MS-16371 VER : 1.0

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36 : M_Graphics Core
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40 : Power on Sequence
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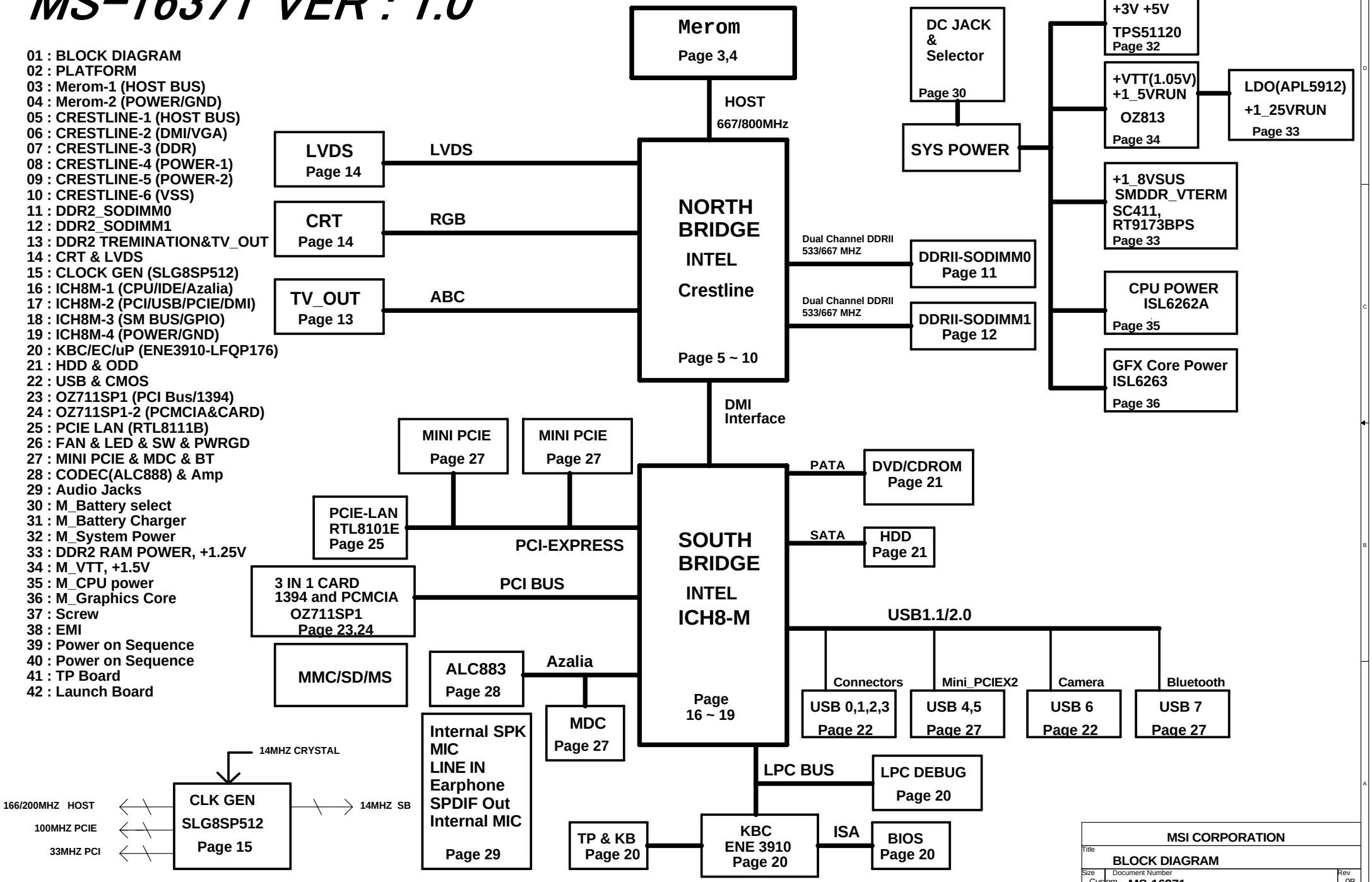

MSI CORPORATION

Title: BLOCK DIAGRAM

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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	PM_SLP_S3# (RUN_ON)
+1_5VRUN	1.5V switched power rail(off in S3-S5)	PM_SLP_S3# (RUN_ON)
+1_25VRUN	1.25V powe rail NB PLL and PXE (off in S3-S5)	+1_5VRUN
+3VRUN	3.3V switched power rail(off in S3-S5)	RUND (RUN_ON)
+5VRUN	5.0V switched power rail(off in S3-S5)	RUND (RUN_ON)
SMDDR_VTERM	0.9V DDR Termination voltage (off in S4-S5)	PM_SLP_S3# (RUN_ON)
+1_8VDIMM	1.8V power rail DDR (off in S4-S5)	PM_SLP_S4# (DIMM_ON)
+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
+V5_AUDIO	5.0V Power rail Audio codec(off in S3-S5)	RUND
VTT_G	Core Voltage for GMCH GPU	GFX_VR_EN

System Power consumption	
CPU Vcore	40W
3V	15W
5V	25W
Graphics Vcore	10W
1.5V	7W
1.05V	10W
PWR_SRC	107W(12A)

POWER STATES

STATE \ SIGNAL	SLP_S3#	SLP_S4#	SLP_S5#	+V*ALWAYS	+V*SUS	+V*RUN	Clocks
Full ON	HIGH	HIGH	HIGH	ON	ON	ON	ON
S1(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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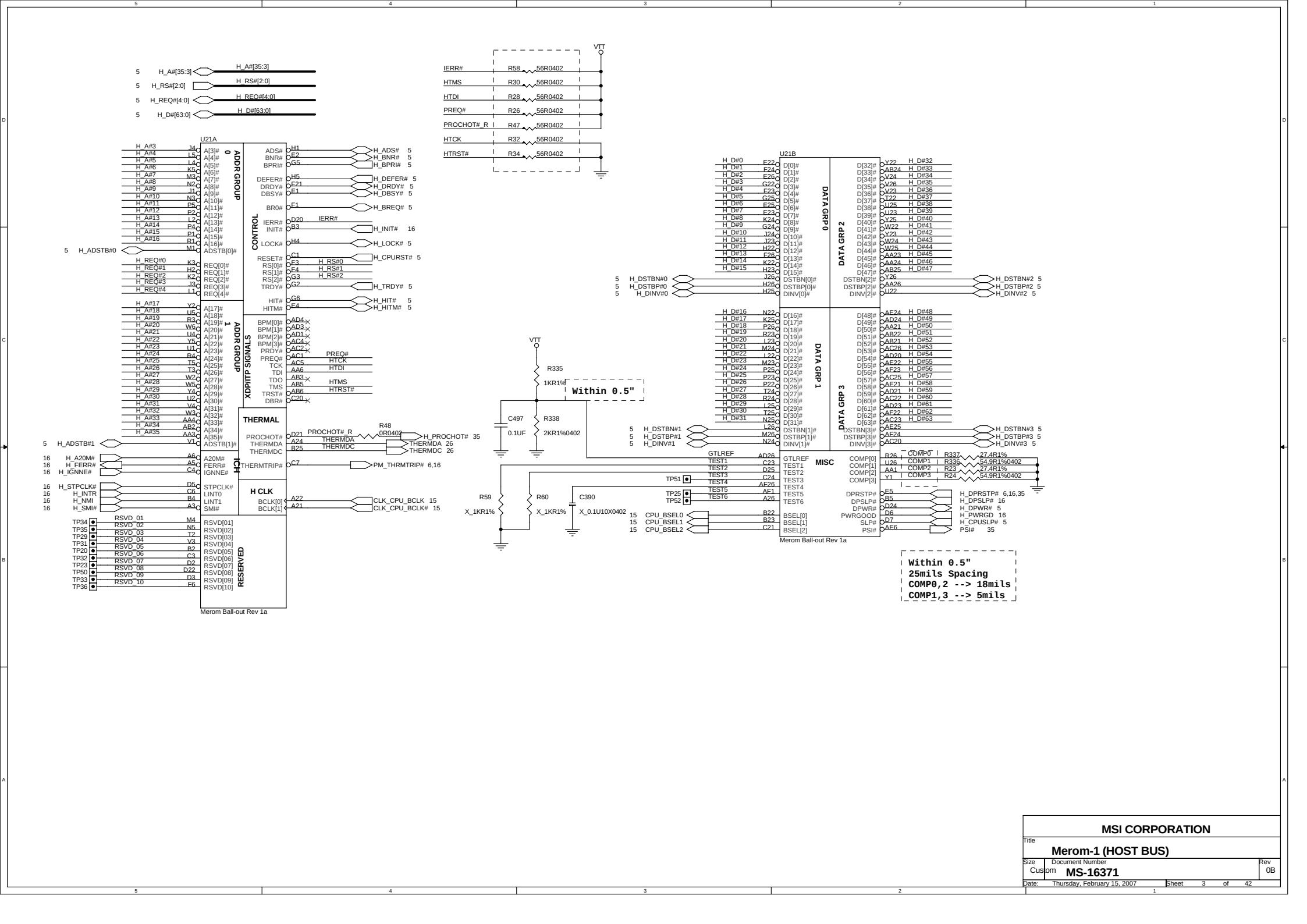

Company	MSI CORPORATION
Title	Merom-1 (HOST BUS)
Size	Custom
Document Number	MS-16371
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Date	Thursday, February 15, 2007
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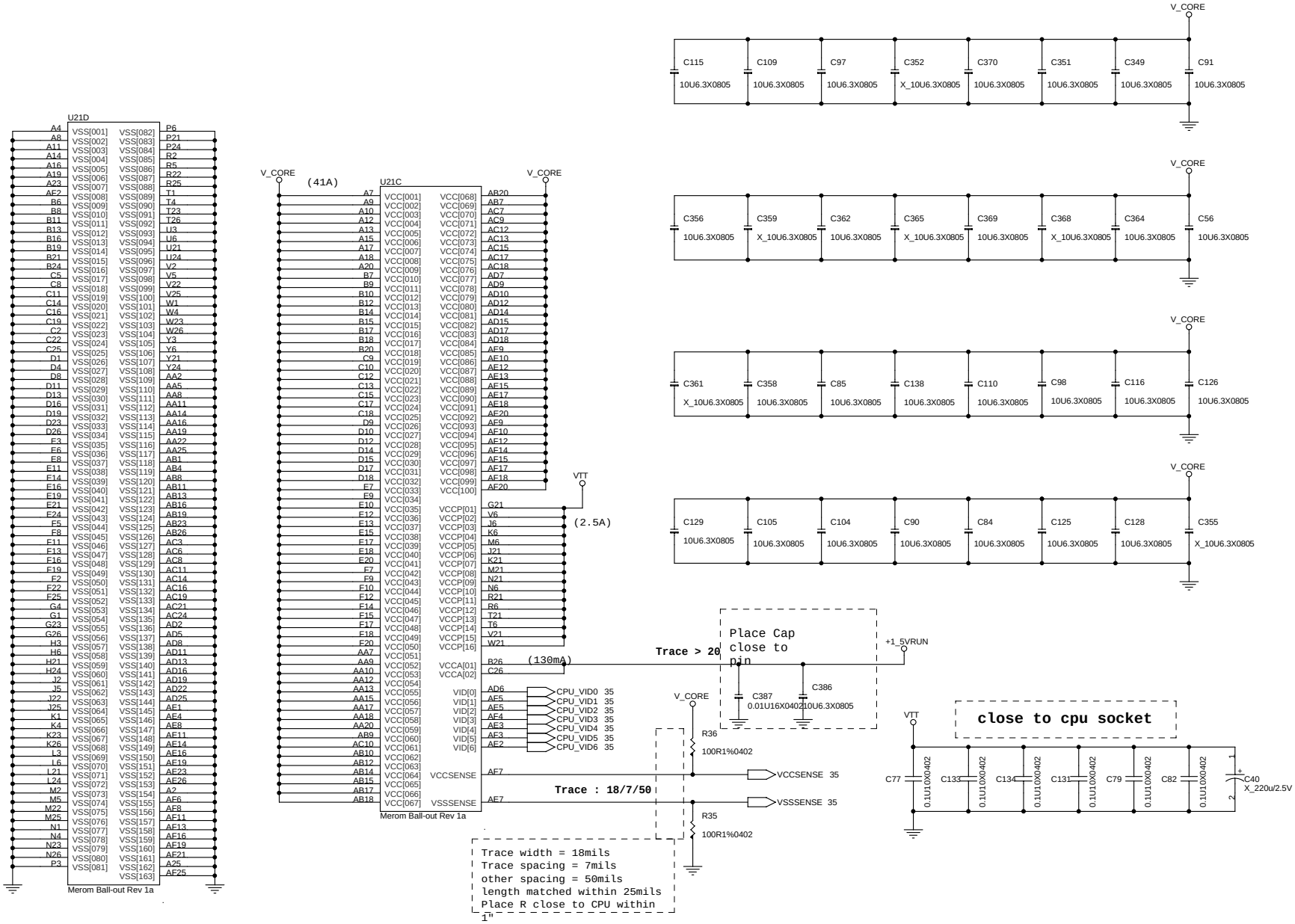
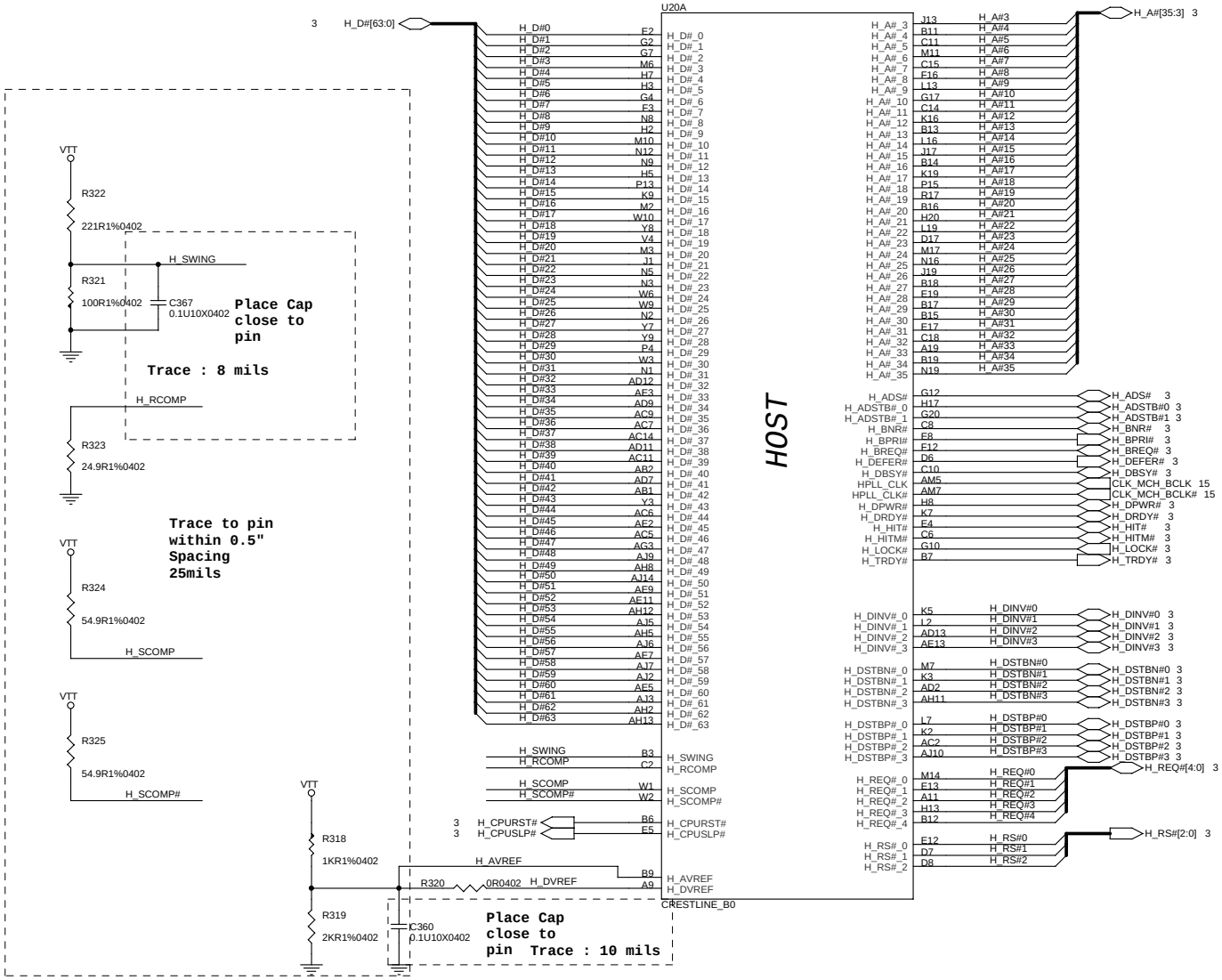


MSI CORPORATION	
Title	Merom-2 (POWER/GND)
Size: Custom	Document Number: MS-16371
Rev	0B
Date: Thursday, February 15, 2007	Sheet 4 of 42



MSI CORPORATION	
Title	CRESTLINE-1 (HOST BUS)
Size: Custom	Document Number: MS-16371
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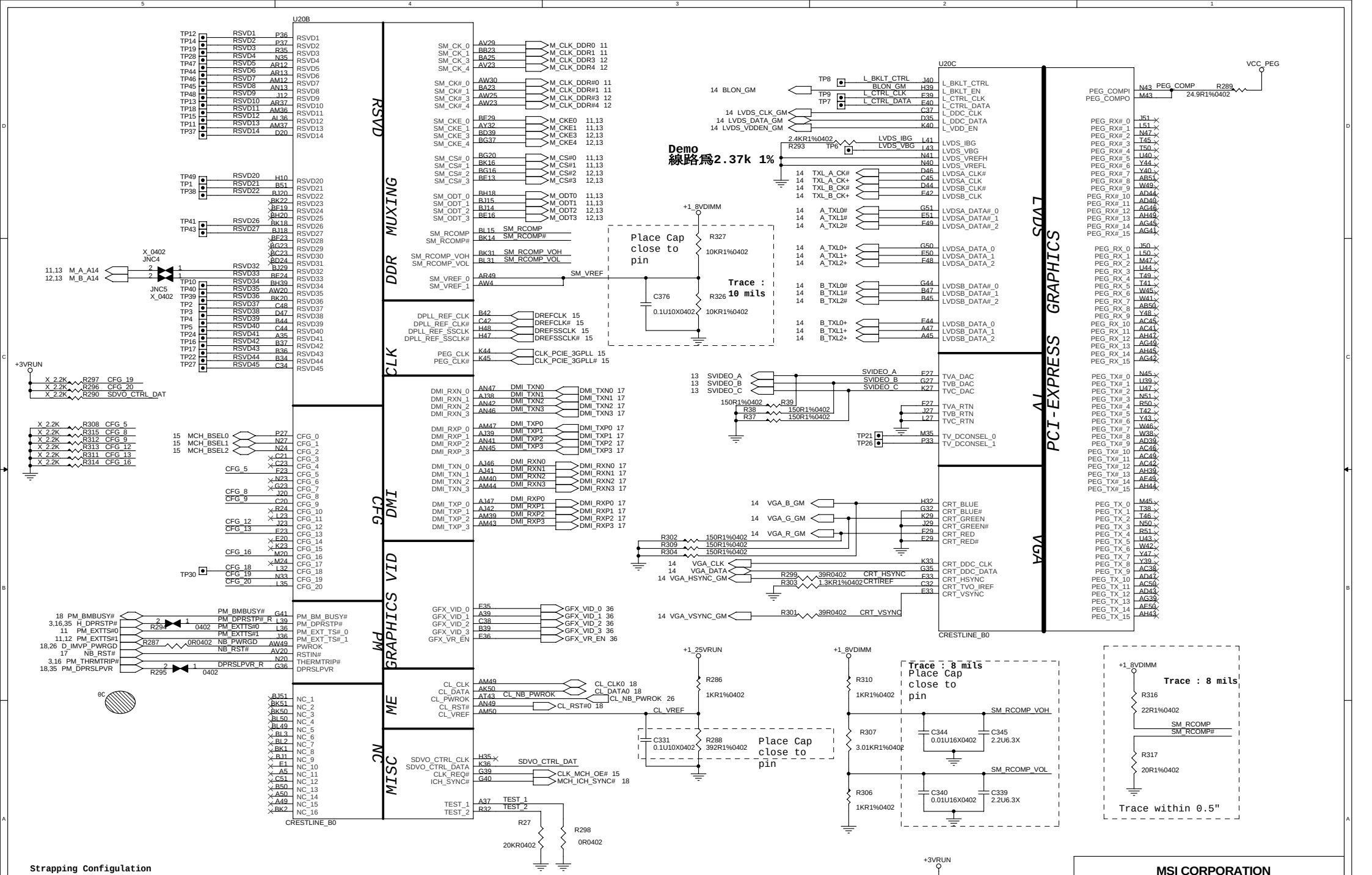
Date: Thursday, February 15, 2007	Sheet 5 of 42



Strapping Configulation

CFG5 (Default=High)	CFG9 (Default=High)	CFG16 (Default=High)	CFG19 (Default=Low)	CFG20 (Default=Low)	SDVO_CTRL_DATA(Default=Low)
DMI*4==>High DMI*2==>LOW	PCIE Graphics Lane: Normal Operation	Dynamic ODT Enabled	DMI Lane Reversal: Normal Operation	Only SDVO or PCIE is operational	SDVO present Low=No SDVO Card Present

