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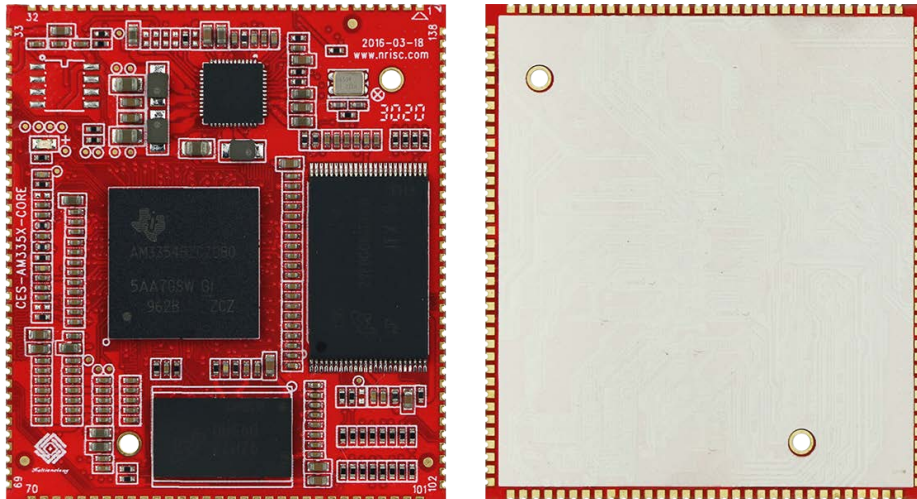
# CES-AM335X-CORE ( Stamps )

## Product Manual

ARM SOC Module

Rev. V1.0

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## Introduction

CES-AM335X SOC Module is the core board for industrial application. Based on TI Sitara Series ARM processor AM3354, which is designed with a highly integrated system module SOM. This board integrates 512MB of DDR3 particles, 1GB SLC NANDFLASH and power management chip.

CES-AM335X SOC board fully supports CAN, PROFIBUS, RS485 and other mainstream industrial bus, support dual Gigabit Ethernet interface. The maximum operating frequency up to 800MHz, using 45nm process technology, integrated ARM Cortex-A8 microprocessor unit (MPU), POWERVR SGX Graphic Accelerator for 3D Graphic Acceleration to Support Display and Game Effects, Programmable Real-Time Unit and Industrial Communication Subsystem (PRU-ICSS) (separated from ARM core, to realize the possibility of flexible configuration and be more efficient in transmission and control) to ensure the system always in high performance while in low-power consumption.

## Feature

- Based on TI Sitara™ ARM® Cortex®-A8 AM3354 1GHz 32-Bit RISC Processor
- Onboard 512MB DDR3 and 1GB SLC NANDFLASH
- Support 24bit RGB LCD
- Two industrial Gigabit Ethernet MAC (10/100/1000Mbps)
- Rich I/O, such as CAN, MMC, SDIO, UART, GbE LAN, USB 2.0, GPIO, I2C, SPI
- Support Android4.2, Embedded Linux3.2

## Specification

|                         |   |
|-------------------------|---|
| <b>Processor</b>        |   |
| CPU                     | TI Sitara™ ARM® Cortex®-A8 AM3354 1GHz 32-Bit RISC Processor                      |
| Cache                   | 32KB (Instruction) /32KB (Data) Cache and 256KB L2 Cache                          |
| <b>Memory</b>           |   |
| Capacity                | On-board 512MB DDR3   |
| Flash                   | 1GB SLC NANDFLASH   |
| <b>PMIC</b>             |   |
| Chipset                 | TPS65217C   |
| <b>B2B Connectors</b>   |   |
| Connectors              | Stamps  |
| Pin Numbers             | 138pins 1.27mm SMD  |
| Pin Function            | GPIO , RS485 , LAN , RGB , CAN , I2C , Audio I2S , UART , SPI , USB HOST/OTG etc. |
| <b>B2B Fixed Hole</b>   |   |
| Fixed Hole              | No  |
| <b>Operation System</b> |   |
| OS                      | Optional Android 4.2 , Embedded Linux 3.2   |
| <b>Environment</b>      |   |
| Work Environment        | Temperature: -20~60°C , Humidity: 5%~90%RH@31°C , no condensation                 |
| Storage Environment     | Temperature: -40~85°C , Humidity: 5%~95%RH@39°C , no condensation                 |
| <b>Size</b>             |   |
| Size(mm)                | 50.25*44.60mm   |

