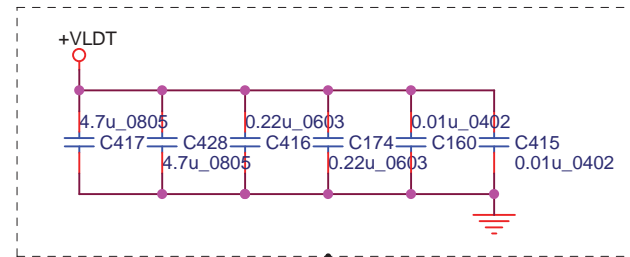
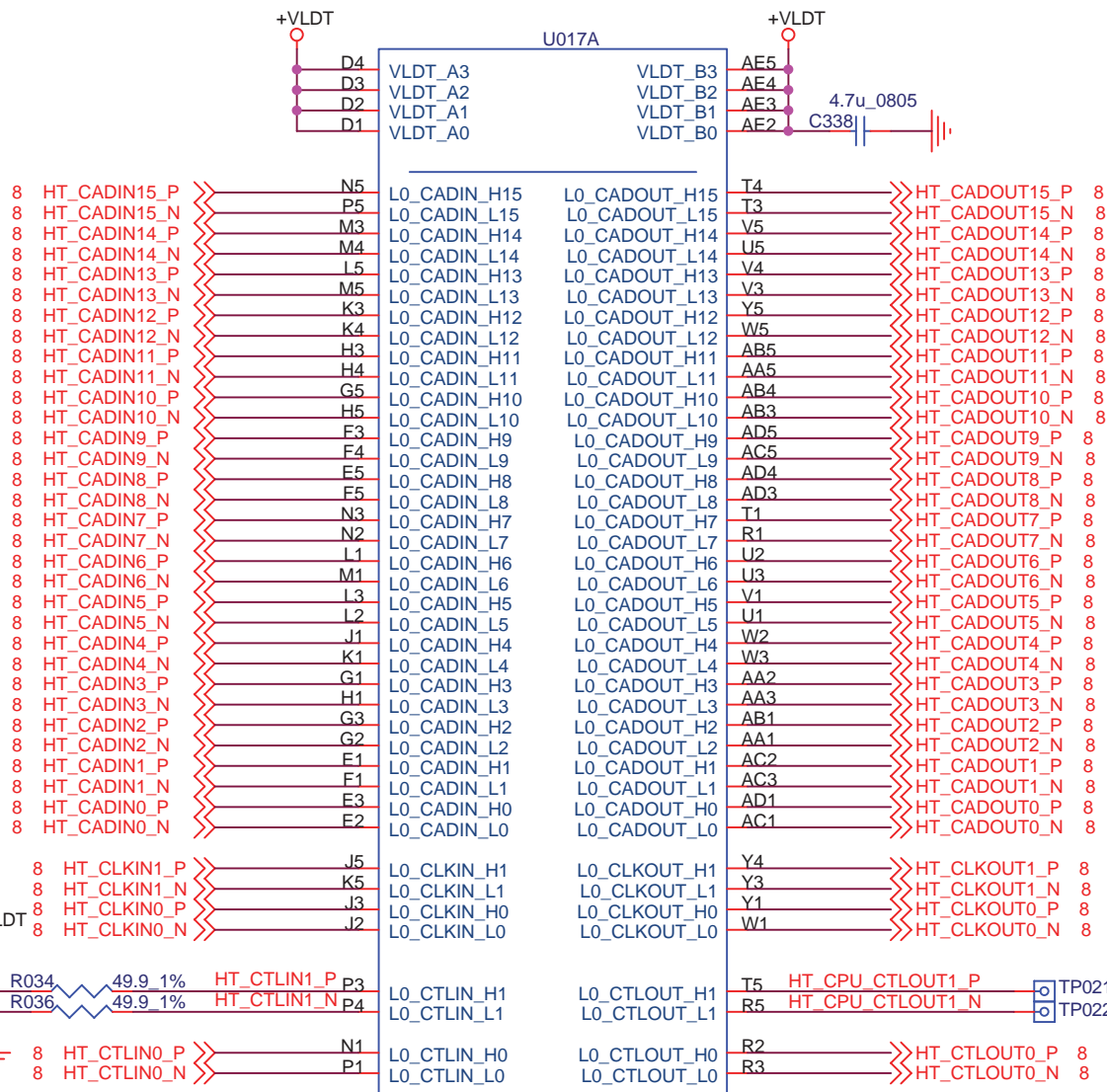


MSI CORPORATION		
File	BLOCK DIAGRAM	
Size	Document Number	Rev
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PROCESSOR HYPERTRANSPORT INTERFACE

VLDT_Ax AND VLDT_Bx ARE CONNECTED TO THE LDT_RUN POWER SUPPLY THROUGH THE PACKAGE OR ON THE DIE. IT IS ONLY CONNECTED ON THE BOARD TO DECOUPLING NEAR THE CPU PACKAGE



LAYOUT: Place bypass cap on topside of board



NEAR HT POWER PINS THAT ARE NOT CONNECTED DIRECTLY TO DOWNSTREAM HT DEVICE, BUT CONNECTED INTERNALLY TO OTHER HT POWER PINS
PLACE CLOSE TO VLDT0 POWER PINS

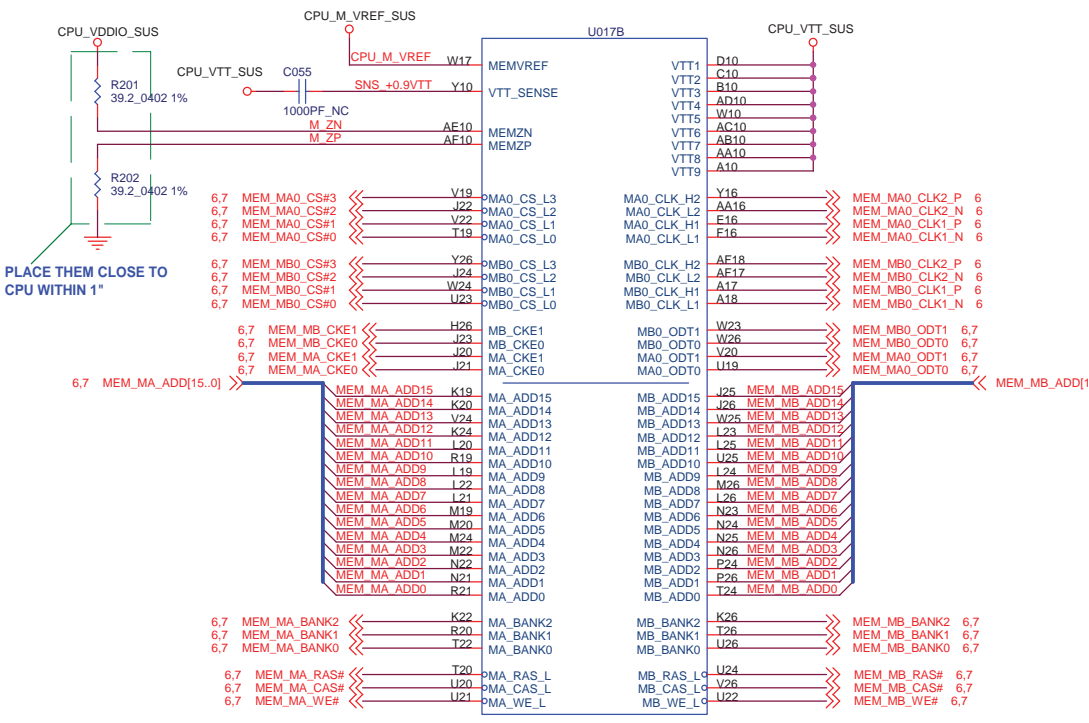
Athlon 64 S1 Processor Socket

MSI CORPORATION		
Title		
AMD S1 HT I/F		
Size	Document Number	Rev
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VDD_VTT_SUS CPU IS CONNECTED TO THE VDD_VTT_SUS POWER SUPPLY THROUGH THE PACKAGE OR ON THE DIE. IT IS ONLY CONNECTED ON THE BOARD TO DECOUPLING NEAR THE CPU PACKAGE

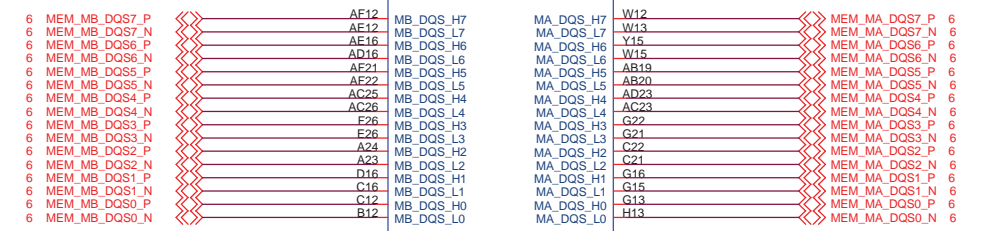
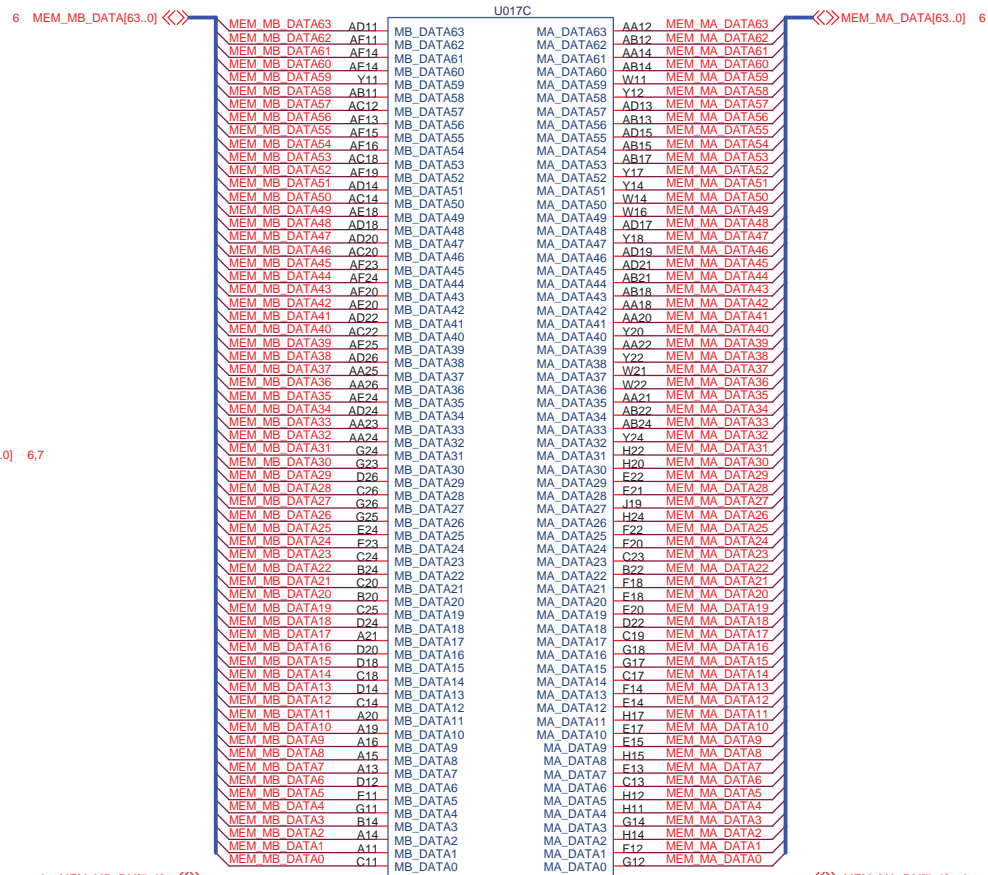
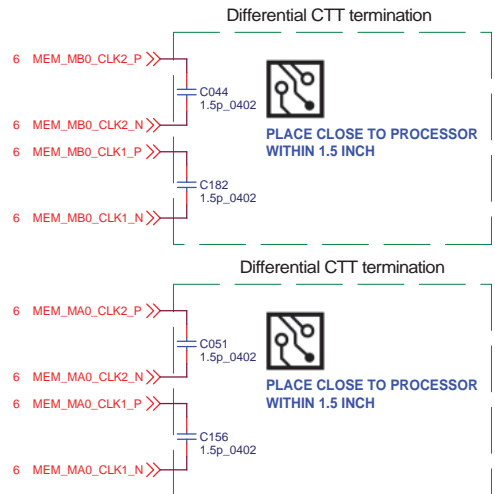
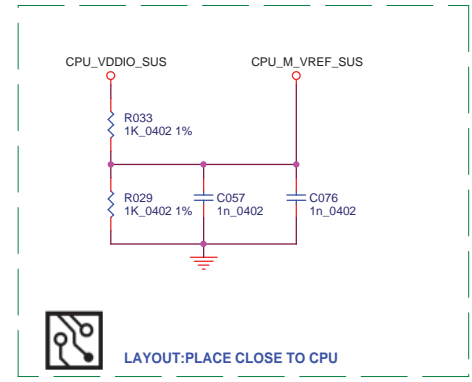
CPU_M_VREF 15MIL trace, 20MIL space, shorter than 1"
 VTT Sense should be routed as a 10-mil trace with 10 mils spacing.

Processor DDR2 Memory Interface



PLACE THEM CLOSE TO CPU WITHIN 1"

LAYOUT: PLACE CLOSE TO CPU



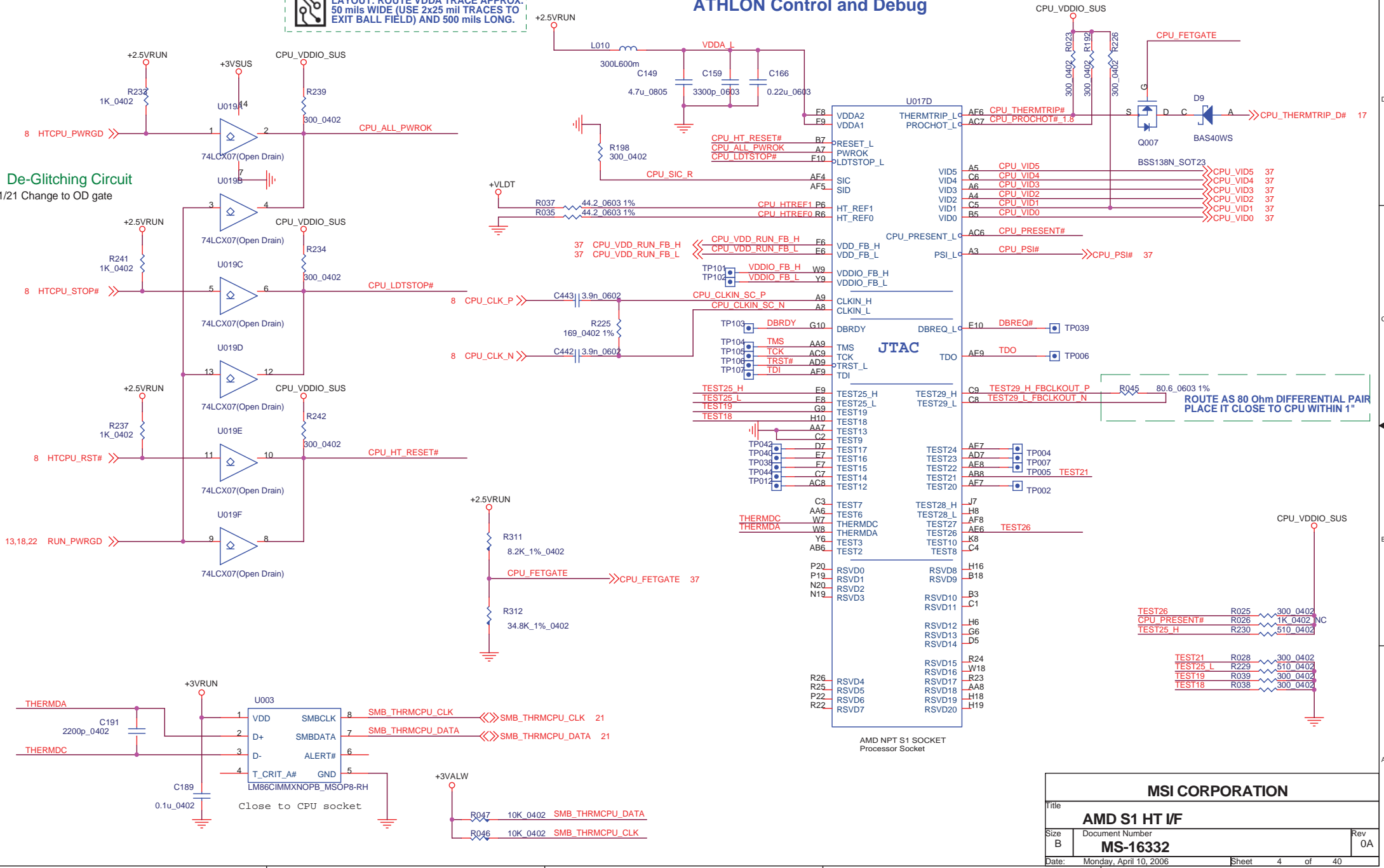
MSI CORPORATION			
AMD S1 HT I/F			
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Date:	Monday, April 10, 2006	Sheet	3 of 40

LAYOUT: ROUTE VDDA TRACE APPROX. 50 mils WIDE (USE 2x25 mil TRACES TO EXIT BALL FIELD) AND 500 mils LONG.

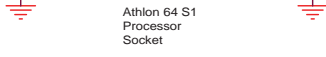
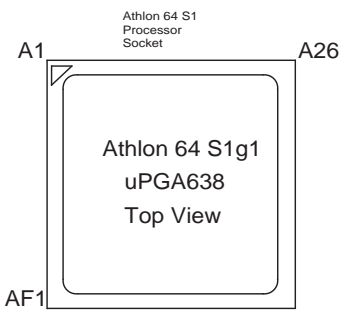
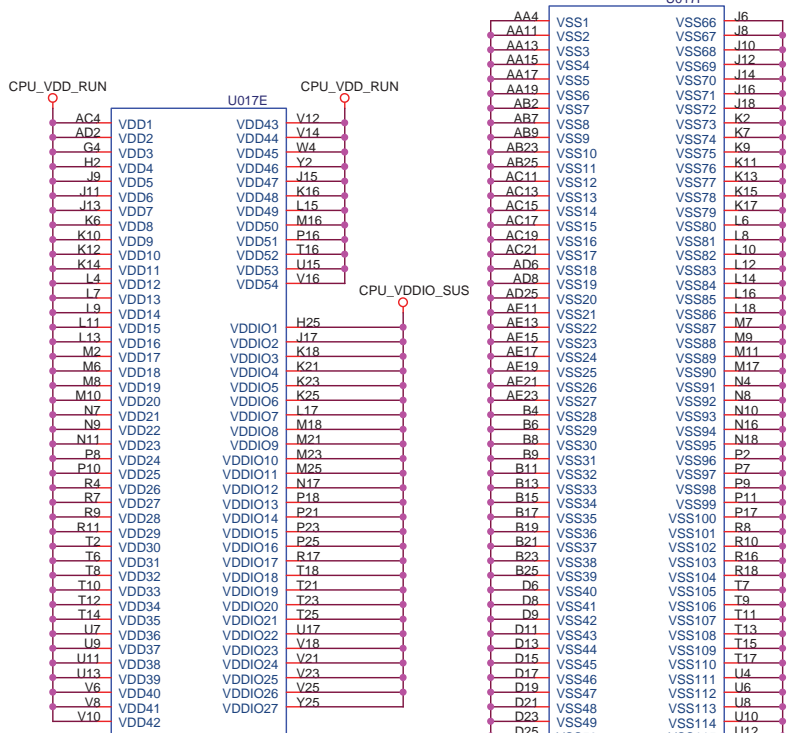
ATHLON Control and Debug

De-Glitching Circuit

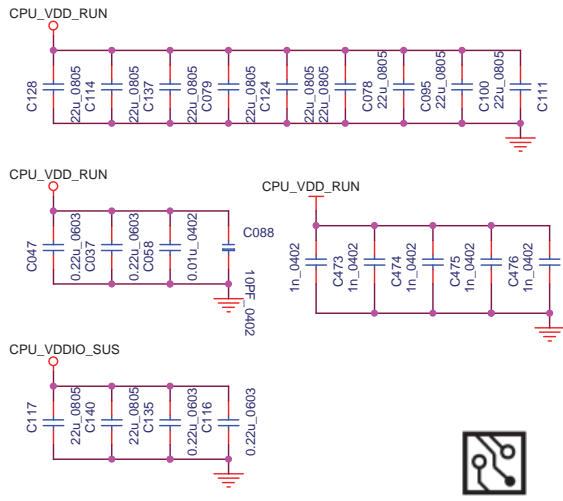
1/21 Change to OD gate



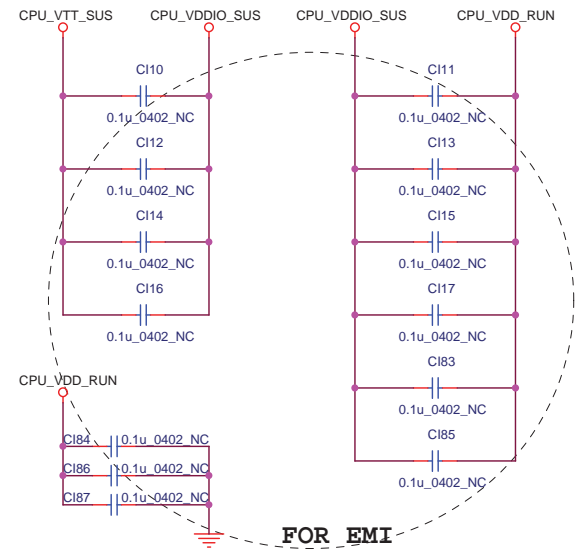
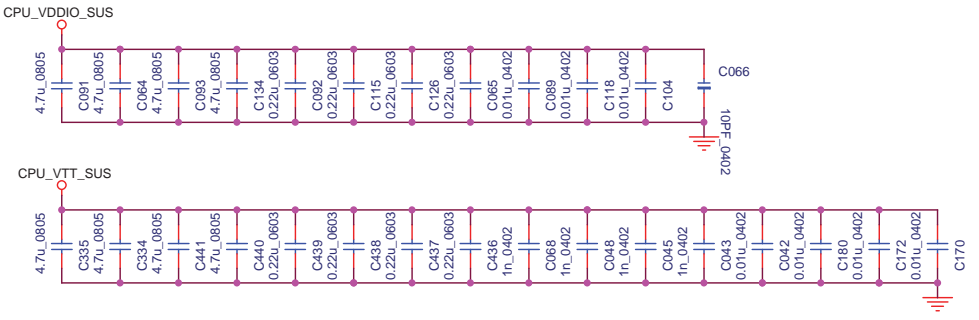
MSI CORPORATION		
AMD S1 HT I/F		
Title		
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BOTTOMSIDE DECOUPLING

