

Compal Confidential

HBQ60 Schematics Document

Intel Yonah Processor with 945GM/945PM + DDRII + ICH7M
(With nVIDIA G73M/72MV)

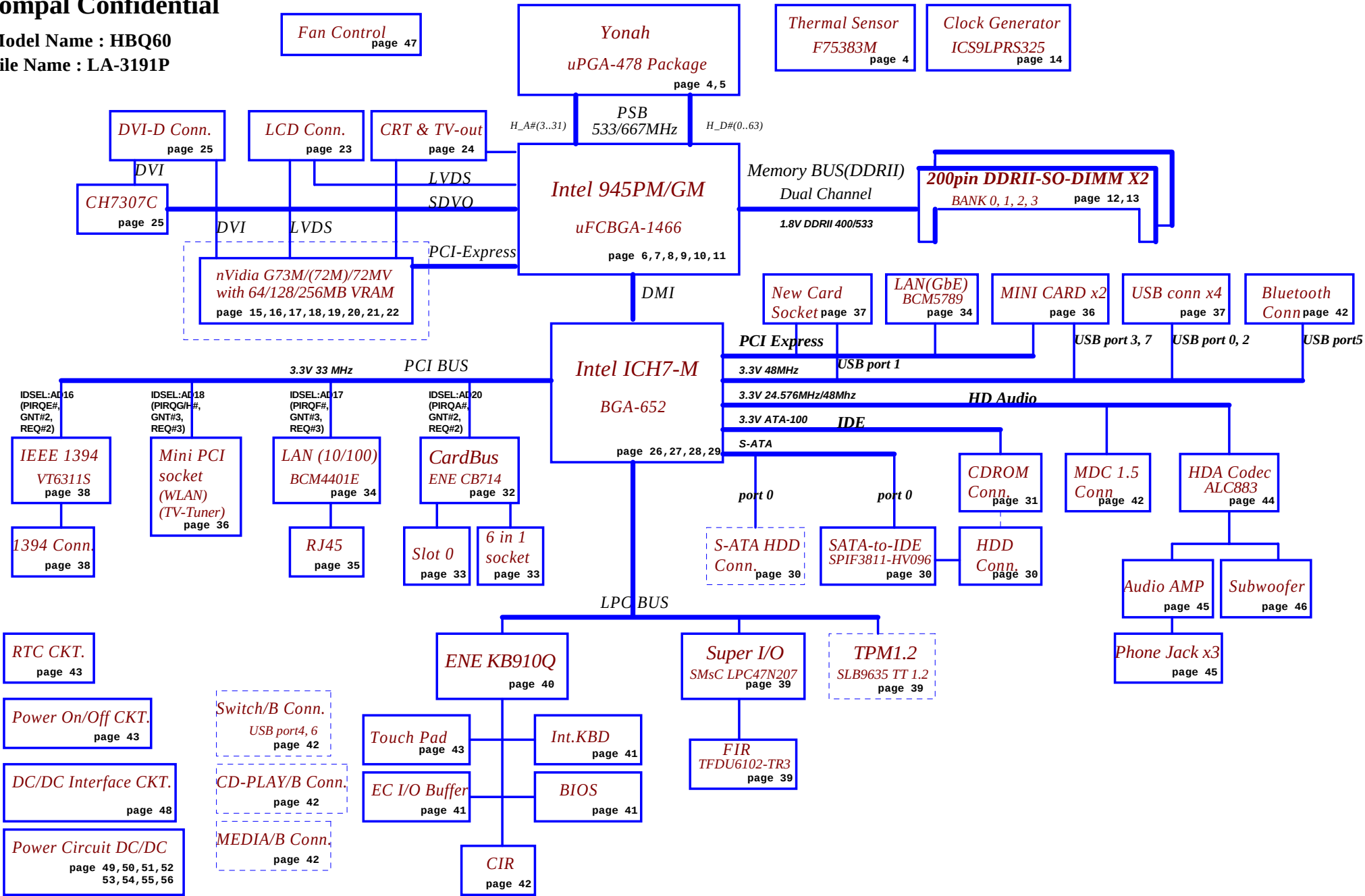
2005-11-30

REV: 0.1

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Model Name : HBQ60
File Name : LA-3191P



Voltage Rails

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

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

External PCI Devices

Device	IDSEL#	REQ#/GNT#	Interrupts
CardBus(SD)	AD20	2	PIRQA/PIRQB
1394	AD16	0	PIRQE
LAN(10/100)	AD17	3	PIRQF
Mini-PCI(WLAN/TV-Tuner)	AD18	1	PIRQG/PORQH

EC SM Bus1 address

Device	Address	Device	Address
Smart Battery	0001 011X b	Fintek F75383M	1001 100X b
EEPROM(24C16/02)	1010 000X b		
GMT G781-1	1001 101X b		

EC SM Bus2 address

ICH7M SM Bus address

Device	Address
Clock Generator (ICS9LPRS325AKLFT_MLF72)	1101 001Xb
DDR DIMM0	1001 000Xb
DDR DIMM2	1001 010Xb

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

Board ID / SKU ID Table for AD channel

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

BOARD ID Table

Board ID	PCB Revision
0	0.1
1	
2	
3	
4	
5	
6	
7	

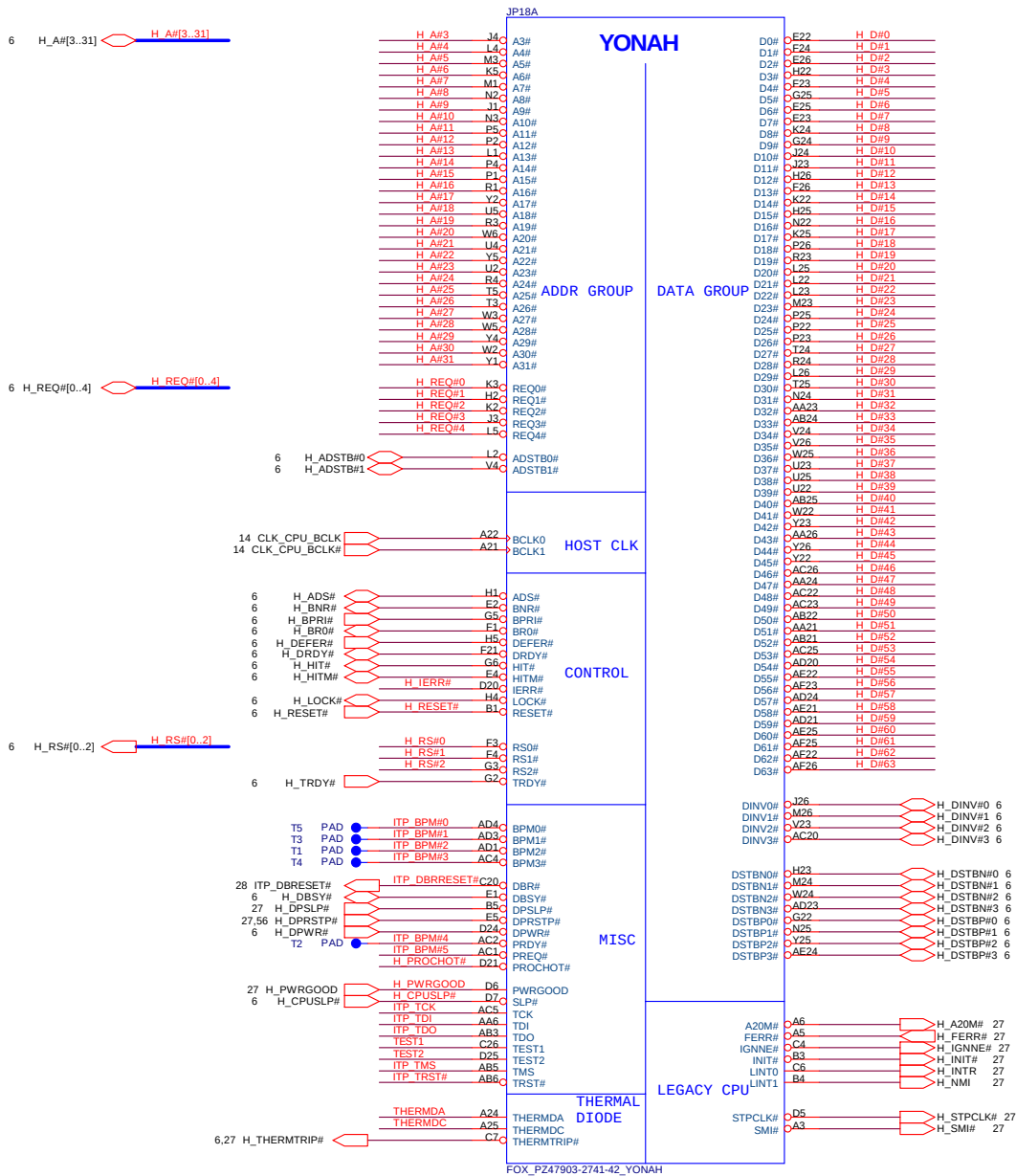
SKU ID Table

SKU ID	SKU
0	PM
1	GM
2	
3	
4	
5	
6	
7	

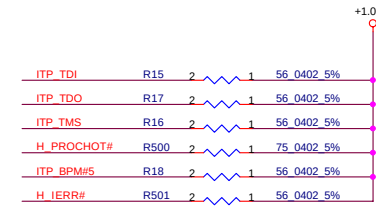
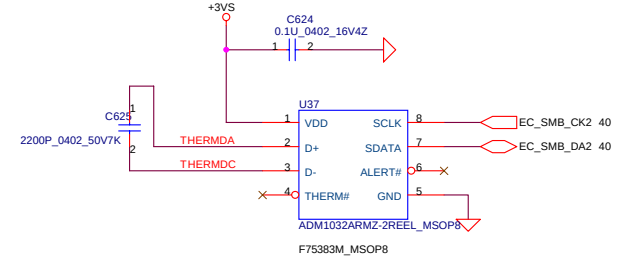
BTO Option Table

BTO Item	BOM Structure
VGA	PM@ + VGA@
UMA	GM@
UMA's DVI	7307@
LAN(10/100)	4401@
LAN(GIGA)	5789@
MINI_CARD1	MINI1@
MINI_CARD2	MINI2@
SATA-to-IDE	8040@
PATA	PATA@
GRAPEVINE	GRA@
672MV Only	G72@
673 Only	G73@
VRAM	X76@
VRAM 64M	64@
VRAM 128M	64@+128@
VRAM 256M	64@+128@+256@
MEDIA/B	MEDIA@
CIR	CIR@
FIR	FIR@
GENEVA	GEN@
Sub-woofer	SUB@
5789&5787	8789@
4401&5789	0189@
VP1020	VP1020@
INTERNAL MIC	INTMIC@
1394	1394@
SATA HDD	SATA@
DVI	DVI@
CardReader	4IN1@
New Card	EXP@

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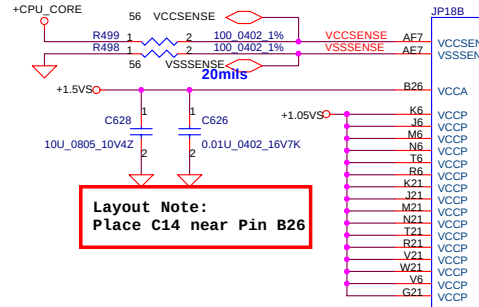
H_D# [0..63] H_D# [0..63] 6



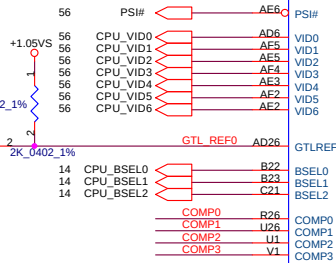
Layout Note:
THERMDA & THERMDC Trace / Space = 10 / 10 mil

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Size	Custom	Document Number	HBQ60 LA-3191P	Rev	0.1
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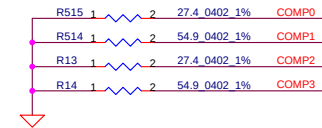
Layout Note:
Route VCCSENSE and VSSSENSE traces at 27.40hms
with 50 mil spacing.
Place PU and PD within 1 inch of CPU.



Layout Note:
Place C14 near Pin B26



BSEL2	BSEL1	BSEL0	BCLK
0	0	1	133
0	1	1	166



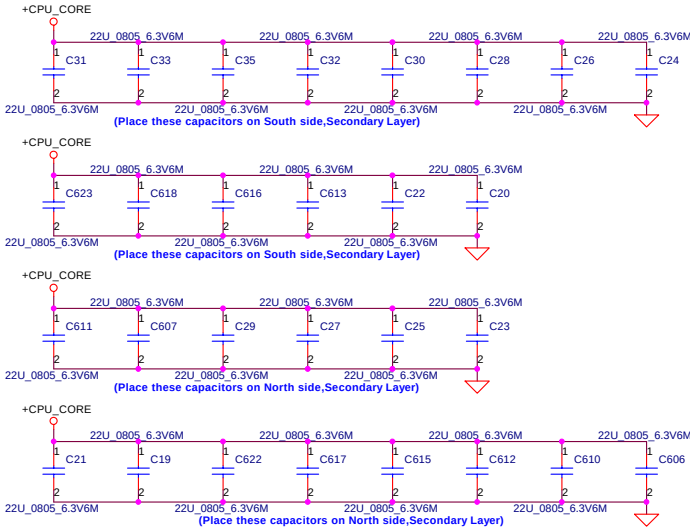
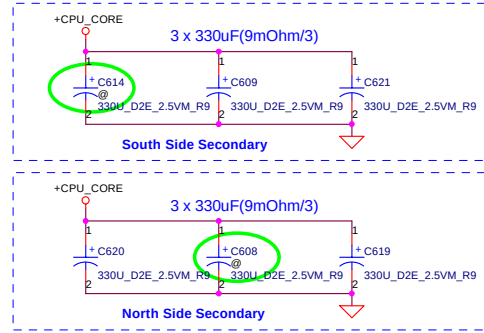
TRACE CLOSELY CPU < 0.5'

COMP0, COMP2 layout : Width 18mils and Space 25mils (27.40hms)
COMP1, COMP3 layout : Space 25mils (550hms)

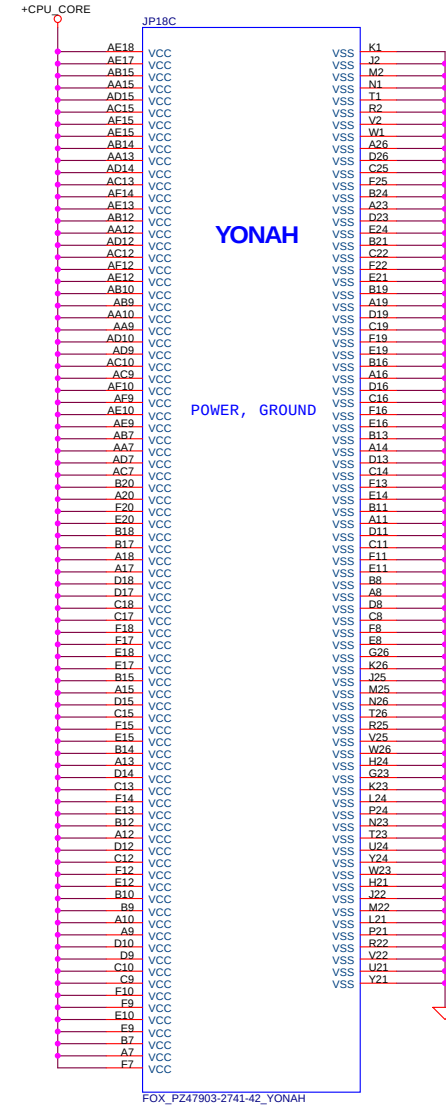
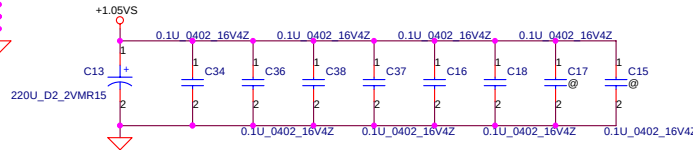
YONAH

POWER, GROUND, RESERVED SIGNALS AND NC

FOX_PZ47903-2741-42_YONAH



+CPU-CORE Decoupling	C,uF	ESR, mohm	ESL,nH
SPCAP, Polymer	6X330uF	9m ohm/6	1.8nH/6
MLCC 0805 X5R	32X22uF	3m ohm/32	0.6nH/32

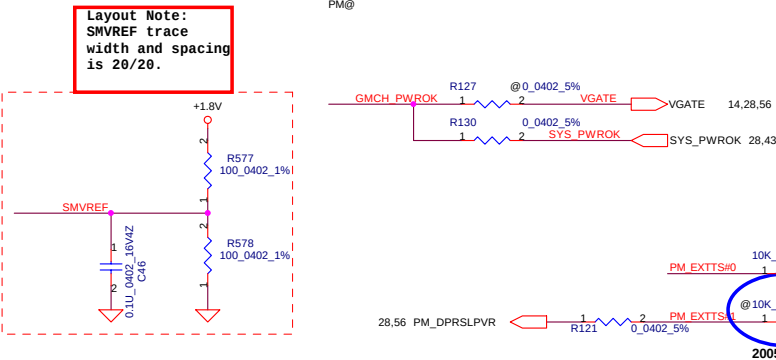
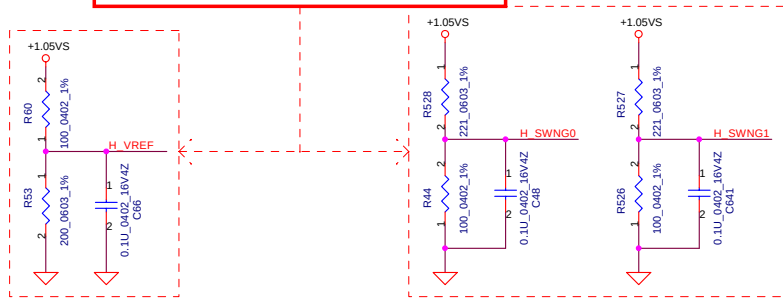


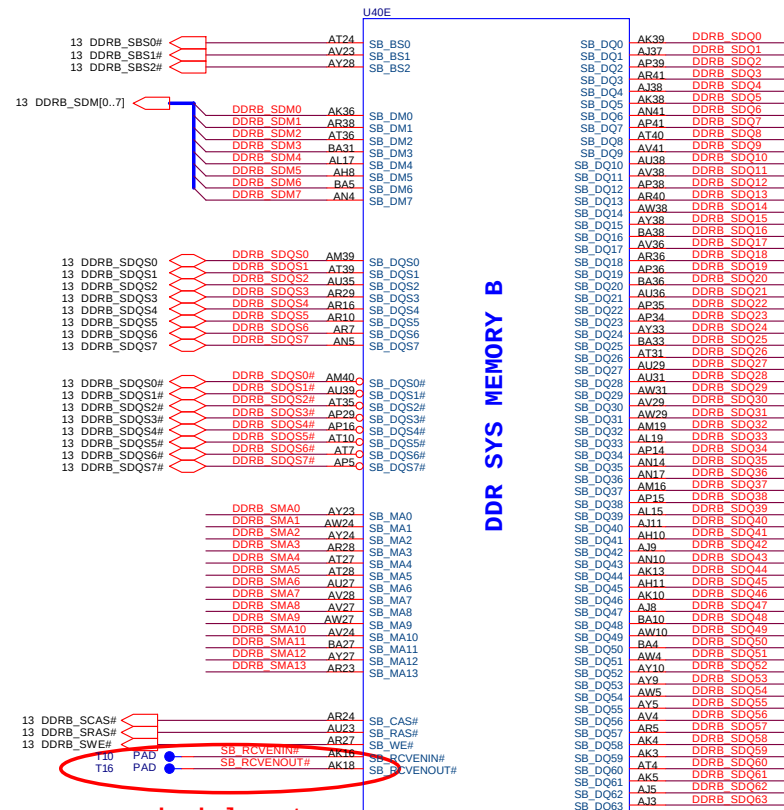
YONAH

POWER, GROUND

FOX_PZ47903-2741-42_YONAH

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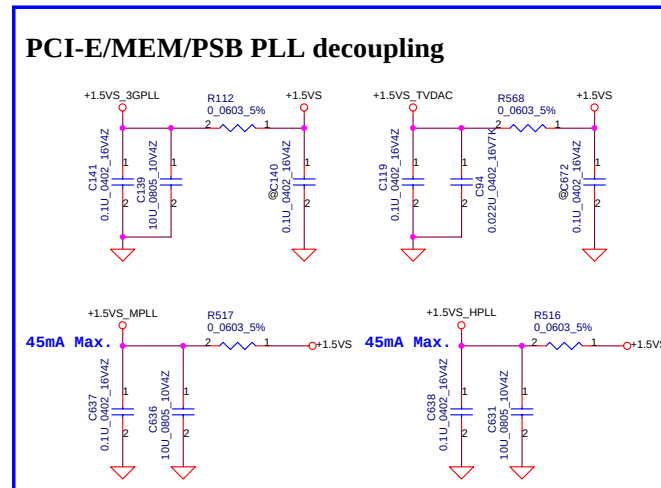
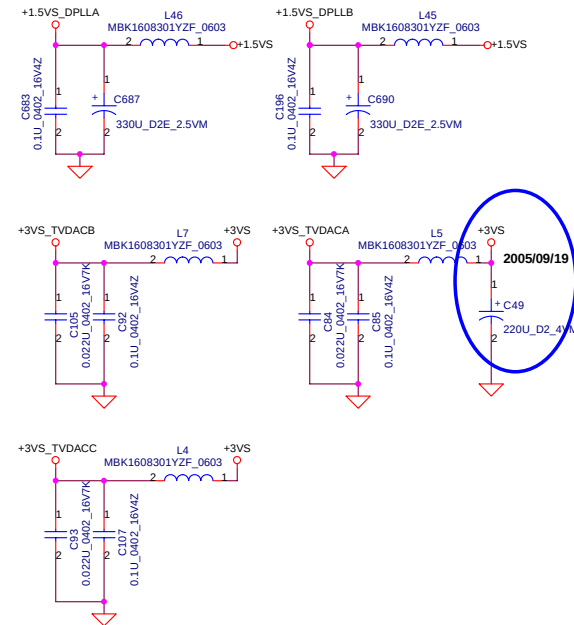
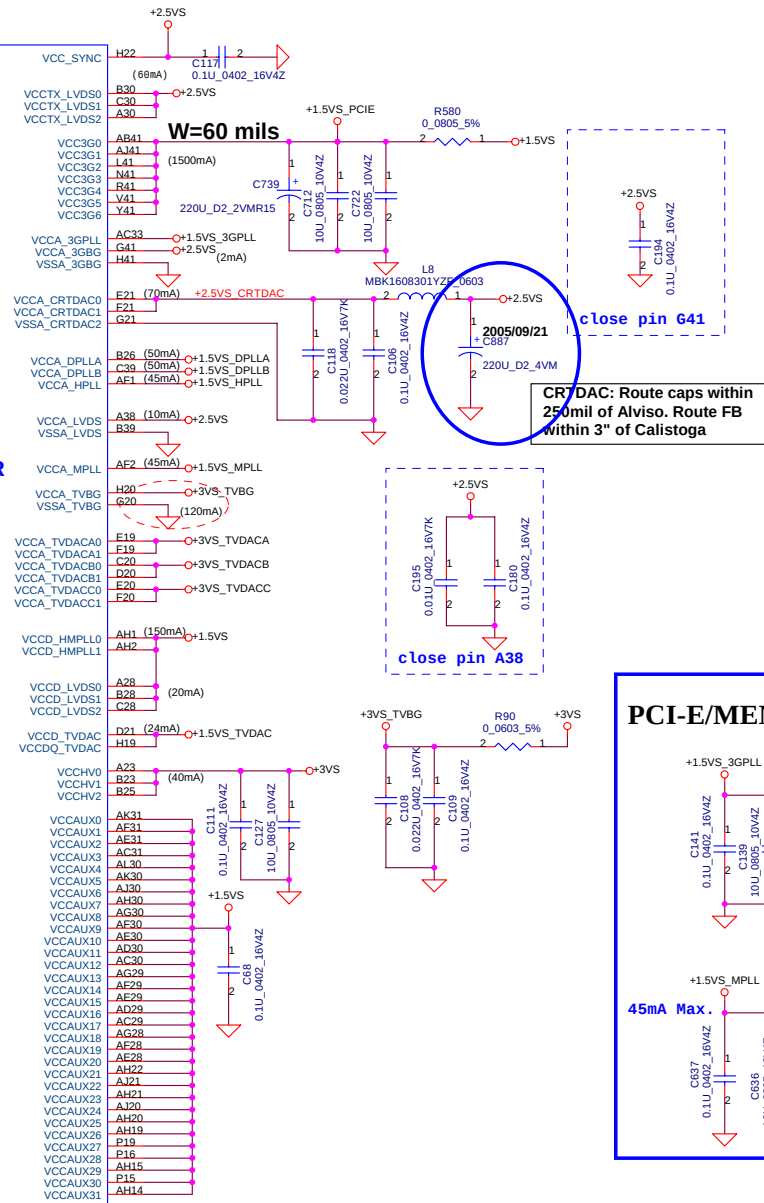




check layout

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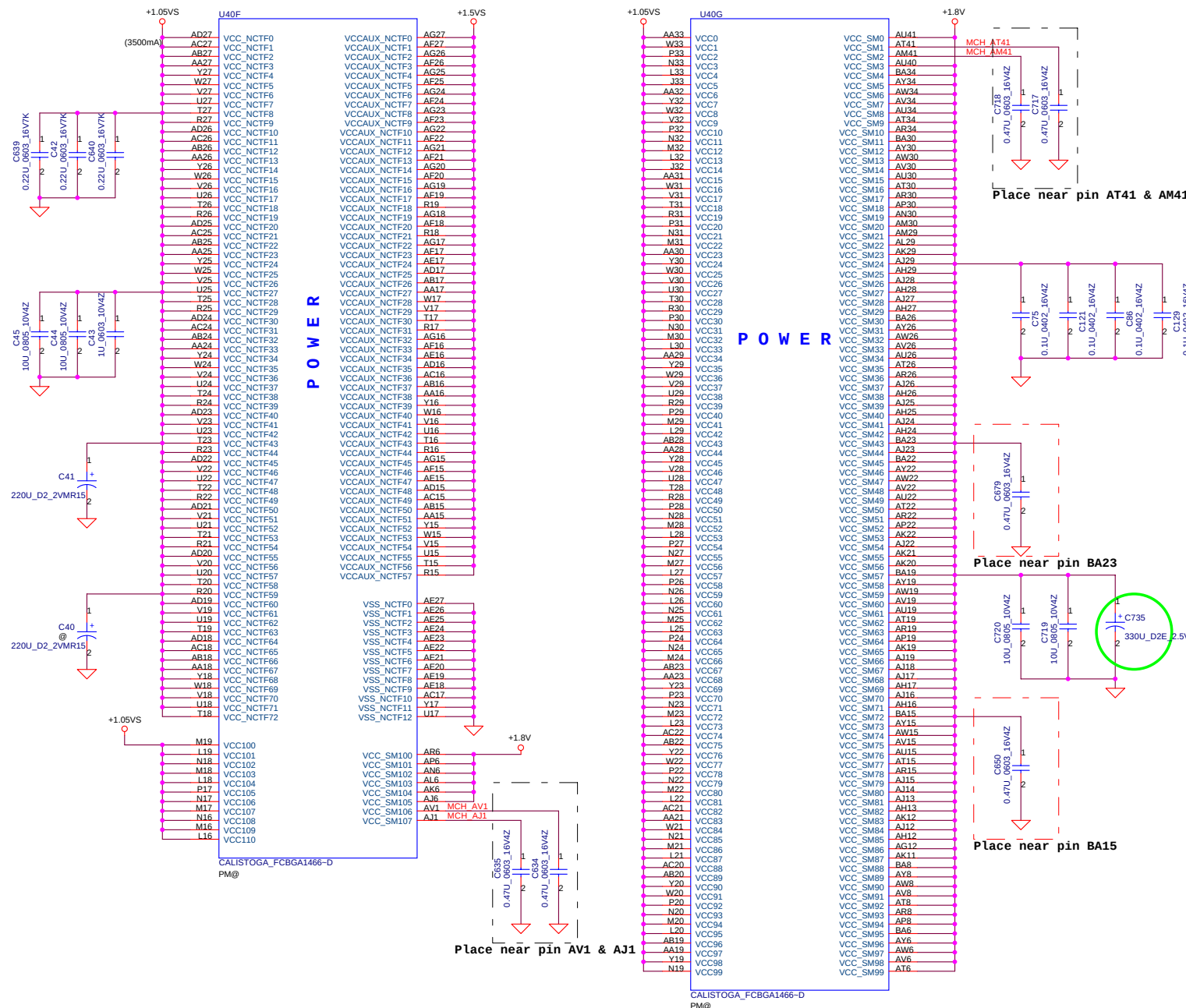
CALISTOGA_FCBGA1466-D
PM@



