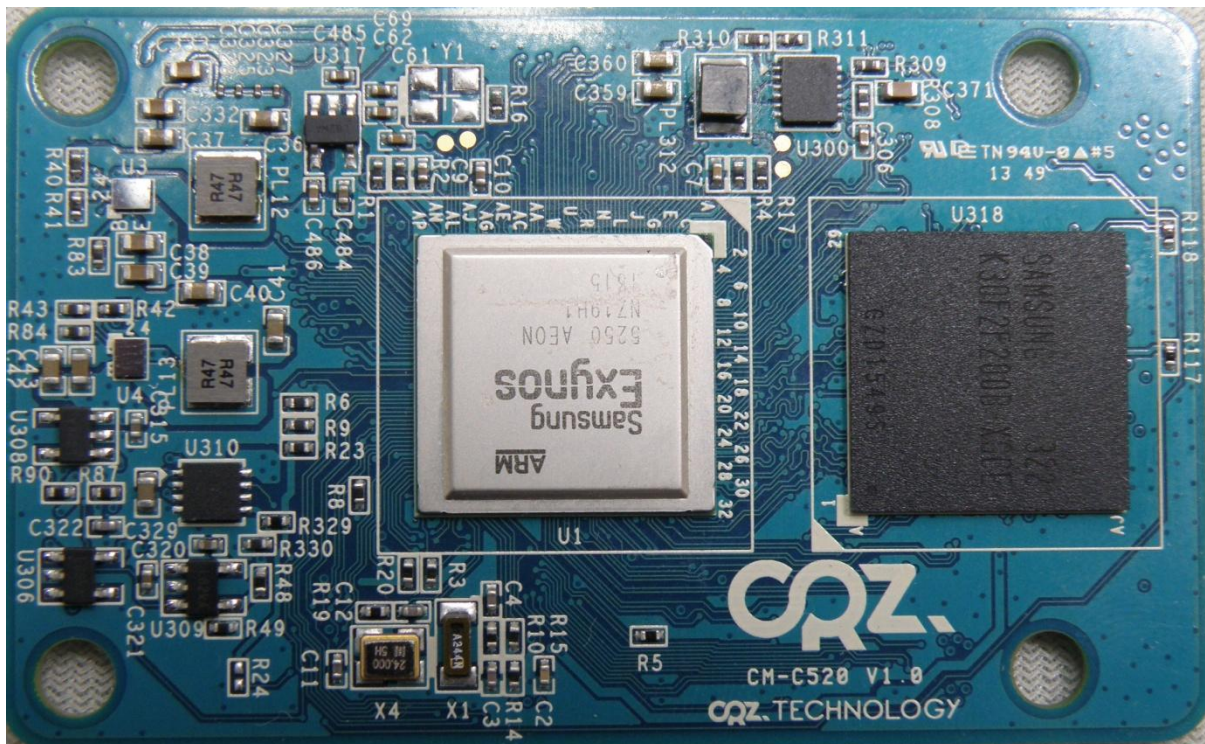


## 제품소개

### 삼성 1.7GHz 고성능 Cortex-A15 Application Processor 탑재 개발 보드

- Samsung Exynos 5250 S5PC520 (Cortex-A15 Dual Core Application Processor) Development Board
- LPDDR3 RAM 2Gbyte 기본 탑재
- Android, Linux 지원
- USB Host 3.0, USB Device, 10/100 Mbps Ethernet, microSD socket, Audio Codec 기본 지원
- eMMC 4.5 지원
- WIFI/Bluetooth, 각종 Sensor (가속도, 자이로, 기압, 리모콘 등), Camera 인터페이스 확장 지원

