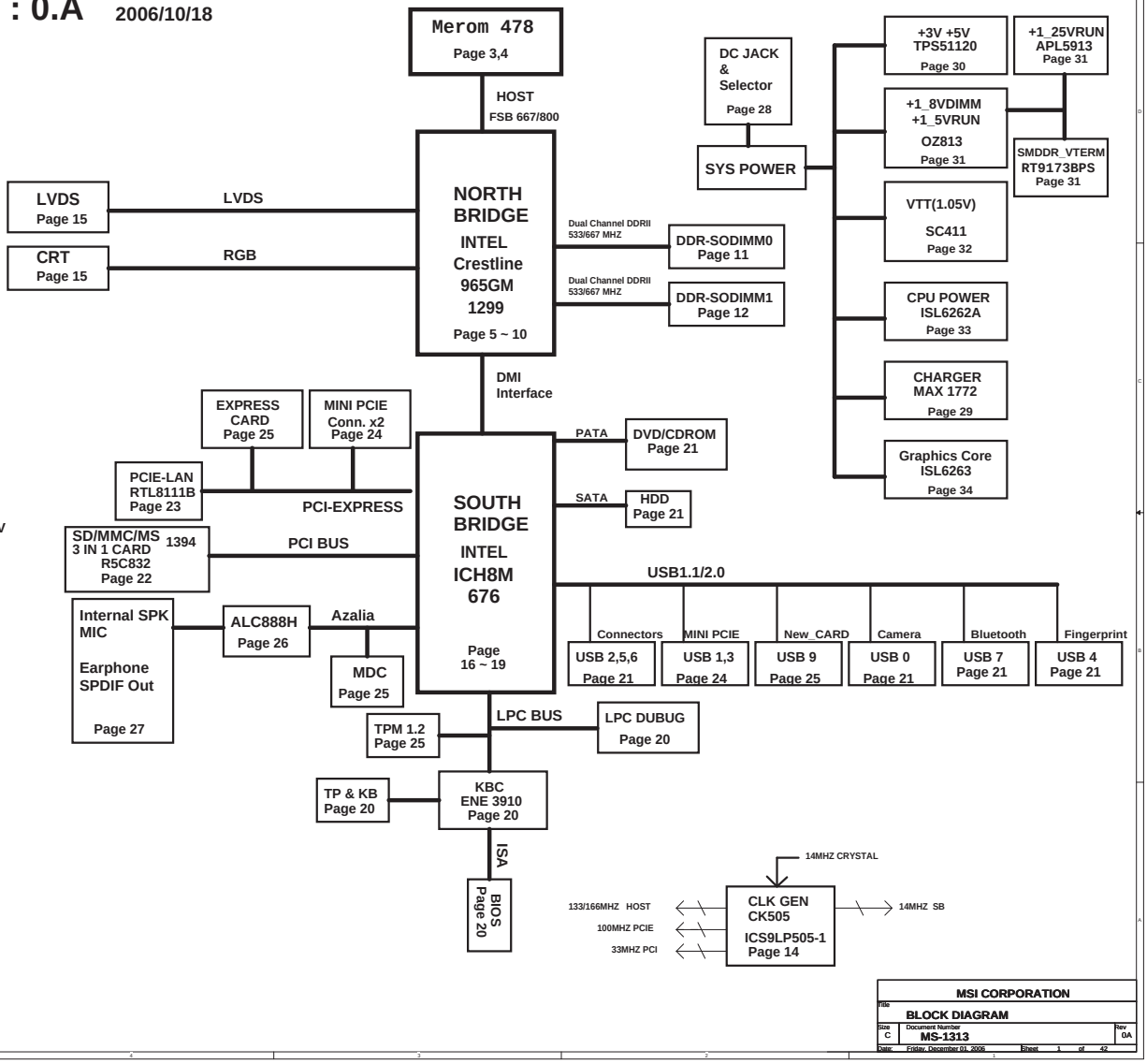
MS-1313 VER : 0.A 2006/10/18

01 : BLOCK DIAGRAM
02 : PLATFORM
03 : Merom-1 CPU (HOST BUS)
04 : Merom-2 CPU (POWER/GND)
05 : 965GM-1 (HOST)
06 : 965GM-2 (DMI / VGA)
07 : 965GM-3 (DDR)
08 : 965GM-4 (Power-1)
09 : 965GM-5 (Power-2)
10 : 965GM-6 (GND)
11 : DDR2_SODIMM0
12 : DDR2_SODIMM1
13 : DDR2_Termination
14 : CLOCK GEN (ICS9LP505-1)
15 : VGA, LVDS ,BL
16 : ICH8M-1 (CPU/IDE/Azalia)
17 : ICH8M-2 (PCI/USB/PCIE/DMI)
18 : ICH8M-3 (SM BUS/GPIO)
19 : ICH8M-4 (POWER/GND)
20 : ENE3910(KBC) & BIOS
21 : HDD,CDROM,CIR,USB CONN.
22 : Card Reader&1394 (R5C832)
23 : PCIE LAN (RTL 8111B)
24 : MINI_PCIE, LED, SW
25 : NEWCARD, MDC,TPM,FAN
26 : AZALIA CODEC(ALC888)
27 : Audio Amp. & Jacks
28 : M_Battery Select
29 : M_Battery Charger
30 : M_System Power
31 : DDR2 RAM POWER, +1.5V,+1.25V
32 : M_VTT
33 : M_CPU power
34 : M_Graphics Core
35 : EMI
36 : Screw
37 : Non-Footprint for BOM
38 : KBC_CTR_PWR_BD
39 : Power Sequency
40: Change History



MSI CORPORATION			
Title: BLOCK DIAGRAM			
Size: C	Document Number: MS-1313		Rev: 0A
Date: Friday, December 01, 2006	Sheet 1 of 42		

Voltage Rails

Voltage	Description	Control Signal
PWR_SRC	AC ADAPTER OR BATTERY IN	
VHCORE	Core Voltage for Processor	VR_ON
VTT	1.05 rail for Processor & 965GM I/O	RUN_ON
+1_5VRUN	1.5V switched power rail (off in S3-S5)	RUN_ON
+3VRUN	3.3V switched power rail (off in S3-S5)	RUN_ON
+5VRUN	5.0V switched power rail (off in S3-S5)	RUN_ON
+1_25VRUN	1.25V LDO power rail (off in S3-S5)	RUN_ON
+1_8VRUN	1.8V powe rail for Sil1390 (off in S3-S5)	RUND
ADD5V	5.0V Power rail Audio codec(off in S3-S5)	+5VRUN
SMDDR_VTERM	0.9V DDR Termination voltage (off in S4-S5)	RUN_ON
+1_8VDIMM	1.8V power rail DDR (off in S4-S5)	DIMM_ON
+VGFX_CORE	Graphic core of GMCH switched power rail (off in S3-S5)	GFX_VR_EN
+3VSUS	3.3V power rail (off in S4-S5)	SUS_ON
+5VSUS	5.0V power rail (off in S4-S5)	SUS_ON
+3VALW	3.3V always on power rail	PWR_SRC
+5VALW	5.0V always on power rail	PWR_SRC

PCI DEVICE

EXTERNAL	IDSEL#	REQ/GNT#	PIRQ
CARD READER	AD20	0	A,B

POWER STATES

STATE \ SIGNAL	SLP_S3#	SLP_S4#	SLP_S5#	+V*ALWAYS	+V*SUS	+V*RUN	Clocks
S0(Full ON)	HIGH	HIGH	HIGH	ON	ON	ON	ON
S1M(Power On Suspend)	HIGH	HIGH	HIGH	ON	ON	ON	LOW
S3(Suspend to RAM)	LOW	HIGH	HIGH	ON	ON	OFF	OFF
S4(Suspend to Disk)	LOW	LOW	HIGH	ON	OFF	OFF	OFF
S5 / Soft OFF	LOW	LOW	LOW	ON	OFF	OFF	OFF

*Note : WHEN AC MODE , System turn on then +V*SUS will always keep high*

MSI CORPORATION

Title: PLATFORM

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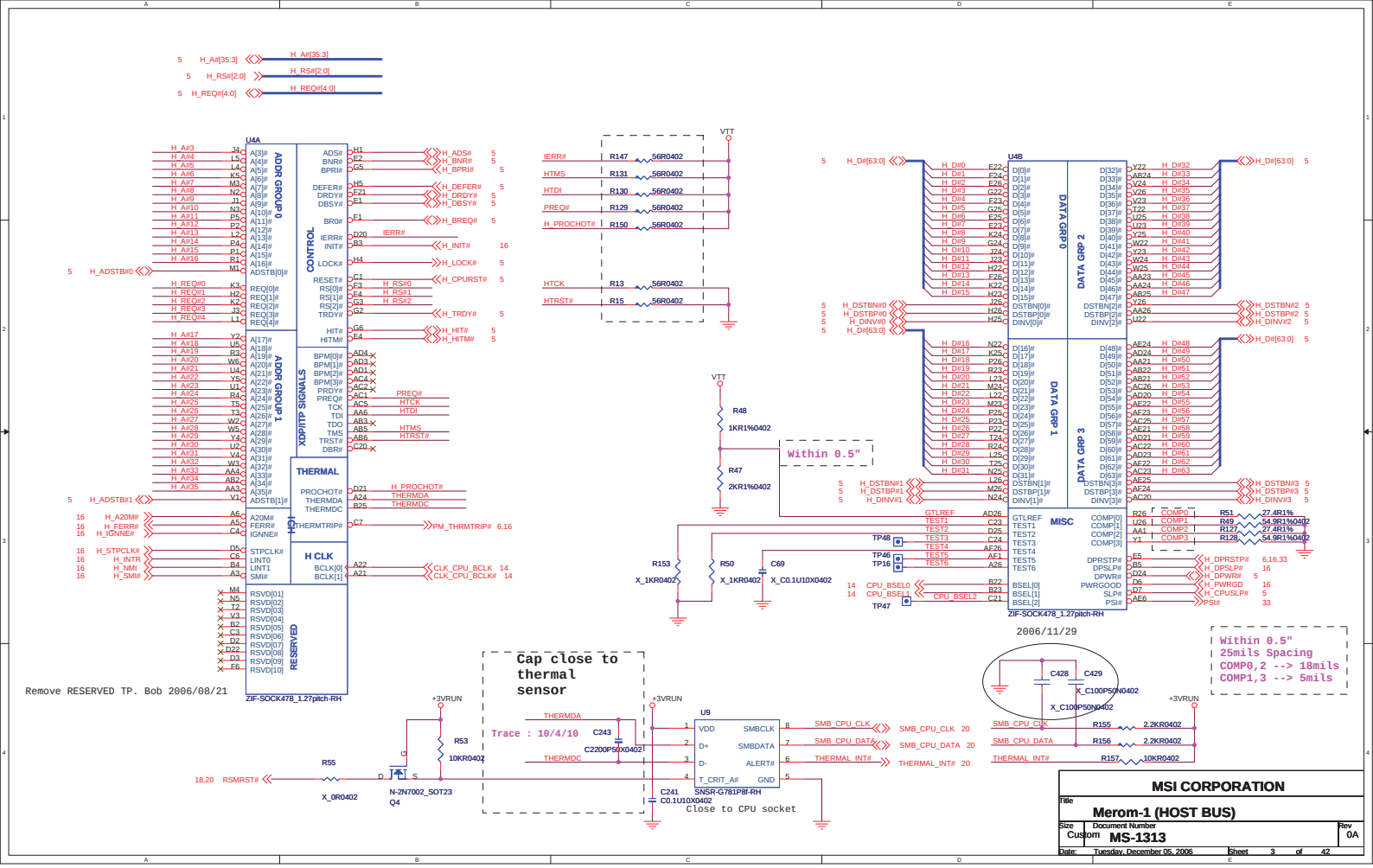
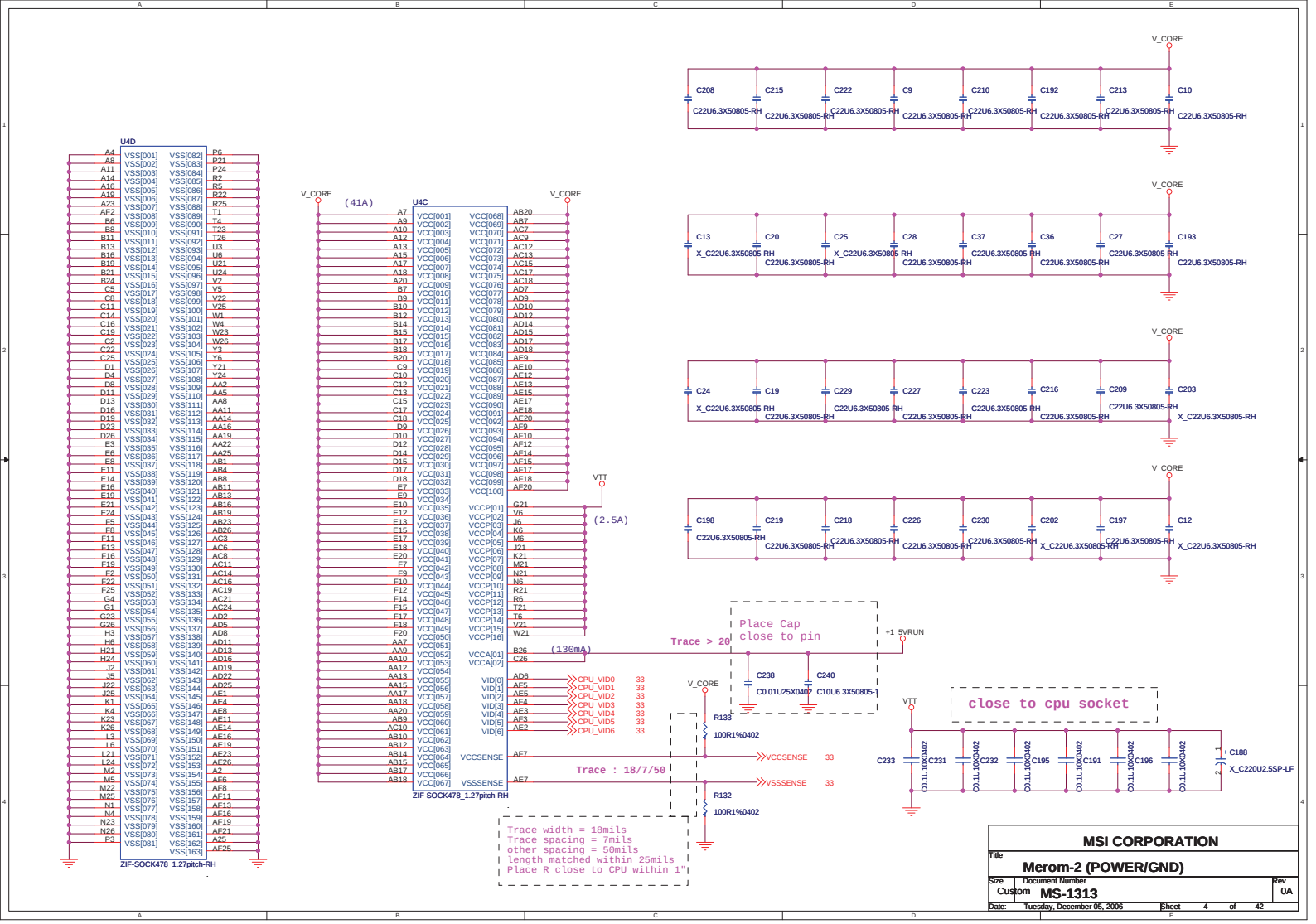
Date: Friday, December 01, 2006 | Sheet 2 of 42





Title	Merom-2 (POWER/GND)
Size	Custom
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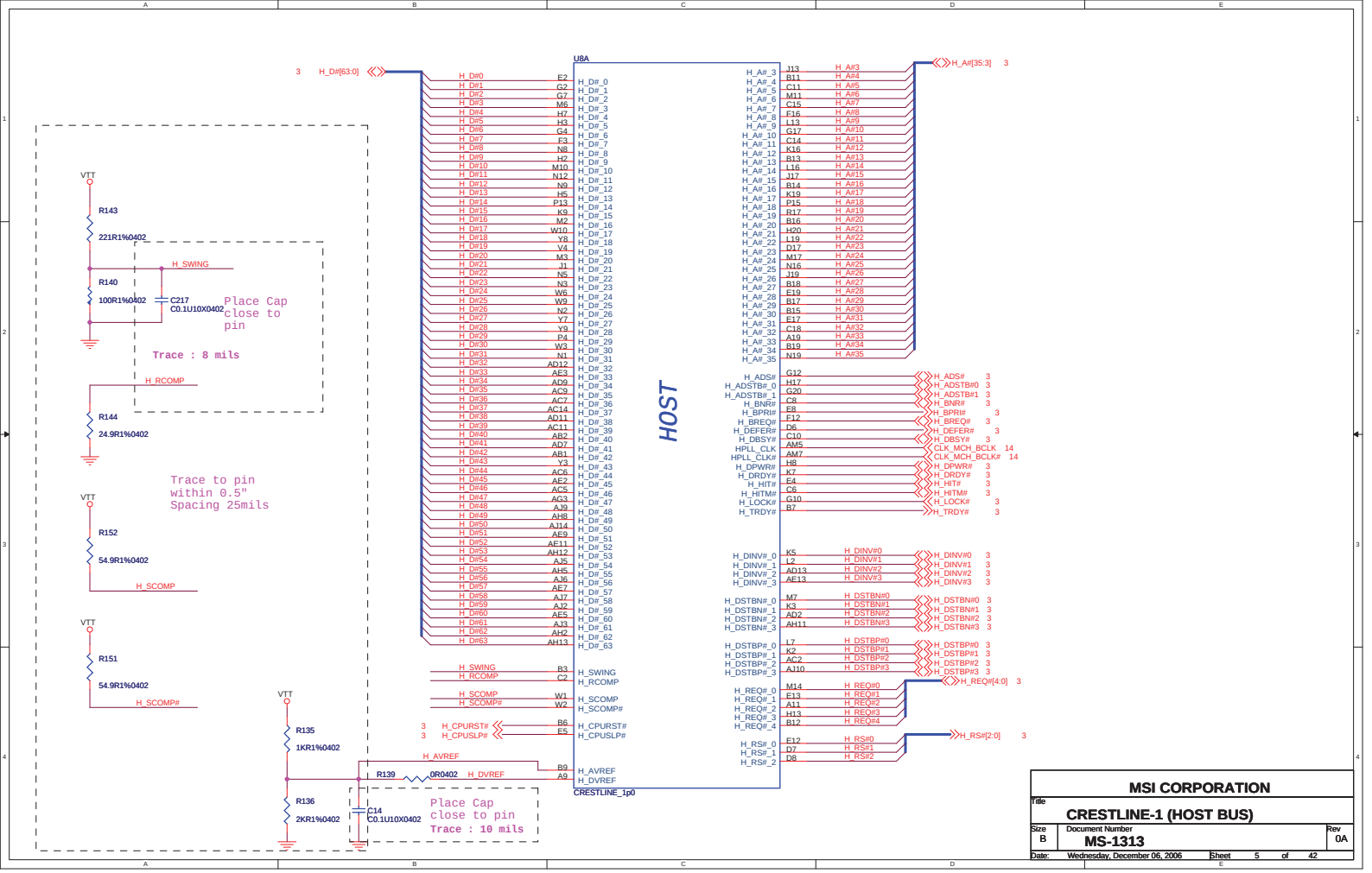
MSI CORPORATION



Title	CRESTLINE-1 (HOST BUS)
Company	MSI CORPORATION
Size	B
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Delete RSVD Test point. Bob 2006/08/17

Strapping Configulation

CFG[2:0]	FSB Frequency Select	010 = FSB 800 MHZ 011 = FSB 667 MHZ Others: Reserved
CFG5	DMI X 2/X 4 Select	0 = DMI X 2 1 = DMI X 4 (default)
CFG9	PCI Express Graphics Lane Reversal	0 = Lane Reversed 1 = Normal mode
CFG16	FSB Dynamic ODT	0 = Dynamic ODT disabled 1 = Dynamic ODT enabled(default)
CFG19	DMI Lane Reversal	0 = Normal mode 1 = Lane reversed

