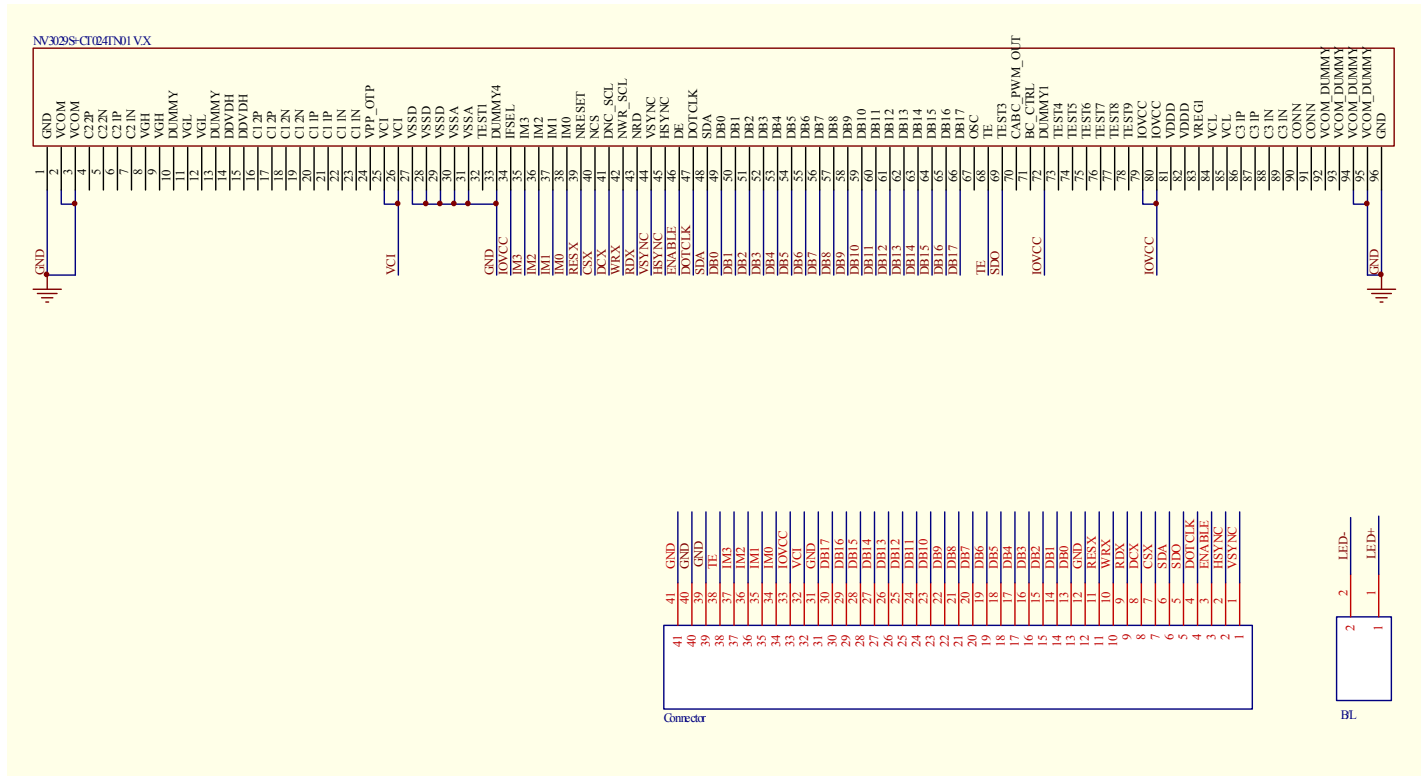
Version No.	Data	Description
V0.1	2017/07/03	New
V0.2	2017/10/11	Added hsd2.0,hsd2.4,cmi2.8 initial code.
V0.3	2017/11/10	Added tm 2.4,CTC2.8 code
V0.4	2017/11/16	Added ivo 2.4 ,HSD 1.3 code
V0.5	2017/12/25	Added BOE2.4,cpt2.4,ctc2.4 ,IVO2.8,HSD1.3, GP2.4
V0.6	2018/01/31	Added hsd1.54 ips code
V0.7	2018/04/10	Added boe1.54,hsd2.4 code
V0.8	2018/05/11	Updated
V0.9	2018/05/22	Added hsd1.54 ips G6 code

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## 1. CTC 2.4 Panel

### 1.1 CTC 2.4 Panel Application FPC Circuit



## 1.2 MPU system interface mode select

IM3	IM2	IM1	IM0	MPU interface Mode	DB pins	
					Register	Gram
0	0	0	0	i80-system 8 bit interface I	DB[7:0]	DB[7:0]
0	0	0	1	i80-system 16-bit interface I	DB[7:0]	DB[15:0]
0	0	1	0	i80-system 9-bit interface I	DB[7:0]	DB[8:0]
0	0	1	1	i80-system 18-bit interface I	DB[7:0]	DB[17:0]
0	1	0	1	3-wire 9-bit data Serial interface I	SDA: in/out	
				2 data lane serial interface		
0	1	1	0	4-wire 8-bit data Serial interface I	SDA: in/out	
1	0	0	0	i80-system 16-bit interface II	DB[8:1]	DB[8:1], DB[17:10]
1	0	0	1	i80-system 8 bit interface II	DB[17:10]	DB[17:10]
1	0	1	0	i80-system 18-bit interface II	DB[8:1]	DB[17:0]
1	0	1	1	i80-system 9-bit interface II	DB[17:10]	DB[17:9]
1	1	0	1	3-wire 9-bit data Serial interface II	SDI: in SDO: out	
1	1	1	0	4-wire 8-bit data Serial interface II	SDI: in SDO: out	

**1.3. CTC 2.4 Panel initial code**

```
void NV3029S_CTC24_Initial(void)//for CTC2.4 2427
```

```
{//VCI=2.8V
//-----RESET LCD Driver -----//
LCD_RESET=1;
Delay_ms(10);
LCD_RESET=0;
Delay_ms(200);
LCD_RESET=1;
Delay_ms(120);
//-----Star Initial Sequence-----//
    LCD_NV3030E_CMD(0xfd);
LCD_NV3030E_Parameter(0x06);
LCD_NV3030E_Parameter(0x07);

LCD_NV3030E_CMD(0x60);
LCD_NV3030E_Parameter(0x14);
LCD_NV3030E_Parameter(0x08);

LCD_NV3029S_CMD(0xf0);
LCD_NV3029S_Parameter(0x18); //
LCD_NV3029S_CMD(0xB1);
LCD_NV3029S_Parameter(0x61);
LCD_NV3029S_Parameter(0x01);

LCD_NV3030E_CMD(0x62);
LCD_NV3030E_Parameter(0x87);

LCD_NV3030E_CMD(0x63);
LCD_NV3030E_Parameter(0xa9);

LCD_NV3030E_CMD(0x64);
LCD_NV3030E_Parameter(0x19);
LCD_NV3030E_Parameter(0x32);

LCD_NV3030E_CMD(0x65);
LCD_NV3030E_Parameter(0x9b);

LCD_NV3030E_CMD(0x67);
LCD_NV3030E_Parameter(0x33);

LCD_NV3030E_CMD(0x68);
LCD_NV3030E_Parameter(0x04);
LCD_NV3030E_Parameter(0x20);
LCD_NV3030E_Parameter(0x10);//
LCD_NV3030E_Parameter(0x10);//

LCD_NV3030E_CMD(0x69);
LCD_NV3030E_Parameter(0x00);
LCD_NV3030E_Parameter(0x40);
LCD_NV3030E_Parameter(0x50);

LCD_NV3030E_CMD(0xf3);
LCD_NV3030E_Parameter(0x06); //thrb[5:0]
LCD_NV3030E_Parameter(0x04); //thg[5:0]
```

```
LCD_NV3030E_CMD(0xf6);
LCD_NV3030E_Parameter(0x09);
LCD_NV3030E_Parameter(0x10);
LCD_NV3030E_Parameter(0x80);//80--spi_2wire_mode,00
```

```
LCD_NV3030E_CMD(0xf7);
LCD_NV3030E_Parameter(0x03);
```

```
//////////NV3030E2V GAMMA//////////
```

```
LCD_NV3030E_CMD(0xE0);
LCD_NV3030E_Parameter(0x0e);//PKP0[4:0] V3
LCD_NV3030E_Parameter(0x17);//PKP1[4:0] V4
LCD_NV3030E_Parameter(0x0d);//PKP2[4:0] V10
LCD_NV3030E_Parameter(0x1B);//PKP3[4:0] V21
LCD_NV3030E_Parameter(0x07);//PKP4[4:0] V27
LCD_NV3030E_Parameter(0x11);//PKP5[4:0] V28
LCD_NV3030E_Parameter(0x14);//PKP6[4:0] V15 //
LCD_NV3030E_CMD(0xE3);
LCD_NV3030E_Parameter(0x0e);//PKN0[4:0] V3
LCD_NV3030E_Parameter(0x17);//PKN1[4:0] V4
LCD_NV3030E_Parameter(0x0d);//PKN2[4:0] V10
LCD_NV3030E_Parameter(0x1A);//PKN3[4:0] V21
LCD_NV3030E_Parameter(0x07);//PKN4[4:0] V27
LCD_NV3030E_Parameter(0x11);//PKN5[4:0] V28
LCD_NV3030E_Parameter(0x14);//PKN6[4:0] V15 //
```

```
LCD_NV3030E_CMD(0xE1);
LCD_NV3030E_Parameter(0x17);//PRP0[6:0] V5
LCD_NV3030E_Parameter(0x5c);//PRP1[6:0] V26
LCD_NV3030E_CMD(0xE4);
LCD_NV3030E_Parameter(0x17);//PRN0[6:0] V5
LCD_NV3030E_Parameter(0x5c);//PRN1[6:0] V26
```

```
LCD_NV3030E_CMD(0xE2);
LCD_NV3030E_Parameter(0x00);//VRP0[5:0] V0
LCD_NV3030E_Parameter(0x12);//VRP1[5:0] V1
LCD_NV3030E_Parameter(0x16);//VRP2[5:0] V2
LCD_NV3030E_Parameter(0x17);//VRP3[5:0] V29
LCD_NV3030E_Parameter(0x0f);//VRP4[5:0] V30
LCD_NV3030E_Parameter(0x10);//VRP5[5:0] V31
LCD_NV3030E_CMD(0xE5);
LCD_NV3030E_Parameter(0x00);//VRN0[5:0] V0
LCD_NV3030E_Parameter(0x12);//VRN1[5:0] V1
LCD_NV3030E_Parameter(0x17);//VRN2[5:0] V2
LCD_NV3030E_Parameter(0x17);//VRN3[5:0] V29
LCD_NV3030E_Parameter(0x10);//VRN4[5:0] V30
LCD_NV3030E_Parameter(0x13);//VRN5[5:0] V31
```

```
LCD_NV3030E_CMD(0xEC);
LCD_NV3030E_Parameter(0xf6);
LCD_NV3030E_CMD(0xED);
LCD_NV3030E_Parameter(0x02);
LCD_NV3030E_Parameter(0x94);
```

```
LCD_NV3030E_CMD(0xfd);
```

```
LCD_NV3030E_Parameter(0xfa);
LCD_NV3030E_Parameter(0xfb);

LCD_NV3030E_CMD(0x36);
LCD_NV3030E_Parameter(0x00);

LCD_NV3030E_CMD(0x3A); // 16/18 bits
LCD_NV3030E_Parameter(0x65);

LCD_NV3030E_CMD(0x11); // exit sleep
Delay_ms(200);
LCD_NV3030E_CMD(0x29); // display on
}
```



## 1.4 . RGB interface initial code.

### 1.4.1 并口 RGB

//RGB 接口设置需增加以下代码

//RGB 信号 DCLK=8 MHZ

//HPW = 2; //行同步头宽度

//HBP =22; //行有效像素开始位置

//HDP = 240; //行有效像素

//HFP = 11;

//VPW = 1; //场同步头宽度

//VBP = 5; //场有效像素开始位置

//VDP = 320; //场有效像素

//VFP = 2;

LCD\_NV3029S\_CMD(0xfd);

LCD\_NV3029S\_Parameter(0x06);

LCD\_NV3029S\_Parameter(0x07);

LCD\_NV3029S\_CMD(0xb0); //RGB interface

LCD\_NV3029S\_Parameter(0x42);

LCD\_NV3029S\_CMD(0xb5);

LCD\_NV3029S\_Parameter(0x02); //vfp[6-0] 1e

LCD\_NV3029S\_Parameter(0x05); //vbp[6-0] 0f

LCD\_NV3029S\_Parameter(0x0b); //hfp[4-0] 16

LCD\_NV3029S\_Parameter(0x16); //hbp[4-0] 14

LCD\_NV3029S\_CMD(0xf6); //RGB interface

LCD\_NV3029S\_Parameter(0x09);

LCD\_NV3029S\_Parameter(0x10);

LCD\_NV3029S\_Parameter(0x06); //06--18bit; 07--6bit

LCD\_NV3029S\_CMD(0xfd);

LCD\_NV3029S\_Parameter(0xfa);

LCD\_NV3029S\_Parameter(0xfb);

LCD\_NV3029S\_CMD(0x2A);

LCD\_NV3029S\_Parameter(0x00);

LCD\_NV3029S\_Parameter(0x00);

LCD\_NV3029S\_Parameter(0x00);

LCD\_NV3029S\_Parameter(0xef);

LCD\_NV3029S\_CMD(0x2B);

LCD\_NV3029S\_Parameter(0x00);

LCD\_NV3029S\_Parameter(0x00);

LCD\_NV3029S\_Parameter(0x01);

LCD\_NV3029S\_Parameter(0x3f);

LCD\_NV3029S\_CMD(0x2c);

## 1.4.2 串口 RGB

```
//串口 RGB 初始化增加部分
//串口 RGB 信号 DCLK=24 MHZ

//HPW = 2; //行同步头宽度
//HBP = 22; //行有效像素开始位置
//HDP =240x3; //行有效像素
//HFP = 11; //行周期
//VPW = 2; //场同步头宽度
//VBP = 5; //场有效像素开始位置
//VDP =320; //场有效像素
//VFP = 2; //

LCD_NV3029S_CMD(0xfd);
LCD_NV3029S_Parameter(0x06);
LCD_NV3029S_Parameter(0x07);

LCD_NV3029S_CMD(0xb0); //RGB interface
LCD_NV3029S_Parameter(0xe2);

LCD_NV3029S_CMD(0xb5);
LCD_NV3029S_Parameter(0x02); //vfp[6-0] 1e
LCD_NV3029S_Parameter(0x05); //vbp[6-0] 0f
LCD_NV3029S_Parameter(0x0b); //hfp[4-0] 16
LCD_NV3029S_Parameter(0x16); //hbp[4-0] 14

LCD_NV3029S_CMD(0xf6); //RGB interface
LCD_NV3029S_Parameter(0x01);
LCD_NV3029S_Parameter(0x10);
LCD_NV3029S_Parameter(0x07); //06--18bit; 07--6bit

LCD_NV3029S_CMD(0xfd);
LCD_NV3029S_Parameter(0xfa);
LCD_NV3029S_Parameter(0xfb);

LCD_NV3029S_CMD(0x2A);
LCD_NV3029S_Parameter(0x00);
LCD_NV3029S_Parameter(0x00);
LCD_NV3029S_Parameter(0x00);
LCD_NV3029S_Parameter(0xef);

LCD_NV3029S_CMD(0x2B);
LCD_NV3029S_Parameter(0x00);
LCD_NV3029S_Parameter(0x00);
LCD_NV3029S_Parameter(0x01);
LCD_NV3029S_Parameter(0x3f);

LCD_NV3029S_CMD(0x2c);
```

