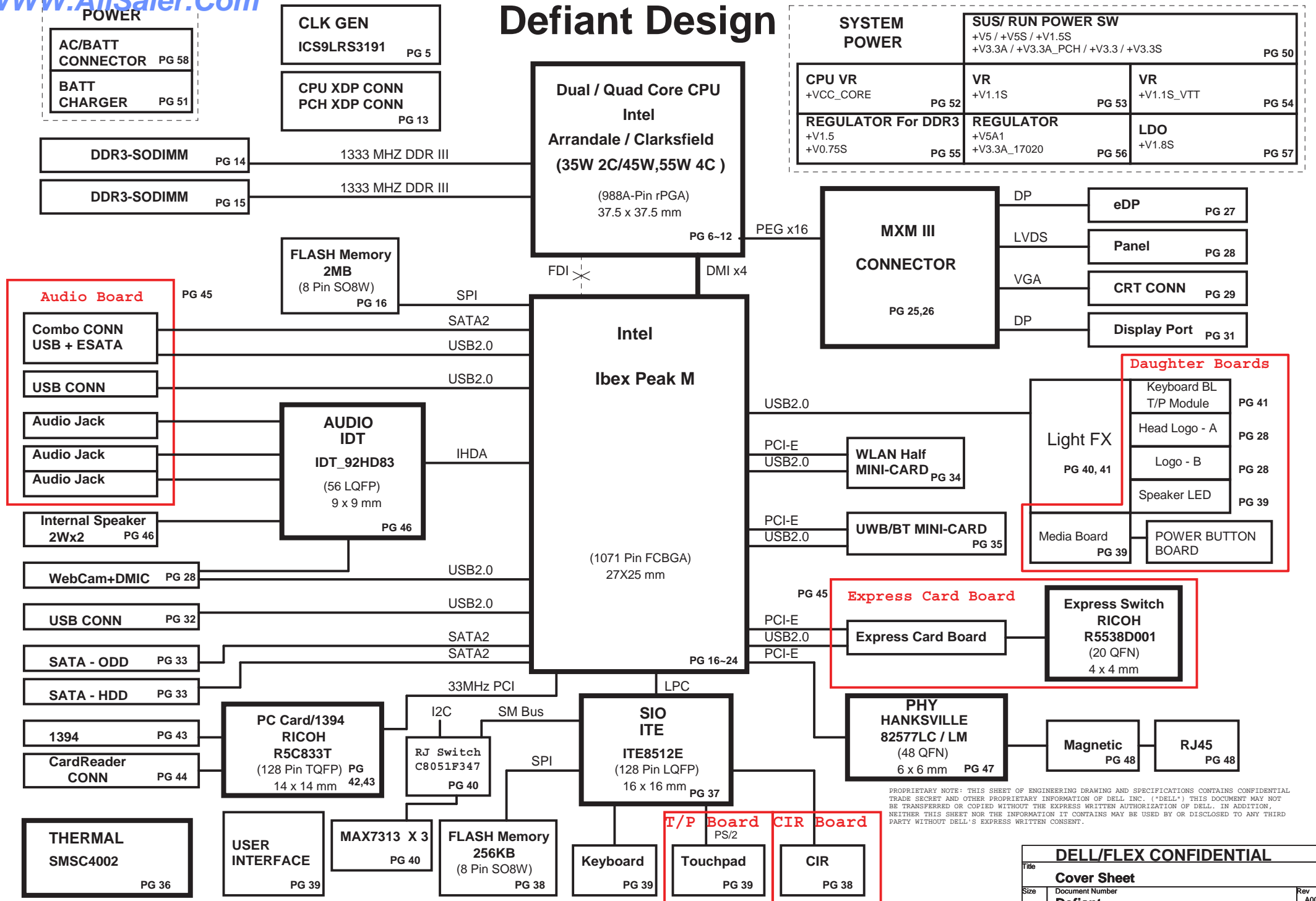


# Defiant Design



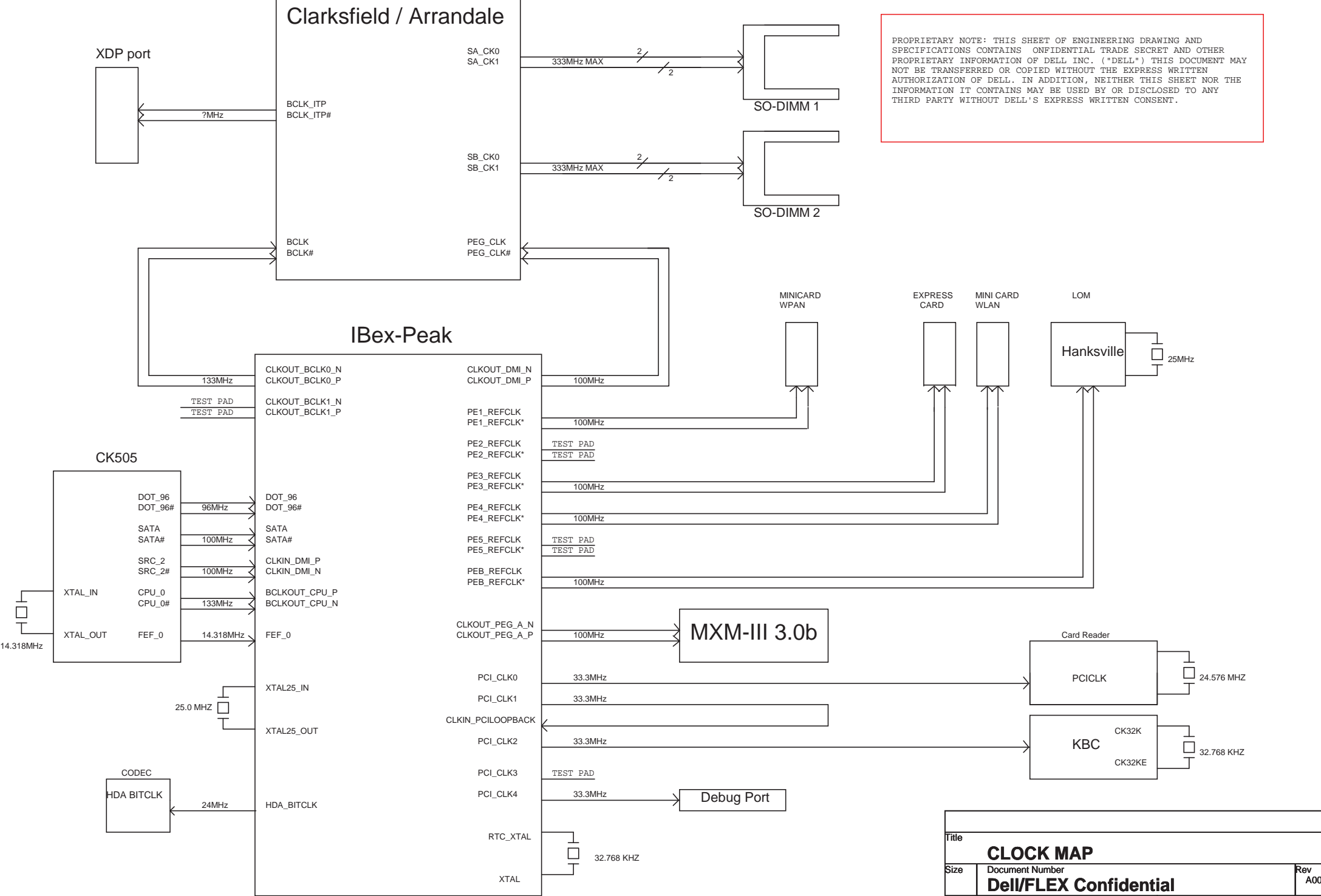
INDEX		INDEX	
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3	CLOCK MAP	45	Audio Board and Exp Board CONN
4	POWER SEQUENCING	46	Audio_(92HD83)/CON
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25,26	MXM CONN	53	+V1.1S (MAX8792)
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28	LCD Conn	55	DDR3 1.5V/0.75V (MAX8632)
29	CRT Conn	56	SYS 5V/3V(MAX17020)
30	MXM& PCH DDC/ AUX MUX	57	+V1.8S (RT9025-25PSP)
31	DP CONN	58	DCIN,Batt
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33	HDD & CD ROM/ G-Sensor	60	Power Block Diagram
34	MINI-CARD (WLAN)	61	Reset Map
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39	Keyboard, Daughtor Board conn & User Interface	66-67	HISTORY
40,41	LED Light FX		

Power States								
Power Rail	Control Signal	S0	S3	S4	S5	G3	S4/ M-off	S5/ M-off
+PWR_SRC	N/A	V	V	V	V			
+V0.75S	RUN_ON	V						
+V1.1S_VTT	+V1.1S_VTT_MXM1_PWRON	V						
+V1.1S	RUN_ON	V						
+V1.5S	RUN_ON	V						
+V1.5	SUS_ON	V	V					
+V1.8S	RUN_ON	V						
+V3.3A	3V_ALW_ON	V	V	V	V			
+V3.3M_LAN	PM_SLP_LAN#	V	define WOL	define WOL	define WOL			
+V3.3S	RUN_ON	V						
+V3.3	SUS_ON	V	V					
+V5A1	+5V_EN2	V	V	V	V			
+V5A2	+PWR_SRC	V	V	V	V			
+V5	SUS_ON	V	V					
+5V_HDD	N/A	V						
+5V_MOD	N/A	V						
+V5S	RUN_ON	V						
+GFX_PWR_SRC	RUN_ON	V						
+LCDVCC	ENVDD	V						
+V3.3A_RTC	RTC	V	V	V	V	V		
+VCC_CORE	IMVP_VR_ON	V						
+USB_RIGHT_PWR	USB_SIDE_EN#	V	define	define				
+USB_LEFT_PWR	USB_BACK_EN#	V	define					
+V15_A	N/A	V	V	V	V			
+V3.3A_17020	+3.3V_EN2	V	V	V	V			
+V1.0M_LAN	PM_SLP_LAN#	V	define WOL	define WOL	define WOL			

By Albert

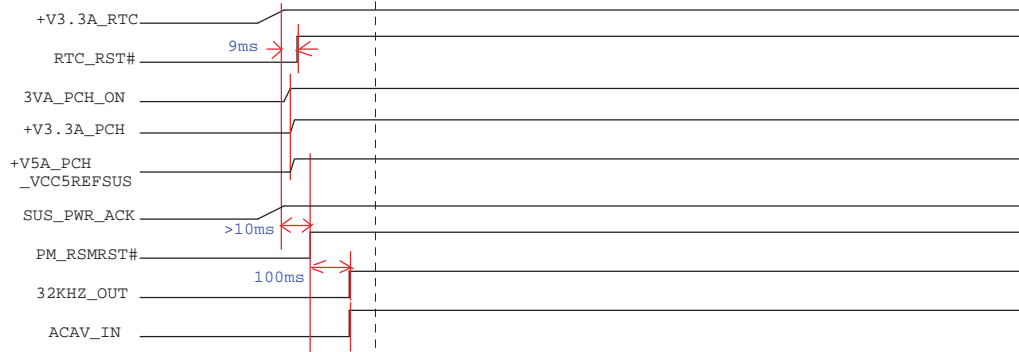
PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL"). THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.

Title			
FRONTPAGE			
Size	Document Number		Rev
	Dell/FLEX Confidential		A00
Date:	Wednesday, August 12, 2009	Sheet	2 of 66

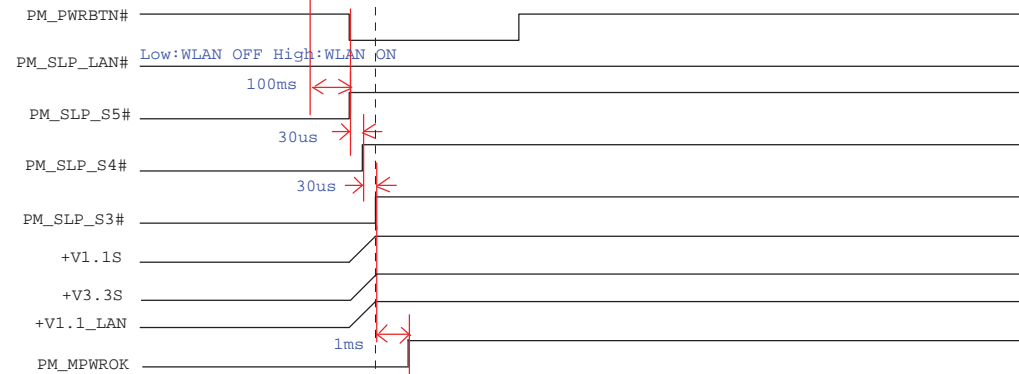


Title			<b>CLOCK MAP</b>		
Size	Document Number				Rev
	<b>Dell/FLEX Confidential</b>				A00
Date:	Wednesday, August 12, 2009		Sheet	3	of 66

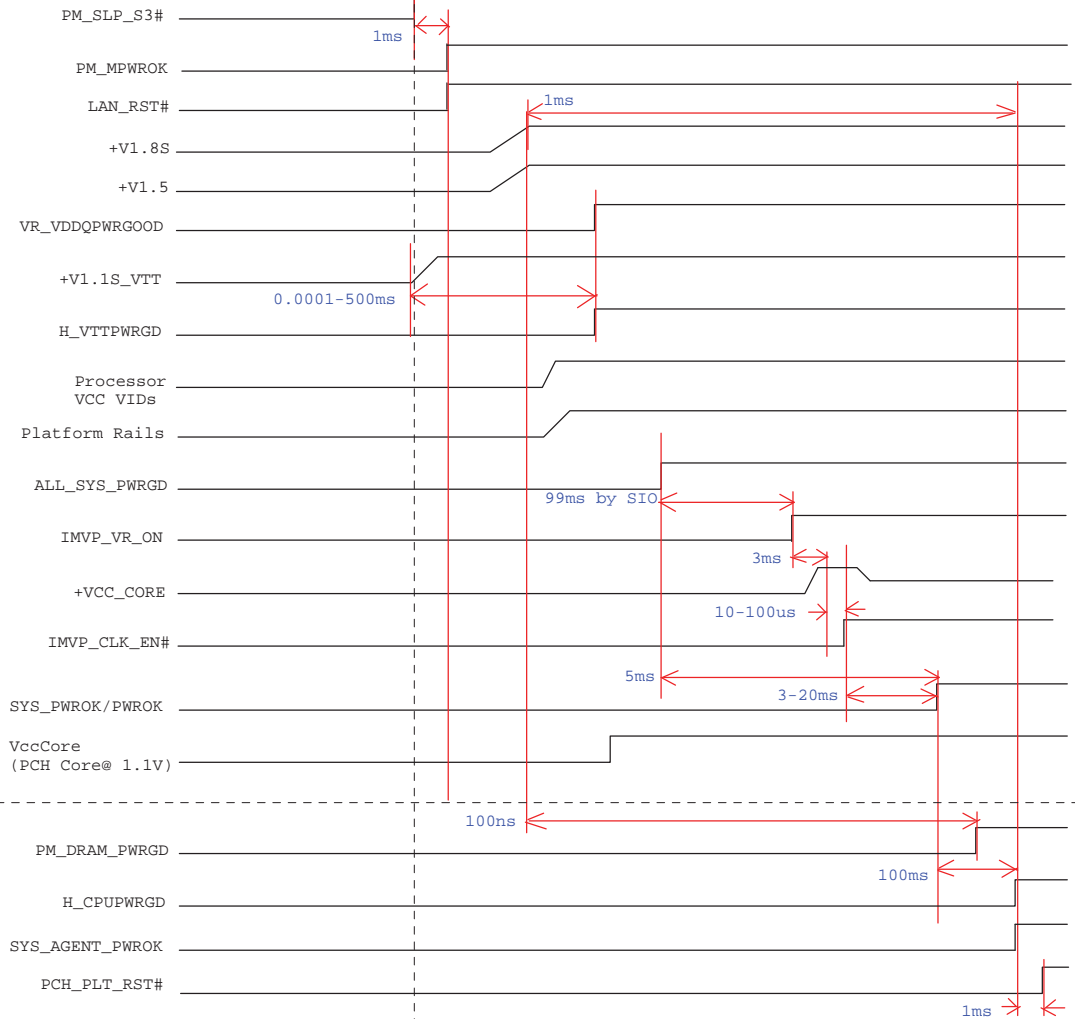
## G3 to Sx



## Sx to S0

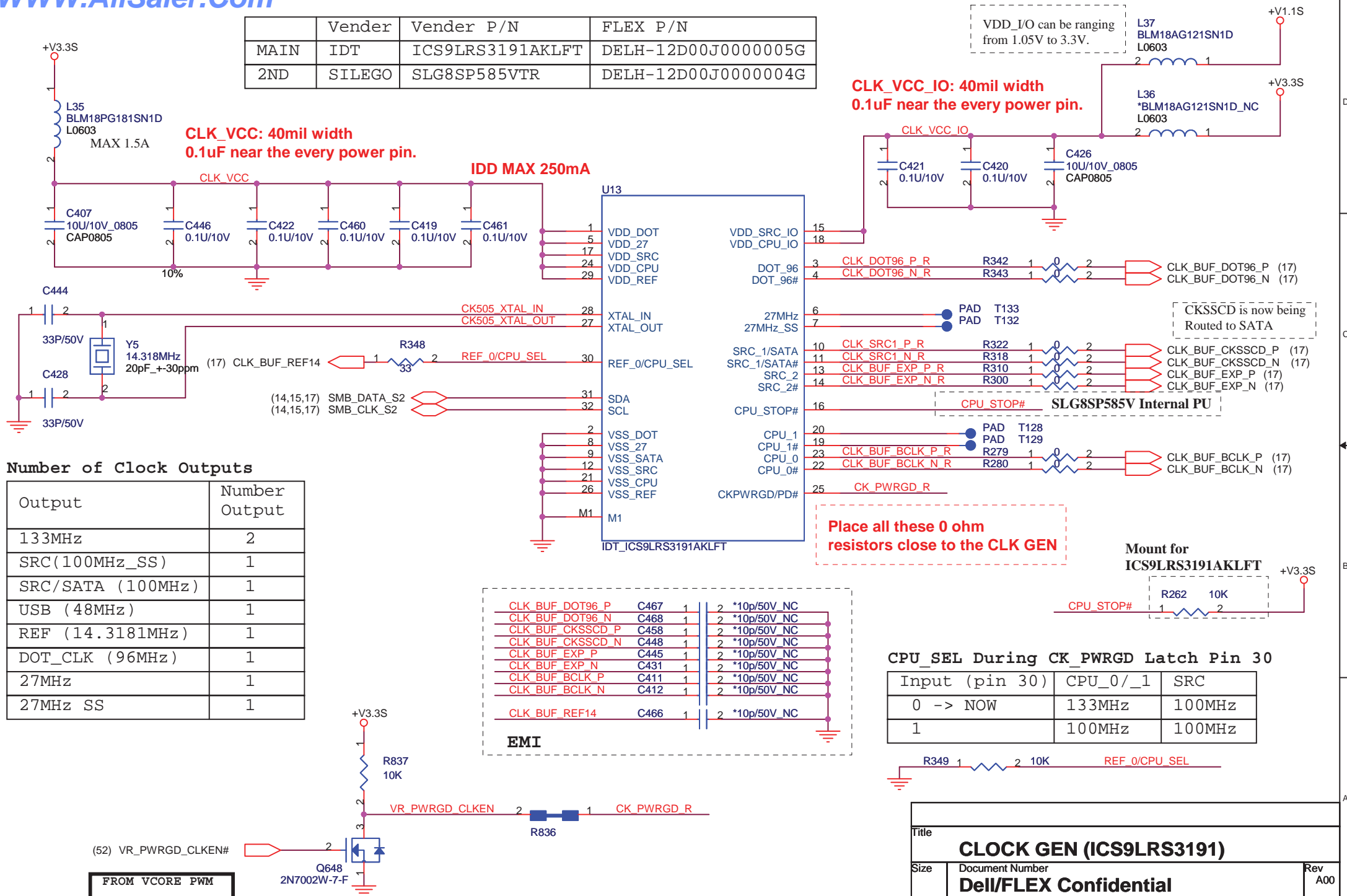


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Title			POWER SEQUENCING		
Size	Document Number		Dell/FLEX Confidential		Rev A00
Date:	Wednesday, August 12, 2009		Sheet	4	of 66

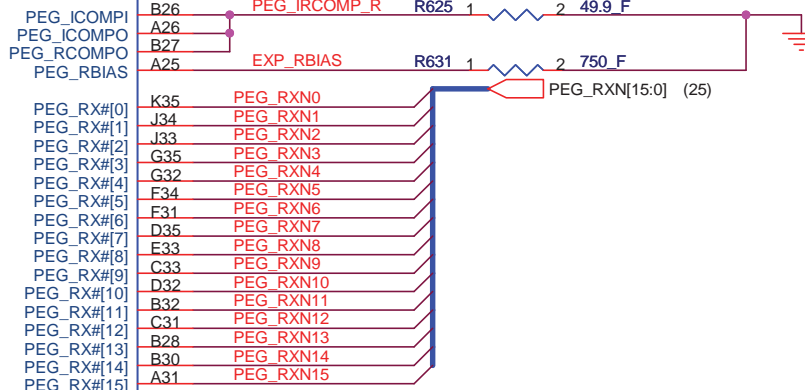
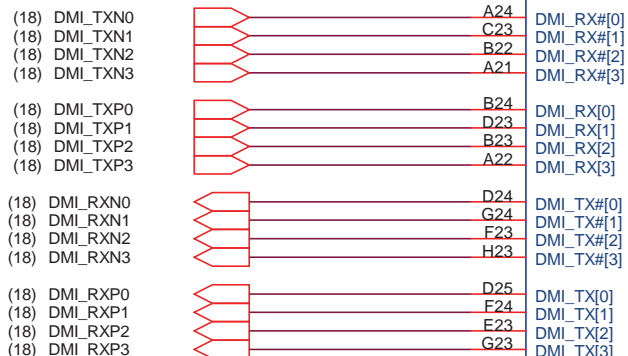
	Vender	Vender P/N	FLEX P/N
MAIN	IDT	ICS9LRS3191AKLFT	DELH-12D00J00000005G
2ND	SILEGO	SLG8SP585VTR	DELH-12D00J00000004G



Title		
CLOCK GEN (ICS9LRS3191)		
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	Del/FLEX Confidential	A00
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# ARRANDALE/CLARKSFIELD PROCESSOR (DMI,PEG,FDI)

U600A



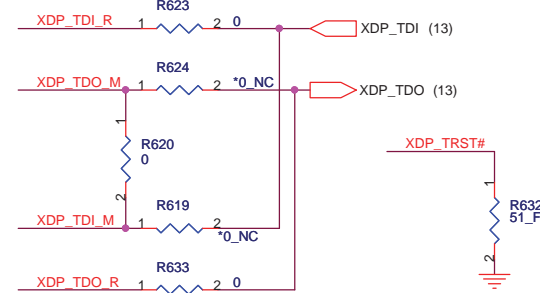
PCI EXPRESS - GRAPHICS

CPU\_FOXCONN\_PZ98927-3641-01F

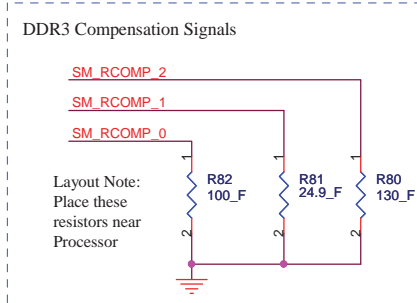
CPU Socket	FLEX P/N
FOXCONN	DELH-39D0120000003G
TYCO	DELH-39D0120000006G
Lotes	DELH-39D0120000007G

CLARKSFIELD CPU	FLEX P/N
45W 1G6 i7-720QM	DELH-11D00100000032G
45W 1G73 i7-820QM	DELH-11D00100000033G
55W 2G i7-920XM	DELH-11D00100000034G

Title		
CPU (DMI,PEG,FDI) 1/7		
Size	Document Number	Rev
	Del/FLEX Confidential	A00
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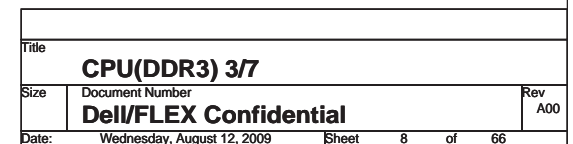


<i>Scan Chain (Default)</i>	
CPU Only	
<i>GMCH Only</i>	



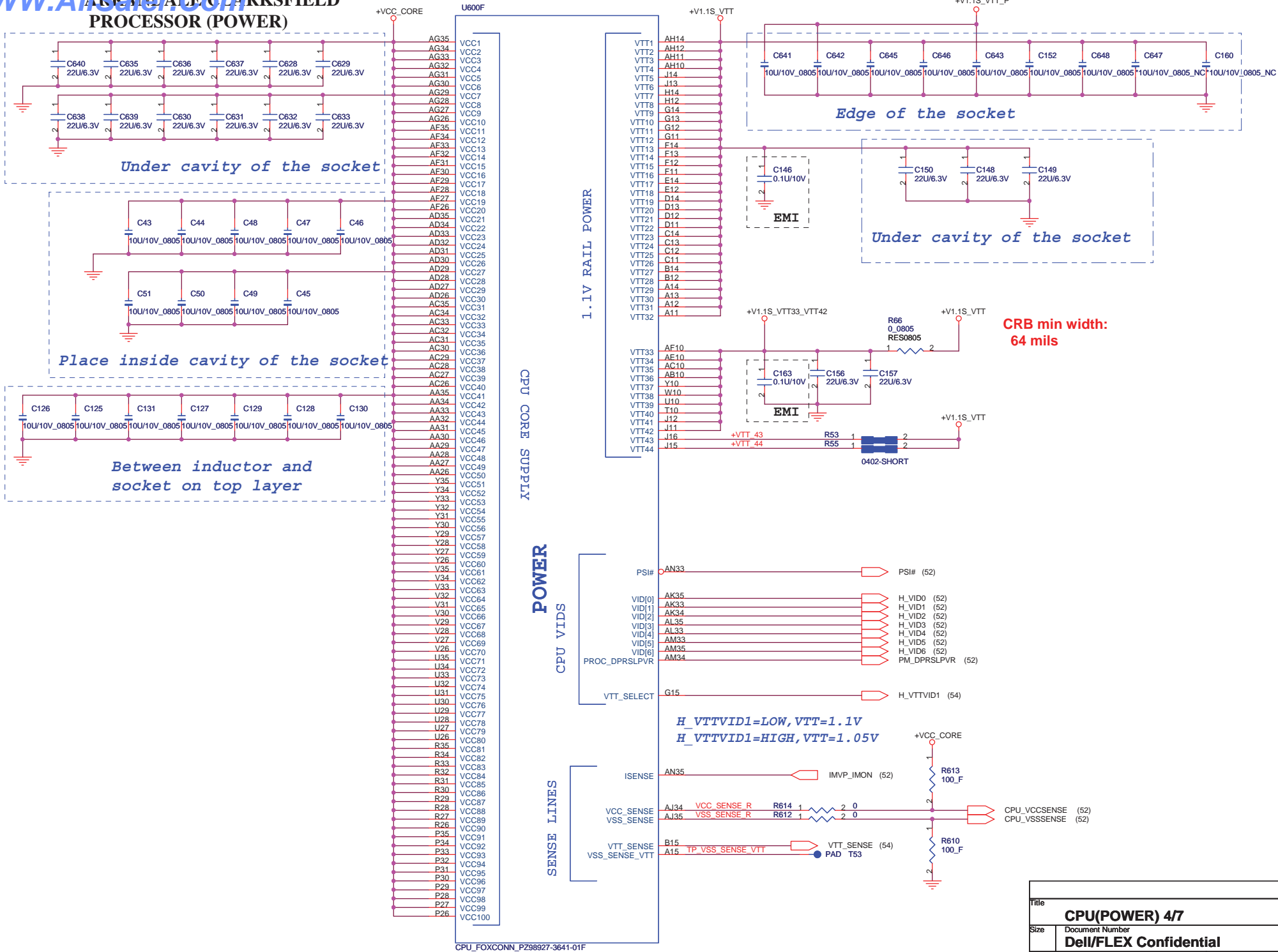
Title				
<b>CPU(CLK,MISC) 2/7</b>				
Size	Document Number			Rev
	<b>Dell/FLEX Confidential</b>			A00
Date:	Wednesday, August 12, 2009	Sheet	7	of 66



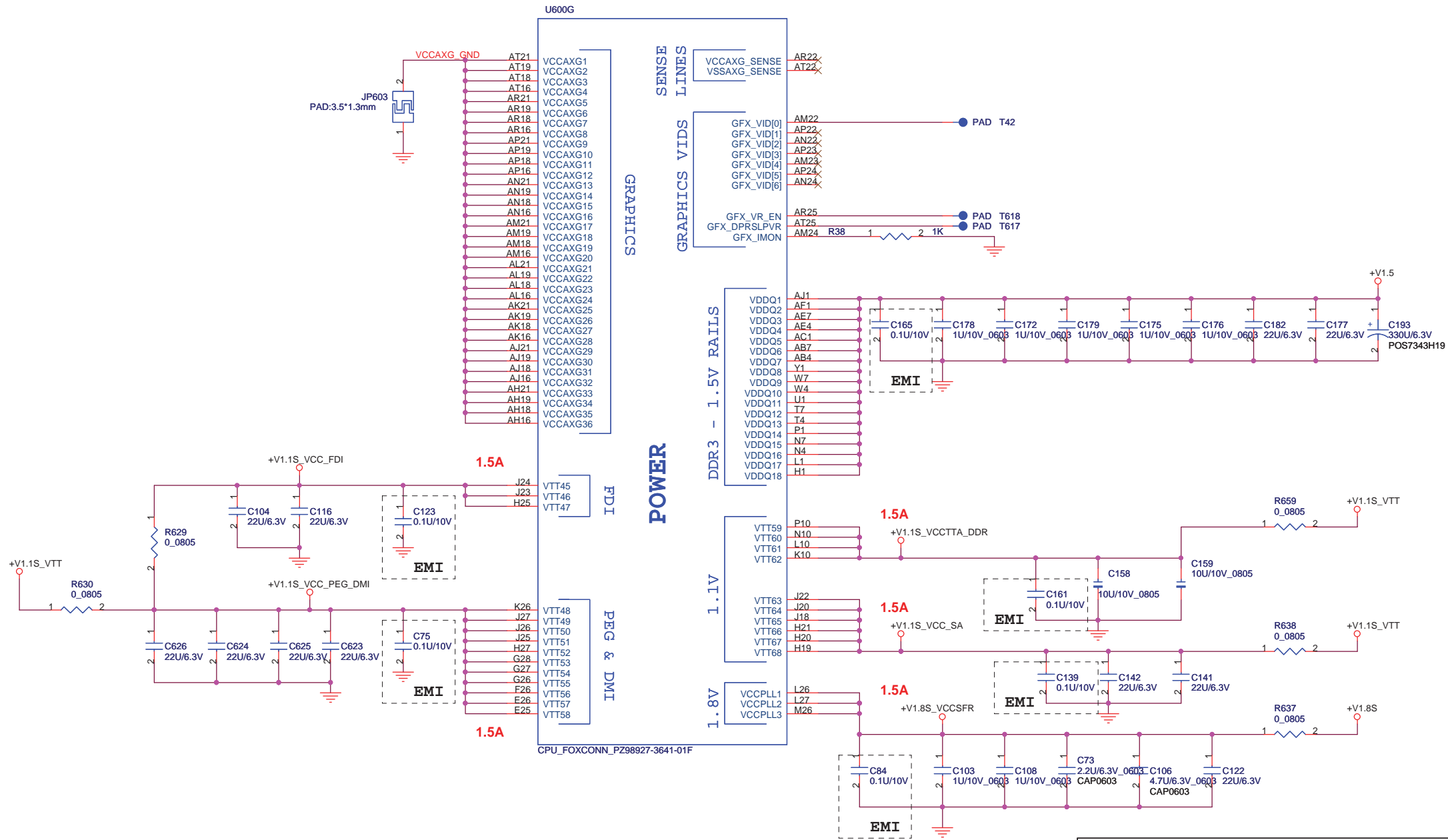




# ASSEMBLY/C MARKSFIELD PROCESSOR (POWER)

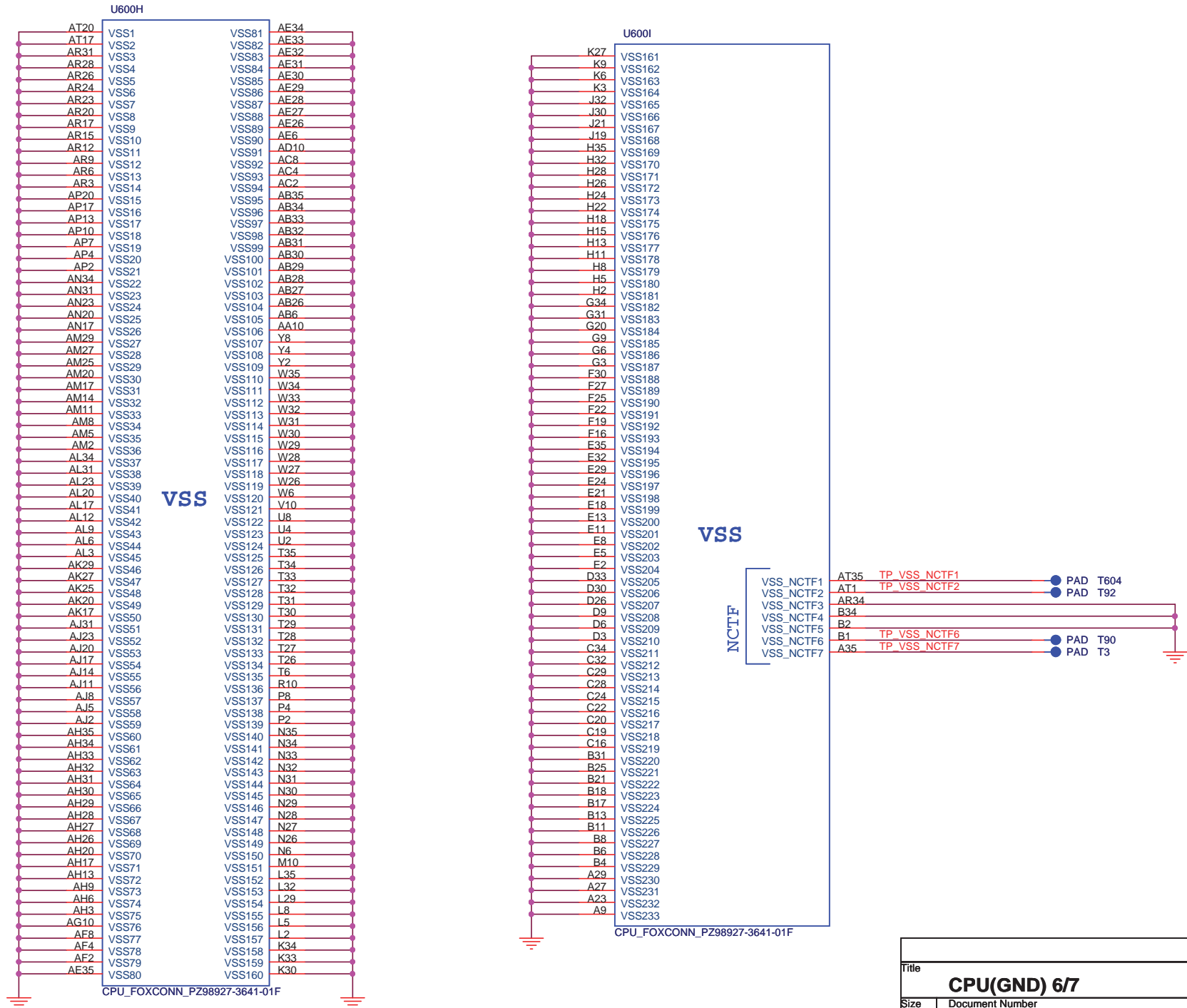


## ARRANDALE/CLARKSFIELD PROCESSOR (GRAPHICS POWER)

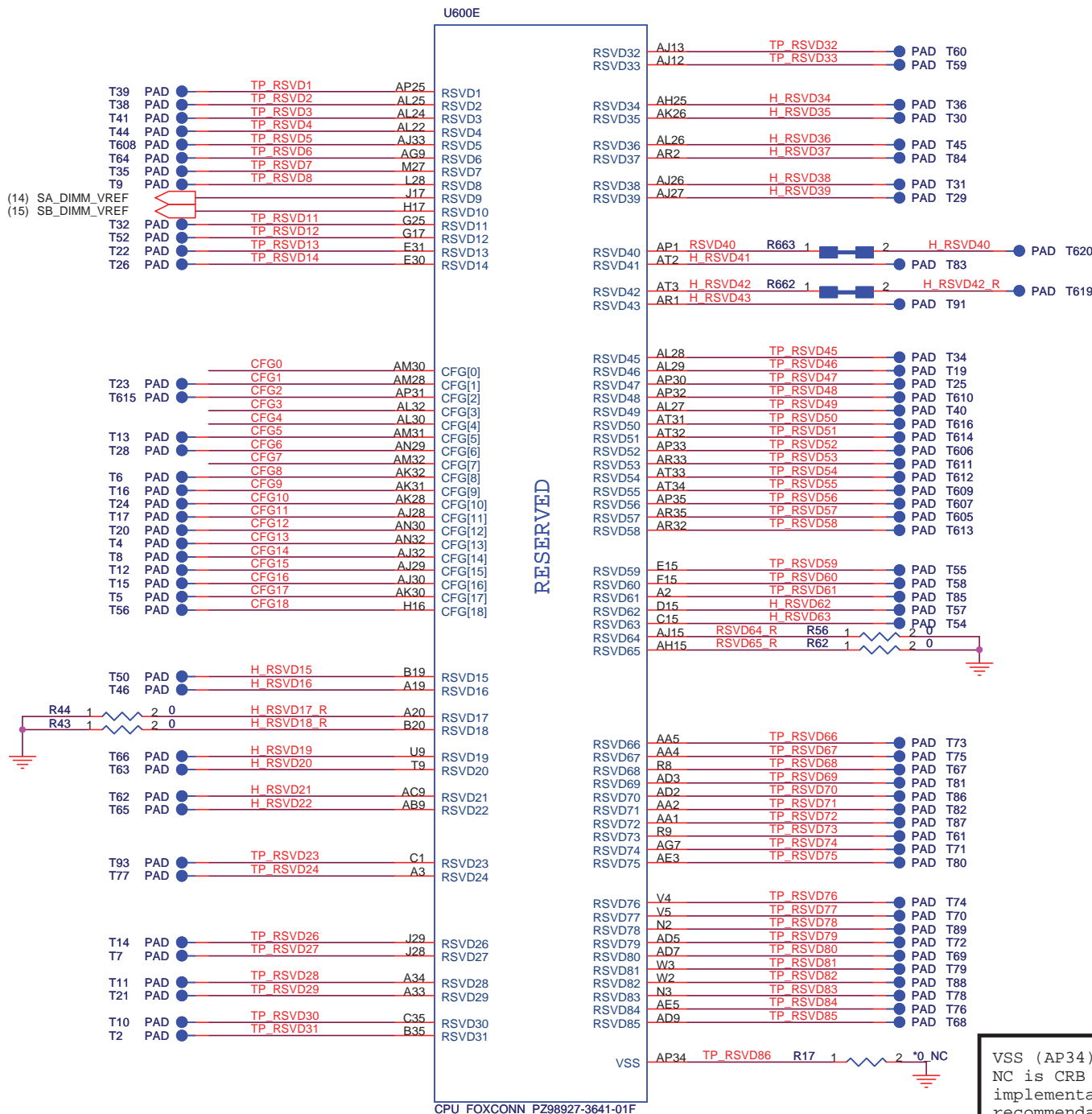


Title		
CPU (GRAPHICS PWR) 5/7		
Size	Document Number	Rev
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ARRANDALE/CLARKSFIELD PROCESSOR (GND)

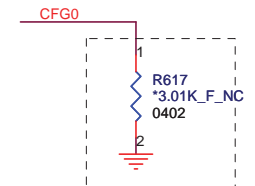


# ATREND/CLARKSFIELD PROCESSOR( RESERVED, CFG)

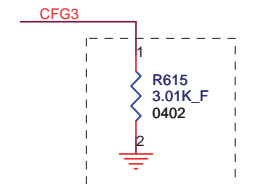


## CFG Straps for PROCESSOR

PCI-Express Configuration Select	
CFG0	1:Single PEG(Default) 0:Bifurcation enabled



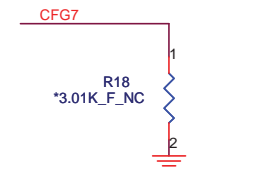
CFG3 - PCI-Express Static Lane Reversal	
CFG3	1 :Normal Operation(Default) 0 :Lane Numbers Reversed 15 > 0, 14 > 1, ...