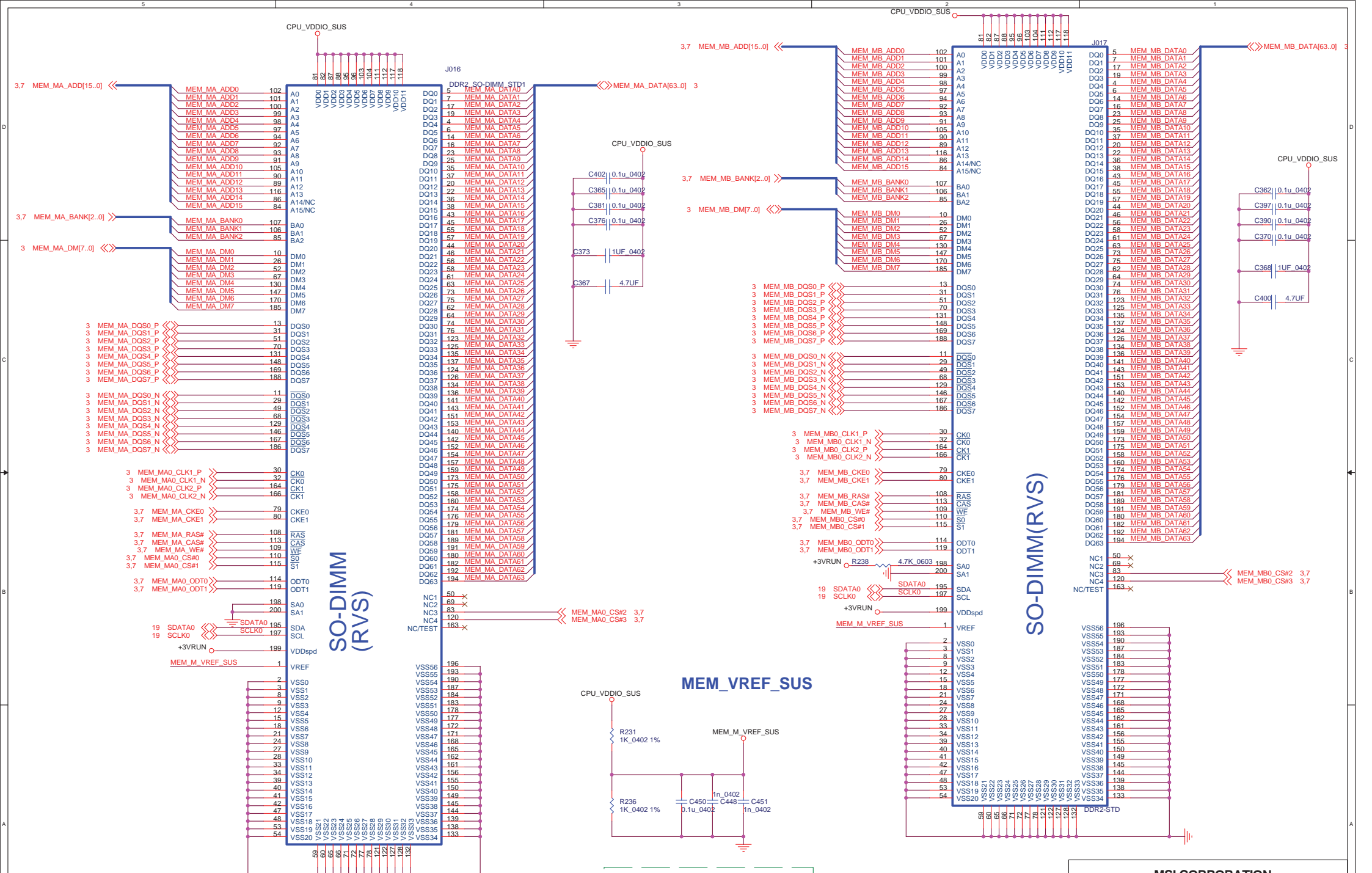


DECOUPLING BETWEEN PROCESSOR AND DIMMs PLACE CLOSE TO PROCESSOR AS POSSIBLE



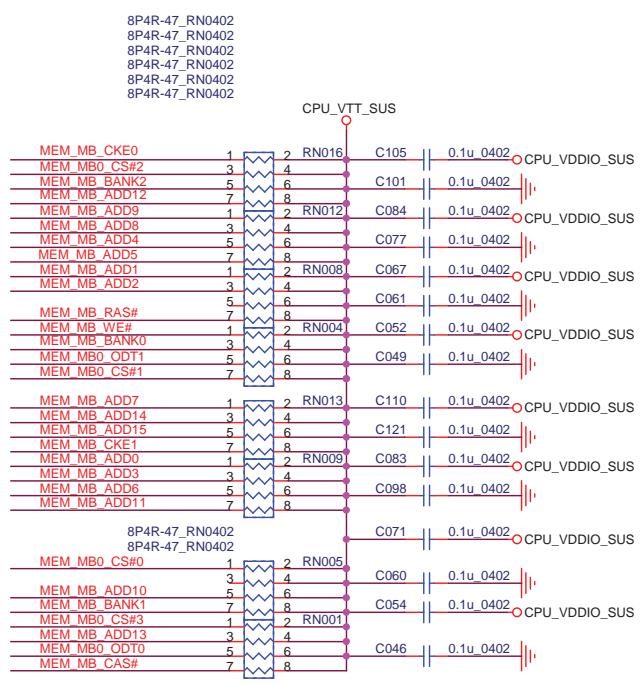
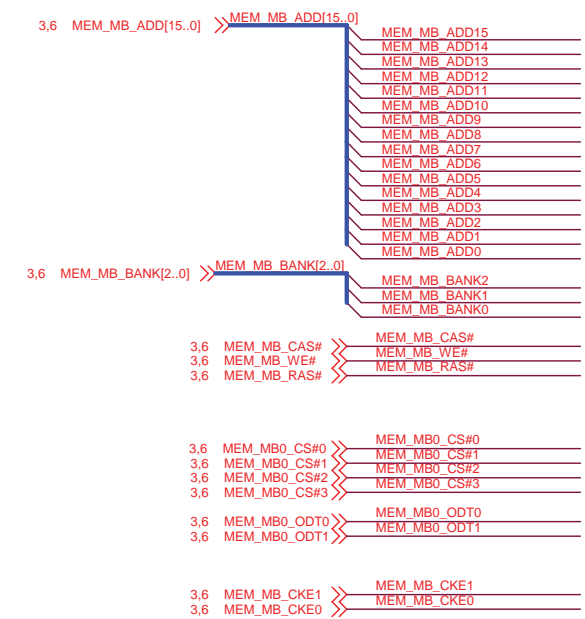
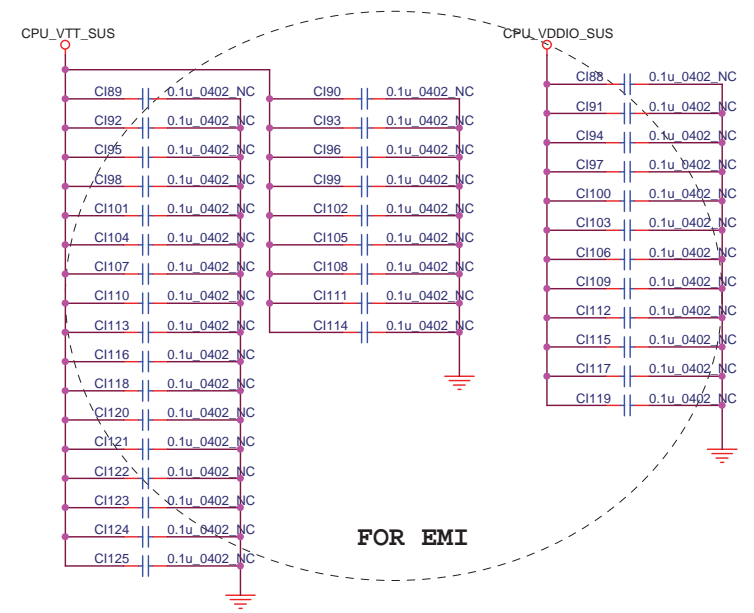
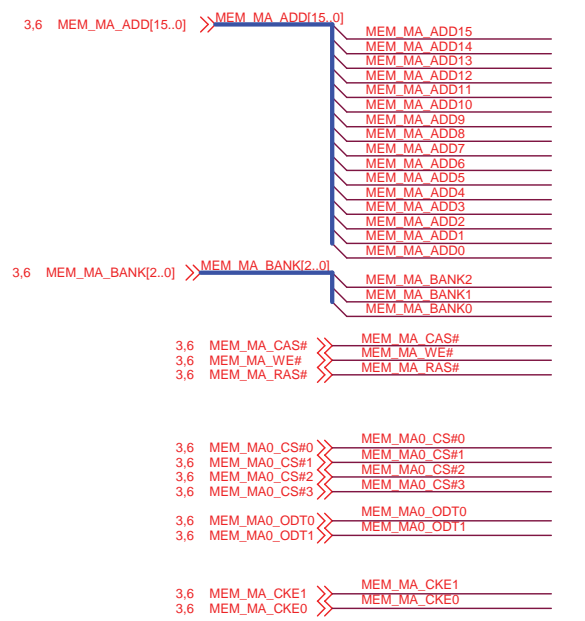
PROCESSOR POWER AND GROUND

MSI CORPORATION		
Title	AMD S1 HT I/F	
Size B	Document Number	Rev OA
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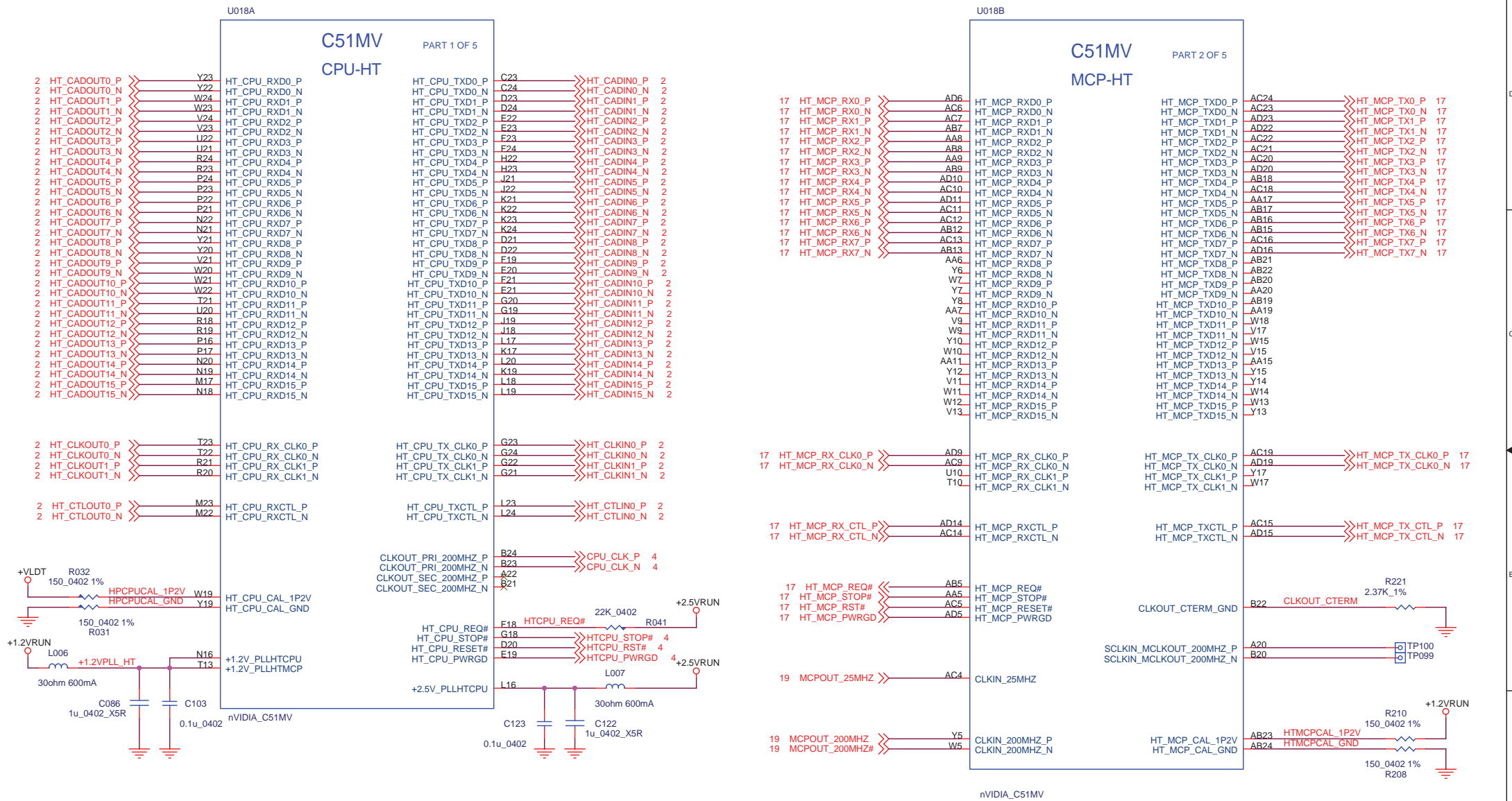


LAYOUT: PLACE CLOSE TO DIMMs

MSI CORPORATION			
DDR2 SODIMMS: A/B CHANNEL			
Title			
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MSI CORPORATION			
Title			
DDR2 SODIMMS TERMINATIONS			
Size	Document Number	Rev	
Custom	MS-16332	OA	
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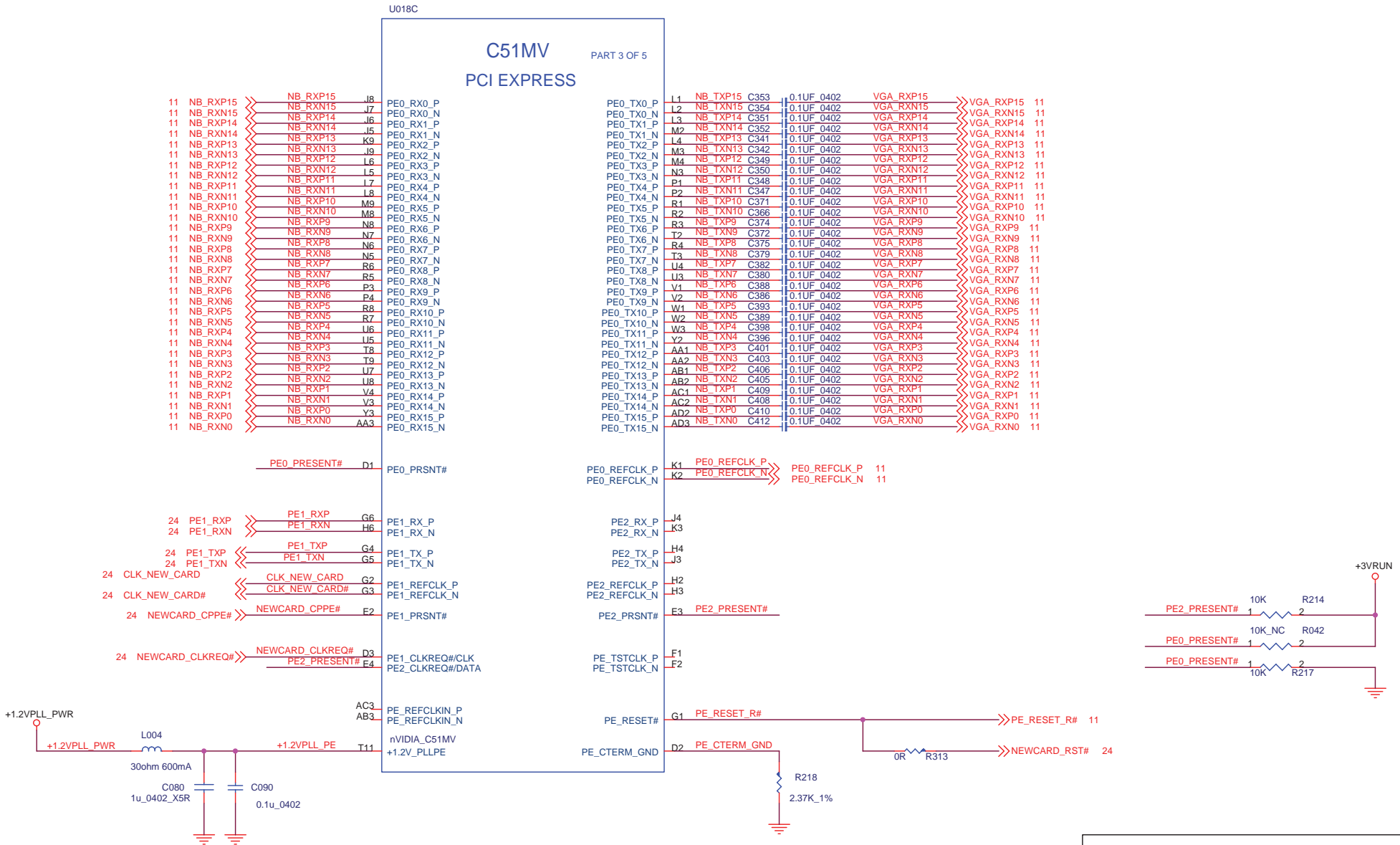
HPCPUCAL_1P2V
HPCPUCAL_GND

Place within 500 mils of ball,
route 5/10

HTMCPAL_1P2V
HTMCPAL_GND

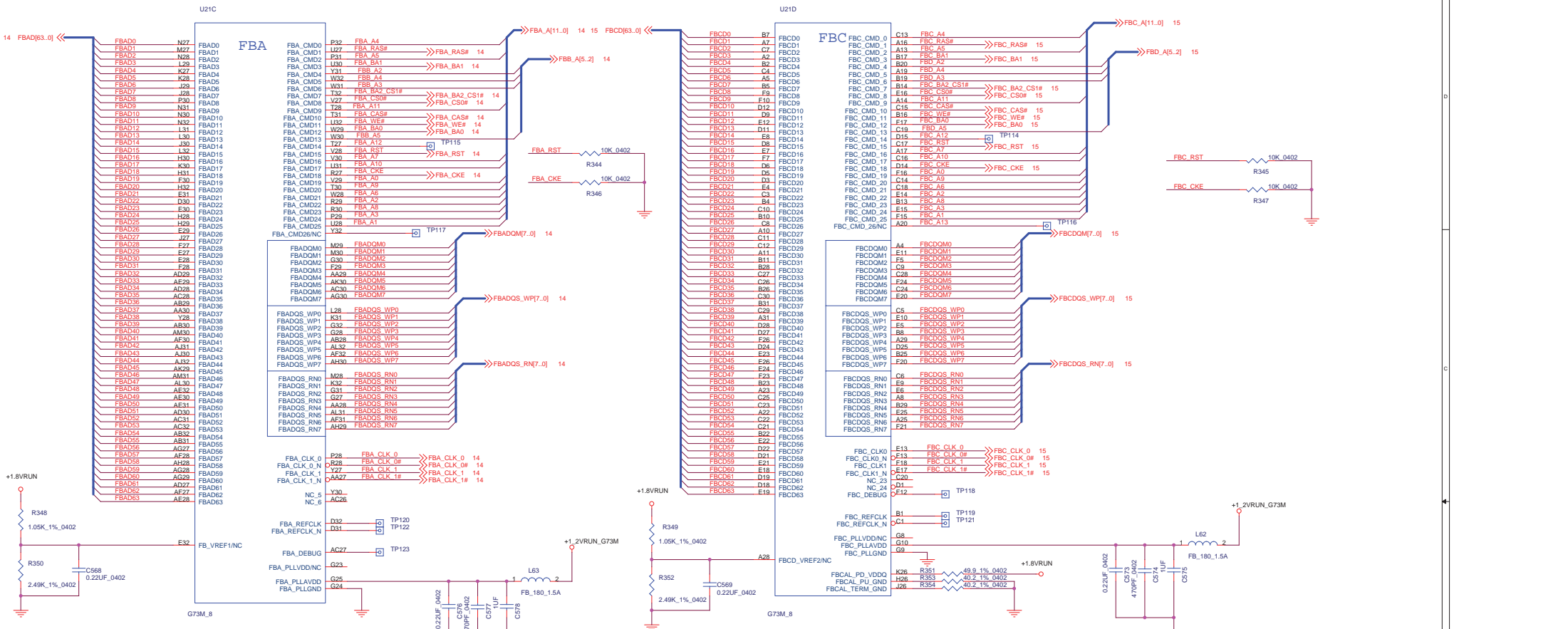
Place within 500 mils
of ball; route
5/5/10.

