APPLICATION NOTE

(DOC No. HX8357-B-AN)

HX8357-B

320RGB x 480 dot, 262K color, with internal GRAM,TFT Mobile Single Chip Driver

Version 1.04 July, 2011

Himax Technologies, Inc.
http://www.himax.com.tw

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1.1.1 HX8357-B MPU interface reference FPC circuit for CMO's F03509/F03511/F03206 panel

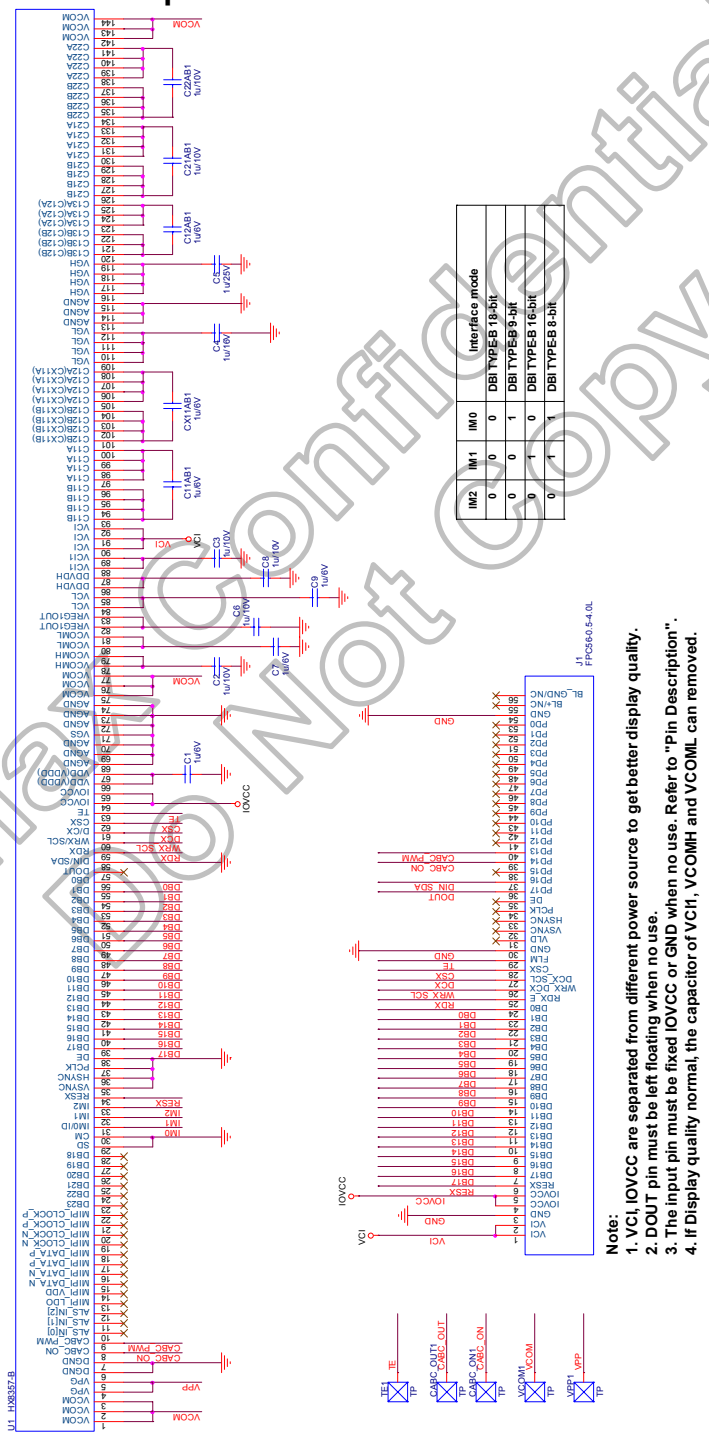


Figure 1.1: MPU mode Reference FPC Circuit for CMO's F03509/F03511/F03206 panel

1.1.2 HX8357-B MPU interface reference initial code for CMO's F03509 panel

```
void LCD_Initial_HX8357B_CMO_F03509(void)
{
   All Power On();                  // VCI=IOVCC=2.8V
   DelayX1ms(10);

   HW_RESET();                      // Hardware Reset
   DelayX1ms(10);

   Set_NOKIA_8B_CMD(0x11);     //Sleep Out
   DelayX1ms(120);

   Set_NOKIA_8B_CMD(0xB4);     //Set RM, DM
   Set_NOKIA_8B_PA(0x00);  //

   Set_NOKIA_8B_CMD(0xC8);     //Set Gamma
   Set_NOKIA_8B_PA(0x00);
   Set_NOKIA_8B_PA(0x57);
   Set_NOKIA_8B_PA(0x04);
   Set_NOKIA_8B_PA(0x60);
   Set_NOKIA_8B_PA(0x00);
   Set_NOKIA_8B_PA(0x1E);
   Set_NOKIA_8B_PA(0x37);
   Set_NOKIA_8B_PA(0x02);
   Set_NOKIA_8B_PA(0x77);
   Set_NOKIA_8B_PA(0x06);
   Set_NOKIA_8B_PA(0x0F);
   Set_NOKIA_8B_PA(0x00);

   Set_NOKIA_8B_CMD(0xD0);     //Set Power
   Set_NOKIA_8B_PA(0x44);      //DDVDH
   Set_NOKIA_8B_PA(0x41);
   Set_NOKIA_8B_PA(0x08);      //VREG1

   Set_NOKIA_8B_CMD(0xD1);     //Set VCOM
   Set_NOKIA_8B_PA(0x28);      //VCOMH
   Set_NOKIA_8B_PA(0x14);      //VCOML

   Set_NOKIA_8B_CMD(0xD2);     //Set NOROW
   Set_NOKIA_8B_PA(0x05);      //SAP
   Set_NOKIA_8B_PA(0x12);      //DC10/00

   Set_NOKIA_8B_CMD(0xE9);     //Set Panel
   Set_NOKIA_8B_PA(0x01);

   Set_NOKIA_8B_CMD(0xEA);     //Set STBA
   Set_NOKIA_8B_PA(0x03);
   Set_NOKIA_8B_PA(0x00);
   Set_NOKIA_8B_PA(0x00);

   Set_NOKIA_8B_CMD(0x29);    //Display On
   DelayX1ms(5);
}
```

1.1.3 HX8357-B MPU interface reference initial code for CMO's F03511 panel

```
void LCD_Initial_HX8357B_CMO_F03511(void)
{
   All Power On();                 // VCI=IOVCC=2.8V
   DelayX1ms(10);

   HW_RESET();                     // Hardware Reset
   DelayX1ms(10);

   Set_NOKIA_8B_CMD(0x11);         //Sleep Out
   DelayX1ms(120);

   Set_NOKIA_8B_CMD(0xB4);         //Set RM, DM
   Set_NOKIA_8B_PA(0x00);

   Set_NOKIA_8B_CMD(0xC0);         //Set PANEL
   Set_NOKIA_8B_PA(0x14);
   Set_NOKIA_8B_PA(0x3B);
   Set_NOKIA_8B_PA(0x00);
   Set_NOKIA_8B_PA(0x02);
   Set_NOKIA_8B_PA(0x11);

   Set_NOKIA_8B_CMD(0xC8);         //Set Gamma
   Set_NOKIA_8B_PA(0x00);
   Set_NOKIA_8B_PA(0x15);
   Set_NOKIA_8B_PA(0x00);
   Set_NOKIA_8B_PA(0x22);
   Set_NOKIA_8B_PA(0x00);
   Set_NOKIA_8B_PA(0x08);
   Set_NOKIA_8B_PA(0x77);
   Set_NOKIA_8B_PA(0x26);
   Set_NOKIA_8B_PA(0x77);
   Set_NOKIA_8B_PA(0x22);
   Set_NOKIA_8B_PA(0x04);
   Set_NOKIA_8B_PA(0x00);

   Set_NOKIA_8B_CMD(0xD0);         //Set Power
   Set_NOKIA_8B_PA(0x44);          //DDVDH
   Set_NOKIA_8B_PA(0x41);
   Set_NOKIA_8B_PA(0x06);          //VREG1

   Set_NOKIA_8B_CMD(0xD1);         //Set VCOM
   Set_NOKIA_8B_PA(0x42);          //VCOMH
   Set_NOKIA_8B_PA(0x0F);          //VCOML

   Set_NOKIA_8B_CMD(0xD2);         //Set NOROW
   Set_NOKIA_8B_PA(0x05);          //SAP
   Set_NOKIA_8B_PA(0x12);          //DC10/00

   Set_NOKIA_8B_CMD(0xE9);         //Set Panel
   Set_NOKIA_8B_PA(0x01);

   Set_NOKIA_8B_CMD(0xEA);         //Set STBA
   Set_NOKIA_8B_PA(0x03);
   Set_NOKIA_8B_PA(0x00);
   Set_NOKIA_8B_PA(0x00);

   Set_NOKIA_8B_CMD(0x29);         //Display On
   DelayX1ms(5);
}
```