Strapping Configulation

CFG[13:12]	XOR/ALL-Z	00 = Reserved 01 = XOR Mode Enabled 10 = All-Z Mode Enabled 11 = Normal operation(default)
CFG20	Concurrent SDVO/PCIe	0 = Only SDVO or PCIe is operational(default) 1 = SDVO and PCIe operate simultaneously through the PCI Express Graphics attach port

Delete LVDSB_DATA TP. Bob 2006/08/21

R187,R191,R184 need mount------Bob 0810

Company	MSI CORPORATION
Title	CRESTLINE-2 (DMI/VGA)
Size	Custom
Document Number	MS-1313
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Date:	Wednesday, December 06, 2006
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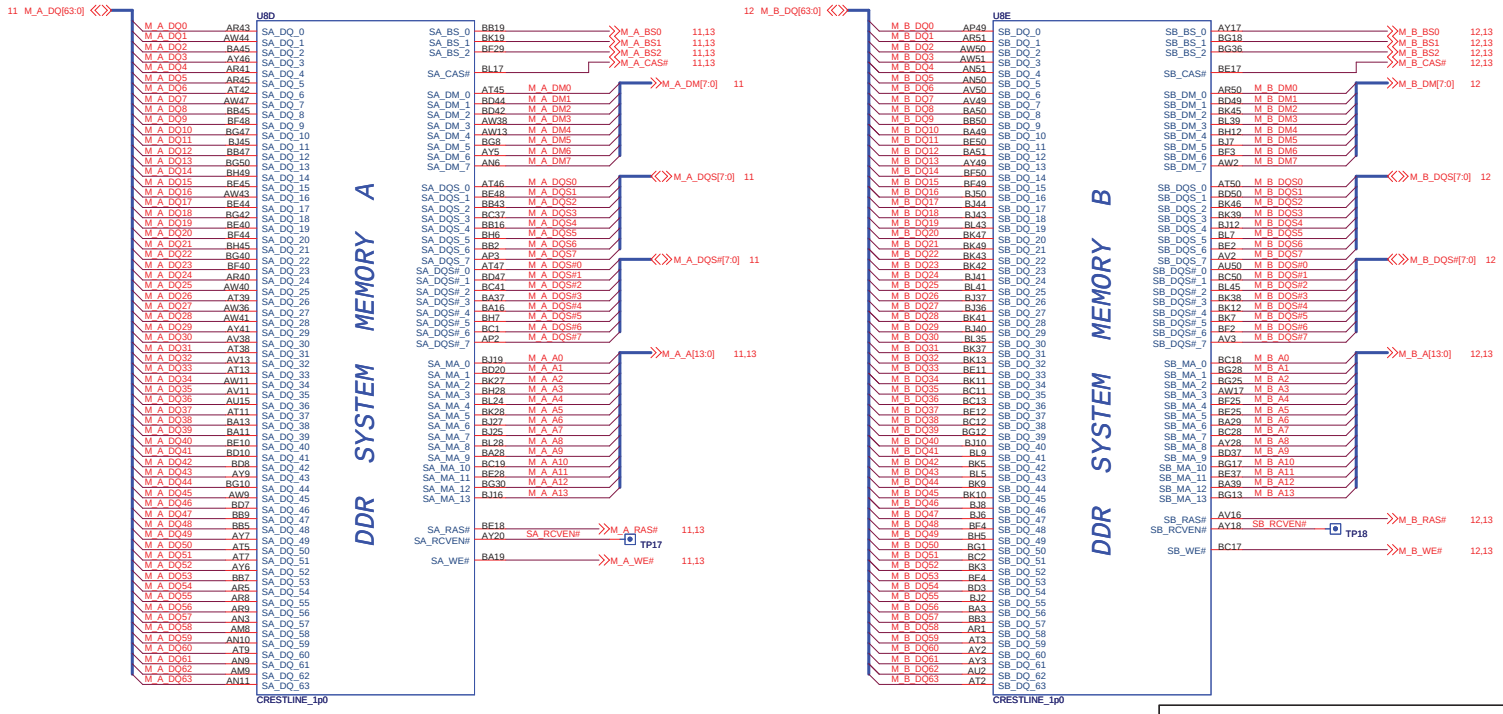

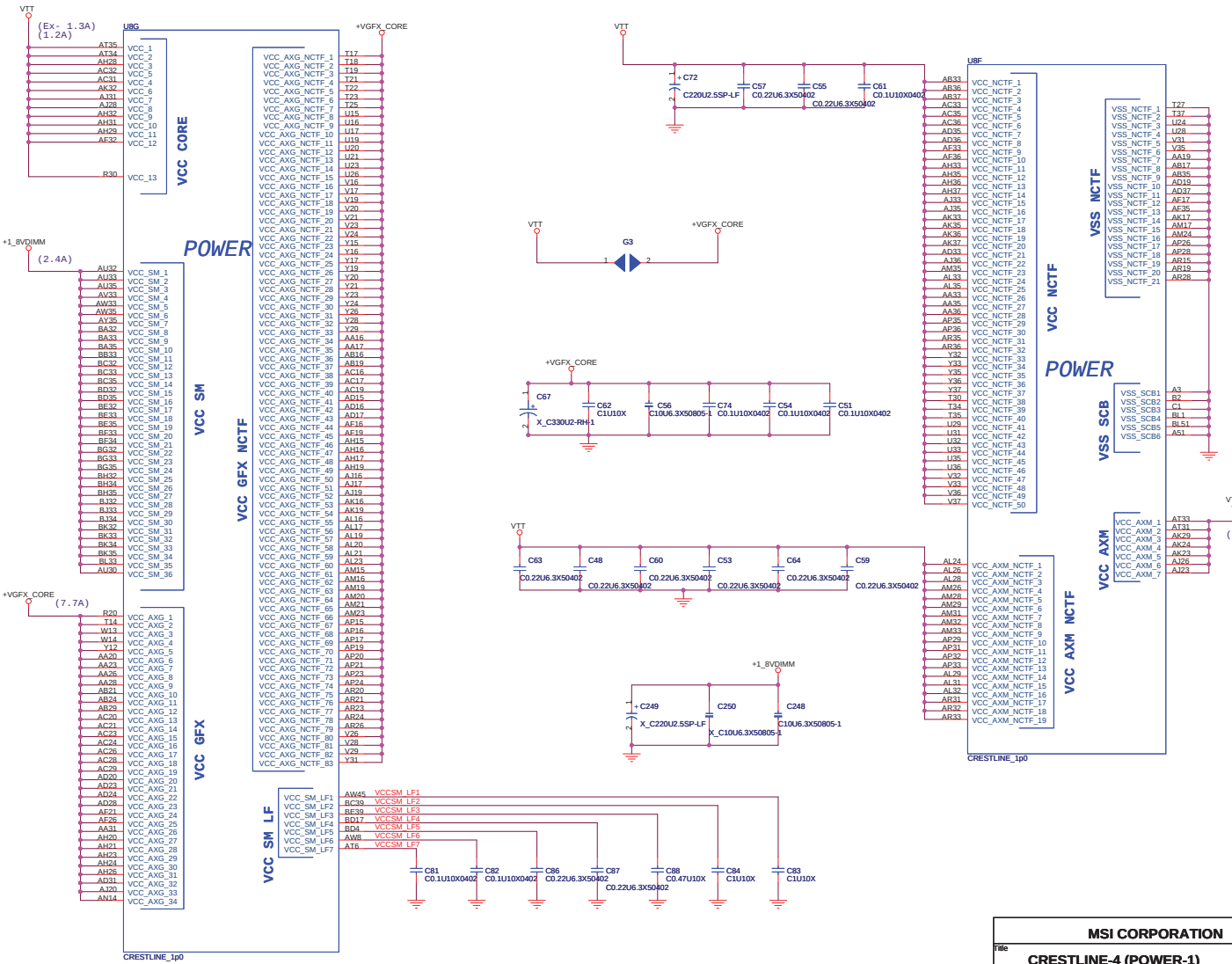

Company	MSI CORPORATION
Title	CRESTLINE-4 (POWER-1)
Size	Custom
Document Number	MS-1313
Rev	0A
Date:	Wednesday, December 06, 2006
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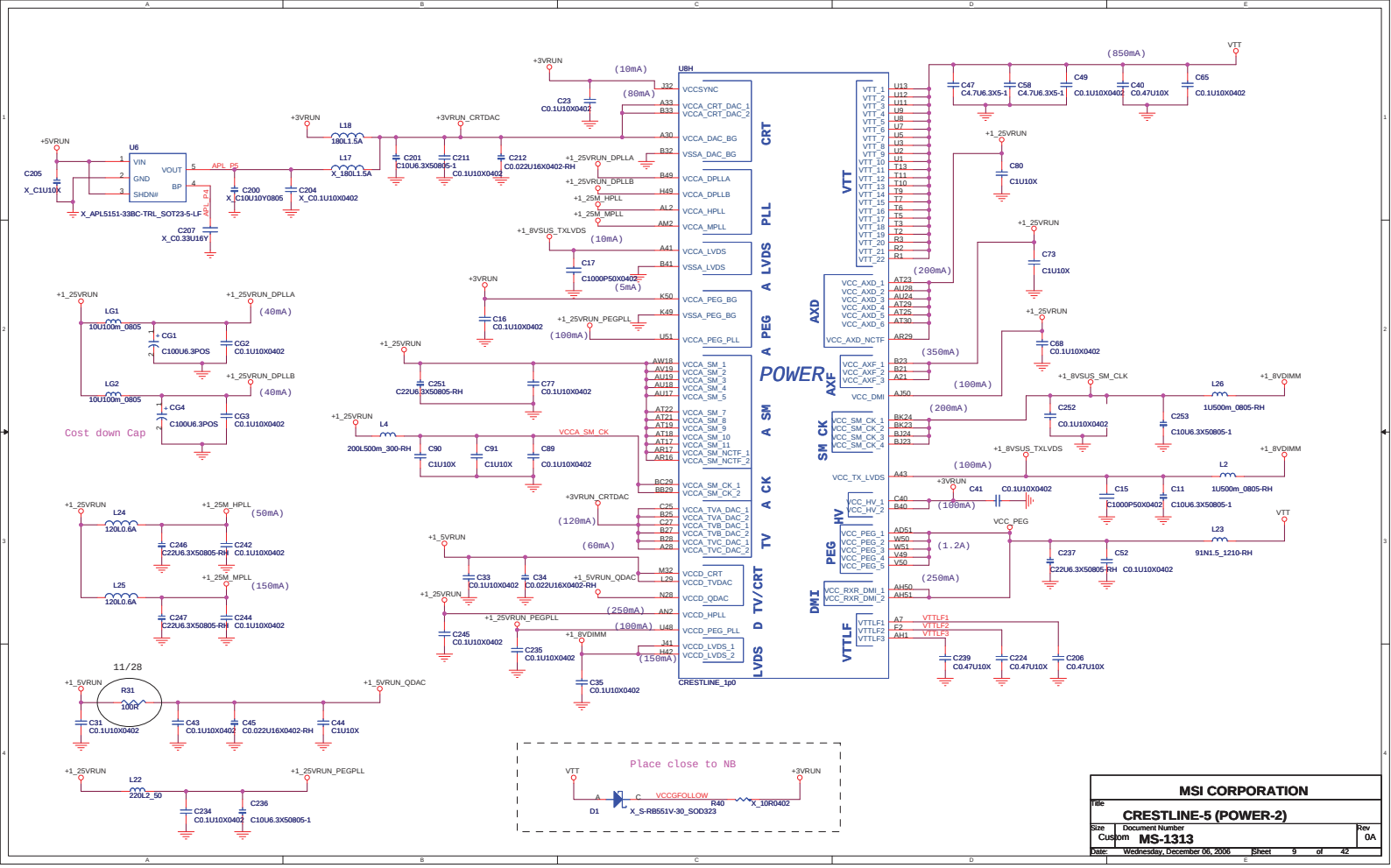
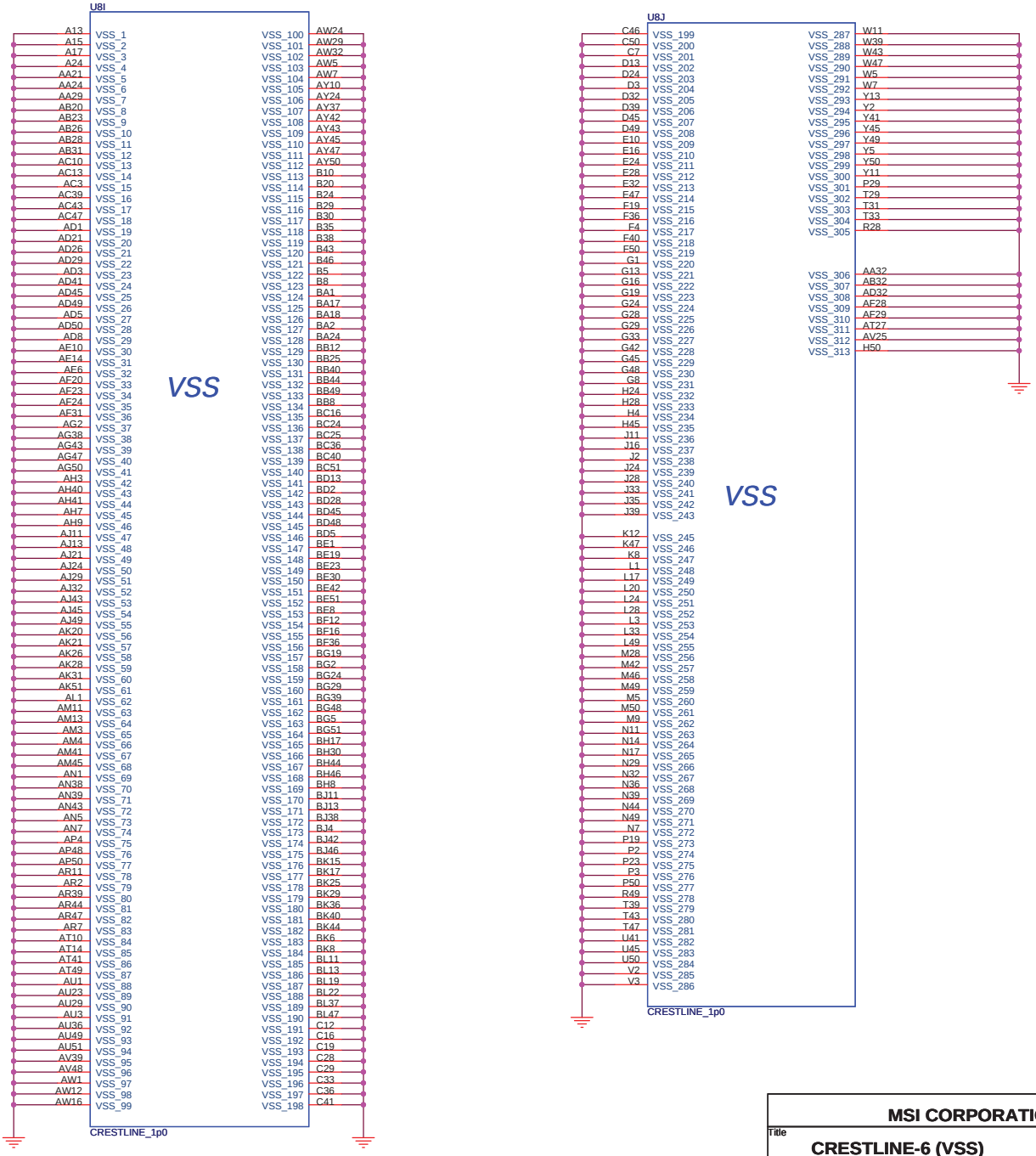
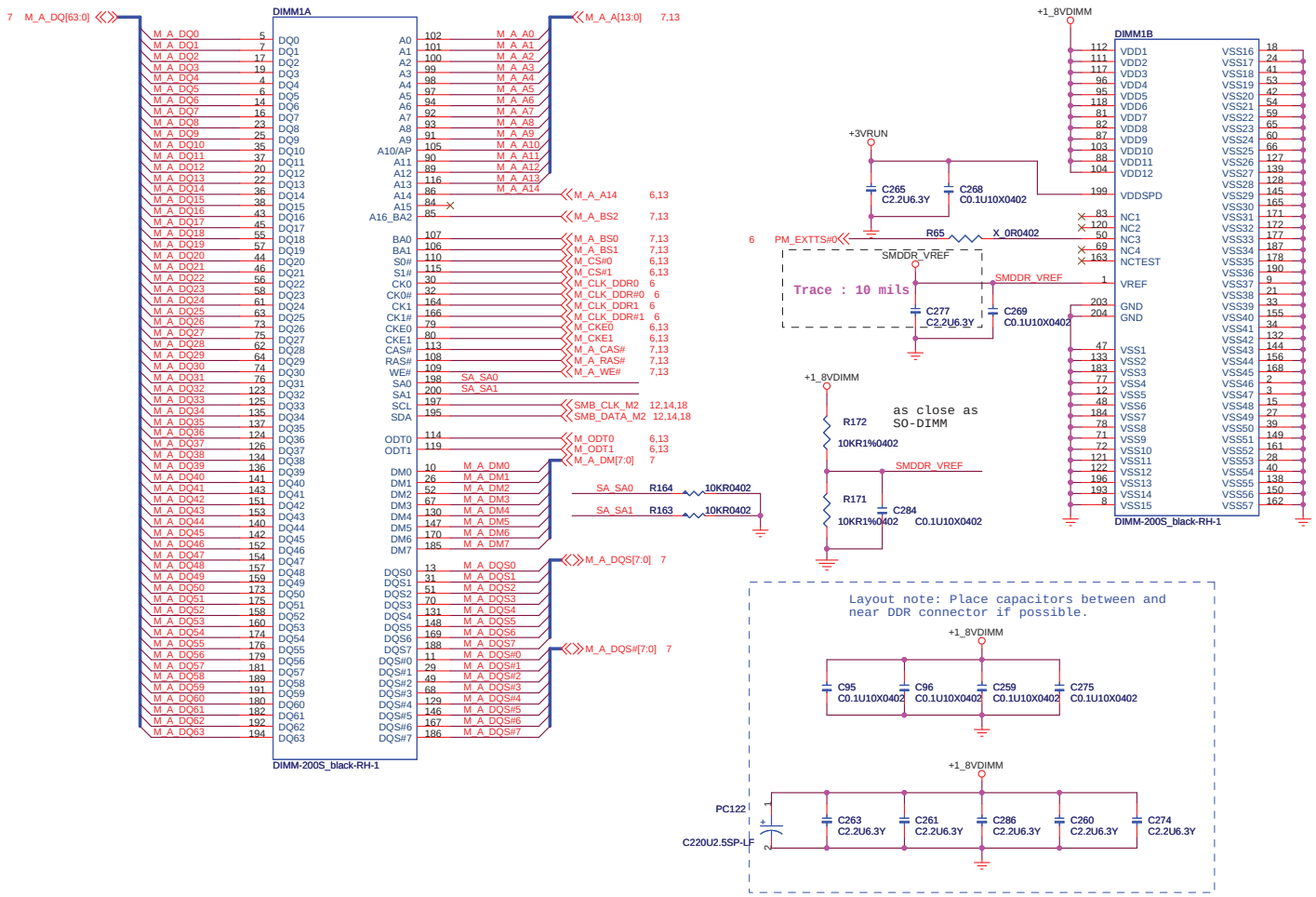


MSI CORPORATION			
Title: **CRESTLINE-5 (POWER-2)**			
Size: Custom	Document Number: **MS-1313**		Rev: 0A
Date: Wednesday, December 08, 2006	Sheet 9 of 42		



MSI CORPORATION	
Title	CRESTLINE-6 (VSS)
Size: Custom	Document Number: MS-1313
Rev: 0A	
Date: Wednesday, December 06, 2006	Sheet 10 of 42