MSI CORPORATION		
C51MV/D HT CPU/SB		
Title		
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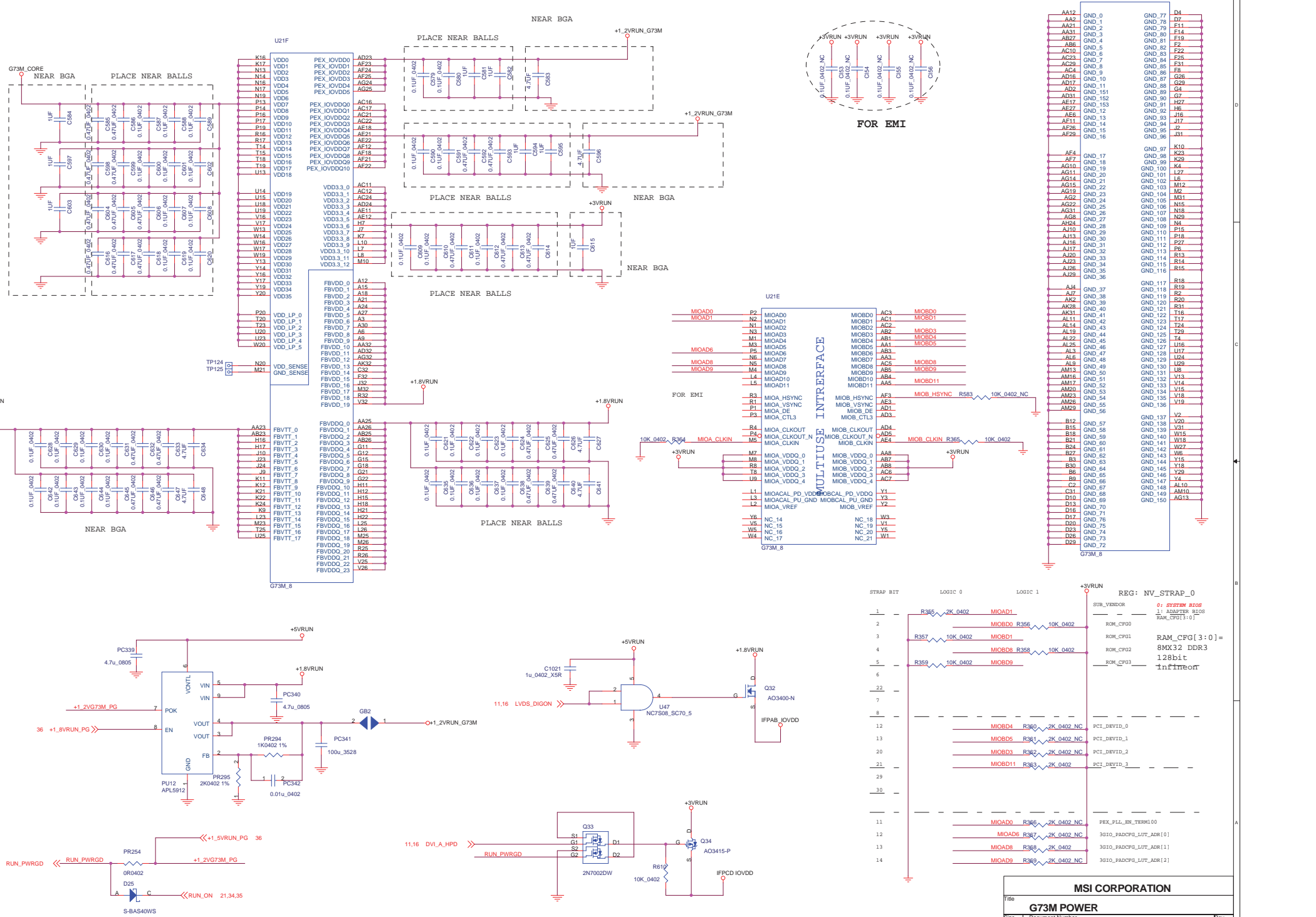


PE_CTERM_GND Place 2.37 kΩ 1% pull down to GND within 500 mils of C51

MSI CORPORATION		
C51MV/D PCI-E GRAPH		
Title		
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MSI CORPORATION		
G73M MEM INTERFACE		
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U21F	U21E	U21G
K16	AA12	GND_0
K17	AA1	GND_77
K18	AA2	GND_78
K19	AA3	GND_79
K20	AA4	GND_80
K21	AA5	GND_81
K22	AA6	GND_82
K23	AA7	GND_83
K24	AA8	GND_84
K25	AA9	GND_85
K26	AA10	GND_86
K27	AA11	GND_87
K28	AA12	GND_88
K29	AA13	GND_89
K30	AA14	GND_90
K31	AA15	GND_91
K32	AA16	GND_92
K33	AA17	GND_93
K34	AA18	GND_94
K35	AA19	GND_95
K36	AA20	GND_96
K37	AA21	GND_97
K38	AA22	GND_98
K39	AA23	GND_99
K40	AA24	GND_100
K41	AA25	GND_101
K42	AA26	GND_102
K43	AA27	GND_103
K44	AA28	GND_104
K45	AA29	GND_105
K46	AA30	GND_106
K47	AA31	GND_107
K48	AA32	GND_108
K49	AA33	GND_109
K50	AA34	GND_110
K51	AA35	GND_111
K52	AA36	GND_112
K53	AA37	GND_113
K54	AA38	GND_114
K55	AA39	GND_115
K56	AA40	GND_116
K57	AA41	GND_117
K58	AA42	GND_118
K59	AA43	GND_119
K60	AA44	GND_120
K61	AA45	GND_121
K62	AA46	GND_122
K63	AA47	GND_123
K64	AA48	GND_124
K65	AA49	GND_125
K66	AA50	GND_126
K67	AA51	GND_127
K68	AA52	GND_128
K69	AA53	GND_129
K70	AA54	GND_130
K71	AA55	GND_131
K72	AA56	GND_132
K73	AA57	GND_133
K74	AA58	GND_134
K75	AA59	GND_135
K76	AA60	GND_136
K77	AA61	GND_137
K78	AA62	GND_138
K79	AA63	GND_139
K80	AA64	GND_140
K81	AA65	GND_141
K82	AA66	GND_142
K83	AA67	GND_143
K84	AA68	GND_144
K85	AA69	GND_145
K86	AA70	GND_146
K87	AA71	GND_147
K88	AA72	GND_148
K89	AA73	GND_149
K90	AA74	GND_150
K91	AA75	GND_151
K92	AA76	GND_152
K93	AA77	GND_153
K94	AA78	GND_154
K95	AA79	GND_155
K96	AA80	GND_156
K97	AA81	GND_157
K98	AA82	GND_158
K99	AA83	GND_159
K100	AA84	GND_160

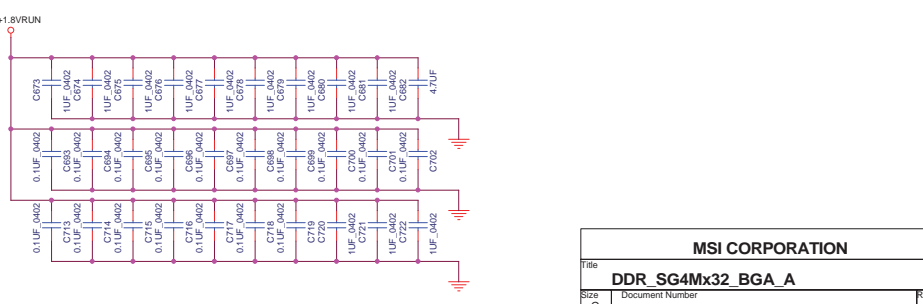
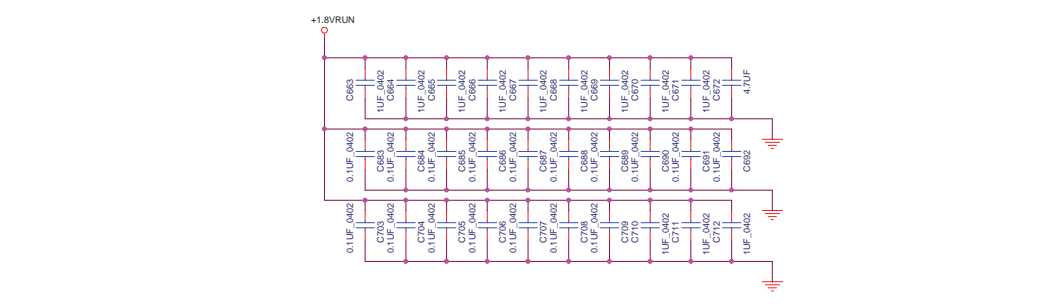
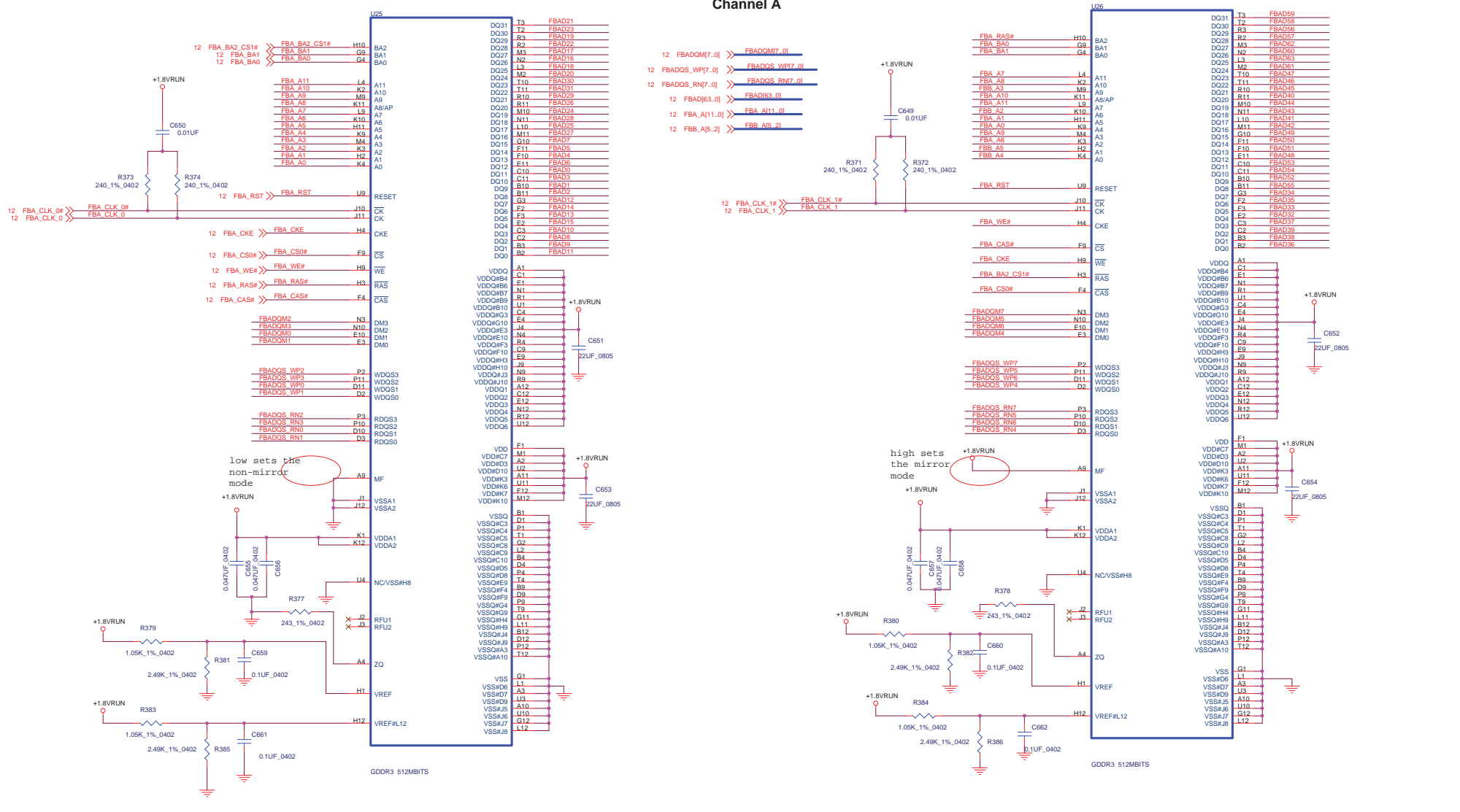
Strap Bit	Logic 0	Logic 1	REG: NV_STRAP_0
1	R365	MIOAD1	SUB_VENDOR
2	R357	MIOBD0	ROM_CPG0
3	R357	MIOBD1	ROM_CPG1
4	R358	MIOBD8	ROM_CPG2
5	R359	MIOBD9	ROM_CPG3
6			
7			
8			
9			
10			
11			
12	R360	MIOBD4	PCI_DEVID_0
13	R361	MIOBD5	PCI_DEVID_1
14	R362	MIOBD3	PCI_DEVID_2
15	R363	MIOBD11	PCI_DEVID_3
16			
17			
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35			

MSI CORPORATION

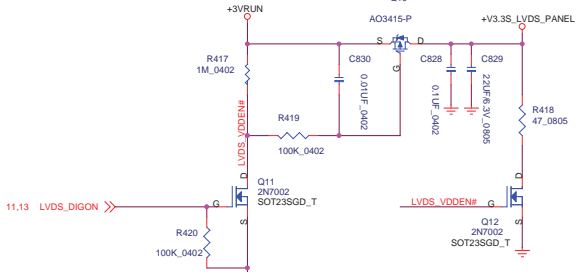
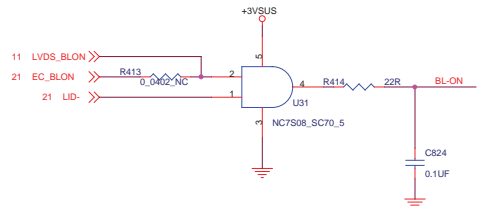
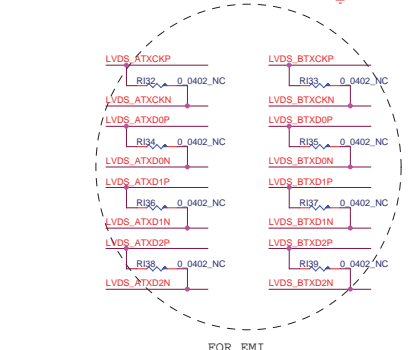
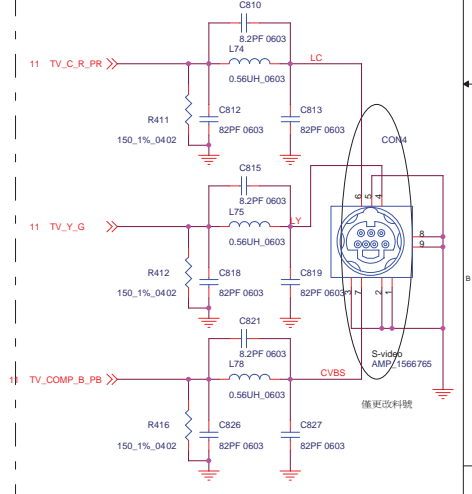
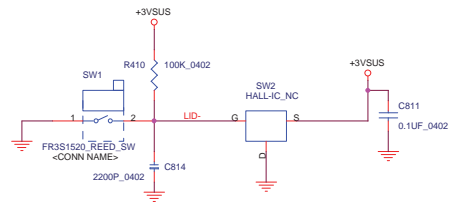
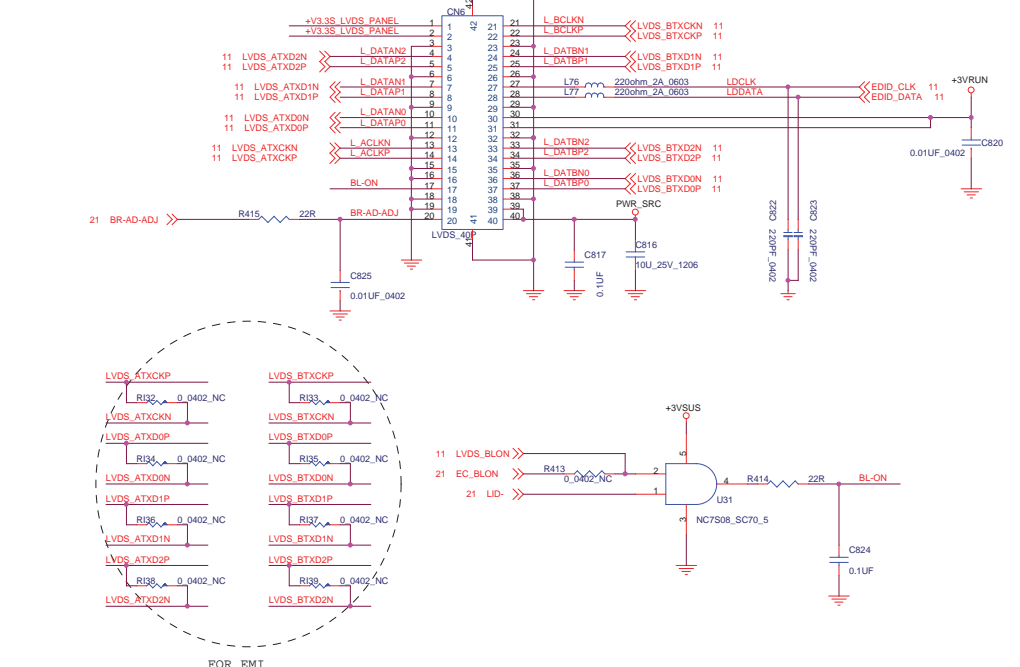
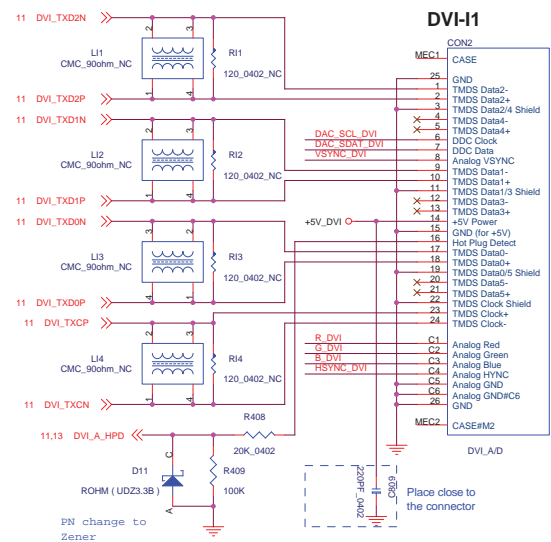
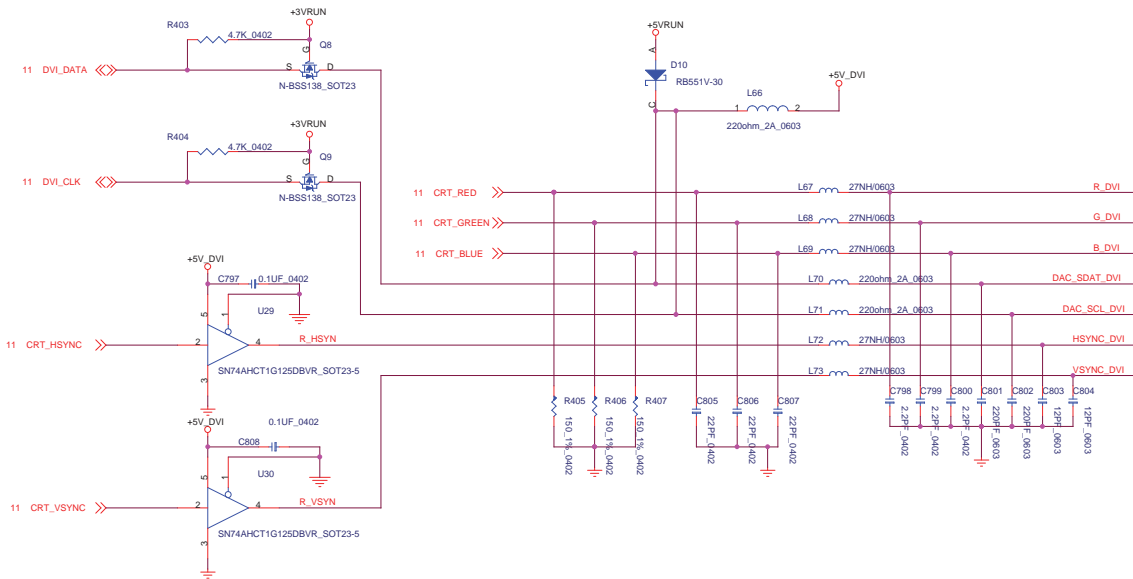
File: **G73M POWER**
 Size C Document Number: **MS-16332**
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256 Mbit GDDR3 Channels A and B Rank 1