1.1.4 HX8357-B MPU interface reference initial code for CMO's F03206 panel

```
void LCD_Initial_HX8357B_CMO_F03206(void)
{
   All Power On();                 // VCI=IOVCC=2.8V
   DelayX1ms(10);

   HW_RESET();                     // Hardware Reset
   DelayX1ms(10);

   Set_NOKIA_8B_CMD(0x11);         //Sleep Out
   DelayX1ms(120);

   Set_NOKIA_8B_CMD(0xB4);         //Set RM, DM
   Set_NOKIA_8B_PA(0x00);

   Set_NOKIA_8B_CMD(0xC0);         //Set PANEL
   Set_NOKIA_8B_PA(0x14);
   Set_NOKIA_8B_PA(0x3B);
   Set_NOKIA_8B_PA(0x00);
   Set_NOKIA_8B_PA(0x02);
   Set_NOKIA_8B_PA(0x11);

   Set_NOKIA_8B_CMD(0xC8);         //Set Gamma
   Set_NOKIA_8B_PA(0x00);
   Set_NOKIA_8B_PA(0x25);
   Set_NOKIA_8B_PA(0x11);
   Set_NOKIA_8B_PA(0x14);
   Set_NOKIA_8B_PA(0x04);
   Set_NOKIA_8B_PA(0x0C);
   Set_NOKIA_8B_PA(0x66);
   Set_NOKIA_8B_PA(0x25);
   Set_NOKIA_8B_PA(0x77);
   Set_NOKIA_8B_PA(0x41);
   Set_NOKIA_8B_PA(0x07);
   Set_NOKIA_8B_PA(0x08);

   Set_NOKIA_8B_CMD(0xD0);         //Set Power
   Set_NOKIA_8B_PA(0x44);          //DDVDH
   Set_NOKIA_8B_PA(0x41);
   Set_NOKIA_8B_PA(0x07);          //VREG1

   Set_NOKIA_8B_CMD(0xD1);         //Set VCOM
   Set_NOKIA_8B_PA(0x48);          //VCOMH
   Set_NOKIA_8B_PA(0x0F);          //VCOML

   Set_NOKIA_8B_CMD(0xD2);         //Set NOROW
   Set_NOKIA_8B_PA(0x05);          //SAP
   Set_NOKIA_8B_PA(0x12);          //DC10/00

   Set_NOKIA_8B_CMD(0xE9);         //Set Panel
   Set_NOKIA_8B_PA(0x01);

   Set_NOKIA_8B_CMD(0xEA);         //Set STBA
   Set_NOKIA_8B_PA(0x03);
   Set_NOKIA_8B_PA(0x00);
   Set_NOKIA_8B_PA(0x00);

   Set_NOKIA_8B_CMD(0x29);         //Display On
   DelayX1ms(5);
}
```

1.2 Tianma's TM035NYH01/TM035PYHV1/TM032PYHV1 panel

1.2.1 HX8357-B MPU interface reference FPC circuit for Tianma's TM035NYH01 / TM035PYHV1 / TM032PYHV1 panel

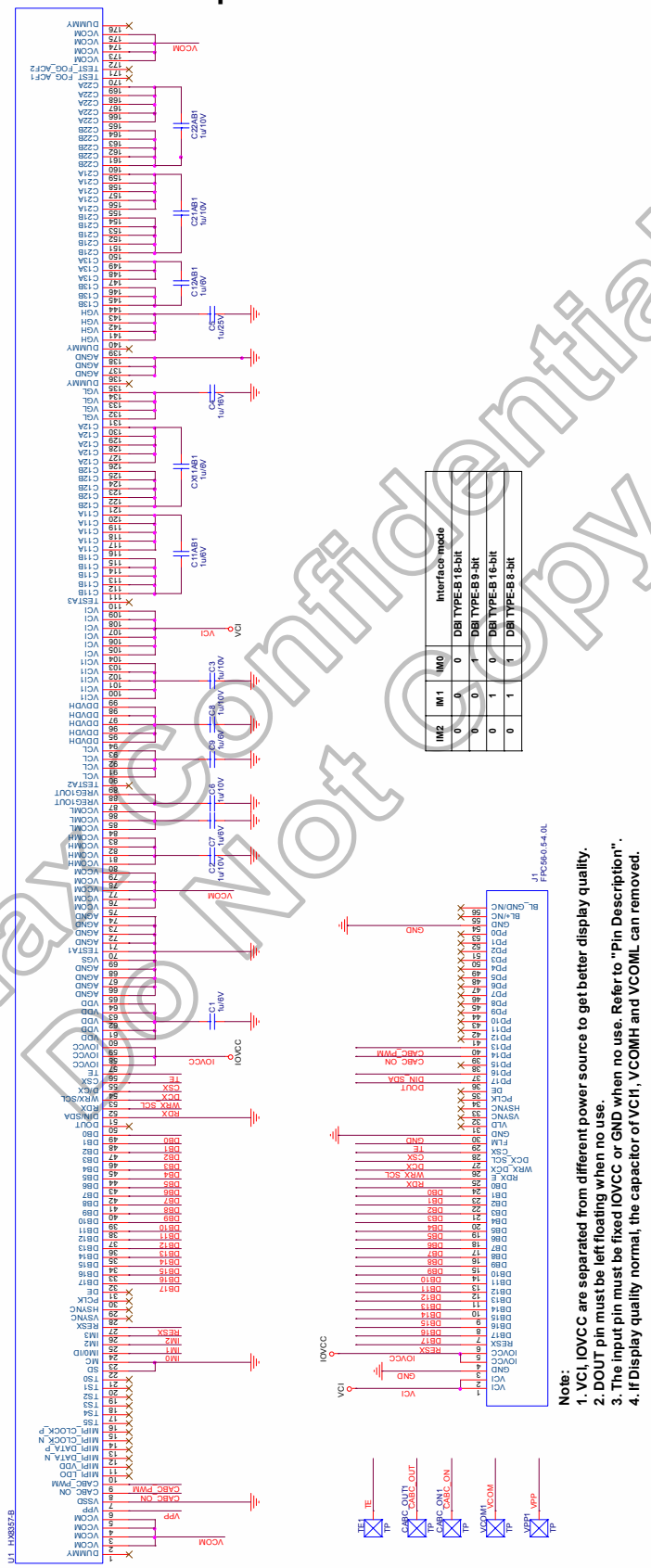


Figure 1.2: MPU mode Reference FPC Circuit for Tianma's TM035NYH01 / TM032PYHV1 / TM032PYHV1 panel

1.2.2 HX8357-B MPU interface reference initial code for Tianma's TM035NYH01 panel

```
void LCD_Initial_HX8357B_TM035NYH01(void)
{
   TBD
}
```

1.2.3 HX8357-B MPU interface reference initial code for Tianma's TM035PYHV1 panel

```
void LCD_Initial_HX8357B_TM035PYHV1(void)
{
   TBD
}
```

1.2.4 HX8357-B MPU interface reference initial code for Tianma's TM032PYHV1 panel

```
void LCD_Initial_HX8357B_TM032PYHV1(void)
{
   All Power On();                  // VCI=IOVCC=2.8V
   DelayX1ms(10);

   HW_RESET();                      // Hardware Reset
   DelayX1ms(10);

   Set_NOKIA_8B_CMD(0x11);          //Sleep Out
   DelayX1ms(120);

   Set_NOKIA_8B_CMD(0xB4);          //Set RM, DM
   Set_NOKIA_8B_PA(0x00);  //

   Set_NOKIA_8B_CMD(0xC8);          //Set Gamma
   Set_NOKIA_8B_PA(0x01);
   Set_NOKIA_8B_PA(0x36);
   Set_NOKIA_8B_PA(0x50);
   Set_NOKIA_8B_PA(0x34);
   Set_NOKIA_8B_PA(0x03);
   Set_NOKIA_8B_PA(0x18);
   Set_NOKIA_8B_PA(0x72);
   Set_NOKIA_8B_PA(0x14);
   Set_NOKIA_8B_PA(0x67);
   Set_NOKIA_8B_PA(0x43);
   Set_NOKIA_8B_PA(0x0C);
   Set_NOKIA_8B_PA(0x06);

   Set_NOKIA_8B_CMD(0xD0);          //Set Power
   Set_NOKIA_8B_PA(0x44);           //DDVDH
   Set_NOKIA_8B_PA(0x41);
   Set_NOKIA_8B_PA(0x08);           //VREG1

   Set_NOKIA_8B_CMD(0xD1);          //Set VCOM
   Set_NOKIA_8B_PA(0x51);           //VCOMH
   Set_NOKIA_8B_PA(0x13);           //VCOML

   Set_NOKIA_8B_CMD(0xD2);          //Set NOROW
   Set_NOKIA_8B_PA(0x05);           //SAP
   Set_NOKIA_8B_PA(0x12);           //DC10/00

   Set_NOKIA_8B_CMD(0xE9);          //Set Panel
   Set_NOKIA_8B_PA(0x01);

   Set_NOKIA_8B_CMD(0xEA);          //Set STBA
   Set_NOKIA_8B_PA(0x03);
   Set_NOKIA_8B_PA(0x00);
   Set_NOKIA_8B_PA(0x00);

   Set_NOKIA_8B_CMD(0xEE);          //Set EQ
   Set_NOKIA_8B_PA(0x13);
   Set_NOKIA_8B_PA(0x00);
   Set_NOKIA_8B_PA(0x00);
   Set_NOKIA_8B_PA(0x13);
```

```
    Set_NOKIA_8B_CMD(0xED);     //Set DIR TIM
    Set_NOKIA_8B_PA(0x13);
    Set_NOKIA_8B_PA(0x13);
    Set_NOKIA_8B_PA(0xA2);
    Set_NOKIA_8B_PA(0xA2);
    Set_NOKIA_8B_PA(0xA3);
    Set_NOKIA_8B_PA(0xA3);
    Set_NOKIA_8B_PA(0x13);
    Set_NOKIA_8B_PA(0x13);
    Set_NOKIA_8B_PA(0x13);
    Set_NOKIA_8B_PA(0x13);
    Set_NOKIA_8B_PA(0xAE);
    Set_NOKIA_8B_PA(0xAE);
    Set_NOKIA_8B_PA(0x13);
    Set_NOKIA_8B_PA(0xA2);
    Set_NOKIA_8B_PA(0x13);

    Set_NOKIA_8B_CMD(0x29);     //Display On
    DelayX1ms(5);
}
```

