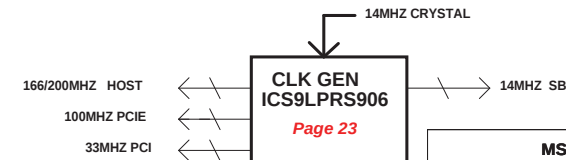
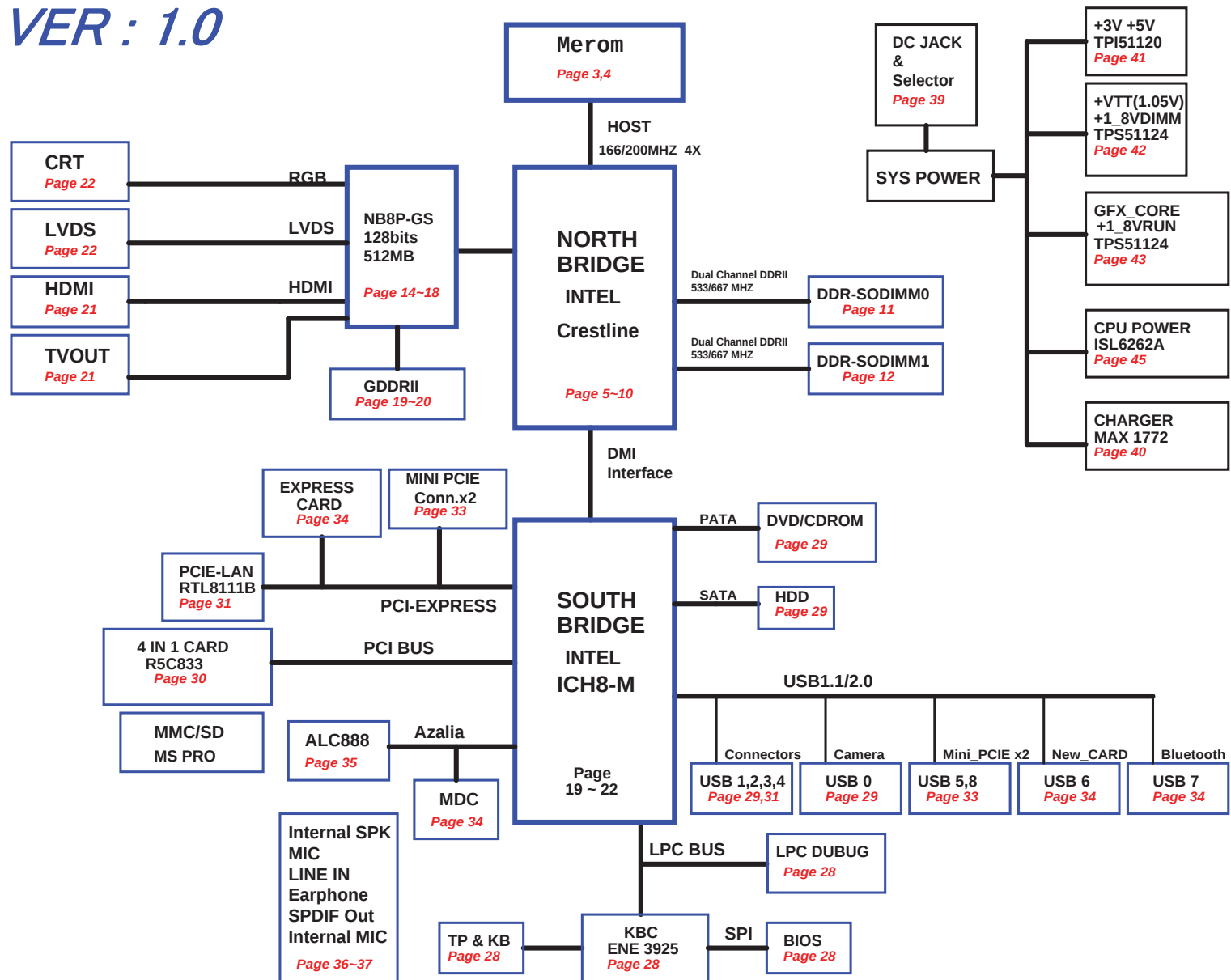


MS-163A VER : 1.0

- 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)
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- 16 : NB8P-3 (MEM Interface)
- 17 : NB8P-4 (STRAP)
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- 19 : GDDRII_32Mx16_BGA_A
- 20 : GDDRII_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), 1.8VDIMM, VTERM
- 43 : +G73M_CORE, 1.8VVRUN
- 44 : +1.2VGFX, +1.25VVRUN, +1.5VVRUN
- 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	OC
C	MS-163A		
Date	Tuesday, July 17, 2007	Sheet	1 of 54

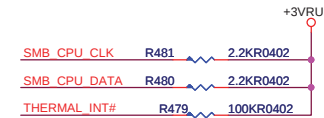
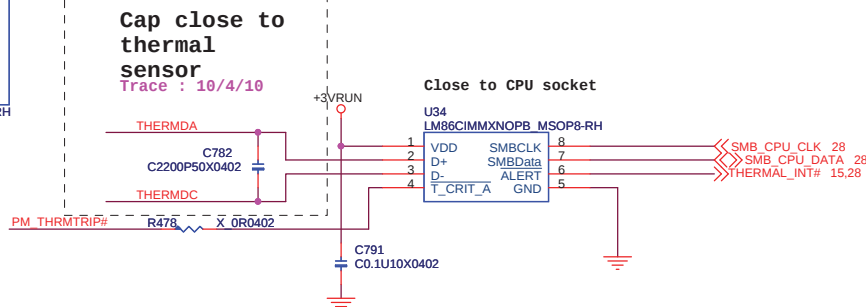
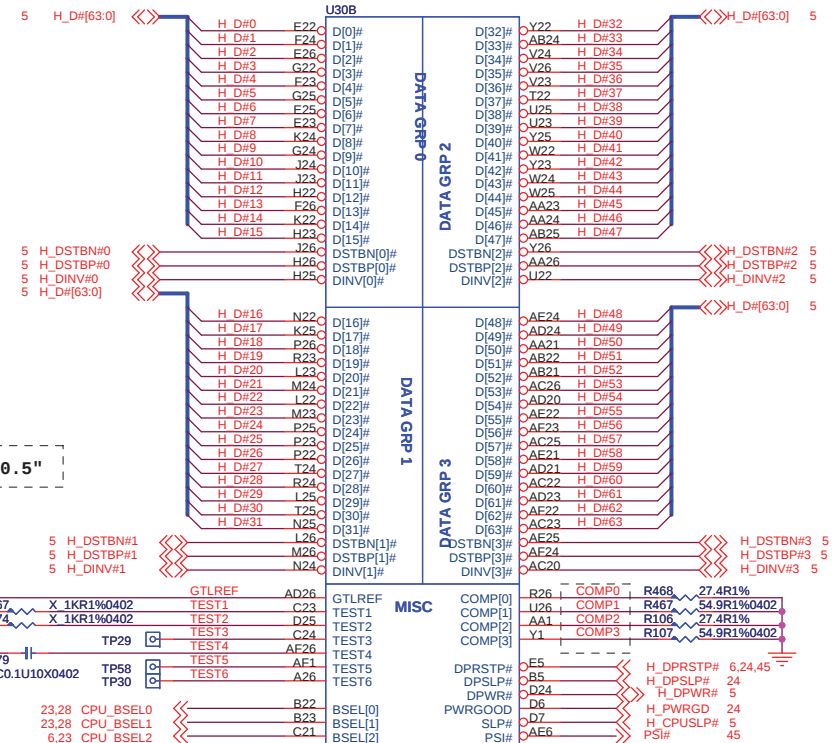
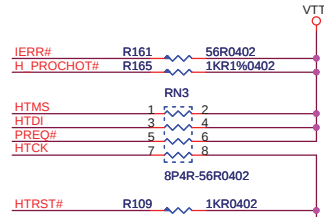
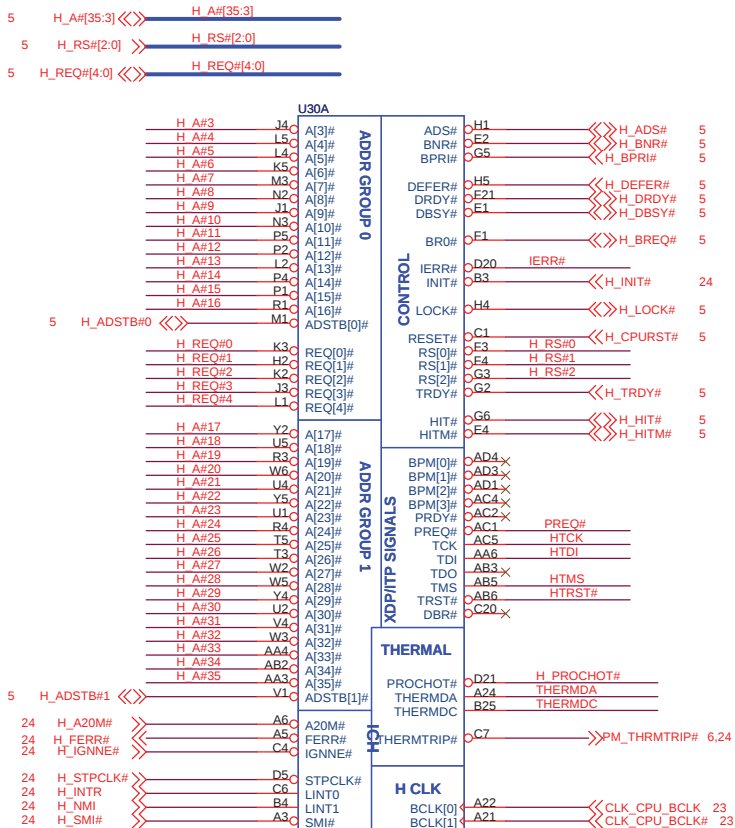
Voltage Rails

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



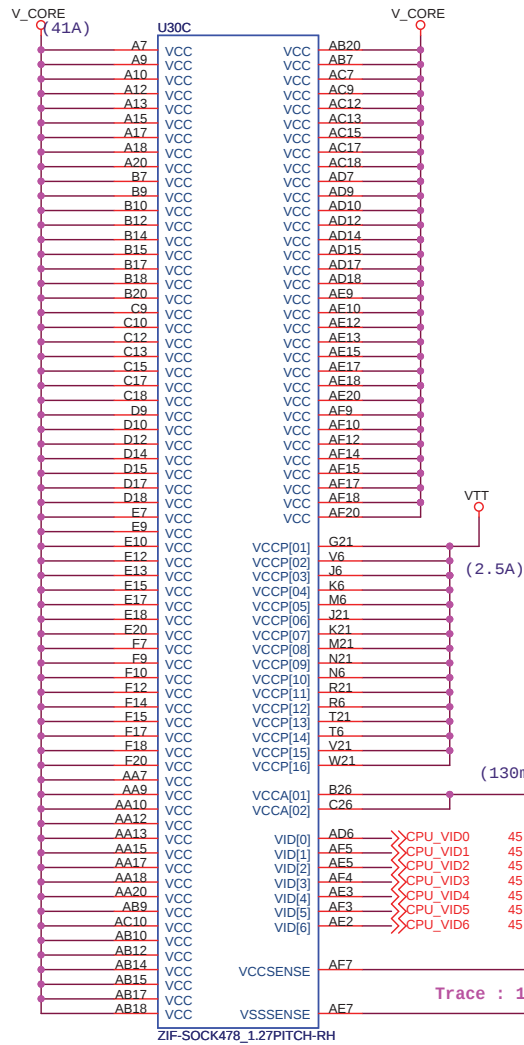
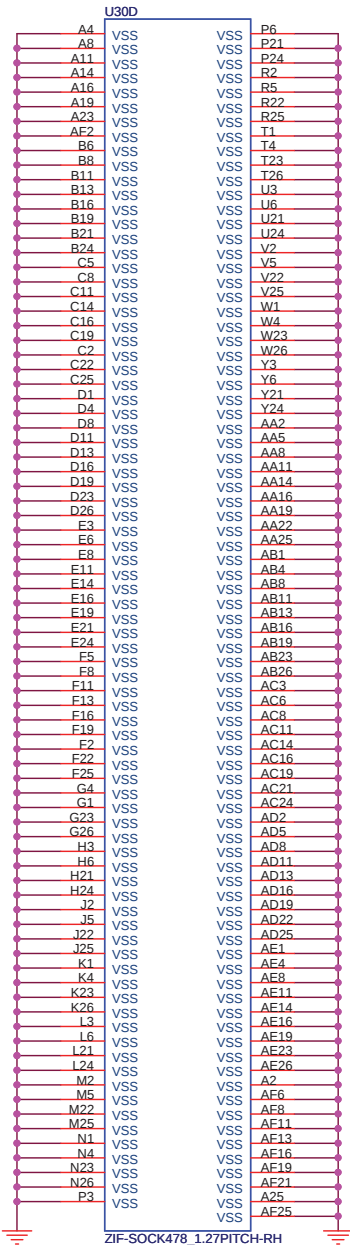
Within 0.5"

25mils Spacing

COMP0,2 --> 18mils

COMP1,3 --> 5mils

MSI CORPORATION			
Title	Merom-1 (HOST BUS)		
Size	Document Number	Rev	
Custom	MS-163A	OC	
Date:	Thursday, July 05, 2007	Sheet	3 of 54

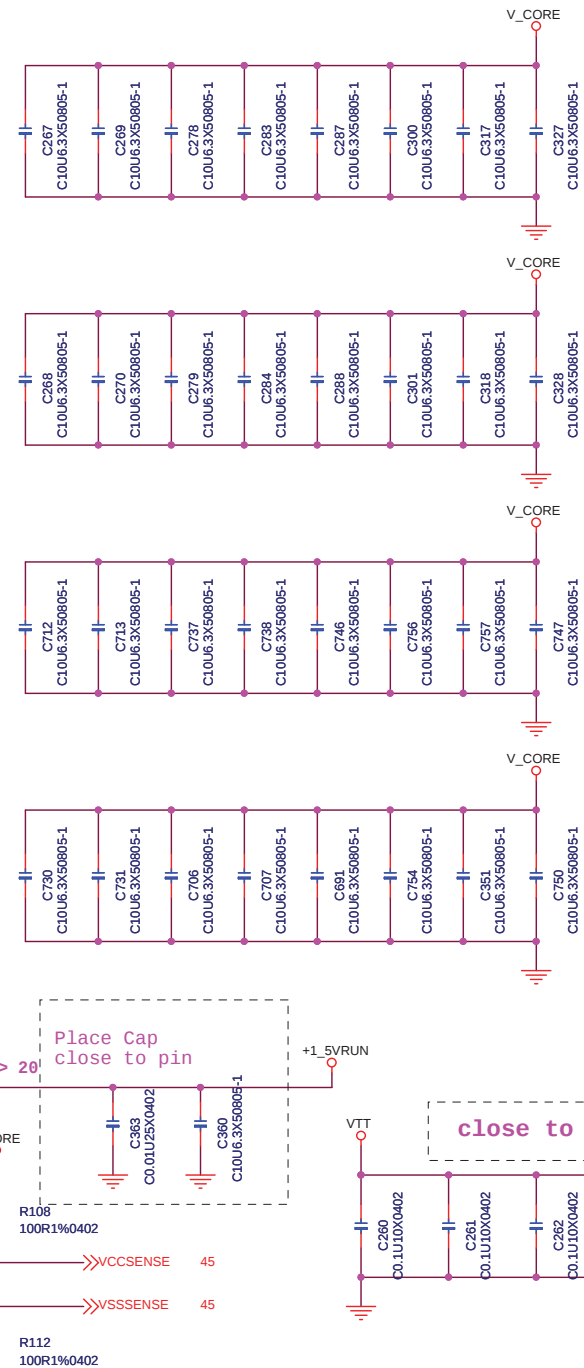


VTT (2.5A)

(130mA) Trace > 20

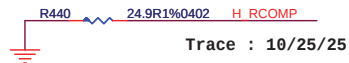
Trace : 18/7/50

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

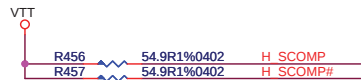




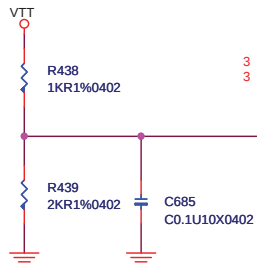
Trace to pin
within 0.5"
Spacing 25mils
Zo=55ohm



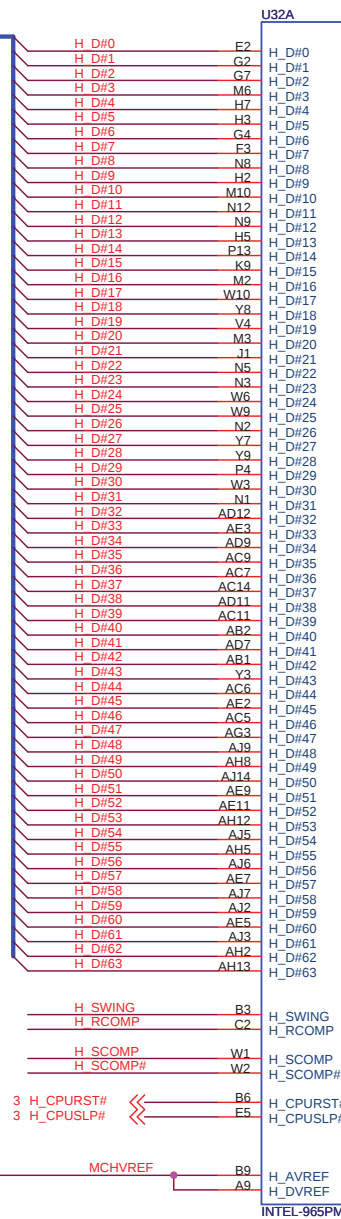
Trace : 10/25/25



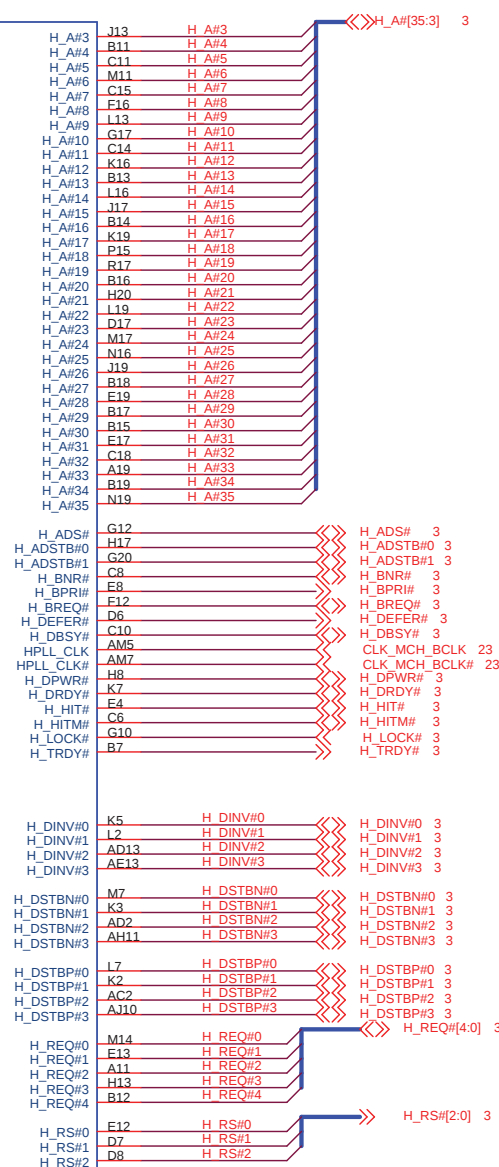
Trace to pin
within 0.5"
Spacing 25mils
Zo=55ohm



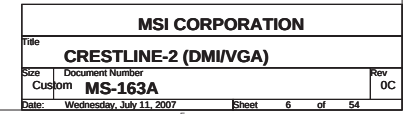
Trace : 10/30/30
Trace to pin
within 0.5"



