CM-V210,CX-V210 Board

[S5PV210]

http://www.mangoboard.com/
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Crazy Embedded Laboratory

Document History

Revision	Date	Change note

목차

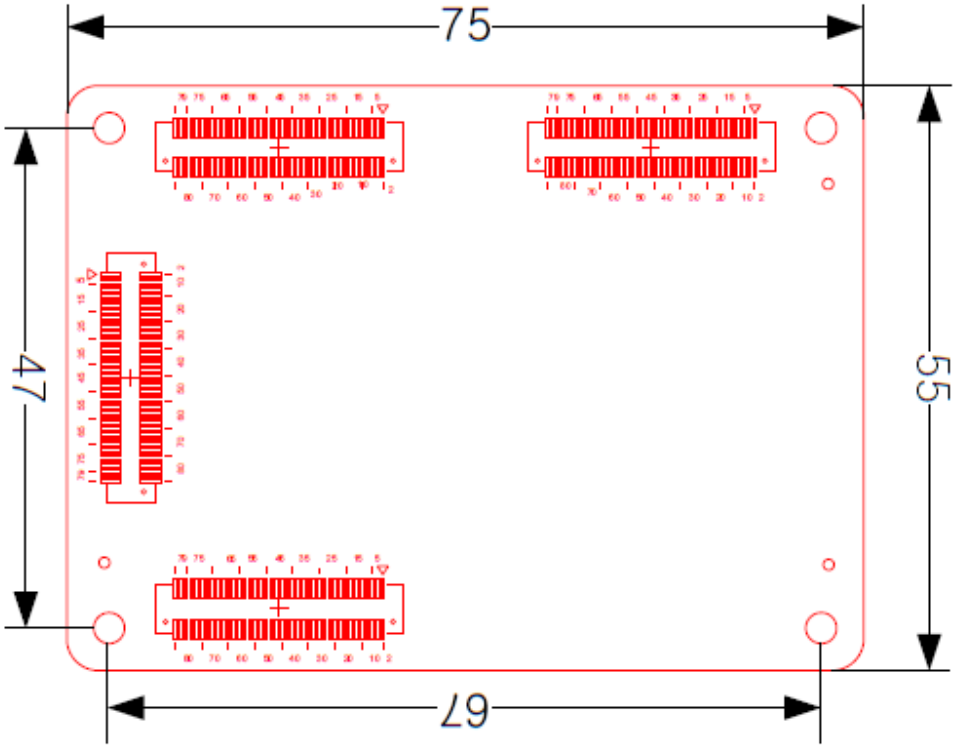
제품소개

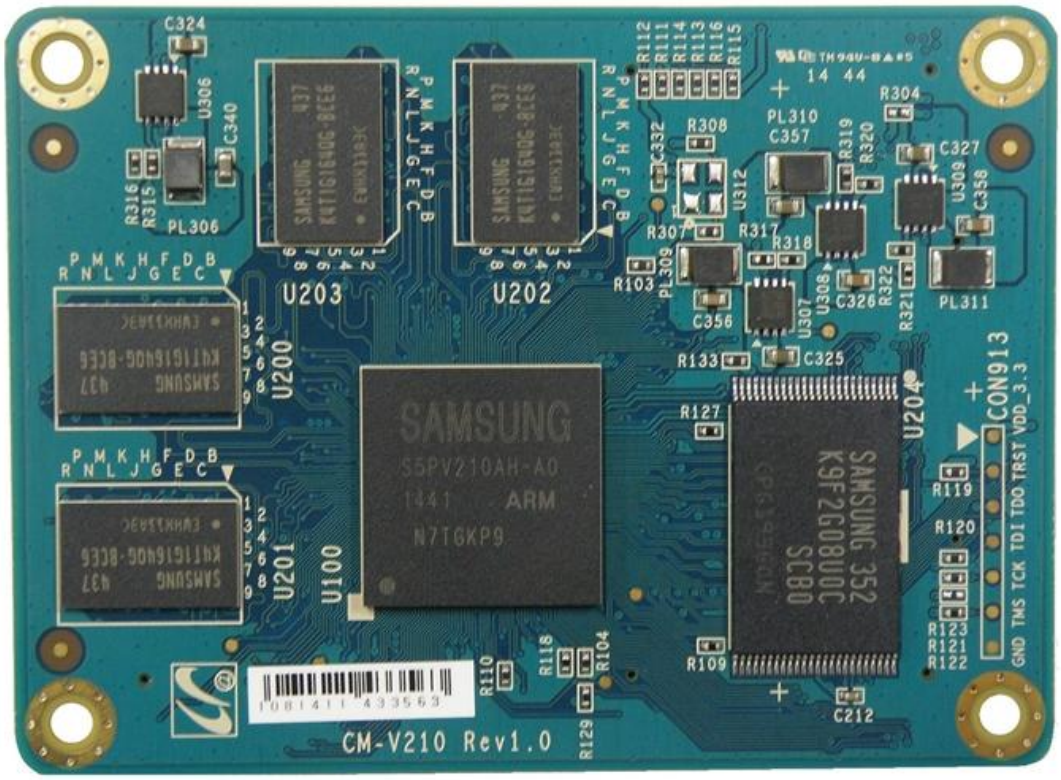
삼성 1GHz 고성능 Cortex-A8 Application Processor 탑재 개발 보드

