M-5360-A i.MX53 Cortex A8 System on Module

Features:

- Freescale i.MX537 Cortex A8 800MHz
- 1GB DDR3 RAM
- 4GB eMMC Flash
- 24-bit LCD LVDS x2
- Analog VGA x1
- Support full HD 1080P video decode
- Support OpenGLE 2.0 & Open-VG 1.1
- 10/100 Mbps Ethernet x1 with Phy
- UART ports x4
- USB 2.0 host and USB OTG
- SATA,SD,SPI,I2C,I2S,1-Wire,GPIO and CAN 2.0
- OS: Linux, Android and Window Compact 7.0

Specification:

CPU: Freescale i.MX537 Cortex A8 800MHz

RAM: 1GB DDR3 RAM

Flash: 4GB eMMC

LCD: 24-bit LCD LVDS x2

VGA: Analog VGA out x1 (Sync. with LVDS port0)

Multimedia: 1080P

2D/3D Accelerator: OpenGLE1.1&2.0 OpenVG 1.1

RTC: Yes

Watchdog: Yes

Battery: external

UART:

COM1: TX, RX, RTS, CTS, DCD, DSR, DTR, GND

COM2: TX, RX, RTS, CTS, DCD, DSR, DTR, GND

COM3: TX, RX, RTS, CTS, GND

COM4 (serial console): TX, RX, GND

Ethernet: 10/100 Mbps x1 with Phy

USB Host x1

USB OTG x1

SD x1

SATA x1

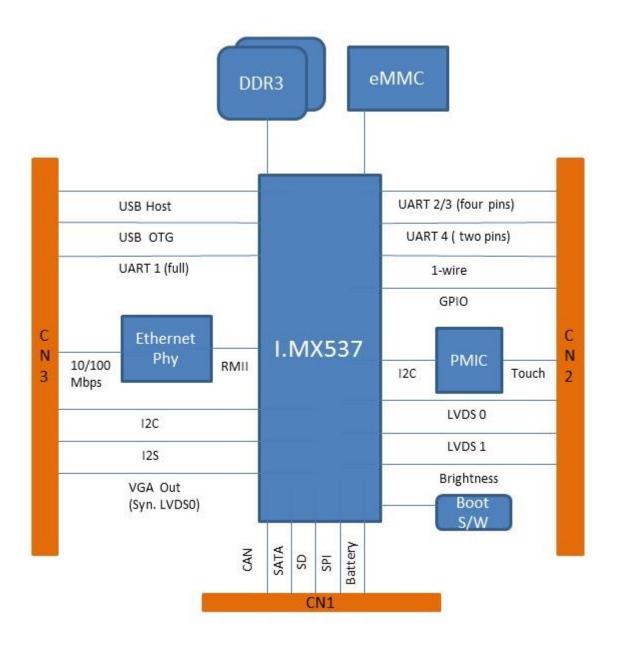
Touch screen: 4 wires

I2C x1, I2Sx1, SPIx1

CAN bus x1

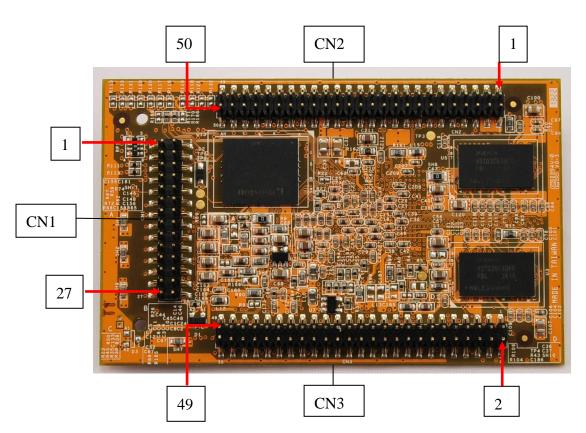
Power: 5VDC and 3.3VDC

Function block:



M-5360-A Layout





M-5360-A B2B Connector Pin Assignment

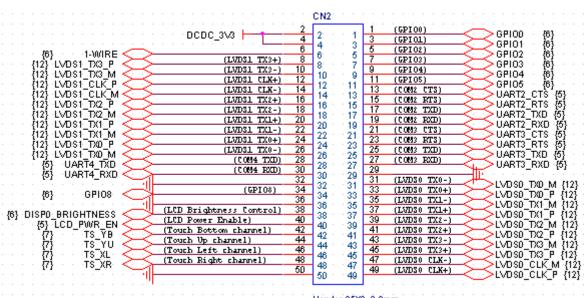
CN1 _Connector

| SD1 WP SD1 WD S | CAME TX 4 | 2 1 4 3 6 5 8 7 10 9 12 11 14 13 16 15 18 17 20 19 22 21 24 23 26 25 28 27 | 1 3 5 7 9 11 13 15 17 19 21 23 25 27 | (CANL TX) (CANL EX) (SD Card Detect) (SD Card Detect) (SD Card DATA0) (SD Card DATA1) (SD Card DATA1) (SD Card DATA2) (SD Card DATA2) (SD Card DATA3) (SD Card DATA3) (SD Card Clock) (SPI MISO) (SPI MOSI) (SPI RDY) (SPI Clock) | CAN1_TX {6} CAN1_RX {6} SD1_CD {5} SD1_CMD {5} SD1_DATA0 {6} SD1_DATA1 {6} SD1_DATA2 {6} SD1_DATA2 {6} SD1_DATA3 {6} SD1_CLK {5} SP11_MISO {5} SP11_RDY {6} SP11_SCLK {5} |
|--|------------|---|---|--|---|
|--|------------|---|---|--|---|