## 2. HSD 2.4 Panel

### 2.1 HSD 2.4 Panel initial code

```
void NV3029S_HSD24_Initial(void)//for HSD2.4
{
//VCI=2.8V
//-----RESET LCD Driver -----//
LCD_RESET=1;
Delay_ms(10);
LCD_RESET=0;
Delay_ms(200);
LCD_RESET=1;
Delay_ms(120);
//-----Star Initial Sequence-----//
LCD_NV3029S_CMD(0xfd);
LCD_NV3029S_Parameter(0x06);
LCD_NV3029S_Parameter(0x07);

LCD_NV3029S_CMD(0x60);
LCD_NV3029S_Parameter(0x14);
LCD_NV3029S_Parameter(0x08);
LCD_NV3029S_CMD(0xf0);
LCD_NV3029S_Parameter(0x18); //
LCD_NV3029S_CMD(0xB1);
LCD_NV3029S_Parameter(0x61);
LCD_NV3029S_Parameter(0x01);

LCD_NV3029S_CMD(0x62);
LCD_NV3029S_Parameter(0x87);

LCD_NV3029S_CMD(0x63);
LCD_NV3029S_Parameter(0xa9);

LCD_NV3029S_CMD(0x64);
LCD_NV3029S_Parameter(0x19);
LCD_NV3029S_Parameter(0x32);

LCD_NV3029S_CMD(0x65);
LCD_NV3029S_Parameter(0x9b);

LCD_NV3029S_CMD(0x67);
LCD_NV3029S_Parameter(0x33);

LCD_NV3029S_CMD(0x68);
LCD_NV3029S_Parameter(0x00);
LCD_NV3029S_Parameter(0x35);
LCD_NV3029S_Parameter(0x0D);
LCD_NV3029S_Parameter(0x16);

LCD_NV3029S_CMD(0x69);
LCD_NV3029S_Parameter(0x00);
LCD_NV3029S_Parameter(0x40);
LCD_NV3029S_Parameter(0x40);
```

```
LCD_NV3029S_CMD(0xf3);
LCD_NV3029S_Parameter(0x06);//thrb[5:0]
LCD_NV3029S_Parameter(0x04);//thg[5:0]

LCD_NV3029S_CMD(0xf6);
LCD_NV3029S_Parameter(0x09);
LCD_NV3029S_Parameter(0x10);
LCD_NV3029S_Parameter(0x80);//80--spi_2wire_mode,00

LCD_NV3029S_CMD(0xf7);
LCD_NV3029S_Parameter(0x03);

//////////NV3029S2V GAMMA//////////
LCD_NV3029S_CMD(0xE0);
LCD_NV3029S_Parameter(0x0B);//PKP0[4:0]
LCD_NV3029S_Parameter(0x13);//PKP1[4:0]
LCD_NV3029S_Parameter(0x15);//PKP2[4:0]
LCD_NV3029S_Parameter(0x1F);//PKP3[4:0]
LCD_NV3029S_Parameter(0x07);//PKP4[4:0]
LCD_NV3029S_Parameter(0x12);//PKP5[4:0]
LCD_NV3029S_Parameter(0x1A);//PKP6[4:0]

LCD_NV3029S_CMD(0xE1);
LCD_NV3029S_Parameter(0x10);//PRP0[6:0]
LCD_NV3029S_Parameter(0x58);//PRP1[6:0]

LCD_NV3029S_CMD(0xE2);
LCD_NV3029S_Parameter(0x00);//VRP0[5:0]
LCD_NV3029S_Parameter(0x0C);//VRP1[5:0]
LCD_NV3029S_Parameter(0x0D);//VRP2[5:0]
LCD_NV3029S_Parameter(0x17);//VRP3[5:0]
LCD_NV3029S_Parameter(0x11);//VRP4[5:0]
LCD_NV3029S_Parameter(0x13);//VRP5[5:0]

LCD_NV3029S_CMD(0xE3);
LCD_NV3029S_Parameter(0x11);//PKN0[4:0]
LCD_NV3029S_Parameter(0x12);//PKN1[4:0]
LCD_NV3029S_Parameter(0x10);//PKN2[4:0]
LCD_NV3029S_Parameter(0x18);//PKN3[4:0]
LCD_NV3029S_Parameter(0x05);//PKN4[4:0]
LCD_NV3029S_Parameter(0x13);//PKN5[4:0]
LCD_NV3029S_Parameter(0x14);//PKN6[4:0]

LCD_NV3029S_CMD(0xE4);
LCD_NV3029S_Parameter(0x09);//PRN0[6:0]
LCD_NV3029S_Parameter(0x67);//PRN1[6:0]

LCD_NV3029S_CMD(0xE5);
LCD_NV3029S_Parameter(0x00);//VRN0[5:0]
LCD_NV3029S_Parameter(0x12);//VRN1[5:0]
LCD_NV3029S_Parameter(0x10);//VRN2[5:0]
LCD_NV3029S_Parameter(0x18);//VRN3[5:0]
LCD_NV3029S_Parameter(0x0f);//VRN4[5:0]
LCD_NV3029S_Parameter(0x13);//VRN5[5:0]

LCD_NV3029S_CMD(0xEC);
LCD_NV3029S_Parameter(0xf6);
```

```
LCD_NV3029S_CMD(0xED);
LCD_NV3029S_Parameter(0x02);
LCD_NV3029S_Parameter(0x94);

LCD_NV3029S_CMD(0xFD);
LCD_NV3029S_Parameter(0xFA);
LCD_NV3029S_Parameter(0xFB);

LCD_NV3029S_CMD(0x36);
LCD_NV3029S_Parameter(0x00);

LCD_NV3029S_CMD(0x3A); // 16/18 bits
LCD_NV3029S_Parameter(0x65);

LCD_NV3029S_CMD(0x11); // exit sleep
Delay_ms(200);
LCD_NV3029S_CMD(0x29); // display on
}
```

### 3. HSD 2.0 IPS Panel

#### 3.1 HSD 2.0 IPS Panel initial code

```
void NV3029S_HSD20IPS_Initial(void)
{
//VCI=2.8V
//-----RESET LCD Driver -----//
LCD_RESET=1;
Delay_ms(10);
LCD_RESET=0;
Delay_ms(200);
LCD_RESET=1;
Delay_ms(120);
//-----Star Initial Sequence-----//

LCD_NV3029S_CMD(0xfd);
LCD_NV3029S_Parameter(0x06);
LCD_NV3029S_Parameter(0x07);

LCD_NV3029S_CMD(0x60);
LCD_NV3029S_Parameter(0x14);
LCD_NV3029S_Parameter(0x08);

LCD_NV3029S_CMD(0xf0);
LCD_NV3029S_Parameter(0x18); //
LCD_NV3029S_CMD(0xB1);
LCD_NV3029S_Parameter(0x61);
LCD_NV3029S_Parameter(0x01);

LCD_NV3029S_CMD(0x62);
LCD_NV3029S_Parameter(0x87);

LCD_NV3029S_CMD(0x63);
LCD_NV3029S_Parameter(0xa9);

LCD_NV3029S_CMD(0x64);
LCD_NV3029S_Parameter(0x19);
LCD_NV3029S_Parameter(0x32);

LCD_NV3029S_CMD(0x65);
LCD_NV3029S_Parameter(0x9b);

LCD_NV3029S_CMD(0x67);
LCD_NV3029S_Parameter(0x33);

LCD_NV3029S_CMD(0x68);
LCD_NV3029S_Parameter(0x00);
LCD_NV3029S_Parameter(0x28);
LCD_NV3029S_Parameter(0x13);
LCD_NV3029S_Parameter(0x19);

LCD_NV3029S_CMD(0x69);
LCD_NV3029S_Parameter(0x00);
LCD_NV3029S_Parameter(0x48);
```

LCD\_NV3029S\_Parameter(0x68);

LCD\_NV3029S\_CMD(0xf3);

LCD\_NV3029S\_Parameter(0x06); //thrb[5:0]

LCD\_NV3029S\_Parameter(0x04); //thg[5:0]

LCD\_NV3029S\_CMD(0xf6);

LCD\_NV3029S\_Parameter(0x09);

LCD\_NV3029S\_Parameter(0x10);

LCD\_NV3029S\_Parameter(0x80); //80--spi\_2wire\_mode,00

LCD\_NV3029S\_CMD(0xf7);

LCD\_NV3029S\_Parameter(0x03);

//////////NV3029S GAMMA//////////

LCD\_NV3029S\_CMD(0xE0);

LCD\_NV3029S\_Parameter(0x0B);

LCD\_NV3029S\_Parameter(0x13);

LCD\_NV3029S\_Parameter(0x15);

LCD\_NV3029S\_Parameter(0x1F);

LCD\_NV3029S\_Parameter(0x07);

LCD\_NV3029S\_Parameter(0x12);

LCD\_NV3029S\_Parameter(0x1A);

LCD\_NV3029S\_CMD(0xE1);

LCD\_NV3029S\_Parameter(0x10);

LCD\_NV3029S\_Parameter(0x58);

LCD\_NV3029S\_CMD(0xE2);

LCD\_NV3029S\_Parameter(0x00);

LCD\_NV3029S\_Parameter(0x0C);

LCD\_NV3029S\_Parameter(0x0D);

LCD\_NV3029S\_Parameter(0x17);

LCD\_NV3029S\_Parameter(0x11);

LCD\_NV3029S\_Parameter(0x13);

LCD\_NV3029S\_CMD(0xE3);

LCD\_NV3029S\_Parameter(0x11);

LCD\_NV3029S\_Parameter(0x12);

LCD\_NV3029S\_Parameter(0x10);

LCD\_NV3029S\_Parameter(0x18);

LCD\_NV3029S\_Parameter(0x05);

LCD\_NV3029S\_Parameter(0x13);

LCD\_NV3029S\_Parameter(0x14);

LCD\_NV3029S\_CMD(0xE4);

LCD\_NV3029S\_Parameter(0x09);

LCD\_NV3029S\_Parameter(0x67);

LCD\_NV3029S\_CMD(0xE5);

LCD\_NV3029S\_Parameter(0x00);

LCD\_NV3029S\_Parameter(0x12);

LCD\_NV3029S\_Parameter(0x10);

LCD\_NV3029S\_Parameter(0x18);

LCD\_NV3029S\_Parameter(0x0f);

LCD\_NV3029S\_Parameter(0x13);

```
LCD_NV3029S_CMD(0xB6);  
LCD_NV3029S_Parameter(0x22);  
LCD_NV3029S_Parameter(0x80); //80 00:rev
```

```
LCD_NV3029S_CMD(0xEC);  
LCD_NV3029S_Parameter(0xf0);  
LCD_NV3029S_CMD(0xED);  
LCD_NV3029S_Parameter(0x42);  
LCD_NV3029S_Parameter(0xf4);
```

```
LCD_NV3029S_CMD(0xfd);  
LCD_NV3029S_Parameter(0xfa);  
LCD_NV3029S_Parameter(0xfb);
```

```
LCD_NV3029S_CMD(0x36);  
LCD_NV3029S_Parameter(0x00);
```

```
LCD_NV3029S_CMD(0x3A); // 16/18 bits  
LCD_NV3029S_Parameter(0x65);
```

```
LCD_NV3029S_CMD(0x11); // exit sleep  
Delay_ms(200);  
LCD_NV3029S_CMD(0x29); // display on  
}
```



#### 4. CMI 2.8 Panel

##### 4.1 CMI 2.8 Panel initial code

```
void NV3029S_CMI28_Initial(void)
{
//VCI=2.8V
//-----RESET LCD Driver -----//
LCD_RESET=1;
Delay_ms(10);
LCD_RESET=0;
Delay_ms(200);
LCD_RESET=1;
Delay_ms(120);

LCD_NV3029S_CMD(0xfd);
LCD_NV3029S_Parameter(0x06);
LCD_NV3029S_Parameter(0x07);

LCD_NV3029S_CMD(0x60);
LCD_NV3029S_Parameter(0x14);
LCD_NV3029S_Parameter(0x08);

LCD_NV3029S_CMD(0xf0);
LCD_NV3029S_Parameter(0x18); //
LCD_NV3029S_CMD(0xB1);
LCD_NV3029S_Parameter(0x61);
LCD_NV3029S_Parameter(0x01);

LCD_NV3029S_CMD(0x62);
LCD_NV3029S_Parameter(0x87);

LCD_NV3029S_CMD(0x63);
LCD_NV3029S_Parameter(0xa9);

LCD_NV3029S_CMD(0x64);
LCD_NV3029S_Parameter(0x19);
LCD_NV3029S_Parameter(0x32);

LCD_NV3029S_CMD(0x65);
LCD_NV3029S_Parameter(0x9b);

LCD_NV3029S_CMD(0x67);
LCD_NV3029S_Parameter(0x33);

LCD_NV3029S_CMD(0x68);
LCD_NV3029S_Parameter(0x00);
LCD_NV3029S_Parameter(0x2d);
LCD_NV3029S_Parameter(0x0d);
LCD_NV3029S_Parameter(0x16);

LCD_NV3029S_CMD(0x69);
LCD_NV3029S_Parameter(0x00);
LCD_NV3029S_Parameter(0x40);
LCD_NV3029S_Parameter(0x40);
```

```

LCD_NV3029S_CMD(0xf3);
LCD_NV3029S_Parameter(0x06); //thrb[5:0]
LCD_NV3029S_Parameter(0x04); //thg[5:0]

LCD_NV3029S_CMD(0xf6);
LCD_NV3029S_Parameter(0x09);
LCD_NV3029S_Parameter(0x10);
LCD_NV3029S_Parameter(0x80); //80--spi_2wire_mode,00

LCD_NV3029S_CMD(0xf7);
LCD_NV3029S_Parameter(0x03);

//////////NV3029S GAMMA//////////
LCD_NV3029S_CMD(0xe0); //gmama set 2.2
LCD_NV3029S_Parameter(0x0E); //PKP0[4:0]
LCD_NV3029S_Parameter(0x15); //PKP1[4:0]
LCD_NV3029S_Parameter(0x15); //PKP2[4:0]
LCD_NV3029S_Parameter(0x1E); //PKP3[4:0]
LCD_NV3029S_Parameter(0x07); //PKP4[4:0]
LCD_NV3029S_Parameter(0x0E); //PKP5[4:0]
LCD_NV3029S_Parameter(0x1D); //PKP6[4:0]
LCD_NV3029S_CMD(0xe3);
LCD_NV3029S_Parameter(0x0E); //PKN0[4:0]
LCD_NV3029S_Parameter(0x17); //PKN1[4:0]
LCD_NV3029S_Parameter(0x10); //PKN2[4:0]
LCD_NV3029S_Parameter(0x18); //PKN3[4:0]
LCD_NV3029S_Parameter(0x05); //PKN4[4:0]
LCD_NV3029S_Parameter(0x17); //PKN5[4:0]
LCD_NV3029S_Parameter(0x13); //PKN6[4:0]
LCD_NV3029S_CMD(0xe1);
LCD_NV3029S_Parameter(0x1B); //PRP0[6:0]
LCD_NV3029S_Parameter(0x58); //PRP1[6:0]
LCD_NV3029S_CMD(0xe4);
LCD_NV3029S_Parameter(0x0B); //PRN0[6:0]
LCD_NV3029S_Parameter(0x5D); //PRN1[6:0]
LCD_NV3029S_CMD(0xe2);
LCD_NV3029S_Parameter(0x15); //VRP0[5:0]
LCD_NV3029S_Parameter(0x11); //VRP1[5:0]
LCD_NV3029S_Parameter(0x17); //VRP2[5:0]
LCD_NV3029S_Parameter(0x15); //VRP3[5:0]
LCD_NV3029S_Parameter(0x0F); //VRP4[5:0]
LCD_NV3029S_Parameter(0x3F); //VRP5[5:0]
LCD_NV3029S_CMD(0xe5);
LCD_NV3029S_Parameter(0x02); //VRN0[5:0]
LCD_NV3029S_Parameter(0x11); //VRN1[5:0]
LCD_NV3029S_Parameter(0x08); //VRN2[5:0]
LCD_NV3029S_Parameter(0x15); //VRN3[5:0]
LCD_NV3029S_Parameter(0x0E); //VRN4[5:0]
LCD_NV3029S_Parameter(0x3F); //VRN5[5:0]

LCD_NV3029S_CMD(0xEC);
LCD_NV3029S_Parameter(0xf6);
LCD_NV3029S_CMD(0xED);
LCD_NV3029S_Parameter(0x02);
LCD_NV3029S_Parameter(0x94);

LCD_NV3029S_CMD(0xfd);

```

```
LCD_NV3029S_Parameter(0xfa);  
LCD_NV3029S_Parameter(0xfb);
```

```
LCD_NV3029S_CMD(0x36);  
LCD_NV3029S_Parameter(0x00);
```

```
LCD_NV3029S_CMD(0x3A);  
LCD_NV3029S_Parameter(0x65);
```

```
LCD_NV3029S_CMD(0x11); // exit sleep  
Delay_ms(200);
```

```
LCD_NV3029S_CMD(0x29); // display on  
}
```

