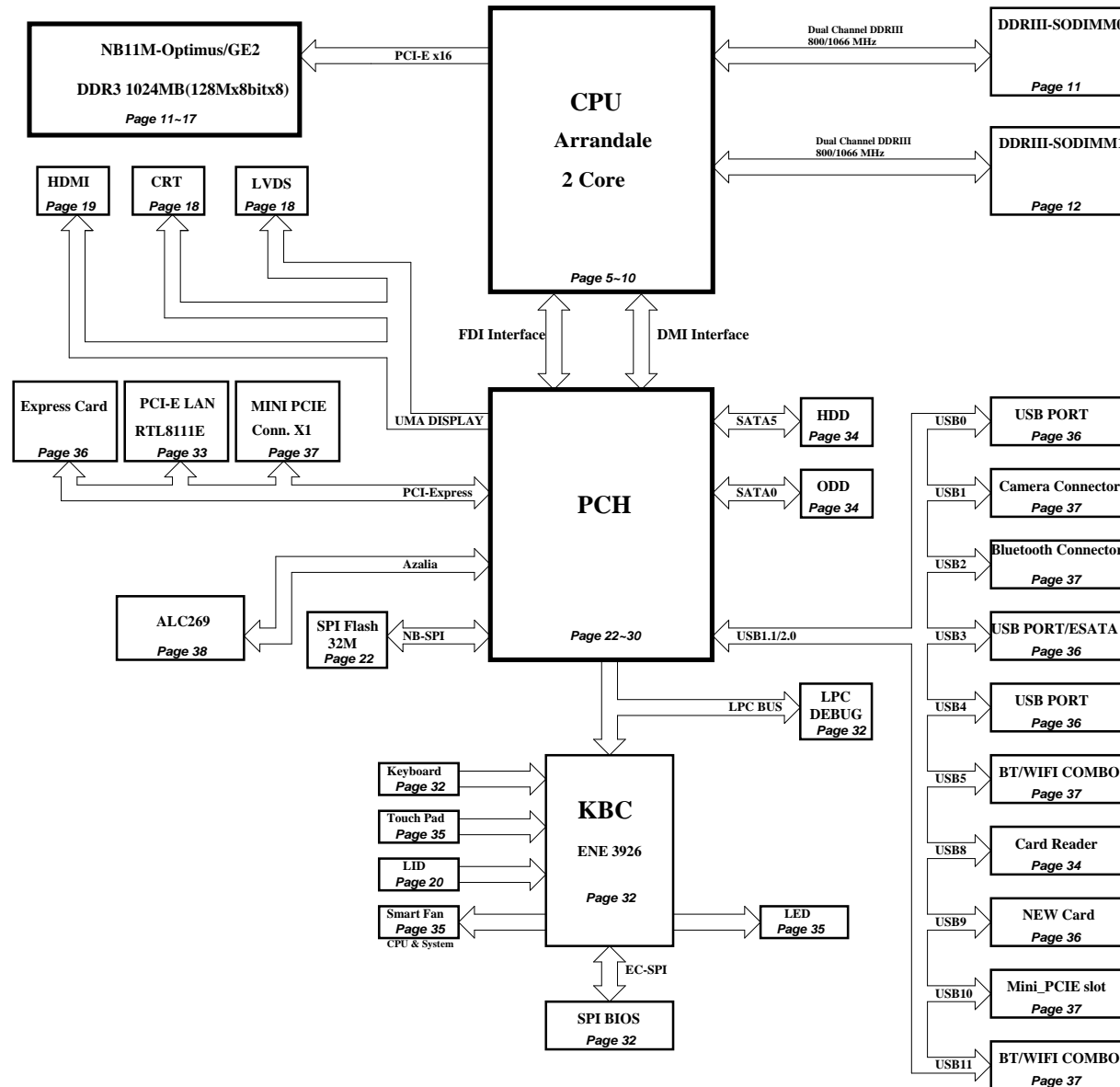
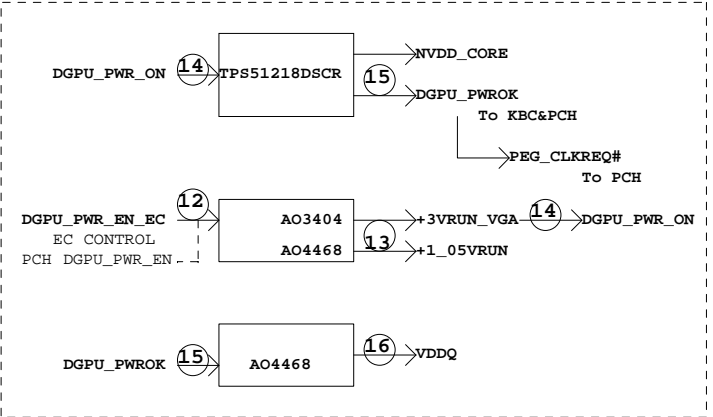
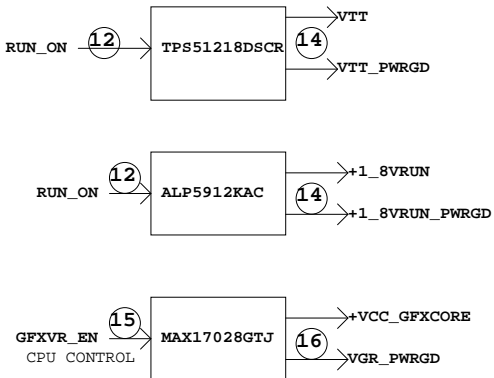
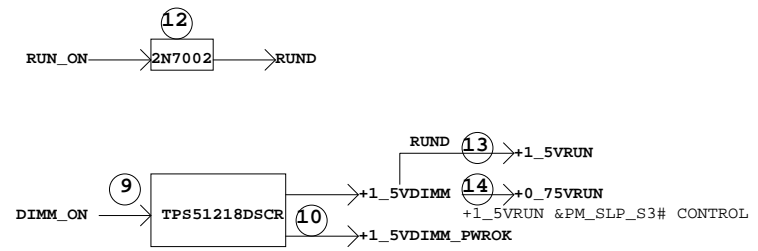
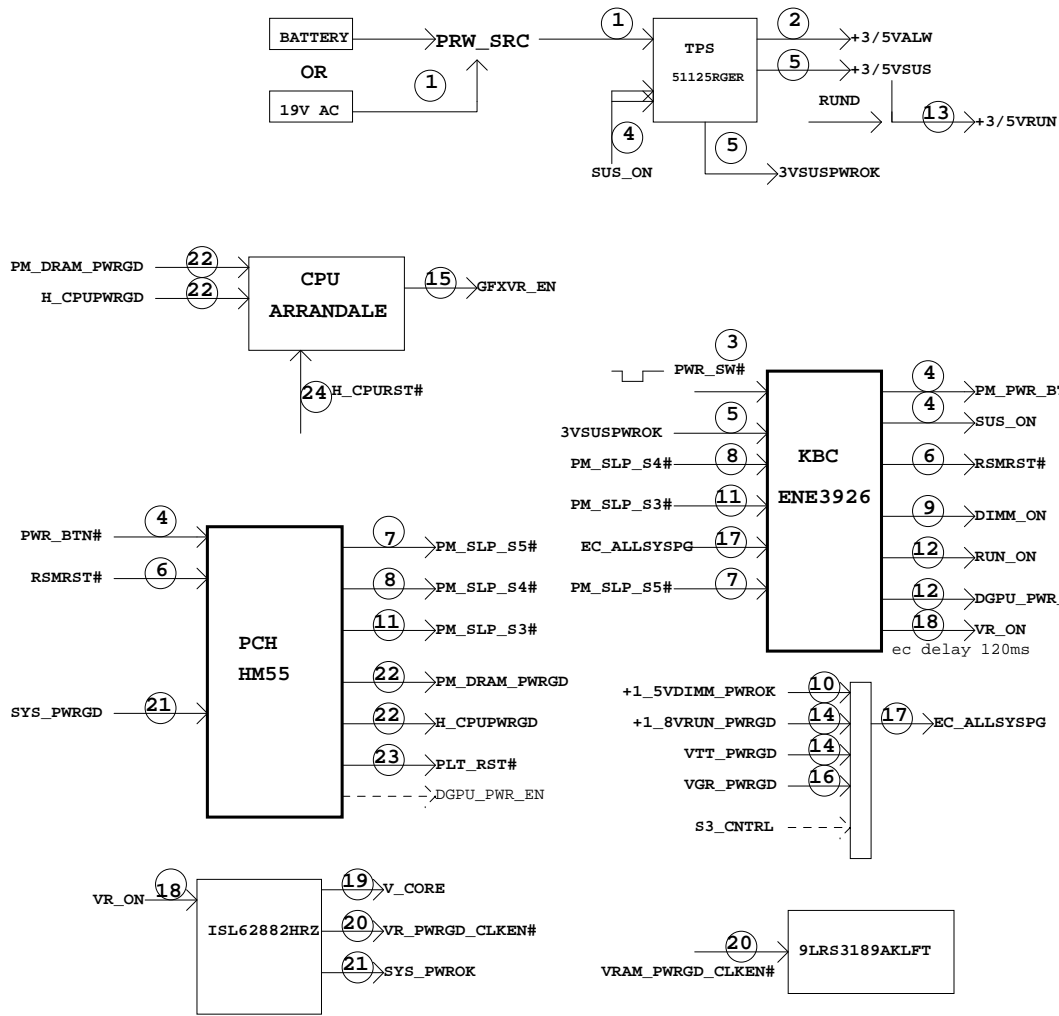
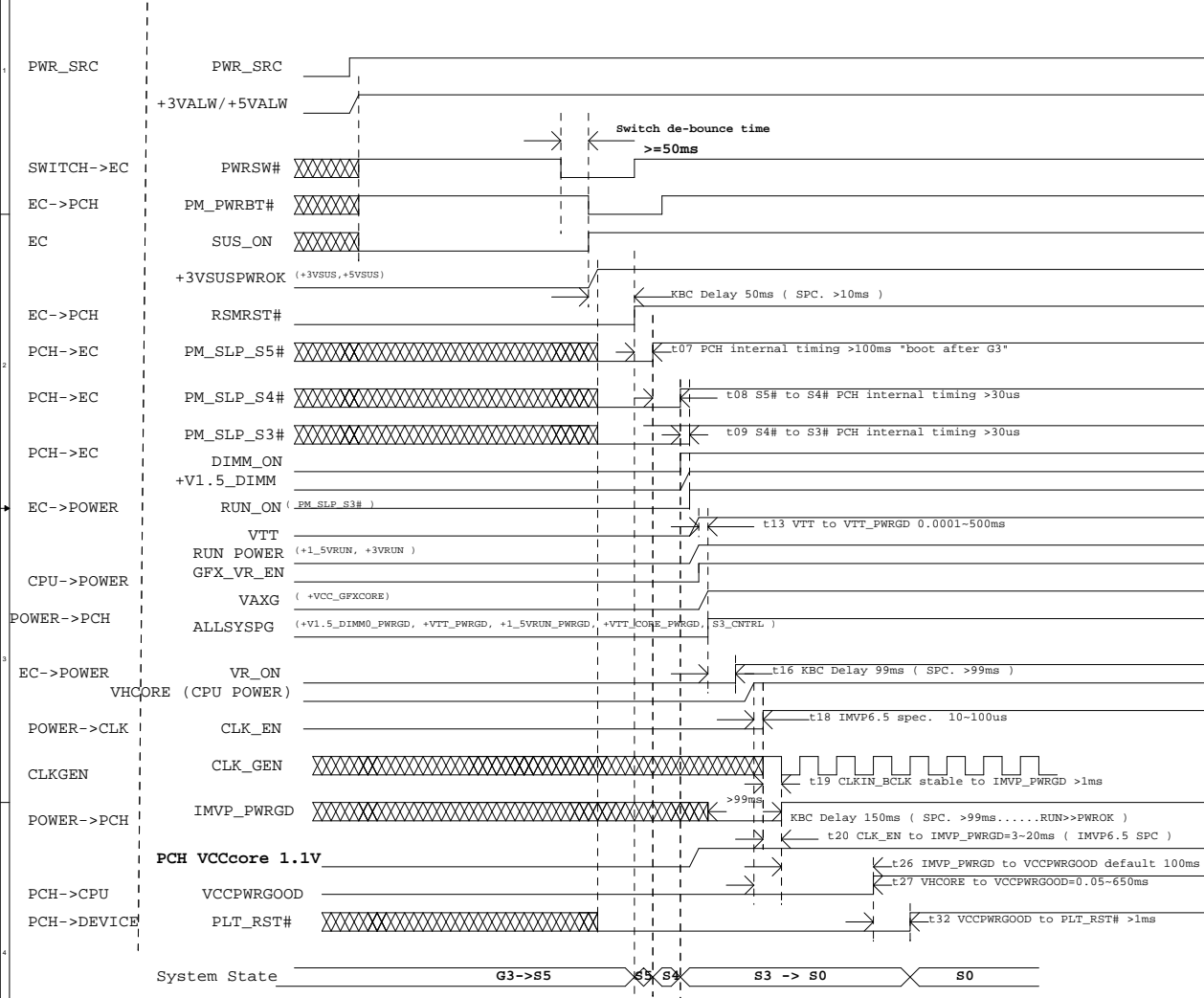


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37	MINIPCIE,CAMERA,BLUETOOTH,SW
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40	M_Battery Charger
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46	NVVDD,+1.03VRUN
47	Screw/ ME
48	168AA_USB BOARD
49	168AB_Lauch board
50	EMI
51	Change List

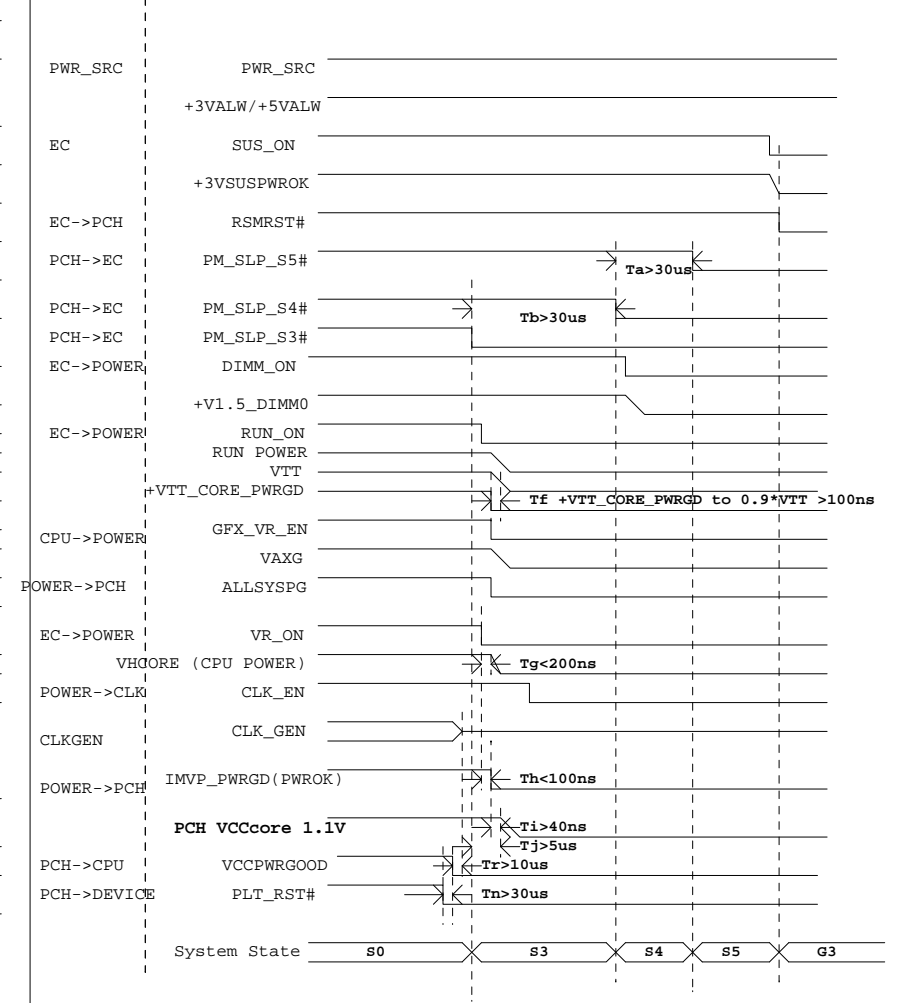


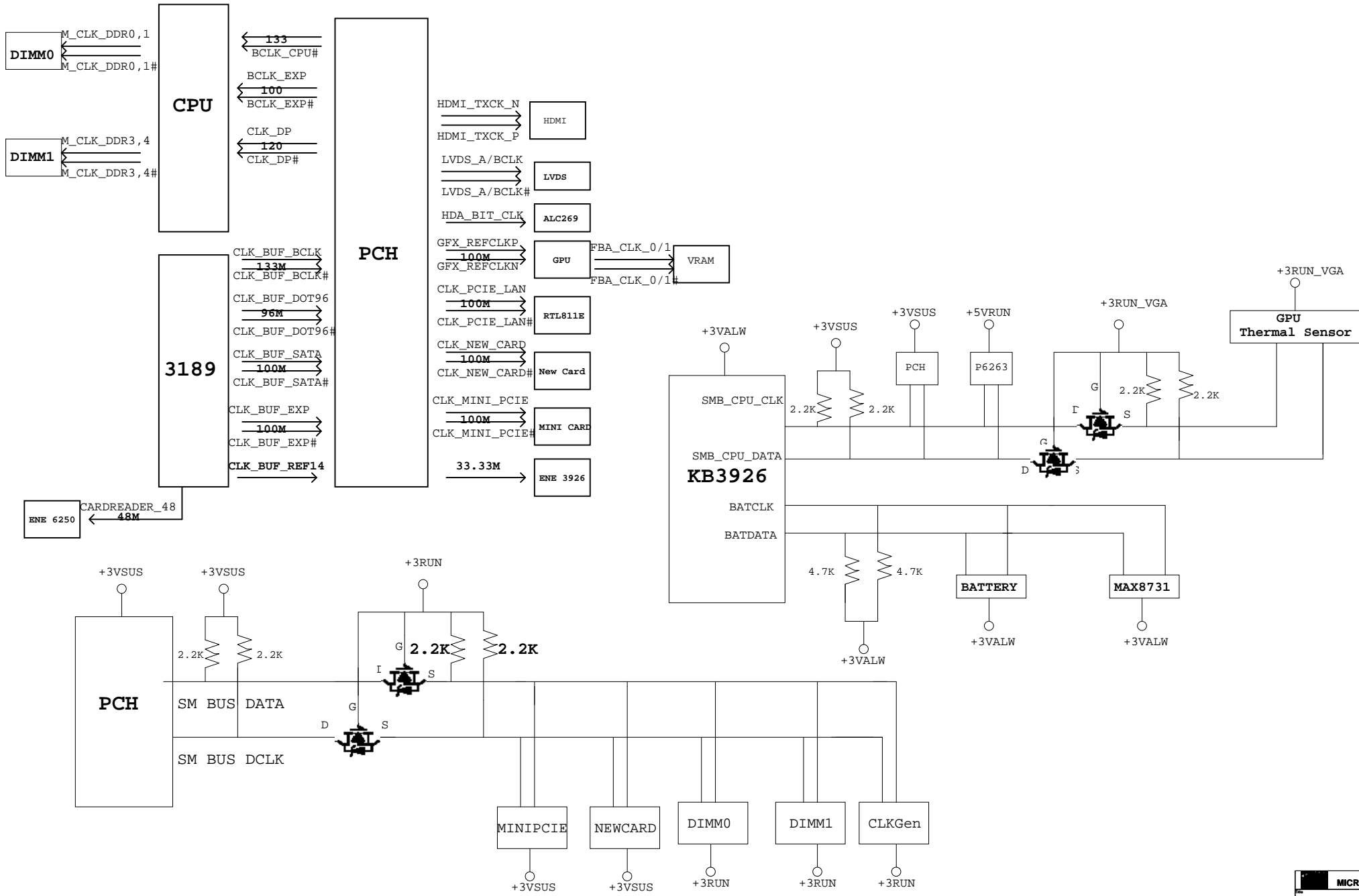


Calpella System Power on Sequence DC mode

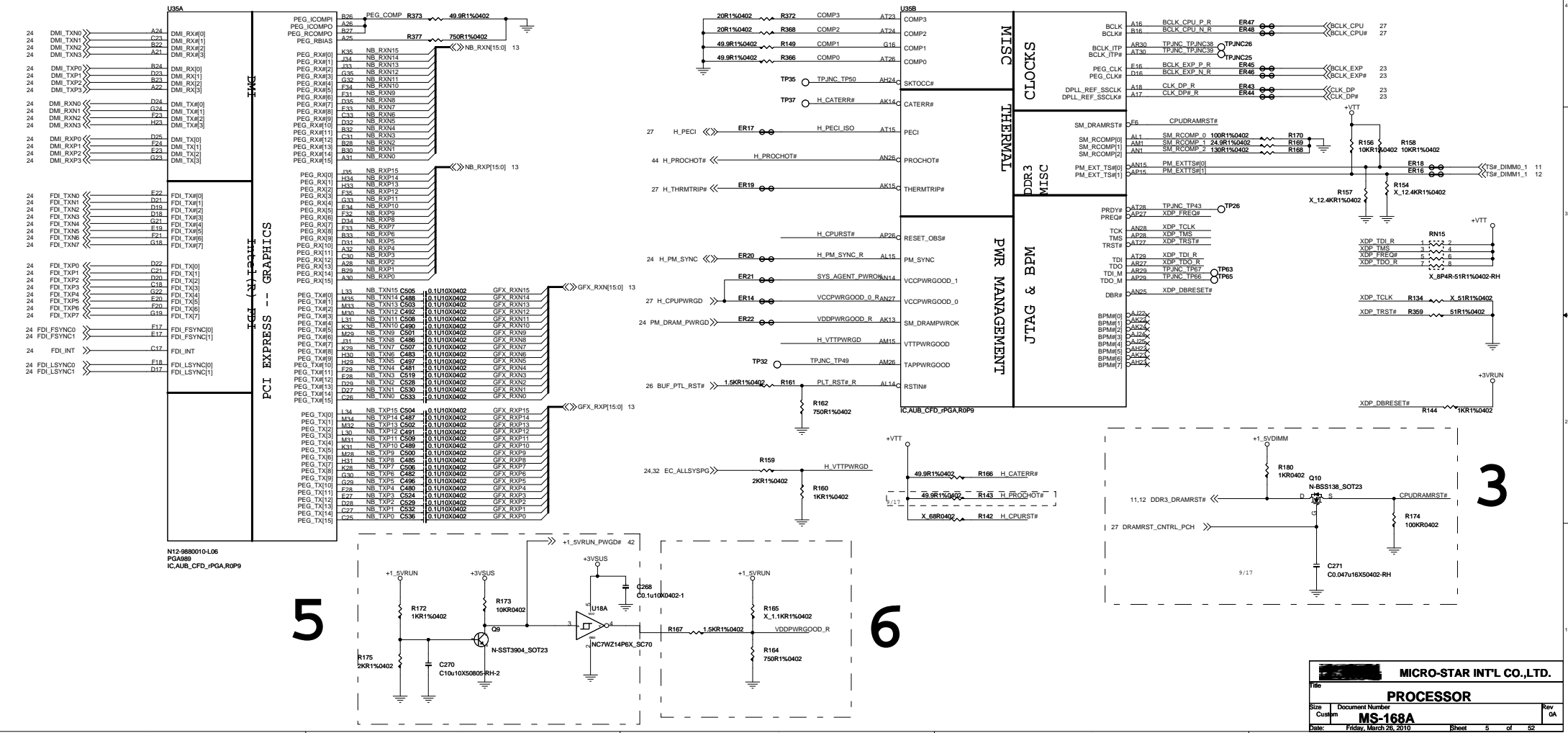


Power down Sequence DC mode S0 to G3





ARRANDALE PROCESSOR (CLK, MISC, JTAG)



5

6

3

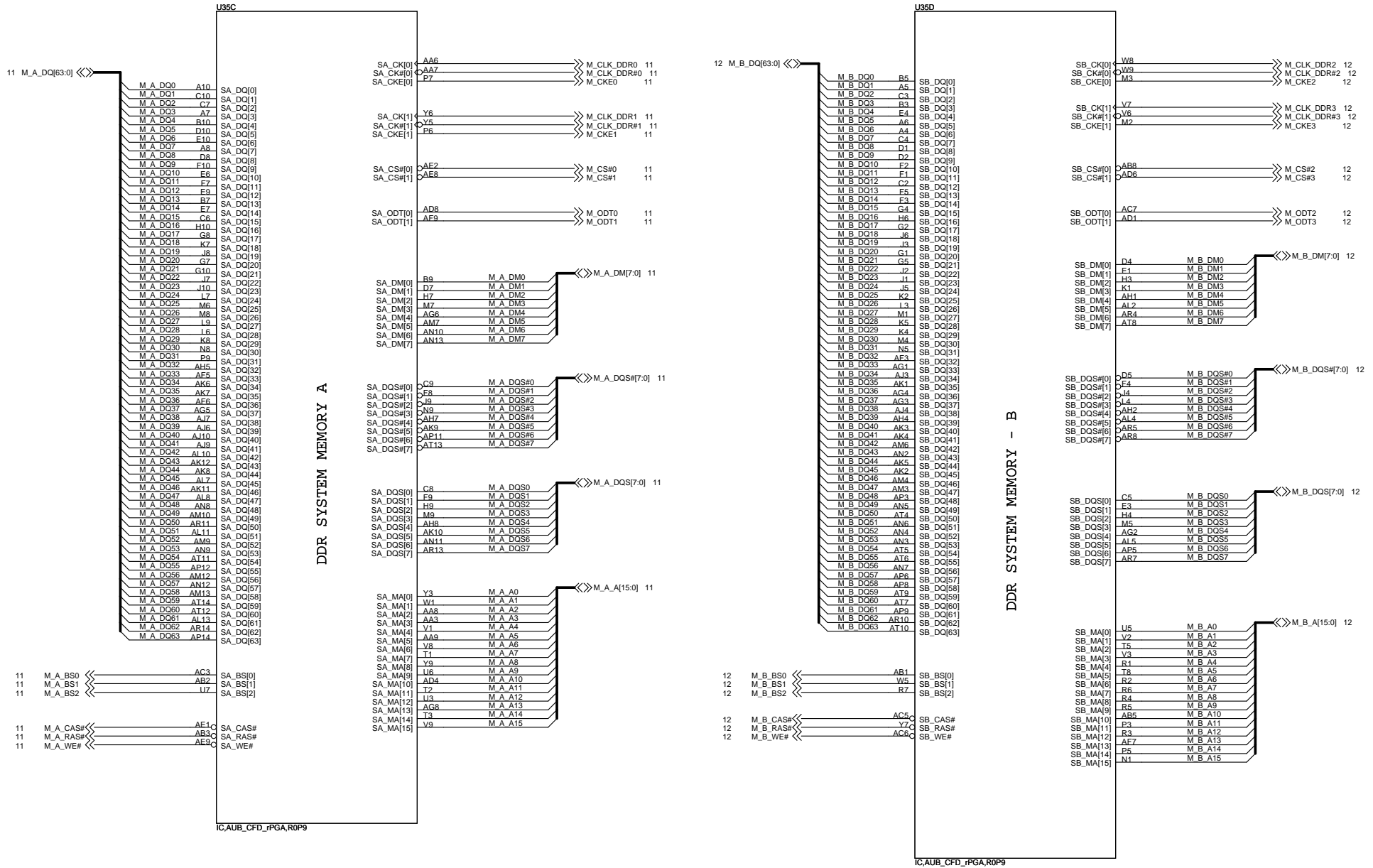
MICRO-STAR INT'L CO., LTD.

