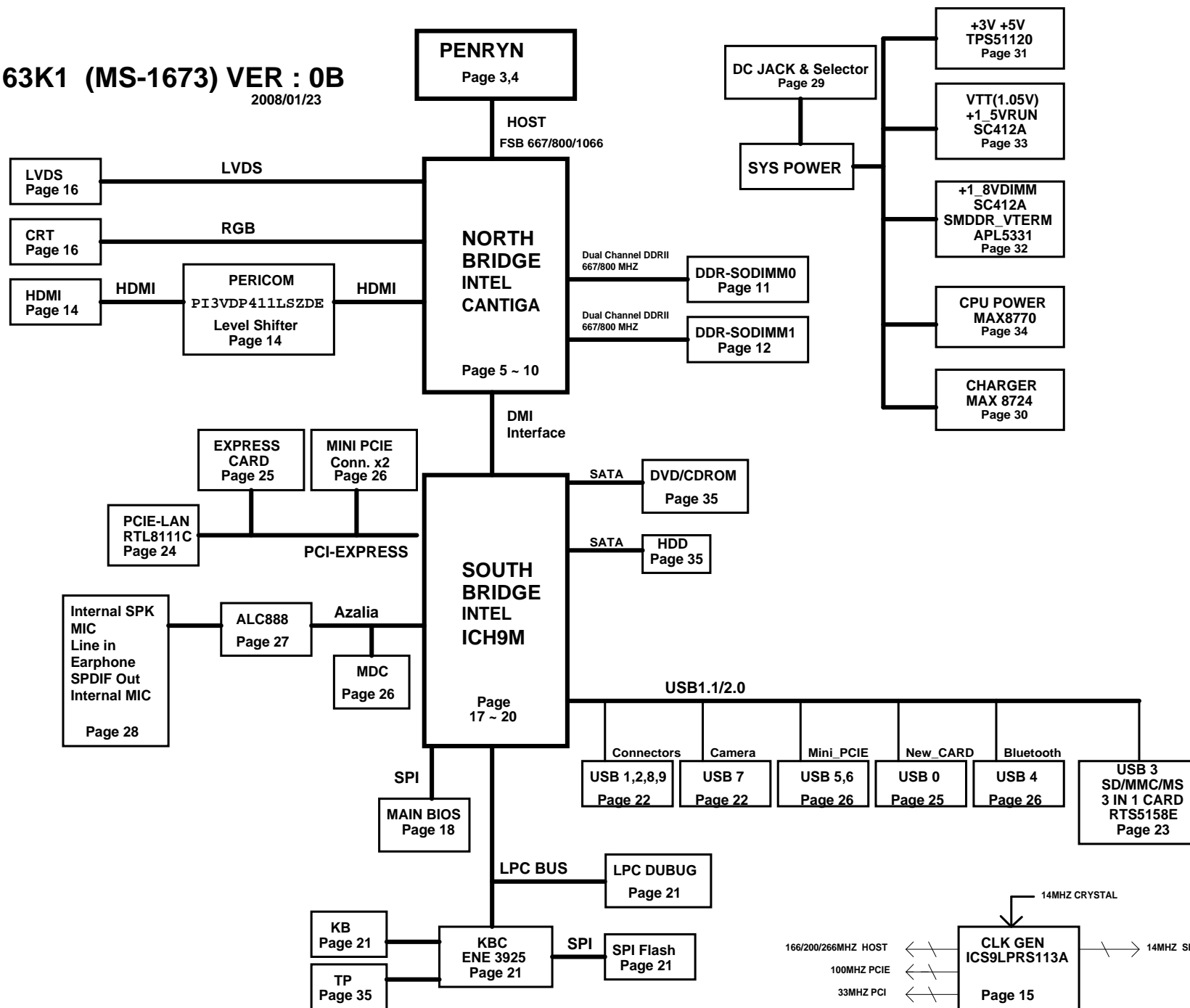


MS-163K1 (MS-1673) VER : 0B

2008/01/23



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 & 965GM I/O	RUN_ON
+1_5VRUN	1.5V switched power rail (off in S3-S5)	RUN_ON
+3VRUN	3.3V switched power rail (off in S3-S5)	RUN_ON
+5VRUN	5.0V switched power rail (off in S3-S5)	RUN_ON
SMDDR_VTERM	0.9V DDR Termination voltage (off in S3-S5)	RUN_ON
+1_8VDIMM	1.8V power rail DDR (off in S4-S5)	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
ADD5V	5.0V Power rail Audio codec(off in S3-S5)	+5VRUN
+VGFX_CORE	Graphic core power from VTT (off in S3-S5)	GFX_VR_EN

POWER STATES

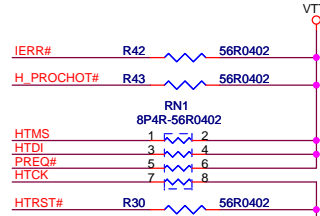
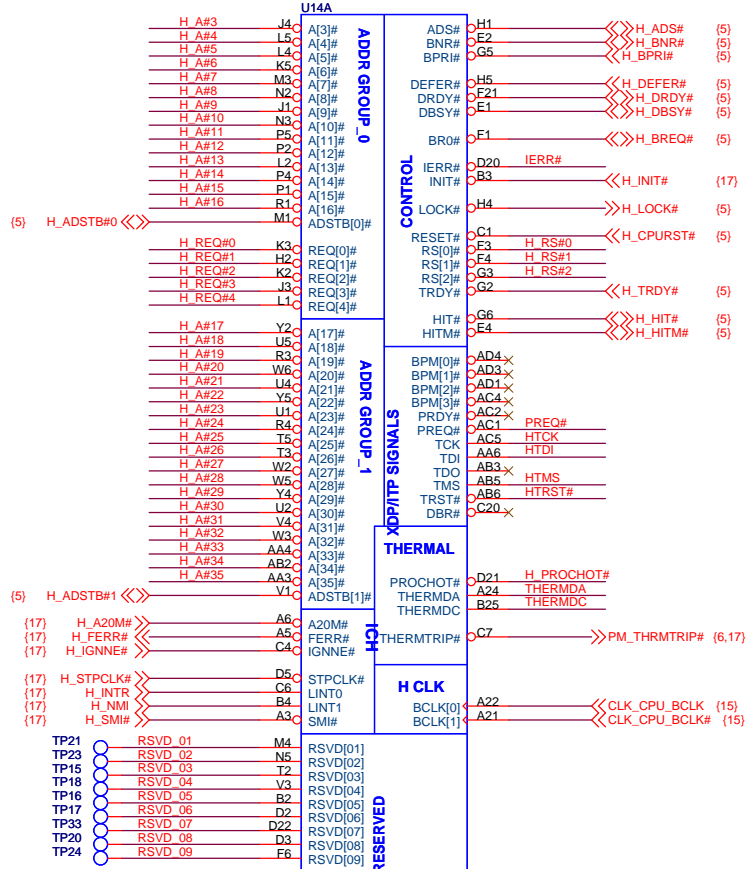
<div>SIGNAL</div> <div>STATE</div>	SLP_S3#	SLP_S4#	SLP_S5#	+V*ALWAYS	+V*SUS	+V*RUN	Clocks
S0(Full ON)	HIGH	HIGH	HIGH	ON	ON	ON	ON
S1M(Power On Suspend)	HIGH	HIGH	HIGH	ON	ON	ON	OFF
S3(Suspend to RAM)	LOW	HIGH	HIGH	ON	ON	OFF	OFF
S4(Suspend to Disk)	LOW	LOW	HIGH	ON	OFF	OFF	OFF
S5 / Soft OFF	LOW	LOW	LOW	ON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

Note : WHEN AC MODE , System turn on then +V*SUS will always keep high
(only for wake on LAN enable)

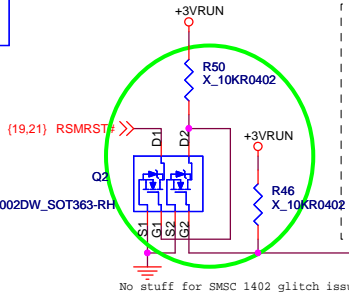
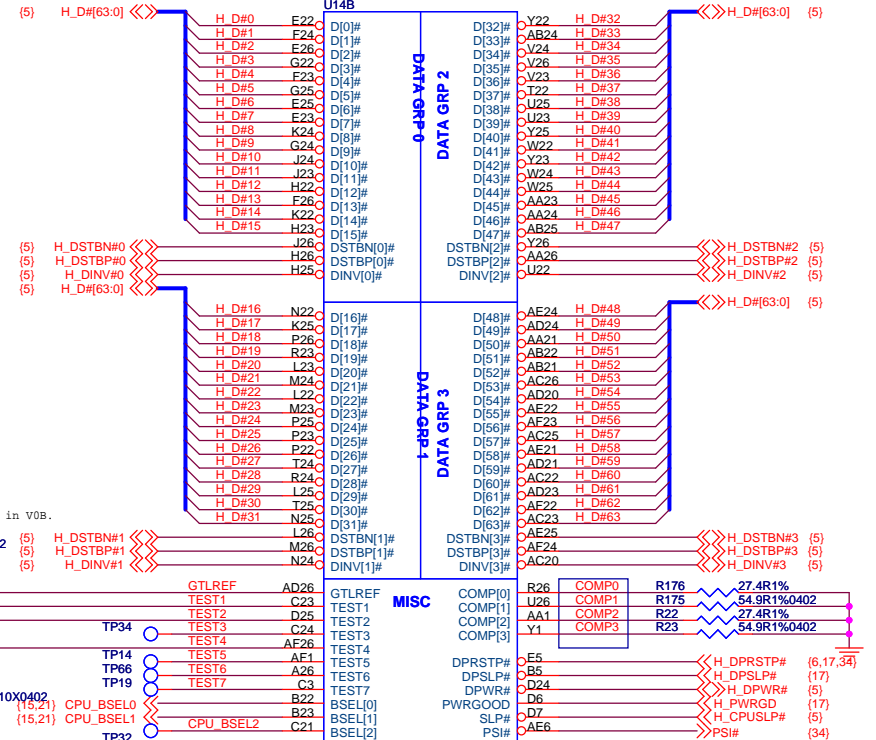
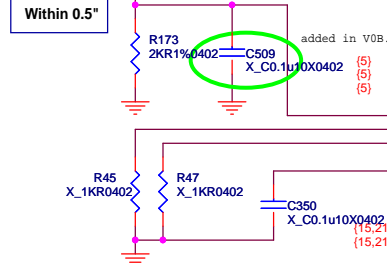
MSI CORPORATION		
Title PLATFORM		
Size B	Document Number MS-163K1	Rev 0B
Date:	Wednesday, January 16, 2008	Sheet 2 of 43

(5) H_A#[35:3] <<>> H_A# [35:3]
(5) H_RS# [2:0] <<>> H_RS# [2:0]
(5) H_REQ# [4:0] <<>> H_REQ# [4:0]

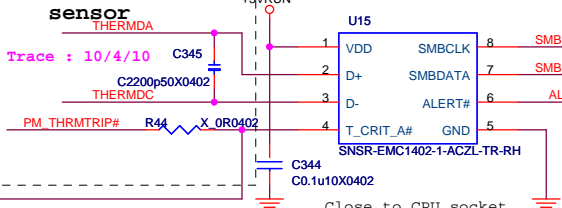
N12-4780160-A10
ZIF_SOCKET478



Within 0.5"

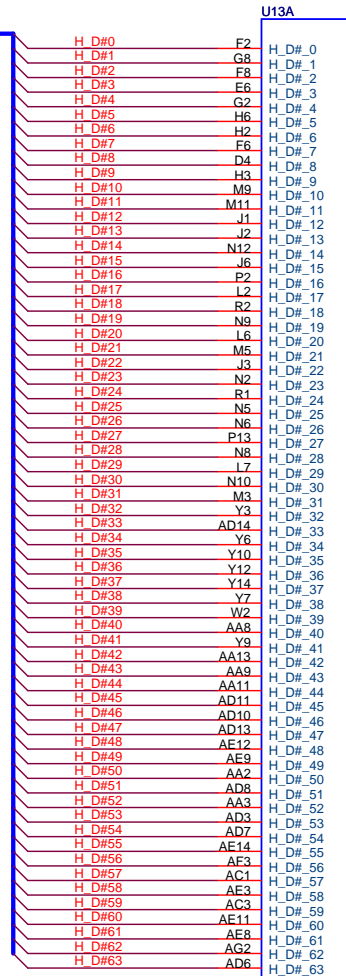
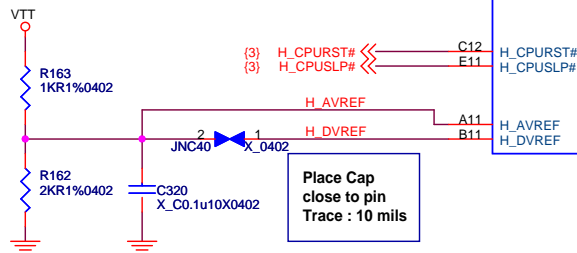
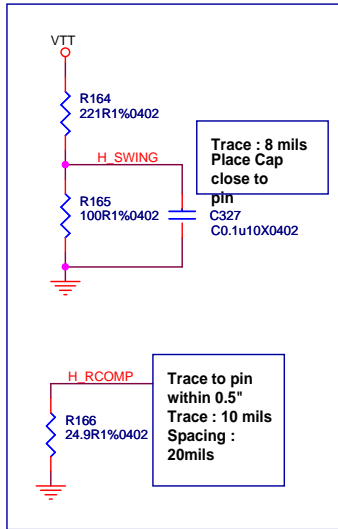


