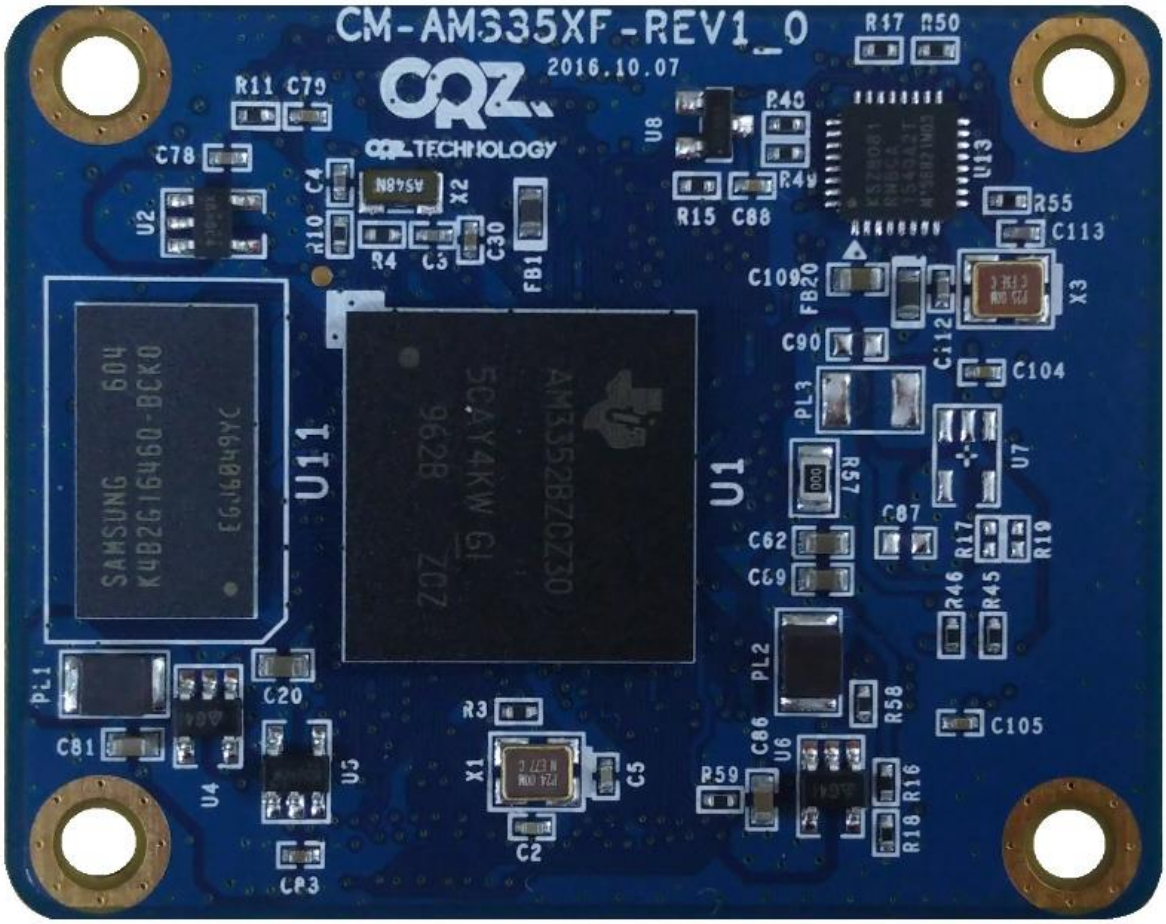
1. CM-AM335XF CPU Board 소개

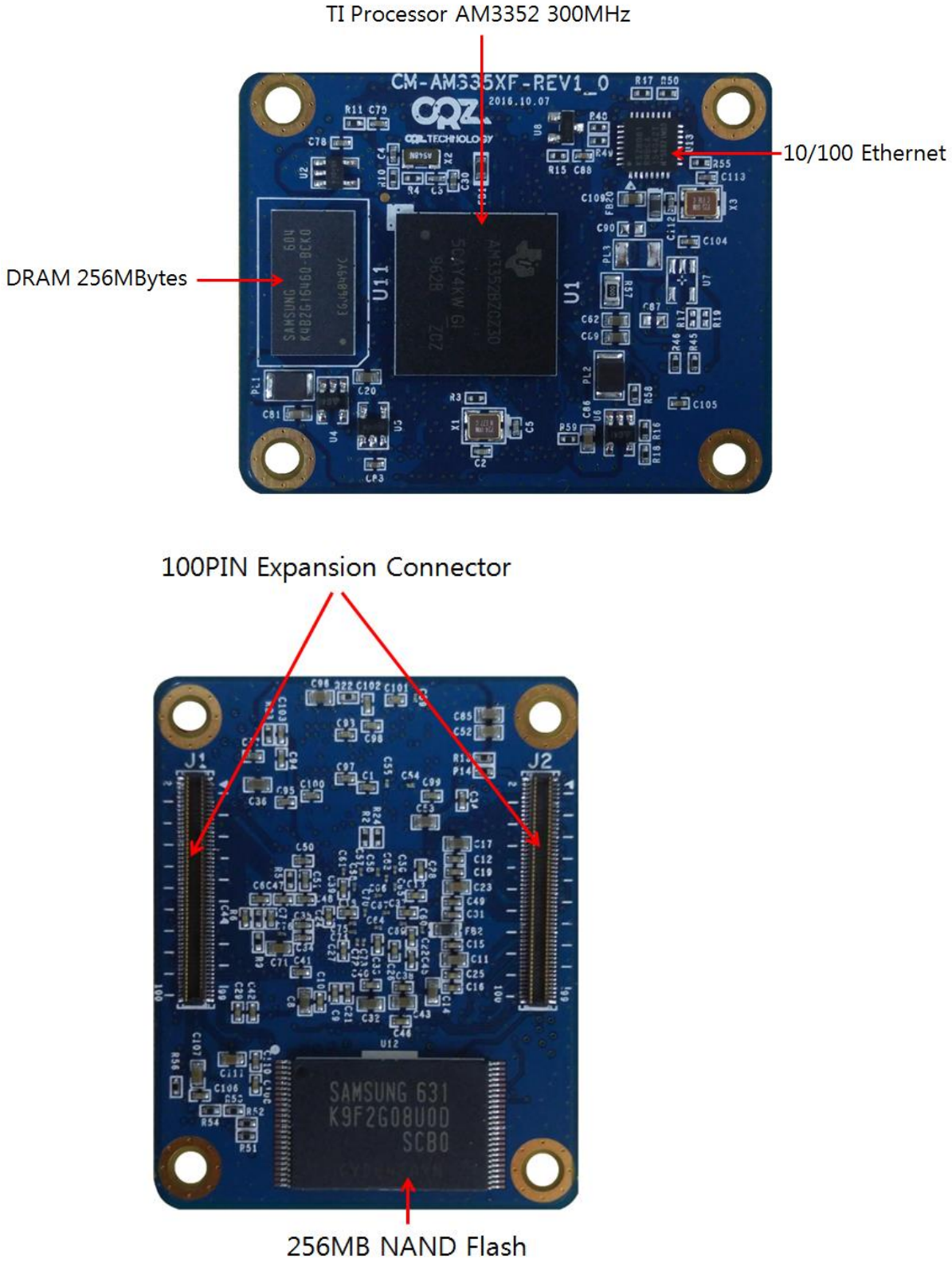


CM-AM335XF CPU Board 는 TI 사에서 출시한 Sitara Cortec™-A8 기반 Processors 인 AM3352 를 탑재한 보드이다. CM-AM335XF CPU Board 확장 커넥터를 이용하여, AM335X가 지원하는 다양한 기능을 구현 할 수 있다.

Features

- 300MHz TI Sitara AM3352 Cortex®-A8 RISC Processor
- 256Mbytes DDR3 SDRAM
- 256MB NAND
