

# Compal Confidential

## NAV70 Schematics Document

### Intel Pineview Processor with Tigerpoint + DDRII

2010-04-29

REV: 2.0

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File Name : LA-5651P

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Speaker

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CONN

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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
+VCCP	VCCP switched power rail	ON	OFF	OFF
+1.5VS	1.5V switched power rail	ON	OFF	OFF
+1.8V	1.8V power rail for DDR	ON	ON	OFF
+0.89V	Graphic core power rail	ON	OFF	OFF
+3VALW	3.3V always on power rail	ON	ON	ON*
+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.

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

### BOARD ID Table(Page 17)

ID	BRD ID	Rb	Vab-Min	Vab-Typ	Vab-Max
	Ra	100K			
NAV50	0	R01 (EVT)	0	0V	0V
	1	R02 (DVT)	8.2K	0.216V	0.250V
	2	R03 (PVT)	18K	0.436V	0.503V
	3	R10A (MP)	33K	0.712V	0.819V
NAV60	4	R01 (EVT)	56K	1.036V	1.185V
	5	R02 (DVT)	100K	1.453V	1.650V
	6	R03 (PVT)	200K	1.935V	2.200V
	7	R10A (MP)	NC	2.500V	3.3V

### External PCI Devices

DEVICE	IDSEL #	REQ/GNT #	PIRQ
--------	---------	-----------	------

No PCI Device

### EC SM Bus1 address

### EC SM Bus2 address

Device	Address	Device	Address
Smart Battery	0001 011X b	EMC1402	100_1100

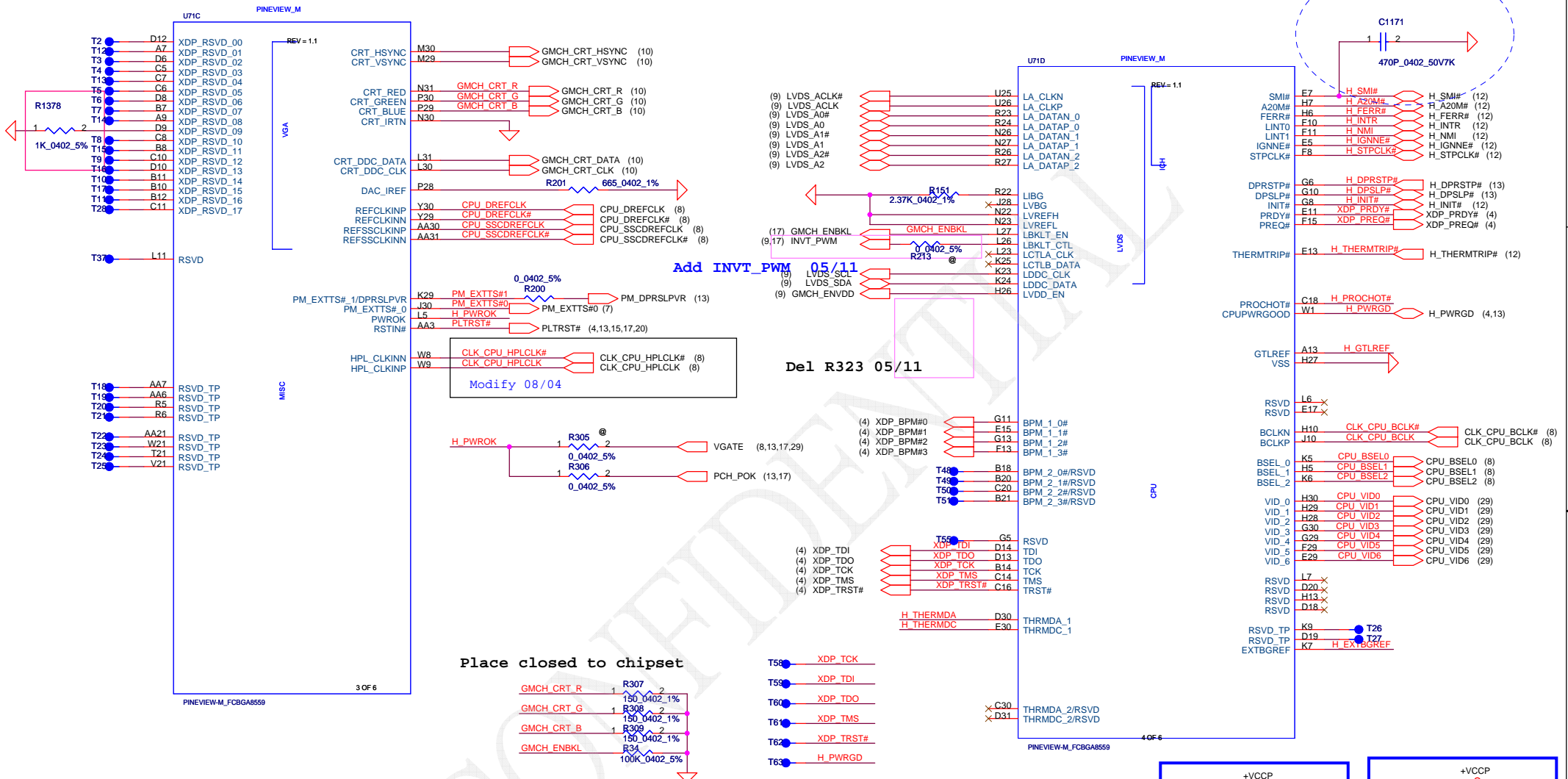
### ICH7M SM Bus address

Device	Address
Clock Generator (SLG8SP556VTR)	1101 001Xb
DDR DIMMA	1010 000Xb

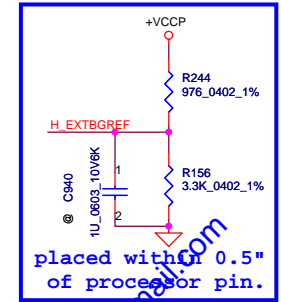
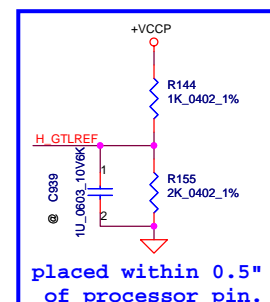
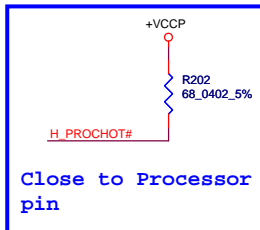
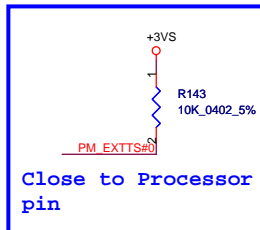
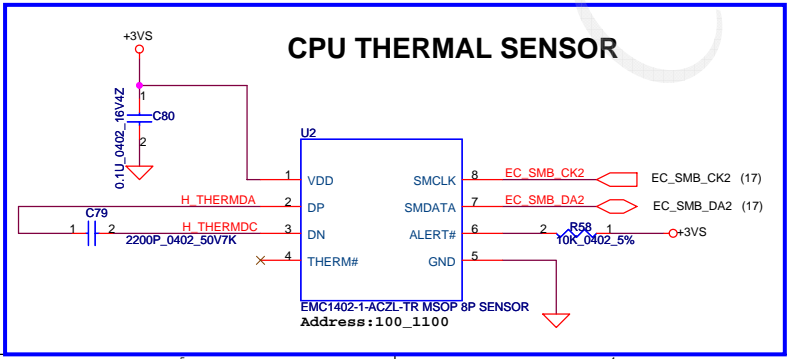
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Add 470PF on H\_SMI# for known issue 07/08



H\_THERMDA, H\_THERMDC routing together.  
Trace width / Spacing = 10 / 10 mil



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GFX supply current: 1.38A  
Sustained GFX supply current: 1.05A

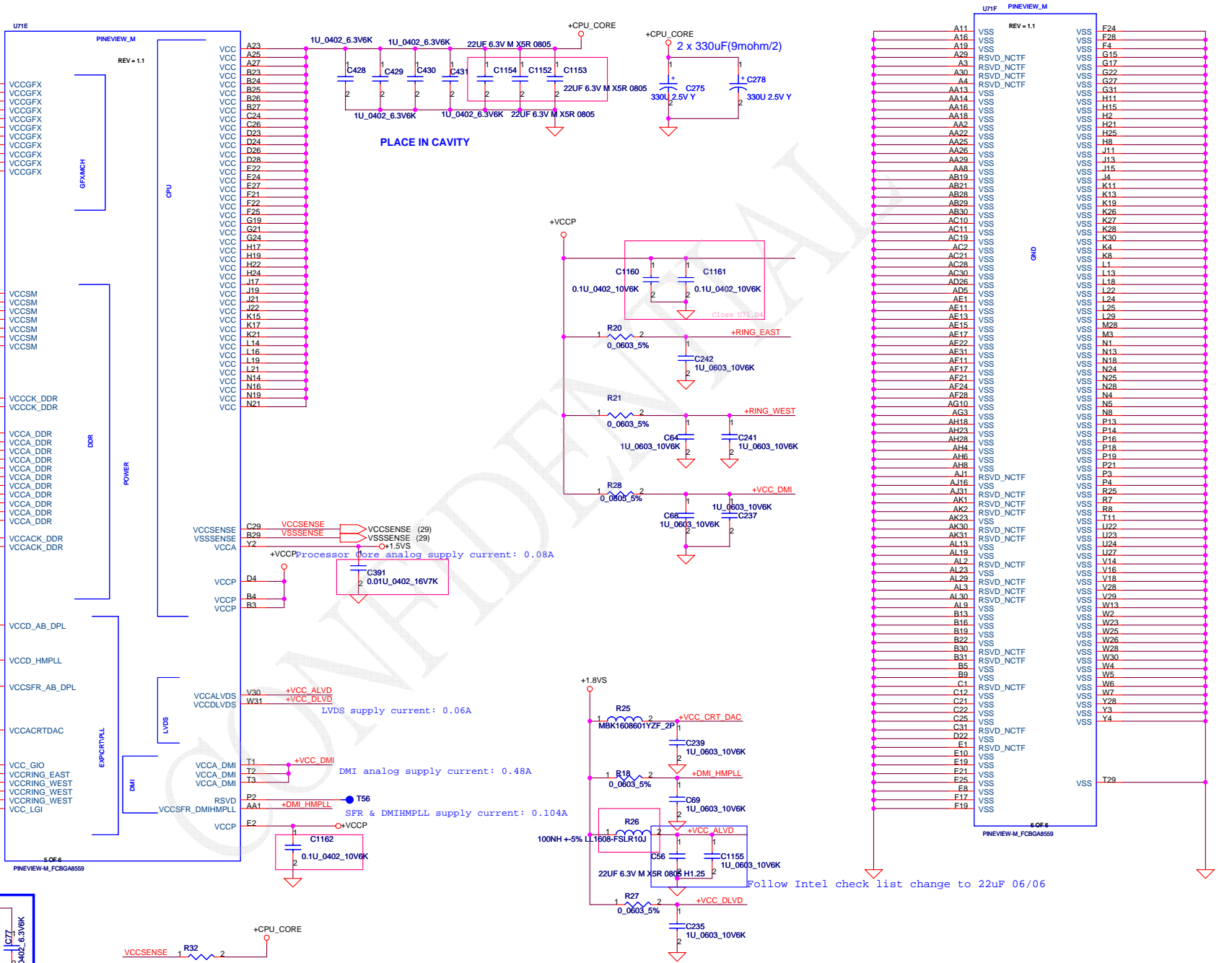
DDR supply current 2.27A

Display PLL SFR and CRT DAC supply current: 0.154A

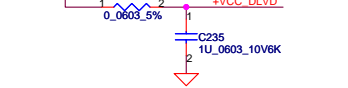
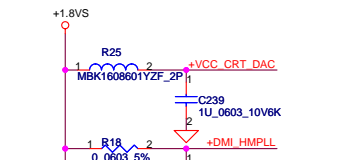
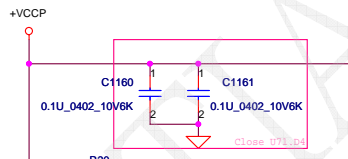
DAC, GIO, LVDS, & LGIO, DPLL, HMPLL supply current: 0.33A

Close Chipset pin

Modify to 2.2U 05/11



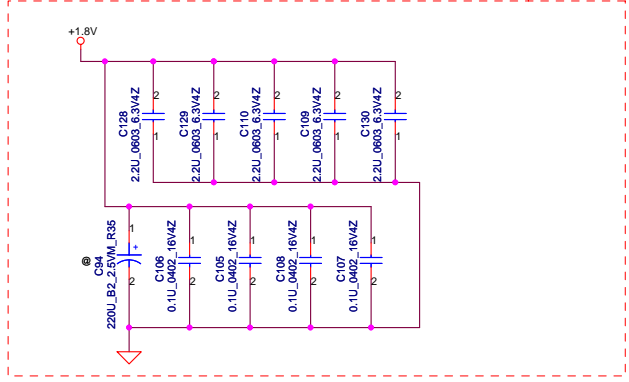
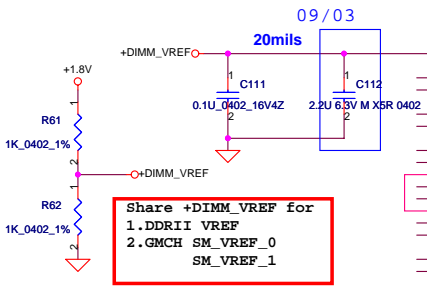
PLACE IN CAVITY



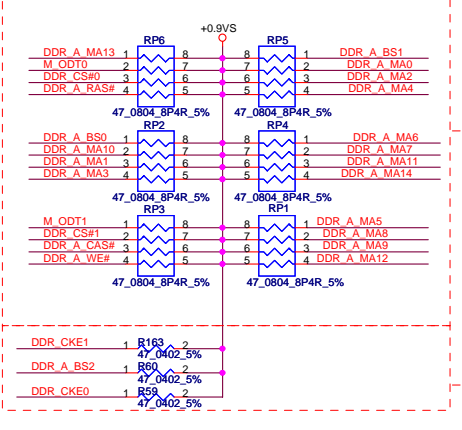
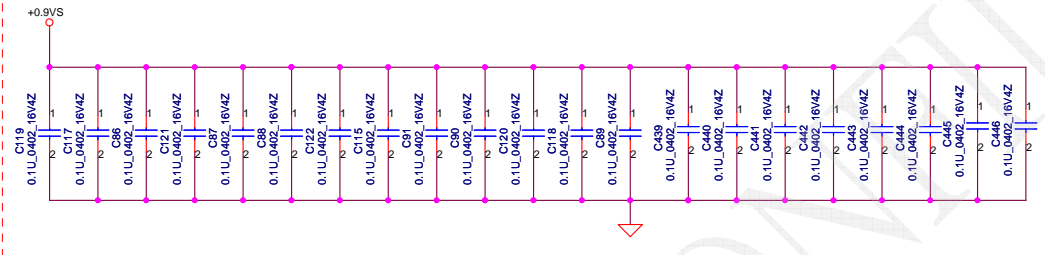
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- (4) DDR\_A\_DQS#[0..7]
- (4) DDR\_A\_D[0..63]
- (4) DDR\_A\_DM[0..7]
- (4) DDR\_A\_DQS#[0..7]
- (4) DDR\_A\_MA[0..14]

