

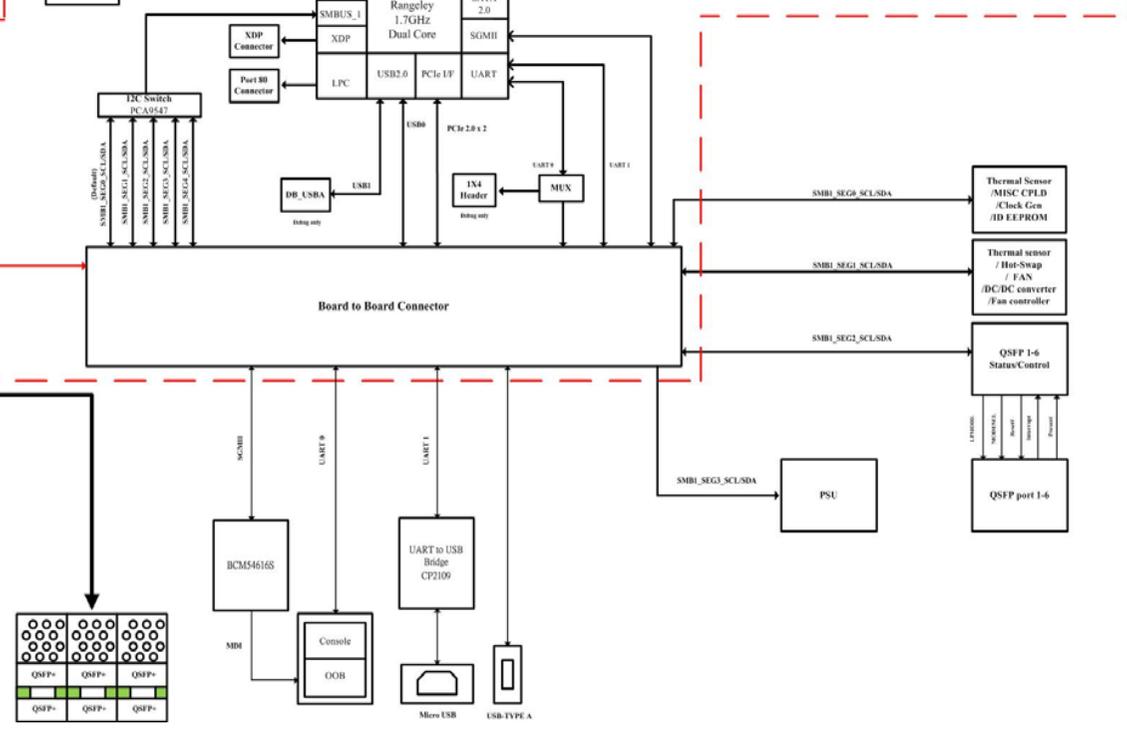
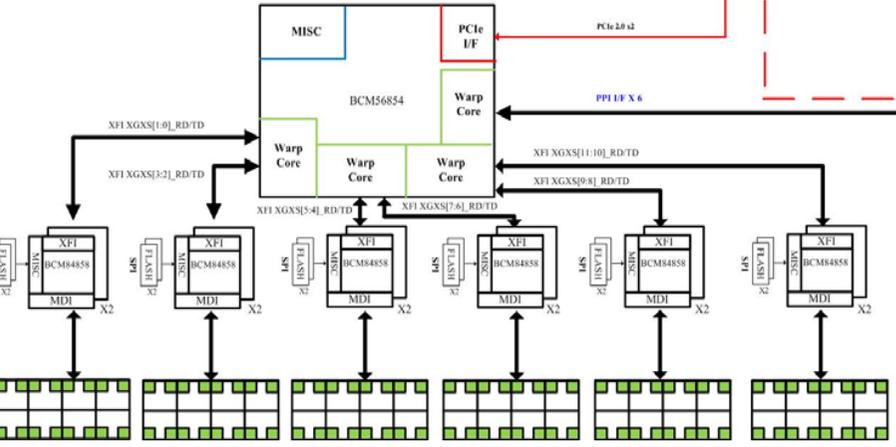
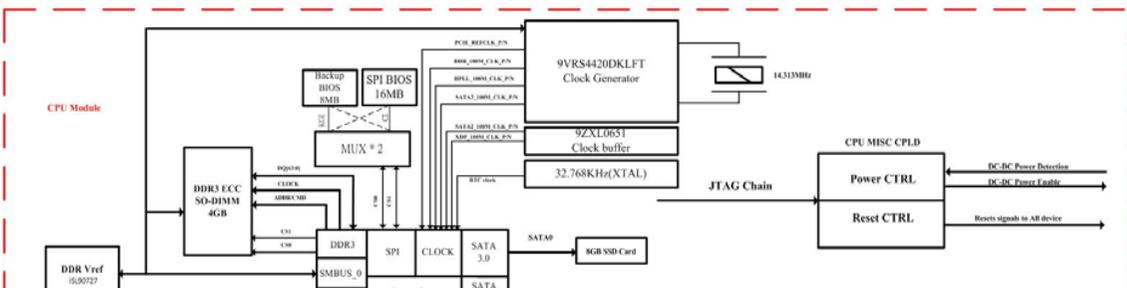
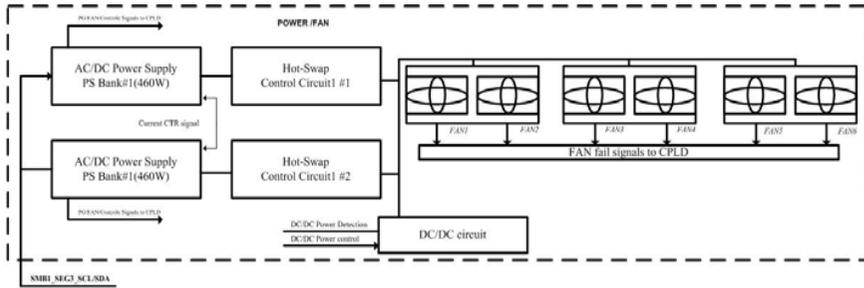
Revision History	Date
0.1 PCB Part Number change to : 2976522000	Sep 1, 2014
1.1 1. PCB Part Number : 2976522000 2. U107 cahnge to 74LVC1G126GW for update BIOS 3. change R387 to 1Kohm and C381 to 10uF. It will sloved RTC time be eliminate default issue.	Feb 1, 2016

Page Descriptions
01_History
02_Function Block
03_Clock Diagram
04_Power Distribution
05_Power Sequencing
06_SMBus Diagram
07_GPIO Map
08_Rangeley_DDR3_A
09_Rangeley_DDR3_B
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11_Rangeley_SATA_USB
12_Rangeley_LPC_SMB_MISC
13_Rangeley_POWER_1
14_Rangeley_POWER_2
15_Rangeley_GND
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17_DDR3-SODIMM_A
18_DDR3-SODIMM_B
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21_MISC_RESET
22_POWER_CPU_DDR_1
23_POWER_CPU_DDR_2_VTT
24_POWER_CPU_VCCP_VNN_1
25_POWER_CPU_VCCP_VNN_2
26_POWER_CPU_1V0_1V1
27_POWER_CPU_3V3 & 1V35_1V8
28_POWER_CPU_5V0A_3V3A
29_CPLD
30_B2B_Connector
31_SMB_MUX/CPLD JTAG

- Note:**
- 1.All of resistors are 5%, 0603 SMD except other specified description.
 - 2.All of capacitors are 50V except other specified description.
 - 3.All of aluminous capacitors are 105 degree C except other specified description.
 4. # for LOW active signals(name#)

SCHEMATICS OF	FILE NAME	DRAWN	DESIGNED	CHECKED	APPROVED

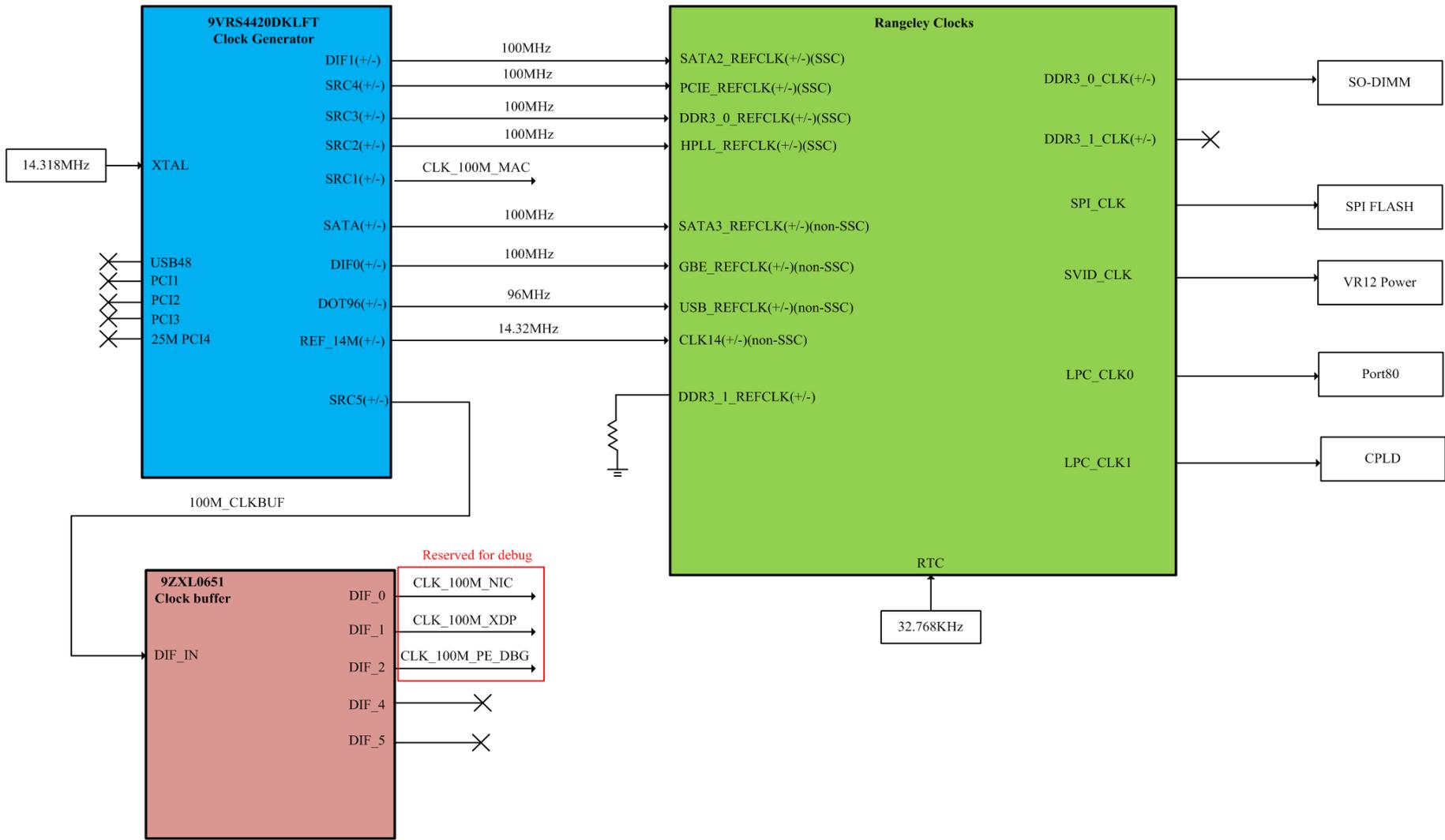
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Title	01_History	
Size	Document Number	Rev
C	1ADSS-0XXXXX	1.1
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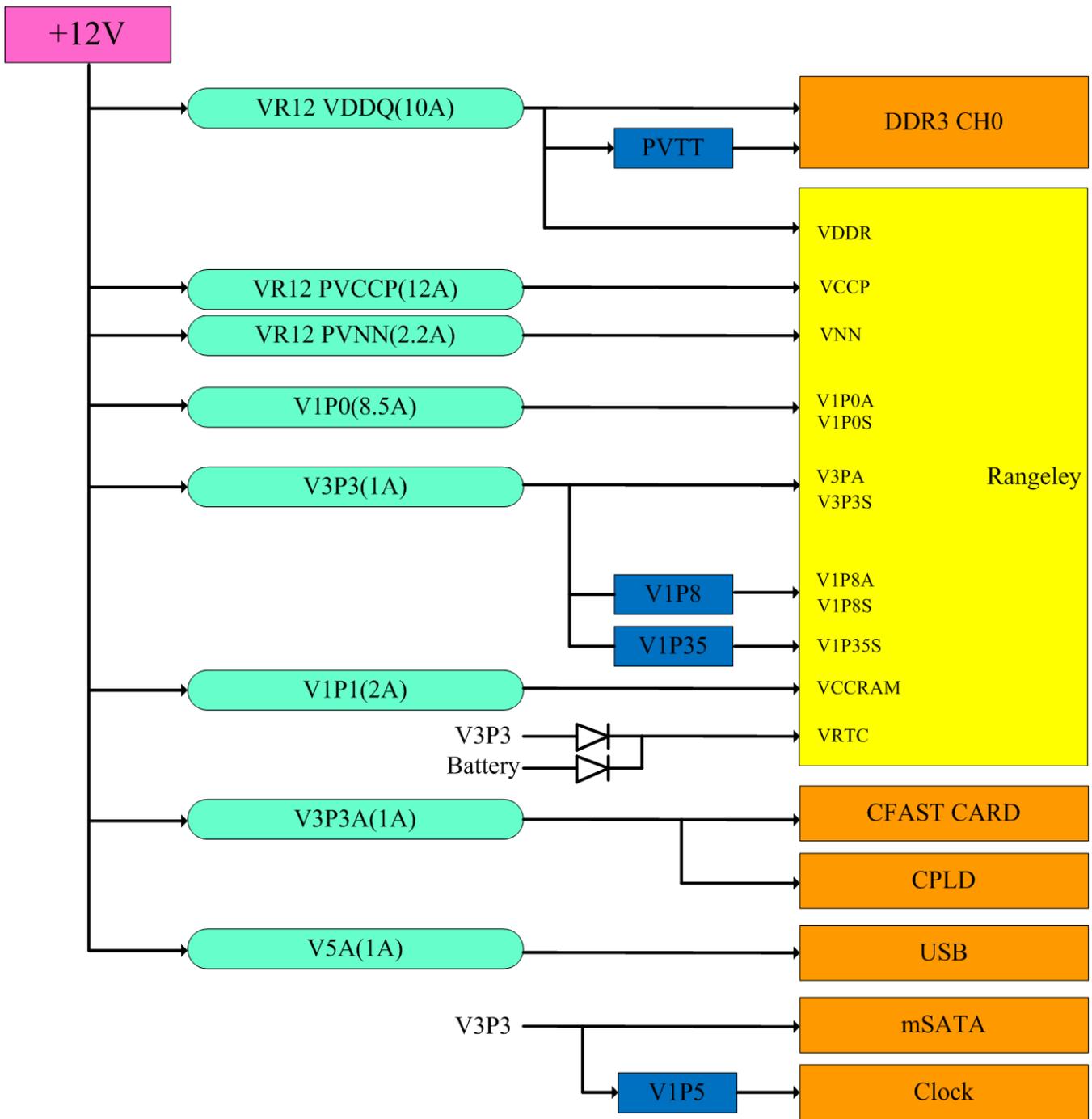
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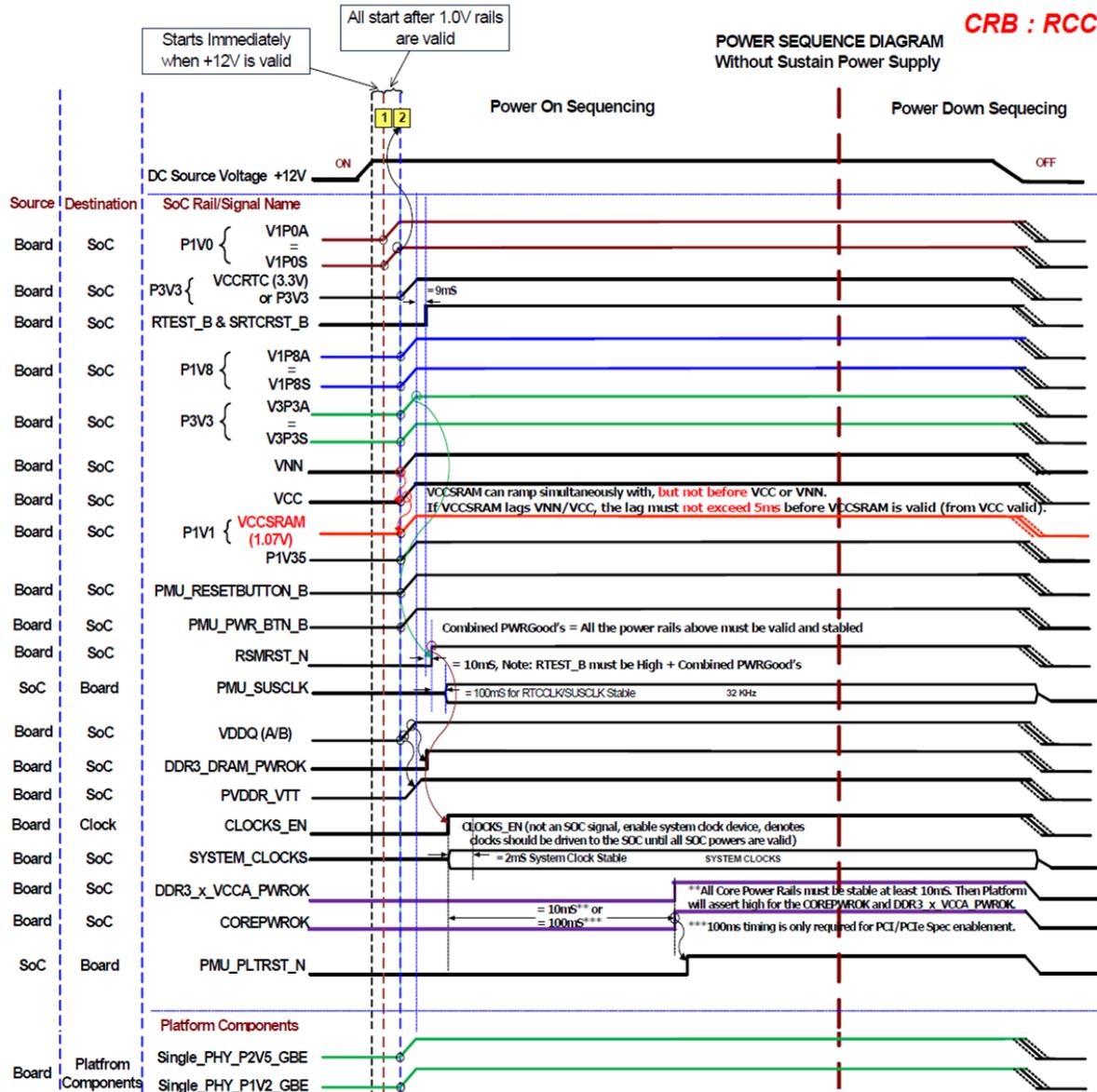
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Size	Document Number	Rev
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Date:	Friday, October 07, 2016	Sheet 3 of 31

