

MODEL NAME : *Echo 15 17 nVidia*

PCB NO : *LA-B751P/LA-B753P*

BOM P/N : *4319UA31L01 / 4319UA31L02 for NV*
4319UB31L01 for AMD

Compal Confidential

Echo 15 17 with nVidia GFX

Schematic Document

Broadwell H-type

Rev: 0.1(X00)

2014/01/02

@ : Nopop Component

EMC@ : EMI part

ESD@ : ESD part

RF@ : RF part

CONN@ : Connector Component

BDW@ : Intel BOARDWELL

AOAC@ : Intel AOAC

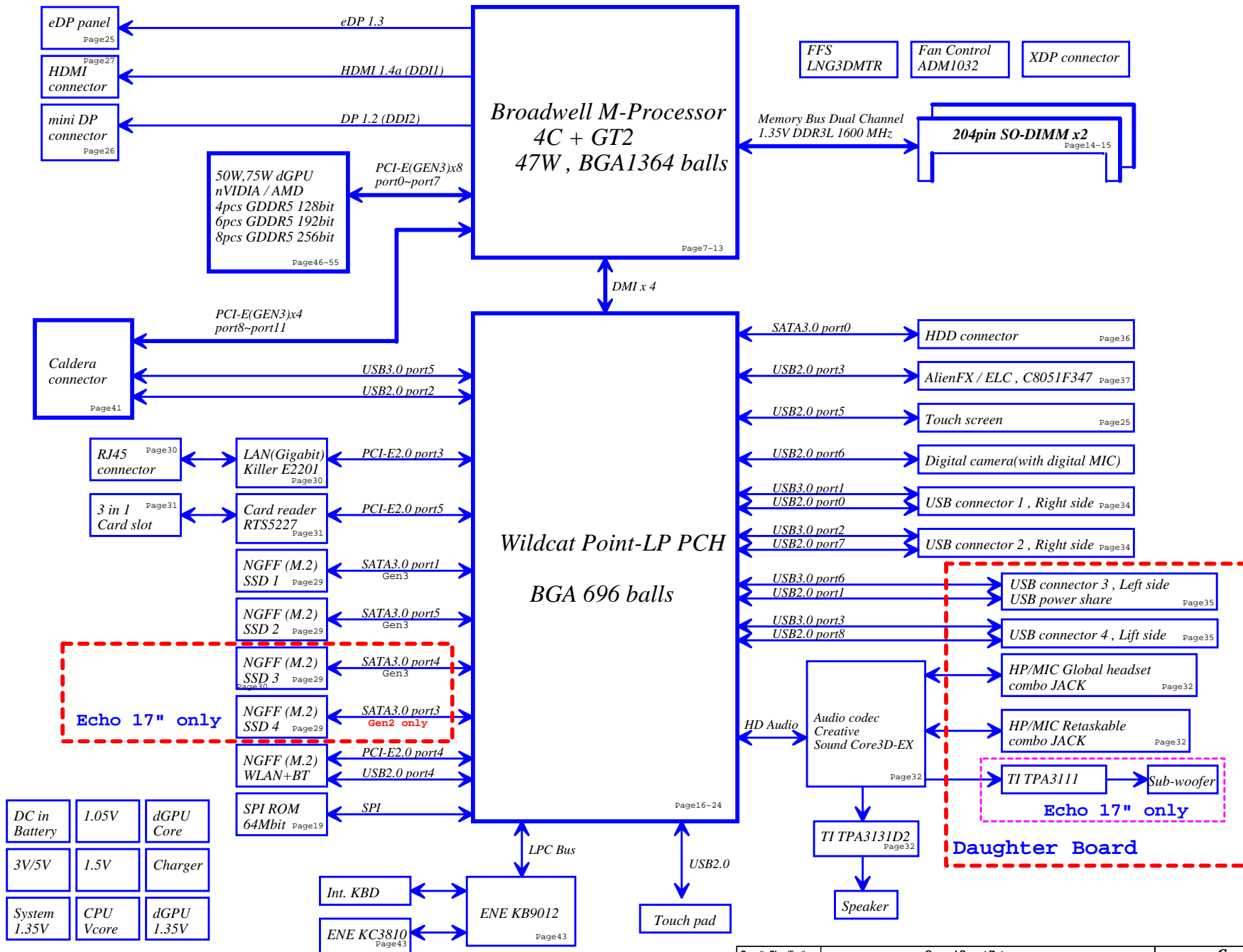
DIS@ : Discrete Part

NV@ AMD@ : Board ID

ZZZ1 PCB
DAB0000P000
PCB 18F LA-B752P REV0 M/B 8
12L

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Echo 15"/17" Block Diagram

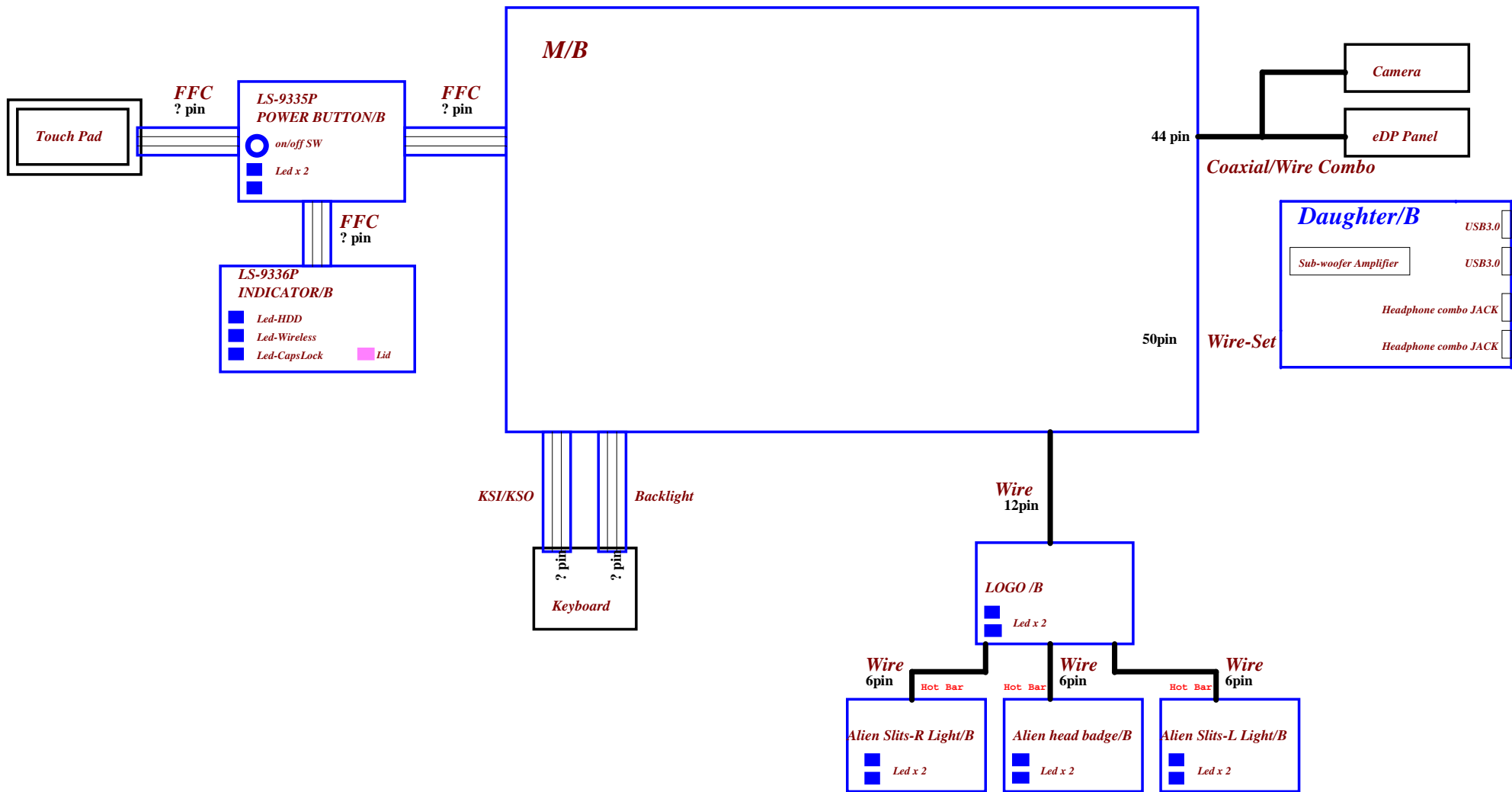


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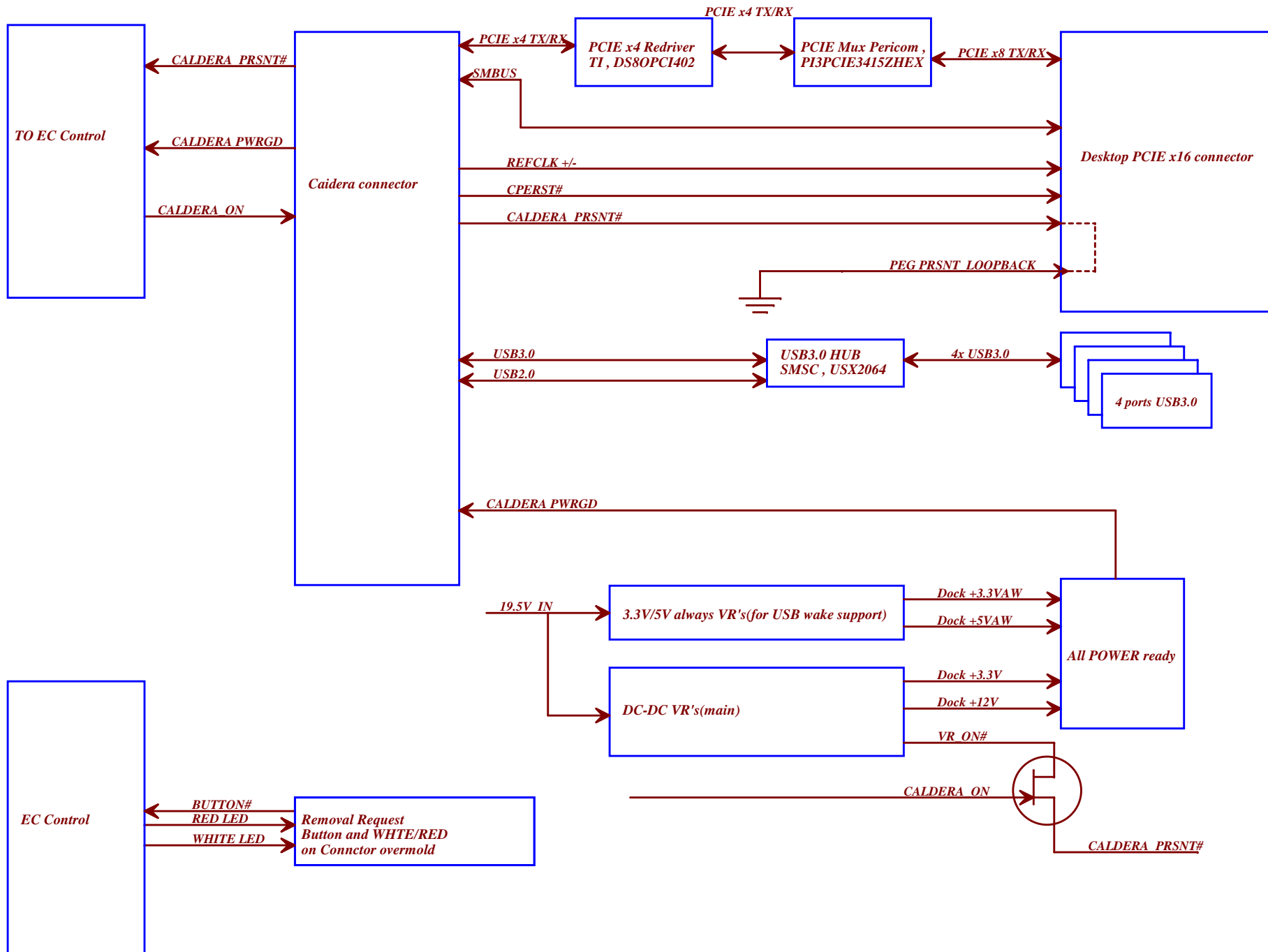
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Project Code : AAP10/AAP20

File Name : LA-XXXXP



Caldera(Echo graphic expander) block diagram



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Board ID Table for AD channel

Vcc	3.3V +/- 1%					
Ra	100K +/- 1%					
Board ID	Rb	V _{AD_BID} min	V _{AD_BID} typ	V _{AD_BID} max	EC AD3	
0	0	0.000V	0.000V	0.300V	0x00 - 0x0B	NVIDIA Graphic
1	12K +/- 1%	0.347V	0.354V	0.360V	0x0C - 0x1C	
2	15K +/- 1%	0.423V	0.430V	0.438V	0x1D - 0x26	
3	20K +/- 1%	0.541V	0.550V	0.559V	0x27 - 0x30	
4	27K +/- 1%	0.691V	0.702V	0.713V	0x31 - 0x3B	
5	33K +/- 1%	0.807V	0.819V	0.831V	0x3C - 0x46	
6	43K +/- 1%	0.978V	0.992V	1.006V	0x47 - 0x54	
7	56K +/- 1%	1.169V	1.185V	1.200V	0x55 - 0x64	
8	75K +/- 1%	1.398V	1.414V	1.430V	0x65 - 0x76	
9	100K +/- 1%	1.634V	1.650V	1.667V	0x77 - 0x87	AMD Graphic
10	130K +/- 1%	1.849V	1.865V	1.881V	0x88 - 0x96	
11	160K +/- 1%	2.015V	2.031V	2.046V	0x97 - 0xA3	
12	200K +/- 1%	2.185V	2.200V	2.215V	0xA4 - 0xAD	
13	240K +/- 1%	2.316V	2.329V	2.343V	0xAE - 0xB7	
14	270K +/- 1%	2.395V	2.408V	2.421V	0xB8 - 0xC0	
15	330K +/- 1%	2.521V	2.533V	2.544V	0xC1 - 0xC9	
16	430K +/- 1%	2.667V	2.677V	2.687V	0xCA - 0xD3	
17	560K +/- 1%	2.791V	2.800V	2.808V	0xD4 - 0xDC	
18	750K +/- 1%	2.905V	2.912V	2.919V	0xDD - 0xE6	
19	NC	3.000V	3.300V	3.300V	0xE7 - 0xFF	

Board ID TABLE

ID		PCB Revision
NV	AMD	
0	10	EVT-1
1	11	DVT-1
2	12	DVT-2
3	13	MP

Symbol Note :

 : means Digital Ground

 : means Analog Ground

CLOCK SIGNAL	
CLKOUT_PCIE0	
CLKOUT_PCIE1	
CLKOUT_PCIE2	10/100/1000 LAN
CLKOUT_PCIE3	M.2 Card WLAN
CLKOUT_PCIE4	dGPU (N15P)
CLKOUT_PCIE5	DGPU (Caldera)

USB3.0

Port1	Right side1
Port2	Right side2
Port3	Left side 1
Port4	
Port5	Caldera
Port6	Left side 2

USB2.0

Port0	Right side1
Port1	Left side 1 (PowerShare)
Port2	Caldera
Port3	ELC
Port4	BT
Port5	Touch screen
Port6	Camera
Port7 / 8	Right side 2 Left side 2

PCI EXPRESS

Lane 1	
Lane 2	
Lane 3	10/100/1000 LAN
Lane 4	M.2 Card WLAN
Lane 5	PCIE 4x MUX
Lane 6	

SATA

SATA0	HDD
SATA1	NGFF SSD
SATA2	NGFF SSD
SATA3	

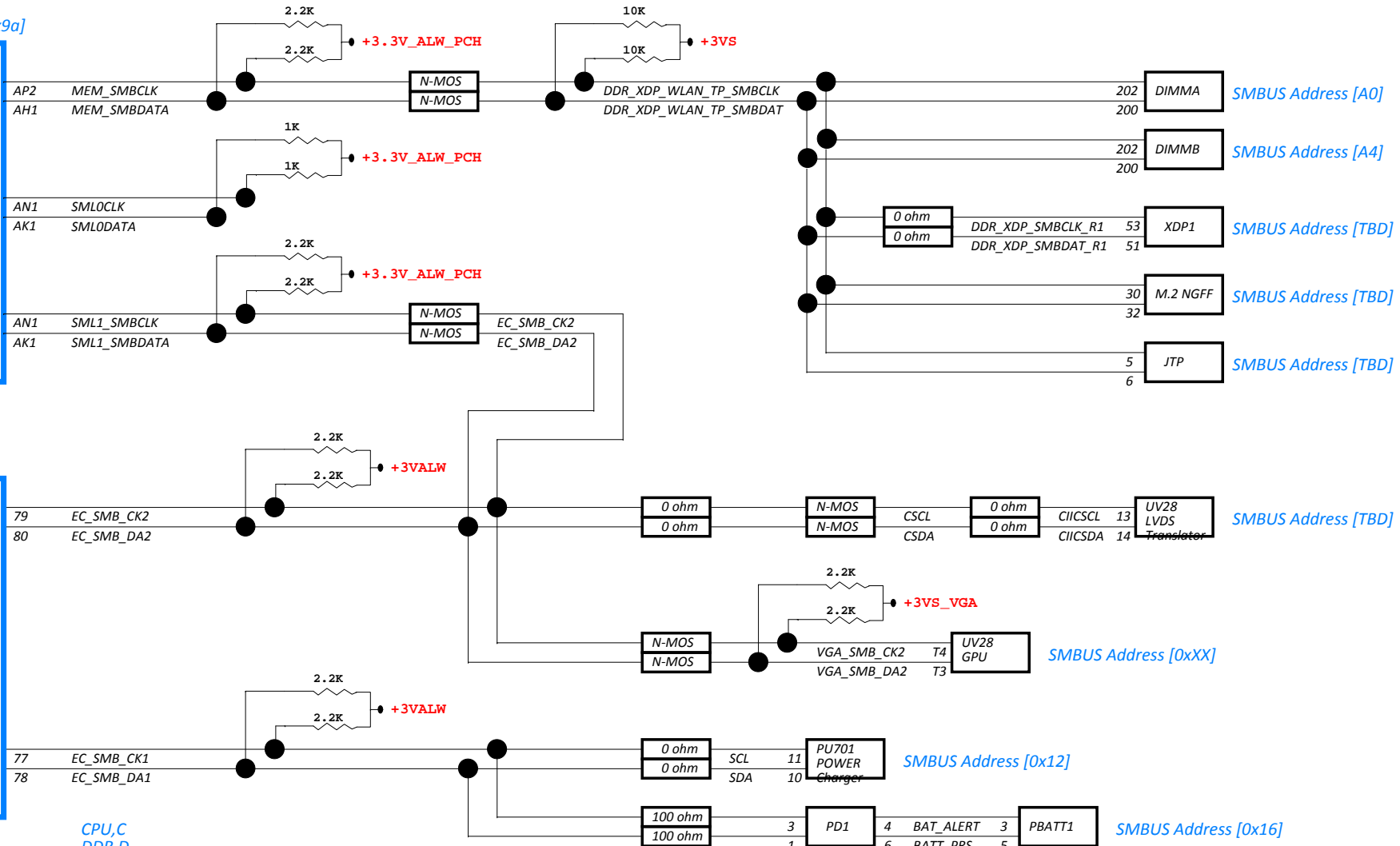
BDW

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				Document Number LA-B751P
				Rev 0.1
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SMBUS Address [0x9a]

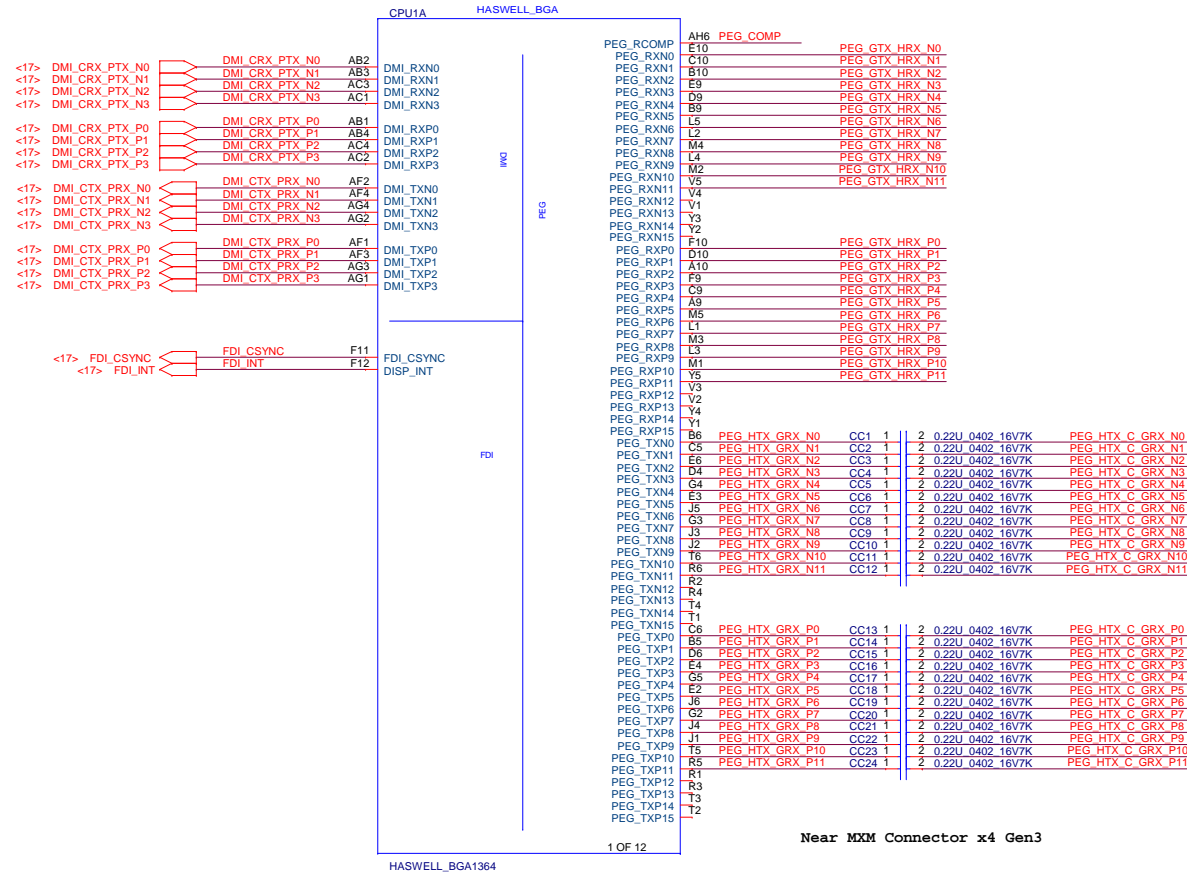
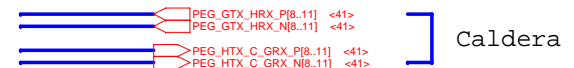
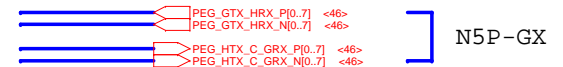
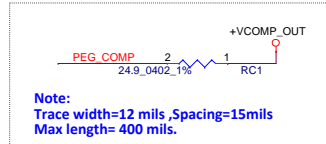
Broadwell

KBC
KB9012A4

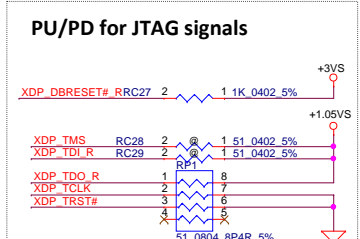
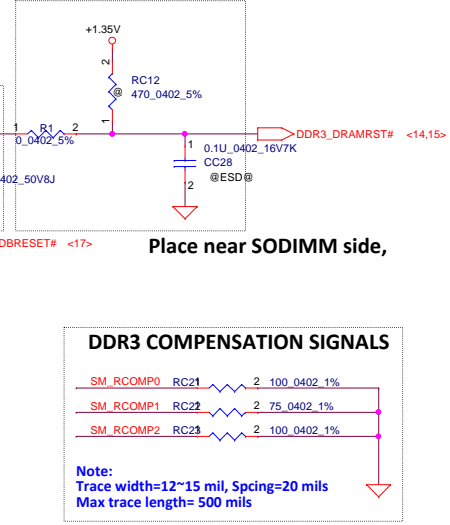
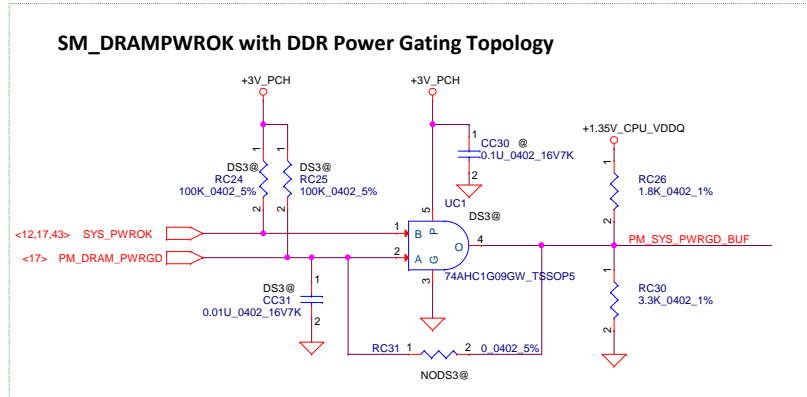
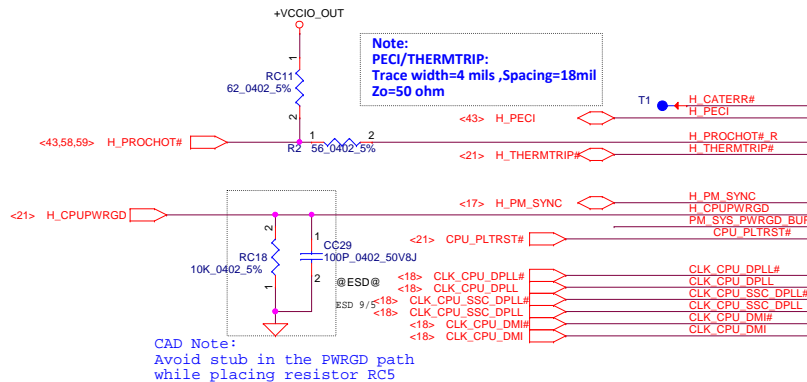
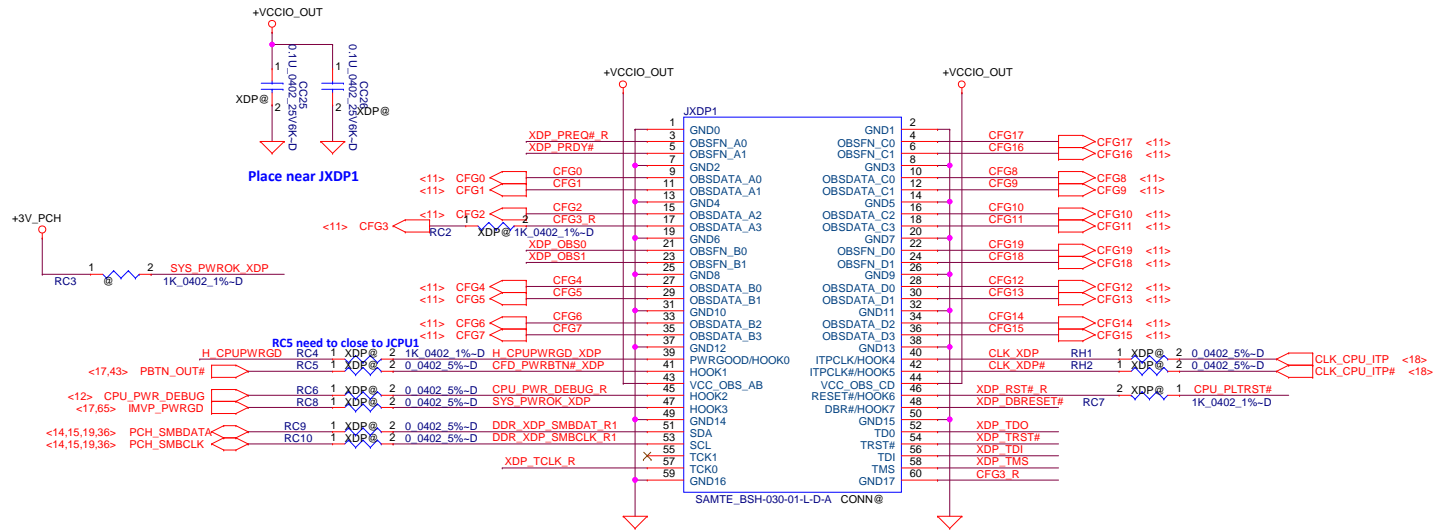


