

Compal Confidential

KAV60 Schematics Document

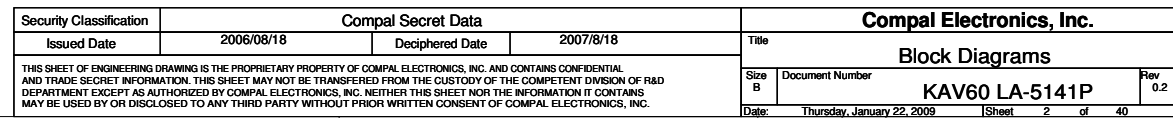
Intel Diamondville Processor with Calistoga(945GSE) + DDRII + ICH7M

2009-02-22

REV: 1.0

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2006/08/18	Deciphered Date	2007/8/18	Title	Cover Page
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				KAV60 LA-5141P	
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Model Name : KAV60
File Name : LA-5141P
P/N : DA60000BO00



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
+2.5VS	2.5V switched 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.

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

BOARD ID Table(Page 25)

ID	BRD ID	Ra	Rb	Vab
0	R01 (EVT)	NC	0	0V
1	R02 (DVT)	100K	8.2K	0.25V
2	R03 (PVT)	100K	18K	0.50V
3	R10A (MP)	100K	NC	3.3V

External PCI Devices

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

No PCI Device

EC SM Bus1 address

Device	Address
Smart Battery	0001 011X b
EEPROM(24C16/02)	1010 000X b

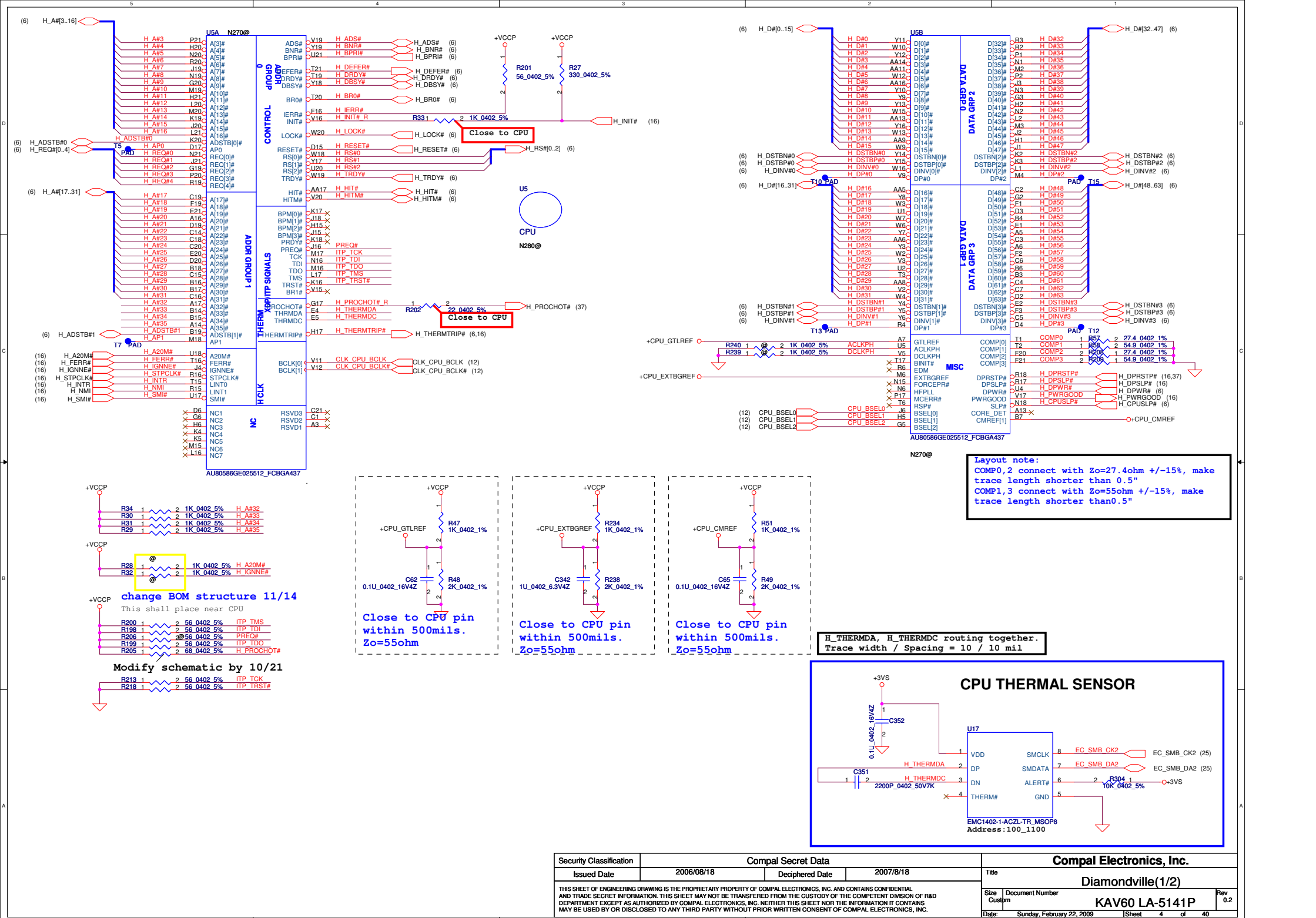
EC SM Bus2 address

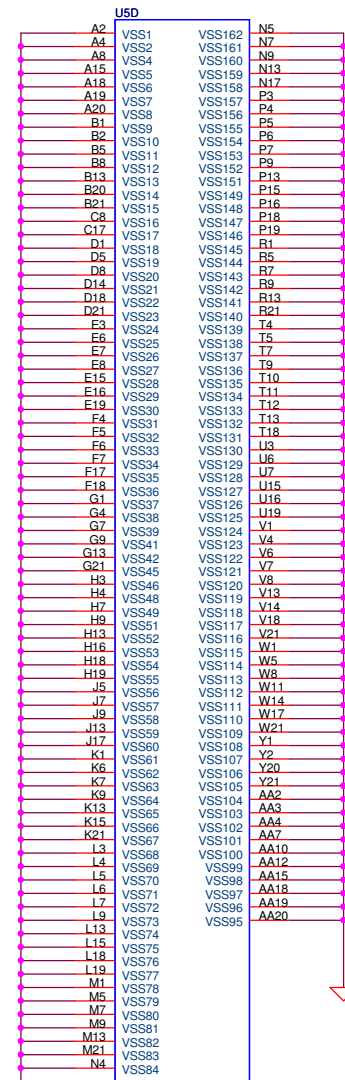
Device	Address
EMC1402	1001 100X b

ICH7M SM Bus address

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

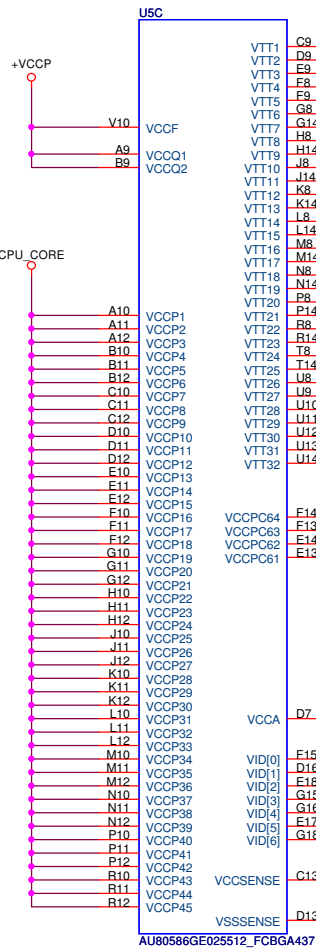
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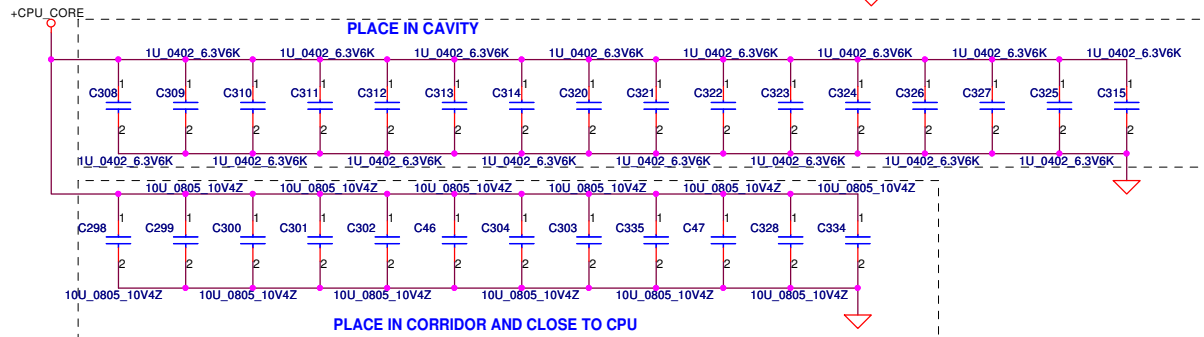


AU80586GE025512_FCBGA437

N270@

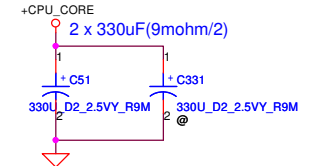


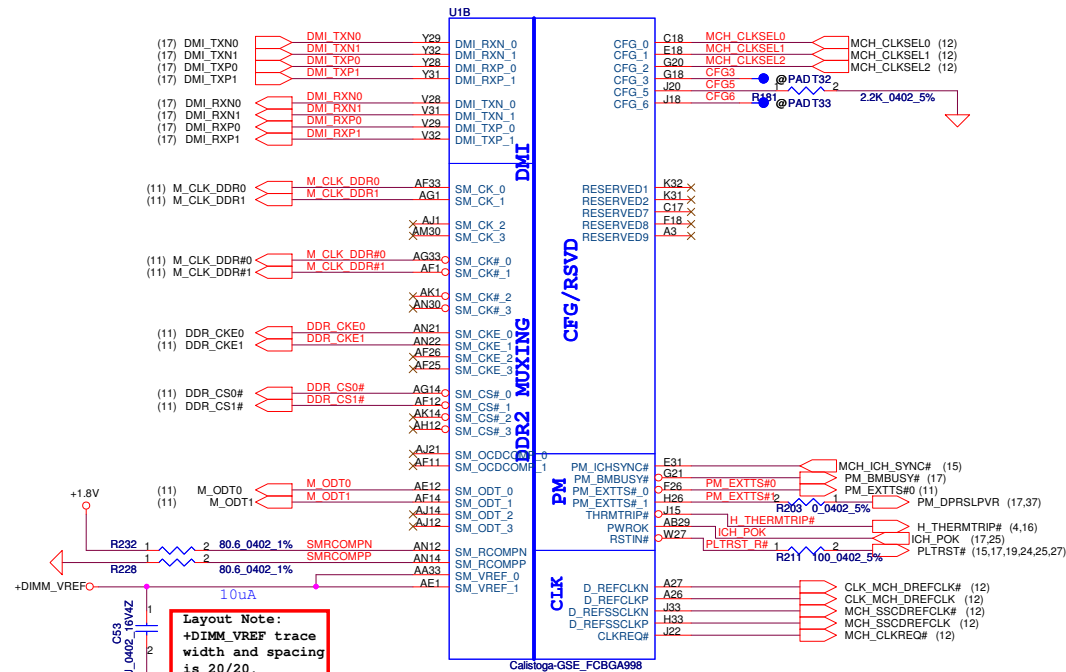
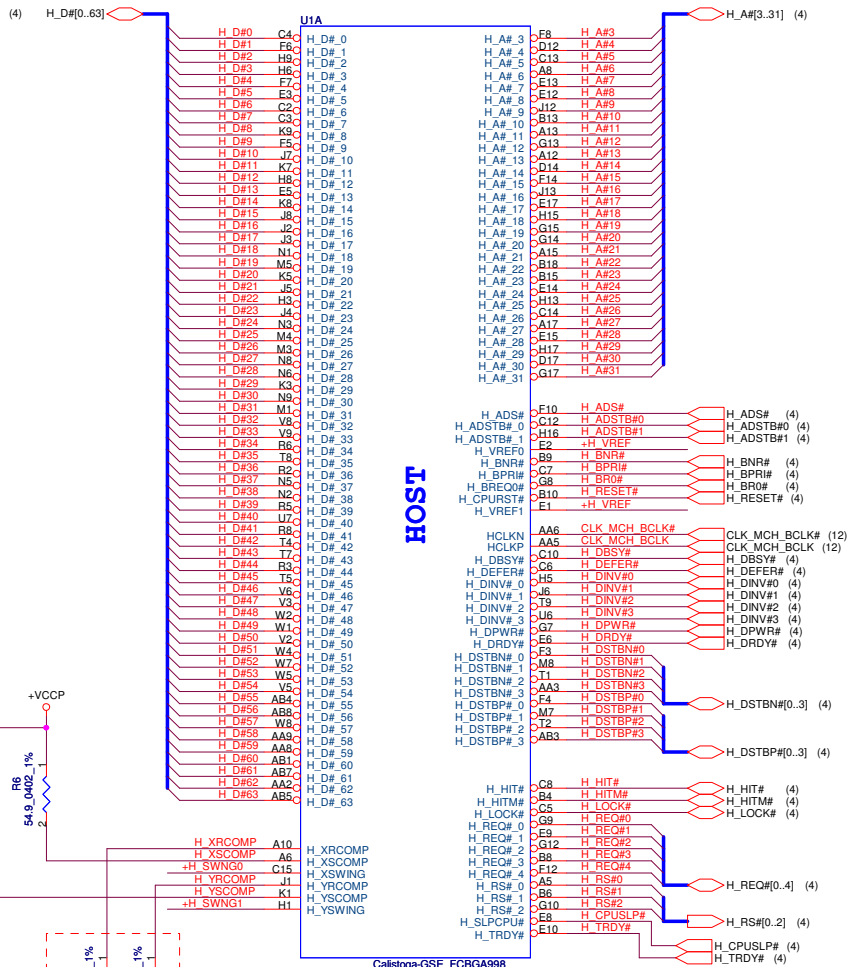
N270@



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Length match within 25 mils
The trace space 7 mils,
 $Z_0=27.4\text{ohm}$



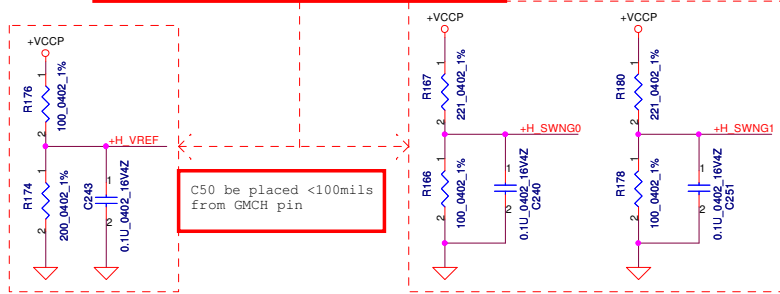


Strap Pin Table

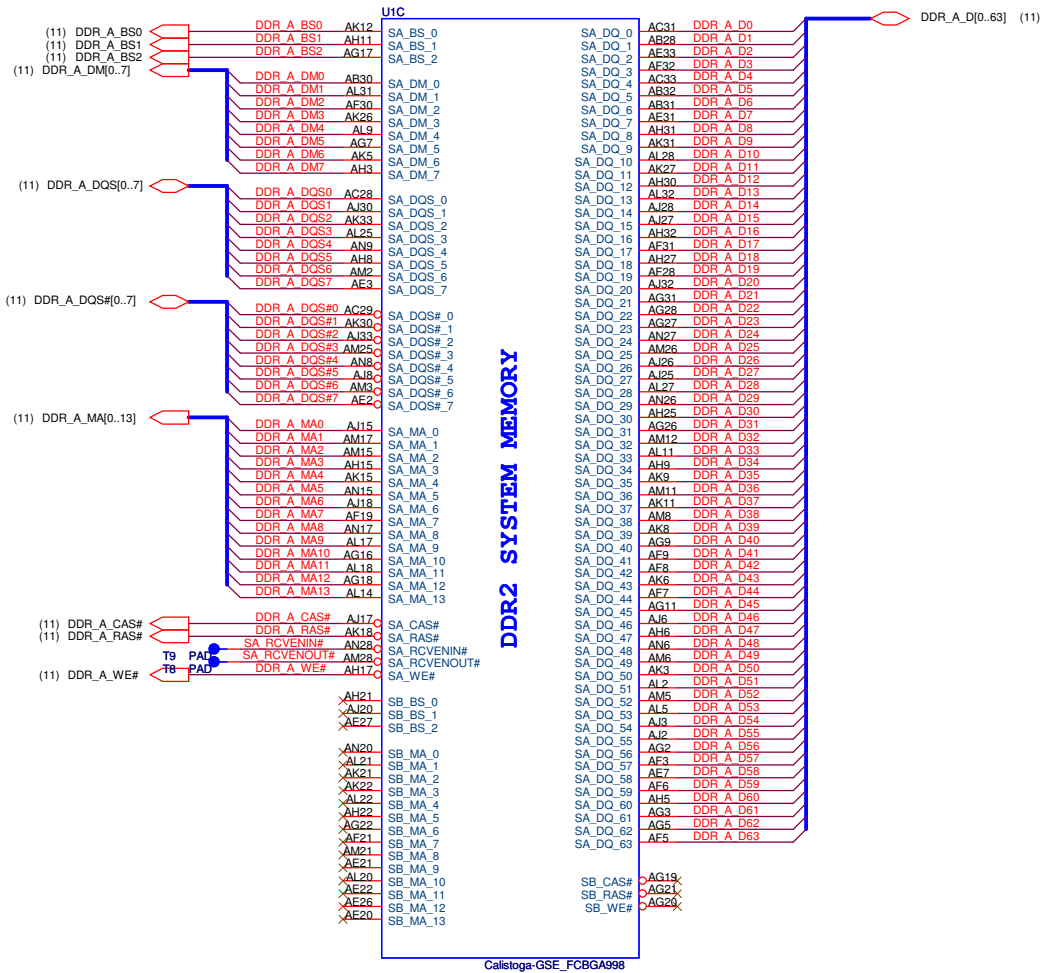
CFG5	Low = DMI x 2 *
	High = DMI x 4



Layout Note:
H_XRCOMP / H_YRCOMP / H_VREF / H_SWNG0 /
H_SWNG1 trace width and spacing is 10/20.