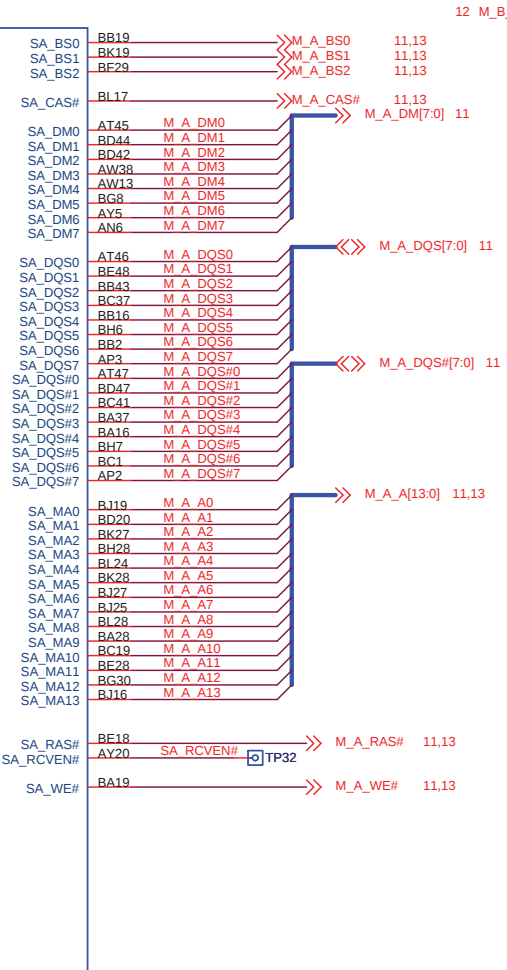
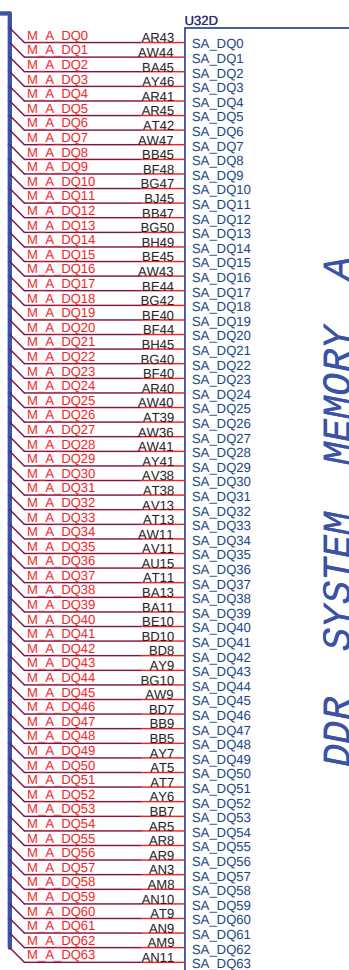
HOST



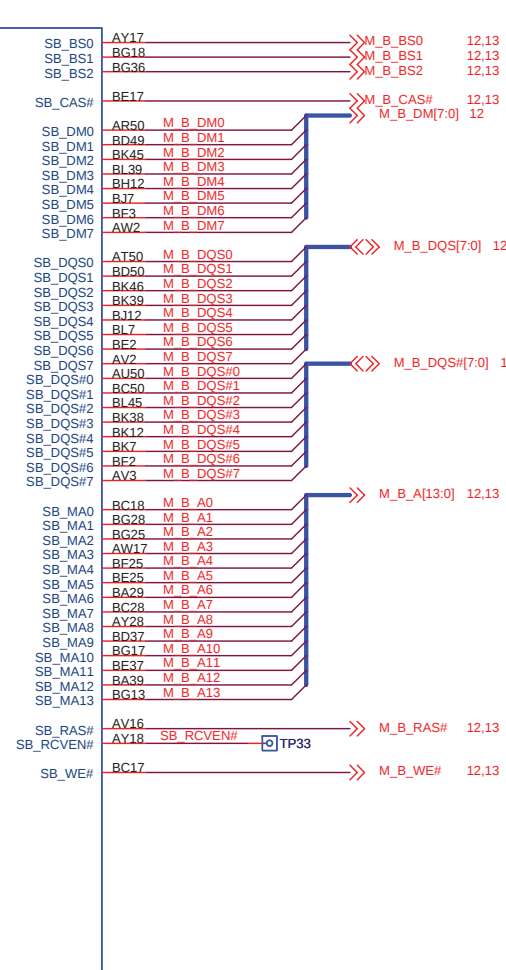
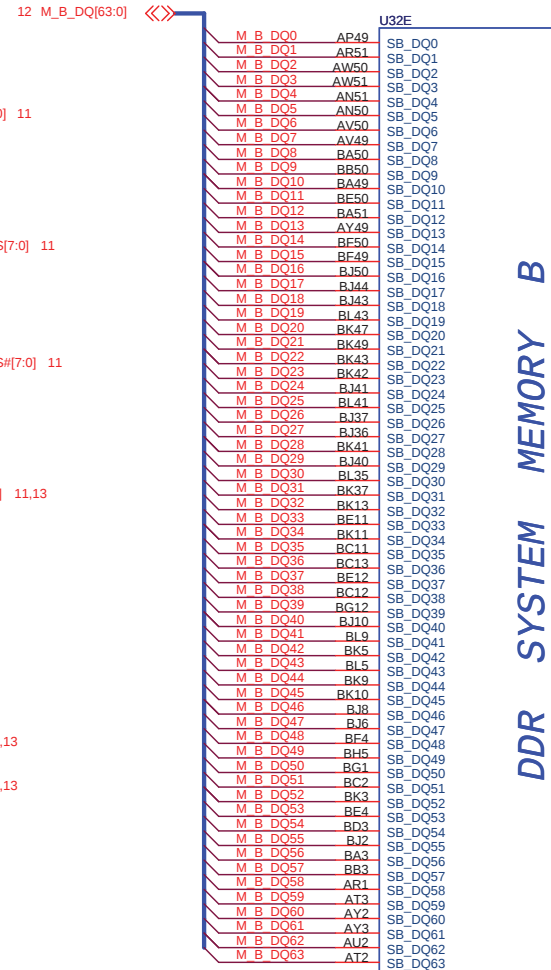
MSI CORPORATION			
Title			
CRESTLINE-1 (HOST BUS)			
Size	Document Number	Rev	
B	MS-163A	0C	
Date:	Wednesday, July 04, 2007	Sheet	5 of 54



CF65 (Default=High)	CF69 (Default=High)	CF616 (Default=High)	CF619 (Default=Low)	CF620 (Default=Low)
0= DMI x2 1= DMI x4 (default)	0= Reverse Lanes 1= Normal (default) PCIE X16	0=Dynamic ODT Disabled 1=Dynamic ODT Enabled (default)	0= Normal (default) 1= Lanes Reversed DMI	Only SDVO or PCIE is operational

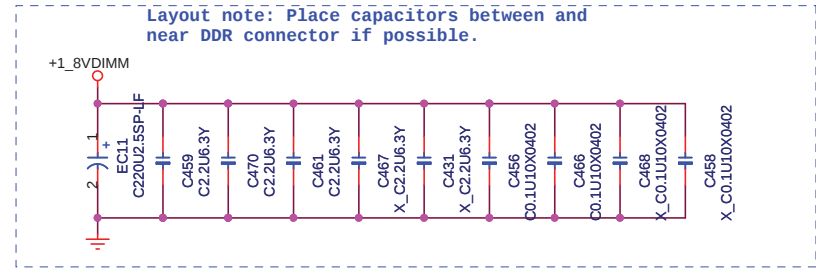
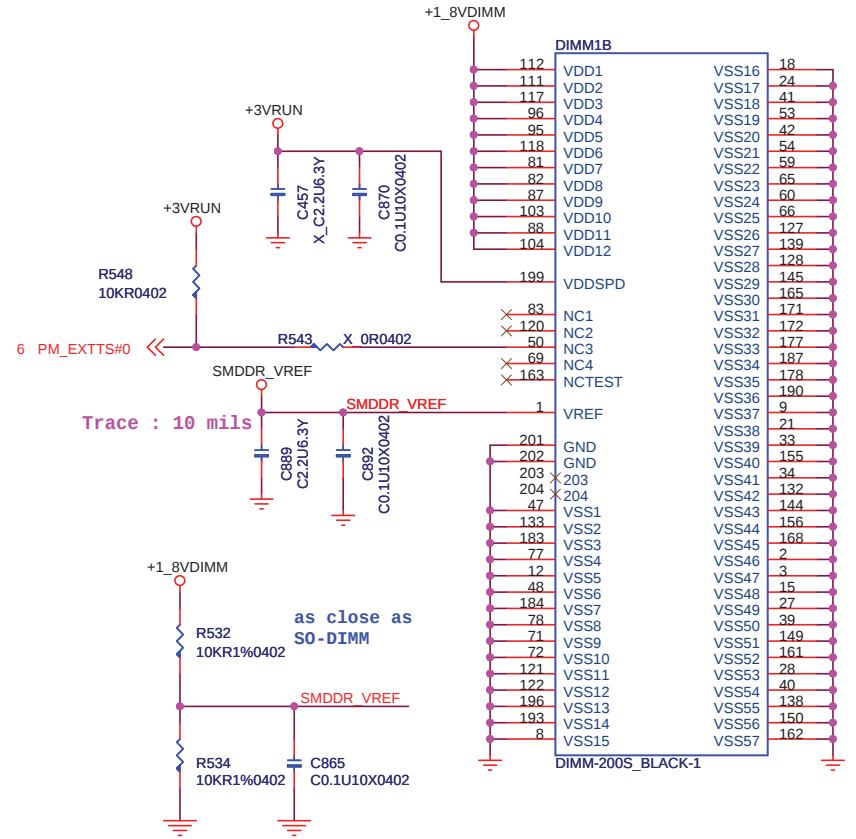
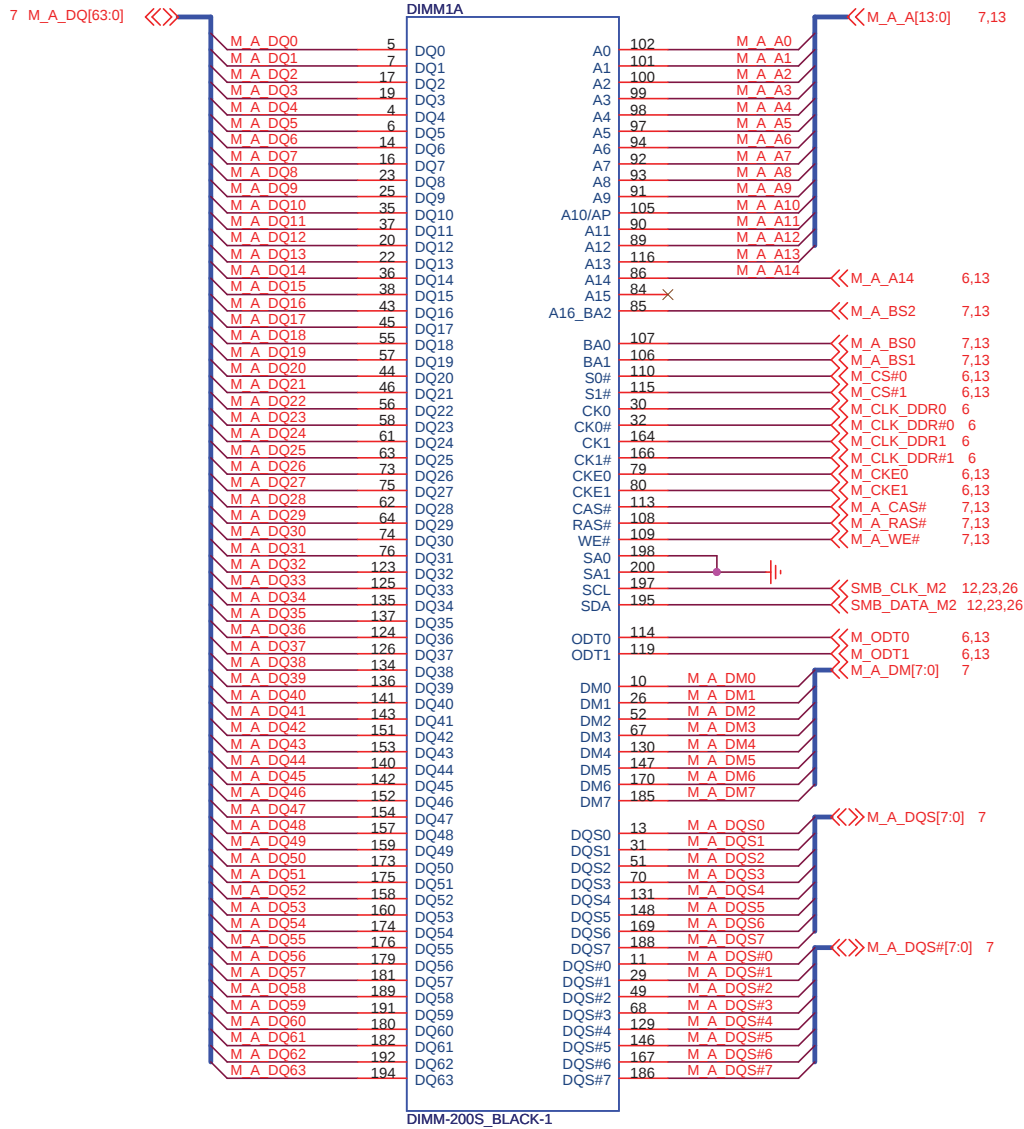


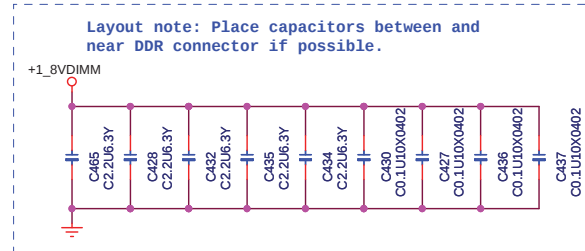
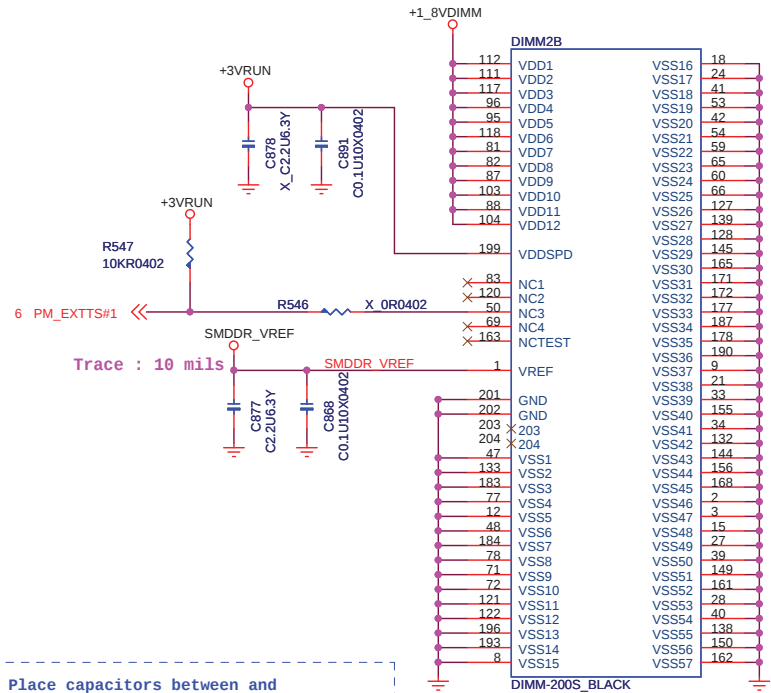
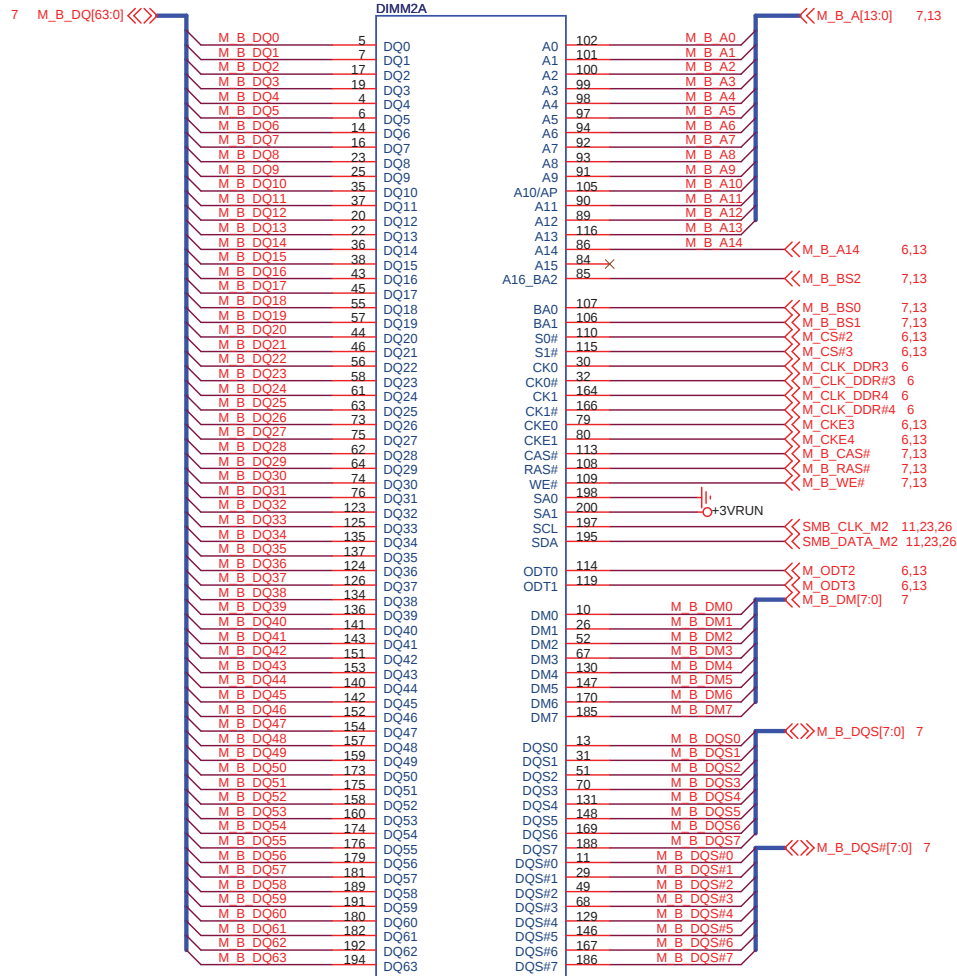
INTEL-965PM-C0-RH



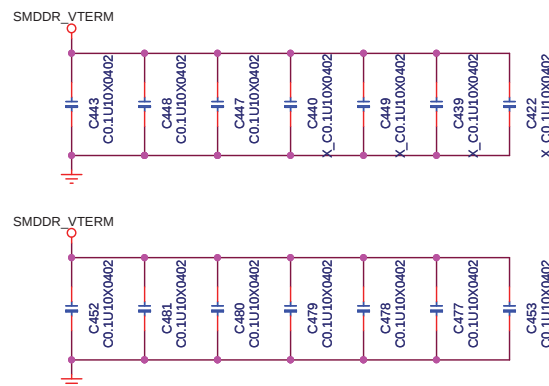
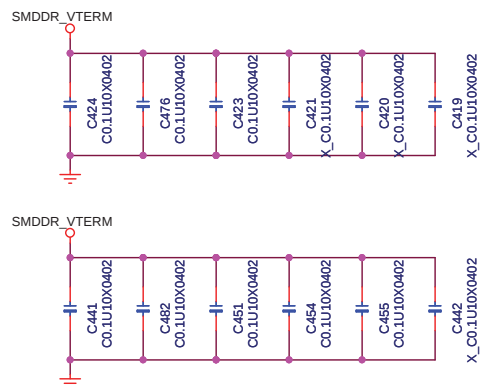
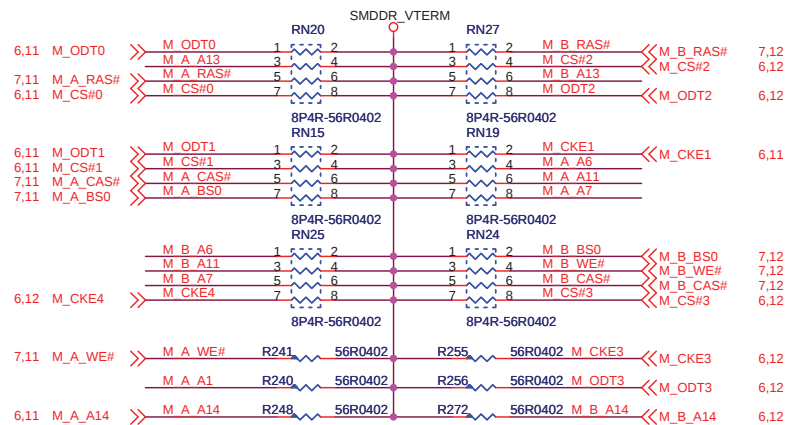
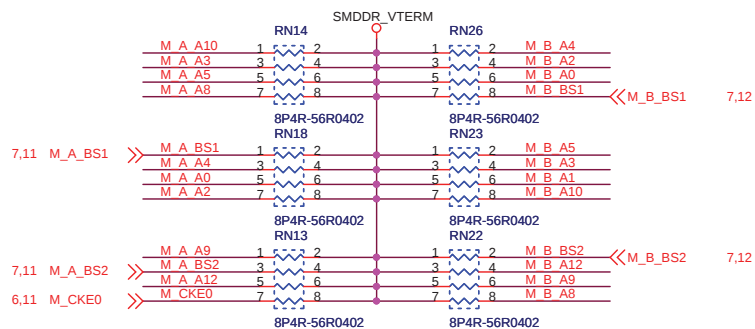
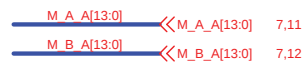
INTEL-965PM-C0-RH