1.3 BOE's 3.5 inch panel

1.3.1 HX8357-B MPU interface reference FPC circuit for BOE's 3.5 inch panel

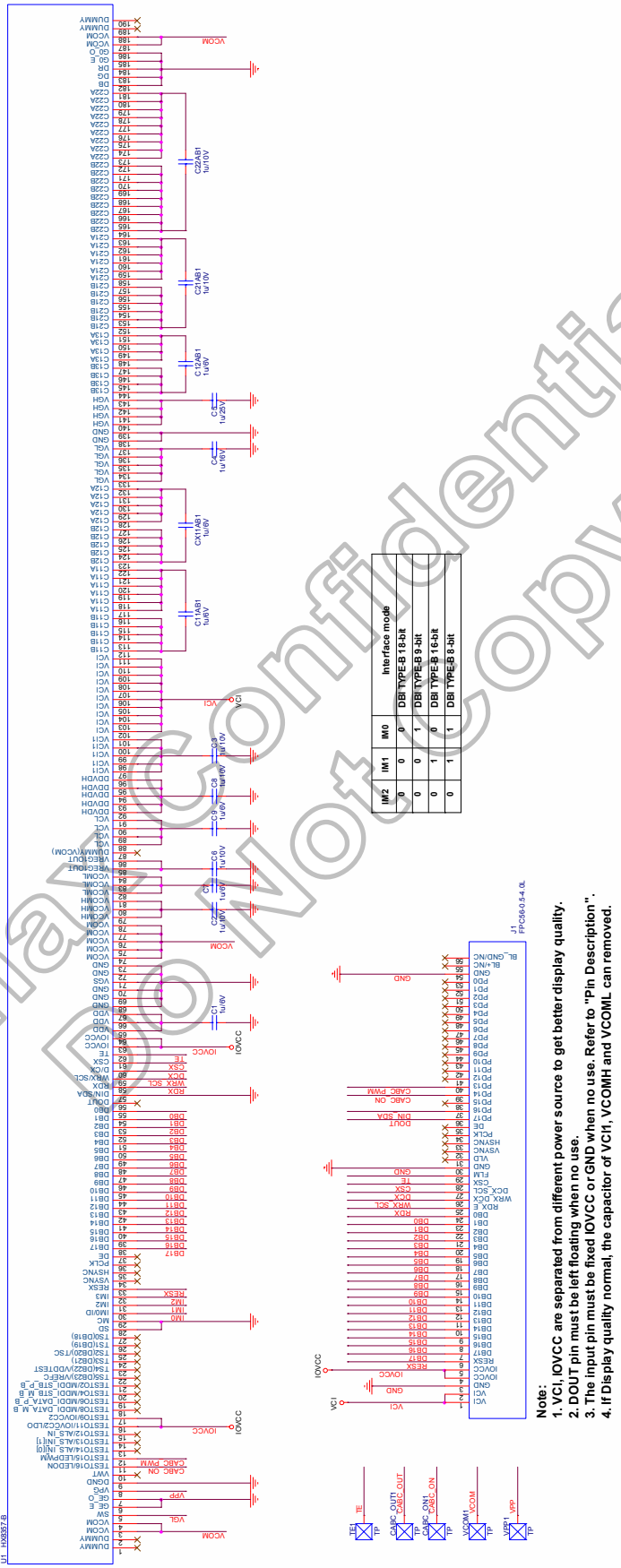


Figure 1.3: MPU mode Reference FPC Circuit for BOE's 3.5 inch panel

1.3.2 HX8357-B MPU interface reference initial code for BOE's 3.5 inch panel

```
void LCD_Initial_HX8357B_BOE_3_5(void)
{
   All Power On();                  // VCI=IOVCC=2.8V
   DelayX1ms(10);

   HW_RESET();                      // Hardware Reset
   DelayX1ms(10);

   Set_NOKIA_8B_CMD(0x11);          //Sleep Out
   DelayX1ms(120);

   Set_NOKIA_8B_CMD(0xB4);          //Set RM, DM
   Set_NOKIA_8B_PA(0x00);  //

   Set_NOKIA_8B_CMD(0xC0);          //Set PANEL
   Set_NOKIA_8B_PA(0x14);
   Set_NOKIA_8B_PA(0x3B);
   Set_NOKIA_8B_PA(0x00);
   Set_NOKIA_8B_PA(0x02);
   Set_NOKIA_8B_PA(0x11);

   Set_NOKIA_8B_CMD(0xC8);          //Set Gamma
   Set_NOKIA_8B_PA(0x00);
   Set_NOKIA_8B_PA(0x25);
   Set_NOKIA_8B_PA(0x11);
   Set_NOKIA_8B_PA(0x21);
   Set_NOKIA_8B_PA(0x09);
   Set_NOKIA_8B_PA(0x0C);
   Set_NOKIA_8B_PA(0x66);
   Set_NOKIA_8B_PA(0x25);
   Set_NOKIA_8B_PA(0x77);
   Set_NOKIA_8B_PA(0x12);
   Set_NOKIA_8B_PA(0x06);
   Set_NOKIA_8B_PA(0x12);

   Set_NOKIA_8B_CMD(0xD0);          //Set Power
   Set_NOKIA_8B_PA(0x45);           //DDVDH
   Set_NOKIA_8B_PA(0x41);
   Set_NOKIA_8B_PA(0x02);           //VREG1

   Set_NOKIA_8B_CMD(0xD1);          //Set VCOM
   Set_NOKIA_8B_PA(0x41);           //VCOMH
   Set_NOKIA_8B_PA(0x0F);           //VCOML

   Set_NOKIA_8B_CMD(0xD2);          //Set NOROW
   Set_NOKIA_8B_PA(0x05);           //SAP
   Set_NOKIA_8B_PA(0x12);           //DC10/00

   Set_NOKIA_8B_CMD(0xE9);          //Set Panel
   Set_NOKIA_8B_PA(0x01);

   Set_NOKIA_8B_CMD(0xEA);          //Set STBA
   Set_NOKIA_8B_PA(0x03);
   Set_NOKIA_8B_PA(0x00);
   Set_NOKIA_8B_PA(0x00);
```

```
    Set_NOKIA_8B_CMD(0xEE);    //Set EQ
    Set_NOKIA_8B_PA(0x00);
    Set_NOKIA_8B_PA(0x00);
    Set_NOKIA_8B_PA(0x00);
    Set_NOKIA_8B_PA(0x00);

    Set_NOKIA_8B_CMD(0xED);    //Set DIR TIM
    Set_NOKIA_8B_PA(0x00);
    Set_NOKIA_8B_PA(0x00);
    Set_NOKIA_8B_PA(0xA2);
    Set_NOKIA_8B_PA(0xA2);
    Set_NOKIA_8B_PA(0xA2);
    Set_NOKIA_8B_PA(0xA2);
    Set_NOKIA_8B_PA(0x00);
    Set_NOKIA_8B_PA(0x00);
    Set_NOKIA_8B_PA(0x00);
    Set_NOKIA_8B_PA(0x00);
    Set_NOKIA_8B_PA(0xAE);
    Set_NOKIA_8B_PA(0xAE);
    Set_NOKIA_8B_PA(0x01);
    Set_NOKIA_8B_PA(0xA2);
    Set_NOKIA_8B_PA(0x00);

    Set_NOKIA_8B_CMD(0x29);    //Display On
    DelayX1ms(5);
}
```

