

Compal Confidential

KAWE0 M/B Schematics Document

Intel Penryn Processor with Cantiga + DDRII + ICH9M

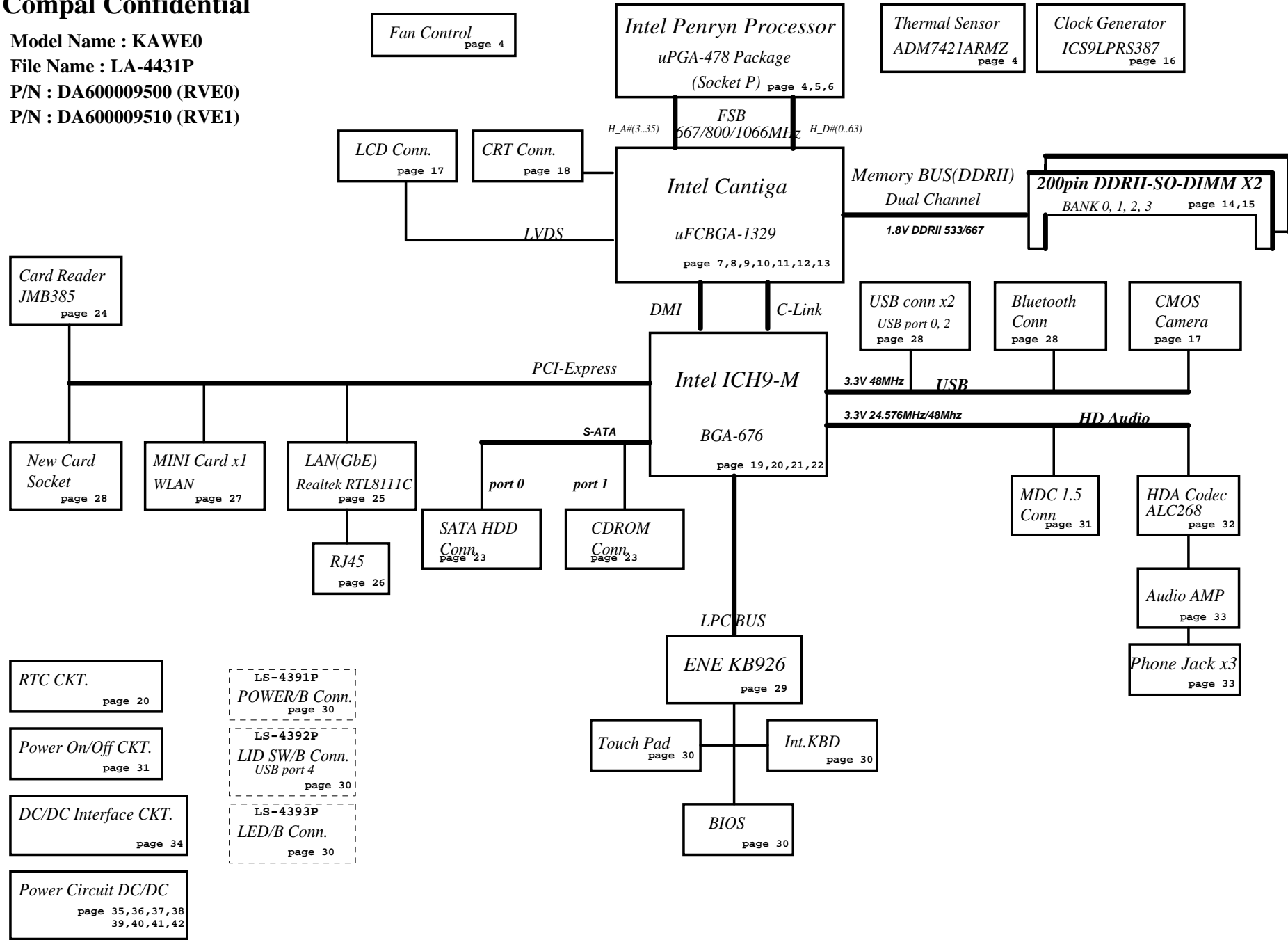
2008-07-28

REV:1.0

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Model Name : KAWE0
File Name : LA-4431P
P/N : DA600009500 (RVE0)
P/N : DA600009510 (RVE1)



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Voltage Rails

Power Plane	Description	S1	S3	S5
VIN	Adapter power supply (19V)	N/A	N/A	N/A
B+	AC or battery power rail for power circuit.	N/A	N/A	N/A
+CPU_CORE	Core voltage for CPU	ON	OFF	OFF
+0.9VS	0.9V switched power rail for DDR terminator	ON	OFF	OFF
+1.05VS	1.05V switched power rail	ON	OFF	OFF
+1.25VS	1.25V switched power rail	ON	OFF	OFF
+1.5V	1.5V power rail for HDA	ON	ON	OFF
+1.5VS	1.5V switched power rail	ON	OFF	OFF
+1.8V	1.8V power rail for DDR	ON	ON	OFF
+1.8VS	1.8V switched power rail	ON	OFF	OFF
+2.5VS	2.5V switched power rail	ON	OFF	OFF
+3VALW	3.3V always on power rail	ON	ON	ON*
+3V	3.3V power rail for SB	ON	ON	X
+3V_LAN	3.3V power rail for LAN	ON	ON	X
+3VS	3.3V switched power rail	ON	OFF	OFF
+5VALW	5V always on power rail	ON	ON	ON*
+5VS	5V switched power rail	ON	OFF	OFF
+VSB	VSB always on power rail	ON	ON	ON*
+RTCVCC	RTC power	ON	ON	ON

Note : ON* means that this power plane is ON only with AC power available, otherwise it is OFF.

External PCI Devices

Device	IDSEL#	REQ#/GNT#	Interrupts

EC SM Bus1 address

Device	Address	Device	Address
Smart Battery	0001 011X b	ADI ADT7421	1001 100X b
EEPROM(24C16/02)	1010 000X b		
GMT G781-1	1001 101X b		

EC SM Bus2 address

ICH9M SM Bus address

Device	Address
Clock Generator (ICS9LPRS367, SLG8SP556V)	1101 001Xb
DDR DIMM0	1001 000Xb
DDR DIMM2	1001 010Xb

STATE	SIGNAL	SLP_S1#	SLP_S3#	SLP_S4#	SLP_S5#	+VALW	+V	+VS	Clock
Full ON		HIGH	HIGH	HIGH	HIGH	ON	ON	ON	ON
S1(Power On Suspend)		LOW	HIGH	HIGH	HIGH	ON	ON	ON	LOW
S3 (Suspend to RAM)		LOW	LOW	HIGH	HIGH	ON	ON	OFF	OFF
S4 (Suspend to Disk)		LOW	LOW	LOW	HIGH	ON	OFF	OFF	OFF
S5 (Soft OFF)		LOW	LOW	LOW	LOW	ON	OFF	OFF	OFF

Board ID / SKU ID Table for AD channel

Vcc	3.3V +/- 5%			
Ra/Rc/Re	100K +/- 5%			
Board ID	Rb / Rd / Rf	VAD_BID min	VAD_BID typ	VAD_BID max
0	0	0 V	0 V	0 V
1	8.2K +/- 5%	0.216 V	0.250 V	0.289 V
2	18K +/- 5%	0.436 V	0.503 V	0.538 V
3	33K +/- 5%	0.712 V	0.819 V	0.875 V
4	56K +/- 5%	1.036 V	1.185 V	1.264 V
5	100K +/- 5%	1.453 V	1.650 V	1.759 V
6	200K +/- 5%	1.935 V	2.200 V	2.341 V
7	NC	2.500 V	3.300 V	3.300 V

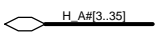

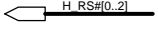
BOARD ID Table

Board ID	PCB Revision
0	0.1
1	0.2
2	0.3
3	1.0
4	1A
5	
6	
7	

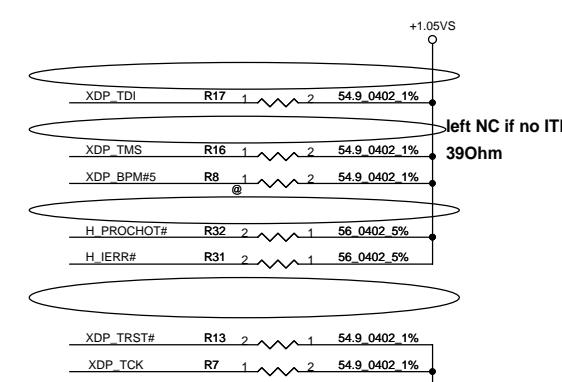
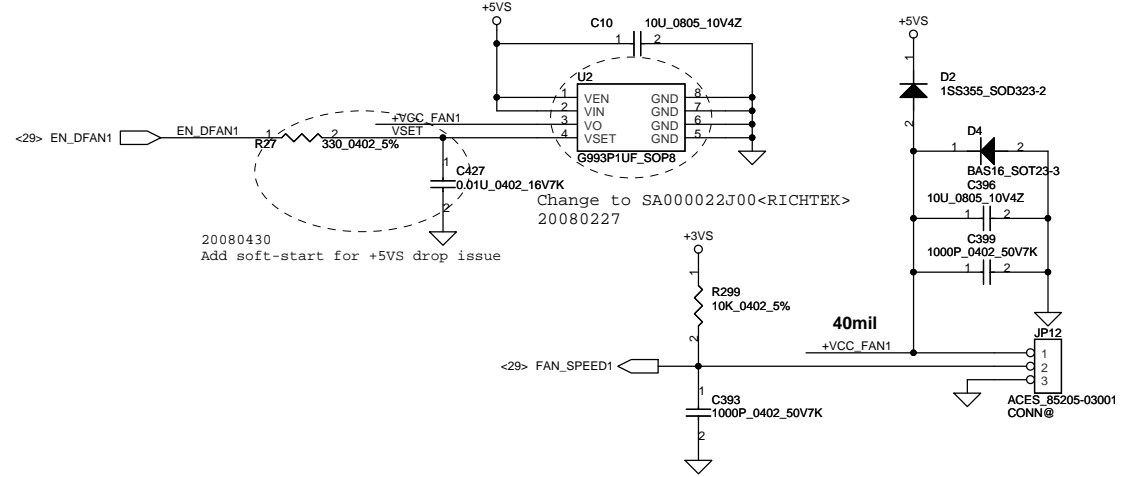
BTO Option Table

BTO Item	BOM Structure
8111C	8111C@
8102E	8102E@

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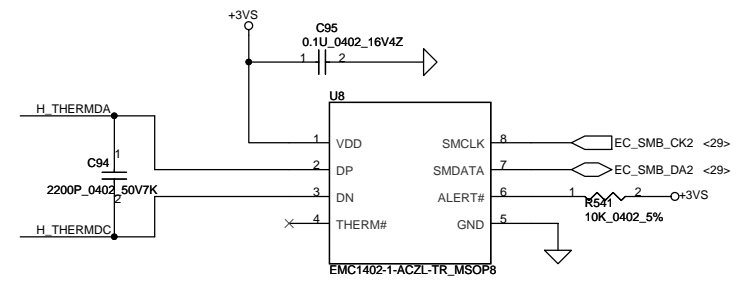
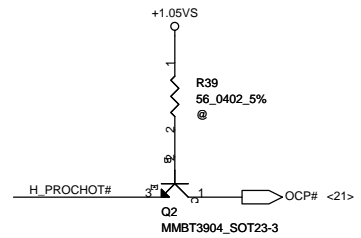
<7> H_A#[3..35]  H_A#[3..35]
 <7> H_REQ#[0..4]  H_REQ#[0..4]
 <7> H_RS#[0..2]  H_RS#[0..2]

FAN1 Conn

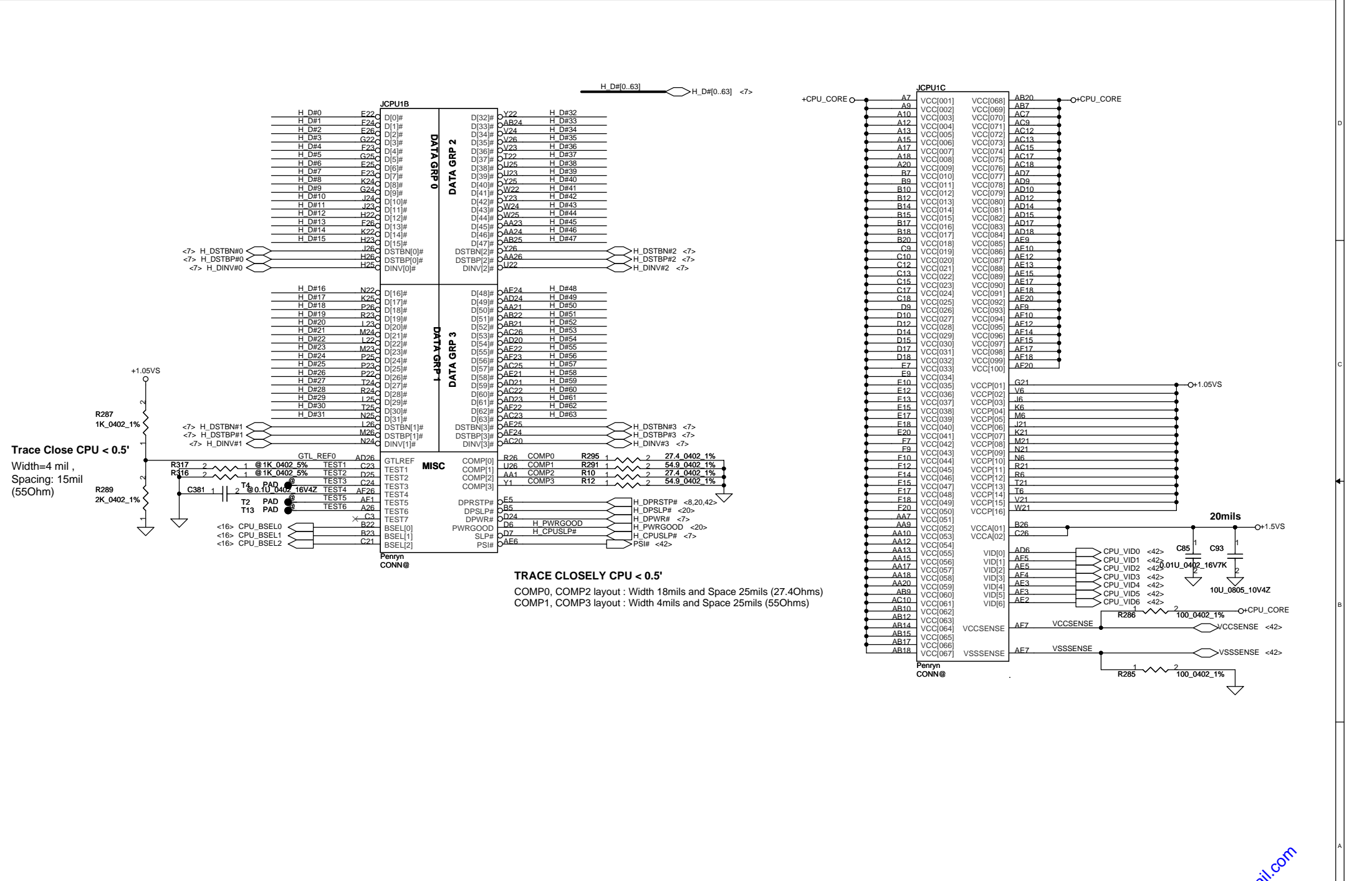


Layout Note:
H_THERMDA&H_THERMDC Trace / Space = 10 / 10 mil

BSEL2	BSEL1	BSEL0	BCLK
0	0	0	266
0	1	0	200
0	1	1	166

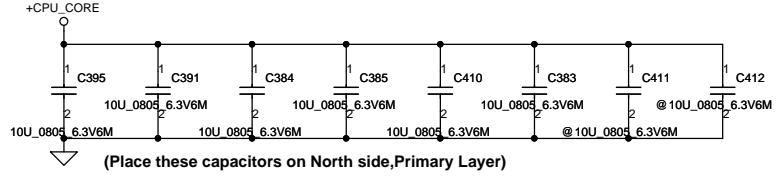
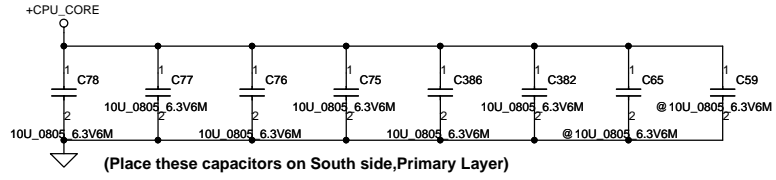
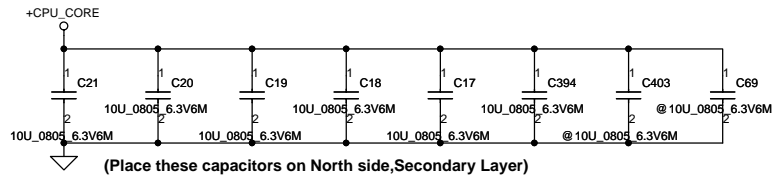
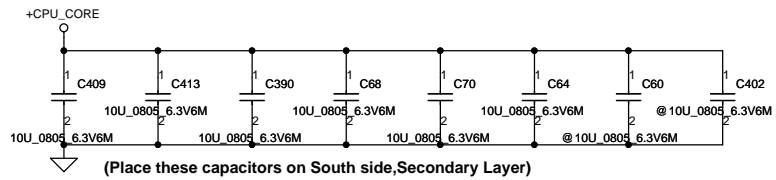
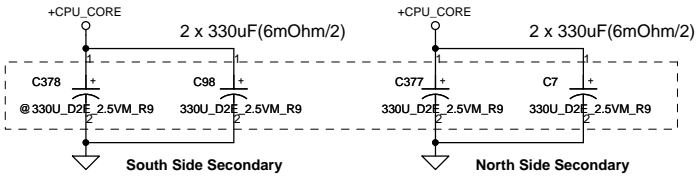
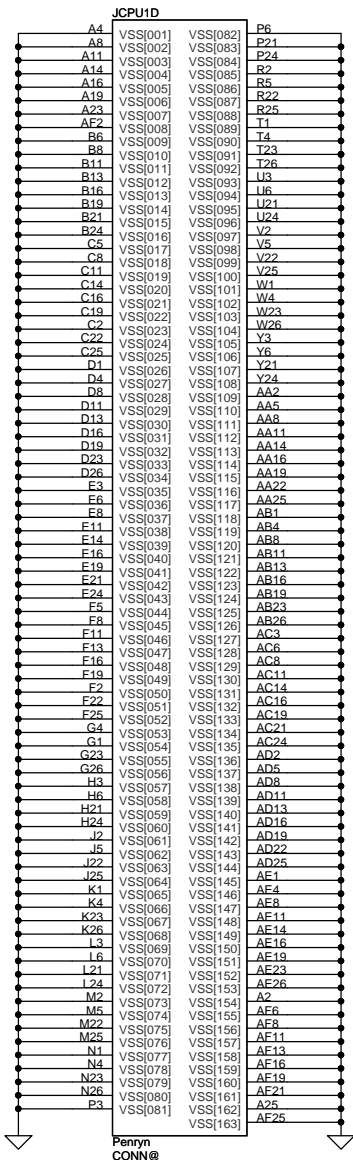


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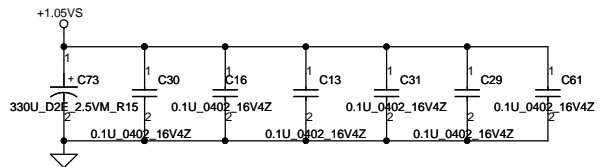


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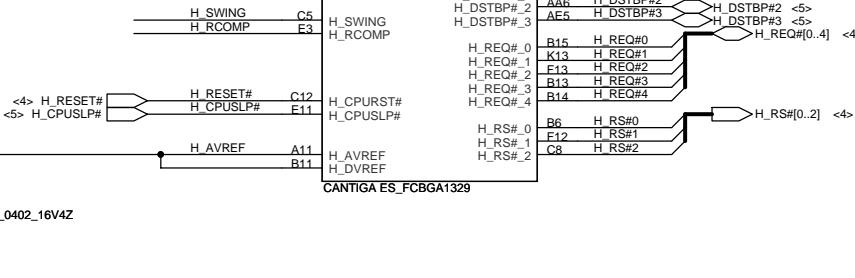
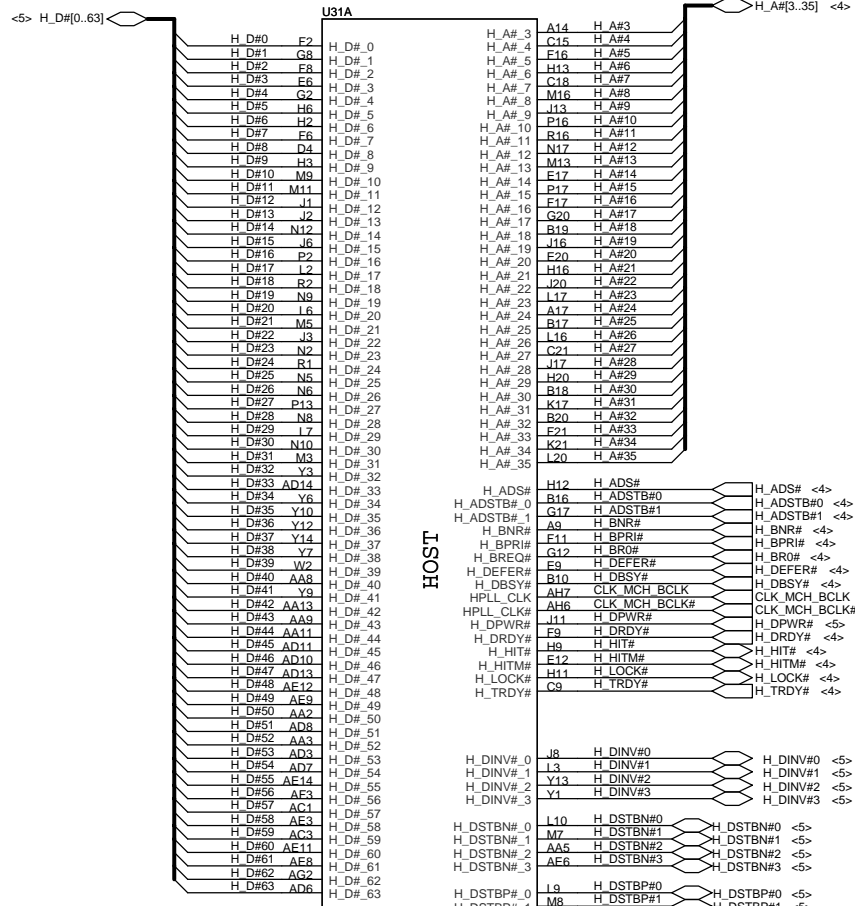
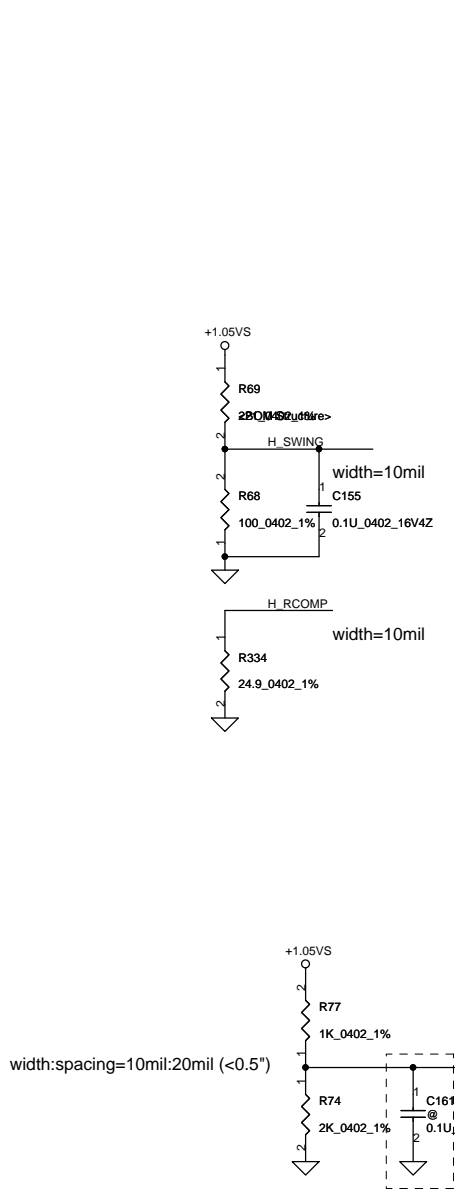
hexainfo@mail.com



