

ZK2 SYSTEM BLOCK DIAGRAM

BOM MARK
I@: INT VGA
E@: STUFF FOR EXT VGA
ND@: STUFF FOR NON-DOCK
D@: DOCK
SP@: SPECIAL FOR EXT/INT VGA

CLOCK GENERATOR
ICS: ICS9LPRS365BGLFT
SELGO: SLG8SP512K05
P2

Penryn 479
uFCPGA
P3, P4

Thermal Sensor
(NS LM95245)
P3

Fan Driver
(G991)
P30

DDR PWR TPS5116 P36	CHARGER ISL6251 P32
THERMAL PROTECTION P37	3/5V SYS PWR ISL6237 P33
2.5V/ 1.5V PWR DISCHARGER P38	CPU CORE PWR ISL6262A P34
POWER TREE P39	+1.05V RT8202 P35

DDRII
SO-DIMM 0
SO-DIMM 1
P16

NB Cantiga
(GM45/ PM45/ GL40)
P5, P6, P7, P8, P9, P10, P11

MXM (n-Vidia) NB9M-GS
VRAM 512MB
P17

SWITCH CIRCUIT
P18

HDMI switch (PS8122)
P19

CRT
P18

LVDS
P18

HDMI
P19

DOCKING/DVI
P19

MP-Stage
31ZK2MB0000: ZK2 MB ASSY(GM/UMA)ASSY W/O CPU
31ZK2MB0010: ZK2 MB ASSY(PM/MXM)ASSY W/O CPU
31ZK2MB0020: ZK2 MB ASSY(PM/MXM) W/O CPU/E-SATA

HDD (SATA) *2
P23

ODD (SATA)
P23

SB ICH9M
P12,P13,P14,P15

eSATA Conn.
USB1
P29

USB Port x 3
USB0, 4, 7
P29

Bluetooth
USB5
P21

CCD
USB11
P18

FingerPrint
USB9
P30

Wire Docking
USB10
P30

eSATA Buffer
(PI2EQX3021)
P29

Audio CODEC (ALC888S)
P24

HDCP ROM (Option)
P13

EC (WPC775LDG)
P31

Media Cardreader (RTS5158E)
USB2
P27

ATHEROS Giga-LAN (AR8121)
P20

New Card
USB6
P26

Mini Card WLAN / TV
USB2 & 3
P22

Audio Amplifier
P24,P25

Sub-Amplifier (MAX9736B)
P25

Speaker
P25

S/PDIF
P25

SUBWOOFER
P25

Line in
P25

MIC Jack
P25

Int. D-MIC
P18, P24

MDC 1.5
P24

SPI ROM
P31

Touch Pad
P30

K/B COON.
P30

MMB
P28

CIR
P31

Card Reader Connector
P27

LAN SWITCH (PI3L500)
P21

DOCK/LAN
P30

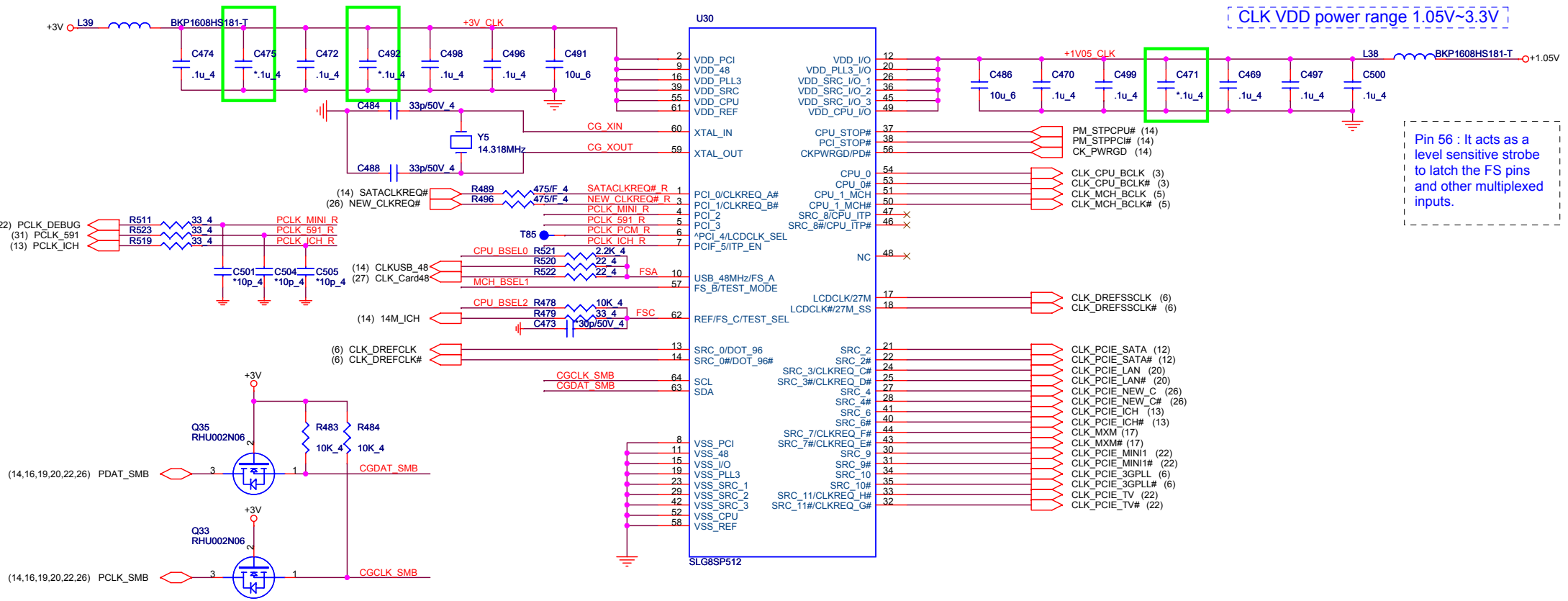
Transformer
P21

RJ45
P21

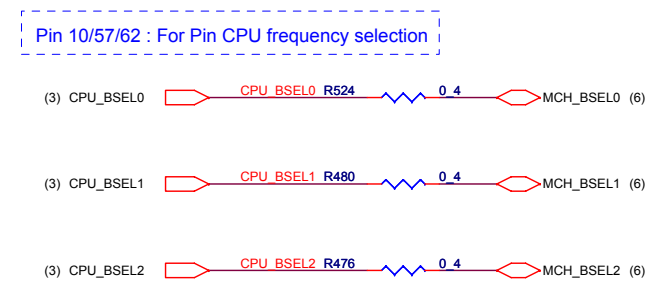
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PROJECT : ZK2
Block Diagram
Rev 3B
Date: Friday, June 27, 2008
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DA0ZK2MB6D0
DA0ZK2MB6C0
DA0ZK2MB6B0
DA0ZK2MB6A0

Clock Generator



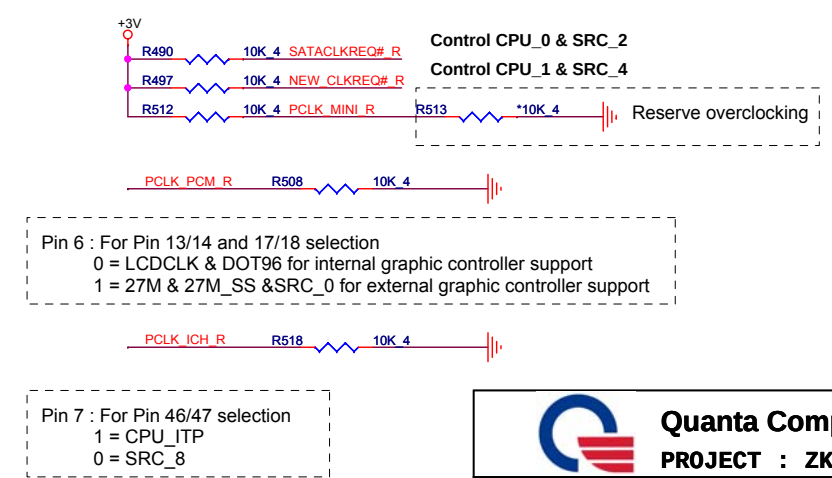
CPU Clock select



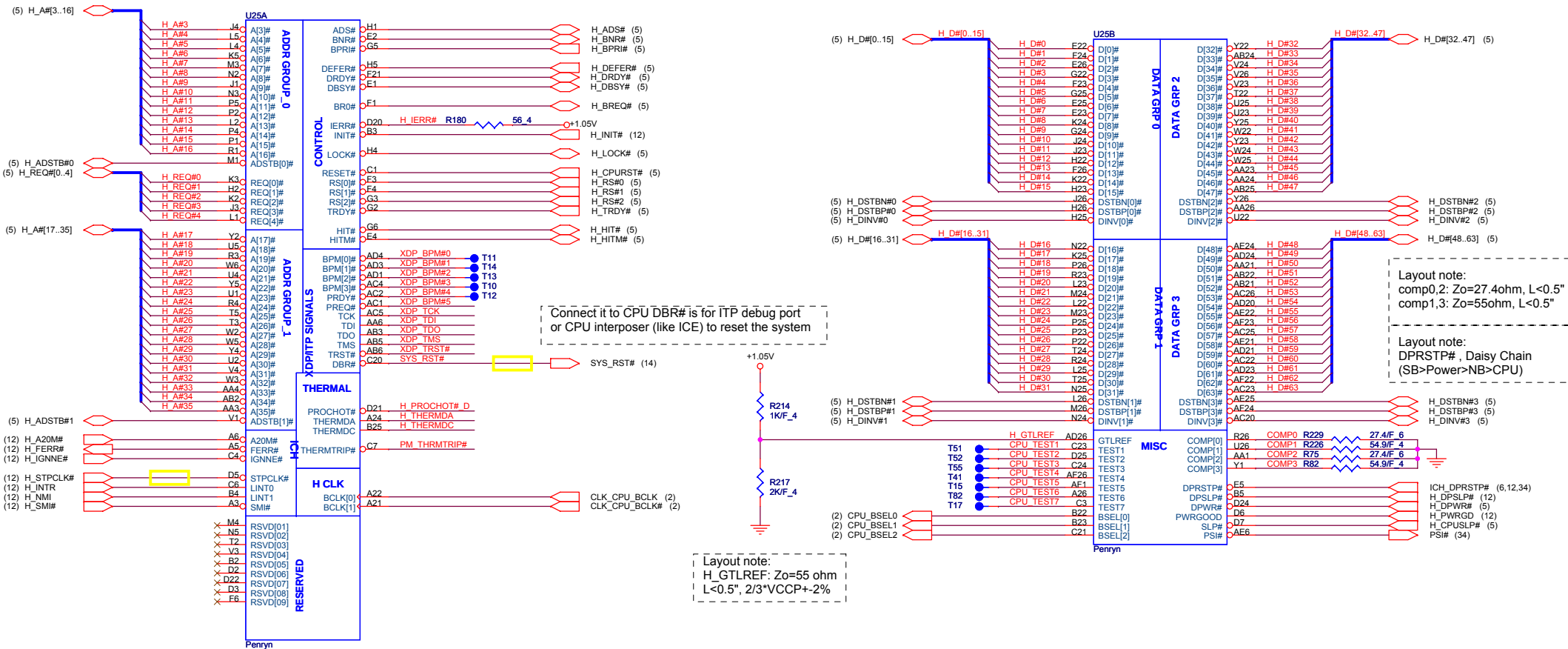
BSEL Frequency Select Table

FSC	FSB	FSA	Frequency
0	0	0	266Mhz
0	0	1	133Mhz
0	1	1	166Mhz
0	1	0	200Mhz
1	1	0	400Mhz
1	1	1	Reserved
1	0	1	100Mhz
1	0	0	333Mhz

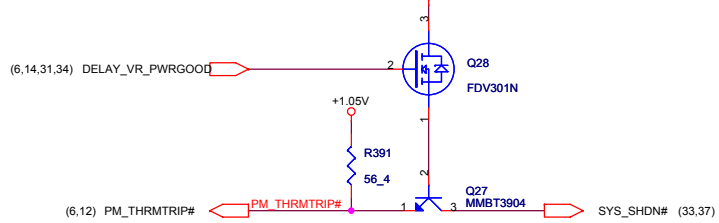
Strap table



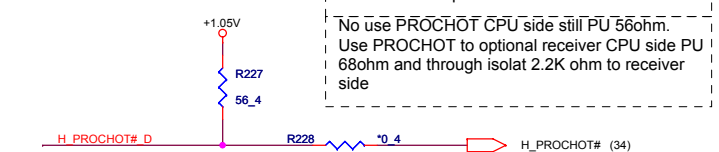
CLOCK GENERATOR



Thermal Trip

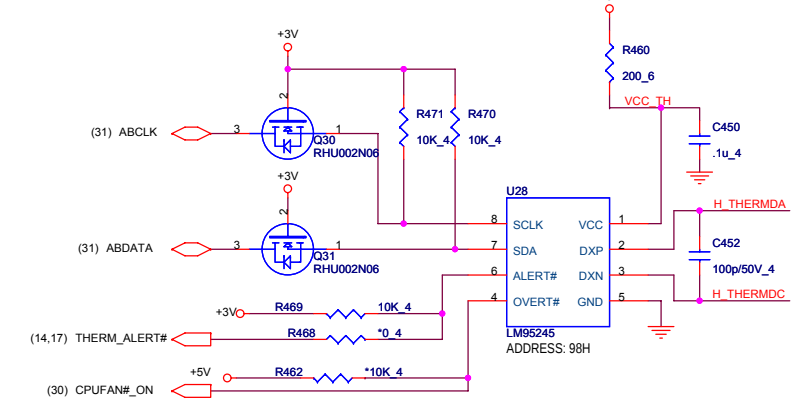


Processor hot

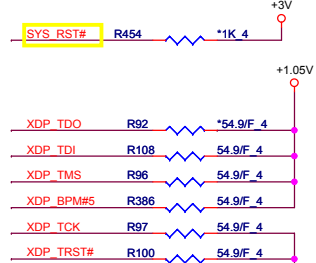


CPU 1/2

CPU Thermal monitor

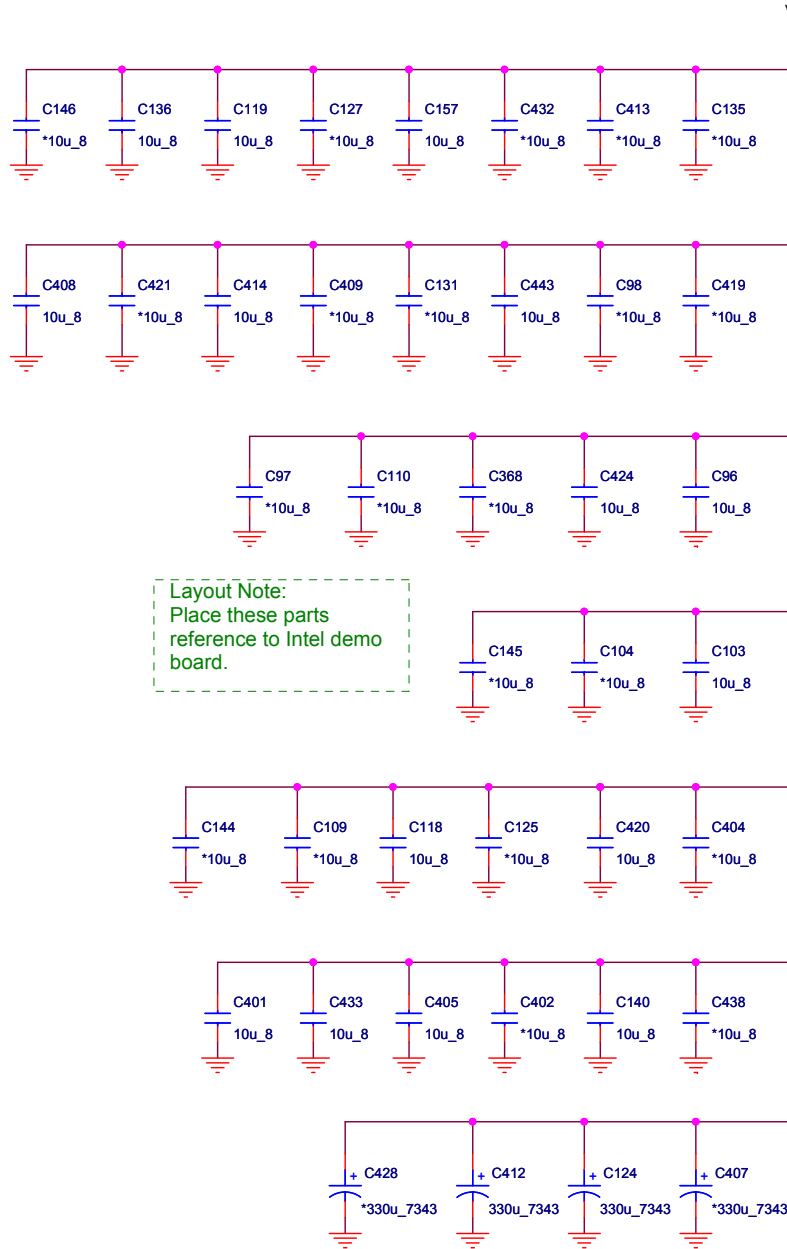
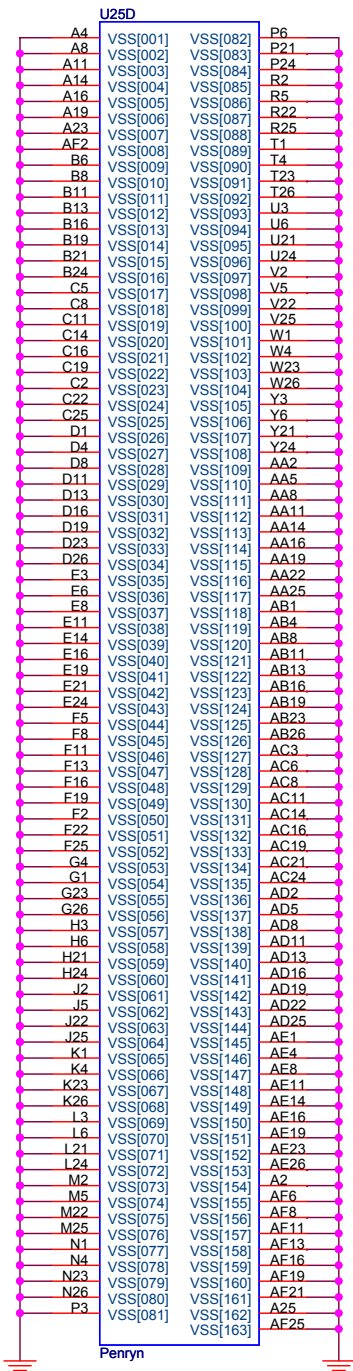


XDP PU/PD



XDP_DBRESET# and XDP_TDO reserve for XDP

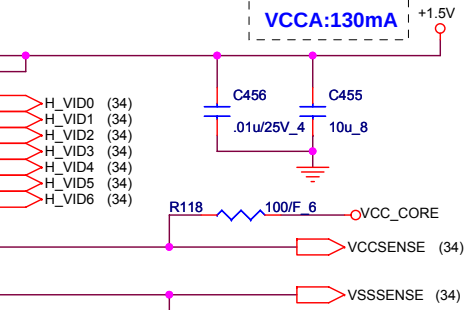
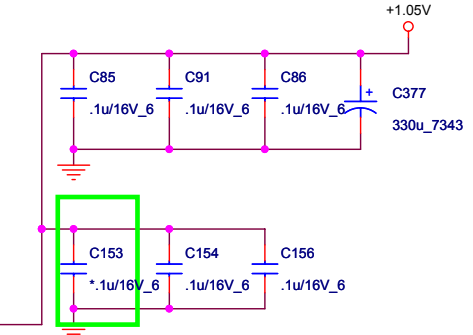
CPU 2/2



VCC:38A (Low power type)
VCC:47A (Standard type)

Layout Note:
Inside CPU center cavity in 2 rows

VCCP : 2.5A(Supply after VCC Stable)
4.5A(Supply before VCC Stable)



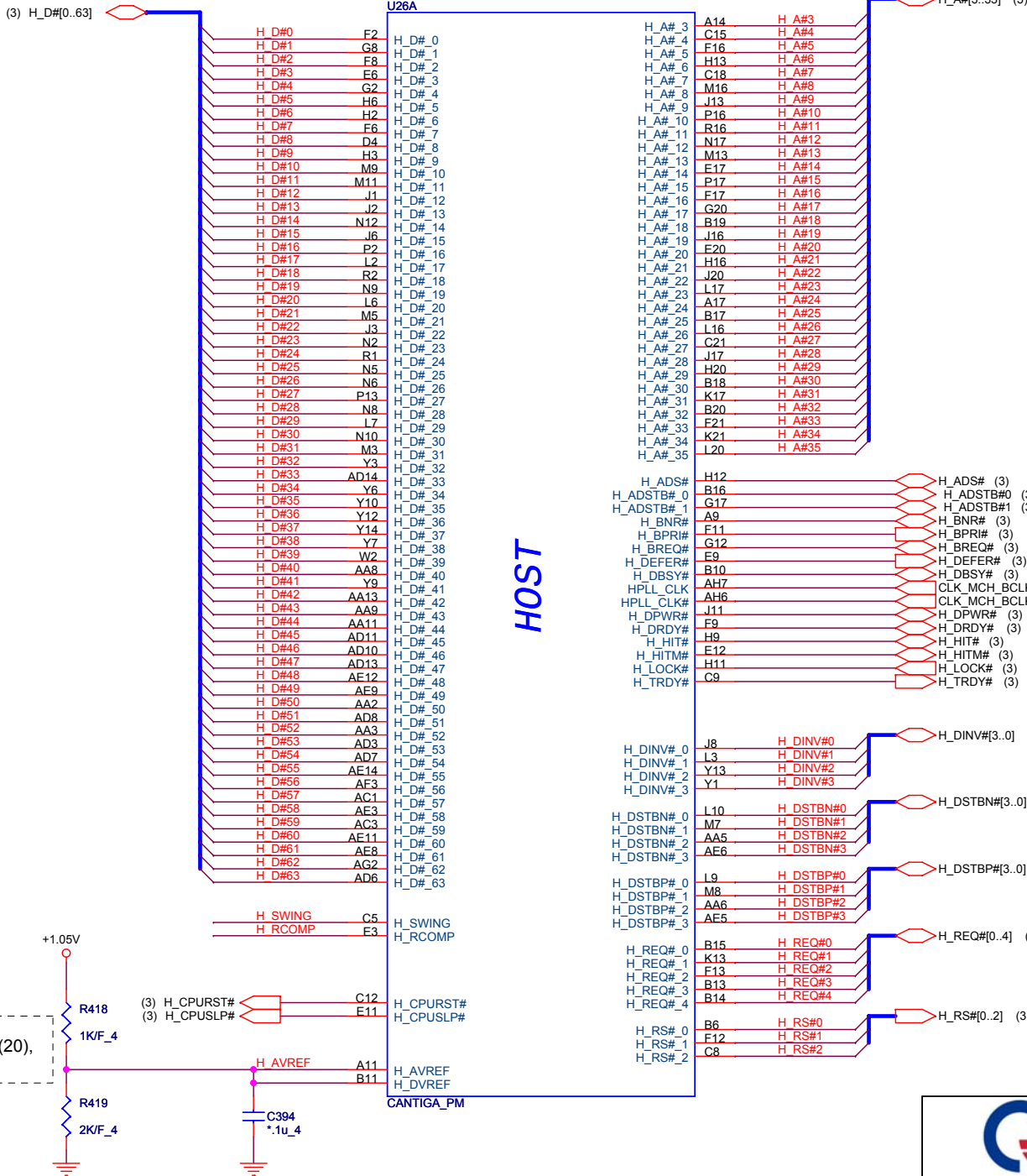
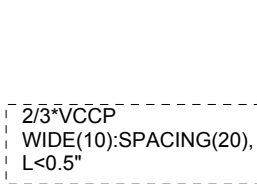
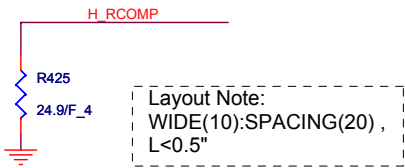
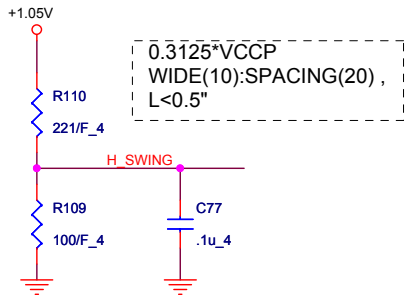
Montevina platform : Early Reference Board Schematics Feb 2007. Rev 1.0
stuff 22U*34, NC 22U*2
stuff 330U*2, NC330U*2



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	QCI P/N
Intel Cantiga (G)M	AJSLB940T04
Intel Cantiga (P)M	AJSLB970T06



GMCH (CANTIGA)



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PROJECT : ZK2

Size	Document Number	Rev
		3B

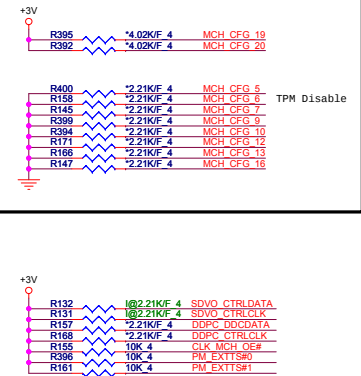
GMCH HOST

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Strap table

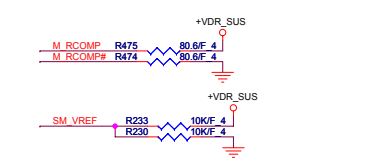
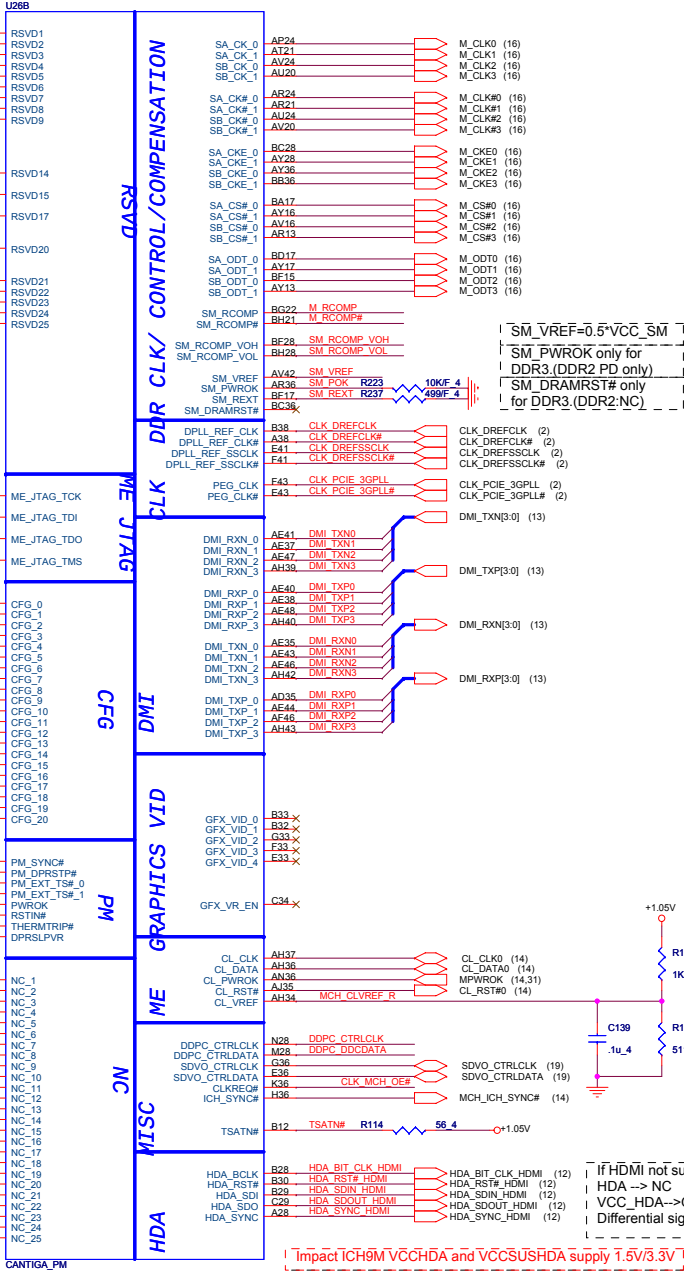
Pin Name	Strap description	Configuration
CFG[2:0]	FSB Frequency Select	000 = FSB 1066MHz 010 = FSB 800MHz 011 = FSB 667MHz
CFG[4:3]	Reserved	
CFG5	DMI X2 Select	0 = DMI X2 1 = DMI X4(Default)
CFG6	iTPM Host Interface	0 = iTPM Host Interface is enabled 1 = iTPM Host Interface is disabled(Default)
CFG7	ME TLS Confidentiality	0 = AMT Firmware will use TLS cipher suite with no confidentiality 1 = AMT Firmware will use TLS cipher suite with confidentiality(Default)
CFG8	Reserved	
CFG9	PCIe Graphics Lane Reversal	0 = Reverse Lanes 1 = Normal operation(Default)
CFG10	PCIe Loopback enable	0 = Enabled 1 = Disabled (Default)
CFG11	Reserved	
CFG12	ALLZ	0 = ALLZ mode enable 1 = disable(Default)
CFG13	XOR	0 = XOR mode enable 1 = disable(Default)
CFG[15:14]	Reserved	
CFG16	FSB Dynamic ODT	0 = Dynamic ODT disable 1 = Dynamic ODT Enable(Default)
CFG[18:17]	Reserved	
CFG19	DMI Lane Reversal	0 = Normal (Default) 1 = Lanes Reversed
CFG20	Digital Display Port (SDVO/DP/iHDMI) or Concurrent with PCIe	0 = Only Digital Display port (SDVO/DP/iHDMI) or PCIe is operational (Default) 1 = Digital Display port (SDVO/DP/iHDMI) and PCIe are operating simultaneously via PEG port
SDVO_CTRLDATA	SDVO Present	0 = No SDVO/HDMI Device Present(Default) 1 = SDVO/HDMI Device present
DDPC_CTRLDATA	Digital Display Present	0 = Digital display(HDMI/DP) device absent(Default) 1 = Digital display(HDMI/DP) device present

Strap pin



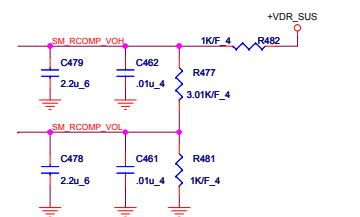
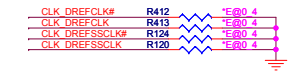
NB Thermal trip pin
No use Thermal trip NB side can NC.(NB has ODT)

PM DPRSTP#
The Daisy chain topology should be routed from ICH9M to IMVP, then to (G)MCH and CPU, in that order.

