

Compal confidential

Schematics Document

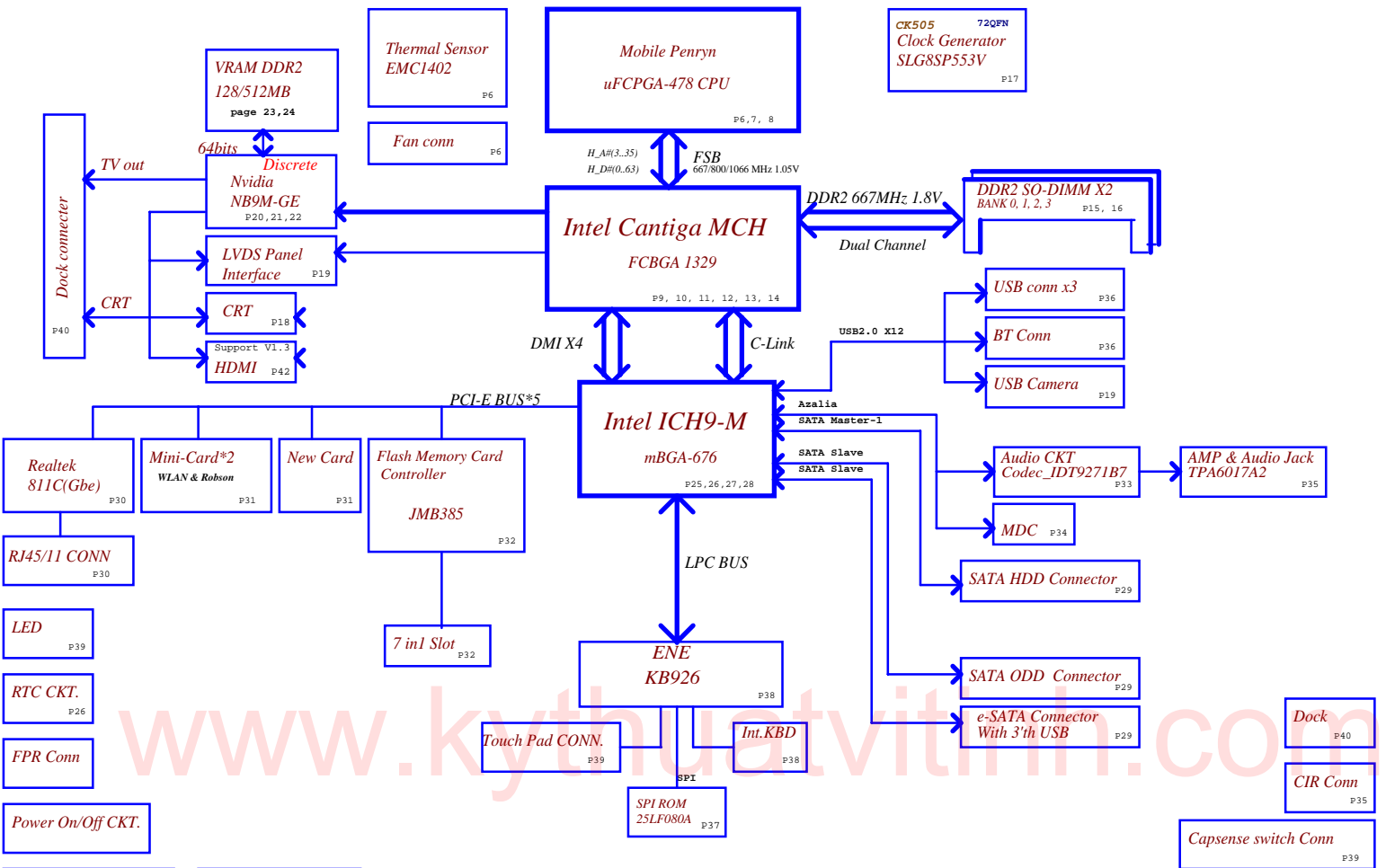
Mobile Penryn uFCPGA with Intel
Cantiga_PM+ICH9-M core logic

2008-02-25

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Issued Date	2008/02/25	Deciphered Date	2008/02/25	Cover Sheet
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Size	Document Number	Date	Manday, February 25, 2008	Sheet 1 of 53
Custom	LA-4102P Blade discrete			

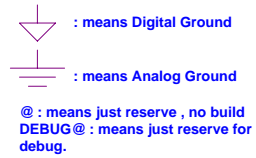


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Issued Date	2008/02/25	Deciphered Date	2008/02/25	Block Diagram	
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Voltage Rails O MEANS ON X MEANS OFF

power plane / State	+B	+5VALW +3VALW	+1.8V	+5VS +3VS +1.5VS +0.9V +VCCP +CPU_CORE +2.5VS +1.8VS +NVVDD +PCIE
S0	O	O	O	O
S1	O	O	O	O
S3	O	O	O	X
S5 S4/AC	O	O	X	X
S5 S4/ Battery only	O	X	X	X
S5 S4/AC & Battery don't exist	X	X	X	X

Symbol Note :



USB assignment:

- USB-0 Right side
- USB-1 Right side
- USB-2 Left side(with ESATA)
- USB-3 Dock
- USB-4 Camera
- USB-5 WLAN
- USB-6 Bluetooth
- USB-7 Finger Printer
- USB-8 MiniCard(WWAN/TV)
- USB-9 Express card
- USB-10 X
- USB-11 X

PCle assignment:

- PCle-1 TV tuner/WWAN/Robeson
- PCle-2 X
- PCle-3 WLAN
- PCle-4 GLAN (Marvell)
- PCle-5 Card reader
- PCle-6 New Card

SMBUS Control Table

	SOURCE	INVERTER	BATT	SERIAL EEPROM	Thermal Sensor	SODIMM	CLK CHIF	MINI CARD	Sensor board	NB9M Thermal Sensor	NB9M	G-sensor
SMB_EC_CK1 SMB_EC_DA1	KB926	X	V	V	X	X	X	X	V	X	X	X
SMB_EC_CK2 SMB_EC_DA2	KB926	X	X	X	V	X	X	X	X	V	V	X
ICH_SMBCLK ICH_SMBDATA	ICH9	X	X	X	X	V	V	V	X	X	X	V

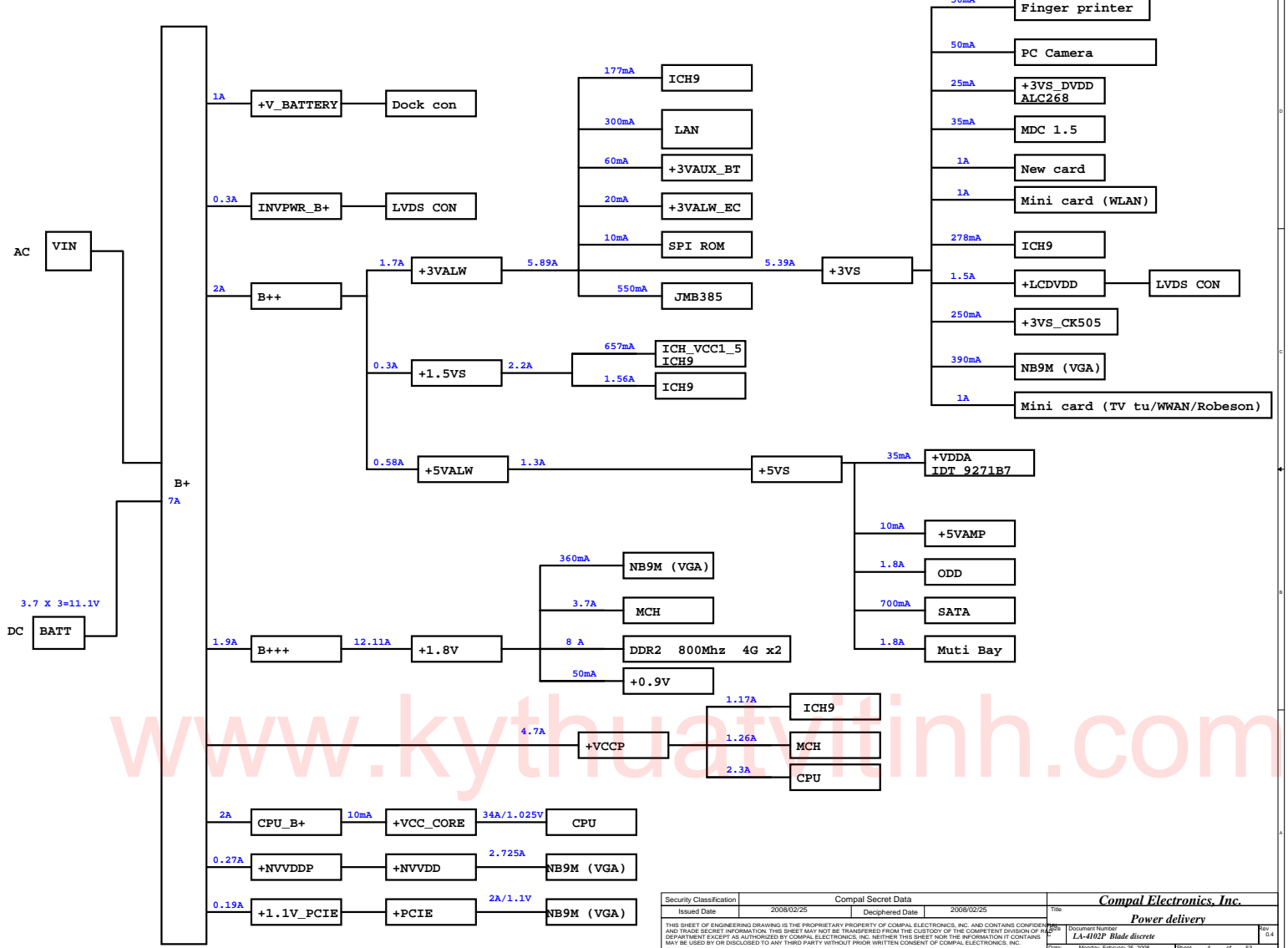
NB9M SMBUS Control Table

	SOURCE	LVDS	CRT	HDMI
DDC2_DATA DDC2_CLK	NB9M	V	X	X
3VDDCDA 3VDDCCL	NB9M	X	V	X
HDMIDAT_VGA HDMICLK_VGA	NB9M	X	X	V

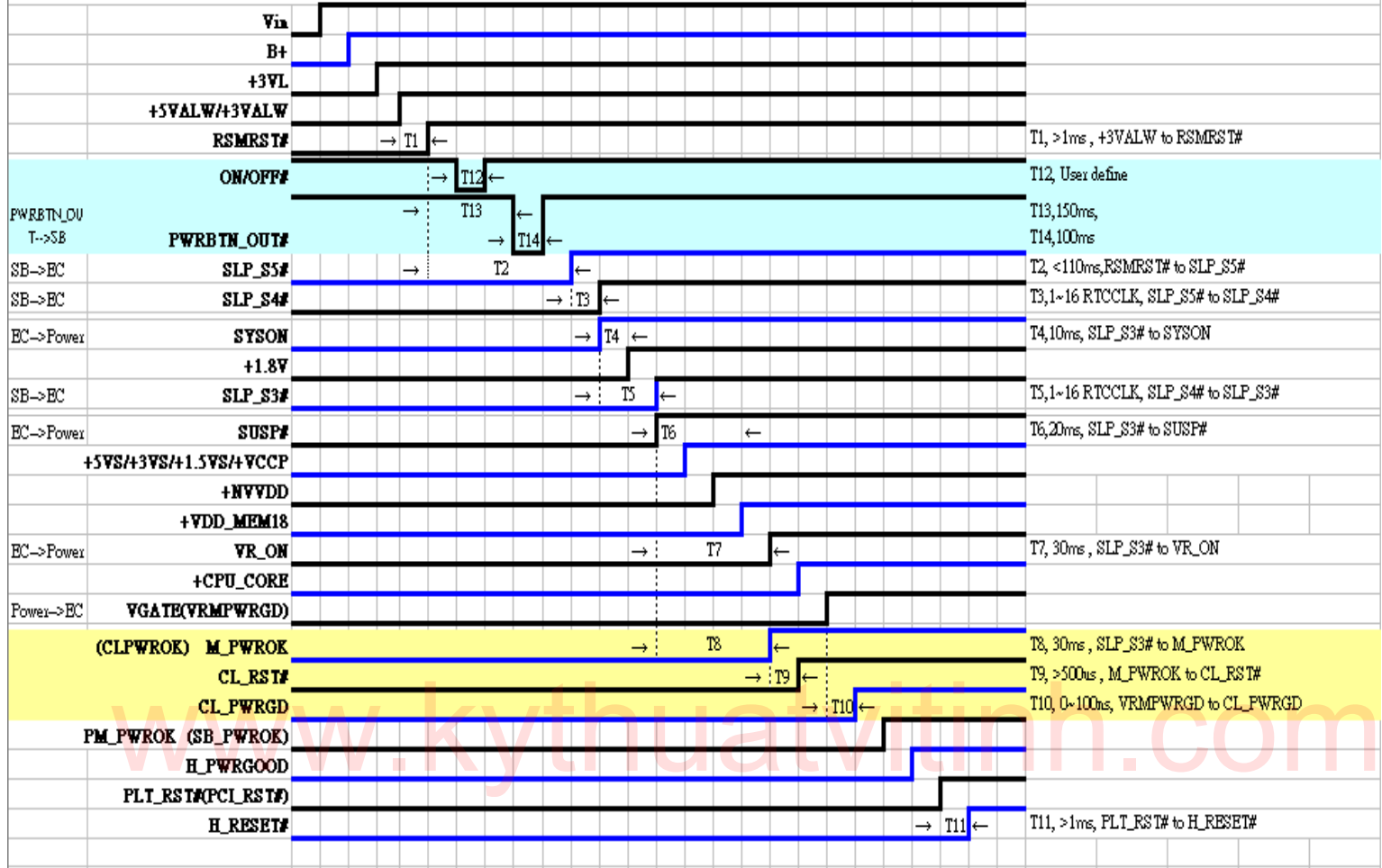
I2C / SMBUS ADDRESSING

DEVICE	HEX	ADDRESS
DDR SO-DIMM 0	A0	1 0 1 0 0 0 0 0
DDR SO-DIMM 1	A4	1 0 1 0 0 1 0 0
CLOCK GENERATOR (EXT.)	D2	1 1 0 1 0 0 1 0

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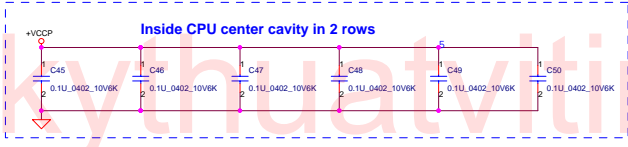
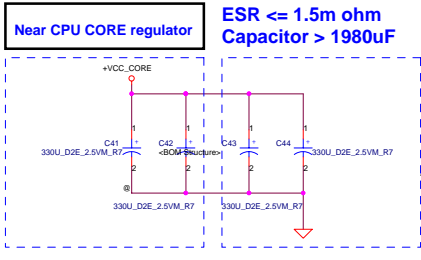
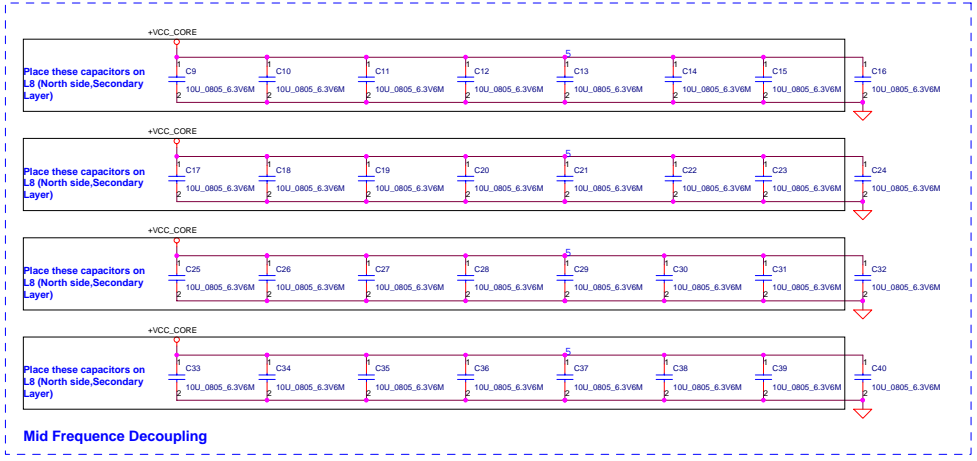


JAL50 Discrete power sequence AC mode

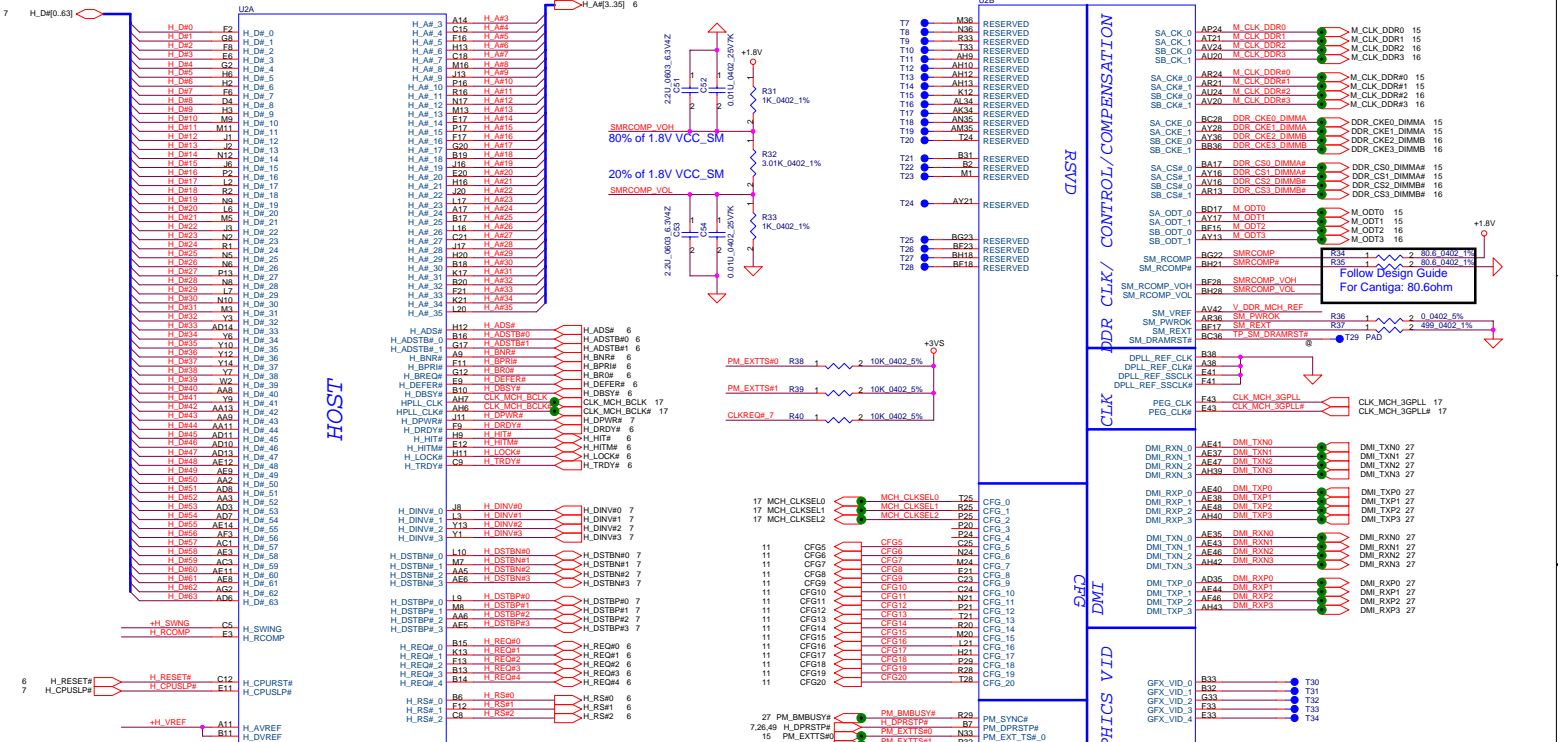


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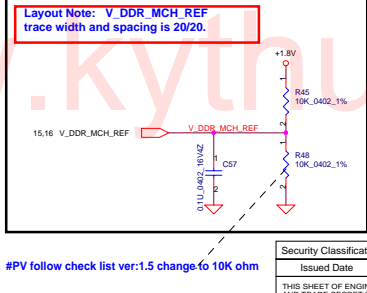
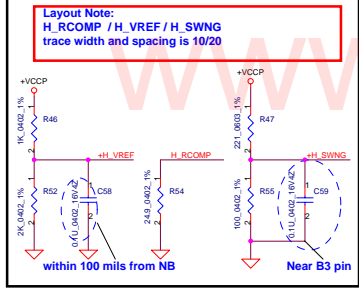
ICPUID		
A4	VSS001	VSS082
A4	VSS002	VSS083
A10	VSS003	VSS084
A14	VSS004	VSS085
A18	VSS005	VSS086
A22	VSS006	VSS087
A26	VSS007	VSS088
B6	VSS008	VSS089
B6	VSS009	VSS090
B11	VSS010	VSS091
B11	VSS011	VSS092
B16	VSS012	VSS093
B16	VSS013	VSS094
B21	VSS014	VSS095
B24	VSS015	VSS096
C6	VSS016	VSS097
C6	VSS017	VSS098
C11	VSS018	VSS099
C11	VSS019	VSS100
C14	VSS020	VSS101
C18	VSS021	VSS102
C18	VSS022	VSS103
C22	VSS023	VSS104
C22	VSS024	VSS105
D6	VSS025	VSS106
D11	VSS026	VSS107
D4	VSS027	VSS108
D8	VSS028	VSS109
D11	VSS029	VSS110
D18	VSS030	VSS111
D18	VSS031	VSS112
D23	VSS032	VSS113
D23	VSS033	VSS114
D26	VSS034	VSS115
E6	VSS035	VSS116
E6	VSS036	VSS117
E11	VSS037	VSS118
E14	VSS038	VSS119
E16	VSS039	VSS120
E16	VSS040	VSS121
E21	VSS041	VSS122
E24	VSS042	VSS123
E24	VSS043	VSS124
F6	VSS044	VSS125
F8	VSS045	VSS126
F11	VSS046	VSS127
F16	VSS047	VSS128
F18	VSS048	VSS129
F19	VSS049	VSS130
F2	VSS050	VSS131
F22	VSS051	VSS132
F25	VSS052	VSS133
G1	VSS053	VSS134
G23	VSS054	VSS135
G26	VSS055	VSS136
H3	VSS056	VSS137
H6	VSS057	VSS138
H21	VSS058	VSS139
H24	VSS059	VSS140
J6	VSS060	VSS141
J2	VSS061	VSS142
J22	VSS062	VSS143
J26	VSS063	VSS144
K1	VSS064	VSS145
K23	VSS065	VSS146
K4	VSS066	VSS147
K26	VSS067	VSS148
L3	VSS068	VSS149
L6	VSS069	VSS150
L21	VSS070	VSS151
L24	VSS071	VSS152
M2	VSS072	VSS153
M2	VSS073	VSS154
M2	VSS074	VSS155
M22	VSS075	VSS156
M26	VSS076	VSS157
N1	VSS077	VSS158
N4	VSS078	VSS159
N23	VSS079	VSS160
N26	VSS080	VSS161
P6	VSS081	VSS162
		VSS163



