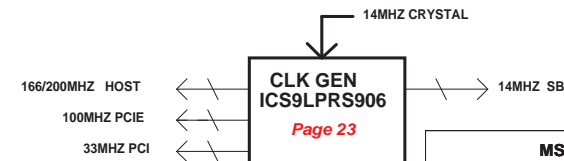
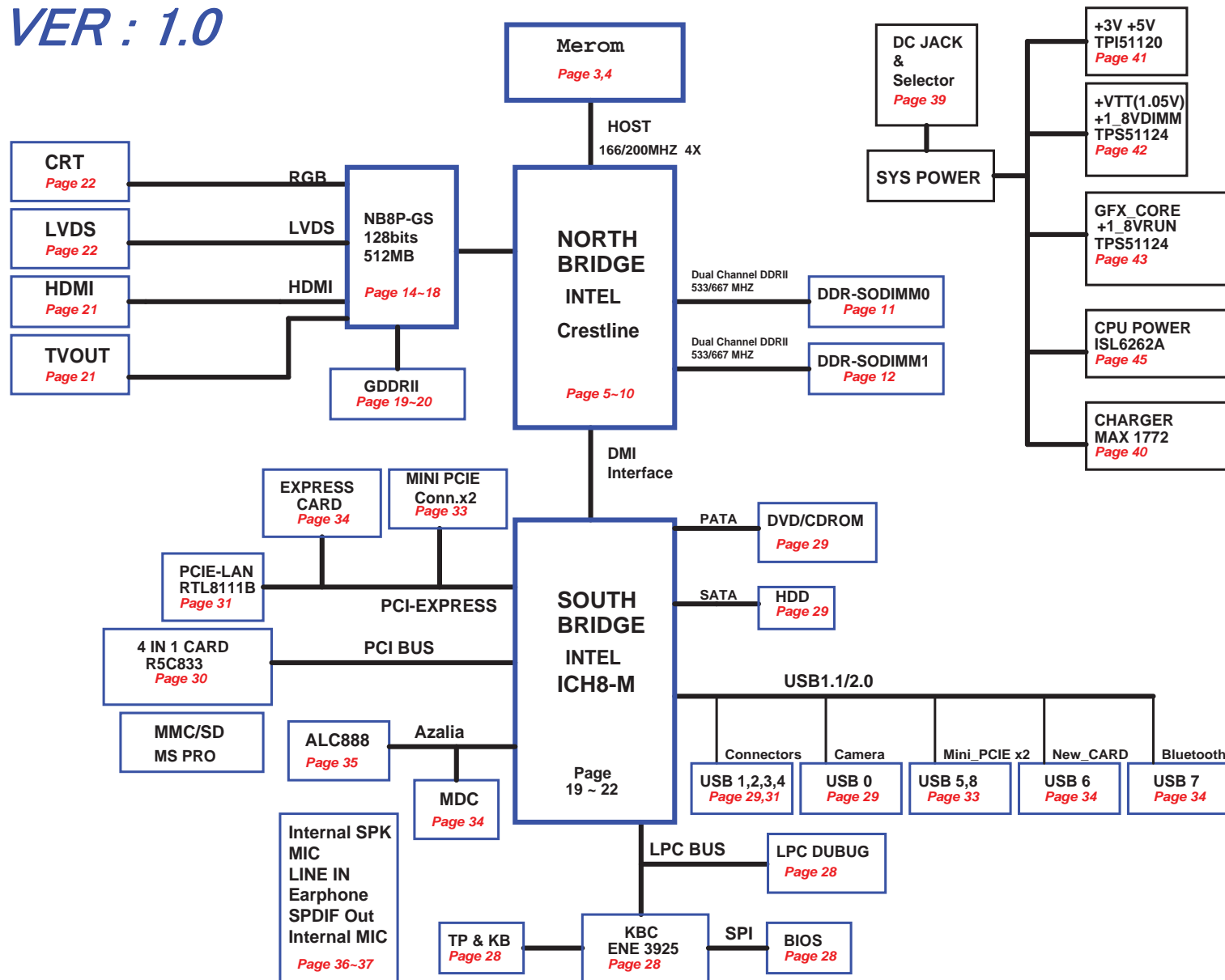


MS-163A VER : 1.0

- 01 : BLOCK DIAGRAM
- 02 : PLATFORM
- 03 : Merom-1 (HOST BUS)
- 04 : Merom-2 (POWER/GND)
- 05 : CRESTLINE-1 (HOST BUS)
- 06 : CRESTLINE-2 (DMI/VGA)
- 07 : CRESTLINE-3 (DDR)
- 08 : CRESTLINE-4 (POWER-1)
- 09 : CRESTLINE-5 (POWER-2)
- 10 : CRESTLINE-6 (VSS)
- 11 : DDR2_SODIMM0
- 12 : DDR2_SODIMM1
- 13 : DDR2 Termination
- 14 : NB8P-1 (Host Interface)
- 15 : NB8P-2 (IO Interface)
- 16 : NB8P-3 (MEM Interface)
- 17 : NB8P-4 (STRAP)
- 18 : NB8P-5 (POWER/GND)
- 19 : GDDRIL_32Mx16_BGA_A
- 20 : GDDRIL_32Mx16_BGA_B
- 21 : [VIDEO] HDMI & TVOUT
- 22 : [VIDEO] CRT & LVDS & BL
- 23 : CLK GEN [ICS9LPRS514]
- 24 : ICH8M-1 (CPU/IDE/Azalia)
- 25 : ICH8M-2 (PCI/USB/PCIE/DMI)
- 26 : ICH8M-3 (SM BUS/GPIO)
- 27 : ICH8M-4 (POWER/GND)
- 28 : KBC/EC/uP [ENE3925-LFQP144]
- 29 : HDD, ODD, CAMERA & USB CONN
- 30 : CardReader (Ricoh-R5C833)
- 31 : PCIE LAN (RTL8111B)
- 32 : ESATA (SIL3531)
- 33 : Mini_PCIEx2 & FAN
- 34 : NEWCARD & MDC & BT
- 35 : [AUDIO] CODEC ALC888
- 36 : [AUDIO] AMP & JACKS
- 37 : [AUDIO] Array Mic (FM2010)
- 38 : LED & FPC
- 39 : M_Battery select
- 40 : M_Battery Charger
- 41 : M_System Power
- 42 : VTT(NB/SB), 1.8VDDIMM, VTERM
- 43 : +G73M_CORE, 1.8VVRUN
- 44 : +1.2VGFX, +1.25VRUN, +1.5VRUN
- 45 : M_CPU power
- 46 : Screw
- 47 : Manual Part
- 48 : EMI
- 49 : Power Sequence
- 50 : KBC_CTR_PWR
- 51 : AC/Battery timing 1
- 52 : AC/Battery timing 2
- 53 : AC/Battery timing 3
- 54 : AC/Battery timing 4



MSI CORPORATION			
File	BLOCK DIAGRAM		
Size	Document Number	Rev	
C	MS-163A	0C	
Date	Tuesday, July 17, 2007	Sheet	1 of 54

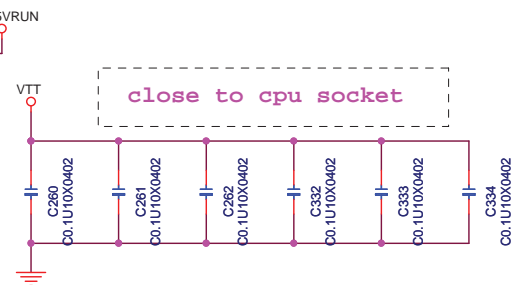
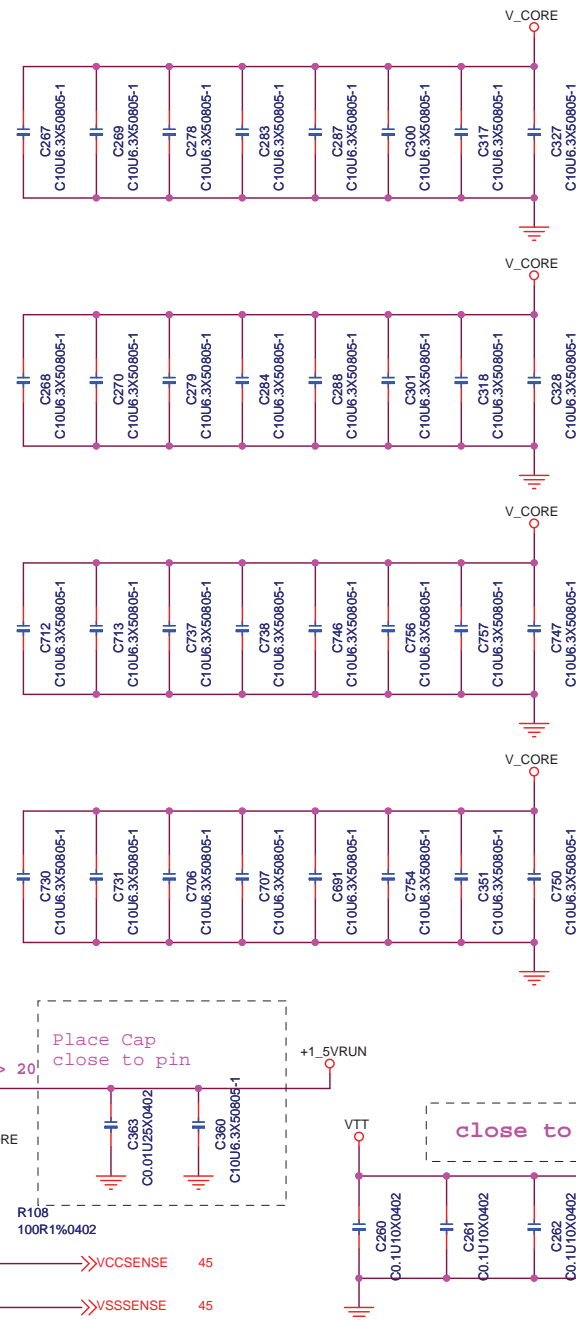
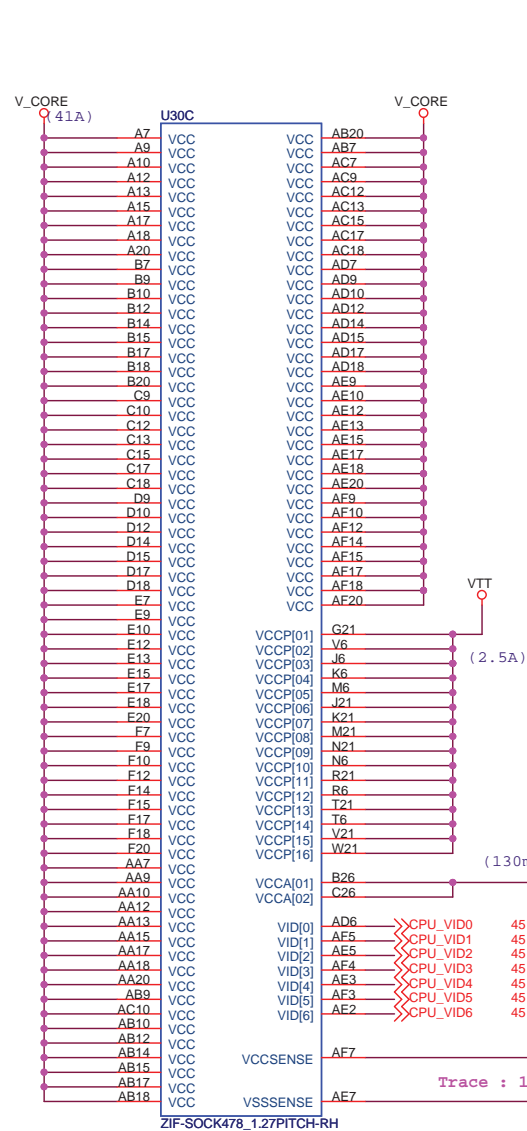
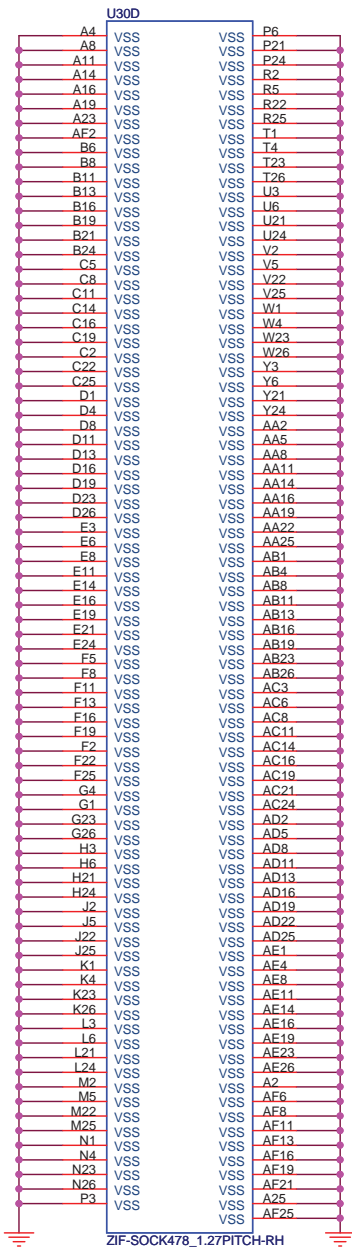
Voltage Rails

Voltage	Description	Control Signal
PWR_SRC	AC ADAPTER OR BATTERY IN	
VHORE	Core Voltage for Processor	VR_ON
+VTT	1.05 rail for Processor & 965PM & ICH8M	PM_SLP_S3# (RUN_ON)
+1_5VRUN	1.5V LDO 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

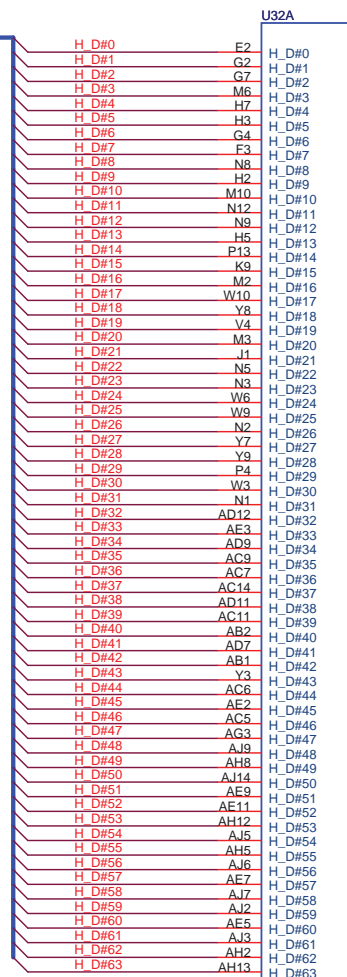
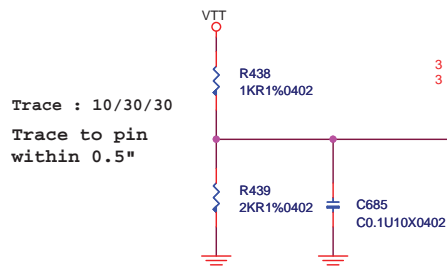
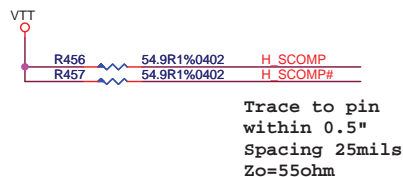
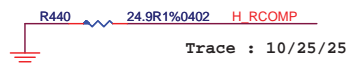
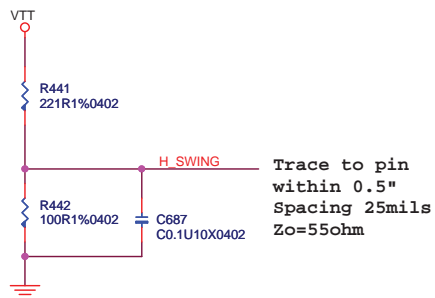
POWER STATES

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

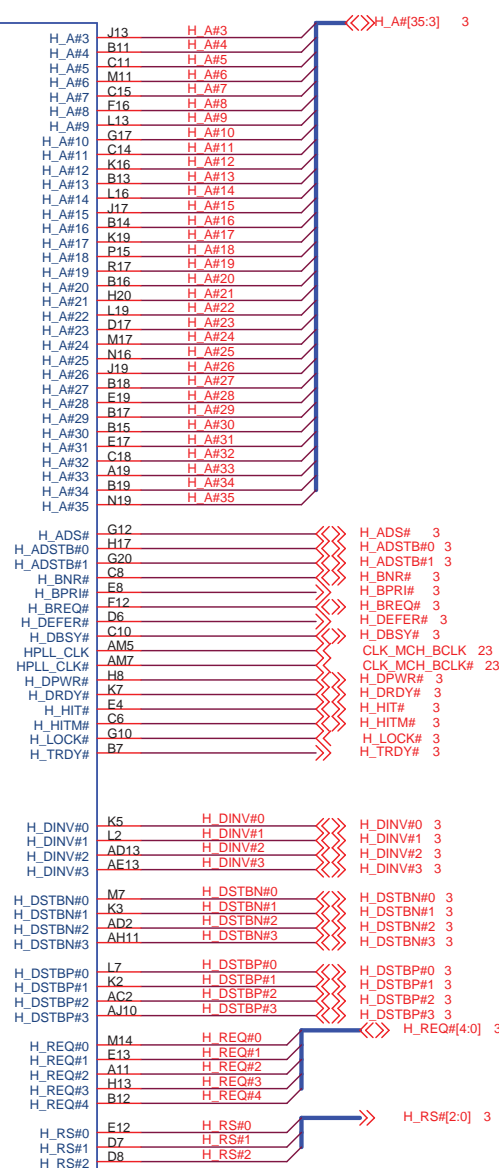
Note : WHEN AC MODE , System turn on then +V*SUS will always keep high



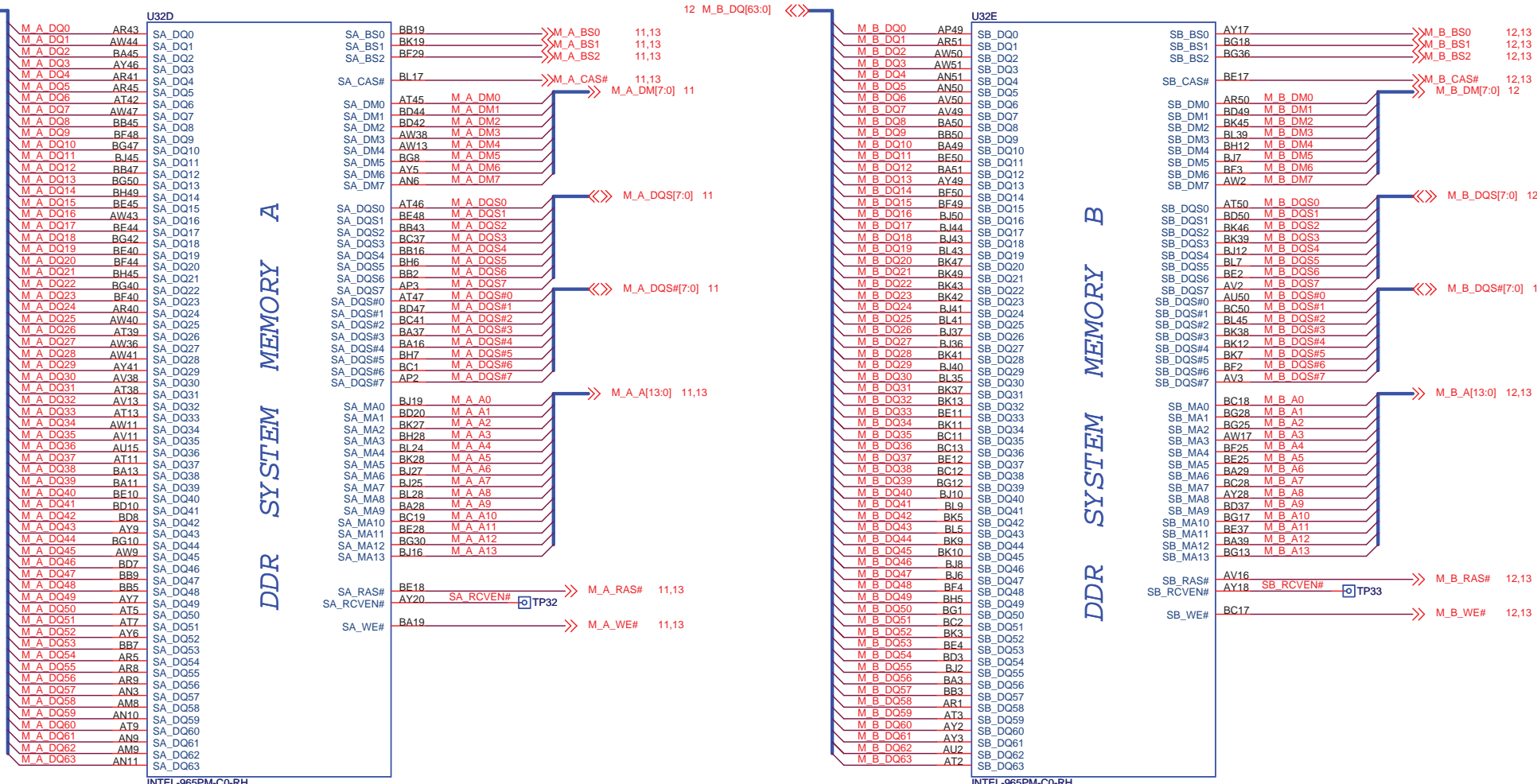
```
Trace width = 18mils
Trace spacing = 7mils
other spacing = 50mils
length matched within 25mils
Place R close to CPU within 1"
```