## 5. CTC 2.8 Panel

### 5.1 CTC 2.8 Panel initial code

```
void NV3029S_ctc28_Initial(void)
{
//VCI=2.8V
//-----RESET LCD Driver -----//
LCD_RESET=1;
Delay_ms(10);
LCD_RESET=0;
Delay_ms(200);
LCD_RESET=1;
Delay_ms(120);

LCD_NV3029S_CMD(0xfd);
LCD_NV3029S_Parameter(0x06);
LCD_NV3029S_Parameter(0x07);

LCD_NV3029S_CMD(0x60);
LCD_NV3029S_Parameter(0x14);
LCD_NV3029S_Parameter(0x08);

LCD_NV3029S_CMD(0xf0);
LCD_NV3029S_Parameter(0x18); //
LCD_NV3029S_CMD(0xB1);
LCD_NV3029S_Parameter(0x61);
LCD_NV3029S_Parameter(0x01);

LCD_NV3029S_CMD(0x62);
LCD_NV3029S_Parameter(0x87);

LCD_NV3029S_CMD(0x63);
LCD_NV3029S_Parameter(0xa9);

LCD_NV3029S_CMD(0x64);
LCD_NV3029S_Parameter(0x19);
LCD_NV3029S_Parameter(0x32);

LCD_NV3029S_CMD(0x65);
LCD_NV3029S_Parameter(0x9b);

LCD_NV3029S_CMD(0x67);
LCD_NV3029S_Parameter(0x33);

LCD_NV3029S_CMD(0x68);
LCD_NV3029S_Parameter(0x04);
LCD_NV3029S_Parameter(0x23);
LCD_NV3029S_Parameter(0x10);
LCD_NV3029S_Parameter(0x16);

LCD_NV3029S_CMD(0x69);
LCD_NV3029S_Parameter(0x00);
LCD_NV3029S_Parameter(0x40);
LCD_NV3029S_Parameter(0x63);

LCD_NV3029S_CMD(0xf3);
```

```

LCD_NV3029S_Parameter(0x06); //thrb[5:0]
LCD_NV3029S_Parameter(0x04); //thg[5:0]

LCD_NV3029S_CMD(0xf6);
LCD_NV3029S_Parameter(0x09);
LCD_NV3029S_Parameter(0x10);
LCD_NV3029S_Parameter(0x80); //80--spi_2wire_mode,00

LCD_NV3029S_CMD(0xf7);
LCD_NV3029S_Parameter(0x03);

//////////NV3029S GAMMA//////////
LCD_NV3029S_CMD(0xe0); //gmama set 2.2
LCD_NV3029S_Parameter(0x0E); //PKP0[4:0]
LCD_NV3029S_Parameter(0x15); //PKP1[4:0]
LCD_NV3029S_Parameter(0x15); //PKP2[4:0]
LCD_NV3029S_Parameter(0x1E); //PKP3[4:0]
LCD_NV3029S_Parameter(0x07); //PKP4[4:0]
LCD_NV3029S_Parameter(0x0E); //PKP5[4:0]
LCD_NV3029S_Parameter(0x1D); //PKP6[4:0]
LCD_NV3029S_CMD(0xe3);
LCD_NV3029S_Parameter(0x0E); //PKN0[4:0]
LCD_NV3029S_Parameter(0x17); //PKN1[4:0]
LCD_NV3029S_Parameter(0x10); //PKN2[4:0]
LCD_NV3029S_Parameter(0x18); //PKN3[4:0]
LCD_NV3029S_Parameter(0x05); //PKN4[4:0]
LCD_NV3029S_Parameter(0x17); //PKN5[4:0]
LCD_NV3029S_Parameter(0x13); //PKN6[4:0]
LCD_NV3029S_CMD(0xe1);
LCD_NV3029S_Parameter(0x1B); //PRP0[6:0]
LCD_NV3029S_Parameter(0x58); //PRP1[6:0]
LCD_NV3029S_CMD(0xe4);
LCD_NV3029S_Parameter(0x0B); //PRN0[6:0]
LCD_NV3029S_Parameter(0x5D); //PRN1[6:0]
LCD_NV3029S_CMD(0xe2);
LCD_NV3029S_Parameter(0x15); //VRP0[5:0]
LCD_NV3029S_Parameter(0x11); //VRP1[5:0]
LCD_NV3029S_Parameter(0x17); //VRP2[5:0]
LCD_NV3029S_Parameter(0x15); //VRP3[5:0]
LCD_NV3029S_Parameter(0x0F); //VRP4[5:0]
LCD_NV3029S_Parameter(0x3F); //VRP5[5:0]
LCD_NV3029S_CMD(0xe5);
LCD_NV3029S_Parameter(0x02); //VRN0[5:0]
LCD_NV3029S_Parameter(0x11); //VRN1[5:0]
LCD_NV3029S_Parameter(0x08); //VRN2[5:0]
LCD_NV3029S_Parameter(0x15); //VRN3[5:0]
LCD_NV3029S_Parameter(0x0E); //VRN4[5:0]
LCD_NV3029S_Parameter(0x3F); //VRN5[5:0]

LCD_NV3029S_CMD(0xEC);
LCD_NV3029S_Parameter(0xf6);
LCD_NV3029S_CMD(0xED);
LCD_NV3029S_Parameter(0x02);
LCD_NV3029S_Parameter(0x94);

LCD_NV3029S_CMD(0xfd);
LCD_NV3029S_Parameter(0xfa);

```

```
LCD_NV3029S_Parameter(0xfb);
```

```
LCD_NV3029S_CMD(0x36);  
LCD_NV3029S_Parameter(0x00);
```

```
LCD_NV3029S_CMD(0x3A);  
LCD_NV3029S_Parameter(0x65);
```

```
LCD_NV3029S_CMD(0x11); // exit sleep  
Delay_ms(200);
```

```
LCD_NV3029S_CMD(0x29); // display on  
}
```

**6. TM 2.4 Panel****6.1 TM 2.4 Panel initial code**

```
void NV3029S_tm24_Initial(void)
{
//VCI=2.8V
//-----RESET LCD Driver -----//
LCD_RESET=1;
Delay_ms(10);
LCD_RESET=0;
Delay_ms(200);
LCD_RESET=1;
Delay_ms(120);

LCD_NV3029S_CMD(0xfd);
LCD_NV3029S_Parameter(0x06);
LCD_NV3029S_Parameter(0x07);

LCD_NV3029S_CMD(0x60);
LCD_NV3029S_Parameter(0x14);
LCD_NV3029S_Parameter(0x08);

LCD_NV3029S_CMD(0xf0);
LCD_NV3029S_Parameter(0x18); //
LCD_NV3029S_CMD(0xB1);
LCD_NV3029S_Parameter(0x61);
LCD_NV3029S_Parameter(0x01);

LCD_NV3029S_CMD(0x62);
LCD_NV3029S_Parameter(0x87);

LCD_NV3029S_CMD(0x63);
LCD_NV3029S_Parameter(0xa9);

LCD_NV3029S_CMD(0x64);
LCD_NV3029S_Parameter(0x19);
LCD_NV3029S_Parameter(0x32);

LCD_NV3029S_CMD(0x65);
LCD_NV3029S_Parameter(0x9b);

LCD_NV3029S_CMD(0x67);
LCD_NV3029S_Parameter(0x33);

LCD_NV3029S_CMD(0x68);
LCD_NV3029S_Parameter(0x00);
LCD_NV3029S_Parameter(0x25);
LCD_NV3029S_Parameter(0x12);//
LCD_NV3029S_Parameter(0x16);//

LCD_NV3029S_CMD(0x69);
LCD_NV3029S_Parameter(0x00);
LCD_NV3029S_Parameter(0x40);
LCD_NV3029S_Parameter(0x40);

LCD_NV3029S_CMD(0xf3);
```

```
LCD_NV3029S_Parameter(0x06); //thrb[5:0]
LCD_NV3029S_Parameter(0x04); //thg[5:0]
```

```
LCD_NV3029S_CMD(0xf6);
LCD_NV3029S_Parameter(0x09);
LCD_NV3029S_Parameter(0x10);
LCD_NV3029S_Parameter(0x80); //80--spi_2wire_mode,00
```

```
LCD_NV3029S_CMD(0xf7);
LCD_NV3029S_Parameter(0x03);
```

```
//////////NV3029S GAMMA//////////
```

```
LCD_NV3029S_CMD(0xE0);
LCD_NV3029S_Parameter(0x10); //PKP0[4:0]
LCD_NV3029S_Parameter(0x15); //PKP1[4:0]
LCD_NV3029S_Parameter(0x13); //PKP2[4:0]
LCD_NV3029S_Parameter(0x1B); //PKP3[4:0]
LCD_NV3029S_Parameter(0x07); //PKP4[4:0]
LCD_NV3029S_Parameter(0x12); //PKP5[4:0]
LCD_NV3029S_Parameter(0x18); //PKP6[4:0]
LCD_NV3029S_CMD(0xE3);
LCD_NV3029S_Parameter(0x0A); //PKN0[4:0]
LCD_NV3029S_Parameter(0x18); //PKN1[4:0]
LCD_NV3029S_Parameter(0x0E); //PKN2[4:0]
LCD_NV3029S_Parameter(0x1B); //PKN3[4:0]
LCD_NV3029S_Parameter(0x05); //PKN4[4:0]
LCD_NV3029S_Parameter(0x13); //PKN5[4:0]
LCD_NV3029S_Parameter(0x16); //PKN6[4:0]
```

```
LCD_NV3029S_CMD(0xE1);
LCD_NV3029S_Parameter(0x07); //PRP0[6:0]
LCD_NV3029S_Parameter(0x5A); //PRP1[6:0]
LCD_NV3029S_CMD(0xE4);
LCD_NV3029S_Parameter(0x06); //PRN0[6:0]
LCD_NV3029S_Parameter(0x51); //PRN1[6:0]
```

```
LCD_NV3029S_CMD(0xE2);
LCD_NV3029S_Parameter(0x00); //VRP0[5:0]
LCD_NV3029S_Parameter(0x03); //VRP1[5:0]
LCD_NV3029S_Parameter(0x02); //VRP2[5:0]
LCD_NV3029S_Parameter(0x12); //VRP3[5:0]
LCD_NV3029S_Parameter(0x0D); //VRP4[5:0]
LCD_NV3029S_Parameter(0x13); //VRP5[5:0]
LCD_NV3029S_CMD(0xE5);
LCD_NV3029S_Parameter(0x00); //VRN0[5:0]
LCD_NV3029S_Parameter(0x09); //VRN1[5:0]
LCD_NV3029S_Parameter(0x02); //VRN2[5:0]
LCD_NV3029S_Parameter(0x12); //VRN3[5:0]
LCD_NV3029S_Parameter(0x0A); //VRN4[5:0]
LCD_NV3029S_Parameter(0x13); //VRN5[5:0]
```

```
LCD_NV3029S_CMD(0xEC);
LCD_NV3029S_Parameter(0xf6);
LCD_NV3029S_CMD(0xED);
LCD_NV3029S_Parameter(0x02);
LCD_NV3029S_Parameter(0x94);
```



```
LCD_NV3029S_CMD(0xfd);
LCD_NV3029S_Parameter(0xfa);
LCD_NV3029S_Parameter(0xfb);

LCD_NV3029S_CMD(0x36);
LCD_NV3029S_Parameter(0x00);

LCD_NV3029S_CMD(0x3A);      // 16/18 bits
LCD_NV3029S_Parameter(0x65);

LCD_NV3029S_CMD(0x11); // exit sleep
Delay_ms(200);
LCD_NV3029S_CMD(0x29); // display on

}
```

## 7. IVO 2.4 Panel

### 7.1 IVO 2.4 Panel initial code

```
void NV3029S_ivo24_Initial(void)
{
//VCI=2.8V
//-----RESET LCD Driver -----//
LCD_RESET=1;
Delay_ms(10);
LCD_RESET=0;
Delay_ms(200);
LCD_RESET=1;
Delay_ms(120);

LCD_NV3029S_CMD(0xfd);
LCD_NV3029S_Parameter(0x06);
LCD_NV3029S_Parameter(0x07);

LCD_NV3029S_CMD(0x60);
LCD_NV3029S_Parameter(0x14);
LCD_NV3029S_Parameter(0x08);

LCD_NV3029S_CMD(0xf0);
LCD_NV3029S_Parameter(0x18); //
LCD_NV3029S_CMD(0xB1);
LCD_NV3029S_Parameter(0x61);
LCD_NV3029S_Parameter(0x01);
LCD_NV3029S_CMD(0x62);
LCD_NV3029S_Parameter(0x87);

LCD_NV3029S_CMD(0x63);
LCD_NV3029S_Parameter(0xa9);

LCD_NV3029S_CMD(0x64);
LCD_NV3029S_Parameter(0x19);
LCD_NV3029S_Parameter(0x32);

LCD_NV3029S_CMD(0x65);
LCD_NV3029S_Parameter(0x9b);

LCD_NV3029S_CMD(0x67);
LCD_NV3029S_Parameter(0x33);

LCD_NV3029S_CMD(0x68);
LCD_NV3029S_Parameter(0x04);
LCD_NV3029S_Parameter(0x10);
LCD_NV3029S_Parameter(0x0a);//
LCD_NV3029S_Parameter(0x10);//

LCD_NV3029S_CMD(0x69);
LCD_NV3029S_Parameter(0x00);
LCD_NV3029S_Parameter(0x40);
LCD_NV3029S_Parameter(0x50);

LCD_NV3029S_CMD(0xf3);
LCD_NV3029S_Parameter(0x06); //thrb[5:0]
```

LCD\_NV3029S\_Parameter(0x04);//thg[5:0]

LCD\_NV3029S\_CMD(0xf6);  
LCD\_NV3029S\_Parameter(0x09);  
LCD\_NV3029S\_Parameter(0x10);  
LCD\_NV3029S\_Parameter(0x80);//80--spi\_2wire\_mode,00

LCD\_NV3029S\_CMD(0xf7);  
LCD\_NV3029S\_Parameter(0x03);

//////////NV3029S2V GAMMA//////////

LCD\_NV3029S\_CMD(0xE0);  
LCD\_NV3029S\_Parameter(0x11);//PKP0[4:0]  
LCD\_NV3029S\_Parameter(0x13);//PKP1[4:0]  
LCD\_NV3029S\_Parameter(0x13);//PKP2[4:0]  
LCD\_NV3029S\_Parameter(0x1B);//PKP3[4:0]  
LCD\_NV3029S\_Parameter(0x07);//PKP4[4:0]  
LCD\_NV3029S\_Parameter(0x12);//PKP5[4:0]  
LCD\_NV3029S\_Parameter(0x19);//PKP6[4:0]  
LCD\_NV3029S\_CMD(0xE3);  
LCD\_NV3029S\_Parameter(0x0B);//PKN0[4:0]  
LCD\_NV3029S\_Parameter(0x1A);//PKN1[4:0]  
LCD\_NV3029S\_Parameter(0x0D);//PKN2[4:0]  
LCD\_NV3029S\_Parameter(0x1A);//PKN3[4:0]  
LCD\_NV3029S\_Parameter(0x08);//PKN4[4:0]  
LCD\_NV3029S\_Parameter(0x13);//PKN5[4:0]  
LCD\_NV3029S\_Parameter(0x14);//PKN6[4:0]

LCD\_NV3029S\_CMD(0xE1);  
LCD\_NV3029S\_Parameter(0x10);//PRP0[6:0]  
LCD\_NV3029S\_Parameter(0x60);//PRP1[6:0]  
LCD\_NV3029S\_CMD(0xE4);  
LCD\_NV3029S\_Parameter(0x14);//PRN0[6:0]  
LCD\_NV3029S\_Parameter(0x5A);//PRN1[6:0]

LCD\_NV3029S\_CMD(0xE2);  
LCD\_NV3029S\_Parameter(0x00);//VRP0[5:0]  
LCD\_NV3029S\_Parameter(0x09);//VRP1[5:0]  
LCD\_NV3029S\_Parameter(0x0E);//VRP2[5:0]  
LCD\_NV3029S\_Parameter(0x15);//VRP3[5:0]  
LCD\_NV3029S\_Parameter(0x10);//VRP4[5:0]  
LCD\_NV3029S\_Parameter(0x10);//VRP5[5:0]  
LCD\_NV3029S\_CMD(0xE5);  
LCD\_NV3029S\_Parameter(0x00);//VRN0[5:0]  
LCD\_NV3029S\_Parameter(0x0E);//VRN1[5:0]  
LCD\_NV3029S\_Parameter(0x0E);//VRN2[5:0]  
LCD\_NV3029S\_Parameter(0x14);//VRN3[5:0]  
LCD\_NV3029S\_Parameter(0x0C);//VRN4[5:0]  
LCD\_NV3029S\_Parameter(0x13);//VRN5[5:0]

LCD\_NV3029S\_CMD(0xEC);  
LCD\_NV3029S\_Parameter(0xf6);  
LCD\_NV3029S\_CMD(0xED);  
LCD\_NV3029S\_Parameter(0x02);  
LCD\_NV3029S\_Parameter(0x94);

```
LCD_NV3029S_CMD(0xfd);
LCD_NV3029S_Parameter(0xfa);
LCD_NV3029S_Parameter(0xfb);

LCD_NV3029S_CMD(0x36);
LCD_NV3029S_Parameter(0x00);

LCD_NV3029S_CMD(0x3A);      // 16/18 bits
LCD_NV3029S_Parameter(0x65);

LCD_NV3029S_CMD(0x11); // exit sleep
Delay_ms(200);
LCD_NV3029S_CMD(0x29); // display on
}
```

**8. HSD 1.3 IPS Panel****8.1 HSD 1.3 IPS Panel initial code**

```

void NV3029S_HSD13IPS_Initial(void)
{
//VCI=2.8V
//-----RESET LCD Driver -----//
LCD_RESET=1;
Delay_ms(10);
LCD_RESET=0;
Delay_ms(200);
LCD_RESET=1;
Delay_ms(120);

LCD_NV3029S_CMD(0xfd);
LCD_NV3029S_Parameter(0x06);
LCD_NV3029S_Parameter(0x07);

LCD_NV3029S_CMD(0x60);
LCD_NV3029S_Parameter(0x14);
LCD_NV3029S_Parameter(0x08);

LCD_NV3029S_CMD(0xf0);
LCD_NV3029S_Parameter(0x18); //
LCD_NV3029S_CMD(0xB1);
LCD_NV3029S_Parameter(0x61);
LCD_NV3029S_Parameter(0x01);

LCD_NV3029S_CMD(0x62);
LCD_NV3029S_Parameter(0x87);
LCD_NV3029S_Parameter(0x55);
LCD_NV3029S_Parameter(0x01);

LCD_NV3029S_CMD(0x63);
LCD_NV3029S_Parameter(0xa9);

LCD_NV3029S_CMD(0x64);
LCD_NV3029S_Parameter(0x19);
LCD_NV3029S_Parameter(0x32);

LCD_NV3029S_CMD(0x65);
LCD_NV3029S_Parameter(0x9b);

LCD_NV3029S_CMD(0x67);
LCD_NV3029S_Parameter(0x35);

LCD_NV3029S_CMD(0x68);
LCD_NV3029S_Parameter(0x00);
LCD_NV3029S_Parameter(0x33);
LCD_NV3029S_Parameter(0x0a);
LCD_NV3029S_Parameter(0x0a);

LCD_NV3029S_CMD(0x69);
LCD_NV3029S_Parameter(0x00);