- Samsung S5PV210 (Cortex-A8 Application Processor) Development Board
- DDR RAM 512Mbyte 기본 탑재
- Firmware,Wince 6.0, Android, Linux 지원
- USB Host, USB Device, 10/100 Mbps Ethernet, microSD socket, Audio Codec 기본 지원
- WIFI/Bluetooth, 각종 TFT LCD, 각종 Sensor (가속도, 자이로, 기압, 리모콘 등), Camera 인터페이스 확장 지원

CM-V210, CX-V210 Hardware Specification

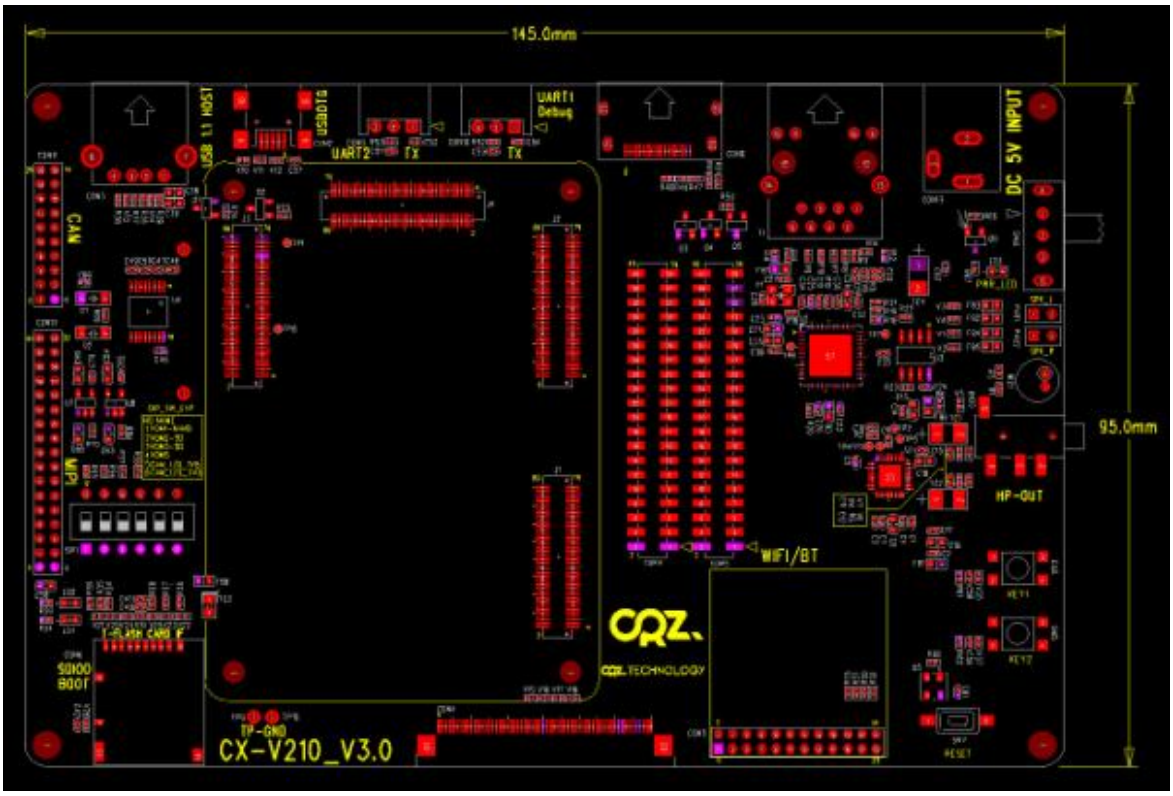