| | CN1 Pin Description List (Header 14x2 SMD Type) | | | |
|---------|---|---------------------------------|------------|--|
| Pin No. | Pin name | Function | Connect to | |
| 1 | CAN1_TX | CAN1 Output | CAN Port | |
| 2 | SD1_WP | SD card write protect | SD CARD | |
| 3 | CAN1_RX | CAN1 Input | CAN Port | |
| 4 | CAN2_TX | CAN2 Output | CAN Port | |
| 5 | SD1_CD | SD card detect signal channel 1 | SD CARD | |
| 6 | CAN2_RX | CAN2 Input | CAN Port | |
| 7 | SD1_CMD | SD command signal channel 1 | SD CARD | |
| 8 | GND | GND | GND | |
| 9 | SD1_DATA0 | SD data signal 0 channel 1 | SD CARD | |
| 10 | SATA_RXP | SATA Receive Data+ | SATA Port | |
| 11 | SD1_DATA1 | SD data signal 1 channel 1 | SD CARD | |
| 12 | SATA_RXM | SATA Receive Data- | SATA Port | |
| 13 | SD1_DATA2 | SD data signal 2 channel 1 | SD CARD | |
| 14 | SATA_TXM | SATA Transmit Data- | SATA Port | |
| 15 | SD1_DATA3 | SD data signal 3 channel 1 | SD CARD | |
| 16 | SATA_TXP | SATA Transmit Data+ | SATA Port | |
| 17 | SD1_CLK | SD clock signal channel 1 | SD CARD | |
| 18 | GND | GND | GND | |
| 19 | GND | GND | GND | |
| 20 | SPI1_SS0 | SPI Chip Select 0 | SPI Conn. | |
| 21 | SPI1_MISO | SPI Master In Slave Out | SPI Conn. | |
| 22 | SPI1_SS1 | SPI Chip Select 1 | SPI Conn. | |
| 23 | SPI1_MOSI | SPI Master Out Slave In | SPI Conn. | |
| 24 | SPI1_SS2 | SPI Chip Select 2 | SPI Conn. | |
| 25 | SPI1_RDY | SPI Ready Signal | SPI Conn. | |

| 26 | SPI1_SS3 | SPI Chip Select 3 | SPI Conn. |
|----|-----------|-----------------------------|-----------------------|
| 27 | SPI1_SCLK | SPI Serial Clock | SPI Conn. |
| 28 | V_BAT | Backup Battery Power | Battery Holder |

CN2 _Connector



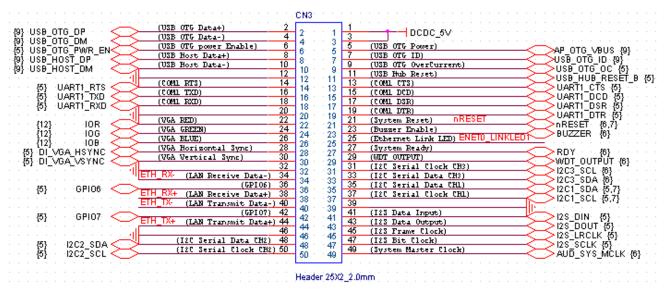
Header 25X2_2.0mm

| | CN2 Pin Description Li | st (Header 25x2 SMD Type) | |
|---------|------------------------|-----------------------------|-------------|
| Pin No. | Pin name | Function | Connect to |
| 1 | GPIO0 | GPIO | GPIO Port |
| 2 | DCDC_3V3 | VCC 3.3V | POWER |
| 3 | GPIO1 | GPIO | GPIO Port |
| 4 | DCDC_3V3 | VCC 3.3V | POWER |
| 5 | GPIO2 | GPIO | GPIO Port |
| 6 | 1-WIRE | 1-WIRE signal | 1-WIRE Port |
| 7 | GPIO3 | GPIO | GPIO Port |
| 8 | LVDS1_TX3_P | LVDS1 Transmit positive | LVDS Port |
| | | signal channel 3 | |
| 9 | GPIO4 | GPIO | GPIO Port |
| 10 | LVDS1_TX3_M | LVDS1 Transmit negative | LVDS Port |
| | | signal channel 3 | |
| 11 | GPIO5 | GPIO | GPIO Port |
| 12 | LVDS1_CLK_P | LVDS1 positive signal clock | LVDS Port |
| 13 | UART2_CTS | UART2 Clear to send | COM Port |
| 14 | LVDS1_CLK_M | LVDS1 negative signal clock | LVDS Port |
| 15 | UART2_RTS | UART2 Request to send | COM Port |

| 16 | LVDS1_TX2_P | LVDS1 Transmit positive | LVDS Port |
|-----------|------------------|----------------------------|---------------------|
| | | signal channel 2 | |
| 17 | UART2_TXD | UART2 Serial data transmit | COM Port |
| 18 | LVDS1_TX2_M | LVDS1 Transmit negative | LVDS Port |
| | | signal channel 2 | |
| 19 | UART2_RXD | UART2 Serial data receive | COM Port |
| 20 | LVDS1_TX1_P | LVDS1 Transmit positive | LVDS Port |
| | | signal channel 1 | |
| 21 | UART3_CTS | UART3 Clear to send | COM Port |
| 22 | LVDS1_TX1_M | LVDS1 Transmit negative | LVDS Port |
| | | signal channel 1 | |
| 23 | UART3_RTS | UART3 Request to send | COM Port |
| 24 | LVDS1_TX0_P | LVDS1 Transmit positive | LVDS Port |
| | | signal channel 0 | |
| 25 | UART3_TXD | UART3 Serial data transmit | COM Port |
| 26 | LVDS1_TX0_M | LVDS1 Transmit negative | LVDS Port |
| | | signal channel 0 | |
| 27 | UART3_RXD | UART3 Serial data receive | COM Port |
| 28 | UART4_TXD | UART4 Serial data transmit | Console PORT |
| 29 | GND | GND | GND |
| 30 | UART4_RXD | UART4 Serial data receive | Console PORT |
| 31 | LVDS0_TX0_M | LVDS0 Transmit negative | LVDS Port |
| | | signal channel 0 | |
| 32 | GND | GND | GND |
| 33 | LVDS0_TX0_P | LVDS0 Transmit positive | LVDS Port |
| | | signal channel 0 | |
| 34 | GPIO8 | GPIO | GPIO Port |
| 35 | LVDS0_TX1_M | LVDS0 Transmit negative | LVDS Port |
| | | signal channel 1 | |
| 36 | GND | GND | GND |
| 37 | LVDS0_TX1_P | LVDS0 Transmit positive | LVDS Port |
| | | signal channel 1 | |
| 38 | DISP0_BRIGHTNESS | Adjust the LCD brightness | LCD B/L Port |
| 39 | LVDS0_TX2_M | LVDS0 Transmit negative | LVDS Port |
| | | signal channel 2 | |
| 40 | LCD_PWR_EN | LCD B/L ON/OFF Control | LCD B/L Port |
| 41 | LVDS0_TX2_P | LVDS0 Transmit positive | LVDS Port |
| | | İ | i |
| | | signal channel 2 | |