CFG4 - Display Port Presence	
CFG4	1:Disabled; No Physical Display Port attached to Embedded Display Port (Default) 0:Enabled; An external Display Port device is connected to the Embedded Display Port

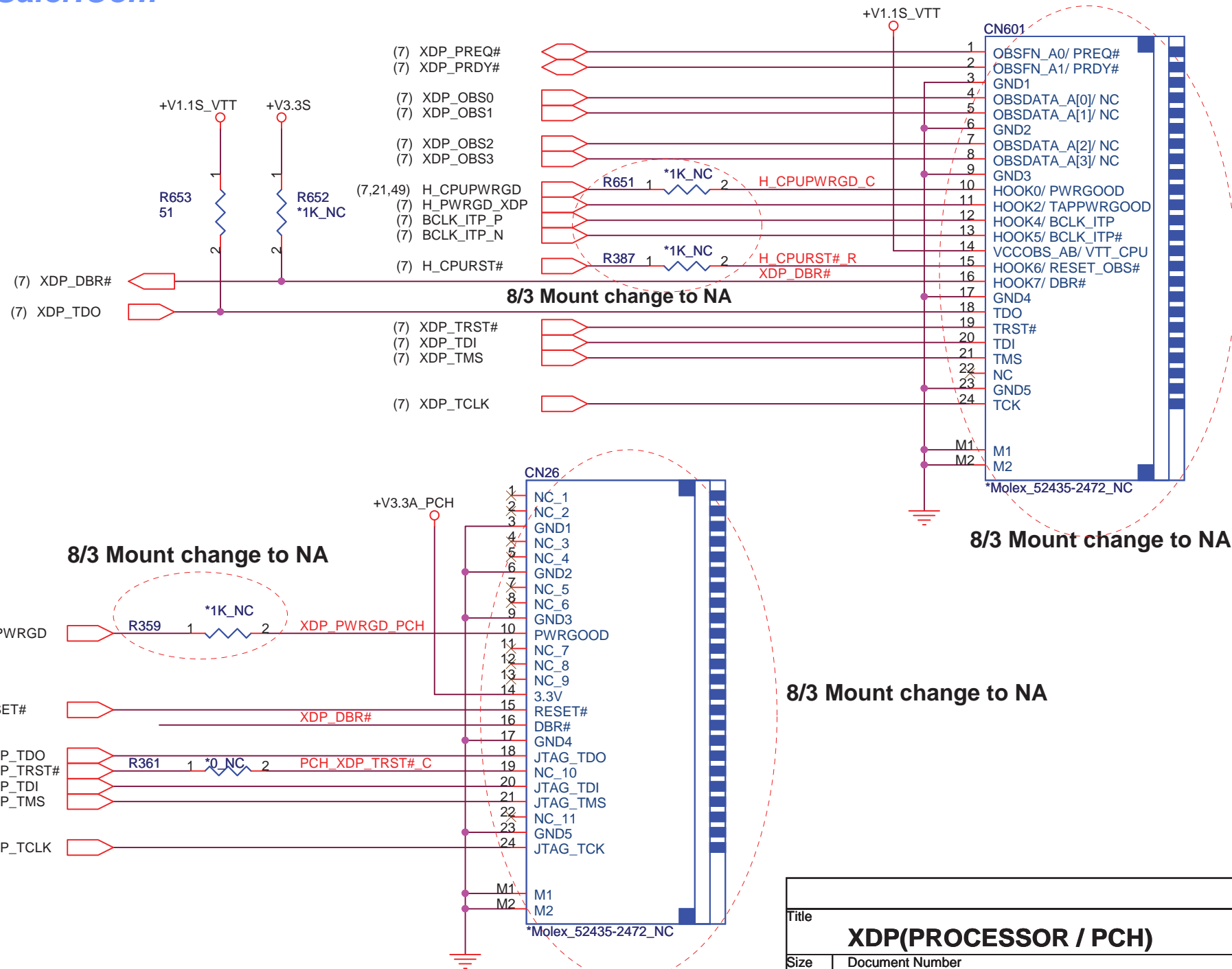


CFG7	
CFG7	Only temporary for early CFD samples (rPGA/BGA) [For details please refer to the WW33 MoW and sighting report].

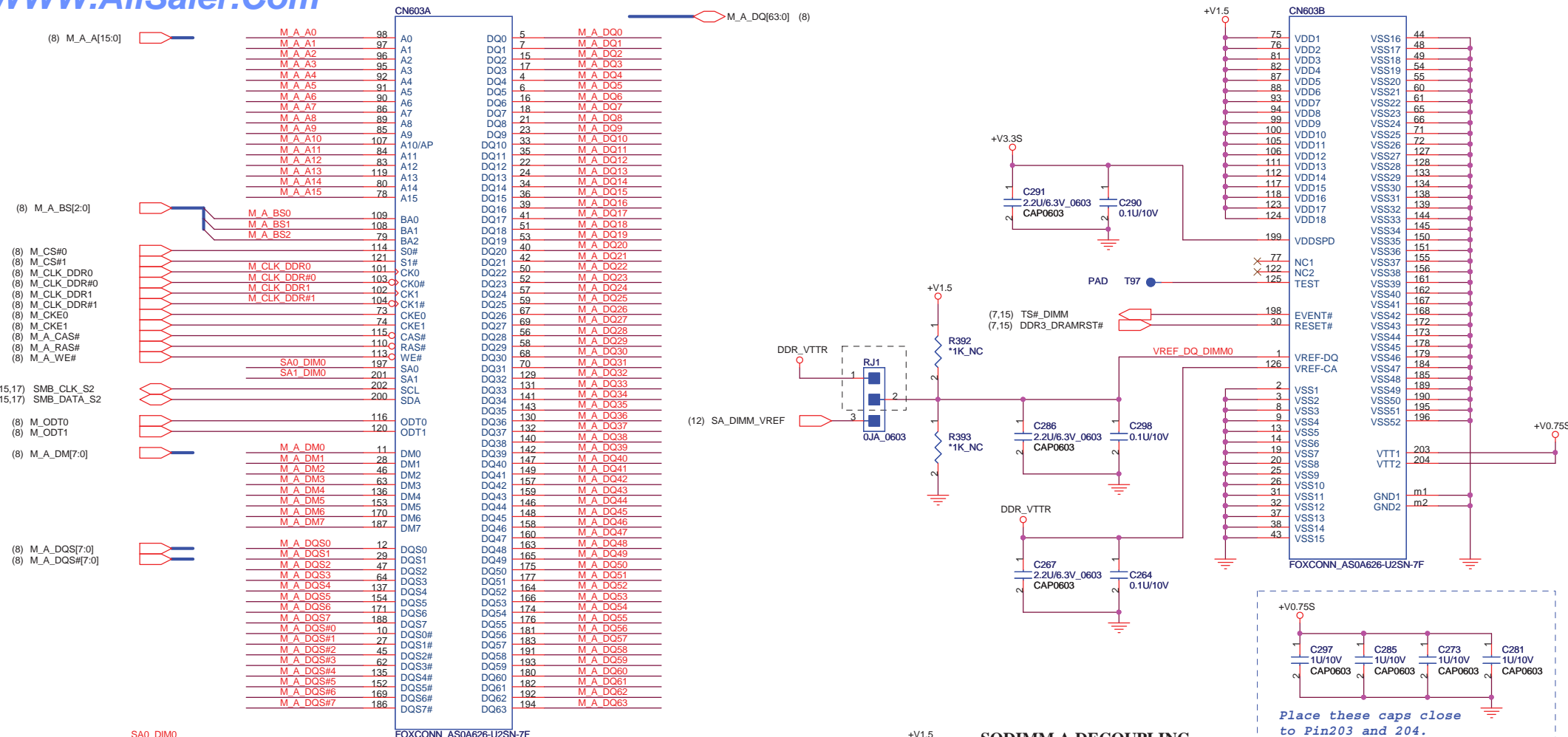


VSS (AP34) can be left NC is CRB implementation; EDS/DG recommendation to GND

Title		
CPU(RSVD,CFG) 7/7		
Size	Document Number	Rev
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Title		
XDP(PROCESSOR / PCH)		
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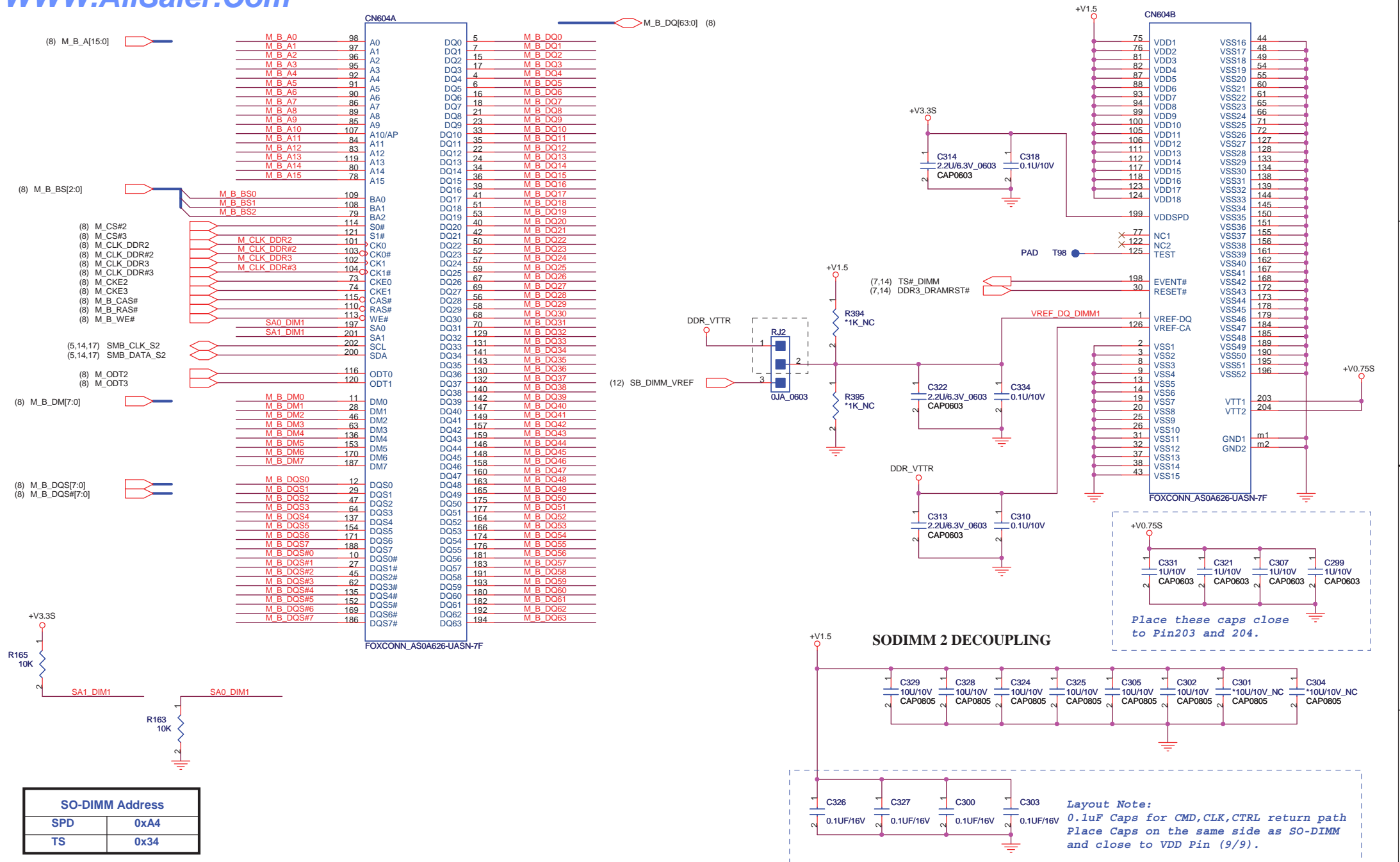


SO-DIMM Address		
SA0_DIM0 = 0, SA1_DIM0 = 0	SPD	0xA0
	TS	0x30
SA0_DIM0 = 1, SA1_DIM0 = 0	SPD	0xA2
	TS	0x32

	Vender	FLEX P/N	DESCRIPTION
MAIN	FOXCONN	DELH-39D0370000009G	DDR3 SO-DIMM H:5.2mm AS0A626-U2SN-7F
2ND	TYCO	DELH-39D0370000011G	DDR3 SO-DIMM H:5.2mm 2-2013289-2

Title			
DDR3 SO-DIMM1(204P)			
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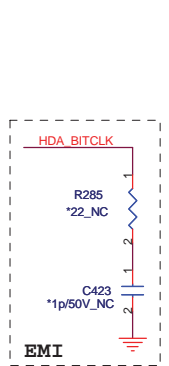
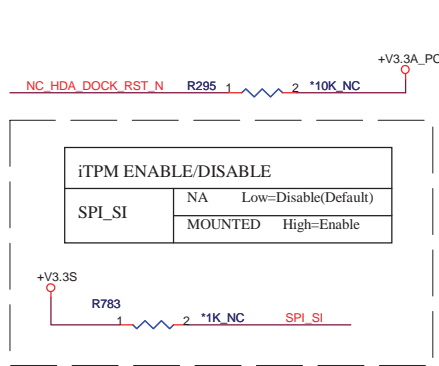
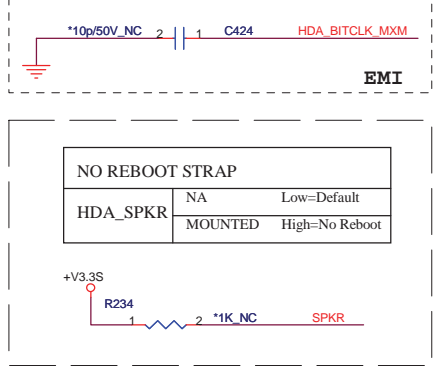
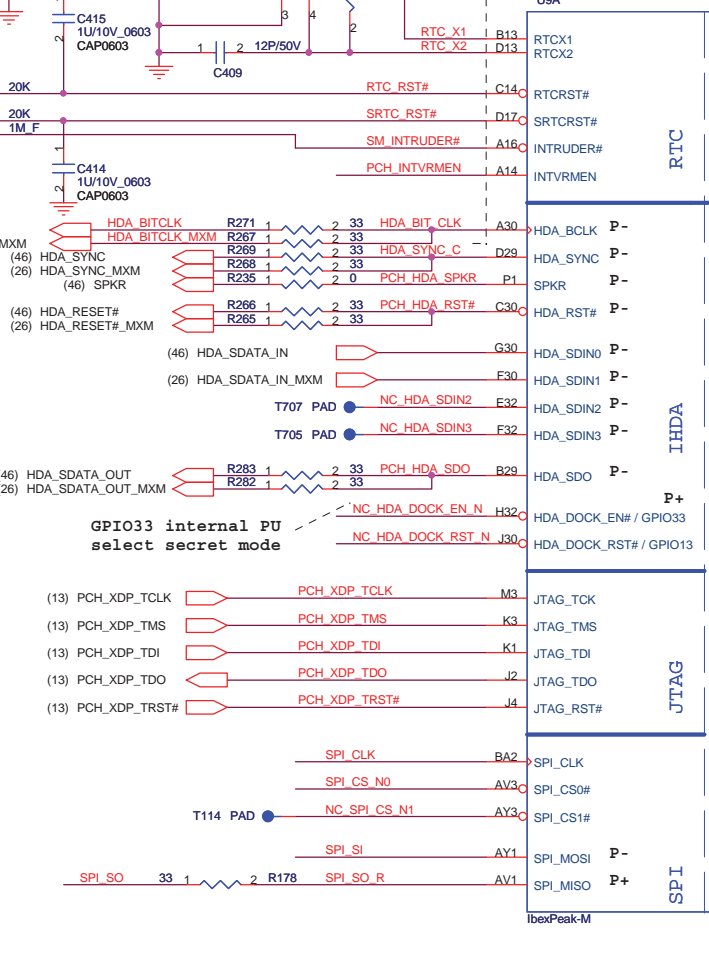
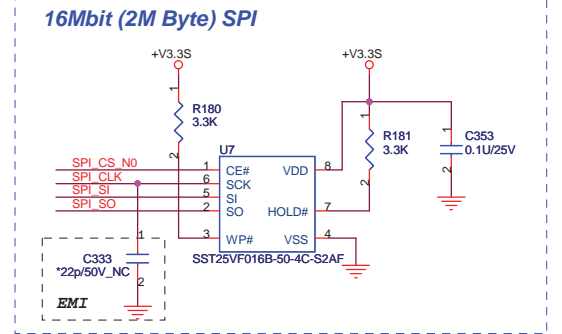
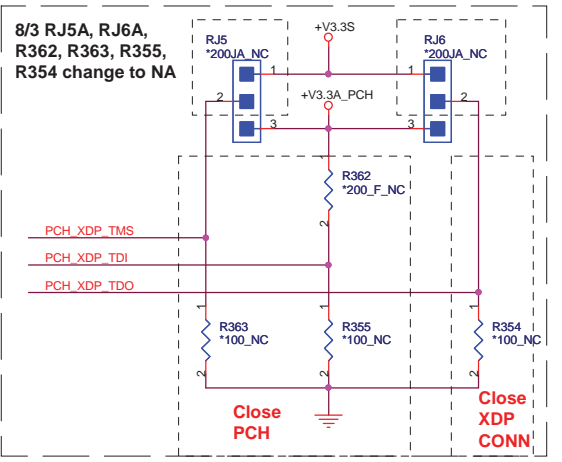
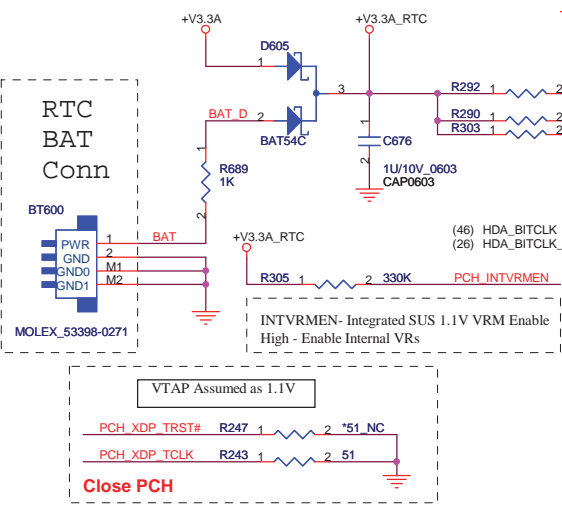


	Vender	FLEX P/N	DESCRIPTION
MAIN	FOXCONN	DELH-39D0370000010G	DDR3 SO-DIMM H:9.2mm AS0A626-UASN-7F
2ND	TYCO	DELH-39D0370000012G	DDR3 SO-DIMM H:9.2mm 2-2013310-2

Title	DDR3 SO-DIMM2(204P)		
Size	Document Number	Dell/FLEX Confidential	
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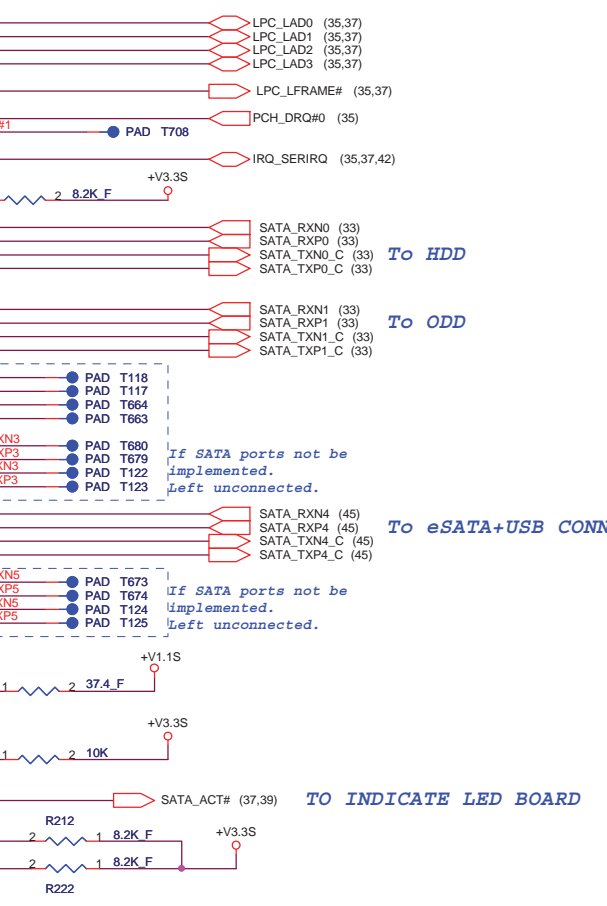


High	set to 1.5V
Low	set to 1.8V (Default)



**Internal Pull-Up and Pull-Down**

Pull-Up	Mark
Pull-Up	P+
Pull-Down	P-



PCI-E* x1	Usage
Lane 1	UWB
Lane2	WWAN ->DEL
Lane 3	EXPRESS CARD -AUDIO BOARD
Lane 4	WLAN
Lane 5	NC
Lane 6	PHY
Lane 7	NC
Lane 8	NC

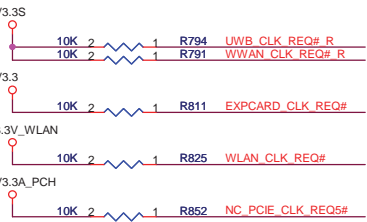
(35) PCIE\_UWB\_RX\_N1  
(35) PCIE\_UWB\_RX\_P1  
(35) PCIE\_UWB\_C\_TX\_N1  
(35) PCIE\_UWB\_C\_TX\_P1

(45) PCIE\_EXP\_CARD\_RX\_N3  
(45) PCIE\_EXP\_CARD\_RX\_P3  
(45) PCIE\_EXP\_CARD\_C\_TX\_N3  
(45) PCIE\_EXP\_CARD\_C\_TX\_P3

(34) PCIE\_WLAN\_RX\_N4  
(34) PCIE\_WLAN\_RX\_P4  
(34) PCIE\_WLAN\_C\_TX\_N4  
(34) PCIE\_WLAN\_C\_TX\_P4

(47) PCIE\_LAN\_RX\_N6  
(47) PCIE\_LAN\_RX\_P6  
(47) PCIE\_LAN\_TX\_N6  
(47) PCIE\_LAN\_TX\_P6

not  
implemented



PAD T665

PAD T661

(47) CLK\_PCIE\_LAN#

(47) CLK\_PCIE\_LAN

(47) LAN\_CLK\_REQ#

### SMBUS HUB

U14

VCC

EXP\_SCL1

EXP\_SCL2

EXP\_SDA1

EXP\_SDA2

SCL0

SDA0

EN1

EN2

EN3

EN4

VSS

SCL3

SDA3

SCL4

SDA4

EXP\_SDA1

EXP\_SDA2

EXP\_SDA3

EXP\_SDA4

EXP\_SDA5

EXP\_SDA6

EXP\_SDA7

EXP\_SDA8

EXP\_SDA9

EXP\_SDA10

EXP\_SDA11

EXP\_SDA12

EXP\_SDA13

EXP\_SDA14

EXP\_SDA15

EXP\_SDA16

EXP\_SDA17

EXP\_SDA18

EXP\_SDA19

EXP\_SDA20

EXP\_SDA21

EXP\_SDA22

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EXP\_SDA24

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EXP\_SDA34

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EXP\_SDA41

EXP\_SDA42

EXP\_SDA43

EXP\_SDA44

EXP\_SDA45

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EXP\_SDA47

EXP\_SDA48

EXP\_SDA49

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EXP\_SDA261

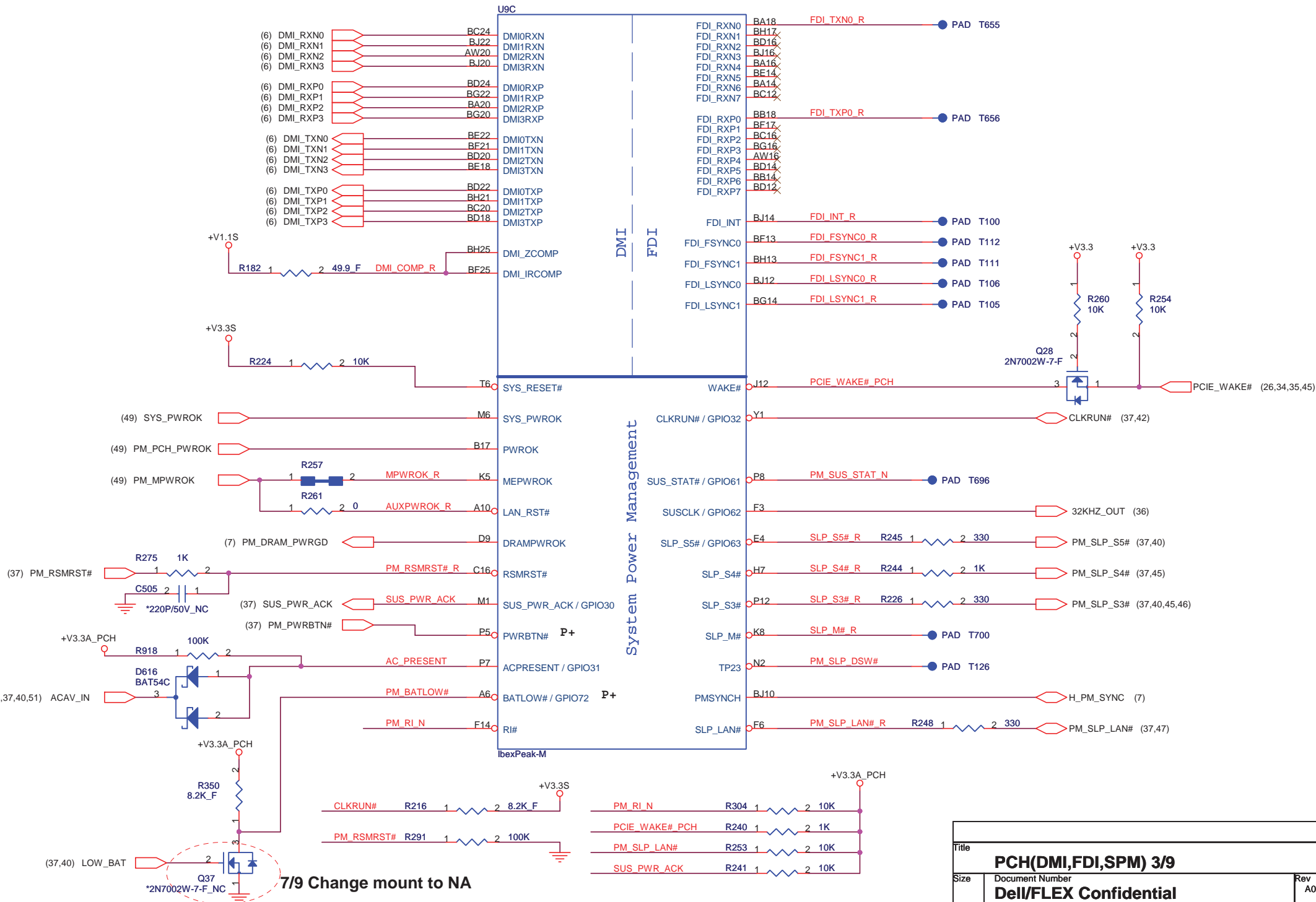
EXP\_SDA262

EXP\_SDA263

EXP\_SDA264

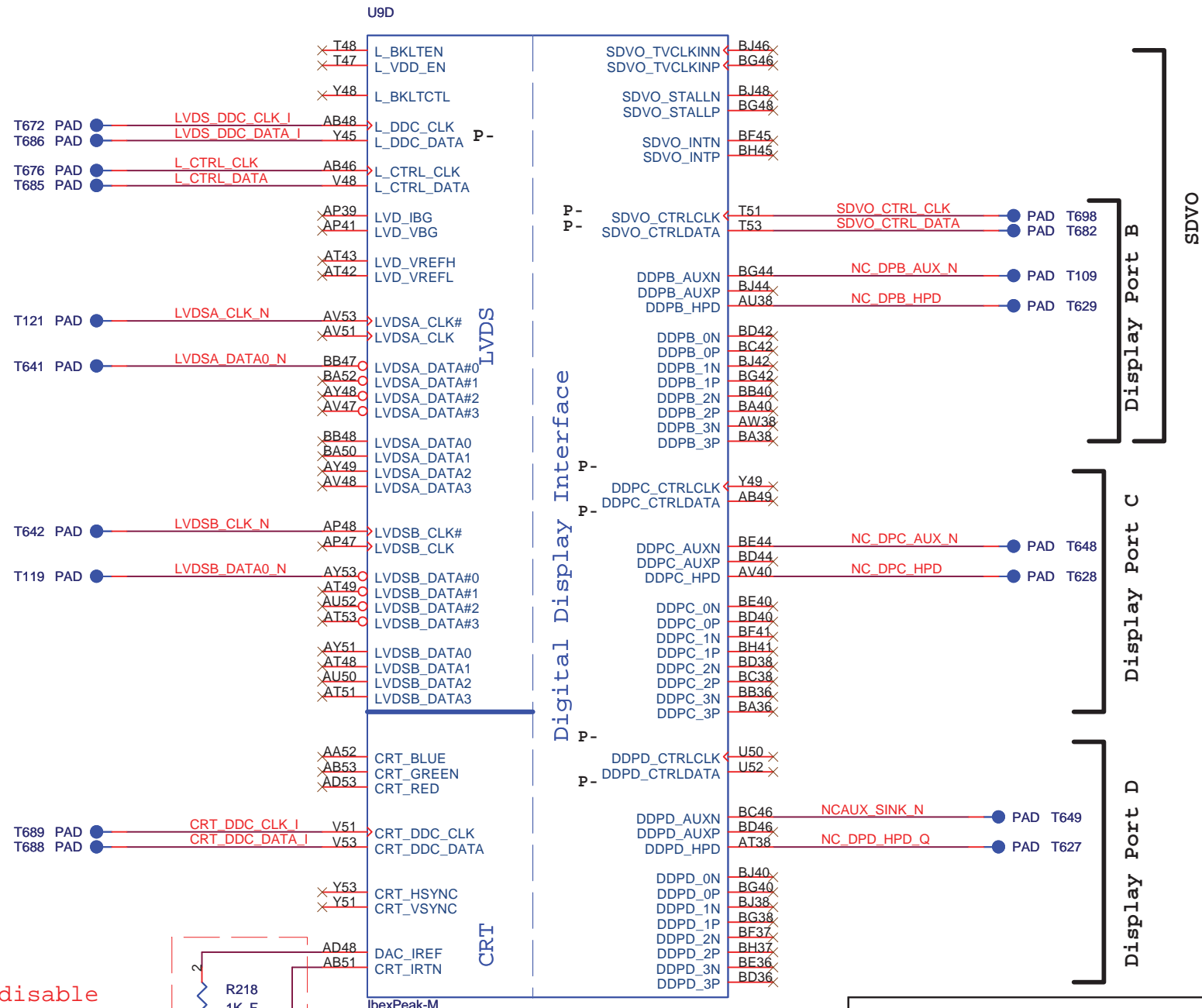
EXP\_SDA265

## IBEX PEAK-M (DMI,FDI,GPIO)

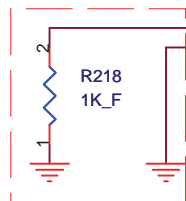


Title			
PCH(DMI,FDI,SPM) 3/9			
Size	Document Number		Rev
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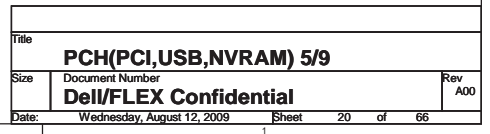
# IBEX PEAK-M (LVDS,DDI)