## Pin Definition

| Pin Definition |             |                 |  |              |
|----------------|-------------|-----------------|--|--------------|
| PIN NO         | Signal Name | CPU Ball Number | CPU Ball Name  | Remark       |
| 1              | DGND        |                 |  | Power Ground |
| 2              | RGMII1_RXD3 | L17             | GMII1_RXD3/UART3_RXD/RGMII1_RD3/MMC0_DATA5/MMC1_DAT2/UART1_DTRN/MCASP0_AXR0/GPIO2_18           | LAN1         |
| 3              | RGMII1_RXD2 | L16             | GMII1_RXD2/UART3_TXD/RGMII1_RD2/MMC0_DATA4/MMC1_DAT3/UART1_RIN/MCASP0_AXR1/GPIO2_19            | LAN1         |
| 4              | RGMII1_TXD3 | J18             | GMII1_TXD3/DCAN0_TX/RGMII1_TD3/UART4_RXD/MCASP1_FSX/MMC2_DAT1/MCASP0_FSR/GPIO0_16              | LAN1         |
| 5              | RGMII1_TXD2 | K15             | GMII1_TXD2/DCAN0_RX/RGMII1_TD2/UART4_TXD/MCASP1_AXR0/MMC2_DAT2/MCASP0_AHCLKX/GPIO0_17          | LAN1         |
| 6              | RGMII1_RCTL | J17             | GMII1_RXDV/LCD_MEMORY_CLK/RGMII1_RCTL/UART5_TXD/MCASP1_ACLKX/MMC2_DAT0/MCASP0_ACLKR/GPIO3_4    | LAN1         |
| 7              | DGND        |                 |  | Power Ground |
| 8              | RGMII1_RXD0 | M16             | GMII1_RXD0/RMII1_RXD0/RGMII1_RD0/MCASP1_AHCLKX/MCASP1_AHCLKR/MCASP1_ACLKR/MCASP0_AXR3/GPIO2_21 | LAN1         |
| 9              | RGMII1_RXD1 | L15             | GMII1_RXD1/RMII1_RXD1/RGMII1_RD1/MCASP1_AXR3/MCASP1_FSR/EQEP0_STROBE/MMC2_CLK/GPIO2_20         | LAN1         |
| 10             | RGMII1_RCLK | L18             | GMII1_RXCLK/UART2_TXD/RGMII1_RCLK/MMC0_DAT6/MMC1_DAT1/UART1_DSRN/MCASP0_FSX/GPIO3_10           | LAN1         |
| 11             | RGMII1_TCLK | K18             | GMII1_TXCLK/UART2_RXD/RGMII1_TCLK/MMC0_DAT7/MMC1_DAT0/UART1_DCDN/MCASP0_ACLKX/GPIO3_9          | LAN1         |
| 12             | RGMII1_TCTL | J16             | GMII1_TXEN/RMII1_TXEN/RGMII1_TCTL/TIMER4/MCASP1_AXR0/EQEP0_INDEX/MMC2_CMD/GPIO3_3              | LAN1         |
| 13             | RGMII1_TXD1 | K16             | GMII1_TXD1/RMII1_TXD1/RGMII1_TD1/MCASP1_FSR/MCASP1_AXR1/EQEP0A_IN/MMC1_CMD/GPIO0_21            | LAN1         |
| 14             | RGMII1_TXD0 | K17             | GMII1_TXD0/RMII1_TXD0/RGMII1_TD0/MCASP1_AXR2/MCASP1_ACLKR/EQEP0B_IN/MMC1_CLK/GPIO0_28          | LAN1         |