MSI CORPORATION			
Title			
CRESTLINE-3 (DDR)			
Size	Document Number	Rev	
Custom	MS-163A	0C	
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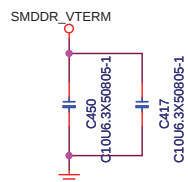


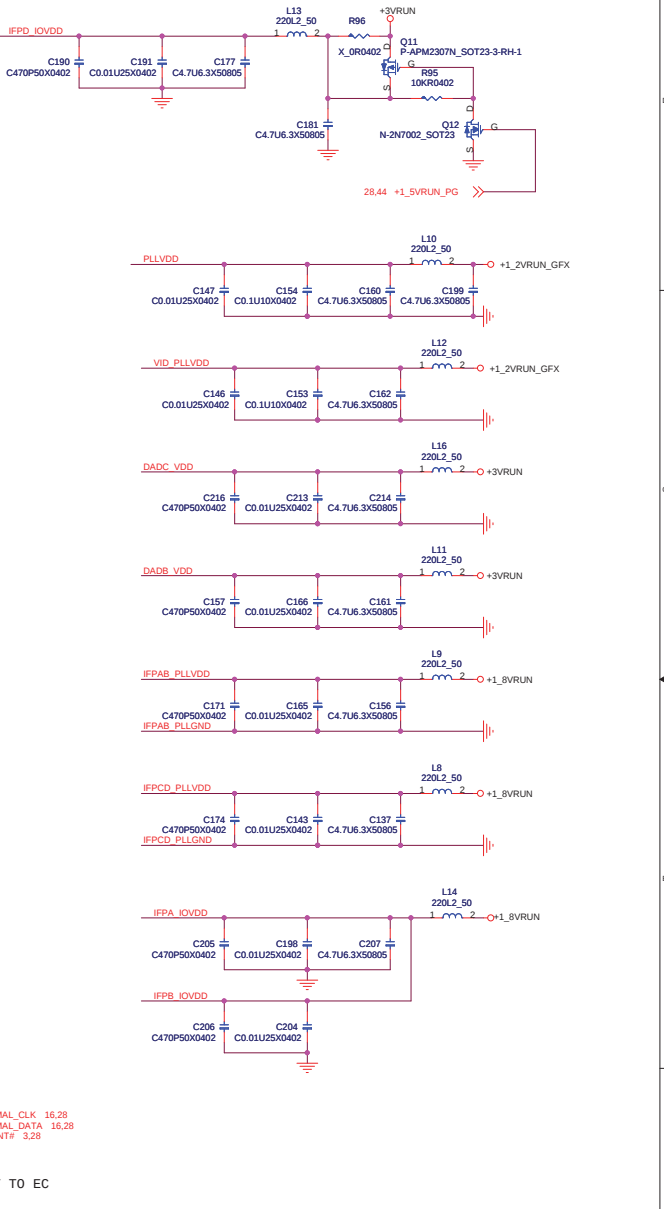
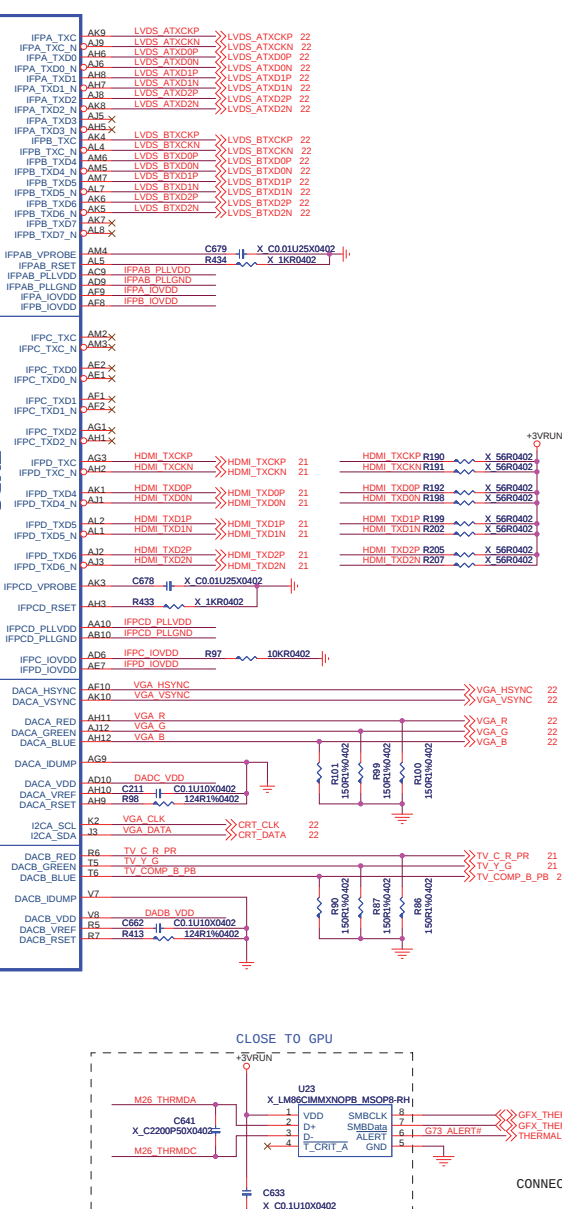
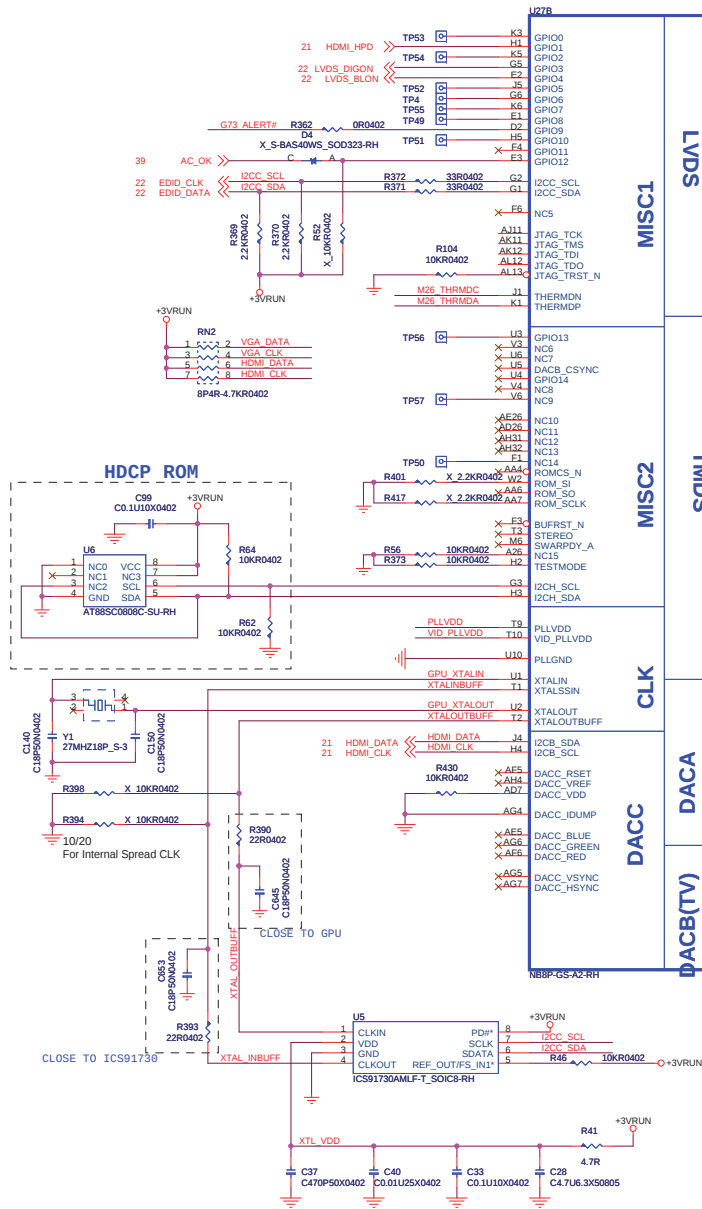


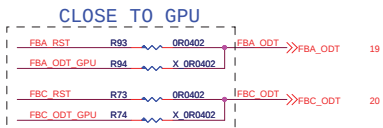
MSI CORPORATION			
Title			
DDR2 SODIMM 1			
Size	Document Number		Rev
Custom	MS-163A		0C
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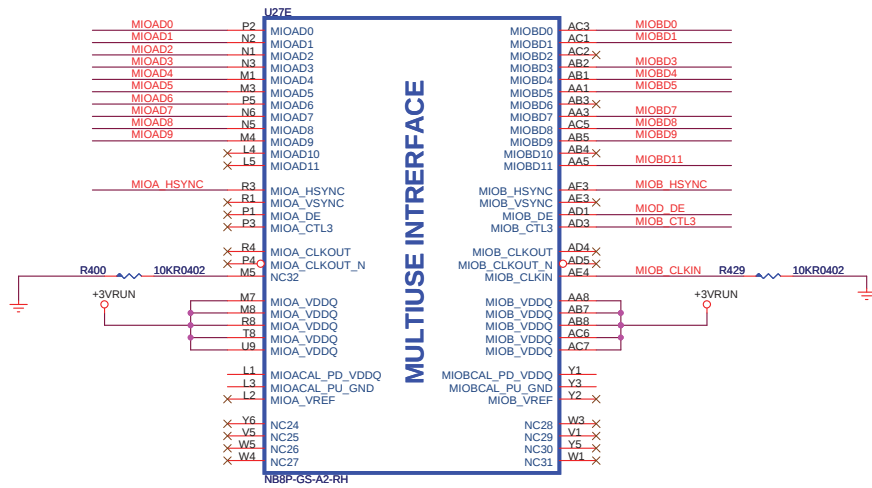


Layout note: Place one cap close to every 2 pullup resistors terminated to SMDDR_VTERN.

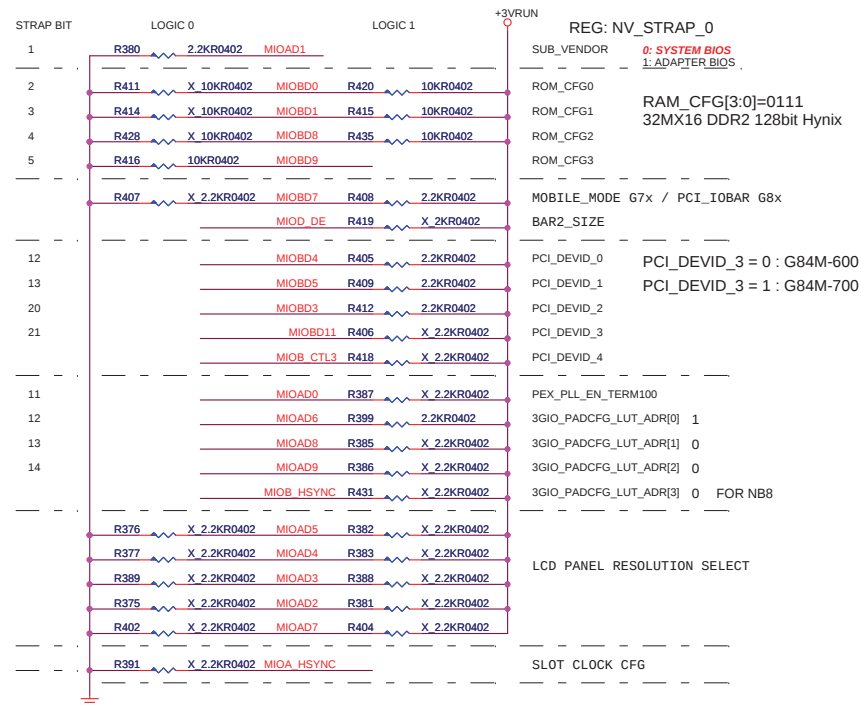




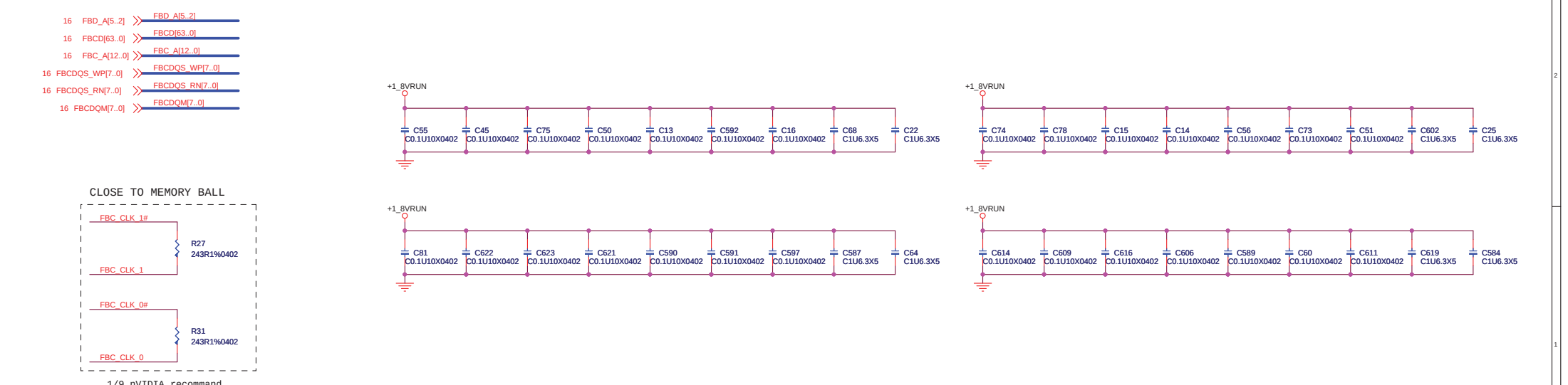
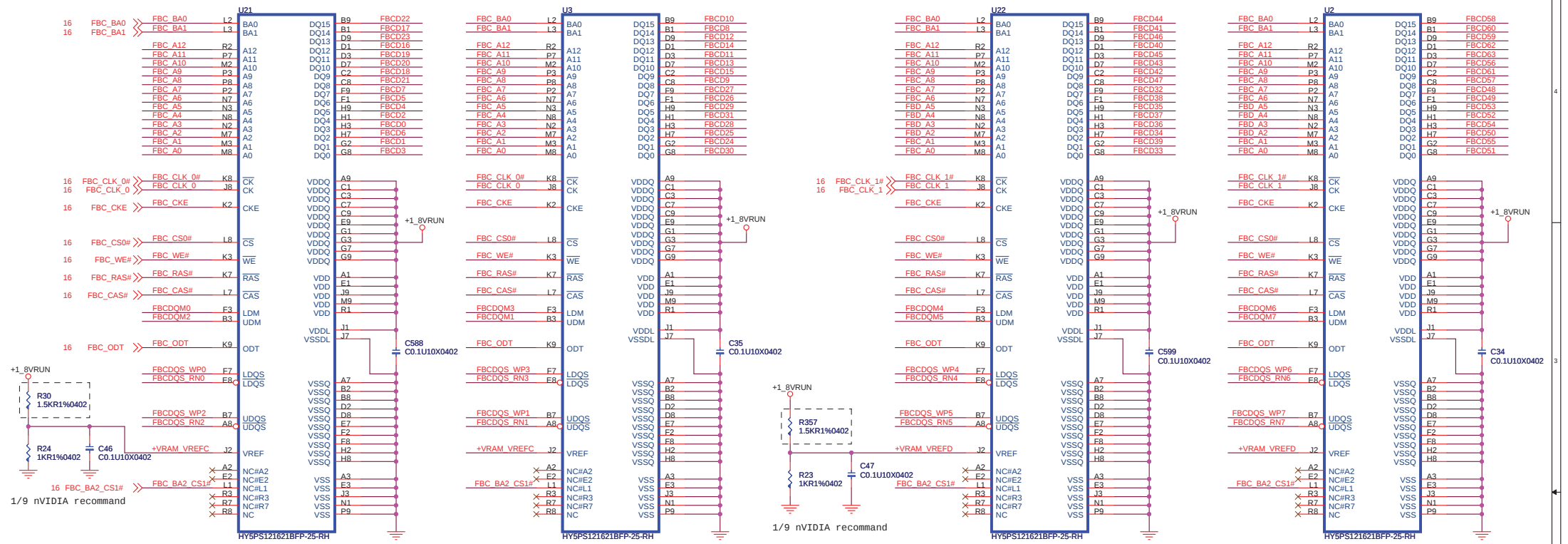


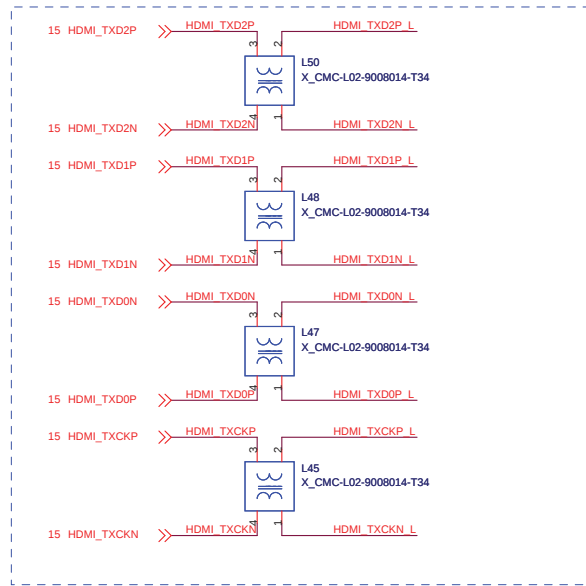


PIN NAME	G8X FUNCTION	DEFAULT	VBIOS ROM NOT PRESENT	NB8
MIOBD2	CRYSTAL	0	NOT REQUIRED	0
MIOAD7	TVMODE0	1	NOT REQUIRED	X
MIOAD10	TVMODE1	0	NOT REQUIRED	0
MIOBD6	TVMODE2	0	NOT REQUIRED	0
MIOBD4	PCI_DEVID_0	0	2K PULL-UP RECOMMENDED	X
MIOBD5	PCI_DEVID_1	0	2K PULL-UP RECOMMENDED	X
MIOBD3	PCI_DEVID_2	0	2K 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_IOPAR	1	NOT REQUIRED	1
MIOB_DE	BAR2_SIZE	0	NOT REQUIRED	0

