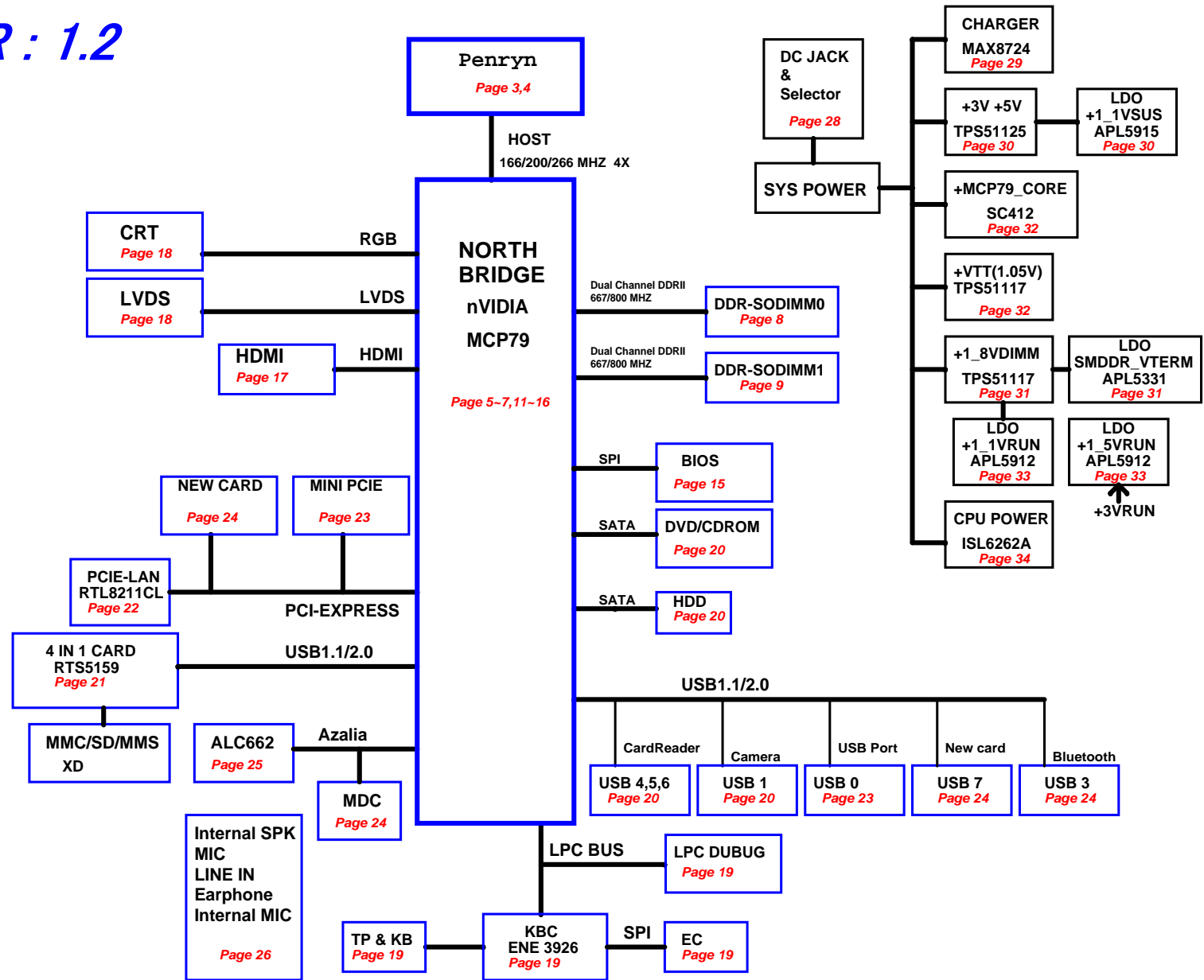


# MS-1683 VER : 1.2

- 01 : BLOCK DIAGRAM
- 02 : PLATFORM
- 03 : Penryn-1 (HOST BUS)
- 04 : Penryn-2 (POWER/GND)
- 05 : MCP79-1 (FSB)
- 06 : MCP79-2 (MEM)
- 07 : MCP79-3 (MEM POWER)
- 08 : DDR2 SODIMM 0
- 09 : DDR2 SODIMM 1
- 10 : DDR2 TREMINATION
- 11 : MCP79-4 (PCIE)
- 12 : MCP79-5 (LVDS)
- 13 : MCP79-6 (PCI & LPC)
- 14 : MCP79-7 (SATA & USB)
- 15 : MCP79-8 (HDA & MISC)
- 16 : MCP79-9 (POWER)
- 17 : HDMI Connector
- 18 : CRT & LVDS
- 19 : KBC/EC/uP ENE3926
- 20 : HDD,CDROM& USB CONN.
- 21 : CardReader (RTS5158E)
- 22 : PCIE LAN (RTL8211CL)
- 23 : Mini\_PCIE, FAN, LED
- 24 : Fan & MDC CONN
- 25 : CODEC(ALC662) & Amp
- 26 : Audio Jacks
- 27 : Powergood & Power switch
- 28 : BATTERY SELECT
- 29 : BATTERY CHARGER
- 30 : SYSTEM POWER 3V,5V & +1\_1VSUS
- 31 : DDR2 RAM POWER
- 32 : MCP79\_CORE & VTT POWER
- 33 : +1\_5VRUN & +1\_1VRUN
- 34 : CPU POWER
- 35 : Screw & EMI
- 36 : Non\_Footprint for BOM
- 37 : Power on Sequency
- 38 : Lanuch Board
- 39 : USB Daughter Board




## Voltage Rails

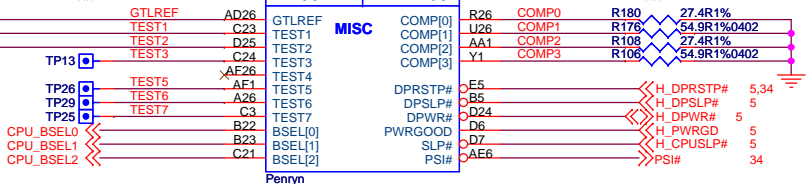
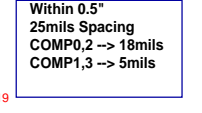
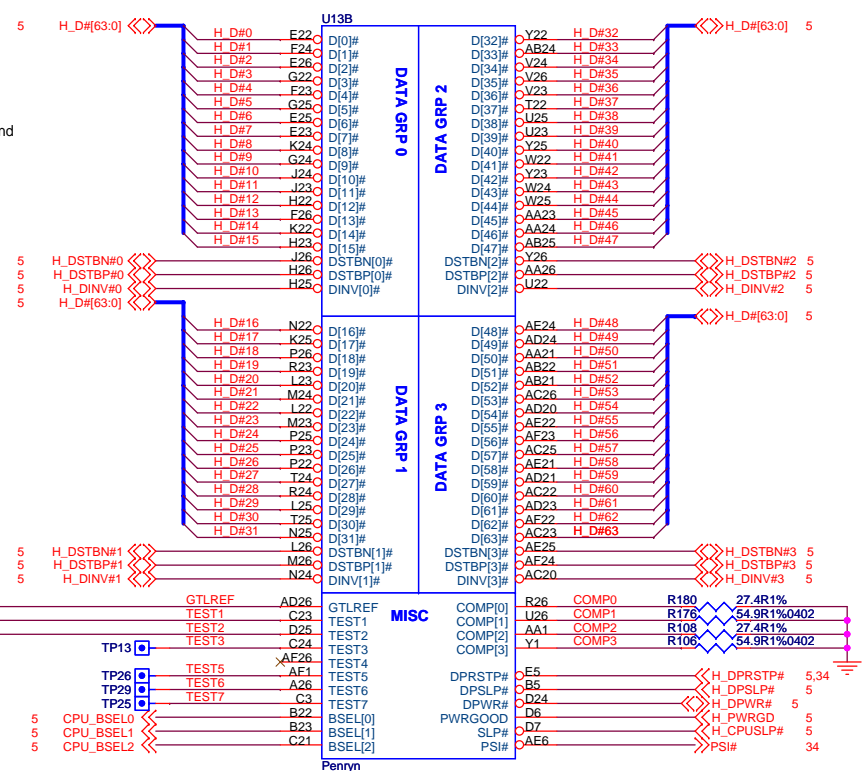
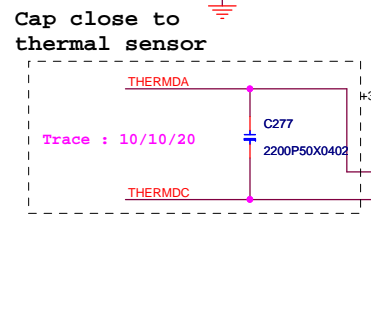
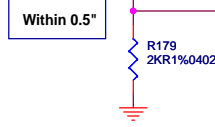
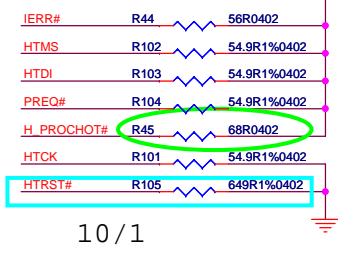
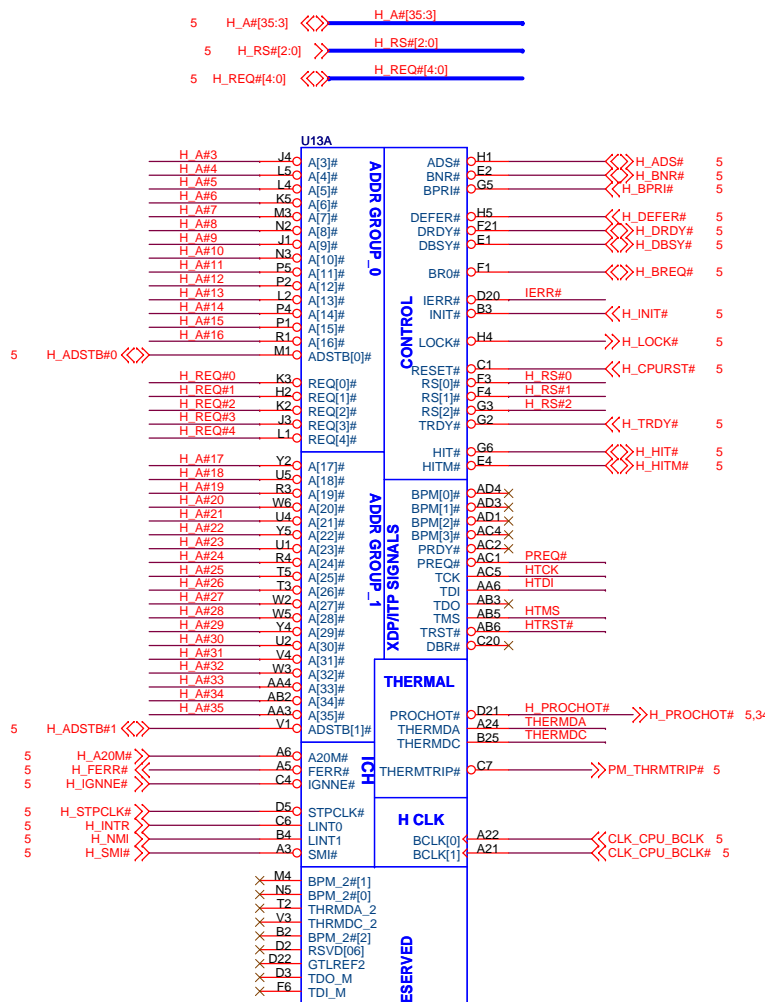
Voltage	Description	Control Signal
PWR_SRC	AC ADAPTER OR BATTERY IN	
V_CORE	Core Voltage for Processor	VR_ON
+VTT	1.05 rail for Processor & 945GM I/O	CPUVDD_EN
+1_5VRUN	1.5V switched power rail(off in S3-S5)	RUN_POWER ( RUN_ON )
+3VRUN	3.3V switched power rail(off in S3-S5)	RUND ( RUN_ON )
+5VRUN	5.0V switched power rail(off in S3-S5)	RUND (RUN_ON )
SMDDR_VTERM	0.9V DDR Termination voltage (off in S4-S5)	STR_EN#
+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)	RUND
+1_2VSUS	Core Voltage For RTL8111C	+3VSUS
+1_1VSUS	1.1V power rail (off in S4-S5)	SUS_ON
+1_1VRUN	1.1V power rail (off in S3-S5)	RUN_POWER ( RUN_ON )
MCP79_CORE	Core Voltage for MCP79	RUN_ON