Strap Pin Table

CFG[3:17] have internal pull up
CFG[19:18] have internal pull down

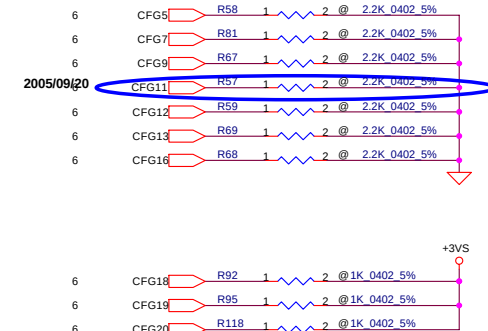
CFG[2:0]	011 = 667MT/s FSB 001 = 533MT/s FSB
CFG5	0 = DMI x 2 1 = DMI x 4 *(Default)
CFG7	0 = Reserved 1 = Mobile Yonah CPU *(Default)
CFG9	0 = Lane Reversal Enable 1 = Normal operation *(Default)
CFG11	0 = Reserved
PSB 4X CLK Enable	1 = Calistoga *
CFG[13:12]	00 = Reserved 01 = XOR Mode Enabled 10 = All Z Mode Enabled 11 = Normal Operation *(Default)
CFG16	0 = Dynamic ODT Disabled 1 = Dynamic ODT Enabled *(Default)
CFG18	0 = 1.95V *(Default) 1 = 1.5V
CFG19	0 = Normal Operation *(Default) 1 = DMI Lane Reversal Enable
SDVO_CTRLDATA	0 = No SDVO Device Present *(Default) 1 = SDVO Device Present
CFG20 (PCIE/SDVO select)	0 = Only PCIE or SDVO is operational. *(Default) 1 = PCIE/SDVO are operating simu.



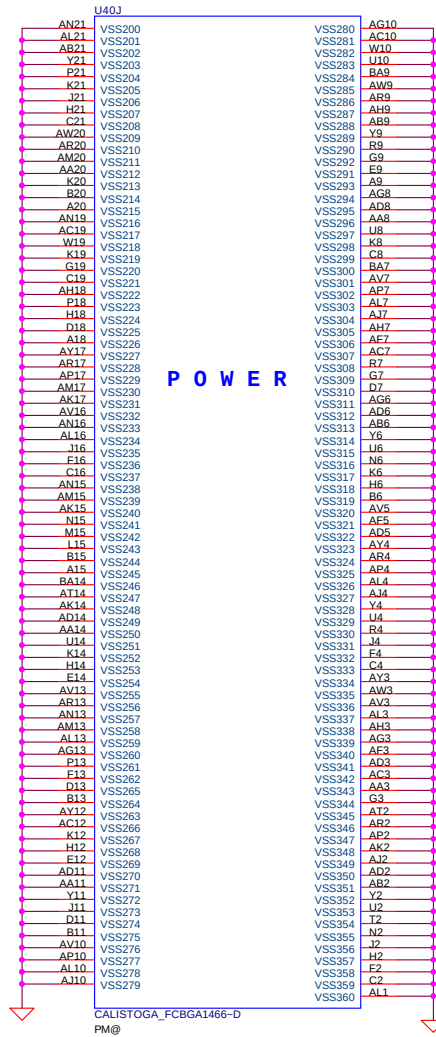
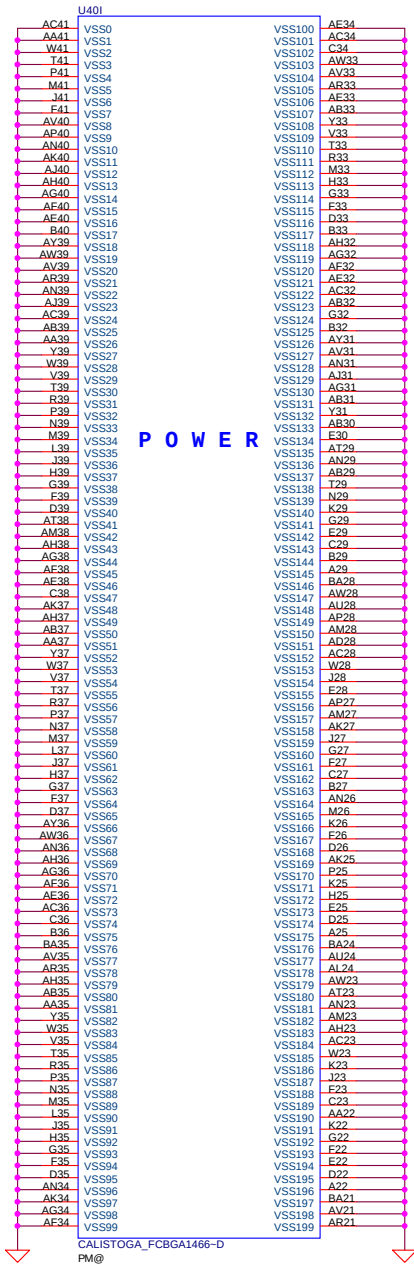
Place near pin AT41 & AM41

Place near pin BA23

Place near pin BA15



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FSLC CLKSEL2	FSLB CLKSEL1	FSLA CLKSEL0	CPU MHz	SRC MHz	PCI MHz
0	0	1	133	100	33.3
0	1	1	166	100	33.3

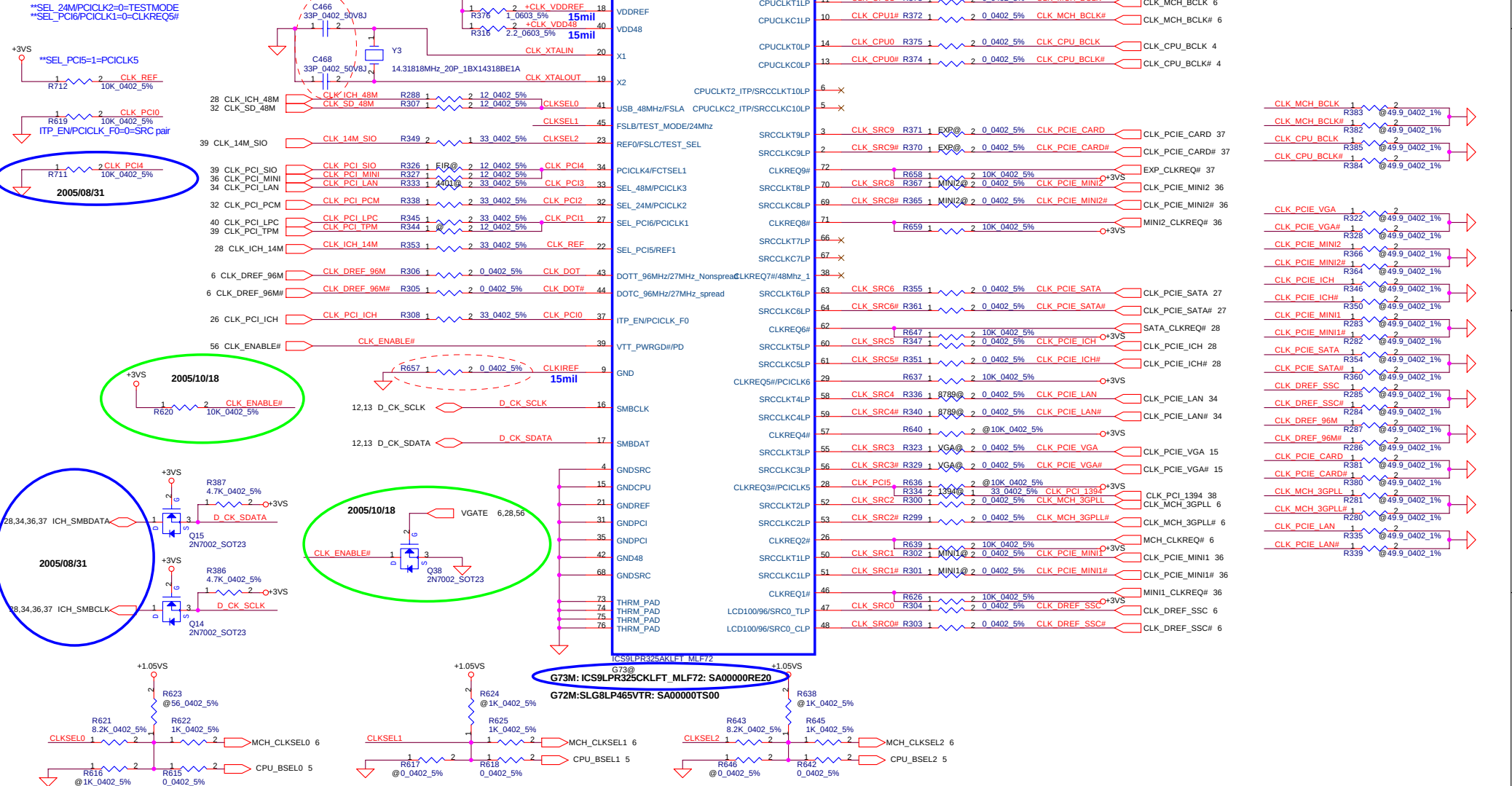
Table : ICS9LPR325

	0	1
**SEL_PCI5/REF1	CLKREQ3#	33.3MHz PCICLK5
**SEL_PCI6/PCICLK1	CLKREQ5#	33.3MHz PCICLK6
**SEL_24M/PCICLK2	TESTMODE	24MHz Output
**SEL_48M/PCICLK3	CLKREQ7#	48MHz 1 Output
ITP_EN/PCICLK_F0	SRC pair	CPU_ITP pair

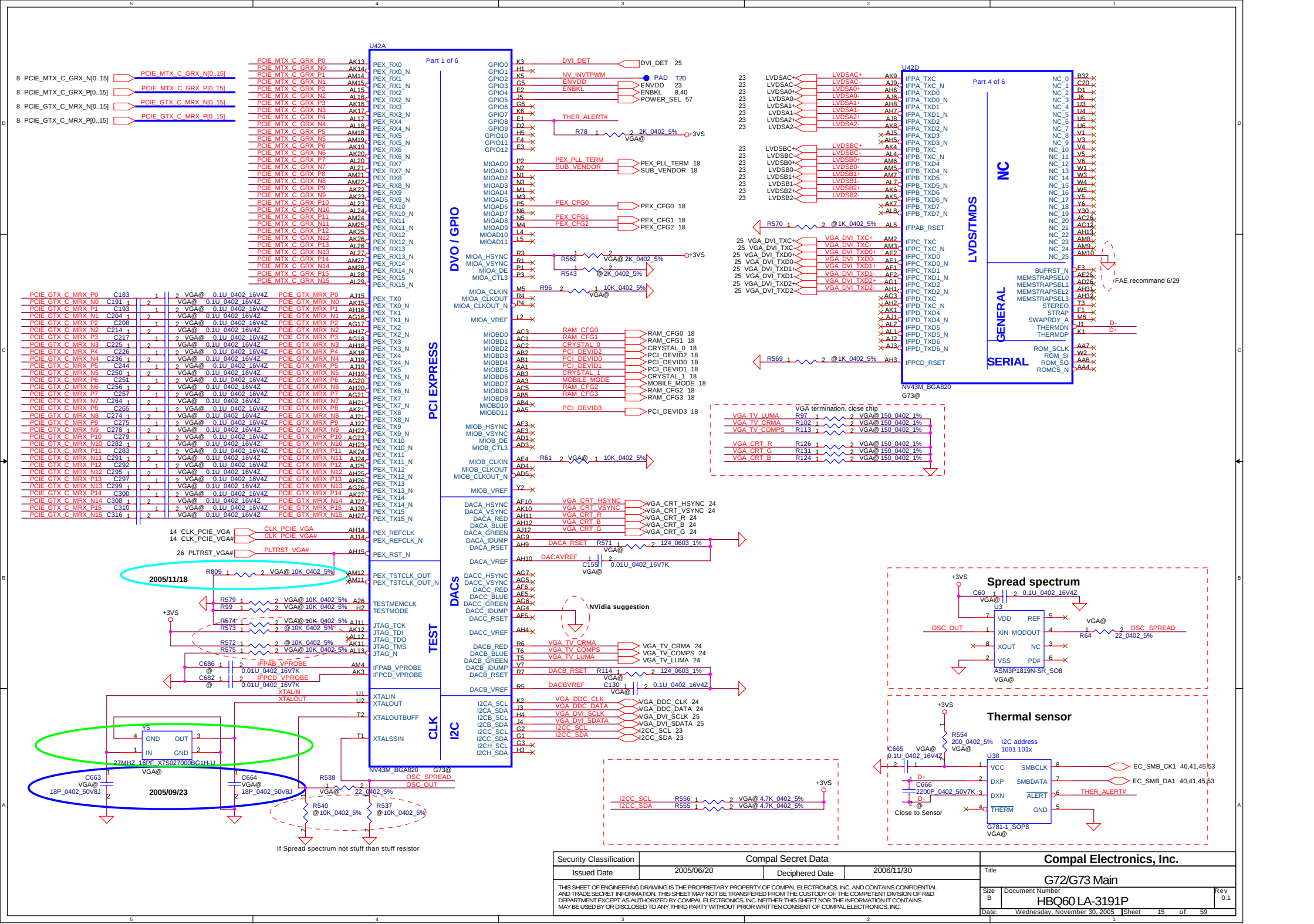
**SEL_24M/PCICLK2=0=TESTMODE
**SEL_PCI6/PCICLK1=0=CLKREQ5#

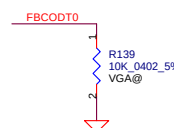
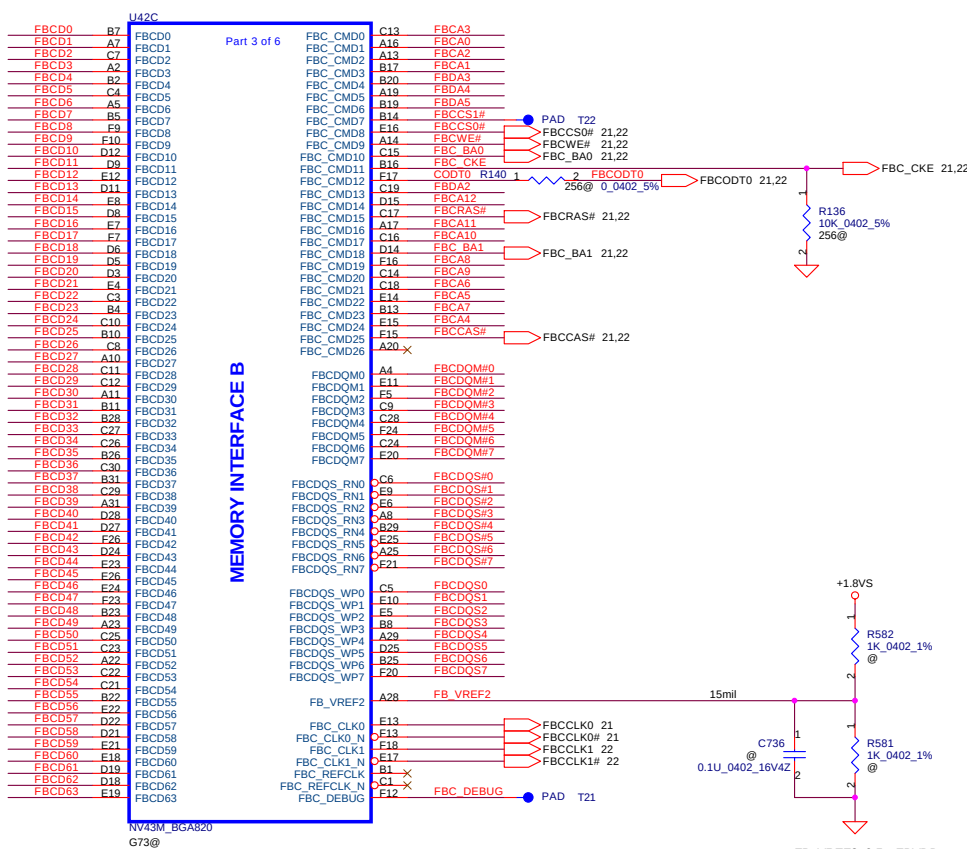
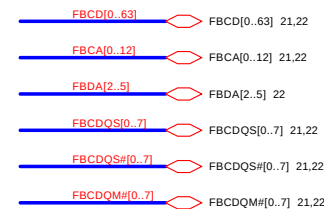
**SEL_PCI5=1=PCICLK5

ITP_EN/PCICLK_F0=0=SRC pair

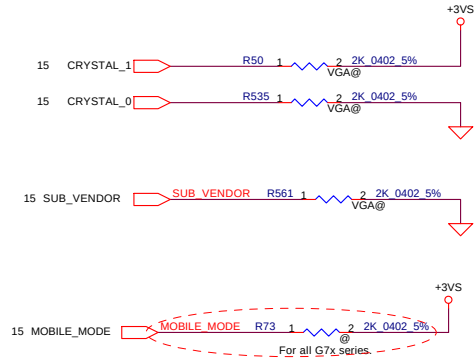
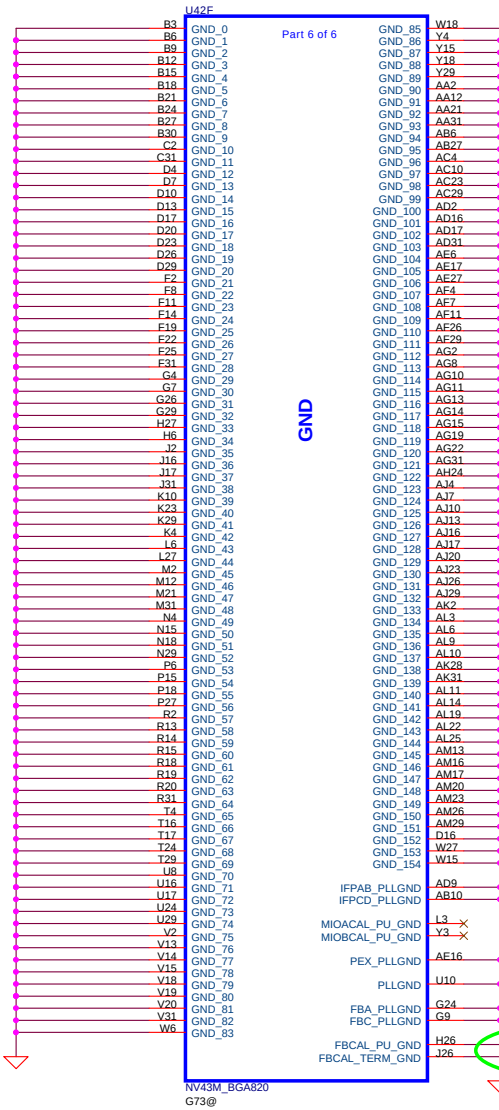


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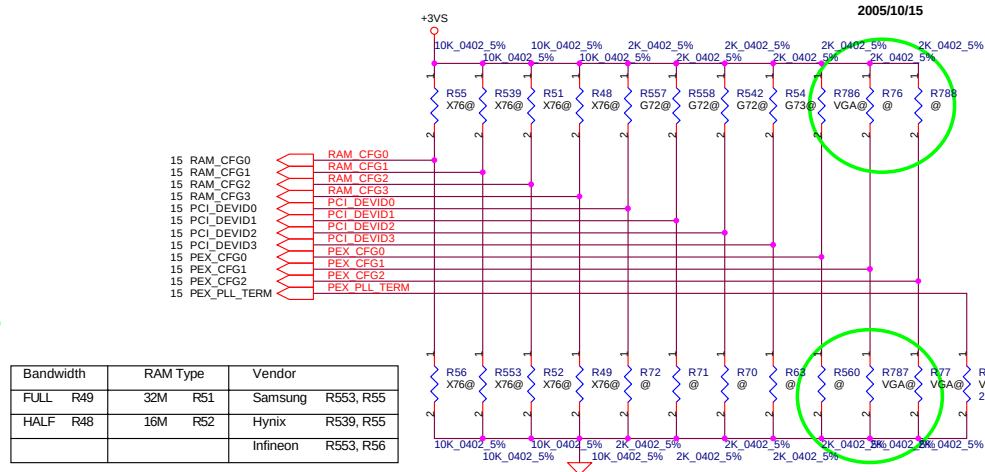
G73M : SA00000QZ00
G72M : SA00000QY00
G72MV : SA00000QY20

STRAPS	PIN	DESCRIPTION	Value	Value
CRYSTAL[1:0]	MIOBD[6,2]	27MHz=10, 14.318MHz=01, 13.5MHz=00	10	
ROM_TYPE[1:0]	MIOBD[11:10]	Parallel=00, SERIAL M25P10=01, Serial SST45VF=10	01	
SUB_VENDOR	MIOAD1	VBIOS on card (pull high) VBIOS with system BIOS (pull down)	0	
PEX_PLL_TERM	MIOAD0		0	
PEX_CFG[2:0]	MIOAD[9,8,6]	Recommended for G7x	010	
RAM_CFG[3:0]	MIOAD[5:2]	16Mx16x4 1.8V (128bit G73M)	0001	Samsung
		16Mx16x4 1.8V (128bit G73M)	0011	Hynix
		16Mx16x4 1.8V (64bit G73M)	1001	Samsung
		16Mx16x4 1.8V (64bit G73M)	1011	Hynix
		16Mx16x4 1.8V (64bit G72MV)	0001	Samsung
		16Mx16x4 1.8V (64bit G72MV)	0011	Hynix
PCI_DEVID[3:0]	VIPD[5:3] MIOA_HSYNC	G73M-xxxxx8 G72M-0x01D8	1000	
		G72MV-0x01D7 TBD/TBD	0111	
MOBILE_MODE	MIOBD7	For NV44M/G7x		0