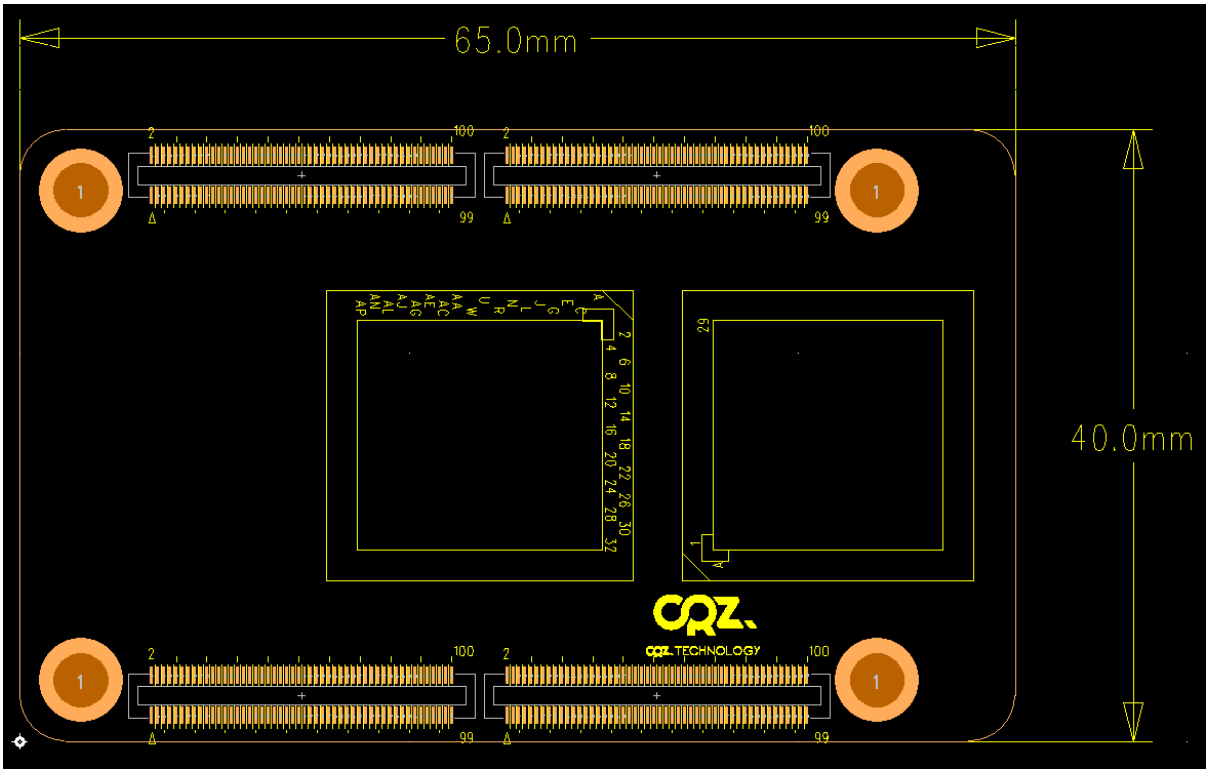


#### CPU Board

- Cortex-A15@1.7 GHz dual core subsystem with 64/128 bit SIMD NEON
- 32KB(instruction)/32KB(DATA)L1 Cache and 1MB L2 Cache
- 32bit 800 MHz LPDDR3 2GB