**Layout Note:**  
Place near JDIM1

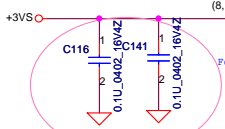
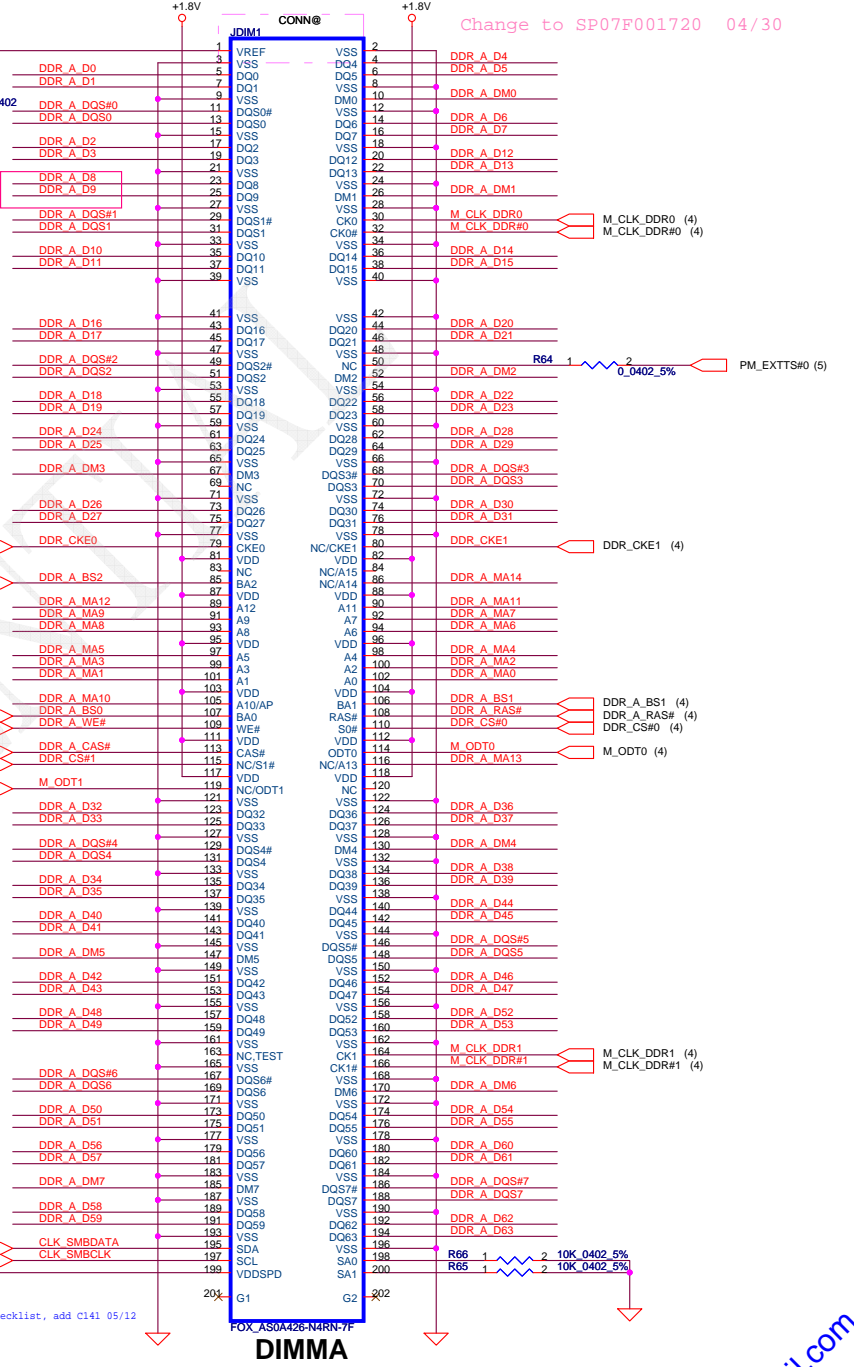


**Layout Note:**  
Place one cap close to every 2 pullup resistors terminated to +0.9VS



**Layout Note:**  
Place these resistor closely DIMMA, all trace length < 750 mil

**Layout Note:**  
Place these resistor closely DIMMA, all trace length Max=1.3"

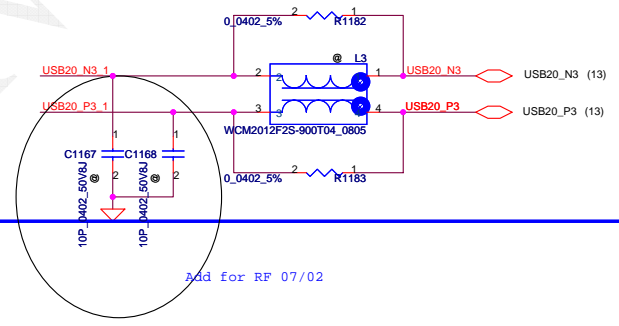
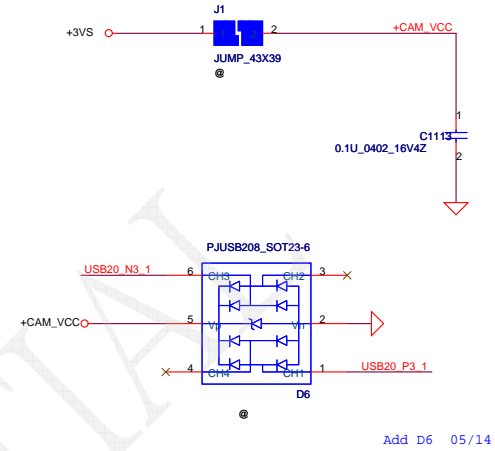
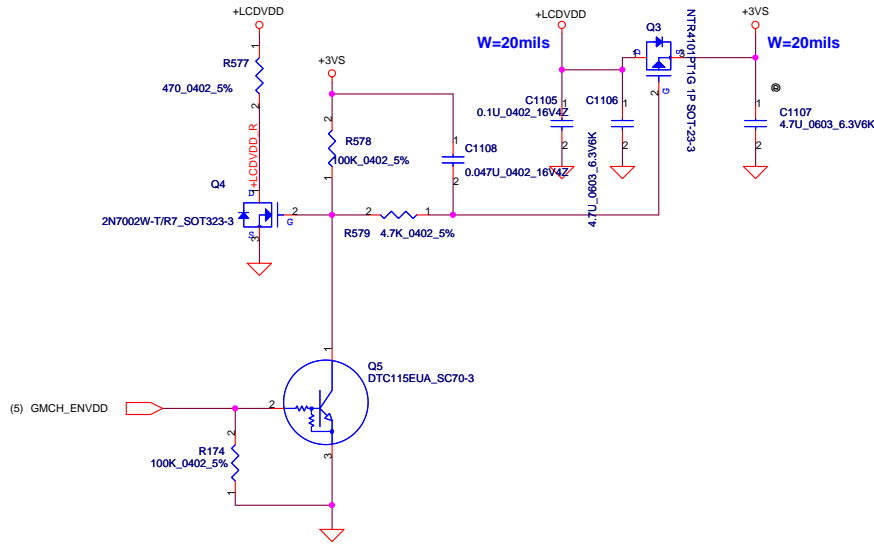


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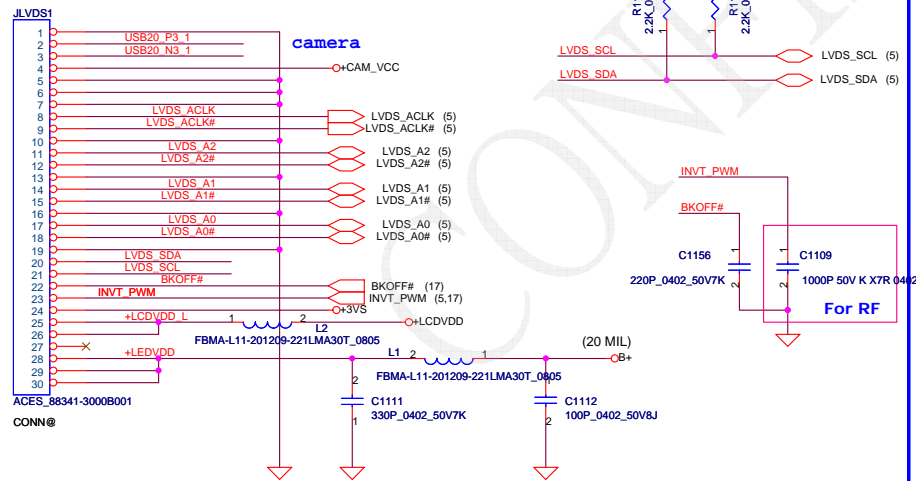


### LCD POWER CIRCUIT

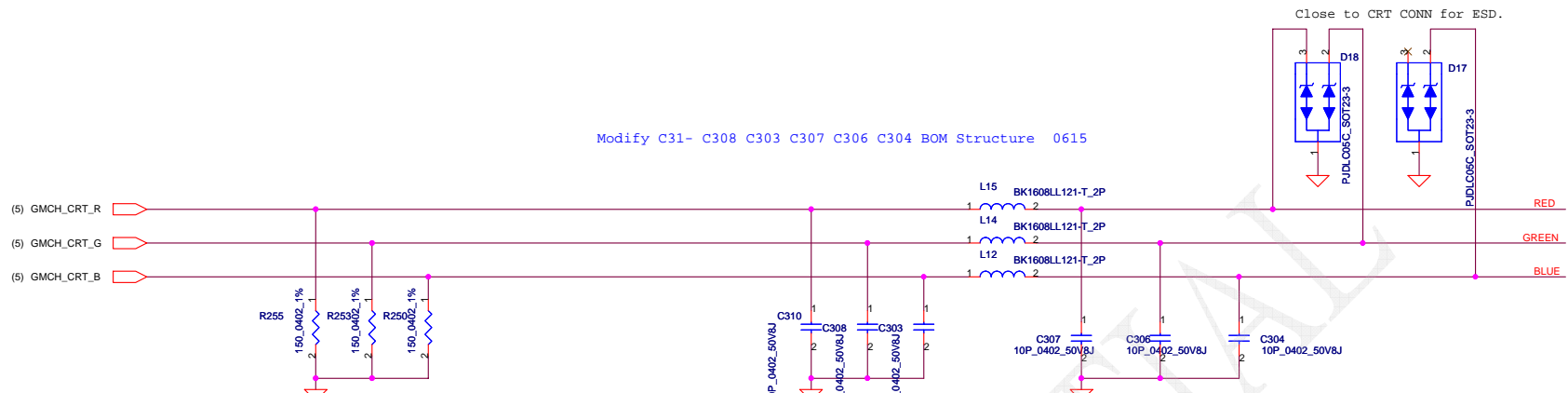


### CMOS & LCD/PANEL BD. Conn.

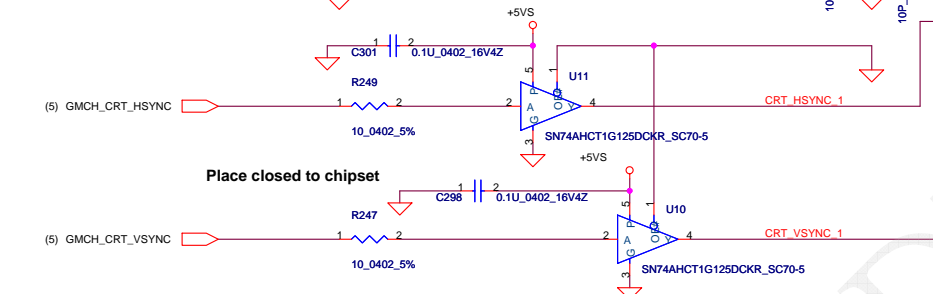
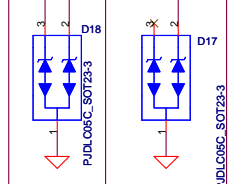
Modify JLVD51 08/04



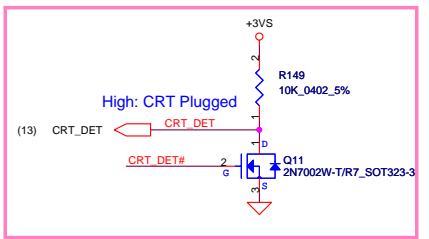
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Close to CRT CONN for ESD.

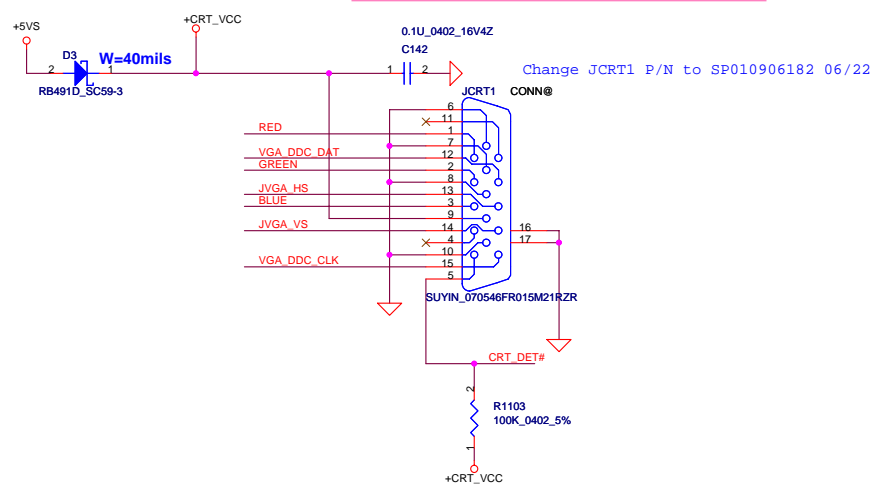
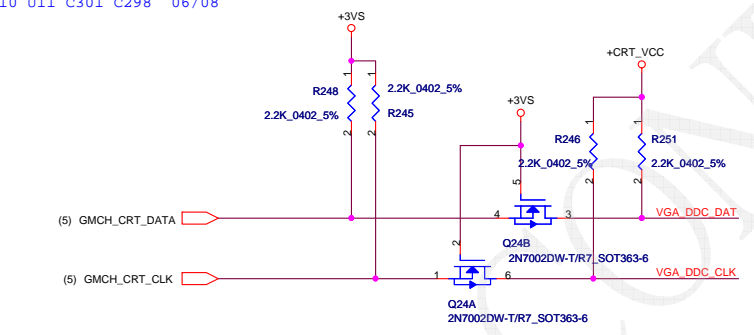