Cap close to thermal sensor

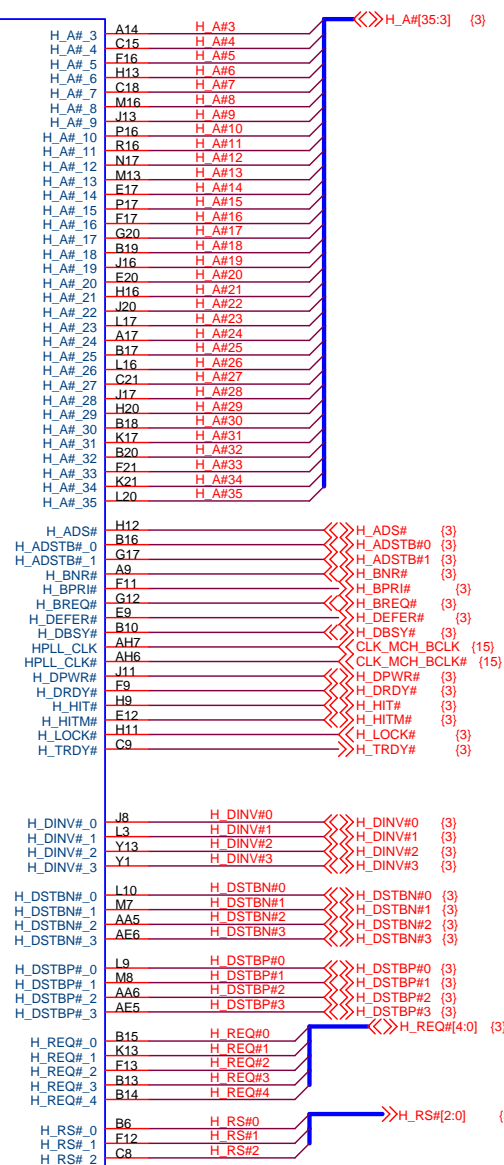


Within 0.5"
25mils Spacing
COMP0,2 --> 18mils
COMP1,3 --> 5mils

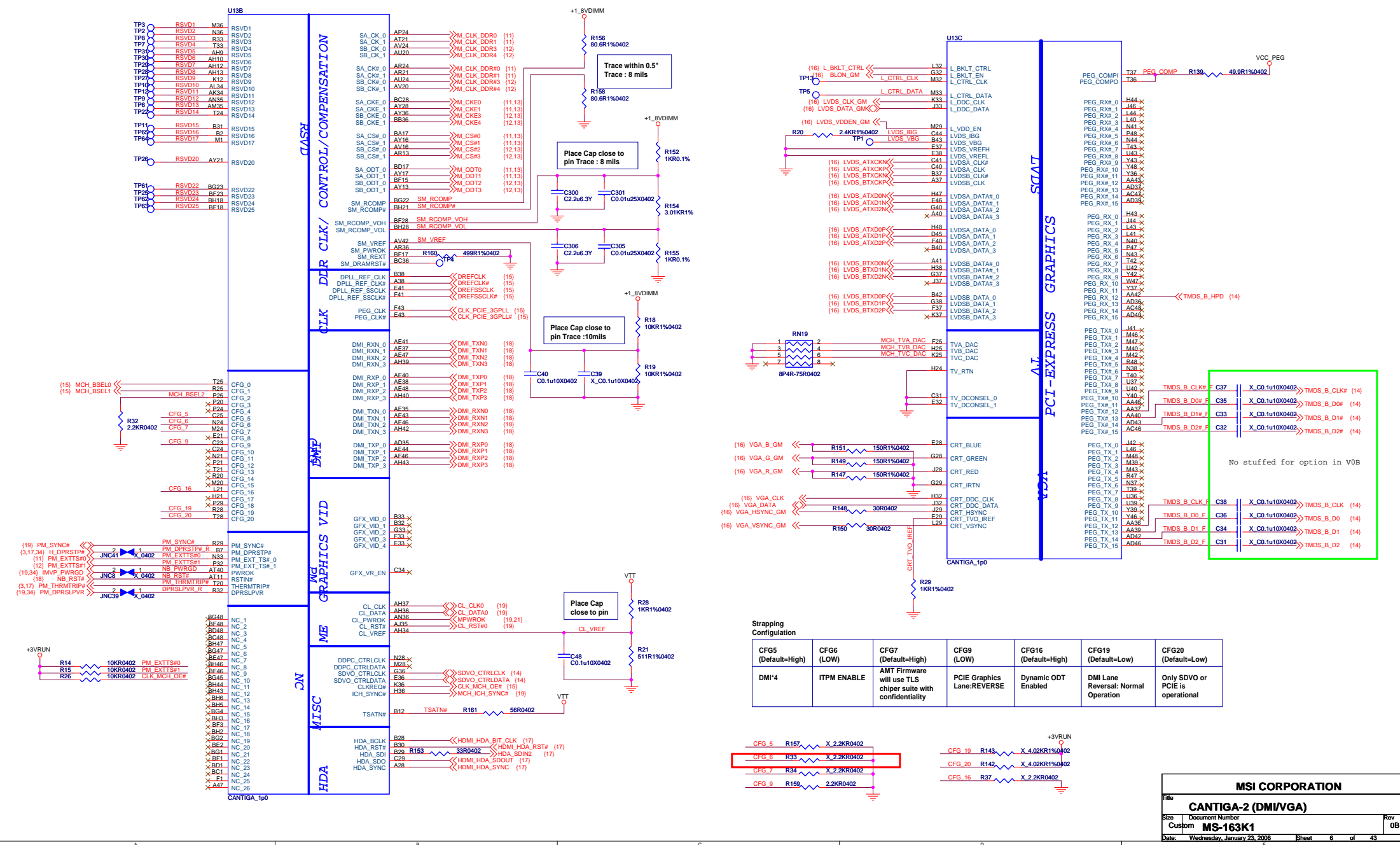
MSI CORPORATION			
Title	PENRYN-1 (HOST BUS)		
Size	Document Number	Rev	
Custom	MS-163K1	0B	
Date:	Wednesday, January 23, 2008	Sheet	3 of 43



HOST



MSI CORPORATION			
Title			
CANTIGA-1 (HOST BUS)			
Size	Document Number		Rev
B	MS-163K1		OB
Date:	Wednesday, January 23, 2008	Sheet	5 of 43



CFG5 (Default=High)	CFG6 (LOW)	CFG7 (Default=High)	CFG9 (LOW)	CFG16 (Default=High)	CFG19 (Default=Low)	CFG20 (Default=Low)
DMI*4	ITPM ENABLE	AMT Firmware will use TLS chip set suite with confidentiality	PCIe Graphics Lane: REVERSE	Dynamic ODT Enabled	DMI Lane Reversal: Normal Operation	Only SDVO or PCIe is operational

MSI CORPORATION

File

CANTIGA-2 (DMI/VGA)

Size

Document Number

Custom

MS-163K1

Rev

0B

Date

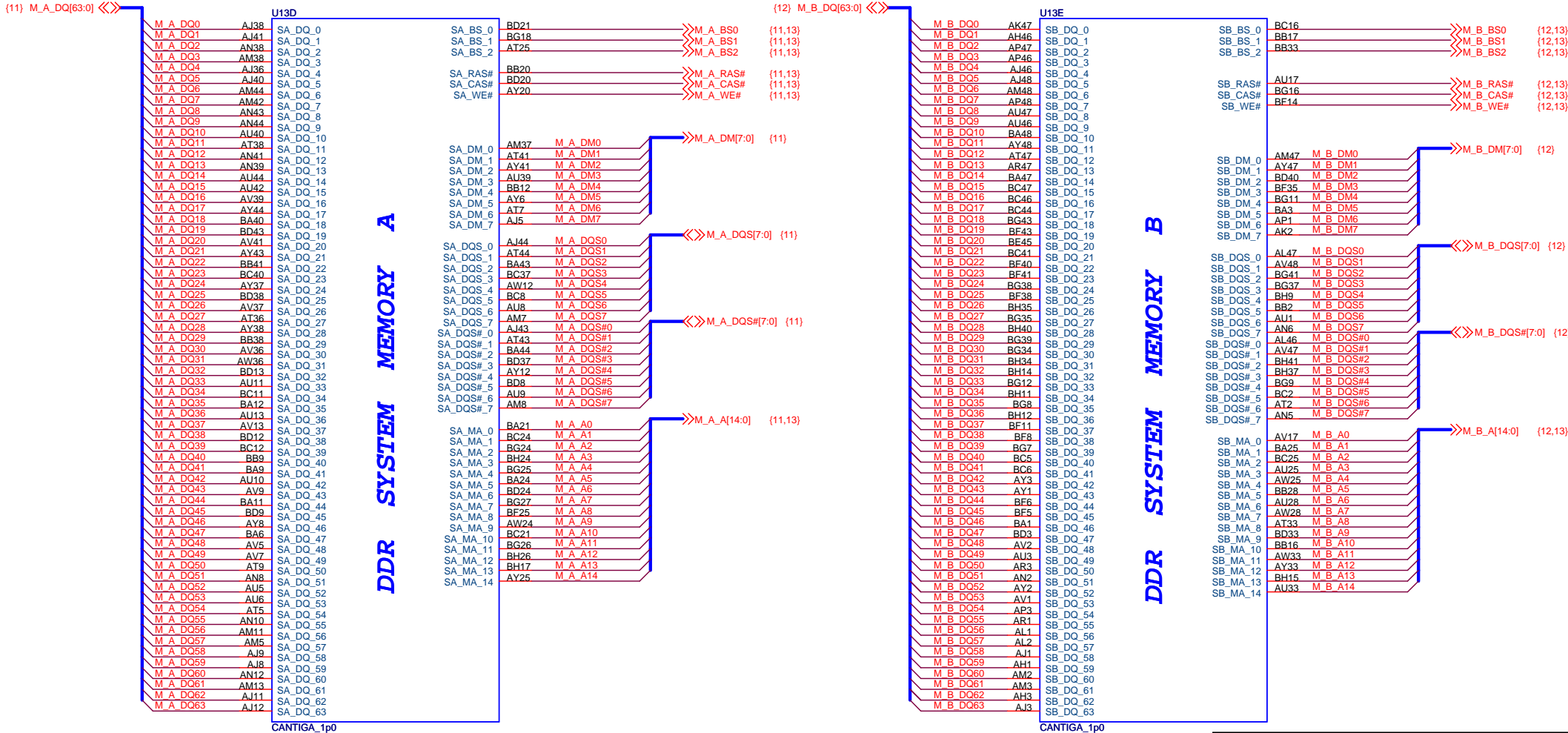
Wednesday, January 23, 2008

Sheet

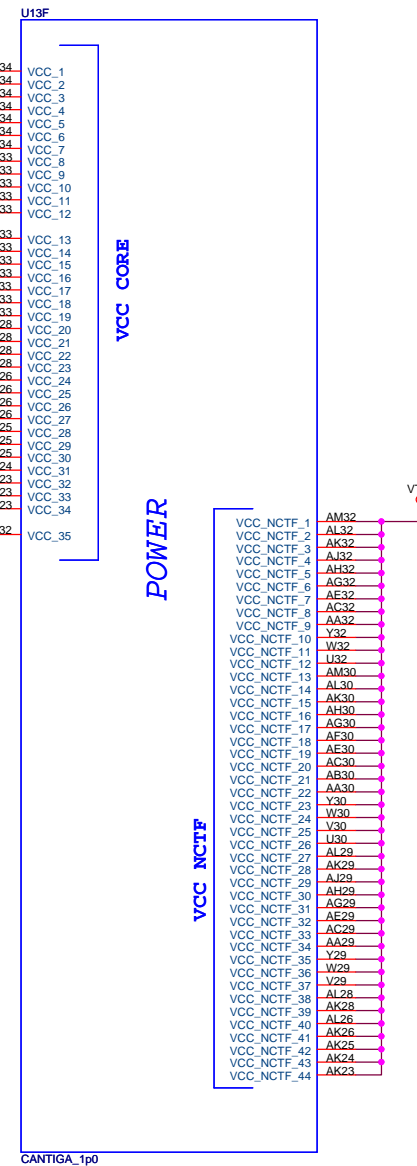
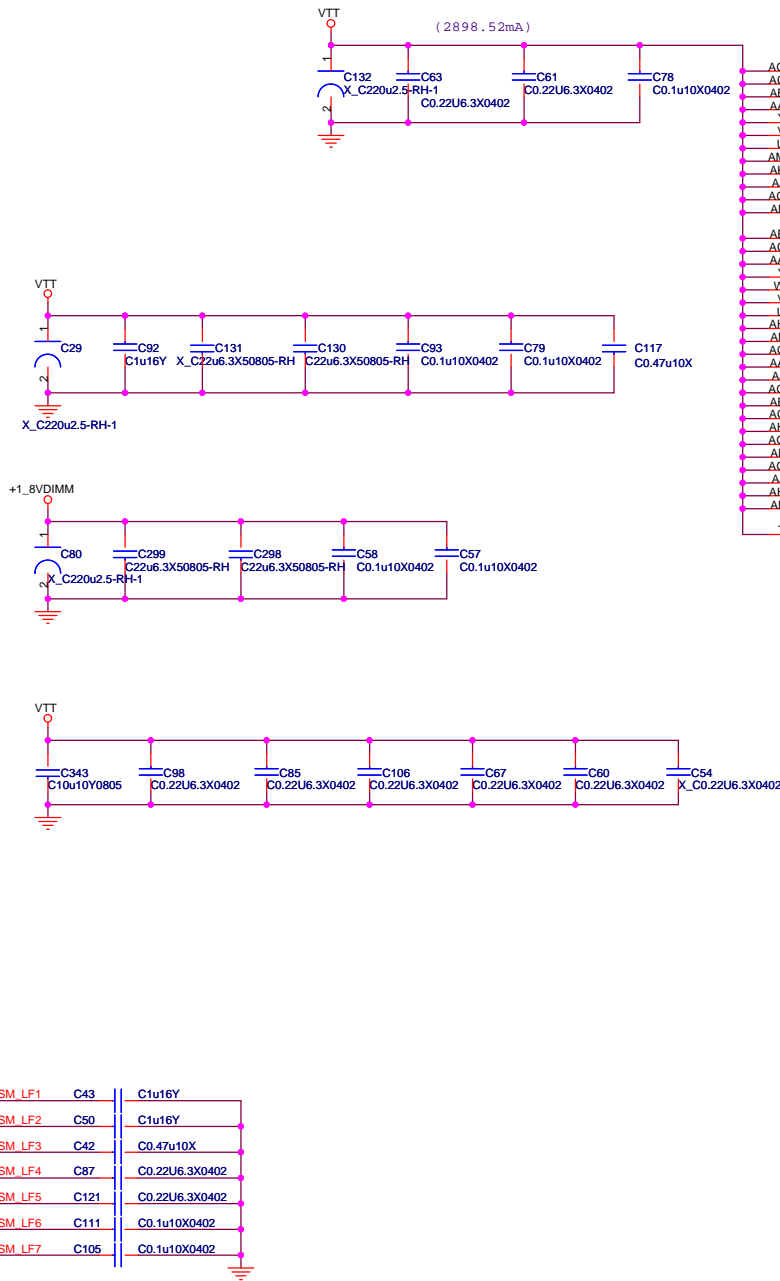
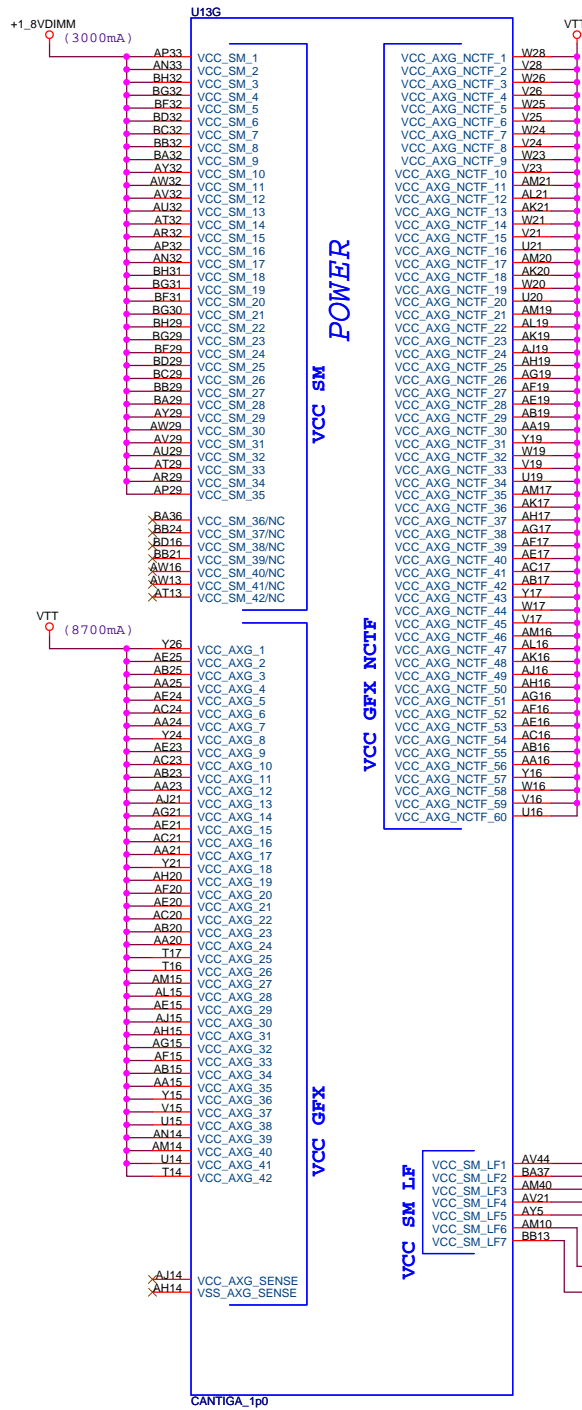
6