- 10/100 Ethernet Physical-layer transceiver
- Expansion Connectors : 100pin * 2EA
- Dimensions : 50mm * 40mm

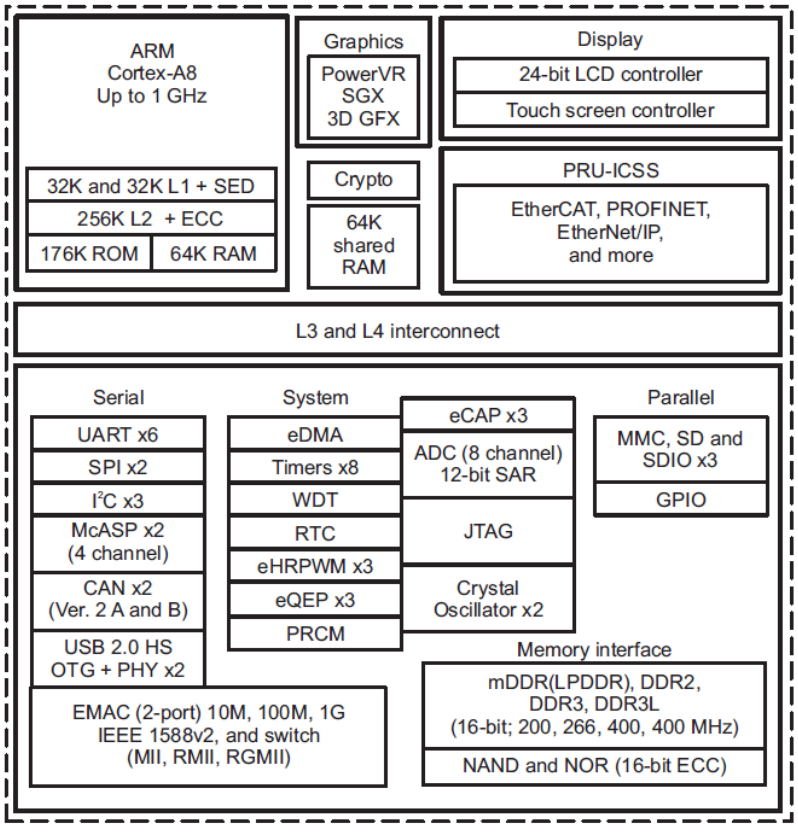
2. 각 파트별 설명


TI Processor AM3352 300MHz
10/100 Ethernet
DRAM 256MBytes
100PIN Expansion Connector
256MB NAND Flash
CM-AM335XF-REV1_0
2016.10.07
SAMSUNG 631
K9F2G08U0D
SCB0

2.1. AM3352

CM-AM335XF보드는 TI 사의 AM3352를 탑재하고 있다.

