

a-Si TFT LCD Single Chip Driver with 240RGBx320 Resolution and 262K color

Application Notes

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1. CPT PANEL	3
1.1 CPT 2.2" 2.4 "2.8" INITIAL CODE	4
1.2 CPT 2.4" INITIAL CODE.....	6
2. CMO PANEL	8
2.1 CMO 3.2" INITIAL CODE.....	10
2.2 CMO 2.8" INITIAL CODE.....	12
2.3 CMO 2.4 INITIAL CODE	14
3. AUO PANEL.....	16
3.1 AUO 2.8" INITIAL CODE	17
4. HITACHI PANEL	19
4.1 HITACHI 2.4" INITIAL CODE	20
5. WINTEK PANEL.....	22
5.1 WINTEK 2.4" INITIAL CODE.....	23
6. LPL PANEL	25
6.1 LPL 2.4" INITIAL CODE.....	26
6.2 LPL 2.0" INITIAL CODE.....	28
7. PVI PANEL.....	30
7.1 PVI 2.8" INITIAL CODE	31
8. TIANMA PANEL.....	33
8.1 TIANMA 2.8" INITIAL CODE	33
VOID ILI9325_STM28_INITIAL(VOID)	33
8.2 TIANMA 2.4" INITIAL CODE	36
8.3 TIANMA 2.2" INITIAL CODE	39
9. BOE 2.4 PANEL	42
9. BOE 2.4 PANEL	42
REVISION HISTORY	43

1.1 CPT 2.8 “ Initial Code

```
void ILI9325_CPT28_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_ILI9325(0x00E3, 0x3008); // Set internal timing
  LCD_CtrlWrite_ILI9325(0x00E7, 0x0012); // Set internal timing
  LCD_CtrlWrite_ILI9325(0x00EF, 0x1231); // Set internal timing
  LCD_CtrlWrite_ILI9325(0x0001, 0x0100); // set SS and SM bit
  LCD_CtrlWrite_ILI9325(0x0002, 0x0700); // set 1 line inversion
  LCD_CtrlWrite_ILI9325(0x0003, 0x1030); // set GRAM write direction and BGR=1.
  LCD_CtrlWrite_ILI9325(0x0004, 0x0000); // Resize register
  LCD_CtrlWrite_ILI9325(0x0008, 0x0207); // set the back porch and front porch
  LCD_CtrlWrite_ILI9325(0x0009, 0x0000); // set non-display area refresh cycle ISC[3:0]
  LCD_CtrlWrite_ILI9325(0x000A, 0x0000); // FMARK function
  LCD_CtrlWrite_ILI9325(0x000C, 0x0000); // RGB interface setting
  LCD_CtrlWrite_ILI9325(0x000D, 0x0000); // Frame marker Position
  LCD_CtrlWrite_ILI9325(0x000F, 0x0000); // RGB interface polarity

  //*****Power On sequence *****//
  LCD_CtrlWrite_ILI9325(0x0010, 0x0000); // SAP, BT[3:0], AP, DSTB, SLP, STB
  LCD_CtrlWrite_ILI9325(0x0011, 0x0007); // DC1[2:0], DC0[2:0], VC[2:0]
  LCD_CtrlWrite_ILI9325(0x0012, 0x0000); // VREG1OUT voltage
  LCD_CtrlWrite_ILI9325(0x0013, 0x0000); // VDV[4:0] for VCOM amplitude
  delayms(200); // Dis-charge capacitor power voltage
  LCD_CtrlWrite_ILI9325(0x0010, 0x1290); // SAP, BT[3:0], AP, DSTB, SLP, STB
  LCD_CtrlWrite_ILI9325(0x0011, 0x0227); // DC1[2:0], DC0[2:0], VC[2:0]
  delayms(50); // Delay 50ms
  LCD_CtrlWrite_ILI9325(0x0012, 0x001A); // Internal reference voltage= Vci;
  delayms(50); // Delay 50ms
  LCD_CtrlWrite_ILI9325(0x0013, 0x1800); // Set VDV[4:0] for VCOM amplitude
  LCD_CtrlWrite_ILI9325(0x0029, 0x0028); // Set VCM[5:0] for VCOMH
  LCD_CtrlWrite_ILI9325(0x002B, 0x000C); // Set Frame Rate
  delayms(50); // Delay 50ms
  LCD_CtrlWrite_ILI9325(0x0020, 0x0000); // GRAM horizontal Address
  LCD_CtrlWrite_ILI9325(0x0021, 0x0000); // GRAM Vertical Address

  // ----- Adjust the Gamma Curve -----//
  LCD_CtrlWrite_ILI9325(0x0030, 0x0000);
  LCD_CtrlWrite_ILI9325(0x0031, 0x0305);
  LCD_CtrlWrite_ILI9325(0x0032, 0x0003);
  LCD_CtrlWrite_ILI9325(0x0035, 0x0304);
  LCD_CtrlWrite_ILI9325(0x0036, 0x000F);
  LCD_CtrlWrite_ILI9325(0x0037, 0x0407);
  LCD_CtrlWrite_ILI9325(0x0038, 0x0204);
  LCD_CtrlWrite_ILI9325(0x0039, 0x0707);
  LCD_CtrlWrite_ILI9325(0x003C, 0x0403);
  LCD_CtrlWrite_ILI9325(0x003D, 0x1604);

  //----- Set GRAM area -----//
  LCD_CtrlWrite_ILI9325(0x0050, 0x0000); // Horizontal GRAM Start Address
  LCD_CtrlWrite_ILI9325(0x0051, 0x00EF); // Horizontal GRAM End Address
  LCD_CtrlWrite_ILI9325(0x0052, 0x0000); // Vertical GRAM Start Address
}
```

```

    LCD_CtrlWrite_ILI9325(0x0053, 0x013F);    // Vertical GRAM Start Address
    LCD_CtrlWrite_ILI9325(0x0060, 0xA700);    // Gate Scan Line
    LCD_CtrlWrite_ILI9325(0x0061, 0x0001);    // NDL,VLE, REV
    LCD_CtrlWrite_ILI9325(0x006A, 0x0000);    // set scrolling line
//----- Partial Display Control -----//
    LCD_CtrlWrite_ILI9325(0x0080, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0081, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0082, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0083, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0084, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0085, 0x0000);
//----- Panel Control -----//
    LCD_CtrlWrite_ILI9325(0x0090, 0x0010);
    LCD_CtrlWrite_ILI9325(0x0092, 0x0600);

    LCD_CtrlWrite_ILI9325(0x0007, 0x0133);    // 262K color and display ON
}

```

void LCD_ExitSleep_ILI9325(void)

```

{
//*****Power On sequence *****//
    LCD_CtrlWrite_ILI9325(0x0010, 0x0080);    // SAP, BT[3:0], AP, DSTB, SLP
    LCD_CtrlWrite_ILI9325(0x0011, 0x0000);    // DC1[2:0], DC0[2:0], VC[2:0]
    LCD_CtrlWrite_ILI9325(0x0012, 0x0000);    // VREG1OUT voltage
    LCD_CtrlWrite_ILI9325(0x0013, 0x0000);    // VDV[4:0] for VCOM amplitude
    delays(200);                               // Dis-charge capacitor power voltage
    LCD_CtrlWrite_ILI9325(0x0010, 0x1290);    // SAP, BT[3:0], AP, DSTB, SLP, STB
    LCD_CtrlWrite_ILI9325(0x0011, 0x0227);    // DC1[2:0], DC0[2:0], VC[2:0]
    delays(50);                               // Delay 50ms
    LCD_CtrlWrite_ILI9325(0x0012, 0x001A);    // Internal reference voltage =Vci;
    delays(50);                               // Delay 50ms
    LCD_CtrlWrite_ILI9325(0x0013, 0x1800);    // VDV[4:0] for VCOM amplitude
    LCD_CtrlWrite_ILI9325(0x0029, 0x0028);    // VCM[5:0] for VCOMH
    delays(50);                               // Delay 50ms
    LCD_CtrlWrite_ILI9325(0x0007, 0x0133);    // 262K color and display ON
}

```

void LCD_EnterSleep_ILI9325(void)

```

{
    LCD_CtrlWrite_ILI9325(0x0007, 0x0131);    // Set D1=0, D0=1
    delays(10);
    LCD_CtrlWrite_ILI9325(0x0007, 0x0130);    // Set D1=0, D0=0
    delays(10);
    LCD_CtrlWrite_ILI9325(0x0007, 0x0000);    // display OFF
//***** Power OFF sequence *****//
    LCD_CtrlWrite_ILI9325(0x0010, 0x0080);    // SAP, BT[3:0], APE, AP, DSTB, SLP
    LCD_CtrlWrite_ILI9325(0x0011, 0x0000);    // DC1[2:0], DC0[2:0], VC[2:0]
    LCD_CtrlWrite_ILI9325(0x0012, 0x0000);    // VREG1OUT voltage
    LCD_CtrlWrite_ILI9325(0x0013, 0x0000);    // VDV[4:0] for VCOM amplitude
    delays(200);                               // Dis-charge capacitor power voltage
    LCD_CtrlWrite_ILI9325(0x0010, 0x0082);    // SAP, BT[3:0], APE, AP, DSTB, SLP
}

```

1.2 CPT 2.4" Initial Code

void ILI9325_CPT24_Initial(void)

```
{
  // VCI=2.8V
  //***** Reset LCD Driver *****//
  LCD_nRESET = 1;
  delays(1); // Delay 1ms
  LCD_nRESET = 0;
  delays(10); // Delay 10ms           // This delay time is necessary
  LCD_nRESET = 1;
  delays(50); // Delay 50 ms
  //***** Start Initial Sequence *****//
  LCD_CtrlWrite_ILI9325(0x00E3, 0x3008); // Set internal timing
  LCD_CtrlWrite_ILI9325(0x00E7, 0x0012); // Set internal timing
  LCD_CtrlWrite_ILI9325(0x00EF, 0x1231); // Set internal timing
  LCD_CtrlWrite_ILI9325(0x0001, 0x0100); // set SS and SM bit
  LCD_CtrlWrite_ILI9325(0x0002, 0x0700); // set 1 line inversion
  LCD_CtrlWrite_ILI9325(0x0003, 0x1030); // set GRAM write direction and BGR=1.
  LCD_CtrlWrite_ILI9325(0x0004, 0x0000); // Resize register
  LCD_CtrlWrite_ILI9325(0x0008, 0x0207); // set the back porch and front porch
  LCD_CtrlWrite_ILI9325(0x0009, 0x0000); // set non-display area refresh cycle ISC[3:0]
  LCD_CtrlWrite_ILI9325(0x000A, 0x0000); // FMARK function
  LCD_CtrlWrite_ILI9325(0x000C, 0x0000); // RGB interface setting
  LCD_CtrlWrite_ILI9325(0x000D, 0x0000); // Frame marker Position
  LCD_CtrlWrite_ILI9325(0x000F, 0x0000); // RGB interface polarity
  //*****Power On sequence *****//
  LCD_CtrlWrite_ILI9325(0x0010, 0x0000); // SAP, BT[3:0], AP, DSTB, SLP, STB
  LCD_CtrlWrite_ILI9325(0x0011, 0x0007); // DC1[2:0], DC0[2:0], VC[2:0]
  LCD_CtrlWrite_ILI9325(0x0012, 0x0000); // VREG1OUT voltage
  LCD_CtrlWrite_ILI9325(0x0013, 0x0000); // VDV[4:0] for VCOM amplitude
  delays(200); // Dis-charge capacitor power voltage
  LCD_CtrlWrite_ILI9325(0x0010, 0x1490); // SAP, BT[3:0], AP, DSTB, SLP, STB
  LCD_CtrlWrite_ILI9325(0x0011, 0x0227); // DC1[2:0], DC0[2:0], VC[2:0]
  delays(50); // Delay 50ms
  LCD_CtrlWrite_ILI9325(0x0012, 0x001C); // Internal reference voltage= Vci;
  delays(50); // Delay 50ms
  LCD_CtrlWrite_ILI9325(0x0013, 0x1A00); // Set VDV[4:0] for VCOM amplitude
  LCD_CtrlWrite_ILI9325(0x0029, 0x0025); // Set VCM[5:0] for VCOMH
  LCD_CtrlWrite_ILI9325(0x002B, 0x000C); // Set Frame Rate
  delays(50); // Delay 50ms
  LCD_CtrlWrite_ILI9325(0x0020, 0x0000); // GRAM horizontal Address
  LCD_CtrlWrite_ILI9325(0x0021, 0x0000); // GRAM Vertical Address
  // ----- Adjust the Gamma Curve -----//
  LCD_CtrlWrite_ILI9325(0x0030, 0x0000);
  LCD_CtrlWrite_ILI9325(0x0031, 0x0506);
  LCD_CtrlWrite_ILI9325(0x0032, 0x0104);
  LCD_CtrlWrite_ILI9325(0x0035, 0x0207);
  LCD_CtrlWrite_ILI9325(0x0036, 0x000F);
  LCD_CtrlWrite_ILI9325(0x0037, 0x0306);
  LCD_CtrlWrite_ILI9325(0x0038, 0x0102);
  LCD_CtrlWrite_ILI9325(0x0039, 0x0707);
  LCD_CtrlWrite_ILI9325(0x003C, 0x0702);
  LCD_CtrlWrite_ILI9325(0x003D, 0x1604);
  //----- Set GRAM area -----//
  LCD_CtrlWrite_ILI9325(0x0050, 0x0000); // Horizontal GRAM Start Address
  LCD_CtrlWrite_ILI9325(0x0051, 0x00EF); // Horizontal GRAM End Address
  LCD_CtrlWrite_ILI9325(0x0052, 0x0000); // Vertical GRAM Start Address
  LCD_CtrlWrite_ILI9325(0x0053, 0x013F); // Vertical GRAM Start Address
  LCD_CtrlWrite_ILI9325(0x0060, 0xA700); // Gate Scan Line
}
```

```

    LCD_CtrlWrite_ILI9325(0x0061, 0x0001);    // NDL,VLE, REV
    LCD_CtrlWrite_ILI9325(0x006A, 0x0000);    // set scrolling line
//----- Partial Display Control -----//
    LCD_CtrlWrite_ILI9325(0x0080, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0081, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0082, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0083, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0084, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0085, 0x0000);
//----- Panel Control -----//
    LCD_CtrlWrite_ILI9325(0x0090, 0x0010);
    LCD_CtrlWrite_ILI9325(0x0092, 0x0600);

    LCD_CtrlWrite_ILI9325(0x0007, 0x0133);    // 262K color and display ON
}

```

void LCD_ExitSleep_ILI9325(void)

```

{
//*****Power On sequence *****//
    LCD_CtrlWrite_ILI9325(0x0010, 0x0080);    // SAP, BT[3:0], AP, DSTB, SLP
    LCD_CtrlWrite_ILI9325(0x0011, 0x0000);    // DC1[2:0], DC0[2:0], VC[2:0]
    LCD_CtrlWrite_ILI9325(0x0012, 0x0000);    // VREG1OUT voltage
    LCD_CtrlWrite_ILI9325(0x0013, 0x0000);    // VDV[4:0] for VCOM amplitude
    delayms(200);                             // Dis-charge capacitor power voltage
    LCD_CtrlWrite_ILI9325(0x0010, 0x1490);    // SAP, BT[3:0], AP, DSTB, SLP, STB
    LCD_CtrlWrite_ILI9325(0x0011, 0x0227);    // DC1[2:0], DC0[2:0], VC[2:0]
    delayms(50);                              // Delay 50ms
    LCD_CtrlWrite_ILI9325(0x0012, 0x001C);    // Internal reference voltage =Vci;
    delayms(50);                              // Delay 50ms
    LCD_CtrlWrite_ILI9325(0x0013, 0x1A00);    // VDV[4:0] for VCOM amplitude
    LCD_CtrlWrite_ILI9325(0x0029, 0x0025);    // VCM[5:0] for VCOMH
    delayms(50);                              // Delay 50ms
    LCD_CtrlWrite_ILI9325(0x0007, 0x0133);    // 262K color and display ON
}

```

void LCD_EnterSleep_ILI9325(void)