## 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

		<b>MICRO-STAR INT'L CO.,LTD.</b>	
Title		<b>PLATFORM</b>	
Size	Document Number	Rev	
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Date:	Wednesday, November 18, 2009	Sheet	2 of 40

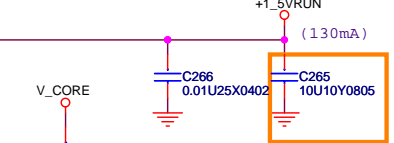
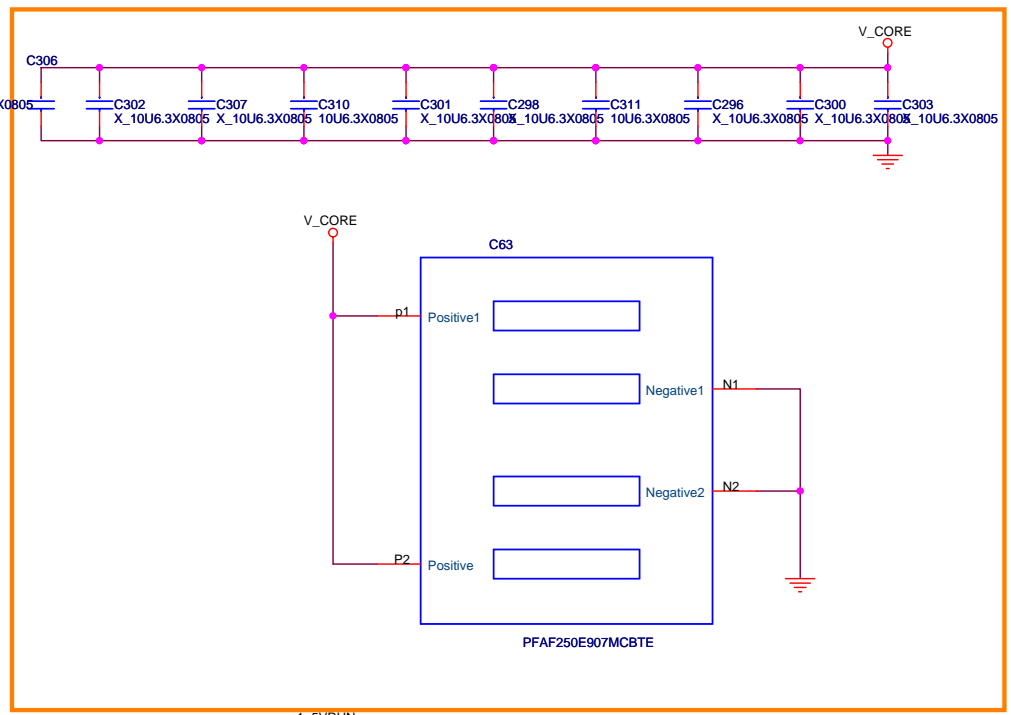
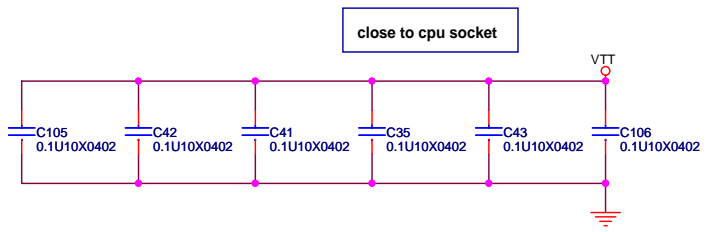
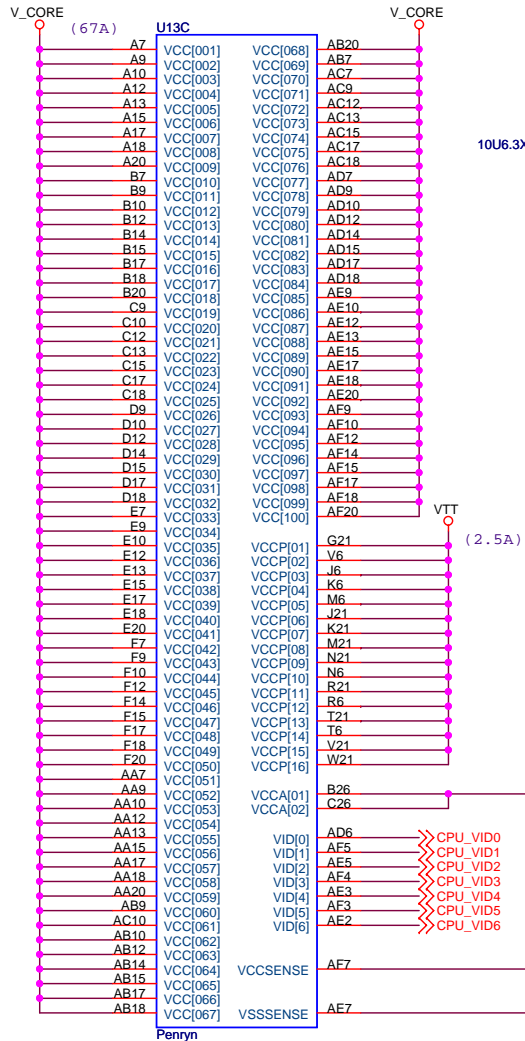
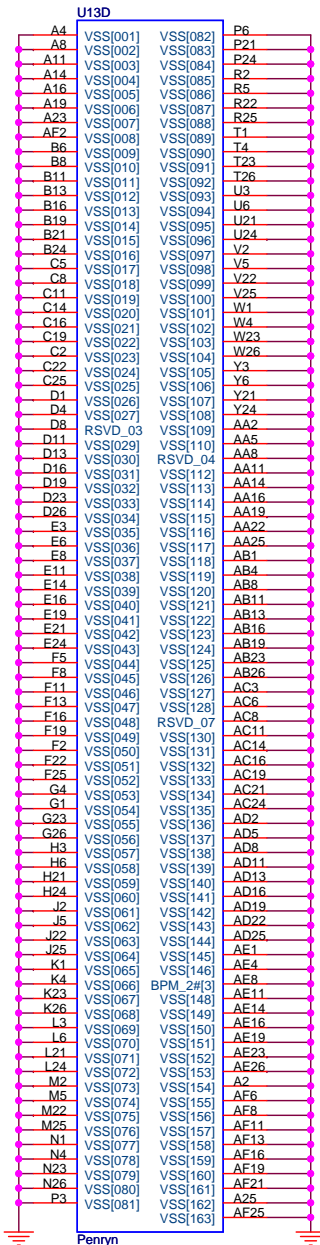


**MICRO-STAR INT'L CO.,LTD.**

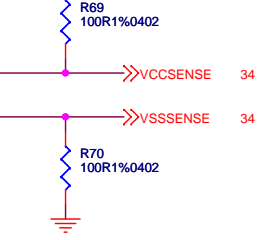
**PENRYN-1 (HOST BUS)**

Size: Custom Document Number: **MS-1683** Rev: 1.2

Date: Wednesday, November 18, 2009 Sheet: 3 of 40



Place Cap close to pin  
Trace width > 20

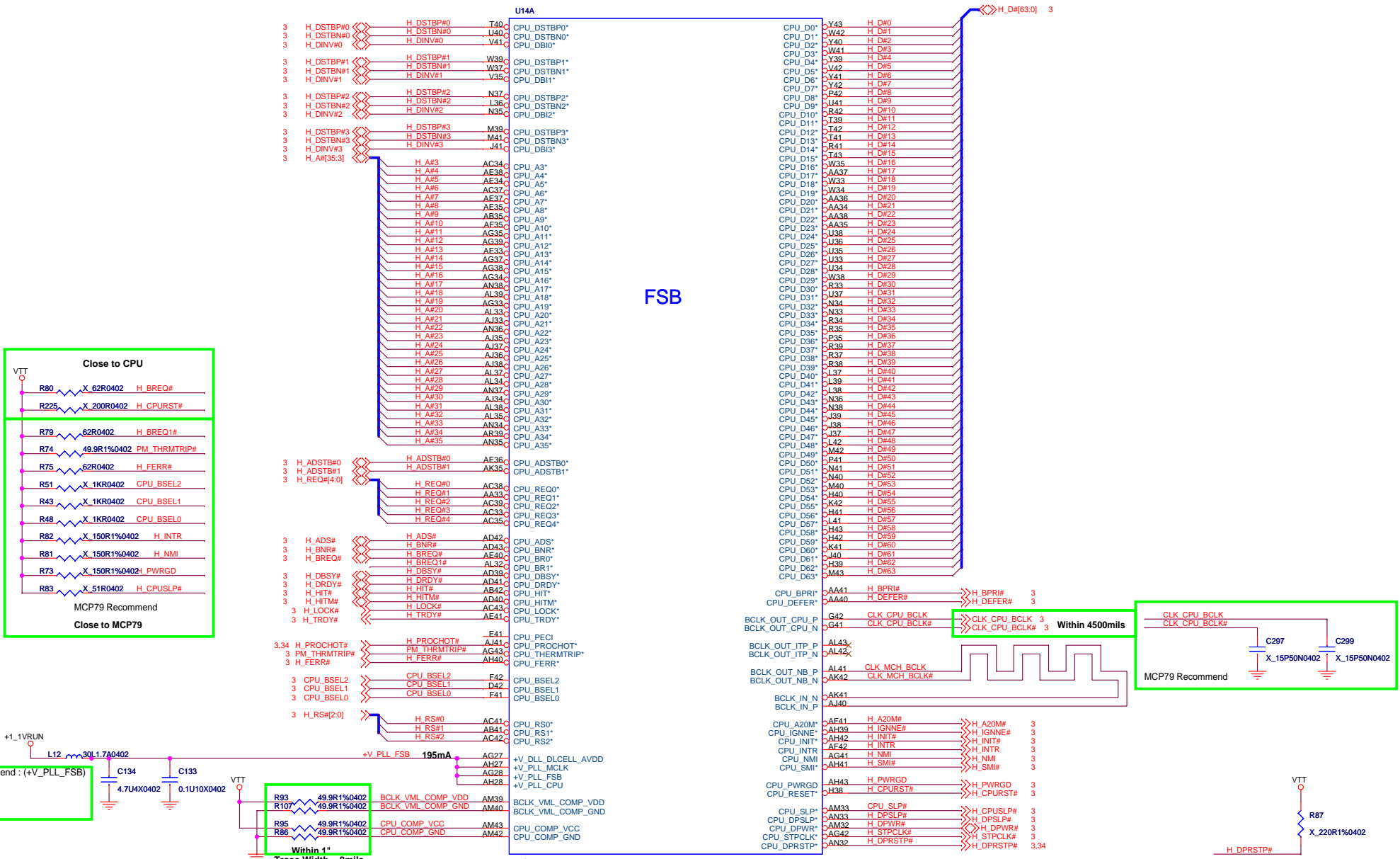


Trace width = 18mils  
Trace spacing = 7mils  
other spacing = 50mils  
length matched within 25mils  
Place R close to CPU within 1"