| 43 | LVDS0_TX3_M | LVDS0 Transmit negative | LVDS Port |
|----|-------------|-----------------------------|--------------|
| | | signal channel 3 | |
| 44 | TS_YU | Touch Screen Top channel | Touch Screen |
| 45 | LVDS0_TX3_P | LVDS0 Transmit positive | LVDS Port |
| | | signal channel 3 | |
| 46 | TS_XL | Touch Screen Left channel | Touch Screen |
| 47 | LVDS0_CLK_M | LVDS0 negative signal clock | LVDS Port |
| 48 | TS_XR | Touch Screen Right channel | Touch Screen |
| 49 | LVDS0_CLK_P | LVDS0 positive signal clock | LVDS Port |
| 50 | GND | GND | GND |

CN3 _Connector

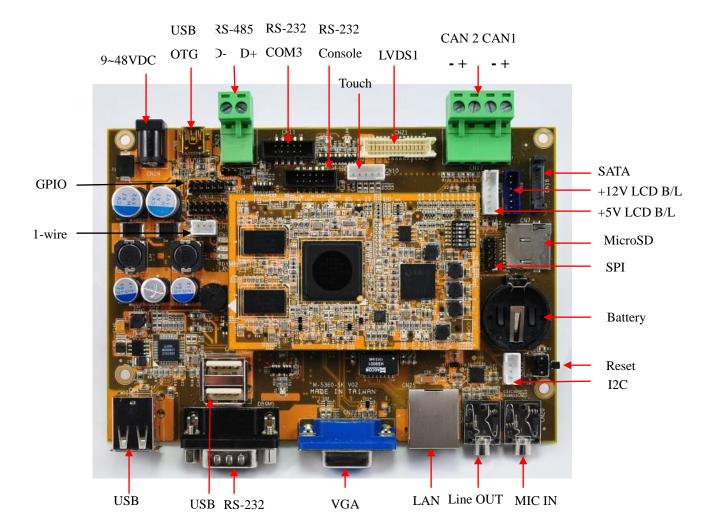


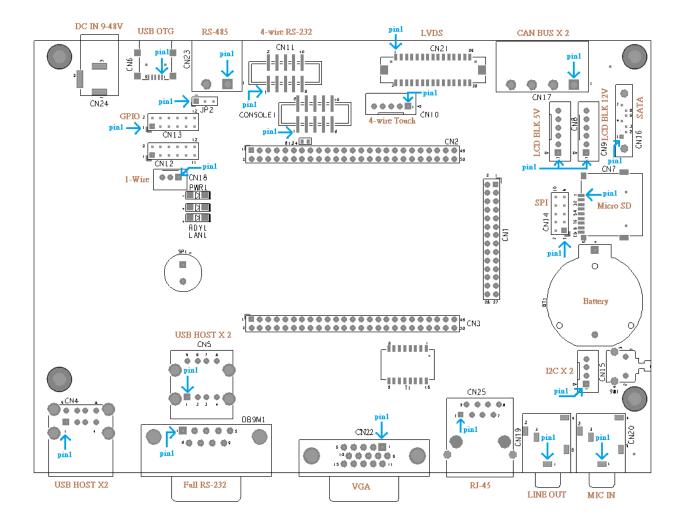
| | CN3 Pin Description Li | st (Header 25x2 SMD Type) | |
|---------|------------------------|----------------------------|-------------------|
| Pin No. | Pin name | Function | Connect to |
| 1 | DCDC_5V | VCC5V | POWER |
| 2 | USB_OTG_DP | USB OTG Port Data+ | USB Client |
| 3 | DCDC_5V | VCC5V | POWER |
| 4 | USB_OTG_DM | USB OTG Port Data- | USB Client |
| 5 | AP_OTG_VBUS | USB OTG VBUS signal | USB Client |
| 6 | USB_OTG_PWR_EN | USB_OTG Power Enable | USB Client |
| 7 | USB_OTG_ID | USB OTG ID signal | USB Client |
| 8 | USB_HOST_DP | USB HOST Port Data+ | USB Hub |
| 9 | USB_OTG_OC | USB OTG OverCurrent signal | USB Client |
| 10 | USB_HOST_DM | USB HOST Port Data- | USB Hub |
| 11 | USB_HUB_RESET_B | USB HUB Reset signal | USB Hub |
| 12 | GND | GND | GND |