- 300MHz Sitara™ ARM® Cortex®-A8 32-Bit RISC Processor
- On-Chip Memory (Shared L3 RAM)
- External Memory Interfaces (EMIF)
- Programmable Real-Time Unit Subsystem and Industrial Communication Subsystem (PRU-ICSS)
- USB 2.0 High-Speed OTG Ports
- Multichannel Audio Serial Ports
- MMC, SD, SDIO Ports
- LCD Controller
- Debug Interface Support

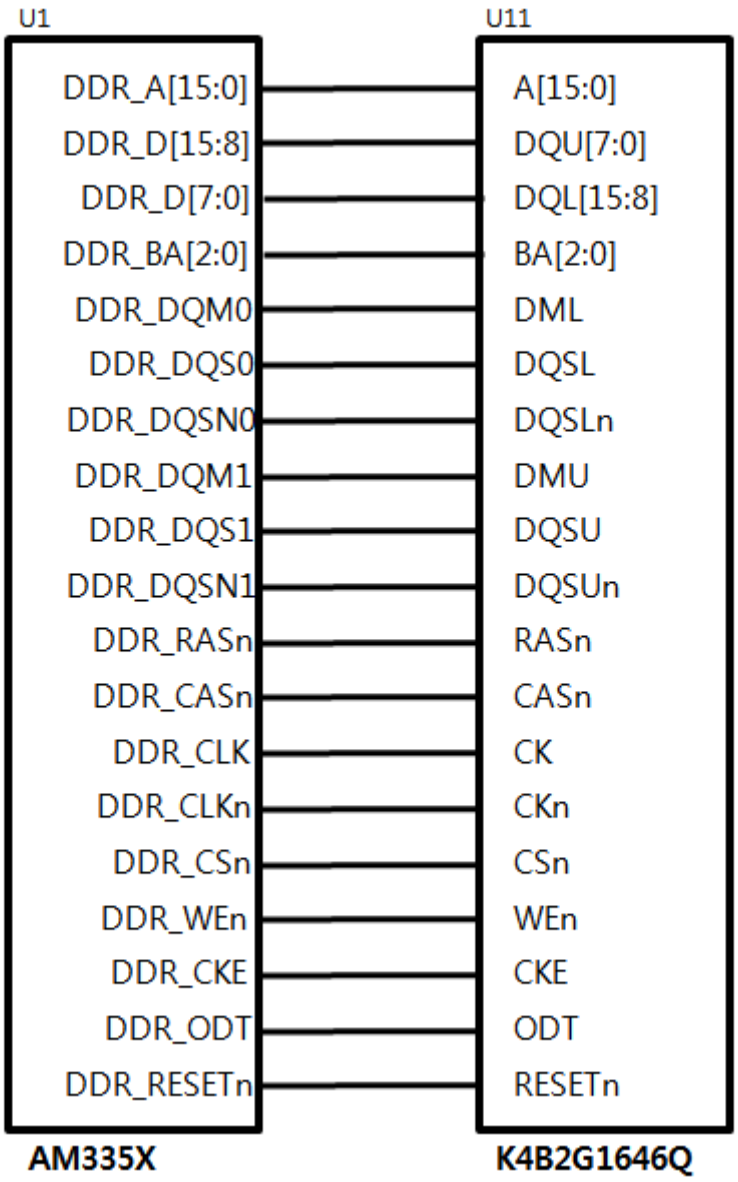


2.2. DDR3 SDRAM

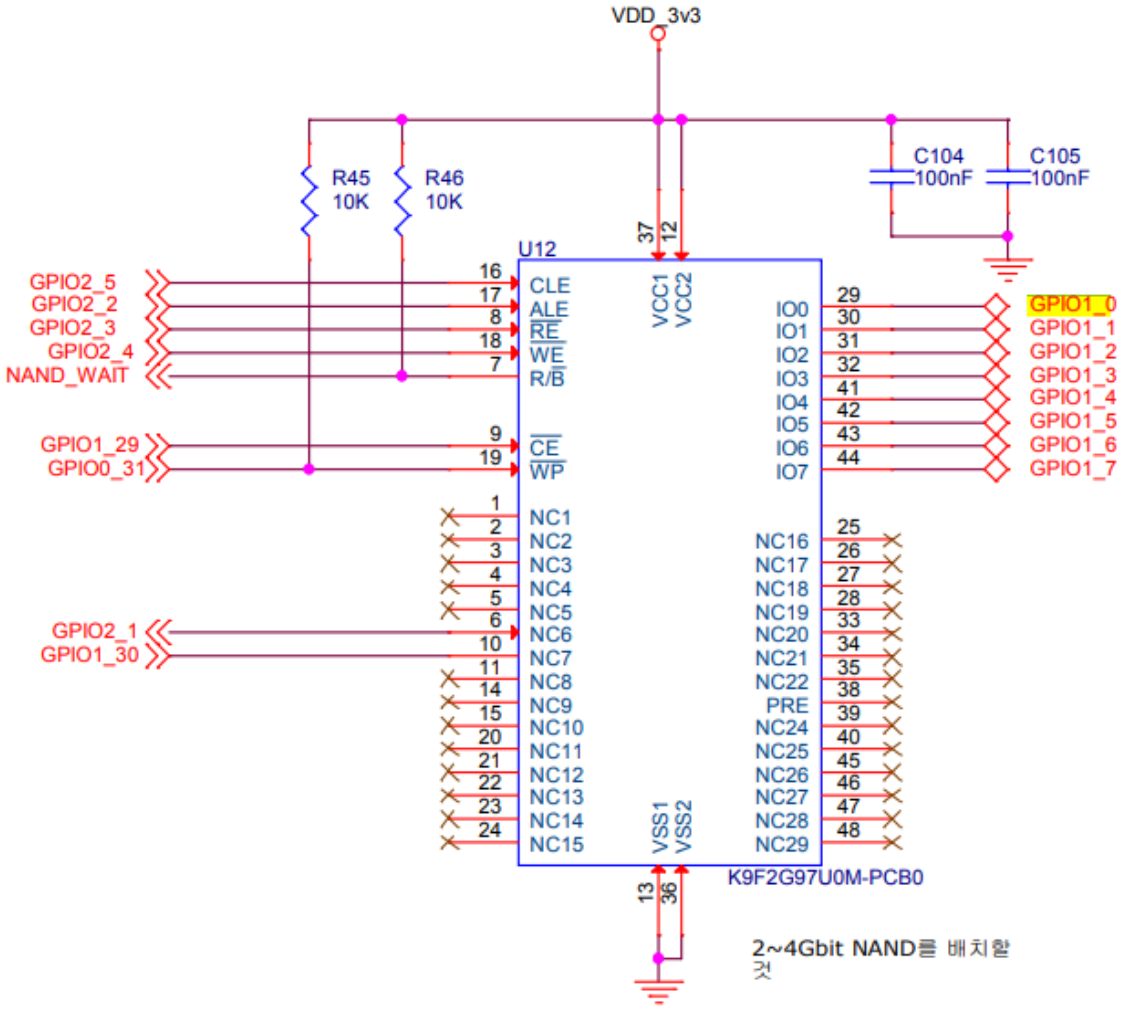
CM-AM335X 보드에는 Samsung의 2Gb(256Mbytes) DDR3 SDRAM가 탑재

