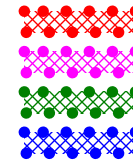


CONTENT INDEXING

- 01. INDEX
- 02. Change List
- 03. Block Diagram
- 04. Power Tree-RK818
- 05. RK3128 Power
- 06. RK3128 DDR Controller
- 07. RK3128 Flash/SD Controller
- 08. RK3128 MISC&USB
- 09. RK3128 DISPLAY/GMAC Controller
- 10. RK3128 CAMERA/HDMI Controller
- 11. RK3128 CODEC/VDAC
- 12. RK3128 GPIO
- 13. RAM-DDR3
- 14. Nand Flash/eMMC
- 15. Power-RK818
- 16. Connector

PCB POWER WIRE WIDTH INDICATE



No indicate

- above 80 miles
- above 50 miles
- above 30 miles
- above 16 miles
- Under needs

6 LAYERS PCB STACK

TOP		Hoz(18um) + plating copper(18um) 1080(68) 3.2mil
GND		0.3mm 1/1oz
S1		2116(53) 4.2mil
POWER		0.3mm 1/1oz
S2		1080(68) 3.2mil
BOTTOM		Hoz(18um) + plating copper(18um)



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Title: Index

File: FirePrime

REV:01


Create Date: Monday, June 01, 2015

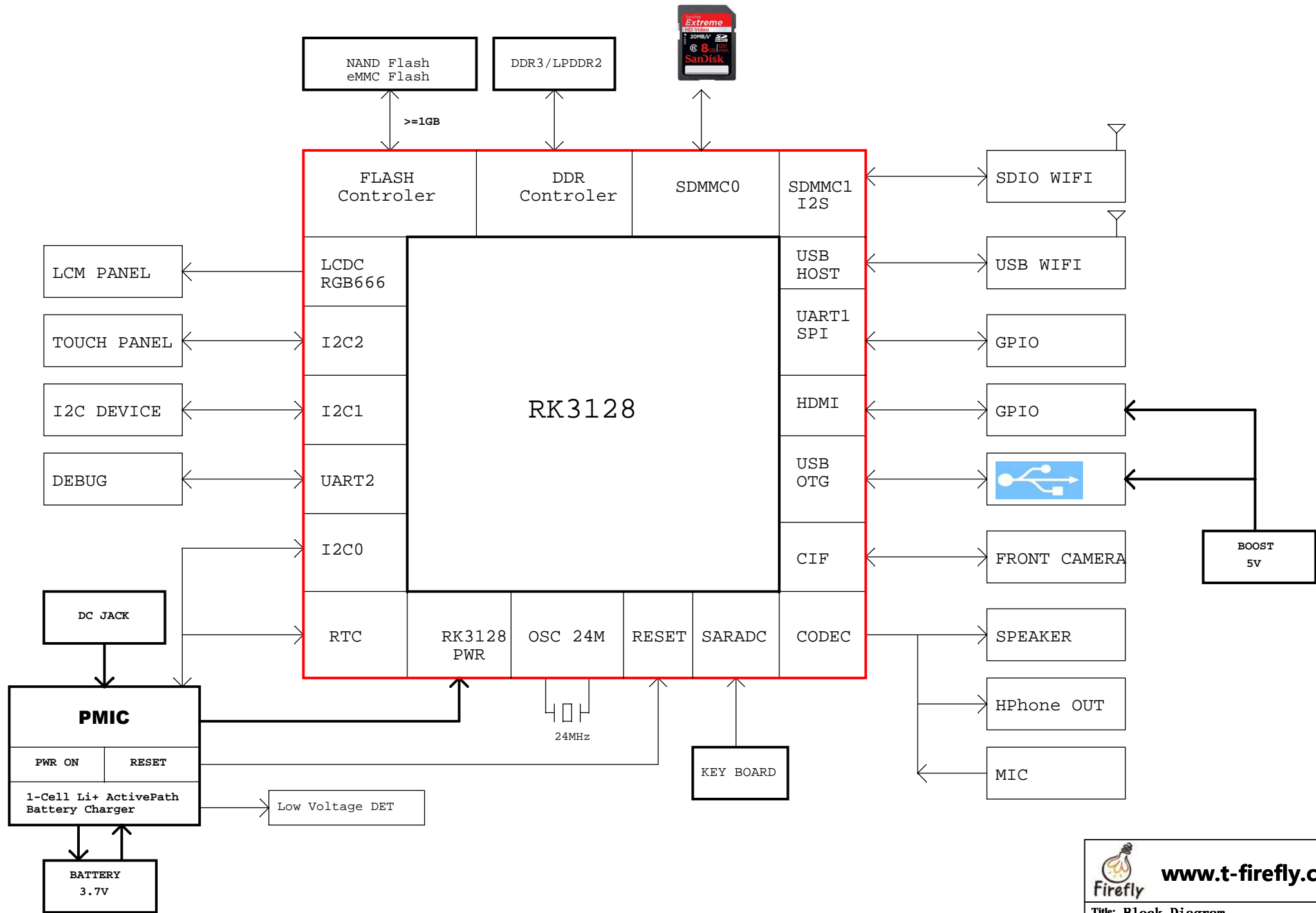
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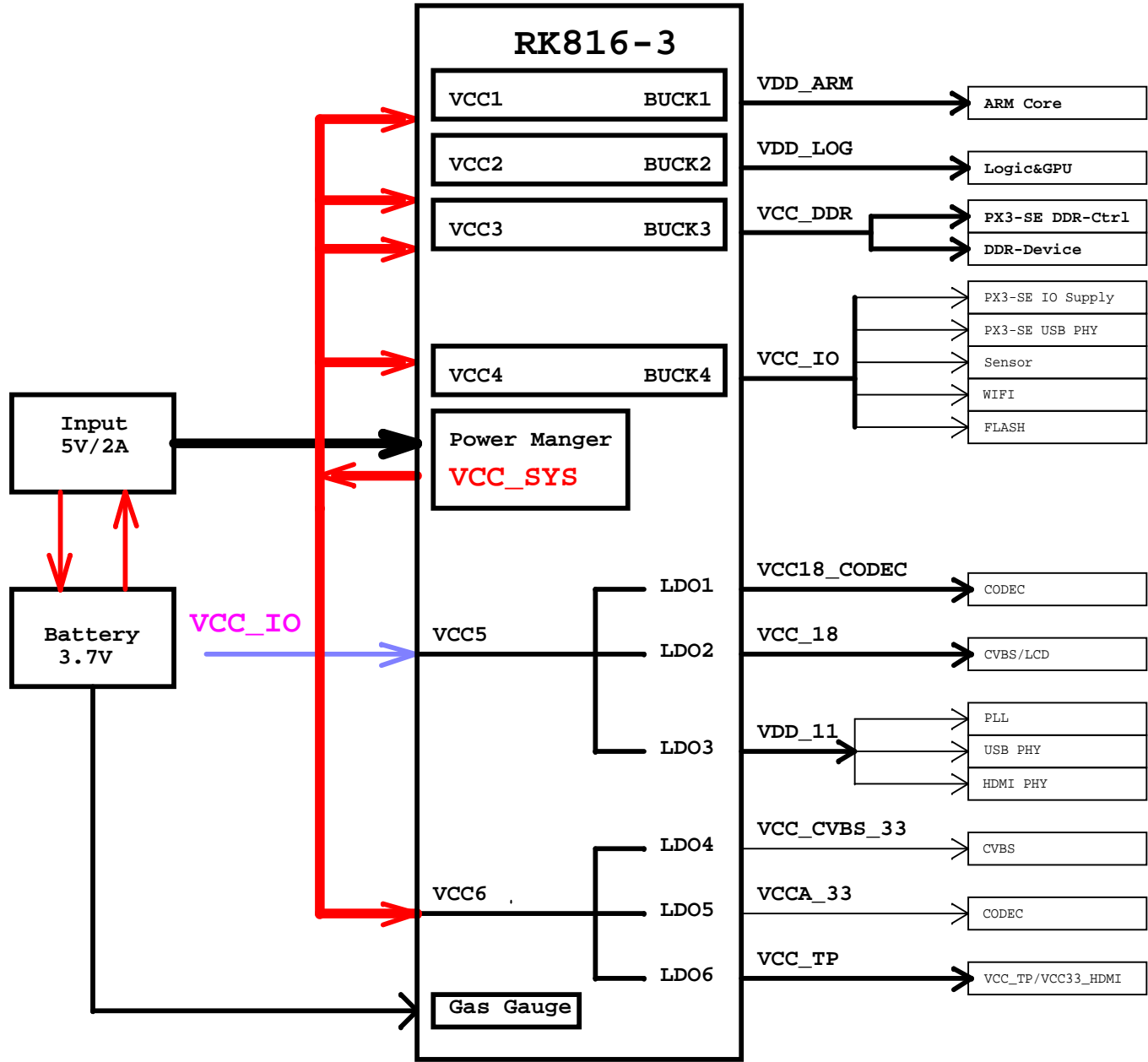
Page Total: 16