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				Penryn(3/3)-AGTL+/ITP-XDP	
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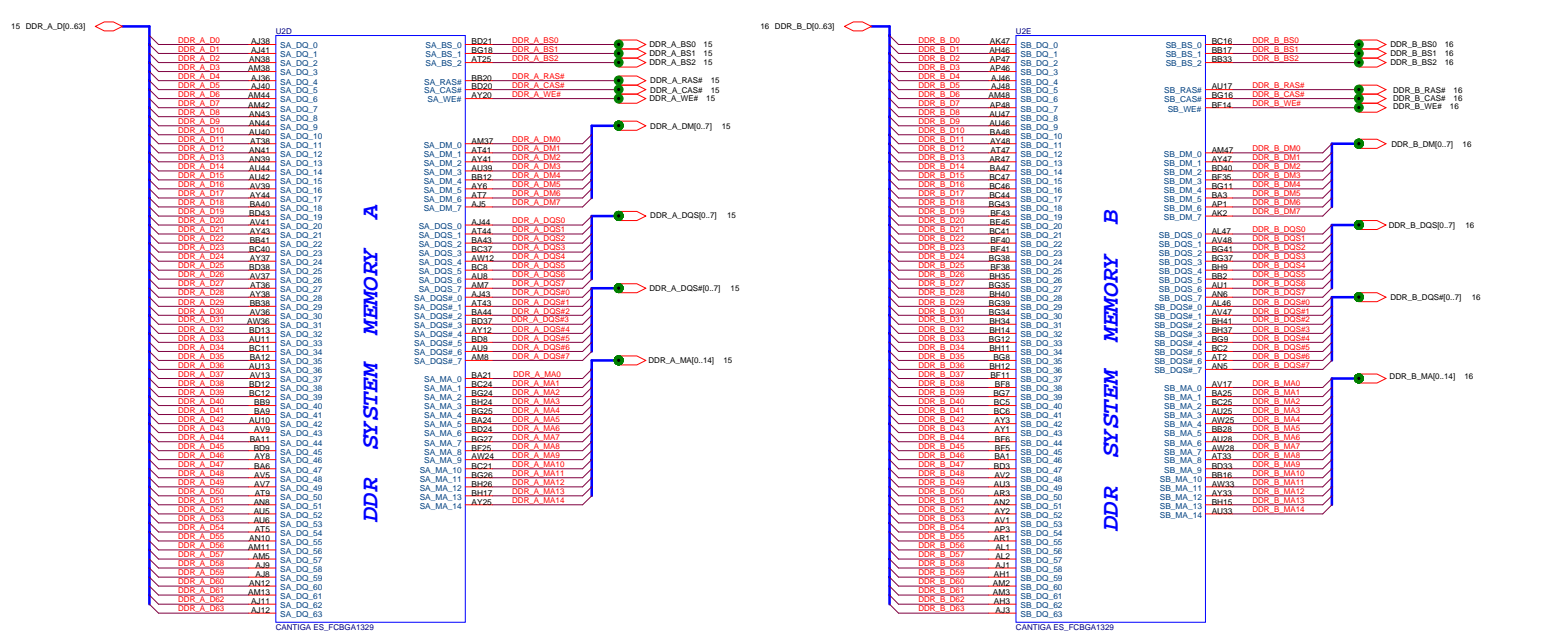


Layout note:
Route H_SCOMP and H_SCOMP# with trace width, spacing and impedance (55 ohm) same as FSB data traces



#PV follow check list ver:1.5 change to 10K ohm

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Issued Date	2008/02/25	Deciphered Date	2008/02/25	Cantiga(1/6)-AGTL/DMI/DDR	
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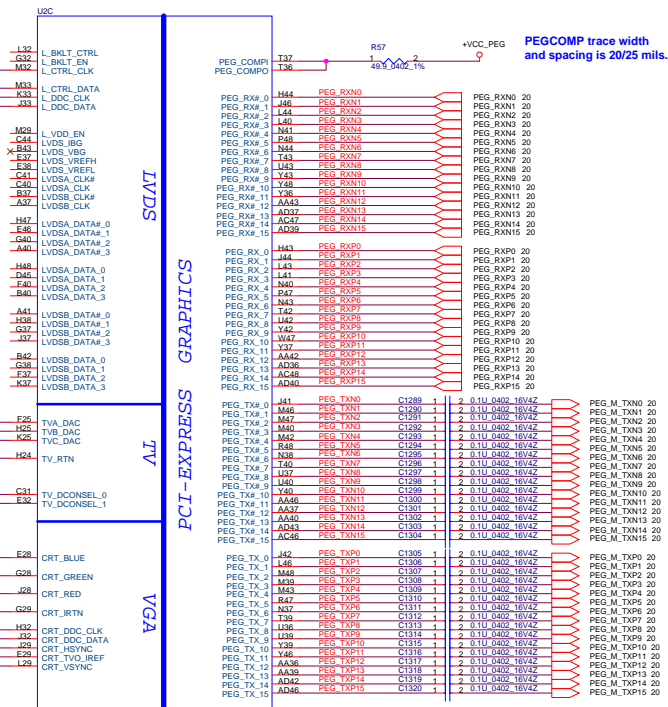


CANTIGA ES_FCBGA1329

CANTIGA ES_FCBGA1329

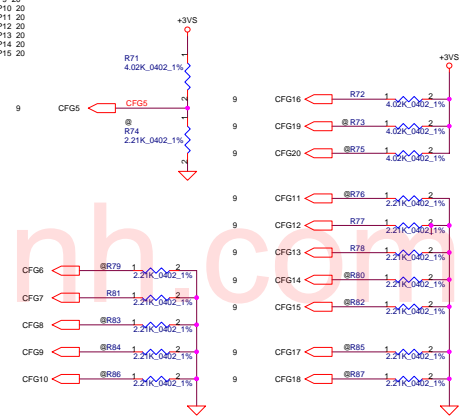
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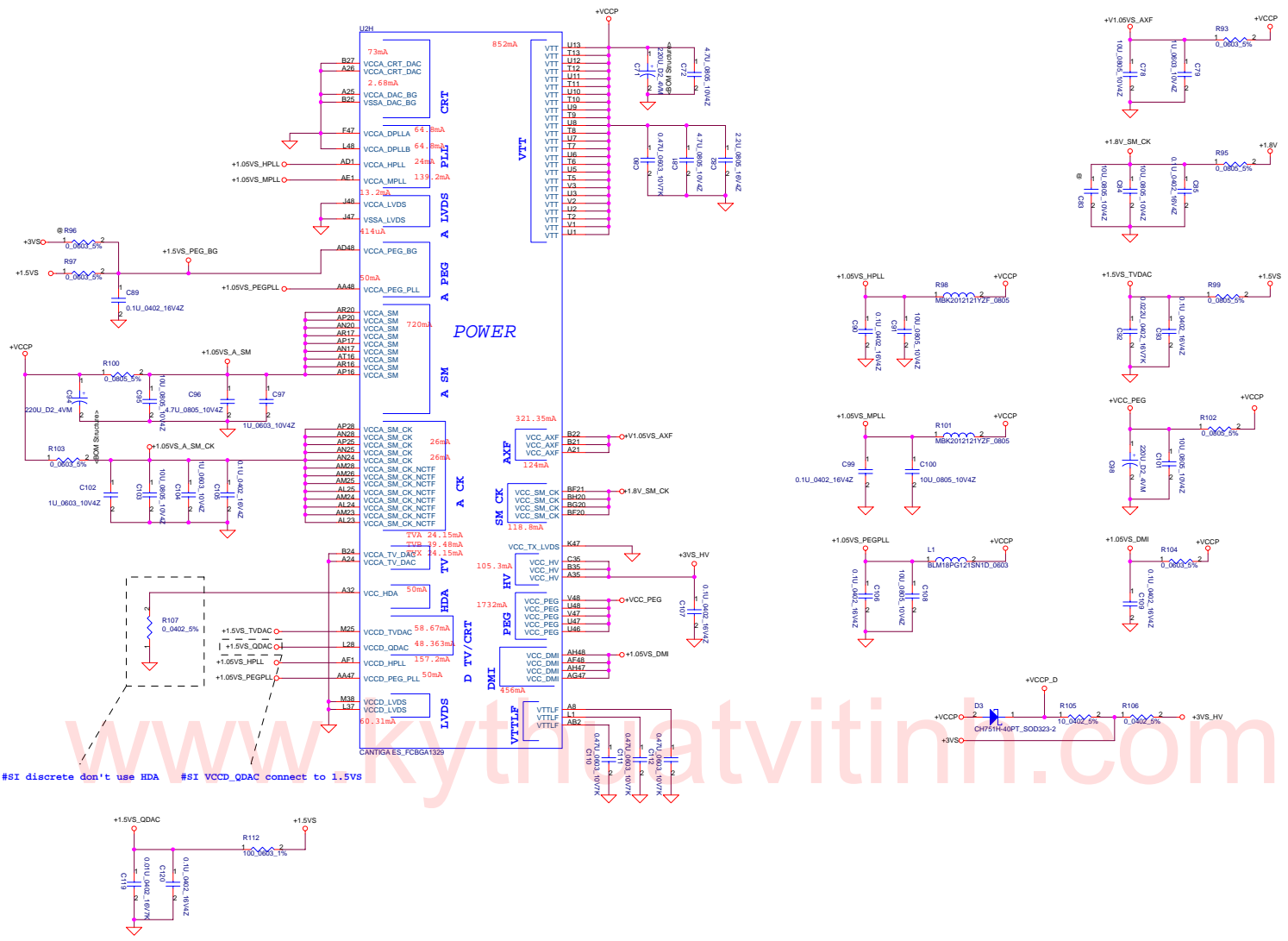
Strap Pin Table

CFG[2:0] FSB Freq select	000 = FSB 1066MHz 010 = FSB 800MHz 011 = FSB 667MHz Others = Reserved
CFG[4:3]	Reserved
CFG5 (DMI select)	0 = DMI x 2 1 = DMI x 4 *
CFG6	0 = The ITPM Host Interface is enable 1 = The ITPM Host Interface is disable *
CFG7 (Intel Management Engine Crypto strap)	0 = (TLS)chiper suite with no confidentiality 1 = (TLS)chiper suite with confidentiality *
CFG8	Reserved
CFG9 (PCIe Graphics Lane Reversal)	0 = Reverse Lane,15->0, 14->1 1 = Normal Operation,Lane Number in order *
CFG10 (PCIe Lookback enable)	0 = Enable 1 = Disable *
CFG11	Reserved
CFG[13:12] (XOR/ALLZ)	00 = Reserved 01 = XOR Mode Enabled 10 = All Z Mode Enabled 11 = Normal Operation (Default) *
CFG[15:14]	Reserved
CFG16 (FSB Dynamic ODT)	0 = Disabled 1 = Enabled *
CFG[18:17]	Reserved
CFG19 (DMI Lane Reversal)	0 = Normal Operation (Lane number in Order) * 1 = Reverse Lane
CFG20 (PCIe/SDVO concurrent)	0 = Only PCIe or SDVO is operational. * 1 = PCIe/SDVO are operating simu.



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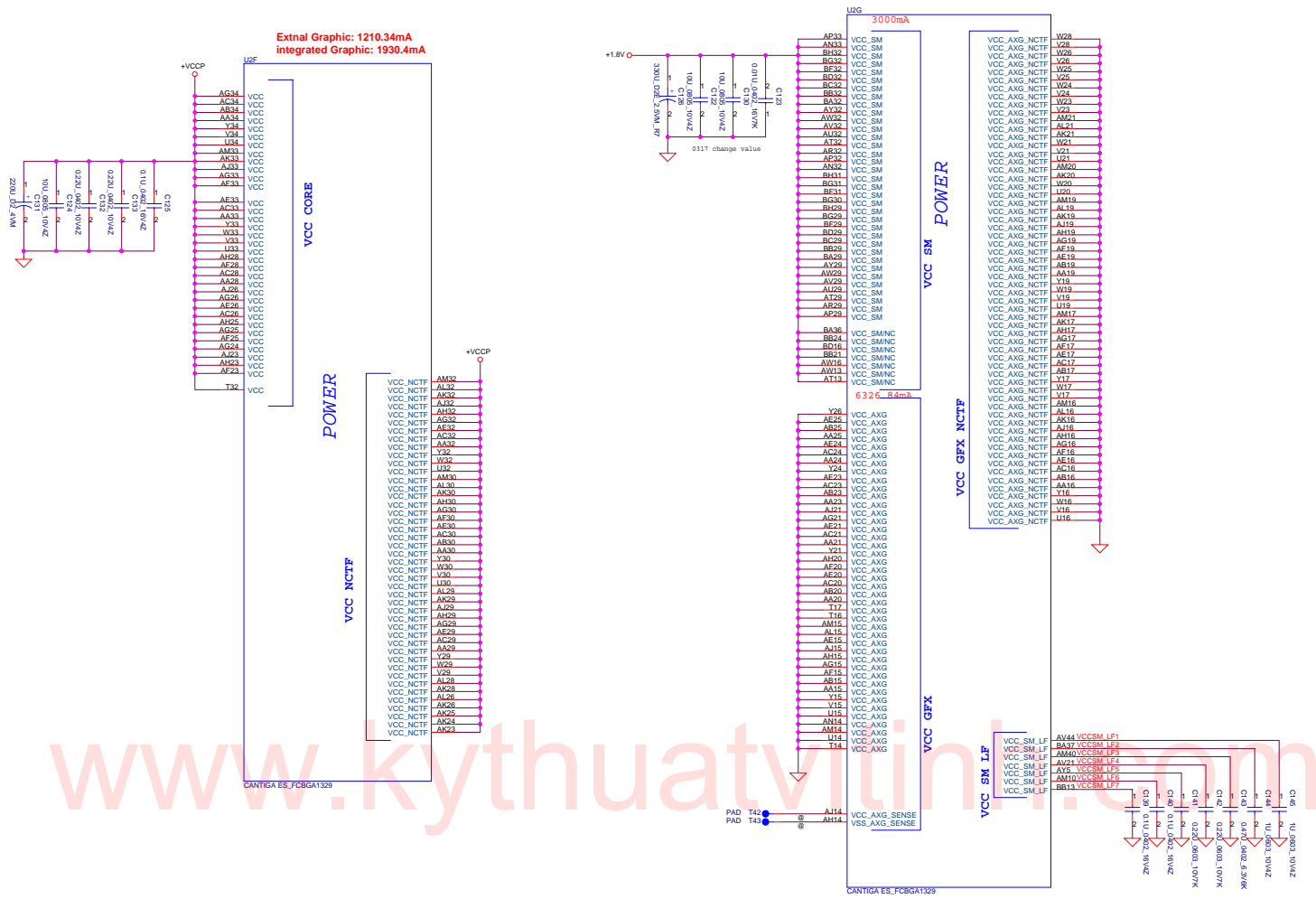
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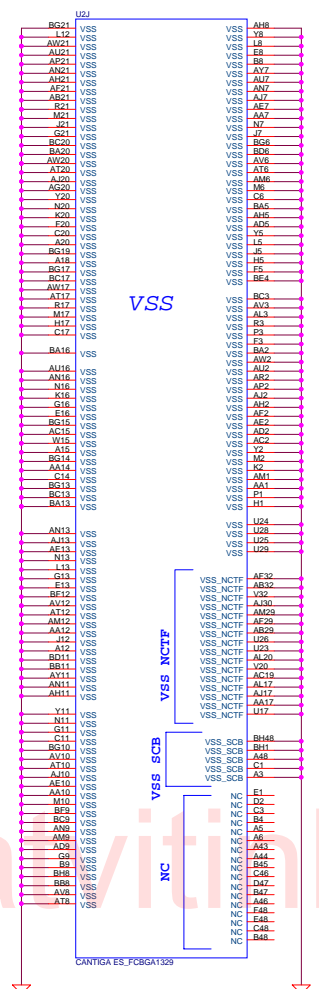
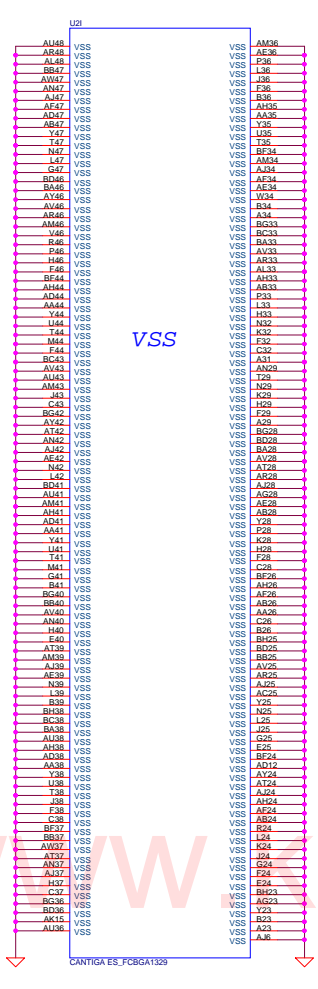
#SI discrete don't use HDA #SI VCCD_QDAC connect to 1.5VS

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Extrenal Graphic: 1210.34mA
Integrated Graphic: 1930.4mA

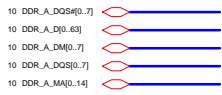


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Size	Document Number	Rev	0.4	Date	Monday, February 25, 2008
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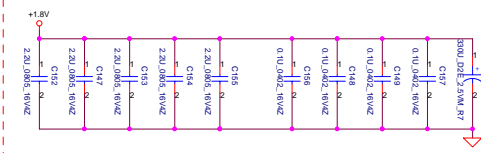