Change CRT\_DET# From Page 13 to Page 10 06/12

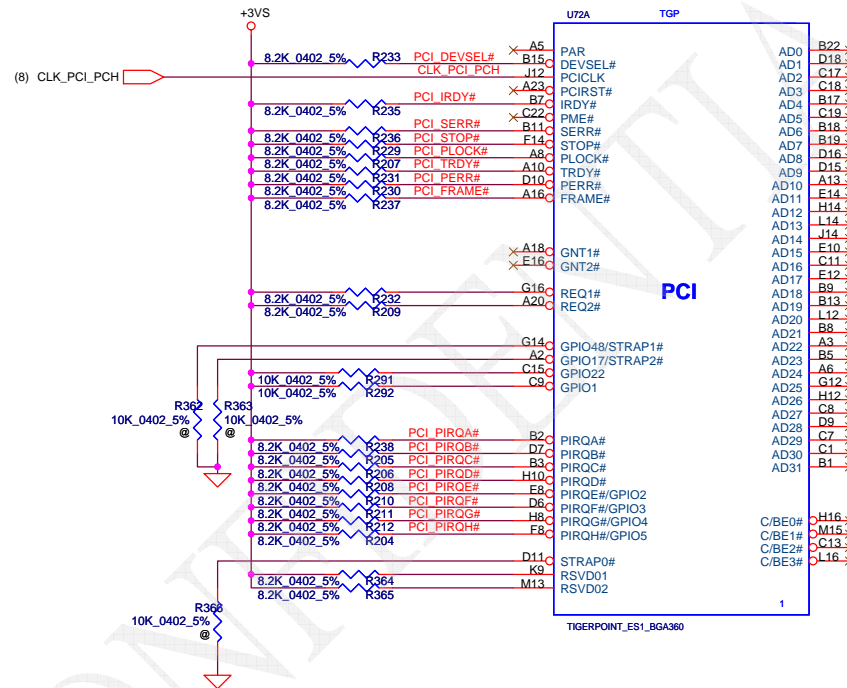
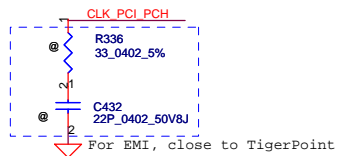


Add R1283 R1284  
Change R247 R249 to 10 ohm  
Add @ on U10 U11 C301 C298 06/08

### CRT PORT

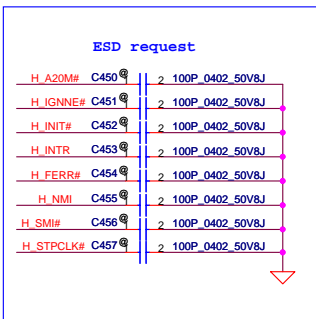
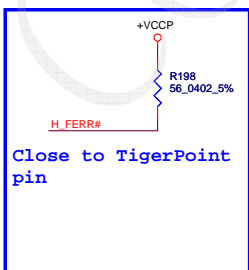
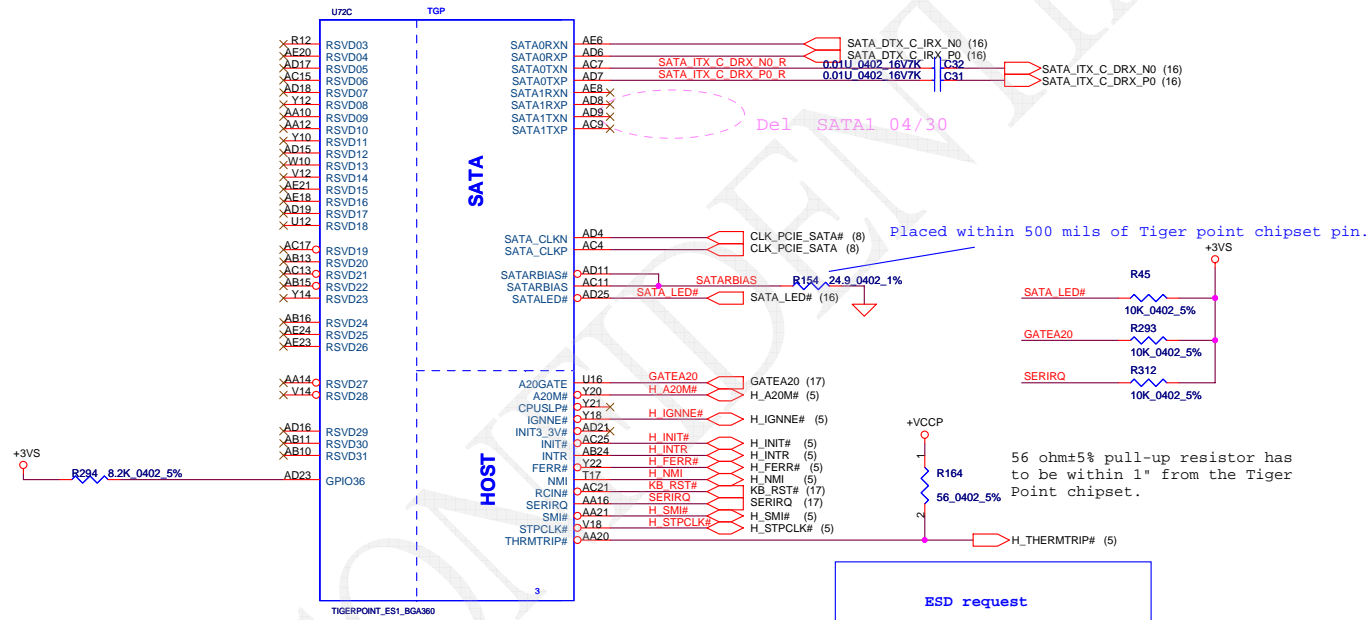


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STRAP2# GPIO17	STRAP1# GPIO48	Boot BIOS
0	1	SPI
1	0	PCI
1	1	LPC

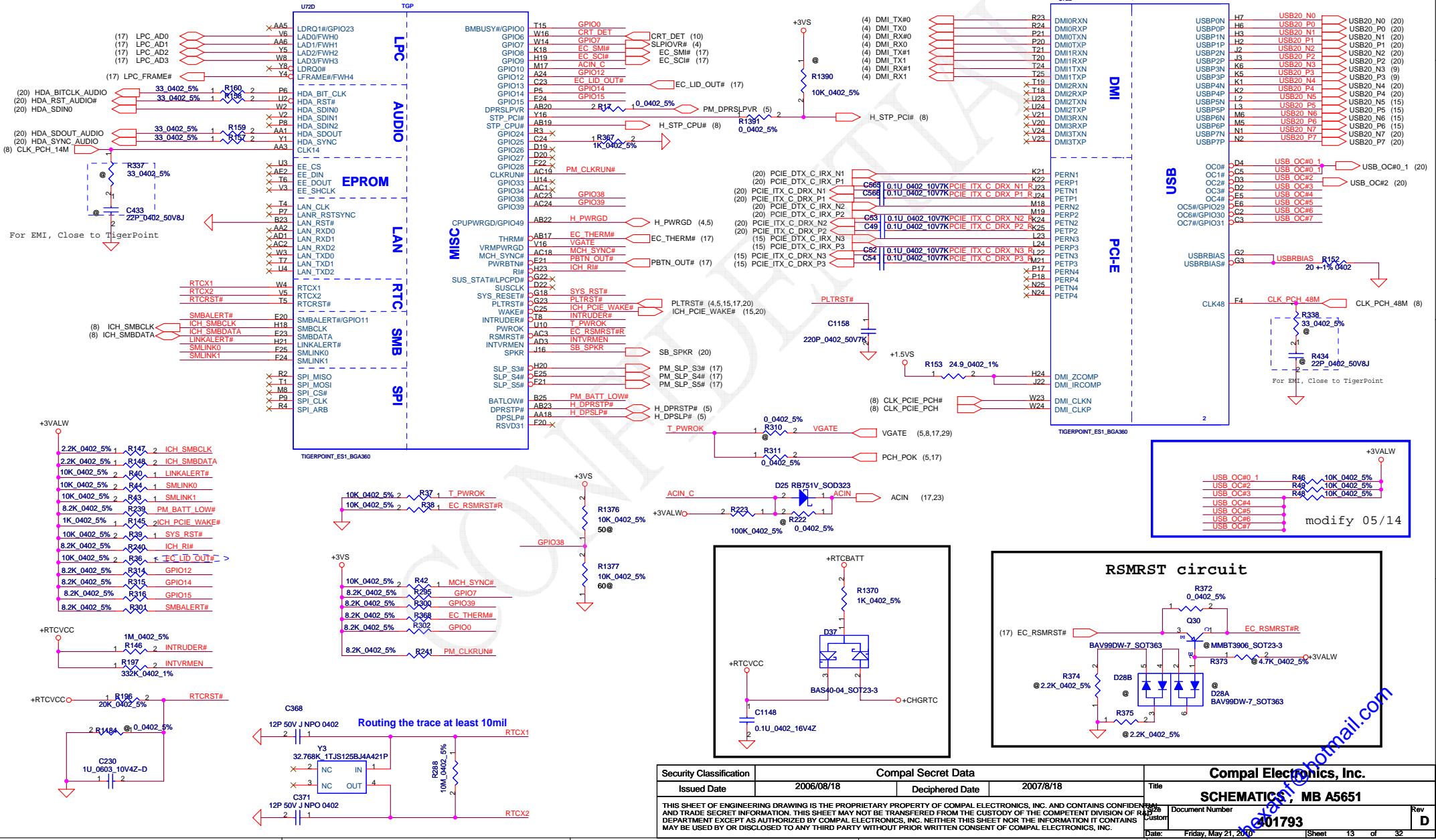
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1	LAN
2	WLAN
3	WWAN
4	

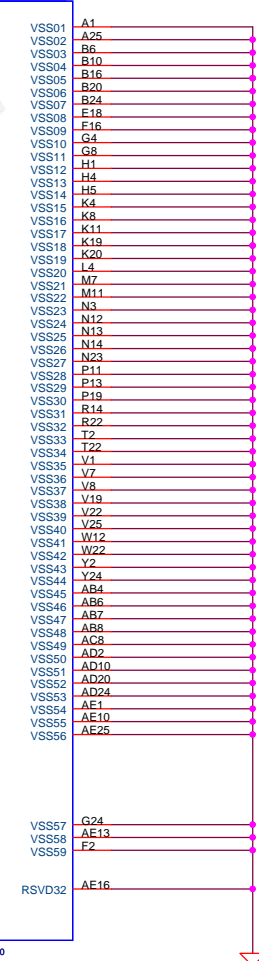
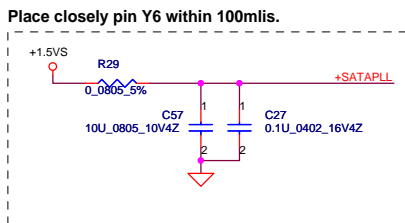
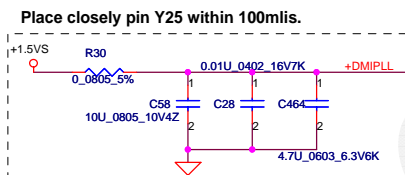
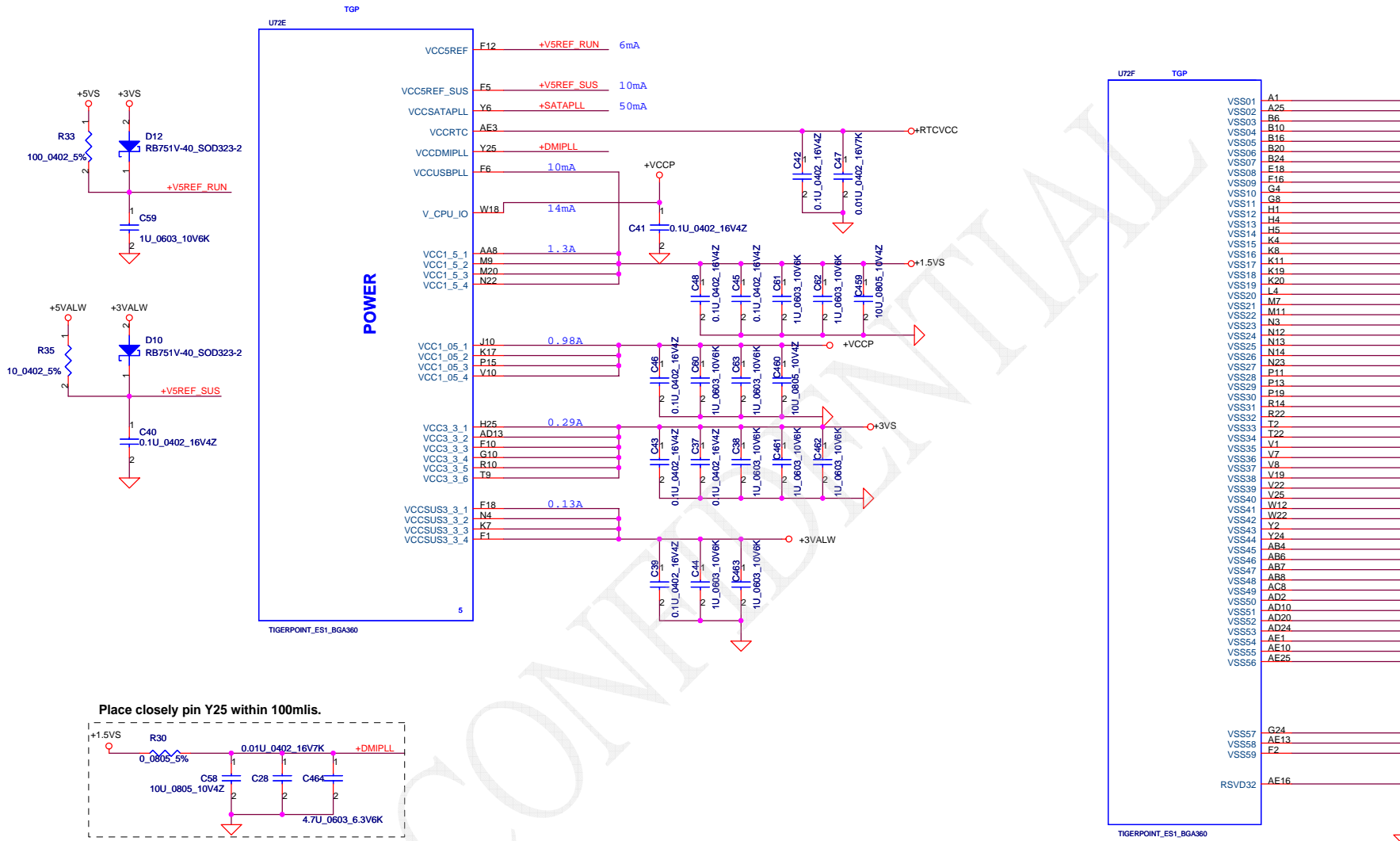
0	USB Left1
1	USB Left2
2	USB Right2
3	CMOS
4	CardReader
5	WWAN
6	BT
7	WIMAX



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# Mini-Express Card for WWAN