Version	Date	Author	Change Note	Note
V00	20151126	HWQ	The first edit	
V01	20160224	HWQ	The parts's position was changed.	

	www.t-firefly.com	
Title: Change List		
File: FirePrime	REV:01	
Create Date: Monday, June 01, 2015	Page Num: 2	
Modify Date: Wednesday, January 31, 2018	Page Total: 16	



POWER DIAGRAM



PMU Channel	TIMER (2ms)	Default ON/OFF	default voltage	PX3-SE
DCDC1	solt:2	ON	1.1V	VDD_ARM
DCDC2	solt:1	ON	1.1V	VDD_LOG
DCDC4	solt:1	ON	3.3V	VCC_IO/VCCIO_WL/VCC_S
DCDC3	solt:3	ON	DDR3 1.5V	VCC_DDR
			DDR3L 1.35V	
			LPDDR 1.245V	
VLD01	X	OFF		VCC18_CODEEC
VLD02	solt:1	ON	1.8V	VCC_18
VLD03	solt:1	ON	1.1V	VDD_11
VLD04	X	OFF	3.3V	VCC_CVBS_33
VLD05	solt:4	ON	3.3V	VCCA_33
VLD06	solt:4	ON	3.3V	VCC_TP
RESET	58ms	ON	OD	RESET

Rockchip
瑞芯微电子 Fuzhou Rockchip Electronics

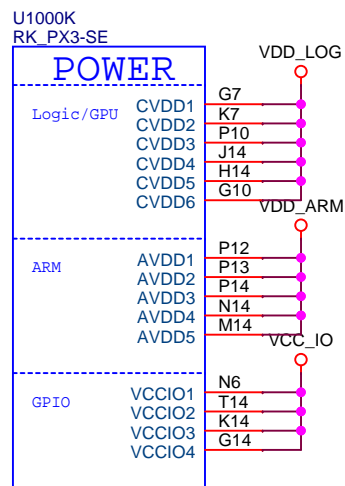
Project: SCHEMATIC1

File: Power Tree-RK816-3

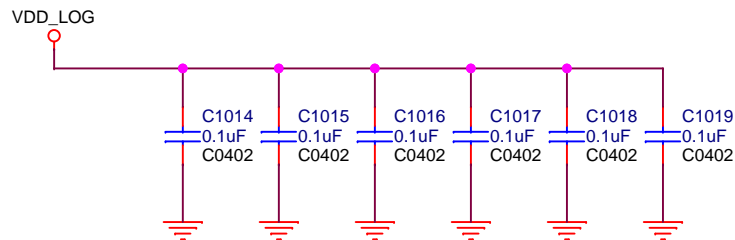
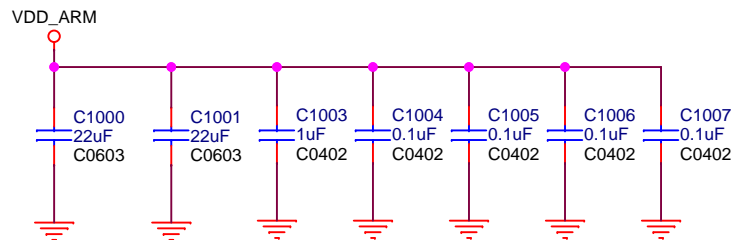
Date: Wednesday, January 31, 2018 Rev: V1.0

Designed by: ZHM Sheet: 4 of 16

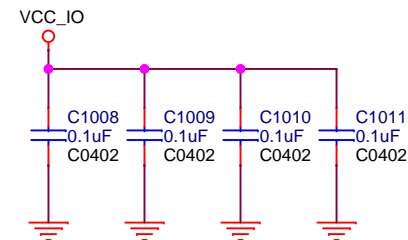
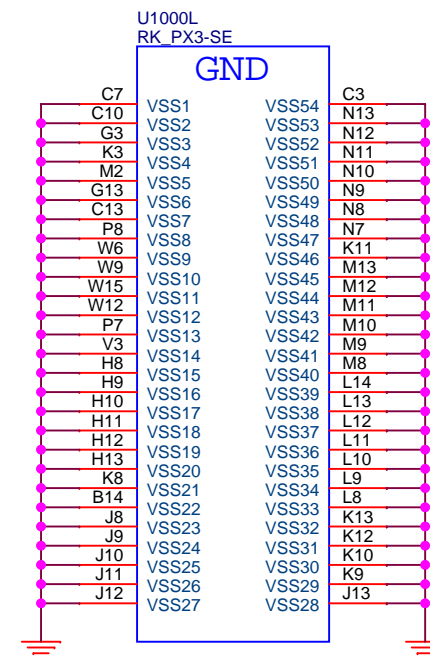

RK3128-K



Note:
Place these filter capacitors under CPU.