Internal VGA disable  
keep R218 to GND and  
IRTN keep connect to GND



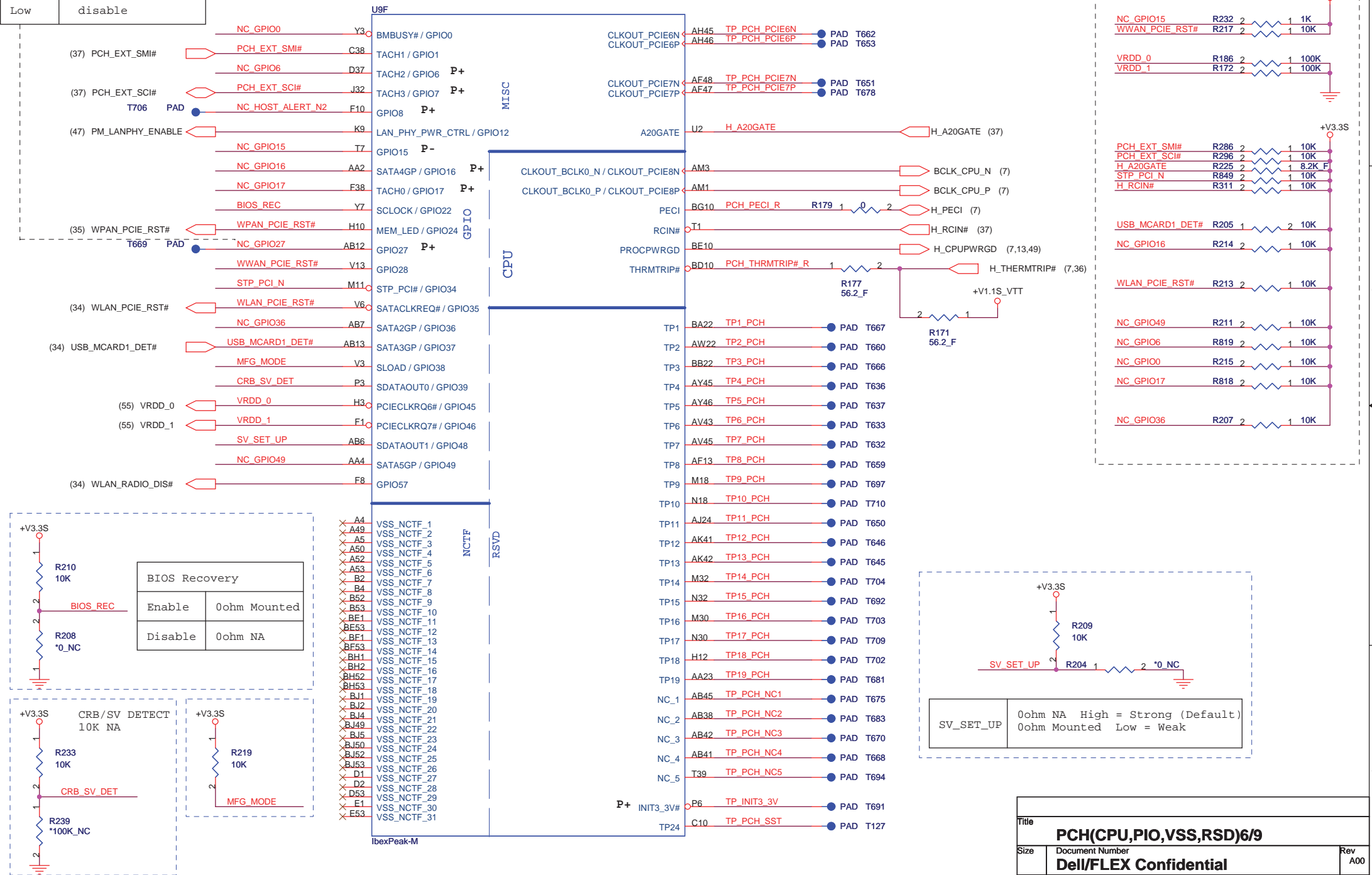
Title		
PCH(CRT,LVDS,DDI) 4/9		
Size	Document Number	Rev
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High	enable(default)
Low	disable

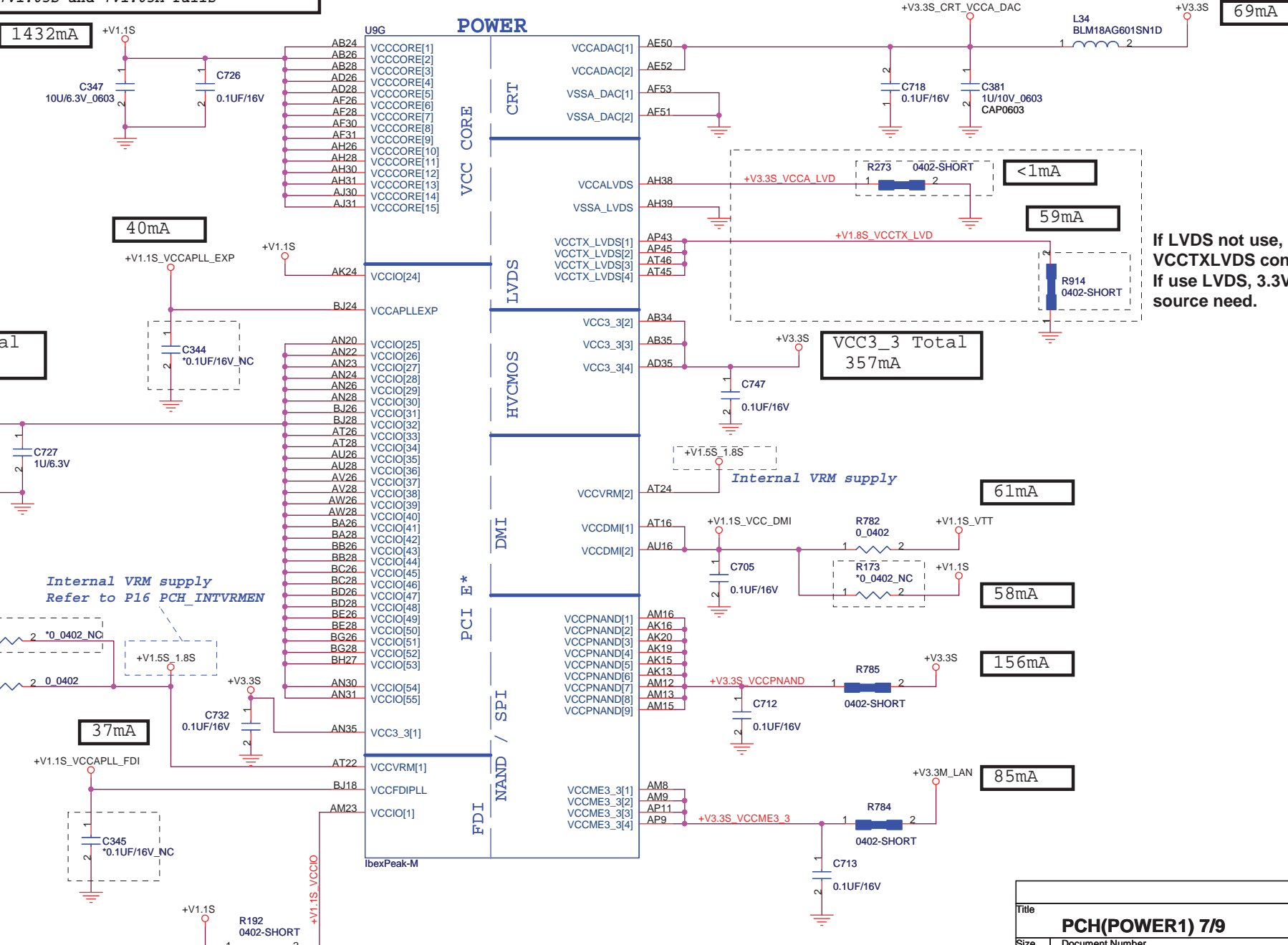
## IBEX PEAK-M(GPIO,VSS\_NCTF,RSVD)



Title			
PCH(CPU,PIO,VSS,RSD)6/9			
Size	Document Number		
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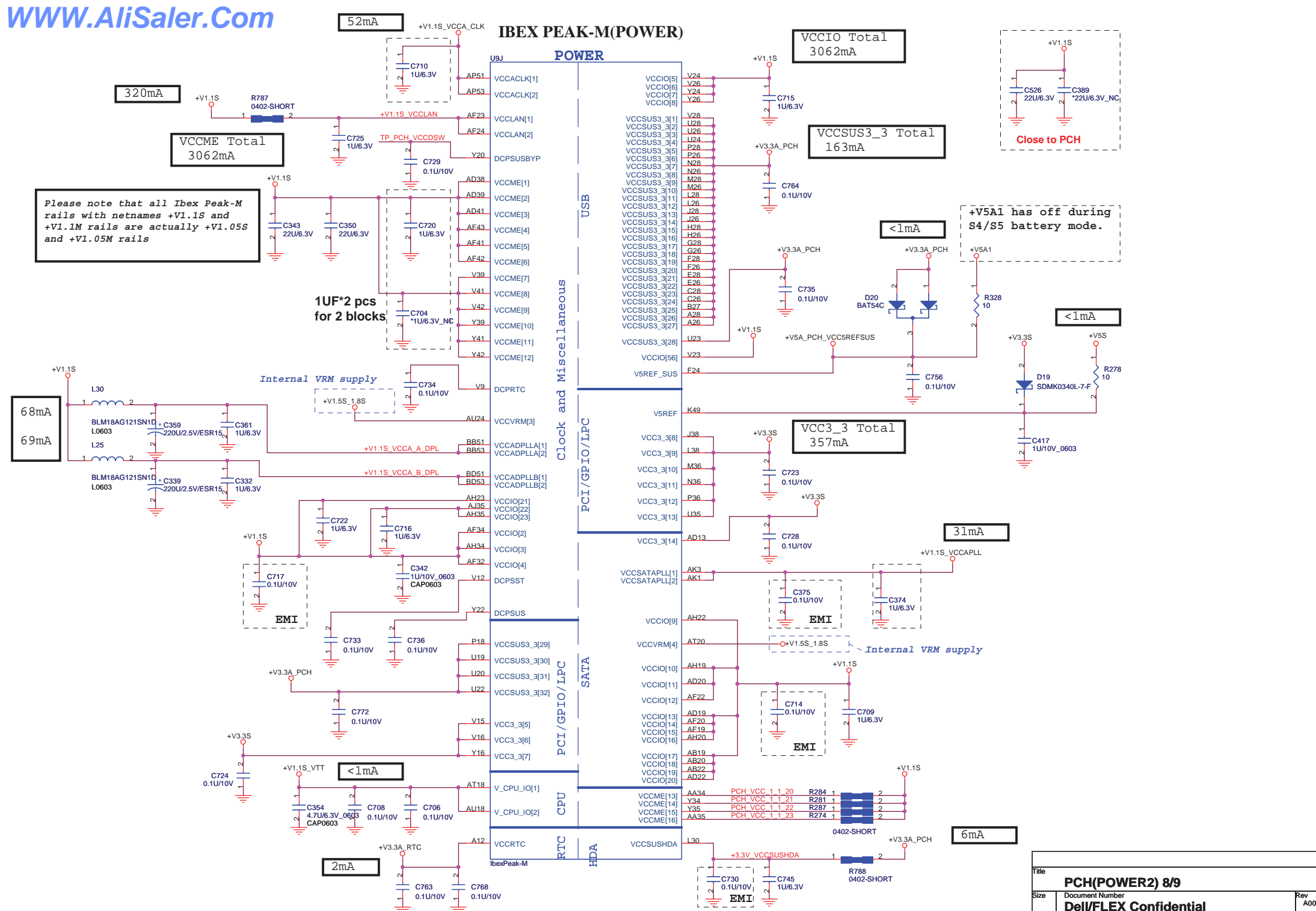
Please note that all Ibex Peak-M rails with netnames +V1.1S and +V1.1M rails are actually +V1.05S and +V1.05M rails

## IBEX PEAK-M(POWER)

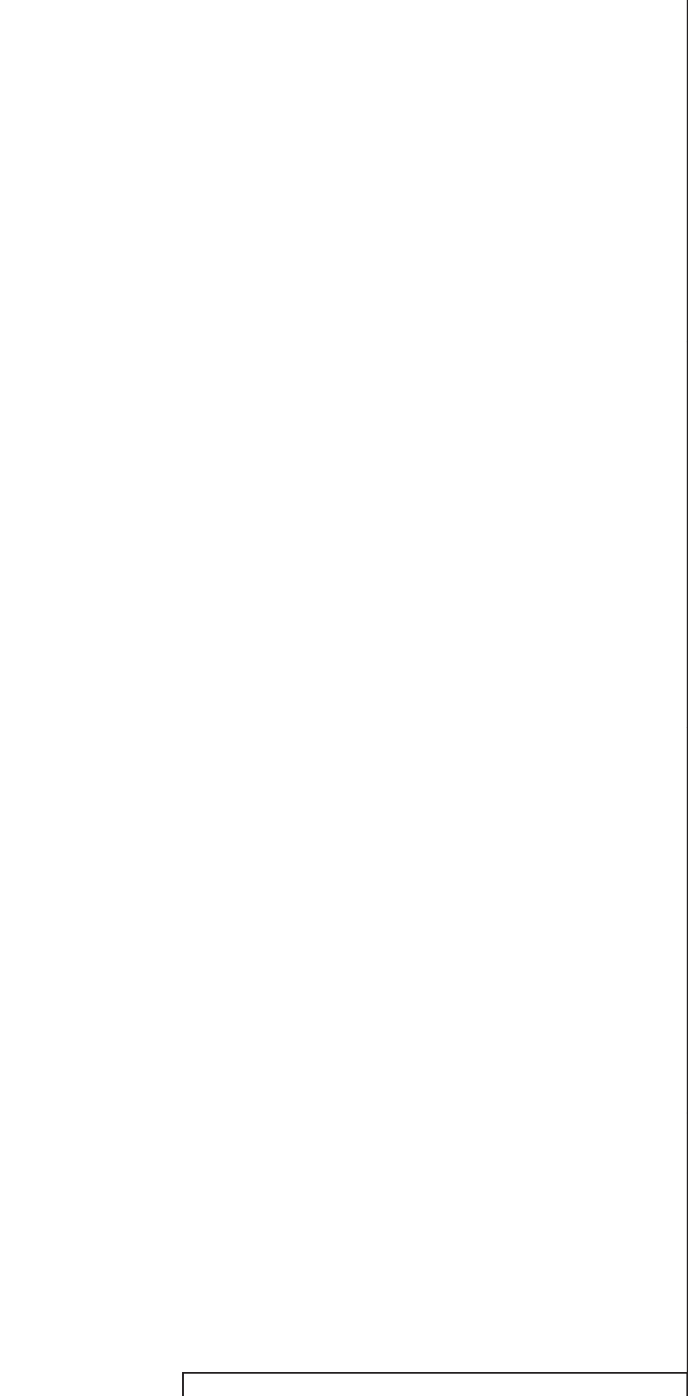
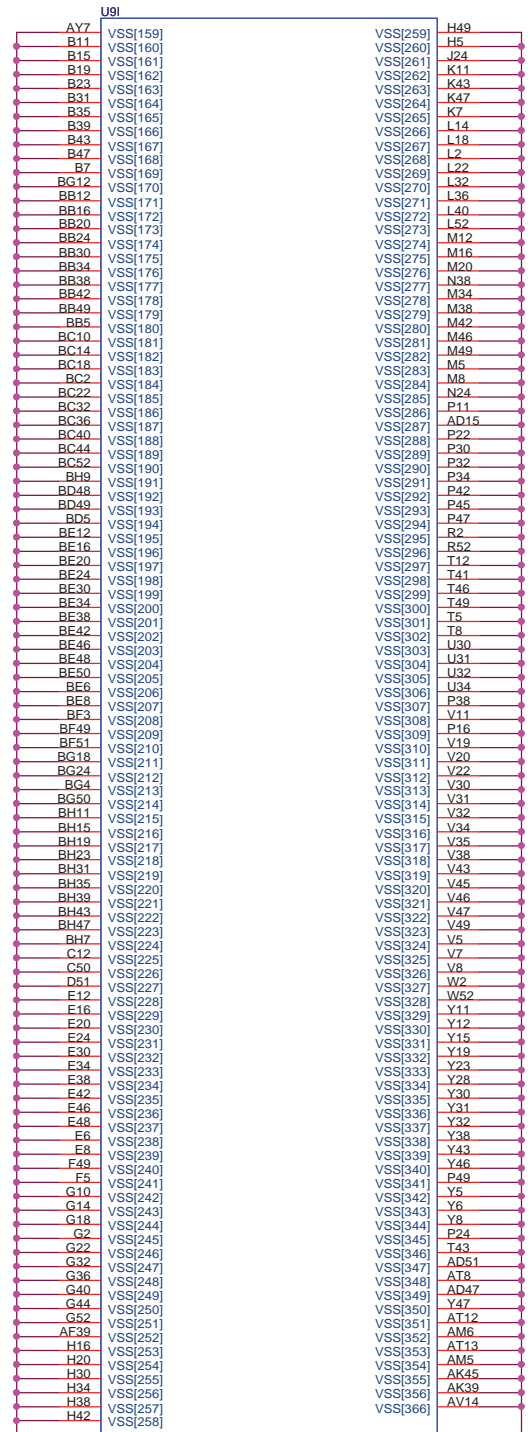
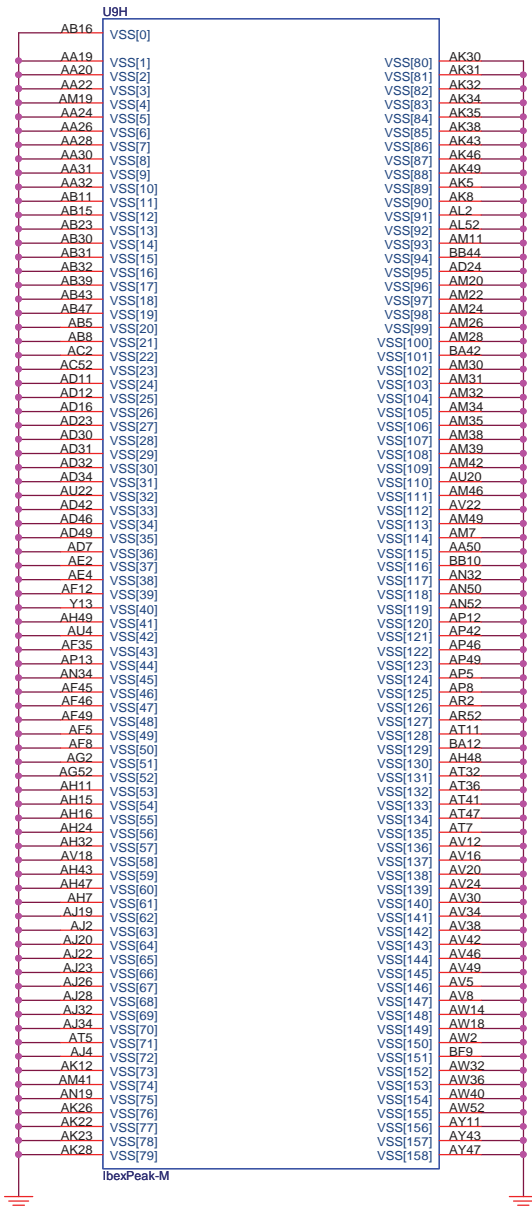




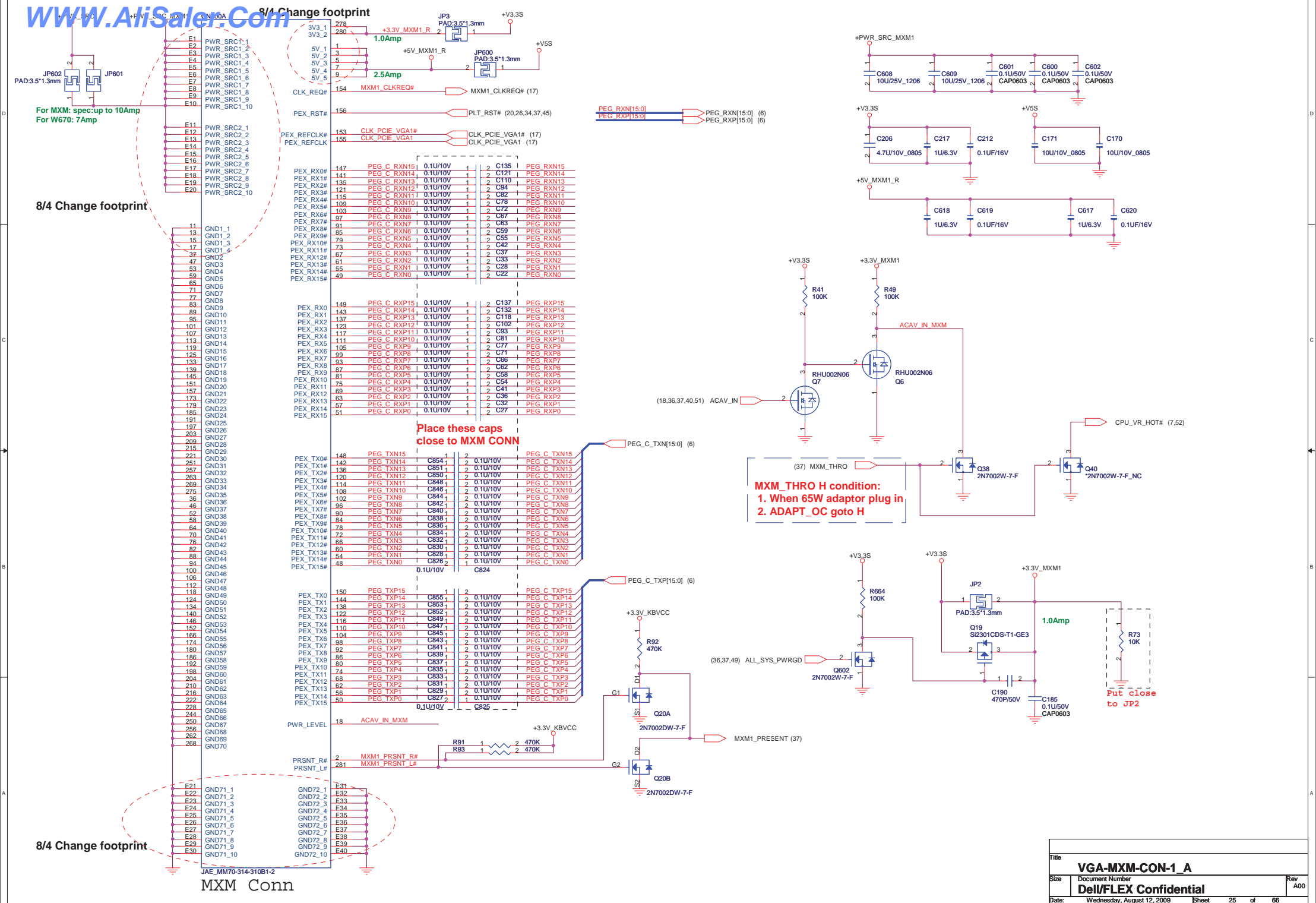
### IBEX PEAK-M(POWER)

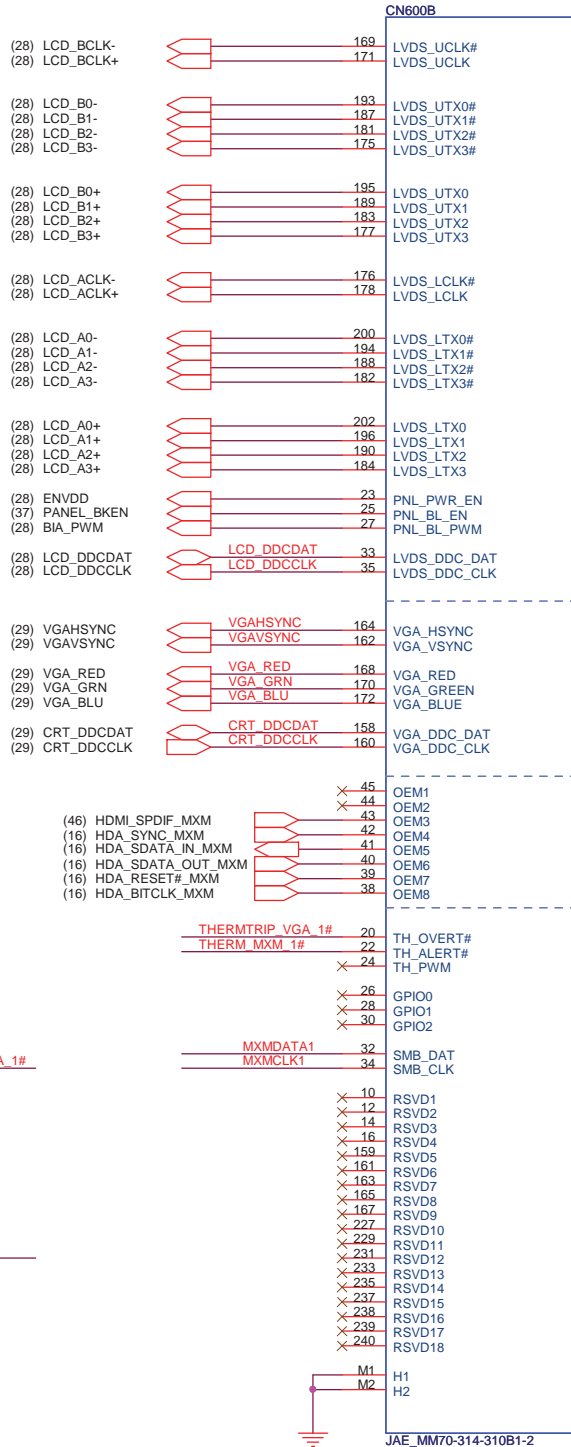
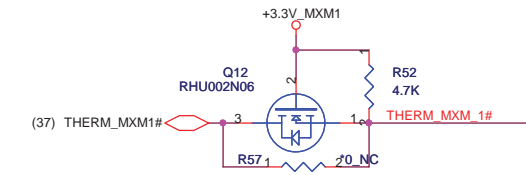
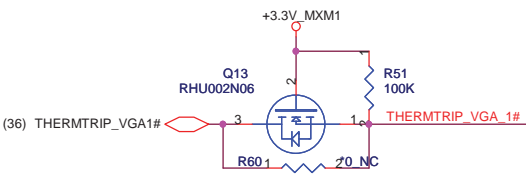
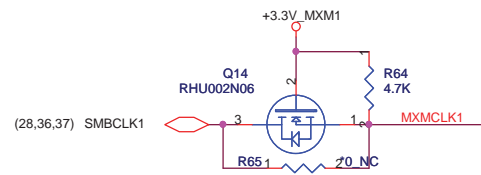
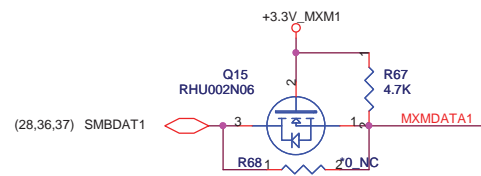
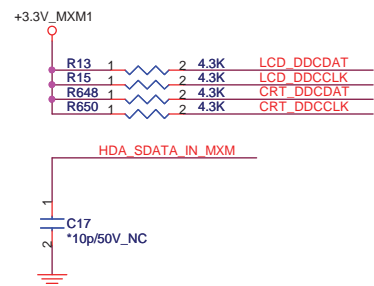
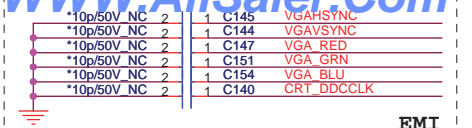


IBEX PEAK-M (GND)



Title		
PCH(GND) 9/9		
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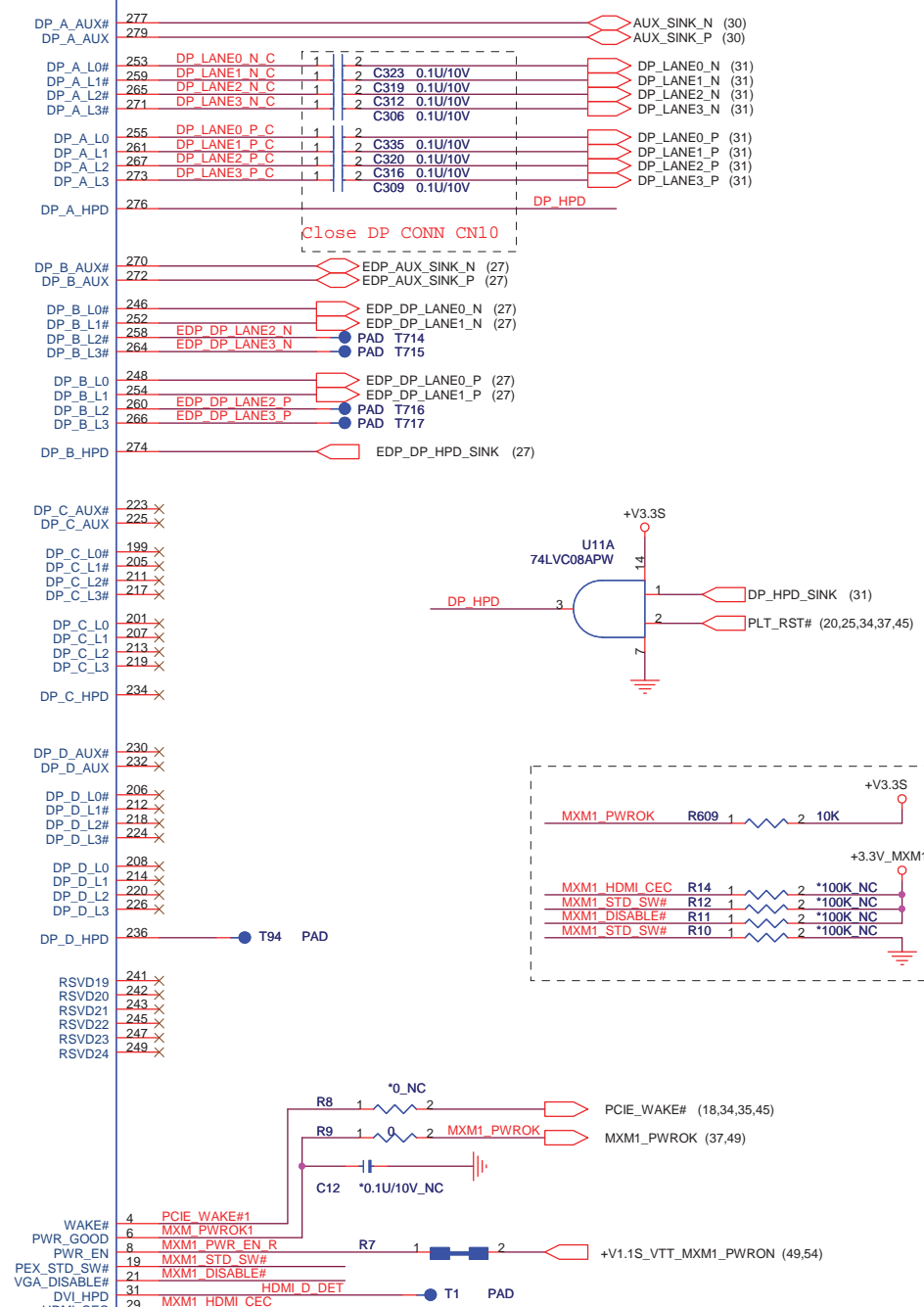




JAE\_MM70-314-310B1-2

MXM Conn

DP-A  
DP-B  
DP-C  
DP-D



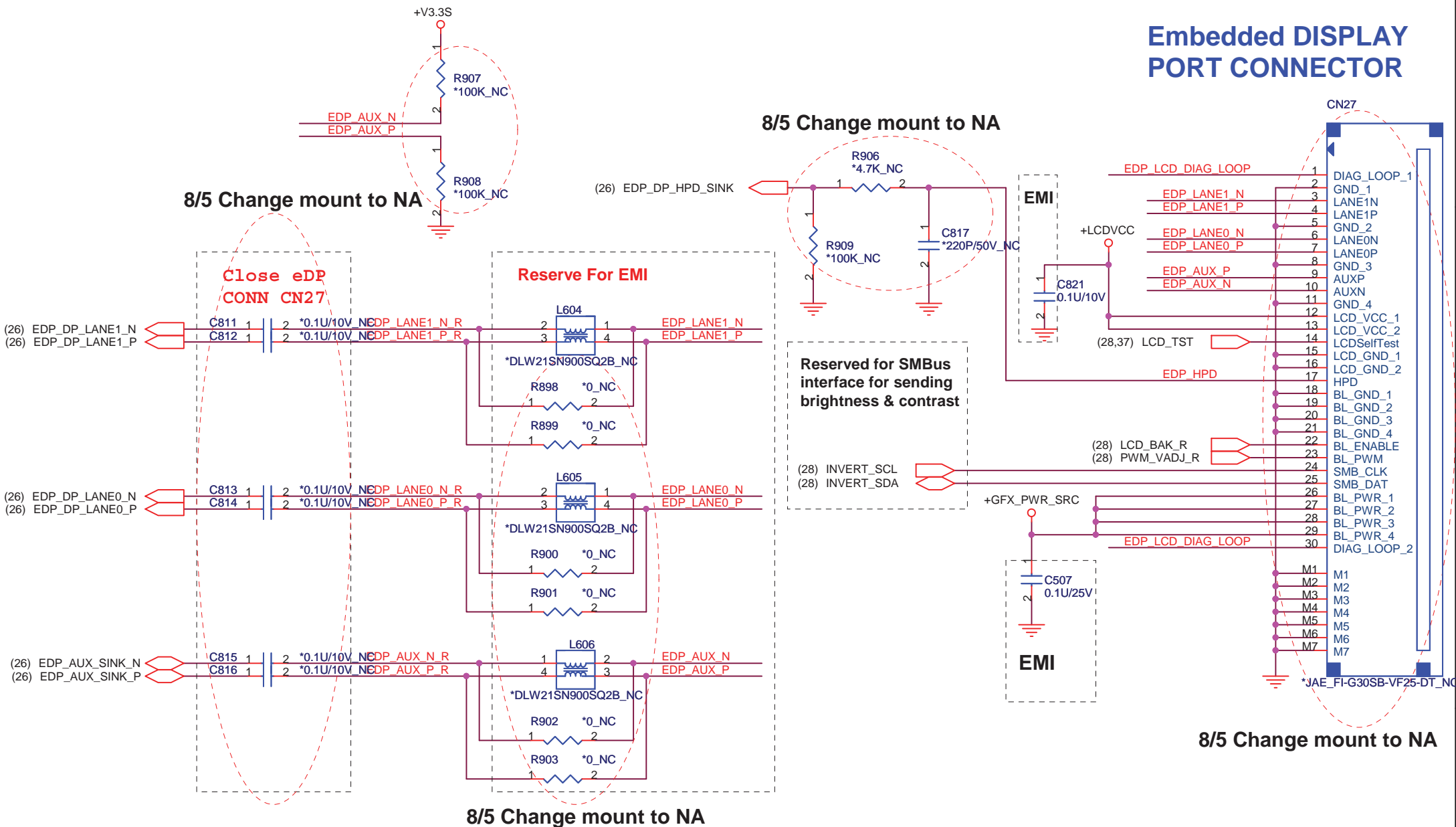
Title		
VGA-MXM-CON-1_B		
Size	Document Number	Rev
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# Embedded DISPLAY PORT CONNECTOR