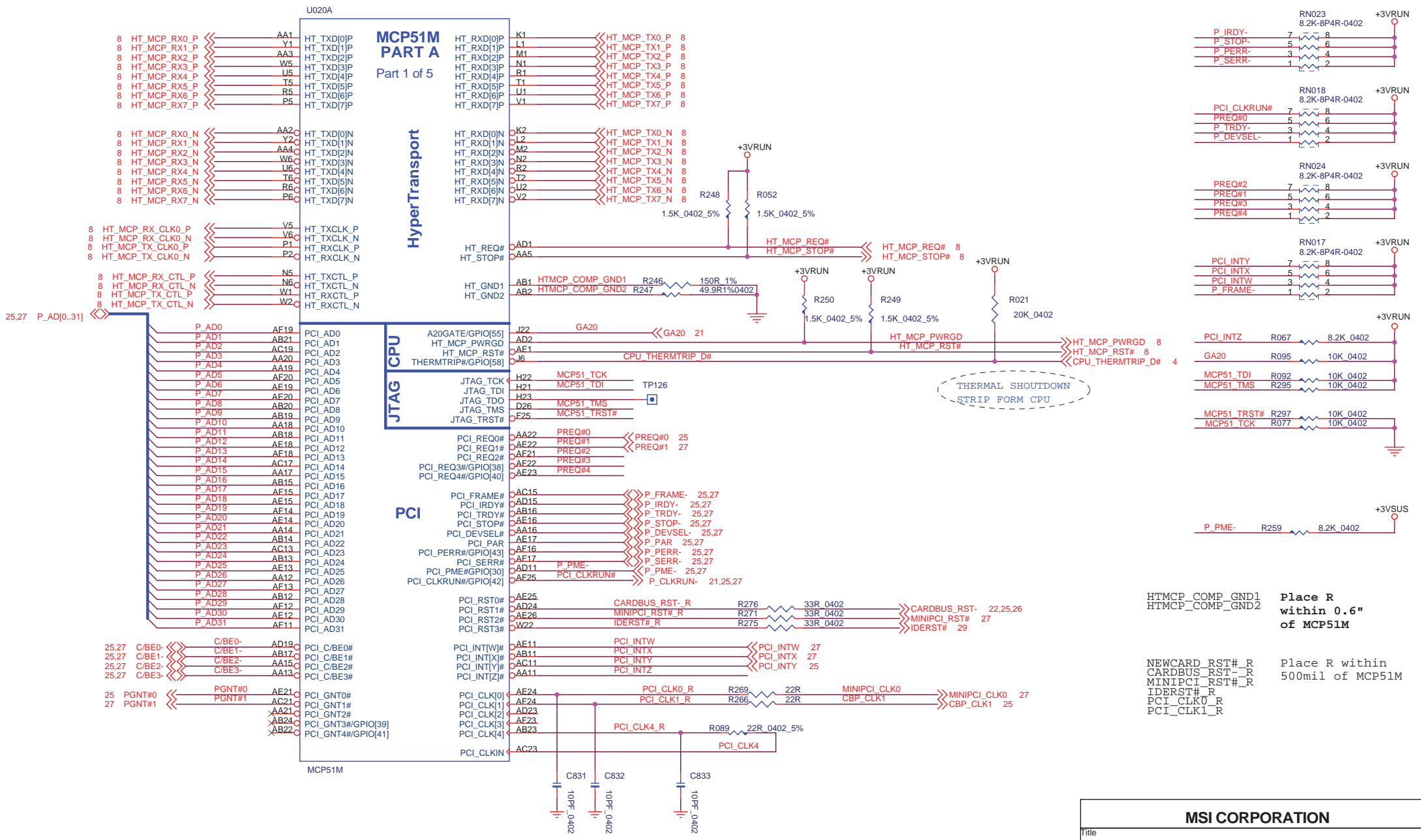
Channel A



MSI CORPORATION		
File	DDR_SG4Mx32_BGA_A	
Size	Document Number	Rev
C	MS-16332	0.A
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MSI CORPORATION			
File	DVI & LVDS & TV conn. & BL		
Size	Document Number	Rev	
C	MS-16332	6	
Date	ModDate: 10/20/06	Sheet	16 of 40



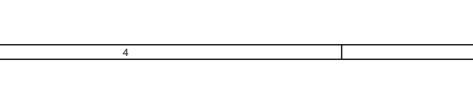
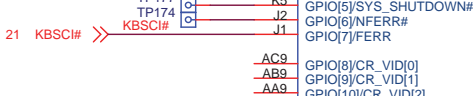
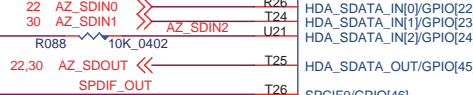
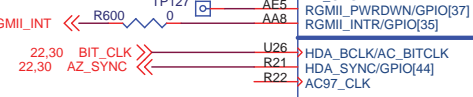
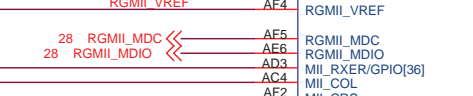
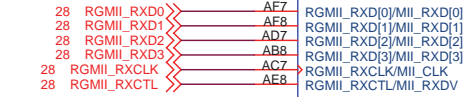
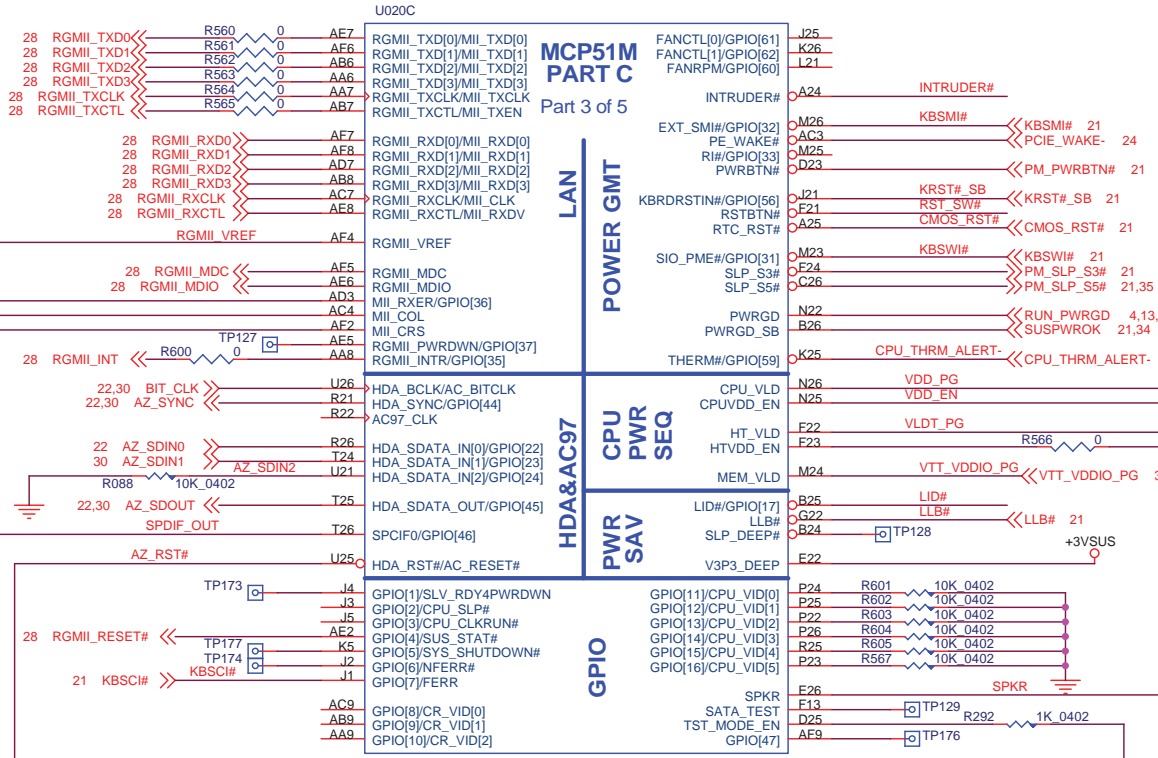
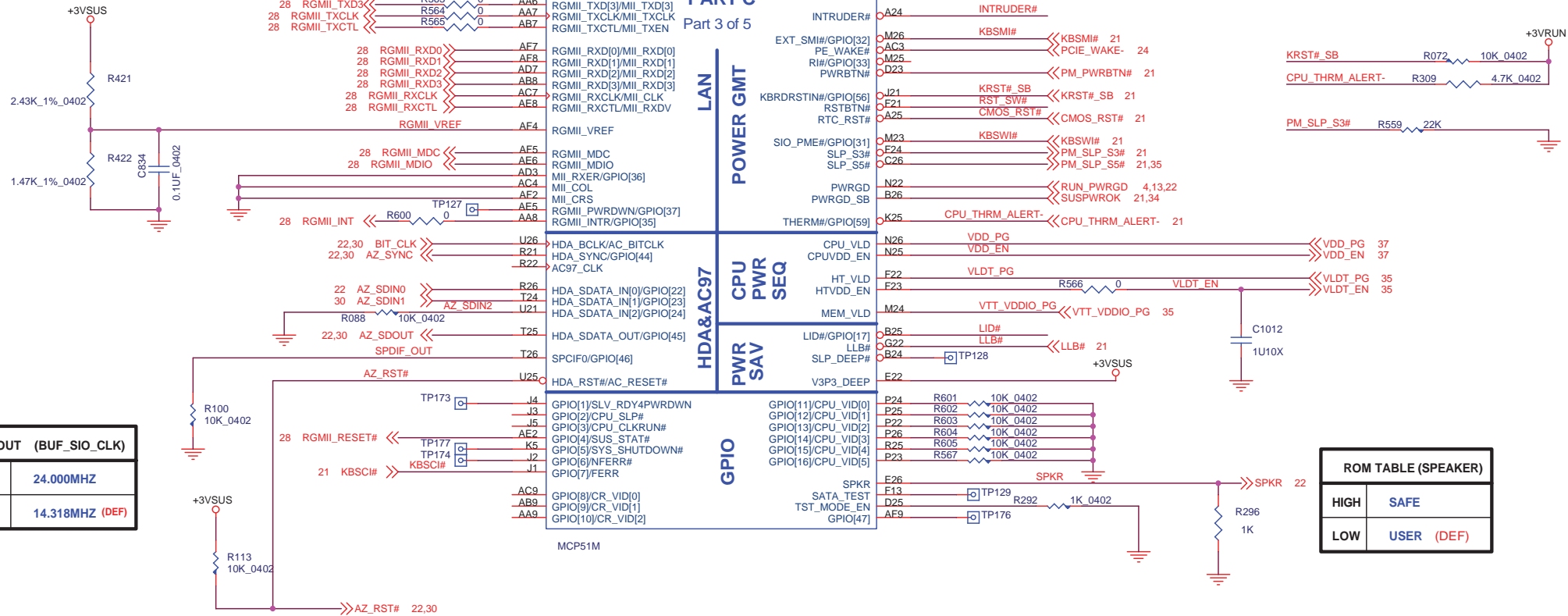
MSI CORPORATION		
MCP51M (HT/PCI/CPU)		
Size B	Document Number MS-16332	Rev 0A
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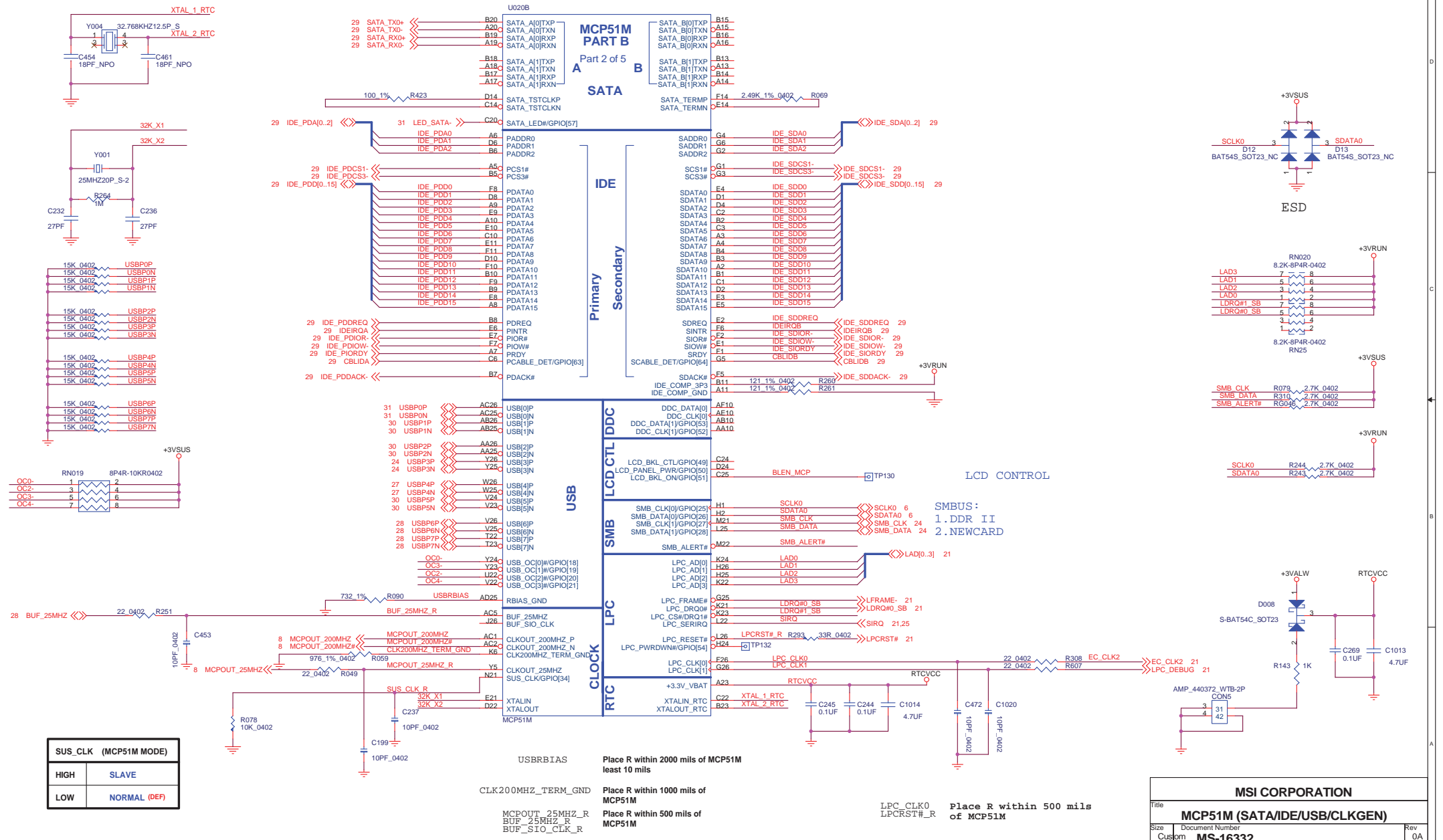
SPDIF_OUT (BUF_SIO_CLK)	
HIGH	24.000MHZ
LOW	14.318MHZ (DEF)

AZ_RST# (INTERNAL LAN)	
HIGH	RGMI (DEF)
LOW	MII

MSI CORPORATION		
Title	MCP51M (LAN/AC97/PMT/GPIO)	
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ROM TABLE (SPEAKER)	
HIGH	SAFE
LOW	USER (DEF)





SUS_CLK (MCP51M MODE)	
HIGH	SLAVE
LOW	NORMAL (DEF)

USBRBIAS Place R within 2000 mils of MCP51M

CLK200MHZ_TERM_GND Place R within 1000 mils of MCP51M

MCPOUT_25MHZ_R Place R within 500 mils of MCP51M

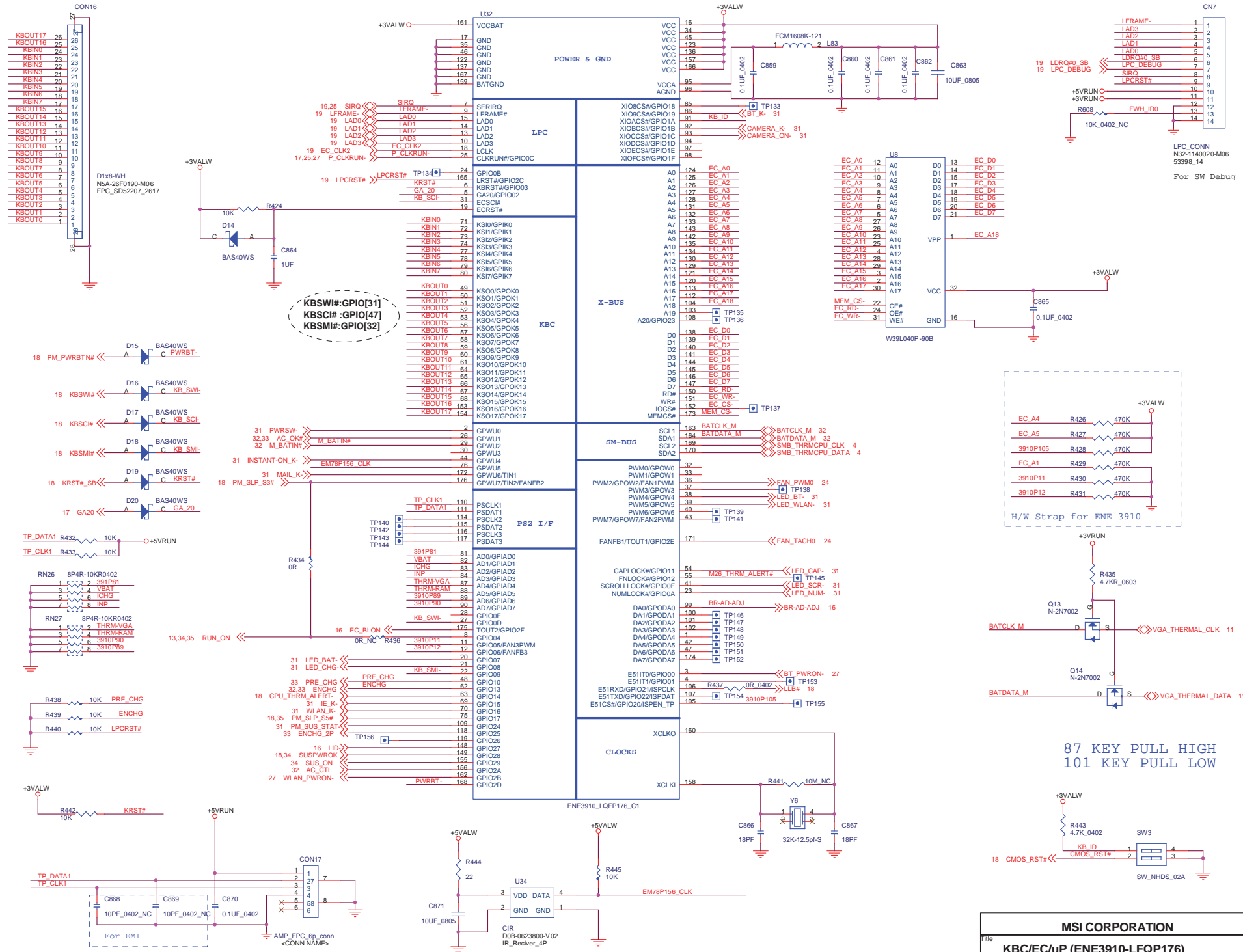
BUF_25MHZ_R

BUF_SIO_CLK

LPC_CLK0 Place R within 500 mils of MCP51M

LPCRST#_R

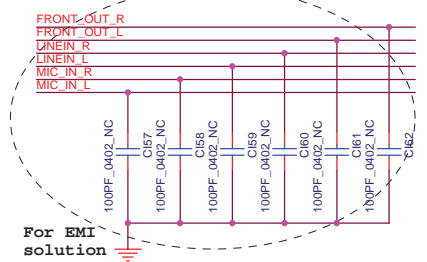
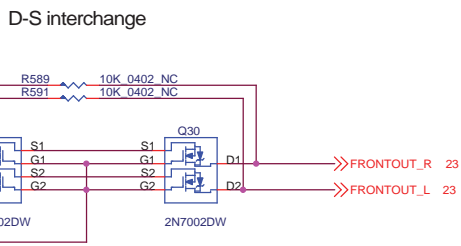
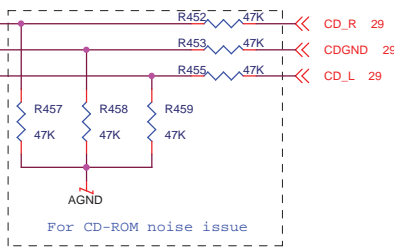
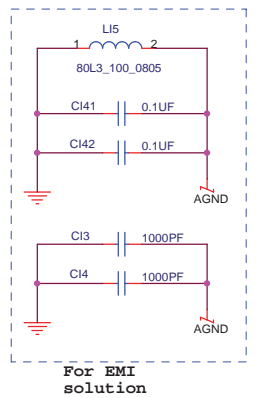
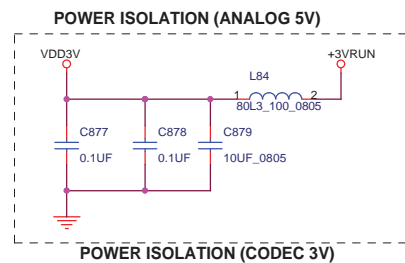
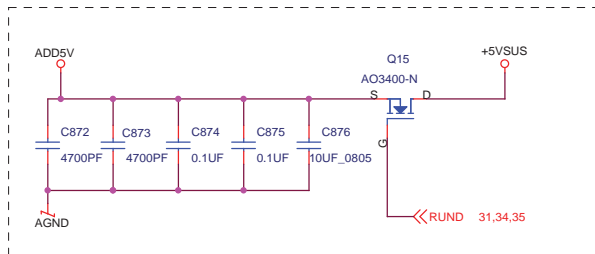
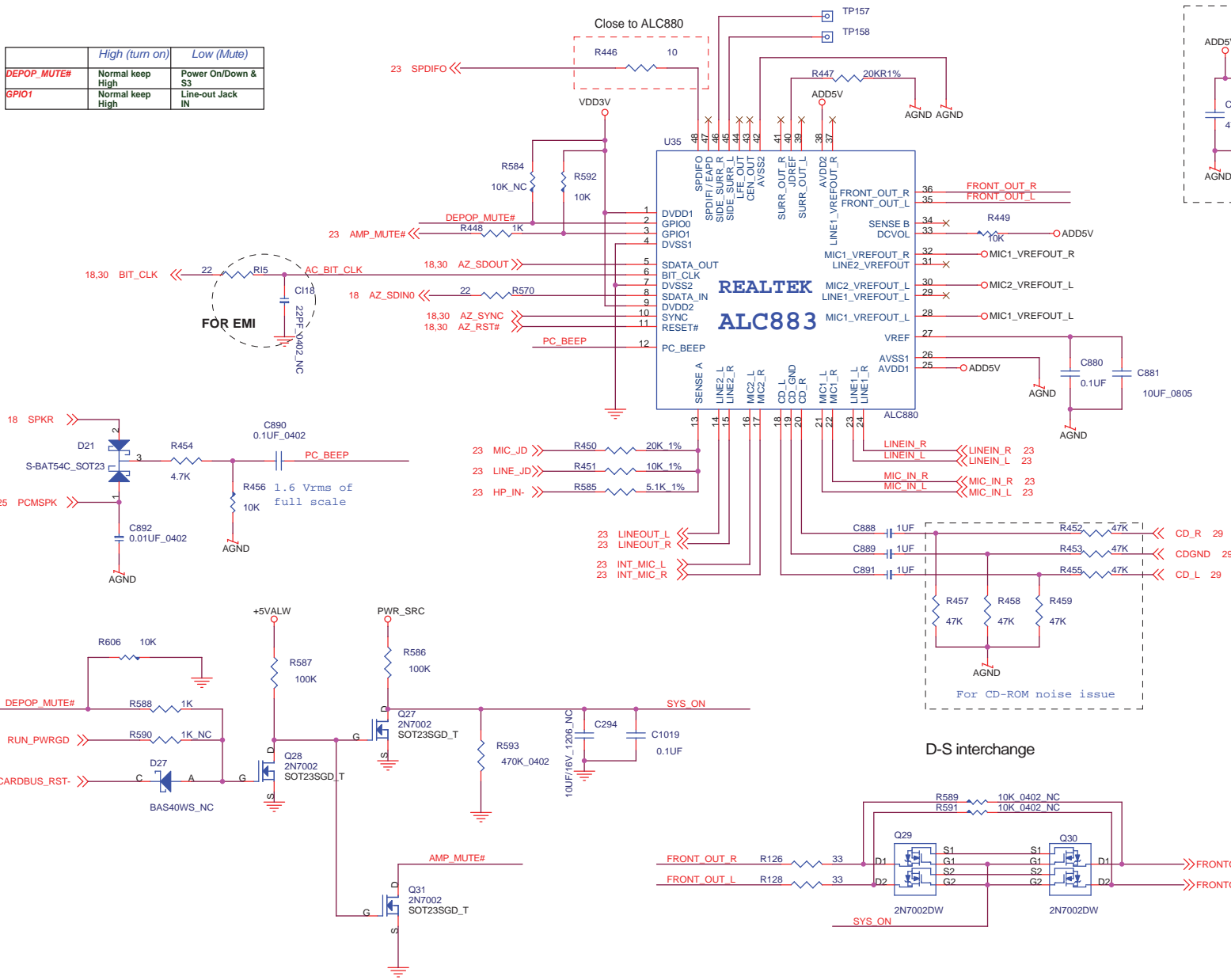
MSI CORPORATION			
Title	MCP51M (SATA/IDE/USB/CLKGEN)		
Size	Document Number	Rev	
Custom	MS-16332	0A	
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<http://laptop-motherboard-schematic.blogspot.com/>