PROCESSOR

MS-168A

Friday, March 26, 2010

ARRANDALE PROCESSOR (DDR3)



ARRANDALE PROCESSOR (POWER)

ARRANDALE:
SV=48A
LV=35A
ULV=27A

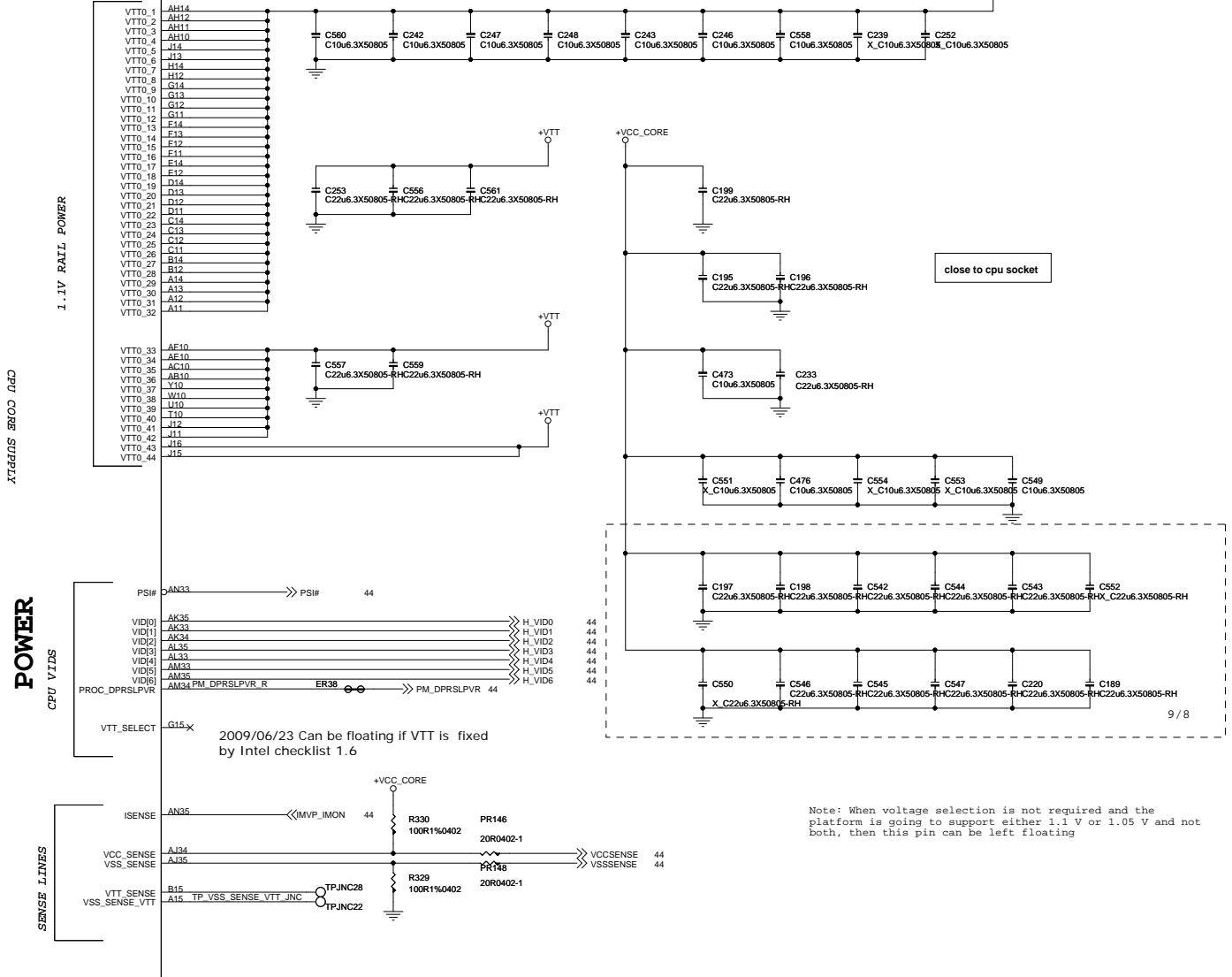
PROCESSOR CORE POWER

AG36	VCC1
AG34	VTT0_2
AG33	VCC3
AG32	VCC4
AG31	VCC5
AG30	VCC6
AG29	VCC7
AG28	VCC8
AG27	VCC9
AG26	VCC10
AF36	VCC11
AF34	VCC12
AF33	VCC13
AF32	VCC14
AF31	VCC15
AF29	VCC16
AE28	VCC17
AE27	VCC18
AE26	VCC19
AD36	VCC20
AD35	VCC21
AD34	VCC22
AD33	VCC23
AD32	VCC24
AD31	VCC25
AD30	VCC26
AD29	VCC27
AD28	VCC28
AD27	VCC29
AD26	VCC30
AC36	VCC31
AC34	VCC32
AC33	VCC33
AC32	VCC34
AC31	VCC35
AC30	VCC36
AC29	VCC37
AC28	VCC38
AC27	VCC39
AC26	VCC40
AA36	VCC41
AA34	VCC42
AA32	VCC43
AA31	VCC44
AA30	VCC45
AA29	VCC46
AA28	VCC47
AA27	VCC48
AA26	VCC49
Y36	VCC50
Y35	VCC51
Y34	VCC52
Y33	VCC53
Y32	VCC54
Y31	VCC55
Y30	VCC56
Y29	VCC57
Y28	VCC58
Y27	VCC59
Y26	VCC60
V36	VCC61
V34	VCC62
V33	VCC63
V32	VCC64
V31	VCC65
V30	VCC66
V29	VCC67
V28	VCC68
V27	VCC69
V26	VCC70
U36	VCC71
U34	VCC72
U33	VCC73
U32	VCC74
U31	VCC75
U30	VCC76
U29	VCC77
U28	VCC78
U27	VCC79
U26	VCC80
R36	VCC81
R34	VCC82
R33	VCC83
R32	VCC84
R31	VCC85
R30	VCC86
R29	VCC87
R28	VCC88
R27	VCC89
R26	VCC90
P36	VCC91
P34	VCC92
P33	VCC93
P32	VCC94
P31	VCC95
P30	VCC96
P29	VCC97
P28	VCC98
P27	VCC99
P26	VCC100

IC_AUB_CFD_IPGA_R0P9

ARRANDALE:
SV=18A
LV=TBD
ULV=TBD

PROCESSOR CORE POWER



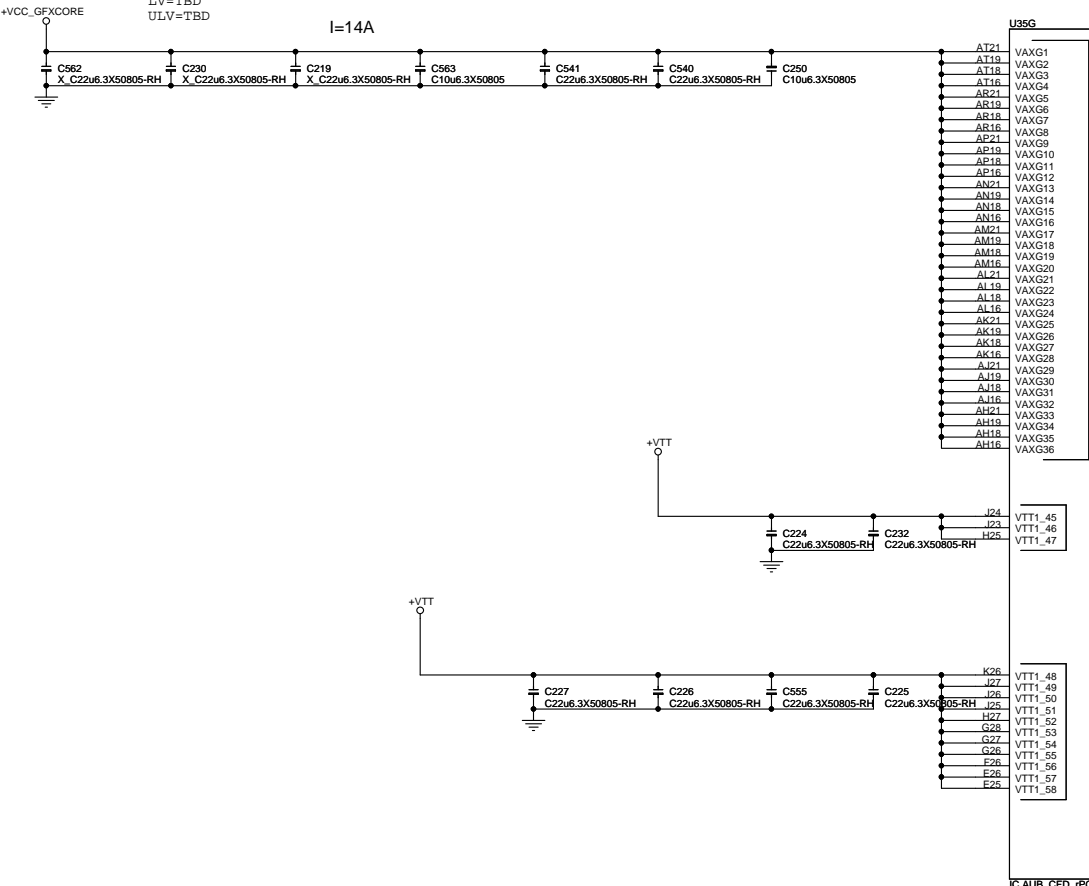
Note: When voltage selection is not required and the platform is going to support either 1.1 V or 1.05 V and not both, then this pin can be left floating

ARRANDALE PROCESSOR (GRAPHICS POWER)

ARRANDALE :
SV=15A
LV=TBD
ULV=TBD

I=14A

U35G



GRAPHICS

POWER

FDDI

PRG & DMT

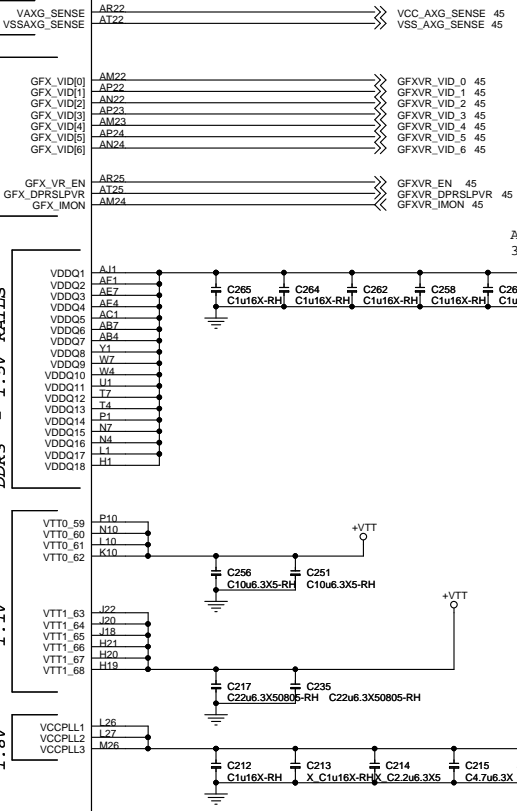
SENSE LINES

GRAPHICS VIDS

DDR3 - 1.5V RAILS

1.1V

1.8V

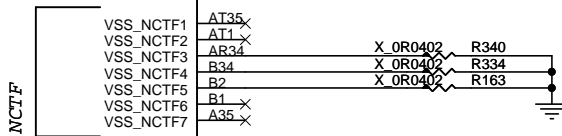
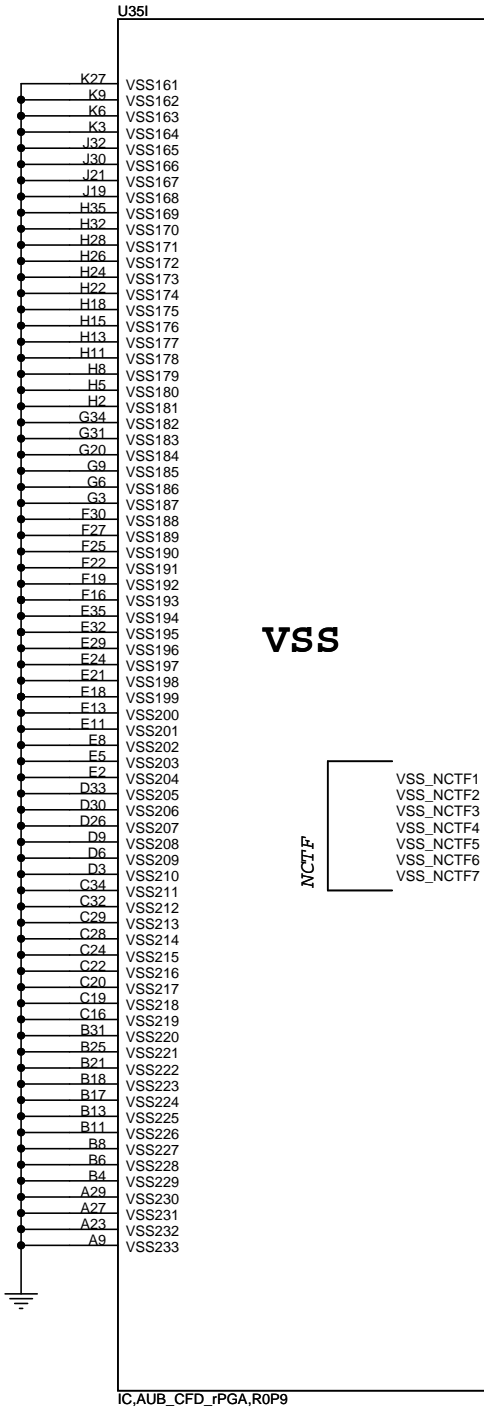
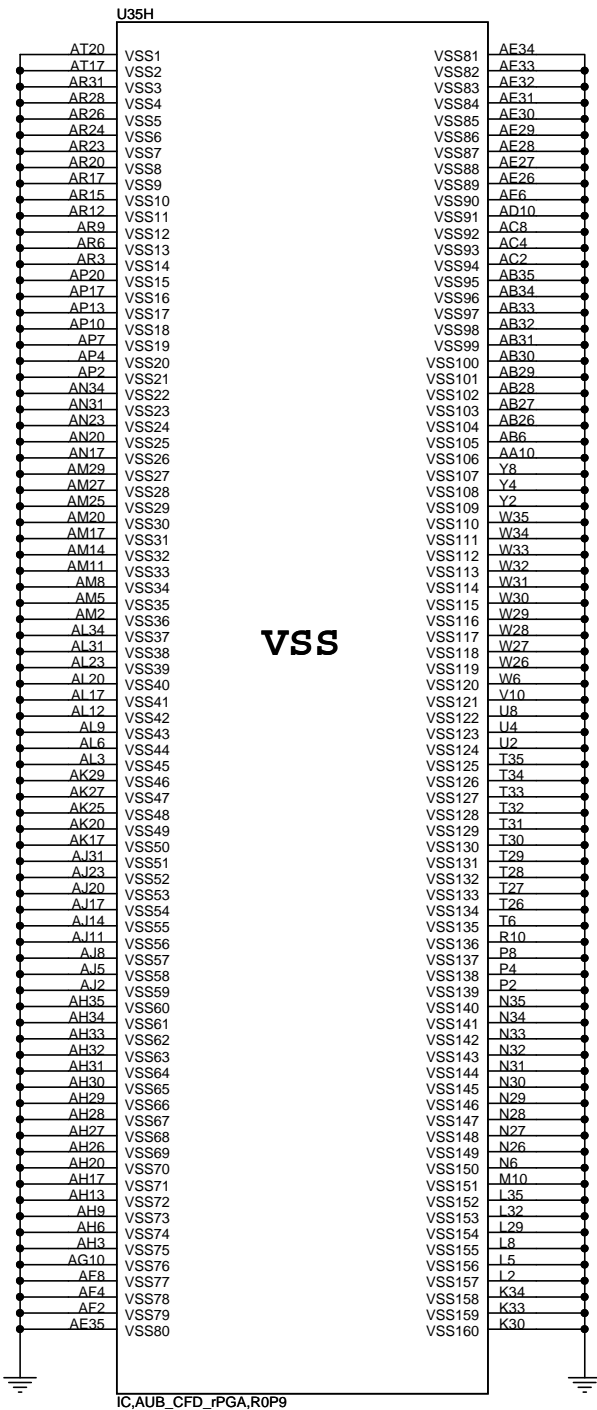



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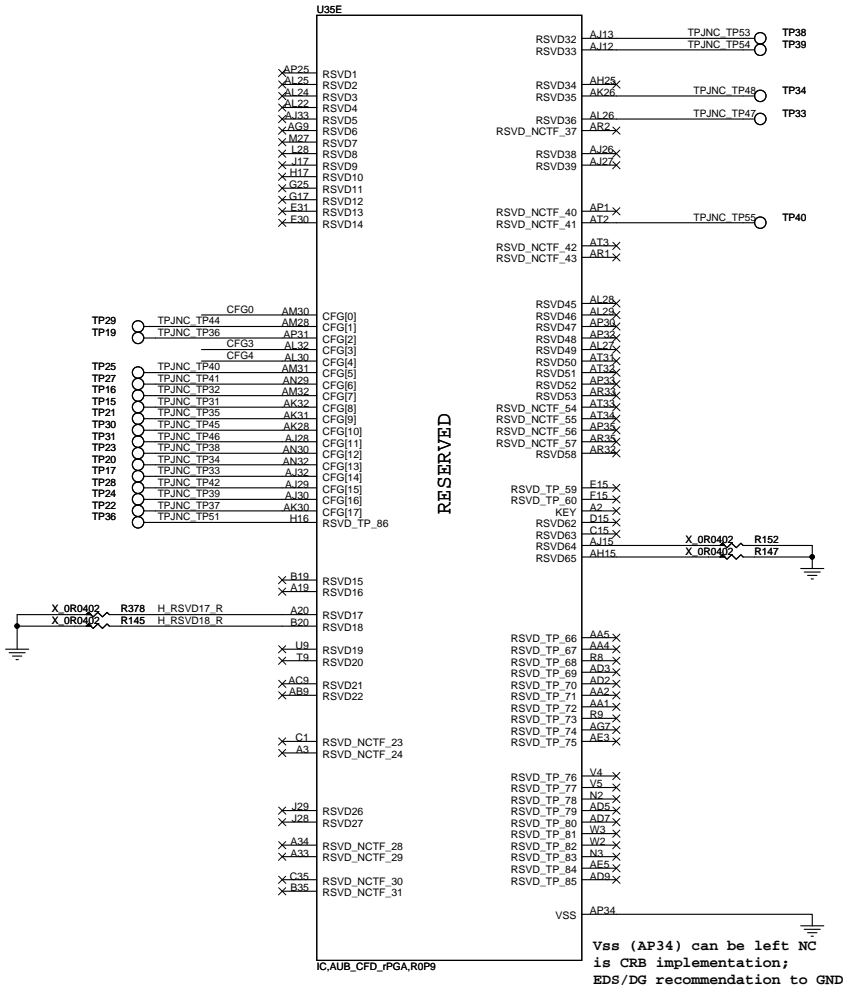
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Size	Document Number	Rev	
Custom	MS-168A	0A	
Date:	Friday, March 26, 2010	Sheet	8 of 52

ARRANDALE PROCESSOR (GND)



 MICRO-STAR INT'L CO.,LTD.		
PROCESSOR GND		
Size	Document Number	Rev
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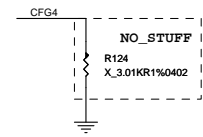
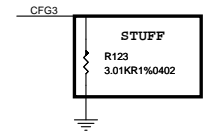
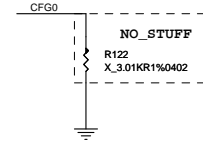
ARRANDALE PROCESSOR (RESERVED)



PCI-Express Configuration Select	
CFG0	1:Single PEG 0:Biturcation enabled

CFG3 - PCI-Express Static Lane Reversal	
CFG3	1 :Normal Operation 0 :Lane Numbers Reversed 15 -> 0, 14 -> 1, ...

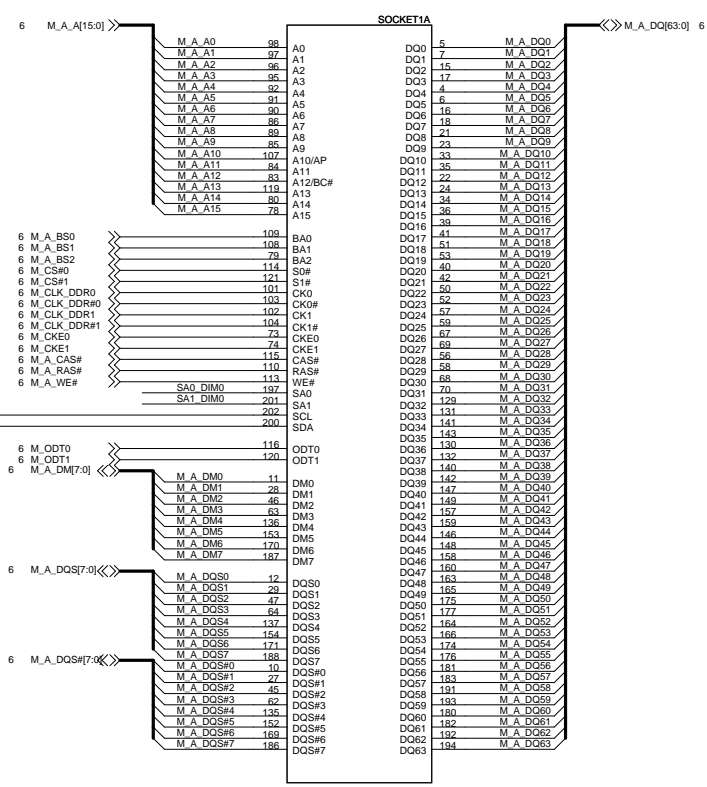
CFG4 - Display Port Presence	
CFG4	1:Disabled: No Physical Display Port attached to Embedded Display Port 0:Enabled: An external Display Port device is connected to the Embedded Display Port



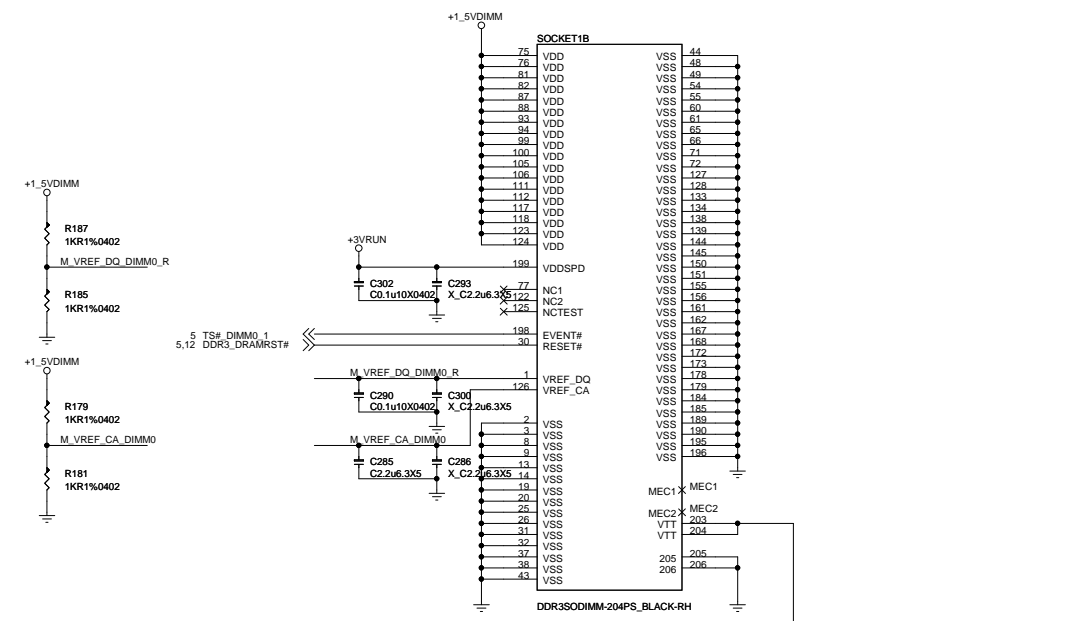
Layout Note:
Location of all CFG strap resistors needs to be close to trace to minimize stub

CFG[3] PCI Express* Static Lane Numbering Reversal. Lane Reversal will be applied across all 16 Lanes.
1: No lane reversal
0: Reversal

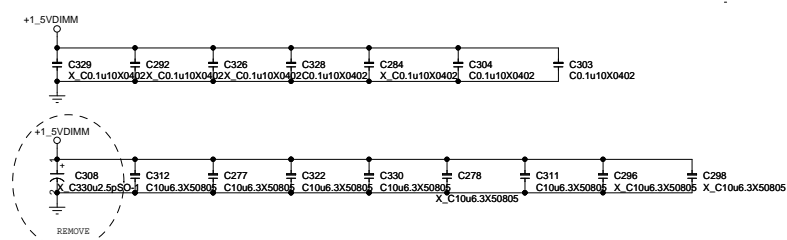
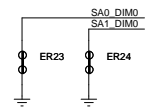
SODIMM#A



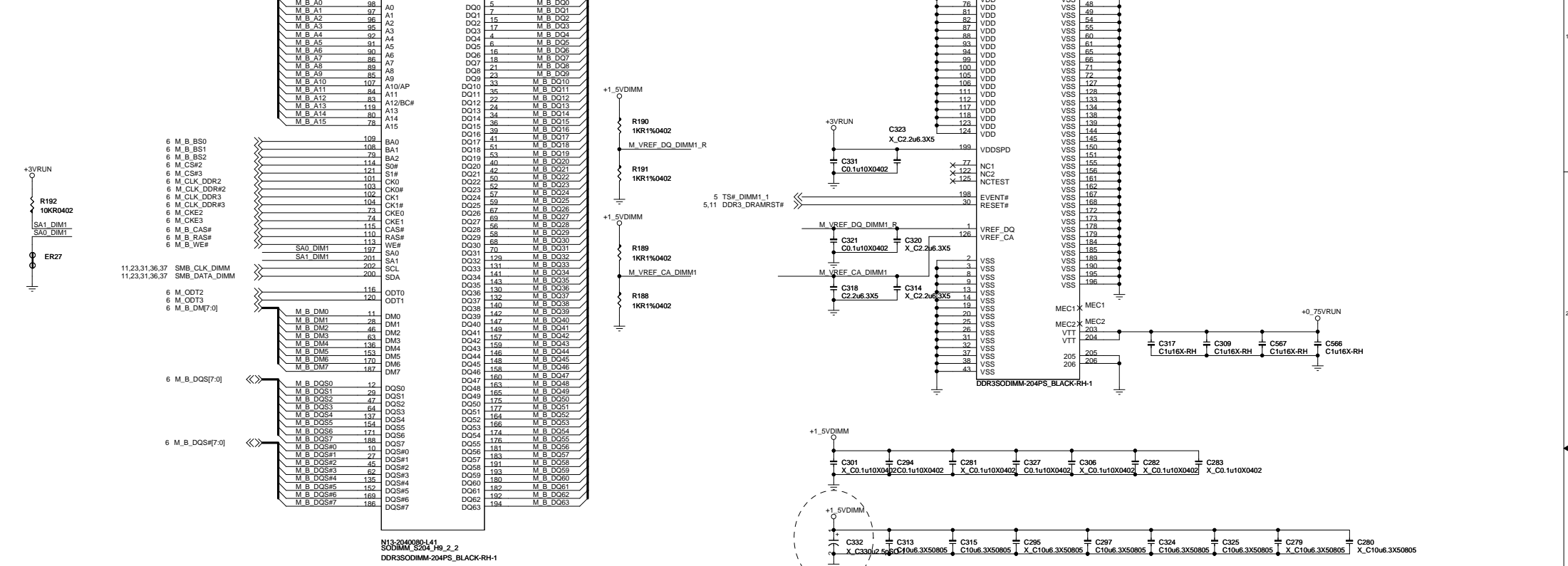
N13-2040060-L41
SODIMM_S204_H5_2
DDR3SODIMM-204PS_BLACK-RH



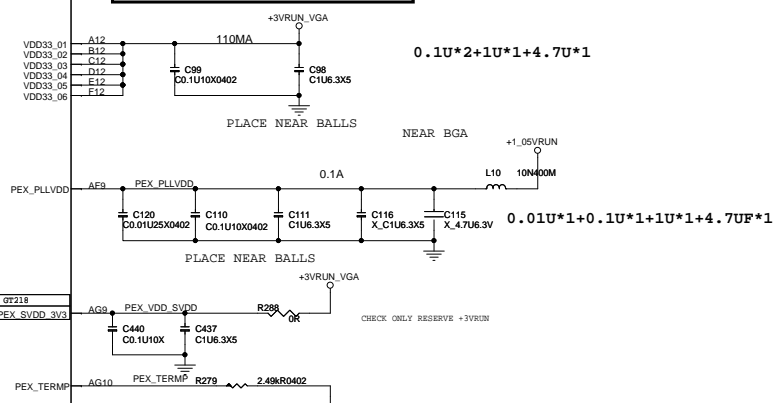
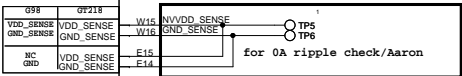
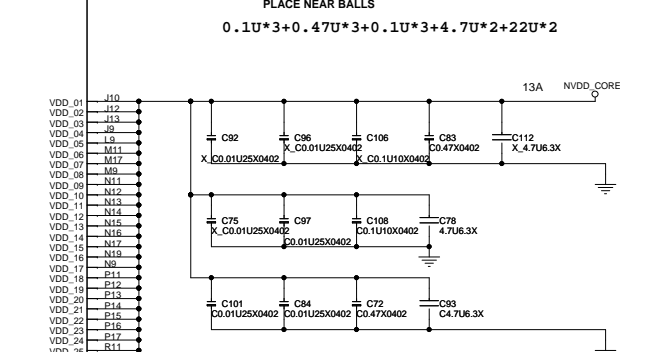
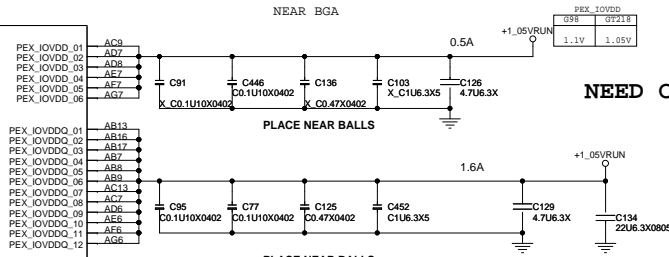
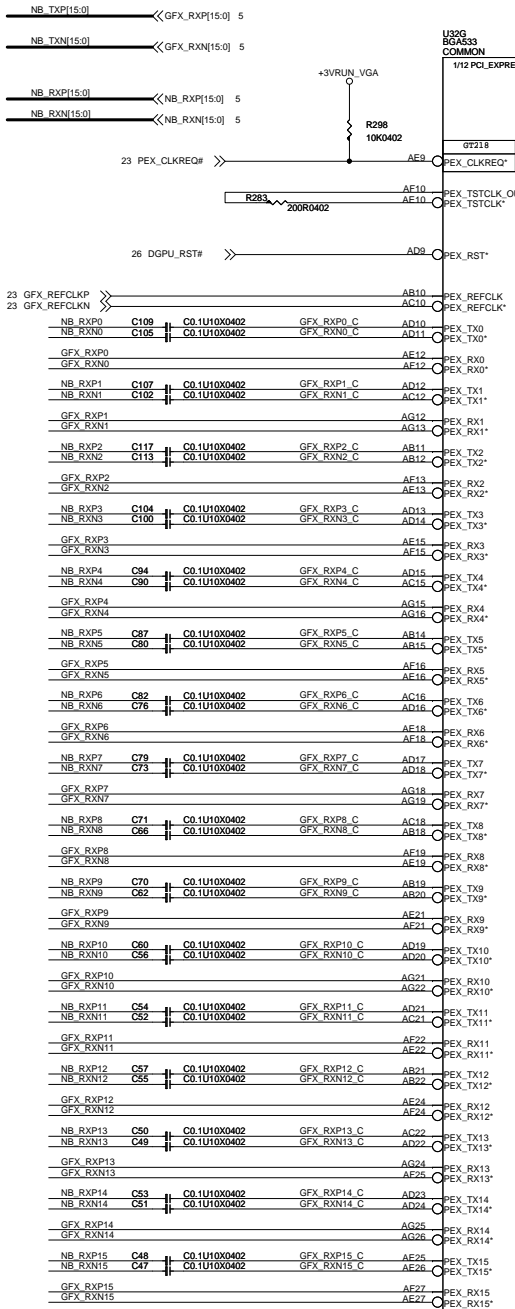
12.23.31.36.37 SMB_CLK_DIMM
12.23.31.36.37 SMB_DATA_DIMM