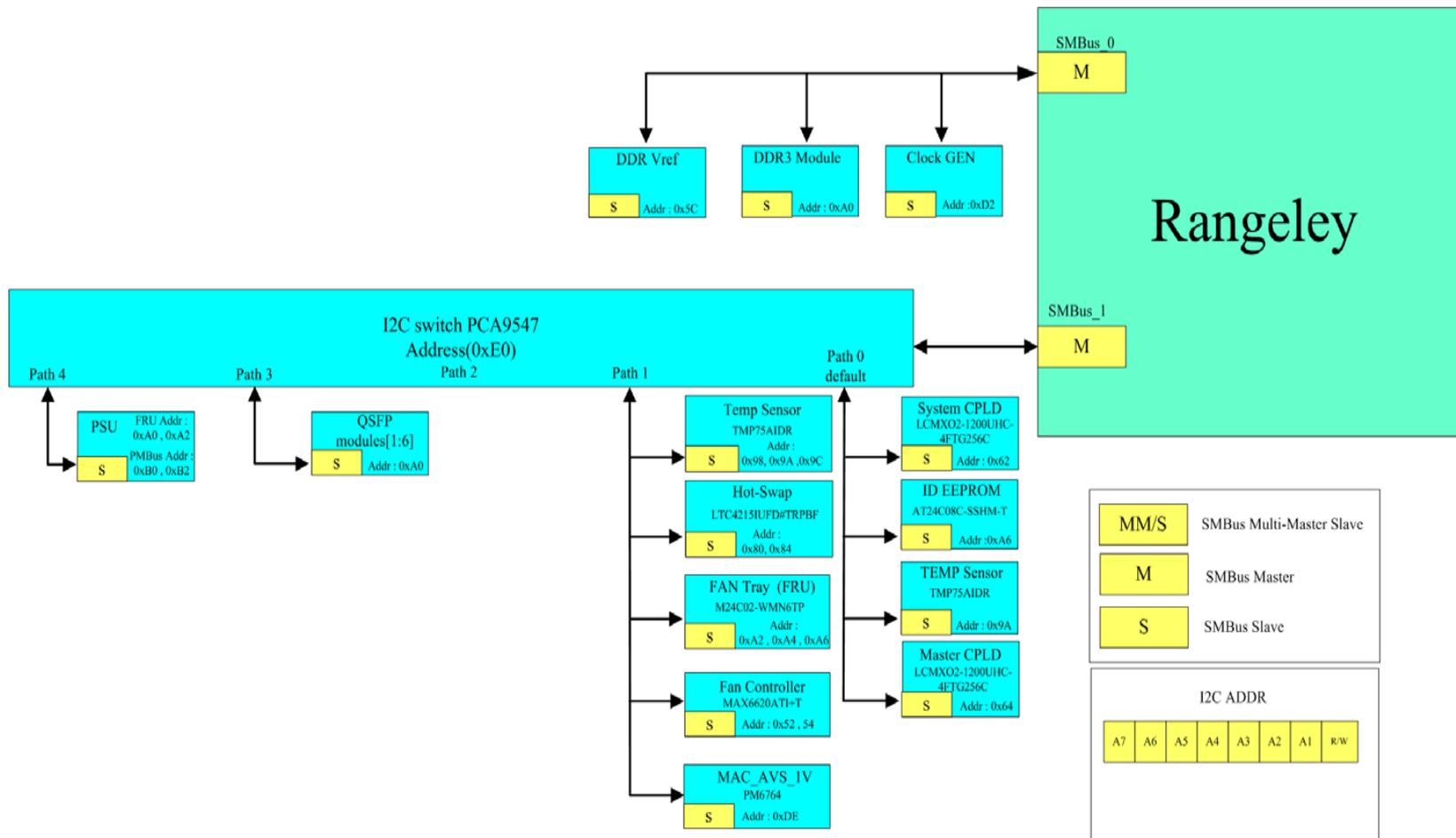


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04_Power Distribution		
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Title			06_SMBus Diagram
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5

4

3

2

1

D

D

C

C

B

B

A

A

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Size	Document Number	Rev
C	1ADSS-0XXXXX	1.1
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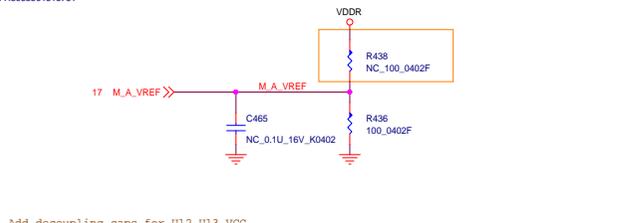
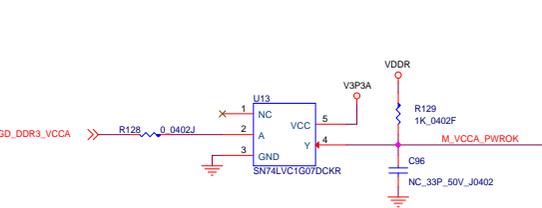
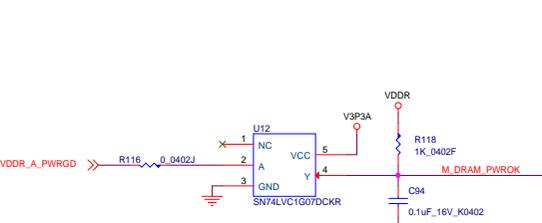
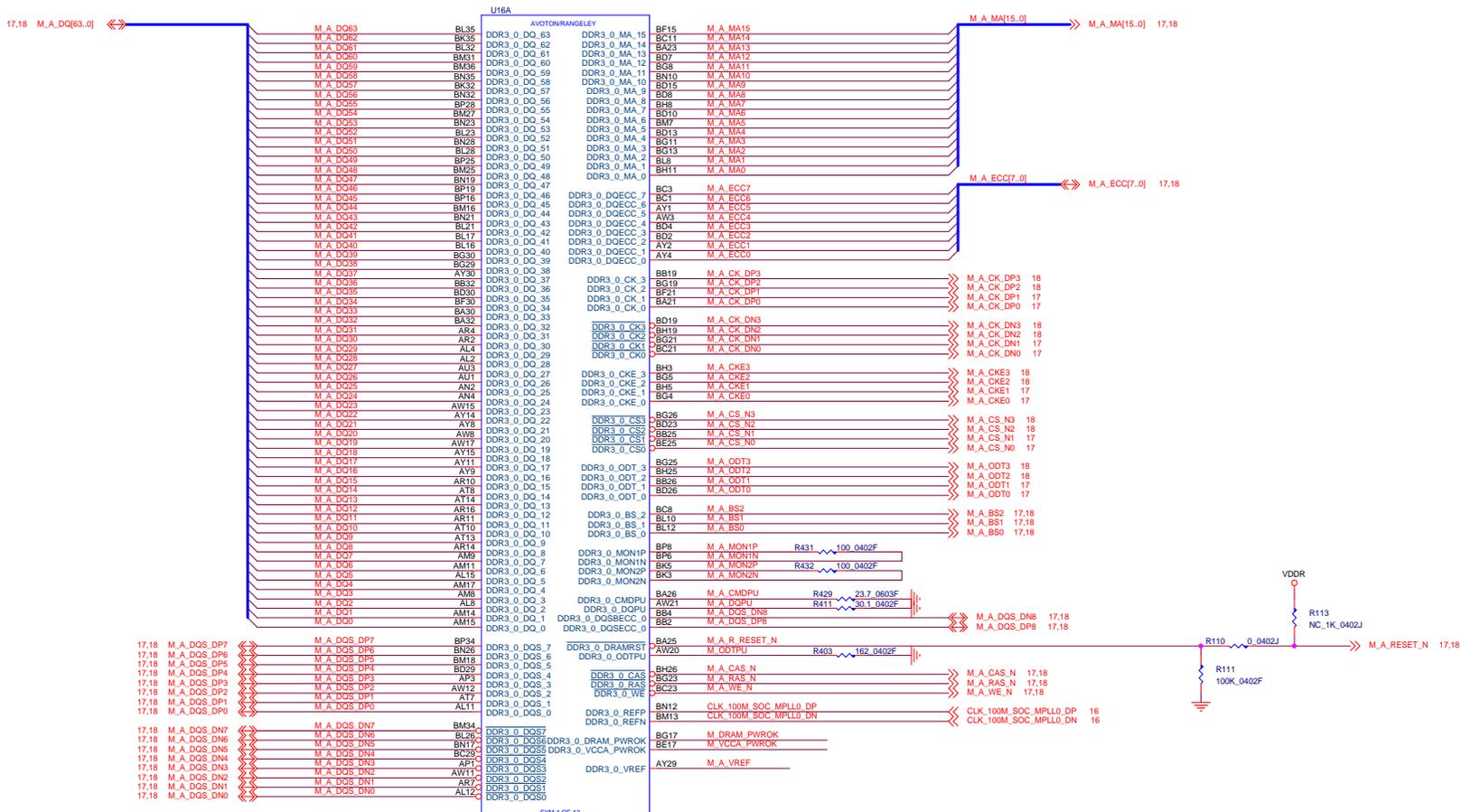
5

4

3

2

1



Add decoupling caps for U12,U13 VCC.
20151006

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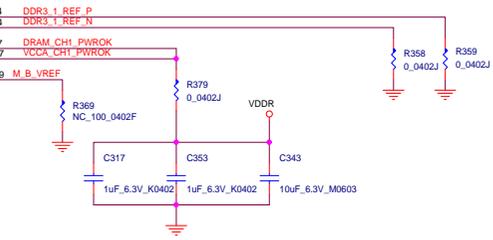
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Size: **C** Document Number: **1ADSS-0XXXXX** Rev: **1.1**