RAM_CFG[1:0]
(Manufacture)
(01=Sam, 10=Inf, 11=Hyn)

RAM_CFG[2] (0=16M or 1=32M)

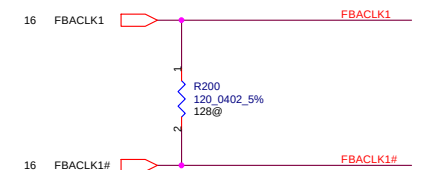
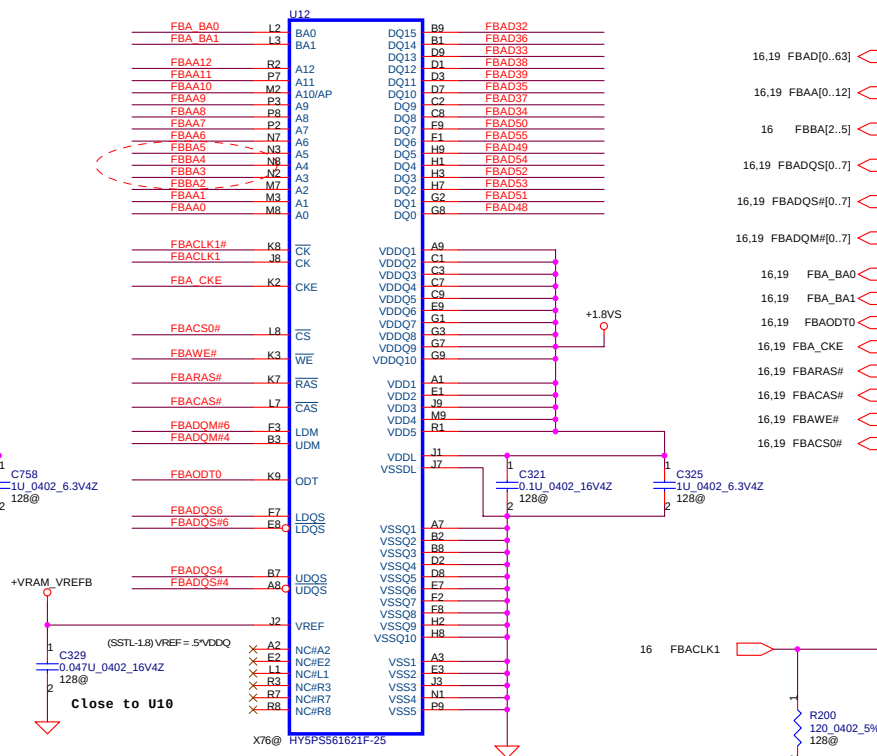
RAM_CFG[3] (Bandwidth 0=Full, 1=Half)



Bandwidth	RAM Type	Vendor
FULL R49	32M R51	Samsung R553, R55
HALF R48	16M R52	Hynix R539, R55
		Infineon R553, R56

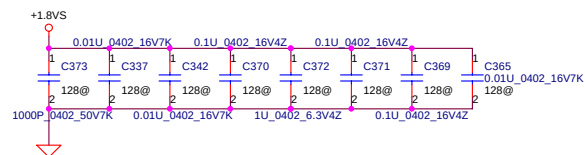
Package		
(10*12.5)	Infineon GDDR2(400): SA00000S800 (HYB18T256161AFL-25)	Infineon GDDR2(350): SA00000T700 (HYB18T256161AF-28)
(11*13)	Samsung GDDR2 (400): SA00000FG10 (K4N56163QF-ZC25)	Samsung GDDR2 (350): SA00000TB00 (K4N56163QF-ZC2A)
(8*13)	Hynix GDDR2 (400): SA00000FF10 (HY5PS561621AFP-25)	Hynix GDDR2 (350): SA00000TJ00 (HY5PS561621AFP-28)

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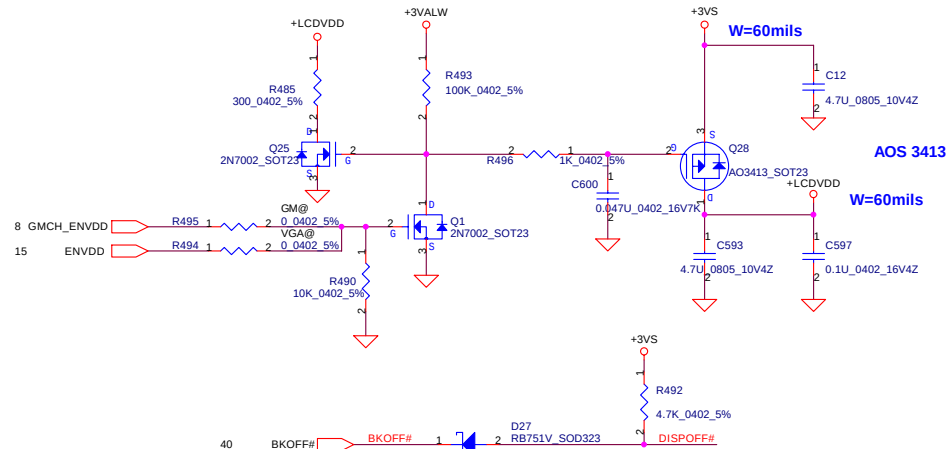
DDR2 BGA MEMORY

R200 is 120 Ohm (SD028120080) for G72MV
R200 is 475 Ohm (SD034475080) for G73M

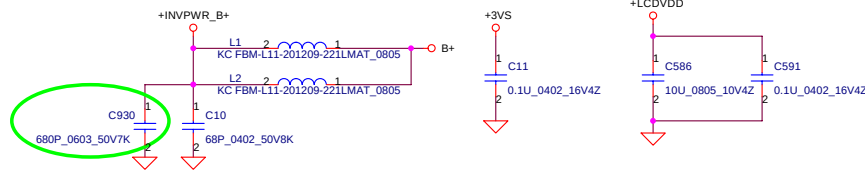
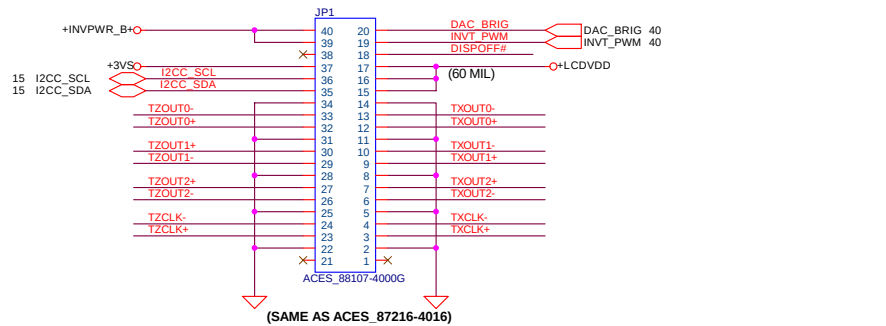


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								Size	Document Number				Rev
								Custom	HBQ60 LA-3191P				0.1
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LCD POWER CIRCUIT



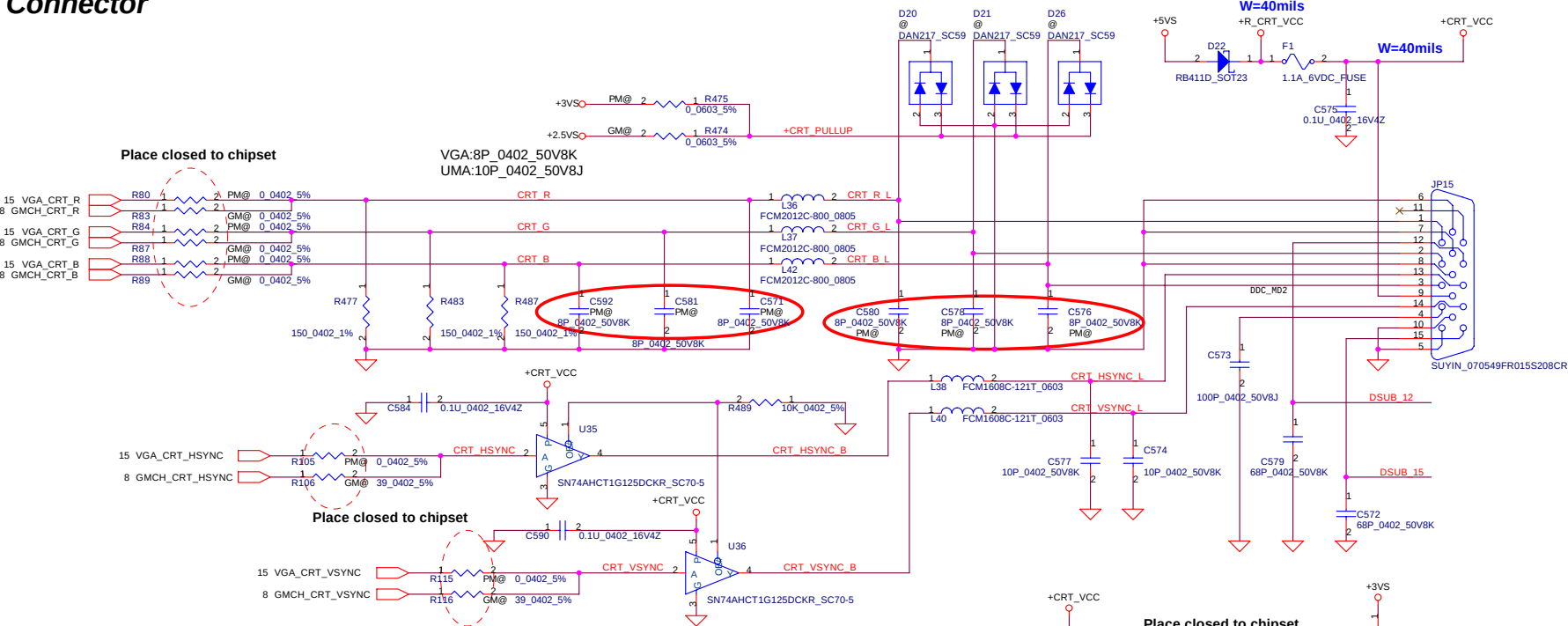
LCD/PANEL BD. Conn.



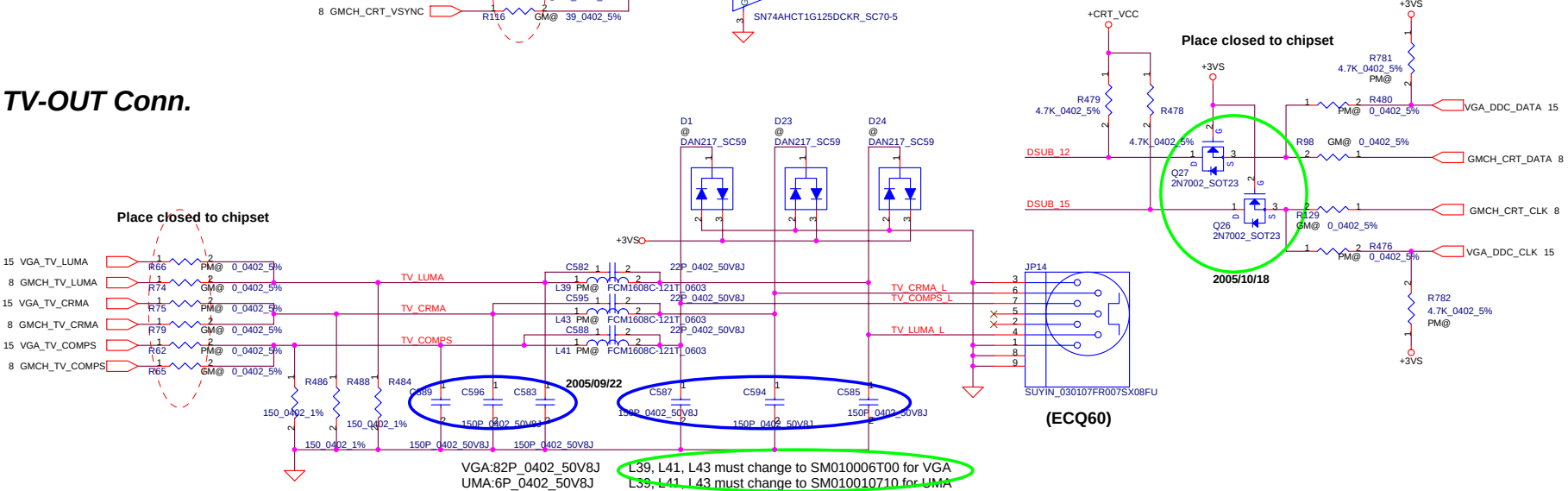
TXOUT0-	R25	1	2	VGA@ 0.0402 5%	LVDSA0-	LVDSA0-	15
TXOUT0+	R26	1	2	VGA@ 0.0402 5%	LVDSA0+	LVDSA0+	15
TXOUT1-	R27	1	2	VGA@ 0.0402 5%	LVDSA1-	LVDSA1-	15
TXOUT1+	R28	1	2	VGA@ 0.0402 5%	LVDSA1+	LVDSA1+	15
TXOUT2-	R29	1	2	VGA@ 0.0402 5%	LVDSA2-	LVDSA2-	15
TXOUT2+	R30	1	2	VGA@ 0.0402 5%	LVDSA2+	LVDSA2+	15
TXCLK-	R31	1	2	VGA@ 0.0402 5%	LVDSAC-	LVDSAC-	15
TXCLK+	R32	1	2	VGA@ 0.0402 5%	LVDSAC+	LVDSAC+	15
TZOUT0-	R33	1	2	VGA@ 0.0402 5%	LVDSB0-	LVDSB0-	15
TZOUT0+	R34	1	2	VGA@ 0.0402 5%	LVDSB0+	LVDSB0+	15
TZOUT1-	R35	1	2	VGA@ 0.0402 5%	LVDSB1-	LVDSB1-	15
TZOUT1+	R36	1	2	VGA@ 0.0402 5%	LVDSB1+	LVDSB1+	15
TZOUT2-	R37	1	2	VGA@ 0.0402 5%	LVDSB2-	LVDSB2-	15
TZOUT2+	R38	1	2	VGA@ 0.0402 5%	LVDSB2+	LVDSB2+	15
TZCLK-	R39	1	2	VGA@ 0.0402 5%	LVDSBC-	LVDSBC-	15
TZCLK+	R40	1	2	VGA@ 0.0402 5%	LVDSBC+	LVDSBC+	15
I2CC_SCL	R41	1	2	GM@ 0.0402 5%	GMCH_LCD_CLK	GMCH_LCD_CLK	8
I2CC_SDA	R42	1	2	GM@ 0.0402 5%	GMCH_LCD_DATA	GMCH_LCD_DATA	8
TXOUT0-	R509	1	2	GM@ 0.0402 5%	GMCH_TXOUT0-	GMCH_TXOUT0-	8
TXOUT0+	R508	1	2	GM@ 0.0402 5%	GMCH_TXOUT0+	GMCH_TXOUT0+	8
TXOUT1-	R507	1	2	GM@ 0.0402 5%	GMCH_TXOUT1-	GMCH_TXOUT1-	8
TXOUT1+	R506	1	2	GM@ 0.0402 5%	GMCH_TXOUT1+	GMCH_TXOUT1+	8
TXOUT2-	R505	1	2	GM@ 0.0402 5%	GMCH_TXOUT2-	GMCH_TXOUT2-	8
TXOUT2+	R504	1	2	GM@ 0.0402 5%	GMCH_TXOUT2+	GMCH_TXOUT2+	8
TXCLK-	R503	1	2	GM@ 0.0402 5%	GMCH_TXCLK-	GMCH_TXCLK-	8
TXCLK+	R502	1	2	GM@ 0.0402 5%	GMCH_TXCLK+	GMCH_TXCLK+	8
TZOUT0-	R525	1	2	GM@ 0.0402 5%	GMCH_TZOUT0-	GMCH_TZOUT0-	8
TZOUT0+	R524	1	2	GM@ 0.0402 5%	GMCH_TZOUT0+	GMCH_TZOUT0+	8
TZOUT1-	R523	1	2	GM@ 0.0402 5%	GMCH_TZOUT1-	GMCH_TZOUT1-	8
TZOUT1+	R522	1	2	GM@ 0.0402 5%	GMCH_TZOUT1+	GMCH_TZOUT1+	8
TZOUT2-	R521	1	2	GM@ 0.0402 5%	GMCH_TZOUT2-	GMCH_TZOUT2-	8
TZOUT2+	R520	1	2	GM@ 0.0402 5%	GMCH_TZOUT2+	GMCH_TZOUT2+	8
TZCLK-	R519	1	2	GM@ 0.0402 5%	GMCH_TZCLK-	GMCH_TZCLK-	8
TZCLK+	R518	1	2	GM@ 0.0402 5%	GMCH_TZCLK+	GMCH_TZCLK+	8

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CRT Connector

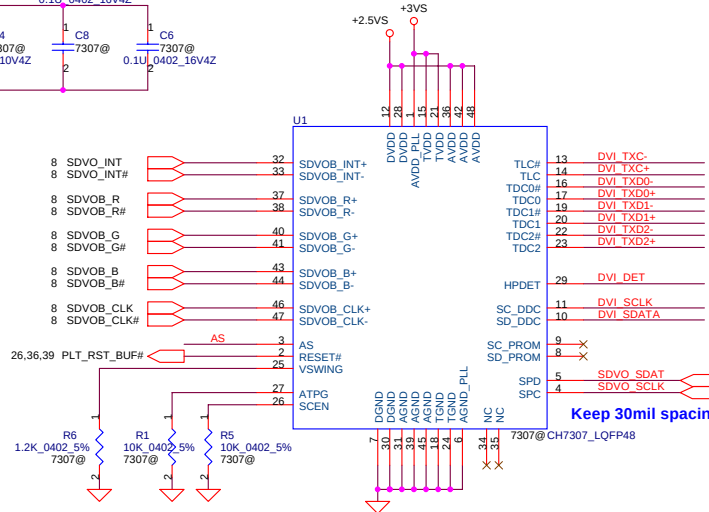
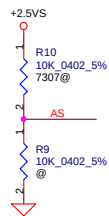
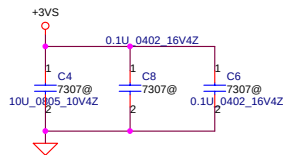
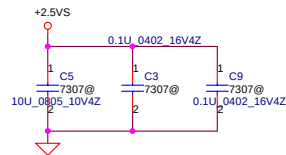


TV-OUT Conn.



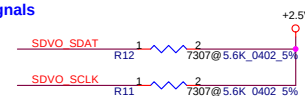
L39, L41, L43 must change to SM01006T00 for VGA
L39, L41, L43 must change to SM010010710 for UMA

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2005/06/20		2006/11/30		CRT & TV-OUT Connector	
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		B		HBQ60 LA-3191P	
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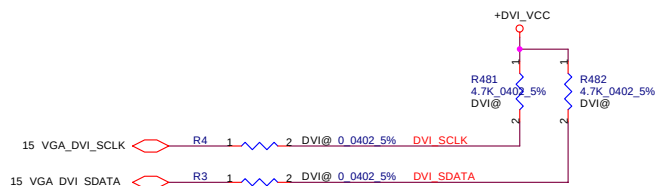
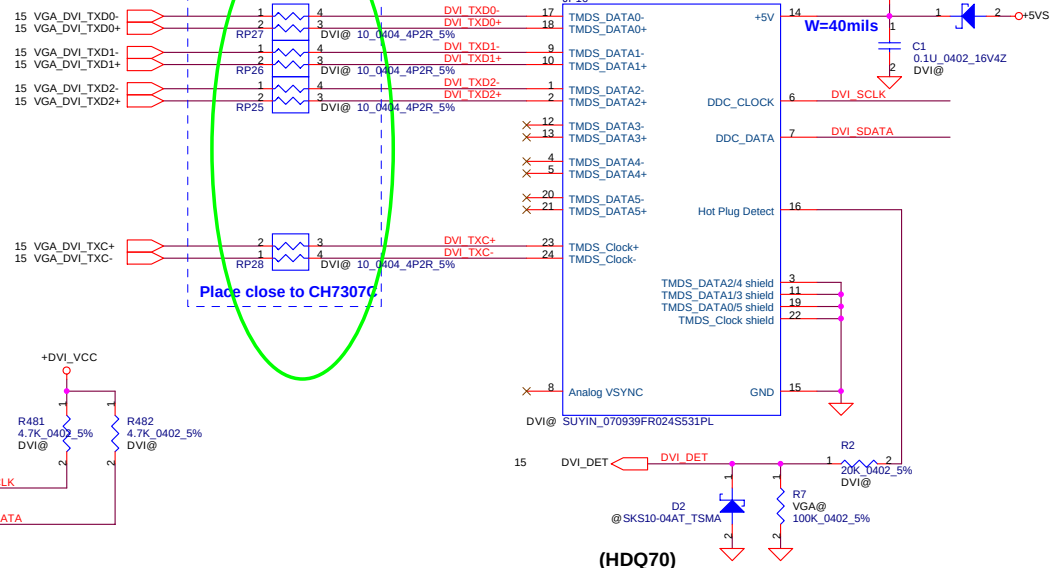


BOM structure	DVI from SDVO	DVI from Discrete VGA
7307@	Stuff	No_Stuff
VGA@	No_Stuff	Stuff
@	No_Stuff	No_Stuff

Keep 30mil spacing to other signals

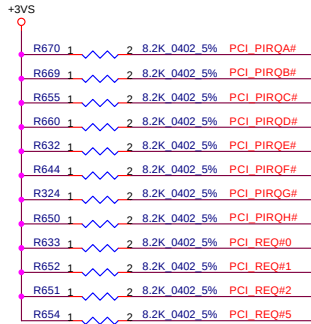
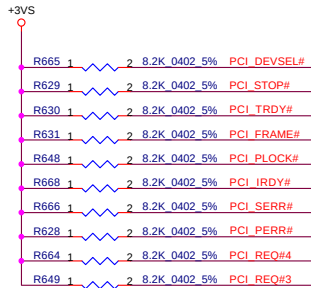


DVI-D Connector

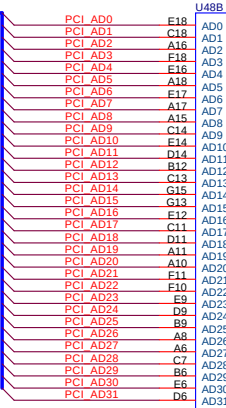


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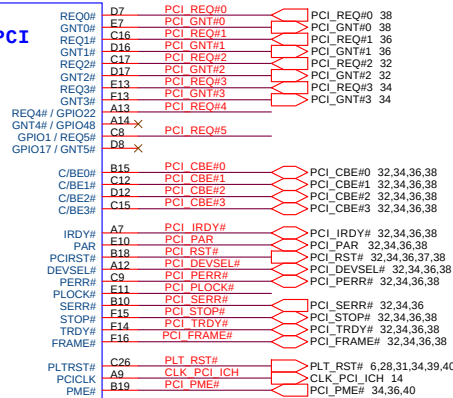
ICH7M(SL8YB) [B-0] : SA00000V190 (AB0!)