```

LCD\_NV3029S\_Parameter(0x50);  
LCD\_NV3029S\_Parameter(0x40);

LCD\_NV3029S\_CMD(0xf3);  
LCD\_NV3029S\_Parameter(0x06); //thrb[5:0]  
LCD\_NV3029S\_Parameter(0x04); //thg[5:0]

LCD\_NV3029S\_CMD(0xf6);  
LCD\_NV3029S\_Parameter(0x09);  
LCD\_NV3029S\_Parameter(0x10);  
LCD\_NV3029S\_Parameter(0x00);

LCD\_NV3029S\_CMD(0xf7);  
LCD\_NV3029S\_Parameter(0x03);

//////////NV3029S GAMMA//////////

LCD\_NV3029S\_CMD(0xE0);  
LCD\_NV3029S\_Parameter(0x0b); //PKP0[4:0]  
LCD\_NV3029S\_Parameter(0x16); //PKP1[4:0]  
LCD\_NV3029S\_Parameter(0x0b); //PKP2[4:0]  
LCD\_NV3029S\_Parameter(0x15); //PKP3[4:0]  
LCD\_NV3029S\_Parameter(0x0a); //PKP4[4:0]  
LCD\_NV3029S\_Parameter(0x11); //PKP5[4:0]  
LCD\_NV3029S\_Parameter(0x0e); //PKP6[4:0]

LCD\_NV3029S\_CMD(0xE3);  
LCD\_NV3029S\_Parameter(0x0b); //PKN0[4:0]  
LCD\_NV3029S\_Parameter(0x15); //PKN1[4:0]  
LCD\_NV3029S\_Parameter(0x0c); //PKN2[4:0]  
LCD\_NV3029S\_Parameter(0x15); //PKN3[4:0]  
LCD\_NV3029S\_Parameter(0x06); //PKN4[4:0]  
LCD\_NV3029S\_Parameter(0x11); //PKN5[4:0]  
LCD\_NV3029S\_Parameter(0x0e); //PKN6[4:0]

LCD\_NV3029S\_CMD(0xE1);  
LCD\_NV3029S\_Parameter(0x07); //PRP0[6:0]  
LCD\_NV3029S\_Parameter(0x5c); //PRP1[6:0]  
LCD\_NV3029S\_CMD(0xE4);  
LCD\_NV3029S\_Parameter(0x05); //PRN0[6:0]  
LCD\_NV3029S\_Parameter(0x64); //PRN1[6:0]

LCD\_NV3029S\_CMD(0xE2);  
LCD\_NV3029S\_Parameter(0x00); //VRP0[5:0]  
LCD\_NV3029S\_Parameter(0x15); //VRP1[5:0]  
LCD\_NV3029S\_Parameter(0x0e); //VRP2[5:0]  
LCD\_NV3029S\_Parameter(0x2a); //VRP3[5:0]  
LCD\_NV3029S\_Parameter(0x29); //VRP4[5:0]  
LCD\_NV3029S\_Parameter(0x2e); //VRP5[5:0]  
LCD\_NV3029S\_CMD(0xE5);  
LCD\_NV3029S\_Parameter(0x00); //VRN0[5:0]  
LCD\_NV3029S\_Parameter(0x15); //VRN1[5:0]  
LCD\_NV3029S\_Parameter(0x0e); //VRN2[5:0]  
LCD\_NV3029S\_Parameter(0x2a); //VRN3[5:0]  
LCD\_NV3029S\_Parameter(0x29); //VRN4[5:0]  
LCD\_NV3029S\_Parameter(0x2e); //VRN5[5:0]

```
LCD_NV3029S_CMD(0xB6);  
LCD_NV3029S_Parameter(0x22);  
LCD_NV3029S_Parameter(0x81);  
LCD_NV3029S_Parameter(0x27);  
LCD_NV3029S_Parameter(0x00);
```

```
LCD_NV3029S_CMD(0xEC);  
LCD_NV3029S_Parameter(0x42);
```

```
LCD_NV3029S_CMD(0xED);  
LCD_NV3029S_Parameter(0x42);  
LCD_NV3029S_Parameter(0x24);
```

```
LCD_NV3029S_CMD(0xfd);  
LCD_NV3029S_Parameter(0xfa);  
LCD_NV3029S_Parameter(0xfb);
```

```
LCD_NV3029S_CMD(0x3A);  
LCD_NV3029S_Parameter(0x65);
```

```
LCD_NV3029S_CMD(0x11);  
Delay_ms(300);  
LCD_NV3029S_CMD(0x29);  
}
```

**9.CPT2.4(G6) Panel****9.1 CPT2.4(G6) Panel initial code**

```

void NV3029S_CPT24_Initial(void)
{
//VCI=2.8V
//-----RESET LCD Driver -----//
LCD_RESET=1;
Delay_ms(10);
LCD_RESET=0;
Delay_ms(200);
LCD_RESET=1;
Delay_ms(120);
LCD_NV3029S_CMD(0xfd);
LCD_NV3029S_Parameter(0x06);
LCD_NV3029S_Parameter(0x07);

LCD_NV3029S_CMD(0x60);
LCD_NV3029S_Parameter(0x14);
LCD_NV3029S_Parameter(0x08);

LCD_NV3029S_CMD(0xf0);
LCD_NV3029S_Parameter(0x18); //
LCD_NV3029S_CMD(0xB1);
LCD_NV3029S_Parameter(0x61);
LCD_NV3029S_Parameter(0x01);

LCD_NV3029S_CMD(0x62);
LCD_NV3029S_Parameter(0x87);

LCD_NV3029S_CMD(0x63);
LCD_NV3029S_Parameter(0xa9);

LCD_NV3029S_CMD(0x64);
LCD_NV3029S_Parameter(0x19);
LCD_NV3029S_Parameter(0x32);

LCD_NV3029S_CMD(0x65);
LCD_NV3029S_Parameter(0x9b);

LCD_NV3029S_CMD(0x67);
LCD_NV3029S_Parameter(0x33);

LCD_NV3029S_CMD(0x68);
LCD_NV3029S_Parameter(0x04);
LCD_NV3029S_Parameter(0x10);
LCD_NV3029S_Parameter(0x10);//
LCD_NV3029S_Parameter(0x12);//

LCD_NV3029S_CMD(0x69);
LCD_NV3029S_Parameter(0x00);
LCD_NV3029S_Parameter(0x40);
LCD_NV3029S_Parameter(0x50);

LCD_NV3029S_CMD(0xf3);
LCD_NV3029S_Parameter(0x06); //thrb[5:0]
LCD_NV3029S_Parameter(0x04); //thg[5:0]

```



```
LCD_NV3029S_CMD(0xf6);
LCD_NV3029S_Parameter(0x09);
LCD_NV3029S_Parameter(0x10);
LCD_NV3029S_Parameter(0x80);//80--spi_2wire_mode,00
```

```
LCD_NV3029S_CMD(0xf7);
LCD_NV3029S_Parameter(0x03);
```

```
//////////NV3029S2V GAMMA//////////
```

```
LCD_NV3029S_CMD(0xE0);
LCD_NV3029S_Parameter(0x13);//PKP0[4:0]
LCD_NV3029S_Parameter(0x18);//PKP1[4:0]
LCD_NV3029S_Parameter(0x13);//PKP2[4:0]
LCD_NV3029S_Parameter(0x1B);//PKP3[4:0]
LCD_NV3029S_Parameter(0x09);//PKP4[4:0]
LCD_NV3029S_Parameter(0x14);//PKP5[4:0]
LCD_NV3029S_Parameter(0x18);//PKP6[4:0]
LCD_NV3029S_CMD(0xE3);
LCD_NV3029S_Parameter(0x0C);//PKN0[4:0]
LCD_NV3029S_Parameter(0x17);//PKN1[4:0]
LCD_NV3029S_Parameter(0x0D);//PKN2[4:0]
LCD_NV3029S_Parameter(0x1A);//PKN3[4:0]
LCD_NV3029S_Parameter(0x06);//PKN4[4:0]
LCD_NV3029S_Parameter(0x0f);//PKN5[4:0]
LCD_NV3029S_Parameter(0x13);//PKN6[4:0]
```

```
LCD_NV3029S_CMD(0xE1);
LCD_NV3029S_Parameter(0x10);//PRP0[6:0]
LCD_NV3029S_Parameter(0x57);//PRP1[6:0]
LCD_NV3029S_CMD(0xE4);
LCD_NV3029S_Parameter(0x0C);//PRN0[6:0]
LCD_NV3029S_Parameter(0x4f);//PRN1[6:0]
```

```
LCD_NV3029S_CMD(0xE2);
LCD_NV3029S_Parameter(0x06);//VRP0[5:0]
LCD_NV3029S_Parameter(0x19);//VRP1[5:0]
LCD_NV3029S_Parameter(0x1C);//VRP2[5:0]
LCD_NV3029S_Parameter(0x15);//VRP3[5:0]
LCD_NV3029S_Parameter(0x0C);//VRP4[5:0]
LCD_NV3029S_Parameter(0x0d);//VRP5[5:0]
LCD_NV3029S_CMD(0xE5);
LCD_NV3029S_Parameter(0x03);//VRN0[5:0]
LCD_NV3029S_Parameter(0x10);//VRN1[5:0]
LCD_NV3029S_Parameter(0x09);//VRN2[5:0]
LCD_NV3029S_Parameter(0x0d);//VRN3[5:0]
LCD_NV3029S_Parameter(0x07);//VRN4[5:0]
LCD_NV3029S_Parameter(0x15);//VRN5[5:0]
```

```
LCD_NV3029S_CMD(0xEC);
LCD_NV3029S_Parameter(0xf6);
LCD_NV3029S_CMD(0xED);
LCD_NV3029S_Parameter(0x02);
LCD_NV3029S_Parameter(0x94);
```

```
LCD_NV3029S_CMD(0xfd);
```

```

LCD_NV3029S_Parameter(0xfa);
LCD_NV3029S_Parameter(0xfb);

LCD_NV3029S_CMD(0x36);
LCD_NV3029S_Parameter(0x00);

LCD_NV3029S_CMD(0x3A);      // 16/18 bits
LCD_NV3029S_Parameter(0x65);

LCD_NV3029S_CMD(0x11); // exit sleep
Delay_ms(200);
LCD_NV3029S_CMD(0x29); // display on

/*
////////////////////////////////////gamma2.5

LCD_NV3029S_CMD(0xfd);
LCD_NV3029S_Parameter(0x06);
LCD_NV3029S_Parameter(0x07);

LCD_NV3029S_CMD(0x60);
LCD_NV3029S_Parameter(0x14);
LCD_NV3029S_Parameter(0x08);

LCD_NV3029S_CMD(0xB1);
LCD_NV3029S_Parameter(0x61);

LCD_NV3029S_CMD(0x62);
LCD_NV3029S_Parameter(0x87);

LCD_NV3029S_CMD(0x63);
LCD_NV3029S_Parameter(0xa9);

LCD_NV3029S_CMD(0x64);
LCD_NV3029S_Parameter(0x19);
LCD_NV3029S_Parameter(0x32);

LCD_NV3029S_CMD(0x65);
LCD_NV3029S_Parameter(0x9b);

LCD_NV3029S_CMD(0x67);
LCD_NV3029S_Parameter(0x33);

LCD_NV3029S_CMD(0x68);
LCD_NV3029S_Parameter(0x04);
LCD_NV3029S_Parameter(0x10);
LCD_NV3029S_Parameter(0x10);//
LCD_NV3029S_Parameter(0x12);//

LCD_NV3029S_CMD(0x69);
LCD_NV3029S_Parameter(0x00);
LCD_NV3029S_Parameter(0x40);
LCD_NV3029S_Parameter(0x50);

LCD_NV3029S_CMD(0xf3);
LCD_NV3029S_Parameter(0x06); //thrb[5:0]
LCD_NV3029S_Parameter(0x04); //thg[5:0]

```

```
LCD_NV3029S_CMD(0xf6);
LCD_NV3029S_Parameter(0x09);
LCD_NV3029S_Parameter(0x10);
LCD_NV3029S_Parameter(0x80);//80--spi_2wire_mode,00
```

```
LCD_NV3029S_CMD(0xf7);
LCD_NV3029S_Parameter(0x03);
```

```
//////////NV3029S2V GAMMA//////////
```

```
LCD_NV3029S_CMD(0xE0);
LCD_NV3029S_Parameter(0x13);//PKP0[4:0]
LCD_NV3029S_Parameter(0x18);//PKP1[4:0]
LCD_NV3029S_Parameter(0x13);//PKP2[4:0]
LCD_NV3029S_Parameter(0x1B);//PKP3[4:0]
LCD_NV3029S_Parameter(0x09);//PKP4[4:0]
LCD_NV3029S_Parameter(0x14);//PKP5[4:0]
LCD_NV3029S_Parameter(0x18);//PKP6[4:0]
LCD_NV3029S_CMD(0xE3);
LCD_NV3029S_Parameter(0x0C);//PKN0[4:0]
LCD_NV3029S_Parameter(0x17);//PKN1[4:0]
LCD_NV3029S_Parameter(0x0D);//PKN2[4:0]
LCD_NV3029S_Parameter(0x1A);//PKN3[4:0]
LCD_NV3029S_Parameter(0x06);//PKN4[4:0]
LCD_NV3029S_Parameter(0x0f);//PKN5[4:0]
LCD_NV3029S_Parameter(0x13);//PKN6[4:0]
```

```
LCD_NV3029S_CMD(0xE1);
LCD_NV3029S_Parameter(0x06);//PRP0[6:0]
LCD_NV3029S_Parameter(0x55);//PRP1[6:0]
LCD_NV3029S_CMD(0xE4);
LCD_NV3029S_Parameter(0x02);//PRN0[6:0]
LCD_NV3029S_Parameter(0x4D);//PRN1[6:0]
```

```
LCD_NV3029S_CMD(0xE2);
LCD_NV3029S_Parameter(0x06);//VRP0[5:0]
LCD_NV3029S_Parameter(0x19);//VRP1[5:0]
LCD_NV3029S_Parameter(0x16);//VRP2[5:0]
LCD_NV3029S_Parameter(0x14);//VRP3[5:0]
LCD_NV3029S_Parameter(0x0C);//VRP4[5:0]
LCD_NV3029S_Parameter(0x0d);//VRP5[5:0]
LCD_NV3029S_CMD(0xE5);
LCD_NV3029S_Parameter(0x03);//VRN0[5:0]
LCD_NV3029S_Parameter(0x10);//VRN1[5:0]
LCD_NV3029S_Parameter(0x03);//VRN2[5:0]
LCD_NV3029S_Parameter(0x0C);//VRN3[5:0]
LCD_NV3029S_Parameter(0x07);//VRN4[5:0]
LCD_NV3029S_Parameter(0x15);//VRN5[5:0]
```

```
LCD_NV3029S_CMD(0xEC);
LCD_NV3029S_Parameter(0xf6);
LCD_NV3029S_CMD(0xED);
LCD_NV3029S_Parameter(0x02);
LCD_NV3029S_Parameter(0x94);
```

```
LCD_NV3029S_CMD(0xfd);
```

```
LCD_NV3029S_Parameter(0xfa);
LCD_NV3029S_Parameter(0xfb);

LCD_NV3029S_CMD(0x36);
LCD_NV3029S_Parameter(0x00);

LCD_NV3029S_CMD(0x3A); // 16/18 bits
LCD_NV3029S_Parameter(0x65);

LCD_NV3029S_CMD(0x11); // exit sleep
Delay_ms(200);
LCD_NV3029S_CMD(0x29); // display on
*/

}
```