### CM-C520, CX-C520 Hardware Specification

< CM-C520 CPU Module >

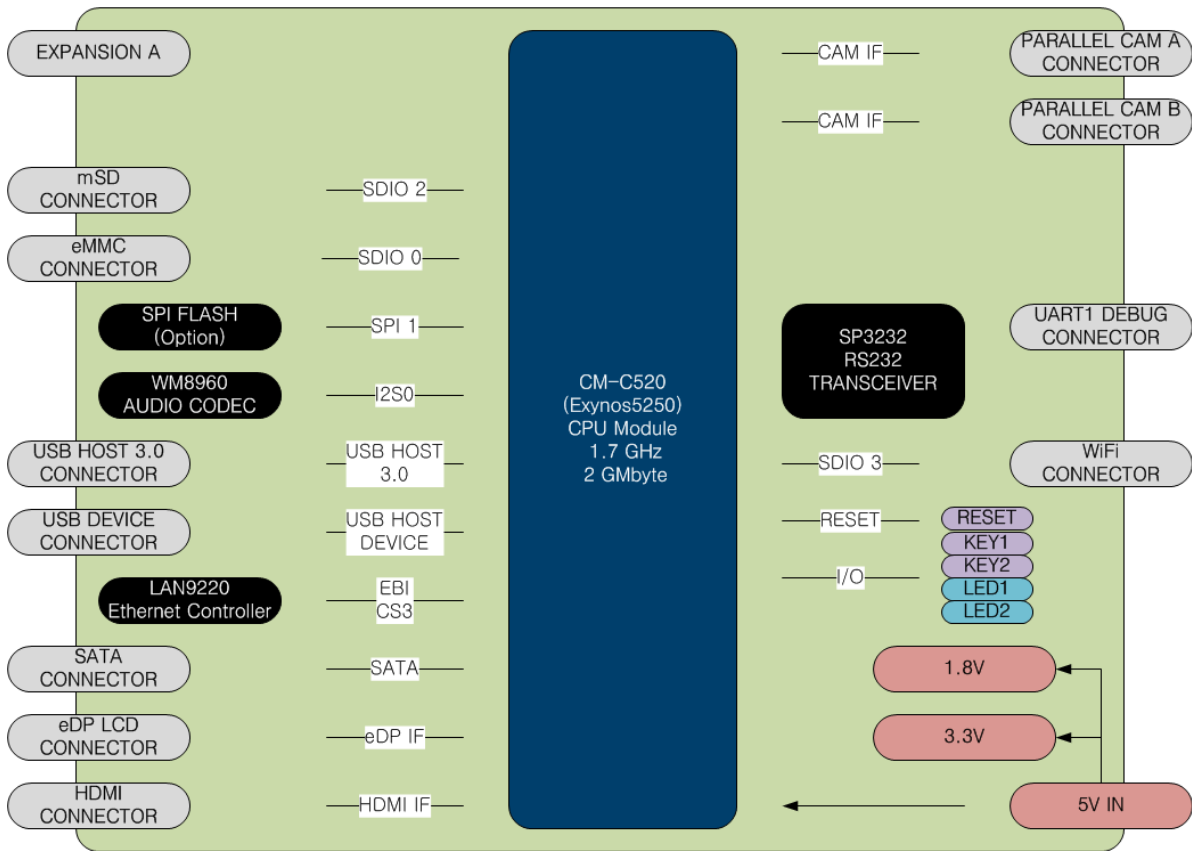






CPU	Samsung Exynos 5250 ARM Cortex A15	1.7GHz Application Processor
Memory	LPDDR3	2Gbytes