**MICRO-STAR INT'L CO.,LTD.**

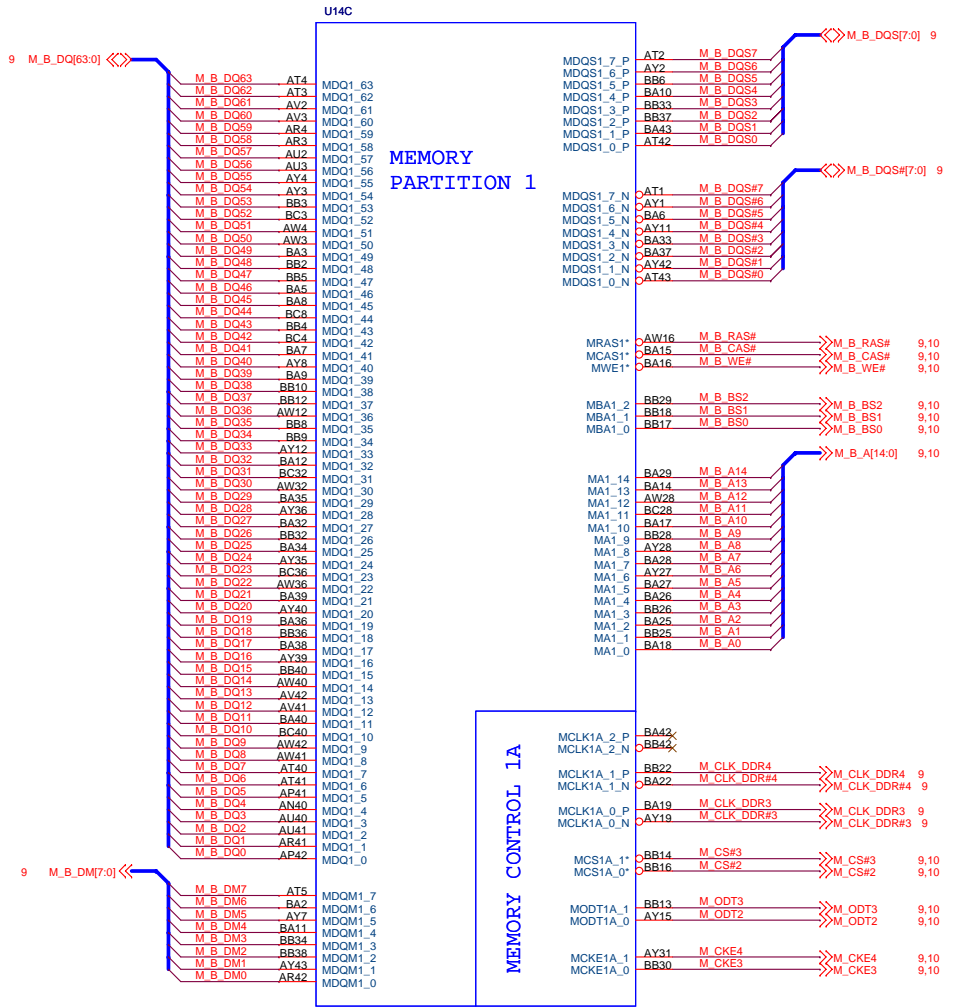
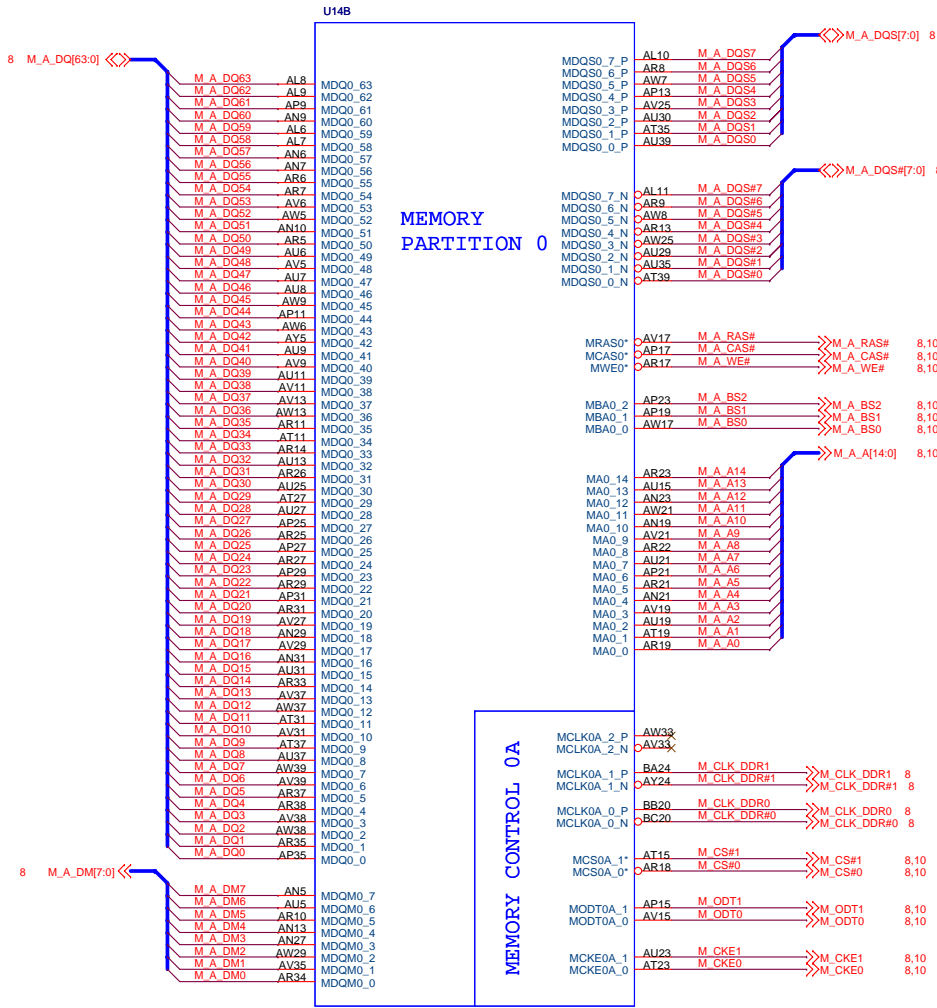
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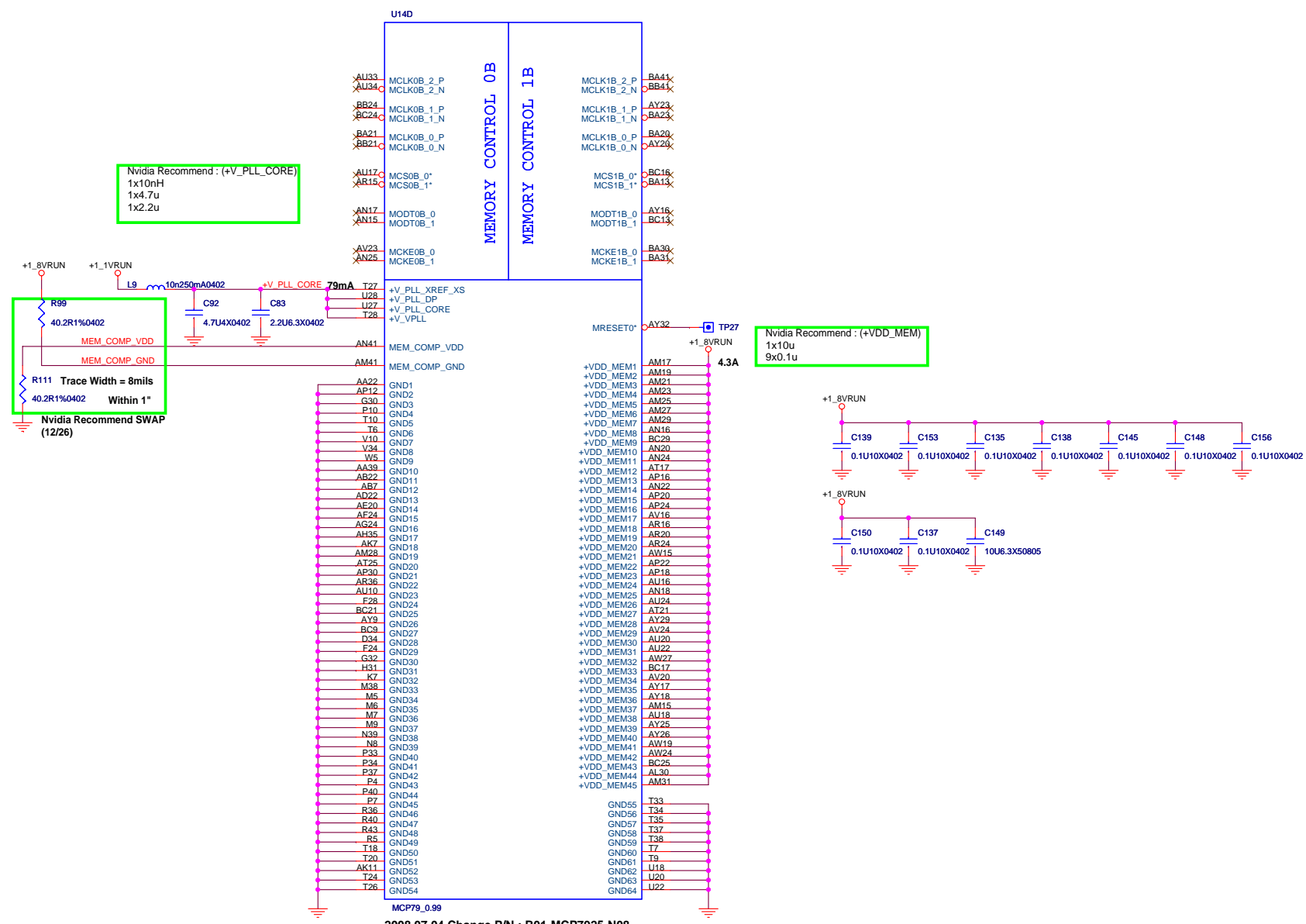
Size: Custom	Document Number: <b>MS-1683</b>	Rev: 1.2
Date: Wednesday, November 18, 2009	Sheet: 4	of 40