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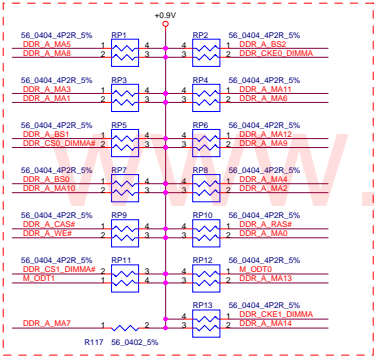
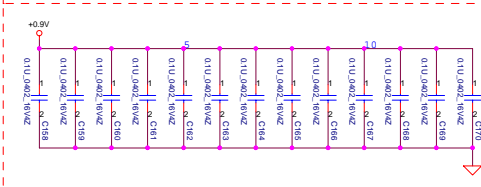
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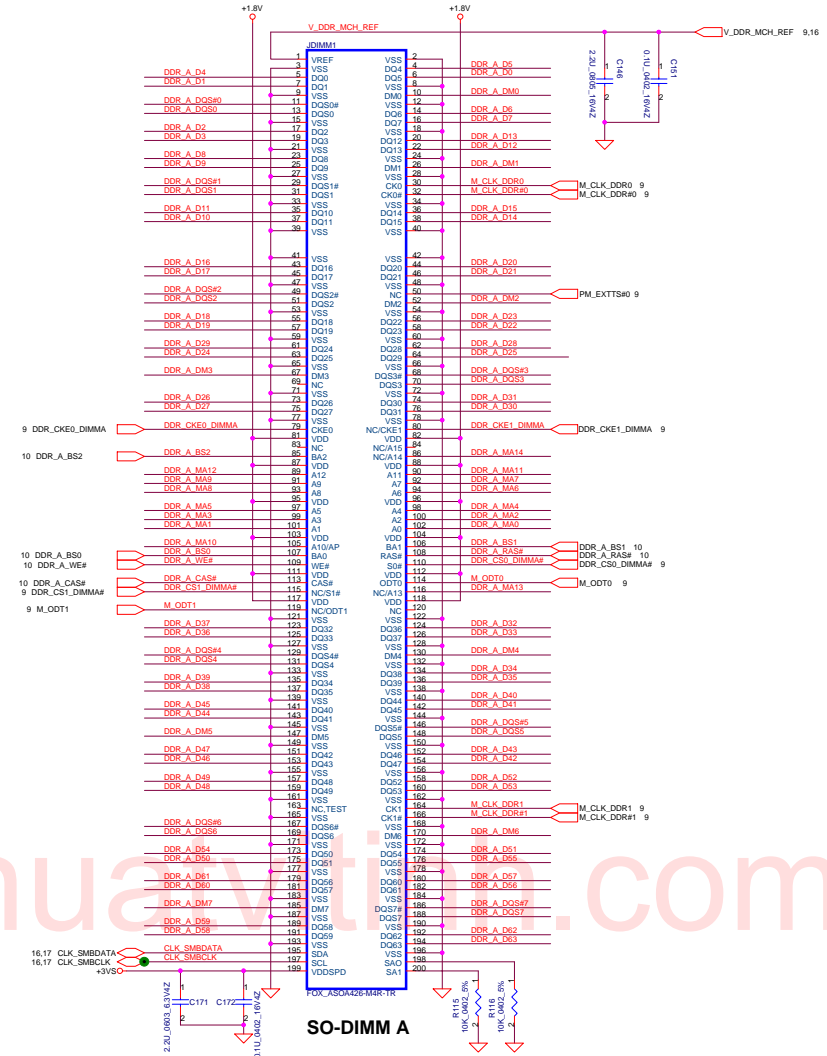
Layout Note:
Place near JP2



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



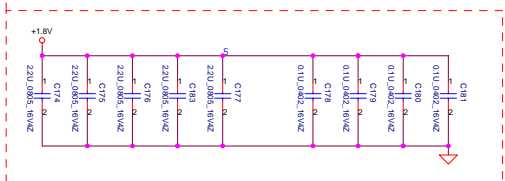
Layout Note:
Place these resistor closely JP3, all trace length Max=1.5"



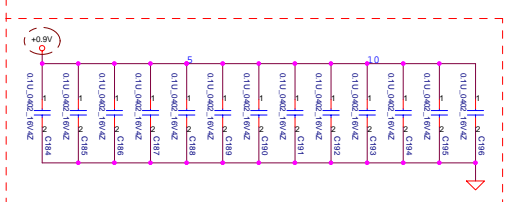
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				DDR1-SODIMM SLOT1	
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- 10 DDR_B_D0S[0..7]
- 10 DDR_B_D0[.63]
- 10 DDR_B_DM[0..7]
- 10 DDR_B_D0S[0..7]
- 10 DDR_B_MA[0..14]

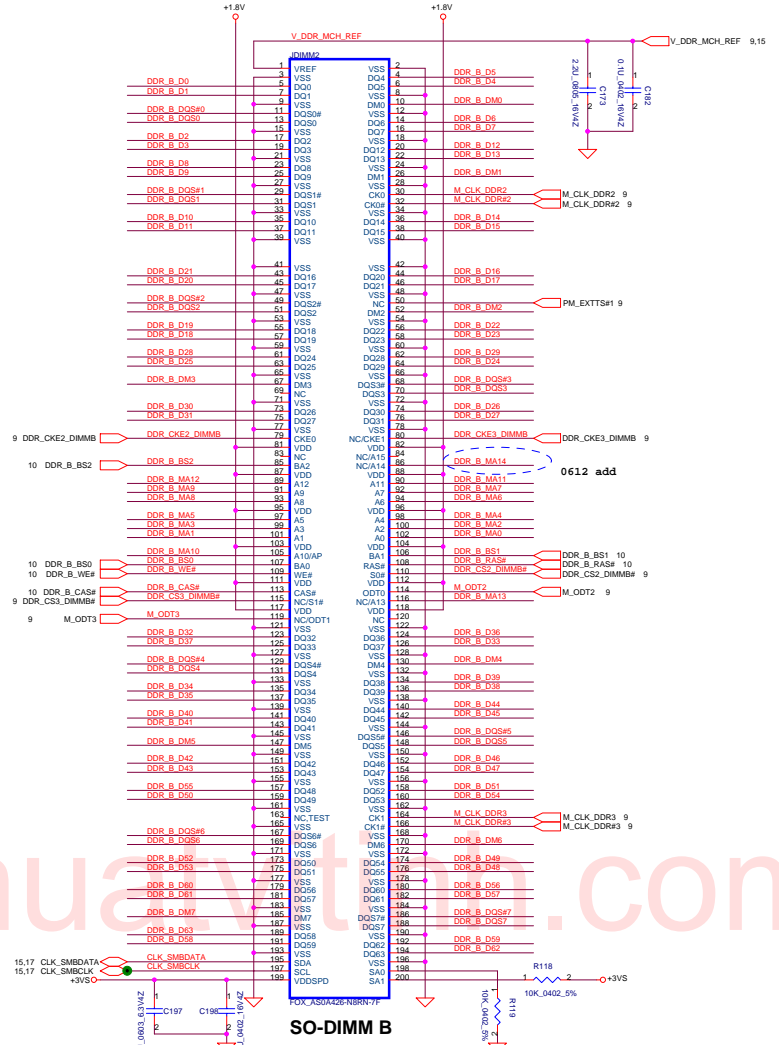
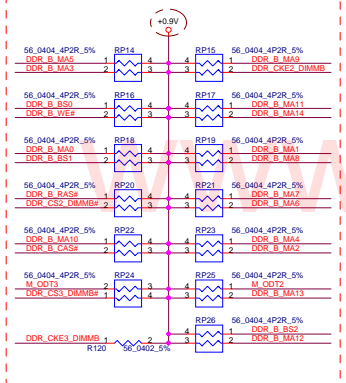
Layout Note:
Place near JP10



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

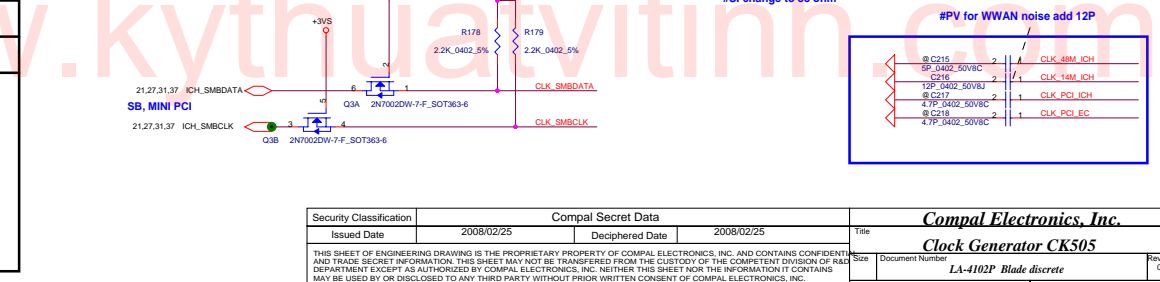
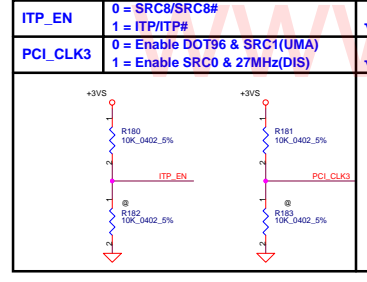
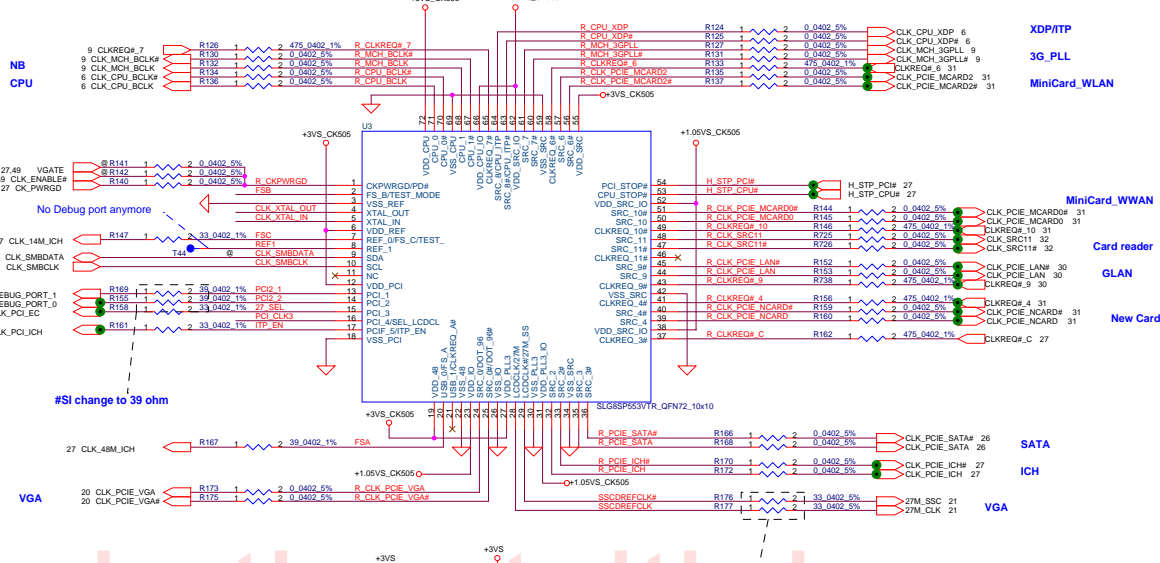
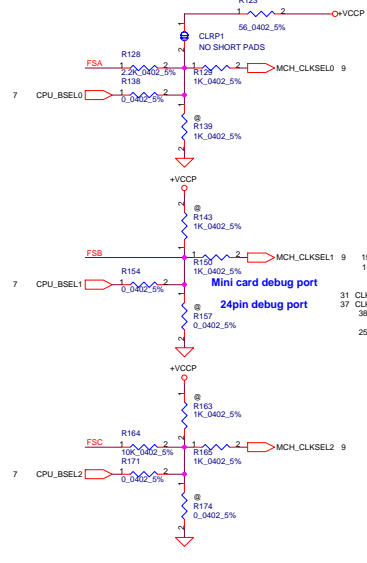
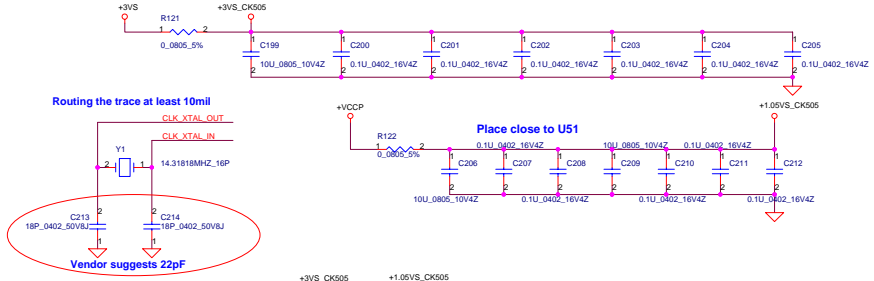


Layout Note:
Place these resistor closely JP3, all trace length Max=1.5"

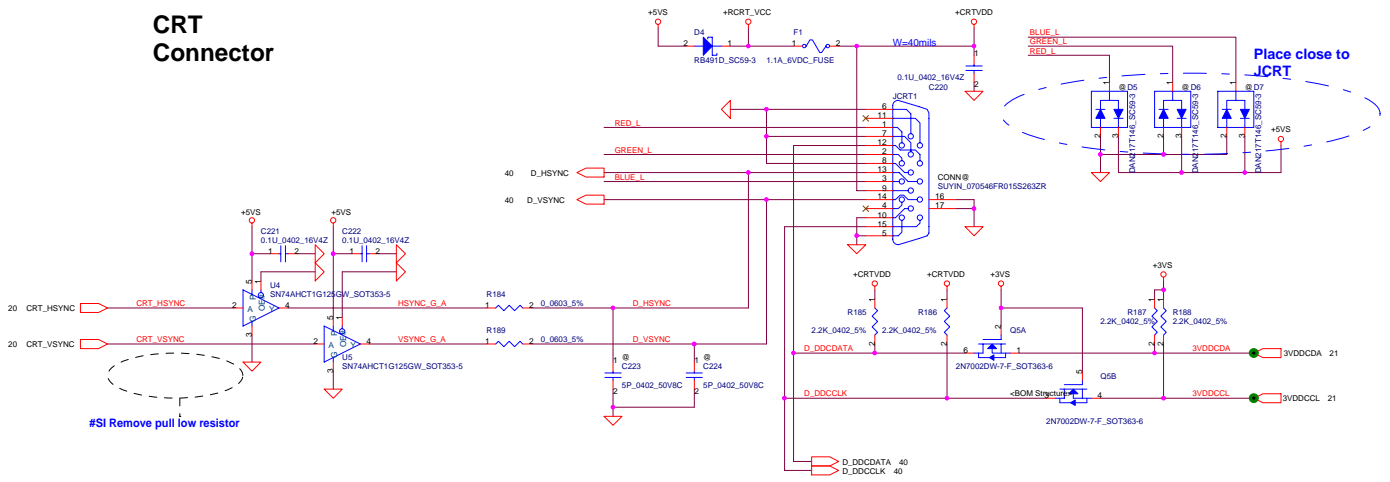


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Size	Document Number			LA-4102P Blade discrete	Rev	0.4	
Date	Monday, February 25, 2008			Sheet	16 of 53		

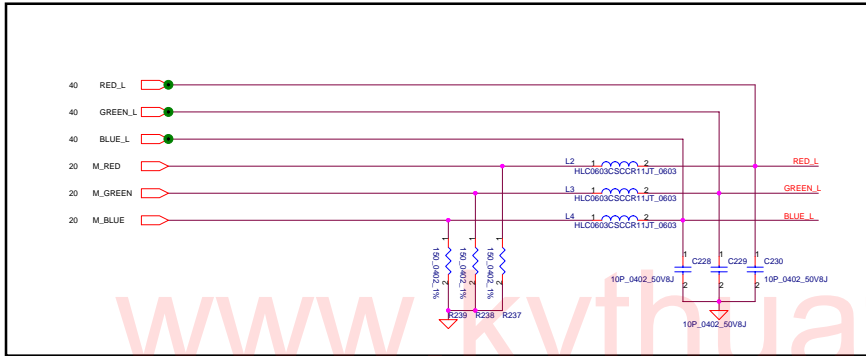
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CLKSEL2	CLKSEL	CLKSEL0	MHz	MHz	MHz	MHz	MHz	MHz
0	0	0	266	100	33.3	14.318	96.0	48.0
0	0	1	133	100	33.3	14.318	96.0	48.0
0	1	0	200	100	33.3	14.318	96.0	48.0
0	1	1	166	100	33.3	14.318	96.0	48.0
1	0	0	333	100	33.3	14.318	96.0	48.0
1	0	1	100	100	33.3	14.318	96.0	48.0
1	1	0	400	100	33.3	14.318	96.0	48.0
1	1	1						
Reserved								



CRT Connector



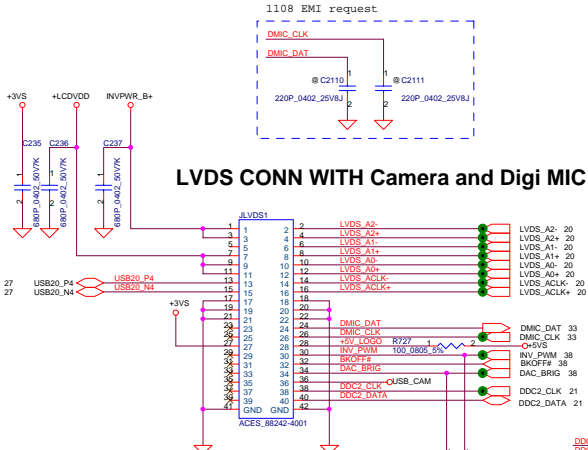
#SI Remove pull low resistor



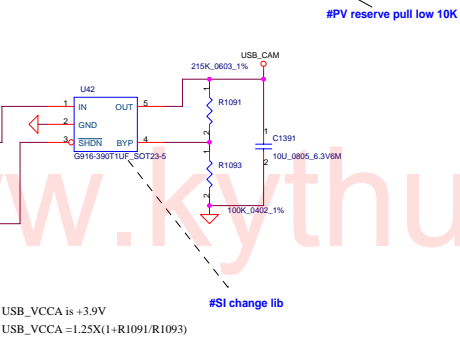
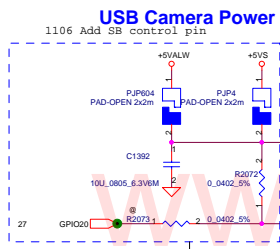
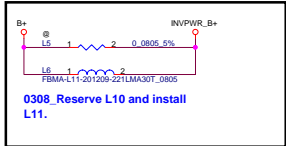
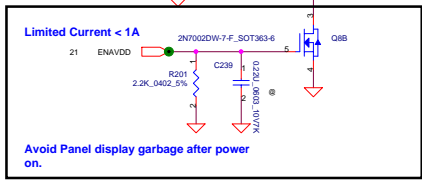
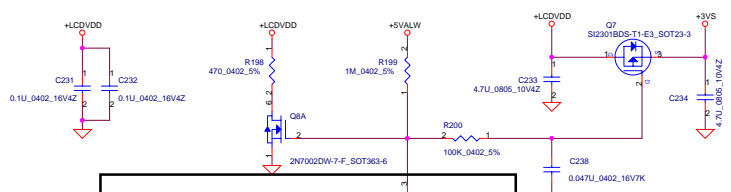
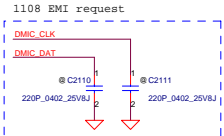
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Issued Date	2008/02/25	Deciphered Date	2008/02/25	Document Number
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Date	Monday, February 25, 2008	Sheet	18	of 53

Compal Electronics, Inc.
CRT Connector
 LA-4102P Blade discrete

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LVDS CONN WITH Camera and Digi MIC



USB_VCCA is +3.9V
 USB_VCCA = 1.25X(1+R1091/R1093)