RK3128-L

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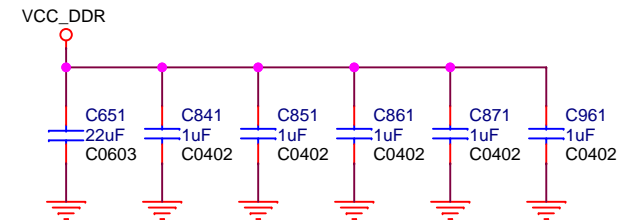
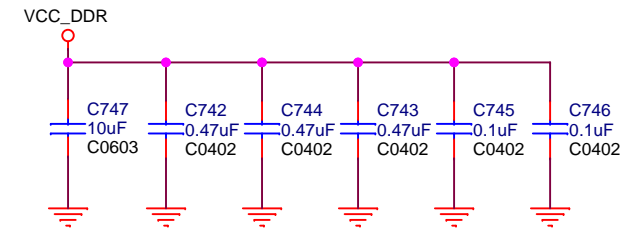
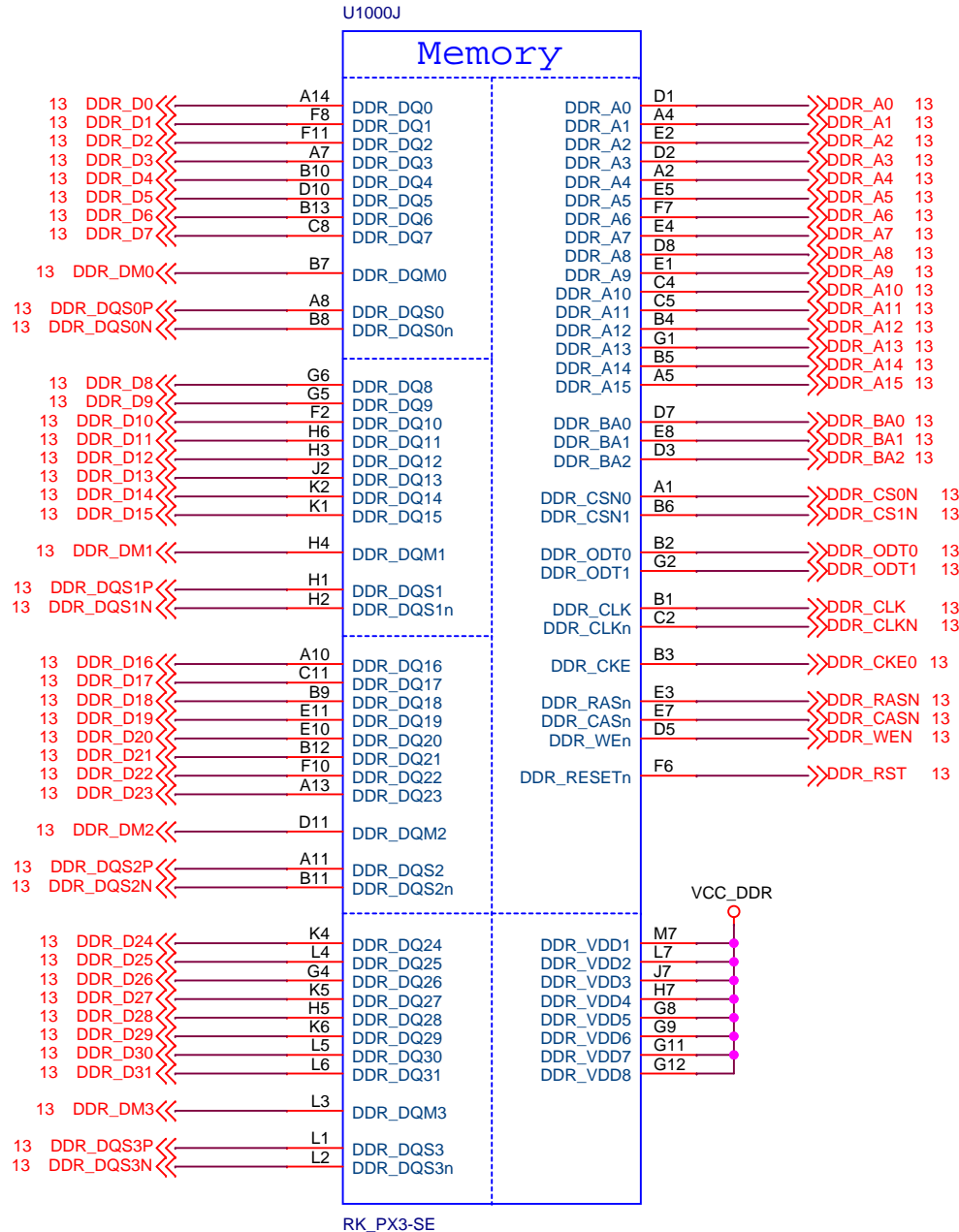
Title: RK3128 Power

File: FirePrime REV:01

Create Date: Monday, June 01, 2015 Page Num:5

Modify Date: Wednesday, January 31, 2018 Page Total: 16

RK3128-J



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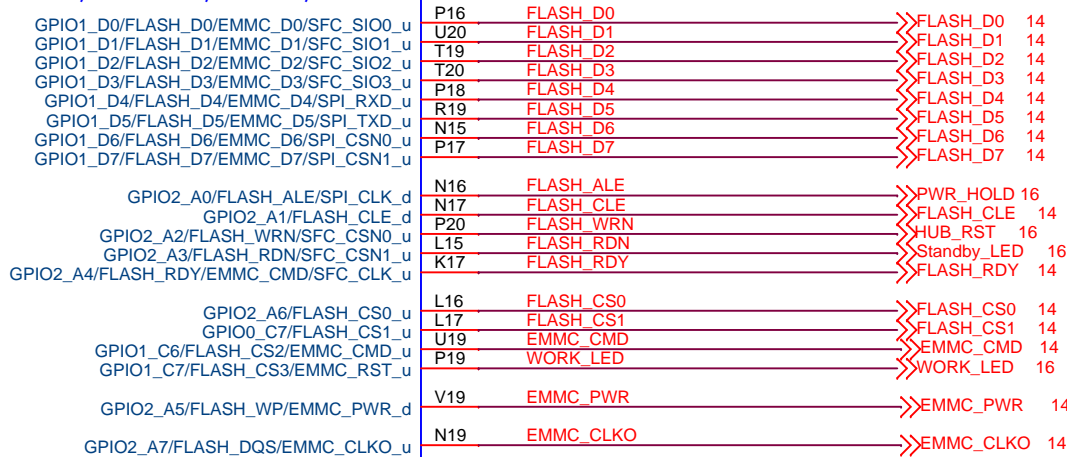
Title: RK3128 DDR Controller

File: FirePrime	REV:01
Create Date: Monday, June 01, 2015	Page Num: 6
Modify Date: Wednesday, January 31, 2018	Page Total: 16