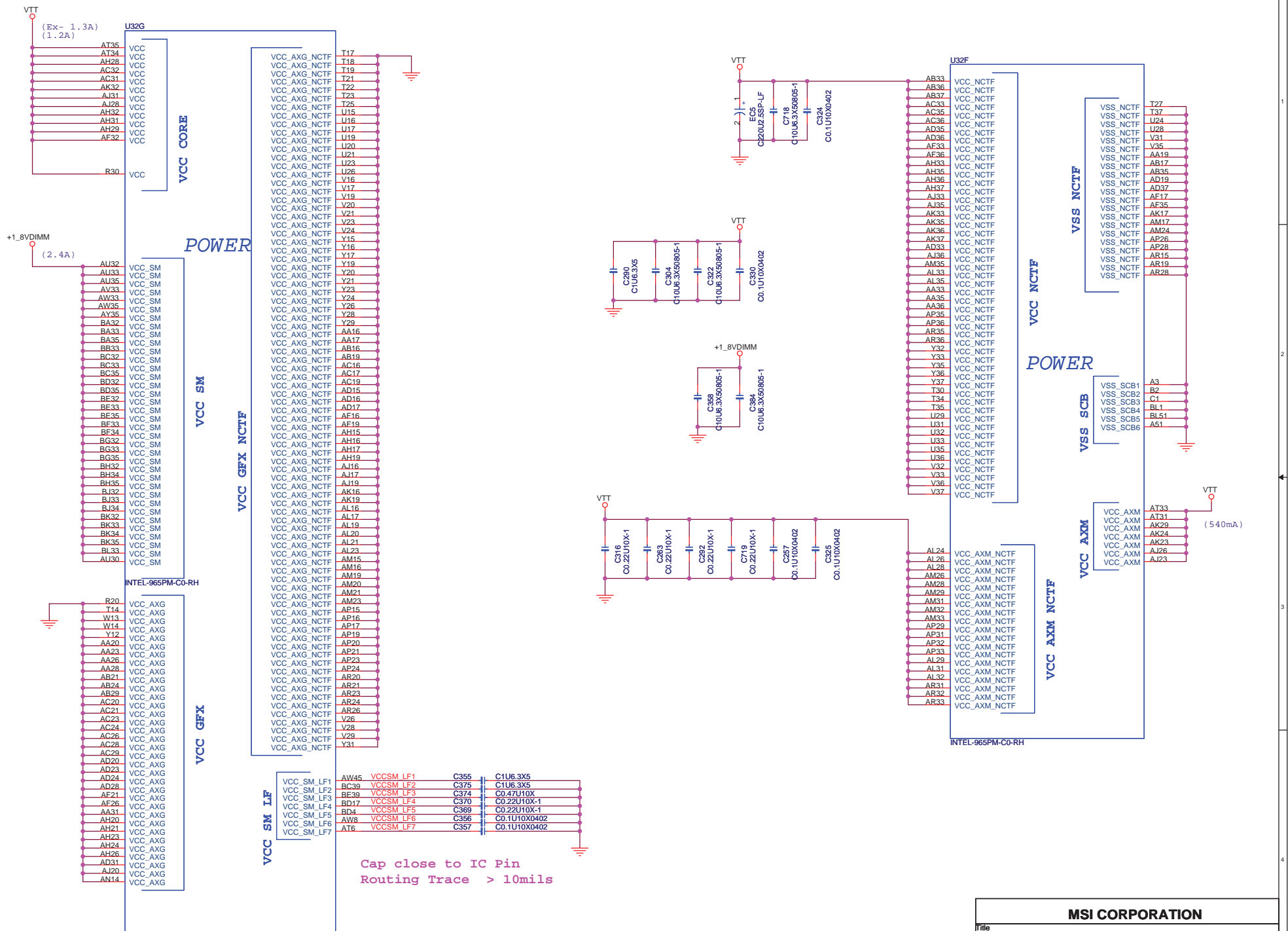


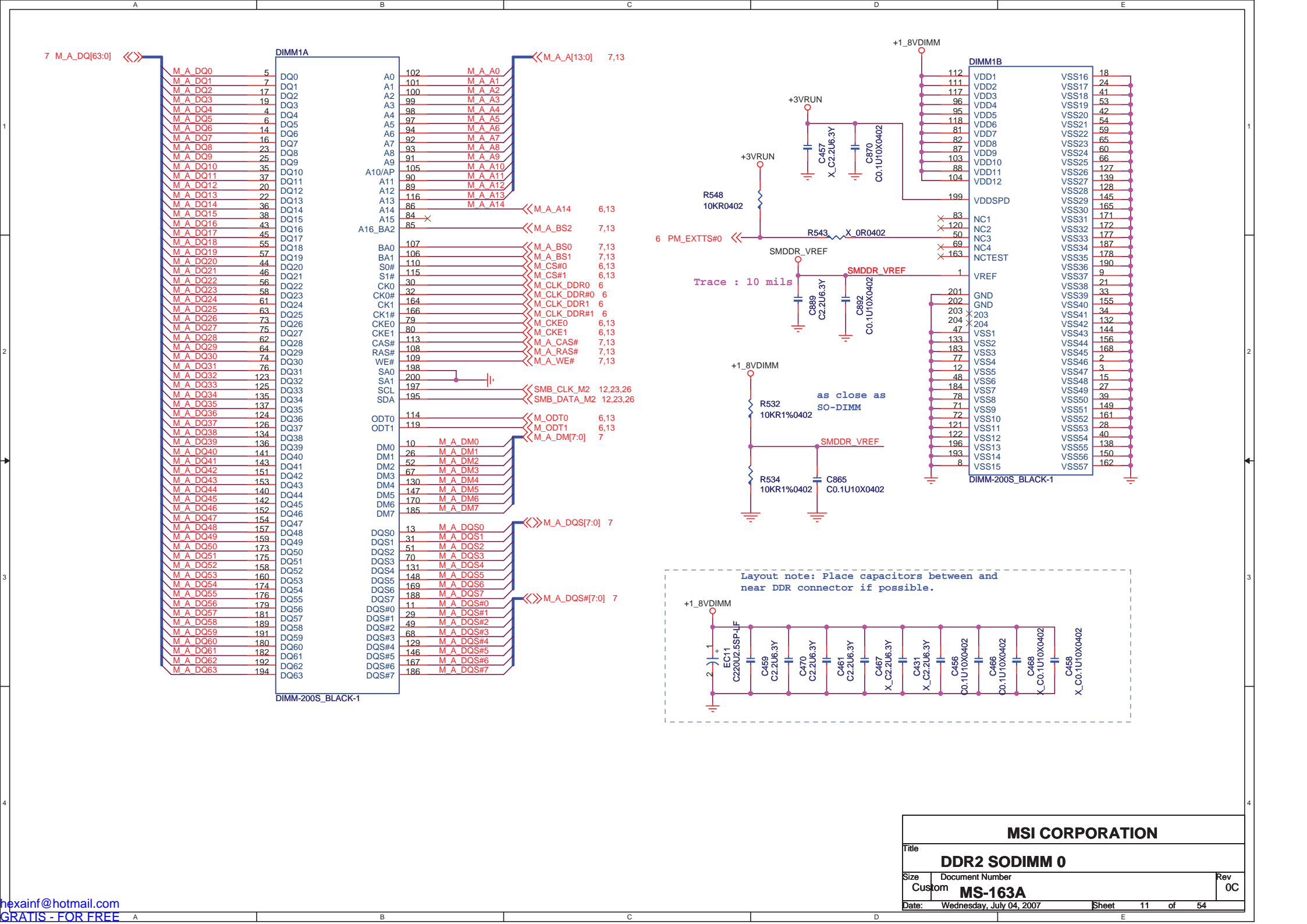
HOST

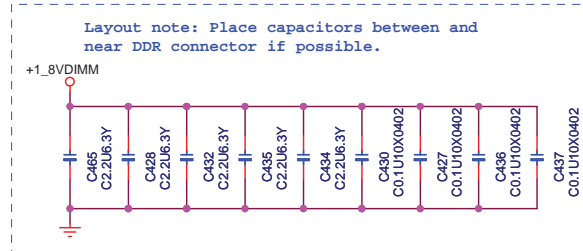
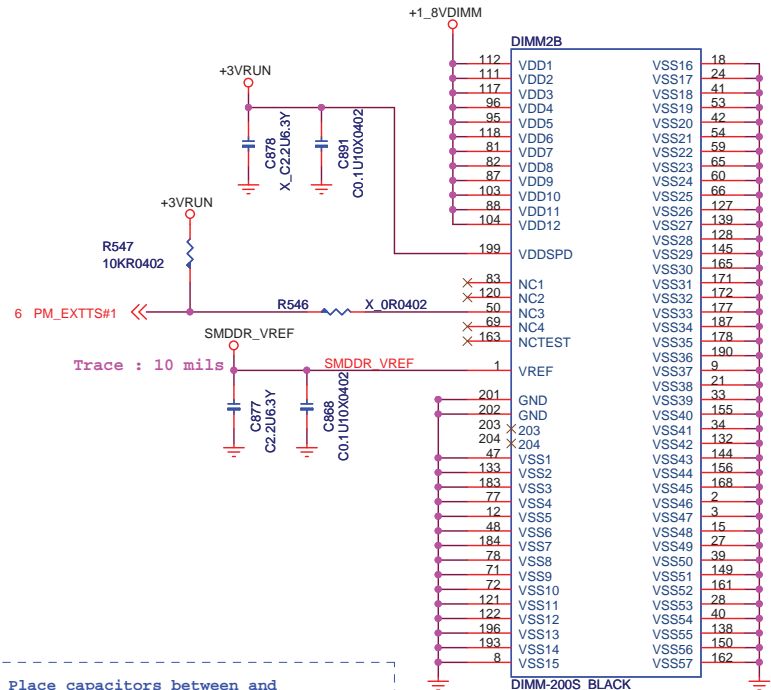
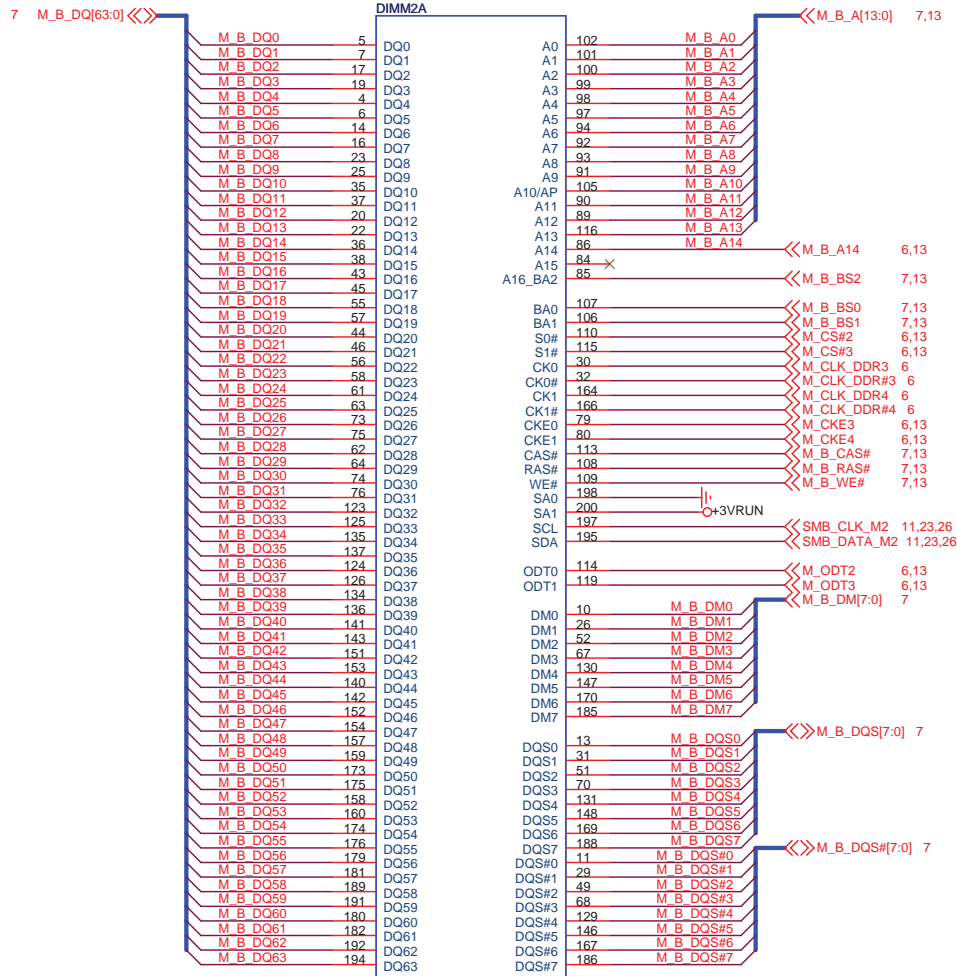


MSI CORPORATION			
Title			
CRESTLINE-1 (HOST BUS)			
Size	Document Number		Rev
B	MS-163A		OC
Date:	Wednesday, July 04, 2007		Sheet 5 of 54

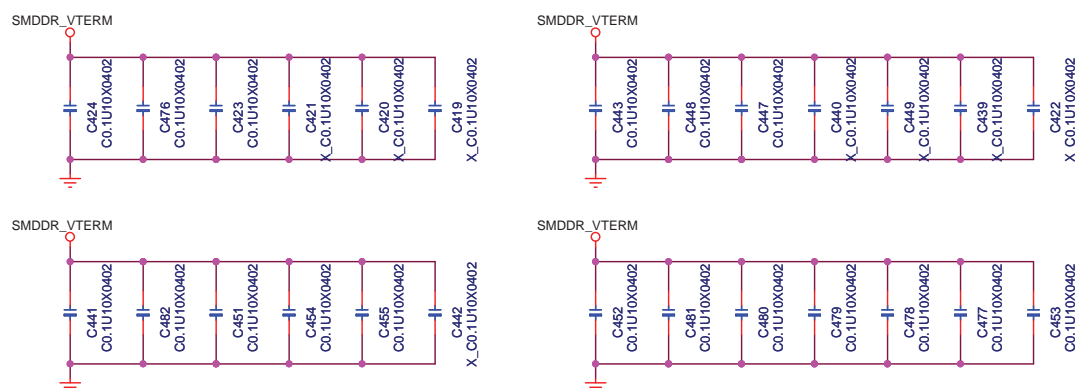
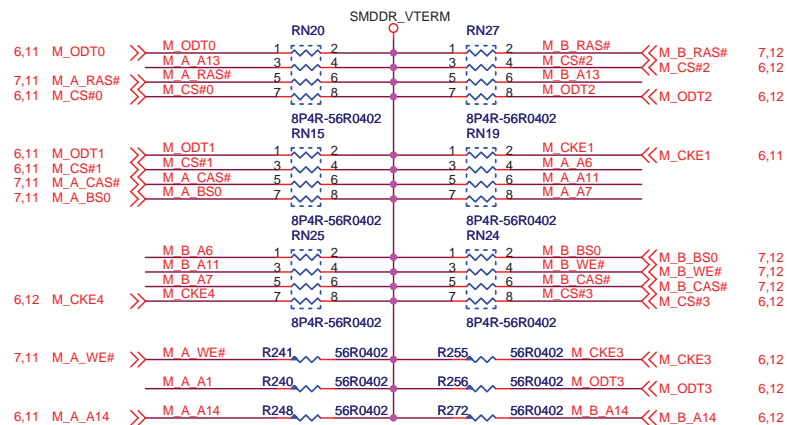
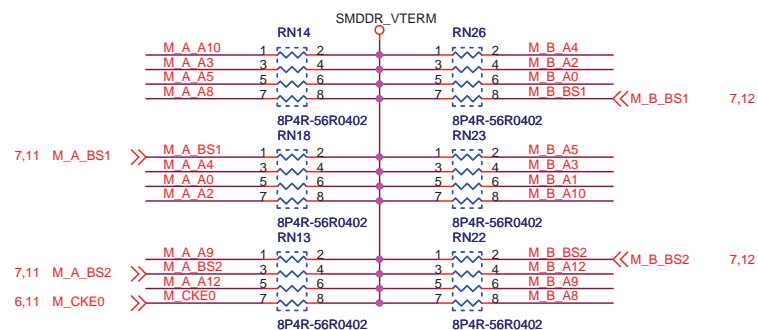
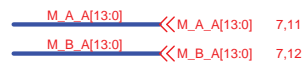