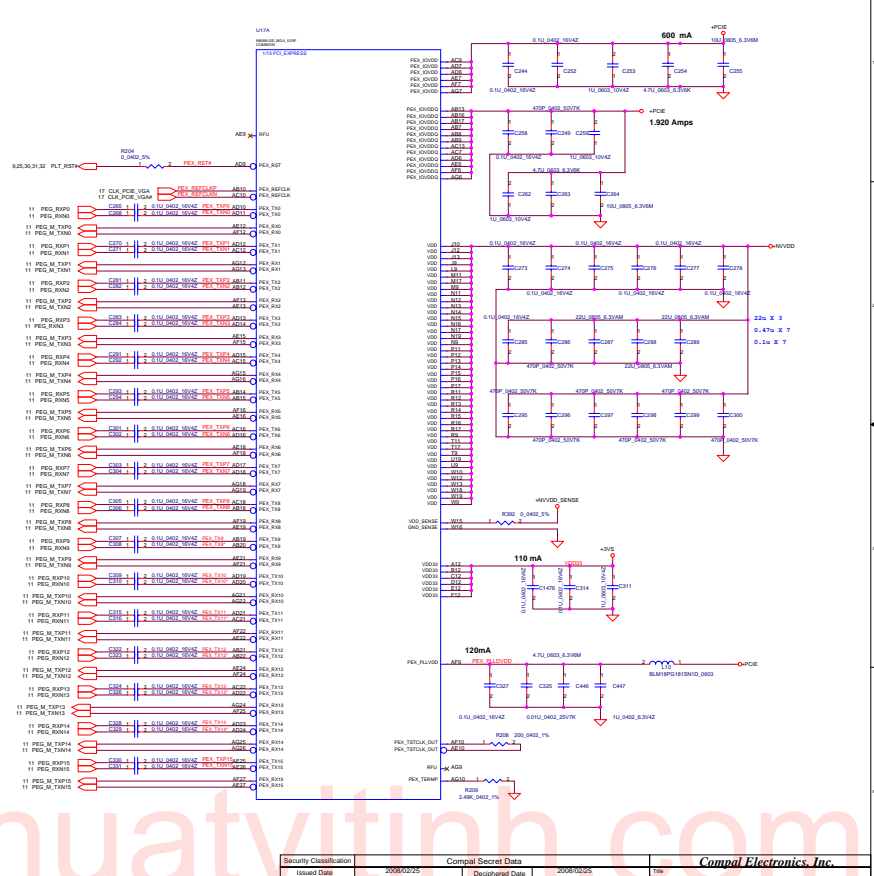
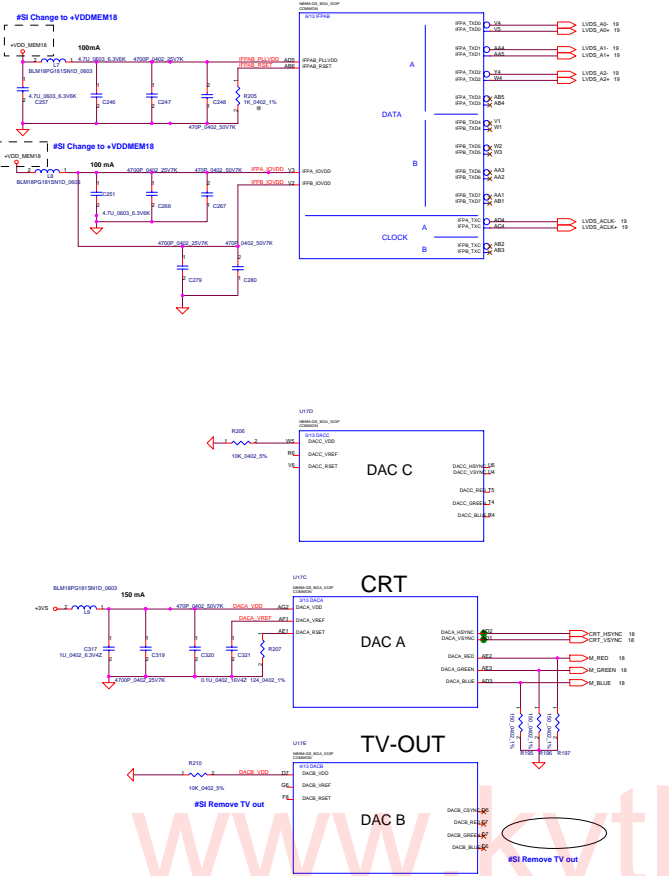
#SI Add GPIO20 control and reserve +5VS

Security Classification	Compal Secret Data		Title	Compal Electronics, Inc.	
Issued Date	2008/02/25	Deciphered Date	2008/02/25	Size	Document Number
				LA-4102P Blade discrete	
				Date	Monday, February 25, 2008
				Sheet	19 of 53

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LVDS & DAC Interface

PEG Interface

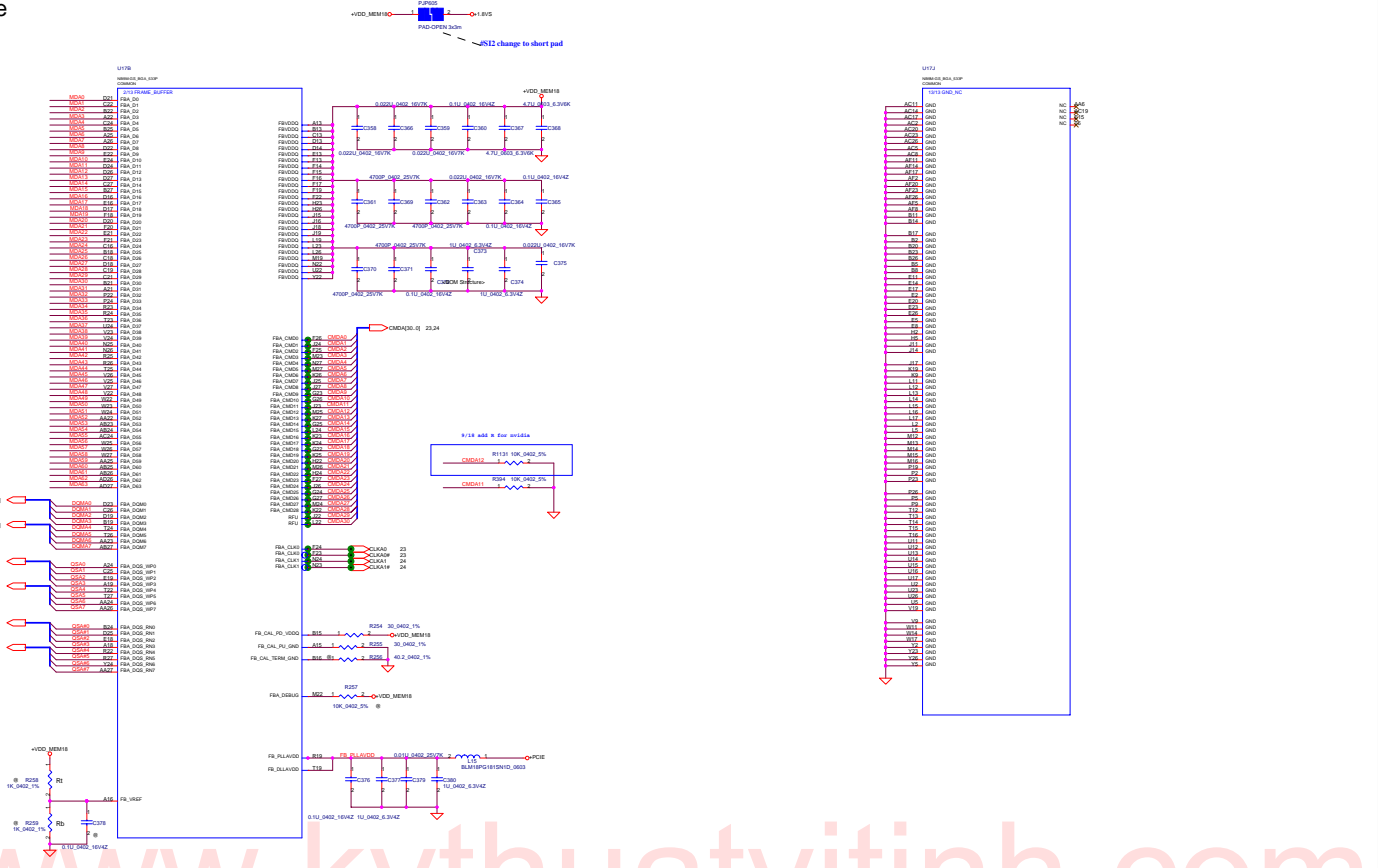


Security Classification	Compal Secret Data	Compal Electronics, Inc
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		Doc Title
		Doc Rev
		Doc Date
		Doc Author
		Doc Checker
		Doc Approver
		Doc Release
		Doc Status
		Doc Version
		Doc Page
		Doc Total

PEG & LVDS & DAC

VRAM Interface

- 23 MD4V15_01
- 23 MD4V15_10
- 24 MD4V17_32
- 24 MD4V15_40



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Security Classification	2008/10/25	Control Secret Data	2008/10/25	Compal Electronics, Inc. VRAM / GND
Issued Date	2008/10/25	Deciphered Date	2008/10/25	
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				<small>Page</small> 22 of 33

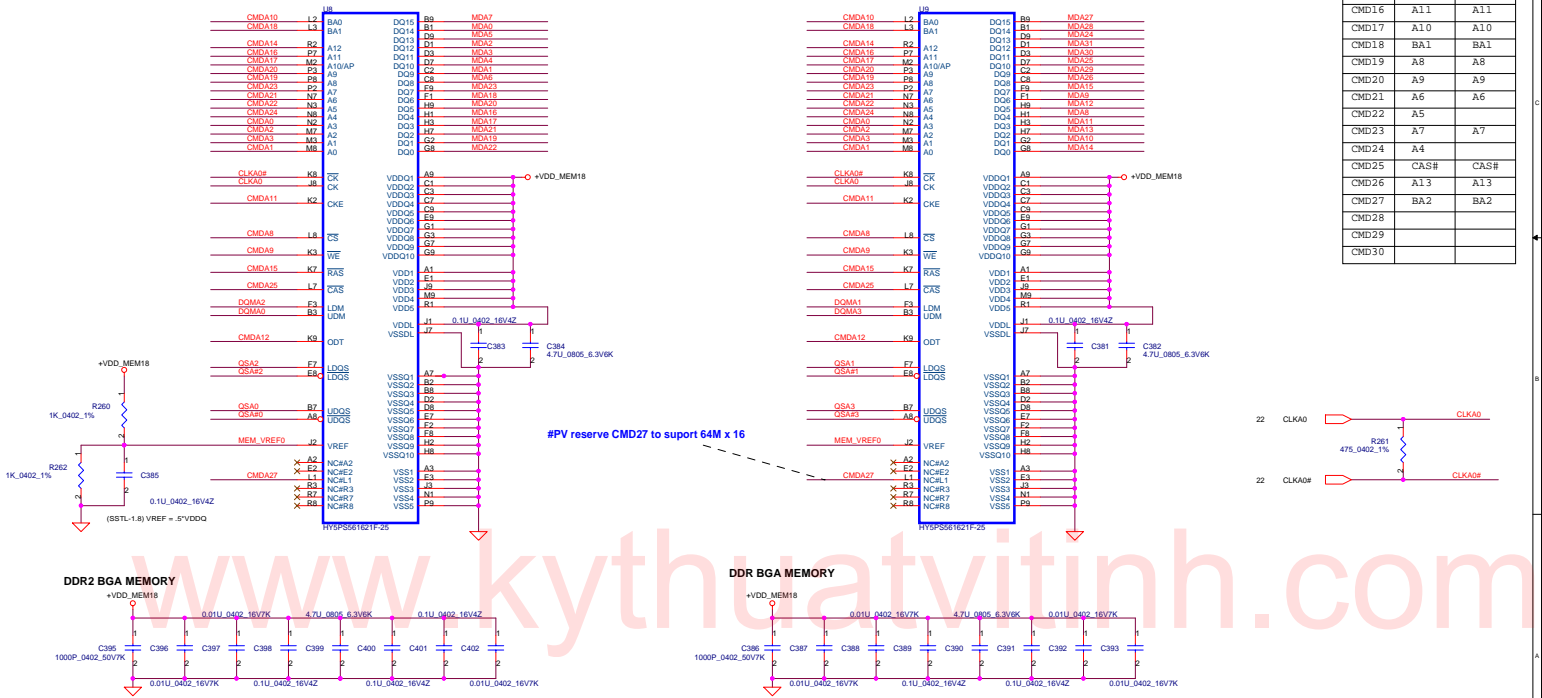
VRAM DDR2 chips (256MB & 512MB)

32Mx16 DDR2 400MHz *4==>256MB

64Mx16 DDR2 400MHz*4==>512MB

		DATA Bus
Address	0..31	32..63
CMD0	A3	
CMD1	A0	A0
CMD2	A2	
CMD3	A1	A1
CMD4		A3
CMD5		A4
CMD6		A5
CMD7		
CMD8	CS#	CS#
CMD9	WE#	WE#
CMD10	BA0	BA0
CMD11	CKE	CKE
CMD12	ODT	ODT
CMD13		
CMD14	A12	A12
CMD15	RAS#	RAS#
CMD16	A10	A10
CMD17	A11	A11
CMD18	BA1	BA1
CMD19	A8	A8
CMD20	A9	A9
CMD21	A6	A6
CMD22	A5	
CMD23	A7	A7
CMD24	A4	
CMD25	CAS#	CAS#
CMD26	A13	A13
CMD27	BA2	BA2
CMD28		
CMD29		
CMD30		

- 22.24 GSA[7..0] QSA17..0
- 22.24 GSA[7..0] QSA17..0
- 22.24 DQMA[7..0] DQMA17..0
- 22.24 MDA[63..0] MDA163..0
- 22.24 CMDA[30..0] CMDA130..0



DDR2 BGA MEMORY

DDR BGA MEMORY

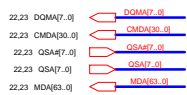
Security Classification	Compal Secret Data		Title	LS-2821 ATI_M56-P VGA Board
Issued Date	2008/02/25	Deciphered Date		
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Date	Monday, February 25, 2008	Sheet	7	of 16

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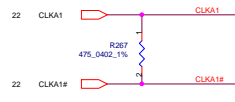
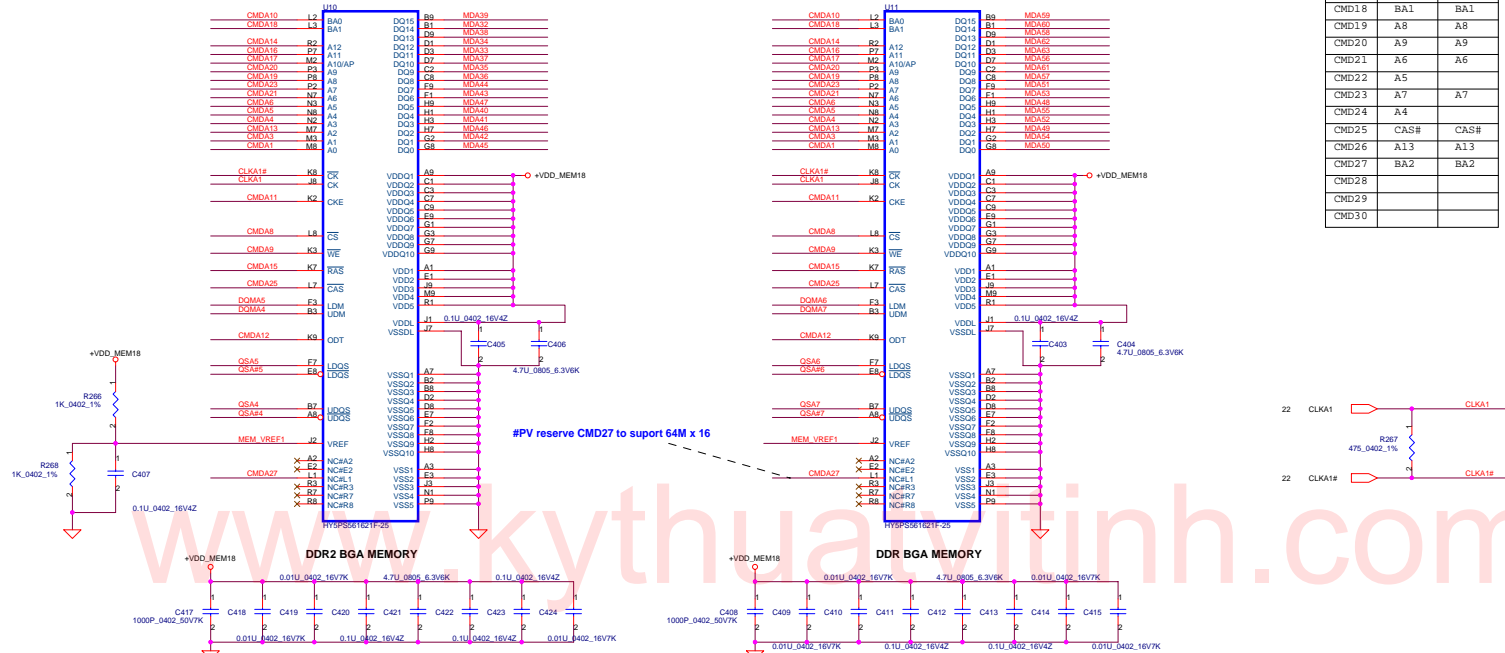
VRAM DDR2 chips (256MB & 512MB)

32Mx16 DDR2 400MHz *4==>256MB

64Mx16 DDR2 400MHz*4==>512MB

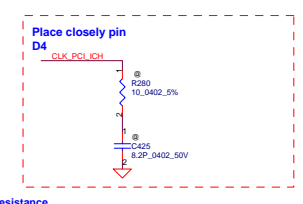
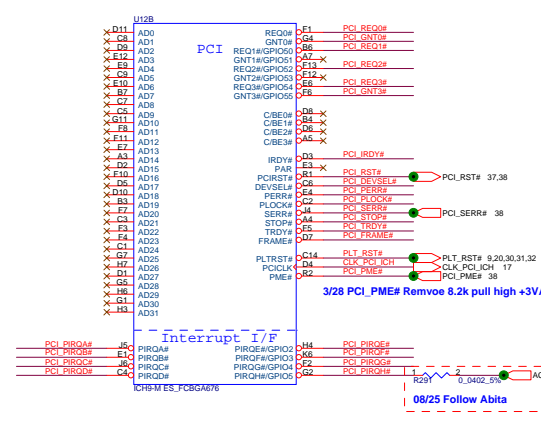
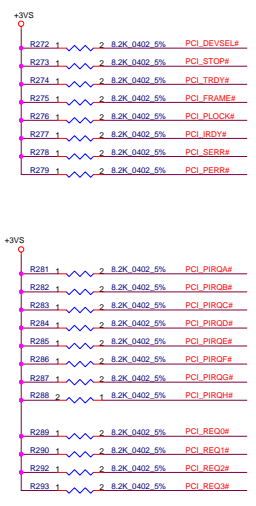


Address	DATA	Bus
CMD0	A3	A0
CMD1	A0	A0
CMD2	A2	A0
CMD3	A1	A1
CMD4	A3	A0
CMD5	A4	A0
CMD6	A5	A0
CMD7		
CMD8	CS#	CS#
CMD9	WE#	WE#
CMD10	BA0	BA0
CMD11	CKE	CKE
CMD12	ODT	ODT
CMD13		
CMD14	A12	A12
CMD15	RAS#	RAS#
CMD16	A11	A11
CMD17	A10	A10
CMD18	BA1	BA1
CMD19	A8	A8
CMD20	A9	A9
CMD21	A6	A6
CMD22	A5	A5
CMD23	A7	A7
CMD24	A4	A4
CMD25	CAS#	CAS#
CMD26	A13	A13
CMD27	BA2	BA2
CMD28		
CMD29		
CMD30		



Security Classification	Compal Secret Data		Title	LS-2821 ATI_M56-P VGA Board
Issued Date	2008/02/25	Deciphered Date		
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Compal Electronics, Inc.
CHANNEL A EXT. 256M 2
 Rev 0.1



3/28 PCI_PME# Remove 8.2k pull high +3VALW resistance.