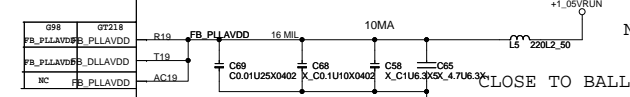
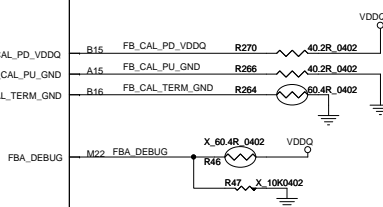
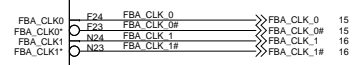
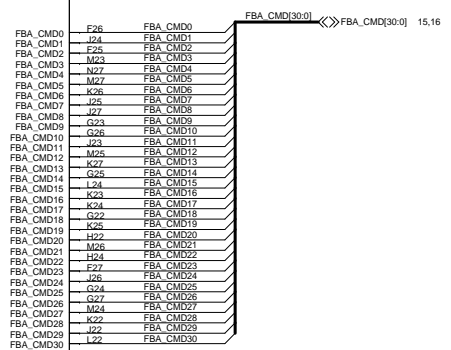
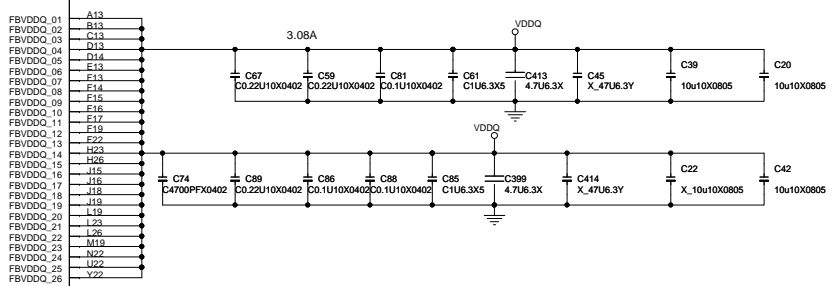
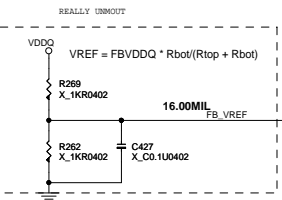
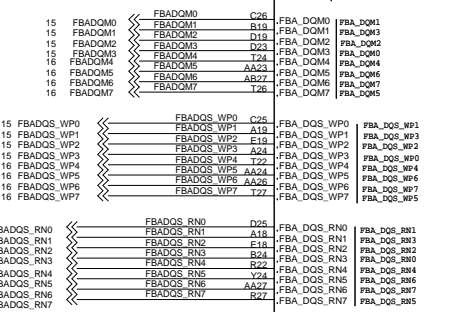
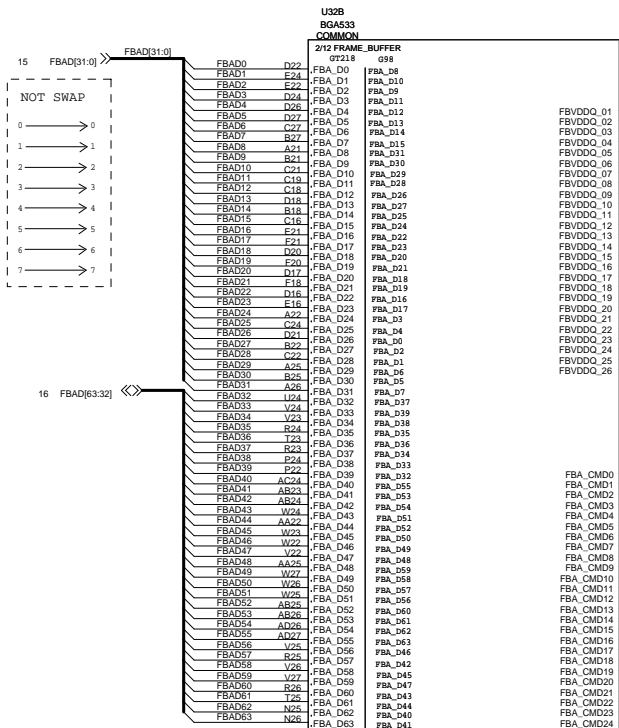


SODIMM#B



N13-2040080-L41
SODIMM_S204_H9_2_2
DDR3SODIMM-204PS_BLACK-RH-1

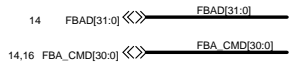




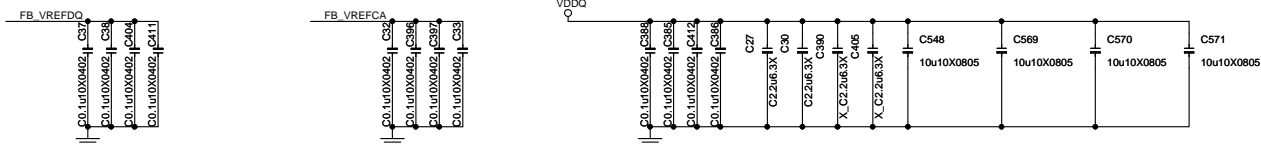
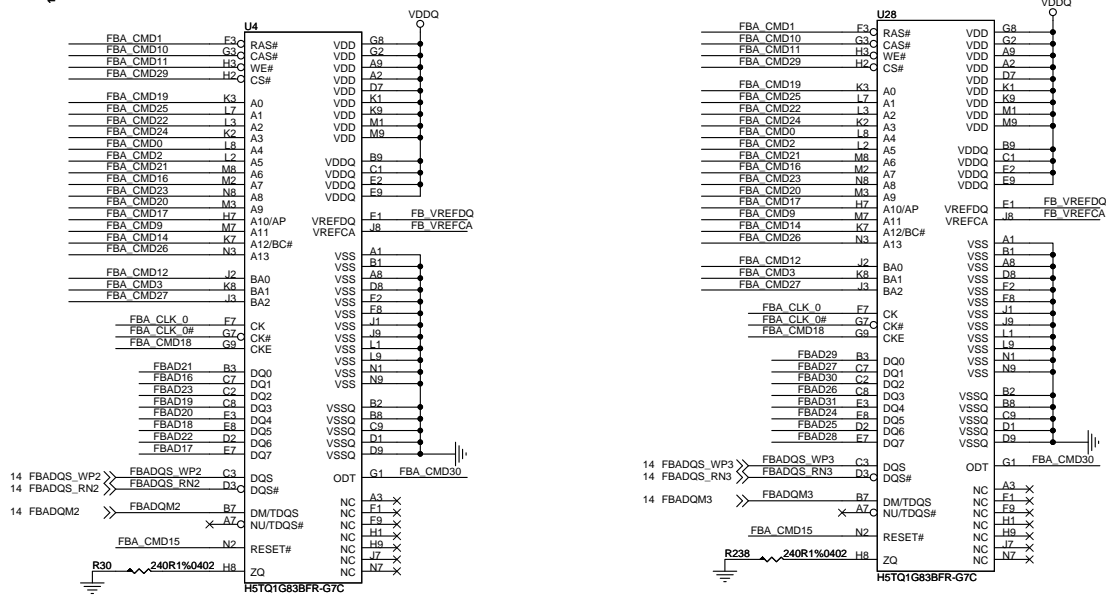
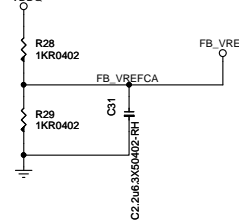
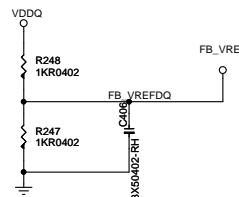
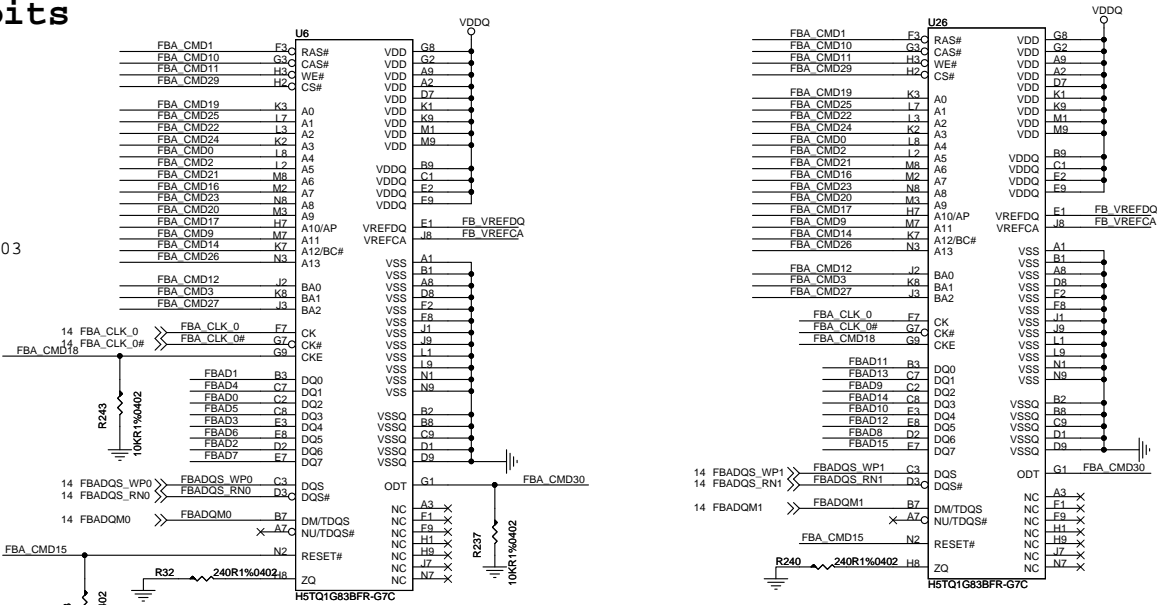
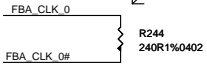
N11M-GE2/SDDR3

		GT21.8	
		V1_31	P2_6
MD0	A4		
MD1	B4	B4B	
MD2	A5		
MD3	B4L	B4L	
MD4			
MD5			
MD6			
MD7			
MD8			
MD9	A11	A11	
MD10	CAS*	CAS*	
MD11	WE*	WE*	
MD12	BA0	BA0	
MD13	A5		
MD14	A12	A12	
MD15	BA0	BA0	
MD16	A7	A7	
MD17	A10	A10	
MD18			
MD19	A0	A0	
MD20	A9	A9	
MD21	A6	A6	
MD22	A2		
MD23	A8	A8	
MD24			
MD25	A1	A1	
MD26	A13	A13	
MD27	B4	B4	
MD28			
MD29	CS0*		
MD30			
MD31			
MD32			

DDR3 128Mx8bits

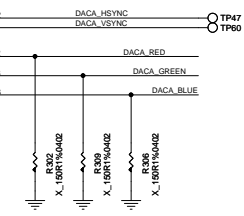
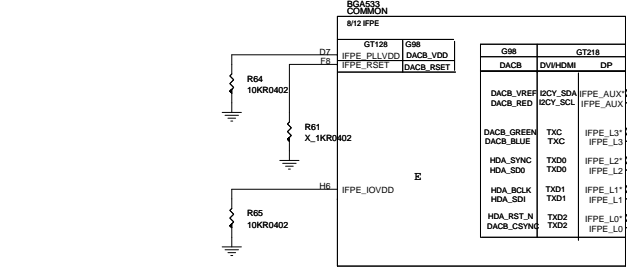
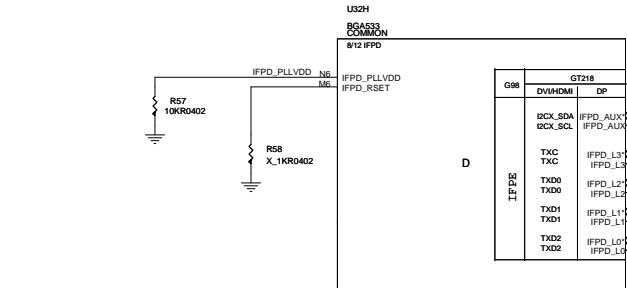
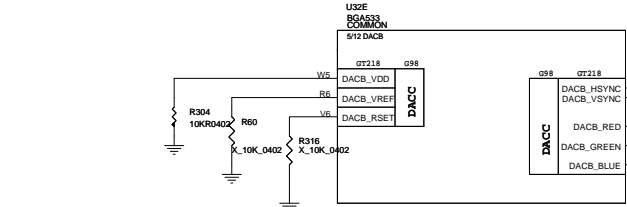
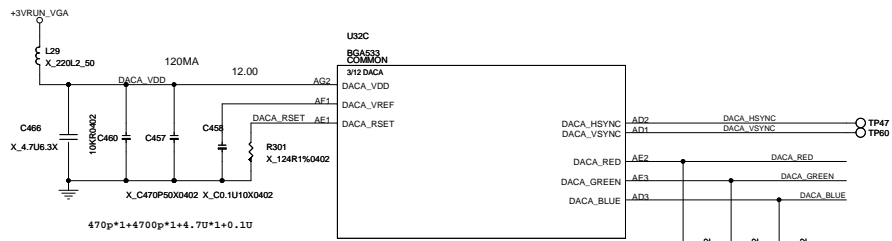


R252 need change to 242 ohm.1203



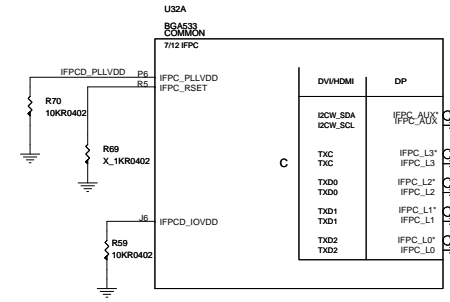
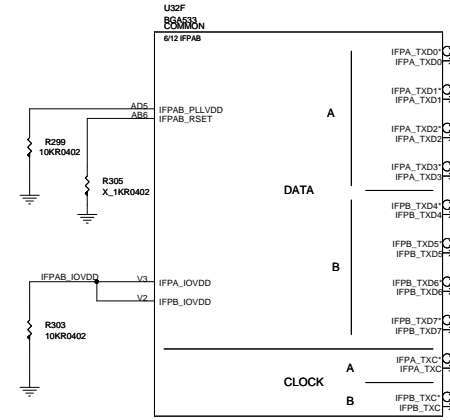
Each group(top & bottom) put a 0.1uF

MSI CORPORATION
PARK-POWER
 Title: **PARK-POWER**
 Size: Custom MS-168A
 Date: Friday, March 26, 2010
 Document Number: **MS-168A**
 Rev: **0A**
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NOT USED

NOT USED

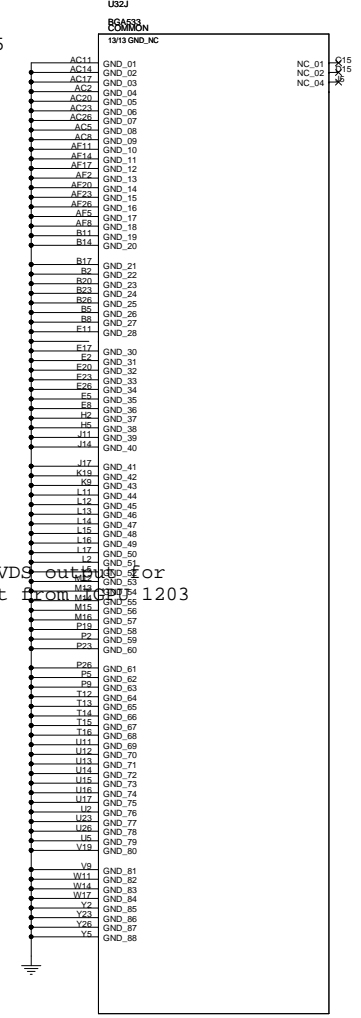


N11M-GE2
GT218
N11M-GE2-S-B1

need delete DGPU output 1125

delete DGPU LVDS output for Optimus output from 1203

OPTIMUS not use GPU HDMI, delete 1203



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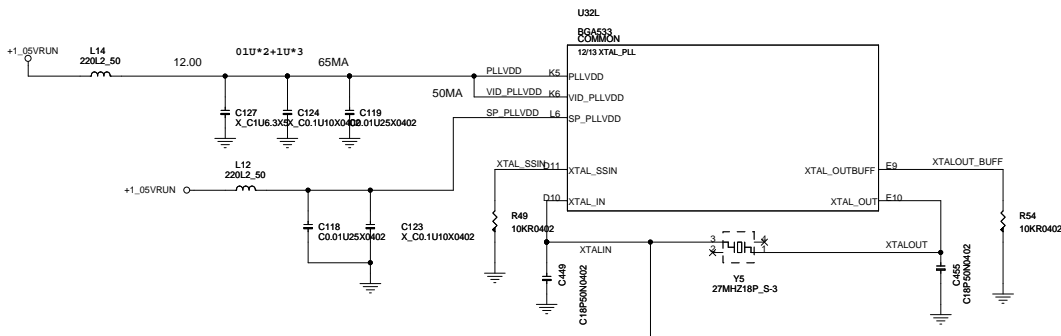
File: **PARK MEM I/F**

Size: Custom

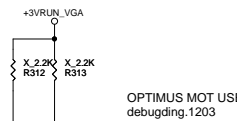
Document Number: **MS-168A**

Date: Friday, March 26, 2010 Sheet 17 of 52

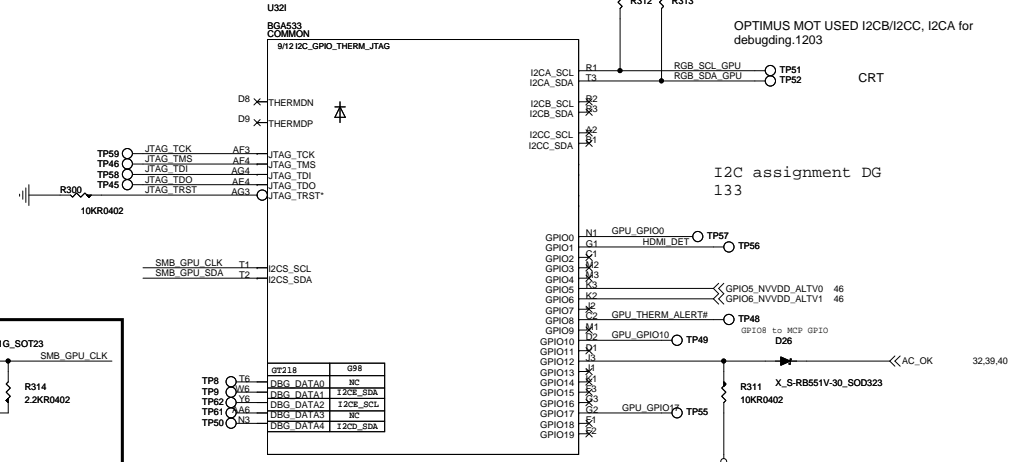
Rev: 0A



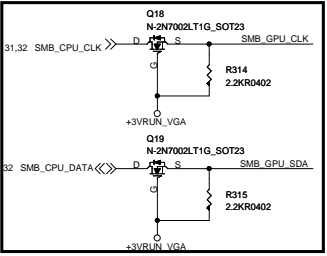
X_0R0402 R297
Place this resistor as close as possible to crystal and add a testpin in XTALOUT to balance trace capacitance/Aaron



OPTIMUS MOT USED I2CB/I2CC, I2CA for debugging. I203



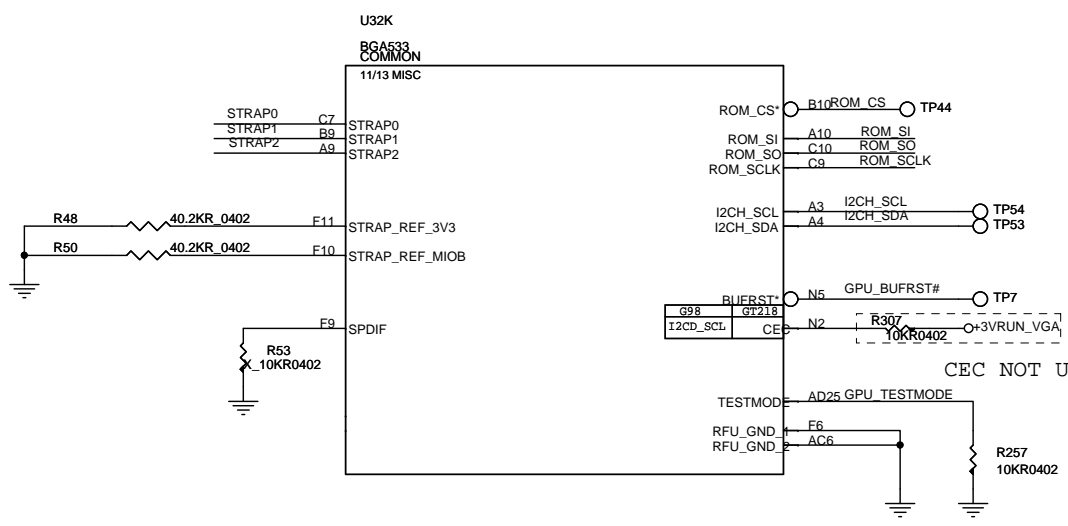
When use GPIO. Need Pull high or pull LOW.



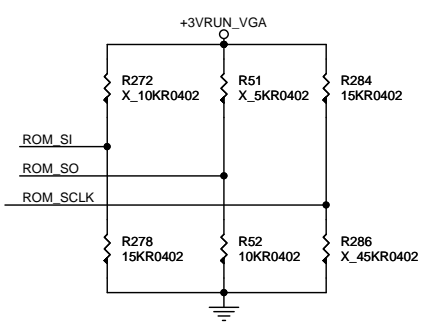
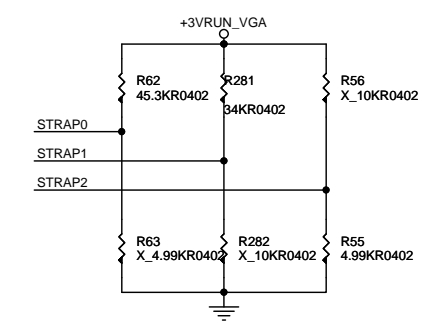
For Optimus system VGA no power @IGP mode 1203/zong

GPIO USAGE			
GPIO	I/O	ACTIVE	USAGE
0	IN	N/A	HDMI_HOTPLUG_DETECT
1	IN	N/A	DVI/HDMI_LINK_HOTPLUG_DETECT
2	OUT	HIGH	PANEL_BACKLIGHT_PWM
3	OUT	HIGH	PANEL_POWER_ENABLE
4	OUT	HIGH	PANEL_BACKLIGHT_ENABLE
5	OUT	HIGH	NVDD_ALTV0
6	OUT	HIGH	NVDD_ALTV1
7	OUT	HIGH	FBVDD_VID0
8	IN	LOW	OVERTEMP_ALERT
9	OUT	LOW	THERMAL_ALERT
10	OUT	HIGH	DYNAMIC_FB_VREF_GDDR3 (not used for DDR2)
11	OUT	HIGH	SLI_SYNC0 (not used for GB1-64)
12	IN	N/A	AC_DETECT
13	OUT	LOW	POWER_SUPPLY_CONTROL0
14	OUT	HIGH	POWER_SUPPLY_CONTROL1
15	IN	N/A	HPD_E
16	IN	N/A	DVI_E
17	IN	N/A	HDMI_E
18	IN	N/A	DVI_F (not used)
19	IN	N/A	HDMI_F (not used)

GPIO6	GPIO5	NVDD(N10M-SEL1)
1	1	1.03V
1	0	0.85
0	1	TDB
0	0	0.85



CEC NOT USED 1130



N10M SE1

STRAP0	USER 3	1
PU 45K	USER 2	1
	USER 1	1
	USER 0	1
STRAP1	3GIO_PADCFG 3	0
P4 35K	3GIO_PADCFG 2	0
	3GIO_PADCFG 1	0
	3GIO_PADCFG 0	1
STRAP2	PCI_DEVID3	0
PD 5K	PCI_DEVID2	0
	PCI_DEVID1	0
	PCI_DEVID0	0
ROM_SCLK	PCI DEVID 4	1
PU 15K	SUBVENDOR	0
	SLOT_CLK	1
	PEX_PLL_EN	0
ROM_SI	RAMCFG 3	0
PD 5K	RAMCFG 2	0
	RAMCFG 1	0
	RAMCFG 0	0
ROM_SO	XCLK_417	1
PD 10K	FB_0_BAR_SIZE	0
	SMB_ALT_ADDR	0
	VGA_DEVICE	0

SM BUS define resolution 1111

PUN-04992-001-V01
NOTEBOOK 0001

0X0A70 0000
NB11M-GE2

VBIOS is in system bios
GPU and MCH do not share a common clock
disable pci express PLL termination

SEE PUN update 1130

Have 27M hz CRYSTAL

SPEC have no TV function

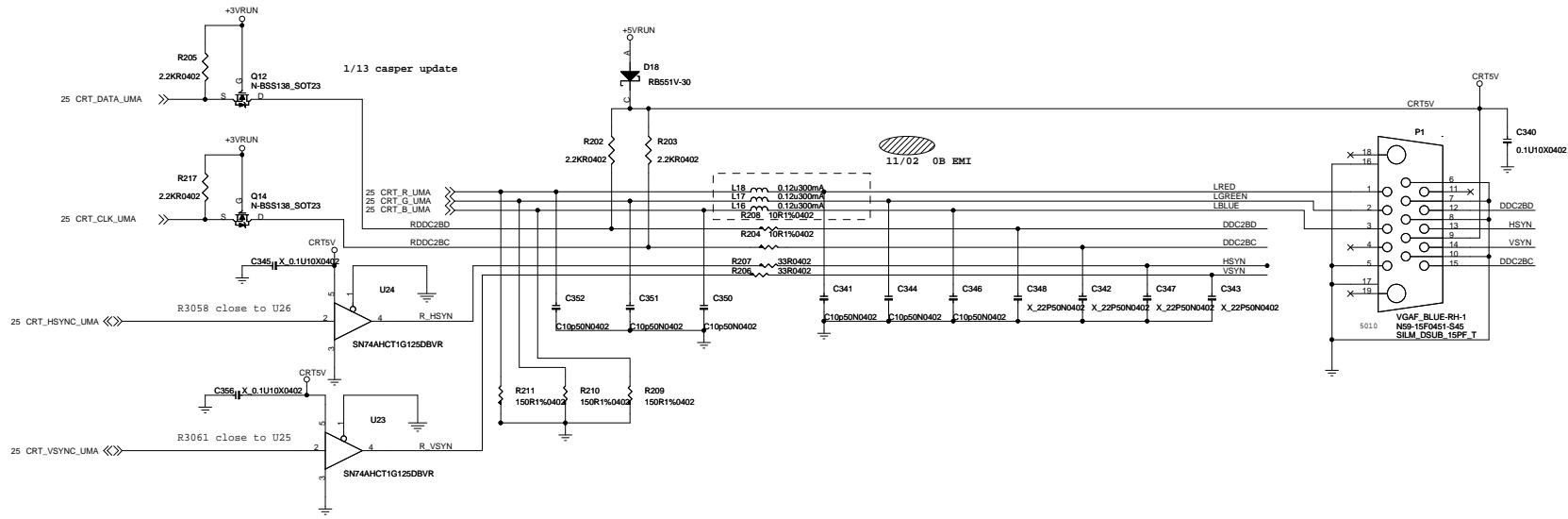
Rvalue	PU	PD
5K	1000	0000
10K	1001	0001
15K	1010	0010
20K	1011	0011
25K	1100	0100
30K	1101	0101
35K	1110	0110
45K	1111	0111

MICRO-STAR INT'L CO.,LTD.