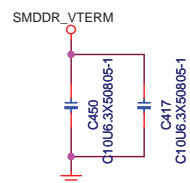




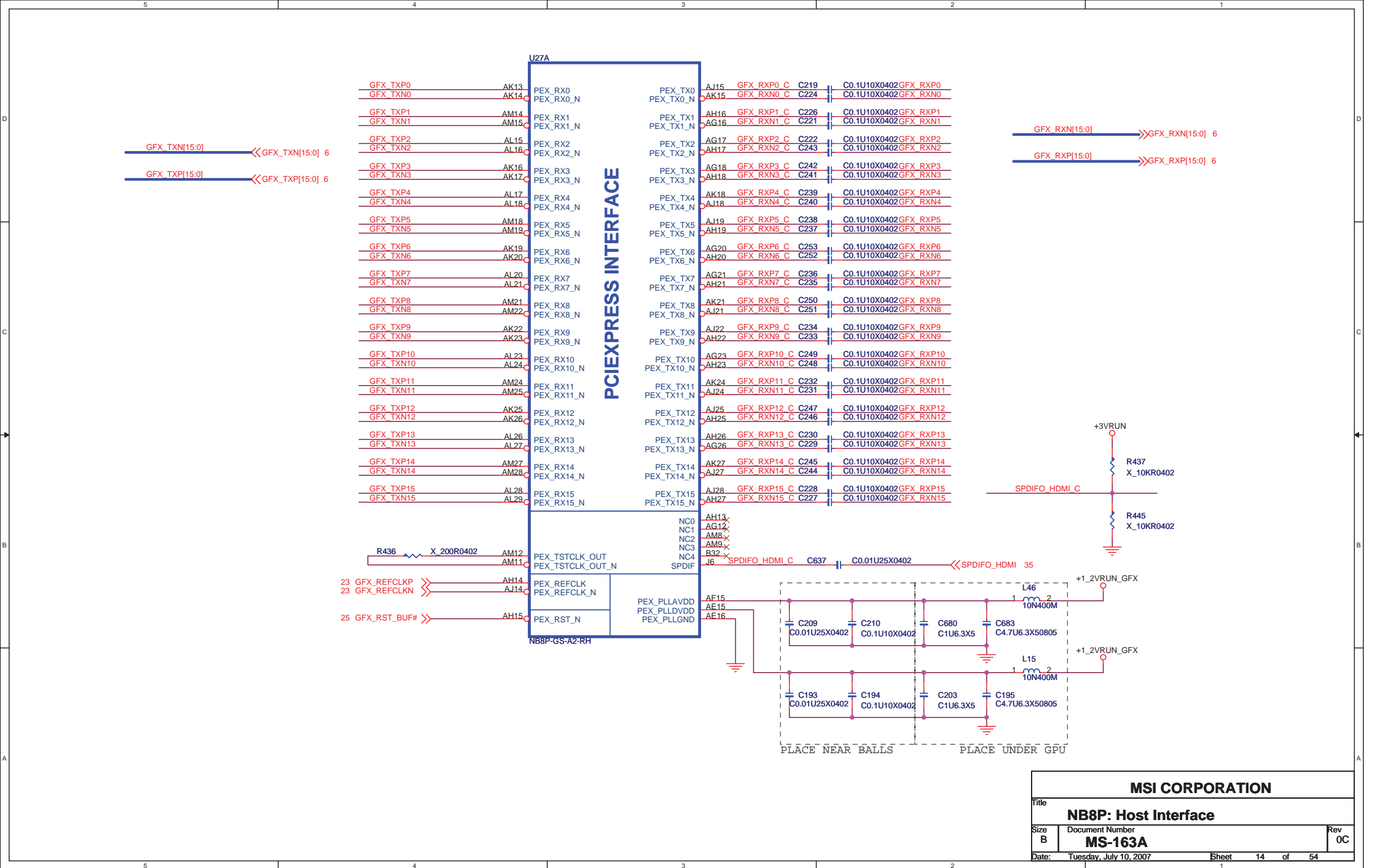
MSI CORPORATION			
Title			
DDR2 SODIMM 1			
Size	Document Number		Rev
Custom	MS-163A		0C
Date:	Tuesday, July 10, 2007		Sheet 12 of 54

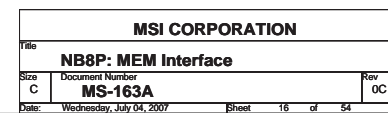


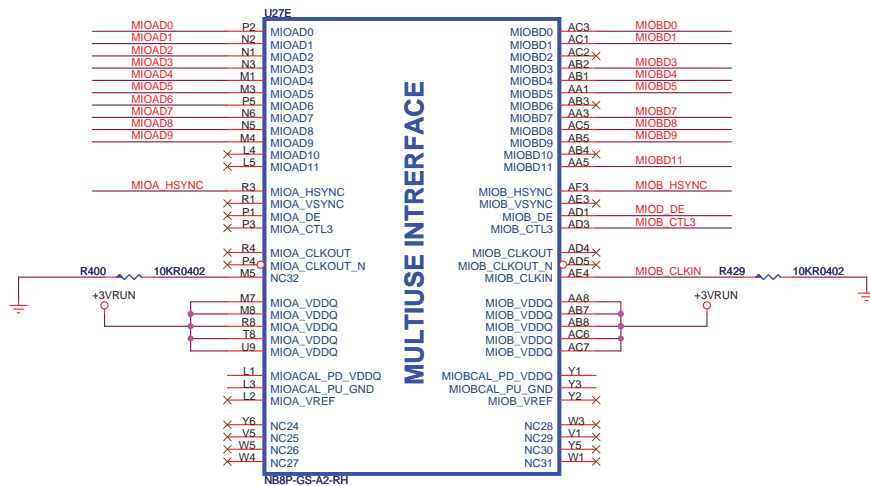
Layout note: Place one cap close to every 2 pullup resistors terminated to SMDDR_VTERN.



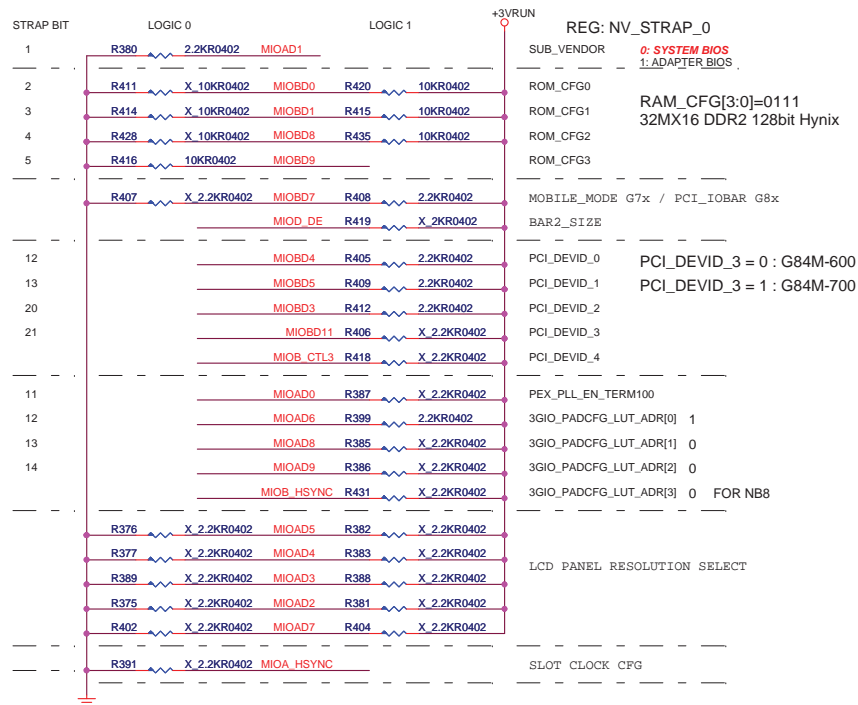
MSI CORPORATION			
Title			
DDR2 TREMINATION			
Size B	Document Number MS-163A		Rev 0C
Date:	Wednesday, July 04, 2007	Sheet	13 of 54





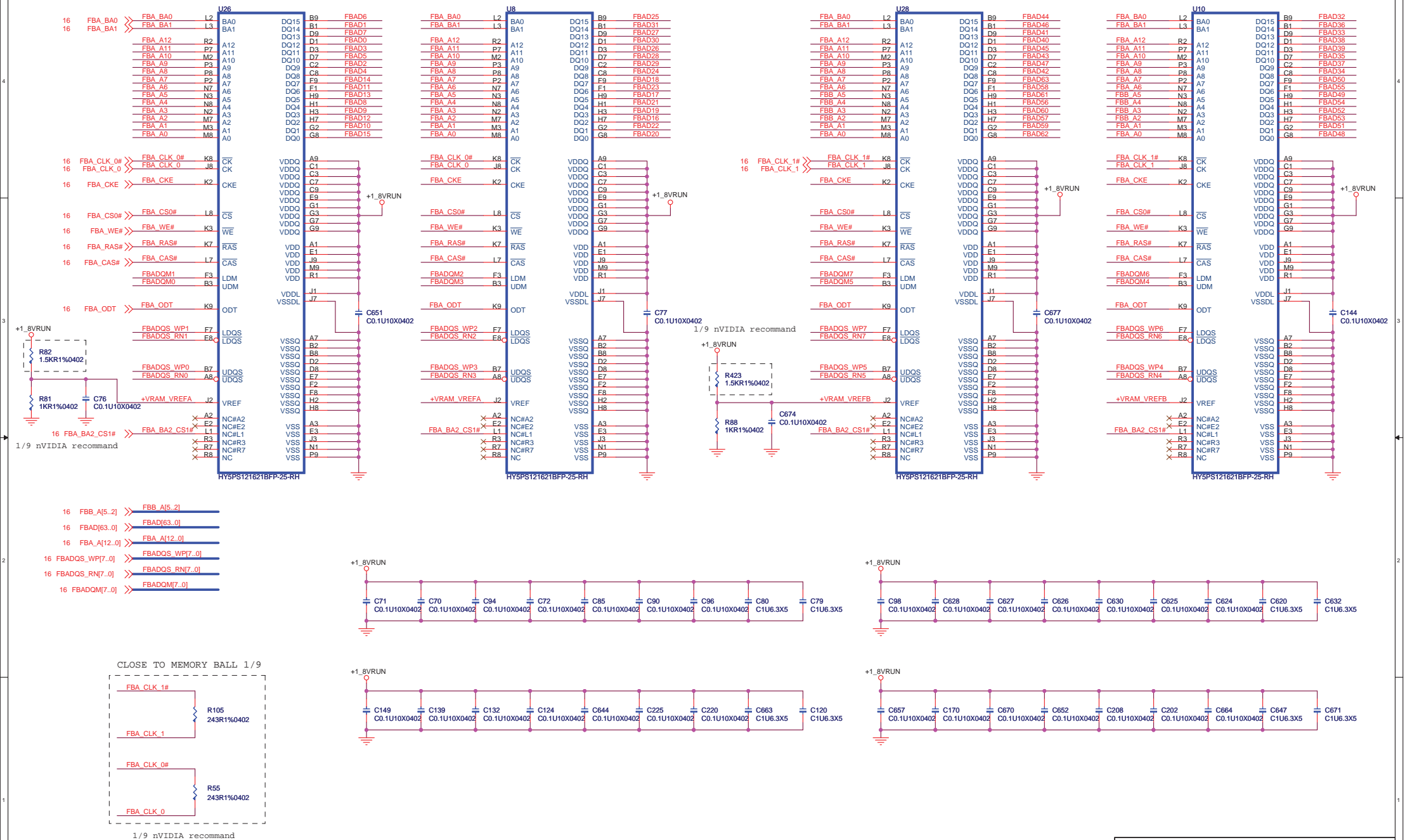


PIN NAME	G8X FUNCTION	DEFAULT	VBIOS ROM NOT PRESENT	NB8
MIOBD2	CRYSTAL	0	NOT REQUIRED	0
MIOAD7	TVMODE0	1	NOT REQUIRED	X
MIOAD10	TVMODE1	0	NOT REQUIRED	0
MIOBD6	TVMODE2	0	NOT REQUIRED	0
MIOBD4	PCI_DEVID_0	0	2K PULL-UP RECOMMENDED	X
MIOBD5	PCI_DEVID_1	0	2K PULL-UP RECOMMENDED	X
MIOBD3	PCI_DEVID_2	0	2K PULL-UP RECOMMENDED	X
MIOBD11	PCI_DEVID_3	0	2K PULL-UP RECOMMENDED	X
MIOB_CTL3	PCI_DEVID_4	0	2K PULL-UP RECOMMENDED	X
MIOAD6	3GIO_PADCFG0	0	2K PULL-UP RECOMMENDED	1
MIOAD8	3GIO_PADCFG1	0	2K PULL-UP RECOMMENDED	0
MIOAD9	3GIO_PADCFG2	0	2K PULL-UP RECOMMENDED	0
MIOB_HSYNC	3GIO_PADCFG3	0	2K PULL-UP RECOMMENDED	0
MIOBD7	PCI_I0BAR	1	NOT REQUIRED	1
MIOB_DE	BAR2_SIZE	0	NOT REQUIRED	0

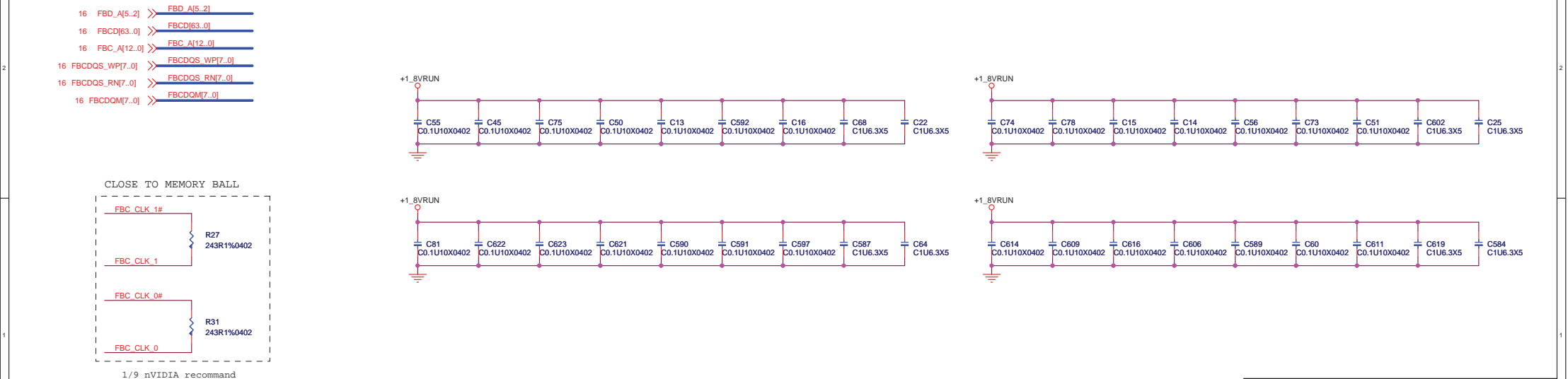
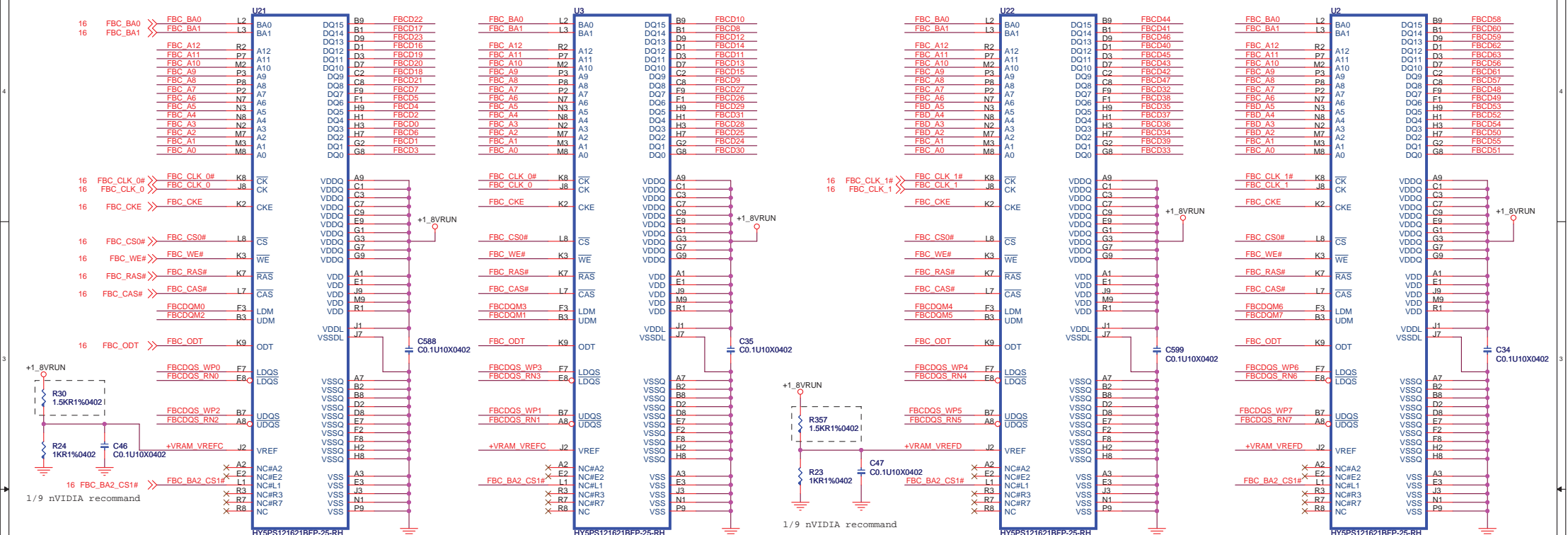


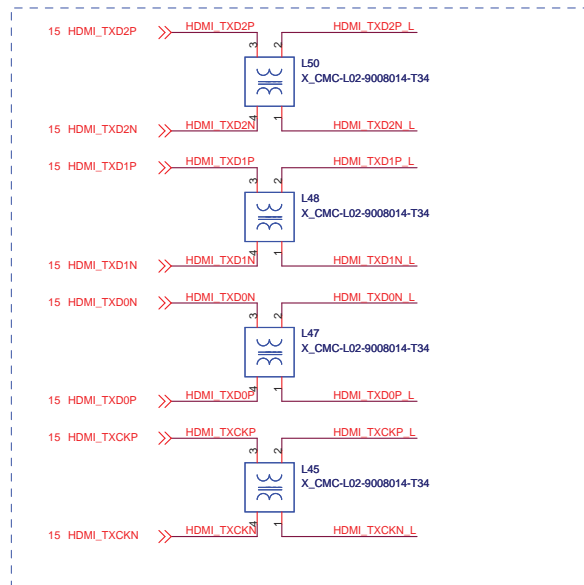
MSI CORPORATION			
Title			
NB8P: STRAP			
Size	Document Number	Rev	
Custom	MS-163A	0C	
Date:	Friday, July 06, 2007	Sheet	17 of 54