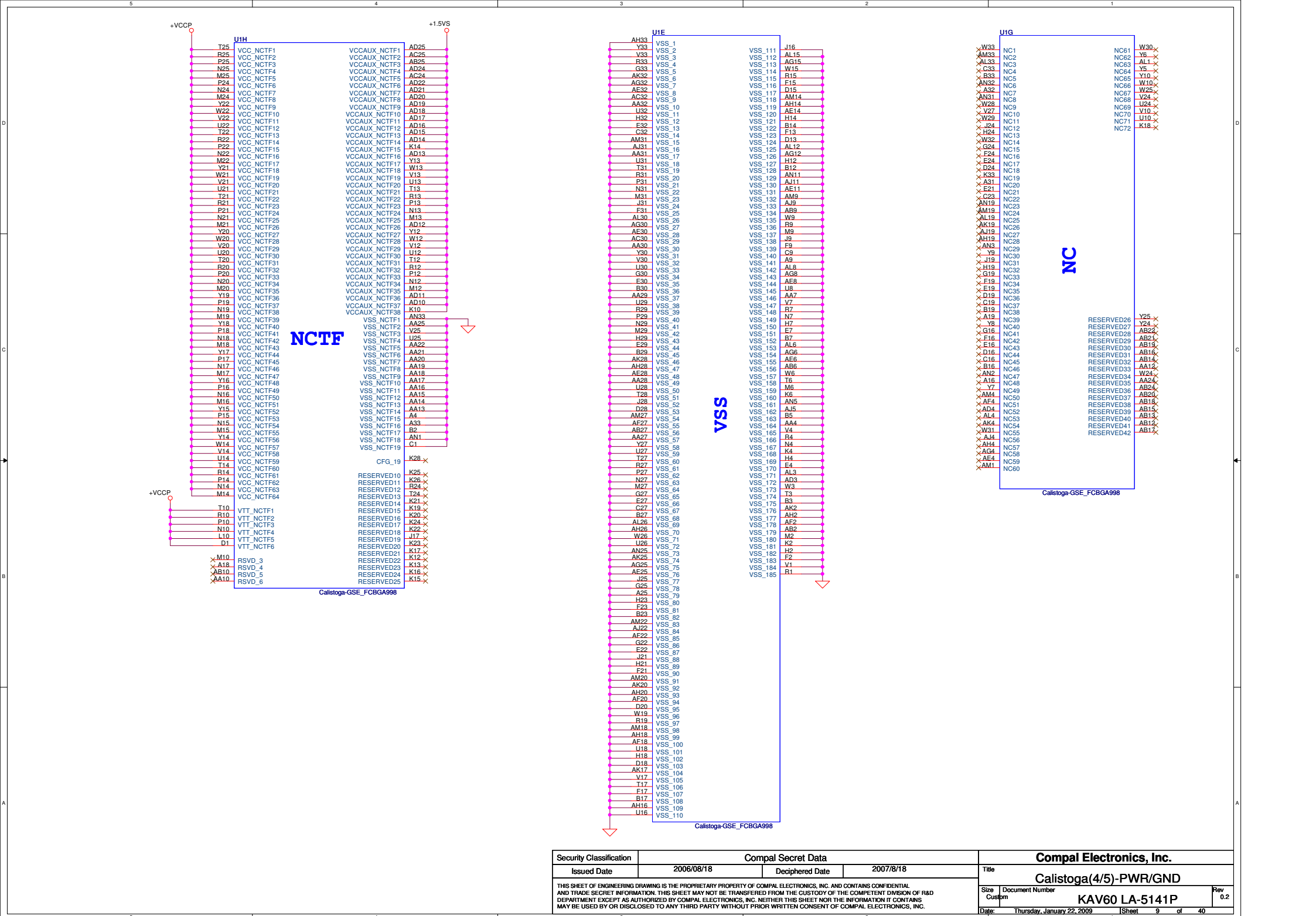


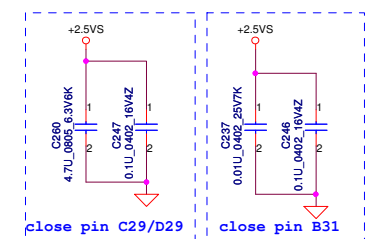
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Calistoga-GSE_FCBGA998

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						Size	Document Number		Rev
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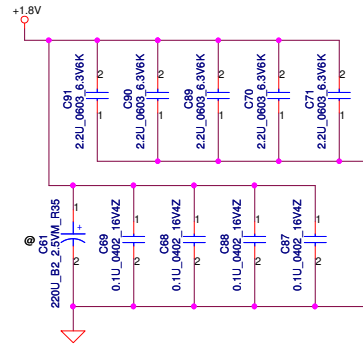


Route VSSACRTDAC gnd from GMCH to decoupling cap ground lead and then connect to the gnd plane.

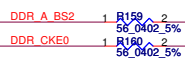
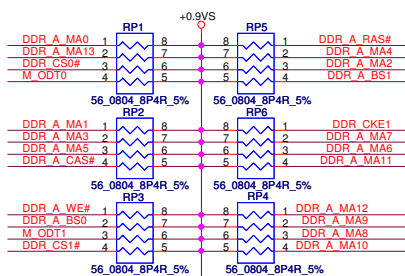
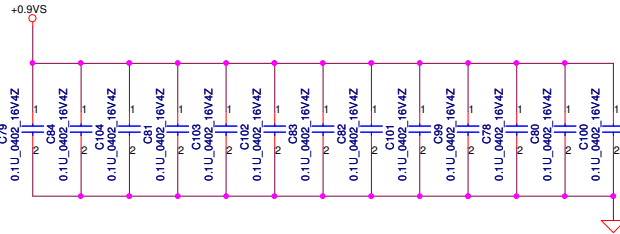
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Issued Date	2006/08/18	Deciphered Date	2007/8/18	Title Calistoga(5/5)-PWR/GND				
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				Custpm				
								Date:

- (7) DDR_A_DQS#[0..7]
- (7) DDR_A_D[0..63]
- (7) DDR_A_DM[0..7]
- (7) DDR_A_DQS[0..7]
- (7) DDR_A_MA[0..13]

Layout Note:
Place near JDIM1

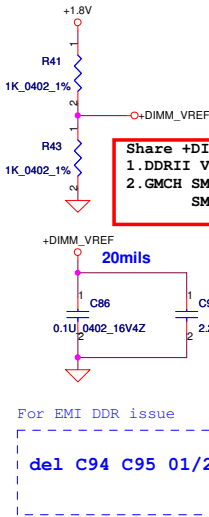


Layout Note:
Place one cap close to every 2 pullup resistors terminated to +0.9VS



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

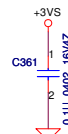
Layout Note:
Place these resistor closely DIMMA, all trace length Max=1.3"



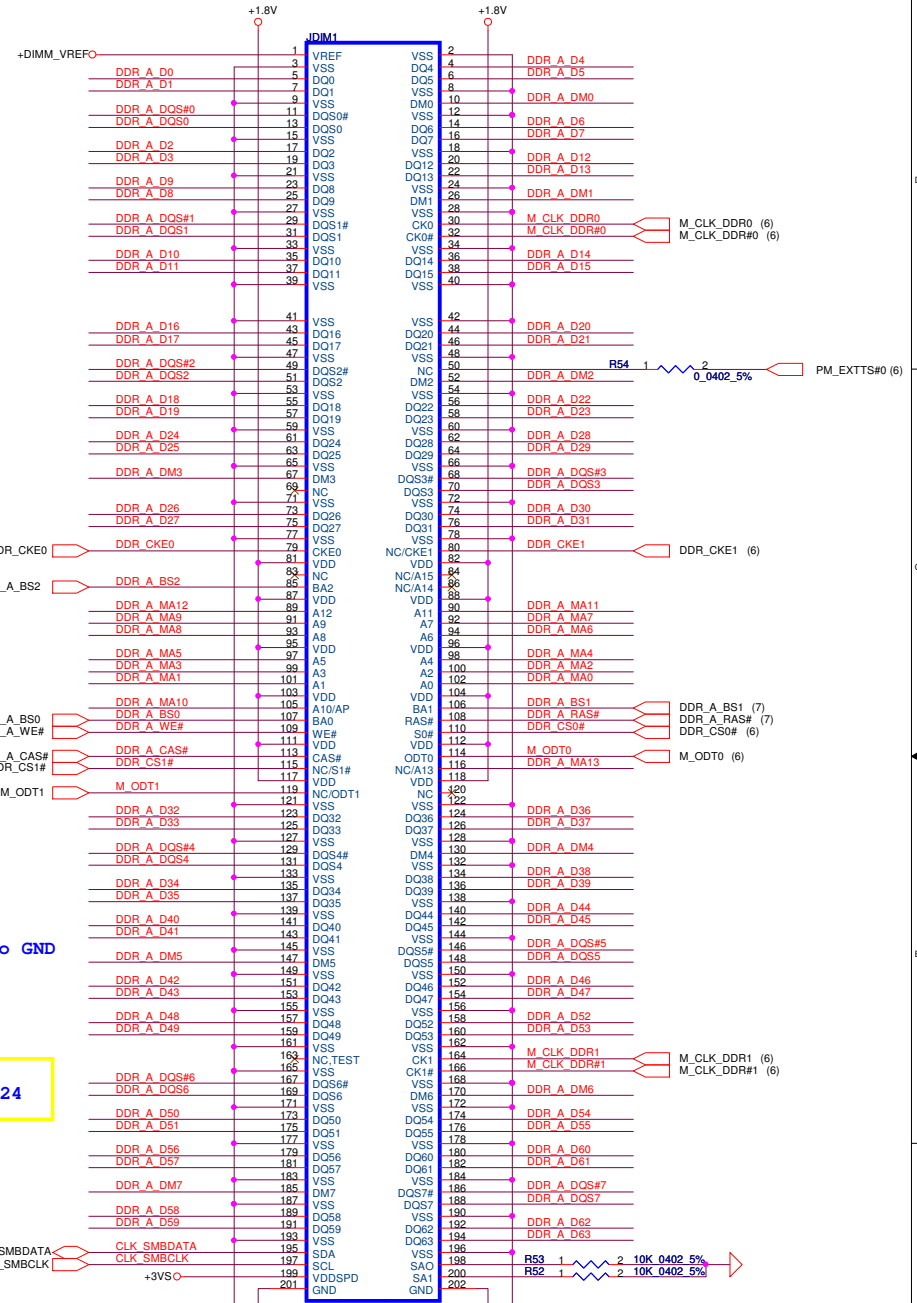
For EMI DDR issue
del C94 C95 01/22

add JDIM1 pin 200 and pin 201 to GND 01/20

return the H5.2 footprint 11/24



change DIMMA from H5.2 to H4 11/17

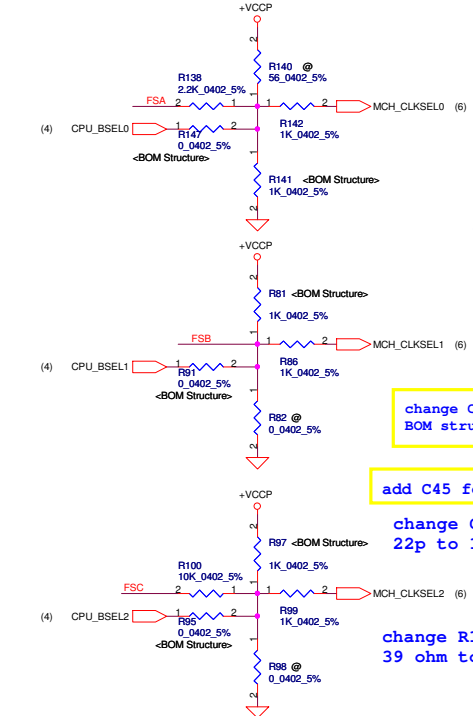


DIMMA

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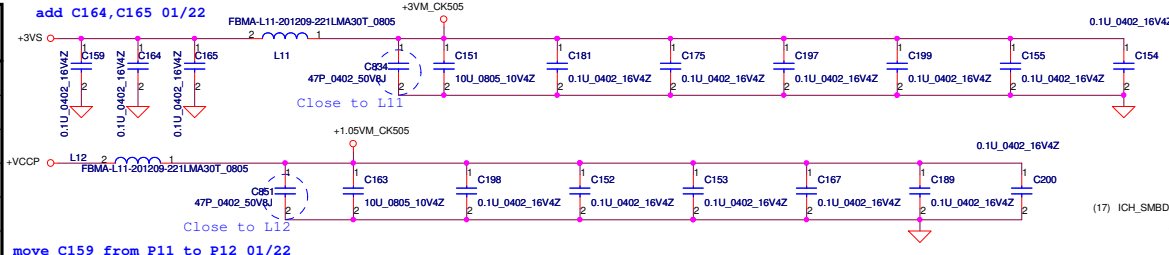
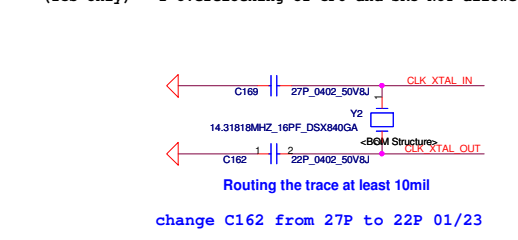
FSC	FSB	FSA	CPU	SRC	PCI	REF	DOT_96	USB
CLKSEL2	CLKSEL1	CLKSEL0	MHz	MHz	MHz	MHz	MHz	MHz
0	0	0	266	100	33.3	14.318	96.0	48.0
0	0	1	133	100	33.3	14.318	96.0	48.0
0	1	0	200	100	33.3	14.318	96.0	48.0
0	1	1	166	100	33.3	14.318	96.0	48.0
1	0	0	333	100	33.3	14.318	96.0	48.0
1	0	1	100	100	33.3	14.318	96.0	48.0
1	1	0	400	100	33.3	14.318	96.0	48.0
1	1	1	Reserved					

change R141,R140,R147,R81,R91
R82,R97,R95,R98 BOM structure 12/29
change R141,R140,R147,R81,R91
R82,R97,R95,R98 BOM structure 01/17

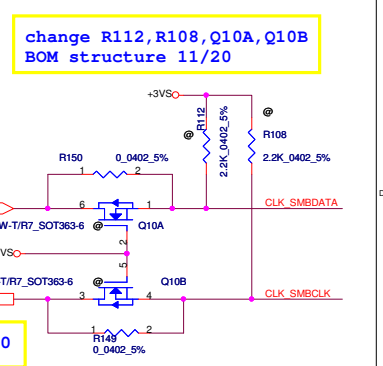
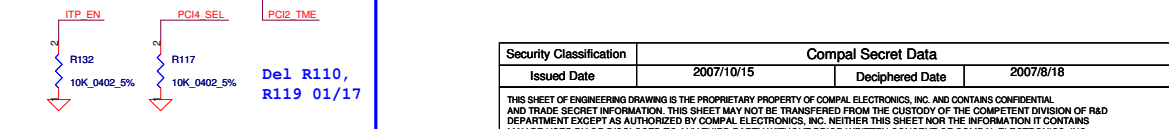
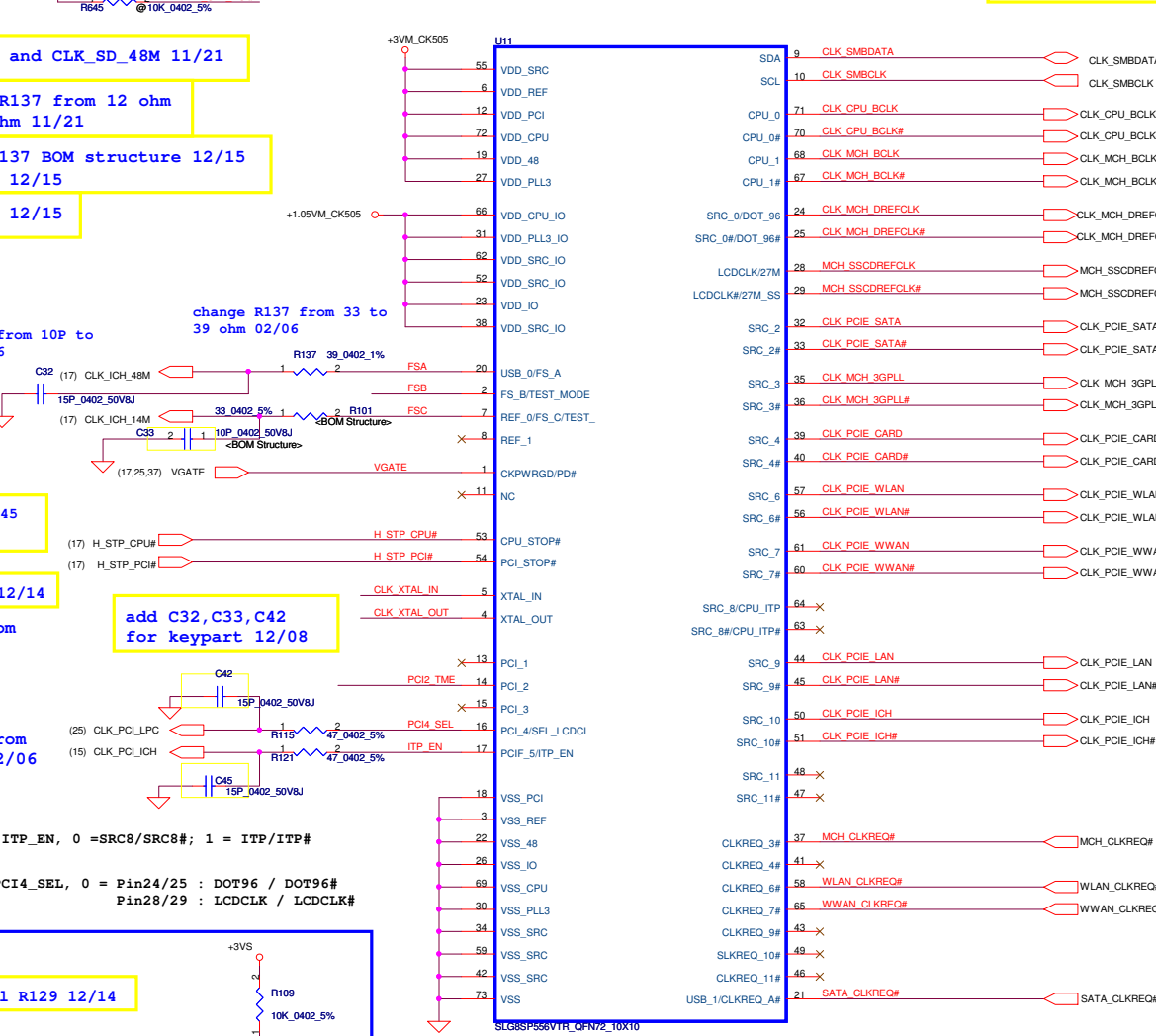