Date: **Friday, October 07, 2016** Sheet **8** of **31**

U16B		
AVOTONRANGELEY		
AC15	DDR3_1_MA_15	D26
AC16	DDR3_1_MA_14	D26
AC17	DDR3_1_MA_13	D26
AC18	DDR3_1_MA_12	D22
AC19	DDR3_1_MA_11	D22
AC20	DDR3_1_MA_10	D22
AC21	DDR3_1_MA_9	D21
AC22	DDR3_1_MA_8	D22
AC23	DDR3_1_MA_7	D21
AC24	DDR3_1_MA_6	D22
AC25	DDR3_1_MA_5	D21
AC26	DDR3_1_MA_4	D21
AC27	DDR3_1_MA_3	D18
AC28	DDR3_1_MA_2	D17
AC29	DDR3_1_MA_1	D17
AC30	DDR3_1_MA_0	X
AC31	DDR3_1_DO_47	X
AC32	DDR3_1_DO_46	D12
AC33	DDR3_1_DO_45	D13
AC34	DDR3_1_DO_44	D17
AC35	DDR3_1_DO_43	D17
AC36	DDR3_1_DO_42	D12
AC37	DDR3_1_DO_41	D15
AC38	DDR3_1_DO_40	D15
AC39	DDR3_1_DO_39	X
AC40	DDR3_1_DO_38	X
AC41	DDR3_1_DO_37	J13
AC42	DDR3_1_DO_36	D10
AC43	DDR3_1_DO_35	D9
AC44	DDR3_1_DO_34	X
AC45	DDR3_1_DO_33	X
AC46	DDR3_1_DO_32	D13
AC47	DDR3_1_DO_31	D10
AC48	DDR3_1_DO_30	D9
AC49	DDR3_1_DO_29	D9
AC50	DDR3_1_DO_28	X
AC51	DDR3_1_DO_27	L26
AC52	DDR3_1_DO_26	D25
AC53	DDR3_1_DO_25	D25
AC54	DDR3_1_DO_24	D26
AC55	DDR3_1_DO_23	X
AC56	DDR3_1_DO_22	K4
AC57	DDR3_1_DO_21	K4
AC58	DDR3_1_DO_20	K4
AC59	DDR3_1_DO_19	X
AC60	DDR3_1_DO_18	X
AC61	DDR3_1_DO_17	K4
AC62	DDR3_1_DO_16	D2
AC63	DDR3_1_DO_15	D2
AC64	DDR3_1_DO_14	X
AC65	DDR3_1_DO_13	X
AC66	DDR3_1_DO_12	H25
AC67	DDR3_1_DO_11	H18
AC68	DDR3_1_DO_10	X
AC69	DDR3_1_DO_9	X
AC70	DDR3_1_DO_8	E5
AC71	DDR3_1_DO_7	D5
AC72	DDR3_1_DO_6	D5
AC73	DDR3_1_DO_5	D5
AC74	DDR3_1_DO_4	X
AC75	DDR3_1_DO_3	J25
AC76	DDR3_1_DO_2	J25
AC77	DDR3_1_DO_1	D14
AC78	DDR3_1_DO_0	D14
AD12	DDR3_1_DOS_7	N11
AD13	DDR3_1_DOS_6	X
AD14	DDR3_1_DOS_5	X
AD15	DDR3_1_DOS_4	H4
AD16	DDR3_1_DOS_3	X
AD17	DDR3_1_DOS_2	X
AD18	DDR3_1_DOS_1	X
AD19	DDR3_1_DOS_0	J14
AD20	DDR3_1_REFP	L14
AD21	DDR3_1_REFN	X
AD22	DDR3_1_DOS7	X
AD23	DDR3_1_DOS6	X
AD24	DDR3_1_DOS5	X
AD25	DDR3_1_DOS4	X
AD26	DDR3_1_DOS3	X
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AD28	DDR3_1_DOS1	X
AD29	DDR3_1_DOS0	X

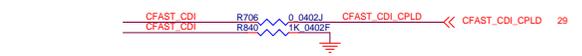
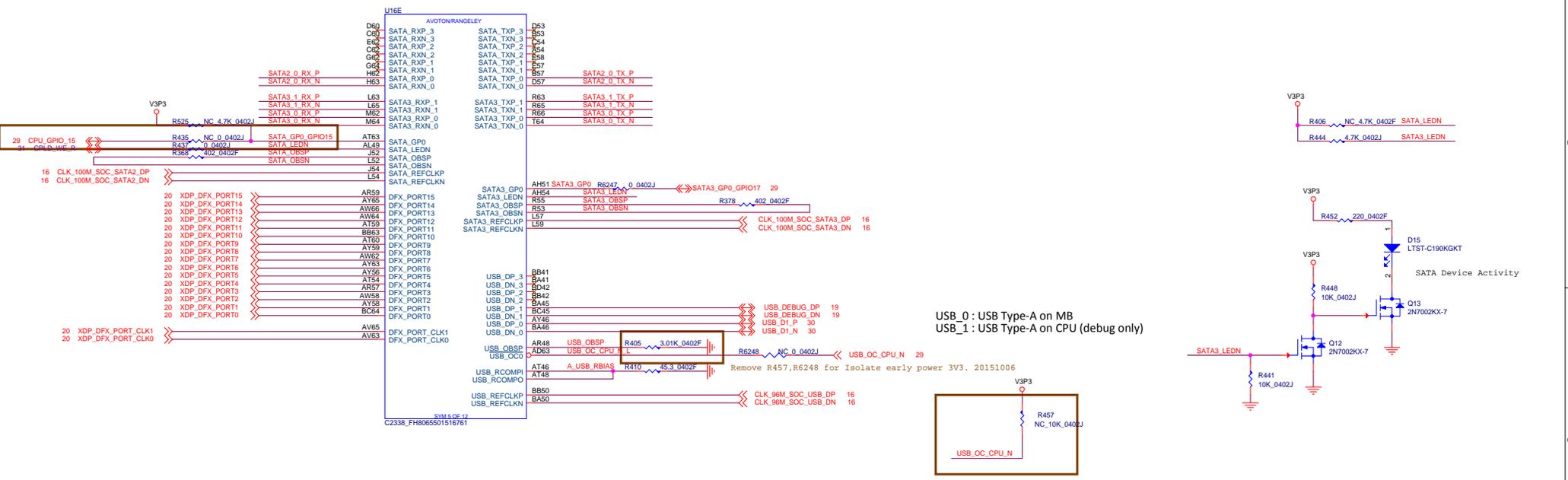
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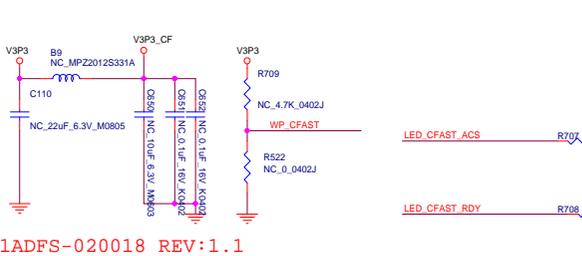
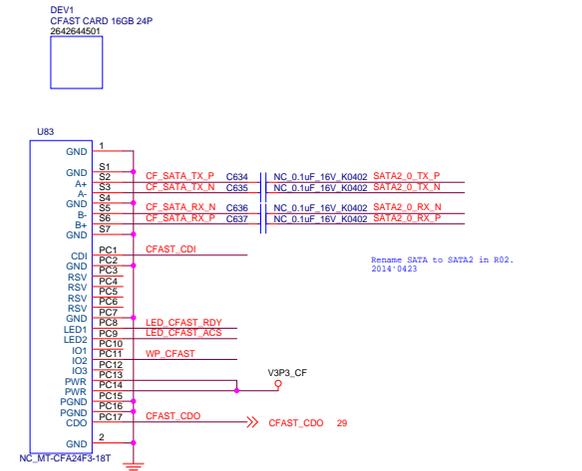
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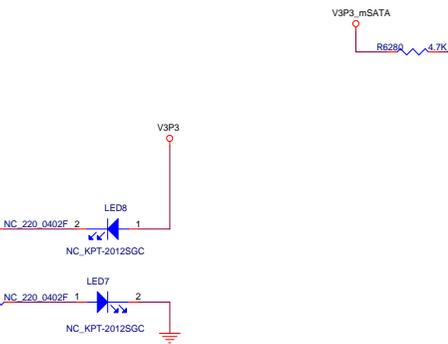
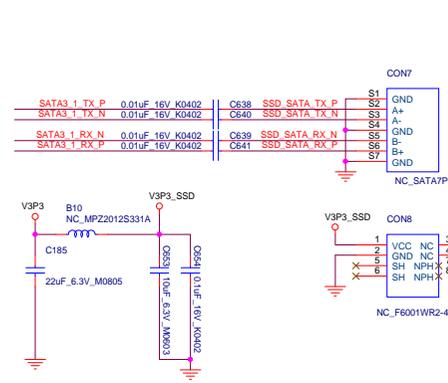


CF-FAST CARD

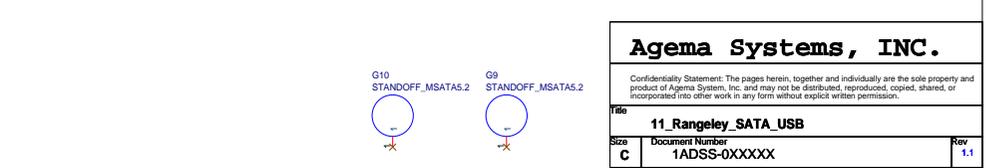
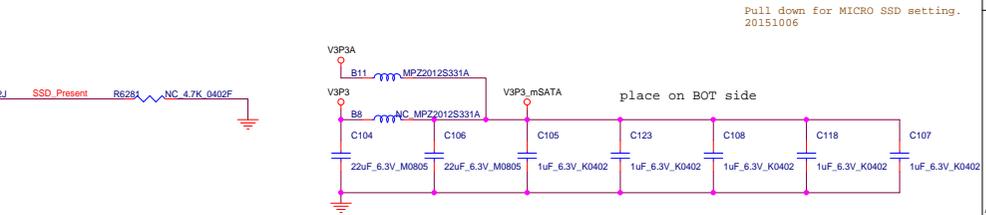
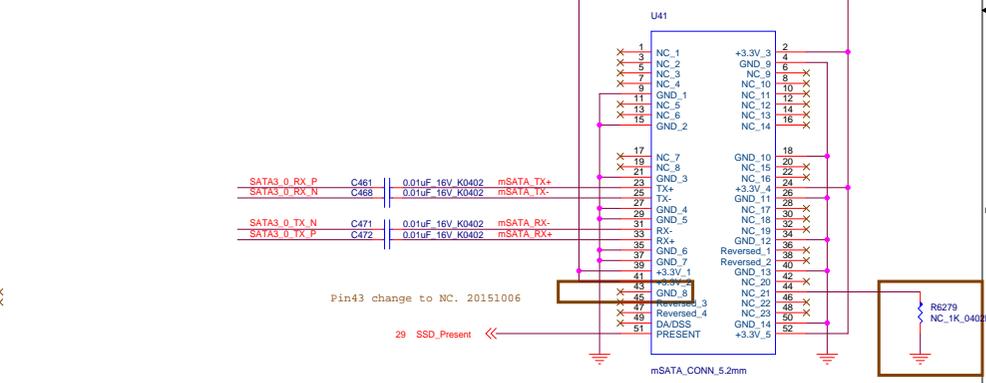


1ADFS-020018 REV:1.1

mSATA 1.8in SSD



mSATA SSD CARD



place on BOT side

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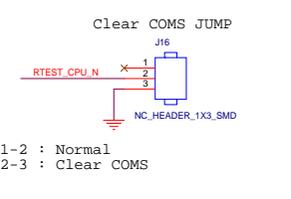
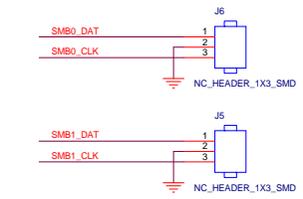
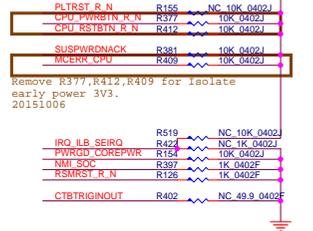
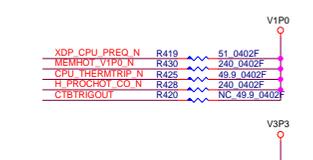
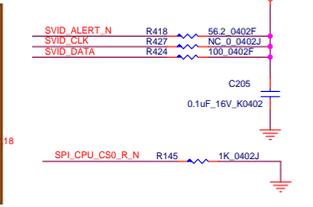
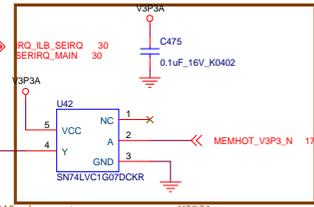
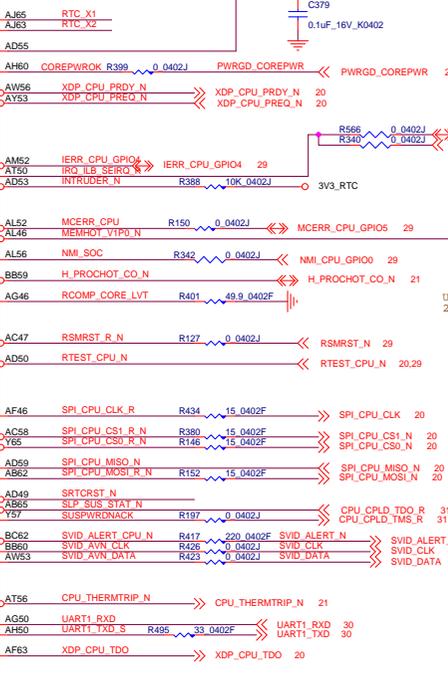
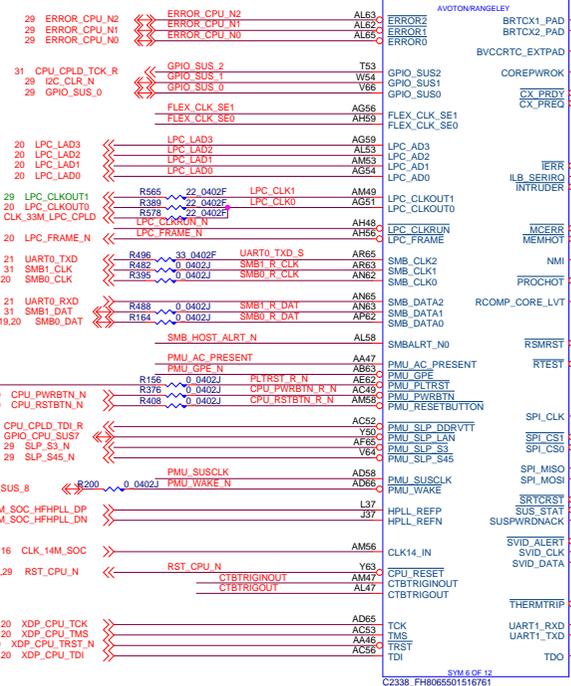
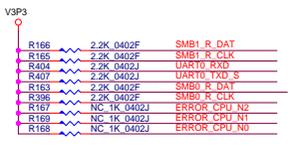
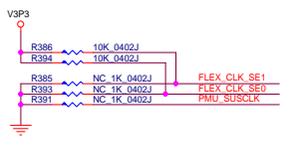
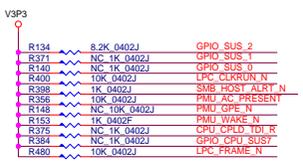
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11_Rangeley SATA_USB