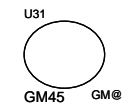
+CPU-CORE Decoupling	C, uF	ESR, mohm	ESL, nH
SPCAP, Polymer	4X330uF	6m ohm/4	1.8nH/6
MLCC 0805 X5R	32X22uF	3m ohm/32	0.6nH/32
	32X10uF	3m ohm/32	0.6nH/32



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within 100mil to Ball A9,B9

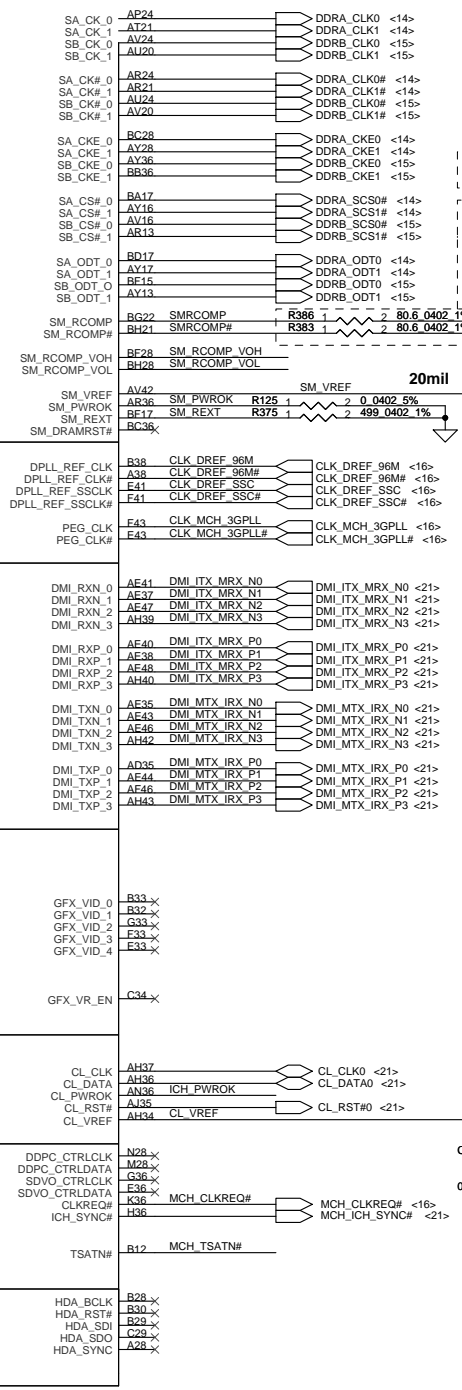


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U31B

- M36 RSVSD1
- N36 RSVSD2
- F33 RSVSD3
- T33 RSVSD4
- AH9 RSVSD5
- AH10 RSVSD6
- AH12 RSVSD7
- AH13 RSVSD8
- K12 RSVSD9
- AL34 RSVSD10
- A34 RSVSD11
- N35 RSVSD12
- M35 RSVSD13
- T24 RSVSD14
- B31 RSVSD15
- B2 RSVSD16
- M1 RSVSD17
- AV21 RSVSD20
- BC23 RSVSD22
- BE23 RSVSD23
- BH18 RSVSD24
- BE18 RSVSD25
- MCH_CLKSEL0
- MCH_CLKSEL1
- MCH_CLKSEL2
- MCH_CFG 5
- MCH_CFG 6
- MCH_CFG 7
- MCH_CFG 9
- MCH_CFG 10
- MCH_CFG 12
- MCH_CFG 13
- MCH_CFG 16
- MCH_CFG 19
- MCH_CFG 20
- PM_SYNC# R
- PM_DPRSTP# R
- PM_EXTTS#0
- PM_EXTTS#1
- PM_EXT_TSN#_1
- MCH_RSTIN# R
- THERMTRIP# R
- DPRSLPVR R
- NC. 1
- NC. 2
- NC. 3
- NC. 4
- NC. 5
- NC. 6
- NC. 7
- NC. 8
- NC. 9
- NC. 10
- NC. 11
- NC. 12
- NC. 13
- NC. 14
- NC. 15
- NC. 16
- NC. 17
- NC. 18
- NC. 19
- NC. 20
- NC. 21
- NC. 22
- NC. 23
- NC. 24
- NC. 25
- NC. 26

RSVP
DDR CLK / CONTROL / COMPENSATION
CLK
DMI
GRAPHICS VID
PM
ME
MISC
HDA

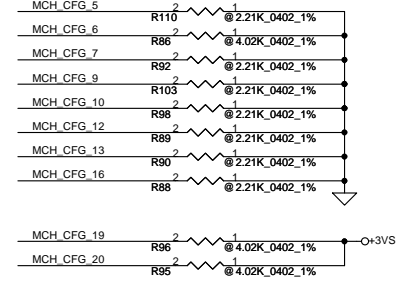
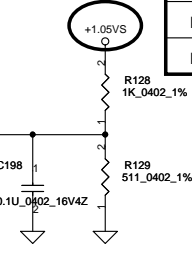
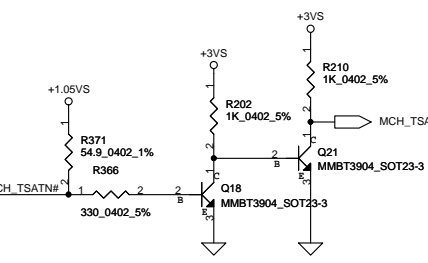
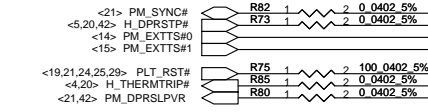
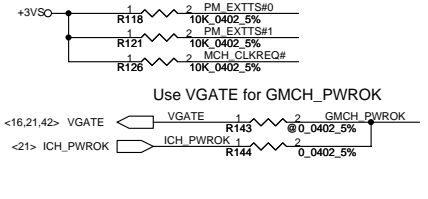


SM_DRAMRST# would be needed for DDR3 only
For Cantiga! 80 Ohm

Strap Pin Table

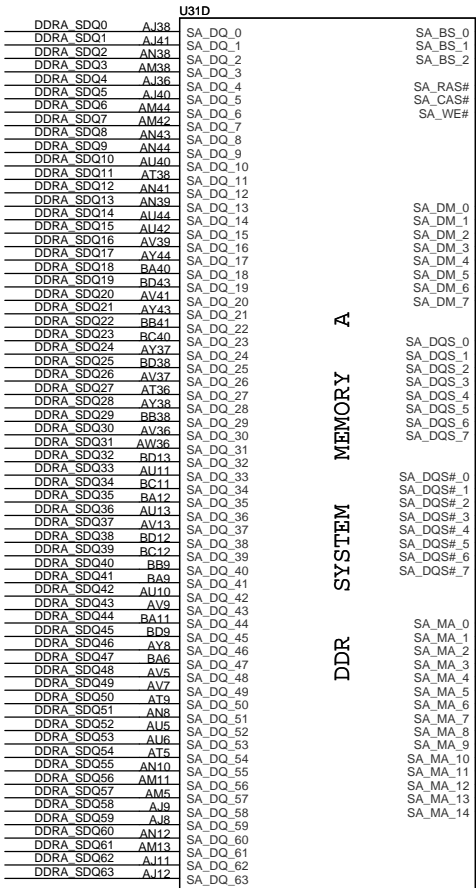
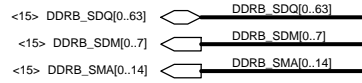
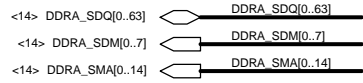
CFG[2:0]	011 = FSB667 010 = FSB800 000 = FSB1067
CFG5	0 = DMI x 2 1 = DMI x 4 * (Default)
CFG6	0 = iTPM Host Interface is enabled 1 = iTPM Host Interface is Disabled * (Default)
CFG9	0 = Lane Reversal Enable 1 = Normal Operation * (Default)
CFG10	0 = PCIe Loopback Enable 1 = Disable * (Default)
CFG[13:12]	00 = Reserved 01 = XOR Mode Enabled 10 = All Z Mode Enabled 11 = Normal Operation * (Default)
CFG16	0 = Dynamic ODT Disabled 1 = Dynamic ODT Enabled * (Default)
CFG19	0 = Normal Operation * (Default) 1 = DMI Lane Reversal Enable
CFG20 (PCIe/SDVO select)	0 = Only PCIe or SDVO is operational. (Default) 1 = PCIe/SDVO are operating simu.
SDVO_CTRLDATA	0 = No SDVO Card Present * (Default) 1 = SDVO Card Present
L_DDC_DATA	0 = LFP Disable 1 = LFP Card Present; PCIe disable * (Default)
DDPC_CTRLDATA	0 = Digital DisplayPort Disable * (Default) 1 = Digital DisplayPort Device Present

All RSVSD balls on GMCH should be left No Connect.

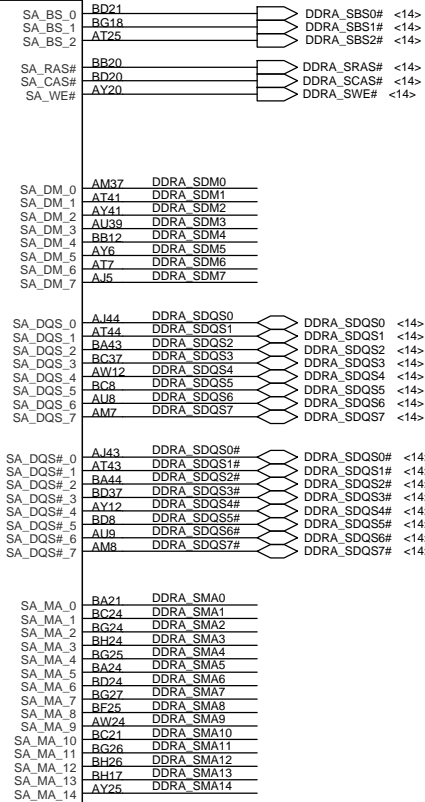


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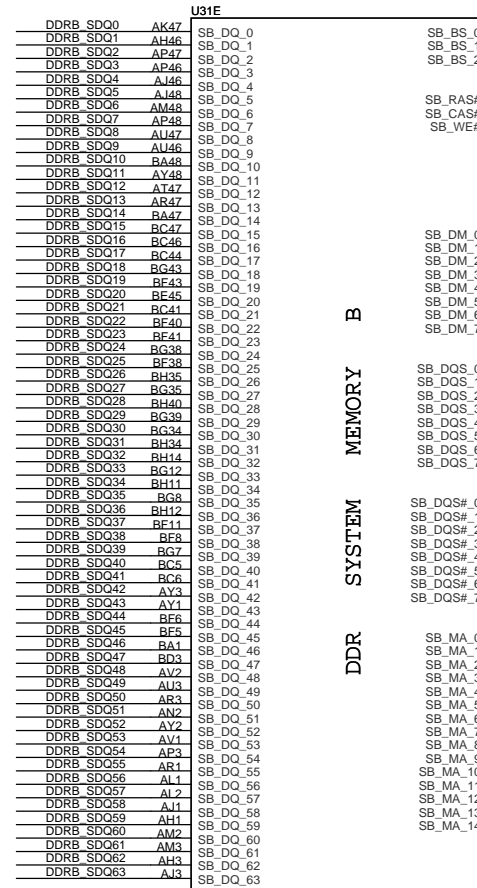
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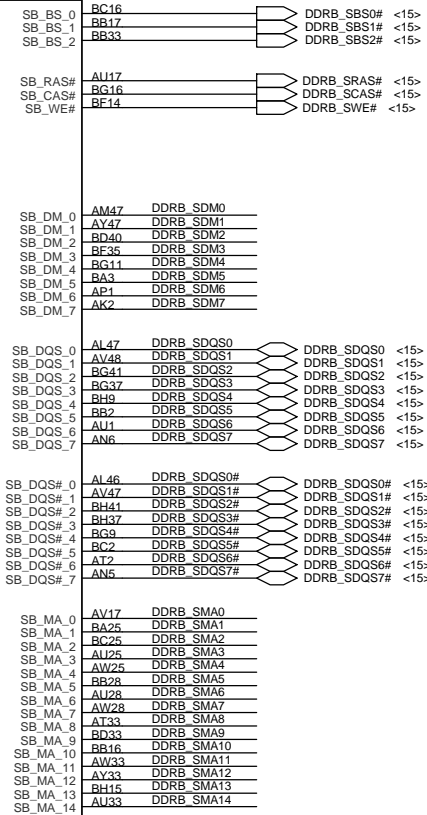
DDR SYSTEM MEMORY A



CANTIGA ES_FCBGA1329

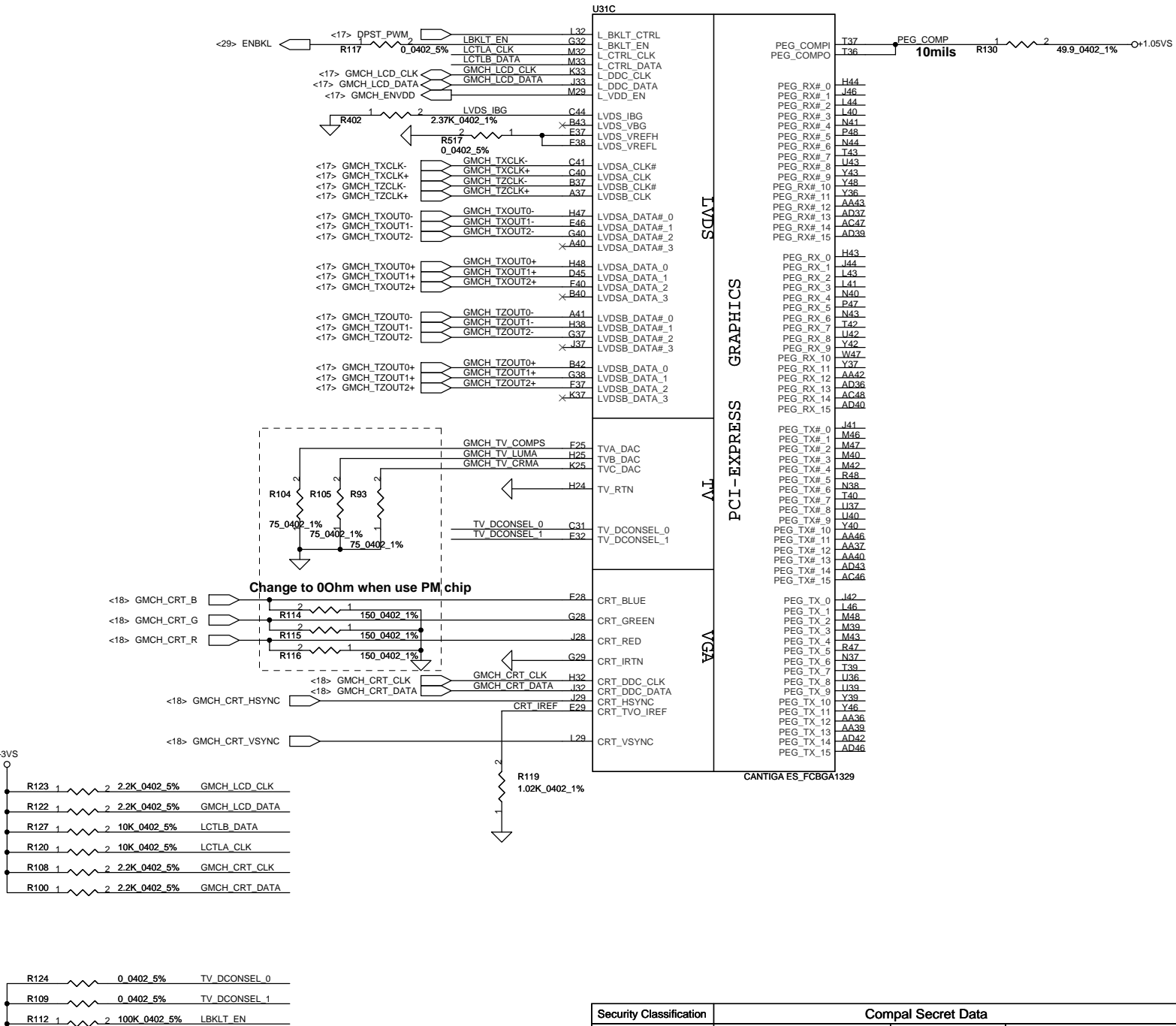


DDR SYSTEM MEMORY B

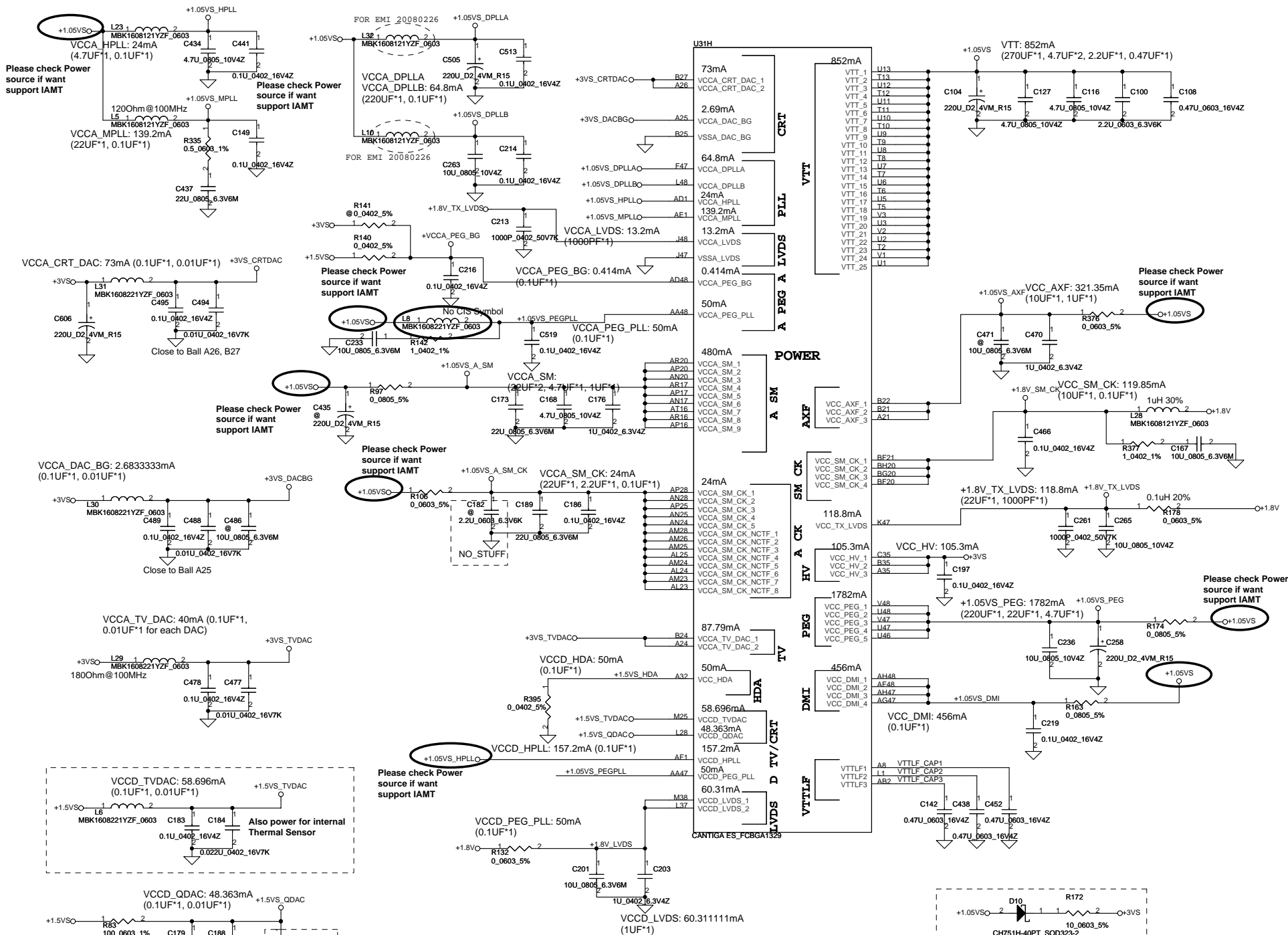


CANTIGA ES_FCBGA1329

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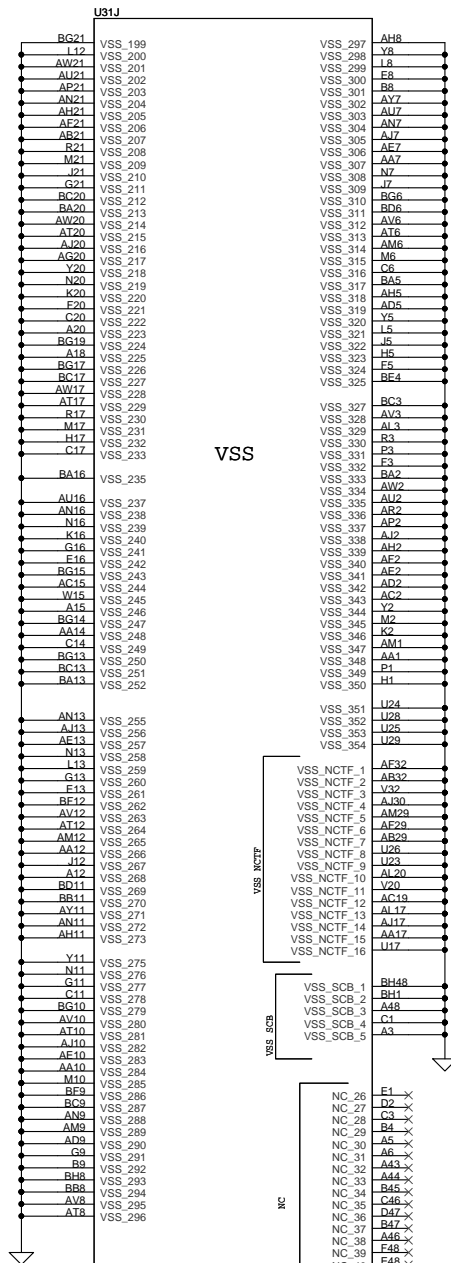
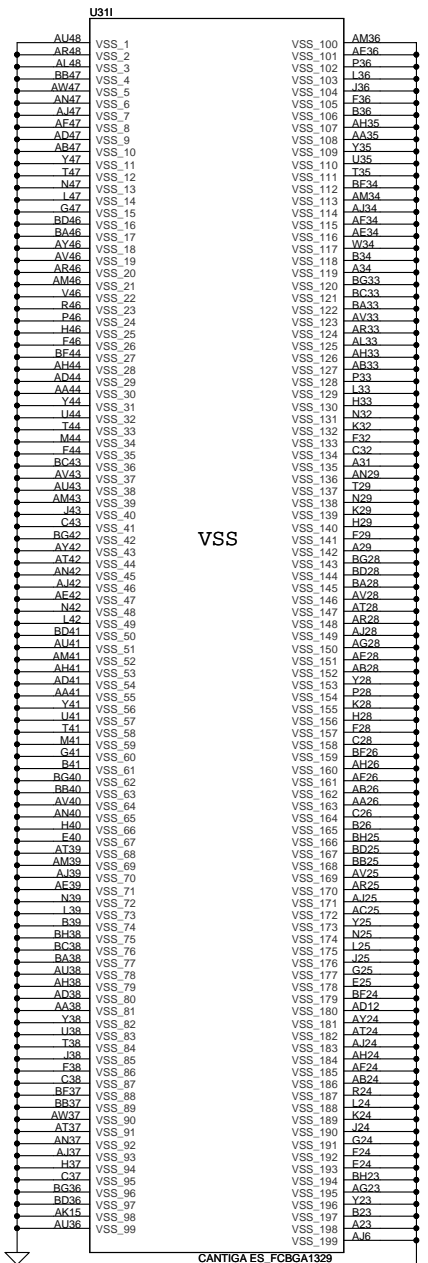