MSI CORPORATION

Title: **CRESTLINE-2 (DMI/VGA)**

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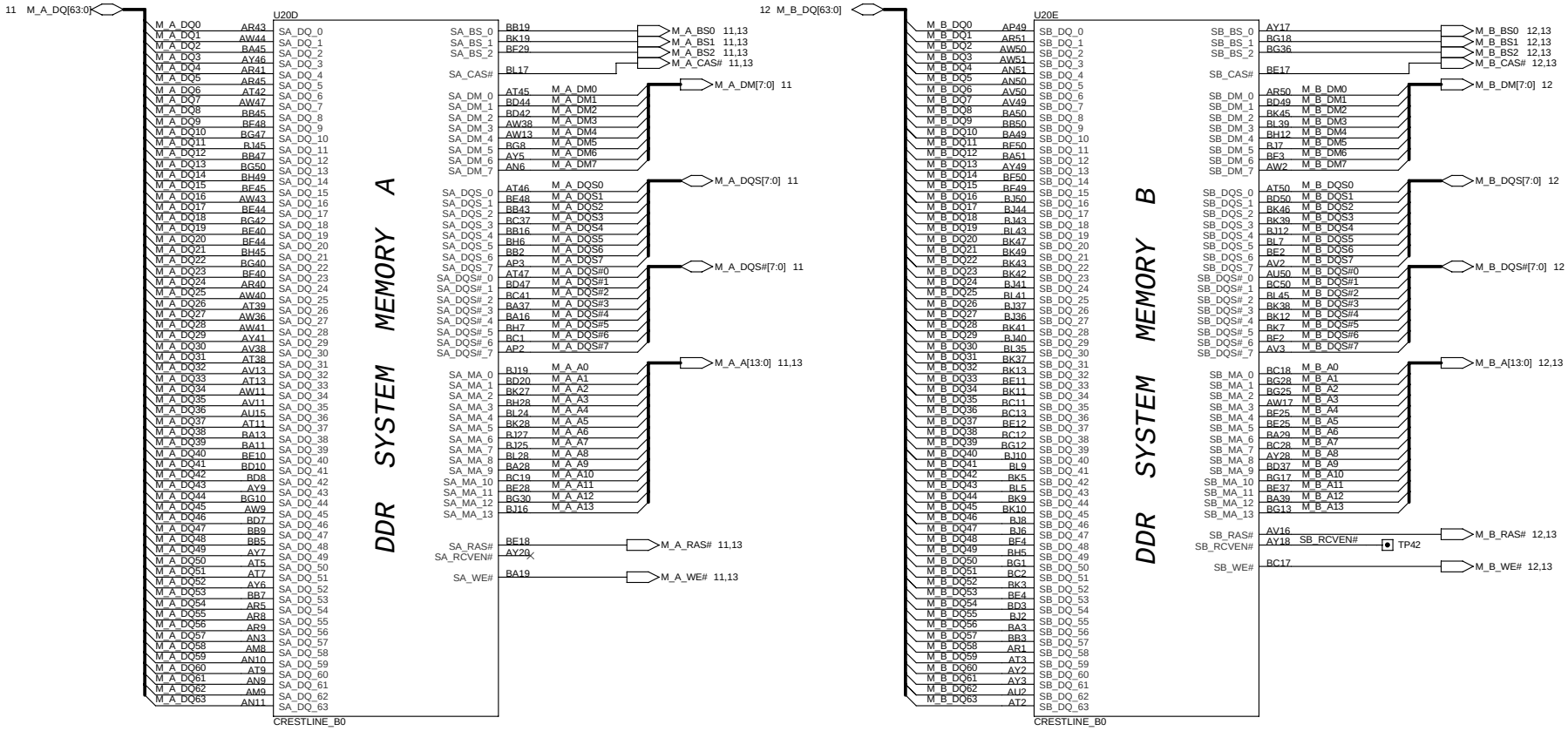
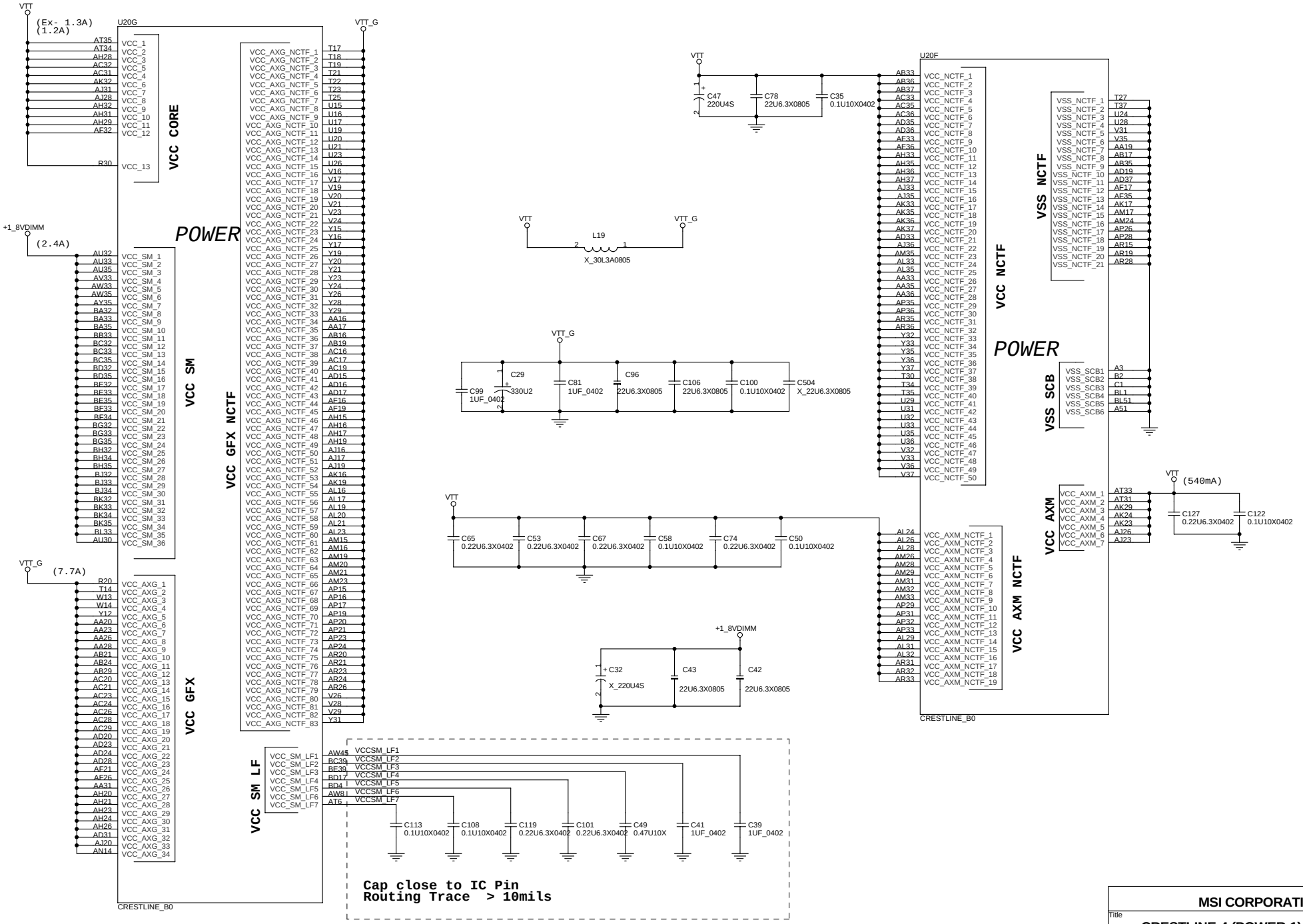
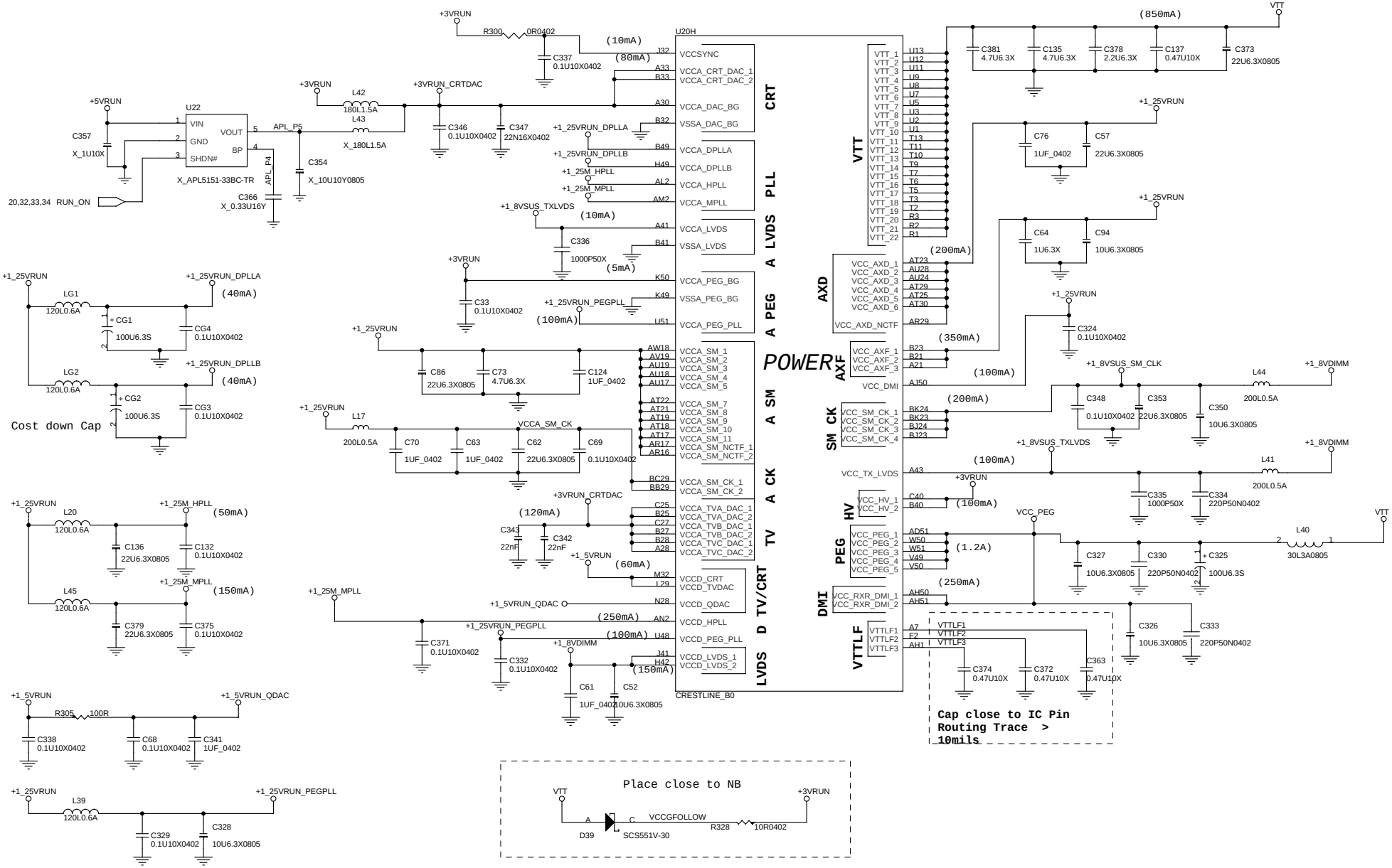


MSI CORPORATION			
Title: CRESTLINE-3 (DDR)			
Size: Custom	Document Number: MS-16371		Rev: 0B
Date: Thursday, February 15, 2007		Sheet 7 of 42	



MSI CORPORATION		
Title: CRESTLINE-4 (POWER-1)		
Size: Custom	Document Number: MS-16371	Rev: 0B
Date: Thursday, February 15, 2007	Sheet 8 of 42	


POWER
U20H
CRESTLINE_B0
CRT
PLL
LVDS
A PEG
A SM
A CK
TV
D TV/CRT
LVDS
VTT
AXD
AXF
SM CK
HV
PEG
DMI
VTTLF
U22
X_APL5151-33BC-TR
Cost down Cap
Cap close to IC Pin
Routing Trace > 10mils
Place close to NB
D39
SCS551V-30
VCCGFOLLOW
MSI CORPORATION
CRESTLINE-5 (POWER-2)
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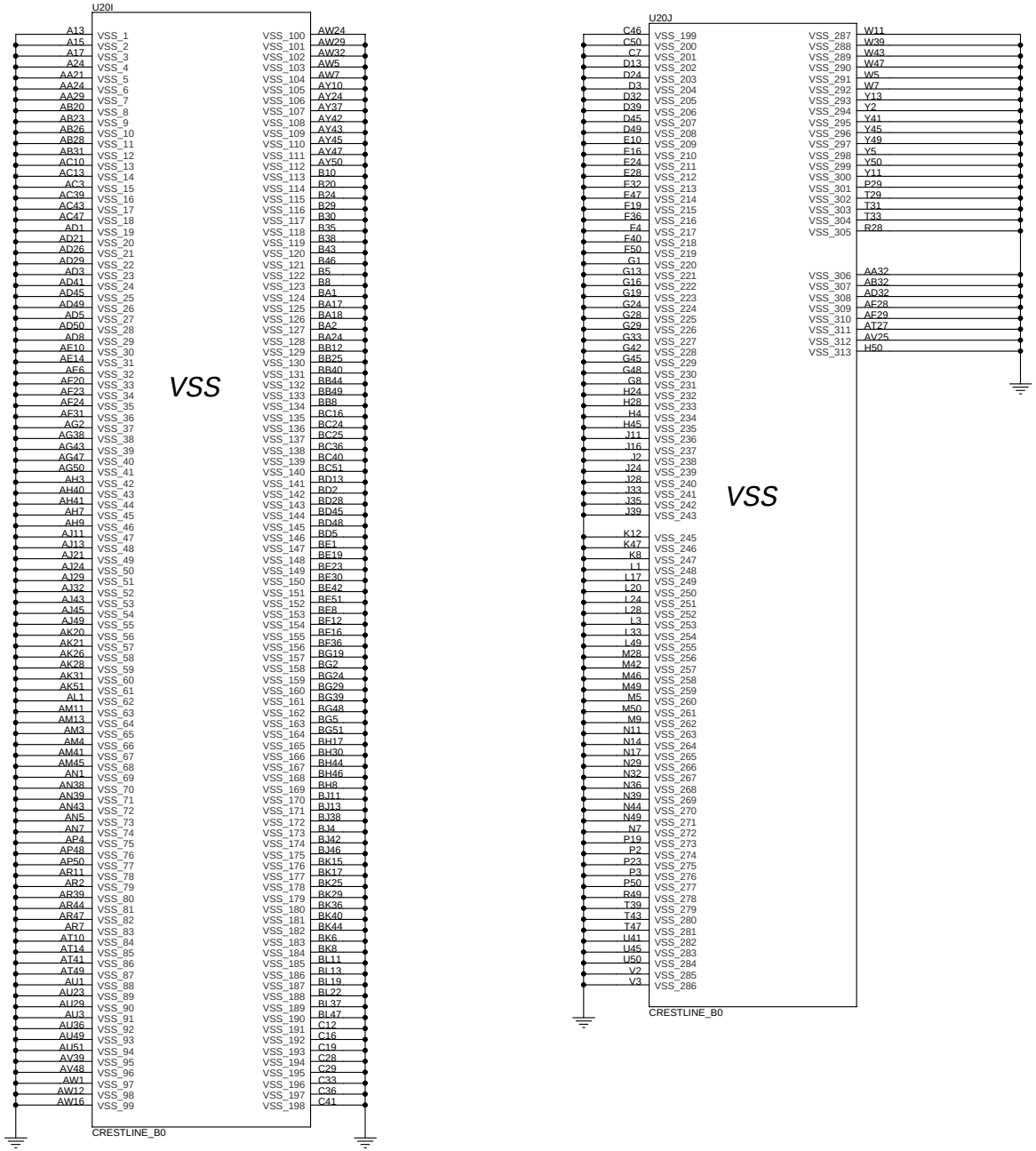
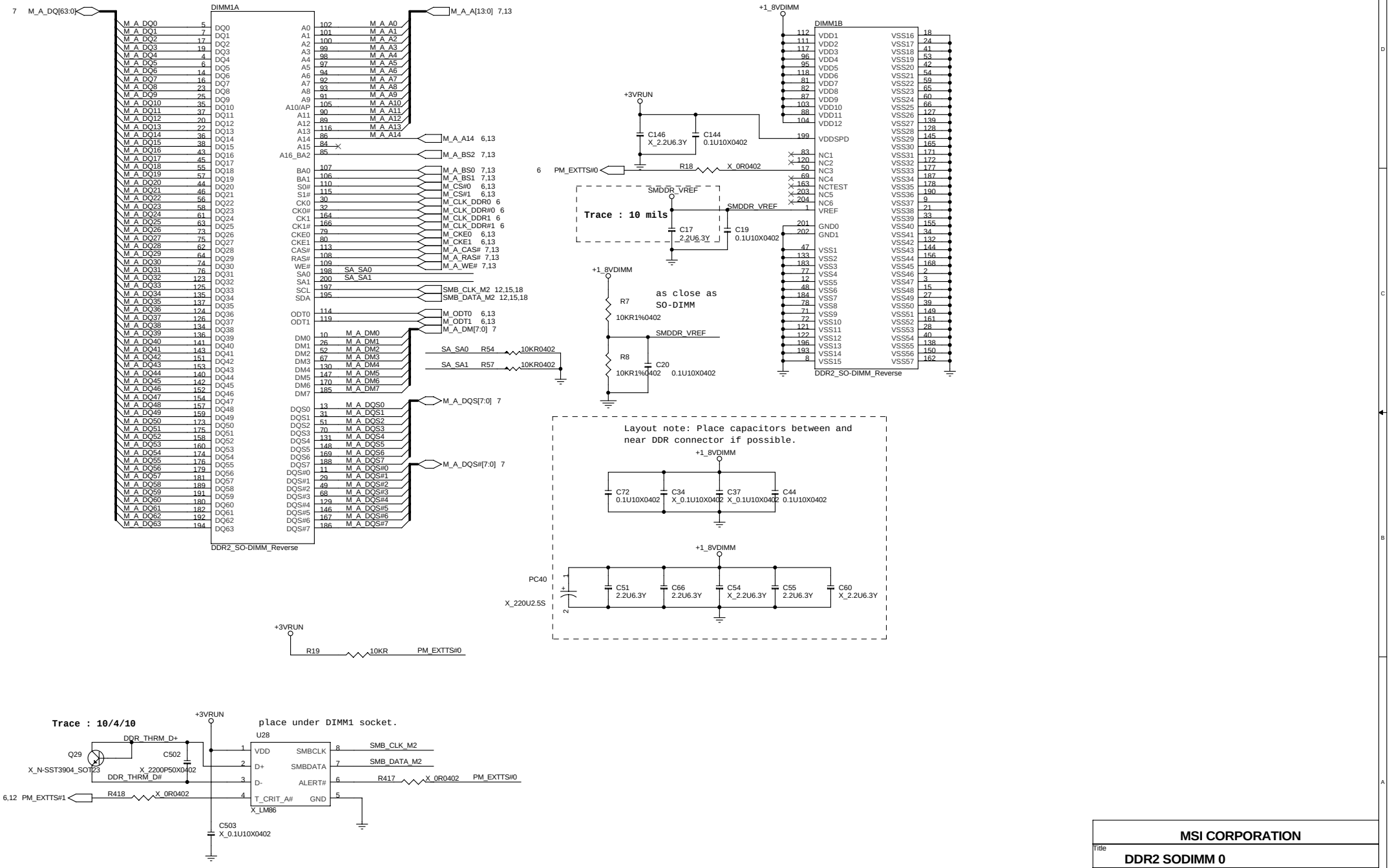


MSI CORPORATION		
Title: CRESTLINE-6 (VSS)		
Size: Custom	Document Number: MS-16371	Rev: 0B
Date: Thursday, February 15, 2007	Sheet 10 of 42	



Company	MSI CORPORATION
Title	DDR2 SODIMM 0
Size	Custom
Document Number	MS-16371
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Date:	Thursday, February 15, 2007
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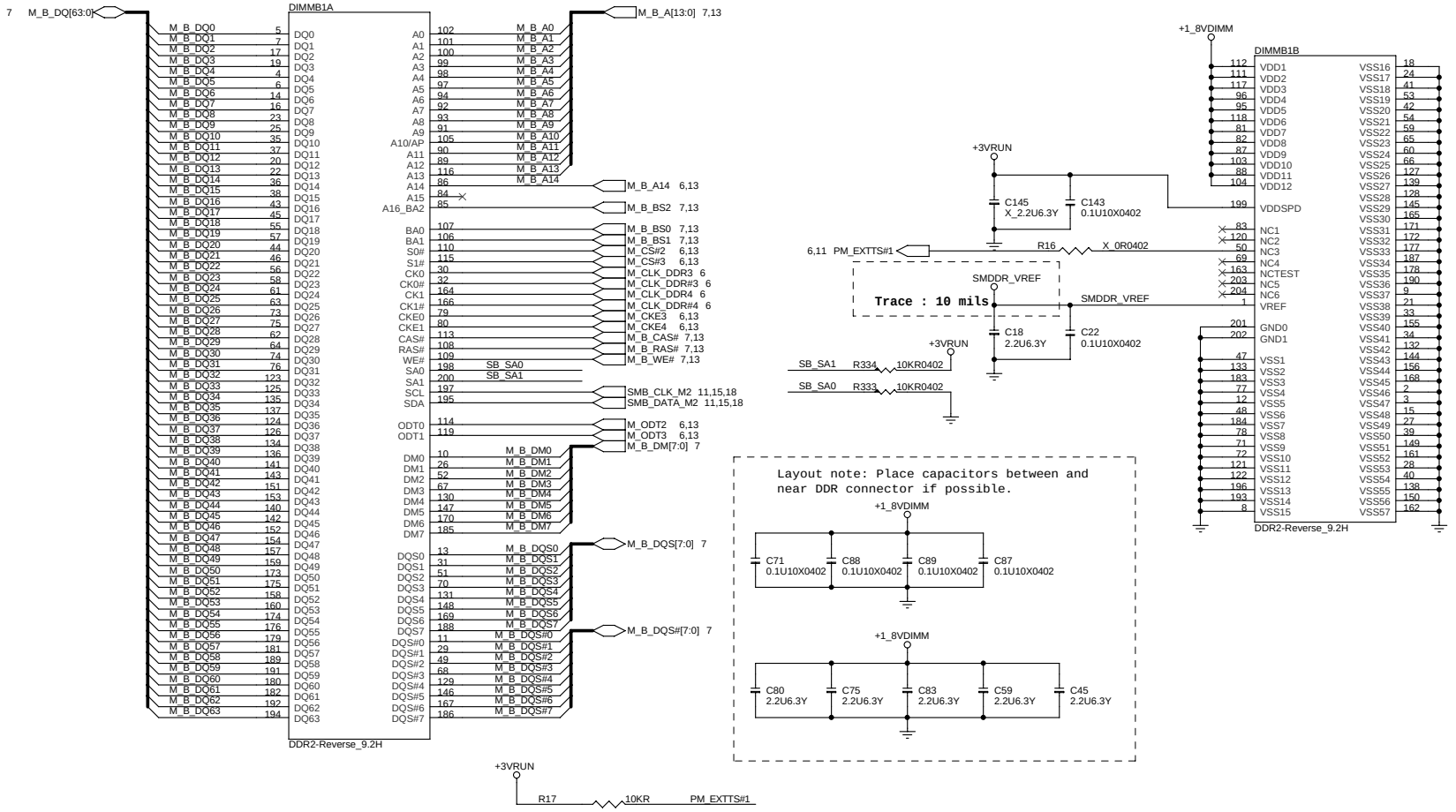
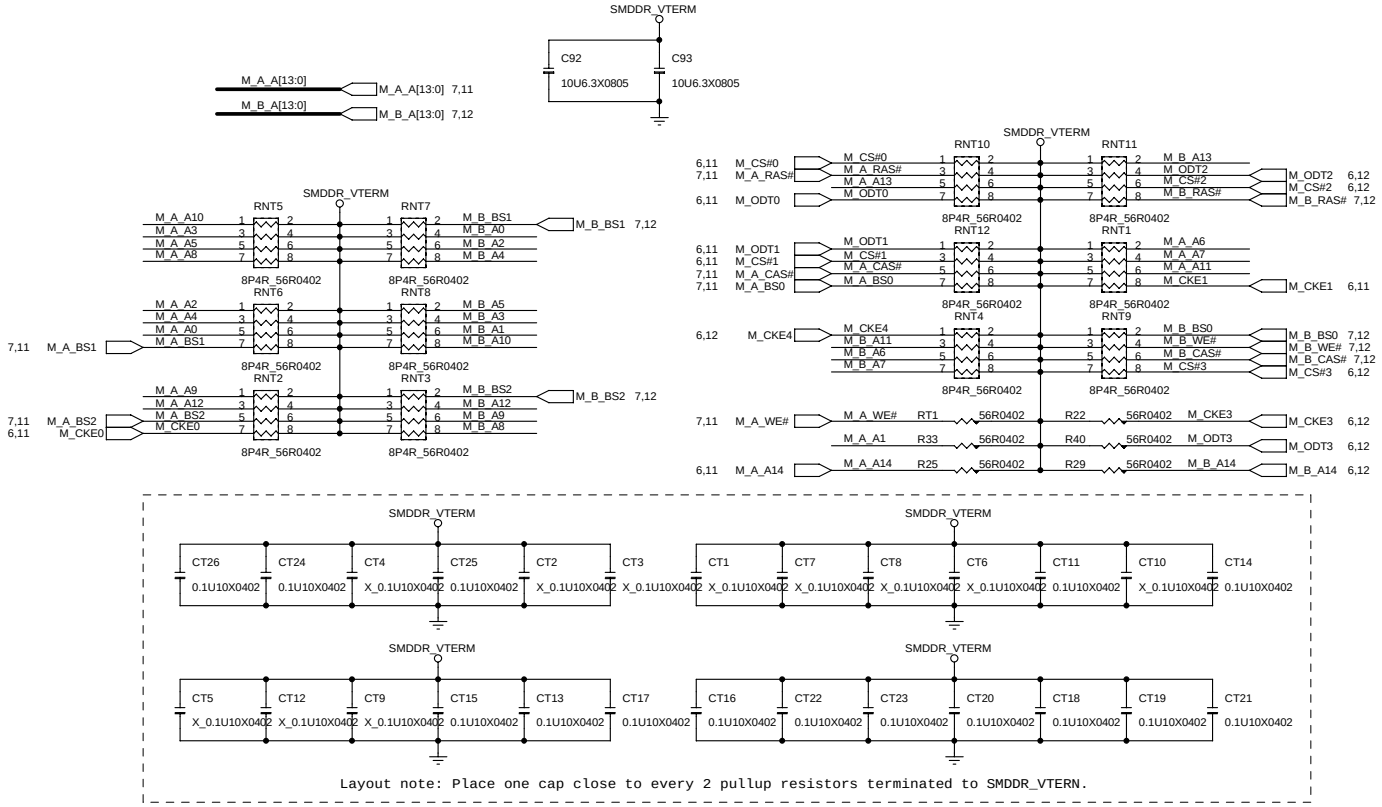
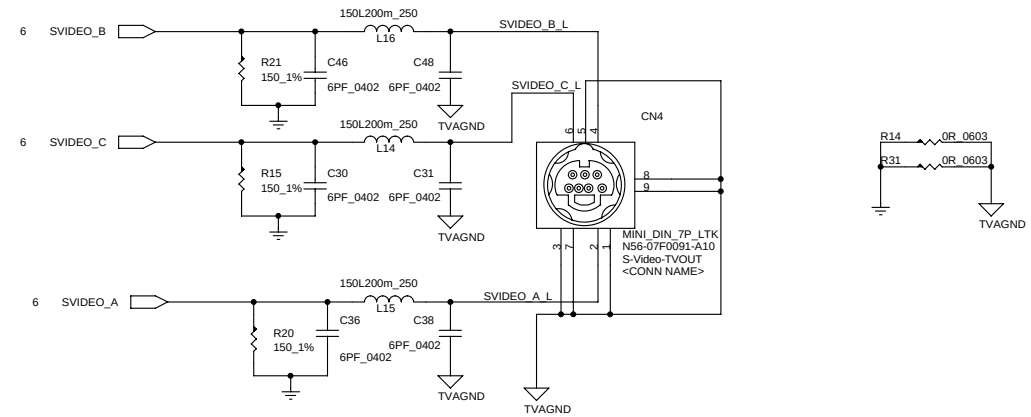