MCP79\_0.99  
 2008.07.04 Change P/N : B01-MCP7925-N08

		<b>MICRO-STAR INT'L CO.,LTD.</b>	
<b>MCP79-1 (HOST BUS)</b>			
Title		Rev 1.2	
Size		Document Number	
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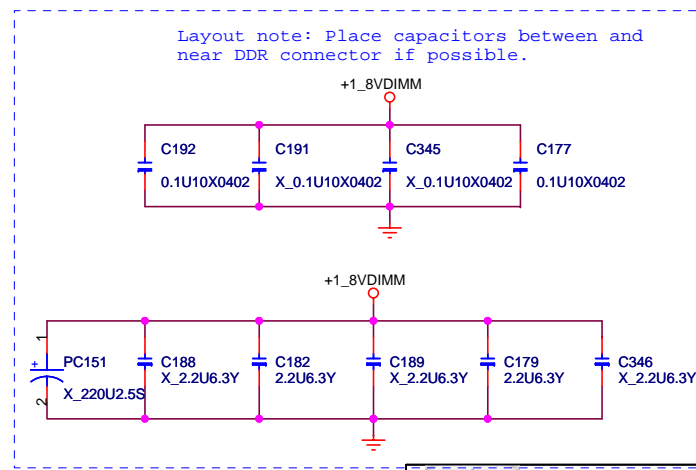
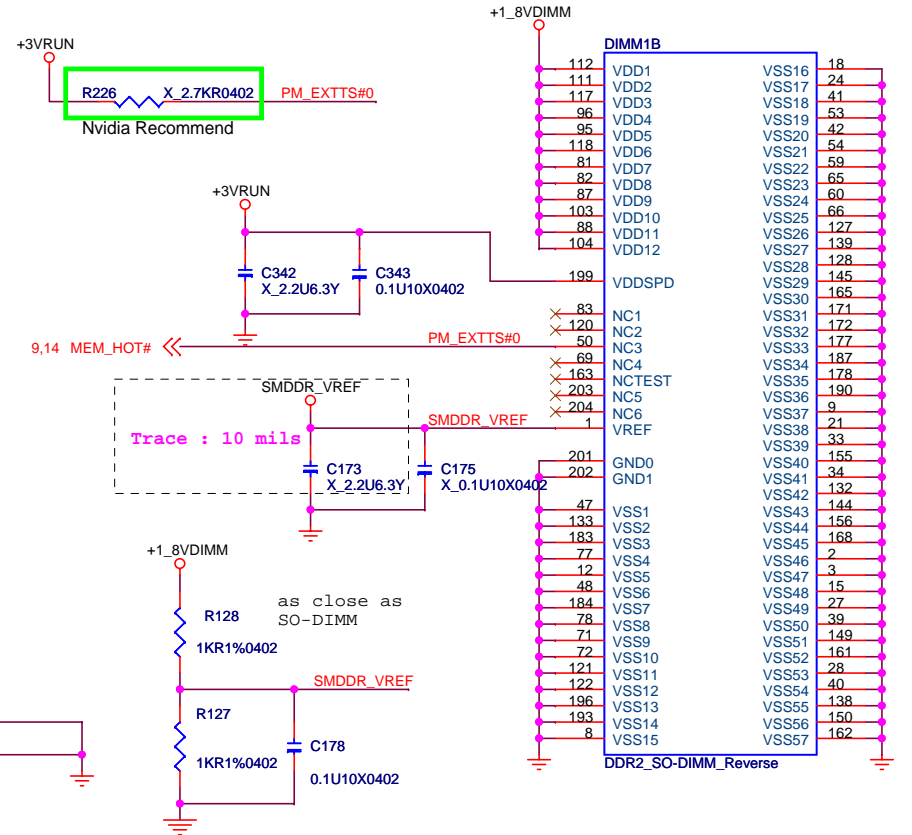
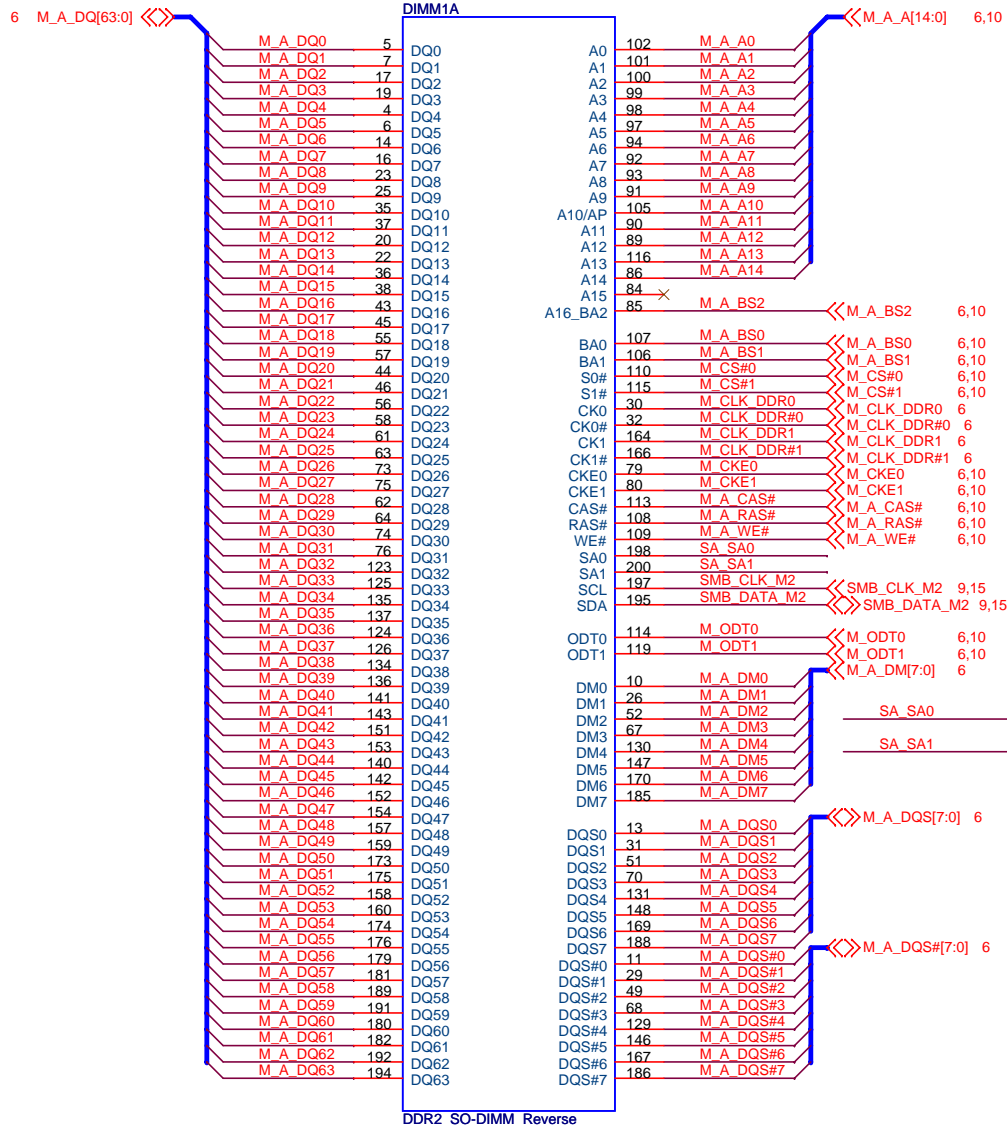
Nvidia Recommend : (+V\_PLL\_CORE)  
 1x10nH  
 1x4.7u  
 1x2.2u

Nvidia Recommend : (+VDD\_MEM)  
 1x10u  
 9x0.1u

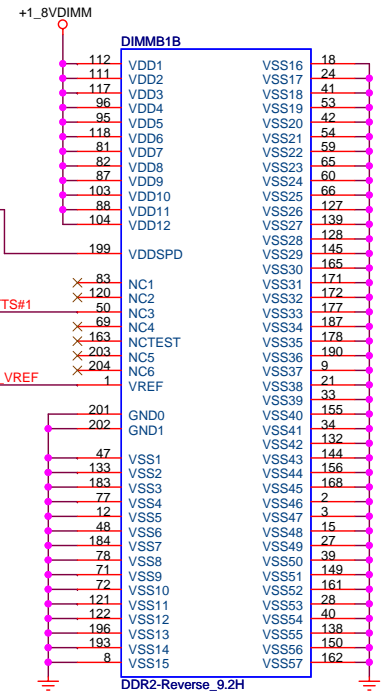
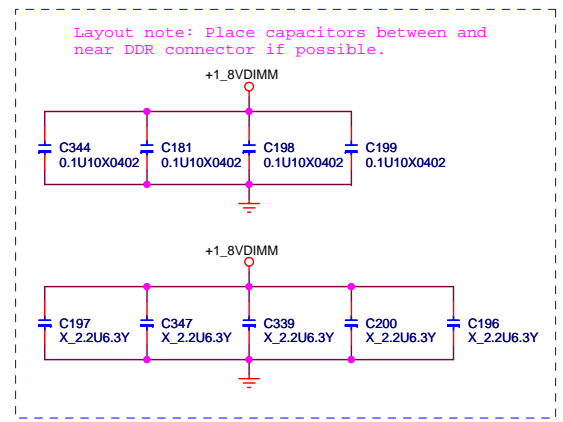
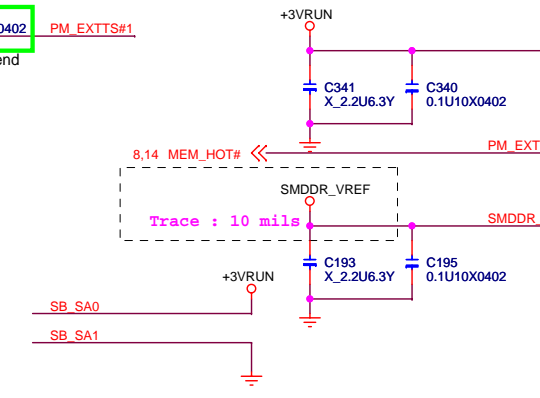
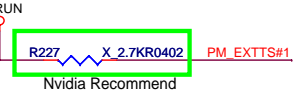
MEM\_COMP\_VDD  
 MEM\_COMP\_GND  
 R99 40.2R1%0402  
 R111 40.2R1%0402  
 Trace Width = 8mils  
 Within 1"  
 Nvidia Recommend SWAP (12/26)

		<b>MICRO-STAR INT'L CO.,LTD.</b>	
Title		<b>MCP79-3 (MEM PWR)</b>	
Size	Document Number	Rev	
Custom	<b>MS-1683</b>	<b>1.2</b>	
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**MICRO-STAR INT'L CO.,LTD.**

**DDR2 SODIMM 1**

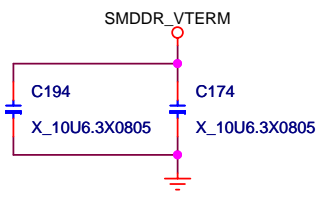
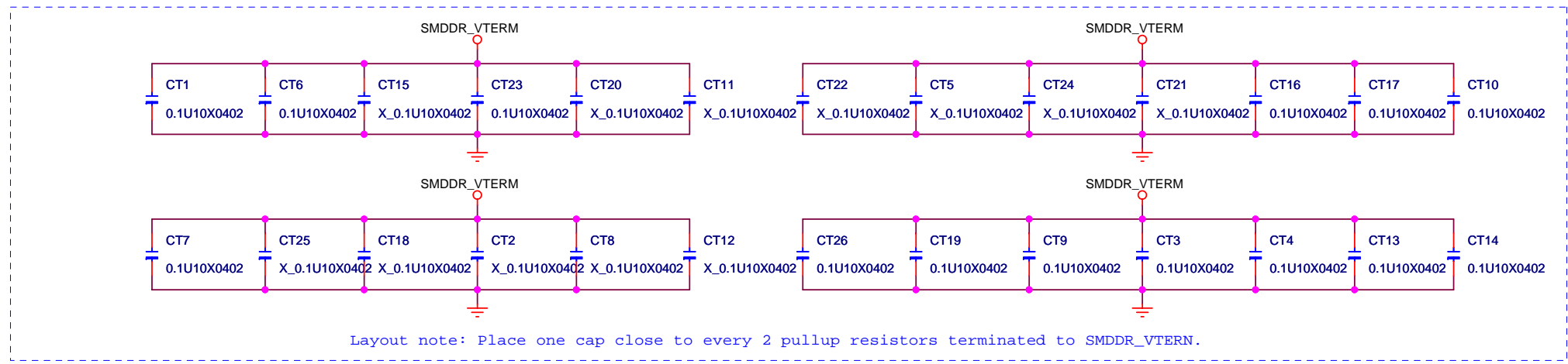
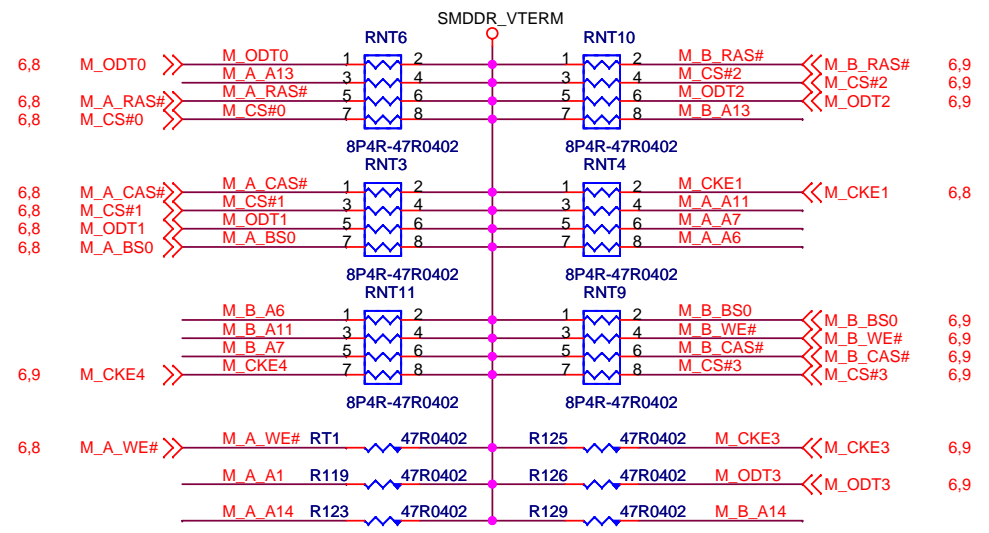
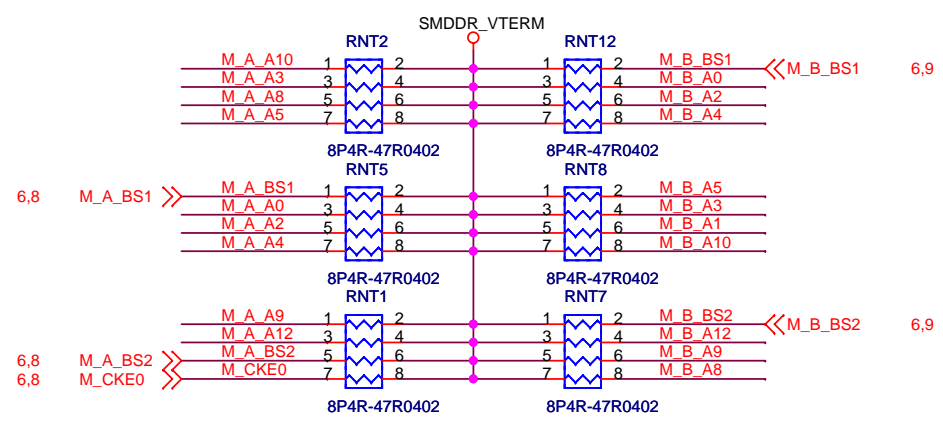
MSI