08/25 Follow Abita

A16 swap override Strap

PCI_GNT3#	Low= A16 swap override Enable High= Default *
-----------	--

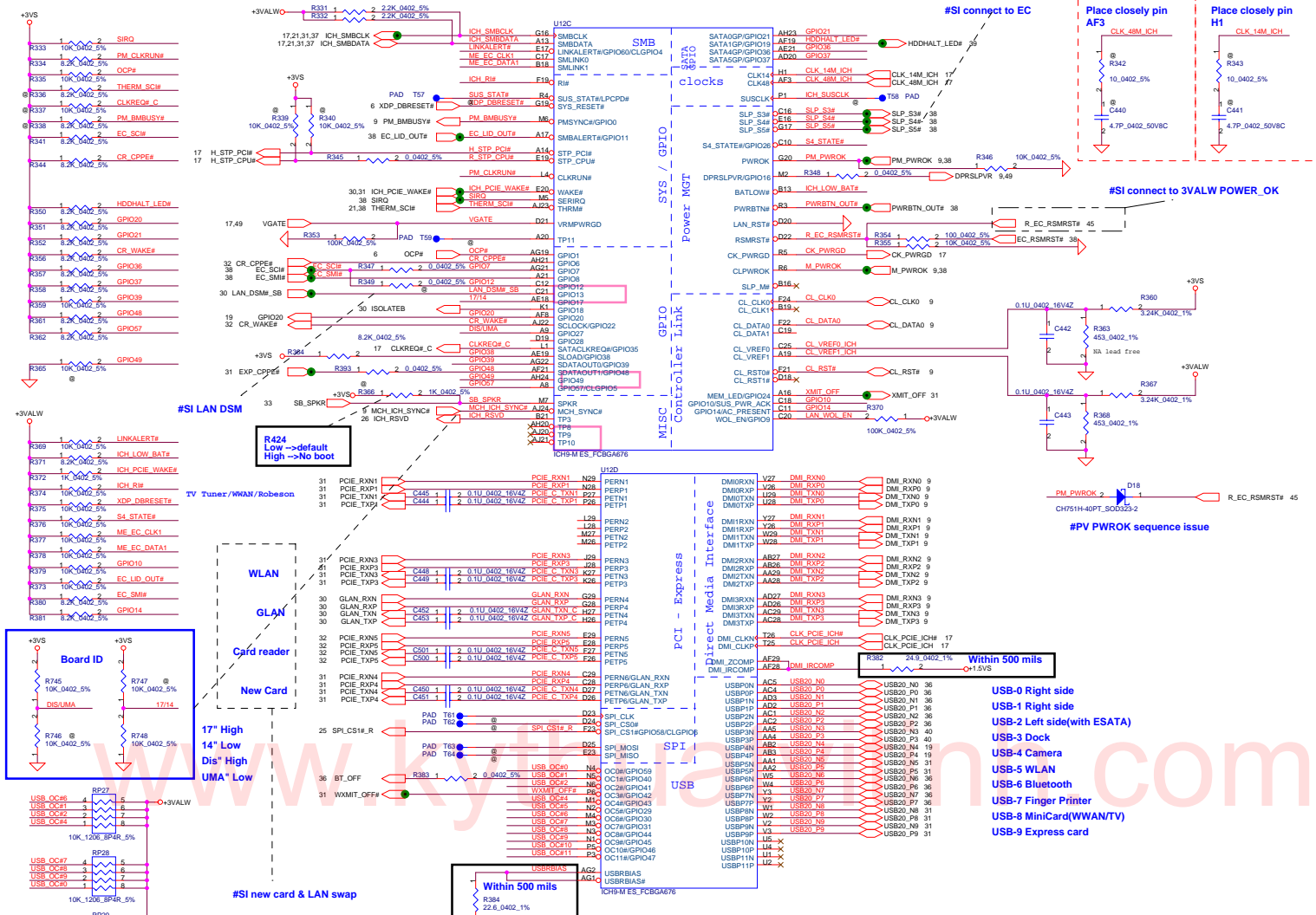
Boot BIOS Strap

PCI_GNT0#	SPI_CS#1	Boot BIOS Location
0	1	SPI
1	0	PCI
1	1	LPC *

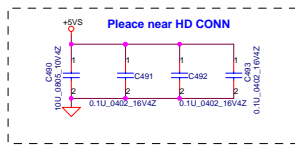
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Issued Date	2008/02/25	Deciphered Date	2008/02/25	Title	
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				LA-4102P	Rev 0.4
				Date	Monday, February 25, 2008
				Sheet	26 of 53

DELL CONF

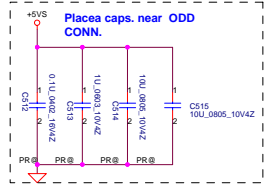
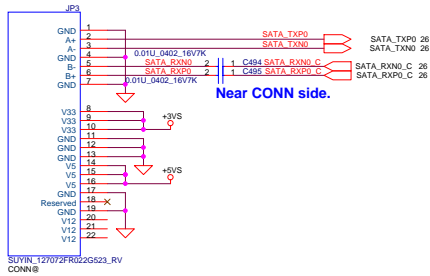
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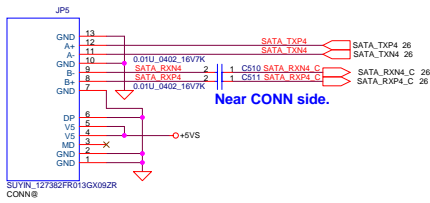
Security Classification	Compal Secret Data		Title	
Issued Date	2008/02/25	Deciphered Date	2009/02/25	IC19(3/4) DMI,USB,GPIO,PCIE
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Size	Document Number	Rev	0.4	
Custom	LA-4102P Blade discrete	Date	Monday, February 25, 2008	Sheet 27 of 53



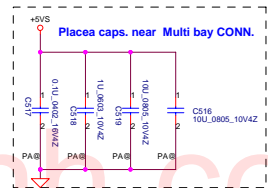
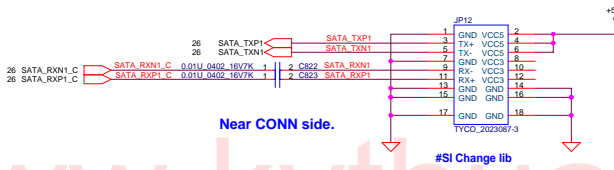
HDD Connector



CD-ROM Connector



Multi Bay Connector

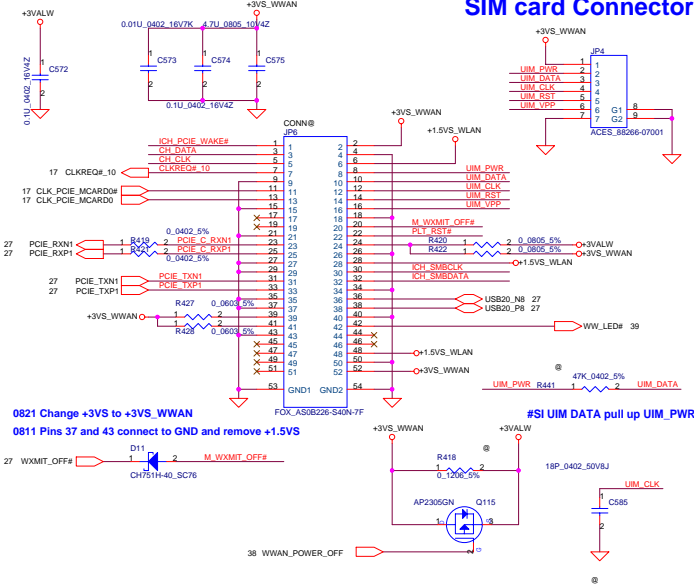


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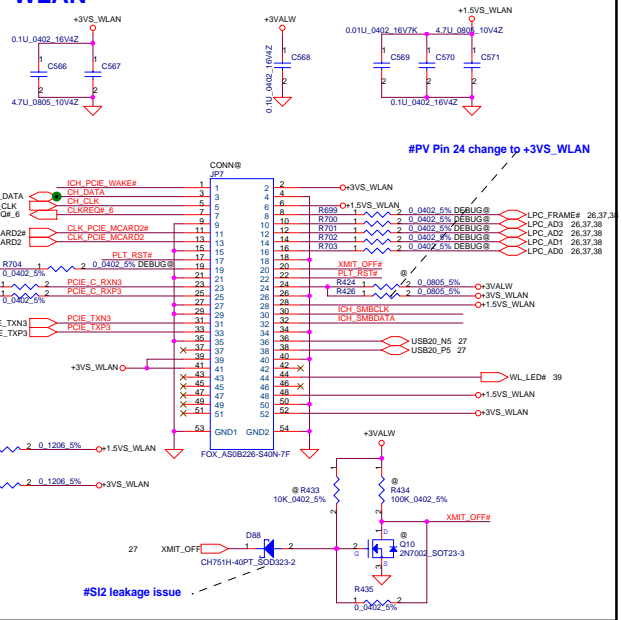
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Issued Date	2008/02/25	Deciphered Date	2008/02/25	Title HDD & CDROM
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Mini Card 0--TV tuner/WWAN/Robson

SIM card Connector

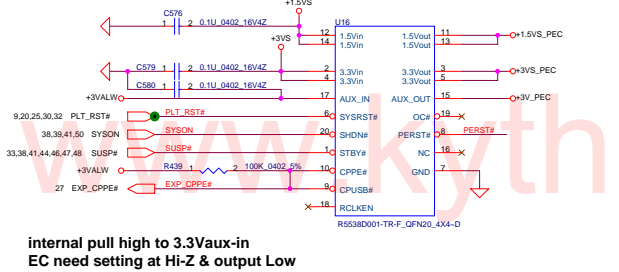


Mini Card 2---WLAN

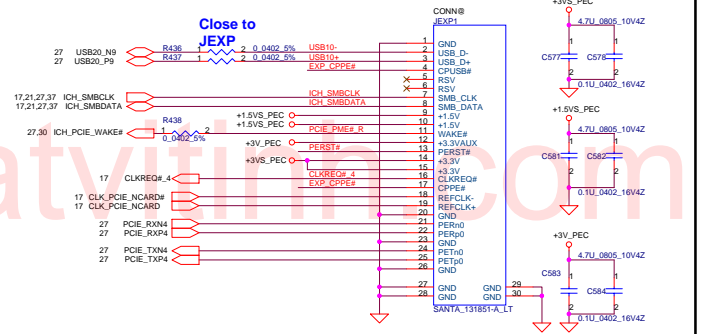


New Card

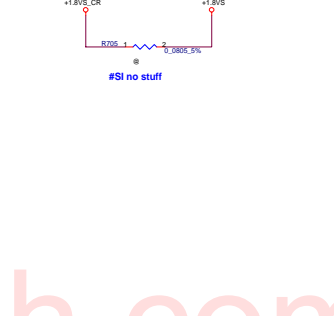
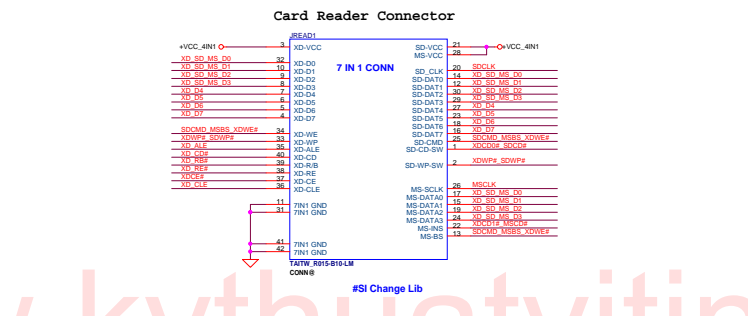
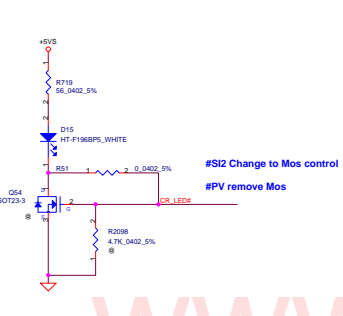
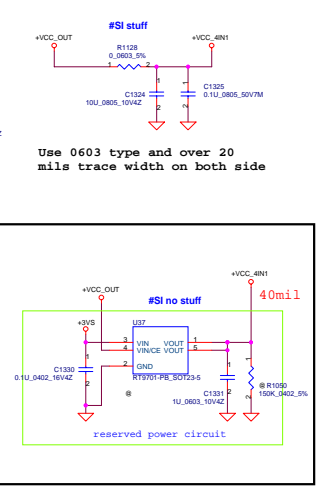
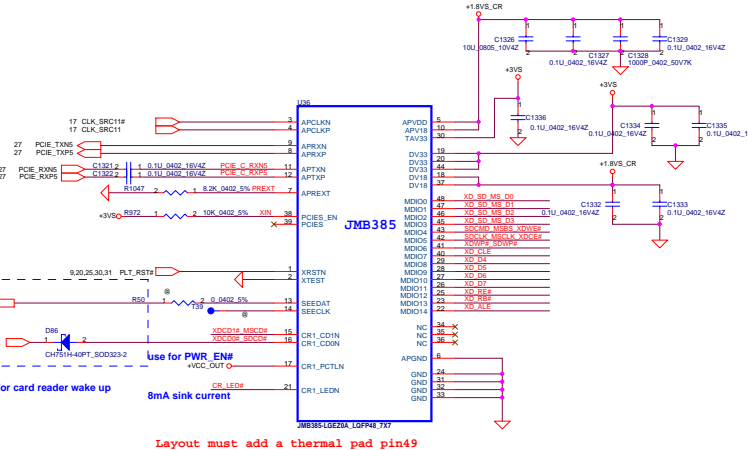
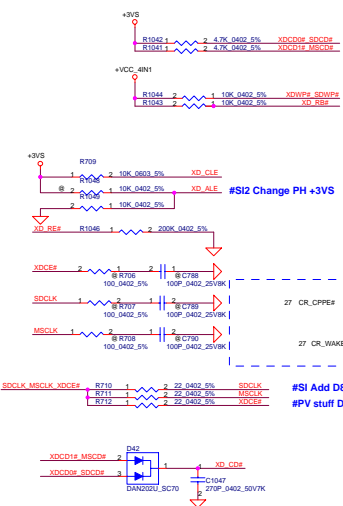
Express Card Power Switch



Near to Express Card slot.



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Date	Monday, February 25, 2008	Sheet	31	of 53	

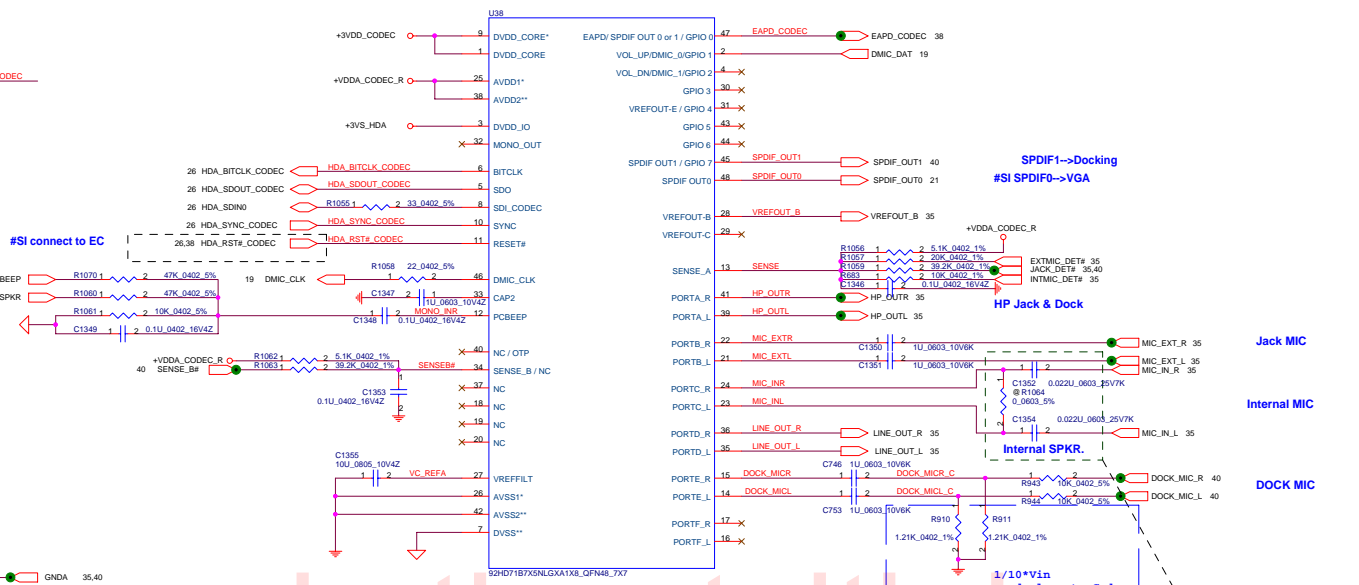
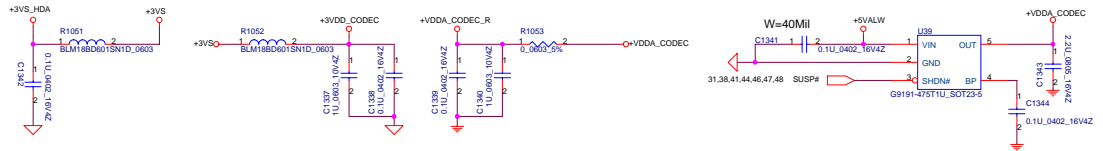


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Compal Electronics, Inc.				04
USB CardReader&CONN				
Document Number: LA-1102P Blade discrete				
Date: Monday February 25, 2008				

CODEC POWER

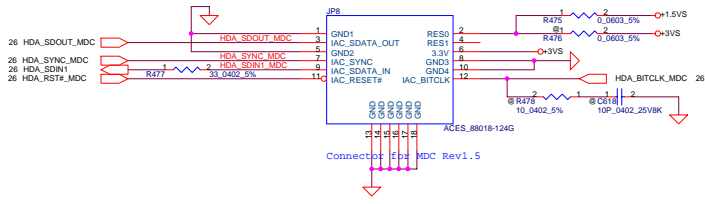
(4.75V)
300mA



SENSE A		SENSE B	
Port	Resistor	Port	Resistor
A	39.2K	E	39.2K
B	20K	F	20K
C	10K	G	10K
D	5.11K	H	5.11K

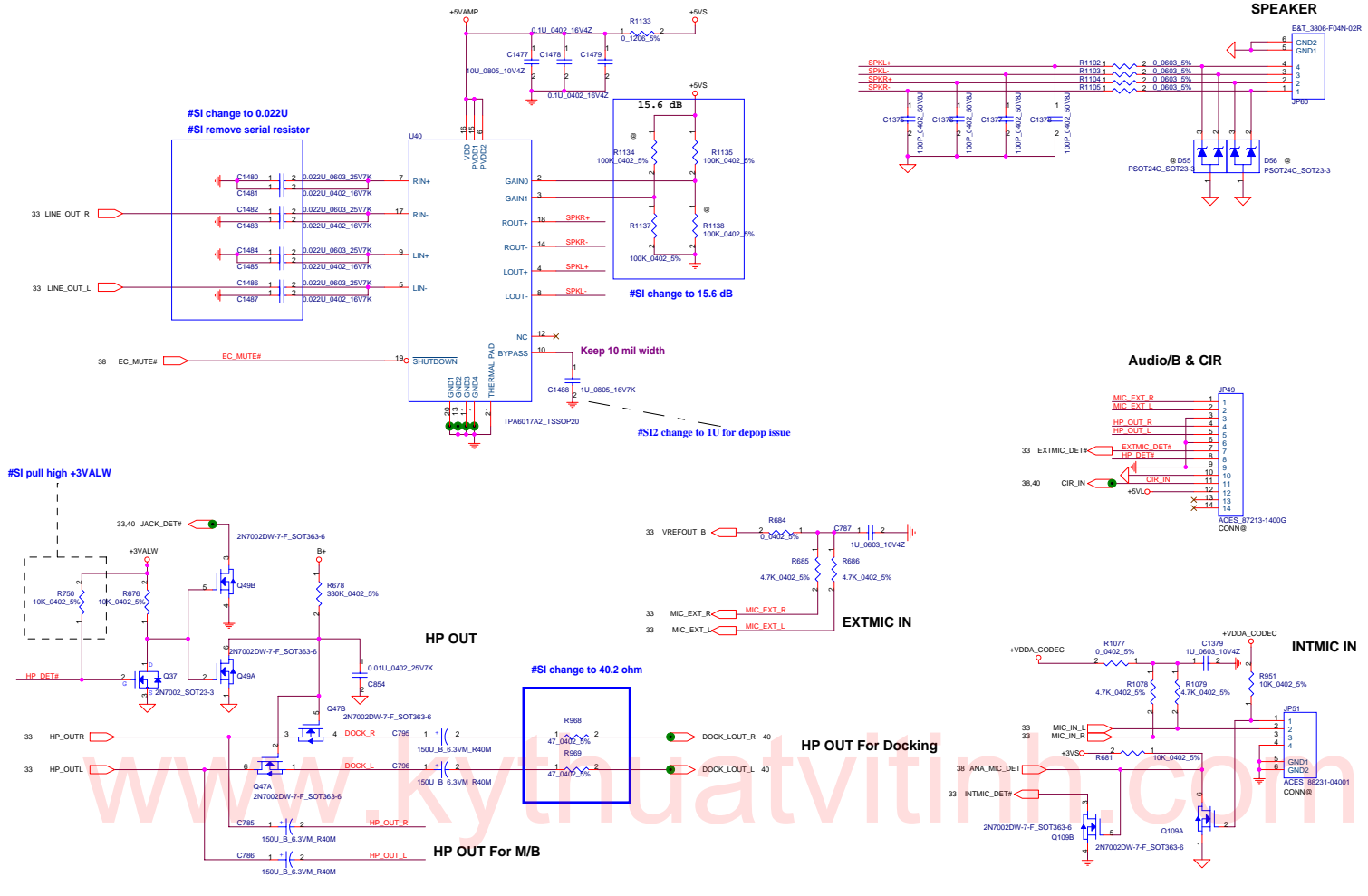
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Size	Document Number										Rev	0.4
Customer	LA-4102P Blade discrete										Date	Monday, February 25, 2008
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MDC 1.5 Conn.