1.4 TRULY's 3.5 inch panel

1.4.1 HX8357-B MPU interface reference FPC circuit for TRULY's 3.5 inch panel

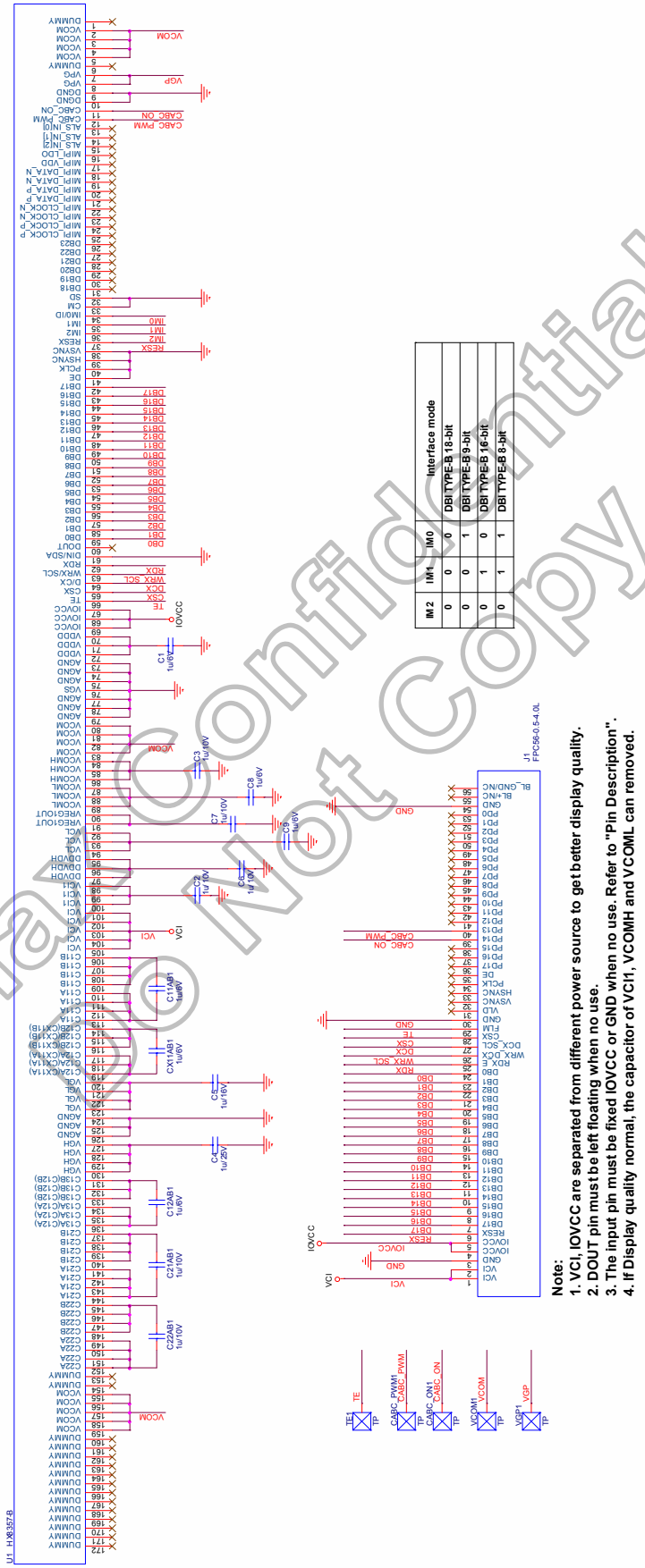


Figure 1.4: MPU mode Reference FPC Circuit for TRULY's 3.5 inch panel

1.4.2 HX8357-B MPU interface reference initial code for TRULY's 3.5 inch panel

```
void LCD_Initial_HX8357B_TRULY_3_5(void)
{
   All Power On();                  // VCI=IOVCC=2.8V
   DelayX1ms(10);

   HW_RESET();                      // Hardware Reset
   DelayX1ms(10);

   Set_NOKIA_8B_CMD(0x11);          //Sleep Out
   DelayX1ms(120);

   Set_NOKIA_8B_CMD(0xB4);          //Set RM, DM
   Set_NOKIA_8B_PA(0x00);

   Set_NOKIA_8B_CMD(0xC0);          //Set PANEL
   Set_NOKIA_8B_PA(0x14);
   Set_NOKIA_8B_PA(0x3B);
   Set_NOKIA_8B_PA(0x00);
   Set_NOKIA_8B_PA(0x02);
   Set_NOKIA_8B_PA(0x11);

   Set_NOKIA_8B_CMD(0xC8);          //Set Gamma
   Set_NOKIA_8B_PA(0x00);
   Set_NOKIA_8B_PA(0x26);
   Set_NOKIA_8B_PA(0x00);
   Set_NOKIA_8B_PA(0x20);
   Set_NOKIA_8B_PA(0x07);
   Set_NOKIA_8B_PA(0x00);
   Set_NOKIA_8B_PA(0x77);
   Set_NOKIA_8B_PA(0x15);
   Set_NOKIA_8B_PA(0x77);
   Set_NOKIA_8B_PA(0x02);
   Set_NOKIA_8B_PA(0x00);
   Set_NOKIA_8B_PA(0x0E);

   Set_NOKIA_8B_CMD(0xD0);          //Set Power
   Set_NOKIA_8B_PA(0x44);           //DDVDH
   Set_NOKIA_8B_PA(0x41);
   Set_NOKIA_8B_PA(0x06);           //VREG1

   Set_NOKIA_8B_CMD(0xD1);          //Set VCOM
   Set_NOKIA_8B_PA(0x5E);           //VCOMH
   Set_NOKIA_8B_PA(0x10);           //VCOML

   Set_NOKIA_8B_CMD(0xD2);          //Set NOROW
   Set_NOKIA_8B_PA(0x05);           //SAP
   Set_NOKIA_8B_PA(0x12);           //DC10/00

   Set_NOKIA_8B_CMD(0xE9);          //Set Panel
   Set_NOKIA_8B_PA(0x01);

   Set_NOKIA_8B_CMD(0xEA);          //Set STBA
   Set_NOKIA_8B_PA(0x03);
   Set_NOKIA_8B_PA(0x00);
   Set_NOKIA_8B_PA(0x00);
```

```
    Set_NOKIA_8B_CMD(0xEE);    //Set EQ
    Set_NOKIA_8B_PA(0x00);
    Set_NOKIA_8B_PA(0x00);
    Set_NOKIA_8B_PA(0x00);
    Set_NOKIA_8B_PA(0x00);

    Set_NOKIA_8B_CMD(0xED);    //Set DIR TIM
    Set_NOKIA_8B_PA(0x00);
    Set_NOKIA_8B_PA(0x00);
    Set_NOKIA_8B_PA(0xA2);
    Set_NOKIA_8B_PA(0xA2);
    Set_NOKIA_8B_PA(0xA2);
    Set_NOKIA_8B_PA(0xA2);
    Set_NOKIA_8B_PA(0x00);
    Set_NOKIA_8B_PA(0x00);
    Set_NOKIA_8B_PA(0x00);
    Set_NOKIA_8B_PA(0x00);
    Set_NOKIA_8B_PA(0xAE);
    Set_NOKIA_8B_PA(0xAE);
    Set_NOKIA_8B_PA(0x01);
    Set_NOKIA_8B_PA(0xA2);
    Set_NOKIA_8B_PA(0x00);

    Set_NOKIA_8B_CMD(0x29);    //Display On
    DelayX1ms(5);
}
```

1.5 GP's GPN5035K21CG panel

1.5.1 HX8357-B MPU interface reference FPC circuit for GP's GPN5035K21CG panel

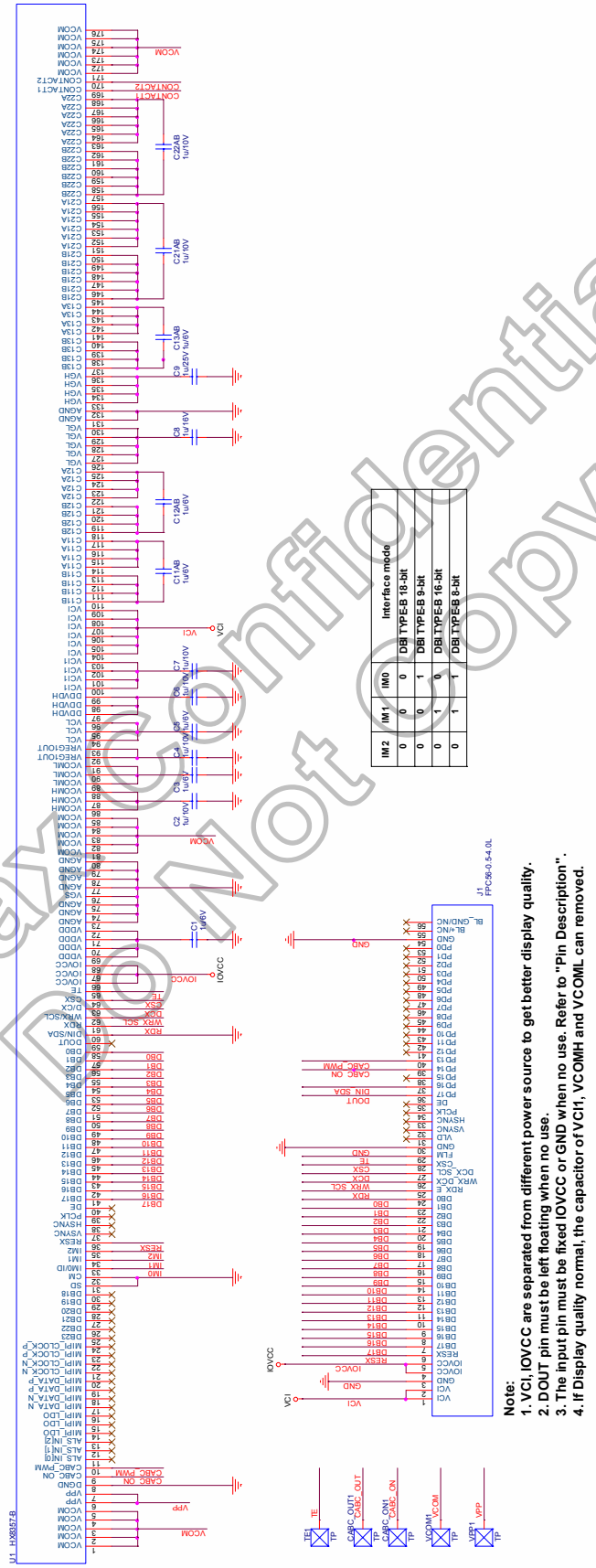


Figure 1.5: MPU mode Reference FPC Circuit for GP's GPN5035K21CG panel

1.5.2 HX8357-B MPU interface reference initial code for GP's GPN5035K21CG panel

```
void LCD_Initial_HX8357B_GPN5035K21CG(void)
{
   All Power On();                  // VCI=IOVCC=2.8V
   DelayX1ms(10);

   HW_RESET();                      // Hardware Reset
   DelayX1ms(10);

   Set_NOKIA_8B_CMD(0x11);          //Sleep Out
   DelayX1ms(120);

   Set_NOKIA_8B_CMD(0xB4);          //Set RM, DM
   Set_NOKIA_8B_PA(0x00);

   Set_NOKIA_8B_CMD(0xC8);          //Set Gamma
   Set_NOKIA_8B_PA(0x01);
   Set_NOKIA_8B_PA(0x36);
   Set_NOKIA_8B_PA(0x50);
   Set_NOKIA_8B_PA(0x34);
   Set_NOKIA_8B_PA(0x03);
   Set_NOKIA_8B_PA(0x18);
   Set_NOKIA_8B_PA(0x72);
   Set_NOKIA_8B_PA(0x14);
   Set_NOKIA_8B_PA(0x67);
   Set_NOKIA_8B_PA(0x43);
   Set_NOKIA_8B_PA(0x0C);
   Set_NOKIA_8B_PA(0x06);

   Set_NOKIA_8B_CMD(0xD0);          //Set Power
   Set_NOKIA_8B_PA(0x44);           //DDVDH
   Set_NOKIA_8B_PA(0x41);
   Set_NOKIA_8B_PA(0x08);           //VREG1

   Set_NOKIA_8B_CMD(0xD1);          //Set VCOM
   Set_NOKIA_8B_PA(0x51);           //VCOMH
   Set_NOKIA_8B_PA(0x13);           //VCOML

   Set_NOKIA_8B_CMD(0xD2);          //Set NOROW
   Set_NOKIA_8B_PA(0x05);           //SAP
   Set_NOKIA_8B_PA(0x12);           //DC10/00

   Set_NOKIA_8B_CMD(0xE9);          //Set Panel
   Set_NOKIA_8B_PA(0x01);

   Set_NOKIA_8B_CMD(0xEA);          //Set STBA
   Set_NOKIA_8B_PA(0x03);
   Set_NOKIA_8B_PA(0x00);
   Set_NOKIA_8B_PA(0x00);

   Set_NOKIA_8B_CMD(0xEE);          //Set EQ
   Set_NOKIA_8B_PA(0x13);
   Set_NOKIA_8B_PA(0x00);
   Set_NOKIA_8B_PA(0x00);
   Set_NOKIA_8B_PA(0x13);
```

```
    Set_NOKIA_8B_CMD(0xED);     //Set DIR TIM
    Set_NOKIA_8B_PA(0x13);
    Set_NOKIA_8B_PA(0x13);
    Set_NOKIA_8B_PA(0xA2);
    Set_NOKIA_8B_PA(0xA2);
    Set_NOKIA_8B_PA(0xA3);
    Set_NOKIA_8B_PA(0xA3);
    Set_NOKIA_8B_PA(0x13);
    Set_NOKIA_8B_PA(0x13);
    Set_NOKIA_8B_PA(0x13);
    Set_NOKIA_8B_PA(0x13);
    Set_NOKIA_8B_PA(0xAE);
    Set_NOKIA_8B_PA(0xAE);
    Set_NOKIA_8B_PA(0x13);
    Set_NOKIA_8B_PA(0xA2);
    Set_NOKIA_8B_PA(0x13);

    Set_NOKIA_8B_CMD(0x29);     //Display On
    DelayX1ms(5);
}
```