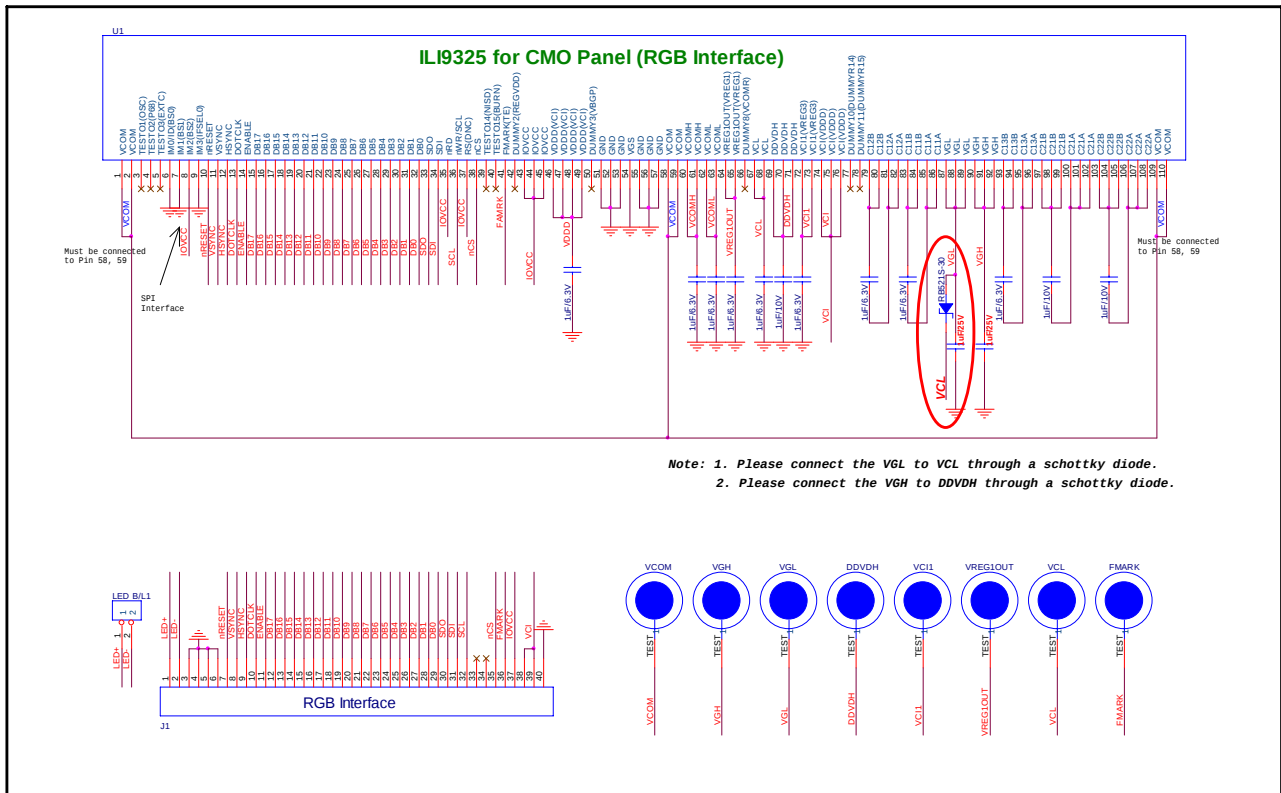
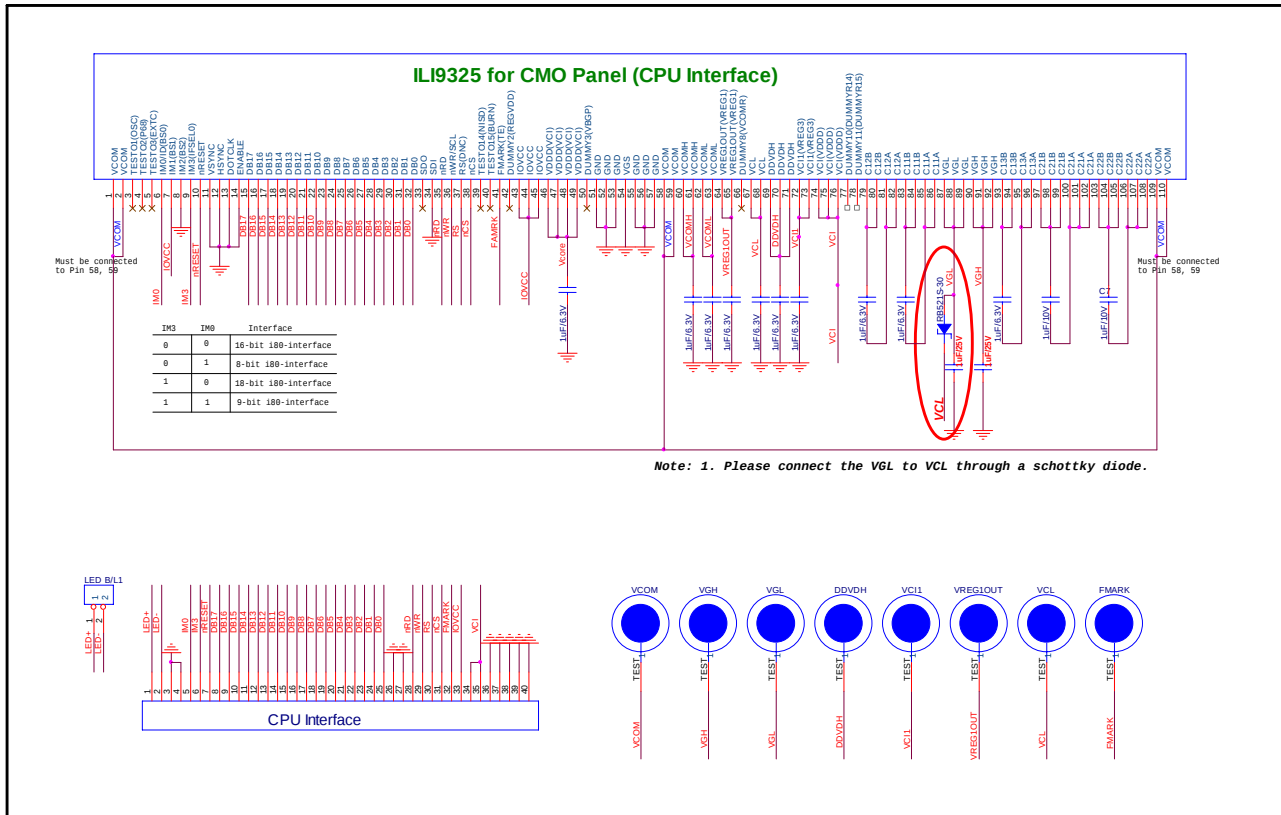
```

{
    LCD_CtrlWrite_ILI9325(0x0007, 0x0131);    // Set D1=0, D0=1
    delayms(10);
    LCD_CtrlWrite_ILI9325(0x0007, 0x0130);    // Set D1=0, D0=0
    delayms(10);
    LCD_CtrlWrite_ILI9325(0x0007, 0x0000);    // display OFF
//***** Power OFF sequence *****//
    LCD_CtrlWrite_ILI9325(0x0010, 0x0080);    // SAP, BT[3:0], APE, AP, DSTB, SLP
    LCD_CtrlWrite_ILI9325(0x0011, 0x0000);    // DC1[2:0], DC0[2:0], VC[2:0]
    LCD_CtrlWrite_ILI9325(0x0012, 0x0000);    // VREG1OUT voltage
    LCD_CtrlWrite_ILI9325(0x0013, 0x0000);    // VDV[4:0] for VCOM amplitude
    delayms(200);                             // Dis-charge capacitor power voltage
    LCD_CtrlWrite_ILI9325(0x0010, 0x0082);    // SAP, BT[3:0], APE, AP, DSTB, SLP
}

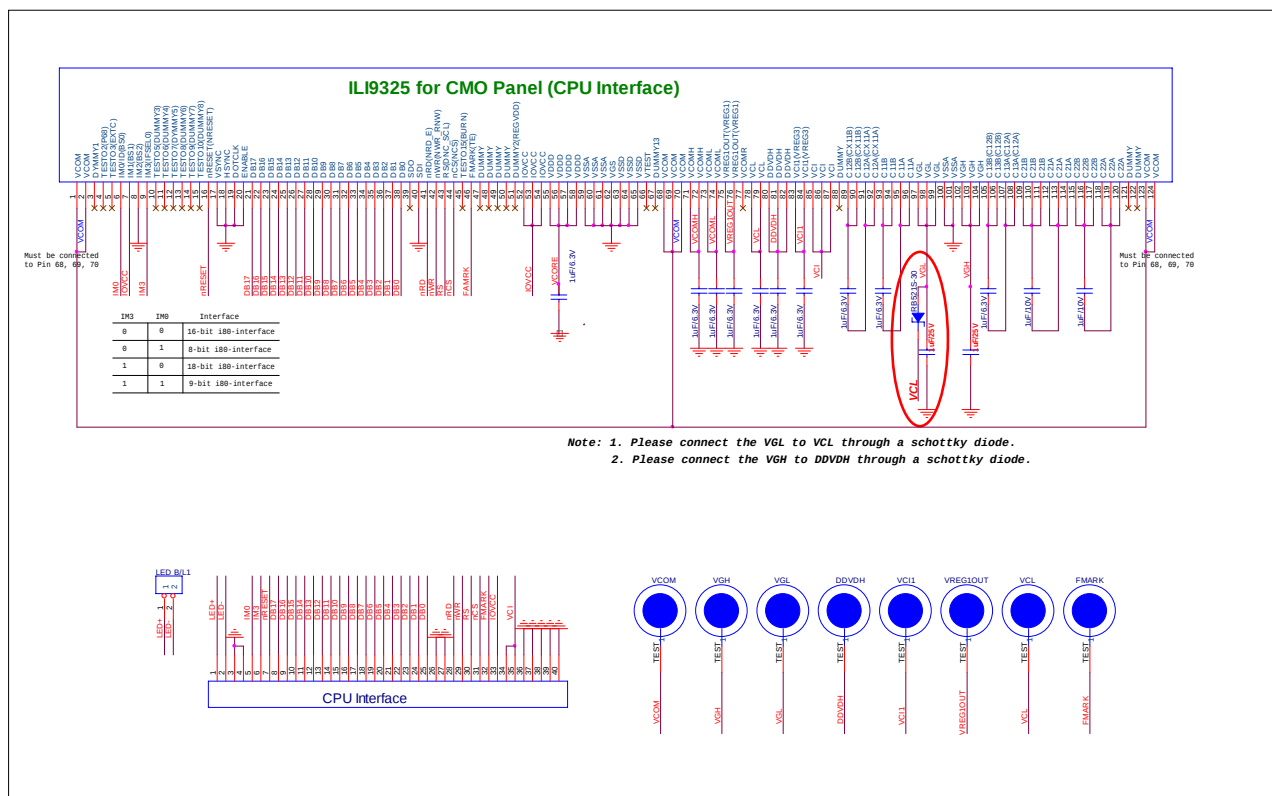
```

2. CMO Panel

2.4", 2.8" and 3.2" Panel



2.4" CMO Panel(F02414-01V PD024MC6L-1401)



2.1 CMO 3.2" Initial Code

```
void ILI9325_CMO32_Initial(void)
```

```
{
  // VCI=2.8V
  //***** Reset LCD Driver *****//
  LCD_nRESET = 1;
  delays(1); // Delay 1ms
  LCD_nRESET = 0;
  delays(10); // Delay 10ms          // This delay time is necessary
  LCD_nRESET = 1;
  delays(50); // Delay 50 ms
  //***** Start Initial Sequence *****//
  LCD_CtrlWrite_ILI9325(0x00E3, 0x3008); // Set internal timing
  LCD_CtrlWrite_ILI9325(0x00E7, 0x0012); // Set internal timing
  LCD_CtrlWrite_ILI9325(0x00EF, 0x1231); // Set internal timing
  LCD_CtrlWrite_ILI9325(0x0001, 0x0100); // set SS and SM bit
  LCD_CtrlWrite_ILI9325(0x0002, 0x0700); // set 1 line inversion
  LCD_CtrlWrite_ILI9325(0x0003, 0x1030); // set GRAM write direction and BGR=1.
  LCD_CtrlWrite_ILI9325(0x0004, 0x0000); // Resize register
  LCD_CtrlWrite_ILI9325(0x0008, 0x0207); // set the back porch and front porch
  LCD_CtrlWrite_ILI9325(0x0009, 0x0000); // set non-display area refresh cycle ISC[3:0]
  LCD_CtrlWrite_ILI9325(0x000A, 0x0000); // FMARK function
  LCD_CtrlWrite_ILI9325(0x000C, 0x0000); // RGB interface setting
  LCD_CtrlWrite_ILI9325(0x000D, 0x0000); // Frame marker Position
  LCD_CtrlWrite_ILI9325(0x000F, 0x0000); // RGB interface polarity
  //*****Power On sequence *****//
  LCD_CtrlWrite_ILI9325(0x0010, 0x0000); // SAP, BT[3:0], AP, DSTB, SLP, STB
  LCD_CtrlWrite_ILI9325(0x0011, 0x0007); // DC1[2:0], DC0[2:0], VC[2:0]
  LCD_CtrlWrite_ILI9325(0x0012, 0x0000); // VREG1OUT voltage
  LCD_CtrlWrite_ILI9325(0x0013, 0x0000); // VDV[4:0] for VCOM amplitude
  delays(200); // Dis-charge capacitor power voltage
  LCD_CtrlWrite_ILI9325(0x0010, 0x1290); // SAP, BT[3:0], AP, DSTB, SLP, STB
  LCD_CtrlWrite_ILI9325(0x0011, 0x0227); // DC1[2:0], DC0[2:0], VC[2:0]
  delays(50); // Delay 50ms
  LCD_CtrlWrite_ILI9325(0x0012, 0x0019); // Internal reference voltage= Vci;
  delays(50); // Delay 50ms
  LCD_CtrlWrite_ILI9325(0x0013, 0x1D00); // Set VDV[4:0] for VCOM amplitude
  LCD_CtrlWrite_ILI9325(0x0029, 0x0028); // Set VCM[5:0] for VCOMH
  LCD_CtrlWrite_ILI9325(0x002B, 0x000C); // Set Frame Rate
  delays(50); // Delay 50ms
  LCD_CtrlWrite_ILI9325(0x0020, 0x0000); // GRAM horizontal Address
  LCD_CtrlWrite_ILI9325(0x0021, 0x0000); // GRAM Vertical Address
  // ----- Adjust the Gamma Curve -----//
  LCD_CtrlWrite_ILI9325(0x0030, 0x0000);
  LCD_CtrlWrite_ILI9325(0x0031, 0x0603);
  LCD_CtrlWrite_ILI9325(0x0032, 0x0206);
  LCD_CtrlWrite_ILI9325(0x0035, 0x0206);
  LCD_CtrlWrite_ILI9325(0x0036, 0x0004);
  LCD_CtrlWrite_ILI9325(0x0037, 0x0105);
  LCD_CtrlWrite_ILI9325(0x0038, 0x0401);
  LCD_CtrlWrite_ILI9325(0x0039, 0x0707);
  LCD_CtrlWrite_ILI9325(0x003C, 0x0602);
  LCD_CtrlWrite_ILI9325(0x003D, 0x0004);
  //----- Set GRAM area -----//
  LCD_CtrlWrite_ILI9325(0x0050, 0x0000); // Horizontal GRAM Start Address
  LCD_CtrlWrite_ILI9325(0x0051, 0x00EF); // Horizontal GRAM End Address
  LCD_CtrlWrite_ILI9325(0x0052, 0x0000); // Vertical GRAM Start Address
  LCD_CtrlWrite_ILI9325(0x0053, 0x013F); // Vertical GRAM Start Address
  LCD_CtrlWrite_ILI9325(0x0060, 0xA700); // Gate Scan Line
}
```

```

    LCD_CtrlWrite_ILI9325(0x0061, 0x0001);    // NDL,VLE, REV
    LCD_CtrlWrite_ILI9325(0x006A, 0x0000);    // set scrolling line
//----- Partial Display Control -----//
    LCD_CtrlWrite_ILI9325(0x0080, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0081, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0082, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0083, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0084, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0085, 0x0000);
//----- Panel Control -----//
    LCD_CtrlWrite_ILI9325(0x0090, 0x0010);
    LCD_CtrlWrite_ILI9325(0x0092, 0x0600);

    LCD_CtrlWrite_ILI9325(0x0007, 0x0133);    // 262K color and display ON
}

```

void LCD_ExitSleep_ILI9325(void)

```

{
//*****Power On sequence *****//
    LCD_CtrlWrite_ILI9325(0x0010, 0x0080);    // SAP, BT[3:0], AP, DSTB, SLP
    LCD_CtrlWrite_ILI9325(0x0011, 0x0000);    // DC1[2:0], DC0[2:0], VC[2:0]
    LCD_CtrlWrite_ILI9325(0x0012, 0x0000);    // VREG1OUT voltage
    LCD_CtrlWrite_ILI9325(0x0013, 0x0000);    // VDV[4:0] for VCOM amplitude
    delays(200);                               // Dis-charge capacitor power voltage
    LCD_CtrlWrite_ILI9325(0x0010, 0x1290);    // SAP, BT[3:0], AP, DSTB, SLP, STB
    LCD_CtrlWrite_ILI9325(0x0011, 0x0027);    // DC1[2:0], DC0[2:0], VC[2:0]
    delays(50);                               // Delay 50ms
    LCD_CtrlWrite_ILI9325(0x0012, 0x0019);    // Internal reference voltage =Vci;
    delays(50);                               // Delay 50ms
    LCD_CtrlWrite_ILI9325(0x0013, 0x1D00);    // VDV[4:0] for VCOM amplitude
    LCD_CtrlWrite_ILI9325(0x0029, 0x0028);    // VCM[5:0] for VCOMH
    delays(50);                               // Delay 50ms
    LCD_CtrlWrite_ILI9325(0x0007, 0x0133);    // 262K color and display ON
}

```

void LCD_EnterSleep_ILI9325(void)

```

{
    LCD_CtrlWrite_ILI9325(0x0007, 0x0131);    // Set D1=0, D0=1
    delays(10);
    LCD_CtrlWrite_ILI9325(0x0007, 0x0130);    // Set D1=0, D0=0
    delays(10);
    LCD_CtrlWrite_ILI9325(0x0007, 0x0000);    // display OFF
//***** Power OFF sequence *****//
    LCD_CtrlWrite_ILI9325(0x0010, 0x0080);    // SAP, BT[3:0], APE, AP, DSTB, SLP
    LCD_CtrlWrite_ILI9325(0x0011, 0x0000);    // DC1[2:0], DC0[2:0], VC[2:0]
    LCD_CtrlWrite_ILI9325(0x0012, 0x0000);    // VREG1OUT voltage
    LCD_CtrlWrite_ILI9325(0x0013, 0x0000);    // VDV[4:0] for VCOM amplitude
    delays(200);                               // Dis-charge capacitor power voltage
    LCD_CtrlWrite_ILI9325(0x0010, 0x0082);    // SAP, BT[3:0], APE, AP, DSTB, SLP
}