32,34,36,38 PCI_AD[0..31]



PCI

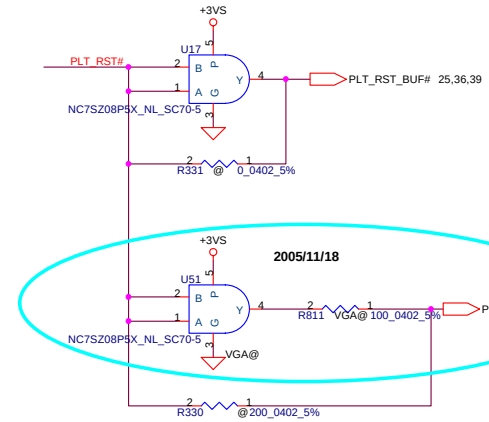


Interrupt I/F

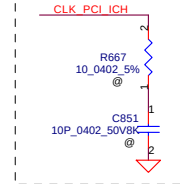
MISC



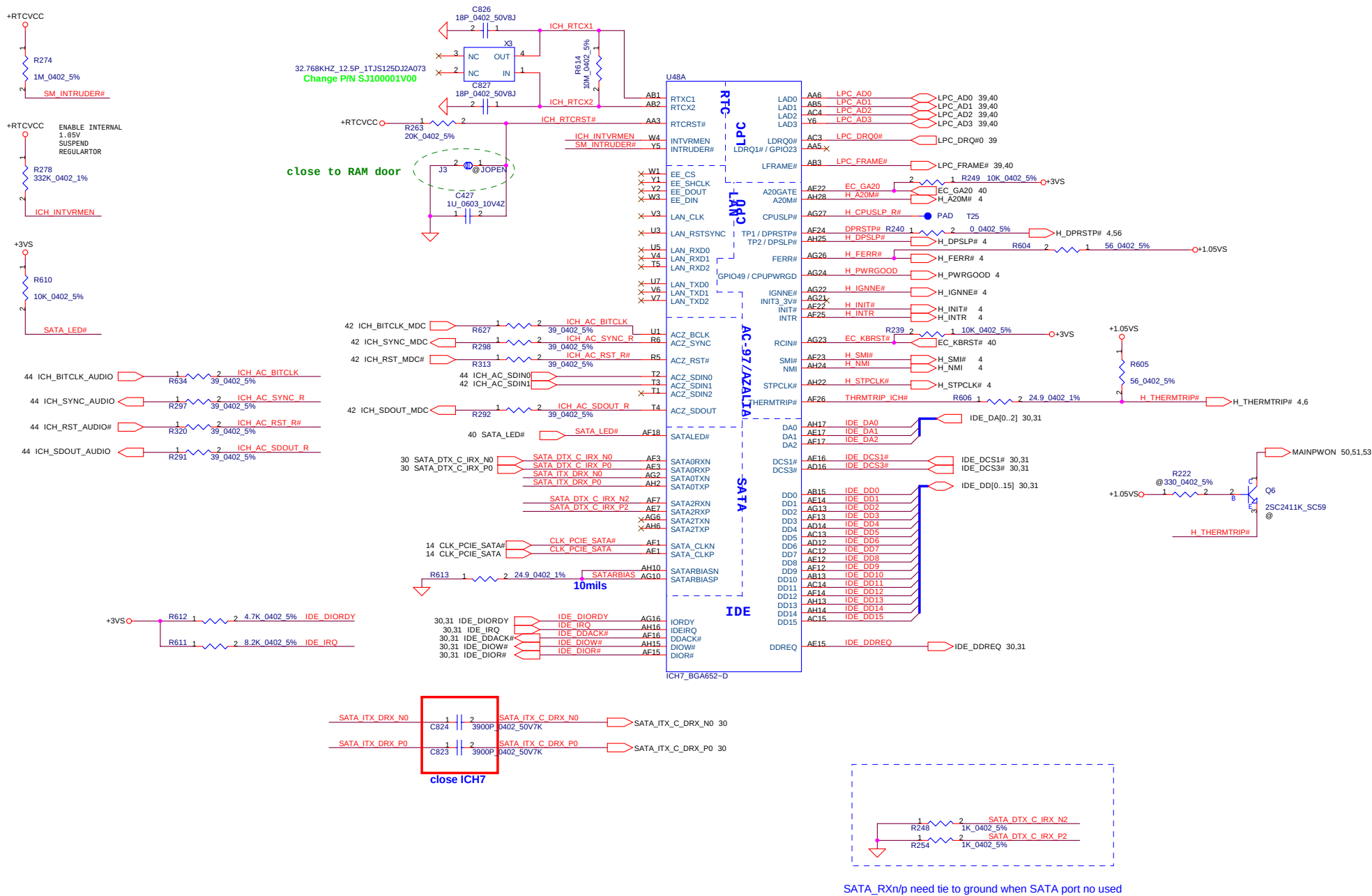
ICH7_BGA652-D



Place closely pin A9



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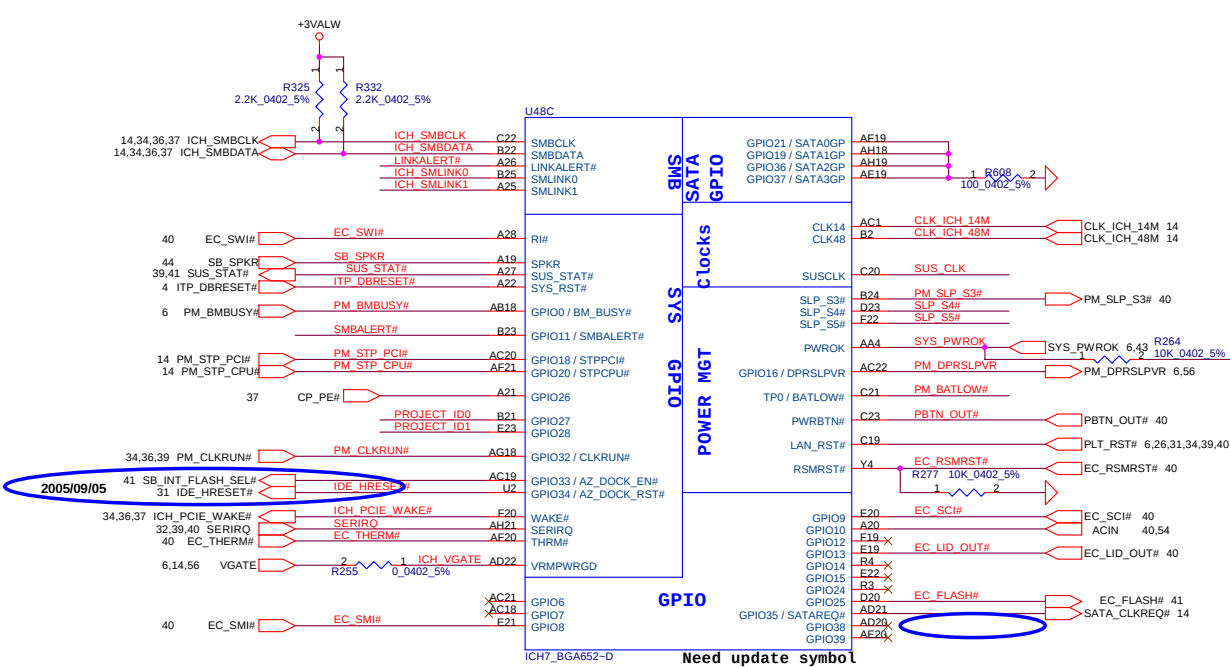
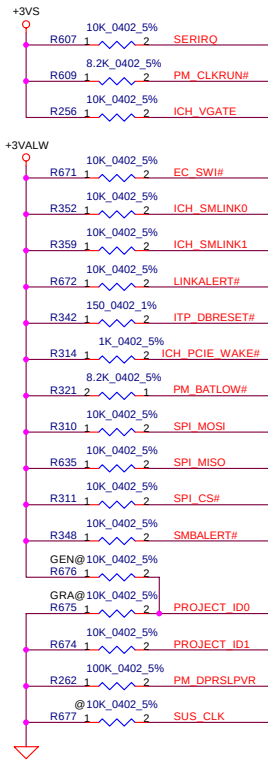


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Compal Electronics, Inc.

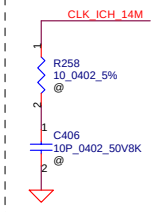
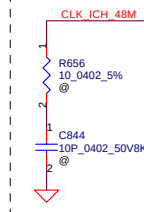
ICH7-M(2/4)

HBQ60 LA-3191P

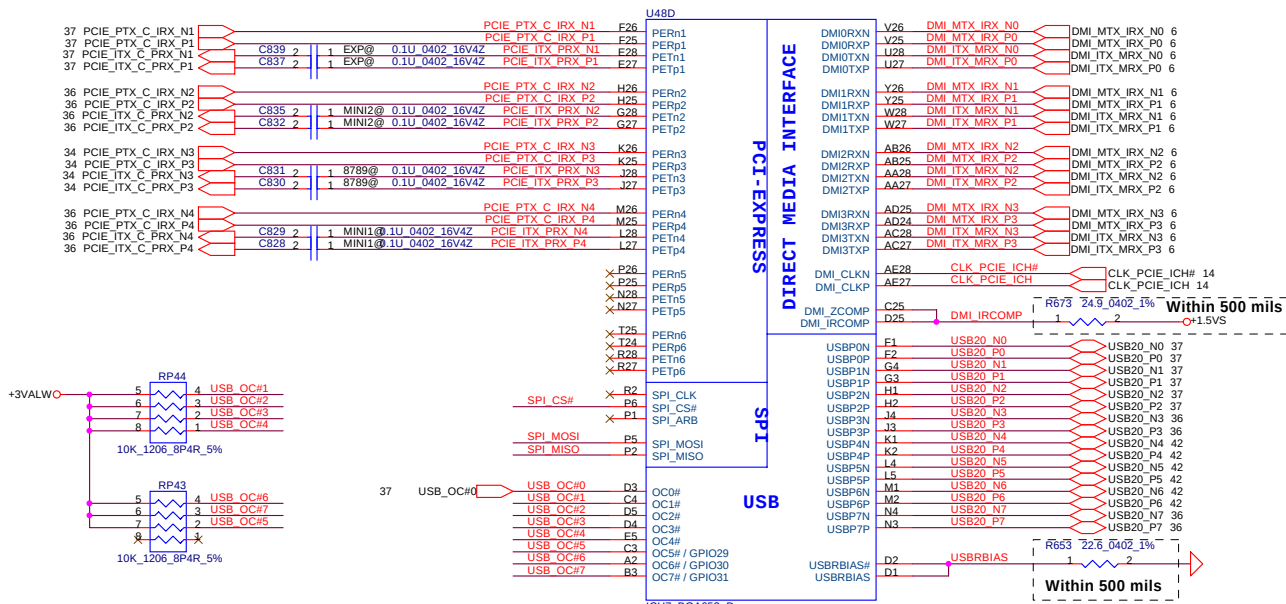
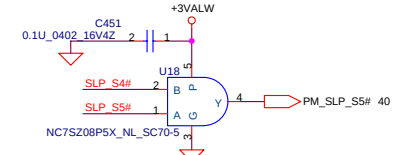


Place closely pin B2

Place closely pin AC1



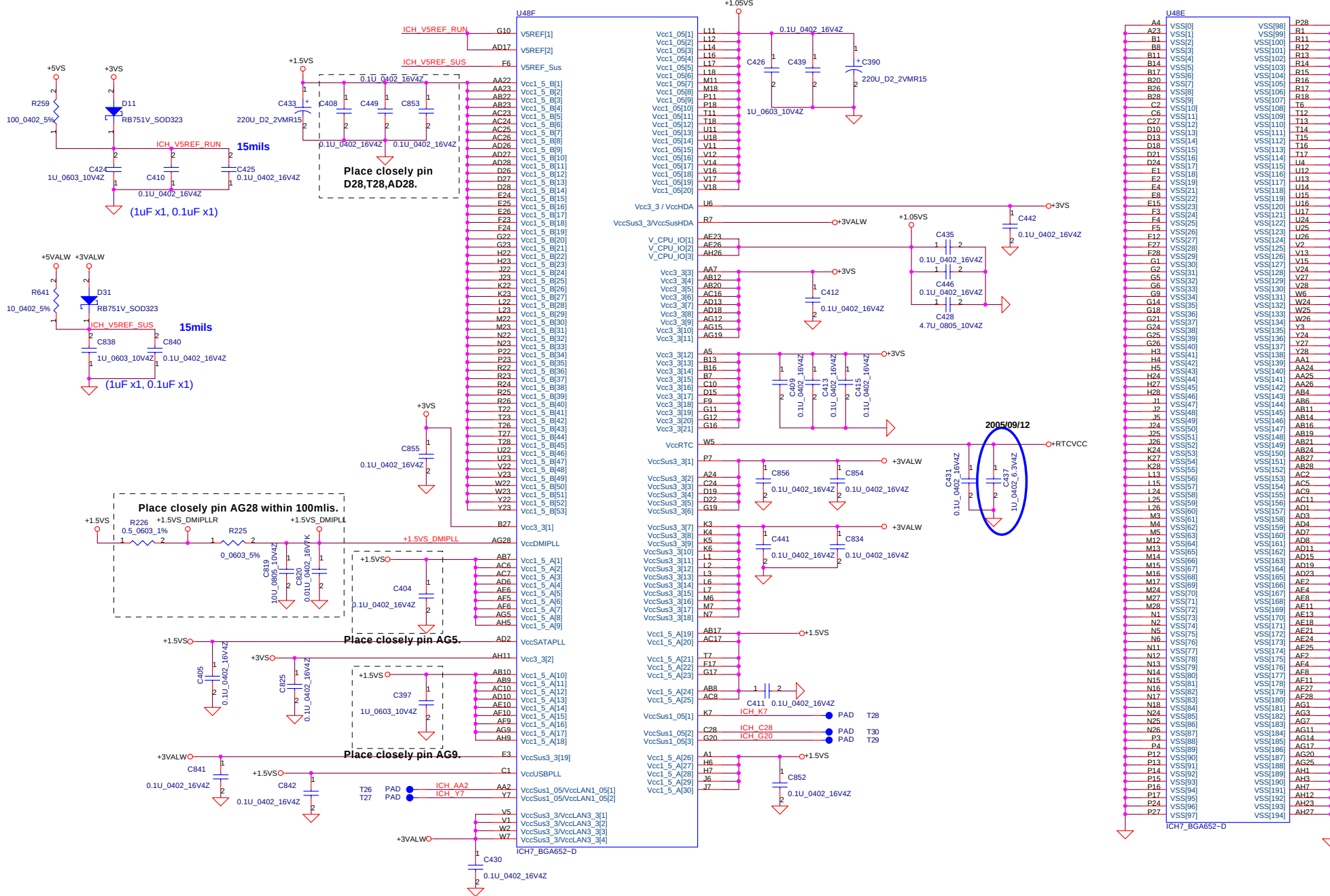
PM DPRSLPVR : Need to series a 500ohm resistor to IMVP6



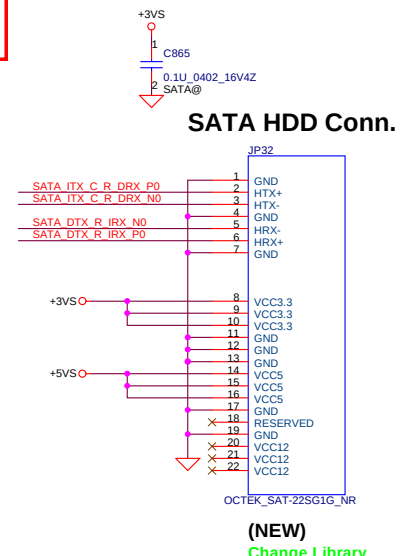
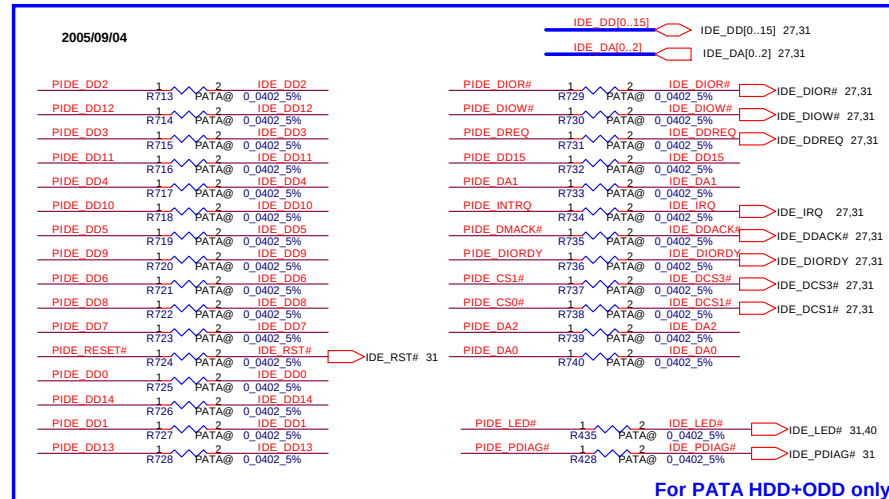
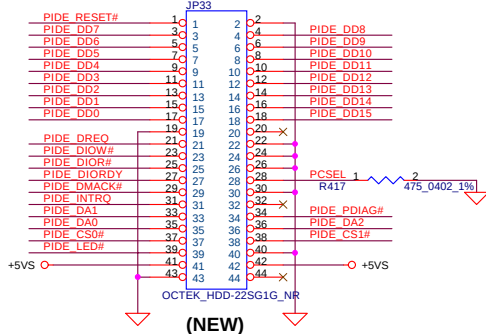
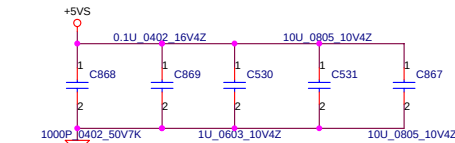
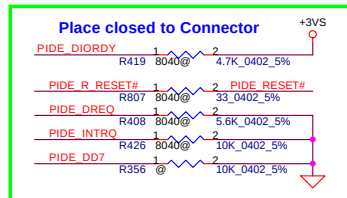
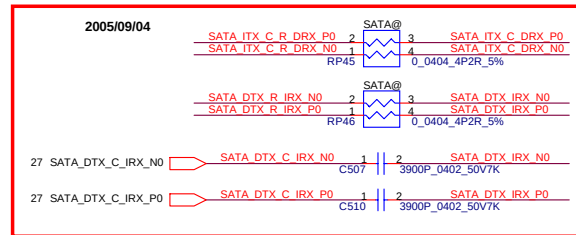
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ICH7-M(3/4)

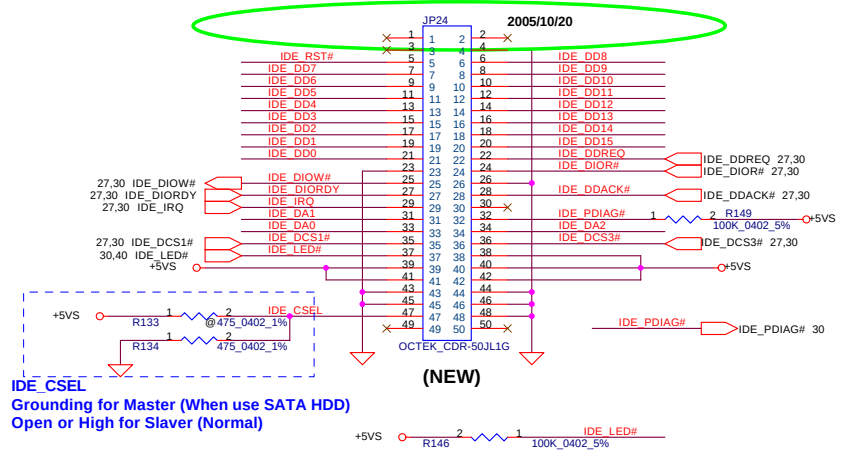
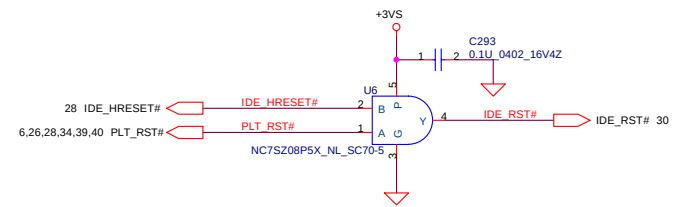
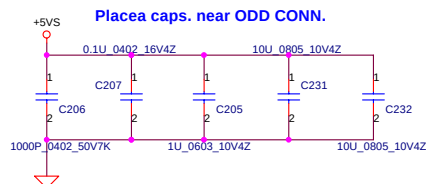
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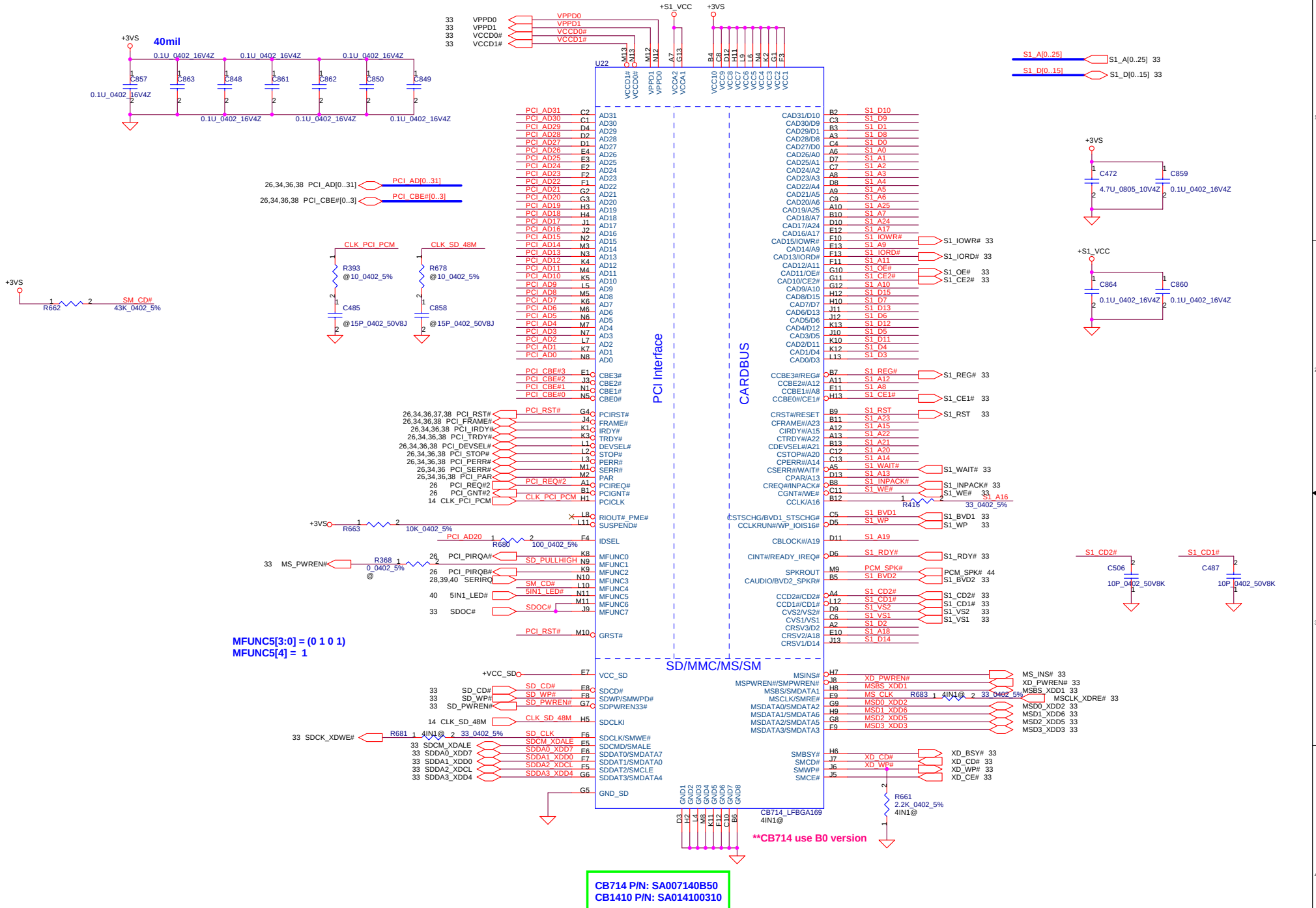


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				SATA Bridge				
				Size	Document Number		Rev	
				B	HBO60 LA-3191P		0.1	
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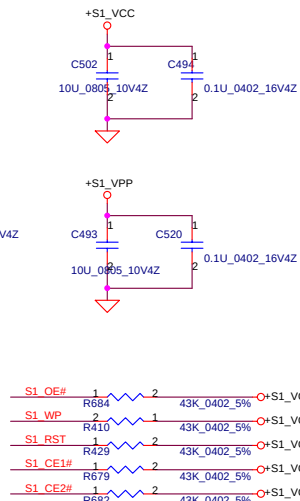
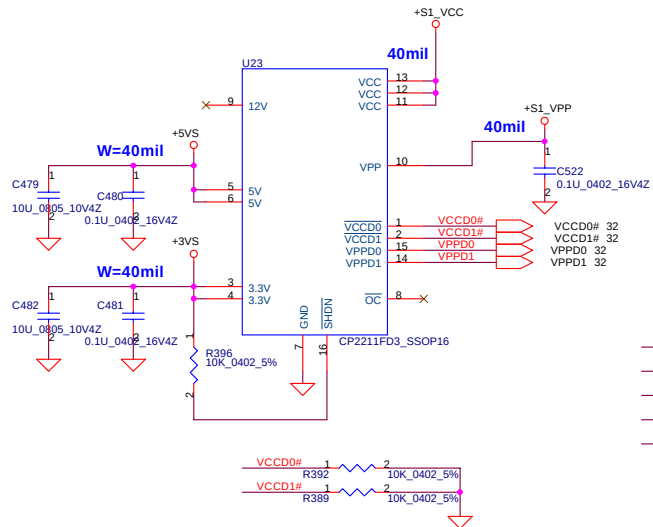
IDE_CSEL
Grounding for Master (When use SATA HDD)
Open or High for Slaver (Normal)