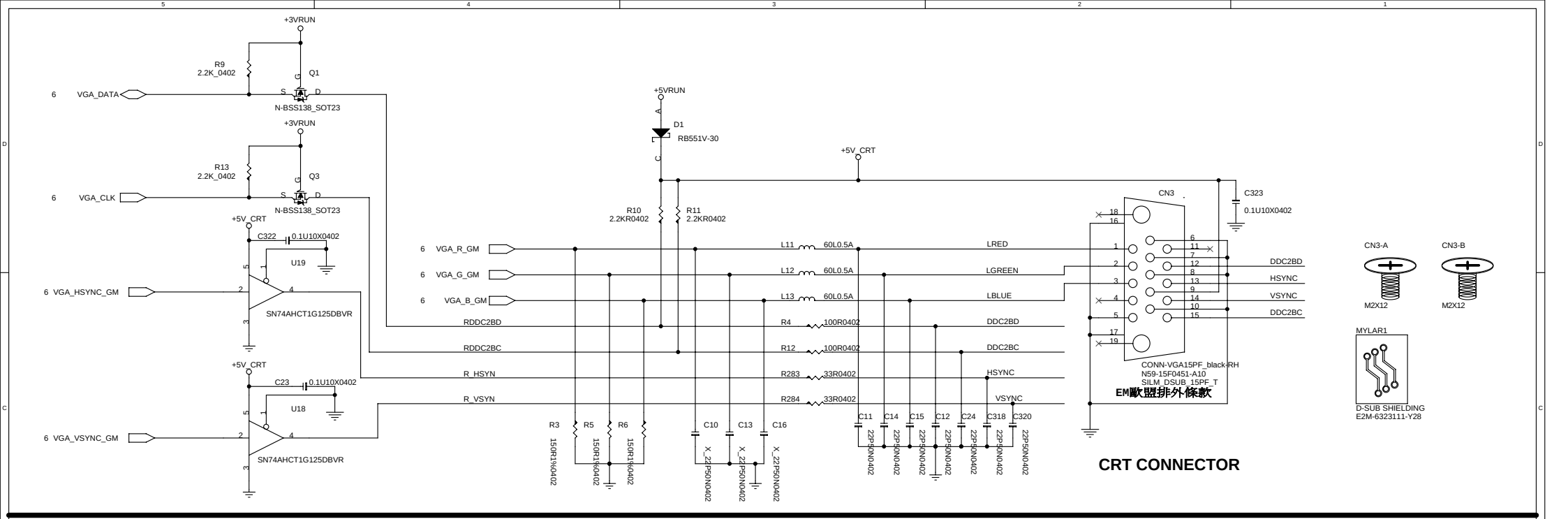
MSI CORPORATION		
Title: DDR2 SODIMM 1		
Size: Custom	Document Number: MS-16371	Rev: 0B
Date: Thursday, February 15, 2007	Sheet 12 of 42	

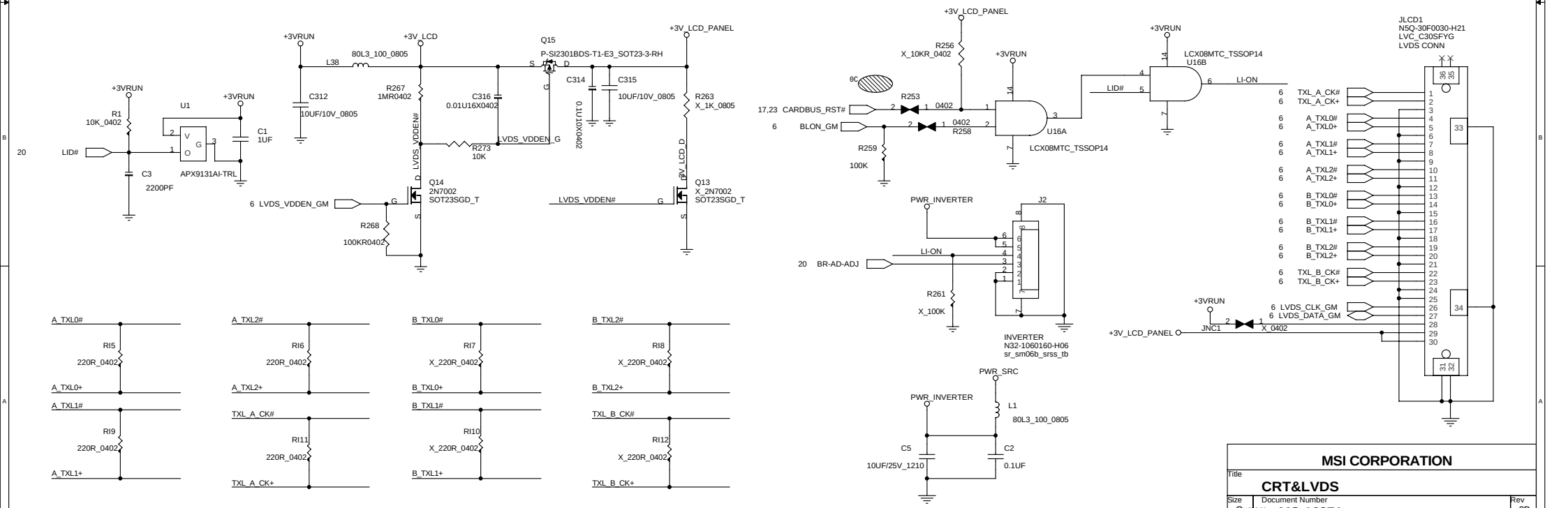


Video Filter SPEC:
C=6pF+/-20%,16V,0603
L=150ohm@100MHz,100mA(min)



MSI CORPORATION			
Title: DDR2 TREMINATION&TV_OUT			
Size: Custom	Document Number: MS-16371	Rev: 0B	
Date: Thursday, February 15, 2007	Sheet 13 of 42		





MSI CORPORATION

Title: **CRT&LVDS**

Size	Document Number	Rev
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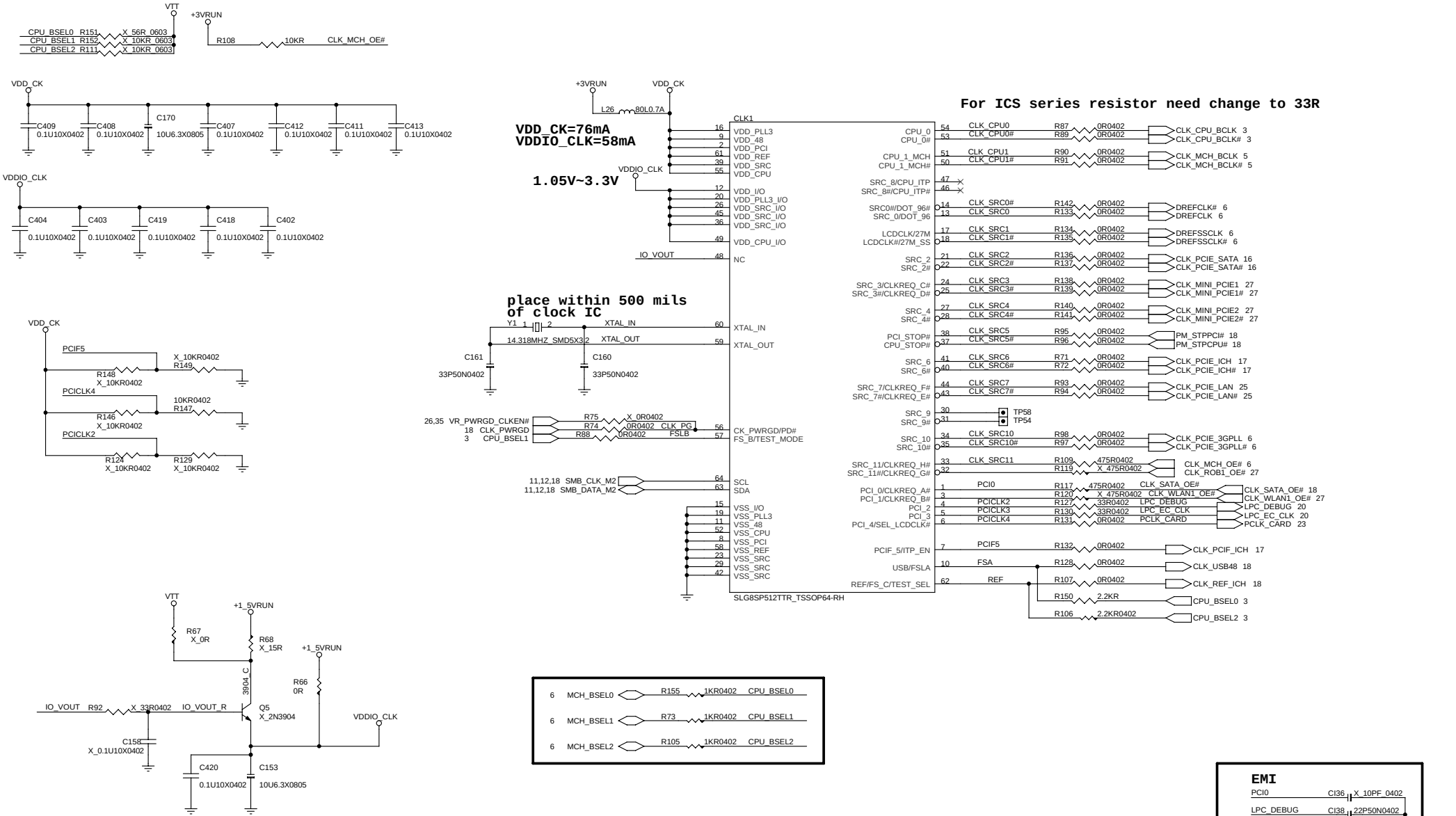

PIN#	USAGE	DESCRIPTION
1	CR#_A	Control SATA OE
32	CR#_G	Control ROB1 OE
33	CR#_H	Control MCH OE
3	CR#_B	Control WLAN1 OE

CPU Table			FSB Freq (MHz)
BSEL[2]	BSEL[1]	BSEL[0]	
L	H	H	667 MHz
L	H	L	800 MHz

Strapping Configulation(SLG)

PIN#	High	Low
6	pin13/14 as DOT96#/DOT96# pair	pin13/14 as DOT96#/DOT96# pair
	pin17/18 as LCD_CLK#/LCD_CLK pair	pin17/18 as LCD_CLK#/LCD_CLK pair

MSI CORPORATION

Title: **CLOCK Generator (CK505)**

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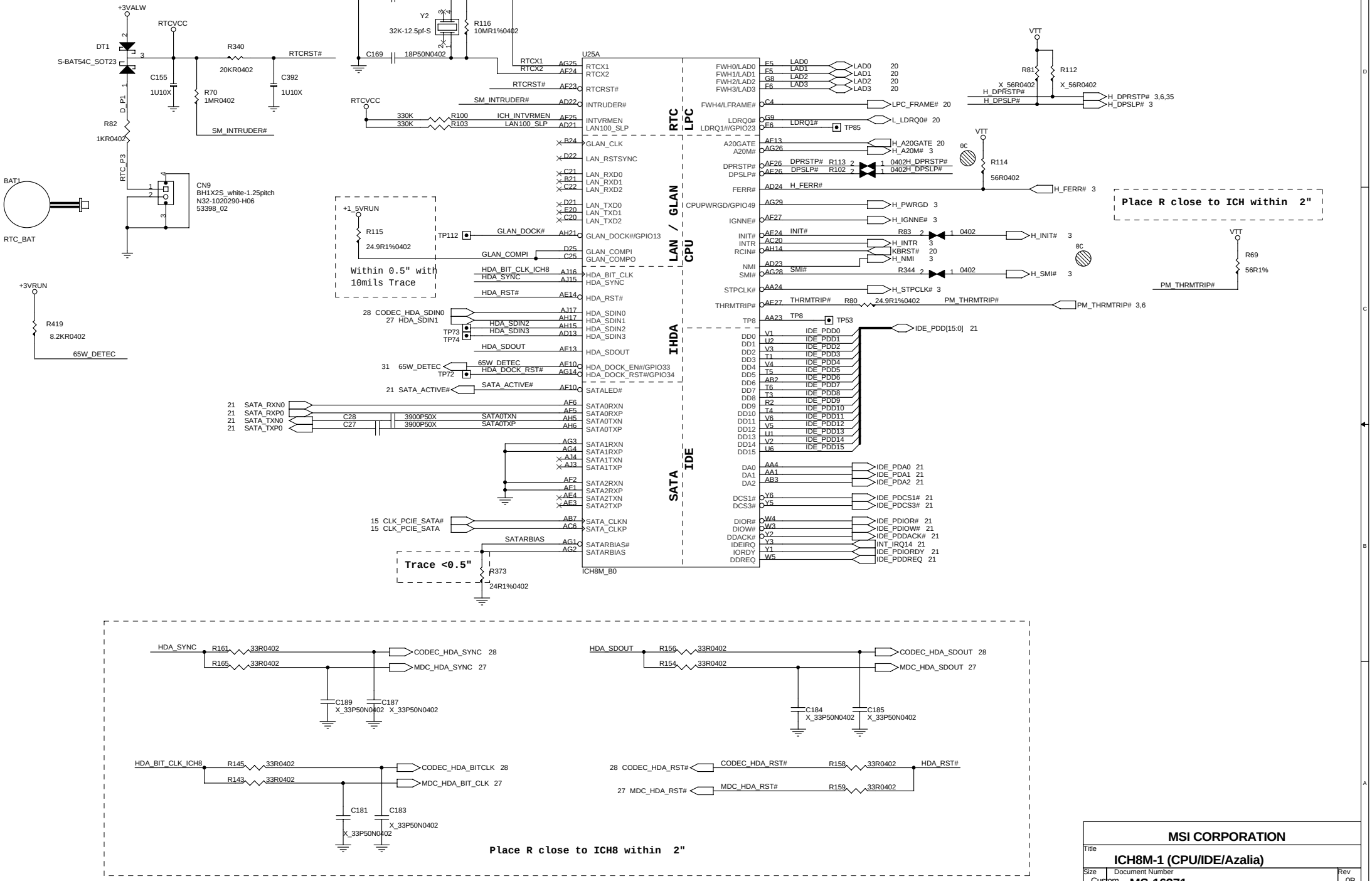
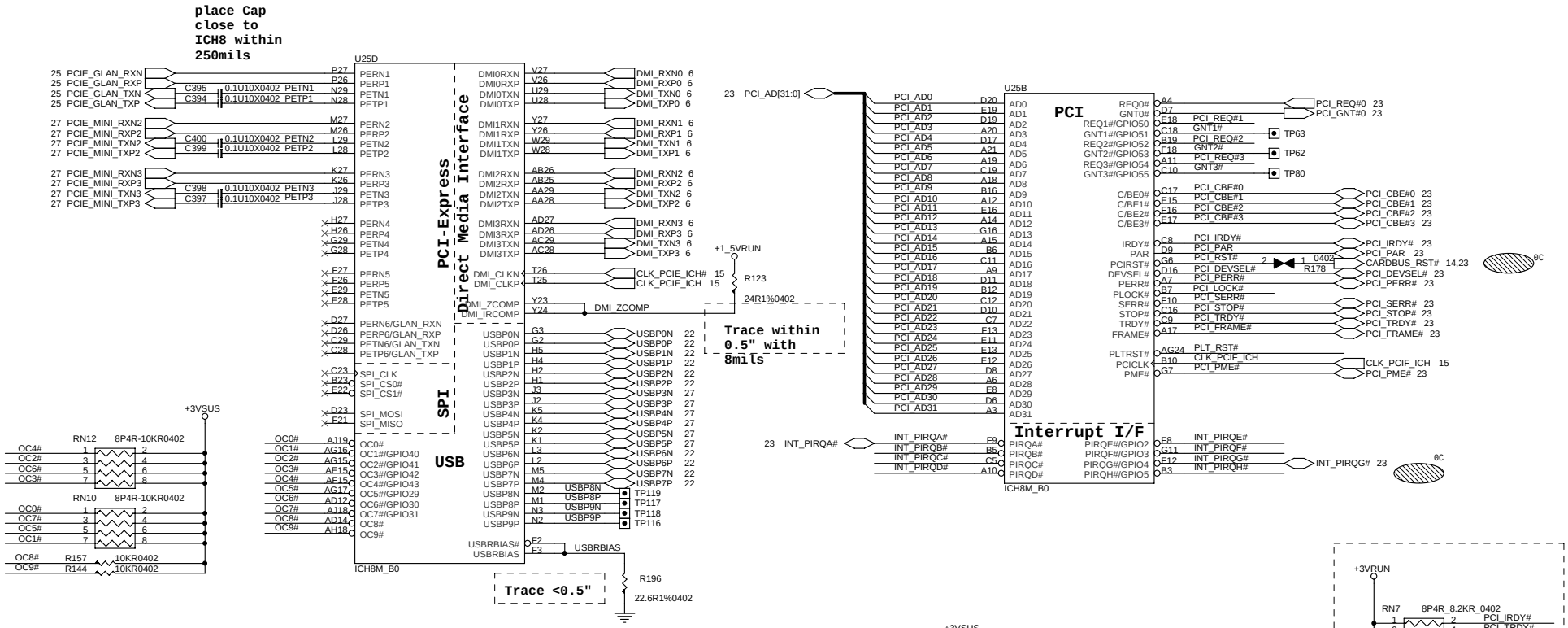


MSI CORPORATION			
Title: **ICH8M-1 (CPU/IDE/Azalia)**			
Size: Custom	Document Number: **MS-16371**		Rev: 0B
Date: Thursday, February 15, 2007		Sheet 16 of 42	



Strapping Configulation

HDA_SDOUT (Default=Low)	HDA_SYNC (Default=Low)	GNT2# (Default=High)	GPIO20 (Default=Low)	GNT1#/GPIO51 (Default=High)	GNT3# (Default=High)	GNT0#/SPI_CS1# (Default=High)
XOR chain testing==>Low Set bit 1 of RPC.PC==>High	Set bit 0 of RPC.PC	Set bit 2 of RPC.PC2	Reserved	ESI Strap (server only)	Top-block swap mode ==>Low	Boot BIOS destination selection

INTVRMEN	LAN100_SLP	SATALED# (Default=High)	SPKR (Default=Low)	TP3 (Default=High)	GPIO33/HDA_DOCK_EN# (Default=High)
Enable integrated Vccsus1_05, Vccsus1_5,VccCL1_5==High	Enable integrated VccLAN11_05,VccCL1_05==High	Set bit 27 of MPC.LR	No Reboot mode==>High	XOR chain Entrance	Flash Descriptor Security overridden==>Low Flash Descriptor will be in effect==>High

MSI CORPORATION			
Title: ICH8M-2 (PCI/USB/PCIE/DMI)			
Size: Custom	Document Number: MS-16371		Rev: 0B
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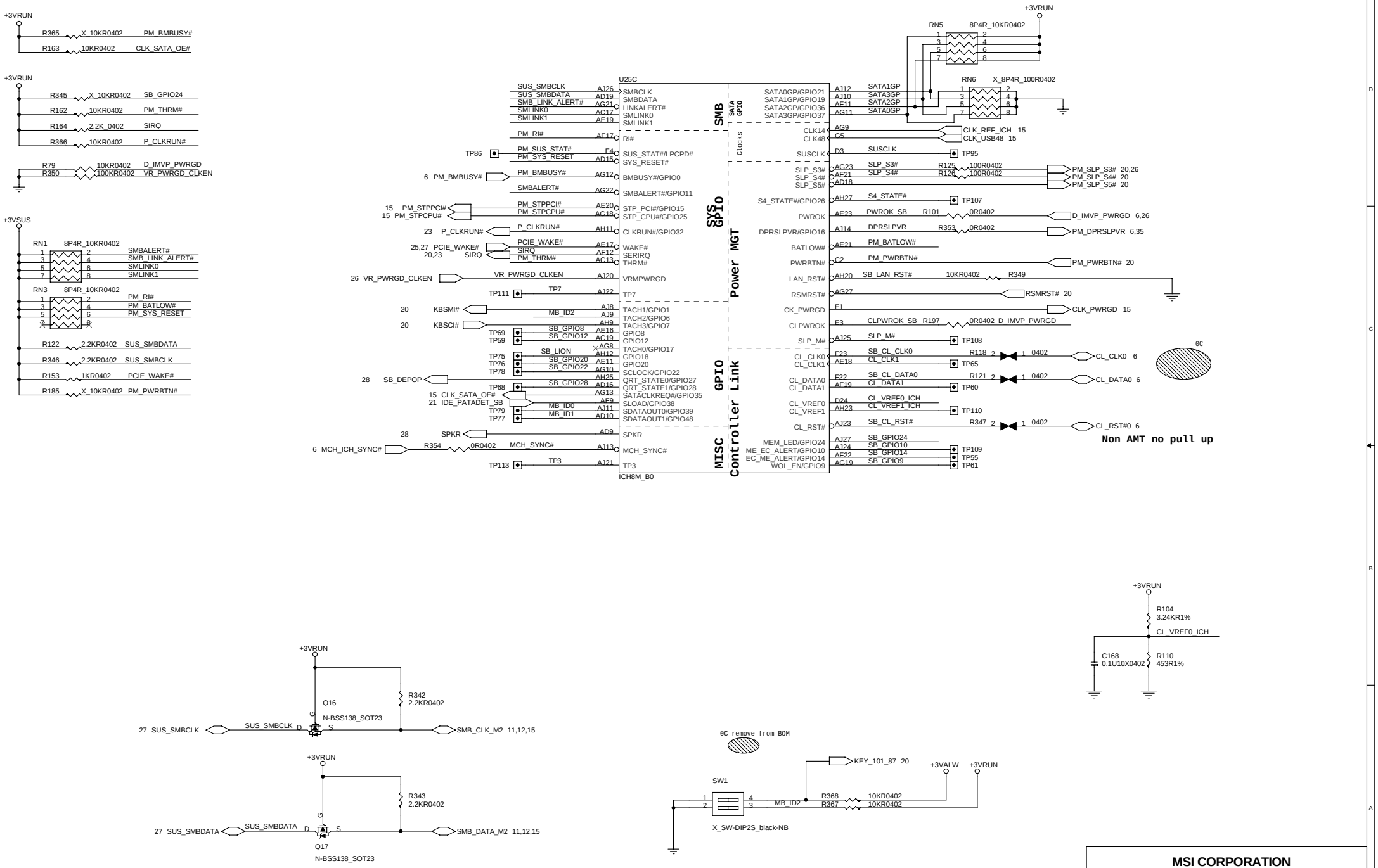