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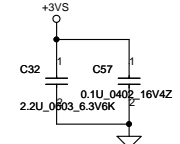
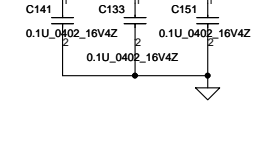
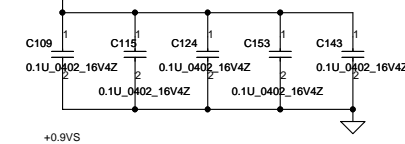
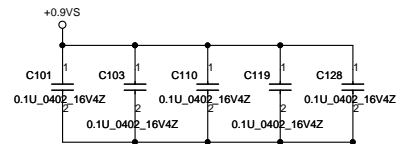
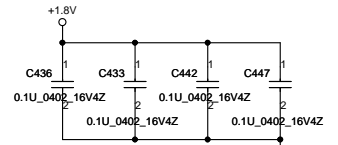
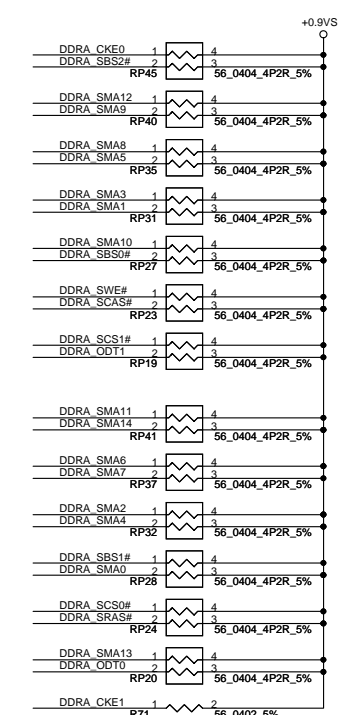
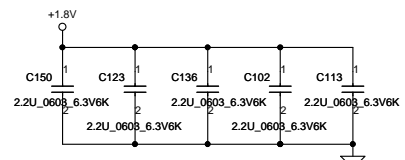
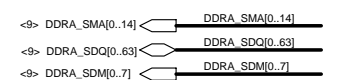
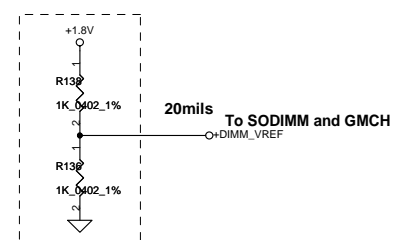
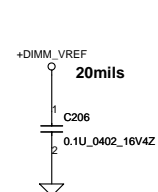
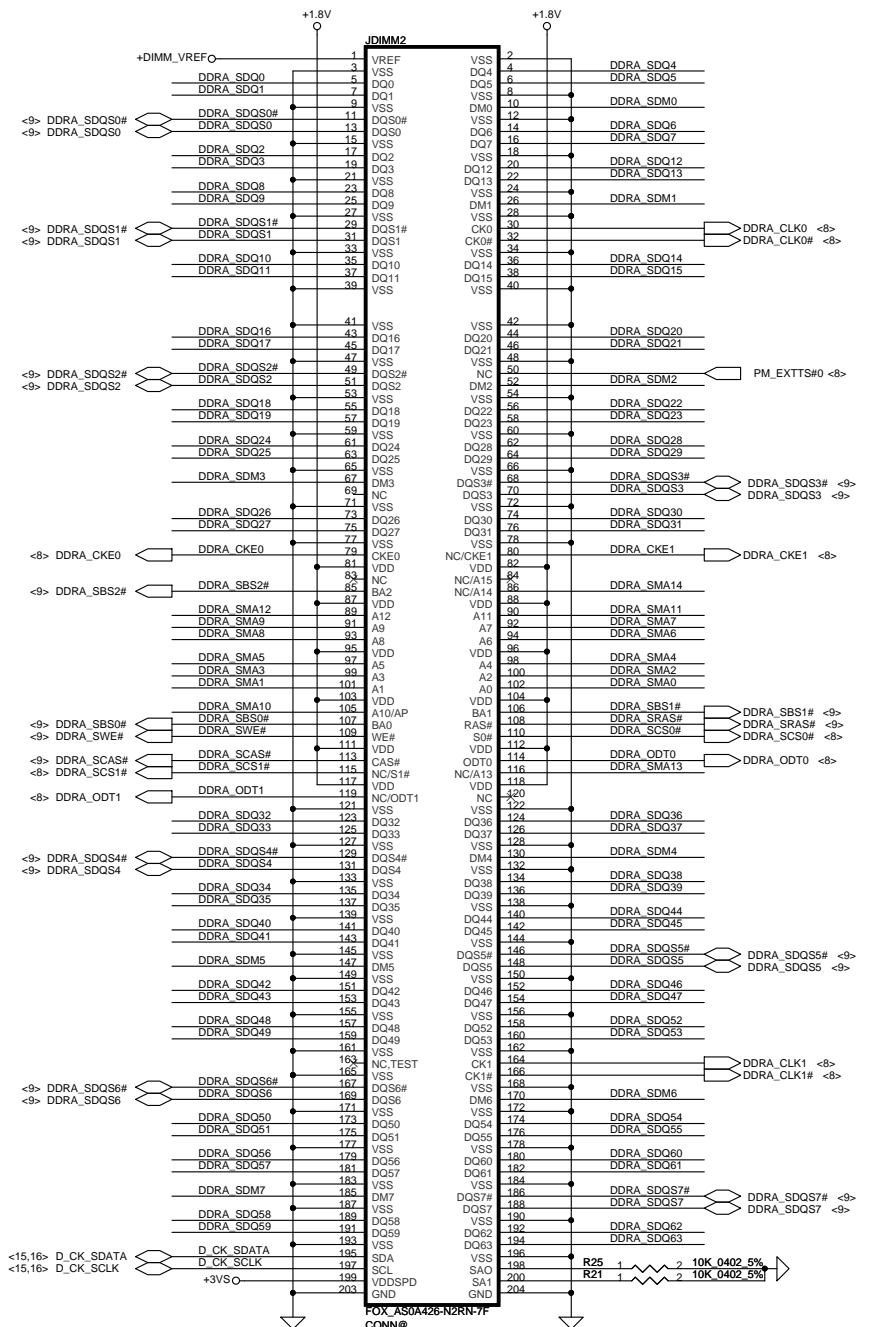


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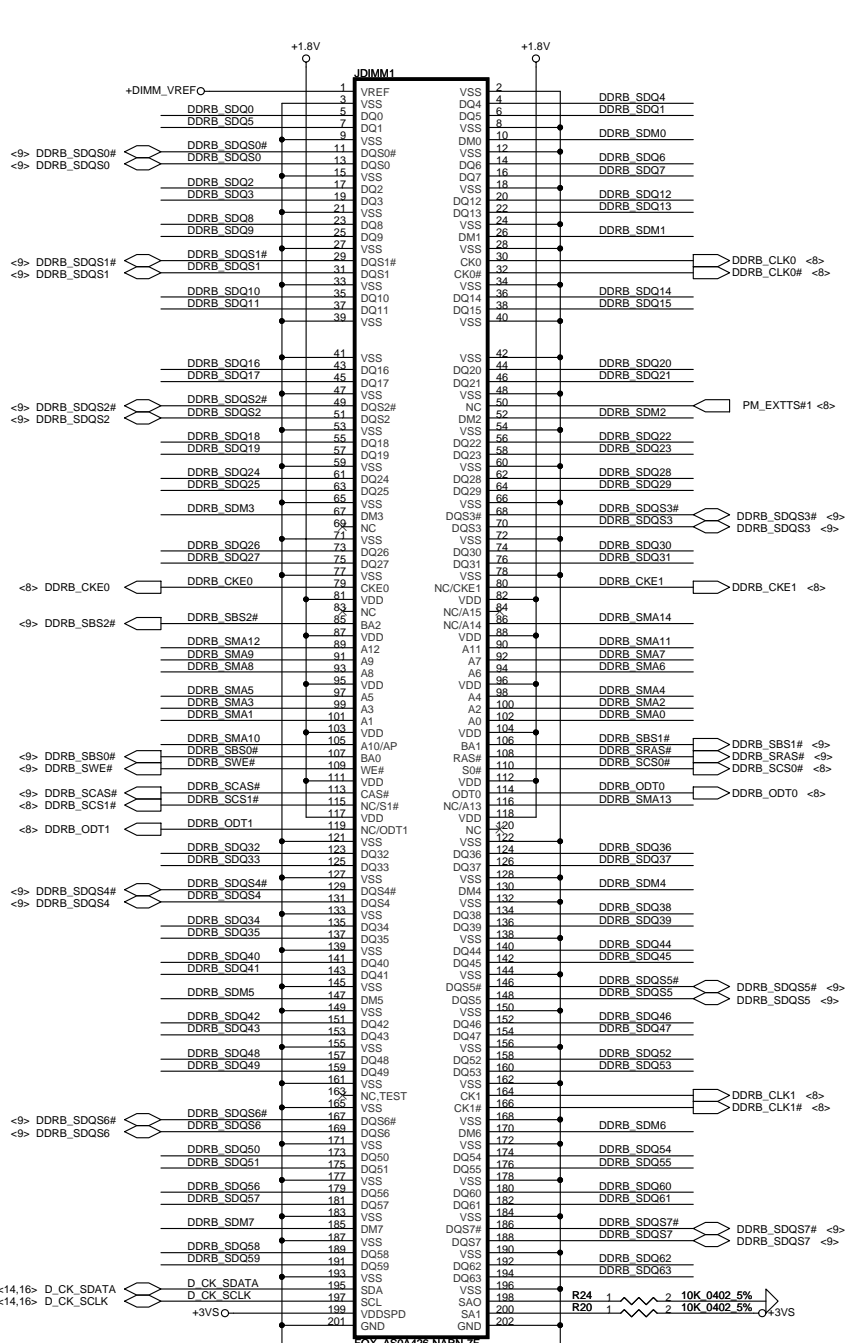


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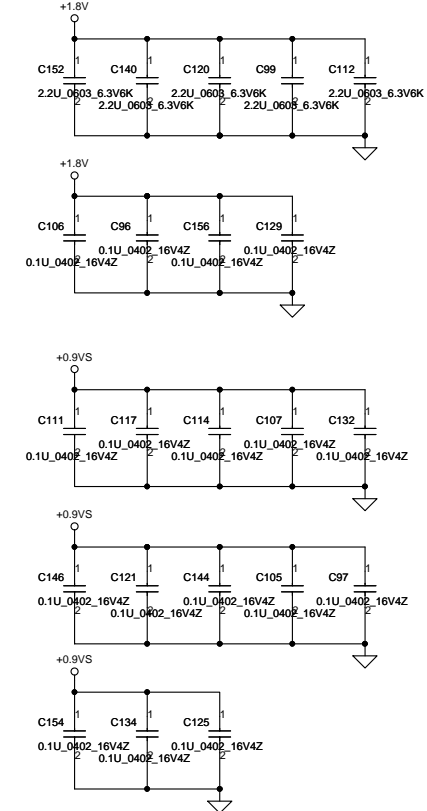
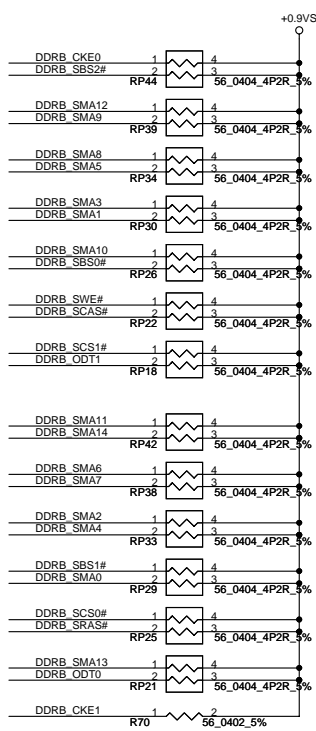
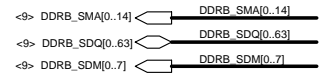
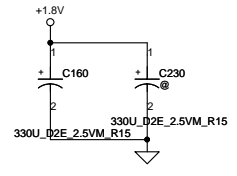
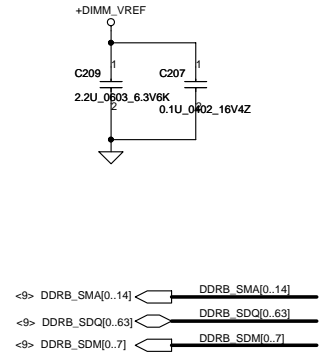


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DIMM1 REV H:9.2mm (BOT)



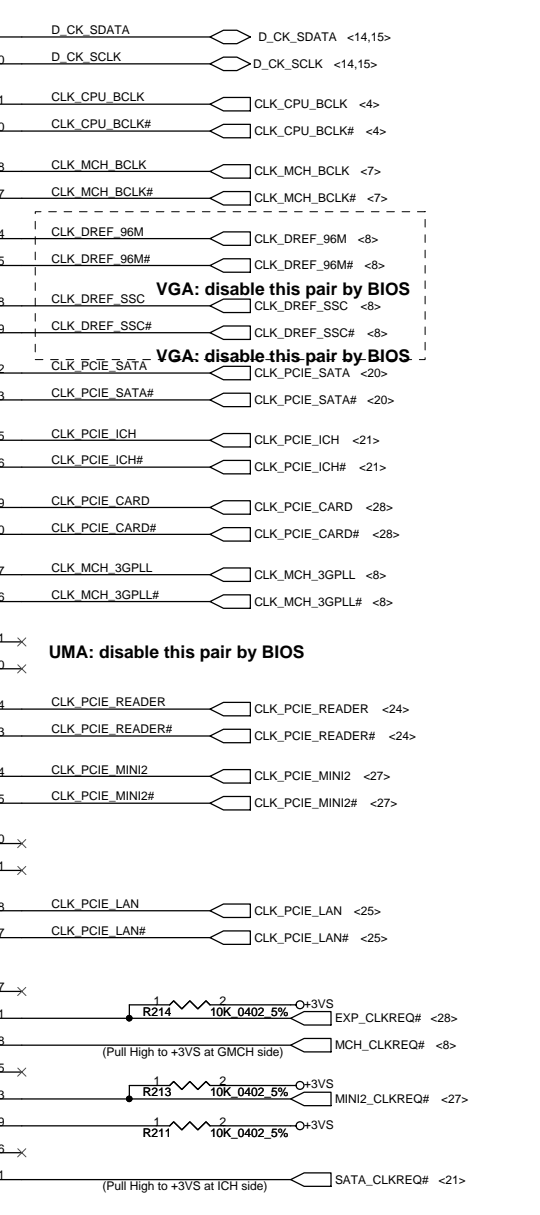
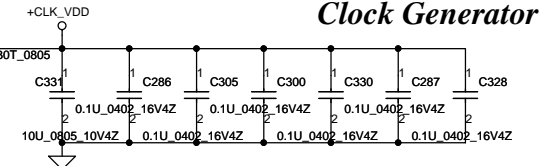
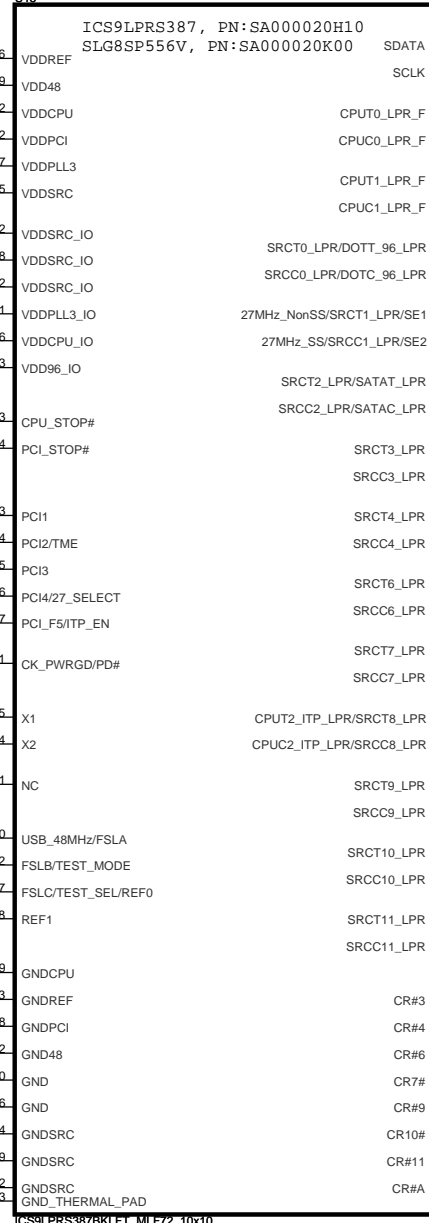
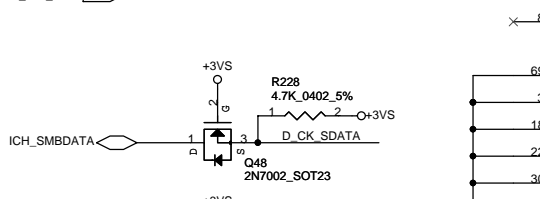
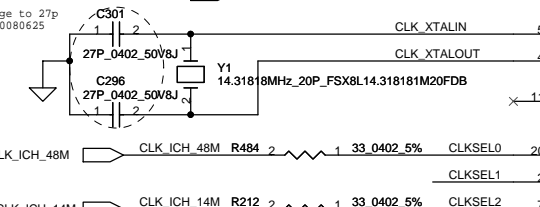
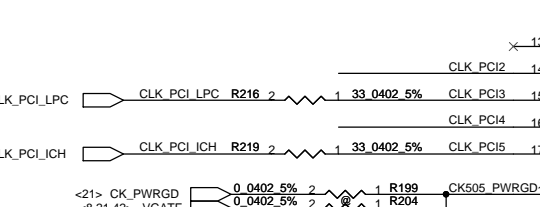
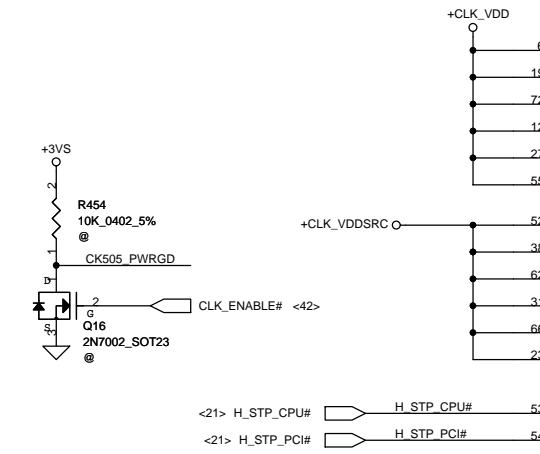
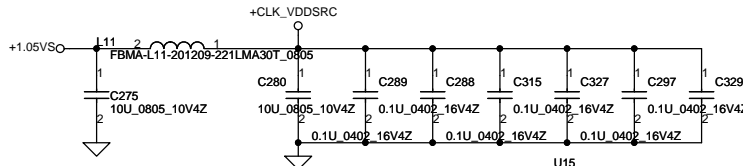
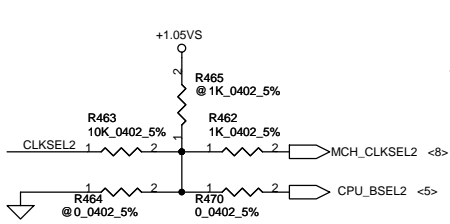
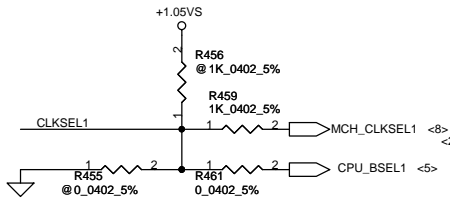
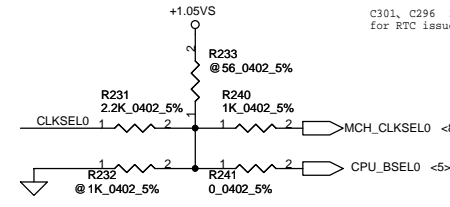
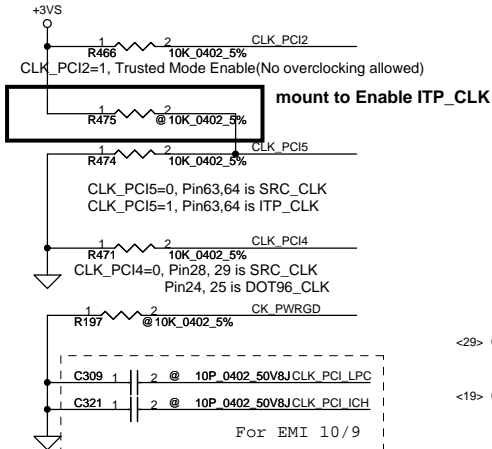
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FSLC	FSLB	FSLA	CPU	SRC	PCI
CLKSEL2	CLKSEL1	CLKSEL0	MHz	MHz	MHz
0	0	0	266	100	33.3
0	1	0	200	100	33.3
0	1	1	166	100	33.3

Table : ICS9LPRS387

CLK_REQ#	Control	Free-Run
CR#_10(WLAN)	PCIEX10	PCIEX0
CR#_6(MCH)	PCIEX6	PCIEX1
CR#_4(NEW CARD)	PCIEX4	
CR#_9(MINI CARDII)	PCIEX9	

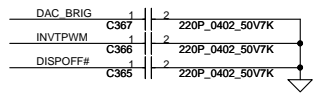
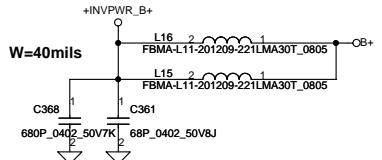
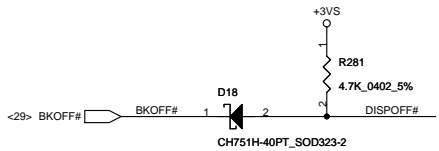
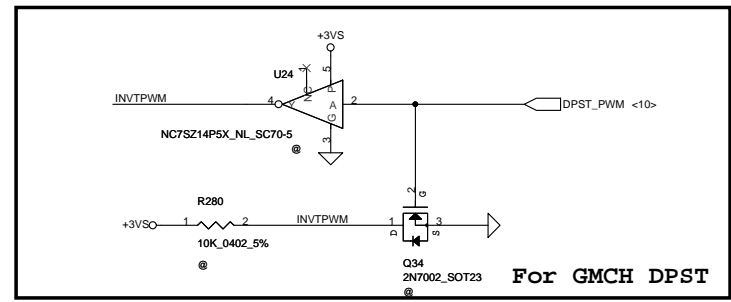
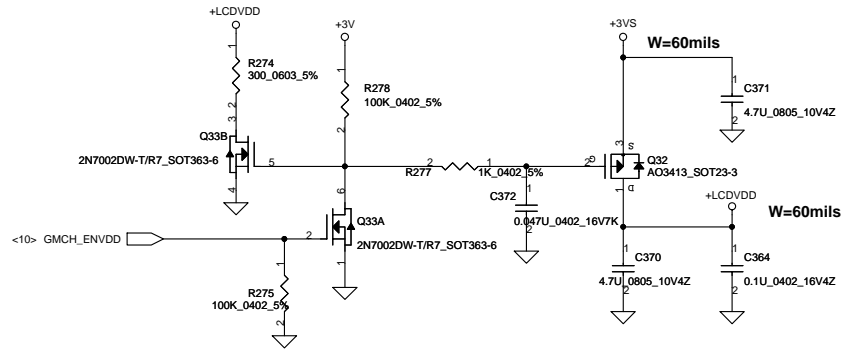
SRC7(VGA_CLK): Discrete VGA[Enable] UMA[Disable]