**10. BOE 2.4 Panel****10.1 BOE2.4 Panel initial code**

```
void NV3029S_BOE24_Initial(void)
{
//VCI=2.8V
//-----RESET LCD Driver -----//
LCD_RESET=1;
Delay_ms(10);
LCD_RESET=0;
Delay_ms(200);
LCD_RESET=1;
Delay_ms(120);

//gamma 2.2
LCD_NV3029S_CMD(0xfd);
LCD_NV3029S_Parameter(0x06);
LCD_NV3029S_Parameter(0x07);

LCD_NV3029S_CMD(0x60);
LCD_NV3029S_Parameter(0x14);
LCD_NV3029S_Parameter(0x08);

LCD_NV3029S_CMD(0xf0);
LCD_NV3029S_Parameter(0x18); //
LCD_NV3029S_CMD(0xB1);
LCD_NV3029S_Parameter(0x61);
LCD_NV3029S_Parameter(0x01);

LCD_NV3029S_CMD(0x62);
LCD_NV3029S_Parameter(0x87);

LCD_NV3029S_CMD(0x63);
LCD_NV3029S_Parameter(0xa9);

LCD_NV3029S_CMD(0x64);
LCD_NV3029S_Parameter(0x19);
LCD_NV3029S_Parameter(0x32);

LCD_NV3029S_CMD(0x65);
LCD_NV3029S_Parameter(0x9b);

LCD_NV3029S_CMD(0x67);
LCD_NV3029S_Parameter(0x33);

LCD_NV3029S_CMD(0x68);
LCD_NV3029S_Parameter(0x04);
LCD_NV3029S_Parameter(0x1B);
LCD_NV3029S_Parameter(0x0a);//
LCD_NV3029S_Parameter(0x10);//

LCD_NV3029S_CMD(0x69);
LCD_NV3029S_Parameter(0x00);
LCD_NV3029S_Parameter(0x40);
LCD_NV3029S_Parameter(0x50);
```

```

LCD_NV3029S_CMD(0xf3);
LCD_NV3029S_Parameter(0x06); //thrb[5:0]
LCD_NV3029S_Parameter(0x04); //thg[5:0]

LCD_NV3029S_CMD(0xf6);
LCD_NV3029S_Parameter(0x09);
LCD_NV3029S_Parameter(0x10);
LCD_NV3029S_Parameter(0x00); //80--spi_2wire_mode,00

LCD_NV3029S_CMD(0xf7);
LCD_NV3029S_Parameter(0x03);

//////////NV3029S2V GAMMA//////////
LCD_NV3029S_CMD(0xE0);
LCD_NV3029S_Parameter(0x2E); //PKP0[4:0]
LCD_NV3029S_Parameter(0x39); //PKP1[4:0]
LCD_NV3029S_Parameter(0x16); //PKP2[4:0]
LCD_NV3029S_Parameter(0x1E); //PKP3[4:0]
LCD_NV3029S_Parameter(0x11); //PKP4[4:0]
LCD_NV3029S_Parameter(0x19); //PKP5[4:0]
LCD_NV3029S_Parameter(0x1A); //PKP6[4:0]
LCD_NV3029S_CMD(0xE3);
LCD_NV3029S_Parameter(0x10); //PKN0[4:0]
LCD_NV3029S_Parameter(0x19); //PKN1[4:0]
LCD_NV3029S_Parameter(0x0E); //PKN2[4:0]
LCD_NV3029S_Parameter(0x1A); //PKN3[4:0]
LCD_NV3029S_Parameter(0x06); //PKN4[4:0]
LCD_NV3029S_Parameter(0x12); //PKN5[4:0]
LCD_NV3029S_Parameter(0x14); //PKN6[4:0]

LCD_NV3029S_CMD(0xE1);
LCD_NV3029S_Parameter(0x22); //PRP0[6:0]
LCD_NV3029S_Parameter(0x6F); //PRP1[6:0]
LCD_NV3029S_CMD(0xE4);
LCD_NV3029S_Parameter(0x17); //PRN0[6:0]
LCD_NV3029S_Parameter(0x4C); //PRN1[6:0]

LCD_NV3029S_CMD(0xE2);
LCD_NV3029S_Parameter(0x08); //VRP0[5:0]
LCD_NV3029S_Parameter(0x1C); //VRP1[5:0]
LCD_NV3029S_Parameter(0x19); //VRP2[5:0]
LCD_NV3029S_Parameter(0x1A); //VRP3[5:0]
LCD_NV3029S_Parameter(0x11); //VRP4[5:0]
LCD_NV3029S_Parameter(0x13); //VRP5[5:0]
LCD_NV3029S_CMD(0xE5);
LCD_NV3029S_Parameter(0x04); //VRN0[5:0]
LCD_NV3029S_Parameter(0x10); //VRN1[5:0]
LCD_NV3029S_Parameter(0x12); //VRN2[5:0]
LCD_NV3029S_Parameter(0x0D); //VRN3[5:0]
LCD_NV3029S_Parameter(0x07); //VRN4[5:0]
LCD_NV3029S_Parameter(0x0F); //VRN5[5:0]

LCD_NV3029S_CMD(0xEC);
LCD_NV3029S_Parameter(0xf6);
LCD_NV3029S_CMD(0xED);
LCD_NV3029S_Parameter(0x02);

```

```
LCD_NV3029S_Parameter(0x94);

LCD_NV3029S_CMD(0xfd);
LCD_NV3029S_Parameter(0xfa);
LCD_NV3029S_Parameter(0xfb);

LCD_NV3029S_CMD(0x36);
LCD_NV3029S_Parameter(0x00);

LCD_NV3029S_CMD(0x3A);      // 16/18 bits
LCD_NV3029S_Parameter(0x65);

LCD_NV3029S_CMD(0x11); // exit sleep
Delay_ms(200);
LCD_NV3029S_CMD(0x29); // display on
/*

//gamma2.5

LCD_NV3029S_CMD(0xfd);
LCD_NV3029S_Parameter(0x06);
LCD_NV3029S_Parameter(0x07);

LCD_NV3029S_CMD(0x60);
LCD_NV3029S_Parameter(0x14);
LCD_NV3029S_Parameter(0x08);

LCD_NV3029S_CMD(0xB1);
LCD_NV3029S_Parameter(0x61);

LCD_NV3029S_CMD(0x62);
LCD_NV3029S_Parameter(0x87);

LCD_NV3029S_CMD(0x63);
LCD_NV3029S_Parameter(0xa9);

LCD_NV3029S_CMD(0x64);
LCD_NV3029S_Parameter(0x19);
LCD_NV3029S_Parameter(0x32);

LCD_NV3029S_CMD(0x65);
LCD_NV3029S_Parameter(0x9b);

LCD_NV3029S_CMD(0x67);
LCD_NV3029S_Parameter(0x33);

LCD_NV3029S_CMD(0x68);
LCD_NV3029S_Parameter(0x04);
LCD_NV3029S_Parameter(0x1B);
LCD_NV3029S_Parameter(0x0a);//
LCD_NV3029S_Parameter(0x10);//

LCD_NV3029S_CMD(0x69);
LCD_NV3029S_Parameter(0x00);
LCD_NV3029S_Parameter(0x40);
LCD_NV3029S_Parameter(0x50);
```

```
LCD_NV3029S_CMD(0xf3);
LCD_NV3029S_Parameter(0x06); //thrb[5:0]
LCD_NV3029S_Parameter(0x04); //thg[5:0]

LCD_NV3029S_CMD(0xf6);
LCD_NV3029S_Parameter(0x09);
LCD_NV3029S_Parameter(0x10);
LCD_NV3029S_Parameter(0x80); //80--spi_2wire_mode,00

LCD_NV3029S_CMD(0xf7);
LCD_NV3029S_Parameter(0x03);

//////////NV3029S2V GAMMA//////////
LCD_NV3029S_CMD(0xE0);
LCD_NV3029S_Parameter(0x2E); //PKP0[4:0]
LCD_NV3029S_Parameter(0x39); //PKP1[4:0]
LCD_NV3029S_Parameter(0x16); //PKP2[4:0]
LCD_NV3029S_Parameter(0x1E); //PKP3[4:0]
LCD_NV3029S_Parameter(0x11); //PKP4[4:0]
LCD_NV3029S_Parameter(0x19); //PKP5[4:0]
LCD_NV3029S_Parameter(0x1A); //PKP6[4:0]
LCD_NV3029S_CMD(0xE3);
LCD_NV3029S_Parameter(0x10); //PKN0[4:0]
LCD_NV3029S_Parameter(0x19); //PKN1[4:0]
LCD_NV3029S_Parameter(0x0E); //PKN2[4:0]
LCD_NV3029S_Parameter(0x1A); //PKN3[4:0]
LCD_NV3029S_Parameter(0x06); //PKN4[4:0]
LCD_NV3029S_Parameter(0x12); //PKN5[4:0]
LCD_NV3029S_Parameter(0x14); //PKN6[4:0]

LCD_NV3029S_CMD(0xE1);
LCD_NV3029S_Parameter(0x1F); //PRP0[6:0]
LCD_NV3029S_Parameter(0x6E); //PRP1[6:0]
LCD_NV3029S_CMD(0xE4);
LCD_NV3029S_Parameter(0x14); //PRN0[6:0]
LCD_NV3029S_Parameter(0x4B); //PRN1[6:0]

LCD_NV3029S_CMD(0xE2);
LCD_NV3029S_Parameter(0x08); //VRP0[5:0]
LCD_NV3029S_Parameter(0x1C); //VRP1[5:0]
LCD_NV3029S_Parameter(0x16); //VRP2[5:0]
LCD_NV3029S_Parameter(0x19); //VRP3[5:0]
LCD_NV3029S_Parameter(0x11); //VRP4[5:0]
LCD_NV3029S_Parameter(0x13); //VRP5[5:0]
LCD_NV3029S_CMD(0xE5);
LCD_NV3029S_Parameter(0x04); //VRN0[5:0]
LCD_NV3029S_Parameter(0x10); //VRN1[5:0]
LCD_NV3029S_Parameter(0x0F); //VRN2[5:0]
LCD_NV3029S_Parameter(0x0E); //VRN3[5:0]
LCD_NV3029S_Parameter(0x07); //VRN4[5:0]
LCD_NV3029S_Parameter(0x0F); //VRN5[5:0]

LCD_NV3029S_CMD(0xEC);
LCD_NV3029S_Parameter(0xf6);
LCD_NV3029S_CMD(0xED);
LCD_NV3029S_Parameter(0x02);
LCD_NV3029S_Parameter(0x94);
```



```
LCD_NV3029S_CMD(0xfd);
LCD_NV3029S_Parameter(0xfa);
LCD_NV3029S_Parameter(0xfb);

LCD_NV3029S_CMD(0x36);
LCD_NV3029S_Parameter(0x00);

LCD_NV3029S_CMD(0x3A); // 16/18 bits
LCD_NV3029S_Parameter(0x65);

LCD_NV3029S_CMD(0x11); // exit sleep
Delay_ms(200);
LCD_NV3029S_CMD(0x29); // display on
*/
}
```

## 11. IVO2.8 Panel

### 11.1 IVO2.8 Panel initial code

```
void NV3029S_IVO28_Initial(void)
{
//VCI=2.8V
//-----RESET LCD Driver -----//
LCD_RESET=1;
Delay_ms(10);
LCD_RESET=0;
Delay_ms(200);
LCD_RESET=1;
Delay_ms(120);

LCD_NV3029S_CMD(0xfd);
LCD_NV3029S_Parameter(0x06);
LCD_NV3029S_Parameter(0x07);

LCD_NV3029S_CMD(0x60);
LCD_NV3029S_Parameter(0x14);
LCD_NV3029S_Parameter(0x08);

LCD_NV3029S_CMD(0xf0);
LCD_NV3029S_Parameter(0x18); //
LCD_NV3029S_CMD(0xB1);
LCD_NV3029S_Parameter(0x61);
LCD_NV3029S_Parameter(0x01);

LCD_NV3029S_CMD(0x62);
LCD_NV3029S_Parameter(0x87);

LCD_NV3029S_CMD(0x63);
LCD_NV3029S_Parameter(0xa9);

LCD_NV3029S_CMD(0x64);
LCD_NV3029S_Parameter(0x19);
LCD_NV3029S_Parameter(0x32);

LCD_NV3029S_CMD(0x65);
LCD_NV3029S_Parameter(0x9b);

LCD_NV3029S_CMD(0x67);
LCD_NV3029S_Parameter(0x33);

LCD_NV3029S_CMD(0x68);
LCD_NV3029S_Parameter(0x04);
LCD_NV3029S_Parameter(0x16);
LCD_NV3029S_Parameter(0x0a);//
LCD_NV3029S_Parameter(0x10);//

LCD_NV3029S_CMD(0x69);
LCD_NV3029S_Parameter(0x00);
LCD_NV3029S_Parameter(0x40);
LCD_NV3029S_Parameter(0x40);

LCD_NV3029S_CMD(0xf3);
```

```
LCD_NV3029S_Parameter(0x06); //thrb[5:0]
LCD_NV3029S_Parameter(0x04); //thg[5:0]
```

```
LCD_NV3029S_CMD(0xf6);
LCD_NV3029S_Parameter(0x09);
LCD_NV3029S_Parameter(0x10);
LCD_NV3029S_Parameter(0x80); //80--spi_2wire_mode,00
```

```
LCD_NV3029S_CMD(0xf7);
LCD_NV3029S_Parameter(0x03);
```

```
//////////NV3029S2V GAMMA//////////
```

```
LCD_NV3029S_CMD(0xE0);
LCD_NV3029S_Parameter(0x13); //PKP0[4:0]
LCD_NV3029S_Parameter(0x1C); //PKP1[4:0]
LCD_NV3029S_Parameter(0x13); //PKP2[4:0]
LCD_NV3029S_Parameter(0x1B); //PKP3[4:0]
LCD_NV3029S_Parameter(0x0E); //PKP4[4:0]
LCD_NV3029S_Parameter(0x17); //PKP5[4:0]
LCD_NV3029S_Parameter(0x16); //PKP6[4:0]
LCD_NV3029S_CMD(0xE3);
LCD_NV3029S_Parameter(0x0C); //PKN0[4:0]
LCD_NV3029S_Parameter(0x16); //PKN1[4:0]
LCD_NV3029S_Parameter(0x0C); //PKN2[4:0]
LCD_NV3029S_Parameter(0x18); //PKN3[4:0]
LCD_NV3029S_Parameter(0x0A); //PKN4[4:0]
LCD_NV3029S_Parameter(0x10); //PKN5[4:0]
LCD_NV3029S_Parameter(0x13); //PKN6[4:0]
```

```
LCD_NV3029S_CMD(0xE1);
LCD_NV3029S_Parameter(0x1C); //PRP0[6:0]
LCD_NV3029S_Parameter(0x6B); //PRP1[6:0]
LCD_NV3029S_CMD(0xE4);
LCD_NV3029S_Parameter(0x1A); //PRN0[6:0]
LCD_NV3029S_Parameter(0x5A); //PRN1[6:0]
```

```
LCD_NV3029S_CMD(0xE2);
LCD_NV3029S_Parameter(0x06); //VRP0[5:0]
LCD_NV3029S_Parameter(0x1C); //VRP1[5:0]
LCD_NV3029S_Parameter(0x1B); //VRP2[5:0]
LCD_NV3029S_Parameter(0x1A); //VRP3[5:0]
LCD_NV3029S_Parameter(0x11); //VRP4[5:0]
LCD_NV3029S_Parameter(0x12); //VRP5[5:0]
LCD_NV3029S_CMD(0xE5);
LCD_NV3029S_Parameter(0x02); //VRN0[5:0]
LCD_NV3029S_Parameter(0x16); //VRN1[5:0]
LCD_NV3029S_Parameter(0x16); //VRN2[5:0]
LCD_NV3029S_Parameter(0x12); //VRN3[5:0]
LCD_NV3029S_Parameter(0x0B); //VRN4[5:0]
LCD_NV3029S_Parameter(0x0E); //VRN5[5:0]
```

```
LCD_NV3029S_CMD(0xEC);
LCD_NV3029S_Parameter(0xf6);
LCD_NV3029S_CMD(0xED);
LCD_NV3029S_Parameter(0x02);
LCD_NV3029S_Parameter(0x94);
```

```
LCD_NV3029S_CMD(0xfd);
LCD_NV3029S_Parameter(0xfa);
LCD_NV3029S_Parameter(0xfb);

LCD_NV3029S_CMD(0x36);
LCD_NV3029S_Parameter(0x00);

LCD_NV3029S_CMD(0x3A);      // 16/18 bits
LCD_NV3029S_Parameter(0x65);

LCD_NV3029S_CMD(0x11); // exit sleep
Delay_ms(200);
LCD_NV3029S_CMD(0x29); // display on
}
```