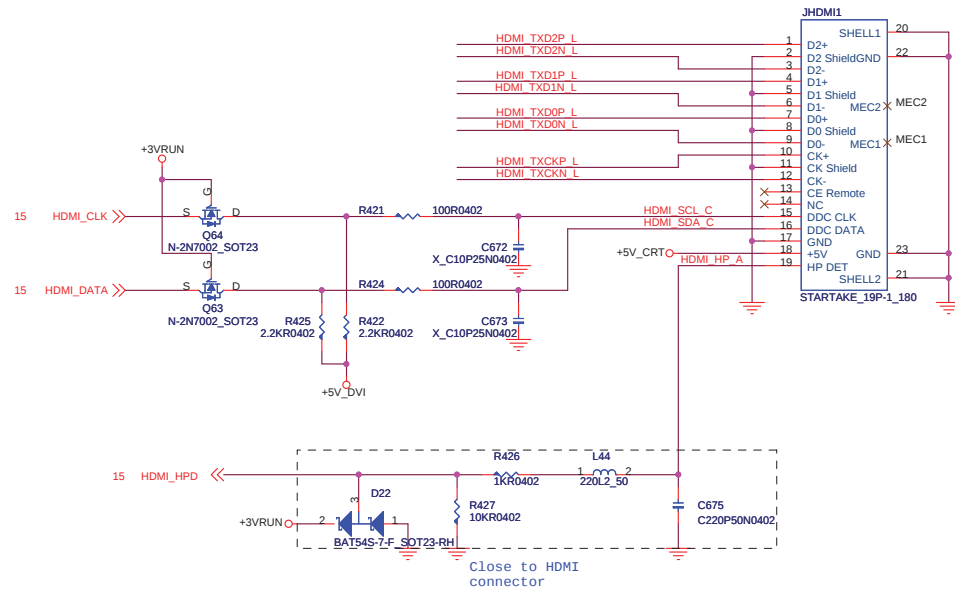


512 M GDDRII Channels B



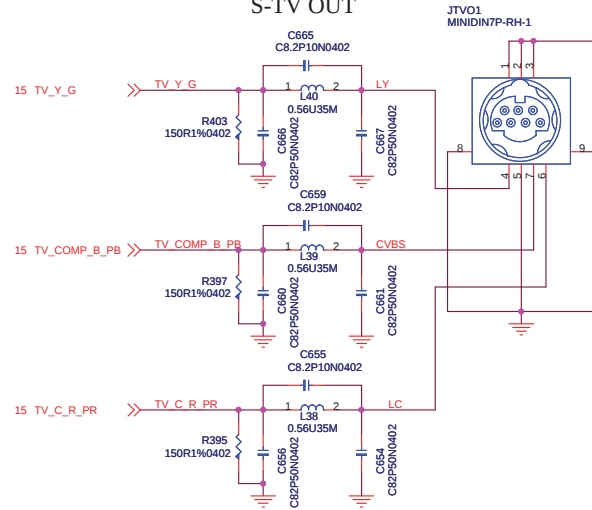


CLOSE TO CONNECTOR

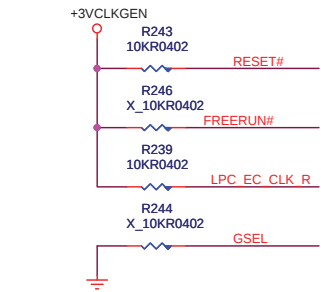


Close to HDMI connector

S-TV OUT

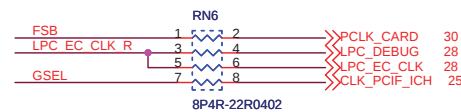
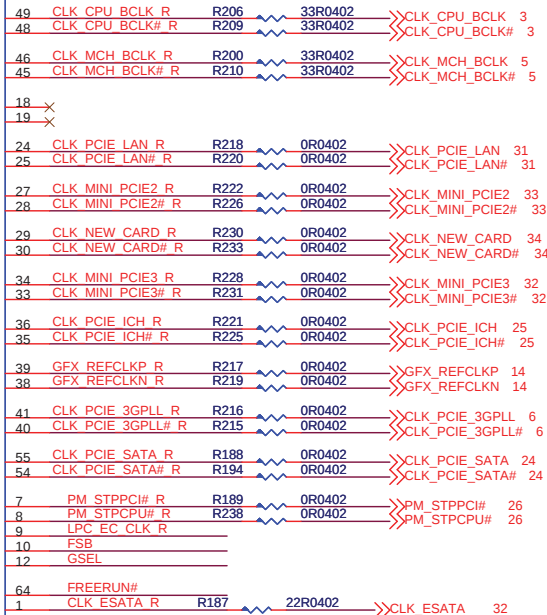
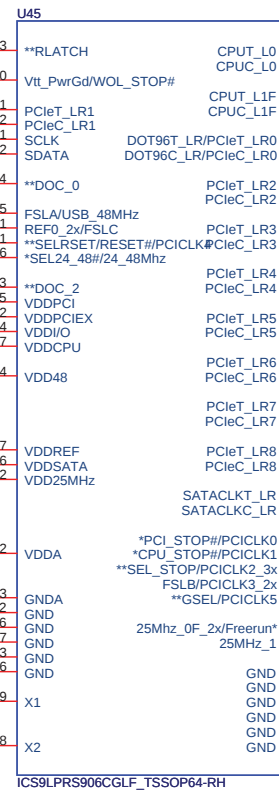
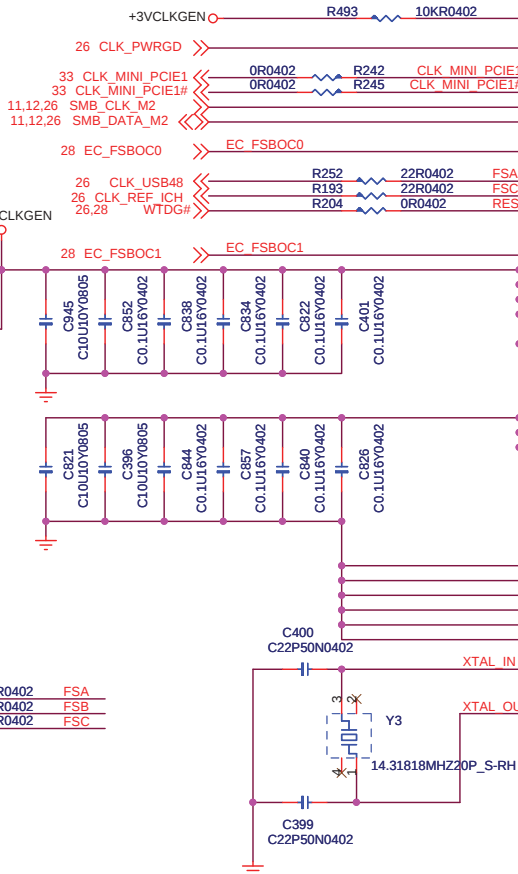
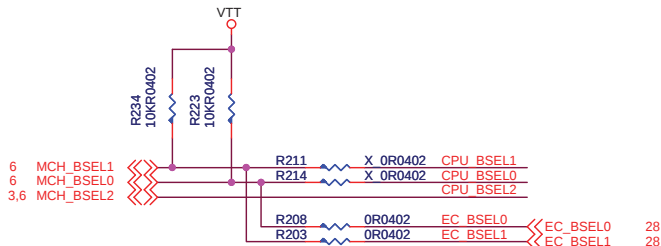
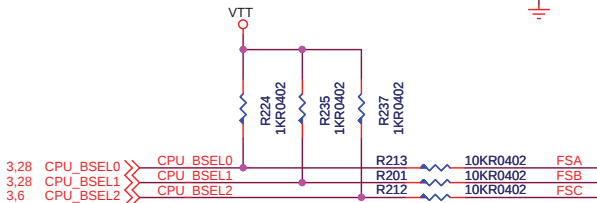


MSI CORPORATION			
Title	HDMI & TV connector		
Size	Document Number	Rev	
Custom	MS-163A	0A	
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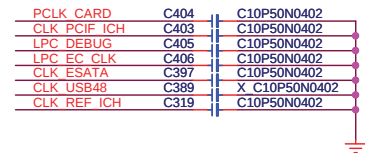


PIN 7,8 FUNCTION	PIN 9 STRAP
CPU/PCI STOP	1
PCICLK	0

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

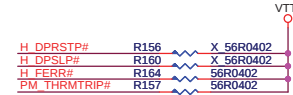
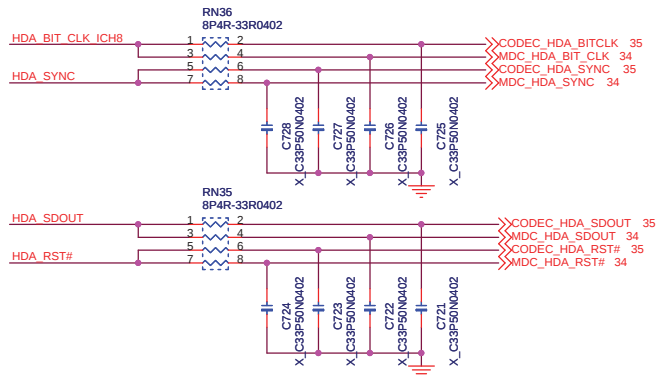
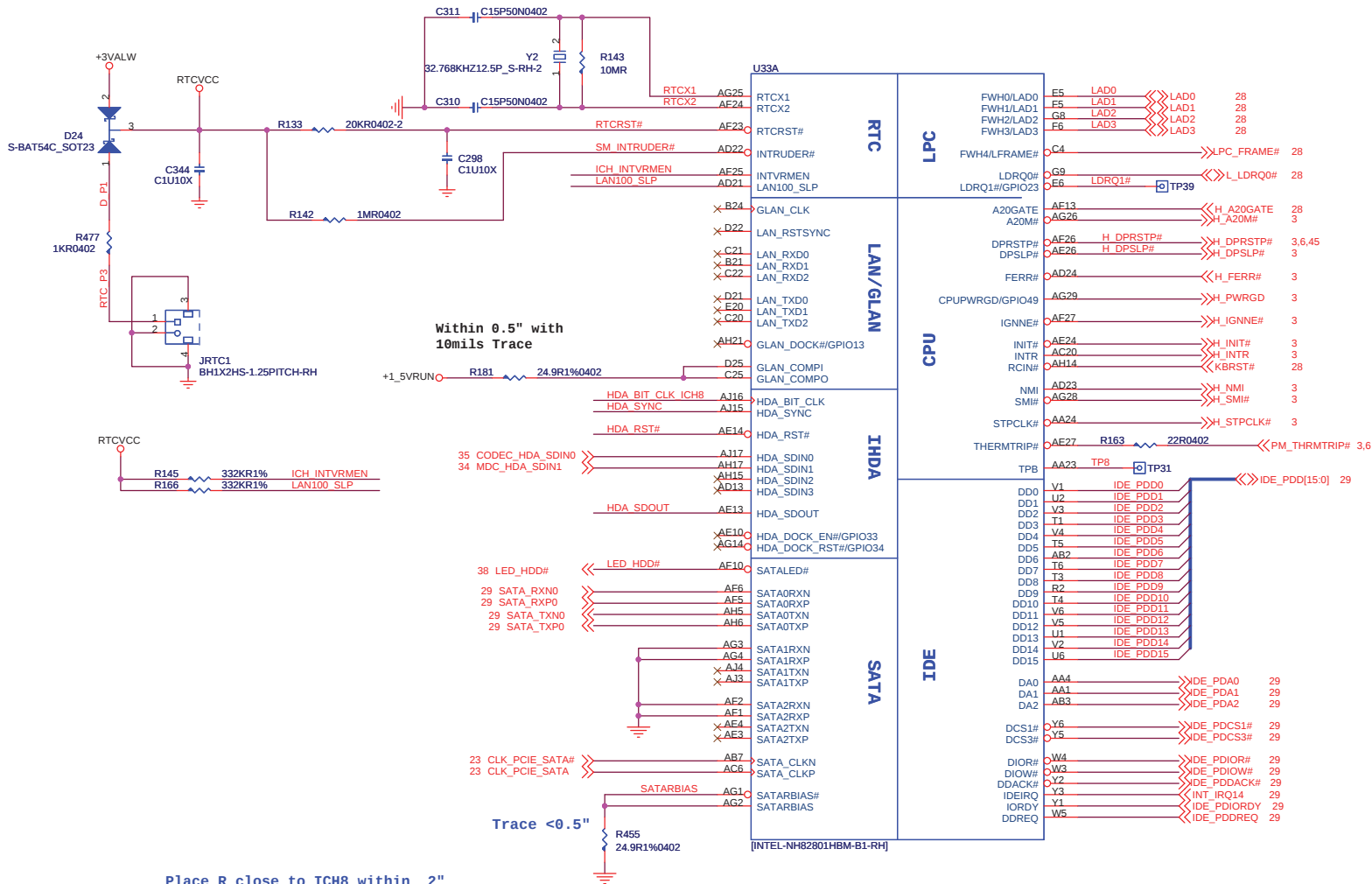


EMI

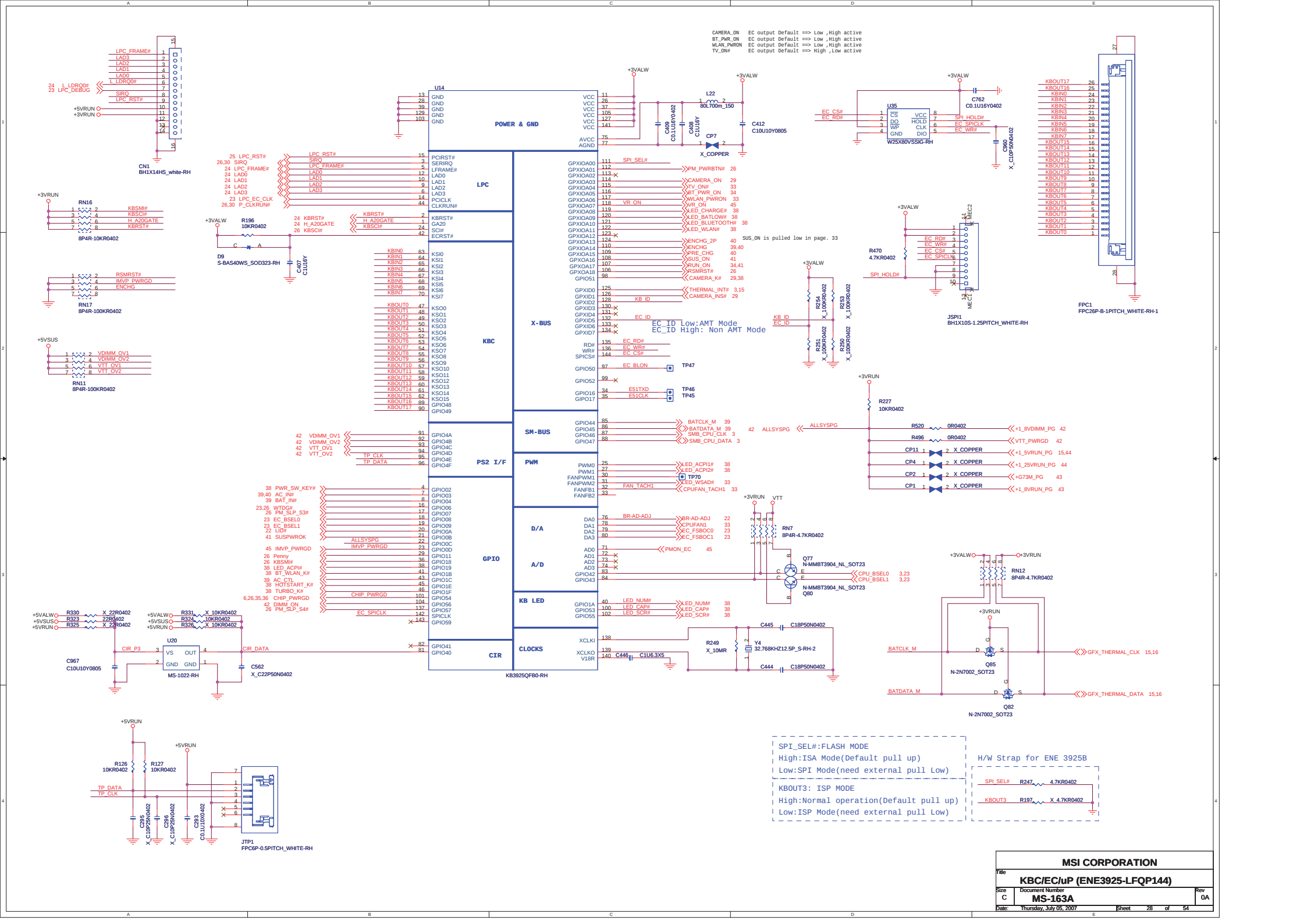


CPU Table			FSB Freq (MHz)
BSEL[2]	BSEL[1]	BSEL[0]	
L	H	H	667 MHz
L	H	L	800 MHz

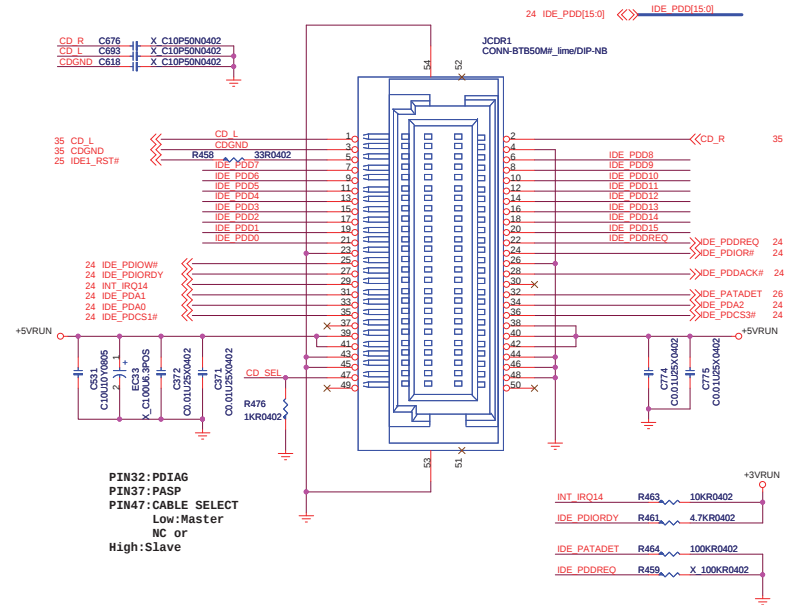
MSI CORPORATION			
Title CLK GEN [ICS9LPRS514]			
Size Custom	Document Number MS-163A		Rev 0A
Date: Tuesday, July 10, 2007	Sheet 23 of 54		E



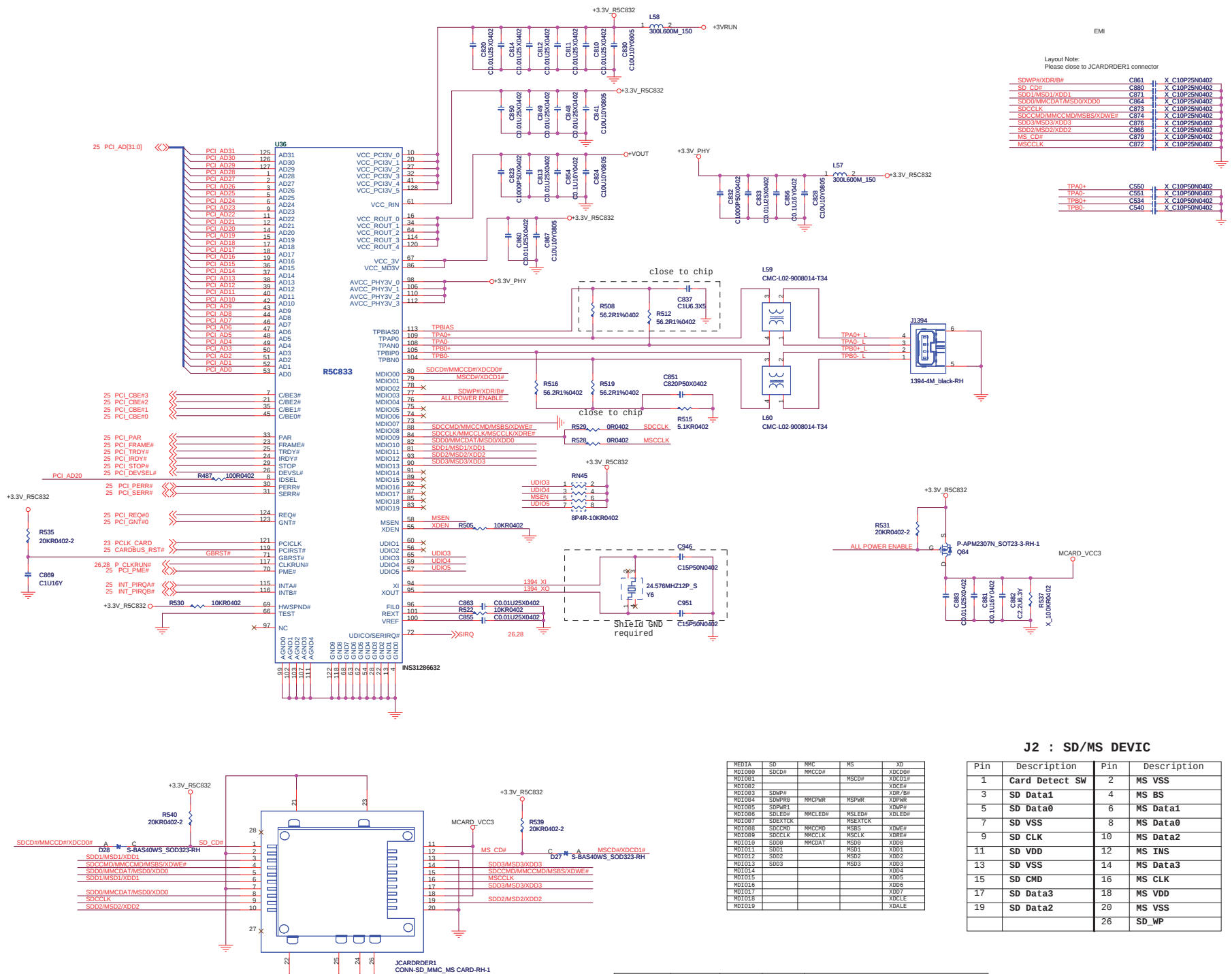
Place R107 close to ICH8M within 2"