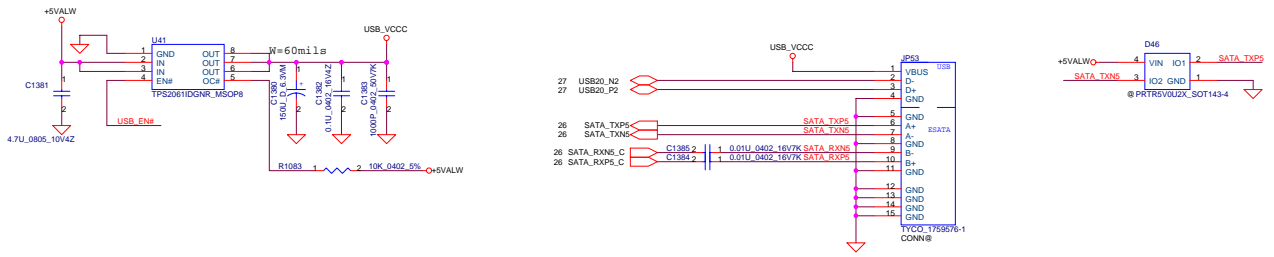
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Security Classification	Compal Secret Data		Title	
Issued Date	2008/02/25	Deciphered Date	2008/02/25	MDC 1.5 & Robson
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Date: Monday, February 25, 2008				Sheet 31 of 53

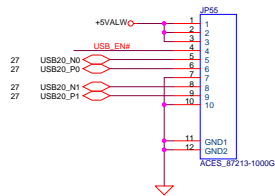


Security Classification		Compal Secret Data		Title	
Issued Date	2008/02/25	Deciphered Date	2008/02/25	Size	Document Number
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Date	Monday, February 25, 2008	Sheet	35	of	53

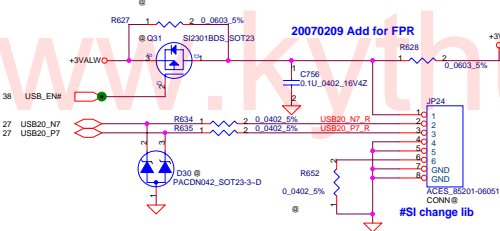
Left side ESATA/USB combination Connector



USB cable connector for Right side

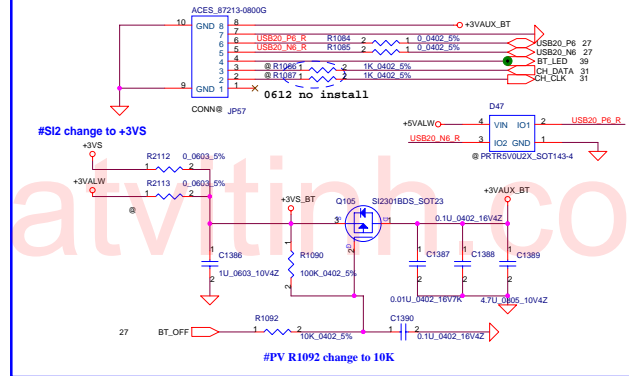


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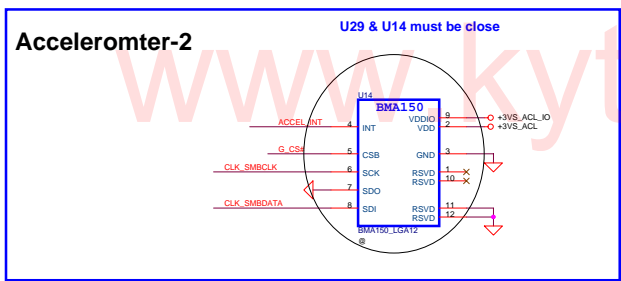
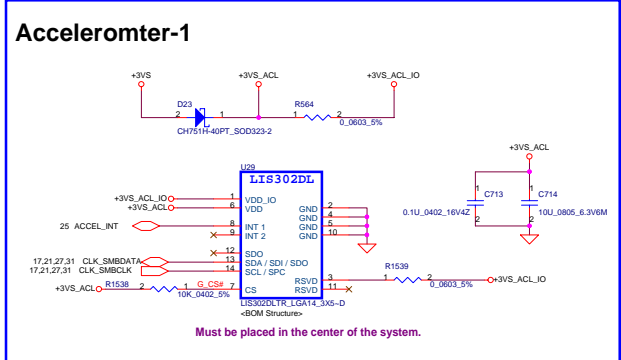
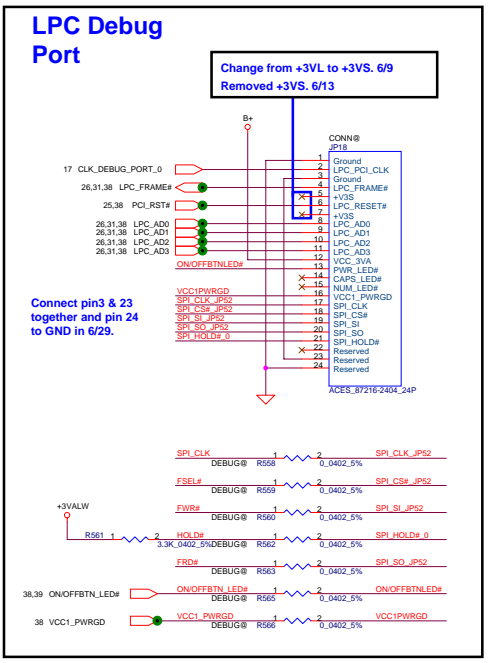
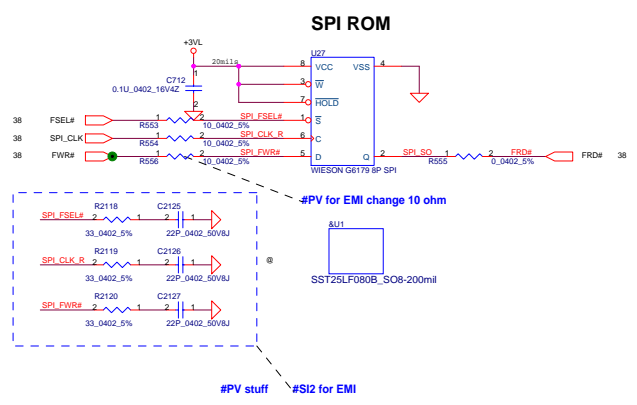
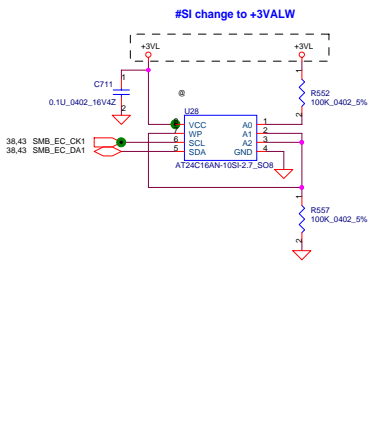


BT Connector

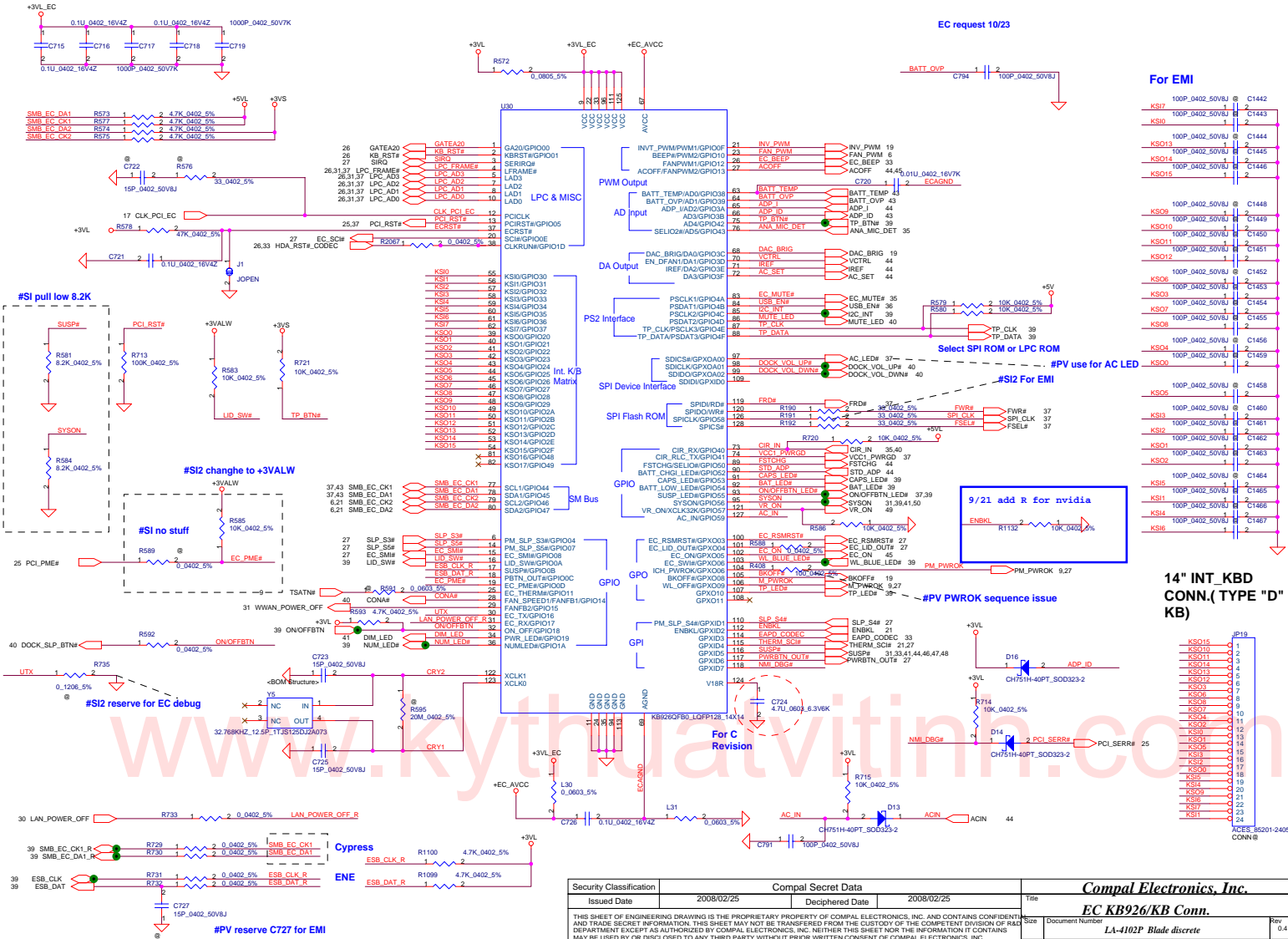
Need change to New version



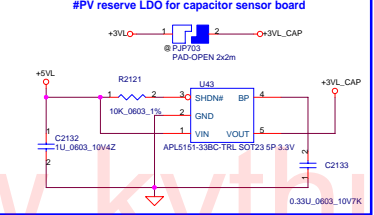
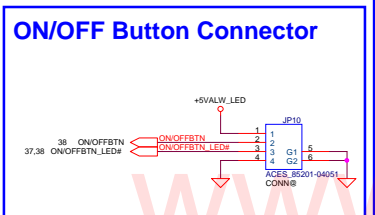
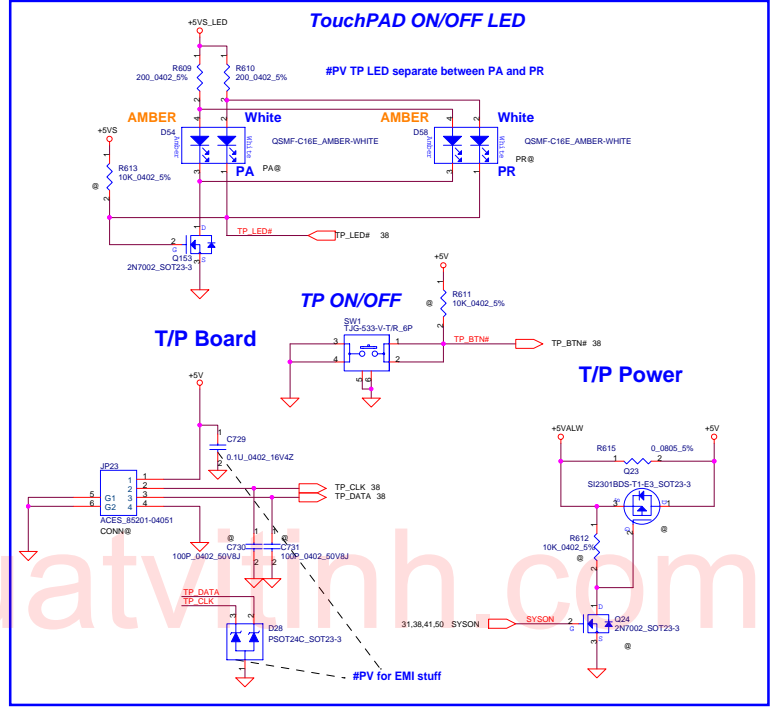
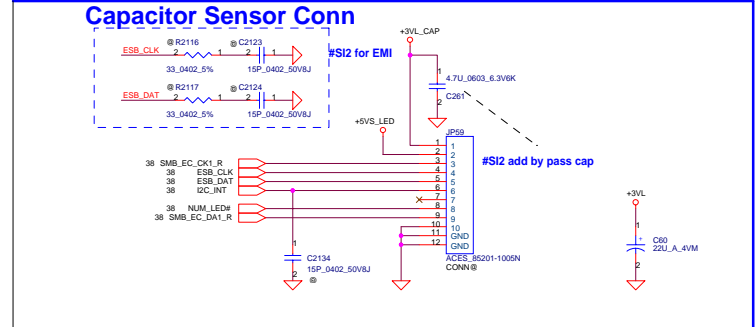
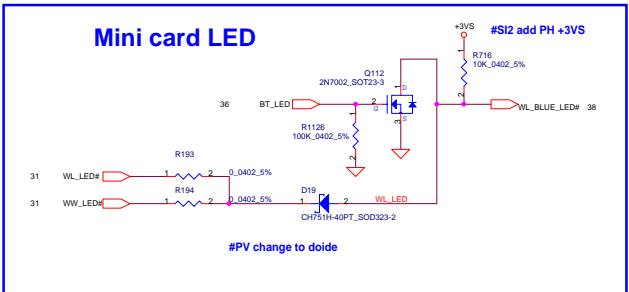
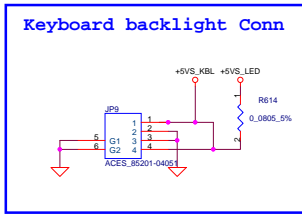
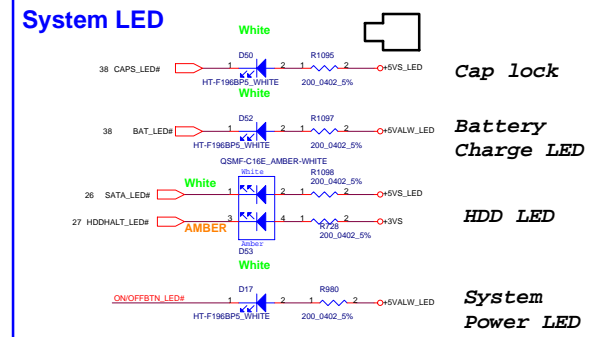
Security Classification	Compal Secret Data		Title	Compal Electronics, Inc.	
Issued Date	2008/02/25	Deciphered Date	2009/02/25	USB, BT, eSATA	
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				Date	Monday, February 25, 2008
				Sheet	37 of 53
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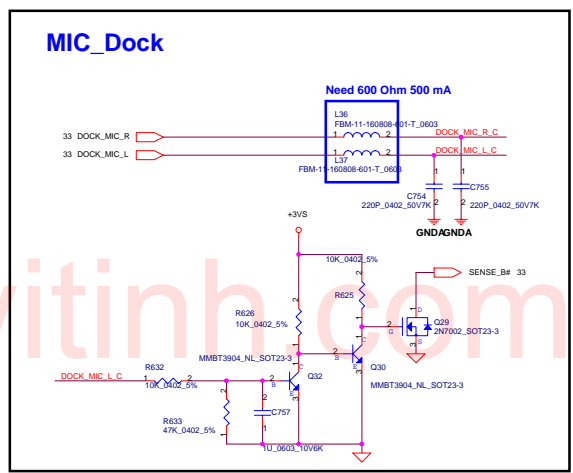
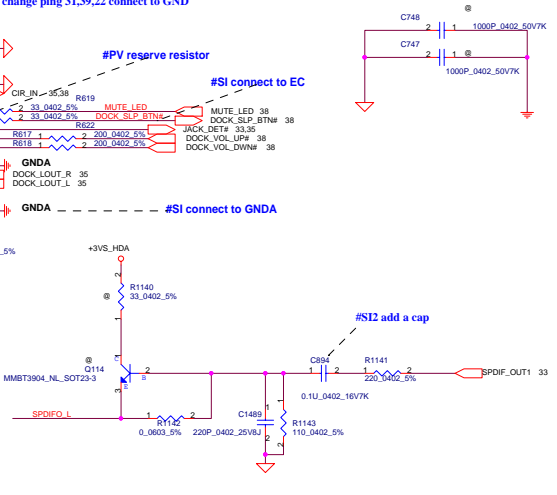
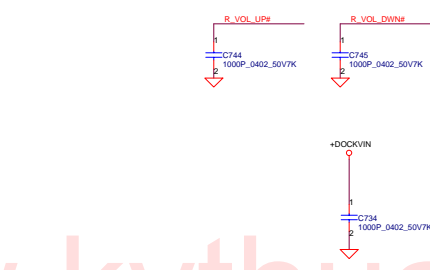
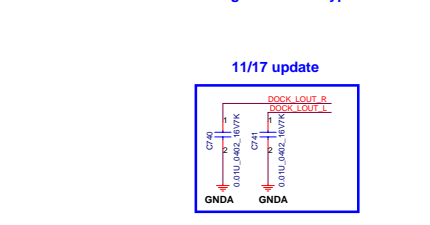
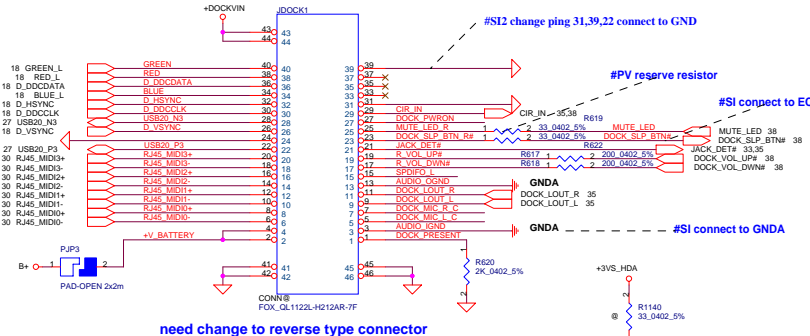
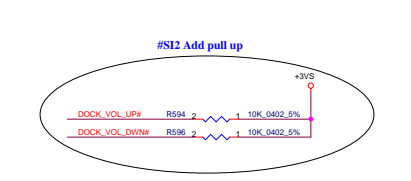
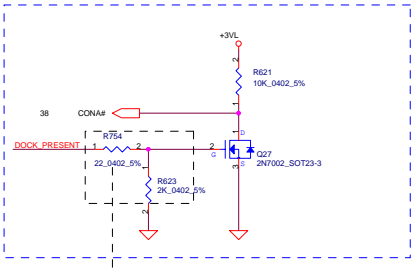
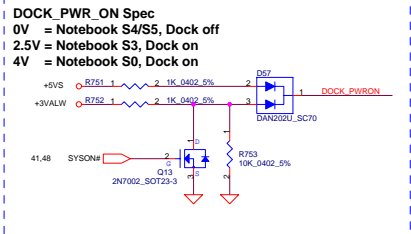


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Issued Date	2008/02/25	Deciphered Date	2008/02/25	Document Number	LA-4102P Blade discrete
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Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2008/02/25	Deciphered Date	2008/02/25	Title	LED, TP, KBL, Cab sensor board
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Size	Document Number	Rev	Date		
	LA-4102P Blade discrete	0.4	Monday, February 25, 2008		
			Sheet	38	of 53