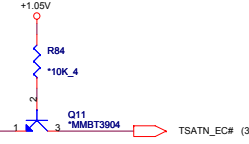


SM_VREF.Default use voltage divider for poor layout cause +SMDDR_VREF not meet spec.And Intel circuit PU/PD is 1K.But Check list PU/PD is 10K.

INTEL FAE Suggest PD for Ext graphics



NB Thermaltrip



Check list note : CL_VREF=0.35V

DDPC_CTRL for HDMI port C
SDVO_CTRL for HDMI port B

<Checklist ver0.8>
If TSATN# is not used, then it must be terminated with a 56-Ω pull-up resistor to VCCP.

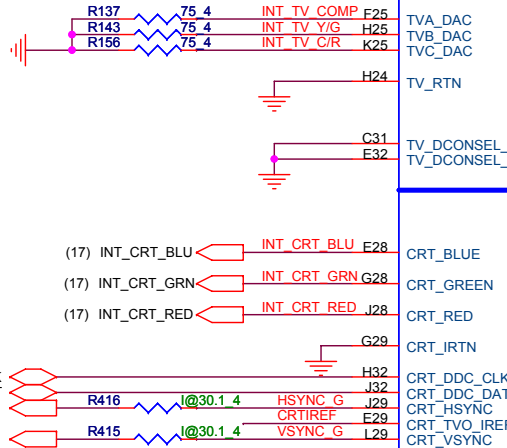
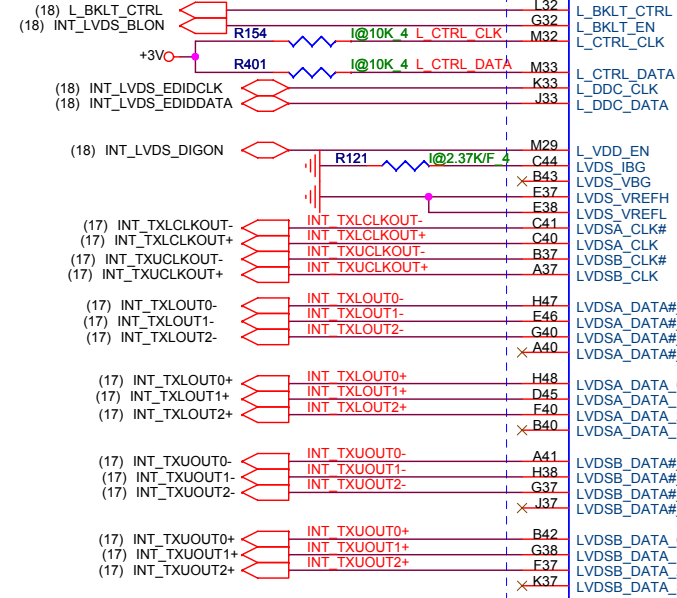
<Pin out check issue>
Cantiga EDS 0.7 change Ball B12 to TSATN# from TSATN

Impact ICH9M VCCHDA and VCCSUSHDA supply 1.5V/3.3V
NOTE:
If (G)MCH's HD Audio signals are connected to ICH9M for iHDMI, VCCHDA and VCCSUSHDA on ICH9M should be only on 1.5V. These power pins on ICH9M can be supplied with 3.3V if and only if (G)MCH's HDA is not connected to ICH9M. Consequently, only 1.5V audio/modem codes can be used on the platform.

IV@
EV@
SP@

IV&EV Dis/Enable setting

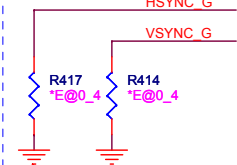
If LVDS no use, all signal can NC



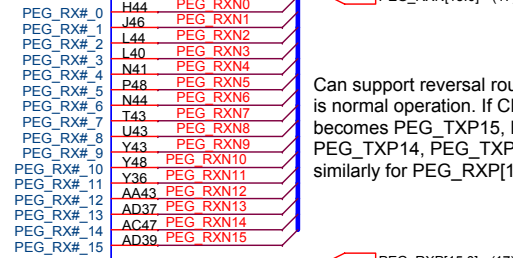
HSYNC/VSYNC serial R place close to NB

CRTIREF pull down for IV cantiga 1.02k ohm/F

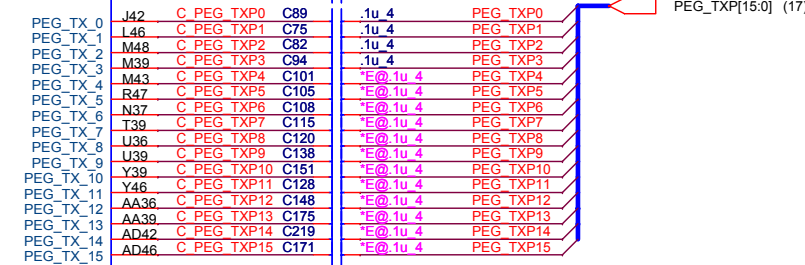
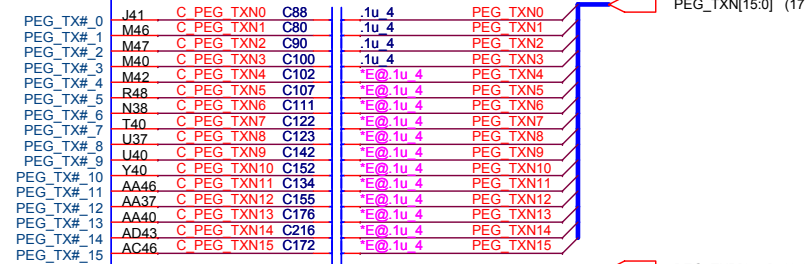
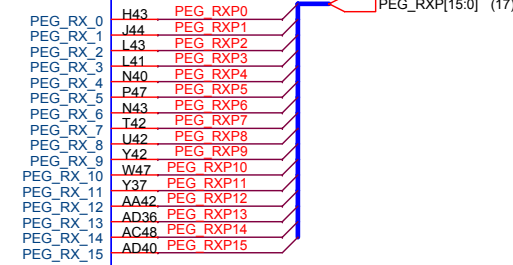
MXM STUFFED.



L<0.5", If PCIe not support still connect to +VCC_PEG



Can support reversal routing. If CFG9=1, PCI Express is normal operation. If CFG9=0, then PEG_TXP0 becomes PEG_TXP15, PEG_TXP1 becomes PEG_TXP14, PEG_TXP2 becomes PEG_TXP13, etc. similarly for PEG_RXP[15:0] and PEG_RXN[15:0]



IV&EV Dis/Enable setting

<5/31>Montevina_Schematics_Checklist_Rev0_8
a) For TVOUT Disabled, TV_DCONSEL[1:0] Connect to GND. But design guide Rev0.7 show NC. What is correct.
b) For CRT DAC Disable, CRT_DDC_CLK, CRT_DDC_DATA, CRT_HSYNC, CRT_VSYNC These signals should be connected to GND. But design guide Rev0.7 show NC, Intel suggest follow Design guide.

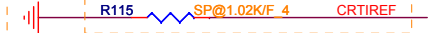
<check list>

For EV@
CRT R/G/B 0ohm to GND
CRTIREF 0ohm to GND

<check list>

For IV@
CRT R/G/B 150ohm to GND
CRTIREF 1.02Kohm to GND

CRTIREF
For IV: 1.02Kohm
For EV: 0ohm



SP@

CRT_R/G/B
For IV: 150ohm
For EV: 0ohm



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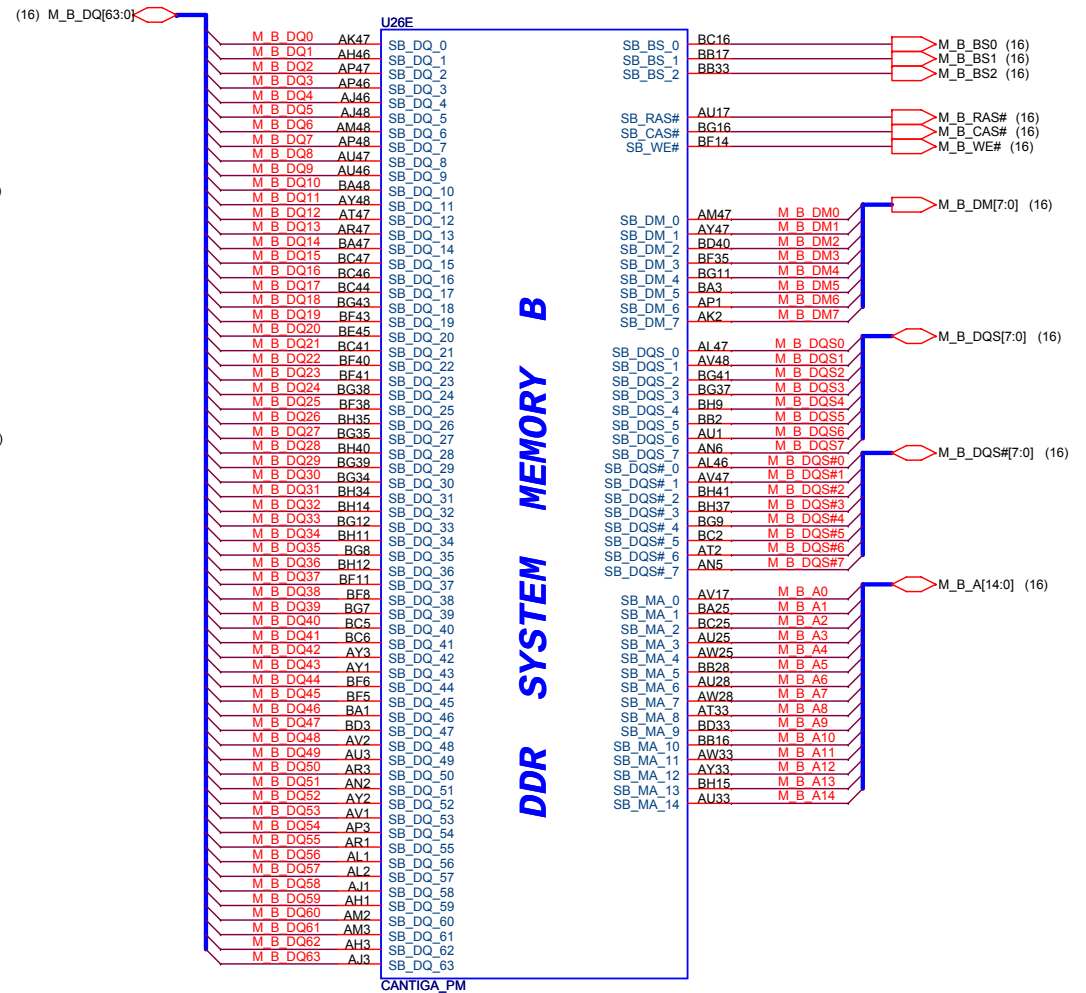
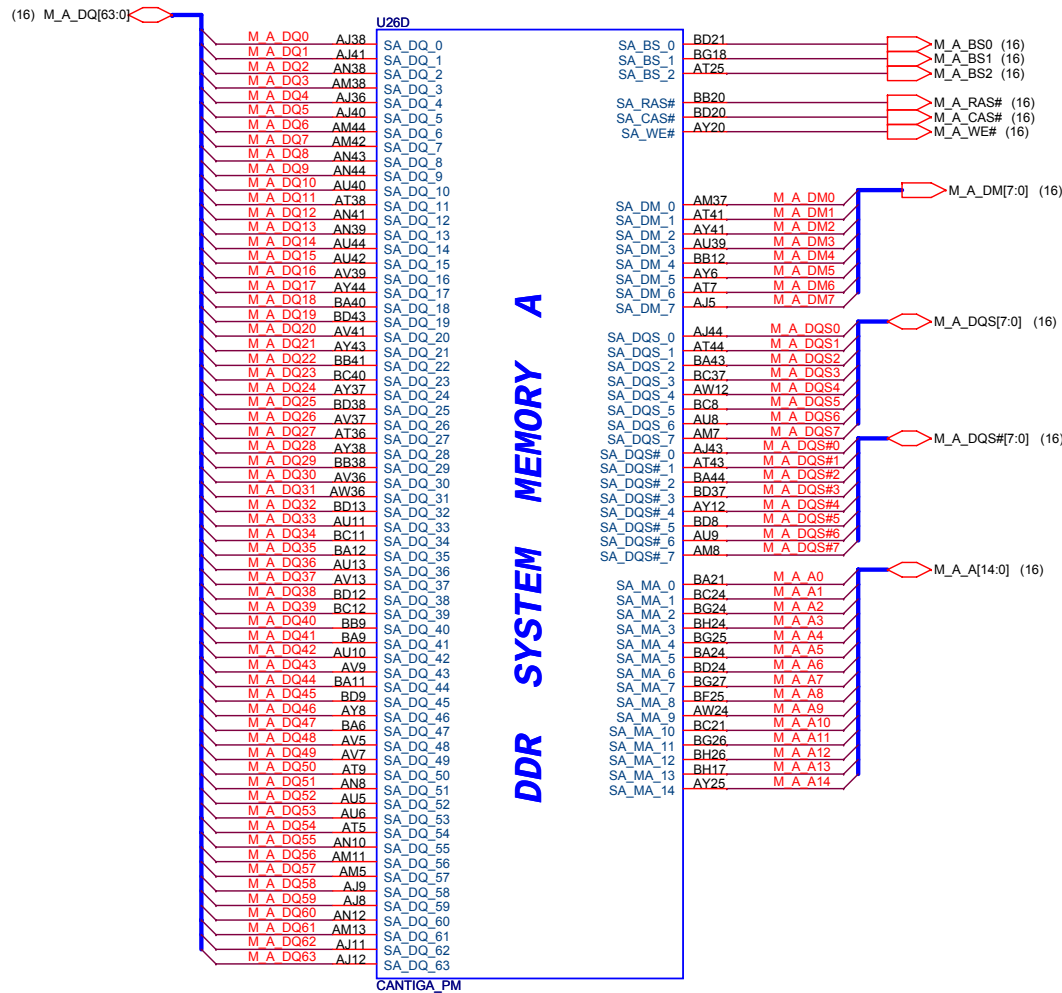
GMCH VGA

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Rev 3B

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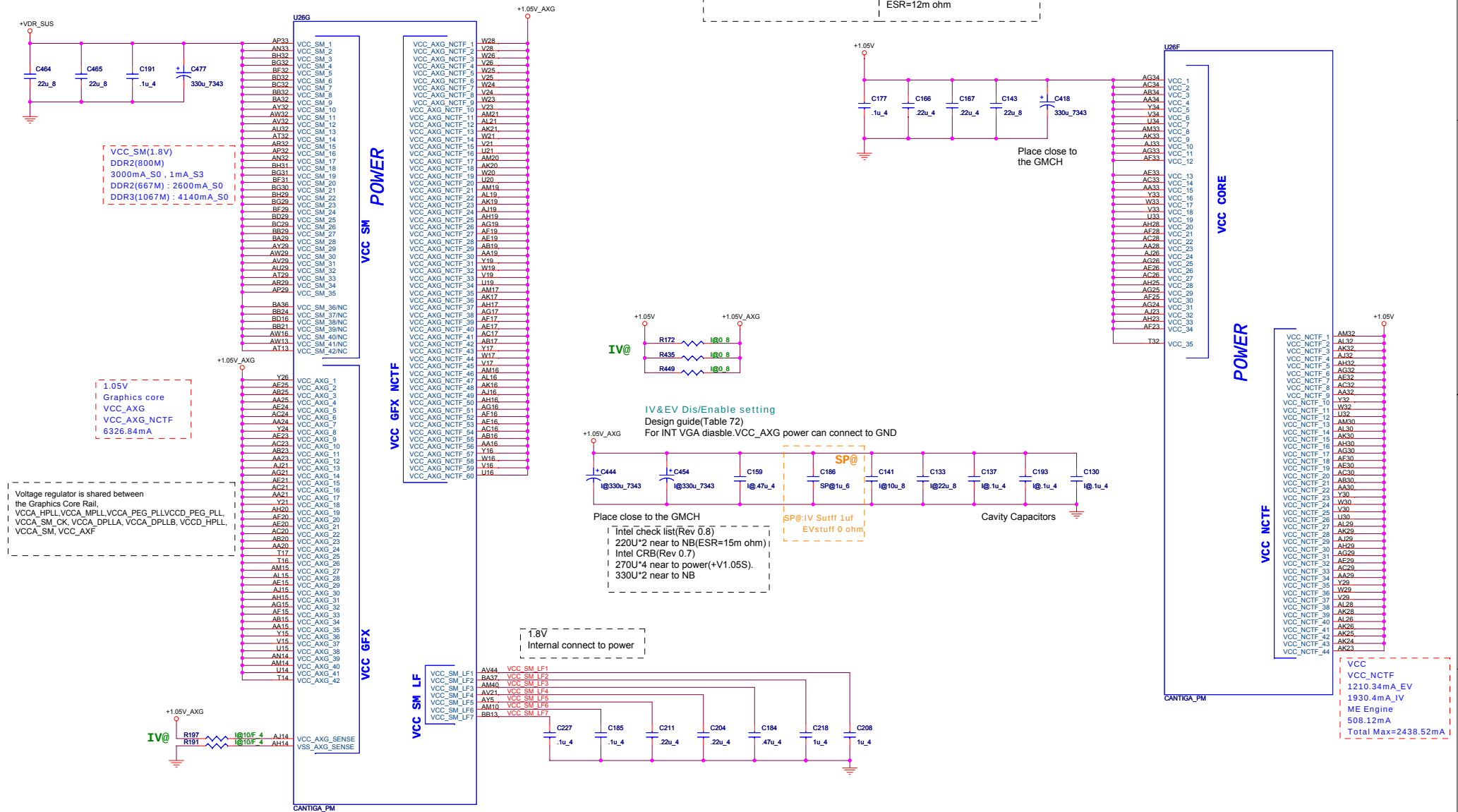
GM	TDP	10.5~12W
GS	TDP	7~8W
PM	TDP	7W

Intel check list(Rev 0.8)
No description for VCC_SM bulk CAP
Intel CRB(Rev 0.7)
330U*1 Reserve near to power
330U*1 near to NB

```

| Intel check list(Rev 0.8)
| 270U*1 near to power(+V1.05M).
| 270U*2 near to NB
| Intel CRB(Rev 0.7)
| 270U*3 near to power(+V1.05M).
| 270U*1 near to NB
| ESR=12m ohm

```

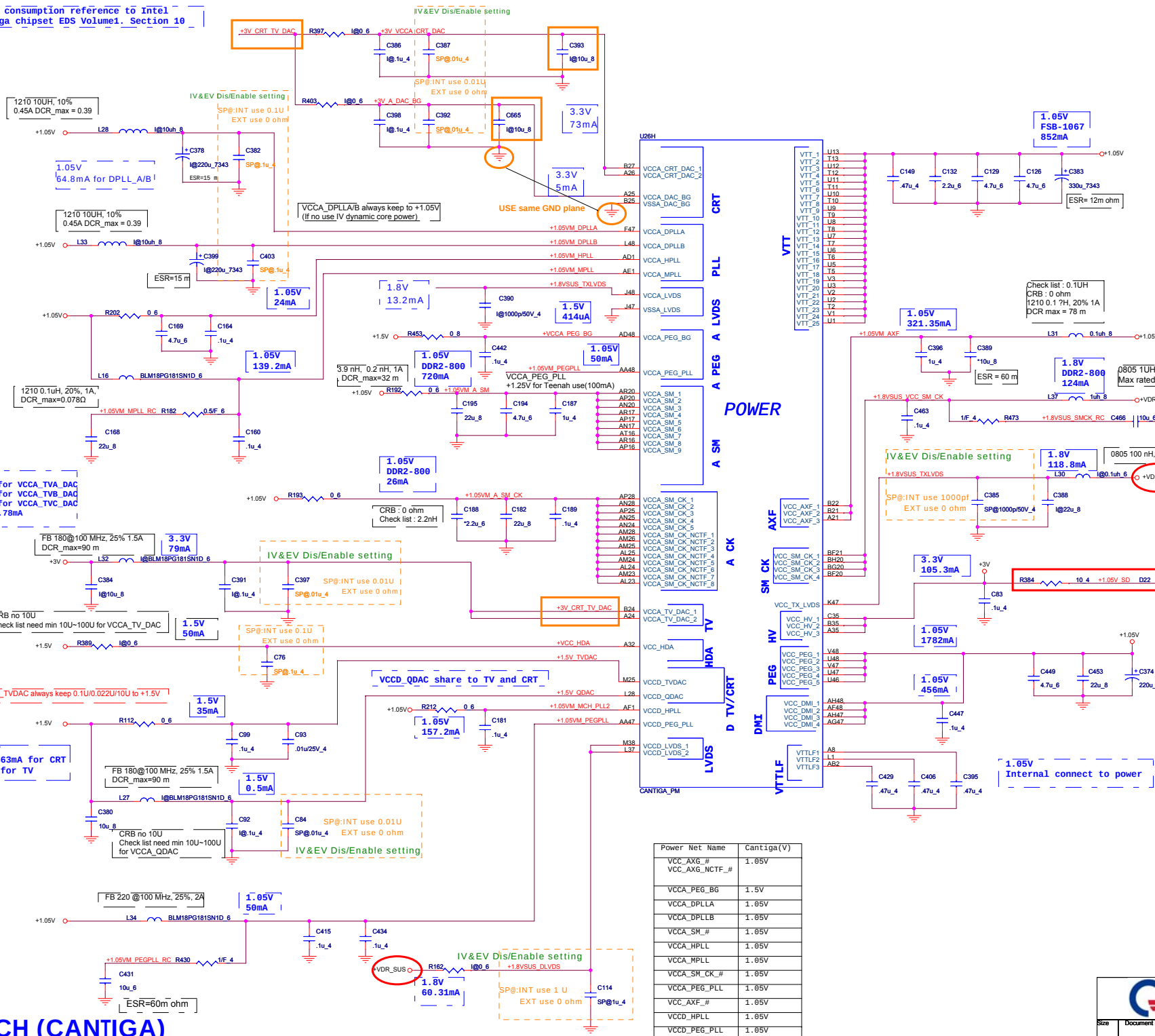


1. Route VCC_AXG_SENSE and VSS_AXG_SENSE differentially
2. VCC_AXG_SENSE PU to +V GFX_CORE_INT with 10ohm and VSS_AXG_SENSE PD with 10ohm for Intel suggest

VCC
VCC_NCTF
1210.34mA_EV
1930.4mA_IV
ME Engine
508.12mA
Total Max=2438.52mA

GMCH (CANTIGA)