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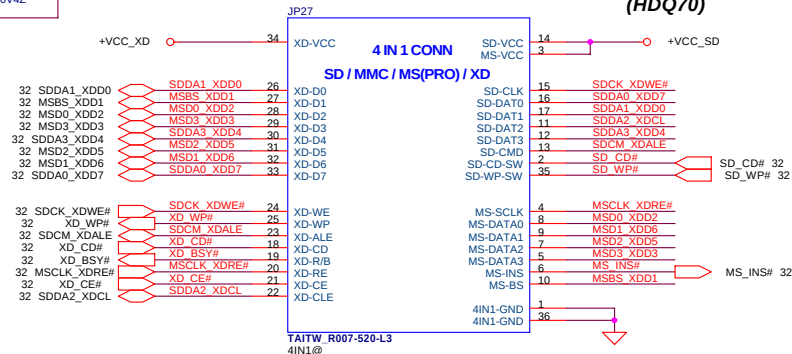
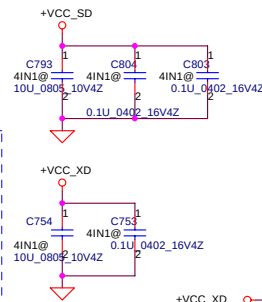
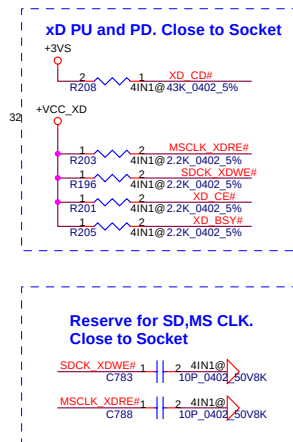
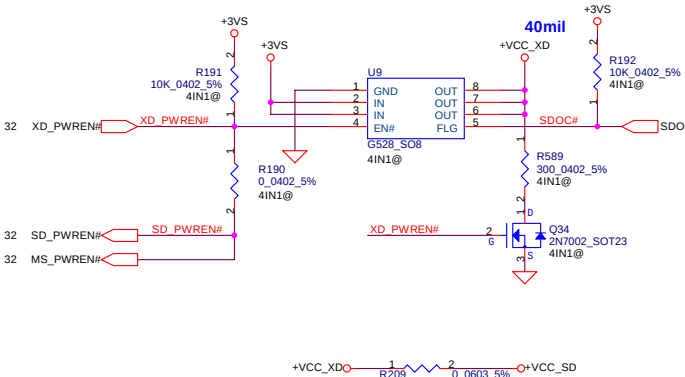


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				Size	Document Number
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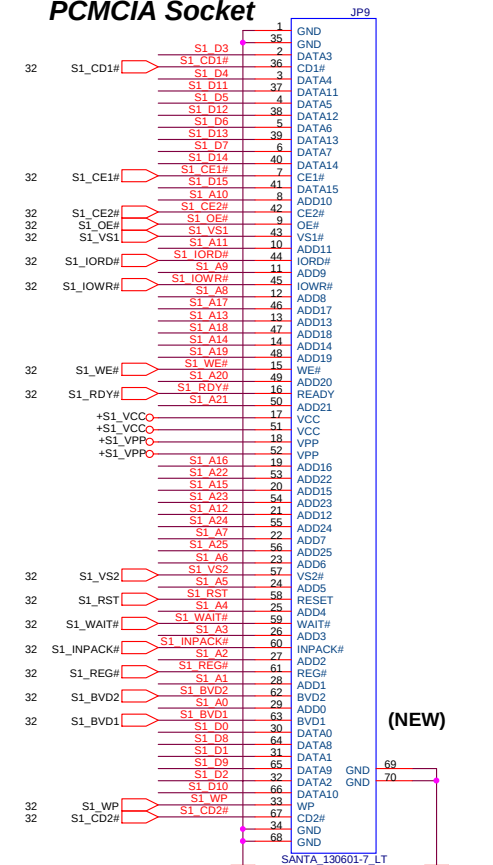
PCMCIA Power Control



SD/MS Power Control
XD Power Control

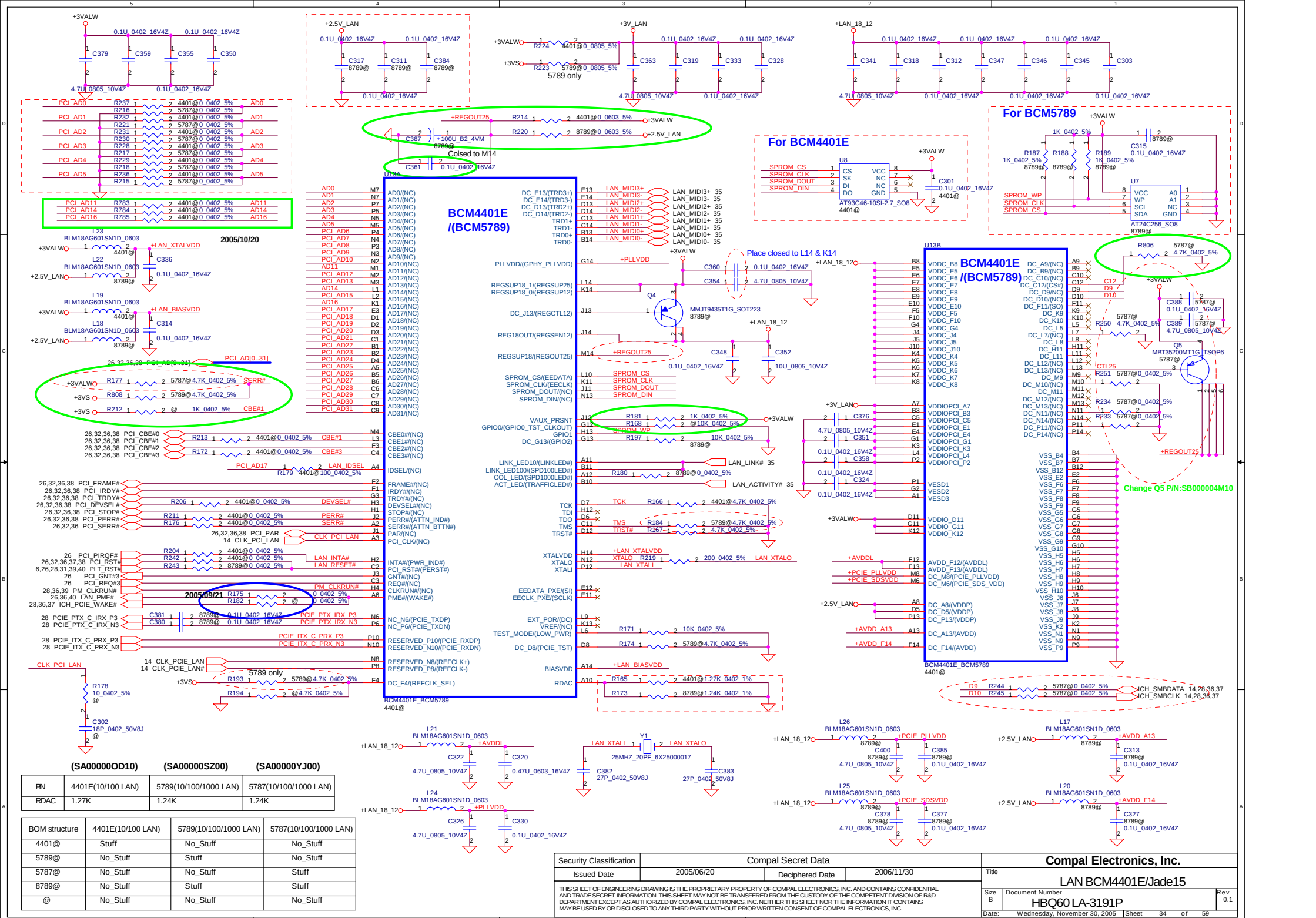


PCMCIA Socket



4 IN 1 Socket
(HDQ70)

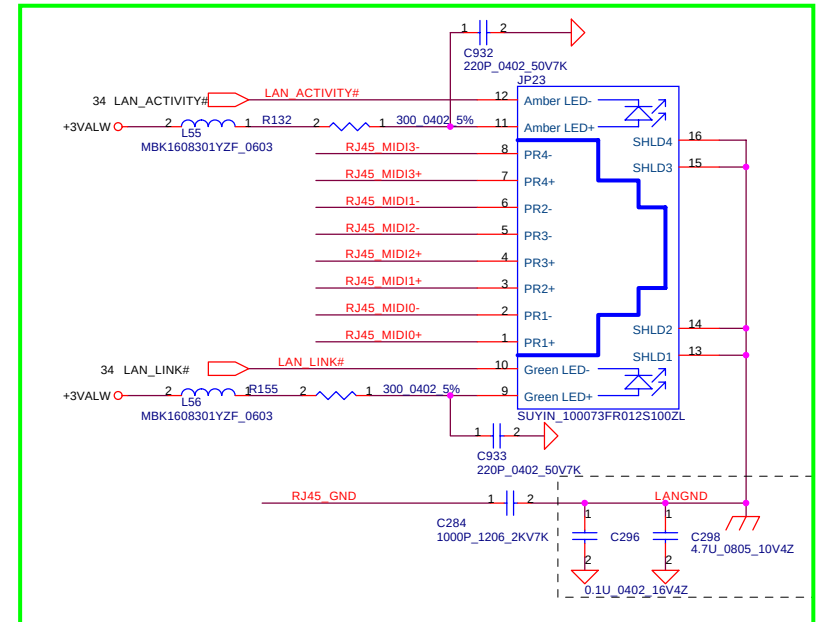
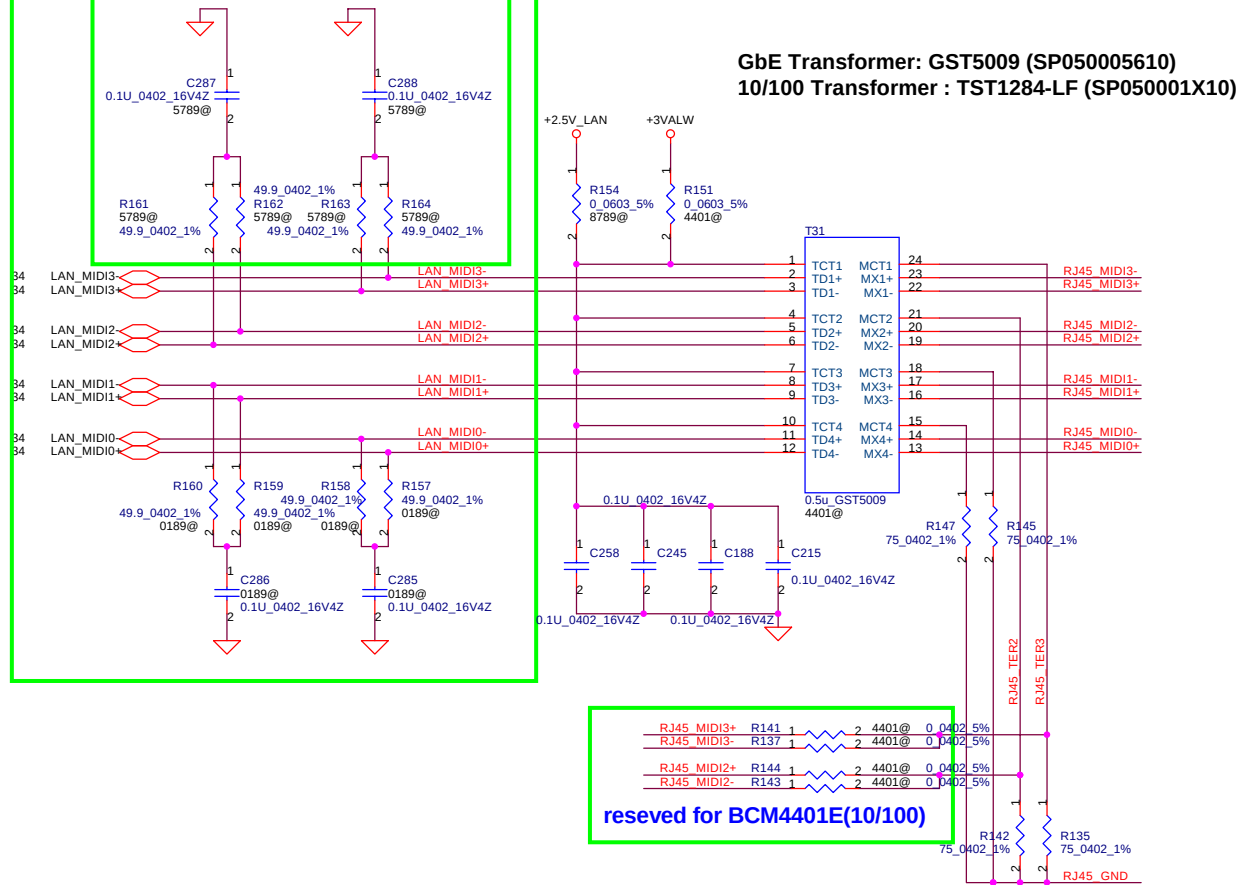
Security Classification		Compal Secret Data		Compal Electronics, Inc.					
Issued Date		2005/06/20	Deciphered Date	2006/11/30	Title				
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					Size B	Document Number		Rev 0.1	
					HBQ60 LA-3191P				
Date:					Wednesday, November 30, 2005	Sheet	33	of	59



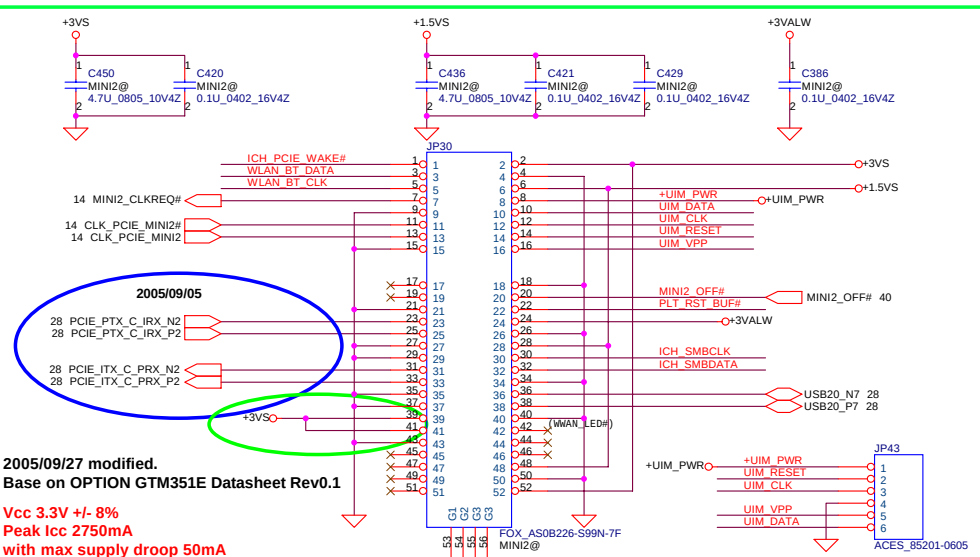
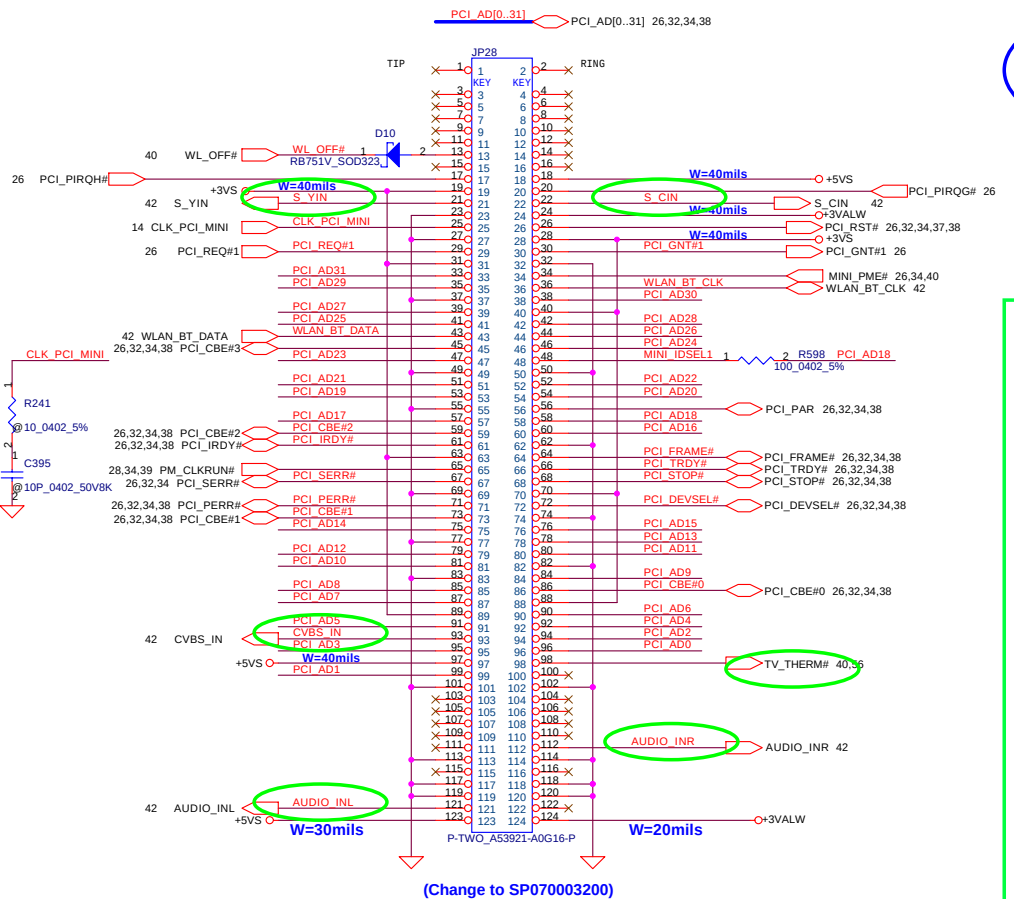
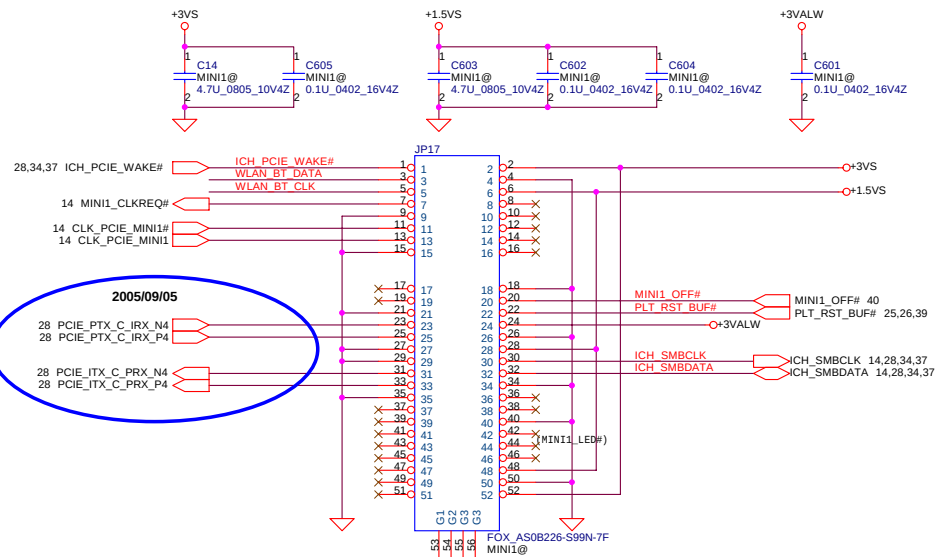
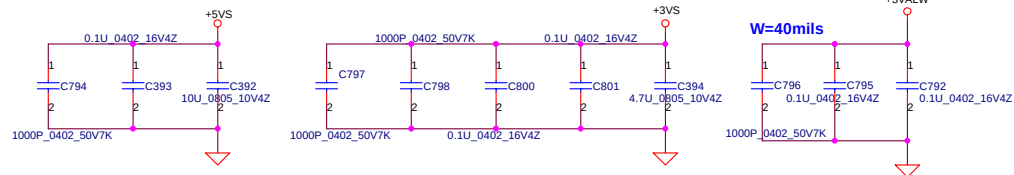
LAN BCM4401E/ BCM5789

Place these components colsed to LAN chip

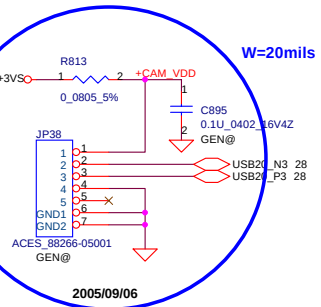
unpop when use BCM4401E(10/100)



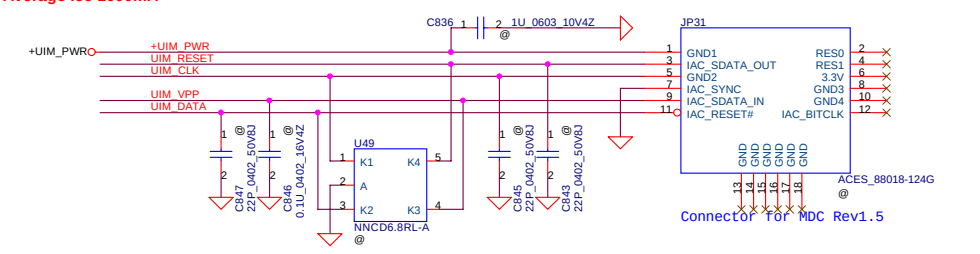
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2005/06/20	Deciphered Date	2006/11/30	Title	
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Size	Document Number	Date		Wednesday, November 30, 2005	Rev
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		of		59	



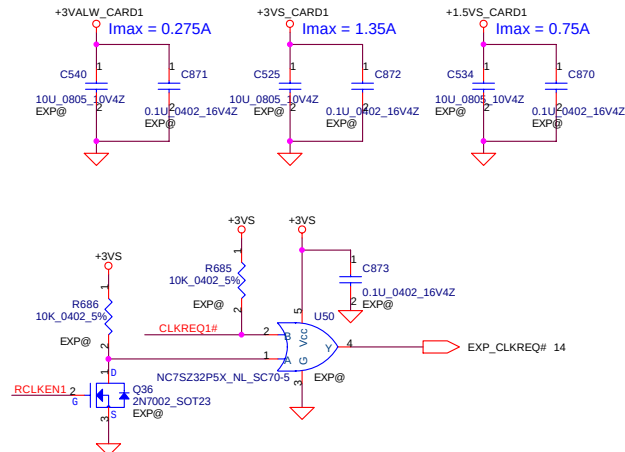
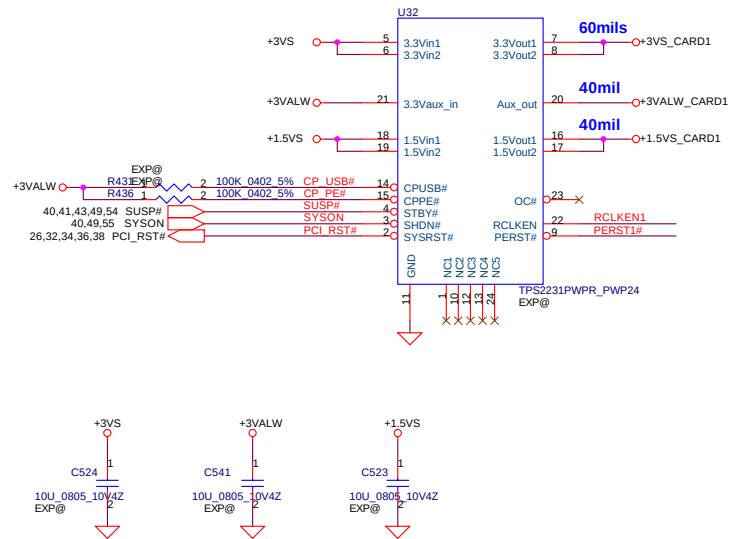
2005/09/27 modified.
Base on OPTION GTM351E Datasheet Rev0.1
Vcc 3.3V +/- 8%
Peak Icc 2750mA
with max supply droop 50mA
Average Icc 1000mA



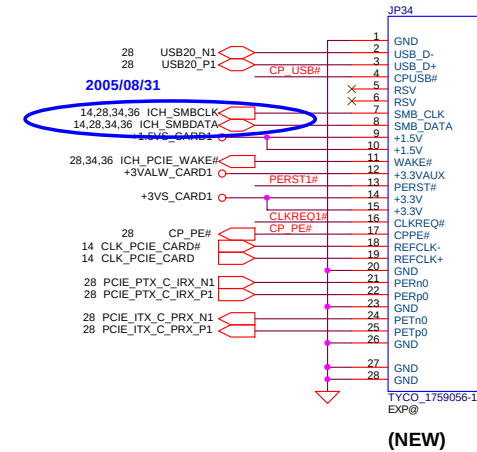
Mini Card Power Rating			
Power	Primary Power (mA)		Auxiliary Power (mA)
	Peak	Normal	Normal
+3VS	1000	750	
+3VALW	330	250	250 (wake enable)
+1.5VS	500	375	5 (Not wake enable)



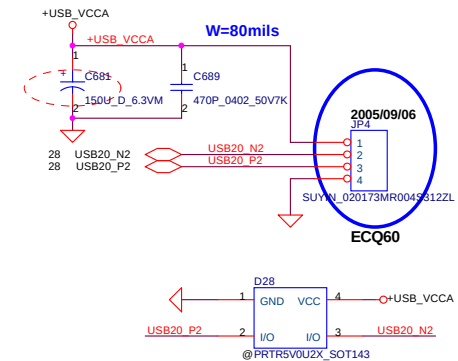
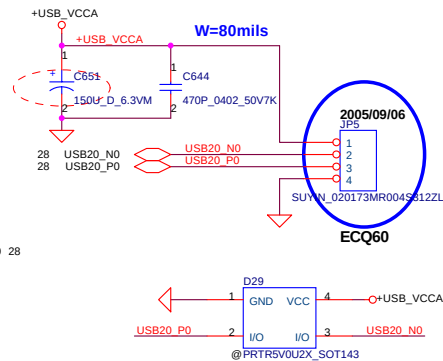
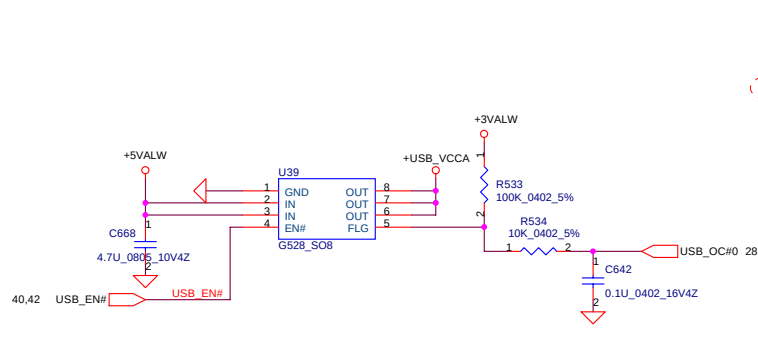
New Card Power Switch