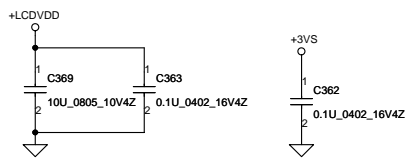
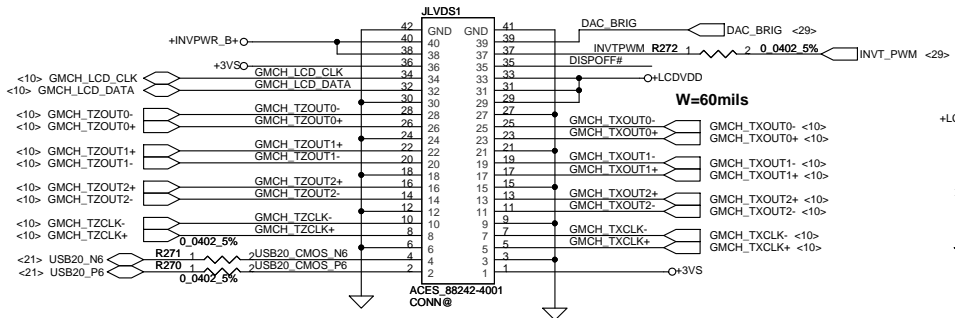
Clock Generator

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LCD POWER CIRCUIT

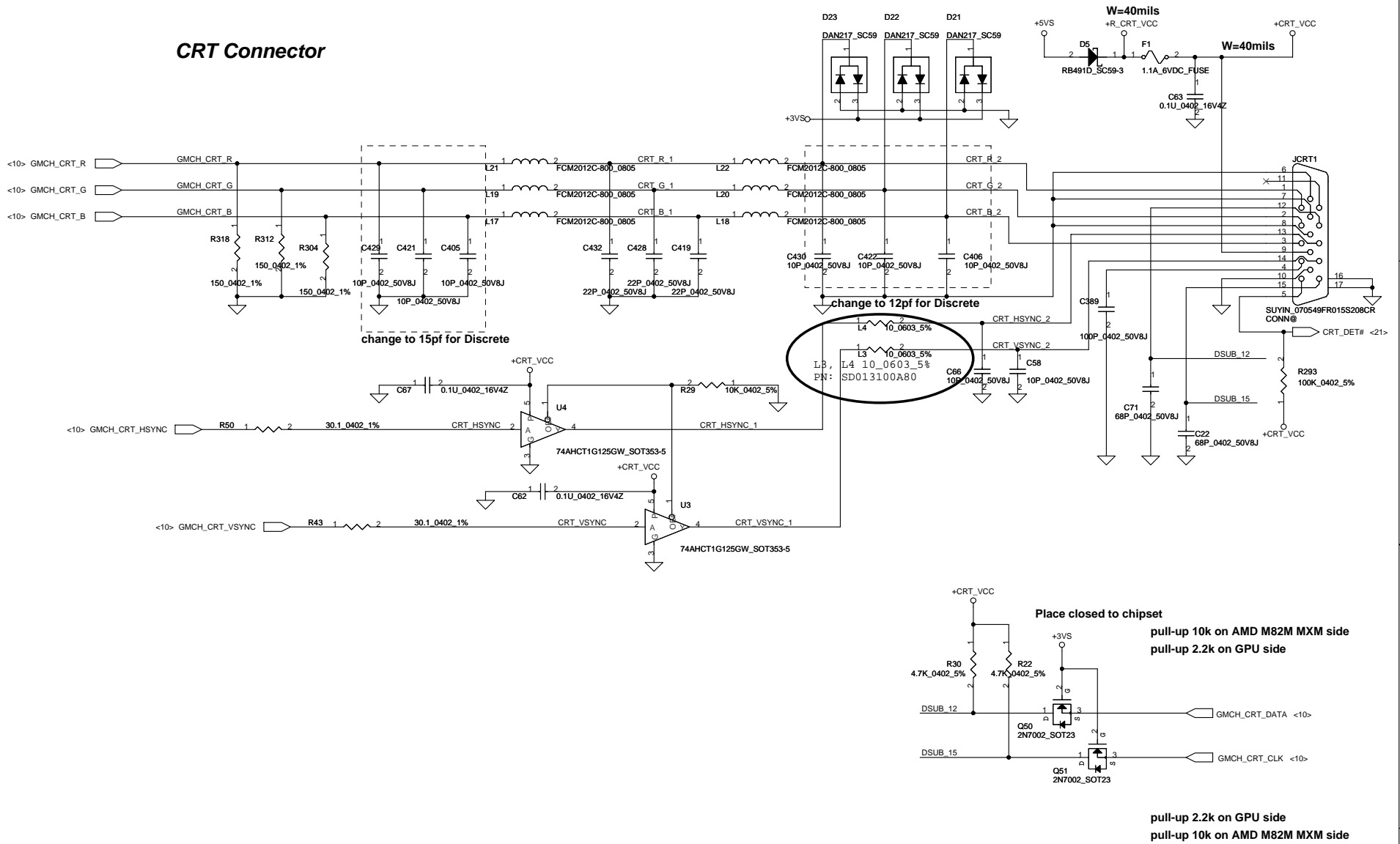


LCD/PANEL BD. Conn.

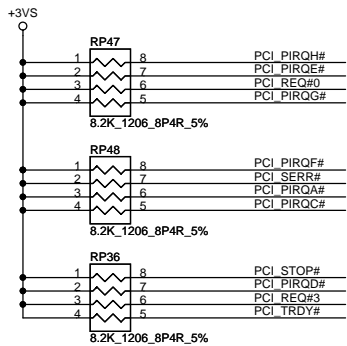
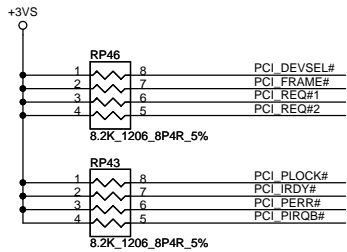


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CRT Connector

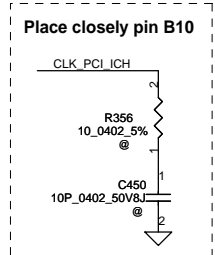
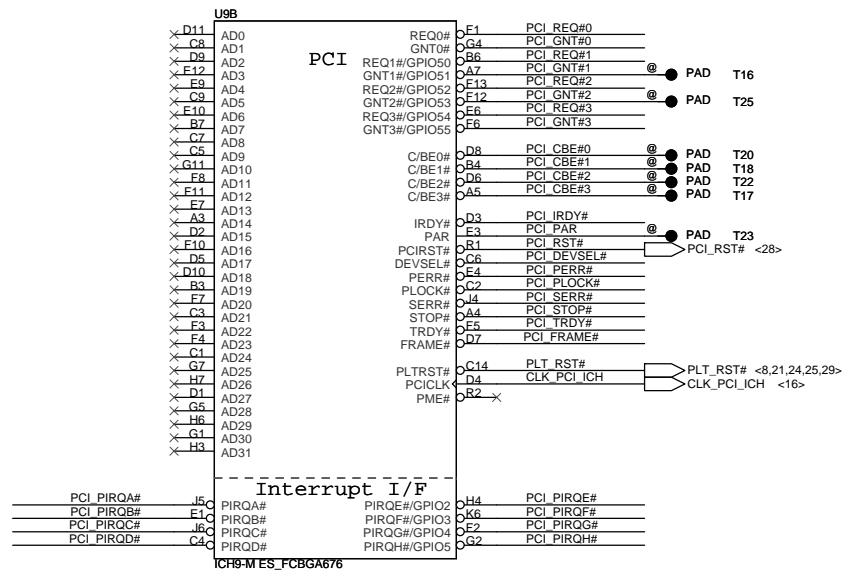


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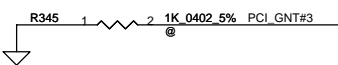
DMI for ESI-compatible operation

PCI_GNT#1	Low= DMI for ESI-compatible operation High= Default* (Internal pull-up)
------------------	--

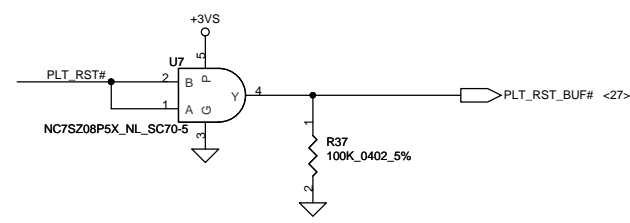
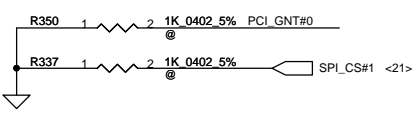


A16 Swap Override Strap

PCI_GNT#3	Low= A16 swap override Enable High= Default*
------------------	---

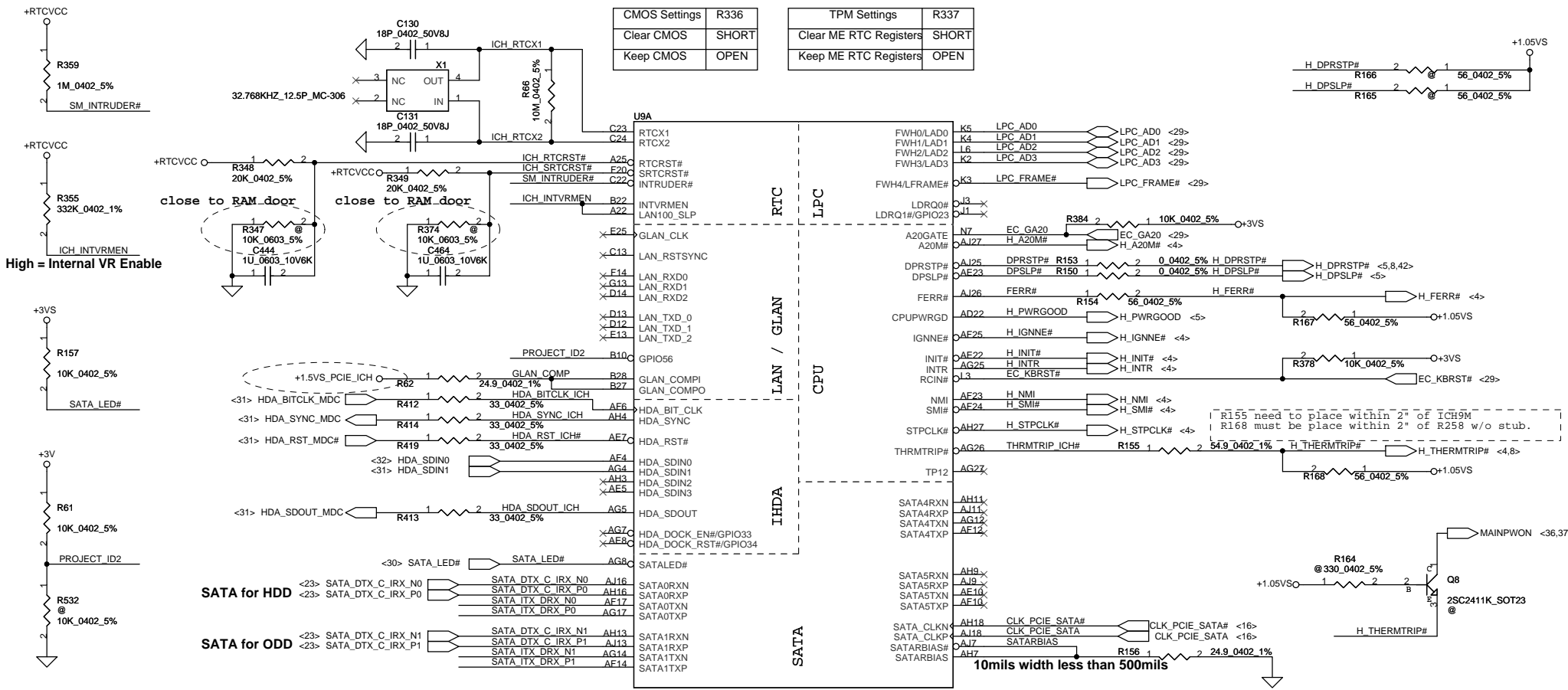


Boot BIOS Strap		
PCI_GNT#0	SPI_CS#1	Boot BIOS Location
0	1	SPI
1	0	PCI
1	1	LPC*



CMOS Settings		R336
Clear CMOS		SHORT
Keep CMOS		OPEN

TPM Settings		R337
Clear ME RTC Registers		SHORT
Keep ME RTC Registers		OPEN



High = Internal VR Enable

close to RAM_door

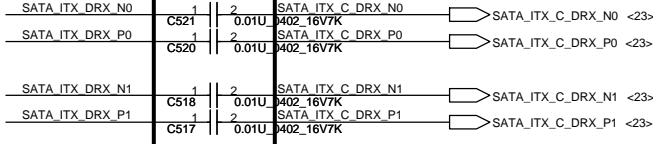
close to RAM_door

R155 need to place within 2" of ICH9M
R168 must be place within 2" of R258 w/o stub.

10mils width less than 500mils

HDA for AUDIO

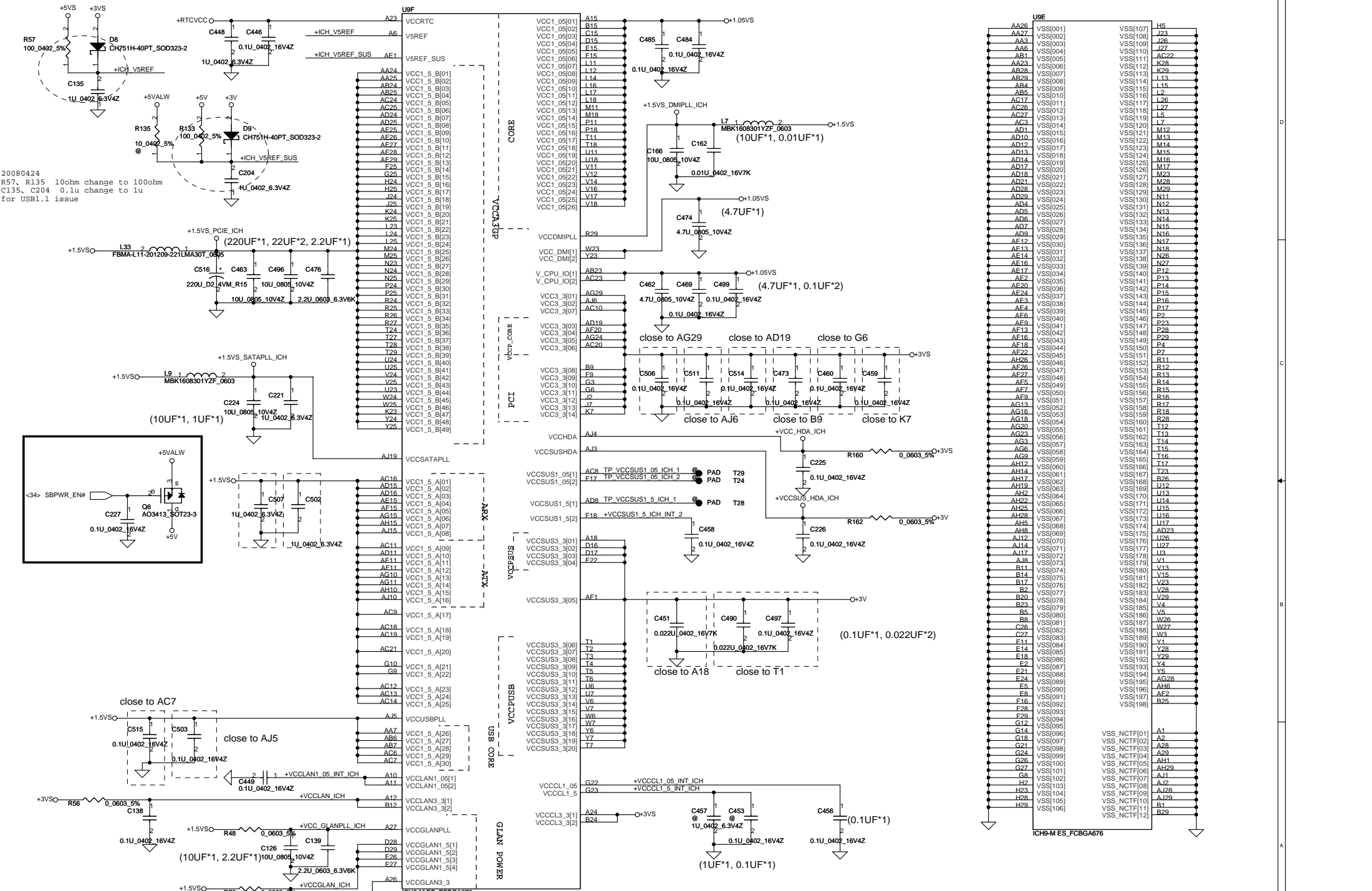
close ICH9



XOR Chain Entrance Strap		
ICH_TP3	HDA_SDOOUT	Description
0	0	RSVD
0	1	Enter XOR Chain
1	0	Normal Operation
1	1	Set PCIe port config bit 1

Flash Descriptor Security Override Strap
GPIO33 Low= Descriptor Security override
High= Default* (Internal pull-up)

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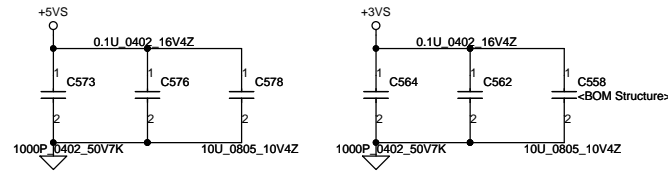


20080424
 R57, R135 100ohm change to 100ohm
 C135, C204 0.1u change to 1u
 for USB1.1 issue

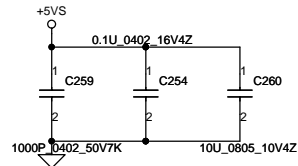
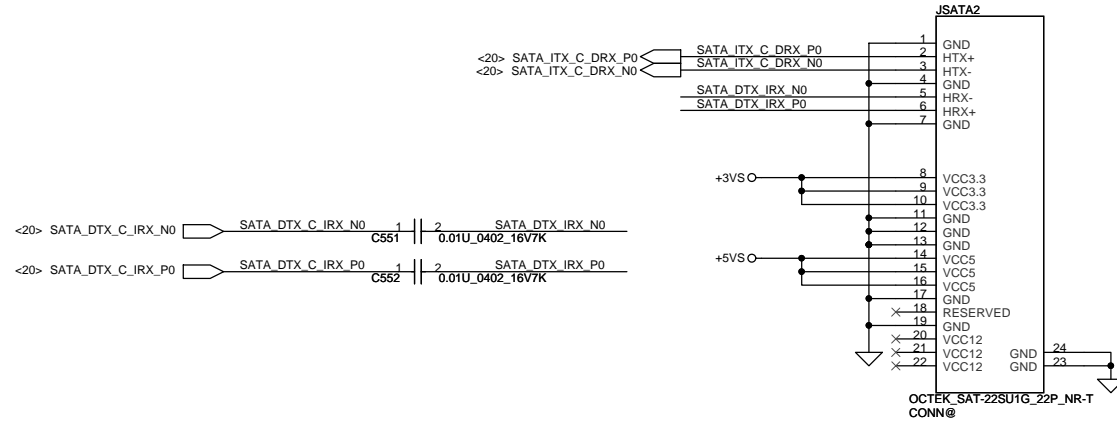
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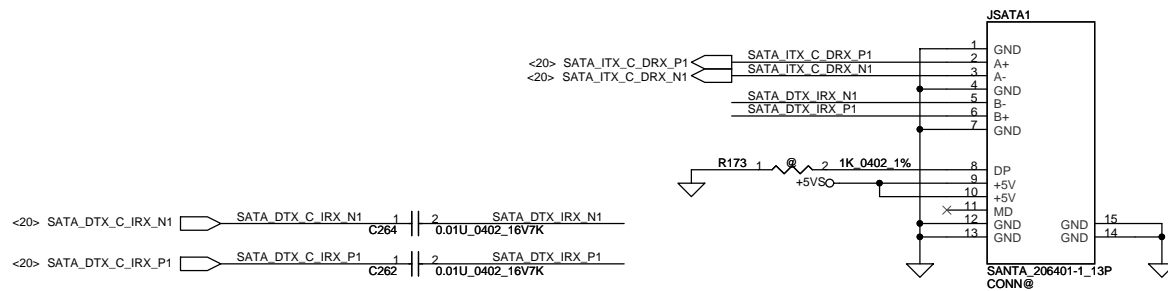
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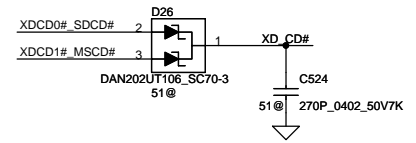
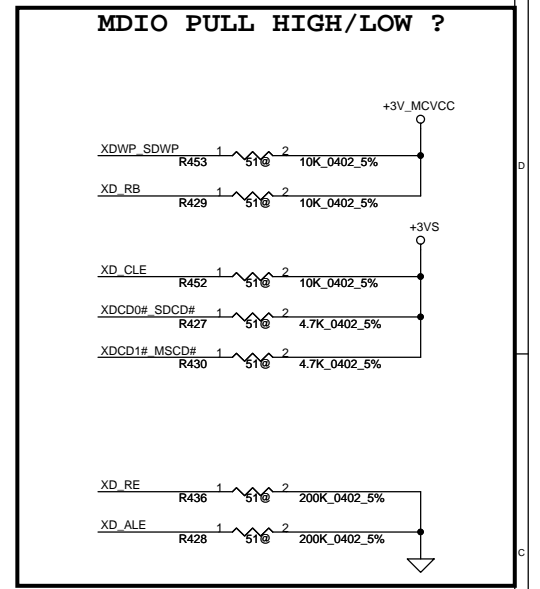
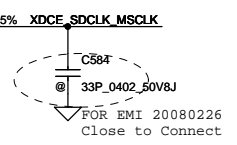
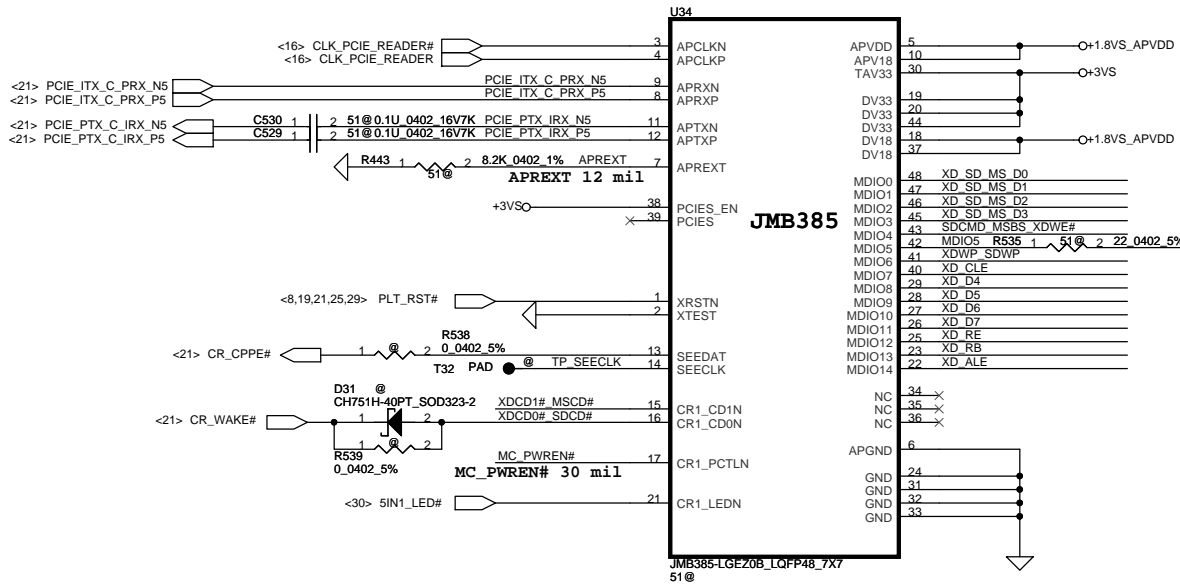
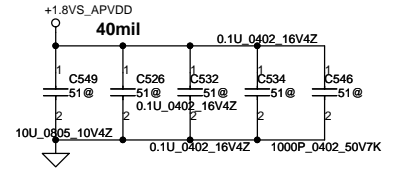
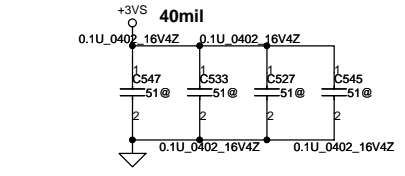
SATA HDD Conn.