1 = Pin24/25 : SRC_0 / SRC_0#
Pin28/29 : 27M/27M_SS

For PCI2_TME:0=Overclocking of CPU and SRC allowed
(ICS only) 1=Overclocking of CPU and SRC NOT allowed

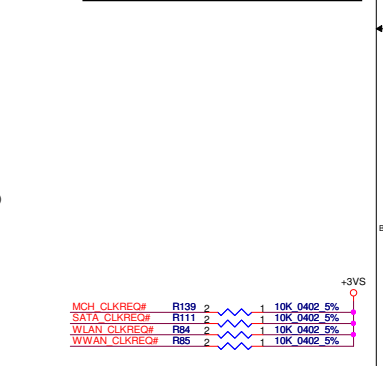


SA000020K00 (Silego : SLG8SP556VTR)
SA000020H10 (ICS : ICS9LPRS387AKLFT)



SRC PORT LIST

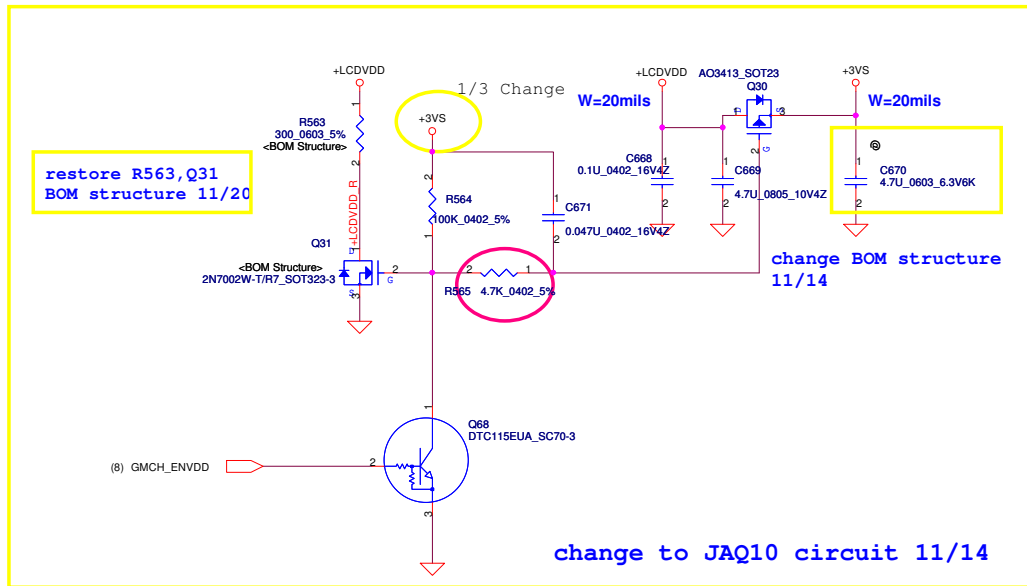
PORT	DEVICE
SRC0	MCH_DREFCLK
SRC2	SATA HDD
SRC3	MCH_3GPLL
SRC4	PCIE_CARDREADER
SRC6	PCIE_WLAN
SRC7	PCIE_WWAN
SRC8	
SRC9	PCIE_LAN
SRC10	PCIE_ICH
SRC11	



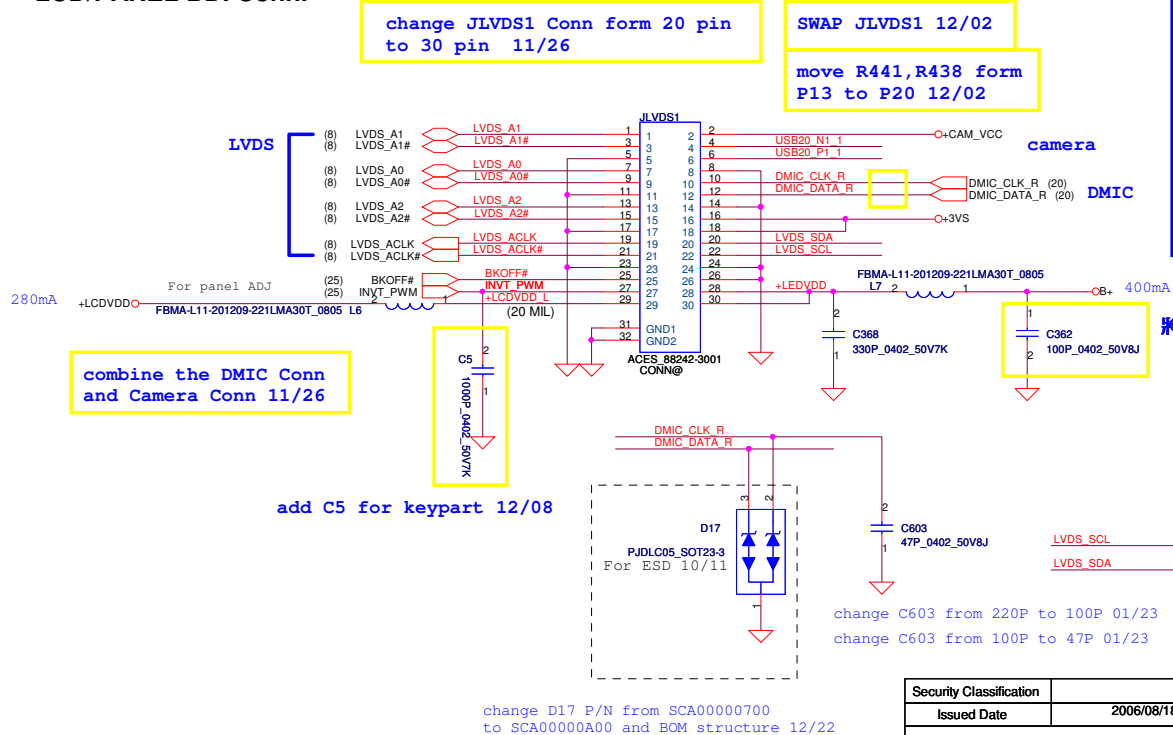
REQ PORT LIST

PORT	DEVICE
REQ_3#	MCH_3GPLL
REQ_4#	
REQ_6#	PCIE_WLAN
REQ_7#	PCIE_WWAN
REQ_9#	
REQ_10#	
REQ_11#	
REQ_A#	SATA

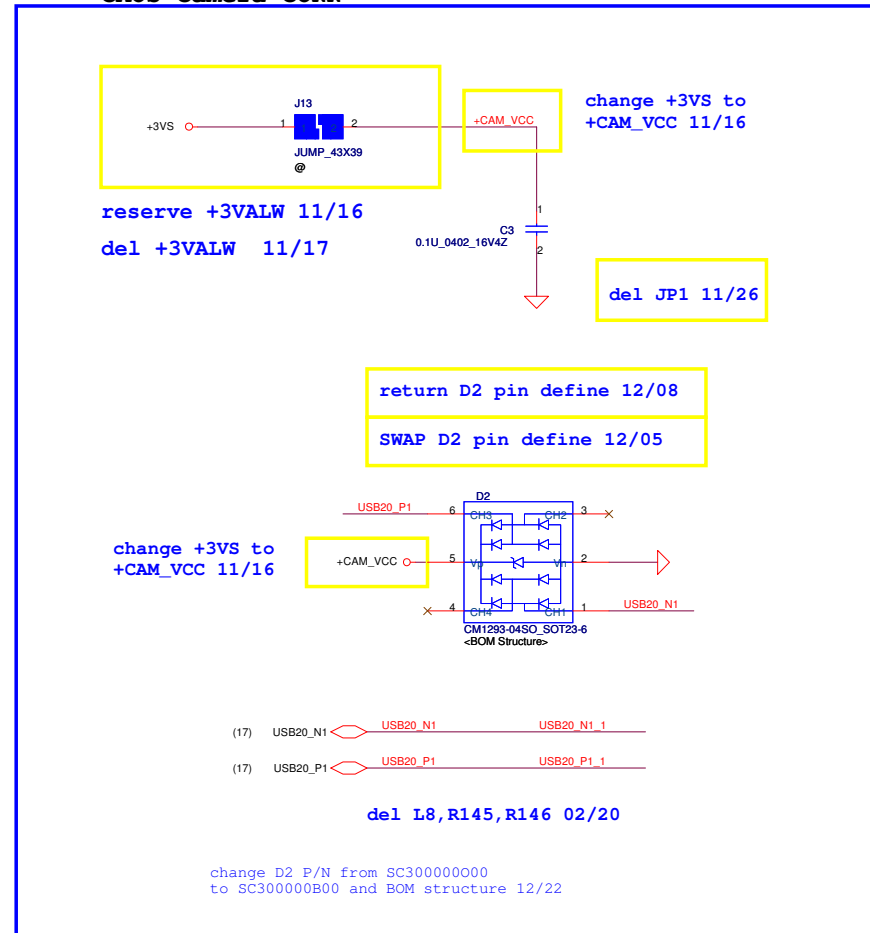
LCD POWER CIRCUIT



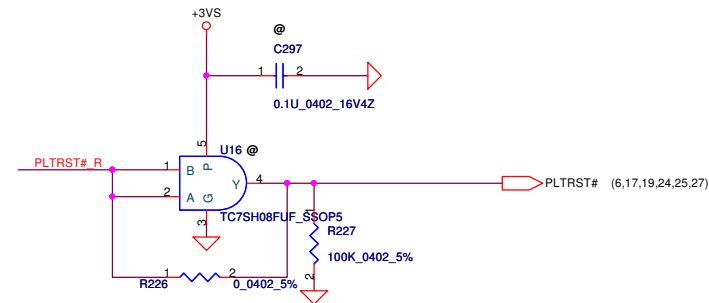
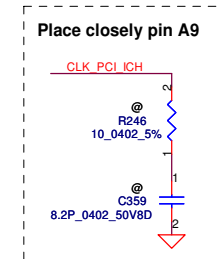
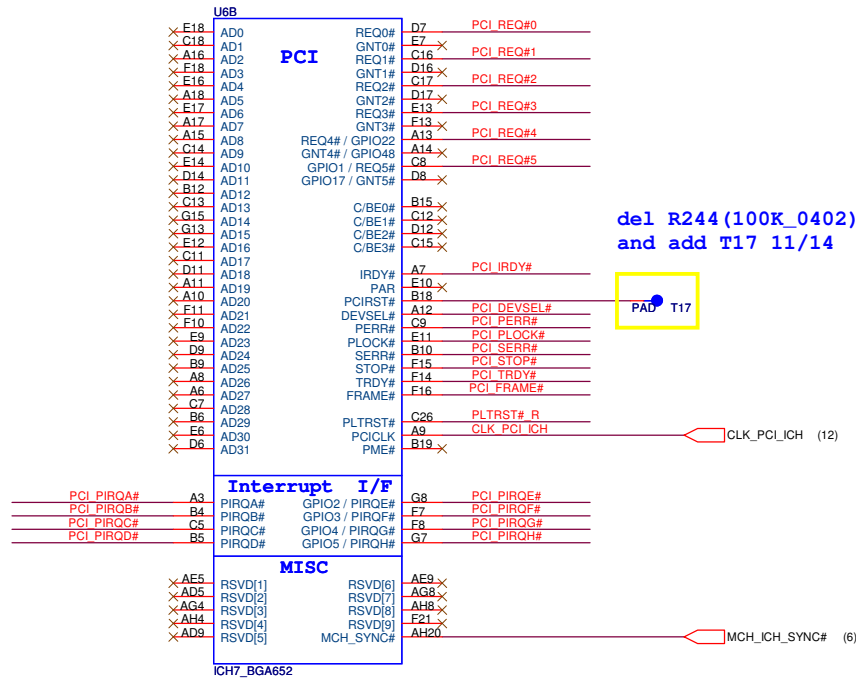
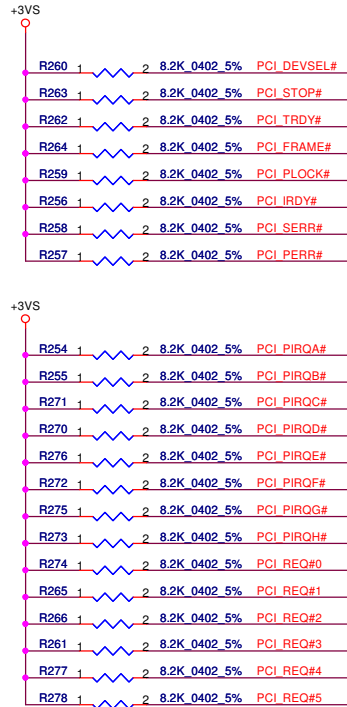
LCD/PANEL BD. Conn.