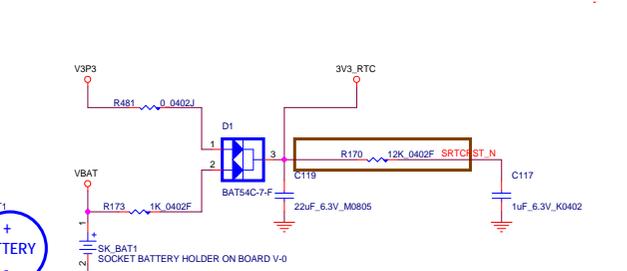
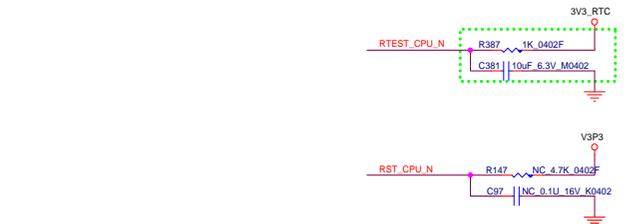
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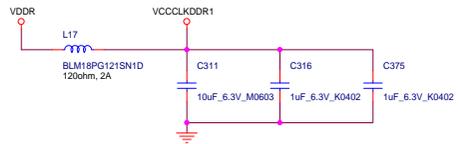
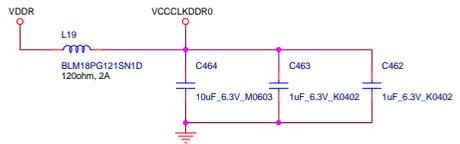
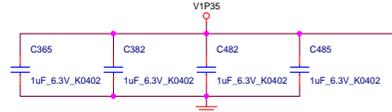
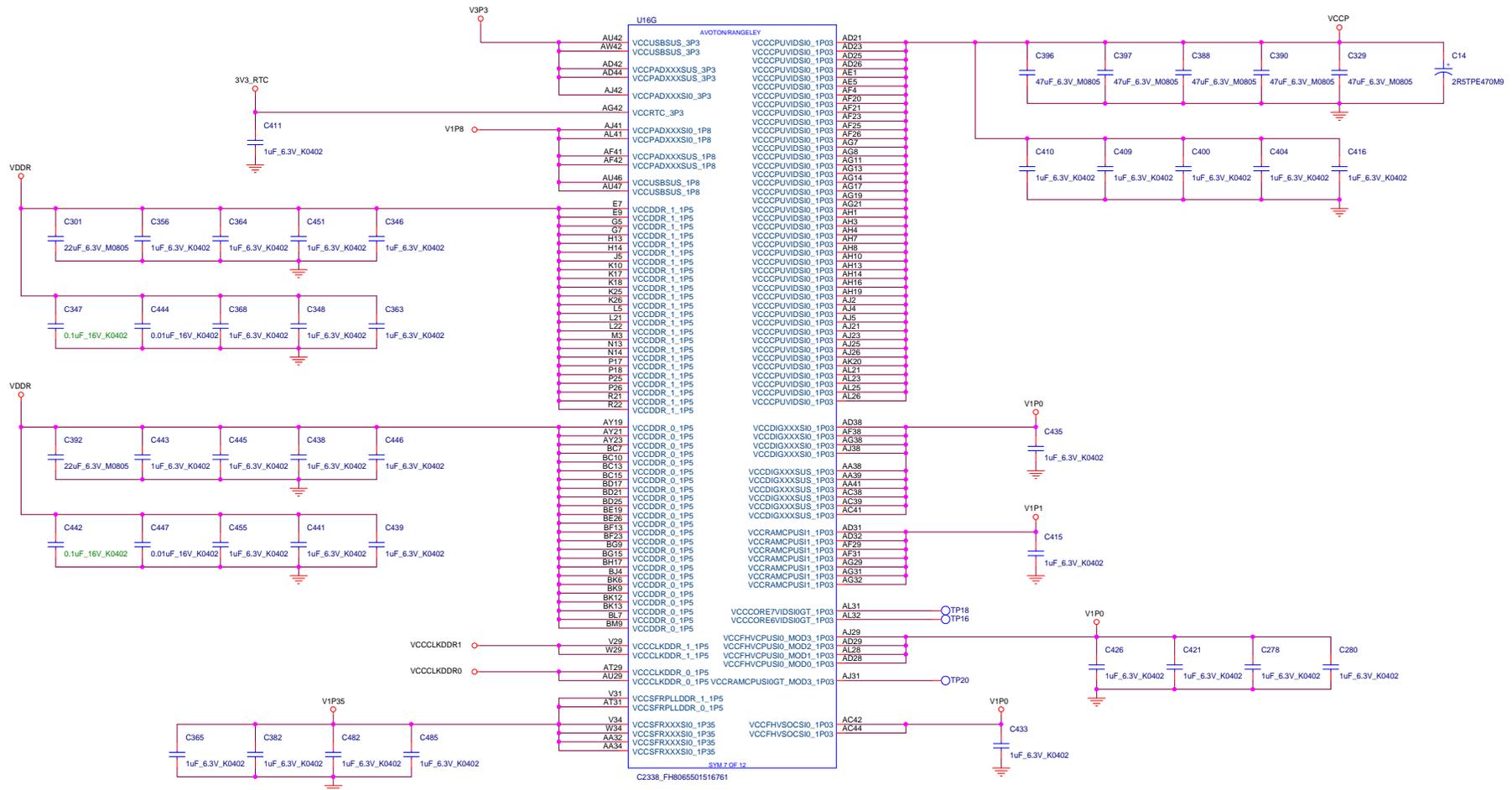
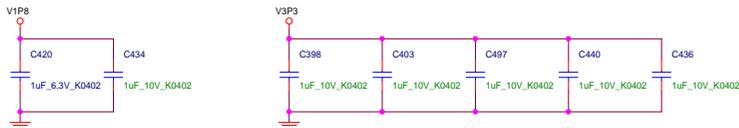
1-2 : Normal
2-3 : Clear COMS



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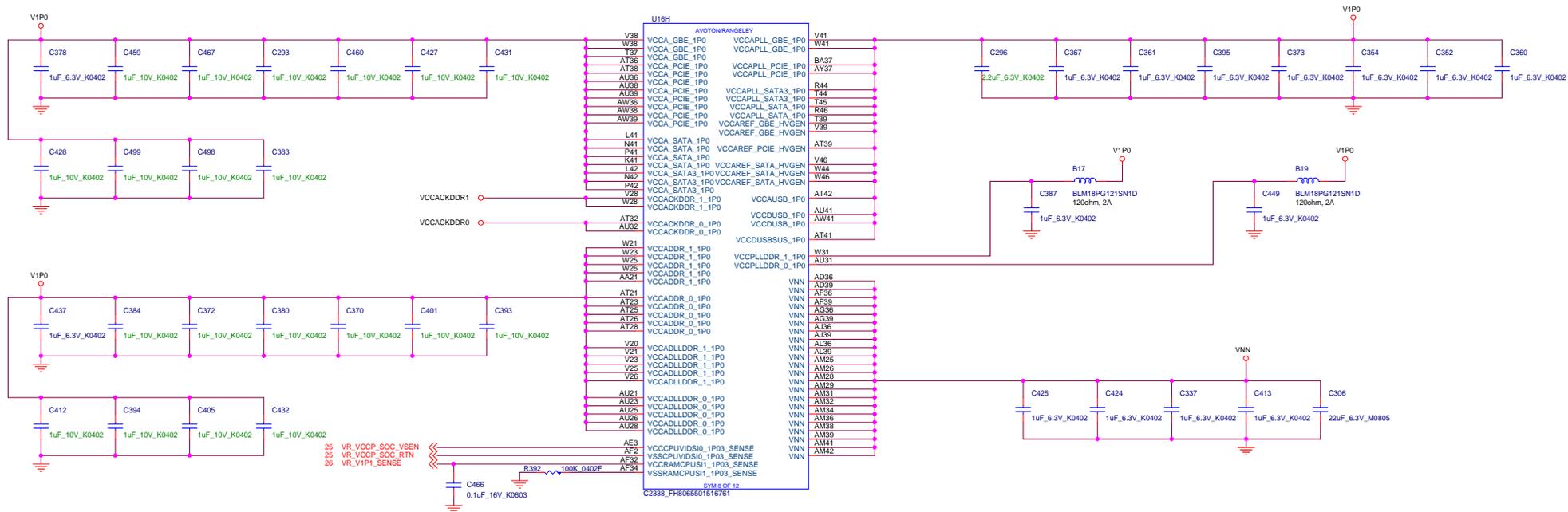
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Size	Document Number	Rev
C	1ADSS-0XXXX	1.1
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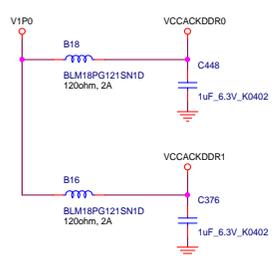
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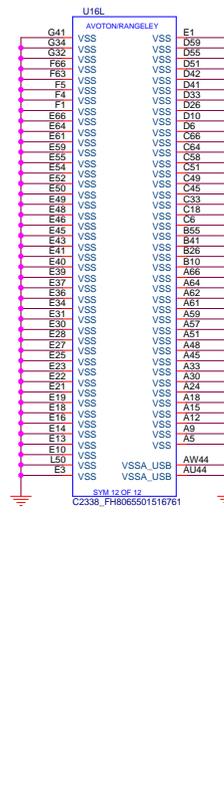
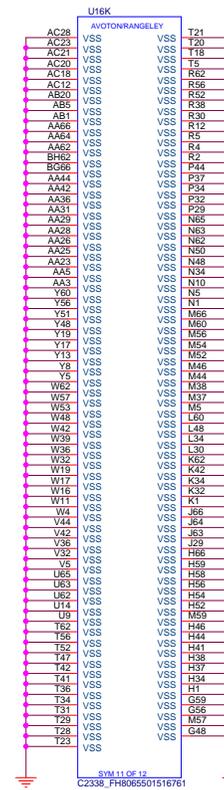
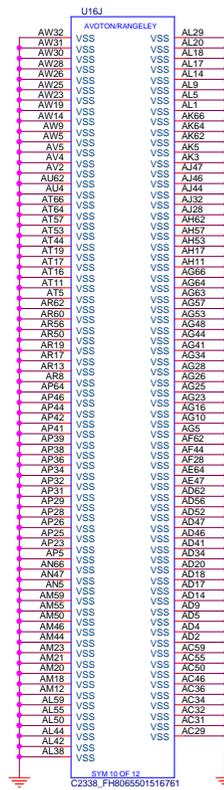
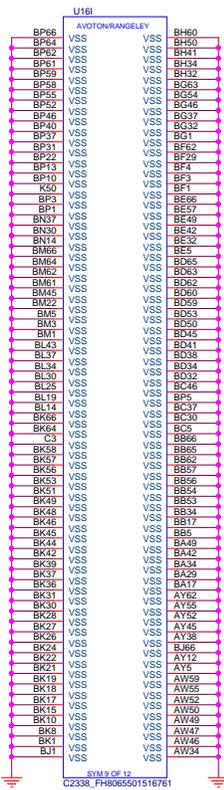
25 VR_VCCP_SOC_VSEN
 25 VR_VCCP_SOC_RTN
 26 VR_V1P1_SENSE



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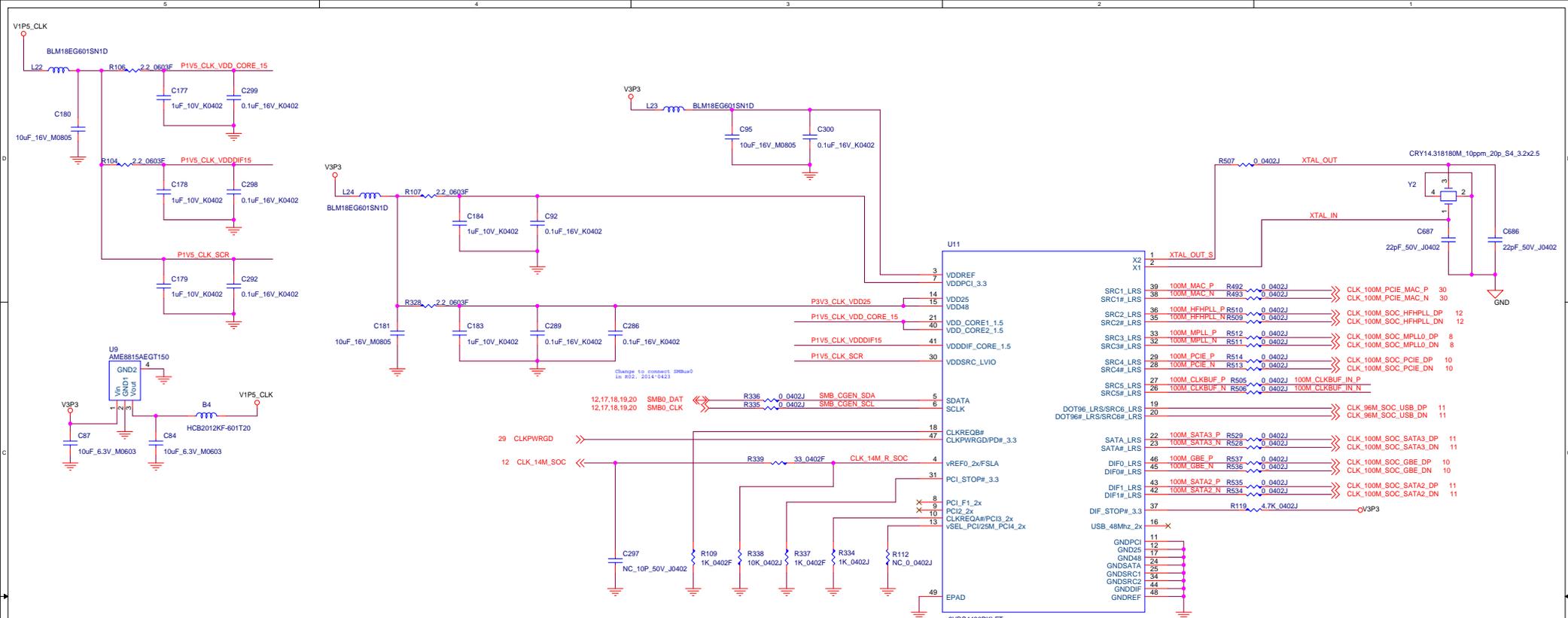
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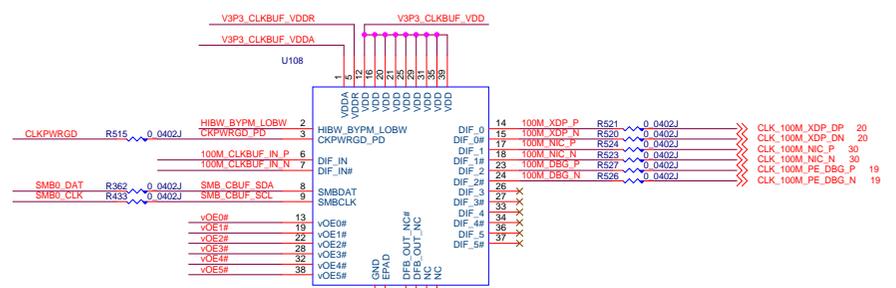
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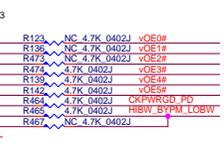
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Size	Document Number	Rev
C	1ADSS-0XXXXX	1.1
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I2C Address :
0xD2