되어 있다

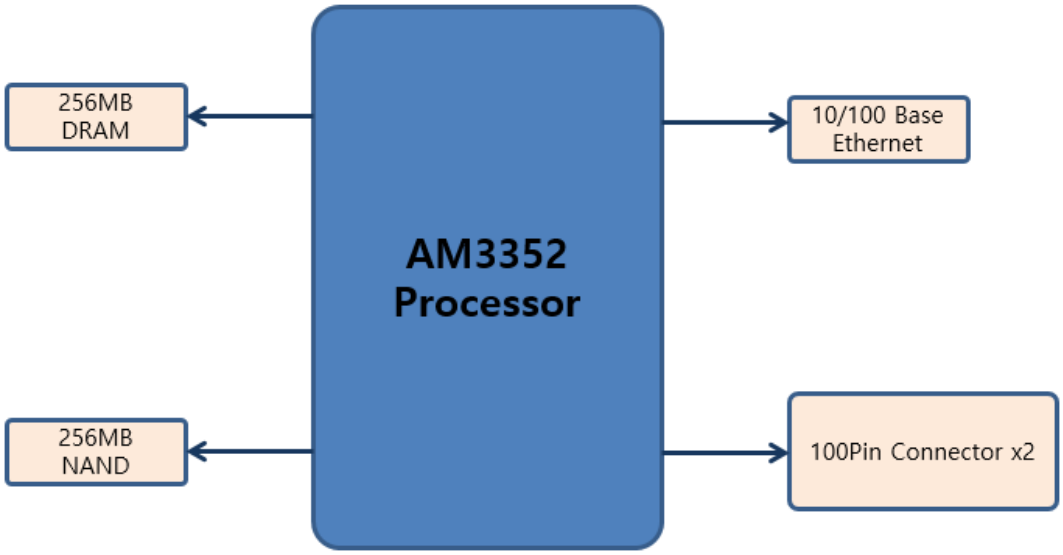
SDRAM 아래와 같이 AM335X와 연결되어있습니다.



2.3. NAND 모듈 연결도



2.4. 블록도



2.5. Expansion Connector

확장 커넥터를 통하여 CM-AM335XF보드에 장착하여 AM335X 의 다양한 기능을 구현 할 수 있다. 확장 커넥터의 핀맵은 다음과 같다

상세자료 링크 : http://crztech.iptime.org:8080/Release/mango-am3352-csd100/Doc/PIN_MAP/CM-AM335XF%20Pin%20MAP.xlsx