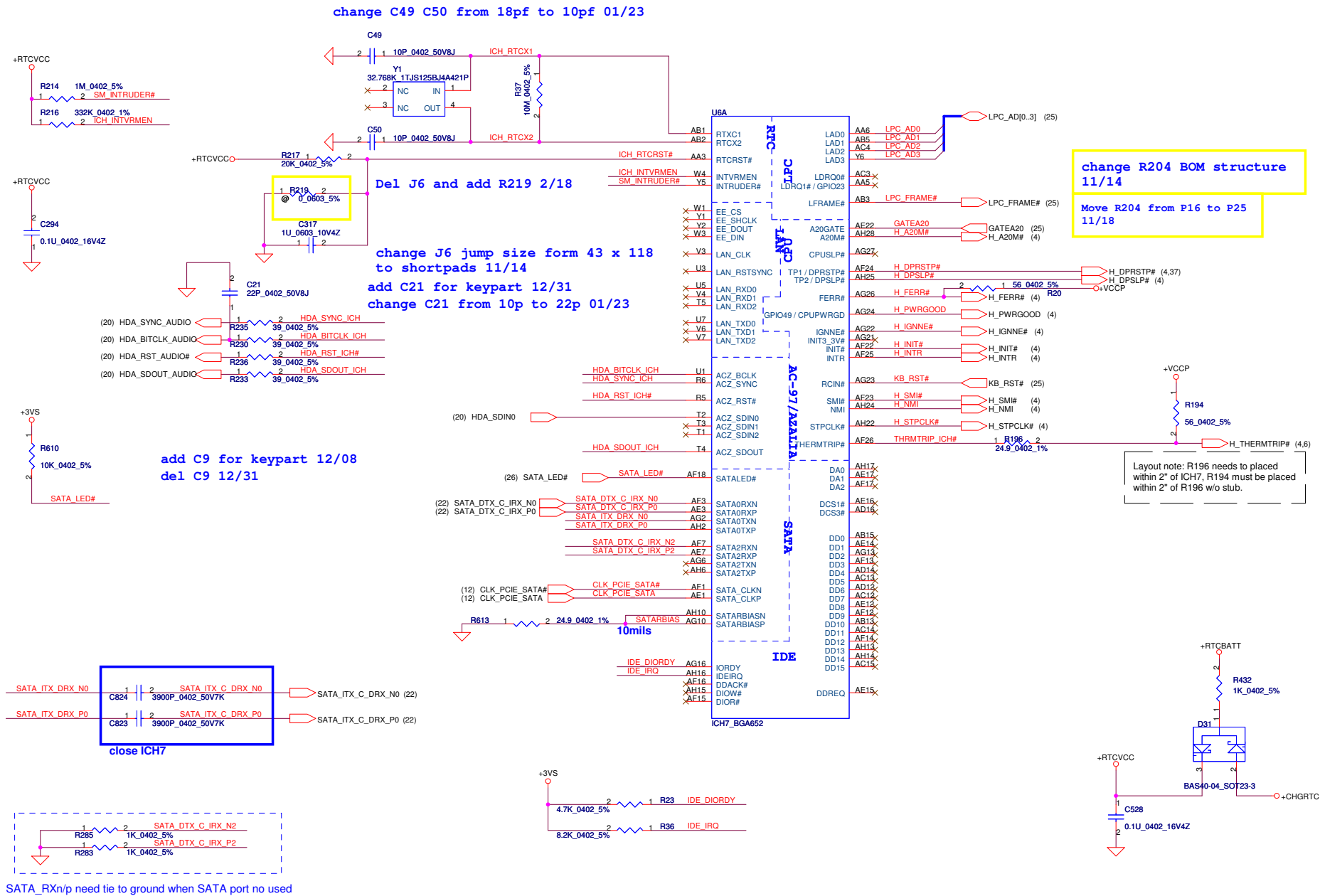
CMOS Camera CONN

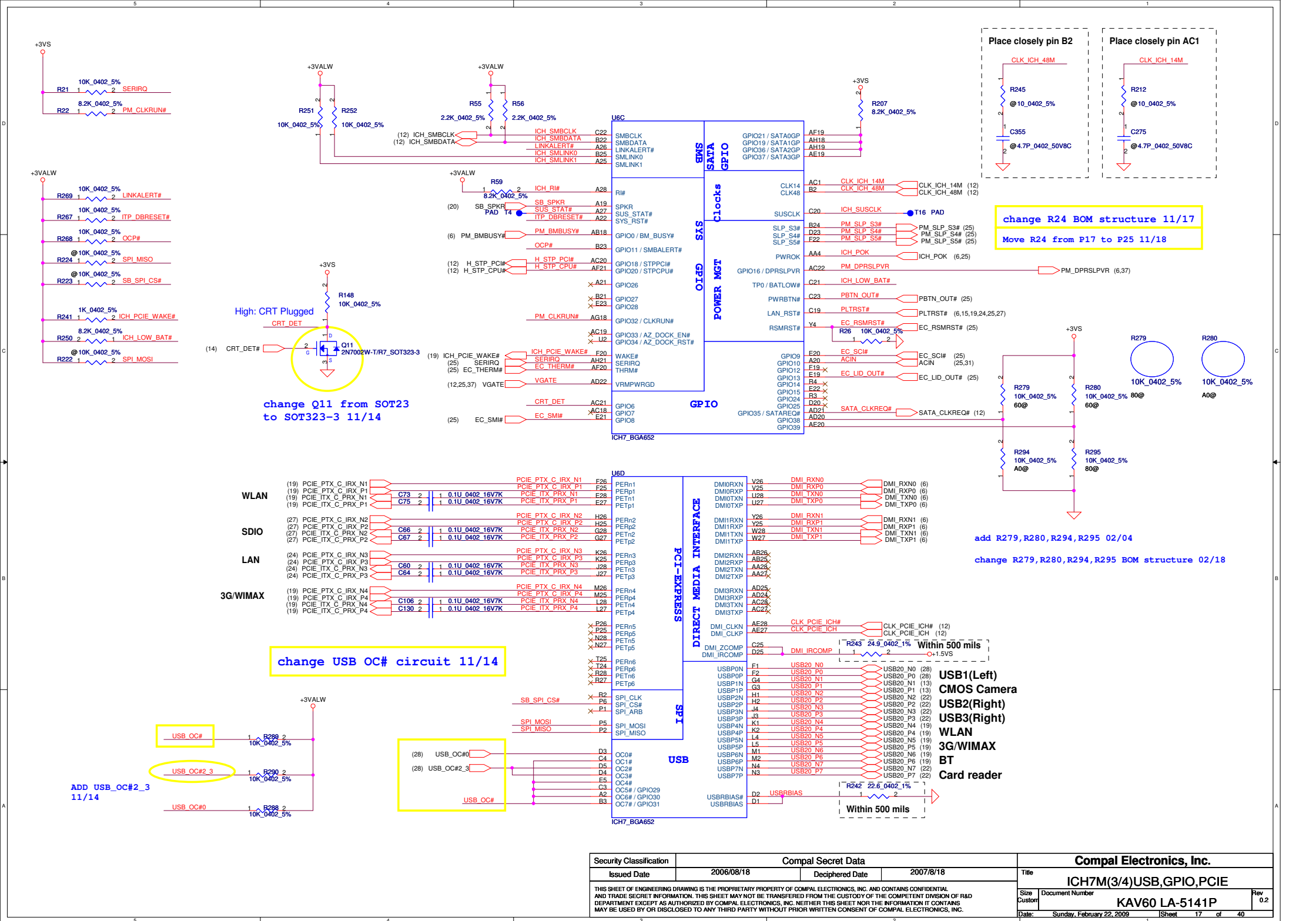


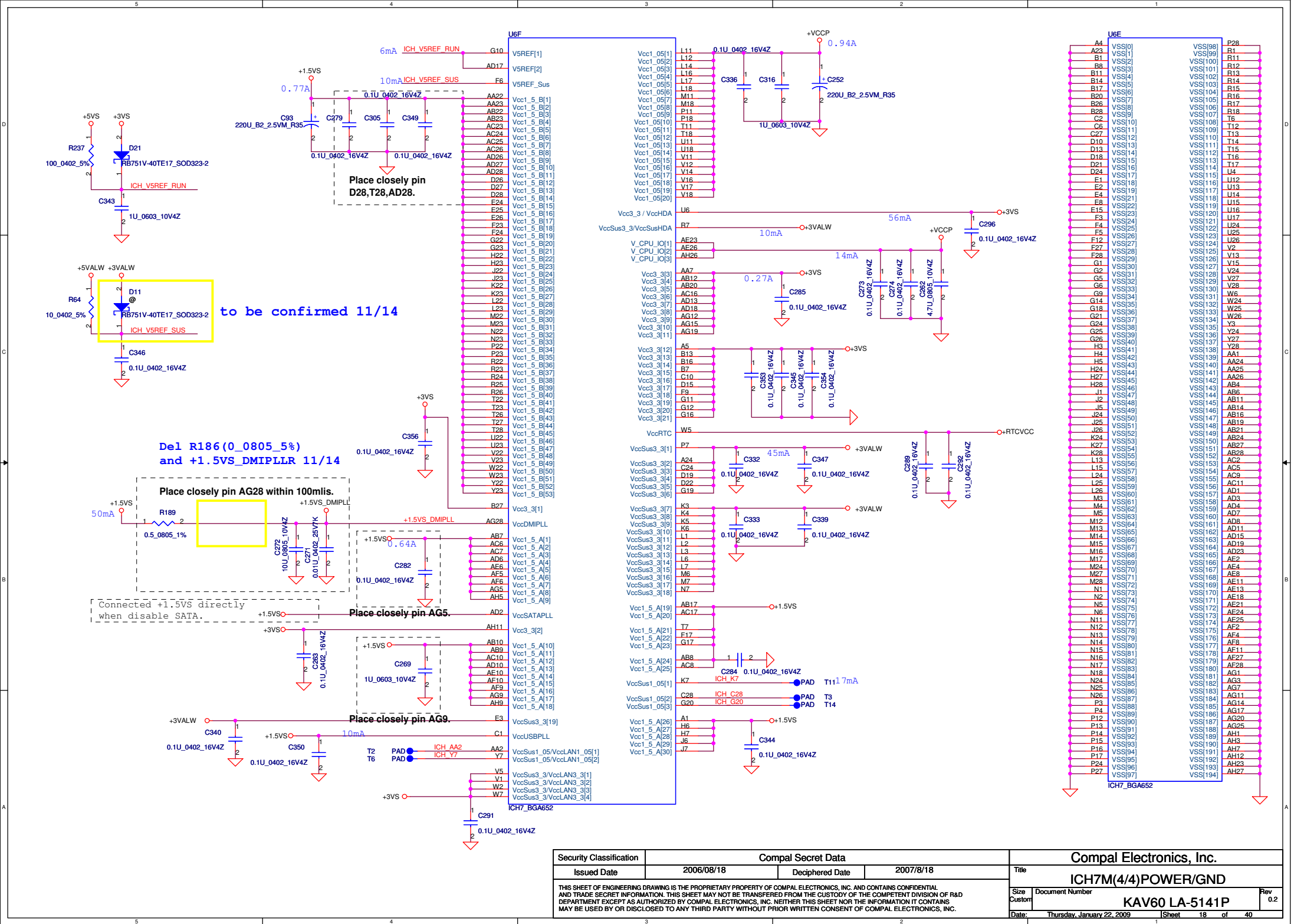
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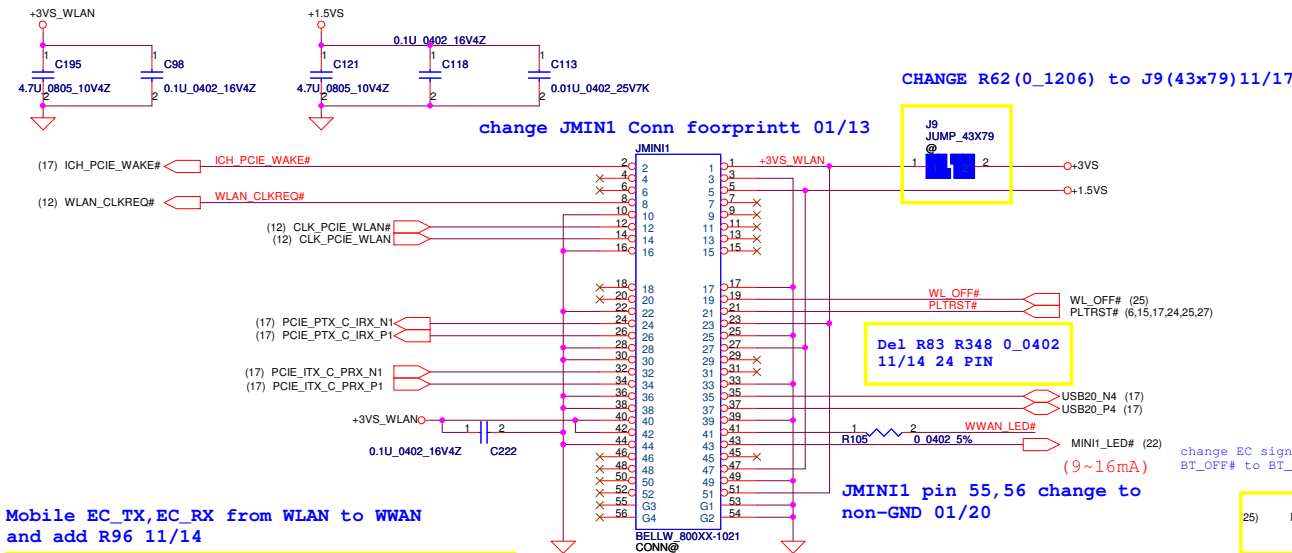
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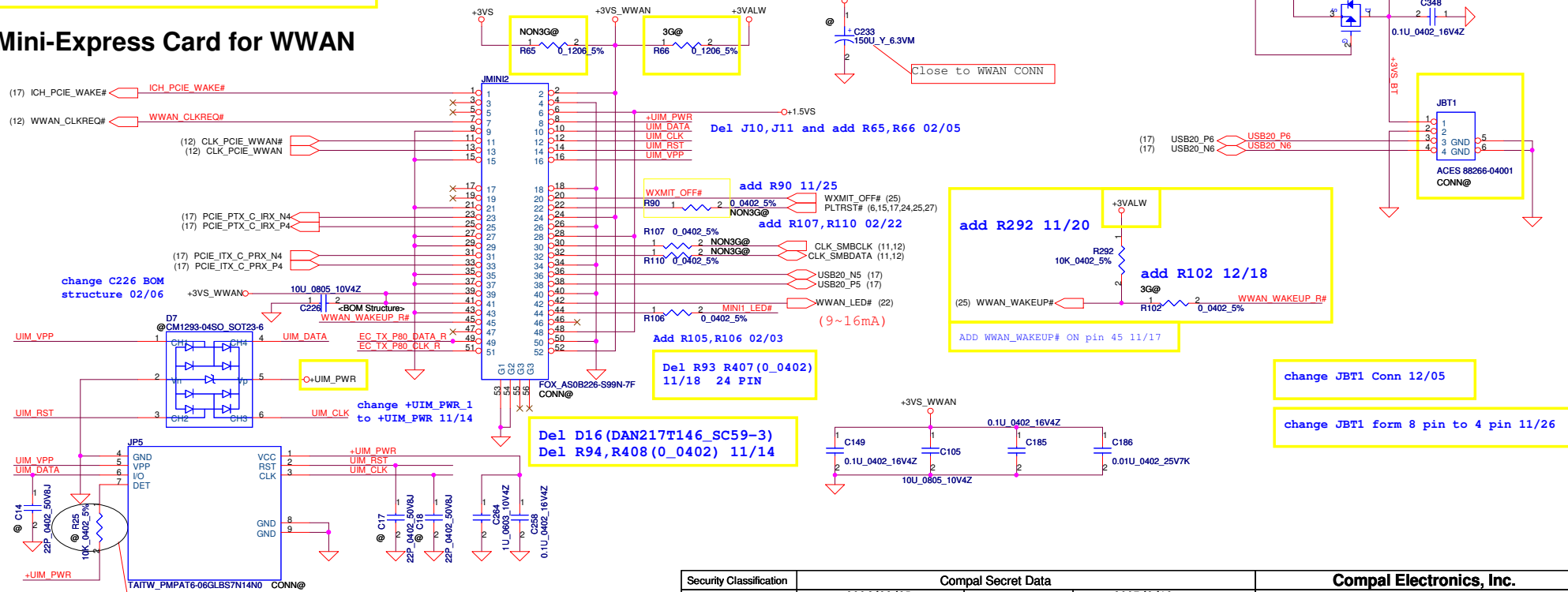




Mini-Express Card for WLAN



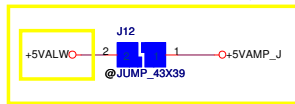
Mini-Express Card for WWAN



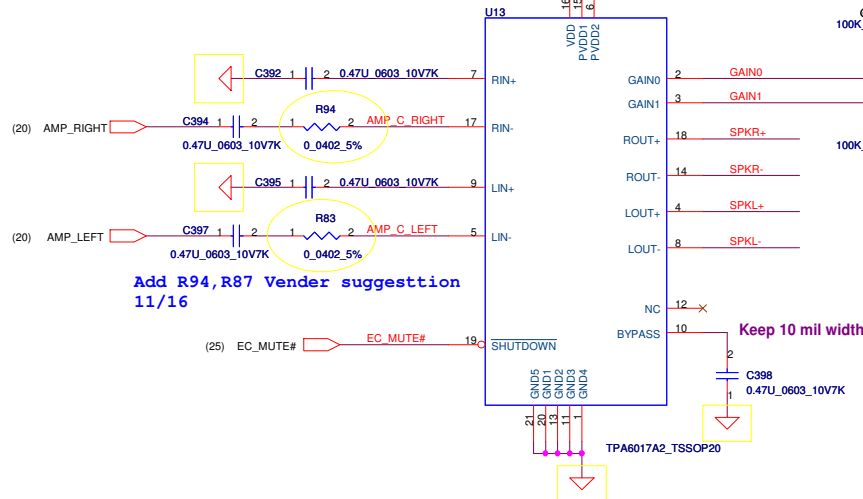
Reserve for SIM card does not meet rise time and pull-up is needed.

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add J12 12/04

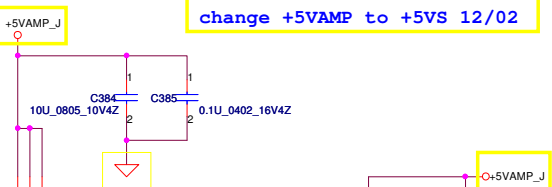


+5VS change to +5VALW 12/11



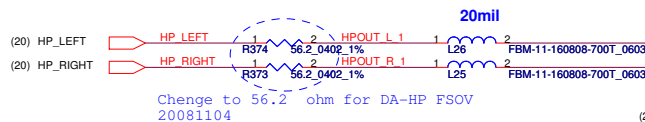
Add R94,R87 Vender suggestion
11/16

change +5VAMP to +5VS 12/02

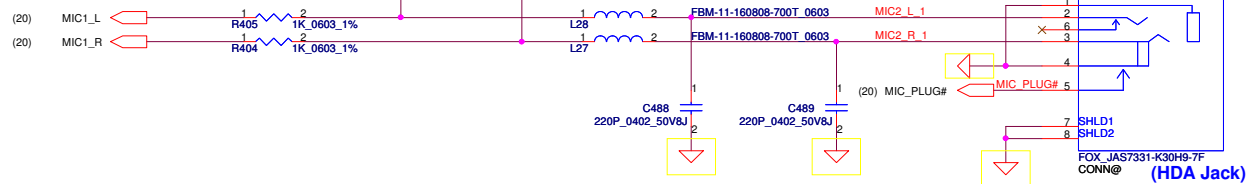
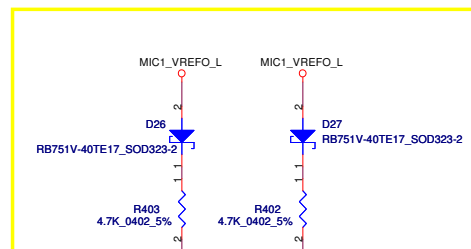


20081029 Update to 6dB

Analog ground change to digital ground
08/11/16



11/16



Int. Speaker Conn.

20mil

change JP20 Conn and pin design 11/26

del R388,R387,R386,R385,D10,D13 12/11

change JP20 Conn 01/16

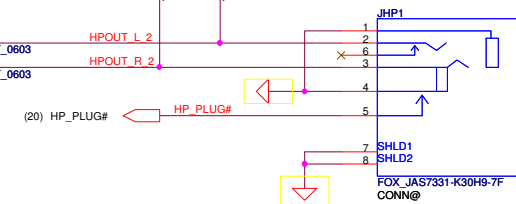
SWAP JP20 01/20

CONN@

ACES 88266-04001

Left
Right

LINE Out/Headphone Out



MIC JACK

(HDA Jack)

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Issued Date				2006/12/25				Title			
Deciphered Date				2007/8/18				Amplifier & Audio Jack			
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Size B				Document Number				KAV60 LA-5141P			
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Move SATA HDD Conn to small board 11/21

SWAP JP7 pin define 12/03

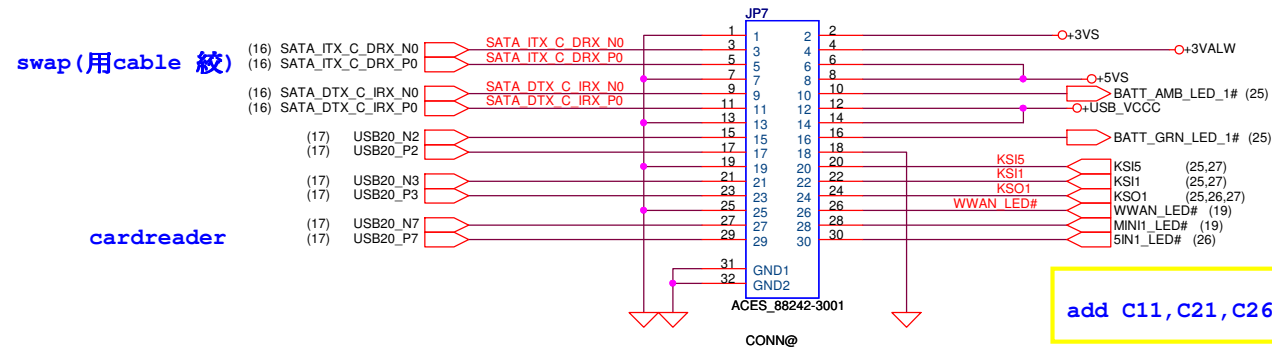
To cardreader/B Conn.