RK3128-E

U1000E
RK_PX3-SE

Nand Flash/eMMC/SFC/SPI

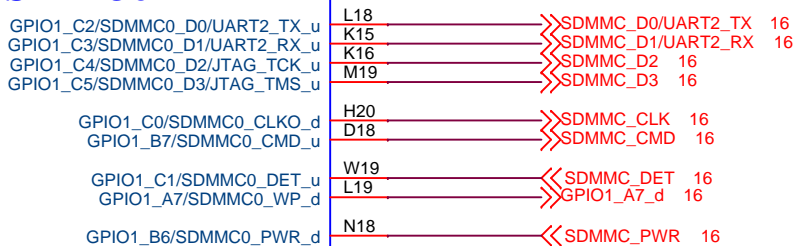



OPTION	1	2
NAND	NO	YES
EMMC	YES	NO

RK3128-D

U1000D
RK_PX3-SE

SDMMC0

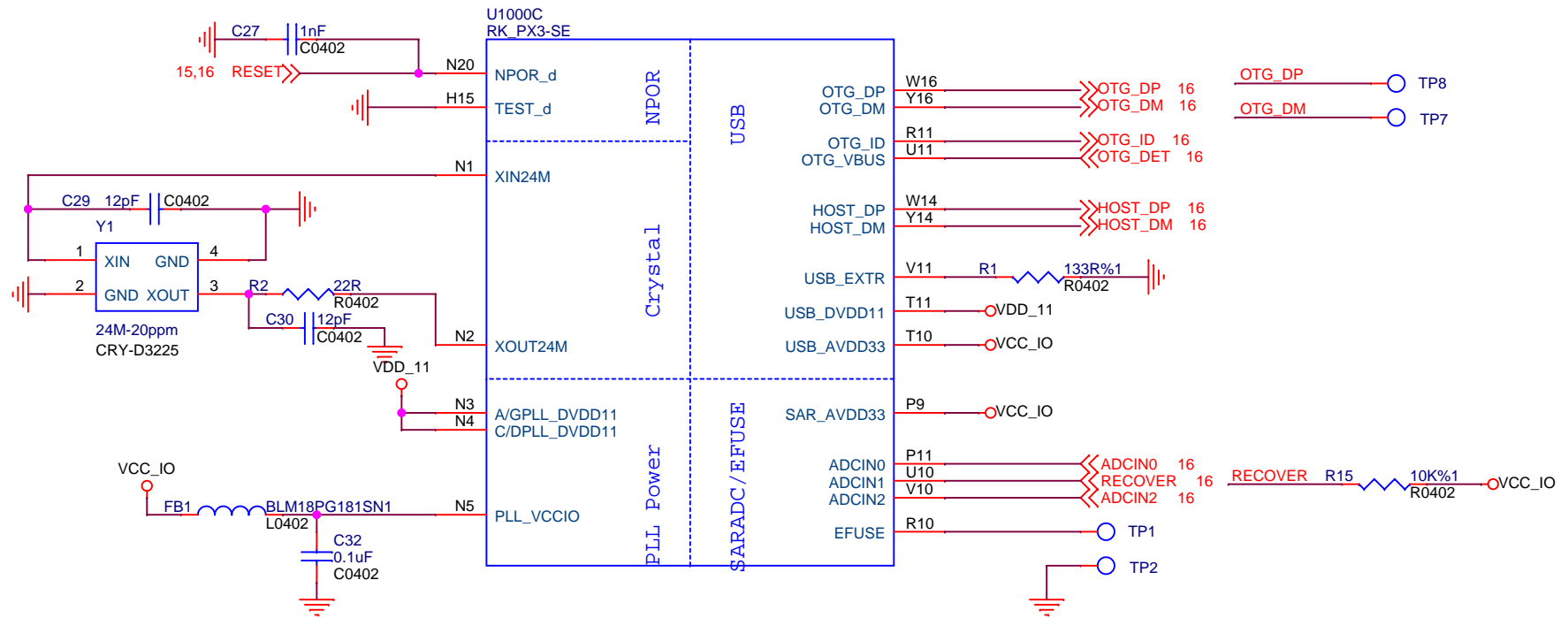




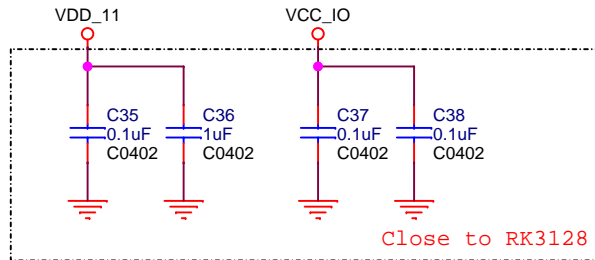
www.t-firefly.com

Title: RK3128 Flash/SD Controller	
File: FirePrime	REV:01
Create Date: Monday, June 01, 2015	Page Num:7
Modify Date: Wednesday, January 31, 2018	Page Total: 16

RK3128-C



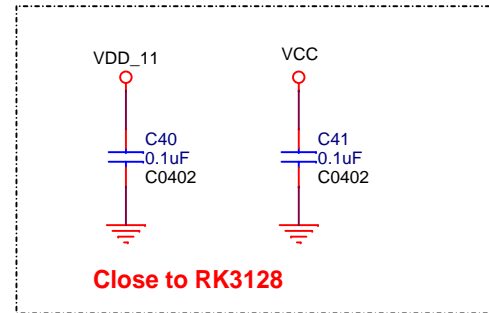
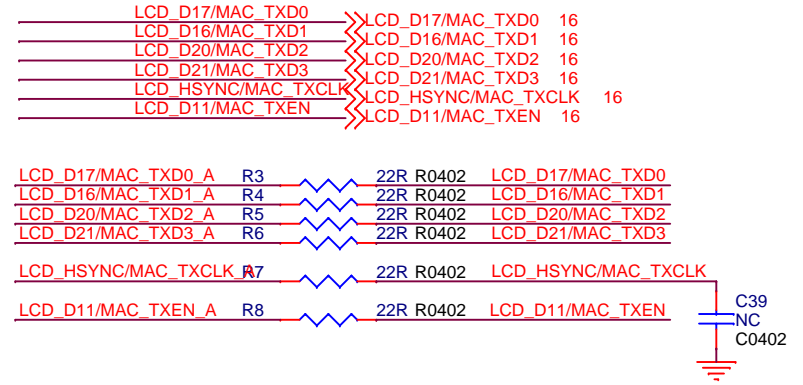
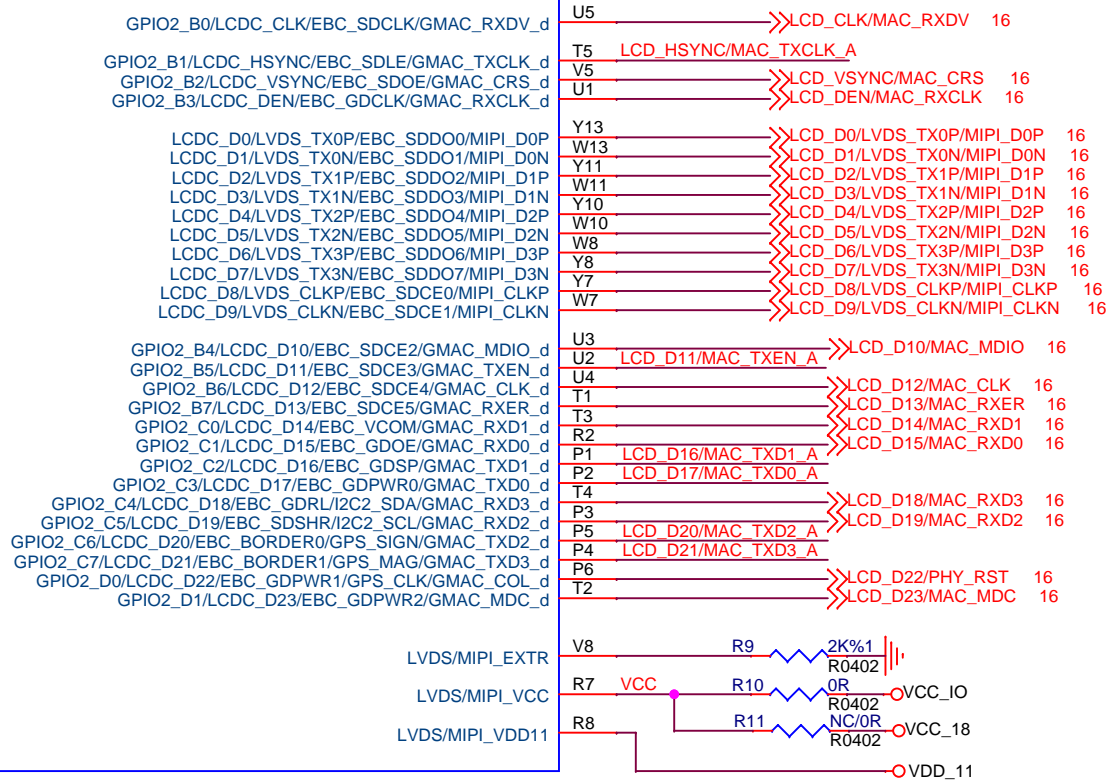
Note: All the capacitor should be place close to the power pin of RK3128.