512 M GDDRII Channels A

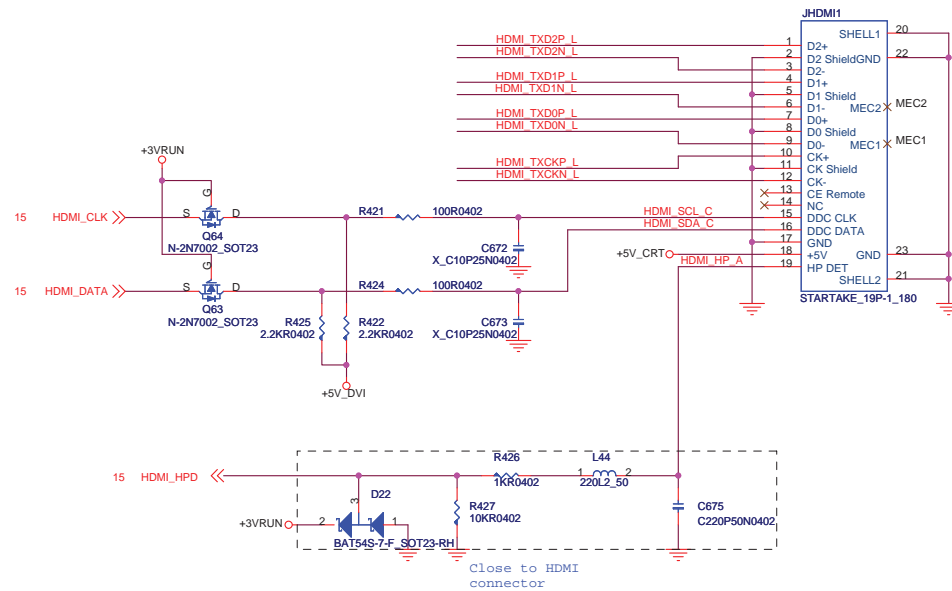


512 M GDDRII Channels B



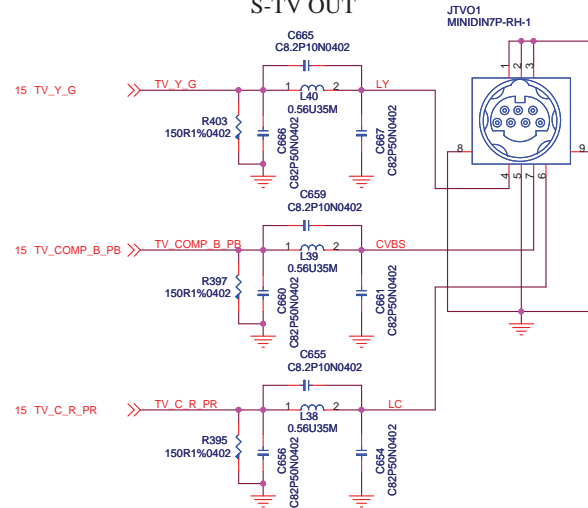


CLOSE TO CONNECTOR

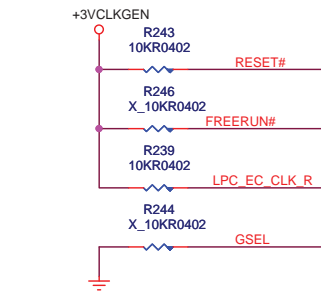


Close to HDMI connector

S-TV OUT

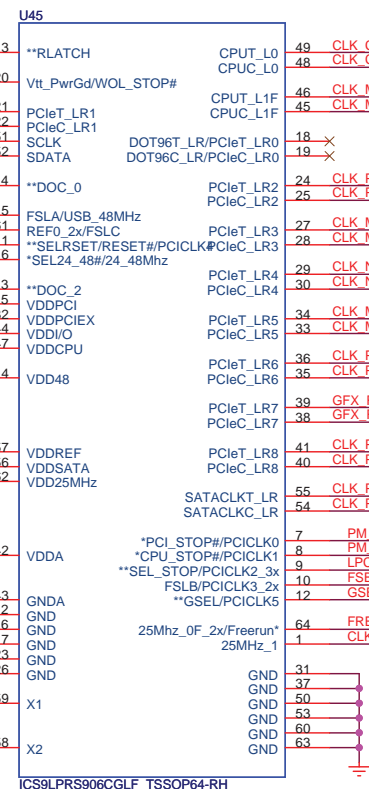
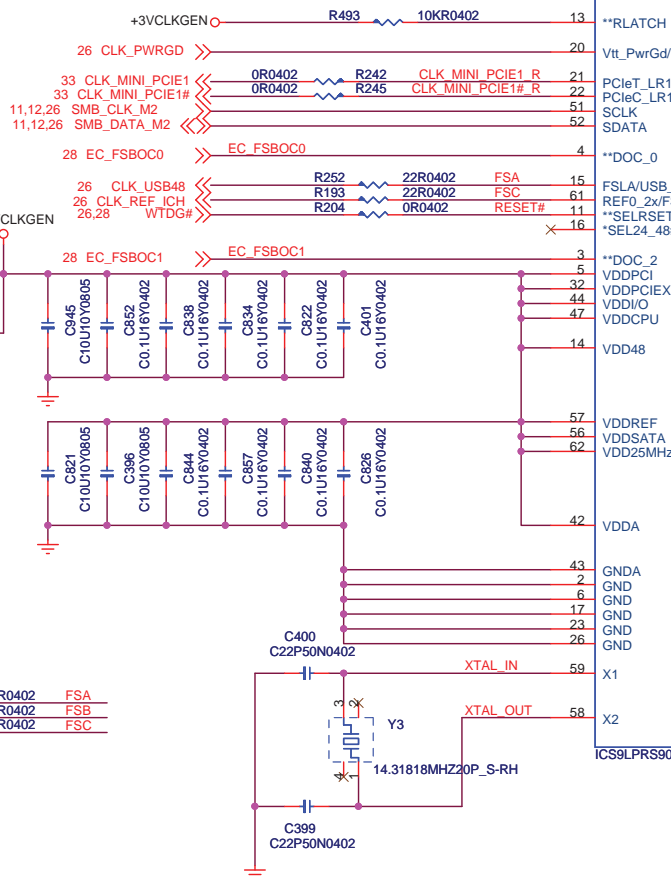
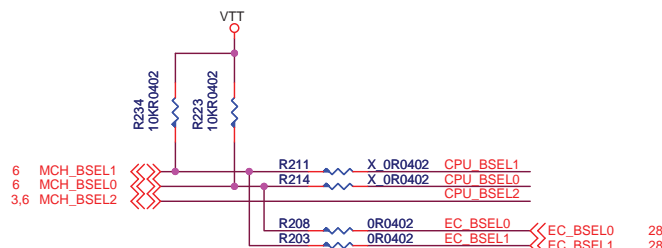
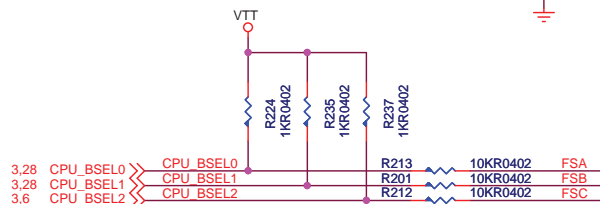


MSI CORPORATION			
Title	HDMI & TV connector		
Size	Document Number	Rev	
Custom	MS-163A	0A	
Date:	Wednesday, July 04, 2007	Sheet	21 of 54



PIN 7,8 FUNCTION	PIN 9 STRAP
CPU/PCI STOP	1
PCICLK	0

PIN 18,19 FUNCTION	PIN 12 STRAP
96M	1
PCIe	0

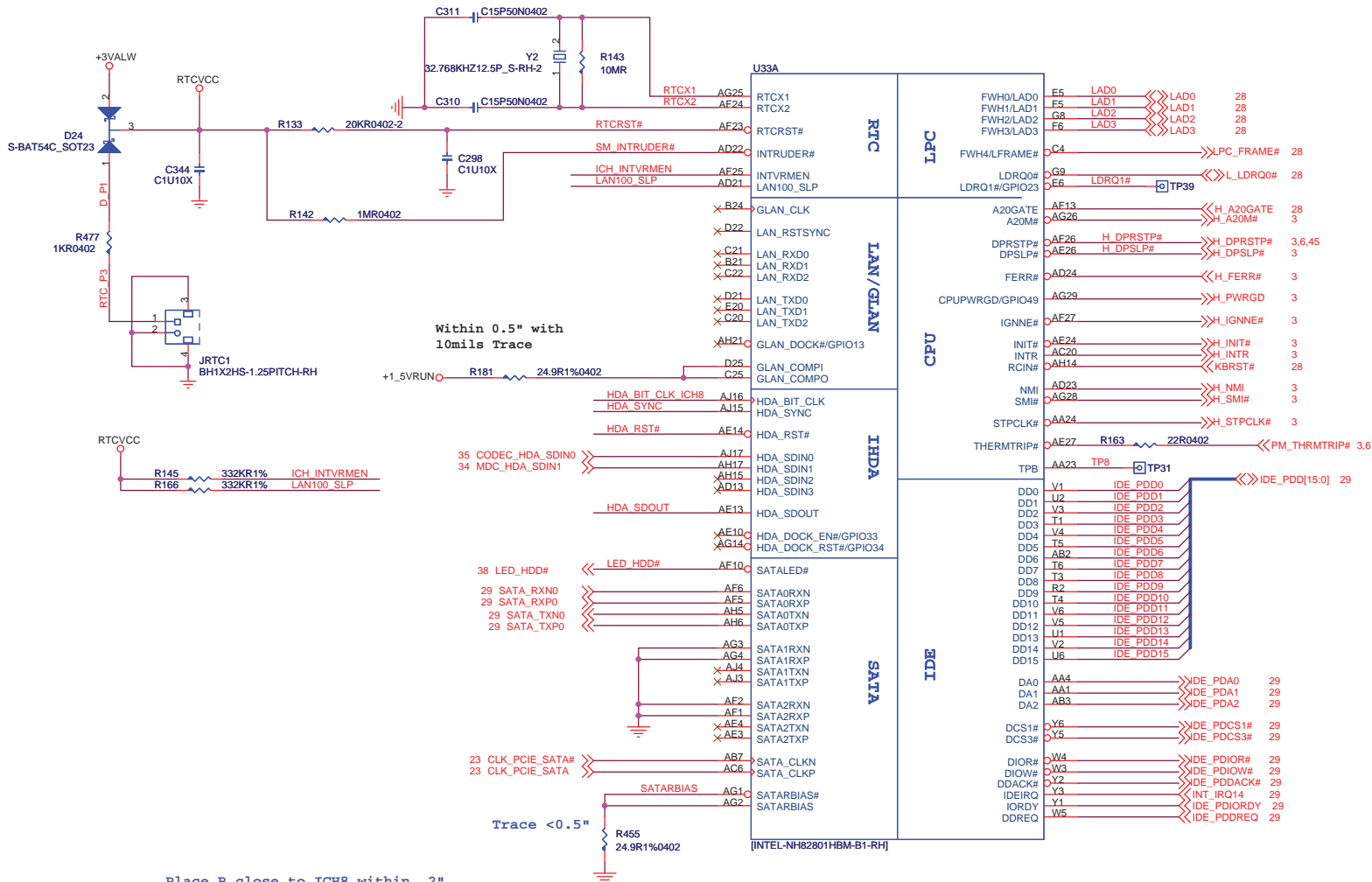


EMI

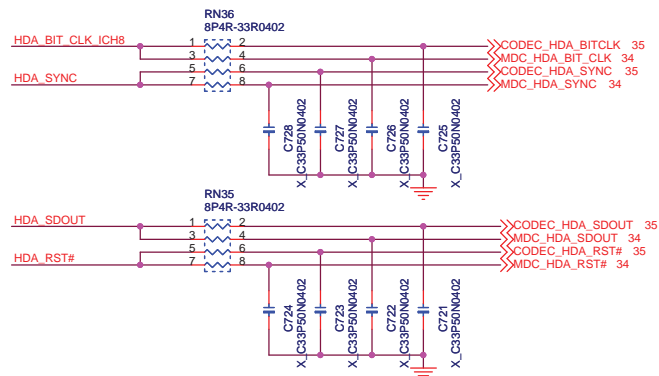
PCLK CARD	C404	C10P50N0402
CLK PCIF ICH	C403	C10P50N0402
LPC DEBUG	C405	C10P50N0402
LPC EC CLK	C406	C10P50N0402
CLK ESATA	C397	C10P50N0402
CLK USB48	C389	X C10P50N0402
CLK REF ICH	C319	C10P50N0402

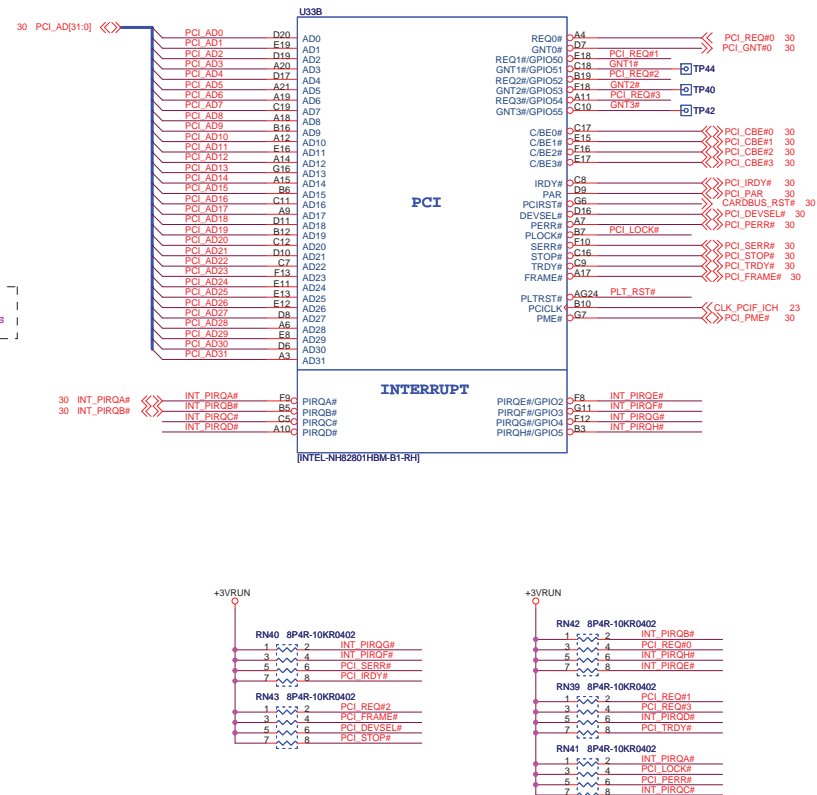
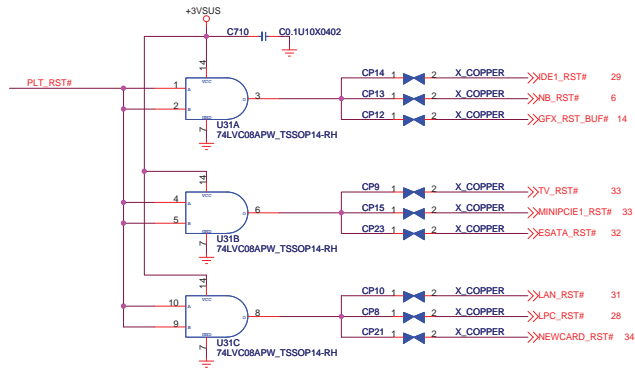
CPU Table			FSB Freq (MHz)
BSEL[2]	BSEL[1]	BSEL[0]	
L	H	H	667 MHz
L	H	L	800 MHz

MSI CORPORATION			
Title CLK GEN [ICS9LPRS514]			
Size Custom	Document Number MS-163A		Rev 0A
Date: Tuesday, July 10, 2007	Sheet 23 of 54		E

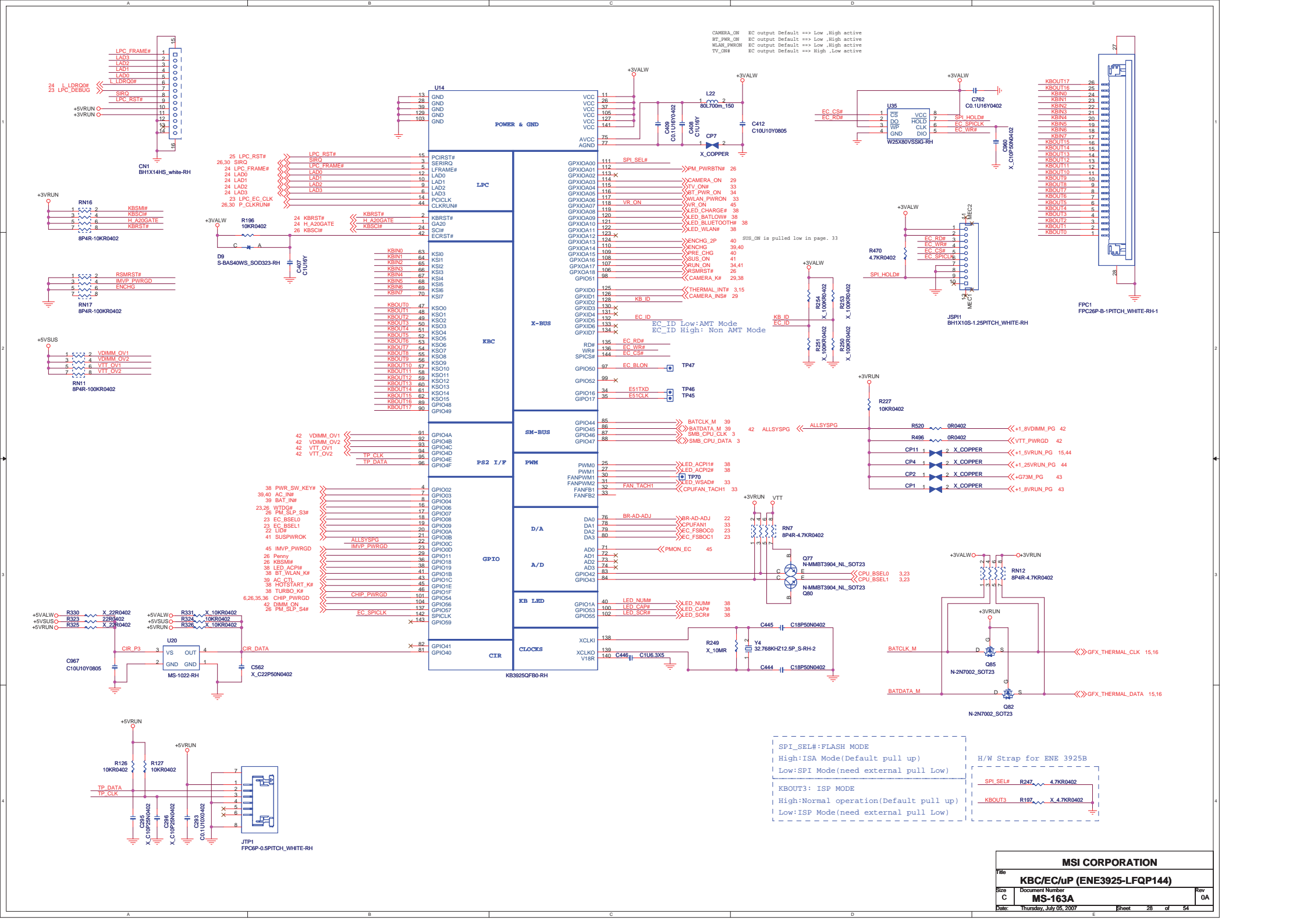


Place R107 close to ICH8M within 2"

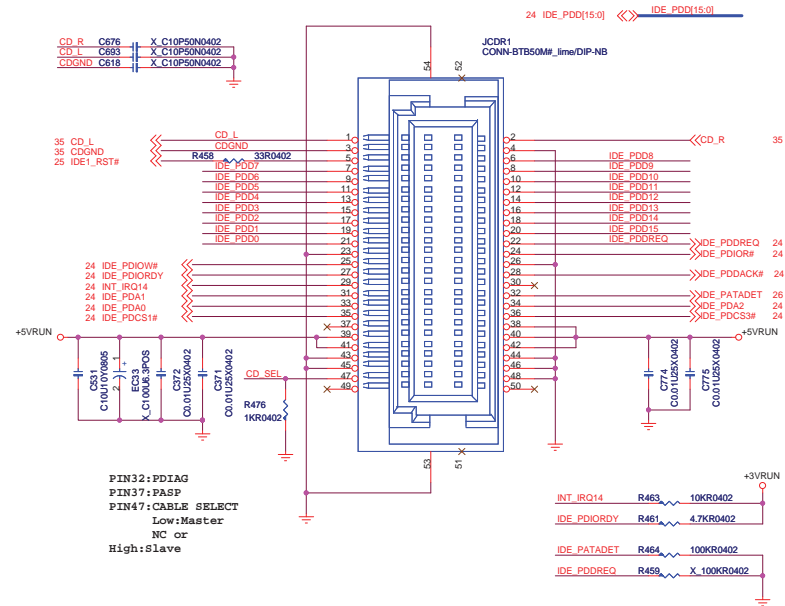


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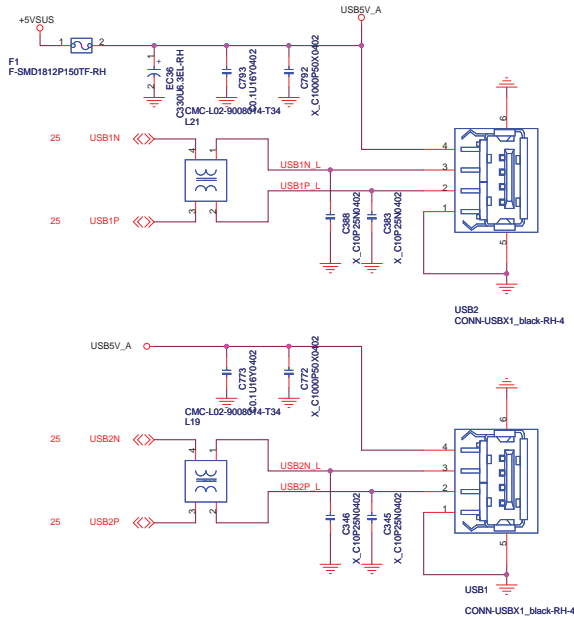