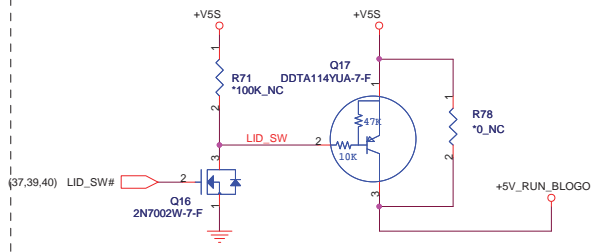
8/5 Change mount to NA

8/5 Change mount to NA

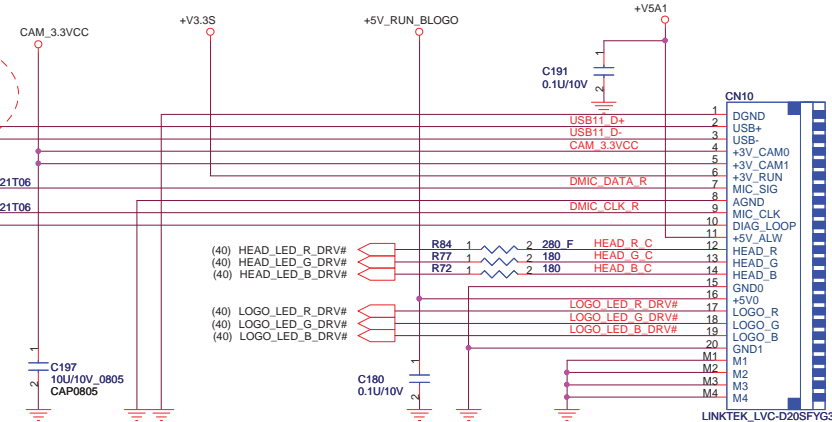
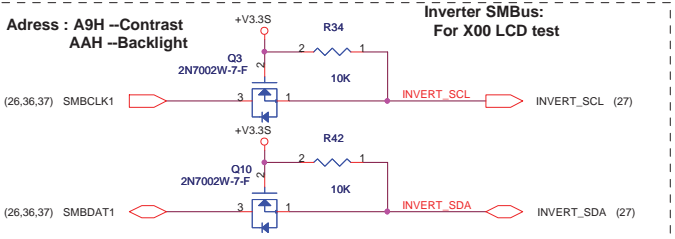
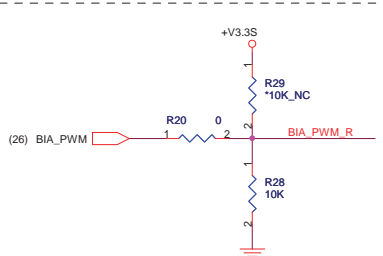
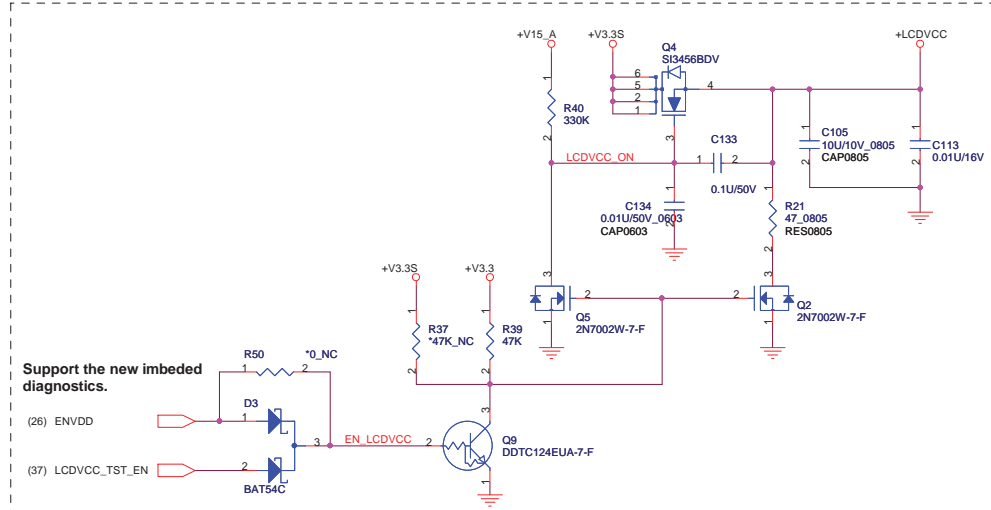
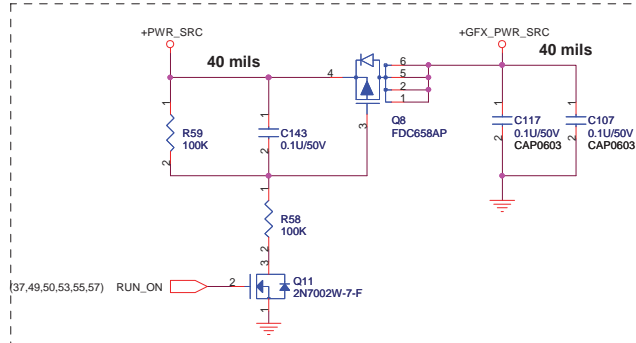
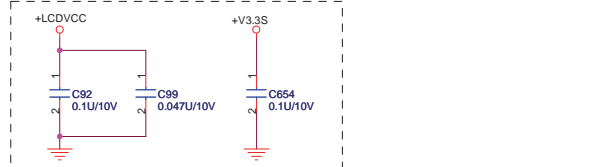
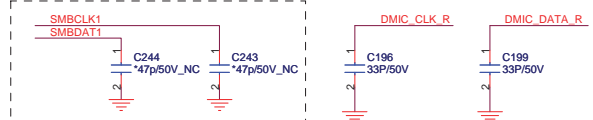
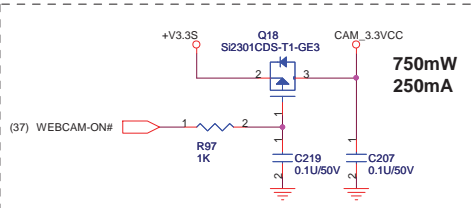
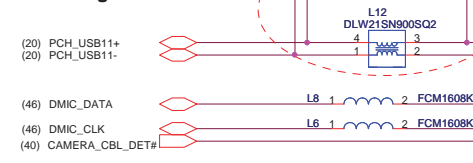
8/5 Change mount to NA



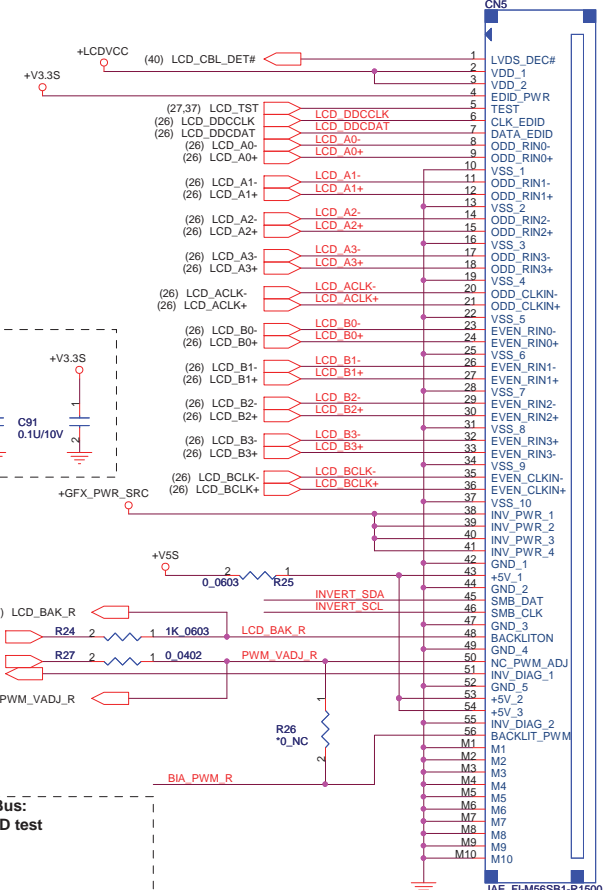
Title			
LVDS SELECTION_Blank			
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### 8/3 R100, R101 change to NA L12 change to mount.



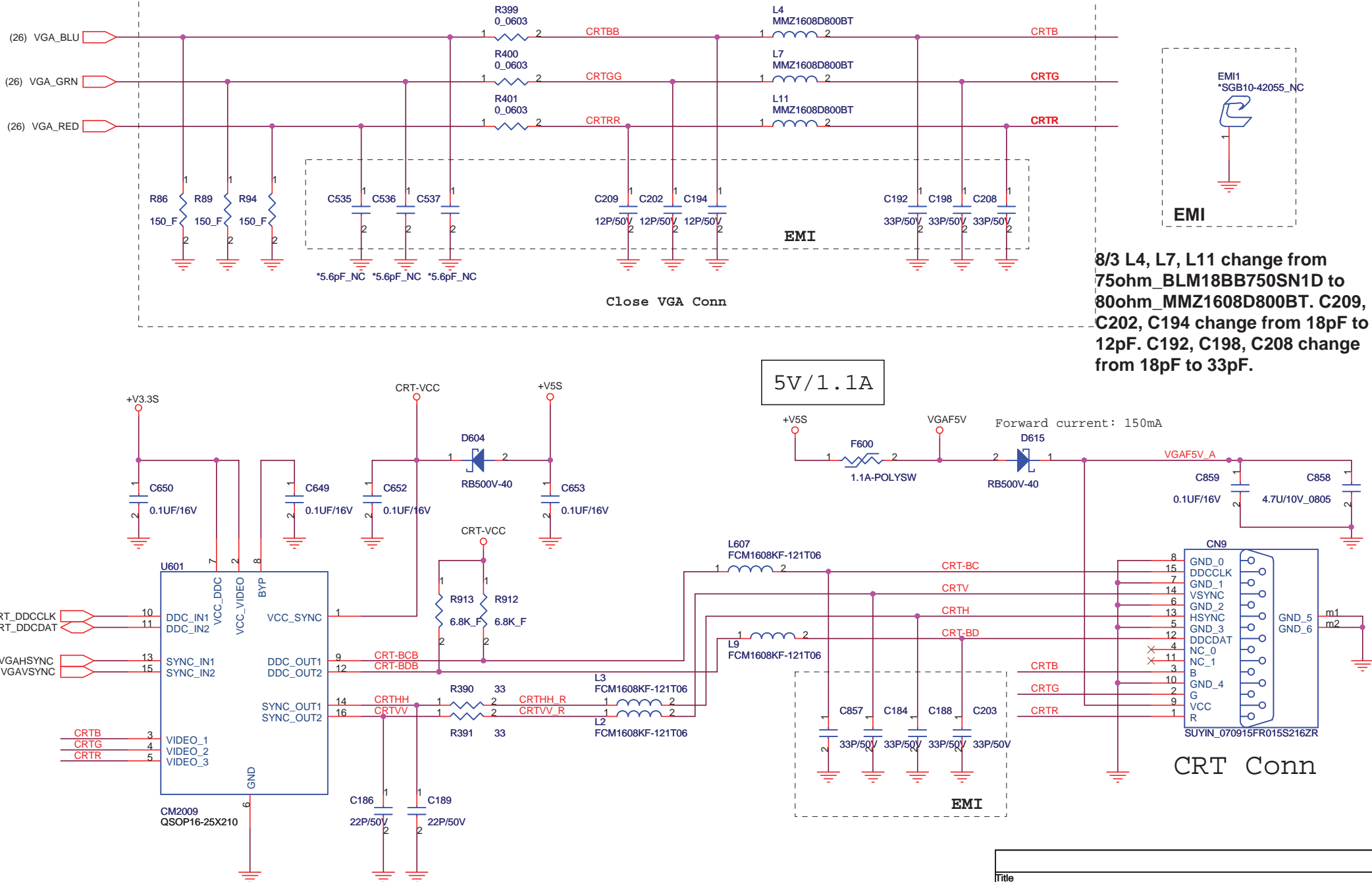
### CAM/ Head/ Logo Conn



### LVDS/ Invertor Conn

Title			
LCD CONN			
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		A00	
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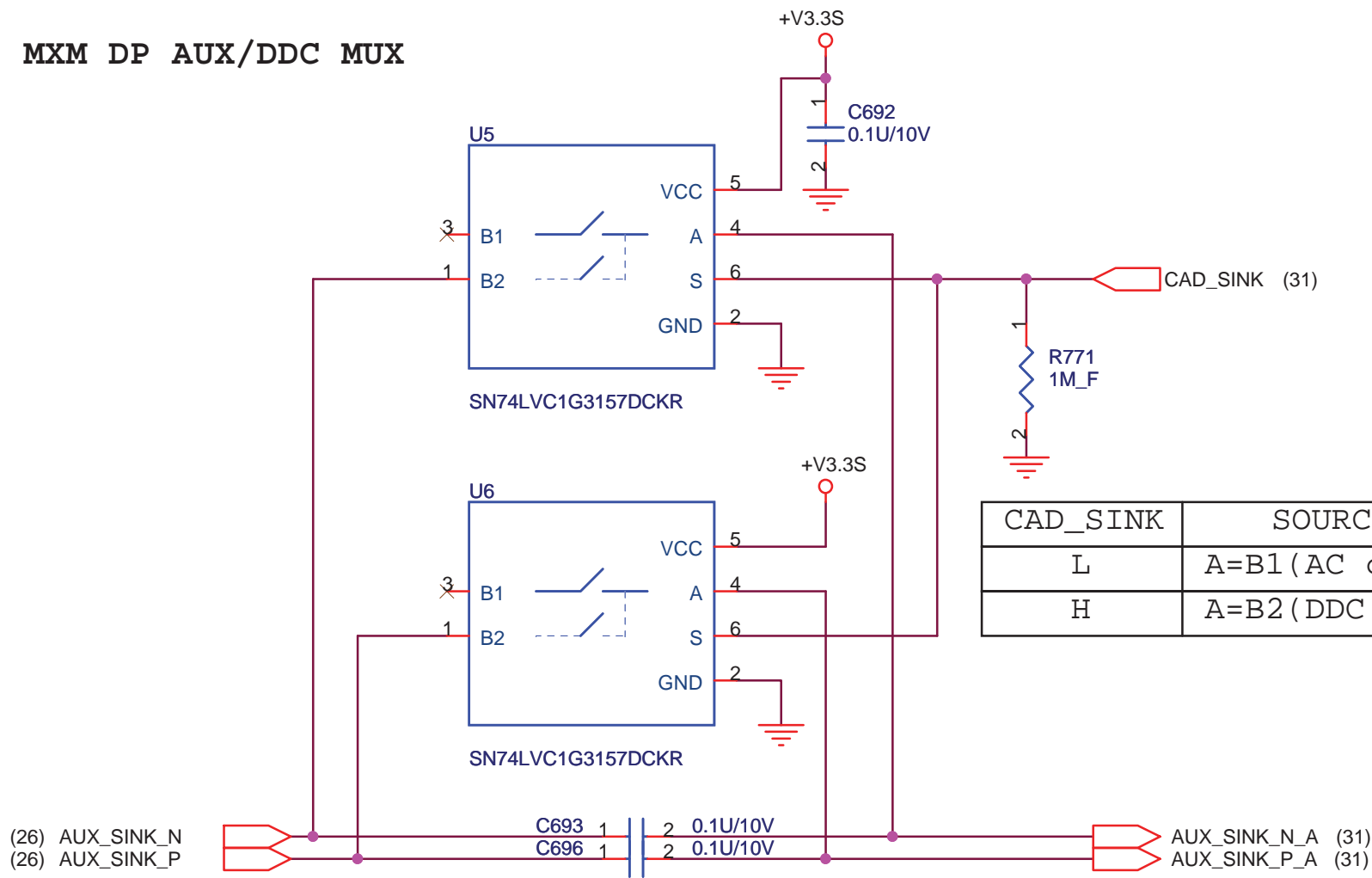




Title		
CRT CONN		
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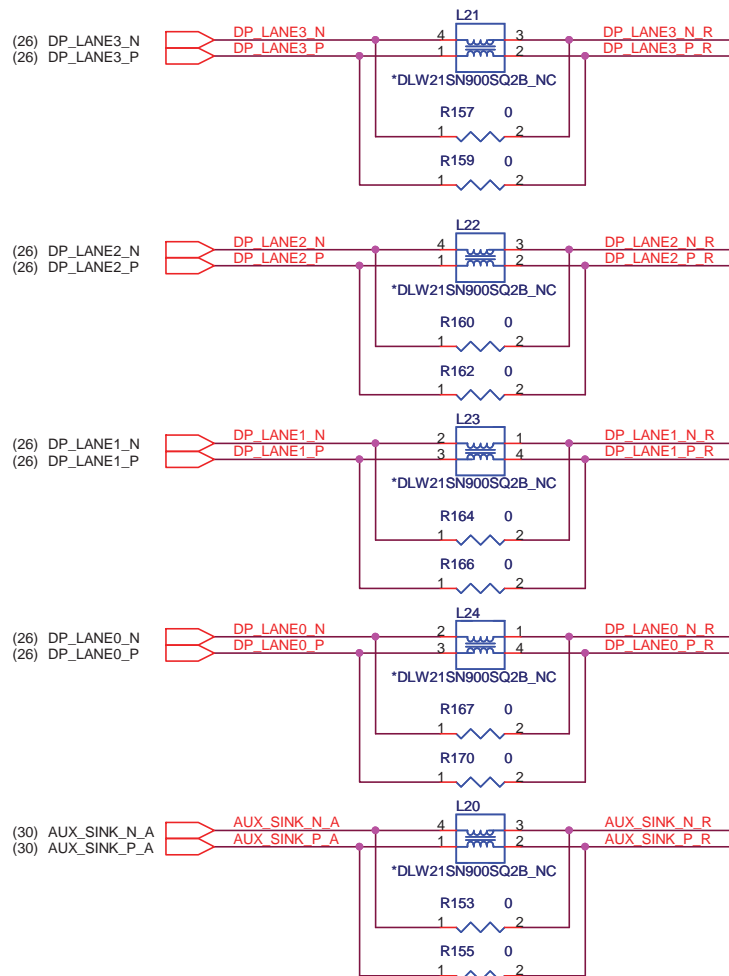
MXM DP AUX/DDC MUX



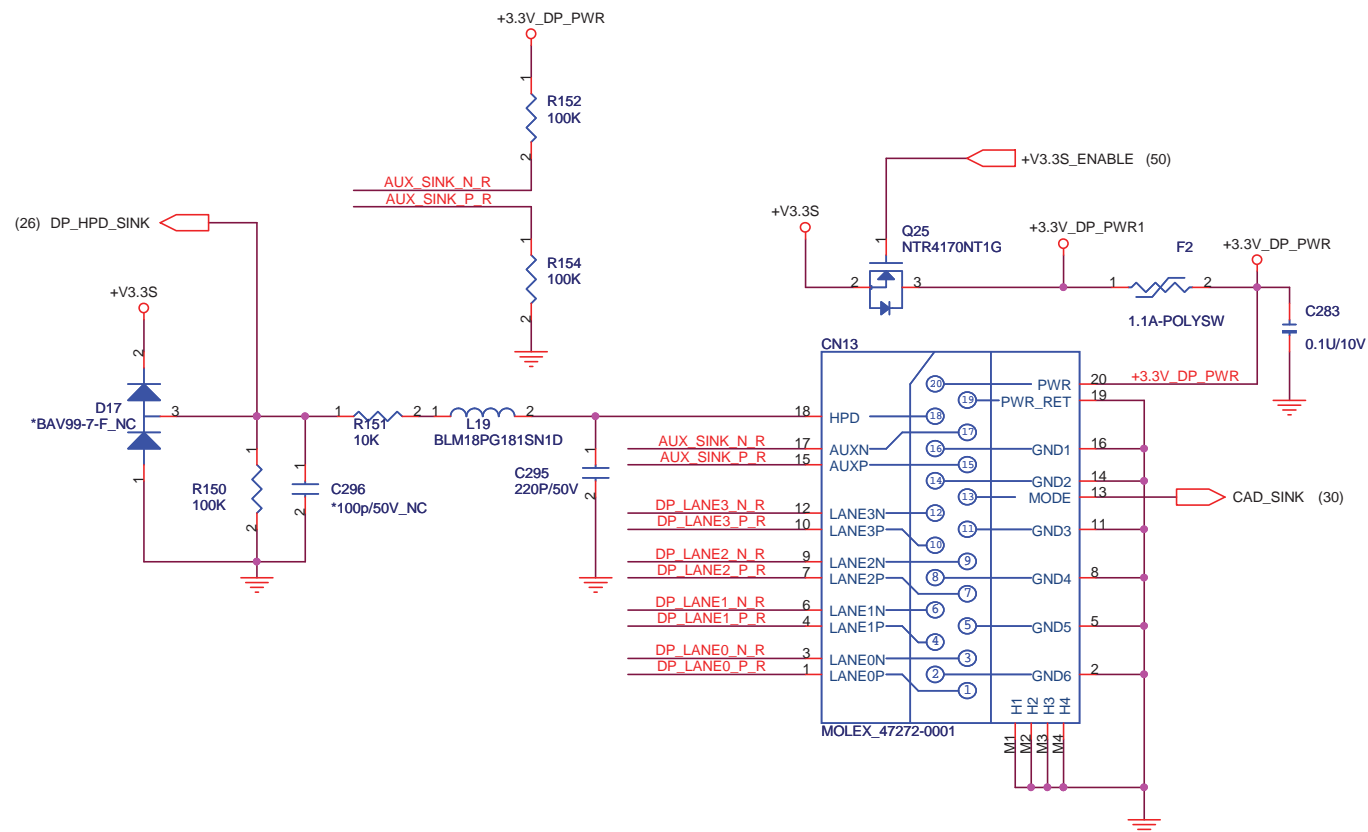
CAD_SINK	SOURCE	Function
L	A=B1 (AC couple)	DP Path
H	A=B2 (DDC)	HDMI Path

Title		
MXM& PCH DDC/ AUX MUX		
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## Reserve For EMI

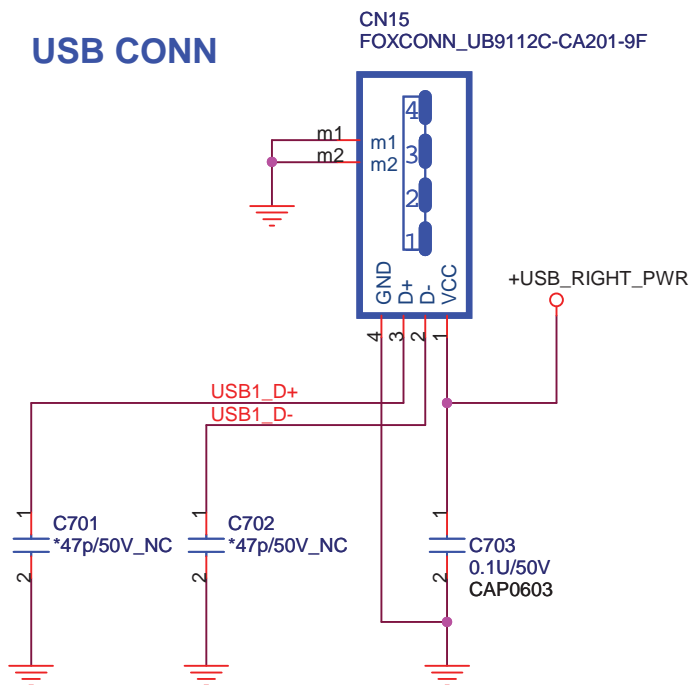


## DISPLAY PORT CONNECTOR

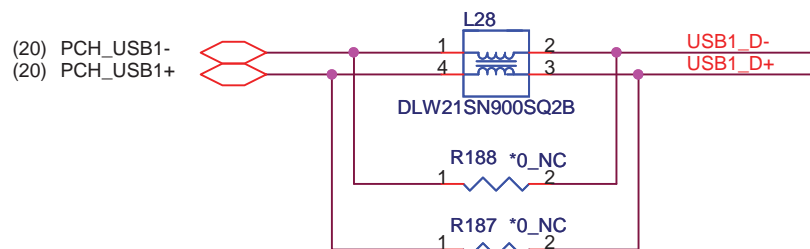
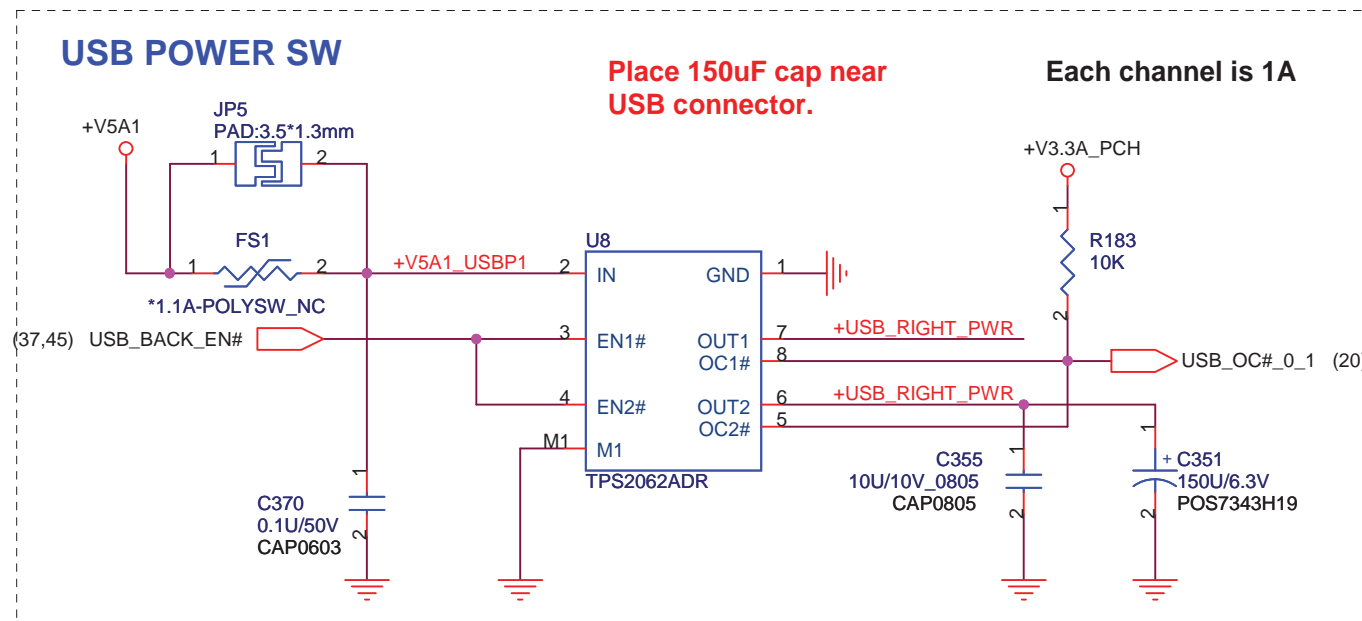


Title			DP CONN
Size	Document Number	Del//FLEX Confidential	
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			Rev A00

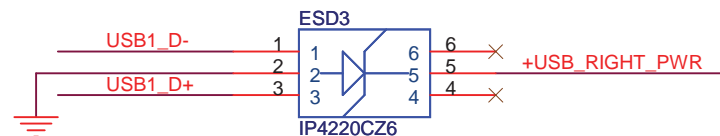
## USB CONN



## USB POWER SW



Place ESD diodes as close as USB connector.

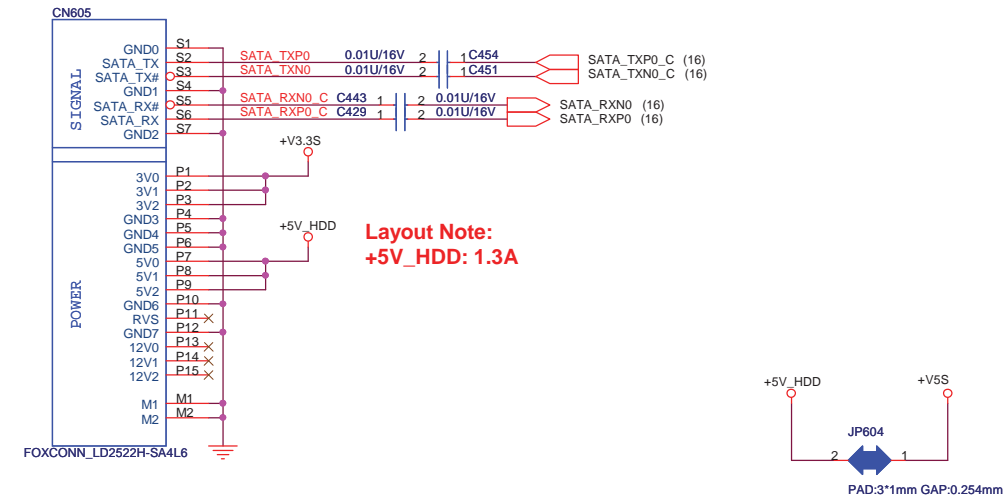


EMI604  
\*SGB10-42055\_NC

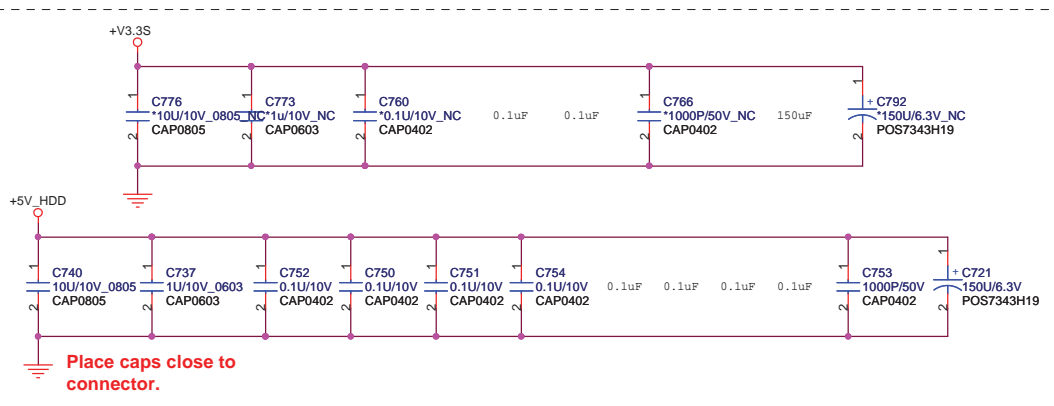


EMI

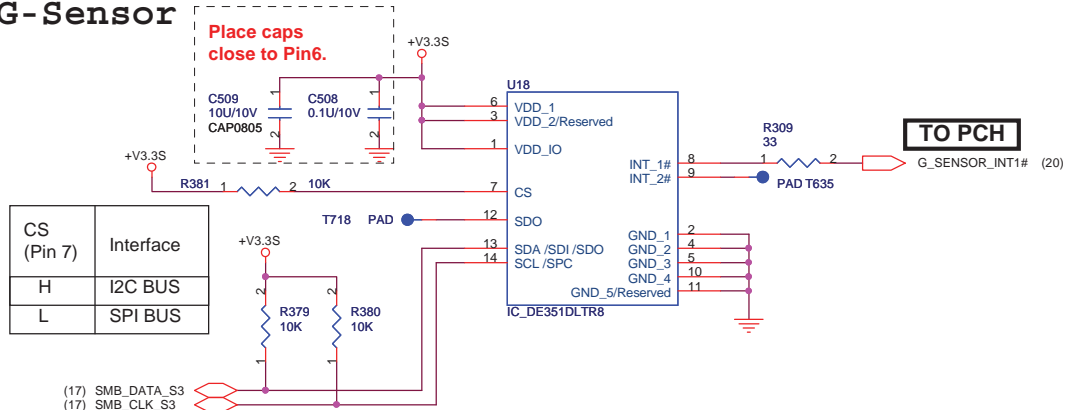
Title			
USB			
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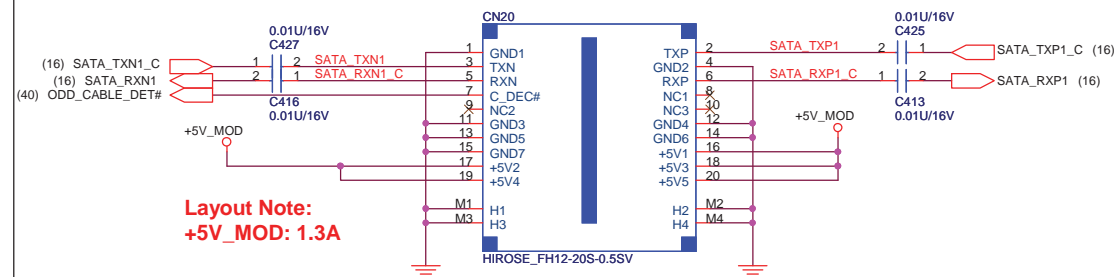
## HDD Conn