| 13 14 15 16 17 18 19 20 21 22 | UART1_CTS UART1_RTS UART1_DCD UART1_TXD UART1_DSR UART1_RXD UART1_DTR GND | UART1 Clear to send UART1 Request to send UART1 Data carrier detected UART1 Serial data transmit UART1 Data set ready UART1 Serial data receive UART1 Data terminal ready | COM Port COM Port COM Port COM Port COM Port |
|--|---|---|--|
| 15 16 17 18 19 20 21 | UART1_DCD UART1_TXD UART1_DSR UART1_RXD UART1_DTR | UART1 Data carrier detected UART1 Serial data transmit UART1 Data set ready UART1 Serial data receive | COM Port COM Port COM Port |
| 16 17 18 19 20 21 | UART1_TXD UART1_DSR UART1_RXD UART1_DTR | UART1 Serial data transmit UART1 Data set ready UART1 Serial data receive | COM Port |
| 17 18 19 20 21 | UART1_DSR UART1_RXD UART1_DTR | UART1 Data set ready UART1 Serial data receive | COM Port |
| 18 19 20 21 | UART1_RXD UART1_DTR | UART1 Serial data receive | |
| 19 20 21 | UART1_DTR | | COM Dowt |
| 20 21 | | IJART1 Data terminal ready | COM FOR |
| 21 | GND | CHILIT Data terminar ready | COM Port |
| | | GND | GND |
| 22 | nRESET | HW/System Reset signal | Reset Button |
| | IOR | VGA_RED | VGA Port |
| 23 | BUZZER | BUZZER I/O | BUZZER |
| 24 | IOG | VGA_ GREEN | VGA Port |
| 25 | ENET0_LINKLED1 | Ethernet Link/Active LED | LAN LED |
| | | signal | |
| 26 | IOB | VGA_BLUE | VGA Port |
| 27 | RDY | Ready LED I/O | Ready LED |
| 28 | DI_VGA_HSYNC | VGA Horizontal Sync | VGA Port |
| 29 | WDT_OUTPUT | WDT_OUTPUT Signal | GPIO Port |
| 30 | DI_VGA_VSYNC | VGA Vertical Sync | VGA Port |
| 31 | I2C3_SCL | I2C clock signal channel 3 | I2C Conn. |
| 32 | GND | GND | GND |
| 33 | I2C3_SDA | I2C data signal channel 3 | I2C Conn. |
| 34 | ETH_RX- | Ethernet Receive Data- | LAN Conn. |
| 35 | I2C1_SDA | I2C data signal channel 1 | I2C Conn. |
| 36 | GPIO6 | GPIO | GPIO Port |
| 37 | I2C1_SCL | I2C clock signal channel 1 | I2C Conn. |
| 38 | ETH_RX+ | Ethernet Receive Data+ | LAN Conn. |
| 39 | GND | GND | GND |
| 40 | ETH_TX- | Ethernet Transmit Data- | LAN Conn. |
| 41 | I2S_DIN | I2S Data Input signal | Audio Codec |
| 42 | GPIO7 | GPIO | GPIO Port |
| 43 | I2S_DOUT | I2S Data Output signal | Audio Codec |
| 44 | ETH_TX+ | Ethernet Transmit Data+ | LAN Conn. |
| 45 | I2S_LRCLK | I2S frame clock | Audio Codec |
| 46 | GND | GND | GND |
| 47 | I2S_SCLK | I2S bit clock | Audio Codec |
| 48 | I2C2_SDA | I2C data signal channel 2 | Audio Codec |
| 49 | AUD_SYS_MCLK | Audio System master clock | Audio Codec |
| 50 | I2C2_SCL | I2C clock signal channel 2 | Audio Codec |

M-5360-ST Starter Kit

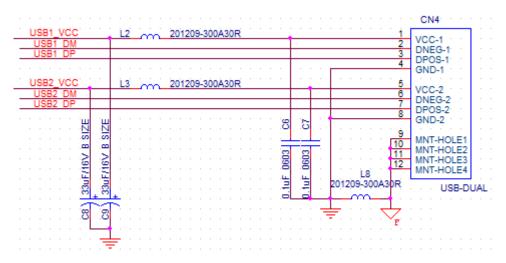
Layout





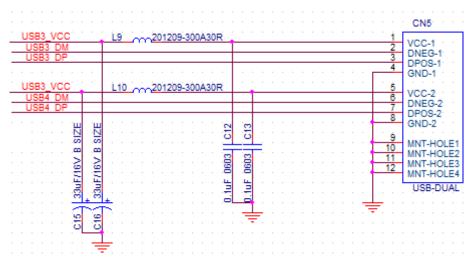
M-5360-SK Connector Pin Assignment

CN4 _USB Host



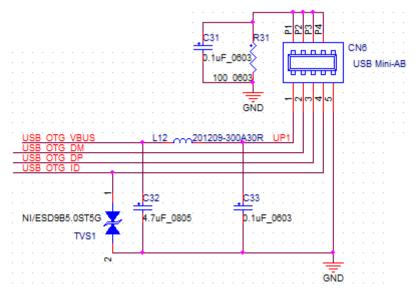
| CN4 Pin Description List (90 degree Type) | | | | |
|---|-----------|------------------------------------|------------|--|
| Pin No. | Pin name | Function | Connect to | |
| 1 | USB1_VCC | USB VCC5V channel 1 | CN4 | |
| 2 | USB1_DM | USB negative data signal channel 1 | CN4 | |
| 3 | USB1_DP | USB positive data signal channel 1 | CN4 | |
| 4 | GND | GND | CN4 | |
| 5 | USB2_VCC | USB VCC5V channel 2 | CN4 | |
| 6 | USB2_DM | USB negative data signal channel 1 | CN4 | |
| 7 | USB2_DP | USB positive data signal channel 1 | CN4 | |
| 8 | GND | GND | CN4 | |
| 9 | MNT-HOLE1 | USB_SHIELD_GND | CN4 | |
| 10 | MNT-HOLE2 | USB_SHIELD_GND | CN4 | |
| 11 | MNT-HOLE3 | USB_SHIELD_GND | CN4 | |
| 12 | MNT-HOLE4 | USB_SHIELD_GND | CN4 | |