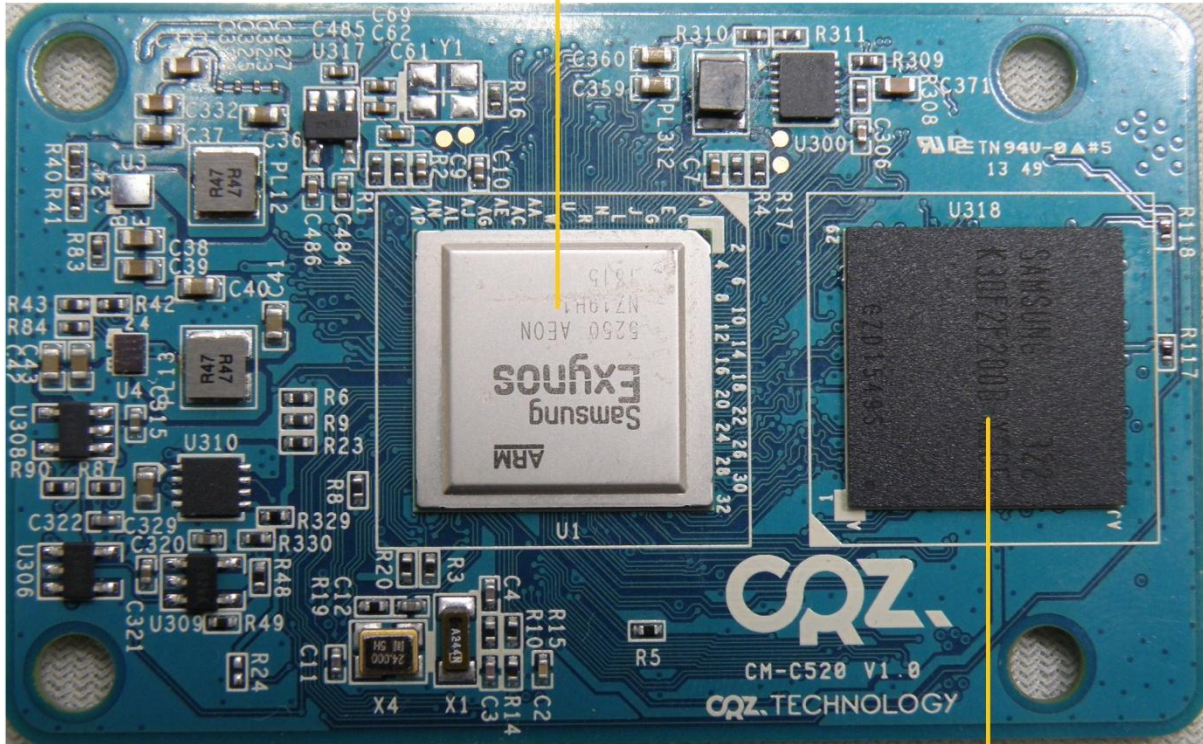
# Block Diagram



# Layout

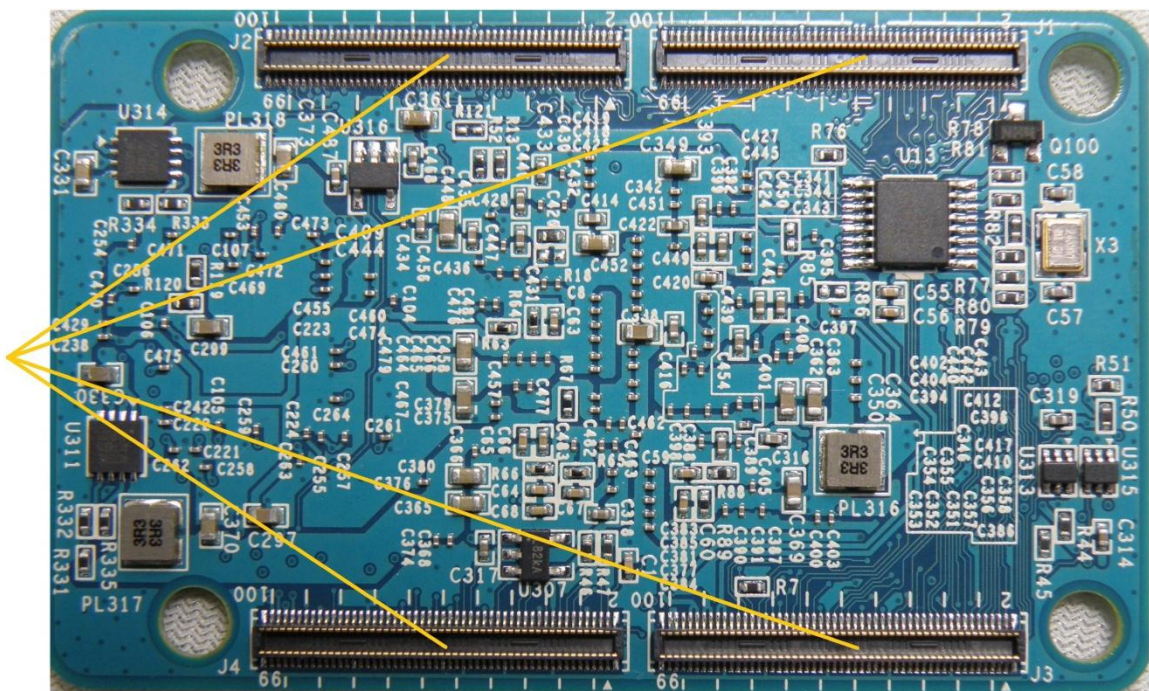
## < CM-C520 CPU Module >

Samsung Exynos 5250 ARM Cortex A15

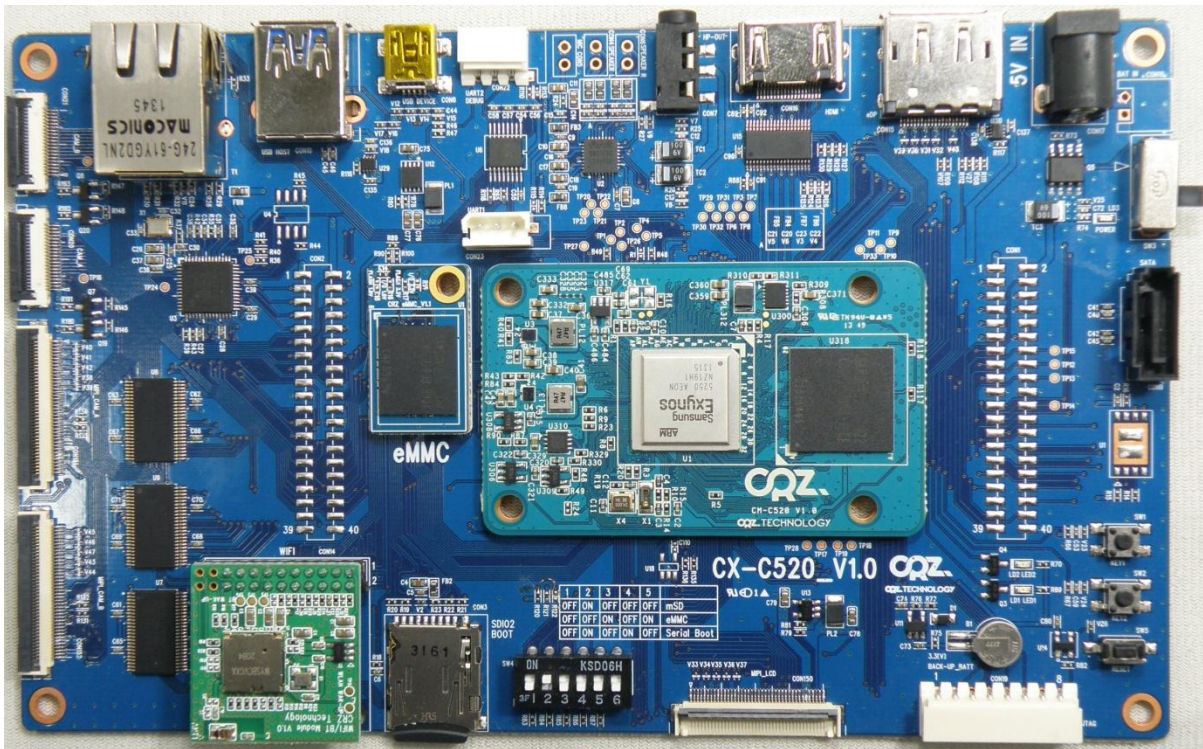


LPDDR3 Memory 2Gbytes

EXPANSION CONNECTOR X4



## Boot Mode



Boot Mode	1	2	3	4	5
SD/MMC	OFF	ON	OFF	OFF	OFF
eMMC	OFF	OFF	ON	OFF	ON
Serial Boot	OFF	ON	OFF	ON	OFF

< IROM Reference >

Table 5-3 OM Pin Setting

OM[5:1]	1 <sup>st</sup> Device	2 <sup>nd</sup> Device
5'b00000	Reserved	
5'b00001	Reserved	
5'b00010	SDMMC_CH2	USB
5'b00011	Reserved	
5'b00100	eMMC_CH0	USB
5'b00101	EF-NAND	USB
5'b00110 to 5'b01001	Reserved	
5'b01010	Serial Flash	USB