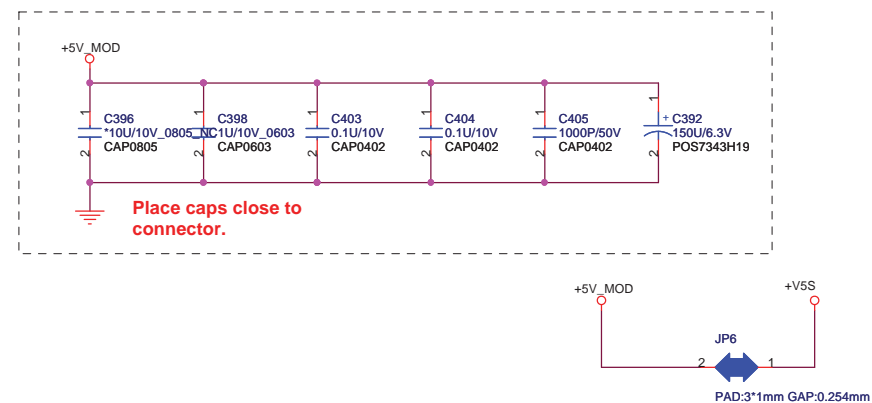
## G-Sensor



**Layout Note:**  
**TAKE CARE** with route on  
**SATA\_TX1+- & SATA\_RX1+-**

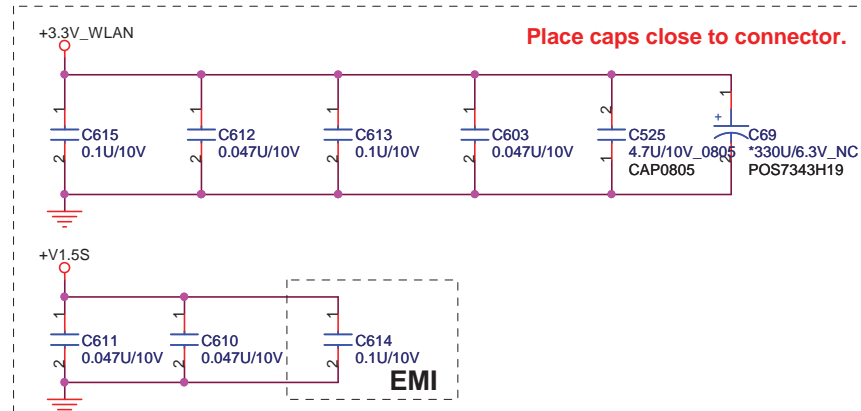
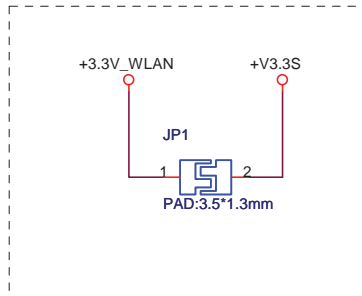
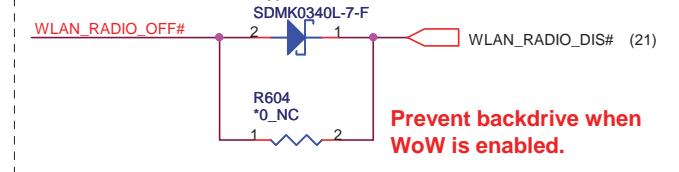
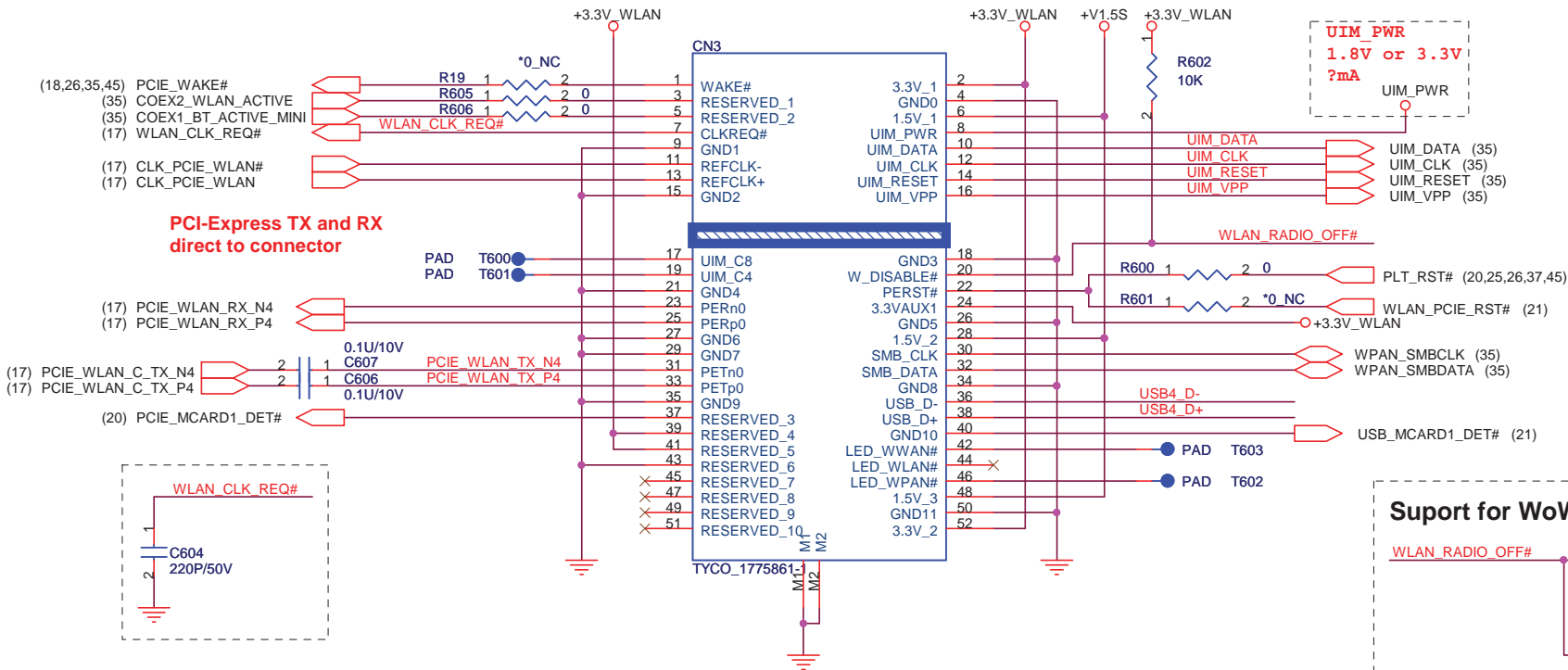
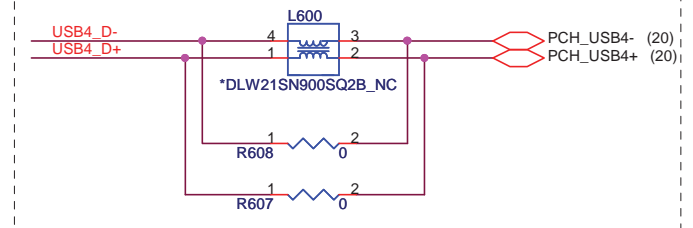


ODD Conn

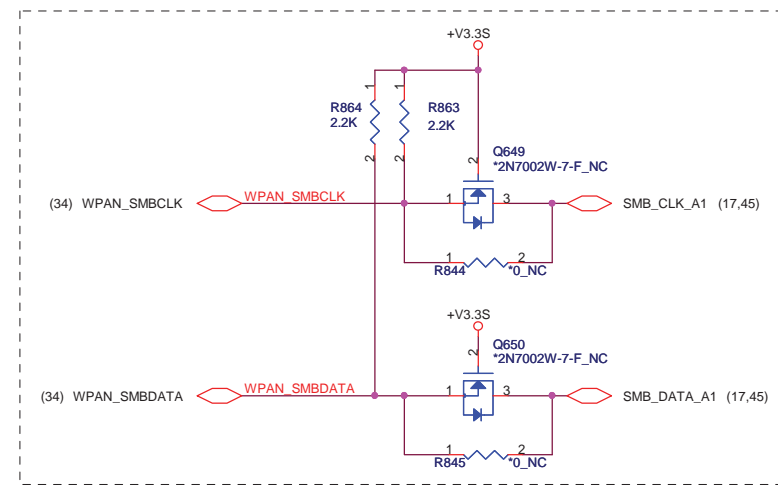
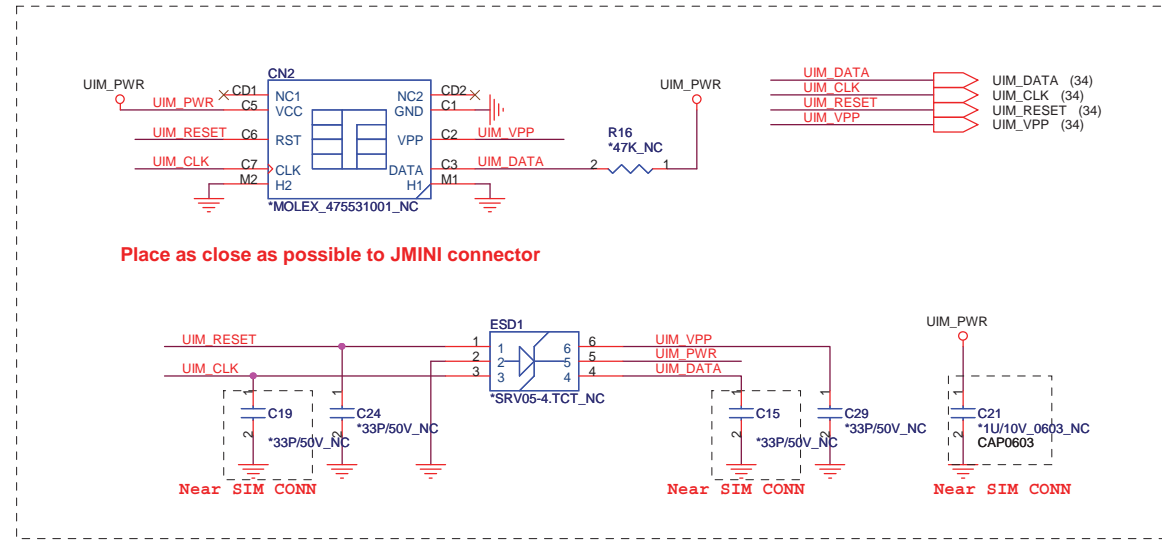
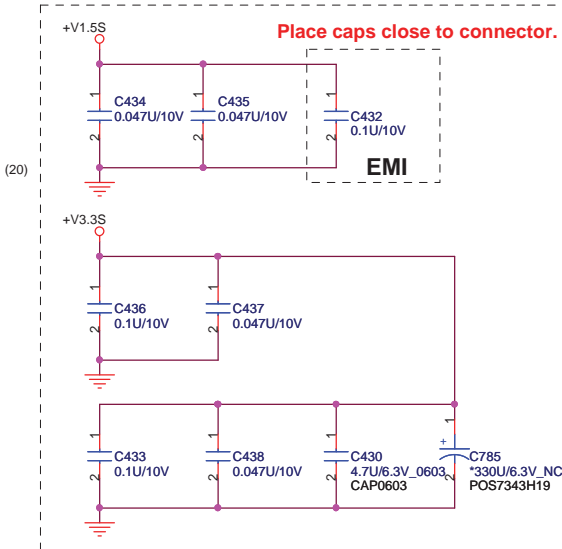
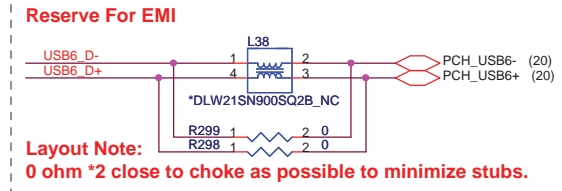
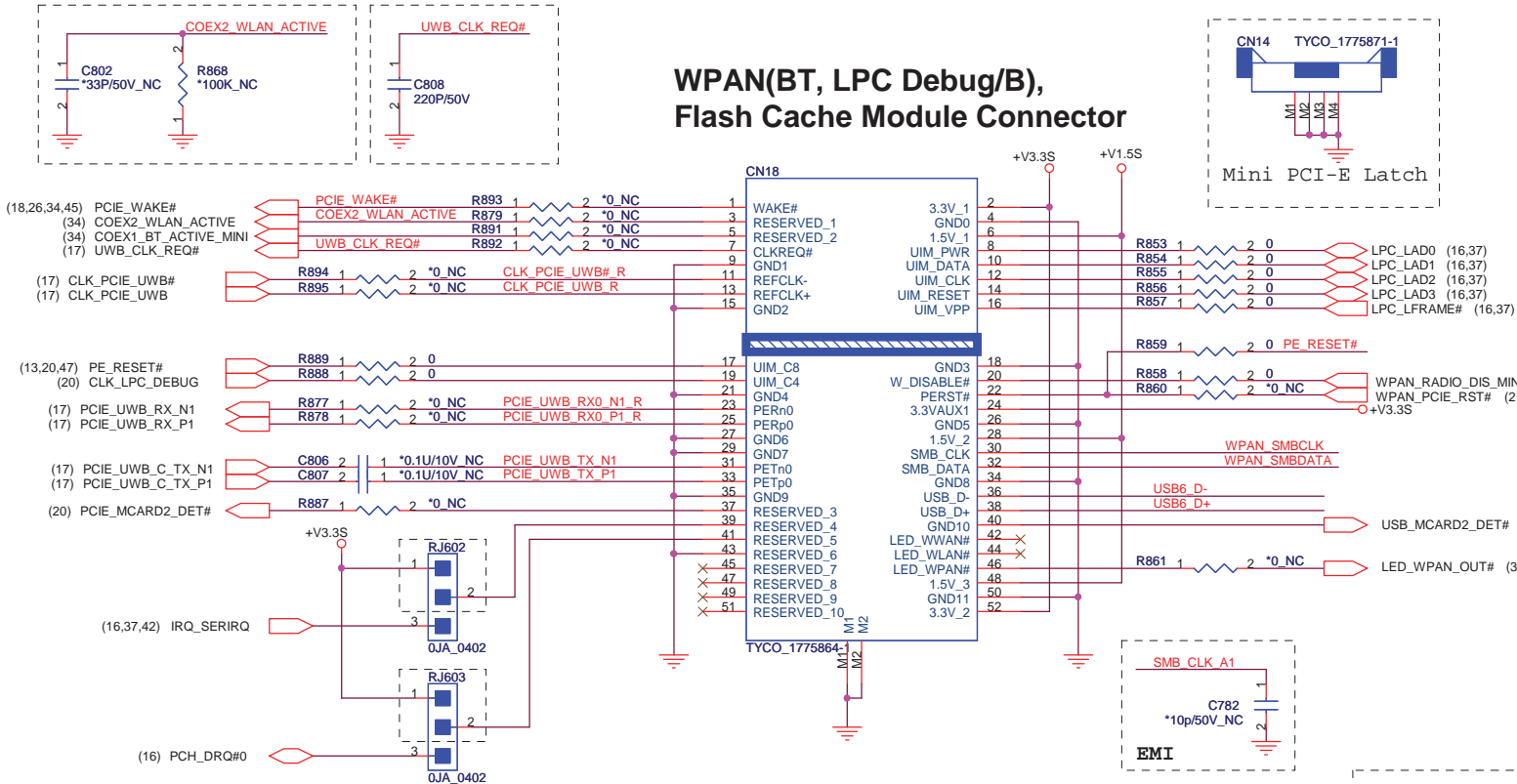


CS (Pin 7)	Interface
H	I2C BUS
L	SPI BUS

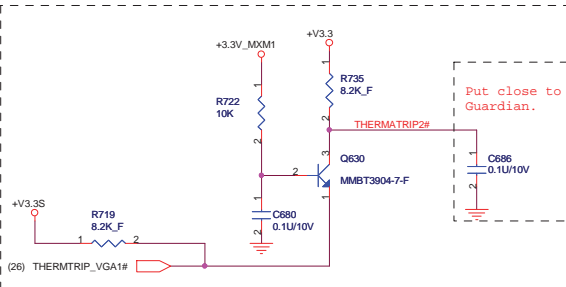
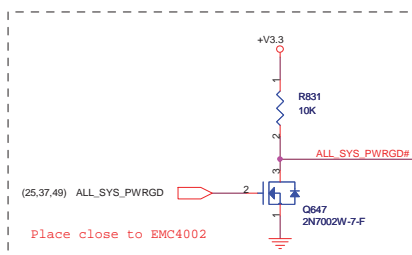
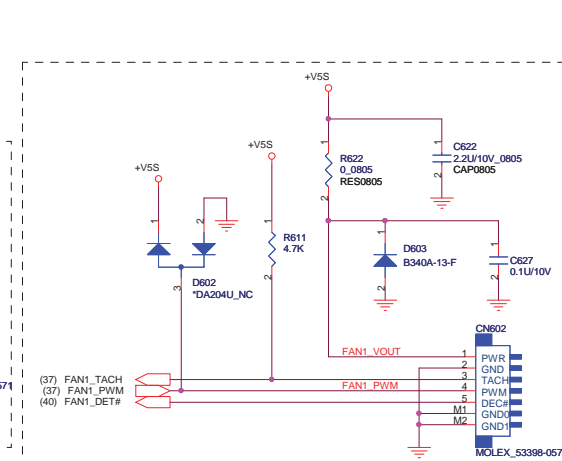
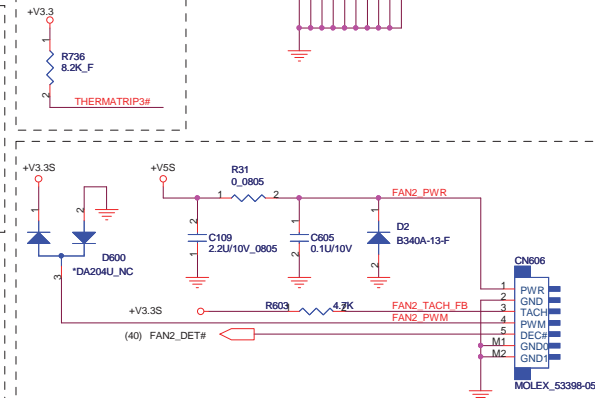
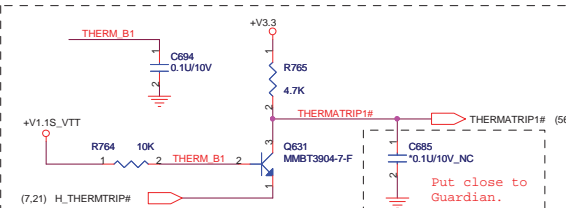
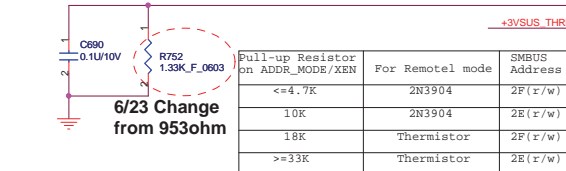
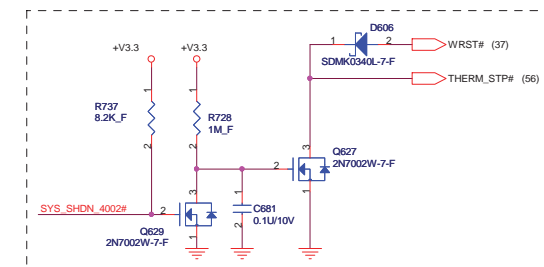
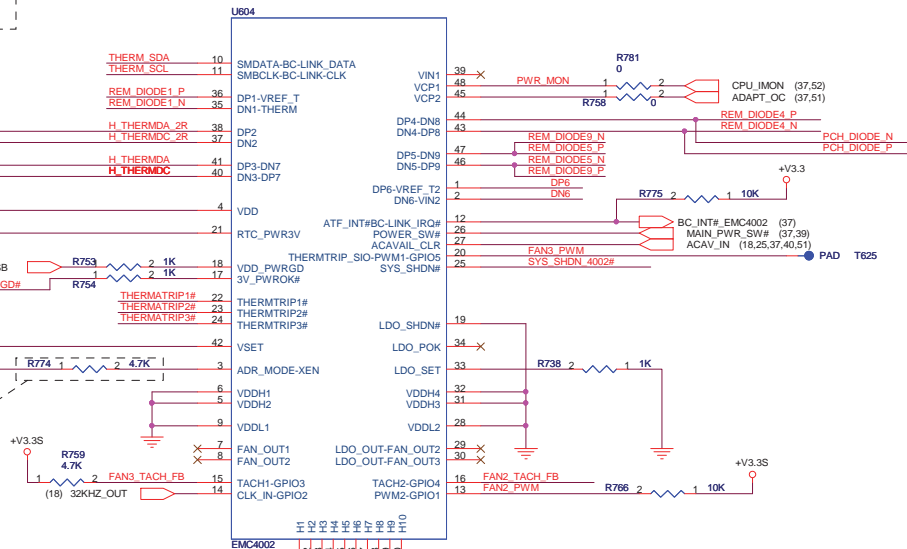
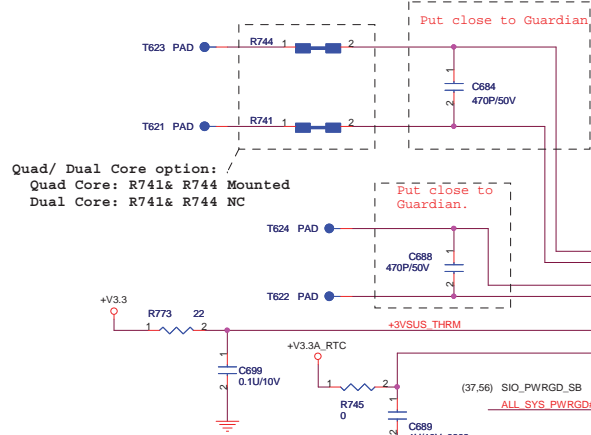
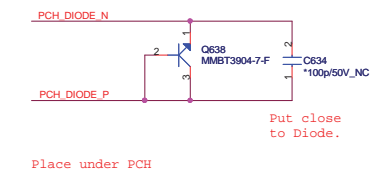
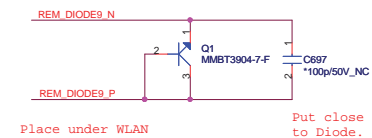
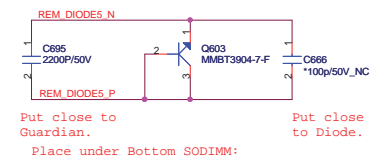
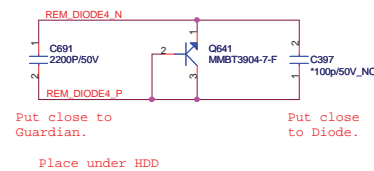
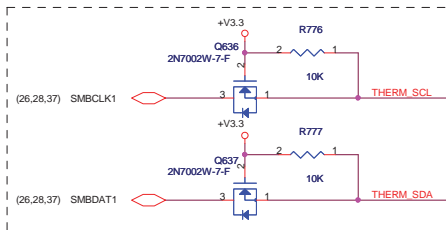
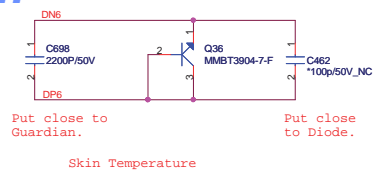
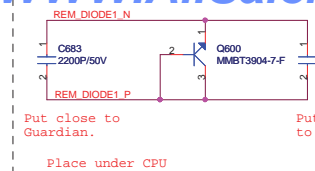
**Reserved PAD for EMI**



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<b>MINI-CARD (WLAN)</b>			
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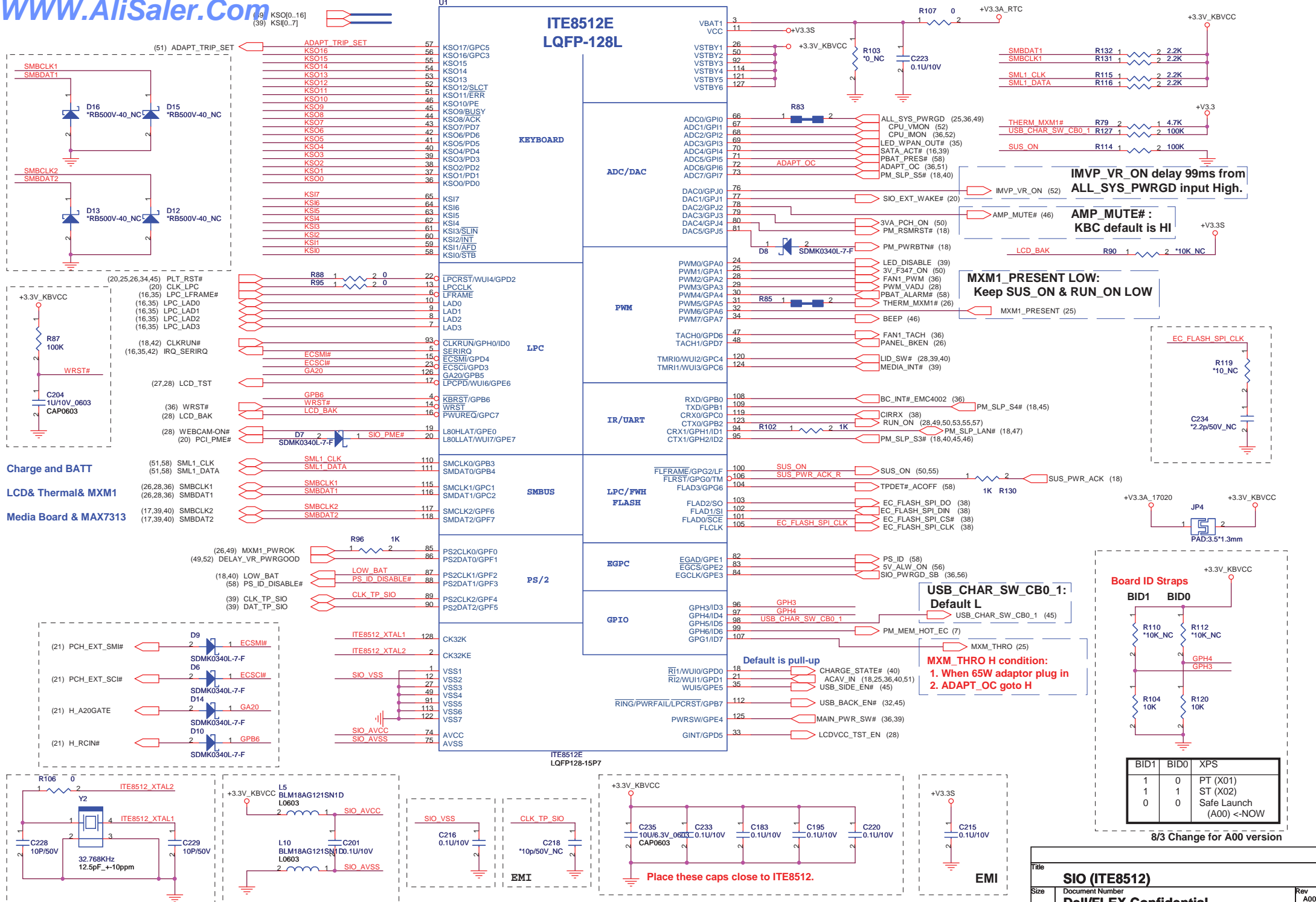
Title			
MINI-CARD (WPAN,WWAN)			
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MXM1 FAN Conn

CPU FAN Conn





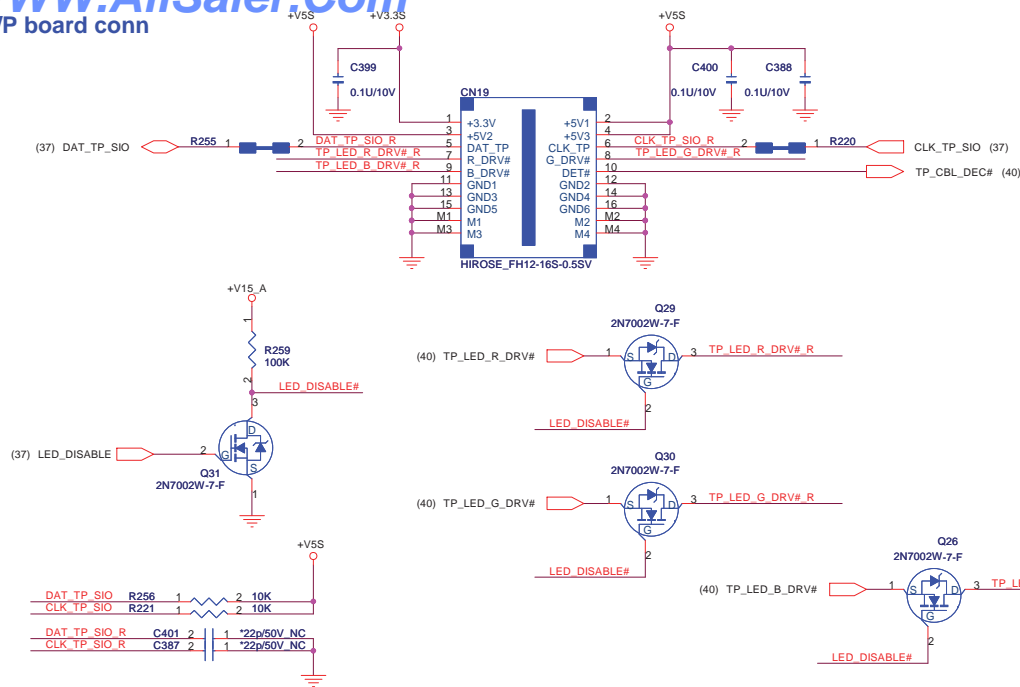
```
(37) EC_FLASH_SPI_CS#
(37) EC_FLASH_SPI_CLK
(37) EC_FLASH_SPI_DIN
(37) EC_FLASH_SPI_DO
```



(40) CIR\_CBL\_DEC#

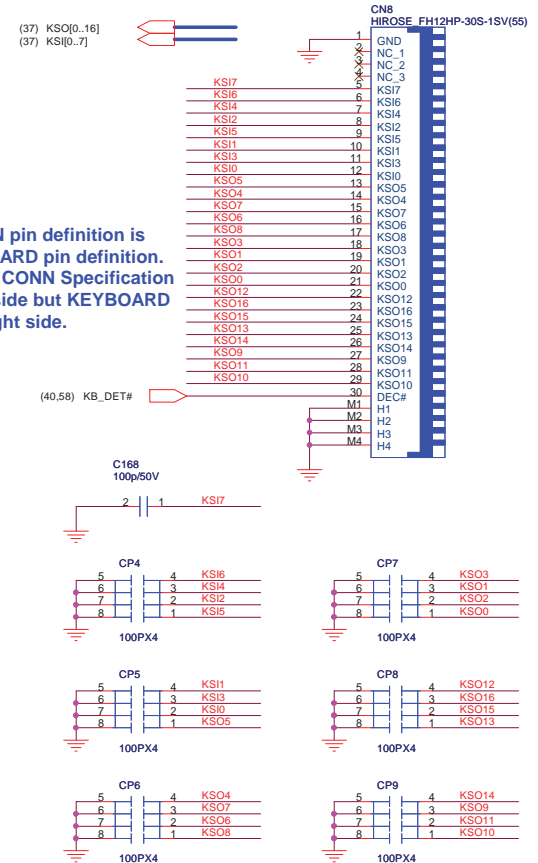


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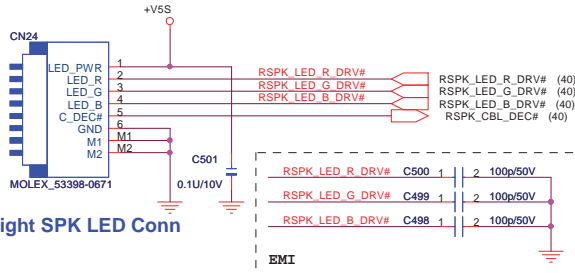


KEYBOARD CONN pin definition is reverse of KEYBOARD pin definition. This is cause that CONN Specification order pin1 in left side but KEYBOARD cable pin1 is in right side.

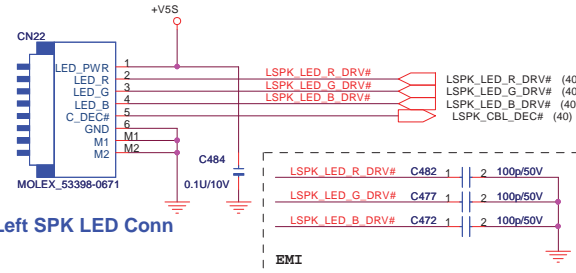
## KEYBOARD CONNECTOR



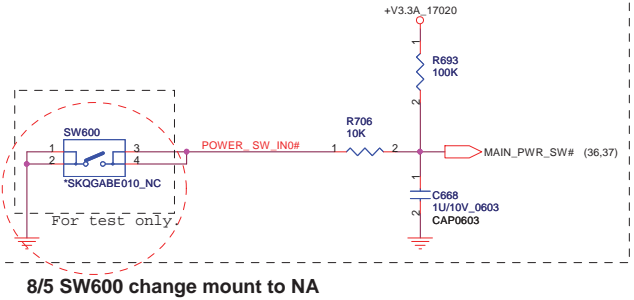
## Right SPK LED Conn



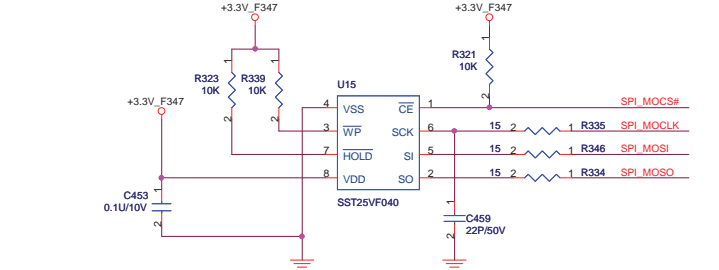
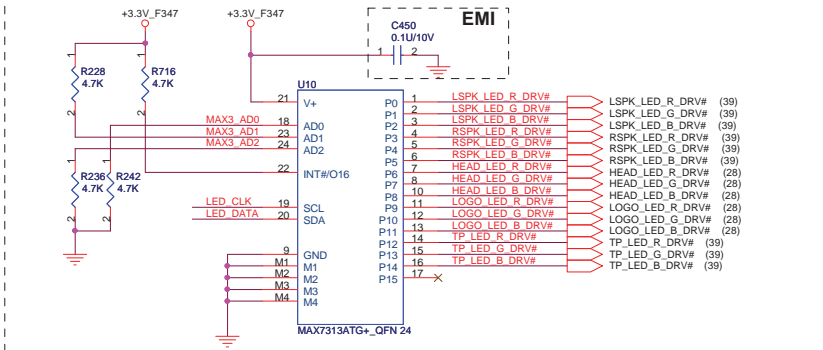
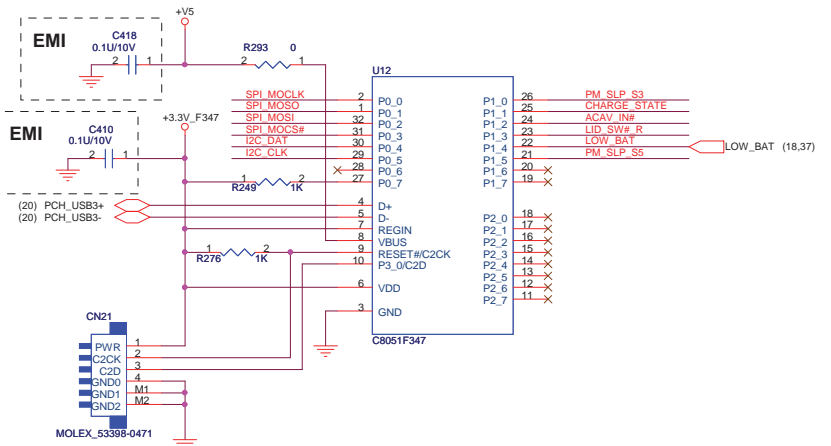
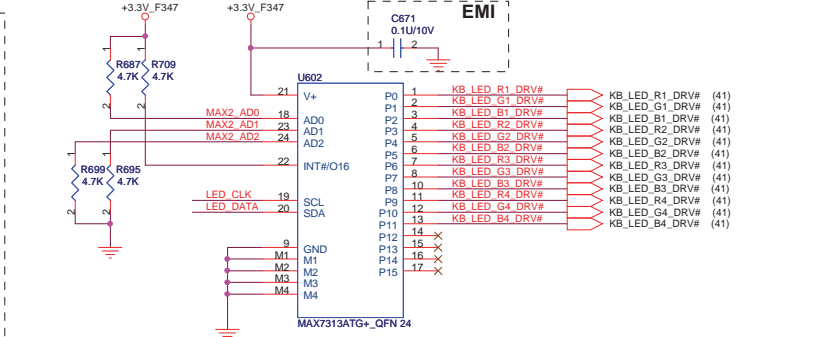
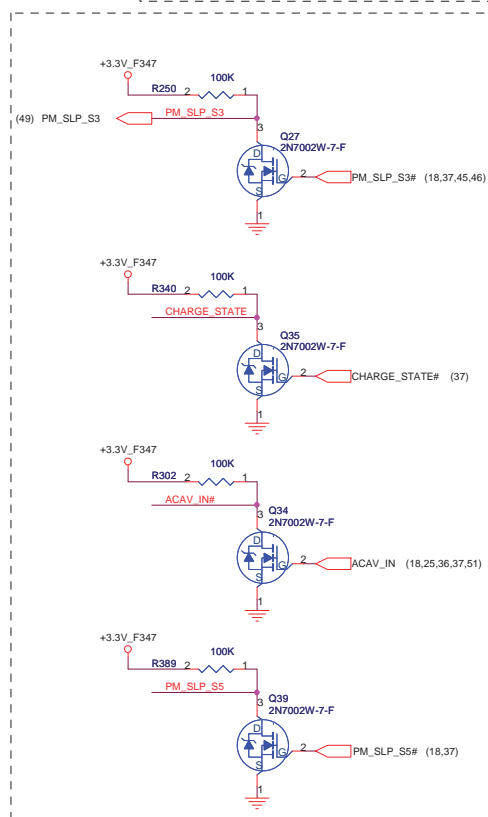
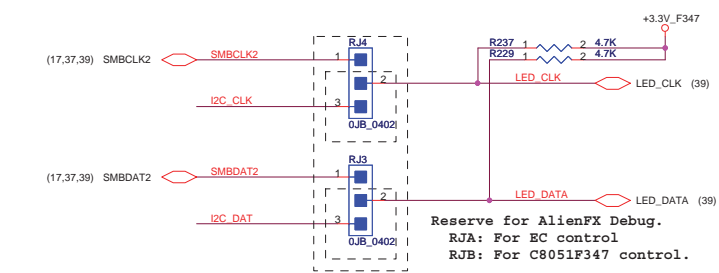
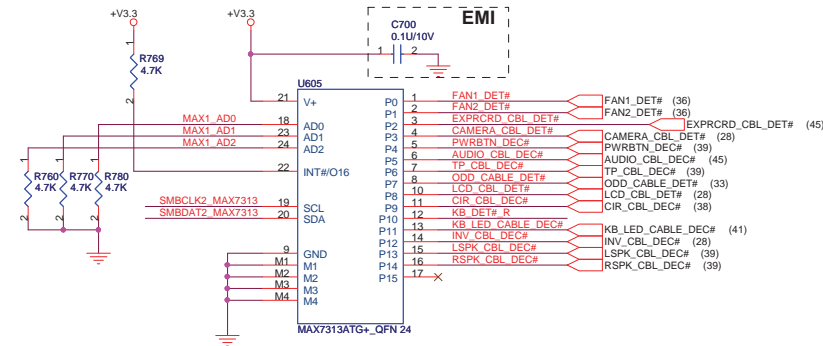
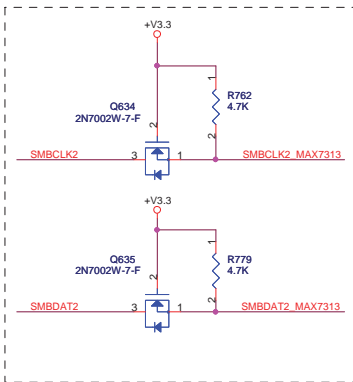
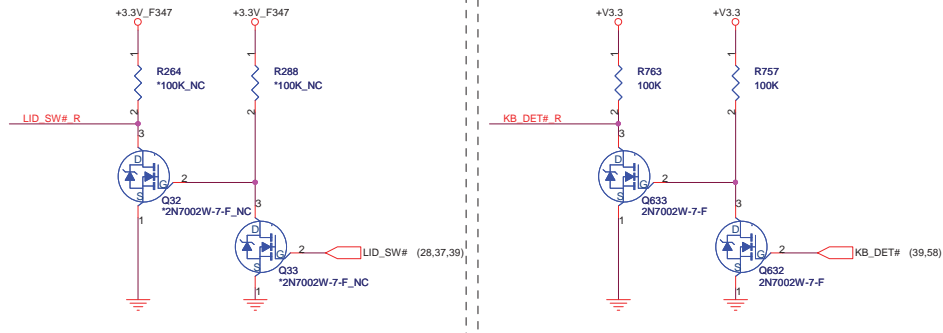
## Left SPK LED Conn