IV@
EV@
SP@

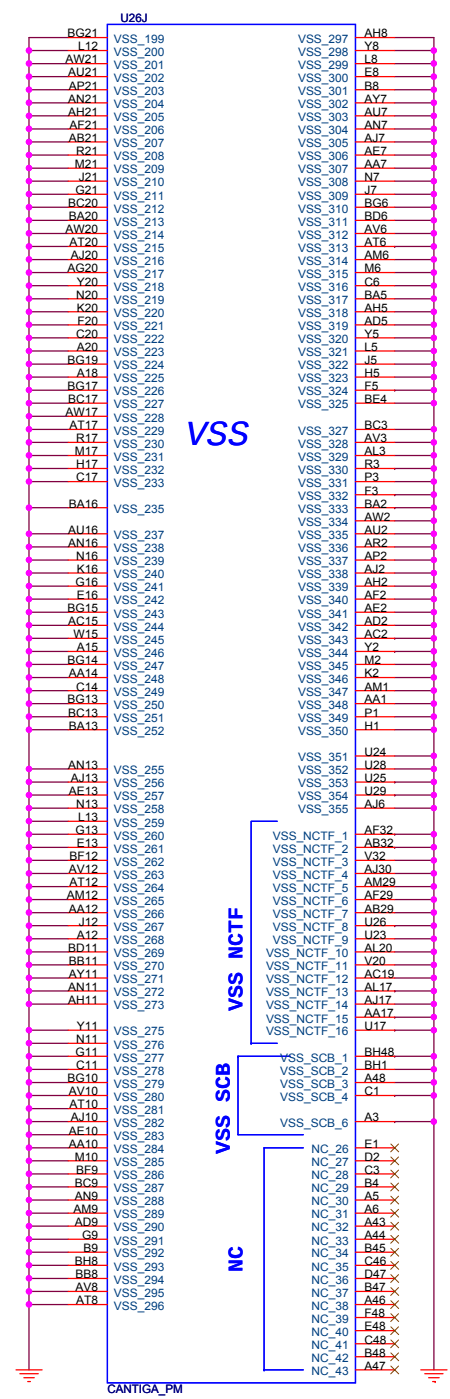
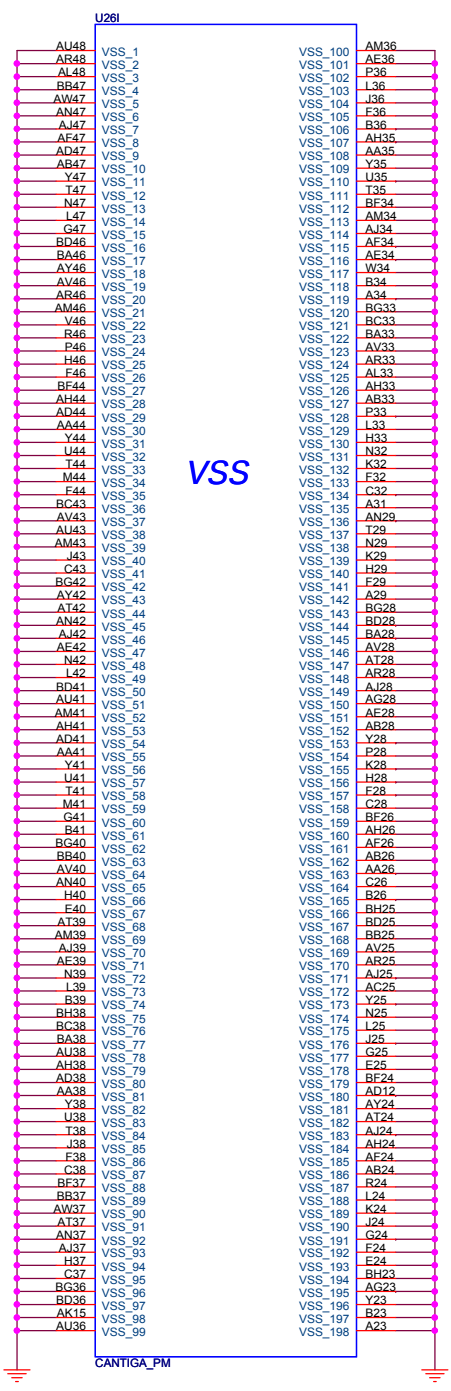


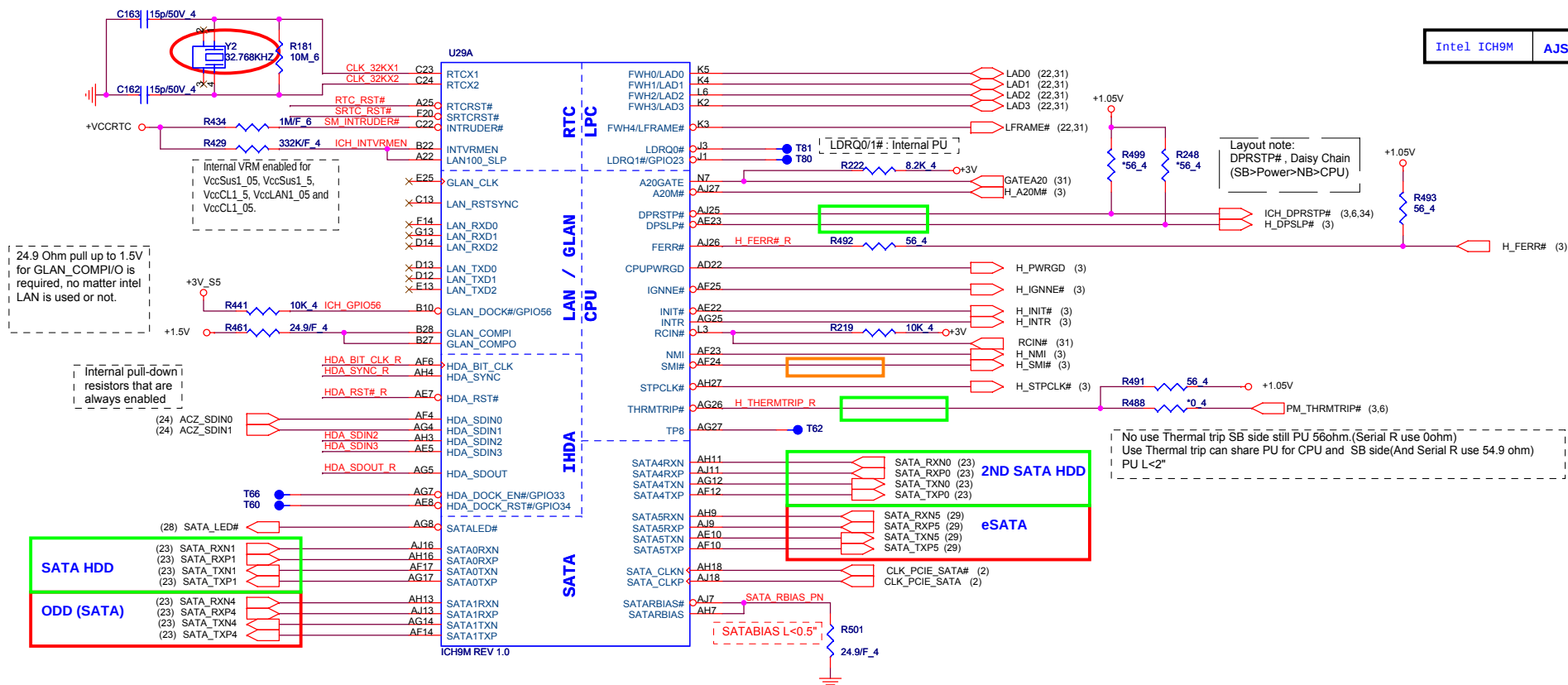
External Graphics (GMCH Integrated Graphics Disable)

VCCSYNC_CRT	GND
VCCA_CRT_DAC	GND
VCCD_LVDS	GND
VCC_TX_LVDS	GND
VCCA_LVDS	GND
VCCA_TVDAC	GND
VCCD_QDAC	GND
VCCA_DAC_BG	GND
VCC_AXG	GND
VCC_AXG_NCTF	GND

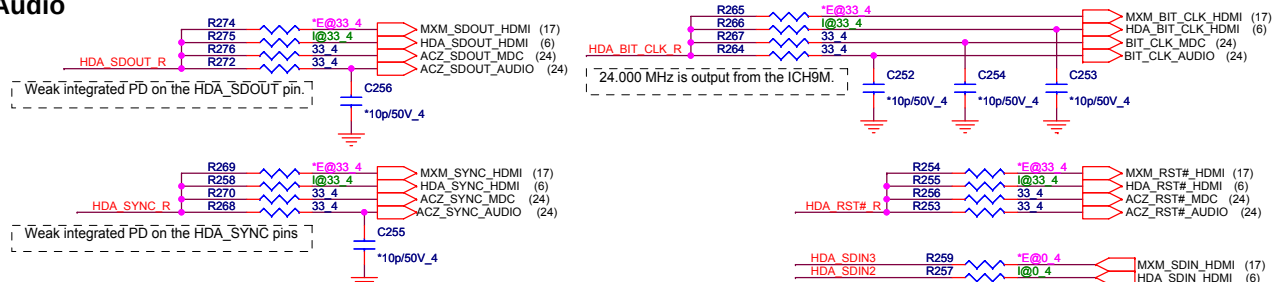
POWER

Power Net Name	Cantiga(V)
VCC_AXG_# VCC_AXG_NCTF_#	1.05V
VCCA_PEG_BG	1.5V
VCCA_DPLLA	1.05V
VCCA_DPLLB	1.05V
VCCA_SM_#	1.05V
VCCA_HPLL	1.05V
VCCA_MPLL	1.05V
VCCA_SM_CK_#	1.05V
VCCA_PEG_PLL	1.05V
VCC_AXF_#	1.05V
VCCD_HPLL	1.05V
VCCD_PEG_PLL	1.05V

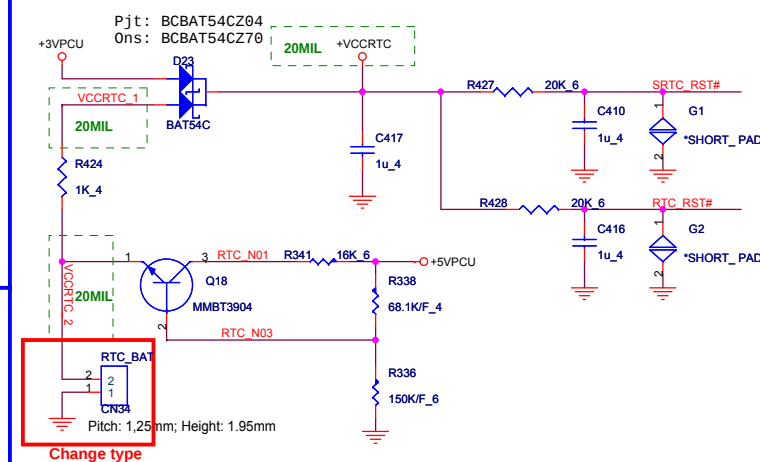




HD Audio

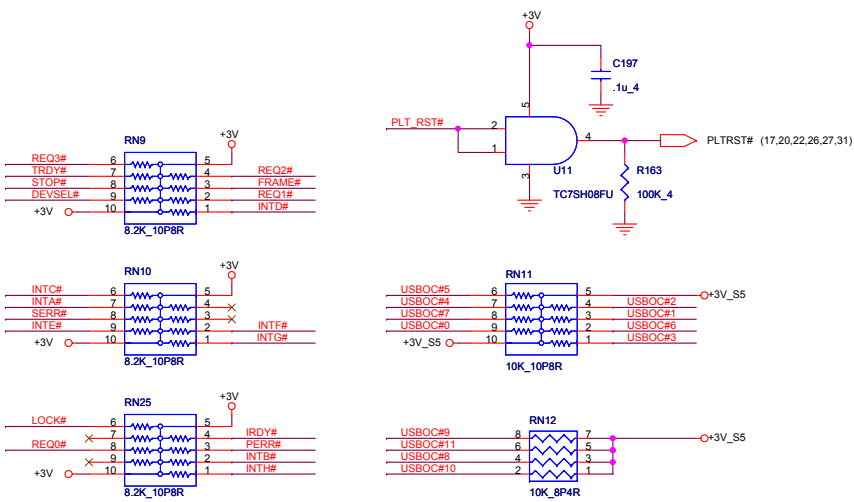
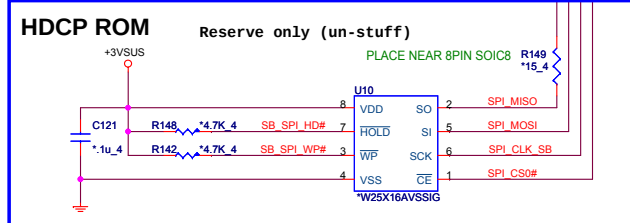
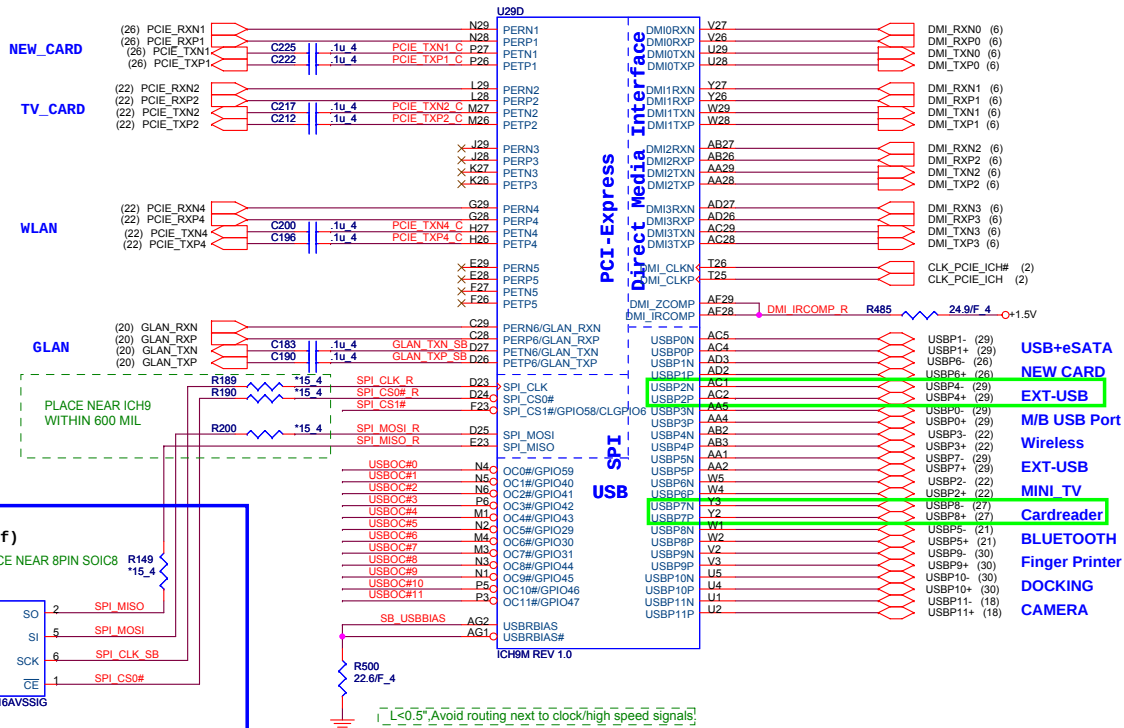
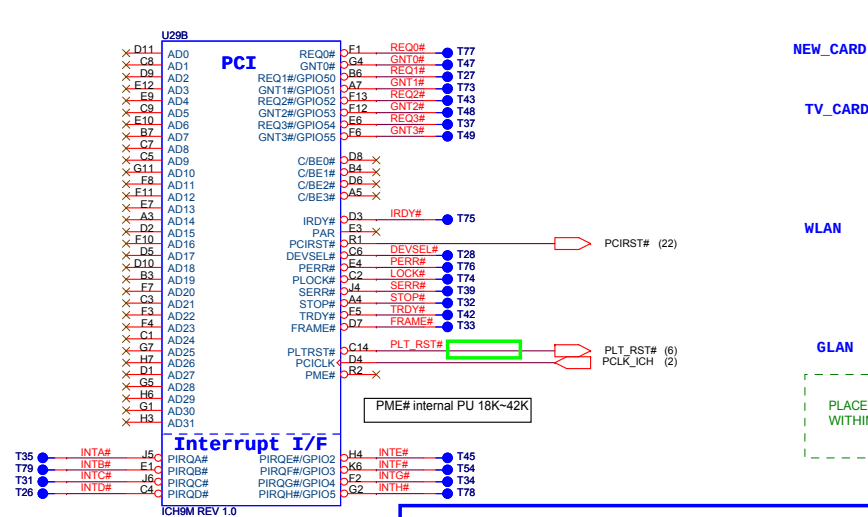


RTC

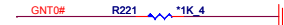


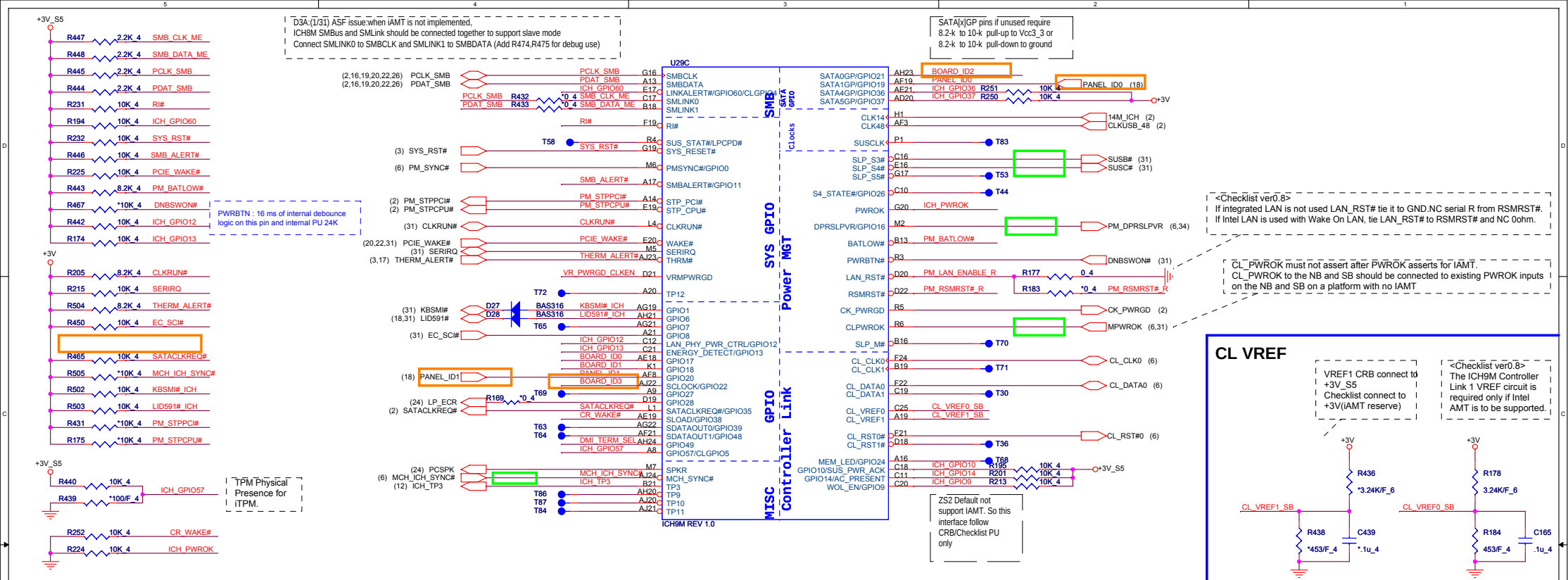
South Bridge Strap Pin (1/3)

Pin Name	Strap description	Sampled	Configuration			PU/PD
HDA_DOCK_EN/ GPIO33	Flash Descriptor Security Override Strap	PWROK	0 = The Flash Descriptor Security will be overridden. 1 = The security measures defined in the Flash Descriptor will be in effect			This strap should only be enabled in manufacturing environments using an external pull-up resistor.
SATALED#	PCI Express Lane Reversal (Lanes 1-4)	PWROK	Internal PU			
TP3	XOR Chain Entrance	PWROK	ICH_TP3	HDA_SDOUT	Description	(14) ICH_TP3 
			0	0	RSVD	
HDA_SDOUT	XOR Chain Entrance /PCI Express* Port Config 1 bit 1(Port 1-4)	PWROK	0	1	Enter XOR Chain	
			1	0	Normal operation(Default)	
			1	1	Set PCIe port config bit 1	



South Bridge Strap Pin (2/3)

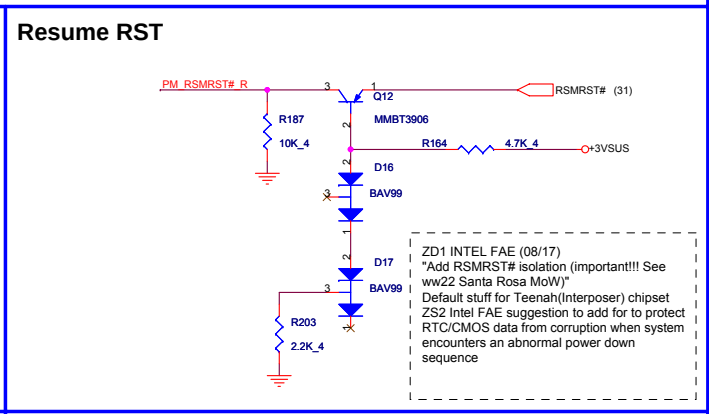
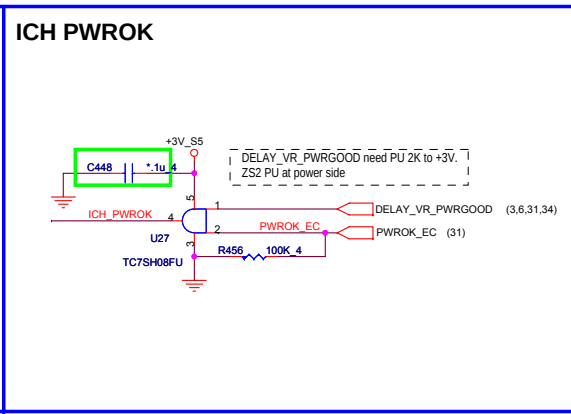
Pin Name	Strap description	Sampled	Configuration	PU/PD		
HDA_SYNC	PCI Express Port Config 1 bit 0 (Port 1-4)	PWROK	0 = Default 1 = Setting bit 0			
GNT2# / GPIO53	PCI Express Port Config 2 bit 2 (Port 5-6)	PWROK	0 = Setting bit 2 1 = Default			
GNT1# / GPIO51	ESI Strap(Server Only)	PWROK	0 = DMI for ESI-compatible 1 = Default			
GNT3# / GPIO55	Top-Block Swap Override	PWROK	0 = "top-block swap" mode 1 = Default			
SPI_MOSI	Integrated TPM Enable	CLPWROK	0 = INT TPM disable(Default) 1 = INT TPM enable			
GNT0#	Boot BIOS Selection 0	PWROK	PCI_GNT#0	SPI_CS#1	Boot Location	
			0	1	SPI	
SPI_CS1# / GPIO58 / CLGPIO6	Boot BIOS Selection 1	CLPWROK	1	0	PCI	
			1	1	LPC(Default)	



Panel ID (UMA only)

Close to LCD connector (CN3)

P_ID1 (GPIO20)	P_ID0 (GPIO19)	Resolution
0	0	1366x768
0	1	1920x1080
1	0	Reserved
1	1	Reserved

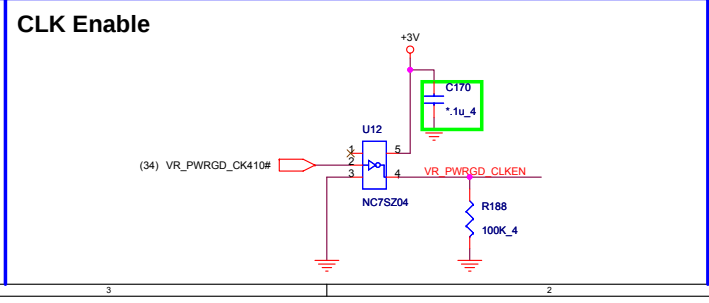


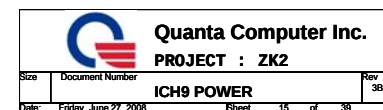
M/B ID

Board ID	ID3	ID2	ID1	ID0
default	0	0	0	0
	0	0	0	1
	0	0	1	0
	0	0	1	1
	0	1	0	0

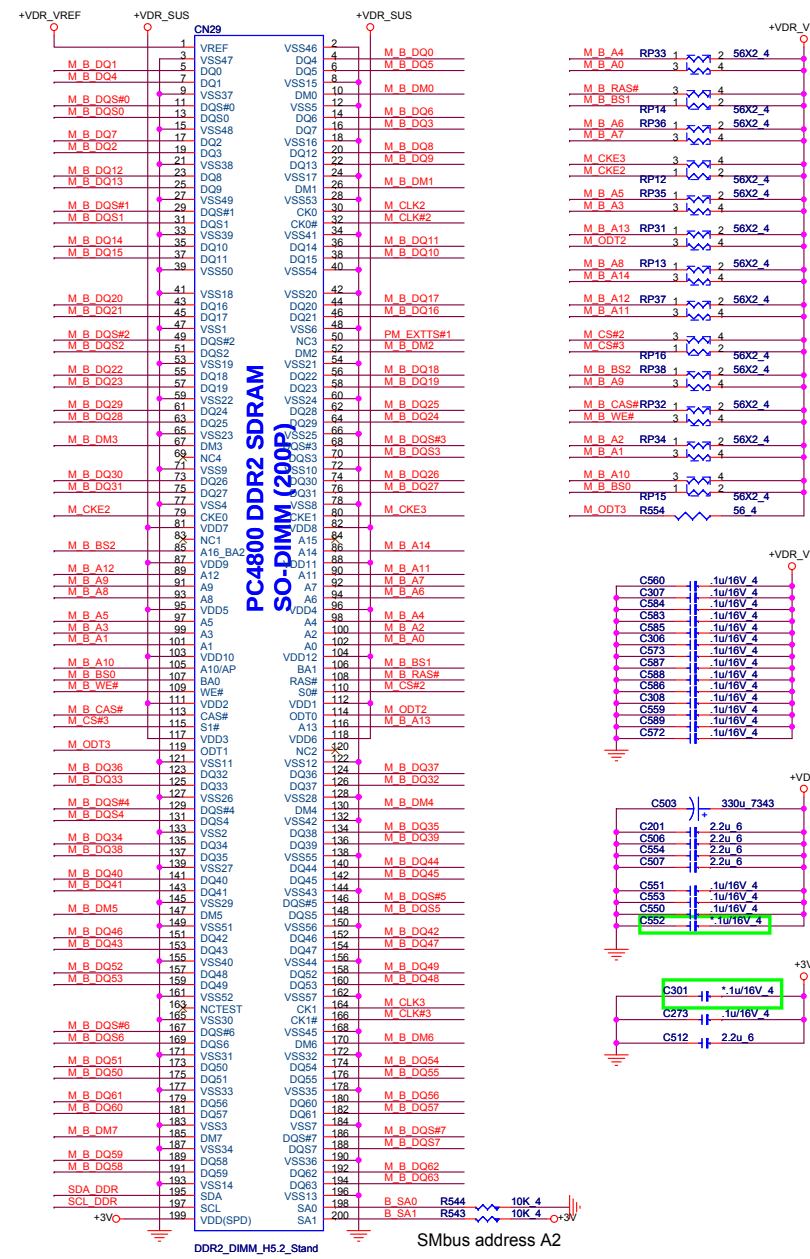
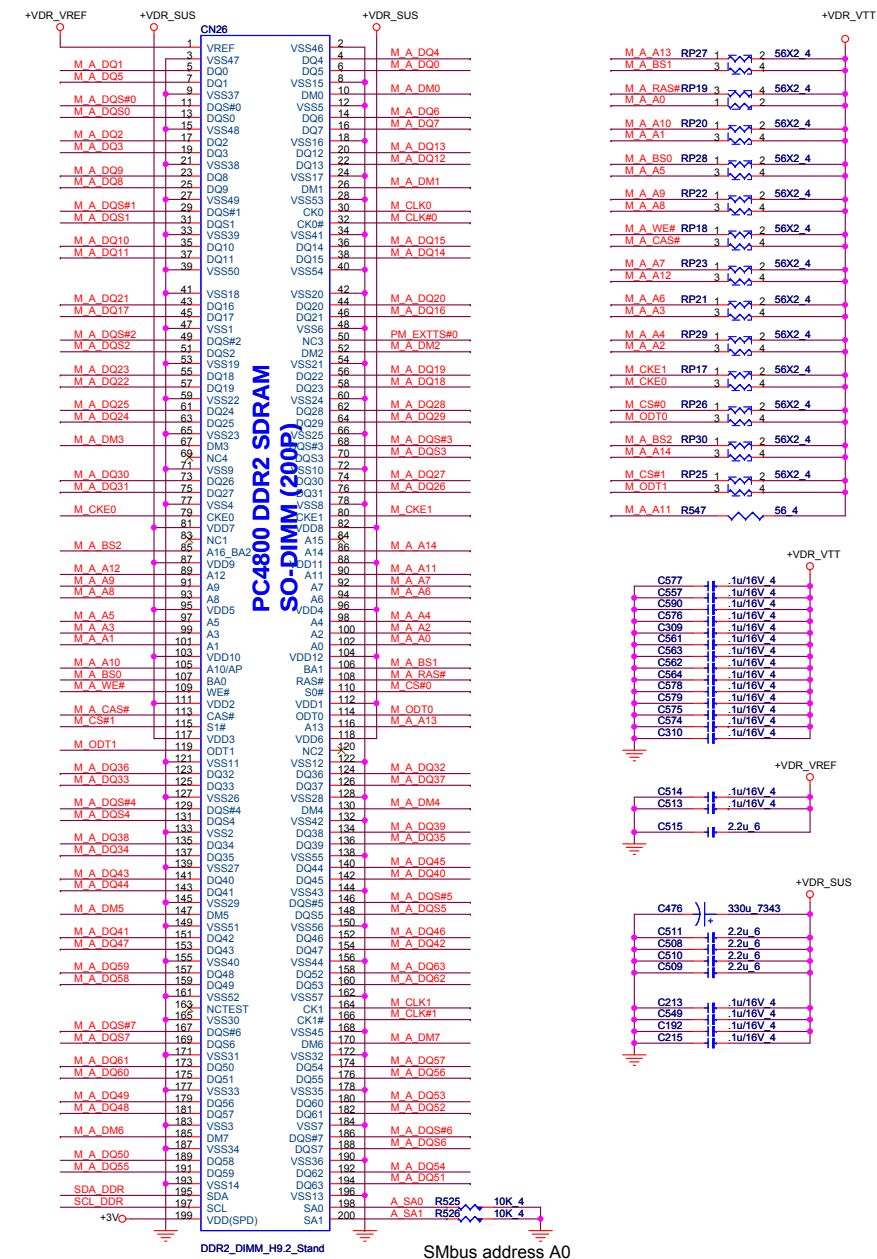
South Bridge Strap Pin (3/3)