	KSO1
KSI1	WL_BTN#
KSI5	3G_BTN#

+3VS_READER change to +3VALW 12/15

add net name BATT_AMB_LED#
BATT_GRN_LED# 12/15

SATA&CARDREADER&USB Conn



add J15 J16 12/08

del J15,J16,C21 12/15

add C11,C21,C26,C27 for keypart 12/08

add C28 for keypart 01/14

del C11,C28,C26 01/21

del C26 02/03

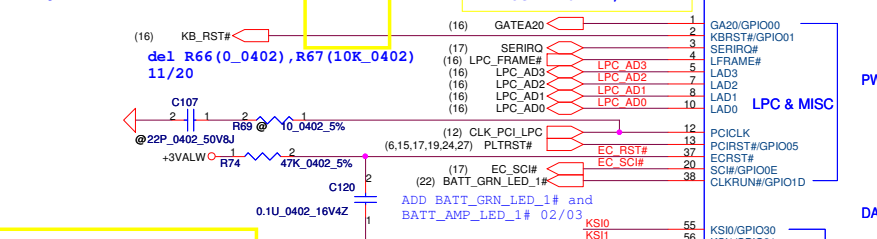
ADD SATA&CARDREADER&USB Conn (JP7) 11/26

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Issued Date	2006/08/18	Deciphered Date	2007/8/18	Title	
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Size	B	Document Number	KAV60 LA-5141P		Rev
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					0.2

Move Card Reader to small board 11/21

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Issued Date	2006/08/04	Deciphered Date	2007/8/18	Title	5 in 1 Card reader	
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				B	KAV60 LA-5141P	0.2
				Date:	Thursday, January 22, 2009	Sheet 23 of 40

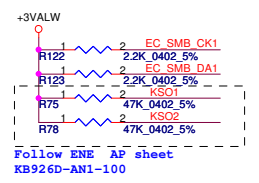
change L13 from SM010004010 to SM010004010
02/18



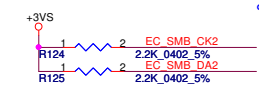
Move R204 from P16 to P25
11/18

	KSO1	KSI1	KSI5	GPIO15
WLAN_OFF#	v	v		High
WXMIT_OFF#	v		v	High
WXMIT_OFF# Swap to WLAN	v	v		Low

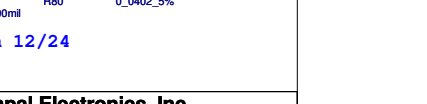
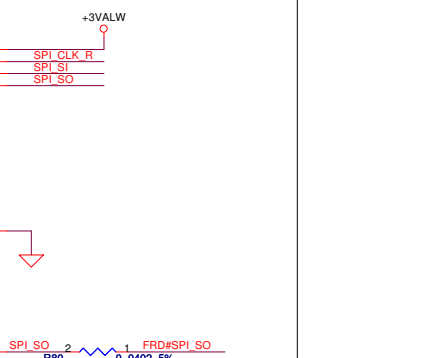
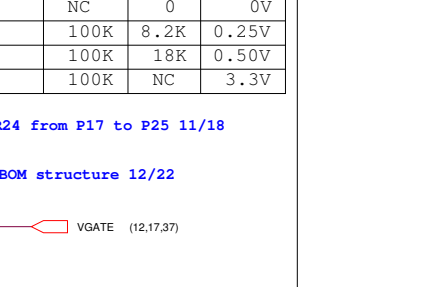
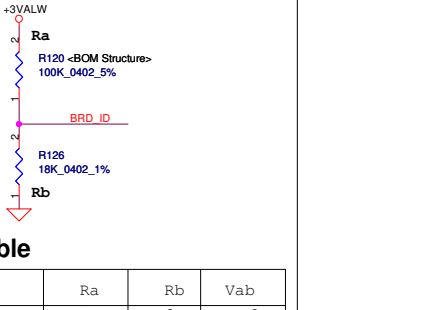
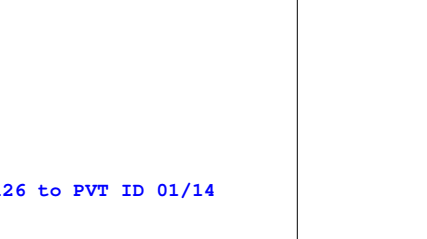
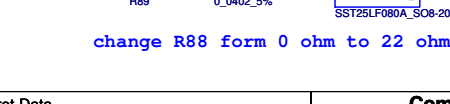
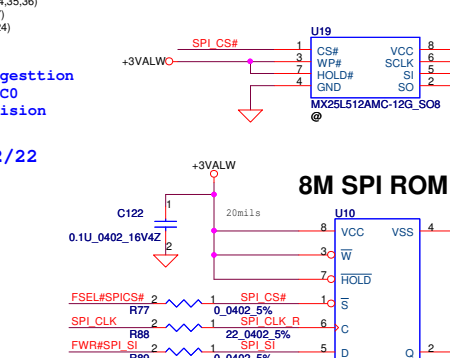
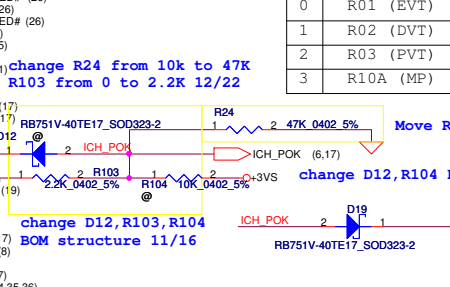
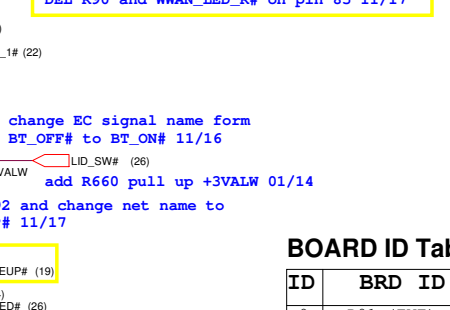
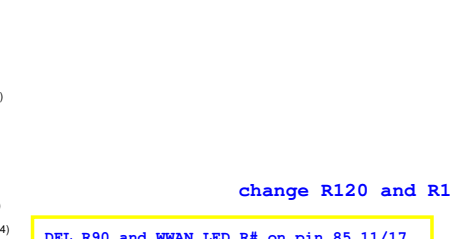
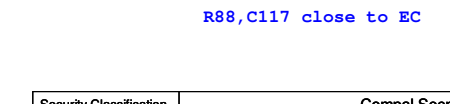
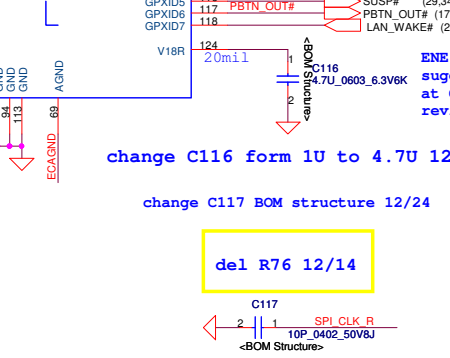
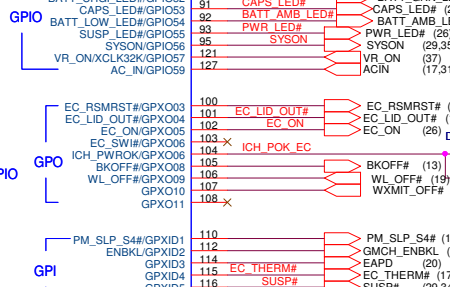
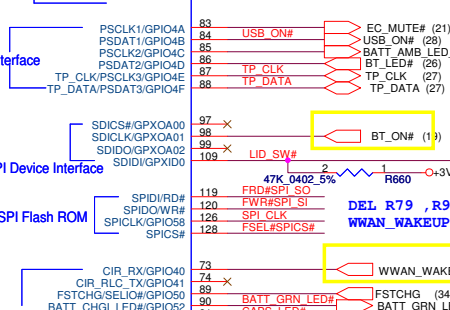
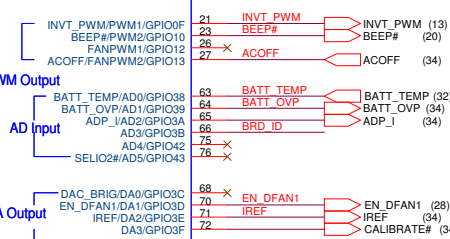
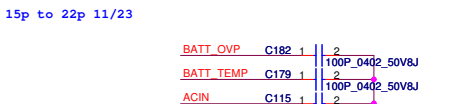
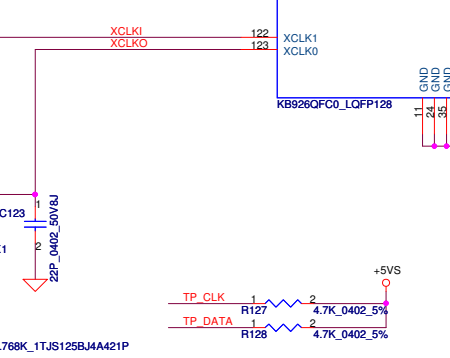
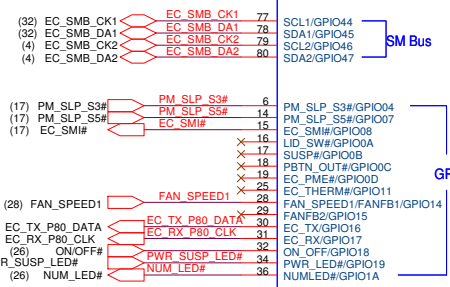
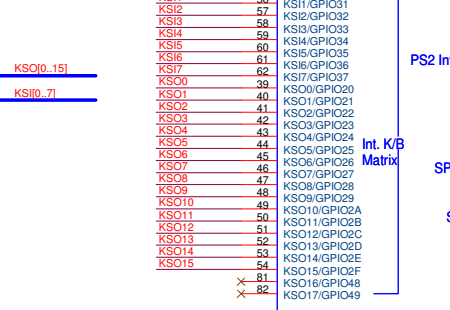
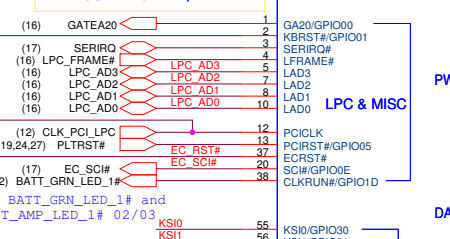
	KSO1
KSI1	WL_BTN#
KSI5	3G_BTN#



change R122,R123,R124,R125
from 4.7K to 2.2K 01/23



change c150,c123 from 15p to 22p 11/23



change R120 and R126 to PVT ID 01/14

DEL R90 and WWAN_LED_R# on pin 85 11/17

change EC signal name form
BT_OFF# to BT_ON# 11/16

add R660 pull up +3VALW 01/14

DEL R79 ,R92 and change net name to
WWAN_WAKEUP# 11/17

WWAN_WAKEUP# (19)

change R24 from 10k to 47K
R103 from 0 to 2.2K 12/22

BOARD ID Table

ID	BRD ID	Ra	Rb	Vab
0	R01 (EVT)	NC	0	0V
1	R02 (DVT)	100K	8.2K	0.25V
2	R03 (PVT)	100K	18K	0.50V
3	R10A (MP)	100K	NC	3.3V

Move R24 from P17 to P25 11/18

change D12,R104 BOM structure 12/22

change D12,R103,R104
BOM structure 11/16

ENE
suggestion
at C0
revision

change C116 form 1U to 4.7U 12/22

change C117 BOM structure 12/24

del R76 12/14

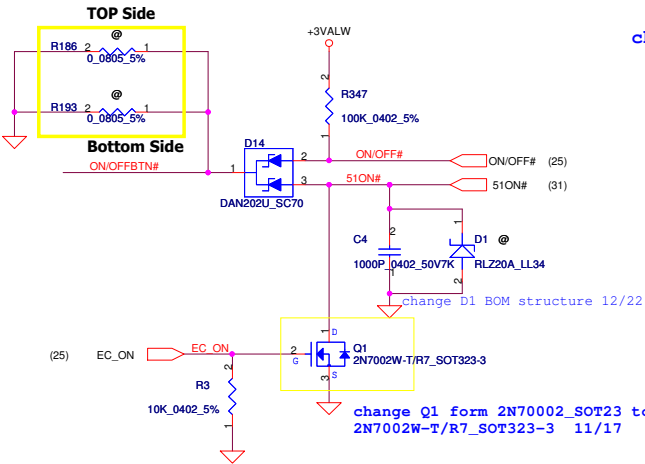
R88,C117 close to EC

change R88 form 0 ohm to 22 ohm 12/24

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Date				Sunday, February 22, 2009				KAV60 LA-5141P			
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of				40				0.2			

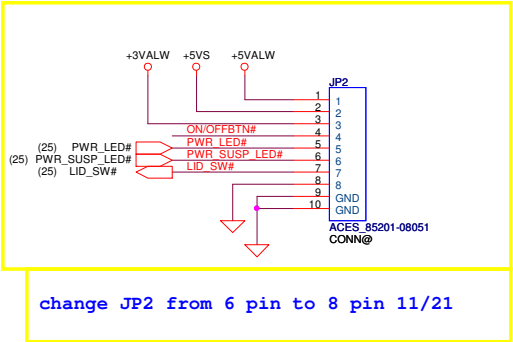
ON/OFF switch

change J1,J3(43 x 79) to R186,R193(0_0805) 11/16



change JP2 Conn 12/01

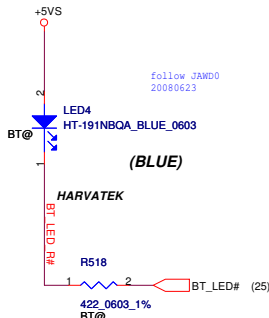
change JP2 Conn 11/25 To PWR/B Conn.



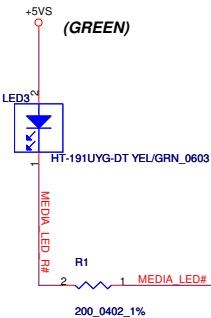
Change PWR_LED and PWR_SUSP_LED Net name 01/13

change R518 from 300 to 422 ohm 02/06

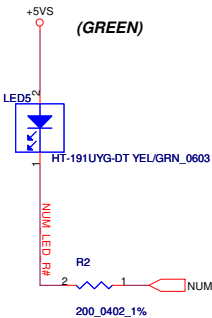
Bluetooth LED



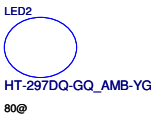
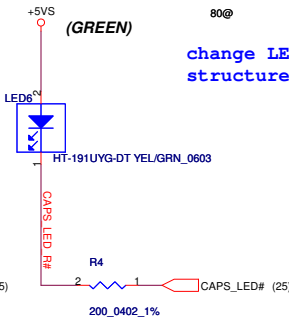
MEDIA_LED



NUM_LED



CAPS_LED

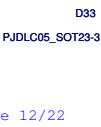
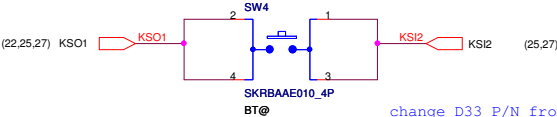


DEL LID Switch 11/21

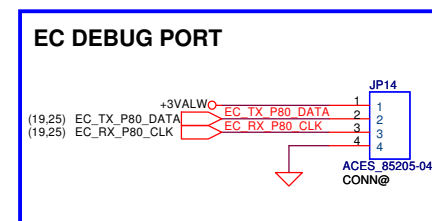
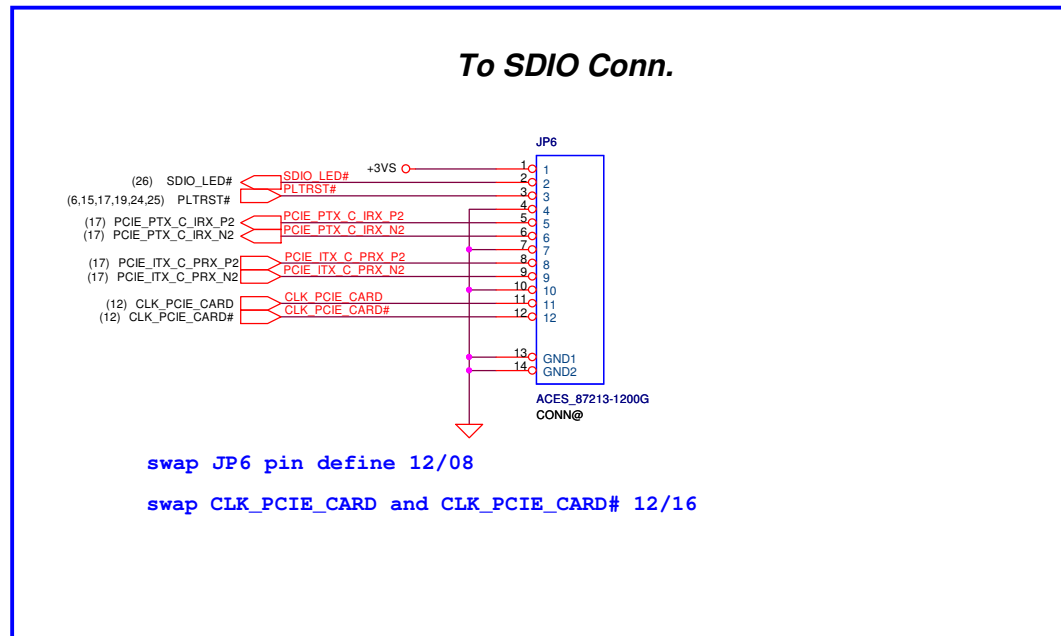
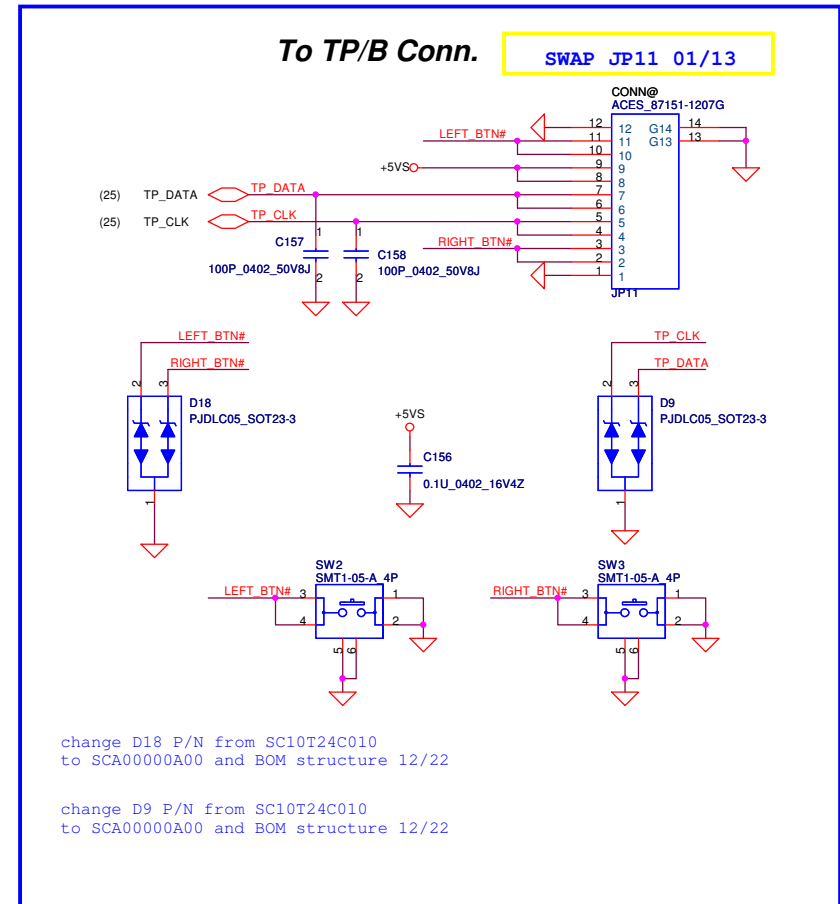
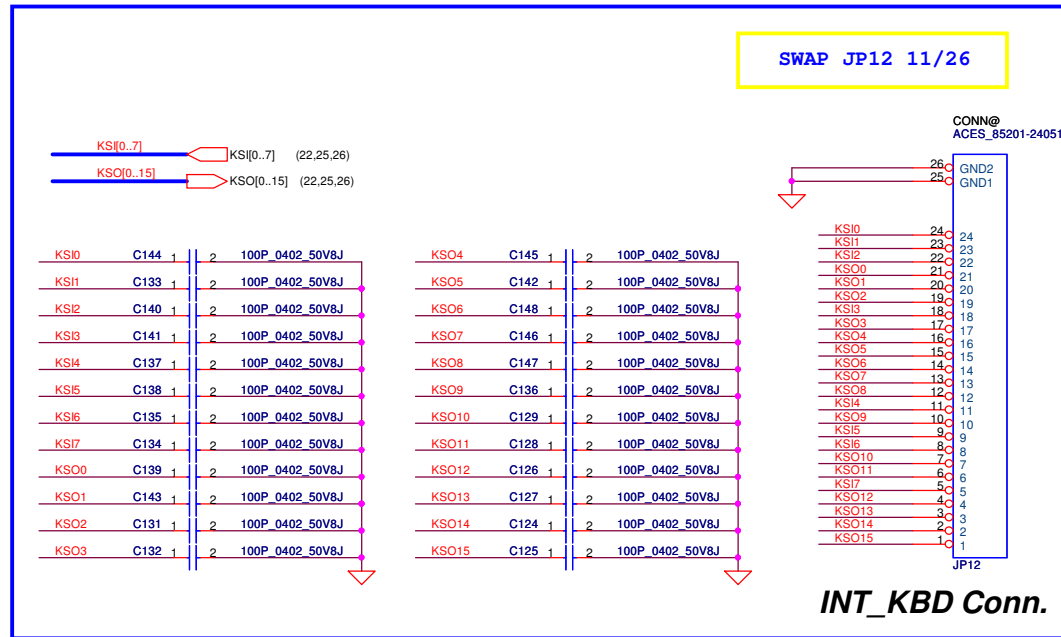
KSO1
KSI2 BT_BTN#