CN5 _USB Host



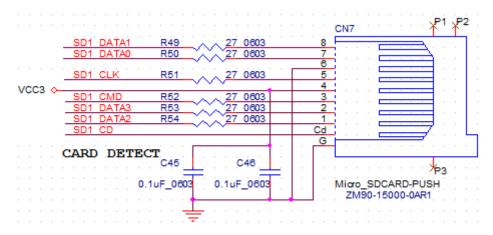
| CN5 Pin Description List (180 degree Type) | | | | |
|--|-----------|------------------------------------|------------|--|
| Pin No. | Pin name | Function | Connect to | |
| 1 | USB3_VCC | USB VCC5V channel 3 | CN5 | |
| 2 | USB3_DM | USB negative data signal channel 3 | CN5 | |
| 3 | USB3_DP | USB positive data signal channel 3 | CN5 | |
| 4 | GND | GND | CN5 | |
| 5 | USB4_VCC | USB VCC5V channel 4 | CN5 | |
| 6 | USB4_DM | USB negative data signal channel 4 | CN5 | |
| 7 | USB4_DP | USB positive data signal channel 4 | CN5 | |
| 8 | GND | GND | CN5 | |
| 9 | MNT-HOLE1 | USB_SHIELD_GND | CN5 | |
| 10 | MNT-HOLE2 | USB_SHIELD_GND | CN5 | |
| 11 | MNT-HOLE3 | USB_SHIELD_GND | CN5 | |
| 12 | MNT-HOLE4 | USB SHIELD GND | CN5 | |

CN6 _USB Device(OTG)



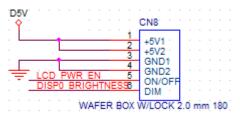
| | CN6 Pin Description List (Mini-AB Type) | | | | |
|---------|---|------------------------------|-------------------|--|--|
| Pin No. | Pin name | Function | Connect to | | |
| 1 | USB_OTG_VBUS | USB_OTG VCC5V | CN6 | | |
| 2 | USB_OTG_DM | USB_OTG negative data signal | CN6 | | |
| 3 | USB_OTG_DP | USB_OTG positive data signal | CN6 | | |
| 4 | USB_OTG_ID | USB_OTG_ID | CN6 | | |
| 5 | GND | GND | CN6 | | |

CN7 _Micro_SD Socket



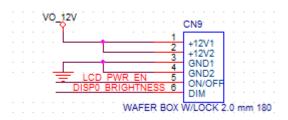
| CN7 Pin Description List (Micro_SD Type) | | | | |
|--|-----------|---------------------------------|------------|--|
| Pin No. | Pin name | Function | Connect to | |
| 1 | SD1_DATA2 | SD data signal 2 channel 1 | CN7 | |
| 2 | SD1_DATA3 | SD data signal 3 channel 1 | CN7 | |
| 3 | SD1_CMD | SD command signal channel 1 | CN7 | |
| 4 | VCC3 | SD VCC 3.3V | CN7 | |
| 5 | SD1_CLK | SD clock signal channel 1 | CN7 | |
| 6 | GND | GND | CN7 | |
| 7 | SD1_DATA0 | SD data signal 0 channel 1 | CN7 | |
| 8 | SD1_DATA1 | SD data signal 1 channel 1 | CN7 | |
| Cd | SD1_CD | SD card detect signal channel 1 | CN7 | |
| G | GND | GND | CN7 | |
| P1 | N.C | N.C | CN7 | |
| P2 | N.C | N.C | CN7 | |
| Р3 | N.C | N.C | CN7 | |

CN8_LCD Backlight Control Connector



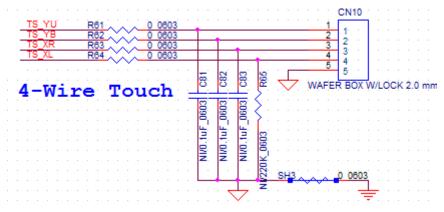
| CN8 Pin Description List (WAFER 6 Pin_Pitch 2.0mm) | | | |
|--|------------------|---------------------------|------------|
| Pin No. | Pin name | Function | Connect to |
| 1 | +5V | Voltage for LCD Backlight | CN8 |
| 2 | +5V | Voltage for LCD Backlight | CN8 |
| 3 | GND | Power Ground | CN8 |
| 4 | GND | Power Ground | CN8 |
| 5 | LCD_PWR_EN | LCD B/L ON/OFF Control | CN8 |
| 6 | DISP0_BRIGHTNESS | Adjust the LCD brightness | CN8 |

CN9_LCD Backlight Control Connector



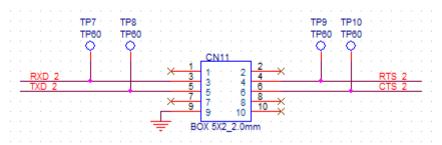
| | CN9 Pin Description List (WAFER 6 Pin_Pitch 2.0mm) | | | |
|---------|--|---------------------------|------------|--|
| Pin No. | Pin name | Function | Connect to | |
| 1 | +12V | Voltage for LCD Backlight | CN9 | |
| 2 | +12V | Voltage for LCD Backlight | CN9 | |
| 3 | GND | Power Ground | CN9 | |
| 4 | GND | Power Ground | CN9 | |
| 5 | LCD_PWR_EN | LCD B/L ON/OFF Control | CN9 | |
| 6 | DISP0_BRIGHTNESS | Adjust the LCD brightness | CN9 | |

CN10 _Touch Screen



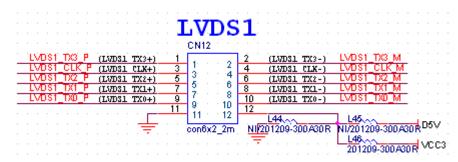
| | CN10 Pin Description List (WAFER 5 Pin_Pitch 2.0mm) | | | |
|---------|---|------------------------------------|-------------------|--|
| Pin No. | Pin name | Function | Connect to | |
| 1 | TS_YU | Touch Screen Top channel | CN10 | |
| 2 | TS_YB | Touch Screen Bottom channel | CN10 | |
| 3 | TS_XR | Touch Screen Right channel | CN10 | |
| 4 | TS_XL | Touch Screen Left channel | CN10 | |
| 5 | GND | GND | CN10 | |

CN11 _COM3 RS-232.