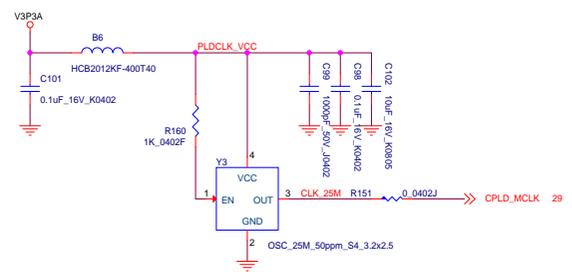


I2C Address :
0xD8



PLL Operating Mode Table

LEVEL	PLL Mode	Voltage Setting
LOW	Low BW	HWBYPM_LOBW < 0.8V
MID	Bypass	1.2V < HWBYPM_LOBW < 1.8V
HIGH	High BW	HWBYPM_LOBW > 2.2V



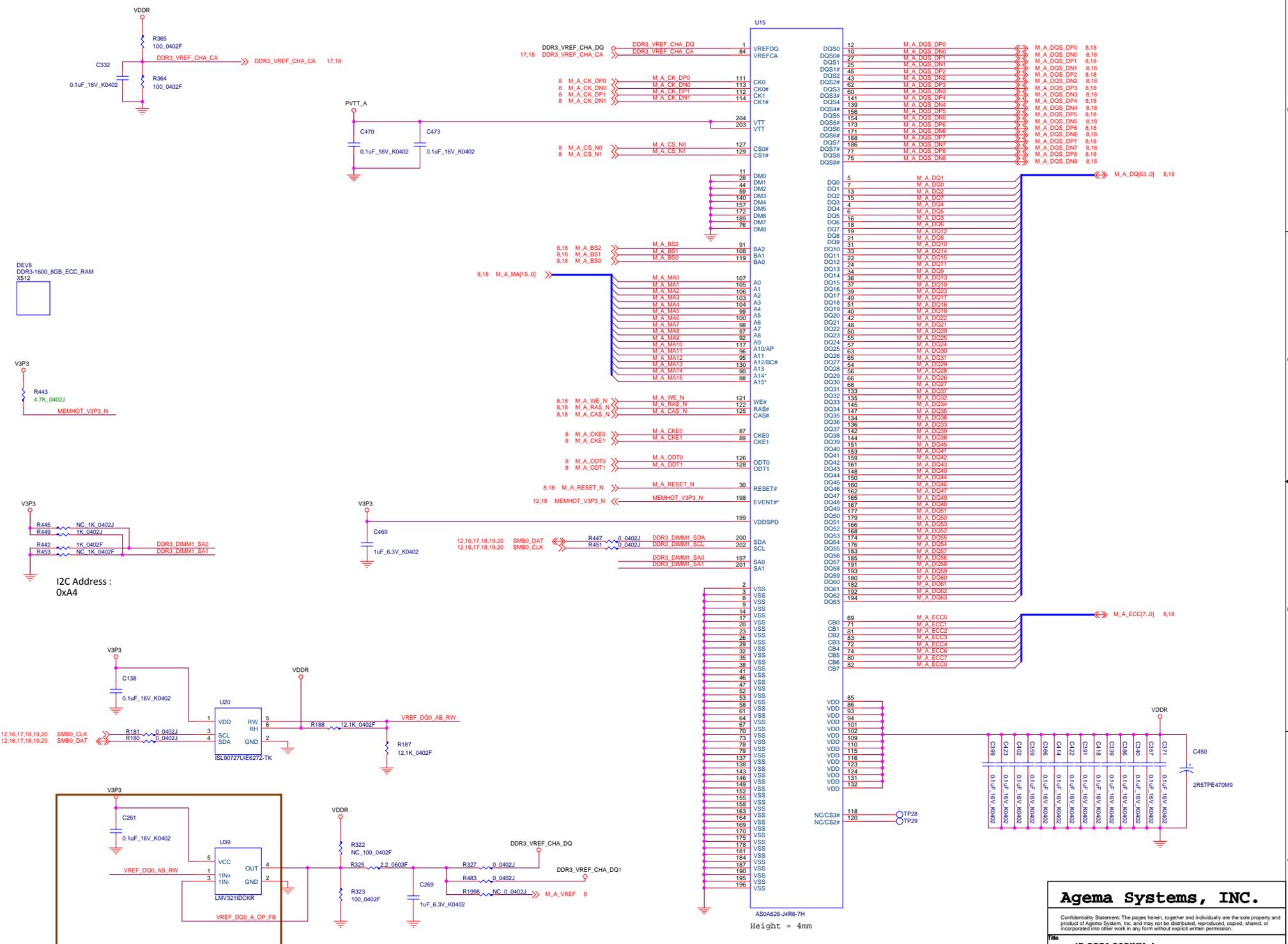
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File: **16_CLOCK GENERATOR_BUFFER**

Size: Document Number **1ADSS-0XXXXX** Rev **1.1**

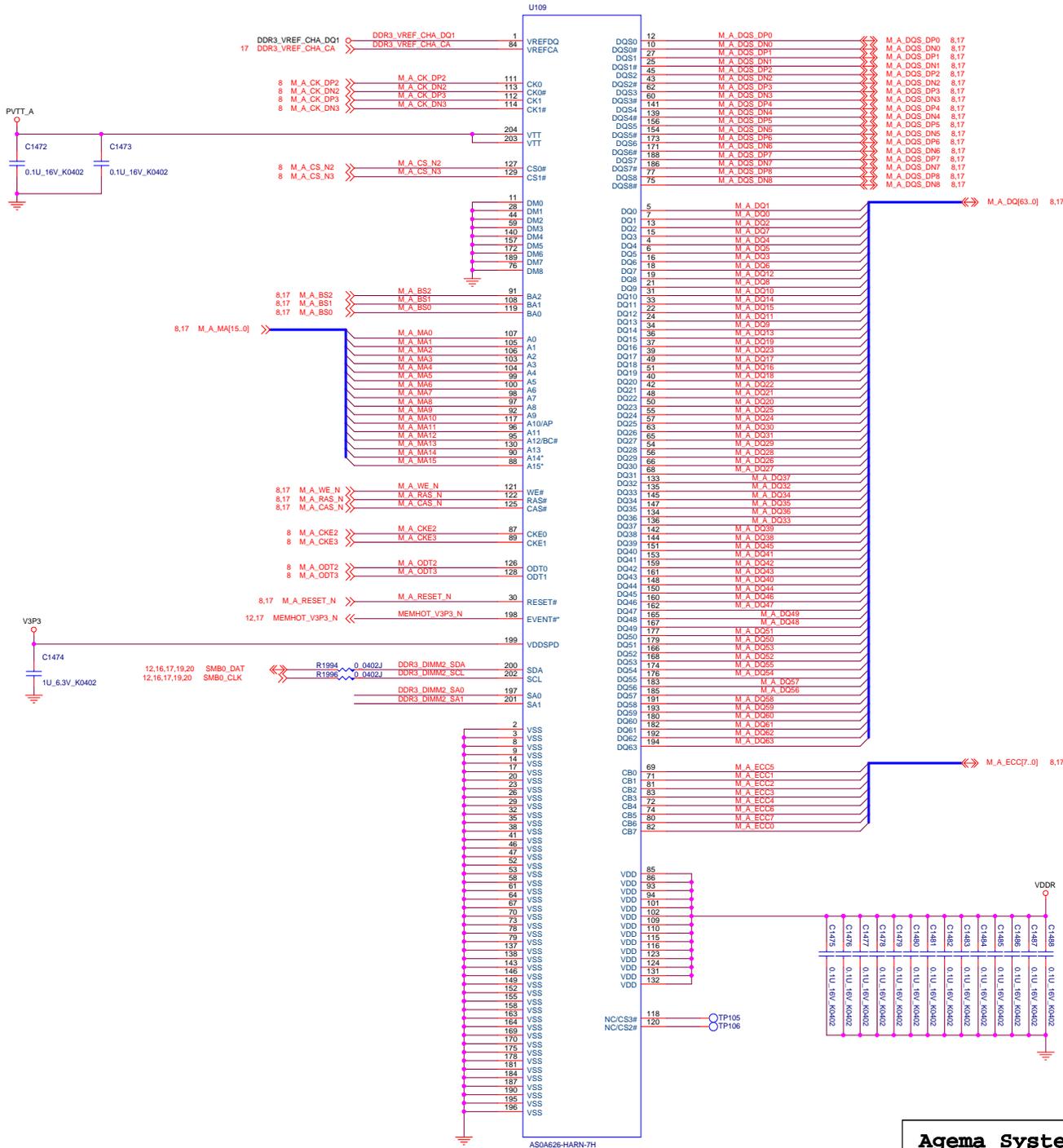
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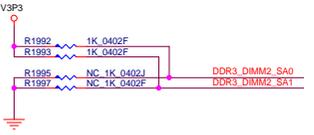
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File	17_DDR3-SODIMM_A	
Size	Document Number	Rev
C	1ADSS-0XXXXX	1.1
Date:	Friday, October 07, 2016	Sheet 17 of 31



DEV12
DDR3-1600_2GB_ECC_RAM
5040733220



I2C Address : 0xA6

AS0A626-HARN-7H
Height = 9.2mm

Agema Systems, INC.

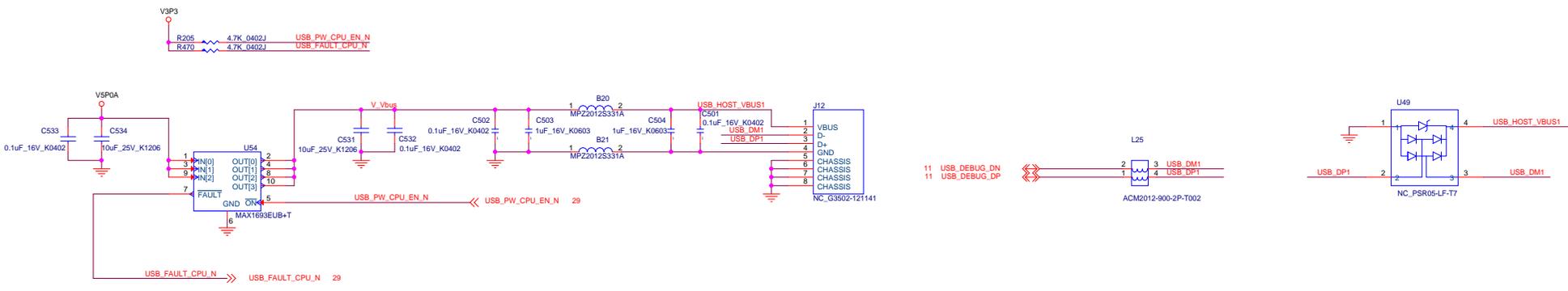
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File: **18_DDR3-SODIMM_B**

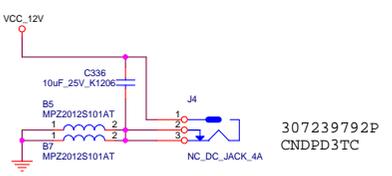
Size: **C** Document Number: **1ADSS-0XXXXX** Rev: **1.1**

Date: **Friday, October 07, 2016** Sheet **18** of **31**

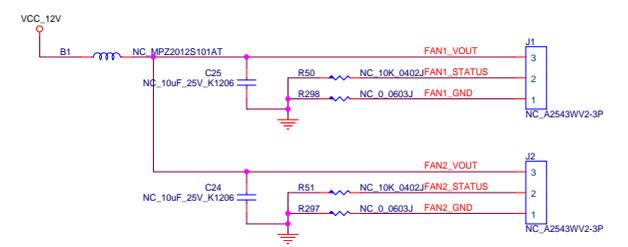
USB Port



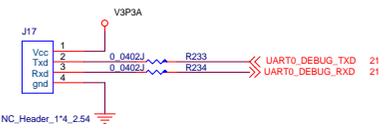
DC-12VIN Connector For Debug



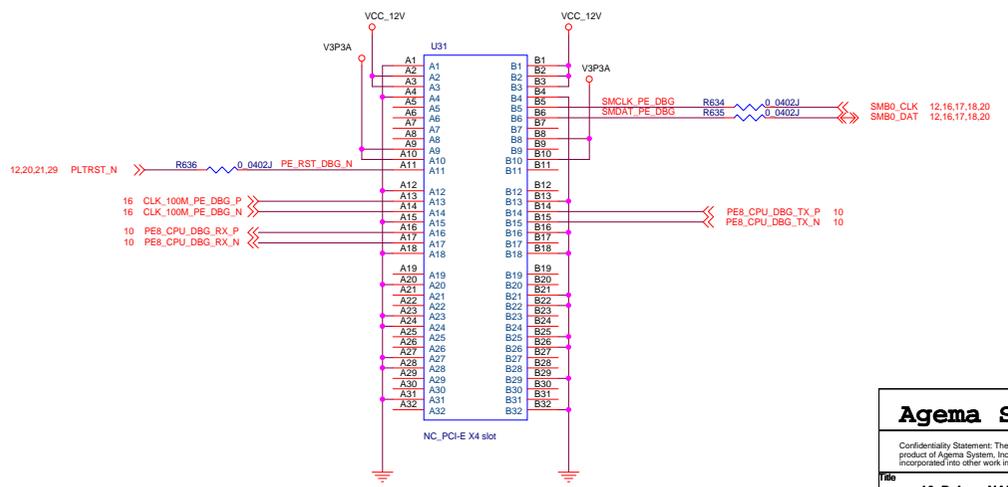
FAN Connector (Reserved)