Title	DDR2 SODIMM 0
Size	Custom
Document Number	MS-1313
Rev	0A
Date:	Tuesday, December 05, 2006
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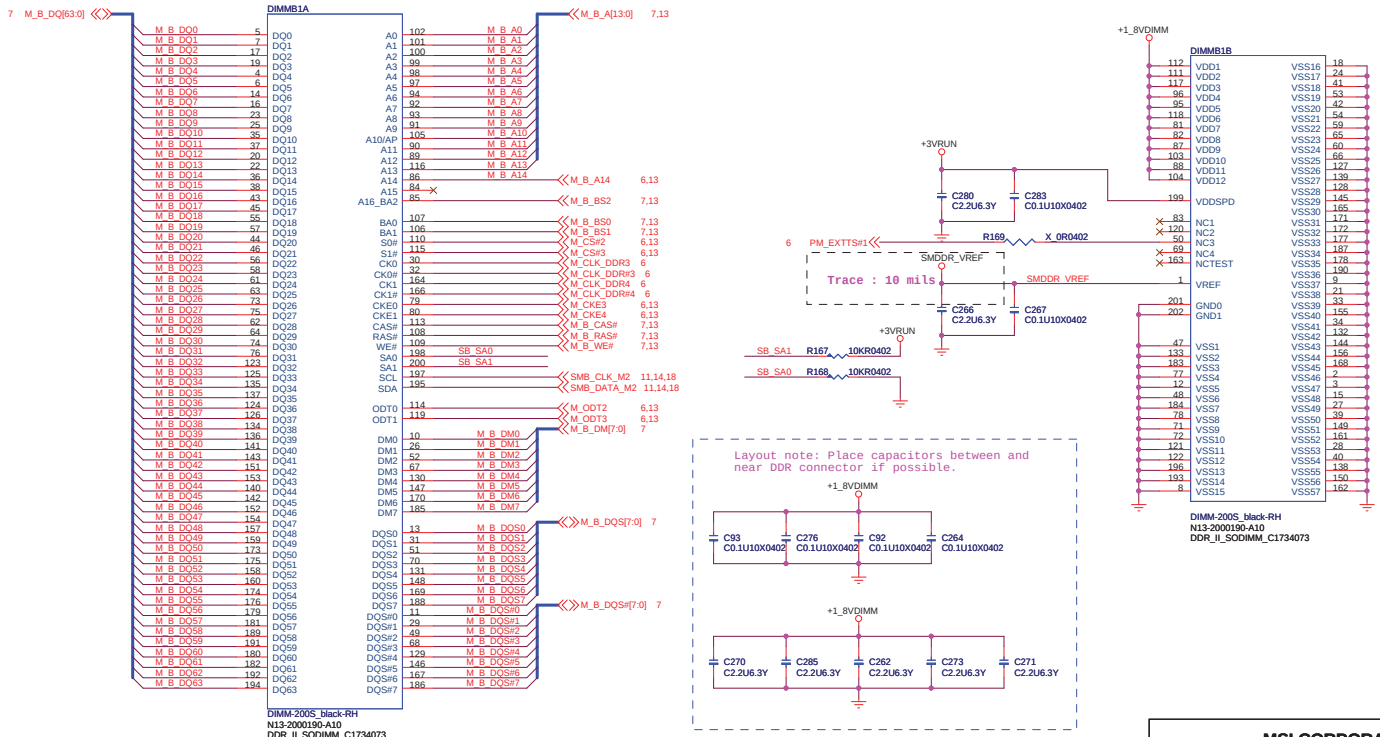
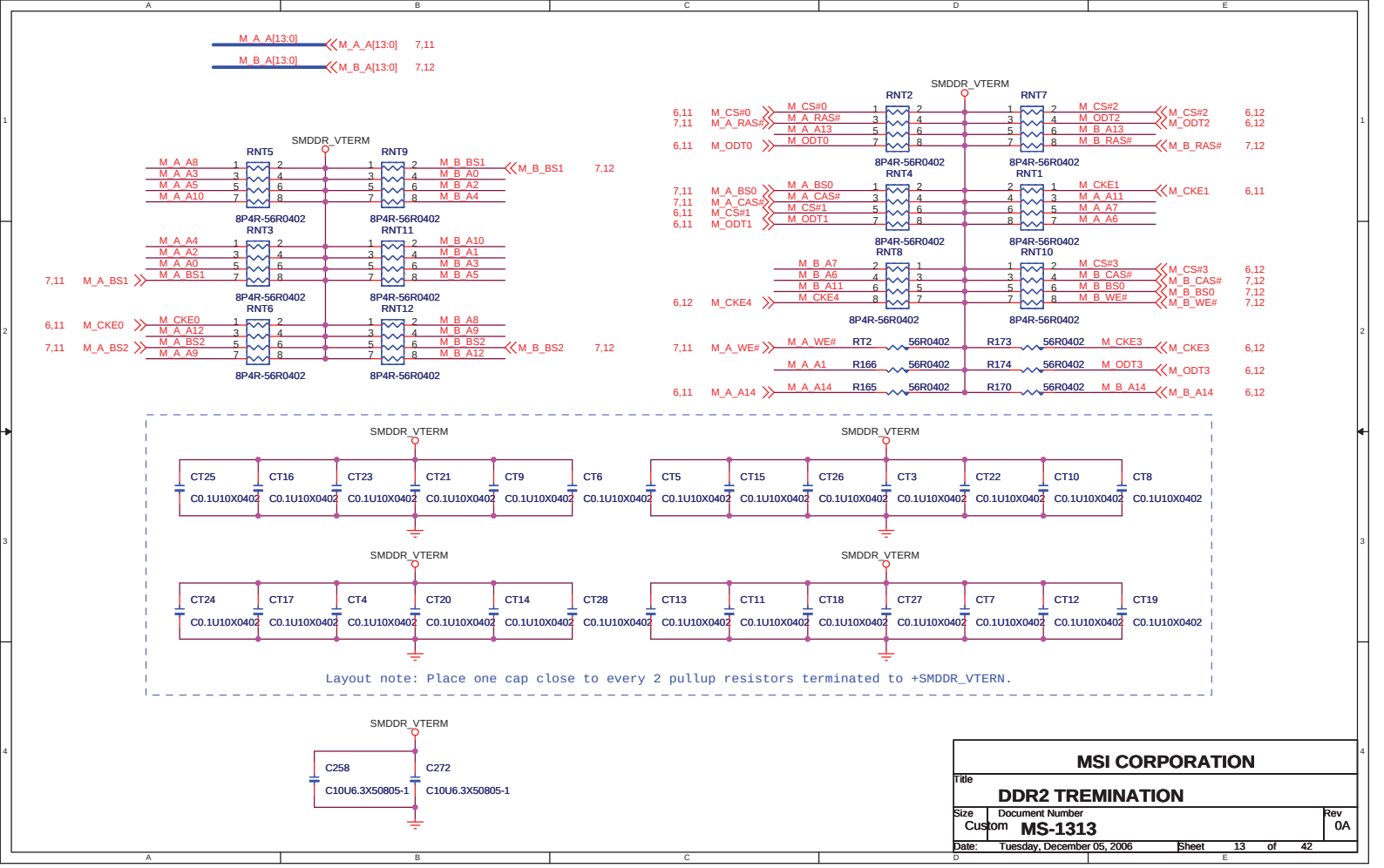
MSI CORPORATION



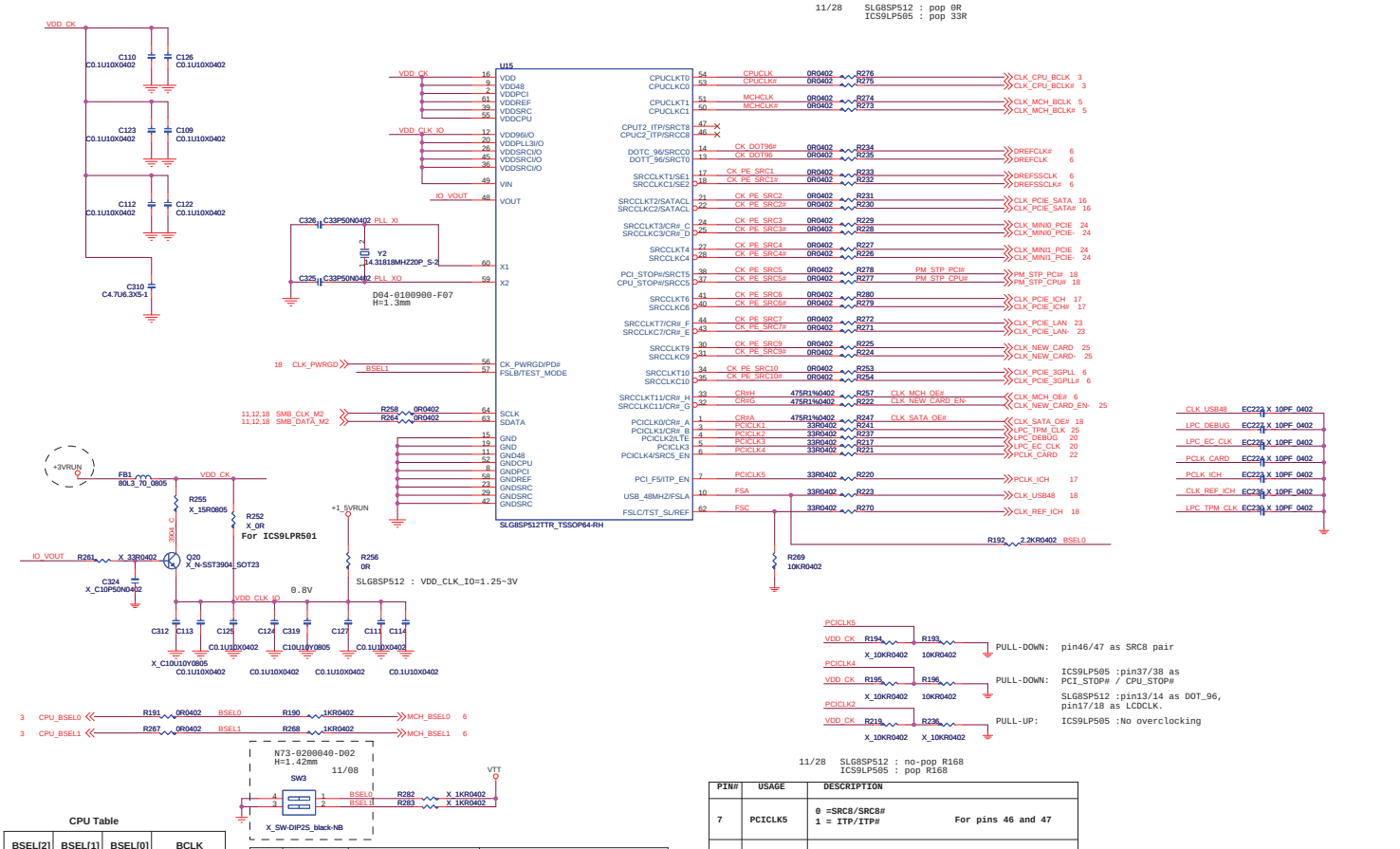
MSI CORPORATION			
Title: DDR2 SODIMM 1			
Size: Custom	Document Number: MS-1313		Rev: 0A
Date: Tuesday, December 05, 2006		Sheet 12 of 42	



MSI CORPORATION			
Title: DDR2 TREMINATION			
Size: Custom	Document Number: MS-1313		Rev: 0A
Date: Tuesday, December 05, 2006	Sheet 13 of 42		

The serial resistors of differential pairs :

11/28 SLG8SP512 : pop 0R
ICS9LP505 : pop 33R



11/28 SLG8SP512 : no-pop R168
ICS9LP505 : pop R168

CPU Table

BSEL[2]	BSEL[1]	BSEL[0]	BCLK
L	L	H	133MHZ
L	H	H	166MHZ
L	H	L	200MHZ

PIN#	USAGE	DESCRIPTION	CLK Outputs
1	CR#_A	Control SRC2 pair	CLK_PCIE_SATA/CLK_PCIE_SATA#
32	CR#_G	Control SRC9 pair	CLK_NEW_CARD/CLK_NEW_CARD-
33	CR#_H	Control SRC10 pair	CLK_PCIE_3GPLL/CLK_PCIE_3GPLL#

PIN#	USAGE	DESCRIPTION
7	PCICLK5	0 =SRC8/SRC8# 1 = ITP/ITP# For pins 46 and 47
6	PCICLK4	0 = PCI_STOP#/CPU_STOP# For pins 37 and 38 1 = SRC5/SRC5#
4	PCICLK2	0 = Overclocking of CPU and SRC Allowed 1 = Overclocking of CPU and SRC NOT allowed

MSI CORPORATION

Title: CLOCK Generator (ICS9LP505-1)

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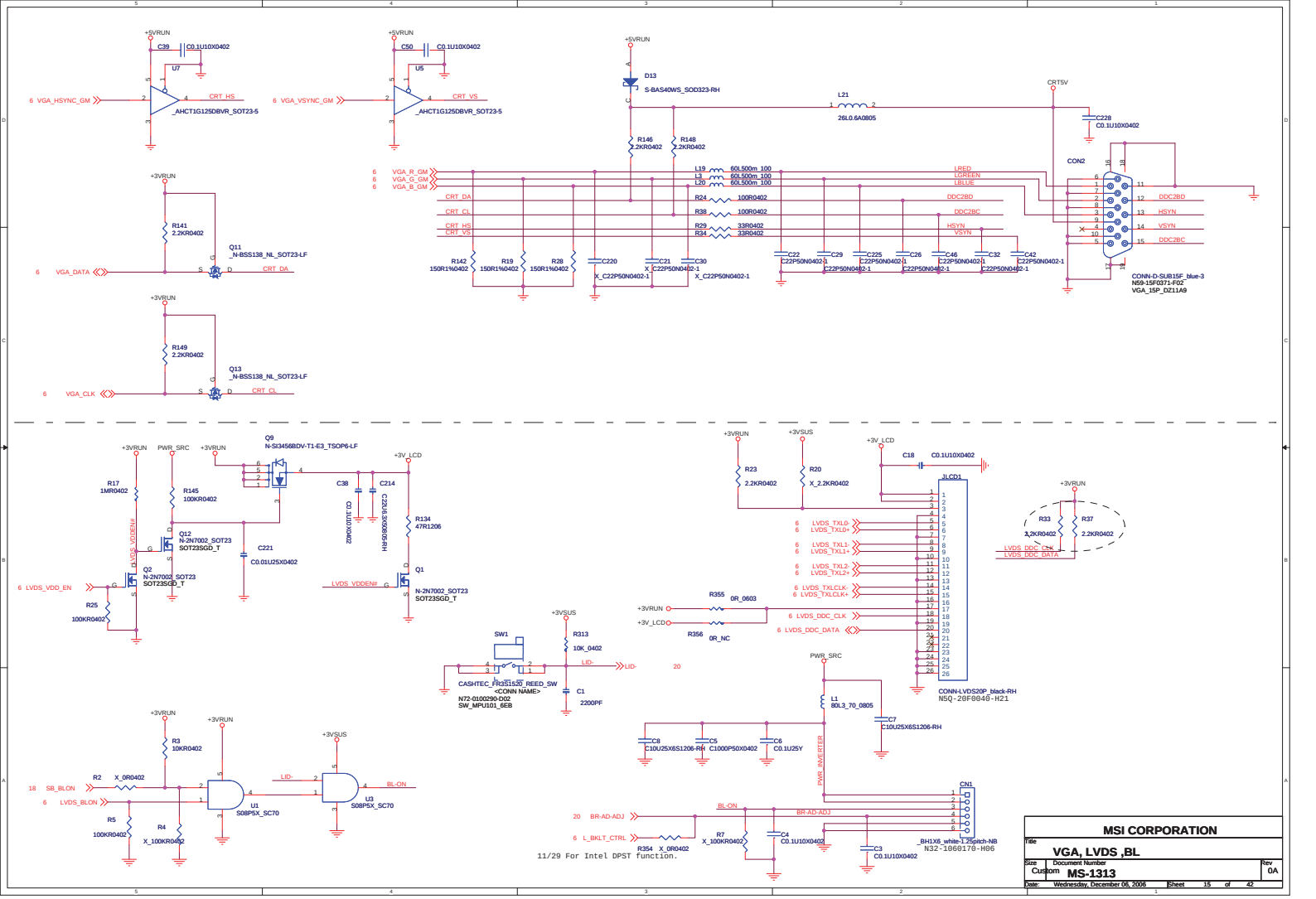
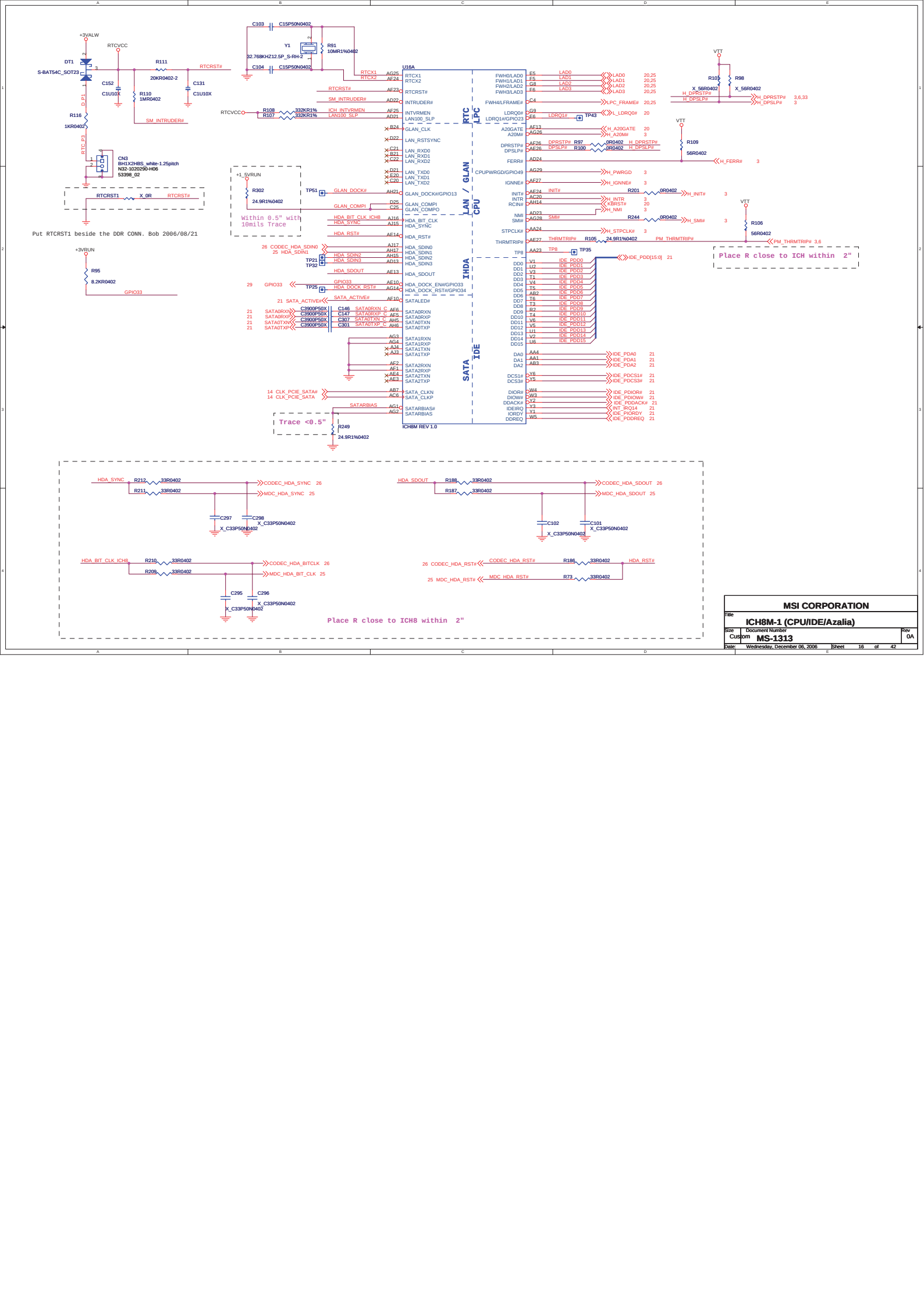
Date: Wednesday, December 06, 2006 | Sheet 14 of 42