Pin Name	Strap description	Sampled	Configuration	PU/PD
GPIO20	Reserved	PWROK		
SPKR	No Reboot	PWROK	0 = Default 1 = No Reboot mode	PCSPK R236 *1K 4 +3V
GPIO49	DMI Termination Voltage	PWROK	0 = for desktop applications 1 = for mobile applications Internal PU	DMI_TERM_SEL R507 *1K 4





DDR2 Module



Quanta Computer Inc.
PROJECT : ZK2

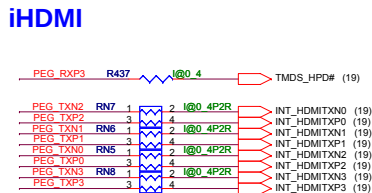
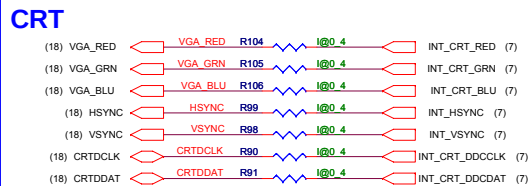
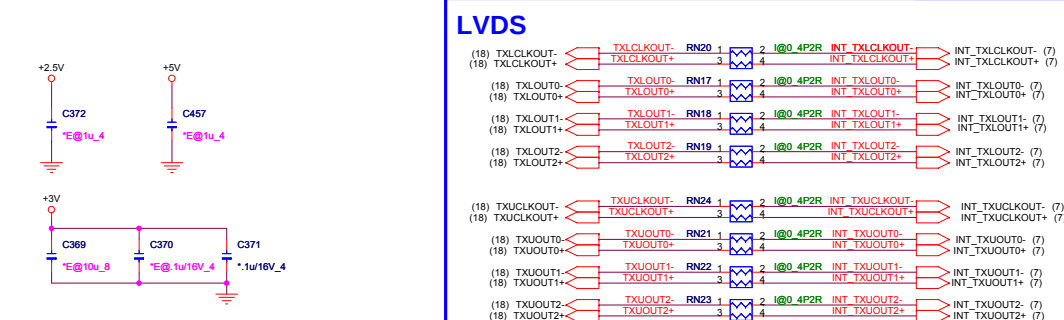
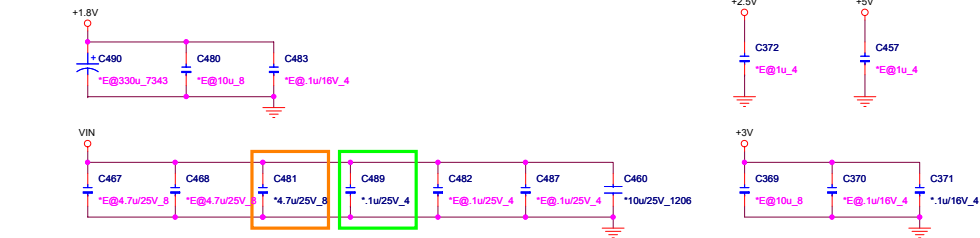
Size Document Number

Rev 38

DDR2 SO-DIMM

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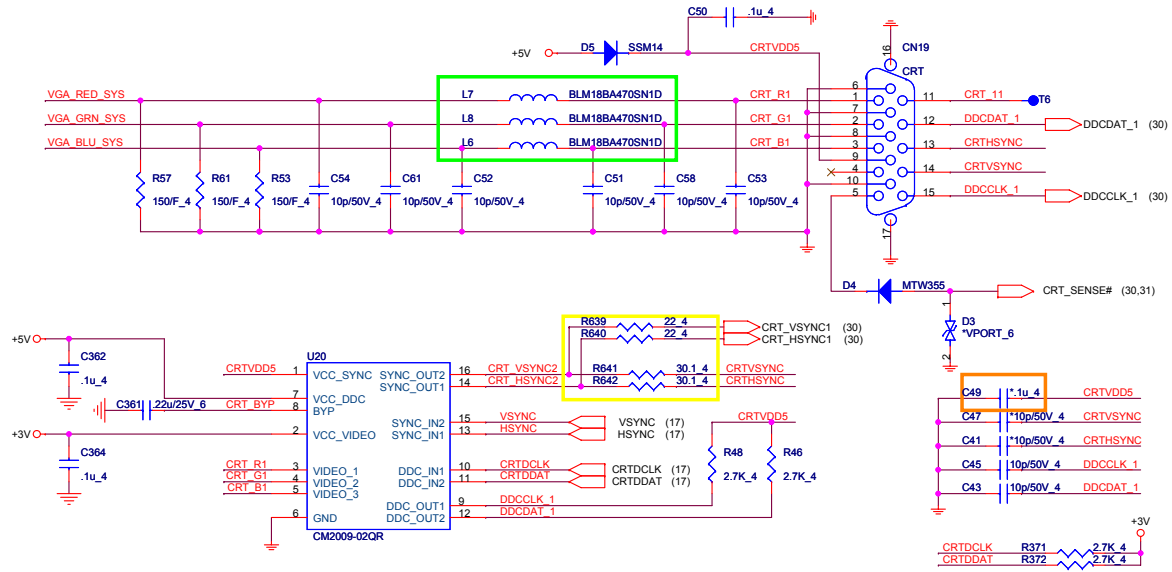
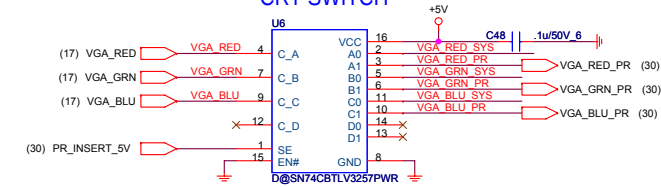
IV@
EV@



CRT

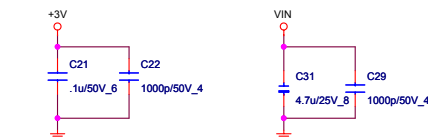
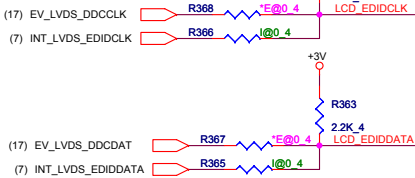
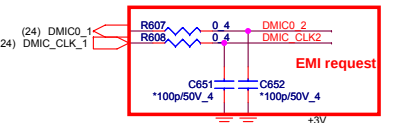
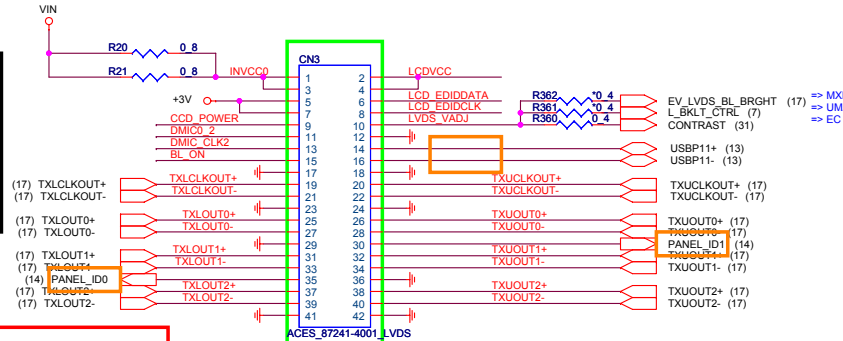
IV@
EV@

CRT SWITCH

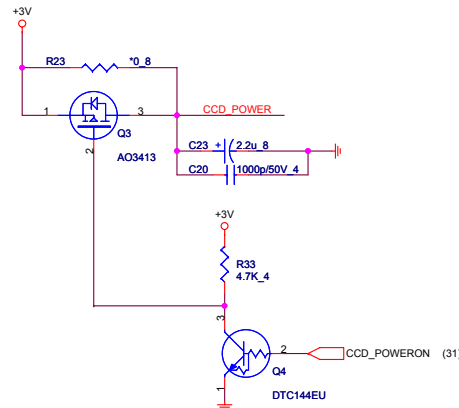


LVDS

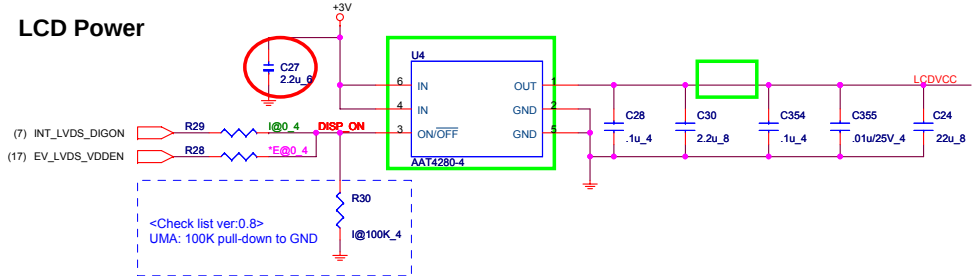
P_ID1	P_ID0	Resolution
0	0	1366x768
0	1	1920x1080
1	0	Reserved
1	1	Reserved



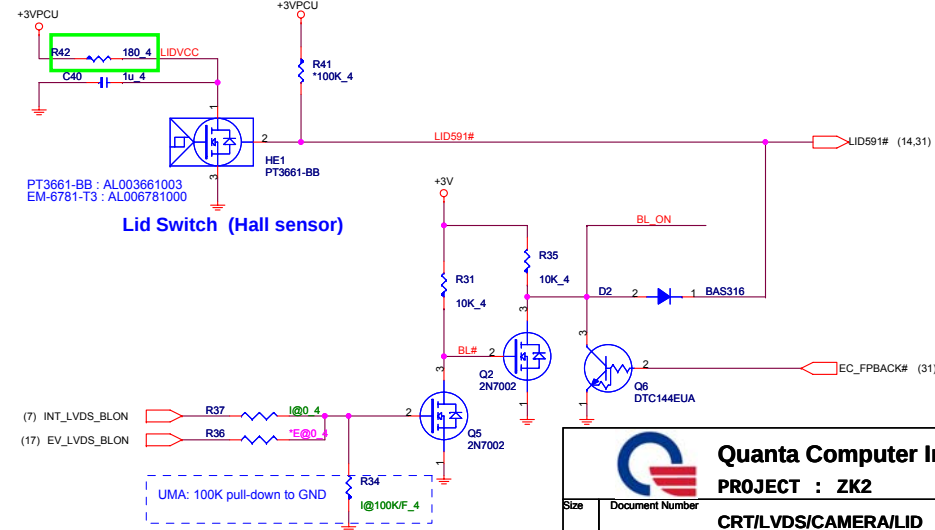
CCD



LCD Power



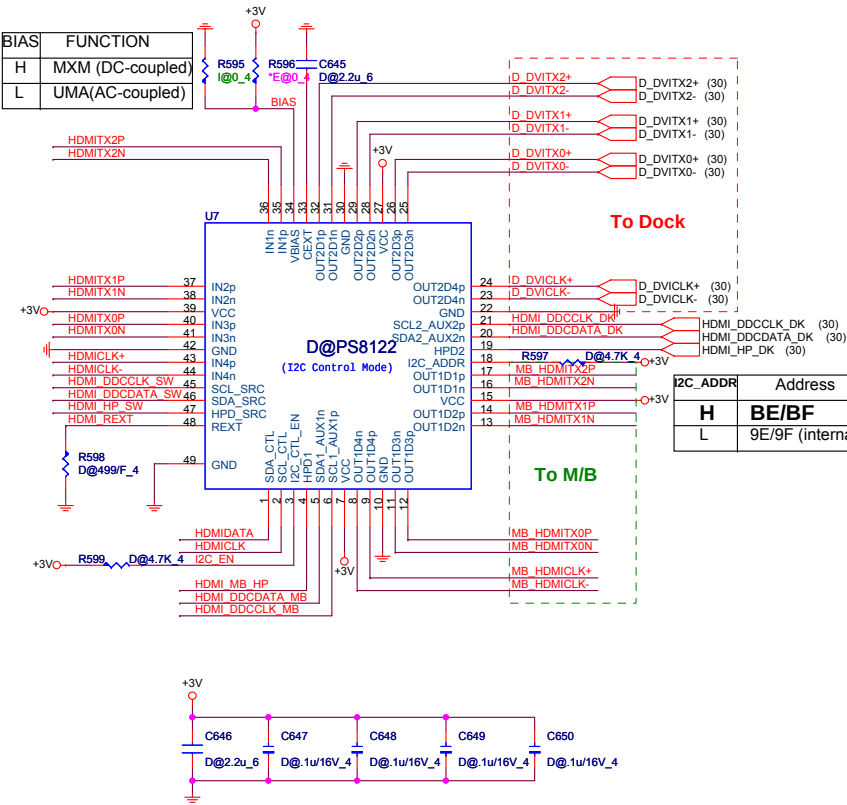
Backlight Control & LID



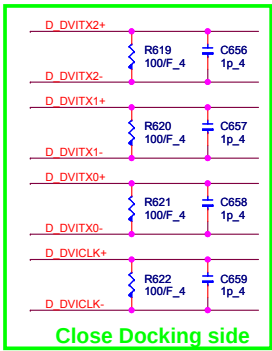
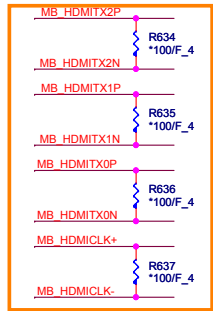
HDMI Switch

IV@
EV@
SP@

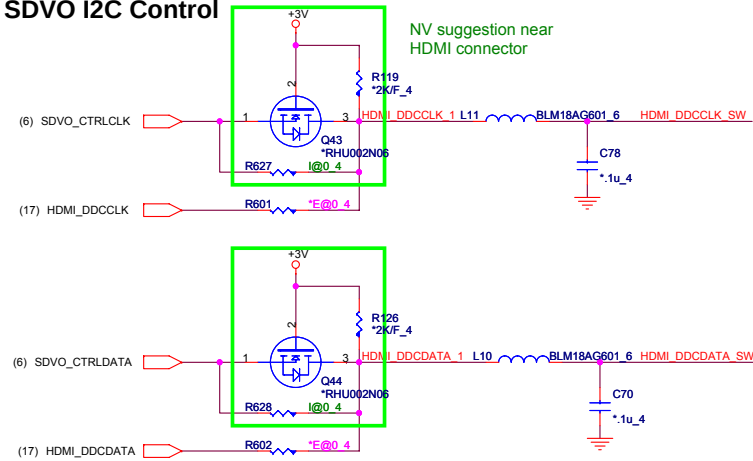
BIAS	FUNCTION
H	MXM (DC-coupled)
L	UMA(AC-coupled)



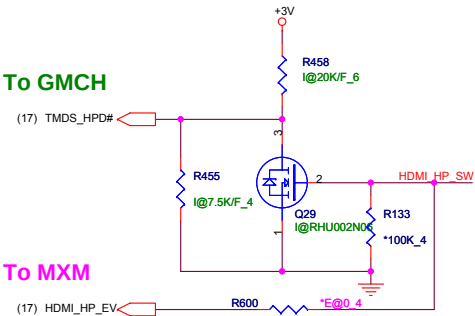
EMI reserve



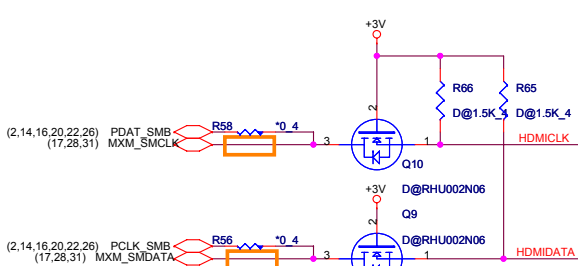
SDVO I2C Control



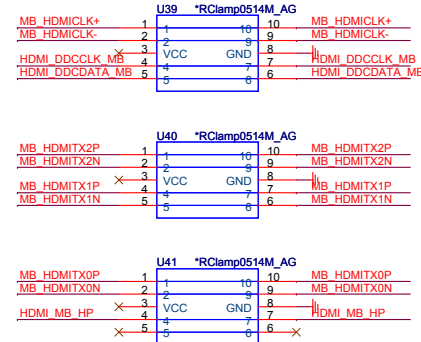
HP-detect



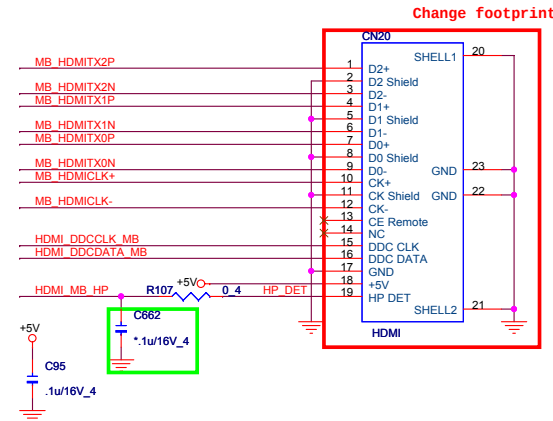
SMBUS



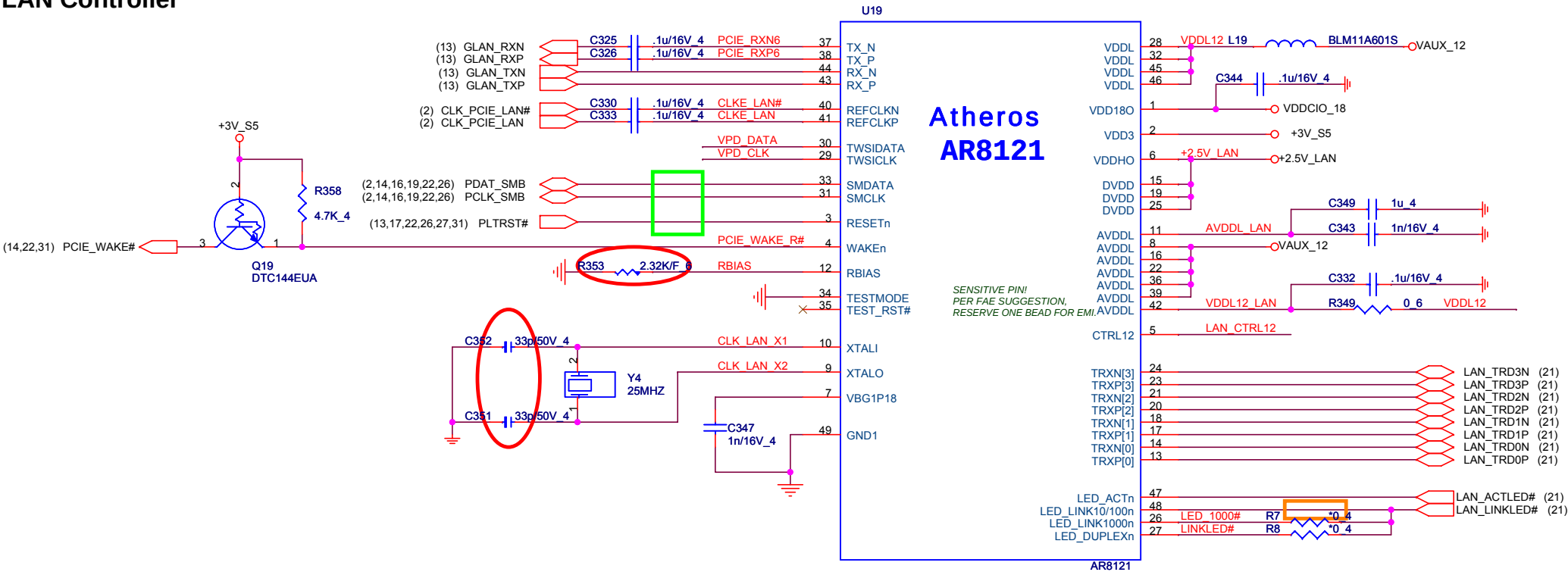
ESD Protect



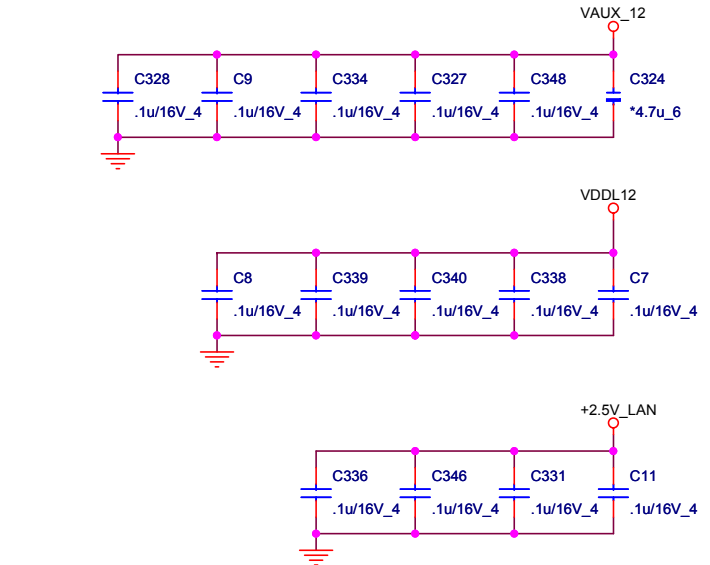
HDMI connector



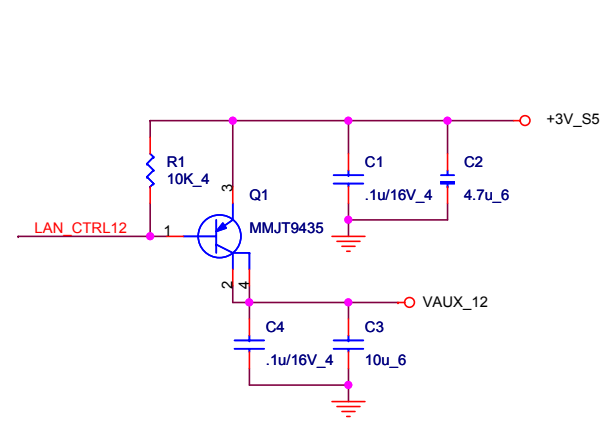
LAN Controller



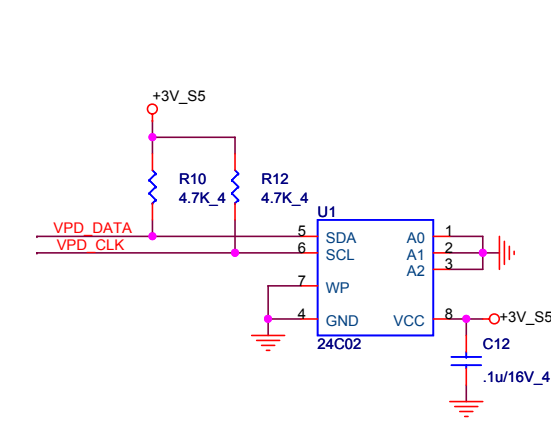
Decoupling CAP



Regulator(1.2V)