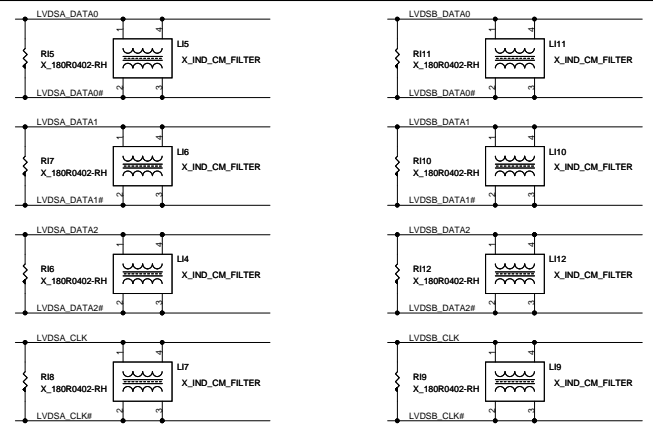
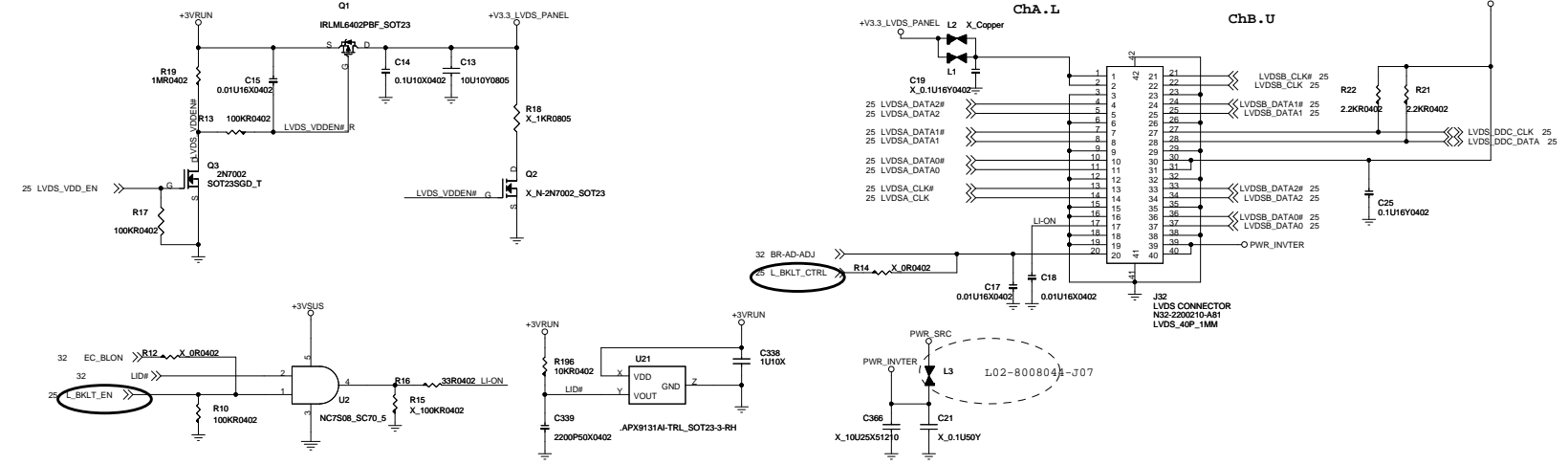
Title: **PARK MEM DDR3 A1**

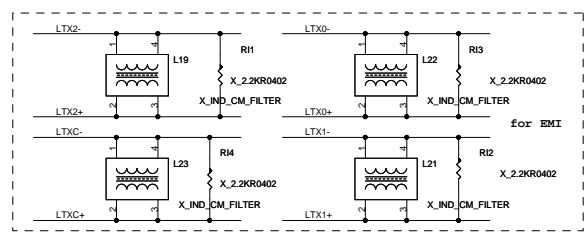
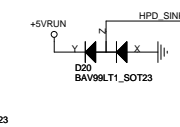
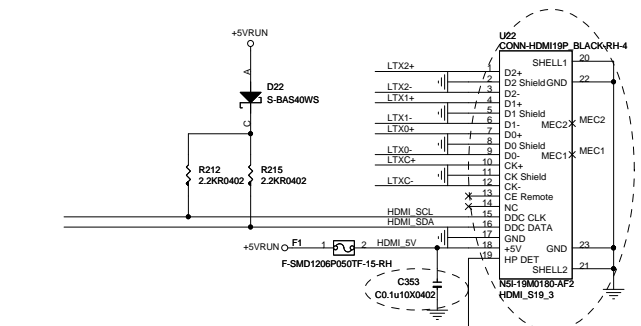
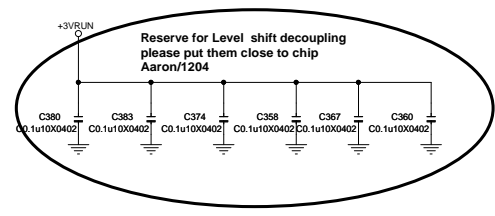
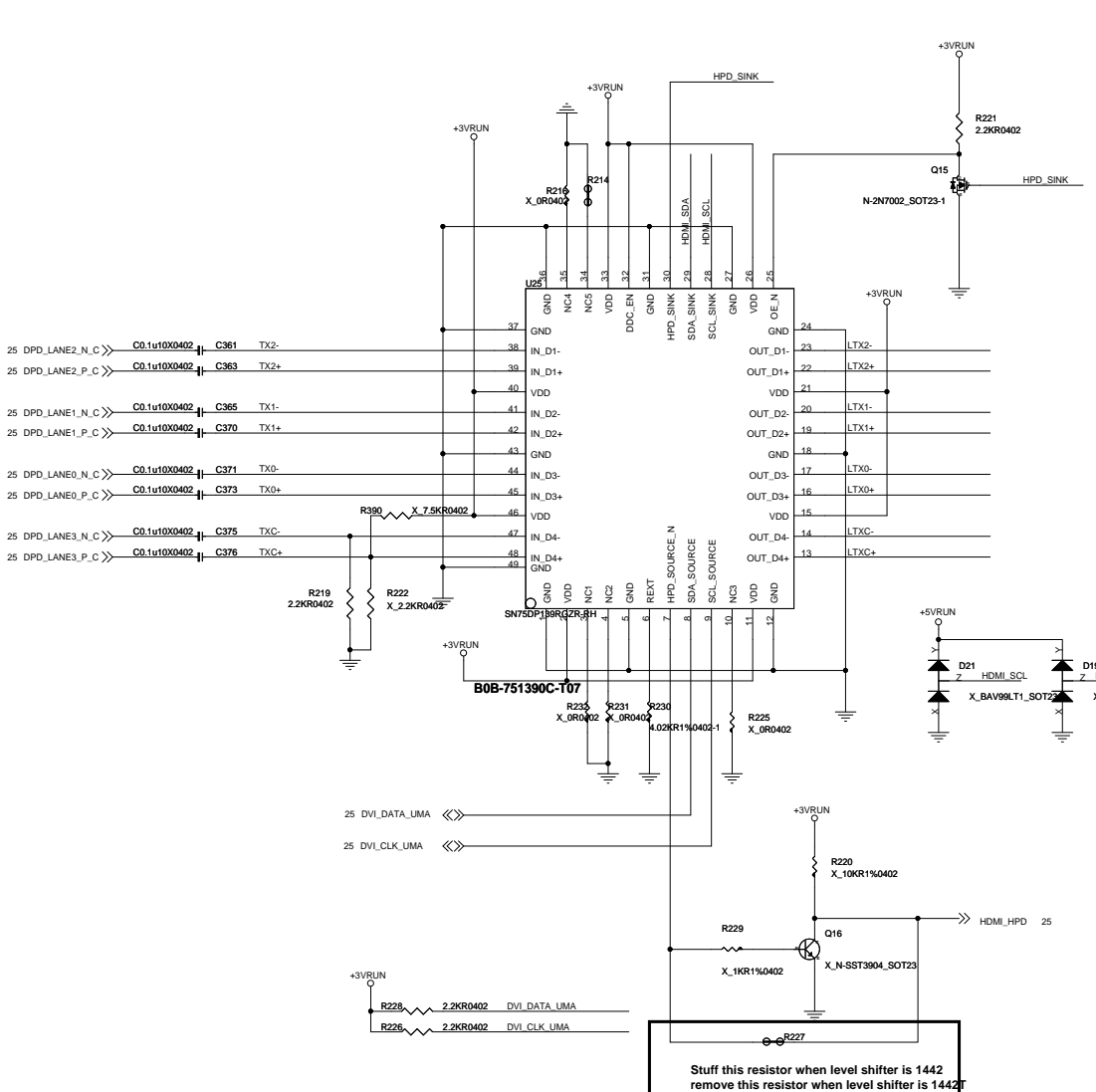
Size B Document Number: **MS-168A** Rev 0A

Date: Friday, March 26, 2010 Sheet 19 of 52

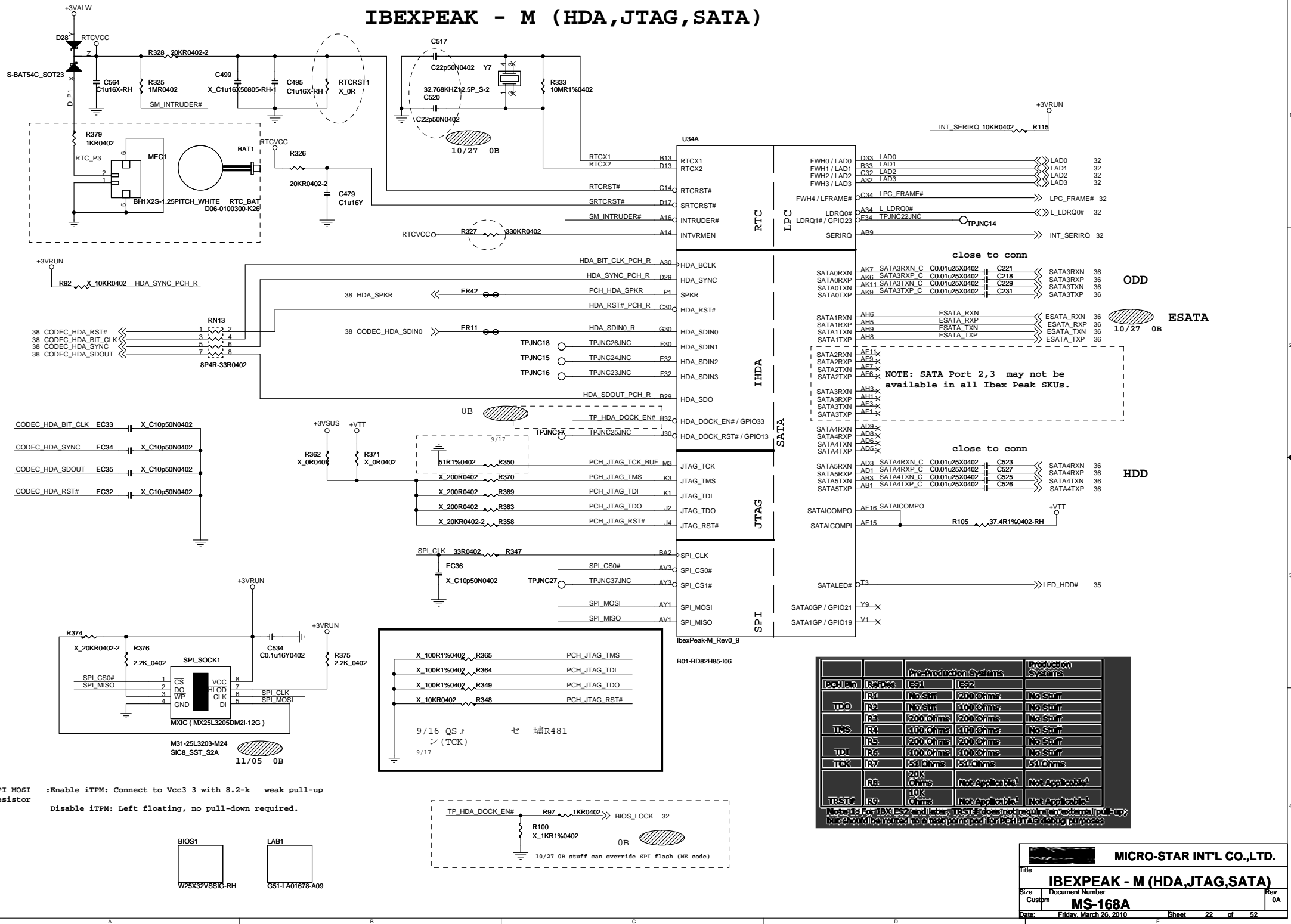


LVDS connector





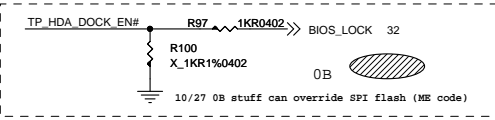
IBEXPEAK - M (HDA, JTAG, SATA)



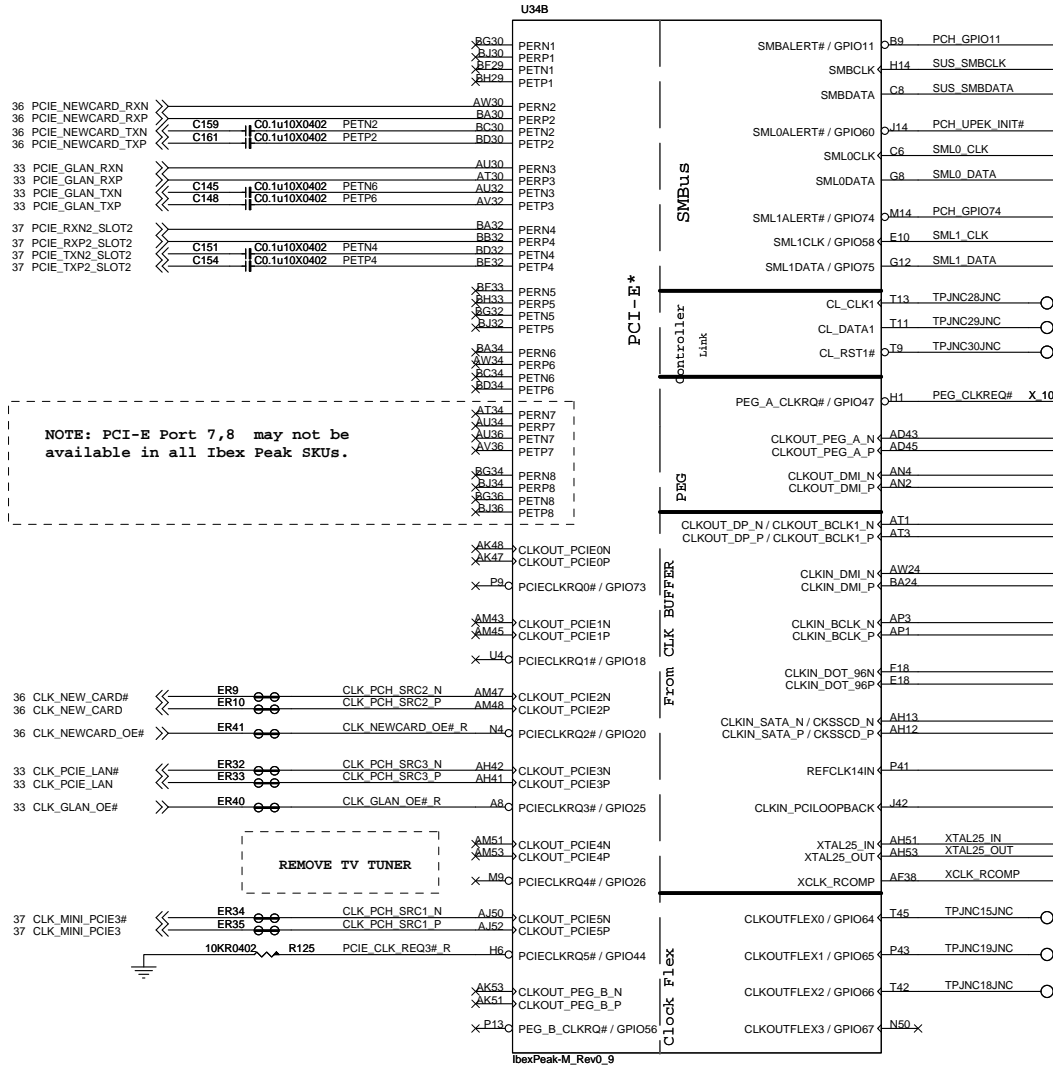
Position	Ref/Des	Pre-Production Systems		Production Systems	
		ES1	ES2	ES1	ES2
TDO	R1	No Suf	200 Ohms	No Suf	No Suf
	R2	No Suf	100 Ohms	No Suf	No Suf
	R3	200 Ohms	200 Ohms	No Suf	No Suf
TMS	R4	100 Ohms	100 Ohms	No Suf	No Suf
	R5	200 Ohms	200 Ohms	No Suf	No Suf
TDI	R6	100 Ohms	100 Ohms	No Suf	No Suf
	R7	150 Ohms	150 Ohms	150 Ohms	150 Ohms
TCK	R8	20K Ohms	Not Applicable	Not Applicable	Not Applicable
	R9	10K Ohms	Not Applicable	Not Applicable	Not Applicable

Note 1: For IBX ES2 and later, TRST# does not need an external pull-up, but should be routed to a test point for PCH JTAG debug purposes.

SPI_MOSI : Enable iTPM: Connect to Vcc3_3 with 8.2-k weak pull-up resistor
 Disable iTPM: Left floating, no pull-down required.

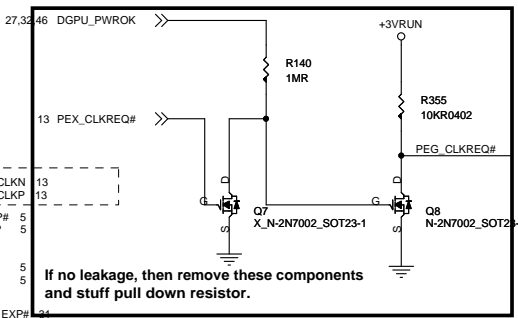
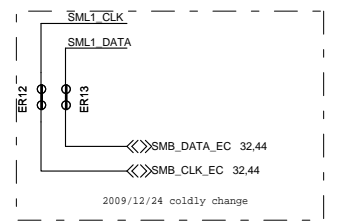
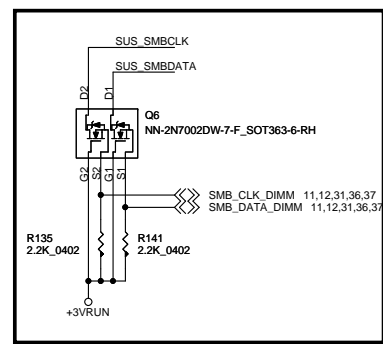


IBEXPEAK - M (PCI-E, SMBUS, CLK)

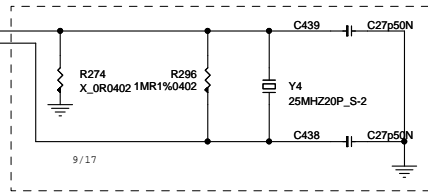
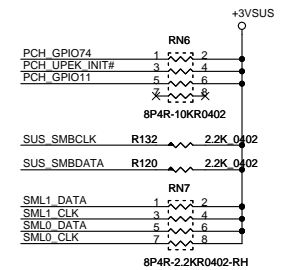


NOTE: PCI-E Port 7,8 may not be available in all Ibex Peak SKUs.

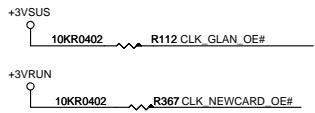
REMOVE TV TUNER



If no leakage, then remove these components and stuff pull down resistor.



PCIECLKRQ1# / GPIO18 PCIECLKRQ1# / GPIO20	RUN Well
PCIECLKRQ0# and PCIECLKRQ3# ~ PCIECLKRQ7# PEG_A_CLKRQ# PEG_B_CLKRQ#	SUS Well



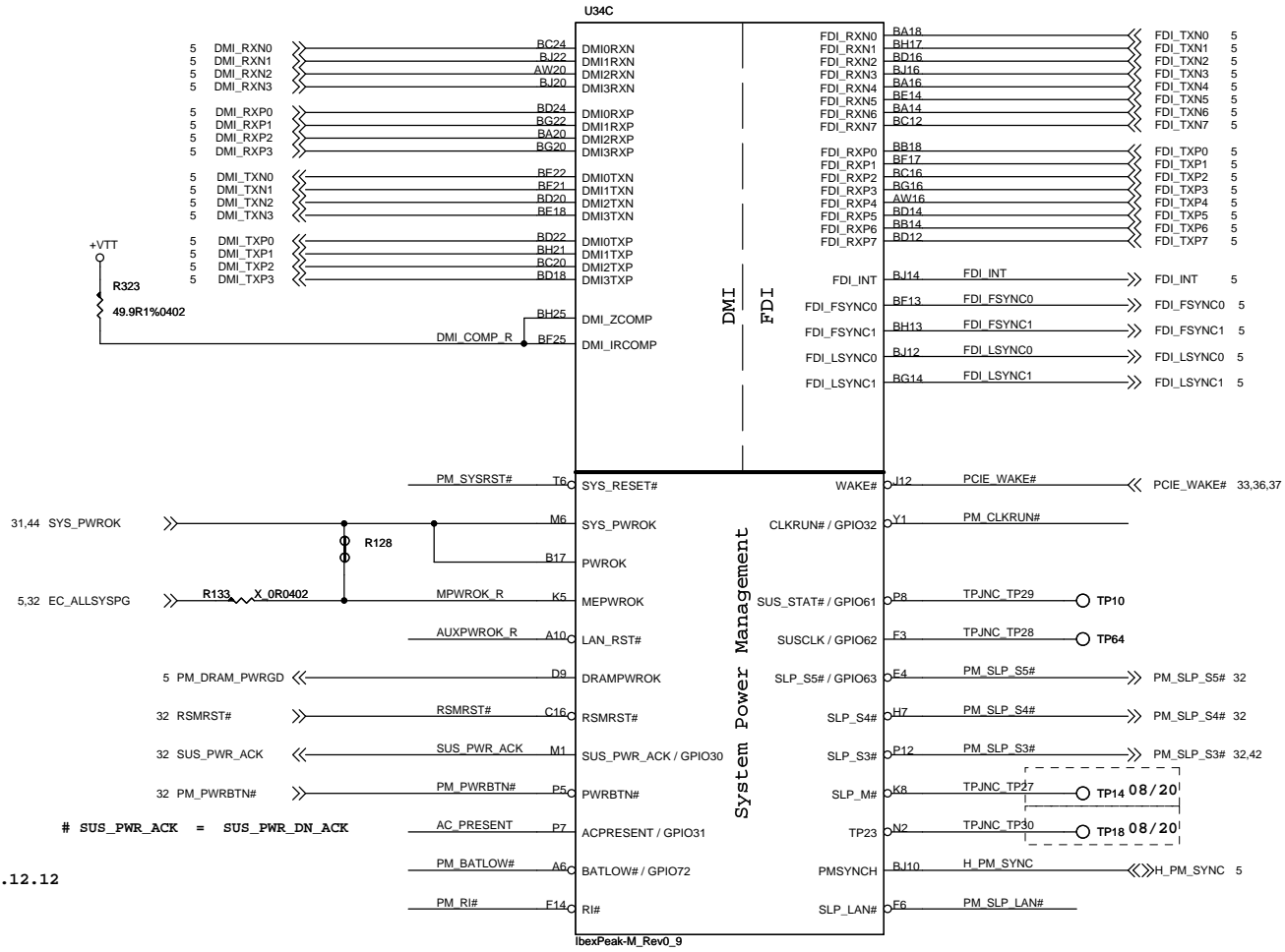
MICRO-STAR INT'L CO.,LTD.

Title: **IBEXPEAK - M (PCI-E,SMBUS,CLK)**

Size: Customer Document Number: **MS-168A** Rev: 0A

Date: Friday, March 26, 2010 Sheet: 23 of 52

IBEXPEAK - M (DMI, FDI, GPIO)

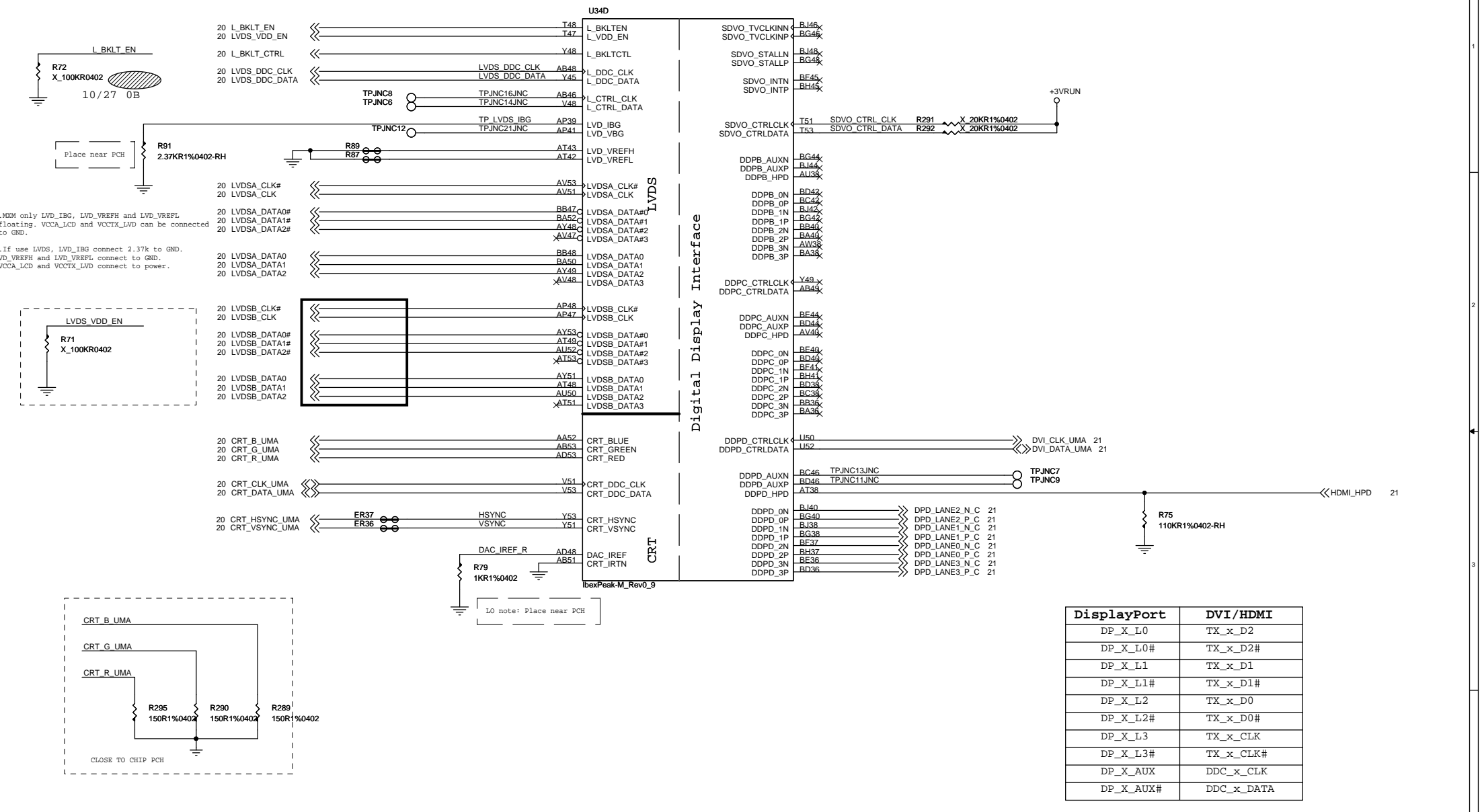


PULL LOW FOR NOT INTEL LAN 2008.12.12

9/17 sch checklist2.0

MICRO-STAR INT'L CO.,LTD.		
IBEXPEAK - M (DMI,FDI,GPIO)		
Title	Document Number	Rev
Size	Custom	0A
MS-168A		
Date:	Friday, March 26, 2010	Sheet 24 of 52

IBEXPEAK - M (LVDS, DDI)



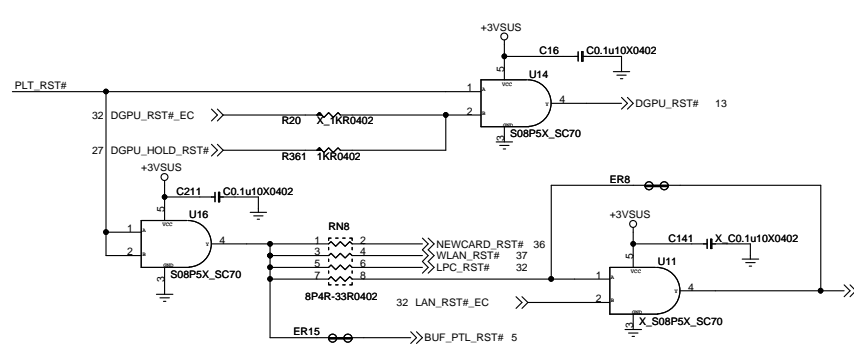
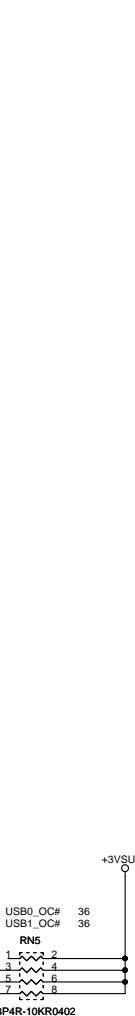
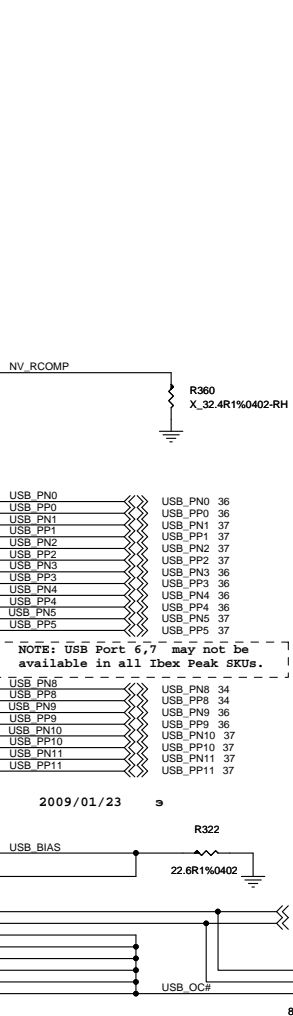
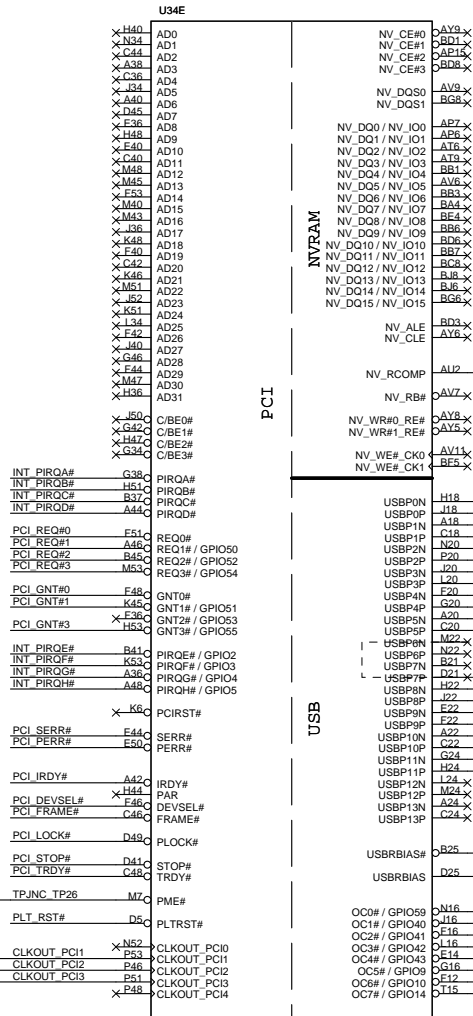
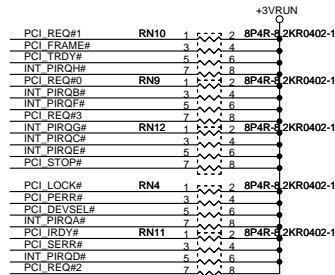
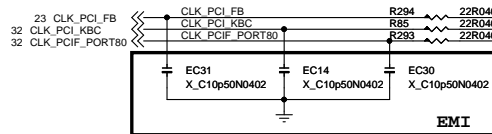
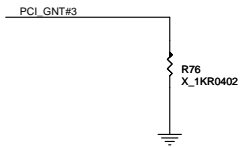
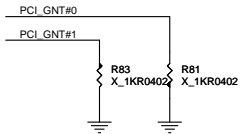
1. MXM only LVD_IBG, LVD_VREFH and LVD_VREFL floating. VCCA_LCD and VCCTX_LVD can be connected to GND.
 2. If use LVDS, LVD_IBG connect 2.37k to GND. LVD_VREFH and LVD_VREFL connect to GND. VCCA_LCD and VCCTX_LVD connect to power.