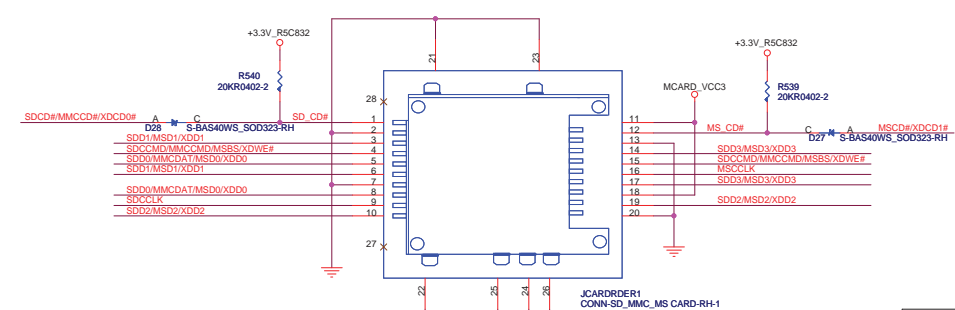
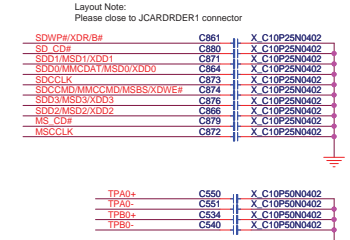
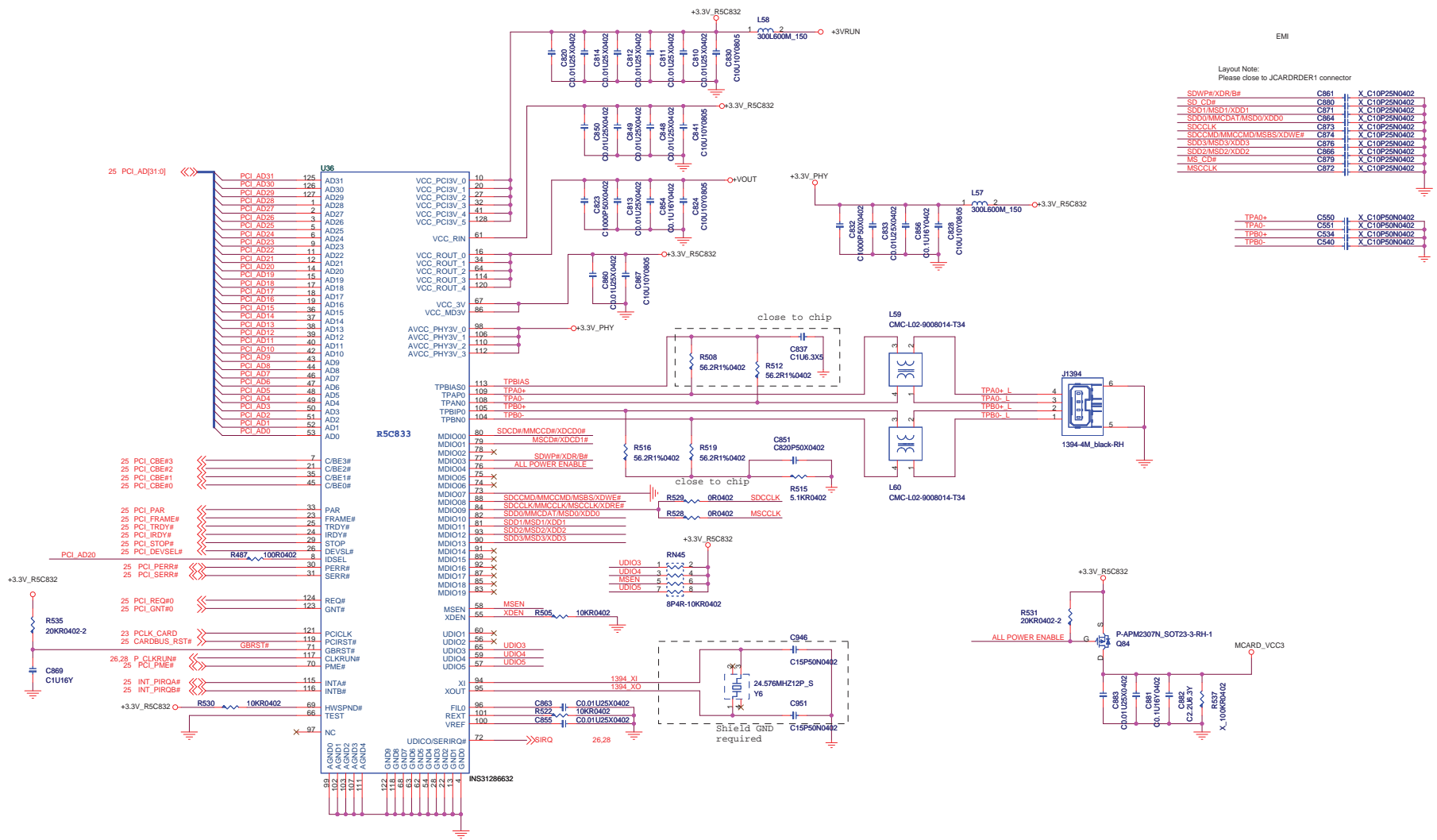


ODD CONN



USB CONN





MSD0	SD	MMC	MS	SD
MSD00	SDCD#	MMCDD#	MSCD#	SDCD#
MSD01			MSCD#	SDCD#
MSD02	SDWP#	MSCFWR	MSFWR	SDWP#
MSD03	SDWP#	MSCFWR	MSFWR	SDWP#
MSD04	SDWP#	MSCFWR	MSFWR	SDWP#
MSD05	SDWP#	MSCFWR	MSFWR	SDWP#
MSD06	SDWP#	MSCFWR	MSFWR	SDWP#
MSD07	SDWP#	MSCFWR	MSFWR	SDWP#
MSD08	SDWP#	MSCFWR	MSFWR	SDWP#
MSD09	SDWP#	MSCFWR	MSFWR	SDWP#
MSD10	SDWP#	MSCFWR	MSFWR	SDWP#
MSD11	SDWP#	MSCFWR	MSFWR	SDWP#
MSD12	SDWP#	MSCFWR	MSFWR	SDWP#
MSD13	SDWP#	MSCFWR	MSFWR	SDWP#
MSD14	SDWP#	MSCFWR	MSFWR	SDWP#
MSD15	SDWP#	MSCFWR	MSFWR	SDWP#
MSD16	SDWP#	MSCFWR	MSFWR	SDWP#
MSD17	SDWP#	MSCFWR	MSFWR	SDWP#
MSD18	SDWP#	MSCFWR	MSFWR	SDWP#
MSD19	SDWP#	MSCFWR	MSFWR	SDWP#

J2 : SD/MS DEVIC

Pin	Description	Pin	Description
1	Card Detect SW	2	MS VSS
3	SD Data1	4	MS BS
5	SD Data0	6	MS Data1
7	SD VSS	8	MS Data0
9	SD CLK	10	MS Data2
11	SD VDD	12	MS INS
13	SD VSS	14	MS Data3
15	SD CMD	16	MS CLK
17	SD Data3	18	MS VDD
19	SD Data2	20	MS VSS
		26	SD_WP

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

MSI CORPORATION

File

CardReader (Ricoch-R5C833)

Size

C

Document Number

MS-163A

Date

Wednesday, July 04, 2007

Sheet

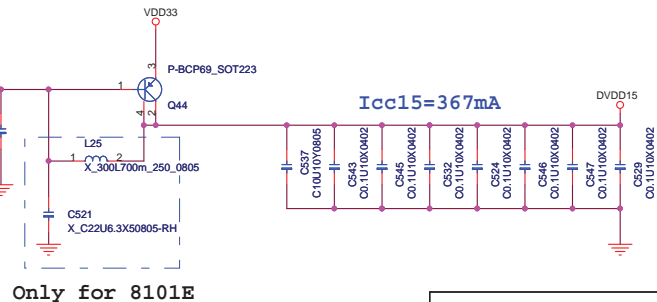
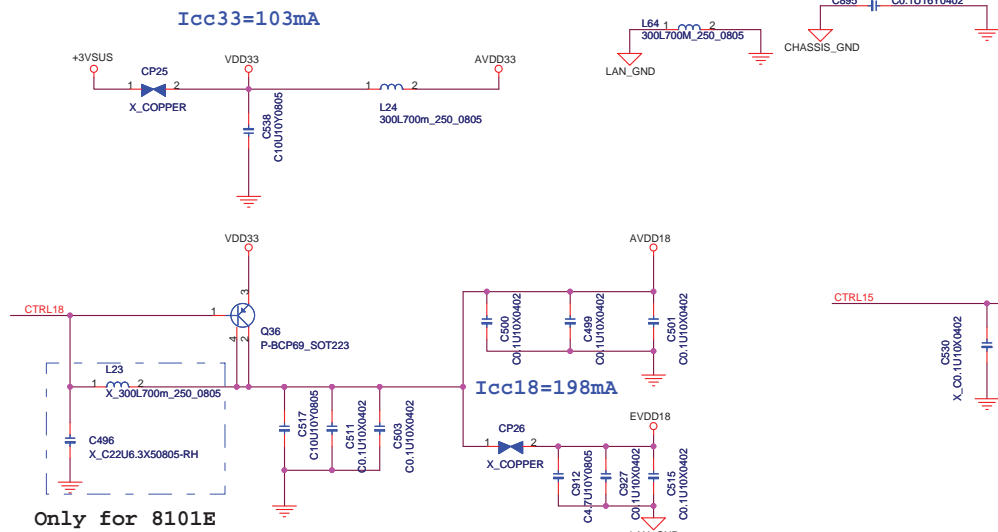
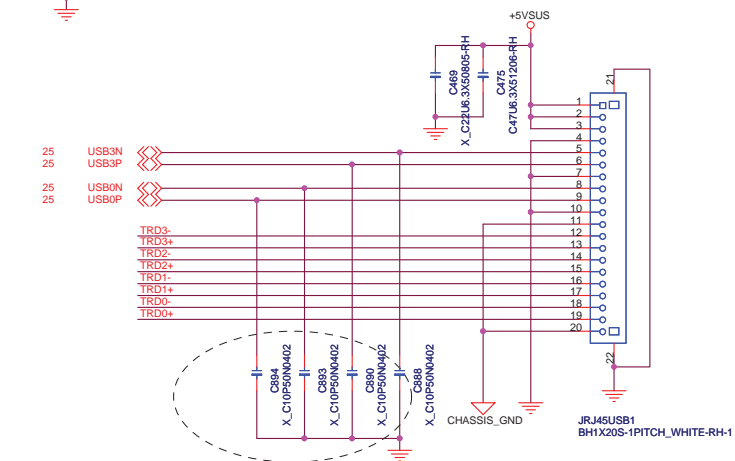
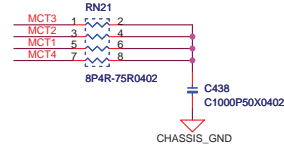
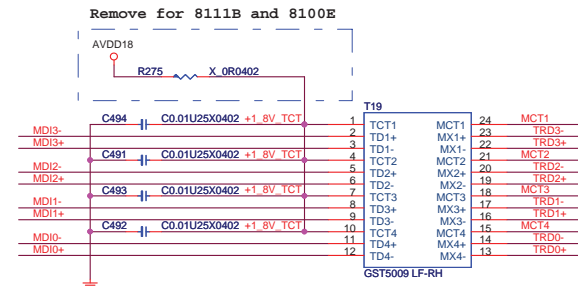
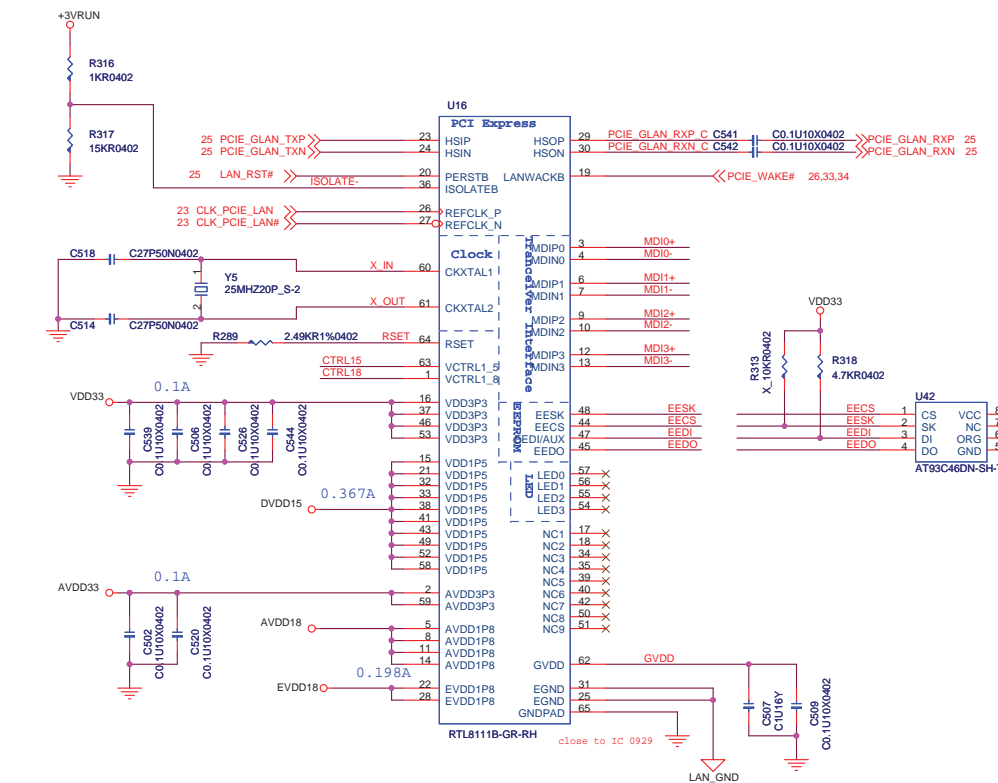
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of

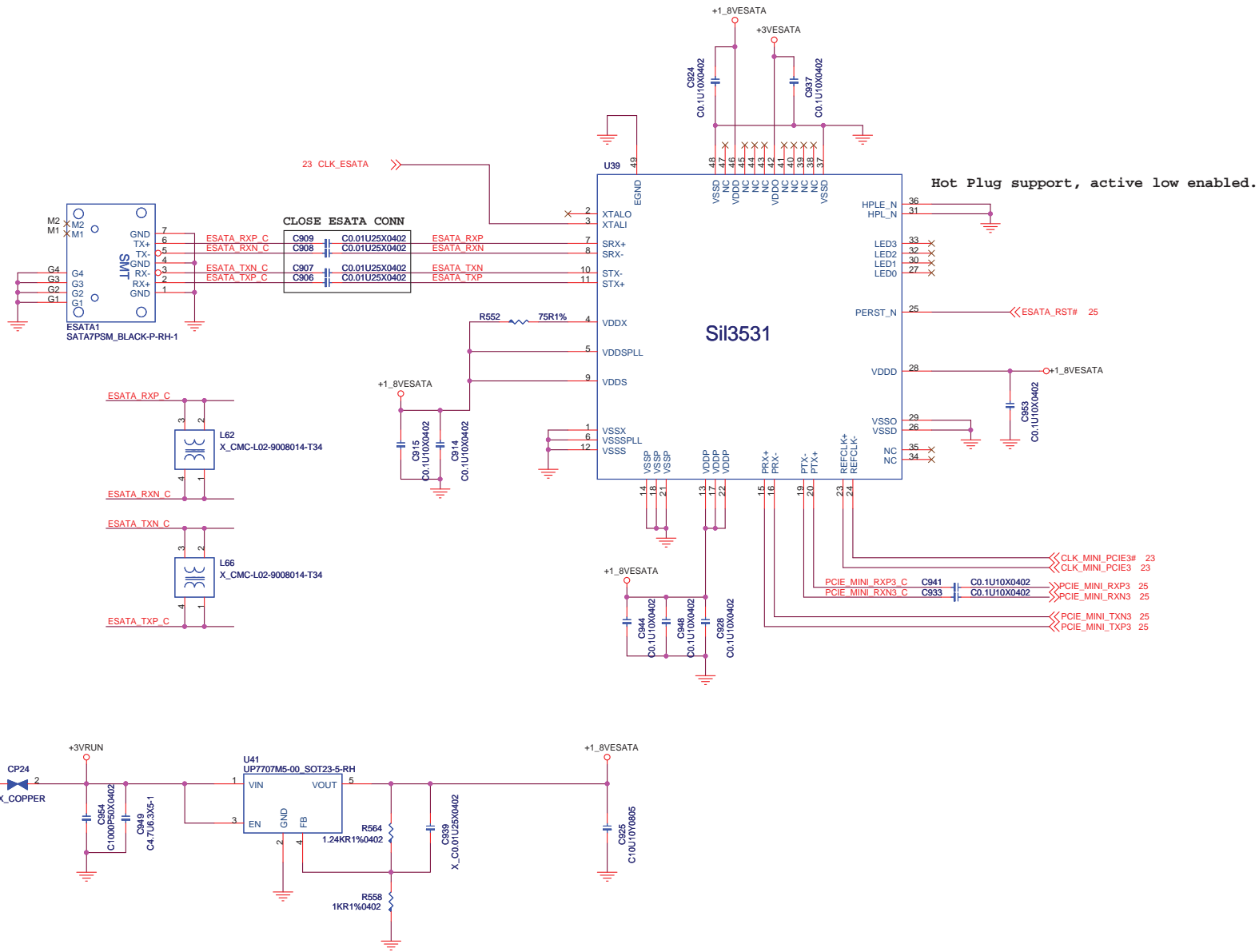
54

Rev

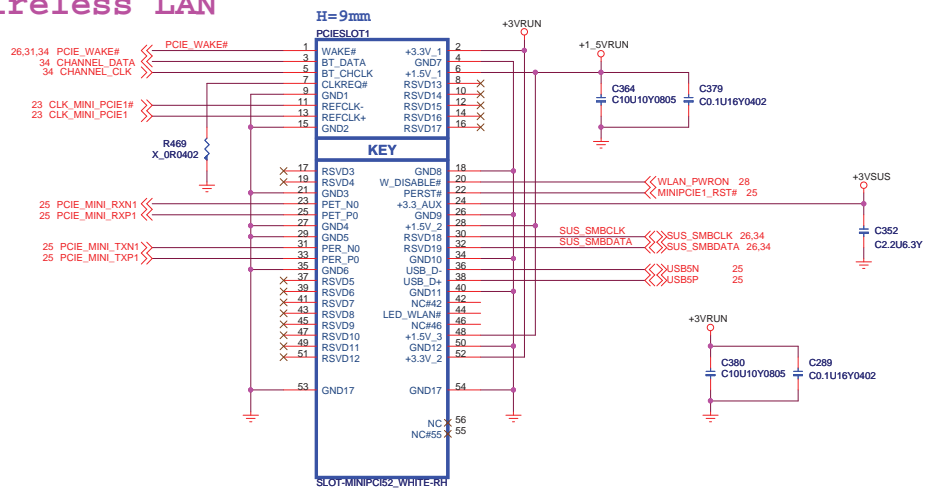
0A



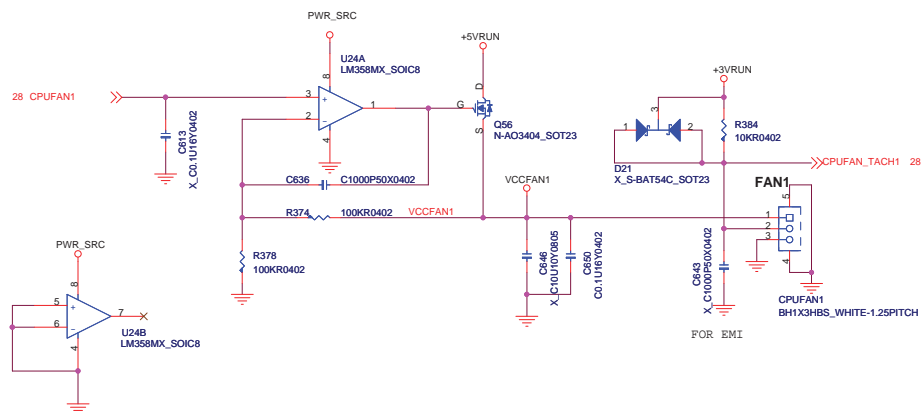
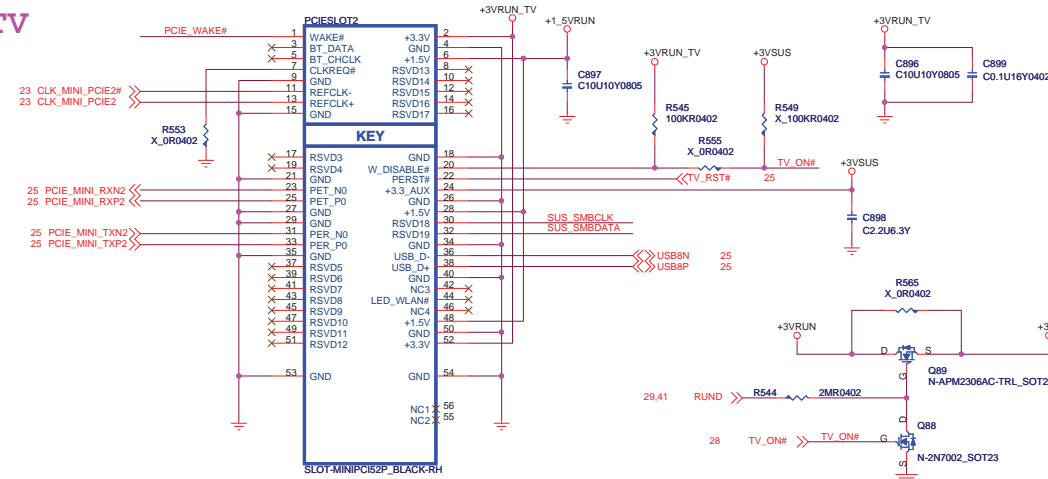
MSI CORPORATION			
Title	PCIE LAN (RTL 8111B)		
Size	Document Number	Rev	
Custom	MS-163A	0A	
Date:	Wednesday, July 04, 2007	Sheet	31 of 54