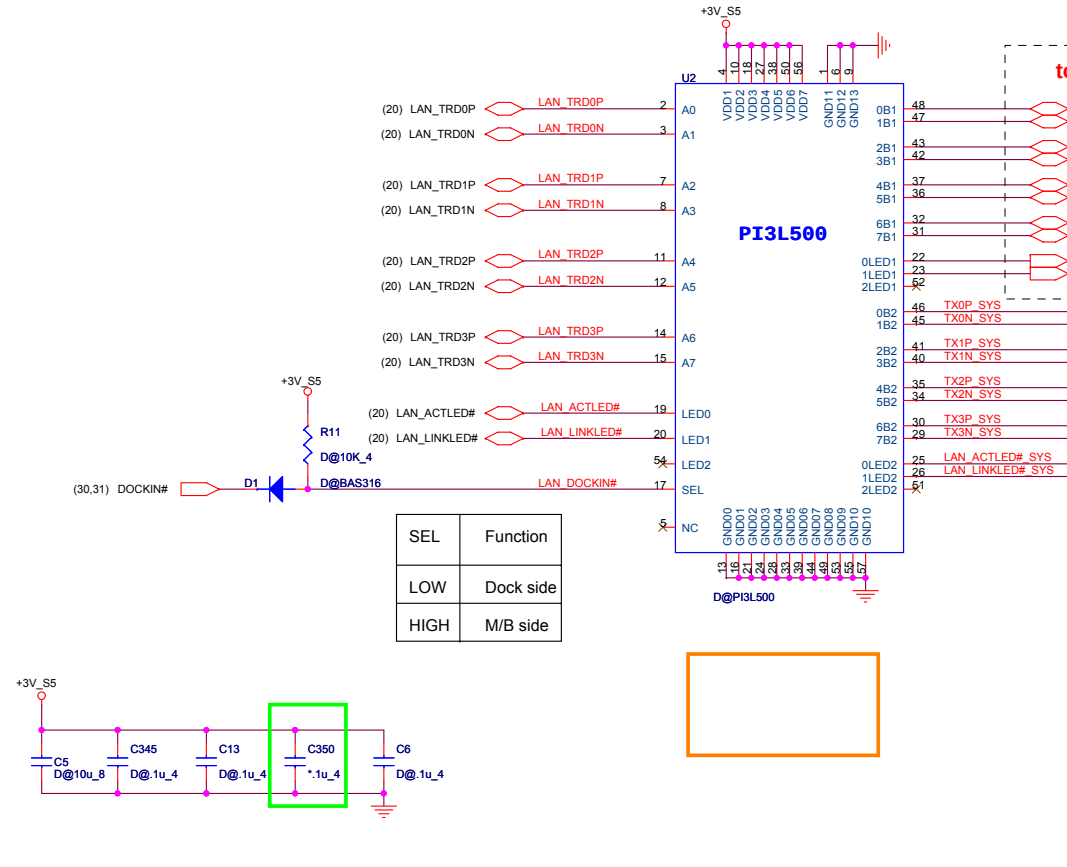


EEPROM

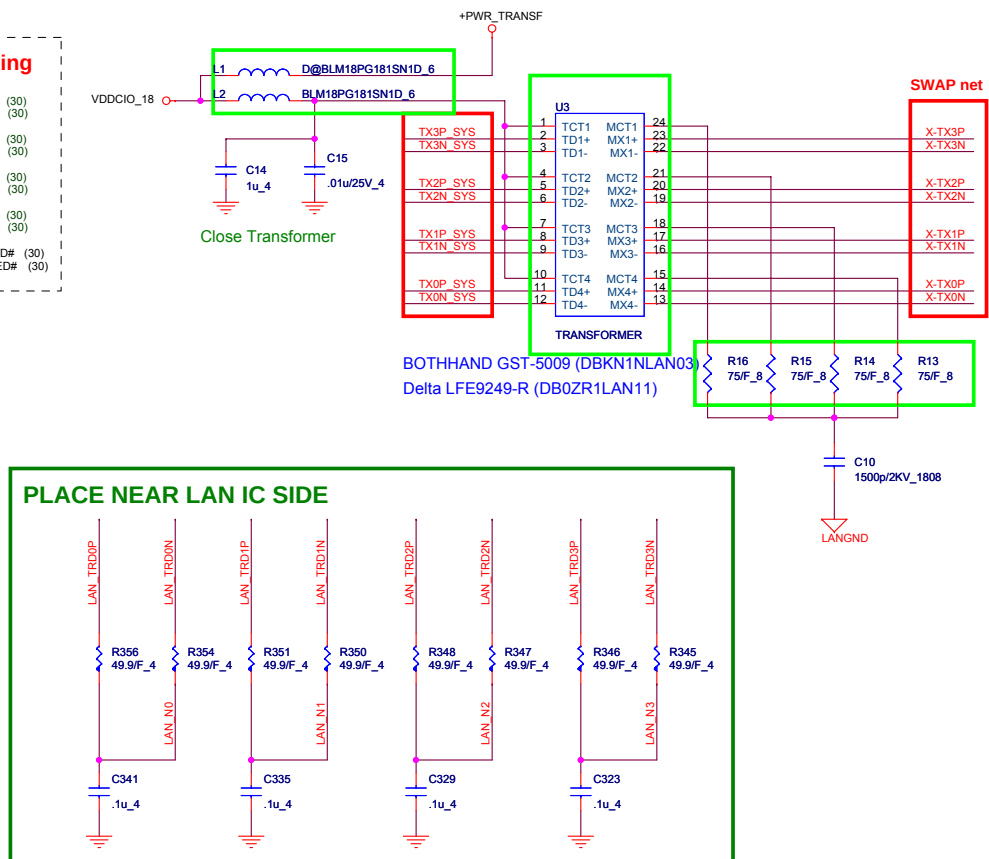


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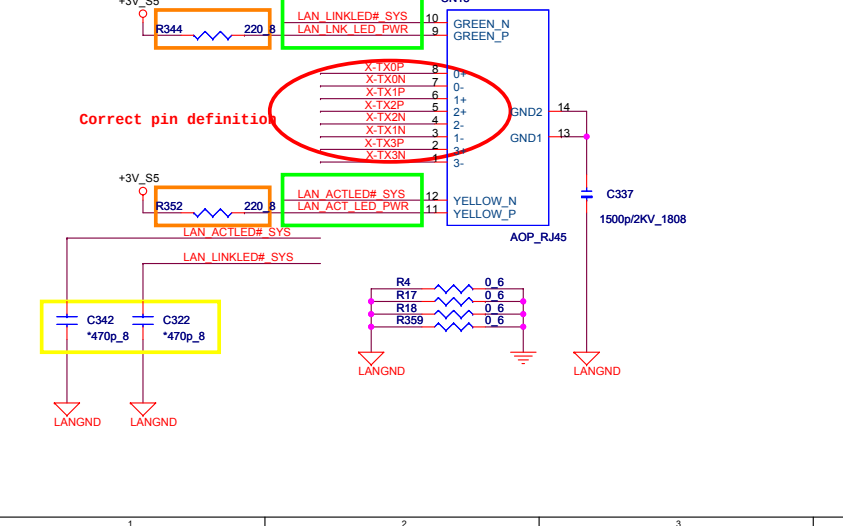
LAN SWITCH



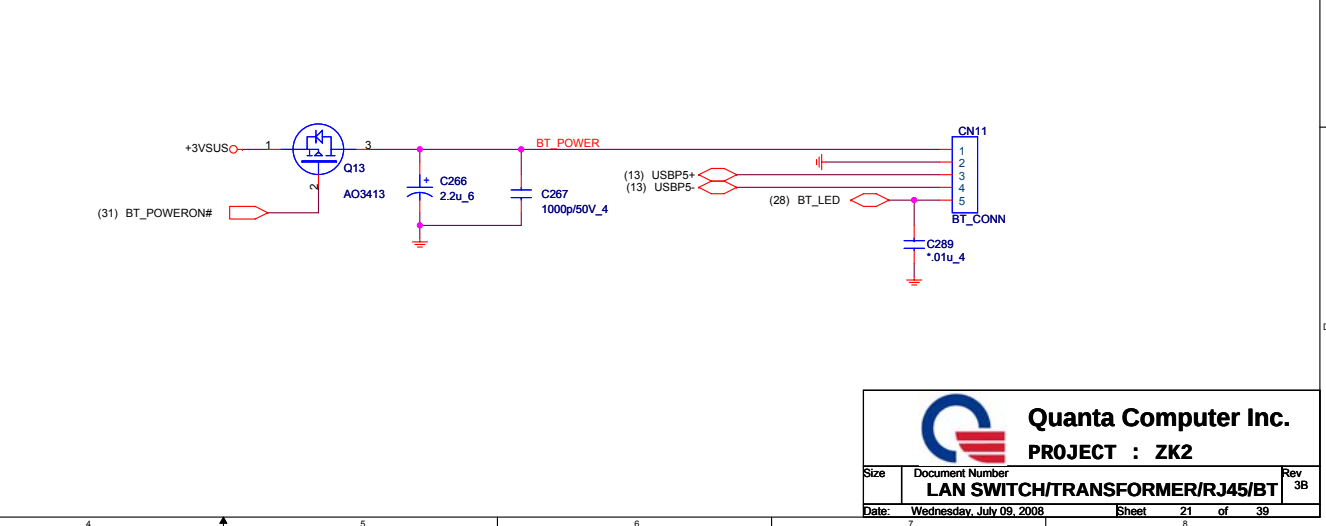
TRANSFORMER



RJ45

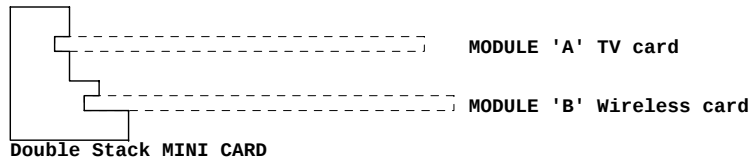
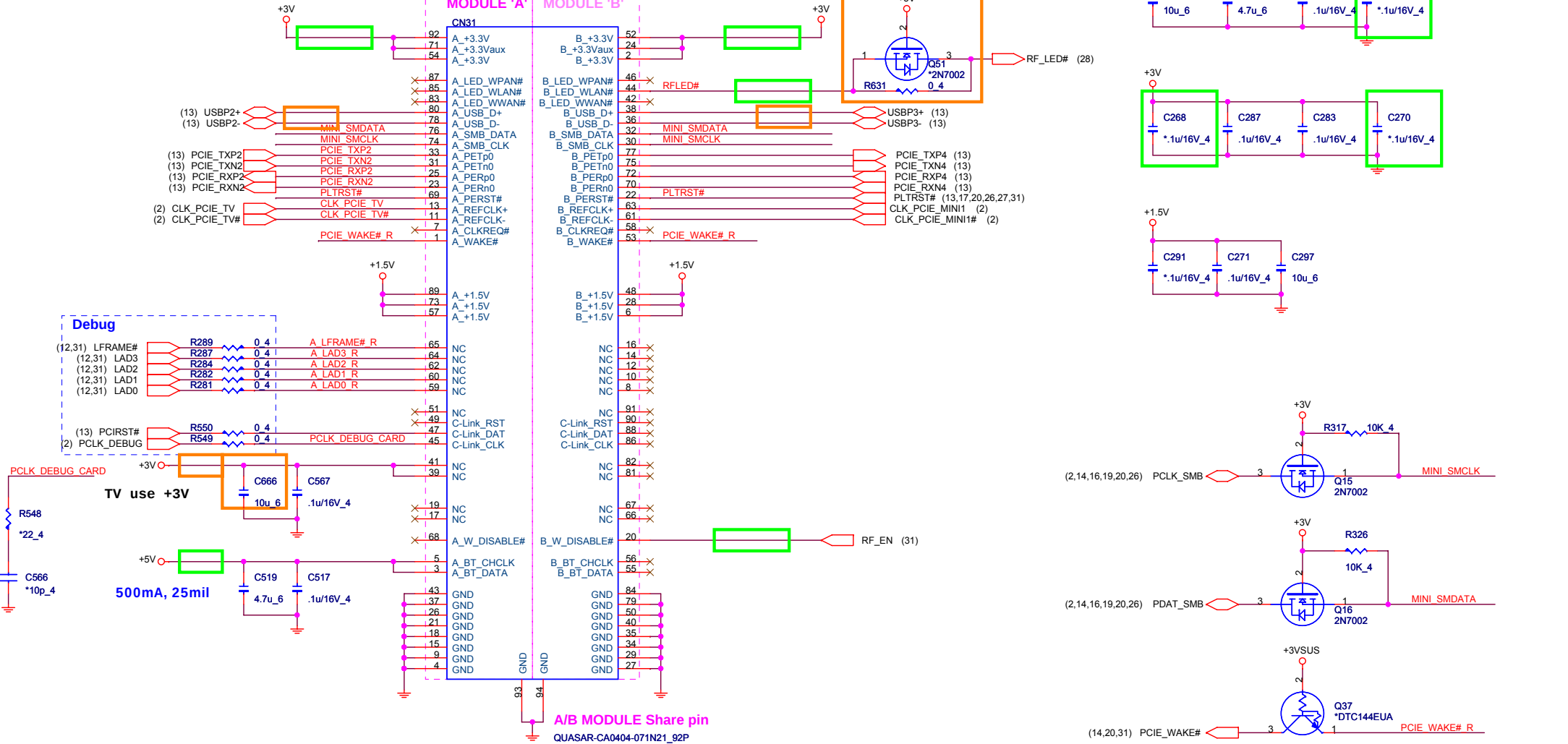


BLUETOOTH CONNECTOR



MINI-CARD

+3.3V: 1000mA
+3.3Vaux: 330mA
+1.5V: 500mA

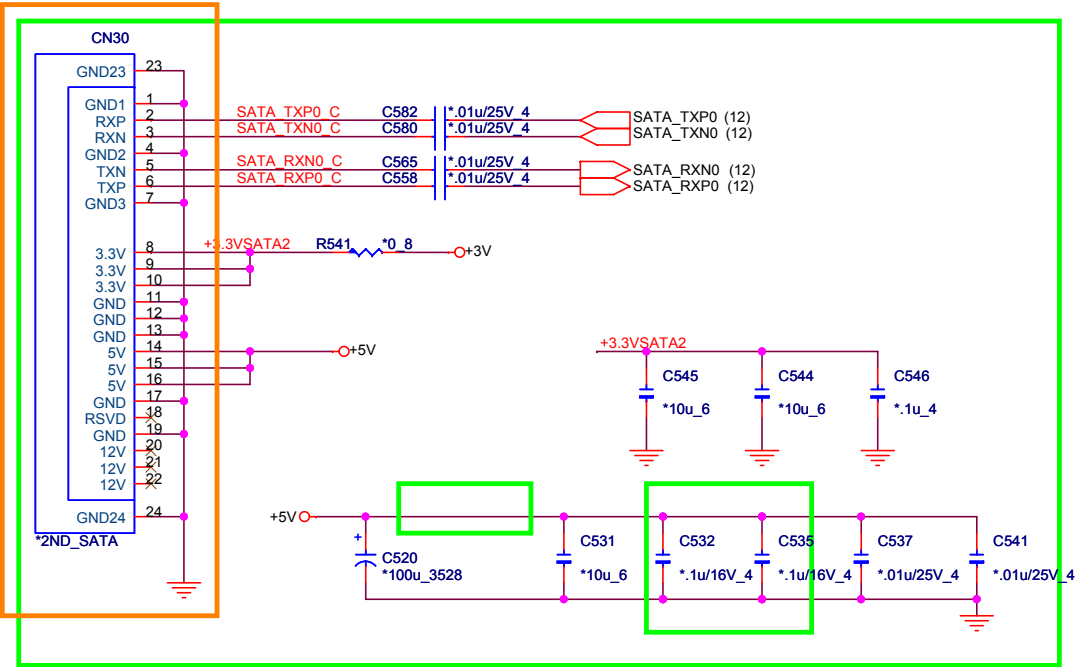


Quanta Computer Inc.

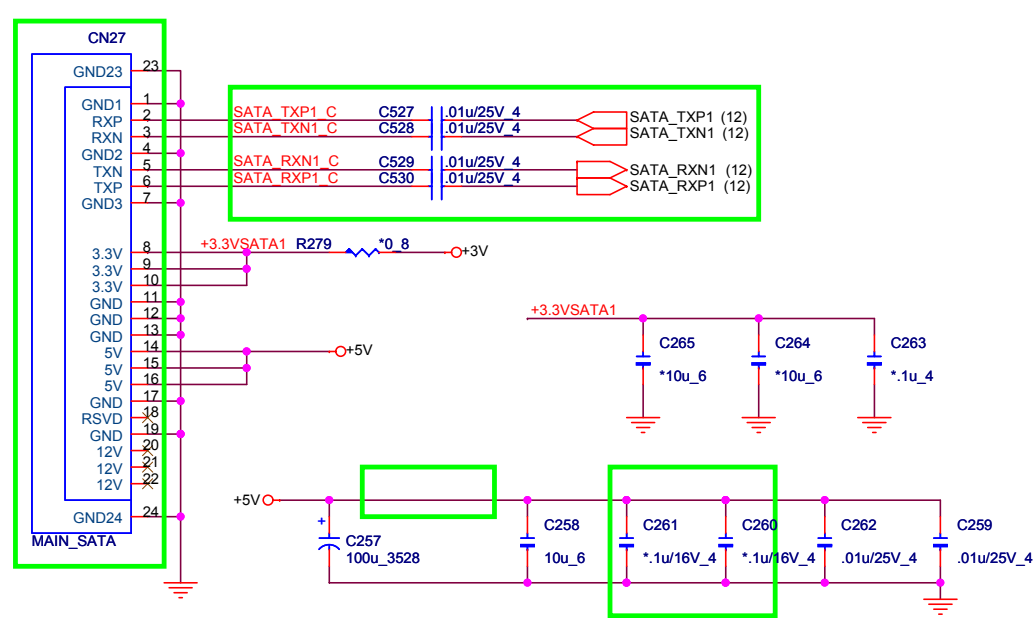
PROJECT : ZK2

Size	Document Number	Rev 3B
MINI PCI-E card/TV		
Date:	Friday, June 27, 2008	Sheet 22 of 39

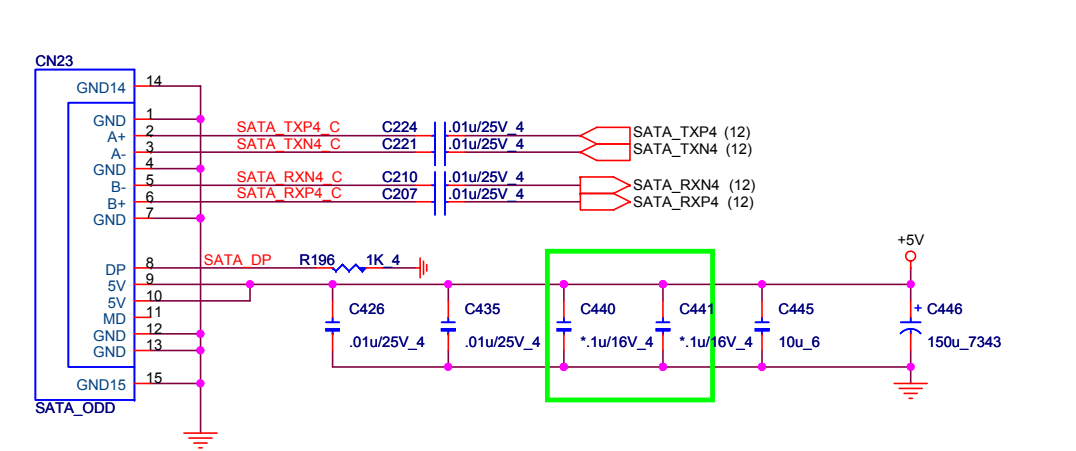
2nd SATA HDD (edge of board)



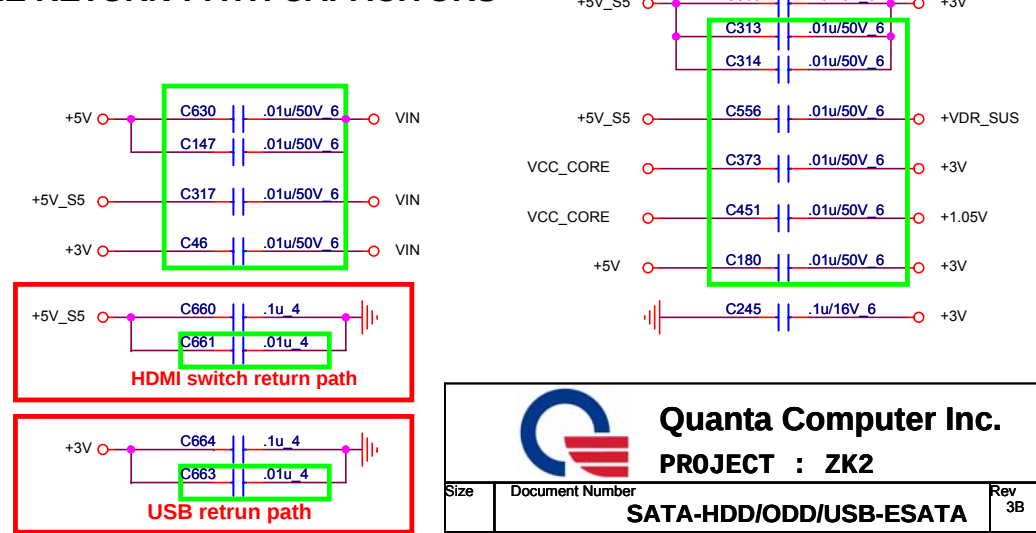
MAIN SATA HDD



ODD (SATA)



EE RETURN-PATH CAPACITORS





Quanta Computer Inc.
PROJECT : ZK2

Size	Document Number	Rev
	SATA-HDD/ODD/USB-ESATA	3B
Date:	Friday, June 27, 2008	Sheet 23 of 39

CODEC(ALC888S)

IV@
EV@

SPK

(25) SURR-L
(25) SURR-R

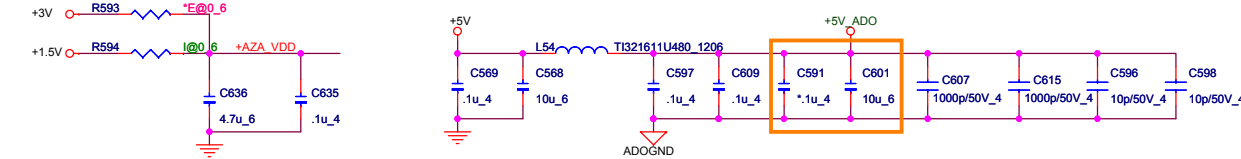
HP

(25) MONO_OUT_L
(25) SPDIF_OUT
(30) SPDIF_DOCK

ALC888S-VC

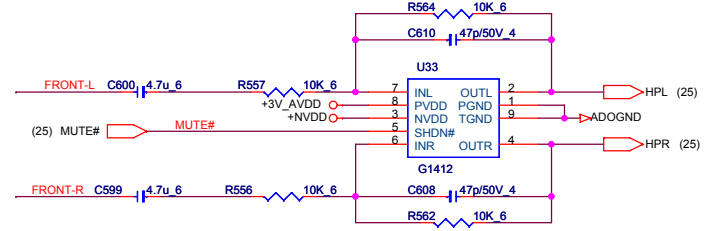
ALC663: US0.65
ALC888S: US0.74

Codec Power

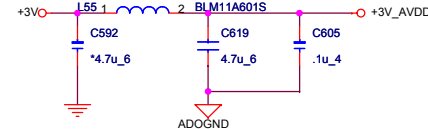


CODEC & MDC

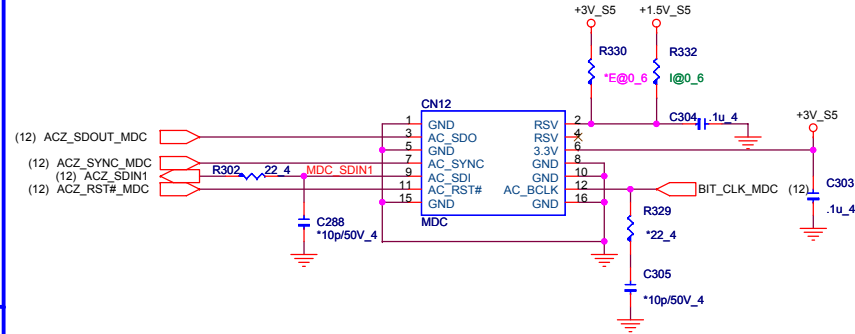
LINE-Out Amplifier



LINE-Out Amplifier Power



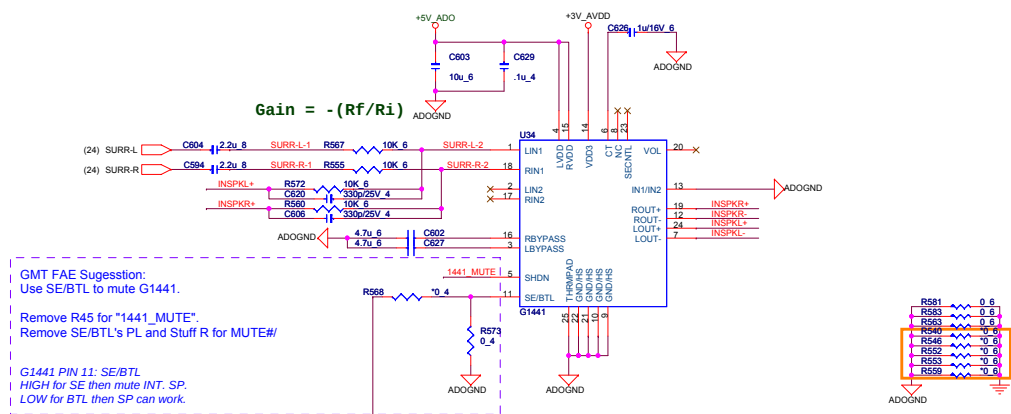
MDC



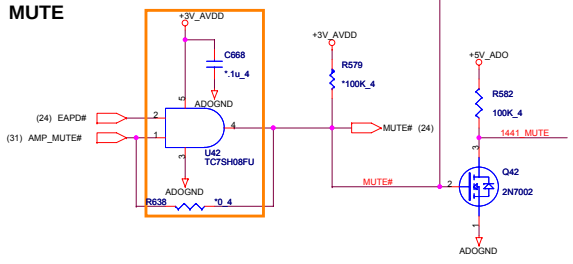
Quanta Computer Inc.
PROJECT : ZK2

Size	Document Number	Rev
	REALTEK ALC663&888/MDC	3B
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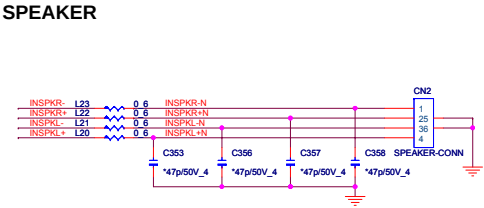
SPEAKER AMP.



