

**a-Si TFT LCD Single Chip Driver with
240RGBx432 Resolution and 262K color**

Application Notes

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ILI TECHNOLOGY CORP.

4F, No. 2, Tech. 5th Rd., Hsinchu Science Park,
Taiwan 300, R.O.C.

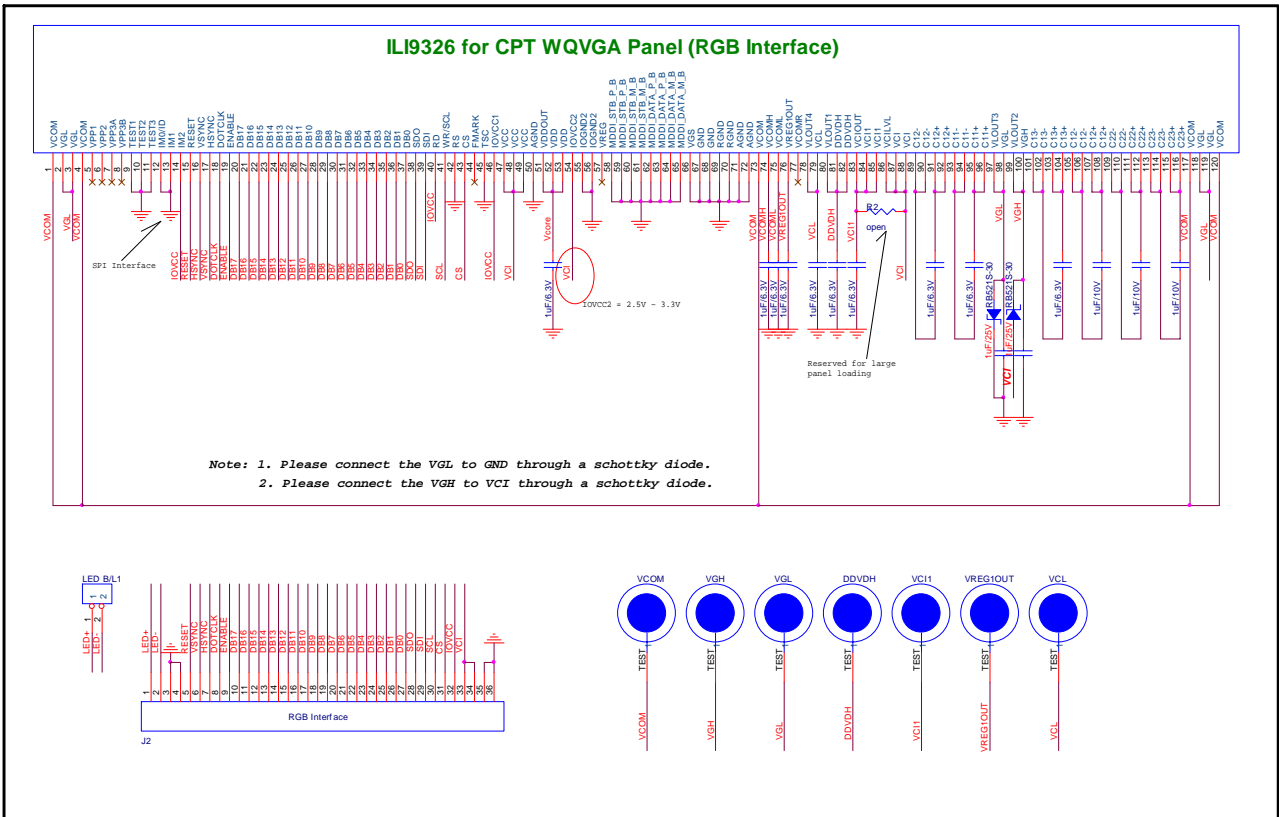
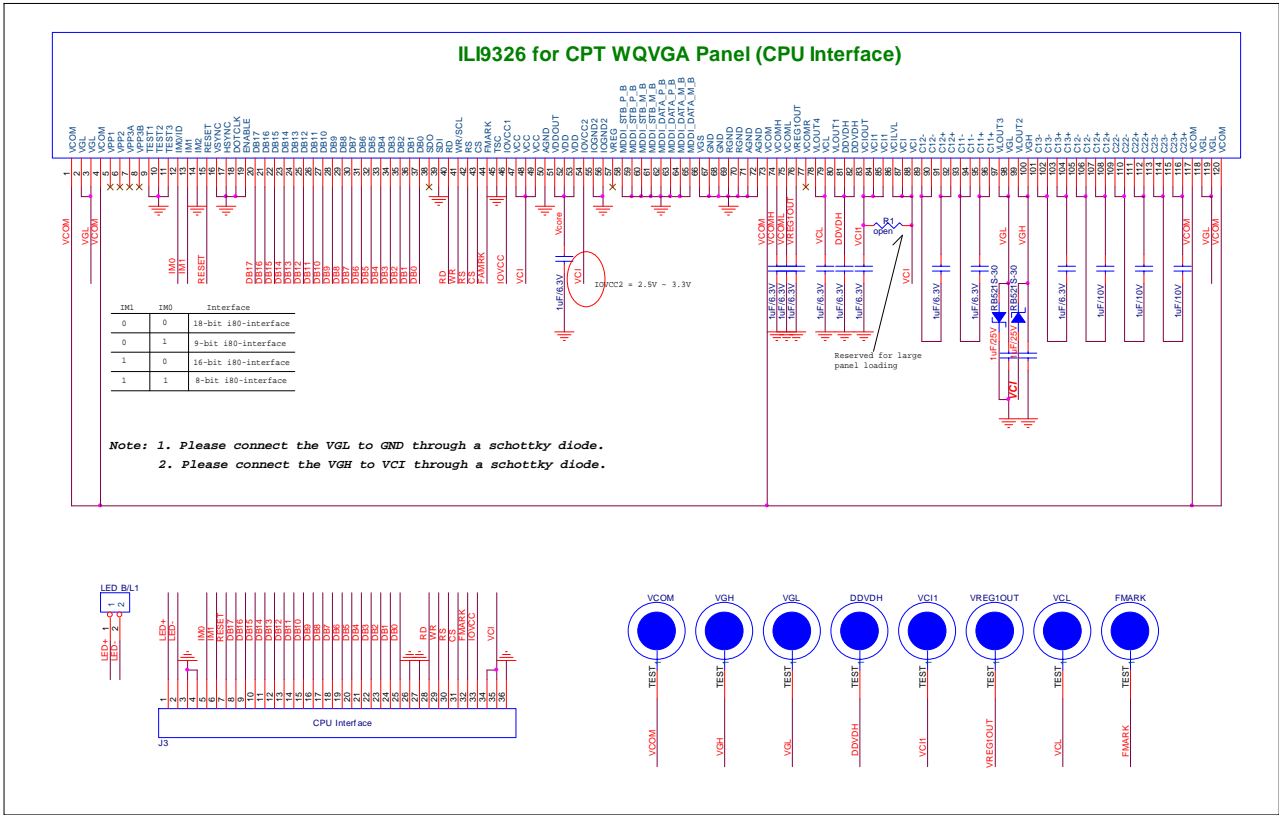
Tel.886-3-5670095; Fax.886-3-5670096