1.5.3 HX8357-B MPU interface reference initial code for GP's 3.2 inch panel

```
void LCD_Initial_HX8357B_3_2(void)
{
   All Power On();                  // VCI=IOVCC=2.8V
   DelayX1ms(10);

   HW_RESET();                      // Hardware Reset
   DelayX1ms(10);

   Set_NOKIA_8B_CMD(0x11);    //Sleep Out
   DelayX1ms(120);

   Set_NOKIA_8B_CMD(0xB4);    //Set RM, DM
   Set_NOKIA_8B_PA(0x00);  //

   Set_NOKIA_8B_CMD(0xC0);    //Set PANEL
   Set_NOKIA_8B_PA(0x14);
   Set_NOKIA_8B_PA(0x3B);
   Set_NOKIA_8B_PA(0x00);
   Set_NOKIA_8B_PA(0x02);
   Set_NOKIA_8B_PA(0x11);

   Set_NOKIA_8B_CMD(0xC8);    //Set Gamma
   Set_NOKIA_8B_PA(0x20);
   Set_NOKIA_8B_PA(0x27);
   Set_NOKIA_8B_PA(0x00);
   Set_NOKIA_8B_PA(0x22);
   Set_NOKIA_8B_PA(0x0F);
   Set_NOKIA_8B_PA(0x00);
   Set_NOKIA_8B_PA(0x77);
   Set_NOKIA_8B_PA(0x05);
   Set_NOKIA_8B_PA(0x75);
   Set_NOKIA_8B_PA(0x22);
   Set_NOKIA_8B_PA(0x00);
   Set_NOKIA_8B_PA(0x1E);

   Set_NOKIA_8B_CMD(0xD0);    //Set Power
   Set_NOKIA_8B_PA(0x44);     //DDVDH
   Set_NOKIA_8B_PA(0x41);
   Set_NOKIA_8B_PA(0x05);     //VREG1

   Set_NOKIA_8B_CMD(0xD1);    //Set VCOM
   Set_NOKIA_8B_PA(0x51);     //VCOMH
   Set_NOKIA_8B_PA(0x10);     //VCOML

   Set_NOKIA_8B_CMD(0xD2);    //Set NOROW
   Set_NOKIA_8B_PA(0x05);     //SAP
   Set_NOKIA_8B_PA(0x12);     //DC10/00

   Set_NOKIA_8B_CMD(0xE9);    //Set Panel
   Set_NOKIA_8B_PA(0x01);

   Set_NOKIA_8B_CMD(0xEA);    //Set STBA
   Set_NOKIA_8B_PA(0x03);
   Set_NOKIA_8B_PA(0x00);
   Set_NOKIA_8B_PA(0x00);
```

```
    Set_NOKIA_8B_CMD(0xEE);    //Set EQ
    Set_NOKIA_8B_PA(0x10);
    Set_NOKIA_8B_PA(0x00);
    Set_NOKIA_8B_PA(0x00);
    Set_NOKIA_8B_PA(0x10);

    Set_NOKIA_8B_CMD(0xED);    //Set DIR TIM
    Set_NOKIA_8B_PA(0x10);
    Set_NOKIA_8B_PA(0x10);
    Set_NOKIA_8B_PA(0x9A);
    Set_NOKIA_8B_PA(0x9A);
    Set_NOKIA_8B_PA(0x9B);
    Set_NOKIA_8B_PA(0x9B);
    Set_NOKIA_8B_PA(0x10);
    Set_NOKIA_8B_PA(0x10);
    Set_NOKIA_8B_PA(0x10);
    Set_NOKIA_8B_PA(0x10);
    Set_NOKIA_8B_PA(0xAE);
    Set_NOKIA_8B_PA(0xAE);
    Set_NOKIA_8B_PA(0x10);
    Set_NOKIA_8B_PA(0x9B);
    Set_NOKIA_8B_PA(0x10);

    Set_NOKIA_8B_CMD(0x29);     //Display On
    DelayX1ms(5);
}
```

1.6 AUO's 3.17 inch panel

1.6.1 HX8357-B MPU interface reference FPC circuit for AUO's 3.17 inch panel

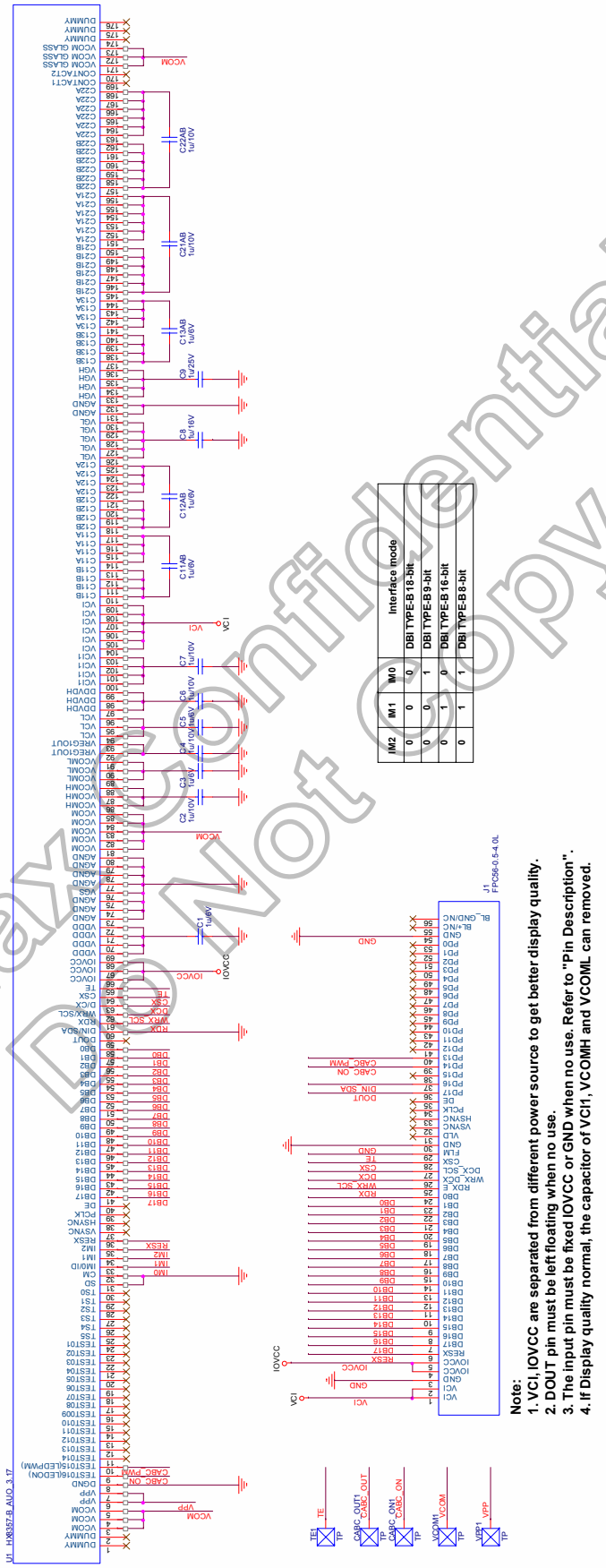


Figure 1.6: MPU mode Reference FPC Circuit for AUO 3.17 inch panel

1.6.2 HX8357-B MPU interface reference initial code for AUO's 3.17 inch panel

```
void LCD_Initial_HX8357B_AUO_3_17(void)
{
   All Power On();                  // VCI=IOVCC=2.8V
   DelayX1ms(10);

   HW_RESET();                      // Hardware Reset
   DelayX1ms(10);

   Set_NOKIA_8B_CMD(0x11);          //Sleep Out
   DelayX1ms(120);

   Set_NOKIA_8B_CMD(0xB4);          //Set RM, DM
   Set_NOKIA_8B_PA(0x00);  //

   Set_NOKIA_8B_CMD(0xC0);          //Set PANEL
   Set_NOKIA_8B_PA(0x14);
   Set_NOKIA_8B_PA(0x3B);
   Set_NOKIA_8B_PA(0x00);
   Set_NOKIA_8B_PA(0x02);
   Set_NOKIA_8B_PA(0x11);
   Set_NOKIA_8B_PA(0x3C);

   Set_NOKIA_8B_CMD(0xC8);          //Set Gamma
   Set_NOKIA_8B_PA(0x00);
   Set_NOKIA_8B_PA(0x27);
   Set_NOKIA_8B_PA(0x10);
   Set_NOKIA_8B_PA(0x11);
   Set_NOKIA_8B_PA(0x00);
   Set_NOKIA_8B_PA(0x0C);
   Set_NOKIA_8B_PA(0x76);
   Set_NOKIA_8B_PA(0x05);
   Set_NOKIA_8B_PA(0x77);
   Set_NOKIA_8B_PA(0x11);
   Set_NOKIA_8B_PA(0x06);
   Set_NOKIA_8B_PA(0x00);

   Set_NOKIA_8B_CMD(0xD0);          //Set Power
   Set_NOKIA_8B_PA(0x44);           //DDVDH
   Set_NOKIA_8B_PA(0x41);
   Set_NOKIA_8B_PA(0x06);           //VREG1

   Set_NOKIA_8B_CMD(0xD1);          //Set VCOM
   Set_NOKIA_8B_PA(0x52);           //VCOMH
   Set_NOKIA_8B_PA(0x10);           //VCOML

   Set_NOKIA_8B_CMD(0xD2);          //Set NOROW
   Set_NOKIA_8B_PA(0x05);           //SAP
   Set_NOKIA_8B_PA(0x12);           //DC10/00

   Set_NOKIA_8B_CMD(0xE9);          //Set Panel
   Set_NOKIA_8B_PA(0x01);

   Set_NOKIA_8B_CMD(0xEA);          //Set STBA
   Set_NOKIA_8B_PA(0x03);
   Set_NOKIA_8B_PA(0x00);
   Set_NOKIA_8B_PA(0x00);
```

```
    Set_NOKIA_8B_CMD(0xEE);    //Set EQ
    Set_NOKIA_8B_PA(0x15);
    Set_NOKIA_8B_PA(0x00);
    Set_NOKIA_8B_PA(0x00);
    Set_NOKIA_8B_PA(0x15);

    Set_NOKIA_8B_CMD(0xED);    //Set DIR TIM
    Set_NOKIA_8B_PA(0x15);
    Set_NOKIA_8B_PA(0x15);
    Set_NOKIA_8B_PA(0xA2);
    Set_NOKIA_8B_PA(0xA2);
    Set_NOKIA_8B_PA(0xA3);
    Set_NOKIA_8B_PA(0xA3);
    Set_NOKIA_8B_PA(0x15);
    Set_NOKIA_8B_PA(0x15);
    Set_NOKIA_8B_PA(0x15);
    Set_NOKIA_8B_PA(0x15);
    Set_NOKIA_8B_PA(0xAE);
    Set_NOKIA_8B_PA(0xAE);
    Set_NOKIA_8B_PA(0x15);
    Set_NOKIA_8B_PA(0xA2);
    Set_NOKIA_8B_PA(0x15);

    Set_NOKIA_8B_CMD(0x29);    //Display On
    DelayX1ms(5);
}
```