< CM-V210 CPU Module>

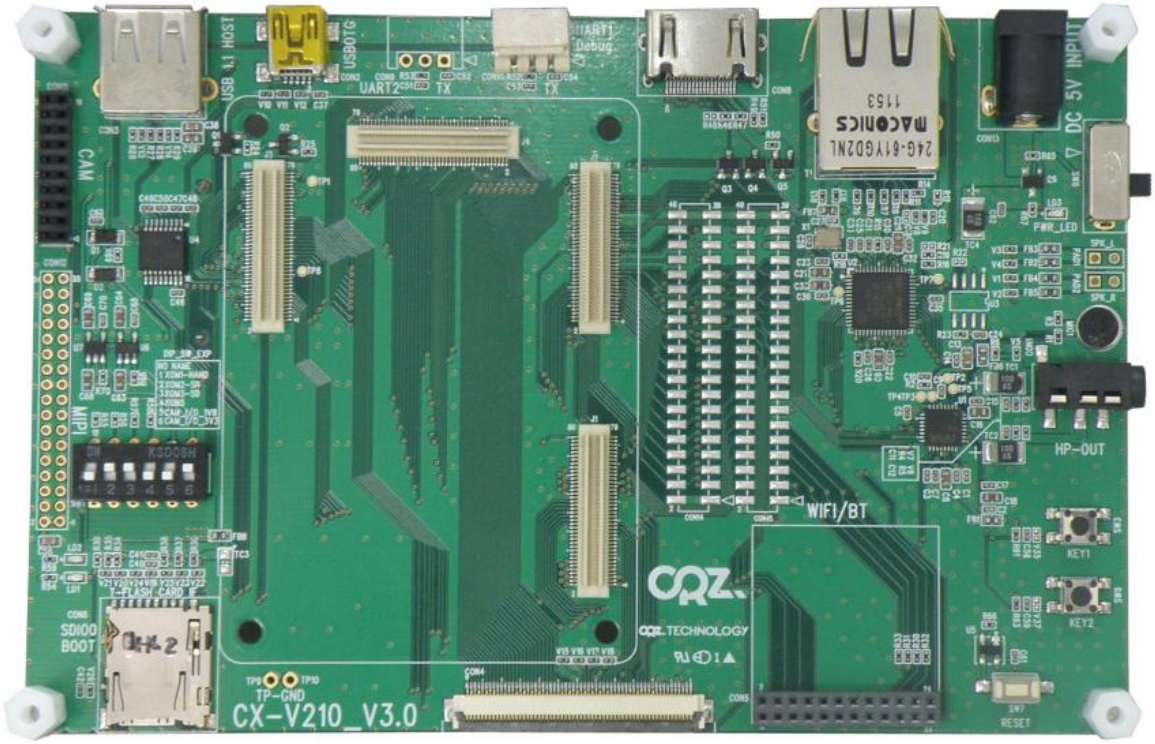




CPU	Samsung S5PV210 ARM Cortex A8	800MHz/1GHz Application Processor
Memory	Mobile DDR2	512Mbytes
Connectors	SLC NAND Flash	256Mbytes
	Expansion Connectors(80X4)	IrDA, Camera, I2S, SPI0/SPI1, SDIO0/2, EBI, UART, LCD,ETC

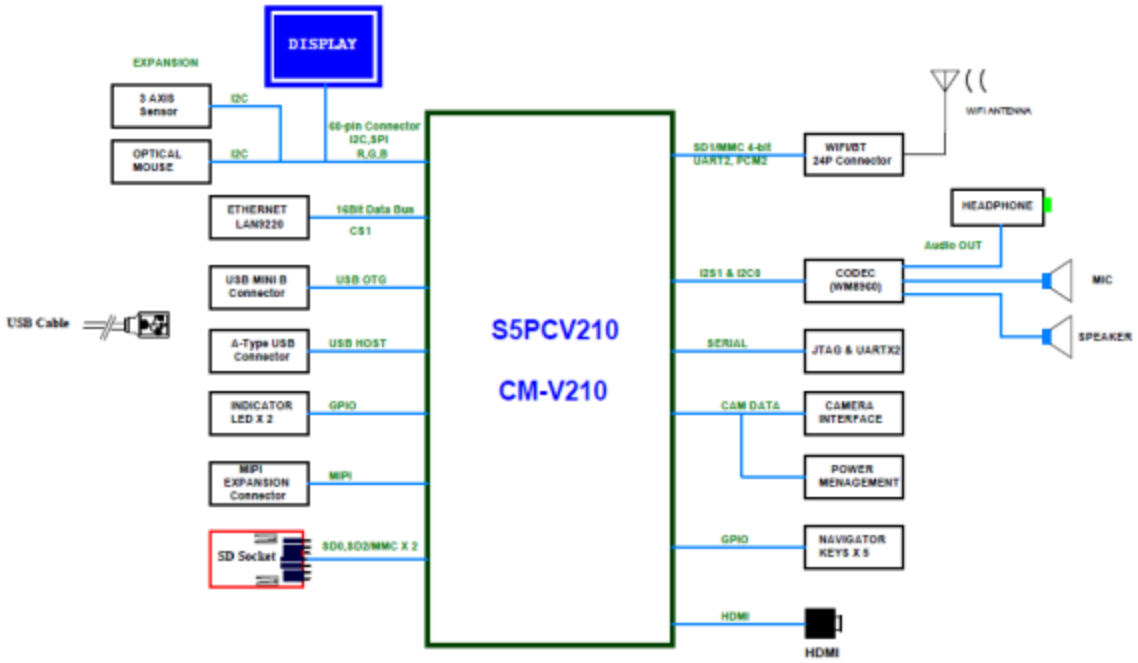
Expansion Board(CX-V210)