## 12. GP 2.4 Panel

### 12.1 GP2.4 Panel initial code

```
void NV3029S_GP24_Initial(void)
{
//VCI=2.8V
//-----RESET LCD Driver -----//
LCD_RESET=1;
Delay_ms(10);
LCD_RESET=0;
Delay_ms(200);
LCD_RESET=1;
Delay_ms(120);

LCD_NV3029S_CMD(0xfd);
LCD_NV3029S_Parameter(0x06);
LCD_NV3029S_Parameter(0x07);

LCD_NV3029S_CMD(0x60);
LCD_NV3029S_Parameter(0x14);
LCD_NV3029S_Parameter(0x08);

LCD_NV3029S_CMD(0xf0);
LCD_NV3029S_Parameter(0x18); //
LCD_NV3029S_CMD(0xB1);
LCD_NV3029S_Parameter(0x61);
LCD_NV3029S_Parameter(0x01);

LCD_NV3029S_CMD(0x62);
LCD_NV3029S_Parameter(0x87);

LCD_NV3029S_CMD(0x63);
LCD_NV3029S_Parameter(0xa9);

LCD_NV3029S_CMD(0x64);
LCD_NV3029S_Parameter(0x19);
LCD_NV3029S_Parameter(0x32);

LCD_NV3029S_CMD(0x65);
LCD_NV3029S_Parameter(0x9b);

LCD_NV3029S_CMD(0x67);
LCD_NV3029S_Parameter(0x33);

LCD_NV3029S_CMD(0x68);
LCD_NV3029S_Parameter(0x00);
LCD_NV3029S_Parameter(0x10);
LCD_NV3029S_Parameter(0x0A);//
LCD_NV3029S_Parameter(0x0A);//

LCD_NV3029S_CMD(0x69);
LCD_NV3029S_Parameter(0x00);
LCD_NV3029S_Parameter(0x40);
LCD_NV3029S_Parameter(0x50);

LCD_NV3029S_CMD(0xf3);
```

```
LCD_NV3029S_Parameter(0x06); //thrb[5:0]
LCD_NV3029S_Parameter(0x04); //thg[5:0]
```

```
LCD_NV3029S_CMD(0xf6);
LCD_NV3029S_Parameter(0x09);
LCD_NV3029S_Parameter(0x10);
LCD_NV3029S_Parameter(0x80); //80--spi_2wire_mode,00
```

```
LCD_NV3029S_CMD(0xf7);
LCD_NV3029S_Parameter(0x03);
```

```
//////////NV3029S2V GAMMA//////////
```

```
LCD_NV3029S_CMD(0xE0);
LCD_NV3029S_Parameter(0x13); //PKP0[4:0]
LCD_NV3029S_Parameter(0x18); //PKP1[4:0]
LCD_NV3029S_Parameter(0x13); //PKP2[4:0]
LCD_NV3029S_Parameter(0x1B); //PKP3[4:0]
LCD_NV3029S_Parameter(0x09); //PKP4[4:0]
LCD_NV3029S_Parameter(0x14); //PKP5[4:0]
LCD_NV3029S_Parameter(0x18); //PKP6[4:0]
LCD_NV3029S_CMD(0xE3);
LCD_NV3029S_Parameter(0x0C); //PKN0[4:0]
LCD_NV3029S_Parameter(0x17); //PKN1[4:0]
LCD_NV3029S_Parameter(0x0D); //PKN2[4:0]
LCD_NV3029S_Parameter(0x1A); //PKN3[4:0]
LCD_NV3029S_Parameter(0x06); //PKN4[4:0]
LCD_NV3029S_Parameter(0x0f); //PKN5[4:0]
LCD_NV3029S_Parameter(0x13); //PKN6[4:0]
```

```
LCD_NV3029S_CMD(0xE1);
LCD_NV3029S_Parameter(0x10); //PRP0[6:0]
LCD_NV3029S_Parameter(0x57); //PRP1[6:0]
LCD_NV3029S_CMD(0xE4);
LCD_NV3029S_Parameter(0x0C); //PRN0[6:0]
LCD_NV3029S_Parameter(0x4f); //PRN1[6:0]
```

```
LCD_NV3029S_CMD(0xE2);
LCD_NV3029S_Parameter(0x06); //VRP0[5:0]
LCD_NV3029S_Parameter(0x19); //VRP1[5:0]
LCD_NV3029S_Parameter(0x1C); //VRP2[5:0]
LCD_NV3029S_Parameter(0x15); //VRP3[5:0]
LCD_NV3029S_Parameter(0x0C); //VRP4[5:0]
LCD_NV3029S_Parameter(0x0d); //VRP5[5:0]
LCD_NV3029S_CMD(0xE5);
LCD_NV3029S_Parameter(0x03); //VRN0[5:0]
LCD_NV3029S_Parameter(0x10); //VRN1[5:0]
LCD_NV3029S_Parameter(0x09); //VRN2[5:0]
LCD_NV3029S_Parameter(0x0d); //VRN3[5:0]
LCD_NV3029S_Parameter(0x07); //VRN4[5:0]
LCD_NV3029S_Parameter(0x15); //VRN5[5:0]
```

```
LCD_NV3029S_CMD(0xEC);
LCD_NV3029S_Parameter(0xf6);
LCD_NV3029S_CMD(0xED);
LCD_NV3029S_Parameter(0x02);
LCD_NV3029S_Parameter(0x94);
```

```
LCD_NV3029S_CMD(0xfd);
LCD_NV3029S_Parameter(0xfa);
LCD_NV3029S_Parameter(0xfb);

LCD_NV3029S_CMD(0x36);
LCD_NV3029S_Parameter(0x00);

LCD_NV3029S_CMD(0x3A); // 16/18 bits
LCD_NV3029S_Parameter(0x65);

LCD_NV3029S_CMD(0x11); // exit sleep
Delay_ms(200);
LCD_NV3029S_CMD(0x29); // display on

}
```

### 13. HSD1.54 IPS Panel

#### 13.1 HSD1.54 IPS Panel initial code

```
void NV3029S_HSD154_Initial(void)
```

```
{  
//VCI=2.8V  
//-----RESET LCD Driver -----//  
LCD_RESET=1;  
Delay_ms(10);  
LCD_RESET=0;  
Delay_ms(200);  
LCD_RESET=1;  
Delay_ms(120);  
  
LCD_NV3029S_CMD(0xfd);  
LCD_NV3029S_Parameter(0x06);  
LCD_NV3029S_Parameter(0x07);  
  
LCD_NV3029S_CMD(0x60);  
LCD_NV3029S_Parameter(0x14);  
LCD_NV3029S_Parameter(0x08);  
  
LCD_NV3029S_CMD(0xf0);  
LCD_NV3029S_Parameter(0x18); //  
LCD_NV3029S_CMD(0xB1);  
LCD_NV3029S_Parameter(0x61);  
LCD_NV3029S_Parameter(0x01);  
  
LCD_NV3029S_CMD(0x62);  
LCD_NV3029S_Parameter(0x87);  
LCD_NV3029S_Parameter(0x55);  
LCD_NV3029S_Parameter(0x01);  
  
LCD_NV3029S_CMD(0x63);  
LCD_NV3029S_Parameter(0xa9);  
  
LCD_NV3029S_CMD(0x64);  
LCD_NV3029S_Parameter(0x19);  
LCD_NV3029S_Parameter(0x32);  
  
LCD_NV3029S_CMD(0x65);  
LCD_NV3029S_Parameter(0x9b);  
  
LCD_NV3029S_CMD(0x67);  
LCD_NV3029S_Parameter(0x35);  
  
LCD_NV3029S_CMD(0x68);  
LCD_NV3029S_Parameter(0x00);  
LCD_NV3029S_Parameter(0x32);  
LCD_NV3029S_Parameter(0x0a);  
LCD_NV3029S_Parameter(0x0a);  
  
LCD_NV3029S_CMD(0x69);  
LCD_NV3029S_Parameter(0x00);
```



```

LCD_NV3029S_Parameter(0x50);
LCD_NV3029S_Parameter(0x40);

LCD_NV3029S_CMD(0xf3);
LCD_NV3029S_Parameter(0x06); //thrb[5:0]
LCD_NV3029S_Parameter(0x04); //thg[5:0]

LCD_NV3029S_CMD(0xf6);
LCD_NV3029S_Parameter(0x09);
LCD_NV3029S_Parameter(0x10);
LCD_NV3029S_Parameter(0x80); //80--spi_2wire_mode,00

LCD_NV3029S_CMD(0xf7);
LCD_NV3029S_Parameter(0x03);

//////////NV3029S GAMMA//////////
LCD_NV3029S_CMD(0xE0);
LCD_NV3029S_Parameter(0x0b); //PKP0[4:0]
LCD_NV3029S_Parameter(0x16); //PKP1[4:0]
LCD_NV3029S_Parameter(0x09); //PKP2[4:0]
LCD_NV3029S_Parameter(0x13); //PKP3[4:0]
LCD_NV3029S_Parameter(0x0f); //PKP4[4:0]
LCD_NV3029S_Parameter(0x10); //PKP5[4:0]
LCD_NV3029S_Parameter(0x0e); //PKP6[4:0]

LCD_NV3029S_CMD(0xE3);
LCD_NV3029S_Parameter(0x0b); //PKN0[4:0]
LCD_NV3029S_Parameter(0x15); //PKN1[4:0]
LCD_NV3029S_Parameter(0x0a); //PKN2[4:0]
LCD_NV3029S_Parameter(0x13); //PKN3[4:0]
LCD_NV3029S_Parameter(0x01); //PKN4[4:0]
LCD_NV3029S_Parameter(0x10); //PKN5[4:0]
LCD_NV3029S_Parameter(0x0e); //PKN6[4:0]

LCD_NV3029S_CMD(0xE1);
LCD_NV3029S_Parameter(0x02); //PRP0[6:0]
LCD_NV3029S_Parameter(0x5b); //PRP1[6:0]
LCD_NV3029S_CMD(0xE4);
LCD_NV3029S_Parameter(0x00); //PRN0[6:0]
LCD_NV3029S_Parameter(0x63); //PRN1[6:0]

LCD_NV3029S_CMD(0xE2);
LCD_NV3029S_Parameter(0x00); //VRP0[5:0]
LCD_NV3029S_Parameter(0x10); //VRP1[5:0]
LCD_NV3029S_Parameter(0x08); //VRP2[5:0]
LCD_NV3029S_Parameter(0x23); //VRP3[5:0]
LCD_NV3029S_Parameter(0x29); //VRP4[5:0]
LCD_NV3029S_Parameter(0x2e); //VRP5[5:0]
LCD_NV3029S_CMD(0xE5);
LCD_NV3029S_Parameter(0x00); //VRN0[5:0]
LCD_NV3029S_Parameter(0x10); //VRN1[5:0]
LCD_NV3029S_Parameter(0x08); //VRN2[5:0]
LCD_NV3029S_Parameter(0x23); //VRN3[5:0]
LCD_NV3029S_Parameter(0x29); //VRN4[5:0]
LCD_NV3029S_Parameter(0x2e); //VRN5[5:0]

LCD_NV3029S_CMD(0xB6);

```

```
LCD_NV3029S_Parameter(0x22);
LCD_NV3029S_Parameter(0x81);
LCD_NV3029S_Parameter(0x27);
LCD_NV3029S_Parameter(0x00);

LCD_NV3029S_CMD(0xEC);
LCD_NV3029S_Parameter(0x42);

LCD_NV3029S_CMD(0xED);
LCD_NV3029S_Parameter(0x42);
LCD_NV3029S_Parameter(0x24);

LCD_NV3029S_CMD(0xfd);
LCD_NV3029S_Parameter(0xfa);
LCD_NV3029S_Parameter(0xfb);

LCD_NV3029S_CMD(0x3A);
LCD_NV3029S_Parameter(0x65);

LCD_NV3029S_CMD(0x11);
Delay_ms(200);
LCD_NV3029S_CMD(0x29);

}
```

**14. BOE 1.54 IPS G4.5 Panel****14.1 BOE 1.54 IPS G4.5 Panel initial code**

```

void NV3029S_BOE154_Initial(void)
{
//VCI=2.8V
//-----RESET LCD Driver -----//
LCD_RESET=1;
Delay_ms(10);
LCD_RESET=0;
Delay_ms(200);
LCD_RESET=1;
Delay_ms(120);

LCD_NV3029S_CMD(0xfd);
LCD_NV3029S_Parameter(0x06);
LCD_NV3029S_Parameter(0x07);
LCD_NV3029S_CMD(0x60);
LCD_NV3029S_Parameter(0x14);
LCD_NV3029S_Parameter(0x08);
LCD_NV3029S_CMD(0xf0);
LCD_NV3029S_Parameter(0x18); //
LCD_NV3029S_CMD(0xB1);
LCD_NV3029S_Parameter(0x61);
LCD_NV3029S_Parameter(0x01);
LCD_NV3029S_CMD(0x62);
LCD_NV3029S_Parameter(0x87);
LCD_NV3029S_Parameter(0x55);
LCD_NV3029S_Parameter(0x01);
LCD_NV3029S_CMD(0x63);
LCD_NV3029S_Parameter(0xa9);
LCD_NV3029S_CMD(0x64);
LCD_NV3029S_Parameter(0x19);
LCD_NV3029S_Parameter(0x32);
LCD_NV3029S_CMD(0x65);
LCD_NV3029S_Parameter(0x9b);
LCD_NV3029S_CMD(0x67);
LCD_NV3029S_Parameter(0x33);
LCD_NV3029S_CMD(0x68); //VCOM
LCD_NV3029S_Parameter(0x30); //vmf
LCD_NV3029S_Parameter(0x3A); //vmp
LCD_NV3029S_Parameter(0x0a); //VRH
LCD_NV3029S_Parameter(0x0a); //VRH2
LCD_NV3029S_CMD(0x69);
LCD_NV3029S_Parameter(0x00);
LCD_NV3029S_Parameter(0x50);
LCD_NV3029S_Parameter(0x40);

LCD_NV3029S_CMD(0xf3);
LCD_NV3029S_Parameter(0x06); //thrb[5:0]
LCD_NV3029S_Parameter(0x04); //thg[5:0]
LCD_NV3029S_CMD(0xf6);
LCD_NV3029S_Parameter(0x09);
LCD_NV3029S_Parameter(0x10);
LCD_NV3029S_Parameter(0x80); //80--spi_2wire_mode,00
LCD_NV3029S_CMD(0xf7);

```

```
LCD_NV3029S_Parameter(0x03);

LCD_NV3029S_CMD(0xE0);
LCD_NV3029S_Parameter(0x0C);//PKP0[4:0]
LCD_NV3029S_Parameter(0x16);//PKP1[4:0]
LCD_NV3029S_Parameter(0x12);//PKP2[4:0]
LCD_NV3029S_Parameter(0x1A);//PKP3[4:0]
LCD_NV3029S_Parameter(0x20);//PKP4[4:0]
LCD_NV3029S_Parameter(0x0d);//PKP5[4:0]
LCD_NV3029S_Parameter(0x13);//PKP6[4:0]
LCD_NV3029S_CMD(0xE3);
LCD_NV3029S_Parameter(0x0C);//PKN0[4:0]
LCD_NV3029S_Parameter(0x16);//PKN1[4:0]
LCD_NV3029S_Parameter(0x09);//PKN2[4:0]
LCD_NV3029S_Parameter(0x16);//PKN3[4:0]
LCD_NV3029S_Parameter(0x10);//PKN4[4:0]
LCD_NV3029S_Parameter(0x18);//PKN5[4:0]
LCD_NV3029S_Parameter(0x12);//PKN6[4:0]
LCD_NV3029S_CMD(0xE1);
LCD_NV3029S_Parameter(0x20);//PRP0[6:0]
LCD_NV3029S_Parameter(0x77);//PRP1[6:0]
LCD_NV3029S_CMD(0xE4);
LCD_NV3029S_Parameter(0x20);//PRN0[6:0]
LCD_NV3029S_Parameter(0x73);//PRN1[6:0]
LCD_NV3029S_CMD(0xE2);
LCD_NV3029S_Parameter(0x00);//VRP0[5:0]
LCD_NV3029S_Parameter(0x23);//VRP1[5:0]
LCD_NV3029S_Parameter(0x21);//VRP2[5:0]
LCD_NV3029S_Parameter(0x29);//VRP3[5:0]
LCD_NV3029S_Parameter(0x1e);//VRP4[5:0]
LCD_NV3029S_Parameter(0x28);//VRP5[5:0]
LCD_NV3029S_CMD(0xE5);
LCD_NV3029S_Parameter(0x00);//VRN0[5:0]
LCD_NV3029S_Parameter(0x24);//VRN1[5:0]
LCD_NV3029S_Parameter(0x22);//VRN2[5:0]
LCD_NV3029S_Parameter(0x2a);//VRN3[5:0]
LCD_NV3029S_Parameter(0x1e);//VRN4[5:0]
LCD_NV3029S_Parameter(0x28);//VRN5[5:0]

LCD_NV3029S_CMD(0xB6);
LCD_NV3029S_Parameter(0x22);
LCD_NV3029S_Parameter(0x81);
LCD_NV3029S_Parameter(0x27);
LCD_NV3029S_Parameter(0x00);
LCD_NV3029S_CMD(0xEC);
LCD_NV3029S_Parameter(0x42);
LCD_NV3029S_CMD(0xED);
LCD_NV3029S_Parameter(0x42);
LCD_NV3029S_Parameter(0x24);
LCD_NV3029S_CMD(0xfd);
LCD_NV3029S_Parameter(0xfa);
LCD_NV3029S_Parameter(0xfb);
LCD_NV3029S_CMD(0x3A);
LCD_NV3029S_Parameter(0x65);
LCD_NV3029S_CMD(0x11);
Delay_ms(200);
LCD_NV3029S_CMD(0x29);
```