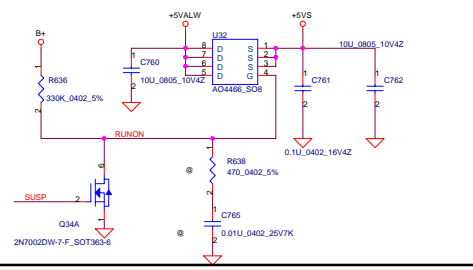
Atlas/ Saturn Dock



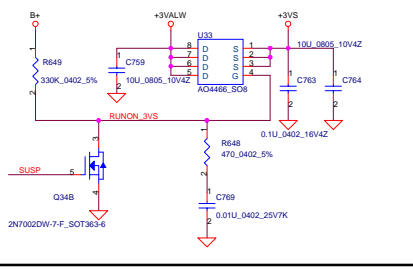
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Issued Date	2008/02/25	Deciphered Date	2008/02/25	Title
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			Sheet	40 of 53

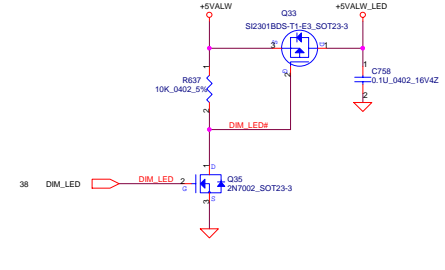
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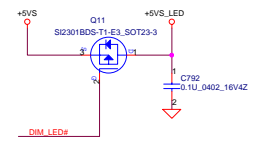
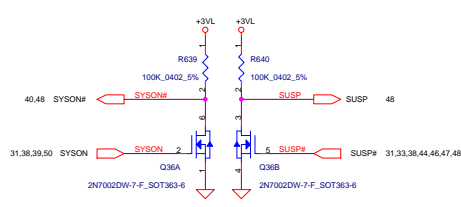
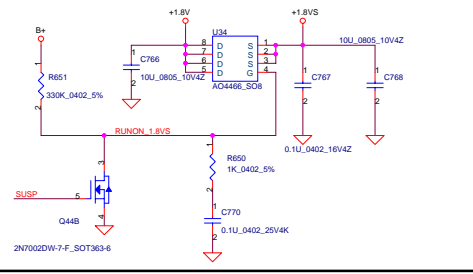
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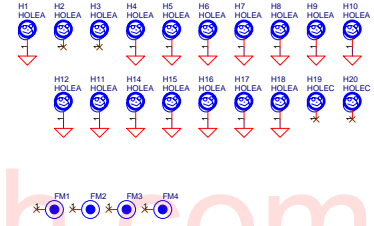
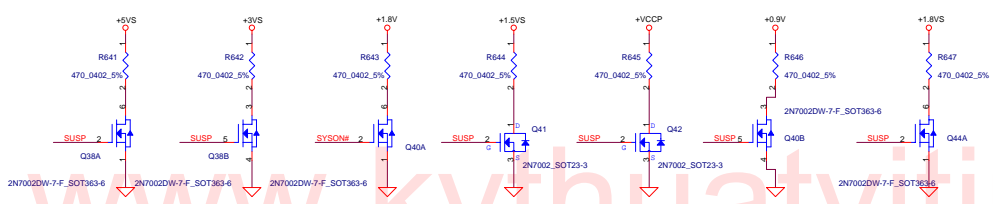
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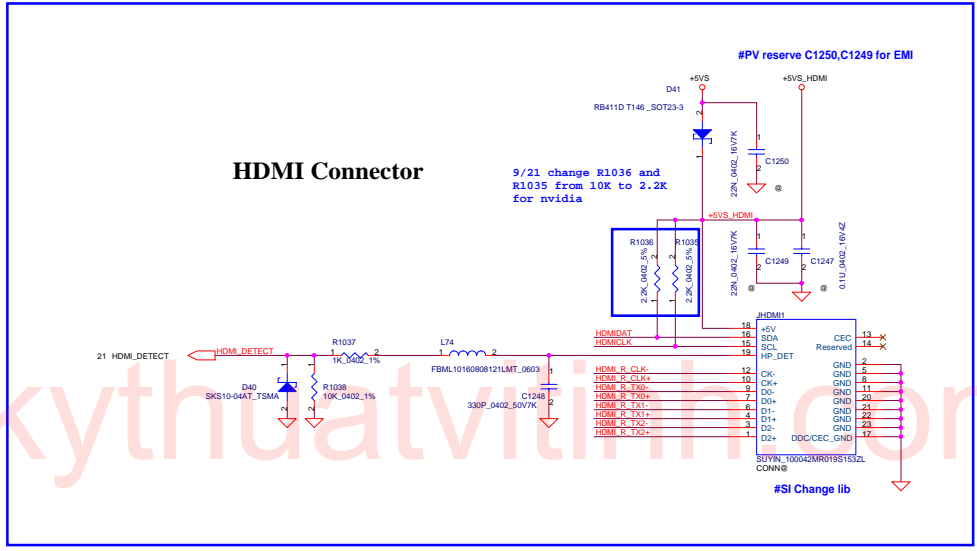
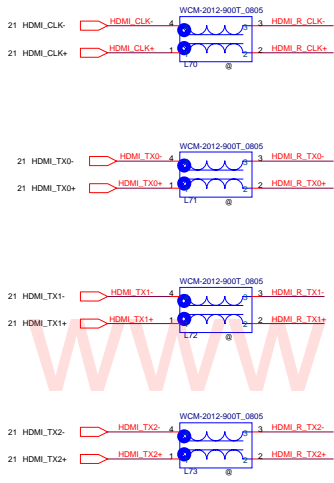
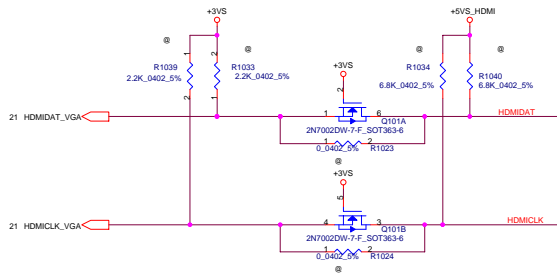
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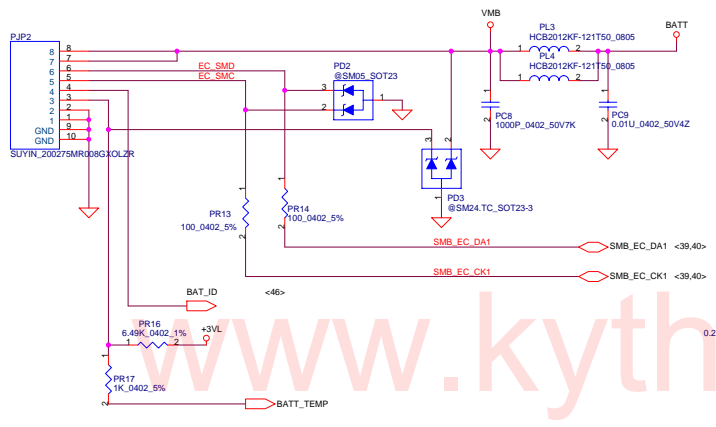
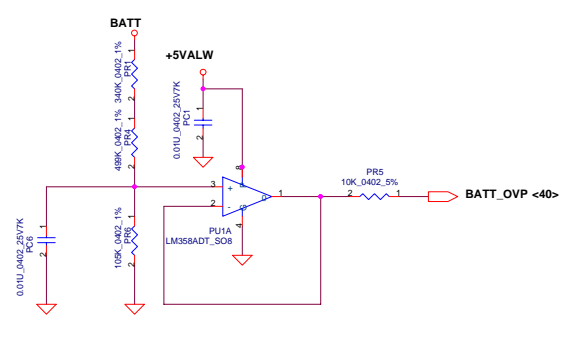
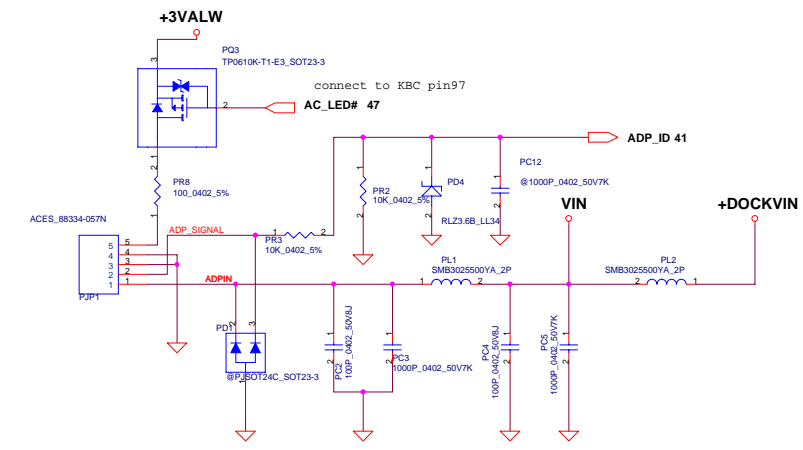
Discharge circuit



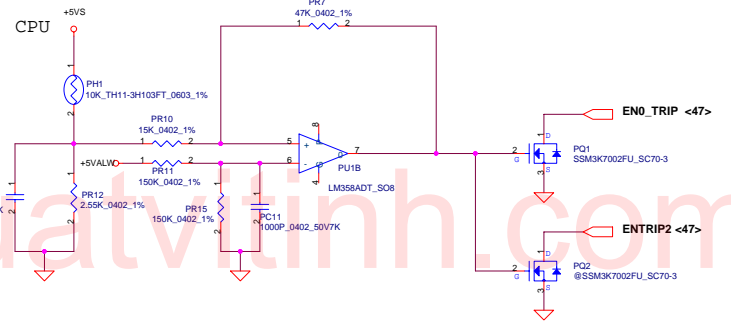
Security Classification	Compal Secret Data		Title	
Issued Date	2008/02/25	Deciphered Date	2009/02/25	DC/DC Interface
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	LA-4102P Blade discrete	0.4	Manday, February 25, 2008	
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				Custom	LA-4102P Blade discrete
				Date	Monday, February 25, 2008
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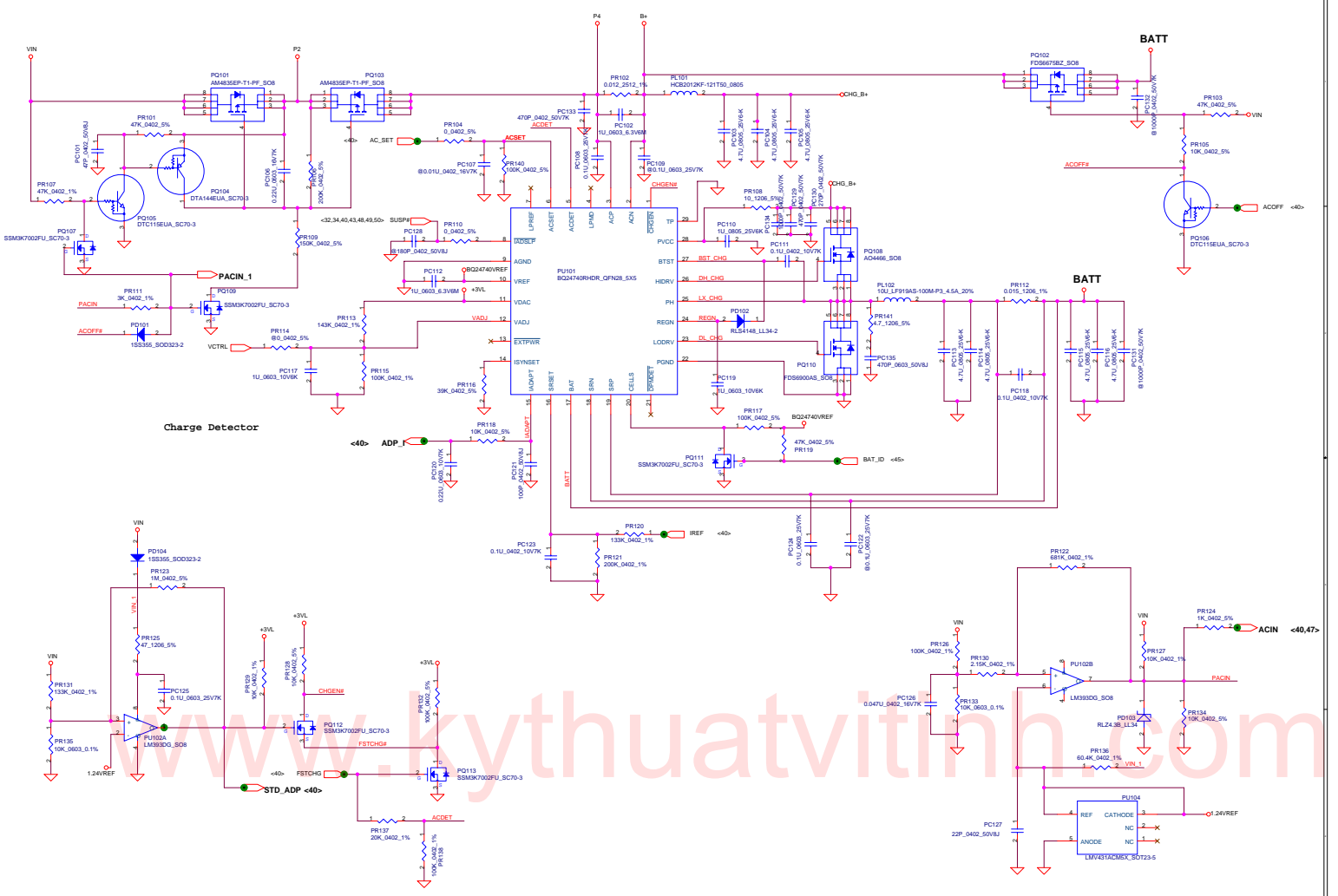
PH1 under CPU bottom side :
 CPU thermal protection at 90 +/-3 degree C
 Recovery at 47 +/-3 degree C



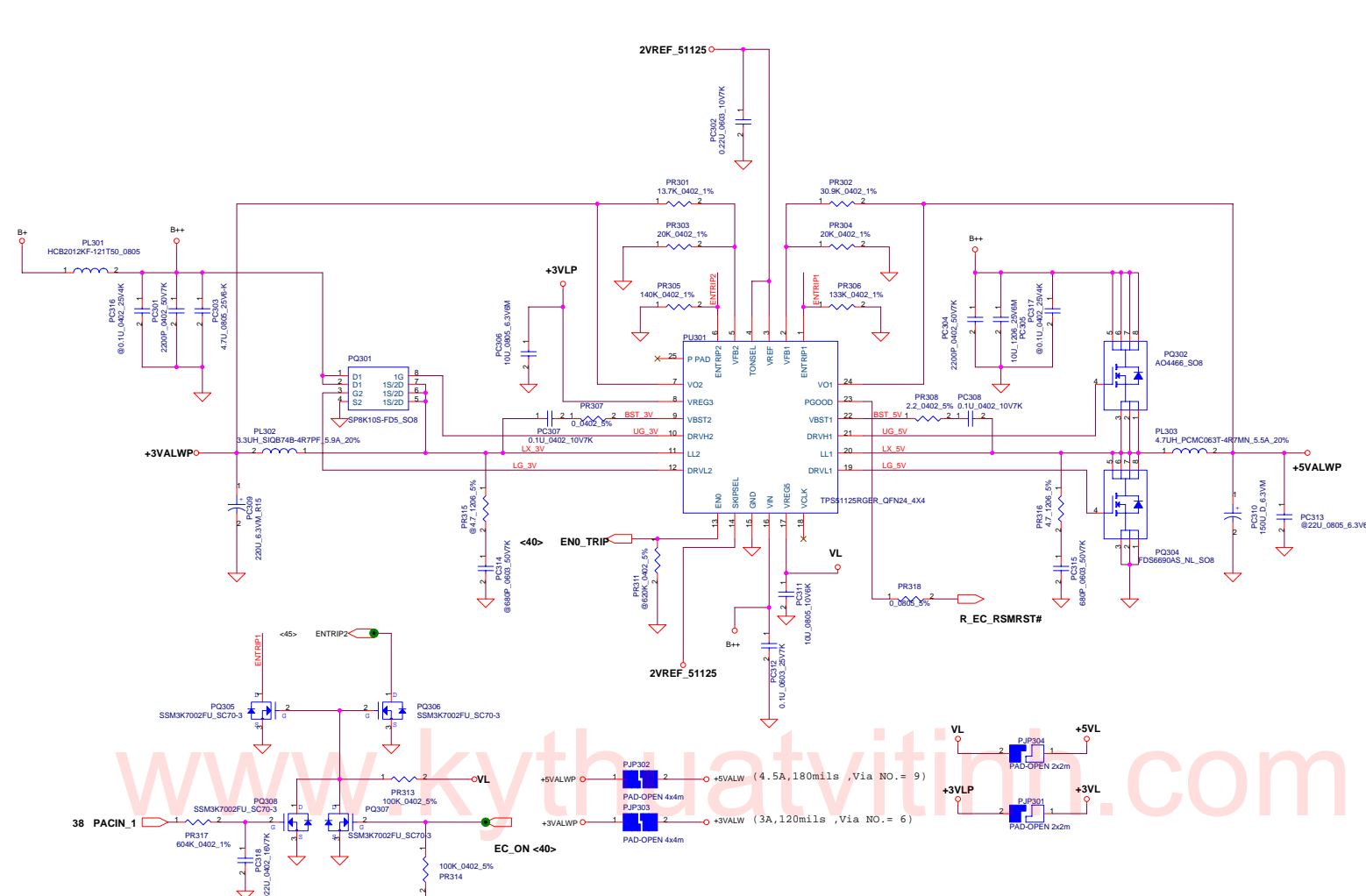
Security Classification	Compal Secret Data		Title	
Issued Date	2008/02/25	Deciphered Date	2008/02/25	DC Connector/CPU_OTP
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Date	Monday, February 25, 2008	Sheet	43	of 52

Compal Electronics, Inc.
 DC Connector/CPU_OTP

LA-4102P Blade discrete

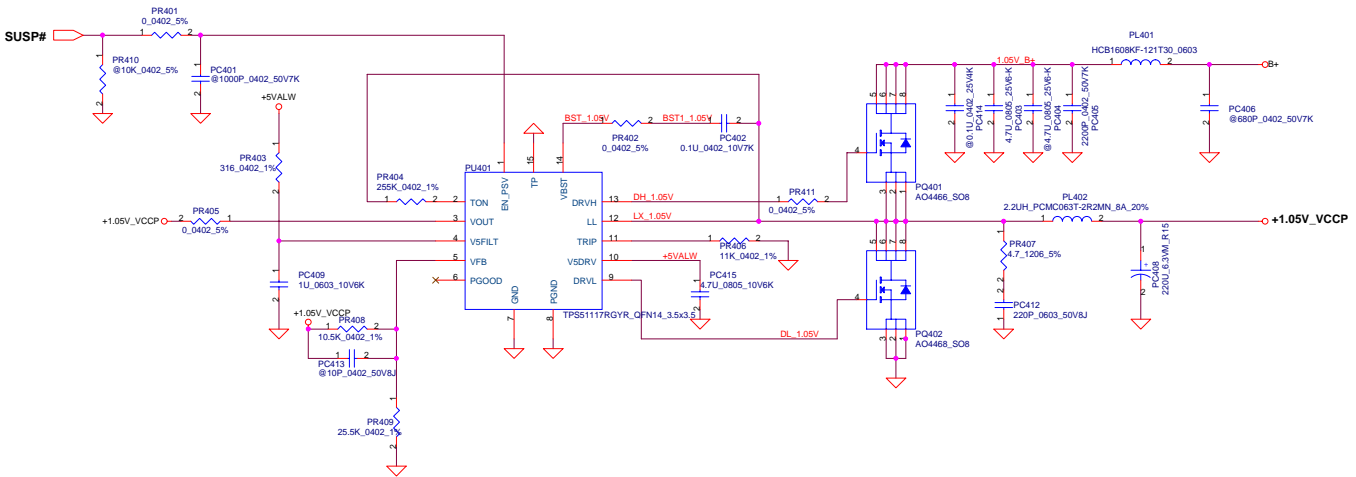


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Doc No	ME2505	Revision	February 25, 2008	Page	4 of 38
				LA-1102P Blade discrete	Rev
					0.4