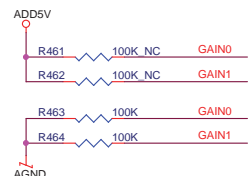
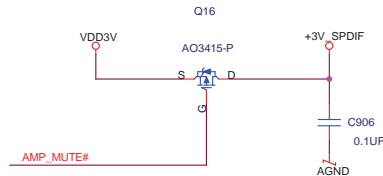
MSI CORPORATION		
Title	KBC/EC/uP (ENE3910-LFQP176)	
Size	Document Number	Rev
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	High (turn on)	Low (Mute)
DEPOP_MUTE#	Normal keep High	Power On/Down & S3
GPIO1	Normal keep High	Line-out Jack IN

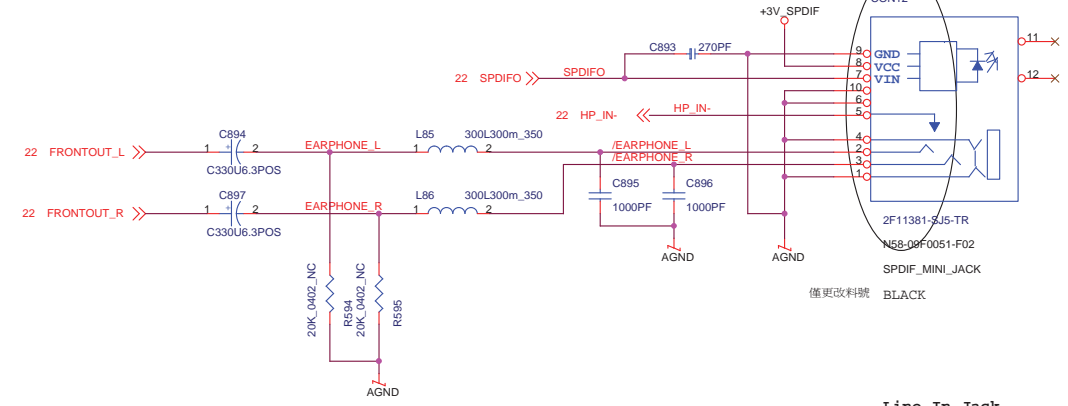
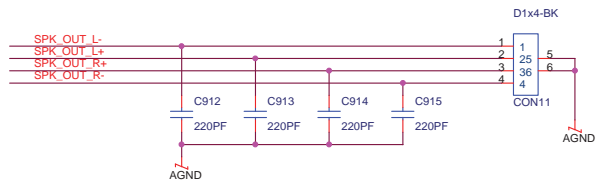
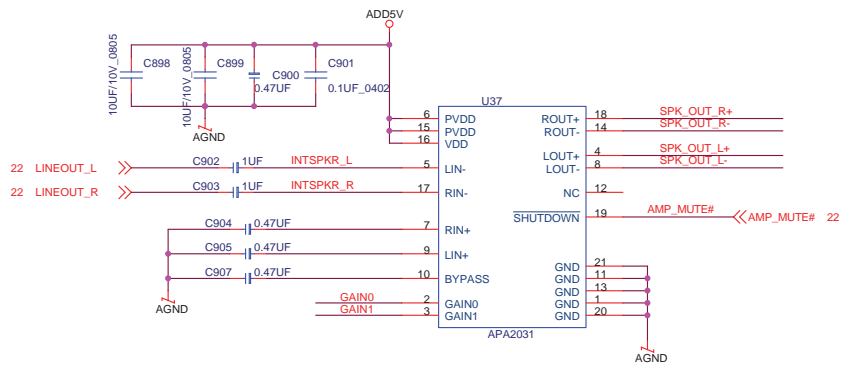


POWER ON/OFF/S3/S4 NOISE CONTROL

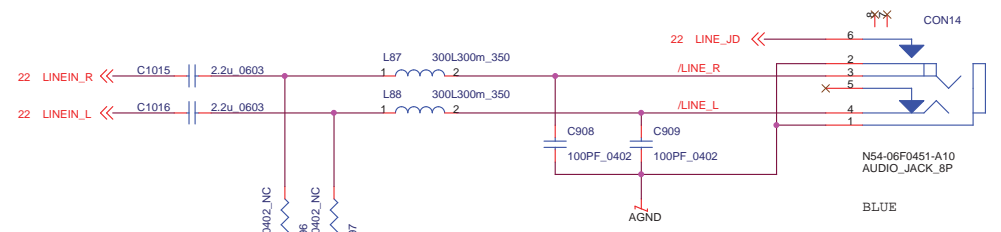
MSI CORPORATION		
Title Azalia CODEC(AL883)		
Size	Document Number	Rev
Custom	MS-16322	1.0
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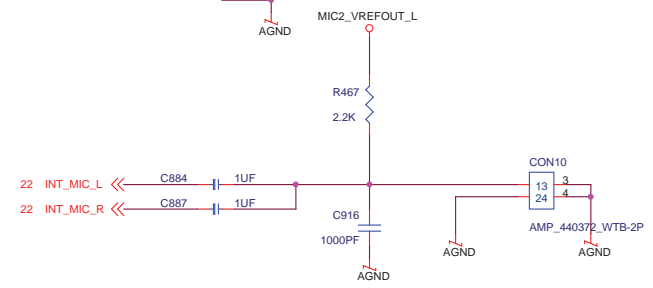
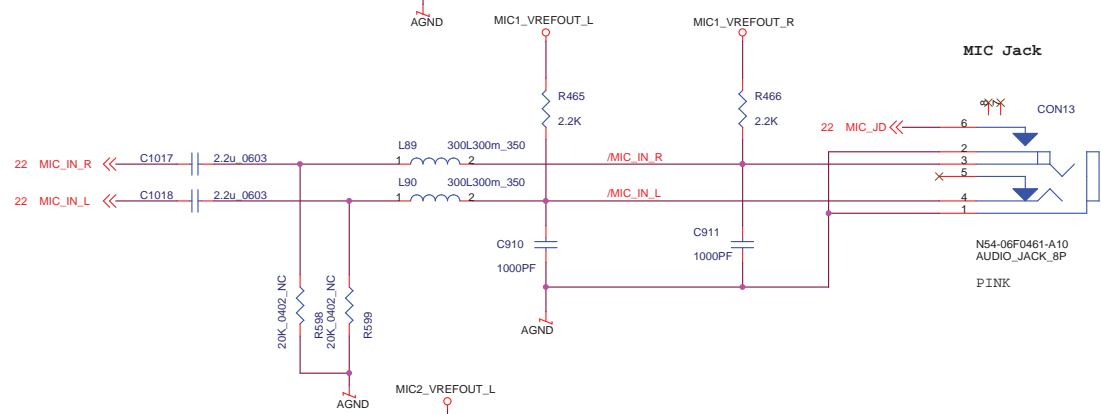
Av	GAIN0	GAIN1
6dB	0	0
10dB	0	1
15.6dB	1	0
21.6dB	1	1
4.3dB	X	X



Line In Jack



MIC Jack

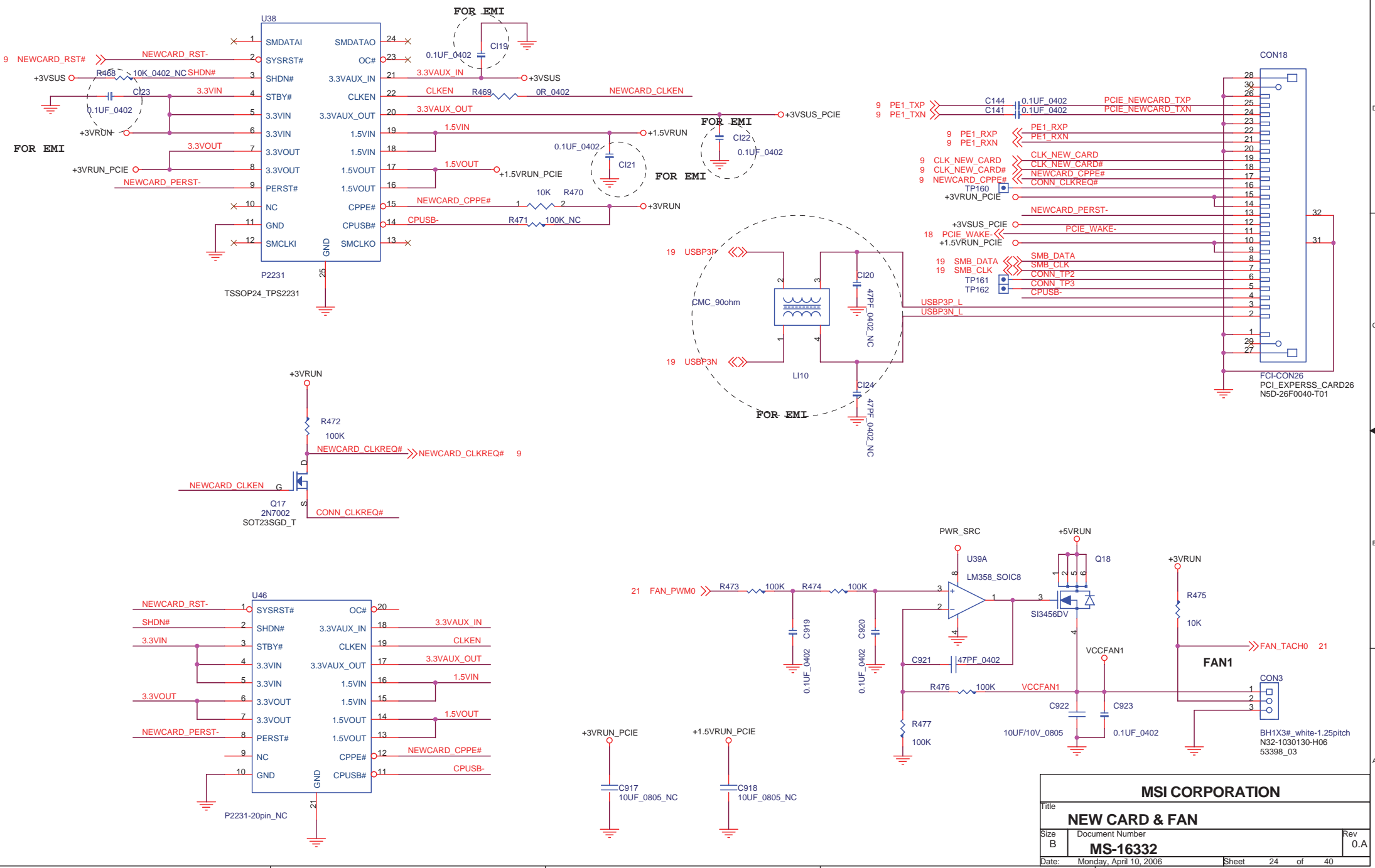


MSI CORPORATION

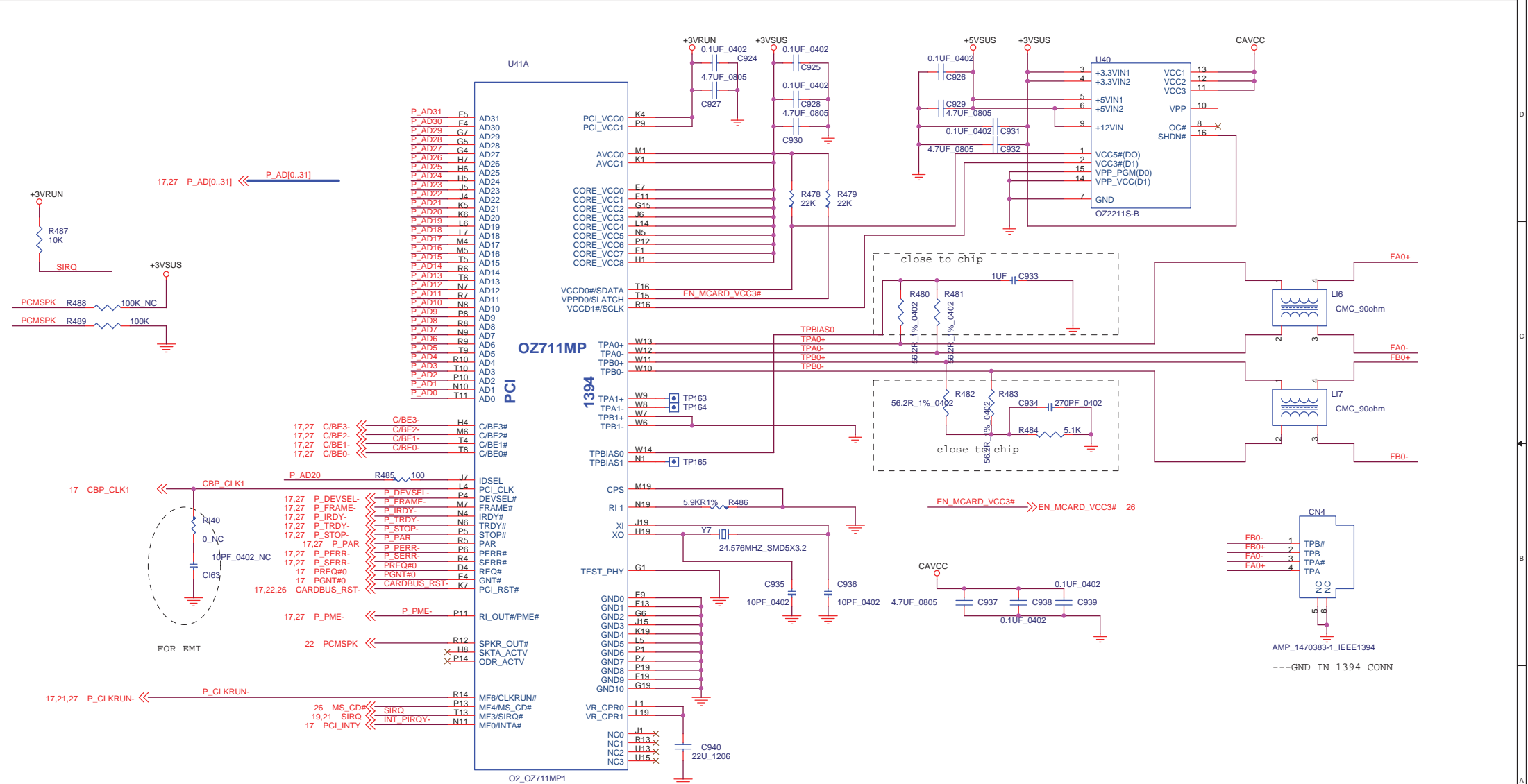
Title: **Audio Amp. & Jacks**

Size: Document Number
 Custom: **MS-16332** Rev: 0B

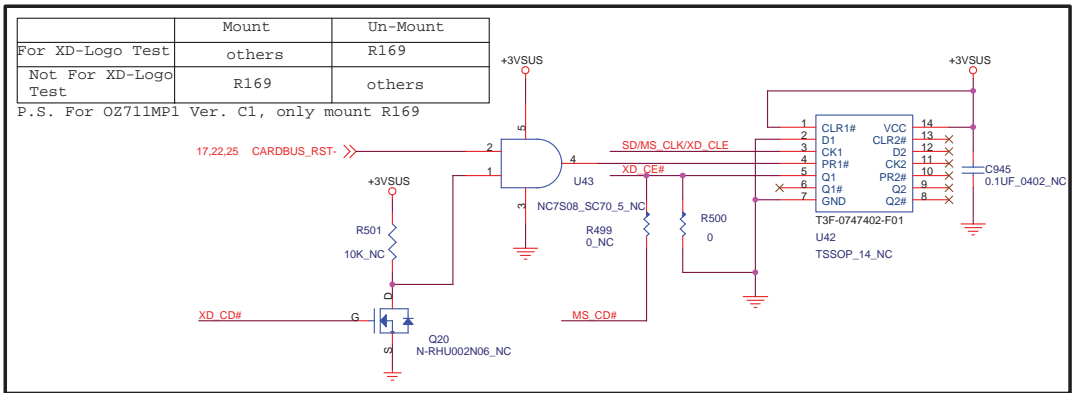
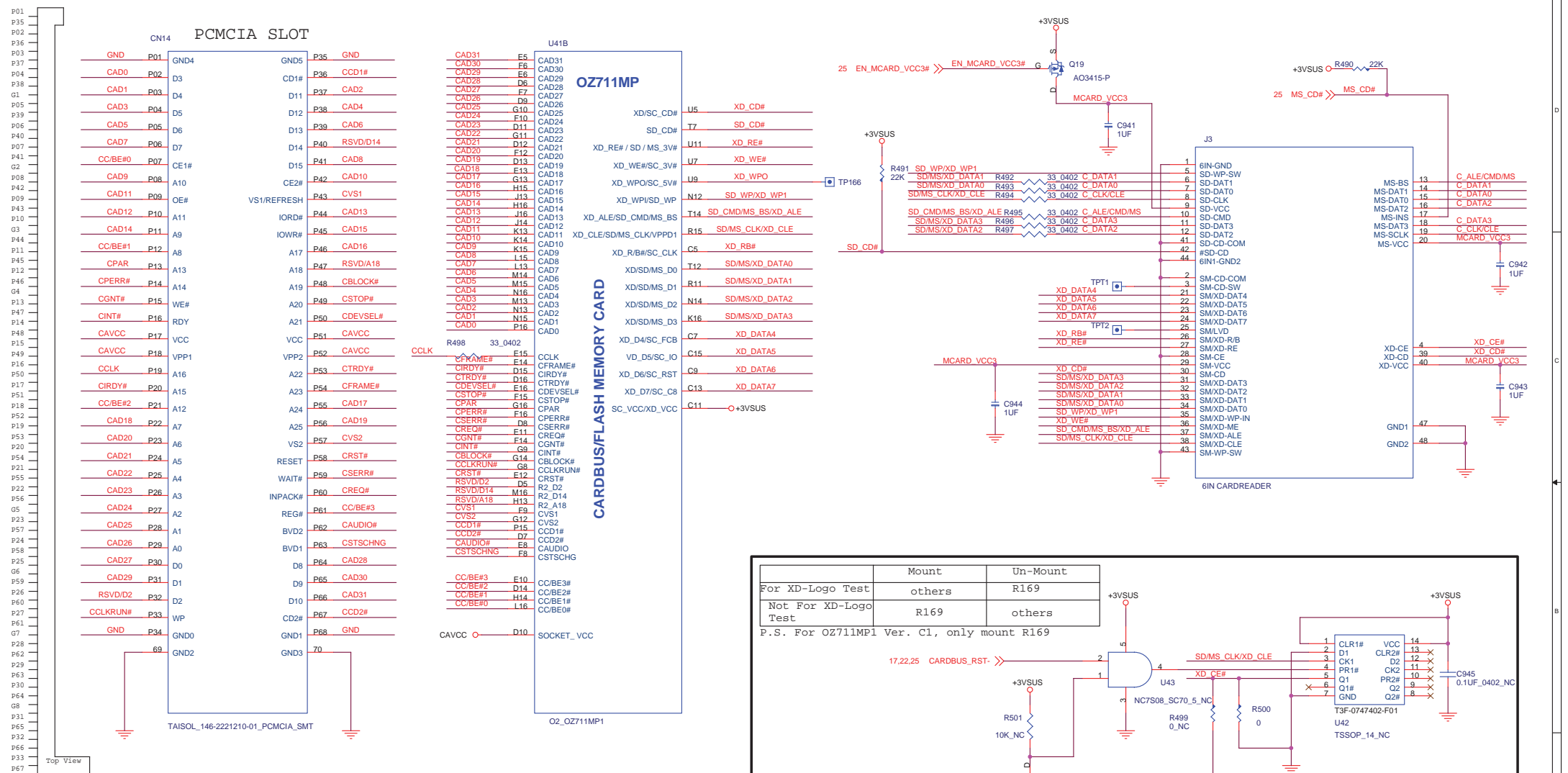
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MSI CORPORATION		
Title		
NEW CARD & FAN		
Size	Document Number	Rev
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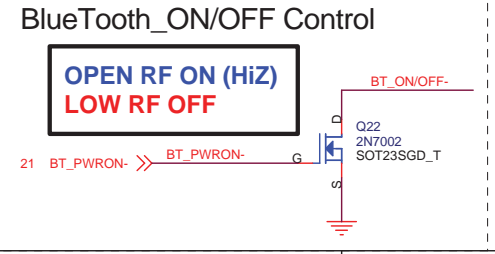
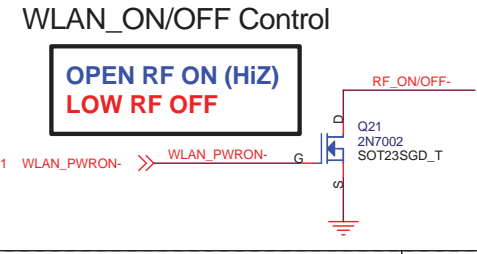
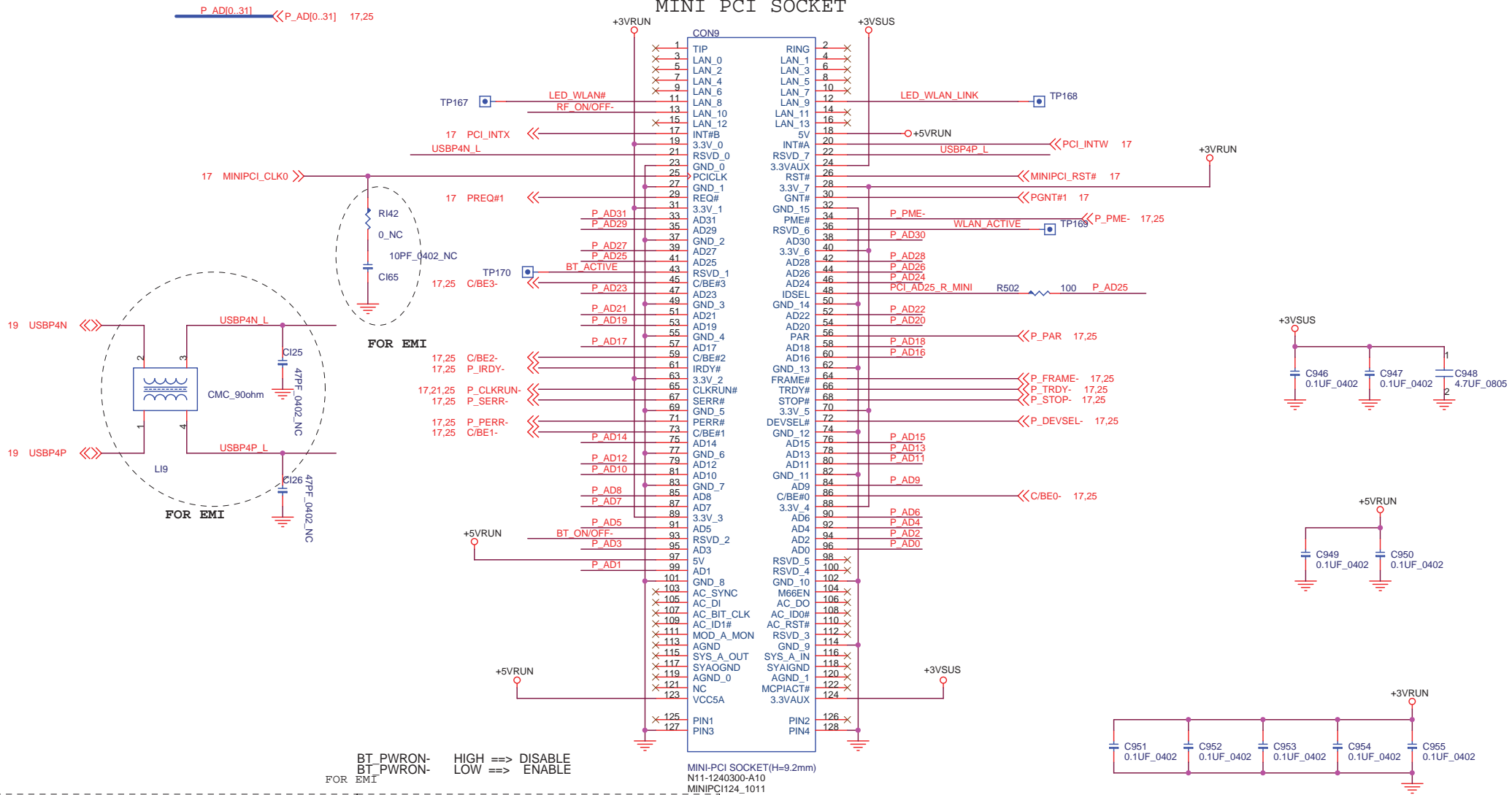