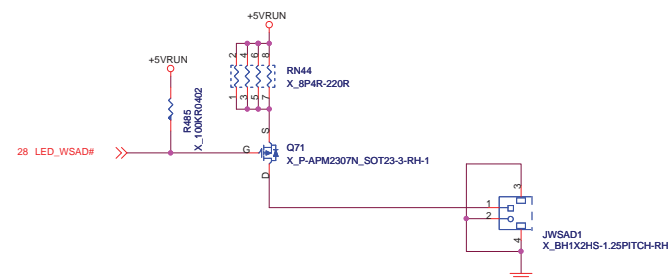
Wireless LAN



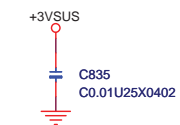
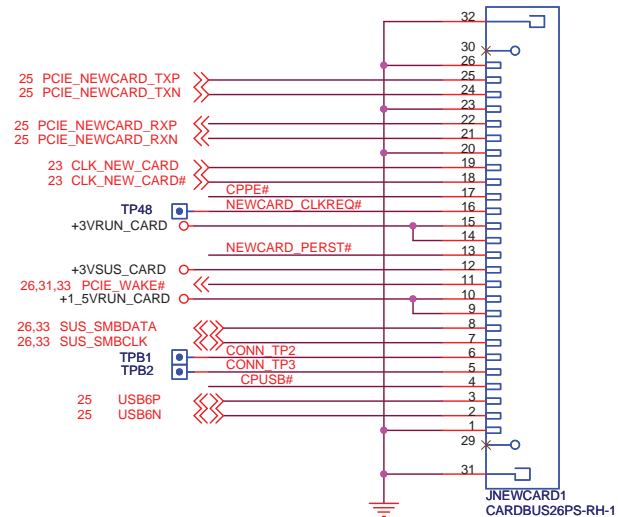
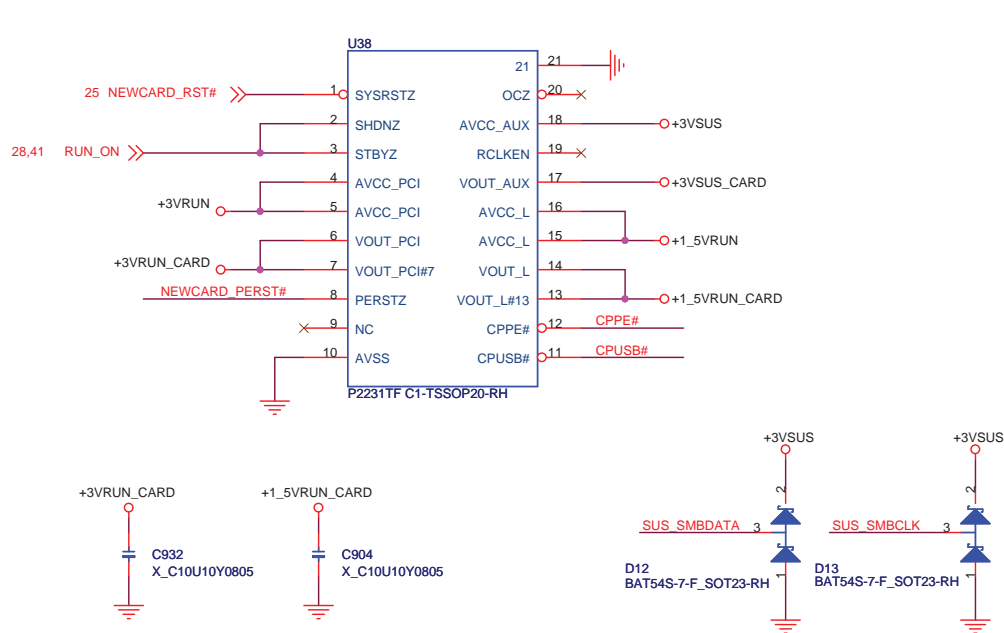
TV



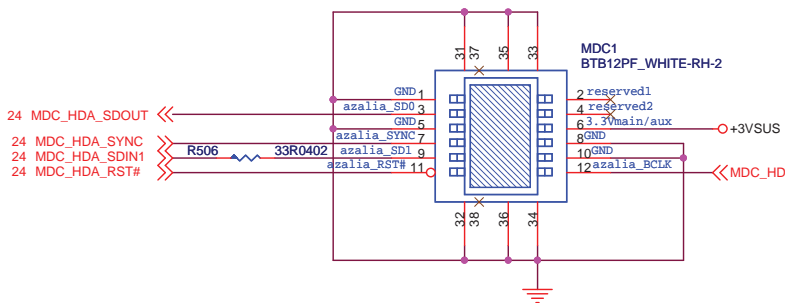
KB-LED



MSI CORPORATION			
Title			
MINI_PCIE / CPUFAN / KB_LED			
Size	Document Number		Rev
Custom	MS-163A		C
Date:	Wednesday, July 04, 2007	Sheet	33 of 54

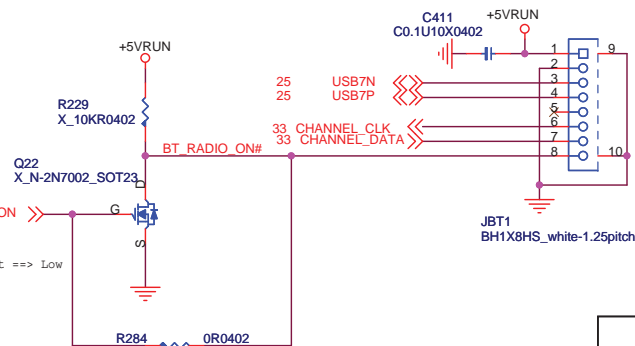


MDC Connector Ver 1.5



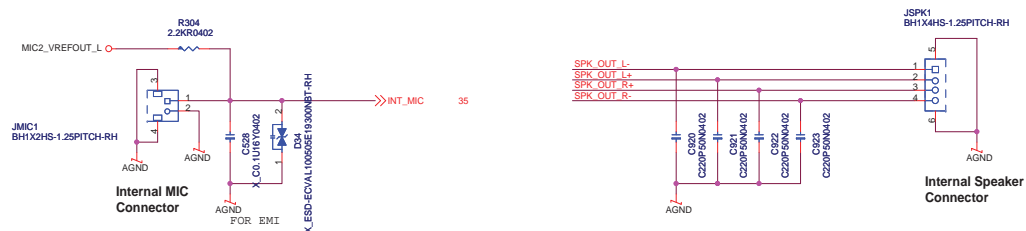
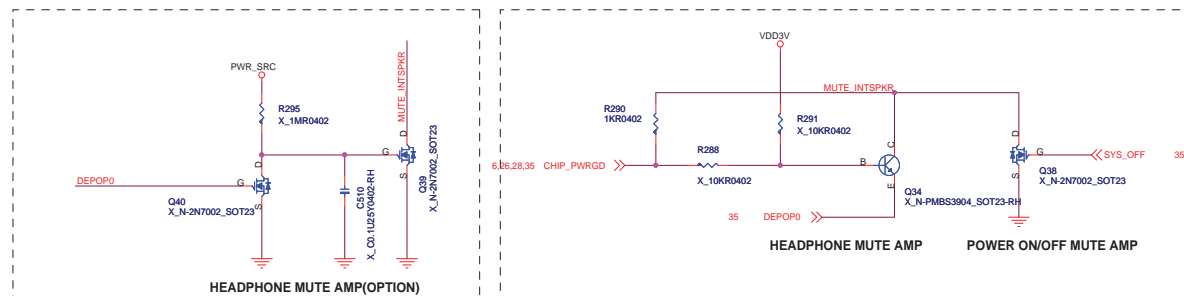
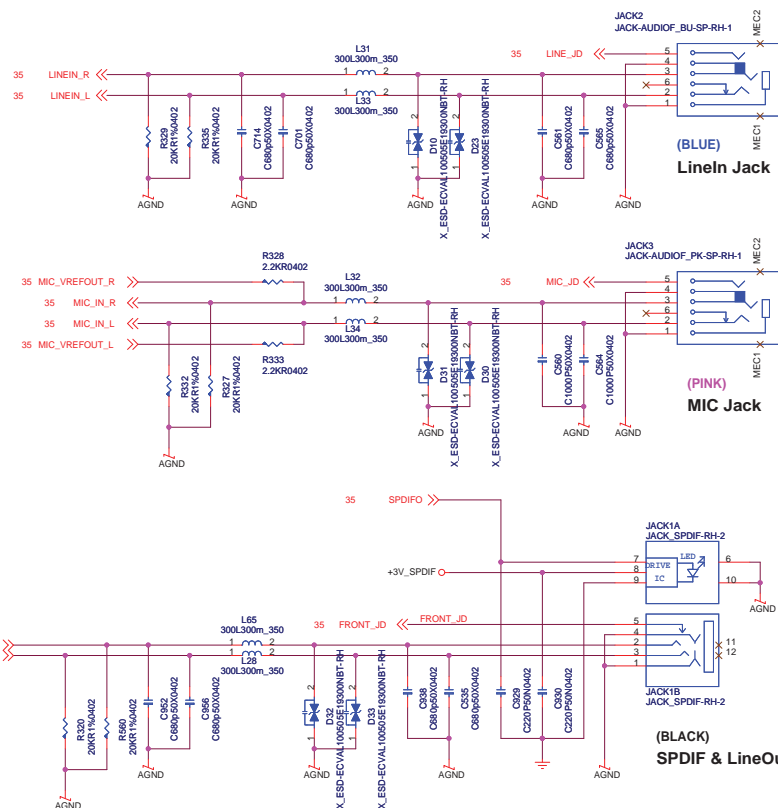
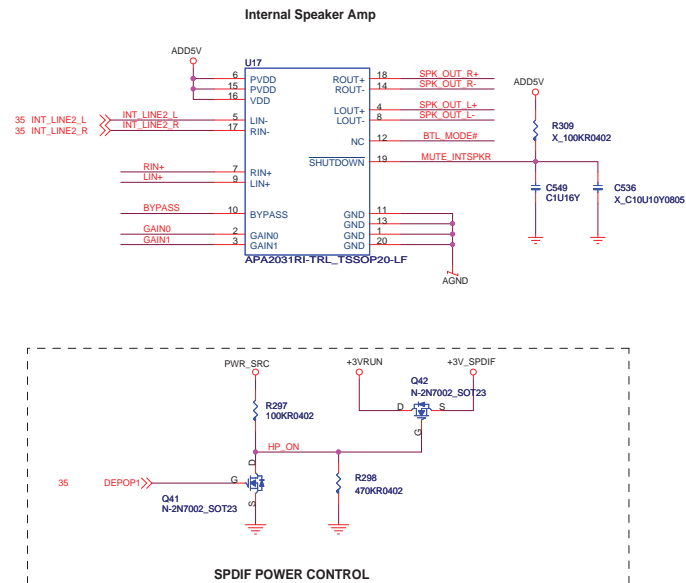
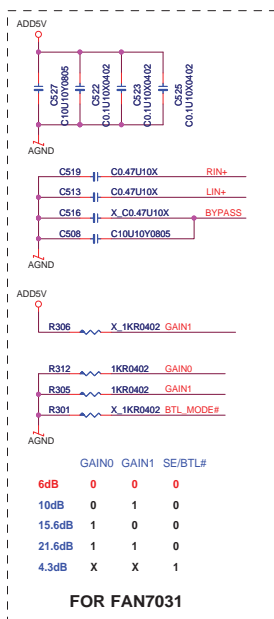
EC output Default ==> Low
High active

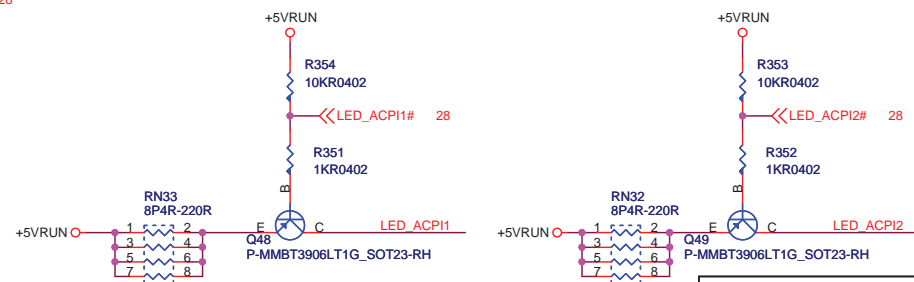
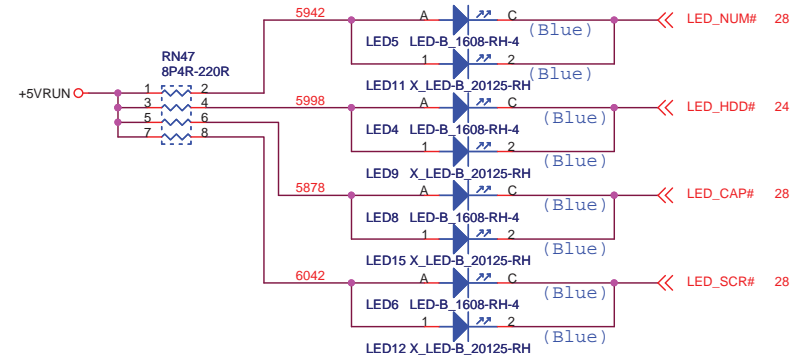
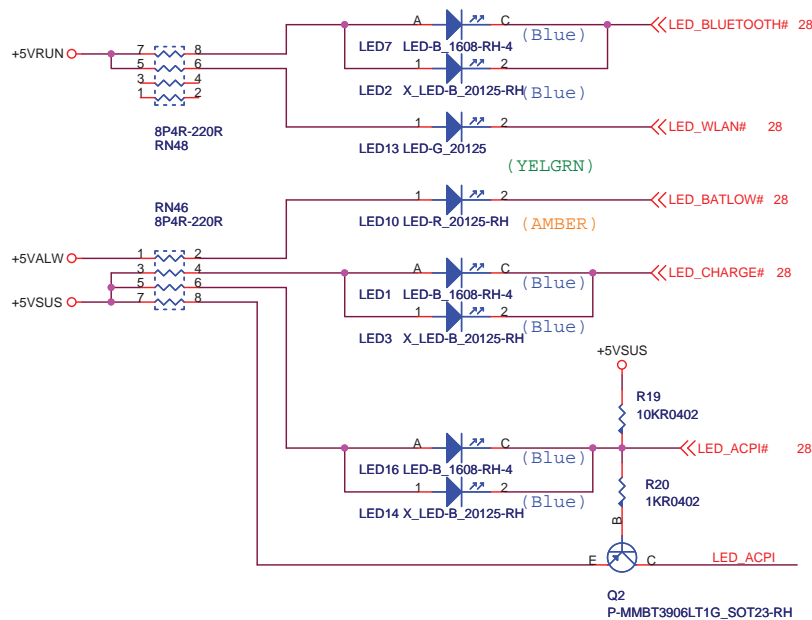
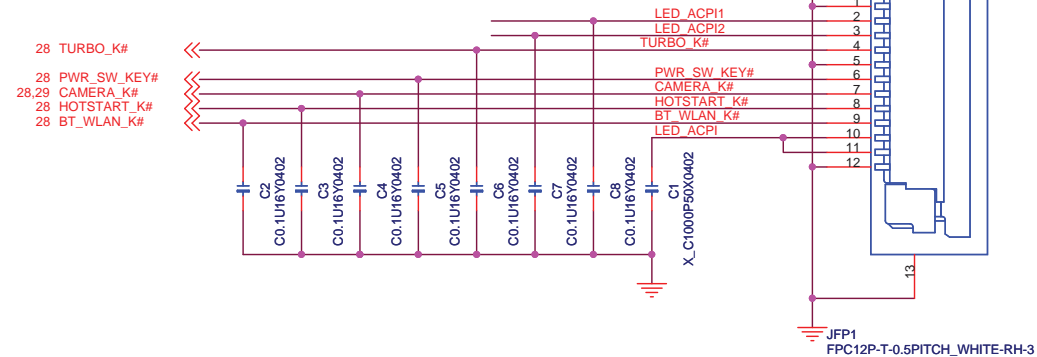
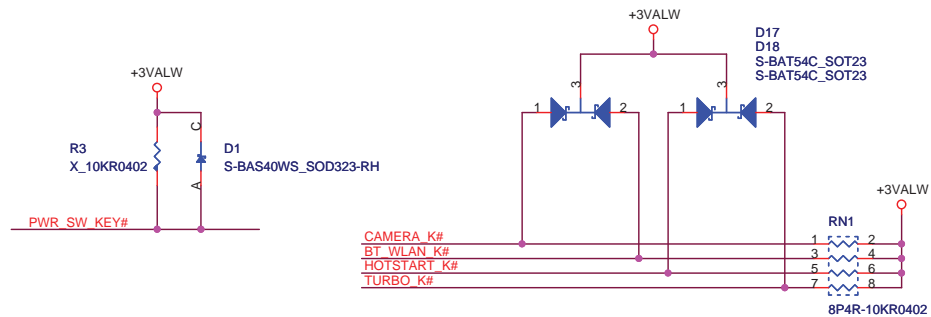
BLUETOOTH