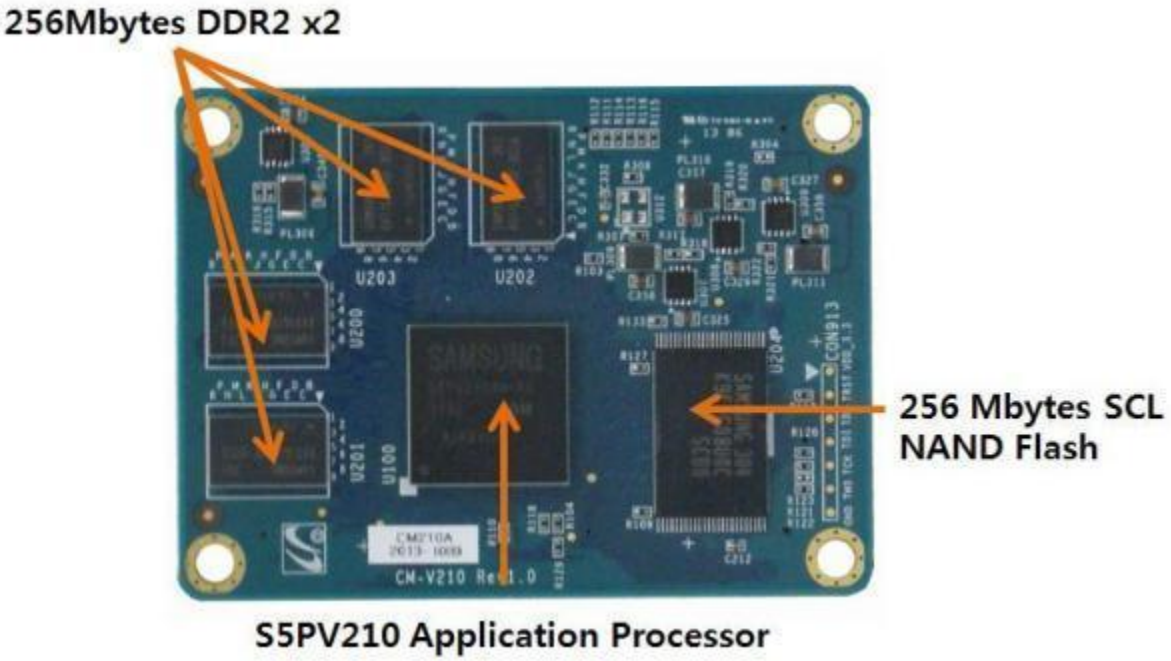
Block Diagram

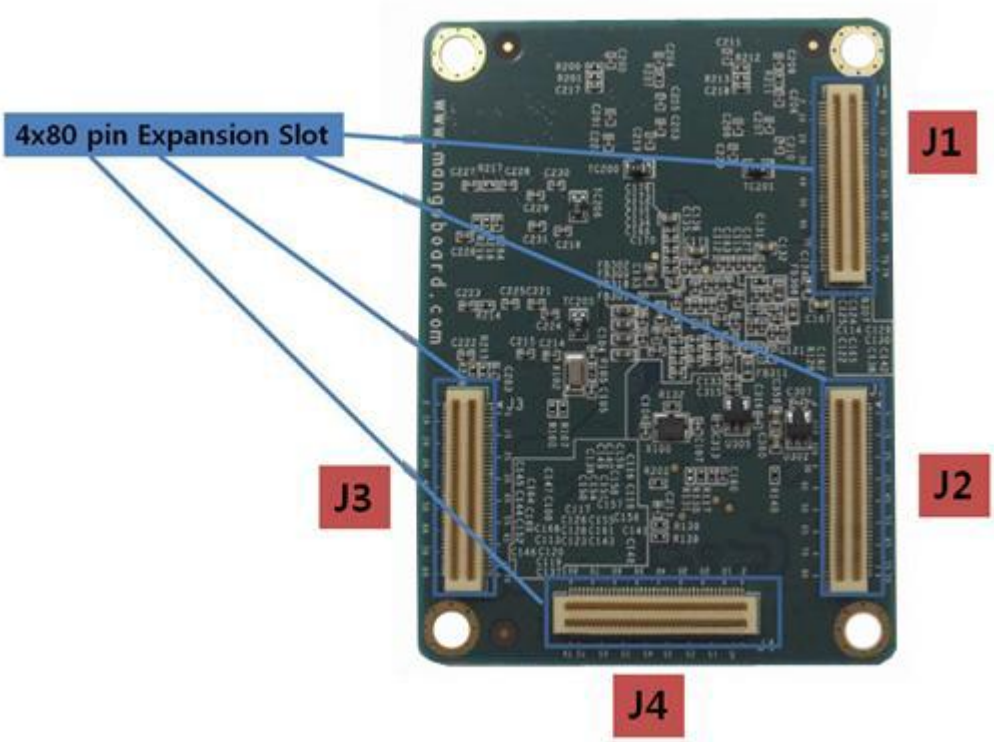
<CM V210 Base Board>



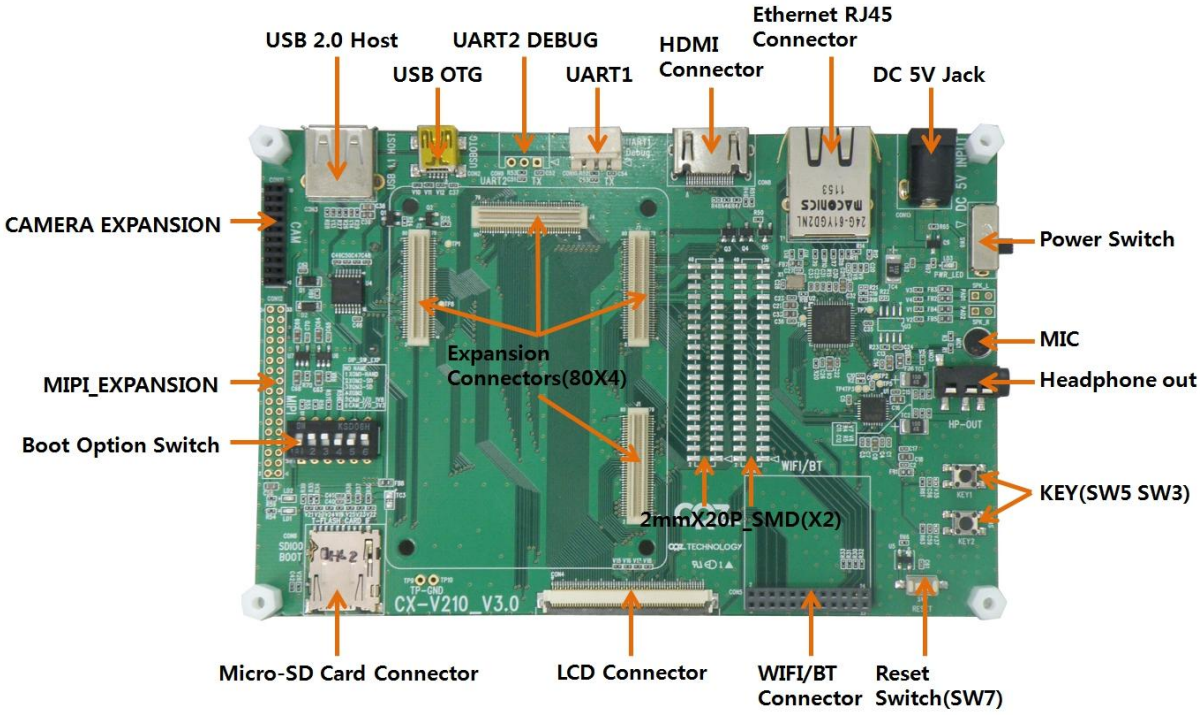
배치도

<CPU Module>