Console Port (RJ45)



PCIe Slot

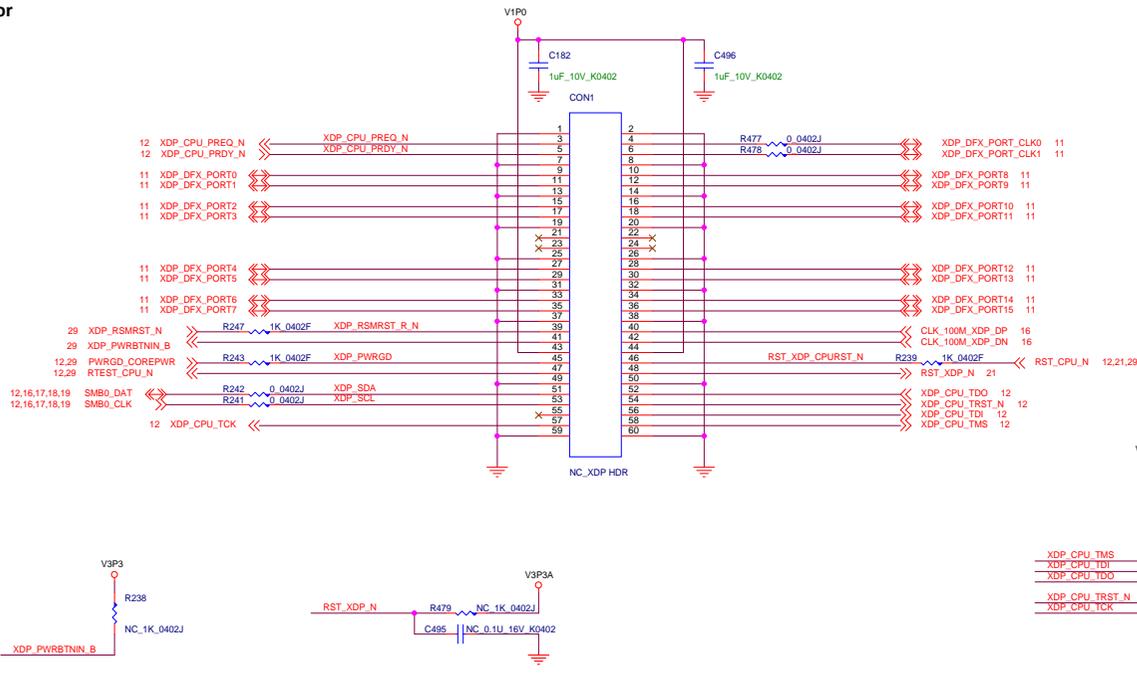


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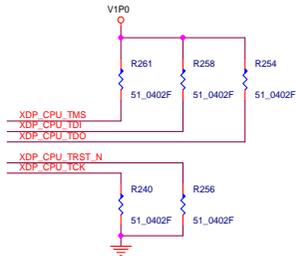
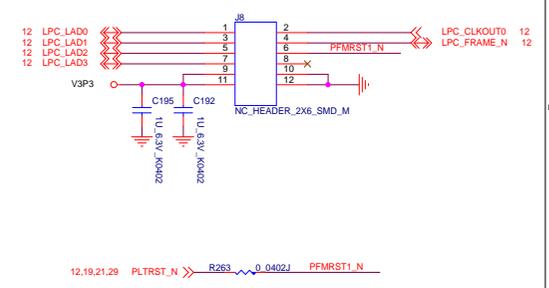
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File	18_Debug_UART_USB_DC12V_PCIeCon		
Size	Document Number		Rev
C	1ADSS-0XXXXX		1.1
Date:	Friday, October 07, 2016	Sheet	19 of 31

1. XDP Connector

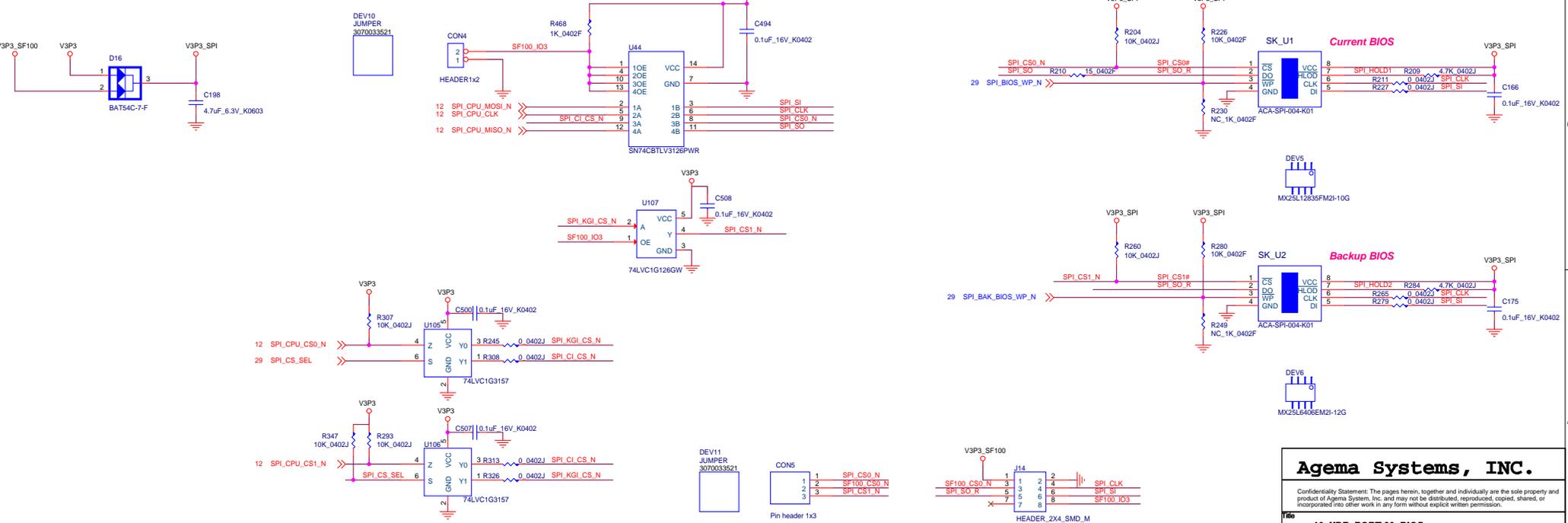


2. PORT-80 Connector



3. Redundant SPI flash for BIOS

The IO3 are driven low when the SF100 Programmer is running.

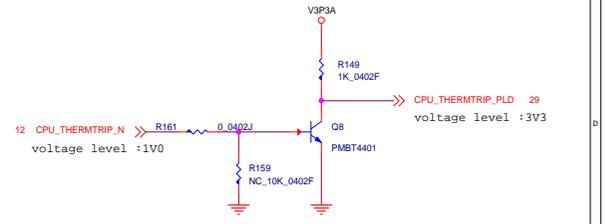
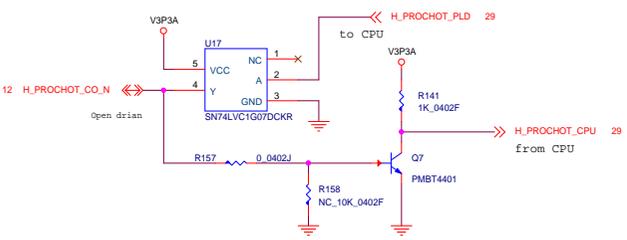
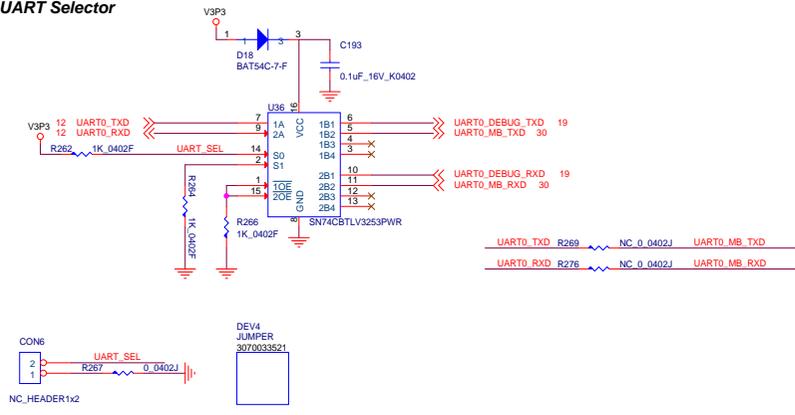


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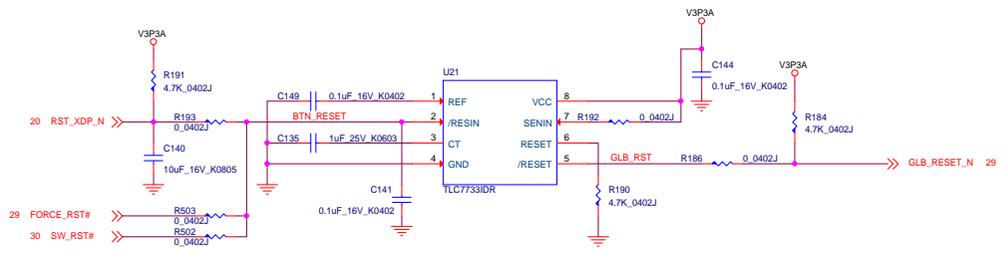
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File	19_XDP_PORT 80_BIOS	
Size	Document Number	Rev
C	1ADSS-0XXXXX	1.1
Date:	Friday, October 07, 2016	Sheet 20 of 31

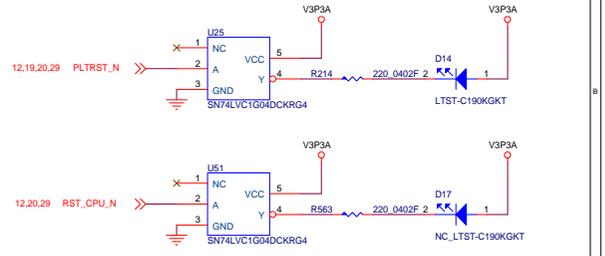
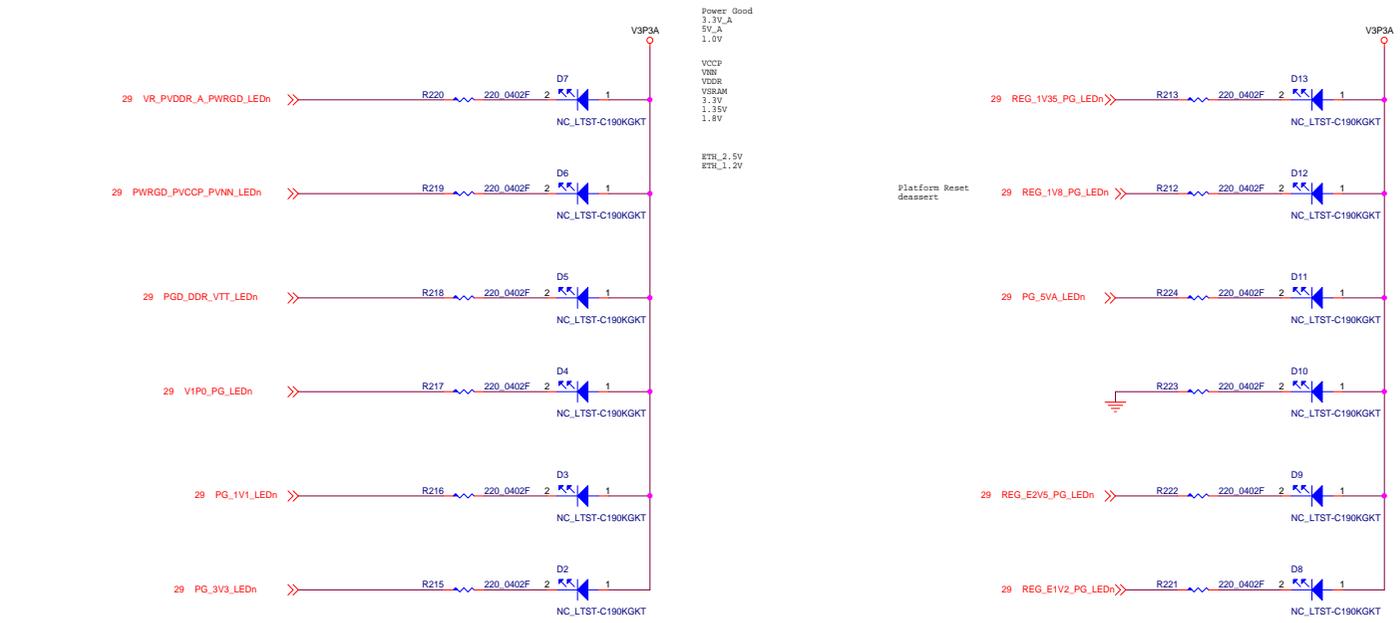
UART Selector