---

 }

## 15. HSD2.4 IPS Panel

### 15.1 HSD2.4 IPS Panel initial code

```

void NV3029S_HSD24_Initial(void)
{
//VCI=2.8V
//-----RESET LCD Driver -----//
LCD_RESET=1;
Delay_ms(10);
LCD_RESET=0;
Delay_ms(200);
LCD_RESET=1;
Delay_ms(120);

LCD_NV3029S_CMD(0xfd);
LCD_NV3029S_Parameter(0x06);
LCD_NV3029S_Parameter(0x07);
LCD_NV3029S_CMD(0x60);
LCD_NV3029S_Parameter(0x14);
LCD_NV3029S_Parameter(0x08);
LCD_NV3029S_CMD(0xf0);
LCD_NV3029S_Parameter(0x18); //
LCD_NV3029S_CMD(0xB1);
LCD_NV3029S_Parameter(0x61);
LCD_NV3029S_Parameter(0x01);
LCD_NV3029S_CMD(0x62);
LCD_NV3029S_Parameter(0x87);
LCD_NV3029S_Parameter(0x55);
LCD_NV3029S_Parameter(0x01);
LCD_NV3029S_CMD(0x63);
LCD_NV3029S_Parameter(0xa9);
LCD_NV3029S_CMD(0x64);
LCD_NV3029S_Parameter(0x19);
LCD_NV3029S_Parameter(0x32);
LCD_NV3029S_CMD(0x65);
LCD_NV3029S_Parameter(0x9b);
LCD_NV3029S_CMD(0x67);
LCD_NV3029S_Parameter(0x33);
LCD_NV3029S_CMD(0x68); //vcom
LCD_NV3029S_Parameter(0x06);
LCD_NV3029S_Parameter(0x0c);
LCD_NV3029S_Parameter(0x10); //vrh
LCD_NV3029S_Parameter(0x10); //vrh2
LCD_NV3029S_CMD(0x69);
LCD_NV3029S_Parameter(0x00);
LCD_NV3029S_Parameter(0x50);
LCD_NV3029S_Parameter(0x40);

LCD_NV3029S_CMD(0xf3);
LCD_NV3029S_Parameter(0x06); //thrb[5:0]
LCD_NV3029S_Parameter(0x04); //thg[5:0]
LCD_NV3029S_CMD(0xf6);
LCD_NV3029S_Parameter(0x09);
LCD_NV3029S_Parameter(0x10);

```

```
LCD_NV3029S_Parameter(0x00);//80--spi_2wire_mode,00
LCD_NV3029S_CMD(0xf7);
LCD_NV3029S_Parameter(0x03);
```

```
//-----hsd-2.4ips_NV3029S_GAMMA2.2-----
```

```
LCD_NV3029S_CMD(0xE0);
LCD_NV3029S_Parameter(0x0c);//
LCD_NV3029S_Parameter(0x16);//
LCD_NV3029S_Parameter(0x09);//
LCD_NV3029S_Parameter(0x15);//
LCD_NV3029S_Parameter(0x06);//
LCD_NV3029S_Parameter(0x12);//
LCD_NV3029S_Parameter(0x0f);//
LCD_NV3029S_CMD(0xE3);
LCD_NV3029S_Parameter(0x0b);//
LCD_NV3029S_Parameter(0x16);//
LCD_NV3029S_Parameter(0x0f);//
LCD_NV3029S_Parameter(0x16);//
LCD_NV3029S_Parameter(0x09);//
LCD_NV3029S_Parameter(0x12);//
LCD_NV3029S_Parameter(0x11);//
LCD_NV3029S_CMD(0xE1);
LCD_NV3029S_Parameter(0x0c);//
LCD_NV3029S_Parameter(0x65);//
LCD_NV3029S_CMD(0xE4);
LCD_NV3029S_Parameter(0x11);//
LCD_NV3029S_Parameter(0x64);//
LCD_NV3029S_CMD(0xE2);
LCD_NV3029S_Parameter(0x00);//
LCD_NV3029S_Parameter(0x19);//
LCD_NV3029S_Parameter(0x14);//
LCD_NV3029S_Parameter(0x1F);//
LCD_NV3029S_Parameter(0x1C);//
LCD_NV3029S_Parameter(0x23);//
LCD_NV3029S_CMD(0xE5);
LCD_NV3029S_Parameter(0x00);//
LCD_NV3029S_Parameter(0x19);//
LCD_NV3029S_Parameter(0x14);//
LCD_NV3029S_Parameter(0x20);//
LCD_NV3029S_Parameter(0x1D);//
LCD_NV3029S_Parameter(0x22);//
```

```
LCD_NV3029S_CMD(0xB6);
LCD_NV3029S_Parameter(0x22);
LCD_NV3029S_Parameter(0x81);
LCD_NV3029S_Parameter(0x27);
LCD_NV3029S_Parameter(0x00);
LCD_NV3029S_CMD(0xEC);
LCD_NV3029S_Parameter(0x42);
LCD_NV3029S_CMD(0xED);
LCD_NV3029S_Parameter(0x42);
LCD_NV3029S_Parameter(0x64);
LCD_NV3029S_CMD(0xfd);
LCD_NV3029S_Parameter(0xfa);
LCD_NV3029S_Parameter(0xfb);
LCD_NV3029S_CMD(0x36);
LCD_NV3029S_Parameter(0x00);
```

```

LCD_NV3029S_CMD(0x3A);
LCD_NV3029S_Parameter(0x65);
LCD_NV3029S_CMD(0x11);
Delay_ms(200);
LCD_NV3029S_CMD(0x29);
}

```

## 16. GP 1.54 Panel

### 16.1 GP 1.54 Panel initial code

```

void NV3029S_GP1.54_Initial(void)
{
//VCI=2.8V
//-----RESET LCD Driver -----//
LCD_RESET=1;
Delay_ms(10);
LCD_RESET=0;
Delay_ms(200);
LCD_RESET=1;
Delay_ms(120);

//gamma2.2
LCD_NV3029S_CMD(0xfd);
LCD_NV3029S_Parameter(0x06);
LCD_NV3029S_Parameter(0x07);

LCD_NV3029S_CMD(0x60);
LCD_NV3029S_Parameter(0x14);
LCD_NV3029S_Parameter(0x08);

LCD_NV3029S_CMD(0xf0);
LCD_NV3029S_Parameter(0x18); /

LCD_NV3029S_CMD(0xf0);
LCD_NV3029S_Parameter(0x18); //
LCD_NV3029S_CMD(0xB1);
LCD_NV3029S_Parameter(0x61);
LCD_NV3029S_Parameter(0x01);

LCD_NV3029S_CMD(0x62);
LCD_NV3029S_Parameter(0x87);

LCD_NV3029S_CMD(0x63);
LCD_NV3029S_Parameter(0xa9);

LCD_NV3029S_CMD(0x64);
LCD_NV3029S_Parameter(0x19);
LCD_NV3029S_Parameter(0x32);

LCD_NV3029S_CMD(0x65);
LCD_NV3029S_Parameter(0x9b);

LCD_NV3029S_CMD(0x67);
LCD_NV3029S_Parameter(0x33);

LCD_NV3029S_CMD(0x68);

```

```

LCD_NV3029S_Parameter(0x04);
LCD_NV3029S_Parameter(0x10);
LCD_NV3029S_Parameter(0x10);
LCD_NV3029S_Parameter(0x10);

LCD_NV3029S_CMD(0x69);
LCD_NV3029S_Parameter(0x00);
LCD_NV3029S_Parameter(0x40);
LCD_NV3029S_Parameter(0x50);

LCD_NV3029S_CMD(0xf3);
LCD_NV3029S_Parameter(0x06); //thrb[5:0]
LCD_NV3029S_Parameter(0x04); //thg[5:0]

LCD_NV3029S_CMD(0xf6);
LCD_NV3029S_Parameter(0x09);
LCD_NV3029S_Parameter(0x10);
LCD_NV3029S_Parameter(0x80); //80--spi_2wire_mode,00

LCD_NV3029S_CMD(0xf7);
LCD_NV3029S_Parameter(0x03);

//////////NV3029S2V GAMMA//////////
LCD_NV3029S_CMD(0xE0);
LCD_NV3029S_Parameter(0x0e); //PKP0[4:0] V3
LCD_NV3029S_Parameter(0x18); //PKP1[4:0] V4
LCD_NV3029S_Parameter(0x11); //PKP2[4:0] V10
LCD_NV3029S_Parameter(0x1d); //PKP3[4:0] V21
LCD_NV3029S_Parameter(0x09); //PKP4[4:0] V27
LCD_NV3029S_Parameter(0x14); //PKP5[4:0] V28
LCD_NV3029S_Parameter(0x17); //PKP6[4:0] V15
LCD_NV3029S_CMD(0xE3);
LCD_NV3029S_Parameter(0x0e); //PKN0[4:0] V3
LCD_NV3029S_Parameter(0x17); //PKN1[4:0] V4
LCD_NV3029S_Parameter(0x11); //PKN2[4:0] V10
LCD_NV3029S_Parameter(0x19); //PKN3[4:0] V21
LCD_NV3029S_Parameter(0x08); //PKN4[4:0] V27
LCD_NV3029S_Parameter(0x15); //PKN5[4:0] V28
LCD_NV3029S_Parameter(0x15); //PKN6[4:0] V15

LCD_NV3029S_CMD(0xE1);
LCD_NV3029S_Parameter(0x1c); //PRP0[6:0] V5
LCD_NV3029S_Parameter(0x5e); //PRP1[6:0] V26
LCD_NV3029S_CMD(0xE4);
LCD_NV3029S_Parameter(0x1c); //PRN0[6:0] V5
LCD_NV3029S_Parameter(0x5b); //PRN1[6:0] V26

LCD_NV3029S_CMD(0xE2);
LCD_NV3029S_Parameter(0x00); //VRP0[5:0] V0
LCD_NV3029S_Parameter(0x14); //VRP1[5:0] V1
LCD_NV3029S_Parameter(0x1b); //VRP2[5:0] V2
LCD_NV3029S_Parameter(0x12); //VRP3[5:0] V29
LCD_NV3029S_Parameter(0x0c); //VRP4[5:0] V30
LCD_NV3029S_Parameter(0x10); //VRP5[5:0] V31
LCD_NV3029S_CMD(0xE5);
LCD_NV3029S_Parameter(0x00); //VRN0[5:0] V0
LCD_NV3029S_Parameter(0x16); //VRN1[5:0] V1

```



```
LCD_NV3029S_Parameter(0x1c);//VRN2[5:0] V2
LCD_NV3029S_Parameter(0x16);//VRN3[5:0] V29
LCD_NV3029S_Parameter(0x0e);//VRN4[5:0] V30
LCD_NV3029S_Parameter(0x13);//VRN5[5:0] V31
```

```
LCD_NV3029S_CMD(0xEC);
LCD_NV3029S_Parameter(0xf6);
LCD_NV3029S_CMD(0xED);
LCD_NV3029S_Parameter(0x02);
LCD_NV3029S_Parameter(0x94);
```

```
LCD_NV3029S_CMD(0xfd);
LCD_NV3029S_Parameter(0xfa);
LCD_NV3029S_Parameter(0xfb);
```

```
LCD_NV3029S_CMD(0x35);
LCD_NV3029S_Parameter(0x00);
```

```
LCD_NV3029S_CMD(0x36);
LCD_NV3029S_Parameter(0x00);
```

```
LCD_NV3029S_CMD(0x3A); // 16/18 bits
LCD_NV3029S_Parameter(0x65);
```

```
LCD_NV3029S_CMD(0x11); // exit sleep
Delay_ms(200);
LCD_NV3029S_CMD(0x29); // display on
```

```
/*
//gamma2.5
```

```
LCD_NV3029S_CMD(0xfd);
LCD_NV3029S_Parameter(0x06);
LCD_NV3029S_Parameter(0x07);
```

```
LCD_NV3029S_CMD(0x60);
LCD_NV3029S_Parameter(0x14);
LCD_NV3029S_Parameter(0x08);
```

```
LCD_NV3029S_CMD(0xf0);
LCD_NV3029S_Parameter(0x18); //
```

```
LCD_NV3029S_CMD(0xB1);
LCD_NV3029S_Parameter(0x61);
LCD_NV3029S_Parameter(0x01);
```

```
LCD_NV3029S_CMD(0x62);
LCD_NV3029S_Parameter(0x87);
```

```
LCD_NV3029S_CMD(0x63);
LCD_NV3029S_Parameter(0xa9);
```

```
LCD_NV3029S_CMD(0x64);
LCD_NV3029S_Parameter(0x19);
```

```

LCD_NV3029S_Parameter(0x32);

LCD_NV3029S_CMD(0x65);
LCD_NV3029S_Parameter(0x9b);

LCD_NV3029S_CMD(0x67);
LCD_NV3029S_Parameter(0x33);

LCD_NV3029S_CMD(0x68);
LCD_NV3029S_Parameter(0x04);
LCD_NV3029S_Parameter(0x10);
LCD_NV3029S_Parameter(0x10);//
LCD_NV3029S_Parameter(0x10);//

LCD_NV3029S_CMD(0x69);
LCD_NV3029S_Parameter(0x00);
LCD_NV3029S_Parameter(0x40);
LCD_NV3029S_Parameter(0x50);

LCD_NV3029S_CMD(0xf3);
LCD_NV3029S_Parameter(0x06); //thrb[5:0]
LCD_NV3029S_Parameter(0x04); //thg[5:0]

LCD_NV3029S_CMD(0xf6);
LCD_NV3029S_Parameter(0x09);
LCD_NV3029S_Parameter(0x10);
LCD_NV3029S_Parameter(0x80); //80--spi_2wire_mode,00

LCD_NV3029S_CMD(0xf7);
LCD_NV3029S_Parameter(0x03);

//////////NV3029S2V GAMMA//////////
LCD_NV3029S_CMD(0xE0);
LCD_NV3029S_Parameter(0x0e); //PKP0[4:0] V3
LCD_NV3029S_Parameter(0x17); //PKP1[4:0] V4
LCD_NV3029S_Parameter(0x0d); //PKP2[4:0] V10
LCD_NV3029S_Parameter(0x1B); //PKP3[4:0] V21
LCD_NV3029S_Parameter(0x07); //PKP4[4:0] V27
LCD_NV3029S_Parameter(0x11); //PKP5[4:0] V28
LCD_NV3029S_Parameter(0x14); //PKP6[4:0] V15 //
LCD_NV3029S_CMD(0xE3);
LCD_NV3029S_Parameter(0x0e); //PKN0[4:0] V3
LCD_NV3029S_Parameter(0x17); //PKN1[4:0] V4
LCD_NV3029S_Parameter(0x0d); //PKN2[4:0] V10
LCD_NV3029S_Parameter(0x1A); //PKN3[4:0] V21
LCD_NV3029S_Parameter(0x07); //PKN4[4:0] V27
LCD_NV3029S_Parameter(0x11); //PKN5[4:0] V28
LCD_NV3029S_Parameter(0x14); //PKN6[4:0] V15 //

LCD_NV3029S_CMD(0xE1);
LCD_NV3029S_Parameter(0x17); //PRP0[6:0] V5
LCD_NV3029S_Parameter(0x5c); //PRP1[6:0] V26
LCD_NV3029S_CMD(0xE4);
LCD_NV3029S_Parameter(0x17); //PRN0[6:0] V5
LCD_NV3029S_Parameter(0x5c); //PRN1[6:0] V26

LCD_NV3029S_CMD(0xE2);

```

```
LCD_NV3029S_Parameter(0x00);//VRP0[5:0] V0
LCD_NV3029S_Parameter(0x12);//VRP1[5:0] V1
LCD_NV3029S_Parameter(0x16);//VRP2[5:0] V2
LCD_NV3029S_Parameter(0x17);//VRP3[5:0] V29
LCD_NV3029S_Parameter(0x0f);//VRP4[5:0] V30
LCD_NV3029S_Parameter(0x10);//VRP5[5:0] V31
LCD_NV3029S_CMD(0xE5);
LCD_NV3029S_Parameter(0x00);//VRN0[5:0] V0
LCD_NV3029S_Parameter(0x12);//VRN1[5:0] V1
LCD_NV3029S_Parameter(0x17);//VRN2[5:0] V2
LCD_NV3029S_Parameter(0x17);//VRN3[5:0] V29
LCD_NV3029S_Parameter(0x10);//VRN4[5:0] V30
LCD_NV3029S_Parameter(0x13);//VRN5[5:0] V31
```

```
LCD_NV3029S_CMD(0xEC);
LCD_NV3029S_Parameter(0xf6);
LCD_NV3029S_CMD(0xED);
LCD_NV3029S_Parameter(0x02);
LCD_NV3029S_Parameter(0x94);
```

```
LCD_NV3029S_CMD(0xfd);
LCD_NV3029S_Parameter(0xfa);
LCD_NV3029S_Parameter(0xfb);
```

```
LCD_NV3029S_CMD(0x35);
LCD_NV3029S_Parameter(0x00);
```

```
LCD_NV3029S_CMD(0x36);
LCD_NV3029S_Parameter(0x00);
```

```
LCD_NV3029S_CMD(0x3A); // 16/18 bits
LCD_NV3029S_Parameter(0x65);
```

```
LCD_NV3029S_CMD(0x11); // exit sleep
Delay_ms(200);
LCD_NV3029S_CMD(0x29); // display on}
}
```