SATA ODD Conn.

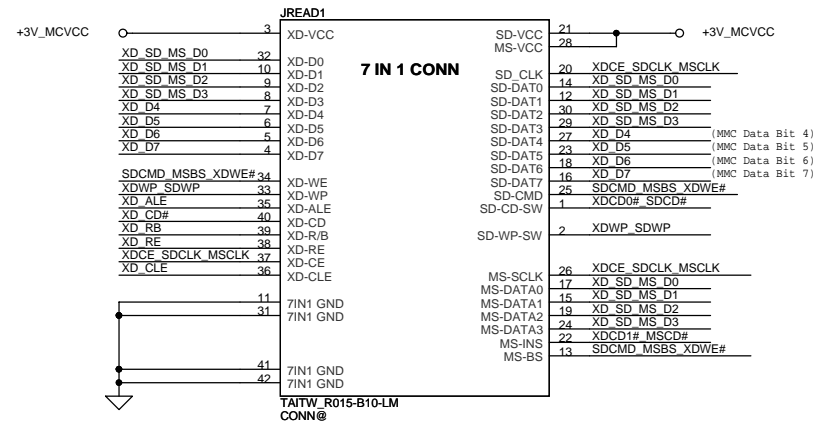
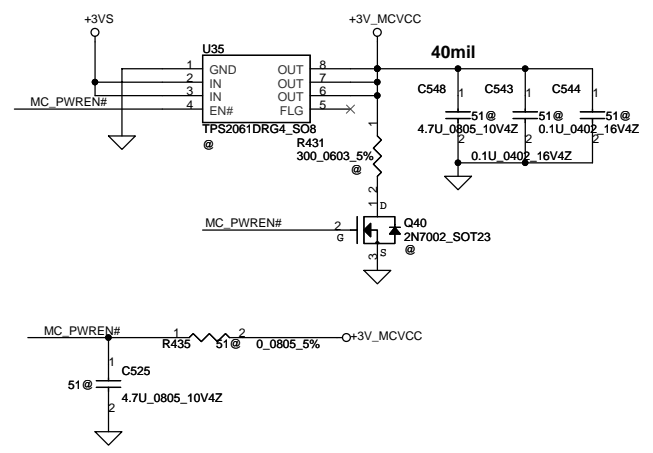


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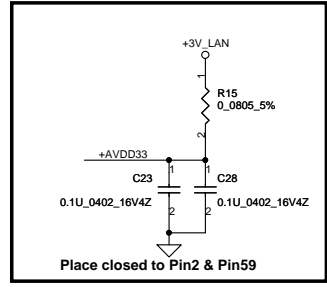
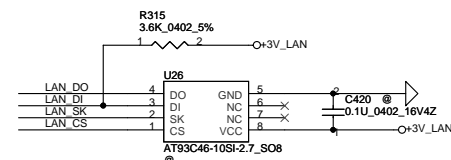
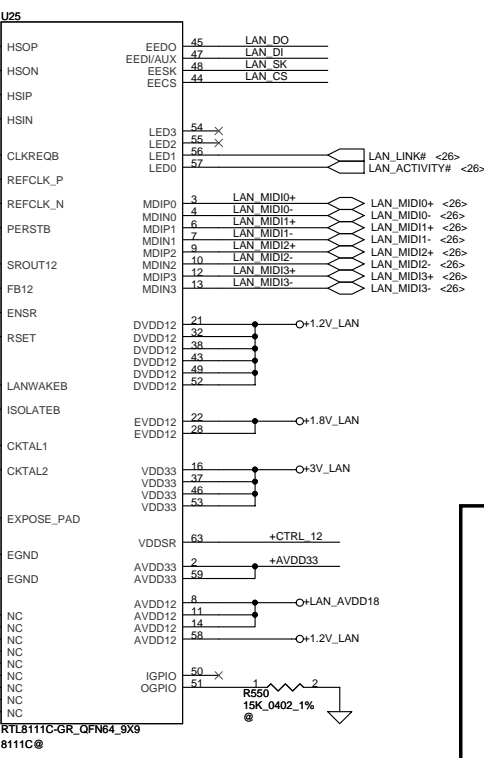
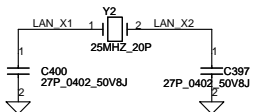
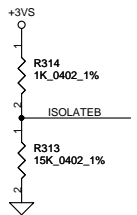
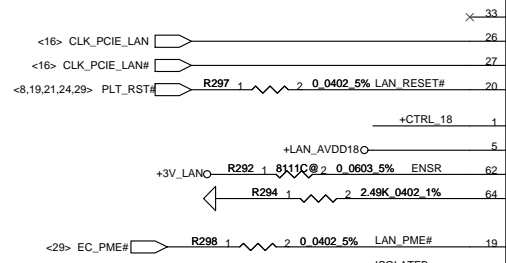
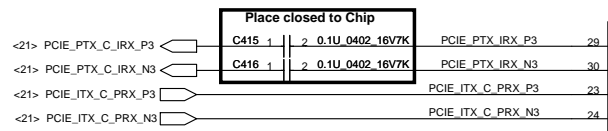
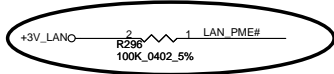
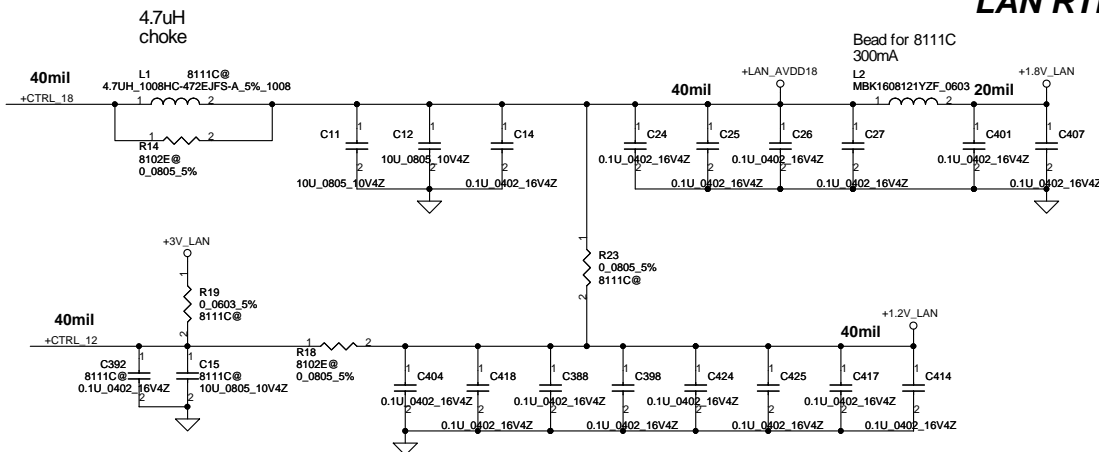
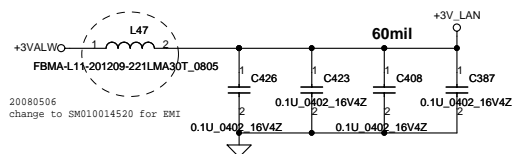
4 IN 1 Socket Push Type(New)

Memory Card Power Switch



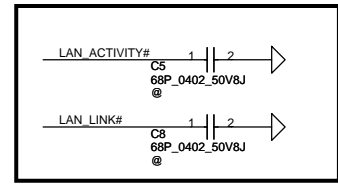
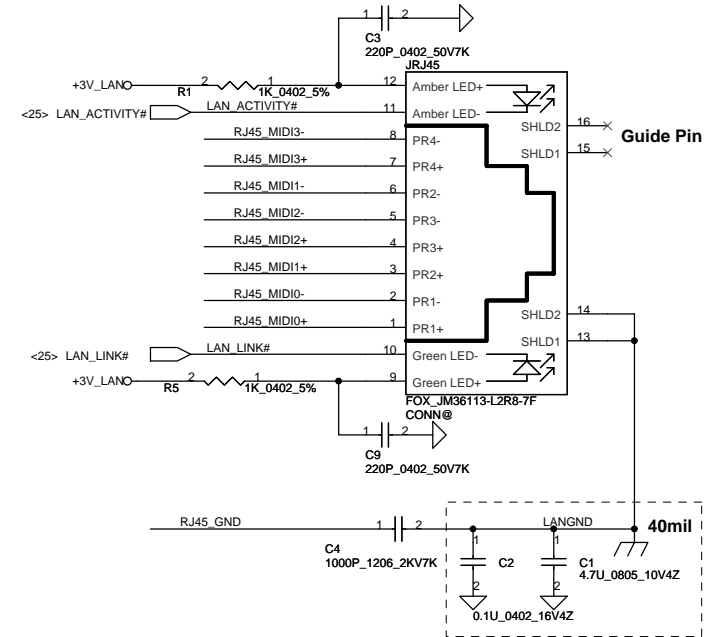
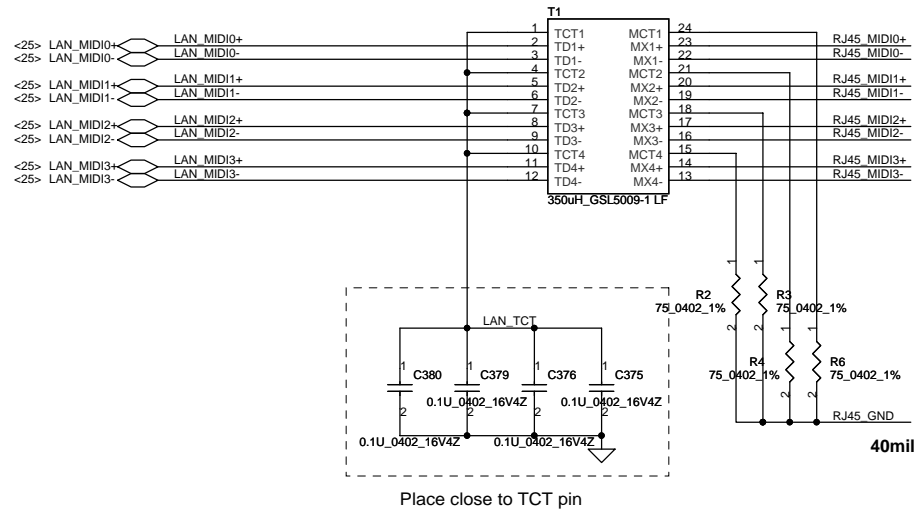
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Issued Date		Deciphered Date		Title	
2007/09/20		2008/09/20		SCHEMATICS, MB A4431	
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LAN RTL8111C/8102E



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			Compal Electronics, Inc. SCHEMATICS, MB A4431 Sheet 25 of 45

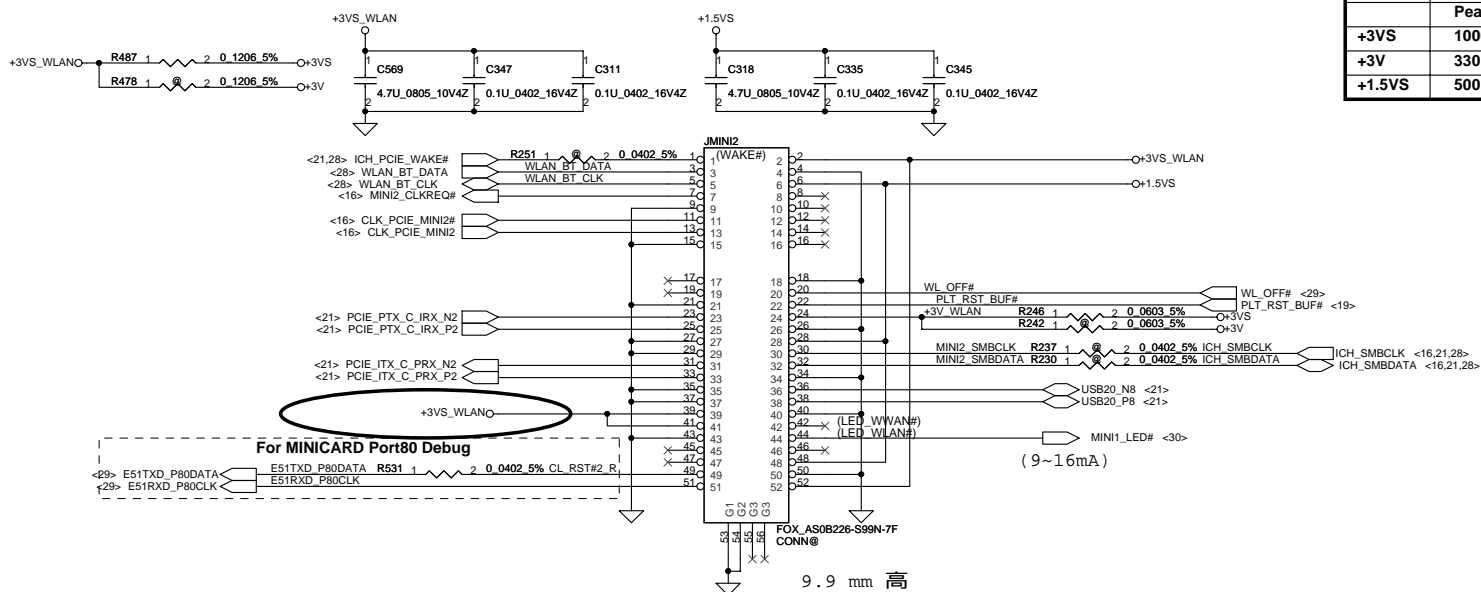
LAN RTL8111C/8102E



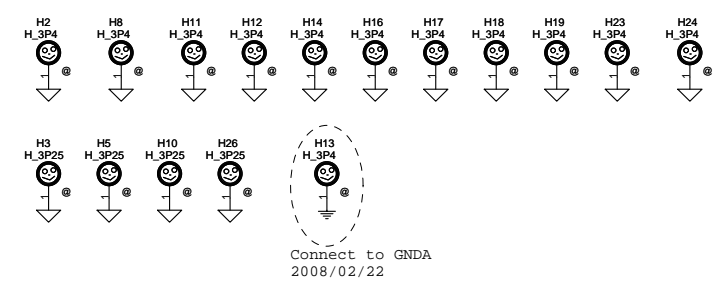
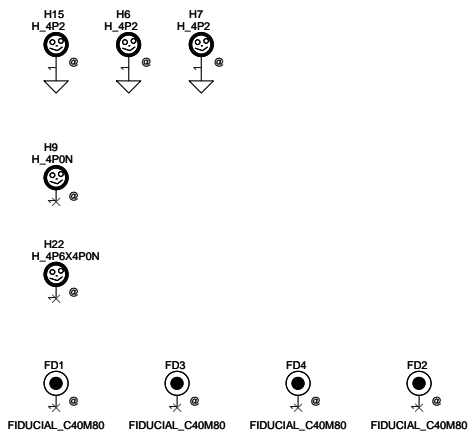
For EMI

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For Wireless LAN

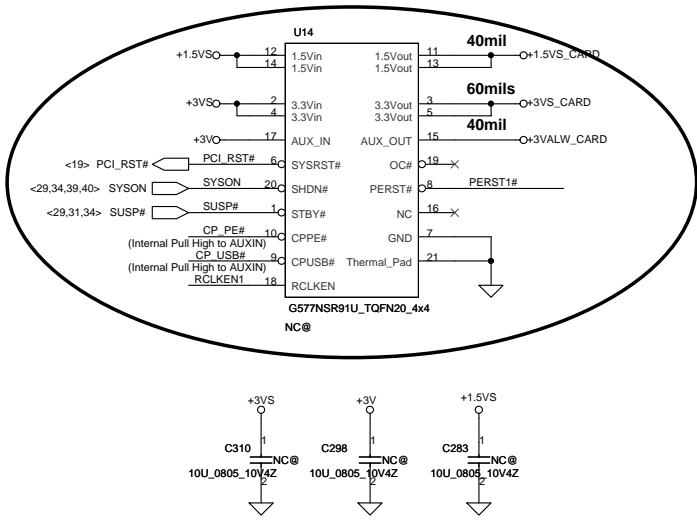


Mini Card Power Rating			
Power	Auxiliary Power (mA)		
	Peak	Normal	
+3VS	1000	750	
+3V	330	250	250 (wake enable)
+1.5VS	500	375	5 (Not wake enable)

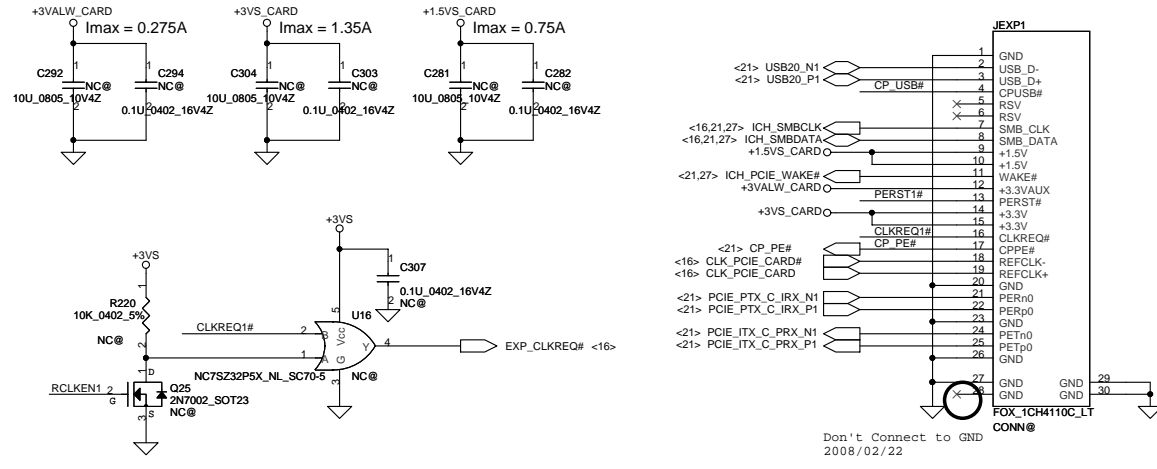


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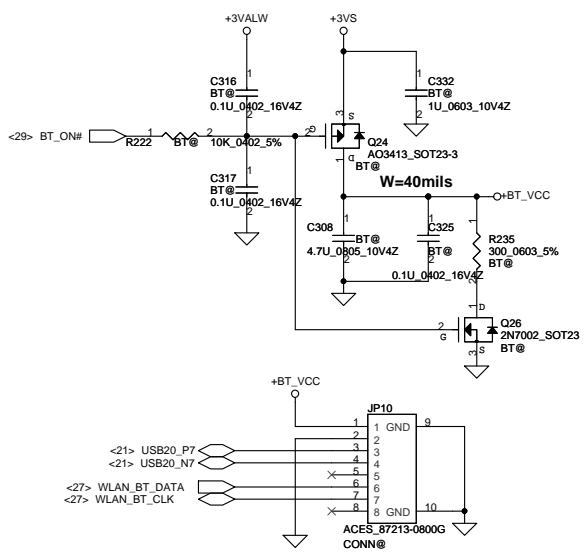
New Card Power Switch



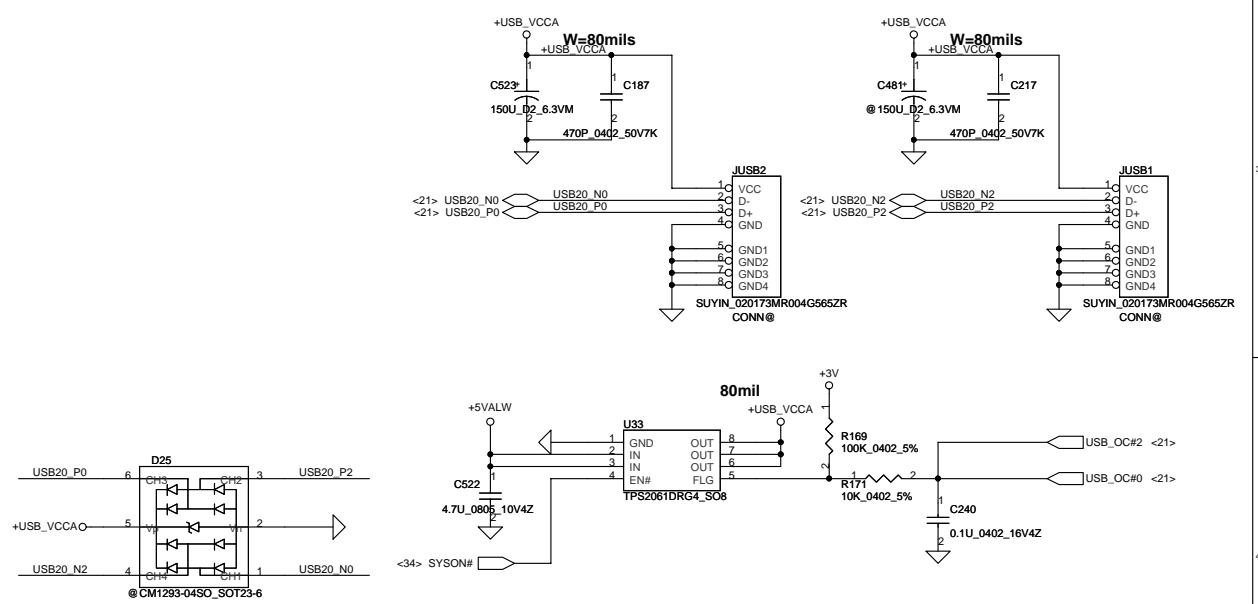
New Card Socket (Left/TOP)



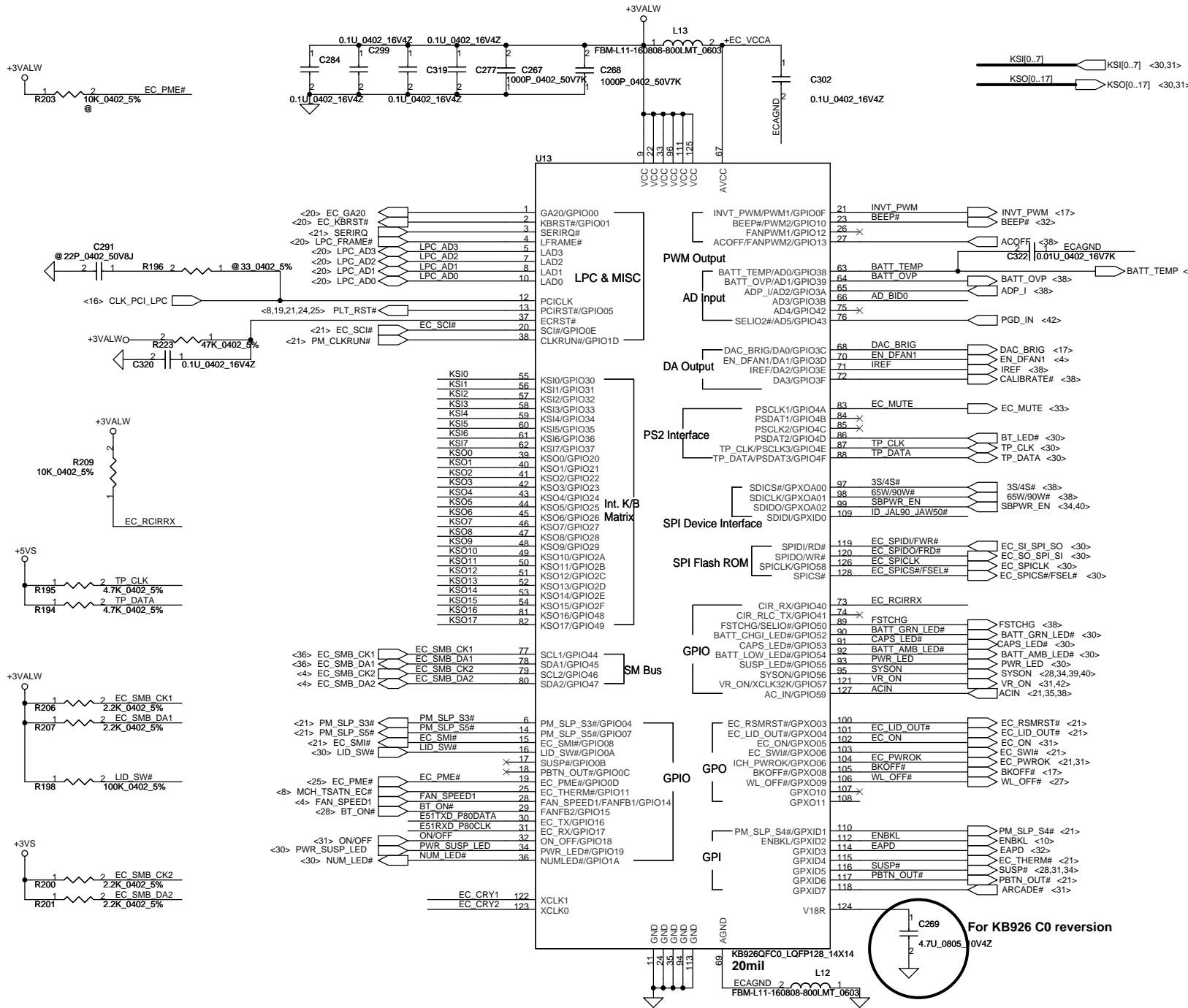
Bluetooth Conn.