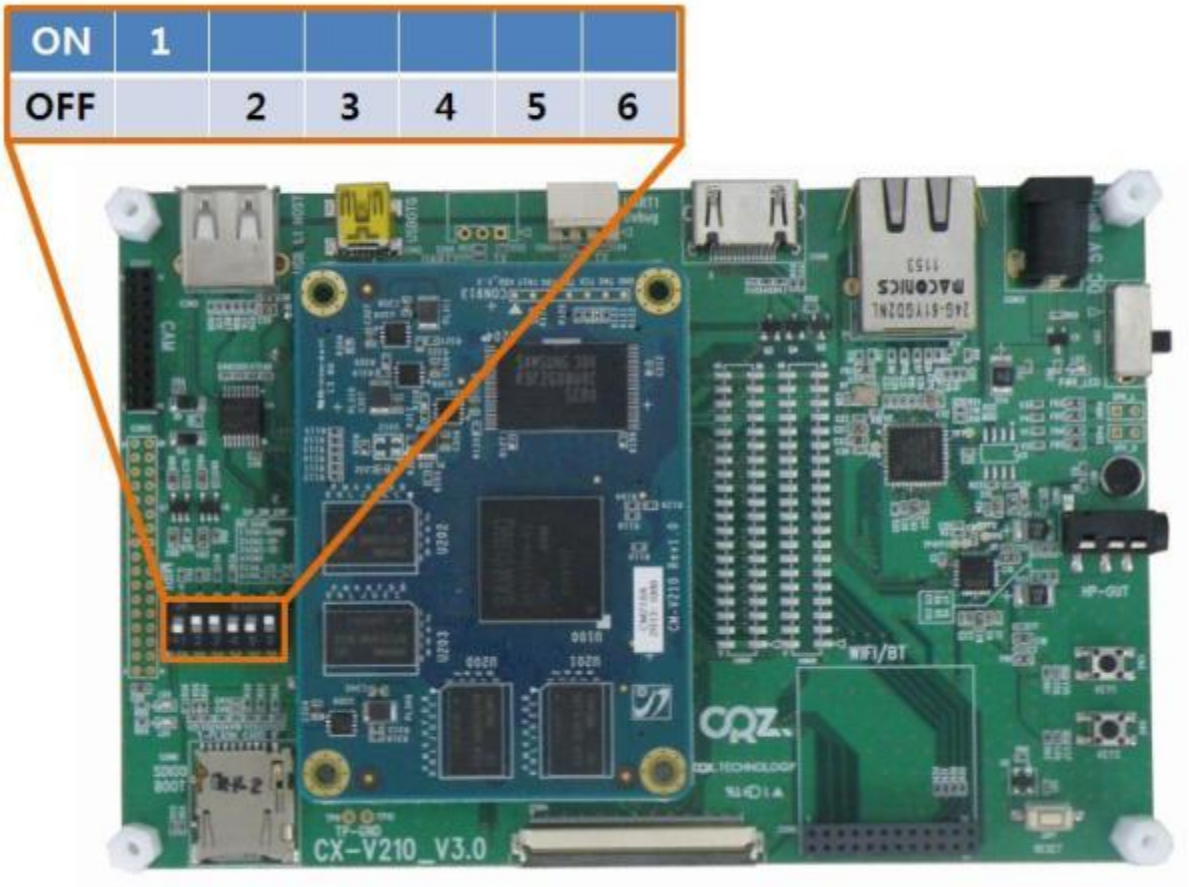


< Expansion Board>

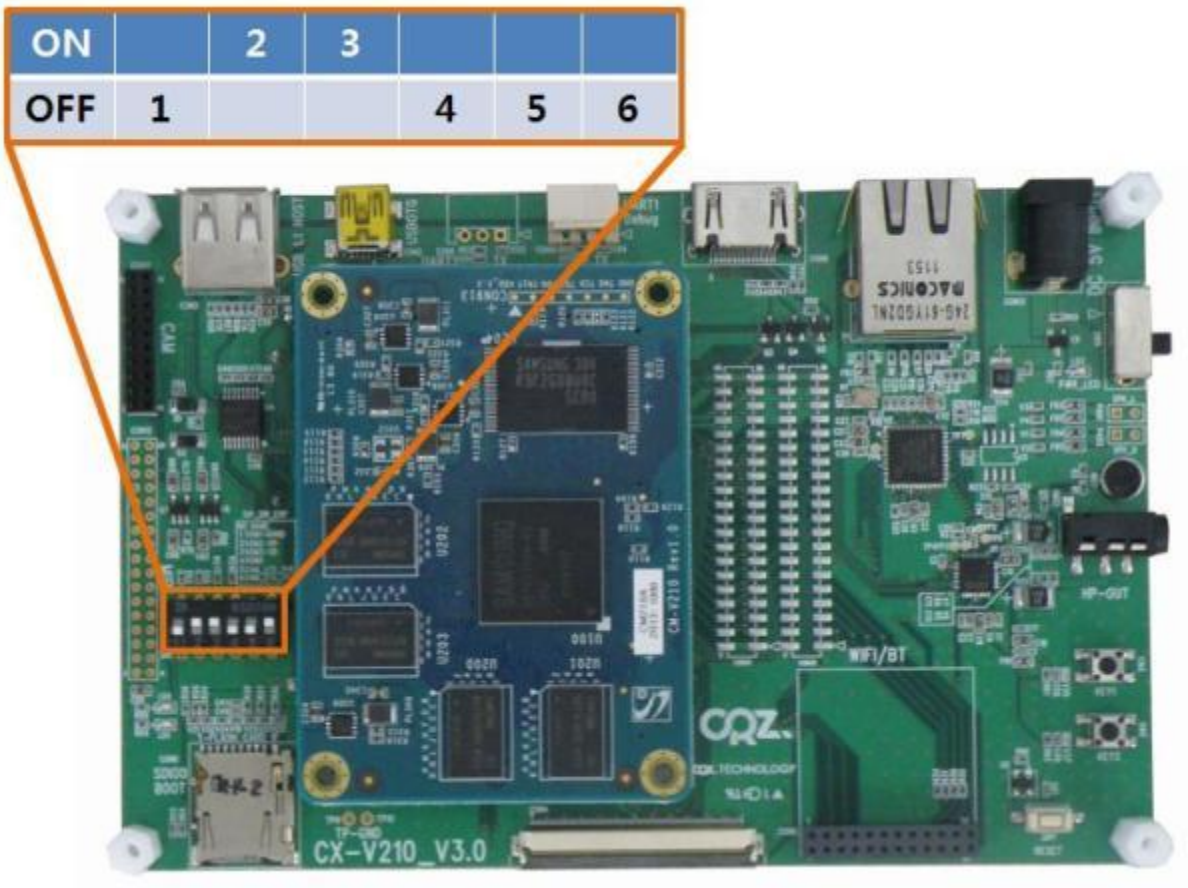

USB 2.0 Host
USB OTG
UART2 DEBUG
UART1
HDMI Connector
Ethernet RJ45 Connector
DC 5V Jack
CAMERA EXPANSION
Power Switch
MIC
Expansion Connectors(80X4)
MIPI_EXPANSION
Headphone out
Boot Option Switch
KEY(SW5 SW3)
2mmX20P_SMD(X2)
CX-V210_V3.0
Micro-SD Card Connector
LCD Connector
WIFI/BT Connector
Reset Switch(SW7)