```

2.2 CMO 2.8" Initial Code

void ILI9325_CMO28_Initial(void)

```
{
  // VCI=2.8V
  //***** Reset LCD Driver *****//
  LCD_nRESET = 1;
  delays(1); // Delay 1ms
  LCD_nRESET = 0;
  delays(10); // Delay 10ms          // This delay time is necessary
  LCD_nRESET = 1;
  delays(50); // Delay 50 ms
  //***** Start Initial Sequence *****//
  LCD_CtrlWrite_ILI9325(0x00E3, 0x3008); // Set internal timing
  LCD_CtrlWrite_ILI9325(0x00E7, 0x0012); // Set internal timing
  LCD_CtrlWrite_ILI9325(0x00EF, 0x1231); // Set internal timing
  LCD_CtrlWrite_ILI9325(0x0001, 0x0100); // set SS and SM bit
  LCD_CtrlWrite_ILI9325(0x0002, 0x0700); // set 1 line inversion
  LCD_CtrlWrite_ILI9325(0x0003, 0x1030); // set GRAM write direction and BGR=1.
  LCD_CtrlWrite_ILI9325(0x0004, 0x0000); // Resize register
  LCD_CtrlWrite_ILI9325(0x0008, 0x0207); // set the back porch and front porch
  LCD_CtrlWrite_ILI9325(0x0009, 0x0000); // set non-display area refresh cycle ISC[3:0]
  LCD_CtrlWrite_ILI9325(0x000A, 0x0000); // FMARK function
  LCD_CtrlWrite_ILI9325(0x000C, 0x0000); // RGB interface setting
  LCD_CtrlWrite_ILI9325(0x000D, 0x0000); // Frame marker Position
  LCD_CtrlWrite_ILI9325(0x000F, 0x0000); // RGB interface polarity
  //*****Power On sequence *****//
  LCD_CtrlWrite_ILI9325(0x0010, 0x0000); // SAP, BT[3:0], AP, DSTB, SLP, STB
  LCD_CtrlWrite_ILI9325(0x0011, 0x0007); // DC1[2:0], DC0[2:0], VC[2:0]
  LCD_CtrlWrite_ILI9325(0x0012, 0x0000); // VREG1OUT voltage
  LCD_CtrlWrite_ILI9325(0x0013, 0x0000); // VDV[4:0] for VCOM amplitude
  delays(200); // Dis-charge capacitor power voltage
  LCD_CtrlWrite_ILI9325(0x0010, 0x1690); // SAP, BT[3:0], AP, DSTB, SLP, STB
  LCD_CtrlWrite_ILI9325(0x0011, 0x0227); // DC1[2:0], DC0[2:0], VC[2:0]
  delays(50); // Delay 50ms
  LCD_CtrlWrite_ILI9325(0x0012, 0x001B); // Internal reference voltage= Vci;
  delays(50); // Delay 50ms
  LCD_CtrlWrite_ILI9325(0x0013, 0x1600); // Set VDV[4:0] for VCOM amplitude
  LCD_CtrlWrite_ILI9325(0x0029, 0x0018); // Set VCM[5:0] for VCOMH
  LCD_CtrlWrite_ILI9325(0x002B, 0x000C); // Set Frame Rate
  delays(50); // Delay 50ms
  LCD_CtrlWrite_ILI9325(0x0020, 0x0000); // GRAM horizontal Address
  LCD_CtrlWrite_ILI9325(0x0021, 0x0000); // GRAM Vertical Address
  // ----- Adjust the Gamma Curve -----//
  LCD_CtrlWrite_ILI9325(0x0030, 0x0000);
  LCD_CtrlWrite_ILI9325(0x0031, 0x0404);
  LCD_CtrlWrite_ILI9325(0x0032, 0x0304);
  LCD_CtrlWrite_ILI9325(0x0035, 0x0005);
  LCD_CtrlWrite_ILI9325(0x0036, 0x1604);
  LCD_CtrlWrite_ILI9325(0x0037, 0x0304);
  LCD_CtrlWrite_ILI9325(0x0038, 0x0303);
  LCD_CtrlWrite_ILI9325(0x0039, 0x0707);
  LCD_CtrlWrite_ILI9325(0x003C, 0x0500);
  LCD_CtrlWrite_ILI9325(0x003D, 0x000F);
  //----- Set GRAM area -----//
  LCD_CtrlWrite_ILI9325(0x0050, 0x0000); // Horizontal GRAM Start Address
  LCD_CtrlWrite_ILI9325(0x0051, 0x00EF); // Horizontal GRAM End Address
  LCD_CtrlWrite_ILI9325(0x0052, 0x0000); // Vertical GRAM Start Address
  LCD_CtrlWrite_ILI9325(0x0053, 0x013F); // Vertical GRAM Start Address
  LCD_CtrlWrite_ILI9325(0x0060, 0xA700); // Gate Scan Line
}
```

```

    LCD_CtrlWrite_ILI9325(0x0061, 0x0001);    // NDL,VLE, REV
    LCD_CtrlWrite_ILI9325(0x006A, 0x0000);    // set scrolling line
//----- Partial Display Control -----//
    LCD_CtrlWrite_ILI9325(0x0080, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0081, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0082, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0083, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0084, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0085, 0x0000);
//----- Panel Control -----//
    LCD_CtrlWrite_ILI9325(0x0090, 0x0010);
    LCD_CtrlWrite_ILI9325(0x0092, 0x0600);

    LCD_CtrlWrite_ILI9325(0x0007, 0x0133);    // 262K color and display ON
}

```

void LCD_ExitSleep_ILI9325(void)

```

{
//*****Power On sequence *****//
    LCD_CtrlWrite_ILI9325(0x0010, 0x0080);    // SAP, BT[3:0], AP, DSTB, SLP
    LCD_CtrlWrite_ILI9325(0x0011, 0x0000);    // DC1[2:0], DC0[2:0], VC[2:0]
    LCD_CtrlWrite_ILI9325(0x0012, 0x0000);    // VREG1OUT voltage
    LCD_CtrlWrite_ILI9325(0x0013, 0x0000);    // VDV[4:0] for VCOM amplitude
    delays(200);                               // Dis-charge capacitor power voltage
    LCD_CtrlWrite_ILI9325(0x0010, 0x1690);    // SAP, BT[3:0], AP, DSTB, SLP, STB
    LCD_CtrlWrite_ILI9325(0x0011, 0x0227);    // Set DC1[2:0], DC0[2:0], VC[2:0]
    delays(50);                               // Delay 50ms
    LCD_CtrlWrite_ILI9325(0x0012, 0x001B);    // External reference voltage =Vci;
    delays(50);                               // Delay 50ms
    LCD_CtrlWrite_ILI9325(0x0013, 0x1600);    // R13h=0x1D00 when R12=009D VDV[4:0] for VCOM amplitude
    LCD_CtrlWrite_ILI9325(0x0029, 0x0018);    // R29h=0x0013 when R12=009D VCM[5:0] for VCOMH
    delays(50);                               // Delay 50ms
    LCD_CtrlWrite_ILI9325(0x0007, 0x0133);    // 262K color and display ON
}

```

void LCD_EnterSleep_ILI9325(void)

```

{
    LCD_CtrlWrite_ILI9325(0x0007, 0x0131);    // Set D1=0, D0=1
    delays(10);
    LCD_CtrlWrite_ILI9325(0x0007, 0x0130);    // Set D1=0, D0=0
    delays(10);
    LCD_CtrlWrite_ILI9325(0x0007, 0x0000);    // display OFF
//***** Power OFF sequence *****//
    LCD_CtrlWrite_ILI9325(0x0010, 0x0080);    // SAP, BT[3:0], APE, AP, DSTB, SLP
    LCD_CtrlWrite_ILI9325(0x0011, 0x0000);    // DC1[2:0], DC0[2:0], VC[2:0]
    LCD_CtrlWrite_ILI9325(0x0012, 0x0000);    // VREG1OUT voltage
    LCD_CtrlWrite_ILI9325(0x0013, 0x0000);    // VDV[4:0] for VCOM amplitude
    delays(200);                               // Dis-charge capacitor power voltage
    LCD_CtrlWrite_ILI9325(0x0010, 0x0082);    // SAP, BT[3:0], APE, AP, DSTB, SLP
}

```

2.3 CMO 2.4 Initial Code

void ILI9325_CMO24_Initial(void)

```
{
// VCI=2.8V
//***** Reset LCD Driver *****//
LCD_nRESET = 1;
  delays(1); // Delay 1ms
LCD_nRESET = 0;
  delays(10); // Delay 10ms          // This delay time is necessary
LCD_nRESET = 1;
  delays(50); // Delay 50 ms
//***** Start Initial Sequence *****//
  LCD_CtrlWrite_ILI9325(0x00E3, 0x3008); // Set internal timing
  LCD_CtrlWrite_ILI9325(0x00E7, 0x0012); // Set internal timing
  LCD_CtrlWrite_ILI9325(0x00EF, 0x1231); // Set internal timing
  LCD_CtrlWrite_ILI9325(0x0001, 0x0100); // set SS and SM bit
  LCD_CtrlWrite_ILI9325(0x0002, 0x0700); // set 1 line inversion
  LCD_CtrlWrite_ILI9325(0x0003, 0x1030); // set GRAM write direction and BGR=1.
  LCD_CtrlWrite_ILI9325(0x0004, 0x0000); // Resize register
  LCD_CtrlWrite_ILI9325(0x0008, 0x0202); // set the back porch and front porch
  LCD_CtrlWrite_ILI9325(0x0009, 0x0000); // set non-display area refresh cycle ISC[3:0]
  LCD_CtrlWrite_ILI9325(0x000A, 0x0000); // FMARK function
  LCD_CtrlWrite_ILI9325(0x000C, 0x0000); // RGB interface setting
  LCD_CtrlWrite_ILI9325(0x000D, 0x0000); // Frame marker Position
  LCD_CtrlWrite_ILI9325(0x000F, 0x0000); // RGB interface polarity
//*****Power On sequence *****//
  LCD_CtrlWrite_ILI9325(0x0010, 0x0000); // SAP, BT[3:0], AP, DSTB, SLP, STB
  LCD_CtrlWrite_ILI9325(0x0011, 0x0007); // DC1[2:0], DC0[2:0], VC[2:0]
  LCD_CtrlWrite_ILI9325(0x0012, 0x0000); // VREG1OUT voltage
  LCD_CtrlWrite_ILI9325(0x0013, 0x0000); // VDV[4:0] for VCOM amplitude
  delays(200); // Dis-charge capacitor power voltage
  LCD_CtrlWrite_ILI9325(0x0010, 0x1290); // SAP, BT[3:0], AP, DSTB, SLP, STB
  LCD_CtrlWrite_ILI9325(0x0011, 0x0227); // Set DC1[2:0], DC0[2:0], VC[2:0]
  delays(50); // Delay 50ms
  LCD_CtrlWrite_ILI9325(0x0012, 0x001B); // External reference voltage= Vci;
  delays(50); // Delay 50ms
  LCD_CtrlWrite_ILI9325(0x0013, 0x1900); // Set VDV[4:0] for VCOM amplitude
  LCD_CtrlWrite_ILI9325(0x0029, 0x000F); // SetVCM[5:0] for VCOMH
  LCD_CtrlWrite_ILI9325(0x002B, 0x000C); // Set Frame Rate
  delays(50); // Delay 50ms
  LCD_CtrlWrite_ILI9325(0x0020, 0x0000); // GRAM horizontal Address
  LCD_CtrlWrite_ILI9325(0x0021, 0x0000); // GRAM Vertical Address
// ----- Adjust the Gamma Curve -----//
  LCD_CtrlWrite_ILI9325(0x0030, 0x0000);
  LCD_CtrlWrite_ILI9325(0x0031, 0x0406);
  LCD_CtrlWrite_ILI9325(0x0032, 0x0004);
  LCD_CtrlWrite_ILI9325(0x0035, 0x0305);
  LCD_CtrlWrite_ILI9325(0x0036, 0x0004);
  LCD_CtrlWrite_ILI9325(0x0037, 0x0207);
  LCD_CtrlWrite_ILI9325(0x0038, 0x0103);
  LCD_CtrlWrite_ILI9325(0x0039, 0x0707);
  LCD_CtrlWrite_ILI9325(0x003C, 0x0503);
  LCD_CtrlWrite_ILI9325(0x003D, 0x0004);
//----- Set GRAM area -----//
  LCD_CtrlWrite_ILI9325(0x0050, 0x0000); // Horizontal GRAM Start Address
  LCD_CtrlWrite_ILI9325(0x0051, 0x00EF); // Horizontal GRAM End Address
  LCD_CtrlWrite_ILI9325(0x0052, 0x0000); // Vertical GRAM Start Address
  LCD_CtrlWrite_ILI9325(0x0053, 0x013F); // Vertical GRAM Start Address
  LCD_CtrlWrite_ILI9325(0x0060, 0xA700); // Gate Scan Line
```

```

    LCD_CtrlWrite_ILI9325(0x0061, 0x0001);    // NDL,VLE, REV
    LCD_CtrlWrite_ILI9325(0x006A, 0x0000);    // set scrolling line
//----- Partial Display Control -----//
    LCD_CtrlWrite_ILI9325(0x0080, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0081, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0082, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0083, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0084, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0085, 0x0000);
//----- Panel Control -----//
    LCD_CtrlWrite_ILI9325(0x0090, 0x0010);
    LCD_CtrlWrite_ILI9325(0x0092, 0x0600);

    LCD_CtrlWrite_ILI9325(0x0007, 0x0133);    // 262K color and display ON
}

```

void LCD_EnterSleep_ILI9325(void)

```

{
    LCD_CtrlWrite_ILI9325(0x0007, 0x0131);    // Set D1=0, D0=1
    delays(10);
    LCD_CtrlWrite_ILI9325(0x0007, 0x0130);    // Set D1=0, D0=0
    delays(10);
    LCD_CtrlWrite_ILI9325(0x0007, 0x0000);    // display OFF
//***** Power OFF sequence *****//
    LCD_CtrlWrite_ILI9325(0x0010, 0x0080);    // SAP, BT[3:0], APE, AP, DSTB, SLP
    LCD_CtrlWrite_ILI9325(0x0011, 0x0000);    // DC1[2:0], DC0[2:0], VC[2:0]
    LCD_CtrlWrite_ILI9325(0x0012, 0x0000);    // VREG1OUT voltage
    LCD_CtrlWrite_ILI9325(0x0013, 0x0000);    // VDV[4:0] for VCOM amplitude
    delays(200);                               // Dis-charge capacitor power voltage
    LCD_CtrlWrite_ILI9325(0x0010, 0x0082);    // SAP, BT[3:0], APE, AP, DSTB, SLP
}

```

void LCD_ExitSleep_ILI9325(void)

```

{
//*****Power On sequence *****//
    LCD_CtrlWrite_ILI9325(0x0010, 0x0080);    // SAP, BT[3:0], AP, DSTB, SLP
    LCD_CtrlWrite_ILI9325(0x0011, 0x0000);    // DC1[2:0], DC0[2:0], VC[2:0]
    LCD_CtrlWrite_ILI9325(0x0012, 0x0000);    // VREG1OUT voltage
    LCD_CtrlWrite_ILI9325(0x0013, 0x0000);    // VDV[4:0] for VCOM amplitude
    delays(200);                               // Dis-charge capacitor power voltage
    LCD_CtrlWrite_ILI9325(0x0010, 0x1290);    // SAP, BT[3:0], AP, DSTB, SLP, STB
    LCD_CtrlWrite_ILI9325(0x0011, 0x0227);    // Set DC1[2:0], DC0[2:0], VC[2:0]
    delays(50);                               // Delay 50ms
    LCD_CtrlWrite_ILI9325(0x0012, 0x001B);    // External reference voltage =Vci;
    delays(50);                               // Delay 50ms
    LCD_CtrlWrite_ILI9325(0x0013, 0x1900);    // Set VDV[4:0] for VCOM amplitude
    LCD_CtrlWrite_ILI9325(0x0029, 0x000F);    // Set VCM[5:0] for VCOMH
    delays(50);                               // Delay 50ms
    LCD_CtrlWrite_ILI9325(0x0007, 0x0133);    // 262K color and display ON
}