(17) EC\_TX\_P80\_DATA R402 0.402\_5% EC\_TX\_P80\_DATA\_R  
 (17) EC\_RX\_P80\_CLK R403 0.402\_5% EC\_TX\_P80\_CLK\_R

Change JMINI1 to FOX\_AS0B246-S50U-7F\_52P-T 06/29

(13,20) ICH\_PCIE\_WAKE# ICH\_PCIE\_WAKE#

(8) WWAN\_CLKREQ# WWAN\_CLKREQ#

(8) CLK\_PCIE\_WWAN# CLK\_PCIE\_WWAN#

(8) CLK\_PCIE\_WWAN# CLK\_PCIE\_WWAN#

(13) PCIE\_DTX\_C\_IRX\_N3 PCIE\_DTX\_C\_IRX\_N3

(13) PCIE\_DTX\_C\_IRX\_P3 PCIE\_DTX\_C\_IRX\_P3

Change to PCIE\_P3 05/13

(13) PCIE\_ITX\_C\_DRX\_N3 PCIE\_ITX\_C\_DRX\_N3

(13) PCIE\_ITX\_C\_DRX\_P3 PCIE\_ITX\_C\_DRX\_P3

(13) PCIE\_ITX\_C\_DRX\_N3 PCIE\_ITX\_C\_DRX\_N3

(13) PCIE\_ITX\_C\_DRX\_P3 PCIE\_ITX\_C\_DRX\_P3

(13) PCIE\_ITX\_C\_DRX\_N3 PCIE\_ITX\_C\_DRX\_N3

(13) PCIE\_ITX\_C\_DRX\_P3 PCIE\_ITX\_C\_DRX\_P3

(13) PCIE\_ITX\_C\_DRX\_N3 PCIE\_ITX\_C\_DRX\_N3

(13) PCIE\_ITX\_C\_DRX\_P3 PCIE\_ITX\_C\_DRX\_P3

(13) PCIE\_ITX\_C\_DRX\_N3 PCIE\_ITX\_C\_DRX\_N3

(13) PCIE\_ITX\_C\_DRX\_P3 PCIE\_ITX\_C\_DRX\_P3

(13) PCIE\_ITX\_C\_DRX\_N3 PCIE\_ITX\_C\_DRX\_N3

(13) PCIE\_ITX\_C\_DRX\_P3 PCIE\_ITX\_C\_DRX\_P3

(13) PCIE\_ITX\_C\_DRX\_N3 PCIE\_ITX\_C\_DRX\_N3

(13) PCIE\_ITX\_C\_DRX\_P3 PCIE\_ITX\_C\_DRX\_P3

(13) PCIE\_ITX\_C\_DRX\_N3 PCIE\_ITX\_C\_DRX\_N3

(13) PCIE\_ITX\_C\_DRX\_P3 PCIE\_ITX\_C\_DRX\_P3

(13) PCIE\_ITX\_C\_DRX\_N3 PCIE\_ITX\_C\_DRX\_N3

(13) PCIE\_ITX\_C\_DRX\_P3 PCIE\_ITX\_C\_DRX\_P3

(13) PCIE\_ITX\_C\_DRX\_N3 PCIE\_ITX\_C\_DRX\_N3

(13) PCIE\_ITX\_C\_DRX\_P3 PCIE\_ITX\_C\_DRX\_P3

(13) PCIE\_ITX\_C\_DRX\_N3 PCIE\_ITX\_C\_DRX\_N3

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(13) PCIE\_ITX\_C\_DRX\_N3 PCIE\_ITX\_C\_DRX\_N3

(13) PCIE\_ITX\_C\_DRX\_P3 PCIE\_ITX\_C\_DRX\_P3

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(13) PCIE\_ITX\_C\_DRX\_P3 PCIE\_ITX\_C\_DRX\_P3

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(13) PCIE\_ITX\_C\_DRX\_N3 PCIE\_ITX\_C\_DRX\_N3

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(13) PCIE\_ITX\_C\_DRX\_P3 PCIE\_ITX\_C\_DRX\_P3

(13) PCIE\_ITX\_C\_DRX\_N3 PCIE\_ITX\_C\_DRX\_N3

(13) PCIE\_ITX\_C\_DRX\_P3 PCIE\_ITX\_C\_DRX\_P3

UIM\_VPP

UIM\_DATA

UIM\_RST

UIM\_VPP

UIM\_VPP

UIM\_DATA

UIM\_RST

UIM\_VPP

UIM\_VPP

UIM\_DATA

UIM\_RST

UIM\_VPP

UIM\_VPP

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UIM\_DATA

UIM\_RST

UIM\_VPP

UIM\_VPP

UIM\_DATA

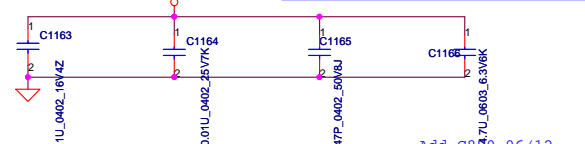
UIM\_RST

UIM\_VPP

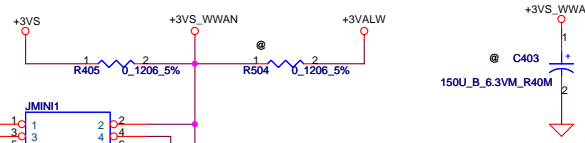
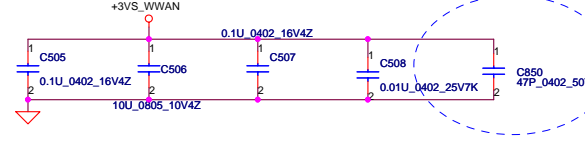
UIM\_VPP

Reserve for SIM card does not meet rise time and pull-up is needed.

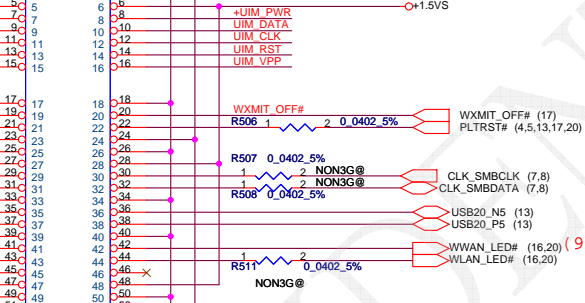
Add C1163 C1164 C1165 C1166 06/23



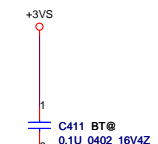
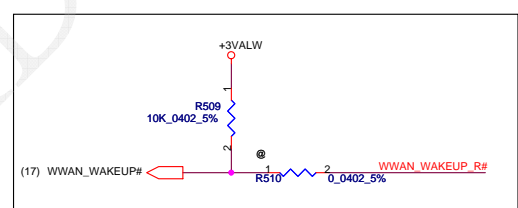
Add C850 06/12



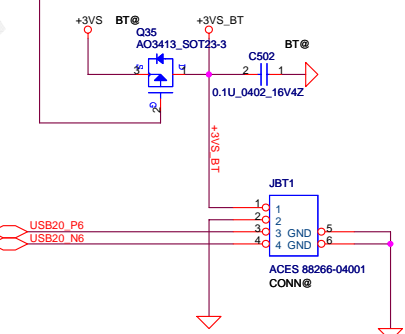
Close to WWAN CONN



(9~16mA)



## BT MODULE CONN

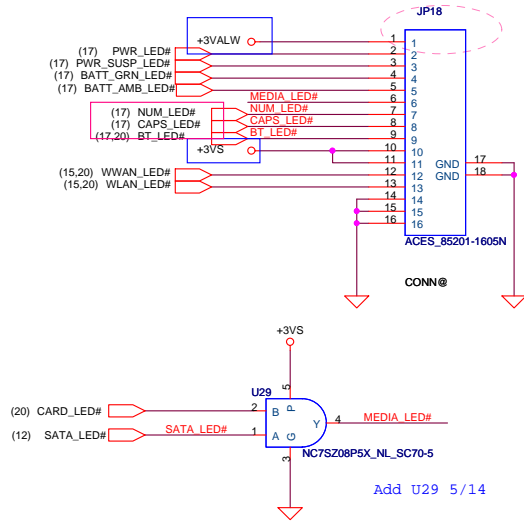


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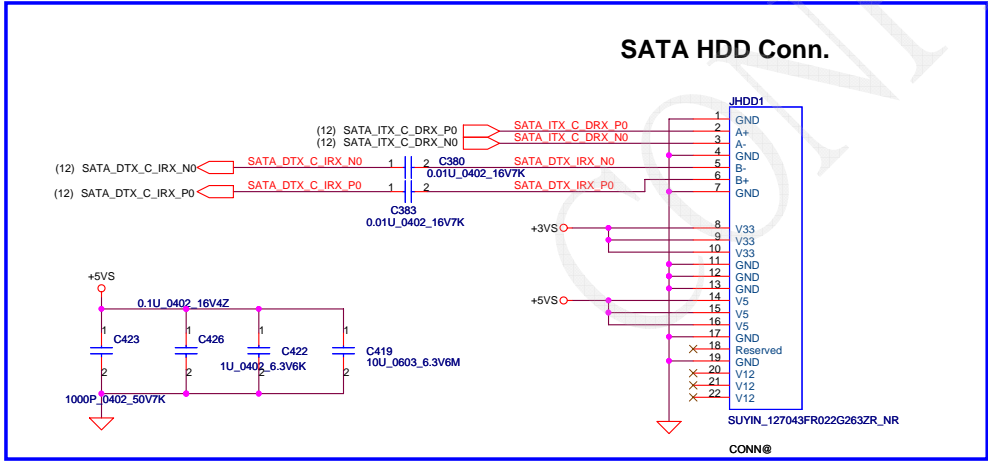
ADD LED PCB CONN 06/12

LED PCB CONN

Change JP18 to NEW P/N 06/23  
09/03 Change +5VALW , +5VS to +3VALW +3VS



SATA HDD Conn.

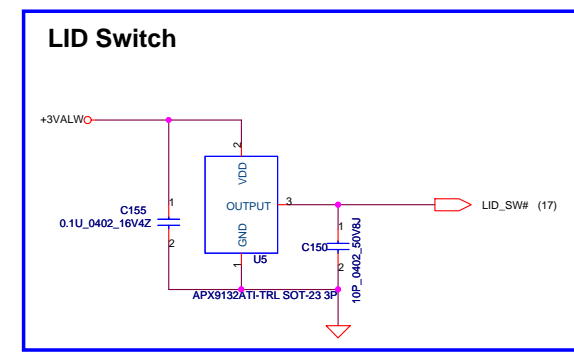
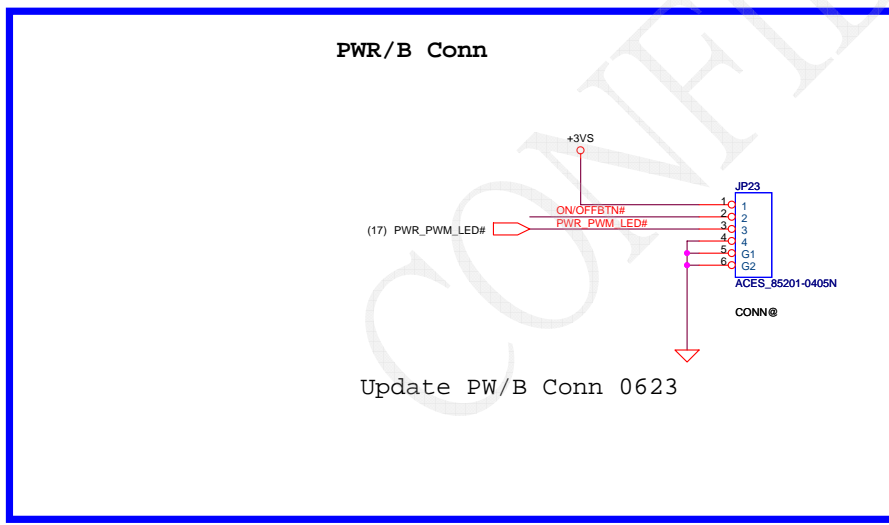
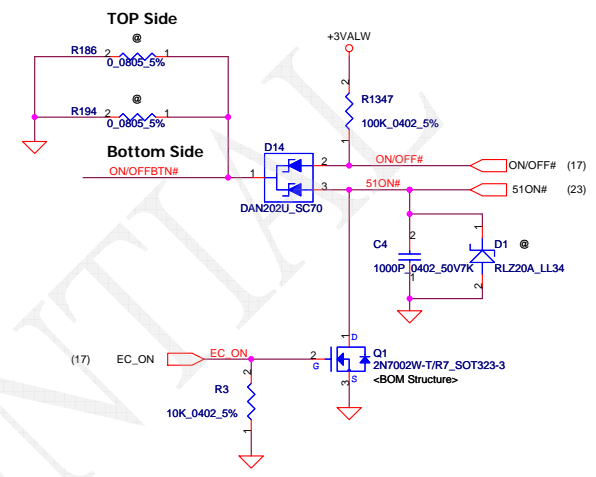
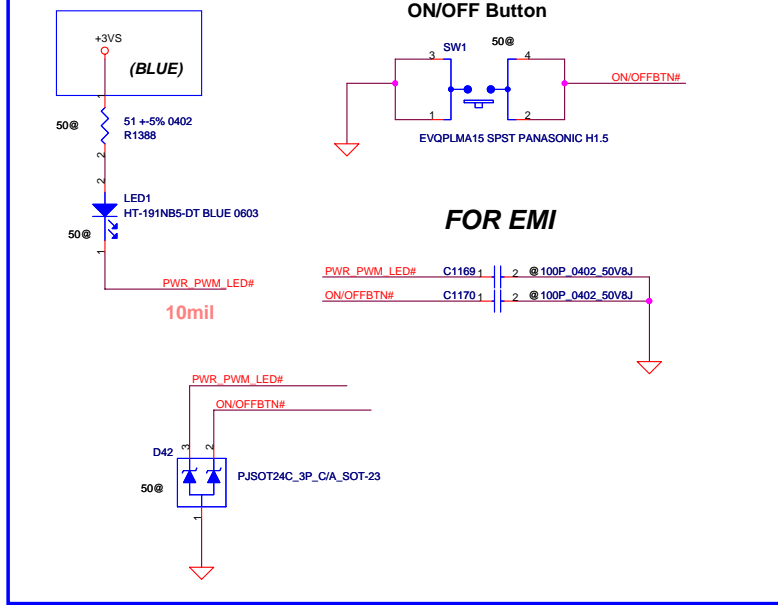