CPU,C
DDR,D
GPU,DP,HDMI,EDP,V
LAN,L
AUDIO,A
NGFF,N
USB,U
CALDERA,M
HDD,S
ELC,E
FAN,F
TP,T
KBC,K
DC,O

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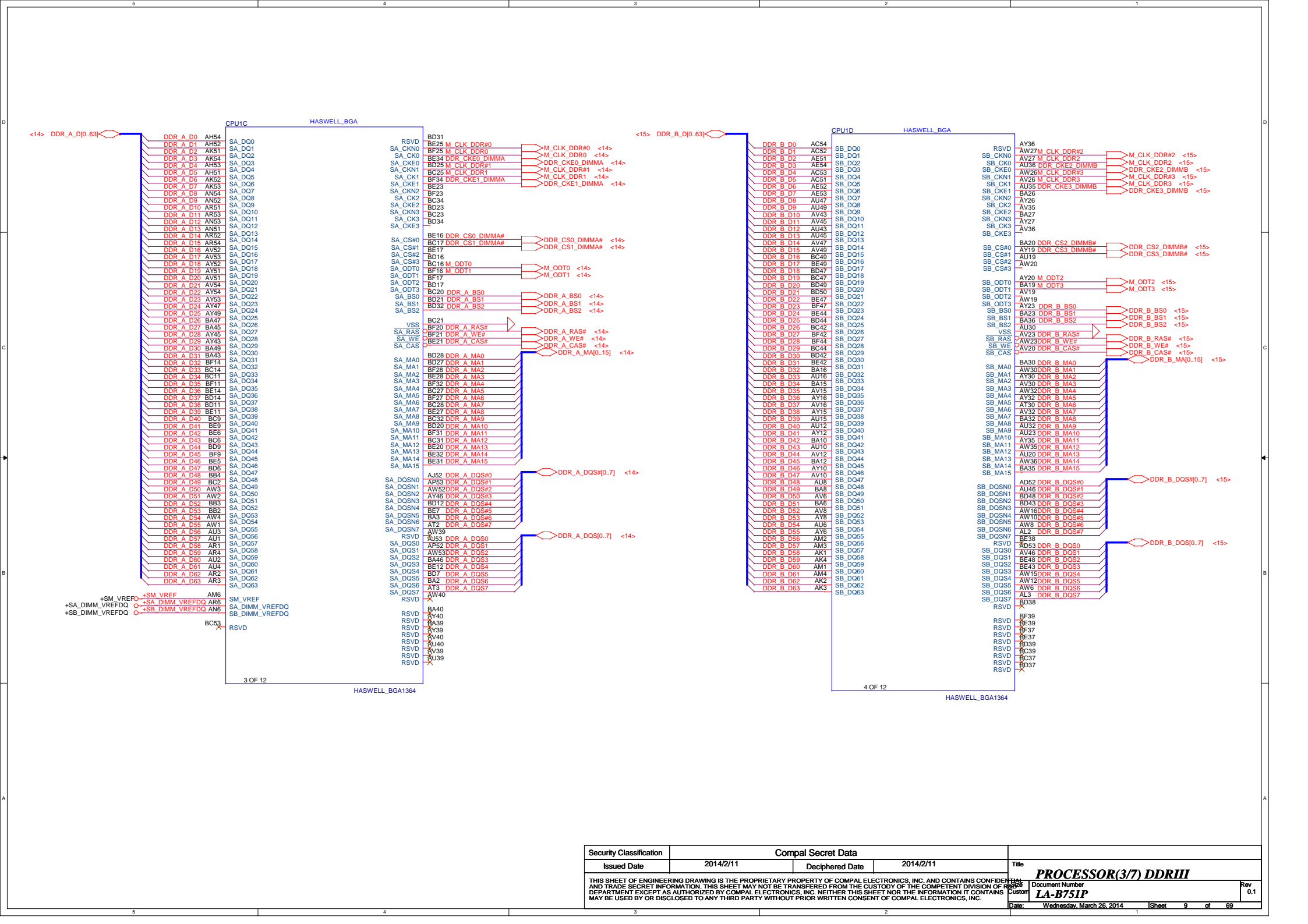


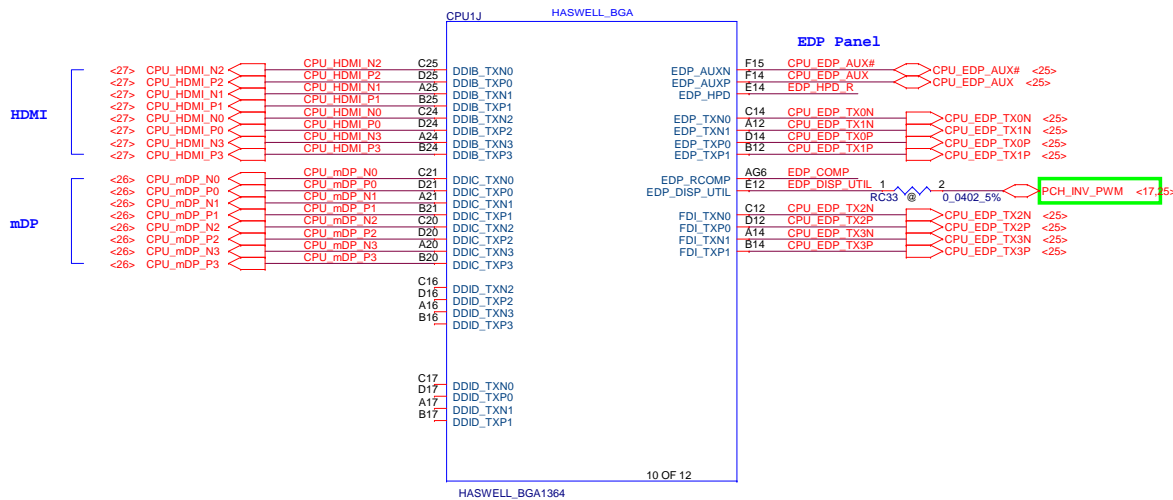
Near MXM Connector x4 Gen3



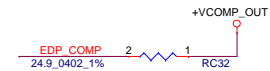
TMS/TDI no require pull high on Check list

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Issued Date	2014/2/11	Deciphered Date	2014/2/11	Processor(2/7) PM,XDP,CLK
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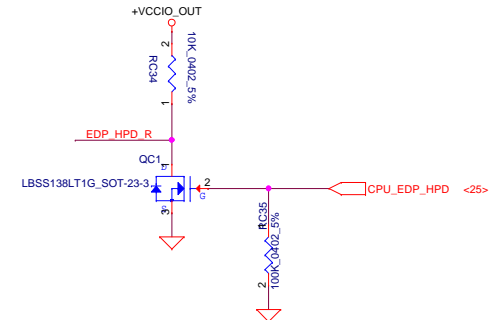


COMPENSATION PU FOR eDP



Note:
Trace width=20 mils ,Spacing=25mil,
Max length=100 mils.

HPD INVERSION FOR EDP

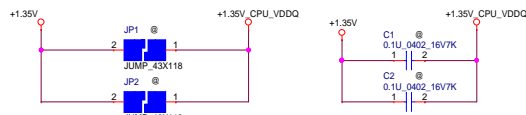


HPD is a active-high signal from device.
The HPD processor input is active-low signal.

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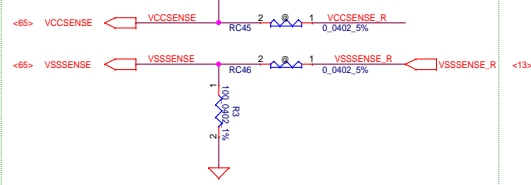
+1.35V_CPU_VDDQ Source

Note:
Intel Shark Bay
Removed the S3 power reduction circuit.



VCC_SENSE

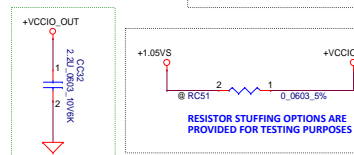
Note:
0 ohm Resistor should be placed
close to CPU



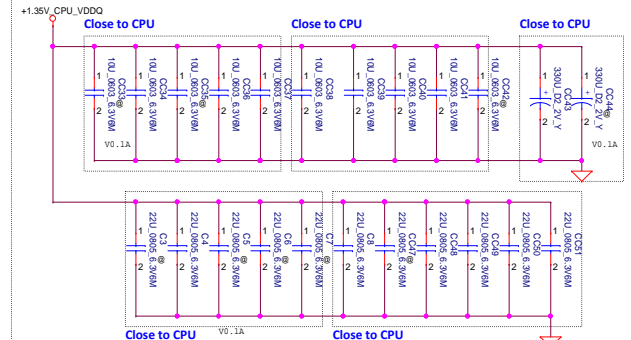
SVID ALERT
Note:
Place the UP resistor close to CPU
RC47 Close to CPU 300-1500mil

Broadwell/Haswell
HSW_BDW
Compatibility CKT

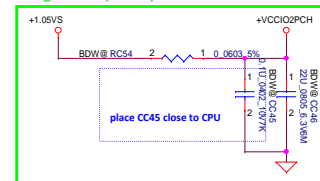
SVID DATA
Note:
Place the UP resistor close to CPU
RC49 Close to CPU 300-1500mil



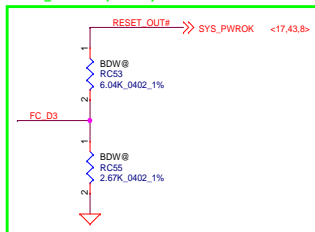
VDDQ DECOUPLING (Follow INTEL DG)



HSW_BDW compatibility CKT

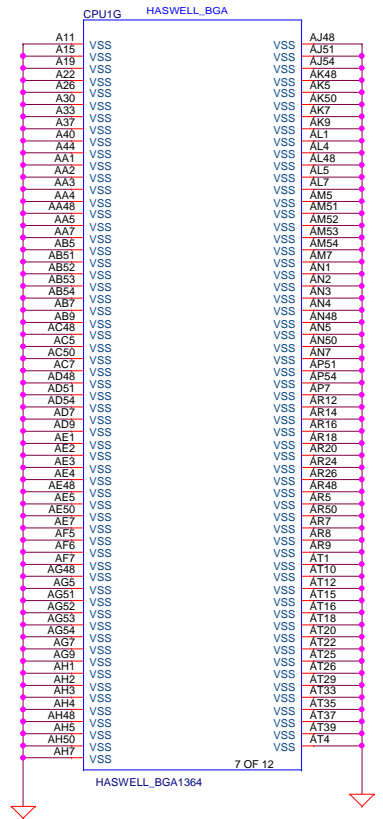
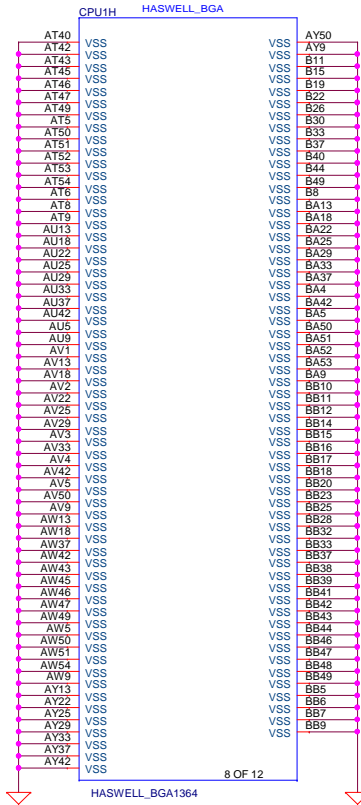
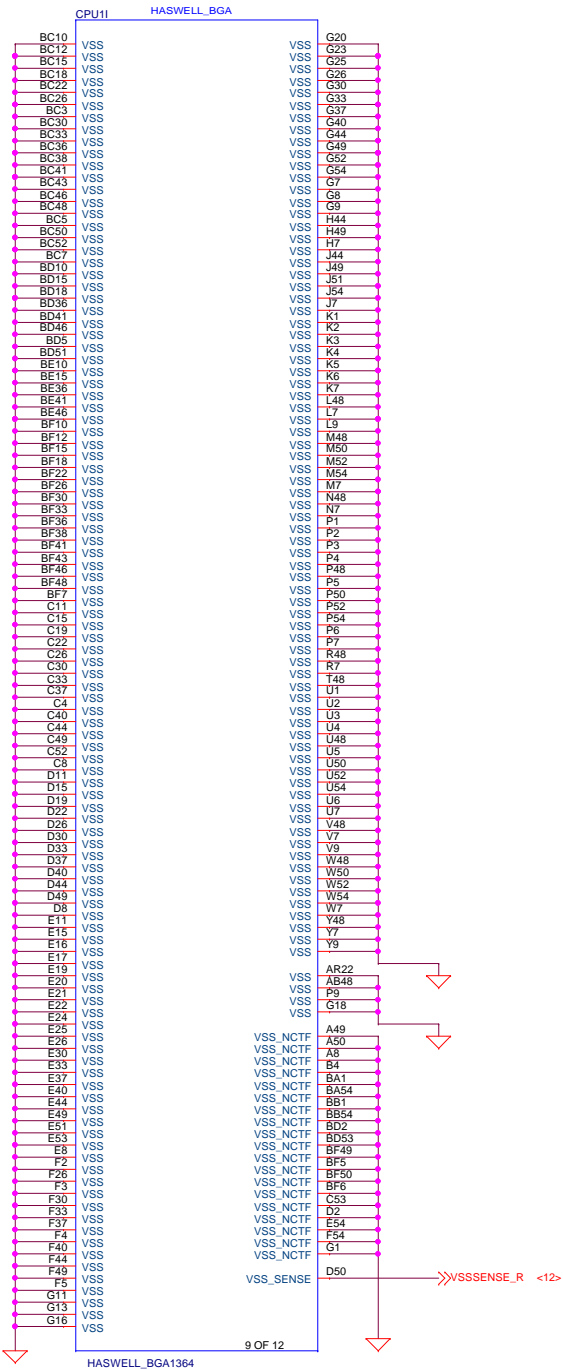


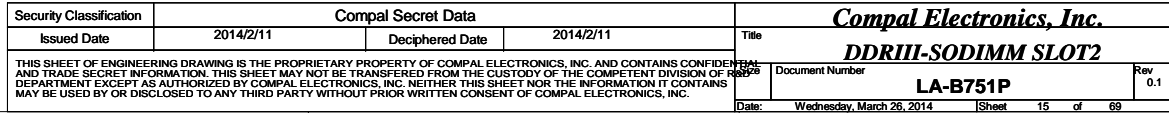
HSW_BDW compatibility CKT

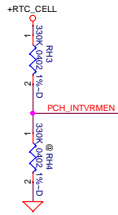


	HSW	BDW
RC54	X	V
CC45	X	V
CC46	X	V
RC53	X	V
RC55	X	V

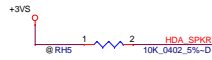
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Title	PROCESSOR(6/7) PWR		
Size	Document Number	Rev	0.1
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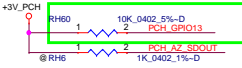




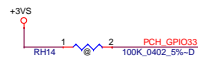
INTVRMEN - INTEGRATED SUS 1.05V VRM
ENABLE
High - Enable Internal VRs
Low - Enable External VRs



NO REBOOT STRAP
DISABLED WHEN LOW (DEFAULT)
ENABLED WHEN HIGH



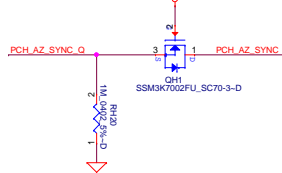
FLASH_DESCRIPTOR_SECURITY_OVERRIDE
LOW = DISABLED (DEFAULT)
HIGH = ENABLED



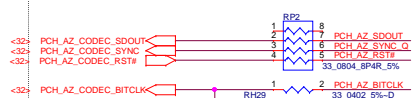
CMOS_CLR1	CMOS setting
Shunt	Clear CMOS
Open	Keep CMOS

ME_CLR1	TPM setting
Shunt	Clear ME RTC Registers
Open	Keep ME RTC Registers

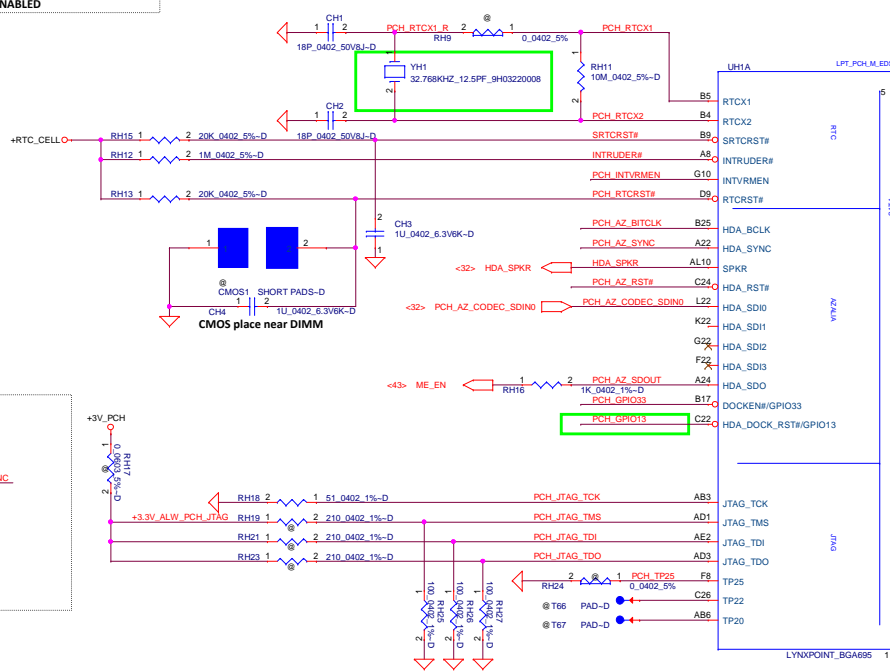
HDA_SYNC Isolation Circuit



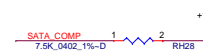
HDA for Codec and MDC



YH1 Change to SJ1000LD00 (ESR=50Kohm)

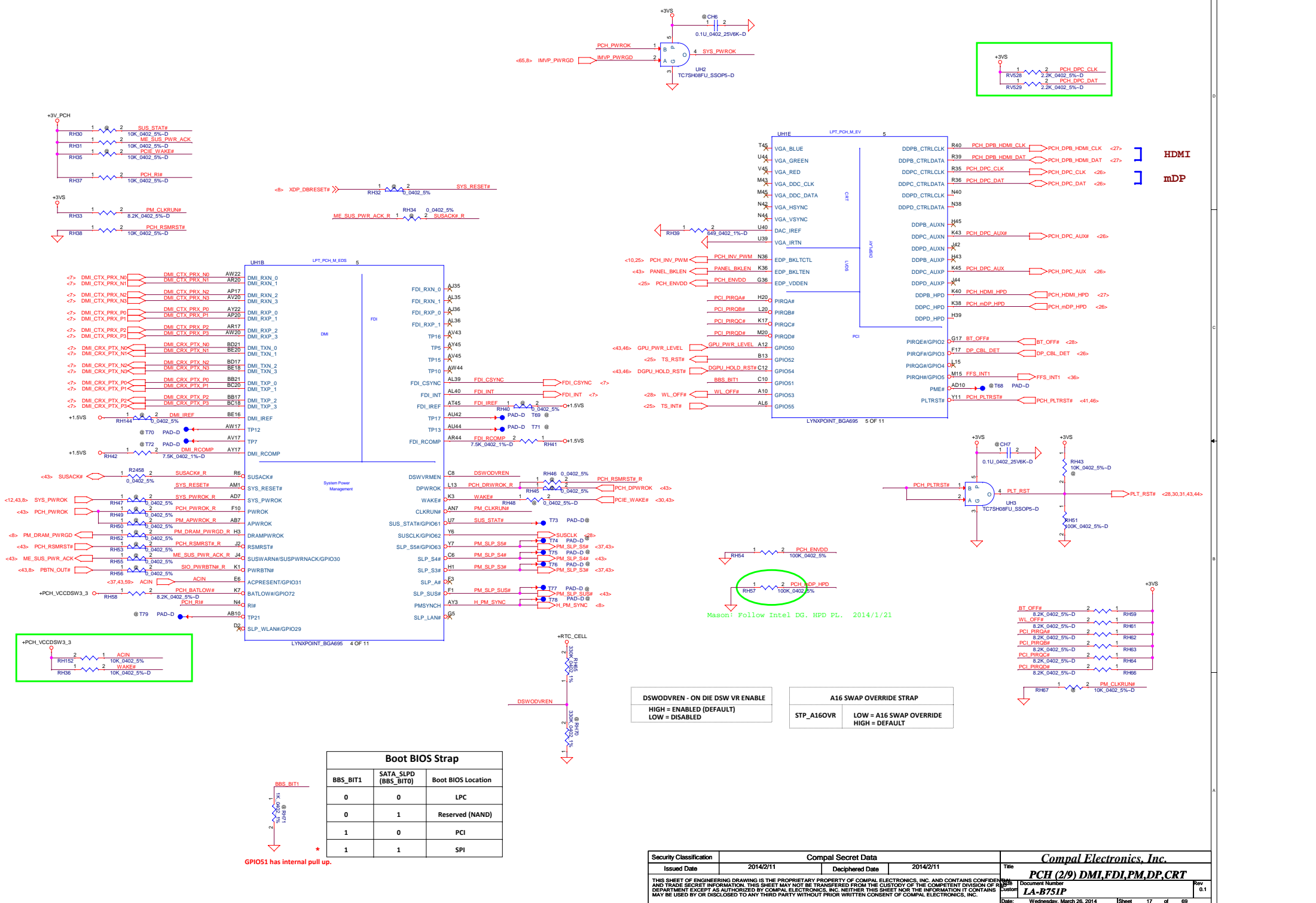


SATA Impedance Compensation



CAD note:
Place the resistor within 500 mils of the PCH. Avoid routing next to clock pins.