Change SW4 P/N to SN111005800 01/13

Bluetooth Button



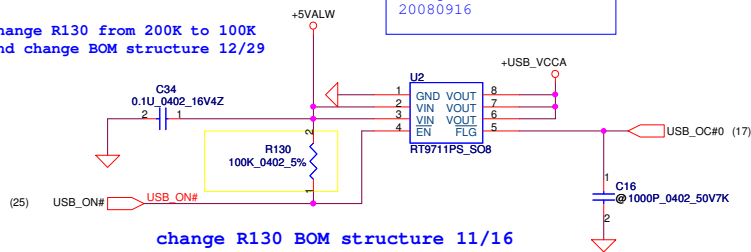
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Date:	Sunday, February 22, 2009	Sheet	27	of	40

U2 Change to SA000033H00
12/24

Change R130 from 200K to 100K
and change BOM structure 12/29

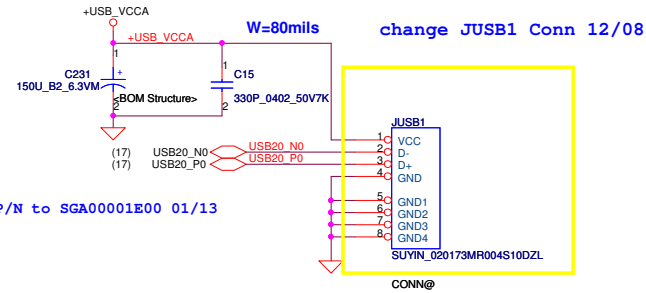


change D29 P/N from SC300000000
to SC300000B00 and BOM structure 12/22

SWAP D29 Pin Define 12/10

del D29 ,L9,R144,R136 01/16

USB CONN. 1



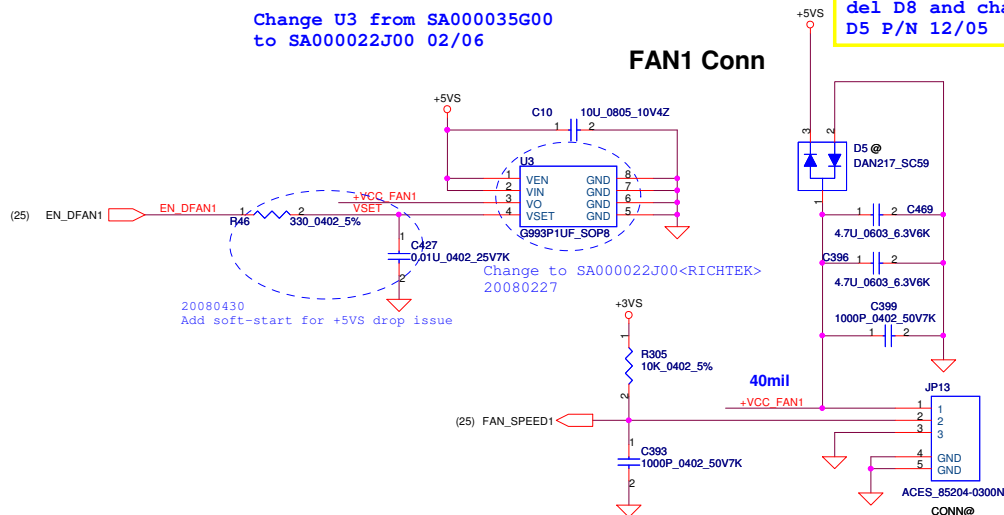
U3 Change to SA000035G00
12/31

Change U3 from SA000035G00
to SA000022J00 02/06

change D5 BOM
structure 01/23

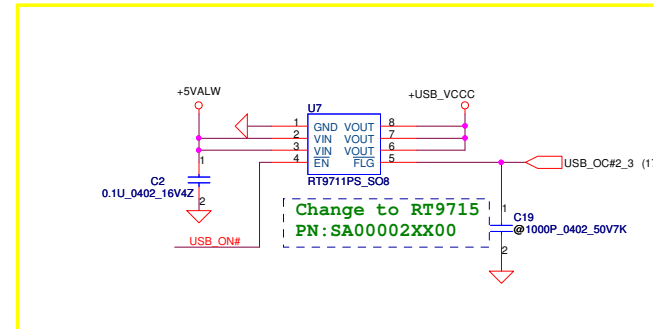
del D8 and change
D5 P/N 12/05

FAN1 Conn



change C396 from 100U/0806 to 4.7U/0603 01/22
add C469 01/22

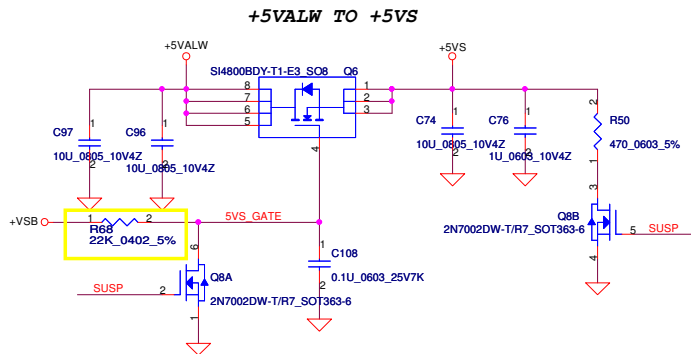
del JP3 11/26



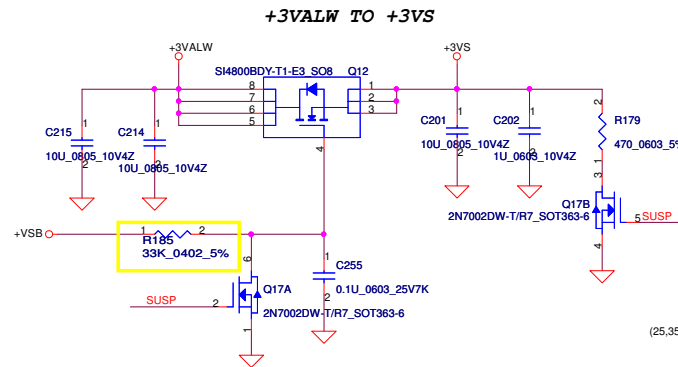
add U7 11/26

U7 Change to SA000033H00
12/24

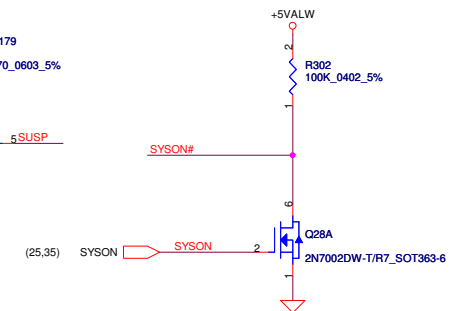
Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2006/08/18	Deciphered Date	2007/8/18	Title	USB PORTS/FAN	
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				Date:	Sunday, February 22, 2009	Sheet 28 of 40



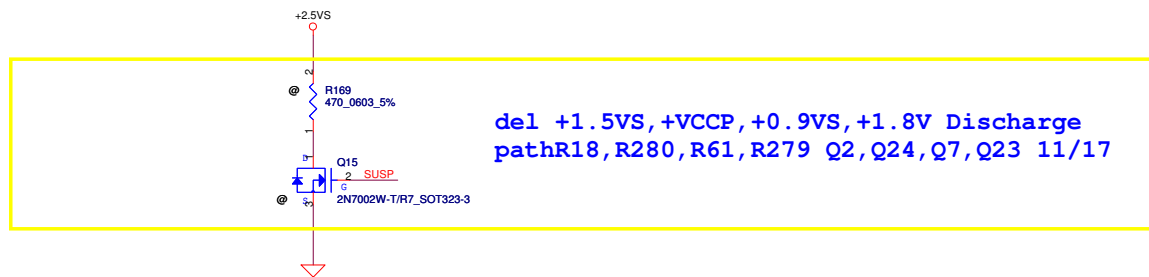
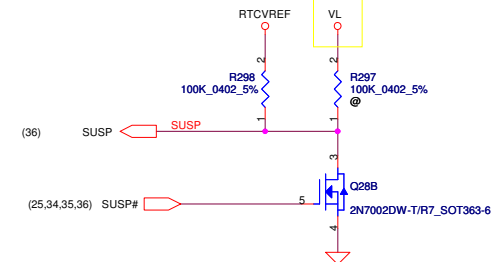
change R68 from 200K to 22K 12/10



change R185 from 200K to 33K 12/10



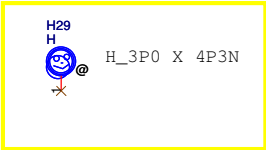
+5VALW CHANG TO VL
11/16



change Q2,Q15,Q24,Q7,Q23 form 2N70002_SOT23 to
2N7002W-T/R7_SOT323-3 11/17

change R18,R169,R280,R61,R279
Q2,Q15,Q24,Q7,Q7,Q23 BOM structure 11/16

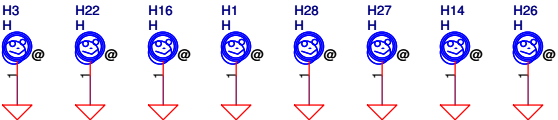
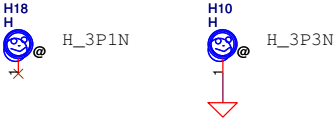
Security Classification				Compal Secret Data				Compal Electronics, Inc.			
Issued Date				Deciphered Date				Title			
2006/08/18				2007/8/18				DC INTERFACE			
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								KAV60 LA-5141P			
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								Sheet 29 of 40			



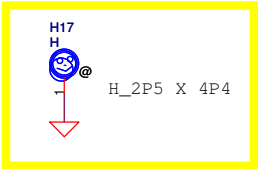
update Screw 12/04

del H11 H_3P0N 12/10

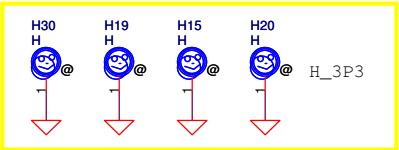
change H18 from 3P2N to 3P1N 02/22



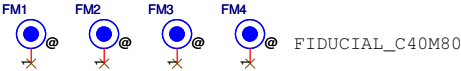
del H31 01/16



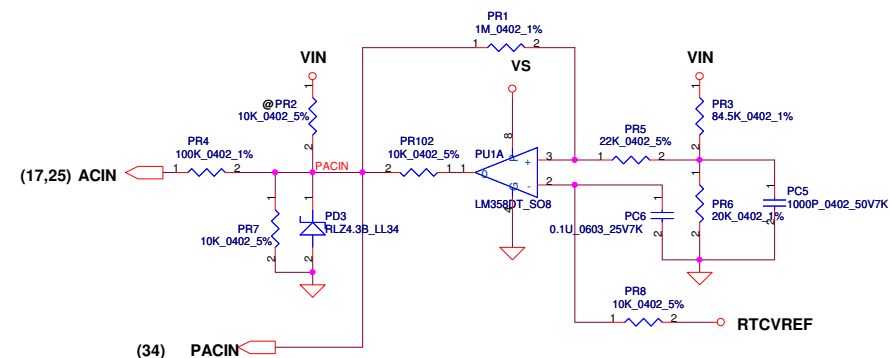
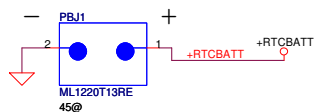
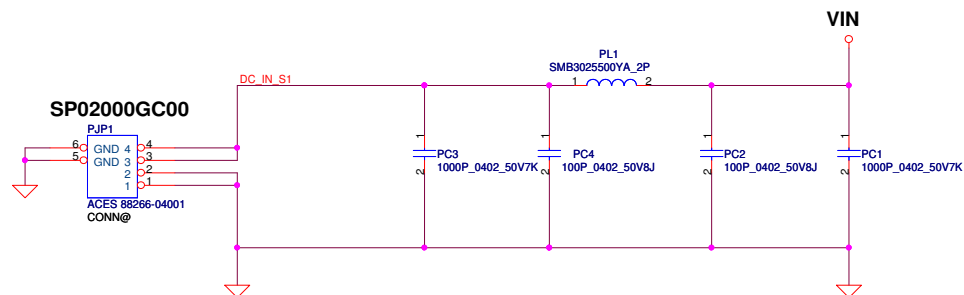
change H17 from H_2P5 to H_2P5 X 4P4



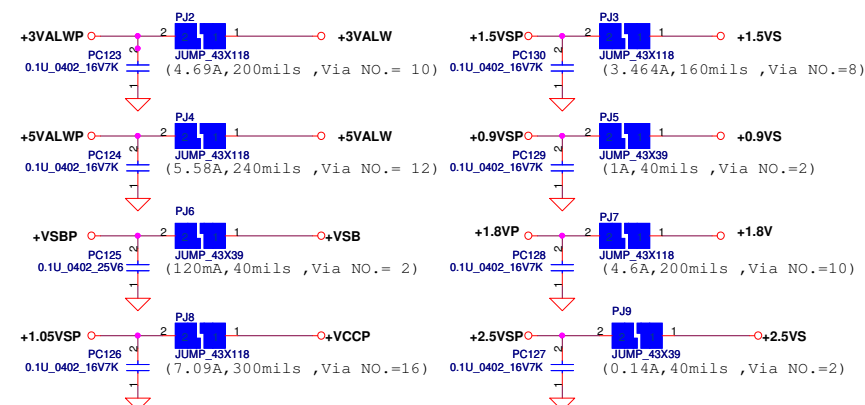
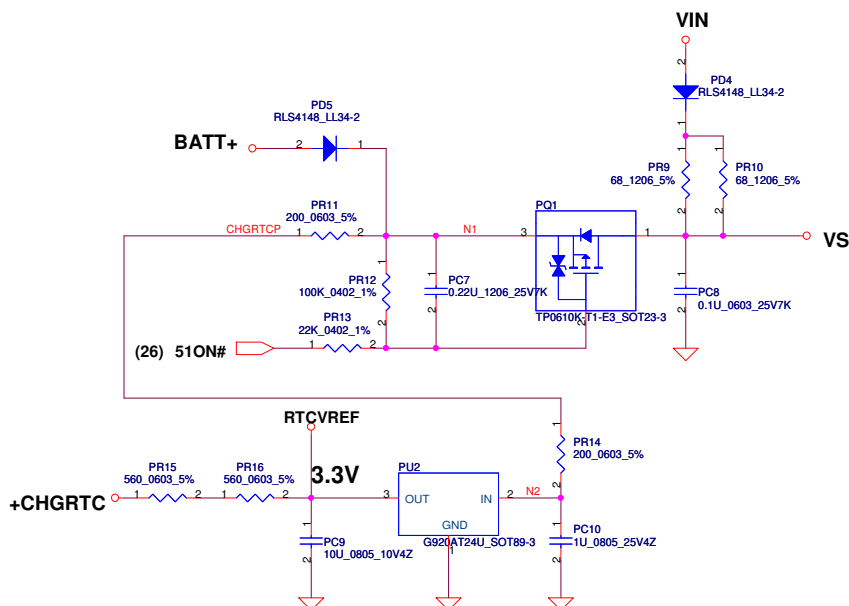
add H32 12/17
modify H15,H19,H20,H29,H30 12/17
update H15,H19,H20,H30 from 3P8 to 3P6 01/22
update H15,H19,H20,H30 from 3P6 to 3P3 02/22