MSI CORPORATION

Title: **ICH8M-3 (SM BUS/GPIO)**

Size	Document Number	Rev
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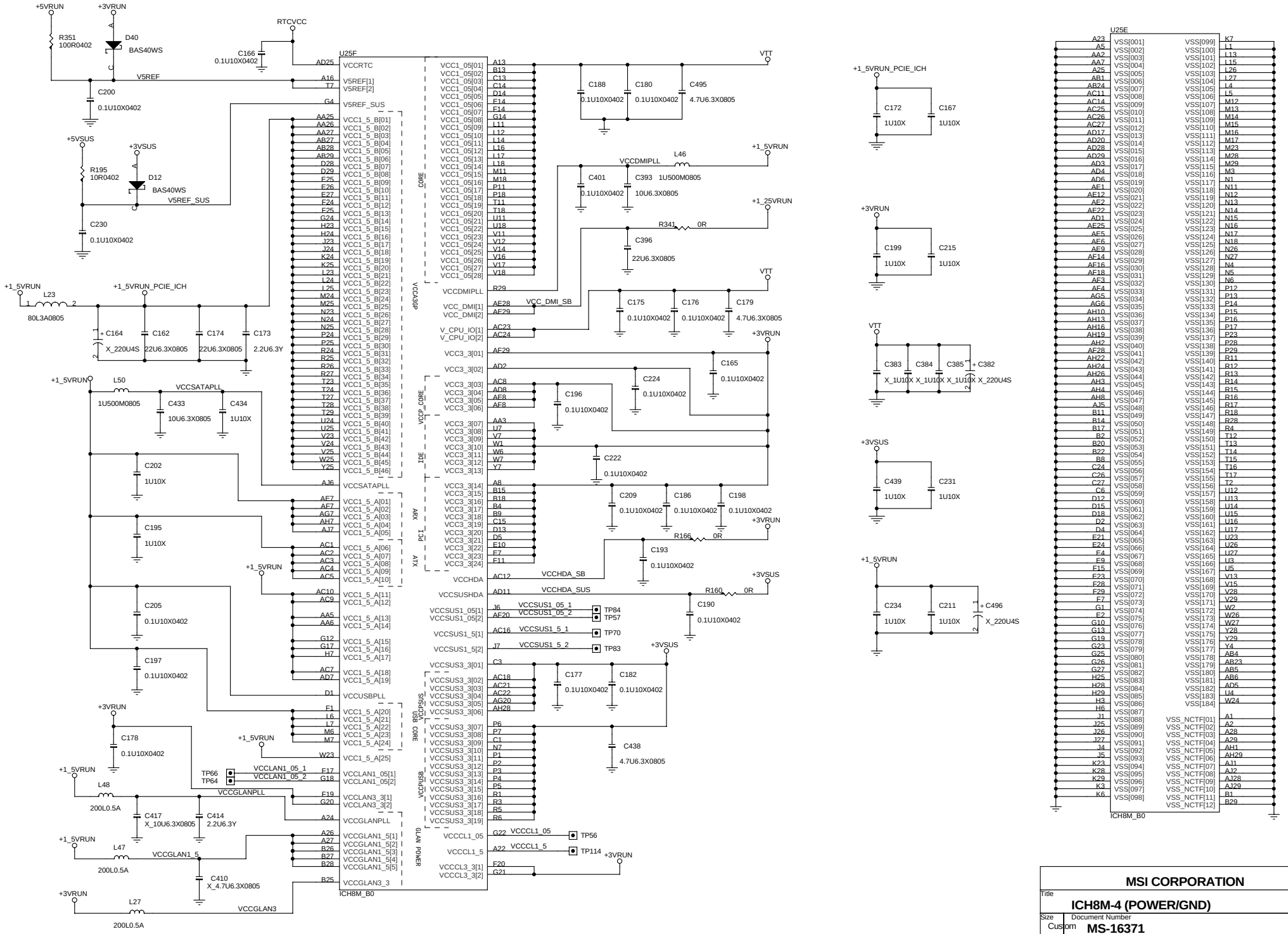

MSI CORPORATION

Title: **ICH8M-4 (POWER/GND)**

Size: Custom | Document Number: **MS-16371** | Rev: 0B

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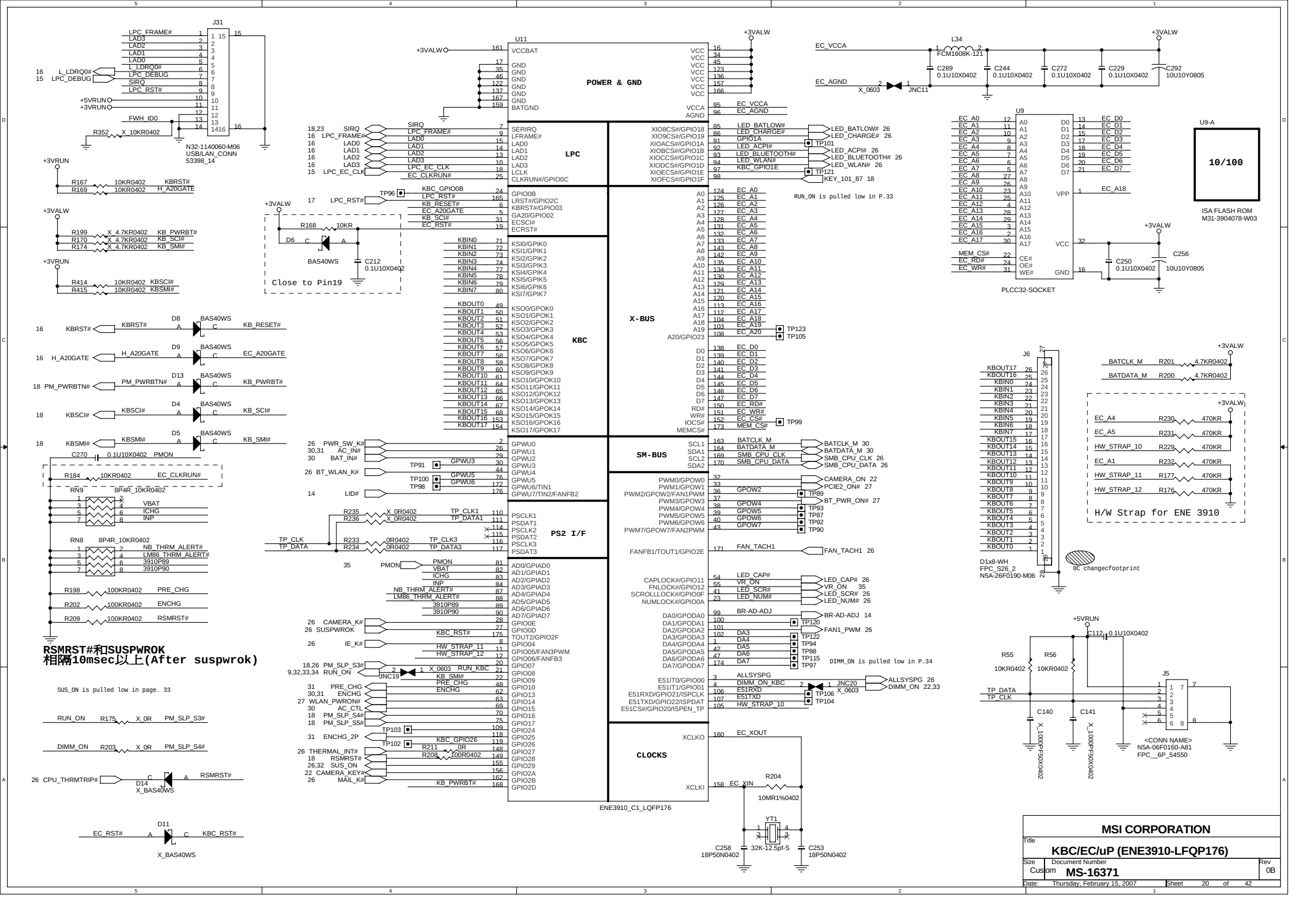
POWER & GND
LPC
KBC
X-BUS
SM-BUS
PS2 I/F
CLOCKS
ENE3910_C1_LQFP176
RSMRST#和SUSPWROK
相隔10msec以上(After suspwrok)
SUS_ON is pulled low in page. 33
RUN_ON is pulled low in P.33
DIMM_ON is pulled low in P.34
Close to Pin19
H/W Strap for ENE 3910
PLCC32-SOCKET
ISA FLASH ROM
M31-3904078-W03
10/100
MSI CORPORATION
KBC/EC/uP (ENE3910-LFQP176)
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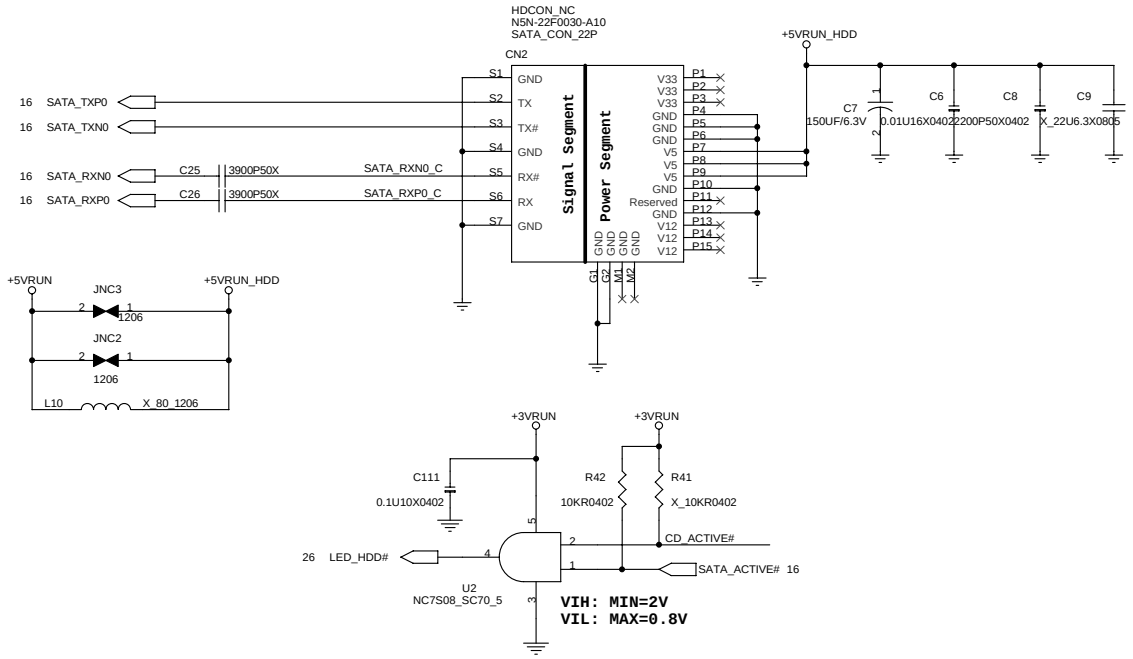
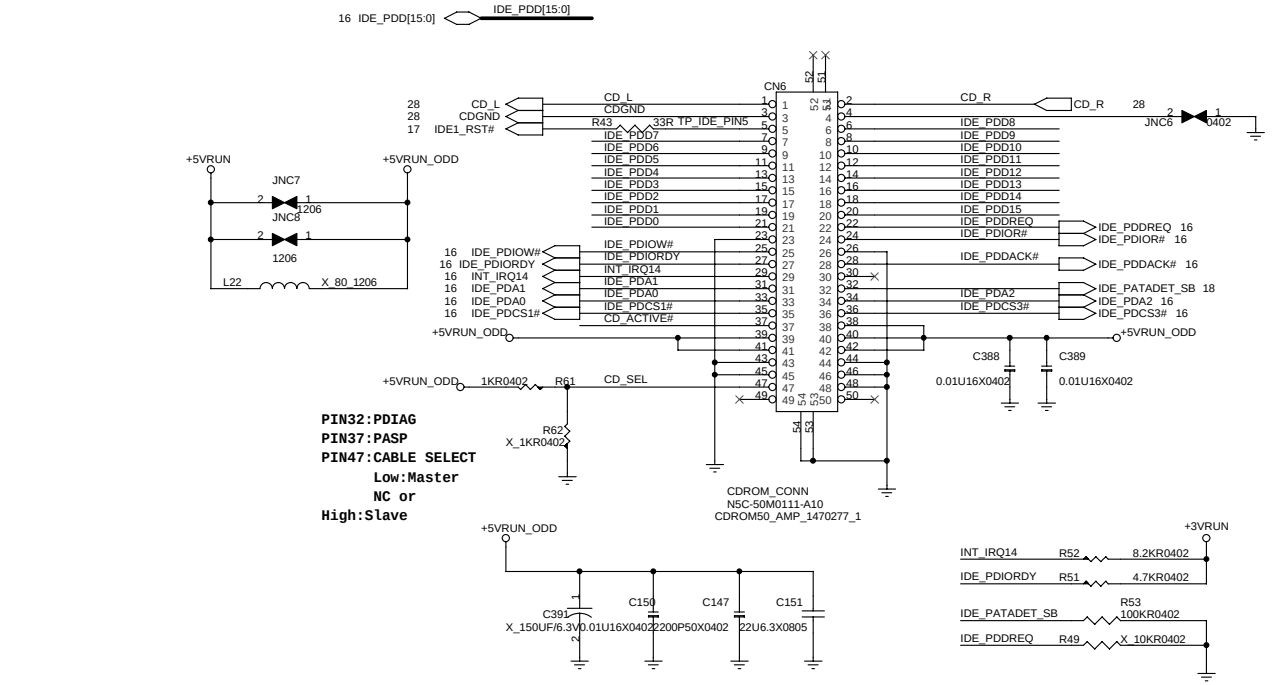
Thursday, February 15, 2007





MSI CORPORATION			
Title: HDD&ODD			
Size: Custom	Document Number: MS-16371		Rev: 0B
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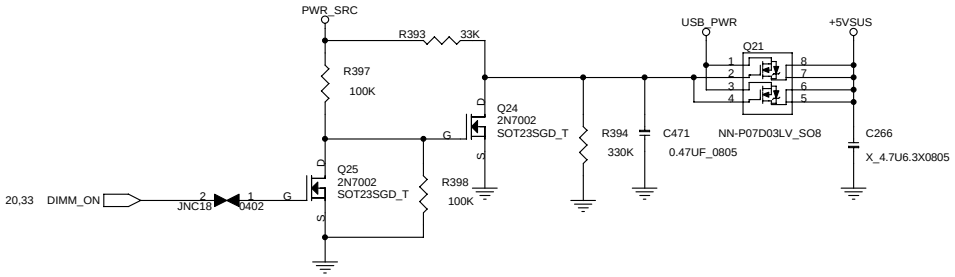
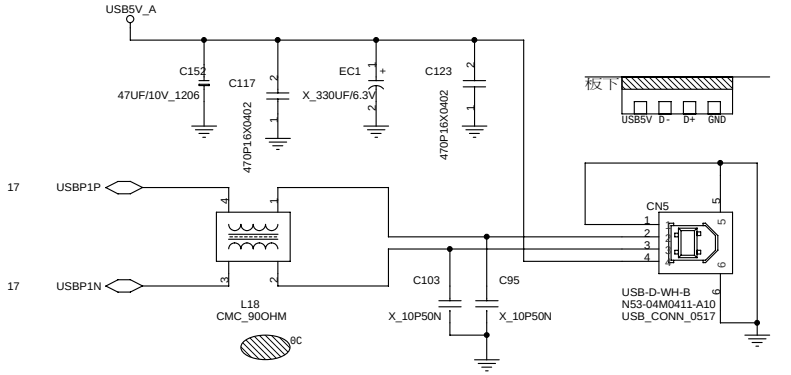
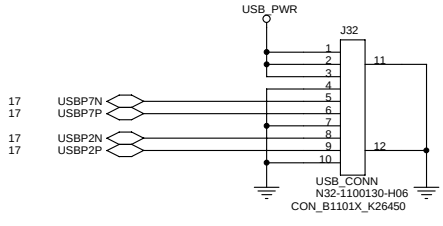
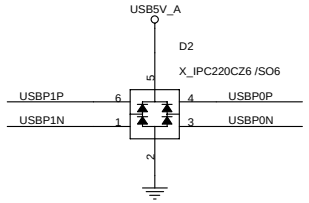
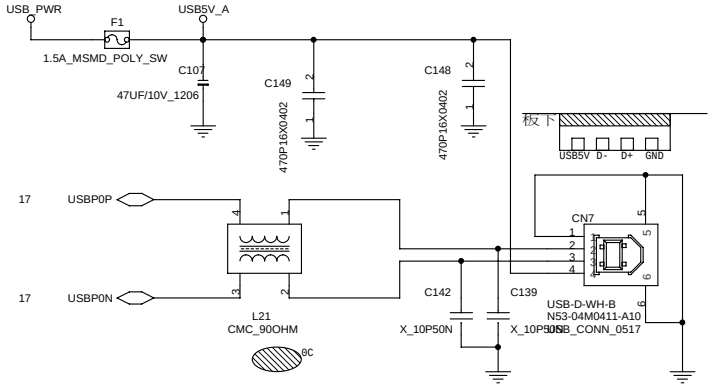


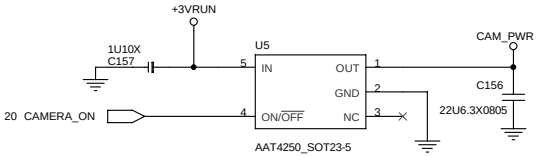


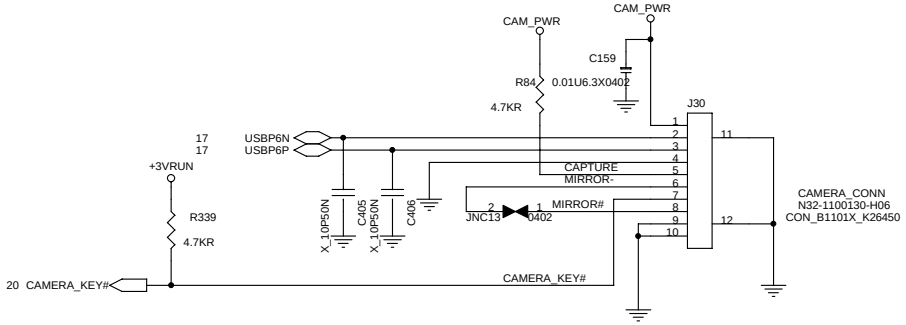






DIGITAL CAMERA





MSI CORPORATION		
Title: **USB & CMOS**		
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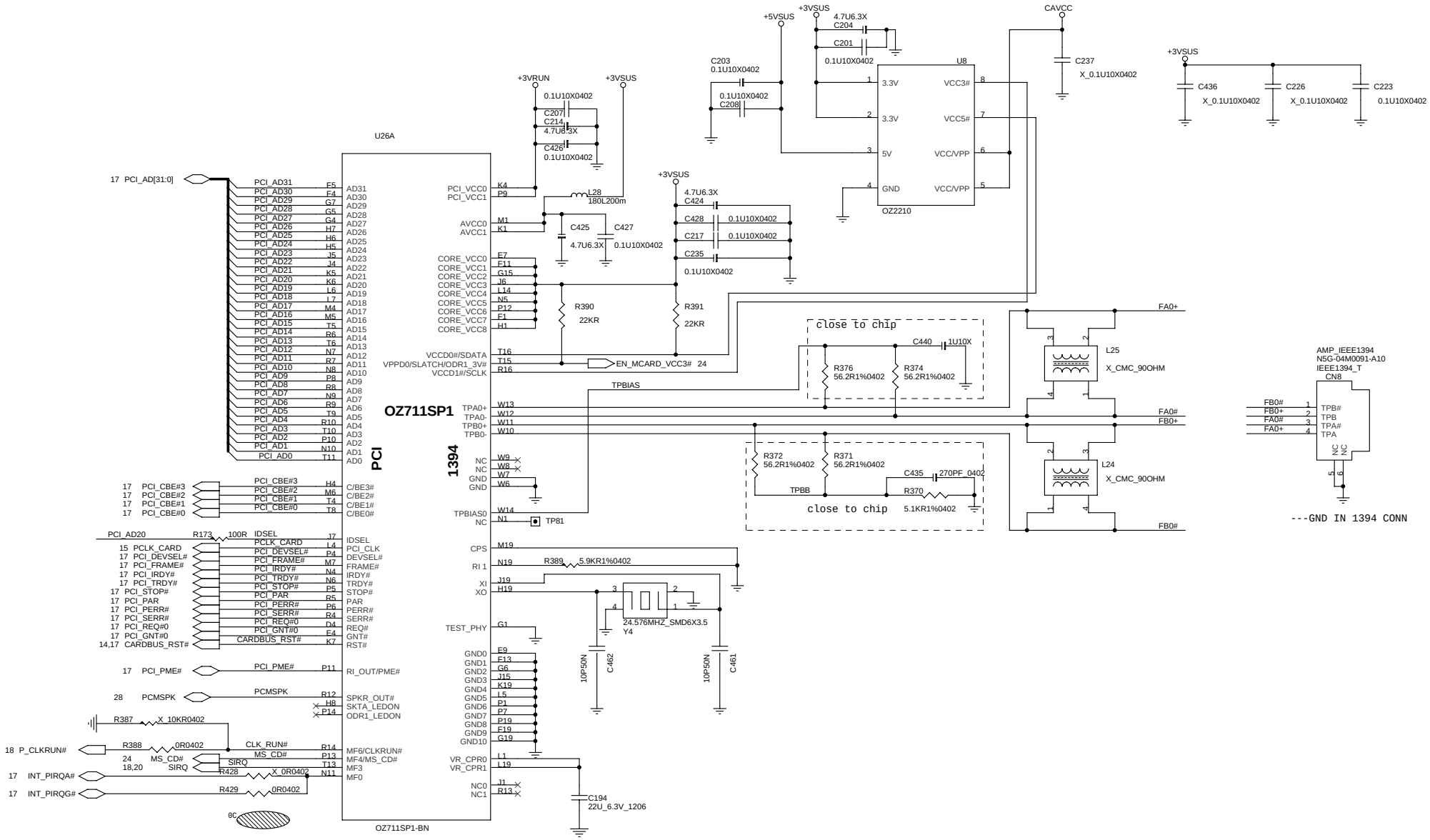