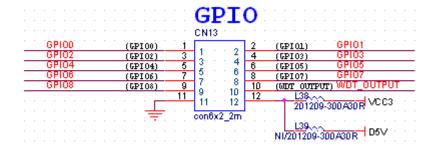
| (| CN11 Pin Description List (Box Header 2x5 Pin_Pitch 2.0mm) | | | |
|---------|--|----------|------------|--|
| Pin No. | Pin name | Function | Connect to | |
| 1 | N.C | N.C | CN11 | |
| 2 | N.C | N.C | CN11 | |
| 3 | RXD_2 | COM3_RXD | CN11 | |
| 4 | RTS_2 | COM3_RTS | CN11 | |
| 5 | TXD_2 | COM3_TXD | CN11 | |
| 6 | CTS_2 | COM3_CTS | CN11 | |
| 7 | N.C | N.C | CN11 | |
| 8 | N.C | N.C | CN11 | |
| 9 | GND | GND | CN11 | |
| 10 | N.C | N.C | CN11 | |

CN12 LVDS1



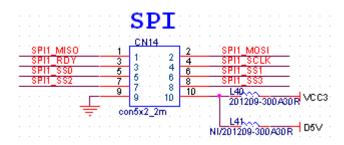
| | CN12 Pin Description List | (Pin Header 2x5 Pin_Pitch 2.0m | m) |
|---------|----------------------------------|---------------------------------|------------|
| Pin No. | Pin name | Function | Connect to |
| 1 | LVDS1_TX3_P | LVDS1 receiver positive signal | CN12 |
| | | channel 3 | |
| 2 | LVDS1_TX3_M | LVDS1 receiver negative signal | CN12 |
| | | channel 3 | |
| 3 | LVDS1_CLK_P | LVDS1 receiver positive signal | CN12 |
| | | clock | |
| 4 | LVDS1_CLK_M | LVDS1 receiver negative signal | CN12 |
| | | clock | |
| 5 | LVDS1_TX2_P | LVDS1 receiver positive signal | CN12 |
| | | channel 2 | |
| 6 | LVDS1_TX2_M | LVDS1 receiver negative signal | CN12 |
| | | channel 2 | |
| 7 | LVDS1_TX1_P | LVDS1 receiver positive signal | CN12 |
| | | channel 1 | |
| 8 | LVDS1_TX1_M | LVDS1 receiver negative signal | CN12 |
| | | channel 1 | |
| 9 | LVDS1_TX0_P | LVDS1 receiver positive signal | CN12 |
| | | channel 0 | |
| 10 | LVDS1_TX0_M | LVDS1 receiver negative signal | CN12 |
| | | channel 0 | |
| 11 | GND | GND | CN12 |
| 12 | VCC3 | VCC 3.3V | CN12 |

CN13 _GPIO



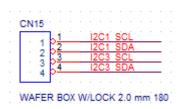
| CN13 Pin Description List (Pin Header 2x5 Pin_Pitch 2.0mm) | | | | |
|--|------------|------------|------------|--|
| Pin No. | Pin name | Function | Connect to | |
| 1 | GPIO0 | GPIO | CN13 | |
| 2 | GPIO1 | GPIO | CN13 | |
| 3 | GPIO2 | GPIO | CN13 | |
| 4 | GPIO3 | GPIO | CN13 | |
| 5 | GPIO4 | GPIO | CN13 | |
| 6 | GPIO5 | GPIO | CN13 | |
| 7 | GPIO6 | GPIO | CN13 | |
| 8 | GPIO7 | GPIO | CN13 | |
| 9 | GPIO8 | GPIO | CN13 | |
| 10 | WDT_OUTPUT | WDT_OUTPUT | CN13 | |
| 11 | GND | GND | CN13 | |
| 12 | VCC3 | VCC 3.3V | CN13 | |

CN14_SPI



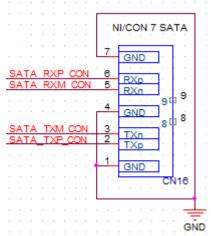
| | CN14 Pin Description List (Pin Header 2x5 Pin_Pitch 2.0mm) | | |
|---------|--|---------------------|------------|
| Pin No. | Pin name | Function | Connect to |
| 1 | SPI1_MISO | Master In Slave Out | CN14 |
| 2 | SPI1_MOSI | Master Out Slave In | CN14 |
| 3 | SPI1_RDY | SPI Ready Signal | CN14 |
| 4 | SPI1_SCLK | SPI Serial Clock | CN14 |
| 5 | SPI1_SS0 | SPI Chip Select 1 | CN14 |
| 6 | SPI1_SS1 | SPI Chip Select 2 | CN14 |
| 7 | SPI1_SS2 | SPI Chip Select 3 | CN14 |
| 8 | SPI1_SS3 | SPI Chip Select 4 | CN14 |
| 9 | GND | GND | CN14 |
| 10 | VCC3 | VCC 3.3V | CN14 |