MS-1683

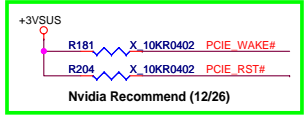
Rev 1.2

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M\_A\_A[14:0] <<M\_A\_A[14:0] 6,8  
 M\_B\_A[14:0] <<M\_B\_A[14:0] 6,9



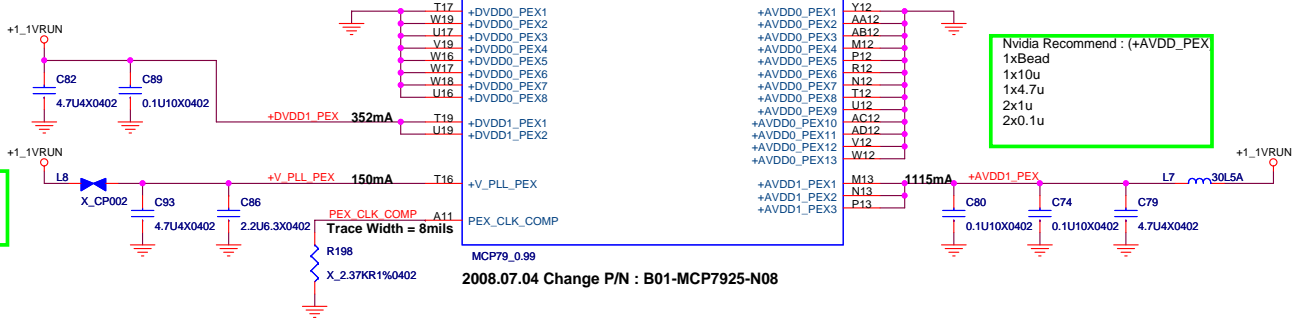
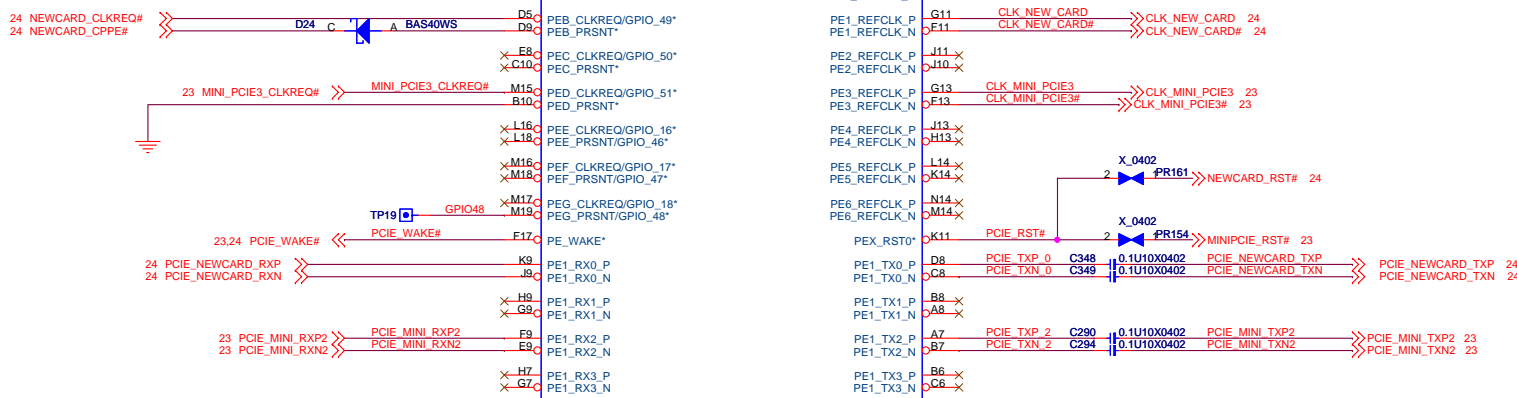
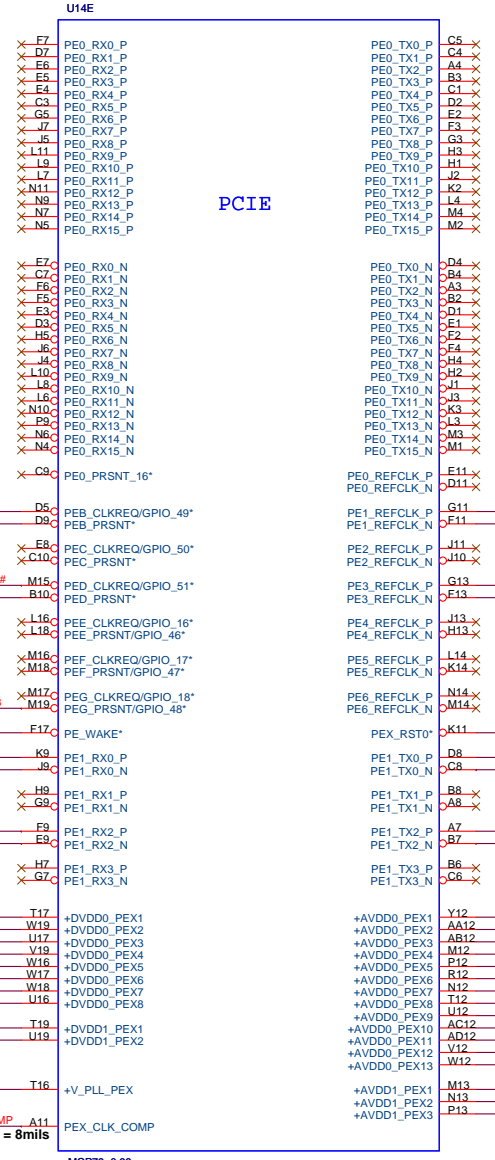
		<b>MICRO-STAR INT'L CO.,LTD.</b>	
Title		<b>DDR2 TREMINATION</b>	
Size	Document Number	Rev	
Custom	<b>MS-1683</b>	1.2	
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**Nvidia Recommend : (+DVDD\_PEX)**  
 1x4.7u  
 2x1u  
 2x0.1u

**Nvidia Recommend : (+V\_PLL\_PEX)**  
 1x10nH  
 1x4.7u  
 1x2.2u

**Nvidia Recommend : (+AVDD\_PEX)**  
 1xBead  
 1x10u  
 1x4.7u  
 2x1u  
 2x0.1u



2008.07.04 Change P/N : B01-MCP7925-N08

0=MII  
1=RGMIII

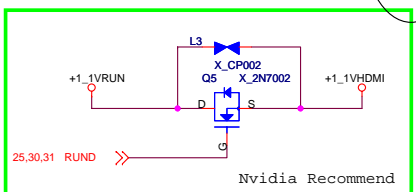


Nvidia Recommend : (+V\_DUAL\_MACPLL)  
1x4.7u  
1x2.2u

Nvidia Recommend : (+VDD\_IFPAB)  
1x2.2u  
1x0.1u

Nvidia Recommend : (+V\_PLL\_IFPAB)  
1x4.7u  
2x0.1u

Nvidia Recommend : (+VDD\_HDMI)  
1x2.2u  
1x0.1u



Trace Width = 8mils

Place close to HDMI connector

Trace Width = 8mils

Trace Width = 8mils

U14F

LAN

DACS

FLAT PANEL

- 22 RGMII\_RXD0 >> RGMII\_RXD0 C23
- 22 RGMII\_RXD1 >> RGMII\_RXD1 B23
- 22 RGMII\_RXD2 >> RGMII\_RXD2 E24
- 22 RGMII\_RXD3 >> RGMII\_RXD3 A24
- 22 RGMII\_RXC >> RGMII\_RXC A23
- 22 RGMII\_RXCT >> RGMII\_RXCT C22
- 22 MII\_RXER >> F23
- 22 MII\_COL >> MII\_COL B26
- 22 MII\_CRS >> MII\_CRS B22
- 22 MII\_RXER/GPIO\_36 >> J22
- 22 MII\_COL/GPIO\_20/MSMB\_DATA >> T23
- 22 MII\_CRS/GPIO\_21/MSMB\_CLK >> T23
- 22 RGMII\_INTR/GPIO\_35 >> J22
- 22 +V\_DUAL\_MACPLL >> T23
- 22 MII\_COMP\_VDD >> C27
- 22 MII\_COMP\_GND >> B27
- 22 RGB\_DAC\_RSET >> C39
- 22 RGB\_DAC\_VREF >> B38
- 22 TV\_DAC\_RSET >> E36
- 22 TV\_DAC\_VREF >> A35
- 22 XTALIN\_TV >> C38
- 22 XTALOUT\_TV >> D38
- 22 GPIO\_6/FERR/GPU\_GPIO\_6\* >> TP16
- 22 GPIO\_7/FERR/IGPU\_GPIO\_7\* >> TP33
- 22 LCD\_BKL\_CTL/GPIO\_57 >> G39
- 22 LCD\_BKL\_ON/GPIO\_58 >> E37
- 22 LCD\_PANEL\_PWR/GPIO\_58 >> F40
- 22 HDMI\_TXC\_P >> C239
- 22 HDMI\_TXC\_N >> C240
- 22 HDMI\_TXD\_P0 >> C237
- 22 HDMI\_TXD\_N0 >> C238
- 22 HDMI\_TXD\_P1 >> C235
- 22 HDMI\_TXD\_N1 >> C236
- 22 HDMI\_TXD\_P2 >> C233
- 22 HDMI\_TXD\_N2 >> C234
- 22 DP\_AUX\_CHO\_P >> D43
- 22 DP\_AUX\_CHO\_N >> C43
- 22 HPLUG\_DET2/GPIO\_22 >> C31
- 22 HPLUG\_DET3 >> F31
- 22 +VDD\_IFPA >> M27
- 22 +VDD\_IFPB >> M26
- 22 +V\_PLL\_IFPAB >> M28
- 22 +V\_PLL\_HDMI >> M29
- 22 +VDD\_HDMI >> T25
- 22 HDMI\_RSET >> J31
- 22 HDMI\_VPROBE >> J30
- 22 DDC\_CLK2/GPIO\_23 >> C30
- 22 DDC\_DATA3 >> B30
- 22 DDC\_CLK3 >> E31
- 22 HDMI\_CLK >> D31
- 22 HDMI\_DATA >> E31
- 22 IFPAB\_RSET >> E32
- 22 IFPAB\_VPROBE >> G31