<J1 커넥터>

Functions	GPIO_번호			GPIO_번호	Function
Ground	GND	1	2	GND	GND
NRESET_INOUT		3	4	GND	GND
EVENT_INTR0, TIMER4_CLKOUT1, SPI1_CS1, PR1PRU1R31_16, EMU3	GPIO0_19	5	6	GPIO3_14	MCASP0_ACLKX, EHRPWM0A, SPI1_SCLK, MMC0_SDCD, PR1_PRU0_PRU_R30_0, PR1_PRU0_PRU_R31_0, **GPIO3_14**
EVENT_INTR1, TCLKIN, CLKOUT2, TIMER7, PR1PRU0_PRUR31_16, EMU3	GPIO0_20	7	8	GPIO3_15	MCASP0_FSX, EHRPWM0B, SPI1_D0, MMC1_SDCD, PR1_PRU0_PRU_R30_1, PR1_PRU0_PRU_R31_1, **GPIO3_15**
GND	GND	9	10	GPIO3_16	MCASP0_AXR0, EHRPWM0_TRIPZONE_INPUT, SPI1_D1, MMC2_SDCD, PR1_PRU0_PRU_R30_2, PR1_PRU0_PRU_R31_2, **GPIO3_16**
AIN0		11	12	GPIO3_17	MCASP0_AHCLKR, EHRPWM0_SYNCI_O, MCASP0_AXR2, SPI1_CS0, ECAP2_IN_PWM2_OUT, PR1_PRU0_PRU_R30_3, PR1_PRU0_PRU_R31_3, **GPIO3_17**
AIN1		13	14	GPIO3_18	MCASP0_ACLKR, EQEP0A_IN, MCASP0_AXR2, MCASP1_ACLKX, MMC0_SDWP, PR1_PRU0_PRU_R30_4, PR1_PRU0_PRU_R31_4, **GPIO3_18**
AIN2		15	16	GPIO3_19	MCASP0_FSR, EQEP0B_IN, MCASP0_AXR3, MCASP1_FSX, EMU2, PR1_PRU0_PRU_R30_5, PR1_PRU0_PRU_R31_5, **GPIO3_19**
AIN3		17	18	GPIO3_20	MCASP0_AXR1, EQEP0_INDEX, MCASP1_AXR0, EMU3, PR1_PRU0_PRU_R30_6, PR1_PRU0_PRU_R31_6, **GPIO3_20**
AIN4		19	20	GPIO3_21	MCASP0_AHCLKX, EQEP0_STROBE, MCASP0_AXR3, MCASP1_AXR1, EMU4, PR1_PRU0_PRU_R30_7, PR1_PRU0_PRU_R31_7, **GPIO3_21**
AIN5		21	22		
GND	GND	23	24	GND	GND
SPI0_SCLK, UART2_RXD, I2C2_SDA, EHRPWM0A, PR1_UART0_CTS_N, PR1_EDIO_SOF, EMU2, **GPIO0_2**	GPIO0_2	25	26		OSC_32K_IN
SPI0_D0/UART2_TXD/I2C2_SCL/EHRPWM0B/PR1_UART0_RTS_N/PR1_EDIO_LATCH_IN, EMU3, **GPIO0_3**	GPIO0_3	27	28	GND	GND
SPI0_D1, MMC1_SDWP, I2C1_SDA, EHRPWM0_TRIPZONE_INPUT, PR1_UART0_RXD, PR1_EDIO_DATA_IN0, PR1_EDIO_DATA_OUT0, **GPIO0_4**	GPIO0_4	29	30	GND	GND
SPI0_CS0, MMC2_SDWP, I2C1_SCL, EHRPWM0_SYNCI_O, PR1_UART0_TXD, PR1_EDIO_DATA_IN1, PR1_EDIO_DATA_OUT1, **GPIO0_5**	GPIO0_5	31	32		JTAG_TRSTn
SPI0_CS1, UART3_RXD, ECAP1_IN_PWM1_OUT, MMC0_POW, XDMA_EVENT_INTR2, MMC0_SDCD, EMU4, **GPIO0_6**	GPIO0_6	33	34		JTAG_TMS
GND	GND	35	36		JTAG_TDI
UART0_TXD, SPI1_CS1, DCAN0_RX, I2C2_SCL, ECAP1_IN_PWM1_OUT, PR1_PRU1_PRU_R30_15, PR1_PRU1_PRU_R31_15	GPIO1_11	37	38		JTAG_TCK
UART0_RXD, SPI1_CS0, DCAN0_TX, I2C2_SDA, ECAP2_IN_PWM2_OUT, PR1_PRU1_PRU_R30_14, PR1_PRU1_PRU_R31_14	GPIO1_10	39	40		JTAG_TDO
UART0_CTSN, UART4_RXD, DCAN1_TX, I2C1_SDA, SPI1_D0, TIMER7, PR1_EDC_SYNC0_OUT	GPIO1_8	41	42	GPIO3_7	**GPIO3_7**, EMU0
UART0_RTSN, UART4_TXD, DCAN1_RX, I2C1_SCL, SPI1_D1, SPI1_CS0, PR1_EDC_SYNC1_OUT	GPIO1_9	43	44	GPIO3_8	**GPIO3_8**, EMU1
GND	GND	45	46	GND	GND
UART1_TXD, MMC2_SDWP, DCAN1_RX, I2C1_SCL, PR1_UART0_TX, PR1_PRU0_PRU_R31_16	GPIO0_15	47	48		
UART1_RXD, MMC1_SDWP, DCAN1_TX, I2C1_SDA, PR1_UART0_RXD, PR1_PRU1_PRU_R31_16	GPIO0_14	49	50		
UART1_CTSN, UART4_RXD, DCAN0_TX, I2C1_SDA, SPI1_D0, TIMER7, PR1_EDC_SYNC0_OUT	GPIO0_12	51	52		
UART1_RTSN, TIMER5, DCAN0_RX, I2C2_SCL, SPI1_CS1, PR1_UART0_RTS_N, PR1_EDC_LATCH1_IN	GPIO0_13	53	54	GND	GND