**17. BOE2.8 Panel****17.1 BOE2.8 Panel initial code**

```
void NV3029S_boe28_Initial(void)
{
//VCI=2.8V
//-----RESET LCD Driver -----//
LCD_RESET=1;
Delay_ms(10);
LCD_RESET=0;
Delay_ms(200);
LCD_RESET=1;
Delay_ms(120);

LCD_NV3029S_CMD(0xfd);
LCD_NV3029S_Parameter(0x06);
LCD_NV3029S_Parameter(0x07);

LCD_NV3029S_CMD(0x60);
LCD_NV3029S_Parameter(0x14);
LCD_NV3029S_Parameter(0x08);

LCD_NV3029S_CMD(0xF0);
LCD_NV3029S_Parameter(0x18);

LCD_NV3029S_CMD(0xB1);
LCD_NV3029S_Parameter(0x61);
LCD_NV3029S_Parameter(0x01);

LCD_NV3029S_CMD(0x62);
LCD_NV3029S_Parameter(0x87);

LCD_NV3029S_CMD(0x63);
LCD_NV3029S_Parameter(0xa9);

LCD_NV3029S_CMD(0x64);
LCD_NV3029S_Parameter(0x19);
LCD_NV3029S_Parameter(0x32);

LCD_NV3029S_CMD(0x65);
LCD_NV3029S_Parameter(0x9b);

LCD_NV3029S_CMD(0x67);
LCD_NV3029S_Parameter(0x33);

LCD_NV3029S_CMD(0x68);
LCD_NV3029S_Parameter(0x04);
LCD_NV3029S_Parameter(0x1B);
LCD_NV3029S_Parameter(0x0a);//
LCD_NV3029S_Parameter(0x10);//

LCD_NV3029S_CMD(0x69);
LCD_NV3029S_Parameter(0x00);
LCD_NV3029S_Parameter(0x40);
LCD_NV3029S_Parameter(0x50);

LCD_NV3029S_CMD(0xf3);
```

```

LCD_NV3029S_Parameter(0x06); //thrb[5:0]
LCD_NV3029S_Parameter(0x04); //thg[5:0]

LCD_NV3029S_CMD(0xf6);
LCD_NV3029S_Parameter(0x09);
LCD_NV3029S_Parameter(0x10);
LCD_NV3029S_Parameter(0x80); //80--spi_2wire_mode,00

LCD_NV3029S_CMD(0xf7);
LCD_NV3029S_Parameter(0x03);

//////////NV3029S2V GAMMA//////////
LCD_NV3029S_CMD(0xE0);
LCD_NV3029S_Parameter(0x2E); //PKP0[4:0] V3
LCD_NV3029S_Parameter(0x39); //PKP1[4:0] V4
LCD_NV3029S_Parameter(0x12); //PKP2[4:0] V10
LCD_NV3029S_Parameter(0x1D); //PKP3[4:0] V21
LCD_NV3029S_Parameter(0x11); //PKP4[4:0] V27
LCD_NV3029S_Parameter(0x18); //PKP5[4:0] V28
LCD_NV3029S_Parameter(0x17); //PKP6[4:0] V15
LCD_NV3029S_CMD(0xE3);
LCD_NV3029S_Parameter(0x10); //PKN0[4:0] V3
LCD_NV3029S_Parameter(0x19); //PKN1[4:0] V4
LCD_NV3029S_Parameter(0x0A); //PKN2[4:0] V10
LCD_NV3029S_Parameter(0x19); //PKN3[4:0] V21
LCD_NV3029S_Parameter(0x06); //PKN4[4:0] V27
LCD_NV3029S_Parameter(0x11); //PKN5[4:0] V28
LCD_NV3029S_Parameter(0x11); //PKN6[4:0] V15

LCD_NV3029S_CMD(0xE1);
LCD_NV3029S_Parameter(0x20); //PRP0[6:0] V5
LCD_NV3029S_Parameter(0x71); //PRP1[6:0] V26
LCD_NV3029S_CMD(0xE4);
LCD_NV3029S_Parameter(0x15); //PRN0[6:0] V5
LCD_NV3029S_Parameter(0x4D); //PRN1[6:0] V26

LCD_NV3029S_CMD(0xE2);
LCD_NV3029S_Parameter(0x08); //VRP0[5:0] V0
LCD_NV3029S_Parameter(0x1C); //VRP1[5:0] V1
LCD_NV3029S_Parameter(0x19); //VRP2[5:0] V2
LCD_NV3029S_Parameter(0x1C); //VRP3[5:0] V29
LCD_NV3029S_Parameter(0x13); //VRP4[5:0] V30
LCD_NV3029S_Parameter(0x13); //VRP5[5:0] V31
LCD_NV3029S_CMD(0xE5);
LCD_NV3029S_Parameter(0x04); //VRN0[5:0] V0
LCD_NV3029S_Parameter(0x10); //VRN1[5:0] V1
LCD_NV3029S_Parameter(0x12); //VRN2[5:0] V2
LCD_NV3029S_Parameter(0x0F); //VRN3[5:0] V29
LCD_NV3029S_Parameter(0x09); //VRN4[5:0] V30
LCD_NV3029S_Parameter(0x0F); //VRN5[5:0] V31

LCD_NV3029S_CMD(0xEC);
LCD_NV3029S_Parameter(0xf6);
LCD_NV3029S_CMD(0xED);
LCD_NV3029S_Parameter(0x02);
LCD_NV3029S_Parameter(0x44);

```

```

LCD_NV3029S_CMD(0xfd);
LCD_NV3029S_Parameter(0xfa);
LCD_NV3029S_Parameter(0xfb);

LCD_NV3029S_CMD(0x35);
LCD_NV3029S_Parameter(0x00);

LCD_NV3029S_CMD(0x36);
LCD_NV3029S_Parameter(0x00);

LCD_NV3029S_CMD(0x3A);      // 16/18 bits
LCD_NV3029S_Parameter(0x65);

LCD_NV3029S_CMD(0x11); // exit sleep
Delay_ms(200);
LCD_NV3029S_CMD(0x29); // display on

}

```

## 18. BOE1.44 Panel

### 18.1 BOE1.44 Panel initial code

```

void NV3029S_boe144_Initial(void)
{
//VCI=2.8V
//-----RESET LCD Driver -----//
LCD_RESET=1;
Delay_ms(10);
LCD_RESET=0;
Delay_ms(200);
LCD_RESET=1;
Delay_ms(120);

LCD_NV3029S_CMD(0xfd);
LCD_NV3029S_Parameter(0x06);
LCD_NV3029S_Parameter(0x07);
LCD_NV3029S_CMD(0x60);
LCD_NV3029S_Parameter(0x14);
LCD_NV3029S_Parameter(0x08);

LCD_NV3029S_CMD(0xf0);
LCD_NV3029S_Parameter(0x18);

LCD_NV3029S_CMD(0xB1);
LCD_NV3029S_Parameter(0x61);
LCD_NV3029S_Parameter(0x01);

LCD_NV3029S_CMD(0x62);
LCD_NV3029S_Parameter(0x87);
LCD_NV3029S_CMD(0x63);
LCD_NV3029S_Parameter(0xa9);
LCD_NV3029S_CMD(0x64);
LCD_NV3029S_Parameter(0x19);
LCD_NV3029S_Parameter(0x32);
LCD_NV3029S_CMD(0x65);

```

```

LCD_NV3029S_Parameter(0x9b);
LCD_NV3029S_CMD(0x67);
LCD_NV3029S_Parameter(0x33);
LCD_NV3029S_CMD(0x68);
LCD_NV3029S_Parameter(0x04);
LCD_NV3029S_Parameter(0x19);
LCD_NV3029S_Parameter(0x12);//
LCD_NV3029S_Parameter(0x12);//

LCD_NV3029S_CMD(0xf3);
LCD_NV3029S_Parameter(0x06); //thrb[5:0]
LCD_NV3029S_Parameter(0x04); //thg[5:0]

LCD_NV3029S_CMD(0xf6);
LCD_NV3029S_Parameter(0x09);
LCD_NV3029S_Parameter(0x10);
LCD_NV3029S_Parameter(0x00);//80--spi_2wire_mode,00
LCD_NV3029S_CMD(0xf7);
LCD_NV3029S_Parameter(0x03);
//////////NV3029S2V GAMMA//////////
LCD_NV3029S_CMD(0xE0);
LCD_NV3029S_Parameter(0x2e);//PKP0[4:0]V3
LCD_NV3029S_Parameter(0x38);//PKP1[4:0]V4
LCD_NV3029S_Parameter(0x16);//PKP2[4:0]V10
LCD_NV3029S_Parameter(0x1f);//PKP3[4:0]V21
LCD_NV3029S_Parameter(0x0c);//PKP4[4:0]V27
LCD_NV3029S_Parameter(0x17);//PKP5[4:0]V28
LCD_NV3029S_Parameter(0x1b);//PKP6[4:0]V15
LCD_NV3029S_CMD(0xE3);
LCD_NV3029S_Parameter(0x10);//PKN0[4:0]V3
LCD_NV3029S_Parameter(0x18);//PKN1[4:0]V4
LCD_NV3029S_Parameter(0x0d);//PKN2[4:0]V10
LCD_NV3029S_Parameter(0x17);//PKN3[4:0]V21
LCD_NV3029S_Parameter(0x05);//PKN4[4:0]V27
LCD_NV3029S_Parameter(0x0f);//PKN5[4:0]V28
LCD_NV3029S_Parameter(0x13);//PKN6[4:0]V15
LCD_NV3029S_CMD(0xE1);
LCD_NV3029S_Parameter(0x3d);//PRP0[6:0]V5
LCD_NV3029S_Parameter(0x6c);//PRP1[6:0]V26
LCD_NV3029S_CMD(0xE4);
LCD_NV3029S_Parameter(0x1b);//PRN0[6:0]V5
LCD_NV3029S_Parameter(0x5a);//PRN1[6:0]V26
LCD_NV3029S_CMD(0xE2);
LCD_NV3029S_Parameter(0x08);//VRP0[5:0]V0
LCD_NV3029S_Parameter(0x2b);//VRP1[5:0]V1
LCD_NV3029S_Parameter(0x2e);//VRP2[5:0]V2
LCD_NV3029S_Parameter(0x1c);//VRP3[5:0]V29
LCD_NV3029S_Parameter(0x16);//VRP4[5:0]V30
LCD_NV3029S_Parameter(0x1d);//VRP5[5:0]V31
LCD_NV3029S_CMD(0xE5);
LCD_NV3029S_Parameter(0x04);//VRN0[5:0]V0
LCD_NV3029S_Parameter(0x24);//VRN1[5:0]V1
LCD_NV3029S_Parameter(0x21);//VRN2[5:0]V2
LCD_NV3029S_Parameter(0x11);//VRN3[5:0]V29
LCD_NV3029S_Parameter(0x09);//VRN4[5:0]V30
LCD_NV3029S_Parameter(0x10);//VRN5[5:0]V31
LCD_NV3029S_CMD(0xEC);

```

```

LCD_NV3029S_Parameter(0xf6);
LCD_NV3029S_CMD(0xED);
LCD_NV3029S_Parameter(0x02);
LCD_NV3029S_Parameter(0x94);
LCD_NV3029S_CMD(0xfd);
LCD_NV3029S_Parameter(0xfa);

LCD_NV3029S_Parameter(0xfb);

LCD_NV3029S_CMD(0x35);
LCD_NV3029S_Parameter(0x00);

LCD_NV3029S_CMD(0x36);
LCD_NV3029S_Parameter(0x00);

LCD_NV3029S_CMD(0x3A);      // 16/18 bits
LCD_NV3029S_Parameter(0x65);

LCD_NV3029S_CMD(0x11); // exit sleep
Delay_ms(200);
LCD_NV3029S_CMD(0x29); // display on

}

```

## 19. BOE1.54 IPS G6 Panel

### 19.1 BOE1.54 IPS G6Panel initial code

```

void NV3029S_boe154_Initial(void)
{
//VCI=2.8V
//-----RESET LCD Driver -----//
LCD_RESET=1;
Delay_ms(10);
LCD_RESET=0;
Delay_ms(200);
LCD_RESET=1;
Delay_ms(120);

LCD_NV3029S_CMD(0xfd);
LCD_NV3029S_Parameter(0x06);
LCD_NV3029S_Parameter(0x07);

LCD_NV3029S_CMD(0x60);
LCD_NV3029S_Parameter(0x14);
LCD_NV3029S_Parameter(0x08);

LCD_NV3029S_CMD(0xf0);
LCD_NV3029S_Parameter(0x18); //28,38--TE=96uS  08,18--TE=64uS

LCD_NV3029S_CMD(0xB1);
LCD_NV3029S_Parameter(0x61);
LCD_NV3029S_Parameter(0x01);

LCD_NV3029S_CMD(0x62);
LCD_NV3029S_Parameter(0x87);

```



```

LCD_NV3029S_CMD(0x63);
LCD_NV3029S_Parameter(0xa9);

LCD_NV3029S_CMD(0x64);
LCD_NV3029S_Parameter(0x19);
LCD_NV3029S_Parameter(0x32);

LCD_NV3029S_CMD(0x65);
LCD_NV3029S_Parameter(0x9b);

LCD_NV3029S_CMD(0x67);
LCD_NV3029S_Parameter(0x33);

LCD_NV3029S_CMD(0x68);
LCD_NV3029S_Parameter(0x04);
LCD_NV3029S_Parameter(0x10);
LCD_NV3029S_Parameter(0x10);
LCD_NV3029S_Parameter(0x10);

LCD_NV3029S_CMD(0x69);
LCD_NV3029S_Parameter(0x00);
LCD_NV3029S_Parameter(0x40);
LCD_NV3029S_Parameter(0x50);

LCD_NV3029S_CMD(0xf3);
LCD_NV3029S_Parameter(0x06); //thrb[5:0]
LCD_NV3029S_Parameter(0x04); //thg[5:0]

LCD_NV3029S_CMD(0xf6);
LCD_NV3029S_Parameter(0x09);
LCD_NV3029S_Parameter(0x10);
LCD_NV3029S_Parameter(0x80); //80--spi_2wire_mode,00

LCD_NV3029S_CMD(0xf7);
LCD_NV3029S_Parameter(0x03);

//////////NV3029S2V GAMMA//////////
LCD_NV3029S_CMD(0xE0);
LCD_NV3029S_Parameter(0x0d); //PKP0[4:0] v28
LCD_NV3029S_Parameter(0x18); //PKP1[4:0] v27
LCD_NV3029S_Parameter(0x10); //PKP2[4:0] v21
LCD_NV3029S_Parameter(0x1a); //PKP3[4:0] v10
LCD_NV3029S_Parameter(0x0e); //PKP4[4:0] v4
LCD_NV3029S_Parameter(0x13); //PKP5[4:0] v3
LCD_NV3029S_Parameter(0x13); //PKP6[4:0] v15
LCD_NV3029S_CMD(0xE3);
LCD_NV3029S_Parameter(0x08); //PKN0[4:0] v28
LCD_NV3029S_Parameter(0x12); //PKN1[4:0] v27
LCD_NV3029S_Parameter(0x0b); //PKN2[4:0] v21
LCD_NV3029S_Parameter(0x14); //PKN3[4:0] v10
LCD_NV3029S_Parameter(0x04); //PKN4[4:0] v4
LCD_NV3029S_Parameter(0x11); //PKN5[4:0] v3
LCD_NV3029S_Parameter(0x10); //PKN6[4:0] v15
LCD_NV3029S_CMD(0xE1);
LCD_NV3029S_Parameter(0x18); //PRP0[6:0] v26
LCD_NV3029S_Parameter(0x6f); //PRP1[6:0] v5
LCD_NV3029S_CMD(0xE4);

```

```

LCD_NV3029S_Parameter(0x0f);//PRN0[6:0]    v26
LCD_NV3029S_Parameter(0x66);//PRN1[6:0]    v5
LCD_NV3029S_CMD(0xE2);
LCD_NV3029S_Parameter(0x0c);//VRP0[5:0]    v31
LCD_NV3029S_Parameter(0x1e);//VRP1[5:0]    v30
LCD_NV3029S_Parameter(0x17);//VRP2[5:0]    v29
LCD_NV3029S_Parameter(0x21);//VRP3[5:0]    v2
LCD_NV3029S_Parameter(0x1a);//VRP4[5:0]    v1
LCD_NV3029S_Parameter(0x24);//VRP5[5:0]    v0
LCD_NV3029S_CMD(0xE5);
LCD_NV3029S_Parameter(0x08);//VRN0[5:0]    v31
LCD_NV3029S_Parameter(0x1f);//VRN1[5:0]    v30
LCD_NV3029S_Parameter(0x1a);//VRN2[5:0]    v29
LCD_NV3029S_Parameter(0x23);//VRN3[5:0]    v2
LCD_NV3029S_Parameter(0x1e);//VRN4[5:0]    v1
LCD_NV3029S_Parameter(0x20);//VRN5[5:0]    v0

```

```

LCD_NV3029S_CMD(0xB6);
LCD_NV3029S_Parameter(0x22);
LCD_NV3029S_Parameter(0x81);
LCD_NV3029S_Parameter(0x27);
LCD_NV3029S_Parameter(0x00);

```

```

LCD_NV3029S_CMD(0xEC);
LCD_NV3029S_Parameter(0xf6);
LCD_NV3029S_CMD(0xED);
LCD_NV3029S_Parameter(0x02);
LCD_NV3029S_Parameter(0x94);

```

```

LCD_NV3029S_CMD(0xfd);
LCD_NV3029S_Parameter(0xfa);
LCD_NV3029S_Parameter(0xfb);

```

```

LCD_NV3029S_CMD(0x35);
LCD_NV3029S_Parameter(0x00);

```

```

LCD_NV3029S_CMD(0x36);
LCD_NV3029S_Parameter(0x00);

```

```

LCD_NV3029S_CMD(0x3A);    // 16/18 bits
LCD_NV3029S_Parameter(0x65);

```

```

LCD_NV3029S_CMD(0x11); // exit sleep
Delay_ms(200);
LCD_NV3029S_CMD(0x29); // display on
}

```