|    |              |     |   |                            |
|----|--------------|-----|---|----------------------------|
| 15 | USB0_ID      | P16 | USB0_ID   | USB                        |
| 16 | USB1_DM      | R18 | USB1_DM   | USB                        |
| 17 | USB1_DP      | R17 | USB1_DP   | USB                        |
| 18 | USB0_DP      | N17 | USB0_DP   | USB                        |
| 19 | USB0_DM      | N18 | USB0_DM   | USB                        |
| 20 | USB_DC       | P15 | USB0_VBUS   | USB                        |
| 21 | USB1_VBUS    | T18 | USB1_VBUS   | USB                        |
| 22 | USB1_DRVVBUS | F15 | USB1_DRVVBUS  | USB                        |
| 23 | USB1_ID      | P17 | USB1_ID   | USB                        |
| 24 | DGND         |     |   | Power Ground               |
| 25 | CAN1_RX      | E17 | UART0_RTSN/UART4_TXD/DCAN1_RX/I2C1_SCL/SPI1_D1/SPI1_CS0/PR1_EDC_SYNC1_OUT/GPIO1_9                             | CAN BUS                    |
| 26 | CAN1_TX      | E18 | UART0_CTSN/UART4_RXD/DCAN1_TX/I2C1_SDA/SPI1_D0/TIMER7/PR1_EDC_SYNC0_OUT/GPIO1_8                               | CAN BUS                    |
| 27 | CAN0_TX      | D18 | UART1_CTSN/TIMER6/DCAN0_TX/I2C2_SDA/SPI1_CS0/PR1_UART0_CTS_N/PR1_EDC_LATCH0_IN/GPIO0_12                       | CAN BUS                    |
| 28 | CAN0_RX      | D17 | UART1_RTSN/TIMER5/DCAN0_RX/I2C2_SCL/SPI1_CS1/PR1_UART0_RTS_N/PR1_EDC_LATCH1_IN/GPIO0_13                       | CAN BUS                    |
| 29 | DGND         |     |   | Power Ground               |
| 30 | DGND         |     |   | Power Ground               |
| 31 | VDD_5V       |     |   | DC 5V power supply (input) |
| 32 | VDD_5V       |     |   | DC 5V power supply (input) |
| 33 | VDD_5V       |     |   | DC 5V power supply (input) |
| 34 | DGND         |     |   | Power Ground               |
| 35 | DGND         |     |   | Power Ground               |
| 36 | VRTC         |     |   | RTC power supply (input)   |
| 37 | DGND         |     |   | Power Ground               |
| 38 | I2C0_SDA     | C17 | I2C0_SDA/TIMER4/UART2_CTSN/ECAP2_IN_PWM2_OUT/GPIO3_5  | I2C                        |
| 39 | I2C0_SCL     | C16 | I2C0_SCL/TIMER7/UART2_RTSN/ECAP1_IN_PWM1_OUT/GPIO3_6  | I2C                        |
| 40 | I2C1_SDA     | B16 | SPI0_D1/MMC1_SDWP/I2C1_SDA/EHRPWM0_TRIP_ZONE_INPUT/PR1_UART0_RXD/PR1_EDIO_DATA_IN0/PR1_EDIO_DATA_OUT0/GPIO0_4 | I2C                        |
| 41 | I2C1_SCL     | A16 | SPI0_CS0/MMC2_SDWP/I2C1_SCL/EHRPWM0_SYNCI_O/PR1_UART0_TXD/PR1_EDIO_DATA_IN1/PR1_EDIO_DATA_OUT1/GPIO0_5        | I2C                        |