```

2.4 2.6 2.8" Panel

3.1 AUO 2.8" Initial Code

void ILI9325_AUO28_Initial(void)

```
{
// VCI=2.8V
//***** Reset LCD Driver *****//
LCD_nRESET = 1;
  delays(1); // Delay 1ms
LCD_nRESET = 0;
  delays(10); // Delay 10ms          // This delay time is necessary
LCD_nRESET = 1;
  delays(50); // Delay 50 ms
//***** Start Initial Sequence *****//
  LCD_CtrlWrite_ILI9325(0x00E3, 0x3008); // Set internal timing
  LCD_CtrlWrite_ILI9325(0x00E7, 0x0012); // Set internal timing
  LCD_CtrlWrite_ILI9325(0x00EF, 0x1231); // Set internal timing
  LCD_CtrlWrite_ILI9325(0x0001, 0x0100); // set SS and SM bit
  LCD_CtrlWrite_ILI9325(0x0002, 0x0700); // set 1 line inversion
  LCD_CtrlWrite_ILI9325(0x0003, 0x1030); // set GRAM write direction and BGR=1.
  LCD_CtrlWrite_ILI9325(0x0004, 0x0000); // Resize register
  LCD_CtrlWrite_ILI9325(0x0008, 0x0207); // set the back porch and front porch
  LCD_CtrlWrite_ILI9325(0x0009, 0x0000); // set non-display area refresh cycle ISC[3:0]
  LCD_CtrlWrite_ILI9325(0x000A, 0x0000); // FMARK function
  LCD_CtrlWrite_ILI9325(0x000C, 0x0000); // RGB interface setting
  LCD_CtrlWrite_ILI9325(0x000D, 0x0000); // Frame marker Position
  LCD_CtrlWrite_ILI9325(0x000F, 0x0000); // RGB interface polarity
//*****Power On sequence *****//
  LCD_CtrlWrite_ILI9325(0x0010, 0x0000); // SAP, BT[3:0], AP, DSTB, SLP, STB
  LCD_CtrlWrite_ILI9325(0x0011, 0x0007); // DC1[2:0], DC0[2:0], VC[2:0]
  LCD_CtrlWrite_ILI9325(0x0012, 0x0000); // VREG1OUT voltage
  LCD_CtrlWrite_ILI9325(0x0013, 0x0000); // VDV[4:0] for VCOM amplitude
  delays(200); // Dis-charge capacitor power voltage
  LCD_CtrlWrite_ILI9325(0x0010, 0x1490); // SAP, BT[3:0], AP, DSTB, SLP, STB
  LCD_CtrlWrite_ILI9325(0x0011, 0x0227); // Set DC1[2:0], DC0[2:0], VC[2:0]
  delays(50); // Delay 50ms
  LCD_CtrlWrite_ILI9325(0x0012, 0x001A); // External reference voltage= Vci;
  delays(50); // Delay 50ms
  LCD_CtrlWrite_ILI9325(0x0013, 0x1400); // VDV[4:0] for VCOM amplitude
  LCD_CtrlWrite_ILI9325(0x0029, 0x0019); // VCM[5:0] for VCOMH
  LCD_CtrlWrite_ILI9325(0x002B, 0x000C); // Set Frame Rate
  delays(50); // Delay 50ms
  LCD_CtrlWrite_ILI9325(0x0020, 0x0000); // GRAM horizontal Address
  LCD_CtrlWrite_ILI9325(0x0021, 0x0000); // GRAM Vertical Address
// ----- Adjust the Gamma Curve -----//
  LCD_CtrlWrite_ILI9325(0x0030, 0x0000);
  LCD_CtrlWrite_ILI9325(0x0031, 0x0607);
  LCD_CtrlWrite_ILI9325(0x0032, 0x0305);
  LCD_CtrlWrite_ILI9325(0x0035, 0x0000);
  LCD_CtrlWrite_ILI9325(0x0036, 0x1604);
  LCD_CtrlWrite_ILI9325(0x0037, 0x0204);
  LCD_CtrlWrite_ILI9325(0x0038, 0x0001);
  LCD_CtrlWrite_ILI9325(0x0039, 0x0707);
  LCD_CtrlWrite_ILI9325(0x003C, 0x0000);
  LCD_CtrlWrite_ILI9325(0x003D, 0x000F);
//----- Set GRAM area -----//
  LCD_CtrlWrite_ILI9325(0x0050, 0x0000); // Horizontal GRAM Start Address
  LCD_CtrlWrite_ILI9325(0x0051, 0x00EF); // Horizontal GRAM End Address
  LCD_CtrlWrite_ILI9325(0x0052, 0x0000); // Vertical GRAM Start Address
  LCD_CtrlWrite_ILI9325(0x0053, 0x013F); // Vertical GRAM Start Address
  LCD_CtrlWrite_ILI9325(0x0060, 0xA700); // Gate Scan Line
```

```

    LCD_CtrlWrite_ILI9325(0x0061, 0x0001);    // NDL,VLE, REV
    LCD_CtrlWrite_ILI9325(0x006A, 0x0000);    // set scrolling line
//----- Partial Display Control -----//
    LCD_CtrlWrite_ILI9325(0x0080, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0081, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0082, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0083, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0084, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0085, 0x0000);
//----- Panel Control -----//
    LCD_CtrlWrite_ILI9325(0x0090, 0x0010);
    LCD_CtrlWrite_ILI9325(0x0092, 0x0600);

    LCD_CtrlWrite_ILI9325(0x0007, 0x0133);    // 262K color and display ON
}

```

void LCD_EnterSleep_ILI9325(void)

```

{
    LCD_CtrlWrite_ILI9325(0x0007, 0x0131);    // Set D1=0, D0=1
    delays(10);
    LCD_CtrlWrite_ILI9325(0x0007, 0x0130);    // Set D1=0, D0=0
    delays(10);
    LCD_CtrlWrite_ILI9325(0x0007, 0x0000);    // display OFF
//***** Power OFF sequence *****//
    LCD_CtrlWrite_ILI9325(0x0010, 0x0080);    // SAP, BT[3:0], APE, AP, DSTB, SLP
    LCD_CtrlWrite_ILI9325(0x0011, 0x0000);    // DC1[2:0], DC0[2:0], VC[2:0]
    LCD_CtrlWrite_ILI9325(0x0012, 0x0000);    // VREG1OUT voltage
    LCD_CtrlWrite_ILI9325(0x0013, 0x0000);    // VDV[4:0] for VCOM amplitude
    delays(200);                               // Dis-charge capacitor power voltage
    LCD_CtrlWrite_ILI9325(0x0010, 0x0082);    // SAP, BT[3:0], APE, AP, DSTB, SLP
}

```

void LCD_ExitSleep_ILI9325(void)

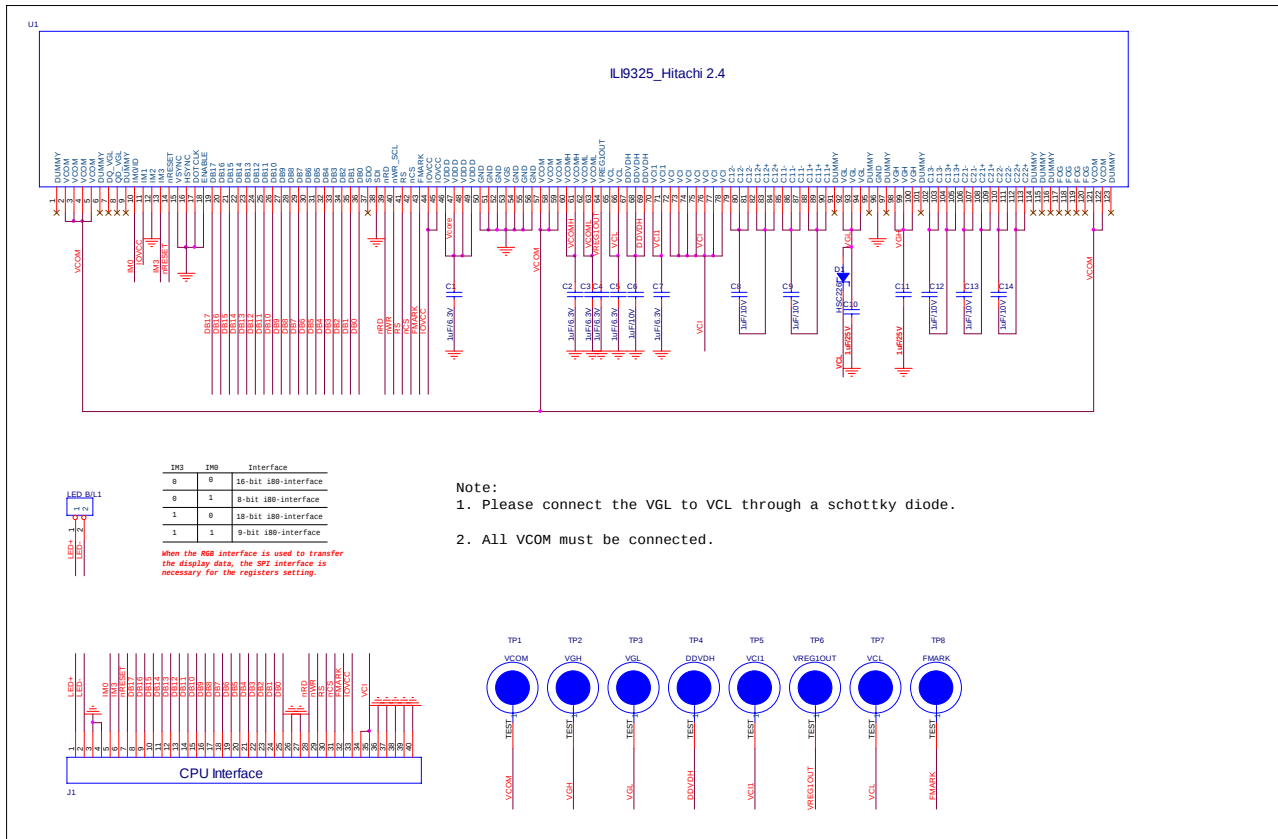
```

{
//*****Power On sequence *****//
    LCD_CtrlWrite_ILI9325(0x0010, 0x0080);    // SAP, BT[3:0], AP, DSTB, SLP
    LCD_CtrlWrite_ILI9325(0x0011, 0x0000);    // DC1[2:0], DC0[2:0], VC[2:0]
    LCD_CtrlWrite_ILI9325(0x0012, 0x0000);    // VREG1OUT voltage
    LCD_CtrlWrite_ILI9325(0x0013, 0x0000);    // VDV[4:0] for VCOM amplitude
    delays(200);                               // Dis-charge capacitor power voltage
    LCD_CtrlWrite_ILI9325(0x0010, 0x1490);    // SAP, BT[3:0], AP, DSTB, SLP, STB
    LCD_CtrlWrite_ILI9325(0x0011, 0x0227);    // DC1[2:0], DC0[2:0], VC[2:0]
    delays(50);                               // Delay 50ms
    LCD_CtrlWrite_ILI9325(0x0012, 0x001A);    // External reference voltage =Vci;
    delays(50);                               // Delay 50ms
    LCD_CtrlWrite_ILI9325(0x0013, 0x1400);    // VDV[4:0] for VCOM amplitude
    LCD_CtrlWrite_ILI9325(0x0029, 0x0019);    // VCM[5:0] for VCOMH
    delays(50);                               // Delay 50ms
    LCD_CtrlWrite_ILI9325(0x0007, 0x0133);    // 262K color and display ON
}

```

4. Hitachi Panel

2.4" Panel



4.1 Hitachi 2.4" Initial Code

```
void ILI9325_HITACHI24_Initial(void)
```

```
{
  // VCI=2.8V
  //***** Reset LCD Driver *****//
  LCD_nRESET = 1;
  delays(1); // Delay 1ms
  LCD_nRESET = 0;
  delays(10); // Delay 10ms           // This delay time is necessary
  LCD_nRESET = 1;
  delays(50); // Delay 50 ms
  //***** Start Initial Sequence *****//
  LCD_CtrlWrite_ILI9325(0x00E3, 0x3008); // Set internal timing
  LCD_CtrlWrite_ILI9325(0x00E7, 0x0012); // Set internal timing
  LCD_CtrlWrite_ILI9325(0x00EF, 0x1231); // Set internal timing
  LCD_CtrlWrite_ILI9325(0x0001, 0x0100); // set SS and SM bit
  LCD_CtrlWrite_ILI9325(0x0002, 0x0700); // set 1 line inversion
  LCD_CtrlWrite_ILI9325(0x0003, 0x1030); // set GRAM write direction and BGR=1.
  LCD_CtrlWrite_ILI9325(0x0004, 0x0000); // Resize register
  LCD_CtrlWrite_ILI9325(0x0008, 0x0207); // set the back porch and front porch
  LCD_CtrlWrite_ILI9325(0x0009, 0x0000); // set non-display area refresh cycle ISC[3:0]
  LCD_CtrlWrite_ILI9325(0x000A, 0x0000); // FMARK function
  LCD_CtrlWrite_ILI9325(0x000C, 0x0000); // RGB interface setting
  LCD_CtrlWrite_ILI9325(0x000D, 0x0000); // Frame marker Position
  LCD_CtrlWrite_ILI9325(0x000F, 0x0000); // RGB interface polarity
  //*****Power On sequence *****//
  LCD_CtrlWrite_ILI9325(0x0010, 0x0000); // SAP, BT[3:0], AP, DSTB, SLP, STB
  LCD_CtrlWrite_ILI9325(0x0011, 0x0007); // DC1[2:0], DC0[2:0], VC[2:0]
  LCD_CtrlWrite_ILI9325(0x0012, 0x0000); // VREG1OUT voltage
  LCD_CtrlWrite_ILI9325(0x0013, 0x0000); // VDV[4:0] for VCOM amplitude
  delays(200); // Dis-charge capacitor power voltage
  LCD_CtrlWrite_ILI9325(0x0010, 0x1490); // SAP, BT[3:0], AP, DSTB, SLP, STB
  LCD_CtrlWrite_ILI9325(0x0011, 0x0221); // R11h=0x0221 at VCI=3.3V, DC1[2:0], DC0[2:0], VC[2:0]
  delays(50); // Delay 50ms
  LCD_CtrlWrite_ILI9325(0x0012, 0x0018); // External reference voltage= Vci;
  delays(50); // Delay 50ms
  LCD_CtrlWrite_ILI9325(0x0013, 0x1100); // R13=1D00 when R12=009D;VDV[4:0] for VCOM amplitude
  LCD_CtrlWrite_ILI9325(0x0029, 0x0011); // R29=0013 when R12=009D;VCM[5:0] for VCOMH
  LCD_CtrlWrite_ILI9325(0x002B, 0x000C); // Set Frame Rate
  delays(50); // Delay 50ms
  LCD_CtrlWrite_ILI9325(0x0020, 0x0000); // GRAM horizontal Address
  LCD_CtrlWrite_ILI9325(0x0021, 0x0000); // GRAM Vertical Address
  // ----- Adjust the Gamma Curve -----//
  LCD_CtrlWrite_ILI9325(0x0030, 0x0000);
  LCD_CtrlWrite_ILI9325(0x0031, 0x0004);
  LCD_CtrlWrite_ILI9325(0x0032, 0x0200);
  LCD_CtrlWrite_ILI9325(0x0035, 0x0107);
  LCD_CtrlWrite_ILI9325(0x0036, 0x1606);
  LCD_CtrlWrite_ILI9325(0x0037, 0x0705);
  LCD_CtrlWrite_ILI9325(0x0038, 0x0307);
  LCD_CtrlWrite_ILI9325(0x0039, 0x0707);
  LCD_CtrlWrite_ILI9325(0x003C, 0x0701);
  LCD_CtrlWrite_ILI9325(0x003D, 0x040F);
  //----- Set GRAM area -----//
  LCD_CtrlWrite_ILI9325(0x0050, 0x0000); // Horizontal GRAM Start Address
  LCD_CtrlWrite_ILI9325(0x0051, 0x00EF); // Horizontal GRAM End Address
  LCD_CtrlWrite_ILI9325(0x0052, 0x0000); // Vertical GRAM Start Address
  LCD_CtrlWrite_ILI9325(0x0053, 0x013F); // Vertical GRAM Start Address
  LCD_CtrlWrite_ILI9325(0x0060, 0xA700); // Gate Scan Line
}
```

```

    LCD_CtrlWrite_ILI9325(0x0061, 0x0001);    // NDL,VLE, REV
    LCD_CtrlWrite_ILI9325(0x006A, 0x0000);    // set scrolling line
//----- Partial Display Control -----//
    LCD_CtrlWrite_ILI9325(0x0080, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0081, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0082, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0083, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0084, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0085, 0x0000);
//----- Panel Control -----//
    LCD_CtrlWrite_ILI9325(0x0090, 0x0010);
    LCD_CtrlWrite_ILI9325(0x0092, 0x0600);

    LCD_CtrlWrite_ILI9325(0x0007, 0x0133);    // 262K color and display ON
}

```

void LCD_ExitSleep_ILI9325(void)

```

{
//*****Power On sequence *****//
    LCD_CtrlWrite_ILI9325(0x0010, 0x0080);    // SAP, BT[3:0], AP, DSTB, SLP
    LCD_CtrlWrite_ILI9325(0x0011, 0x0000);    // DC1[2:0], DC0[2:0], VC[2:0]
    LCD_CtrlWrite_ILI9325(0x0012, 0x0000);    // VREG1OUT voltage
    LCD_CtrlWrite_ILI9325(0x0013, 0x0000);    // VDV[4:0] for VCOM amplitude
    delays(200);                               // Dis-charge capacitor power voltage
    LCD_CtrlWrite_ILI9325(0x0010, 0x1490);    // SAP, BT[3:0], AP, DSTB, SLP, STB
    LCD_CtrlWrite_ILI9325(0x0011, 0x0221);    // R11h=0x0221 at VCI=3.3V DC1[2:0], DC0[2:0], VC[2:0]
    delays(50);                               // Delay 50ms
    LCD_CtrlWrite_ILI9325(0x0012, 0x0018);    // External reference voltage =Vci;
    delays(50);                               // Delay 50ms
    LCD_CtrlWrite_ILI9325(0x0013, 0x1100);    // R13h=0x1D00 when R12=009D VDV[4:0] for VCOM amplitude
    LCD_CtrlWrite_ILI9325(0x0029, 0x0011);    // R29h=0x0013 when R12=009D VCM[5:0] for VCOMH
    delays(50);                               // Delay 50ms
    LCD_CtrlWrite_ILI9325(0x0007, 0x0133);    // 262K color and display ON
}

```

void LCD_EnterSleep_ILI9325(void)