DisplayPort	DVI/HDMI
DP_X_L0	TX_x_D2
DP_X_L0#	TX_x_D2#
DP_X_L1	TX_x_D1
DP_X_L1#	TX_x_D1#
DP_X_L2	TX_x_D0
DP_X_L2#	TX_x_D0#
DP_X_L3	TX_x_CLK
DP_X_L3#	TX_x_CLK#
DP_X_AUX	DDC_x_CLK
DP_X_AUX#	DDC_x_DATA

IBEXPEAK - M (PCI,USB,NVRAM)

PCI_GNT#0	PCI_GNT#1	Boot BIOS location
0	0	LPC
0	1	Reserved
1	0	PCI
1	1	SP1

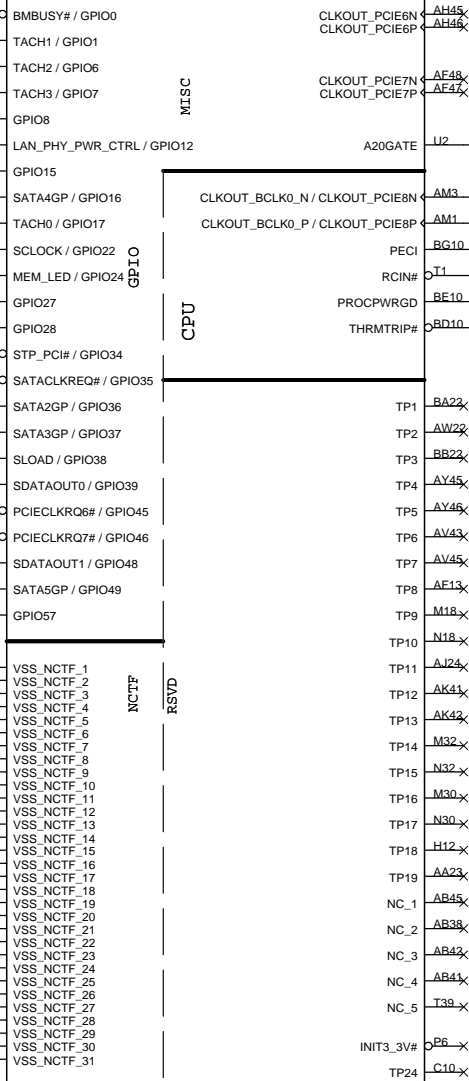
A16 swap override Strap/Top-Block Swap Override jumper	
PCI_GNT#3	Low = A16 swap override/Top-Block Swap Override enabled High = Default



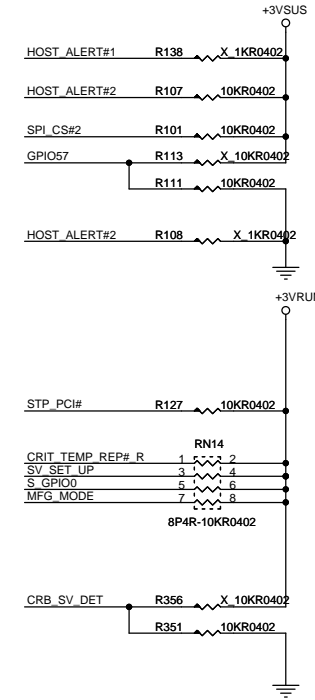
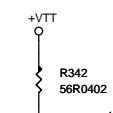
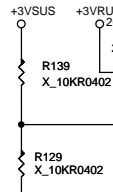
MICRO-STAR INT'L CO.,LTD.			
IBEXPEAK - M (PCI,USB,NVRAM)			
Size	Document Number	Rev	
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IBEXPEAK - M (GPIO,VSS_NCTF,RSVD)

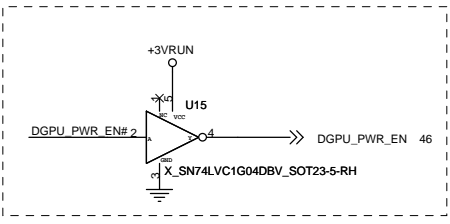
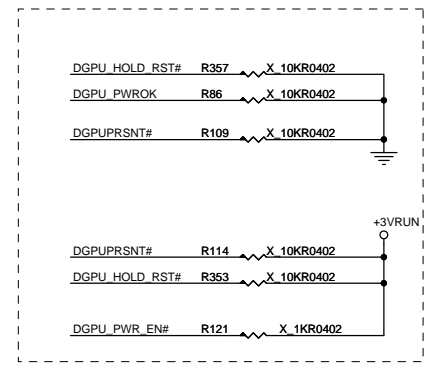
U34F



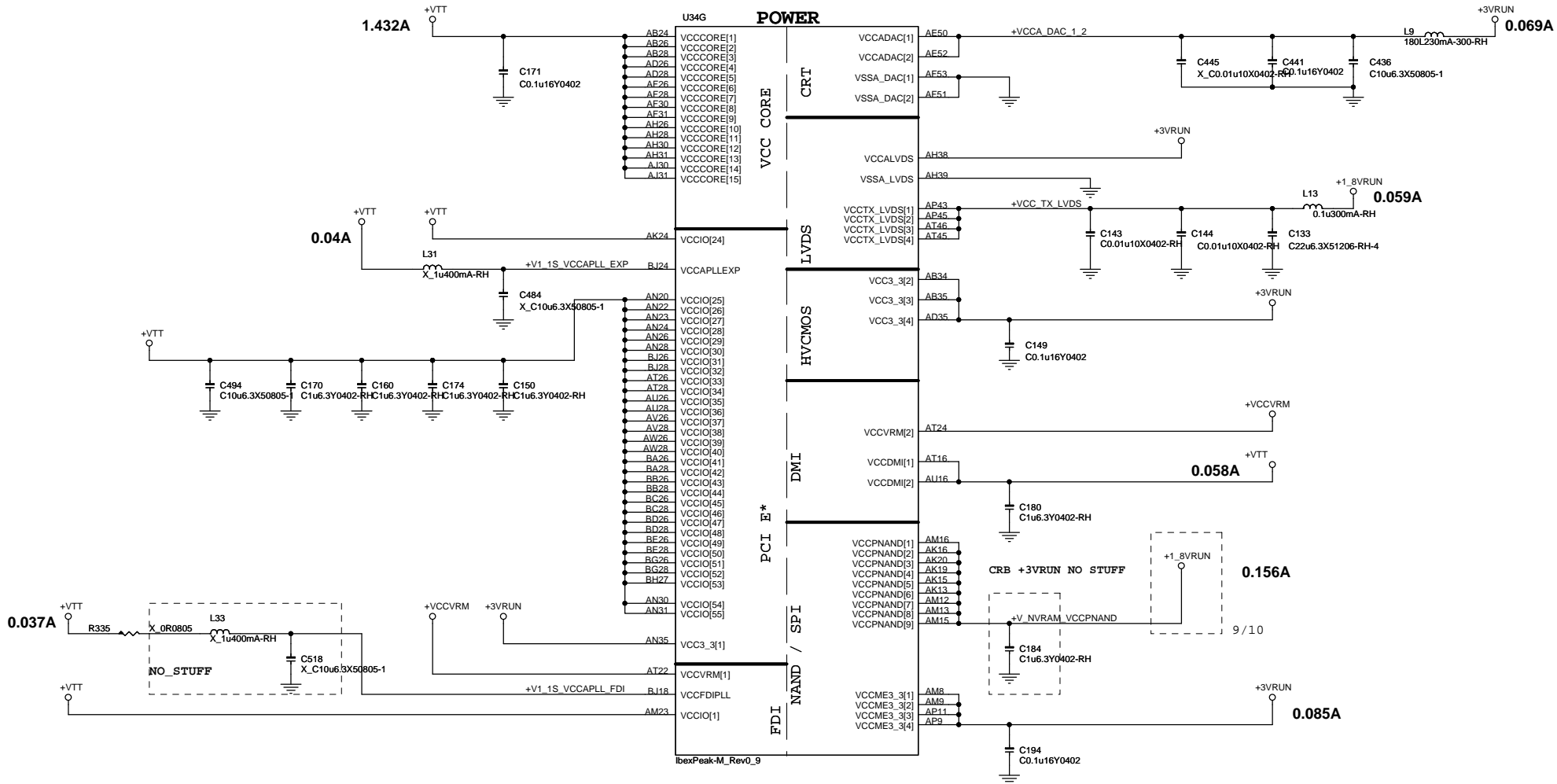
IbexPeak-M_Rev0_9



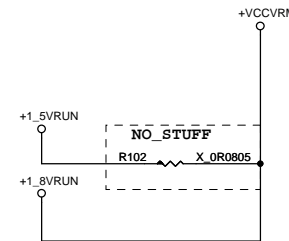
Retain 25-MHz crystal footprint on your platform.
 ---Though FCIM will not be available, retaining the footprint will allow Intel and customer to test and evaluate FCIM for future platforms.
 ---25-MHz crystal and associated capacitor footprints only are requested components do not need to be populated.
 ---Keep 1K Ohm resistor un-stuffed to GND on Ibex Peak GPIO8.



IBEXPEAK - M (POWER)

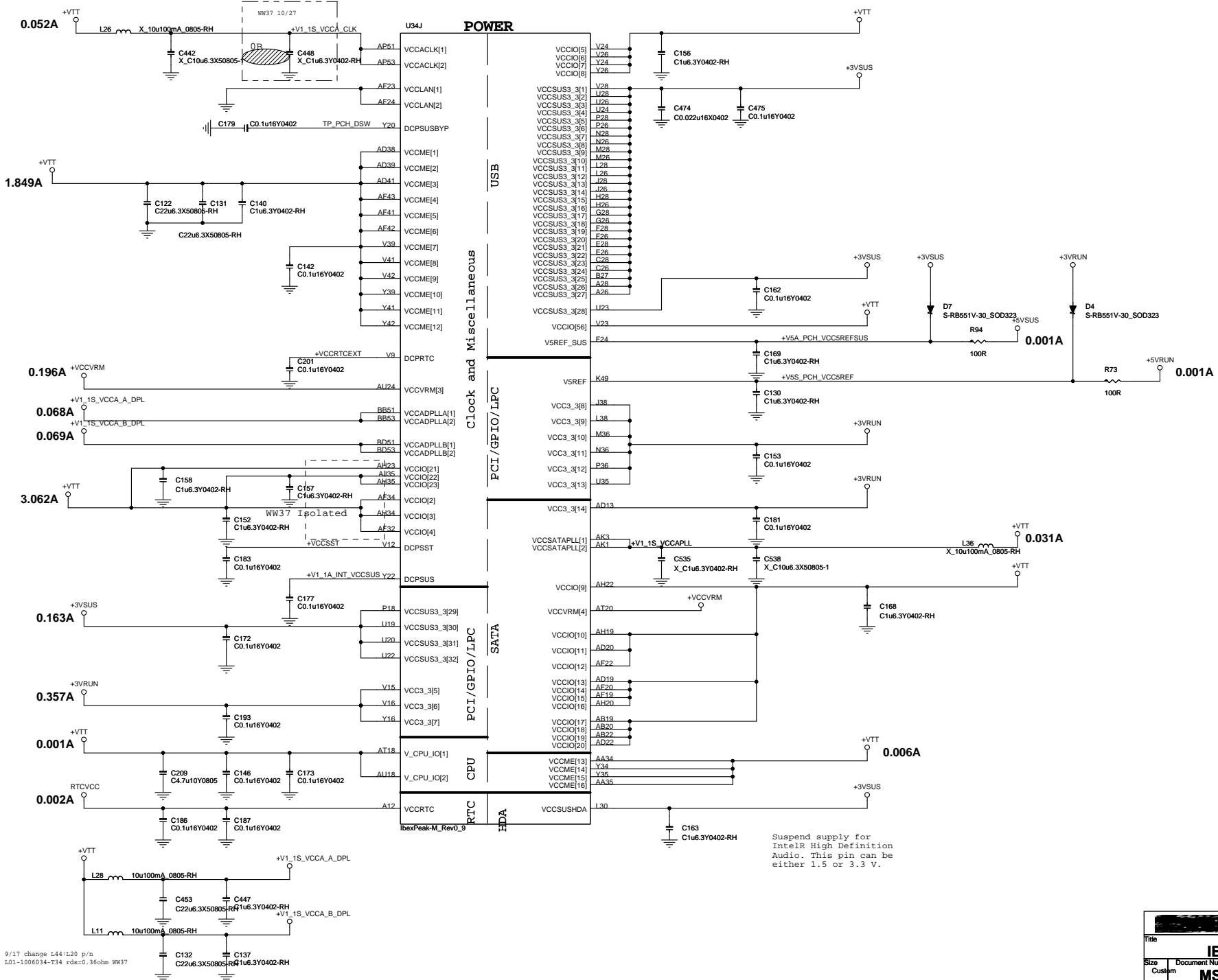


The VCCV RM rail (1.8 V/1.5 V) powers an internal voltage regulator module (VRM) that regulates clean 1.05-V voltage supply for analog rails (VCCAClk, VccapllEXP, VCCFDIPLL, and VCCSATAPLL). This solution will allow us to remove the LC filter requirements for those rails, thereby reducing platform BOM cost. VCCV RM is enabled by default via internal pull up to GPIO27, therefore GPIO27 should be left as No Connect. The following diagram shows implementation details on how to enable and disable VccV RM.



VccLAN may be grounded if Intel LAN is disabled.

IBEXPEAK - M (POWER)



Suspend supply for Intel High Definition Audio. This pin can be either 1.5 or 3.3 V.

9/17 change L44:L20 p/n L01-1006034-T34 rda=0.36ohm WW37

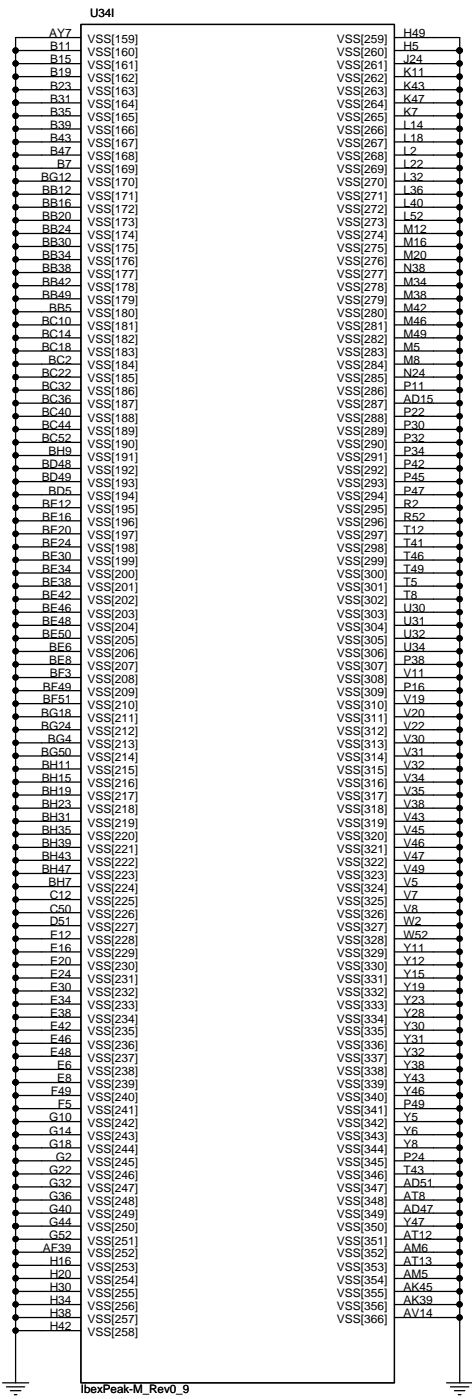
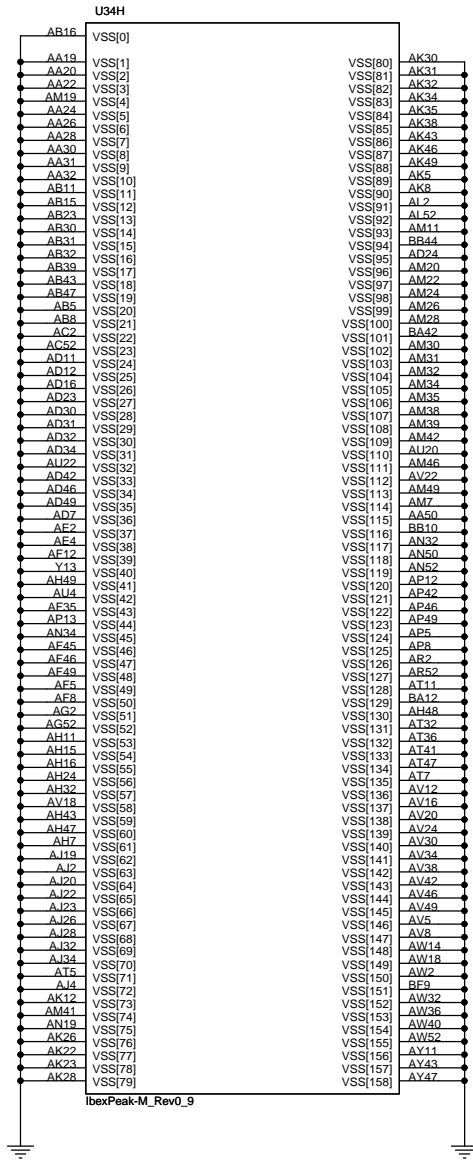
MICRO-STAR INT'L CO.,LTD.

Title: **IBEXPEAK - M (POWER)**

Size: Custom Document Number: **MS-168A** Rev: 0A

Date: Friday, March 26, 2010 Sheet: 29 of 52

IBEXPEAK - M (GND)

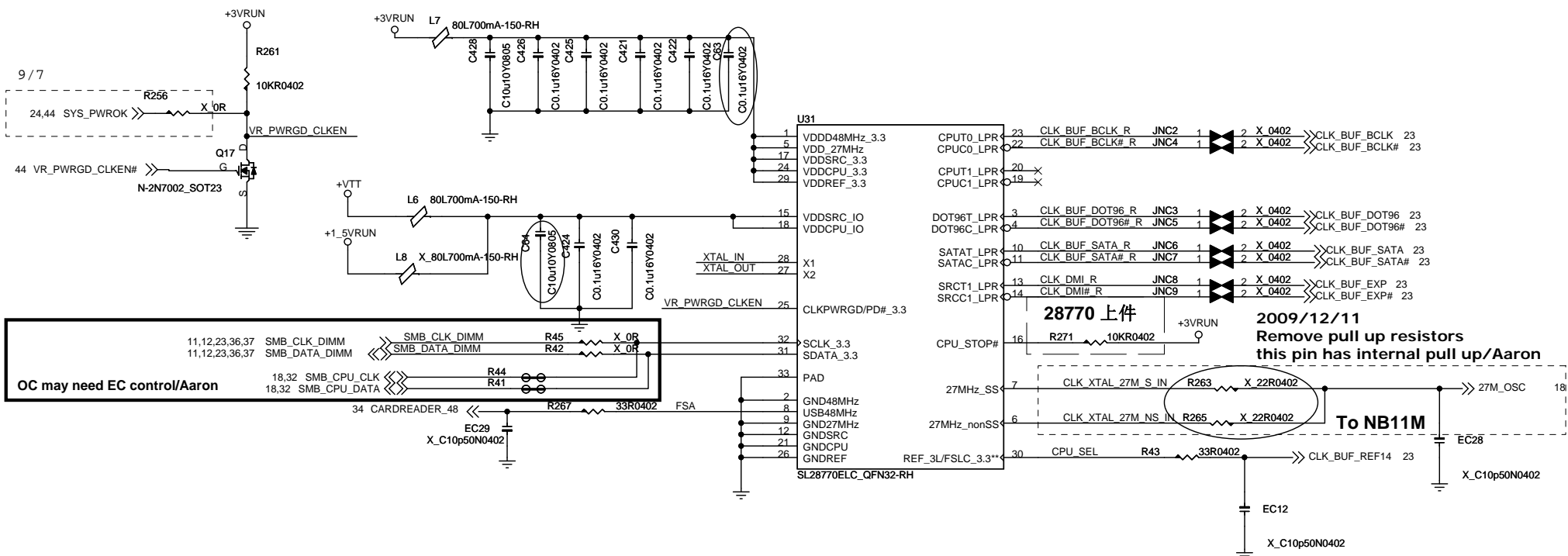


MICRO-STAR INT'L CO.,LTD.

IBEXPEAK - M (GND)

Size: Custom Document Number: **MS-168A** Rev: 0A

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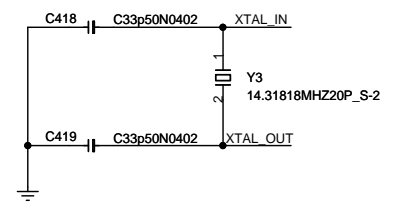


11,12,23,36,37 SMB_CLK_DIMM
 11,12,23,36,37 SMB_DATA_DIMM
 18,32 SMB_CPU_CLK
 18,32 SMB_CPU_DATA

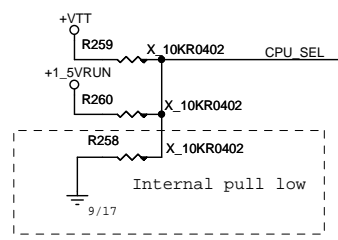
OC may need EC control/Aaron

28770 上件
 2009/12/11
 Remove pull up resistors
 this pin has internal pull up/Aaron

Capacity select
 If LC=20pf C708/C709=33pf
 If LC=32pf C708/C709=56pf



For CPU frequency select (133MHz)



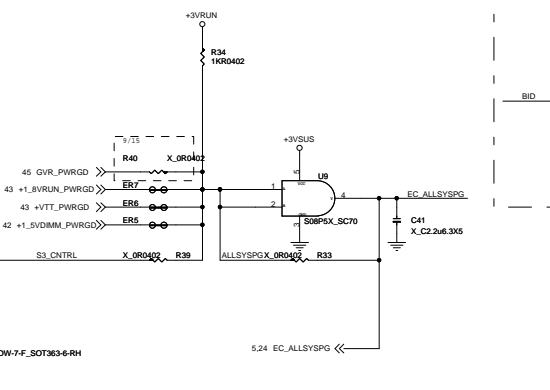
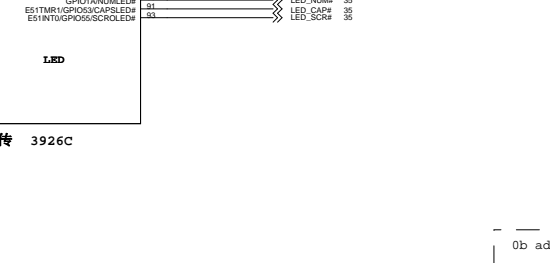
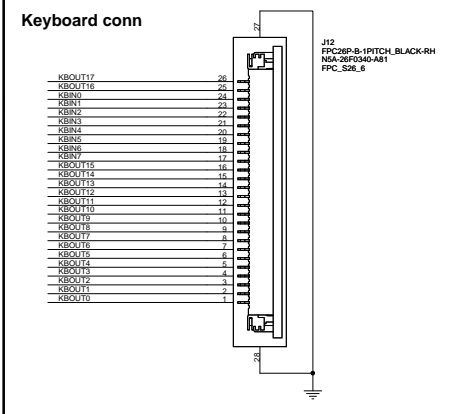
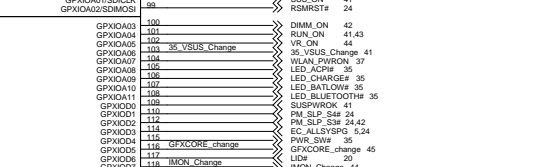
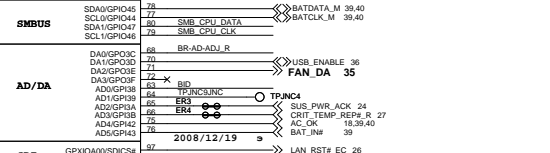
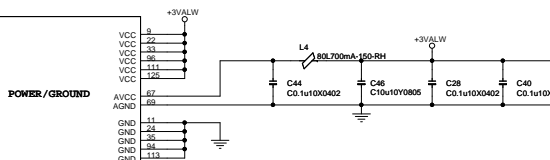
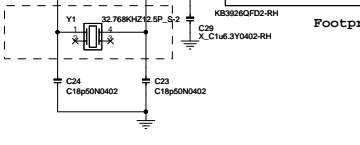
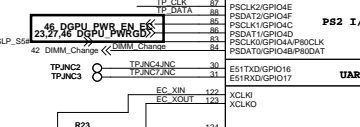
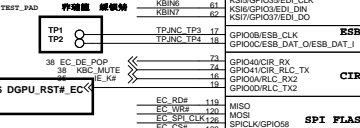
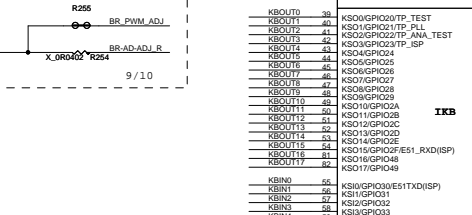
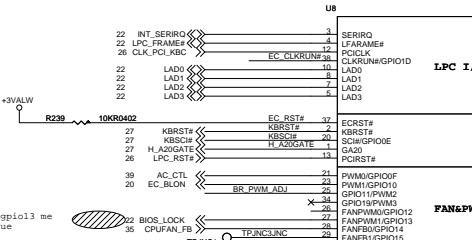
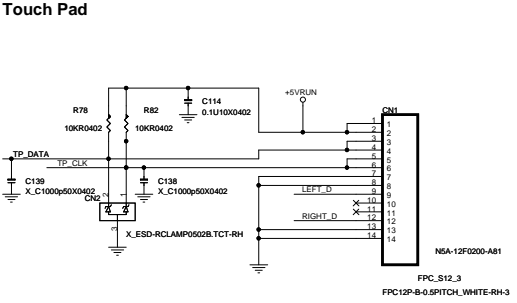
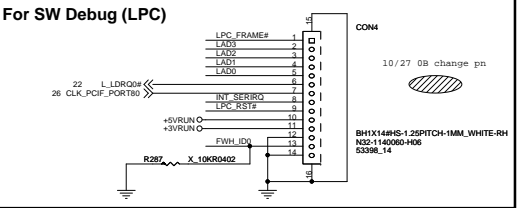
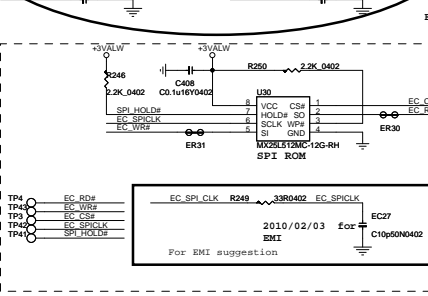
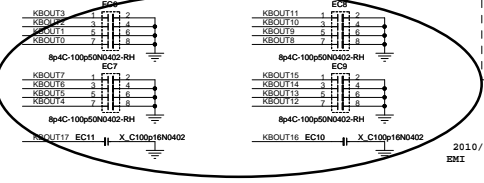
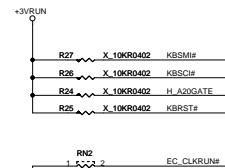
CPU_SEL	CPU0	CPU1
0(Default)	133MHz	133MHz
1(1.05-1.5V)	100MHz	100MHz

2009/09/07 Reserved for OA test
 R346 is for Spread clock(Default use)
 R347 is for non-Spread clock