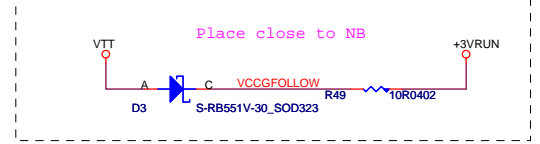
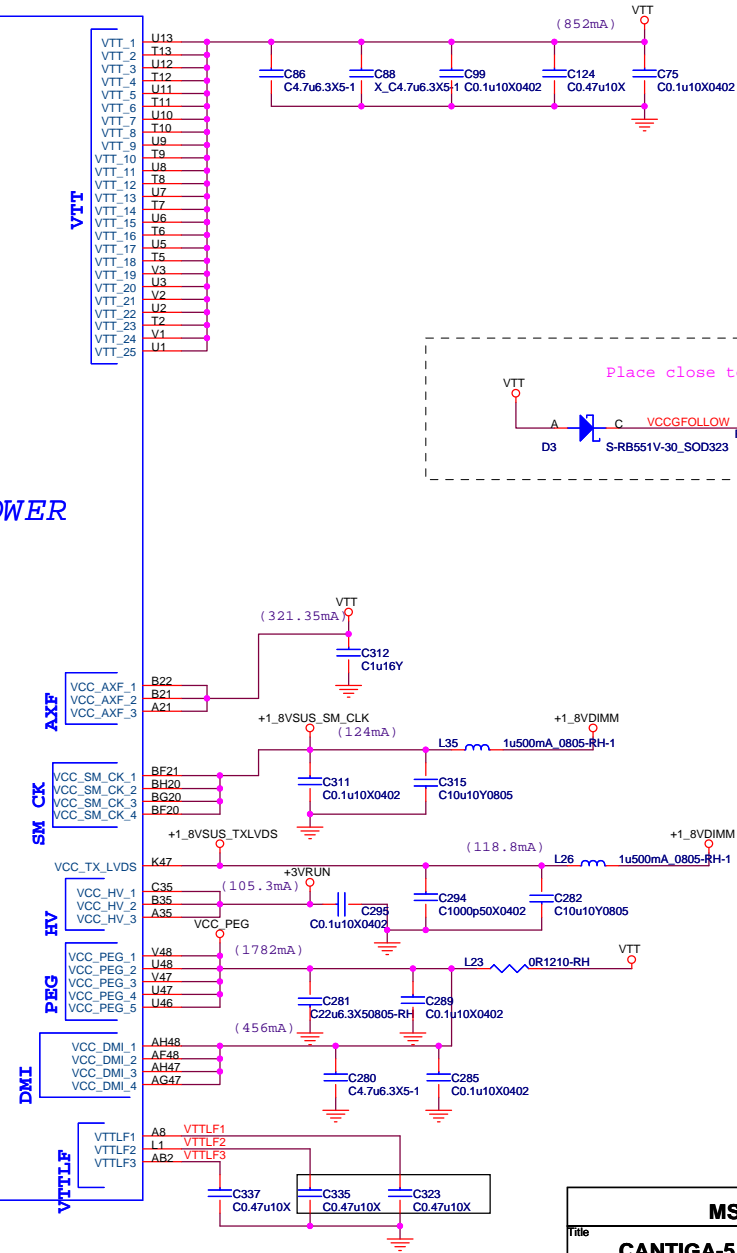
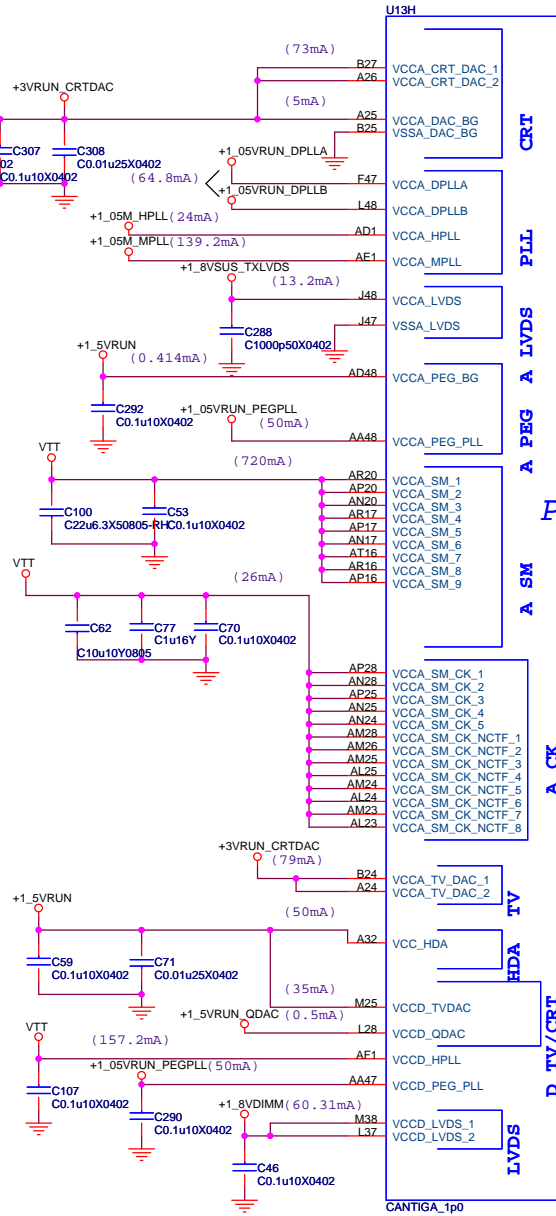
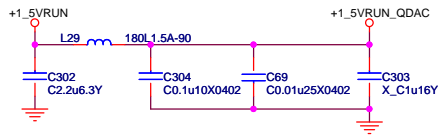
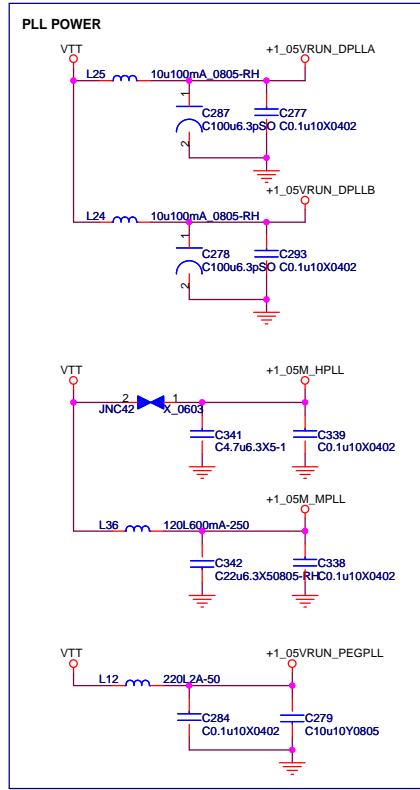
of

43

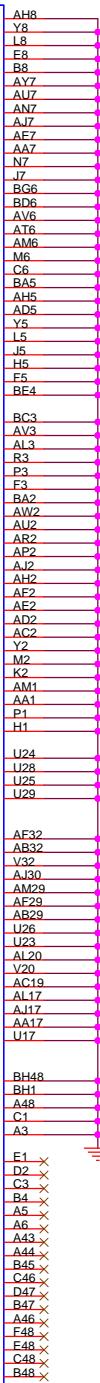
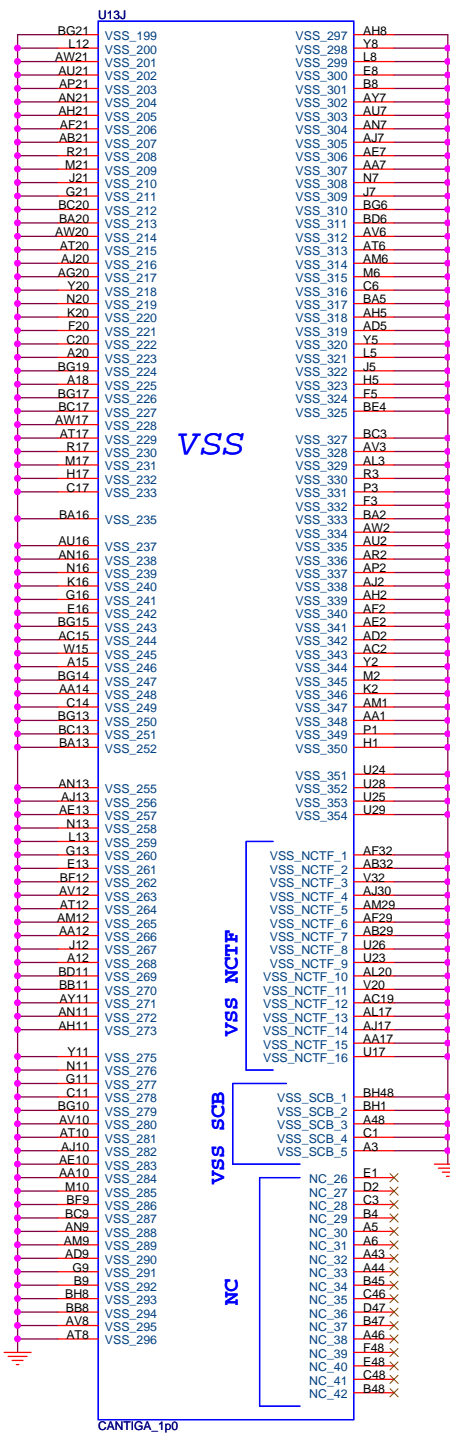
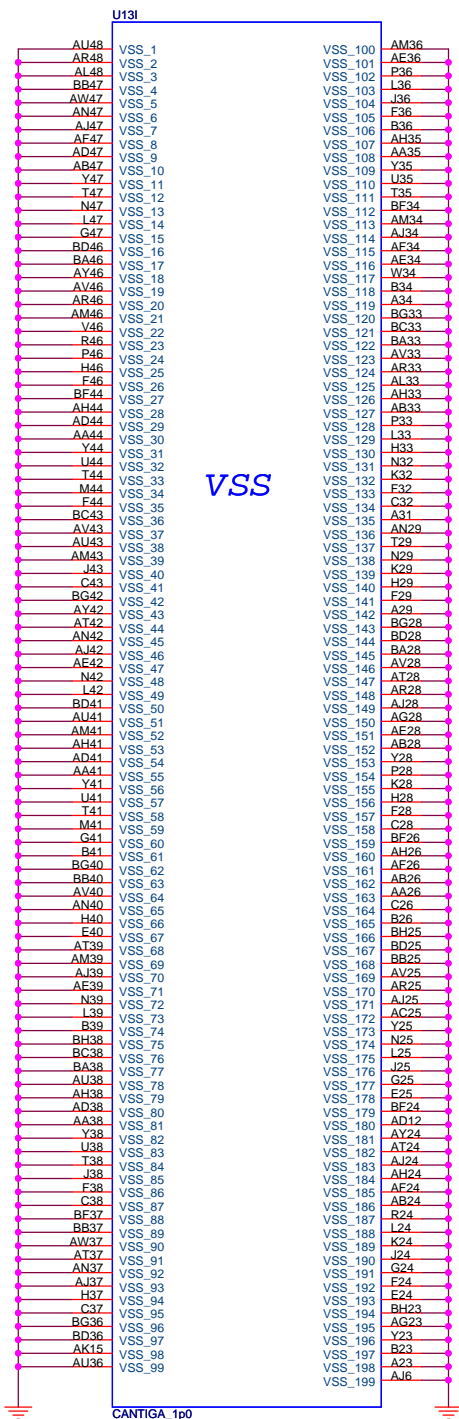


MSI CORPORATION			
Title			
CANTIGA-3 (DDR)			
Size	Document Number		Rev
Custom	MS-163K1		0B
Date:	Wednesday, January 23, 2008		Sheet 7 of 43

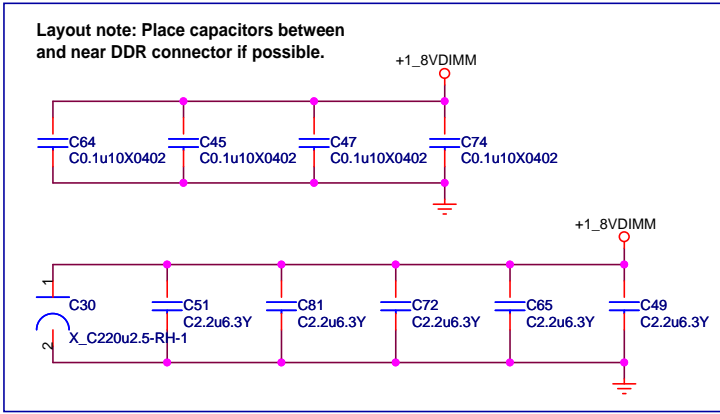
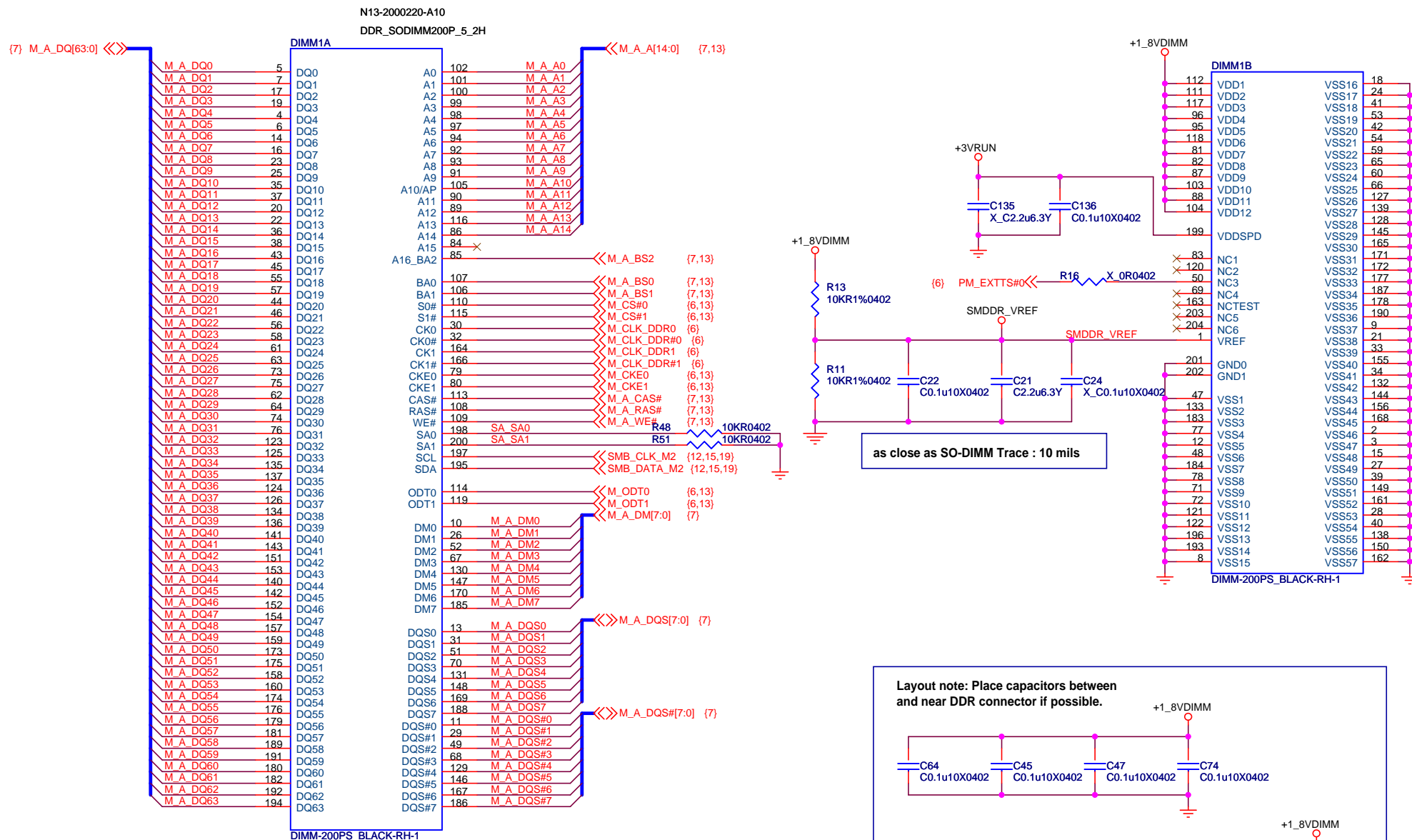