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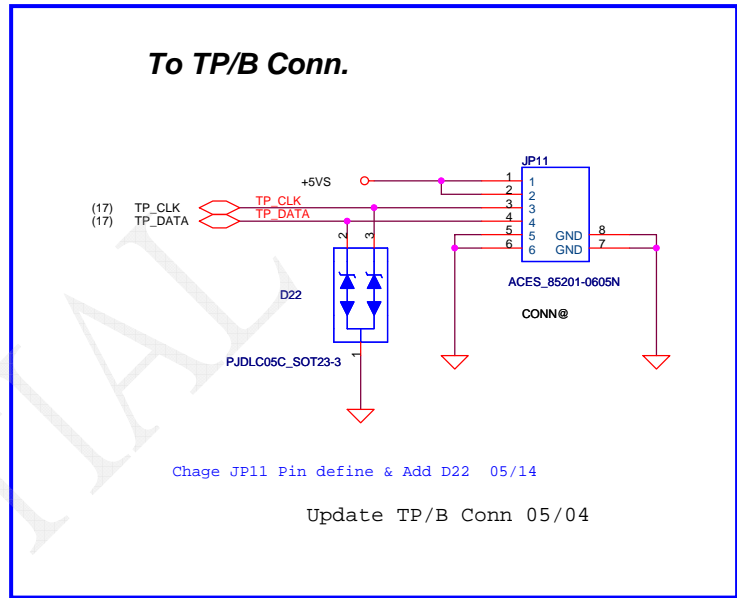
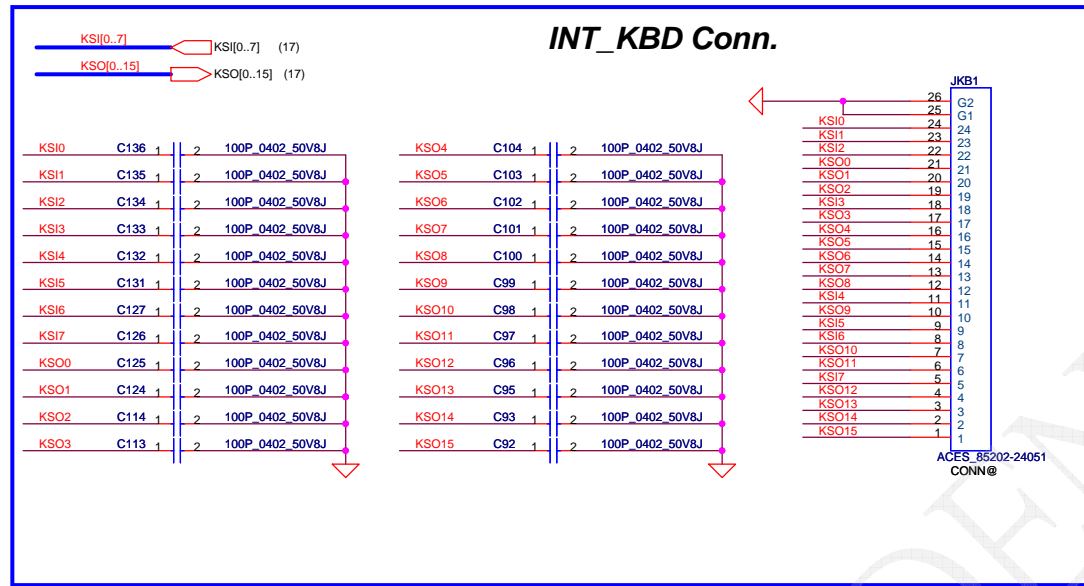




Add For NAV50 07/06  
09/03 Change +5VS to +3VS



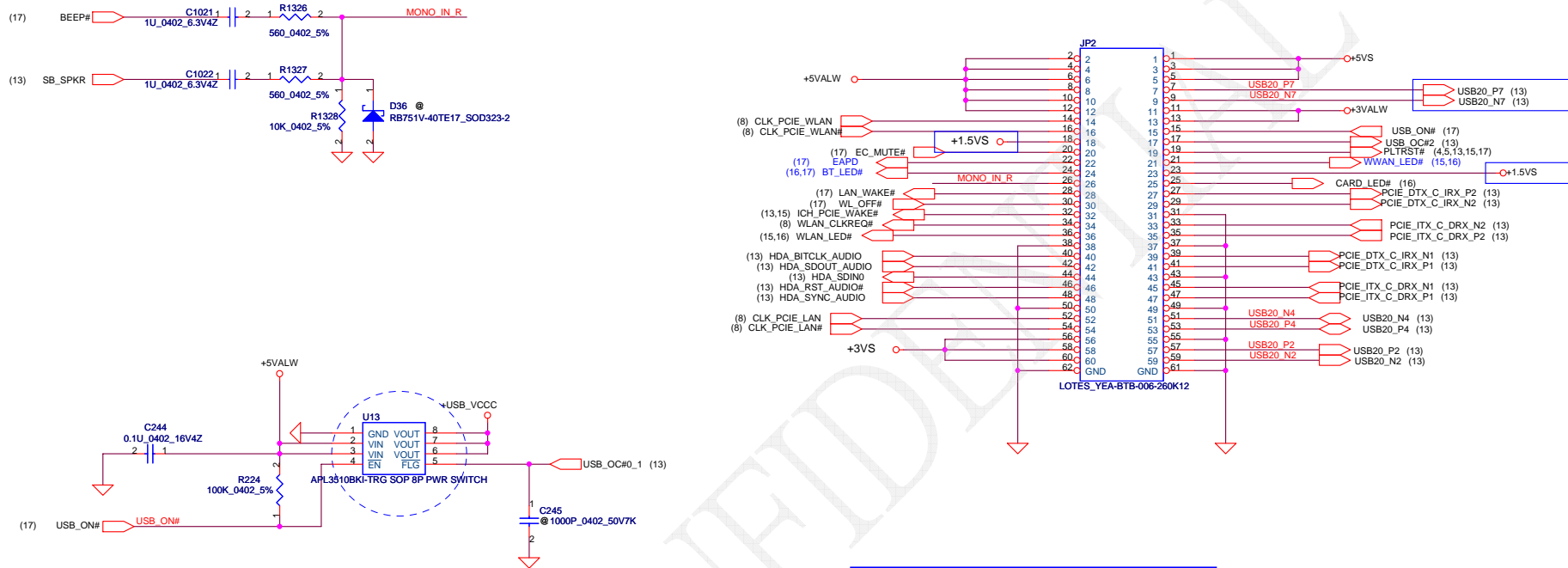
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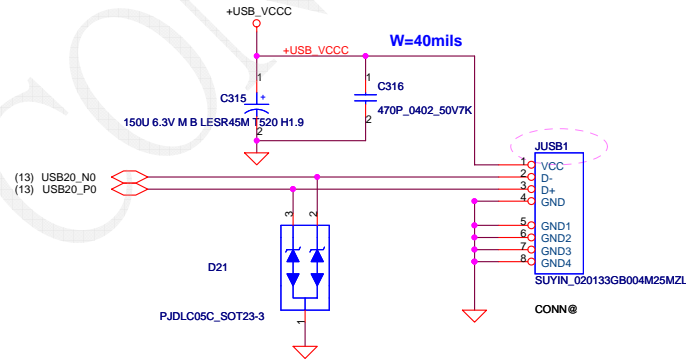
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09/03 Change Pin 18, 23 to +1.5VS change Pin7 , 9 to USB20\_P7 N7

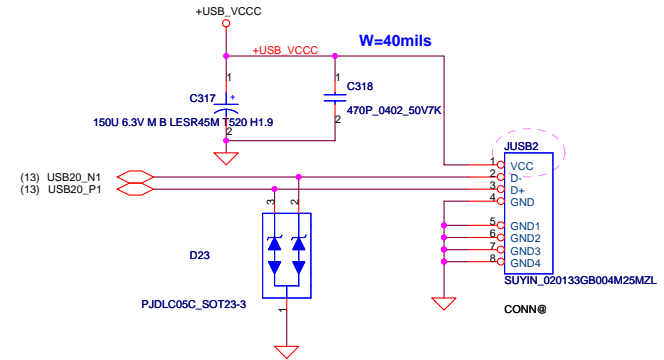
### I/O Board Conn.



#### USB CONN.1

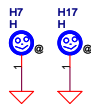
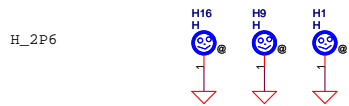


#### USB CONN.2

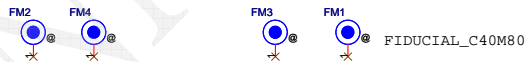
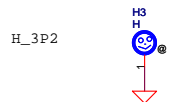
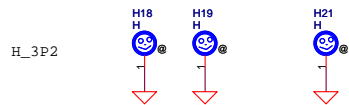


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Modify Hole location by (ME Drawing 06/12) 0615



09/03 Del H12



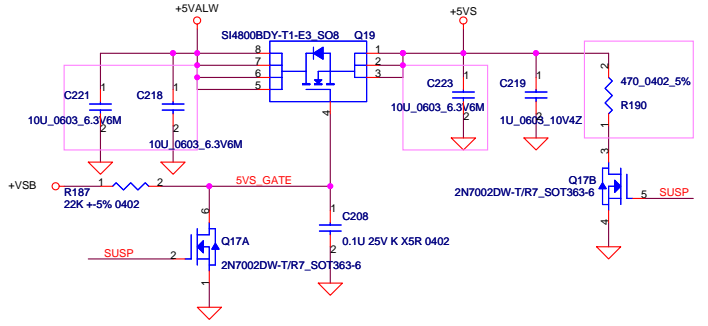
CONFIDENTIAL

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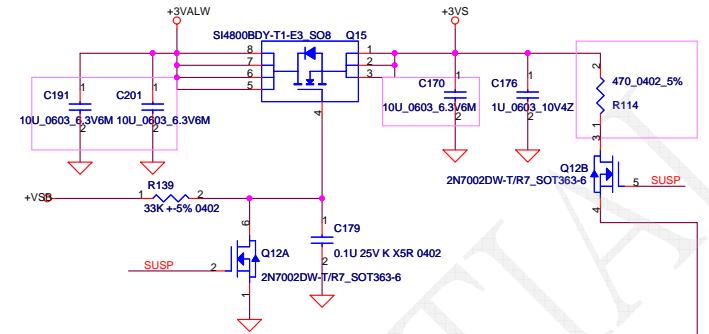
mailto:rain@potmail.com

Change R51 R57 R70 R63 R317 R114 R190 to 0402 SIZE 04/30  
 Change C221 C218 C223 C 191 C201 C170 C392 C393 C394 to 0603 SIZE 04/30

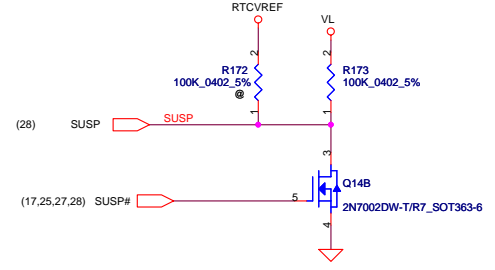
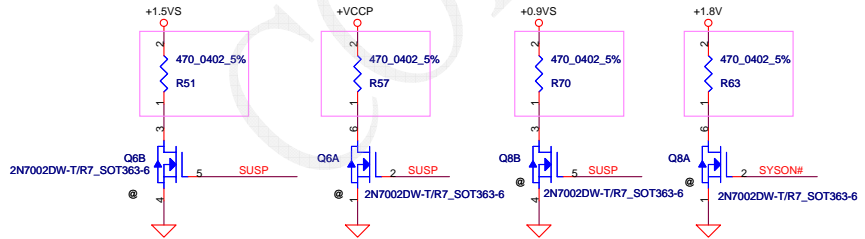
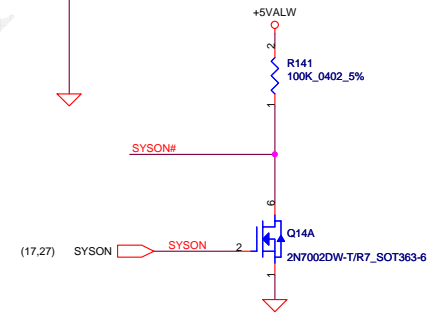
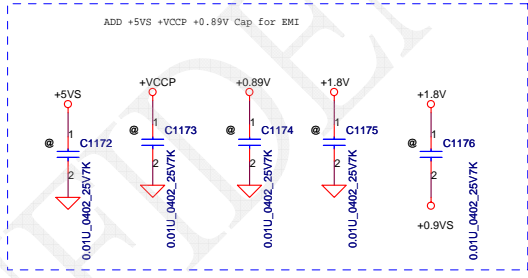
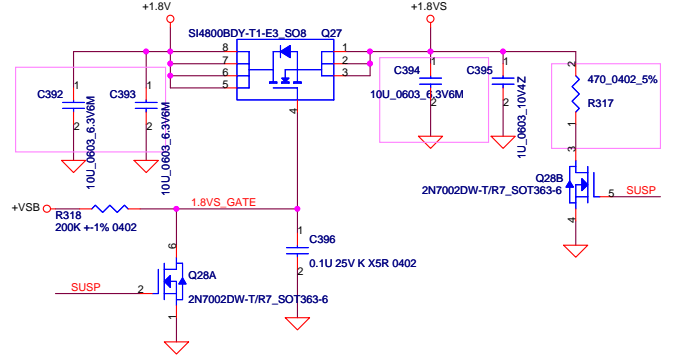
**+5VALW TO +5VS**



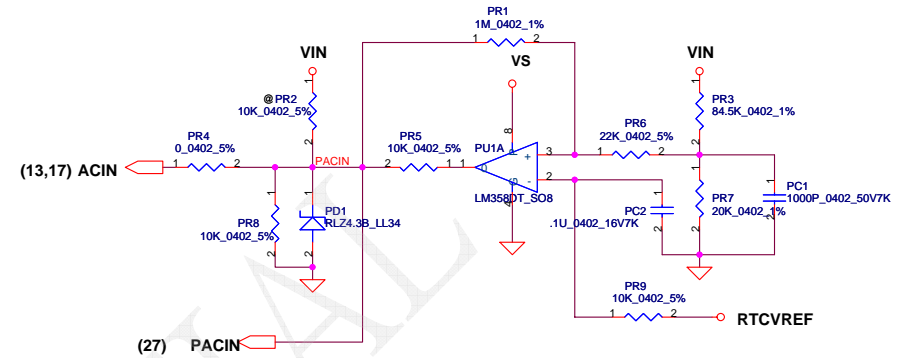
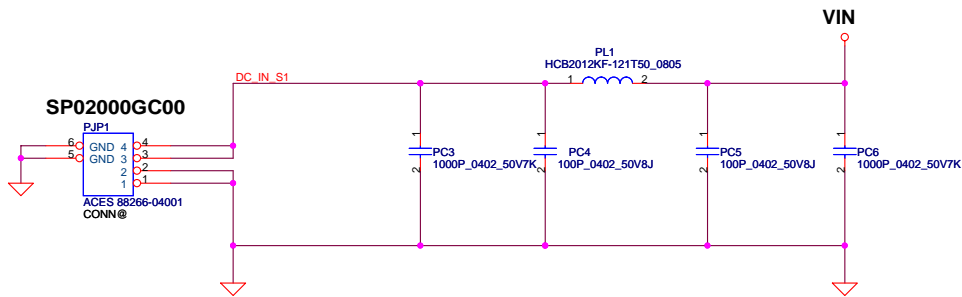
**+3VALW TO +3VS**