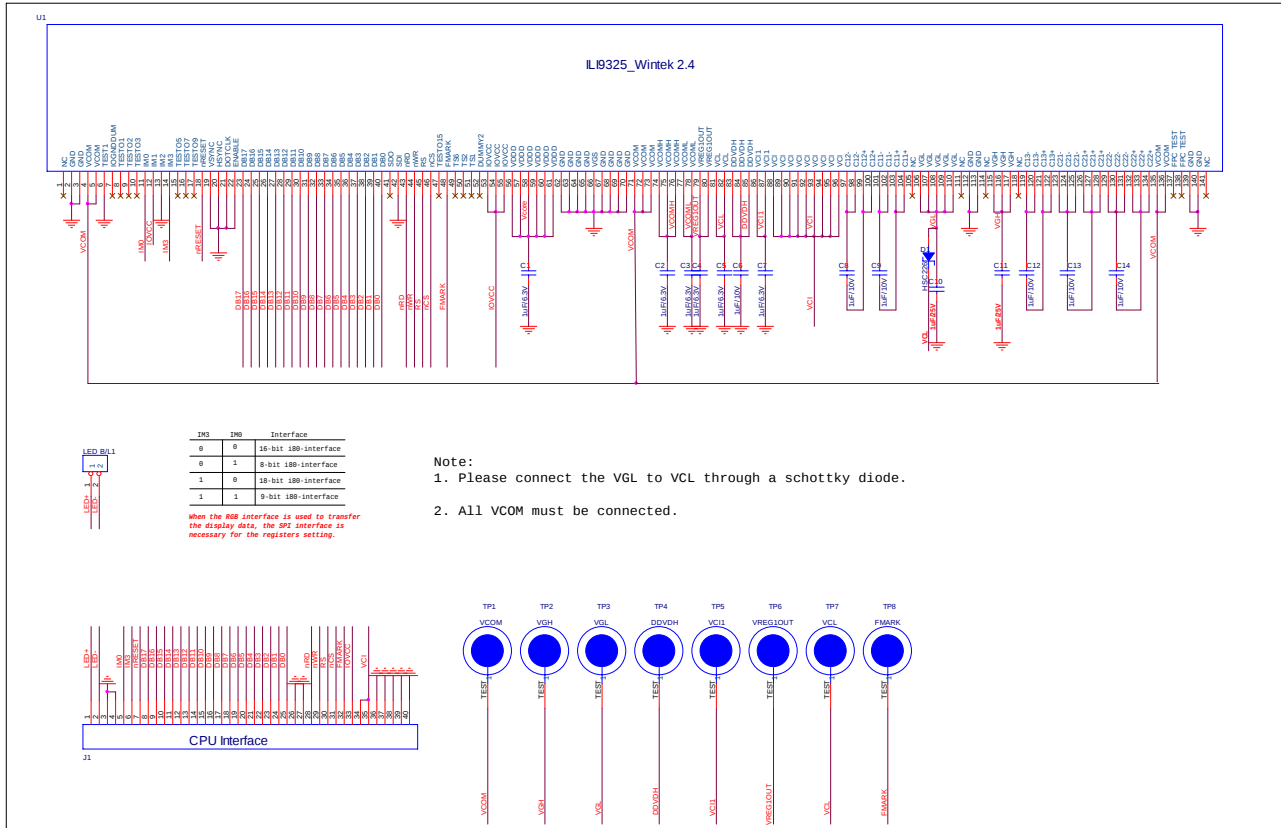
```

{
    LCD_CtrlWrite_ILI9325(0x0007, 0x0131);    // Set D1=0, D0=1
    delays(10);
    LCD_CtrlWrite_ILI9325(0x0007, 0x0130);    // Set D1=0, D0=0
    delays(10);
    LCD_CtrlWrite_ILI9325(0x0007, 0x0000);    // display OFF
//***** Power OFF sequence *****//
    LCD_CtrlWrite_ILI9325(0x0010, 0x0080);    // SAP, BT[3:0], APE, AP, DSTB, SLP
    LCD_CtrlWrite_ILI9325(0x0011, 0x0000);    // DC1[2:0], DC0[2:0], VC[2:0]
    LCD_CtrlWrite_ILI9325(0x0012, 0x0000);    // VREG1OUT voltage
    LCD_CtrlWrite_ILI9325(0x0013, 0x0000);    // VDV[4:0] for VCOM amplitude
    delays(200);                               // Dis-charge capacitor power voltage
    LCD_CtrlWrite_ILI9325(0x0010, 0x0082);    // SAP, BT[3:0], APE, AP, DSTB, SLP
}

```

5. Wintek Panel

2.4" Panel



5.1 Wintek 2.4" Initial Code

void ILI9325_WTK24_Initial(void)

```
{
// VCI=2.8V
//***** Reset LCD Driver *****//
LCD_nRESET = 1;
  delays(1); // Delay 1ms
LCD_nRESET = 0;
  delays(10); // Delay 10ms          // This delay time is necessary
LCD_nRESET = 1;
  delays(50); // Delay 50 ms
//***** Start Initial Sequence *****//
  LCD_CtrlWrite_ILI9325(0x00E3, 0x3008); // Set internal timing
  LCD_CtrlWrite_ILI9325(0x00E7, 0x0012); // Set internal timing
  LCD_CtrlWrite_ILI9325(0x00EF, 0x1231); // Set internal timing
  LCD_CtrlWrite_ILI9325(0x0001, 0x0100); // set SS and SM bit
  LCD_CtrlWrite_ILI9325(0x0002, 0x0700); // set 1 line inversion
  LCD_CtrlWrite_ILI9325(0x0003, 0x1030); // set GRAM write direction and BGR=1.
  LCD_CtrlWrite_ILI9325(0x0004, 0x0000); // Resize register
  LCD_CtrlWrite_ILI9325(0x0008, 0x0207); // set the back porch and front porch
  LCD_CtrlWrite_ILI9325(0x0009, 0x0000); // set non-display area refresh cycle ISC[3:0]
  LCD_CtrlWrite_ILI9325(0x000A, 0x0000); // FMARK function
  LCD_CtrlWrite_ILI9325(0x000C, 0x0000); // RGB interface setting
  LCD_CtrlWrite_ILI9325(0x000D, 0x0000); // Frame marker Position
  LCD_CtrlWrite_ILI9325(0x000F, 0x0000); // RGB interface polarity
//*****Power On sequence *****//
  LCD_CtrlWrite_ILI9325(0x0010, 0x0000); // SAP, BT[3:0], AP, DSTB, SLP, STB
  LCD_CtrlWrite_ILI9325(0x0011, 0x0007); // DC1[2:0], DC0[2:0], VC[2:0]
  LCD_CtrlWrite_ILI9325(0x0012, 0x0000); // VREG1OUT voltage
  LCD_CtrlWrite_ILI9325(0x0013, 0x0000); // VDV[4:0] for VCOM amplitude
  delays(200); // Dis-charge capacitor power voltage
  LCD_CtrlWrite_ILI9325(0x0010, 0x1290); // SAP, BT[3:0], AP, DSTB, SLP, STB
  LCD_CtrlWrite_ILI9325(0x0011, 0x0227); // Set DC1[2:0], DC0[2:0], VC[2:0]
  delays(50); // Delay 50ms
  LCD_CtrlWrite_ILI9325(0x0012, 0x001A); // External reference voltage= Vci;
  delays(50); // Delay 50ms
  LCD_CtrlWrite_ILI9325(0x0013, 0x1600); // Set VDV[4:0] for VCOM amplitude
  LCD_CtrlWrite_ILI9325(0x0029, 0x001D); // Set VCM[5:0] for VCOMH
  LCD_CtrlWrite_ILI9325(0x002B, 0x000C); // Set Frame Rate
  delays(50); // Delay 50ms
  LCD_CtrlWrite_ILI9325(0x0020, 0x0000); // GRAM horizontal Address
  LCD_CtrlWrite_ILI9325(0x0021, 0x0000); // GRAM Vertical Address
// ----- Adjust the Gamma Curve -----//
  LCD_CtrlWrite_ILI9325(0x0030, 0x0204);
  LCD_CtrlWrite_ILI9325(0x0031, 0x0507);
  LCD_CtrlWrite_ILI9325(0x0032, 0x0204);
  LCD_CtrlWrite_ILI9325(0x0035, 0x0107);
  LCD_CtrlWrite_ILI9325(0x0036, 0x0207);
  LCD_CtrlWrite_ILI9325(0x0037, 0x0305);
  LCD_CtrlWrite_ILI9325(0x0038, 0x0002);
  LCD_CtrlWrite_ILI9325(0x0039, 0x0305);
  LCD_CtrlWrite_ILI9325(0x003C, 0x0701);
  LCD_CtrlWrite_ILI9325(0x003D, 0x060A);
//----- Set GRAM area -----//
  LCD_CtrlWrite_ILI9325(0x0050, 0x0000); // Horizontal GRAM Start Address
  LCD_CtrlWrite_ILI9325(0x0051, 0x00EF); // Horizontal GRAM End Address
  LCD_CtrlWrite_ILI9325(0x0052, 0x0000); // Vertical GRAM Start Address
  LCD_CtrlWrite_ILI9325(0x0053, 0x013F); // Vertical GRAM Start Address
  LCD_CtrlWrite_ILI9325(0x0060, 0xA700); // Gate Scan Line
```

```

    LCD_CtrlWrite_ILI9325(0x0061, 0x0001);    // NDL,VLE, REV
    LCD_CtrlWrite_ILI9325(0x006A, 0x0000);    // set scrolling line
//----- Partial Display Control -----//
    LCD_CtrlWrite_ILI9325(0x0080, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0081, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0082, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0083, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0084, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0085, 0x0000);
//----- Panel Control -----//
    LCD_CtrlWrite_ILI9325(0x0090, 0x0010);
    LCD_CtrlWrite_ILI9325(0x0092, 0x0600);

    LCD_CtrlWrite_ILI9325(0x0007, 0x0133);    // 262K color and display ON
}

```

void LCD_EnterSleep_ILI9325(void)

```

{
    LCD_CtrlWrite_ILI9325(0x0007, 0x0131);    // Set D1=0, D0=1
    delays(10);
    LCD_CtrlWrite_ILI9325(0x0007, 0x0130);    // Set D1=0, D0=0
    delays(10);
    LCD_CtrlWrite_ILI9325(0x0007, 0x0000);    // display OFF
//***** Power OFF sequence *****//
    LCD_CtrlWrite_ILI9325(0x0010, 0x0080);    // SAP, BT[3:0], APE, AP, DSTB, SLP
    LCD_CtrlWrite_ILI9325(0x0011, 0x0000);    // DC1[2:0], DC0[2:0], VC[2:0]
    LCD_CtrlWrite_ILI9325(0x0012, 0x0000);    // VREG1OUT voltage
    LCD_CtrlWrite_ILI9325(0x0013, 0x0000);    // VDV[4:0] for VCOM amplitude
    delays(200);                             // Dis-charge capacitor power voltage
    LCD_CtrlWrite_ILI9325(0x0010, 0x0082);    // SAP, BT[3:0], APE, AP, DSTB, SLP
}

```

void LCD_ExitSleep_ILI9325(void)

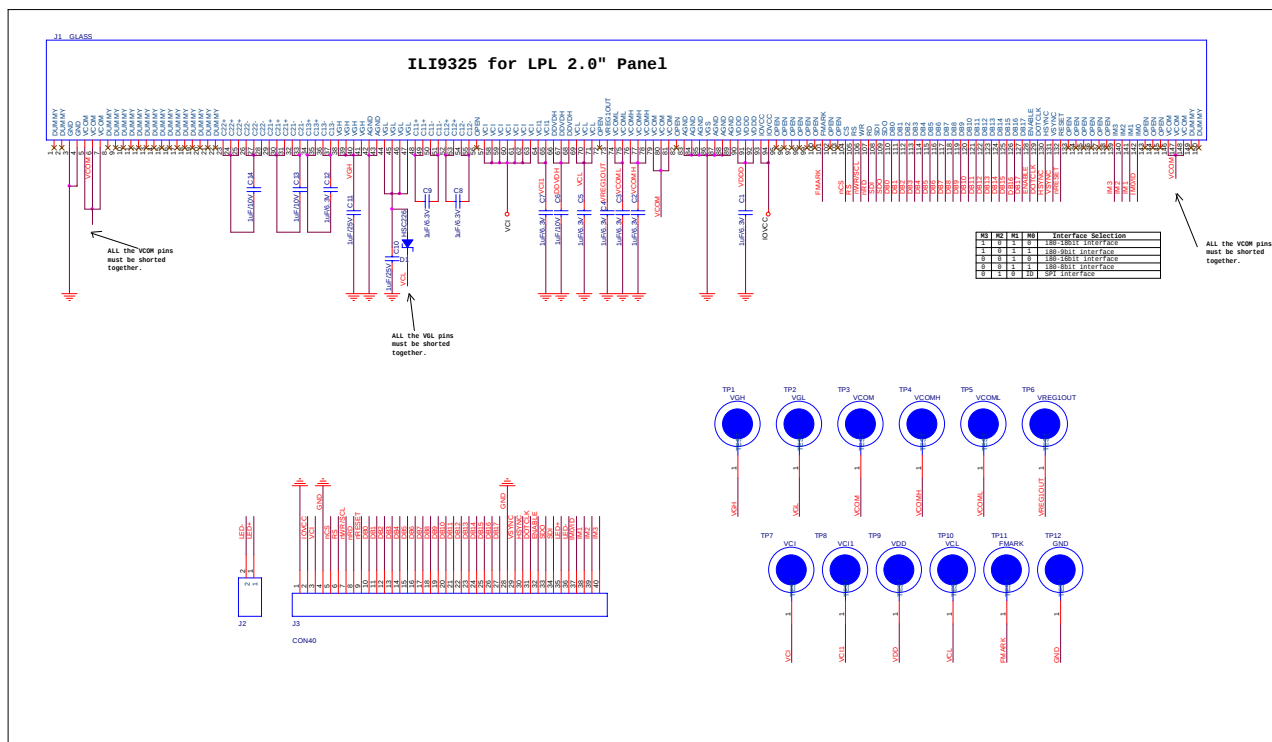
```

{
//*****Power On sequence *****//
    LCD_CtrlWrite_ILI9325(0x0010, 0x0080);    // SAP, BT[3:0], AP, STB, SLP
    LCD_CtrlWrite_ILI9325(0x0011, 0x0000);    // DC1[2:0], DC0[2:0], VC[2:0]
    LCD_CtrlWrite_ILI9325(0x0012, 0x0000);    // VREG1OUT voltage
    LCD_CtrlWrite_ILI9325(0x0013, 0x0000);    // VDV[4:0] for VCOM amplitude
    delays(200);                             // Dis-charge capacitor power voltage
    LCD_CtrlWrite_ILI9325(0x0010, 0x1290);    // SAP, BT[3:0], AP, DSTB, SLP, STB
    LCD_CtrlWrite_ILI9325(0x0011, 0x0227);    // R11h=0x0221 at VCI=3.3V DC1[2:0], DC0[2:0], VC[2:0]
    delays(50);                             // Delay 50ms
    LCD_CtrlWrite_ILI9325(0x0012, 0x001A);    // External reference voltage =Vci;
    delays(50);                             // Delay 50ms
    LCD_CtrlWrite_ILI9325(0x0013, 0x1600);    // Set VDV[4:0] for VCOM amplitude
    LCD_CtrlWrite_ILI9325(0x0029, 0x001D);    // Set VCM[5:0] for VCOMH
    delays(50);                             // Delay 50ms
    LCD_CtrlWrite_ILI9325(0x0007, 0x0133);    // 262K color and display ON
}

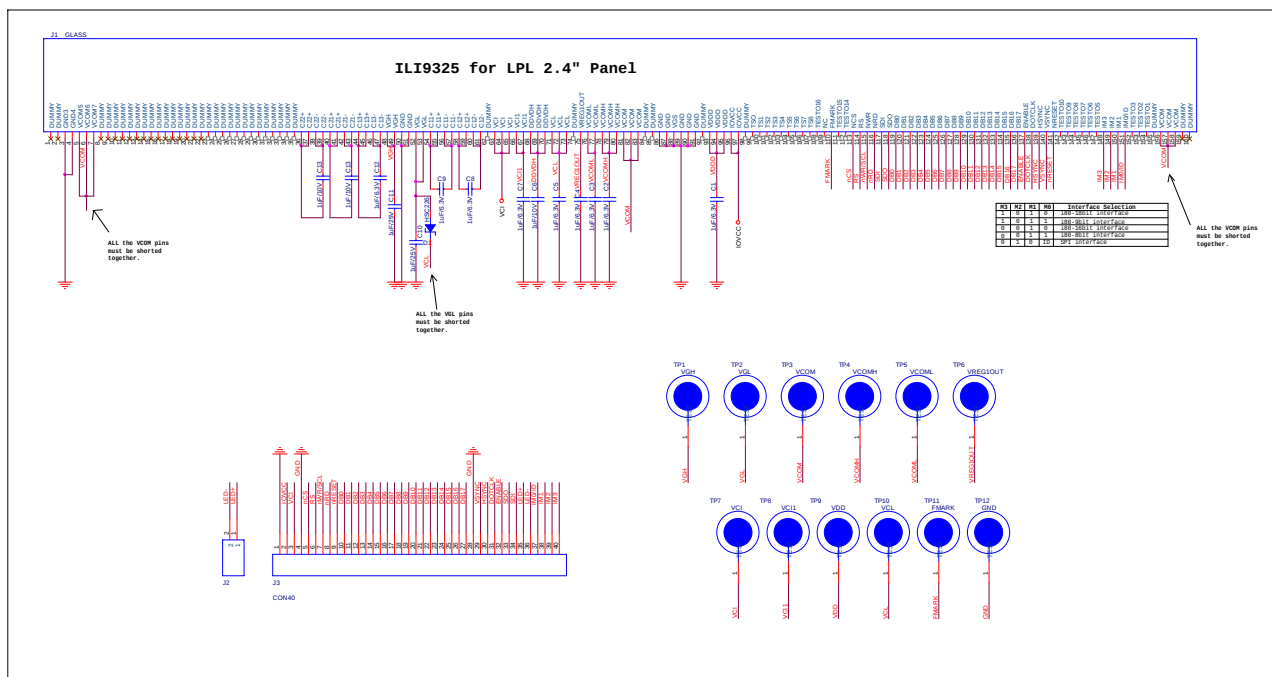
```