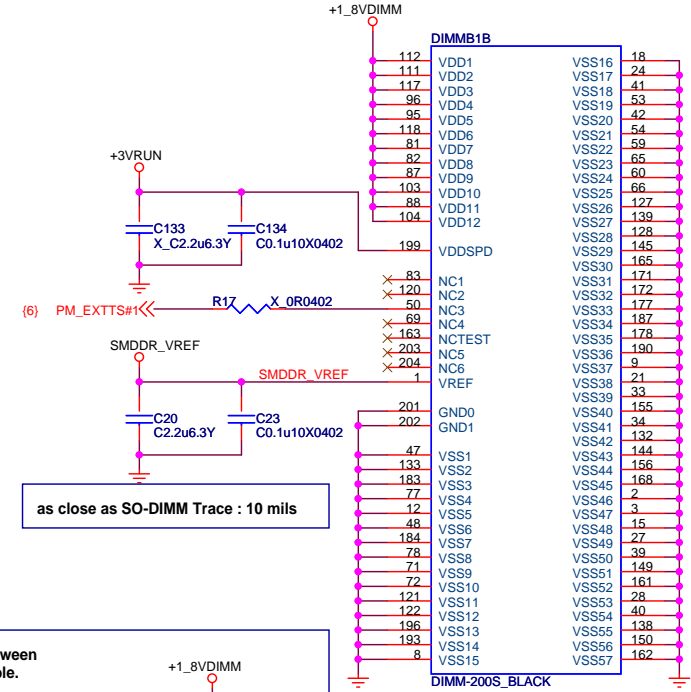
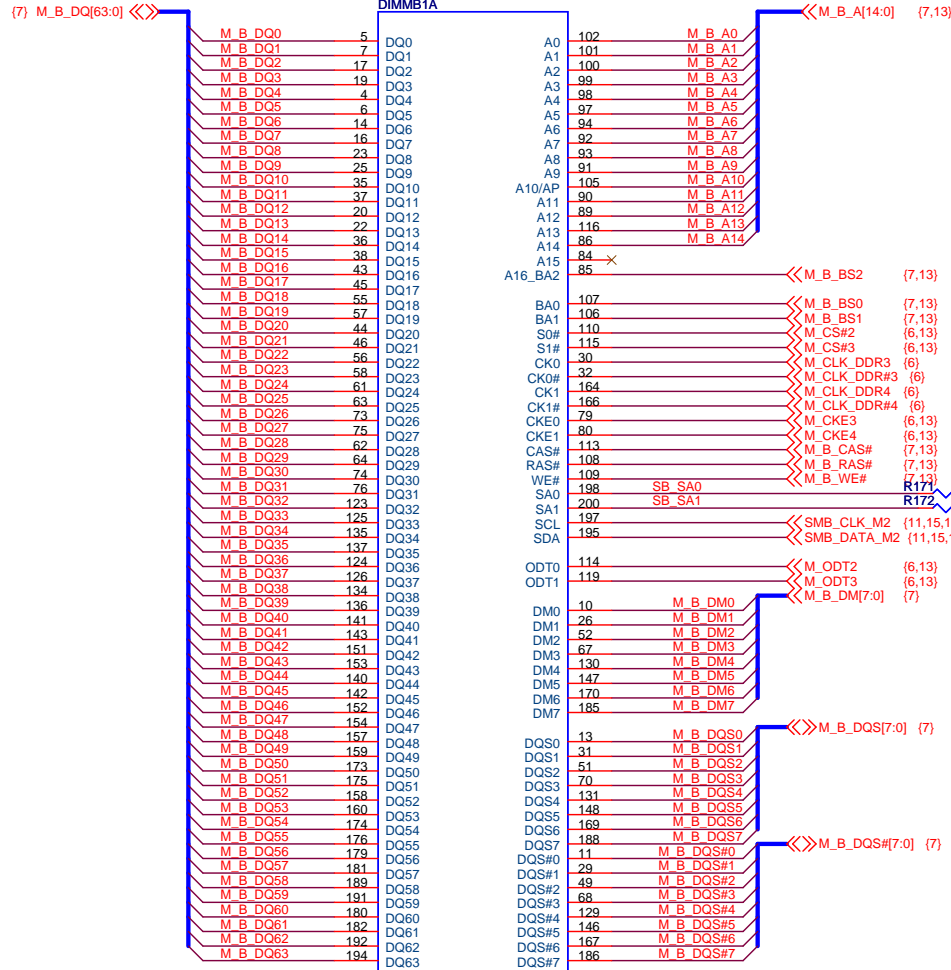
MSI CORPORATION			
Title			
CANTIGA-5 (POWER-2)			
Size	Document Number	Rev	
Custom	MS-163K1	0B	
Date:	Wednesday, January 23, 2008	Sheet	9 of 43



MSI CORPORATION		
Title		
CANTIGA-6 (VSS)		
Size	Document Number	Rev
Custom	MS-163K1	0B
Date:	Wednesday, January 23, 2008	Sheet 10 of 43



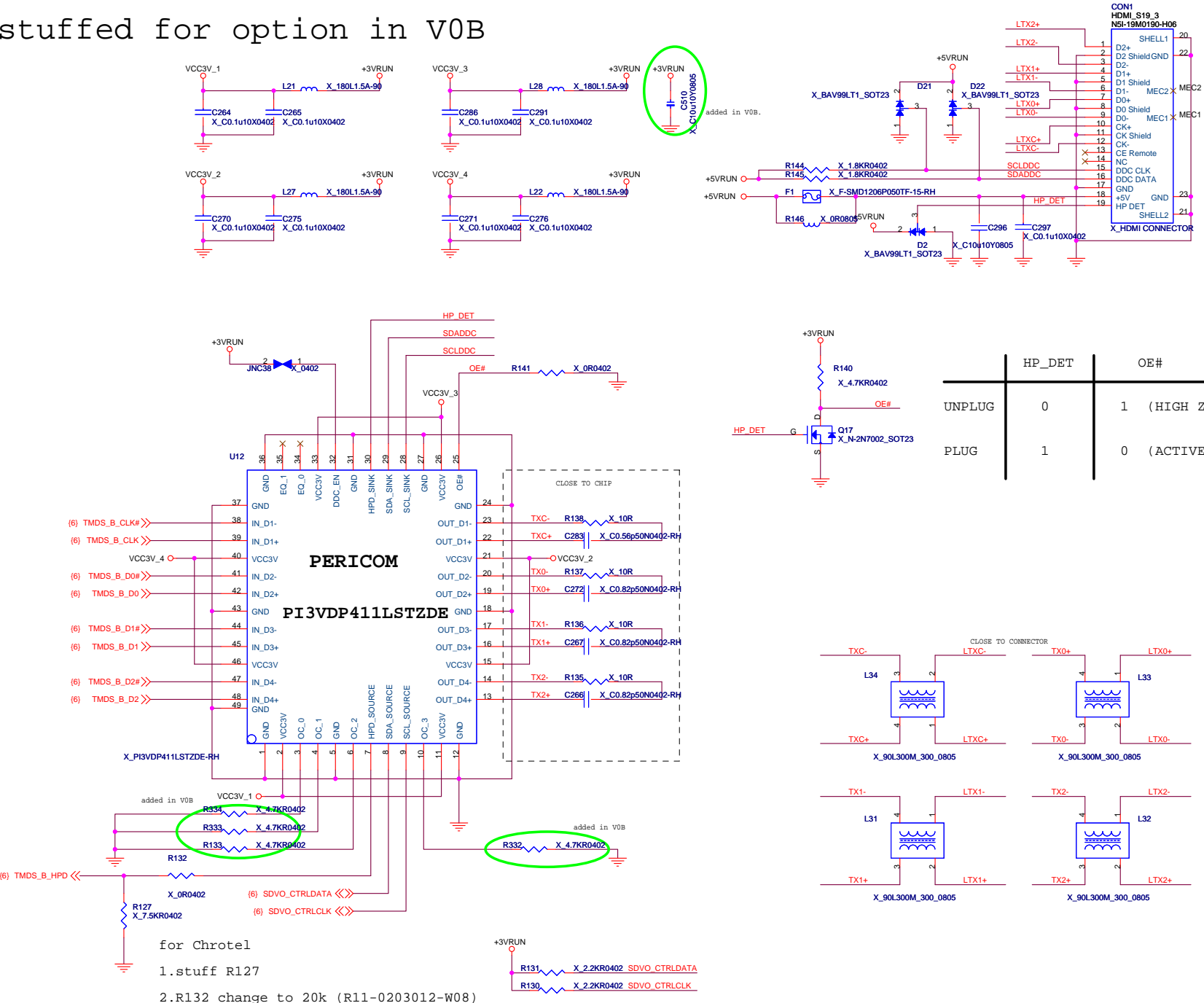
N13-2000210-A10
DDR_SODIMM200P_9_2H

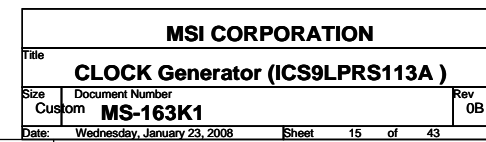


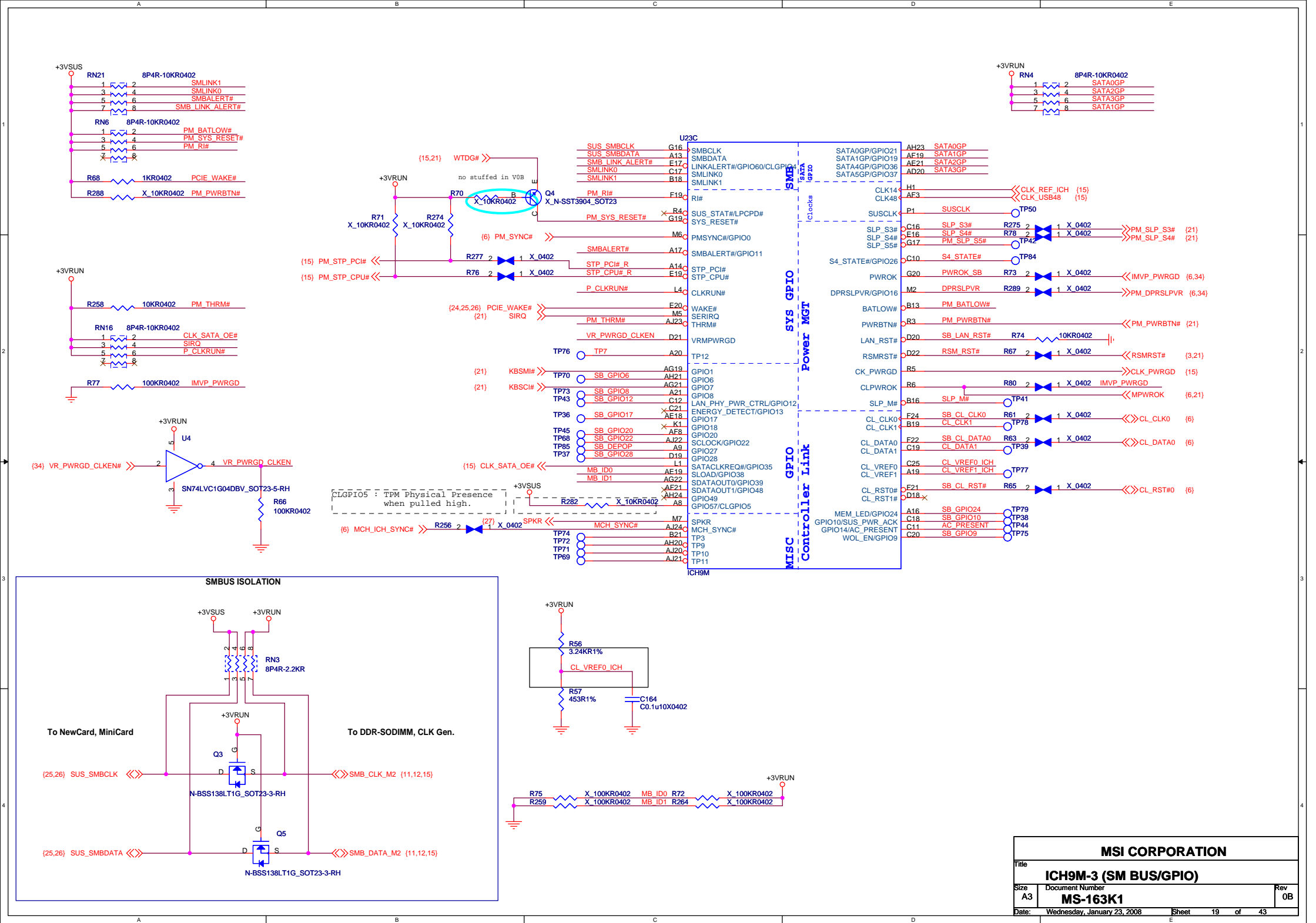
Layout note: Place capacitors between and near DDR connector if possible.

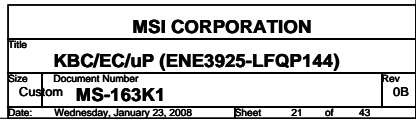
MSI CORPORATION			
Title			
DDR2 SODIMM 1			
Size	Document Number	Rev	
Custom	MS-163K1	0B	
Date:	Wednesday, January 23, 2008	Sheet	12 of 43

No stuffed for option in V0B

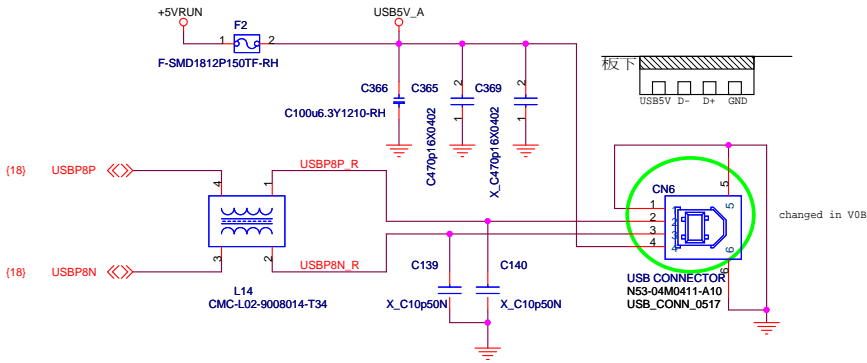




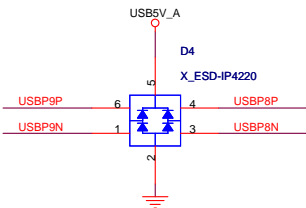
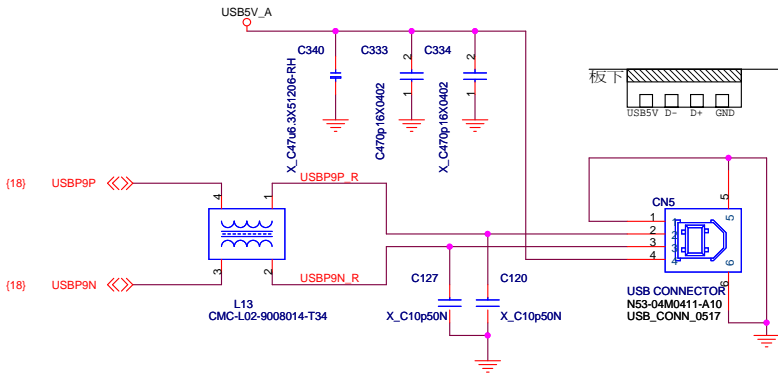




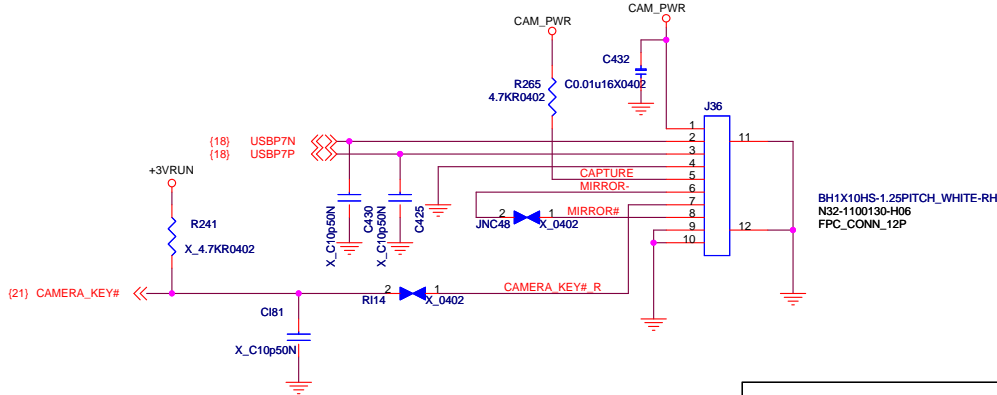
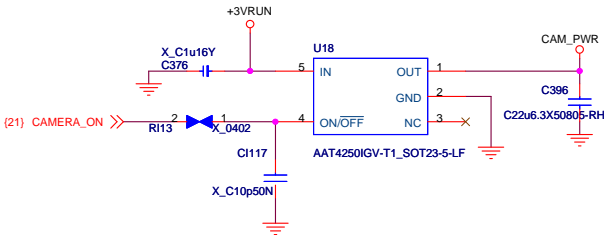
USB CONNECTORS