|    |            |     |  |                     |
|----|------------|-----|--|---------------------|
| 42 | GPIO0_29   | H18 | RMII1_REFCLK/XDMA_EVENT_INTR2/SPI1_CS0/UART5_TXD/MCASP1_AXR3/MMC0_POW/MCASP1_AHCLKX/GPIO0_29                       | GPIO                |
| 43 | GPIO0_31   | U17 | GPMC_WPN/GMII2_RXERR/GPMC_CSN5/RMII2_RXERR/MMC2_SDCD/PR1_MDIO_MDCLK/UART4_TXD/GPIO0_31                             | GPIO                |
| 44 | GPIO1_31   | V9  | GPMC_CSN2/GPMC_BE1N/MMC1_CMD/PR1_EDIO_DATA_IN7/PR1_EDIO_DATA_OUT7/PR1_PRU1_PRU_R30_13/PR1_PRU1_PRU_R31_13/GPIO1_31 | GPIO                |
| 45 | GPIO1_28   | U18 | GPMC_BE1N/GMII2_COL/GPMC_CSN6/MMC2_DAT3/GPMC_DIR/PR1_MII1_RXLINK/MCASP0_ACLKR/GPIO1_28                             | GPIO                |
| 46 | MMC0_DAT2  | F18 | MMC0_DAT2/GPMC_A21/UART4_RTSN/TIMER6/UART1_DSRN/PR1_PRU0_PRU_R30_9/PR1_PRU0_PRU_R31_9/GPIO2_27                     | SD/MMC              |
| 47 | MMC0_DAT3  | F17 | MMC0_DAT3/GPMC_A20/UART4_CTSN/TIMER5/UART1_DCDN/PR1_PRU0_PRU_R30_8/PR1_PRU0_PRU_R31_8/GPIO2_26                     | SD/MMC              |
| 48 | MMC0_CMD   | G18 | MMC0_CMD/GPMC_A25/UART3_RTSN/UART2_TXD/DCAN1_RX/PR1_PRU0_PRU_R30_13/PR1_PRU0_PRU_R31_13/GPIO2_31                   | SD/MMC              |
| 49 | MMC0_CLKO  | G17 | MMC0_CLK/GPMC_A24/UART3_CTSN/UART2_RXD/DCAN1_TX/PR1_PRU0_PRU_R30_12/PR1_PRU0_PRU_R31_12/GPIO2_30                   | SD/MMC              |
| 50 | MMC0_DAT0  | G16 | MMC0_DAT0/GPMC_A23/UART5_RTSN/UART3_TXD/UART1_RIN/PR1_PRU0_PRU_R30_11/PR1_PRU0_PRU_R31_11/GPIO2_29                 | SD/MMC              |
| 51 | MMC0_DAT1  | G15 | MMC0_DAT1/GPMC_A22/UART5_CTSN/UART3_RXD/UART1_DTRN/PR1_PRU0_PRU_R30_10/PR1_PRU0_PRU_R31_10/GPIO2_28                | SD/MMC              |
| 52 | CD/EMU4    | C15 | SPI0_CS1/UART3_RXD/ECAP1_IN_PWM1_OUT/MMC0_POW/XDMA_EVENT_INTR2/MMC0_SDCD/EMU4/GPIO0_6                              | SD/MMC              |
| 53 | SYS_RESETn | A10 | NRESET_INOUT   | NRESET              |
| 54 | DGND       |     |  | Power Ground        |
| 55 | CLKOUT2    | D14 | EVENT_INTR1/TCLKIN/CLKOUT2/TIMER7/PR1PRU0_PRUR31_16/EMU3/GPIO0_20  | CLKOUT2             |
| 56 | CLKOUT1    | A15 | EVENT_INTR0/TIMER4/CLKOUT1/SPI1_CS1/PR1PRU1R31_16/EMU2/GPIO0_19  | CLKOUT1             |
| 57 | DGND       |     |  | Power Ground        |
| 58 | GPIO3_0    | H16 | GMII1_COL/RMII2_REFCLK/SPI1_SCLK/UART5_RXD/MCASP1_AXR2/MMC2_DAT3/MCASP0_AXR2/GPIO3_0                               | SPI/GPIO(SPI1_SCLK) |