ODD CONN



USB CONN



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

MEDIA	SD	MMC	MS	XD
RD1080	SDCB#	MMCDB#	MSCB#	XCDB#
RD1081			MSCD#	XCDD#
RD1082				XCDE#
RD1083	SDWP#	MMCWP#	MSWP#	XDWP#
RD1084	SDWPB#	MMCWPB#	MSWPB#	XDWPB#
RD1085	SDLE#	MMCLED#	MSLED#	XDLED#
RD1086	SDPWE#	MMCPE#	MSPE#	XDPE#
RD1087	SDEXTCK	MMCEXTCK	MSEXTCK	XDPE#
RD1088	SDCCB#	MMCDB#	MSCB#	XCDB#
RD1089	SDCLK	MMCCLK	MSCLK	XCDB#
RD1090	SDDB	MMCDB	MSCB	XCDB
RD1091	SDDB	MMCDB	MSCB	XCDB
RD1092	SDDB	MMCDB	MSCB	XCDB
RD1093	SDDB	MMCDB	MSCB	XCDB
RD1094	SDDB	MMCDB	MSCB	XCDB
RD1095	SDDB	MMCDB	MSCB	XCDB
RD1096	SDDB	MMCDB	MSCB	XCDB
RD1097	SDDB	MMCDB	MSCB	XCDB
RD1098	SDDB	MMCDB	MSCB	XCDB
RD1099	SDDB	MMCDB	MSCB	XCDB

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

MSI CORPORATION

File

CardReader (RicoH-R5C833)

Size

Document Number

MS-163A

Rev

0A

Date

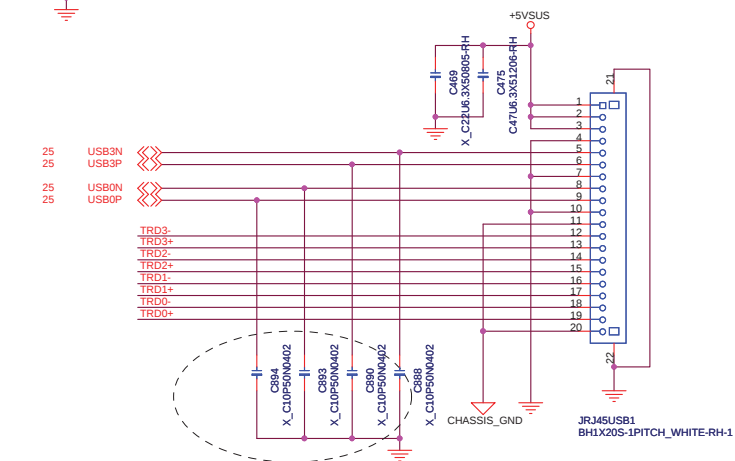
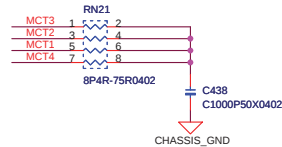
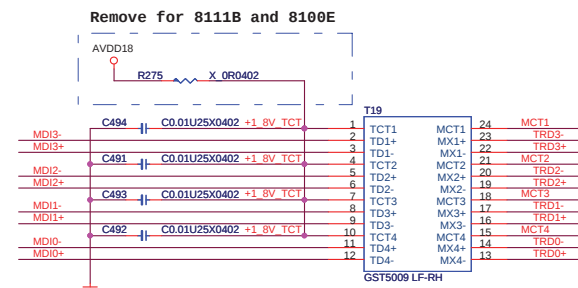
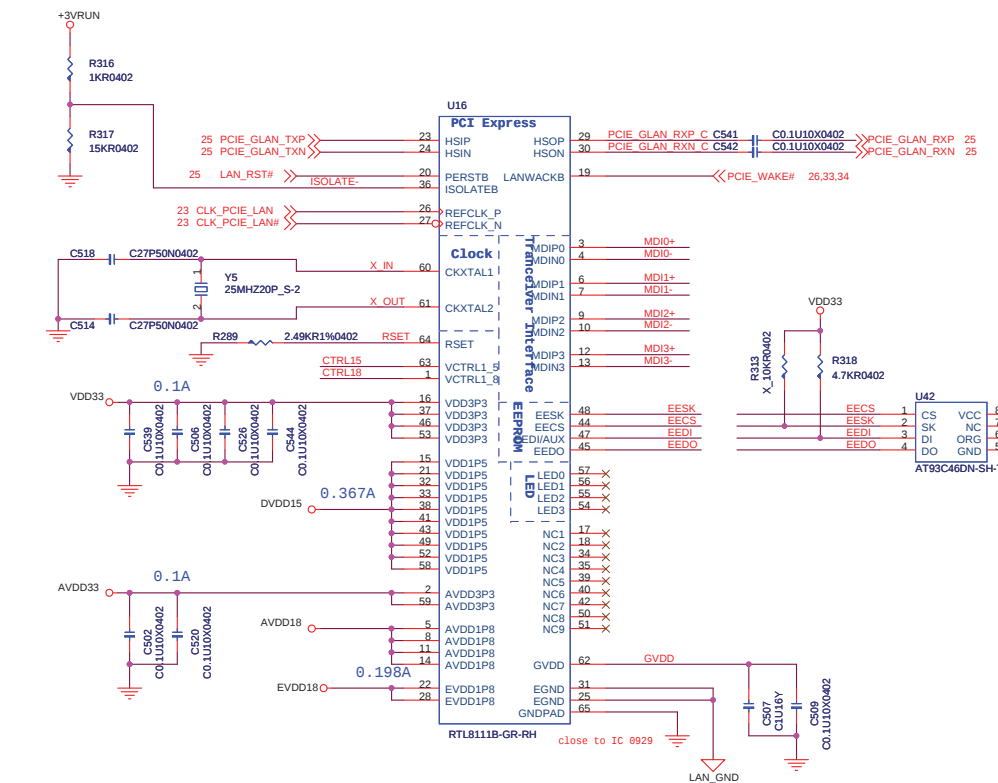
Wednesday, July 04, 2007

Sheet

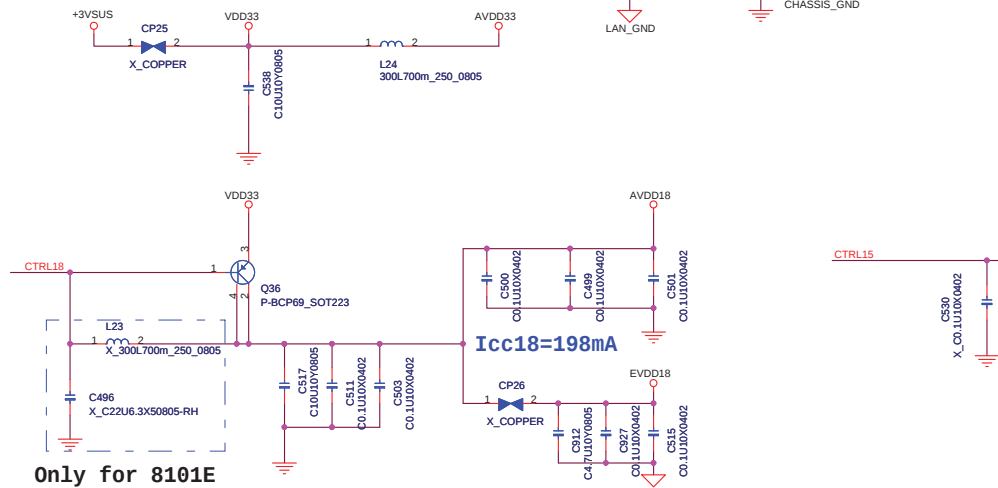
30

of

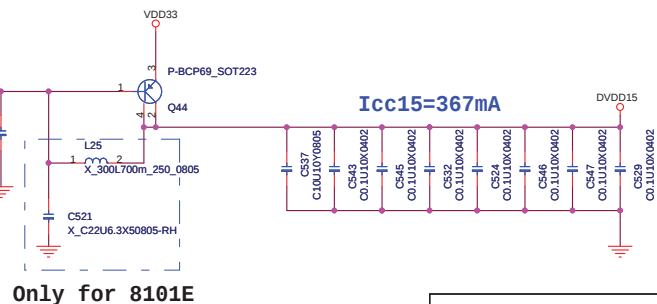
54



Icc33=103mA



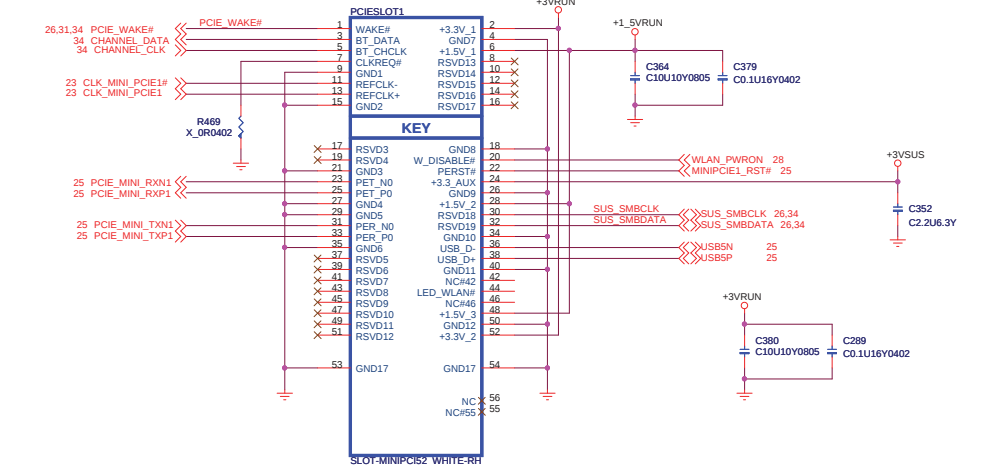
Only for 8101E



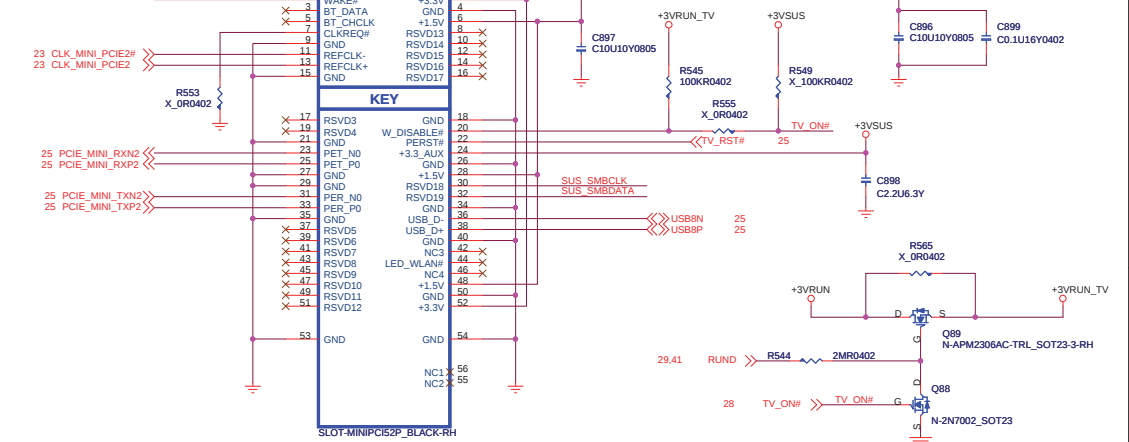
Only for 8101E

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

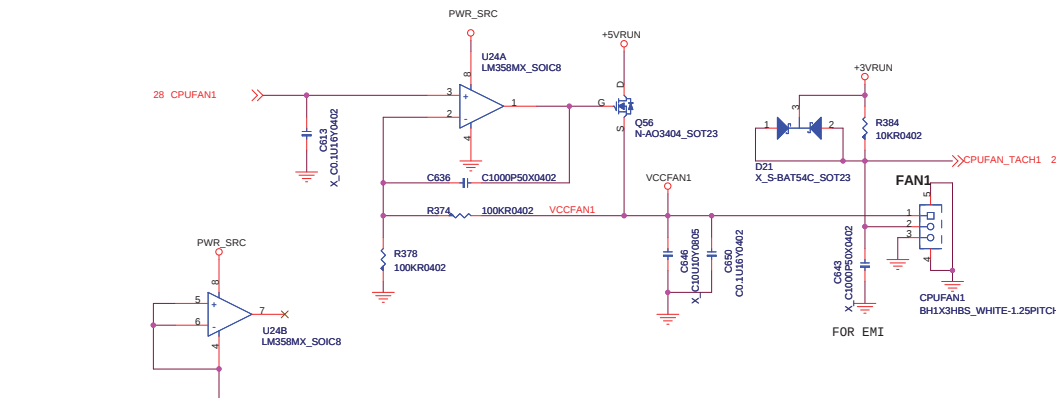
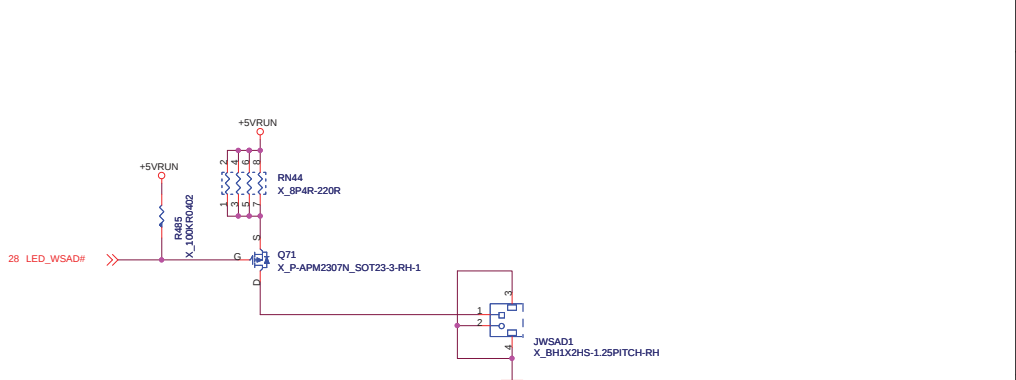
Wireless LAN



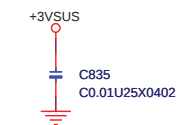
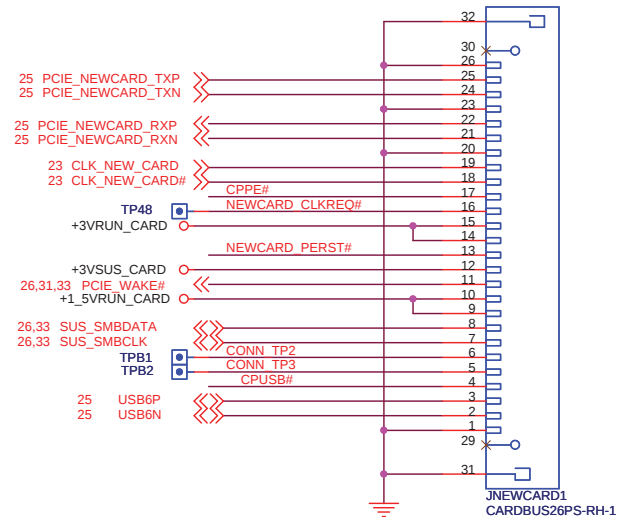
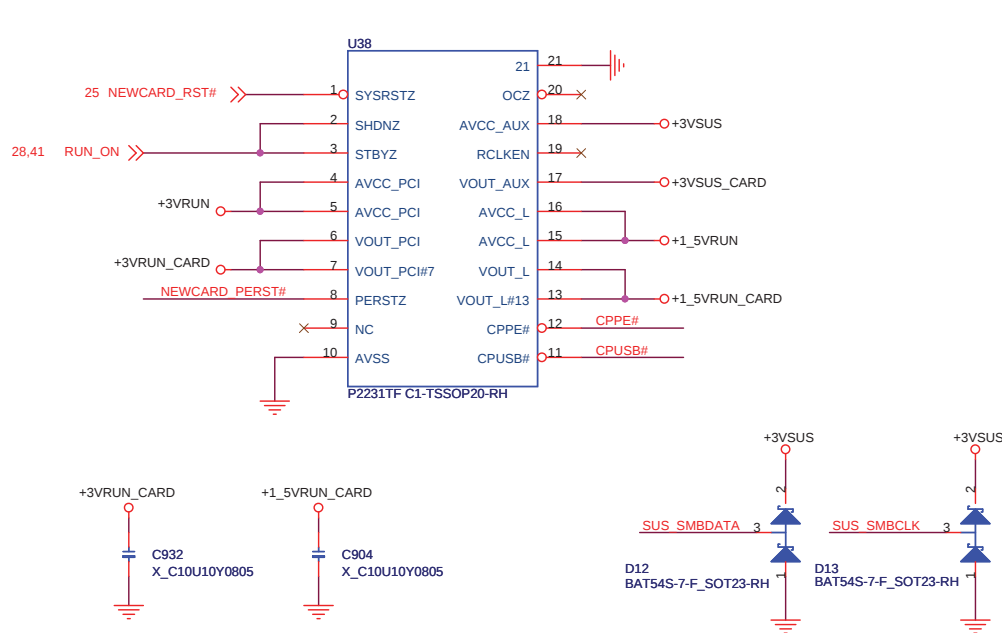
TV



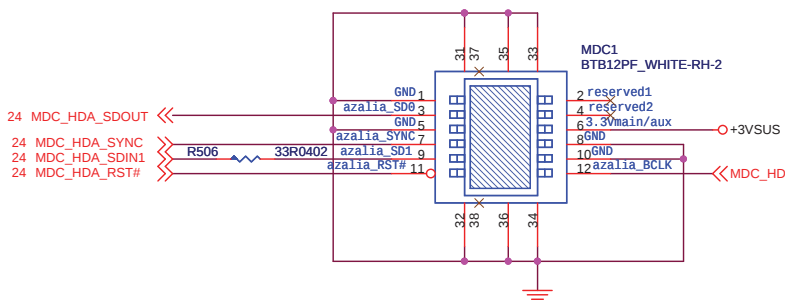
KB-LED



MSI CORPORATION			
File			
MINI_PCIE / CPUFAN / KB_LED			
Size	Document Number	Rev	
Custom	MS-163A	0A	
Date	Wednesday, July 04, 2007	Sheet	33 of 54