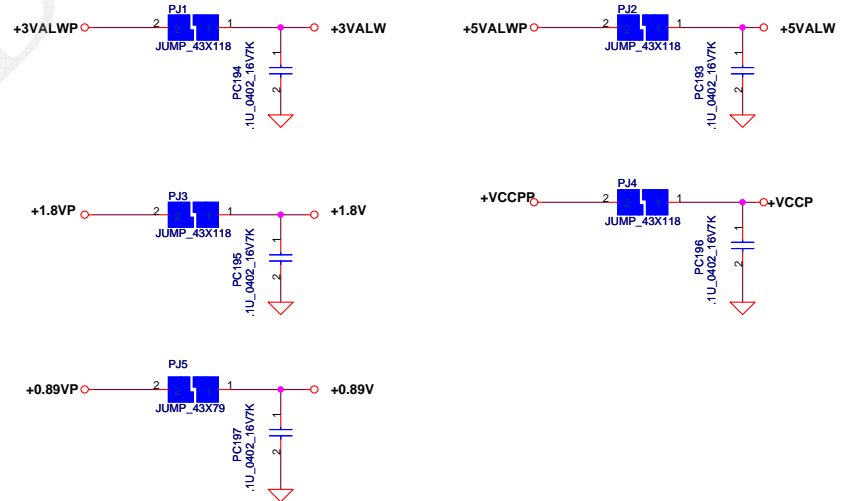
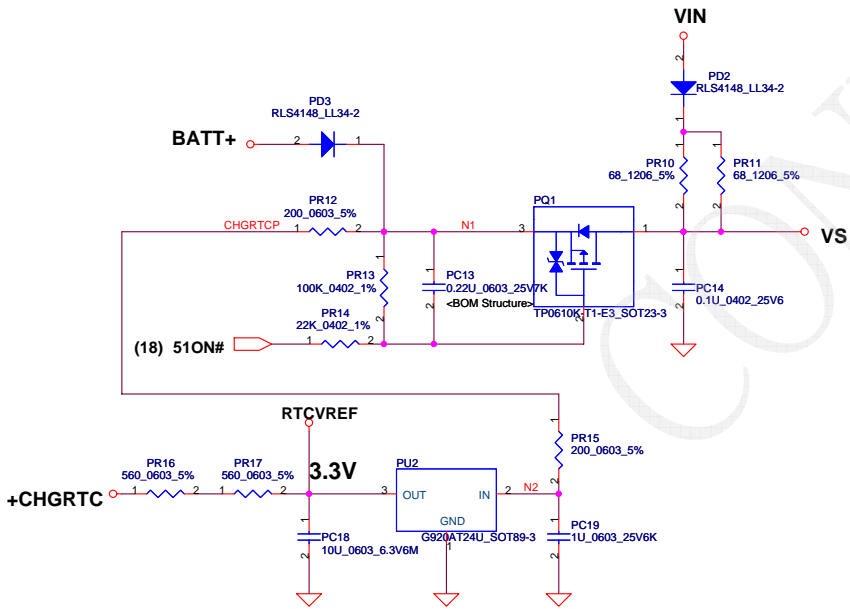
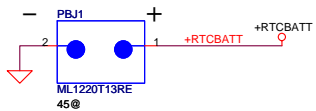
**+1.8V to +1.8VS**

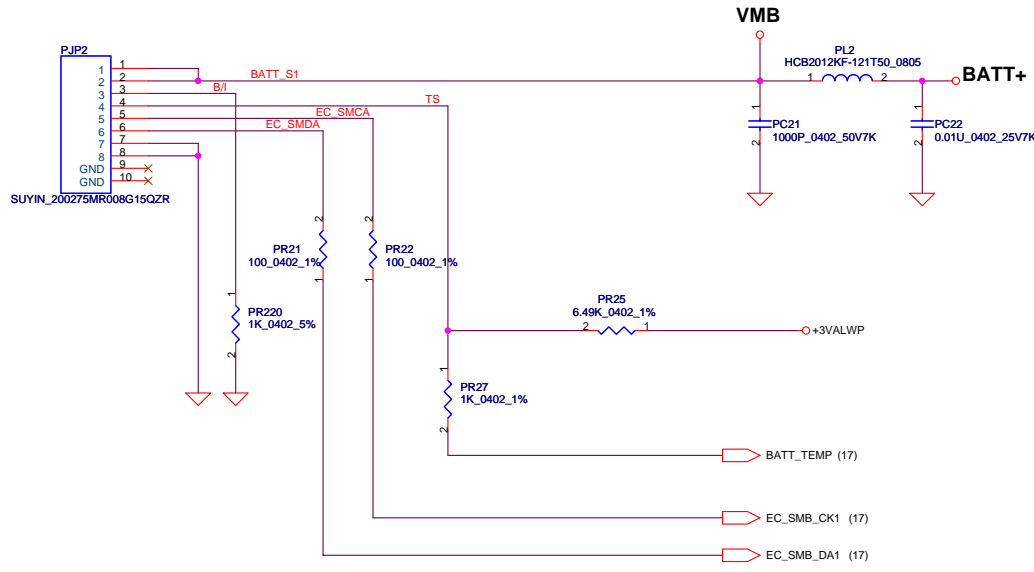


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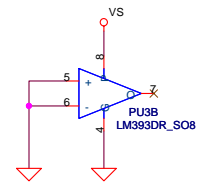
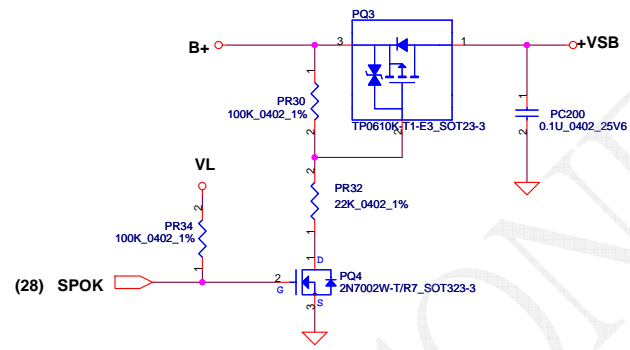
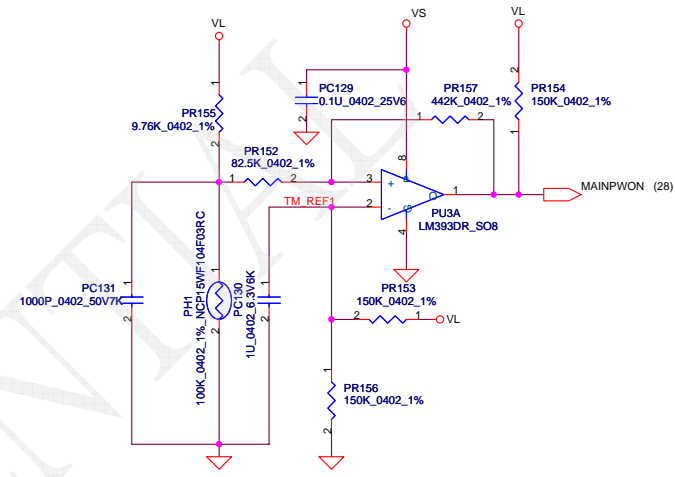


Vin Dectector			
	Min.	Typ	Max.
H-->L	16.976V	17.525V	17.728V
L-->H	17.430V	17.901V	18.384V



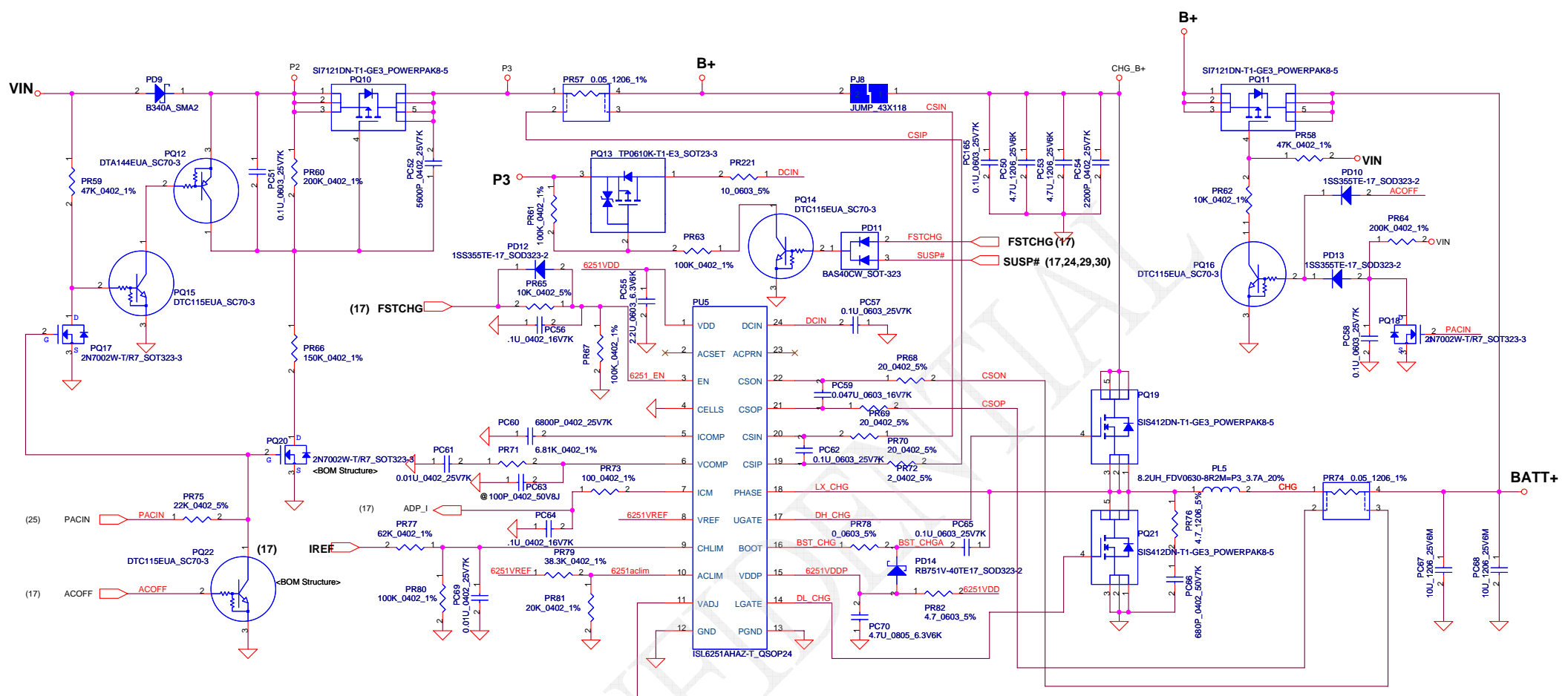


PH1 under CPU bottom side :  
 CPU thermal protection at 90 degree C  
 Recovery at 70 degree C



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$I_{ada} = 0 \sim 1.58A (30W)$      $CP = 85\% * I_{ada}$  ;  $CP = 1.343A$

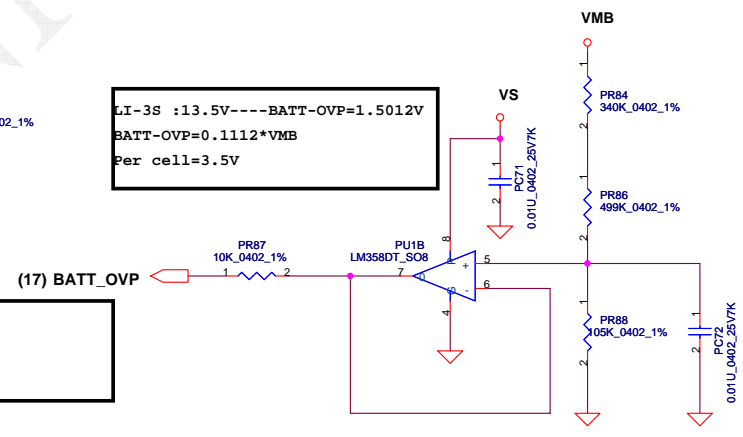
CP mode  
 $V_{aclim} = 2.39 * (20K / (20K + 38.3K)) = 0.8199V$   
 $I_{input} = (1/0.05) * ((0.05 * V_{aclim}) / 2.39 + 0.05)$   
 where  $V_{aclim} = 0.8199V$ ,  $I_{input} = 1.343A$

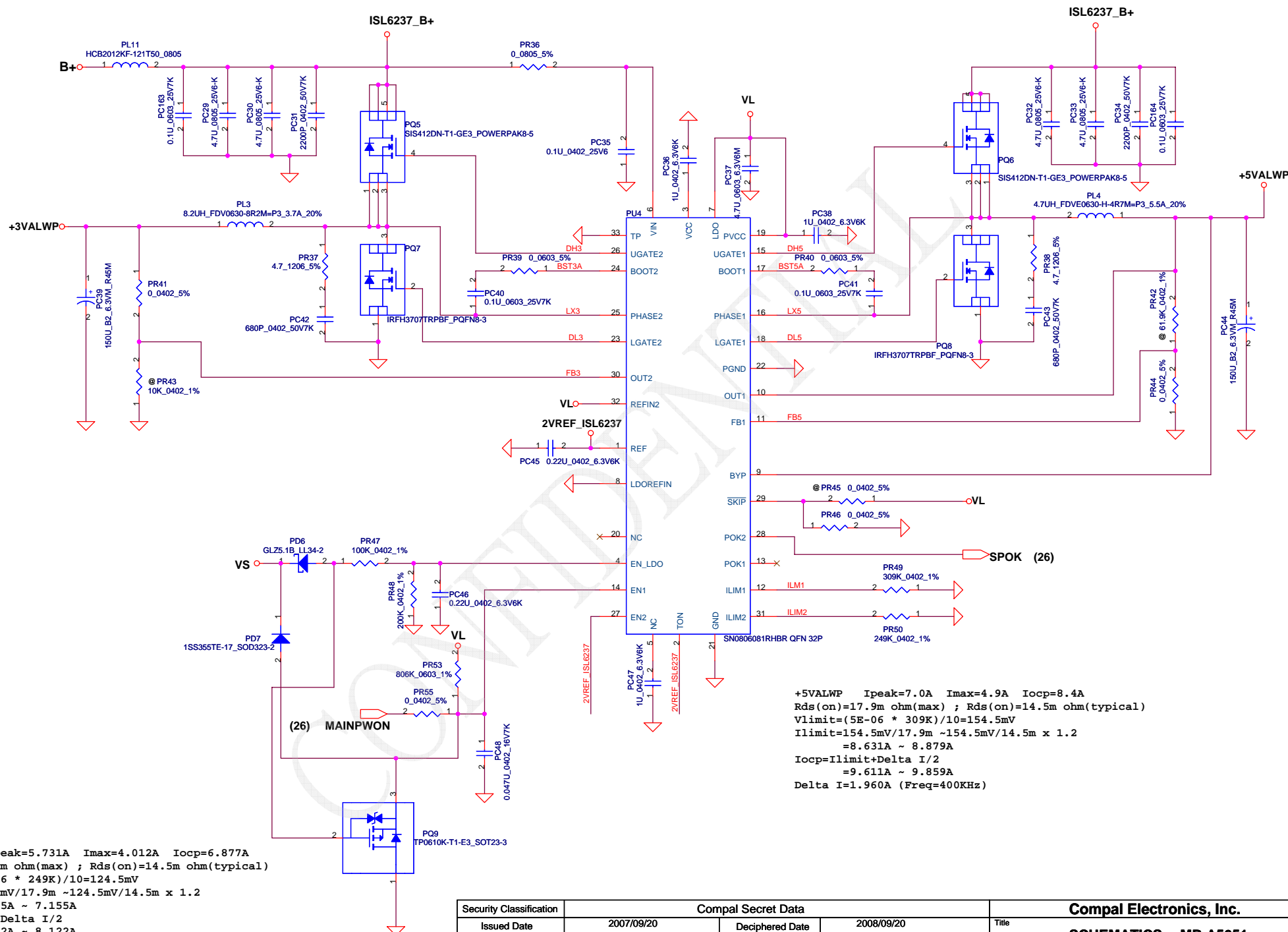
$CC = 0.3 \sim 1.76A$   
 $I_{REF} = 1.62 * I_{charge}$   
 $I_{REF} = 0.486V \sim 2.85V$   
 $3.24V \implies 2A$