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1. CPT Panel

2.8" Panel



1.1. CPT 2.8” Initial Code

```
void ILI9326_CPT_Initial(void)
```

```
{
// VCI=2.8V
//***** Reset LCD Driver *****//
LCD_nRESET = 1;
    delaysms(1); // Delay 1ms
LCD_nRESET = 0;
    delaysms(10); // Delay 10ms           // This delay time is necessary
LCD_nRESET = 1;
    delaysms(50); // Delay 50 ms

//***** Start Initial Sequence *****//
LCD_CtrlWrite_ILI9326(0x0702, 0x3008); // Set internal timing, don't change this value
LCD_CtrlWrite_ILI9326(0x0705, 0x0036); // Set internal timing, don't change this value
LCD_CtrlWrite_ILI9326(0x070B, 0x1213); // Set internal timing, don't change this value

LCD_CtrlWrite_ILI9326(0x0001, 0x0100); // set SS and SM bit
LCD_CtrlWrite_ILI9326(0x0002, 0x0100); // set 1 line inversion
LCD_CtrlWrite_ILI9326(0x0003, 0x1030); // set GRAM write direction and BGR=1.
LCD_CtrlWrite_ILI9326(0x0008, 0x0202); // set the back porch and front porch
LCD_CtrlWrite_ILI9326(0x0009, 0x0000); // set non-display area refresh cycle ISC[3:0]
LCD_CtrlWrite_ILI9326(0x000C, 0x0000); // RGB interface setting
LCD_CtrlWrite_ILI9326(0x000F, 0x0000); // RGB interface polarity

//*****Power On sequence *****//
LCD_CtrlWrite_ILI9326(0x0100, 0x0000); // SAP, BT[3:0], AP, DSTB, SLP, STB
LCD_CtrlWrite_ILI9326(0x0102, 0x0000); // VREG1OUT voltage
LCD_CtrlWrite_ILI9326(0x0103, 0x0000); // VDV[4:0] for VCOM amplitude
    delaysms(200); // Dis-charge capacitor power voltage
LCD_CtrlWrite_ILI9326(0x0100, 0x1190); // SAP, BT[3:0], AP, DSTB, SLP, STB
LCD_CtrlWrite_ILI9326(0x0101, 0x0227); // DC1[2:0], DC0[2:0], VC[2:0]
    delaysms(50); // Delay 50ms
LCD_CtrlWrite_ILI9326(0x0102, 0x01BD); // VREG1OUT voltage
    delaysms(50); // Delay 50ms
LCD_CtrlWrite_ILI9326(0x0103, 0x2D00); // VDV[4:0] for VCOM amplitude
LCD_CtrlWrite_ILI9326(0x0281, 0x000E); // VCM[5:0] for VCOMH
    delaysms(50);
LCD_CtrlWrite_ILI9326(0x0200, 0x0000); // GRAM horizontal Address
LCD_CtrlWrite_ILI9326(0x0201, 0x0000); // GRAM Vertical Address

// ----- Adjust the Gamma Curve -----//
LCD_CtrlWrite_ILI9326(0x0300, 0x0000);
LCD_CtrlWrite_ILI9326(0x0301, 0x0707);
LCD_CtrlWrite_ILI9326(0x0302, 0x0606);

LCD_CtrlWrite_ILI9326(0x0305, 0x0000);
LCD_CtrlWrite_ILI9326(0x0306, 0x0D00);
LCD_CtrlWrite_ILI9326(0x0307, 0x0706);
LCD_CtrlWrite_ILI9326(0x0308, 0x0005);
LCD_CtrlWrite_ILI9326(0x0309, 0x0007);

LCD_CtrlWrite_ILI9326(0x030C, 0x0000);
LCD_CtrlWrite_ILI9326(0x030D, 0x000A);

//----- Set GRAM area -----//
LCD_CtrlWrite_ILI9326(0x0210, 0x0000); // Horizontal GRAM Start Address
```

```
LCD_CtrlWrite_ILI9326(0x0211, 0x00EF); // Horizontal GRAM End Address
LCD_CtrlWrite_ILI9326(0x0212, 0x0000); // Vertical GRAM Start Address
LCD_CtrlWrite_ILI9326(0x0213, 0x01AF); // Vertical GRAM Start Address
LCD_CtrlWrite_ILI9326(0x0400, 0x3100); // Gate Scan Line 400 lines
LCD_CtrlWrite_ILI9326(0x0401, 0x0001); // NDL, VLE, REV
LCD_CtrlWrite_ILI9326(0x0404, 0x0000); // set scrolling line
```

```
//----- Partial Display Control -----//
```

```
LCD_CtrlWrite_ILI9326(0x0500, 0x0000); // Partial Image 1 Display Position
LCD_CtrlWrite_ILI9326(0x0501, 0x0000); // Partial Image 1 RAM Start/End Address
LCD_CtrlWrite_ILI9326(0x0502, 0x0000); // Partial Image 1 RAM Start/End Address
LCD_CtrlWrite_ILI9326(0x0503, 0x0000); // Partial Image 2 Display Position
LCD_CtrlWrite_ILI9326(0x0504, 0x0000); // Partial Image 2 RAM Start/End Address
LCD_CtrlWrite_ILI9326(0x0505, 0x0000); // Partial Image 2 RAM Start/End Address
```

```
//----- Panel Control -----//
```

```
LCD_CtrlWrite_ILI9326(0x0010, 0x0010); // DIVI[1:0]; RTNI[4:0]
LCD_CtrlWrite_ILI9326(0x0011, 0x0600); // NOWI[2:0]; SDTI[2:0]
LCD_CtrlWrite_ILI9326(0x0020, 0x0002); // DIVE[1:0]; RTNE[5:0]
```

```
LCD_CtrlWrite_ILI9326(0x0007, 0x0173); // 262K color and display ON
```

```
}
```

void LCD_ExitSleep_ILI9326(void)

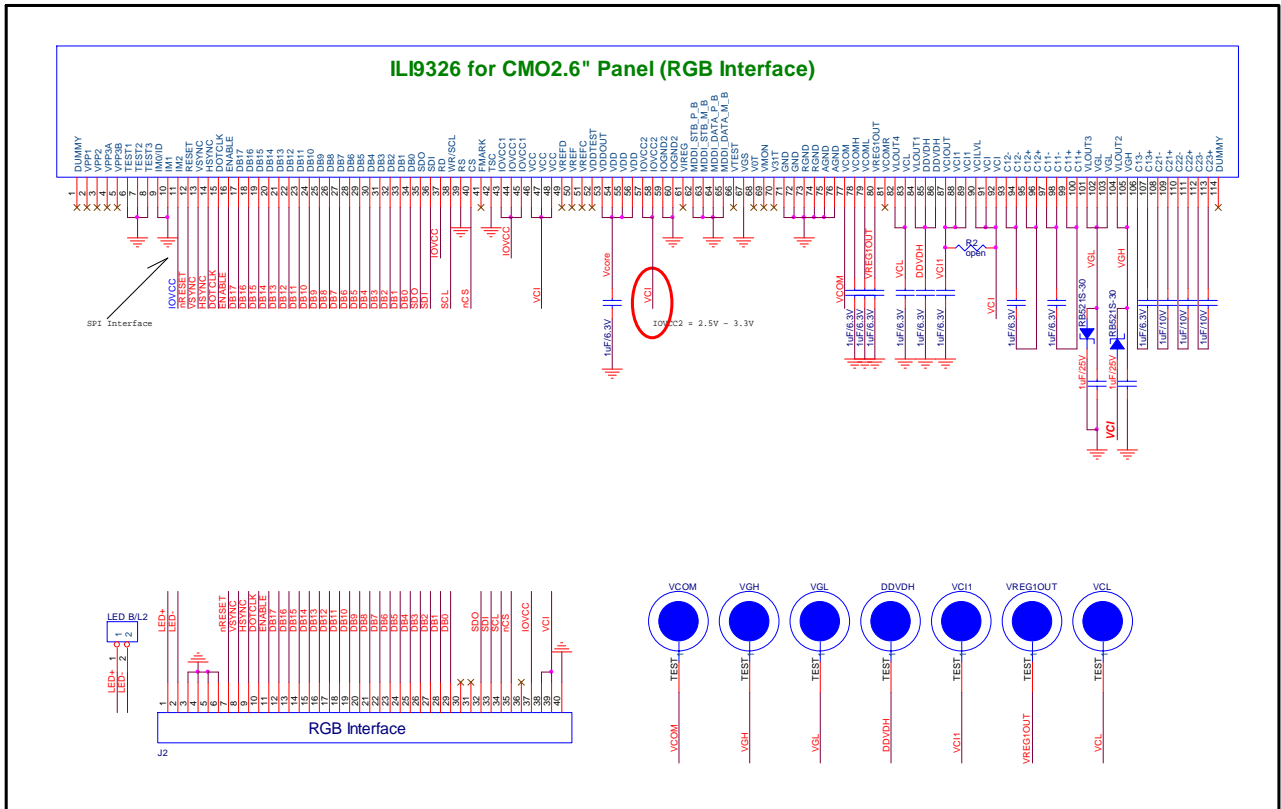
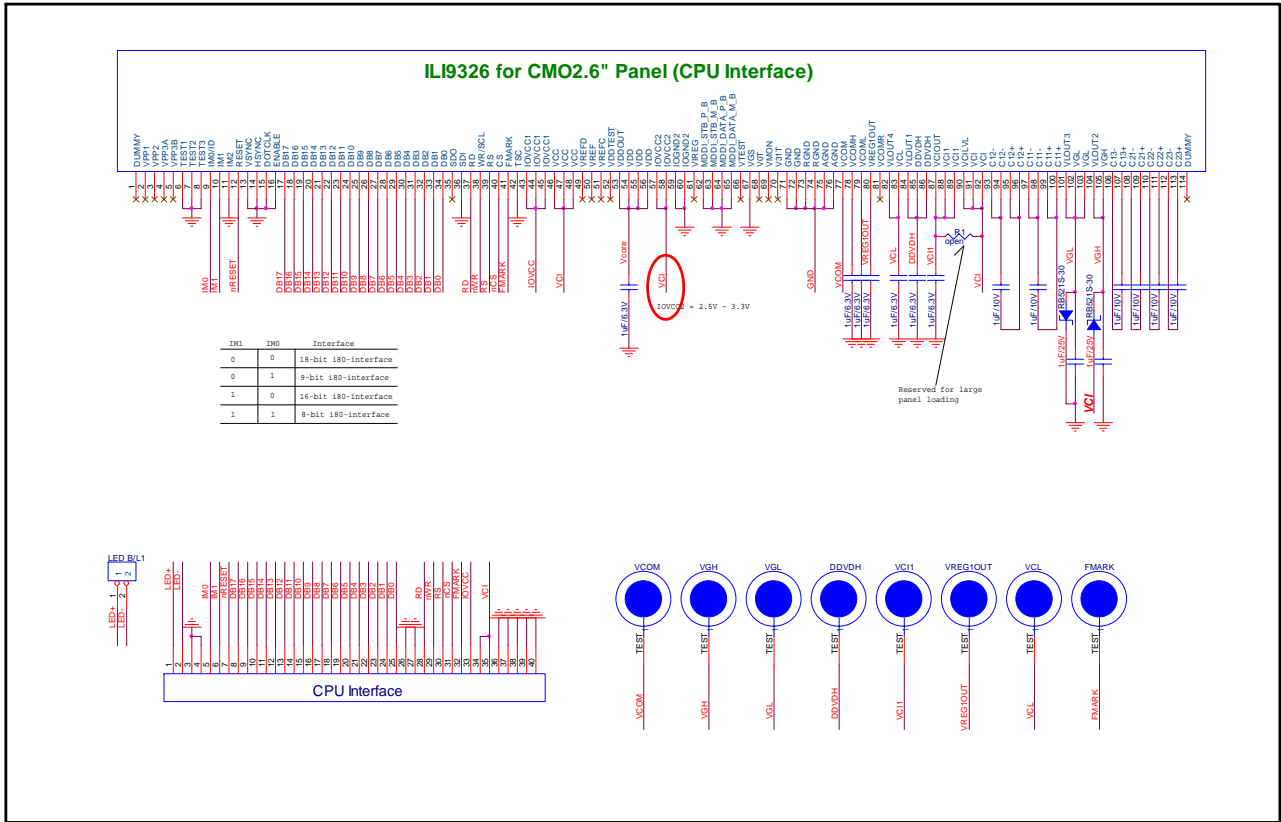
```
{
//*****Power On sequence *****//
LCD_CtrlWrite_ILI9326(0x0100, 0x0000); // SAP, BT[3:0], AP, DSTB, SLP
delays(200); // Dis-charge capacitor power voltage
LCD_CtrlWrite_ILI9326(0x0100, 0x1190); // SAP, BT[3:0], AP, DSTB, SLP, STB
LCD_CtrlWrite_ILI9326(0x0101, 0x0227); // DC1[2:0], DC0[2:0], VC[2:0]
delays(50); // Delay 50ms
LCD_CtrlWrite_ILI9326(0x0102, 0x01BD); // VREG1OUT voltage
delays(50); // Delay 50ms
LCD_CtrlWrite_ILI9326(0x0103, 0x2D00); // VDV[4:0] for VCOM amplitude
delays(50); // Delay 50ms
LCD_CtrlWrite_ILI9326(0x0007, 0x0173); // 262K color and display ON
}
```

void LCD_EnterSleep_ILI9326(void)

```
{
LCD_CtrlWrite_ILI9326(0x0007, 0x0131); // Set D1=0, D0=1
delays(10);
LCD_CtrlWrite_ILI9326(0x0007, 0x0130); // Set D1=0, D0=0
delays(10);
LCD_CtrlWrite_ILI9326(0x0007, 0x0000); // display OFF
//***** Power OFF sequence *****//
LCD_CtrlWrite_ILI9326(0x0100, 0x0000); // SAP, BT[3:0], APE, AP, DSTB, SLP
delays(200); // Dis-charge capacitor power voltage
LCD_CtrlWrite_ILI9326(0x0100, 0x0002); // SAP, BT[3:0], APE, AP, DSTB, SLP
}
```