CN15_I2C



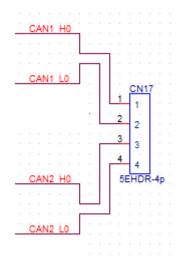
| | CN15 Pin Description List (WAFER 4 Pin_Pitch 2.0mm) | | | |
|-----------------------------------|---|----------------------------|------|--|
| Pin No. Pin name Function Connect | | | | |
| 1 | I2C1_SCL | I2C clock signal channel 1 | CN15 | |
| 2 | I2C1_SDA | I2C data signal channel 1 | CN15 | |
| 3 | I2C3_SCL | I2C clock signal channel 3 | CN15 | |
| 4 | I2C3_SDA | I2C data signal channel 3 | CN15 | |

CN16_SATA



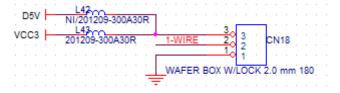
| | CN16 Pin Description List | | | | |
|---------|---------------------------|-----------------------------|------------|--|--|
| Pin No. | Pin name | Function | Connect to | | |
| 1 | GND | GND | CN16 | | |
| 2 | SATA_TXP_CON | SATA Transmit positive Data | CN16 | | |
| 3 | SATA_TXM_CON | SATA Transmit negative Data | CN16 | | |
| 4 | GND | GND | CN16 | | |
| 5 | SATA_RXM_CON | SATA Receive negative Data | CN16 | | |
| 6 | SATA_RXP_CON | SATA Receive positive Data | CN16 | | |
| 7 | GND | GND | CN16 | | |

CN17 _CAN Bus



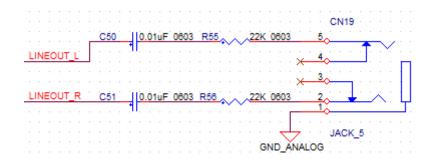
| | CN17 Pin Description List | | | | | |
|---------|--------------------------------------|---------------------------|------|--|--|--|
| Pin No. | Pin No. Pin name Function Connect to | | | | | |
| 1 | CAN1_H0 | CAN High signal channel 1 | CN17 | | | |
| 2 | CAN1_L0 | CAN Low signal channel 1 | CN17 | | | |
| 3 | CAN2_H0 | CAN High signal channel 2 | CN17 | | | |
| 4 | CAN2_L0 | CAN Low signal channel 2 | CN17 | | | |

CN18 _1-Wire



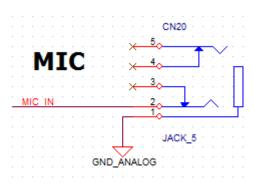
| CN18 Pin Description List (WAFER 3 Pin_Pitch 2.0mm) | | | |
|---|--------|---------------------|------|
| Pin No. Pin name Function Connec | | | |
| 1 | VCC | 1-Wire VCC(3.3V/5V) | CN18 |
| 2 | 1-WIRE | 1-Wire signal | CN18 |
| 3 | GND | GND | CN18 |

CN19 _Line-Out



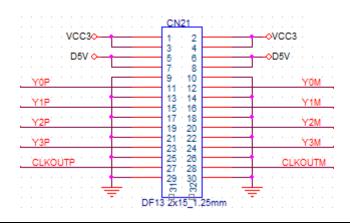
| CN19 Pin Description List (Phone Jack) | | | |
|--|-----------|-----------------------|------------|
| Pin No. | Pin name | Function | Connect to |
| 1 | GND | GND | CN19 |
| 2 | LINEOUT_L | Line-Out signal left | CN19 |
| 3 | N.C | N.C | CN19 |
| 4 | N.C | N.C | CN19 |
| 5 | LINEOUT_R | Line-Out signal right | CN19 |

CN20 _MIC-IN Signal Conn.



| CN20 Pin Description List (Phone Jack) | | | |
|--|----------|---------------|------------|
| Pin No. | Pin name | Function | Connect to |
| 1 | GND | GND | CN20 |
| 2 | MIC_IN | Mic-In Signal | CN20 |
| 3 | N.C | N.C | CN20 |
| 4 | N.C | N.C | CN20 |
| 5 | N.C | N.C | CN20 |

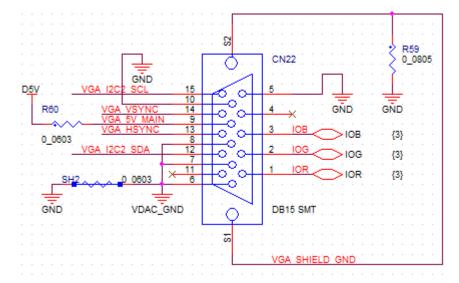
CN21 _ LVDS0



| CN21 Pin Description List (DF13 2x15_Pitch 1.25mm) | | | | |
|--|----------|--------------------------------|------------|--|
| Pin No. | Pin name | Function | Connect to | |
| 1 | VCC3 | LCD VCC 3.3V | CN21 | |
| 2 | VCC3 | LCD VCC 3.3V | CN21 | |
| 3 | VCC3 | LCD VCC 3.3V | CN21 | |
| 4 | VCC3 | LCD VCC 3.3V | CN21 | |
| 5 | D5V | LCD VCC5V | CN21 | |
| 6 | D5V | LCD VCC5V | CN21 | |
| 7 | D5V | LCD VCC5V | CN21 | |
| 8 | D5V | LCD VCC5V | CN21 | |
| 9 | GND | GND | CN21 | |
| 10 | GND | GND | CN21 | |
| 11 | YOP | LVDS0 receiver positive signal | CN21 | |
| | | channel 0 | | |
| 12 | Y0M | LVDS0 receiver negative signal | CN21 | |
| | | channel 0 | | |
| 13 | GND | GND | CN21 | |
| 14 | GND | GND | CN21 | |
| 15 | Y1P | LVDS0 receiver positive signal | CN21 | |
| | | channel 1 | | |
| 16 | Y1M | LVDS0 receiver negative signal | CN21 | |
| | | channel 1 | | |
| 17 | GND | GND | CN21 | |
| 18 | GND | GND | CN21 | |
| 19 | Y2P | LVDS0 receiver positive signal | CN21 | |
| | | channel 2 | | |
| 20 | Y2M | LVDS0 receiver negative signal | CN21 | |
| | | channel 2 | | |
| 21 | GND | GND | CN21 | |