USB CONNECTORS

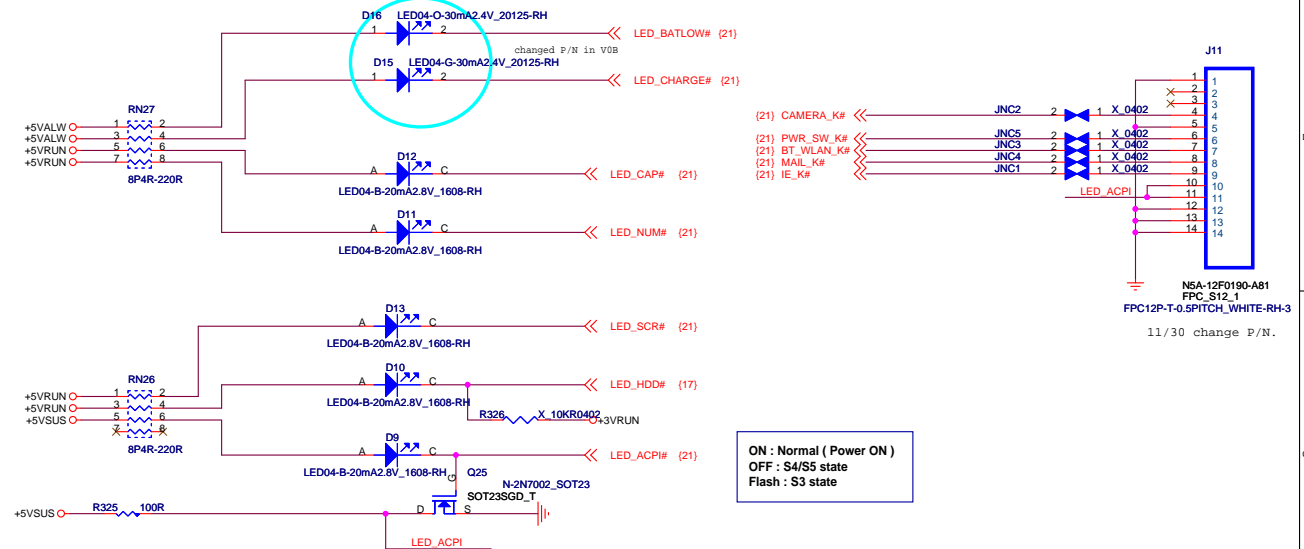
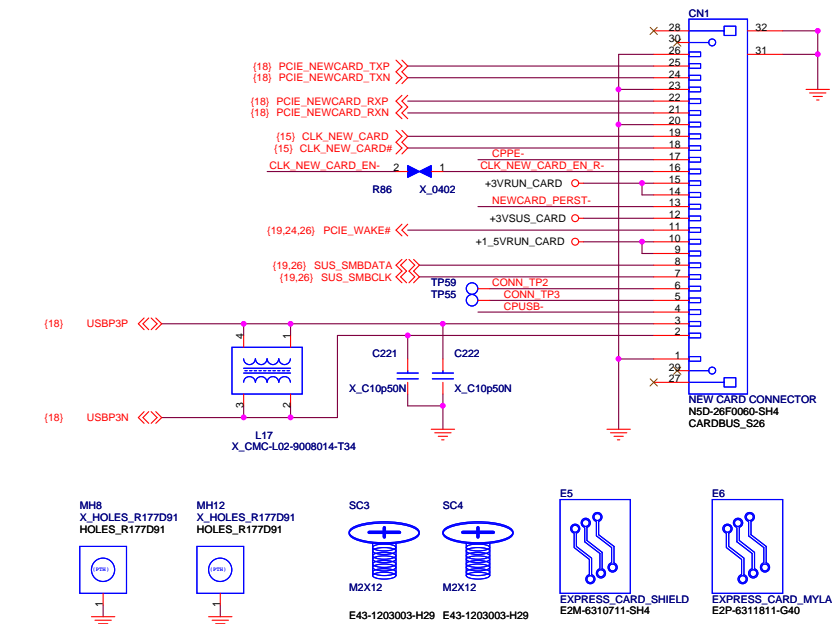
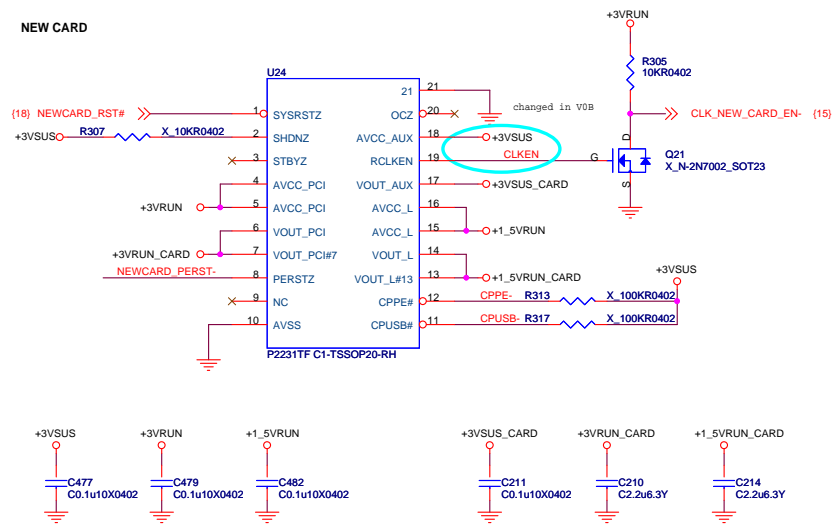


CAMERA

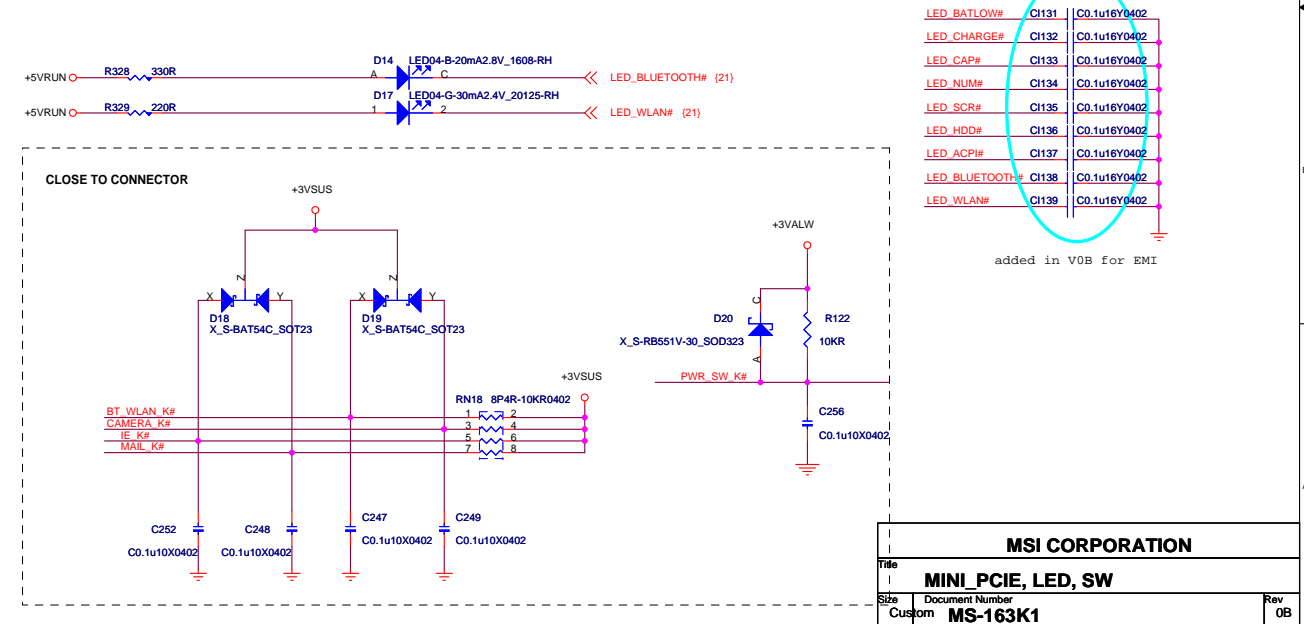


MSI CORPORATION			
Title			
USB, CAMERA CONNECTORS			
Size	Document Number	Rev	
Custom	MS-163K1	0A	
Date:	Wednesday, January 23, 2008	Sheet	22 of 41

NEW CARD



ON : Normal (Power ON)
OFF : S4/S5 state
Flash : S3 state



LED_BATLOW#	C131	C0.1u16Y0402
LED_CHARGE#	C132	C0.1u16Y0402
LED_CAP#	C133	C0.1u16Y0402
LED_NUM#	C134	C0.1u16Y0402
LED_SCR#	C135	C0.1u16Y0402
LED_HDD#	C136	C0.1u16Y0402
LED_ACPI#	C137	C0.1u16Y0402
LED_BLUETOOTH#	C138	C0.1u16Y0402
LED_WLAN#	C139	C0.1u16Y0402

added in V0B for EMI

MSI CORPORATION			
Title	MINI PCIE, LED, SW		
Size	Document Number	Rev	
Custom	MS-163K1	0B	
Date:	Wednesday, January 23, 2008	Sheet	25 of 43

[illegible]

The image displays two PCB layouts for WLAN modules, labeled WLAN1 and Robson. Each layout includes a detailed pin connection table, component values, and mechanical callouts.

WLAN1 Pin Connections:

Pin	Signal	Notes
1	WAKE#	+3.3V_1
2	BT_DATA	GND7
3	BT_CHCLK	+1.5V_1
4	CLKREQ#	GND7
5	RSVD13	RSVD13
6	RSVD14	RSVD14
7	REFCLK+	RSVD15
8	REFCLK+	RSVD16
9	REFCLK+	RSVD17
10	RSVD17	RSVD17
11	RSVD17	RSVD17
12	RSVD17	RSVD17
13	RSVD17	RSVD17
14	RSVD17	RSVD17
15	RSVD17	RSVD17
16	RSVD17	RSVD17
17	RSVD3	GND8
18	RSVD4	W_DISABLE#
19	GND3	PERST#
20	GND3	PERST#
21	PET_N0	+3.3_AUX
22	PET_P0	GND9
23	GND4	+1.5V_2
24	GND5	RSVD18
25	GND5	RSVD19
26	PER_N0	RSVD10
27	PER_P0	RSVD11
28	GND6	USB_D-
29	RSVD5	USB_D+
30	RSVD6	GND11
31	RSVD7	NC
32	RSVD8	LED_WLAN#
33	RSVD9	NC
34	RSVD10	+1.5V_3
35	RSVD11	GND12
36	RSVD12	+3.3V_2
37	GND17	GND17
38	NC	NC
39	NC	NC
40	NC	NC
41	NC	NC
42	NC	NC
43	NC	NC
44	NC	NC
45	NC	NC
46	NC	NC
47	NC	NC
48	NC	NC
49	NC	NC
50	NC	NC
51	NC	NC
52	NC	NC
53	NC	NC
54	NC	NC
55	NC	NC
56	NC	NC

Robson Pin Connections:

Pin	Signal	Notes
1	WAKE#	+3.3V_1
2	BT_DATA	GND7
3	BT_CHCLK	+1.5V_1
4	CLKREQ#	GND7
5	RSVD13	RSVD13
6	RSVD14	RSVD14
7	REFCLK+	RSVD15
8	REFCLK+	RSVD16
9	REFCLK+	RSVD17
10	RSVD17	RSVD17
11	RSVD17	RSVD17
12	RSVD17	RSVD17
13	RSVD17	RSVD17
14	RSVD17	RSVD17
15	RSVD17	RSVD17
16	RSVD17	RSVD17
17	RSVD3	GND8
18	RSVD4	W_DISABLE#
19	GND3	PERST#
20	GND3	PERST#
21	PET_N0	+3.3_AUX
22	PET_P0	GND9
23	GND4	+1.5V_2
24	GND5	RSVD18
25	GND5	RSVD19
26	PER_N0	RSVD10
27	PER_P0	RSVD11
28	GND6	USB_D-
29	RSVD5	USB_D+
30	RSVD6	GND11
31	RSVD7	NC
32	RSVD8	LED_WLAN#
33	RSVD9	NC
34	RSVD10	+1.5V_3
35	RSVD11	GND12
36	RSVD12	+3.3V_2
37	GND17	GND17
38	NC	NC
39	NC	NC
40	NC	NC
41	NC	NC
42	NC	NC
43	NC	NC
44	NC	NC
45	NC	NC
46	NC	NC
47	NC	NC
48	NC	NC
49	NC	NC
50	NC	NC
51	NC	NC
52	NC	NC
53	NC	NC
54	NC	NC
55	NC	NC
56	NC	NC

[illegible]

MDC Connector Ver 1.5

for 1.5v MDC modem

MS16322 MDC BACK Mylar
E2P-6322211-G40

CON4
N5C-12F0030-A81
BTB_CON_A31793970_12P_H8
MODEM CONNECTOR

USB4N (18) USB4P (18)

BLUETOOTH

MSI CORPORATION

Mini PCIe & MDC & BLUETOOTH

MS-163K1

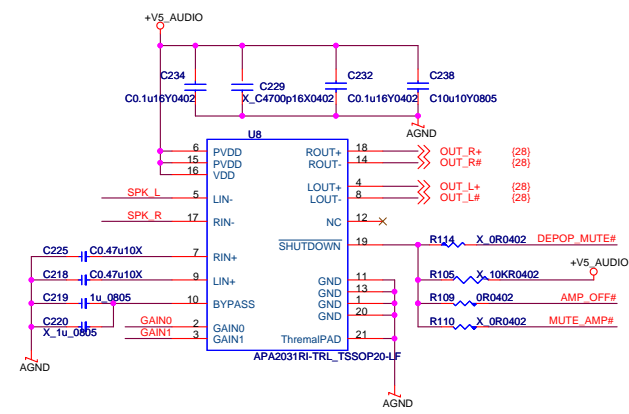
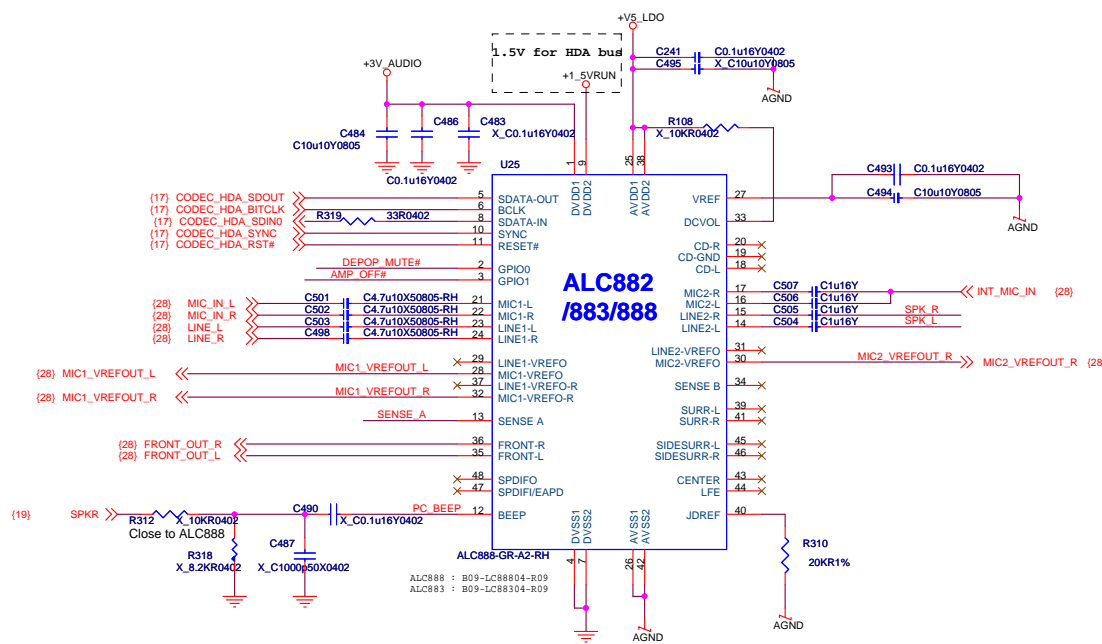
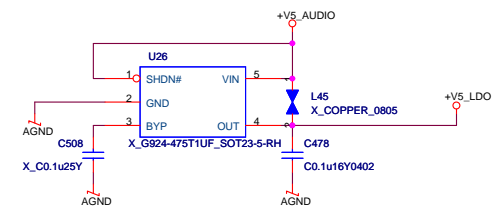
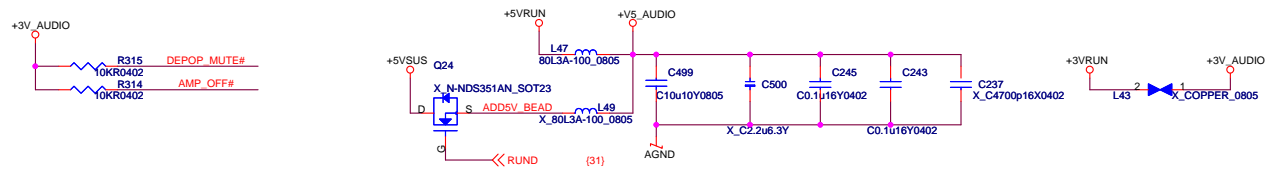
Wednesday, January 23, 2008