Title	ICH8M-1 (CPU/IDE/Azalia)
Size	Custom
Document Number	MS-1313
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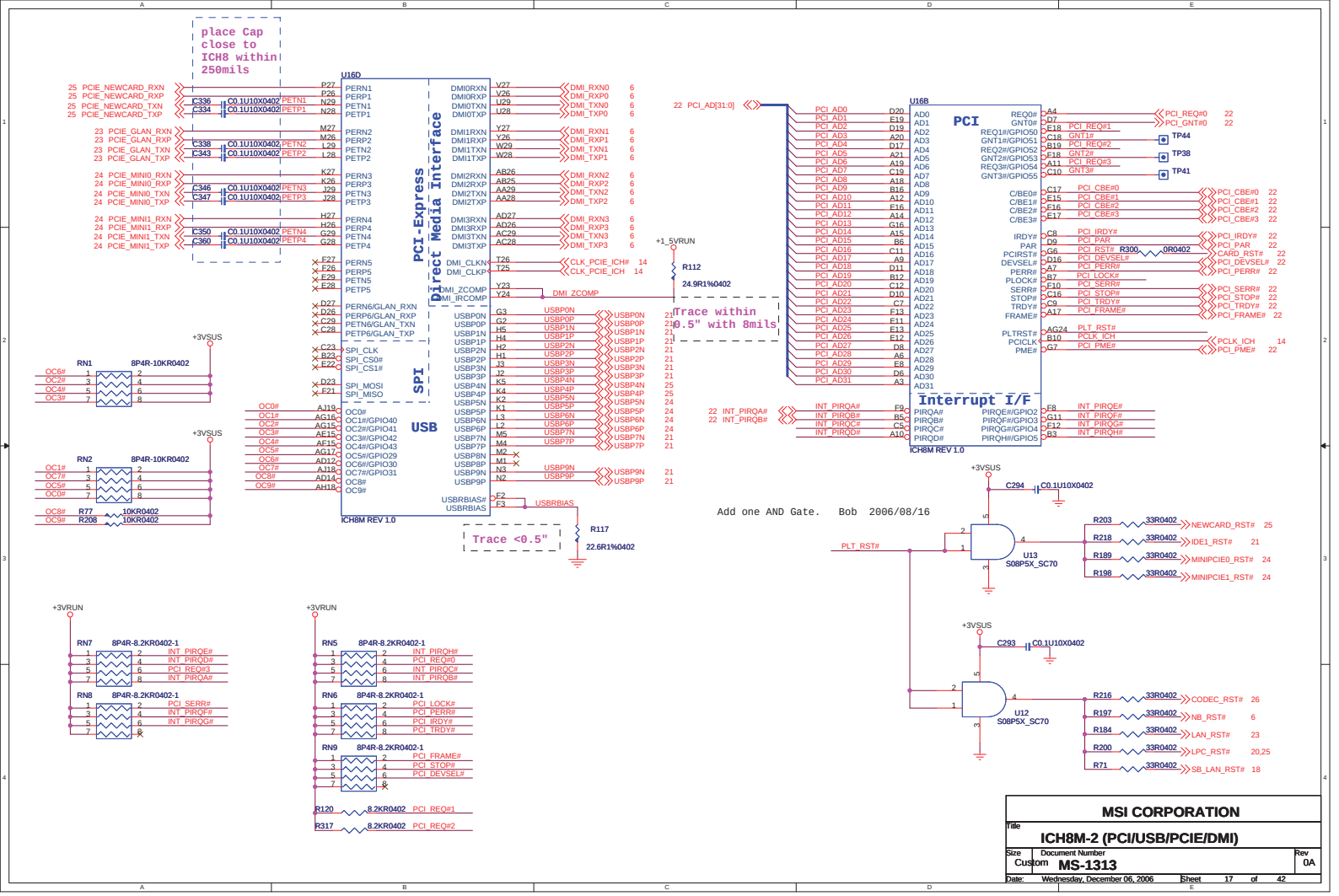
MSI CORPORATION



Title	ICH8M-2 (PCI/USB/PCIE/DMI)
Company	MSI CORPORATION
Size	Custom
Document Number	MS-1313
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Date:	Wednesday, December 06, 2006
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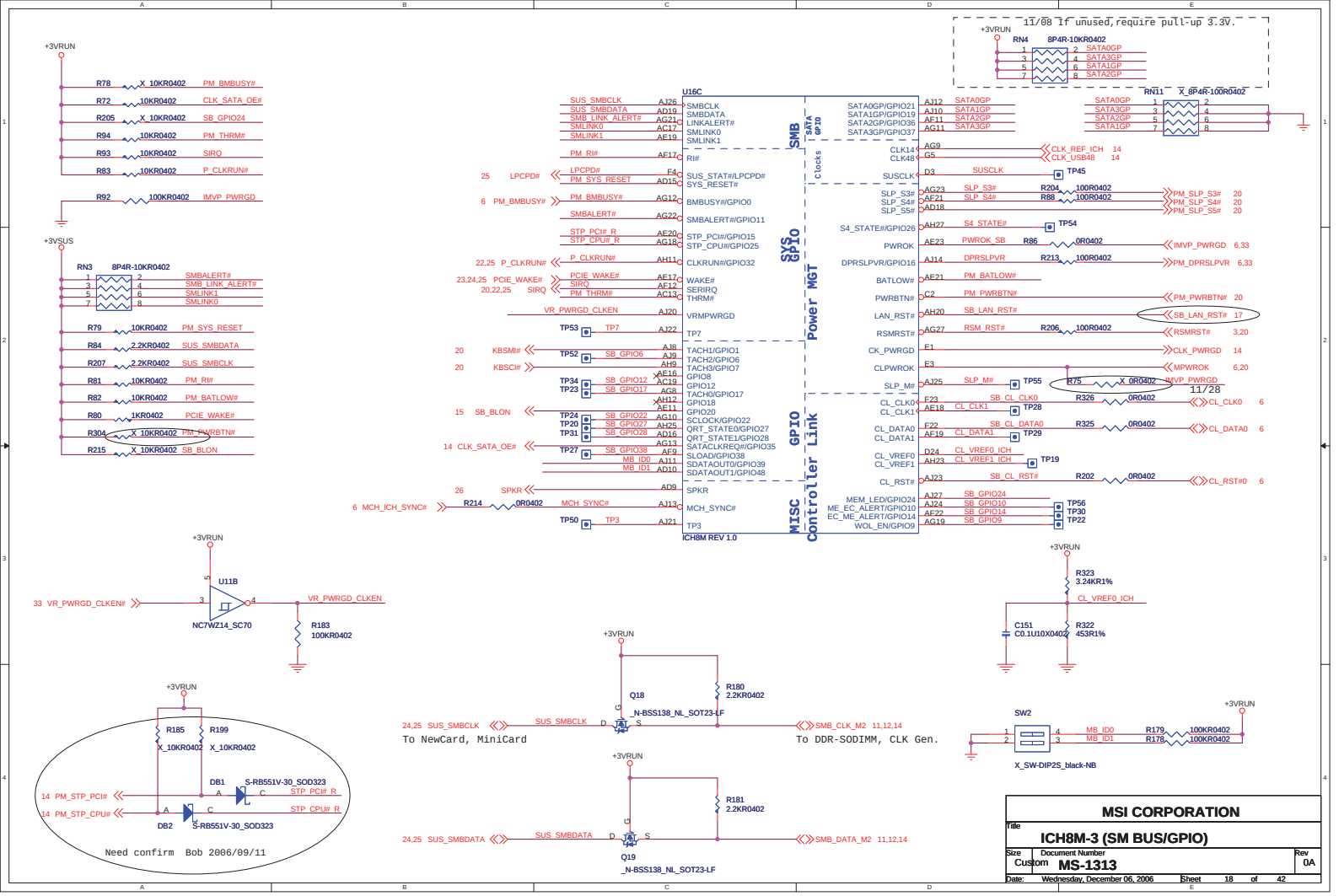
11/08 If unused,require pull-up 3.3V.
+3VRUN
RN4 8P4R-10KR0402
SATA0GP
SATA3GP
SATA1GP
SATA2GP
RN11 X_8P4R-100R0402
U16C
SMB
SATA GPIO
Clocks
SYS GPIO
Power MGT
GPIO
Link
MISC
Controller
SMBCLK
SMBDATA
LINKALERT#
SMLINK0
SMLINK1
RI#
SUS_STAT#/LPCPD#
SYS_RESET#
BMBUSY#/GPIO0
SMBALERT#/GPIO11
STP_PCI#/GPIO15
STP_CPU#/GPIO25
CLKRUN#/GPIO32
WAKE#
SERIRQ
THRM#
VRMPWRGD
TP7
TACH1/GPIO1
TACH2/GPIO6
TACH3/GPIO7
GPIO8
GPIO12
TACH0/GPIO17
GPIO18
GPIO20
SCLOCK/GPIO22
QRT_STATE0/GPIO27
QRT_STATE1/GPIO28
SATACLKREQ#/GPIO35
SLOAD/GPIO38
SDATAOUT0/GPIO39
SDATAOUT1/GPIO48
SPKR
MCH_SYNC#
TP3
ICH8M REV 1.0
SATA0GP/GPIO21
SATA1GP/GPIO19
SATA2GP/GPIO36
SATA3GP/GPIO37
CLK14
CLK48
SUSCLK
SLP_S3#
SLP_S4#
SLP_S5#
S4_STATE#/GPIO26
PWROK
DPRSLPVR/GPIO16
BATLOW#
PWRBTN#
LAN_RST#
RSMRST#
CK_PWRGD
CLPWROK
SLP_M#
CL_CLK0
CL_CLK1
CL_DATA0
CL_DATA1
CL_VREF0
CL_VREF1
CL_RST#
MEM_LED/GPIO24
ME_EC_ALERT/GPIO10
EC_ME_ALERT/GPIO14
WOL_EN/GPIO9
CLK_REF_ICH
CLK_USB48
TP45
TP54
TP55
TP28
TP29
TP19
TP56
TP30
TP22
R86 0R0402
R204 100R0402
R88 100R0402
R213 100R0402
R75 X_0R0402
R326 0R0402
R325 0R0402
R202 0R0402
11/28
+3VSUS
RN3 8P4R-10KR0402
SMBALERT#
SMB_LINK_ALERT#
SMLINK1
SMLINK0
R78 X_10KR0402 PM_BMBUSY#
R72 10KR0402 CLK_SATA_OE#
R205 X_10KR0402 SB_GPIO24
R94 10KR0402 PM_THRM#
R93 10KR0402 SIRQ
R83 10KR0402 P_CLKRUN#
R92 100KR0402 IMVP_PWRGD
R79 10KR0402 PM_SYS_RESET
R84 2.2KR0402 SUS_SMBDATA
R207 2.2KR0402 SUS_SMBCLK
R81 10KR0402 PM_RI#
R82 10KR0402 PM_BATLOW#
R80 1KR0402 PCIE_WAKE#
R304 X_10KR0402 PM_PWRBTN#
R215 X_10KR0402 SB_BLON
+3VRUN
U11B
NC7WZ14_SC70
R183 100KR0402
R323 3.24KR1%
C151 C0.1U10X0402
R322 453R1%
CL_VREF0_ICH
+3VRUN
Q18
_N-BSS138_NL_SOT23-LF
R180 2.2KR0402
To NewCard, MiniCard
To DDR-SODIMM, CLK Gen.
+3VRUN
R185 X_10KR0402
R199 X_10KR0402
DB1
DB2
S-RB551V-30_SOD323
Need confirm Bob 2006/09/11
+3VRUN
Q19
_N-BSS138_NL_SOT23-LF
R181 2.2KR0402
SW2
X_SW-DIP2S_black-NB
MB_ID0
MB_ID1
R179 100KR0402
R178 100KR0402
MSI CORPORATION
ICH8M-3 (SM BUS/GPIO)
Size Custom
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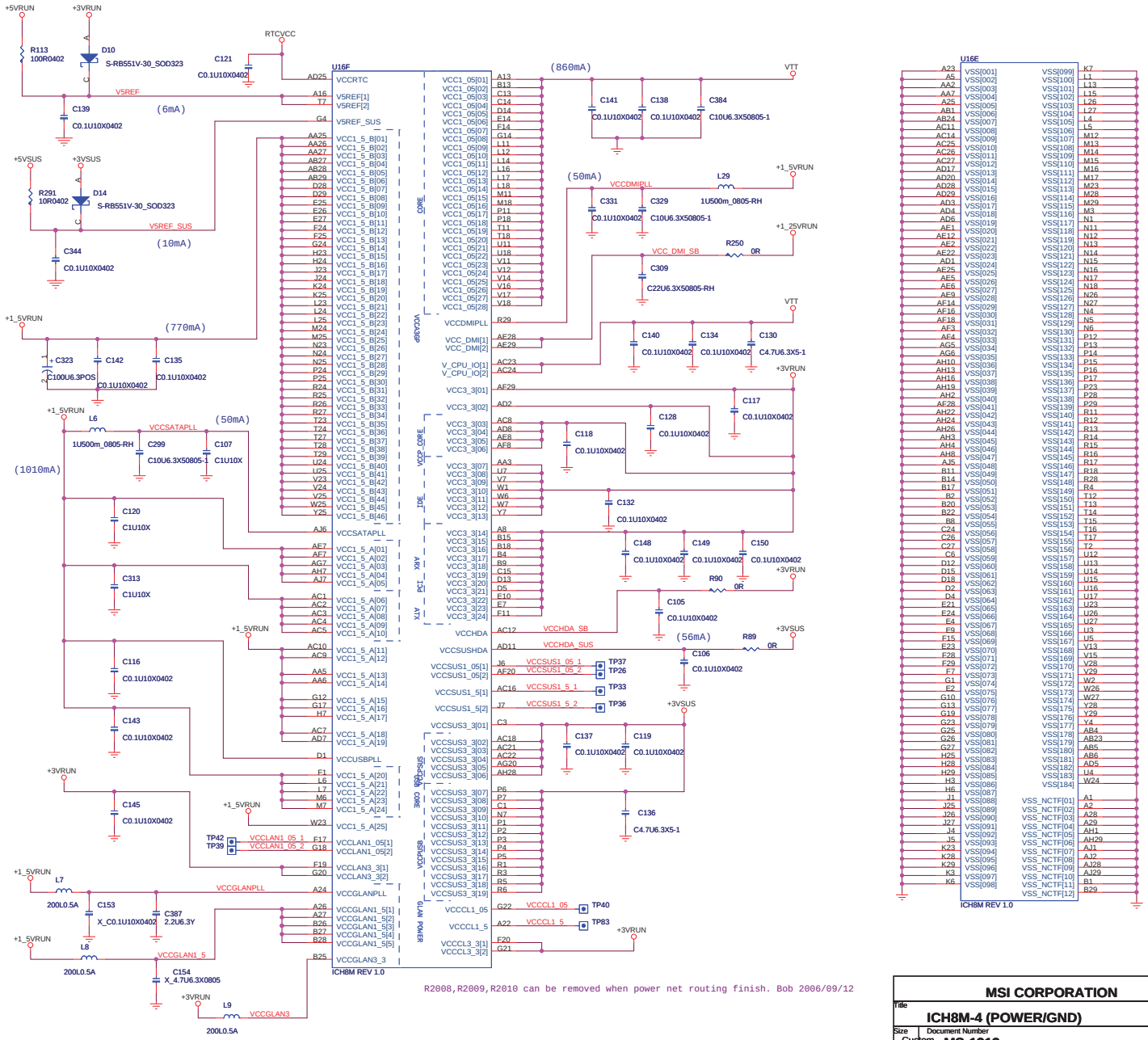
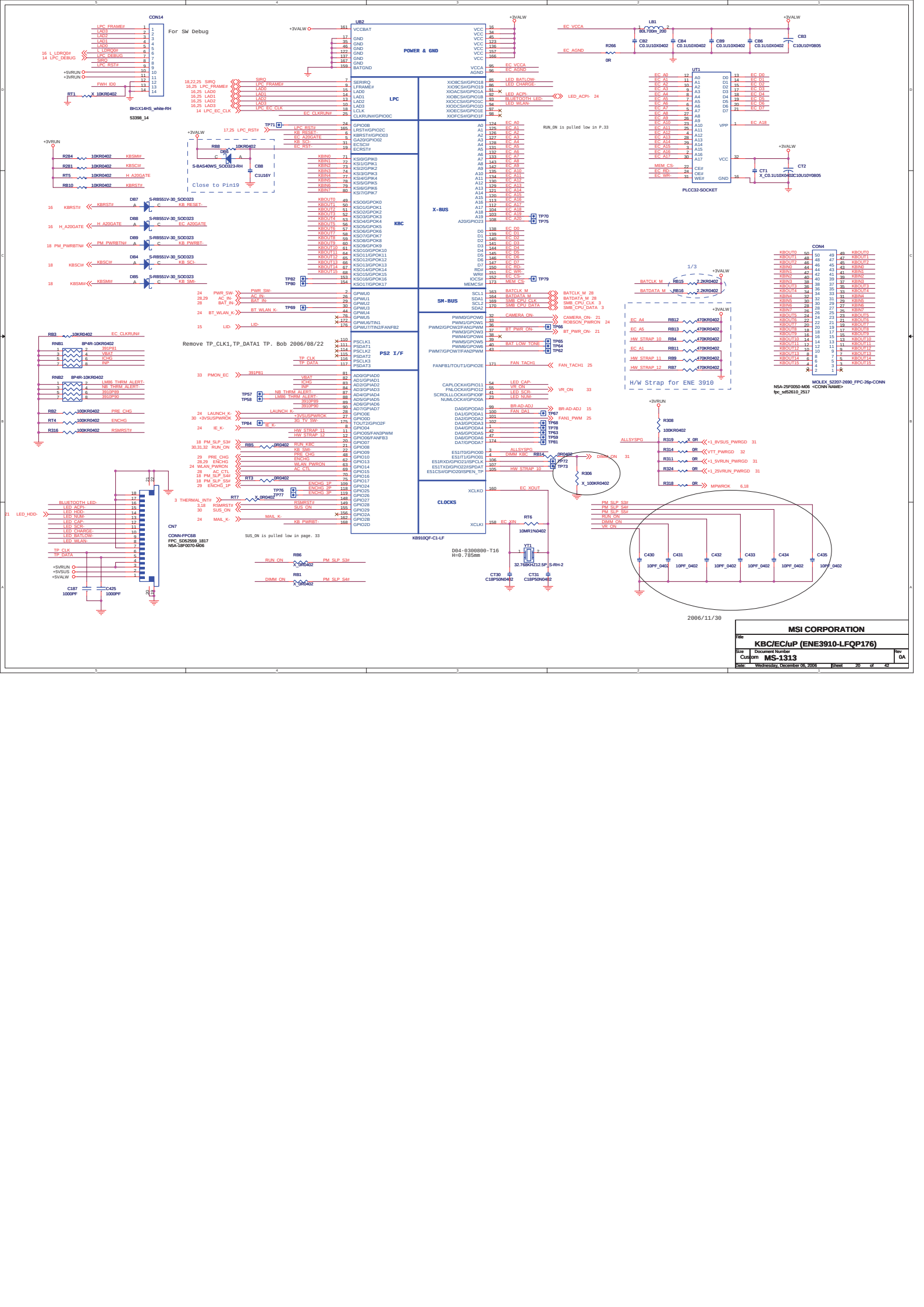


R2008,R2009,R2010 can be removed when power net routing finish. Bob 2006/09/12

MSI CORPORATION		
Title: ICH8M-4 (POWER/GND)		
Size: Custom	Document Number: MS-1313	Rev: 0A
Date: Wednesday, December 06, 2006	Sheet 19 of 42	



MSI CORPORATION

Title: KBC/EC/uP (ENE3910-LFQP176)