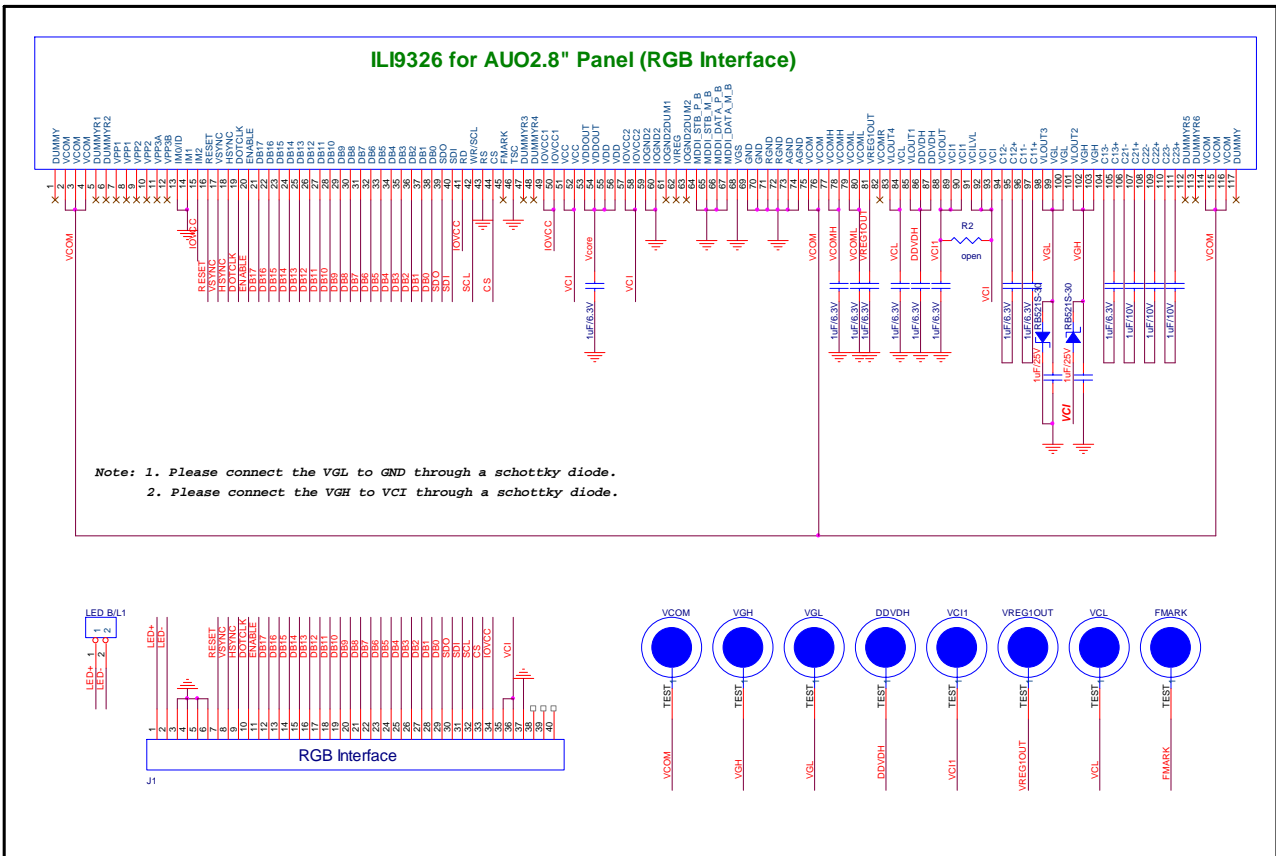
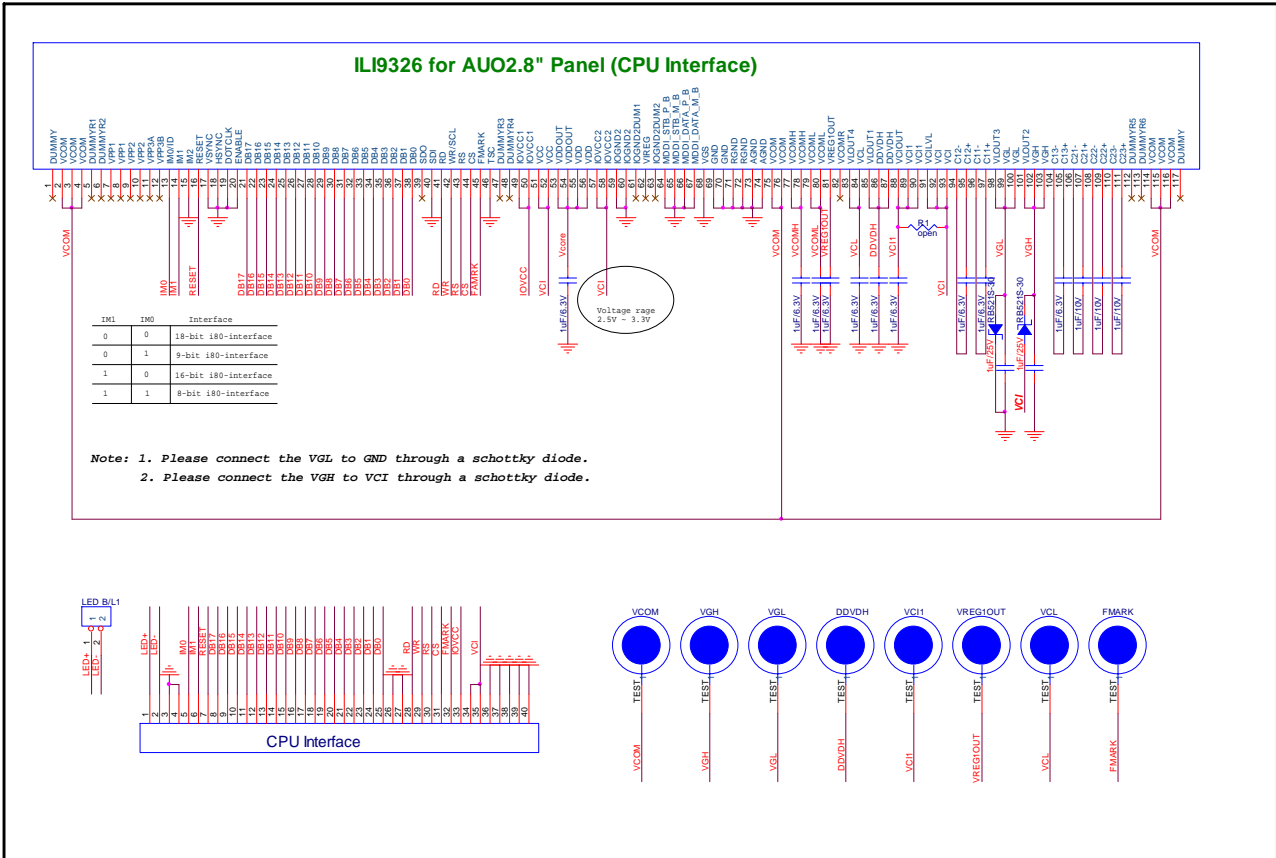
2. CMO Panel