Company	MSI CORPORATION
Title	OZ711SP1-1(PCI Bus / 1394)
Size	Custom
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Date	Thursday, February 15, 2007
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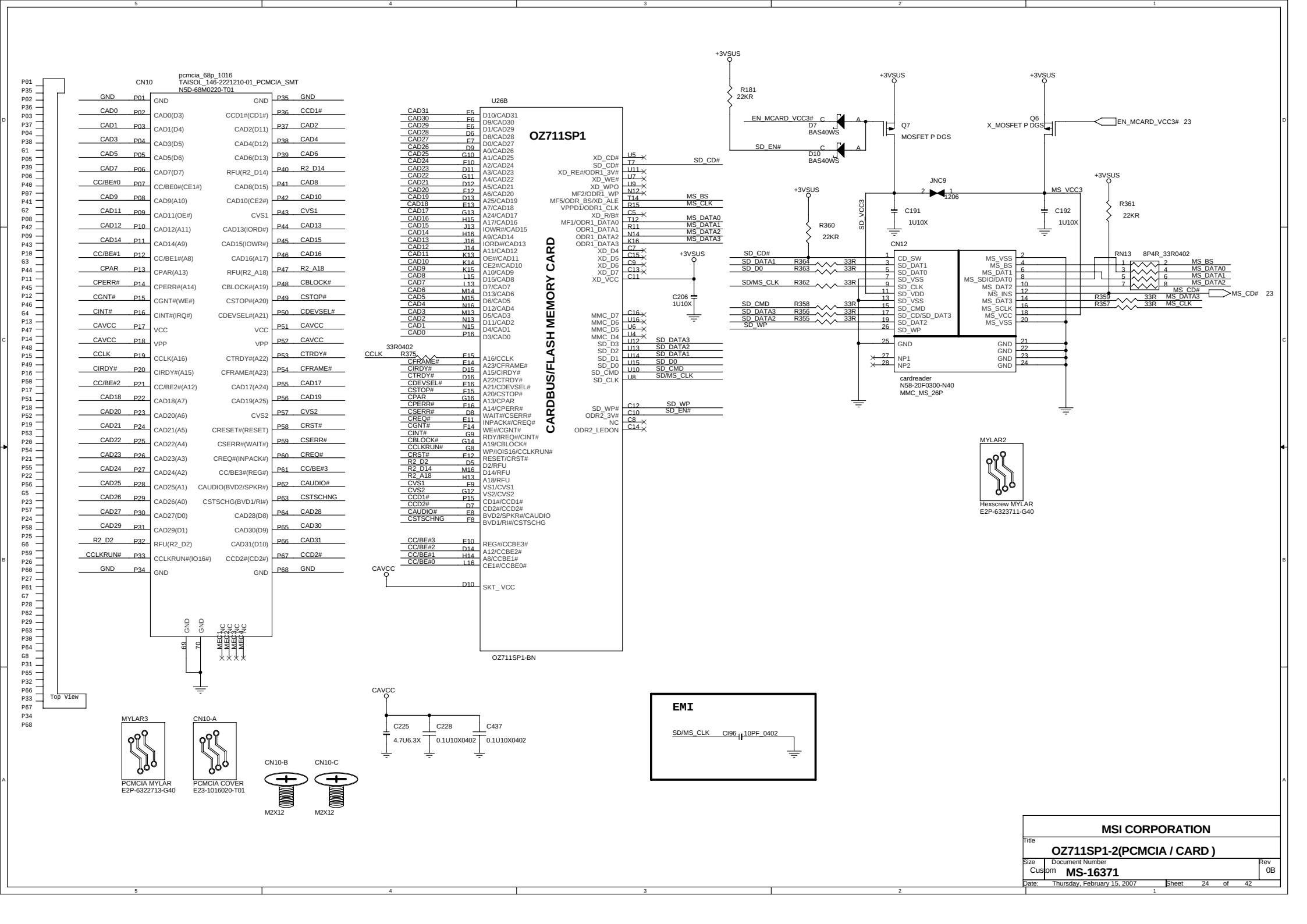
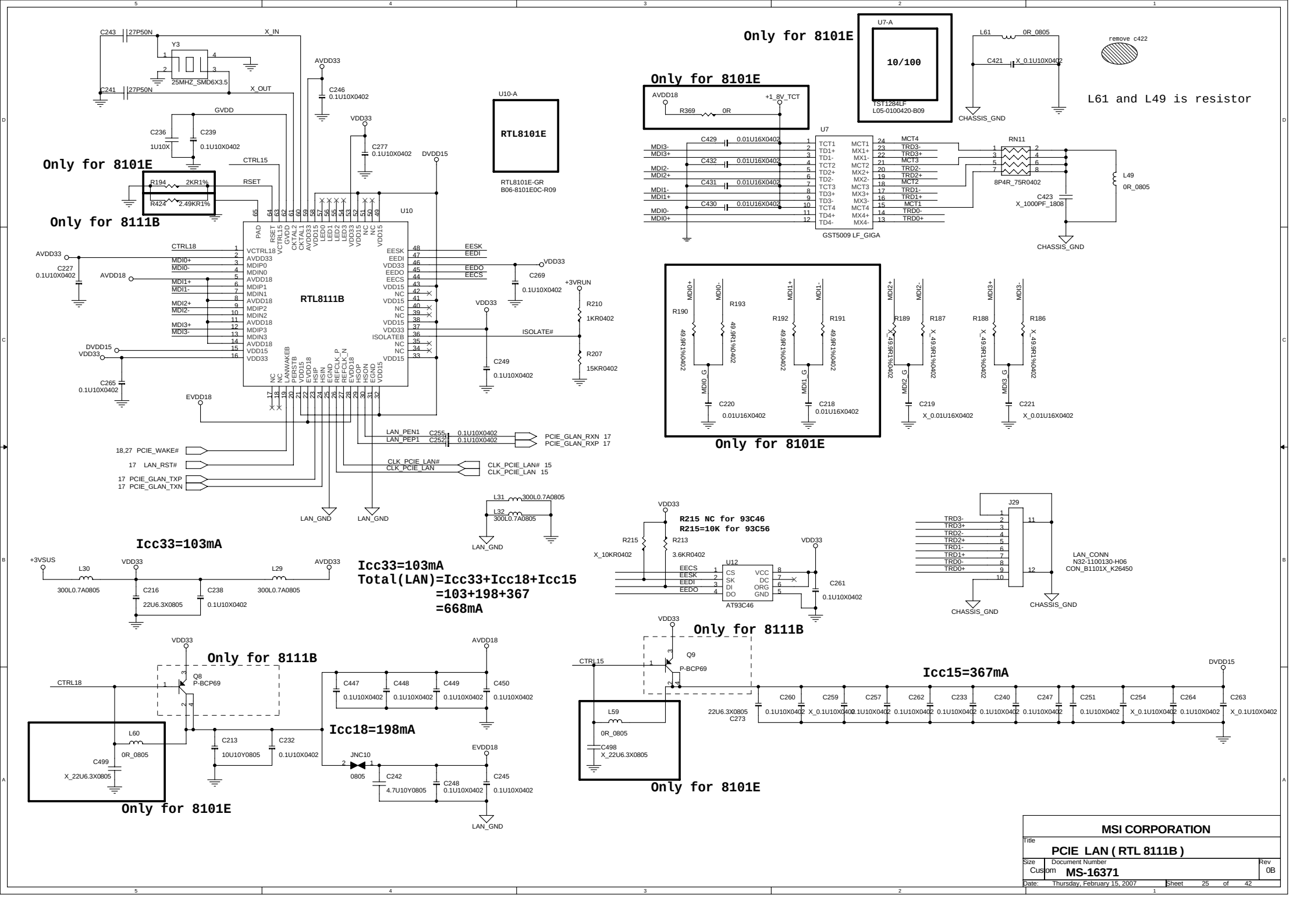

CN10
pcmcia_68p_1016
TAISOL_146-2221210-01_PCMCIA_SMT
N5D-68M0220-T01
GND P01 GND
CAD0 P02 CAD0(D3)
CAD1 P03 CAD1(D4)
CAD3 P04 CAD3(D5)
CAD5 P05 CAD5(D6)
CAD7 P06 CAD7(D7)
CC/BE#0 P07 CC/BE0#(CE1#)
CAD9 P08 CAD9(A10)
CAD11 P09 CAD11(OE#)
CAD12 P10 CAD12(A11)
CAD14 P11 CAD14(A9)
CC/BE#1 P12 CC/BE1#(A8)
CPAR P13 CPAR(A13)
CPERR# P14 CPERR#(A14)
CGNT# P15 CGNT#(WE#)
CINT# P16 CINT#(IRQ#)
CAVCC P17 VCC
CAVCC P18 VPP
CCLK P19 CCLK(A16)
CIRDY# P20 CIRDY#(A15)
CC/BE#2 P21 CC/BE2#(A12)
CAD18 P22 CAD18(A7)
CAD20 P23 CAD20(A6)
CAD21 P24 CAD21(A5)
CAD22 P25 CAD22(A4)
CAD23 P26 CAD23(A3)
CAD24 P27 CAD24(A2)
CAD25 P28 CAD25(A1)
CAD26 P29 CAD26(A0)
CAD27 P30 CAD27(D0)
CAD29 P31 CAD29(D1)
R2_D2 P32 RFU(R2_D2)
CCLKRUN# P33 CCLKRUN#(IO16#)
GND P34 GND
GND P35 GND
CCD1#(CD1#) P36 CCD1#
CAD2(D11) P37 CAD2
CAD4(D12) P38 CAD4
CAD6(D13) P39 CAD6
RFU(R2_D14) P40 R2_D14
CAD8(D15) P41 CAD8
CAD10(CE2#) P42 CAD10
CVS1 P43 CVS1
CAD13(IORD#) P44 CAD13
CAD15(IOWR#) P45 CAD15
CAD16(A17) P46 CAD16
RFU(R2_A18) P47 R2_A18
CBLOCK#(A19) P48 CBLOCK#
CSTOP#(A20) P49 CSTOP#
CDEVSEL#(A21) P50 CDEVSEL#
VCC P51 CAVCC
VPP P52 CAVCC
CTRDY#(A22) P53 CTRDY#
CFRAME#(A23) P54 CFRAME#
CAD17(A24) P55 CAD17
CAD19(A25) P56 CAD19
CVS2 P57 CVS2
CRESET#(RESET) P58 CRST#
CSERR#(WAIT#) P59 CSERR#
CREQ#(INPACK#) P60 CREQ#
CC/BE3#(REG#) P61 CC/BE#3
CAUDIO(BVD2/SPKR#) P62 CAUDIO#
CSTSCHG(BVD1/RI#) P63 CSTSCHNG
CAD28(D8) P64 CAD28
CAD30(D9) P65 CAD30
CAD31(D10) P66 CAD31
CCD2#(CD2#) P67 CCD2#
GND P68 GND
GND GND
69 70
MEC1 NC
MEC2 NC
MEC3 NC
MEC4 NC
Top View
U26B
OZ711SP1
CARDBUS/FLASH MEMORY CARD
CAD31 E5
CAD30 E6
CAD29 E6
CAD28 D6
CAD27 E7
CAD26 D9
CAD25 G10
CAD24 E10
CAD23 D11
CAD22 G11
CAD21 D12
CAD20 F12
CAD19 D13
CAD18 E13
CAD17 G13
CAD16 H15
CAD15 J13
CAD14 H16
CAD13 J16
CAD12 J14
CAD11 K13
CAD10 K14
CAD9 K15
CAD8 L15
CAD7 L13
CAD6 M14
CAD5 M15
CAD4 N16
CAD3 M13
CAD2 N13
CAD1 N15
CAD0 P16
D10/CAD31
D9/CAD30
D1/CAD29
D8/CAD28
D0/CAD27
A0/CAD26
A1/CAD25
A2/CAD24
A3/CAD23
A4/CAD22
A5/CAD21
A6/CAD20
A25/CAD19
A7/CAD18
A24/CAD17
A17/CAD16
IOWR#/CAD15
A9/CAD14
IORD#/CAD13
A11/CAD12
OE#/CAD11
CE2#/CAD10
A10/CAD9
D15/CAD8
D7/CAD7
D13/CAD6
D6/CAD5
D12/CAD4
D5/CAD3
D11/CAD2
D4/CAD1
D3/CAD0
33R0402
CCLK R375 F15
CFRAME# E14
CIRDY# D15
CTRDY# D16
CDEVSEL# E16
CSTOP# E15
CPAR G16
CPERR# E16
CSERR# D8
CREQ# E11
CGNT# F14
CINT# G9
CBLOCK# G14
CCLKRUN# G8
CRST# F12
R2_D2 D5
R2_D14 M16
R2_A18 H13
CVS1 F9
CVS2 G12
CCD1# P15
CCD2# D7
CAUDIO# F8
CSTSCHNG F8
A16/CCLK
A23/CFRAME#
A15/CIRDY#
A22/CTRDY#
A21/CDEVSEL#
A20/CSTOP#
A13/CPAR
A14/CPERR#
WAIT#/CSERR#
INPACK#/CREQ#
WE#/CGNT#
RDY/IREQ#/CINT#
A19/CBLOCK#
WP/IOIS16/CCLKRUN#
RESET/CRST#
D2/RFU
D14/RFU
A18/RFU
VS1/CVS1
VS2/CVS2
CD1#/CCD1#
CD2#/CCD2#
BVD2/SPKR#/CAUDIO
BVD1/RI#/CSTSCHG
CC/BE#3 E10
CC/BE#2 D14
CC/BE#1 H14
CC/BE#0 L16
REG#/CCBE3#
A12/CCBE2#
A8/CCBE1#
CE1#/CCBE0#
CAVCC
D10 SKT_ VCC
XD_CD# U5
SD_CD# T7
XD_RE#/ODR1_3V# U11
XD_WE# U7
XD_WPO U9
MF2/ODR1_WP N12
MF5/ODR_BS/XD_ALE T14
VPPD1/ODR1_CLK R15
XD_R/B# C5
MF1/ODR1_DATA0 T12
ODR1_DATA1 R11
ODR1_DATA2 N14
ODR1_DATA3 K16
XD_D4 C7
XD_D5 C15
XD_D6 C9
XD_D7 C13
XD_VCC C11
MMC_D7 C16
MMC_D6 U16
MMC_D5 U6
MMC_D4 U4
SD_D3 U12
SD_D2 U13
SD_D1 U14
SD_D0 U15
SD_CMD U10
SD_CLK U8
SD_WP# C12
ODR2_3V# C10
NC C8
ODR2_LEDON C14
SD_CD#
MS_BS
MS_CLK
MS_DATA0
MS_DATA1
MS_DATA2
MS_DATA3
SD_DATA3
SD_DATA2
SD_DATA1
SD_D0
SD_CMD
SD/MS_CLK
SD_WP
SD_EN#
OZ711SP1-BN
+3VSUS
R181
22KR
EN_MCARD_VCC3#
SD_EN#
D7
D10
BAS40WS
Q7
MOSFET P DGS
Q6
X_MOSFET P DGS
EN_MCARD_VCC3# 23
JNC9
1206
MS_VCC3
C191
C192
1U10X
R360
22KR
SD_VCC3
R361
22KR
C206
1U10X
CN12
SD_CD# 1
SD_DATA1 R364 33R 3
SD_D0 R363 33R 5
SD/MS_CLK R362 33R 7
SD_CMD R358 33R 9
SD_DATA3 R356 33R 11
SD_DATA2 R355 33R 13
SD_WP 15
17
19
26
CD_SW
SD_DAT1
SD_DAT0
SD_VSS
SD_CLK
SD_VDD
SD_VSS
SD_CMD
SD_CD/SD_DAT3
SD_DAT2
SD_WP
25 GND
27 NP1
28 NP2
MS_VSS 2
MS_BS 4
MS_DAT1 6
MS_SDIO/DAT0 8
MS_DAT2 10
MS_INS 12
MS_DAT3 14
MS_SCLK 16
MS_VCC 18
MS_VSS 20
GND 21
GND 22
GND 23
GND 24
cardreader
N58-20F0300-N40
MMC_MS_26P
RN13 8P4R_33R0402
1 2 MS_BS
3 4 MS_DATA0
5 6 MS_DATA1
7 8 MS_DATA2
MS_CD#
R359 33R MS_DATA3
R357 33R MS_CLK
MS_CD# 23
MYLAR2
Hexscrew MYLAR
E2P-6323711-G40
MYLAR3
PCMCIA MYLAR
E2P-6322713-G40
CN10-A
PCMCIA COVER
E23-1016020-T01
CN10-B
CN10-C
M2X12
M2X12
CAVCC
C225
4.7U6.3X
C228
0.1U10X0402
C437
0.1U10X0402
EMI
SD/MS_CLK CI96 10PF_0402
MSI CORPORATION
Title
OZ711SP1-2(PCMCIA / CARD)
Size Custom
Document Number MS-16371
Rev 0B
Date: Thursday, February 15, 2007
Sheet 24 of 42



MSI CORPORATION	
Title	PCIE LAN (RTL 8111B)
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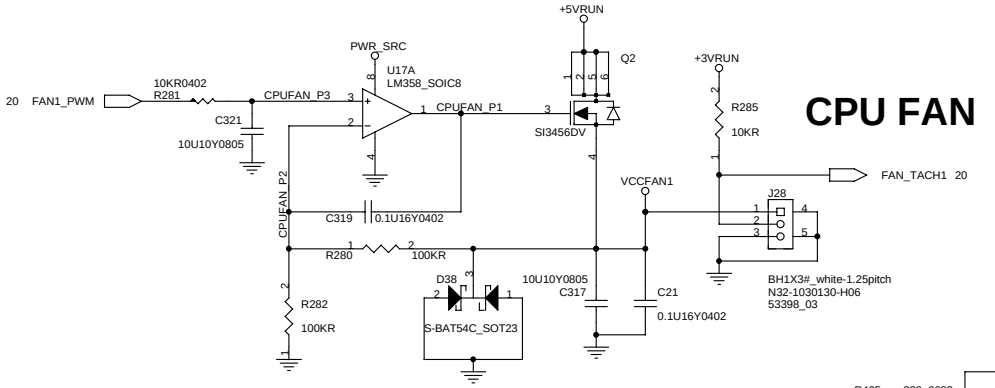
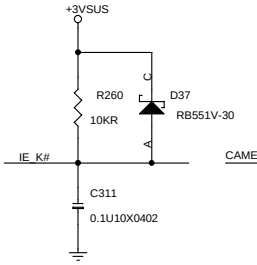
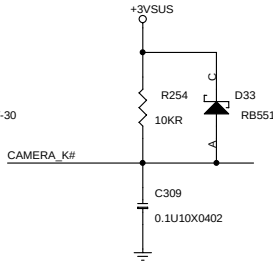
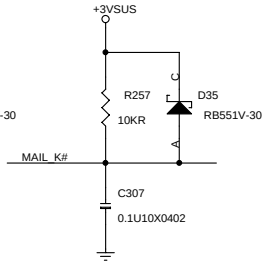
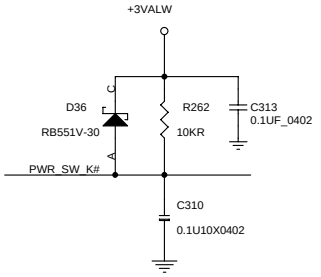
CPU FAN