New Card Socket (Left)



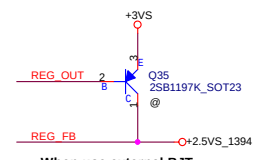
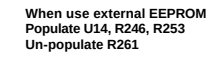
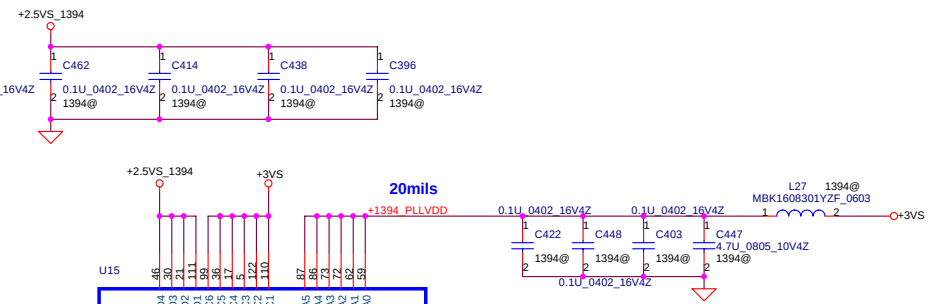
USB CONN. 1 & 2



SUYIN_020173MR004G533ZR_4P

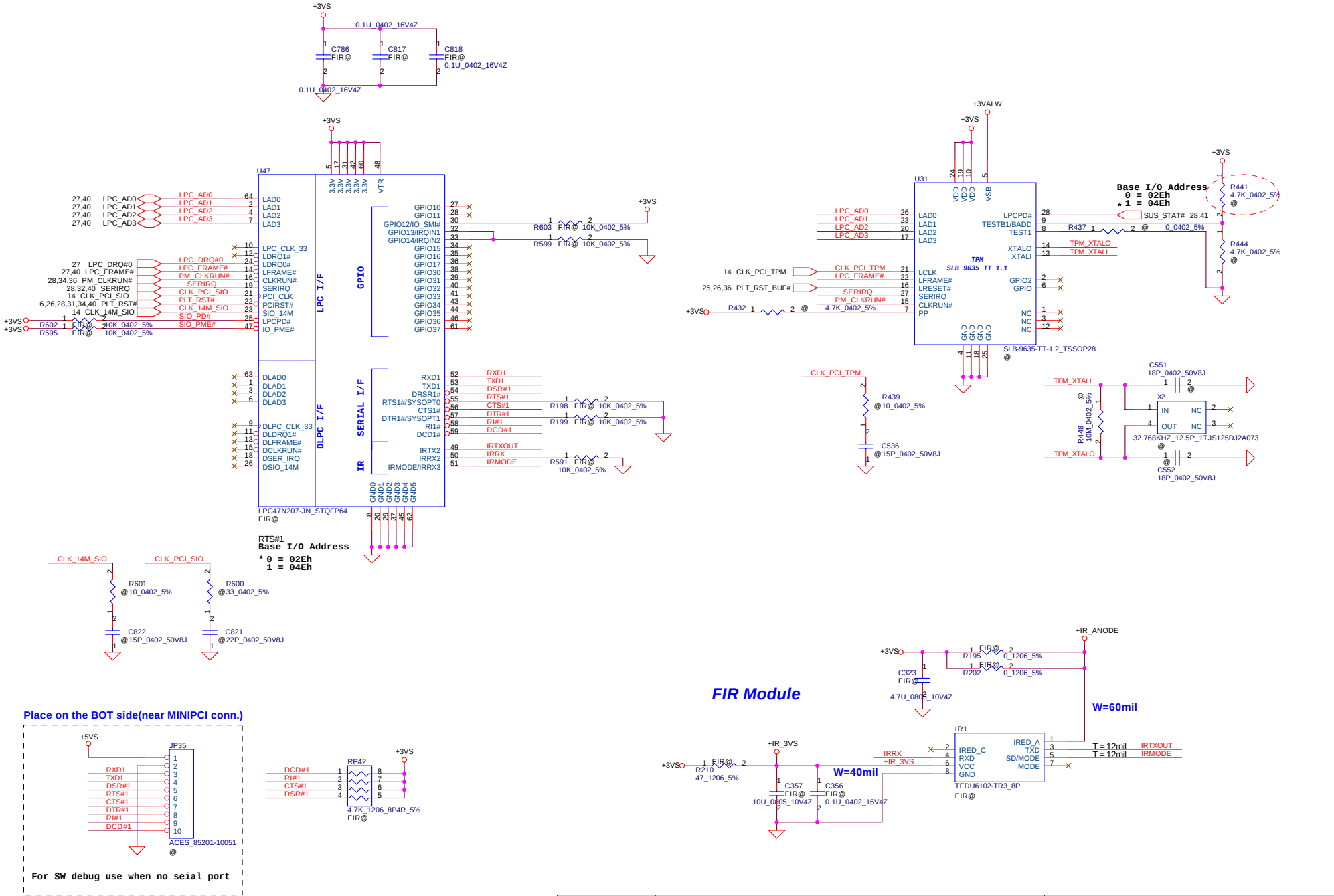
SUYIN_020173MR004G533ZR_4P

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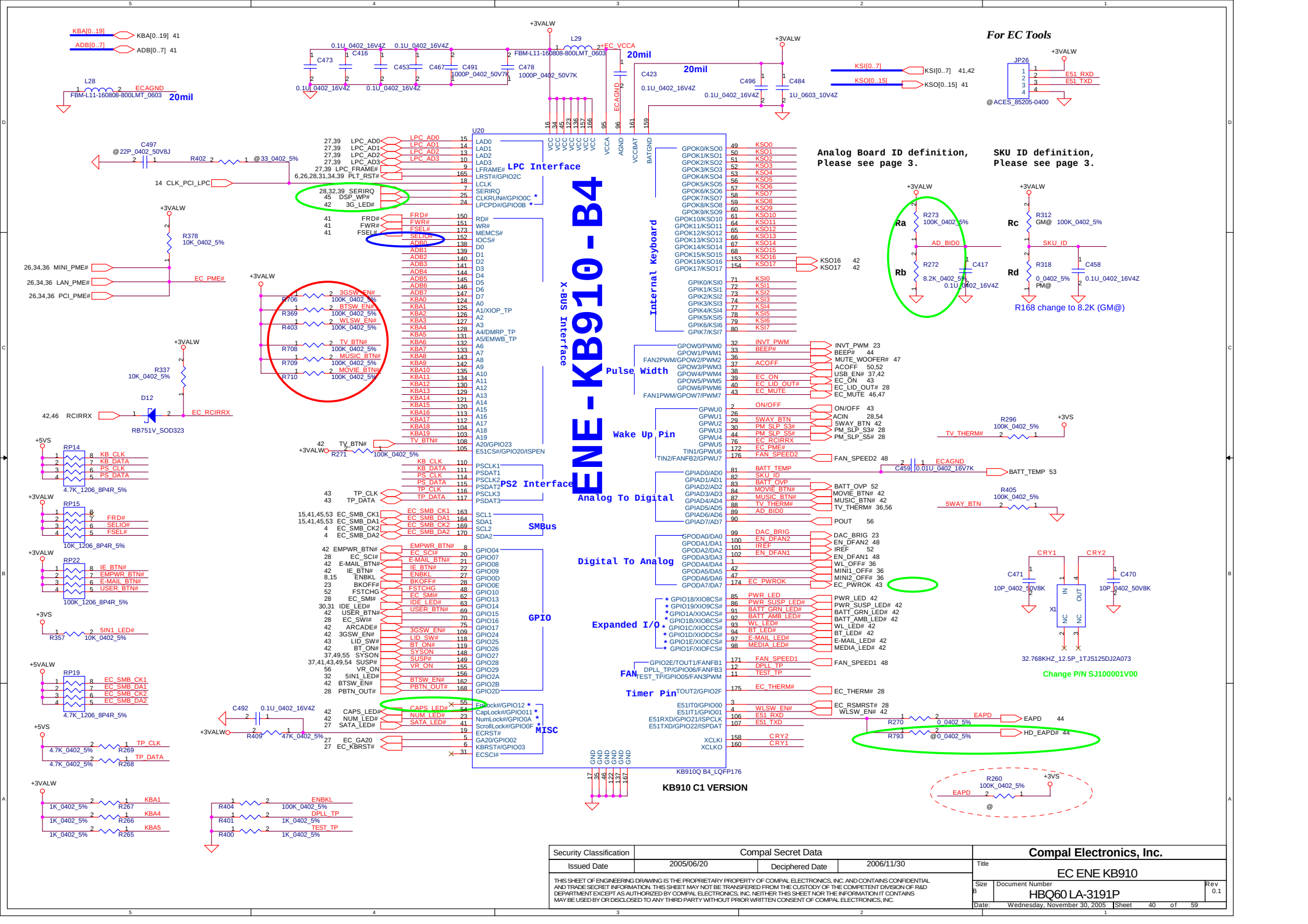


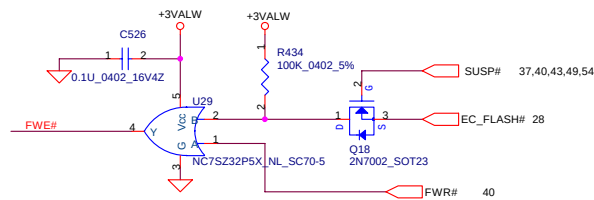
Security Classification		Compal Secret Data		Compal Electronics, Inc.						
Issued Date		2005/06/20	Deciphered Date	2006/11/30	Title		IEEE1394 VIA VT6311S			
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								B	HBQ60 LA-3191P	0.1
								Date:	Wednesday, November 30, 2005	Sheet
C		D		E						

SUPER I/O SMsC LPC47N207

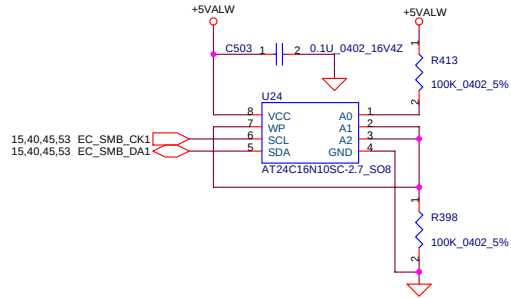


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		B		HBQ60 LA-3191P	
				Rev	
				0.1	
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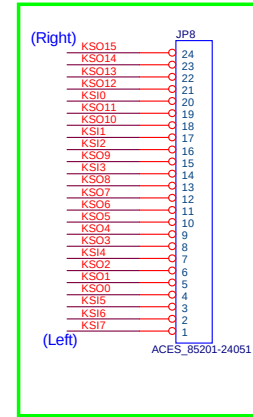
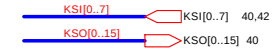




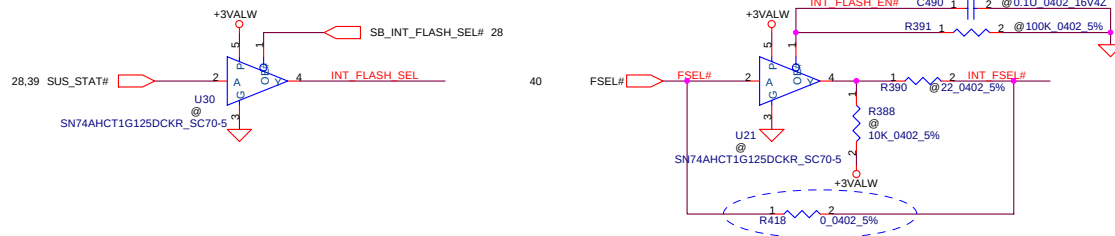
Check PCB Footprint



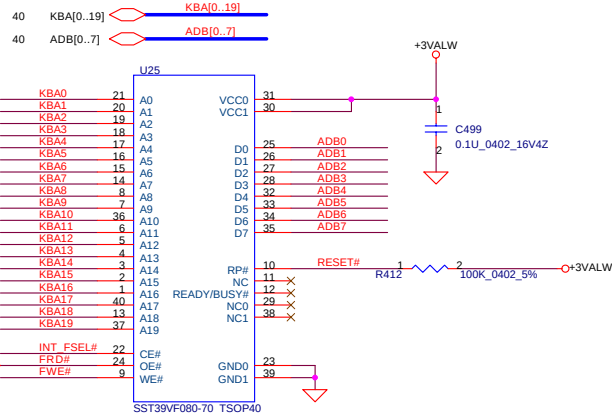
INT_KBD Conn.



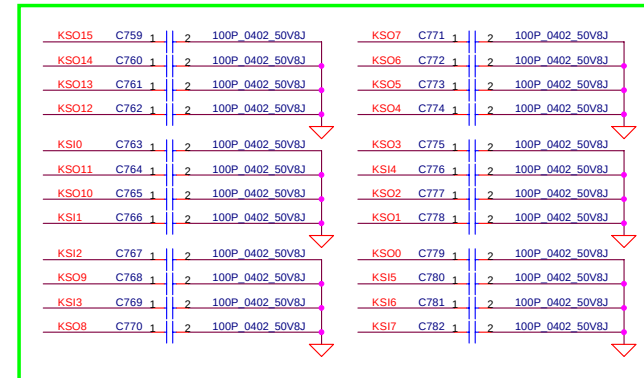
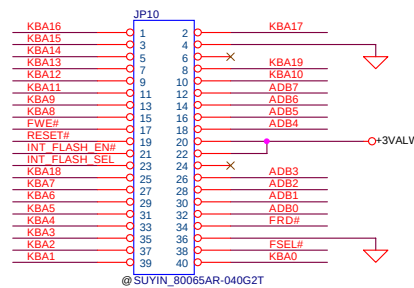
FOR DEBUG ONLY



1MB Flash ROM

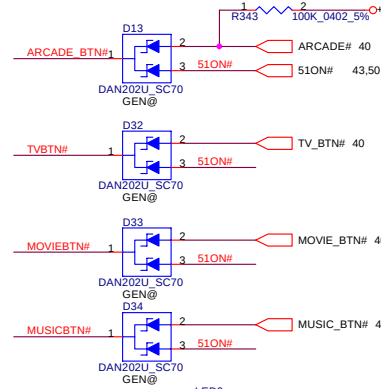
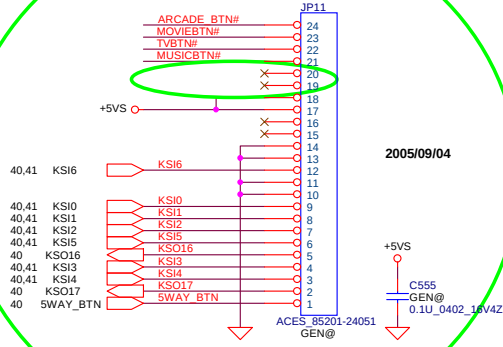


1MB ROM Socket

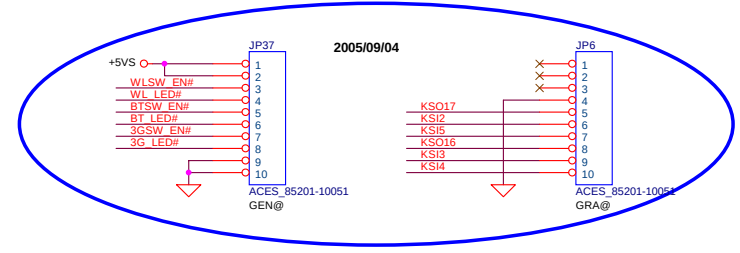
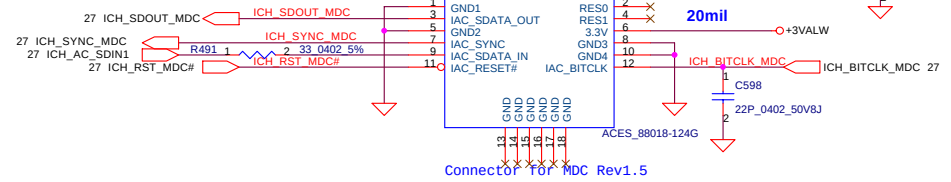


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						Size B		Document Number		Rev 0.1	
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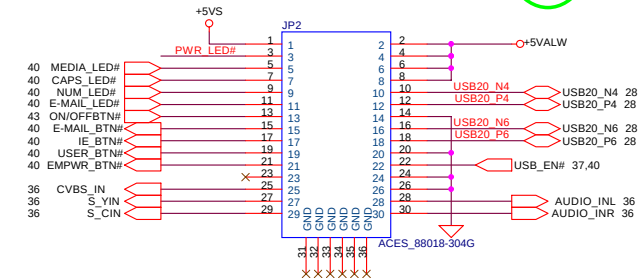
To CD-PLAY/B Conn.



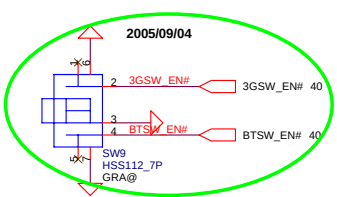
MDC Conn.



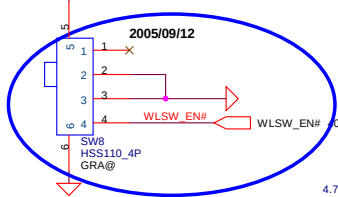
To LED/B Conn.



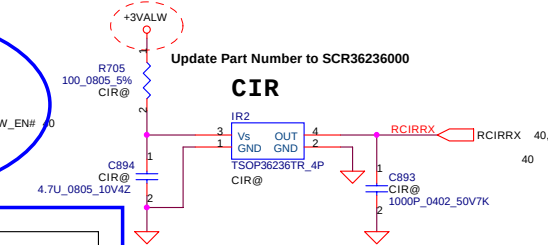
BT_SW & 3G_SW



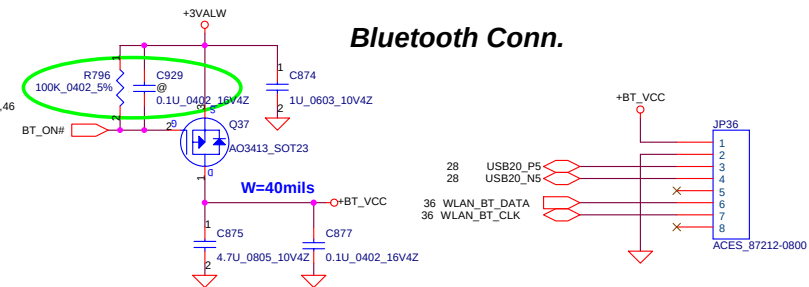
WL_SW



94/08/04



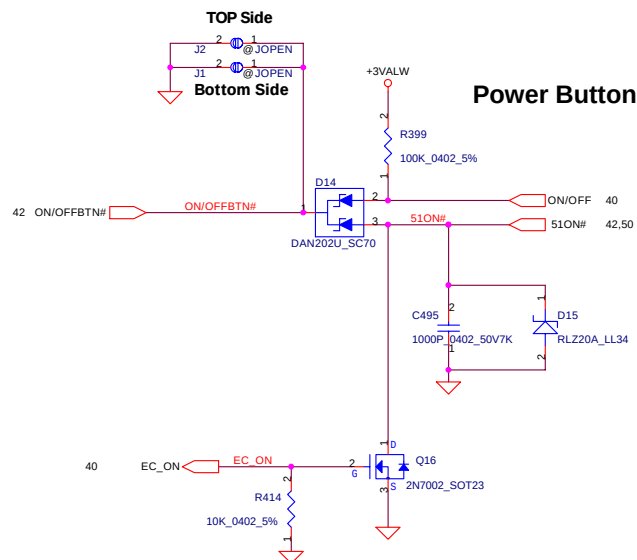
Bluetooth Conn.



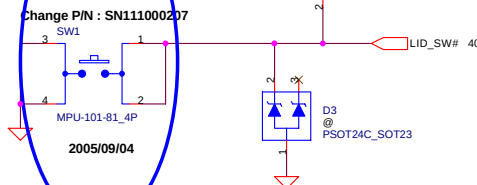
Geneva		Grapevine	
	2005/09/04		2005/09/04
KSI0	VOL_UP	KSI0	VOL_UP
KSI1	RIGHT	KSI1	VOL_DOWN
KSI2	PLAY	KSI2	ENTER
KSI3	STOP	KSI3	STOP
KSI4	NEXT	KSI4	VOL_UP
KSI5	REV	KSI5	VOL_DOWN
KSI6		KSI6	ARCADIE_TV
			RECORD

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ON/OFF switch

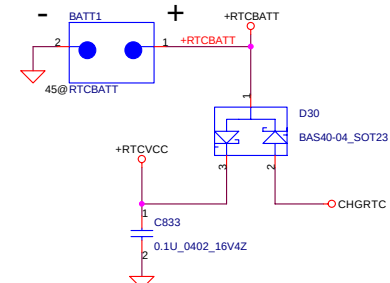


Lid Switch

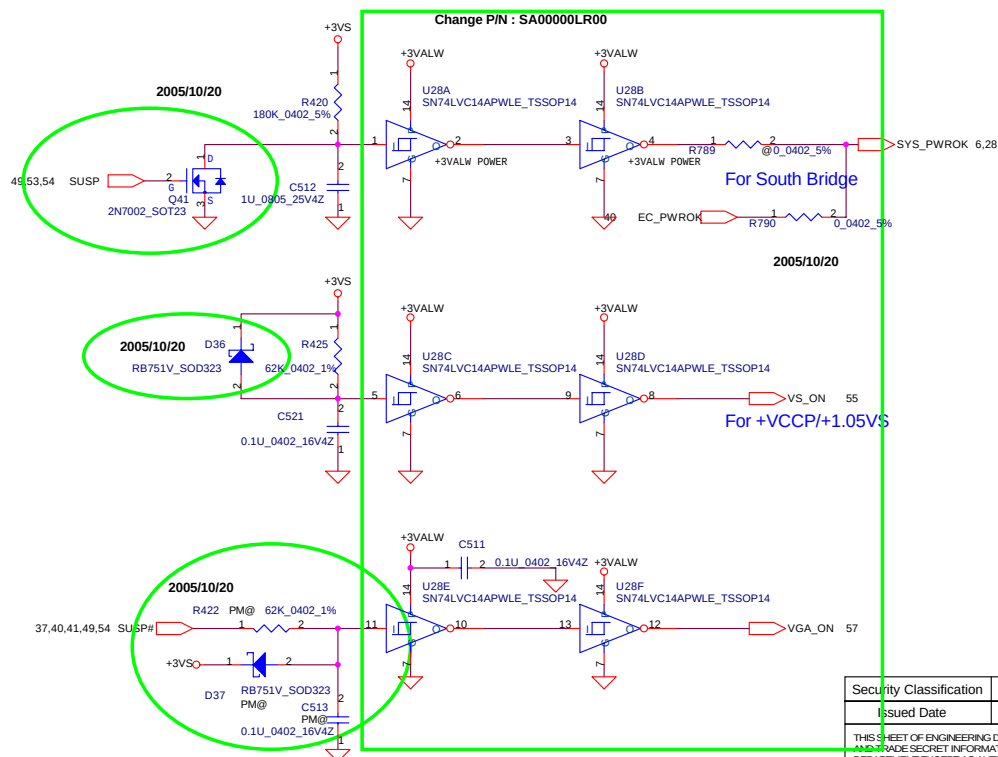


Change BATT1 P/N : SP093PA0200 (Panasonic)
SP093MX0000 (MAXELL)

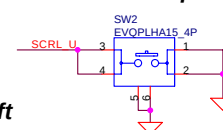
RTC Battery



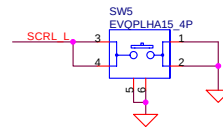
Power ON Circuit



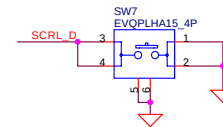
Scroll Up



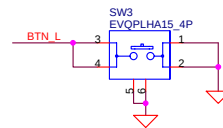
Scroll Left



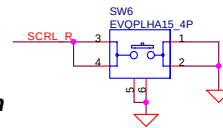
Scroll Down



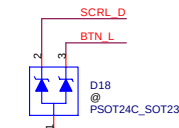
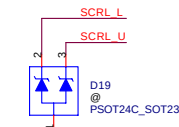
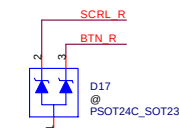
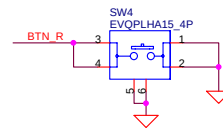
Left