1.7 HSD 3.5 inch panel

1.7.1 HX8357-B MPU interface reference initial code for HSD's 3.5 inch panel

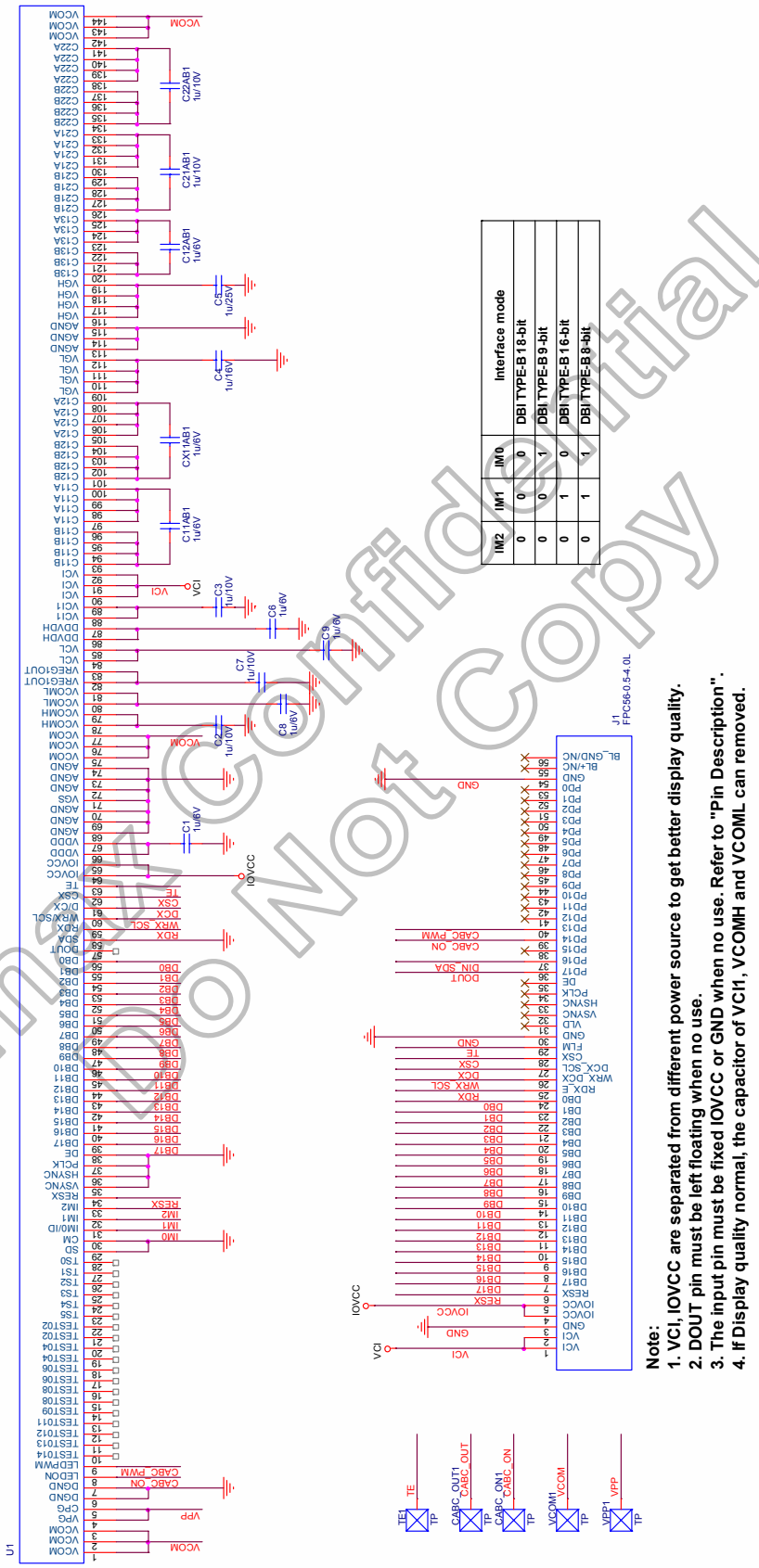


Figure 1.7: MPU mode Reference FPC Circuit for HSD 3.5 inch panel

1.7.2 HX8357-B MPU interface reference initial code for HSD's 3.5 inch panel

```
void LCD_Initial_HX8357B_HSD_3_5(void)
{
   All Power On();                    // VCI=IOVCC=2.8V
   DelayX1ms(10);

   HW_RESET();                        // Hardware Reset
   DelayX1ms(10);

   Set_NOKIA_8B_CMD(0x11);    //Sleep Out
   DelayX1ms(120);

   Set_NOKIA_8B_CMD(0xB4);    //Set RM, DM
   Set_NOKIA_8B_PA(0x00);  /

   Set_NOKIA_8B_CMD(0xC0);    //Set PANEL
   Set_NOKIA_8B_PA(0x14);
   Set_NOKIA_8B_PA(0x3B);
   Set_NOKIA_8B_PA(0x00);
   Set_NOKIA_8B_PA(0x02);
   Set_NOKIA_8B_PA(0x11);

   Set_NOKIA_8B_CMD(0xC8);    //Set Gamma
   Set_NOKIA_8B_PA(0x00);
   Set_NOKIA_8B_PA(0x46);
   Set_NOKIA_8B_PA(0x14);
   Set_NOKIA_8B_PA(0x21);
   Set_NOKIA_8B_PA(0x00);
   Set_NOKIA_8B_PA(0x0E);
   Set_NOKIA_8B_PA(0x36);
   Set_NOKIA_8B_PA(0x13);
   Set_NOKIA_8B_PA(0x77);
   Set_NOKIA_8B_PA(0x12);
   Set_NOKIA_8B_PA(0x07);
   Set_NOKIA_8B_PA(0x00);

   Set_NOKIA_8B_CMD(0xD0);    //Set Power
   Set_NOKIA_8B_PA(0x44);  //DDVDH
   Set_NOKIA_8B_PA(0x41);     //
   Set_NOKIA_8B_PA(0x05);  //VREG1

   Set_NOKIA_8B_CMD(0xD1);    //Set VCOM
   Set_NOKIA_8B_PA(0x23);     //VCOMH
   Set_NOKIA_8B_PA(0x10);  //VCOML

   Set_NOKIA_8B_CMD(0xD2);    //Set NOROW
   Set_NOKIA_8B_PA(0x05);     //SAP
   Set_NOKIA_8B_PA(0x12);  //DC10/00

   Set_NOKIA_8B_CMD(0xE9);    //Set Panel
   Set_NOKIA_8B_PA(0x01);

   Set_NOKIA_8B_CMD(0xEA);    //Set STBA
   Set_NOKIA_8B_PA(0x03);
   Set_NOKIA_8B_PA(0x00);
   Set_NOKIA_8B_PA(0x00);

   Set_NOKIA_8B_CMD(0x29);    //Display On
   DelayX1ms(5);
}
```

1.8 CPT 3.5 inch panel

1.8.1 HX8357-B MPU interface reference initial code for CPT's 3.5 inch panel

```
void LCD_Initial_HX8357B_CPT_3_5(void)
{
   All Power On();                 // VCI=IOVCC=2.8V
   DelayX1ms(10);

   HW_RESET();                     // Hardware Reset
   DelayX1ms(10);

   Set_NOKIA_8B_CMD(0x11);         //Sleep Out
   DelayX1ms(120);

   Set_NOKIA_8B_CMD(0xB4);         //Set RM, DM
   Set_NOKIA_8B_PA(0x00);

   Set_NOKIA_8B_CMD(0xC0);         //Set PANEL
   Set_NOKIA_8B_PA(0x14);
   Set_NOKIA_8B_PA(0x3B);
   Set_NOKIA_8B_PA(0x00);
   Set_NOKIA_8B_PA(0x02);
   Set_NOKIA_8B_PA(0x11);

   Set_NOKIA_8B_CMD(0xC5);
   Set_NOKIA_8B_PA(0x0D);

   Set_NOKIA_8B_CMD(0xC8);         //Set Gamma2.5
   Set_NOKIA_8B_PA(0x00);
   Set_NOKIA_8B_PA(0x24);
   Set_NOKIA_8B_PA(0x10);
   Set_NOKIA_8B_PA(0x10);
   Set_NOKIA_8B_PA(0x01);
   Set_NOKIA_8B_PA(0x08);
   Set_NOKIA_8B_PA(0x76);
   Set_NOKIA_8B_PA(0x35);
   Set_NOKIA_8B_PA(0x77);
   Set_NOKIA_8B_PA(0x01);
   Set_NOKIA_8B_PA(0x04);
   Set_NOKIA_8B_PA(0x02);

   Set_NOKIA_8B_CMD(0xD0);         //Set Power
   Set_NOKIA_8B_PA(0x44);          //DDVDH
   Set_NOKIA_8B_PA(0x41);
   Set_NOKIA_8B_PA(0x04);          //VREG1
   Set_NOKIA_8B_PA(0xC4);          //XDK

   Set_NOKIA_8B_CMD(0xD1);         //Set VCOM
   Set_NOKIA_8B_PA(0x70);          //VCOMH
   Set_NOKIA_8B_PA(0x11);          //VCOML

   Set_NOKIA_8B_CMD(0xD2);         //Set NOROW
   Set_NOKIA_8B_PA(0x05);          //SAP
   Set_NOKIA_8B_PA(0x12);          //DC10/00
```

```
    Set_NOKIA_8B_CMD(0xEE);    //Set EQ
    Set_NOKIA_8B_PA(0x2C);
    Set_NOKIA_8B_PA(0x00);
    Set_NOKIA_8B_PA(0x00);
    Set_NOKIA_8B_PA(0x2C);

    Set_NOKIA_8B_CMD(0xED);    //Set DIR TIM
    Set_NOKIA_8B_PA(0x2C);
    Set_NOKIA_8B_PA(0x2C);
    Set_NOKIA_8B_PA(0x9A);
    Set_NOKIA_8B_PA(0x9A);
    Set_NOKIA_8B_PA(0x9B);
    Set_NOKIA_8B_PA(0x9B);
    Set_NOKIA_8B_PA(0x2C);
    Set_NOKIA_8B_PA(0x2C);
    Set_NOKIA_8B_PA(0x2C);
    Set_NOKIA_8B_PA(0x2C);
    Set_NOKIA_8B_PA(0xAE);
    Set_NOKIA_8B_PA(0xAE);
    Set_NOKIA_8B_PA(0x2C);
    Set_NOKIA_8B_PA(0x9B);
    Set_NOKIA_8B_PA(0x2C);

    Set_NOKIA_8B_CMD(0xE9);    //Set Panel
    Set_NOKIA_8B_PA(0x01);

    Set_NOKIA_8B_CMD(0xEA);    //Set STBA
    Set_NOKIA_8B_PA(0x03);
    Set_NOKIA_8B_PA(0x00);
    Set_NOKIA_8B_PA(0x00);

    Set_NOKIA_8B_CMD(0x29);    //Display On
    DelayX1ms(5);
}
```