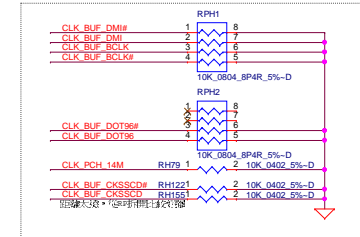
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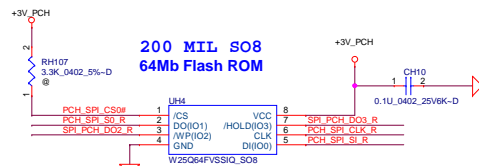
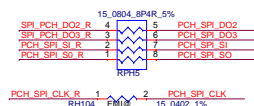
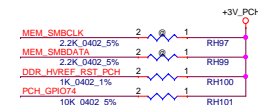
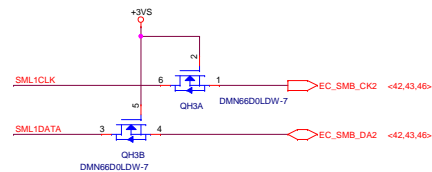
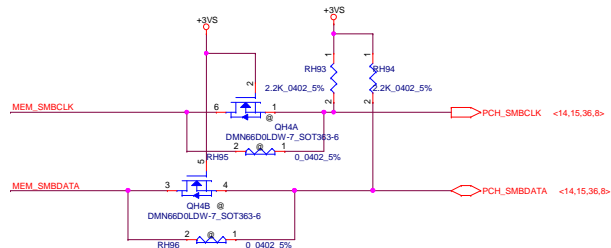
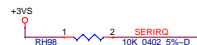


Boot BIOS Strap		
BBS_BIT1	SATA_SLPD (BBS_BIT0)	Boot BIOS Location
0	0	LPC
0	1	Reserved (NAND)
1	0	PCI
1	1	SPI

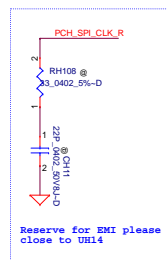
DSWODVREN - ON DIE DSW VR ENABLE	A16 SWAP OVERRIDE STRAP
HIGH = ENABLED (DEFAULT)	STP_A16OVR
LOW = DISABLED	LOW = A16 SWAP OVERRIDE HIGH = DEFAULT

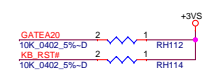
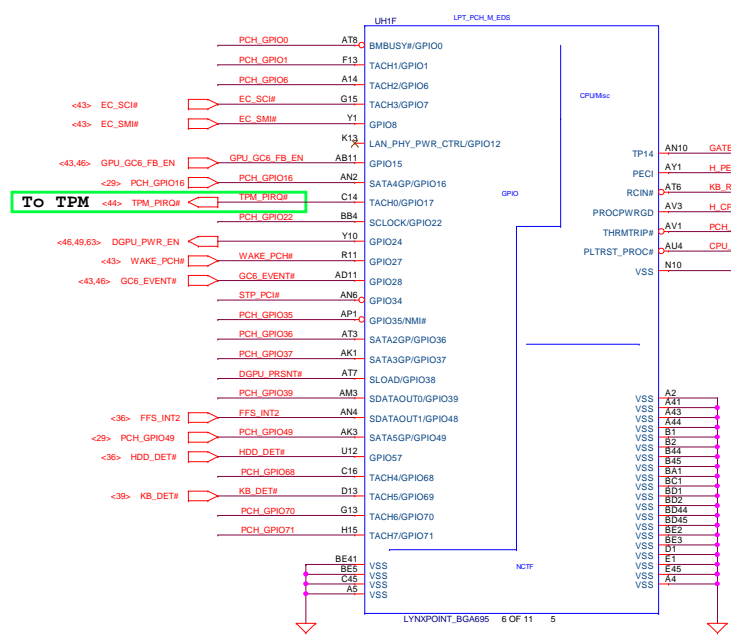
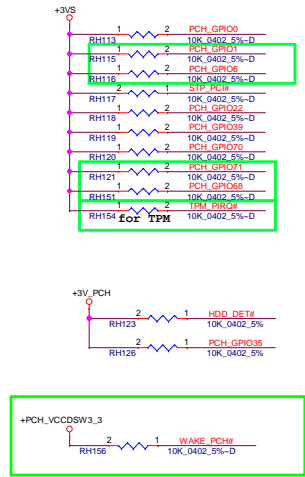
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2014/2/11	Deciphered Date	2014/2/11	Title	PCH (2/9) DMI, FDI, PM, DP, CRT
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UH14 to SA000039A30 IC FL 64M W25Q64FVSSIQ SOIC 8P SPI ROM
 UH14 to SA000046400 IC FL 64M EN25Q64-104HIP SOIC 8P SPI ROM
 UH14 to SA00006N100 IC FL 64M MX25L647EM2I-10G SOIC 8P SPI ROM
 UH14 to SA00005L100 IC FL 64M N25Q064A13ESEC0P SOIC 8P SPI ROM





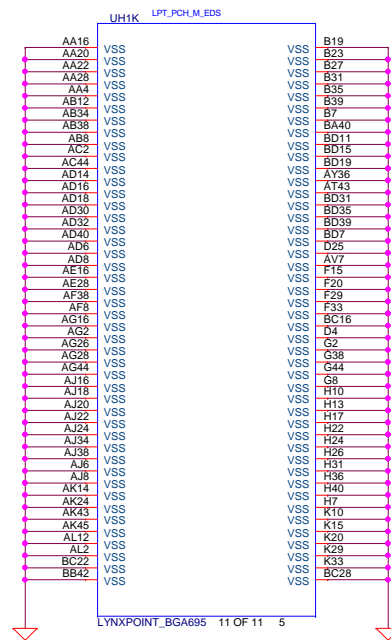
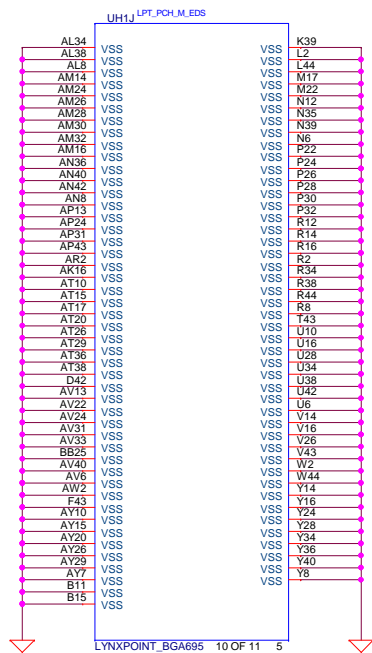
For BIOS setting dGPU present
* LOW - dGPU exist

Config	GPIO16,49
USB X4,PCIEX8,SATAx6	11
USB X6,PCIEX8,SATAx4	01

SATA2GP/GPIO36, SATA3GP/GPIO37 SAMPLED AT RISING EDGE OF PWROK.
WEAK INTERNAL PULL-DOWN.(WEAK INTERNAL PULL-DOWN IS DISABLED AFTER PLRST, N DE-ASSERTS).
NOTE: THIS SIGNAL SHOULD NOT BE PULLED HIGH WHEN STRAP IS SAMPLED.

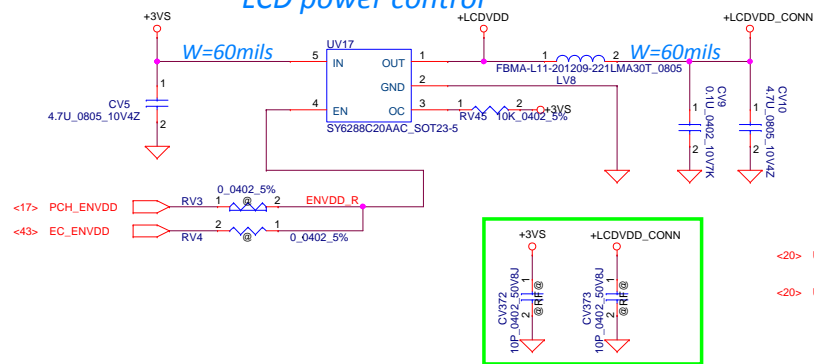
Fixed Signals				Muxed Signals				Fixed Signals				Muxed Signals				Fixed Signals			
USB3_1	USB3_2	USB3_5	USB3_6	PCIE_1	PCIE_2	PCIE_3	PCIE_4	PCIE_5	PCIE_6	PCIE_7	PCIE_8	SATA_4	SATA_5	SATA_6	SATA_7	SATA_8	SATA_9	SATA_10	SATA_11
				(00)	(00)							(00)	(00)						
				USB3_3	USB3_4							PCIE_1	PCIE_2						
				(01)	(01)							(01)	(01)						

Same with 534345_PCH_LPT_9

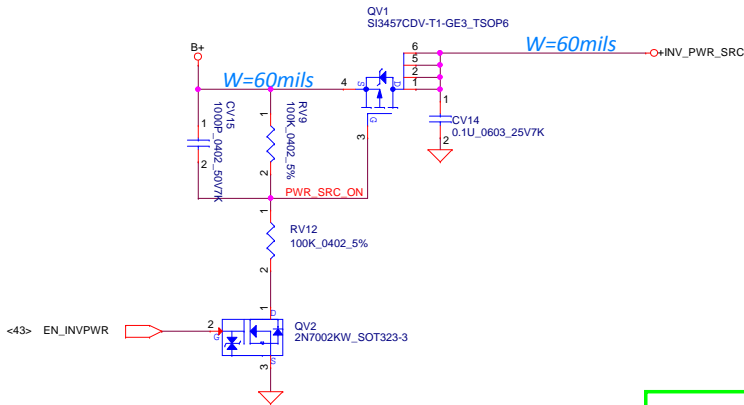


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				PCH (9/9) Power	
				Document Number	
				LA-B751P	
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				Sheet 24 of 69	
				Rev 0.1	

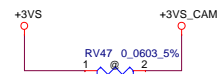
LCD power control



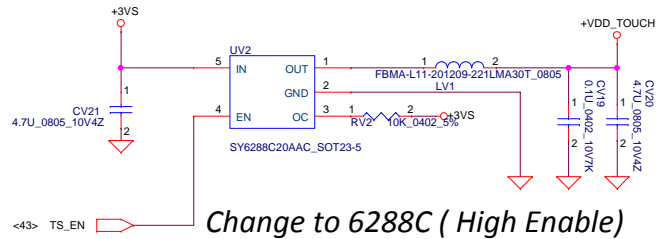
LCD backlight power control



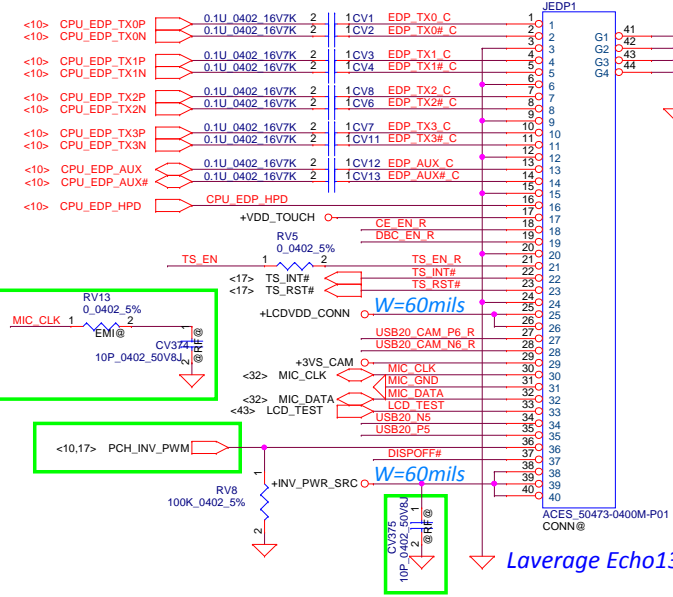
Webcam power control

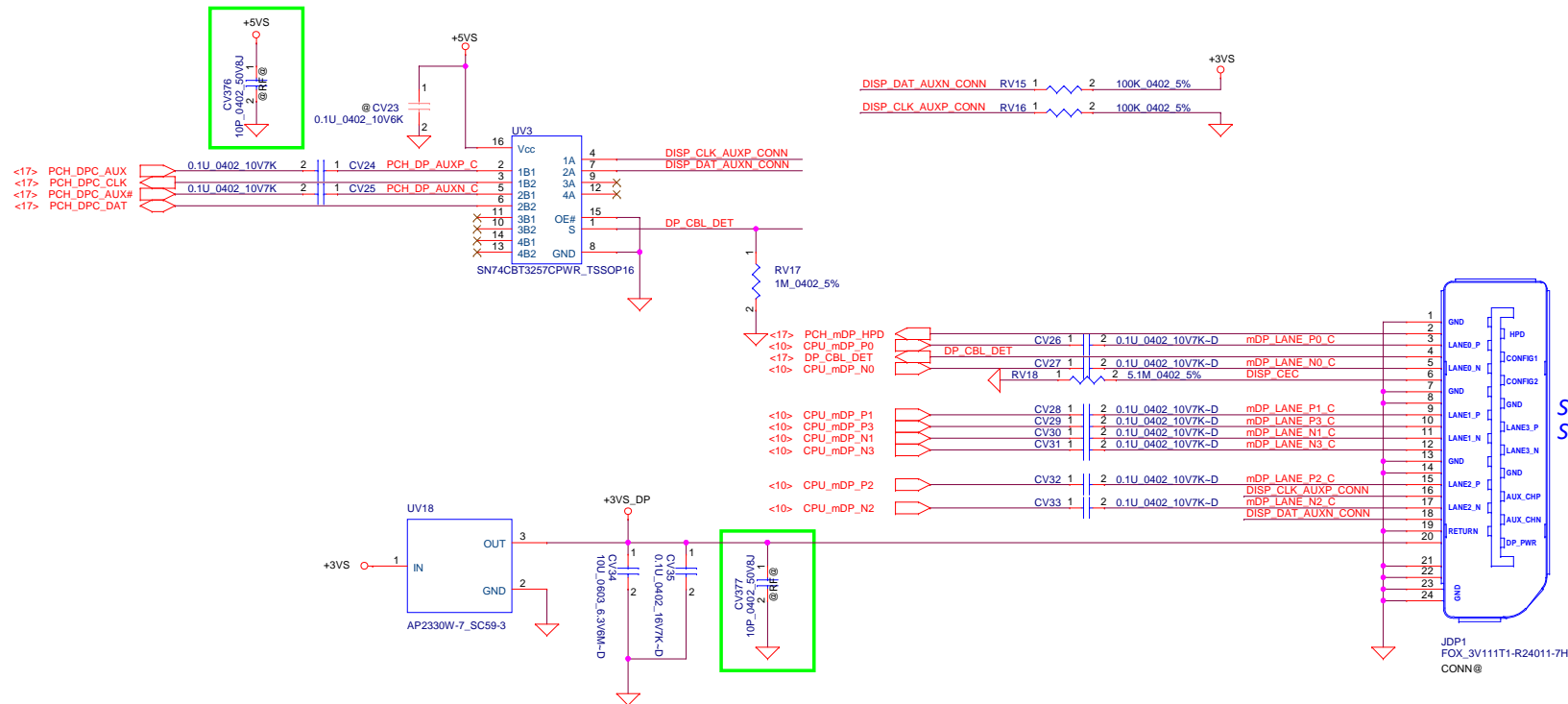


Touch screen panel power control

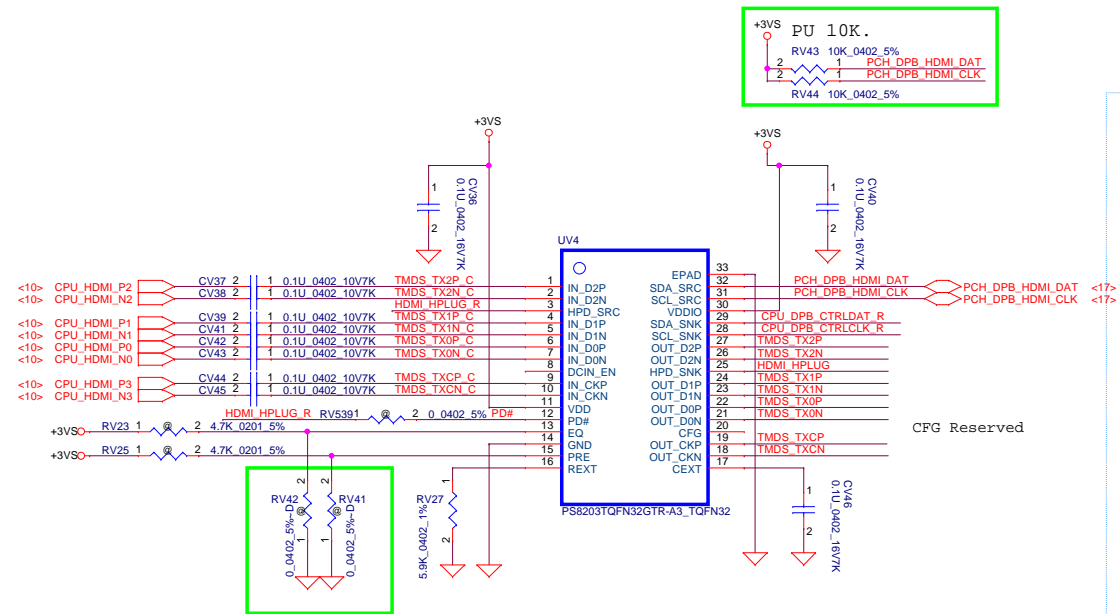


eDP connector





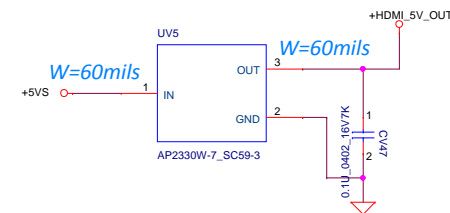
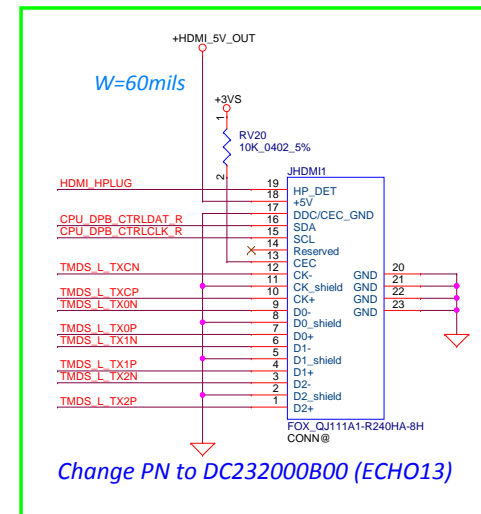
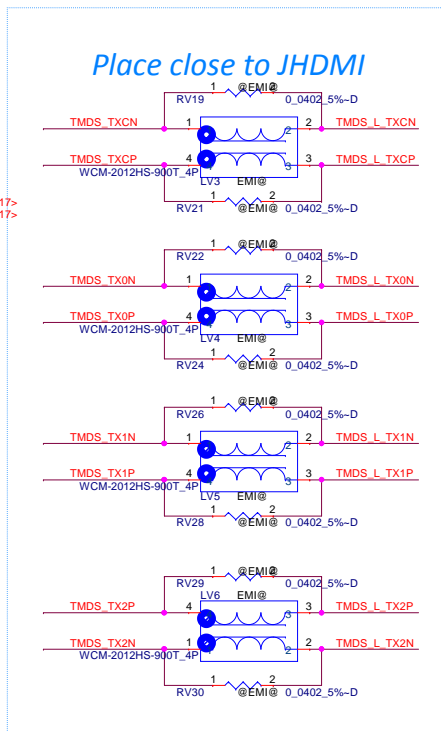
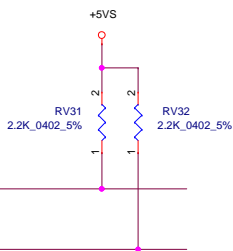
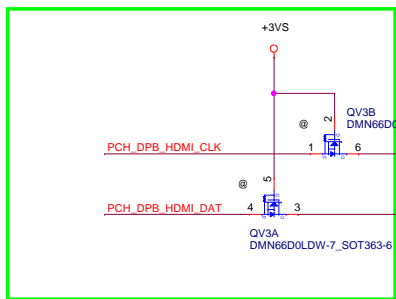
Security Classification		Compal Secret Data		Title	
Issued Date	2014/2/11	Deciphered Date	2014/2/11	3D Camera	
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Pin13 EQ(Internal pull Low)	
12.4dB	L
4.3dB	H
8.6dB	M

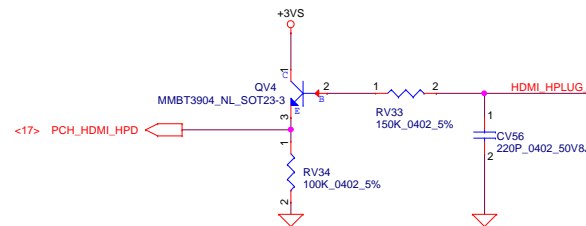
Pin15 PER(Internal pull Low)	
0 dB, No pre-emphasis	L(default)
2.5 dB, pre-emphasis	H

PCH_DPB_HDMI_CLK to PS8203
No need level shift.

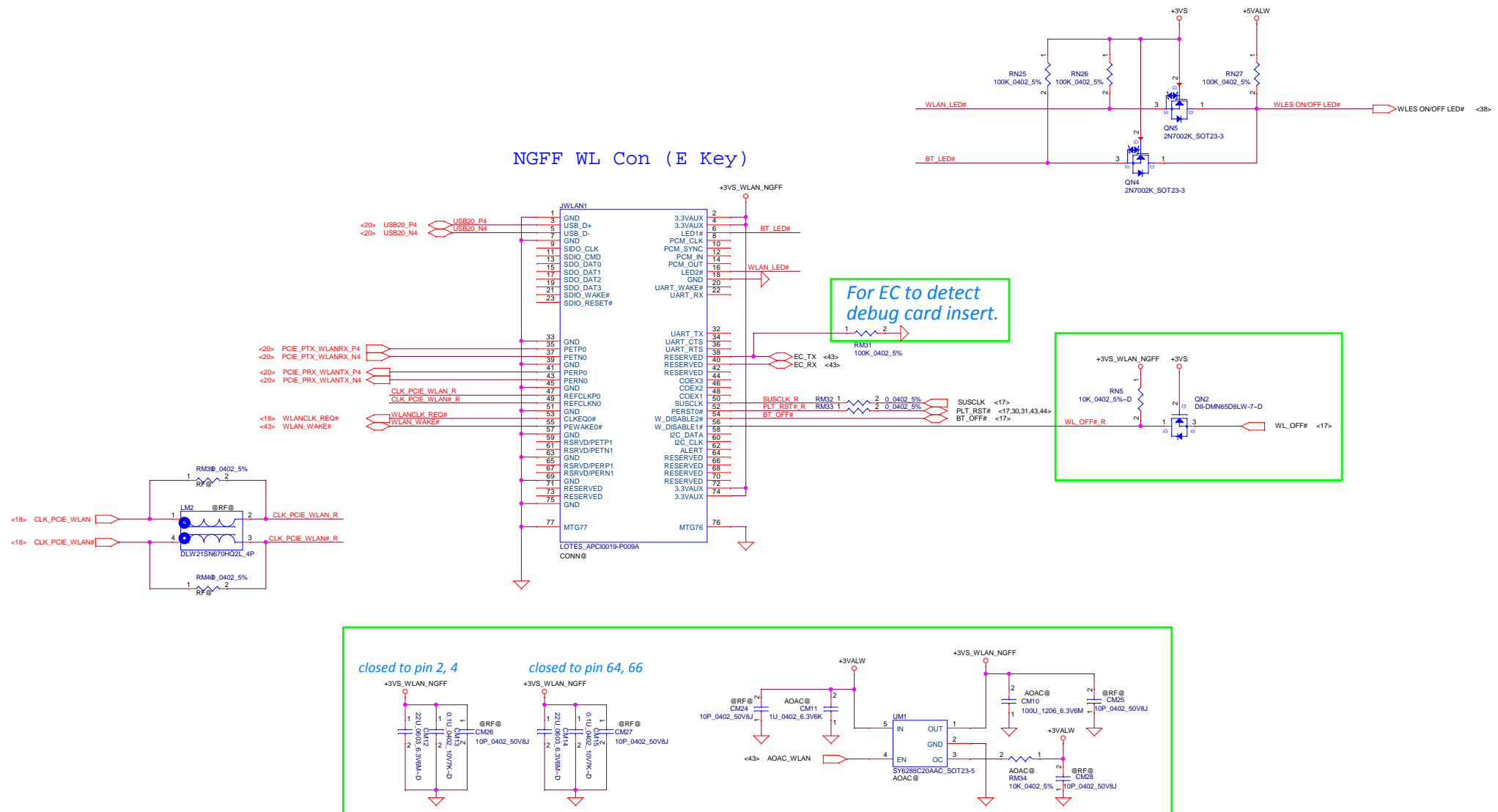


ROYALTY HDMI W/LOGO
CPN:RO0000002HM

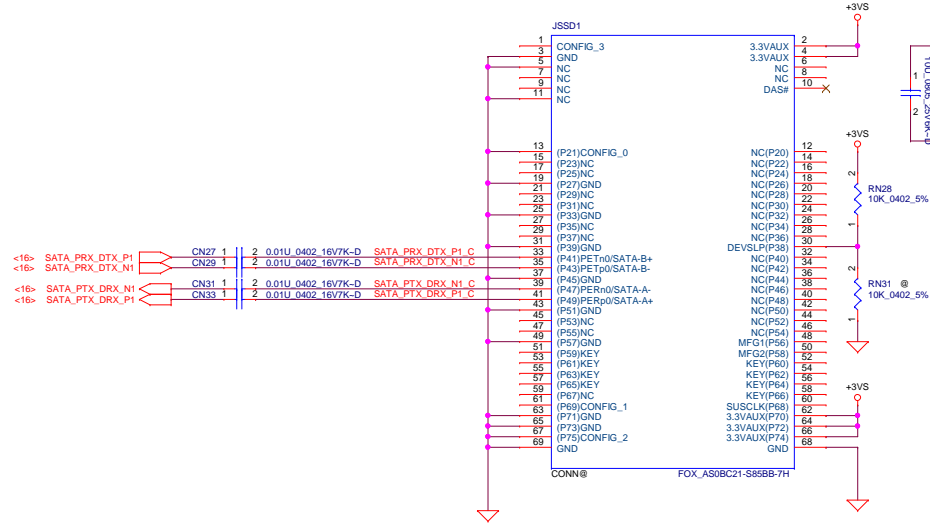
Part Number	Description
RO0000002HM	HDMI W/Logo:RO0000002HM



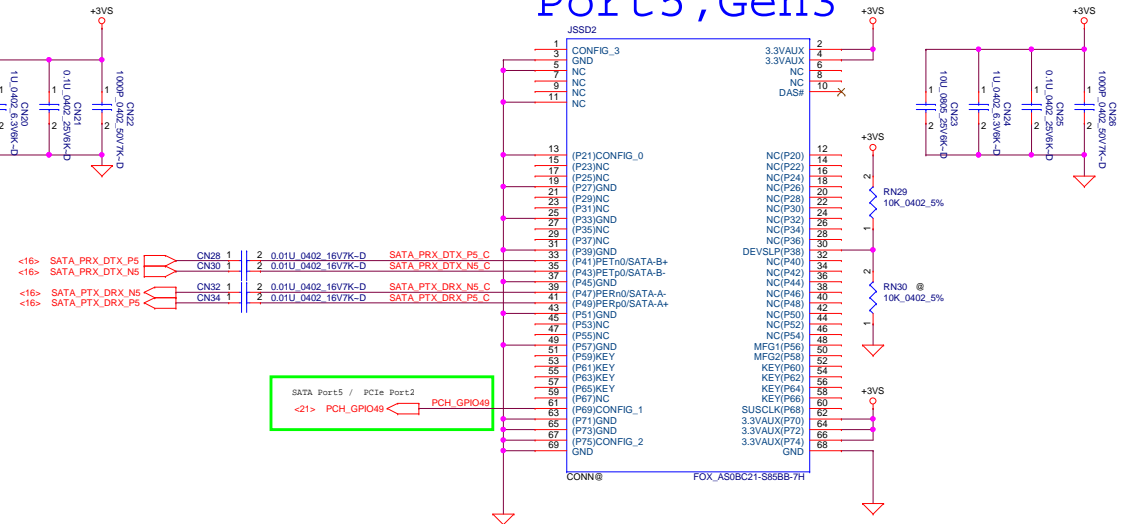
NGFF WL Con (E Key)