BOOT MODE

NAND Boot Mode

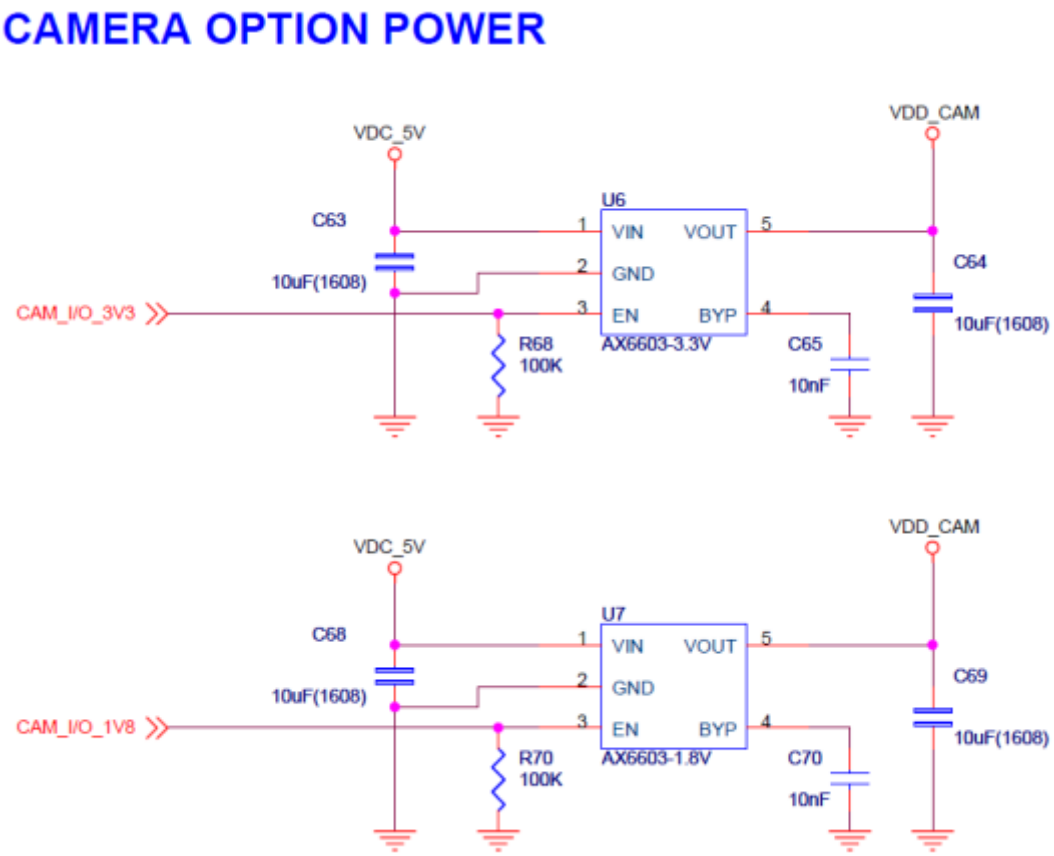


SD Boot Mode

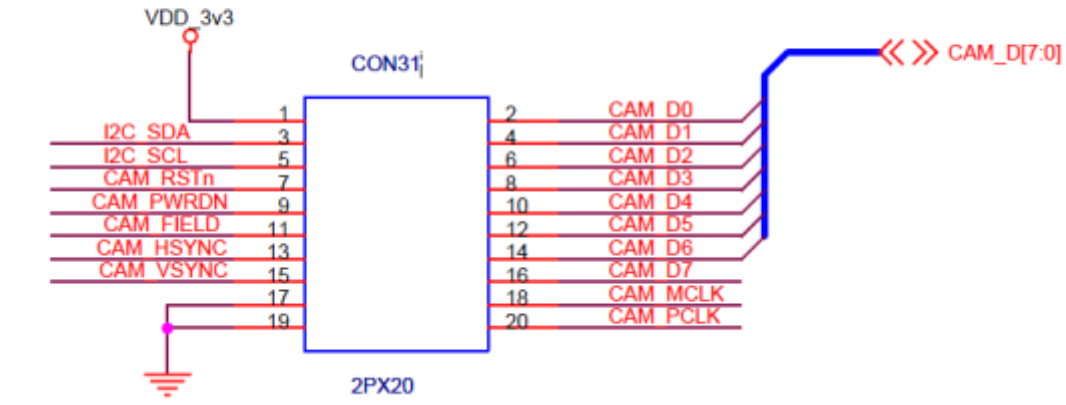


CAM (5,6)OM핀설정

CX-V210 OM핀5,6을 회로도로 살펴보면 다음과 같이 되어있다.



망고 1.3M, 5M CAM을 확인하면 아래와 같이 3V3을 쓰기 때문에 OM6핀을 ON해주면 됩니다.



CM-V210 PIN MAP

J1			
NO	PIN EXPLAIN	NO	PIN EXPLAIN

1	UART0_RXD	2	SDIO0_CLK
3	UART0_TXD	4	SDIO0_CMD
5	UART0_CTSn	6	SDIO0_CDn
7	UART0_RTSn	8	SDIO0_D0
9	UART1_RXD	10	SDIO0_D1
11	UART1_TXD	12	SDIO0_D2
13	UART1_CTSn	14	SDIO0_D3
15	UART1_RTSn	16	GND
17	GND	18	SDIO1_CLK
19	SPI0_MISO	20	SDIO1_CMD
21	SPI0_MOSI	22	SDIO1_D0
23	SPI0_CLK	24	SDIO1_D1
25	SPI0_CSn	26	SDIO1_D2
27	SPI1_MISO	28	SDIO1_D3
29	SPI1_MOSI	30	SDIO1_CDn
31	SPI1_CLK	32	GND
33	SPI1_CSn	34	SDIO3_CLK
35	GND	36	SDIO3_CMD
37	GPJ1_0	38	SDIO3_D0
39	GPJ1_1	40	SDIO3_D1
41	GPJ1_2	42	SDIO3_D2
43	GPJ1_3	44	SDIO3_D3
45	GPJ1_4	46	SDIO3_CDn
47	GPJ1_5	48	GND
49	GPJ1_6	50	SDIO2_CLK
51	GPJ1_7	52	SDIO2_CMD
53	GPJ1_0	54	SDIO2_D0
55	GPJ1_1	56	SDIO2_D1
57	GPJ1_2	58	SDIO2_D2
59	GPJ1_3	60	SDIO2_D3
61	GPJ1_4	62	SDIO2_CDn
63	GPJ1_5	64	GND
65	GPJ2_0	66	GPJ3_0
67	GPJ2_1	68	GPJ3_1
69	GPJ2_2	70	GPJ3_2