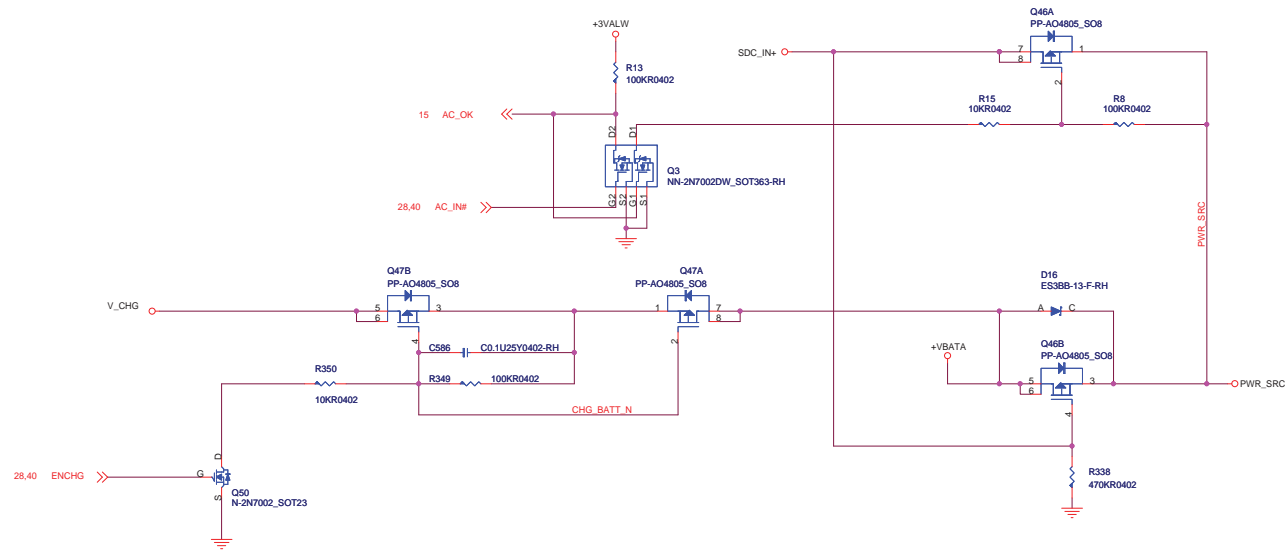
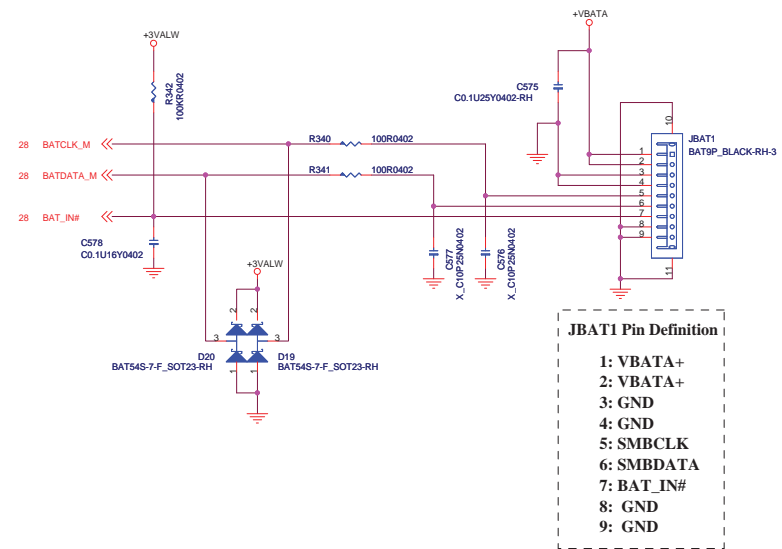
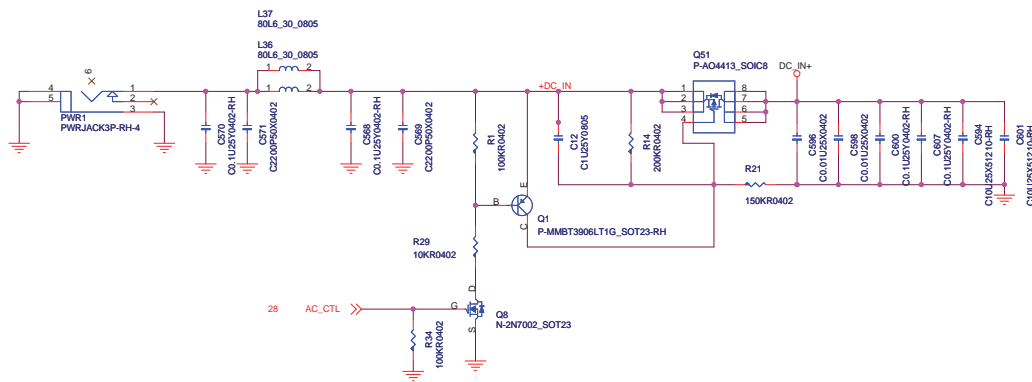
MSI CORPORATION

Title		
NEWCARD & MDC & BT		
Size	Document Number	Rev
Custom	MS-163A	0A
Date:	Friday, July 06, 2007	Sheet 34 of 54

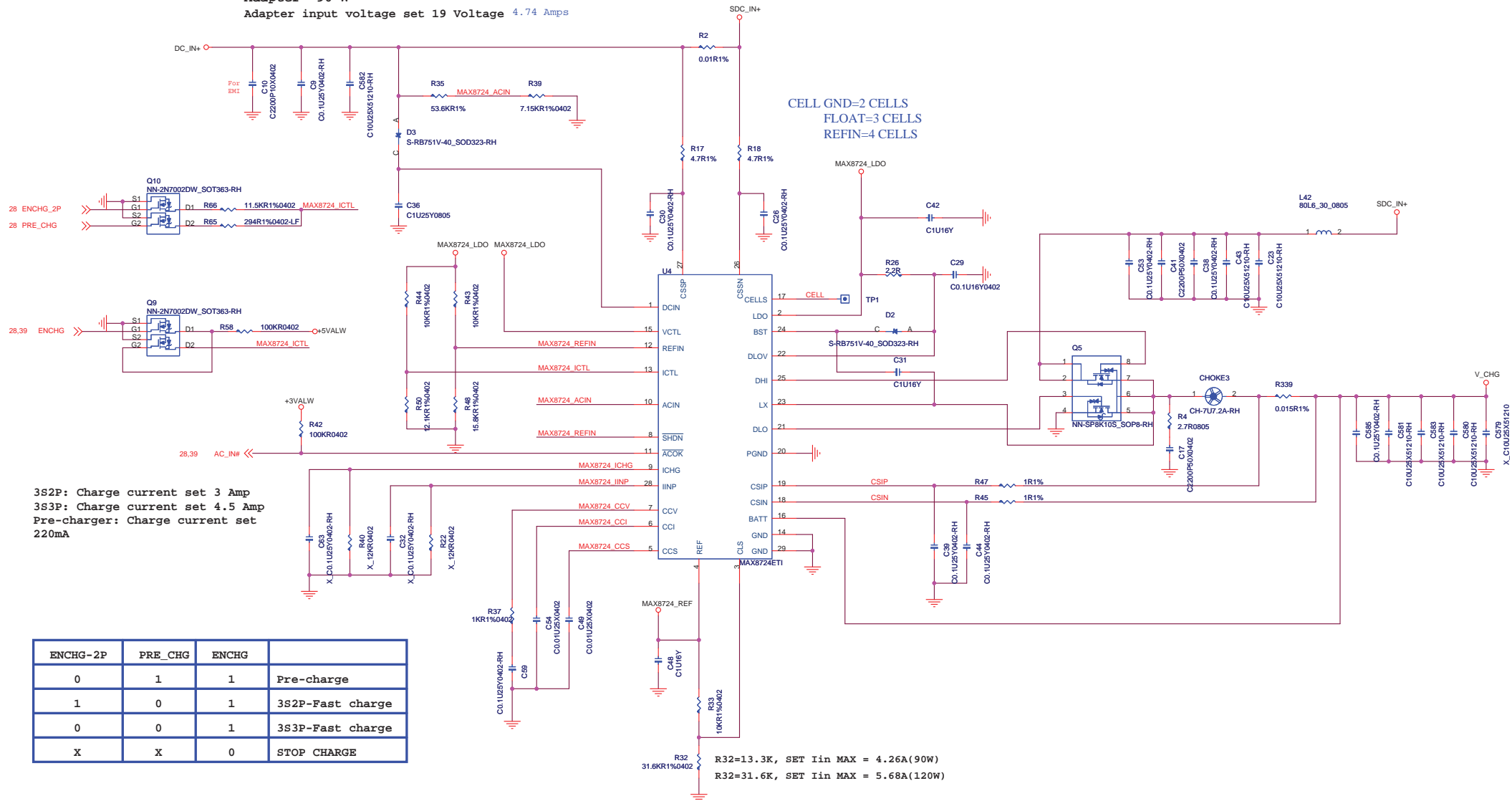


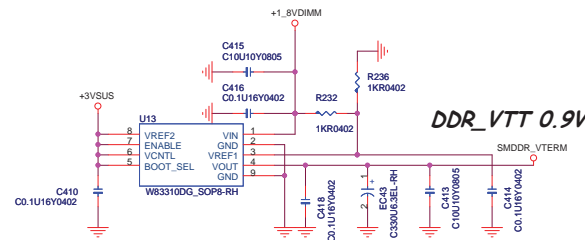
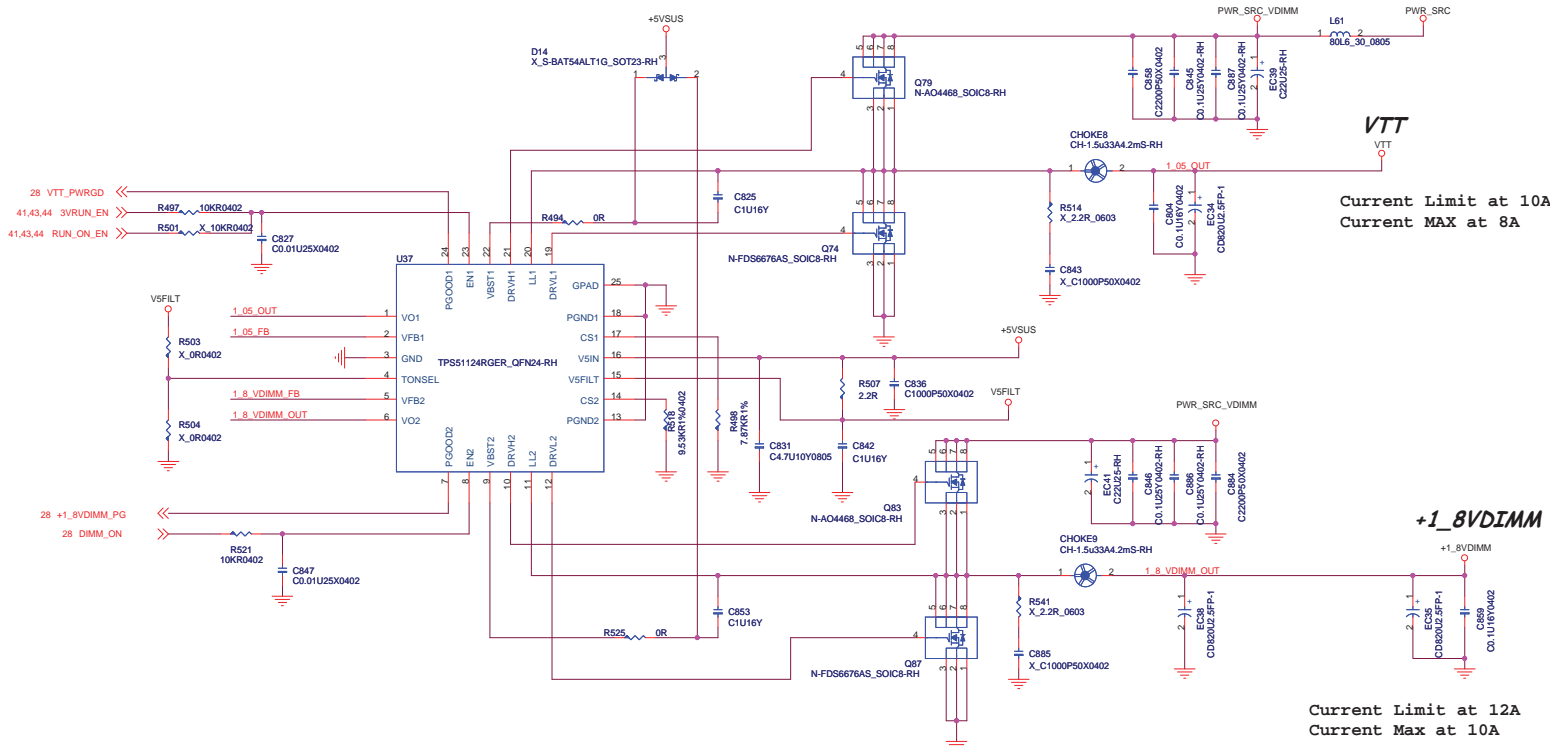


MSI CORPORATION		
Title		
LED & FPC		
Size	Document Number	Rev
B	MS-163A	0A
Date:	Friday, July 06, 2007	Sheet 38 of 54

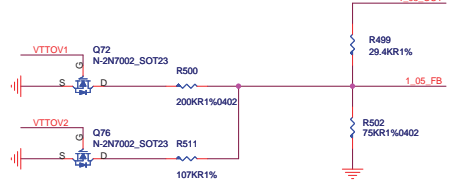


Adapter= 120 W
 Adapter input voltage set 19 Voltage 6.32 Amps
 Adapter= 90 W
 Adapter input voltage set 19 Voltage 4.74 Amps

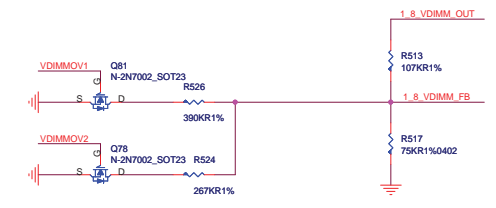




VTT OC



VDIMM OC



VTT OverVoltage TABLE

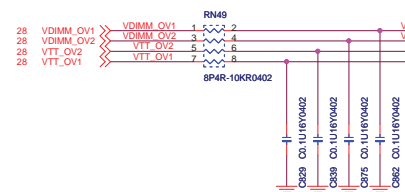
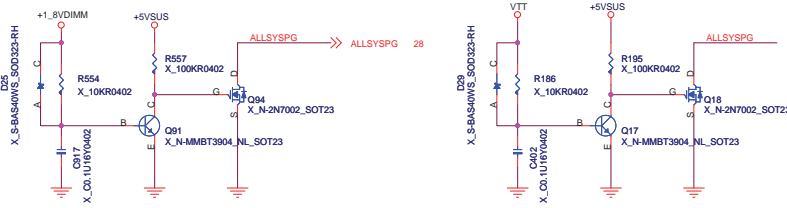
OV1	OV2	VTT OverVoltage
0	0	1.05V(default)
1	0	1.15V
0	1	1.25V

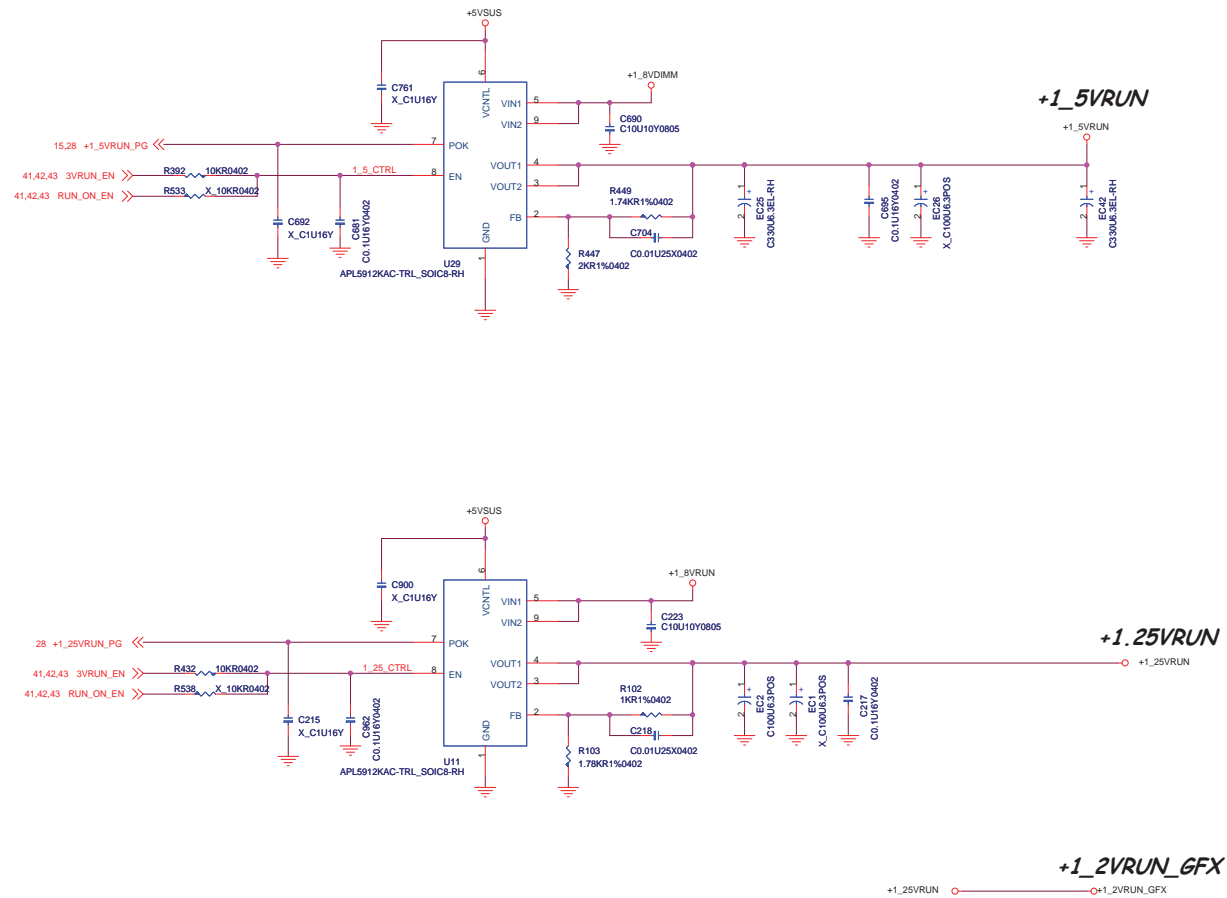
Note:
1=> HIGH
0=> LOW

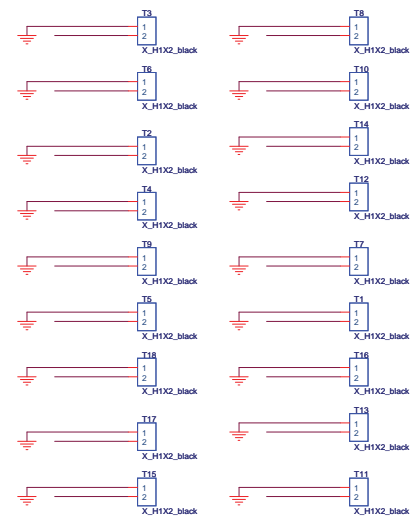
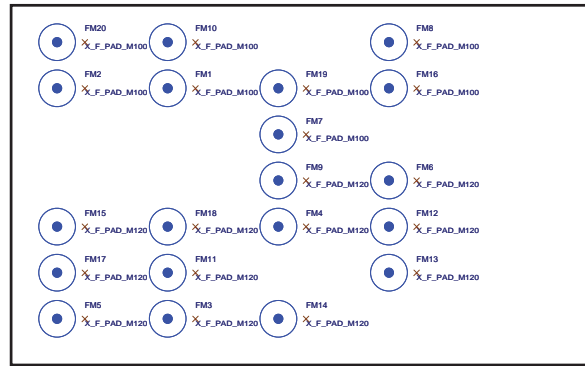
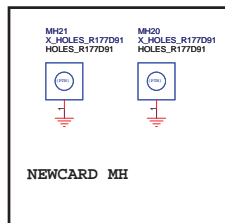
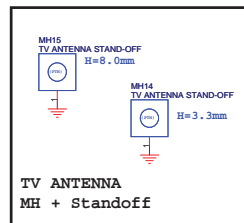
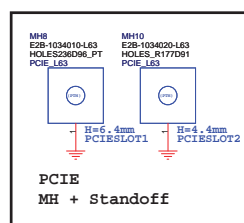
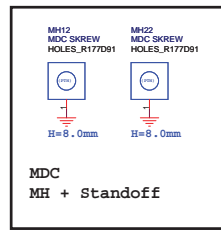
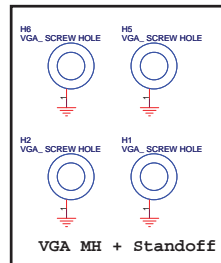
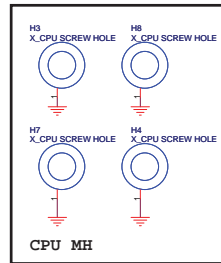
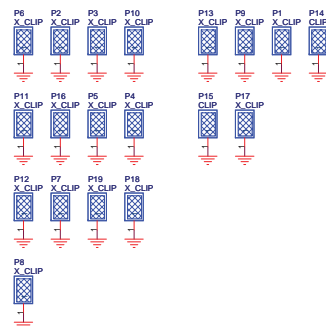
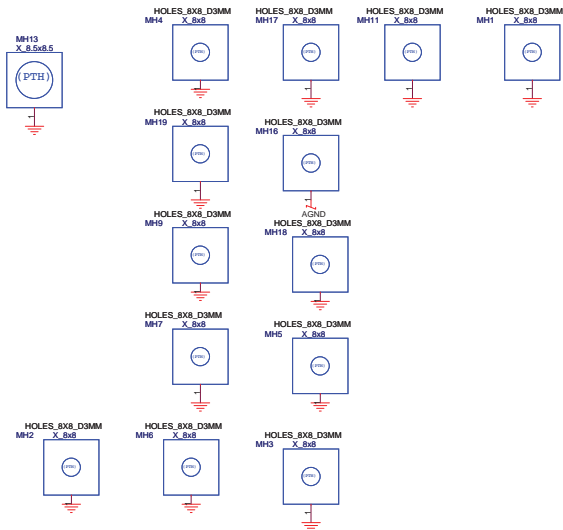
VDIMM OverVoltage TABLE