2.6" Panel



3. AUO Panel

2.8" Panel



3.1. AUO 2.8" Initial Code

```

void ILI9326_AUO28_Initial(void)
{
    // VCI=2.8V
    //***** Reset LCD Driver *****//
    LCD_nRESET = 1;
    delaysms(1); // Delay 1ms
    LCD_nRESET = 0;
    delaysms(10); // Delay 10ms // This delay time is necessary
    LCD_nRESET = 1;
    delaysms(50); // Delay 50 ms

    //***** Start Initial Sequence *****//
    LCD_CtrlWrite_ILI9326(0x0702, 0x3008); // Set internal timing, don't change this value
    LCD_CtrlWrite_ILI9326(0x0705, 0x0036); // Set internal timing, don't change this value
    LCD_CtrlWrite_ILI9326(0x070B, 0x1213); // Set internal timing, don't change this value
    LCD_CtrlWrite_ILI9326(0x0001, 0x0100); // set SS and SM bit
    LCD_CtrlWrite_ILI9326(0x0002, 0x0100); // set 1 line inversion
    LCD_CtrlWrite_ILI9326(0x0003, 0x1030); // set GRAM write direction and BGR=1.
    LCD_CtrlWrite_ILI9326(0x0008, 0x0202); // set the back porch and front porch
    LCD_CtrlWrite_ILI9326(0x0009, 0x0000); // set non-display area refresh cycle ISC[3:0]
    LCD_CtrlWrite_ILI9326(0x000C, 0x0000); // RGB interface setting
    LCD_CtrlWrite_ILI9326(0x000F, 0x0000); // RGB interface polarity

    //*****Power On sequence *****//
    LCD_CtrlWrite_ILI9326(0x0100, 0x0000); // SAP, BT[3:0], AP, DSTB, SLP, STB
    LCD_CtrlWrite_ILI9326(0x0102, 0x0000); // VREG1OUT voltage
    LCD_CtrlWrite_ILI9326(0x0103, 0x0000); // VDV[4:0] for VCOM amplitude
    delaysms(200); // Dis-charge capacitor power voltage
    LCD_CtrlWrite_ILI9326(0x0100, 0x1190); // SAP, BT[3:0], AP, DSTB, SLP, STB
    LCD_CtrlWrite_ILI9326(0x0101, 0x0227); // DC1[2:0], DC0[2:0], VC[2:0]
    delaysms(50); // Delay 50ms
    LCD_CtrlWrite_ILI9326(0x0102, 0x01BD); // VREG1OUT voltage
    delaysms(50); // Delay 50ms
    LCD_CtrlWrite_ILI9326(0x0103, 0x3800); // VDV[4:0] for VCOM amplitude
    LCD_CtrlWrite_ILI9326(0x0281, 0x0013); // VCM[5:0] for VCOMH
    delaysms(50);
    LCD_CtrlWrite_ILI9326(0x0200, 0x0000); // GRAM horizontal Address
    LCD_CtrlWrite_ILI9326(0x0201, 0x0000); // GRAM Vertical Address

    // ----- Adjust the Gamma Curve -----//
    LCD_CtrlWrite_ILI9326(0x0300, 0x0000);
    LCD_CtrlWrite_ILI9326(0x0301, 0x0707);
    LCD_CtrlWrite_ILI9326(0x0302, 0x0606);
    LCD_CtrlWrite_ILI9326(0x0305, 0x0000);
    LCD_CtrlWrite_ILI9326(0x0306, 0x0E00);
    LCD_CtrlWrite_ILI9326(0x0307, 0x0606);
    LCD_CtrlWrite_ILI9326(0x0308, 0x0005);
    LCD_CtrlWrite_ILI9326(0x0309, 0x0007);
    LCD_CtrlWrite_ILI9326(0x030C, 0x0002);
    LCD_CtrlWrite_ILI9326(0x030D, 0x000E);

    //----- Set GRAM area -----//
    LCD_CtrlWrite_ILI9326(0x0210, 0x0000); // Horizontal GRAM Start Address
    LCD_CtrlWrite_ILI9326(0x0211, 0x00EF); // Horizontal GRAM End Address
    LCD_CtrlWrite_ILI9326(0x0212, 0x0000); // Vertical GRAM Start Address
    LCD_CtrlWrite_ILI9326(0x0213, 0x01AF); // Vertical GRAM Start Address
    LCD_CtrlWrite_ILI9326(0x0400, 0x3100); // Gate Scan Line

```



```
LCD_CtrlWrite_ILI9326(0x0401, 0x0001); // NDL,VLE, REV
LCD_CtrlWrite_ILI9326(0x0404, 0x0000); // set scrolling line
```

```
//----- Partial Display Control -----//
```

```
LCD_CtrlWrite_ILI9326(0x0500, 0x0000); //Partial Image 1 Display Position
LCD_CtrlWrite_ILI9326(0x0501, 0x0000); //Partial Image 1 RAM Start/End Address
LCD_CtrlWrite_ILI9326(0x0502, 0x0000); //Partial Image 1 RAM Start/End Address
LCD_CtrlWrite_ILI9326(0x00503, 0x0000); //Partial Image 2 Display Position
LCD_CtrlWrite_ILI9326(0x00504, 0x0000); //Partial Image 2 RAM Start/End Address
LCD_CtrlWrite_ILI9326(0x00505, 0x0000); //Partial Image 2 RAM Start/End Address
```

```
//----- Panel Control -----//
```

```
LCD_CtrlWrite_ILI9326(0x0010, 0x0010); //DIVI[1:0];RTNI[4:0]
LCD_CtrlWrite_ILI9326(0x0011, 0x0600); //NOWI[2:0];SDTI[2:0]
LCD_CtrlWrite_ILI9326(0x0020, 0x0002); //DIVE[1:0];RTNE[5:0]
```

```
LCD_CtrlWrite_ILI9326(0x0007, 0x0173); // 262K color and display ON
```

```
}
```

void LCD_ExitSleep_ILI9326(void)

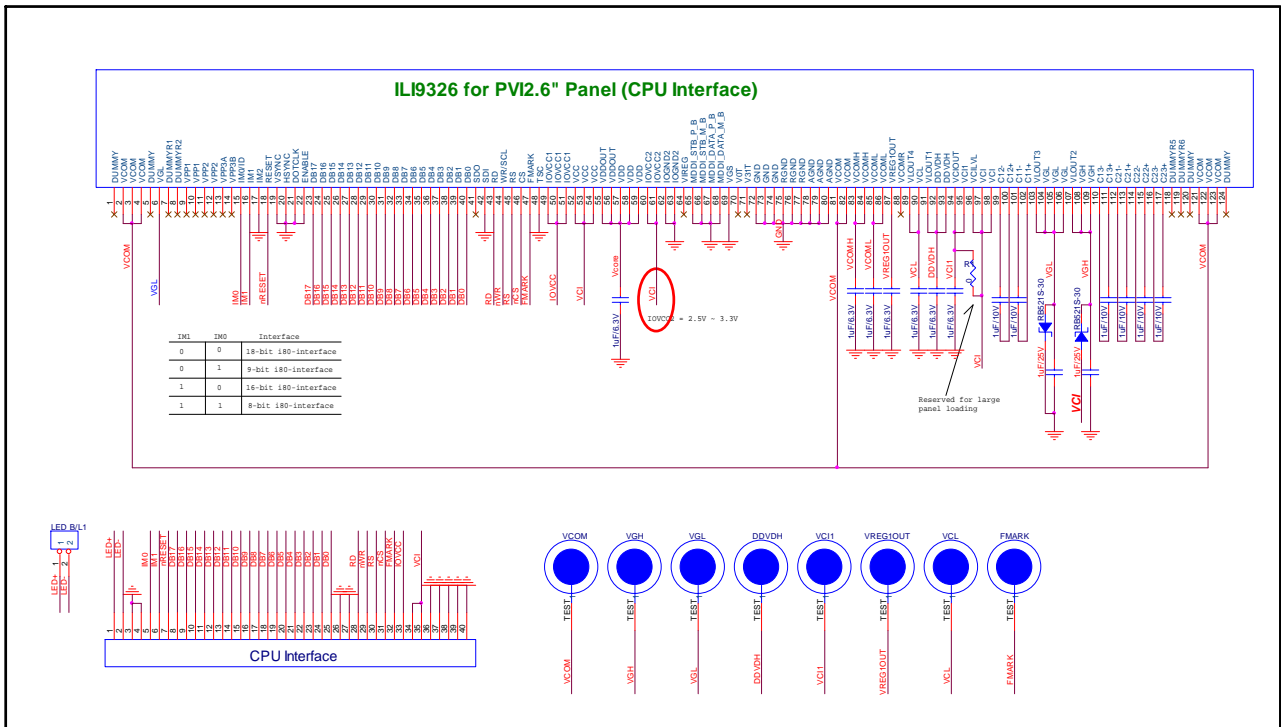
```
{
//*****Power On sequence *****//
LCD_CtrlWrite_ILI9326(0x0100, 0x0000); // SAP, BT[3:0], AP, DSTB, SLP
delays(200); // Dis-charge capacitor power voltage
LCD_CtrlWrite_ILI9326(0x0100, 0x1190); // SAP, BT[3:0], AP, DSTB, SLP, STB
LCD_CtrlWrite_ILI9326(0x0101, 0x0227); // DC1[2:0], DC0[2:0], VC[2:0]
delays(50); // Delay 50ms
LCD_CtrlWrite_ILI9326(0x0102, 0x01BD); // VREG1OUT voltage
delays(50); // Delay 50ms
LCD_CtrlWrite_ILI9326(0x0103, 0x2F00); // VDV[4:0] for VCOM amplitude
delays(50); // Delay 50ms
LCD_CtrlWrite_ILI9326(0x0007, 0x0173); // 262K color and display ON
}
```

void LCD_EnterSleep_ILI9326(void)

```
{
LCD_CtrlWrite_ILI9326(0x0007, 0x0131); // Set D1=0, D0=1
delays(10);
LCD_CtrlWrite_ILI9326(0x0007, 0x0130); // Set D1=0, D0=0
delays(10);
LCD_CtrlWrite_ILI9326(0x0007, 0x0000); // display OFF
//***** Power OFF sequence *****//
LCD_CtrlWrite_ILI9326(0x0100, 0x0000); // SAP, BT[3:0], APE, AP, DSTB, SLP
delays(200); // Dis-charge capacitor power voltage
LCD_CtrlWrite_ILI9326(0x0100, 0x0002); // SAP, BT[3:0], APE, AP, DSTB, SLP
}
```