|    |           |     |  |                    |
|----|-----------|-----|--|--------------------|
| 59 | GPIO3_1   | H17 | GMII1_CRG/RMII1_CRG_DV/SPI1_D0/I2C1_SDA/MCASP1_ACLKX/UART5_CTSN/UART2_RXD/GPIO3_1                                  | SPI/GPIO(SPI1_D0)  |
| 60 | GPIO3_2   | J15 | GMII1_RXERR/RMII1_RXERR/SPI1_D1/I2C1_SCL/MCASP1_FSX/UART5_RTSN/UART2_TXD/GPIO3_2                                   | SPI/GPIO(SPI1_D1)  |
| 61 | GPIO2_0   | T13 | GPMC_CSN3/MMC2_CMD/PR1_MDIO_DATA/GPIO2_0   | GPIO               |
| 62 | GPIO1_30  | U9  | GPMC_CSN1/GPMC_CLK/MMC1_CLK/PRT1EDIO_DATA_IN6/PRT1_EDIO_DATA_OUT6/PR1_PRU1_PRU_R30_12/PR1_PRU1_PRU_R31_12/GPIO1_30 | GPIO               |
| 63 | GPIO2_1   | V12 | GPMC_CLK/LCD_MEM_CLK/GPMC_WAIT1/MMC2_CLK/PRT1_MII1_TXEN/MCASP0_FSR/GPIO2_1   | GPIO               |
| 64 | GPIO0_7   | C18 | ECAP0_IN_PWM0_OUT/UART3_TXD/SPI1_CS1/PR1_ECAP0_ECAP_CAPIN_APWM_O/SPI1_SCLK/MMC0_SDWP/XDMA_EVENT_INTR2/GPIO0_7      | SPI/GPIO(SPI1_CS1) |
| 65 | DGND      |     |  | Power Ground       |
| 66 | UART0_TXD | E16 | UART0_TXD/SPI1_CS1/DCAN0_RX/I2C2_SCL/ECAP1_IN_PWM1_OUT/PR1_PRU1_PRU_R30_15/PR1_PRU1_PRU_R31_15/GPIO1_11            | UART               |
| 67 | UART0_RXD | E15 | UART0_RXD/SPI1_CS0/DCAN0_TX/I2C2_SDA/ECAP2_IN_PWM2_OUT/PR1_PRU1_PRU_R30_14/PR1_PRU1_PRU_R31_14/GPIO1_10            | UART               |
| 68 | UART1_TXD | D15 | UART1_TXD/MMC2_SDWP/DCAN1_RX/I2C1_SCL//PR1_UART0_TXD/PR1_PRU0_PRU_R31_16/GPIO0_15                                  | UART               |
| 69 | UART1_RXD | D16 | UART1_RXD/MMC1_SDWP/DCAN1_TX/I2C1_SDA//PR1_UART0_RXD/PR1_PRU1_PRU_R31_16/GPIO0_14                                  | UART               |
| 70 | UART2_TXD | B17 | SPI0_D0/UART2_TXD/I2C2_SCL/EHRPWM0B/PR1_UART0_RTS_N/PR1_EDIO_LATCH_IN/EMU3/GPIO0_3                                 | UART               |
| 71 | UART2_RXD | A17 | SPI0_SCLK/UART2_RXD/I2C2_SDA/EHRPWM0A/PR1_UART0_CTS_N/PR1_EDIO_SOF/EMU2/GPIO0_2                                    | UART               |
| 72 | DGND      |     |  | Power Ground       |
| 73 | DGND      |     |  | Power Ground       |
| 74 | VDD_ADC   | B9  | VREFP  | VREFP              |
| 75 | GNDA_ADC  | A9  | VREFN  | VREFN              |
| 76 | AIN0      | B6  | AIN0   | ADC                |
| 77 | AIN1      | C7  | AIN1   | ADC                |
| 78 | AIN2      | B7  | AIN2   | ADC                |
| 79 | AIN3      | A7  | AIN3   | ADC                |
| 80 | AIN4      | C8  | AIN4   | ADC                |
| 81 | AIN5      | B8  | AIN5   | ADC                |
| 82 | AIN6      | A8  | AIN6   | ADC                |