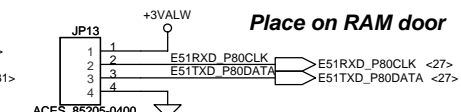
USB CONN. (Stack-up Type)



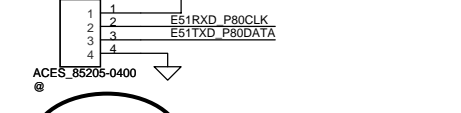
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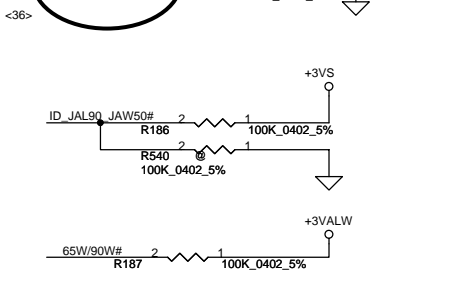
For EC Tools



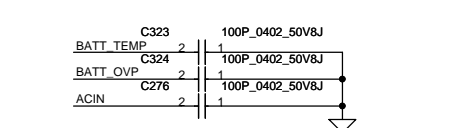
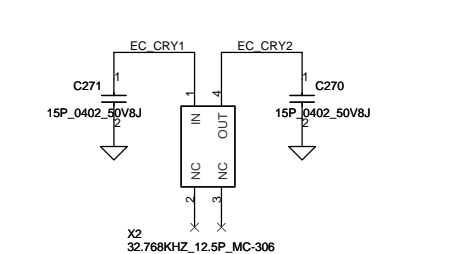
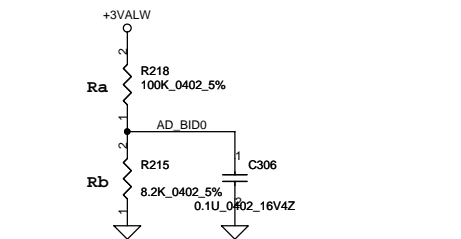
Place on RAM door



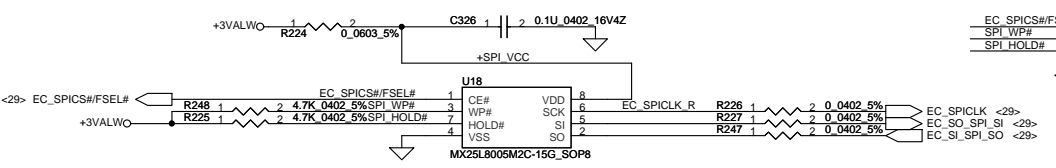
Place on MiniCard



Analog Board ID definition, Please see page 3.

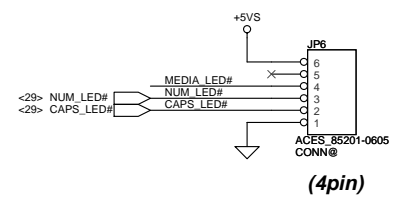


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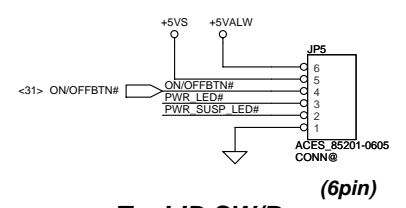


ENE suggestion SPI Frequency over 66MHz
 SST: 50MHz
 MXIC: 70MHz
 ST: 40MHz

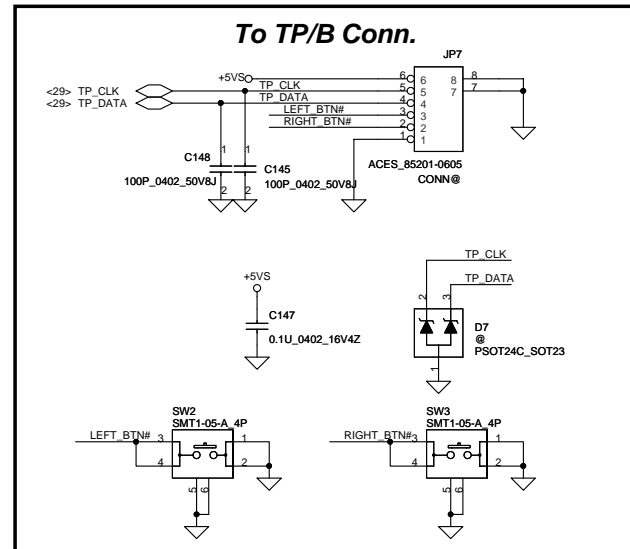
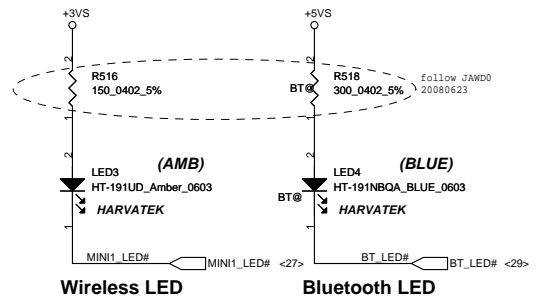
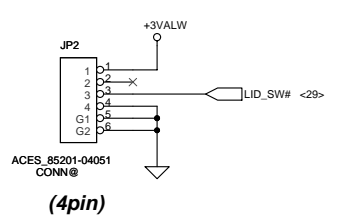
To LED/B



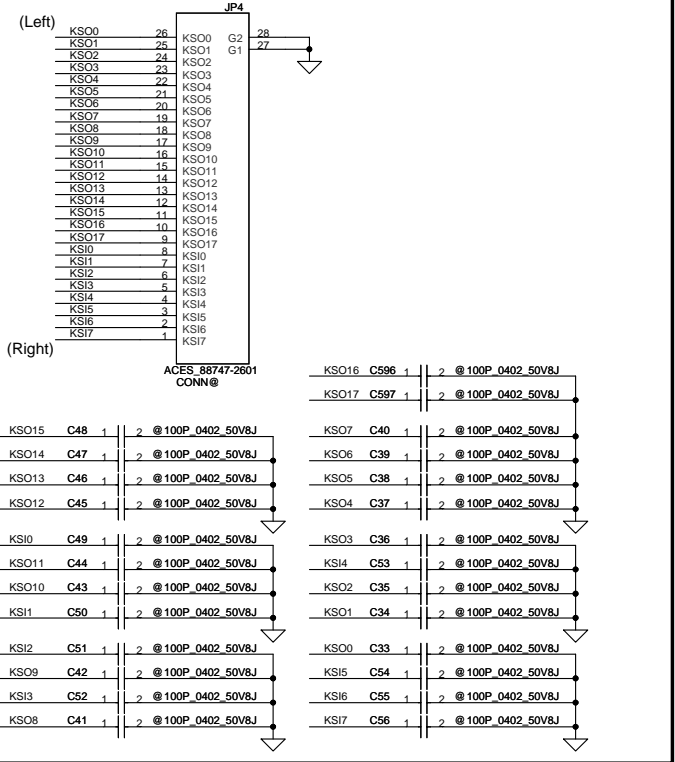
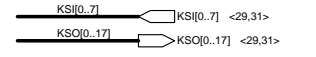
To POWER/B



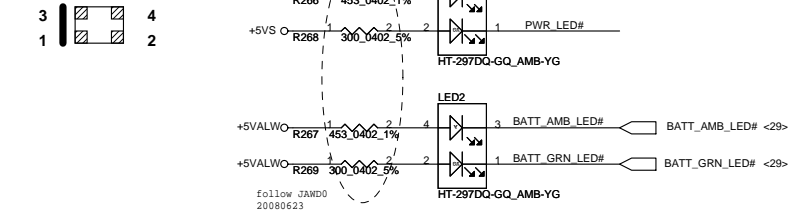
To LID SW/B



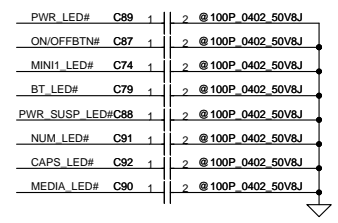
INT_KBD Conn.



Compal Footprint



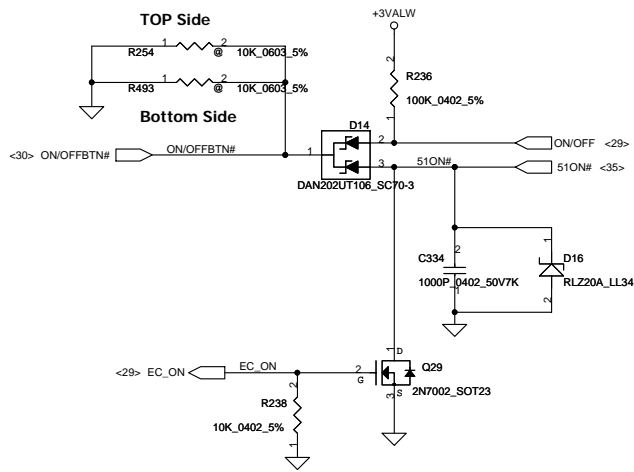
FOR EMI



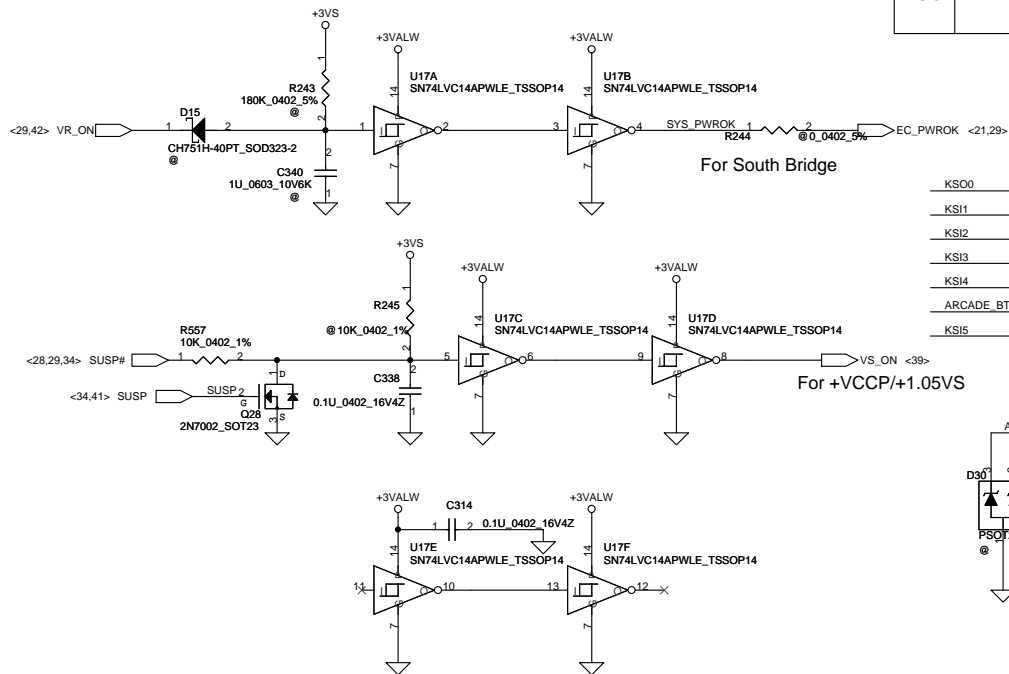
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Power Button

ON/OFF switch



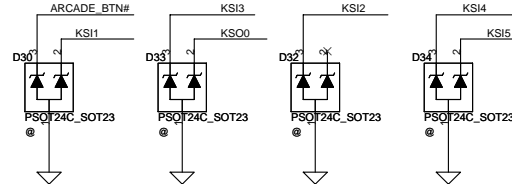
Power ON Circuit



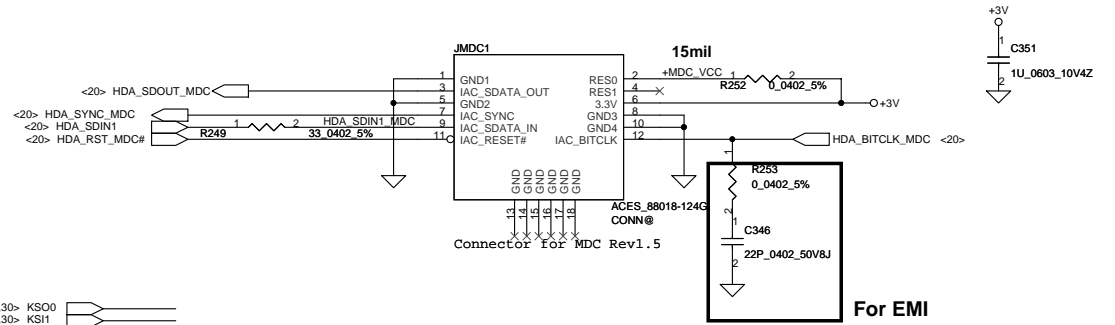
To BTN/B Conn.

KSO0	
KSI1	WL_BTN#
KSI2	BT_BTN#
KSI3	EMAIL_BTN#
KSI4	IE_BTN#
KSI5	E-KEY_BTN#

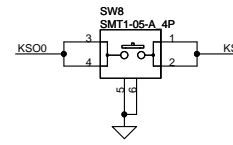
KSO0	C80	1	2	@ 100P_0402_50V8J
KSI1	C81	1	2	@ 100P_0402_50V8J
KSI2	C82	1	2	@ 100P_0402_50V8J
KSI3	C83	1	2	@ 100P_0402_50V8J
KSI4	C84	1	2	@ 100P_0402_50V8J
ARCADE_BTN#	C86	1	2	@ 100P_0402_50V8J
KSI5	C373	1	2	@ 100P_0402_50V8J



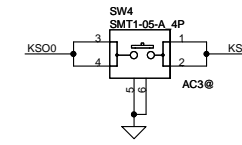
HDA MDC Conn.



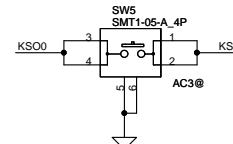
Wireless Button



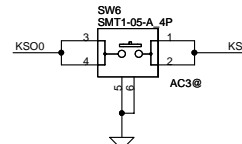
Bluetooth Button



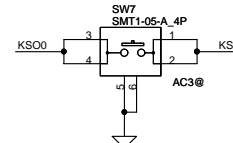
Volume UP BTN



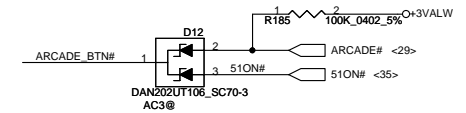
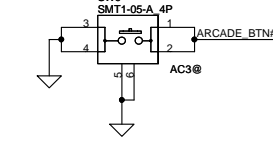
Volume DOWN BTN



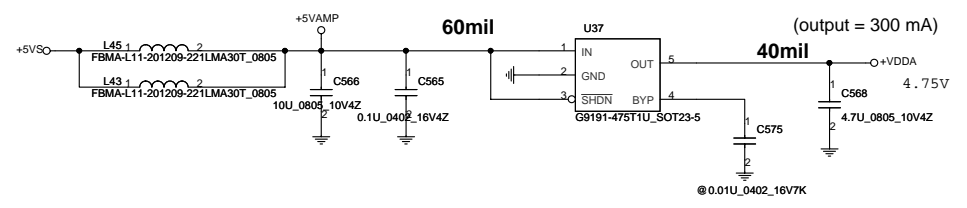
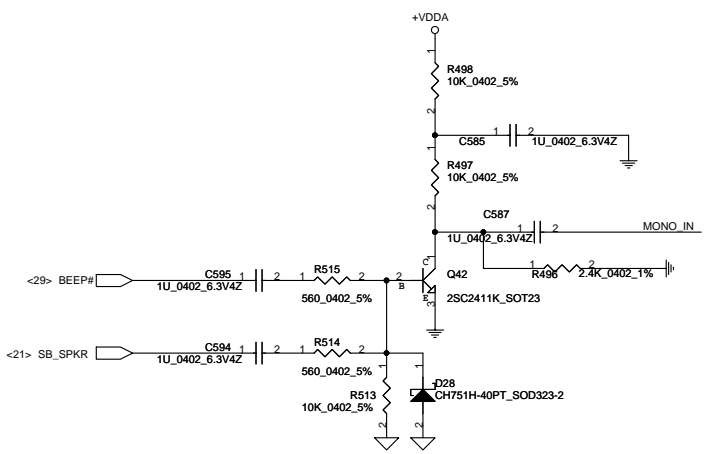
e-Key BTN



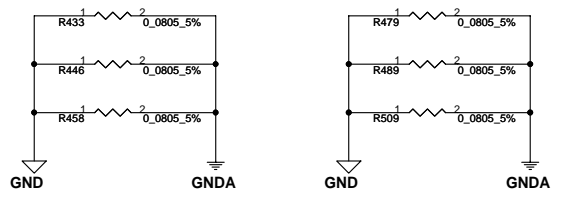
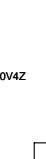
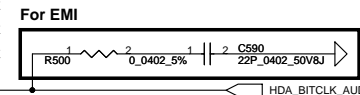
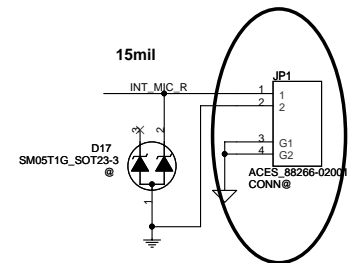
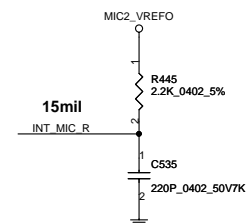
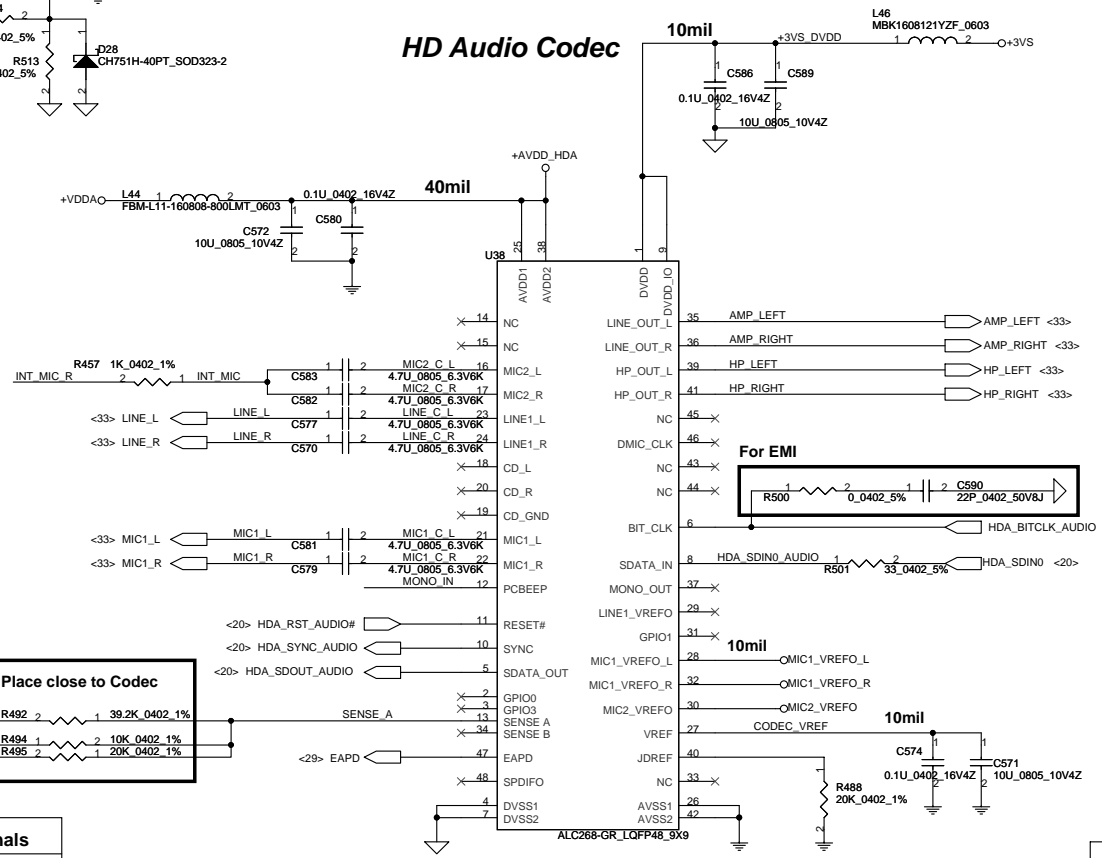
ARCADE BTN