2. Code For Reference

2.1 Read Product ID_TypeB

```
void Read_ID_Function(void)
{
  //Set EXTC
  SET_CMD(0xB0);
  SET_PAs(0x00);

  //Get ID
  SET_CMD(0xBF);
  ID= GET_PA ();      // Dummy Read
  ID= GET_PA ();      // The value is 0x01h
  ID= GET_PA ();      // The value is 0x62h
  ID= GET_PA ();      // The value is 0x83h
  ID= GET_PA ();      // The value is 0x57h
  ID= GET_PA ();      // The value is 0xFFh
}
```

2.2 Read Product ID_TypeC

```
void Read_ID_Function(void)
{
  //Set EXTC
  SPI_3W_SET_CMD(0xB0);
  SPI_3W_SET_PAs(0x00);

  //Get ID
  LCD_nCS=0;          // nCS=0
  SPI_3W_SET_CMD(0xFE);
  SPI_3W_SET_PAs(0xBF);
  SPI_3W_SET_CMD(0xFF);
  ID= GET_PA ();      // The value is 0x01h
  ID= GET_PA ();      // The value is 0x62h
  ID= GET_PA ();      // The value is 0x83h
  ID= GET_PA ();      // The value is 0x57h
  ID= GET_PA ();      // The value is 0xFFh
  LCD_nCS=1;          // nCS=1
}
```

2.3 Sleep In

```
void Sleep_In_Function(void)
{
  //Sleep In
  SET_CMD(0x10);
  DelayX1ms(120);
}
```

2.4 Sleep Out

```
void Sleep_Out_Function(void)
{
  //Sleep Out
  SET_CMD(0x11);
  DelayX1ms(120);
}
```

2.5 Display Off

```
void Display_Off_Function(void)
{
  //Display Off
  SET_CMD(0x28);
}
```

2.6 Display On

```
void Display_On_Function(void)
{
  //Display On
  SET_CMD(0x29);
}
```

2.7 CABC Function

2.6.1 UI Mode

```
void CABC_UI_Mode_Function(void)
{
  //CABC UI Mode Setting
  SET_CMD(0x51);      //DBV[7:0]=0xFF
  SET_PAs(0xFF);

  SET_CMD(0x53);      //BCTRL=1, BL=1
  SET_ PAs (0x24);

  SET_CMD(0x55);      //SCABC UI Mode
  SET_ PAs (0x01);
}
```

2.6.2 Still Mode

```
void CABC_Still_mode_function(void)
{
  //CABC UI Mode Setting
  SET_CMD(0x51);      //DBV[7:0]=0xFF
  SET_PAs(0xFF);

  SET_CMD(0x53);      //BCTRL=1, BL=1
  SET_ PAs (0x24);

  SET_CMD(0x55);      //SCABC Still Mode
  SET_ PAs (0x02);
}
```

2.6.3 Moving Mode

```
void CABC_Moving_Mode_Function(void)
{
  //CABC UI Mode Setting
  SET_CMD(0x51);      //DBV[7:0]=0xFF
  SET_PAs(0xFF);

  SET_CMD(0x53);      //BCTRL=1, BL=1
  SET_ PAs (0x24);

  SET_CMD(0x55);      //SCABC Moving Mode
  SET_ PAs (0x03);
}
```

2.8 CABC Off

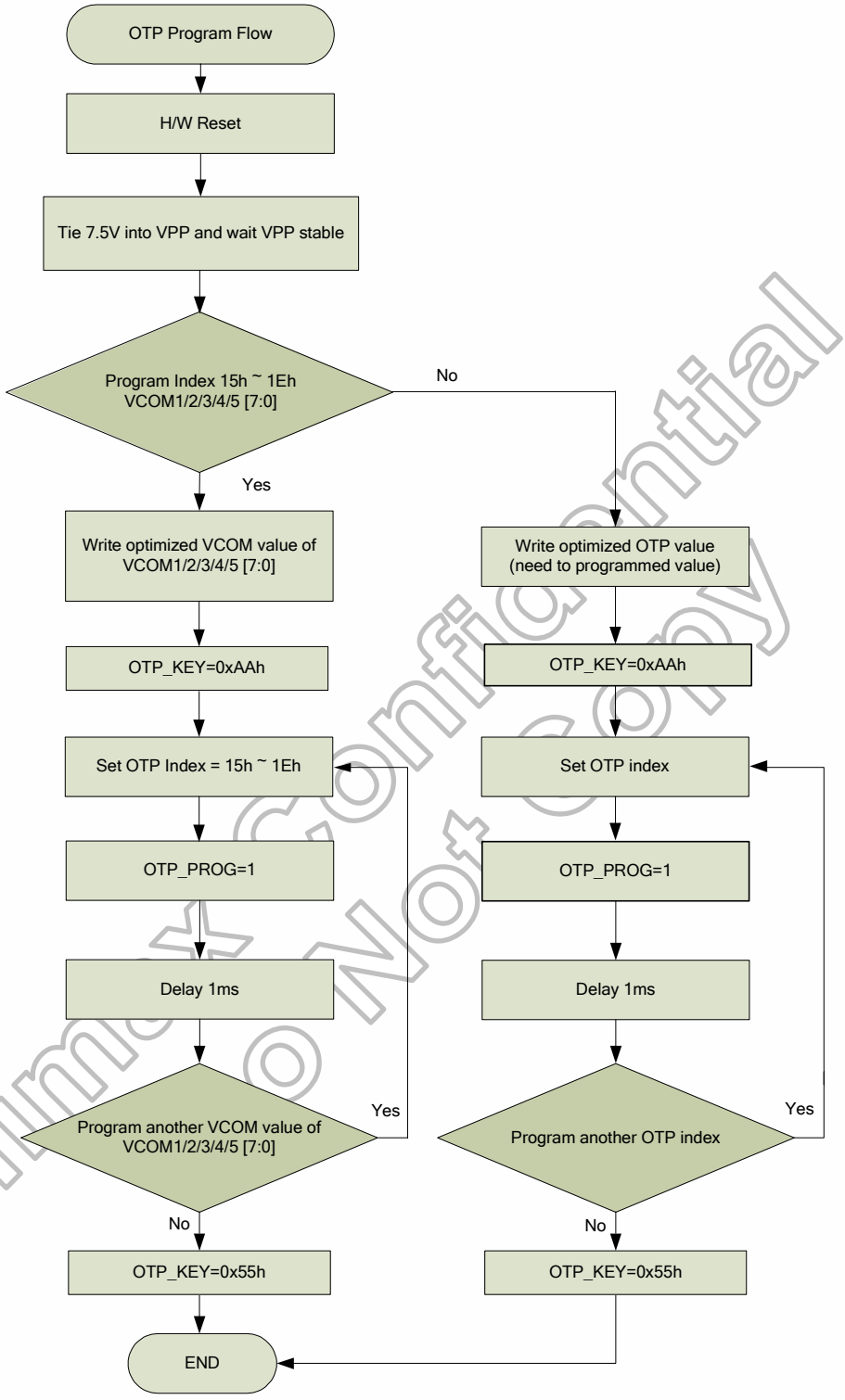
```
void CABC_Off_Function(void)
{
  //CABC Mode off Setting
  SET_CMD(0x55);      //CABC Mode off
  SET_ PAs (0x00);
}
```