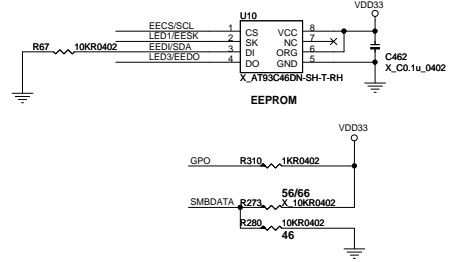
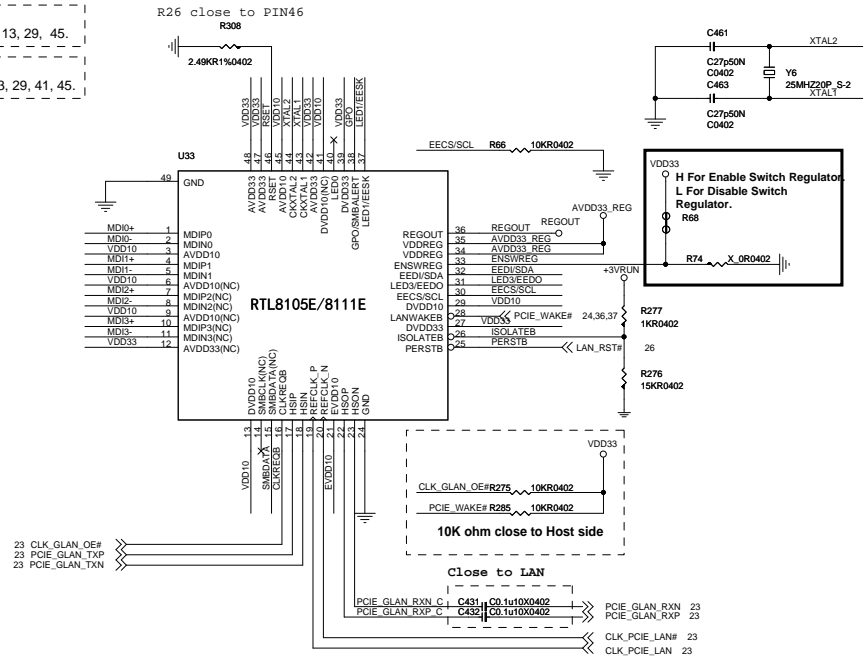
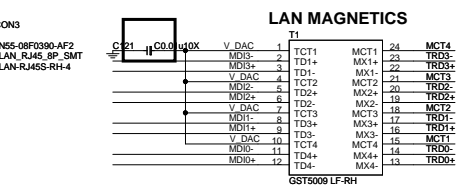
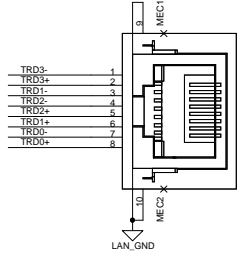
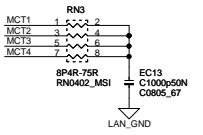
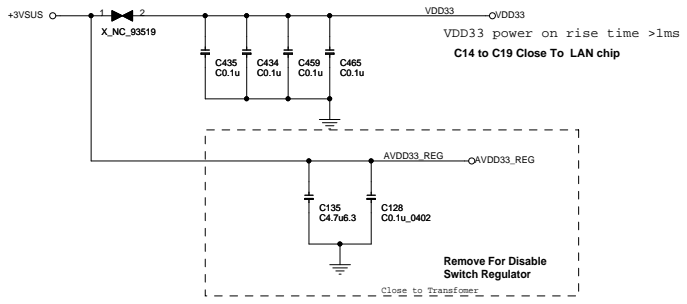
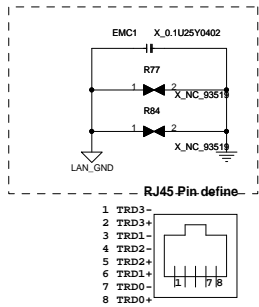
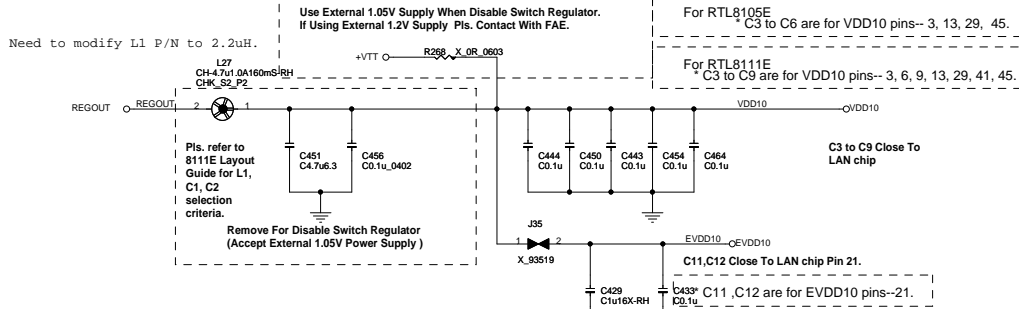
Co-Lay Note:

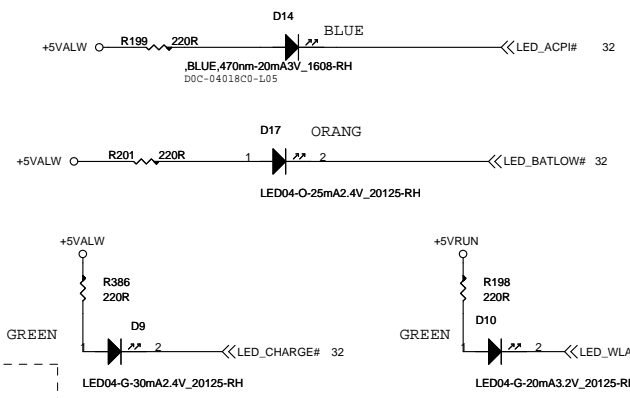
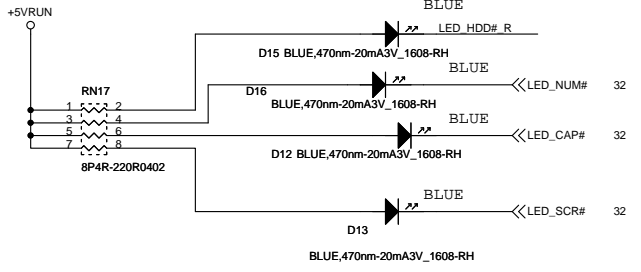
For IDT IC91RS3199
 R84,R73,R71=10Kohm

For Silago SLG8SP587
 R84,R73,R600=4.7Kohm



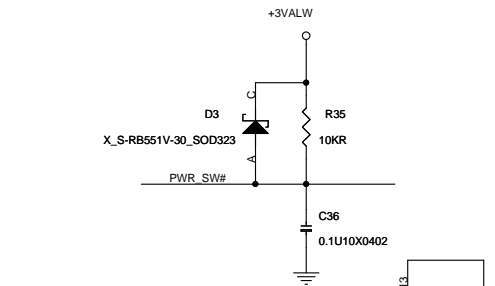
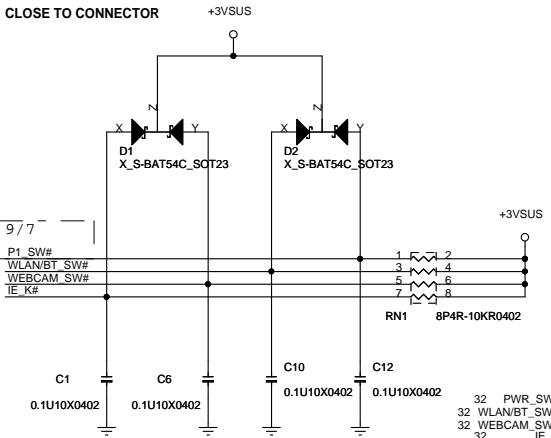
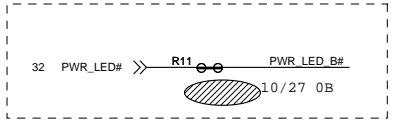
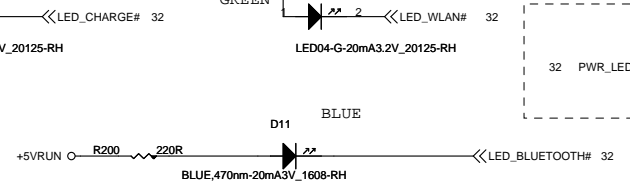
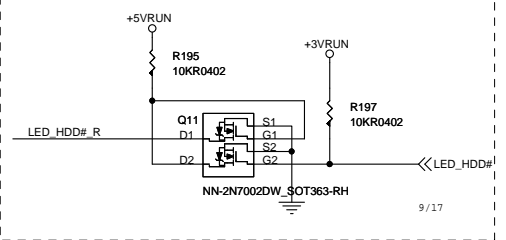
Note: add 0.1u cap at each power pin of LAN, please don't save.





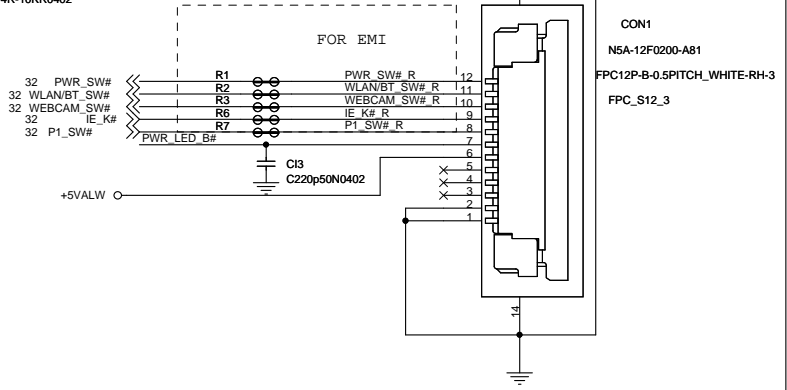
FOR EMI

LED BLUETOOTH#	X	C0.1u16Y0402
LED WLAN#	X	C0.1u16Y0402
LED BATLOW#	X	C0.1u16Y0402
LED CHARGE#	X	C0.1u16Y0402
LED SCR#	X	C0.1u16Y0402
LED CAP#	X	C0.1u16Y0402
LED NUM#	X	C0.1u16Y0402
LED HDD# R	X	C0.1u16Y0402
LED ACPI#	X	C0.1u16Y0402

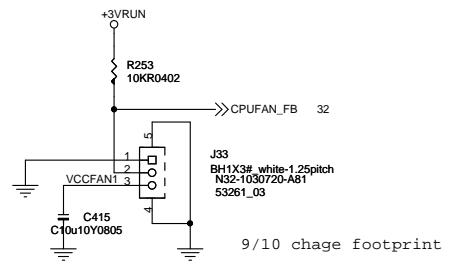
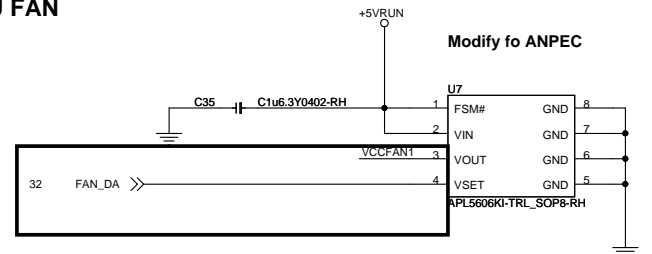


FOR EMI

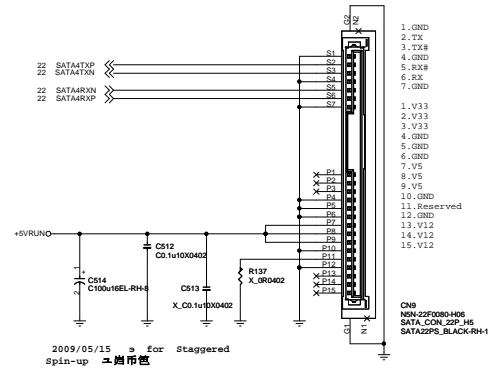
PWR_SW#	EC1	X	C10p50N0402
WLAN/BT_SW#	EC2	X	C10p50N0402
WEBCAM_SW#	EC3	X	C10p50N0402
IE_K#	EC4	X	C10p50N0402
P1_SW#	EC5	X	C10p50N0402



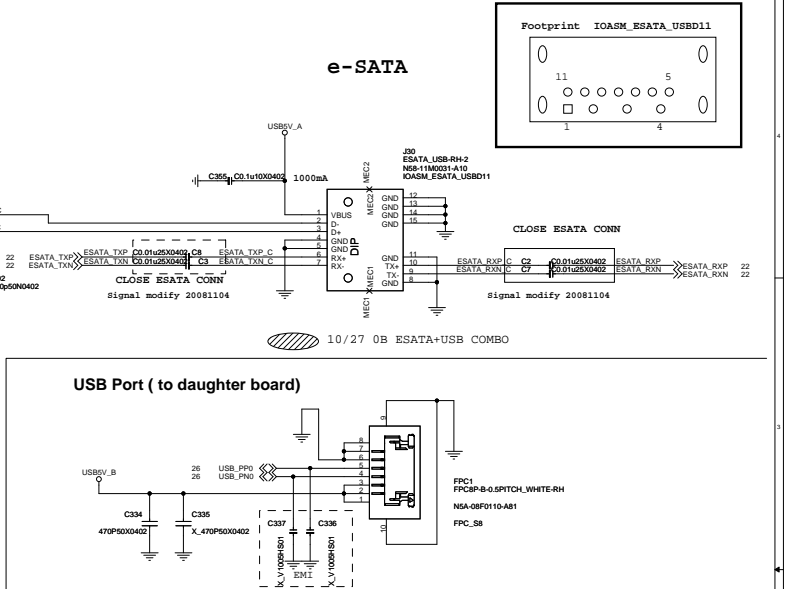
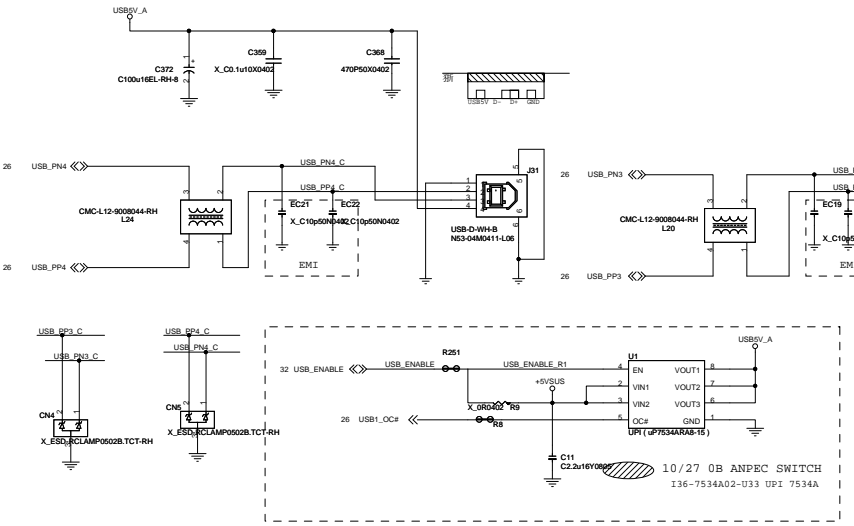
CPU FAN



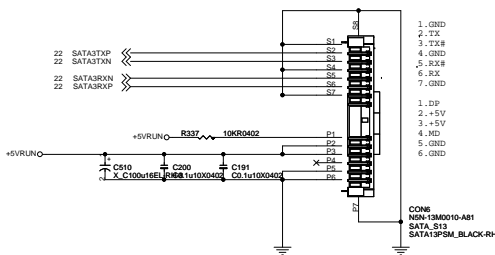
SATA HDD



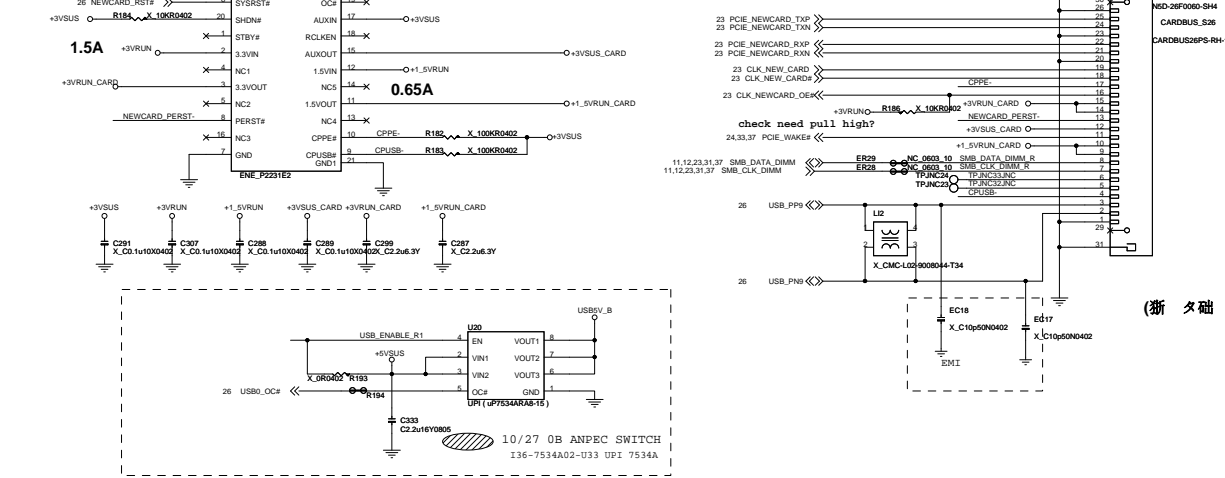
USB Port



SATA ODD



NEW CARD



(新 夕 础)

MICRO-STAR INT'L CO.,LTD.

File: HDD_CDROM_USB_ESATA_NEW_CARD

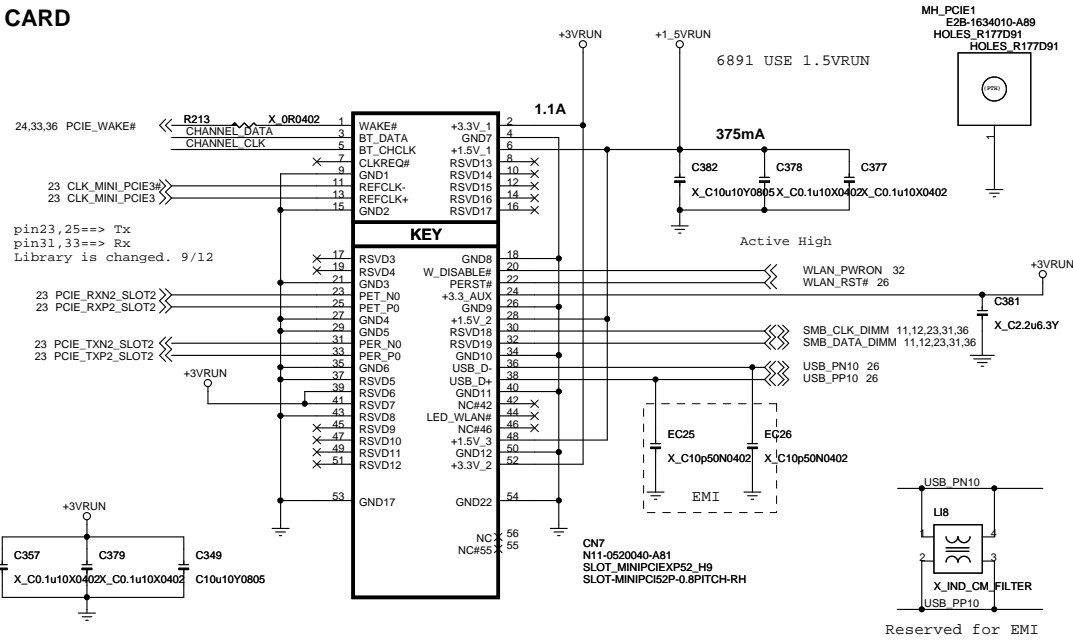
Rev: MS-168A

Date: Friday, March 26, 2010

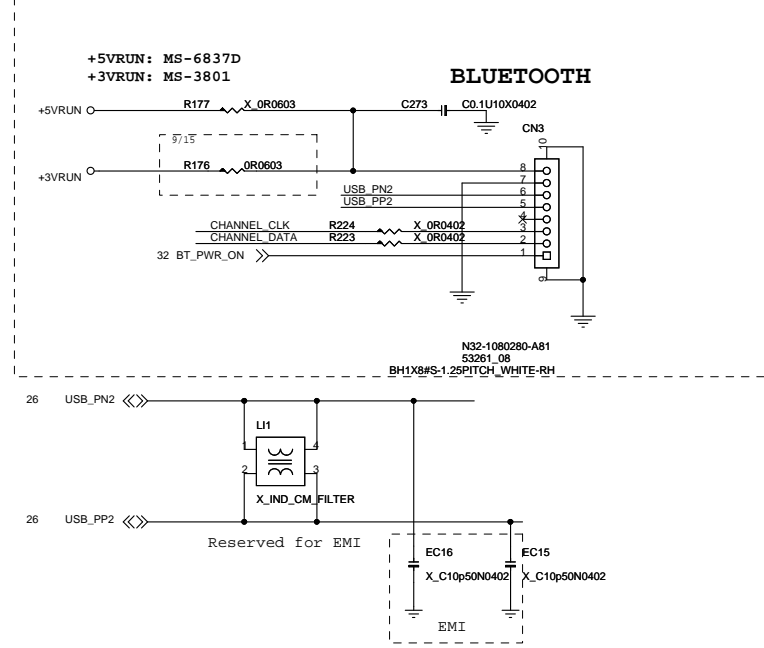
Sheet: 36 of 52

Rev: JA

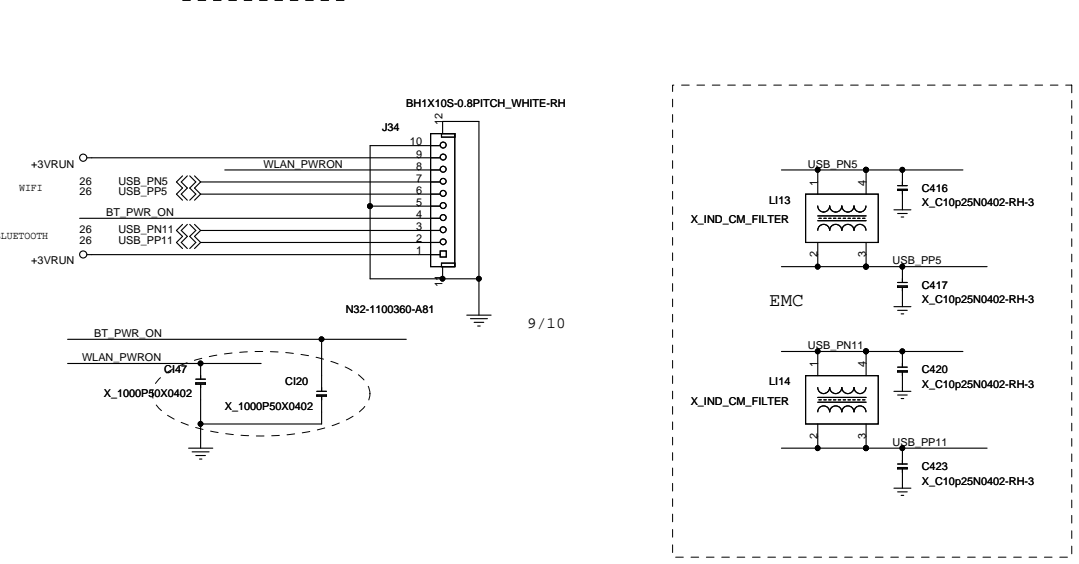
WLAN CARD



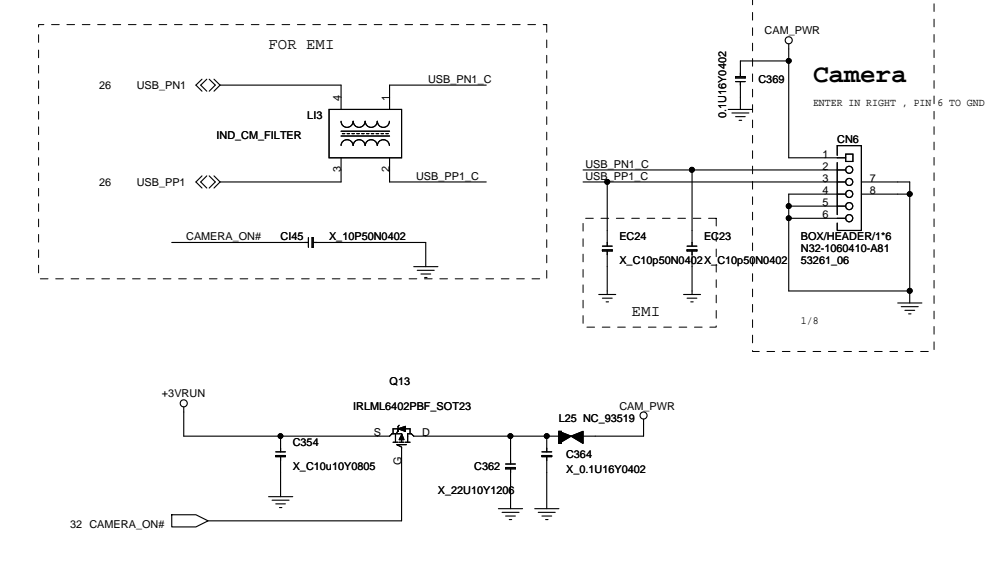
BLUETOOTH



REMOVE TV TUNER MS-3871

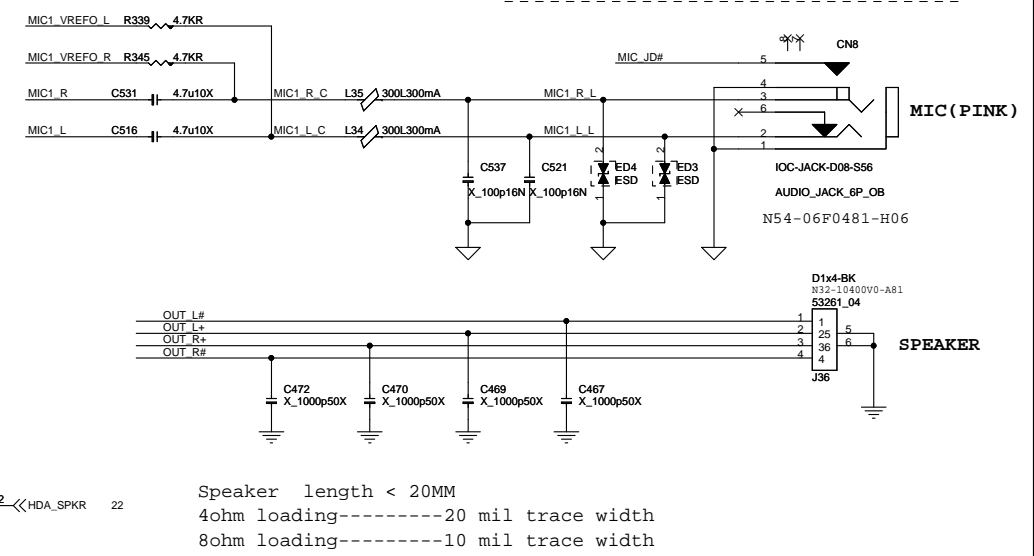
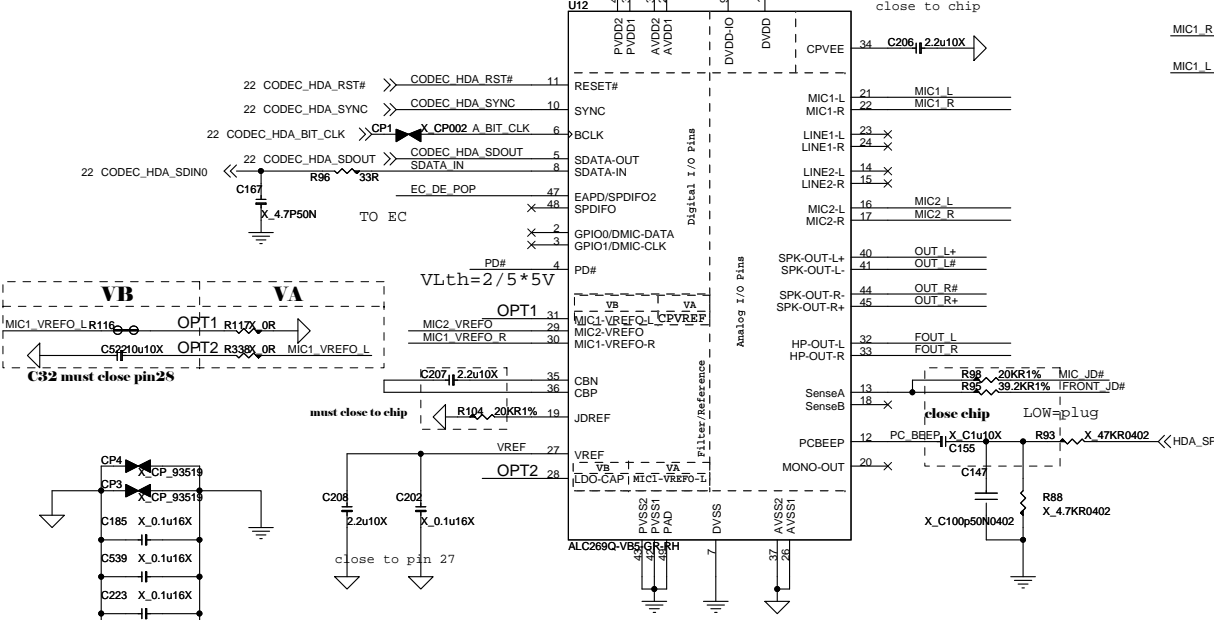
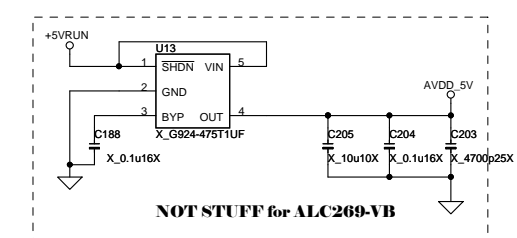
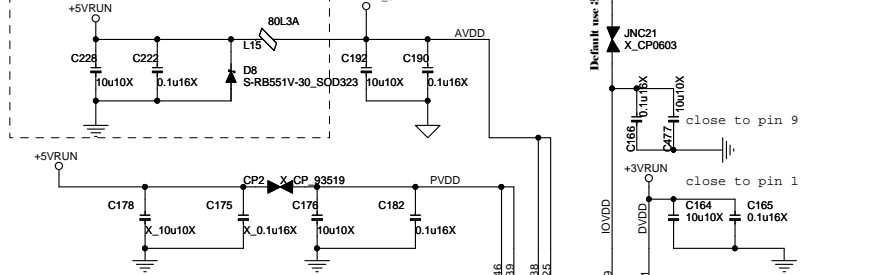