Title: RK3128 MISC&USB	
File: FirePrime	REV:01
Create Date: Monday, June 01, 2015	Page Num: 8
Modify Date: Wednesday, January 31, 2018	Page Total: 16

U1000A
RK PX3-SE

LCDC / LVDS / MIPI / GMAC / EMAC



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Title: RK3128DISPLAY/GMAC Controller

File: FirePrime REV:01

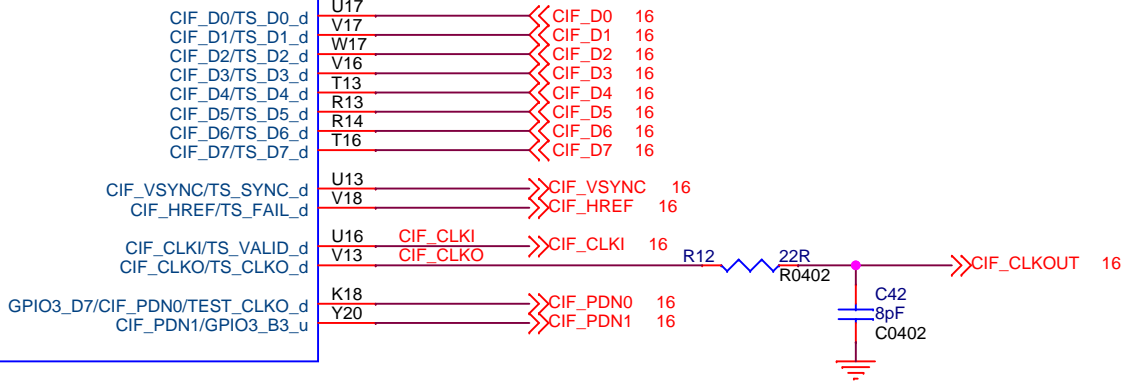
Create Date: Monday, June 01, 2015 **Page Num:** 9

Modify Date: Wednesday, January 31, 2018 **Page Total:** 16

RK3128-B

U1000B
RK_PX3-SE

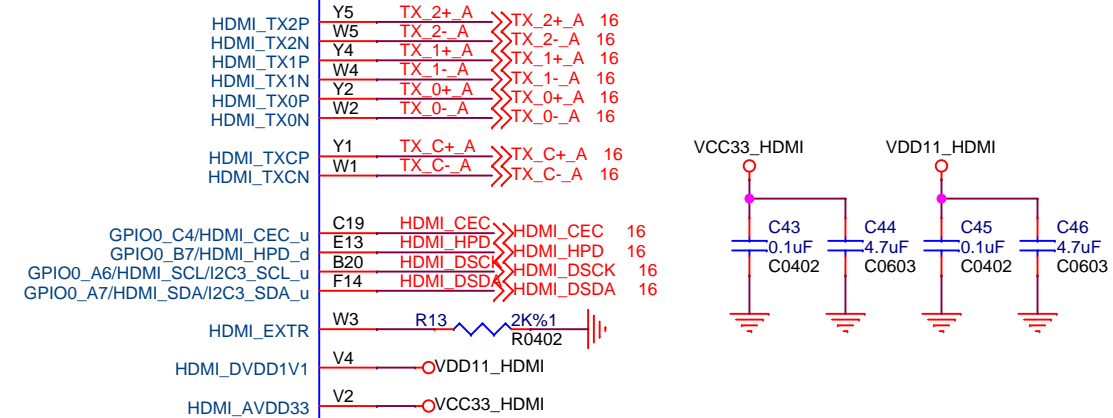
CIF/TS




RK3128-H

U1000H

HDMI TX



RK_PX3-SE

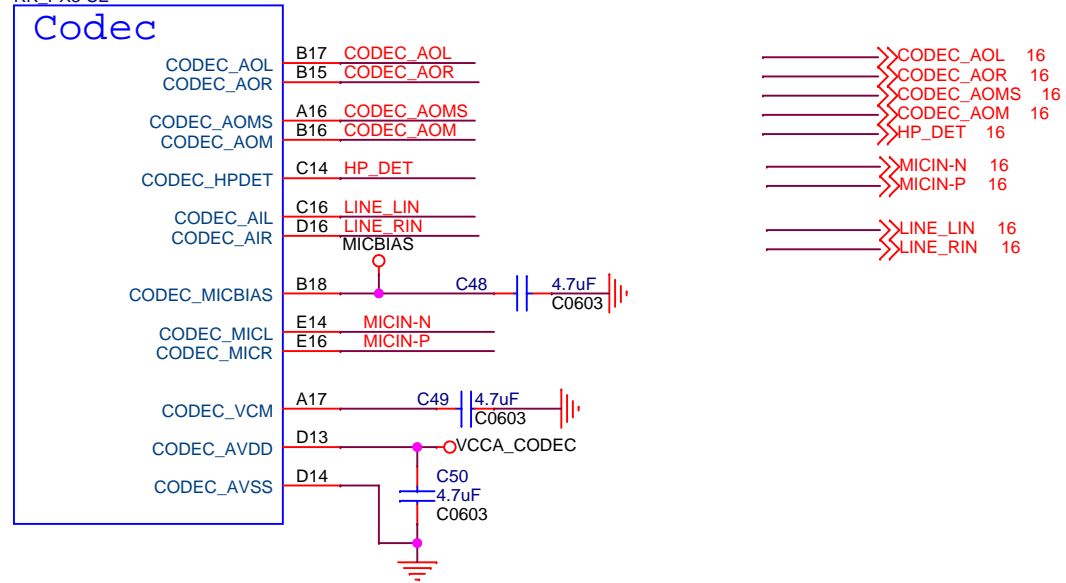


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Title: RK3128 CAMERA/HDMI Controller	
File: FirePrime	REV:01
Create Date: Monday, June 01, 2015	Page Num: 10
Modify Date: Wednesday, January 31, 2018	Page Total: 16