- +3.3V\_DUAL\_RMGT1 >> J24
- +3.3V\_DUAL\_RMGT2 >> K24
- +V\_DUAL\_RMGT1 >> U23
- +V\_DUAL\_RMGT2 >> V23
- MII\_VREF >> E28
- RGMII\_TXD0 >> B24
- RGMII\_TXD1 >> C24
- RGMII\_TXD2 >> C25
- RGMII\_TXD3 >> D25
- RGMII\_TXC >> D24
- RGMII\_TXCT/LMII\_TXEN >> C26
- RGMII\_MDC >> D21
- RGMII\_MDIO >> C21
- RGMII\_PWRDWN/GPIO\_37 >> G23
- BUF\_25MHZ >> E23
- MII\_RESET\* >> J23
- +V\_RGB\_DAC >> J32
- +V\_TV\_DAC >> K32
- RGB\_CLK >> B31
- RGB\_DATA >> A31
- VGA\_RED >> B39
- VGA\_GRN >> A39
- VGA\_BLU >> A40
- VGA\_HSYNC >> A40
- VGA\_VSYNC >> A41
- TV\_DAC\_RED >> A36
- TV\_DAC\_GREEN >> B36
- TV\_DAC\_BLUE >> C36
- TV\_DAC\_VSYNC/GPIO\_44 >> D36
- TV\_DAC\_VSYNC/GPIO\_45 >> C37
- LVDS\_A\_TXC\_P >> B35
- LVDS\_A\_TXC\_N >> C35
- LVDS\_A\_TXDP0 >> B32
- LVDS\_A\_TXDN0 >> A32
- LVDS\_A\_TXDP1 >> D32
- LVDS\_A\_TXDN1 >> C32
- LVDS\_A\_TXDP2 >> D33
- LVDS\_A\_TXDN2 >> C33
- LVDS\_B\_TXC\_P >> L31
- LVDS\_B\_TXC\_N >> K31
- LVDS\_B\_TXDP0 >> J29
- LVDS\_B\_TXDN0 >> H29
- LVDS\_B\_TXDP1 >> K29
- LVDS\_B\_TXDN1 >> L29
- LVDS\_B\_TXDP2 >> K30
- LVDS\_B\_TXDN2 >> L30
- LVDS\_CLK >> C30
- LVDS\_DATA >> B30
- HDMI\_CLK\_MCP >> D31
- HDMI\_DATA\_MCP >> E31
- IFPAB\_RSET >> E32
- IFPAB\_VPROBE >> G31

Within 500mils

Within 600mils

For EMI

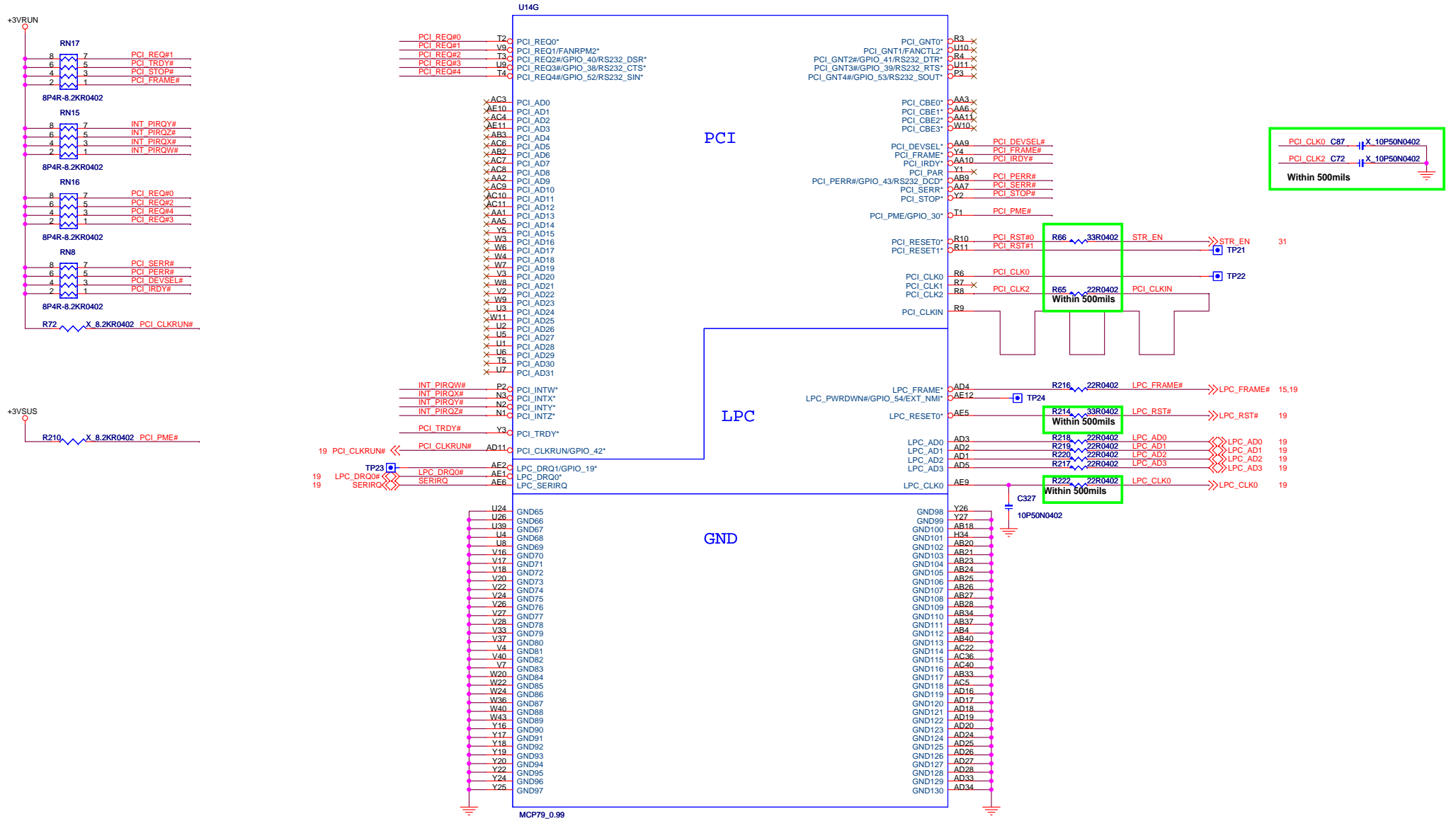
**MICRO-STAR INT'L CO.,LTD.**

Title: **MCP79-5 (LVDS)**

Customer: **MS-1683**

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Rev: **1.2**

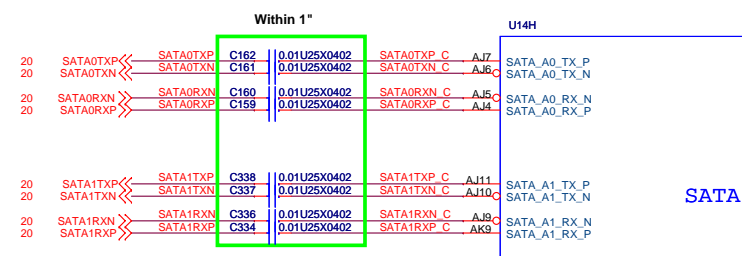


PCI\_CLK0 C87 || X\_10P50N0402  
 PCI\_CLK2 C72 || X\_10P50N0402  
 Within 500mils

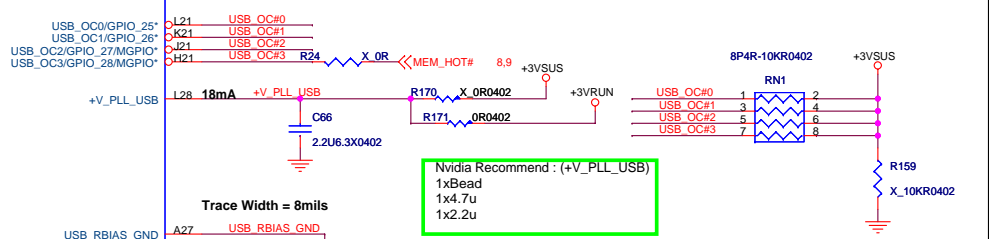
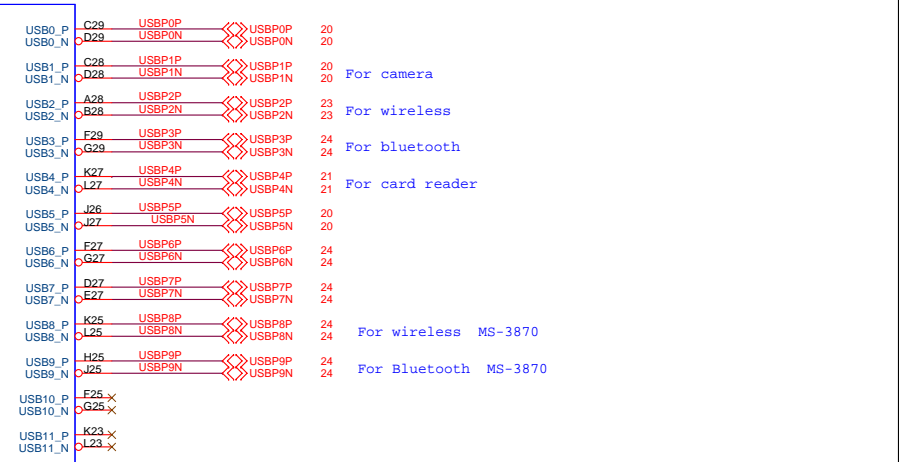
R66 33R0402  
 R65 22R0402  
 Within 500mils

R214 33R0402  
 R218 22R0402  
 R219 22R0402  
 R220 22R0402  
 R217 22R0402  
 R222 22R0402  
 Within 500mils


**MICRO-STAR INT'L CO.,LTD.**  
**MCP79-6 (PCI & LPC)**  
 Title  
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SATA USB