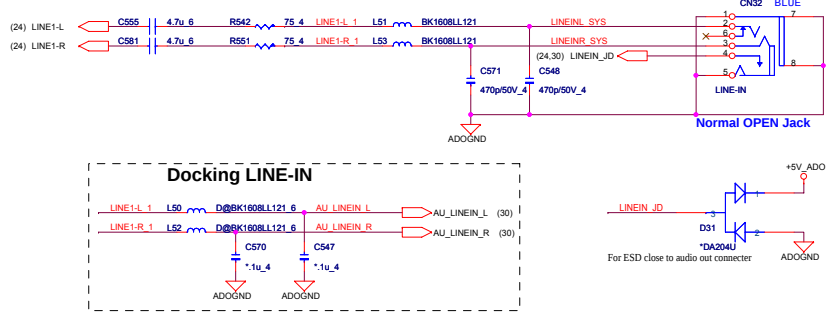
MUTE



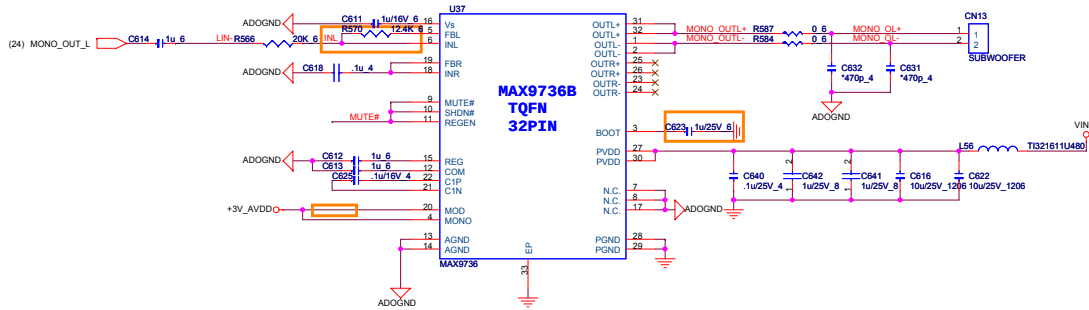
SPEAKER



LINE IN

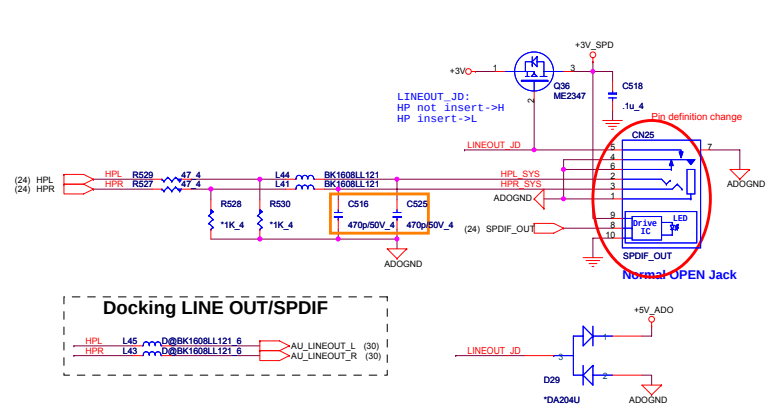


SUBWOOFER

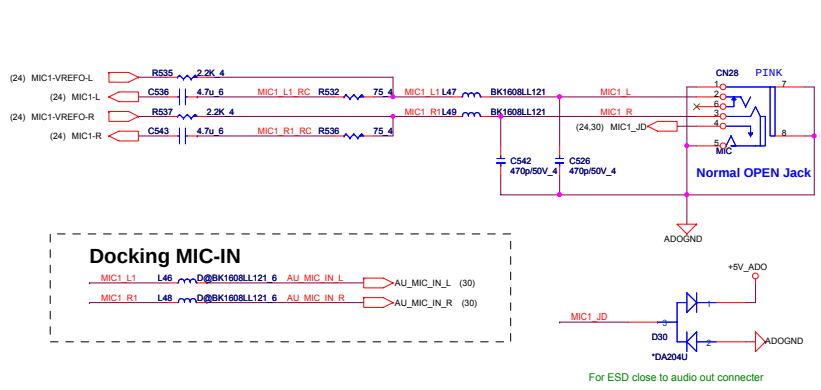


AMP& PHONE JACK & SUBWOOFER

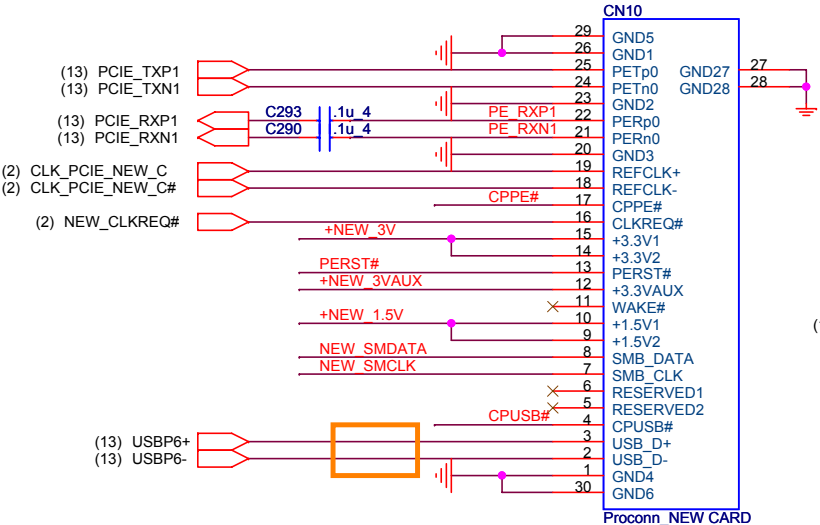
LINE-OUT/SPDIFO



MIC

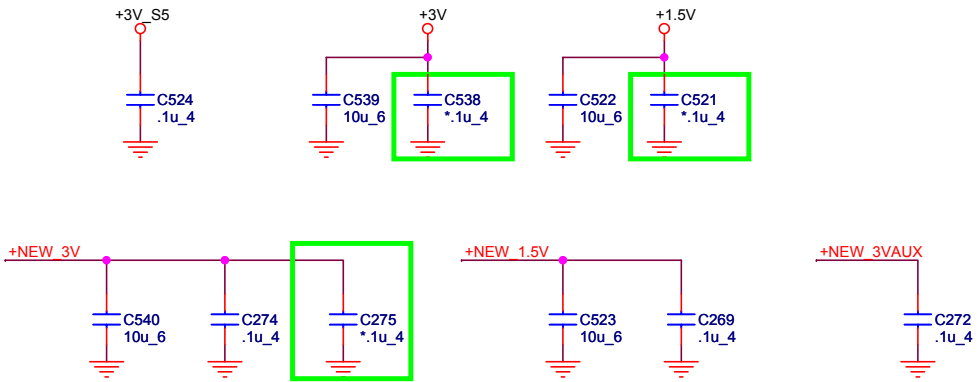
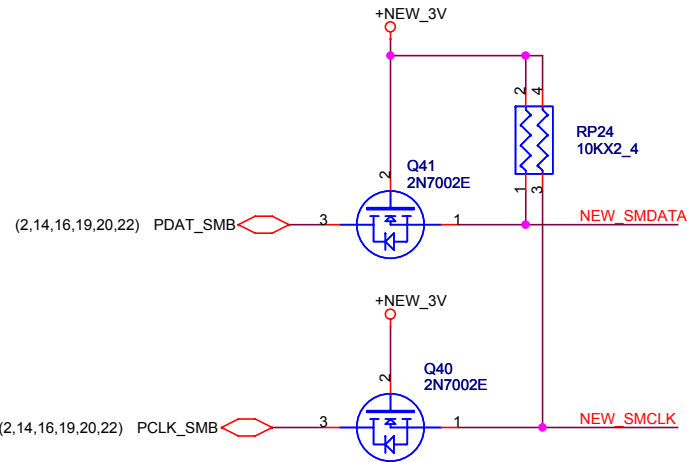
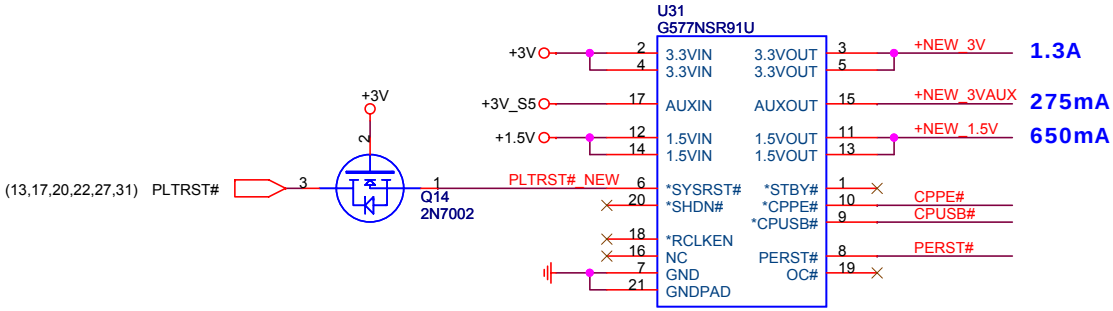


NEW CARD



NEW CARD'S POWER SWITCH

TI: AL002231000
GMT: AL000577002



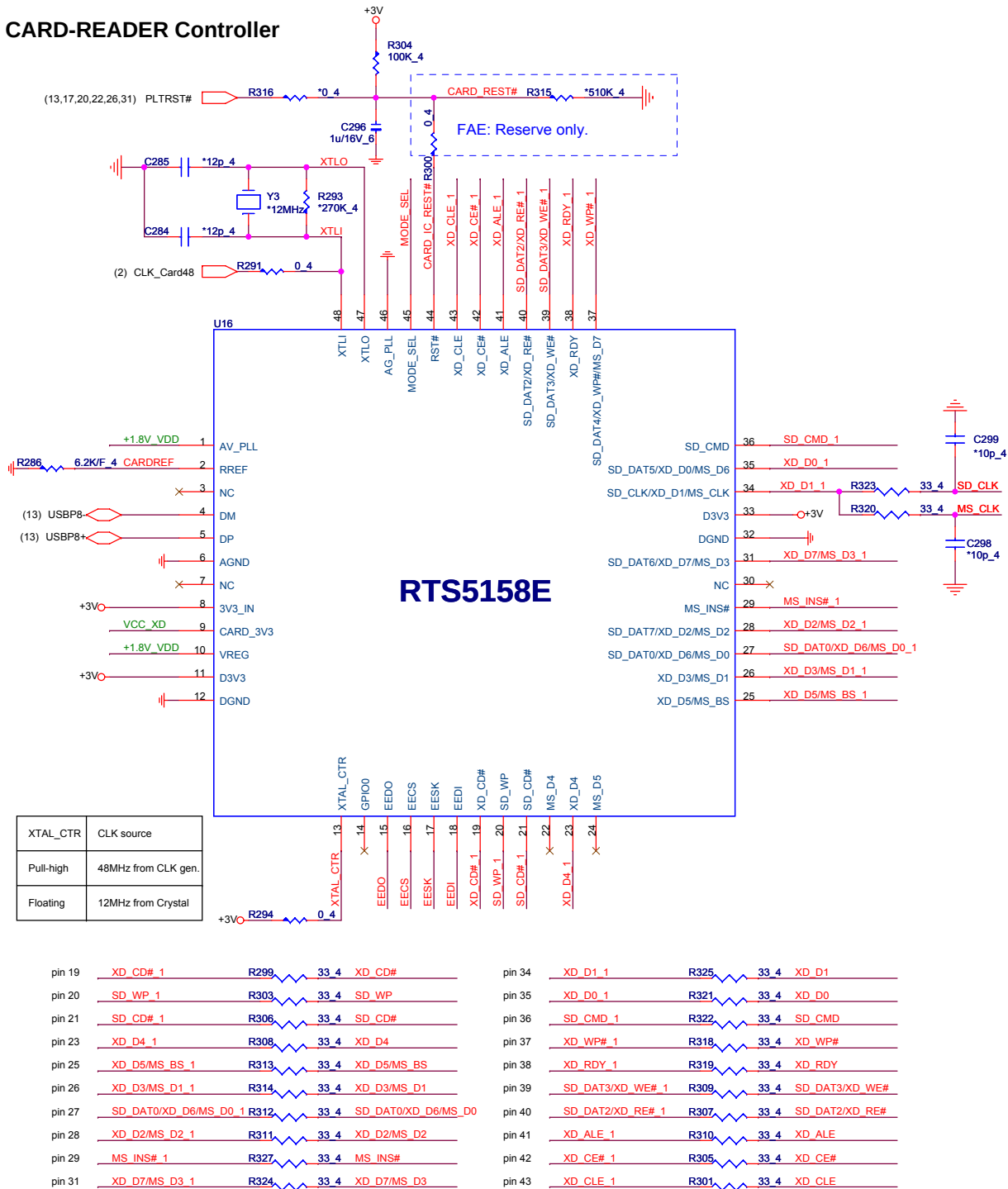


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PROJECT : ZK2

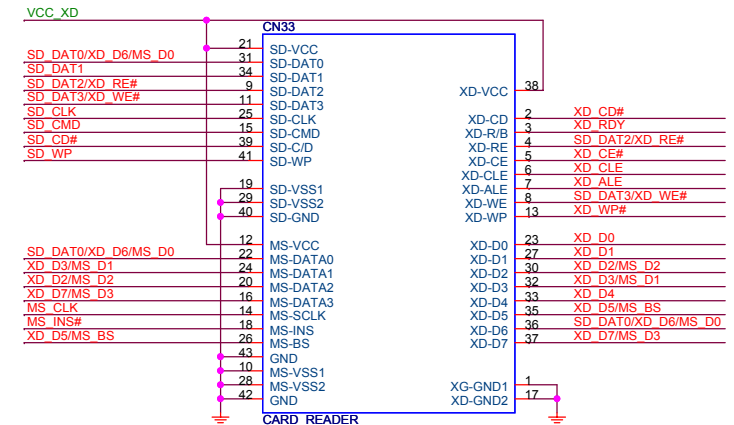
Size	Document Number	Rev 3B
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NEW CARD

CARD-READER Controller

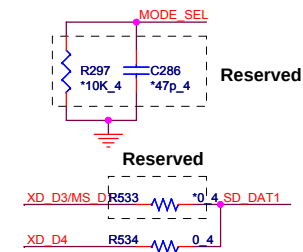


4 IN 1 CARD READER

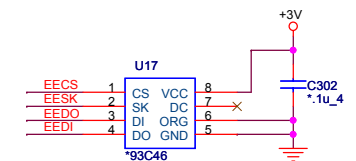


Model_Select

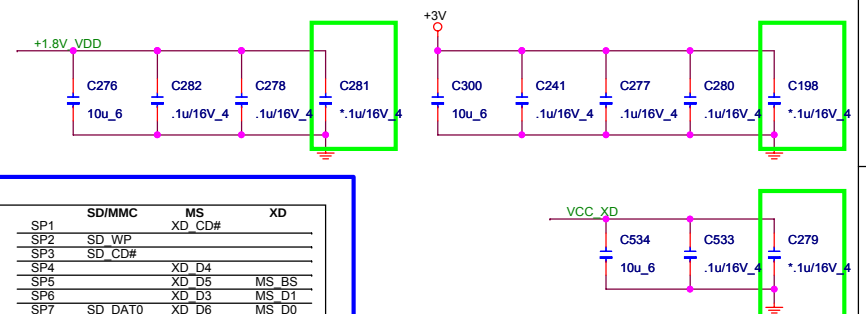
R6256/C860=NC/NC (R6258:ON)=> SD_D1 from pin23
R6256/C860=10K/47pF(R6257:ON)=>SD_D1 from pin26



EEPROM(Reserved)



Decoupling CAP



	SD/MMC	MS	XD
SP1		XD CD#	
SP2	SD WP		
SP3	SD CD#		
SP4		XD D4	
SP5		XD D5	MS BS
SP6		XD D3	MS D1
SP7	SD DAT0	XD D6	MS D0
SP8	SD DAT7	XD D2	MS D2
SP9			MS INSA
SP10	SD DAT6	XD D7	MS D3
SP11		XD D1	
SP12	SD DAT5	XD D0	MS D6
SP13	SD DAT4	XD WP#	MS D7
SP14		XD RDY	
SP15	SD DAT3	XD WE#	
SP16	SD DAT2	XD RE#	
SP17		XD ALE	
SP18		XD CE#	
SP19		XD CLE	



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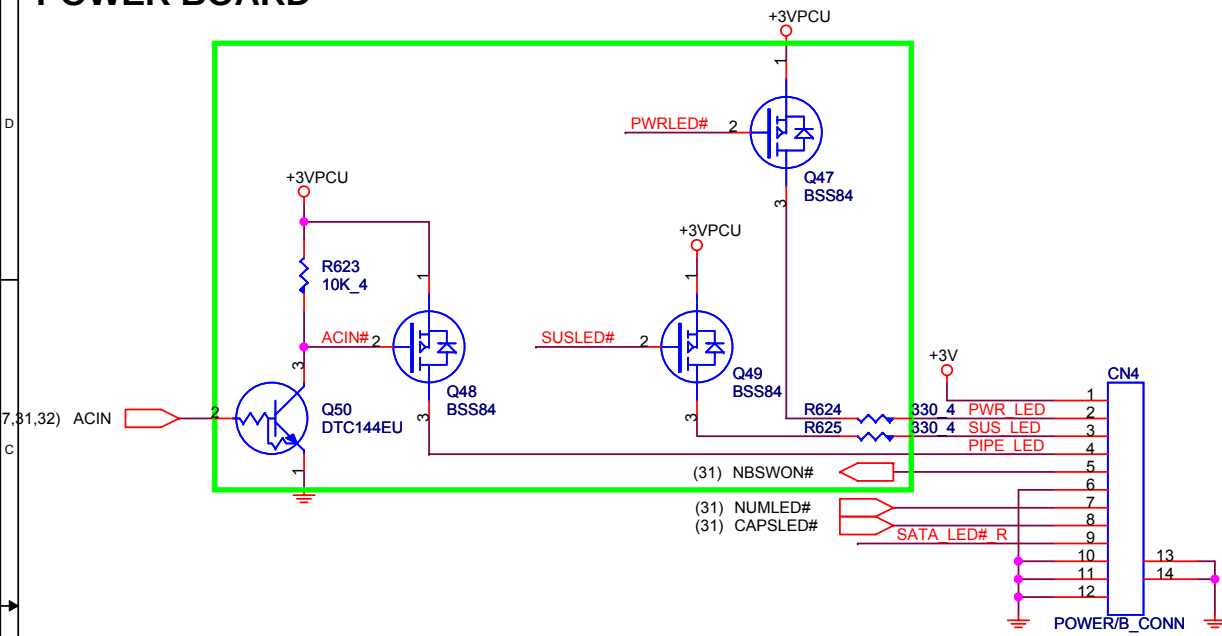
CARD READER RTS5158E

Date: Friday, June 27, 2008

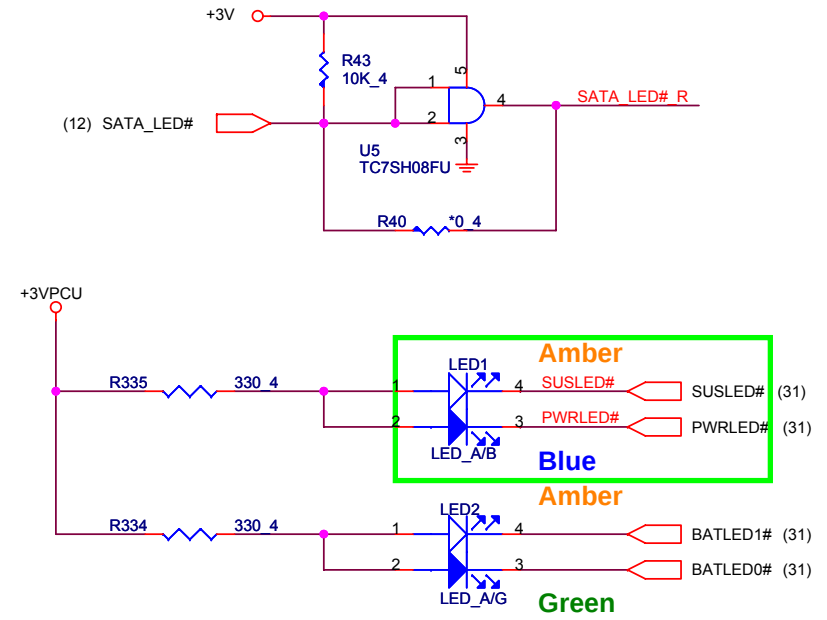
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Rev	
3B	

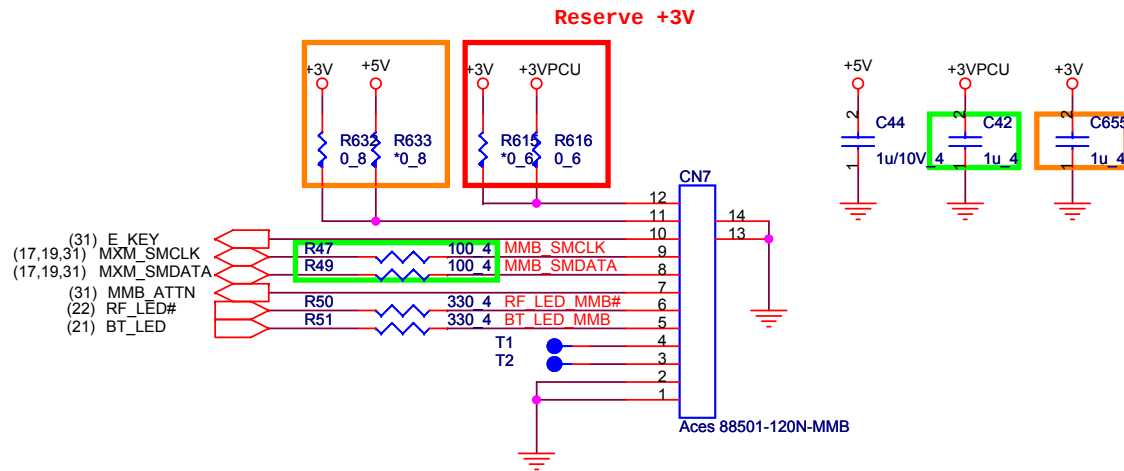
POWER BOARD



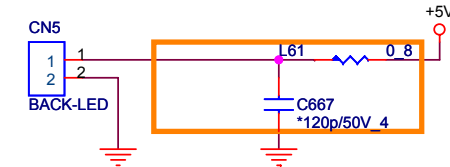
LED



MMB



Backlight Logo LED



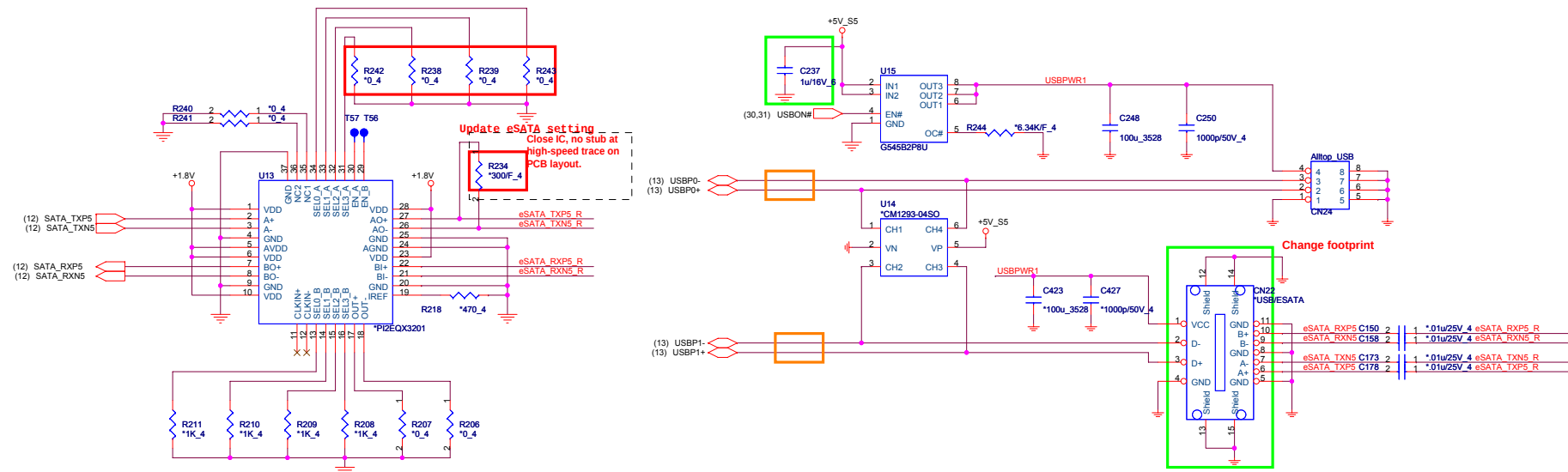


Quanta Computer Inc.

PROJECT : ZK2

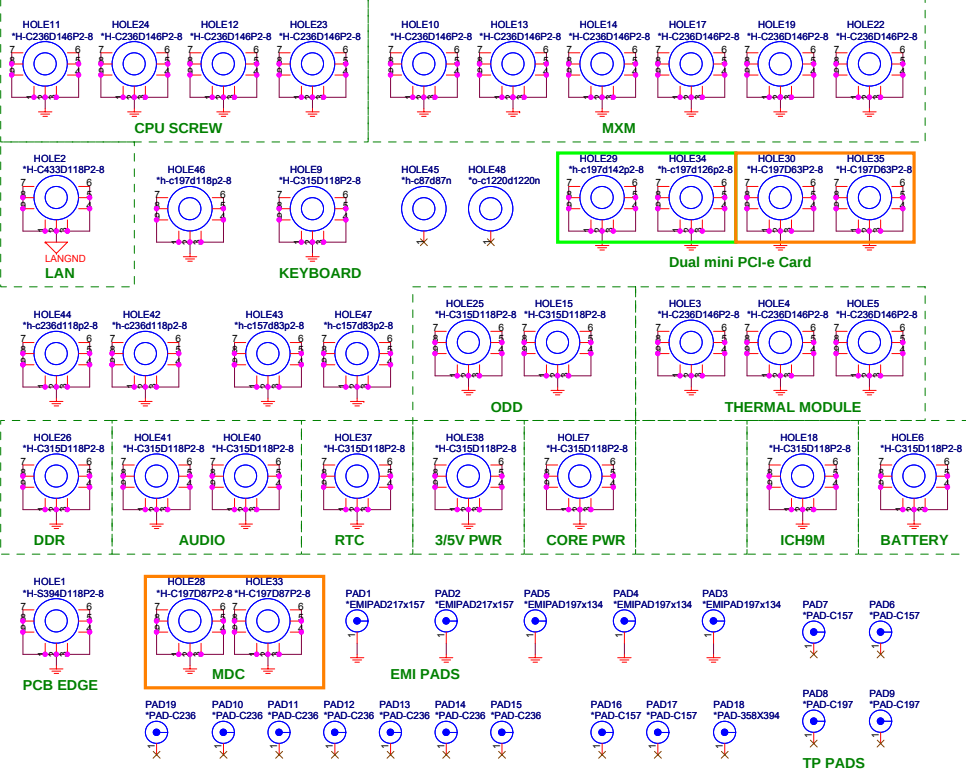
Size	Document Number	Rev
	POWER/MMB/LAUNCH/LED	3B
Date:	Friday, June 27, 2008	Sheet 28 of 39

USB & eSATA

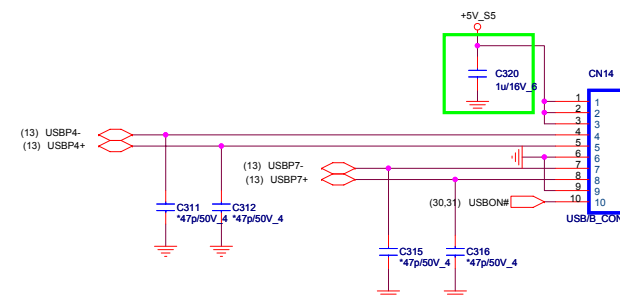


SEL0_X	SEL1_X	E _q	SEL2_X	Swing	SEL3_X	De-Emphasis
0	0	0dB	0	1.0X	0	0dB
0	1	2.5dB	1	1.2X	1	-3.5dB
1	0	4.5dB				
1	1	6.5dB				