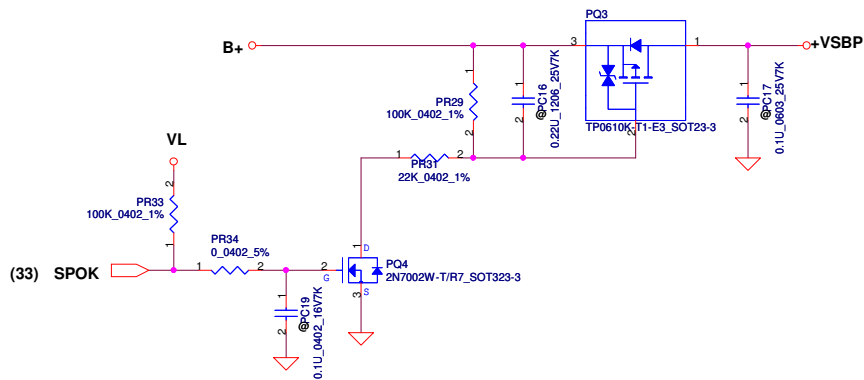
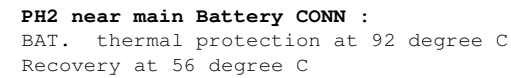
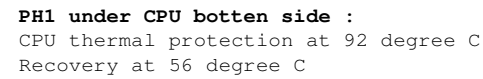
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								Size B	Document Number						Rev 0.2
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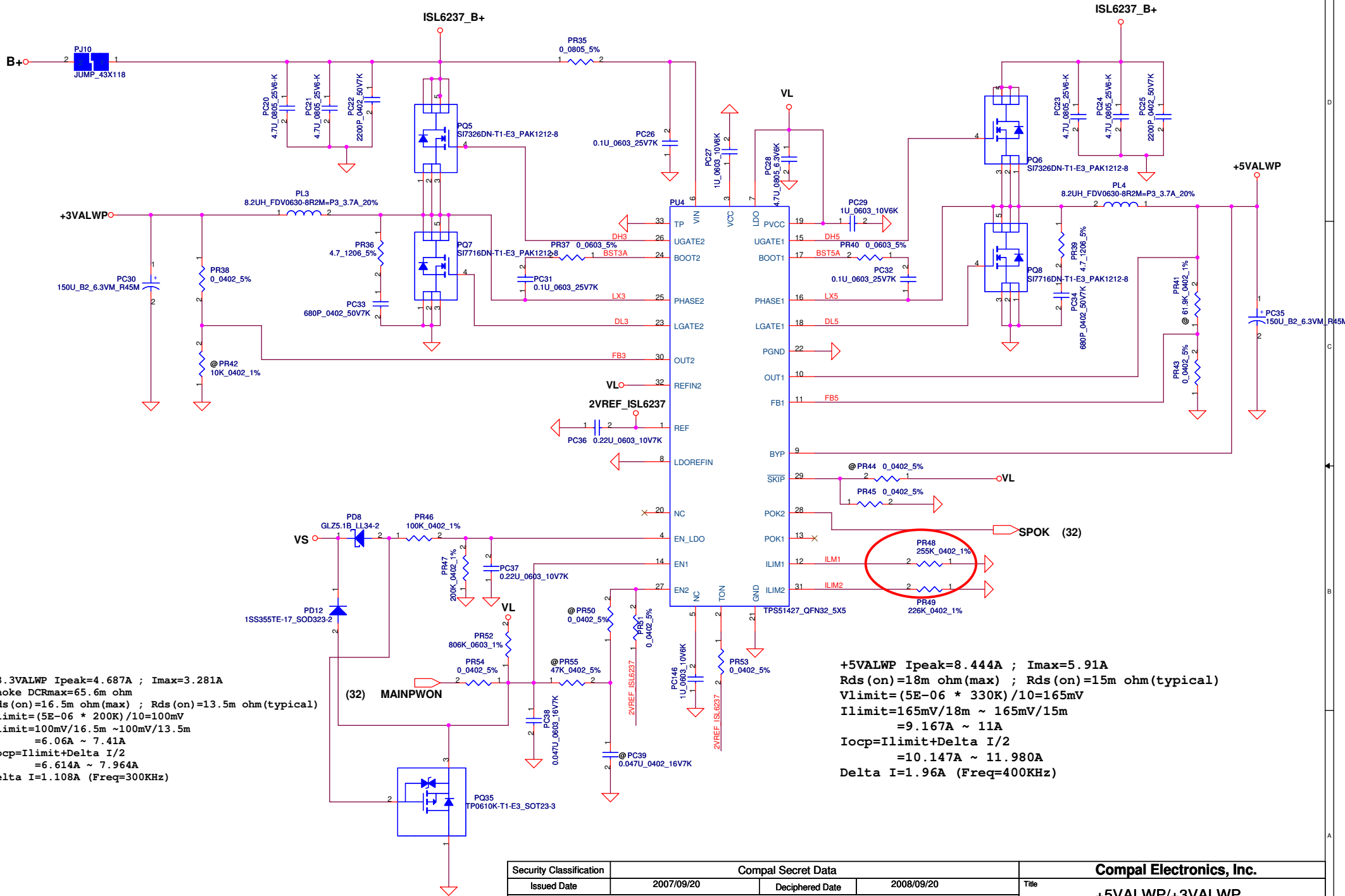
Vin Detector			
	Min.	Typ	Max.
H-->L	16.976V	17.525V	17.728V
L-->H	17.430V	17.901V	18.384V



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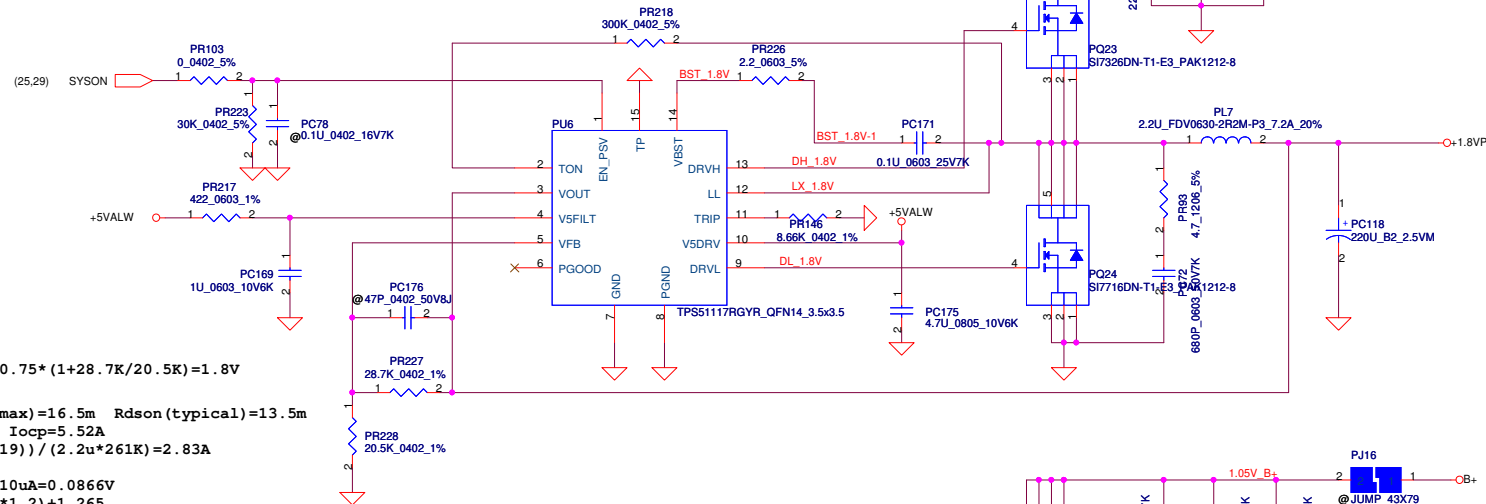
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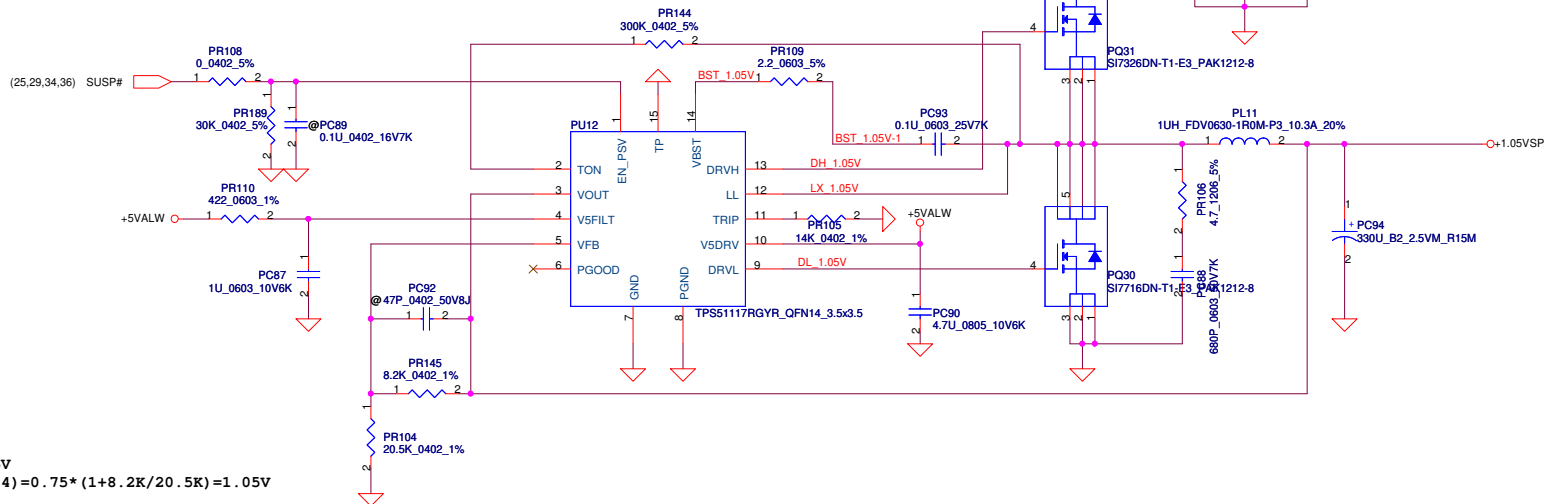
+3.3VALWP Ipeak=4.687A ; Imax=3.281A
Choke DCRmax=65.6m ohm
Rds(on)=16.5m ohm(max) ; Rds(on)=13.5m ohm(typical)
Vlimit=(5E-06 * 200K)/10=100mV
Ilimit=100mV/16.5m ~100mV/13.5m
=6.06A ~ 7.41A
Iocp=Ilimit+Delta I/2
=6.614A ~ 7.964A
Delta I=1.108A (Freq=300KHz)

+5VALWP Ipeak=8.444A ; Imax=5.91A
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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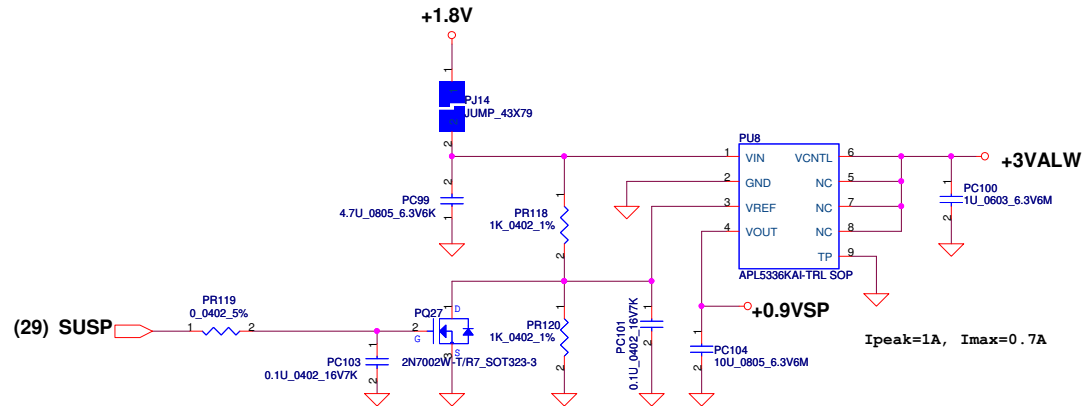
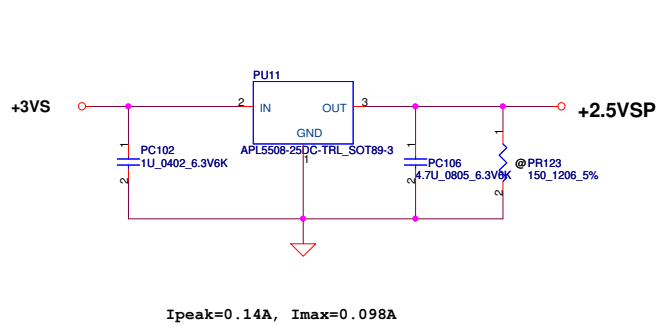
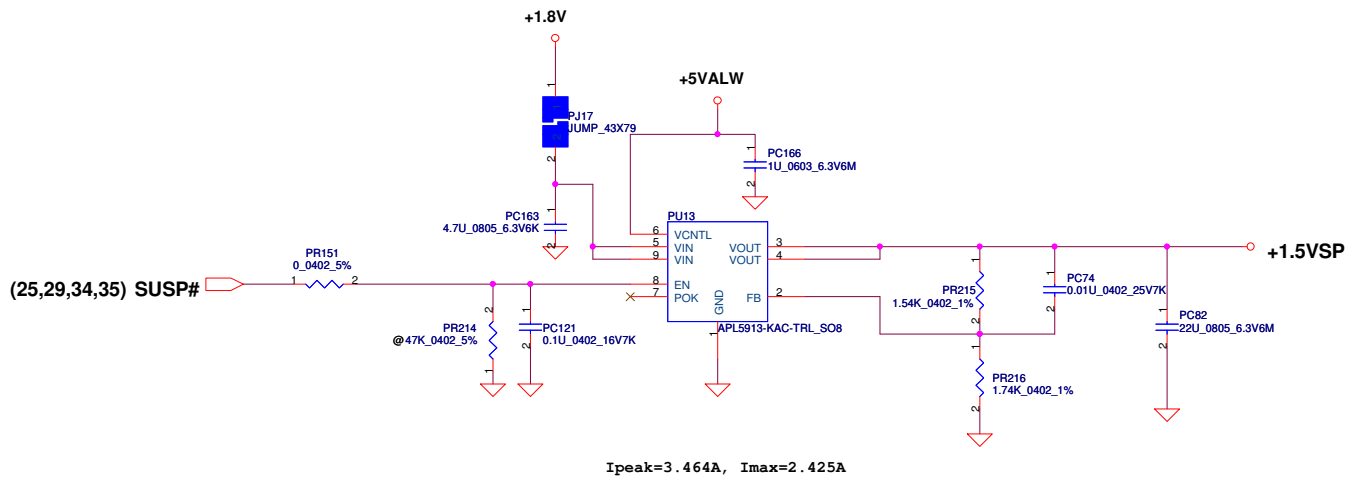


$V_o = 1.8V$ $V_{FB} = 0.75V$
 $V_o = V_{FB} * (1 + PR227 / PR228) = 0.75 * (1 + 28.7K / 20.5K) = 1.8V$
 $F_{sw} = 262KHz$
 $C_{out} ESR = 15m \text{ ohm}$ $R_{dson(max)} = 16.5m$ $R_{dson(typical)} = 13.5m$
 $I_{peak} = 4.6A$ $I_{max} = 3.22A$ $I_{ocp} = 5.52A$
 $\Delta I = ((19 - 1.8) * (1.8 / 19)) / (2.2u * 261K) = 2.83A$
 $\Rightarrow 1/2 \Delta I = 1.42A$
 $V_{trip} = R_{trip} * I_{0uA} = 8.66K * 10uA = 0.0866V$
 $I_{ocpmin} = V_{trip} / (R_{dsonmax} * 1.2) + 1.265$
 $= 0.0866 / (0.0165 * 1.2) + 1.42 = 5.79A$
 $I_{ocpmax} = (0.0866 / (0.0135 * 1.2)) + 1.42A = 6.77A$
 $I_{ocp} = 5.79A \sim 6.77A$



$V_o = 1.05V$ $V_{FB} = 0.75V$
 $V_o = V_{FB} * (1 + PR145 / PR104) = 0.75 * (1 + 8.2K / 20.5K) = 1.05V$
 $F_{sw} = 261KHz$
 $C_{out} ESR = 15m \text{ ohm}$ $R_{dson(max)} = 16.5m$ $R_{dson(typical)} = 13.5m$
 $I_{peak} = 7.09A$ $I_{max} = 4.963A$ $I_{ocp} = 8.51A$
 $\Delta I = ((19 - 1.05) * (1.05 / 19)) / (1.5u * 261K) = 2.53A$
 $\Rightarrow 1/2 \Delta I = 1.265A$
 $V_{trip} = R_{trip} * I_{0uA} = 14K * 10uA = 0.14V$
 $I_{ocpmin} = V_{trip} / (R_{dsonmax} * 1.2) + 1.265$
 $= 0.14 / (0.0165 * 1.2) + 1.265 = 8.34A$
 $I_{ocpmax} = (0.14 / (0.0135 * 1.2)) + 1.265A = 9.91A$
 $I_{ocp} = 8.34A \sim 9.91A$

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Version change list (P.I.R. List)

Item	Fixed Issue	Reason for change	Rev.	PG#	Modify List	Date	Phase
1	Modify CPU OTP circuit	For thermal team request	0.1	31	Cahnge PR19 to SD034732180 (S RES 1/16W 7.32K +-1% 0402) Cahnge PR22 to SD034174280 (S RES 1/16W 17.4K +-1% 0402)	09/01/14	DVT
2	Modify 3/5V output cap	design change	0.1	32	Cahnge PC30 to SGA00004H00 (S POLY C 150U 6.3V M B2 LESR25M PSL H1.9) Cahnge PC35 to SGA00004H00 (S POLY C 150U 6.3V M B2 LESR25M PSL H1.9)	09/01/14	DVT
3	Modify Charger modify	redulate charger ADJ voltage	0.1	33	add PR211 to SD034301380 (S RES 1/16W 301K +-1% 0402) add PR220 to SD034499380 (S RES 1/16W 499K +-1% 0402)	09/01/14	DVT
4	Modify 1.8v/1.05v boost circuit	for APW7141 issue	0.1	34	Cahnge PR226 to SD013220B80 (S RES 1/10W 2.2 +-5% 0603) Cahnge PR109 to SD013220B80 (S RES 1/10W 2.2 +-5% 0603)	09/01/14	DVT
5	add all sunbber	for 3G and EMI team request	0.1	34	add all sunbber	09/01/14	DVT
6	Modify HMOS and LMOS	for cost down	0.1	34	H-side to SB000000IA00 (S TR SI5412DN-T1-6E3 1N POWERPAK1212-8) L-side to SB000000IA00 (S TR IRFH3707TRPBF 1N PQFN)	09/01/14	DVT
7	add input capacitance	for 3G solution	0.1	34	add PC41 PC46 SE074222K80 (S CER CAP 2200P 50V K X7R 0402)	09/01/21	DVT
8	modify 1.05v TRIP R	modify ocp point	0.1	34	modify PR105 to SD034140280 (S RES 1/16W 14K +-1% 0402)	09/02/02	DVT
9	modify 3V/5V OCP point	design change	0.1	34	Cahnge PR48 SD034255380 (S RES 1/16W 255K +-1% 0402)	09/02/02	DVT
10	modify 3V/5V OCP point	design change	0.1	34	Cahnge PR49 SD034226380 (S RES 1/16W 226K +-1% 0402)	09/02/18	PVT
11	modify chager circuit	design change	0.1	34	Add PQ44 SB000006800 S TR 2N7002W T/R7 1N SOT-323	09/02/18	PVT
12	modify chager circuit	design change	0.1	34	Add PQ34 SB301150000 S TR DTC115EUA NPN (UMT3)	09/02/18	PVT
13	modify chager circuit	design change	0.1	34	Add PR152 SD034470280 S RES 1/16W 47K +-1% 0402	09/02/18	PVT
14	modify chager circuit	design change	0.1	34	Add PQ33 SB101440200 S TR DTA144EUA PNP UMT3	09/02/18	PVT
15							
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A-TEST Change

<8/25>
1. Update Power SCH
<8/26>
1. Update Power SCH
2. Change
D7 SC300000D00 to SC300000000
3.Change
C49・C50 SE071180K80 to SE071180J80
<8/27>
1. Updata Power SCH
2. Modify
RJ45 temp footprint FOX_JM3611A-R4122-7F_12P-T
<8/28>
1. Updata Power SCH
<9/1>
1. Updata Screw
<9/5>
1. SWAP USB20_1 Signal.
<9/10>
1. Remove Mini card pin55・pin56 的GND。
2. Change JREAD1.42・H26 to GNDA。
<9/12>
1. Swap 3G ESD pin neme。
<9/15>
1. Update Audio Jack footprint
2. Change R641・R642 300ohm to 511ohm for Arthros。
3. Update L footprint。
<9/16>
1. Update POWER SCH.
<9/17>
1. Update POWER SCH.
2. ADD R380・R383 for ESD.
<9/18>
1. Update ATHEROS 10/100 LAN <AR8132/AR8114>
<9/24>
1. Change C870 0.1u to 1u.
<9/26>
1. R88 change to 0ohm.