## Power Bottom



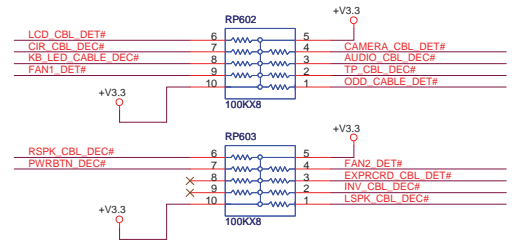
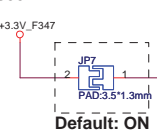
8/5 SW600 change mount to NA



+3.3V\_F347 behavior

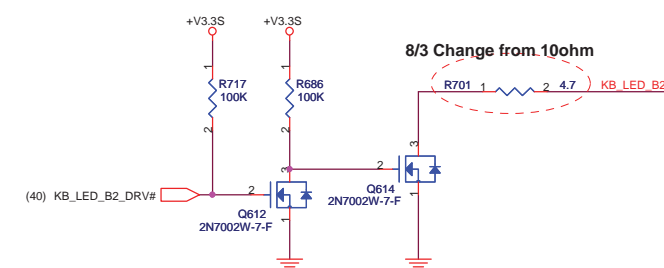
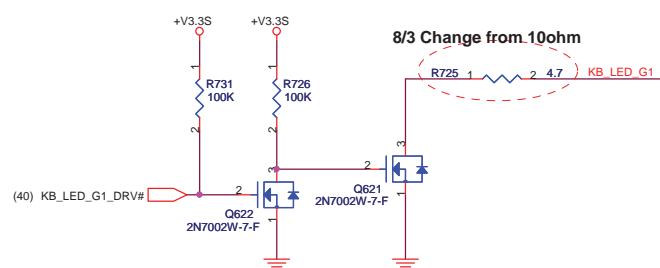
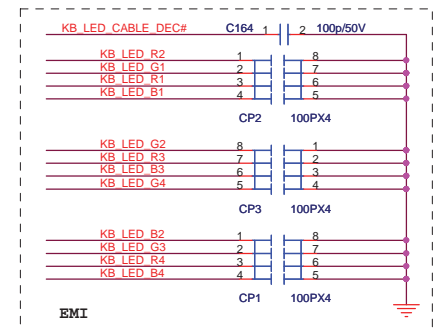
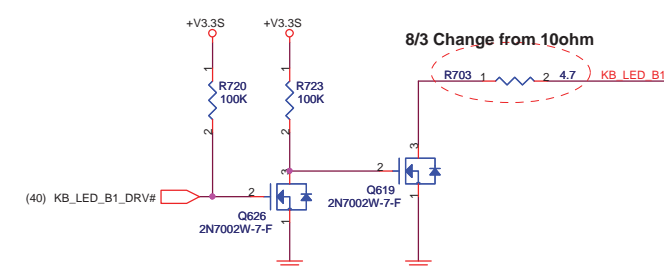
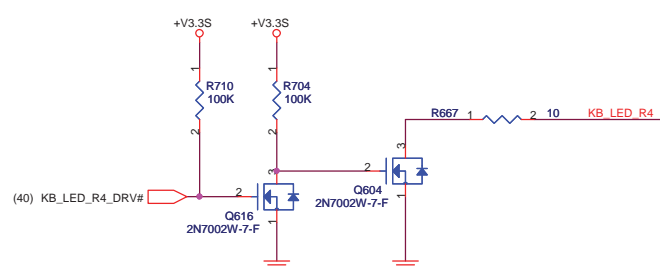
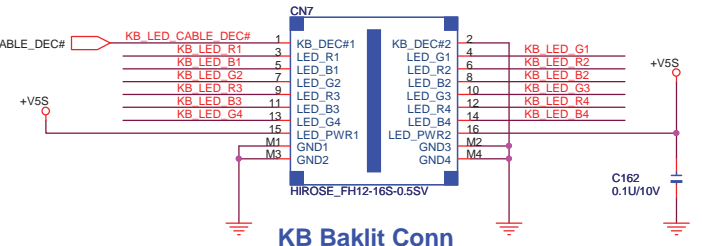
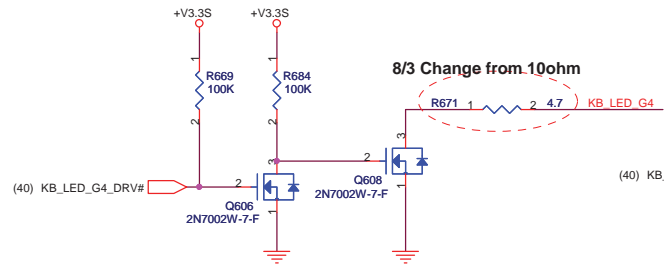
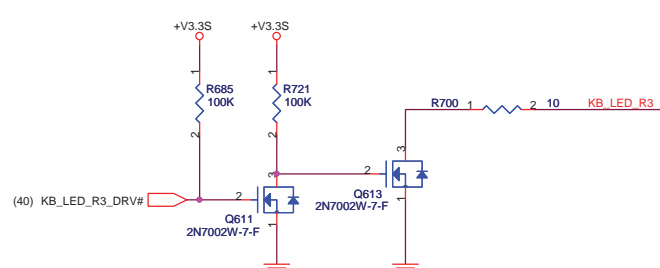
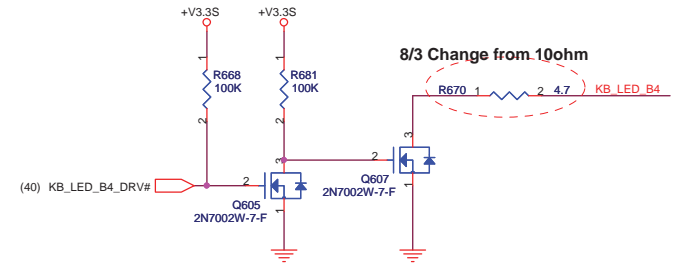
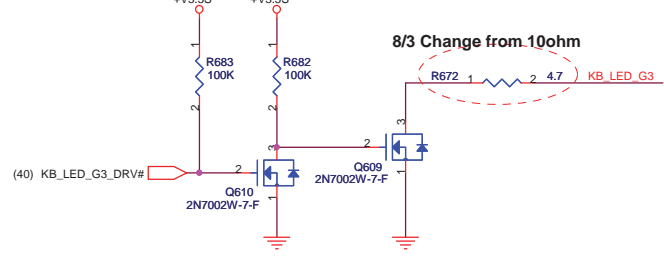
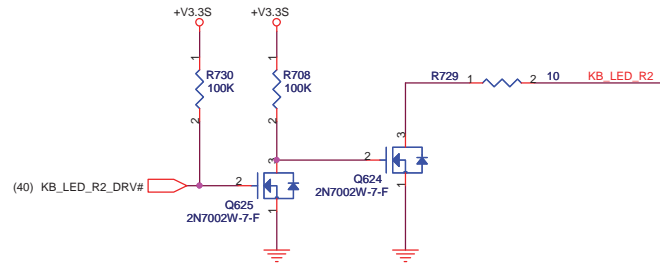
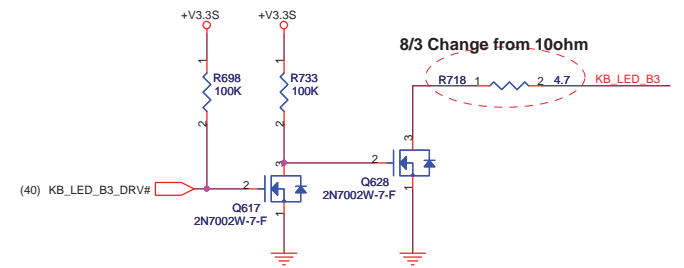
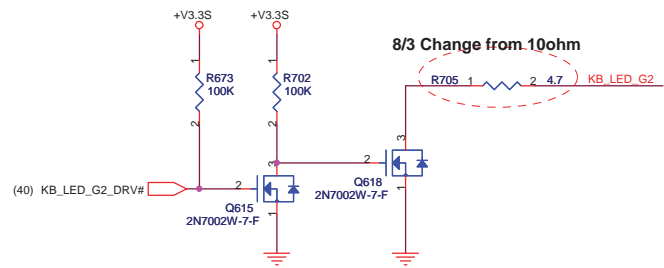
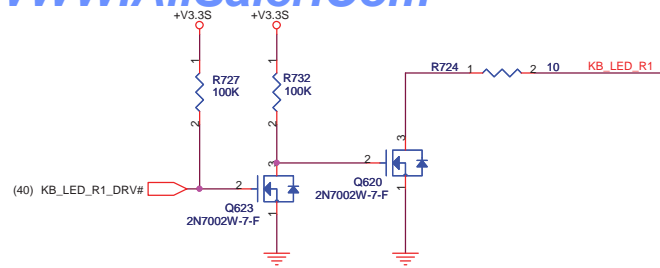
	State			
	S0	S3	S4	S5
AC In	ON	ON	ON	ON
BAT only	ON	ON	Off	Off

300mA



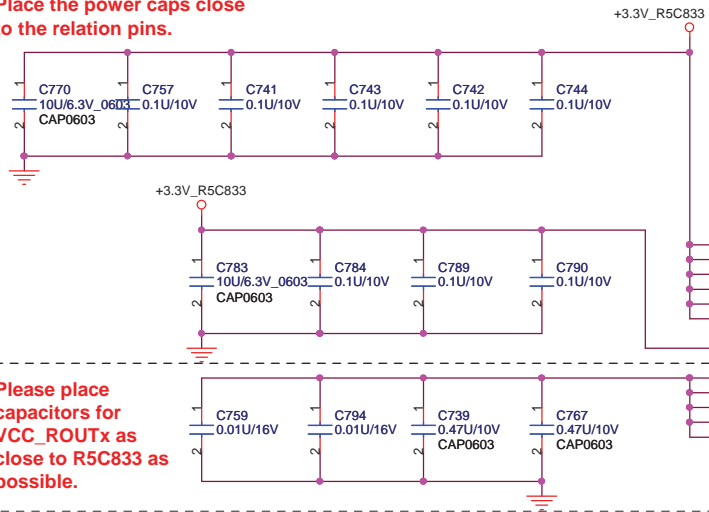
Reference	AD2	AD1	AD0	MAX7313 #
U41	0	0	0	Cable Detect#
U43	0	0	1	KB LED
U45	0	1	0	SPK& Head& Logo& T/P LED
---	0	1	1	LED Board
---	1	0	0	Media Board
---	1	0	1	Media Board

DEVICE	SMBUS ADDRESS
MAXIM - LED	0100 000b
MAXIM - GPIO	0100 001b
I2C EEPROM (U40)	1010 000b



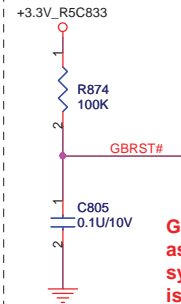
Title				
LIGHT FX-2/ LID				
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Place the power caps close to the relation pins.



Please place capacitors for VCC\_ROUTx as close to R5C833 as possible.

(20) PCI\_AD[31..0]



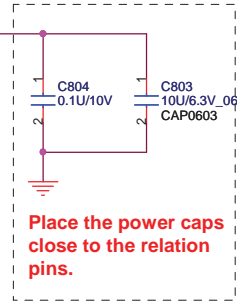
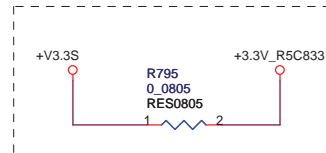
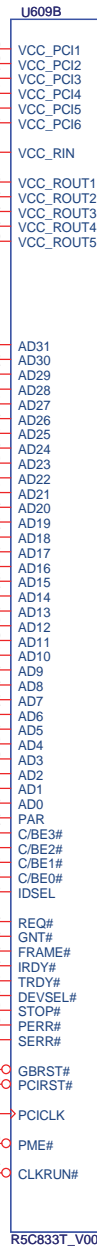
GBRST# should be asserted only when system power supply is on.

Checklist  
300~900ohm

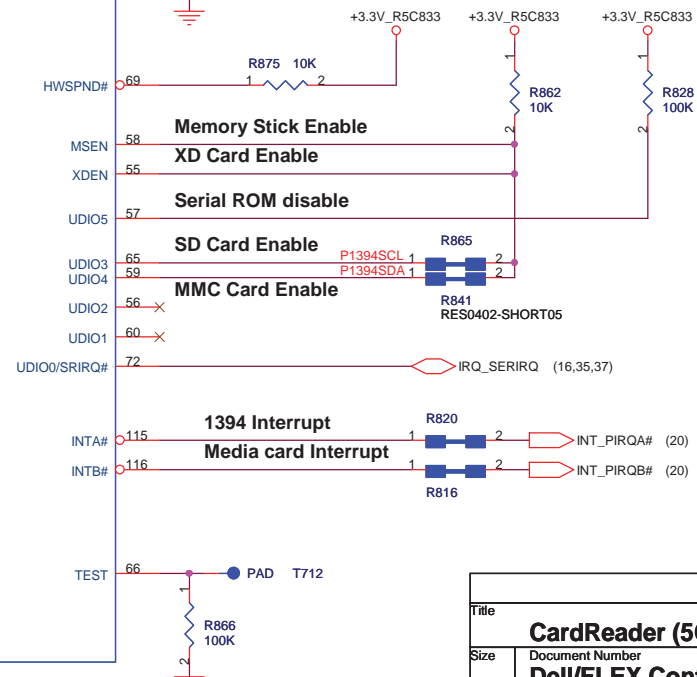
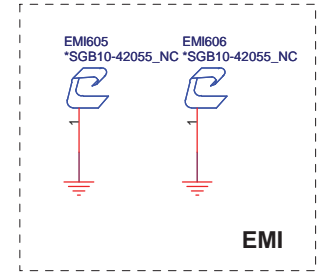
- (20) PCI\_PAR
- (20) PCI\_C\_BE3#
- (20) PCI\_C\_BE2#
- (20) PCI\_C\_BE1#
- (20) PCI\_C\_BE0#
- (20) PCI\_REQ0#
- (20) PCI\_GNT#0
- (20) PCI\_FRAME#
- (20) PCI\_IRDY#
- (20) PCI\_TRDY#
- (20) PCI\_DEVSEL#
- (20) PCI\_STOP#
- (20) PCI\_PERR#
- (20) PCI\_SERR#

- (20) PCI\_RST#
- (20) CLK\_PCI\_PCCARD
- (18,37) CLKRUN#

- PCI\_AD31 125
- PCI\_AD30 126
- PCI\_AD29 127
- PCI\_AD28 1
- PCI\_AD27 2
- PCI\_AD26 3
- PCI\_AD25 4
- PCI\_AD24 5
- PCI\_AD23 6
- PCI\_AD22 7
- PCI\_AD21 8
- PCI\_AD20 9
- PCI\_AD19 10
- PCI\_AD18 11
- PCI\_AD17 12
- PCI\_AD16 13
- PCI\_AD15 14
- PCI\_AD14 15
- PCI\_AD13 16
- PCI\_AD12 17
- PCI\_AD11 18
- PCI\_AD10 19
- PCI\_AD9 20
- PCI\_AD8 21
- PCI\_AD7 22
- PCI\_AD6 23
- PCI\_AD5 24
- PCI\_AD4 25
- PCI\_AD3 26
- PCI\_AD2 27
- PCI\_AD1 28
- PCI\_AD0 29
- PAR 30
- C/BE3# 31
- C/BE2# 32
- C/BE1# 33
- C/BE0# 34
- IDSEL 35
- REQ# 36
- GNT# 37
- FRAME# 38
- IRDY# 39
- TRDY# 40
- DEVSEL# 41
- STOP# 42
- PERR# 43
- SERR# 44
- GBRST# 45
- PCIRST# 46
- PCICLK 47
- PME# 48
- CLKRUN# 49

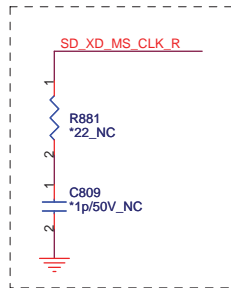
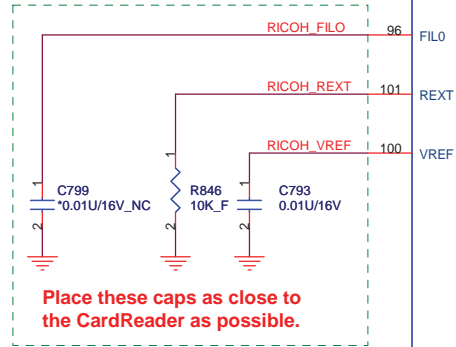
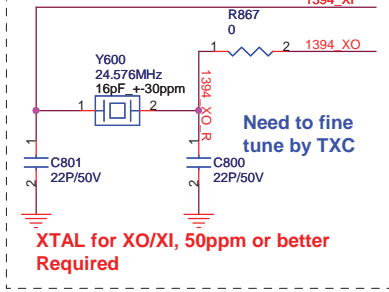


Place the power caps close to the relation pins.



Title		
CardReader (5C833)		
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IEEE1394 / SD

AVCC\_PHY1  
AVCC\_PHY2  
AVCC\_PHY3  
AVCC\_PHY4

TPBIAS0

TPBN0

TPBP0

TPAN0

TPAP0

MDIO17

MDIO16

MDIO15

MDIO14

MDIO13

MDIO12

MDIO11

MDIO10

MDIO05

MDIO08

MDIO19

MDIO18

MDIO02

MDIO03

MDIO00

MDIO01

MDIO09

MDIO04

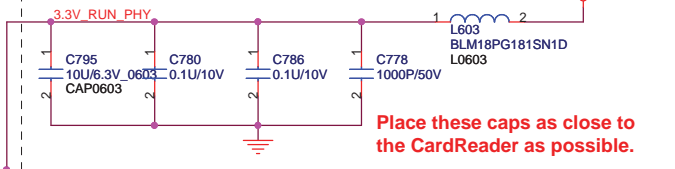
MDIO06

MDIO07

RSV

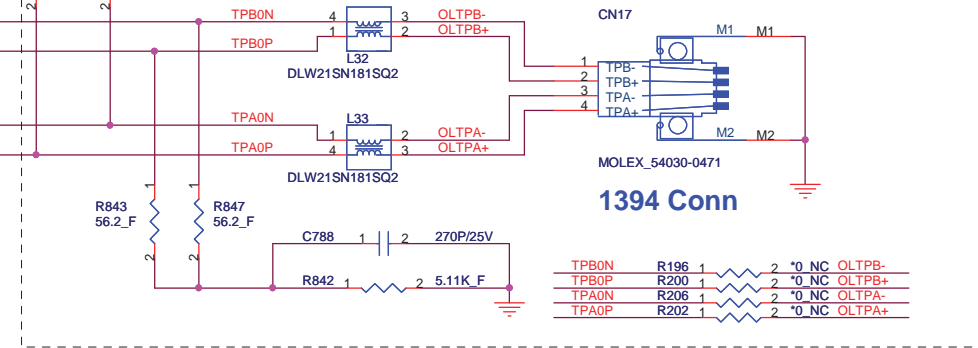
R5C833T\_V00

80 mils



As possible as close to CardReader

Reserved EMI Solution



1. TPA0P/TPA0N,TPB0P/TPB0N pair trace : Same length electrically.
2. TPA0P/TPA0N,TPB0P/TPB0N pair trace : As close as possible.
3. Termination resistor for TPA+/- TPB+/- : As close as possible to its cable driver (device pin out).

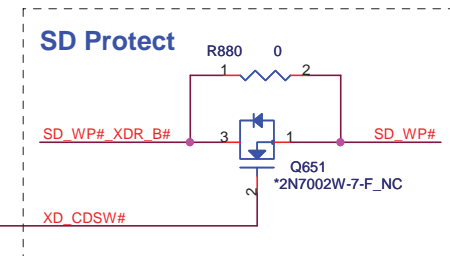
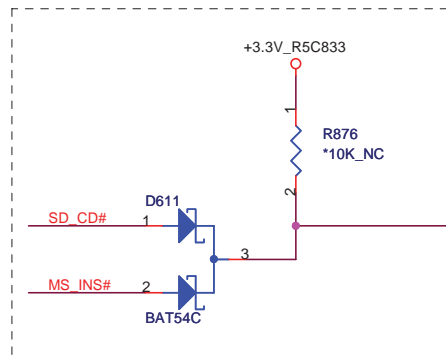
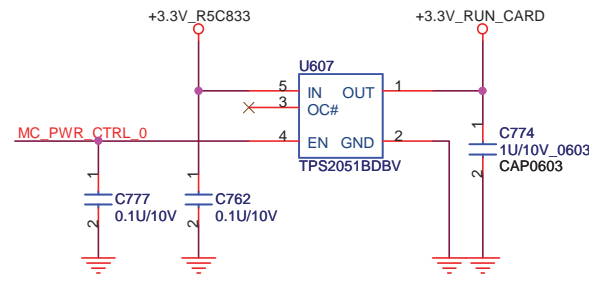
1394 Conn

(44) XD_WP#	XD_WP#
(44) MC_PWR_CTRL_0	MC_PWR_CTRL_0
(44) SD_WP#_XDR_B#	SD_WP#_XDR_B#
(44) XD_CE#	XD_CE#
(44) MS_INS#	MS_INS#
(44) SD_CD#	SD_CD#
(44) SD_XD_MS_DATA1	SD_XD_MS_DATA1
(44) SD_XD_MS_DATA0	SD_XD_MS_DATA0
(44) XD_ALE	XD_ALE
(44) XD_CLE	XD_CLE
(44) XD_MMS_DATA7	XD_MMS_DATA7
(44) SD_XD_MS_CMD	SD_XD_MS_CMD
(44) XD_MMS_DATA5	XD_MMS_DATA5
(44) SD_XD_MS_DATA3	SD_XD_MS_DATA3
(44) XD_MMS_DATA4	XD_MMS_DATA4
(44) XD_MMS_DATA6	XD_MMS_DATA6
(44) SD_XD_MS_DATA2	SD_XD_MS_DATA2
(44) SD_XD_MS_CLK_R	SD_XD_MS_CLK_R

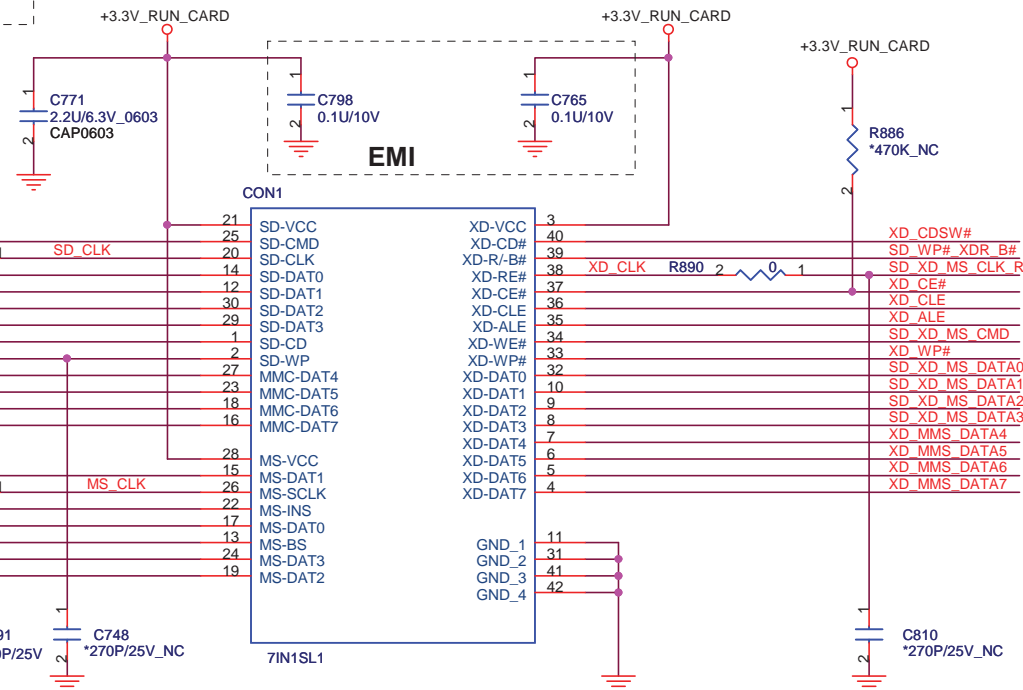
Title		
8in1/ 1394 CONN		
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### Layout Note:

- 1). The distance between Media Card Power Switch and Media Socket should be less than 2-inches.
- 2). The trace width for +3.3V\_RUN\_CARD should be 40MIL at least.
- 3). The GND trace for Media Card Socket should be 40MIL at least.

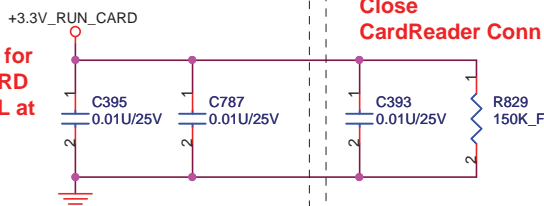


2.2uF cap is no more than 250mils away from the power pin and a have a min trace width of 40mils.



(43) XD_WP#	XD_WP#
(43) MC_PWR_CTRL_0	MC_PWR_CTRL_0
(43) SD_WP#_XDR_B#	SD_WP#_XDR_B#
(43) XD_CE#	XD_CE#
(43) MS_INS#	MS_INS#
(43) SD_CD#	SD_CD#
(43) SD_XD_MS_DATA1	SD_XD_MS_DATA1
(43) SD_XD_MS_DATA0	SD_XD_MS_DATA0
(43) XD_ALE	XD_ALE
(43) XD_CLE	XD_CLE
(43) XD_MMS_DATA7	XD_MMS_DATA7
(43) SD_XD_MS_CMD	SD_XD_MS_CMD
(43) XD_MMS_DATA5	XD_MMS_DATA5
(43) SD_XD_MS_DATA3	SD_XD_MS_DATA3
(43) XD_MMS_DATA4	XD_MMS_DATA4
(43) XD_MMS_DATA6	XD_MMS_DATA6
(43) SD_XD_MS_DATA2	SD_XD_MS_DATA2
(43) SD_XD_MS_CLK_R	SD_XD_MS_CLK_R

The trace width for +3.3V\_RUN\_CARD should be 40MIL at least.



Title		
CardReader CONN		
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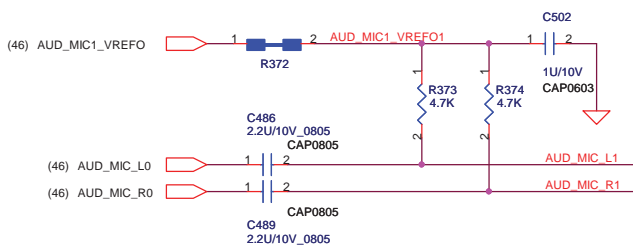
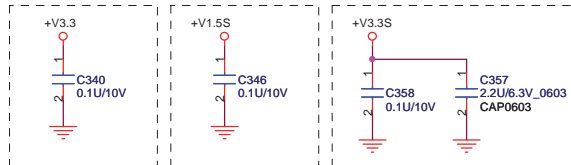
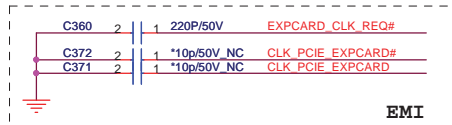
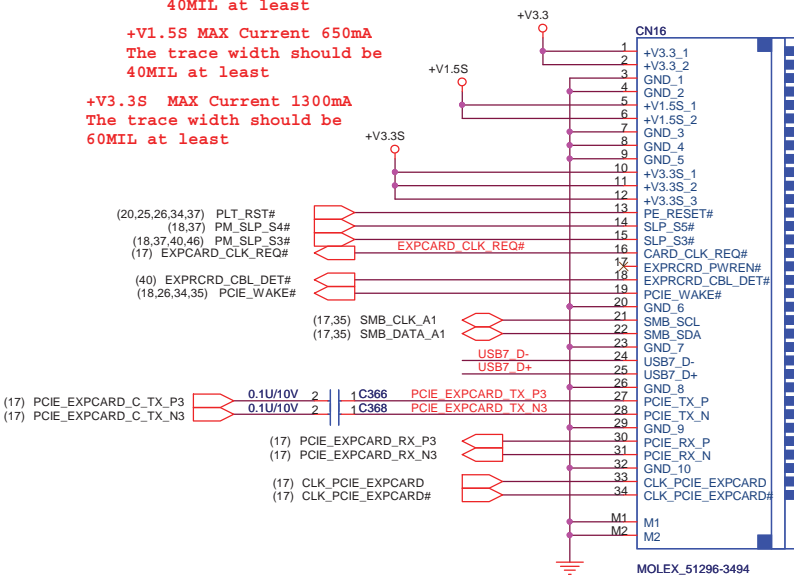
# ExpressCard Board CONN

# Audio and USB Board CONN

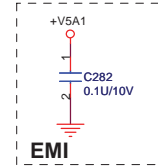
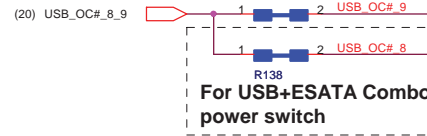
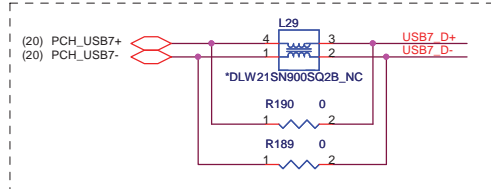
**+V3.3 MAX Current 275mA**  
The trace width should be  
40MIL at least

**+V1.5S MAX Current 650mA**  
The trace width should be  
40MIL at least

**+V3.3S MAX Current 1300mA**  
The trace width should be  
60MIL at least



PCI-Express TX and RX direct to connector.