MSI CORPORATION			
Title	PCI / 1394 (OZ711MP1)		
Size	Document Number		Rev
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MSI CORPORATION			
CARBUS/FLASH CARD			
Size	Document Number	Rev	
Custom	MS-16332	0.A	
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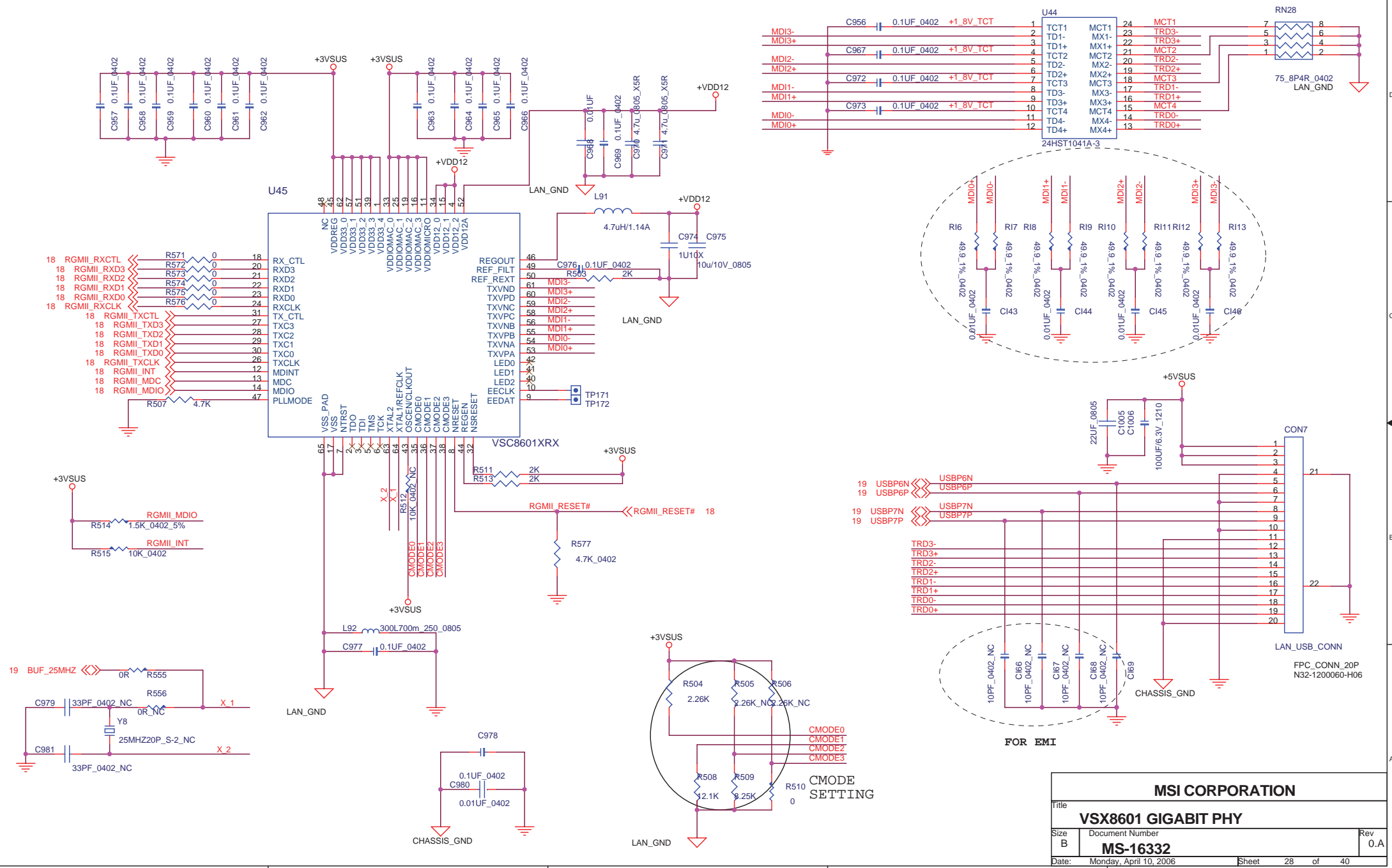
MINI PCI SOCKET



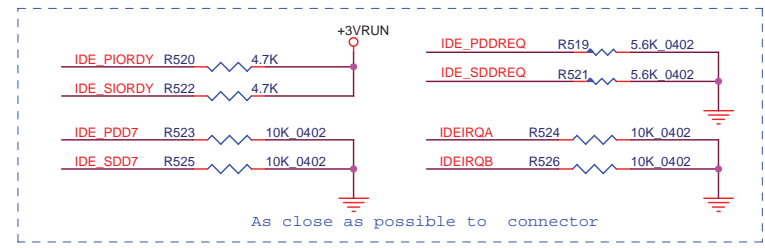
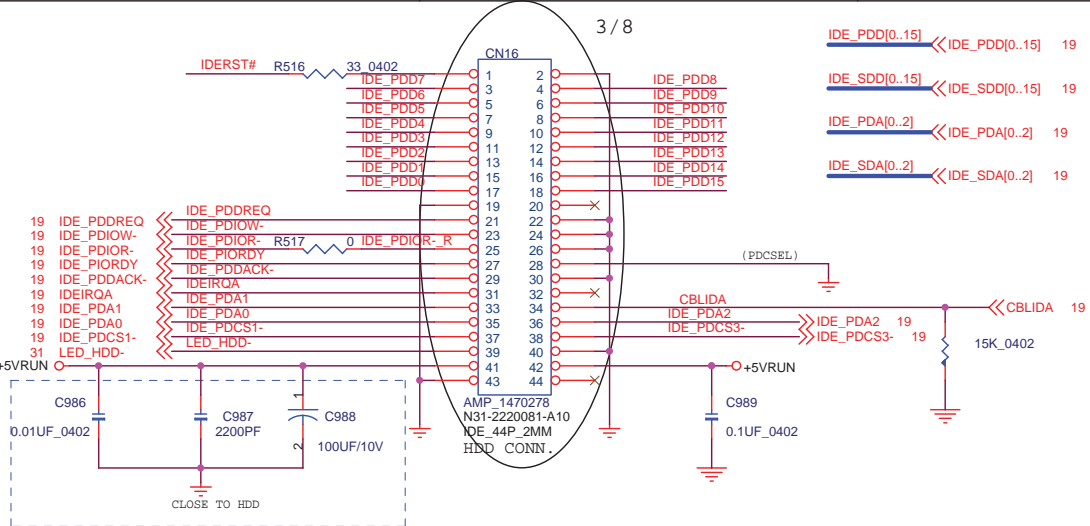
MINI PCI POWER SPEC.

TOYAL	: 2W
+5V	: 100mA
3.3VAUX	: 5/200/375mA
VCC5A	: 100mA
+3V	

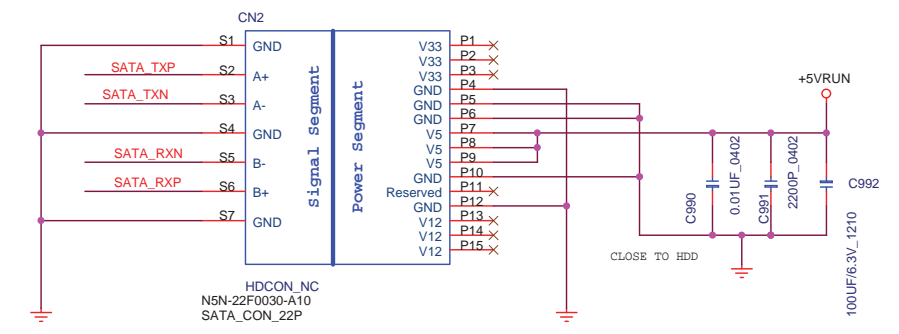
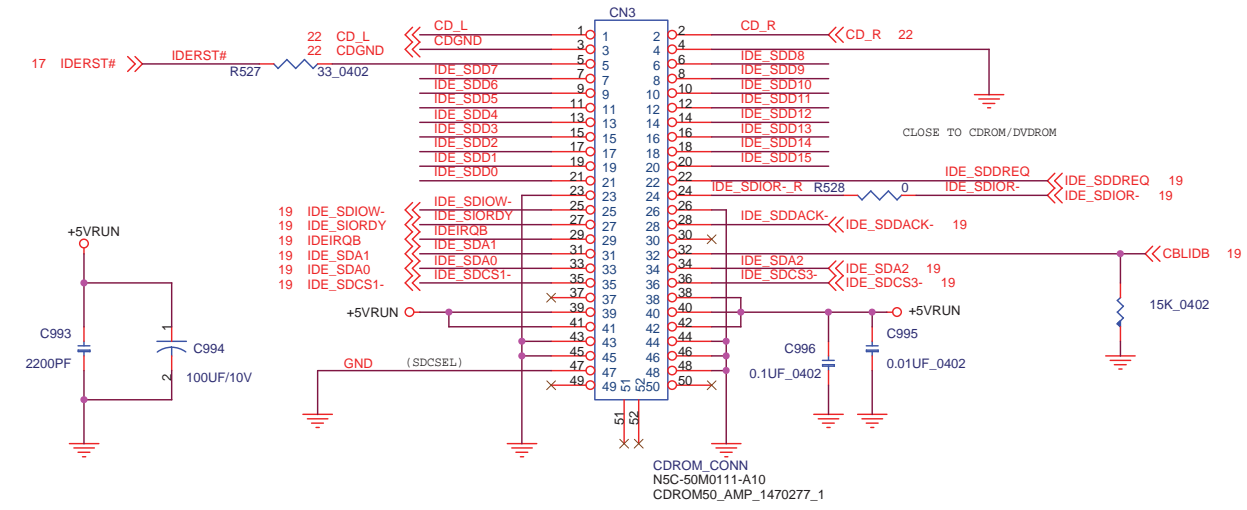
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Title: MINIPCI		
Size: B	Document Number: MS-16332	Rev: 0.A
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MSI CORPORATION		
Title	VSX8601 GIGABIT PHY	
Size B	Document Number	Rev 0.A
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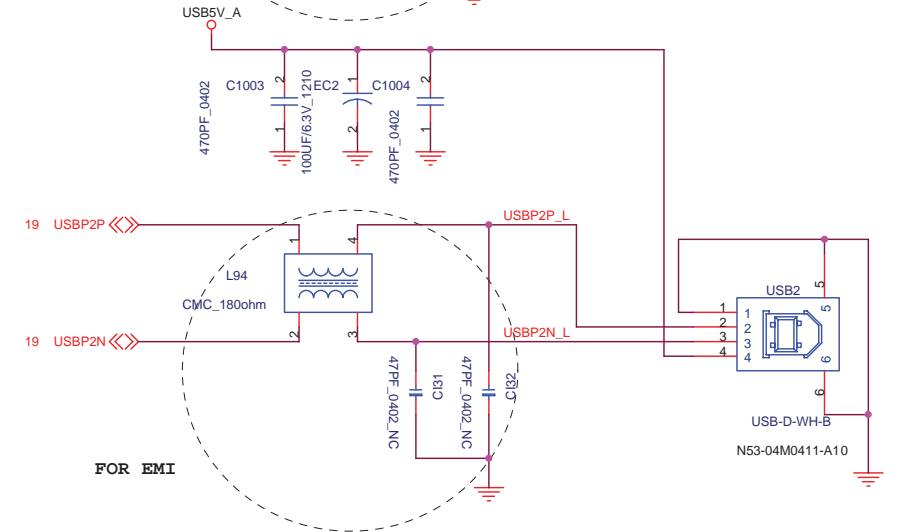
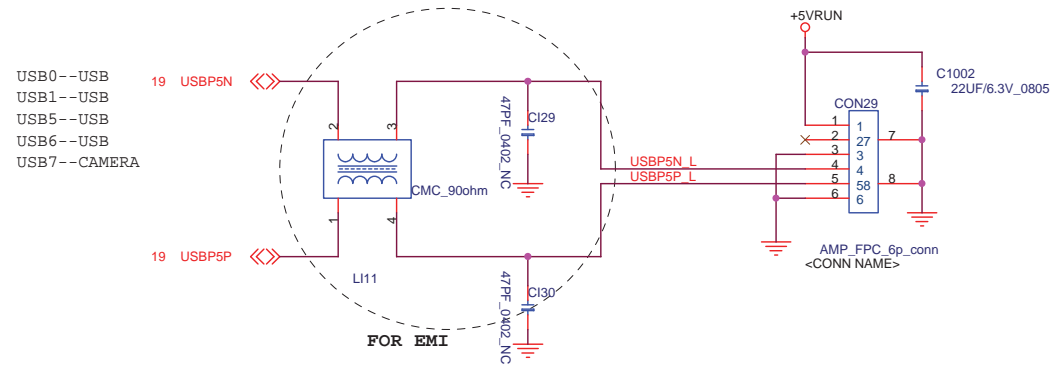
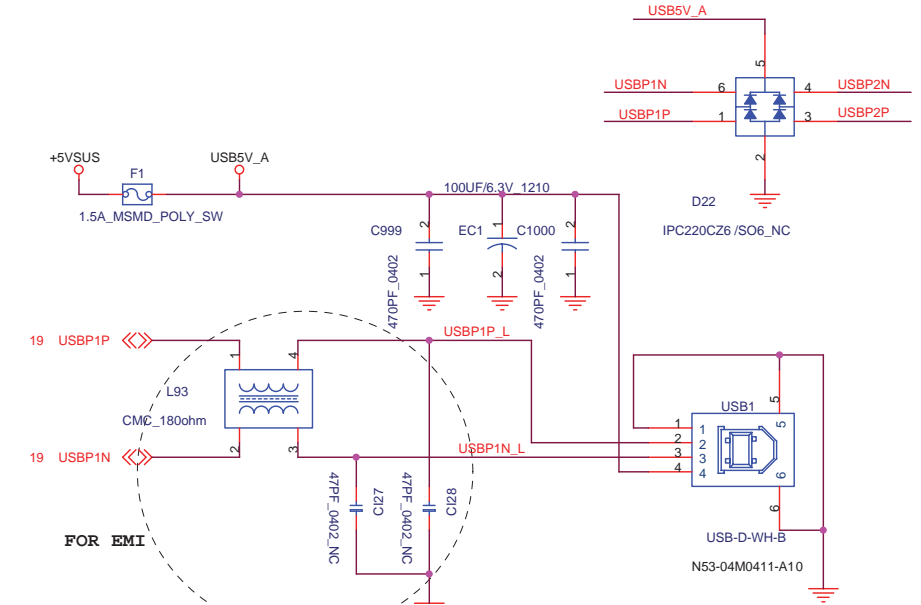
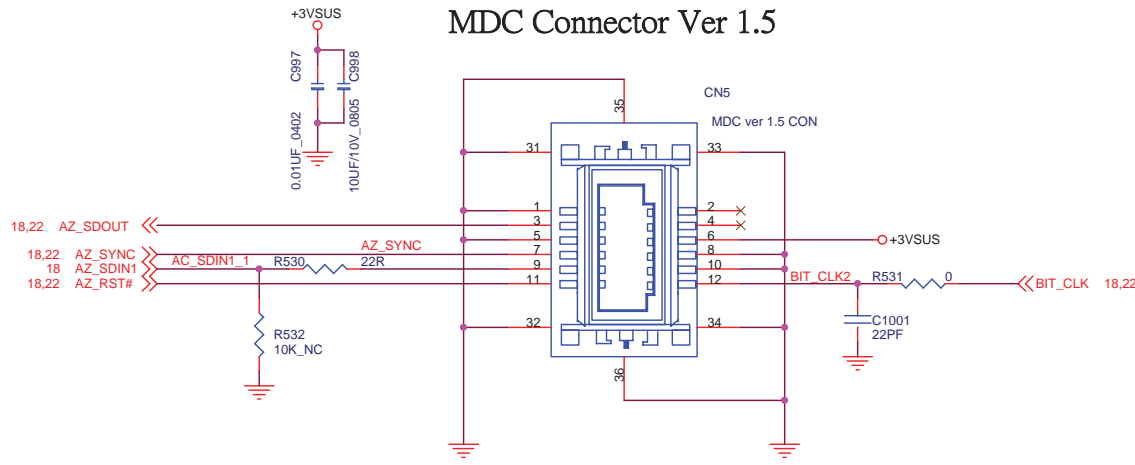