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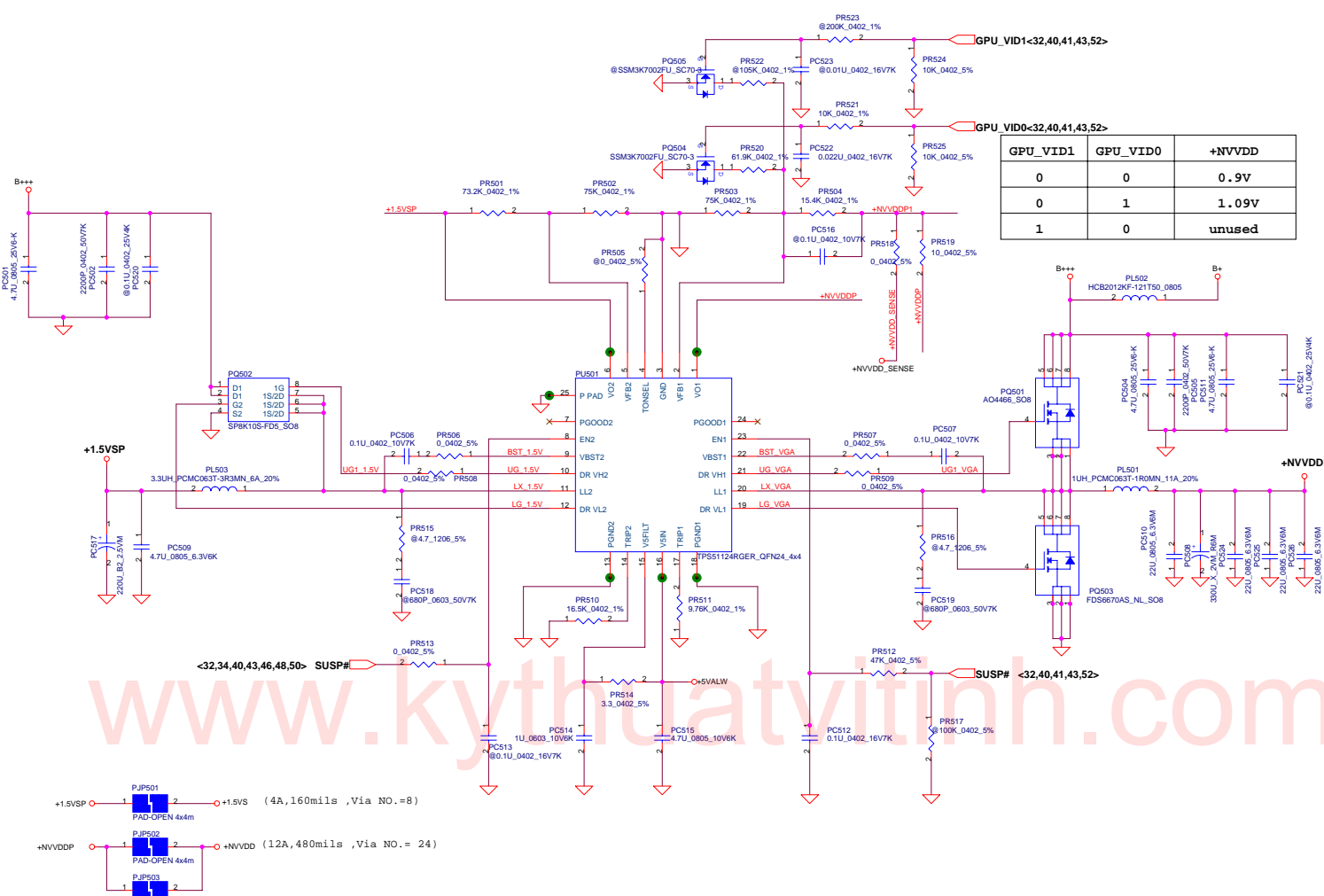
Security Classification		Compal Secret Data		Title	
Issued Date	2008/02/25	Deciphered Date	2008/02/25	3.3VALWP/5VALWP	
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+1.05V_VCCP 1 PJP401 2 +VCCP (6A, 240mIs, Via NO.=12)
 PAD-OPEN 4x4m

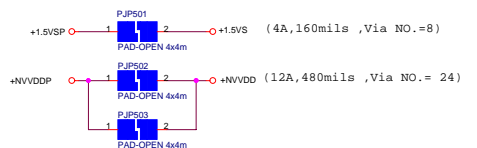
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				Date: Monday, February 25, 2008
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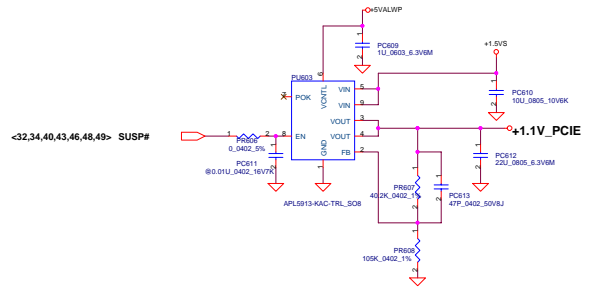
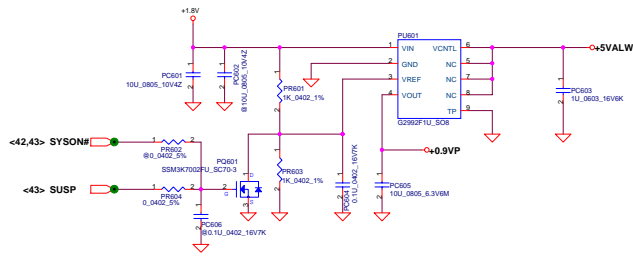


GPU_VID1	GPU_VID0	+NVVDD
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0	1	1.09V
1	0	unused

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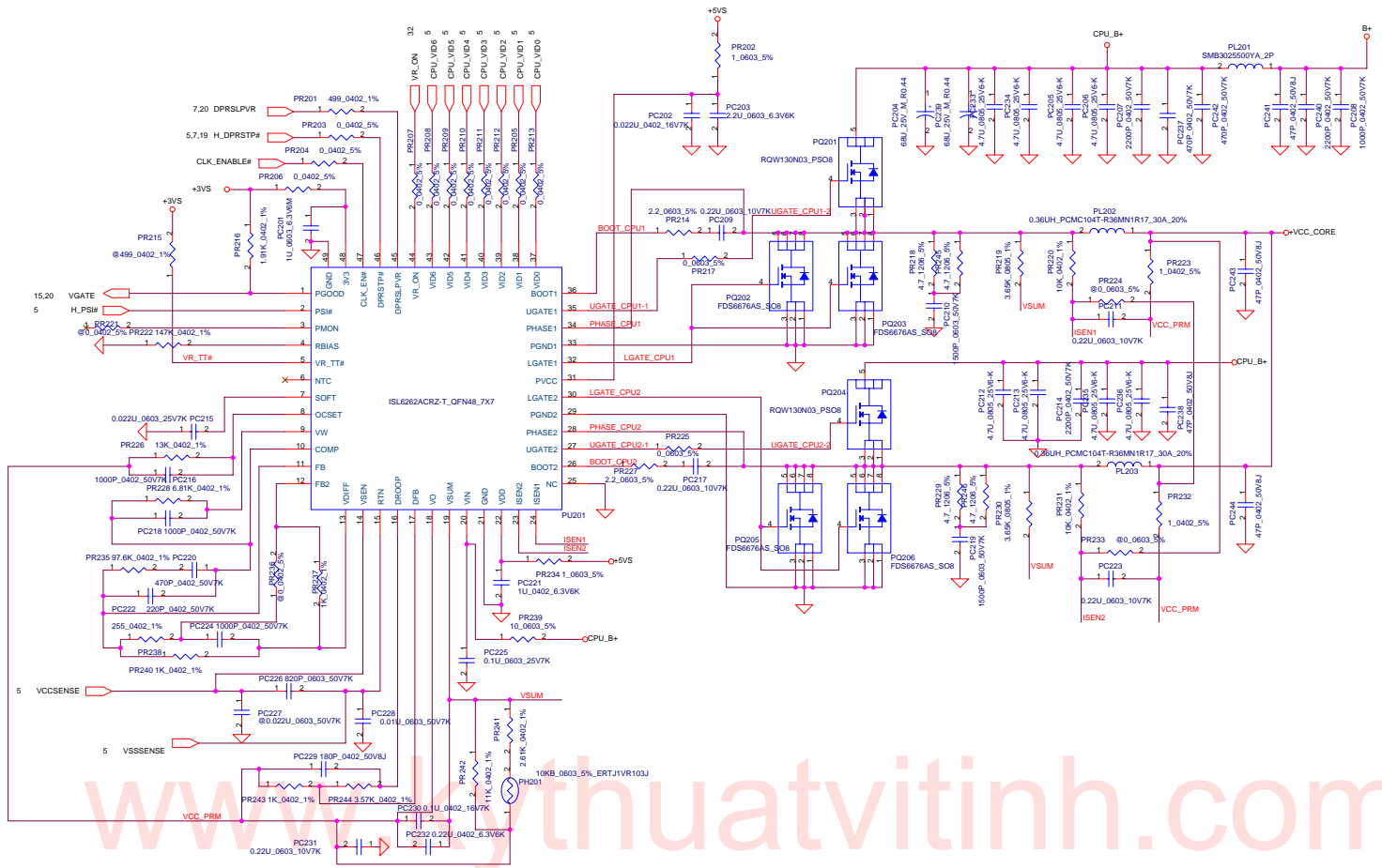


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Issued Date	2008/02/25	Deciphered Date	2008/02/25	Document Number	LA-4102P Blade discrete
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Issued Date	2008/02/25	Deciphered Date	2008/02/25	Title	0.9VP/1.1V_PCIE
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Size	Document Number			Rev	04
Date: Monday, February 25, 2008				Sheet	48 of 57

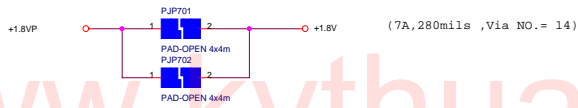
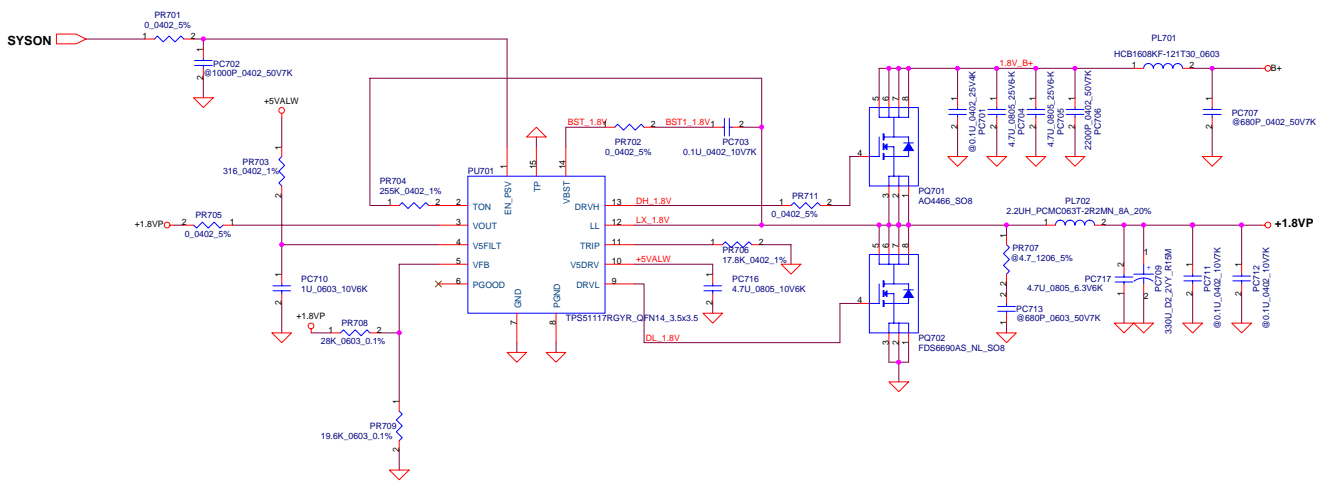


Compal Electronics, Inc.

File: +CPU_CORE

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Version Change List (P. I. R. List) for Power Circuit

Item	Page#	Title	Date	Request Owner	Issue Description	Solution Description	Rev.
1	43	DC Connector /CPU_OTP	11/06	Compal	Add PD4 & PC12	Add PD4 & PC12	
2	45	3.3VALWP/5VALWP	11/06	Compal	for Layout	Change PQ301, cancel PQ303.	
3	44	Charger	11/06	Compal	EMI solution	Add PC128	
4	49	CPU_CORE	11/06	Compal	EMI solution	Add PC240	
5	47	1.5VSP/VGA_CORE	11/06	Compal	for VGA voltage steps	Add PQ505, PR523, PR524, PR525	
6	45	3.3VALWP/5VALWP	12/31	Compal	PWR request	Add PU302, control signal changed to ACOFF	
7	44	Charger	12/31	Compal	EMI solution	Add PC129, PC130, PC131, PC132, PC133	
8	49	+CPU_CORE	12/31	Compal	EMI solution	Add PC242	
9	47	+1.5VSP/VGA COREP	01/02	Compal	HW request	Change PR513 to 0_ohm	
10	44	Charger	01/02	Compal	EMI solution	Add PC135 and PR141	
11	49	+CPU_CORE	02/15	Compal	Change high-side MOS for WWAN	Change PQ201 and PQ204 to powerpak	
12	43	DC Connector /CPU_OTP	02/15	Compal	AC LED change to KBC control	ACLEd# connect to EC pin 97	
13	43	DC Connector /CPU_OTP	02/19	Compal	WWAM issue	add PC241 47pF	
14	49	+CPU_CORE	02/19	Compal	WWAM issue	add PC243 PC244 47pF	

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Item	Fixed Issue (Reason for change)	PAGE	Modify List	Date	Phase
1	Transation Fail	08	C41, C42, C43, C44 Change ESR=7m ohm	11/21	DB
2	Disable TV out function from Docking	20	TV signal unconnected,DACB_VDD pull low 10K (R948).	11/07	DB
3	Update Connetor Library		CRT(JCRT1), HDMI(JHDMI1), ESATA(JP53), Finger print(JJP24), FAN(JP2), Speaker(JP60), Multi bay(JP12), Dual LED(D53, D54	11/17	DB
4	Delete LVDS B channel	19,20	Schematic Delete	11/17	DB
5	USB camera Footprint error	19	Change U42 to G916-390T1UF SOT23, it adjustable mode, R1091=215K , R1093=100K,Add GPIO 20 to turn off power	11/07	DB
6	Reserve Card reader D3E function	27,32	GPIO6= CR_CPPE# , GPIO22=CR_WAKE#	11/17	DB
7	Swap PCIE LAN and New card	27	Swap PCIE4 and PICE6	11/17	DB
8	Change GPU 1.8VS power	20, 21	Change 1.8VS to +VDD_MEM18	11/17	DB
9	Change G sensor control from SB, LED drive by +5VS	27, 39	Change G sensor control from SB	11/17	DB
10	Avoid Battery mode can't boot issue	38, 45	Add +3VALW GD to EC_RSMRST# to fix Battery mode can't boot issue	11/17	DB
11	Add G sensor ST and Bosch	37	Add G sensor ST and Bosch	11/17	DB
12	Change LAN solution (Marvell to Realtek)	30	Change LAN solution (Marvell to Realtek)	11/17	DB
13	LAN transformer interfere	30	U19 Change to correct transformer type	11/17	DB
14	Cardreader schematic review,add D3E function	32	R709-->10K, R1047-->8.2K, R1128-->Stuff, R705-->@, U37-->@, Cardreader LED-->+5VS, add D3E function	11/17	DB
15	Jack can't detect normal	33	R1059 change from 39.2 to 39.2K	11/17	DB
16	Docking can not power on	40	Add power on circuit D57,Q13R751,R752,R753	11/17	DB
17	HP audio team recommend	33, 35	C1480-C1487, C1352, C1354 change to 0.022U, Amp output setup to 15.6 dB, Reserve C747, C748 for GNDA and GND	11/17	DB
18	Audio jack can't detect normal	35	Add Pull up resistor R750 to +3VALW	11/17	DB
19	Docking HP audio test fail	35	Add C795, C796 to avoid DC level, and add R968, R969 to reduce HP out level	11/17	DB
20	Leakage problem	38	Correct direction prectek leakage	11/07	DB
21	EC pin define update	38	Delete EC_PME#, SYSON PU, SUSP# PU, LID_SW# change to +3VALW, Delete CLKRUN#, R582->@ for C0 chip, CIR PU+5VL, add 100P to BATT_OVP(EC recommend)	11/07	DB
22	Can't Hibernation(SLP_S4#)	38	Connect SLP_S4# to SB	11/17	DB
23	EC can't receive docking present	40	CONA# change +3VL	11/12	DB
24	Reserve capacitor on digital MIC for EMI request	19	Add C496,C498	11/07	DB
25	Add 2N7002 to GND on HDMI to avoid leakage.	21	Add Q74	01/04	SI
26	+VDD_MEM18 to +1.8VS, change to jummpers	22	Delete R1124,R1125 add PJP605	01/04	SI
27	HDCP ROM fail. HDCP_SCL need pull high.	22	R224 no stuff. R213 stuff.	01/04	SI
28	Reserve capacitor on digital MIC for SED, WWAN noise	26	Add C499,C502	01/04	SI

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Item	Fixed Issue (Reason for change)	PAGE	Modify List	Date	Phase
1	Change transformer vendor	30	change U19 library	01/04	SI
2	XMIT_OFF add a diode to avoid leakage.	31	Add D88	01/04	SI
3	Card reader recommend	32	XD_ALE need pull +3VS not pull low.	01/04	SI
4	change Q54 from transistor to MOS for cardreader LED.	32	Change Q54	01/04	SI
5	speaker pop issue	35	Change C1488 to 1U	01/04	SI
6	Reserve capacitor on SPL_FSEL#,CLK#,FER for EMI request	36	Add C2125,C2126,C2127	01/04	SI
7	Change EC_PME pull high from +3VL to +3VALW	38	R585 stuff	01/04	SI
8	Reserve damping resistor on SPL_CLK for EMI request	38	Add R191	01/04	SI
9	WLAN LED issue,WL_BLUE_LED# pull +3VS	39	Add R716	01/04	SI
10	Add bypass capacitance on sensor bottom	39	Add C261(4.7U)	01/04	SI
11	EC can't detect DOCK_PRESENT.	40	change R754 to 22 Ohm,R623 to 2K	01/04	SI
12	Add DOCK_VOL_UP#,DOCK_VOL_Down# pull +3VS	40	Add R594,R596	01/04	SI
13	SPDIF issue	40	follow Vader	01/04	SI
14	Docking CRT blurred	40	Change ping 31,39,22 connect to GND	01/04	SI
15	Change R650 and C770 to modify the power sequence	41	change R650 to 1K, C770 to 0.1u	01/04	SI
16	Add 12P on CLK_14M_ICh for WWAN noise	17	Add 12P on CLK_14M_ICh	02/15	PV
17	BKOFF# reserve pull low 10K	19	reserve R717	02/15	PV
18	Reserve CMD27 to support 64M X16	7,8	Reserve CMD27 to support 64M X16	02/15	PV
19	Reserve cap on HDA_BITCLK for WWAN noise issue	26	Reserve cap on HDA_BITCLK	02/15	PV
20	Reserve to prevent ESD issue	30	Reserve ESD diode on LAN LED pin	02/15	PV
21	Change WLAN and WWAN 0402 resistor to 0805	31	Change WLAN and WWAN 0402 resistor to 0805, and WLAN change to +3VS power plane	02/15	PV
22	Direct drive LED, and add D3E function diode	32	Direct drive LED and XD_ALE Pull L, and add D86 for D3E function	02/15	PV
23	Change R1092 value on BT power switch Gate	36	Change R1092 to 10K	02/15	PV
24	Correct AC_LED control by EC	38	AC_LED Change controll by EC	02/15	PV
25	Change all LED limit current resistor to 200 ohm	39	Change all LED limit current resistor to 200 ohm and add Touch pad LED for PR	02/15	PV
26	Add 33 ohm for MUTE_LED and DOCK_SLP_BTN#	40	Add 33 ohm for MUTE_LED and DOCK_SLP_BTN#	02/15	PV
27	follow check list ver:1.5	6	change R13 to 56 ohm;change R2-R8 to 51 ohm;change R11 to 0ohm	02/20	PV
28	Reserve Cap for EMI	42	add C1250,C1249	02/20	PV

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1	follow check list Ver:1.5	17	reserve R148	02/15	PV
2	follow check list Ver:1.5	9	change R45,R48 to 10K	02/15	PV
3	boot code "88" power sequence fail	27	add Diode from PWROK to RSMRST	02/15	PV
4	Change BT,LAN,DOCK,Multibay connect for DFX			02/15	PV
5	Change WWAN and WLAN LED	39		02/15	PV
6	For EMI	37	SPL_CLK add R2118 , R2119 , R2120 => 33ohm add C2125 , C2126 , C2127 => 22pF;R553, 554, 556 =>10ohm	02/15	PV
7	For EMI	30	LAN add C656 and C657 => 0.1uF	02/15	PV
8	For EMI	39	T/P add D28 and C729	02/15	PV
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