+V5A1



(40) AUDIO\_CBL\_DEC#

(46) SENSE-A

AUD\_MIC\_R1

AUD\_MIC\_L1

AUD\_HP2\_R1

AUD\_HP2\_L1

AUD\_HP1\_R1

AUD\_HP1\_L1

AUD\_HP1\_L1

AUD\_HP1\_L1

AUD\_HP1\_L1

AUD\_HP1\_L1

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AUD\_HP1\_L1

AUD\_HP1\_L1

AUD\_HP1\_L1

AUD\_HP1\_L1

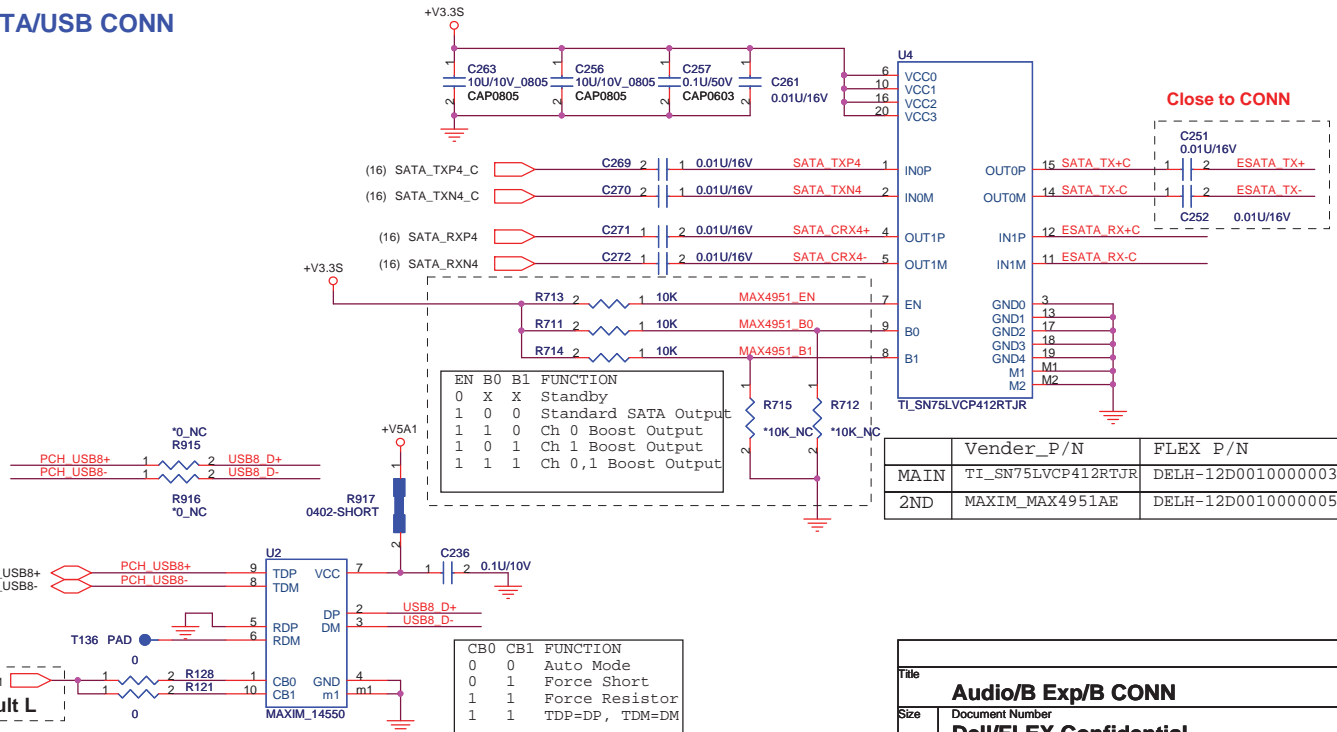
AUD\_HP1\_L1

AUD\_HP1\_L1

AUD\_HP1\_L1

AUD\_HP1\_L1

## For eSATA/USB CONN

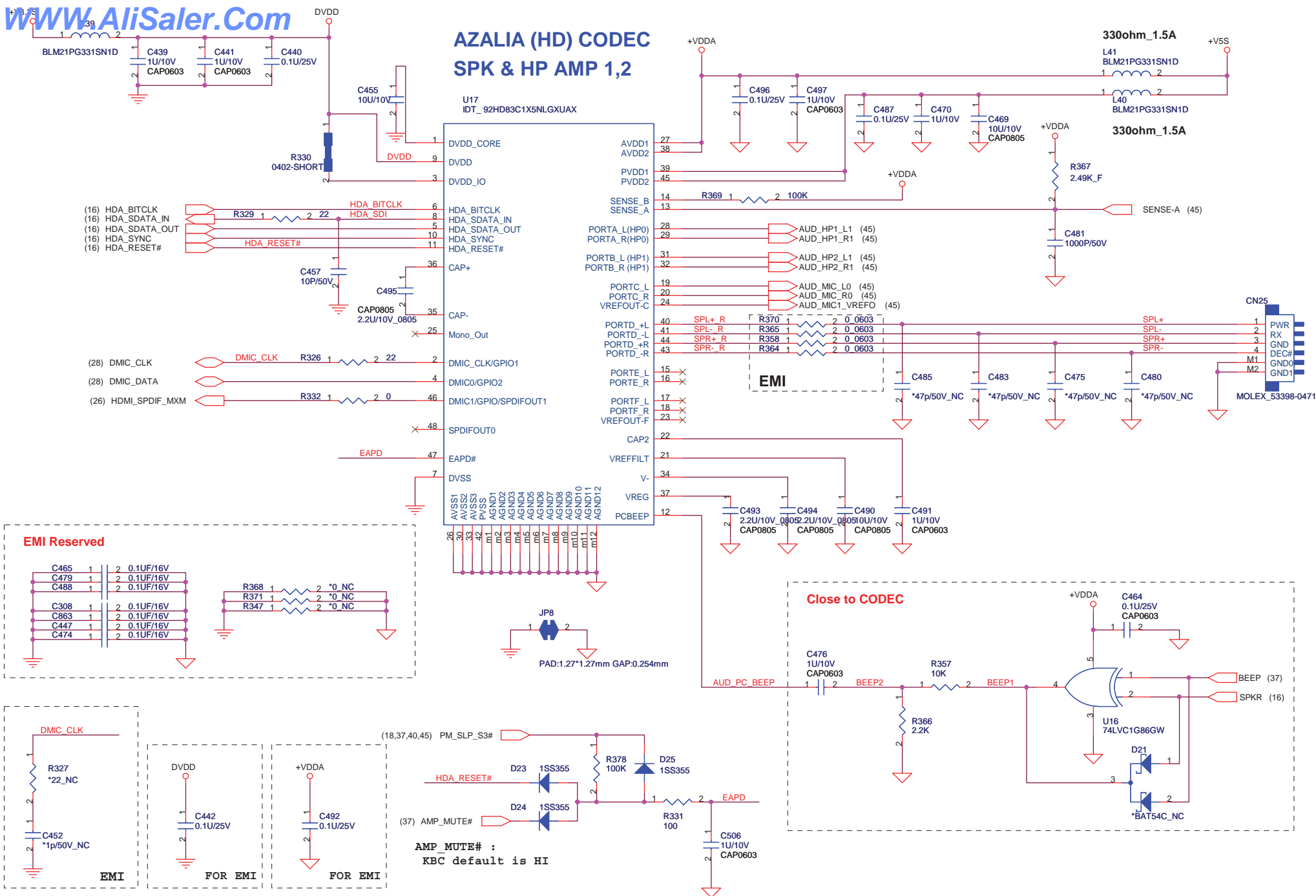


Close to CONN

	Vender_P/N	FLEX P/N
MAIN	TI_SN75LVCP412RTJR	DELH-12D0010000003G
2ND	MAXIM_MAX4951AE	DELH-12D0010000005G

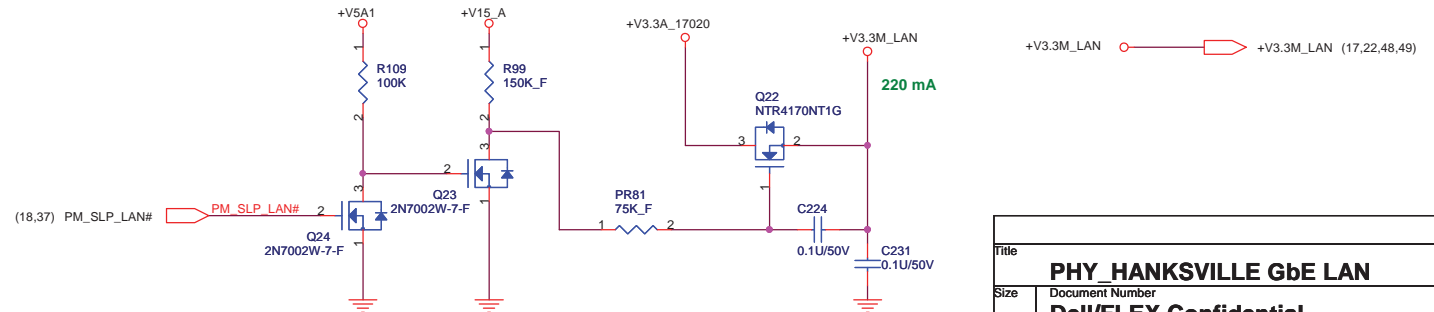
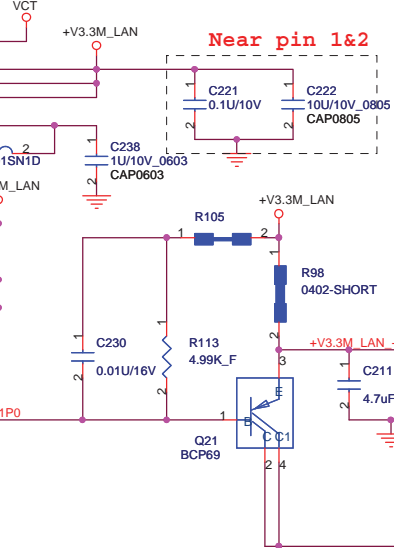
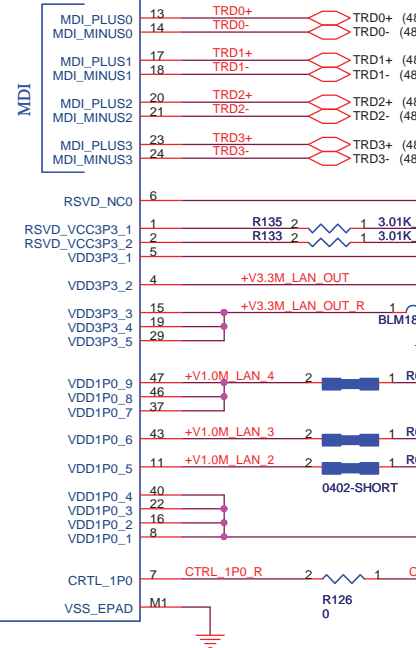
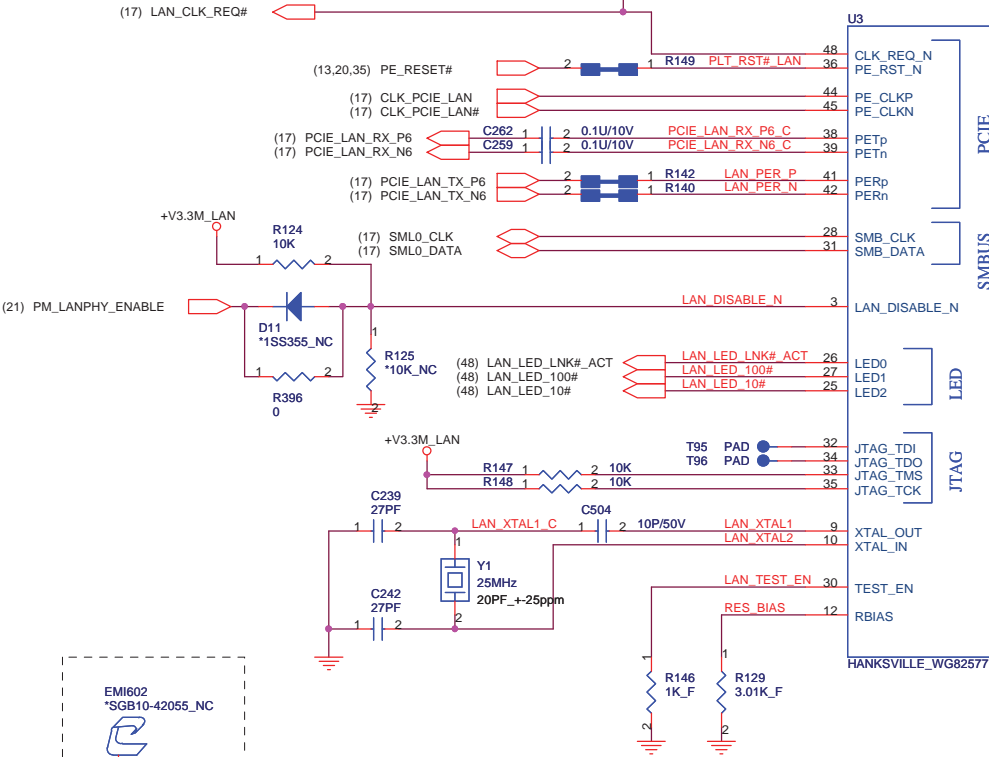
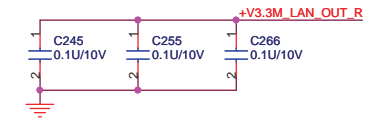
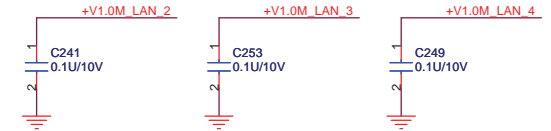
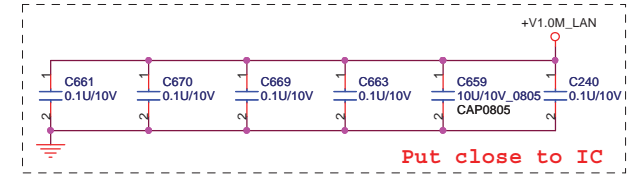
Title		
Audio/B Exp/B CONN		
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**AZALIA (HD) CODEC  
SPK & HP AMP 1,2**



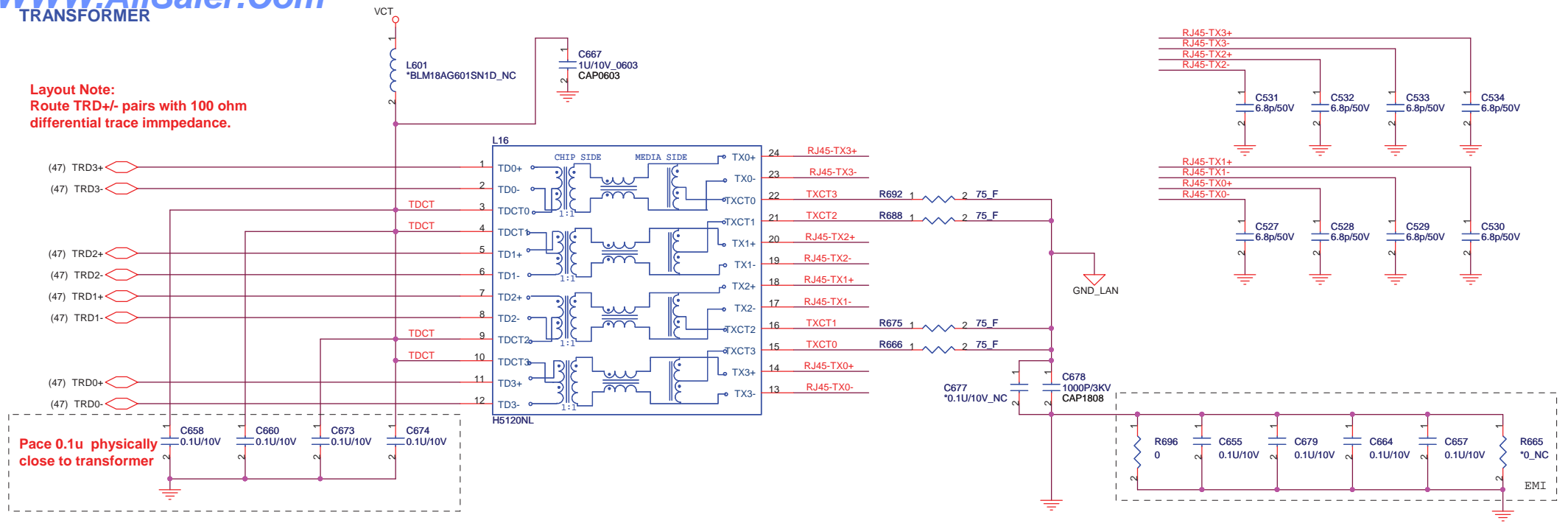
Title			
Audio (92HD83)/CONN			
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Hanksville PHY	FLEX P/N
WG82577LC QLMH A3	DELH-10D0040000005G

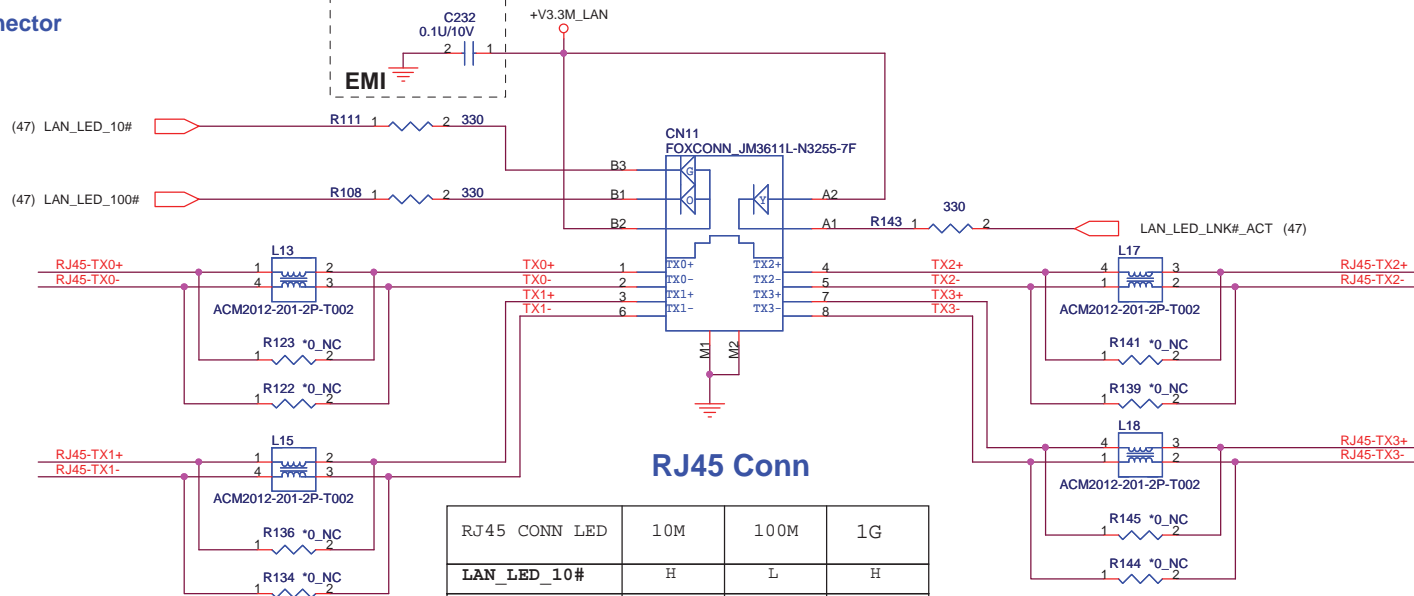


Title	PHY_HANKSVILLE GbE LAN	Rev	A00
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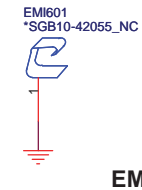
**Layout Note:**  
Route TRD+/- pairs with 100 ohm differential trace impedance.



## RJ-45 Connector

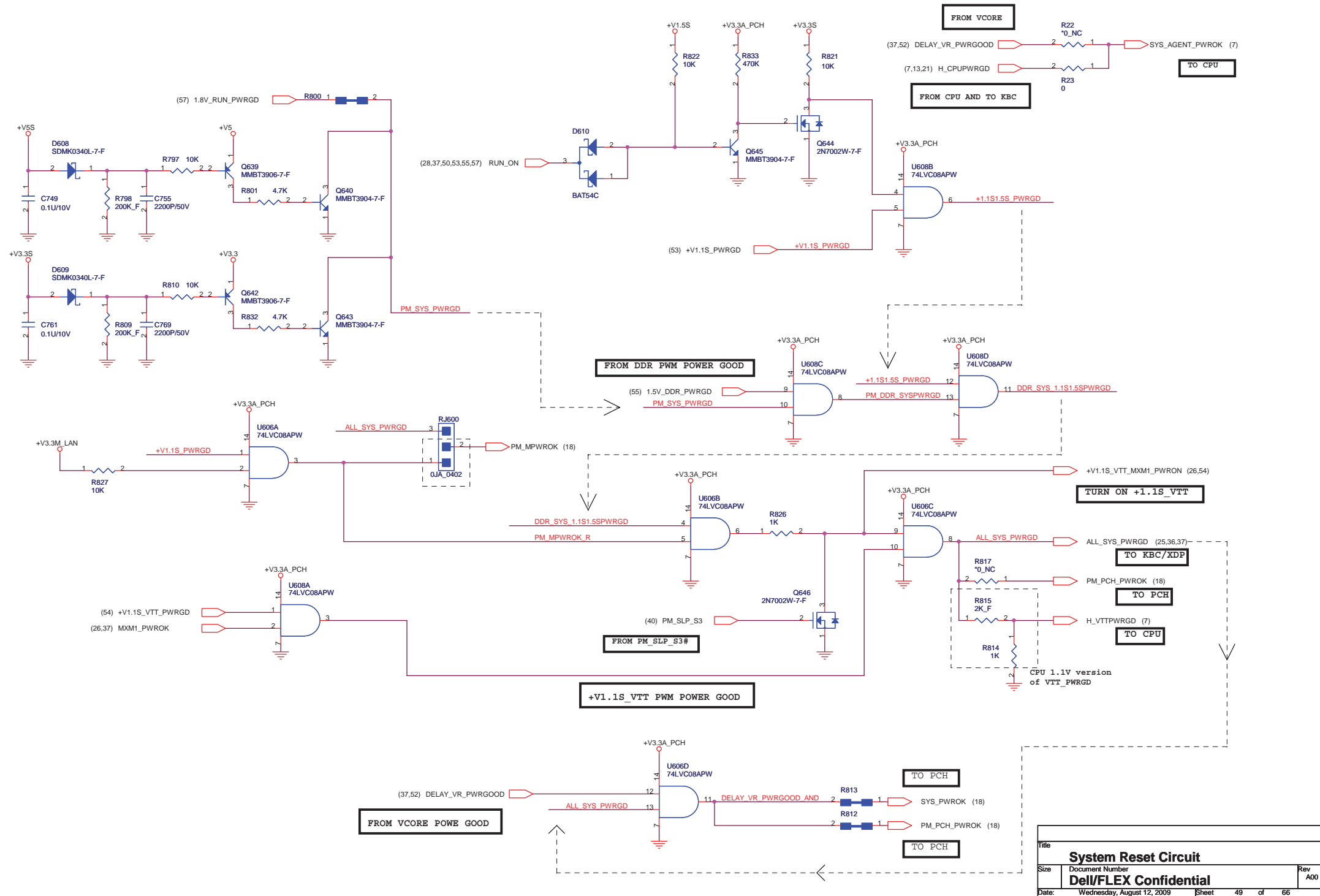


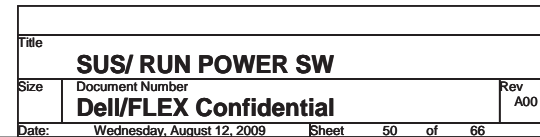
RJ45 CONN LED	10M	100M	1G
LAN_LED_10#	H	L	H
LAN_LED_100#	L	H	H



Title		
RJ-45/TRANSFORM		
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+PWR\_SRC (25,28,52,53,54,55,56,58,59)

Note:  
Component Values on Schematic are for MAX8731 only,  
Please see table 1-3 for BQ24745 or ISL88731  
component Values.

REF DES	MAXIM	INTERSIL	TI
PR636	NO STUFF	10K, 0.402, 5%	NO STUFF
PR635	0, 0.402, 5%	10, 0.402, 5%	0, 0.402, 5%
PR637	0, 0.402, 5%	10, 0.402, 5%	0, 0.402, 5%
PC623	NO STUFF	0.1uF	0.1uF
PC624	NO STUFF	NO STUFF	0.1uF
PC621	NO STUFF	NO STUFF	NO STUFF
PR2	0, 0.402, 5%	10, 0.402, 5%	0, 0.402, 5%
PR1	0, 0.402, 5%	10, 0.402, 5%	0, 0.402, 5%
PC611	NO STUFF	NO STUFF	0.1uF
PC614	NO STUFF	0.1uF	0.1uF
PC613	NO STUFF	NO STUFF	NO STUFF
PR615	8.2K, 0.402, 5%	2.2K, 0.402, 5%	4.7K, 0.402, 5%
PR613	8.45K, 0.402, 1%	NO STUFF	NO STUFF
PR614	NO STUFF	NO STUFF	200K, 0.402, 5%
PR616	NO STUFF	NO STUFF	7.5K, 0.402, 5%
PR618	NO STUFF	NO STUFF	0, 0.402, 5%
PC620	0.1uF, 0.402, 10V	NO STUFF	200pF, 0.402, 10V
PC634	0.01uF	0.01uF	NO STUFF
PC636	NO STUFF	NO STUFF	130pF, 0.402, 10V
PC632	0.01uF	0.01uF	NO STUFF
PC630	NO STUFF	NO STUFF	51pF, 0.402, 10V
PC635	NO STUFF	NO STUFF	2000pF, 0.402, 10V
PC633	1.0uF, 0.603, 10V	NO STUFF	1.0uF, 0.603, 10V
PC629	0.1uF, 0.402, 10V	NO STUFF	NO STUFF
PR610	10K, 0.402, 1%	10K, 0.402, 1%	NO STUFF
PR605	15.8K, 0.402, 1%	15.8K, 0.402, 1%	NO STUFF
PR611	NO STUFF	NO STUFF	10K, 0.402, 5%
PR620	365K, 0.402, 1%	215K, 0.402, 1%	309K, 0.402, 1%
PD4	CH501H-40PT	NO STUFF	CH501H-40PT
PR607	33, 0.603, 1%	33, 0.603, 1%	NO STUFF
PC618	1.0uF, 0.603, 10V	1.0uF, 0.603, 10V	NO STUFF
PR609	0, 0.603, 5%	0, 0.603, 5%	0, 0.603, 5%
PR608	100, 0.402, 5%	100, 0.402, 5%	0, 0.402, 5%
PC616	220pF, 0.402, 50V	NO STUFF	NO STUFF
PR623	0, 0.402, 5%	8.45K, 0.402, 1%	8.45K, 0.402, 1%
PC638	0.01uF	0.1uF	0.1uF
PC617	3.3nF	NO STUFF	NO STUFF

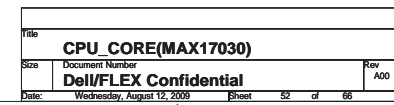
Charge Current = 4.5A

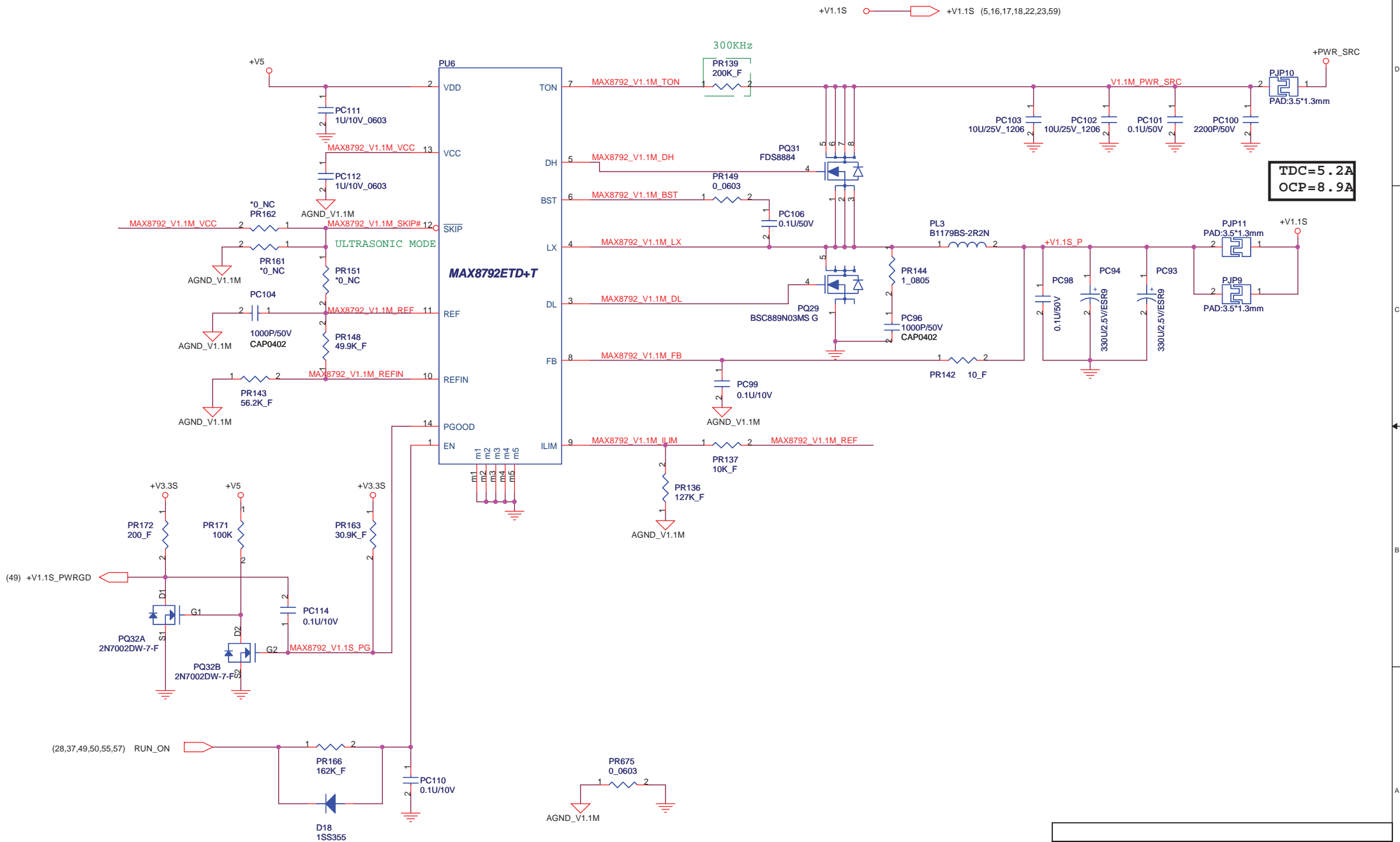
PIN	MAX8731A	ISL88731	bq24745
1	GND	NC	ICREF
3	REF	VREF	VREF
4	CCS	ICOMP	EAO
5	CCI	NC	EAI
6	CCV	VCOMP	FBO
7	DAC	NC	CE
8	IINP	ICM	VICM
11	VDD	VDDSMB	VDDSMB
14	BATSEL	NC	NC
15	FBSA	VFB	VFB
16	FBSB	NC	NC
17	CSIN	CSO	CSO
18	CSIP	CSOP	CSOP
20	DLO	LAGTE	LAGTE
21	LDO	VDDP	VDDP
23	LX	PHASE	PHASE
24	DHI	UGATE	UGATE
25	BST	BOOT	BOOT
26	VCC	VCC	ICOUT

\*NC\* means no-connect

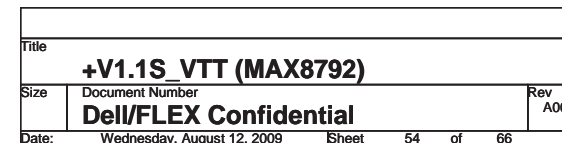
TABLE 1								
			MAX8731A/ISL88731			bq24745		
ADAPTER(W)	TRIP CURRENT (A)	PR625	PR627	PR626	PR624 (see Note 1)	PR627	PR626	PR624
65	3.17	57.6K	13K	105	24.9K	12.4K	205	24.3K
150	7.43	30.9K	24.9K	499	10.7K	23.7K	499	10.5K

Note 1 : PR624 is populated if ADAPT\_TRIP\_SET is used to program for the next lower adapter  
ADAPT\_TRIP\_SET is floating for the higher adapter , grounded for the lower adapter  
Note 2 : RR64 must be 5mOhms instead of 10mOhms for the 240W adapter

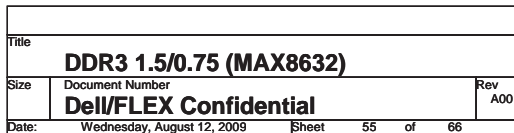


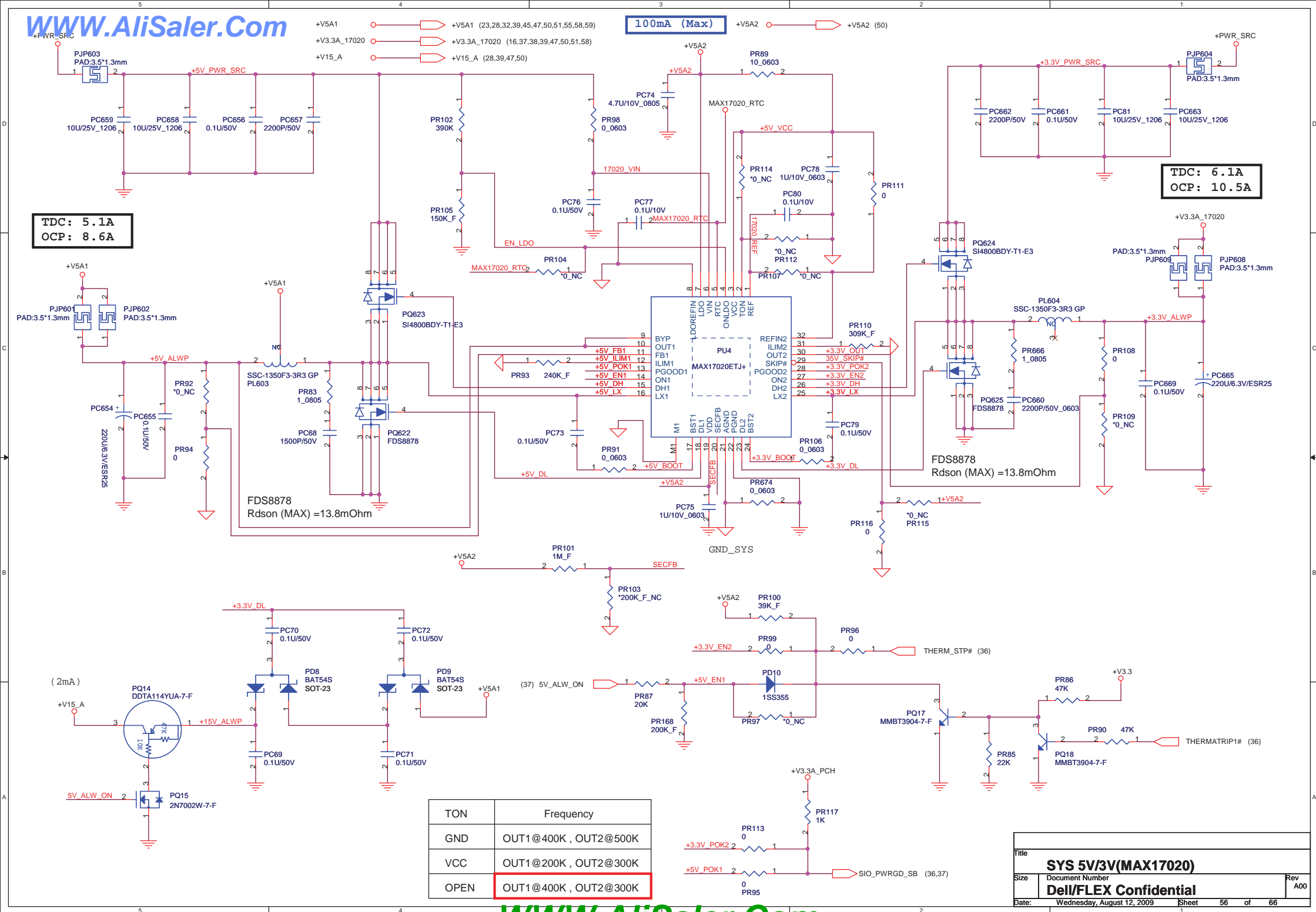


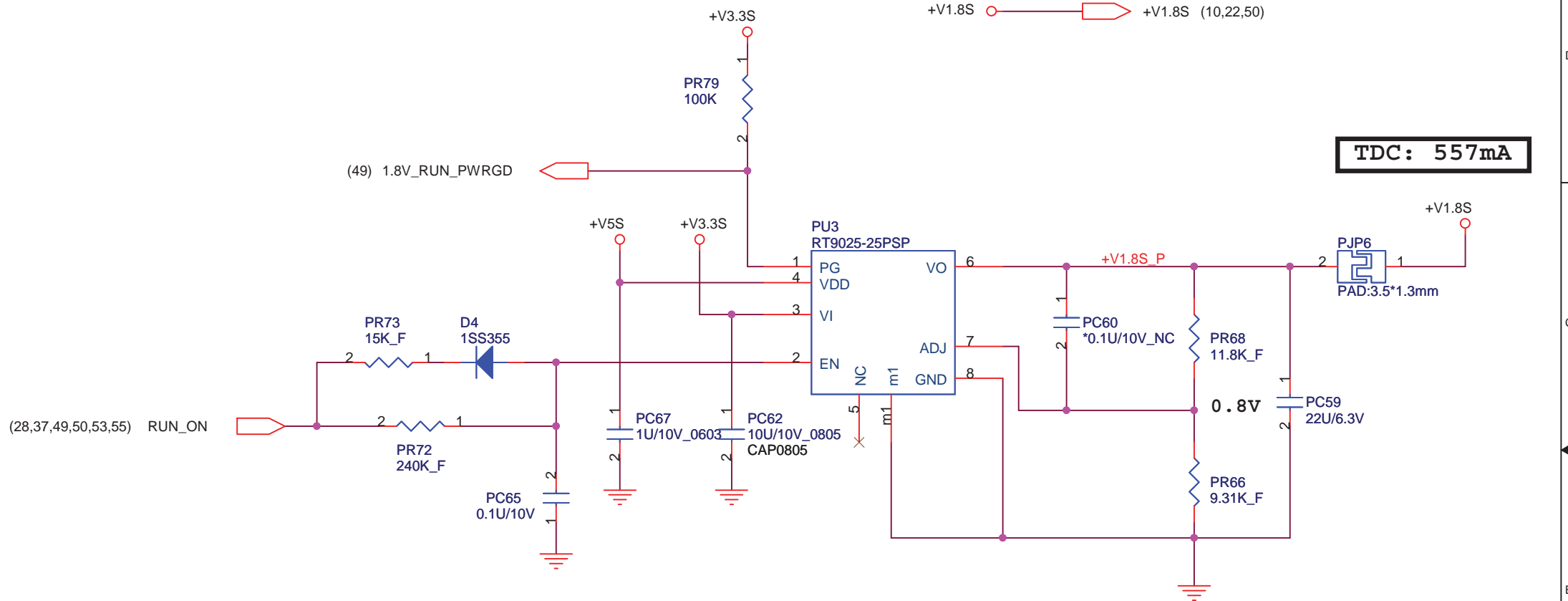
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+V1.1S (MAX8792)		
Size	Document Number	Rev
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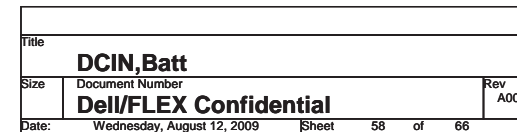