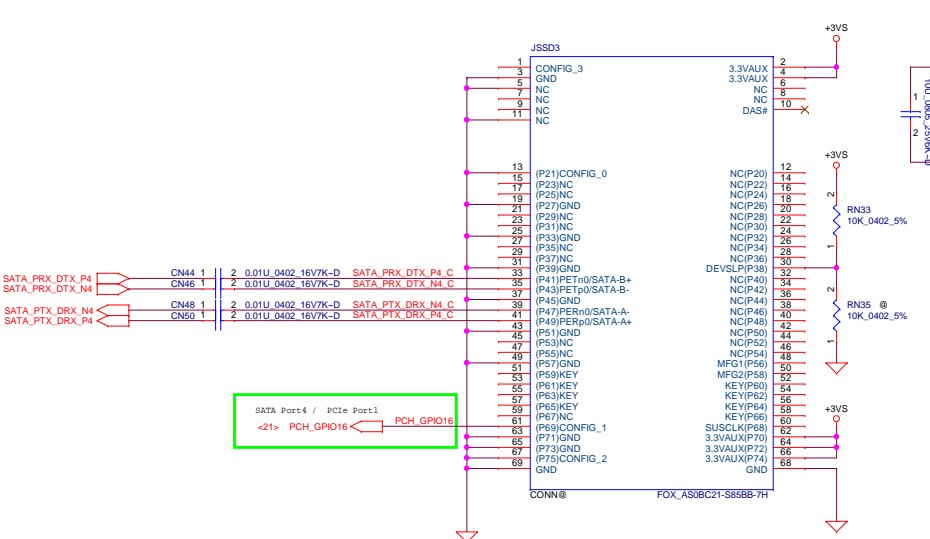
Port1, Gen3



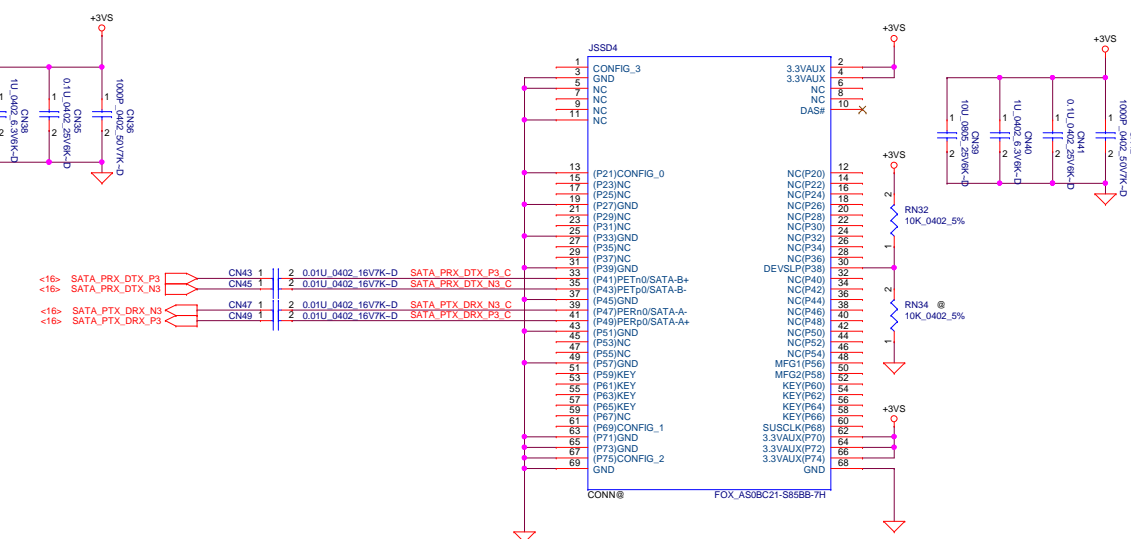
Port5, Gen3



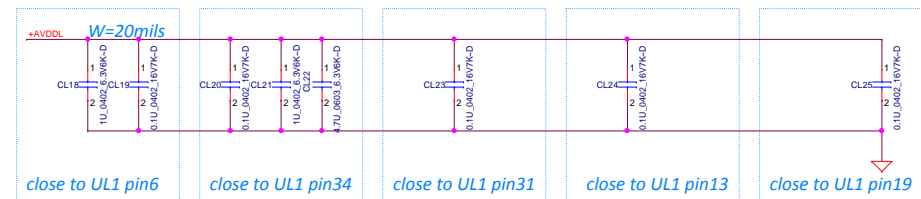
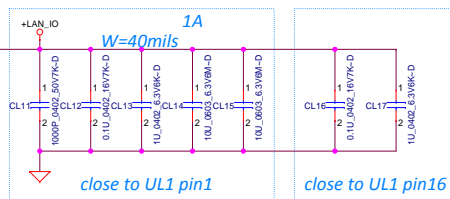
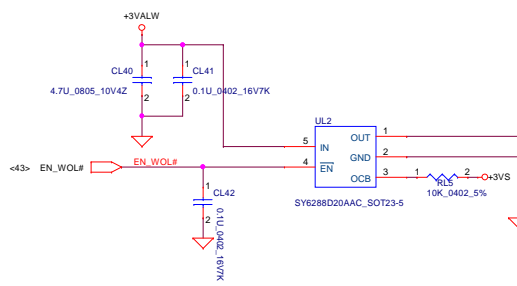
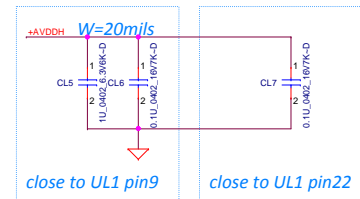
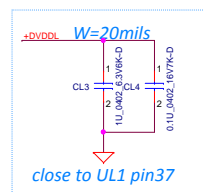
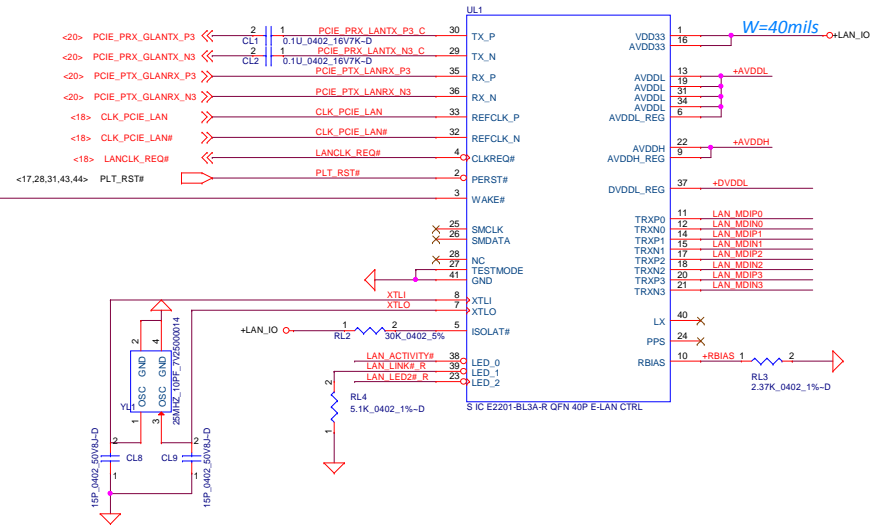
Port4, Gen3



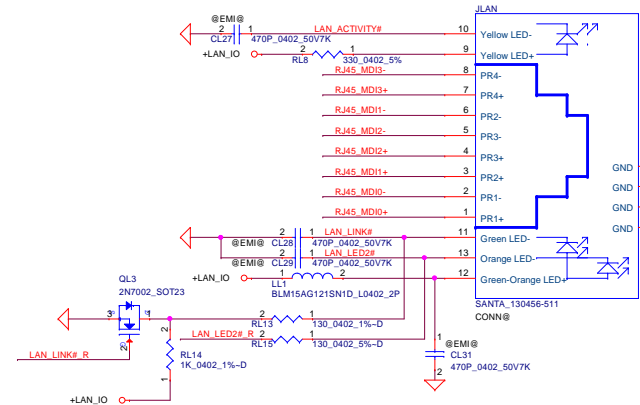
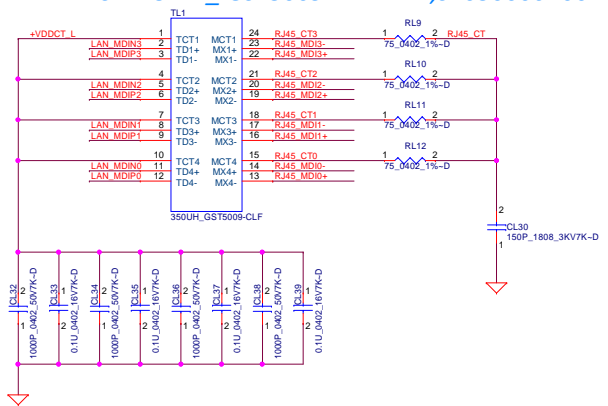
Port3, Gen2



The pull-up resistors might not be necessary due to existence on PCH side.

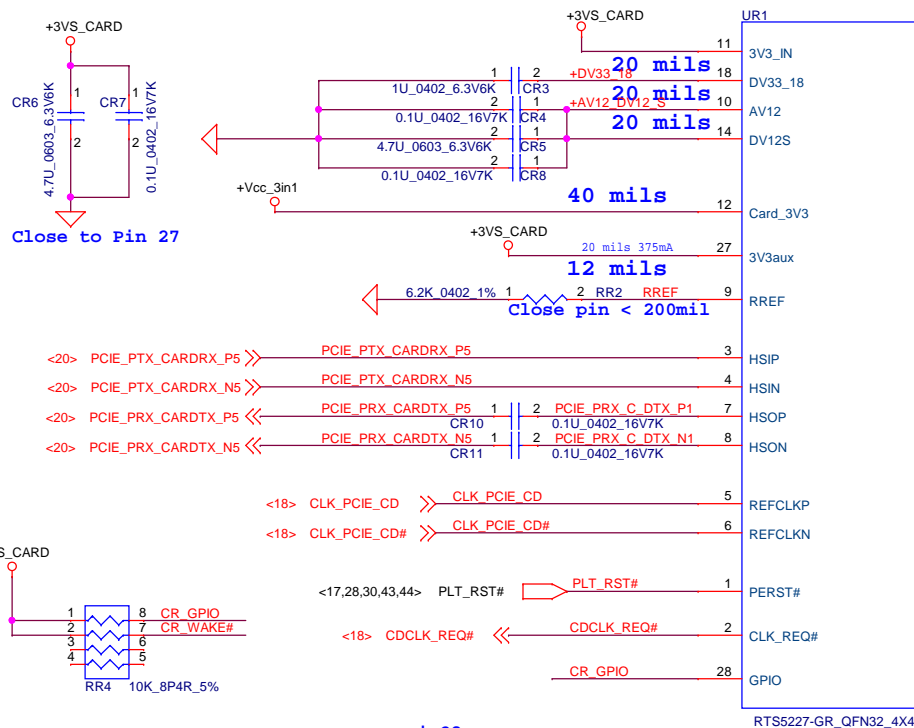


TIMAG: S X'FORM_IH-160 LAN,SP050006F00
BOTH HAND: S X'FORM_GST5009-D LF LAN,SP050006B00

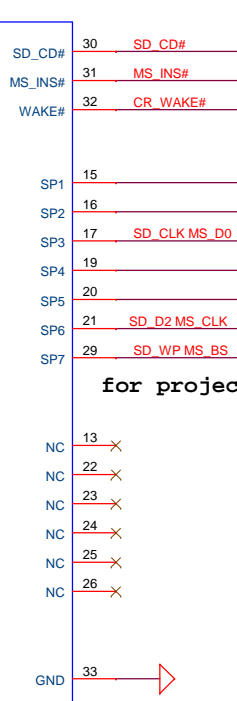
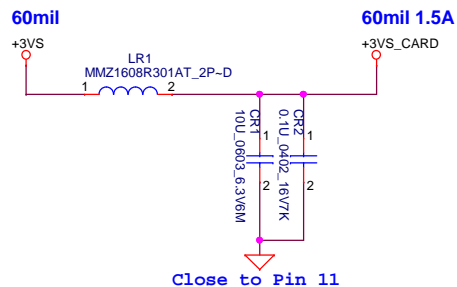


Same with ECHO13.
Symbol check OK. 2/25

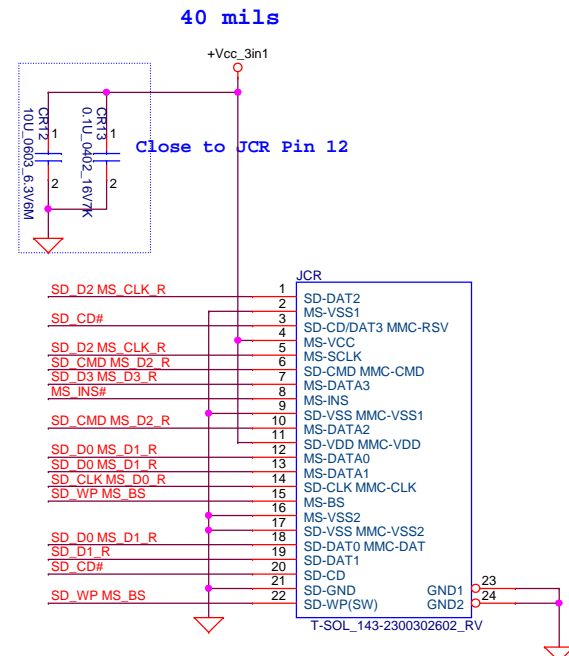
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pin28:
If GPIO NO use for LED function and
GPIO must pull high



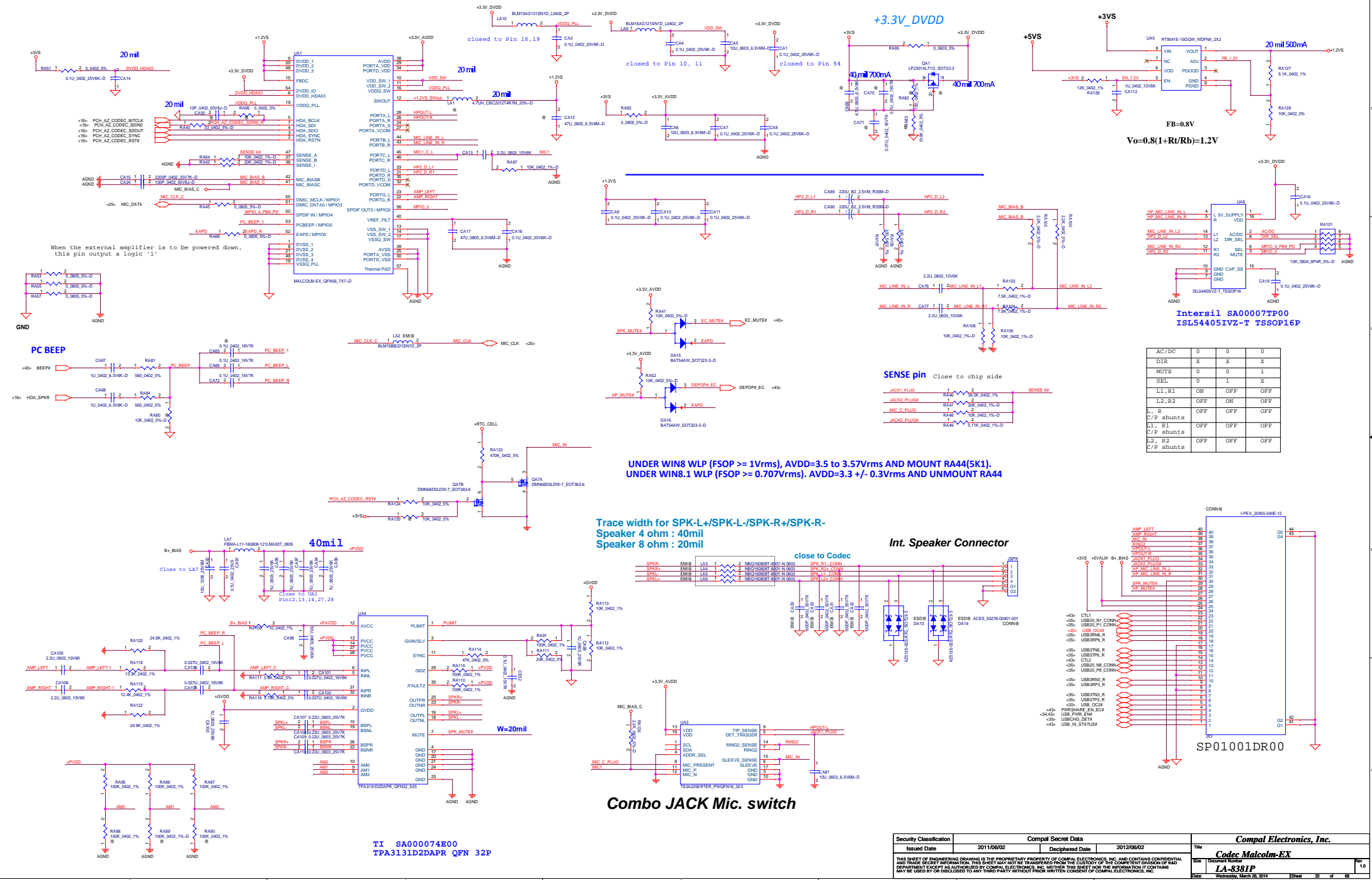
for project which need fine tune SD signal can change to R

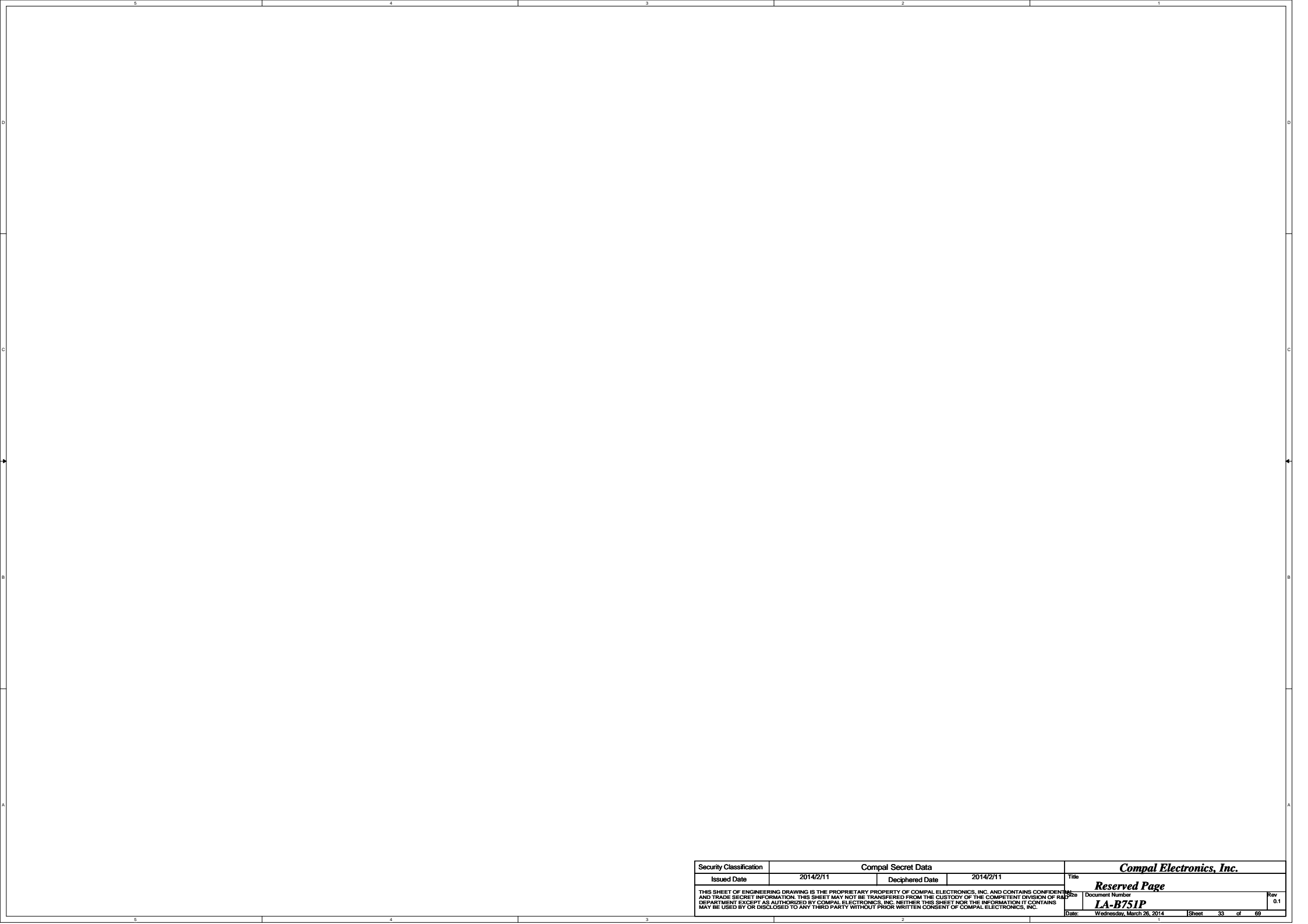


Internal Pull status

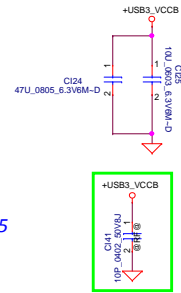
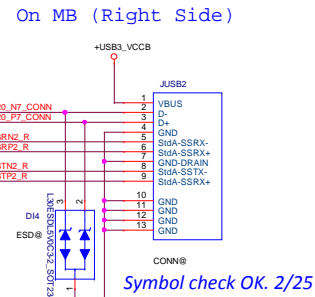
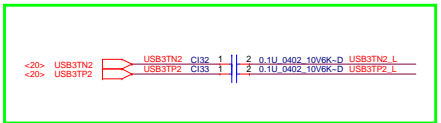
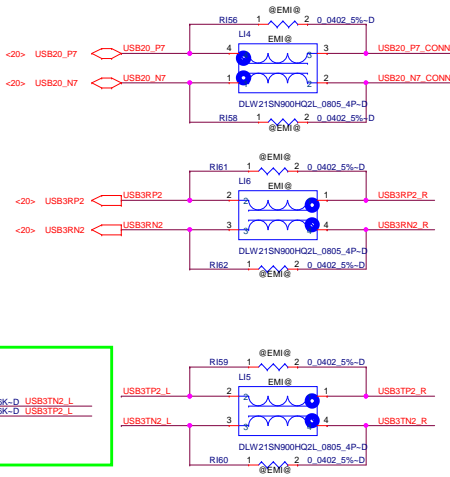
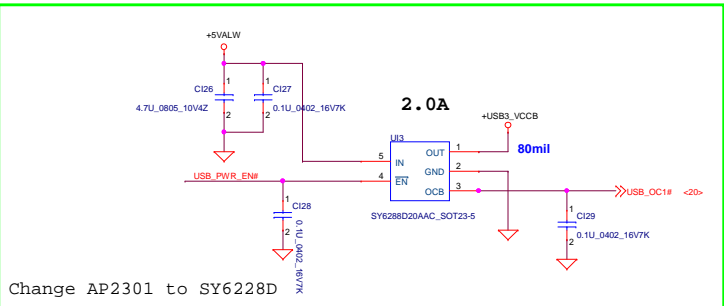
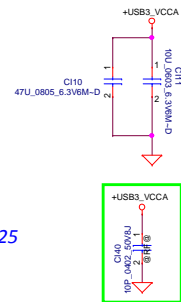
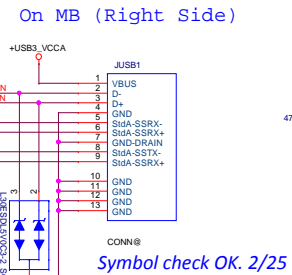
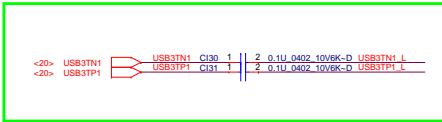
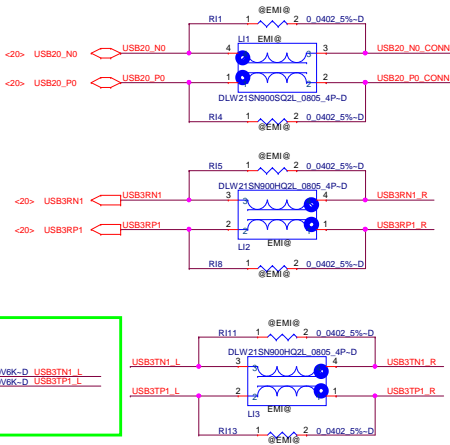
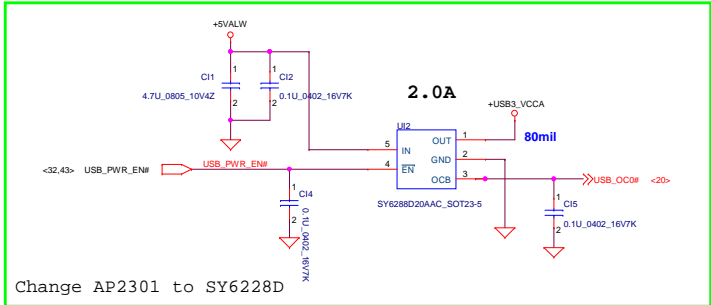
	NO Card	SD Insert	MS Insert
15_SP1	PD80	SD_D1_PU80	PD80
16_SP2	PD80	SD_D0_PU80	MS_D1_PD80
17_SP3	PD80	SD_CLK_PD80	MS_D0_PD80
19_SP4	PD80	SD_CMD_PU80	MS_D2_PD80
20_SP5	PD80	SD_D3_PU80	MS_D3_PD80
21_SP6	PD80	SD_D2_PU80	MS_CLK_PD80
29_SP7	PD200	SD_WP_PD200	MS_BS_PD200
30_SD_CD#	PU200	PU200	PU200
31_MS_CD#	PU200	PU200	PU200