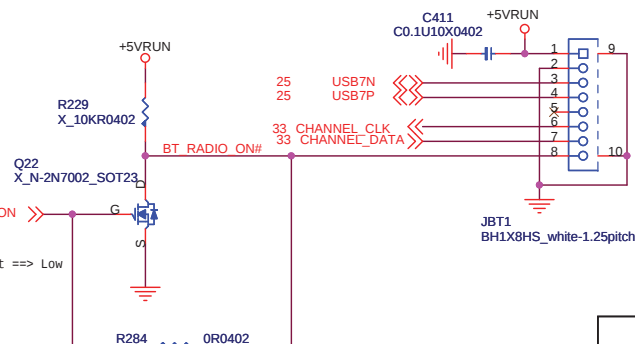


MDC Connector Ver 1.5



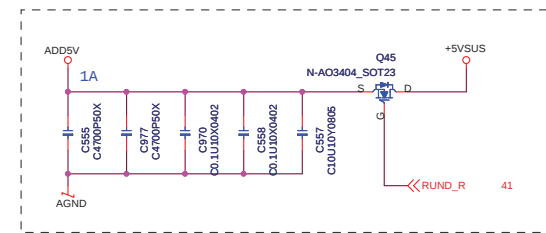
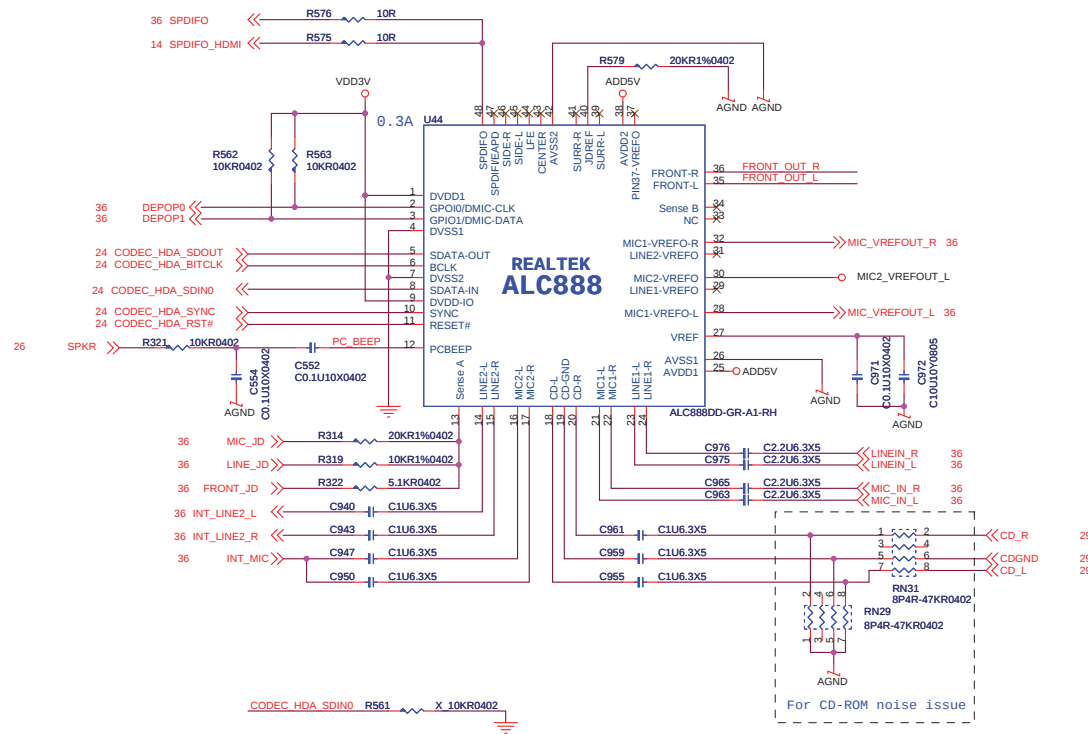
EC output Default ==> Low
,High active

BLUETOOTH

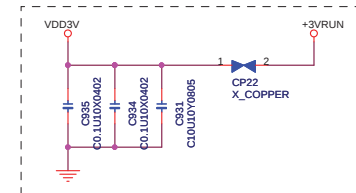


MSI CORPORATION

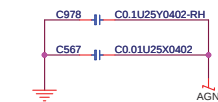
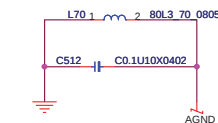
Title		
NEWCARD & MDC & BT		
Size	Document Number	Rev
Custom	MS-163A	0A
Date:	Friday, July 06, 2007	Sheet 34 of 54



POWER ISOLATION (ANALOG 5V)

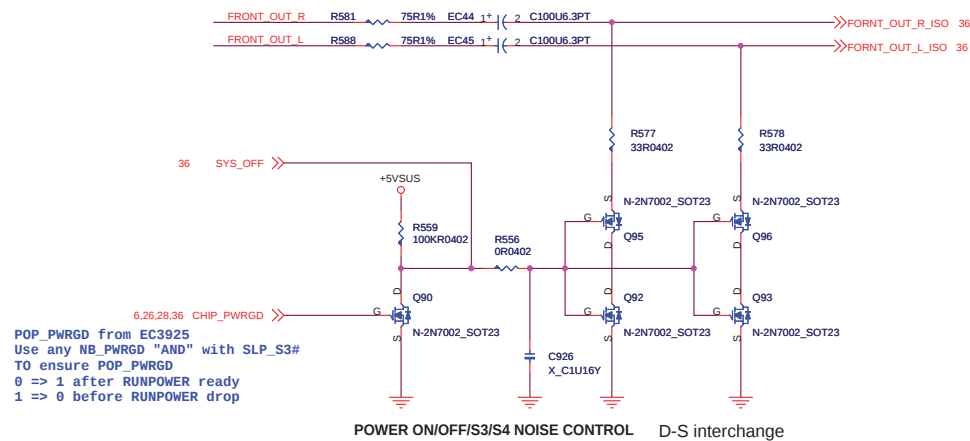


POWER ISOLATION (CODEC 3V)

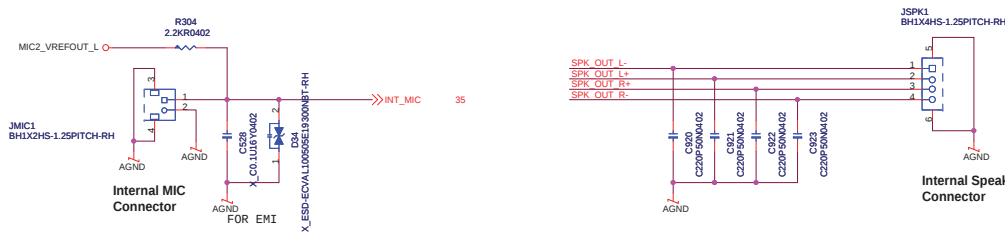
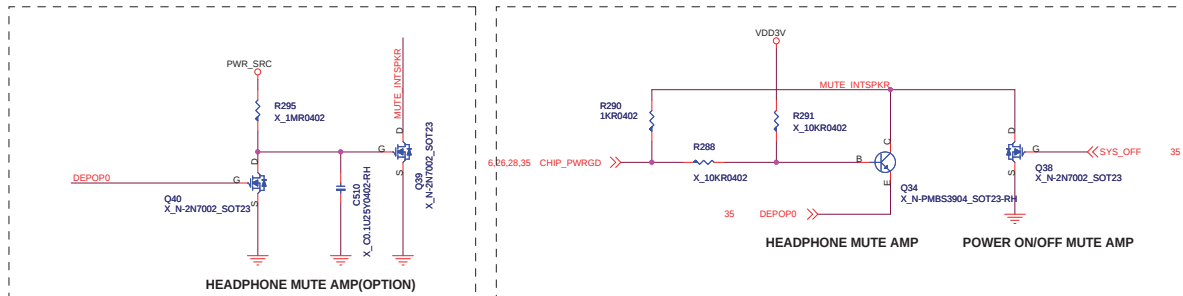
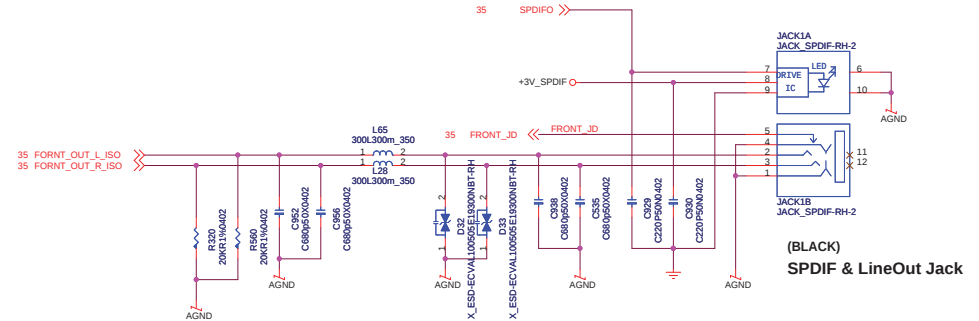
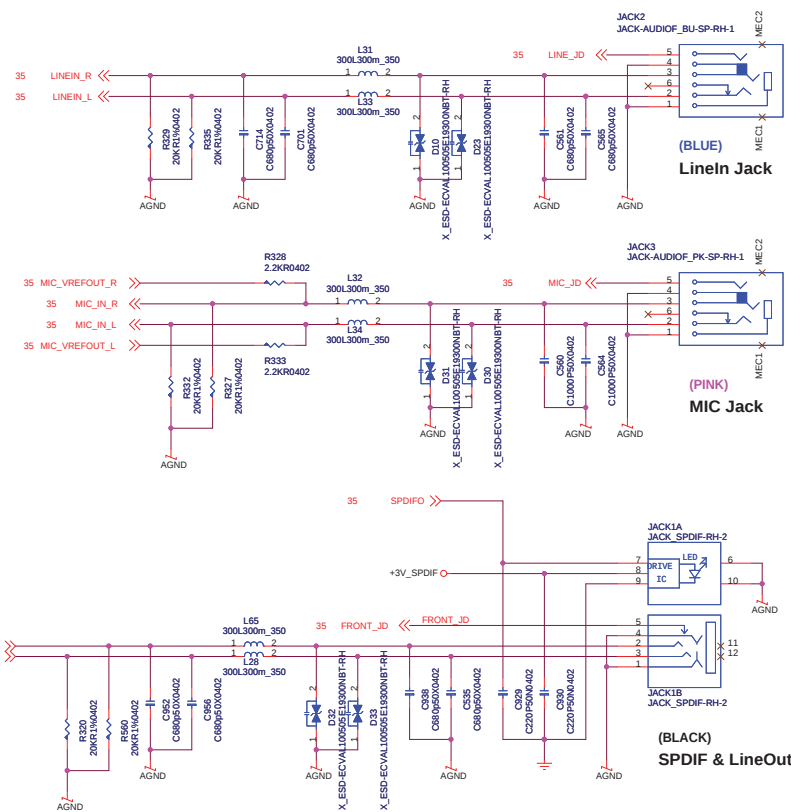
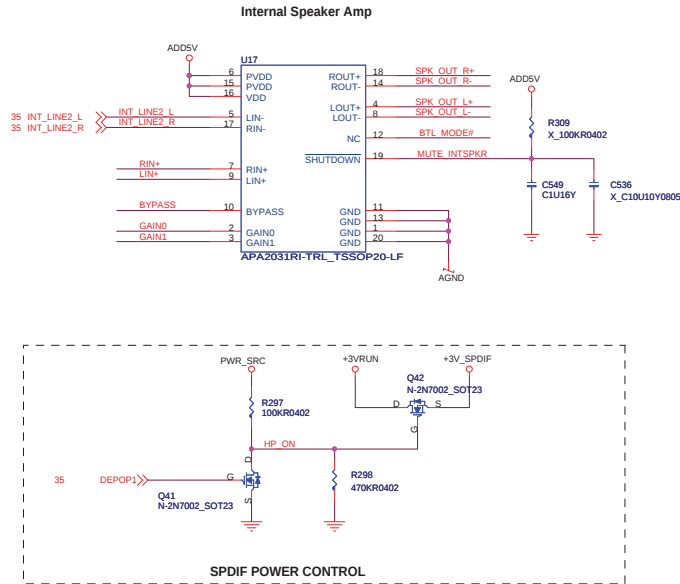
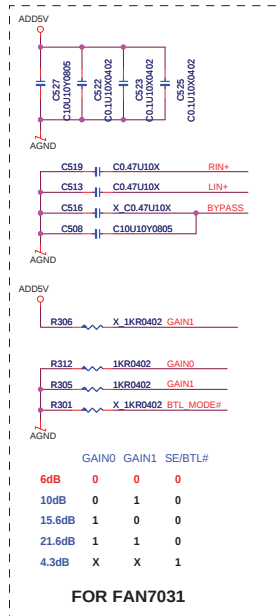


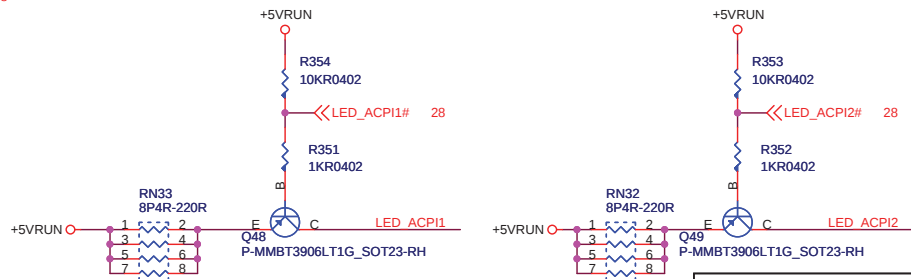
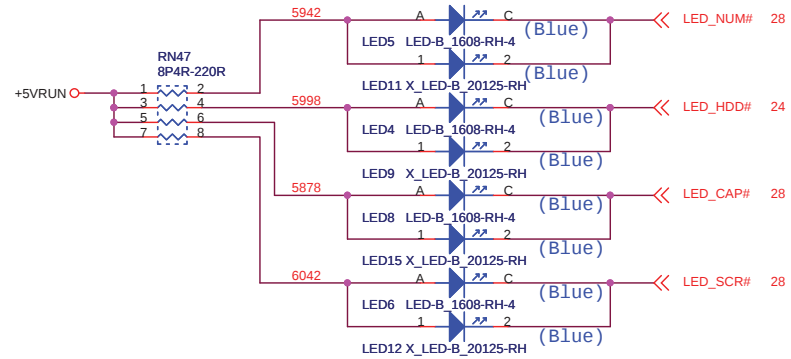
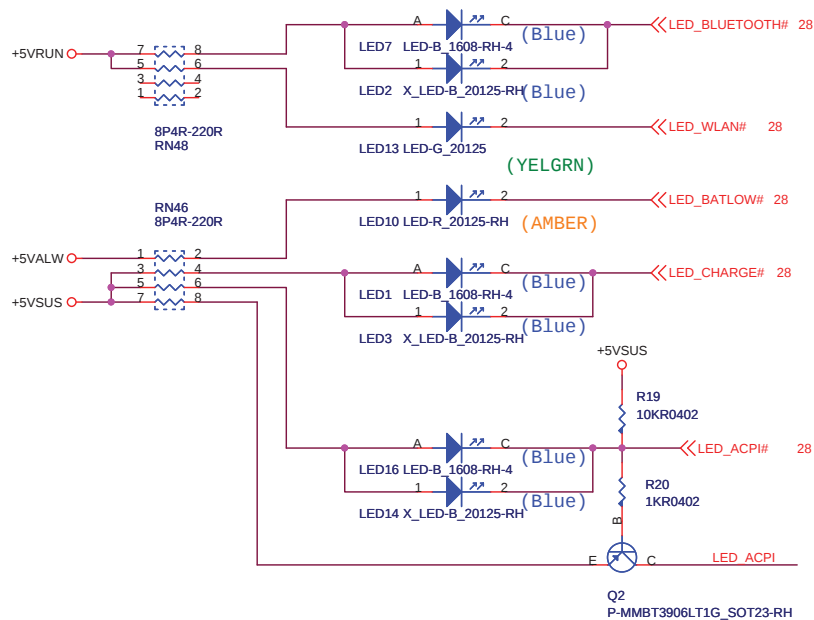
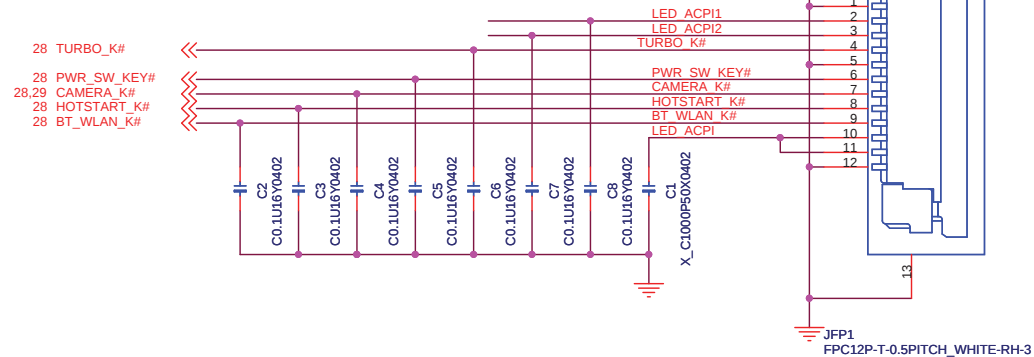
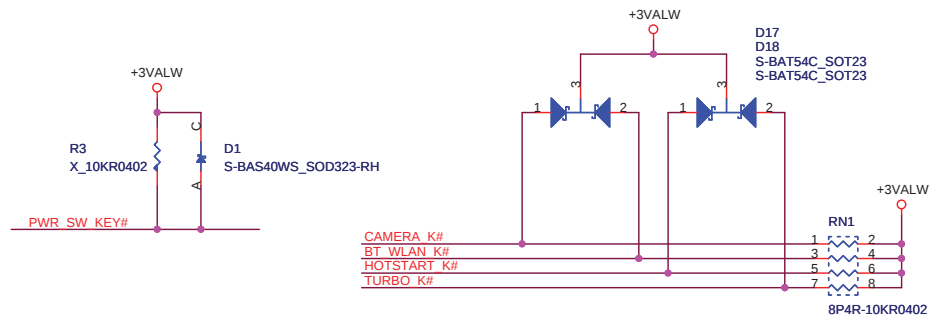
For EMI solution

ANTIPOP CIRCUIT



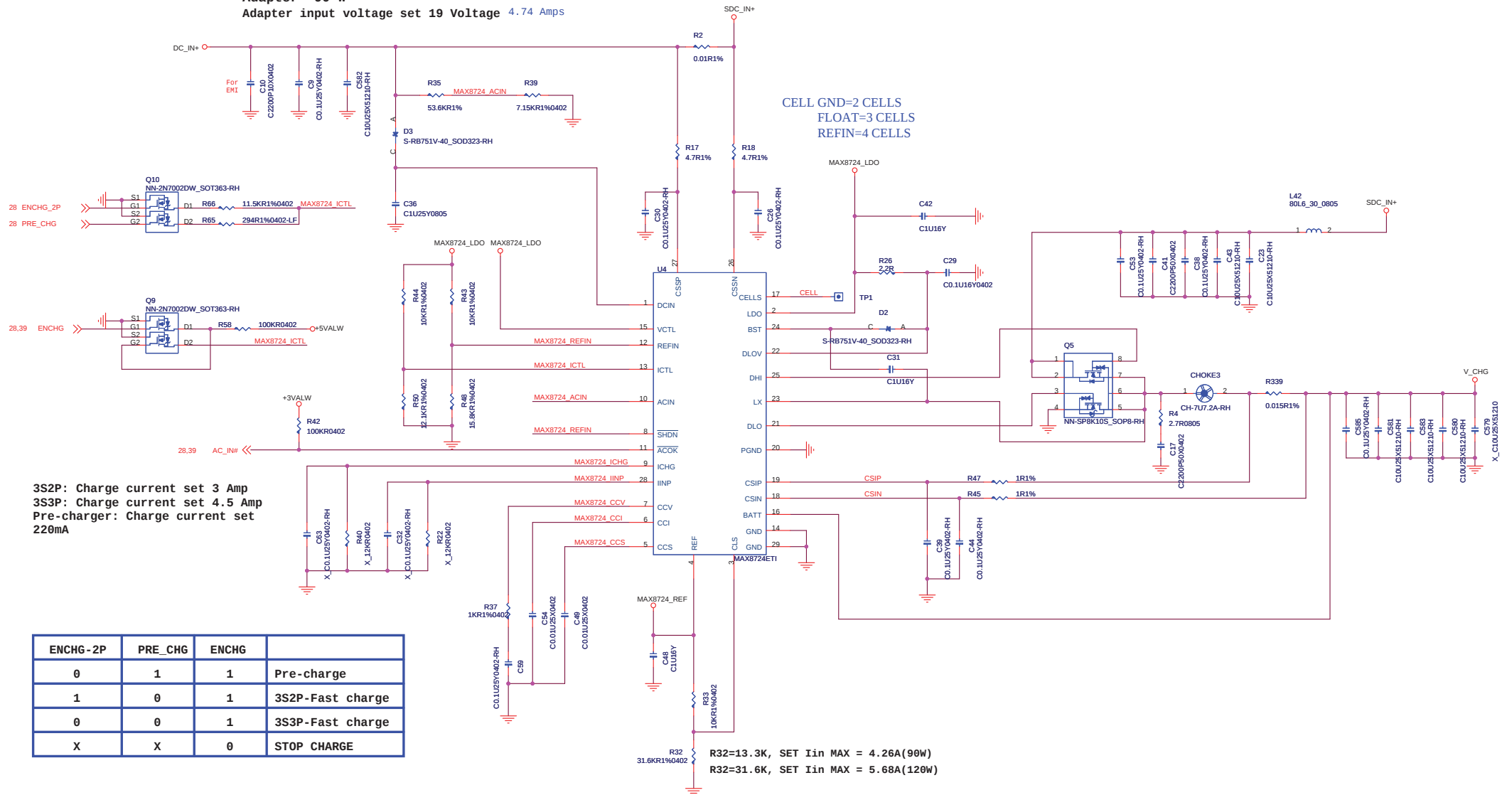
MSI CORPORATION			
Title	AZALIA CODEC(ALC888)		
Size	Custom	Document Number	Rev
		MS-163A	0A
Date:	Wednesday, July 11, 2007	Sheet	35 of 54