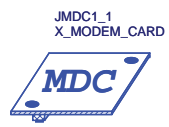
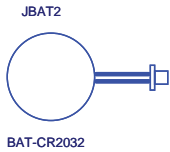
OV1	OV2	VDIMM OverVoltage
0	0	1.85V(default)
1	0	2V
0	1	2.15V

Note:
1=> HIGH
0=> LOW





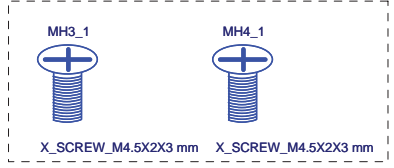




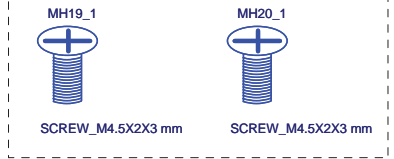
MDC改為機構料



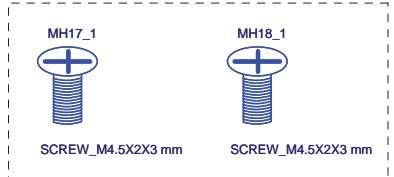
FOR MDC



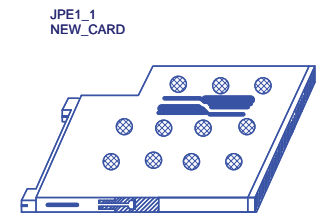
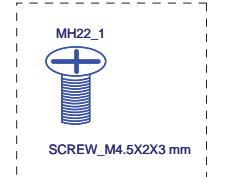
FOR NEWCARD



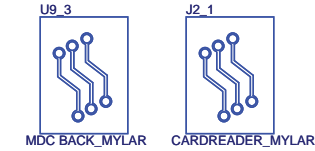
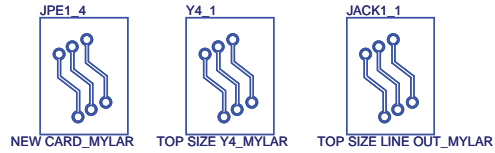
FOR PCIE



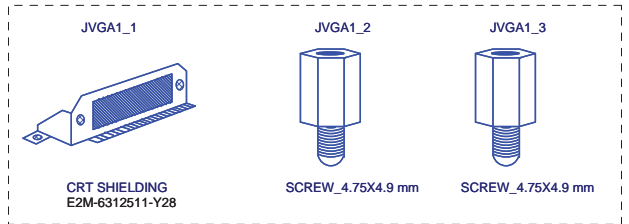
FOR TV ANTENNA



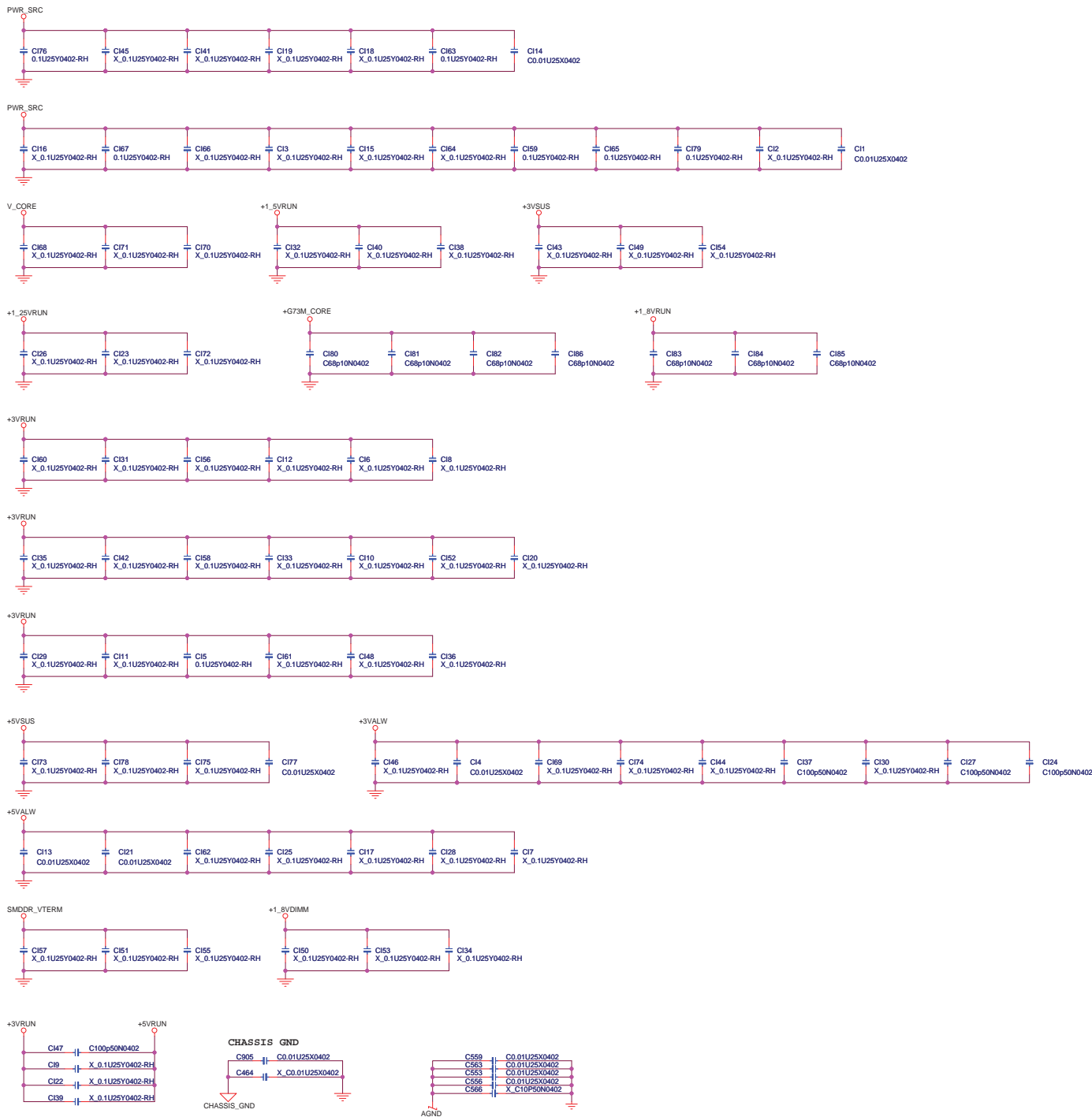
另加上PCI
EXPRESS 鐵件：
E2M-6310711-SH4



FOR D-SUB



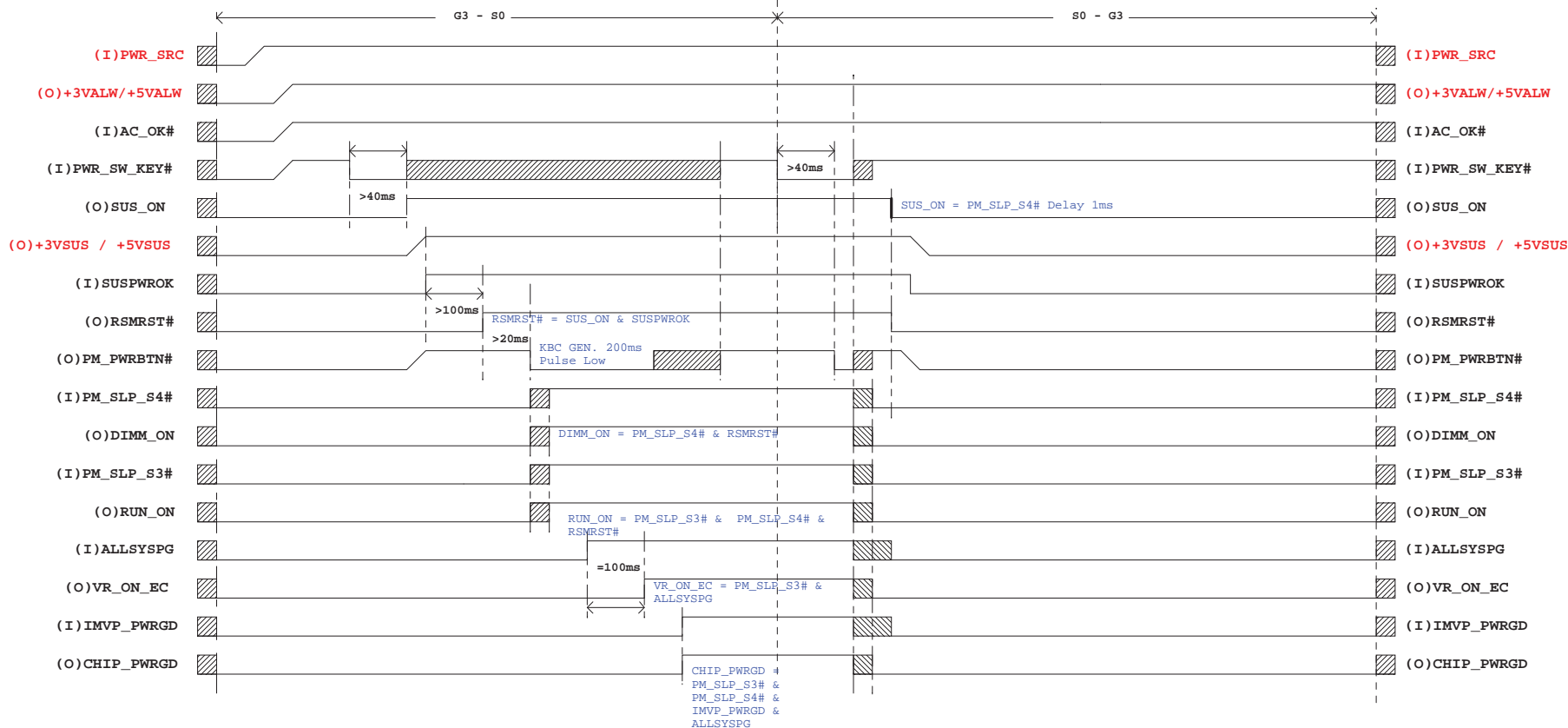
MSI CORPORATION			
Title			
Manual Part			
Size	Document Number		Rev
B	MS-163A		0A
Date:	Tuesday, July 10, 2007		Sheet 47 of 54



MSI CORPORATION			
File	EMI		
Size	Document Number	Rev	
C	MS-163A	0A	
Date:	Tuesday, July 10, 2007	Sheet	48 of 54

RED:POWER
BLACK:KBC

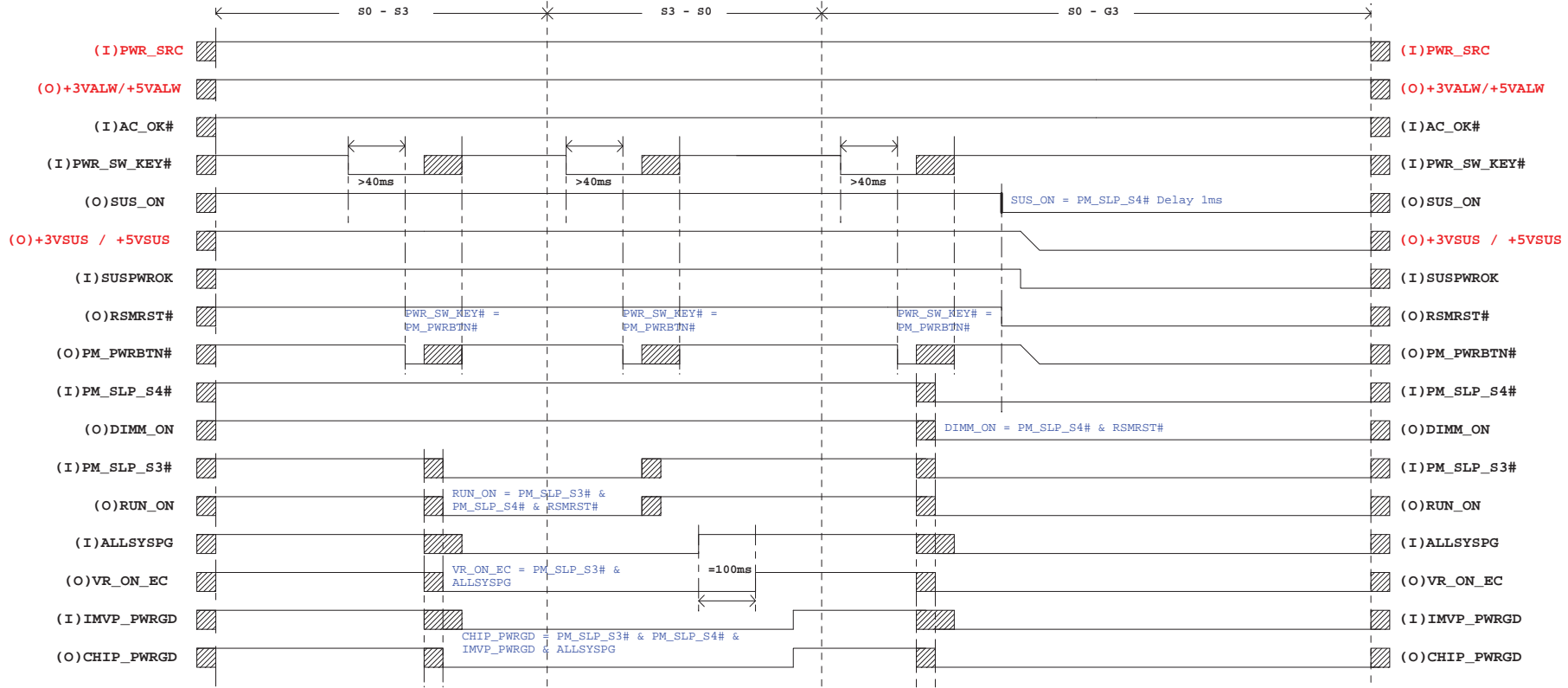
Battery Mode G3 - S0 - G3



MSI CORPORATION			
Title			
AC/Battery timing 1			
Size	Document Number	Rev	
Custom	MS-163A	0A	
Date	Monday, May 07, 2007	Sheet	50 of 54

RED:POWER
BLACK:KBC

Battery Mode S0 - S3 - S0

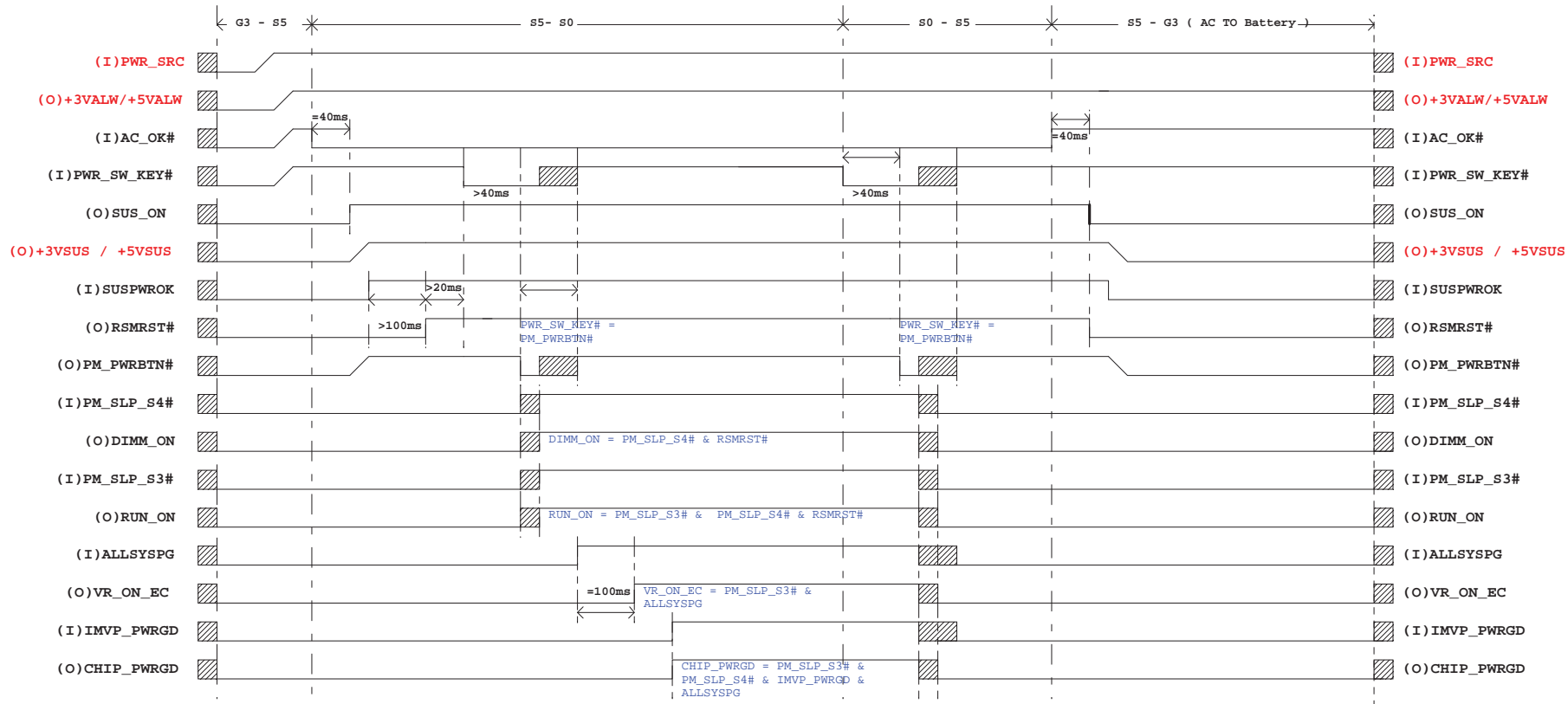


MSI CORPORATION

Title			
AC/Battery timing 2			
Size	Document Number		Rev
Custom	MS-163A		0A
Date:	Monday, May 07, 2007	Sheet	51 of 54

RED:POWER
BLACK:KBC

AC Mode G3 - S5 - S0 - S5 - G3



MSI CORPORATION			
Title			
AC/Battery timing 3			
Size	Document Number	Rev	
Custom	MS-163A	0C	
Date	Monday, May 07, 2007	Sheet	52 of 54

RED: POWER
BLACK: KBC

AC Mode S0 - S3 - S0