71	GPJ2_3	72	GPJ3_3
73	GPJ2_4	74	GPJ3_4
75	GPJ2_5	76	GPJ3_5
77	GPJ2_6	78	GPJ3_6
79	GPJ2_7	80	GPJ3_7

J2			
NO	PIN EXPLAIN	NO	PIN EXPLAIN
1	EBI_A1	2	EBI_D0
3	EBI_A2	4	EBI_D1
5	EBI_A3	6	EBI_D2
7	EBI_A4	8	EBI_D3
9	EBI_A5	10	EBI_D4
11	EBI_A6	12	EBI_D5
13	EBI_A7	14	EBI_D6
15	EBI_A8	16	EBI_D7
17	EBI_A9	18	EBI_D8
19	EBI_A10	20	EBI_D9
21	EBI_A11	22	EBI_D10
23	EBI_A12	24	EBI_D11
25	EBI_A13	26	EBI_D12
27	EBI_A14	28	EBI_D13
29	EBI_A15	30	EBI_D14
31	GND	32	EBI_D15
33	EBI_WAITn	34	GND
35	EBI_CSn5	36	EBI_CSn0
37	EBI_OEn	38	EBI_CSn1
39	EBI_WEn	40	EBI_CSn4
41	GND	42	EBI_BE0
43	I2S0_SCLK	44	EBI_BE1
45	I2S0_CDCLK	46	XM0DATA_RDn
47	I2S0_LRCK	48	GND
49	I2S0_SDI	50	HDMI_CN
51	I2S0_SD0_0	52	HDMI_CP
53	I2S0_SD0_1	54	GND

55	I2S0_SD0_2	56	HDMI_TXN0
57	GND	58	HDMI_TXP0
59	I2S1_SCLK	60	GND
61	I2S1_CDCLK	62	HDMI_TXN1
63	I2S1_LRCK	64	HDMI_TXP1
65	I2S1_SDI	66	GND
67	I2S1_SDO	68	HDMI_TXN2
69	GND	70	HDMI_TXP2
71	XPCM_SCLK	72	GND
73	XPCM_EXTCLK	74	XDAC_OUT
75	XPCM_FSYNC	76	GND
77	XPCM_SIN0	78	XpwmTOUT0
79	XPCM_SOUT0	80	XpwmTOUT1

J3			
NO	PIN EXPLAIN	NO	PIN EXPLAIN
1	GND	2	GND
3	XEINT0	4	I2C0_SCL
5	XEINT1	6	I2C0_SDA
7	XEINT2	8	I2C1_SCL
9	XEINT3	10	I2C1_SDA
11	XEINT4	12	I2C2_SCL
13	XEINT5	14	I2C2_SDA
15	XEINT6	16	GND
17	XEINT7	18	USBOTG_DRVVBUS
19	XEINT8	20	USBOTG_ID
21	XEINT9	22	GND
23	XEINT10	24	USBOTG_DP
25	XEINT11	26	USBOTG_DN
27	XEINT12	28	GND
29	XEINT13	30	USBOTG_VBUS
31	XEINT14	32	GND
33	XEINT15	34	USBH_DP
35	XEINT16	36	USBH_DN
37	XEINT17	38	GND

39	XEINT18	40	USBH_PWREN
41	XEINT19	42	GND
43	XEINT20	44	OVERCUR
45	XEINT21	46	UART2_RXD
47	XEINT22	48	UART2_TXD
49	XEINT23	50	UART3_RXD
51	XEINT24	52	UART3_TXD
53	XEINT25	54	GPJ4_0
55	XEINT26	56	GPJ4_1
57	XEINT27	58	GPJ4_2
59	XEINT28	60	GPJ4_3
61	XEINT29	62	GPJ4_4
63	XEINT30	64	CPU_RSTOUTn
65	XEINT31	66	KEY_RST
67	VDD_3v3(out)	68	CPU_RSTn
69	VDD_3v3(out)	70	XOM1
71	VDD_CAM(in)	72	XOM2
73	VDD_RTC(in)	74	XOM3
75	XRTCCLKO	76	XOM5
77	VDC_5V	78	VDC_5V
79	VDC_5V	80	VDC_5V

J4			
NO	PIN EXPLAIN	NO	PIN EXPLAIN
1	LCD_D23	2	MIPI_SDPCLK
3	LCD_D22	4	MIPI_SDNCLK
5	LCD_D21	6	GND
7	LCD_D20	8	MIPI_SDP0
9	LCD_D19	10	MIPI_SDN0
11	LCD_D18	12	GND
13	LCD_D17	14	MIPI_SDP1
15	LCD_D16	16	MIPI_SDN1
17	LCD_D15	18	GND
19	LCD_D14	20	MIPI_SDP2
21	LCD_D13	22	MIPI_SDN2

23	LCD_D12	24	GND
25	LCD_D11	26	MIPI_SDP3
27	LCD_D10	28	MIPI_SDN3
29	LCD_D9	30	GND
31	LCD_D8	32	MIPI_DPCLK
33	LCD_D7	34	MIPI_DNCLK
35	LCD_D6	36	GND
37	LCD_D5	38	MIPI_MDP0
39	LCD_D4	40	MIPI_MDN0
41	LCD_D3	42	GND
43	LCD_D2	44	MIPI_MDP1
45	LCD_D1	46	MIPI_MDN1
47	LCD_D0	48	GND
49	GND	50	MIPI_MDP2
51	LCD_VSYNC	52	MIPI_MDN2
53	LCD_HSYNC	54	GND
55	LCD_Den	56	MIPI_MDP3
57	LCD_VCLK	58	MIPI_MDN3
59	GND	60	GND
61	XADC_AIN2	62	XADC_AIN0
63	XADC_AIN3	64	XADC_AIN1
65	XADC_AIN4	66	CAM_D0
67	XADC_AIN5	68	CAM_D1
69	GND	70	CAM_D2
71	CAM_FIELD	72	CAM_D3
73	CAM_VSYNC	74	CAM_D4
75	CAM_HSYNC	76	CAM_D5
77	CAM_PCLK	78	CAM_D6
79	CAM_MCLK	80	CAM_D7