Size: Custom | Document Number: MS-1313 | Rev: 0A

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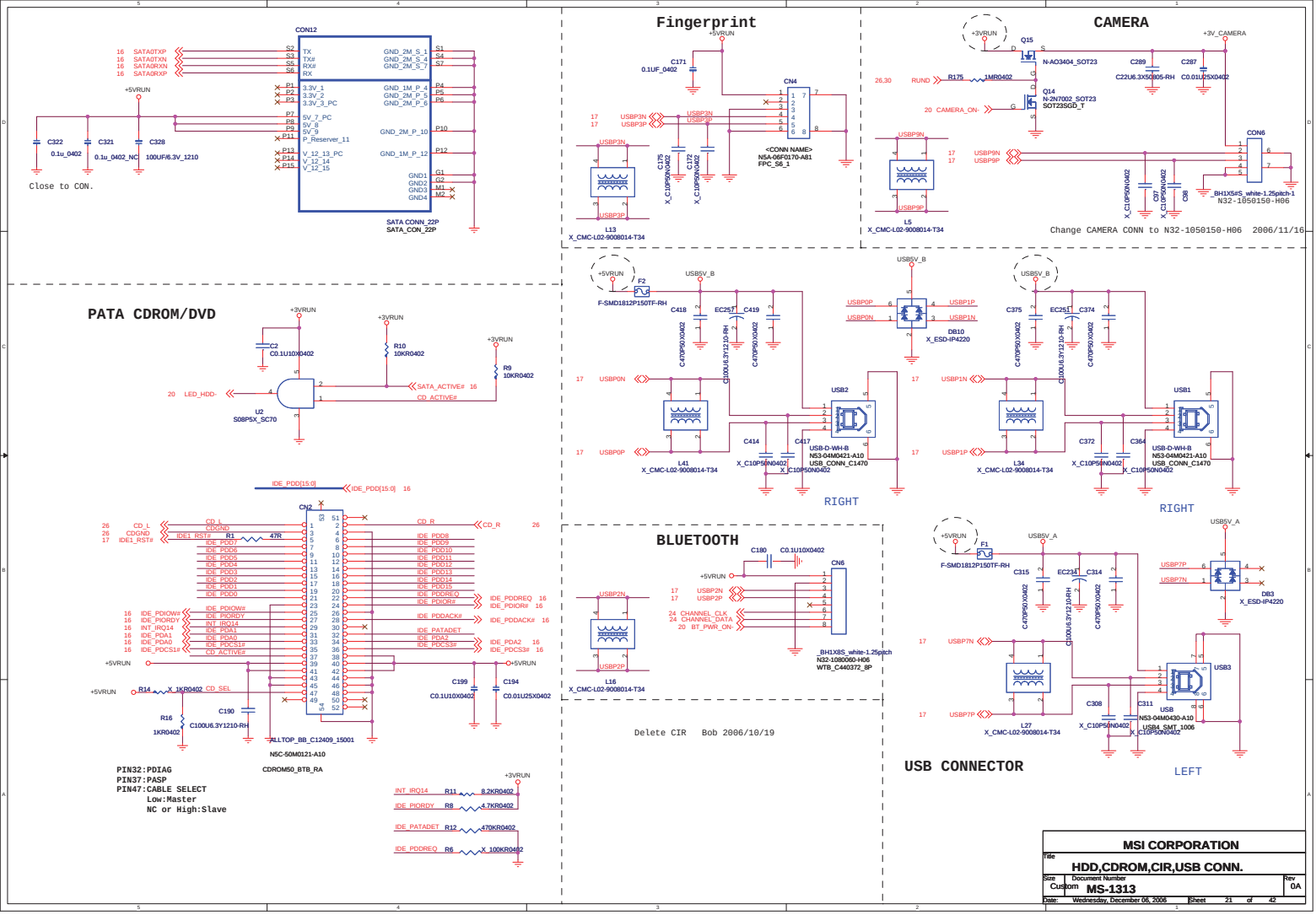
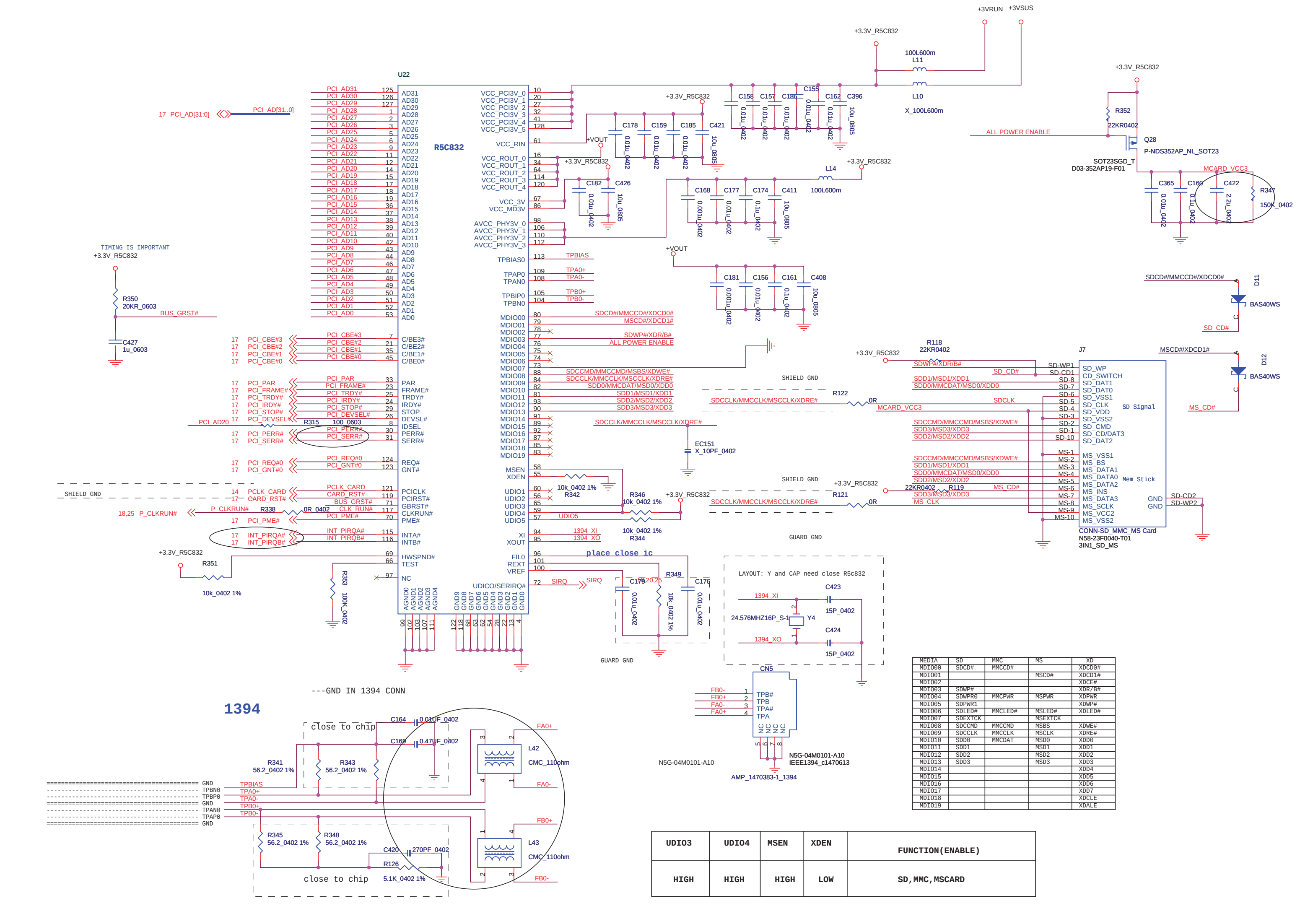




MEDIA	SD	MMC	MS	XD
MDIO00	SDCD#	MMCCD#		XDCD0#
MDIO01			MSCD#	XDCD1#
MDIO02				XDCE#
MDIO03	SDWP#			XDR/B#
MDIO04	SDWPR0	MMCPWR	MSPWR	XDPWR
MDIO05	SDPWR1			XDWP#
MDIO06	SDLED#	MMCLED#	MSLED#	XDLED#
MDIO07	SDEXTCK		MSEXTCK	
MDIO08	SDCCMD	MMCCMD	MSBS	XDWE#
MDIO09	SDCCLK	MMCCLK	MSCLK	XDRE#
MDIO10	SDD0	MMCDAT	MSD0	XDD0
MDIO11	SDD1		MSD1	XDD1
MDIO12	SDD2		MSD2	XDD2
MDIO13	SDD3		MSD3	XDD3
MDIO14				XDD4
MDIO15				XDD5
MDIO16				XDD6
MDIO17				XDD7
MDIO18				XDCLE
MDIO19				XDALE

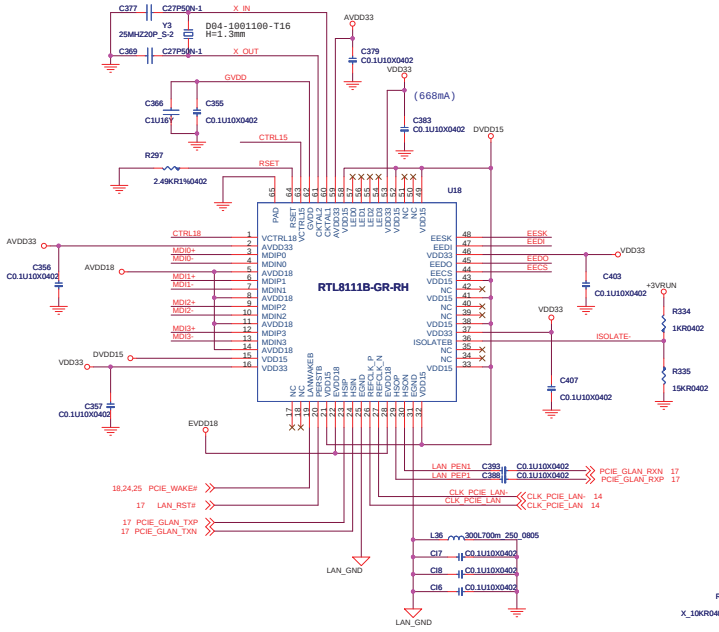
UDIO3	UDIO4	MSEN	XDEN	FUNCTION(ENABLE)
HIGH	HIGH	HIGH	LOW	SD,MMC,MSCARD

MSI CORPORATION

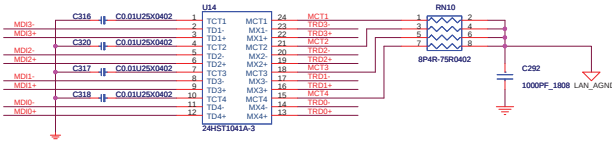
Title: **Card Reader (R5C832)**

Size: Custom | Document Number: **MS-1313** | Rev: 0A

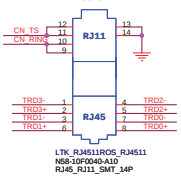
Date: Wednesday, December 06, 2006 | Sheet 22 of 42

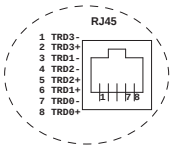


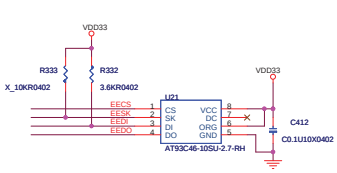
LAN MAGNETICS



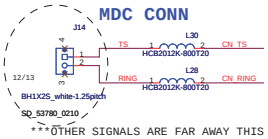
LAN CONNECTOR





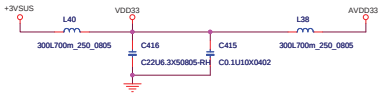


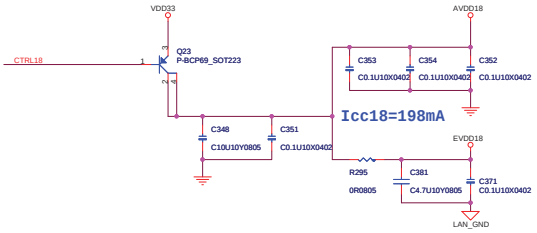
MDC CONN

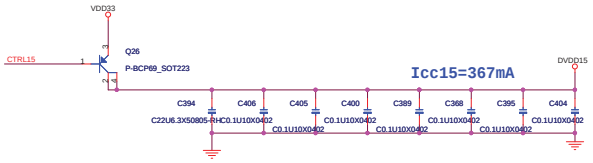


OTHER SIGNALS ARE FAR AWAY THIS TWO TRACES.
*** THIS DISTANCE IS MIN. 2.5mm***
***THIS SPACE IS IN 3D SPACE AND INCLUDE ANY ***
***POWER ANG GROUND ***

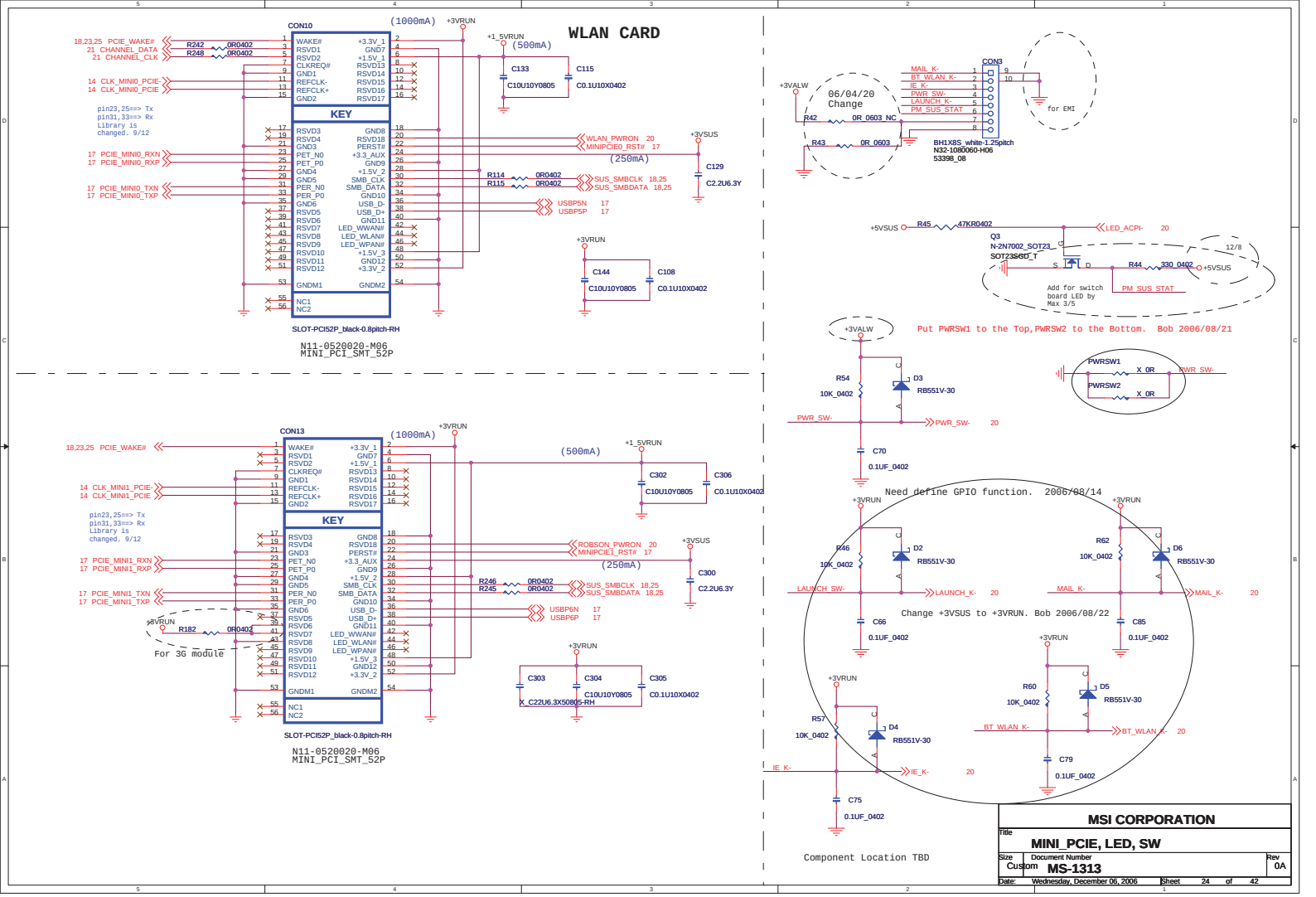
Icc33=103mA







MSI CORPORATION		
Title: PCIE LAN (RTL 8111B)		
Size: Custom	Document Number: MS-1313	Rev: 0A
Date: Wednesday, December 06, 2006	Sheet 23 of 42	


WLAN CARD
CON10
(1000mA)
+3VRUN
+1_5VRUN
(500mA)
C133
C10U10Y0805
C115
C0.1U10X0402
KEY
WLAN_PWRON 20
MINIPCIE0_RST# 17
(250mA)
+3VSUS
C129
C2.2U6.3Y
R114 0R0402
R115 0R0402
SUS_SMBCLK 18,25
SUS_SMBDATA 18,25
USBP5N 17
USBP5P 17
C144
C108
C10U10Y0805
C0.1U10X0402
R242 0R0402
R248 0R0402
18,23,25 PCIE_WAKE#
21 CHANNEL_DATA
21 CHANNEL_CLK
14 CLK_MINI0_PCIE-
14 CLK_MINI0_PCIE
17 PCIE_MINI0_RXN
17 PCIE_MINI0_RXP
17 PCIE_MINI0_TXN
17 PCIE_MINI0_TXP
pin23,25==> Tx
pin31,33==> Rx
Library is
changed. 9/12
SLOT-PCI52P_black-0.8pitch-RH
N11-0520020-M06
MINI_PCI_SMT_52P
+3VALW
06/04/20
Change
R42 0R_0603_NC
R43 0R_0603
MAIL_K-
BT_WLAN_K-
IE_K-
PWR_SW-
LAUNCH_K-
PM_SUS_STAT
CON3
BH1X8S_white-1.25pitch
N32-1080060-H06
53398_08
for EMI
+5VSUS
R45 47KR0402
LED_ACPI- 20
Q3
N-2N7002_SOT23_
SOT23SGD_T
R44 330_0402
Add for switch
board LED by
Max 3/5
PM_SUS_STAT
12/8
Put PWRSW1 to the Top,PWRSW2 to the Bottom. Bob 2006/08/21
PWRSW1
PWRSW2
X_0R
R54 10K_0402
D3
RB551V-30
C70
0.1UF_0402
Need define GPIO function. 2006/08/14
R46 10K_0402
D2
R62 10K_0402
D6
LAUNCH_K- 20
MAIL_K- 20
C66
C85
Change +3VSUS to +3VRUN. Bob 2006/08/22
R57 10K_0402
D4
R60 10K_0402
D5
IE_K- 20
BT_WLAN_K- 20
C75
C79
Component Location TBD
CON13
R182 0R0402
For 3G module
ROBSON_PWRON 20
MINIPCIE1_RST# 17
R246 0R0402
R245 0R0402
USBP6N 17
USBP6P 17
C302
C306
C300
C303
C304
C305
X_C22U6.3X5080S-RH
MSI CORPORATION
MINI_PCIE, LED, SW
Custom
MS-1313
0A
Wednesday, December 06, 2006
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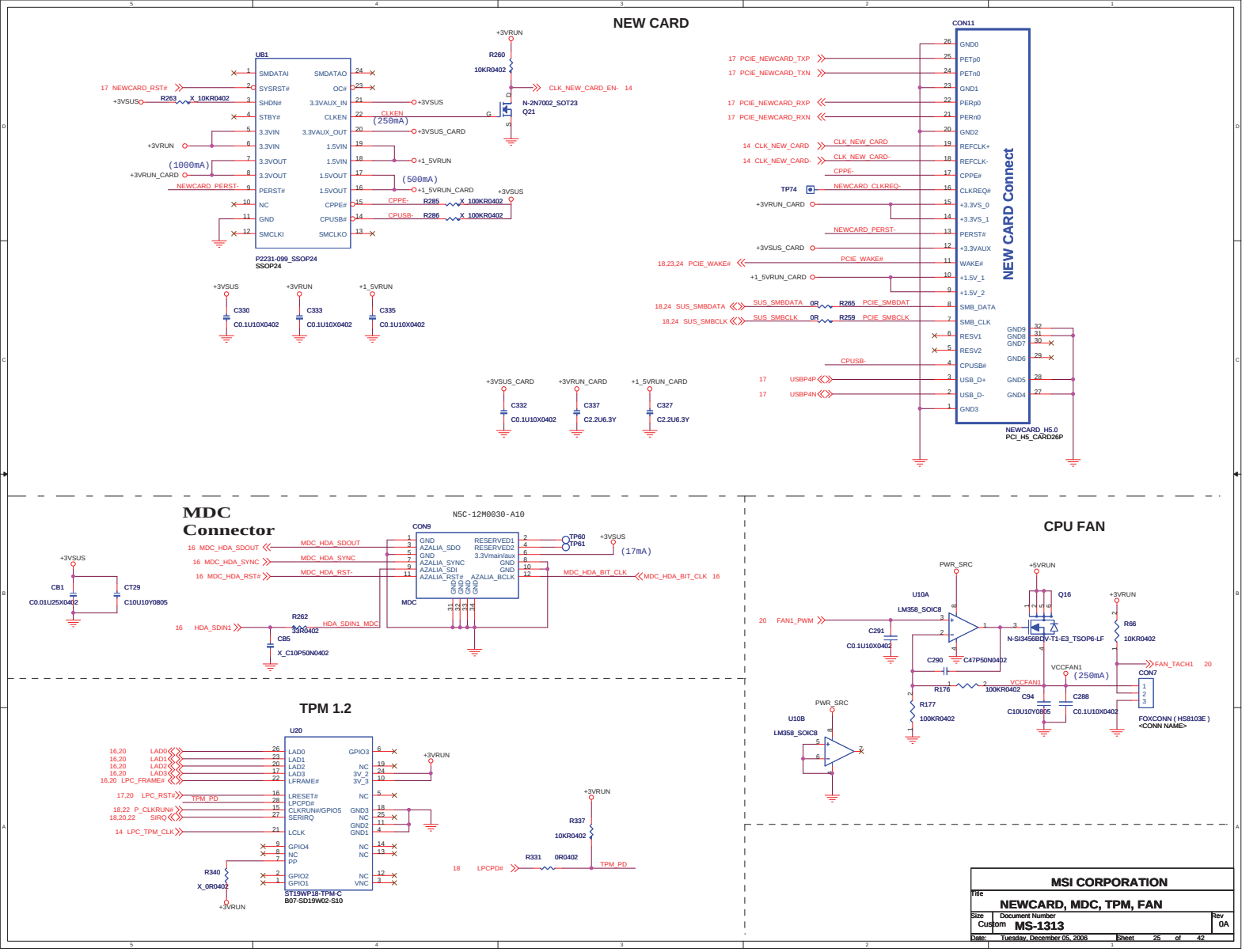