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				LA-B751P	
Date: Wednesday, March 26, 2014				Sheet	31 of 69

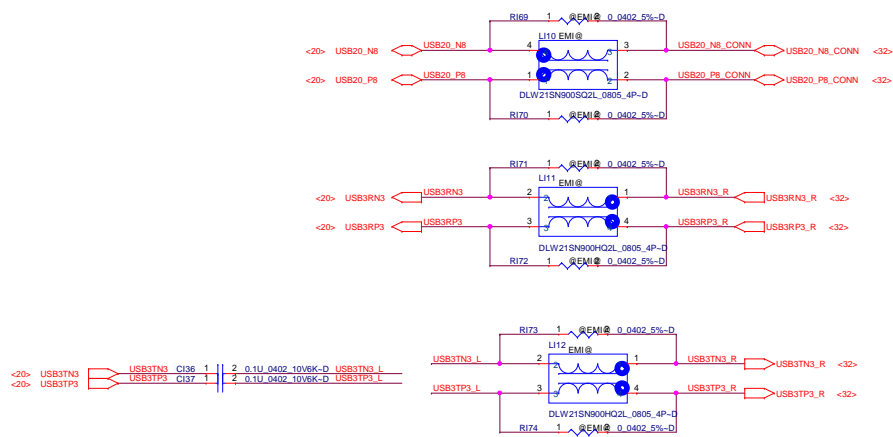
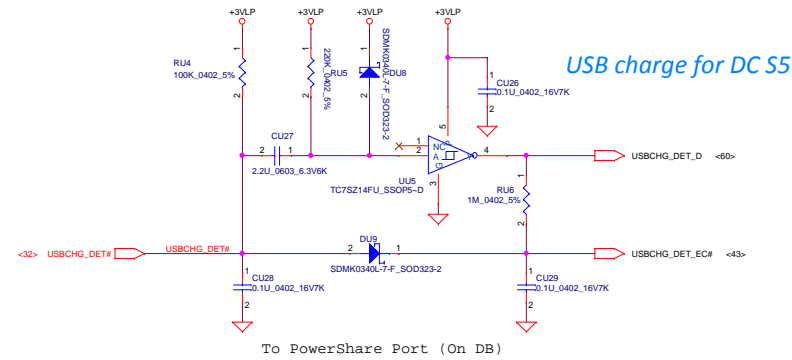
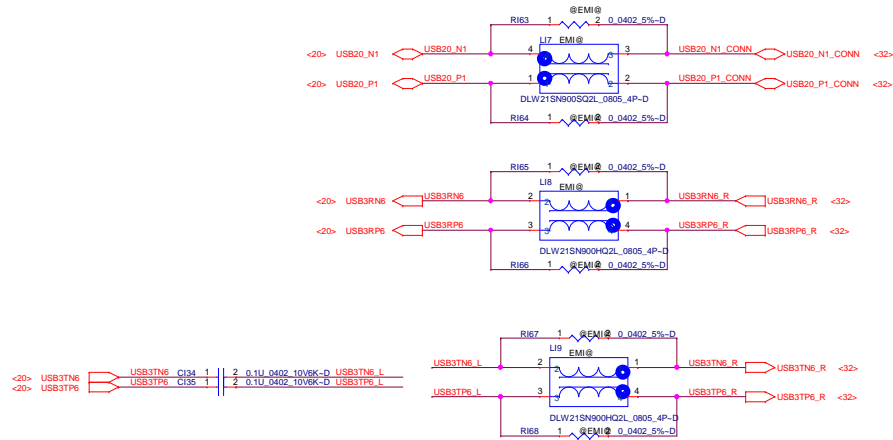




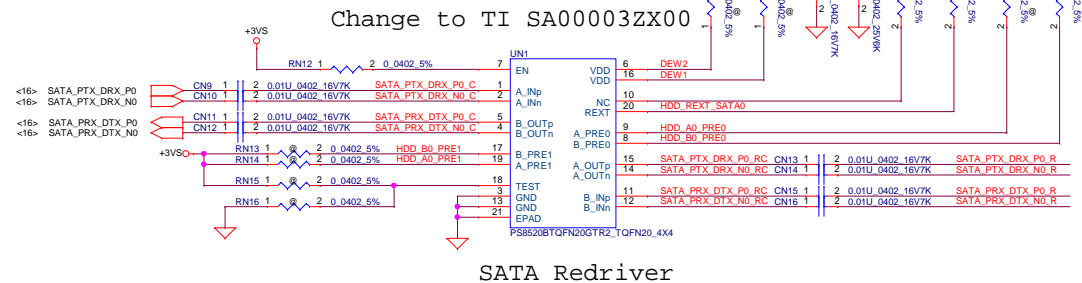
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Issued Date	2014/2/11	Deciphered Date	2014/2/11	Compal Electronics, Inc.	
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				0.1
				Date: Wednesday, March 26, 2014
				Sheet 34 of 69

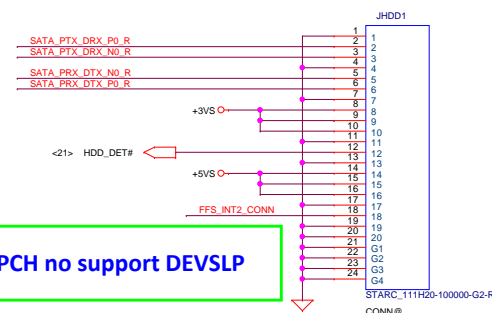
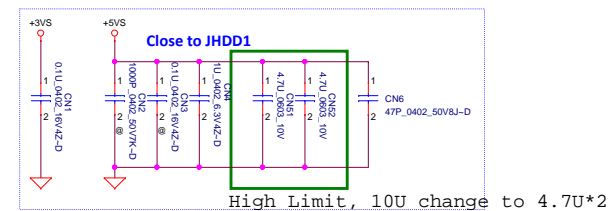
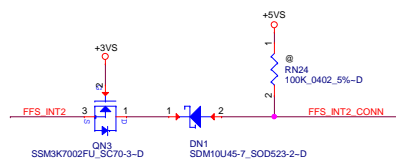
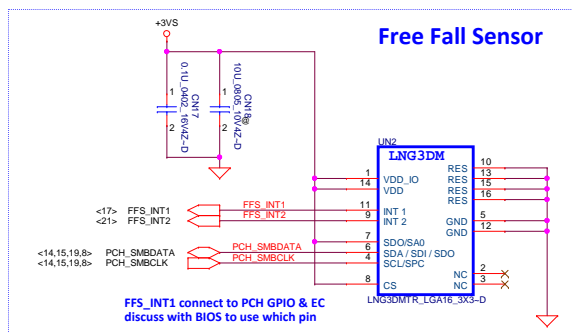
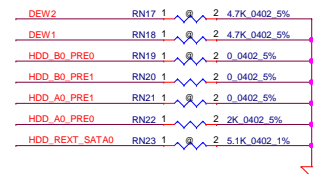


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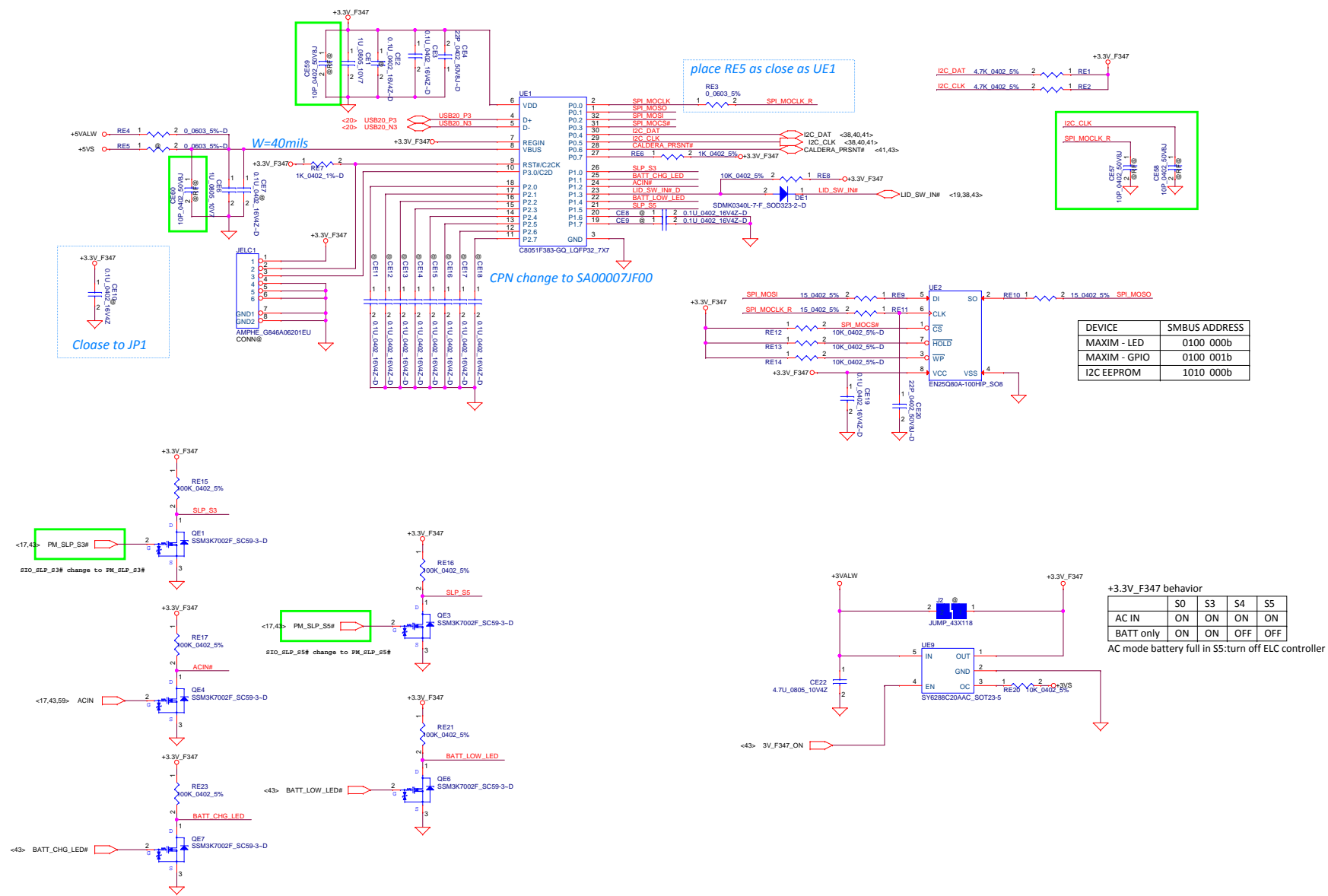


Pin 20:
 PARADE PS8250B
 Depop RS26
 PERICOM PI3EQX6741ST
 Pop RS26
 ASMEDIA ASM1466
 Pop RS26

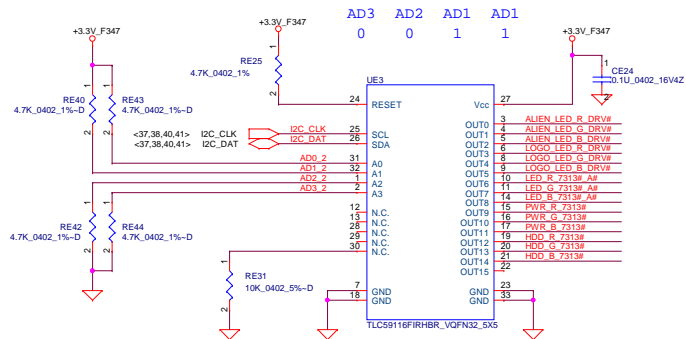
Pin 9:
 PARADE PS8250B
 Depop RS24
 PERICOM PI3EQX6741ST
 Depop RS24
 ASMEDIA ASM1466
 Pop RS24 to pull down



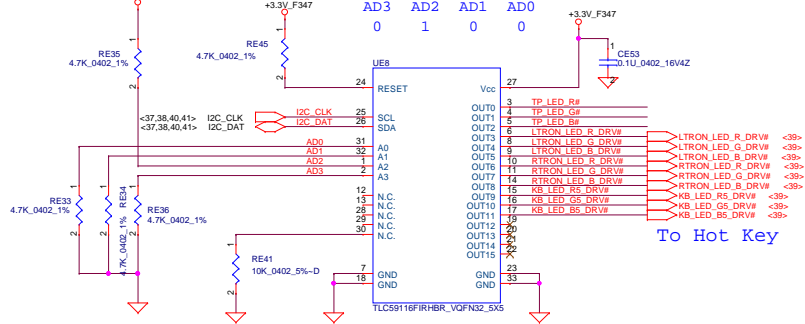
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MAX7313 change to TI TLC59116F PWM expander



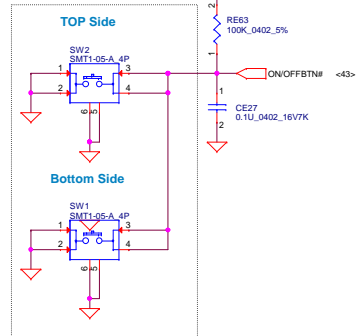
For IND/TP/HDD/PWR



To Hot Key

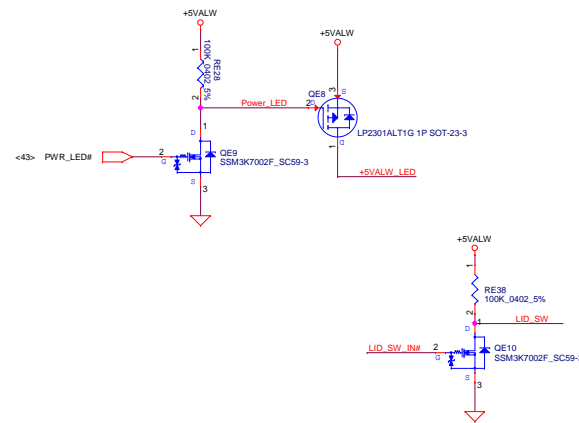
Power ON Circuit

ON/OFF switch

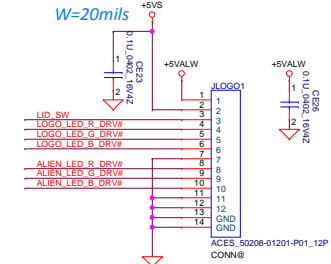


ON/OFF switch power button
Bottom Side pop only before MP

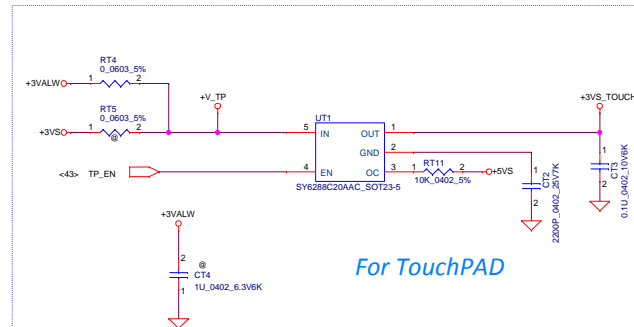
Power LED



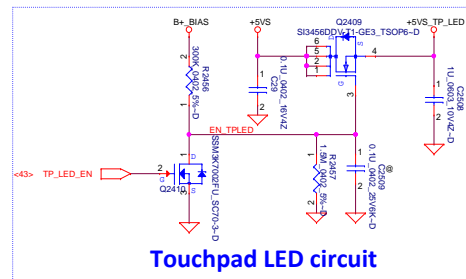
W=20mils



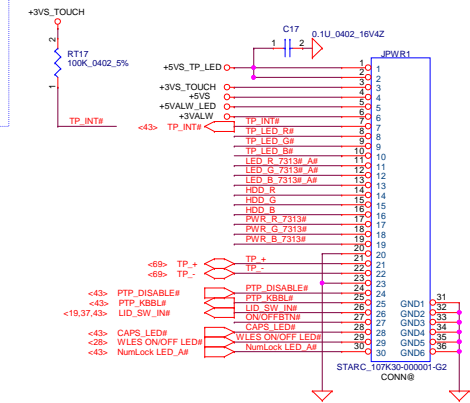
Logic up LED board



For TouchPAD



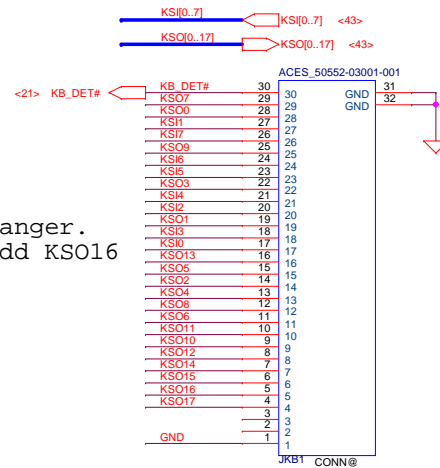
Touchpad LED circuit



Change Symbol OK
2/18 -Tarry

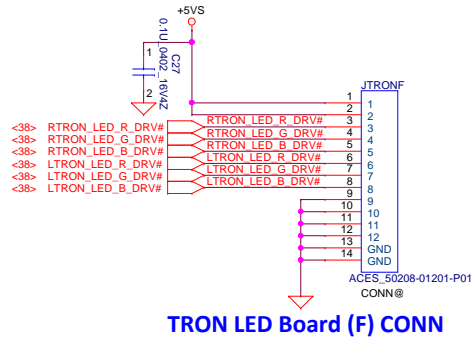
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2014/2/11	Deciphered Date	2014/2/11	Title	ELC 2/TP/PWR SW
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Customer				Document Number	LA-B751P
Date				Wednesday, March 26, 2014	Rev 0.1
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INT_KBD Conn.

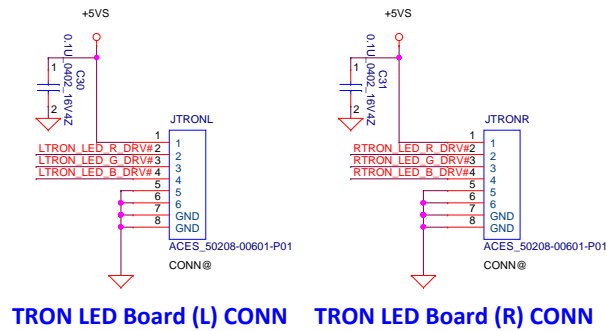


Net follow Ranger.
Only Pin26 add KSO16

Symbol Leverage Echo13
2/18 -Tarry



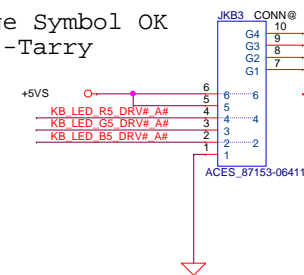
TRON LED Board (F) CONN



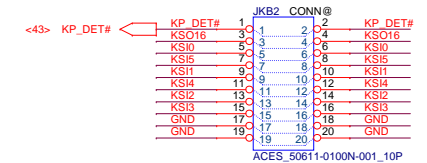
TRON LED Board (L) CONN TRON LED Board (R) CONN

Hot Key Conn. PWM

Change Symbol OK
2/18 -Tarry



Hot Key Conn. Key Pad



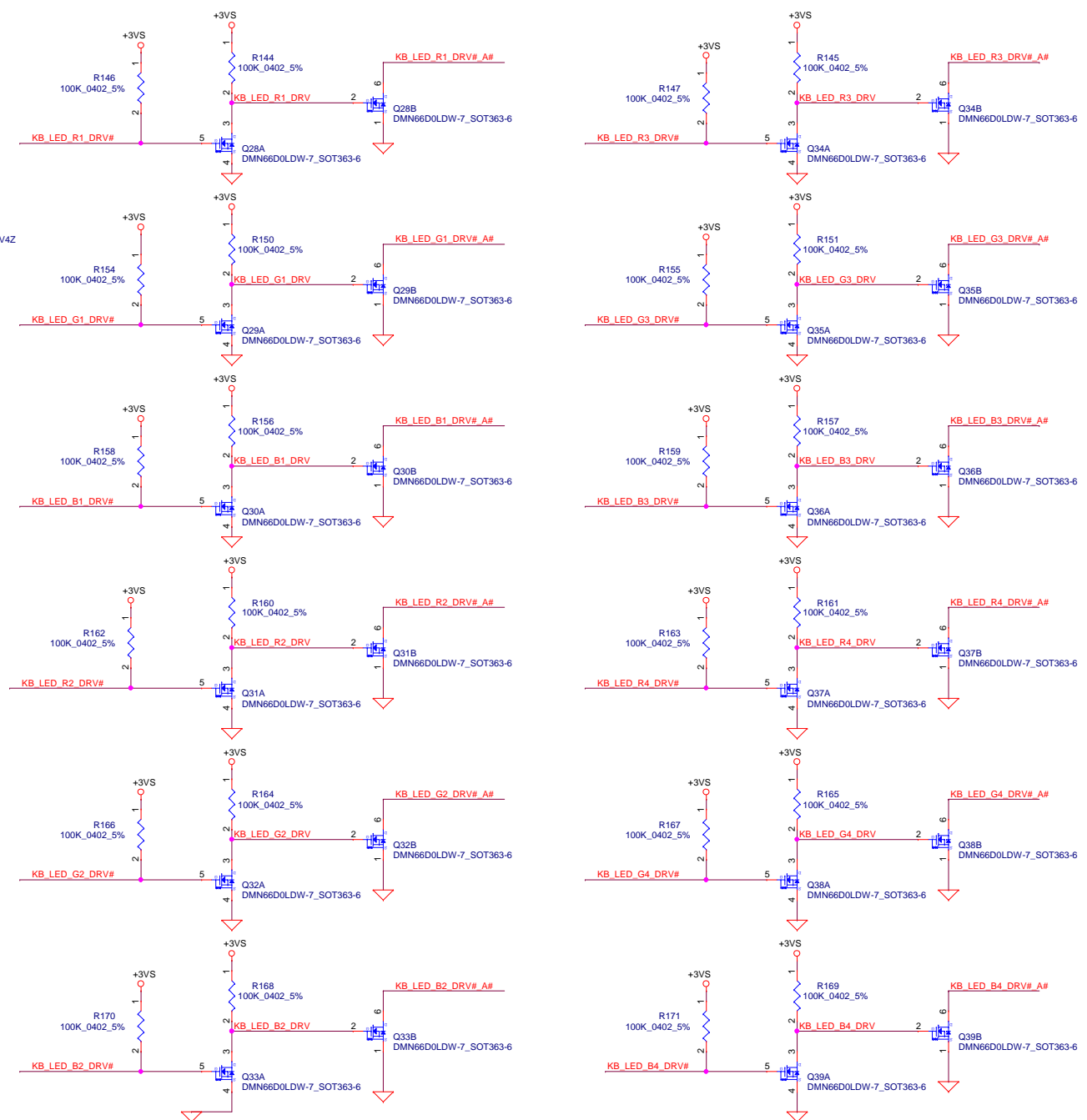
DELL CONFIDENTIAL/PROPRIETARY



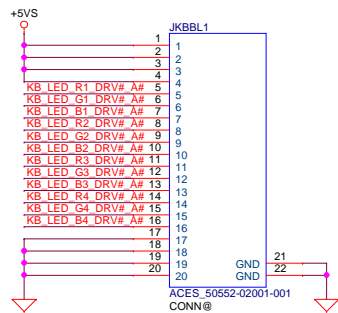
Compal Electronics, Inc.			
Title	KB/HotKey conn		
Size	Document Number	Rev	
	LA-B751P	0.1	
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Math 100