Sheet 26 of 43

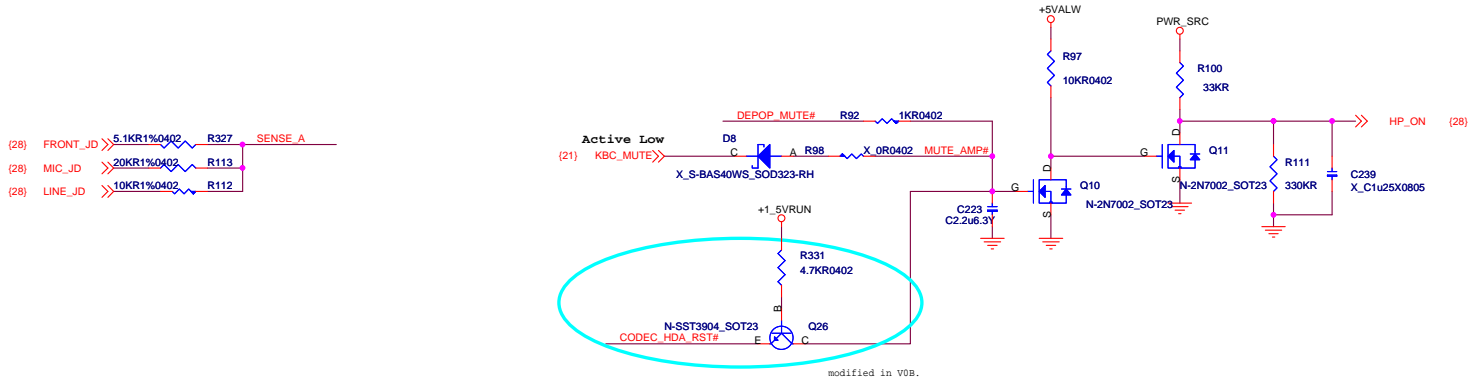
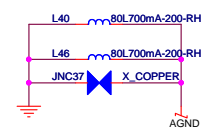
MSI CORPORATION			
Title			
Mini PCIE & MDC & BLUETOOTH			
Size	Document Number		Rev
Custom	MS-163K1		0B
Date:	Wednesday, January 23, 2008	Sheet	26 of 43

Size	Document Number	Rev
Custom	MS-163K1	0B
Date:	Wednesday, January 23, 2008	Sheet 26 of 43

Size	Document Number	Rev
Custom	MS-163K1	0B
Date:	Wednesday, January 23, 2008	Sheet 26 of 43

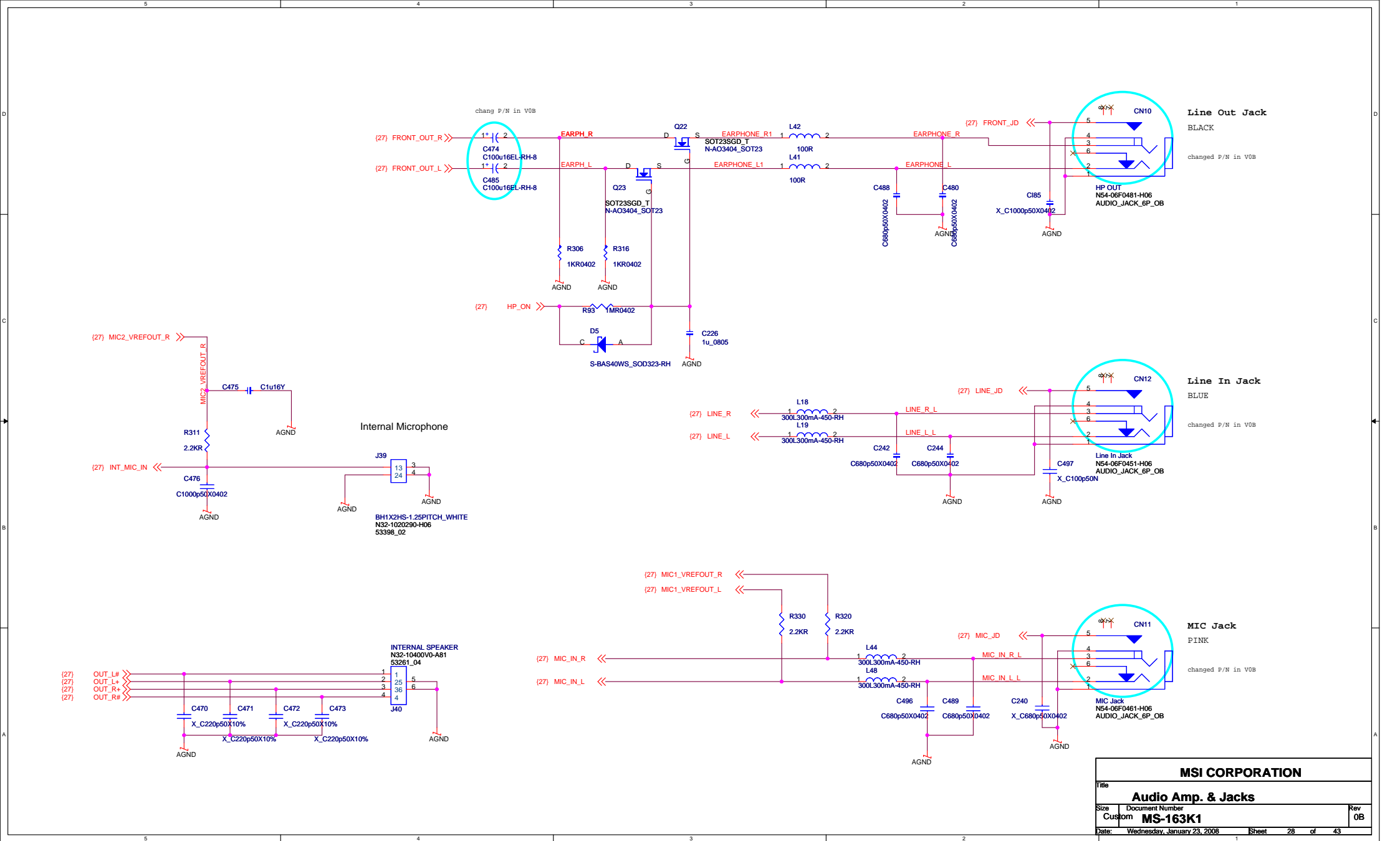


Av	Gain0	Gain1
6dB	0	0
10dB	0	1
15.6dB	1	0
21.6dB	1	1
4.3dB	X	X

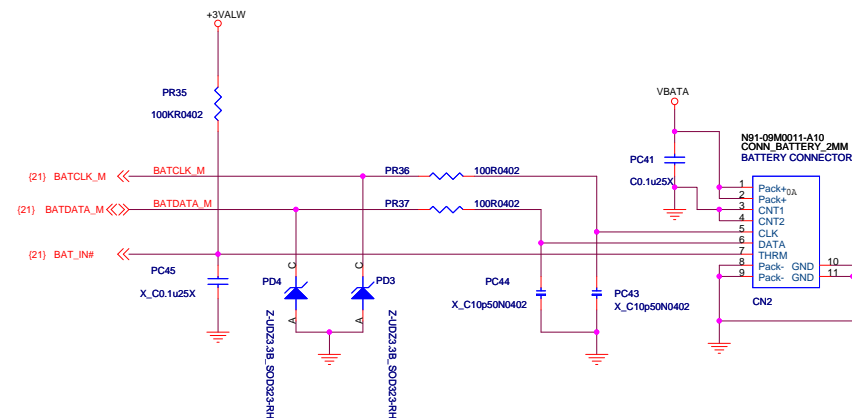


	High (turn on)	Low (Mute)
DEPOP_MUTE#	Normal keep	Power On/Down & S3
AMP_OFF#	High	Line-out Jack IN

MSI CORPORATION		
Title	AZALIA CODEC(ALC888)	
Size	Document Number	Rev
Custom	MS-163K1	0B
Date:	Wednesday, January 23, 2008	Sheet 27 of 43

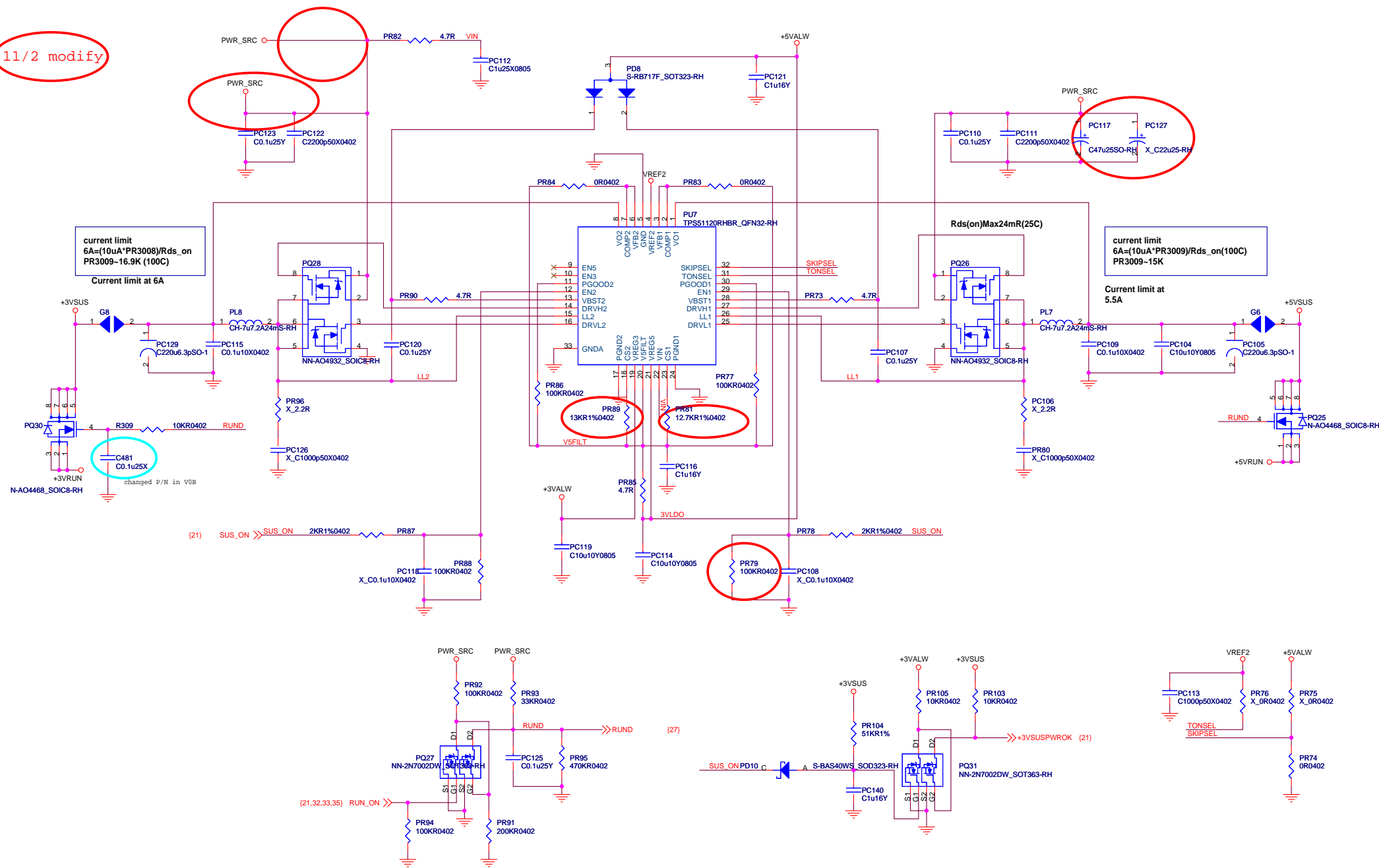


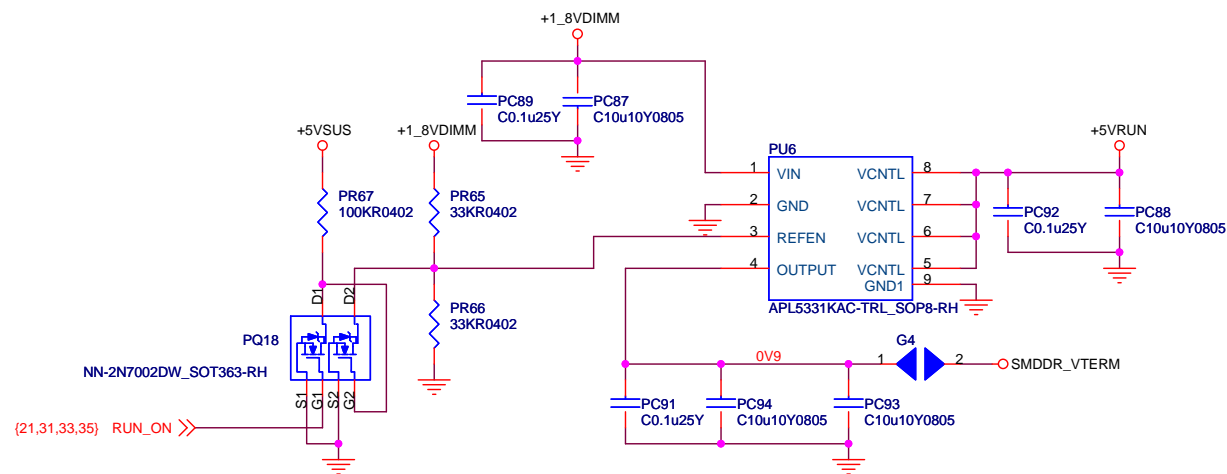
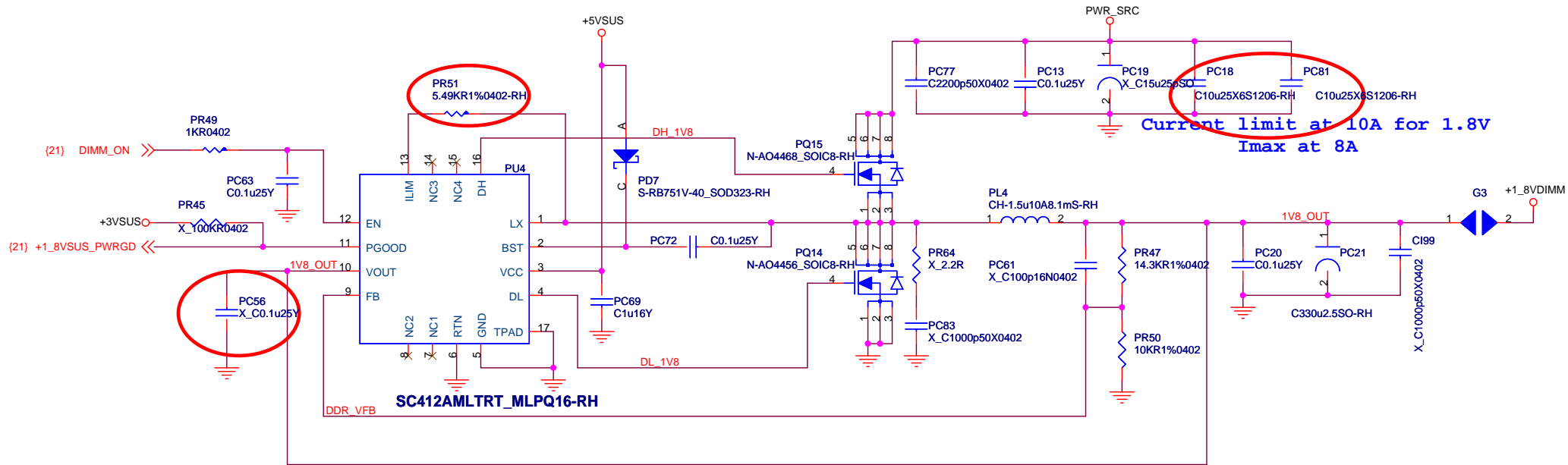
MSI CORPORATION			
Title			
Audio Amp. & Jacks			
Size	Document Number	Rev	
Custom	MS-163K1	0B	
Date:	Wednesday, January 23, 2008	Sheet	28 of 43



MSI CORPORATION			
Title Battery Select			
Size	Document Number		Rev
Custom	MS-163K1		01
Date:	Wednesday, January 23, 2008	Sheet	29 of 43