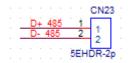
| 22 | GND | GND | CN21 |
|-----------|---------|--------------------------------|------|
| 23 | Y3P | LVDS0 receiver positive signal | CN21 |
| | | channel 3 | |
| 24 | Y3M | LVDS0 receiver negative signal | CN21 |
| | | channel 3 | |
| 25 | GND | GND | CN21 |
| 26 | GND | GND | CN21 |
| 27 | CLKOUTP | LVDS0 receiver positive signal | CN21 |
| | | clock | |
| 28 | CLKOUTM | LVDS0 receiver negative signal | CN21 |
| | | clock | |
| 29 | GND | GND | CN21 |
| 30 | GND | GND | CN21 |

$CN22 _ VGA$



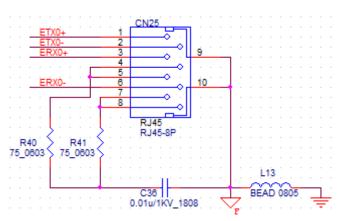
| | CN22 Pin Descri | iption List (DB15 Female) | |
|-----------|-----------------|---------------------------|------------|
| Pin No. | Pin name | Function | Connect to |
| 1 | IOB | VGA_BLUE | CN22 |
| 2 | IOG | VGA_ GREEN | CN22 |
| 3 | IOR | VGA_RED | CN22 |
| 4 | N.C | N.C | CN22 |
| 5 | GND | GND | CN22 |
| 6 | GND | VDAC_GND | CN22 |
| 7 | GND | VDAC_GND | CN22 |
| 8 | GND | VDAC_GND | CN22 |
| 9 | VGA_5V_MAIN | VGA VCC5V | CN22 |
| 10 | GND | GND | CN22 |
| 11 | N.C | N.C | CN22 |
| 12 | N.C | N.C | CN22 |
| 13 | VGA_HSYNC | VGA Horizontal Sync | CN22 |
| 14 | VGA_VSYNC | VGA Vertical Sync | CN22 |
| 15 | N.C | N.C | CN22 |
| S1 | VGA_SHIELD_GND | VGA_SHIELD_GND | CN22 |
| S2 | VGA_SHIELD_GND | VGA_SHIELD_GND | CN22 |

CN23 _ **COM2 RS485**



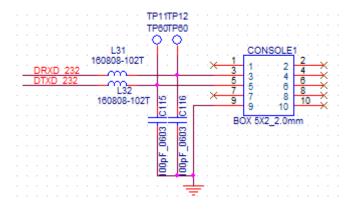
| CN17 Pin Description List | | | |
|---------------------------|----------|----------|------------|
| Pin No. | Pin name | Function | Connect to |
| 1 | D+_485 | RS485_D+ | CN23 |
| 2 | D485 | RS485_D- | CN23 |

CN25 _ **LAN**



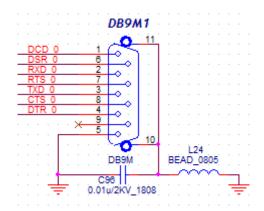
| CN25 Pin Description List (RJ45 Type) | | | |
|---------------------------------------|----------|----------------------------|------------|
| Pin No. | Pin name | Function | Connect to |
| 1 | ETX0+ | LAN Transmit positive Data | CN25 |
| 2 | ETX0- | LAN Transmit negative Data | CN25 |
| 3 | ERX0+ | LAN Receive positive Data | CN25 |
| 4 | None | None | CN25 |
| 5 | None | None | CN25 |
| 6 | ERX0- | LAN Receive negative Data | CN25 |
| 7 | None | None | CN25 |
| 8 | None | None | CN25 |
| 9 | GND | GND | CN25 |
| 10 | GND | GND | CN25 |

CONSOLE



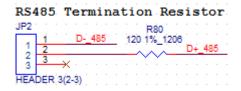
| CONSOLE1 Pin Description List (Box Header 2x5 Pin_Pitch 2.0mm) | | | |
|--|----------|---------------------|------------|
| Pin No. | Pin name | Function | Connect to |
| 1 | N.C | N.C | CONSOLE1 |
| 2 | N.C | N.C | CONSOLE1 |
| 3 | DRXD_232 | Debug Receive Data | CONSOLE1 |
| 4 | N.C | N.C | CONSOLE1 |
| 5 | DTXD_232 | Debug Transmit Data | CONSOLE1 |
| 6 | N.C | N.C | CONSOLE1 |
| 7 | N.C | N.C | CONSOLE1 |
| 8 | N.C | N.C | CONSOLE1 |
| 9 | GND | GND | CONSOLE1 |
| 10 | N.C | N.C | CONSOLE1 |

DB9M1 _ COM1 Signal Conn



| DB9M1 Pin Description List (D-sub 9-pin Male) | | | |
|---|----------|----------|------------|
| Pin No. | Pin name | Function | Connect to |
| 1 | DCD_0 | COM1_DCD | DB9M1 |
| 2 | RXD_0 | COM1_RXD | DB9M1 |
| 3 | TXD_0 | COM1_TXD | DB9M1 |
| 4 | DTR_0 | COM1_DTR | DB9M1 |
| 5 | GND | GND | DB9M1 |
| 6 | DSR_0 | COM1_DSR | DB9M1 |
| 7 | RTS_0 | COM1_RTS | DB9M1 |
| 8 | CTS_0 | COM1_CTS | DB9M1 |
| 9 | N.C | N.C | DB9M1 |

JP2 _ RS485 Termination Resistor Select



JP2 1-2 == 120ohm select

JP2 2-3 == none