|     |               |     |   |              |
|-----|---------------|-----|---|--------------|
| 83  | GND_ADC       | A9  | VREFN   | VREFN        |
| 84  | DGND          |     |   | Power Ground |
| 85  | MCASP0_FSR    | C13 | MCASP0_FSR/EQEP0B_IN/MCASPO_AXR3/MCASP1_FSX/EMU2/PR1_PRU0_PRU_R30_5/PR1_PRU0_PRU_R31_5/GPIO3_19                     | AUDIO        |
| 86  | MCASP0_AHCLKX | A14 | MCASP0_AHCLKX/EQEP0_STROBE/MCASPO_AXR3/MCASP1_AXR1/EMU4/PR1_PRU0_PRU_R30_7/PR1_PRU0_PRU_R31_7/GPIO3_21              | AUDIO        |
| 87  | MCASP0_ACLKX  | A13 | MCASP0_ACLKX/EHRPWM0A//SPI1_SCLK/MMC0_SDCCD/PR1_PRU0_PRU_R30_0/PR1_PRU0_PRU_R31_0/GPIO3_14                          | AUDIO        |
| 88  | MCASP0_FSX    | B13 | MCASP0_FSX/EHRPWM0B//SPI1_D0/MMC1_SDCCD/PR1_PRU0_PRU_R30_1/PR1_PRU0_PRU_R31_1/GPIO3_15                              | AUDIO        |
| 89  | MCASP0_AHCLKR | C12 | MCASP0_AHCLKR/EHRPWM0_SYNCI_O/MCASPO_AXR2/SPI1_CS0/ECAP2_IN_PWM2_OUT/PR1_PRU0_PRU_R30_3/PR1_PRU0_PRU_R31_3/GPIO3_17 | AUDIO        |
| 90  | MCASP0_AXR1   | D13 | MCASP0_AXR1/EQEP0_INDEX//MCASP1_AXR0/EMU3/PR1_PRU0_PRU_R30_6/PR1_PRU0_PRU_R31_6/GPIO3_20                            | AUDIO        |
| 91  | MCASP0_AXR0   | D12 | MCASP0_AXR0/EHRPWM0_TRIPZONE_INPUT//SPI1_D1/MMC2_SDCCD/PR1_PRU0_PRU_R30_2/PR1_PRU0_PRU_R31_2/GPIO3_16               | AUDIO        |
| 92  | MCASP0_ACLKR  | B12 | MCASP0_ACLKR/EQEP0A_IN/MCASPO_AXR2/MCASP1_ACLKX/MMC0_SDWP/PR1_PRU0_PRU_R30_4/PR1_PRU0_PRU_R31_4/GPIO3_18            | AUDIO        |
| 93  | DGND          |     |   | Power Ground |
| 94  | GPIO2_10      | T1  | LCD_DATA4/GPMC_A4//EQEP2A_IN//PR1_PRU1_PRU_R30_4/PR1_PRU1_PRU_R31_4/GPIO2_10  | LCD(R7)      |
| 95  | GPIO2_9       | R4  | LCD_DATA3/GPMC_A3//EHRPWM2_SYNCI_O//PR1_PRU1_PRU_R30_3/PR1_PRU1_PRU_R31_3/GPIO2_9                                   | LCD(R6)      |
| 96  | GPIO2_8       | R3  | LCD_DATA2/GPMC_A2//EHRPWM2_TRIPZONE_INPUT//PR1_PRU1_PRU_R30_2/PR1_PRU1_PRU_R31_2/GPIO2_8                            | LCD(R5)      |
| 97  | GPIO2_7       | R4  | LCD_DATA1/GPMC_A1//EHRPWM2B//PR1_PRU1_PRU_R30_1/PR1_PRU1_PRU_R31_1/GPIO2_7  | LCD(R4)      |
| 98  | GPIO2_6       | R1  | LCD_DATA0/GPMC_A0//EHRPWM2A//PR1_PRU1_PRU_R30_0/PR1_PRU1_PRU_R31_0/GPIO2_6  | LCD(R3)      |
| 99  | GPIO1_15      | U13 | GPMC_AD15/LCD_DATA16/MMC1_DAT7/MMC2_DAT3/EQEP2_STROBE/PR1_ECAP0_ECAP_CAPIN_APWM_O/PR1_PRU0_PRU_R31_15/GPIO1_15      | LCD(R2)      |
| 100 | GPIO1_13      | R12 | GPMC_AD13/LCD_DATA18/MMC1_DAT5/MMC2_DAT1/EQEP2B_IN/PR1_MII0_TXD1/PR1_PRU0_PRU_R30_15/GPIO1_13                       | LCD(R1)      |