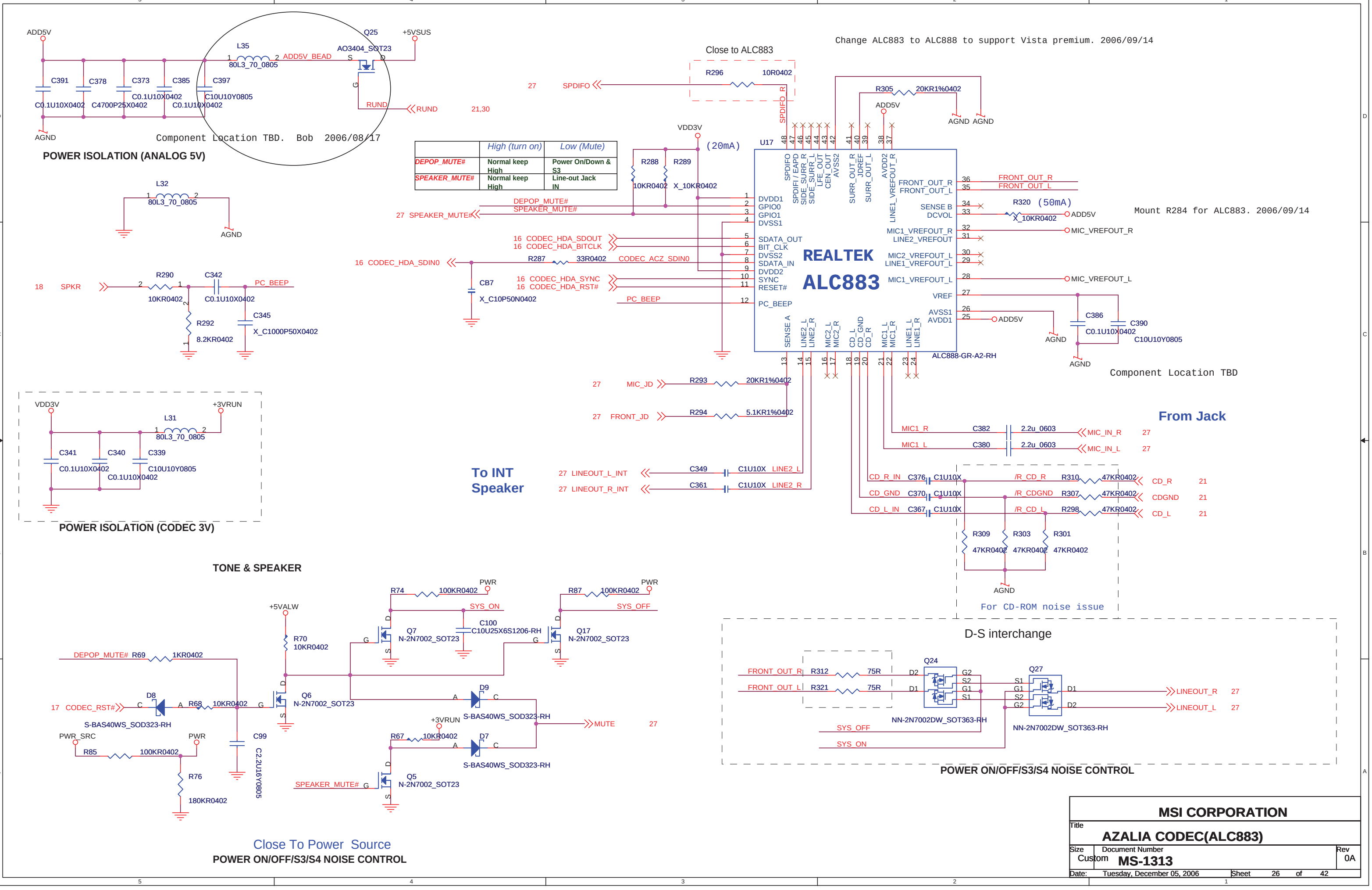

POWER ISOLATION (ANALOG 5V)
Component Location TBD. Bob 2006/08/17
ADD5V
+5VSUS
Q25 AO3404_SOT23
L35 80L3_70_0805
ADD5V_BEAD
RUND
C391 C0.1U10X0402
C378 C4700P25X0402
C373 C0.1U10X0402
C385 C0.1U10X0402
C397 C10U10Y0805
AGND
L32 80L3_70_0805
POWER ISOLATION (CODEC 3V)
VDD3V
+3VRUN
L31 80L3_70_0805
C341 C0.1U10X0402
C340 C0.1U10X0402
C339 C10U10Y0805
SPKR
R290 10KR0402
C342 C0.1U10X0402
PC_BEEP
R292 8.2KR0402
C345 X_C1000P50X0402
Close to ALC883
R296 10R0402
SPDIFO
Change ALC883 to ALC888 to support Vista premium. 2006/09/14
R305 20KR1%0402
VDD3V (20mA)
R288 10KR0402
R289 X_10KR0402
DEPOP_MUTE#
SPEAKER_MUTE#
CODEC_HDA_SDOUT
CODEC_HDA_BITCLK
CODEC_HDA_SDIN0
R287 33R0402 CODEC_ACZ_SDIN0
CODEC_HDA_SYNC
CODEC_HDA_RST#
CB7 X_C10P50N0402
U17
REALTEK
ALC883
ALC888-GR-A2-RH
FRONT_OUT_R
FRONT_OUT_L
R320 (50mA) X_10KR0402
Mount R284 for ALC883. 2006/09/14
MIC_VREFOUT_R
MIC_VREFOUT_L
C386 C0.1U10X0402
C390 C10U10Y0805
Component Location TBD
MIC_JD R293 20KR1%0402
FRONT_JD R294 5.1KR1%0402
From Jack
MIC1_R C382 2.2u_0603 MIC_IN_R
MIC1_L C380 2.2u_0603 MIC_IN_L
To INT Speaker
LINEOUT_L_INT C349 C1U10X LINE2_L
LINEOUT_R_INT C361 C1U10X LINE2_R
CD_R_IN C376 C1U10X /R_CD_R R310 47KR0402 CD_R
CD_GND C370 C1U10X /R_CDGND R307 47KR0402 CDGND
CD_L_IN C367 C1U10X /R_CD_L R298 47KR0402 CD_L
R309 47KR0402
R303 47KR0402
R301 47KR0402
For CD-ROM noise issue
TONE & SPEAKER
D-S interchange
FRONT_OUT_R R312 75R
FRONT_OUT_L R321 75R
Q24 NN-2N7002DW_SOT363-RH
Q27 NN-2N7002DW_SOT363-RH
SYS_OFF
SYS_ON
LINEOUT_R
LINEOUT_L
POWER ON/OFF/S3/S4 NOISE CONTROL
PWR
R74 100KR0402
R87 100KR0402
+5VALW
R70 10KR0402
Q7 N-2N7002_SOT23
C100 C10U25X6S1206-RH
Q17 N-2N7002_SOT23
DEPOP_MUTE# R69 1KR0402
CODEC_RST#
D8 S-BAS40WS_SOD323-RH
R68 10KR0402
Q6 N-2N7002_SOT23
D9 S-BAS40WS_SOD323-RH
MUTE
+3VRUN
R67 10KR0402
D7 S-BAS40WS_SOD323-RH
Q5 N-2N7002_SOT23
SPEAKER_MUTE#
PWR_SRC
R85 100KR0402
R76 180KR0402
C99 C2.2U16Y0805
Close To Power Source
POWER ON/OFF/S3/S4 NOISE CONTROL

	High (turn on)	Low (Mute)
DEPOP_MUTE#	Normal keep High	Power On/Down & S3
SPEAKER_MUTE#	Normal keep High	Line-out Jack IN

MSI CORPORATION

Title: **AZALIA CODEC(ALC883)**

Size	Document Number	Rev
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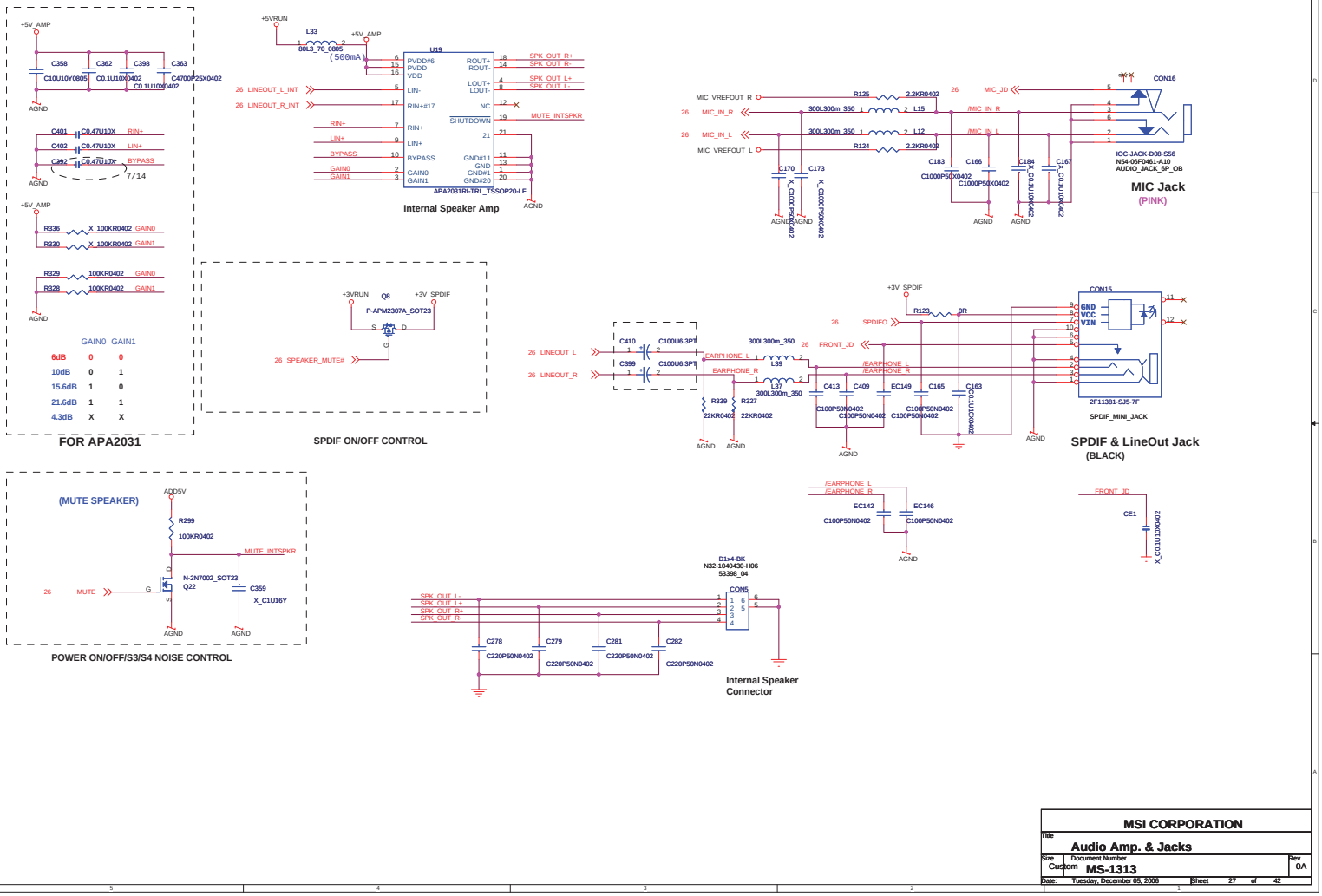
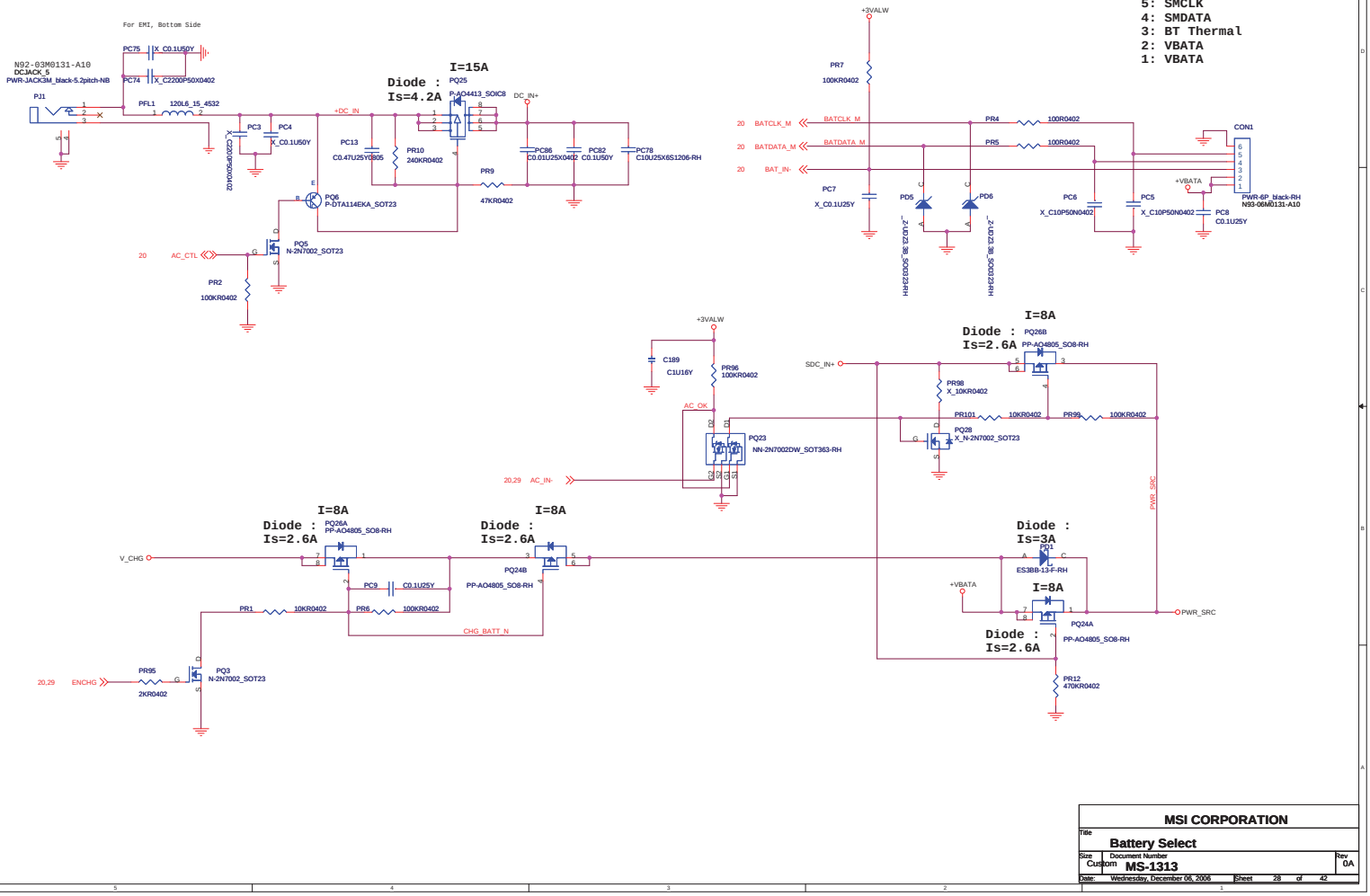


MSI CORPORATION		
Title: **Audio Amp. & Jacks**		
Size: Custom	Document Number: **MS-1313**	Rev: 0A
Date: Tuesday, December 05, 2006	Sheet 27 of 42	


6: GND
5: SMCLK
4: SMDATA
3: BT Thermal
2: VBATA
1: VBATA
For EMI, Bottom Side
N92-03M0131-A10
DCJACK_5
PWR-JACK3M_black-5.2pitch-NB
PJ11
PC75
X_C0.1U50Y
PC74
X_C2200P50X0402
PFL1
120L6_15_4532
+DC_IN
PC3
X_C2200P50X0402
PC4
X_C0.1U50Y
I=15A
Diode :
Is=4.2A
PQ25
P-AO4413_SOIC8
DC_IN+
PC13
C0.47U25Y0805
PR10
240KR0402
PC86
C0.01U25X0402
PC82
C0.1U50Y
PC78
C10U25X6S1206-RH
PR9
47KR0402
PQ6
P-DTA114EKA_SOT23
PQ5
N-2N7002_SOT23
20
AC_CTL
PR2
100KR0402
+3VALW
PR7
100KR0402
20
BATCLK_M
BATCLK_M
PR4
100R0402
20
BATDATA_M
BATDATA_M
PR5
100R0402
20
BAT_IN-
PC7
X_C0.1U25Y
PD5
2-UD23.3B_SOD323RH
PD6
2-UD23.3B_SOD323RH
PC6
X_C10P50N0402
PC5
X_C10P50N0402
PC8
C0.1U25Y
CON1
PWR-6P_black-RH
N93-06M0131-A10
+VBATA
+3VALW
C189
C1U16Y
PR96
100KR0402
AC_OK
PQ23
NN-2N7002DW_SOT363-RH
20,29
AC_IN-
I=8A
Diode :
Is=2.6A
PQ26B
PP-AO4805_SO8-RH
SDC_IN+
PR98
X_10KR0402
PR101
10KR0402
PR99
100KR0402
PQ28
X_N-2N7002_SOT23
PWR_SRC
I=8A
Diode :
Is=2.6A
PQ26A
PP-AO4805_SO8-RH
V_CHG
PC9
C0.1U25Y
PR1
10KR0402
PR6
100KR0402
I=8A
Diode :
Is=2.6A
PQ24B
PP-AO4805_SO8-RH
CHG_BATT_N
Diode :
Is=3A
PD1
ES3BB-13-F-RH
+VBATA
I=8A
PQ24A
PP-AO4805_SO8-RH
Diode :
Is=2.6A
PWR_SRC
PR12
470KR0402
20,29
ENCHG
PR95
2KR0402
PQ3
N-2N7002_SOT23
MSI CORPORATION
Title
Battery Select
Size
Custom
Document Number
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0A
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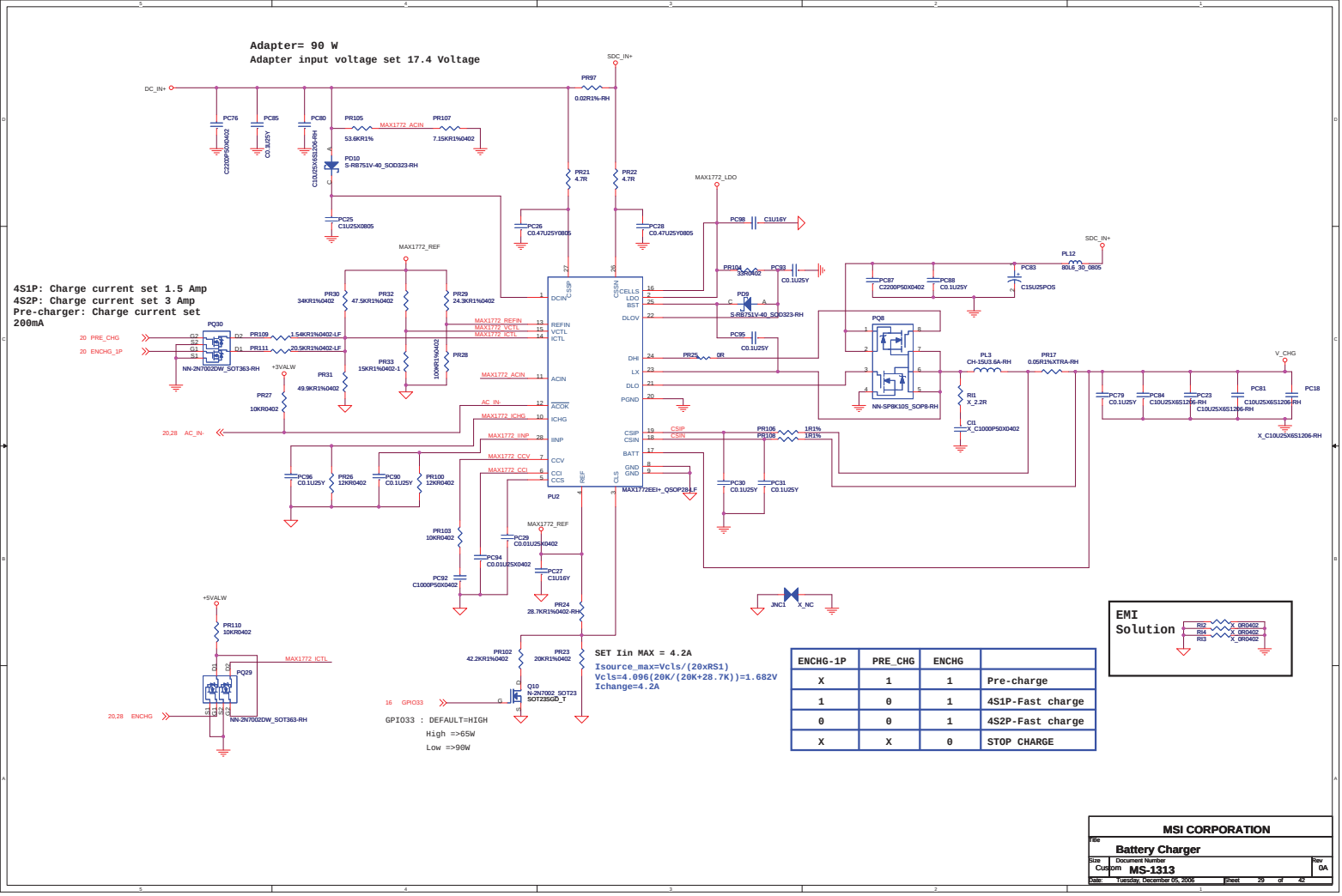
of
42