BATT Type	Charging Voltage (0x15)	CV mode
Normal 3S LI-ON Cells	12600mV	12.60V

$V_{ADJ} \rightarrow V_{REF} \rightarrow 4.41V$   
 $V_{ADJ} \rightarrow \text{Ground} \rightarrow 3.99V$   
 $V_{cell} = (0.175 * V_{ADJ} + 3.99)$

LI-3S : 13.5V --- BATT-OVP = 1.5012V  
 $BATT-OVP = 0.1112 * V_{MB}$   
 Per cell = 3.5V

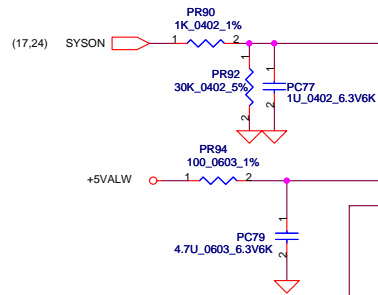




+3.3VALWP Ipeak=5.731A I<sub>max</sub>=4.012A I<sub>ocp</sub>=6.877A  
 R<sub>ds(on)</sub>=17.9m ohm(max) ; R<sub>ds(on)</sub>=14.5m ohm(typical)  
 V<sub>limit</sub>=(5E-06 \* 249K)/10=124.5mV  
 I<sub>limit</sub>=124.5mV/17.9m ~124.5mV/14.5m x 1.2  
 =6.955A ~ 7.155A  
 I<sub>ocp</sub>=I<sub>limit</sub>+Delta I/2  
 =7.922A ~ 8.122A  
 Delta I=1.934A (Freq=300KHz)

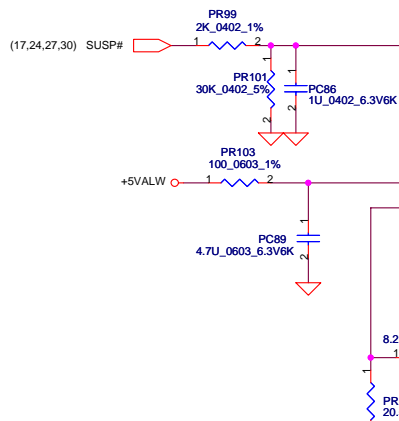
+5VALWP Ipeak=7.0A I<sub>max</sub>=4.9A I<sub>ocp</sub>=8.4A  
 R<sub>ds(on)</sub>=17.9m ohm(max) ; R<sub>ds(on)</sub>=14.5m ohm(typical)  
 V<sub>limit</sub>=(5E-06 \* 309K)/10=154.5mV  
 I<sub>limit</sub>=154.5mV/17.9m ~154.5mV/14.5m x 1.2  
 =8.631A ~ 8.879A  
 I<sub>ocp</sub>=I<sub>limit</sub>+Delta I/2  
 =9.611A ~ 9.859A  
 Delta I=1.960A (Freq=400KHz)

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<Vo=1.8V> VFB=0.75V  
 $V_o = V_{FB} * (1 + PR96/PR97) = 0.75 * (1 + 28.7K/20.5K) = 1.8V$   
 $F_{sw} = 328KHz$

$C_{out} ESR = 15m\ \Omega$   $R_{dson(max)} = 17.9m\ \Omega$   $R_{dson(typical)} = 14.5m\ \Omega$   
 $I_{peak} = 4.97A$ ,  $I_{max} = 3.479A$ ,  $I_{ocp} = 5.964A$   
 $\Delta I = ((19 - 1.8) * (1.8/19)) / (2.2u * 328K) = 2.259A$   
 $\Rightarrow 1/2 \Delta I = 1.129A$   
 $V_{trip} = R_{trip} * I_{0uA} = 8.66K * 10uA = 0.0866V$   
 $I_{ocpmin} = V_{trip} / (R_{dsonmax}) + 1.129 = 0.0866 / (0.0179) + 1.129 = 5.967A$   
 $I_{ocpmax} = (0.0866 / (0.0145 * 1.2)) + 1.129A = 6.106A$   
 $I_{ocp} = 5.967A \sim 6.106A$

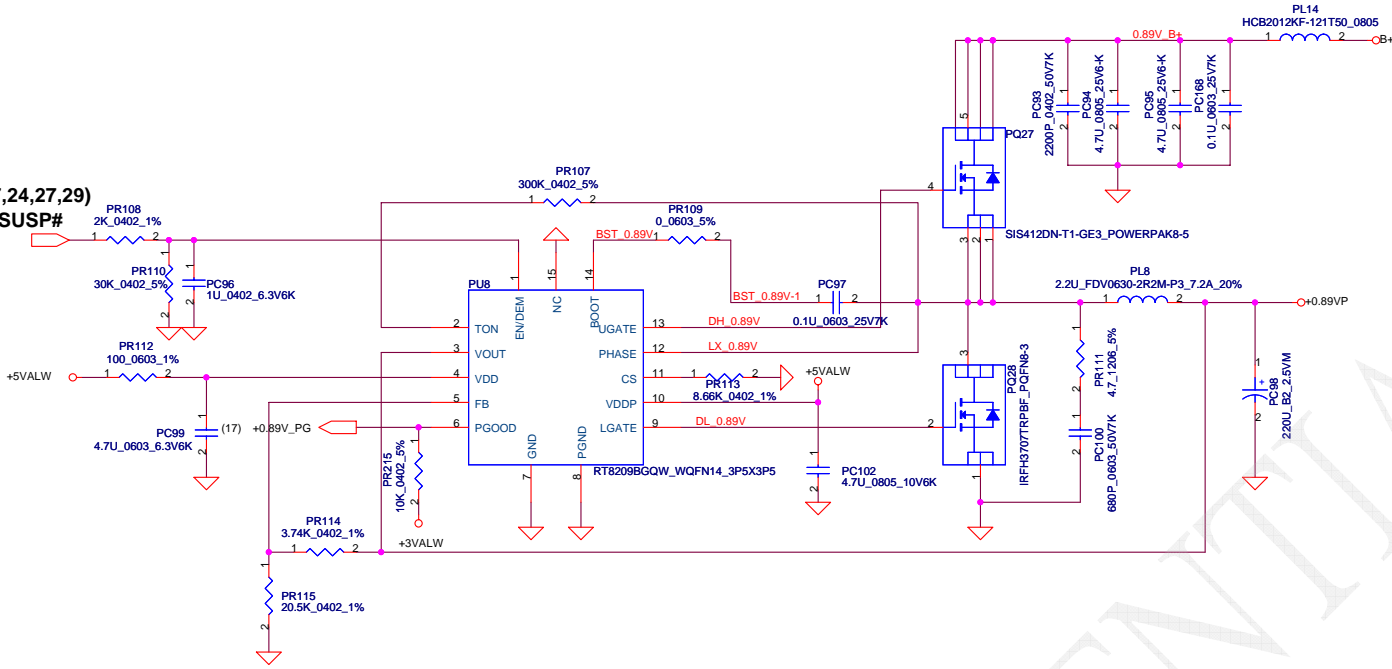


<Vo=1.05V> VFB=0.75V  
 $V_o = V_{FB} * (1 + PR105/PR106) = 0.75 * (1 + 8.2K/20.5K) = 1.05V$   
 $F_{sw} = 280KHz$

$C_{out} ESR = 15m\ \Omega$   $R_{dson(max)} = 17.9m\ \Omega$   $R_{dson(typical)} = 14.5m\ \Omega$   
 $I_{peak} = 3.124A$ ,  $I_{max} = 2.187A$ ,  $I_{ocp} = 3.749A$   
 $\Delta I = ((19 - 1.05) * (1.05/19)) / (1.5u * 280K) = 3.549A$   
 $\Rightarrow 1/2 \Delta I = 1.774A$   
 $V_{trip} = R_{trip} * I_{0uA} = 14K * 10uA = 0.14V$   
 $I_{ocpmin} = V_{trip} / (R_{dsonmax}) + 1.774 = 0.14 / (0.0179) + 1.774 = 9.596A$   
 $I_{ocpmax} = (0.14 / (0.0145 * 1.2)) + 1.774A = 9.820A$   
 $I_{ocp} = 9.596A \sim 9.820A$

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(17,24,27,29)  
SUSP#

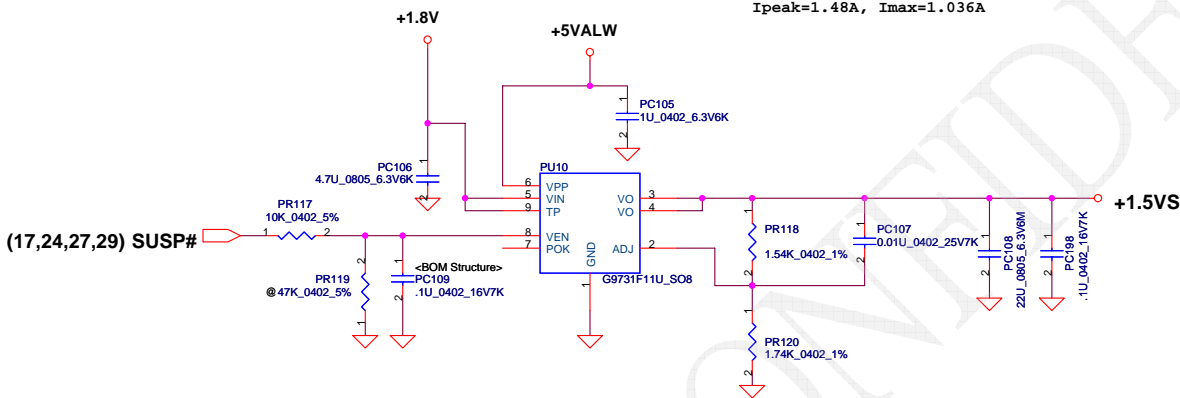


<Vo=0.89V> VFB=0.75V  
 $V_o = V_{FB} * (1 + PR114 / PR115) = 0.75 * (1 + 28.7K / 20.5K) = 0.89V$   
 $F_{sw} = 263KHz$

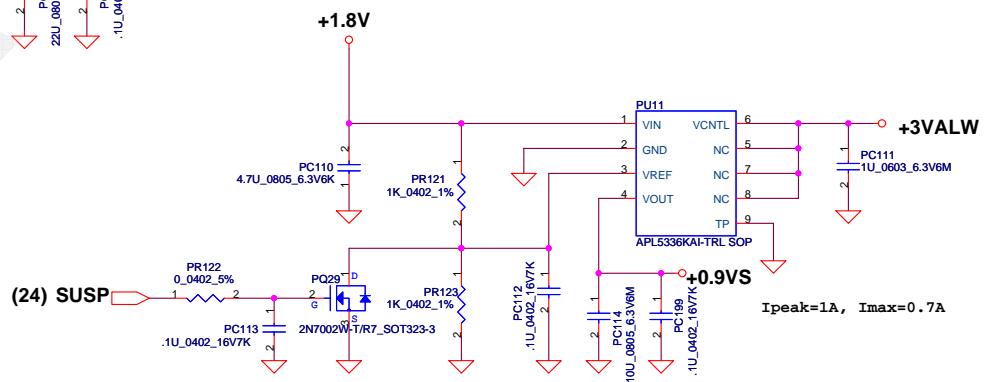
Cout ESR=15m ohm Rds(on)(max)=17.9m Rds(on)(typical)=14.5m  
 $I_{peak} = 1.38A, I_{max} = 0.966A, I_{ocp} = 1.656A$   
 $\Delta I = ((19 - 1.8) * (1.8 / 19)) / (2.2u * 263K) = 1.467A$   
 $\Rightarrow 1/2 \Delta I = 0.7335A$   
 $V_{trip} = R_{trip} * I_{ocp} = 8.66K * 10uA = 0.0866V$   
 $I_{ocpmin} = V_{trip} / (R_{ds(on)max}) + 0.7335 = 0.0866 / (0.0179) + 0.7335 = 5.572A$   
 $I_{ocpmax} = (0.0866 / (0.0145 * 1.2)) + 0.7335 = 5.711A$   
 $I_{ocp} = 5.572A - 5.711A$

Ipeak=1.48A, Imax=1.036A

(17,24,27,29) SUSP#

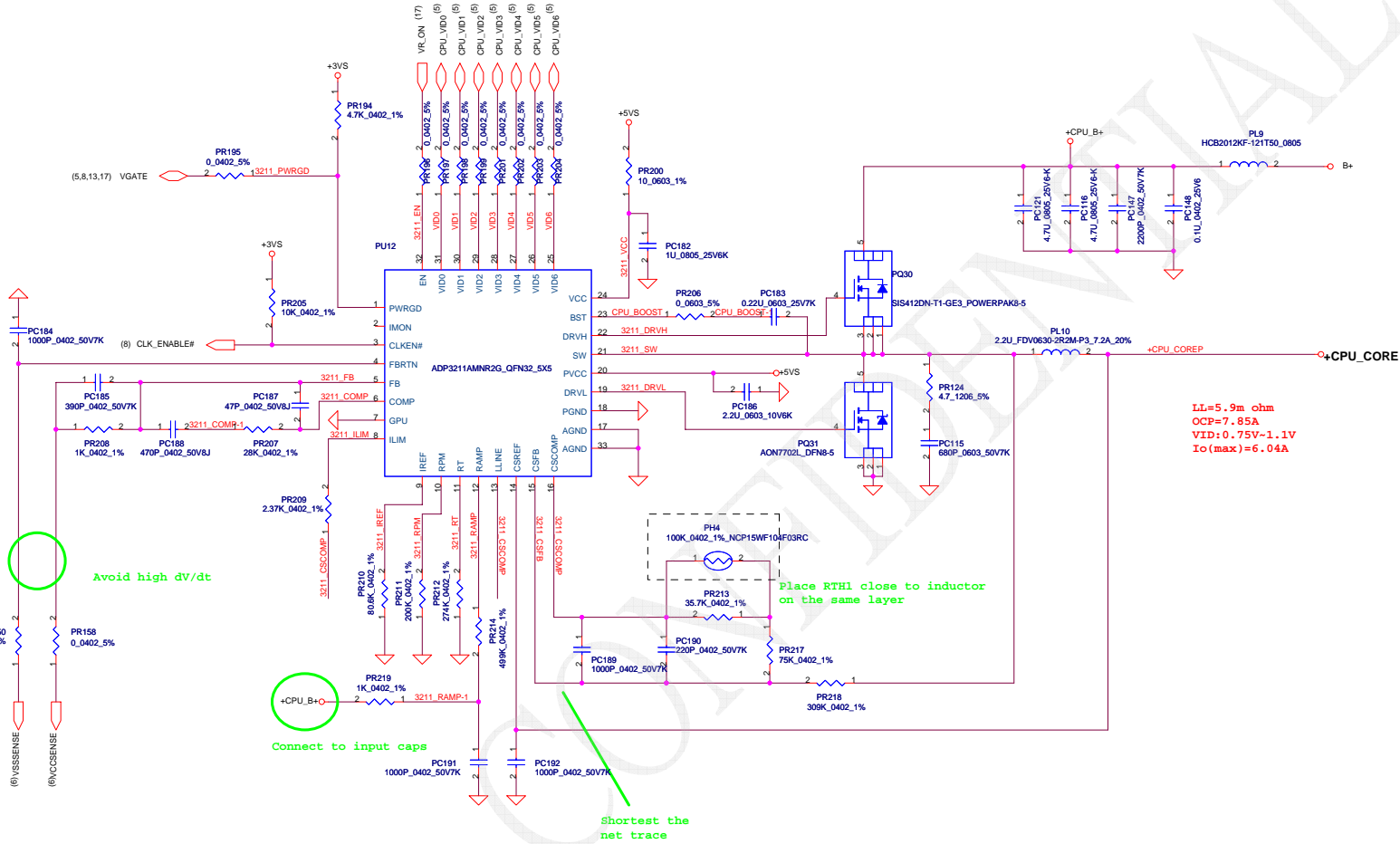


(24) SUSP



Ipeak=1A, Imax=0.7A

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LL=5.9m ohm  
 OCP=7.85A  
 VID=0.75V-1.1V  
 Io(max)=6.04A