as close to connector as possible

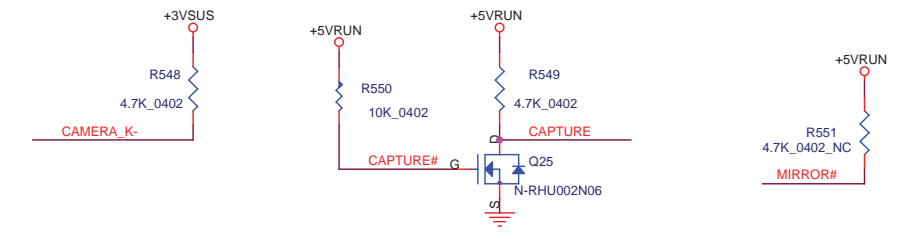
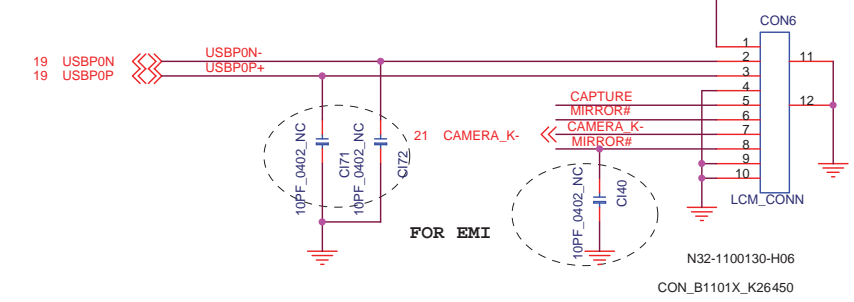
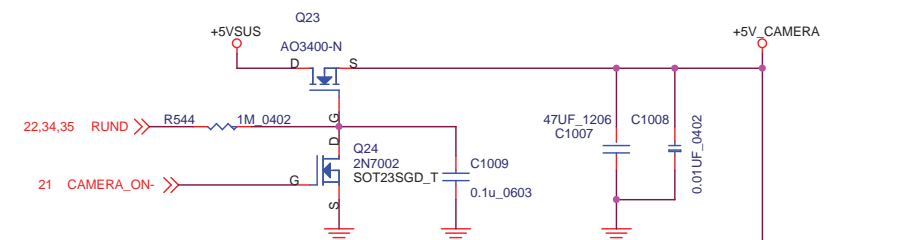
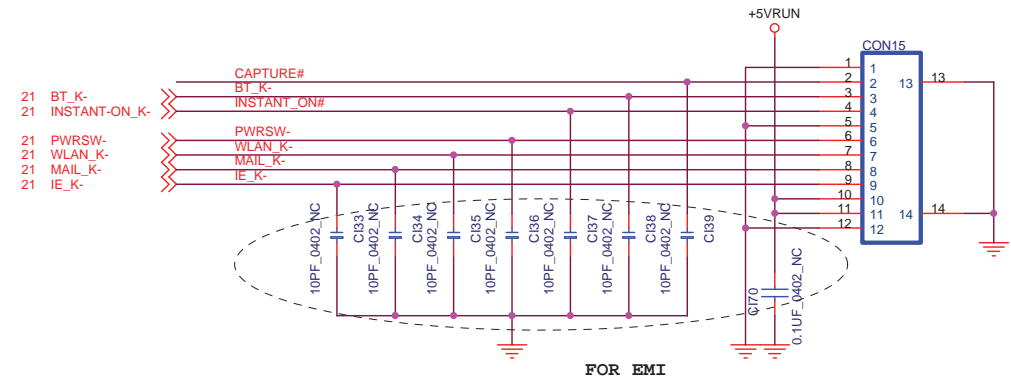
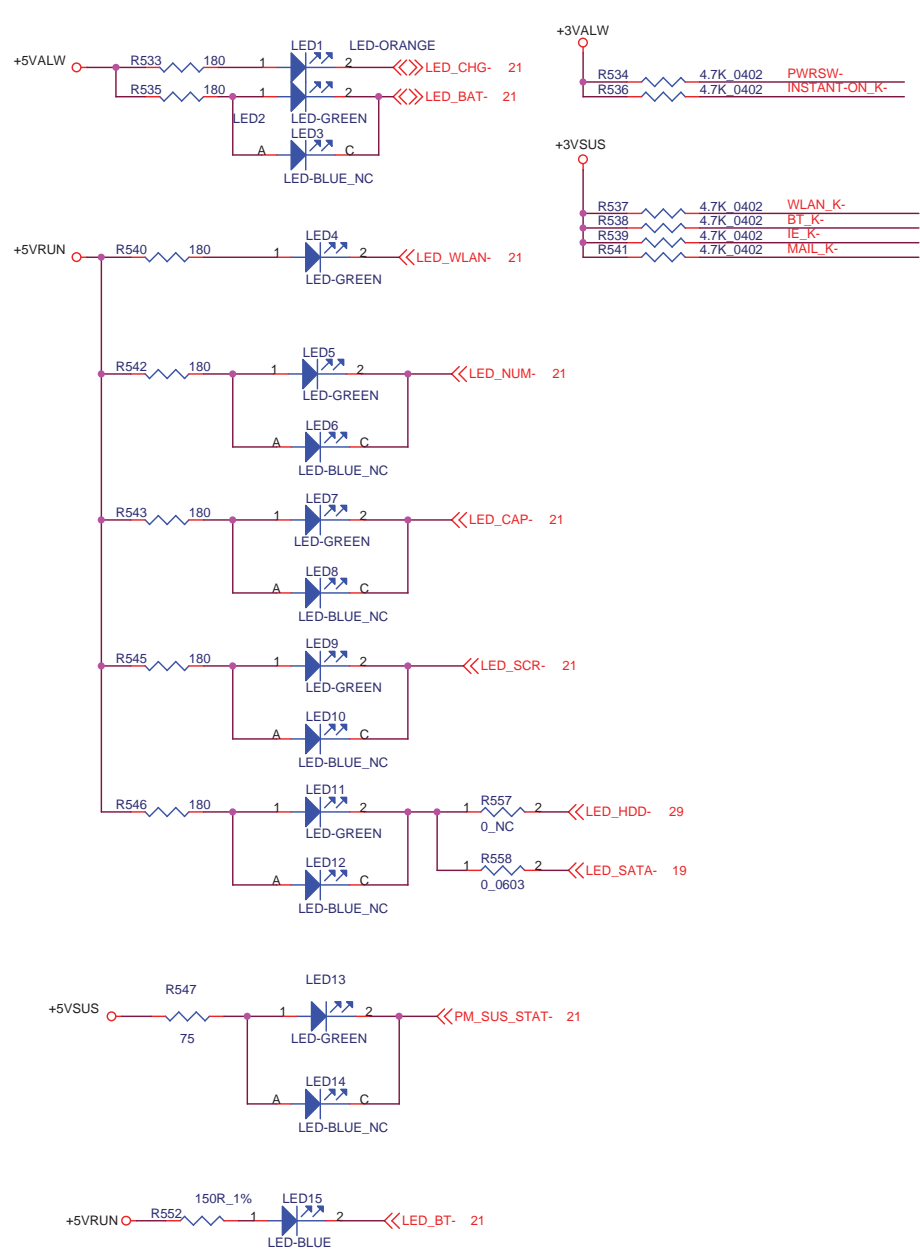


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HDD & CDROM CONN		
Title		
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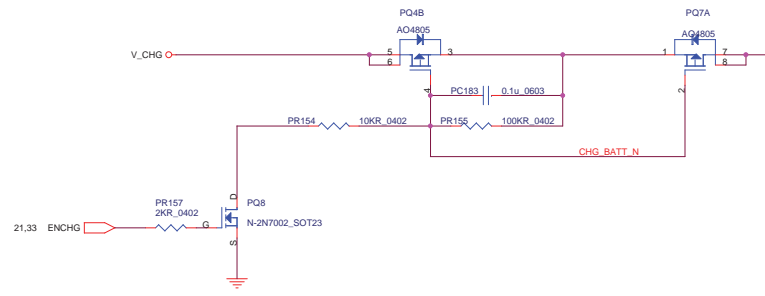
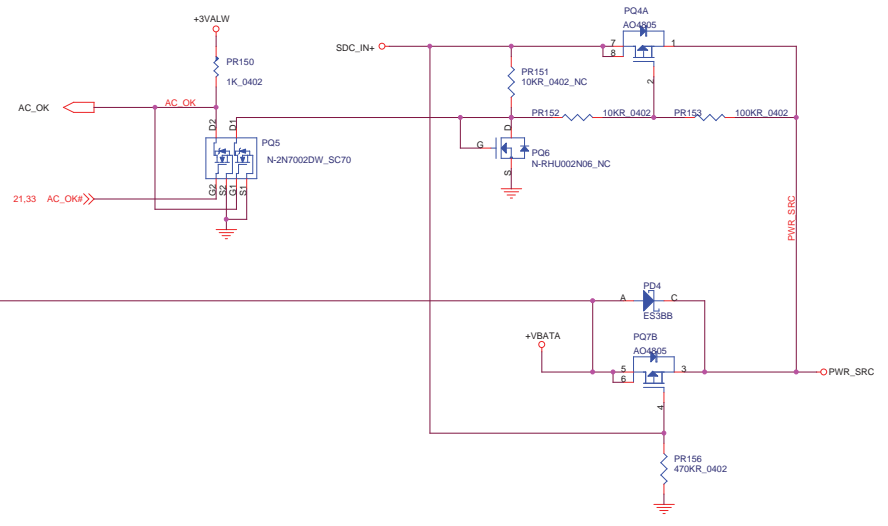
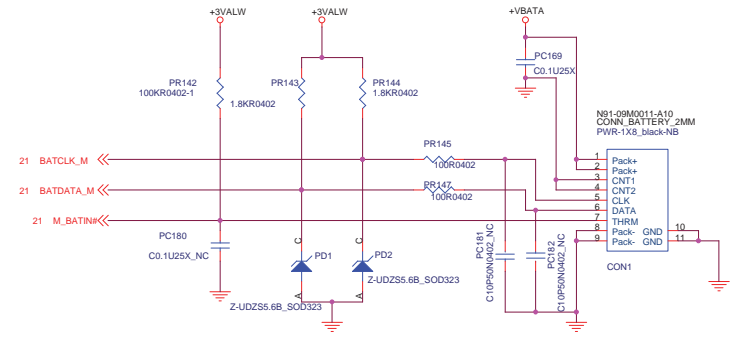
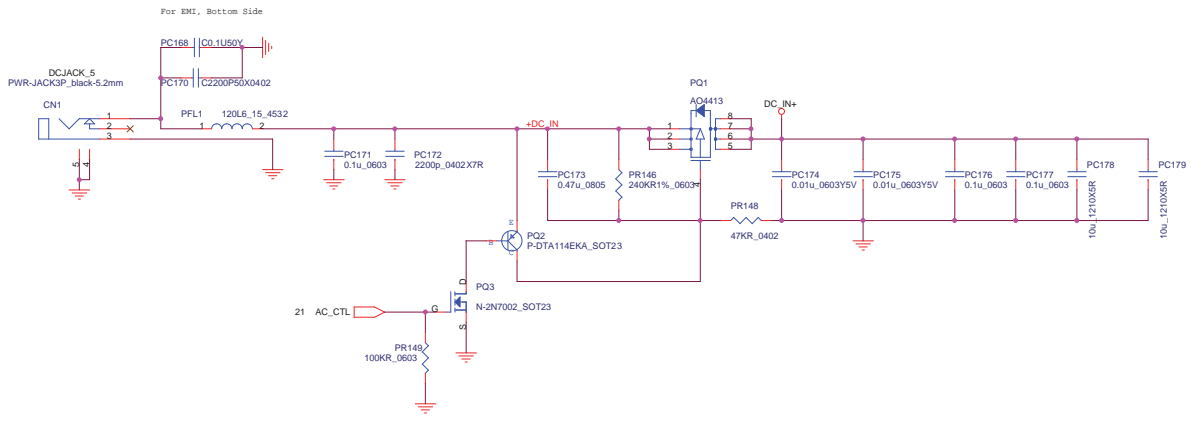
MDC Connector Ver 1.5



MSI CORPORATION		
Title: MDC & USB		
Size: B	Document Number: MS-16332	Rev: 0.A
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MSI CORPORATION		
Title LED & CONN		
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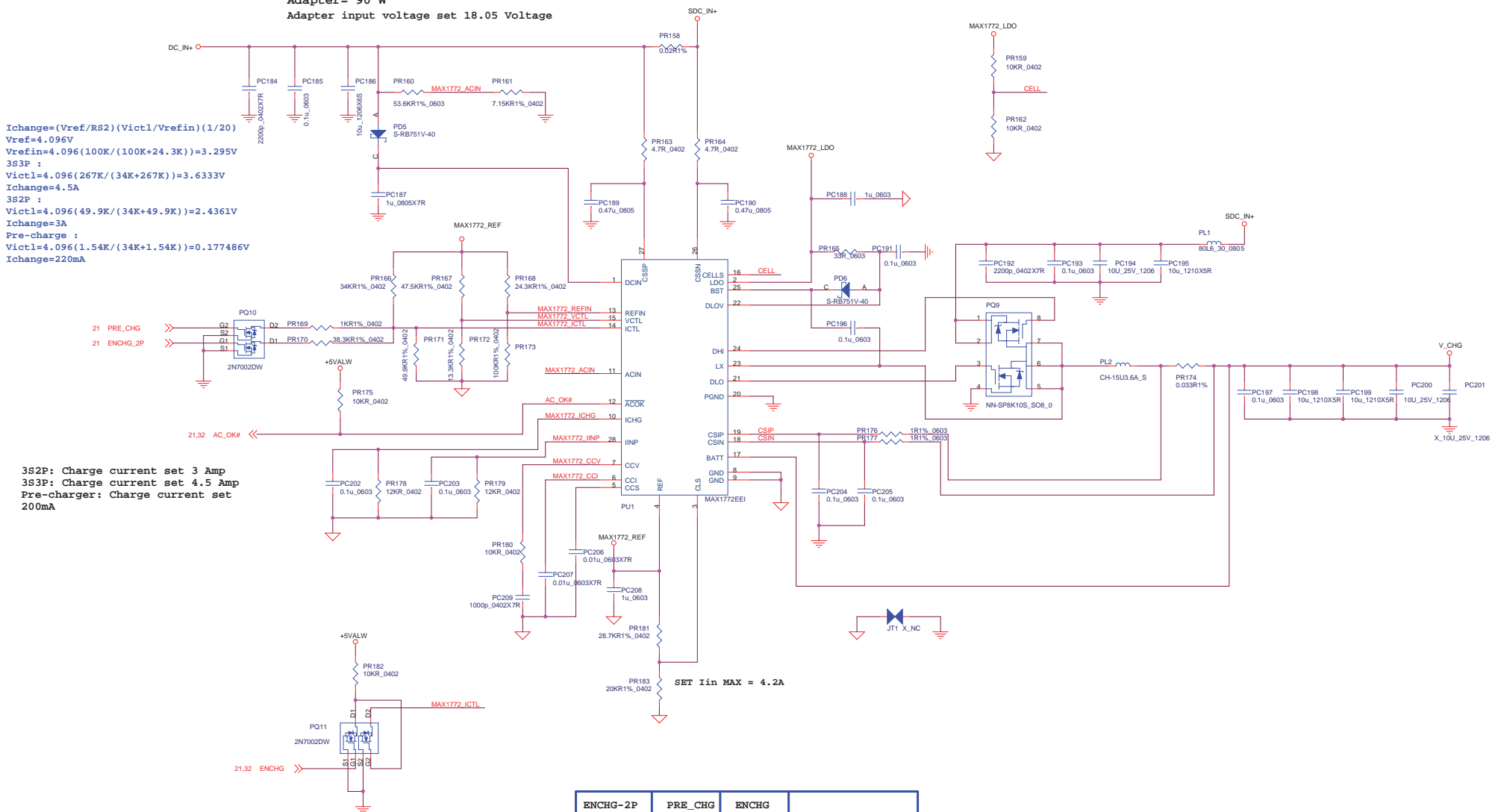


MSI CORPORATION		
Title Battery select		
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Adapter= 90 W
 Adapter input voltage set 18.05 Voltage

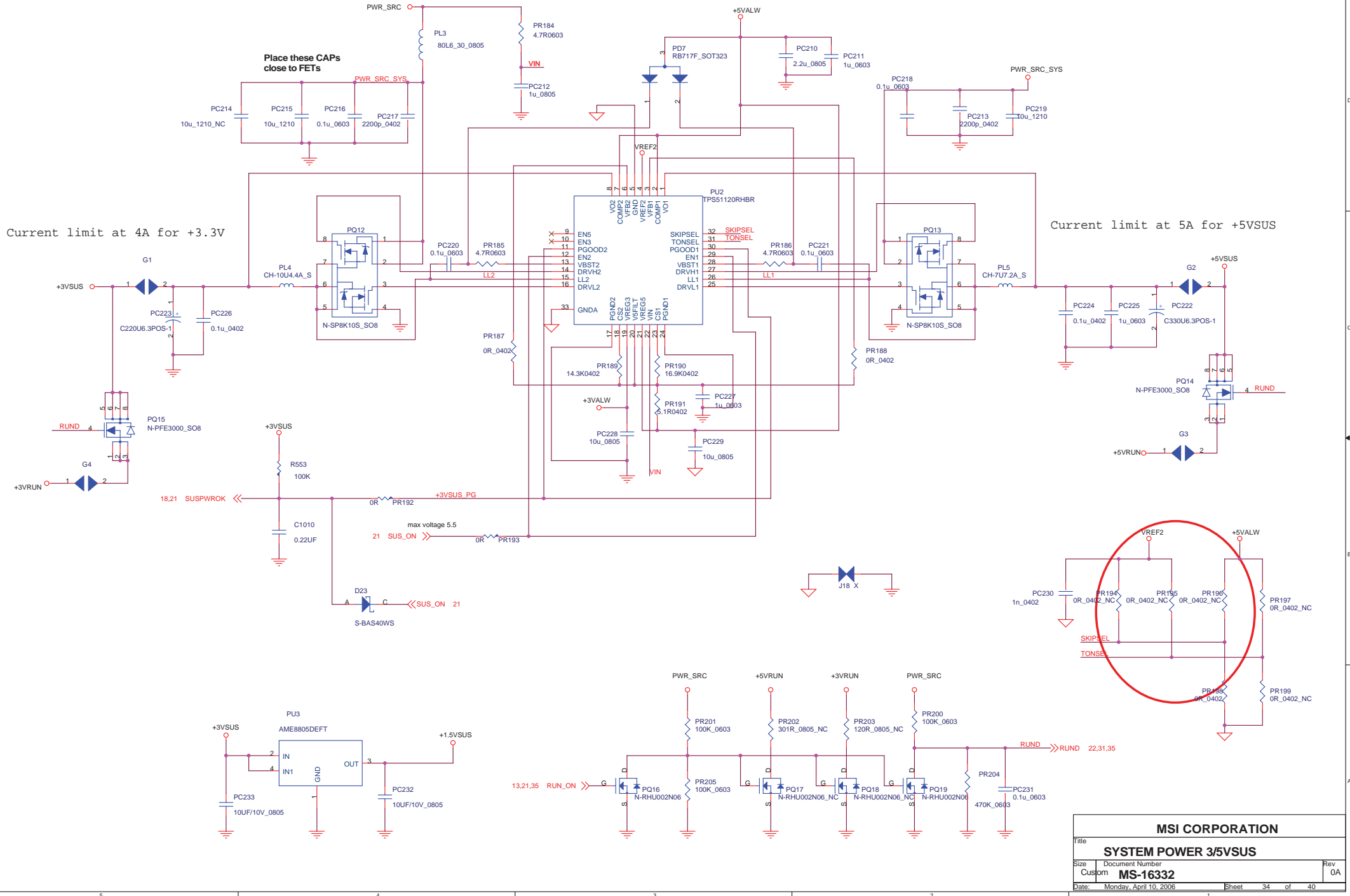
$I_{charge} = (V_{ref}/R_{S2}) \cdot (V_{ict1}/V_{refin}) \cdot (1/20)$
 $V_{ref} = 4.096V$
 $V_{refin} = 4.096 \cdot (100K / (100K + 24.3K)) = 3.295V$
 3S3P :
 $V_{ict1} = 4.096 \cdot (267K / (34K + 267K)) = 3.6333V$
 $I_{charge} = 4.5A$
 3S2P :
 $V_{ict1} = 4.096 \cdot (49.9K / (34K + 49.9K)) = 2.4361V$
 $I_{charge} = 3A$
 Pre-charge :
 $V_{ict1} = 4.096 \cdot (1.54K / (34K + 1.54K)) = 0.177486V$
 $I_{charge} = 220mA$

3S2P: Charge current set 3 Amp
 3S3P: Charge current set 4.5 Amp
 Pre-charger: Charge current set 200mA



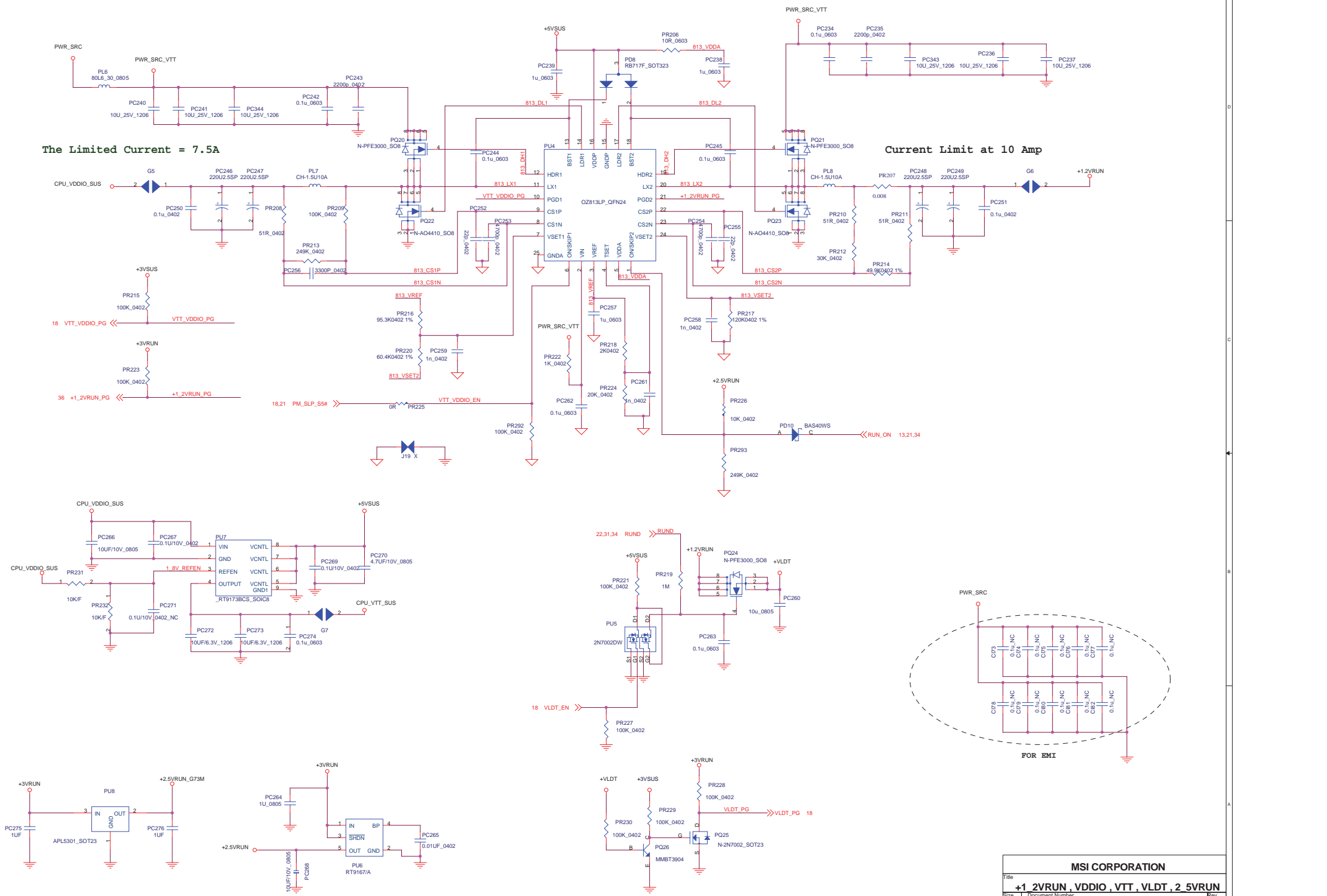
ENCHG-2P	PRE_CHG	ENCHG	
0	1	1	Pre-charge
1	0	1	3S2P-Fast charge
0	0	1	3S3P-Fast charge
0	0	0	STOP CHARGE