|     |            |     |  |         |
|-----|------------|-----|--|---------|
| 101 | GPIO0_26   | T11 | GPMC_AD10/LCD_DATA21/MMC1_DAT2/MMC2_D<br>AT6/EHRPWM2_TRIPZONE_INPUT/PR1_MII0_TXE<br>N//GPIO0_26                            | LCD(R0) |
| 102 | UART3_CTSN | U3  | LCD_DATA10/GPMC_A14/EHRPWM1A/MCASP0_A<br>XR0//PR1_MII0_RXD1/UART3_CTSN/GPIO2_16  | LCD(G7) |
| 103 | UART5_RXD  | U2  | LCD_DATA9/GPMC_A13/EHRPWM1_SYNCI_O/MC<br>ASP0_FSX/UART5_RXD/PR1_MII0_RXD2/UART2_R<br>TSN/GPIO2_15                          | LCD(G6) |
| 104 | UART5_TXD  | U1  | LCD_DATA8/GPMC_A12/EHRPWM1_TRIPZONE_IN<br>PUT/MCASP0_ACLKX/UART5_TXD/PR1_MII0_RXD<br>3/UART2_CTSN/GPIO2_14                 | LCD(G5) |
| 105 | GPIO2_13   | T4  | LCD_DATA7/GPMC_A7/PR1_EDIO_DATA_IN7/EQEP<br>2_STROBE/PR1_EDIO_DATA_OUT7/PR1_PRU1_PRU<br>_R30_7/PR1_PRU1_PRU_R31_7/GPIO2_13 | LCD(G4) |
| 106 | GPIO2_12   | T3  | LCD_DATA6/GPMC_A6/PR1_EDIO_DATA_IN6/EQEP<br>2_INDEX/PR1_EDIO_DATA_OUT6/PR1_PRU1_PRU_<br>R30_6/PR1_PRU1_PRU_R31_6/GPIO2_12  | LCD(G3) |
| 107 | GPIO2_11   | T2  | LCD_DATA5/GPMC_A5//EQEP2B_IN//PR1_PRU1_PR<br>U_R30_5/PR1_PRU1_PRU_R31_5/GPIO2_11   | LCD(G2) |
| 108 | GPIO1_12   | T12 | GPMC_AD12/LCD_DATA19/MMC1_DAT4/MMC2_D<br>AT0/EQEP2A_IN/PR1_MII0_TXD2/PR1_PRU0_PRU_<br>R30_14/GPIO1_12                      | LCD(G1) |
| 109 | EHRPWM2B   | T10 | GPMC_AD9/LCD_DATA22/MMC1_DAT1/MMC2_DA<br>T5/EHRPWM2B/PR1_MII0_CRS//GPIO0_23  | LCD(G0) |
| 110 | UART5_RTSN | T5  | LCD_DATA15/GPMC_A19/EQEP1_STROBE/MCASP0<br>_AHCLKX/MCASP0_AXR3/PR1_MII0_RXDV/UART<br>5_RTSN/GPIO0_11                       | LCD(B7) |
| 111 | UART5_CTSN | V4  | LCD_DATA14/GPMC_A18/EQEP1_INDEX/MCASP0_<br>AXR1/UART5_RXD/PR1_MII_MR0_CLK/UART5_CT<br>SN/GPIO0_10                          | LCD(B6) |
| 112 | UART4_RTSN | V3  | LCD_DATA13/GPMC_A17/EQEP1B_IN/MCASP0_FS<br>R/MCASP0_AXR3/PR1_MII0_RXER/UART4_RTSN/G<br>PIO0_9                              | LCD(B5) |
| 113 | UART4_CTSN | V2  | LCD_DATA12/GPMC_A16/EQEP1A_IN/MCASP0_AC<br>LKR/MCASP0_AXR2/PR1_MII0_RXLINK/UART4_C<br>TSN/GPIO0_8                          | LCD(B4) |
| 114 | UART3_RTSN | U4  | LCD_DATA11/GPMC_A15/EHRPWM1B/MCASP0_A<br>HCLKR/MCASP0_AXR2/PR1_MII0_RXD0/UART3_R<br>TSN/GPIO2_17                           | LCD(B3) |
| 115 | GPIO1_14   | V13 | GPMC_AD14/LCD_DATA17/MMC1_DAT6/MMC2_D<br>AT2/EQEP2_INDEX/PR1_MII0_TXD0/PR1_PRU0_PR<br>U_R31_14/GPIO1_14                    | LCD(B2) |