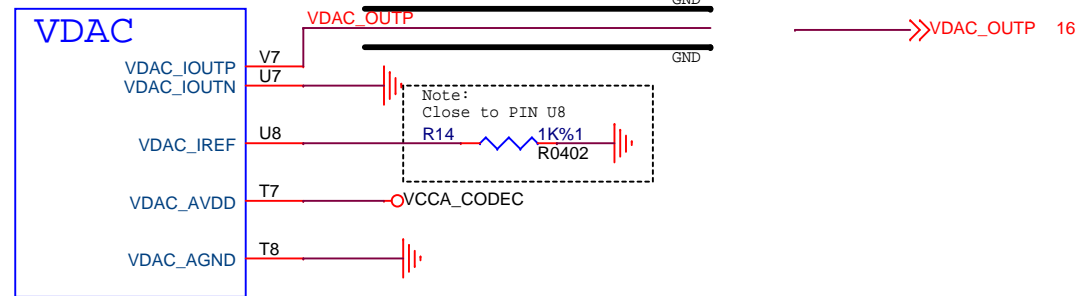
RK3128-F

U1000F
RK_PX3-SE



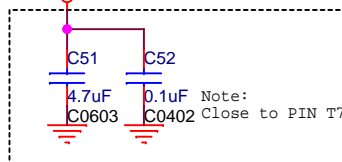
RK3128-G

U1000G



RK_PX3-SE

VCCA_CODEC



Title: RK3128 CODEC/VDAC

File: FirePrime

REV:01

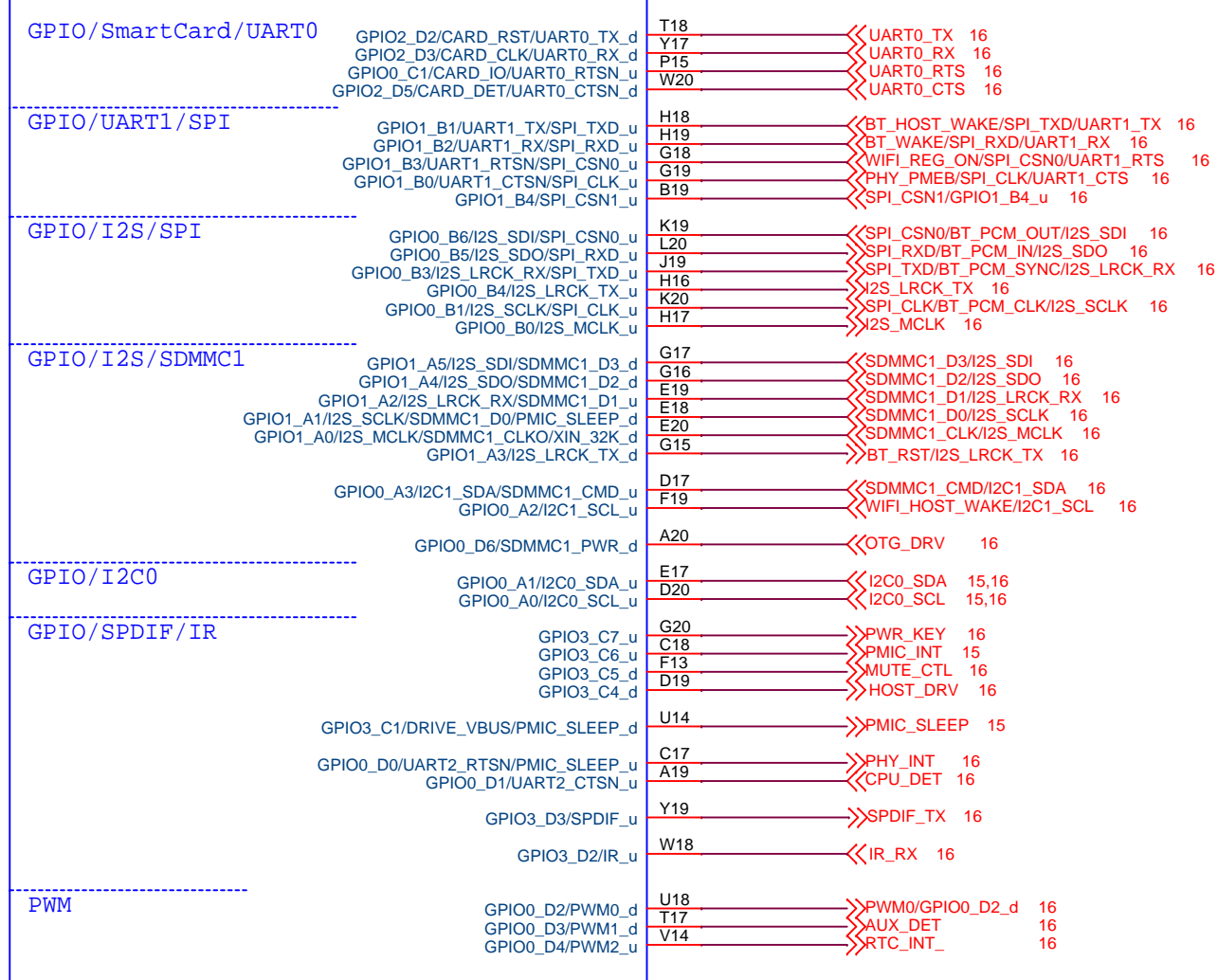
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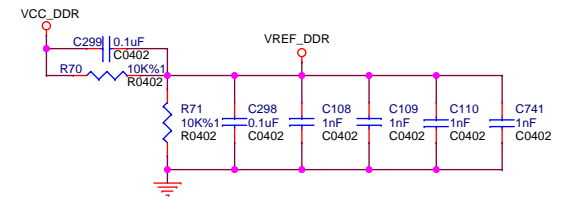
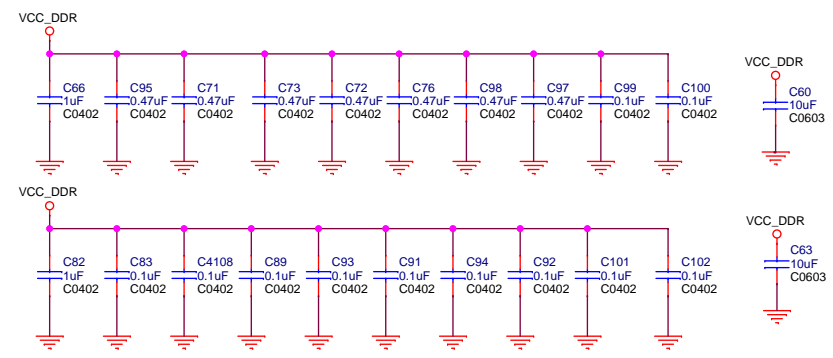
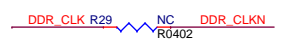
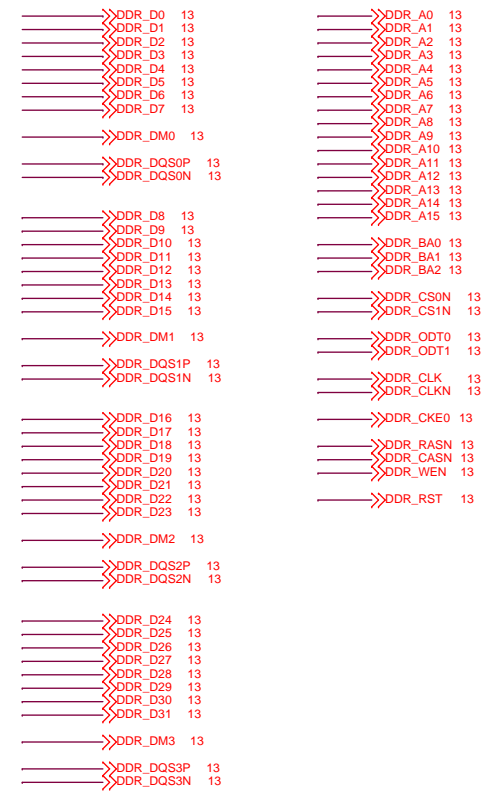
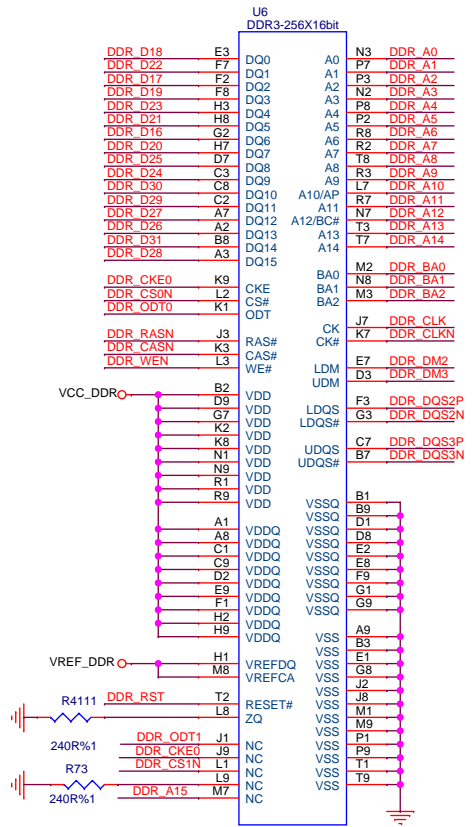
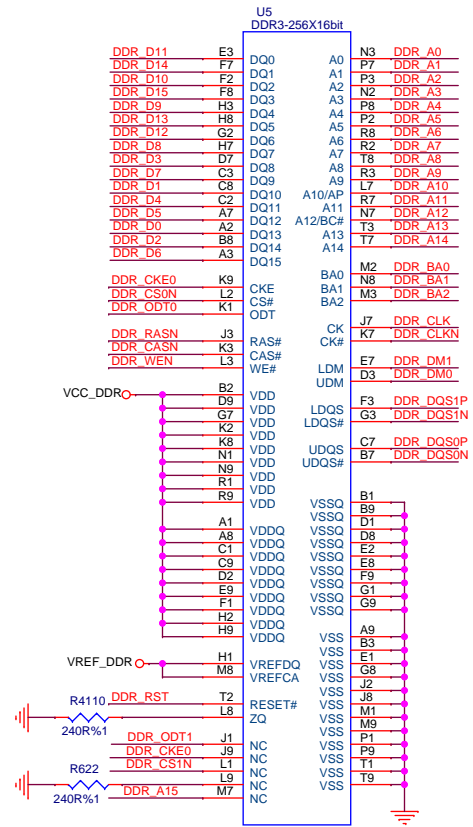
U10001
RK PX3-SE