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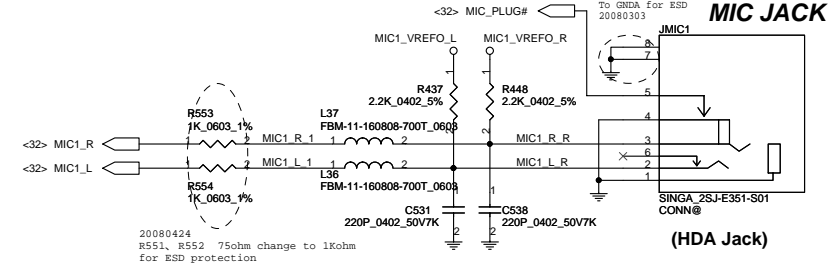
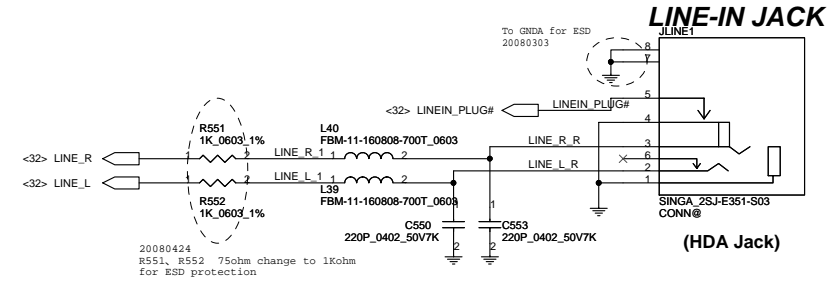
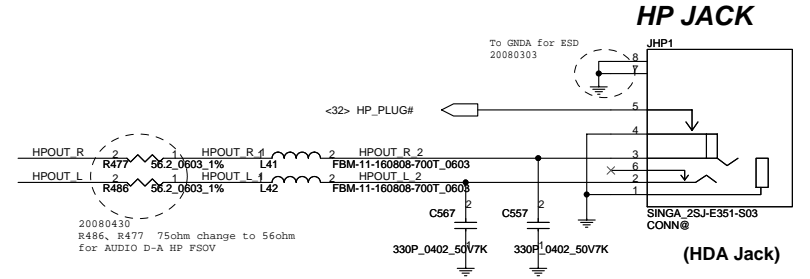
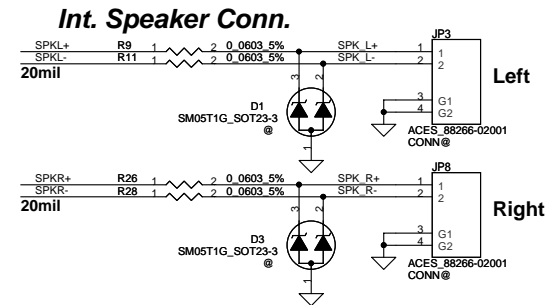
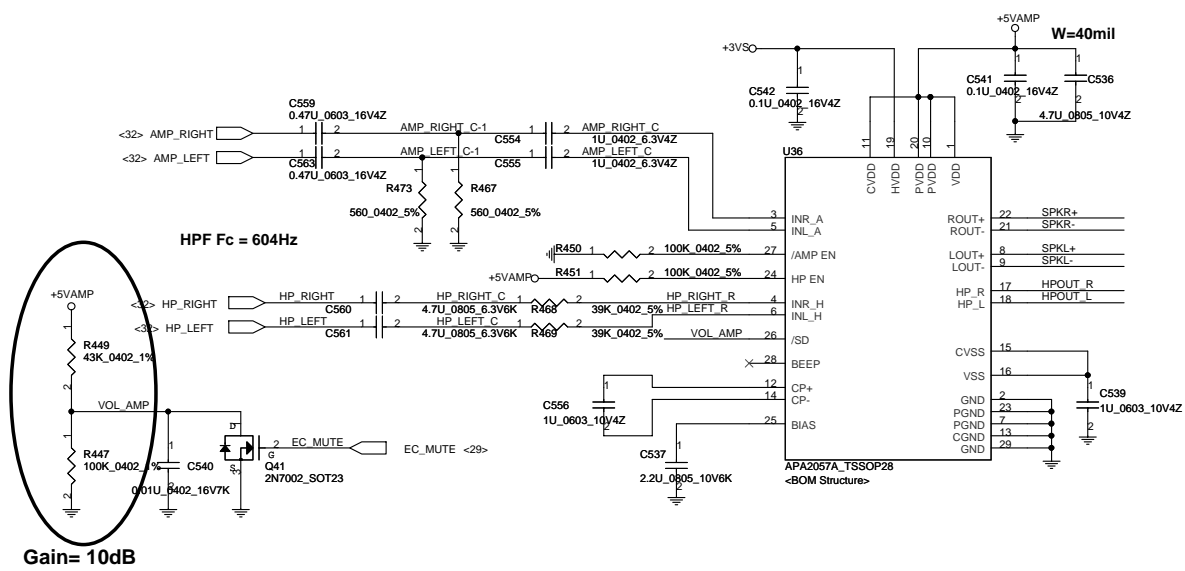
HD Audio Codec



Sense Pin	Impedance	Codec Signals
SENSE A	39.2K	PORT-A (PIN 39, 41)
	20K	PORT-B (PIN 21, 22)
	10K	PORT-C (PIN 23, 24)
	5.1K	PORT-D (PIN 35, 36)
SENSE B	39.2K	PORT-E (PIN 14, 15)
	20K	PORT-F (PIN 16, 17)
	10K	PORT-G (PIN 43, 44)
	5.1K	PORT-H (PIN 45, 46)

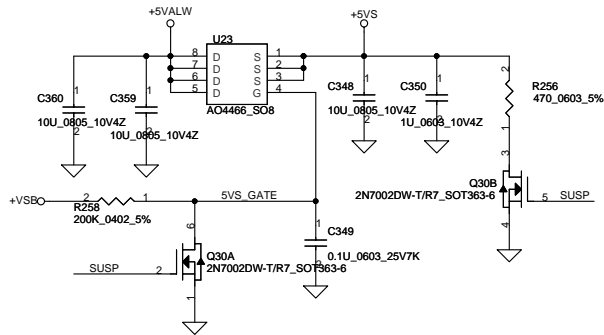
DGND AGND
SA00001GD00 change to SA00001GD10
20080226

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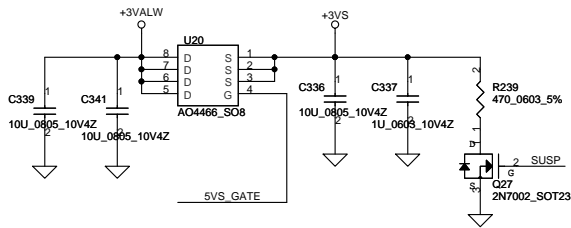


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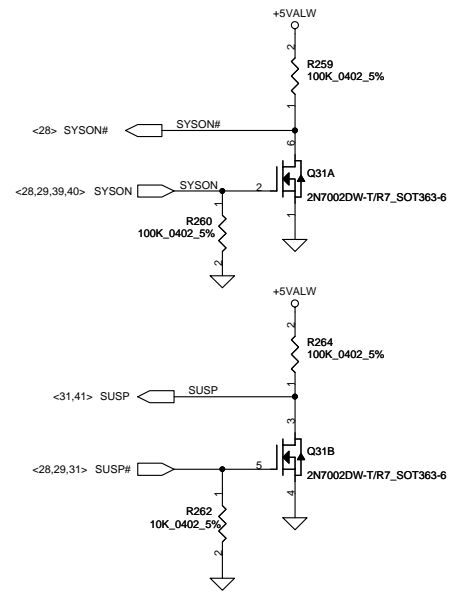
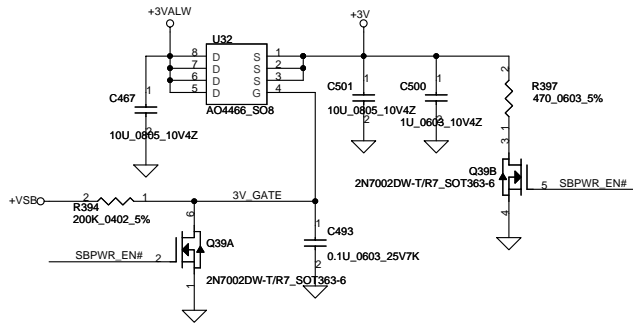
+5VALW TO +5VS



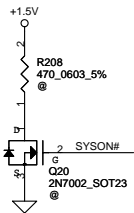
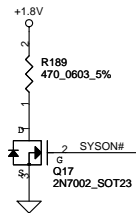
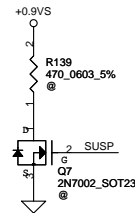
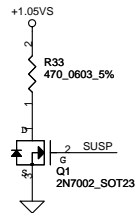
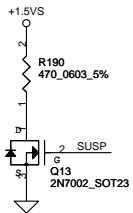
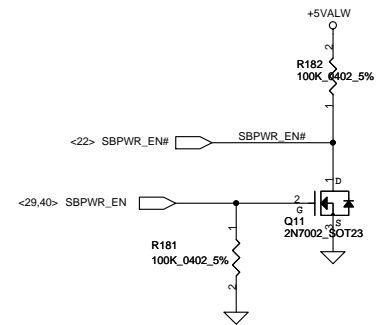
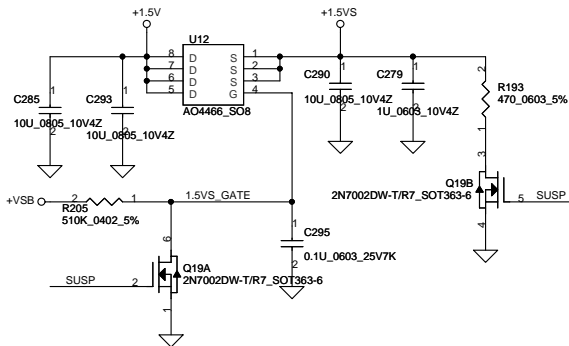
+3VALW TO +3VS



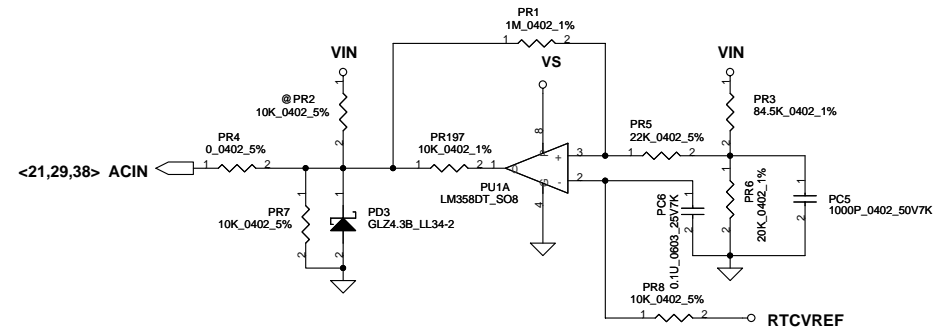
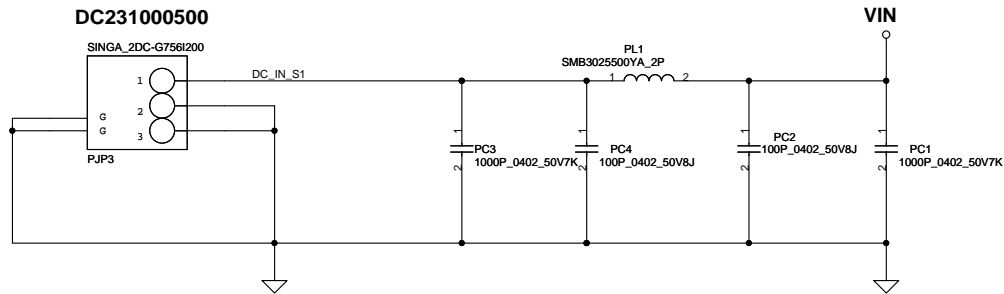
+3VALW TO +3V_SB(ICH8M AUX Power)



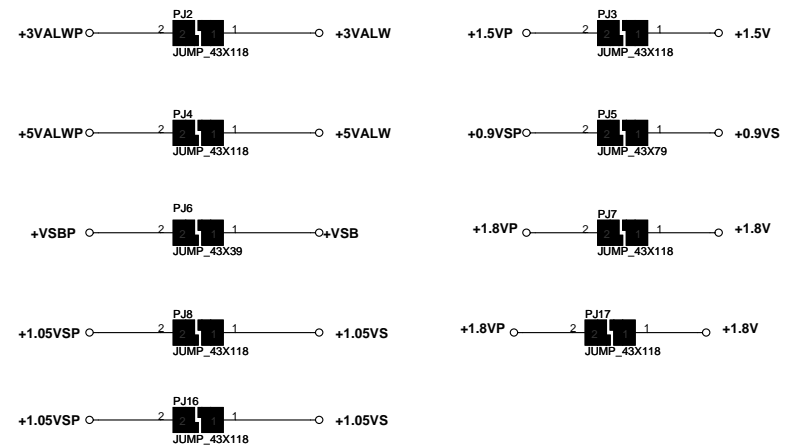
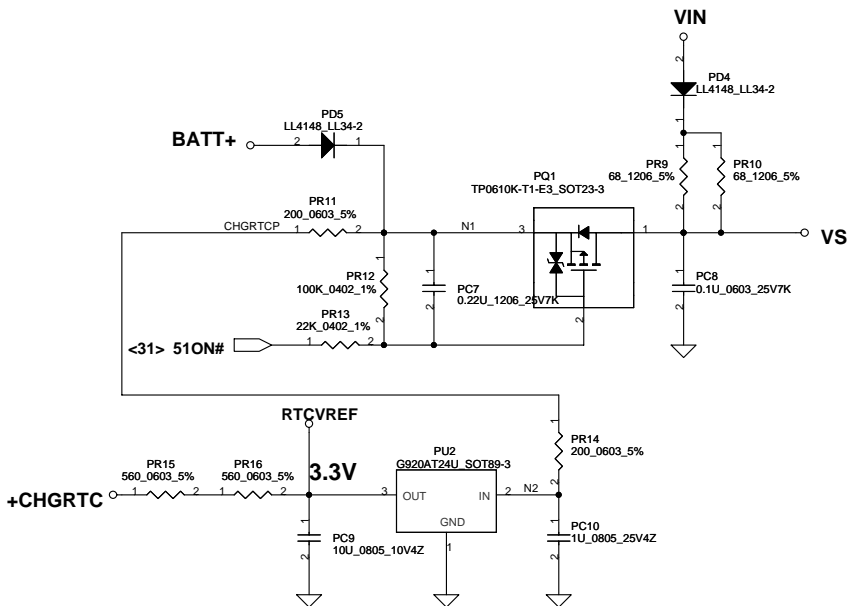
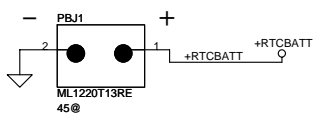
+1.5V to +1.5VS



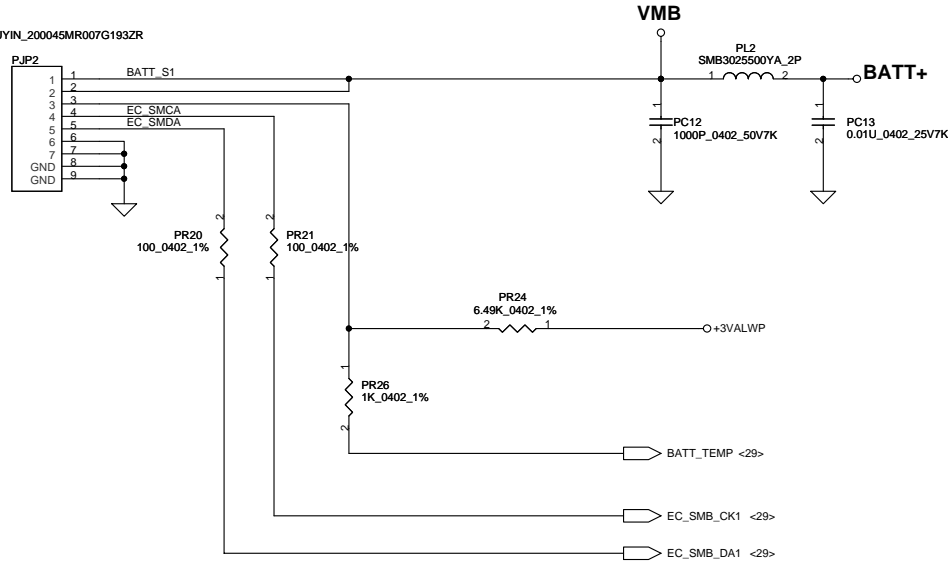
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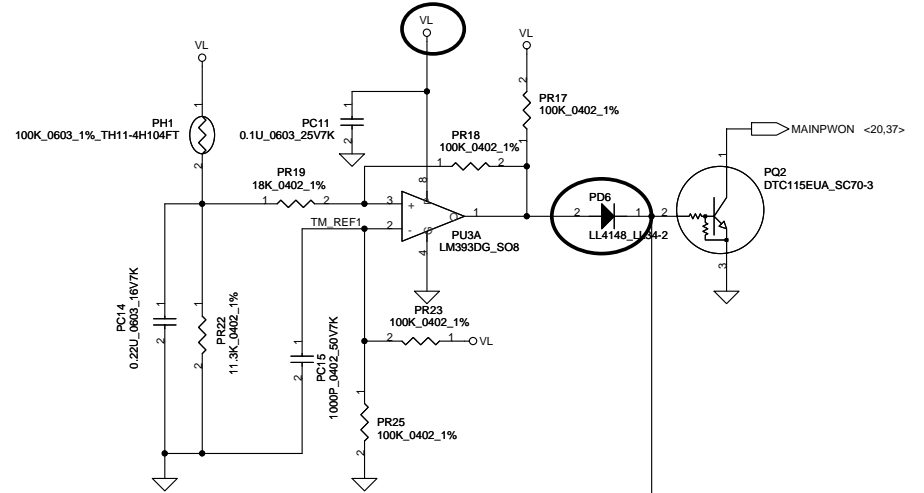
Vin Dectector			
	Min.	Typ	Max.
H-->L	16.976V	17.525V	17.728V
L-->H	17.430V	17.901V	18.384V



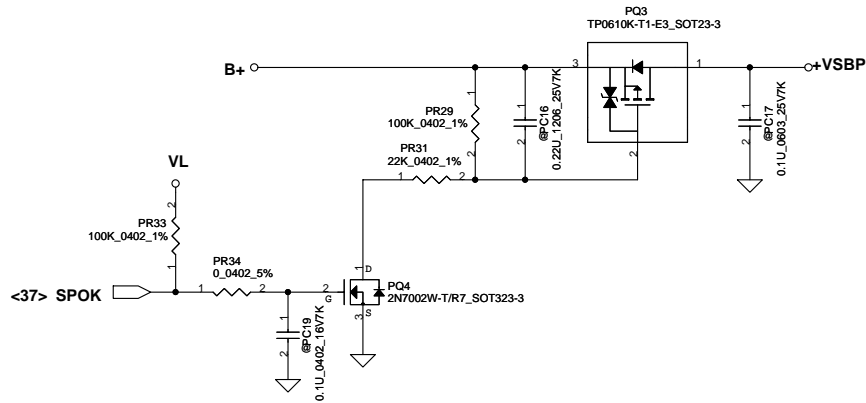
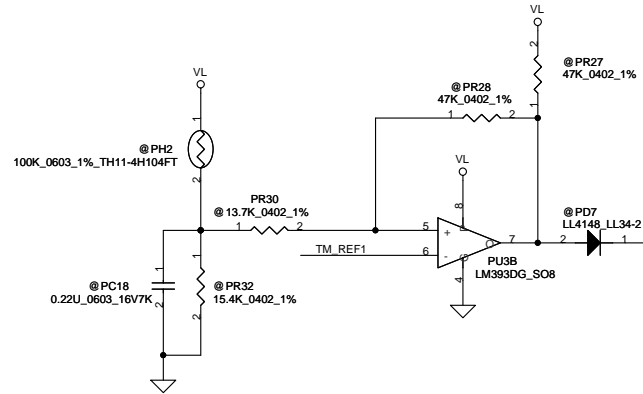
SUYIN_200045MR007G193ZR



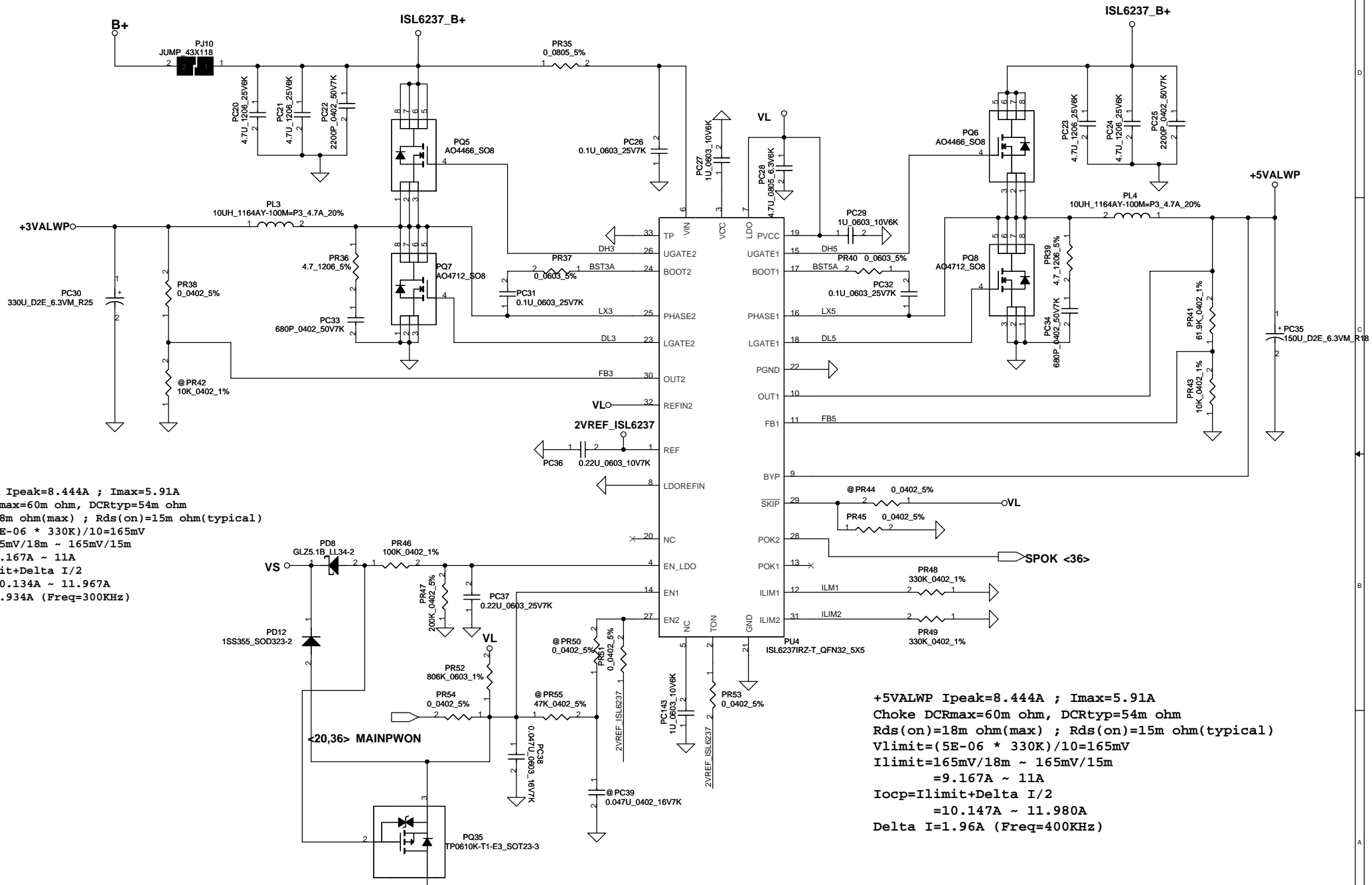
PH1 under CPU botten side :
 CPU thermal protection at 90 degree C
 Recovery at 70 degree C



PH2 near main Battery CONN :
 BAT. thermal protection at 90 degree C
 Recovery at 70 degree C