4. PVI Panel

2.6" Panel



4.1. PVI 2.6” Initial Code

```
void ILI9326_PVI26_Initial(void)
{
    // VCI=2.8V
    //***** Reset LCD Driver *****//
    LCD_nRESET = 1;
    delaysms(1); // Delay 1ms
    LCD_nRESET = 0;
    delaysms(10); // Delay 10ms // This delay time is necessary
    LCD_nRESET = 1;
    delaysms(50); // Delay 50 ms

    //***** Start Initial Sequence *****//
    LCD_CtrlWrite_ILI9326(0x0702, 0x3008); // Set internal timing, don't change this value
    LCD_CtrlWrite_ILI9326(0x0705, 0x0036); // Set internal timing, don't change this value
    LCD_CtrlWrite_ILI9326(0x070B, 0x1213); // Set internal timing, don't change this value
    LCD_CtrlWrite_ILI9326(0x0001, 0x0100); // set SS and SM bit
    LCD_CtrlWrite_ILI9326(0x0002, 0x0100); // set 1 line inversion
    LCD_CtrlWrite_ILI9326(0x0003, 0x1030); // set GRAM write direction and BGR=1.
    LCD_CtrlWrite_ILI9326(0x0008, 0x0202); // set the back porch and front porch
    LCD_CtrlWrite_ILI9326(0x0009, 0x0000); // set non-display area refresh cycle ISC[3:0]
    LCD_CtrlWrite_ILI9326(0x000C, 0x0000); // RGB interface setting
    LCD_CtrlWrite_ILI9326(0x000F, 0x0000); // RGB interface polarity

    //*****Power On sequence *****//
    LCD_CtrlWrite_ILI9326(0x0100, 0x0000); // SAP, BT[3:0], AP, DSTB, SLP, STB
    LCD_CtrlWrite_ILI9326(0x0102, 0x0000); // VREG1OUT voltage
    LCD_CtrlWrite_ILI9326(0x0103, 0x0000); // VDV[4:0] for VCOM amplitude
    delaysms(200); // Dis-charge capacitor power voltage
    LCD_CtrlWrite_ILI9326(0x0100, 0x1190); // SAP, BT[3:0], AP, DSTB, SLP, STB
    LCD_CtrlWrite_ILI9326(0x0101, 0x0227); // DC1[2:0], DC0[2:0], VC[2:0]
    delaysms(50); // Delay 50ms
    LCD_CtrlWrite_ILI9326(0x0102, 0x01BD); // VREG1OUT voltage
    delaysms(50); // Delay 50ms
    LCD_CtrlWrite_ILI9326(0x0103, 0x2F00); // VDV[4:0] for VCOM amplitude
    LCD_CtrlWrite_ILI9326(0x0281, 0x0012); // VCM[5:0] for VCOMH
    delaysms(50);
    LCD_CtrlWrite_ILI9326(0x0200, 0x0000); // GRAM horizontal Address
    LCD_CtrlWrite_ILI9326(0x0201, 0x0000); // GRAM Vertical Address

    // ----- Adjust the Gamma Curve -----//
    LCD_CtrlWrite_ILI9326(0x0300, 0x0000);
    LCD_CtrlWrite_ILI9326(0x0301, 0x0507);
    LCD_CtrlWrite_ILI9326(0x0302, 0x0602);
    LCD_CtrlWrite_ILI9326(0x0305, 0x0000);
    LCD_CtrlWrite_ILI9326(0x0306, 0x0A03);
    LCD_CtrlWrite_ILI9326(0x0307, 0x0606);
    LCD_CtrlWrite_ILI9326(0x0308, 0x0005);
    LCD_CtrlWrite_ILI9326(0x0309, 0x0003);
    LCD_CtrlWrite_ILI9326(0x030C, 0x0000);
    LCD_CtrlWrite_ILI9326(0x030D, 0x000A);

    //----- Set GRAM area -----//
    LCD_CtrlWrite_ILI9326(0x0210, 0x0000); // Horizontal GRAM Start Address
    LCD_CtrlWrite_ILI9326(0x0211, 0x00EF); // Horizontal GRAM End Address
    LCD_CtrlWrite_ILI9326(0x0212, 0x0000); // Vertical GRAM Start Address
    LCD_CtrlWrite_ILI9326(0x0213, 0x01AF); // Vertical GRAM Start Address
    LCD_CtrlWrite_ILI9326(0x0400, 0x3500); // Gate Scan Line
    LCD_CtrlWrite_ILI9326(0x0401, 0x0001); // ND, VLE, REV
}
```

```
LCD_CtrlWrite_ILI9326(0x0404, 0x0000); // set scrolling line

//----- Partial Display Control -----//
LCD_CtrlWrite_ILI9326(0x0500, 0x0000); //Partial Image 1 Display Position
LCD_CtrlWrite_ILI9326(0x0501, 0x0000); //Partial Image 1 RAM Start/End Address
LCD_CtrlWrite_ILI9326(0x0502, 0x0000); //Partial Image 1 RAM Start/End Address
LCD_CtrlWrite_ILI9326(0x00503, 0x0000); //Partial Image 2 Display Position
LCD_CtrlWrite_ILI9326(0x00504, 0x0000); //Partial Image 2 RAM Start/End Address
LCD_CtrlWrite_ILI9326(0x00505, 0x0000); //Partial Image 2 RAM Start/End Address

//----- Panel Control -----//
LCD_CtrlWrite_ILI9326(0x0010, 0x0010); //DIVI[1:0];RTNI[4:0]
LCD_CtrlWrite_ILI9326(0x0011, 0x0600); //NOWI[2:0];SDTI[2:0]
LCD_CtrlWrite_ILI9326(0x0020, 0x0002); //DIVE[1:0];RTNE[5:0]

LCD_CtrlWrite_ILI9326(0x0007, 0x0173); // 262K color and display ON

}
```

void LCD_ExitSleep_ILI9326(void)

```
{
//*****Power On sequence *****//
LCD_CtrlWrite_ILI9326(0x0100, 0x0000); // SAP, BT[3:0], AP, DSTB, SLP
delaysms(200); // Dis-charge capacitor power voltage
LCD_CtrlWrite_ILI9326(0x0100, 0x1190); // SAP, BT[3:0], AP, DSTB, SLP, STB
LCD_CtrlWrite_ILI9326(0x0101, 0x0227); // DC1[2:0], DC0[2:0], VC[2:0]
delaysms(50); // Delay 50ms
LCD_CtrlWrite_ILI9326(0x0102, 0x01BD); // VREG1OUT voltage
delaysms(50); // Delay 50ms
LCD_CtrlWrite_ILI9326(0x0103, 0x2F00); // VDV[4:0] for VCOM amplitude
delaysms(50); // Delay 50ms
LCD_CtrlWrite_ILI9326(0x0007, 0x0173); // 262K color and display ON
}
```

void LCD_EnterSleep_ILI9326(void)

```
{
LCD_CtrlWrite_ILI9326(0x0007, 0x0131); // Set D1=0, D0=1
delaysms(10);
LCD_CtrlWrite_ILI9326(0x0007, 0x0130); // Set D1=0, D0=0
delaysms(10);
LCD_CtrlWrite_ILI9326(0x0007, 0x0000); // display OFF
//***** Power OFF sequence *****//
LCD_CtrlWrite_ILI9326(0x0100, 0x0000); // SAP, BT[3:0], APE, AP, DSTB, SLP
delaysms(200); // Dis-charge capacitor power voltage
LCD_CtrlWrite_ILI9326(0x0100, 0x0002); // SAP, BT[3:0], APE, AP, DSTB, SLP
}
```

4.2 PVI 3.0” Initial Code

```

void ILI9326_PVI30_Initial(void)
{
    // VCI=2.8V
    //***** Reset LCD Driver *****//
    LCD_nRESET = 1;
    delayms(1); // Delay 1ms
    LCD_nRESET = 0;
    delayms(10); // Delay 10ms // This delay time is necessary
    LCD_nRESET = 1;
    delayms(50); // Delay 50 ms

    //***** Start Initial Sequence *****//
    LCD_CtrlWrite_ILI9326(0x0702, 0x3008); // Set internal timing, don't change this value
    LCD_CtrlWrite_ILI9326(0x0705, 0x0036); // Set internal timing, don't change this value
    LCD_CtrlWrite_ILI9326(0x070B, 0x1213); // Set internal timing, don't change this value
    LCD_CtrlWrite_ILI9326(0x0001, 0x0100); // set SS and SM bit
    LCD_CtrlWrite_ILI9326(0x0002, 0x0100); // set 1 line inversion
    LCD_CtrlWrite_ILI9326(0x0003, 0x1030); // set GRAM write direction and BGR=1.
    LCD_CtrlWrite_ILI9326(0x0008, 0x0202); // set the back porch and front porch
    LCD_CtrlWrite_ILI9326(0x0009, 0x0000); // set non-display area refresh cycle ISC[3:0]
    LCD_CtrlWrite_ILI9326(0x000C, 0x0000); // RGB interface setting
    LCD_CtrlWrite_ILI9326(0x000F, 0x0000); // RGB interface polarity

    //*****Power On sequence *****//
    LCD_CtrlWrite_ILI9326(0x0100, 0x0000); // SAP, BT[3:0], AP, DSTB, SLP, STB
    LCD_CtrlWrite_ILI9326(0x0102, 0x0000); // VREG1OUT voltage
    LCD_CtrlWrite_ILI9326(0x0103, 0x0000); // VDV[4:0] for VCOM amplitude
    delayms(200); // Dis-charge capacitor power voltage
    LCD_CtrlWrite_ILI9326(0x0100, 0x1190); // SAP, BT[3:0], AP, DSTB, SLP, STB
    LCD_CtrlWrite_ILI9326(0x0101, 0x0227); // DC1[2:0], DC0[2:0], VC[2:0]
    delayms(50); // Delay 50ms
    LCD_CtrlWrite_ILI9326(0x0102, 0x01BA); // VREG1OUT voltage
    delayms(50); // Delay 50ms
    LCD_CtrlWrite_ILI9326(0x0103, 0x3400); // VDV[4:0] for VCOM amplitude
    LCD_CtrlWrite_ILI9326(0x0281, 0x0002); // VCM[5:0] for VCOMH
    delayms(50);
    LCD_CtrlWrite_ILI9326(0x0200, 0x0000); // GRAM horizontal Address
    LCD_CtrlWrite_ILI9326(0x0201, 0x0000); // GRAM Vertical Address

    // ----- Adjust the Gamma Curve -----//
    LCD_CtrlWrite_ILI9326(0x0300, 0x0000);
    LCD_CtrlWrite_ILI9326(0x0301, 0x0303);
    LCD_CtrlWrite_ILI9326(0x0302, 0x0203);
    LCD_CtrlWrite_ILI9326(0x0305, 0x0205);
    LCD_CtrlWrite_ILI9326(0x0306, 0x040C);
    LCD_CtrlWrite_ILI9326(0x0307, 0x0405);
    LCD_CtrlWrite_ILI9326(0x0308, 0x0404);
    LCD_CtrlWrite_ILI9326(0x0309, 0x0707);
    LCD_CtrlWrite_ILI9326(0x030C, 0x0502);
    LCD_CtrlWrite_ILI9326(0x030D, 0x1006);

    //----- Set GRAM area -----//
    LCD_CtrlWrite_ILI9326(0x0210, 0x0000); // Horizontal GRAM Start Address
    LCD_CtrlWrite_ILI9326(0x0211, 0x00EF); // Horizontal GRAM End Address
    LCD_CtrlWrite_ILI9326(0x0212, 0x0000); // Vertical GRAM Start Address
    LCD_CtrlWrite_ILI9326(0x0213, 0x01AF); // Vertical GRAM Start Address
    LCD_CtrlWrite_ILI9326(0x0400, 0x3500); // Gate Scan Line
    LCD_CtrlWrite_ILI9326(0x0401, 0x0001); // NDL,VLE, REV