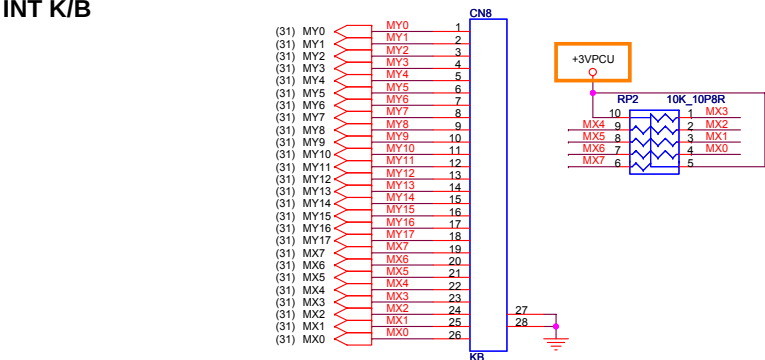
HOLES



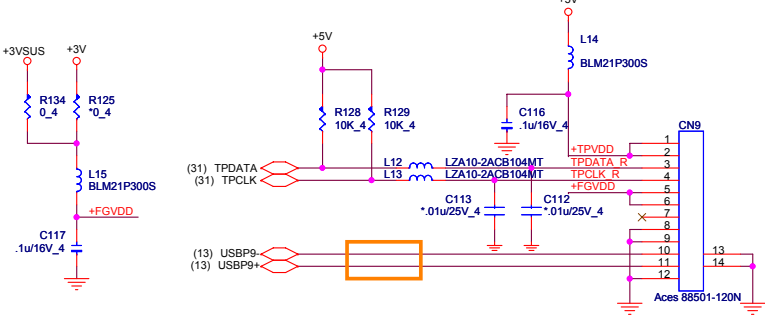
USB/B



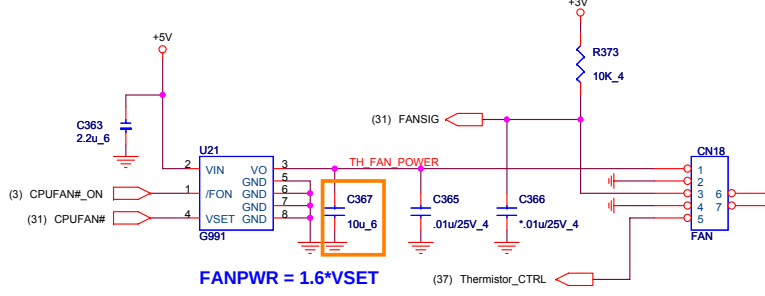
INT K/B



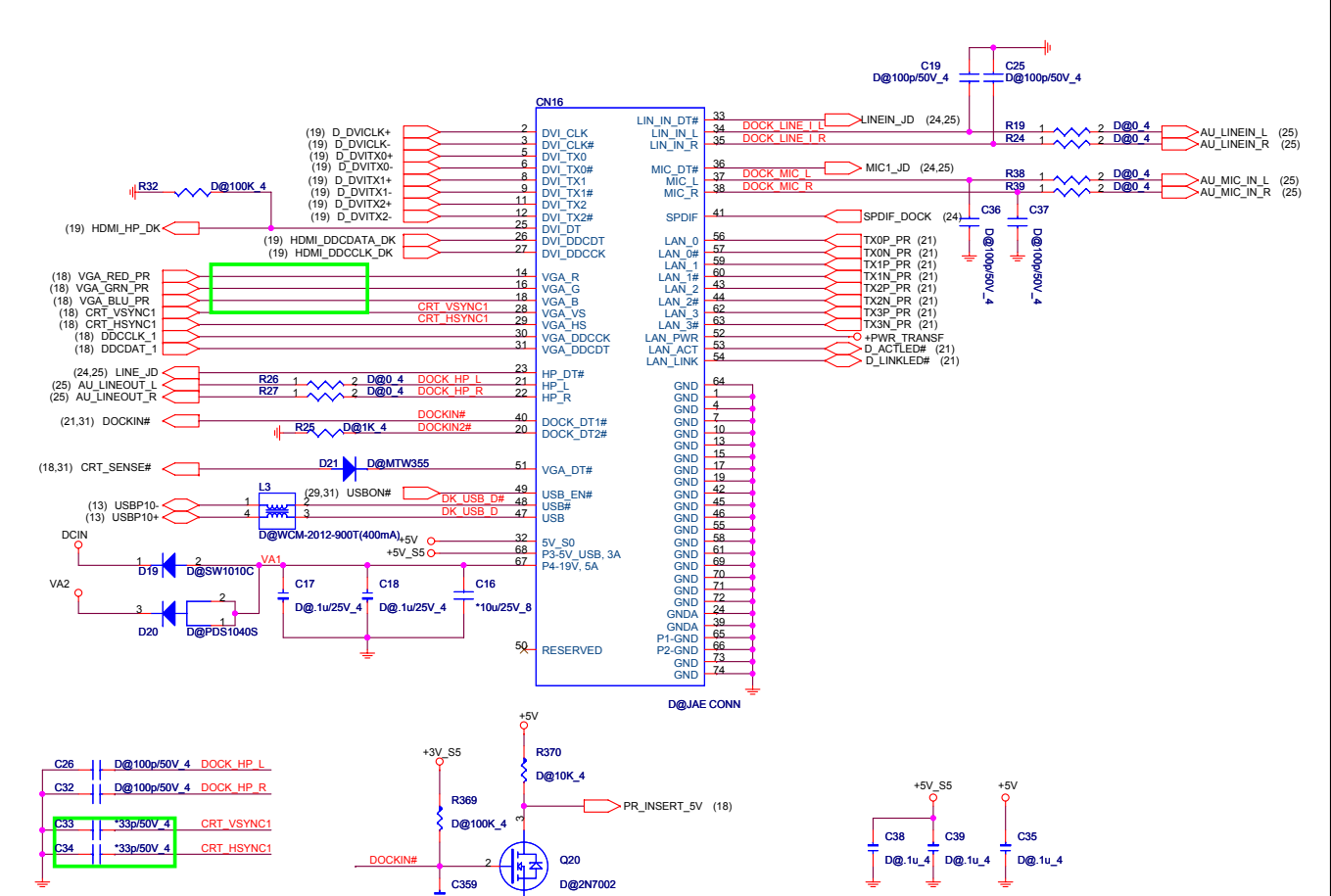
TOUCHPAD & Finger-Printer CONN.



CPU FAN



CABLE DOCK

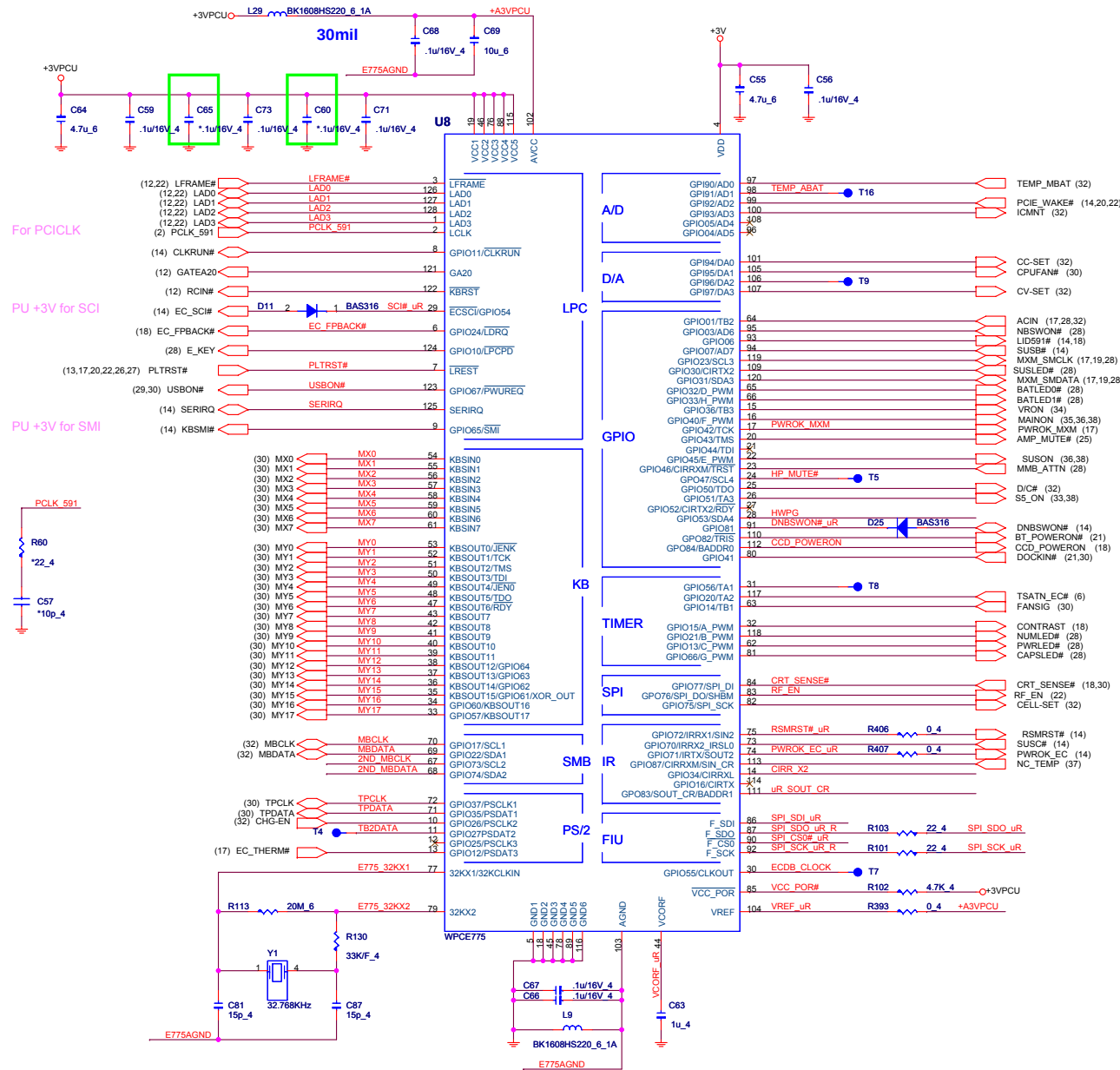




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PROJECT : ZK2

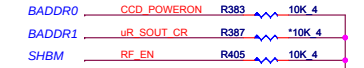
Size	Document Number	Rev
	KB/FAN/TP+FP/DOCK	3B
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I/O ADDRESS SETTING

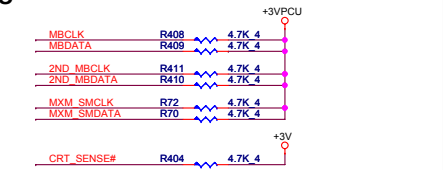
I/O Address		
BADDR1-0	Index	Data
0 0	XOR TREE TEST MODE	
0 1	CORE DEFINED	
1 0	2Eh	2Fh
1 1	164Eh	164Fh

SHBM=0: Enable shared memory with host BIOS

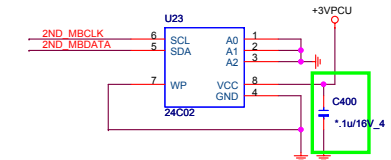


1/13 Confirm by vendor mail :
 Disabled ('1') if using FW device on LPC.
 Enabled ('0') if using SPI flash for both system BIOS and EC firmware

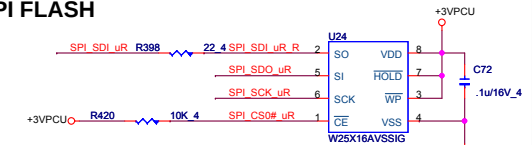
SM BUS PU



ACER ID

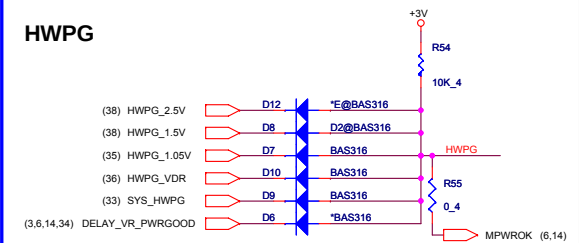


SPI FLASH

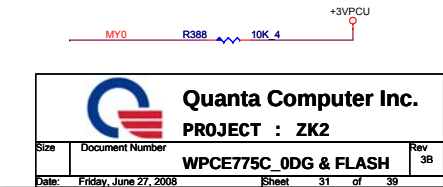


1/13 Confirm by vendor mail :
 If the Southbridge enables 'Long Wait Abort' by default, the flash device should be 50MHz (or faster)

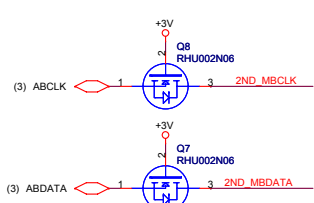
HWPG



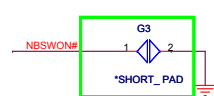
INTERNAL KEYBOARD STRIP SET



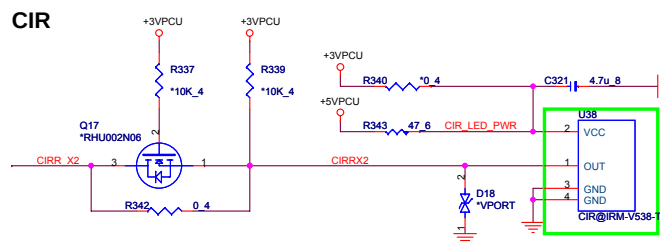
SMBus

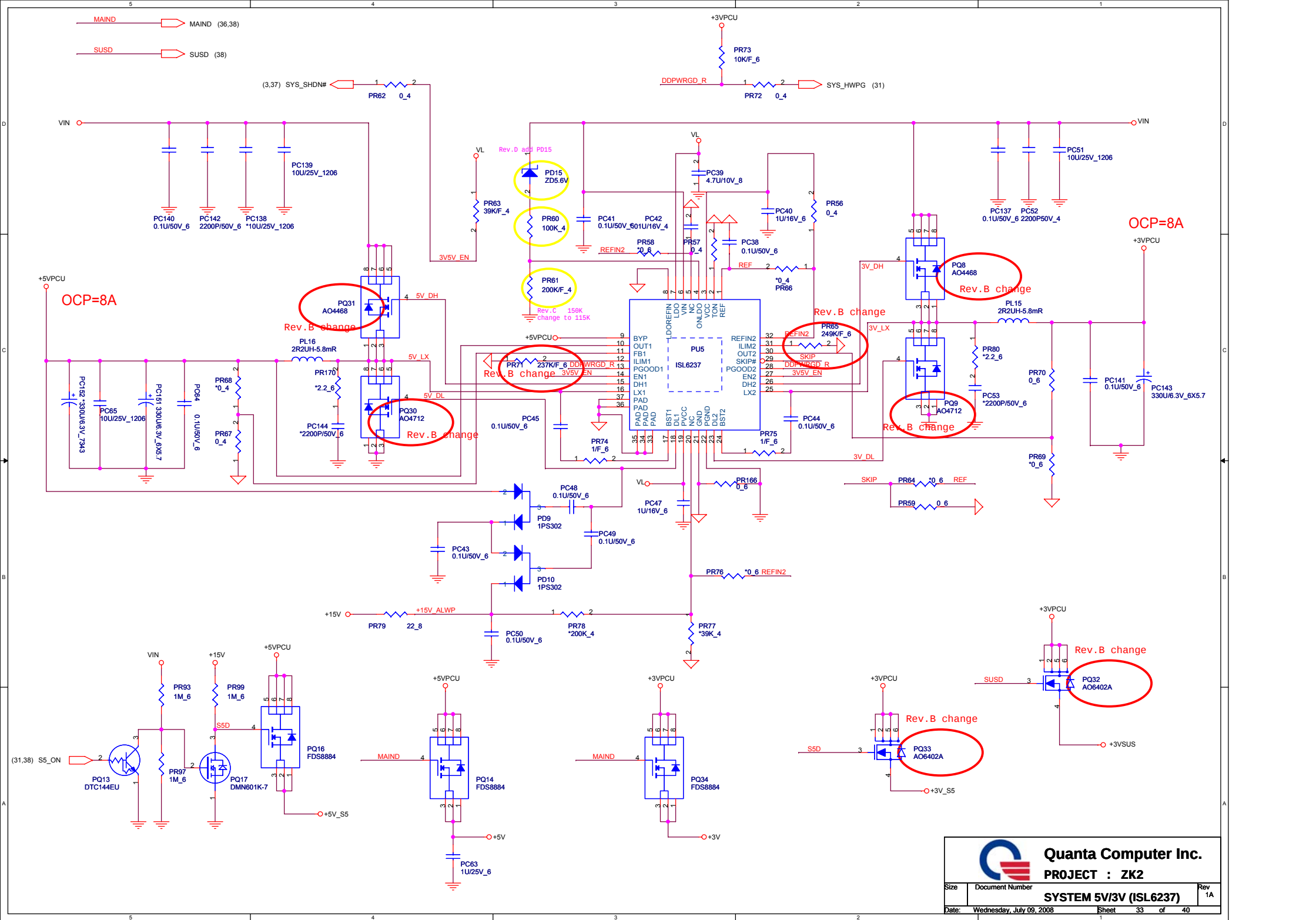


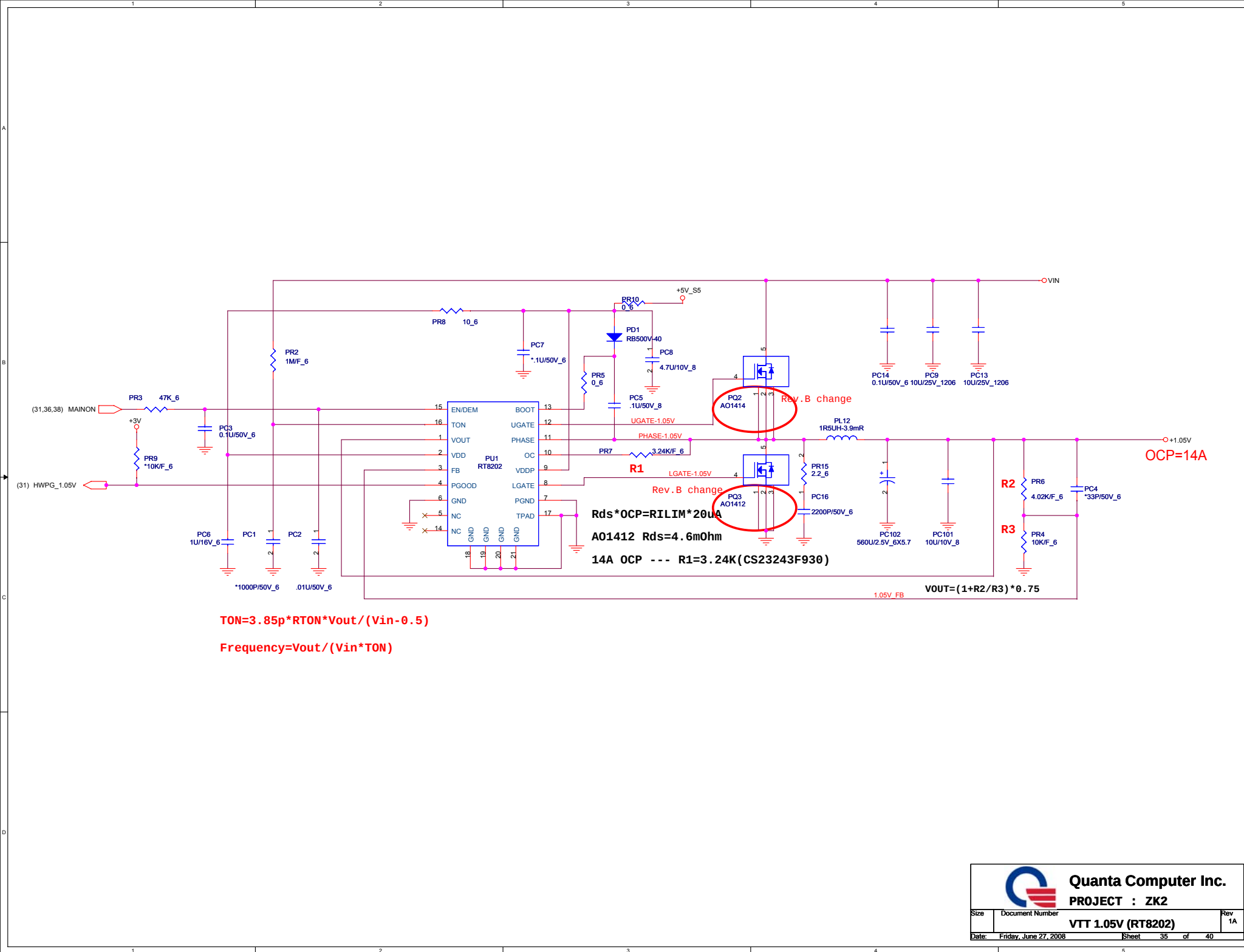
POWER-ON PAD

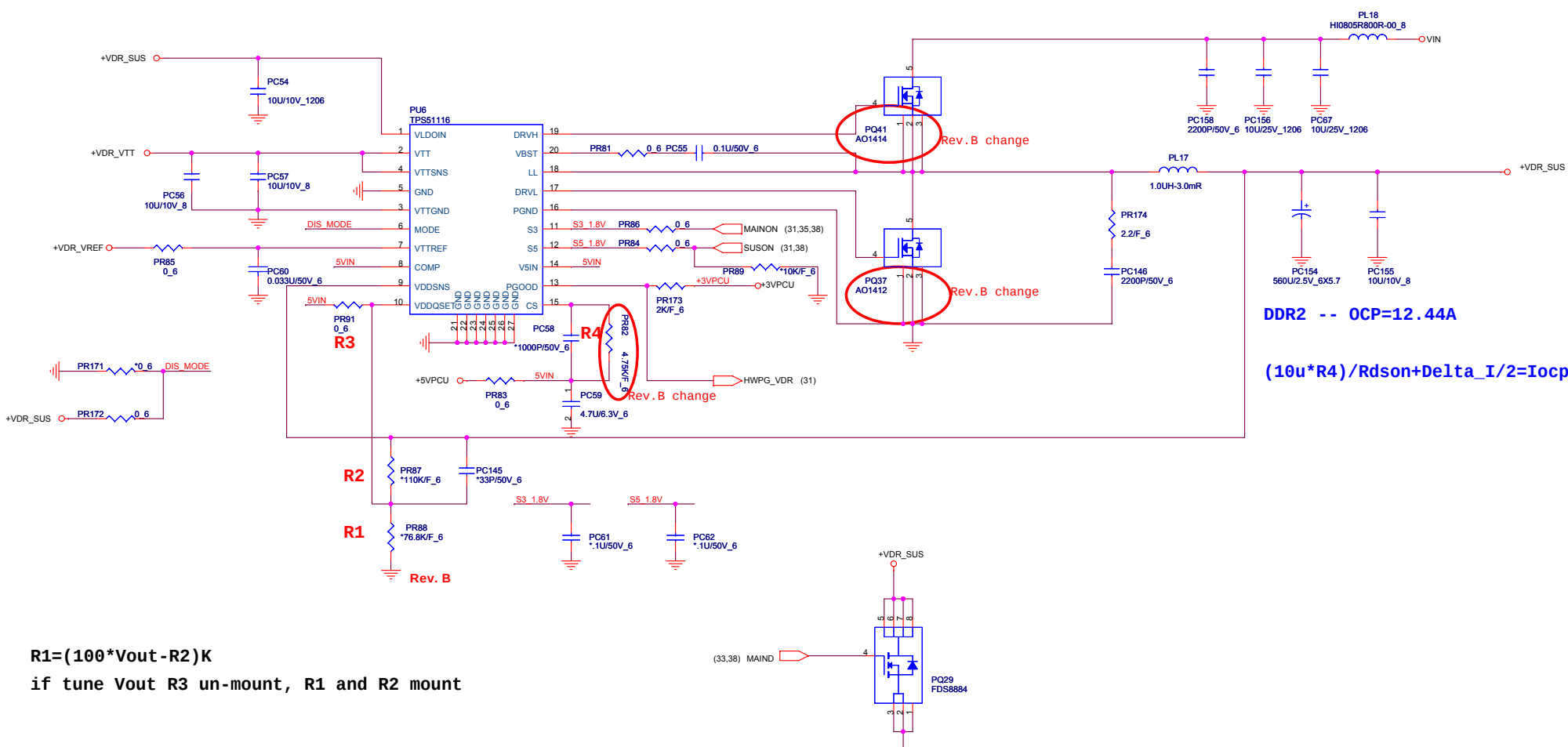


CIR









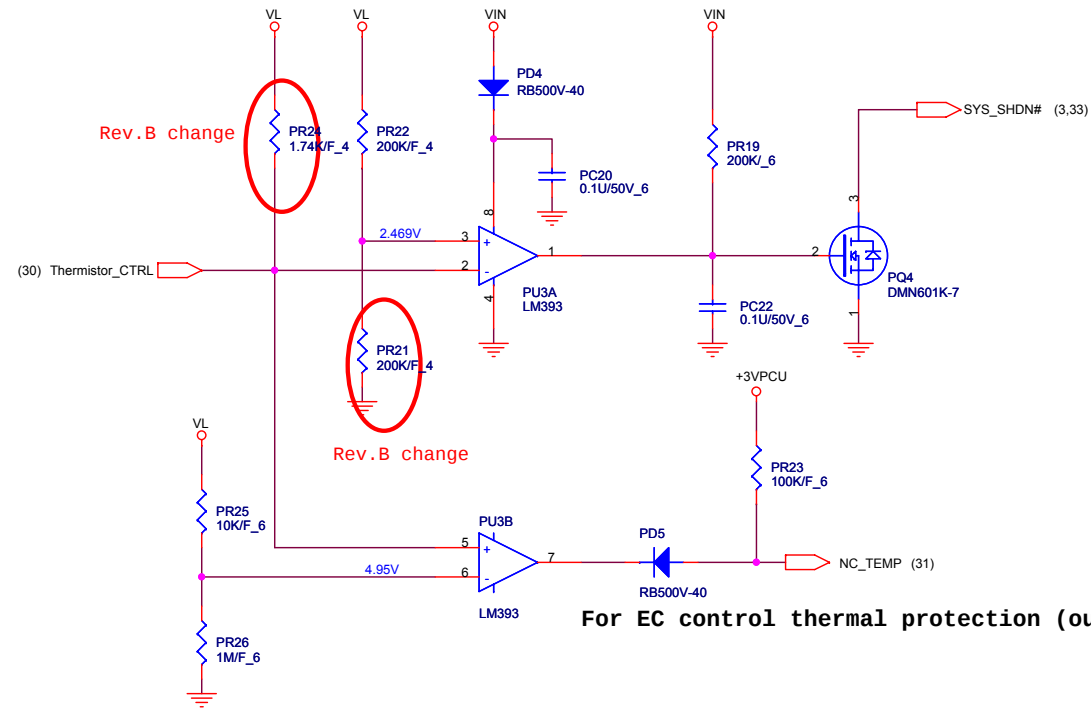
DDR2 -- OCP=12.44A

$$(10\mu * R4) / R_{dson} + \Delta I / 2 = I_{ocp}$$

$$R1 = (100 * V_{out} - R2) K$$

if tune Vout R3 un-mount, R1 and R2 mount

thermal protection



Quanta Computer Inc.