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Title: RK3128 GPIO	
File: FirePrime	REV:01
Create Date: Monday, June 01, 2015	Page Num: 12
Modify Date: Wednesday, January 31, 2018	Page Total: 16



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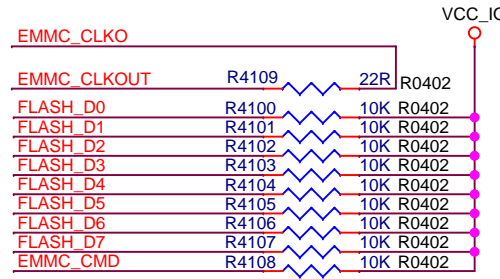
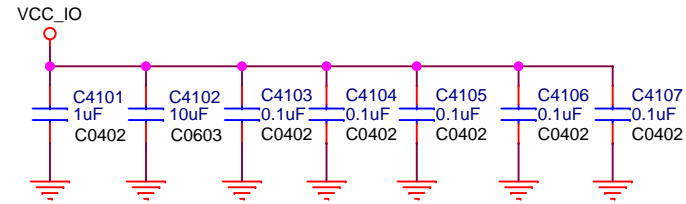
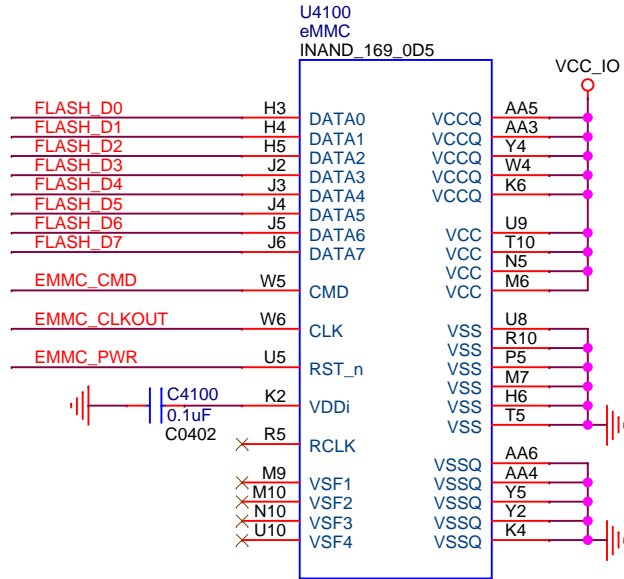
Title: RAM-DDR3

File: FirePrime REV:01

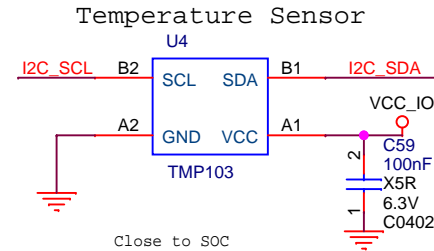
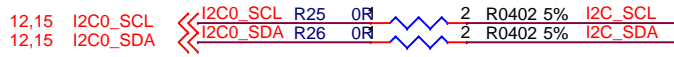
Create Date: Monday, June 01, 2015 Page Num: 13

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eMMC



Note:
Reserve a PAD.



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Title: Nand Flash/eMMC

File: FirePrime REV:01

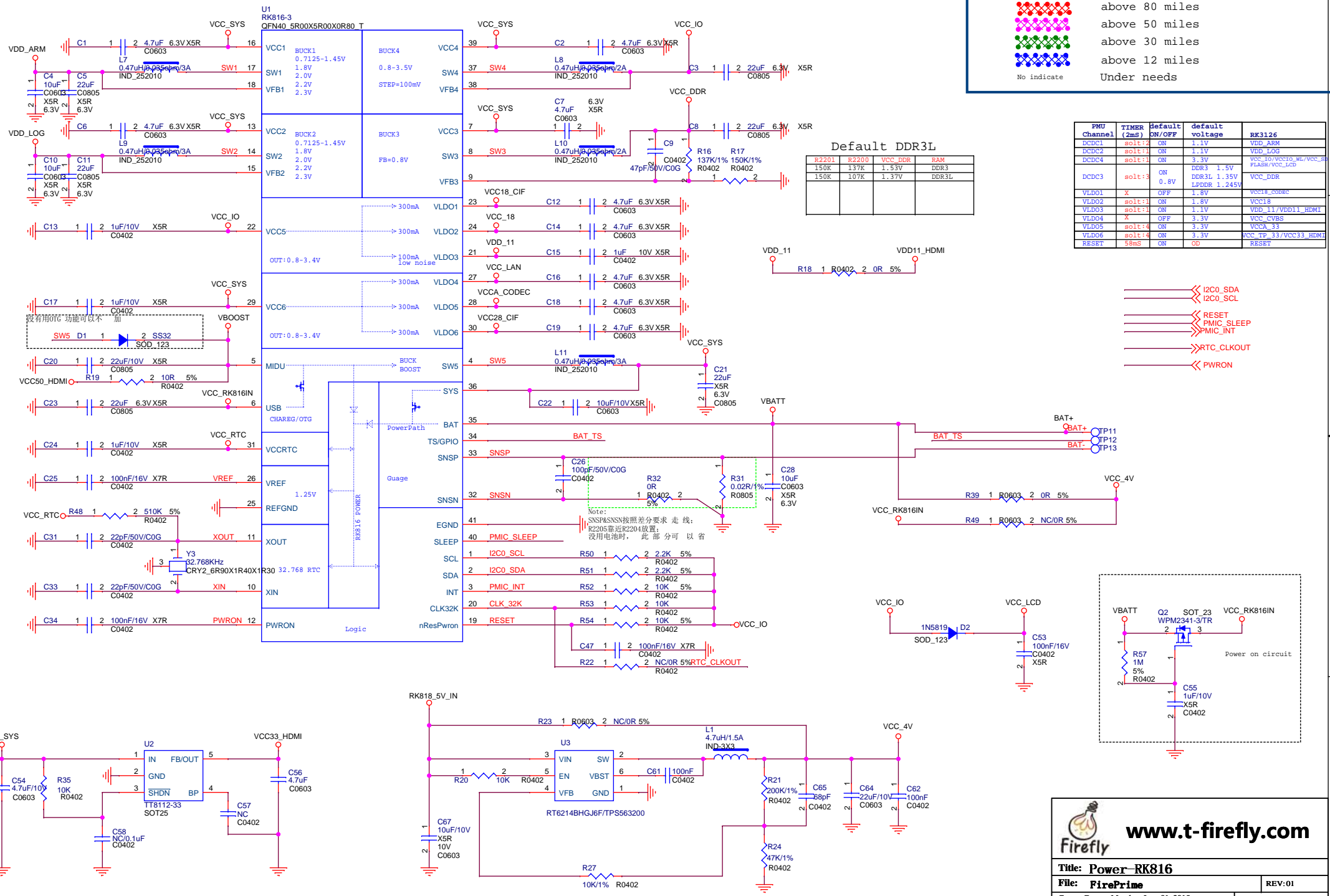
Create Date: Monday, June 01, 2015 **Page Num:** 14