GND	GND	55	56	GPIO3_9	**GMII1_TXCLK**, UART2_RXD, RGMII1_TCLK, MMC0_DAT7, MMC1_DAT0, UART1_DCDN, MCASP0_ACLKX
I2C0_SCL, TIMER7, UART2_RTSN, ECAP1_IN_PWM1_OUT	GPIO3_6	57	58	GPIO3_28	GMII1_TXD0, **RMII1_TXD0**, RGMII1_TD0, MCASP1_AXR2, MCASP1_ACLKR, EQEP0B_IN, MMC1_CLK
I2C0_SDA, TIMER4/UART2_CTSN, ECAP2_IN_PWM2_OUT	GPIO3_5	59	60	GPIO3_27	GMII1_TXD1, **RMII1_TXD1**, RGMII1_TD1, MCASP1_FSR, MCASP1_AXR1, EQEP0A_IN, MMC1_CMD
	NC	61	62	**GPIO0_17**	GMII1_TXD2, DCAN0_RX, RGMII1_TD2, UART4_TXD, MCASP1_AXR0, MMC2_DAT2, MCASP0_AHCLKX
	NC	63	64	**GPIO0_16**	GMII1_TXD3, DCAN0_TX, RGMII1_TD3, UART4_RXD, MCASP1_FSX, MMC2_DAT1, MCASP0_FSR
GND	GND	65	66	GPIO3_3	GMII1_TXEN, **RMII1_TXEN**, RGMII1_TCTL, TIMER4, MCASP1_AXR0, EQEP0_INDEX, MMC2_CMD
MMC0_CLK, GPMC_A24, UART3_CTSN, UART2_RXD, DCAN1_TX, PR1_PRU0_PRU_R30_12, PR1_PRU0_PRU_R31_12	GPIO2_30	67	68	GPIO3_1	GPIO1_1, GMII1_CRS, **RMII1_CRS_DV**, SPI1_D0, I2C1_SDA, MCASP1_ACLKX, UART5_CTSN, UART2_RXD
MMC0_CMD, GPMC_A25/UART3_RTSN, UART2_TXD, DCAN1_RX, PR1_PRU0_PRU_R30_13, PR1_PRU0_PRU_R31_13	GPIO2_31	69	70	GPIO3_0	**GPIO3_0**, GMII1_COL, RMII2_REFCLK, SPI1_SCLK, UART5_RXD, MCASP1_AXR2, MMC2_DAT3, MCASP0_AXR2
MMC0_DAT0, GPMC_A23, UART5_RTSN, UART3_TXD, UART1_RIN, PR1_PRU0_PRU_R30_11, PR1_PRU0_PRU_R31_11	GPIO2_29	71	72	GND	GND
MMC0_DAT1, GPMC_A22/UART5_CTSN, UART3_RXD, UART1_DTRN, PR1_PRU0_PRU_R30_10, PR1_PRU0_PRU_R31_10	GPIO2_28	73	74	**GPIO3_10**	GMII1_RXCLK, UART2_TXD, RGMII1_RCLK, MMC0_DAT6, MMC1_DAT1, UART1_DSRN, MCASP0_FSX
MMC0_DAT2, GPMC_A21, UART4_RTSN, TIMER6, UART1_DSRN, PR1_PRU0_PRU_R30_9, PR1_PRU0_PRU_R31_9	GPIO2_27	75	76	GPIO2_21	GMII1_RXD0, **RMII1_RXD0**, RGMII1_RD0, MCASP1_AHCLKX, MCASP1_AHCLKR, MCASP1_ACLKR, MCASP0_AXR3
MMC0_DAT3, GPMC_A20, UART4_CTSN, TIMER5, UART1_DCDN, PR1_PRU0_PRU_R30_8, PR1_PRU0_PRU_R31_8	GPIO2_26	77	78	GPIO2_20	GMII1_RXD1, **RMII1_RXD1**, RGMII1_RD1, MCASP1_AXR3, MCASP1_FSR, EQEP0_STROBE, MMC2_CLK
GND	GND	79	80	**GPIO2_19**	GMII1_RXD2, UART3_TXD, RGMII1_RD2, MMC0_DAT4, MMC1_DAT3, UART1_RIN, MCASP0_AXR1
		81	82	**GPIO2_18**	GMII1_RXD3, UART3_RXD, RGMII1_RD3, MMC0_DAT5, MMC1_DAT2, UART1_DTRN, MCASP0_AXR0
		83	84	GPIO3_2	GMII1_RXERR, **RMII1_RXERR**, SPI1_D1, I2C1_SCL/MCASP1_FSX, UART5_RTSN, UART2_TXD,GPIO3_2
ECAP0_IN_PWM0_OUT, UART3_TXD, SPI1_CS1, PR1_ECAP0_ECAP_CAPIN_APWM_O, SPI1_SCLK, MMC0_SDWP, XDMA_EVENT_INTR2, **GPIO0_7**	**GPIO0_7**	85	86	GPIO3_4	GMII1_RXDV, LCD_MEMORY_CLK, RGMII1_RCTL, UART5_TXD, MCASP1_ACLKX, MMC2_DAT0, MCASP0_ACLKR
GND	GND	87	88	GND	GND
NMI_N		89	90		
EXT_WAKEUP_N		91	92	GPIO0_1	**MDIO_CLK**, TIMER5, UART5_TXD, UART3_RTSN, MMC0_SDWP, MMC1_CLK, MMC2_CLK
GND	GND	93	94	GPIO0_0	**MDIO_DATA**, TIMER6, UART5_RXD, UART3_CTSN, MMC0_SDCD, MMC1_CMD, MMC2_CMD
		95	96	GND	GND
ETH_TXP(KSZ8081)		97	98		ETH_RXP(KSZ8081)
ETH_TXM(KSZ8081)		99	100		ETH_RXM(KSZ8081)