|     |             |     |  |              |
|-----|-------------|-----|--|--------------|
| 116 | GPIO0_27    | U12 | GPMC_AD11/LCD_DATA20/MMC1_DAT3/MMC2_D<br>AT7/EHRPWM2_SYNCI_O/PR1_MII0_TXD3//GPIO0_<br>27                               | LCD(B1)      |
| 117 | EHRPWM2A    | U10 | GPMC_AD8/LCD_DATA23/MMC1_DAT0/MMC2_DA<br>T4/EHRPWM2A/PR1_MII_MT0_CLK//GPIO0_22   | LCD(B0)      |
| 118 | GPIO2_25    | R6  | LCD_AC_BIAS_EN/GPMC_A11//PR1_EDIO_DATA_I<br>N5/PR1_EDIO_DATA_OUT5/PR1_PRU1_PRU_R30_1<br>1/PR1_PRU1_PRU_R31_11/GPIO2_25 | LCD(DE)      |
| 119 | GPIO2_23    | R5  | LCD_HSYNC/GPMC_A9//PR1_EDIO_DATA_IN3/PR1<br>_EDIO_DATA_OUT3/PR1_PRU1_PRU_R30_9/PR1_P<br>RU1_PRU_R31_9/GPIO2_23         | LCD(HSYNC)   |
| 120 | GPIO2_22    | U5  | LCD_VSYNC/GPMC_A8//PR1_EDIO_DATA_IN2/PR1<br>_EDIO_DATA_OUT2/PR1_PRU1_PRU_R30_8/PR1_P<br>RU1_PRU_R31_8/GPIO2_22         | LCD(VSYNC)   |
| 121 | GPIO2_24    | V5  | LCD_PCLK/GPMC_A10//PR1_EDIO_DATA_IN4/PR1<br>_EDIO_DATA_OUT4/PR1_PRU1_PRU_R30_10/PR1_P<br>RU1_PRU_R31_10/GPIO2_24       | LCD(PCLK)    |
| 122 | DGND        |     |  | Power Ground |
| 123 | RGMII2_RCTL | V14 | GPMC_A1/GMII2_RXDV/RGMII2_RCTL/MMC2_DA<br>T0/GPMC_A17/PR1_MII1_TXD3/EHRPWM1_SYNCI_<br>O/GPIO1_17                       | LAN2         |
| 124 | RGMII2_RXD3 | V16 | GPMC_A8/GMII2_RXD3/RGMII2_RD3/MMC2_DAT6<br>/GPMC_A24/PR1_MII1_RXD0/MCASP0_ACLKX/GPI<br>O1_24                           | LAN2         |
| 125 | RGMII2_RXD2 | U16 | GPMC_A9/GMII2_RXD2/RGMII2_RD2/MMC2_DAT7<br>/GPMC_A25/PR1_MII_MR1_CLK/MCASP0_FSX/GPI<br>O1_25                           | LAN2         |
| 126 | RGMII2_RXD1 | T16 | GPMC_A10/GMII2_RXD1/RGMII2_RD1/RMII2_RXD<br>1/GPMC_A26/PR1_MII1_CRS/MCASP0_AXR0/GPIO1<br>_26                           | LAN2         |
| 127 | RGMII2_RXD0 | V17 | GPMC_A11/GMII2_RXD0/RGMII2_RD0/RMII2_RXD<br>0/GPMC_A27/PR1_MII1_RXER/MCASP0_AXR1/GPI<br>O1_27                          | LAN2         |
| 128 | RGMII2_RCLK | T15 | GPMC_A7/GMII2_RXCLK/RGMII2_RCLK/MMC2_D<br>AT5/GPMC_A23/PR1_MII1_RXD1/EQEP1_STROBE/<br>GPIO1_23                         | LAN2         |
| 129 | DGND        |     |  | Power Ground |
| 130 | RGMII2_TCLK | U15 | GPMC_A6/GMII2_TXCLK/RGMII2_TCLK/MMC2_D<br>AT4/GPMC_A22/PR1_MII1_RXD2/EQEP1_INDEX/GP<br>IO1_22                          | LAN2         |
| 131 | RGMII2_TXD3 | U14 | GPMC_A2/GMII2_TXD3/RGMII2_TD3/MMC2_DAT1/<br>GPMC_A18/PR1_MII1_TXD2/EHRPWM1A/GPIO1_18                                   | LAN2         |
| 132 | RGMII2_TXD2 | T14 | GPMC_A3/GMII2_TXD2/RGMII2_TD2/MMC2_DAT2/<br>GPMC_A19/PR1_MII1_TXD1/EHRPWM1B/GPIO1_19                                   | LAN2         |

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| 133 | RGMII2_TXD1 | R14 | GPMC_A4/GMII2_TXD1/RGMII2_TD1/RMII2_TXD1/<br>GPMC_A20/PR1_MII1_TXD0/EQEP1A_IN/GPIO1_20                     | LAN2         |
| 134 | RGMII2_TXD0 | V15 | GPMC_A5/GMII2_TXD0/RGMII2_TD0/RMII2_TXD0/<br>GPMC_A21/PR1_MII1_RXD3/EQEP1B_IN/GPIO1_21                     | LAN2         |
| 135 | RGMII2_TCTL | R13 | GPMC_A0/GMII2_TXEN/RGMII2_TCTL/RMII2_TXE<br>N/GPMC_A16/PR1_MII_MT1_CLK/EHRPWM1_TRIP<br>ZONE_INPUT/GPIO1_16 | LAN2         |
| 136 | MDIO_DATA   | M17 | MDIO_DATA/TIMER6/UART5_RXD/UART3_CTSN/<br>MMC0_SDCD/MMC1_CMD/MMC2_CMD/GPIO0_0                              | LAN          |
| 137 | MDIO_CLK    | M18 | MDIO_CLK/TIMER5/UART5_TXD/UART3_RTSM/M<br>MC0_SDWP/MMC1_CLK/MMC2_CLK/GPIO0_1                               | LAN          |
| 138 | DGND        |     |  | Power Ground |

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## Statement

The information in this manual is for reference only and is subject to change without notice.

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