5'b01011 to 5'b10010	Reserved	
5'b10011	Reserved	
5'b10100	eMMC_CH0	SDMMC_CH2
5'b10101	EF-NAND	SDMMC_CH2
5'b10110 to 5'b11001	Reserved	
5'b11010	Serial Flash	SDMMC_CH2
5'b11011 to 5'b11111	Reserved	

## Pin Map

CON1(J1)			
NO	PIN EXPLAIN	NO	PIN EXPLAIN
1	XMMC0_CLK	2	XMMC1_CLK
3	XMMC0_CMD	4	XMMC1_CMD
5	XMMC0_CDN	6	XMMC1_CDN
7	XMMC0_DATA0	8	XMMC1_DATA0
9	XMMC0_DATA1	10	XMMC1_DATA1
11	XMMC0_DATA2	12	XMMC1_DATA2
13	XMMC0_DATA3	14	XMMC1_DATA3
15	XMMC0_DATA4	16	GND
17	XMMC0_DATA5	18	XMMC3_CLK
19	XMMC0_DATA6	20	XMMC3_CMD
21	XMMC0_DATA7	22	XMMC3_CDN
23	GND	24	XMMC3_DATA0
25	XMMC2_CLK	26	XMMC3_DATA1
27	XMMC2_CMD	28	XMMC3_DATA2
29	XMMC2_CDN	30	XMMC3_DATA3
31	XMMC2_DATA0	32	GND