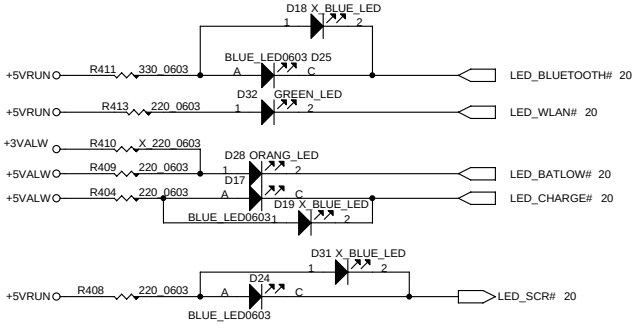


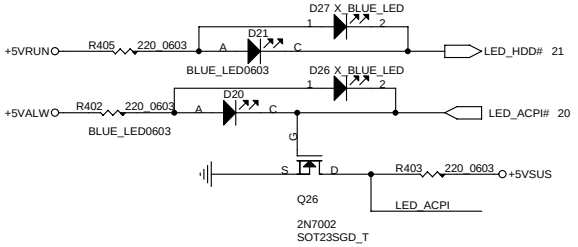


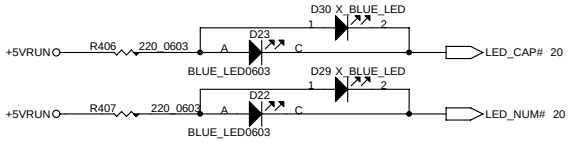


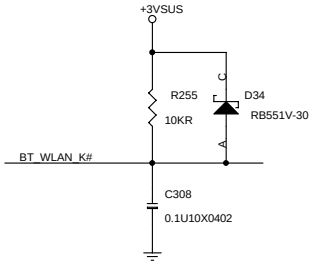


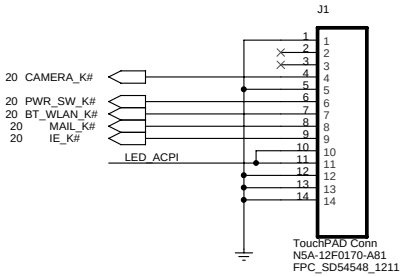


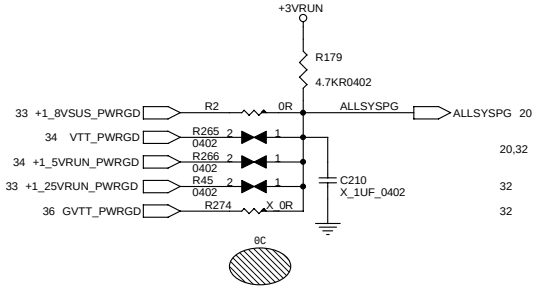


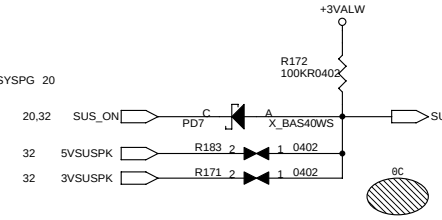








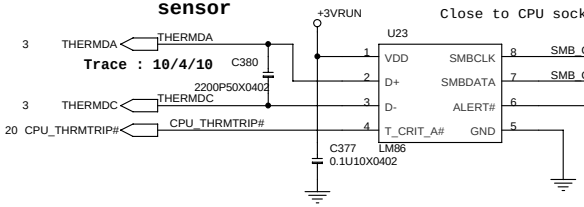


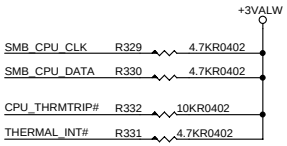


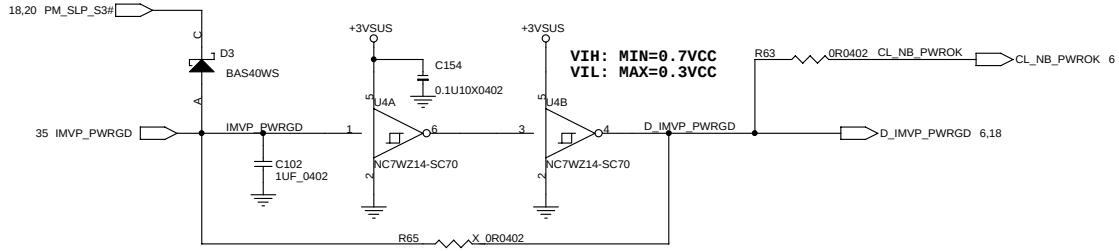
Cap close to thermal sensor

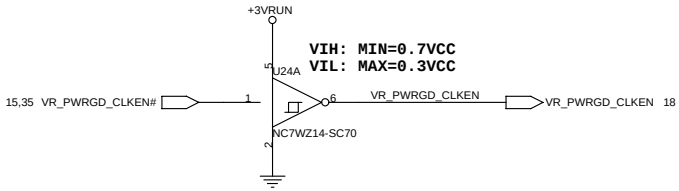
Trace : 10/4/10

Close to CPU socket









MSI CORPORATION

Title: **FAN / LED / SW/ POWER GOOD**

Size	Document Number	Rev
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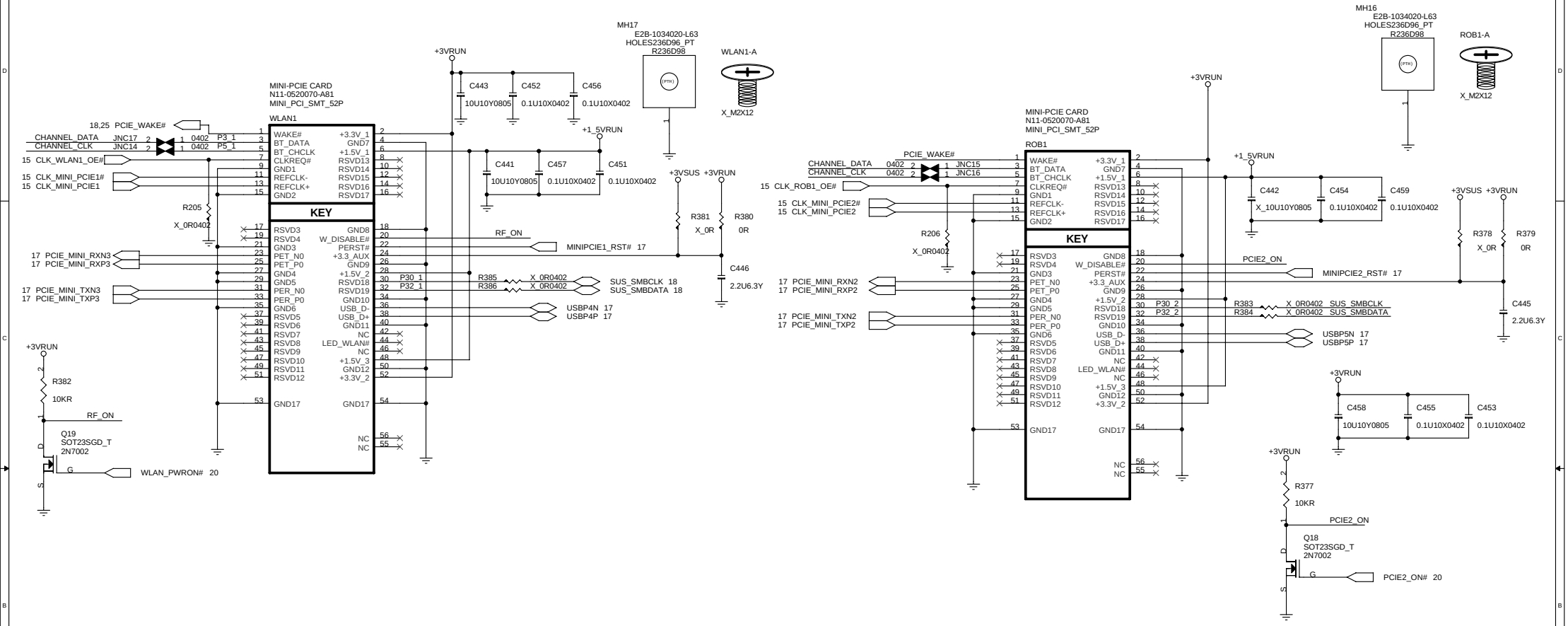
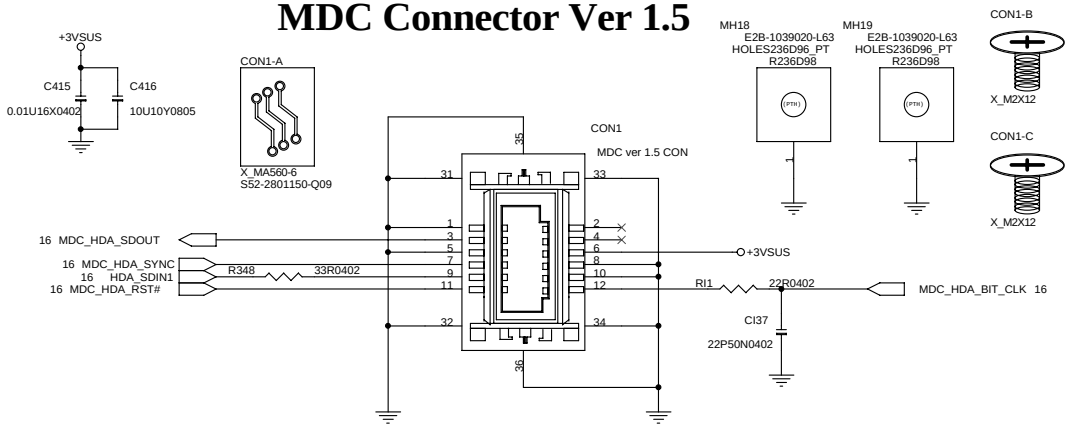
WLAN and Robson

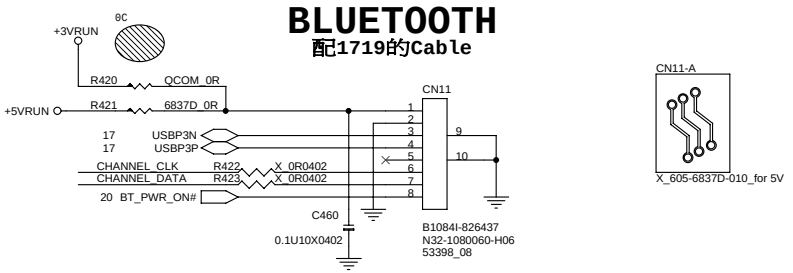


MDC Connector Ver 1.5



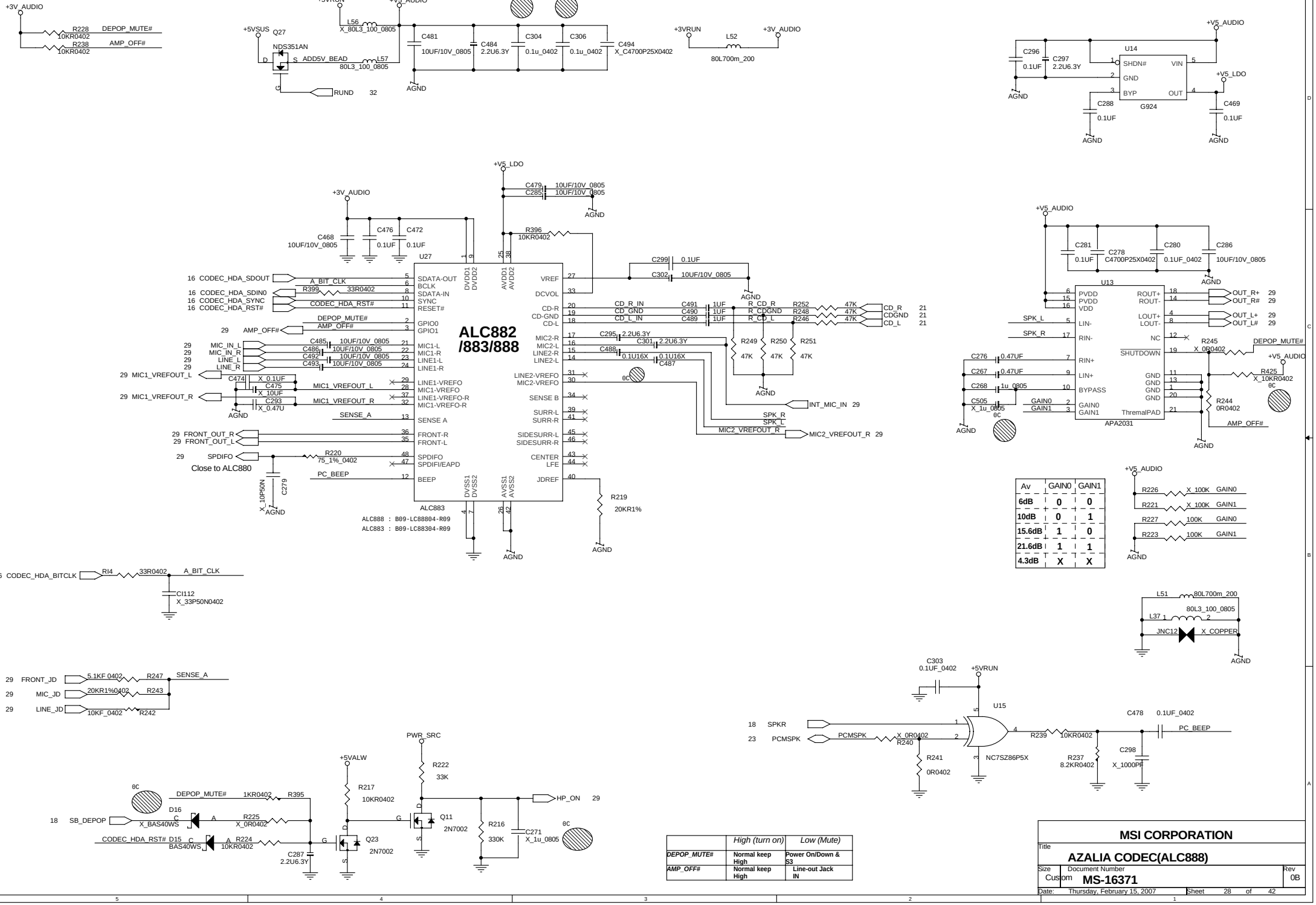
BLUETOOTH

配1719的Cable



MSI CORPORATION

Title	Mini PCIE & MDC & BT	
Size: Custom	Document Number: MS-16371	Rev: 0B
Date: Thursday, February 15, 2007	Sheet 27 of 42	


+3V_AUDIO
R228 10KR0402 DEPOP_MUTE#
R238 10KR0402 AMP_OFF#
+5VSUS Q27 NDS351AN
ADD5V_BEAD
L56 X_80L3_100_0805
L57 80L3_100_0805
+5VRUN +V5_AUDIO
RUND 32
AGND
0C
C481 10UF/10V_0805
C484 2.2U6.3Y
C304 0.1u_0402
C306 0.1u_0402
C494 X_C4700P25X0402
+3VRUN L52 +3V_AUDIO
80L700m_200
+V5_AUDIO
C296 0.1UF
C297 2.2U6.3Y
U14
SHDN# VIN
GND
BYP OUT
G924
+V5_LDO
C288 0.1UF
C469 0.1UF
+V5_LDO
C479 10UF/10V_0805
C285 10UF/10V_0805
+3V_AUDIO
C468 10UF/10V_0805
C476 0.1UF
C472 0.1UF
U27
R396 10KR0402
C299 0.1UF
C302 10UF/10V_0805
ALC882 /883/888
DVDD1 DVDD2 AVDD1 AVDD2
SDATA-OUT BCLK SDATA-IN SYNC RESET# GPIO0 GPIO1
MIC1-L MIC1-R LINE1-L LINE1-R
LINE1-VREFO MIC1-VREFO LINE1-VREFO-R MIC1-VREFO-R
SENSE A
FRONT-R FRONT-L
SPDIFO SPDIFI/EAPD
BEEP
VREF DCVOL
CD-R CD-GND CD-L
MIC2-L LINE2-L
LINE2-VREFO MIC2-VREFO
SENSE B
SURR-L SURR-R
SIDESURR-L SIDESURR-R
CENTER LFE
JDREF
DVSS1 DVSS2 AVSS1 AVSS2
ALC883
ALC888 : B09-LC88804-R09
ALC883 : B09-LC88304-R09
16 CODEC_HDA_SDOUT
A_BIT_CLK
16 CODEC_HDA_SDIN0
16 CODEC_HDA_SYNC
16 CODEC_HDA_RST#
R399 33R0402
CODEC_HDA_RST#
DEPOP_MUTE#
29 AMP_OFF#
AMP_OFF#
29 MIC_IN_L
29 MIC_IN_R
29 LINE_L
29 LINE_R
C485 10UF/10V_0805
C486 10UF/10V_0805
C492 10UF/10V_0805
C493 10UF/10V_0805
29 MIC1_VREFOUT_L
29 MIC1_VREFOUT_R
C474 X_0.1UF
C475 X_10UF
C293 X_0.47U
MIC1_VREFOUT_L
MIC1_VREFOUT_R
SENSE_A
29 FRONT_OUT_R
29 FRONT_OUT_L
29 SPDIFO
R220 75_1%_0402
Close to ALC880
C279 X_10P50N
PC_BEEP
R219 20KR1%
CD_R_IN CD_GND CD_L_IN
C491 1UF C490 1UF C489 1UF
R_CD_R R_CDGND R_CD_L
R252 47K R248 47K R246 47K
CD_R 21 CDGND 21 CD_L 21
C295 2.2U6.3Y
C301 2.2U6.3Y
C488 0.1U16X
C487 0.1U16X
R249 47K R250 47K R251 47K
INT_MIC_IN 29
SPK_R SPK_L
MIC2_VREFOUT_R
MIC2_VREFOUT_R 29
+V5_AUDIO
C281 0.1UF
C278 C4700P25X0402
C280 0.1UF_0402
C286 10UF/10V_0805
U13
PVDD PVDD VDD
LIN- RIN- RIN+ LIN+ BYPASS GAIN0 GAIN1
ROUT+ ROUT- LOUT+ LOUT- NC SHUTDOWN GND GND GND GND ThermalPAD
APA2031
SPK_L SPK_R
OUT_R+ 29 OUT_R# 29 OUT_L+ 29 OUT_L# 29
C276 0.47UF
C267 0.47UF
C268 1u_0805
C505 X_1u_0805
R245 X_0R0402
DEPOP_MUTE#
R425 X_10KR0402
R244 0R0402
AMP_OFF#
Av GAIN0 GAIN1
6dB 0 0
10dB 0 1
15.6dB 1 0
21.6dB 1 1
4.3dB X X
+V5_AUDIO
R226 X_100K GAIN0
R221 X_100K GAIN1
R227 100K GAIN0
R223 100K GAIN1
16 CODEC_HDA_BITCLK
RI4 33R0402 A_BIT_CLK
CI112 X_33P50N0402
L51 80L700m_200
80L3_100_0805
L37
JNC12 X_COPPER
29 FRONT_JD
29 MIC_JD
29 LINE_JD
5.1KF 0402 R247
20KR1%0402 R243
10KF_0402 R242
SENSE_A
C303 0.1UF_0402
+5VRUN
U15
18 SPKR
23 PCMSPK
PCMSPK X_0R0402 R240
R241 0R0402
NC7SZ86P5X
R239 10KR0402
C478 0.1UF_0402
PC_BEEP
R237 8.2KR0402
C298 X_1000PF
PWR_SRC
+5VALW
R222 33K
R217 10KR0402
HP_ON 29
18 SB_DEPOP
DEPOP_MUTE#
1KR0402 R395
D16 X_BAS40WS
R225 X_0R0402
CODEC_HDA_RST#
D15 BAS40WS
R224 10KR0402
C287 2.2U6.3Y
Q23 2N7002
Q11 2N7002
R216 330K
C271 X_1u_0805
0C
High (turn on) Low (Mute)
DEPOP_MUTE# Normal keep High Power On/Down & S3
AMP_OFF# Normal keep High Line-out Jack IN
MSI CORPORATION
Title
AZALIA CODEC(ALC888)
Size Custom
Document Number MS-16371
Rev 0B
Date: Thursday, February 15, 2007
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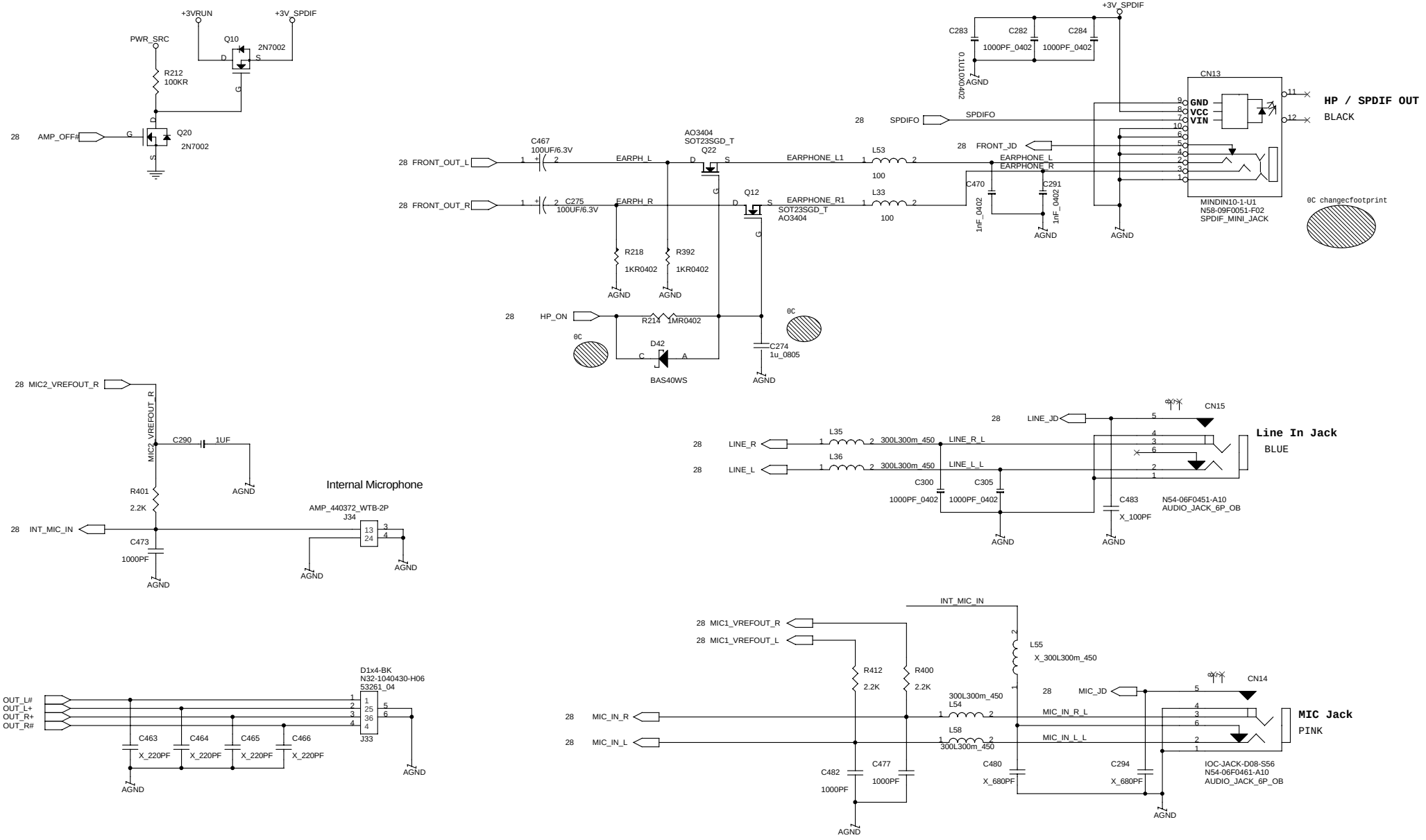
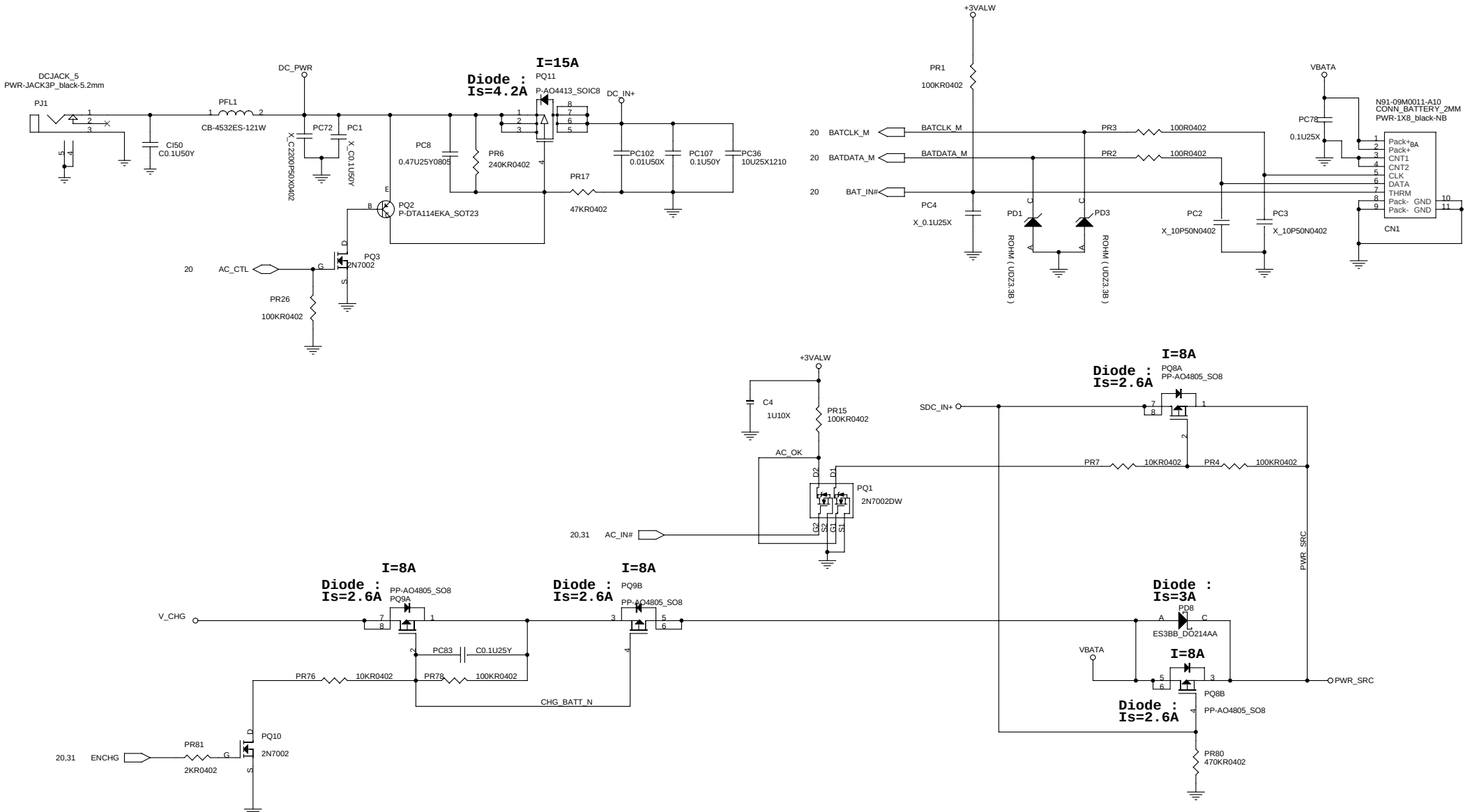


MSI CORPORATION		
Title: Audio Jacks		
Size: Custom	Document Number: MS-16371	Rev: 0B
Date: Thursday, February 15, 2007	Sheet 29 of 42	



MSI CORPORATION		
Title: **Battery Select**		
Size: Custom	Document Number: **MS-16371**	Rev: 0B
Date: Thursday, February 15, 2007	Sheet 30 of 42	

(Vref/2)/(PR109*(PR112+PR109))
2.048/7.15*(53.6+7.15)=17.4V

Adapter= 90 W

Adapter input voltage set 17.4 Voltage
If <17.4V, ACOK#=high

3S2P: Charge current set 3 Amp
3S3P: Charge current set 4.5 Amp
Pre-charger: Charge current set 220mA

CELL GND=2 CELLS
FLOAT=3 CELLS
REFIN=4 CELLS

need to check value

SET Iin MAX = A

Iinput=(Vcls/Vref)*(0.075/RS1)
RS1=PR74=0.01, Vref=4.096V
Vcls=4.096*PR23/(PR23+PR97)=2.29V
Iinput=(2.29/4.096)*(0.075/0.01)=4.2A