Check Pin define

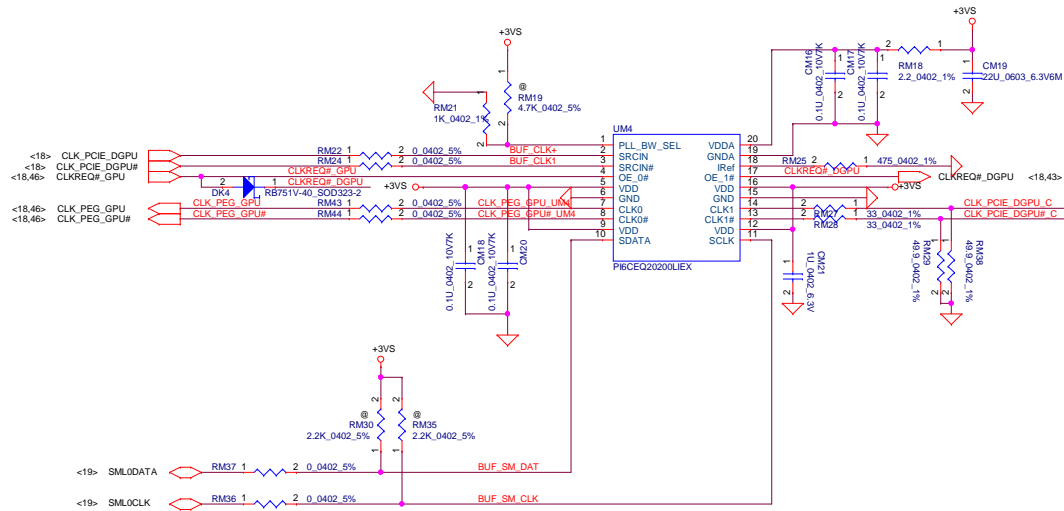


KB BL LED

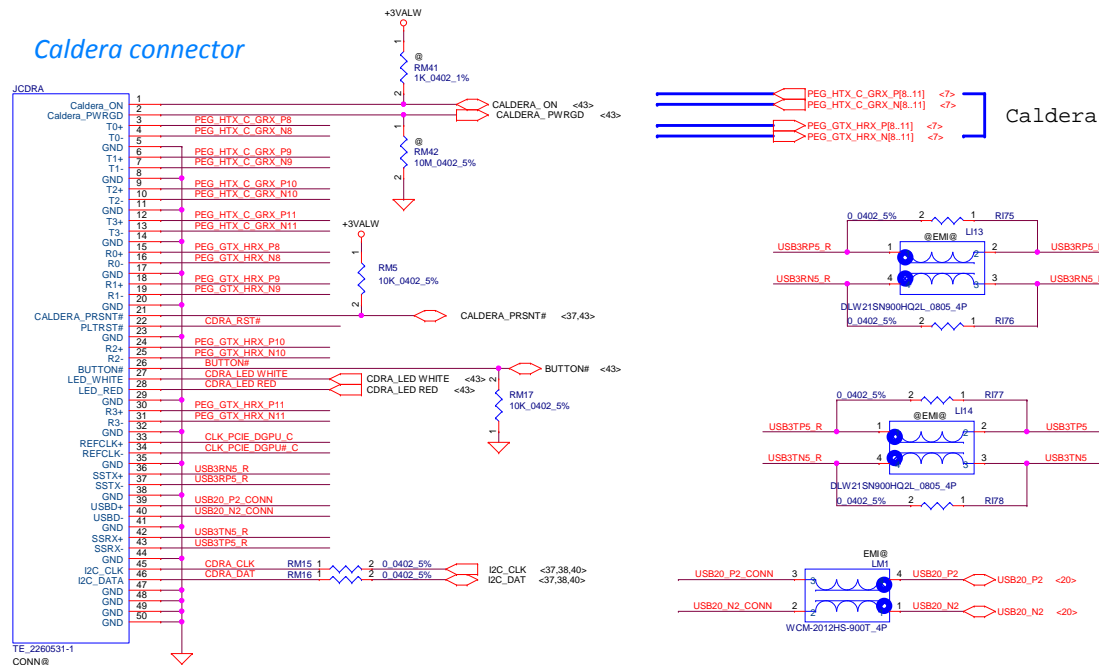
Symbol OK (Leverage Echo13)
2/18 -Tarry

EC控制PIN
PCI_SMCLK
PCI_SMDAT
USB_PWR_EN#
DOCKING_LED ON#
DOCKING_LED OFF#
DOCK_PSID
DOCK_ACIN
DOCK_EN
PRSENT# R

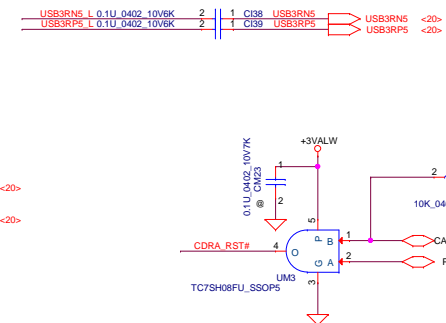
PCIE_CLK_BUFFER



Caldera connector

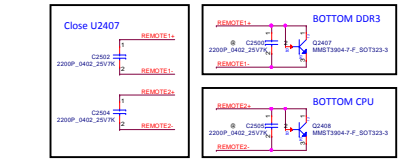
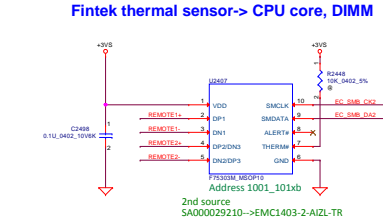
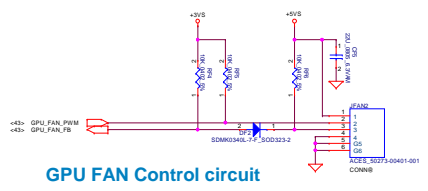
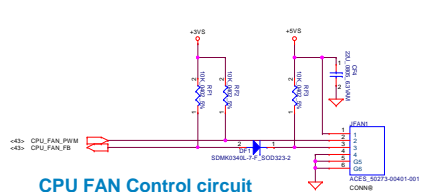
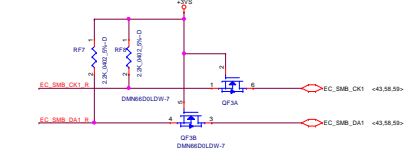
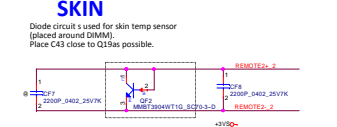
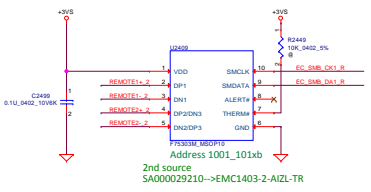
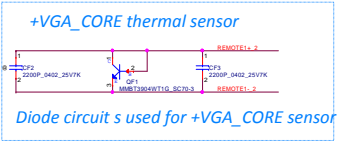


Follow Echo 13 design.



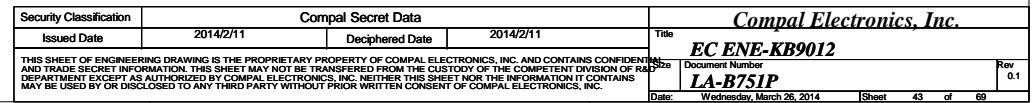
Symbol OK (Leverage Echo13)
2/18 -Tarry

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Issued Date	2014/2/11	Deciphered Date	2014/2/11	Title	
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Date: Wednesday, March 26, 2014		Sheet		41	of 60



REMOTE1,2 (+/-):
Trace width/space:10/10 mil
Trace length:<8"

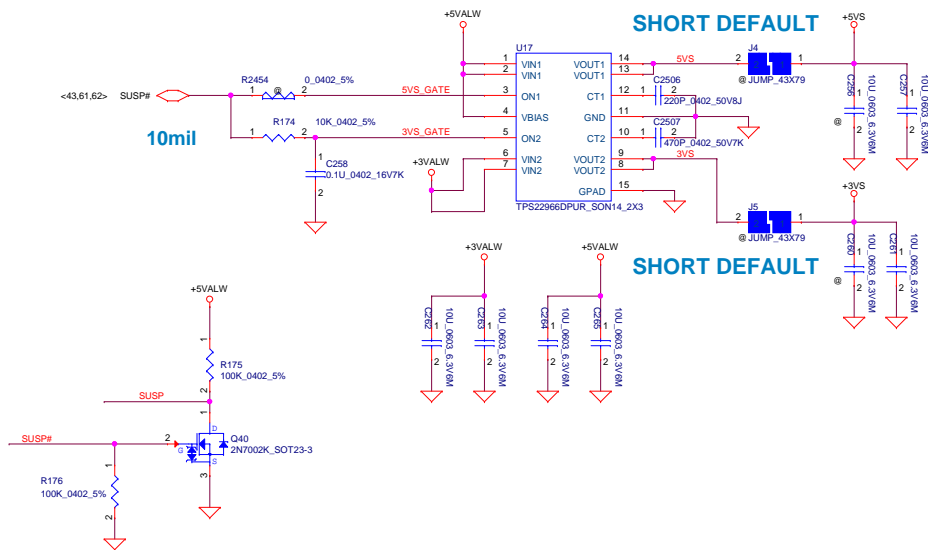
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Issued Date	2014/2/11	Declassified Date	2014/2/11	Ver
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88				



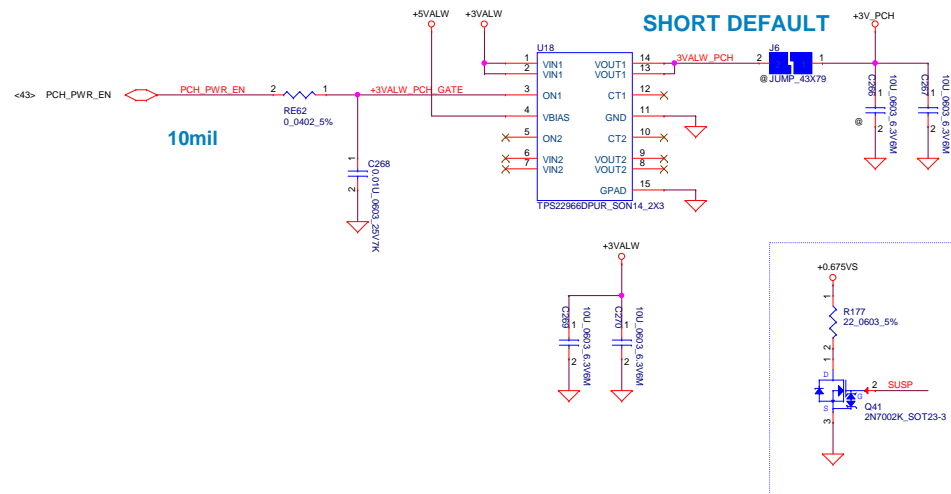
TPM

WWW.AliSaler.Com

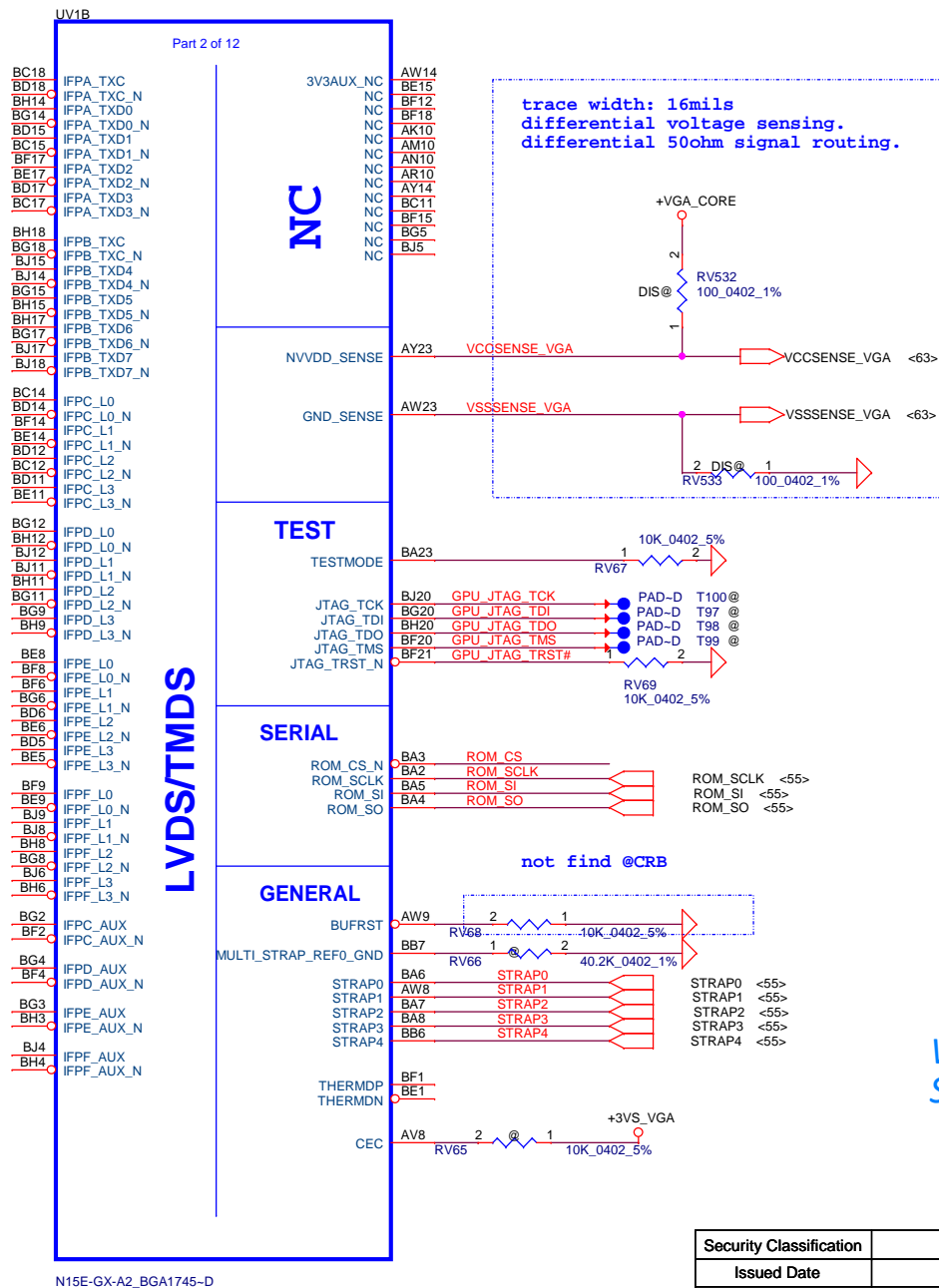
+5VS and +3VS switch



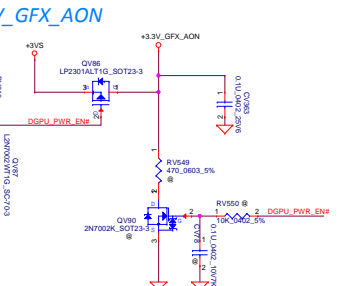
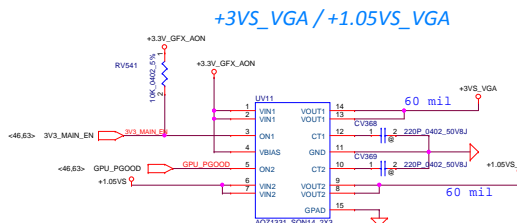
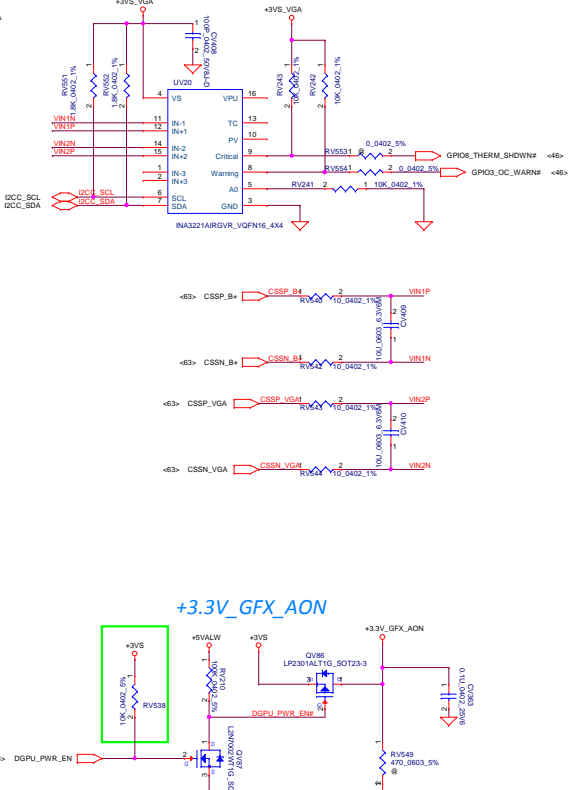
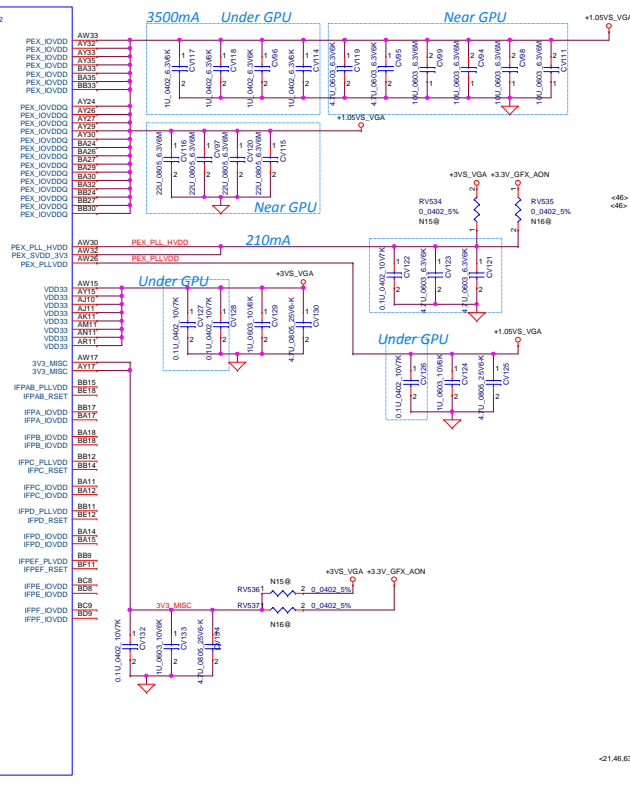
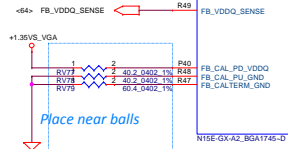
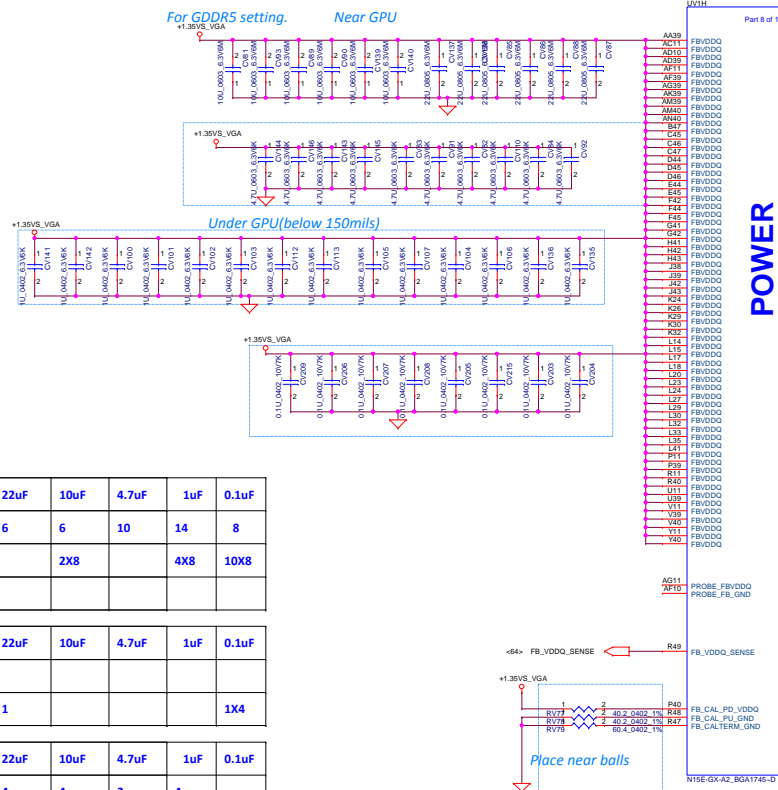
+3VALW_PCH switch



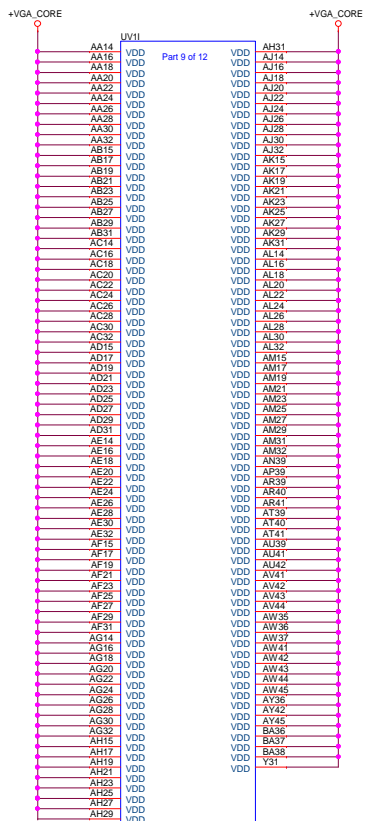
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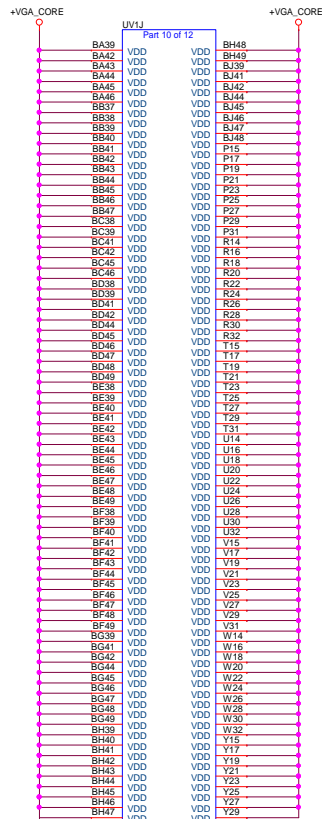
FBVDD/FBVDDQ (+1.35VS_VGA)	22uF	10uF	4.7uF	1uF	0.1uF
GPU	6	6	10	14	8
Memory		2X8		4X8	10X8
	22uF	10uF	4.7uF	1uF	0.1uF
FBx_PLL_DLL_AVDD +GPU_PLLVDD(1.05)					
FBx_PLL_AVDD +FB_PLLAVDD(3.3)	1				1X4
	22uF	10uF	4.7uF	1uF	0.1uF
PEX_IOVDD/Q(1.05)	4	4	2	4	
PEX_PLLVDD(1.05)			1	1	1
PEX_SVDD_3V3 +3.3V_GFX_AON			2		1
	22uF	10uF	4.7uF	1uF	0.1uF
3V3_Main +3VS_VGA			1	1	2
3V3_AON +3.3V_GFX_AON			1	1	1
1.05V	22uF	10uF	4.7uF	1uF	0.1uF
SP_PLLVDD VID_PLLVDD	1		1		1X2
GPU_PLLAVDD	1				5



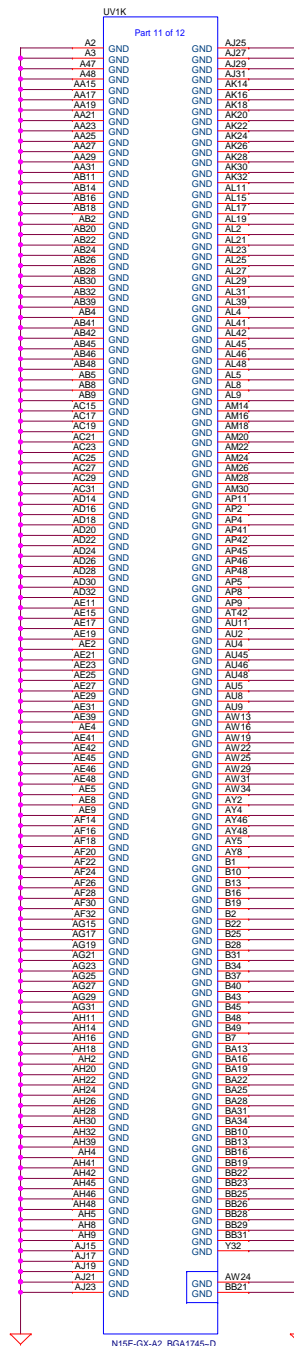
Security Classification	Compal Secret Data			Title
Issued Date	2014/2/11	Deciphered Date	2014/2/11	N15P-GX (I/5) PEG & DAC
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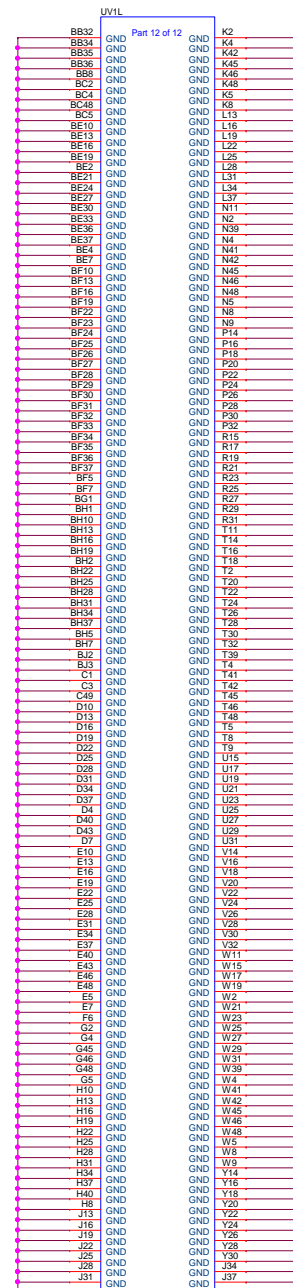
N15E-GX-A2_BGA1745-D



N15E-GX-A2_BGA1745-D

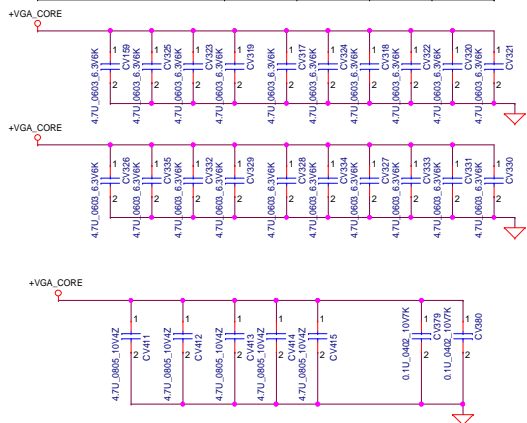


N15E-GX-A2_BGA1745-D



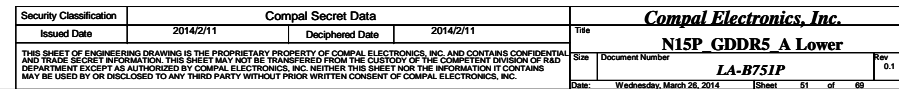
N15E-GX-A2_BGA1745-D

NVDD	22uF	10uF	4.7uF	0.1uF
+VGA_CORE	11	4	40	20

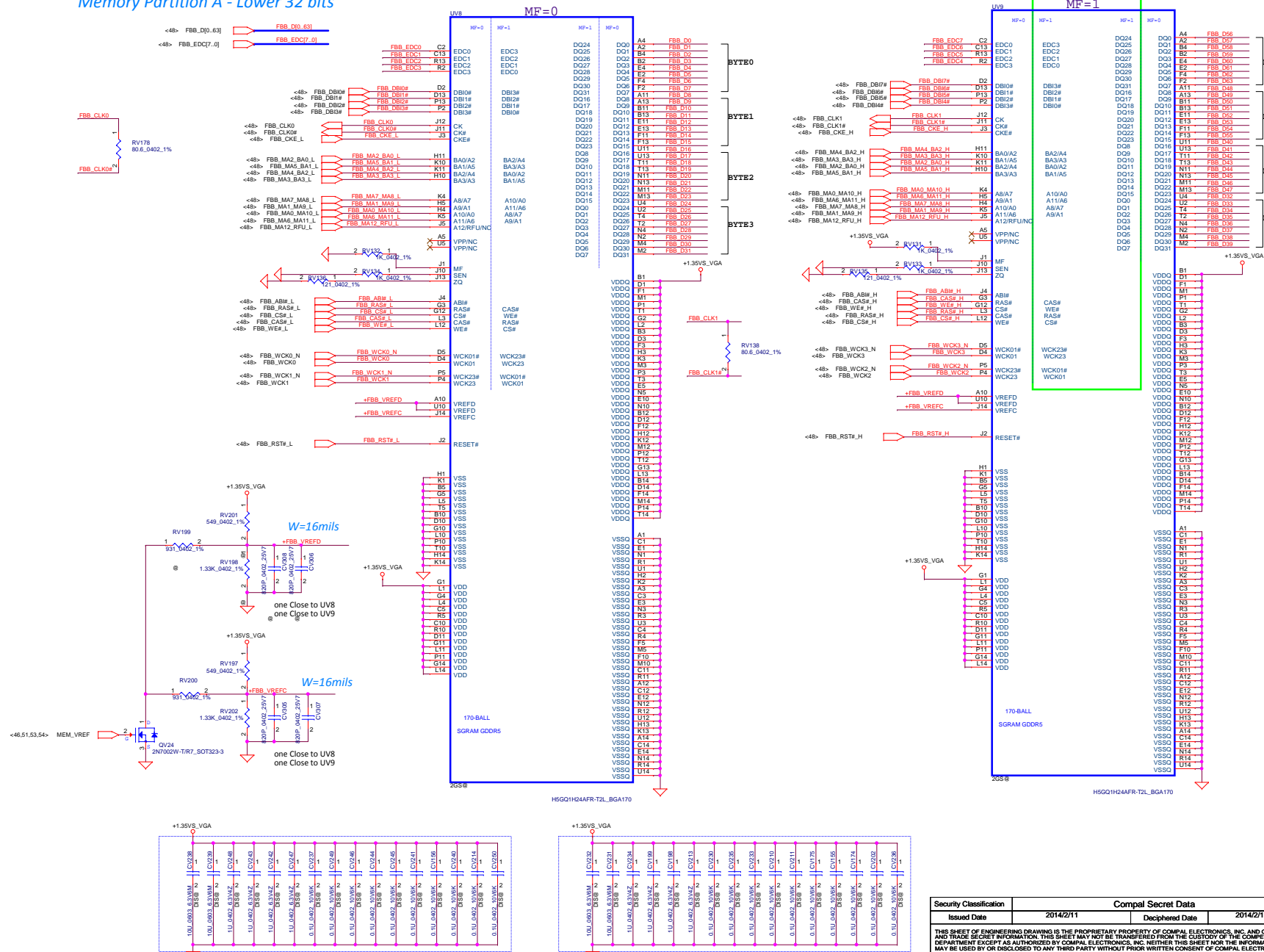


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<48> FBA_D[0..63] FBA_D[0..63]
<48> FBA_EDC[7..0] FBA_EDC[7..0]