6. LPL Panel

2.0" Panel



2.4" Panel



6.1 LPL 2.4" Initial Code

void ILI9325_LPL24_Initial(void)

```
{
  // VCI=2.8V
  //***** Reset LCD Driver *****//
  LCD_nRESET = 1;
  delays(1); // Delay 1ms
  LCD_nRESET = 0;
  delays(10); // Delay 10ms          // This delay time is necessary
  LCD_nRESET = 1;
  delays(50); // Delay 50 ms
  //***** Start Initial Sequence *****//
  LCD_CtrlWrite_ILI9325(0x00E3, 0x3008); // Set internal timing
  LCD_CtrlWrite_ILI9325(0x00E7, 0x0012); // Set internal timing
  LCD_CtrlWrite_ILI9325(0x00EF, 0x1231); // Set internal timing
  LCD_CtrlWrite_ILI9325(0x0001, 0x0100); // set SS and SM bit
  LCD_CtrlWrite_ILI9325(0x0002, 0x0700); // set 1 line inversion
  LCD_CtrlWrite_ILI9325(0x0003, 0x1030); // set GRAM write direction and BGR=1.
  LCD_CtrlWrite_ILI9325(0x0004, 0x0000); // Resize register
  LCD_CtrlWrite_ILI9325(0x0008, 0x0207); // set the back porch and front porch
  LCD_CtrlWrite_ILI9325(0x0009, 0x0000); // set non-display area refresh cycle ISC[3:0]
  LCD_CtrlWrite_ILI9325(0x000A, 0x0000); // FMARK function
  LCD_CtrlWrite_ILI9325(0x000C, 0x0000); // RGB interface setting
  LCD_CtrlWrite_ILI9325(0x000D, 0x0000); // Frame marker Position
  LCD_CtrlWrite_ILI9325(0x000F, 0x0000); // RGB interface polarity
  //*****Power On sequence *****//
  LCD_CtrlWrite_ILI9325(0x0010, 0x0000); // SAP, BT[3:0], AP, DSTB, SLP, STB
  LCD_CtrlWrite_ILI9325(0x0011, 0x0007); // DC1[2:0], DC0[2:0], VC[2:0]
  LCD_CtrlWrite_ILI9325(0x0012, 0x0000); // VREG1OUT voltage
  LCD_CtrlWrite_ILI9325(0x0013, 0x0000); // VDV[4:0] for VCOM amplitude
  delays(200); // Dis-charge capacitor power voltage
  LCD_CtrlWrite_ILI9325(0x0010, 0x1190); // SAP, BT[3:0], AP, DSTB, SLP, STB
  LCD_CtrlWrite_ILI9325(0x0011, 0x0227); // DC1[2:0], DC0[2:0], VC[2:0]
  delays(50); // Delay 50ms
  LCD_CtrlWrite_ILI9325(0x0012, 0x001C); // Internal reference voltage= Vci;
  delays(50); // Delay 50ms
  LCD_CtrlWrite_ILI9325(0x0013, 0x1A00); // Set VDV[4:0] for VCOM amplitude
  LCD_CtrlWrite_ILI9325(0x0029, 0x0011); // Set VCM[5:0] for VCOMH
  LCD_CtrlWrite_ILI9325(0x002B, 0x000C); // Set Frame Rate
  delays(50); // Delay 50ms
  LCD_CtrlWrite_ILI9325(0x0020, 0x0000); // GRAM horizontal Address
  LCD_CtrlWrite_ILI9325(0x0021, 0x0000); // GRAM Vertical Address
  // ----- Adjust the Gamma Curve -----//
  LCD_CtrlWrite_ILI9325(0x0030, 0x0003);
  LCD_CtrlWrite_ILI9325(0x0031, 0x0705);
  LCD_CtrlWrite_ILI9325(0x0032, 0x0007);
  LCD_CtrlWrite_ILI9325(0x0035, 0x0007);
  LCD_CtrlWrite_ILI9325(0x0036, 0x000F);
  LCD_CtrlWrite_ILI9325(0x0037, 0x0007);
  LCD_CtrlWrite_ILI9325(0x0038, 0x0200);
  LCD_CtrlWrite_ILI9325(0x0039, 0x0407);
  LCD_CtrlWrite_ILI9325(0x003C, 0x0700);
  LCD_CtrlWrite_ILI9325(0x003D, 0x1604);
  //----- Set GRAM area -----//
  LCD_CtrlWrite_ILI9325(0x0050, 0x0000); // Horizontal GRAM Start Address
  LCD_CtrlWrite_ILI9325(0x0051, 0x00EF); // Horizontal GRAM End Address
  LCD_CtrlWrite_ILI9325(0x0052, 0x0000); // Vertical GRAM Start Address
  LCD_CtrlWrite_ILI9325(0x0053, 0x013F); // Vertical GRAM Start Address
  LCD_CtrlWrite_ILI9325(0x0060, 0xA700); // Gate Scan Line
}
```

```

    LCD_CtrlWrite_ILI9325(0x0061, 0x0001);    // NDL,VLE, REV
    LCD_CtrlWrite_ILI9325(0x006A, 0x0000);    // set scrolling line
//----- Partial Display Control -----//
    LCD_CtrlWrite_ILI9325(0x0080, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0081, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0082, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0083, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0084, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0085, 0x0000);
//----- Panel Control -----//
    LCD_CtrlWrite_ILI9325(0x0090, 0x0010);
    LCD_CtrlWrite_ILI9325(0x0092, 0x0600);

    LCD_CtrlWrite_ILI9325(0x0007, 0x0133);    // 262K color and display ON
}

```

void LCD_ExitSleep_ILI9325(void)

```

{
//*****Power On sequence *****//
    LCD_CtrlWrite_ILI9325(0x0010, 0x0080);    // SAP, BT[3:0], AP, DSTB, SLP
    LCD_CtrlWrite_ILI9325(0x0011, 0x0000);    // DC1[2:0], DC0[2:0], VC[2:0]
    LCD_CtrlWrite_ILI9325(0x0012, 0x0000);    // VREG1OUT voltage
    LCD_CtrlWrite_ILI9325(0x0013, 0x0000);    // VDV[4:0] for VCOM amplitude
    delays(200);                               // Dis-charge capacitor power voltage
    LCD_CtrlWrite_ILI9325(0x0010, 0x1190);    // SAP, BT[3:0], AP, DSTB, SLP, STB
    LCD_CtrlWrite_ILI9325(0x0011, 0x0227);    // DC1[2:0], DC0[2:0], VC[2:0]
    delays(50);                               // Delay 50ms
    LCD_CtrlWrite_ILI9325(0x0012, 0x001C);    // Internal reference voltage =Vci;
    delays(50);                               // Delay 50ms
    LCD_CtrlWrite_ILI9325(0x0013, 0x1A00);    // VDV[4:0] for VCOM amplitude
    LCD_CtrlWrite_ILI9325(0x0029, 0x0011);    // VCM[5:0] for VCOMH
    delays(50);                               // Delay 50ms
    LCD_CtrlWrite_ILI9325(0x0007, 0x0133);    // 262K color and display ON
}

```

void LCD_EnterSleep_ILI9325(void)

```

{
    LCD_CtrlWrite_ILI9325(0x0007, 0x0131);    // Set D1=0, D0=1
    delays(10);
    LCD_CtrlWrite_ILI9325(0x0007, 0x0130);    // Set D1=0, D0=0
    delays(10);
    LCD_CtrlWrite_ILI9325(0x0007, 0x0000);    // display OFF
//***** Power OFF sequence *****//
    LCD_CtrlWrite_ILI9325(0x0010, 0x0080);    // SAP, BT[3:0], APE, AP, DSTB, SLP
    LCD_CtrlWrite_ILI9325(0x0011, 0x0000);    // DC1[2:0], DC0[2:0], VC[2:0]
    LCD_CtrlWrite_ILI9325(0x0012, 0x0000);    // VREG1OUT voltage
    LCD_CtrlWrite_ILI9325(0x0013, 0x0000);    // VDV[4:0] for VCOM amplitude
    delays(200);                               // Dis-charge capacitor power voltage
    LCD_CtrlWrite_ILI9325(0x0010, 0x0082);    // SAP, BT[3:0], APE, AP, DSTB, SLP
}

```

6.2 LPL 2.0" Initial Code

void ILI9325_LPL20_Initial(void)

```
{
  // VCI=2.8V
  //***** Reset LCD Driver *****//
  LCD_nRESET = 1;
  delays(1); // Delay 1ms
  LCD_nRESET = 0;
  delays(10); // Delay 10ms           // This delay time is necessary
  LCD_nRESET = 1;
  delays(50); // Delay 50 ms
  //***** Start Initial Sequence *****//
  LCD_CtrlWrite_ILI9325(0x00E3, 0x3008); // Set internal timing
  LCD_CtrlWrite_ILI9325(0x00E7, 0x0012); // Set internal timing
  LCD_CtrlWrite_ILI9325(0x00EF, 0x1231); // Set internal timing
  LCD_CtrlWrite_ILI9325(0x0001, 0x0100); // set SS and SM bit
  LCD_CtrlWrite_ILI9325(0x0002, 0x0700); // set 1 line inversion
  LCD_CtrlWrite_ILI9325(0x0003, 0x1030); // set GRAM write direction and BGR=1.
  LCD_CtrlWrite_ILI9325(0x0004, 0x0000); // Resize register
  LCD_CtrlWrite_ILI9325(0x0008, 0x0207); // set the back porch and front porch
  LCD_CtrlWrite_ILI9325(0x0009, 0x0000); // set non-display area refresh cycle ISC[3:0]
  LCD_CtrlWrite_ILI9325(0x000A, 0x0000); // FMARK function
  LCD_CtrlWrite_ILI9325(0x000C, 0x0000); // RGB interface setting
  LCD_CtrlWrite_ILI9325(0x000D, 0x0000); // Frame marker Position
  LCD_CtrlWrite_ILI9325(0x000F, 0x0000); // RGB interface polarity
  //*****Power On sequence *****//
  LCD_CtrlWrite_ILI9325(0x0010, 0x0000); // SAP, BT[3:0], AP, DSTB, SLP, STB
  LCD_CtrlWrite_ILI9325(0x0011, 0x0007); // DC1[2:0], DC0[2:0], VC[2:0]
  LCD_CtrlWrite_ILI9325(0x0012, 0x0000); // VREG1OUT voltage
  LCD_CtrlWrite_ILI9325(0x0013, 0x0000); // VDV[4:0] for VCOM amplitude
  delays(200); // Dis-charge capacitor power voltage
  LCD_CtrlWrite_ILI9325(0x0010, 0x1490); // SAP, BT[3:0], AP, DSTB, SLP, STB
  LCD_CtrlWrite_ILI9325(0x0011, 0x0227); // DC1[2:0], DC0[2:0], VC[2:0]
  delays(50); // Delay 50ms
  LCD_CtrlWrite_ILI9325(0x0012, 0x0019); // Internal reference voltage= Vci;
  delays(50); // Delay 50ms
  LCD_CtrlWrite_ILI9325(0x0013, 0x1000); // Set VDV[4:0] for VCOM amplitude
  LCD_CtrlWrite_ILI9325(0x0029, 0x0013); // Set VCM[5:0] for VCOMH
  LCD_CtrlWrite_ILI9325(0x002B, 0x000C); // Set Frame Rate
  delays(50); // Delay 50ms
  LCD_CtrlWrite_ILI9325(0x0020, 0x0000); // GRAM horizontal Address
  LCD_CtrlWrite_ILI9325(0x0021, 0x0000); // GRAM Vertical Address
  // ----- Adjust the Gamma Curve -----//
  LCD_CtrlWrite_ILI9325(0x0030, 0x0000);
  LCD_CtrlWrite_ILI9325(0x0031, 0x0707);
  LCD_CtrlWrite_ILI9325(0x0032, 0x0307);
  LCD_CtrlWrite_ILI9325(0x0035, 0x0200);
  LCD_CtrlWrite_ILI9325(0x0036, 0x0008);
  LCD_CtrlWrite_ILI9325(0x0037, 0x0004);
  LCD_CtrlWrite_ILI9325(0x0038, 0x0000);
  LCD_CtrlWrite_ILI9325(0x0039, 0x0707);
  LCD_CtrlWrite_ILI9325(0x003C, 0x0002);
  LCD_CtrlWrite_ILI9325(0x003D, 0x0804);
  //----- Set GRAM area -----//
  LCD_CtrlWrite_ILI9325(0x0050, 0x0000); // Horizontal GRAM Start Address
  LCD_CtrlWrite_ILI9325(0x0051, 0x00EF); // Horizontal GRAM End Address
  LCD_CtrlWrite_ILI9325(0x0052, 0x0000); // Vertical GRAM Start Address
  LCD_CtrlWrite_ILI9325(0x0053, 0x013F); // Vertical GRAM Start Address
  LCD_CtrlWrite_ILI9325(0x0060, 0xA700); // Gate Scan Line
}
```

```

    LCD_CtrlWrite_ILI9325(0x0061, 0x0001);    // NDL,VLE, REV
    LCD_CtrlWrite_ILI9325(0x006A, 0x0000);    // set scrolling line
//----- Partial Display Control -----//
    LCD_CtrlWrite_ILI9325(0x0080, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0081, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0082, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0083, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0084, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0085, 0x0000);
//----- Panel Control -----//
    LCD_CtrlWrite_ILI9325(0x0090, 0x0010);
    LCD_CtrlWrite_ILI9325(0x0092, 0x0600);

    LCD_CtrlWrite_ILI9325(0x0007, 0x0133);    // 262K color and display ON
}

```

void LCD_ExitSleep_ILI9325(void)

```

{
//*****Power On sequence *****//
    LCD_CtrlWrite_ILI9325(0x0010, 0x0080);    // SAP, BT[3:0], AP, DSTB, SLP
    LCD_CtrlWrite_ILI9325(0x0011, 0x0000);    // DC1[2:0], DC0[2:0], VC[2:0]
    LCD_CtrlWrite_ILI9325(0x0012, 0x0000);    // VREG1OUT voltage
    LCD_CtrlWrite_ILI9325(0x0013, 0x0000);    // VDV[4:0] for VCOM amplitude
    delays(200);                               // Dis-charge capacitor power voltage
    LCD_CtrlWrite_ILI9325(0x0010, 0x1190);    // SAP, BT[3:0], AP, DSTB, SLP, STB
    LCD_CtrlWrite_ILI9325(0x0011, 0x0227);    // DC1[2:0], DC0[2:0], VC[2:0]
    delays(50);                                // Delay 50ms
    LCD_CtrlWrite_ILI9325(0x0012, 0x001C);    // Internal reference voltage =Vci;
    delays(50);                                // Delay 50ms
    LCD_CtrlWrite_ILI9325(0x0013, 0x1A00);    // VDV[4:0] for VCOM amplitude
    LCD_CtrlWrite_ILI9325(0x0029, 0x0011);    // VCM[5:0] for VCOMH
    delays(50);                                // Delay 50ms
    LCD_CtrlWrite_ILI9325(0x0007, 0x0133);    // 262K color and display ON
}

```

void LCD_EnterSleep_ILI9325(void)

```

{
    LCD_CtrlWrite_ILI9325(0x0007, 0x0131);    // Set D1=0, D0=1
    delays(10);
    LCD_CtrlWrite_ILI9325(0x0007, 0x0130);    // Set D1=0, D0=0
    delays(10);
    LCD_CtrlWrite_ILI9325(0x0007, 0x0000);    // display OFF
//***** Power OFF sequence *****//
    LCD_CtrlWrite_ILI9325(0x0010, 0x0080);    // SAP, BT[3:0], APE, AP, DSTB, SLP
    LCD_CtrlWrite_ILI9325(0x0011, 0x0000);    // DC1[2:0], DC0[2:0], VC[2:0]
    LCD_CtrlWrite_ILI9325(0x0012, 0x0000);    // VREG1OUT voltage
    LCD_CtrlWrite_ILI9325(0x0013, 0x0000);    // VDV[4:0] for VCOM amplitude
    delays(200);                               // Dis-charge capacitor power voltage
    LCD_CtrlWrite_ILI9325(0x0010, 0x0082);    // SAP, BT[3:0], APE, AP, DSTB, SLP
}