PROJECT : ZK2

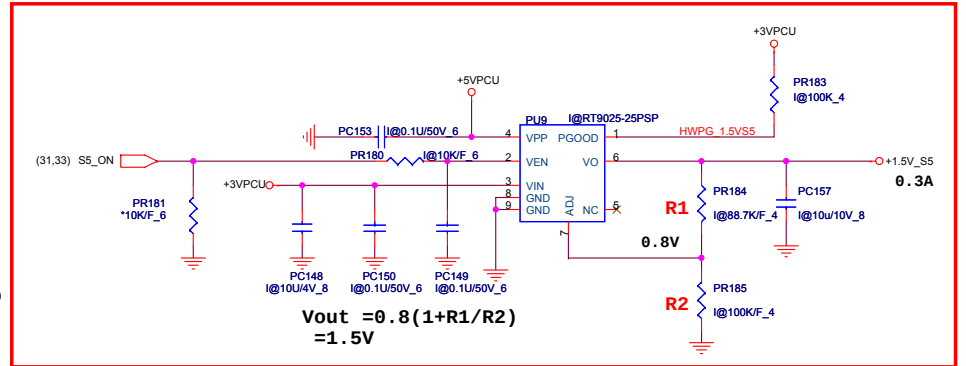
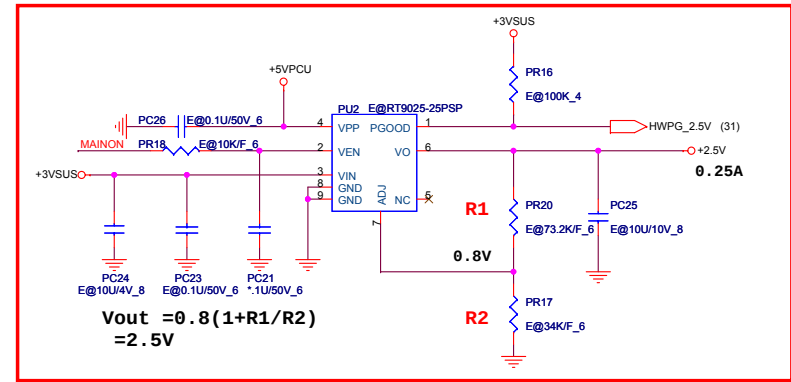
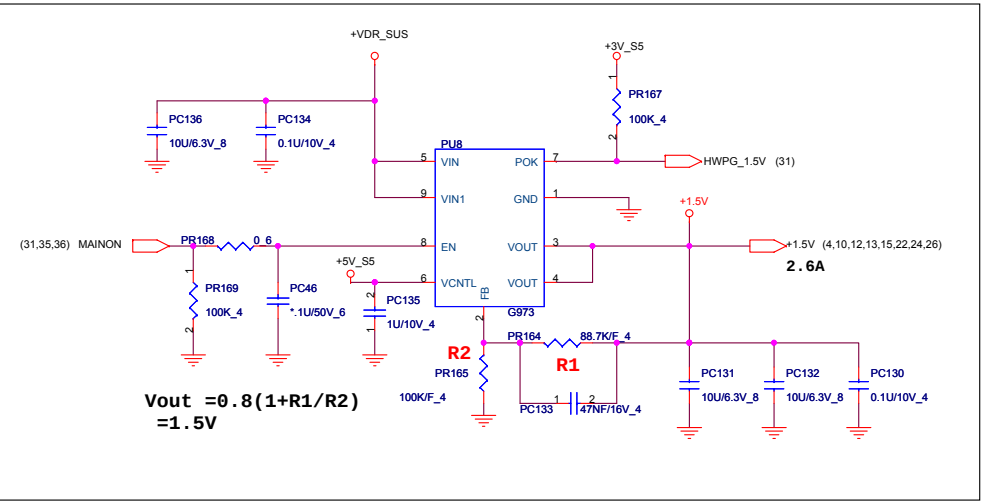
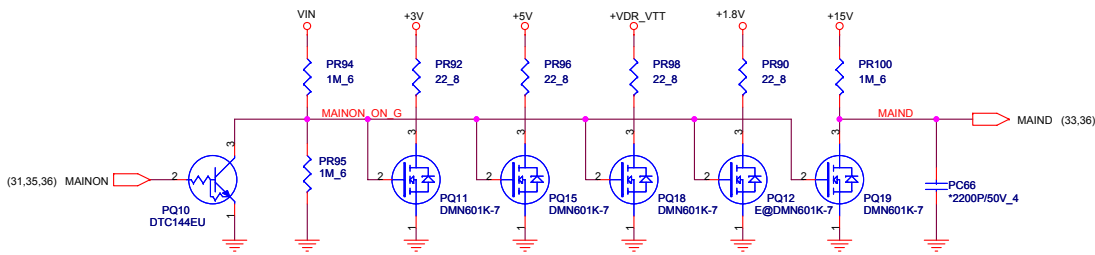
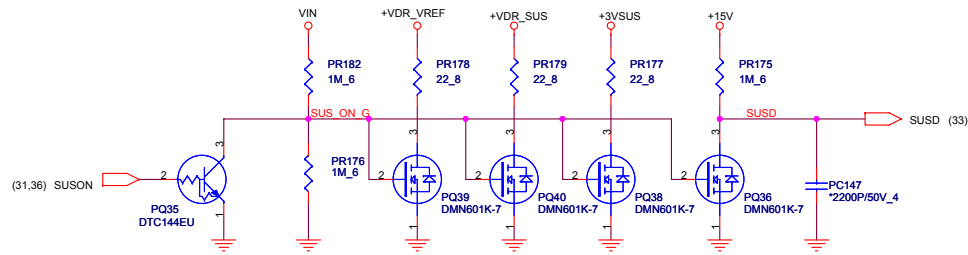
Size Document Number

Thermal protect

Rev
1A

Date: Friday, June 27, 2008

Sheet 37 of 40



Model	REV	CHANGE LIST	MODEL	ZK2	
ZK2 MB	1A	FIRST RELEASED: E200803-5424 (PCB: DA0ZK2MB6A0)		FROM	To
				X	1A
				X	1A
				1A	2A
				1A	2A
				1A	2A
				1A	2A
				1A	2A
				1A	2A
				1A	2A
2A		Page10 : Correct LVDS power of Northbridge to +VDD_SUS Change 357/8A02Z (v2) to normal type (M1.5) Change LCD battery connector type (R313) to DFWD02MB311 Swap SATA port between port-4 (00d) and port-4 (2ND HDD) Page17 : Change LCD power input capacitor (C27) to 2.2uF Page18 : Change array resistor (RP1) to two resistors (R617/R618) for EMI Page19 : Change all HDMI switch solution to Parade (PS3122), and connector type to DIP type Page20 : Correct LAN Resistor (R550) to 6.8k for improve performance and signal quality Page21 : Correct X-tal capacitor (C361/C362) to 33pF for 25MHz Page22 : Change L22 to 0ohm resistor Page23 : Add two 0.1uF return-path capacitor (C660/C661) for HDMI switch Page24 : Change L66 to 100uF for SPDIF and DMIC EMI issue Page25 : Correct SWP definition Page26 : Change power/B power source to +3V only Page27 : Reserve +3V power source for M/E function Page29 : Modify eSATA controller (U13) swing/EQ/de-emphasis setting for signal quality, and correct eSATA connector type Page29 : Move USB power switch to USB/A Page29 : Change finger-printer power source to +3VSUS		1A	2A
		Power change items		1A	2A
		Page32 : [PMS3] 6.19kOhm (CS26103F020) for MXM (90W ADP) 71.5kOhm (CS37153F017) for UMA (80W ADP)		1A	2A
		Page33 : 1. Change PQ31/PQ8 from FDS8878 (BAM88780020) to A04468 (BAM44680003) 2. Change PQ30/PQ9 from FDS6690AS (BAM66900022) to A04712 (BAM47120000) 3. Change PQ32/PQ33 from FDC655 (BAMS300203) to A06402A (BAM64020000) 4. Change PR61 from 150K/F.4 (CS41502F018) to 150K/K.4 (CS41502J010) 5. Change PR71 from 178K/F.6 (CS41783F018) to 237K/F.6 (CS42373F011) 6. Change PR85 from 196K/F.6 (CS41963F016) to 249K/F.6 (CS42493F014)		1A	2A
		Page34 : 1. Change PQ27/PQ22 from TPCA8023-H (BAM80230000) to A01414 (BAM14140001) 2. Change PQ28/PQ23 from TPCA8019-H (BAM80190000) to A01412 (BAM14120000) 3. Change PQ11 from 0.0220/50V.5 (CH3226K1901) to 0.0330/50V.5 (CH3336J1900) Page35 : 1. Change PQ2 from TPCA8023-H (BAM80230000) to A01414 (BAM14140001) 2. Change PQ3 from TPCA8019-H (BAM80190000) to A01412 (BAM14120000) Page36 : 1. Change PQ41 from TPCA8023-H (BAM80230000) to A01414 (BAM14140001) 2. Change PQ37 from TPCA8019-H (BAM80190000) to A01412 (BAM14120000) 3. Change PR82 from 5.62K/F.6 (CS2562F014) to 4.75K/F.6 (CS24753F018) Page37 : 1. Change PR21 from 106K/F.4 (CS41062F001) to 200K/F.4 (CS42002F012) 2. Change PR24 from 1.43K/F.4 (CS21432F000) to 1.74K/F.4 (CS21742F000)		1A	2A
				2A	3A
		Page2 : no mount 0.1uF (C475/C492/C471) Page10 : remove 0 ohm (R188/R189/R402/R189), and connect them directly Page12 : remove 0 ohm (R408/R240/R487), and connect them directly Swap Main HDD to port-0, and 2nd HDD to port-4 Page13 : remove 0 ohm (R189), and connect them directly Swap USB port2 to external USB, and port-7 to Cardreader Page14 : remove 0 ohm (R186/R185/R466/R235/R506), and connect them directly. no mount 0.1uF (C170/C448) Page16 : Reserve 0 ohm (R628) from MXM to EC (EC.THERM#) no mount 0.1uF (C489) Page18 : no mount Q21/Q24 and bypass from 0ohm (R378/R381), pull-up 2K ohm to +3V for MXM sku Change L677/8 to BLM188A4705N10 Change U4 to AL904280001 (AAT4280-4) part Remove 0 ohm (R22), and connect directly Change CN3 to DFWF40MR000 for SMT request Page19 : Change R42 from 330 ohm to 180 ohm (CS11802J015) Use 10uF ohm (R519/R520/R521/R522) and 1uF (C506) /C657/C658/C659) for HDMI EMI request Reserve C662/Q43/Q44/R119/R126, and bypass 0ohm (R627/R628) Page20 : remove 0ohm (R6/R9/R357) and connect directly Page21 : Change L1/L2 (BLM188A4705N10) to increase current rating Change transformer to GST-5009 Change R13-R16 from 75ohm 0402 to 0805 size no mount 0.1uF (C356) Swap LAN LED color connect (green: linking/orange:active) Page22 : Remove R296/R292/R328/L42/R298 and connect directly no mount 0.1uF (C247/C270/C268) Page23 : Change main (CN27) and 2nd (CN30) HDD footprint for M/E request no mount 0.1uF (C532/C535/C260/C261/C440/C441) Change 0.1uF to 0.33uF (C630/C347/C317/C46/C661/C663/C314/C314/C556/C373/C451/C100) Page24 : remove 0ohm (R674) and connect directly Page25 : no mount 0.1uF (C281/C188/C278) Page27 : Add AC-IN LED-oh (Q40/Q50) Page28 : Add PWMLED/SUSLED function on Power/B (Q47/Q49/R624/R625) Change R47/R49 from 0ohm to 100ohm for synaptic MMB Page29 : Change L537/C520/R68/R609/R510/R511/R512/R513/R514/R515/R516/R517/R518/R519/R520/R521/R522/R523/R524/R525/R526/R527/R528/R529/R530/R531/R532/R533/R534/R535/R536/R537/R538/R539/R540/R541/R542/R543/R544/R545/R546/R547/R548/R549/R550/R551/R552/R553/R554/R555/R556/R557/R558/R559/R560/R561/R562/R563/R564/R565/R566/R567/R568/R569/R570/R571/R572/R573/R574/R575/R576/R577/R578/R579/R580/R581/R582/R583/R584/R585/R586/R587/R588/R589/R590/R591/R592/R593/R594/R595/R596/R597/R598/R599/R600/R601/R602/R603/R604/R605/R606/R607/R608/R609/R610/R611/R612/R613/R614/R615/R616/R617/R618/R619/R620/R621/R622/R623/R624/R625/R626/R627/R628/R629/R630/R631/R632/R633/R634/R635/R636/R637/R638/R639/R640/R641/R642/R643/R644/R645/R646/R647/R648/R649/R650/R651/R652/R653/R654/R655/R656/R657/R658/R659/R660/R661/R662/R663/R664/R665/R666/R667/R668/R669/R670/R671/R672/R673/R674/R675/R676/R677/R678/R679/R680/R681/R682/R683/R684/R685/R686/R687/R688/R689/R690/R691/R692/R693/R694/R695/R696/R697/R698/R699/R700/R701/R702/R703/R704/R705/R706/R707/R708/R709/R710/R711/R712/R713/R714/R715/R716/R717/R718/R719/R720/R721/R722/R723/R724/R725/R726/R727/R728/R729/R730/R731/R732/R733/R734/R735/R736/R737/R738/R739/R740/R741/R742/R743/R744/R745/R746/R747/R748/R749/R750/R751/R752/R753/R754/R755/R756/R757/R758/R759/R760/R761/R762/R763/R764/R765/R766/R767/R768/R769/R770/R771/R772/R773/R774/R775/R776/R777/R778/R779/R780/R781/R782/R783/R784/R785/R786/R787/R788/R789/R790/R791/R792/R793/R794/R795/R796/R797/R798/R799/R800/R801/R802/R803/R804/R805/R806/R807/R808/R809/R810/R811/R812/R813/R814/R815/R816/R817/R818/R819/R820/R821/R822/R823/R824/R825/R826/R827/R828/R829/R830/R831/R832/R833/R834/R835/R836/R837/R838/R839/R840/R841/R842/R843/R844/R845/R846/R847/R848/R849/R850/R851/R852/R853/R854/R855/R856/R857/R858/R859/R860/R861/R862/R863/R864/R865/R866/R867/R868/R869/R870/R871/R872/R873/R874/R875/R876/R877/R878/R879/R880/R881/R882/R883/R884/R885/R886/R887/R888/R889/R890/R891/R892/R893/R894/R895/R896/R897/R898/R899/R900/R901/R902/R903/R904/R905/R906/R907/R908/R909/R910/R911/R912/R913/R914/R915/R916/R917/R918/R919/R920/R921/R922/R923/R924/R925/R926/R927/R928/R929/R930/R931/R932/R933/R934/R935/R936/R937/R938/R939/R940/R941/R942/R943/R944/R945/R946/R947/R948/R949/R950/R951/R952/R953/R954/R955/R956/R957/R958/R959/R960/R961/R962/R963/R964/R965/R966/R967/R968/R969/R970/R971/R972/R973/R974/R975/R976/R977/R978/R979/R980/R981/R982/R983/R984/R985/R986/R987/R988/R989/R990/R991/R992/R993/R994/R995/R996/R997/R998/R999/R1000/R1001/R1002/R1003/R1004/R1005/R1006/R1007/R1008/R1009/R1010/R1011/R1012/R1013/R1014/R1015/R1016/R1017/R1018/R1019/R1020/R1021/R1022/R1023/R1024/R1025/R1026/R1027/R1028/R1029/R1030/R1031/R1032/R1033/R1034/R1035/R1036/R1037/R1038/R1039/R1040/R1041/R1042/R1043/R1044/R1045/R1046/R1047/R1048/R1049/R1050/R1051/R1052/R1053/R1054/R1055/R1056/R1057/R1058/R1059/R1060/R1061/R1062/R1063/R1064/R1065/R1066/R1067/R1068/R1069/R1070/R1071/R1072/R1073/R1074/R1075/R1076/R1077/R1078/R1079/R1080/R1081/R1082/R1083/R1084/R1085/R1086/R1087/R1088/R1089/R1090/R1091/R1092/R1093/R1094/R1095/R1096/R1097/R1098/R1099/R1100/R1101/R1102/R1103/R1104/R1105/R1106/R1107/R1108/R1109/R1110/R1111/R1112/R1113/R1114/R1115/R1116/R1117/R1118/R1119/R1120/R1121/R1122/R1123/R1124/R1125/R1126/R1127/R1128/R1129/R1130/R1131/R1132/R1133/R1134/R1135/R1136/R1137/R1138/R1139/R1140/R1141/R1142/R1143/R1144/R1145/R1146/R1147/R1148/R1149/R1150/R1151/R1152/R1153/R1154/R1155/R1156/R1157/R1158/R1159/R1160/R1161/R1162/R1163/R1164/R1165/R1166/R1167/R1168/R1169/R1170/R1171/R1172/R1173/R1174/R1175/R1176/R1177/R1178/R1179/R1180/R1181/R1182/R1183/R1184/R1185/R1186/R1187/R1188/R1189/R1190/R1191/R1192/R1193/R1194/R1195/R1196/R1197/R1198/R1199/R1200/R1201/R1202/R1203/R1204/R1205/R1206/R1207/R1208/R1209/R1210/R1211/R1212/R1213/R1214/R1215/R1216/R1217/R1218/R1219/R1220/R1221/R1222/R1223/R1224/R1225/R1226/R1227/R1228/R1229/R1230/R1231/R1232/R1233/R1234/R1235/R1236/R1237/R1238/R1239/R1240/R1241/R1242/R1243/R1244/R1245/R1246/R1247/R1248/R1249/R1250/R1251/R1252/R1253/R1254/R1255/R1256/R1257/R1258/R1259/R1260/R1261/R1262/R1263/R1264/R1265/R1266/R1267/R1268/R1269/R1270/R1271/R1272/R1273/R1274/R1275/R1276/R1277/R1278/R1279/R1280/R1281/R1282/R1283/R1284/R1285/R1286/R1287/R1288/R1289/R1290/R1291/R1292/R1293/R1294/R1295/R1296/R1297/R1298/R1299/R1300/R1301/R1302/R1303/R1304/R1305/R1306/R1307/R1308/R1309/R1310/R1311/R1312/R1313/R1314/R1315/R1316/R1317/R1318/R1319/R1320/R1321/R1322/R1323/R1324/R1325/R1326/R1327/R1328/R1329/R1330/R1331/R1332/R1333/R1334/R1335/R1336/R1337/R1338/R1339/R1340/R1341/R1342/R1343/R1344/R1345/R1346/R1347/R1348/R1349/R1350/R1351/R1352/R1353/R1354/R1355/R1356/R1357/R1358/R1359/R1360/R1361/R1362/R1363/R1364/R1365/R1366/R1367/R1368/R1369/R1370/R1371/R1372/R1373/R1374/R1375/R1376/R1377/R1378/R1379/R1380/R1381/R1382/R1383/R1384/R1385/R1386/R1387/R1388/R1389/R1390/R1391/R1392/R1393/R1394/R1395/R1396/R1397/R1398/R1399/R1400/R1401/R1402/R1403/R1404/R1405/R1406/R1407/R1408/R1409/R1410/R1411/R1412/R1413/R1414/R1415/R1416/R1417/R1418/R1419/R1420/R1421/R1422/R1423/R1424/R1425/R1426/R1427/R1428/R1429/R1430/R1431/R1432/R1433/R1434/R1435/R1436/R1437/R1438/R1439/R1440/R1441/R1442/R1443/R1444/R1445/R1446/R1447/R1448/R1449/R1450/R1451/R1452/R1453/R1454/R1455/R1456/R1457/R1458/R1459/R1460/R1461/R1462/R1463/R1464/R1465/R1466/R1467/R1468/R1469/R1470/R1471/R1472/R1473/R1474/R1475/R1476/R1477/R1478/R1479/R1480/R1481/R1482/R1483/R1484/R1485/R1486/R1487/R1488/R1489/R1490/R1491/R1492/R1493/R1494/R1495/R1496/R1497/R1498/R1499/R1500/R1501/R1502/R1503/R1504/R1505/R1506/R1507/R1508/R1509/R1510/R1511/R1512/R1513/R1514/R1515/R1516/R1517/R1518/R1519/R1520/R1521/R1522/R1523/R1524/R1525/R1526/R1527/R1528/R1529/R1530/R1531/R1532/R1533/R1534/R1535/R1536/R1537/R1538/R1539/R1540/R1541/R1542/R1543/R1544/R1545/R1546/R1547/R1548/R1549/R1550/R1551/R1552/R1553/R1554/R1555/R1556/R1557/R1558/R1559/R1560/R1561/R1562/R1563/R1564/R1565/R1566/R1567/R1568/R1569/R1570/R1571/R1572/R1573/R1574/R1575/R1576/R1577/R1578/R1579/R1580/R1581/R1582/R1583/R1584/R1585/R1586/R1587/R1588/R1589/R1590/R1591/R1592/R1593/R1594/R1595/R1596/R1597/R1598/R1599/R1600/R1601/R1602/R1603/R1604/R1605/R1606/R1607/R1608/R1609/R1610/R1611/R1612/R1613/R1614/R1615/R1616/R1617/R1618/R1619/R1620/R1621/R1622/R1623/R1624/R1625/R1626/R1627/R1628/R1629/R1630/R1631/R1632/R1633/R1634/R1635/R1636/R1637/R1638/R1639/R1640/R1641/R1642/R1643/R1644/R1645/R1646/R1647/R1648/R1649/R1650/R1651/R1652/R1653/R1654/R1655/R1656/R1657/R1658/R1659/R1660/R1661/R1662/R1663/R1664/R1665/R1666/R1667/R1668/R1669/R1670/R1671/R1672/R1673/R1674/R1675/R1676/R1677/R1678/R1679/R1680/R1681/R1682/R1683/R1684/R1685/R1686/R1687/R1688/R1689/R1690/R1691/R1692/R1693/R1694/R1695/R1696/R1697/R1698/R1699/R1700/R1701/R1702/R1703/R1704/R1705/R1706/R1707/R1708/R1709/R1710/R1711/R1712/R1713/R1714/R1715/R1716/R1717/R1718/R1719/R1720/R1721/R1722/R1723/R1724/R1725/R1726/R1727/R1728/R1729/R1730/R1731/R1732/R1733/R1734/R1735/R1736/R1737/R1738/R1739/R1740/R1741/R1742/R1743/R1744/R1745/R1746/R1747/R1748/R1749/R1750/R1751/R1752/R1753/R1754/R1755/R1756/R1757/R1758/R1759/R1760/R1761/R1762/R1763/R1764/R1765/R1766/R1767/R1768/R1769/R1770/R1771/R1772/R1773/R1774/R1775/R1776/R1777/R1778/R1779/R1780/R1781/R1782/R1783/R1784/R1785/R1786/R1787/R1788/R1789/R1790/R1791/R1792/R1793/R1794/R1795/R1796/R1797/R1798/R1799/R1800/R1801/R1802/R1803/R1804/R1805/R1806/R1807/R1808/R1809/R1810/R1811/R1812/R1813/R1814/R1815/R1816/R1817/R1818/R1819/R1820/R1821/R1822/R1823/R1824/R1825/R1826/R1827/R1828/R1829/R1830/R1831/R1832/R1833/R1834/R1835/R1836/R1837/R1838/R1839/R1840/R1841/R1842/R1843/R1844/R1845/R1846/R1847/R1848/R1849/R1850/R1851/R1852/R1853/R1854/R1855/R1856/R1857/R1858/R1859/R1860/R1861/R1862/R1863/R1864/R1865/R1866/R1867/R1868/R1869/R1870/R1871/R1872/R1873/R1874/R1875/R1876/R1877/R1878/R1879/R1880/R1881/R1882/R1883/R1884/R1885/R1886/R1887/R1888/R1889/R1890/R1891/R1892/R1893/R1894/R1895/R1896/R1897/R1898/R1899/R1900/R1901/R1902/R1903/R1904/R1905/R1906/R1907/R1908/R1909/R1910/R1911/R1912/R1913/R1914/R1915/R1916/R1917/R1918/R1919/R1920/R1921/R1922/R1923/R1924/R1925/R1926/R1927/R1928/R1929/R1930/R1931/R1932/R1933/R1934/R1935/R1936/R1937/R1938/R1939/R1940/R1941/R1942/R1943/R1944/R1945/R1946/R1947/R1948/R1949/R1950/R1951/R1952/R1953/R1954/R1955/R1956/R1957/R1958/R1959/R1960/R1961/R1962/R1963/R1964/R1965/R1966/R1967/R1968/R1969/R1970/R1971/R1972/R1973/R1974/R1975/R1976/R1977/R1978/R1979/R1980/R1981/R1982/R1983/R1984/R1985/R1986/R1987/R1988/R1989/R1990/R1991/R1992/R1993/R1994/R1995/R1996/R1997/R1998/R1999/R2000/R2001/R2002/R2003/R2004/R2005/R2006/R2007/R2008/R2009/R2010/R2011/R2012/R2013/R2014/R2015/R2016/R2017/R2018/R2019/R2020/R2021/R2022/R2023/R2024/R2025/R2026/R2027/R2028/R2029/R2030/R2031/R2032/R2033/R2034/R2035/R2036/R2037/R2038/R2039/R2040/R2041/R2042/R2043/R2044/R2045/R2046/R2047/R2048/R2049/R2050/R2051/R2052/R2053/R2054/R2055/R2056/R2057/R2058/R2059/R2060/R2061/R2062/R2063/R2064/R2065/R2066/R2067/R2068/R2069/R2070/R2071/R2072/R2073/R2074/R2075/R2076/R2077/R2078/R2079/R2080/R2081/R2082/R2083/R2084/R2085/R2086/R2087/R2088/R2089/R2090/R2091/R2092/R2093/R2094/R2095/R2096/R2097/R2098/R2099/R2100/R2101/R2102/R2103/R2104/R2105/R2106/R2107/R2108/R2109/R2110/R2111/R2112/R2113/R2114/R2115/R2116/R2117/R2118/R2119/R2120/R2121/R2122/R2123/R2124/R2125/R2126/R2127/R2128/R2129/R2130/R2131/R2132/R2133/R2134/R2135/R2136/R2137/R2138/R2139/R2140/R2141/R2142/R2143/R2144/R2145/R2146/R2147/R2148/R2149/R2150/R2151/R2152/R2153/R2154/R2155/R2156/R2157/R2158/R2159/R2160/R2161/R2162/R2163/R2164/R2165/R2166/R2167/R2168/R2169/R2170/R2171/R2172/R2173/R2174/R2175/R2176/R2177/R2178/R2179/R2180/R2181/R2182/R2183/R2184/R2185/R2186/R2187/R2188/R2189/R2190/R2191/R2192/R2193/R2194/R2195/R2196/R2197/R2198/R2199/R2200/R2201/R2202/R2203/R2204/R2205/R2206/R2207/R2208/R2209/R2210/R2211/R2212/R2213/R2214/R2215/R2216/R2217/R2218/R2219/R2220/R2221/R2222/R2223/R2224/R2225/R2226/R2227/R2228/R2229/R2230/R2231/R2232/R2233/R2234/R2235/R2236/R2237/R2238/R2239/R2240/R2241/R2242/R2243/R2244/R2245/R2246/R2247/R2248/R2249/R2250/R2251/R2252/R2253/R2254/R2255/R2256/R2257/R2258/R2259/R2260/R2261/R2262/R2263/R2264/R2265/R2266/R2267/R2268/R2269/R2270/R2271/R2272/R2273/R2274/R2275/R2276/R2277/R2278/R2279/R2280/R2281/R2282/R2283/R2284/R2285/R2286/R2287/R2288/R2289/R2290/R2291/R2292/R2293/R2294/R2295/R2296/R2297/R2298/R2299/R2300/R2301/R2302/R2303/R2304/R2305/R2306/R2307/R2308/R2309/R2310/R2311/R2312/R2313/R2314/R2315/R2316/R2317/R2318/R2319/R2320/R2321/R2322/R2323/R2324/R2325/R2326/R2327/R2328/R2329/R2330/R2331/R2332/R2333/R2334/R2335/R2336/R2337/R2338/R2339/R2340/R2341/R2342/R2343/R2344/R2345/R2346/R2347/R2348/R2349/R2350/R2351/R2352/R2353/R2354/R2355/R2356/R2357/R2358/R2359/R2360/R2361/R2362/R2363/R2364/R2365/R2366/R2367/R2368/R2369/R2370/R2371/R2372/R2373/R2374/R2375/R2376/R2377/R2378/R2379/R2380/R2381/R2382/R2383/R2384/R2385/R2386/R2387/R2388/R2389/R2390/R2391/R2392/R2393/R2394/R2395/R2396/R2397/R2398/R2399/R2400/R2401/R2402/R2403/R2404/R2405/R2406/R2407/R2408/R2409/R2410/R2411/R2412/R2413/R2414/R2415/R2416/R2417/R2418/R2419/R2420/R2421/R2422/R2423/R2424/R2425/R2426/R2427/R2428/R2429/R2430/R2431/R2432/R2433/R2434/R2435/R2436/R2437/R2438/R2439/R2440/R2441/R2442/R2443/R2444/R2445/R2446/R2447/R2448/R2449/R2450/R2451/R2452/R2453/R2454/R2455/R2456/R2457/R2458/R2459/R2460/R2461/R2462/R2463/R2464/R2465/R2466/R2467/R2468/R2469/R2470/R2471/R2472/R2473/R2474/R2475/R2476/R2477/R2478/R2479/R2480/R2481/R2			