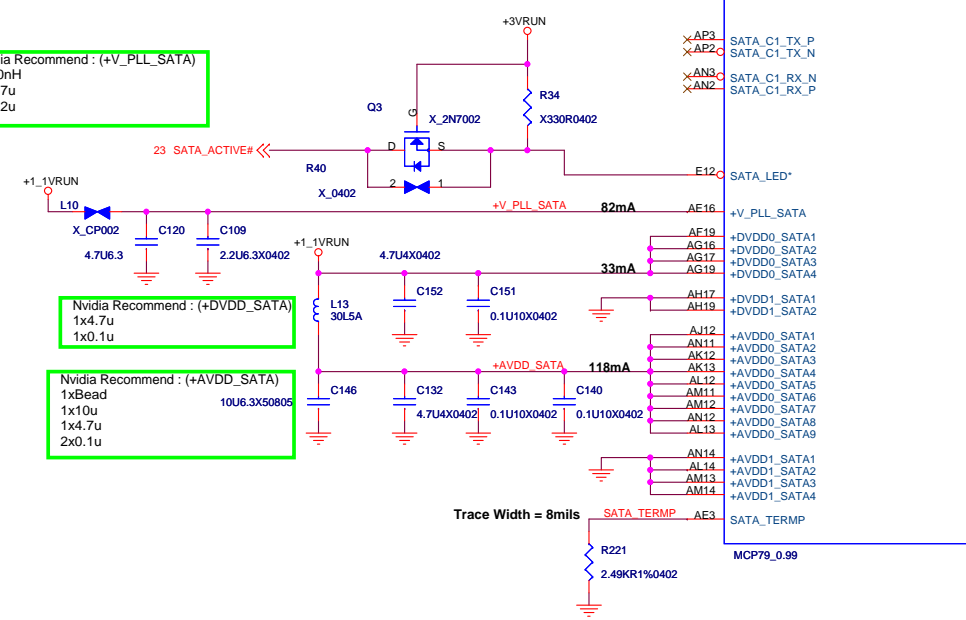


Nvidia Recommend : (+V\_PLL\_SATA)  
1x10nH  
1x4.7u  
1x2.2u

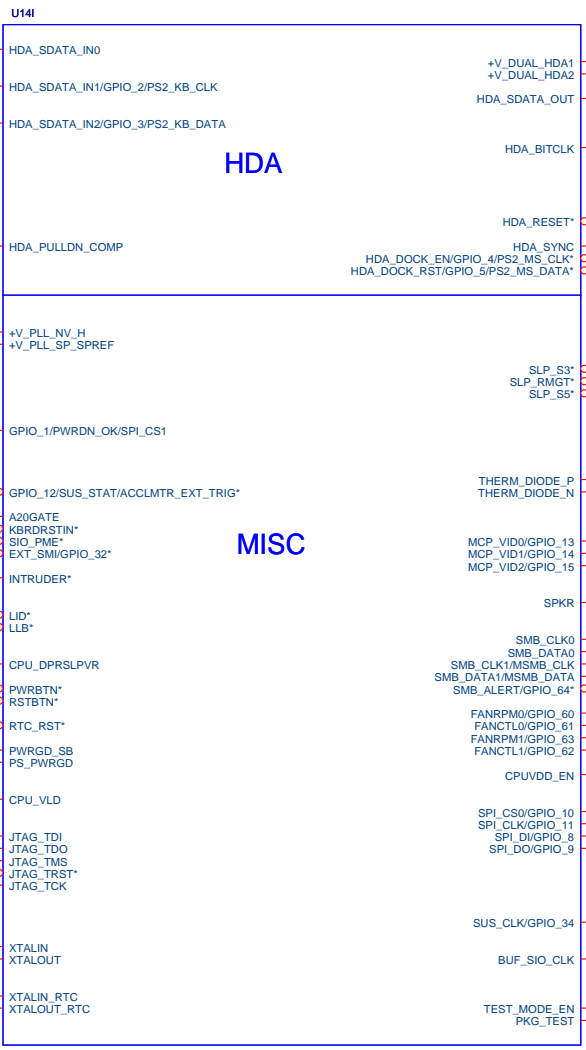
Nvidia Recommend : (+V\_PLL\_USB)  
1xBead  
1x4.7u  
1x2.2u

Nvidia Recommend : (+DVDD\_SATA)  
1x4.7u  
1x0.1u

Nvidia Recommend : (+AVDD\_SATA)  
1xBead  
1x10u  
1x4.7u  
2x0.1u

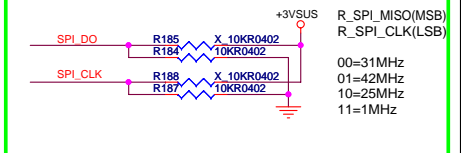
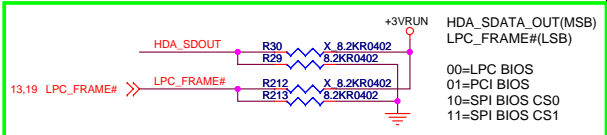
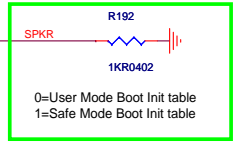
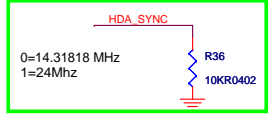
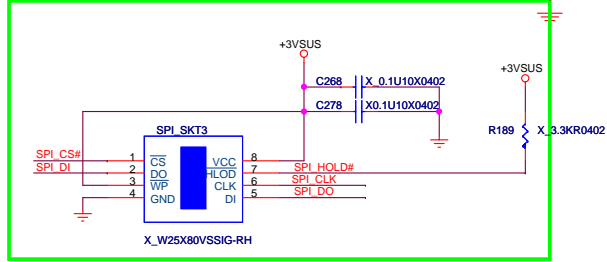
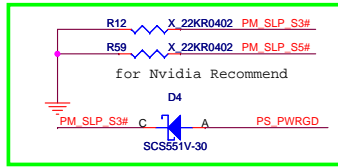
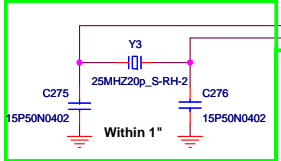


Nvidia Recommend : (+V\_DUAL\_HDA)  
 1x4.7u  
 1x0.1u

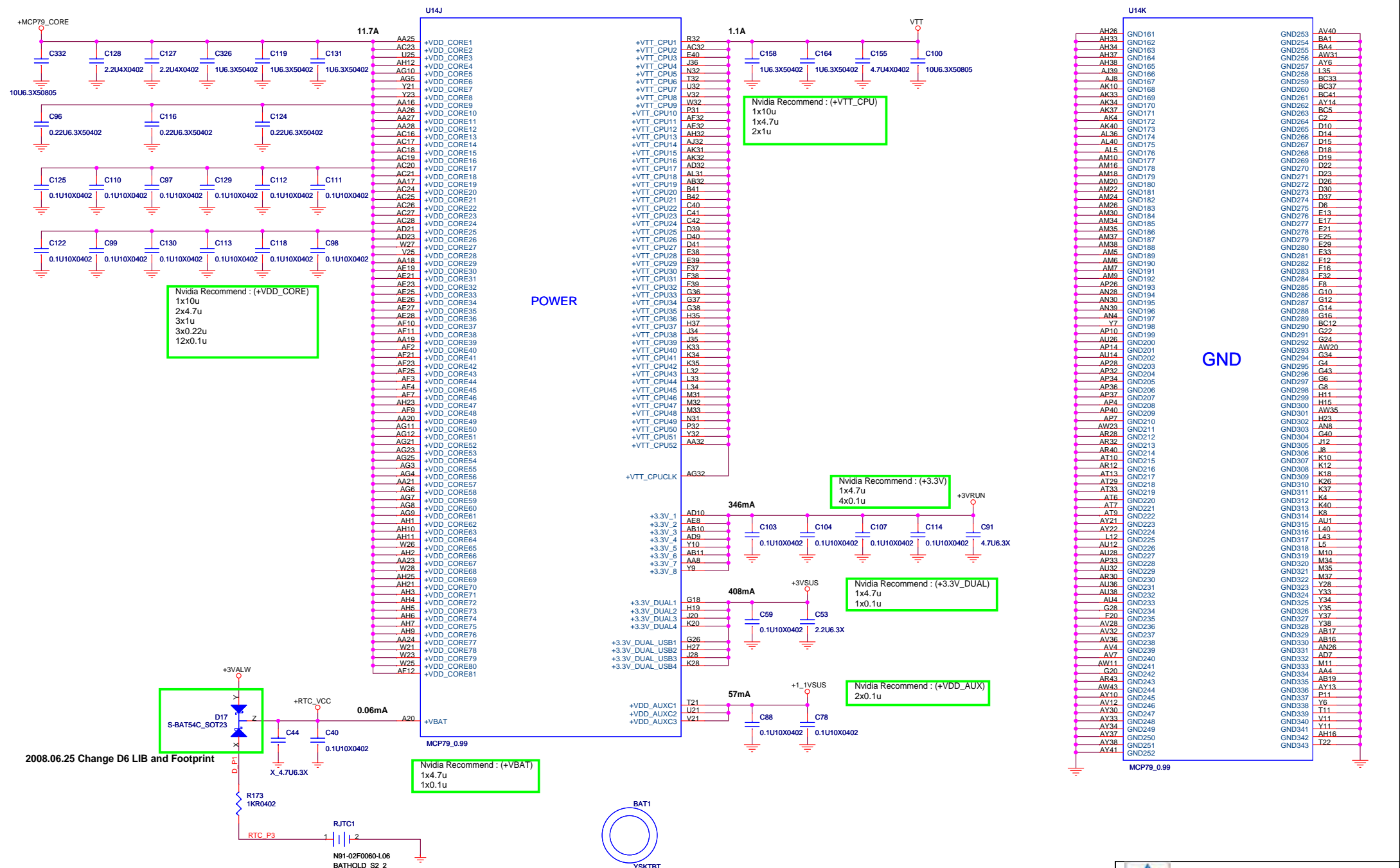


Nvidia Recommend : (+V\_PLL\_NV\_H)  
 1xBead  
 1x4.7u  
 2x0.1u

Nvidia Recommend  
 PWRGD SB







Nvidia Recommend : (+VDD\_CORE)  
 1x10u  
 2x4.7u  
 3x1u  
 3x0.22u  
 12x0.1u

Nvidia Recommend : (+VTT\_CPU)  
 1x10u  
 1x4.7u  
 2x1u

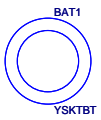
Nvidia Recommend : (+3.3V)  
 1x4.7u  
 4x0.1u

Nvidia Recommend : (+3.3V\_DUAL)  
 1x4.7u  
 1x0.1u

Nvidia Recommend : (+VDD\_AUX)  
 2x0.1u

Nvidia Recommend : (+VBAT1)  
 1x4.7u  
 1x0.1u

2008.06.25 Change D6 LIB and Footprint

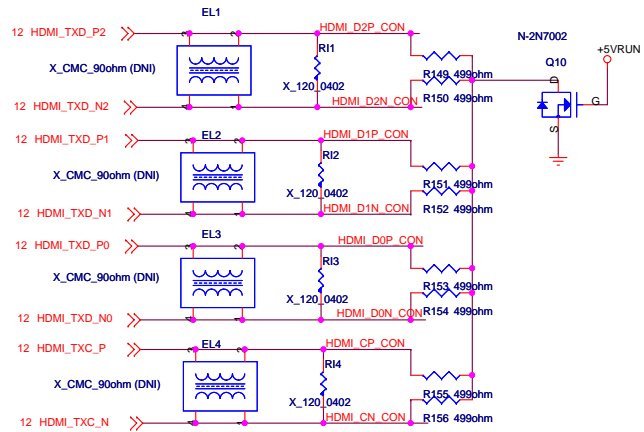
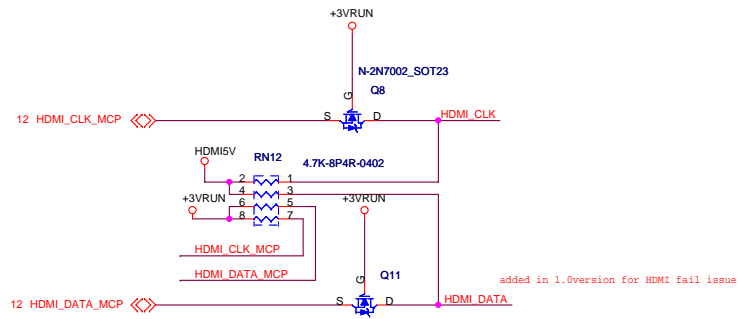