PR23	PR97	
19.1K	28.7K	65W
	24K	75W
	16.9K	90W

ENCHG-2P	PRE_CHG	ENCHG	
0	1	1	Pre-charge
1	0	1	3S2P-Fast charge
0	0	1	3S3P-Fast charge
0	0	0	STOP CHARGE

65W_DETEC : DEFAULT=HIGH
High =>65W
Low =>90W

90W for LG
PR97-A
16.9KR1%_0402

Icharge=(Victl/Vrefin)*(0.075/RS2)
RS2=PR24=0.015
Vrefin=MAX8724_LDO*PR35/(PR34+PR35)
=5.4V*1.1K/(1.1K+768)=3.18V=MAX8724_REFIN
Victl=MAX8724_REFIN*PR30/(PR11+PR30)
For 3S2P:
Victl=3.18*(PR30//PR108)/((PR30//PR108)+PR11)
=3.18*15.91K/(15.91K+10.5K)=1.92V
Icharge=(1.92/3.18)*(0.075/0.015)=3.01A
For 3S2P:
Victl=3.18*PR30/(PR30+PR11)
=3.18*95.3K/(95.3K+10.5K)=2.86V
Icharge=(2.86/3.18)*(0.075/0.015)=4.5A
For Precharge:
Victl=3.18*(PR30//PR105)/((PR30//PR105)+PR11)
=3.18*0.496/(0.496+10.5K)=0.15mV
Icharge=(0.15mV/3.18)*(0.075/0.015)=0.236mA

MSI CORPORATION

Title: **Battery Charger**

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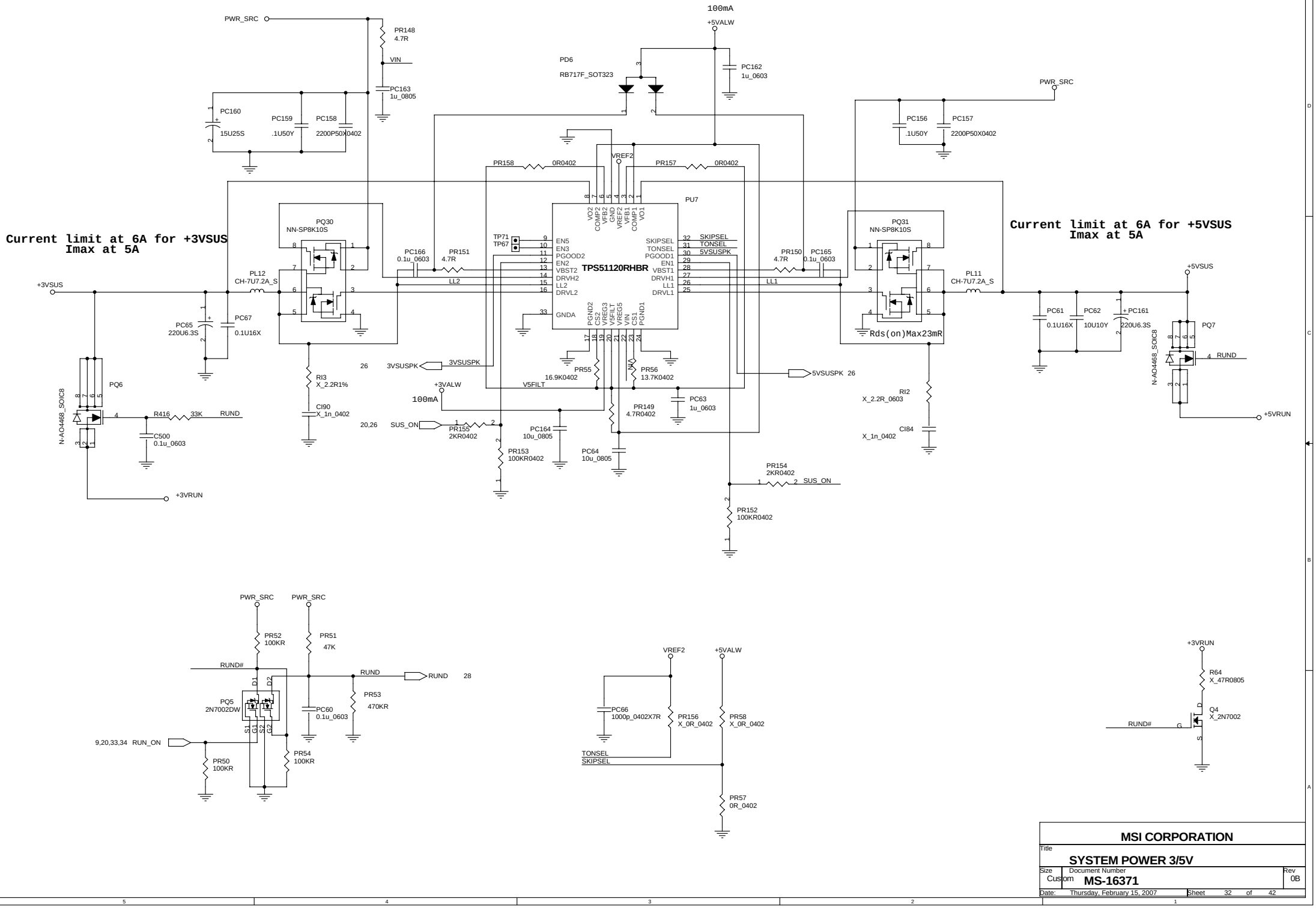

MSI CORPORATION

Title: **SYSTEM POWER 3/5V**

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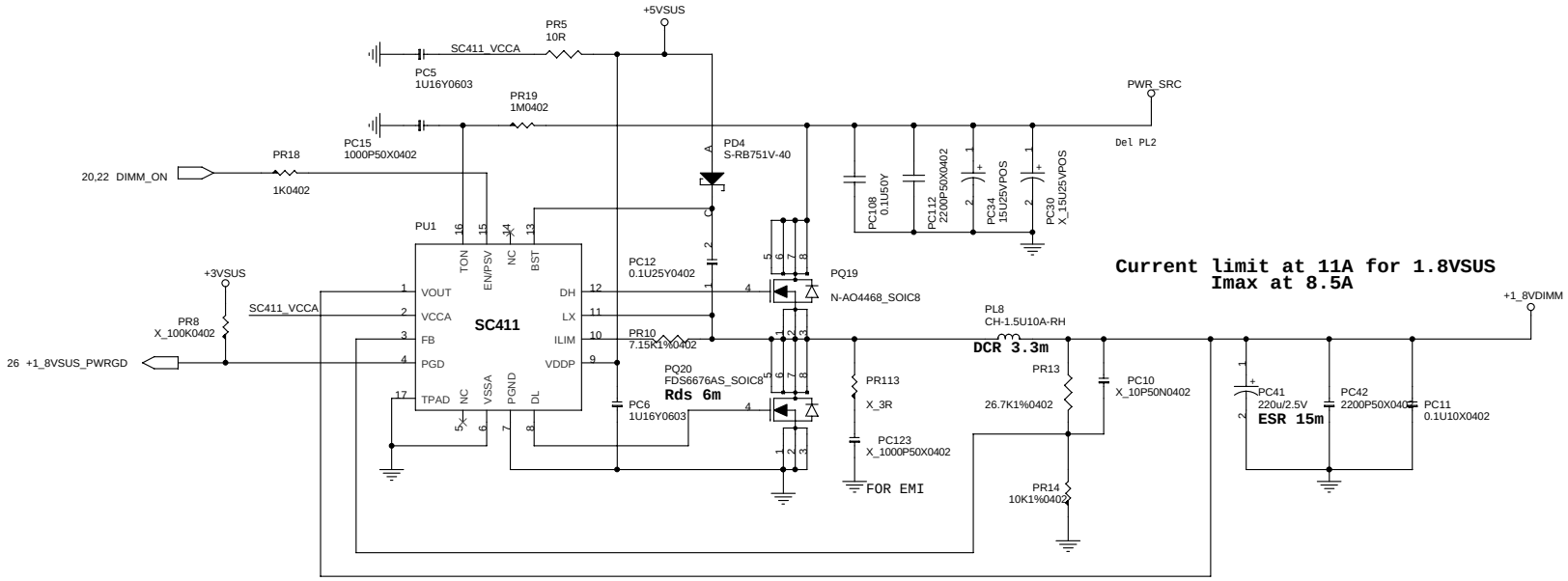

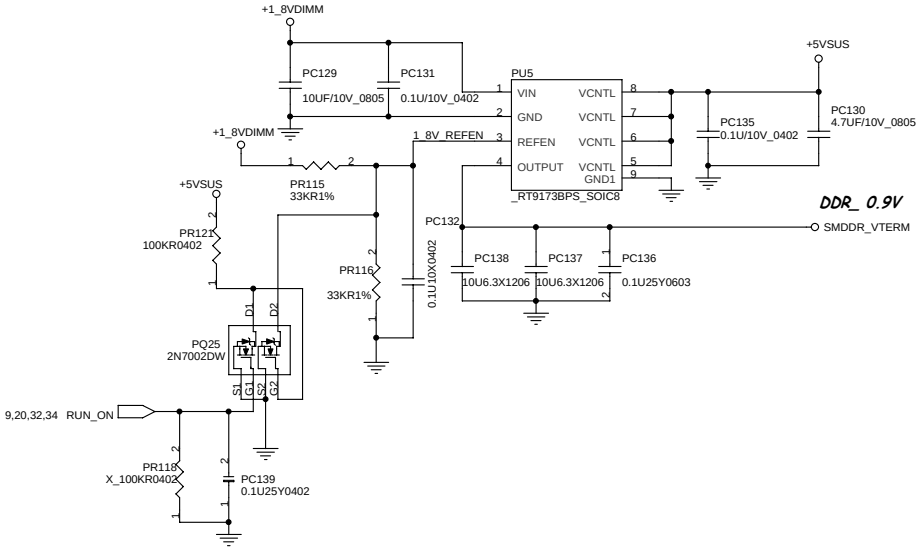

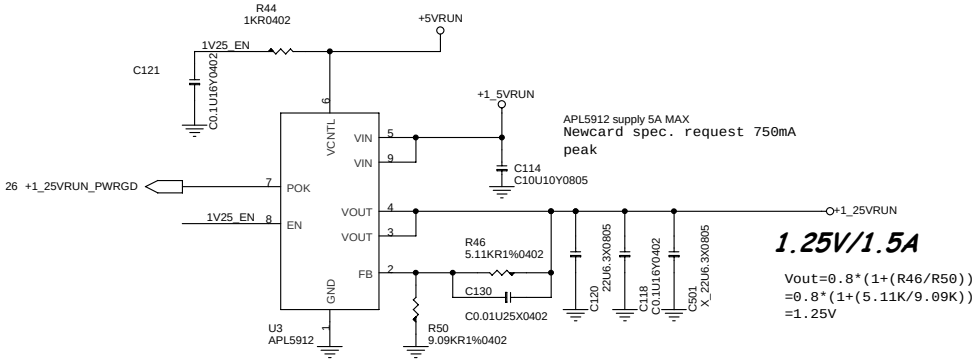

MSI CORPORATION		
Title: DDR2 RAM POWER, +1.25V		
Size: Custom	Document Number: MS-16371	Rev: 0B
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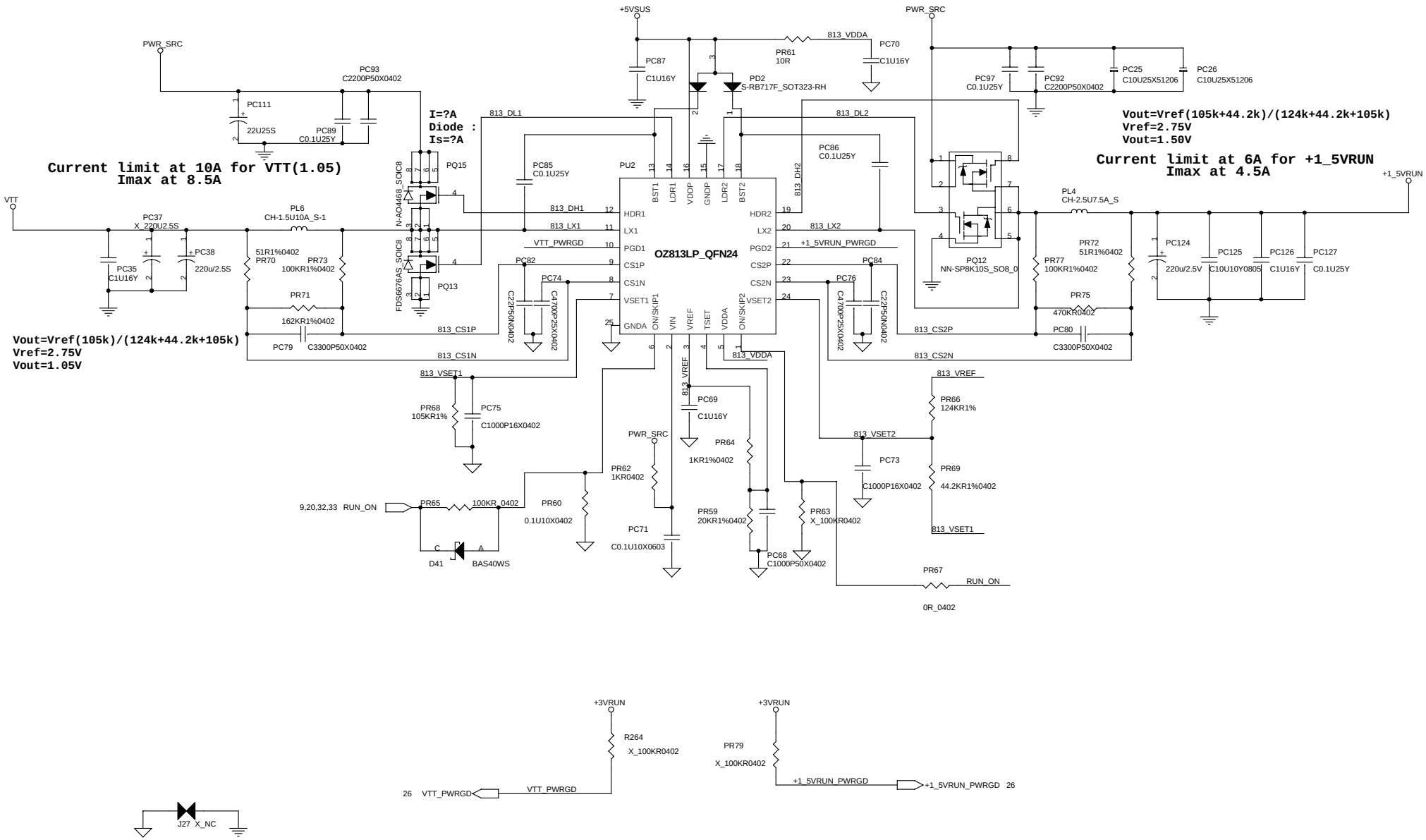
Current limit at 10A for VTT(1.05)
Imax at 8.5A
I=?A
Diode :
Is=?A
Vout=Vref(105k)/(124k+44.2k+105k)
Vref=2.75V
Vout=1.05V
Vout=Vref(105k+44.2k)/(124k+44.2k+105k)
Vref=2.75V
Vout=1.50V
Current limit at 6A for +1_5VRUN
Imax at 4.5A
OZ813LP_QFN24
PWR_SRC
+5VSUS
VTT
+1_5VRUN
813_VDDA
813_DL1
813_DL2
813_DH1
813_LX1
813_LX2
VTT_PWRGD
+1_5VRUN_PWRGD
813_CS1P
813_CS1N
813_CS2P
813_CS2N
813_VSET1
813_VSET2
813_VREF
9,20,32,33 RUN_ON
RUN_ON
+3VRUN
VTT_PWRGD
+1_5VRUN_PWRGD
PC111
22U25S
PC89
C0.1U25Y
PC93
C2200P50X0402
PC87
C1U16Y
PD2
S-RB717F_SOT323-RH
PR61
10R
PC70
C1U16Y
PC97
C0.1U25Y
PC92
C2200P50X0402
PC25
C10U25X51206
PC26
C10U25X51206
PC85
C0.1U25Y
PC86
C0.1U25Y
PU2
PQ15
PQ13
N-AO4468_SOIC8
FDS6676AS_SOIC8
PQ12
NN-SP8K10S_SO8_0
PL4
CH-2.5U7.5A_S
PL6
CH-1.5U10A_S-1
PC37
X_220U2.5S
PC35
C1U16Y
PC38
220u/2.5S
PR70
51R1%0402
PR73
100KR1%0402
PR71
162KR1%0402
PC79
C3300P50X0402
PC82
PC74
C2225N0402
C4700P25X0402
PC84
PC76
PR72
51R1%0402
PR77
100KR1%0402
PR75
470KR0402
PC80
C3300P50X0402
PC124
220u/2.5V
PC125
C10U10Y0805
PC126
C1U16Y
PC127
C0.1U25Y
PR68
105KR1%
PC75
C1000P16X0402
PR62
1KR0402
PR64
1KR1%0402
PC69
C1U16Y
PR66
124KR1%
PC73
C1000P16X0402
PR69
44.2KR1%0402
PR65
100KR_0402
PR60
0.1U10X0402
PC71
C0.1U10X0603
PR59
20KR1%0402
PR63
X_100KR0402
PC68
C1000P50X0402
D41
BAS40WS
PR67
0R_0402
R264
X_100KR0402
PR79
X_100KR0402
J27 X_NC
MSI CORPORATION
+1_5VRUN , VTT POWER
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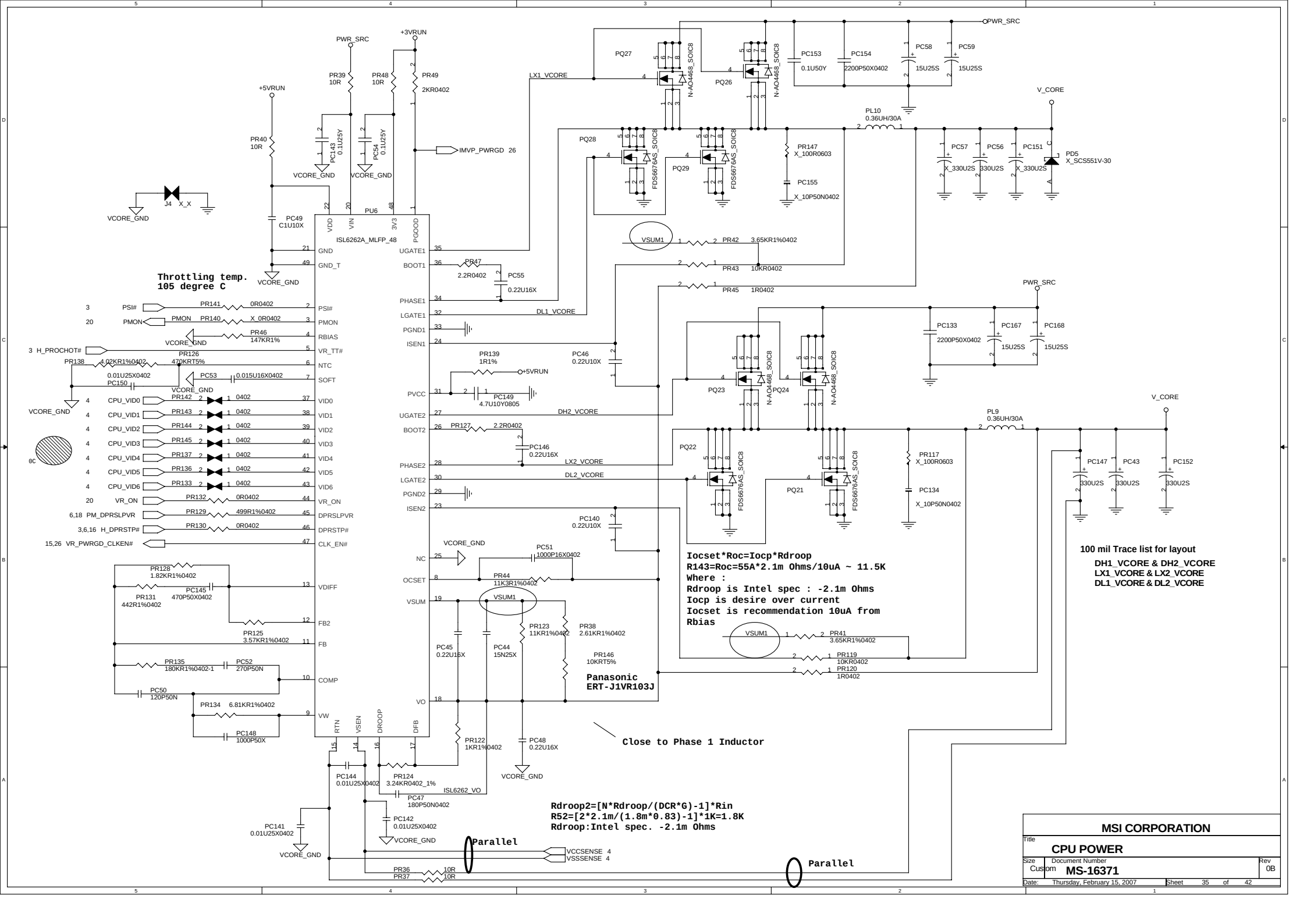