MSI CORPORATION		
Title		
LED & FPC		
Size	Document Number	Rev
B	MS-163A	0A
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Adapter= 120 W
 Adapter input voltage set 19 Voltage 6.32 Amps
 Adapter= 90 W
 Adapter input voltage set 19 Voltage 4.74 Amps



+5VALW

Current limit at 4A for +3.3V

Current limit at 4A for +5VSUS

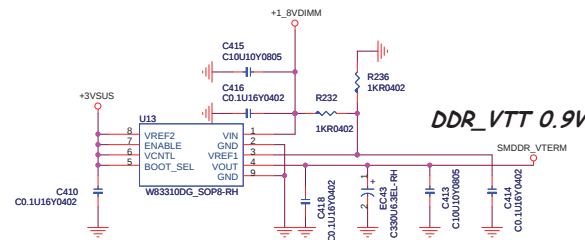
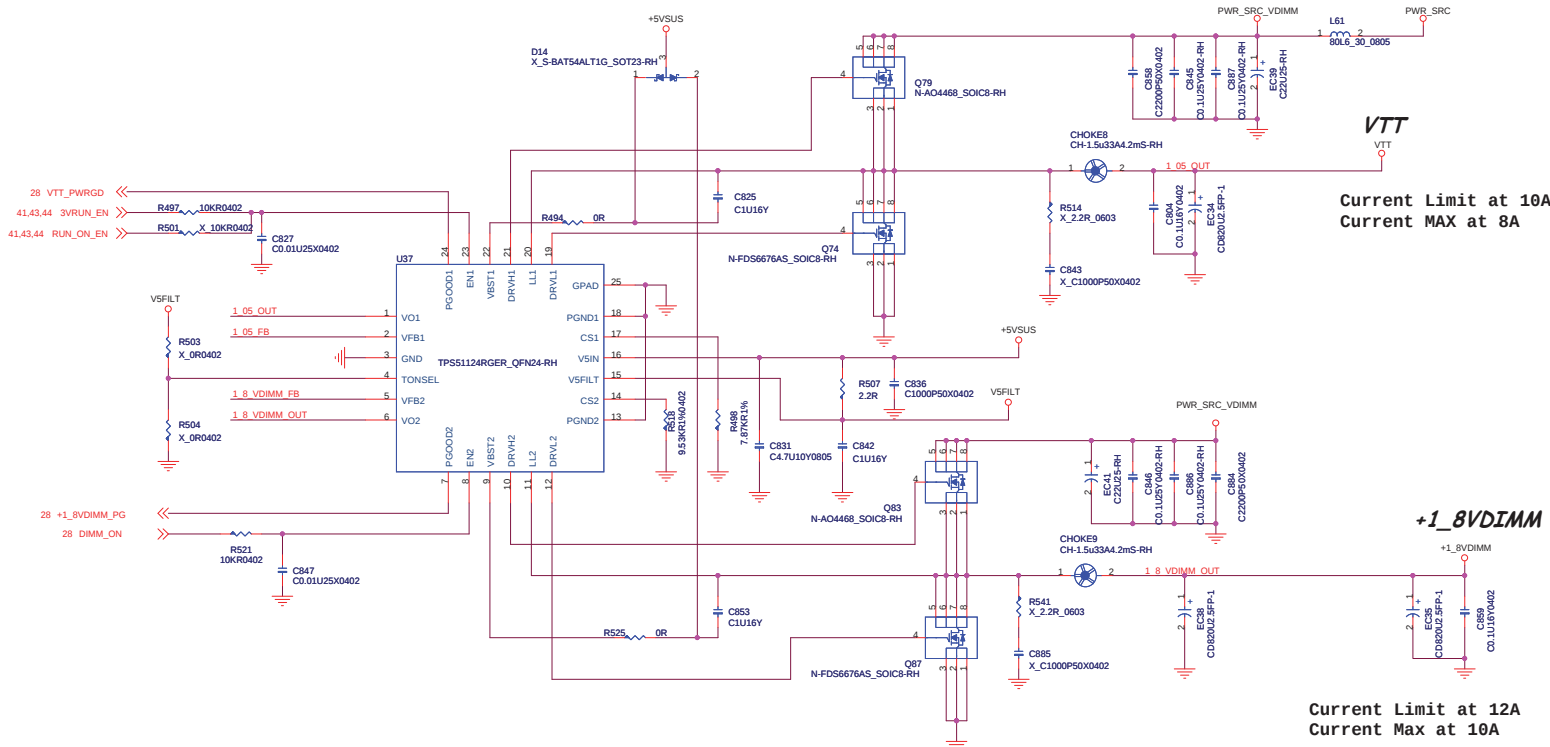
+5VSUS

+5VRUN

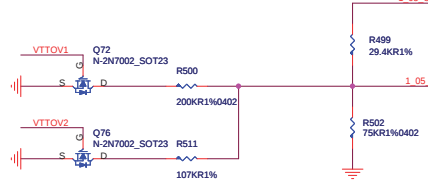
+3VALW

Mount R258
For EC code ready

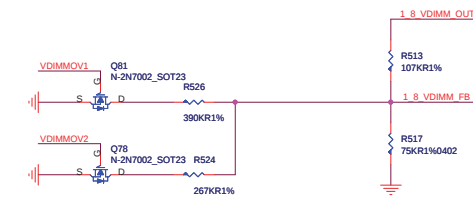
add +5VSUS and +3VSUS discharge schematic.otis 1/11



VTT OC



VDIMM OC



VTT OverVoltage TABLE

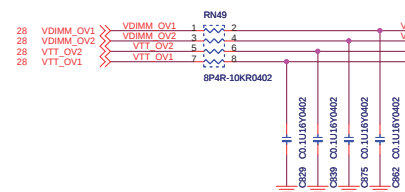
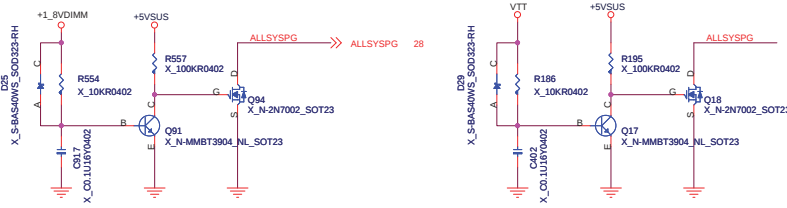
OV1	OV2	VTT OverVoltage
0	0	1.05V(default)
1	0	1.15V
0	1	1.25V

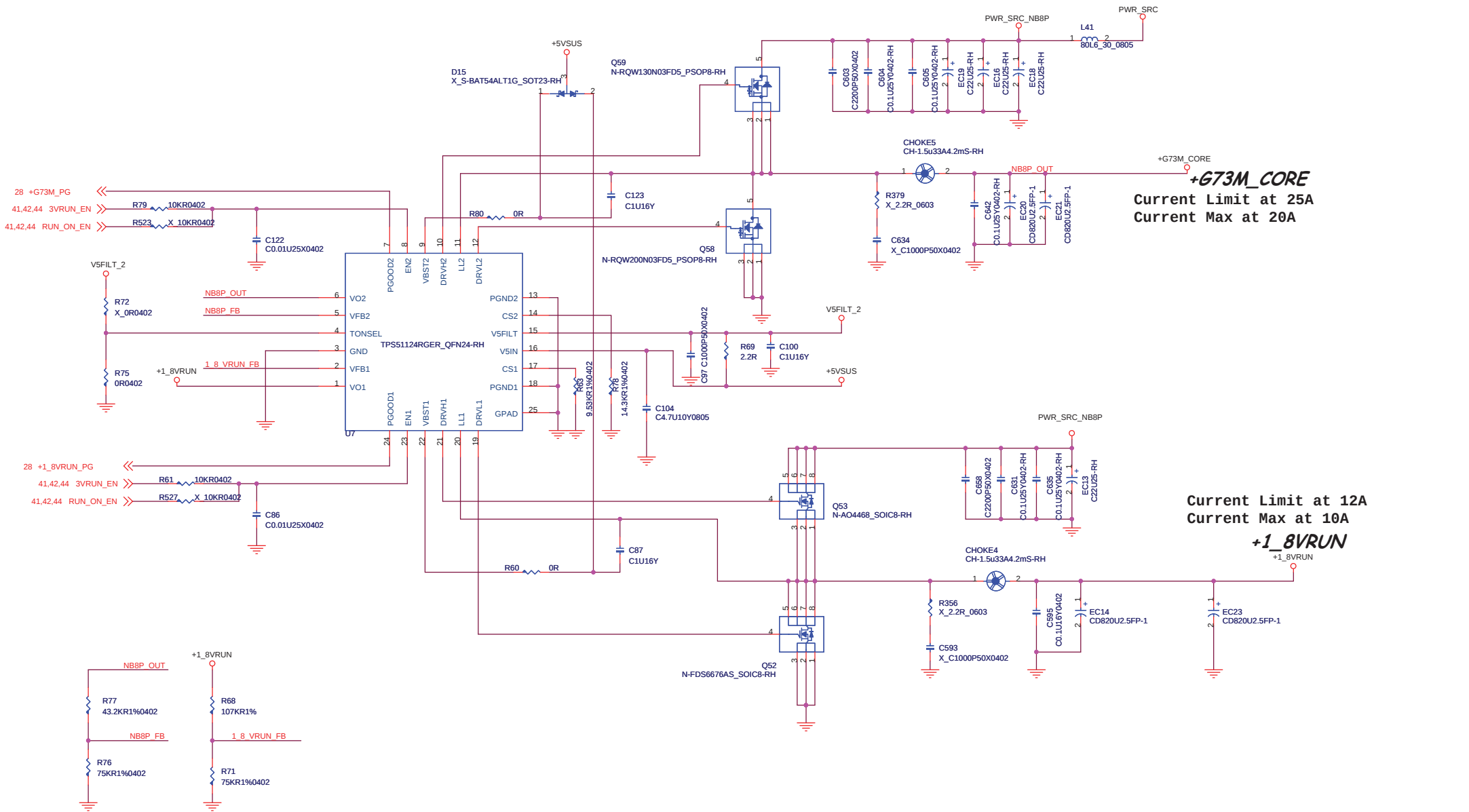
Note:
1=> HIGH
0=> LOW

VDIMM OverVoltage TABLE

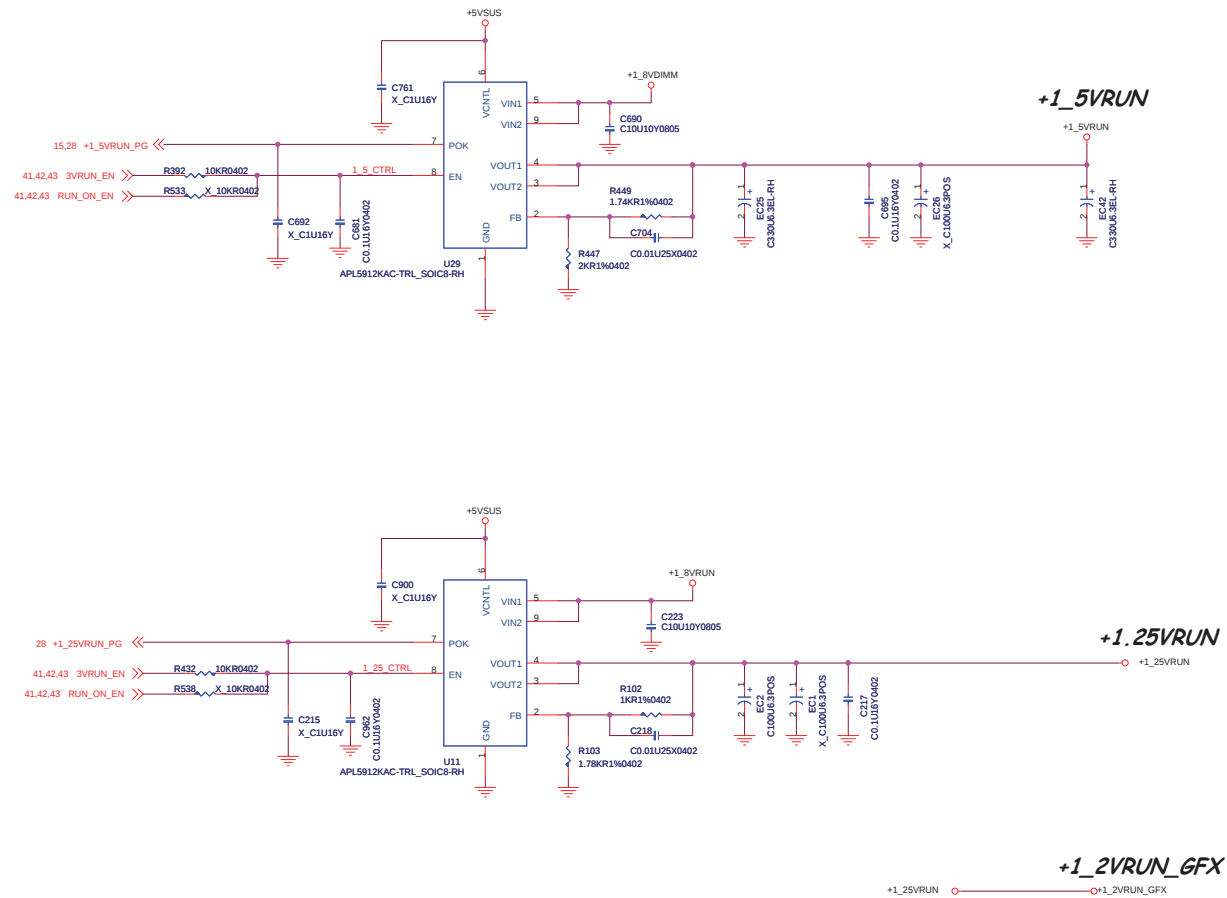
OV1	OV2	VDIMM OverVoltage
0	0	1.85V(default)
1	0	2V
0	1	2.15V

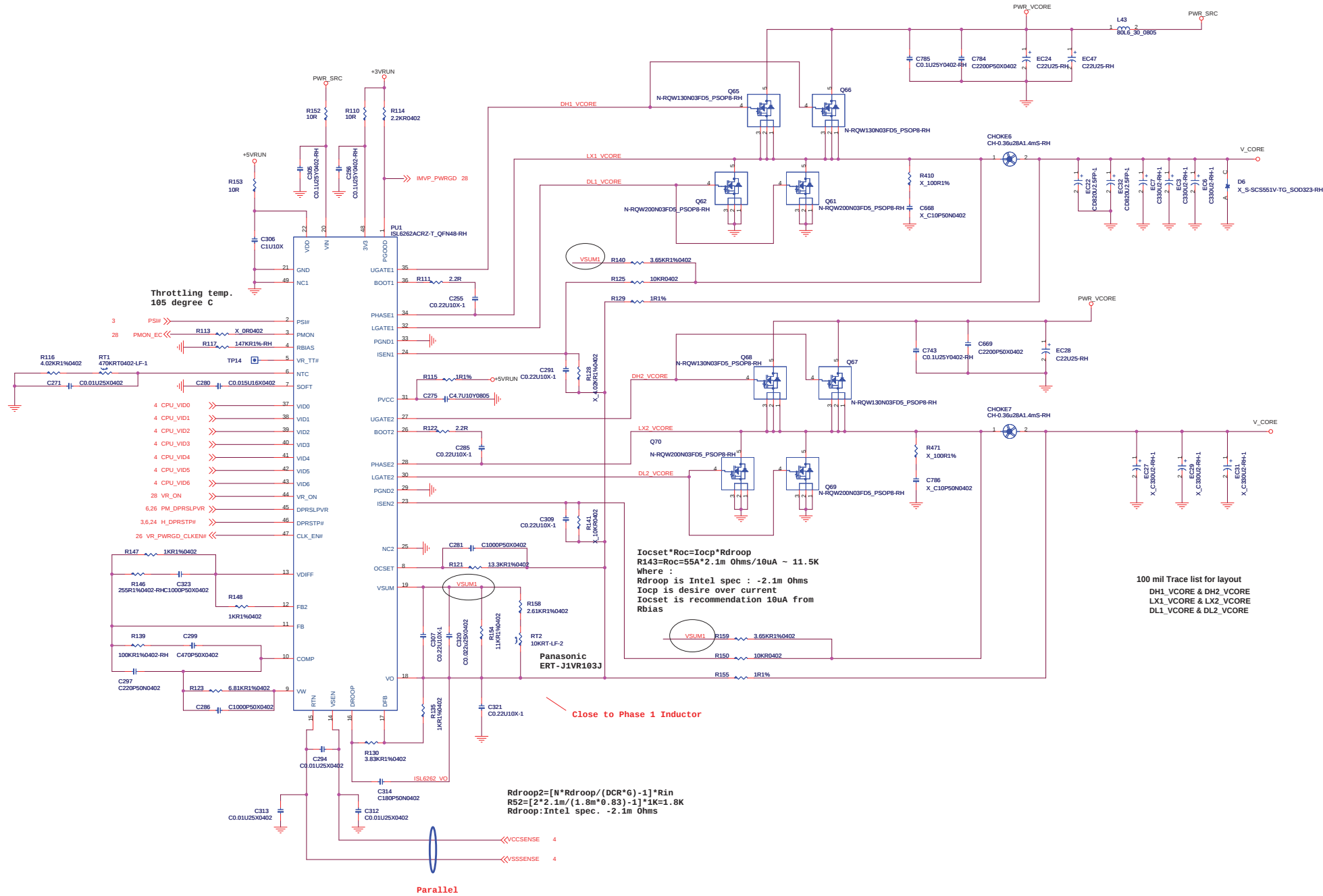
Note:
1=> HIGH
0=> LOW

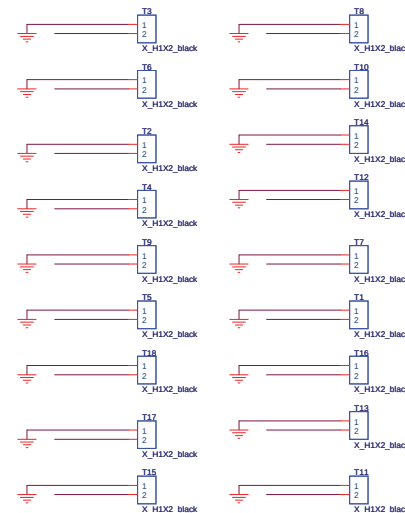
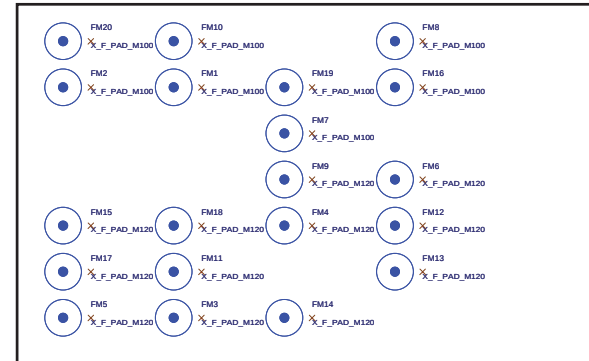
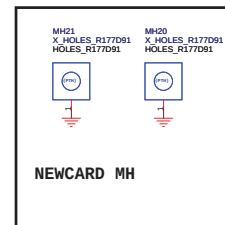
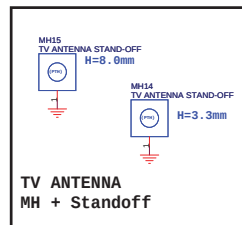
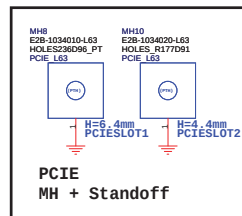
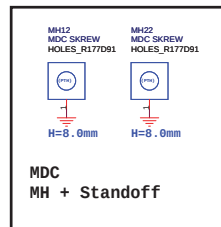
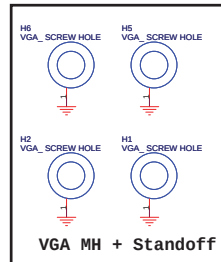
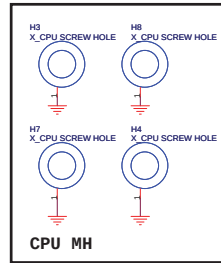
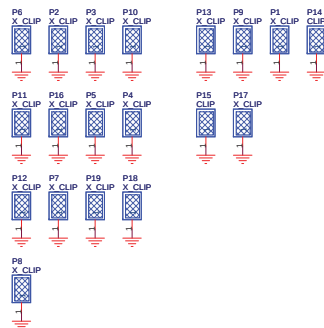
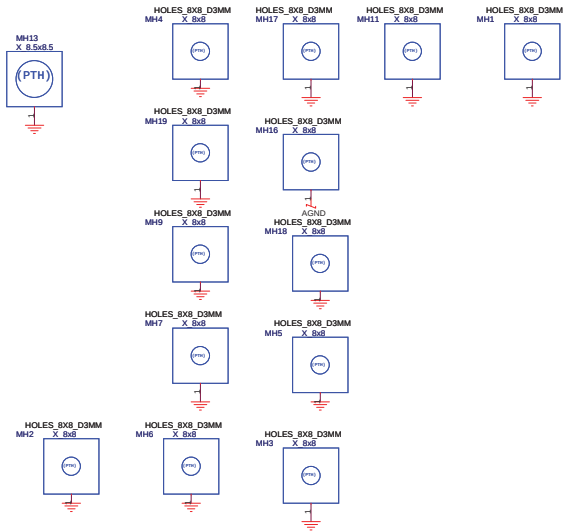