ENCHG-1P	PRE_CHG	ENCHG	
X	1	1	Pre-charge
1	0	1	4S1P-Fast charge
0	0	1	4S2P-Fast charge
X	X	0	STOP CHARGE

MSI CORPORATION

Title: Battery Charger

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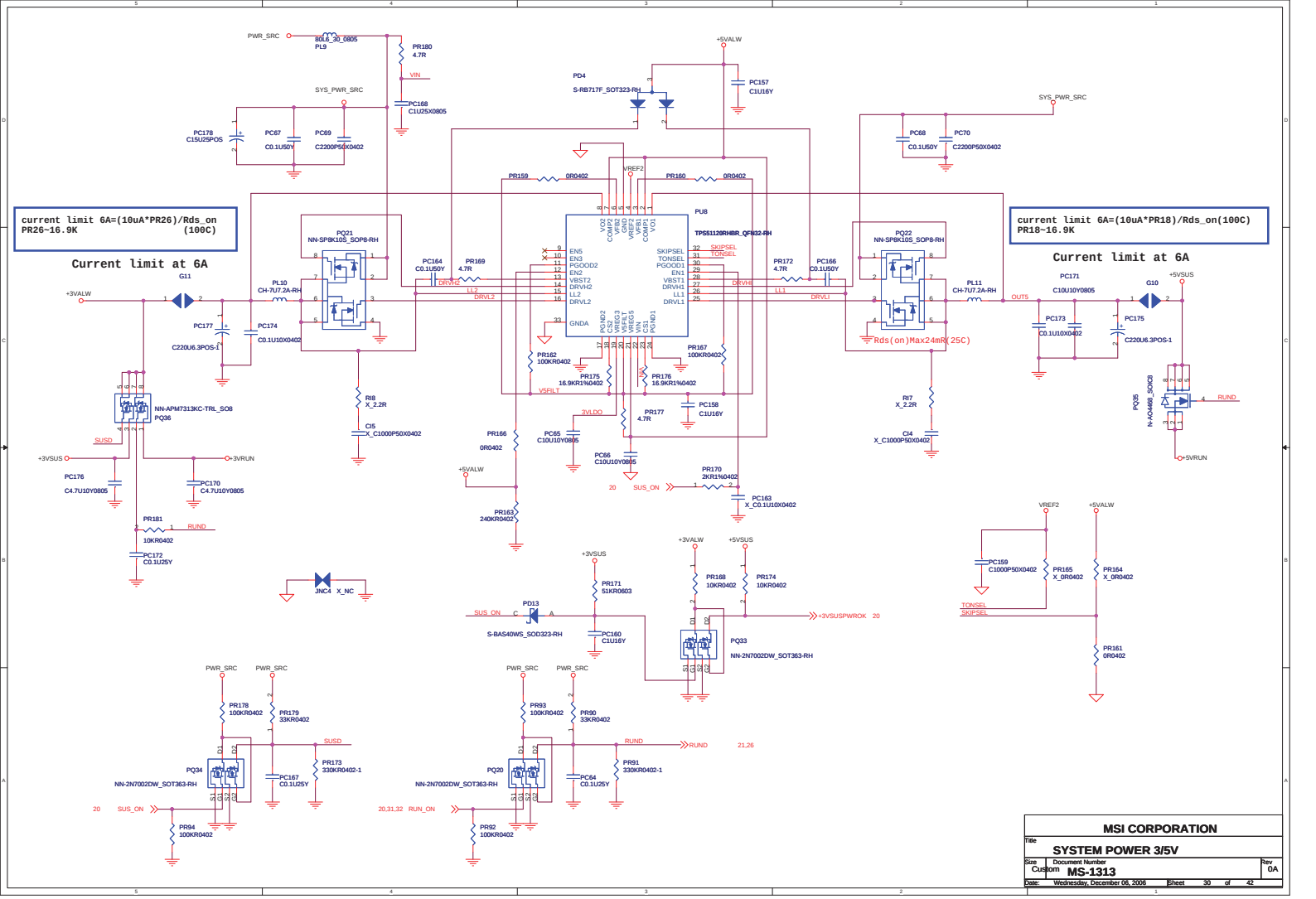
current limit 6A=(10uA*PR26)/Rds_on
PR26=16.9K (100C)
Current limit at 6A
current limit 6A=(10uA*PR18)/Rds_on(100C)
PR18=16.9K
Current limit at 6A
Rds(on)Max24mR(25C)
TPS51126RHBR_QFN32-RH
NN-SP8K10S_SOP8-RH
NN-APM7313KC-TRL_SO8
NN-2N7002DW_SOT363-RH
S-RB717F_SOT323-RH
S-BAS40WS_SOD323-RH
MSI CORPORATION
SYSTEM POWER 3/5V
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Custom
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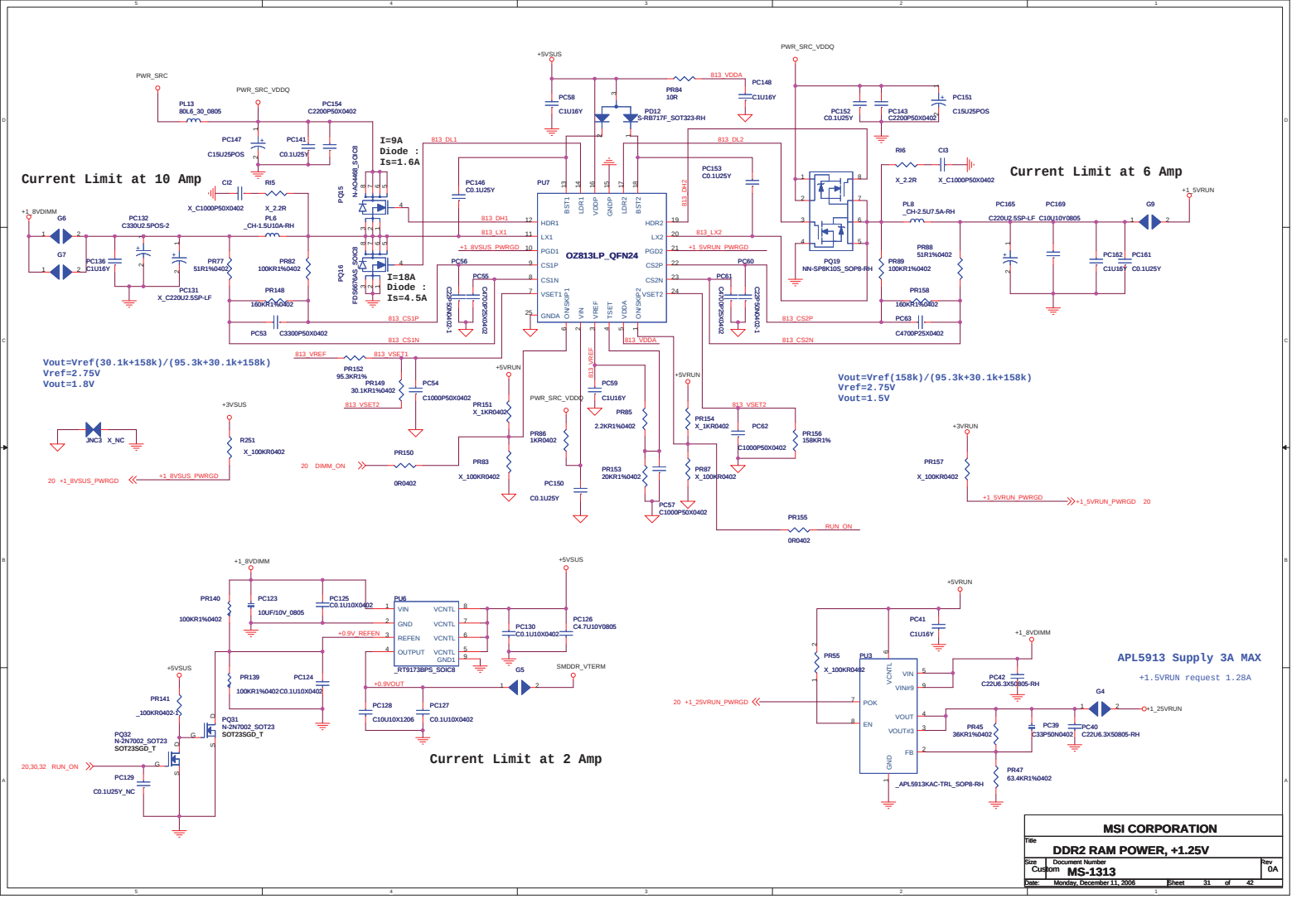
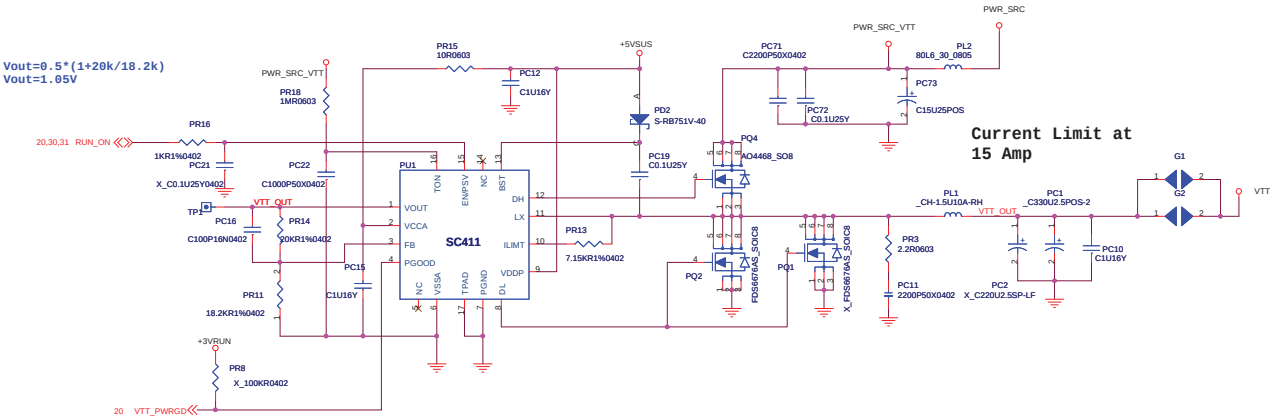
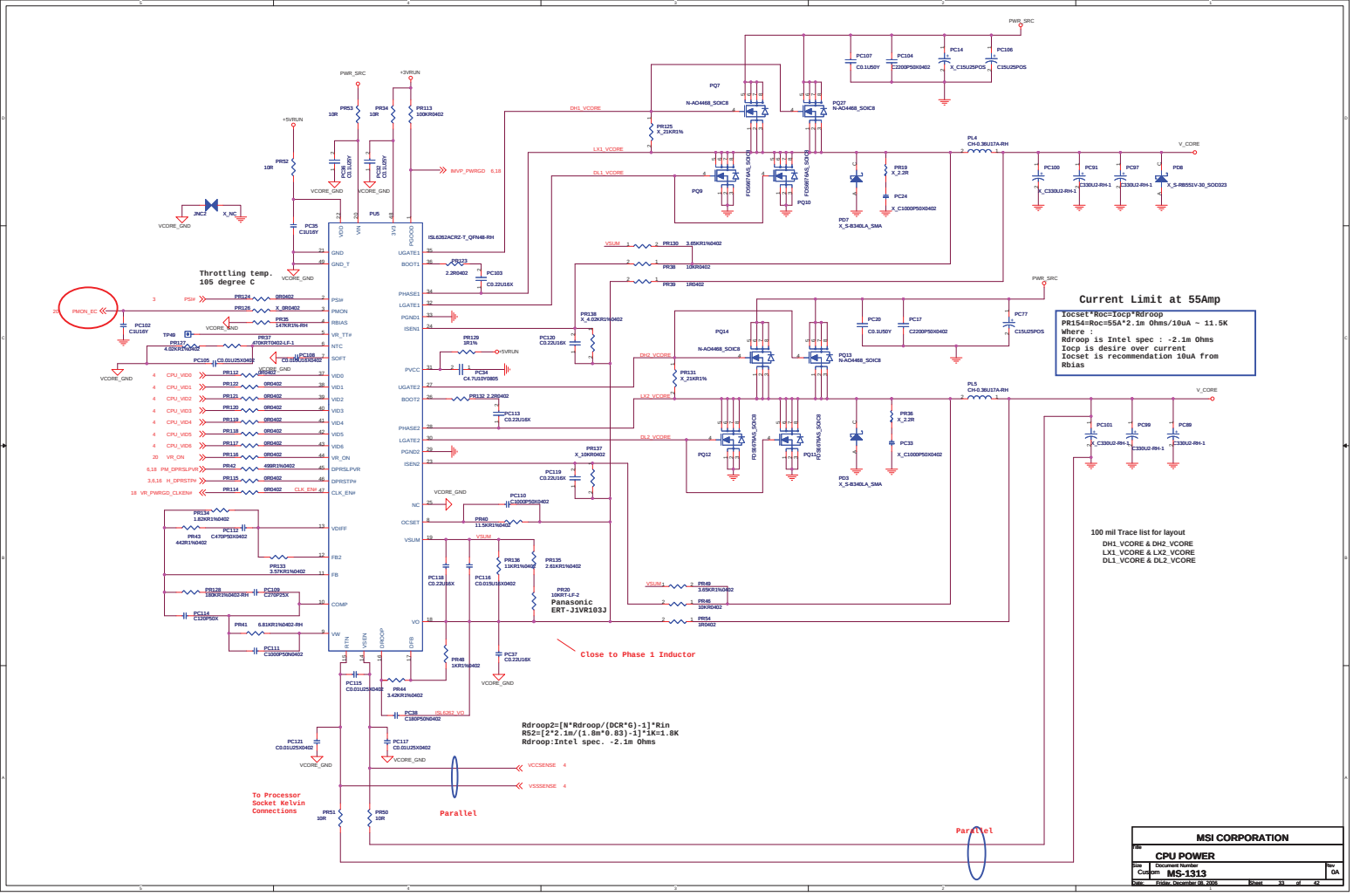
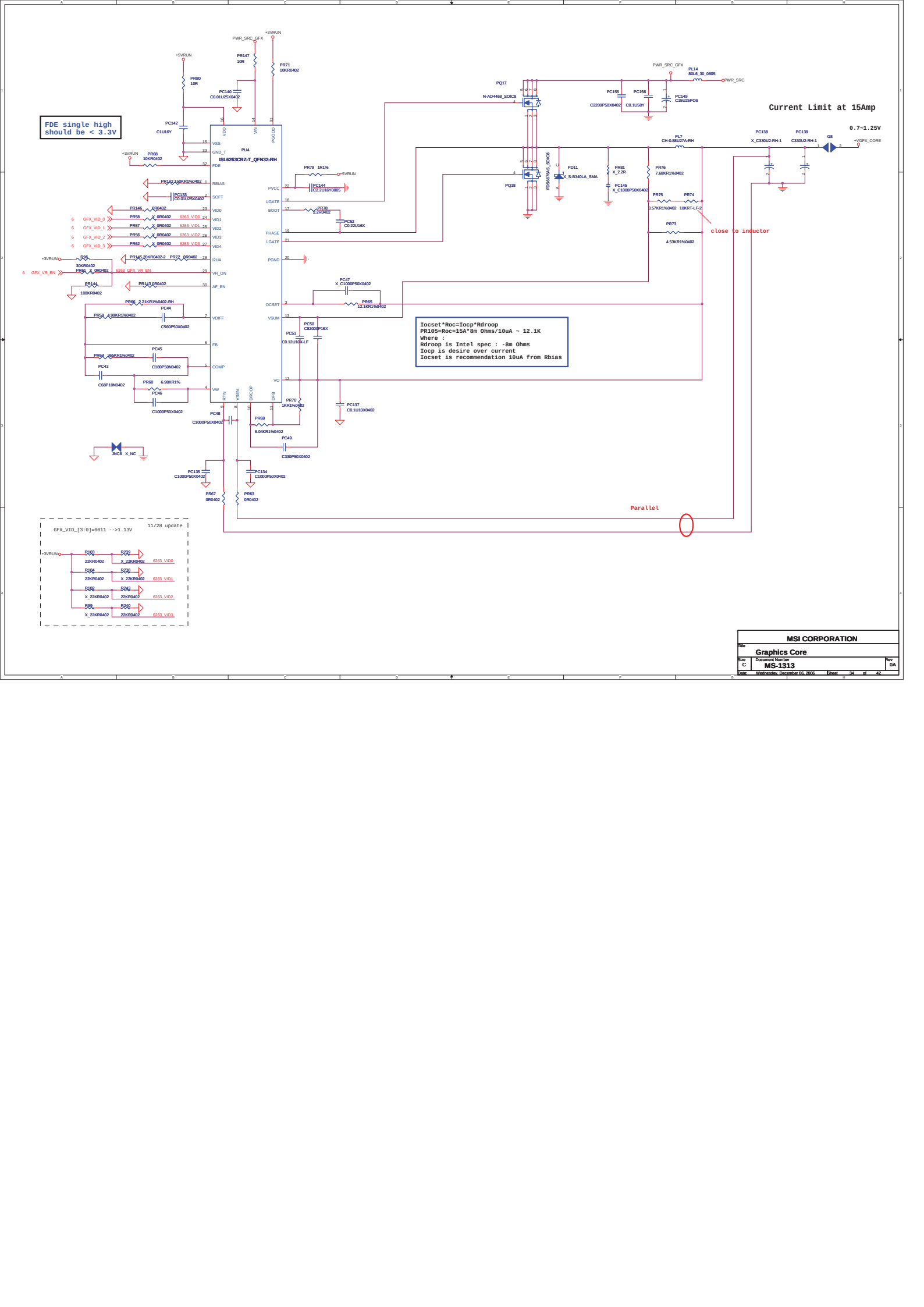
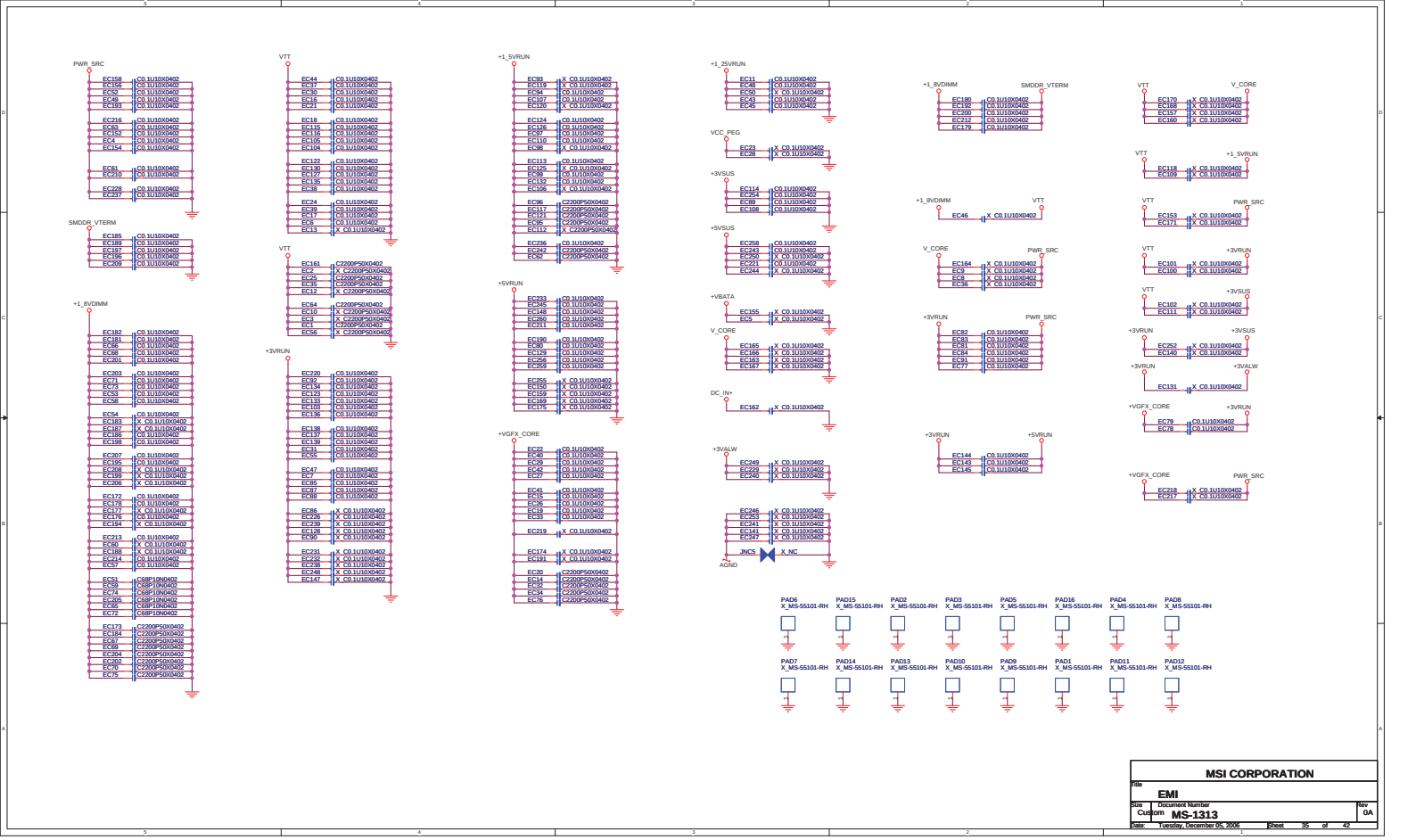