3. OTP Programming

3.1 OTP Table

OTP_INDEX (HEX)	Ref. Command	B7	B6	B5	B4	B3	B2	B1	B0
0		VALID_ID1	VALID_ID2	VALID_ID3	VALID_ID4	VALID_ID5	-	-	-
1	ID-1(E0)	ID11							
2		ID12							
3		ID13							
4		ID14							
5	ID-2(E0)	ID21							
6		ID22							
7		ID23							
8		ID24							
9	ID-3(E0)	ID31							
A		ID32							
B		ID33							
C		ID34							
D	ID-4(E0)	ID41							
E		ID42							
F		ID43							
10		ID44							
11	ID-5(E0)	ID51							
12		ID52							
13		ID53							
14		ID54							
15	VCOM1(D1)	VALID_VCM1	VCM1[6:0]						
16		-	-	-	VDV1[4:0]				
17	VCOM2(D1)	VALID_VCM2	VCM2[6:0]						
18		-	-	-	VDV2[4:0]				
19	VCOM3(D1)	VALID_VCM3	VCM3[6:0]						
1A		-	-	-	VDV3[4:0]				
1B	VCOM4(D1)	VALID_VCM4	VCM4[6:0]						
1C		-	-	-	VDV4[4:0]				
1D	VCOM5(D1)	VALID_VCM5	VCM5[6:0]						
1E		-	-	-	VDV5[4:0]				
30	SETOSC(C5)	VALID_OSC	-	-	-	-	UADJ[2:0]		
35	SETGAMMA(C8)	VALID_GAMMA	KP1[2:0]			–	KP0[2:0]		
36		-	KP3[2:0]			–	KP2[2:0]		
37		-	KP5[2:0]			–	KP4[2:0]		
38		-	RP1[2:0]			–	RP0[2:0]		
39		-	–	–	–	VRP0[3:0]			
3A		-	–	–	VRP1[4:0]				
3B		-	KN1[2:0]			–	KN0[2:0]		
3C		-	KN3[2:0]			–	KN2[2:0]		
3D		-	KN5[2:0]			–	KN4[2:0]		
3E		-	RN1[2:0]			–	RN0[2:0]		
3F		-	–	–	–	VRN0[3:0]			
40		-	–	–	VRN1[4:0]				

3.2 OTP Programming Flow



OTP_KEY[7:0](8'h00)	Description	Note
AAh	Enter OTP Program mode	
55h	Leave OTP Program mode	
Other value	Invalid	1. If OTP is in OTP program mode, then keep OTP program mode. 2. If OTP is in non-OTP program mode, then keep non-OTP program mode. 3. OTP_KEY[7:0] can be ignored when user want to do OTP program.

Figure 3.1: OTP Programming Sequence

3.3 OTP Programming Sequence

<table>
<tr><th>Step</th><th>Operation</th></tr>
<tr><td>1</td><td>Power on and reset the module</td></tr>
<tr><td>2</td><td>Connect external power 7.5V to VPP pin</td></tr>
<tr><td>3</td><td>Wait 100ms for VPP stable</td></tr>
<tr><td>4</td><td>Write optimized value to related register
<table>
<tr><th>Command</th><th>Register</th><th>Description</th></tr>
<tr><td>ID1 (E0h)</td><td>ID1[7:0]</td><td>LCD module/driver version</td></tr>
<tr><td>ID2 (E0h)</td><td>ID2[7:0]</td><td>LCD module/driver version</td></tr>
<tr><td>ID3 (E0h)</td><td>ID3[7:0]</td><td>LCD module/driver version</td></tr>
<tr><td>ID4 (E0h)</td><td>ID4[7:0]</td><td>LCD module/driver version</td></tr>
<tr><td>ID5 (E0h)</td><td>ID5[7:0]</td><td>LCD module/driver version</td></tr>
<tr><td>VCOM1 (D1h)</td><td>VCM1[6:0], VDV1[4:0]</td><td>VCOMH and VCOM amplitude setting.</td></tr>
<tr><td>VCOM2 (D1h)</td><td>VCM2[6:0], VDV2[4:0]</td><td>VCOMH and VCOM amplitude setting.</td></tr>
<tr><td>VCOM3 (D1h)</td><td>VCM3[6:0], VDV3[4:0]</td><td>VCOMH and VCOM amplitude setting.</td></tr>
<tr><td>VCOM4 (D1h)</td><td>VCM4[6:0], VDV4[4:0]</td><td>VCOMH and VCOM amplitude setting.</td></tr>
<tr><td>VCOM5 (D1h)</td><td>VCM5[6:0], VDV5[4:0]</td><td>VCOMH and VCOM amplitude setting.</td></tr>
<tr><td>GAMMA(C8h)</td><td>Gamma value</td><td>Set gamma parameter</td></tr>
</table></td></tr>
<tr><td>5</td><td>Set OTP_KEY[7:0] (RE3h)=0xAAh to enter OTP program mode.</td></tr>
<tr><td>6</td><td>Specify OTP_index
<table>
<tr><th>OTP_index (Write – For Program)</th><th>OTP_index (Read – For get OTP value)</th><th>Parameter</th></tr>
<tr><td>0x00h</td><td>0x00h</td><td>VALID_ID1, VALID_ID2, VALID_ID3, VALID_ID4, VALID_ID5</td></tr>
<tr><td>0x01h</td><td>0x01h</td><td rowspan="4">ID1[7:0]</td></tr>
<tr><td>0x02h</td><td>0x02h</td></tr>
<tr><td>0x03h</td><td>0x03h</td></tr>
<tr><td>0x04h</td><td>0x04h</td></tr>
<tr><td>0x15h</td><td>0x15h</td><td rowspan="2">VALID_VCM1, VCM1[6:0], VDV1[4:0]</td></tr>
<tr><td>0x16h</td><td>0x16h</td></tr>
<tr><td>0x35h ~ 0x40h</td><td>0x35h ~ 0x40h</td><td>VALID_GAMMA, Gamma value</td></tr>
</table></td></tr>
<tr><td>7</td><td>Set OTP_Mask=0x00h, programming the entire bit of one parameter.</td></tr>
<tr><td>8</td><td>Set OTP_PROG=1, Internal register begin write to OTP according to OTP_index.</td></tr>
<tr><td>9</td><td>Wait 1 ms</td></tr>
<tr><td>10</td><td>Complete programming one parameter to OTP.
If continue to programming other parameter, return to step (5). Otherwise, set OTP_KEY[7:0]=0x55h to leave OTP program mode and power off the module and remove the external power on PVSS pin.</td></tr>
</table>

Note: Set OTP_KEY[7:0] can be ignored when user want to do OTP program.

3.4 OTP Read Flow

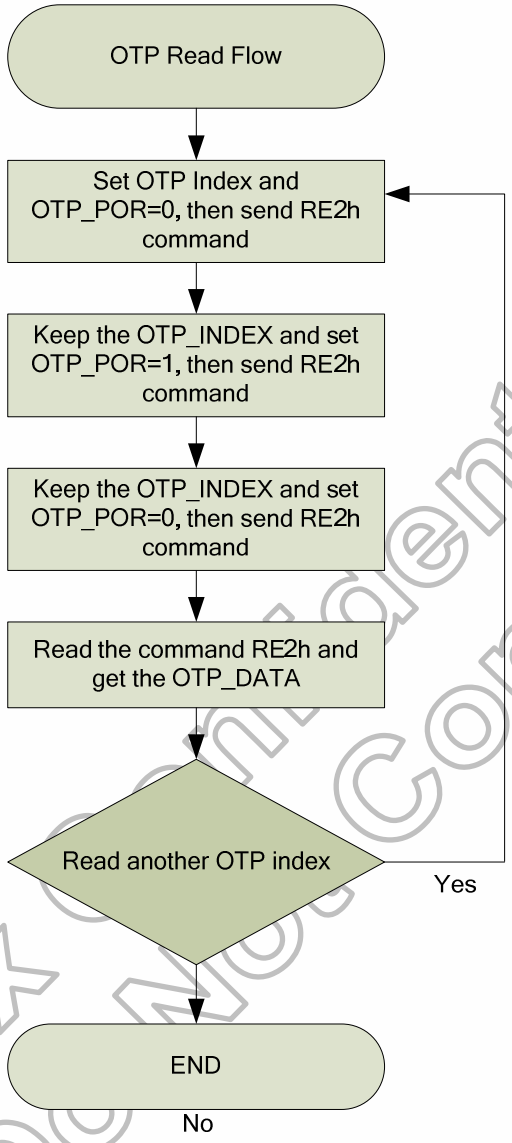
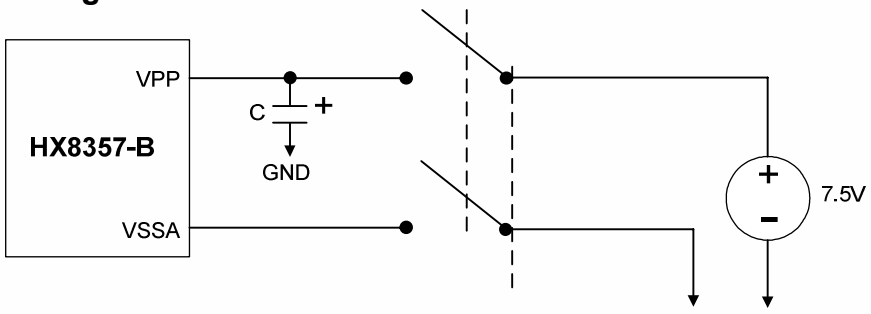


Figure 3.2: OTP Read Sequence

3.5 OTP Programming circuit



Note: (1) Connect external power at Step
(2) C=1uF (built-in the module)

4. Revision History

Version	Date	Description of changes
01	2010/03/01	1. New setup
	2010/04/16	1. Add HX8357-B MPU interface reference FPC circuit and initial code for Tianma's TM035NYH01 panel. 2. Add HX8357-B MPU interface reference FPC circuit and initial code for BOE's 3.5 inch panel. 3. Add Initial code for CMO's F03206 panel.
	2010/06/03	1. Modify the Note4 of Figure1.1, 1.2, 1.3 2. Add HX8357-B MPU interface reference FPC circuit and initial code for TRULY's 3.5 inch panel. 3. Modify the initial code for CMO's F03509/03206 and BOE's 3.5 inch panel. 4. Delete D1 of Figure1.1, 1.2, 1.3 and 1.4
	2010/09/21	1. Add HX8357-B MPU interface reference initial code for Tianma's TM035PYHV1 and TM032PYHV1 panel 2. Add HX8357-B MPU interface reference FPC circuit and initial code for GP's GPN5035K21CG panel 3. Add HX8357-B MPU interface reference FPC circuit and initial code for AUO's 3.17 inch panel 4. Add the HX8357-B MPU interface reference initial code for CMO's F03511 panel. 5. Modify all of initial code. 6. Add 2. OTP Programming and 3. Code For Reference
	2011/03/31	1. Add 2.2 Read Product ID_TypeC
	2011/05/13	1. Add HX8357-B MPU interface reference FPC circuit and initial code for HSD's 3.5 inch panel
	2011/07/05	1. Add HX8357-B MPU interface reference initial code for GP's 3.2 inch panel 2. Add HX8357-B MPU interface reference initial code for CPT's 3.5 inch panel