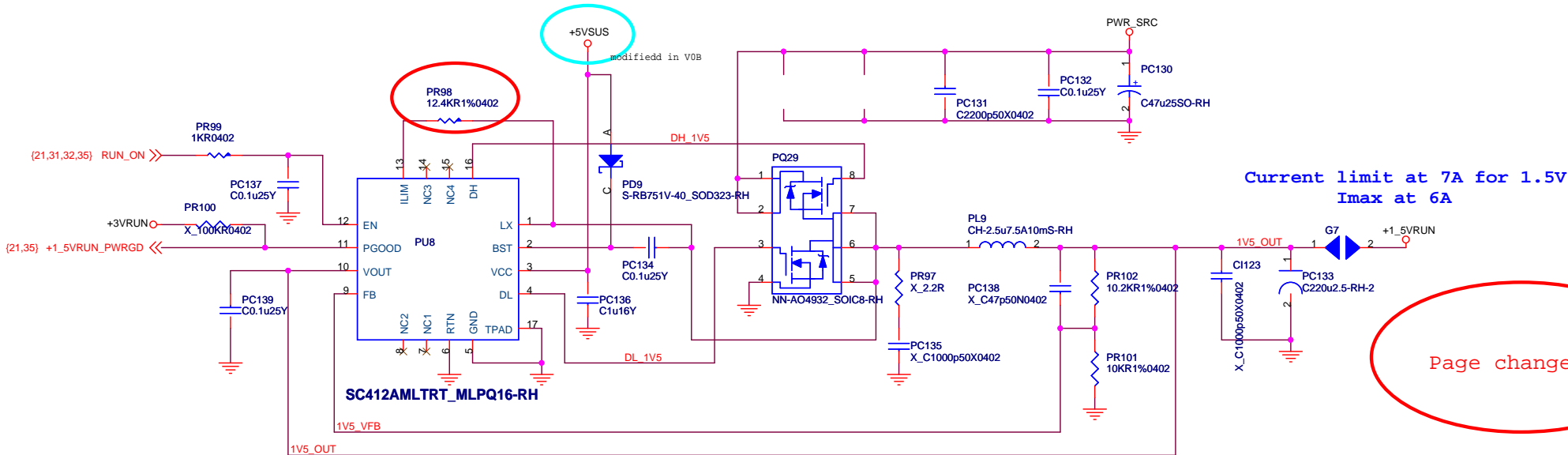
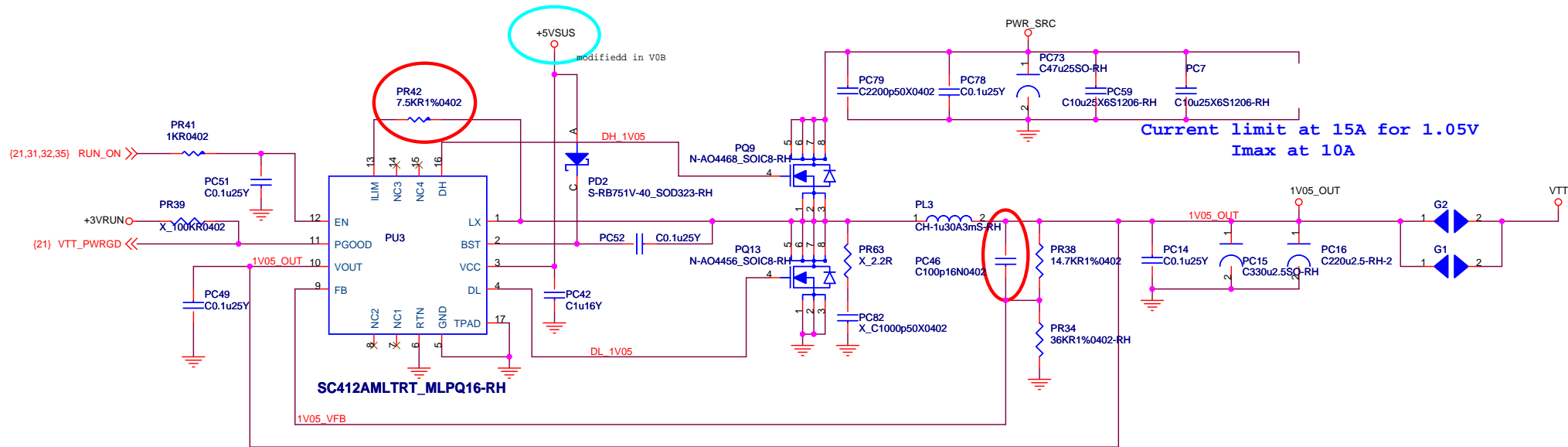
11/2 modify





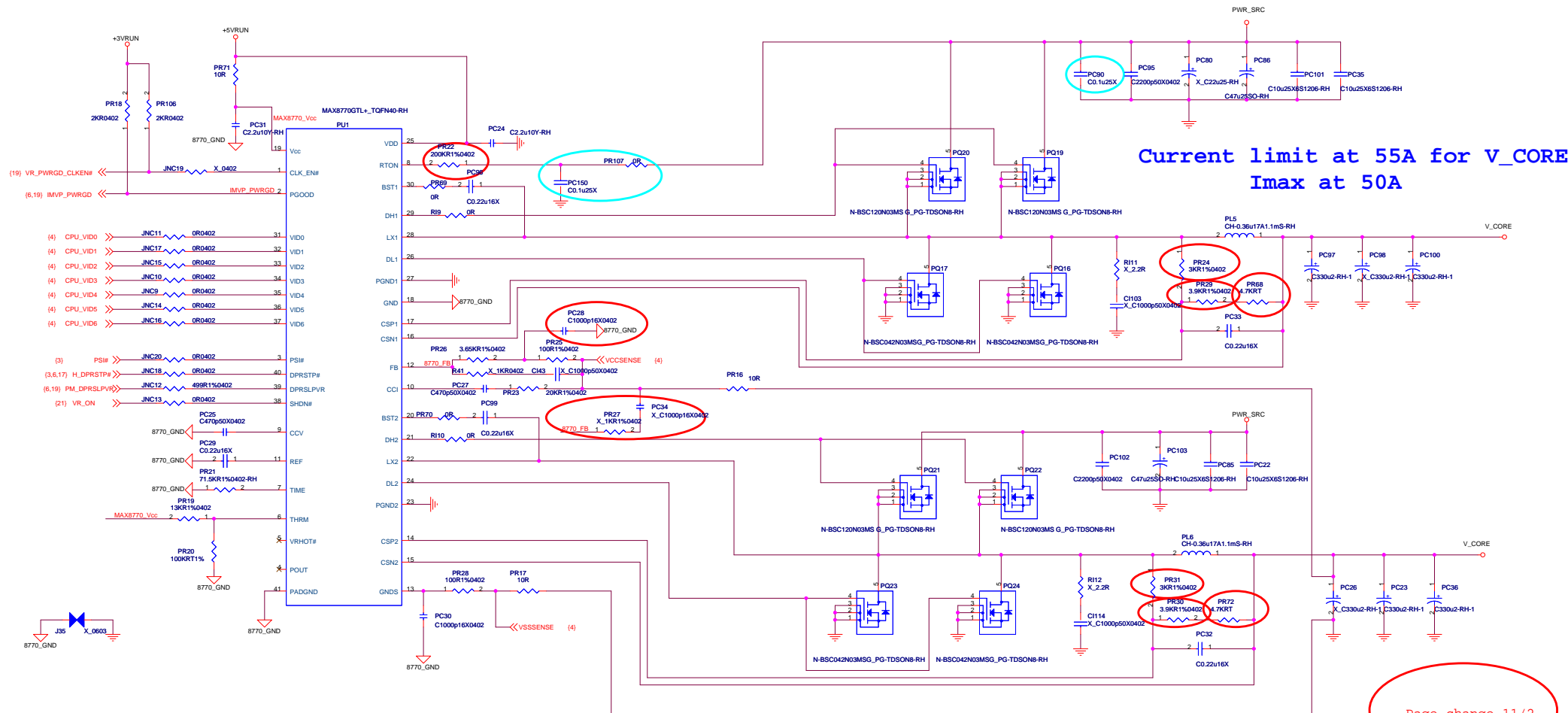
Page change 11/2

MSI CORPORATION			
Title DDR2 RAM POWER			
Size Custom	Document Number MS-163K1		Rev 0B
Date:	Wednesday, January 23, 2008	Sheet 32	of 43

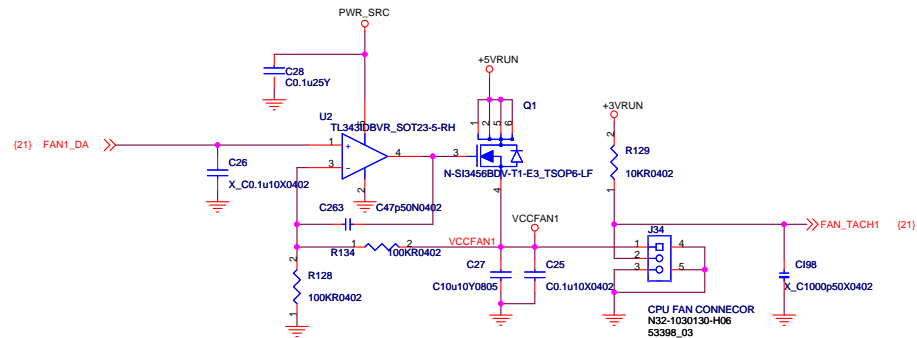


Page change 11/2

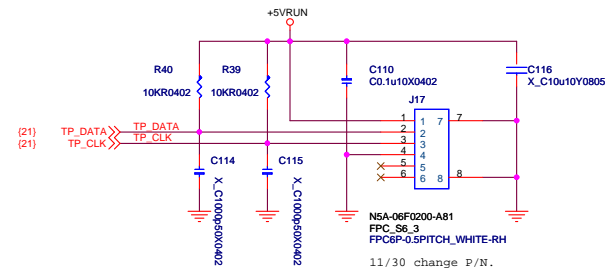
MSI CORPORATION			
Title			
+1_5VRUN , VTT POWER			
Size	Document Number		Rev
Custom	MS-163K1		0B
Date:	Wednesday, January 23, 2008	Sheet	33 of 43



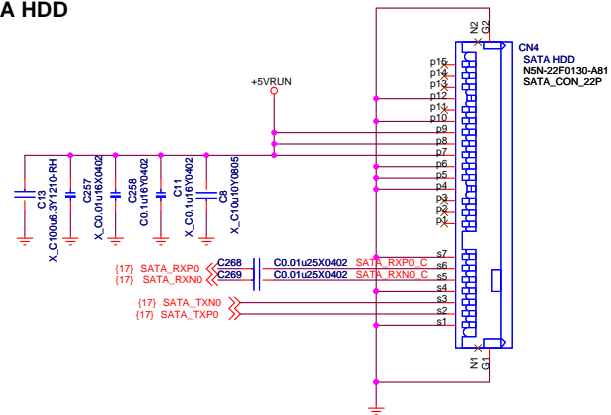
CPU FAN



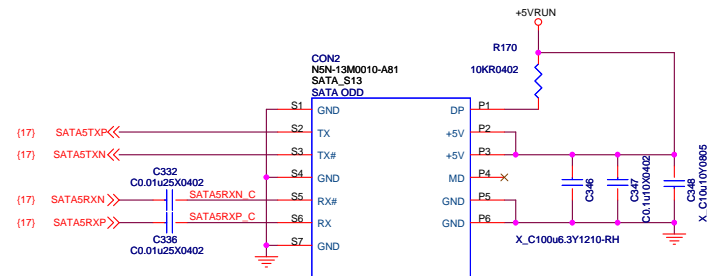
TOUCH PAD



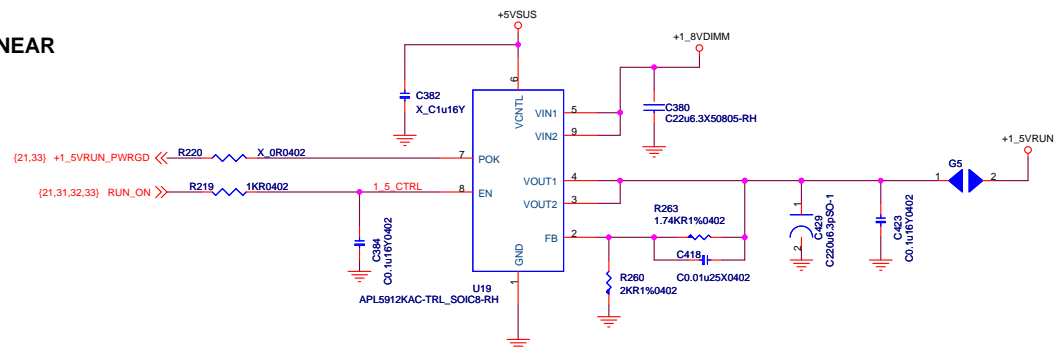
SATA HDD

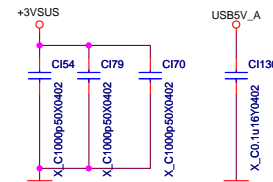
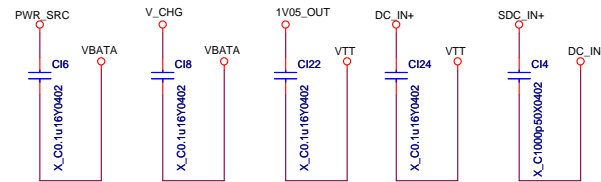
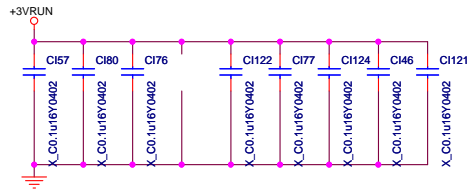
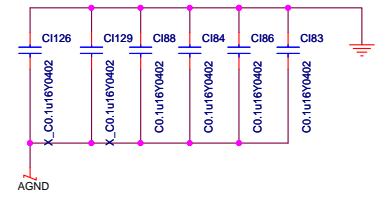
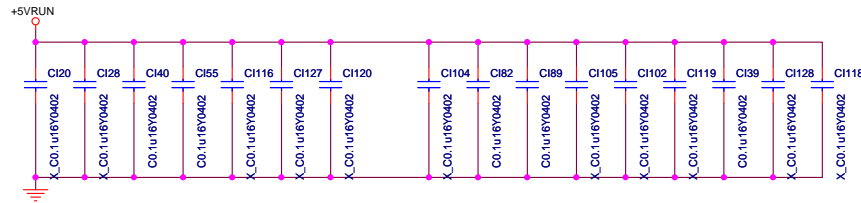
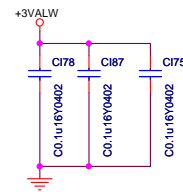
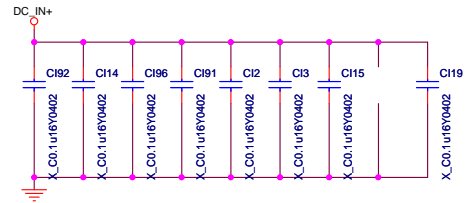
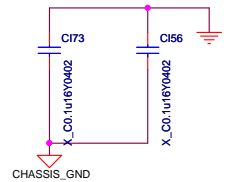
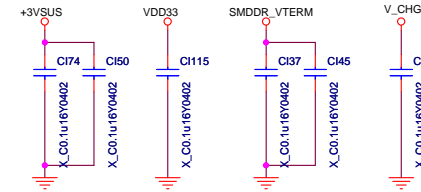
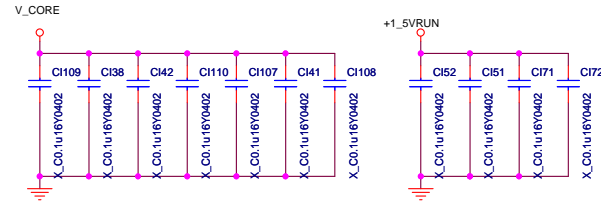
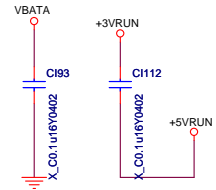
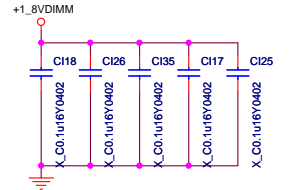
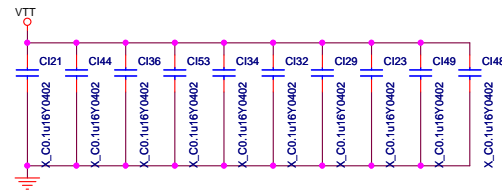
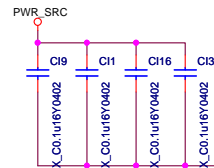
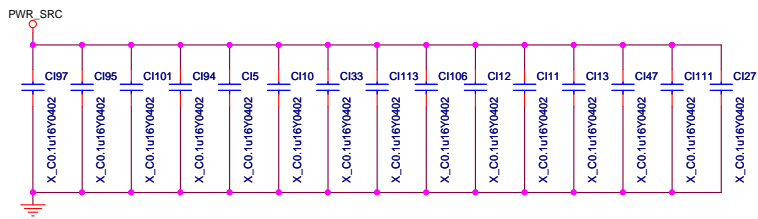


SATA ODD

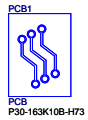
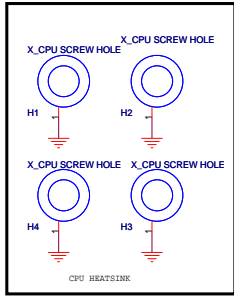