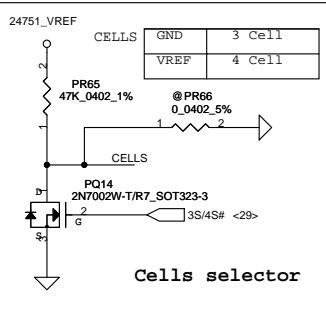
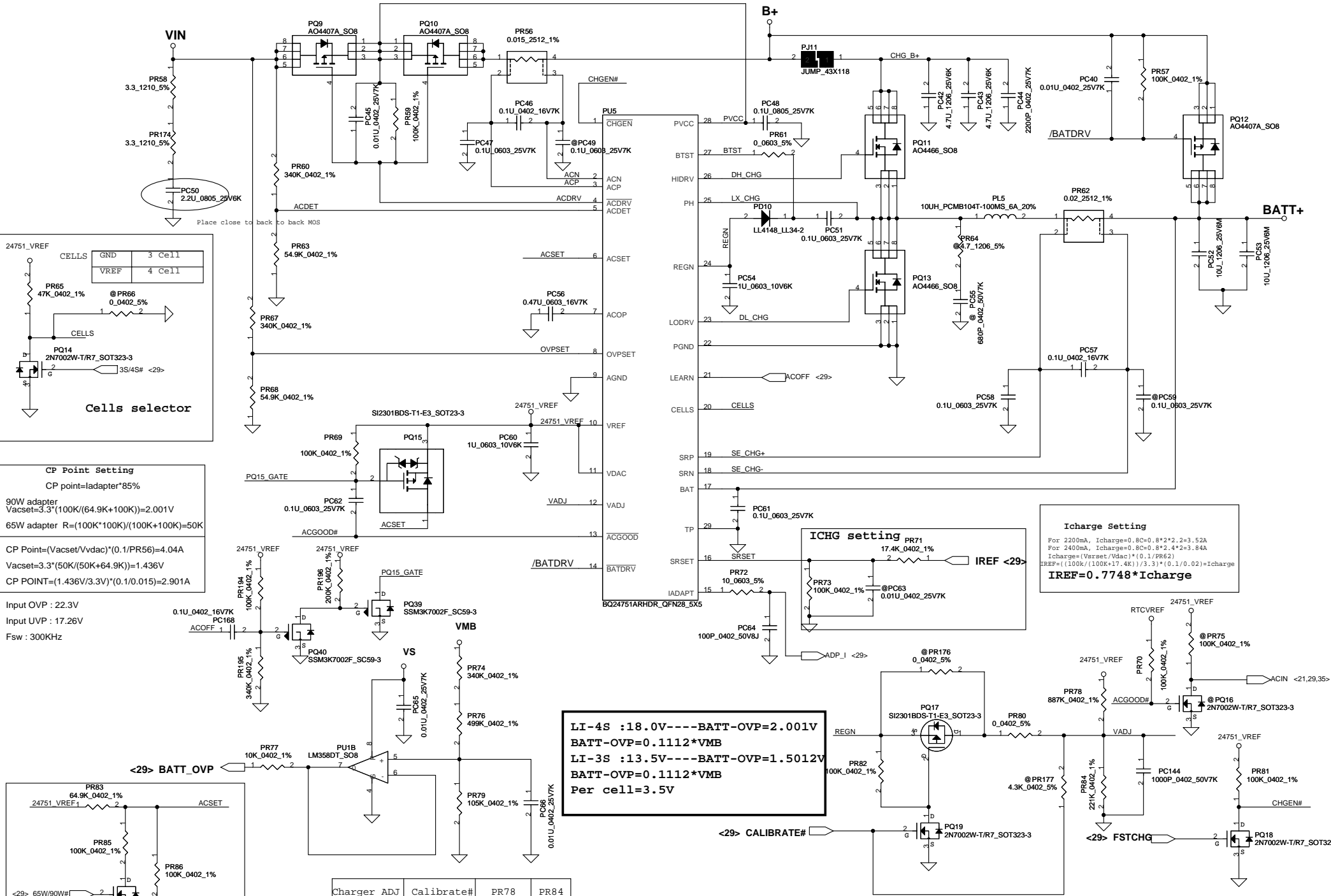
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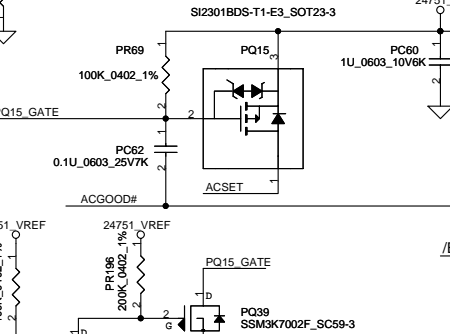
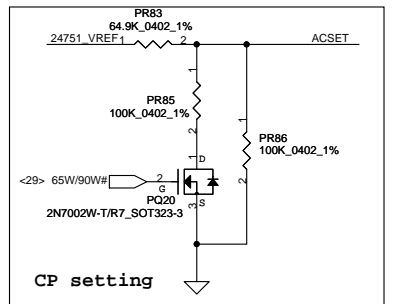
+3.3VALWP Ipeak=8.444A ; Imax=5.91A
 Choke DCRmax=60m ohm, DCRtyp=54m ohm
 Rds(on)=18m ohm(max) ; Rds(on)=15m ohm(typical)
 Vlimit=(5E-06 * 330K)/10=165mV
 Ilimit=165mV/18m ~ 165mV/15m
 =9.167A ~ 11A
 Iocp=Ilimit+Delta I/2
 =10.134A ~ 11.967A
 Delta I=1.934A (Freq=300KHz)

+5VALWP Ipeak=8.444A ; Imax=5.91A
 Choke DCRmax=60m ohm, DCRtyp=54m ohm
 Rds(on)=18m ohm(max) ; Rds(on)=15m ohm(typical)
 Vlimit=(5E-06 * 330K)/10=165mV
 Ilimit=165mV/18m ~ 165mV/15m
 =9.167A ~ 11A
 Iocp=Ilimit+Delta I/2
 =10.147A ~ 11.980A
 Delta I=1.96A (Freq=400KHz)

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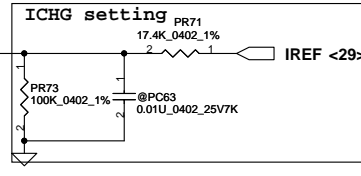


CP Point Setting
 CP point=ladapter*85%
 90W adapter
 $V_{acset}=3.3 \cdot (100K / (64.9K + 100K)) = 2.001V$
 65W adapter $R = (100K \cdot 100K) / (100K + 100K) = 50K$
 CP Point = $(V_{acset} / V_{dca}) \cdot (0.1 / PR56) = 4.04A$
 $V_{acset} = 3.3 \cdot (50K / (50K + 64.9K)) = 1.436V$
 CP POINT = $(1.436V / 3.3V) \cdot (0.1 / 0.015) = 2.901A$
 Input OVP : 22.3V
 Input UVP : 17.26V
 Fsw : 300KHz



LI-4S : 18.0V --- BATT-OVP=2.001V
BATT-OVP=0.1112*VMB
LI-3S : 13.5V --- BATT-OVP=1.5012V
BATT-OVP=0.1112*VMB
Per cell=3.5V

Charger ADJ	Calibrate#	PR78	PR84
4.0V	L	@	@
4.1V	L	887K	221K
4.2V	H	@	@

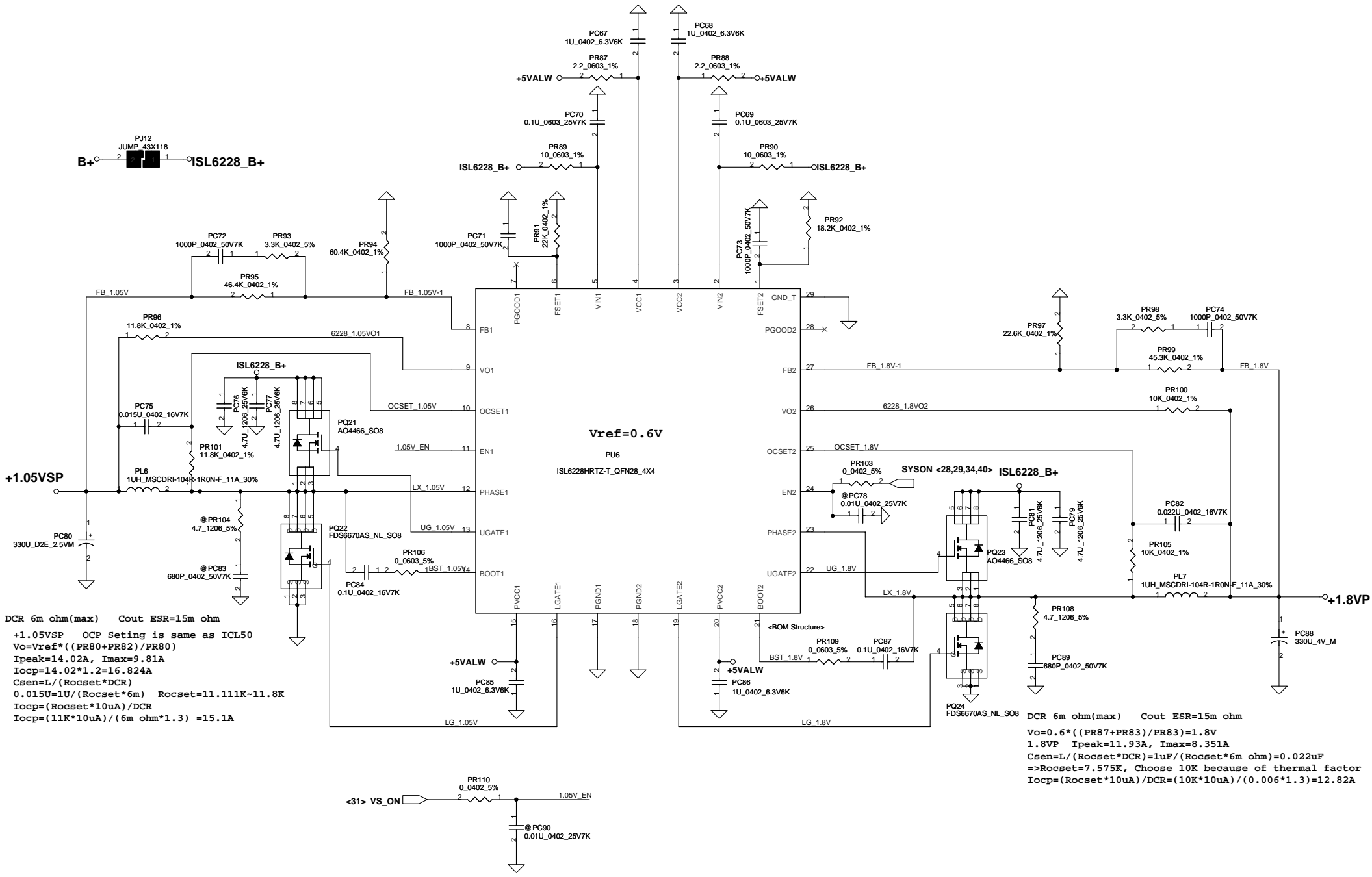


Icharge Setting
 For 2200mA, Icharge=0.8C=0.8*2.2=3.52A
 For 2400mA, Icharge=0.8C=0.8*2.4=3.84A
 $I_{charge} = (V_{acset} / V_{dca}) \cdot (0.1 / PR62)$
 $I_{REF} = ((100K / (100K + 17.4K)) / 3.3) \cdot (0.1 / 0.02) = I_{charge}$
IREF=0.7748*Icharge

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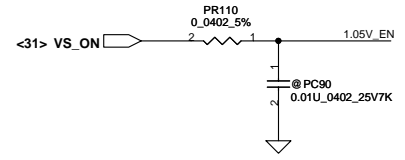
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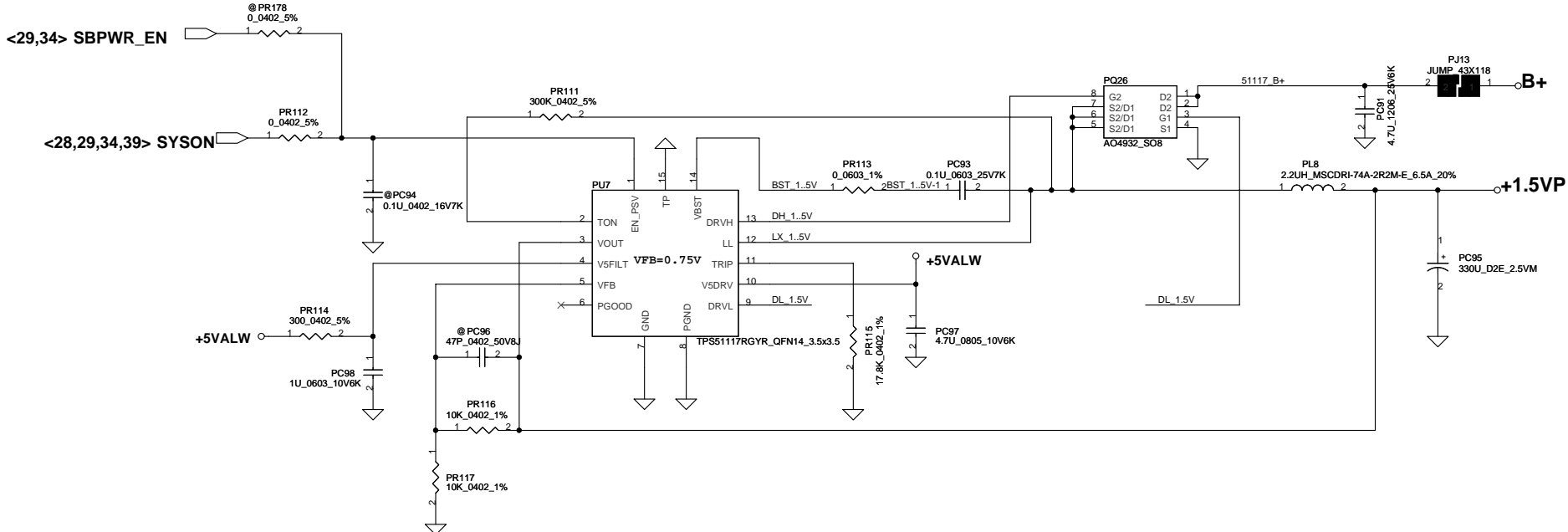


DCR 6m ohm(max) Cout ESR=15m ohm
+1.05VSP OCP Setting is same as ICL50
 $V_o = V_{ref} * ((PR80 + PR82) / PR80)$
 $I_{peak} = 14.02A$, $I_{max} = 9.81A$
 $I_{ocp} = 14.02 * 1.2 = 16.824A$
 $C_{sen} = L / (Rocset * DCR)$
 $0.015u = 1u / (Rocset * 6m)$ Rocset = 11.111K - 11.8K
 $I_{ocp} = (Rocset * 10uA) / DCR$
 $I_{ocp} = (11K * 10uA) / (6m ohm * 1.3) = 15.1A$

DCR 6m ohm(max) Cout ESR=15m ohm
 $V_o = 0.6 * ((PR87 + PR83) / PR83) = 1.8V$
1.8VP $I_{peak} = 11.93A$, $I_{max} = 8.351A$
 $C_{sen} = L / (Rocset * DCR) = 1uF / (Rocset * 6m ohm) = 0.022uF$
 $\Rightarrow Rocset = 7.575K$, Choose 10K because of thermal factor
 $I_{ocp} = (Rocset * 10uA) / DCR = (10K * 10uA) / (0.006 * 1.3) = 12.82A$



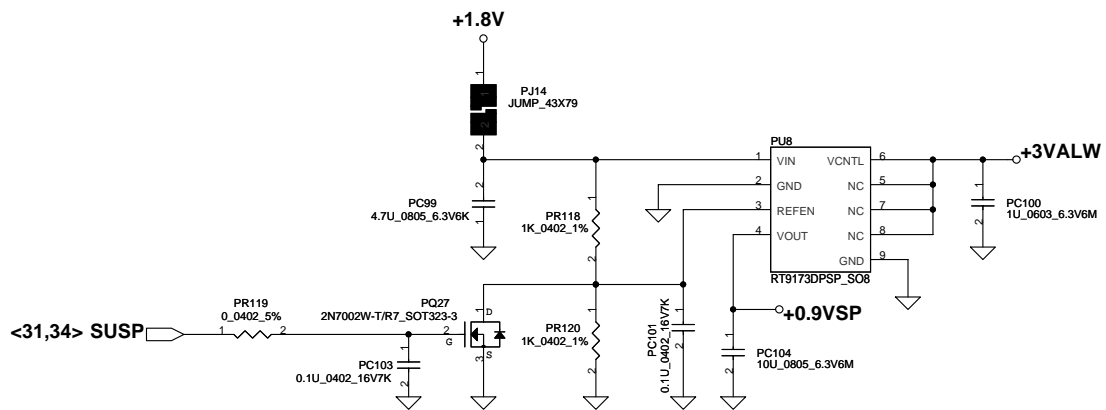
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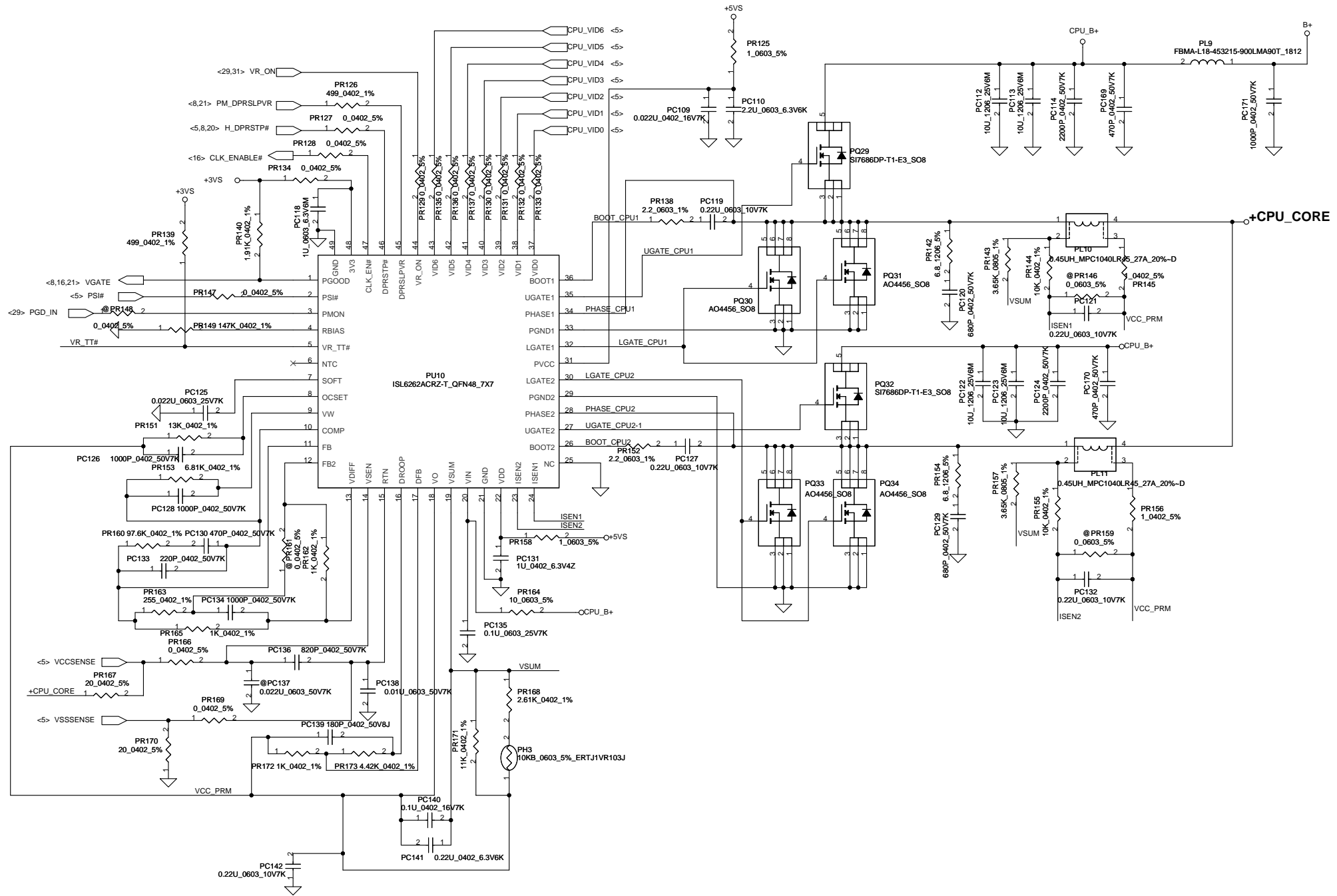
VFB=0.75V
 $V_o = V_{FB} * (1 + PR87 / PR88) = 0.75 * (1 + 10K / 10K) = 1.5V$
 $Ton = 19 * e^{-12} * 143000 * ((2/3) * V_o + 100mV) / 19 + 50ns$
 $= 2.645e-7 us$
 $=> V_o / Vin = D = Ton / Ts => Ts = 3.35us$
 $Fsw = 298KHz$

Cout ESR=15m ohm
 $I_{peak} = 4.71A, I_{max} = 3.297A, I_{ocp} = 5.652A$
 $\Delta I = ((19 - 1.5) * (1.5 / 19)) / (L * Fsw) = 2.107A$
 $=> 1/2 \Delta I = 1.053A$
 $V_{trip} = R_{trip} * I_{ocp} = 17.8K * 10uA = 0.178V$
 $I_{ocpmin} = V_{trip} / R_{dsonmax} * 1.2 + 1.053A$
 $= 0.178 / (0.027 * 1.2) + 1.053 = 5.493A + 1.053A = 6.546A$
 $I_{ocpmax} = (0.178 / (0.021 * 1.1)) + 1.053A = 7.705A + 1.053A$
 $= 8.758A$
 $I_{ocp} = 6.546A - 8.758A$

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Item	Fixed Issue	Reason for change	Rev.	PG#	Modify List	Date	Phase
1	ISL6237 can't shutdown while battery only.	ISL6237 can't shutdown while battery only.	0.1	41	Add PQ35 SB906100210 TP0610K.	20071031	EVT
2	Delete PD1	Because we can cost down and B+ has another one.	0.2	39	Delete PD1 SCSB540C080 (S SCH DIO B540C-13-F SMC)	20071115	DVT
3	Change PQ9,PQ10,PQ12 to A04407A	Change PQ9,PQ10,PQ12 to A04407A	0.2	38	Change PQ9,PQ10,PQ12 to A04407A	20080509	DVT
4	Fixed ACIN signal level	Fixed ACIN signal level	0.3	37	PD2 change to PR197 10K 0402 %1	20080509	DVT
5	Fixed ACIN signal level	Fixed ACIN signal level	0.3	37	PR2 unpop	20080509	DVT
6	Fixed ACIN signal level	Fixed ACIN signal level	0.3	37	PR4 change to 0 0402 %5	20080509	DVT
7	Change PR65	Cells voltage must over 2.5V	0.4	38	PR65 change to 47K 0402 %1	20080613	PVT
8	Node of PR70 is changed	Node of PR70 is changed	0.5	38	Node of PR70_100K_0402_1% change from VREF to RTCVREF	20080620	PVT
9	Add PC89,PR108	for EMI solution	0.6	39	Add PC89:680P_0402_50V7K PR108:4.7_1206_5%	20080620	PVT
10	Add PC169,PC170 on CPUB+	for EMI solution	0.6	42	Add PC169,PC170(470P_0402_50V7K) on CPUB+	20080620	PVT
11	Add PC171 on B+	for EMI solution	0.6	42	Add PC171(1000P_0402_50V7K) on B+	20080620	PVT
12	Change PR138 ,PR152	for EMI solution	0.6	42	PR138 ,PR152 change to 2.2_0603_1%	20080620	PVT
13	Change PR95	pull up the output voltage from 1.05v to 1.06 v	0.7	39	Change PR95 from 45.3K_0402_1% to 46.4K_0402_1%	20080623	PVT
14	Change PR17,PR18,PR19,PR22	Thermal protection 90oC & Recovery at 70oC	0.8	36	Change PR17 and PR18 to 100K_0402_1% Change PR19 to 18K_0402_1% and PR22 to 11.3K_0402_1%	20080701	PVT
15							
16							
17							
18							
19							
20							
21							
22							
23							

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A --> B Change List

4/24
 <Page 22>
 -R57, R133 10ohm change to 100ohm
 -C135, C204 0.1u change to 1u
 for ICH9 USB1.1 issue
 <Page 33>
 -R551, R552, R553, R554 75ohm change to 1K
 for Audio ESD protection

4/30
 -Update Power SCH
 <Page 4>
 -Add R27, C427
 for +5VS drop issue
 -R541 pull high 3.3V
 <Page 33>
 -R486, R477 75ohm change to 56.2ohm
 for AUDIO D-A HP FSOV

5/2
 -Bluetooth USBP5P/5N change to USBP7P/7N

5/5
 -Modify LED test value
 -Add 51@, NC@, GL@

5/6
 -Update Power SCH
 <Page 25>
 -R290 change to L47(SM010014520)
 for EMI

5/7
 -add BT@, GM@

B --> C Change List

6/25
 <Page 16>
 -C301, C296 33p change to 27p
 for RTC issue

C --> Pre MP Change List

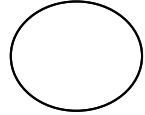
7/14
 <Page 16>
 -U31 SA00002Q830(QU37) change SA00002Q810(QU56)

7/28
 -update Power SCH

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PCB KAWE0 LA-4431P LS-4391P/4392P/4393P

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