MSI CORPORATION		
Title: +1_5VRUN , VTT POWER		
Size: Custom	Document Number: MS-1313	Rev: 0A
Date: Wednesday, December 06, 2006	Sheet 32 of 42	




FDE single high should be < 3.3V
Current Limit at 15Amp
0.7~1.25V
close to inductor
Parallel
Iocset*Roc=Iocp*Rdroop
PR105=Roc=15A*8m Ohms/10uA ~ 12.1K
Where :
Rdroop is Intel spec : -8m Ohms
Iocp is desire over current
Iocset is recommendation 10uA from Rbias
ISL6263CRZ-T_QFN32-RH
PU4
PWR_SRC_GFX
+3VRUN
+5VRUN
PWR_SRC
+VGFX_CORE
GFX_VID_[3:0]=0011 -->1.13V
11/28 update
MSI CORPORATION
Graphics Core
MS-1313

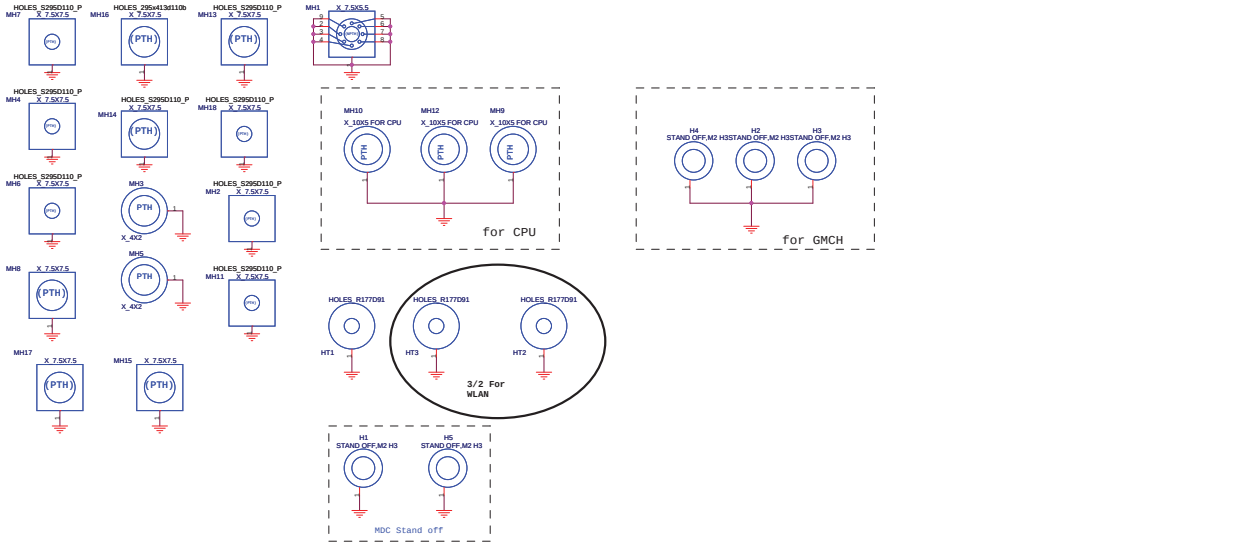


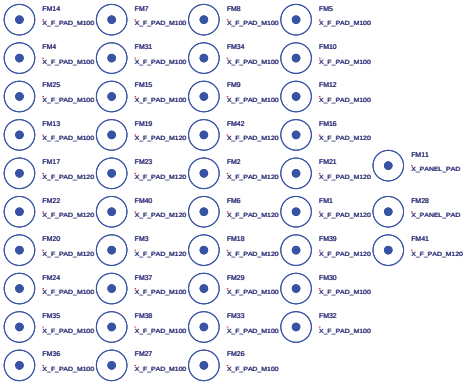
MSI CORPORATION

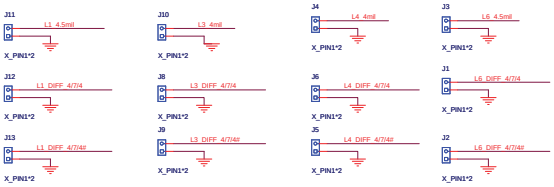
Title: EMI

Size: Custom | Document Number: MS-1313 | Rev: 0A

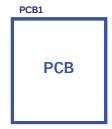
Date: Tuesday, December 05, 2006 | Sheet 35 of 42







MSI CORPORATION			
Title: Screw			
Size: C	Document Number: MS-1313		Rev: 0A
Date: Monday, December 11, 2006	Sheet 36 of 42		



PCB_V0A

W39L040P-70Z-RH

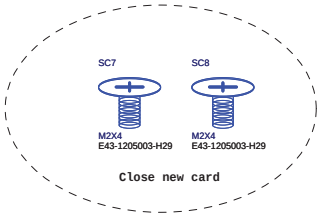
VGASC
E42-5040501-H29

VGASC
E42-5040501-H29

M2X4
E43-1203003-H29

M2X4
E43-1203003-H29

Close MDC

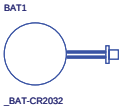


M2X4
E43-1205003-H29

M2X4
E43-1205003-H29

Close new card

BIOS_LABEL



_BAT-CR2032

VGA SHIELDING
E2M-2110211-Y28

change to
ISN-MDC

MDCASSB_NC
S52-2801101-Q09

MDCWIRE_NC
K10-3002073-H39

BLUETOOTH-WIRE_NC
S79-1800330-Y01

change to
Bluetooth
Antenna

NB MYLAR
E26-1057020-G40

NB MYLAR
E26-1057010-G40

BLUETOOTH MYLAR
E26-1012090-SE2

CONDUCTIVE GASKET FOR RJ11
E2Y-X006311-CA7

HDD_MYLAR
E26-1057030-G40

SB MYLAR
E26-1013220-G40

SB MYLAR
E26-1013220-G40

KBMYLAR
E26-1006090-SE2

KBMYLAR
E26-1006100-P38

DDRMYLAR
E26-1003120-SE2

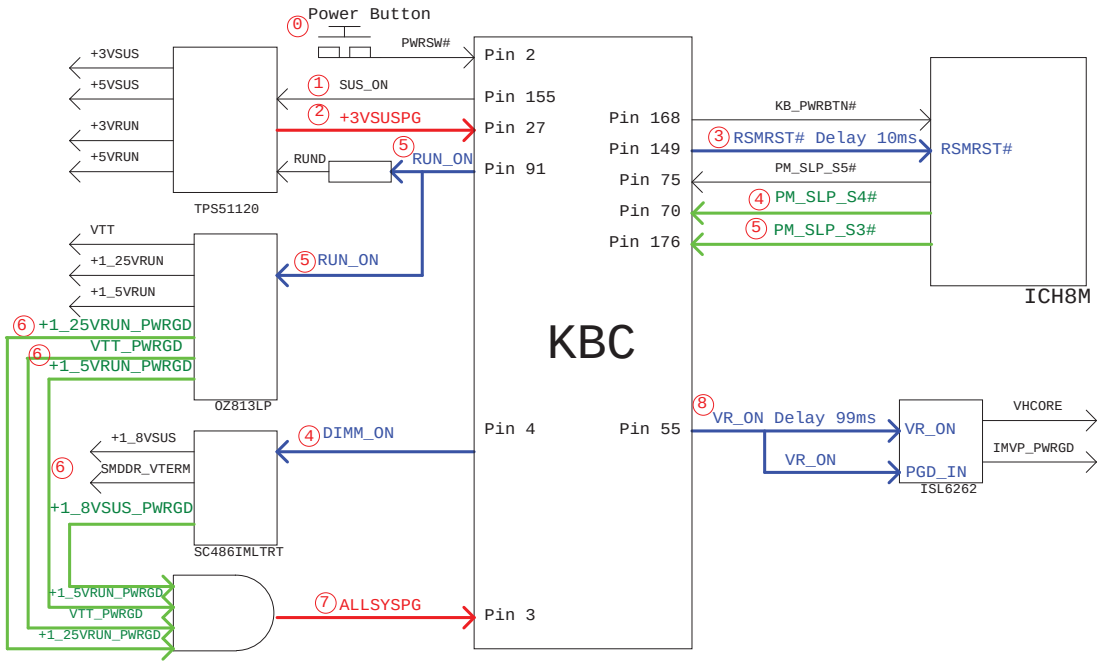
DDRMYLAR_1_NC
E26-1057060-F49

DDRMYLAR_2_NC
E26-1057050-F49

DDRMYLAR_3
E2P-2141211-G40

MSI CORPORATION

Title: **Non-Footprint for BOM**		
Size: B	Document Number: **MS-1313**	Rev: 0A
Date: Monday, December 11, 2006	Sheet 37 of 42	



MSI CORPORATION		
Title: KBC_CTR_PWR_BD		
Size: B	Document Number: MS-1313	Rev: 0A
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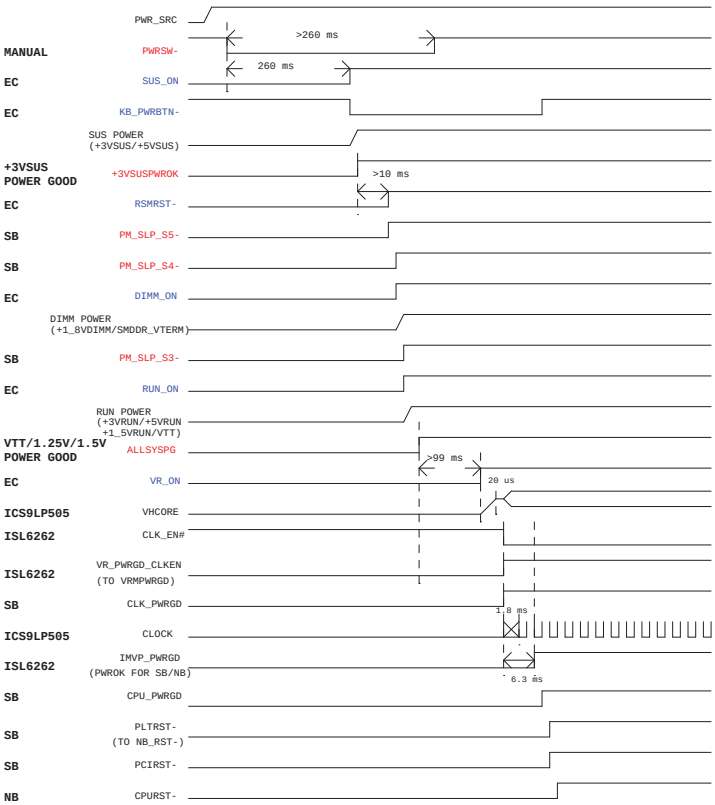
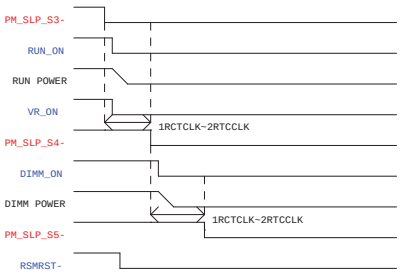
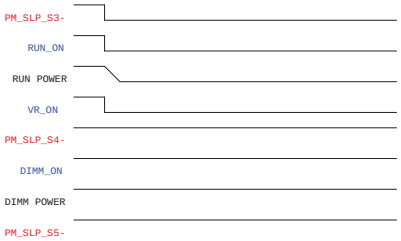
Power Up



Power Down



S3



MSI CORPORATION		
Title: Power Sequency		
Size: C	Document Number: MS-1313	Rev: 0A
Date: Friday, December 01, 2006	Sheet 39 of 42	

1. Change TP connector,reference MS-1412. Page20 2006/08/14
2. Delete fingerprint. Page21 2006/08/14
3. Change LED circuit,reference MS-1412. Page24 2006/08/14
4. Change power switch board connector,reference MS-1412. Page24 2006/08/14
5. Change SATA HDD connector,reference MS-14141. Page21 2006/08/14
6. Change CRT connector,reference MS-1412. Page15 2006/08/14
7. Change LVDS connector,reference MS-1412. Page15 2006/08/14
8. Change R183 from 39R to 56R,R182 from 150R to 56R,R185 from 27R to 56R,R190 from 680R to 56R. Page3 2006/08/14
9. Change SPDIF&LineOut Jack connector,reference MS-1412. Page 27 2006/08/15
10. Change MIC Jack connector,reference MS-1412. Page 27 2006/08/15
11. Change Internal Speaker connector,reference MS-1412. Page 27 2006/08/15
12. Add Internal MIC,reference MS-1412. Page 27 2006/08/15
13. Change RJ45 Connector,reference MS-1412. Page 23 2006/08/15
14. Delete Camera. Page21 2006/08/15
15. Change USB Connector,reference MS-1412. Page 21 2006/08/15
16. Delete SW2,R227,R228. Page14 2006/08/15
17. Change NEW CARD Connector,reference MS-1412. Page 25 2006/08/16
18. Delete TPM. Page25 2006/08/16
19. Change MDC Connector,reference MS-1412. Page 25 2006/08/16
20. Change Card reader Connector,reference MS-1412. Page 22 2006/08/16
21. Delete SW1,R92,R106. Page18 2006/08/16
22. Add one AND Gate U? . Page 17 2006/08/16
23. Add LINE IN,reference MS-1412. Page 26,27 2006/08/16
24. Change C312,C300 from 4.7U 0805 to 2.2U 0603,reference MS-1412. Page 26 2006/08/16
25. Add BIOS Socket. Page 20 2006/08/16
26. Add BIOS1 as Non footprint component. Page 38 2006/08/16
27. Change KB Connector,reference MS-1412. Page 20 2006/08/16
28. Delete Q13,Q14,R178,R177. Page20 2006/08/16
29. Delete RSVD Test point. Page6 2006/08/17
30. Delete Array Mic FM2010 circuit. Page36 2006/08/17
31. Delete R133(LPC_TPM_CLK). Page14 2006/08/17
32. Change U1 to LM358,delete R5,R4. Page 25 2006/08/17
33. Change CPU fan connector,reference MS-1412. Page 25 2006/08/17
34. Delete LDO U30. Page26 2006/08/17
35. Change U22 to EC2648,reference MS-14141. Page 15 2006/08/17
39. Update Power circuit. Page28---34 2006/08/18
40. Add a bead to CRT5V. Page15 2006/08/21
41. Add PWRSW1,PWRSW2. Page24 2006/08/21
42. Remove R14,change the net name of +3VSUS_SOCKET to +3VRUN_SOCKET. Page22 2006/08/22
43. Change R202 from 2.37K to 2.4K. Page 6 2006/09/11
44. Change RN7 from 8P4R 2.2K to 8P4R 22K. Page 6 2006/09/11
45. Add LC decoupling circuit for VCCGLANPLL,VCCGLAN1_5 and VCCGLAN3. Page 19 2006/09/12
46. Change Card reader conttroller from MR510 to R5C832. Page 22 2006/09/29

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47. Change LVDS Conn,reference MS-1221. Page 15 2006/10/19
48. Change LED&Touch Pad Conn,reference MS-1057. Page 20 2006/10/19
49. Change RJ45&RJ11 Conn,reference MS-1057. Page 23 2006/10/19
50. Change USB Conn,reference MS-1057. Page 21 2006/10/19
51. Change function board Conn,reference MS-1057. Page 24 2006/10/19
52. Remove Line in and Int Mic circuit. Page 27 2006/10/19
53. Remove CIR circuit. Page 21 2006/10/19
54. Change DVD/CD-ROM Conn,reference MS-1057. Page 21 2006/10/20
55. Change SATA HDD Conn,reference MS-1057. Page 21 2006/10/20
56. Change New card Conn,reference MS-1057. Page 25 2006/10/20
57. Add Screw,reference MS-1057. Page 36 2006/10/20
58. Add Camera circuit,reference MS-1221. Page 21 2006/10/21
59. Change Camera Conn from 7 pin to 5 pin Conn,reference MS-1719. Page 23 2006/10/21
60. Add Finger print circuit,reference MS-1034LG. Page 21 2006/10/23
61. Add TPM circuit,reference MS-1021. Page 25 2006/10/30
62. Update Power circuit. Page 28-34 2006/10/30
63. Change KB Conn,reference MS-1057. Page 20 2006/10/31
64. Change LID switch circuit,reference MS-1057. Page 15 2006/11/02

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