+1_5VRUN LINEAR

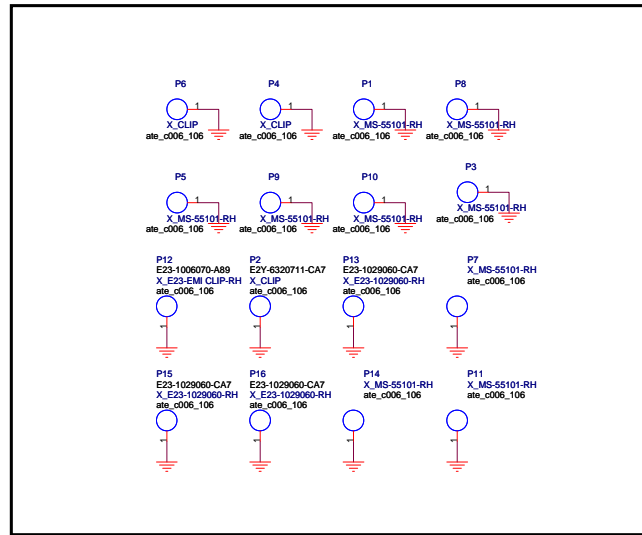
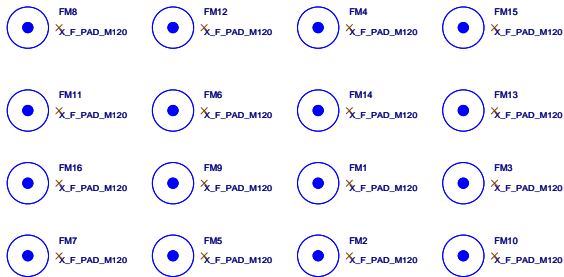
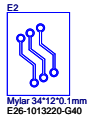
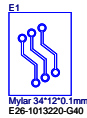
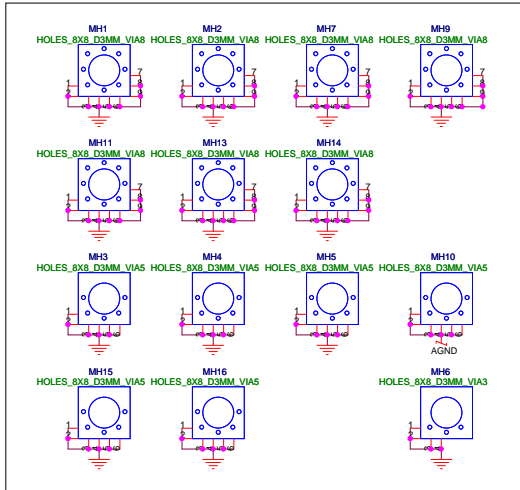




MSI CORPORATION			
Title			
EMI			
Size	Document Number		Rev
Custom	MS-163K1		0B
Date:	Wednesday, January 23, 2008	Sheet	36 of 43

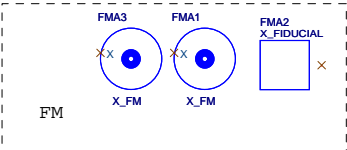
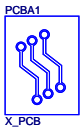
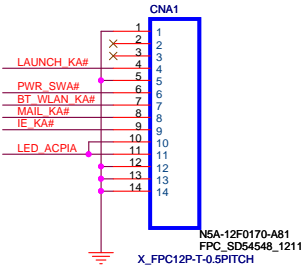
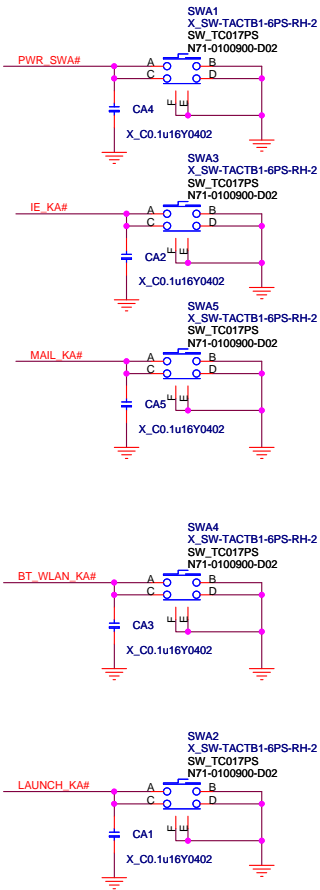
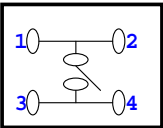


P30-163K10B-H73,瀚宇博德
P30-163K10B-Y34,元茂
P30-163K10B-D05,昆穎(定穎大陸)

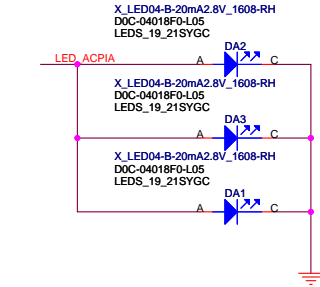
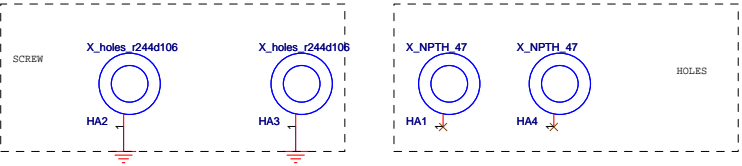


ESD/EMI CLIP

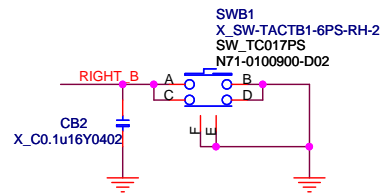
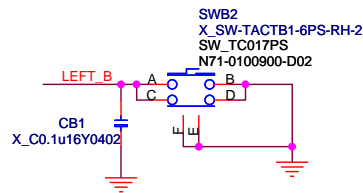
MSI CORPORATION			
File			
Screw			
Size	Document Number	Rev	
Custom	MS-163K1	0B	
Date:	Thursday, January 24, 2008	Sheet	37 of 43



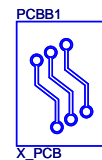
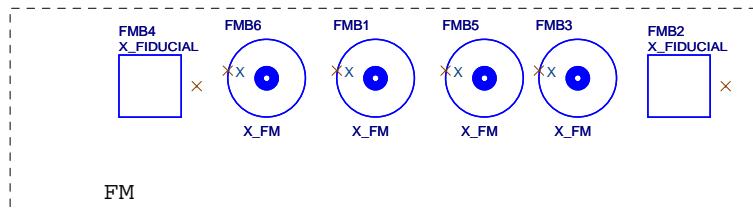
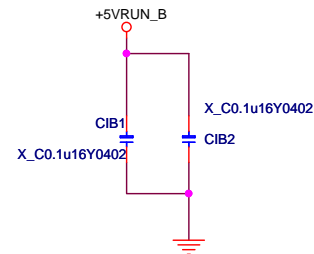
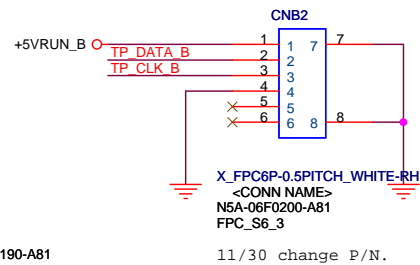
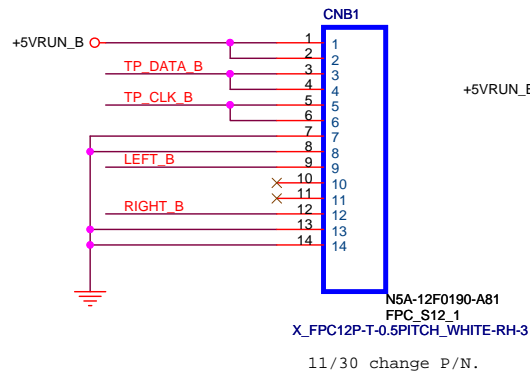
P30-163KA0B-H73,瀚宇博德
P30-163KA0B-Y34,元茂
P30-163KA0B-D05,昆穎(定穎大陸)



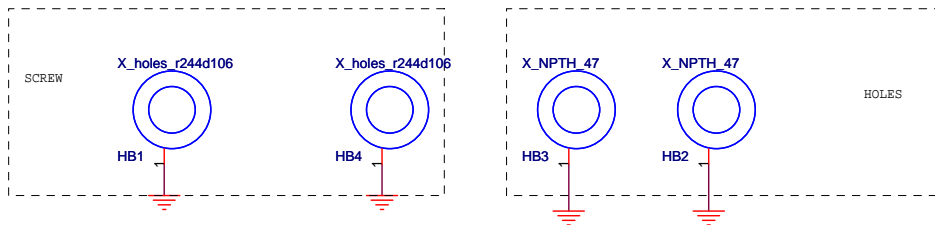
MSI CORPORATION			
Title			
Launch Board			
Size	Document Number		
Custom	MS-163K1		
Date:	Thursday, January 24, 2008		
Sheet	38	of	43
Rev	0B		



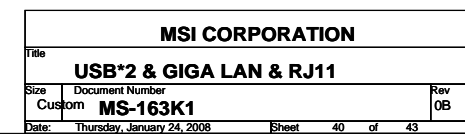
For TM61P-307 pin define

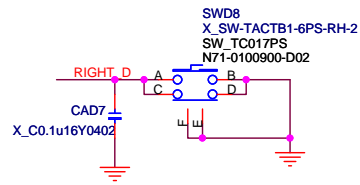
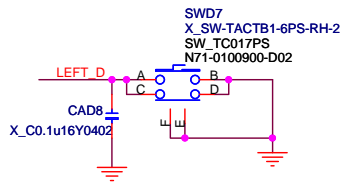


P30-163KB0B-H73, 瀚宇博德
P30-163KB0B-Y34, 元茂
P30-163KB0B-D05, 昆穎(定穎大陸)

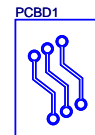
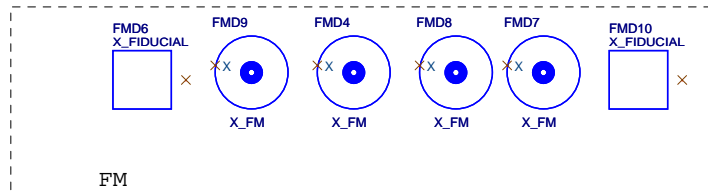
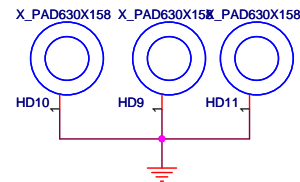
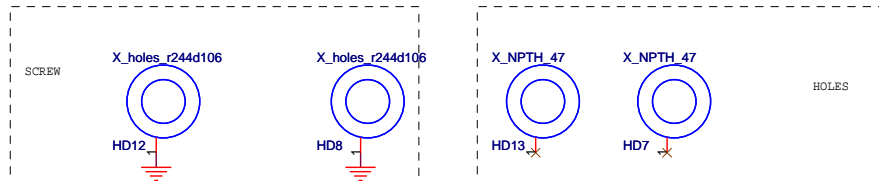
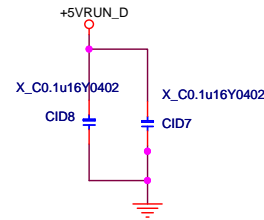
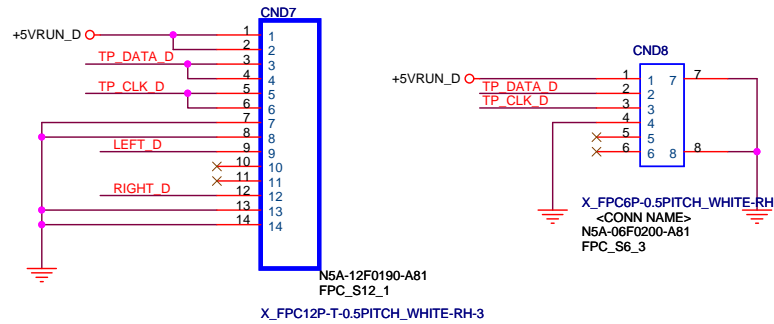


MSI CORPORATION		
Title TP Board		
Size Custom	Document Number MS-163K1	Rev 0B
Date: Thursday, January 24, 2008	Sheet 39	of 43





For TM61P-307 pin define

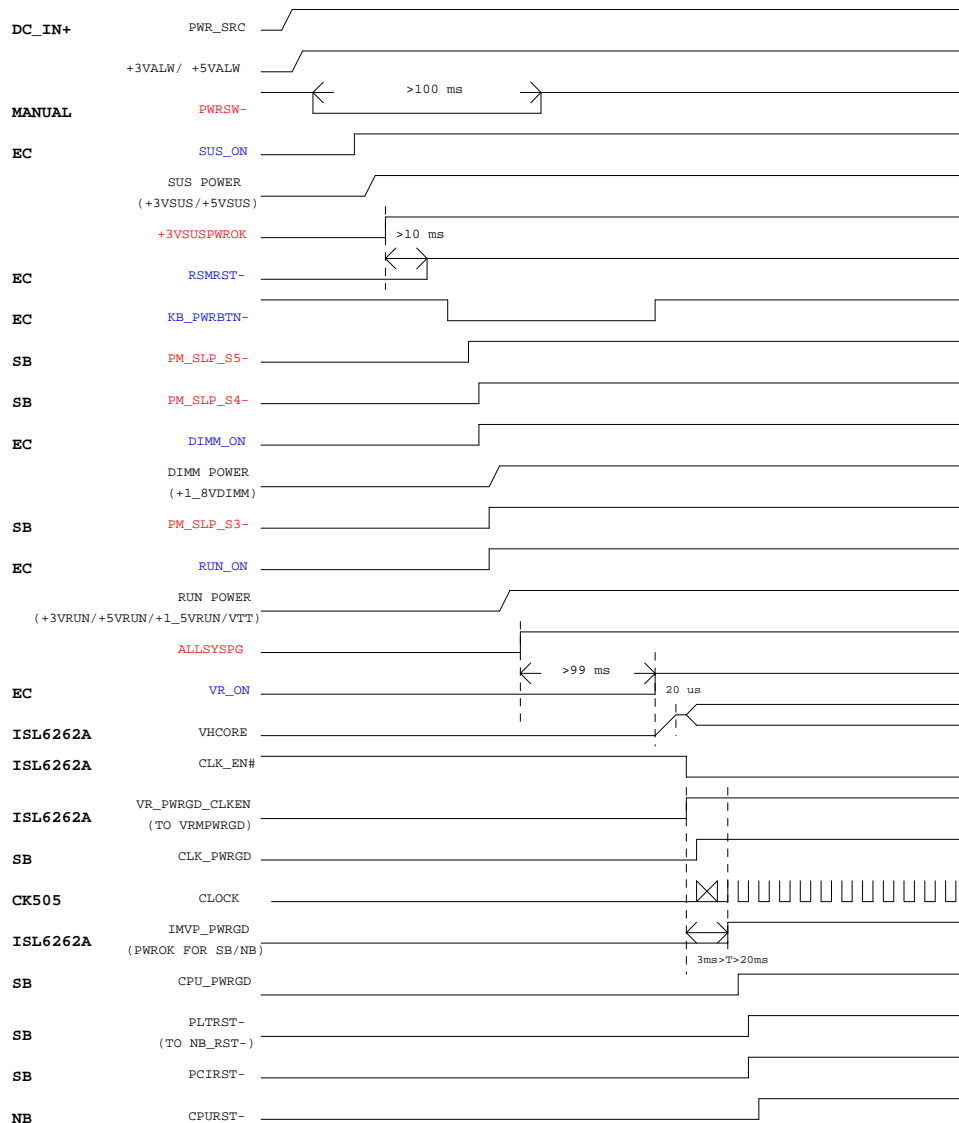


X_PCB
P30-163KD0B-H73,瀚宇博德
P30-163KD0B-Y34,元茂
P30-163KD0B-D05,昆穎(定穎大陸)

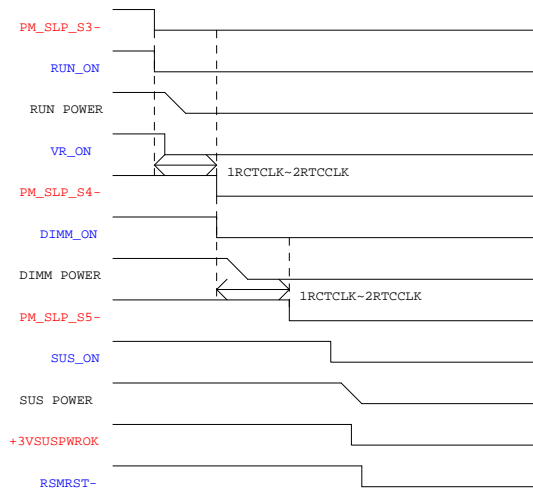
MSI CORPORATION		
Title		
TP Board2		
Size	Document Number	Rev
B	MS-163K1	0B
Date:	Thursday, January 24, 2008	Sheet 41 of 43

DRIVE SOURCE

Power Up (G3 to S0)



Power Down (S0 to S5)



S0 to S3