```

```
LCD_CtrlWrite_ILI9326(0x0404, 0x0000); // set scrolling line

//----- Partial Display Control -----//
LCD_CtrlWrite_ILI9326(0x0500, 0x0000); //Partial Image 1 Display Position
LCD_CtrlWrite_ILI9326(0x0501, 0x0000); //Partial Image 1 RAM Start/End Address
LCD_CtrlWrite_ILI9326(0x0502, 0x0000); //Partial Image 1 RAM Start/End Address
LCD_CtrlWrite_ILI9326(0x00503, 0x0000); //Partial Image 2 Display Position
LCD_CtrlWrite_ILI9326(0x00504, 0x0000); //Partial Image 2 RAM Start/End Address
LCD_CtrlWrite_ILI9326(0x00505, 0x0000); //Partial Image 2 RAM Start/End Address

//----- Panel Control -----//
LCD_CtrlWrite_ILI9326(0x0010, 0x0010); //DIVI[1:0];RTNI[4:0]
LCD_CtrlWrite_ILI9326(0x0011, 0x0600); //NOWI[2:0];SDTI[2:0]
LCD_CtrlWrite_ILI9326(0x0020, 0x0002); //DIVE[1:0];RTNE[5:0]

LCD_CtrlWrite_ILI9326(0x0007, 0x0173); // 262K color and display ON

}
```

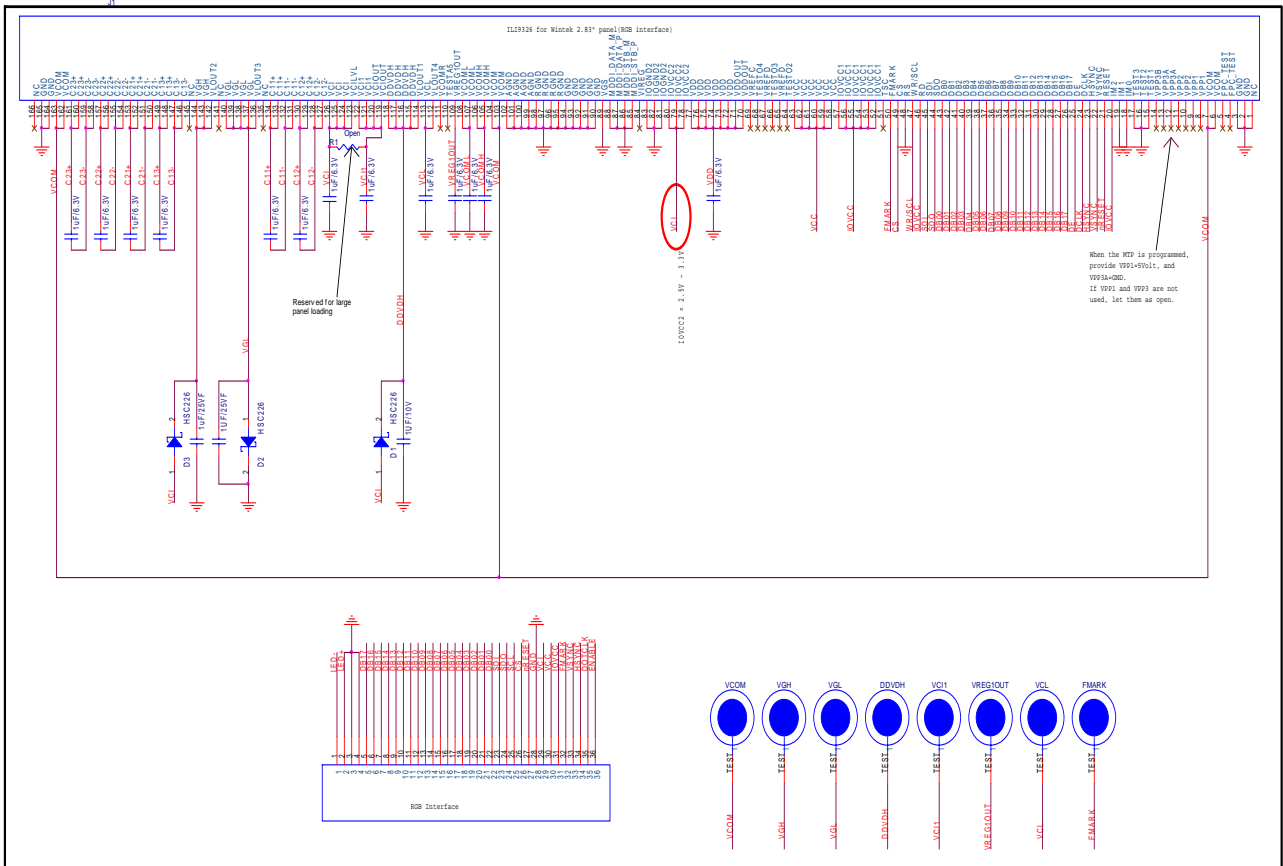
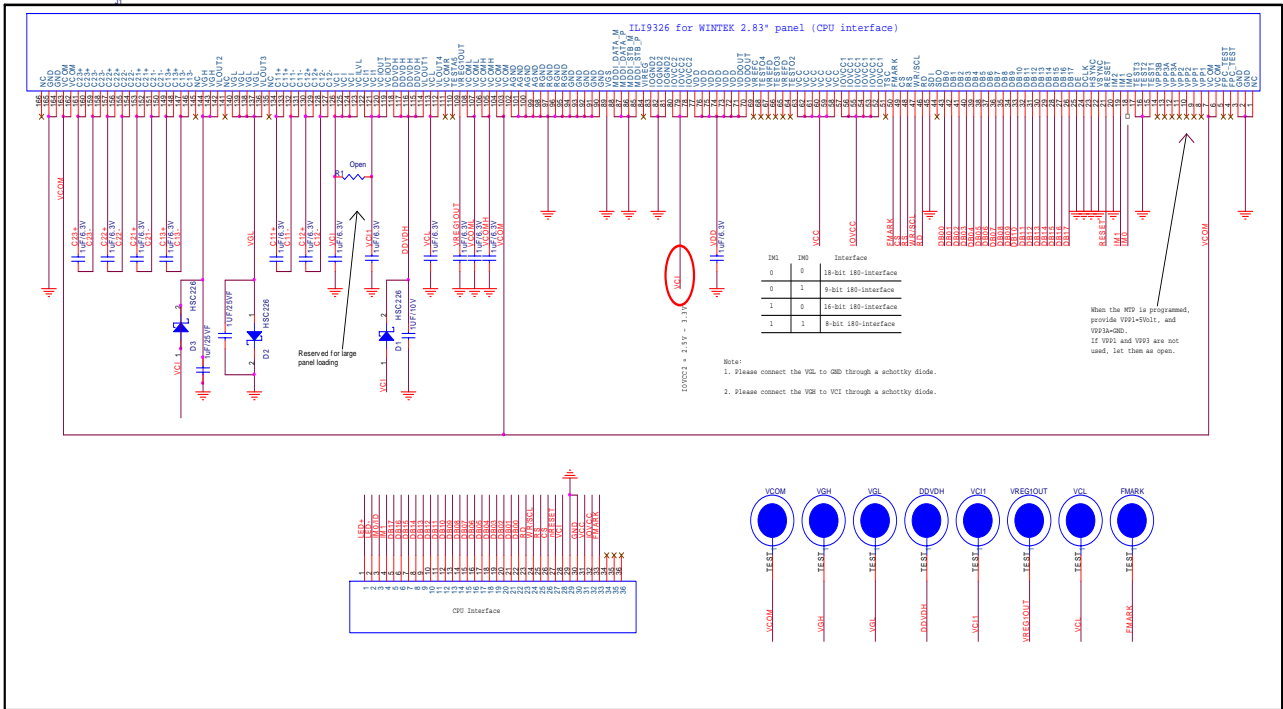
void LCD_ExitSleep_ILI9326(void)

```
{
//*****Power On sequence *****//
LCD_CtrlWrite_ILI9326(0x0100, 0x0000); // SAP, BT[3:0], AP, DSTB, SLP
delays(200); // Dis-charge capacitor power voltage
LCD_CtrlWrite_ILI9326(0x0100, 0x1190); // SAP, BT[3:0], AP, DSTB, SLP, STB
LCD_CtrlWrite_ILI9326(0x0101, 0x0227); // DC1[2:0], DC0[2:0], VC[2:0]
delays(50); // Delay 50ms
LCD_CtrlWrite_ILI9326(0x0102, 0x01BA); // VREG1OUT voltage
delays(50); // Delay 50ms
LCD_CtrlWrite_ILI9326(0x0103, 0x3400); // VDV[4:0] for VCOM amplitude
delays(50); // Delay 50ms
LCD_CtrlWrite_ILI9326(0x0007, 0x0173); // 262K color and display ON
}
```

void LCD_EnterSleep_ILI9326(void)

```
{
LCD_CtrlWrite_ILI9326(0x0007, 0x0131); // Set D1=0, D0=1
delays(10);
LCD_CtrlWrite_ILI9326(0x0007, 0x0130); // Set D1=0, D0=0
delays(10);
LCD_CtrlWrite_ILI9326(0x0007, 0x0000); // display OFF
//***** Power OFF sequence *****//
LCD_CtrlWrite_ILI9326(0x0100, 0x0000); // SAP, BT[3:0], APE, AP, DSTB, SLP
delays(200); // Dis-charge capacitor power voltage
LCD_CtrlWrite_ILI9326(0x0100, 0x0002); // SAP, BT[3:0], APE, AP, DSTB, SLP
}
```