B-TEST Change

<10/21>
1.Remove C389 for Audio can't detect issue on page 16
2.Add KSO1/KSO2 PU +3VALW on page25
3.Add R205 for schematic mistake on page 04
4.Change EC RST to PLTRST on page 25
5.Add J8 to cost down Audio LDO on page 20
6.Add R72 to reserve +3VALW for 3G on page 19
7.Reserve C238 for CRTDAC on page 10
8.Add R87 for Debug card on page 19
9.Change C108/C255 to 0.1uF for random hang issue
10.Change JP3 pin assignment on page 28
<10/21>
1. Update Power SCH
<10/29>
1. Audio AMP 10dB update to 6dB
<11/3>
1. Update Power SCH
<11/4>
1. Change R373・R374 to 56.2 ohm for DA-HP FSOV
2. Add C834・C851 for 3G noise
3. Change KB926 C1 to D2
4. Card reader RT5158E change to RT5159-GR
<11/5>
1. Swap D7 pin define
<11/10>
1. EC add R79・R90・R92 for SMS wakeup。

A-TEST Change

<2008/11/14>
1. change R28,R32 BOM structure on page 4
2. change LCD POWER CIRCUIT form KAW10 to JAQ10 on page 13
3. change C670 BOM structure on page 13
4. change L5,L19(BK61608LL121-T0603) to R281,R287(39_0402) on page 14
5. change +CRT_VCC to +5VS on page 14
6. del R244(100K_0402) and add T17 on page 15
7. change J6 jump size form 43 x 118 to shortpads on page 16
8. change R204 BOM structure on page 16
9. change Q11 from SOT23 to SOT323-3 on page 17
10.change USB OC# circuit on page 17
11.Del R186(0_0805_5%) and +1.5VS_DMIPLLR on page 18
12.CHANGE R62(0_1206) to J9(43x39) on page 19
13.Del R83 R348 0_0402 on page 19
14.Mobile EC_TX,EC_RX from WLAN to WWAN and add R96 on page 19
15.CHANGE R65,R70(0_1206) to J10,J11(43x39) on page 19
16.change +UIM_PWR_1 to +UIM_PWR on page 19
17.Del D16(DAN217T146_SC59-3),R94,R408(0_0402) on page 19
18.change +5VS to +3VS on page 19
19.change EC signal name form BT_OFF# to BT_ON# on page 19
20.del Q21 on page 19
21.ADD PMOS SOFT START on page 19

<2008/11/16>
1. +VDDA CHANGE TO +5VS on page 20
2. Analog ground change to digital ground on page 20
3. Del L22 on page 20
4. DEL R383 R382 R384 GNDA & GND on page 20
5. change R380,R379,R381 form 0805 to 0603 page 20
6. Add R94,R87 Vender suggesttition on page 21
7. Analog ground change to digital ground on page 21
8. reserve C5,C6,C883,C884 on page 22
9. reserve +3VALW on page 22
10.change +3VS to +CAM_VCC on page 22
11.change R651,R634 form (0_0603) to 43 x 39 jump on page 23
12.add net name +3VS_READER on page 23
13.add net name AV_PLL on page 23
14.add net name VREG on page 23
15.+3VS change to +3VS_READER on page 23
16.change R619 BOM structure on page 23
17.add net name RREF on page 23
18.del R623(0_0402) on page 23
19.Chang C855 form 4.7U to 10U on page 24 vendor suggest
20.Chang C846 form 4.7U to 10U on page 24 vendor suggest
21.change BJT form MMJT9435T1G to MBT35200 on page 24
22.change EC signal name form BT_OFF# to BT_ON# on page 25
23.change D12,R103,R104 BOM structure on page 25
24.change J1,J3(43 x 79) to R186,R193(0_0805) on page 26
25.change Q3 from 2N70002_SOT23 to 2N7002W-T/R7_SOT323-3 on page 26
26.change Q1 form 2N70002_SOT23 to 2N7002W-T/R7_SOT323-3 on page 26
27.change net name form WWAN_LED# to WWAN_LED_R# on page 28
28. change R130 BOM structure on page 28
29. change JP3 pin assignment on page 28
30. change Q2,Q15,Q24,Q7,Q23 form 2N70002_SOT23 to 2N7002W-T/R7_SOT323-3 on P29
31. change R18,R169,R280,R61,R279,Q2,Q15,Q24,Q7,Q23 BOM structure on age 29
32.+5VALW CHANG TO VL on page 29

<2008/11/17>
1. update POW SCH
2. change DIMMA from H5.2 to H4 on page 11
3. change +3VS to +5VS on page 14
4. change J9,J10,J11 from 43x39 to 43x79 on page 19
5. change R563,Q31 BOM structure on page 13
6. del +3VALW on page 22
7. del +1.5VS,+VCCP,+0.9VS,+1.8V Discharge
path R18,R280,R61,R279 Q2,Q24,Q7,Q23 on page 29
8. change R24 BOM structure on page 17
9. del R253 on page 19
10.change L14 to R382 on page 25

<2008/11/17>
1. ADD WWAN_WAKEUP# ON pin 45 on page 19
2. DEL R79 ,R92 and change net name to WWAN_WAKEUP# on page 25
3. DEL R90 and WWAN_LED_R# on pin 85 on page 25
4. change net name form WWAN_LED_R# to WWAN_LED# on page 28

<2008/11/18>
1. Place R282,R296 close to F27,D27 on page 8
2. Del R93 R407(0_0402) on page 19
3. Move R204 from P16 to P25
4. Move R24 from P17 to P25
5. change Q10A,Q10B to 0 ohm on page 12
6. del pull up resistance (R112,R108) on page 12
7. change C883 from 4.7u to 10u on page 22

<2008/11/20>
1. change R112,R108,Q10A,Q10B BOM structure on page 12
2. add R149,R150 on page 12
3. add pull up resistance R292 on page 19
4. del R66(0_0402),R67(10K_0402) on page 25
5. restore R563,Q31 BOM structure on page 13
6. change D25 BOM structure on page 20

<2008/11/21>
1. Change +3VS to +3VALW on page 19
2. del R204 on page 25
3. del R143 and CLK_SD_48M on page 12
4. Change R137 from 12 ohm to 33 ohm on page 12
5. Move Card Reader to small board on page 23
6. Move SATA HDD Conn to small board on page 22
7. ADD JP7 on page 22
8. change JP2 from 6 pin to 8 pin on page 26
9. DEL LID Switch on page 26

<2008/11/24>
1. return the H5.2 pootprint on page 11

<2008/11/25>
1. add add R90 on page 19
2. change JMIN1 Conn printfoot on page 19
3. change JP2 Conn on page 26
4. change JP13 Conn on page 28
5. update power SCH

<2008/11/26>
1. change JP20 Conn and pin design on page 21
2. change JBT1 form 8 pin to 4 pin on page 19
3. del JP1 on page 13
4. SWAP JP12 on page 27
5. change JLVDS1 Conn form 20 pin to 30 pin on page 13
6. Del JP4 on page 20
7. combine the DMIC Conn and Camera Conn on page 13
8. add U7 on page 28
9. del JP3 on page 28
10.ADD SATA&CARDREADER&USB Conn(JP7) on page 22
11.update Power SCH
12.change C233 BOM structure on page 19
13.change JRJ45 Conn on page 24

<2008/11/28>
1. update Power SCH

<2008/12/01>
1. chang JP2 Conn on page 26
2. udate Power SCH

<2008/12/02>
1. SWAP JLVDS1 on page 13
2. del C843,C844 on page 24
3. change C847 from 0.1u to 1u on page 24
4. change C873 from 0.1u to 1u on page 24
5. move R441,R438 form P13 to P20 on page 20
6. change +5VAMP to +5VS on page 21
7. R2,R4,R518 close to EC on page 26
8. R1 close to Q3 on page 26

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<2008/12/03>
1. SWAP JP7 pin define on page 22
2. change PJP2 connector on page 32

<2008/12/04>
1. update Screw on page 30
2. change JCR71 Conn to SP010811273 on page 14
3. SWAP PJP2 pin define on page 32
4. add J12 on page 21

<2008/12/05>
1. del D8 and change D5 P/N on page 28
2. SWAP D2 pin define on page 13
3. change JBT1 Conn on page 19
4. update POWER SCH

<2008/12/08>
1. add J15 J16 on page 22
2. return D2 pin define on page 13
3. change JUSB1 Conn on page 28
4. swap JP6 pin define on page 27
5. add C32,C33,C42 for keypart on page 12
6. add C5 for keypart on page 13
7. add C9 for keypart on page 16
8. add C11,C21,C26,C27 for keypart on page 22

<2008/12/10>
1. del H11 H_3P0N on page 30
2. Change to SA00002CI10 to SA00002CI20
S IC ALC272X-GR LQFP 48P CODEC on page 20
3. add net name(+VCCP_D) 20mil on page 10
4. SWAP D29 Pin Define on page 28
5. change R185 from 200K to 33K on page 29
6. change R68 from 200K to 22K on page 29

<2008/12/11>
1. change H17 from H_2P5 to H_2P5x4P4 on page 30
2. del R388,R387,R386,R385,D10,D13 on page 21
3. update Power SCH
4. +5VS change to +5VALW on page 21

<2008/12/14>
1. Del R129 on page 12
2. add C45 for keypart on page 12
3. del R76 on page 25

<2008/12/15>
1. change R137 BOM structure
and add R143 on page 12
2. change C852,C853,Y5 BOM structure on page 24
3. add C55 on page 24
4. change C842 BOM structure on page 24
5. del J15,J16,C21 on page 22
6. add net name BATT_AMB_LED#
BATT_GRN_LED# on page 22
7. +3VS_READER change to +3VALW on page 22

<2008/12/16>
1. del R143 on page 12
2. del C55 on page 24
3. swap CLK_PCIE_CARD and CLK_PCIE_CARD# on page 27

<2008/12/17>
1. modify H15,H19,H20,H29,H30 on page 30
2. add H32 on page 30
3. +5VALW change to +3VALW on page 26

<2008/12/18>
1. add R102 on page 19

<2008/12/19>
1. change R284 from 453 ohm to 150 ohm
R286 from 300 ohm to 120 ohm on page 26
2. change R132 P/N to SA000033N00 on page 40

<2008/12/22>
1. change D1 BOM structure on page 26
2. change C116 form 1U to 4.7U on page 25
3. change R24 from 10k to 47K
R103 from 0 to 2.2K on page 25
4. change D12,R104 BOM structure on page 25
5. change L30,C856,C857 BOM structure on page 24
6. change D17 P/N from SCA00000700
to SCA00000A00 and BOM structure on page 13
7. change D2 P/N from SC300000000
to SC300000B00 and BOM structure on page 13
8. change D3,D4 P/N from SCA00000G00
to SCA00000A00 and BOM structure on page 14
9. change D33 P/N from SC10T24C000
to SCA00000A00 and BOM structure on page 26
10. change D18 P/N from SC10T24C010
to SCA00000A00 and BOM structure on page 27
11. change D9 P/N from SC10T24C010
to SCA00000A00 and BOM structure on page 27
12. change D29 P/N from SC300000000
to SC300000B00 and BOM structure on page 28

<2008/12/24>
1. change C32 C33 C42 C45
BOM structre on page 12
2. change C117 BOM structure on page 25
3. change R88 from 0 ohm to 22 ohm on page 25
4. U2 Change to SA000033H00 on page 28
5. U7 Change to SA000033H00 on page 28

Pre C-TEST Change

<2008/12/29>
1. change R141,R140,R147,R81,R91
R82,R97,R95,R98 BOM structure on page 12
2. Change R130 from 200K to 100K
and change BOM structure on page 28
3. change D5 BOM structure on page 28

<2008/12/231>
1. change R371 from 0 ohm to 22 ohm on page 20
2. U3 Change to SA000035G00 on page 28

Memo control

<2008/12/31>
1. del C9 on page 16
2. add C21 for keypart on page 16
3. change R644 from 0603 to 0805 on page 24
4. change R643 from 0603 to 0402 on page 24
5. change C841 from 0603 to 0402 on page 24
6. change L29,L30 from 0805 to 0603 on page 24
7. del R637 R638 on page 24

<2009/01/13>
1. SWAP JP11 on page 27
2. change SW4 P/N to SN111005800 on page 26
3. ADD C160 on page 24
4. change JMINI Conn footprintt on page 19
5. Change PWR_LED and PWR_SUSP_LED#
Net name on page 26
6. Change C231 P/N to SGA00001E00 on page 28

<2009/01/14>
1. add R660 pull up +3VALW on page 25
2. change R120 and R126 to PVT ID on page 25
3. update Screr
4. add C28 for keypart on page 22

<2009/01/16>
1. del H31 on page 30
2. change JP20 Conn on page 21
3. del D29,L9,R144,R136 on page 28

<2009/01/17>
1. Del R110,R119 on page 12
2. change R141,R140,R147,R81,R91,R82,R97,
R95,R98 BOM structure on page 12

<2009/01/20>
1. add JDIMI pin 200 and pin 201 to GND
on page 11
2. JMINI1 pin 55,56 change to
non-GND on page 19
3. SWAP JP20 on page 21
4. change H18 to non-GND on page 30
5. Chang C160 from 0603(4.7u) to 0402(2.2u) on page 24

<2009/01/21 Ivan>
1. change R441 from 0ohm/0603 to 33ohm/0402
2. change C459 from 0.01uF/0402 to 4.7uF/0603
3. change R438 from 0ohm/0603 to 0ohm/0402

<2009/01/21-1>
1. change U26 BOM structure on page 20
2. del C11,C28,C26 on page 22
3. Update Power SCH

<2009/01/22>
1. update H15,H19,H20,H30 from 3P8 to 3P6
01/22

<2009/01/22-1>
1. del C94 C95 on page 11
2. add C164,C165 01/22
3. move C159 from page 11 to page 12
4. add R383 on page 20

<2009/01/22-2>
1. change C396 from 10U/0806 to 4.7U/0603 on page 28
2. add C469 on page 28

<2009/01/22-3>
1.add C268 01/22

<2009/01/23>
1. change C249 BOM structure(0) on page 10
2. change C603 from 220P to 100P on page 13
3. change C21 from 10p to 22p on page 16
4. change C459 from 4.7uF to 1uF on page 20
5. change R371,C470 BOM structure(0) on page 20
6. change C604 from 220P to 18P on page 20
7. change R122,R123,R124,R125
from 4.7K to 2.2K on page 25
8. change R284 from 150 ohm to 300 ohm
R286 from 120 ohm to 100 ohm on page 26
9. change D5 BOM structure(0) on page 28
10. change C162 from 27P to 22P on page 12
11. change C852,C853 from 27p to 15p on page 24
12. change C49 C50 from 18pf to 10pf on page 16
13. change c150,c123 from 15p to 22p on page 25

<2009/01/23-1>
1. change C42,C45 from 10p to 22p on page 12
2. R115,R121 from 33 ohm to 39 ohm on page 12
3. change C603 from 100P to 47P on page 13
4. change R441 from 33 ohm to 39 ohm on page 20
5. change C604 Bom structure(0) on page 20

Pre C BOM

C-TEST Change

<2009/02/03>
1. Add R105,R106 on page 19
2. ADD BATT_GRN_LED_1# and
BATT_AMP_LED_1# on page 25
3. add R651 O_0402 on page 24

<2009/02/04>
1. add R279,R280,R294,R295 on page 17
2. del C26 on page 22
3. change C841 from 0402 1U to 0603 1U
on page 24

<2009/02/05>
1.Del J10,J11 and add R65,R66 on page 19

C modify gerber

<2009/02/06>
1. change C226 BOM structure on page 19
2. Change U3 from SA000035G00
to SA000022J00 on page 28
3. change L13 from SM01000AL00 to SM010004010
on page 25
4. change L23 from SM010032020 to SM010004010
on page 20
5. change U26,C459 BOM structure(0) on page 20
6. change R1,R2,R4 from 300 to 200 ohm on page 26
7. change R518 from 300 to 422 ohm on page 26
8. change R137 from 33 to 39 ohm on page 12
9. change C32 from 10P to 15p ohm on page 12
10. change C42,C45 from 22p to 15p on page 12
11. change R115,R121 from 39 ohm to 47 ohm on page 12

Pre C memo

<2009/02/18>
1. change R279,R280,R294,R295 BOM structure
on page 17
2. change U26,C459 BOM structure
on page 20
3. change L13 from SM010004010 to SM010032020
on page 25
4. change L23,L24 from SM010004010 to
SM010032020 on page 20

Pre MP-TEST Change

<2009/02/18>
1. Del J6 and add R219 on page 16
2. Del C249 on page 10
3. change LED2 BOM structure on page 26

<2009/02/20>
1. update Power SCH
2. del L8,R145,R146 on page 13

<2009/02/22>
1. update H15,H19,H20,H30 from 3P6 to 3P3
on page 30
2. change H18 from 3P2N to 3P1N on page 30
3. add R107,R110 on page 19