<J2 커넥터>

Function	GPIO_번호			GPIO_번호	Function
	VIN	1	2	GND	GND
	VIN	3	4	GPIO0_23	GPMC_AD9, **LCD_DATA22_G0**, MMC1_DAT1, MMC2_DAT5, EHRPWM2B, PR1_MII0_CRS
	VIN	5	6	GPIO1_12	GPMC_AD12, **LCD_DATA19_G1**, MMC1_DAT4, MMC2_DAT0, EQEP2A_IN, PR1_MII0_TXD2, PR1_PRU0_PRU_R30_14
	VIN	7	8	GPIO1_11	**LCD_DATA1_G2**, GPMC_A5, EQEP2B_IN, PR1_PRU1_PRU_R30_5, PR1_PRU1_PRU_R31_5
GND	GND	9	10	GPIO2_12	**LCD_DATA6_G3**, GPMC_A6, PR1_EDIO_DATA_IN6, EQEP2_INDEX, PR1_EDIO_DATA_OUT6, PR1_PRU1_PRU_R30_6, PR1_PRU1_PRU_R31_6
GND	GND	11	12	GPIO2_13	**LCD_DATA7_G4**, GPMC_A7, PR1_EDIO_DATA_IN7, EQEP2_STROBE, PR1_EDIO_DATA_OUT7, PR1_PRU1_PRU_R30_7, PR1_PRU1_PRU_R31_7
	VDD_3V3	13	14	GPIO2_14	**LCD_DATA8_G5**, GPMC_A12, EHRPWM1_TRIPZONE_INPUT, MCASP0_ACLKX, UART5_TXD, PR1_MII0_RXD3, UART2_CTSN
		15	16	GPIO2_15	**LCD_DATA9_G6**, GPMC_A13, EHRPWM1_SYNCI_O, MCASP0_FSX, UART5_RXD, PR1_MII0_RXD2, UART2_RTSN
GND	GND	17	18	GPIO2_16	**LCD_DATA10_G7**, GPMC_A14, EHRPWM1A, MCASP0_AXR0, PR1_MII0_RXD1, UART3_CTSN
	PORZ_N	19	20		GND
	GND	21	22	GPIO0_26	GPMC_AD10, **LCD_DATA21_R0**, MMC1_DAT2, MMC2_DAT6, EHRPWM2, TRIPZONE_INPUT, PR1_MII0_TXEN
		23	24	GPIO1_13	GPMC_AD13, **LCD_DATA18_R1**, MMC1_DAT5, MMC2_DAT1, EQEP2B_IN, PR1_MII0_TXD1, PR1_PRU0_PRU_R30_15
	GND	25	26	GPIO1_15	GPMC_AD15, **LCD_DATA16_R2**, MMC1_DAT7, MMC2_DAT3, EQEP2_STROBE, PR1_ECAP0_ECAP_CAPIN_APWM_O, PR1_PRU0_PRU_R31_15
GPMC_CLK, LCD_MEM_CLK, GPMC_WAIT1, MMC2_CLK, PRT1_MII1_TXEN, MCASP0_FSR, **GPIO2_1**	GPIO2_1	27	28	GPIO2_6	**LCD_DATA0_R3**, GPMC_A0, EHRPWM2A, PR1_PRU1_PRU_R30_0, PR1_PRU1_PRU_R31_0
GPMC_CSN0, **GPIO1_29**	GPIO1_29	29	30	GPIO2_7	**LCD_DATA1_R4**, GPMC_A1, EHRPWM2B, PR1_PRU1_PRU_R30_1, PR1_PRU1_PRU_R31_1
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**	GPIO1_30	31	32	GPIO2_8	**LCD_DATA2_R5**, GPMC_A2, EHRPWM2_TRIPZONE_INPUT, PR1_PRU1_PRU_R30_2, PR1_PRU1_PRU_R31_2
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**	GPIO1_31	33	34	GPIO2_9	**LCD_DATA3_R6**, GPMC_A3, EHRPWM2_SYNCI_O, PR1_PRU1_PRU_R30_3, PR1_PRU1_PRU_R31_3
GPMC_CSN3, MMC2_CMD, PR1_MDIO_DATA, **GPIO2_0**	GPIO2_0	35	36	GPIO2_10	**LCD_DATA4_R7**, GPMC_A4, EQEP2A_IN, PR1_PRU1_PRU_R30_4, PR1_PRU1_PRU_R31_4
GPMC_WEN, TIMER8, **GPIO2_4**	GPIO2_4	37	38	GND	GND
GPMC_OEN_REN, TIMER7, EMU4, **GPIO2_3**	GPIO2_3	39	40	GPIO0_22	GPMC_AD8, **LCD_DATA23_B0**, MMC1_DAT0, MMC2_DAT4, EHRPWM2A, PR1_MII_MT0_CLK
GPMC_ADVN_ALE, TIMER4, **GPIO2_2**	GPIO2_2	41	42	GPIO0_27	GPMC_AD11, LCD_DATA20_B1, MMC1_DAT3, MMC2_DAT7, EHRPWM2_SYNCI_O, PR1_MII0_TXD3
GPMC_BE0N_CLE, TIMER5, **GPIO2_5**	GPIO2_5	43	44	GPIO1_14	GPMC_AD14, **LCD_DATA17_B2**, MMC1_DAT6, MMC2_DAT2, EQEP2_INDEX, PR1_MII0_TXD0, PR1_PRU0_PRU_R31_14
GPMC_BE1N, GMII2_COL, GPMC_CSN6, MMC2_DAT3, GPMC_DIR, PR1_MII1_RXLINK, MCASP0_ACLKR, **GPIO1_28**	GPIO1_28	45	46	GPIO2_17	**LCD_DATA11_B3**, GPMC_A15, EHRPWM1B, MCASP0_AHCLKR, MCASP0_AXR2, PR1_MII0_RXD0, UART3_RTSN
GPMC_WAIT0, GMII2_CRS, GPMC_CSN4, RMII2_CRS_DV, MMC1_SDCD, PR1_MII1_RXDV, UART4_RXD, **GPIO0_30**	GPIO0_30	47	48	GPIO0_8	**LCD_DATA12_B4**, GPMC_A16, EQEP1A_IN, MCASP0_ACLKR, MCASP0_AXR2, PR1_MII0_RXLINK, UART4_CTSN