Reset IC



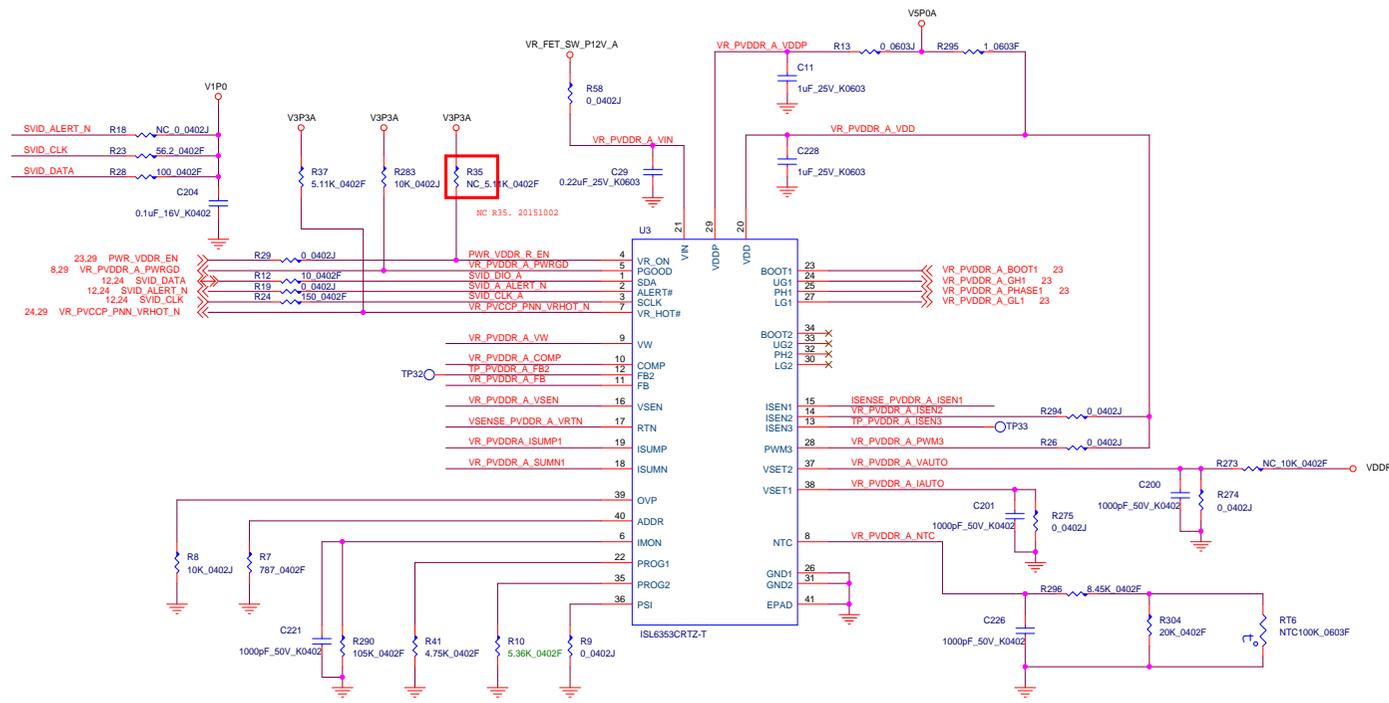
LEDs for debug

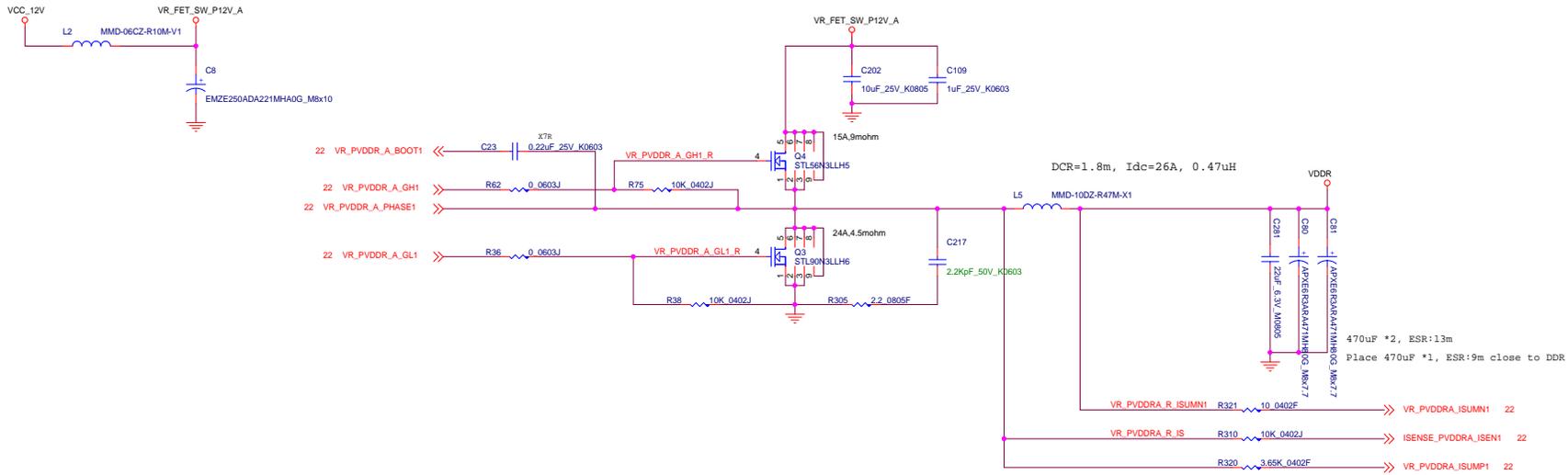


Agema Systems, INC.

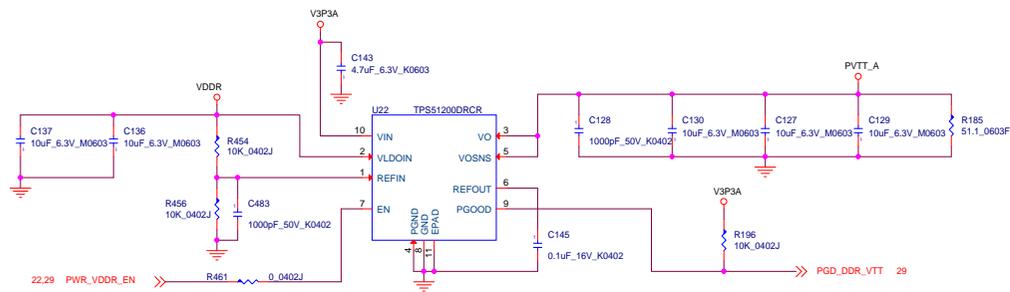
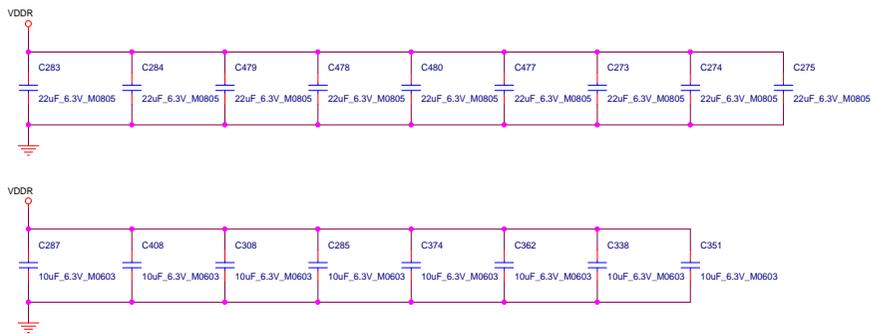
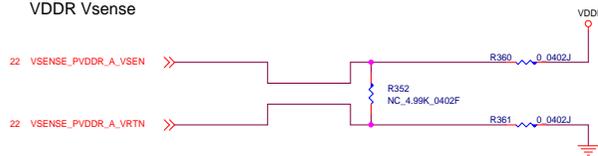
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File	20_MISC_RESET_DB-LED_UART_MUX		
Size	Document Number		Rev
C	1ADSS-0XXXXX		1.1
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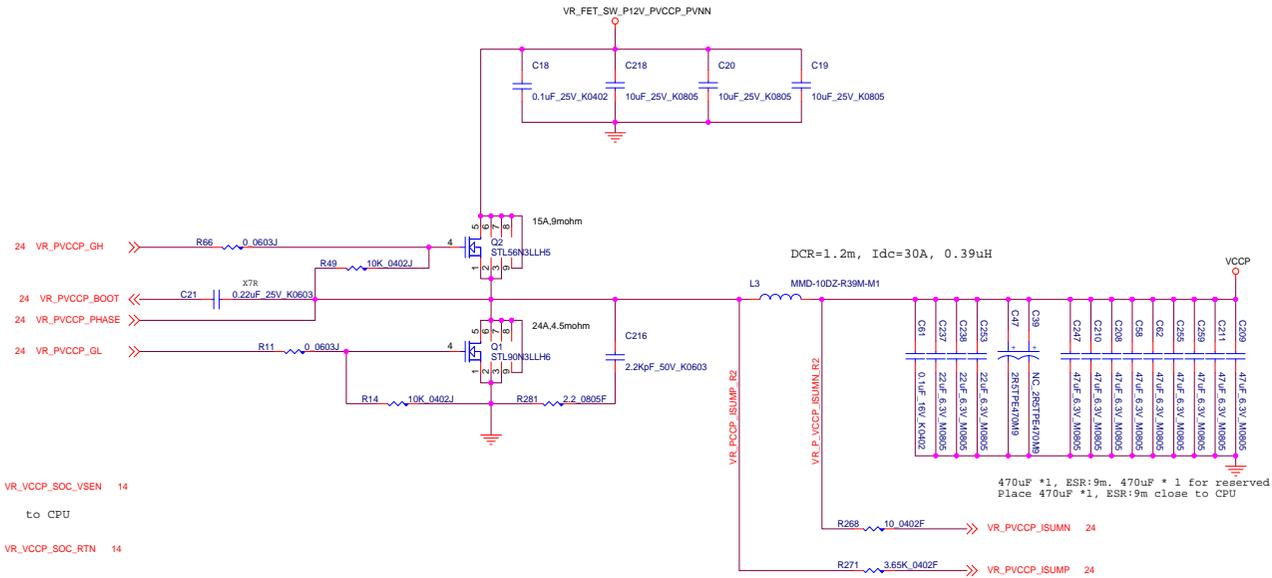
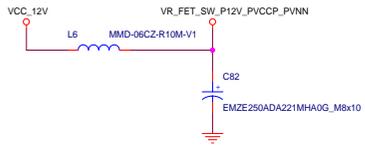
VDDR Vsense



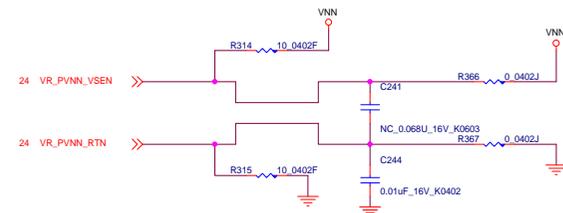
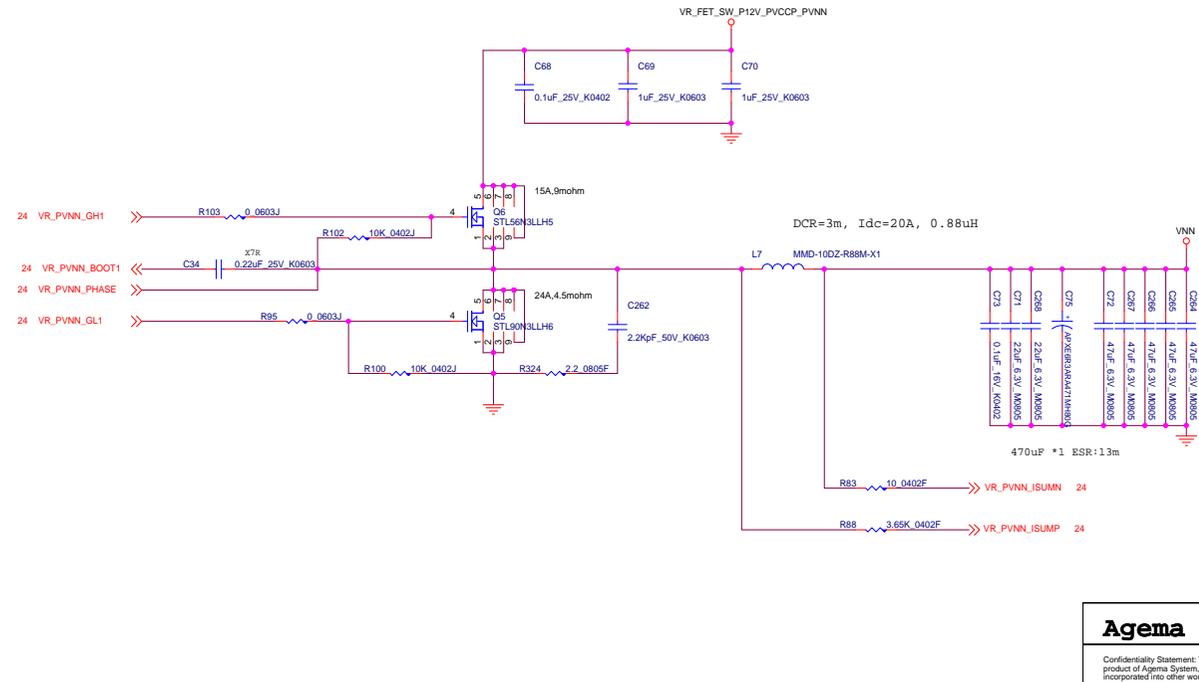
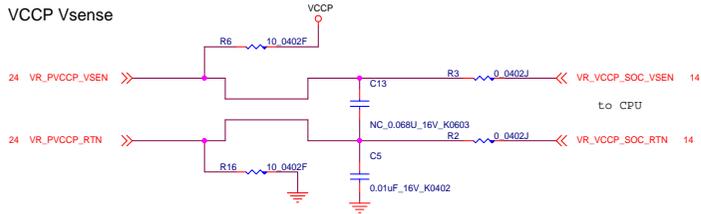
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File		
22_POWER_CPU_DDR_2_VTT		
Size	Document Number	Rev
C	1ADSS-0XXXXX	1.1
Date:	Friday, October 07, 2016	Sheet 23 of 31