33	XMMC2_DATA1	34	USB3_VBUS0
35	XMMC2_DATA2	36	GND
37	XMMC2_DATA3	38	USB3_TX0M
39	XHSICDATA1	40	USB3_TX0P
41	XHSICSTROBE1	42	GND
43	XHSICDATA2	44	USB3_RX0M
45	XHSICSTROBE2	46	USB3_RX0P
47	GND	48	GND
49	I2S0_SCLK	50	USB3_VBUS_CTRL_U3
51	I2S0_CDCLK	52	USB3_VBUS_CTRL_U2
53	I2S0_LRCLK	54	USB3_PRTOVRCUR_U3
55	I2S0_SDI	56	USB3_PRTOVRCUR_U2
57	I2S0_SDO_0	58	GND
59	I2S0_SDO_1	60	
61	I2S0_SDO_2	62	USB3_ID0
63	GND	64	GND
65	XCI1_PCLK	66	USBOTGVBUS
67	XCI1_RGB0	68	GND
69	XCI1_RGB1	70	USB3_DM0
71	XCI1_RGB2	72	USB3_DP0
73	XCI1_RGB3	74	GND
75	XCI1_RGB4	76	USBOTG_ID
77	XCI1_RGB5	78	GND
79	XCI1_RGB6	80	USBOTG_DRVBUS
81	XCI1_RGB7	82	USBHOST_PWREN
83	XCI1_RGB8	84	USBHOST_OVERCUR
85	XCI1_RGB9	86	USBHOST_DP
87	XCI1_RGB10	88	USBHOST_DM
89	XCI1_RGB11	90	GND
91	XCI1_RGB12	92	XSATA_TXN_CH0
93	XCI1_RGB13	94	XSATA_TXP_CH0
95	XCI1_VSYNC	96	GND
97	XCI1_HSYNC	98	XSATA_RXN_CH0
99	XCI1_MCLK	100	XSATA_RXP_CH0

CON2(J2)			
NO	PIN EXPLAIN	NO	PIN EXPLAIN
1	XMIPI1_MDP0	2	XMIPIO_SDP0
3	XMIPI1_MDNO	4	XMIPIO_SDN0
5	GND	6	GND
7	XMIPI1_MDP1	8	XMIPIO_SDP1
9	XMIPI1_MDN1	10	XMIPIO_SDN1
11	GND	12	GND
13	XMIPI1_MDPCLK	14	XMIPIO_SDPCLK
15	XMIPI1_MDNCLK	16	XMIPIO_SDNCLK
17	GND	18	GND
19	XMIPI1_MDP2	20	XMIPIO_SDP2
21	XMIPI1_MDN2	22	XMIPIO_SDN2
23	GND	24	GND
25	XMIPI1_MDP3	26	XMIPIO_SDP3
27	XMIPI1_MDN3	28	XMIPIO_SDN3
29	GND	30	GND
31	XMIPI1_SDP0	32	
33	XMIPI1_SDN0	34	
35	GND	36	
37	XMIPI1_SDP1	38	
39	XMIPI1_SDN1	40	XADC1_AIN0
41	GND	42	XADC1_AIN1
43	XMIPI1_SDPCLK	44	XADC1_AIN2
45	XMIPI1_SDNCLK	46	XADC1_AIN3
47	GND	48	GND
49	XMIPI1_SDP2	50	HDMI_TX2P
51	XMIPI1_SDN2	52	HDMI_TX2N
53	GND	54	GND
55	XMIPI1_SDP3	56	HDMI_TX1P
57	XMIPI1_SDN3	58	HDMI_TX1N
59	GND	60	GND
61	XADC0_AIN0	62	HDMI_TX0P
63	XADC0_AIN1	64	HDMI_TX0N
65	XADC0_AIN2	66	GND

67	XADC0_AIN3	68	HDMI_TXCP
69	XADC0_AIN4	70	HDMI_TXCN
71	XADC0_AIN5	72	GND
73	XADC0_AIN6	74	XDP_AUXN
75	XADC0_AIN7	76	XDP_AUXP
77	CAM0_PCLK	78	GND
79	CAM0_VSYNC	80	XDP_TX0N
81	CAM0_HREF	82	XDP_TX0P
83	CAM0_CLKENB	84	GND
85	CAM0_DATA0	86	XDP_TX1N
87	CAM0_DATA1	88	XDP_TX1P
89	CAM0_DATA2	90	GND
91	CAM0_DATA3	92	XDP_TX2N
93	CAM0_DATA4	94	XDP_TX2P
95	CAM0_DATA5	96	GND
97	CAM0_DATA6	98	XDP_TX3N
99	CAM0_DATA7	100	XDP_TX3P