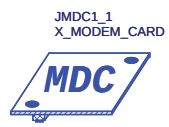
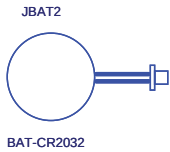


MSI CORPORATION		
Title	+G73M_CORE,1.8VRUN	
Size	Document Number	Rev
Custom	MS-163A	0A
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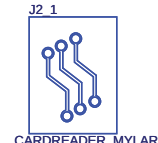
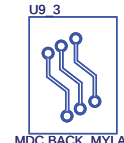
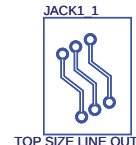
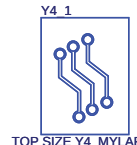
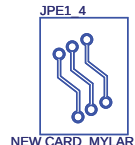




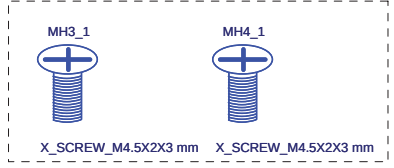




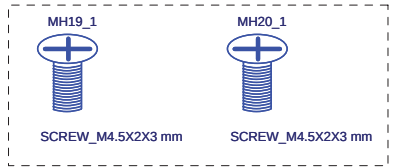
MDC改為機構料



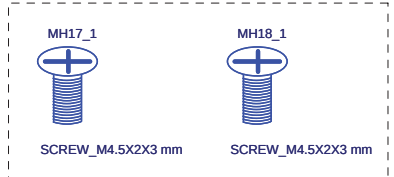
FOR MDC



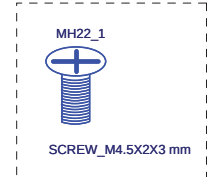
FOR NEWCARD



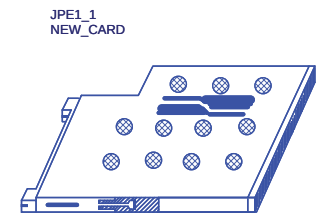
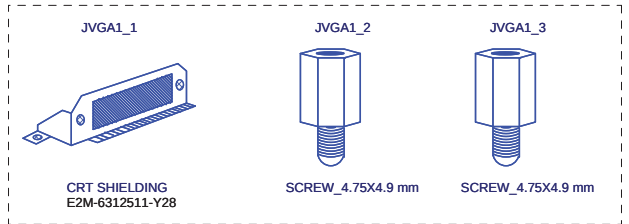
FOR PCIE



FOR TV ANTENNA

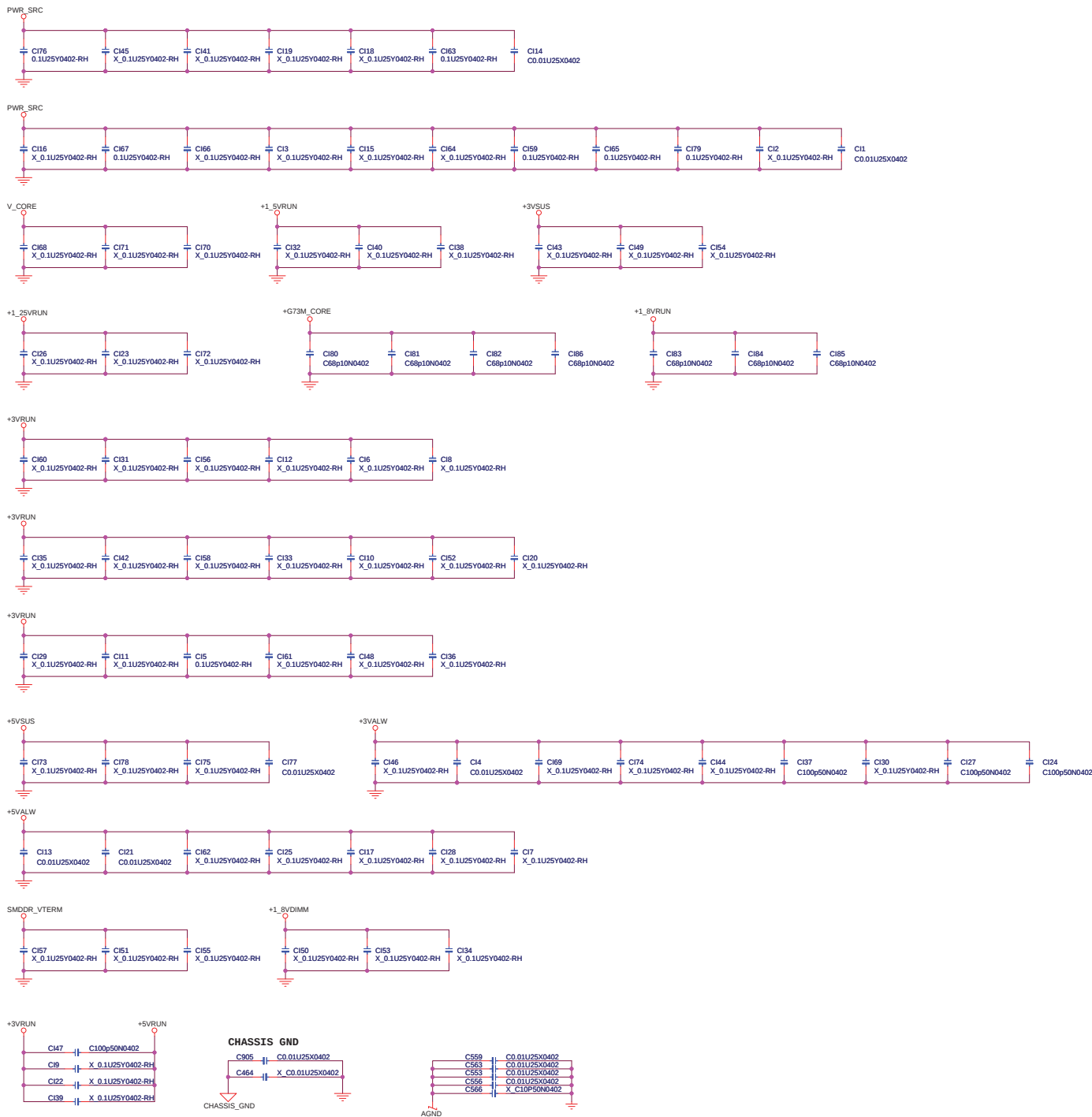


FOR D-SUB



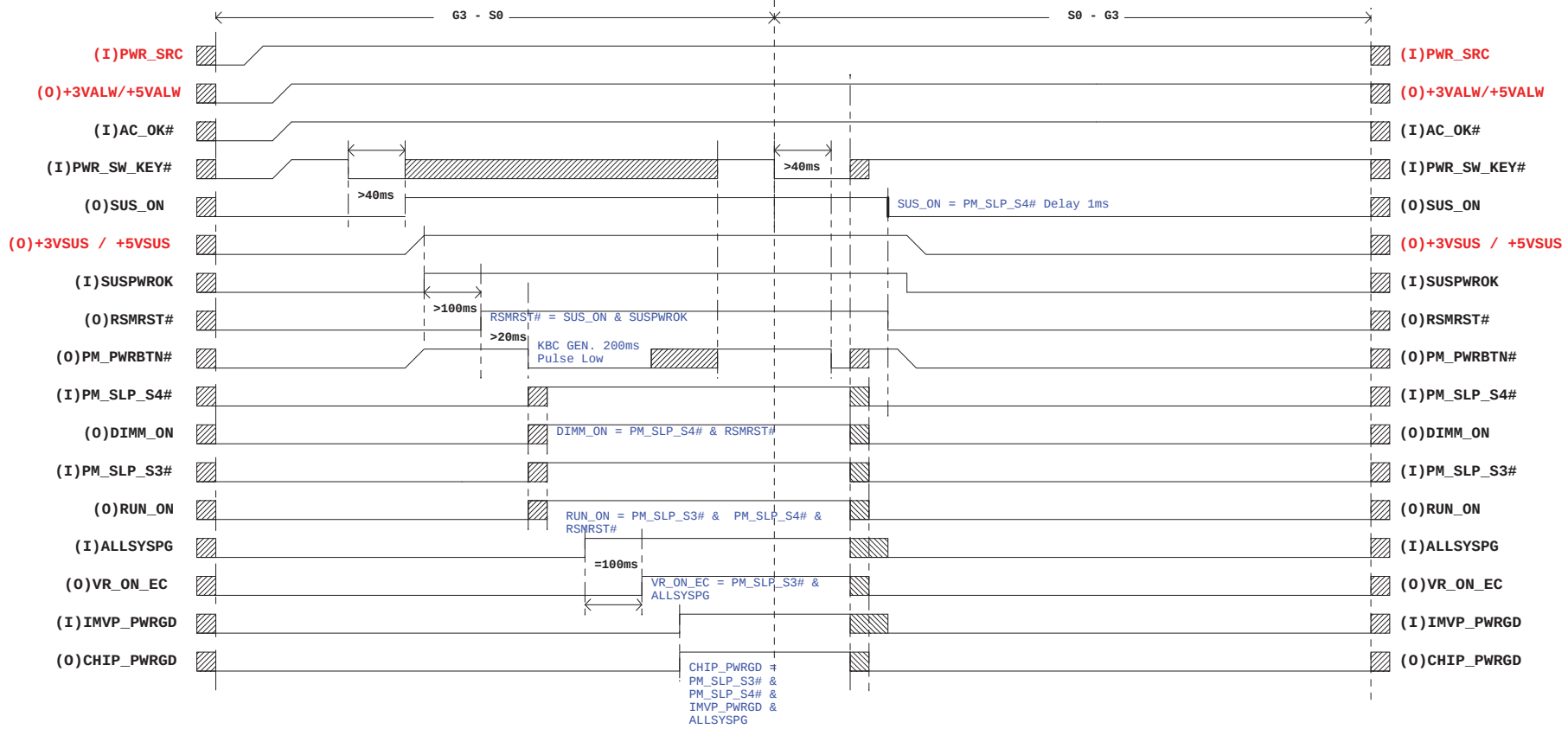
另加上PCI
EXPRESS 鐵件：
E2M-6310711-SH4

MSI CORPORATION			
Title			
Manual Part			
Size	Document Number		Rev
B	MS-163A		0A
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RED: POWER
BLACK: KBC

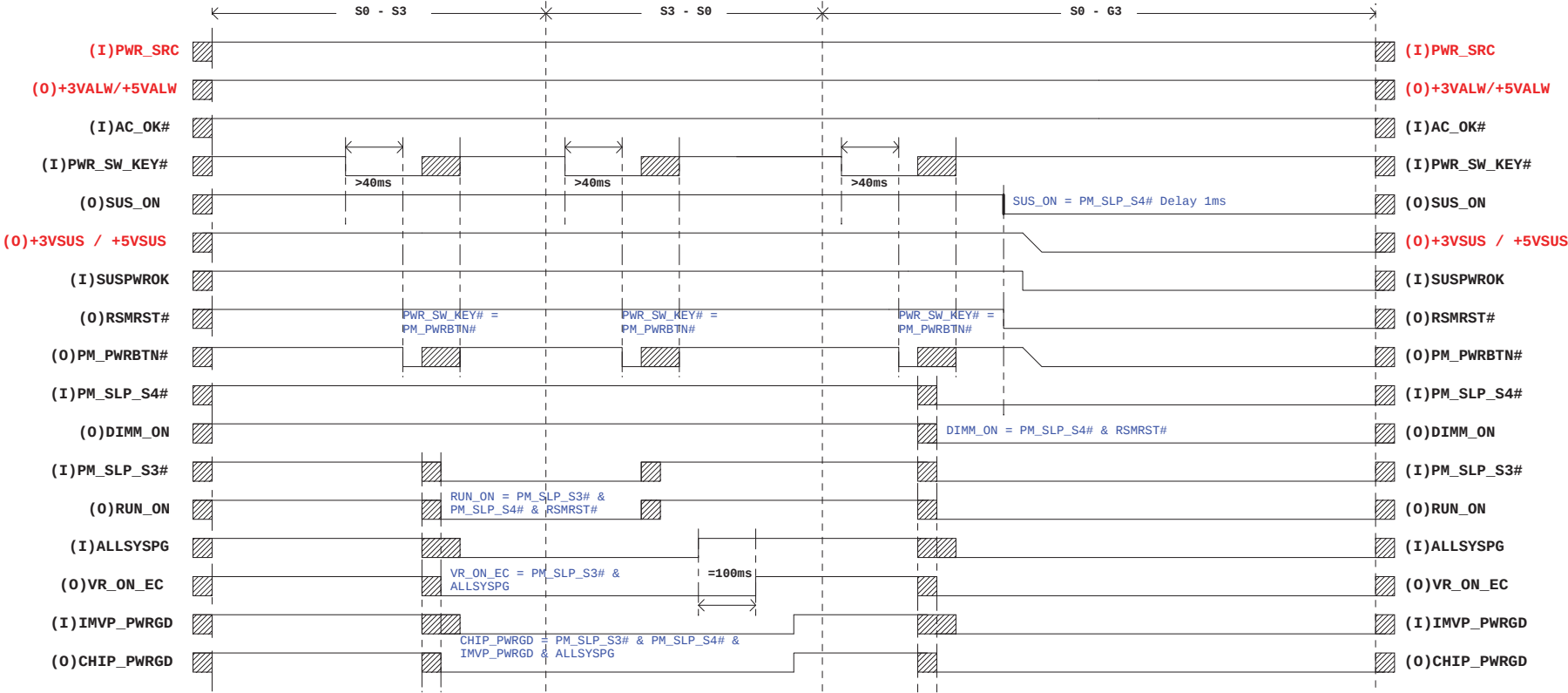
Battery Mode G3 - S0 - G3



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

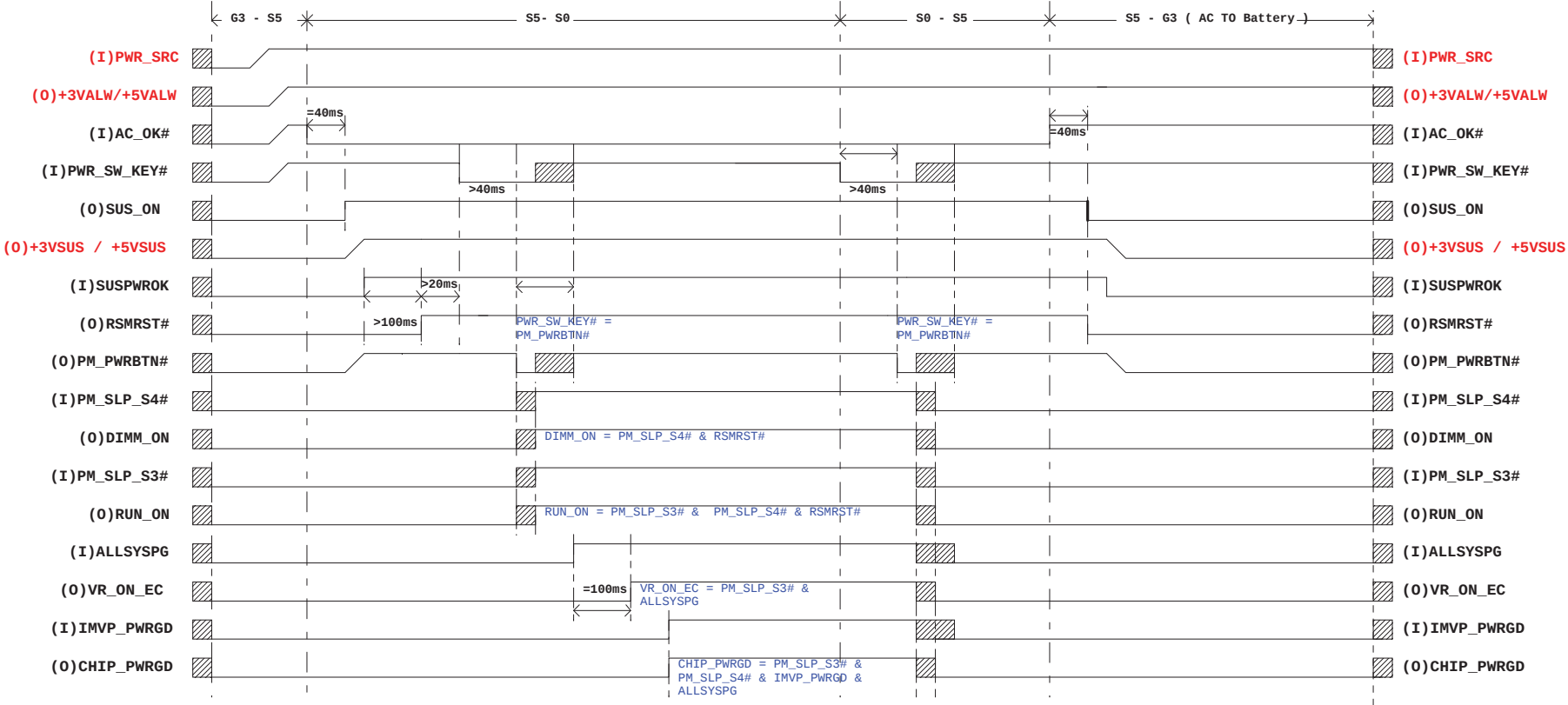
RED: POWER
BLACK: KBC

Battery Mode S0 - S3 - S0



RED: POWER
BLACK: KBC

AC Mode G3 - S5 - S0 - S5 - G3



RED: POWER
BLACK: KBC