5. Wintek panel



5.1. Wintek 2.83" Initial Code

```

void ILI9326_Wintek28_Initial(void)
{
    // VCI=2.8V
    //***** Reset LCD Driver *****//
    LCD_nRESET = 1;
    delaysms(1); // Delay 1ms
    LCD_nRESET = 0;
    delaysms(10); // Delay 10ms // This delay time is necessary
    LCD_nRESET = 1;
    delaysms(50); // Delay 50 ms

    //***** Start Initial Sequence *****//
    LCD_CtrlWrite_ILI9326(0x0702, 0x3008); // Set internal timing, don't change this value
    LCD_CtrlWrite_ILI9326(0x0705, 0x0036); // Set internal timing, don't change this value
    LCD_CtrlWrite_ILI9326(0x070B, 0x1213); // Set internal timing, don't change this value
    LCD_CtrlWrite_ILI9326(0x0001, 0x0100); // set SS and SM bit
    LCD_CtrlWrite_ILI9326(0x0002, 0x0100); // set 1 line inversion
    LCD_CtrlWrite_ILI9326(0x0003, 0x1030); // set GRAM write direction and BGR=1.
    LCD_CtrlWrite_ILI9326(0x0008, 0x0202); // set the back porch and front porch
    LCD_CtrlWrite_ILI9326(0x0009, 0x0000); // set non-display area refresh cycle ISC[3:0]
    LCD_CtrlWrite_ILI9326(0x000C, 0x0000); // RGB interface setting
    LCD_CtrlWrite_ILI9326(0x000F, 0x0000); // RGB interface polarity

    //*****Power On sequence *****//
    LCD_CtrlWrite_ILI9326(0x0100, 0x0000); // SAP, BT[3:0], AP, DSTB, SLP, STB
    LCD_CtrlWrite_ILI9326(0x0102, 0x0000); // VREG1OUT voltage
    LCD_CtrlWrite_ILI9326(0x0103, 0x0000); // VDV[4:0] for VCOM amplitude
    delaysms(200); // Dis-charge capacitor power voltage
    LCD_CtrlWrite_ILI9326(0x0100, 0x1190); // SAP, BT[3:0], AP, DSTB, SLP, STB
    LCD_CtrlWrite_ILI9326(0x0101, 0x0227); // DC1[2:0], DC0[2:0], VC[2:0]
    delaysms(50); // Delay 50ms
    LCD_CtrlWrite_ILI9326(0x0102, 0x01BD); // VREG1OUT voltage
    delaysms(50); // Delay 50ms
    LCD_CtrlWrite_ILI9326(0x0103, 0x2F00); // VDV[4:0] for VCOM amplitude
    LCD_CtrlWrite_ILI9326(0x0281, 0x0008); // VCM[5:0] for VCOMH
    delaysms(50);
    LCD_CtrlWrite_ILI9326(0x0200, 0x0000); // GRAM horizontal Address
    LCD_CtrlWrite_ILI9326(0x0201, 0x0000); // GRAM Vertical Address

    // ----- Adjust the Gamma Curve -----//
    LCD_CtrlWrite_ILI9326(0x0300, 0x0000);
    LCD_CtrlWrite_ILI9326(0x0301, 0x0406);
    LCD_CtrlWrite_ILI9326(0x0302, 0x0303);
    LCD_CtrlWrite_ILI9326(0x0305, 0x0005);
    LCD_CtrlWrite_ILI9326(0x0306, 0x1604);
    LCD_CtrlWrite_ILI9326(0x0307, 0x0404);
    LCD_CtrlWrite_ILI9326(0x0308, 0x0103);
    LCD_CtrlWrite_ILI9326(0x0309, 0x0707);
    LCD_CtrlWrite_ILI9326(0x030C, 0x0500);
    LCD_CtrlWrite_ILI9326(0x030D, 0x000F);

    //----- Set GRAM area -----//
    LCD_CtrlWrite_ILI9326(0x0210, 0x0000); // Horizontal GRAM Start Address
    LCD_CtrlWrite_ILI9326(0x0211, 0x00EF); // Horizontal GRAM End Address
    LCD_CtrlWrite_ILI9326(0x0212, 0x0000); // Vertical GRAM Start Address
    LCD_CtrlWrite_ILI9326(0x0213, 0x01AF); // Vertical GRAM Start Address
    LCD_CtrlWrite_ILI9326(0x0400, 0x3500); // Gate Scan Line
    LCD_CtrlWrite_ILI9326(0x0401, 0x0001); // ND, VLE, REV

```



```
LCD_CtrlWrite_ILI9326(0x0404, 0x0000); // set scrolling line

//----- Partial Display Control -----//
LCD_CtrlWrite_ILI9326(0x0500, 0x0000); //Partial Image 1 Display Position
LCD_CtrlWrite_ILI9326(0x0501, 0x0000); //Partial Image 1 RAM Start/End Address
LCD_CtrlWrite_ILI9326(0x0502, 0x0000); //Partial Image 1 RAM Start/End Address
LCD_CtrlWrite_ILI9326(0x00503, 0x0000); //Partial Image 2 Display Position
LCD_CtrlWrite_ILI9326(0x00504, 0x0000); //Partial Image 2 RAM Start/End Address
LCD_CtrlWrite_ILI9326(0x00505, 0x0000); //Partial Image 2 RAM Start/End Address

//----- Panel Control -----//
LCD_CtrlWrite_ILI9326(0x0010, 0x0010); //DIVI[1:0];RTNI[4:0]
LCD_CtrlWrite_ILI9326(0x0011, 0x0600); //NOWI[2:0];SDTI[2:0]
LCD_CtrlWrite_ILI9326(0x0020, 0x0002); //DIVE[1:0];RTNE[5:0]

LCD_CtrlWrite_ILI9326(0x0007, 0x0173); // 262K color and display ON

}
```

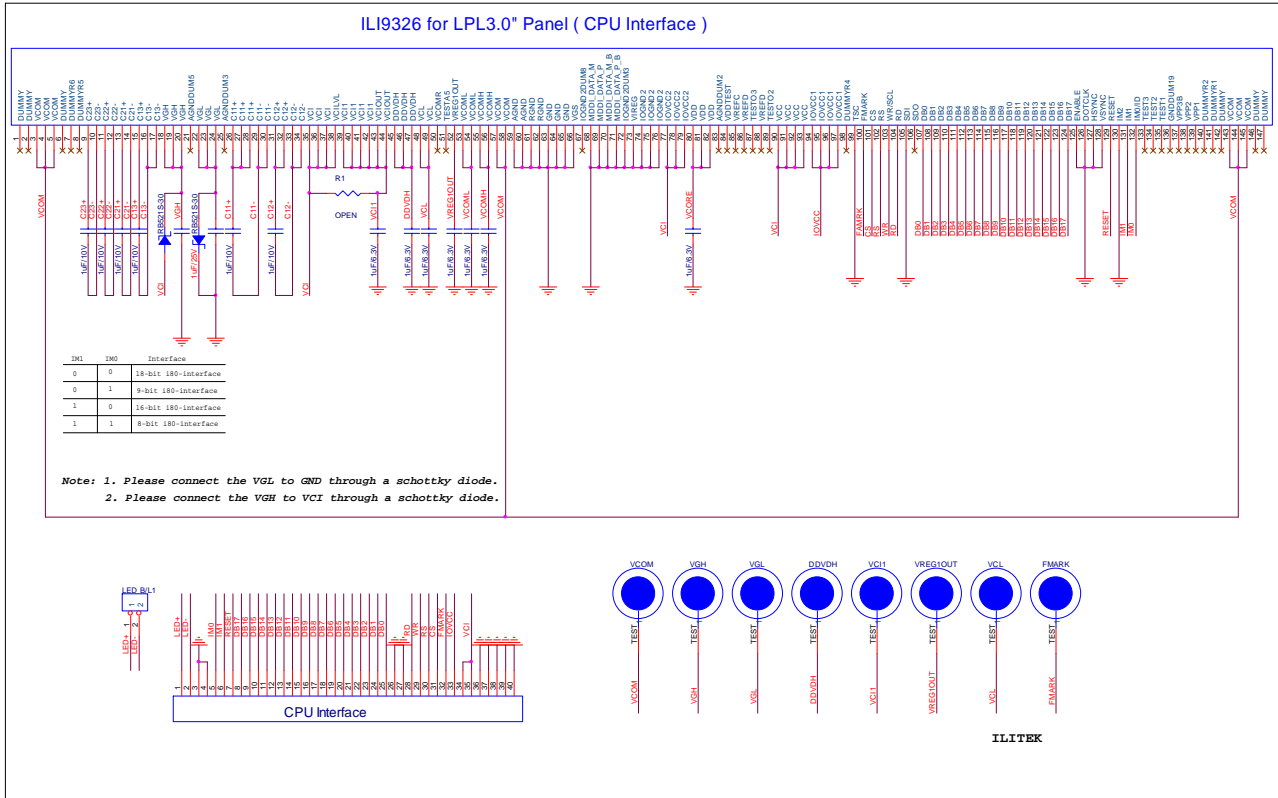
void LCD_ExitSleep_ILI9326(void)

```
{
//*****Power On sequence *****//
LCD_CtrlWrite_ILI9326(0x0100, 0x0000); // SAP, BT[3:0], AP, DSTB, SLP
delaysms(200); // Dis-charge capacitor power voltage
LCD_CtrlWrite_ILI9326(0x0100, 0x1190); // SAP, BT[3:0], AP, DSTB, SLP, STB
LCD_CtrlWrite_ILI9326(0x0101, 0x0227); // DC1[2:0], DC0[2:0], VC[2:0]
delaysms(50); // Delay 50ms
LCD_CtrlWrite_ILI9326(0x0102, 0x01BD); // VREG1OUT voltage
delaysms(50); // Delay 50ms
LCD_CtrlWrite_ILI9326(0x0103, 0x2F00); // VDV[4:0] for VCOM amplitude
LCD_CtrlWrite_ILI9326(0x0281, 0x0008); // VCM[5:0] for VCOMH
delaysms(50); // Delay 50ms
LCD_CtrlWrite_ILI9326(0x0007, 0x0173); // 262K color and display ON
}
```