```

2.4" & 2.8" Panel

7.1 PVI 2.8" Initial Code

```
void ILI9325_PVI28_Initial(void)
```

```
{
  // VCI=2.8V
  //***** Reset LCD Driver *****//
  LCD_nRESET = 1;
  delays(1); // Delay 1ms
  LCD_nRESET = 0;
  delays(10); // Delay 10ms          // This delay time is necessary
  LCD_nRESET = 1;
  delays(50); // Delay 50 ms
  //***** Start Initial Sequence *****//
  LCD_CtrlWrite_ILI9325(0x00E3, 0x3008); // Set internal timing
  LCD_CtrlWrite_ILI9325(0x00E7, 0x0012); // Set internal timing
  LCD_CtrlWrite_ILI9325(0x00EF, 0x1231); // Set internal timing
  LCD_CtrlWrite_ILI9325(0x0001, 0x0100); // set SS and SM bit
  LCD_CtrlWrite_ILI9325(0x0002, 0x0700); // set 1 line inversion
  LCD_CtrlWrite_ILI9325(0x0003, 0x1030); // set GRAM write direction and BGR=1.
  LCD_CtrlWrite_ILI9325(0x0004, 0x0000); // Resize register
  LCD_CtrlWrite_ILI9325(0x0008, 0x0207); // set the back porch and front porch
  LCD_CtrlWrite_ILI9325(0x0009, 0x0000); // set non-display area refresh cycle ISC[3:0]
  LCD_CtrlWrite_ILI9325(0x000A, 0x0000); // FMARK function
  LCD_CtrlWrite_ILI9325(0x000C, 0x0000); // RGB interface setting
  LCD_CtrlWrite_ILI9325(0x000D, 0x0000); // Frame marker Position
  LCD_CtrlWrite_ILI9325(0x000F, 0x0000); // RGB interface polarity
  //*****Power On sequence *****//
  LCD_CtrlWrite_ILI9325(0x0010, 0x0000); // SAP, BT[3:0], AP, DSTB, SLP, STB
  LCD_CtrlWrite_ILI9325(0x0011, 0x0007); // DC1[2:0], DC0[2:0], VC[2:0]
  LCD_CtrlWrite_ILI9325(0x0012, 0x0000); // VREG1OUT voltage
  LCD_CtrlWrite_ILI9325(0x0013, 0x0000); // VDV[4:0] for VCOM amplitude
  delays(200); // Dis-charge capacitor power voltage
  LCD_CtrlWrite_ILI9325(0x0010, 0x1290); // SAP, BT[3:0], AP, DSTB, SLP, STB
  LCD_CtrlWrite_ILI9325(0x0011, 0x0227); // DC1[2:0], DC0[2:0], VC[2:0]
  delays(50); // Delay 50ms
  LCD_CtrlWrite_ILI9325(0x0012, 0x001B); // Internal reference voltage= Vci;
  delays(50); // Delay 50ms
  LCD_CtrlWrite_ILI9325(0x0013, 0x1100); // Set VDV[4:0] for VCOM amplitude
  LCD_CtrlWrite_ILI9325(0x0029, 0x0019); // Set VCM[5:0] for VCOMH
  LCD_CtrlWrite_ILI9325(0x002B, 0x000C); // Set Frame Rate
  delays(50); // Delay 50ms
  LCD_CtrlWrite_ILI9325(0x0020, 0x0000); // GRAM horizontal Address
  LCD_CtrlWrite_ILI9325(0x0021, 0x0000); // GRAM Vertical Address
  // ----- Adjust the Gamma Curve -----//
  LCD_CtrlWrite_ILI9325(0x0030, 0x0000);
  LCD_CtrlWrite_ILI9325(0x0031, 0x0204);
  LCD_CtrlWrite_ILI9325(0x0032, 0x0200);
  LCD_CtrlWrite_ILI9325(0x0035, 0x0007);
  LCD_CtrlWrite_ILI9325(0x0036, 0x1404);
  LCD_CtrlWrite_ILI9325(0x0037, 0x0705);
  LCD_CtrlWrite_ILI9325(0x0038, 0x0305);
  LCD_CtrlWrite_ILI9325(0x0039, 0x0707);
  LCD_CtrlWrite_ILI9325(0x003C, 0x0701);
  LCD_CtrlWrite_ILI9325(0x003D, 0x000E);
  //----- Set GRAM area -----//
  LCD_CtrlWrite_ILI9325(0x0050, 0x0000); // Horizontal GRAM Start Address
  LCD_CtrlWrite_ILI9325(0x0051, 0x00EF); // Horizontal GRAM End Address
  LCD_CtrlWrite_ILI9325(0x0052, 0x0000); // Vertical GRAM Start Address
  LCD_CtrlWrite_ILI9325(0x0053, 0x013F); // Vertical GRAM Start Address
  LCD_CtrlWrite_ILI9325(0x0060, 0xA700); // Gate Scan Line
}
```

```

    LCD_CtrlWrite_ILI9325(0x0061, 0x0001);    // NDL,VLE, REV
    LCD_CtrlWrite_ILI9325(0x006A, 0x0000);    // set scrolling line
//----- Partial Display Control -----//
    LCD_CtrlWrite_ILI9325(0x0080, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0081, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0082, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0083, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0084, 0x0000);
    LCD_CtrlWrite_ILI9325(0x0085, 0x0000);
//----- Panel Control -----//
    LCD_CtrlWrite_ILI9325(0x0090, 0x0010);
    LCD_CtrlWrite_ILI9325(0x0092, 0x0600);

    LCD_CtrlWrite_ILI9325(0x0007, 0x0133);    // 262K color and display ON
}

```

void LCD_ExitSleep_ILI9325(void)

```

{
//*****Power On sequence *****//
    LCD_CtrlWrite_ILI9325(0x0010, 0x0080);    // SAP, BT[3:0], AP, DSTB, SLP
    LCD_CtrlWrite_ILI9325(0x0011, 0x0000);    // DC1[2:0], DC0[2:0], VC[2:0]
    LCD_CtrlWrite_ILI9325(0x0012, 0x0000);    // VREG1OUT voltage
    LCD_CtrlWrite_ILI9325(0x0013, 0x0000);    // VDV[4:0] for VCOM amplitude
    delays(200);                               // Dis-charge capacitor power voltage
    LCD_CtrlWrite_ILI9325(0x0010, 0x1290);    // SAP, BT[3:0], AP, DSTB, SLP, STB
    LCD_CtrlWrite_ILI9325(0x0011, 0x0227);    // DC1[2:0], DC0[2:0], VC[2:0]
    delays(50);                               // Delay 50ms
    LCD_CtrlWrite_ILI9325(0x0012, 0x001B);    // Internal reference voltage =Vci;
    delays(50);                               // Delay 50ms
    LCD_CtrlWrite_ILI9325(0x0013, 0x1100);    // VDV[4:0] for VCOM amplitude
    LCD_CtrlWrite_ILI9325(0x0029, 0x0019);    // VCM[5:0] for VCOMH
    delays(50);                               // Delay 50ms
    LCD_CtrlWrite_ILI9325(0x0007, 0x0133);    // 262K color and display ON
}

```

void LCD_EnterSleep_ILI9325(void)

```

{
    LCD_CtrlWrite_ILI9325(0x0007, 0x0131);    // Set D1=0, D0=1
    delays(10);
    LCD_CtrlWrite_ILI9325(0x0007, 0x0130);    // Set D1=0, D0=0
    delays(10);
    LCD_CtrlWrite_ILI9325(0x0007, 0x0000);    // display OFF
//***** Power OFF sequence *****//
    LCD_CtrlWrite_ILI9325(0x0010, 0x0080);    // SAP, BT[3:0], APE, AP, DSTB, SLP
    LCD_CtrlWrite_ILI9325(0x0011, 0x0000);    // DC1[2:0], DC0[2:0], VC[2:0]
    LCD_CtrlWrite_ILI9325(0x0012, 0x0000);    // VREG1OUT voltage
    LCD_CtrlWrite_ILI9325(0x0013, 0x0000);    // VDV[4:0] for VCOM amplitude
    delays(200);                               // Dis-charge capacitor power voltage
    LCD_CtrlWrite_ILI9325(0x0010, 0x0082);    // SAP, BT[3:0], APE, AP, DSTB, SLP
}

```

8. Tianma Panel

8.1 Tianma 2.8" Initial Code

void ILI9325_STM28_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_ILI9325(0x00E3, 0x3008); // Set internal timing
    LCD_CtrlWrite_ILI9325(0x00E7, 0x0012); // Set internal timing
    LCD_CtrlWrite_ILI9325(0x00EF, 0x1231); // Set internal timing

    LCD_CtrlWrite_ILI9325(0x0001, 0x0100); // set SS and SM bit
    LCD_CtrlWrite_ILI9325(0x0002, 0x0700); // set 1 line inversion
    LCD_CtrlWrite_ILI9325(0x0003, 0x1030); // set GRAM write direction and BGR=1.
    LCD_CtrlWrite_ILI9325(0x0004, 0x0000); // Resize register
    LCD_CtrlWrite_ILI9325(0x0008, 0x0202); // set the back porch and front porch
    LCD_CtrlWrite_ILI9325(0x0009, 0x0000); // set non-display area refresh cycle ISC[3:0]
    LCD_CtrlWrite_ILI9325(0x000A, 0x0000); // FMARK function
    LCD_CtrlWrite_ILI9325(0x000C, 0x0000); // RGB interface setting
    LCD_CtrlWrite_ILI9325(0x000D, 0x0000); // Frame marker Position
    LCD_CtrlWrite_ILI9325(0x000F, 0x0000); // RGB interface polarity

    //*****Power On sequence *****//

    LCD_CtrlWrite_ILI9325(0x0010, 0x0000); // SAP, BT[3:0], AP, DSTB, SLP, STB
    LCD_CtrlWrite_ILI9325(0x0011, 0x0007); // DC1[2:0], DC0[2:0], VC[2:0]
    LCD_CtrlWrite_ILI9325(0x0012, 0x0000); // VREG1OUT voltage
    LCD_CtrlWrite_ILI9325(0x0013, 0x0000); // VDV[4:0] for VCOM amplitude

    delaysms(200);                // Dis-charge capacitor power voltage

    LCD_CtrlWrite_ILI9325(0x0010, 0x1290); // SAP, BT[3:0], AP, DSTB, SLP, STB
    LCD_CtrlWrite_ILI9325(0x0011, 0x0227); // R11h=0x0221 at VCI=3.3V, DC1[2:0], DC0[2:0], VC[2:0]

    delaysms(50);                // Delay 50ms

    LCD_CtrlWrite_ILI9325(0x0012, 0x001A); // External reference voltage= Vci

    delaysms(50);                // Delay 50ms

    LCD_CtrlWrite_ILI9325(0x0013, 0x1800); // VDV[4:0] for VCOM amplitude

    LCD_CtrlWrite_ILI9325(0x0029, 0x002A); // VCM[5:0] for VCOMH
}
```

```

LCD_CtrlWrite_ILI9325(0x002B, 0x000C); // Frame Rate
delayms(50);                          // Delay 50ms

LCD_CtrlWrite_ILI9325(0x0020, 0x0000); // GRAM horizontal Address
LCD_CtrlWrite_ILI9325(0x0021, 0x0000); // GRAM Vertical Address

// ----- Adjust the Gamma Curve -----//
LCD_CtrlWrite_ILI9325(0x0030, 0x0004);
LCD_CtrlWrite_ILI9325(0x0031, 0x0605);
LCD_CtrlWrite_ILI9325(0x0032, 0x0106);
LCD_CtrlWrite_ILI9325(0x0035, 0x0302);
LCD_CtrlWrite_ILI9325(0x0036, 0x0004);
LCD_CtrlWrite_ILI9325(0x0037, 0x0106);
LCD_CtrlWrite_ILI9325(0x0038, 0x0202);
LCD_CtrlWrite_ILI9325(0x0039, 0x0307);
LCD_CtrlWrite_ILI9325(0x003C, 0x0203);
LCD_CtrlWrite_ILI9325(0x003D, 0x0004);

//----- Set GRAM area -----//
LCD_CtrlWrite_ILI9325(0x0050, 0x0000); // Horizontal GRAM Start Address
LCD_CtrlWrite_ILI9325(0x0051, 0x00EF); // Horizontal GRAM End Address
LCD_CtrlWrite_ILI9325(0x0052, 0x0000); // Vertical GRAM Start Address
LCD_CtrlWrite_ILI9325(0x0053, 0x013F); // Vertical GRAM Start Address
LCD_CtrlWrite_ILI9325(0x0060, 0xA700); // Gate Scan Line
LCD_CtrlWrite_ILI9325(0x0061, 0x0001); // NDL,VLE, REV
LCD_CtrlWrite_ILI9325(0x006A, 0x0000); // set scrolling line

//----- Partial Display Control -----//
LCD_CtrlWrite_ILI9325(0x0080, 0x0000);
LCD_CtrlWrite_ILI9325(0x0081, 0x0000);
LCD_CtrlWrite_ILI9325(0x0082, 0x0000);
LCD_CtrlWrite_ILI9325(0x0083, 0x0000);
LCD_CtrlWrite_ILI9325(0x0084, 0x0000);
LCD_CtrlWrite_ILI9325(0x0085, 0x0000);

//----- Panel Control -----//
LCD_CtrlWrite_ILI9325(0x0090, 0x0010);
LCD_CtrlWrite_ILI9325(0x0092, 0x0600);

LCD_CtrlWrite_ILI9325(0x0007, 0x0133); // 262K color and display ON
}

```

```

void LCD_ExitSleep_ILI9325(void)
{

```

```
//*****Power On sequence *****//

LCD_CtrlWrite_ILI9325(0x0010, 0x0080); // SAP, BT[3:0], AP, DSTB, SLP
LCD_CtrlWrite_ILI9325(0x0011, 0x0000); // DC1[2:0], DC0[2:0], VC[2:0]
LCD_CtrlWrite_ILI9325(0x0012, 0x0000); // VREG1OUT voltage
LCD_CtrlWrite_ILI9325(0x0013, 0x0000); // VDV[4:0] for VCOM amplitude
delayms(200); // Dis-charge capacitor power voltage
LCD_CtrlWrite_ILI9325(0x0010, 0x1290); // SAP, BT[3:0], AP, DSTB, SLP, STB
LCD_CtrlWrite_ILI9325(0x0011, 0x0227); // R11h=0x0221 at VCI=3.3V DC1[2:0], DC0[2:0], VC[2:0]
delayms(50); // Delay 50ms
LCD_CtrlWrite_ILI9325(0x0012, 0x001A); // External reference voltage =Vci;
delayms(50); // Delay 50ms
LCD_CtrlWrite_ILI9325(0x0013, 0x1800); // R13h=0x1200 when R12=009D VDV[4:0] for VCOM amplitude
LCD_CtrlWrite_ILI9325(0x0029, 0x002A); // R29h=0x000C when R12=009D VCM[5:0] for VCOMH
delayms(50); // Delay 50ms
LCD_CtrlWrite_ILI9325(0x0007, 0x0133); // 262K color and display ON
}

void LCD_EnterSleep_ILI9325(void)
{
  LCD_CtrlWrite_ILI9325(0x0007, 0x0131); // Set D1=0, D0=1
  delayms(10);
  LCD_CtrlWrite_ILI9325(0x0007, 0x0130); // Set D1=0, D0=0
  delayms(10);
  LCD_CtrlWrite_ILI9325(0x0007, 0x0000); // display OFF
  //***** Power OFF sequence *****//
  LCD_CtrlWrite_ILI9325(0x0010, 0x0080); // SAP, BT[3:0], APE, AP, DSTB, SLP
  LCD_CtrlWrite_ILI9325(0x0011, 0x0000); // DC1[2:0], DC0[2:0], VC[2:0]
  LCD_CtrlWrite_ILI9325(0x0012, 0x0000); // VREG1OUT voltage
  LCD_CtrlWrite_ILI9325(0x0013, 0x0000); // VDV[4:0] for VCOM amplitude
  delayms(200); // Dis-charge capacitor power voltage
  LCD_CtrlWrite_ILI9325(0x0010, 0x0082); // SAP, BT[3:0], APE, AP, DSTB, SLP
}
```

8.2 Tianma 2.4" Initial Code