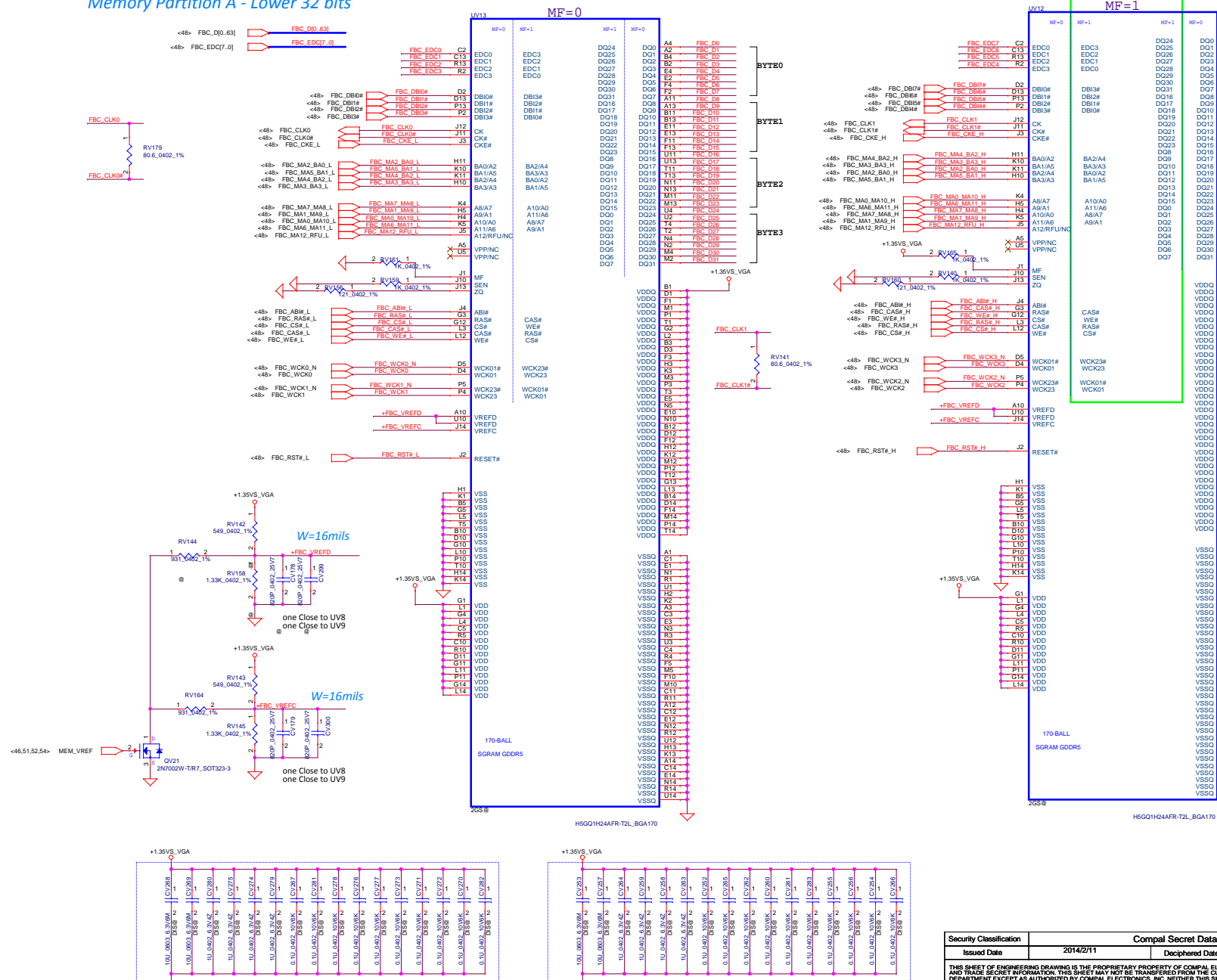


Memory Partition A - Lower 32 bits



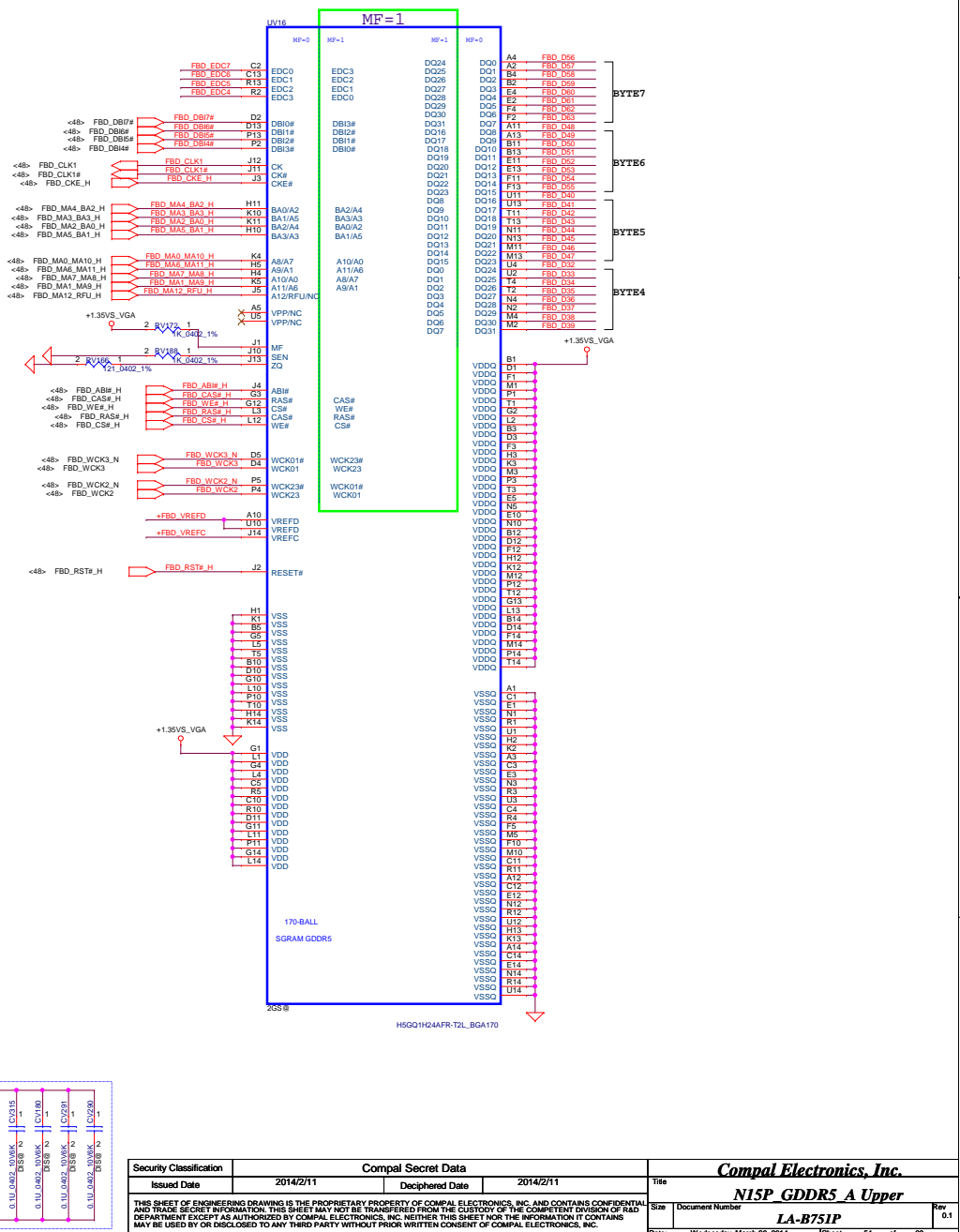
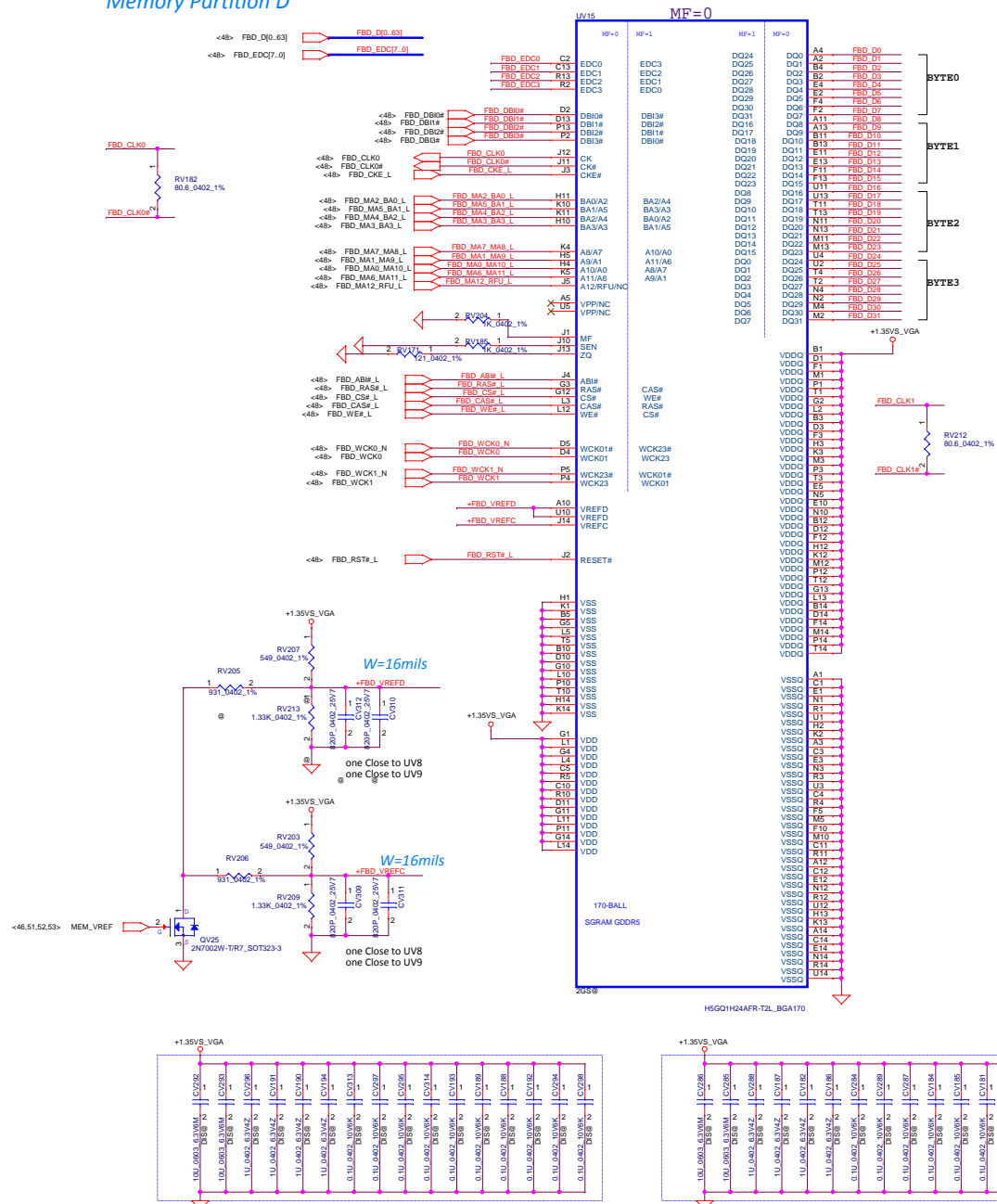
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			LA-B75P1	
Date:	Wednesday, March 26, 2014	Page:	62	of 60

Memory Partition A - Lower 32 bits

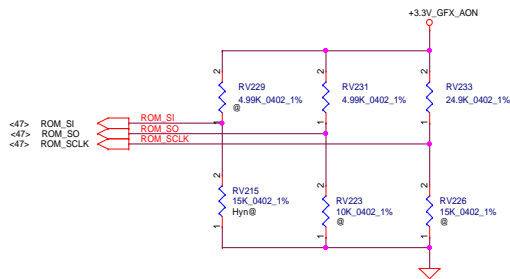
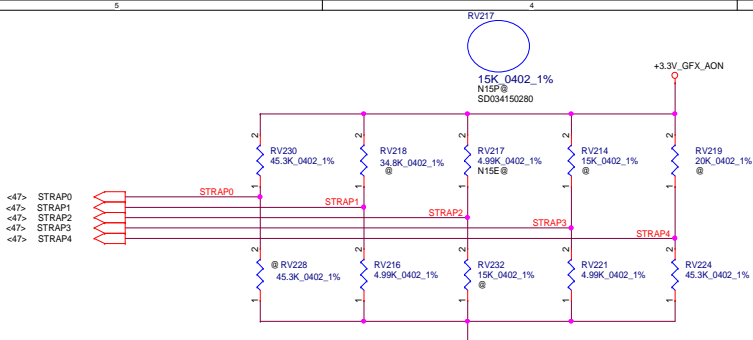


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			Size	Document Number LA-B751P
			Date:	Wednesday, March 26, 2014 5:18pm
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Memory Partition D



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				Rev. 0.1



R_pu



VRAM	Strap	ROM-SI
Hynix H5GC4H24MFR-T2C	0x2	PL 15K
Samsung K4G41325FC-HC04	0x3	PL 20K

Physical Strapping pin	Logical Strapping Bit3	Logical Strapping Bit2	Logical Strapping Bit1	Logical Strapping Bit0
ROM_SCLK	PCI_DEVID[4]	SUB_VENDER	PCI_DEVID[5]	PEX_PLL_EN_TERM
ROM_SO	RAM_CFG[3]	RAM_CFG[2]	RAM_CFG[1]	RAM_CFG[0]
ROM_SI	FB[1]	FB[0]	SMB_ALT_ADDR	VGA_DEVICE
STRAP0	USER[3]	USER[2]	USER[1]	USER[0]
STRAP1	3GIO_CFG[3]	3GIO_CFG[2]	3GIO_CFG[1]	3GIO_CFG[0]
STRAP2	PCI_DEVID[3]	PCI_DEVID[2]	PCI_DEVID[1]	PCI_DEVID[0]
STRAP3	SOR3_EXPOSED	SOR2_EXPOSED	SOR1_EXPOSED	SOR0_EXPOSED
STRAP4	RESERVED	PCIE_SPEED_CHNAGE_GEN3	PCIE_MAX_SPEED	DP_PLL_VDD33V

	PU to 3V3	PD to GND
4.99K	1000	0000
10K	1001	0001
15K	1010	0010
20K	1011	0011
24.9K	1100	0100
30.1K	1101	0101
34.8K	1110	0110
45.3K	1111	0111

PCI_DEVID

SUB_VENDER
0- w/o dGPU ROM
1-w/ dGPU ROM

FB[1:0]
0-Reserved
1-Reserved
2-256M
3-Reserved

VGA_DEVICE
0- Non-permary 3D
1-

SMB_ALT_ADDR
0-0x9E
1-0x9C(Multi-GPU)

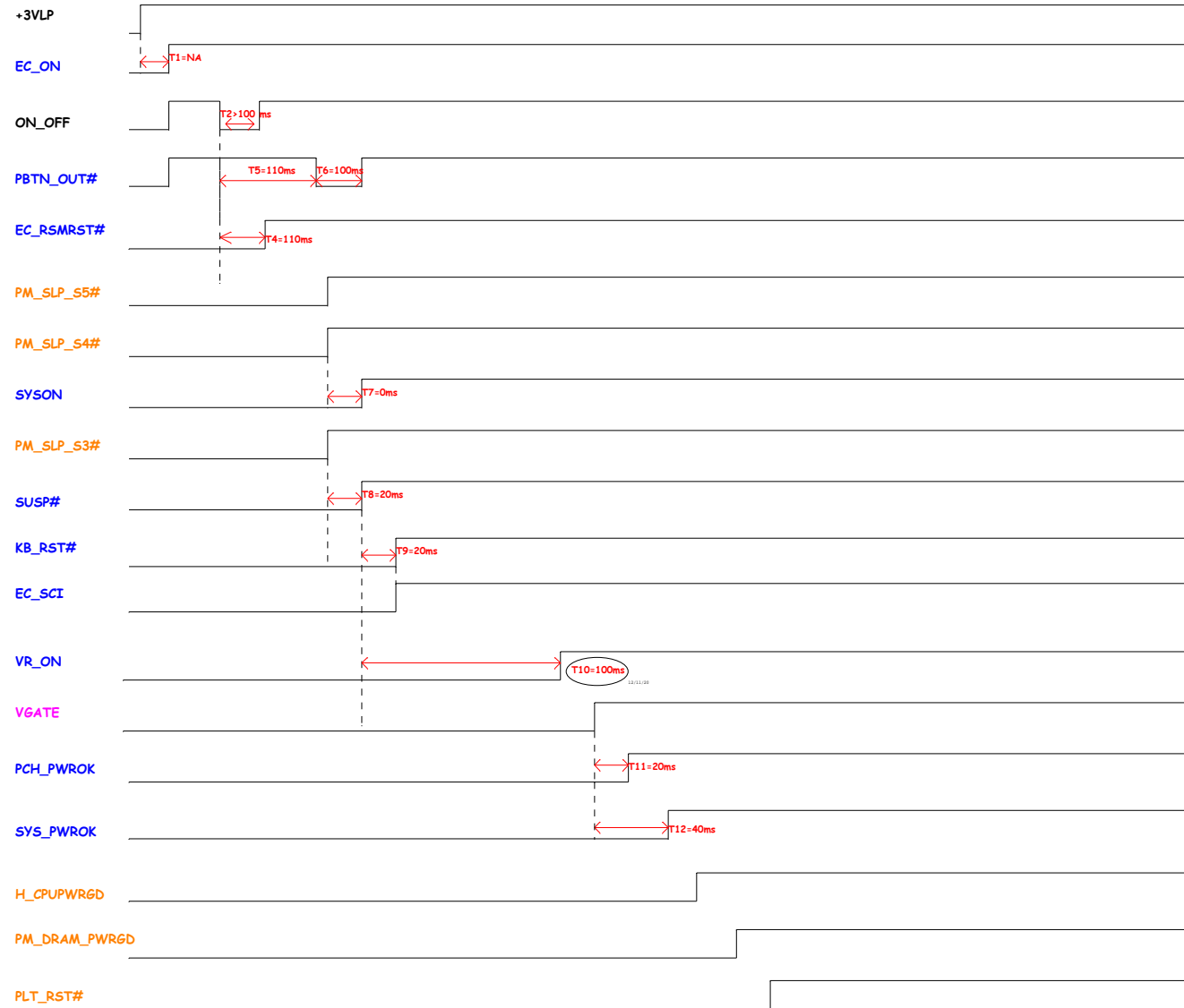
PEX_PLL_EN_TERM
0-Disable
1-Enable

3GIO_PADCFG
0110-GEN1/GEN2
0000-GEN3

PCIE_MAX_SPEED
0-booting to PCIe Gen1
1-booting to PCIe Gen2/Gen3

PCIE_SPEED_CHNAGE_GEN3
0-Disable PCIe Gen3
1-Enable PCIe Gen3

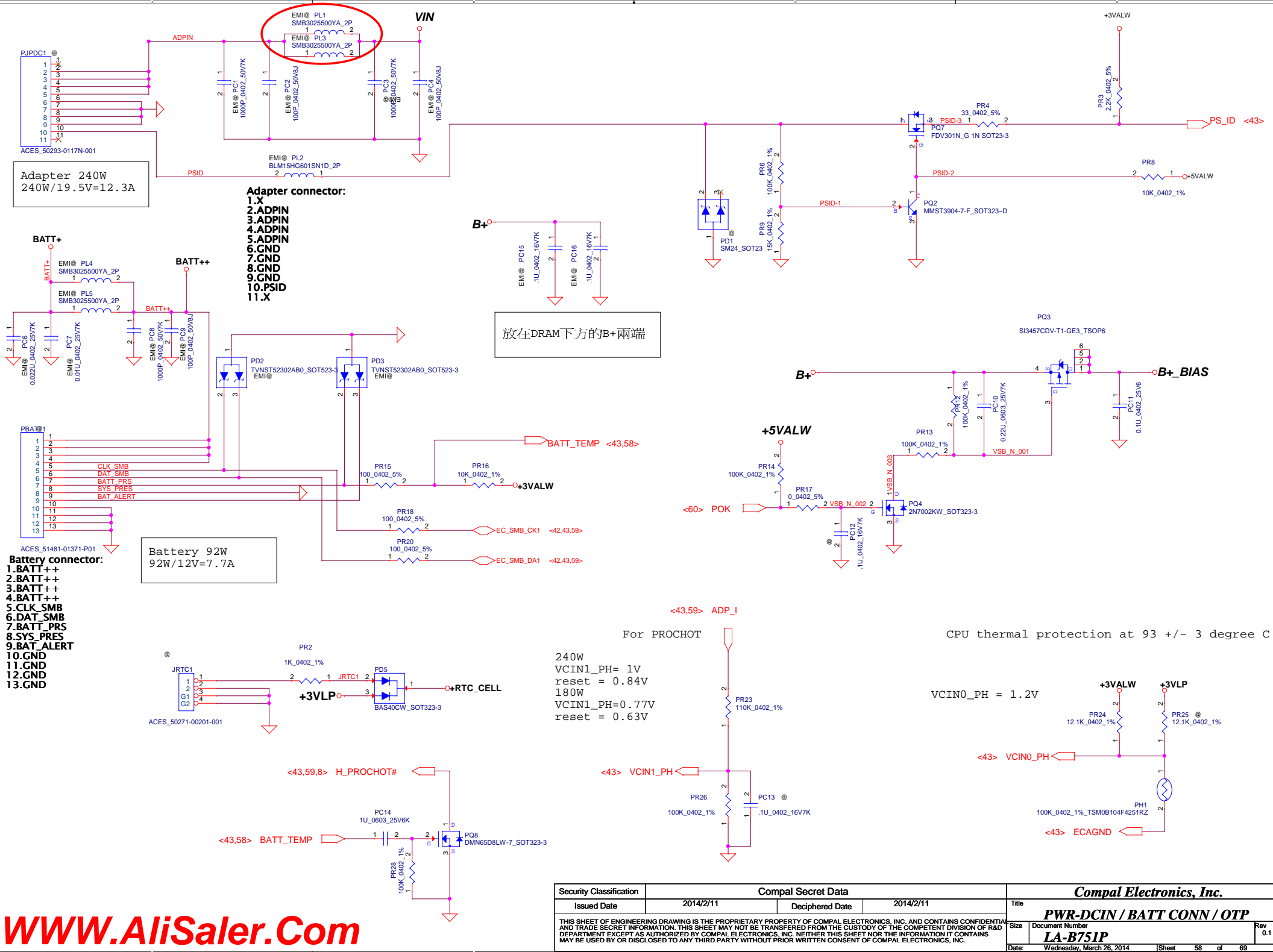
Timing Diagram for G3 or S4-5/M-off (Suspend Well Off) to S0/M0 [non Deep S4/S5 Platform]