CAMERA

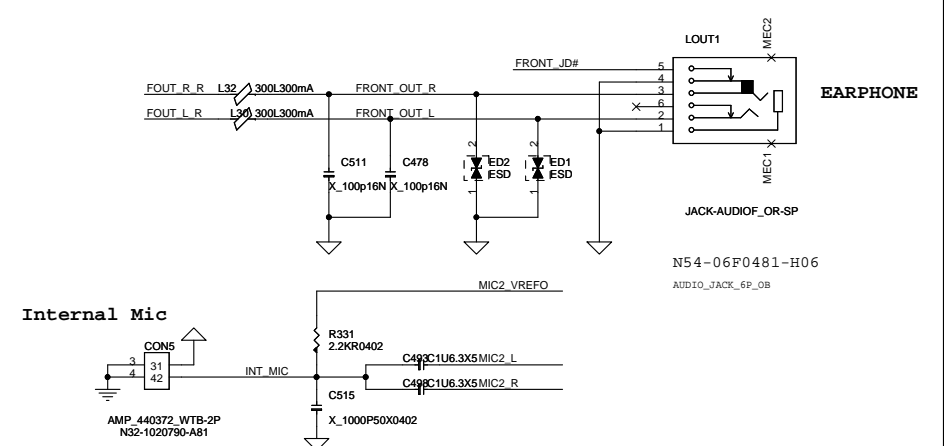
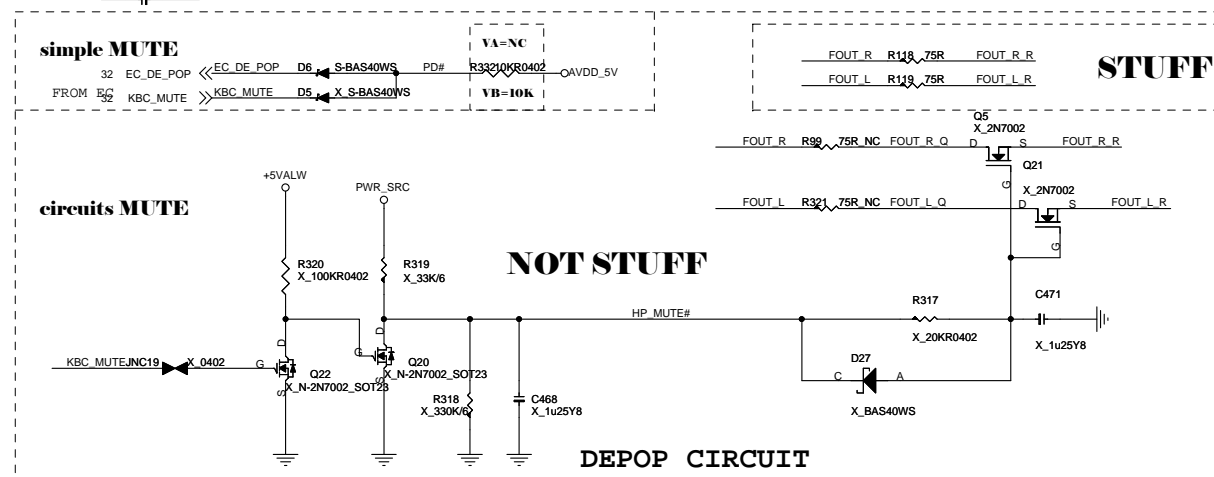


MSI CORPORATION			
Title	MINI_PCIE,CAMERA,BLUETOOTH		
Size	Document Number		Rev 0A
Custom	MS-168A		
Date:	Friday, March 26, 2010	Sheet	37 of 52

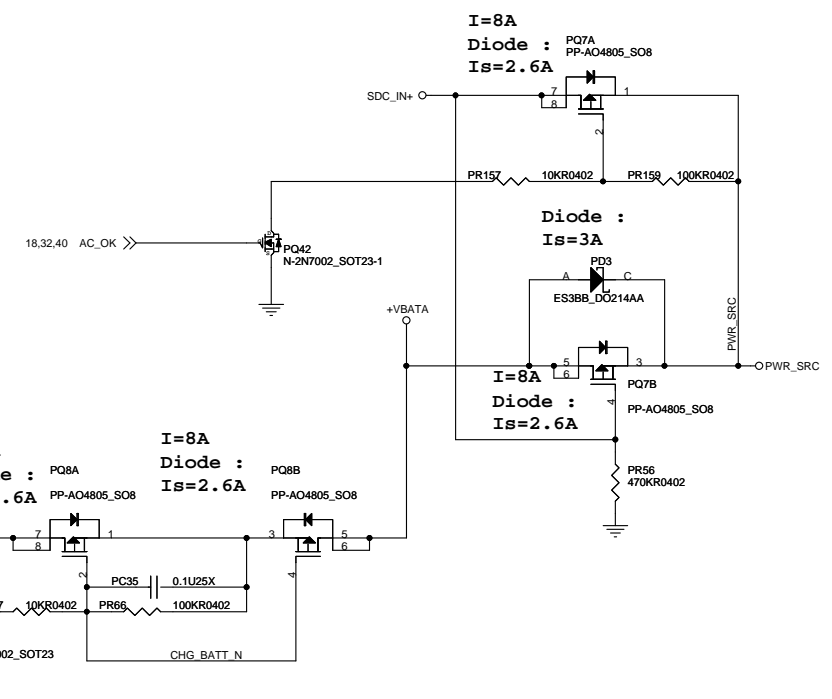
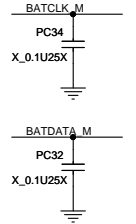
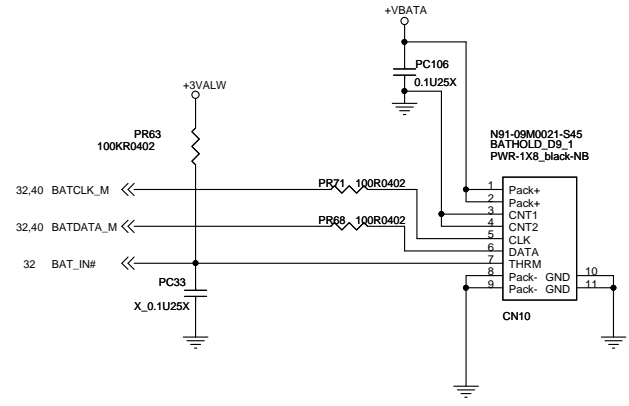
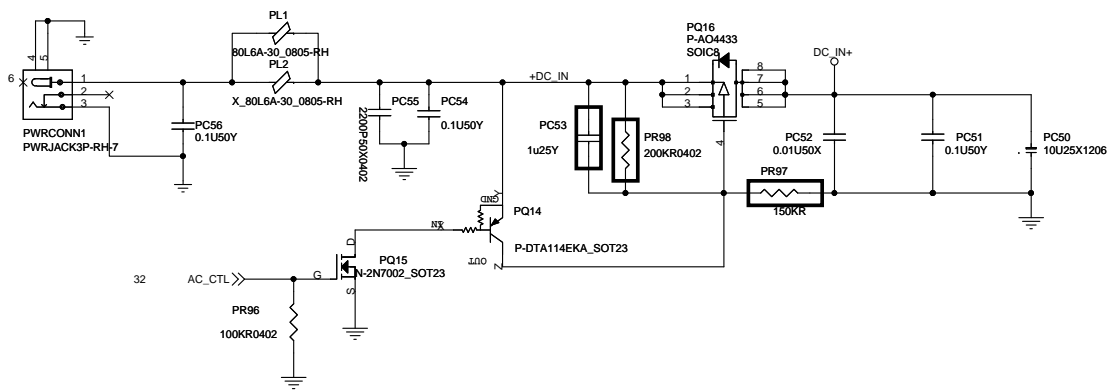
FOR ALC269-VB have internal LDO



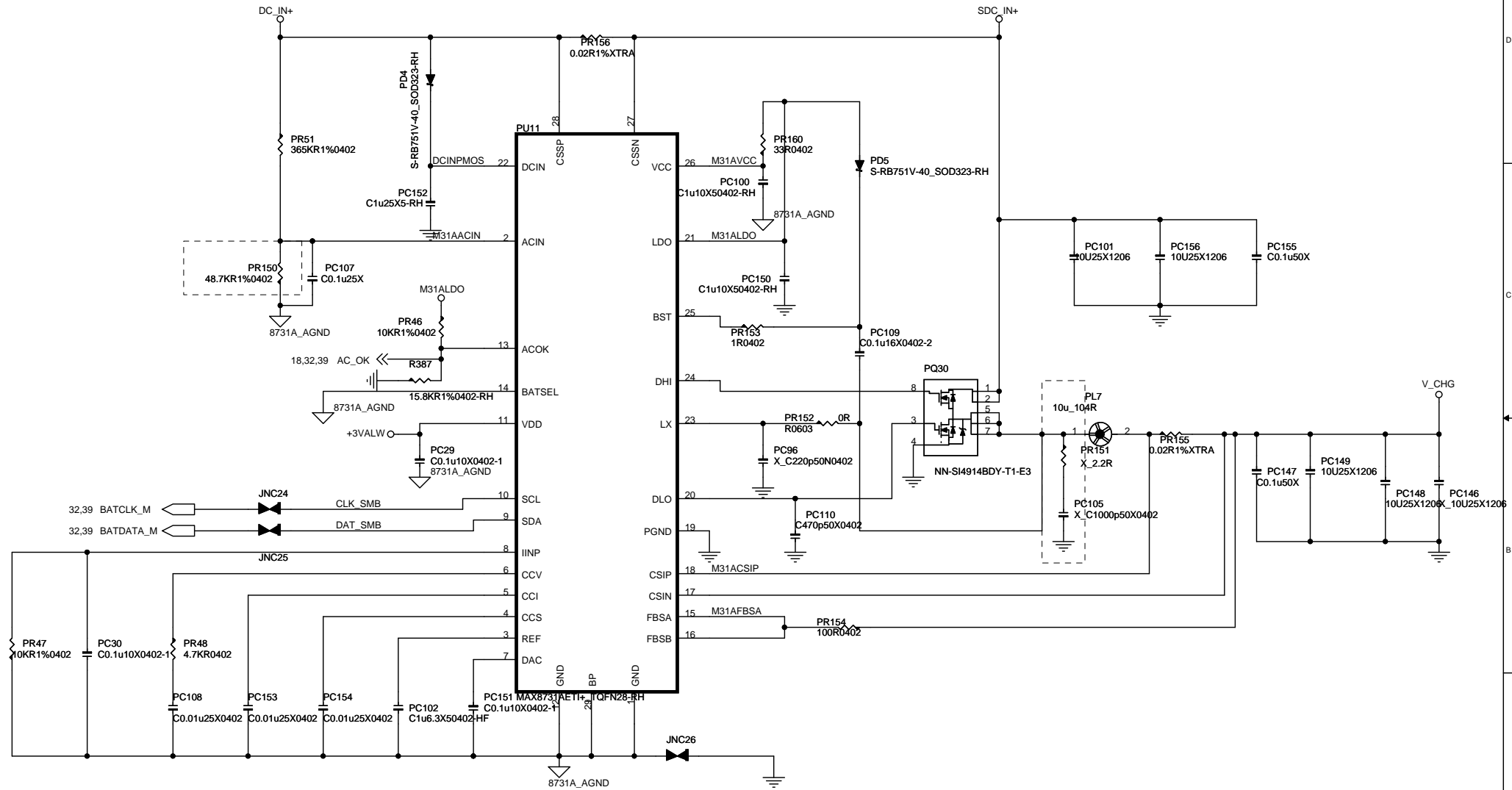
Speaker length < 20MM
 4ohm loading-----20 mil trace width
 8ohm loading-----10 mil trace width



MICRO-STAR INT'L CO.,LTD.			
Title	AUDIO(ALC269)		
Size	Document Number	Rev	
Custom	MS-168A	0A	
Date:	Friday, March 26, 2010	Sheet	38 of 52




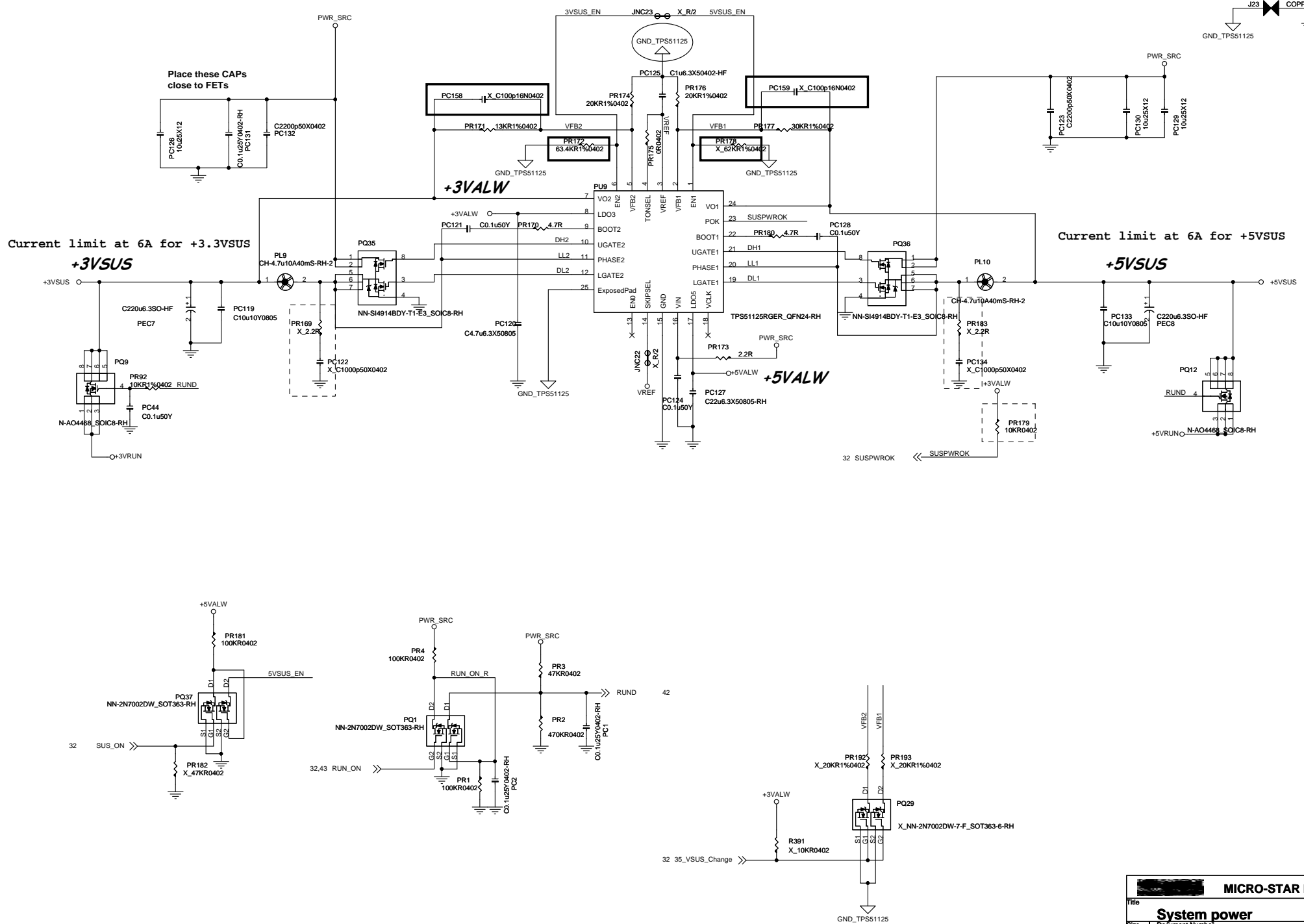
Adapter input voltage set 19 Voltage

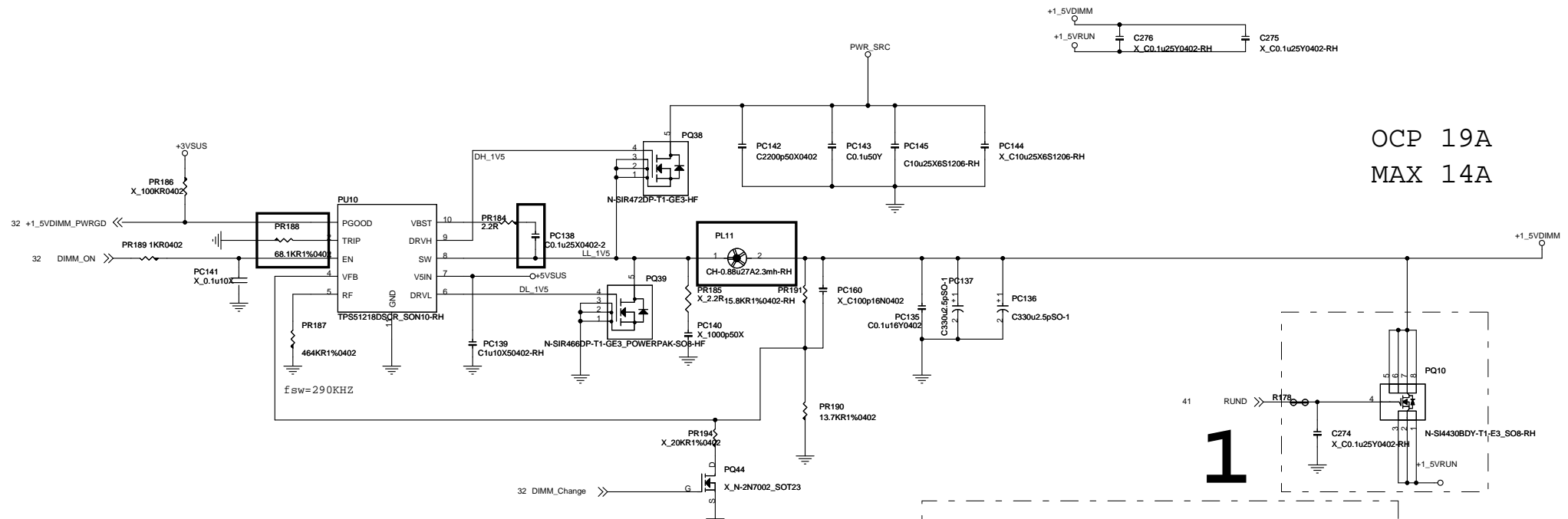


IINP :

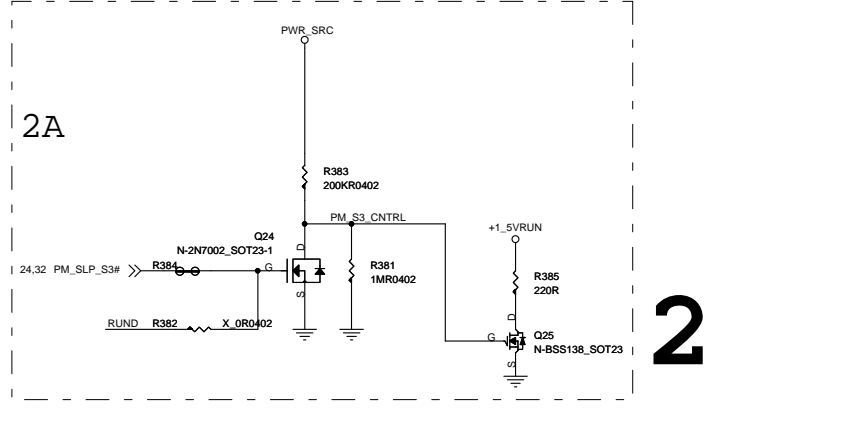
1. The transconductance from (CSSP - CSSN) to IINP is 3mA/V.
2. $V_{IINP} = IINPUT \times RS1 \times 3mA/V \times PR25$

		MICRO-STAR INT'L CO.,LTD.	
Title		Battery Charger	
Size	Document Number	R5.1 / M0	
B	MS-168A	Rev	0A
Date:	Friday, March 26, 2010	Sheet	40 of 52





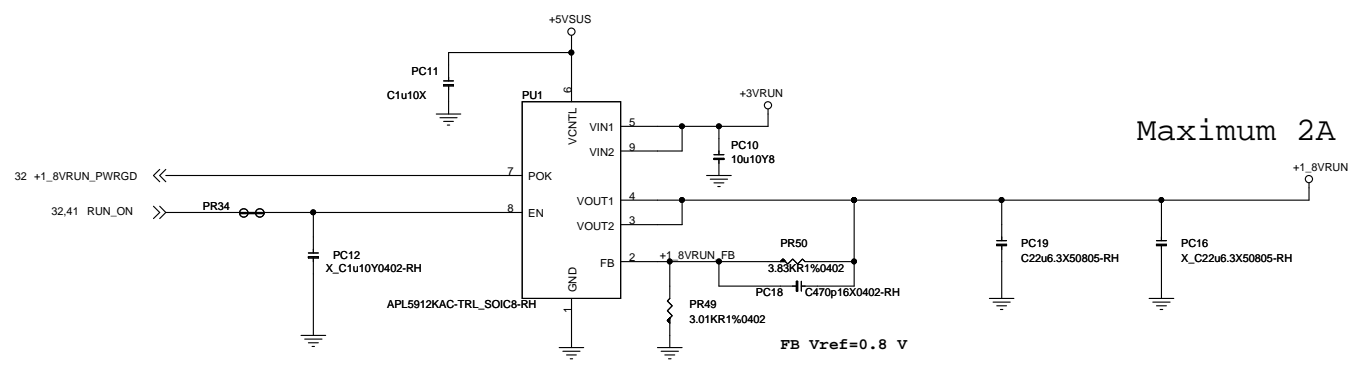
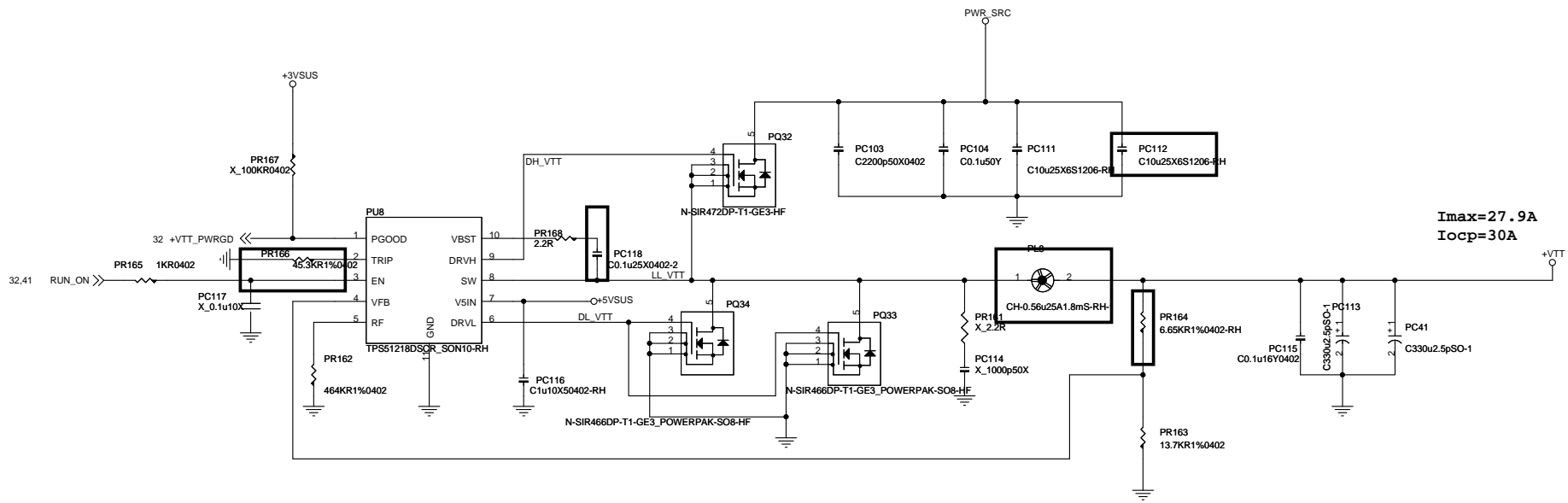
OCP 19A
MAX 14A



MAX 2A

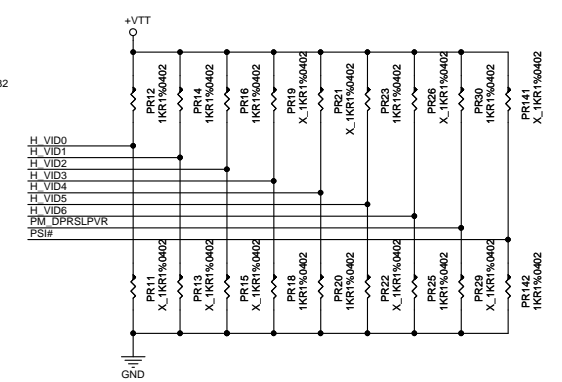
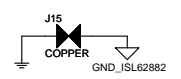
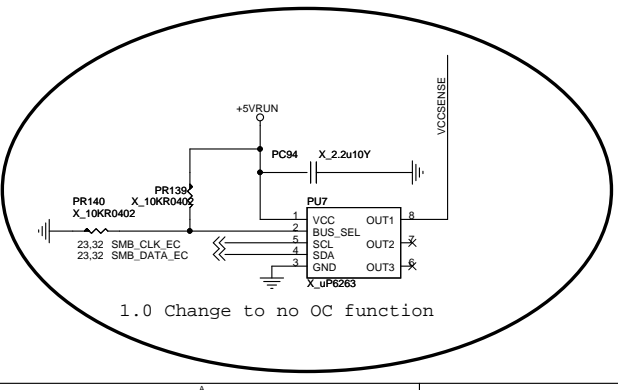
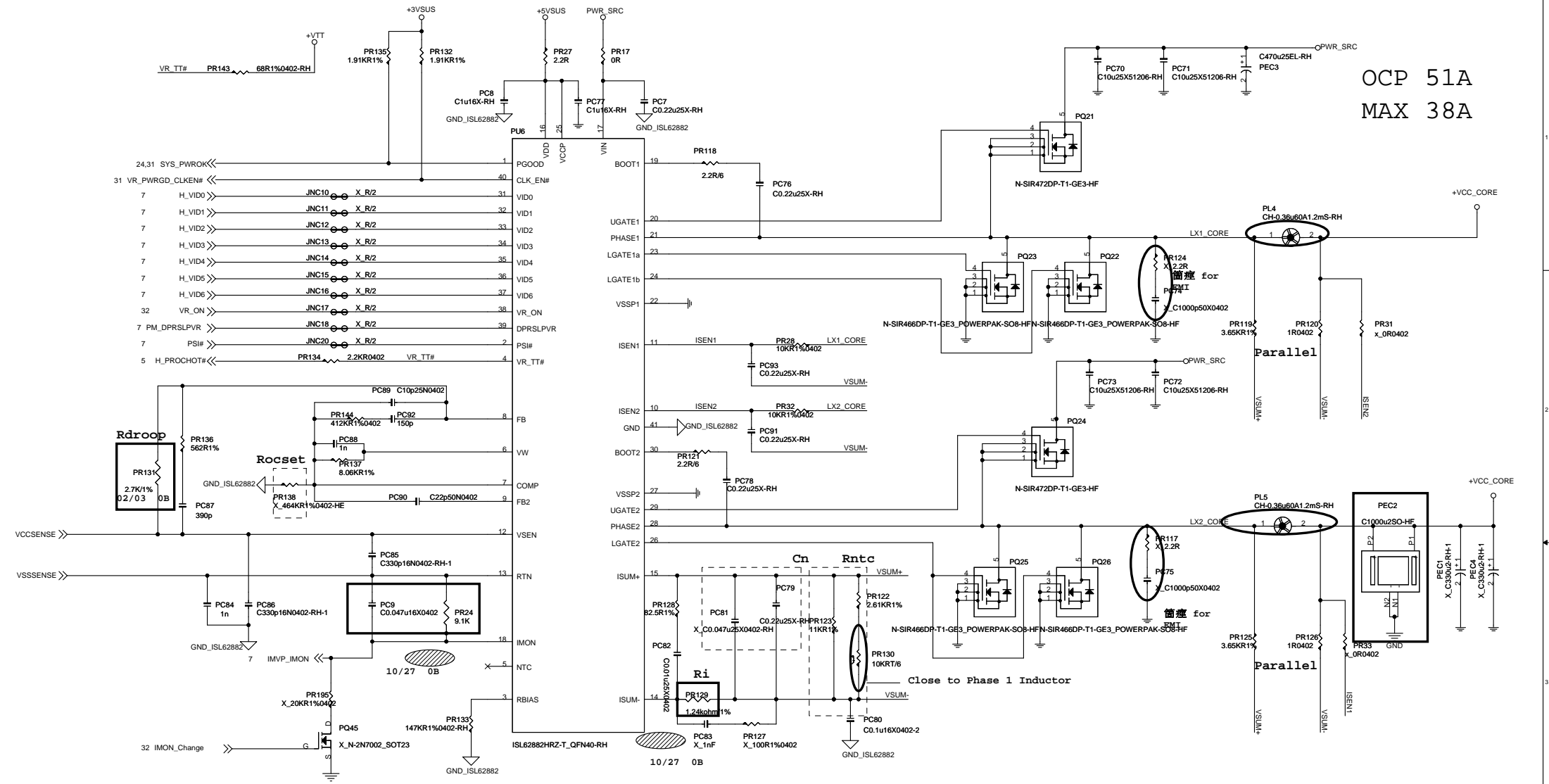
8