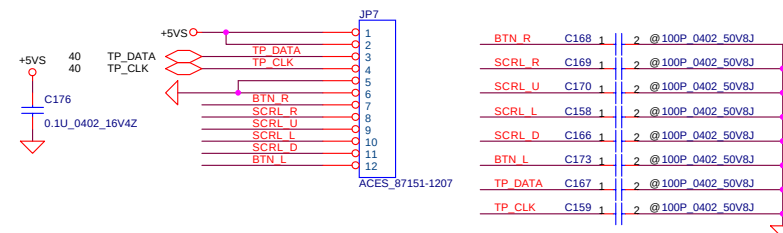
Scroll Right



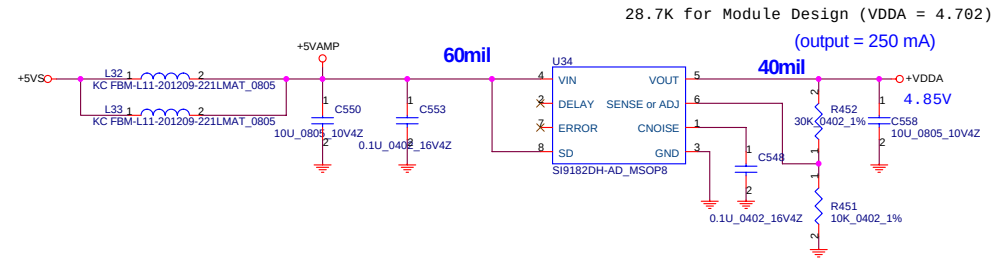
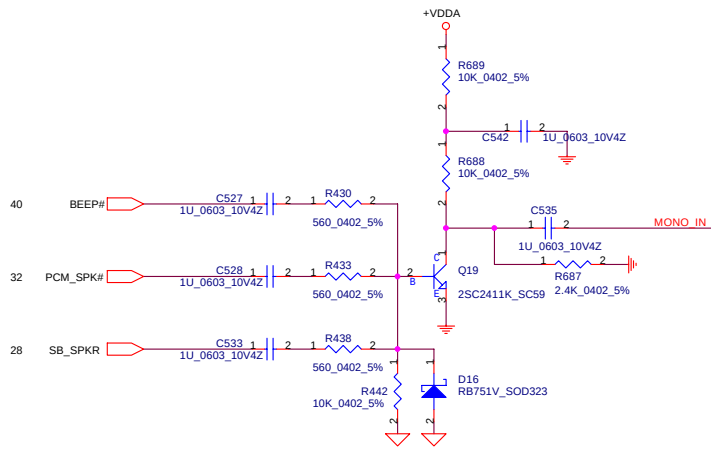
Right



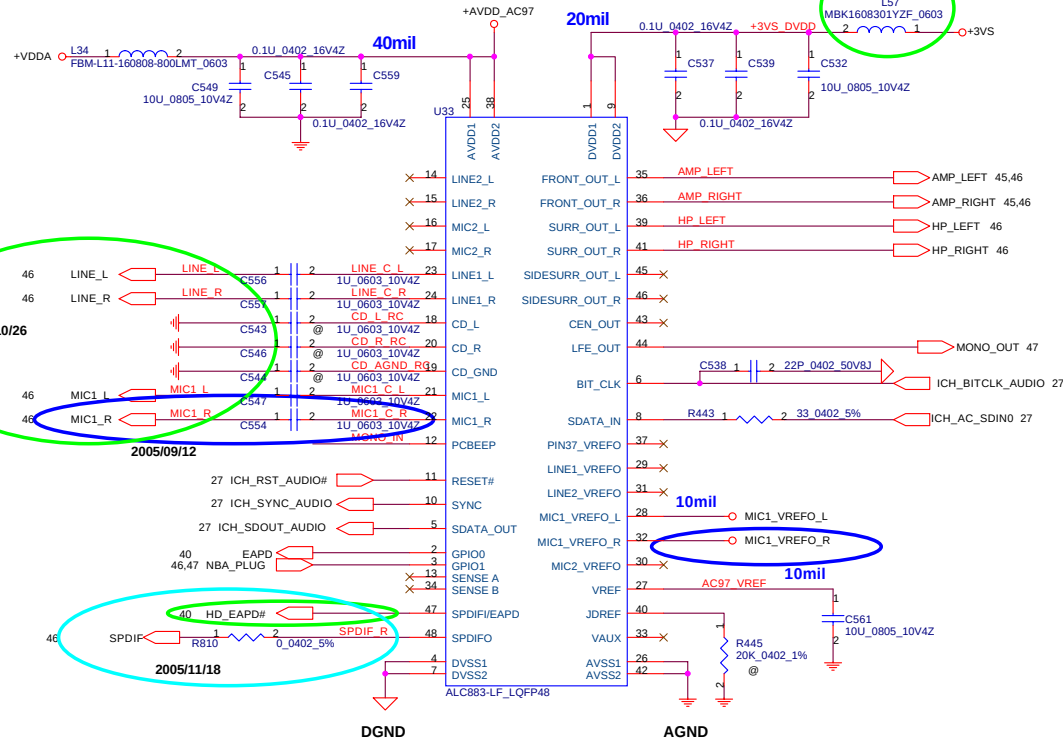
To TP/B Conn.



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HD Audio Codec

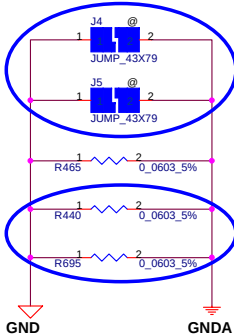


2005/10/26

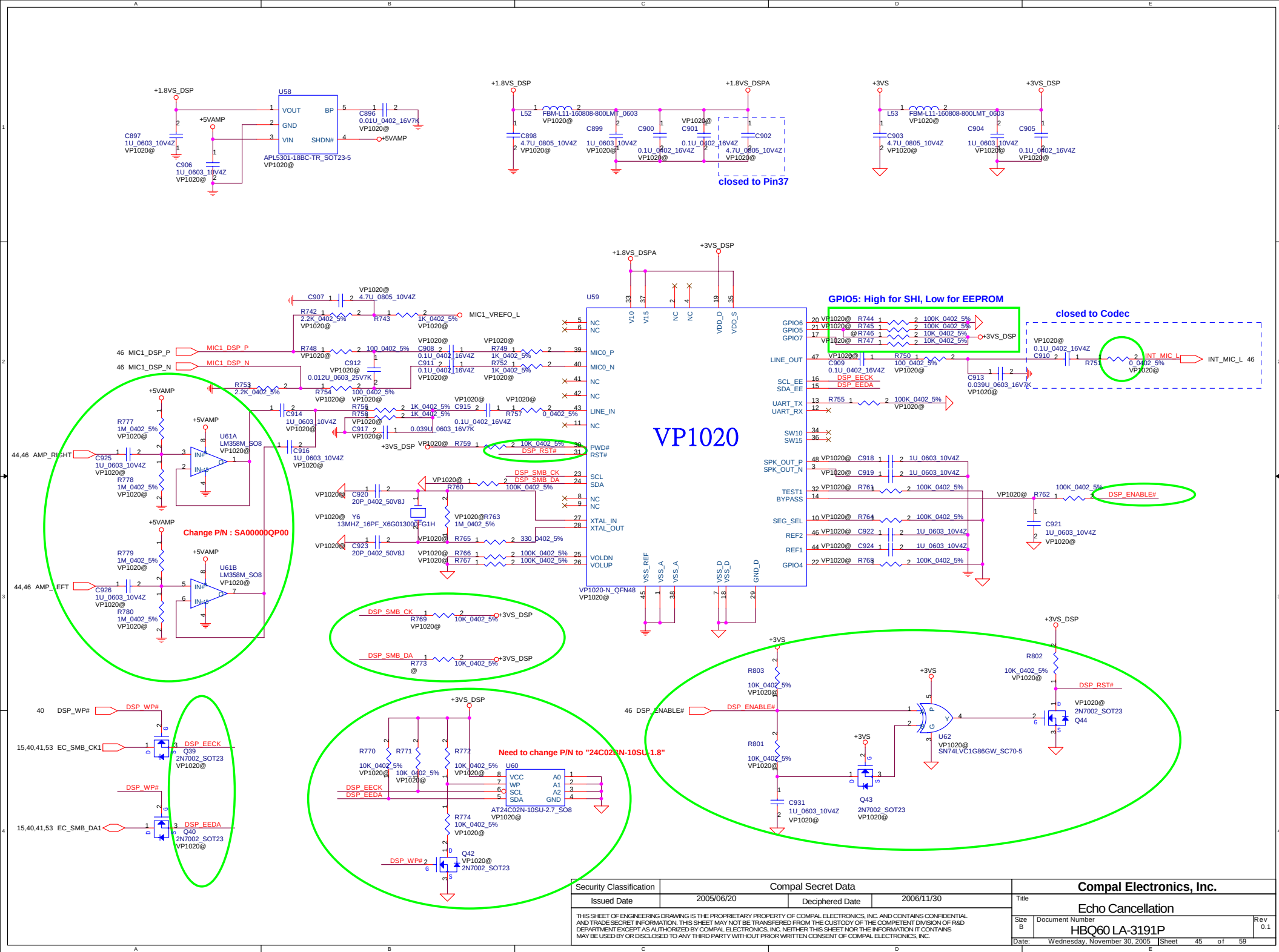
2005/09/12

2005/11/18

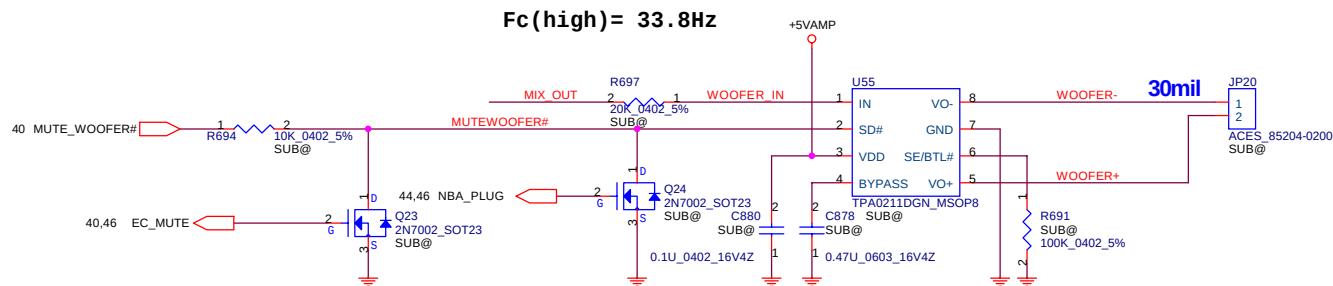
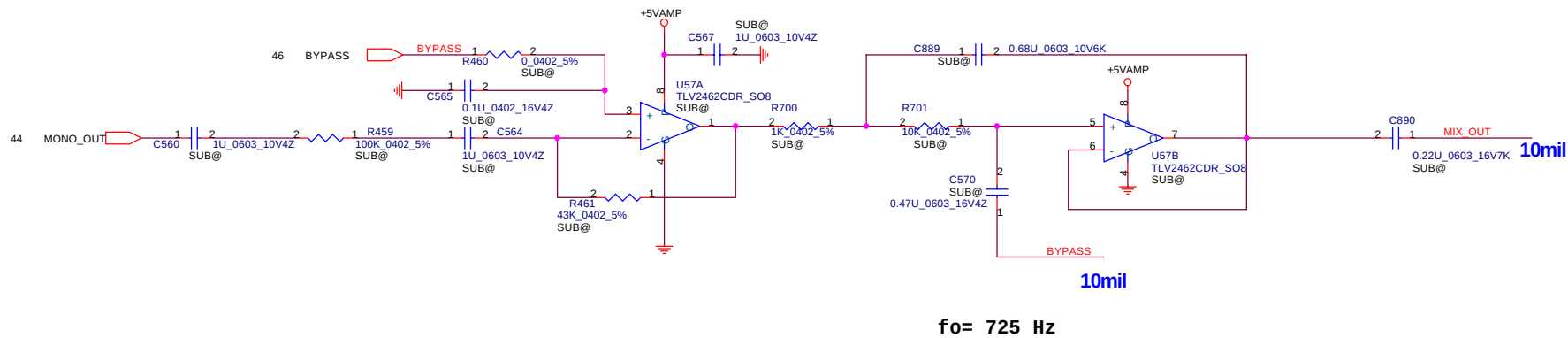
2005/09/20



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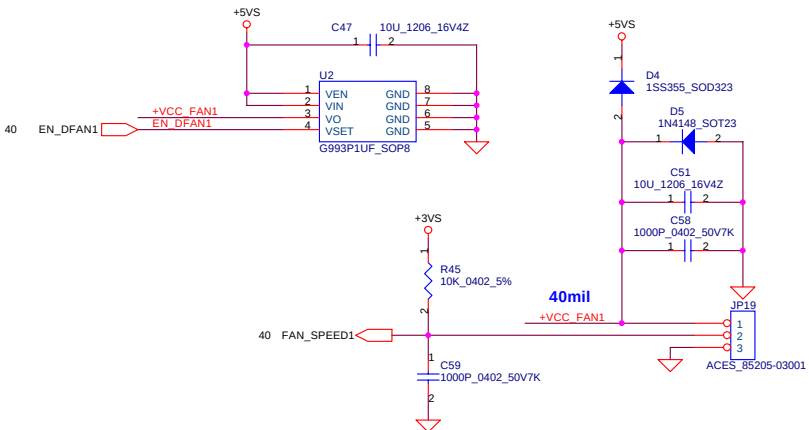


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				59	

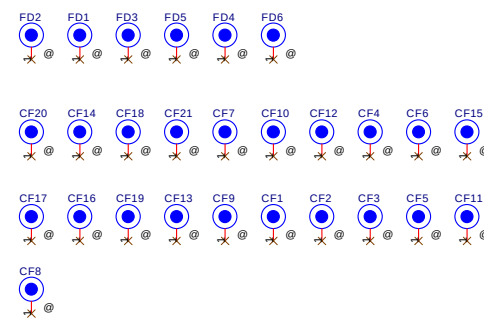
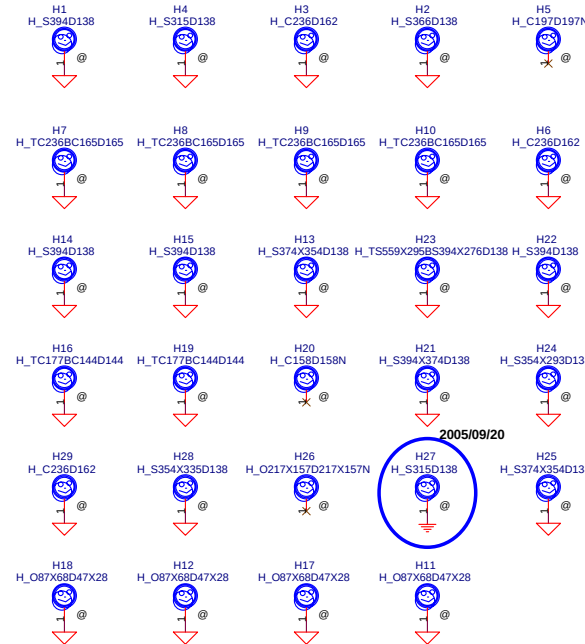
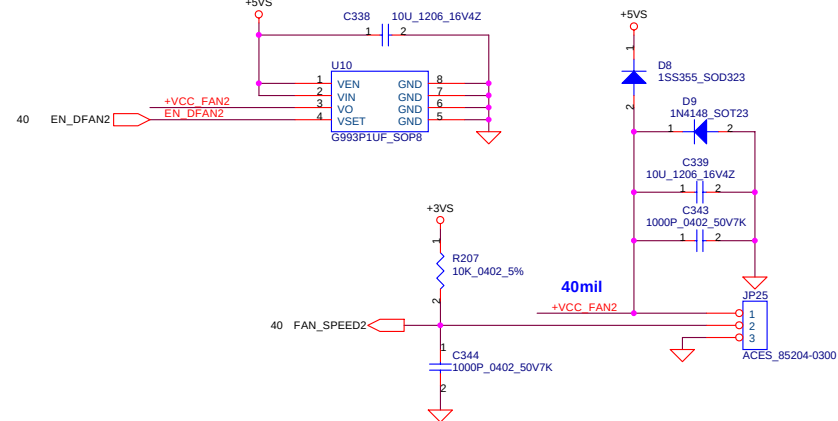


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FAN1 Conn

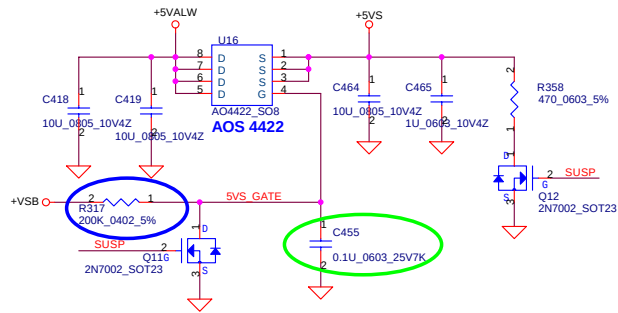


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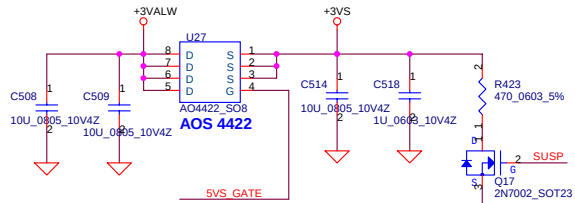


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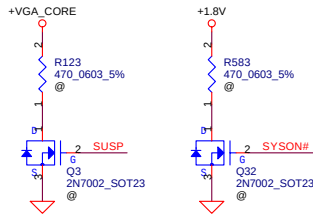
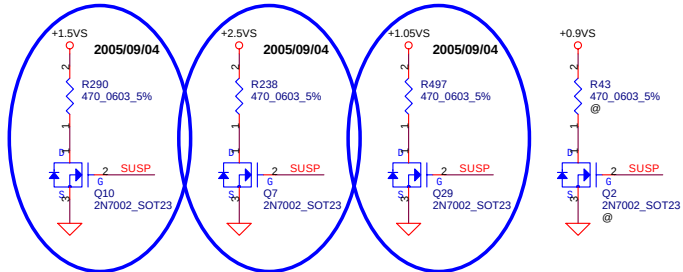
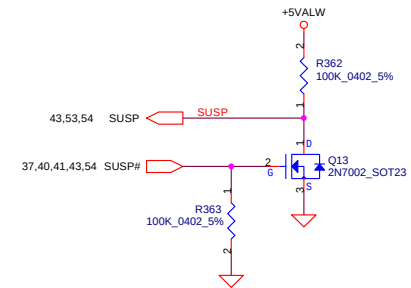
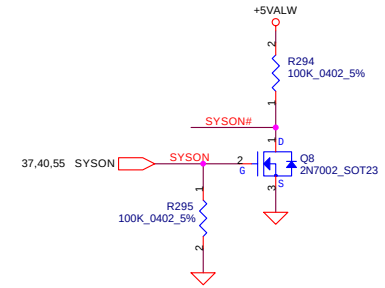
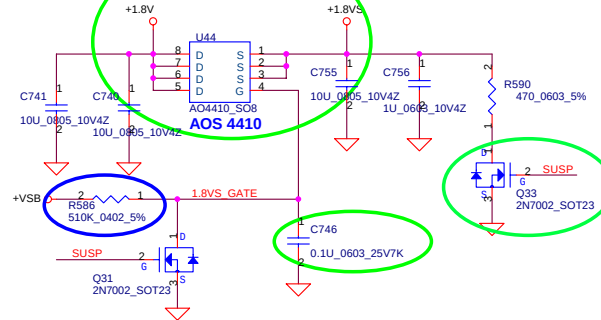
+5VALW TO +5VS



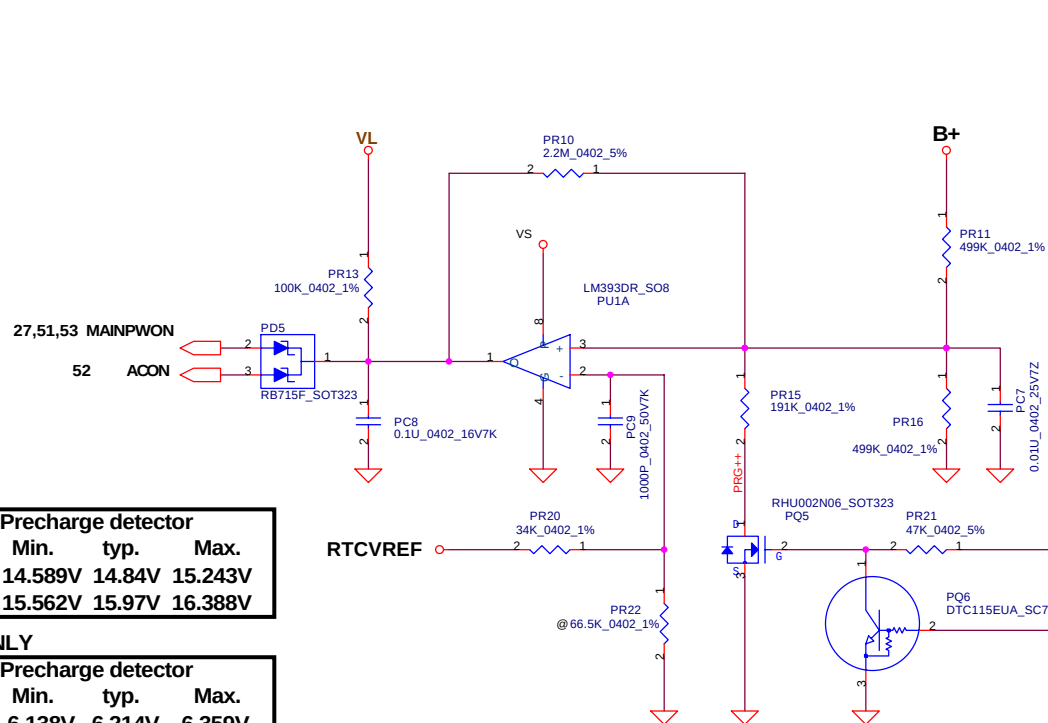
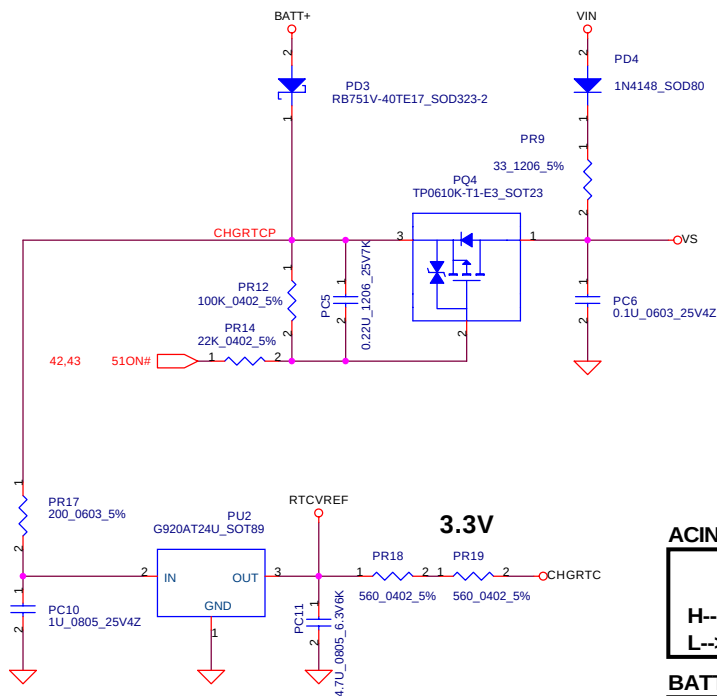
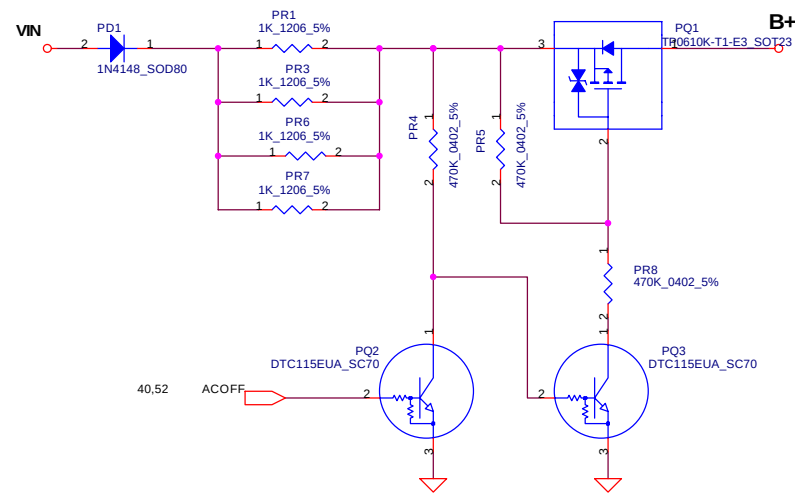
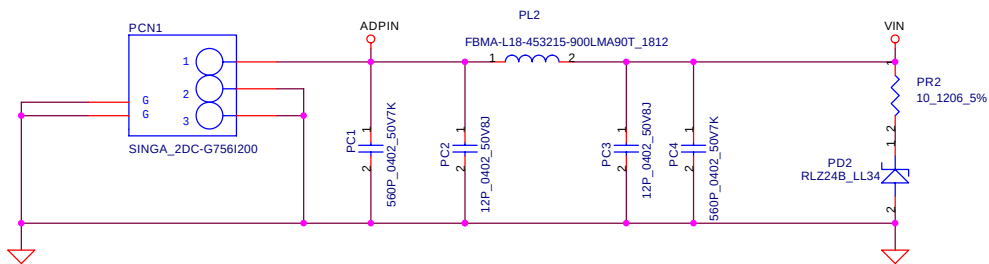
+3VALW TO +3VS