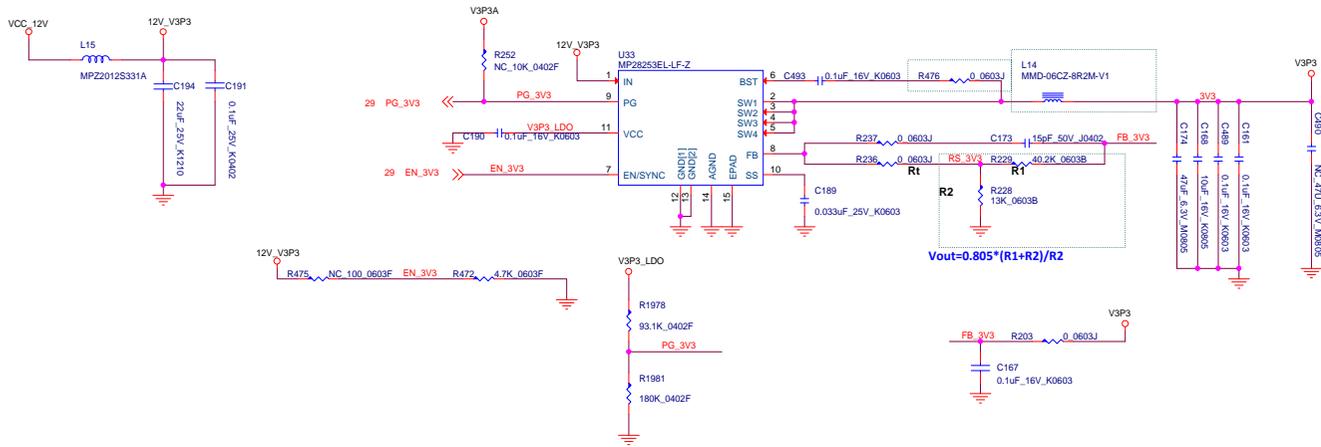
VCCP Vsense



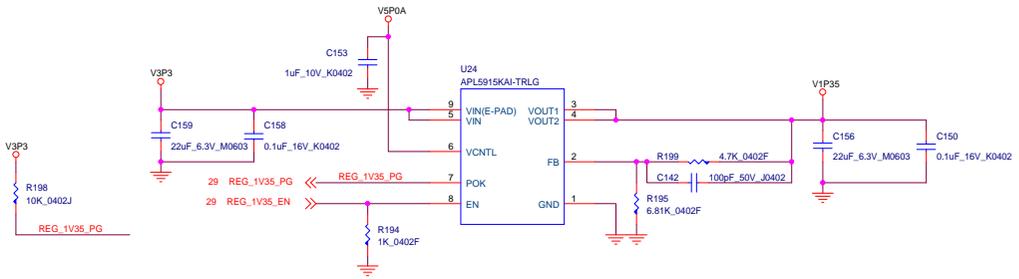
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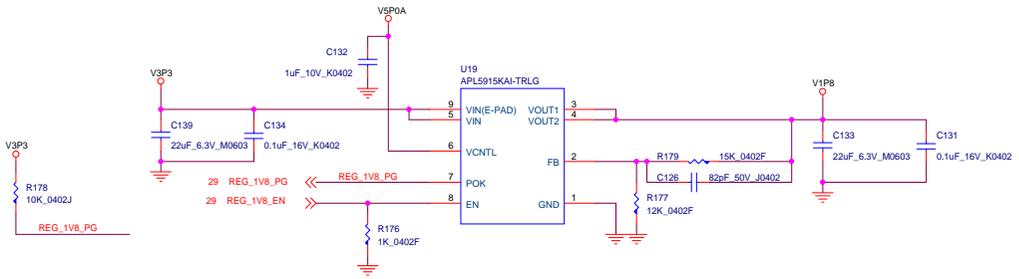
File	24_POWER_CPU_VCCP_VNN_2		
Size	Document Number		Rev
C	1ADSS-0XXXXX		1.1
Date:	Friday, October 07, 2016	Sheet	25 of 31



3.3V to 1.35V



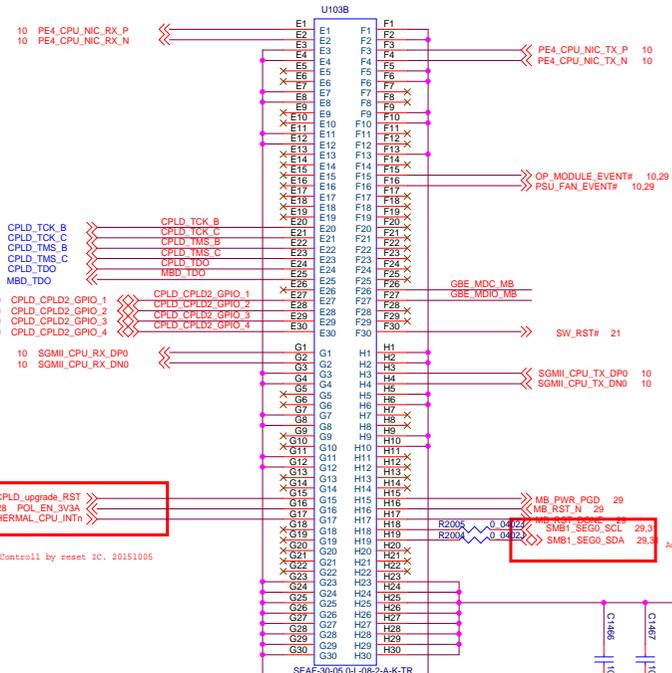
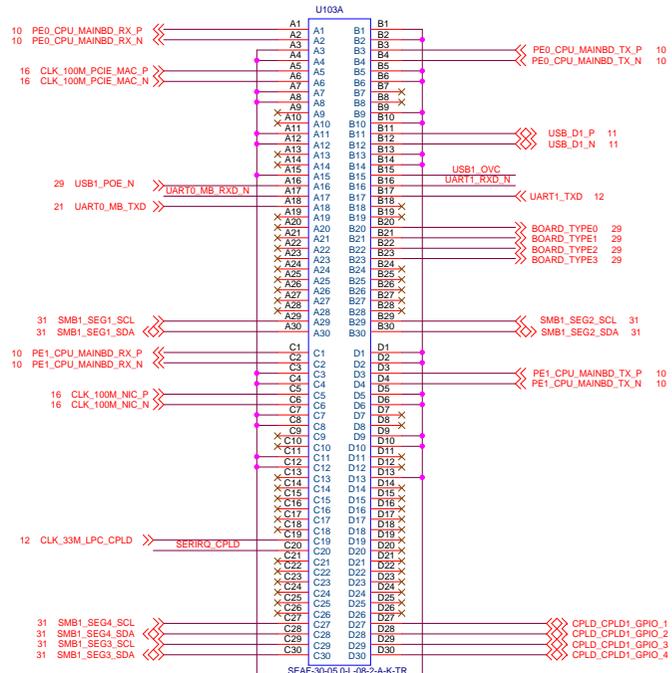
3.3V to 1.8V



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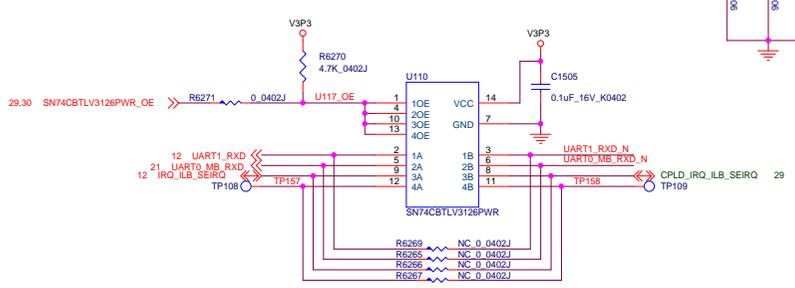
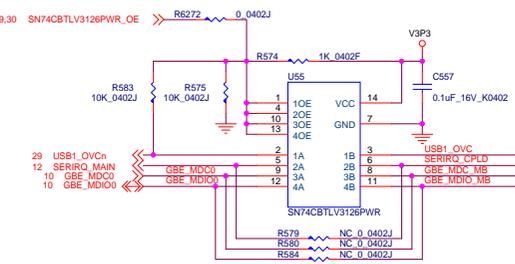
File	26_POWER_CPU_3V3_1V35_1V8	
Size	Document Number	Rev
C	1ADSS-0XXXXX	1.1
Date:	Friday, October 07, 2016	Sheet 27 of 31



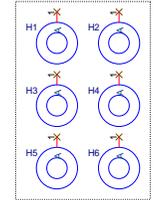
29 CPLD upgrade_RST
28 POL_EN_3V3A
29.31 THERMAL_CPU_INT1

Control by reset IC: 20151005

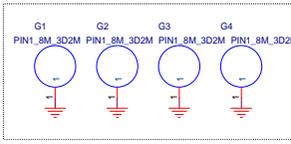
Add 12c switch path 0: 20151005



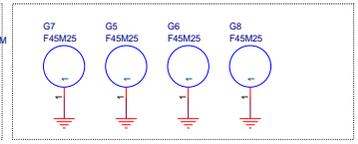
FOR SMT



FOR CPU BOARD



FOR CPU HEAT-SINK WITH STAND OFF PUT AT SIDE2

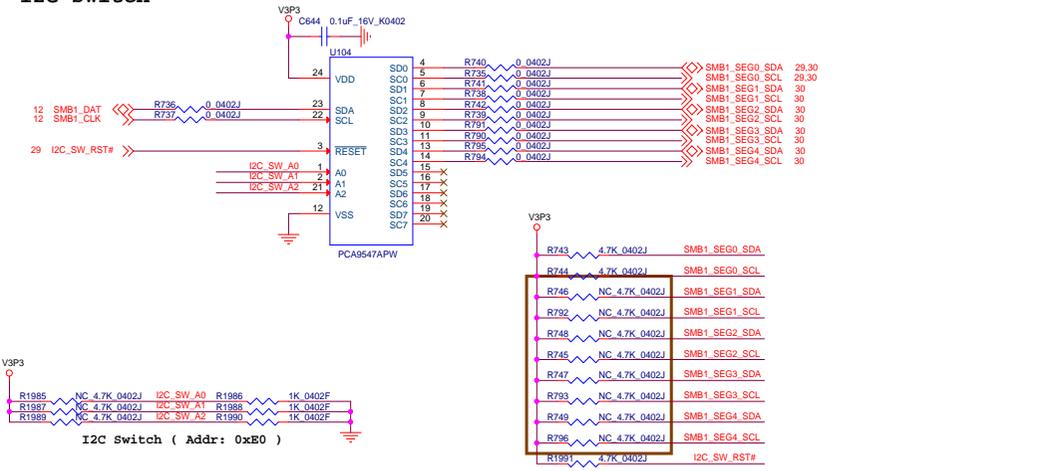


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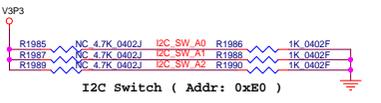
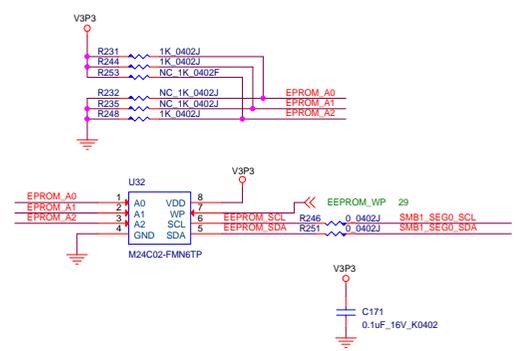
File	29_B2B_Connector	
Size	Document Number	Rev
C	1ADSS-0XXXXX	1.1
Date:	Friday, October 07, 2016	Sheet 30 of 31

I2C Switch

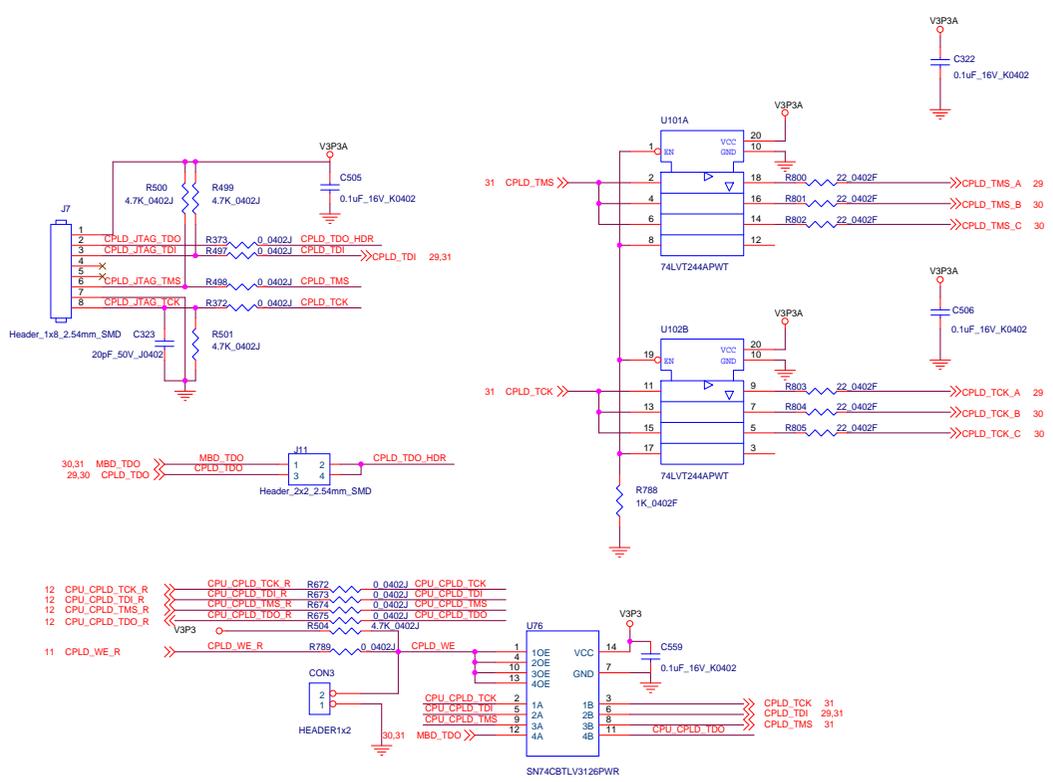


NC I2C pull high resistor to isolate the 3V3 leakage problem. 20151015

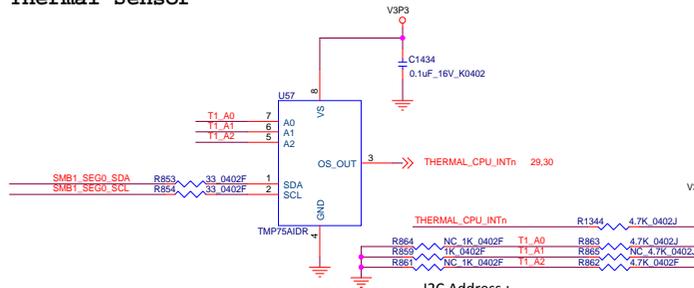
ID EEPROM



I2C Switch (Addr: 0x80)



Thermal Sensor



I2C Address : 0x9A

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File	30_I2C_SW_TEMP Sensor_ID EEPROM		
Size	Document Number	Rev	
C	1ADSS-0XXXXX	1.1	
Date:	Friday, October 07, 2016	Sheet	31 of 31