Modify Date: Wednesday, January 31, 2018 **Page Total:** 16

RK816

PCB POWER WIRE WIDTH INDICATE

- above 80 miles
- above 50 miles
- above 30 miles
- above 12 miles
- Under needs



PMU Channel	TIMER (2ms)	Default DN/OFF	default voltage	RK3126
DCDC1	sol1:1	ON	1.1V	VDD_ARM
DCDC2	sol1:1	ON	1.1V	VDD_LOG
DCDC4	sol1:1	ON	3.3V	VCC_IO/VCC10_WL/VCC_BSP/FLASH/VCC_LCD
DCDC3	sol1:3	ON	DDR3 1.5V	VCC_DDR
VLD01	X	OFF	LPDDR 1.245V	VCC18_C0DB2
VLD02	sol1:1	ON	1.8V	VCC18
VLD03	sol1:1	ON	1.1V	VDD_11/VDD11_HDMI
VLD04	X	OFF	3.3V	VCC_CVBS
VLD05	sol1:4	ON	3.3V	VCCA_33
VLD06	sol1:4	ON	3.3V	VCC_TP_33/VCC33_HDMI
RESET	58ms	ON	0V	RESET

- I2C0_SDA
- I2C0_SCL
- RESET
- PMIC_SLEEP
- PMIC_INT
- RTC_CLKOUT
- PWRON

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Title: Power-RK816

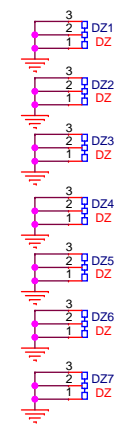
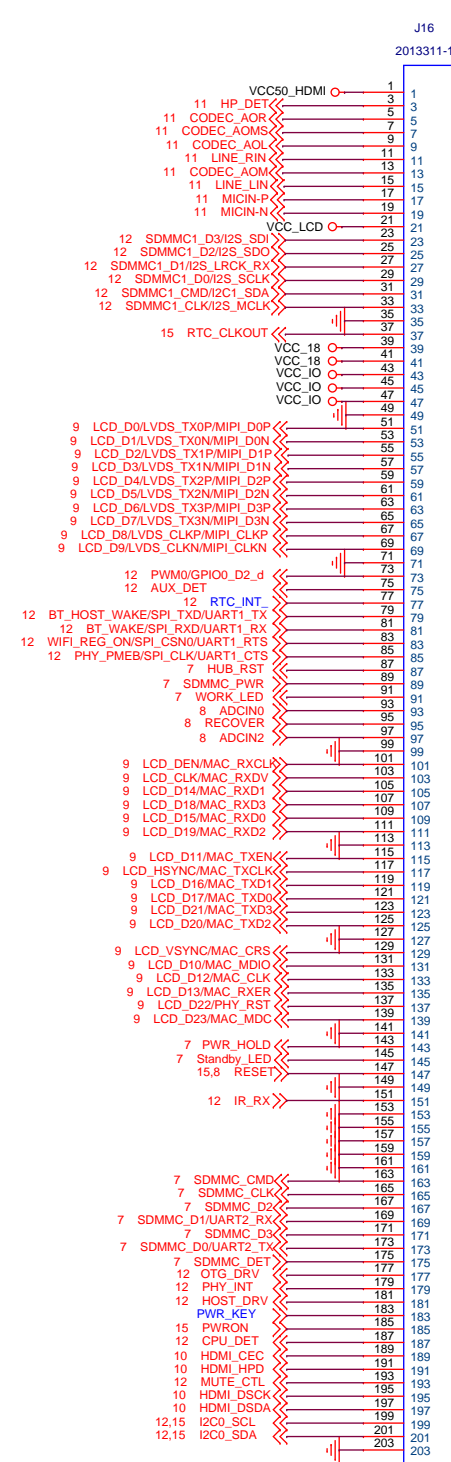
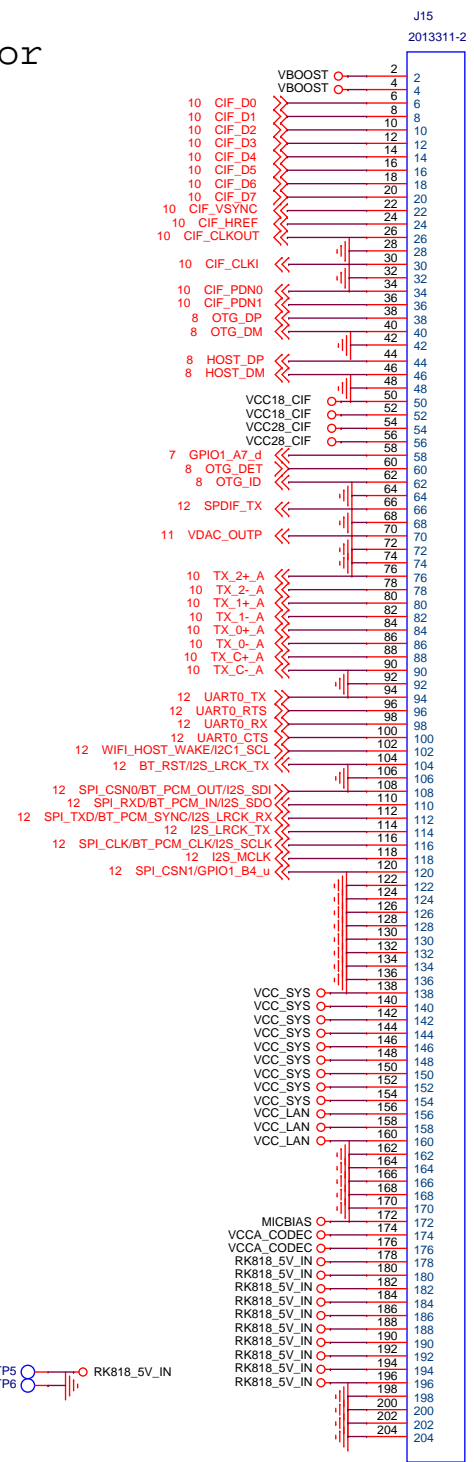
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REV:01

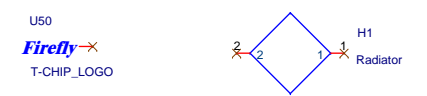
Create Date: Monday, June 01, 2015 **Page Num: 15**

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Connector



- MASK1
- MASK2
- MASK3
- MASK8
- MASK9
- MASK10
- MASK11
- MASK12
- MASK13
- MASK14



Title: Connector		REV: 01	
File: FirePrime			
Create Date: Monday, June 01, 2015	Page Num: 16		
Modify Date: Wednesday, January 31, 2018	Page Total: 16		