+1.8V to +1.8VS



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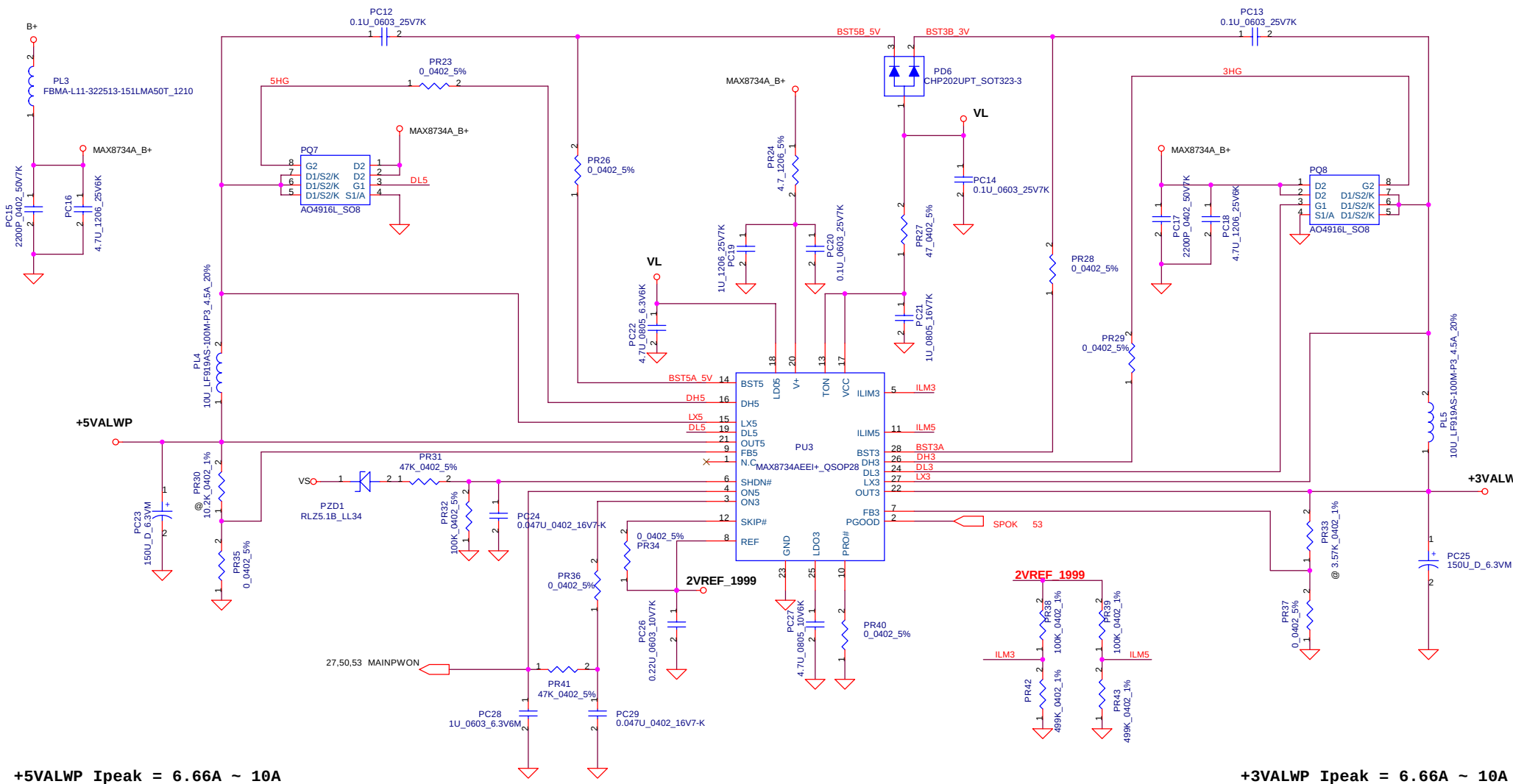
ACIN

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H-->L	14.589V	14.84V	15.243V
L-->H	15.562V	15.97V	16.388V

BATT ONLY

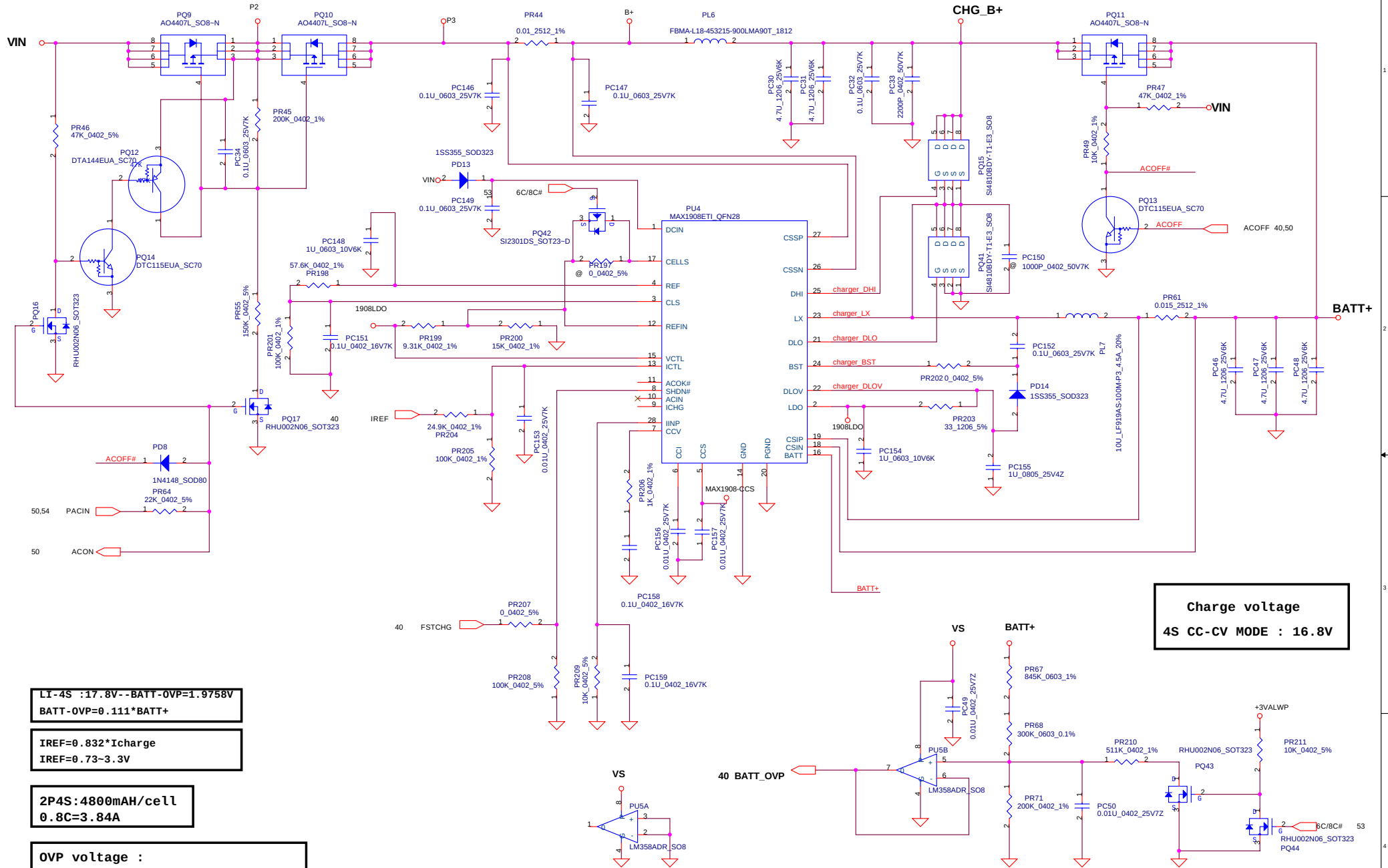
	Min.	typ.	Max.
H-->L	6.138V	6.214V	6.359V
L-->H	7.196V	7.349V	7.505V

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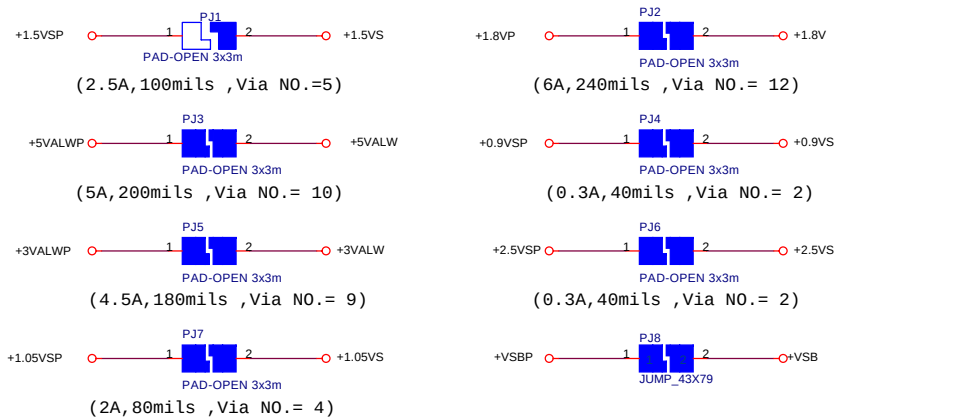
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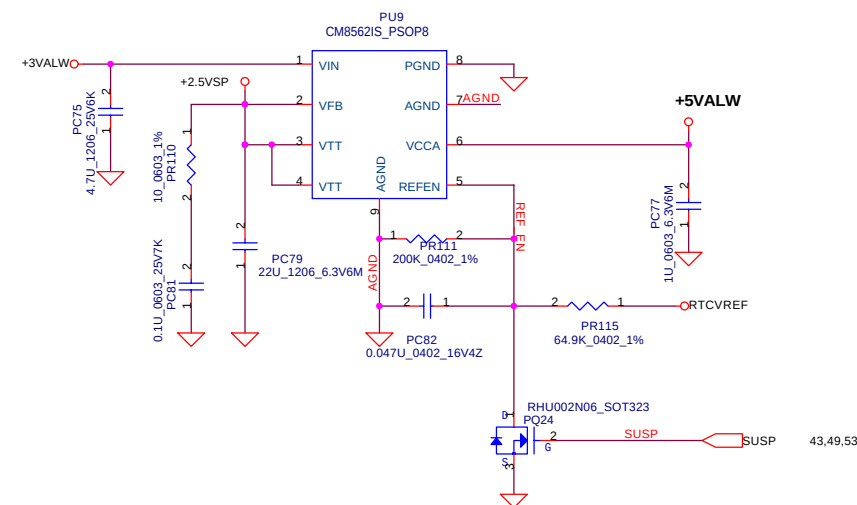
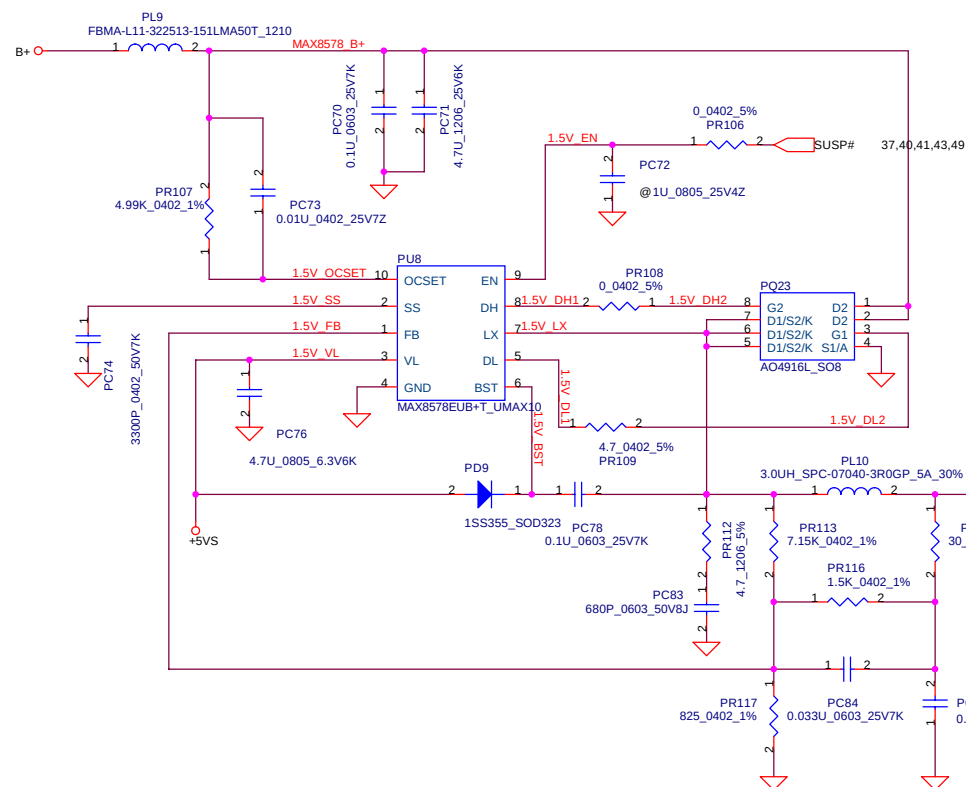
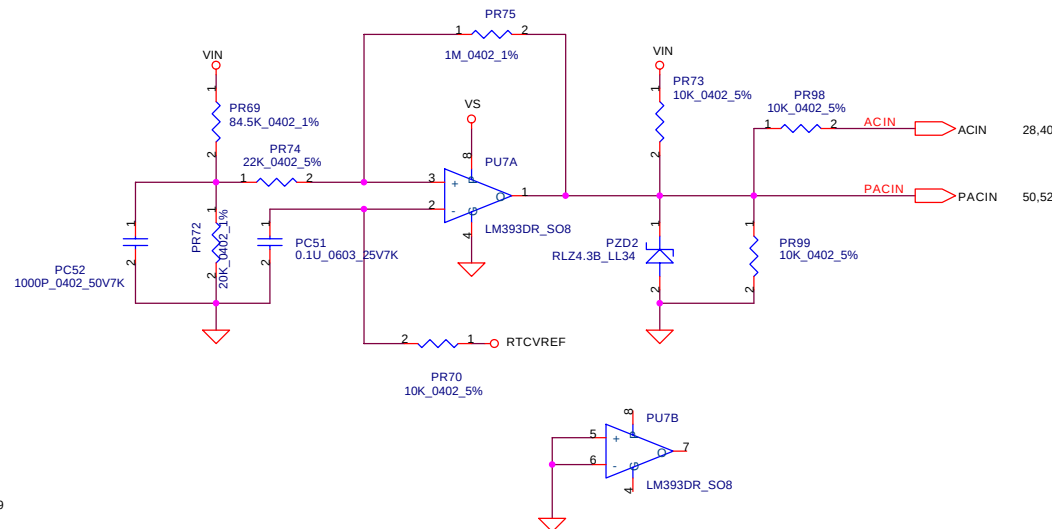


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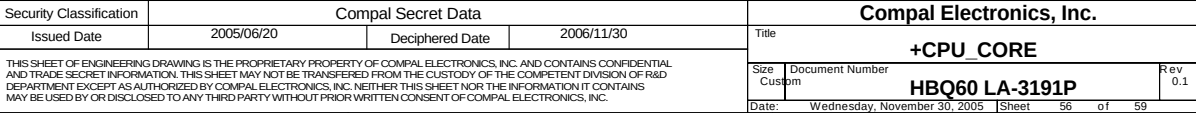
AC Adapter Detector



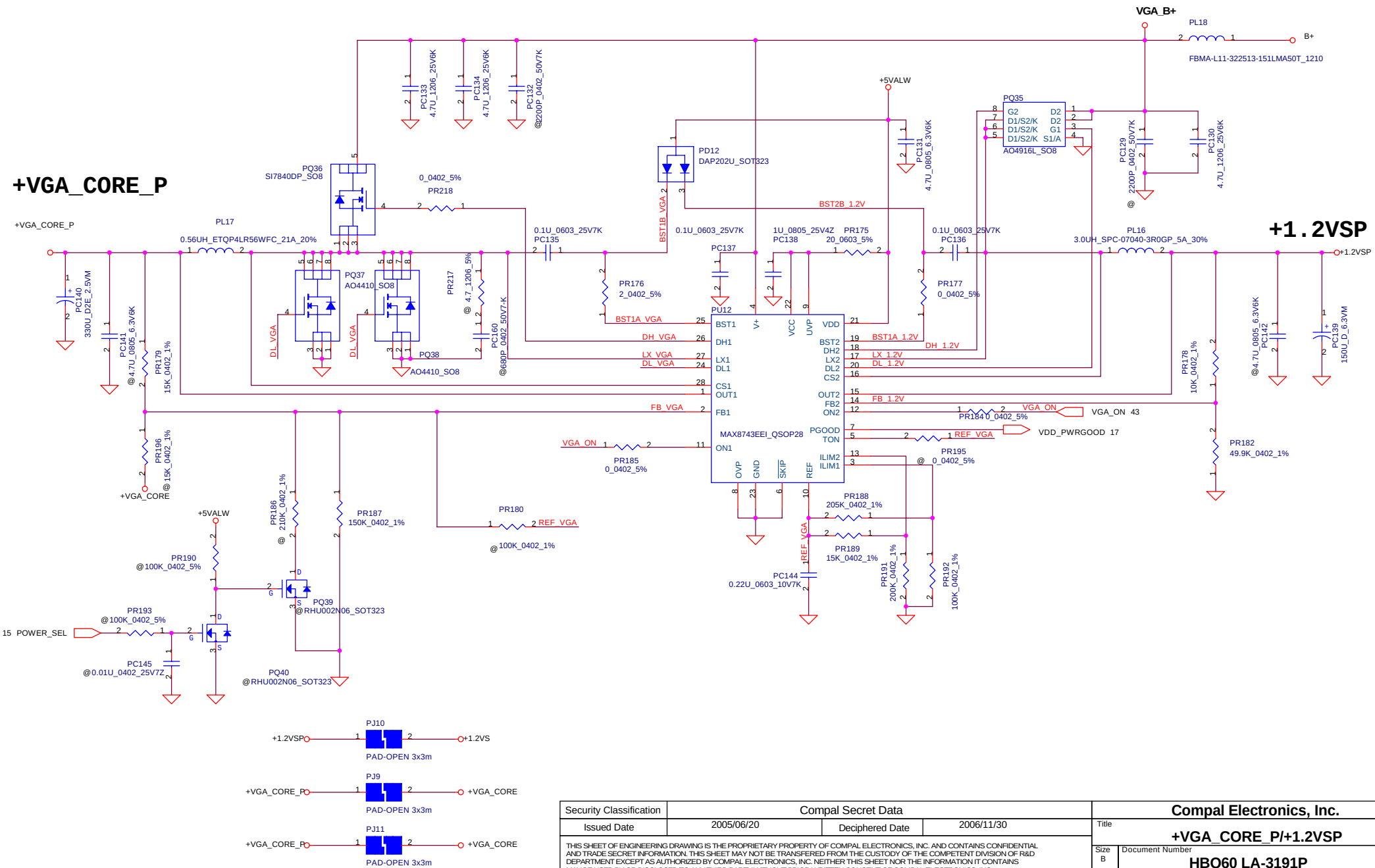
Vin Detector 17.90V/17.24V



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POWER_SEL	H	L
+VGA_CORE FOR G73.	+0.95V(VGA@+G72@)	+1.025V
+VGA_CORE FOR G72.	+1.1V(VGA@)	



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A --> B Change List

1. Page06 : No stuff R100 10K_0402_5%
2. Page09 : Add C49 & C887 220U_D2_4VM
3. Page10 : No stuff R57 2.2K_0402_5%
4. Page14 : Add R711 10K_0402_5% to set 96MHz output
Change Q14 & Q15 pin1 net name to connect to ICH7M
Change U19 ICS9LPRS325CKLFT part number to SA00000RE20
5. Page15 : Change C663, C664 from 22P_0402_50V8J to 18P_0402_50V8J.
6. Page18 : Modify VGA Device ID for G72MV & G73.
7. Page24 : Change VGA_DDC_CLK & VGA_DDC_DATA to Q26 & Q27 Level shift.
Add R781 & R782 4.7K_0402_5%
Change C589, C596, C583, C587, C594, C585 to 150P_0402_50V8J
8. Page28 : Change SB_INT_FLASH_SEL# from ICH7M GPIO38 to GPIO33.
9. Page29 : Change C437 from 0.1U_0402_16V4Z to 1U_0402_6.3V4Z
10. Page30 : Change PATA HDD+ODD select resistor form RP to R_0402 (0_0402_5%)
11. Page34 : Stuff R175 & no stuff R182(0_0402_5%) for BCM4401E/BCM5789M/BCM5787M
12. Page35 : Modify LAN_ACTIVITY# & LAN_LINK# LED color
13. Page 36 : Add JP38 & C895 for CAMERA.
Swap JP17 PCIE TX & RX Signal.
Swap JP30 PCIE TX & RX Signal.
14. Page37 : Connect JP34 SMBus interface to ICH7M
Change JP4 & JP5 USB connector to BOTTOM.
15. Page38 : Add 1394@ BOM Structure.
16. Page41 : Delete LCM interface Extension I/O.
No stuff R390 & Stuff R418 for Flash ROM interface.
17. Page42 : Change JP11 from 34 pin to 24 pin.
Change SW8 & SW9.
Add JP37.
18. Page43 : Change U28 Part Number.
Change SW1 Part Number.
Change R425 from 10K_0402_5% to 62K_0402_1%
Change R422 from 10K_0402_5% to 62K_0402_1% & add C513 0.1U_0402_16V4Z
19. Page44 : Add C554 for MIC_R
Add R440, R695 (0_0603_5%) & J4, J5 for EMI request.
20. Page45 : Add Echo Cancellation function.
21. Page46 : Correct Headphone L & R signal.
Reserved C879 for EMI request
Modify MIC Jack circuit. add R741, R775, R776, L54, C876
Change JP44 from 14 pin to 16 pin
22. Page48 : H27 connect to GNDA.
23. Page49 : Add R290, R238, R497, Q10, Q7, Q29
Change R317 to 200K_0402_5%
Change R586 to 510K_0402_5%

B --> C Change List

1. Page05 : No stuff C608, C614
2. Page12 : Change JP22 Footprint
3. Page14 : Change R620 from 2K_0402_5% to 10K_0402_5% & add Q38
4. Page15 : Delete DVI pull high resistor
5. Page17 : AddC96 330U for +VGA_CORE
6. Page18 : Modify PEX_CFG[0..2] setting from 02 to 01.
7. Page30 : Delete R395 & C486, add R394 for SATA bridge reset timing
Modify SATA HDD connector library
8. Page31 : Delete IDE_CD_L, IDE_CD_R & CD_GNDA
9. Page34 : Add R783, R784, R785 for BCM5787M, stuff R214 when use BCM4401E,
Del R168, change Q5 P/N
10. Page36 : Add +3VS, GND at JP30 for 3G device
11. Page38 : No stuff U14, R253, R246 & stuff R261
12. Page40 : Reserved R793 for ALC883 pin47 EAPD, & define KB910 Pin174 as EC_PWROK
13. Page41 : No stuff U21, U30, C490, R391, R390, R388 & stuff R418
14. Page42 : Modify SW9 Pin1, Pin5 as NC, no stuff C7
15. Page43 : Modify Power OK circuit. add R790 for EC_PWROK, reserved Q41, R420, C512
add D35, D37, Change BATT1 P/N to SP093PA0200
16. Page44 : Delete ALC883 CD input circuit, add HD_EAPD# signal
17. Page46 : Add C927, C928, reserved R791, R792
18. Page49 : Stuff Q33

Rev0.3 --> Rev0.4 Change List

1. Page15 : Add R809
2. Page23 : Reserved C934, C935, C936 for EMI
3. Page26 : Add U51, R811, Reserved R330
4. Page44 : Add R810 for EMI.

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D				D																														
C				C																														
B				B																														
A				A																														
<table><tr><td colspan="2">Security Classification</td><td colspan="2">Compal Secret Data</td><td colspan="2">Compal Electronics, Inc.</td></tr><tr><td colspan="2">Issued Date</td><td>2005/06/20</td><td colspan="2">Deciphered Date</td><td>2006/11/30</td></tr><tr><td colspan="4">THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.</td><td colspan="2">Title PWR PIR</td></tr><tr><td>Size B</td><td colspan="3">Document Number HBQ60 LA-3191P</td><td colspan="2">Rev 0.1</td></tr><tr><td colspan="2">Date:</td><td colspan="2">Wednesday, November 30, 2005</td><td>Sheet</td><td>59 of 59</td></tr></table>					Security Classification		Compal Secret Data		Compal Electronics, Inc.		Issued Date		2005/06/20	Deciphered Date		2006/11/30	THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Title PWR PIR		Size B	Document Number HBQ60 LA-3191P			Rev 0.1		Date:		Wednesday, November 30, 2005		Sheet	59 of 59
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