MSI CORPORATION		
Title: Battery Charger		
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The Limited Current = 7.5A

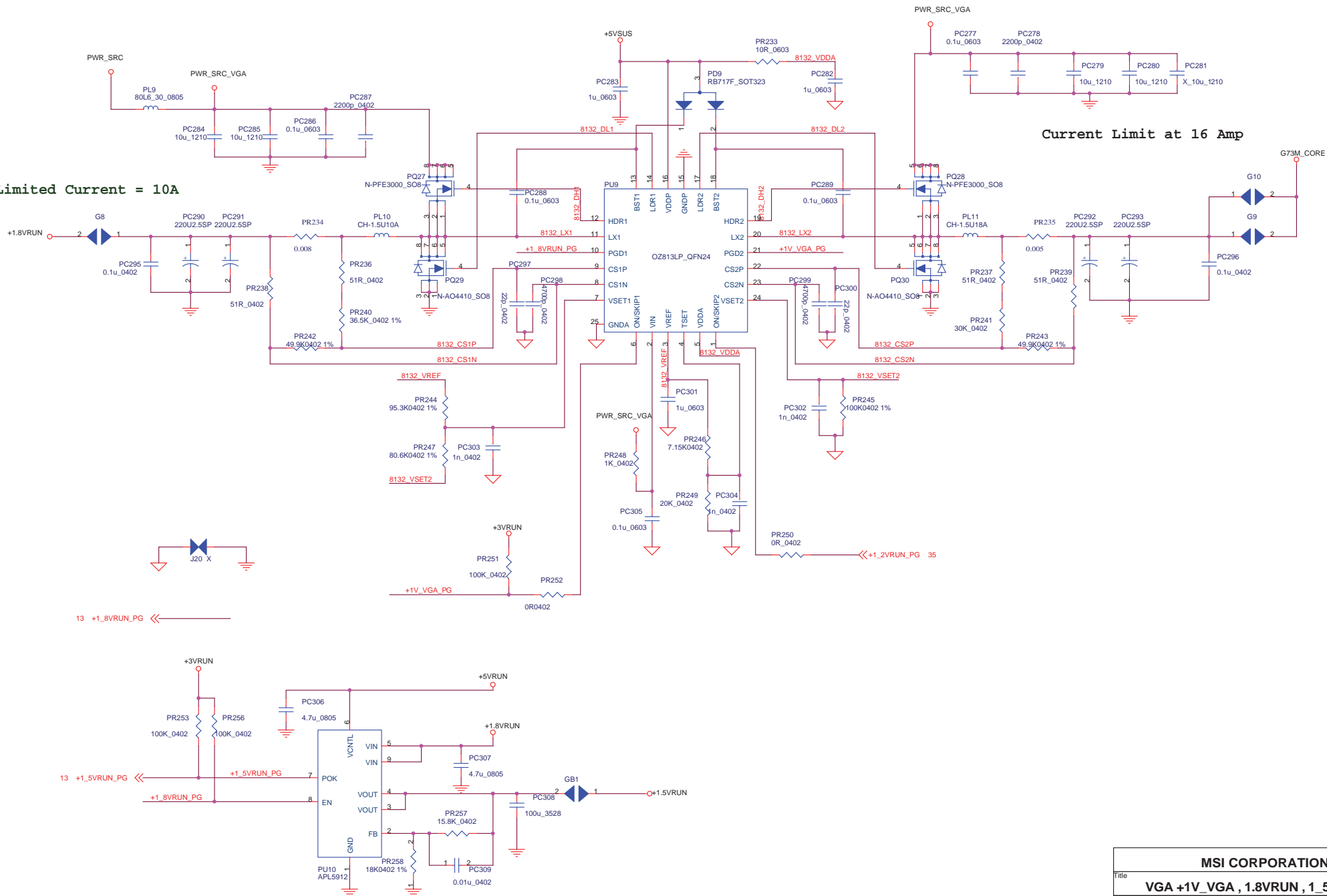
Current Limit at 10 Amp



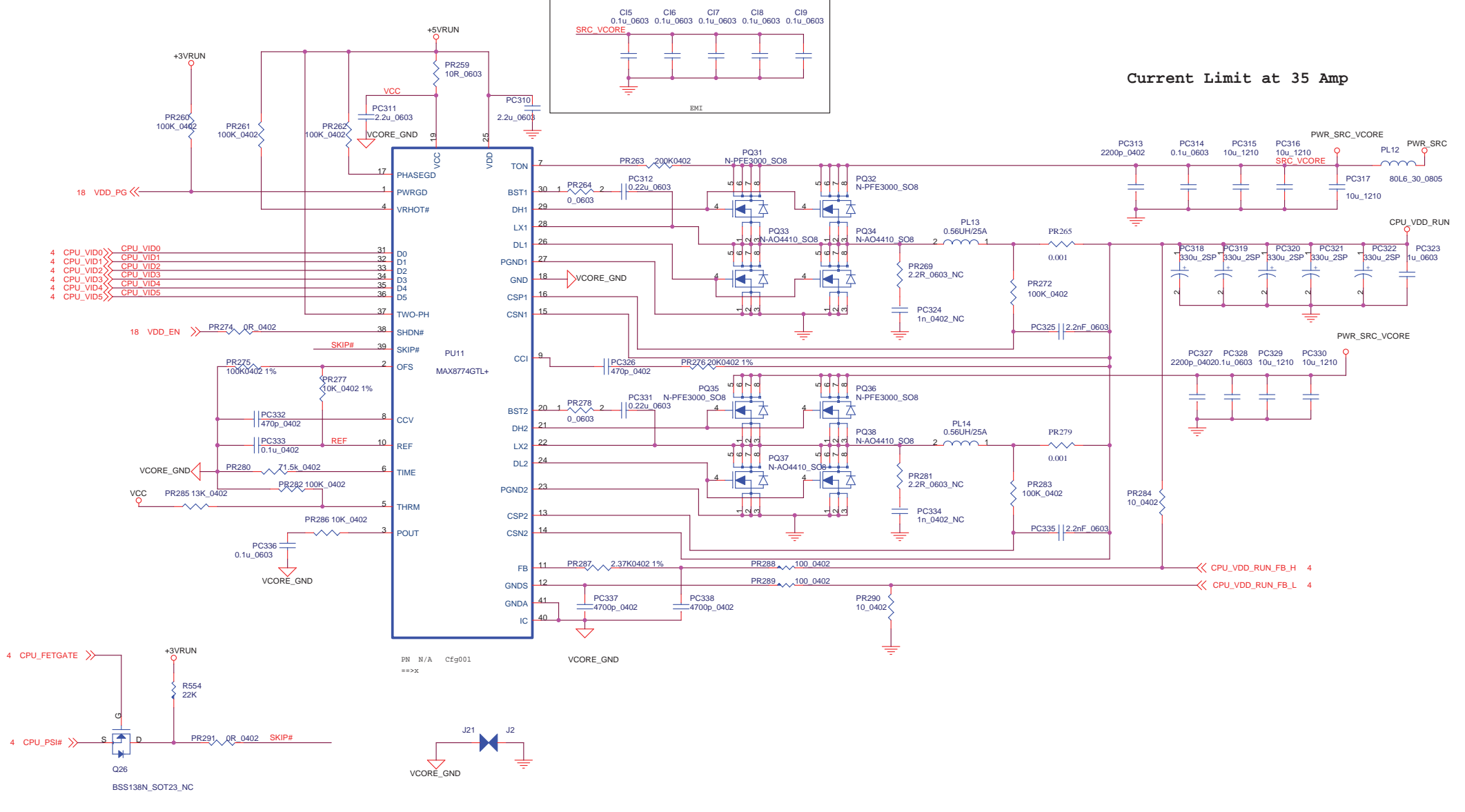
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Title	+1.2V RUN, VDDIO, VTT, VLDT, 2.5V RUN	
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The Limited Current = 10A

Current Limit at 16 Amp

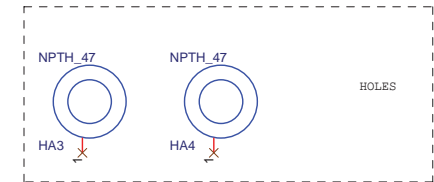
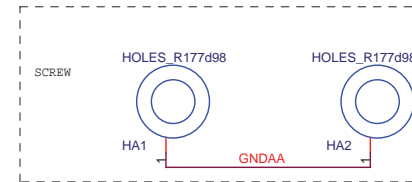
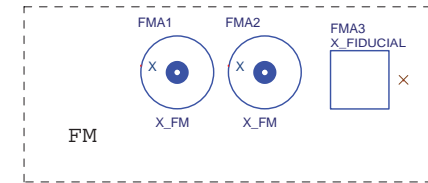
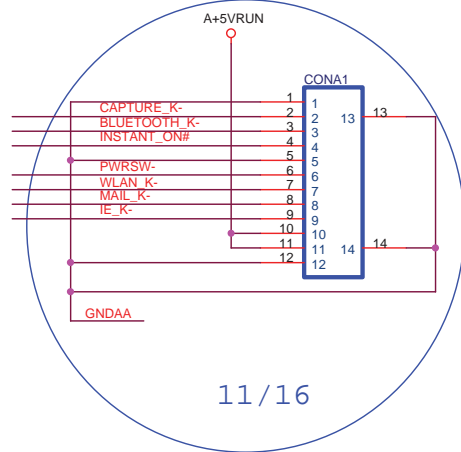
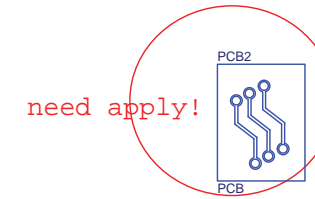
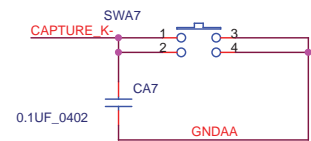
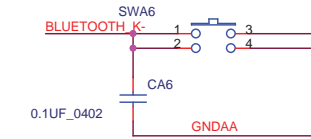
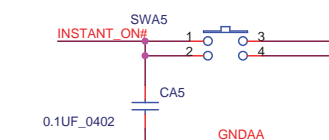
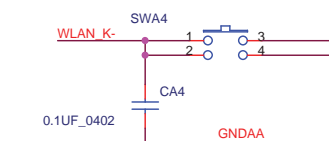
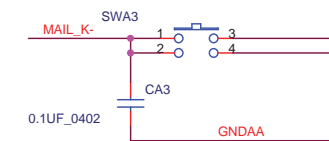
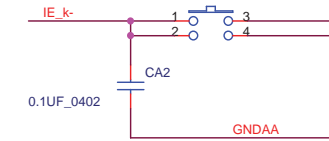
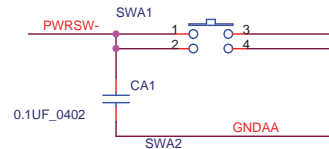
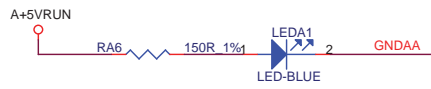


MSI CORPORATION		
VGA +1V_VGA , 1.8VRUN , 1_5VRUN		
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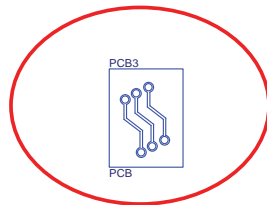
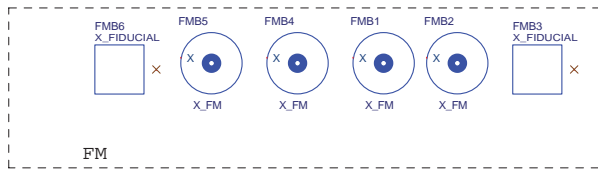
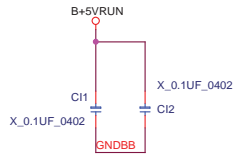
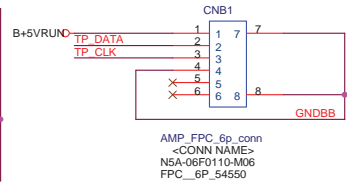
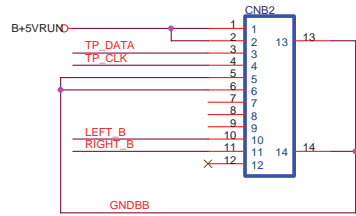
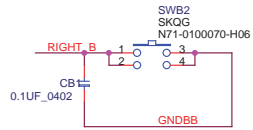
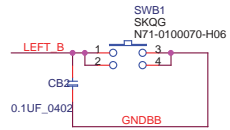


Current Limit at 35 Amp

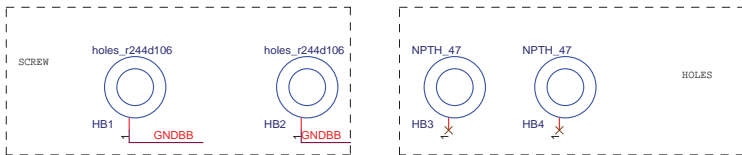
MSI CORPORATION			
Title VCORE			
Size Custom	Document Number MS-16332		Rev 0A
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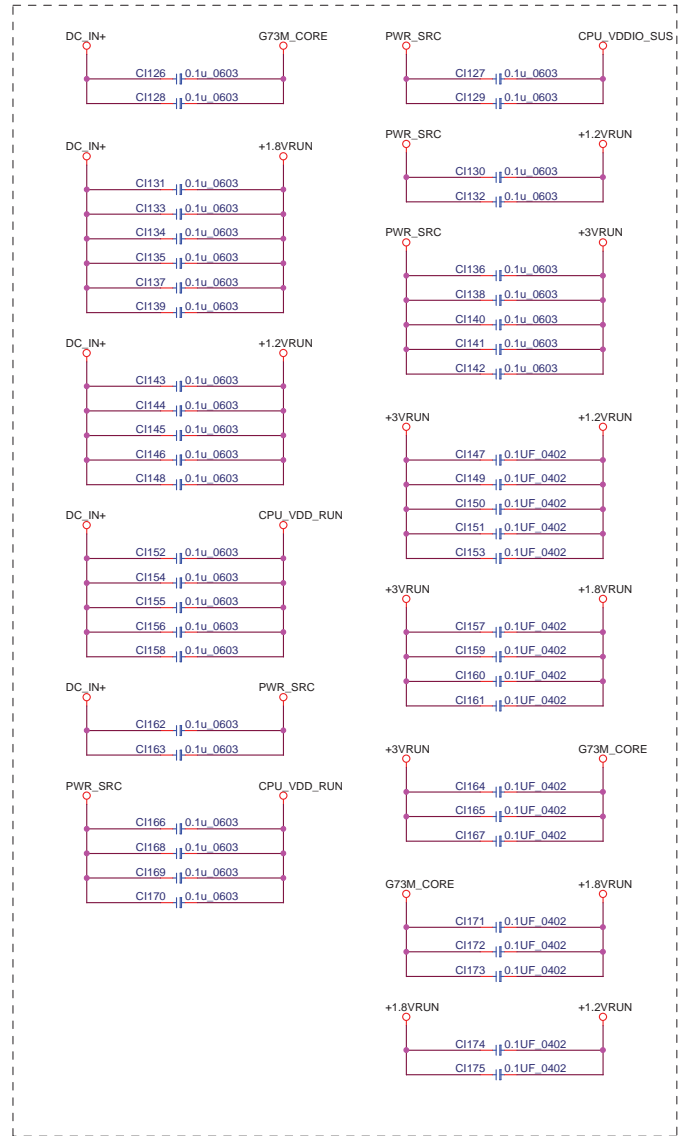
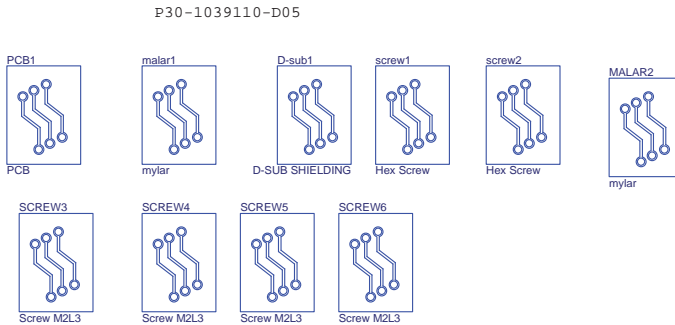
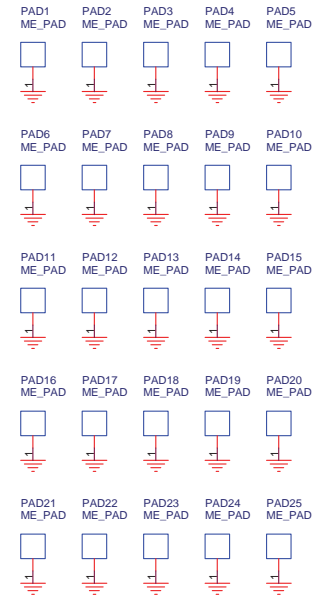
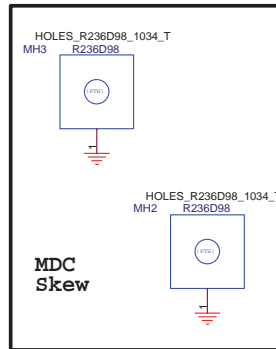
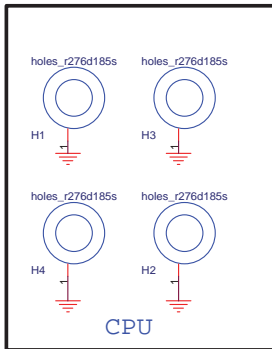
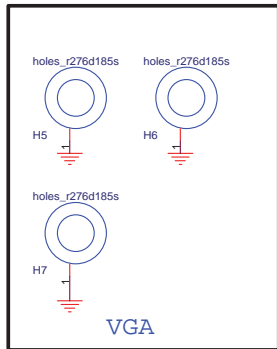
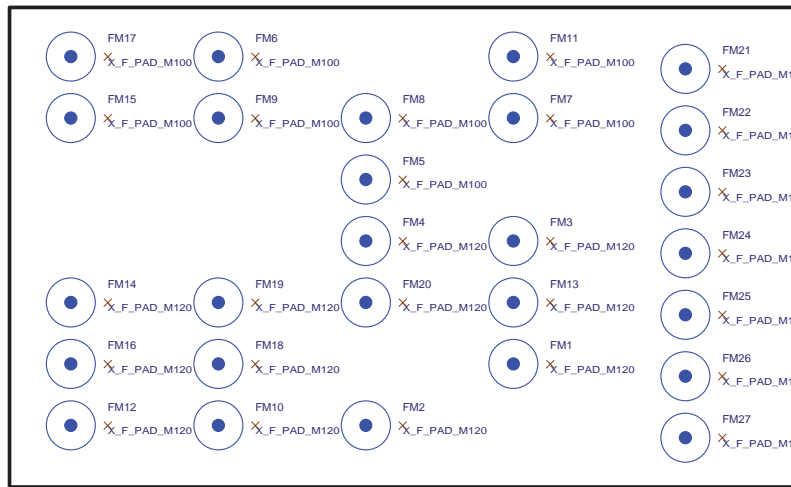
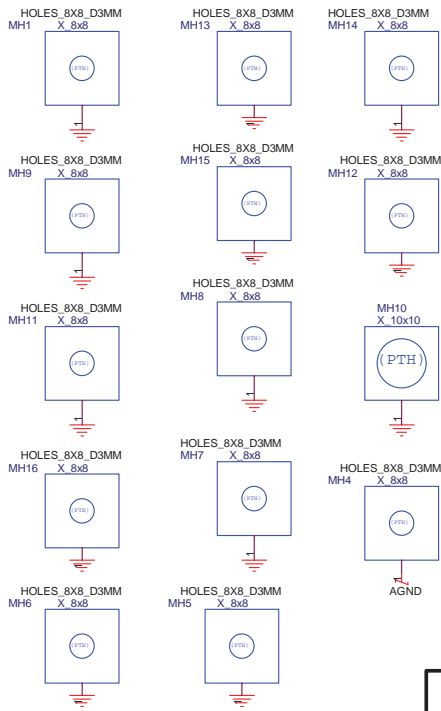
MSI CORPORATION		
Title		
POWER BOARD		
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Need to apply



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FOR EMI



		MICRO-STAR INT'L CO.,LTD.	
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