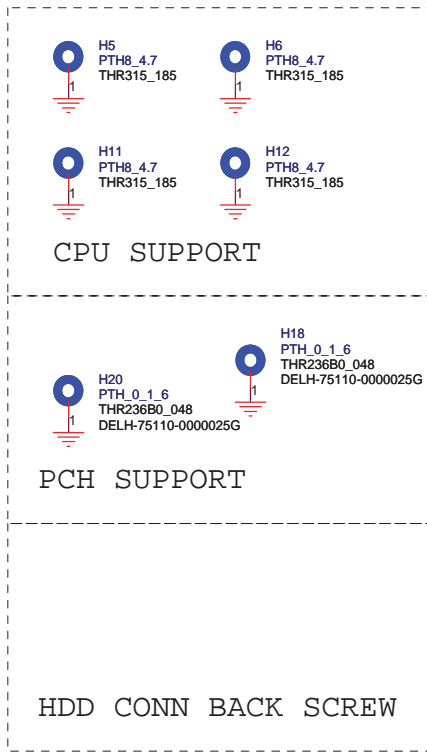
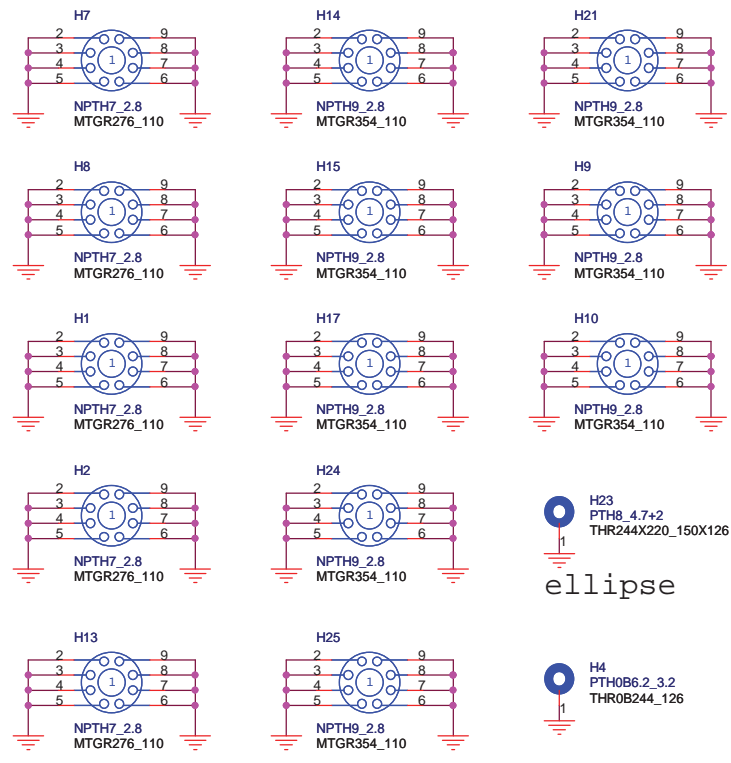




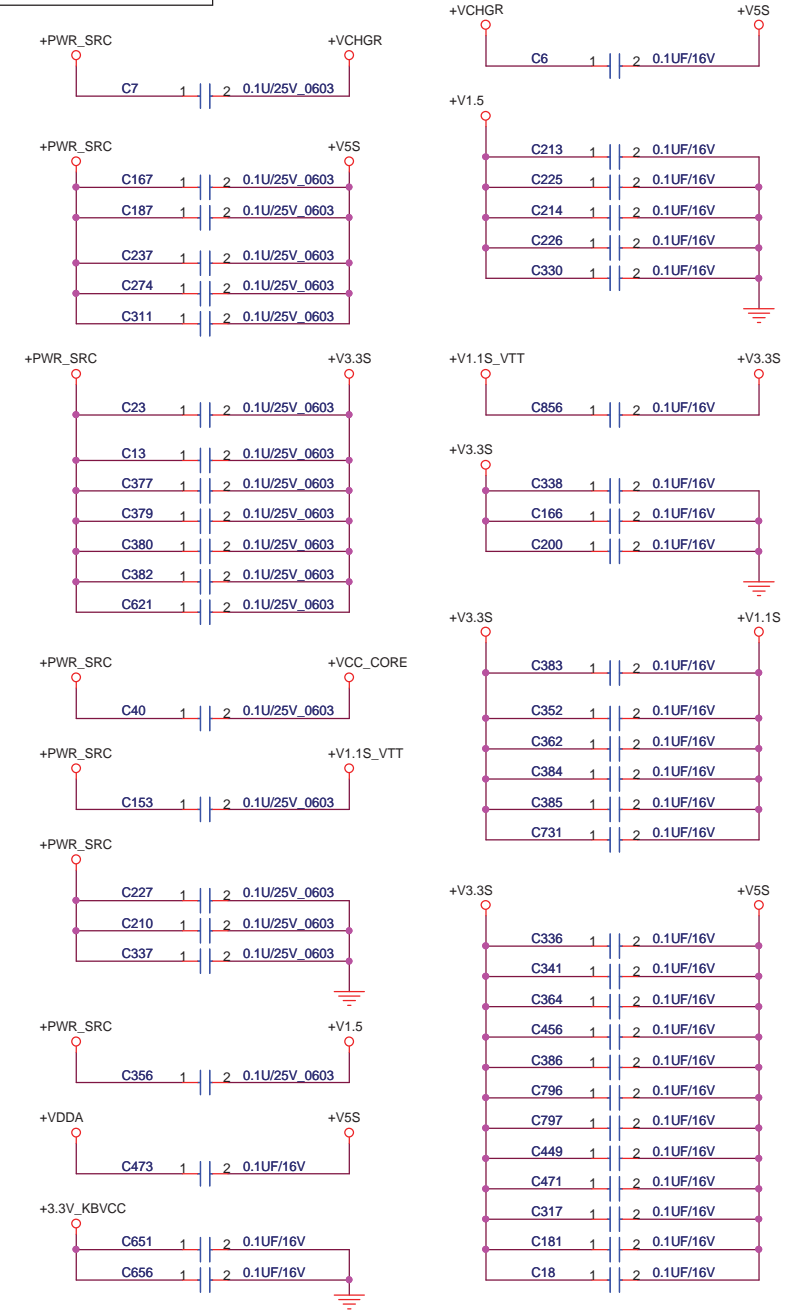
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<b>+V1.8S</b>			
Size	Document Number		Rev
	<b>Dell/FLEX Confidential</b>		A00
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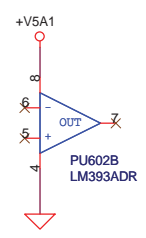
Screw Hole



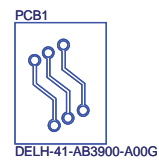
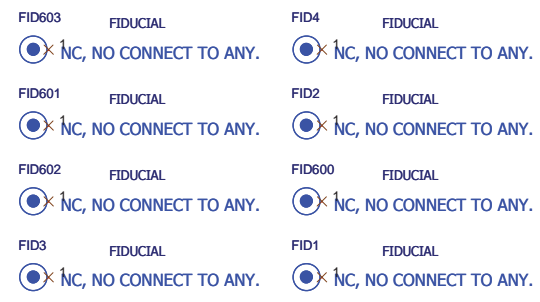
Moat Cap



Unused Gate

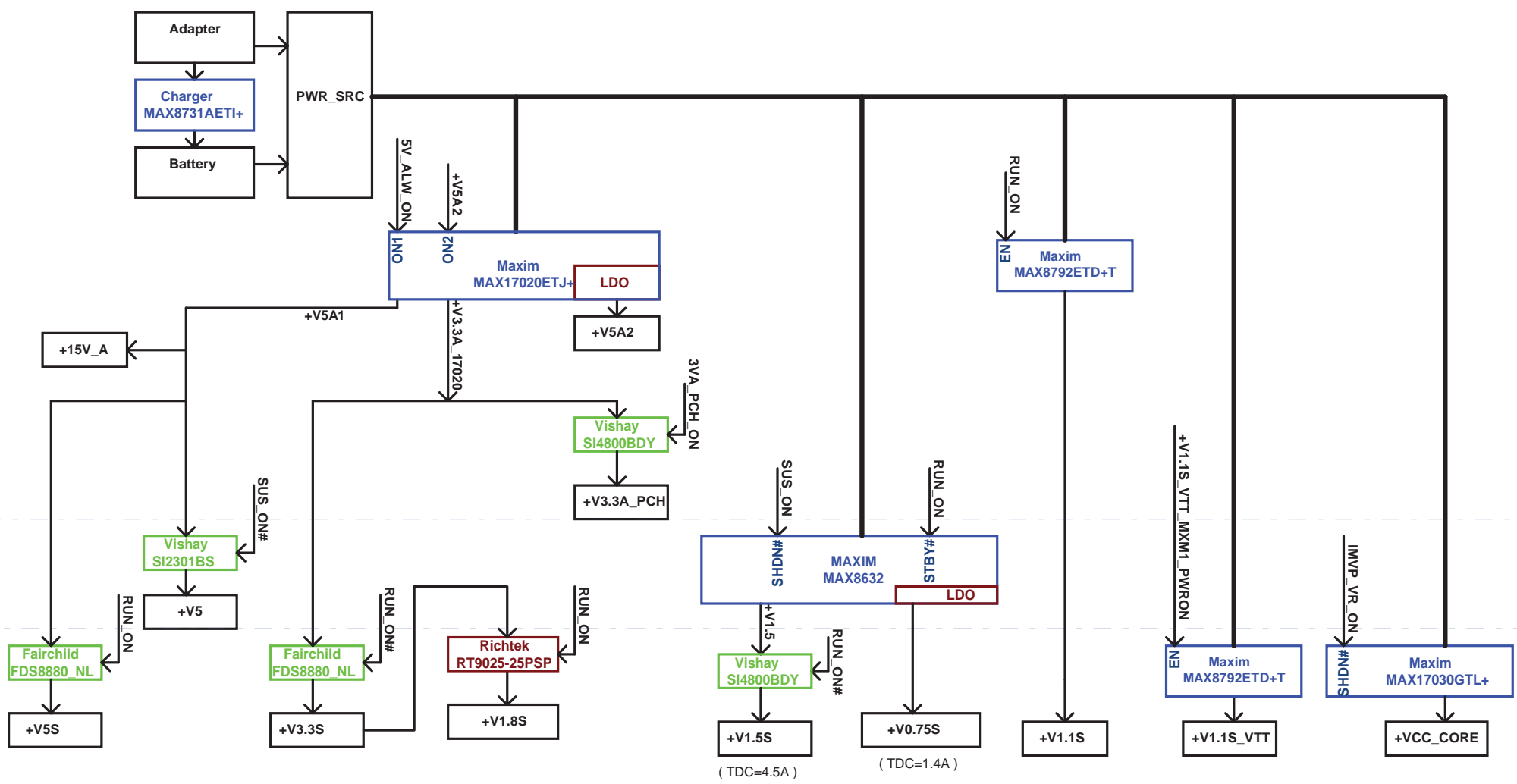


FID



S5  
-  
S3  
  
S0

S5  
S3  
  
S0



**PWM Switching**

**LDO**

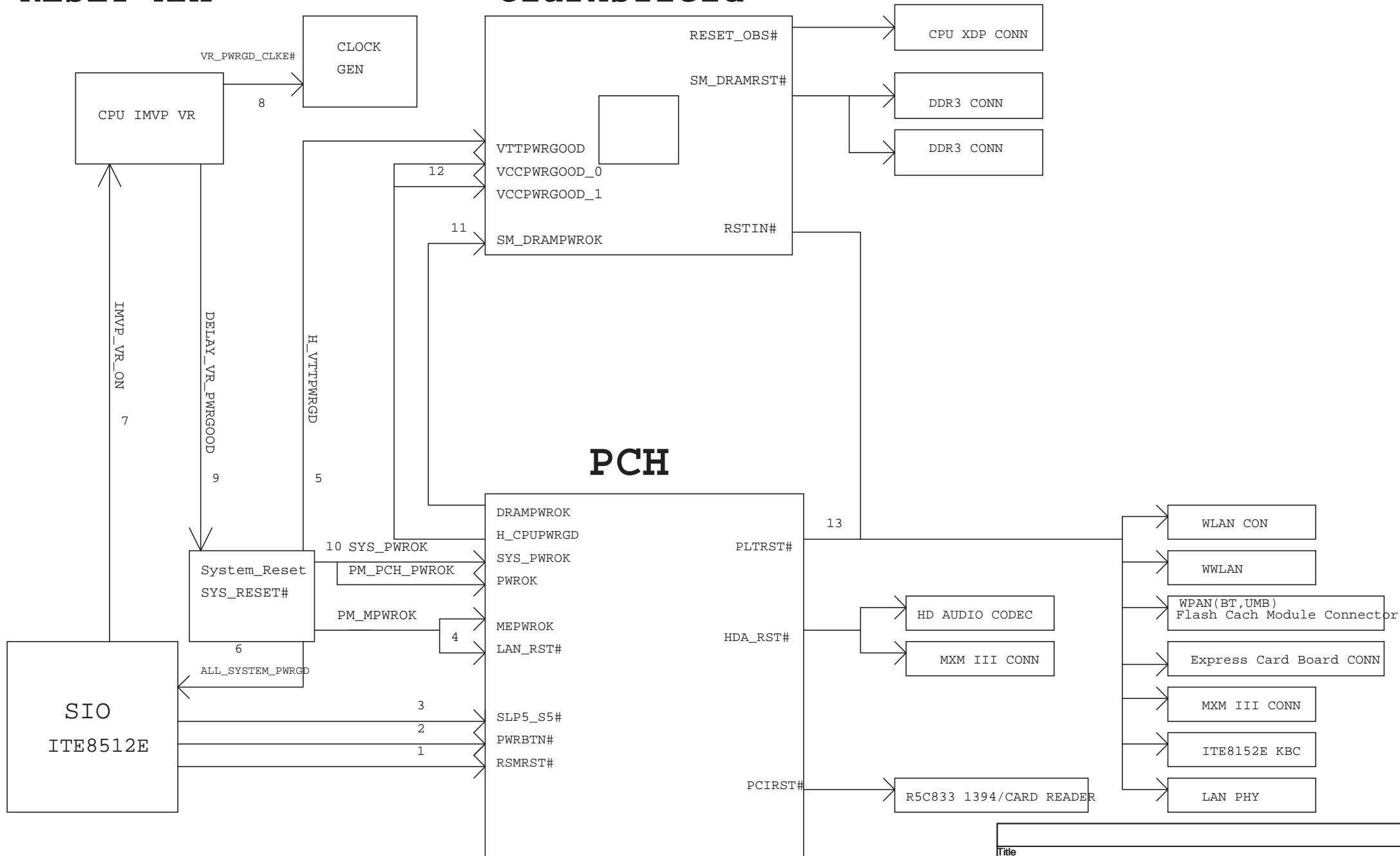
**Mosfet**

Power Rail	+V5A1	+V5A2	+V15_A	+V3.3A_17020	+V1.8S	+V1.5	+V0.75S	+V1.1S	+V1.1S_VTT	+VCC_CORE
TDC (Thermal Design Current)	5.1A	100mA	2mA	6.1A	557mA	9.7A	1.4A	5.2A	15A	65A
OCP (Over Current Protect)	8.6A	260mA		10.5A	2A	16.7A	5A	8.9A	25.32A	89A



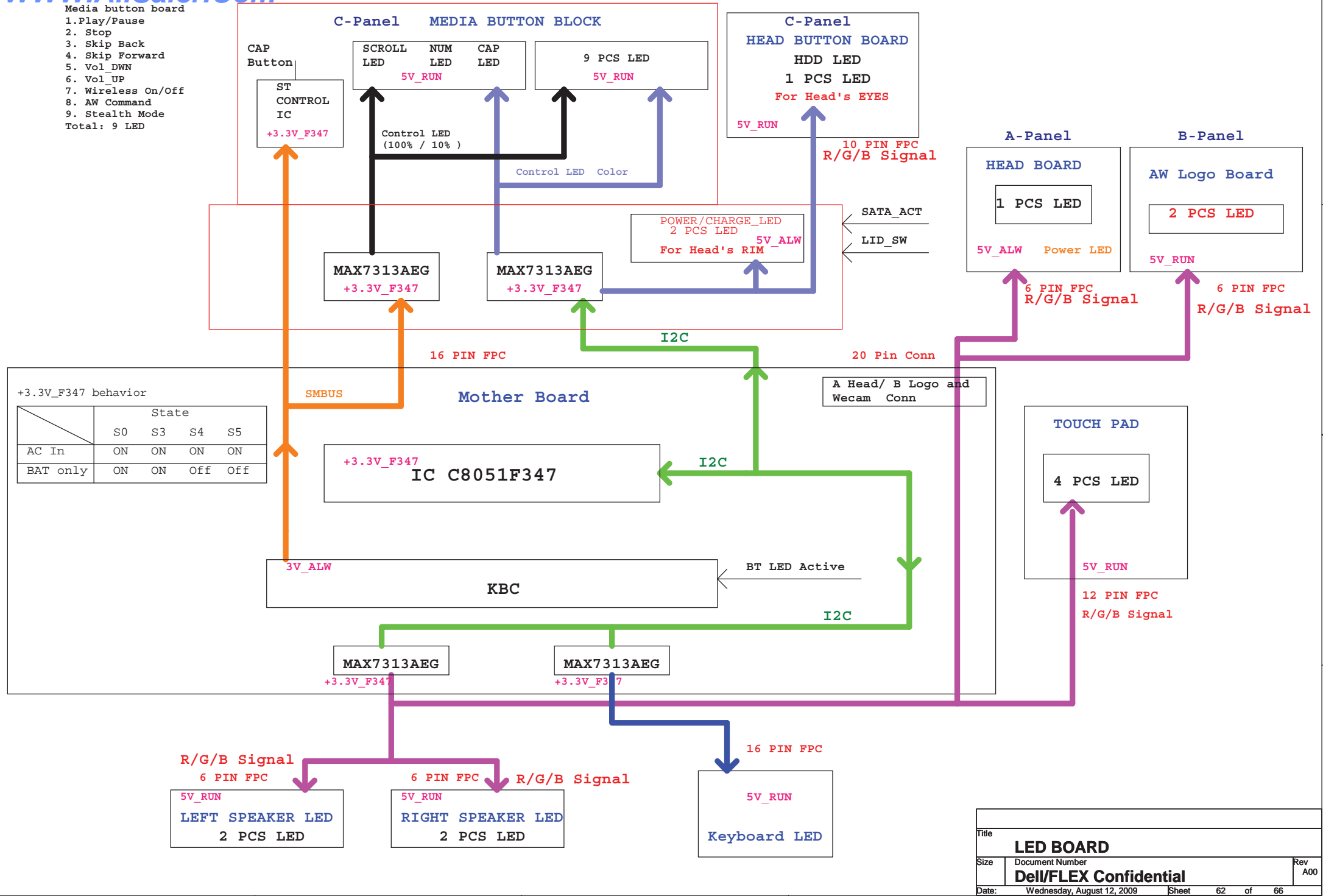
# RESET MAP

## Clarksfield

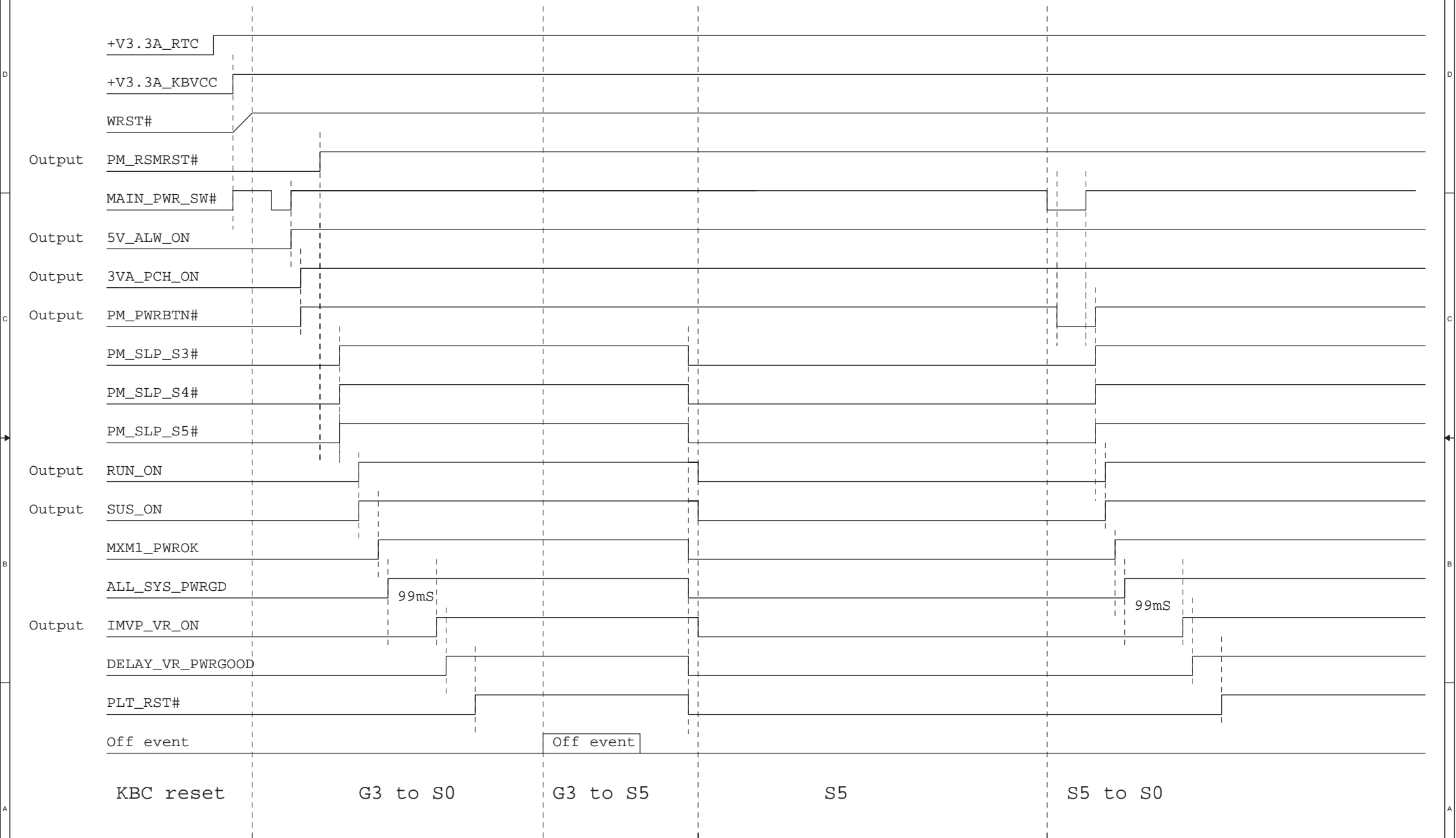


Title		
RESET MAP		
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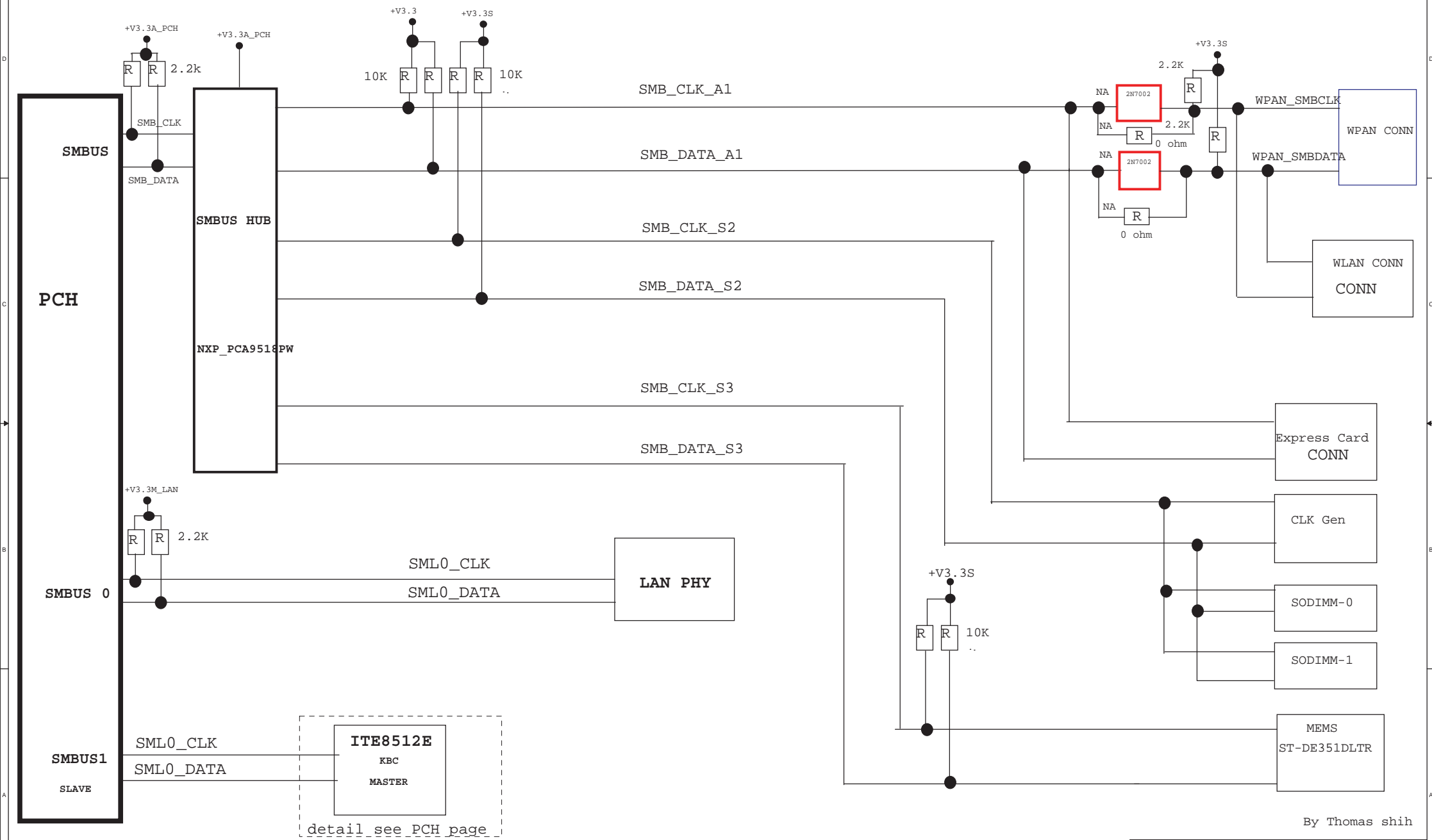
Media button board  
 1. Play/Pause  
 2. Stop  
 3. Skip Back  
 4. Skip Forward  
 5. Vol\_DWN  
 6. Vol\_UP  
 7. Wireless On/Off  
 8. AW Command  
 9. Stealth Mode  
 Total: 9 LED



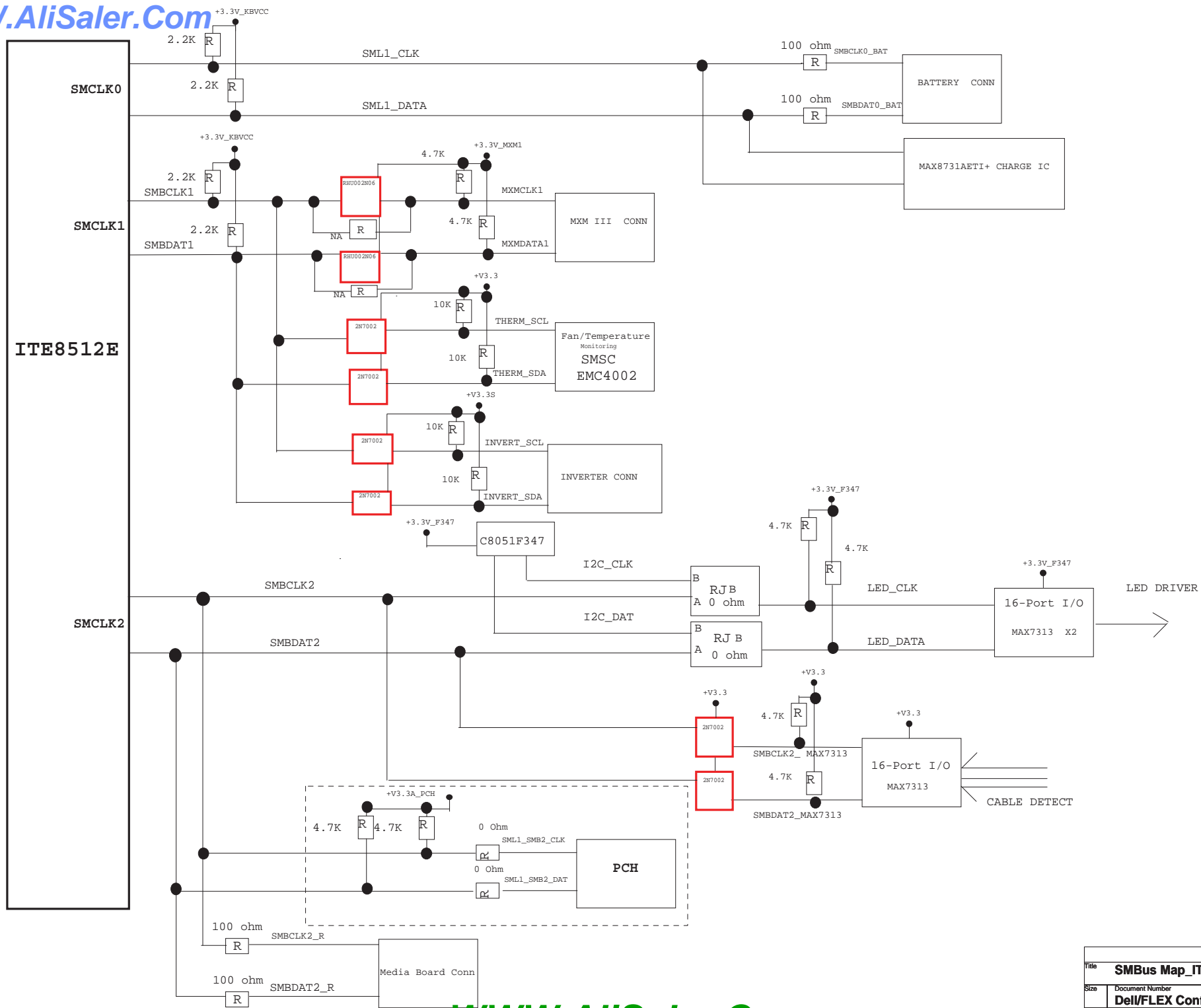
Title			LED BOARD		
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Title			
KBC Power Up Sequence			
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Title		SMBus Map_PCH			
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By Thomas shih

Title <b>SMBus Map_ITE8512E</b>		
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EE change

EMI change POWER change

Item	Fixed Issue	Reason for Change	Rev	PG#	Modify List	B Ver#	Phase
1	CPU thermal shutdown change to 93C	6/23 PWA X120 was changed	A00	36	R752 change from 953_F to 1.33k_F ohm	A00	Safe Launch
2	FOR LOW_BAT & cost down	7/9 PWA X220 was changed	A00	18	Q37 change from mount to NA	A00	Safe Launch
3	Board ID Straps	Change for A00 version	A00	37	Change R104, R120 mount; R110, R112 NA	A00	Safe Launch
4	K/B LED grey	Increase K/B LED brightness	A00	41	R725, R701, R703, R671, R672, R705, R670, R718 change from 10 ohm to 4.7 ohm	A00	Safe Launch
5	+V0.75S leakage saving	+V0.75S leakage saving	A00	50	PR124 mount change to NA	A00	Safe Launch
6	Intel confirm to remove	Intel confirm to remove	A00	16	RJ5A, RJ6A, R362, R363, R355, R354 mount change to NA	A00	Safe Launch
7	Remove XDP function	Remove XDP function	A00	13	CN601, CN26, R651, R387, R359 Mount change to NA	A00	Safe Launch
8	Change MXM CONN footprint	Change MXM CONN footprint	A00	25	Change MXM CONN footprint and library	A00	Safe Launch
9	Remove on board power button	Only for test	A00	39	Mount change to NA: SW600.	A00	Safe Launch
10	Remove eDP function	Remove eDP function	A00	27	Mount change to NA: CN27, C817, R906, R907, R908, R909, R898, R899, R900, R901, R902, R903, C811, C812, C813, C814, C815, C816.	A00	Safe Launch
11	Change for factory without CPU test	Change for factory without CPU test	A00	52	PR9 change from 0ohm to 2Kohm	A00	Safe Launch
1	For +V1.1S_VTT feedback	For +V1.1S_VTT feedback	A00	54	PR647 NA change to mount	A00	Safe Launch
1	For USB 480Mhz over limit issue	For USB 480Mhz over limit issue	A00	28	R100, R101 change to NA. L12 change to mount.	A00	Safe Launch
2	CRT RGB Signal quality and EMI	CRT RGB Signal quality and EMI	A00	29	L4, L7, L11 change from 75ohm_BLM18BB750SN1D to 80ohm_MMZ1608D800BT. C209, C202, C194 change from 18pF to 12pF. C192, C198, C208 change from 18pF to 33pF.	A00	Safe Launch

Title		
History - 1		
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