MSI CORPORATION	
Title	CPU POWER
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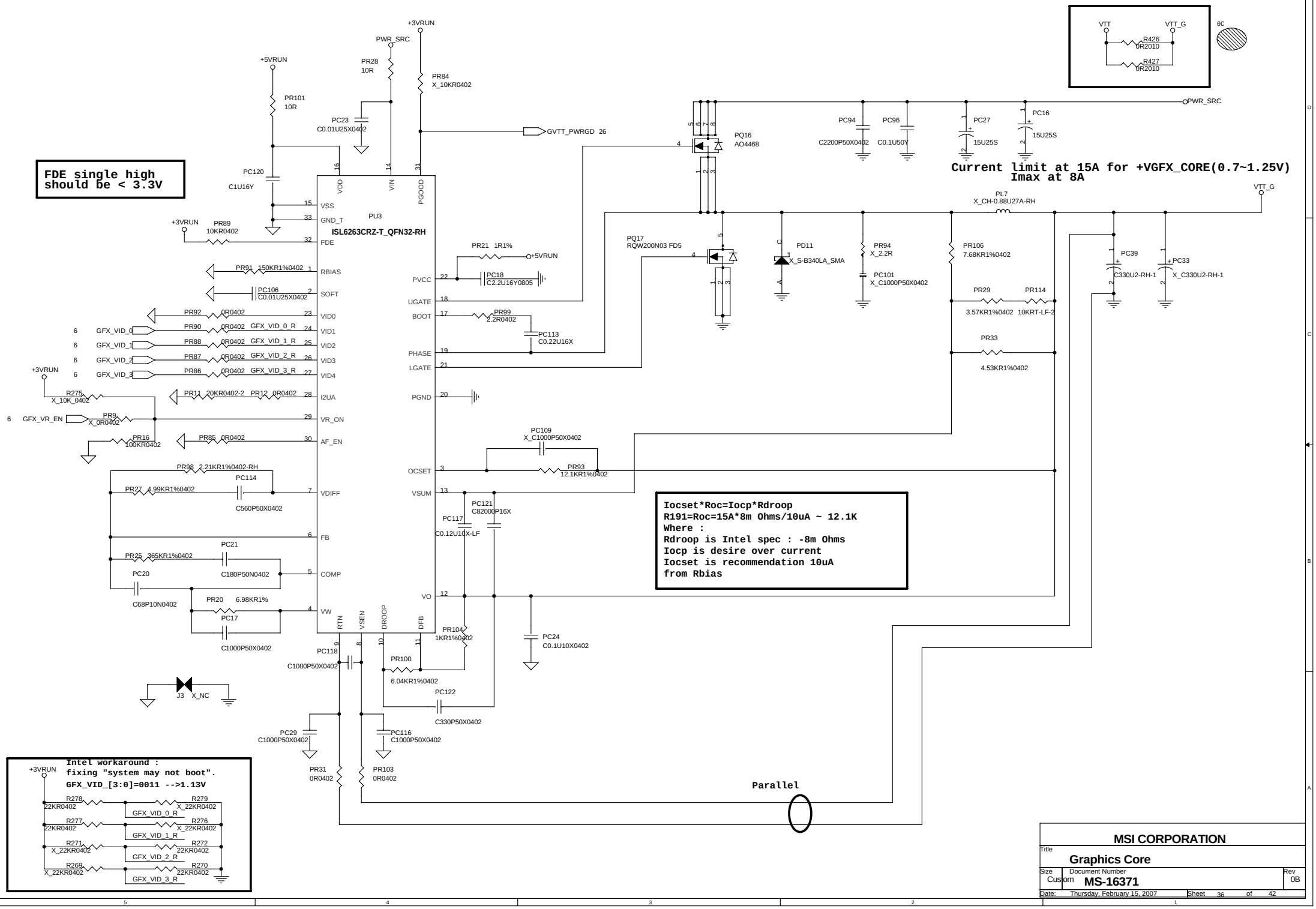
FDE single high should be < 3.3V
Current limit at 15A for +VGFX_CORE(0.7~1.25V)
Imax at 8A
ISL6263CRZ-T_QFN32-RH
PU3
PQ16 AO4468
PQ17 RQW200N03 FD5
PD11 X_S-B340LA_SMA
PL7 X_CH-0.88U27A-RH
Iocset*Roc=Iocp*Rdroop
R191=Roc=15A*8m Ohms/10uA ~ 12.1K
Where :
Rdroop is Intel spec : -8m Ohms
Iocp is desire over current
Iocset is recommendation 10uA
from Rbias
Intel workaround :
fixing "system may not boot".
GFX_VID_[3:0]=0011 -->1.13V
Parallel
MSI CORPORATION
Graphics Core
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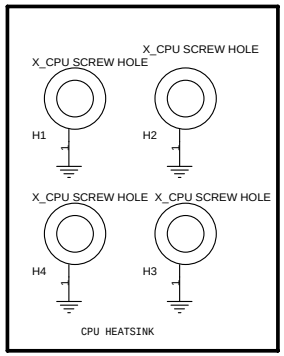
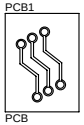
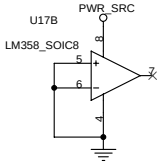
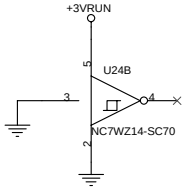
Thursday, February 15, 2007

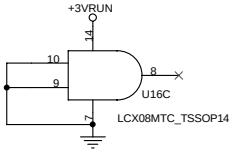


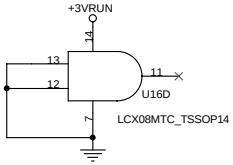


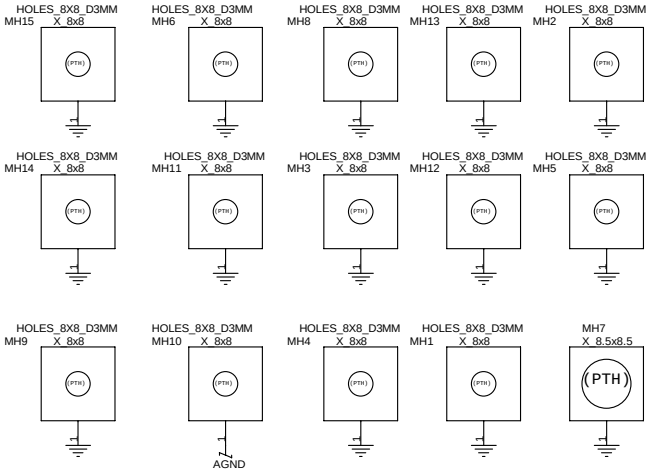
P30-1637110-H73,瀚宇博德
P30-1637110-Y34,元茂
P30-1637110-D05,昆穎(定穎大陸)

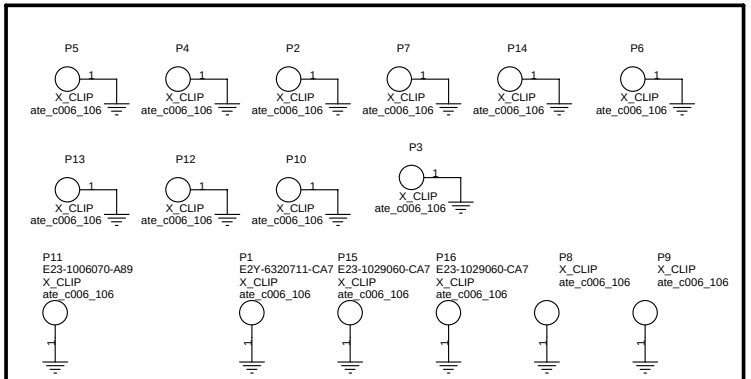




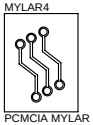


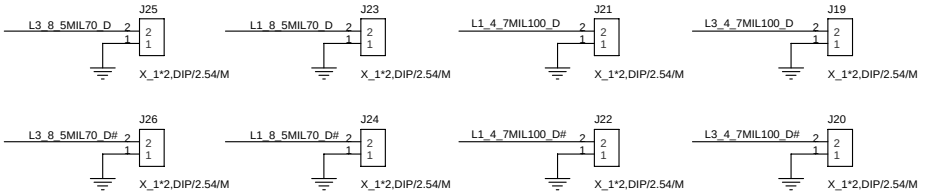


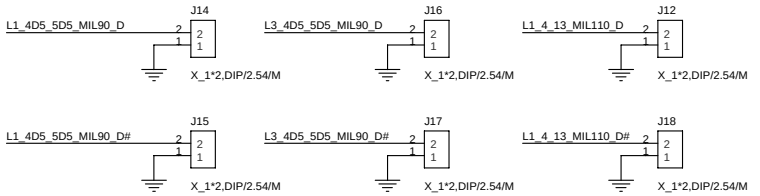


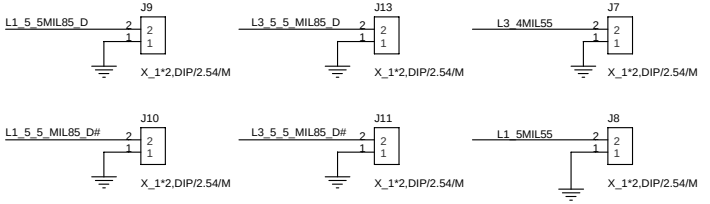


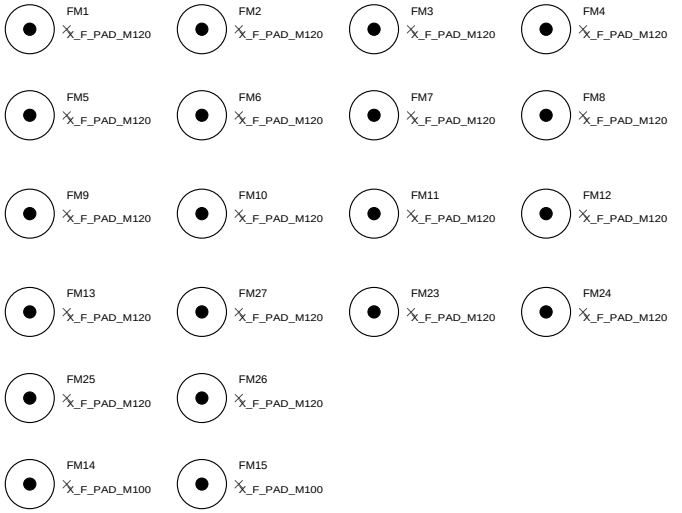
ESD/EMI CLIP











MSI CORPORATION		
Title: Screw		
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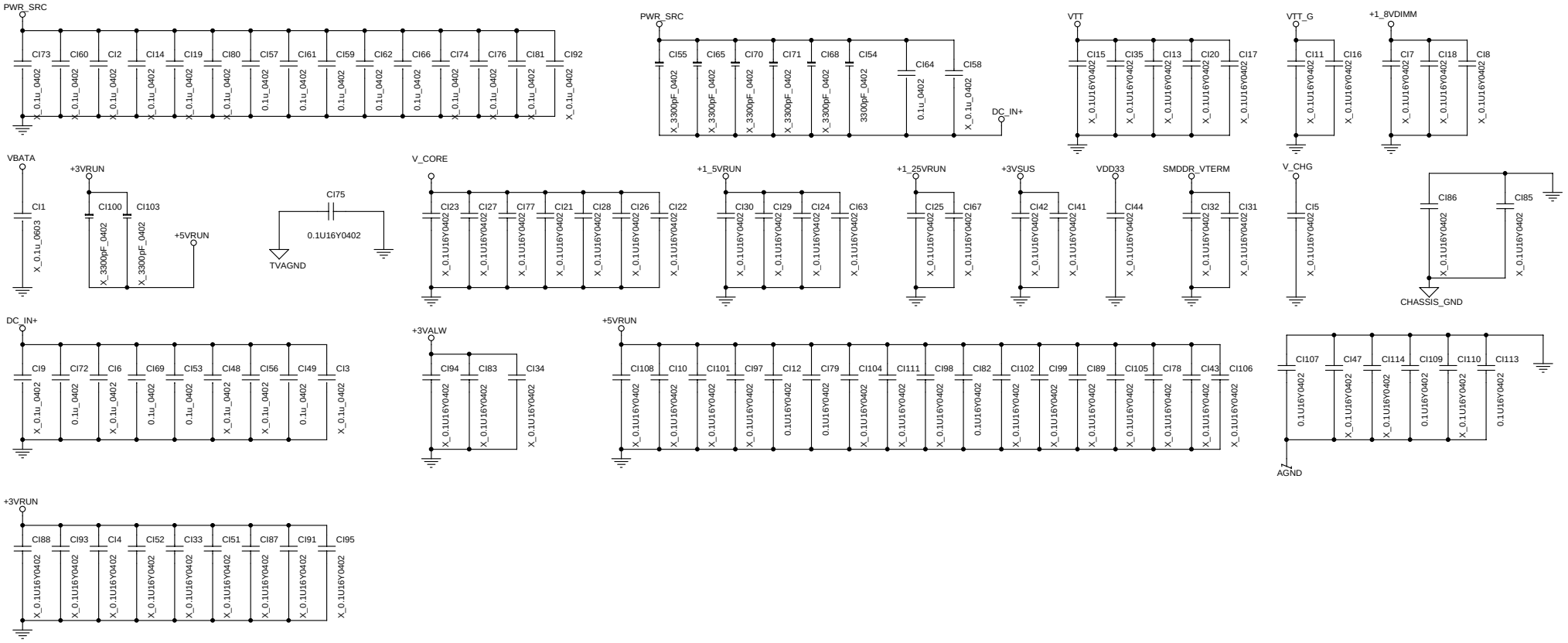
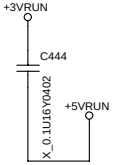


跨MOAT電容



MSI CORPORATION		
Title: EMI		
Size: Custom	Document Number: MS-16371	Rev: 0B
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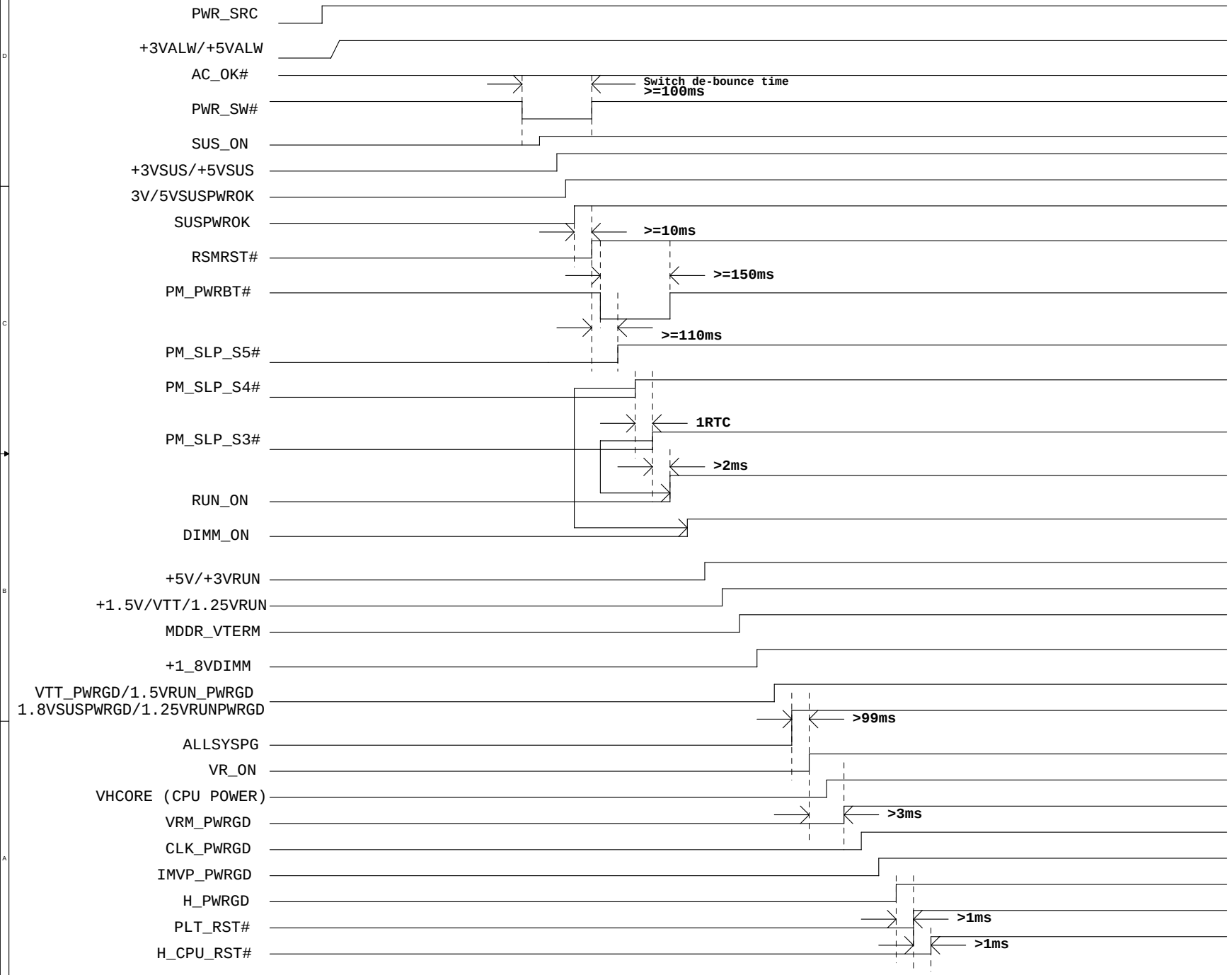
SANTA ROSA System Power on Sequence Battery MODE (S5->S0)



MSI CORPORATION

Title: POWER Sequence

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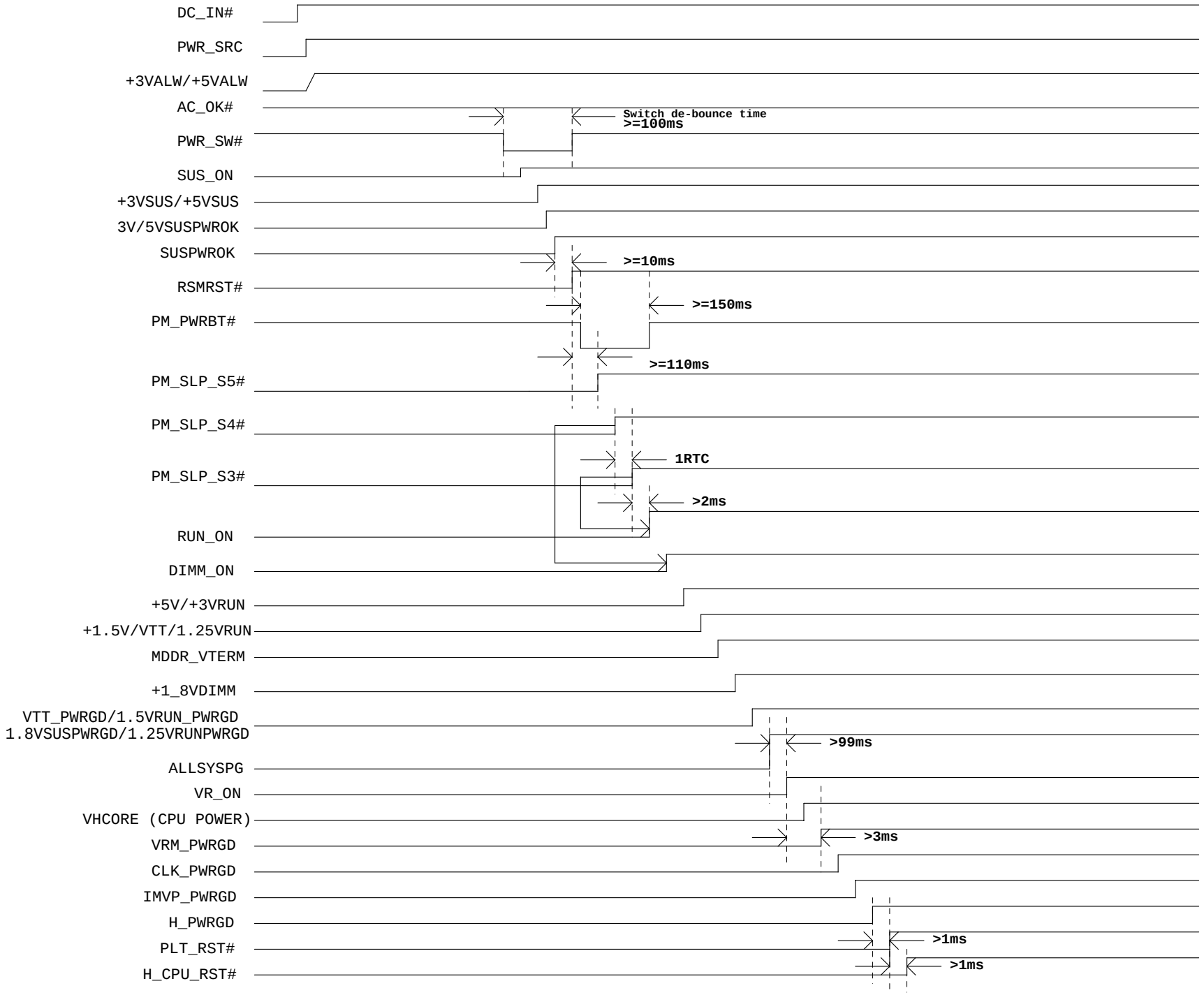
SANTA ROSA System Power on Sequence (G3->S0)



MSI CORPORATION		
Title: Power on Sequence		
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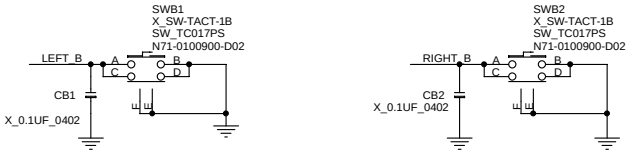
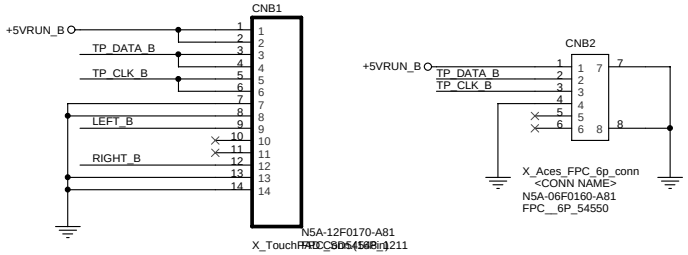
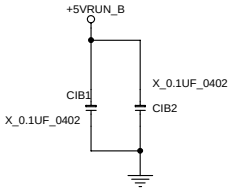
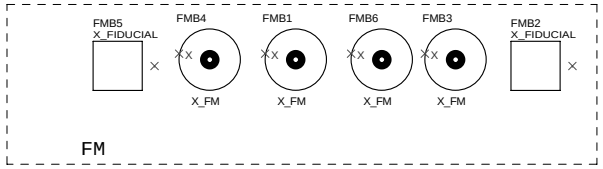
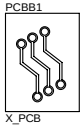


For TM61P-307 pin define

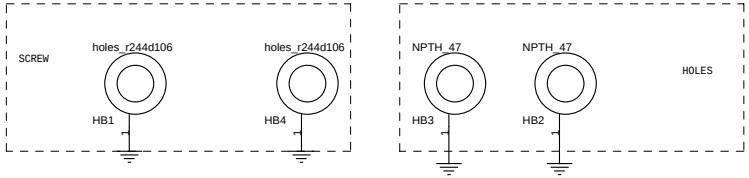








P30-1637B10-H73,瀚宇博德
P30-1637B10-Y34,元茂
P30-1637B10-D05,昆穎(定穎大陸)



MSI CORPORATION

Title: **TP Board**

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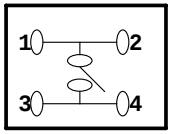
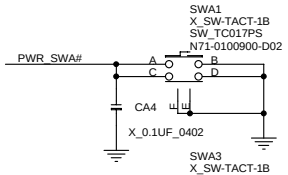
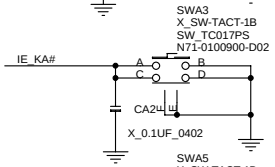
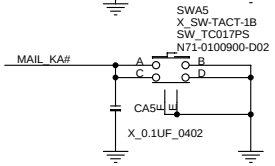
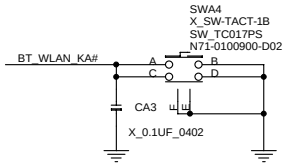
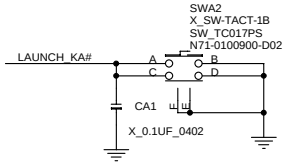


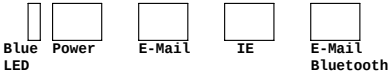


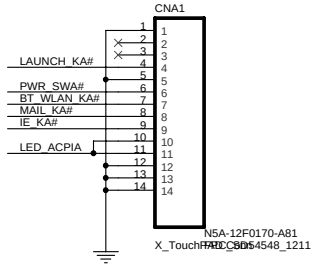


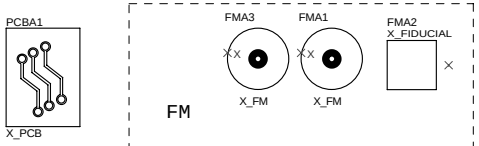




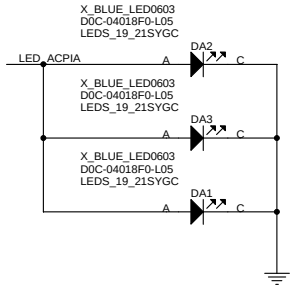


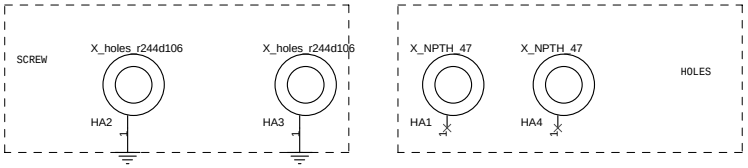






P30-1637A10-H73,瀚宇博德
P30-1637A10-Y34,元茂
P30-1637A10-D05,昆穎(定穎大陸)





MSI CORPORATION

Title: **Launch Board**

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