CON3(J3)			
NO	PIN EXPLAIN	NO	PIN EXPLAIN
1	NF_CLE	2	EBI_CSN0
3	NF_ALE	4	EBI_CSN1
5	NF_RNB0	6	EBI_CSN2
7	NF_RNB1	8	EBI_CSN3
9	NF_RNB2	10	EBI_OEN
11	NF_RNB3	12	EBI_WEN
13	EBI_WAITN	14	EBI_BEN0
15	EBI_DATA_RDN	16	EBI_BEN1
17	GND	18	GND
19	EBI_DATA0	20	EBI_ADDR0
21	EBI_DATA1	22	EBI_ADDR1
23	EBI_DATA2	24	EBI_ADDR2
25	EBI_DATA3	26	EBI_ADDR3
27	EBI_DATA4	28	EBI_ADDR4
29	EBI_DATA5	30	EBI_ADDR5

31	EBI_DATA6	32	EBI_ADDR6
33	EBI_DATA7	34	EBI_ADDR7
35	GND	36	GND
37	EBI_DATA8	38	EBI_ADDR8
39	EBI_DATA9	40	EBI_ADDR9
41	EBI_DATA10	42	EBI_ADDR10
43	EBI_DATA11	44	EBI_ADDR11
45	EBI_DATA12	46	EBI_ADDR12
47	EBI_DATA13	48	EBI_ADDR13
49	EBI_DATA14	50	EBI_ADDR14
51	EBI_DATA15	52	EBI_ADDR15
53	GND	54	GND
55	SPI0_CLK	56	PWMOUT_0
57	SPI0_CSN	58	PWMOUT_1
59	SPI0_MISO	60	PWMOUT_2
61	SPI0_MOSI	62	PWMOUT_3
63	SPI1_CLK	64	OM1
65	SPI1_CSN	66	OM2
67	SPI1_MISO	68	OM3
69	SPI1_MOSI	70	OM4
71	GND	72	OM5
73	I2S1_SCLK	74	I2C0_SDA
75	I2S1_CDCLK	76	I2C0_SCL
77	I2S1_LRCLK	78	I2C1_SDA
79	I2S1_SDI	80	I2C1_SCL
81	I2S1_SDO	82	
83	GND	84	VDDQ_MMC01_AP
85	I2S2_SCLK	86	VDDQ_MMC01_AP
87	I2S2_CDCLK	88	VDDQ_MMC2_AP
89	I2S2_LRCLK	90	VDDQ_MMC2_AP
91	I2S2_SDI	92	VDDQ_MMC3_AP
93	I2S2_SDO	94	VDDQ_MMC3_AP
95	VDC_5V	96	
97	VDC_5V	98	GND
99	VDC_5V	100	GND

CON4(J4)			
NO	PIN EXPLAIN	NO	PIN EXPLAIN
1	UART0_RXD	2	XEINT31/HDMI_HPD
3	UART0_TXD	4	XEINT30/HDMI_CEC
5	UART0_CTSN	6	XEINT29
7	UART0_RTDN	8	XEINT28
9	UART1_RXD	10	XEINT27
11	UART1_TXD	12	XEINT26
13	UART1_CTSN	14	XEINT25
15	UART1_RTDN	16	XEINT24
17	GND	18	GND
19	UART2_RXD	20	XEINT23
21	UART2_TXD	22	XEINT22
23	UART2_CTSN	24	XEINT21
25	UART2_RTDN	26	XEINT20
27	UART3_RXD	28	XEINT19
29	UART3_TXD	30	XEINT18
31	GND	32	XEINT17
33	JTAG_RSTN	34	XEINT16
35	JTAG_TMS	36	GND
37	JTAG_TCK	38	XEINT15
39	JTAG_TDI	40	XEINT14
41	JTAG_TDO	42	XEINT13
43	GND	44	XEINT12
45		46	XEINT11
47		48	XEINT10
49		50	XEINT9
51		52	XEINT8
53		54	GND
55		56	XEINT7/DPO_HPD
57		58	XEINT6
59		60	XEINT5
61		62	XEINT4
63		64	XEINT3

65		66	XEINT2
67		68	XEINT1
69		70	XEINT0
71		72	GND
73		74	
75		76	
77	VDD_RTC_AP	78	
79		80	
81	VDDQ_CAM_AP	82	
83	VDDQ_CAM_AP	84	
85	CPU_RESETN	86	CLKOUT
87	CPU_WRESETN	88	RTCCLKOUT
89	XPSHOLD	90	CPU_RSTOUTN
91		92	
93	VDC_5V	94	VDC_5V
95	VDC_5V	96	VDC_5V
97	VDC_5V	98	VDC_5V
99	VDC_5V	100	VDC_5V

## Manual