```
void ILI9325_STM24_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_ILI9325(0x00E3, 0x3008); // Set internal timing
    LCD_CtrlWrite_ILI9325(0x00E7, 0x0012); // Set internal timing
    LCD_CtrlWrite_ILI9325(0x00EF, 0x1231); // Set internal timing
    LCD_CtrlWrite_ILI9325(0x0001, 0x0100); // set SS and SM bit
    LCD_CtrlWrite_ILI9325(0x0002, 0x0700); // set 1 line inversion
    LCD_CtrlWrite_ILI9325(0x0003, 0x1030); // set GRAM write direction and BGR=1.
    LCD_CtrlWrite_ILI9325(0x0004, 0x0000); // Resize register
    LCD_CtrlWrite_ILI9325(0x0008, 0x0202); // set the back porch and front porch
    LCD_CtrlWrite_ILI9325(0x0009, 0x0000); // set non-display area refresh cycle ISC[3:0]
    LCD_CtrlWrite_ILI9325(0x000A, 0x0000); // FMARK function
    LCD_CtrlWrite_ILI9325(0x000C, 0x0000); // RGB interface setting
    LCD_CtrlWrite_ILI9325(0x000D, 0x0000); // Frame marker Position
    LCD_CtrlWrite_ILI9325(0x000F, 0x0000); // RGB interface polarity
    //*****Power On sequence *****//
    LCD_CtrlWrite_ILI9325(0x0010, 0x0000); // SAP, BT[3:0], AP, DSTB, SLP, STB
    LCD_CtrlWrite_ILI9325(0x0011, 0x0007); // DC1[2:0], DC0[2:0], VC[2:0]
    LCD_CtrlWrite_ILI9325(0x0012, 0x0000); // VREG1OUT voltage
    LCD_CtrlWrite_ILI9325(0x0013, 0x0000); // VDV[4:0] for VCOM amplitude
    delayms(200); // Dis-charge capacitor power voltage
    LCD_CtrlWrite_ILI9325(0x0010, 0x1690); // SAP, BT[3:0], AP, DSTB, SLP, STB
    LCD_CtrlWrite_ILI9325(0x0011, 0x0227); // R11h=0x0221 at VCI=3.3V, DC1[2:0], DC0[2:0], VC[2:0]
    delayms(50); // Delay 50ms
    LCD_CtrlWrite_ILI9325(0x0012, 0x001A); // External reference voltage= Vci;
    delayms(50); // Delay 50ms
    LCD_CtrlWrite_ILI9325(0x0013, 0x1600); // R13=1200 when R12=009D;VDV[4:0] for VCOM amplitude
    LCD_CtrlWrite_ILI9325(0x0029, 0x002E); // R29=000C when R12=009D;VCM[5:0] for VCOMH
    LCD_CtrlWrite_ILI9325(0x002B, 0x000C); // Frame Rate

```

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```

delaysms(50); // Delay 50ms
LCD_CtrlWrite_ILI9325(0x0020, 0x0000); // GRAM horizontal Address
LCD_CtrlWrite_ILI9325(0x0021, 0x0000); // GRAM Vertical Address
// ----- Adjust the Gamma Curve -----//
LCD_CtrlWrite_ILI9325(0x0030, 0x0007);
LCD_CtrlWrite_ILI9325(0x0031, 0x0604);
LCD_CtrlWrite_ILI9325(0x0032, 0x0007);
LCD_CtrlWrite_ILI9325(0x0035, 0x0504);
LCD_CtrlWrite_ILI9325(0x0036, 0x0808);
LCD_CtrlWrite_ILI9325(0x0037, 0x0007);
LCD_CtrlWrite_ILI9325(0x0038, 0x0301);
LCD_CtrlWrite_ILI9325(0x0039, 0x0007);
LCD_CtrlWrite_ILI9325(0x003C, 0x0302);
LCD_CtrlWrite_ILI9325(0x003D, 0x0808);
//----- Set GRAM area -----//
LCD_CtrlWrite_ILI9325(0x0050, 0x0000); // Horizontal GRAM Start Address
LCD_CtrlWrite_ILI9325(0x0051, 0x00EF); // Horizontal GRAM End Address
LCD_CtrlWrite_ILI9325(0x0052, 0x0000); // Vertical GRAM Start Address
LCD_CtrlWrite_ILI9325(0x0053, 0x013F); // Vertical GRAM Start Address
LCD_CtrlWrite_ILI9325(0x0060, 0xA700); // Gate Scan Line
LCD_CtrlWrite_ILI9325(0x0061, 0x0001); // NDL,VLE, REV
LCD_CtrlWrite_ILI9325(0x006A, 0x0000); // set scrolling line
//----- Partial Display Control -----//
LCD_CtrlWrite_ILI9325(0x0080, 0x0000);
LCD_CtrlWrite_ILI9325(0x0081, 0x0000);
LCD_CtrlWrite_ILI9325(0x0082, 0x0000);
LCD_CtrlWrite_ILI9325(0x0083, 0x0000);
LCD_CtrlWrite_ILI9325(0x0084, 0x0000);
LCD_CtrlWrite_ILI9325(0x0085, 0x0000);
//----- Panel Control -----//
LCD_CtrlWrite_ILI9325(0x0090, 0x0010);
LCD_CtrlWrite_ILI9325(0x0092, 0x0600);

LCD_CtrlWrite_ILI9325(0x0007, 0x0133); // 262K color and display ON
}

```

```

void LCD_ExitSleep_ILI9325(void)
{

```

```

//*****Power On sequence *****//

```

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```

LCD_CtrlWrite_ILI9325(0x0010, 0x0080); // SAP, BT[3:0], AP, DSTB, SLP
LCD_CtrlWrite_ILI9325(0x0011, 0x0000); // DC1[2:0], DC0[2:0], VC[2:0]
LCD_CtrlWrite_ILI9325(0x0012, 0x0000); // VREG1OUT voltage
LCD_CtrlWrite_ILI9325(0x0013, 0x0000); // VDV[4:0] for VCOM amplitude
delayms(200); // Dis-charge capacitor power voltage
LCD_CtrlWrite_ILI9325(0x0010, 0x1690); // SAP, BT[3:0], AP, DSTB, SLP, STB
LCD_CtrlWrite_ILI9325(0x0011, 0x0227); // R11h=0x0221 at VCI=3.3V DC1[2:0], DC0[2:0], VC[2:0]
delayms(50); // Delay 50ms
LCD_CtrlWrite_ILI9325(0x0012, 0x001A); // External reference voltage =Vci;
delayms(50); // Delay 50ms
LCD_CtrlWrite_ILI9325(0x0013, 0x1600); // R13h=0x1200 when R12=009D VDV[4:0] for VCOM
amplitude
LCD_CtrlWrite_ILI9325(0x0029, 0x002E); // R29h=0x000C when R12=009D VCM[5:0] for VCOMH
delayms(50); // Delay 50ms
LCD_CtrlWrite_ILI9325(0x0007, 0x0133); // 262K color and display ON
}

```

```

void LCD_EnterSleep_ILI9325(void)
{
    LCD_CtrlWrite_ILI9325(0x0007, 0x0131); // Set D1=0, D0=1
    delayms(10);
    LCD_CtrlWrite_ILI9325(0x0007, 0x0130); // Set D1=0, D0=0
    delayms(10);
    LCD_CtrlWrite_ILI9325(0x0007, 0x0000); // display OFF
    //***** Power OFF sequence *****//
    LCD_CtrlWrite_ILI9325(0x0010, 0x0080); // SAP, BT[3:0], APE, AP, DSTB, SLP
    LCD_CtrlWrite_ILI9325(0x0011, 0x0000); // DC1[2:0], DC0[2:0], VC[2:0]
    LCD_CtrlWrite_ILI9325(0x0012, 0x0000); // VREG1OUT voltage
    LCD_CtrlWrite_ILI9325(0x0013, 0x0000); // VDV[4:0] for VCOM amplitude
    delayms(200); // Dis-charge capacitor power voltage
    LCD_CtrlWrite_ILI9325(0x0010, 0x0082); // SAP, BT[3:0], APE, AP, DSTB, SLP
}

```

8.3 Tianma 2.2" Initial Code

```
void ILI9325_STM22_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_ILI9325(0x00E3, 0x3008); // Set internal timing
    LCD_CtrlWrite_ILI9325(0x00E7, 0x0012); // Set internal timing
    LCD_CtrlWrite_ILI9325(0x00EF, 0x1231); // Set internal timing
    LCD_CtrlWrite_ILI9325(0x0001, 0x0100); // set SS and SM bit
    LCD_CtrlWrite_ILI9325(0x0002, 0x0700); // set 1 line inversion
    LCD_CtrlWrite_ILI9325(0x0003, 0x1030); // set GRAM write direction and BGR=1.
    LCD_CtrlWrite_ILI9325(0x0008, 0x0202); // set the back porch and front porch
    LCD_CtrlWrite_ILI9325(0x0009, 0x0000); // set non-display area refresh cycle ISC[3:0]
    //*****Power On sequence *****//
    LCD_CtrlWrite_ILI9325(0x0010, 0x0000); // SAP, BT[3:0], AP, DSTB, SLP, STB
    LCD_CtrlWrite_ILI9325(0x0011, 0x0007); // DC1[2:0], DC0[2:0], VC[2:0]
    LCD_CtrlWrite_ILI9325(0x0012, 0x0000); // VREG1OUT voltage
    LCD_CtrlWrite_ILI9325(0x0013, 0x0000); // VDV[4:0] for VCOM amplitude
    delayms(200);                // Dis-charge capacitor power voltage
    LCD_CtrlWrite_ILI9325(0x0010, 0x1290); // SAP, BT[3:0], AP, DSTB, SLP, STB
    LCD_CtrlWrite_ILI9325(0x0011, 0x0227); // R11h=0x0221 at VCI=3.3V, DC1[2:0], DC0[2:0], VC[2:0]
    delayms(50);                // Delay 50ms
    LCD_CtrlWrite_ILI9325(0x0012, 0x001A); // External reference voltage= Vci
    delayms(50);                // Delay 50ms
    LCD_CtrlWrite_ILI9325(0x0013, 0x1800); // VDV[4:0] for VCOM amplitude
    LCD_CtrlWrite_ILI9325(0x0029, 0x002A); // VCM[5:0] for VCOMH
    LCD_CtrlWrite_ILI9325(0x002B, 0x000C); // Frame Rate
    delayms(50);                // Delay 50ms
    LCD_CtrlWrite_ILI9325(0x0020, 0x0000); // GRAM horizontal Address
    LCD_CtrlWrite_ILI9325(0x0021, 0x0000); // GRAM Vertical Address
    // ----- Adjust the Gamma Curve -----//
    LCD_CtrlWrite_ILI9325(0x0030, 0x0004);
    LCD_CtrlWrite_ILI9325(0x0031, 0x0607);
}
```

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```

LCD_CtrlWrite_ILI9325(0x0032, 0x0006);
LCD_CtrlWrite_ILI9325(0x0035, 0x0302);
LCD_CtrlWrite_ILI9325(0x0036, 0x0004);
LCD_CtrlWrite_ILI9325(0x0037, 0x0107);
LCD_CtrlWrite_ILI9325(0x0038, 0x0001);
LCD_CtrlWrite_ILI9325(0x0039, 0x0307);
LCD_CtrlWrite_ILI9325(0x003C, 0x0203);
LCD_CtrlWrite_ILI9325(0x003D, 0x0004);
//----- Set GRAM area -----//
LCD_CtrlWrite_ILI9325(0x0050, 0x0000); // Horizontal GRAM Start Address
LCD_CtrlWrite_ILI9325(0x0051, 0x00EF); // Horizontal GRAM End Address
LCD_CtrlWrite_ILI9325(0x0052, 0x0000); // Vertical GRAM Start Address
LCD_CtrlWrite_ILI9325(0x0053, 0x013F); // Vertical GRAM Start Address
LCD_CtrlWrite_ILI9325(0x0060, 0xA700); // Gate Scan Line
LCD_CtrlWrite_ILI9325(0x0061, 0x0001); // NDL,VLE, REV
LCD_CtrlWrite_ILI9325(0x006A, 0x0000); // set scrolling line
//----- Partial Display Control -----//
LCD_CtrlWrite_ILI9325(0x0080, 0x0000);
LCD_CtrlWrite_ILI9325(0x0081, 0x0000);
LCD_CtrlWrite_ILI9325(0x0082, 0x0000);
LCD_CtrlWrite_ILI9325(0x0083, 0x0000);
LCD_CtrlWrite_ILI9325(0x0084, 0x0000);
LCD_CtrlWrite_ILI9325(0x0085, 0x0000);

//----- Panel Control -----//
LCD_CtrlWrite_ILI9325(0x0090, 0x0010);
LCD_CtrlWrite_ILI9325(0x0092, 0x0600);
LCD_CtrlWrite_ILI9325(0x0007, 0x0133); // 262K color and display ON
}
void LCD_ExitSleep_ILI9325(void)
{
  //*****Power On sequence *****//
  LCD_CtrlWrite_ILI9325(0x0010, 0x0080); // SAP, BT[3:0], AP, DSTB, SLP
  LCD_CtrlWrite_ILI9325(0x0011, 0x0000); // DC1[2:0], DC0[2:0], VC[2:0]
  LCD_CtrlWrite_ILI9325(0x0012, 0x0000); // VREG1OUT voltage
  LCD_CtrlWrite_ILI9325(0x0013, 0x0000); // VDV[4:0] for VCOM amplitude
  delaysms(200); // Dis-charge capacitor power voltage
  LCD_CtrlWrite_ILI9325(0x0010, 0x1290); // SAP, BT[3:0], AP, DSTB, SLP, STB
  LCD_CtrlWrite_ILI9325(0x0011, 0x0227); // R11h=0x0221 at VCI=3.3V DC1[2:0], DC0[2:0], VC[2:0]
  delaysms(50); // Delay 50ms

```

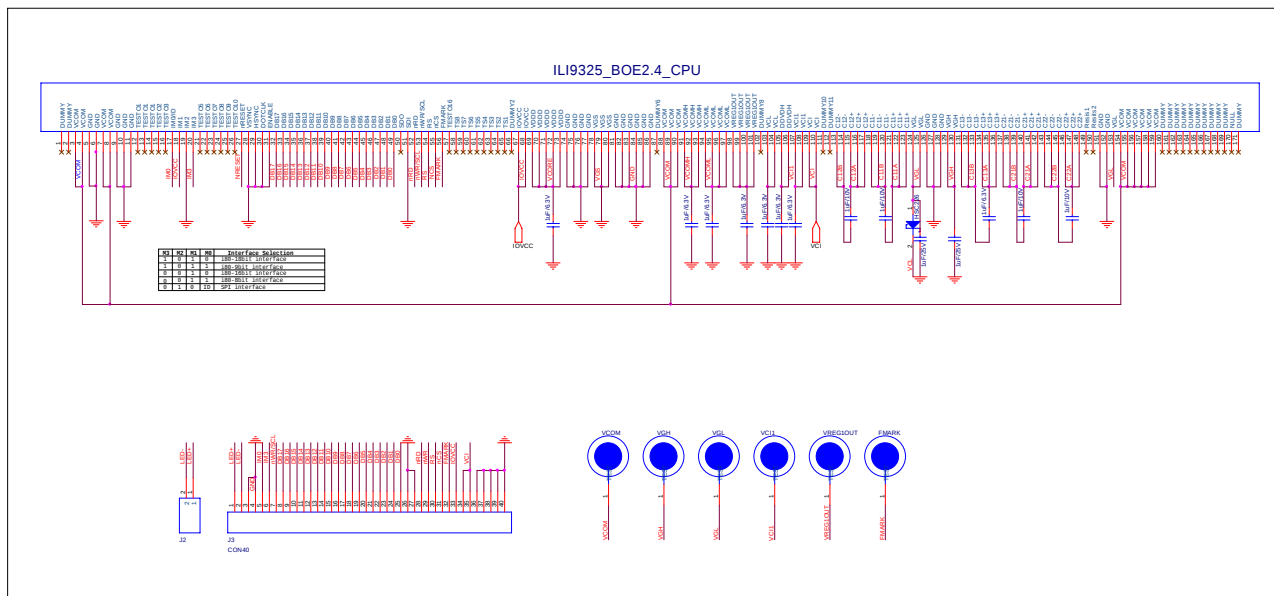
```

    LCD_CtrlWrite_ILI9325(0x0012, 0x001A); // External reference voltage =Vci;
    delayms(50);                          // Delay 50ms
    LCD_CtrlWrite_ILI9325(0x0013, 0x1800); // R13h=0x1200 when R12=009D VDV[4:0] for VCOM
    amplitude
    LCD_CtrlWrite_ILI9325(0x0029, 0x002A); // R29h=0x000C when R12=009D VCM[5:0] for VCOMH
    delayms(50);                          // Delay 50ms
    LCD_CtrlWrite_ILI9325(0x0007, 0x0133); // 262K color and display ON
}

void LCD_EnterSleep_ILI9325(void)
{
    LCD_CtrlWrite_ILI9325(0x0007, 0x0131); // Set D1=0, D0=1
    delayms(10);
    LCD_CtrlWrite_ILI9325(0x0007, 0x0130); // Set D1=0, D0=0
    delayms(10);
    LCD_CtrlWrite_ILI9325(0x0007, 0x0000); // display OFF
    //***** Power OFF sequence *****//
    LCD_CtrlWrite_ILI9325(0x0010, 0x0080); // SAP, BT[3:0], APE, AP, DSTB, SLP
    LCD_CtrlWrite_ILI9325(0x0011, 0x0000); // DC1[2:0], DC0[2:0], VC[2:0]
    LCD_CtrlWrite_ILI9325(0x0012, 0x0000); // VREG1OUT voltage
    LCD_CtrlWrite_ILI9325(0x0013, 0x0000); // VDV[4:0] for VCOM amplitude
    delayms(200);                          // Dis-charge capacitor power voltage
    LCD_CtrlWrite_ILI9325(0x0010, 0x0082); // SAP, BT[3:0], APE, AP, DSTB, SLP
}

```

9. BOE 2.4 Panel



Revision History

Revision History

Version No.	Date	Page	Description
V0.1	2007/07/05		New
V0.13	2007/10/12	14,23	ADD CMO2.4 inch and Wintek2.4 inch initial code
V0.14	2007/10/17	17,3	ADD AUO initial code and modify CPT FPC
V0.15	2007/11/17	All	Removed the schottky of VGH
V0.16	2007/12/24	6	Modify CMO RGB interface circuit
V0.17	2007/12/27	23	Add CPT 2.8 CMO 3.2 inch initial code . Modify WK 2.4 inch initial code
V0.18	2008/01/08	All	Modify Sleep IN/OUT APE bit setting
V0.19	2008/01/18	25	Add LPL 2.4 inch panel initial code
		27	Add PVI 2.4 inch panel FPC circuit and initial code
		9	Add another CMO panel FPC circuit
		12	Modify CMO2.8 inch initial code
V0.20	2008/01/29	14	Modify CMO2.4 inch initial code
V0.21	2008/02/28	4~7 All	Modify CPT initial code Remove the resistor between VCI and VCI1
V0.22	2008/03/04	9	Modify CMO2.4 inch F02414 (PD024MC6L)FPC circuit
V0.23	2008/04/08	9 30~35 36	Remove CMO2.4 inch schottky diode in VGH pin Add Tianma initial code for 2.2 2.4 2.8 inch panel Add BOE 2.4 inch panel FPC
V0.24	2008/06/23	All 25 28~29	Modify RE7h=0200h Add LPL2.0 & 2.4 inch panel FPC circuit Add LPL2.0 inch panel initial code for 2.2 2.4 2.8 inch panel
V0.25	2008/06/26	3	Add CPT 2.2" FPC Modify RE7h=0x0012h