Avoid high dV/dt

Place RTH close to inductor on the same layer

Connect to input caps

Shortest the net trace

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Item	Fixed Issue	Reason for change	Rev.	PG#	Modify List	Date	Phase
1	add PC200	For design change	0.1	24		2009.5.15	EVT
2	add PC193,PC194	For design change	0.1	26		2009.5.15	EVT
3	add PC195,PC196	For design change	0.1	27		2009.5.15	EVT
4	add PC197,PC198,PC199	For design change	0.1	28		2009.5.15	EVT
5	change PL3,PL4	For design change	0.1	26	change PL3,PL4 to 4.7uH	2009.5.15	EVT
6	change PQ10,PQ11	For design change	0.1	25	change PQ10,PQ11 to P-Chanel	2009.6.5	EVT
7	add PC165	Solution for 3G noise reduce	0.1	25		2009.6.5	EVT
8	add PC163,PC164	Solution for 3G noise reduce	0.1	26		2009.6.5	EVT
9	add PC166,PC167	Solution for 3G noise reduce	0.1	27		2009.6.5	EVT
10	add PC168	Solution for 3G noise reduce	0.1	28		2009.6.5	EVT
11	delete PC103,PC1120	For design change	0.1	29		2009.6.5	
12	change PR94,PR102	For design change	0.1	27	change PR94,PR102 to 100ohm	2009.6.5	
13	change PC79,PC89	For design change	0.1	27	change PC79,PC89 to 4.7uF	2009.6.5	
14	change PR112	For design change	0.1	28	change PR112 to 100ohm	2009.6.5	
15	change PC99	For design change	0.1	28	change PC99 to 4.7uF	2009.6.5	
16	change +5VALW/+3VALW OCP	For design change	0.1	26	change PR49 to 309ohm & PR50 to 249ohm	2009.6.5	
17	add PJ1,PJ2,PJ3,PJ4,PJ5,PJ6,PJ7	For design change	0.1	25		2009.6.15	
18	add PJ9,PJ10	For design change	0.1	28		2009.6.15	
19	Change net name	For design change	0.1	25	Change net name +1.05V to +VCCP	2009.6.15	
20	Change PJP2	For design change	0.1	24	Change PJP2 to DC040903020	2009.6.15	
21	Change PBJ1	For design change	0.1	23	Change PBJ1 to SP020008Y00	2009.6.15	
22	delete PJ6,PJ7,PJ9,PJ10	For design change	0.1	28		2009.6.18	
23	Change net name	For design change	0.1	29	Change net name GND_SIGNAL to GND	2009.6.18	

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Item	Fixed Issue	Reason for change	Rev.	PG#	Modify List	Date	Phase
1	Change PR194	For design change	0.1	29	change PR194 to 4.7K ohm	2009.6.30	EVT
2	add PR221	For design change	0.1	25		2009.6.30	EVT
3	Change PR4	For design change	0.1	23	change PR4 to 0 ohm	2009.7.2	EVT
4	Change PJP3 to PBJ1	For design change	0.1	23	change SP020008Y00 to SP093MX000	2009.8.4	EVT
5	Change PH1 & PH4	For design change	0.1	24	change SL210031F00 to SL200000V00	2009.8.12	EVT
6	Change PL10	For design change	0.1	29	change SH000006I80 to SH000000700	2009.8.12	EVT
7	Change PR99 & PR108	Modify power sequence	0.1	27	change SD028000080(0 ohm) to SD034200280(20K ohm)	2009.8.12	EVT
8	Change PR90	Modify power sequence	0.1	27	change SD028000080(0 ohm) to SD034100280(10K ohm)	2009.8.12	EVT
9	Change PR83	Modify ISL6251 Charger KV	0.1	25	change SD034182280(18.2 ohm) to SD034154280(15.4K ohm)	2009.8.24	EVT
10	Change PR117	Modify power sequence	0.1	28	change SD028000080(0 ohm) to SD034100280(10K ohm)	2009.8.24	EVT
11	Change PR99 & PR108	Modify power sequence	0.1	27	change SD034200280(20K ohm) to SD034200180(2K ohm)	2009.8.24	EVT
12	Change PR90	Modify power sequence	0.1	27	change SD034100280(10K ohm) to SD034100180 (1K ohm)	2009.8.24	EVT
13	Change PC77 & PC86 & PC96	Modify power sequence	0.1	27	Change PC77 & PC86 & PC96 to pop change SE076104KM8(0.1uf) to SE000000K80 (1uf)	2009.8.24	EVT
14	Change PC109	Change part number	0.1	27	change SE076104KM8(0.1uf) to SE076104K80(0.1uf)	2009.8.24	EVT
15	Change PL3.PL4	To slove high frequency noise	0.1	26	change SH00000BU00(4.7uH) to SH00000BS00(8.2uH)	2009.8.27	EVT
16	Change PL9	For design change	0.1	29	change SM01000BY00 to SM01000C000	2009.9.4	DVT
17	Change PL4	To improve +5VALWP efficiency	0.1	26	change SH00000BS00(8.2uH) to SH00000F900(4.7uH)	2009.9.10	DVT
18	Change PR209	Modify CPU CORE OCP	0.1	29	change SD028180180(1.8K ohm) to SD034237180 (2.37K ohm)	2009.9.30	PVT
19							
20							
21							
22							
23							

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[nextair@motmail.com](mailto:nextair@motmail.com)

<2009/4/28>  
 Update new power schematic,  
 release first version NAV50 schematic

<2009/04/29>  
 . Add R1182 R1183 L3 on page 9  
 . Change J3 to R1184 on page 13

<2009/04/30>  
 . Change JDIM1 to SP07F001720 on page 7  
 . Del SATA1 Port on page 12  
 . Change R51 R57 R70 R63 R317 R314 R190 to 0402 Size on page 21

<2009/05/04>  
 . Add WWAN\_CLKREQ# and R107 pull-high to +3VS on page 8  
 . Add CRT\_DET# on page 10  
 . Add CRT\_DET# circuit on page 13  
 . Add 3 LEDS on page 16  
 . Add BT/BTN Board CONN. on page 16  
 . Update TP/B CONN. to SP01000LB00 on page 19

<2009/05/11>  
 . Add INVT\_PWM on Page 5  
 . Del R323 on page 5  
 . C74 change to 2.2U\_0603 on page 6  
 . C267 change to 22U on page 6  
 . C391 change to 0.1U on page 6  
 . Del C67 C35 C33 C36 on page 6  
 . Del +LGI\_VID and U71.A21 direct connect to +VCCP on page 6  
 . Follow Intel checklist, add R52 on FSB on page 8  
 . Add D5 D7 D8 on page 4  
 . Add R174 on page 9  
 . Add PCI\_RST# on page 11  
 . Add C1115 C1114 C1116 C1117 C1118 on page 15

<2009/05/12>  
 . Follow Intel Layout Checklist, Add C141 on VDDSPD on page 7  
 . Modify SRC CLK PORT LIST on page 8  
 . Del CLKREQ\_LAN# on page 8  
 . Change PCIE Port list on page 13  
 . Change USB Port list on page 13  
 . Add W/L 3G SW on page 16  
 . Del R103 on page 18

<2009/05/13>  
 . Change JMINI1 to PCIE Port 3 on page 15

<2009/05/14>  
 . Page8 Change C174 C175 to 10U\_0603

<2009/05/14>  
 . Update New Power schematic  
 . Del R376 R377 on page 8  
 . Del D5 D7 D8 on page 4  
 . Change JLVDS1 to SP010006810 on page 9  
 . Add D6 for EMI on page 9  
 . Change C1106 to C\_0603 type on page 9  
 . Change USB\_OC# on page 13  
 . Add USB Port2 on page 20  
 . Change JP11 Pin define & Add D22 on page 19  
 . Change C512 to 1u\_0402 on page 15  
 . Add U29 (MEDIA\_LED#) on page 16

<2009/05/19>  
 .Update new clock GEN co-lay schematic on page 8

<2009/06/05>  
 .Update new clock GEN co-lay schematic on page 8  
 .Follow Intel check list change C161 C165 to 27P on page 8  
 .Follow Intel check list change C56 to 22uF on page 6

<2009/06/08>  
 .Update New Power schematic 06/06 version  
 Page 13- a. Del R203 (pull-up GPIO6 Resister)  
 b. Change R1184 NU  
 Page 17- a. Add VGATE  
 b. Del R1294  
 c. Change D30 NU  
 d. Change R1295 to 0 ohm  
 e. Add R1309 0 ohm on EC\_RSMRST#  
 f. Pull-up LAN\_WAKE# +3VALW  
 g. ICH\_POK change to PCH\_POK  
 h. Pull-up KB\_RST# to +3VS  
 Page 10- a. Add R1283 R1284 ,Change R247 R249 to 10 ohm  
 b. Add @ on U10 U11 C301 C298  
 c. Del C302 C300 R1281 R1287

<2009/06/10>  
 . Page 7- Add C116 @  
 . Page 22- Modify USB\_OC#1\_2 to USB\_OC#2  
 . Page 17- Modify PLTRST# to PCI\_RST#  
 . Page 17- Add @ on R1311

<2009/06/12>  
 . Page4 Add C314 C313 C1150 D19 on +VCC\_FAN1  
 . Page8 Add C1145 C1146 C1147  
 . Page10 Move CRT\_DET# from Page13 to Page10  
 . Page13 Add +RTCVCC circuit

<2009/06/15>  
 . Update New Power schematic (change PBJ1 to PJP3)  
 . Page 10 modify C310 C308 C303 C307 C306 C304 Bom Structure  
 . Page 22 Modify Hole location by (ME drawing 06/12)

<2009/06/16>  
 . Page7 Modify DDR Command Control Pin pull-high Resister location  
 . Page9 Change R577 to 0402 type

<2009/06/17>  
 . Update New Power schematic 06/17  
 . Page9 modify LVDS Conn. Pin define  
 . Page9 Del C1110  
 . Page4 Add EMI solution D38 D39 D40

<2009/06/18>  
 . Update New Power schematic 06/18  
 . Page8 modify U4 Pin define and Q31  
 . Page13 Add R1376, R1377  
 . Page15 Modify C403  
 . Page23 Modify H11

<2009/06/19>  
 . Page4 Add new signal CPU\_ITP , CPU\_ITP#  
 . Page5 ADD R1378  
 . Page6 ADD C1152,C1153,C1154 C1160,C1161,C1162  
 . Page7 DDR\_A\_D8與DDR\_A\_D9互換  
 . Page8 ADD R1379,R1380,U77,R1381,C1157,R1382,R1383,R1384,C1157  
 . Page8 DEL C390  
 . Page9 ADD C1156  
 . Page11 DEL R1322, R1154  
 . Page13 DEL U77, ADD C1158  
 . Page17 ADD C1159

<2009/06/22>  
 . Page22 change IO Conn. pin34 from 48M to USB\_ON#  
 . Page10 change JCRT1 P/N to SP010906182

<2009/06/23>  
 . Page15 Add C1163 C1164 C1165 C1166  
 . Page18 change PWR/B Conn. P/N to SP01000H300  
 . Page22 change JUSB1 JUSB2 P/N

<2009/06/24>  
 . Page8 Change C1350 C1351 to 0402 type  
 . Page10 Add R1385 R1386 on JVGA\_HS JVGA\_VS

<2009/06/25>  
 . Page22 move some parts to I/O Board , Add the MONO\_IN\_R on M/B

<2009/06/29>  
 . Page16 Change JP24 to ACES\_88266\_05001  
 . Page15 Change JMINI1 to FOX\_AS0B246-S50U-7F\_52P-T

<2009/06/30>  
 . Page18 Change PWR\_LED# to PWR\_PWM\_LED#  
 . Page17 Add PWR LED DETECT PIN on Pin97

<2009/07/02>  
 . Update New Power schematic 07/02  
 . Page9 Add C1167 C1168 for RF request.  
 . Page13 Change R223 to 100K  
 . Page16 change JP24 to ACES\_85201-0505N  
 . Page17 Del R1387 R1388 on EC Pin97  
 . Page17 Add New Board ID to separate NAV50 NAV60  
 . Page17 Change 展頻IC to SA00003J400 (New)  
 . Page18 Add D41 for ESD

<2009/07/03>  
 . Page18 Add D41.2 to PWR\_PWM\_LED#  
 . Page8 Change co-lay net name to +1.5VM\_CK505  
 . Page20 Change JP2 Pin42 to +5VS

<2009/07/06>  
 . Page18 Add pwr switch for NAV50

<2009/07/08>  
 . Page5 Add 470pf on H\_SMI# for known issue.

<DVT START>

<2009/08/04>  
 . Page5 CLK\_CPU\_HPLCLK CLK\_CPU\_HPLCLK# exchange  
 . Page9 Change JLVDS1 to P/N ACES 88341-3001 30P  
 . Page17 del PM\_1.8V(U6.82) ,Del R1310 R1311  
 . Page18 Del D41

<2009/09/03>  
 . Page7 Change C112 to 0402 type  
 . Page8 Add T6 on CLK\_48M\_CR  
 . Page16 Modify JP18 Pin define change +5VALW +5VS to +3VALW +3VS  
 . Page20 Change Pin 18, 23 to +1.5VS change Pin7 , 9 to USB20\_P7 N7  
 . Page21 Del H12

<2009/09/08>  
 Update Power schematic 0904  
 . Page18 Change R1388 to 100 ohm 0402  
 . Page18 Change LED1 to SC591NB5A00

<2009/09/10>  
 Update Power schematic 0910  
 . Page22 unmount Q6 Q8

<2009/10/07>  
 . Page4 U71 Change to SA00003M800  
 . Page6 R26 Change to SHI00009C00  
 . Page13 R152 Change to SD034200A80  
 . Page18 R1388 Change to SD028510A80

<2010/04/29>  
 update new bom

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