void LCD_EnterSleep_ILI9326(void)

```
{
LCD_CtrlWrite_ILI9326(0x0007, 0x0131); // Set D1=0, D0=1
delaysms(10);
LCD_CtrlWrite_ILI9326(0x0007, 0x0130); // Set D1=0, D0=0
delaysms(10);
LCD_CtrlWrite_ILI9326(0x0007, 0x0000); // display OFF
//***** Power OFF sequence *****//
LCD_CtrlWrite_ILI9326(0x0100, 0x0000); // SAP, BT[3:0], APE, AP, DSTB, SLP
delaysms(200); // Dis-charge capacitor power voltage
LCD_CtrlWrite_ILI9326(0x0100, 0x0002); // SAP, BT[3:0], APE, AP, DSTB, SLP
}
```

6. LPL Panel



6.1 LPL 3.0” Initial Code

```
void ILI9326_LPL3.0_Initial(void)
{
    // VCI=2.8V
    //***** Reset LCD Driver *****//
    LCD_nRESET = 1;
    delaysms(1); // Delay 1ms
    LCD_nRESET = 0;
    delaysms(10); // Delay 10ms // This delay time is necessary
    LCD_nRESET = 1;
    delaysms(50); // Delay 50 ms

    //***** Start Initial Sequence *****//
    LCD_CtrlWrite_ILI9326(0x0702, 0x3008); // Set internal timing, don't change this value
    LCD_CtrlWrite_ILI9326(0x0705, 0x0036); // Set internal timing, don't change this value
    LCD_CtrlWrite_ILI9326(0x070B, 0x1213); // Set internal timing, don't change this value
    LCD_CtrlWrite_ILI9326(0x0001, 0x0100); // set SS and SM bit
    LCD_CtrlWrite_ILI9326(0x0002, 0x0100); // set 1 line inversion
    LCD_CtrlWrite_ILI9326(0x0003, 0x1030); // set GRAM write direction and BGR=1.
    LCD_CtrlWrite_ILI9326(0x0008, 0x0202); // set the back porch and front porch
    LCD_CtrlWrite_ILI9326(0x0009, 0x0000); // set non-display area refresh cycle ISC[3:0]
    LCD_CtrlWrite_ILI9326(0x000C, 0x0000); // RGB interface setting
    LCD_CtrlWrite_ILI9326(0x000F, 0x0000); // RGB interface polarity

    //*****Power On sequence *****//
    LCD_CtrlWrite_ILI9326(0x0100, 0x0000); // SAP, BT[3:0], AP, DSTB, SLP, STB
    LCD_CtrlWrite_ILI9326(0x0102, 0x0000); // VREG1OUT voltage
    LCD_CtrlWrite_ILI9326(0x0103, 0x0000); // VDV[4:0] for VCOM amplitude
    delaysms(200); // Dis-charge capacitor power voltage
    LCD_CtrlWrite_ILI9326(0x0100, 0x1190); // SAP, BT[3:0], AP, DSTB, SLP, STB
    LCD_CtrlWrite_ILI9326(0x0101, 0x0127); // DC1[2:0], DC0[2:0], VC[2:0]
    delaysms(50); // Delay 50ms
    LCD_CtrlWrite_ILI9326(0x0102, 0x01B8); // VREG1OUT voltage
    delaysms(50); // Delay 50ms
    LCD_CtrlWrite_ILI9326(0x0103, 0x3A00); // VDV[4:0] for VCOM amplitude
    LCD_CtrlWrite_ILI9326(0x0281, 0x0006); // VCM[5:0] for VCOMH
    delaysms(50);
    LCD_CtrlWrite_ILI9326(0x0200, 0x0000); // GRAM horizontal Address
    LCD_CtrlWrite_ILI9326(0x0201, 0x0000); // GRAM Vertical Address

    // ----- Adjust the Gamma Curve -----//
    LCD_CtrlWrite_ILI9326(0x0300, 0x0000);
    LCD_CtrlWrite_ILI9326(0x0301, 0x0506);
    LCD_CtrlWrite_ILI9326(0x0302, 0x0405);
    LCD_CtrlWrite_ILI9326(0x0305, 0x0007);
    LCD_CtrlWrite_ILI9326(0x0306, 0x0008);
    LCD_CtrlWrite_ILI9326(0x0307, 0x0203);
    LCD_CtrlWrite_ILI9326(0x0308, 0x0102);
    LCD_CtrlWrite_ILI9326(0x0309, 0x0707);
    LCD_CtrlWrite_ILI9326(0x030C, 0x0700);
    LCD_CtrlWrite_ILI9326(0x030D, 0x0008);

    //----- Set GRAM area -----//
    LCD_CtrlWrite_ILI9326(0x0210, 0x0000); // Horizontal GRAM Start Address
    LCD_CtrlWrite_ILI9326(0x0211, 0x00EF); // Horizontal GRAM End Address
    LCD_CtrlWrite_ILI9326(0x0212, 0x0000); // Vertical GRAM Start Address
    LCD_CtrlWrite_ILI9326(0x0213, 0x01AF); // Vertical GRAM Start Address
}
```

```
LCD_CtrlWrite_ILI9326(0x0400, 0x3500); // Gate Scan Line
LCD_CtrlWrite_ILI9326(0x0401, 0x0001); // NDL,VLE, REV
LCD_CtrlWrite_ILI9326(0x0404, 0x0000); // set scrolling line
```

```
//----- Partial Display Control -----//
```

```
LCD_CtrlWrite_ILI9326(0x0500, 0x0000); //Partial Image 1 Display Position
LCD_CtrlWrite_ILI9326(0x0501, 0x0000); //Partial Image 1 RAM Start/End Address
LCD_CtrlWrite_ILI9326(0x0502, 0x0000); //Partial Image 1 RAM Start/End Address
LCD_CtrlWrite_ILI9326(0x0503, 0x0000); //Partial Image 2 Display Position
LCD_CtrlWrite_ILI9326(0x0504, 0x0000); //Partial Image 2 RAM Start/End Address
LCD_CtrlWrite_ILI9326(0x0505, 0x0000); //Partial Image 2 RAM Start/End Address
```

```
//----- Panel Control -----//
```

```
LCD_CtrlWrite_ILI9326(0x0010, 0x0010); //DIVI[1:0];RTNI[4:0]
LCD_CtrlWrite_ILI9326(0x0011, 0x0600); //NOWI[2:0];SDTI[2:0]
LCD_CtrlWrite_ILI9326(0x0020, 0x0002); //DIVE[1:0];RTNE[5:0]
```

```
LCD_CtrlWrite_ILI9326(0x0007, 0x0173); // 262K color and display ON
```

```
}
```

void LCD_ExitSleep_ILI9326(void)

```
{
//*****Power On sequence *****//
LCD_CtrlWrite_ILI9326(0x0100, 0x0000); // SAP, BT[3:0], AP, DSTB, SLP
delays(200); // Dis-charge capacitor power voltage
LCD_CtrlWrite_ILI9326(0x0100, 0x1190); // SAP, BT[3:0], AP, DSTB, SLP, STB
LCD_CtrlWrite_ILI9326(0x0101, 0x0227); // DC1[2:0], DC0[2:0], VC[2:0]
delays(50); // Delay 50ms
LCD_CtrlWrite_ILI9326(0x0102, 0x01B8); // VREG1OUT voltage
delays(50); // Delay 50ms
LCD_CtrlWrite_ILI9326(0x0103, 0x3A00); // VDV[4:0] for VCOM amplitude
LCD_CtrlWrite_ILI9326(0x0281, 0x0006); // VCM[5:0] for VCOMH
delays(50); // Delay 50ms
LCD_CtrlWrite_ILI9326(0x0007, 0x0173); // 262K color and display ON
}
```

void LCD_EnterSleep_ILI9326(void)

```
{
LCD_CtrlWrite_ILI9326(0x0007, 0x0131); // Set D1=0, D0=1
delays(10);
LCD_CtrlWrite_ILI9326(0x0007, 0x0130); // Set D1=0, D0=0
delays(10);
LCD_CtrlWrite_ILI9326(0x0007, 0x0000); // display OFF
//***** Power OFF sequence *****//
LCD_CtrlWrite_ILI9326(0x0100, 0x0000); // SAP, BT[3:0], APE, AP, DSTB, SLP
delays(200); // Dis-charge capacitor power voltage
LCD_CtrlWrite_ILI9326(0x0100, 0x0002); // SAP, BT[3:0], APE, AP, DSTB, SLP
}
```

7.Revision History

Version No.	Date	Page	Description
0.2	2007/10/02	3,4	Add CPT 2.8"initial code
0.21	2007/10/08	3,4	Add PVI FPC
0.22	2007/10/09	11,12	Add PVI 2.6" initial code
0.23	2007/10/12	8,9	Add AUO 2.8" initial code
0.24	2007/12/10		Add Wintek 2.83" initial code
0.25	2007/01/17	13,14	Add PVI3.0" initial code
		19	Add LPL3.0" initial code
0.26	2007/01/28	18	Add LPL3.0" FPC
0.27	2007/01/29	18	Modify LPL3.0" FPC