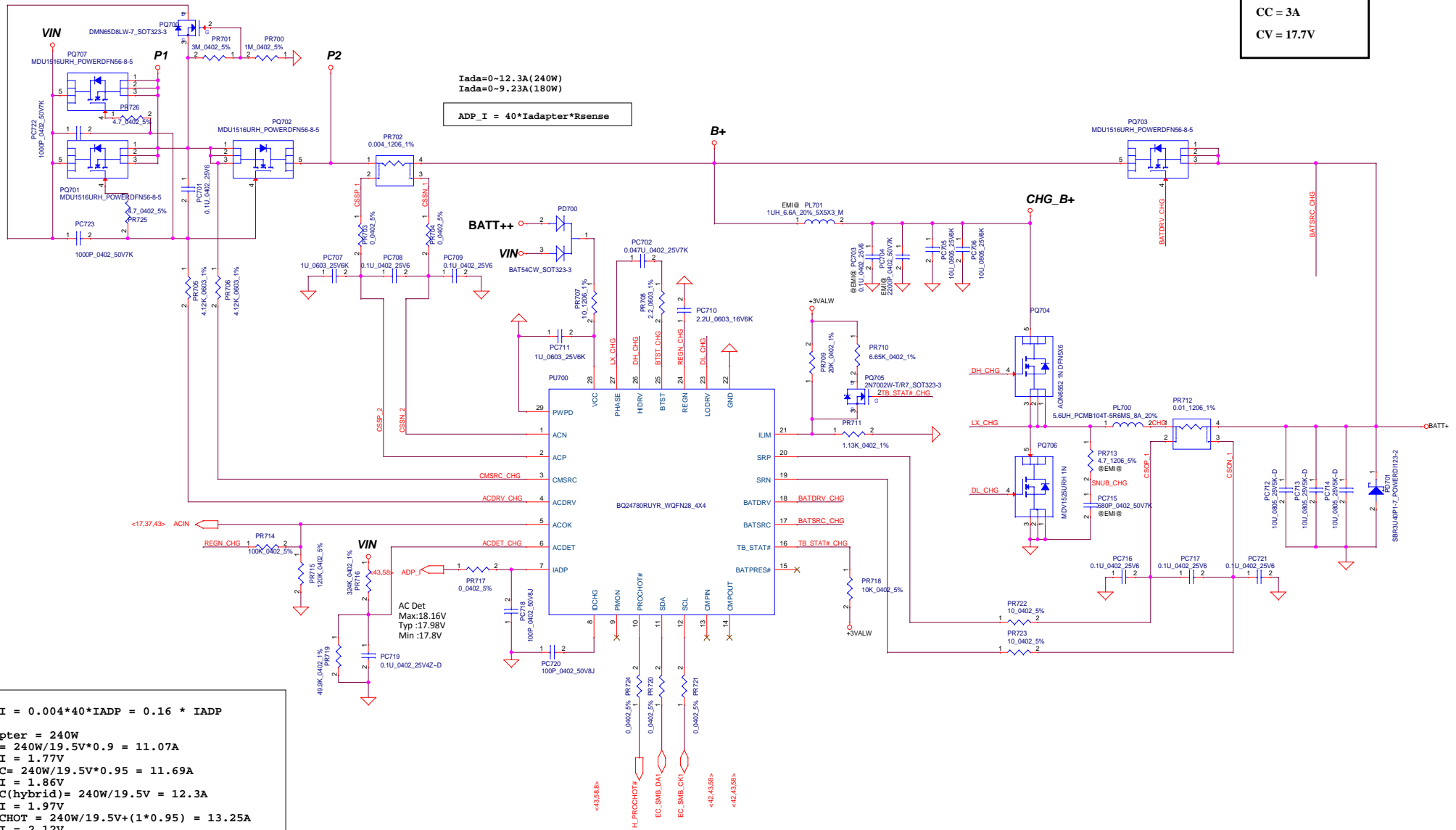
Color	Command
Signal Names	Timing of these signals is set by PCH or processor
Signal Names	Timing of these signals should be met by the platform (EC)
Signal Names	Timing of these signals is set by IntelR MVP
Signal Names	Voltage rails or chip-to-chip buses

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Doc. No.	LA-8751P	Rev.	0.1
Doc. Name	Power Sequence	Doc. Type	Power Sequence

Item	Page #	Title	Date	Request Owner	Issue Description	Solution Description	Rev.
1	34	Card Reader	2012/04/27	HW	The Card reader USB signal is incorrect.	SWAP UR1 USB signal P/N	0.2
2							
3							
4							
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40							
41							



CC = 3A
CV = 17.7V


$$\text{ADPI} = 0.004 \cdot 40 \cdot \text{IADP} = 0.16 \cdot \text{IADP}$$

Adapter = 240W
 $CP = 240W/19.5V \times 0.9 = 11.07A$
 $ADPI = 1.77V$
 $IPCC = 240W/19.5V \times 0.95 = 11.69A$
 $ADPI = 1.86V$
 $IPCC(hybrid) = 240W/19.5V = 12.3A$
 $ADPI = 1.97V$
 $PROCHOT = 240W/19.5V + (1 \times 0.95) = 13.25A$
 $ADPI = 2.12V$

Adapter = 180W
 $CP = 180W / 19.5V * 0.9 = 8.30A$
 $APDI = 1.33V$
 $IPCC = 180W / 19.5V * (1 * 0.95) = 8.77A$
 $ADPI = 1.40V$
 $IPCC(hybrid) = 180W / 19.5V = 9.23A$
 $ADPI = 1.48V$
 $PROCHOT = 180W / 19.5V + (1 * 0.95) = 10.18A$
 $ADPI = 1.62V$

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$$3.07A + 4.17A = 7.24A$$

5VALWP
TDC=7.8A
Peak Current 11.2A
OCP current 13.4A
FSW=400kHz

	TYP	MAX
H/S Rds(on) :	11.5mohm	14mohm
L/S Rds(on) :	4.2mohm	5mohm

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$$1.35V \times (7.64A + 1A) = 11.66W$$

$$11.66 / 0.85 / 11 = 1.24A$$

1.35VP
TDC=7.64A
Ipeak=10.92A
OCP=13.1A
Switching Frequency: 285kHz

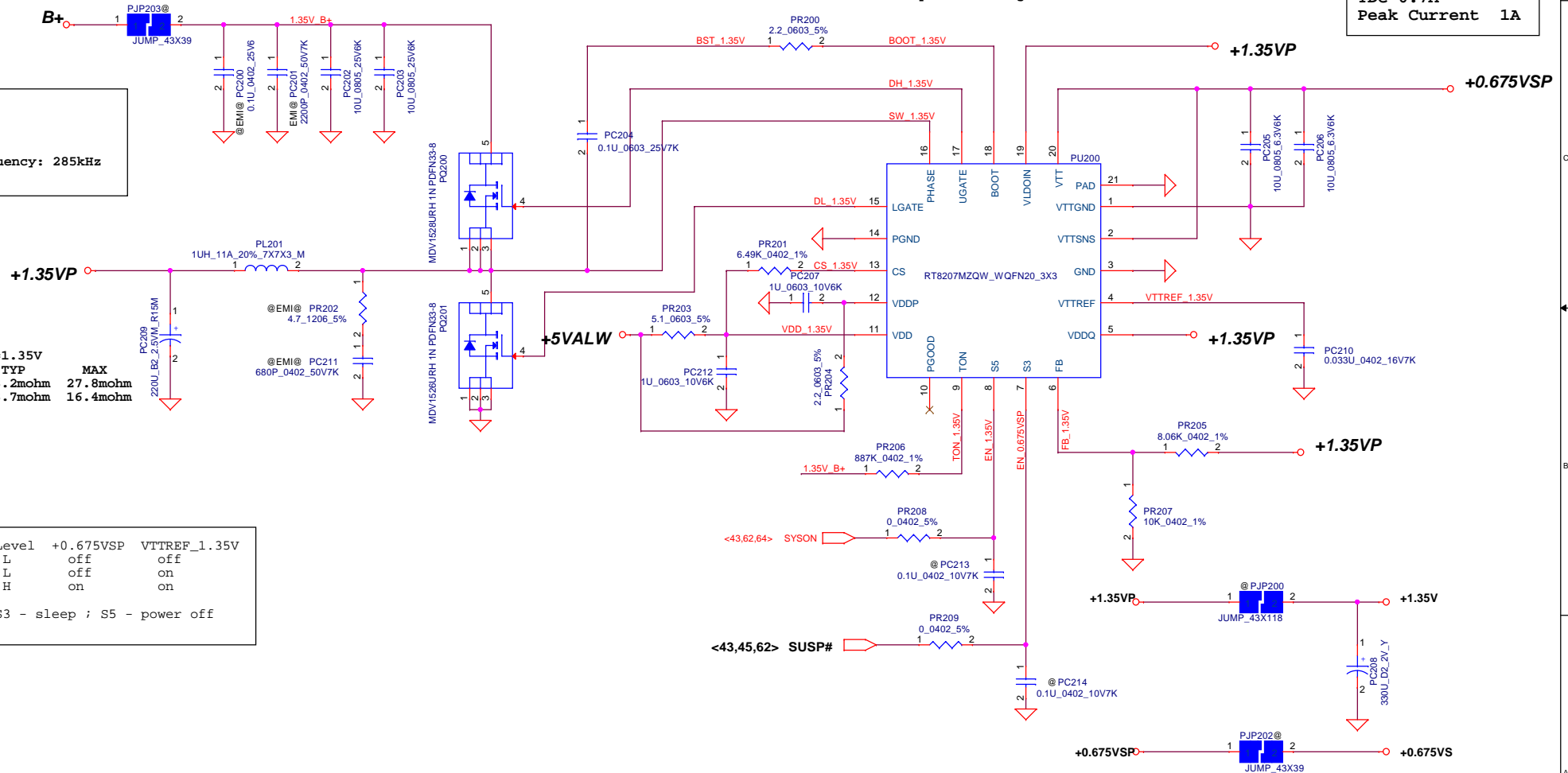
OVP: 110%~120%
VFB=0.75V, Vout=1.35V
TYP
H/S Rds(on) : 23.2mohm 27.8mohm
L/S Rds(on) : 13.7mohm 16.4mohm
MAX

Mode	Level	+0.675VSP	VTTREF_1.35V
S5	L	off	off
S3	L	off	on
S0	H	on	on

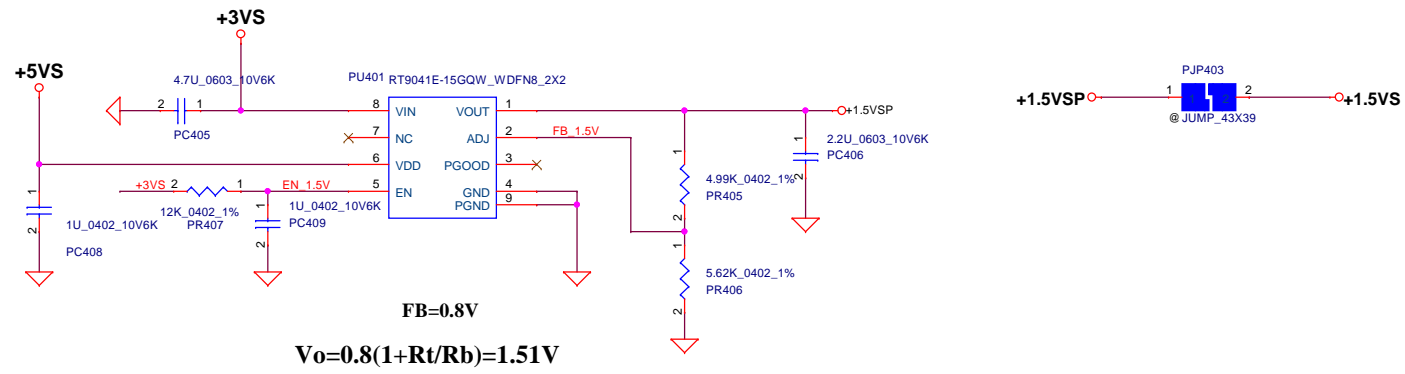
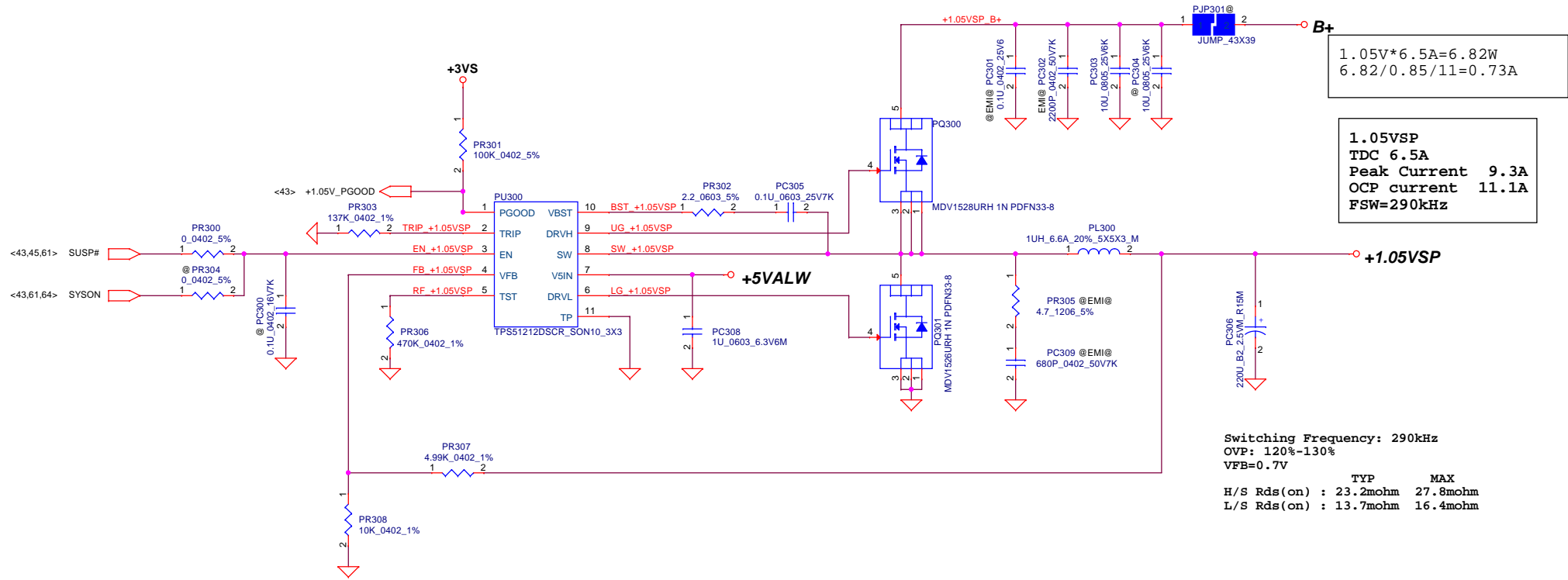
Note: S3 - sleep ; S5 - power off

Pin19 need pull separate from +1.35VP.
If you have +1.35V and +0.675V sequence question,
you can change from +1.35VP to +1.35VS.

0.675Volt +/- 5%
TDC 0.7A
Peak Current 1A

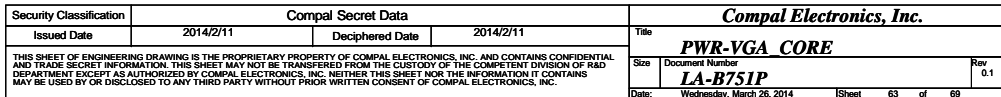


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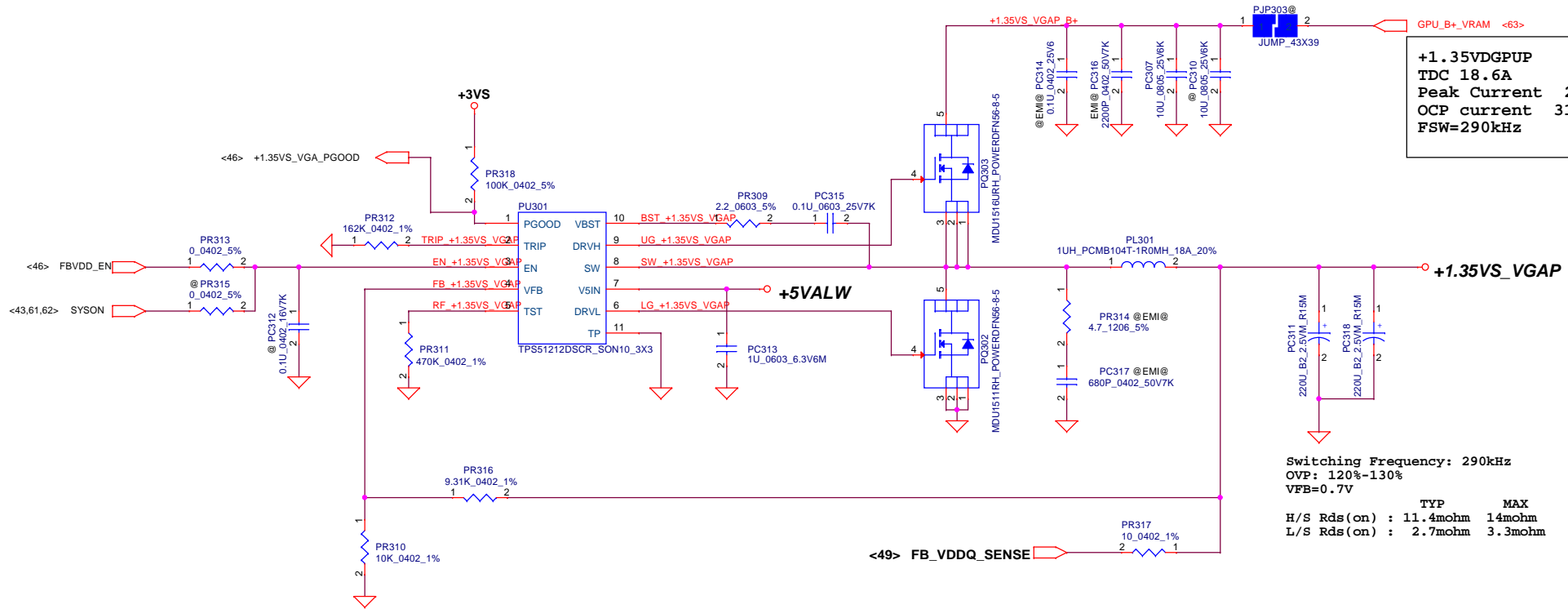
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$$0.95V \cdot 86.2 = 81.7W$$
$$81.7 / 0.85 / 11 = 8.7A$$



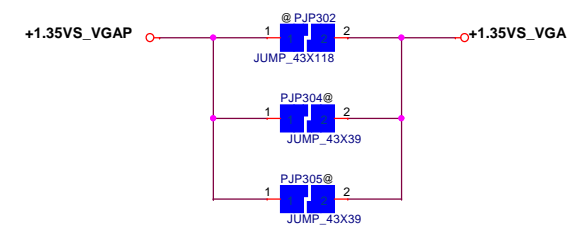
1.35V*18.6A=25.11W
33.42/0.85/11=2.68A

+1.35V DGPUP
TDC 18.6A
Peak Current 26.57A
OCP current 31.88A
FSW=290kHz

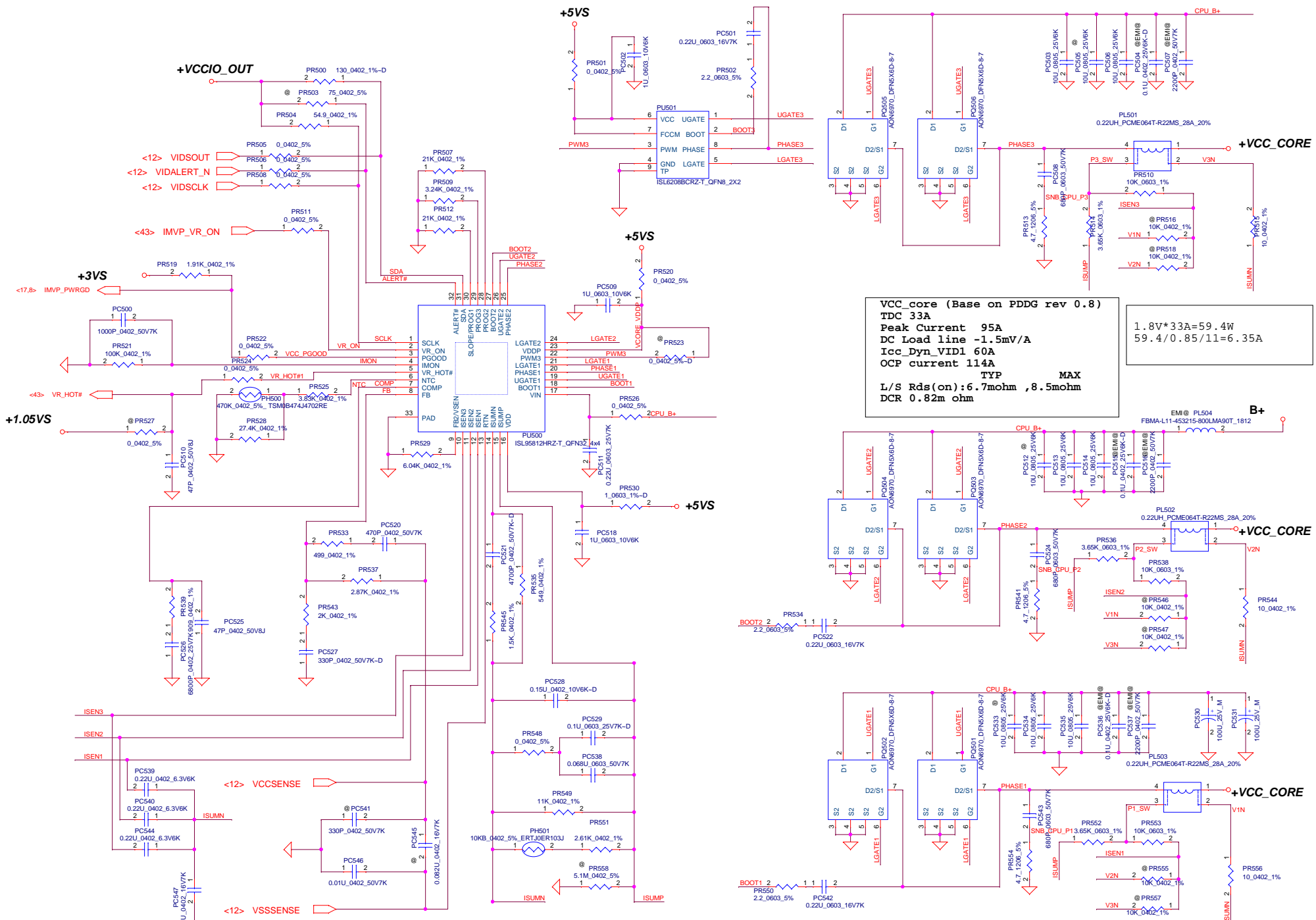


Switching Frequency: 290kHz
OVP: 120%-130%
VFB=0.7V

	TYP	MAX
H/S Rds(on)	11.4mohm	14mohm
L/S Rds(on)	2.7mohm	3.3mohm



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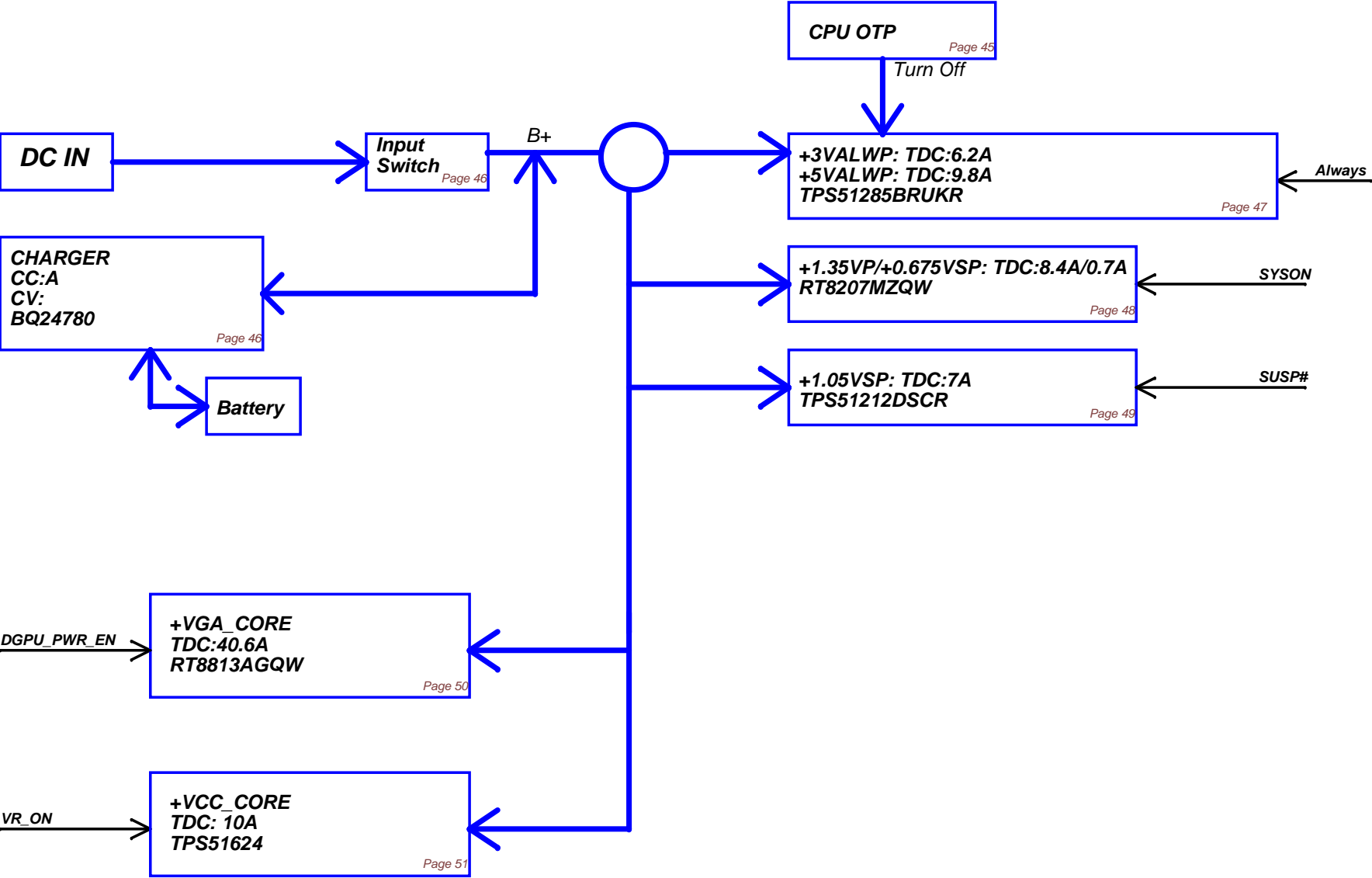
VCC_core (Base on PDDG rev 0.8)
TDC 33A
Peak Current 95A
DC Load line -1.5mV/A
Icc Dyn VID1 60A
OCP current 114A
TYP MAX
L/S Rds(on):6.7mohm ,8.5mohm
DCR 0.82m ohm

$1.8V \times 33A = 59.4W$
 $59.4 / 0.85 / 11 = 6.35A$

Local sense put on HW site

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Power block



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