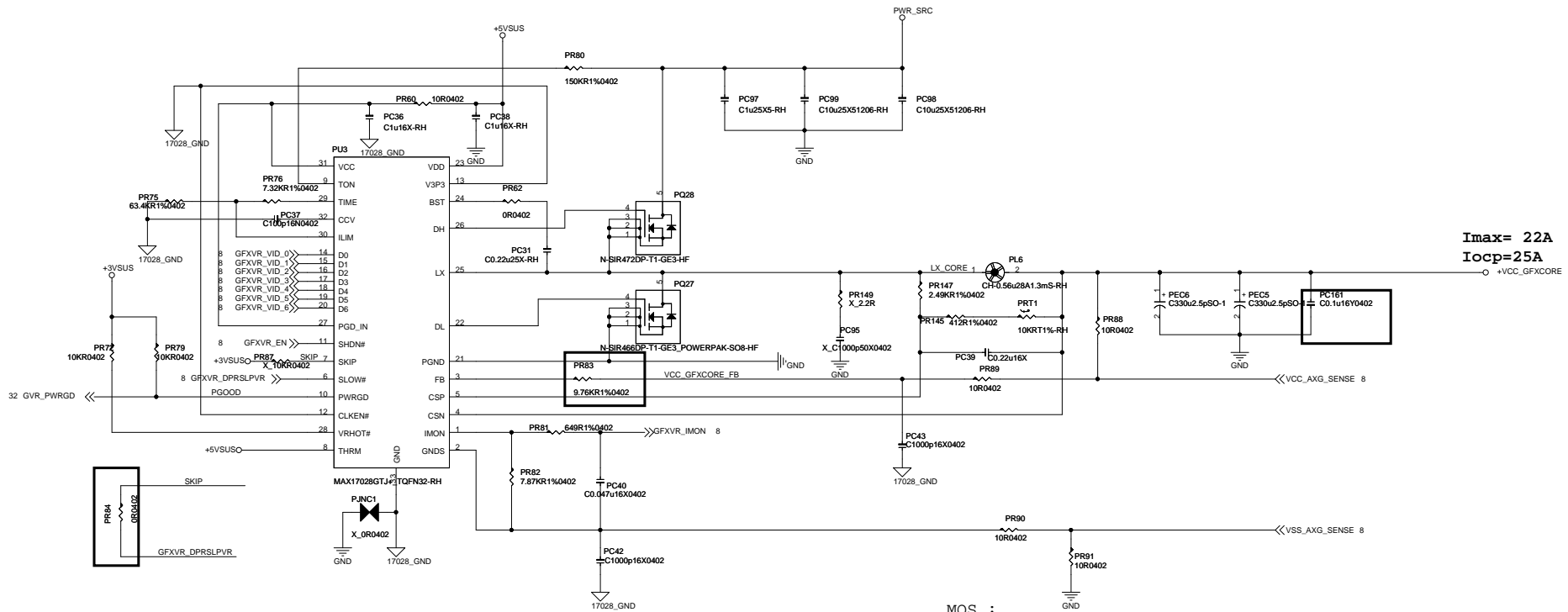
MICRO-STAR INT'L CO.,LTD.			
Title			
SMDDR VTERM /1 5VRUN			
Size	Document Number	Rev	
Custom	MS-168A	0A	
Date:	Friday, March 26, 2010	Sheet	42 of 52



MICRO-STAR INT'L CO.,LTD.			
Title			
VTT Power, +1.8VRUN			
Size	Document Number	Rev	
Custom	MS-168A	0A	
Date:	Friday, March 26, 2010	Sheet	43 of 52

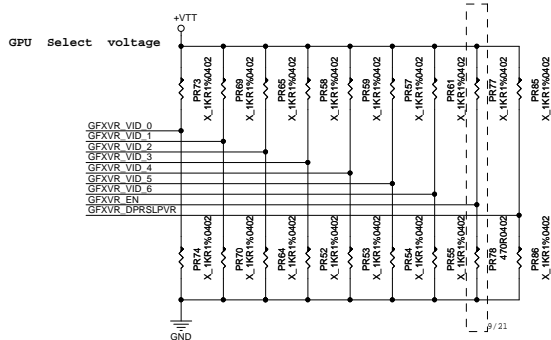
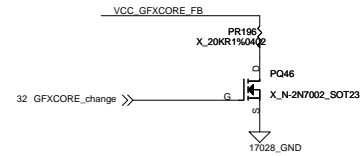
OCP 51A
MAX 38A

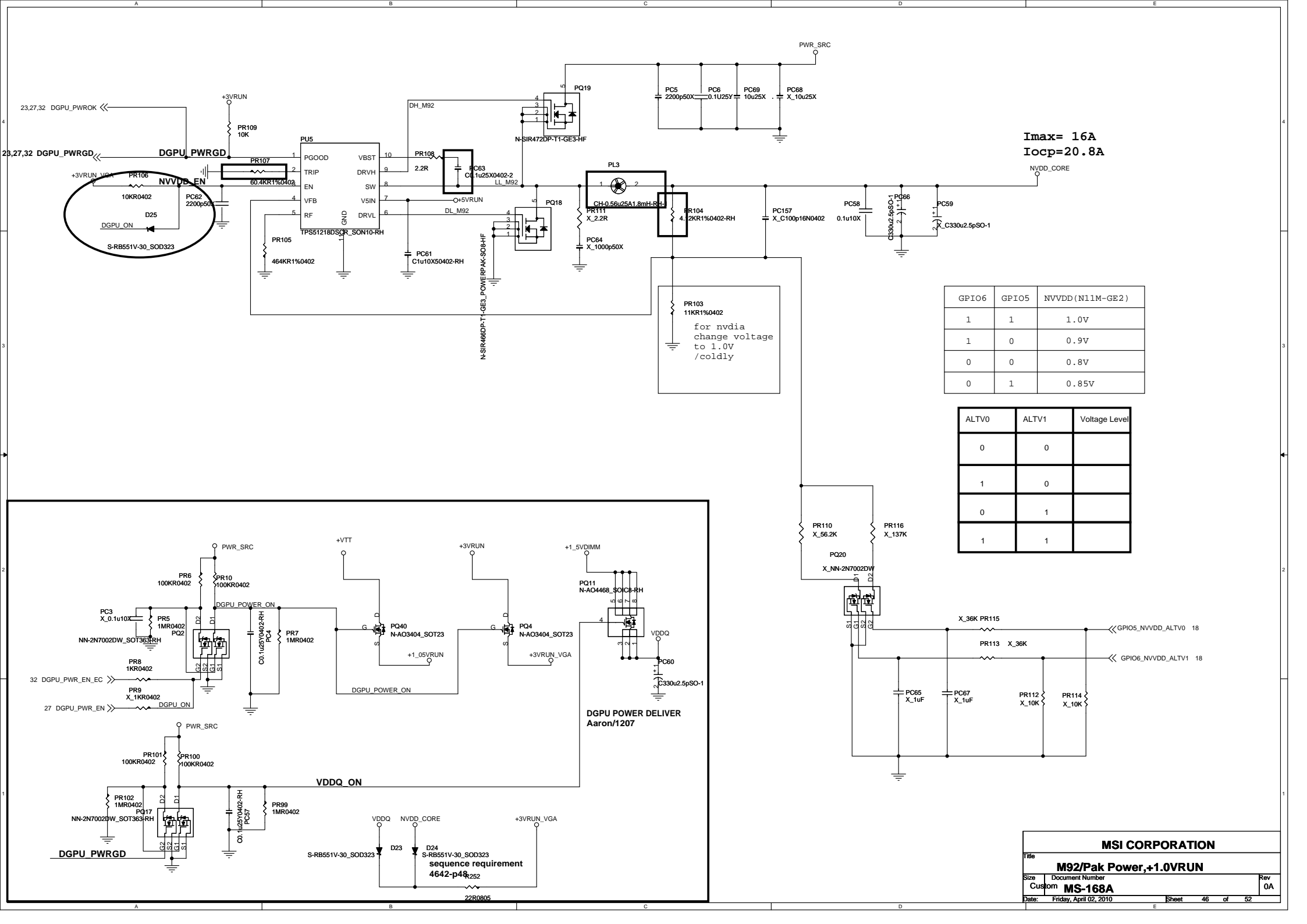




I_{max} = 22A
I_{ocp} = 25A
 ○ +VCC_GFXCORE

MOS :
 high side : main : D03-L142600-A68
 seond : D03-1200300-I14
 low side : main : D03-L141200-A68
 seond : D03-42N0330-I14





I_{max} = 16A
I_{ocp} = 20.8A

GPIO6	GPIO5	NVDD (N11M-GE2)
1	1	1.0V
1	0	0.9V
0	0	0.8V
0	1	0.85V

ALTV0	ALTV1	Voltage Level
0	0	
1	0	
0	1	
1	1	

DGPU POWER DELIVER
Aaron/1207

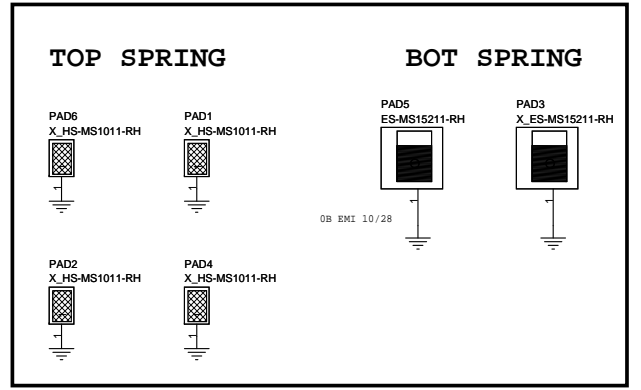
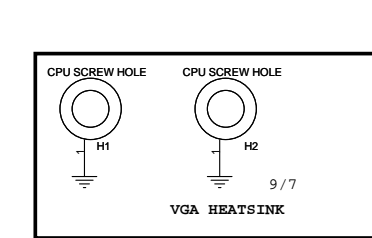
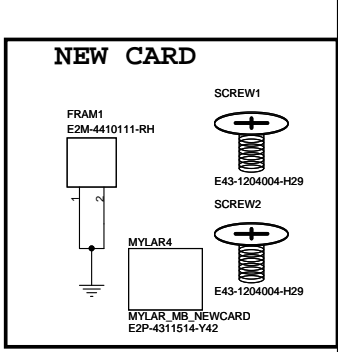
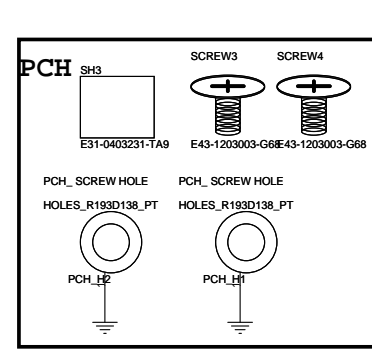
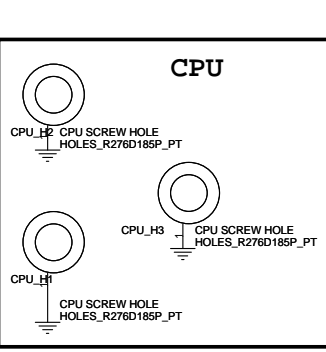
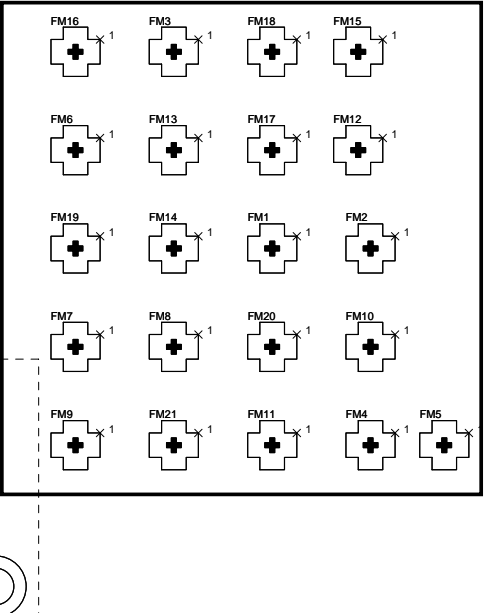
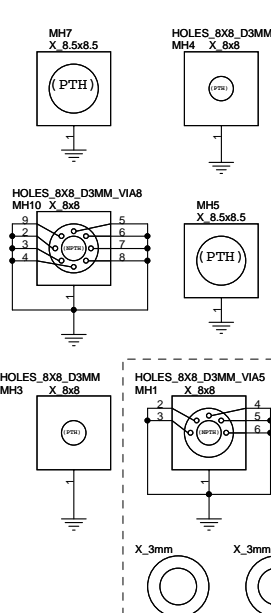
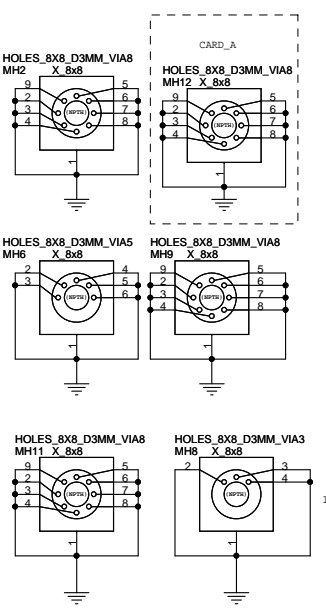
S-RB551V-30_SOD323
D23
S-RB551V-30_SOD323
D24
sequence requirement
4642-p48

MSI CORPORATION

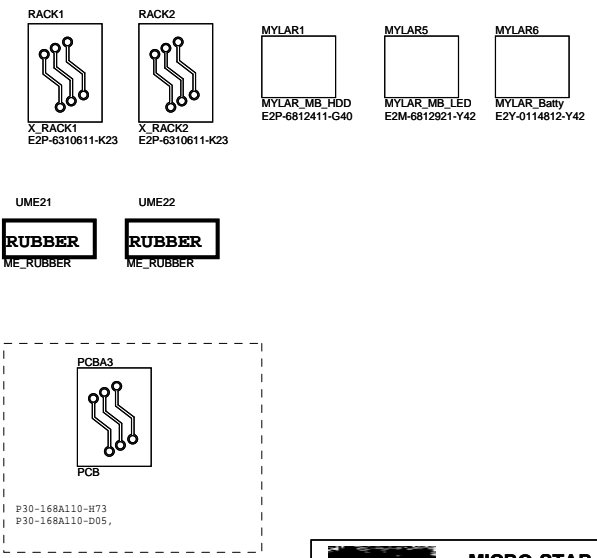
Title: **M92/Pak Power,+1.0VRUN**

Size: Document Number
 Custom: **MS-168A** Rev: 0A

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TOP	LAYER3	LAYER4	BOTTOM	Impedance
J7 L1 5mil 50 Ohm X_H1X2_black-RH	J10 L3 4.5mil 50 Ohm X_H1X2_black-RH	J21 L4 4.5mil 50 Ohm X_H1X2_black-RH	J24 L6 5mil 50 Ohm X_H1X2_black-RH	50ohm_single
J9 L1 8mil 37.5 Ohm X_H1X2_black-RH	J6 L3 8mil 39 Ohm X_H1X2_black-RH	J25 L4 8mil 39 Ohm X_H1X2_black-RH	J22 L6 8mil 37.5 Ohm X_H1X2_black-RH	37.5ohm_single
J1 L1 DIFF 4.5/9/20 90 Ohm+ L1 DIFF 4.5/9/20 90 Ohm- X_H1X4_black-RH	J6 L3 DIFF 4.5/9/20 90 Ohm+ L3 DIFF 4.5/9/20 90 Ohm- X_H1X4_black-RH	J26 L4 DIFF 4/10/20 100 Ohm+ L4 DIFF 4/10/20 100 Ohm- X_H1X4_black-RH	J20 L6 DIFF 4/10/20 100 Ohm+ L6 DIFF 4/10/20 100 Ohm- X_H1X4_black-RH	100ohm_differential
J3 L1 DIFF 4/6/20 90 Ohm+ L1 DIFF 4/6/20 90 Ohm- X_H1X4_black-RH	J4 L3 DIFF 4/5/20 90 Ohm+ L3 DIFF 4/5/20 90 Ohm- X_H1X4_black-RH	J18 L6 DIFF 4.5/9/20 90 Ohm+ L6 DIFF 4.5/9/20 90 Ohm- X_H1X4_black-RH	J17 L6 DIFF 4/6/20 90 Ohm+ L6 DIFF 4/6/20 90 Ohm- X_H1X4_black-RH	90ohm_differential
J5 L1 DIFF 4/4/20 85 Ohm+ L1 DIFF 4/4/20 85 Ohm- X_H1X4_black-RH	J2 L3 DIFF 4/4/20 85 Ohm+ L3 DIFF 4/4/20 85 Ohm- X_H1X4_black-RH	J27 L4 DIFF 4/4/20 85 Ohm+ L4 DIFF 4/4/20 85 Ohm- X_H1X4_black-RH	J19 L6 DIFF 4/4/20 85 Ohm+ L6 DIFF 4/4/20 85 Ohm- X_H1X4_black-RH	85ohm_differential
J11 L1 DIFF 7/4/20 68 Ohm+ L1 DIFF 7/4/20 68 Ohm- X_H1X4_black-RH	J13 L3 DIFF 7/4/20 68 Ohm+ L3 DIFF 7/4/20 68 Ohm- X_H1X4_black-RH	J28 L4 DIFF 7/4/20 68 Ohm+ L4 DIFF 7/4/20 68 Ohm- X_H1X4_black-RH	J29 L6 DIFF 7/4/20 68 Ohm+ L6 DIFF 7/4/20 68 Ohm- X_H1X4_black-RH	68ohm_differential



MICRO-STAR INT'L CO.,LTD.

Title: **Screw/ME**

Size: Custom Document Number: **MS-168A** Rev: 0A

Date: Thursday, April 22, 2010 Sheet: 47 of 52

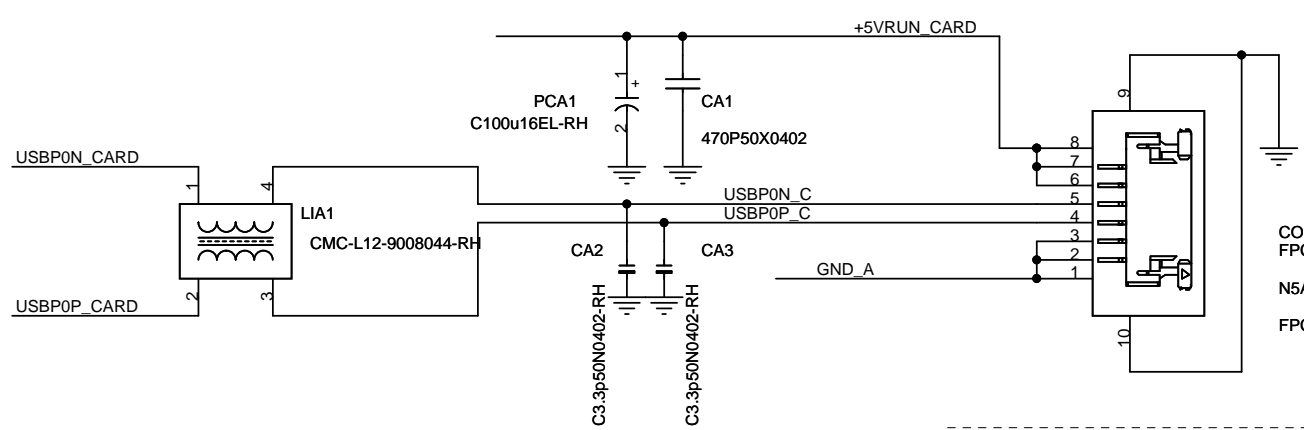
A

B

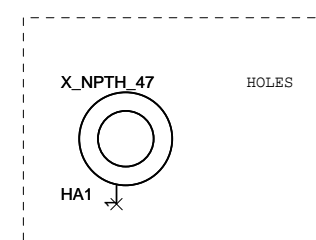
C

D

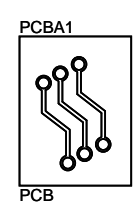
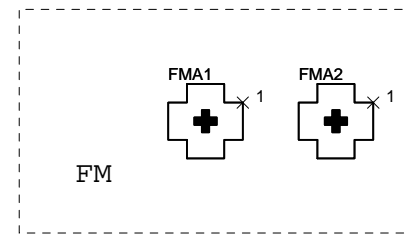
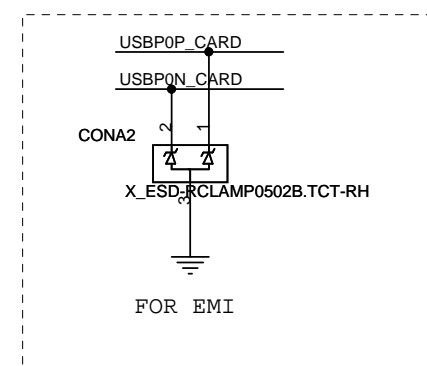
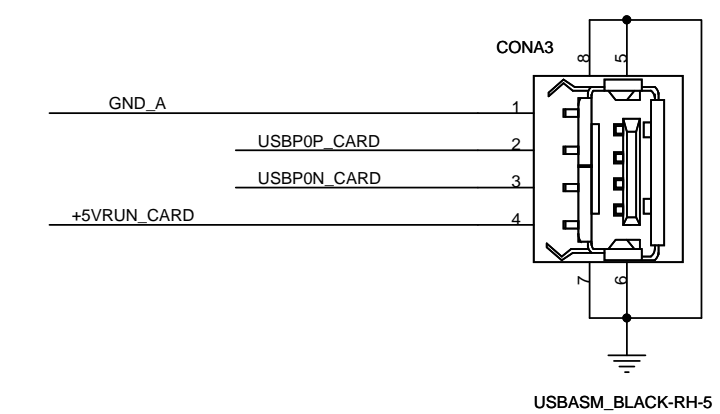
E



CARD_A USB0



CONA1
FPC8P-B-0.5PITCH_WHITE-RH
N5A-08F0110-A81
FPC_S8



P30-168AA10-H73
P30-168AA10-D05

MICRO-STAR INT'L CO.,LTD.		
Title		
USB BOARD_A		
Size	Document Number	Rev
Custom	MS-168A	0A
Date:	Friday, March 26, 2010	Sheet 48 of 52

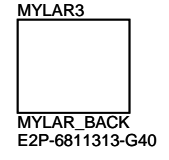
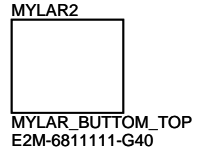
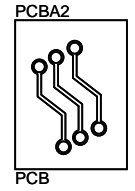
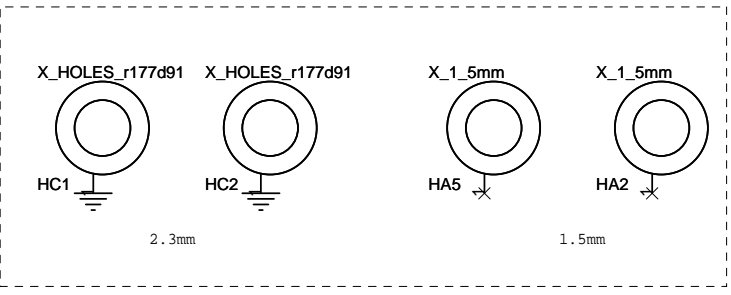
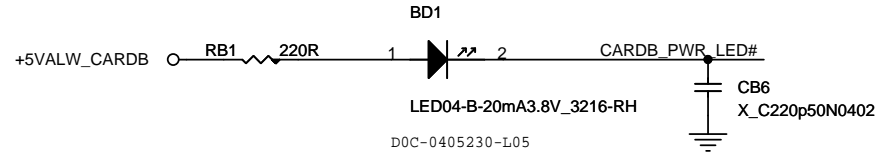
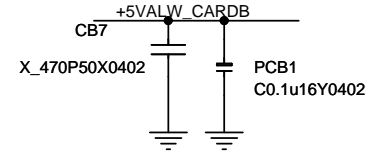
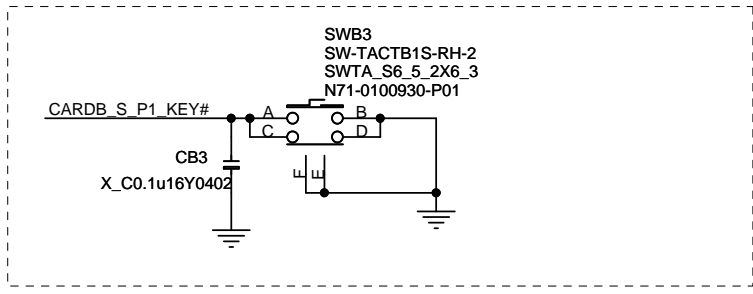
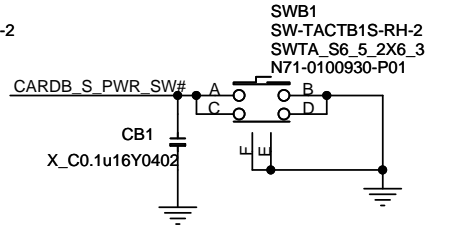
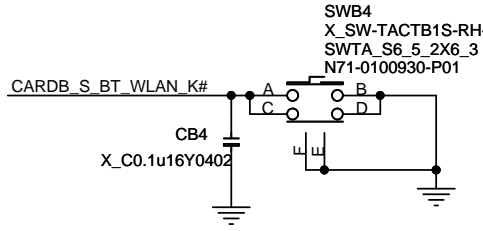
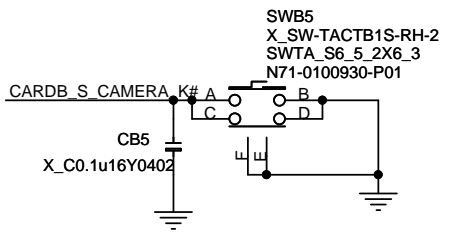
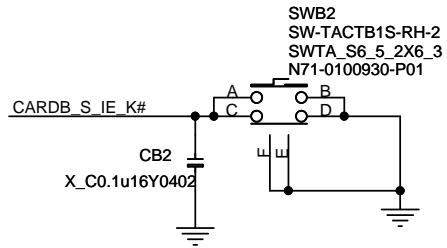
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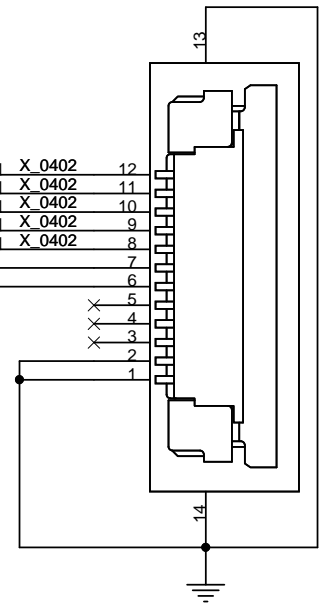
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CARD_B_ BUTTOM

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CARDB_S CAMERA_K#	JNCB5	2	1 X_0402	10
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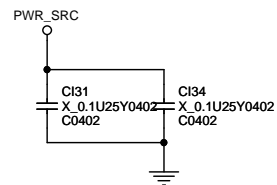
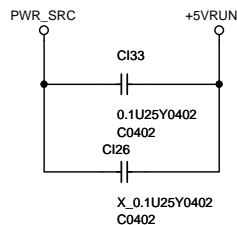
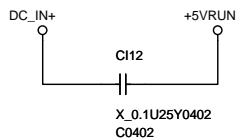
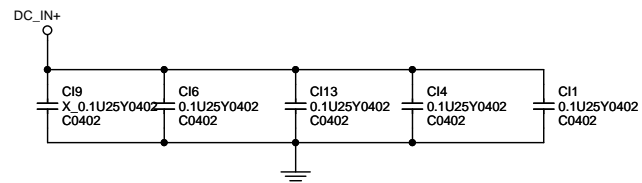
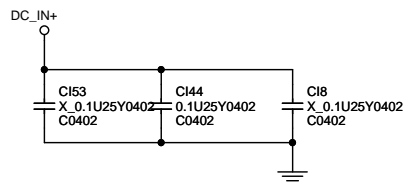
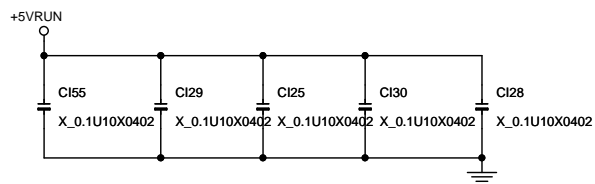
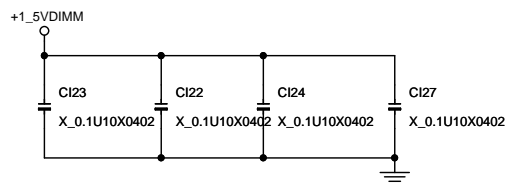
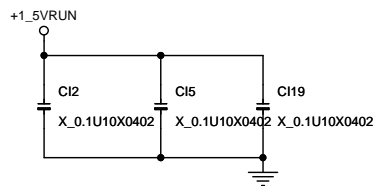
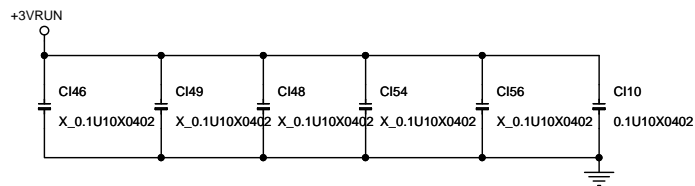
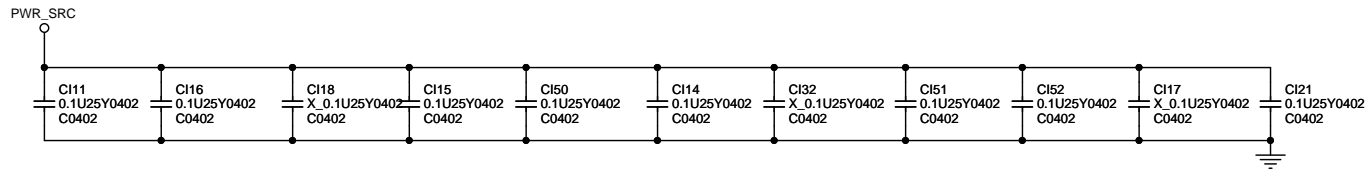
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