GPMC_WPN, GMII2_RXERR, GPMC_CSN5, RMII2_RXERR, MMC2_SDCD, PR1_MDIO_MDCLK, UART4_TXD, **GPIO0_31**	GPIO0_31	49	50	GPIO0_9	**LCD_DATA13_B5**, GPMC_A17, EQEP1B_IN, MCASP0_FSR, MCASP0_AXR3, PR1_MII0_RXER, UART4_RTSN
GND	GND	51	52	GPIO0_10	**LCD_DATA14_B6**, GPMC_A18, EQEP1_INDEX, MCASP0_AXR1, UART5_RXD, PR1_MII_MR0_CLK, UART5_CTSN
GPMC_AD0, MMC1_DAT0, **GPIO1_0**	GPIO1_0	53	54	GPIO0_11	**LCD_DATA15_B7**, GPMC_A19, EQEP1_STROBE, MCASP0_AHCLKX, MCASP0_AXR3, PR1_MII0_RXDV, UART5_RTSN
GPMC_AD1, MMC1_DAT1, **GPIO1_1**	GPIO1_1	55	56	GND	GND
GPMC_AD2, MMC1_DAT2, **GPIO1_2**	GPIO1_2	57	58	GPIO2_24	**LCD_PCLK**, GPMC_A10, PR1_EDIO_DATA_IN4, PR1_EDIO_DATA_OUT4, PR1_PRU1_PRU_R30_10, PR1_PRU1_PRU_R31_10
GPMC_AD3, MMC1_DAT3, **GPIO1_3**	GPIO1_3	59	60	GPIO2_23	**LCD_VSYNC**, GPMC_A8, PR1_EDIO_DATA_IN2, PR1_EDIO_DATA_OUT2, PR1_PRU1_PRU_R30_8, PR1_PRU1_PRU_R31_8
GPMC_AD4, MMC1_DAT4, **GPIO1_4**	GPIO1_4	61	62	GPIO2_22	**LCD_HSYNC**, GPMC_A9, PR1_EDIO_DATA_IN3, PR1_EDIO_DATA_OUT3, PR1_PRU1_PRU_R30_9, PR1_PRU1_PRU_R31_9
GPMC_AD5, MMC1_DAT5, **GPIO1_5**	GPIO1_5	63	64	GPIO2_25	**LCD_AC_BIAS_EN**, GPMC_A11, PR1_EDIO_DATA_IN5, PR1_EDIO_DATA_OUT5, PR1_PRU1_PRU_R30_11, PR1_PRU1_PRU_R31_11
GPMC_AD6, MMC1_DAT6, **GPIO1_6**	GPIO1_6	65	66	GND	GND
GPMC_AD7, MMC1_DAT7, **GPIO1_7**	GPIO1_7	67	68	GND	GND
GND	GND	69	70	USB0_DP	
GPMC_A0, GMII2_TXEN, RGMII2_TCTL, RMII2_TXEN, GPMC_A16, PR1_MII_MT1_CLK, EHRPWM1_TRIPZONE_INPUT, **GPIO1_16**	GPIO1_16	71	72	USB0_DM	
GPMC_A1, GMII2_RXDV, RGMII2_RCTL, MMC2_DAT0, GPMC_A17, PR1_MII1_TXD3, EHRPWM1_SYNCI_O, **GPIO1_17**	GPIO1_17	73	74	GND	
GPMC_A2, GMII2_TXD3, RGMII2_TD3, MMC2_DAT1, GPMC_A18, PR1_MII1_TXD2, EHRPWM1A, **GPIO1_18**	GPIO1_18	75	76	USB0_CE	
GPMC_A3, GMII2_TXD2, RGMII2_TD2, MMC2_DAT2, GPMC_A19, PR1_MII1_TXD1, EHRPWM1B, **GPIO1_19**	GPIO1_19	77	78	USB0_ID	
GPMC_A4, GMII2_TXD1, RGMII2_TD1, RMII2_TXD1, GPMC_A20, PR1_MII1_TXD0, EQEP1A_IN, **GPIO1_20**	GPIO1_20	79	80	GPIO0_18	**USB0_DRVVBUS**, GPIO0_18
GPMC_A5, GMII2_TXD0, RGMII2_TD0, RMII2_TXD0, GPMC_A21, PR1_MII1_RXD3, EQEP1B_IN, **GPIO1_21**	GPIO1_21	81	82	USB0_VBUS	
GPMC_A6, GMII2_TXCLK, RGMII2_TCLK, MMC2_DAT4, GPMC_A22, PR1_MII1_RXD2, EQEP1_INDEX, **GPIO1_22**	GPIO1_22	83	84	GND	GND
GPMC_A7, GMII2_RXCLK, RGMII2_RCLK, MMC2_DAT5, GPMC_A23, PR1_MII1_RXD1, EQEP1_STROBE, **GPIO1_23**	GPIO1_23	85	86	USB1_DP	
GPMC_A8, GMII2_RXD3, RGMII2_RD3, MMC2_DAT6, GPMC_A24, PR1_MII1_RXD0, MCASP0_ACLKX, **GPIO1_24**	GPIO1_24	87	88	USB1_DM	
GPMC_A9, GMII2_RXD2, RGMII2_RD2, MMC2_DAT7, GPMC_A25, PR1_MII_MR1_CLK, MCASP0_FSX, **GPIO1_25**	GPIO1_25	89	90	GND	
GPMC_A10, GMII2_RXD1, RGMII2_RD1, RMII2_RXD1, GPMC_A26, PR1_MII1_CRS, MCASP0_AXR0, **GPIO1_26**	GPIO1_26	91	92	USB1_CE	
GPMC_A11, GMII2_RXD0, RGMII2_RD0, RMII2_RXD0, GPMC_A27, PR1_MII1_RXER, MCASP0_AXR1, **GPIO1_27**	GPIO1_27	93	94	USB1_ID	
GND	GND	95	96	GPIO3_13	**USB1_DRVVBUS**, GPIO3_13
NAND_WAIT		97	98	USB1_VBUS	
		99	100	GND	GND