**MICRO-STAR INT'L CO.,LTD.**

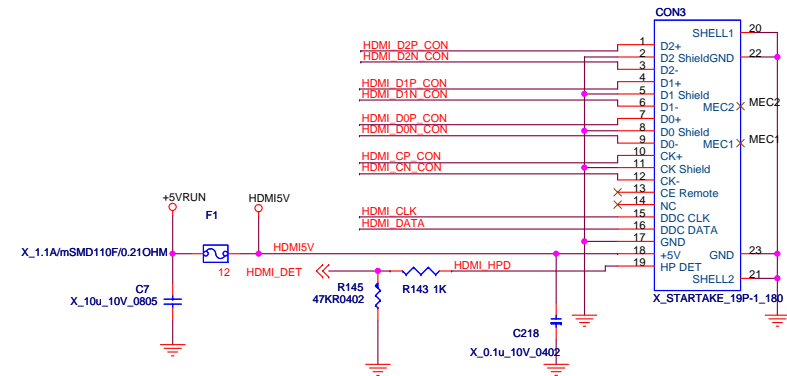
**MCP79-9 (POWER)**

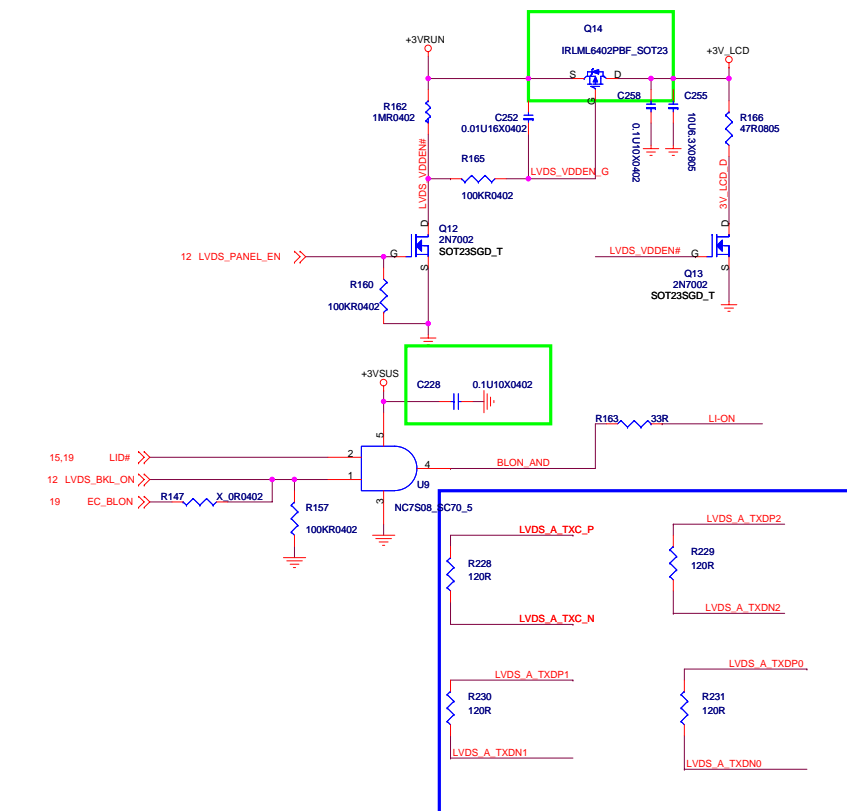
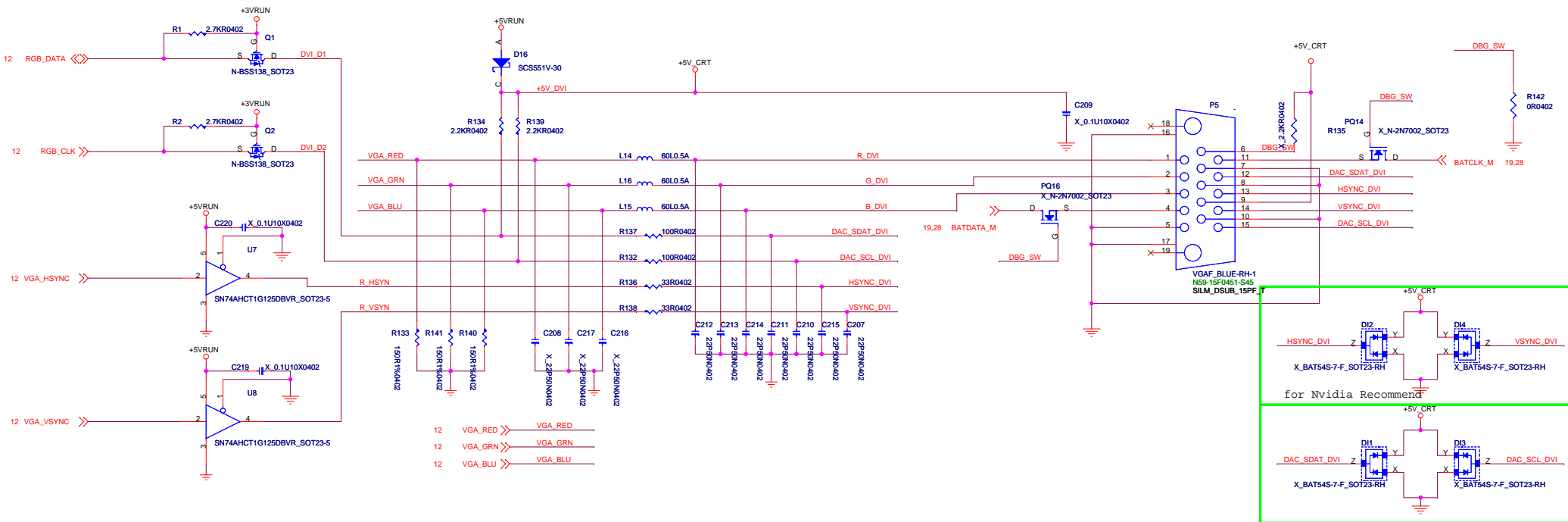
Document Number: **MS-1683**

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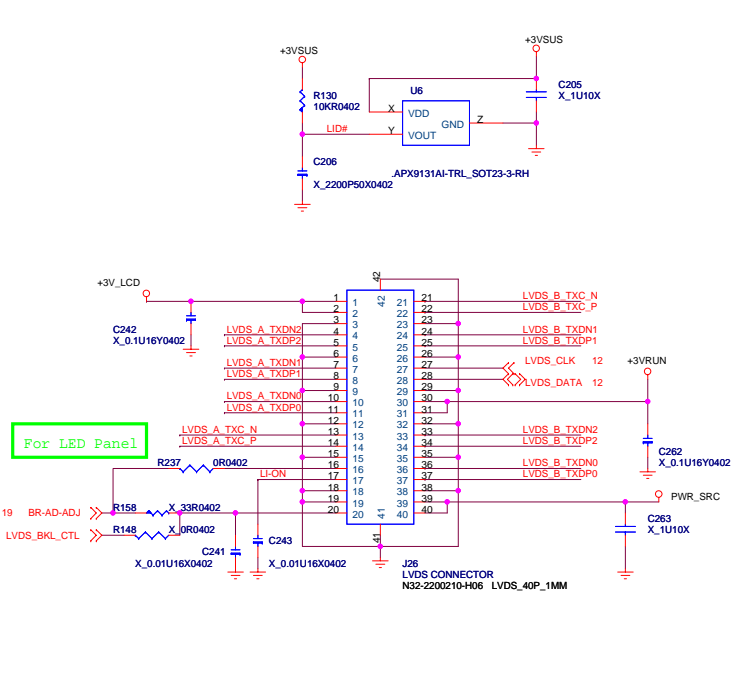
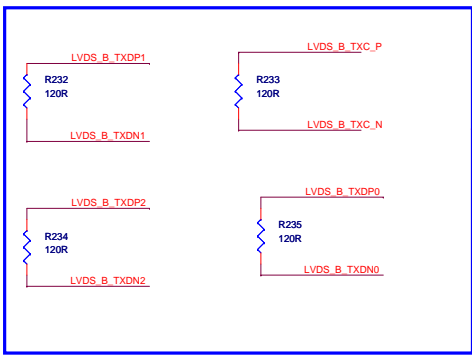


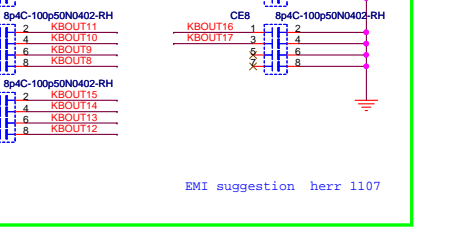
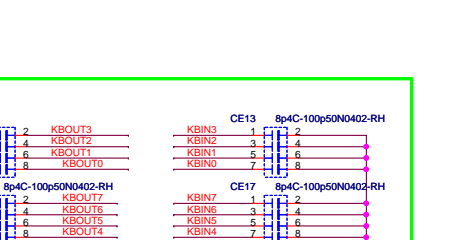
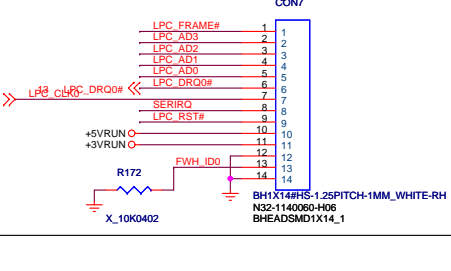
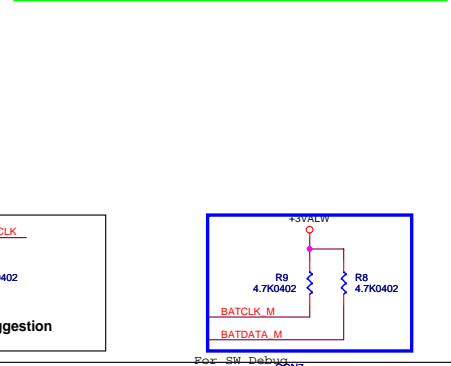
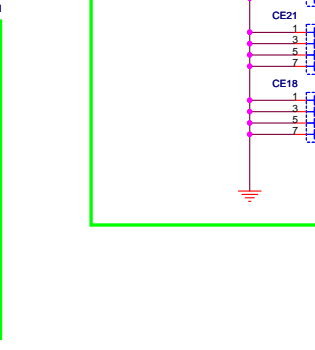
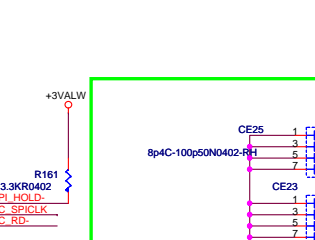
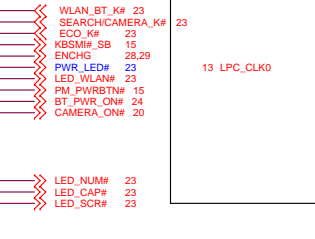
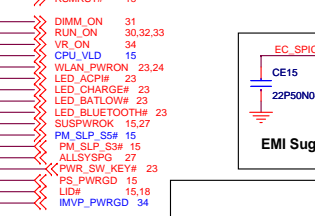
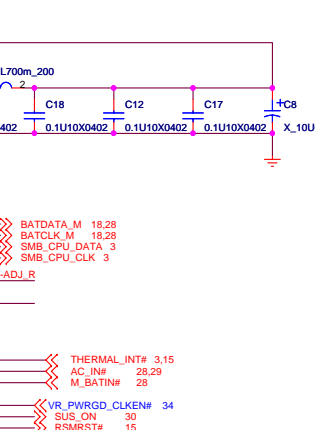
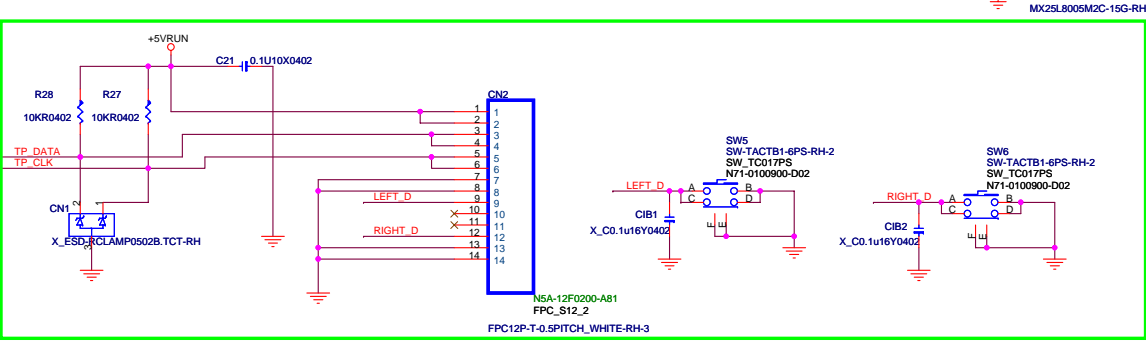
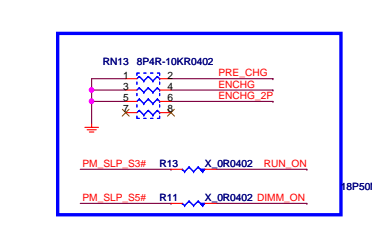
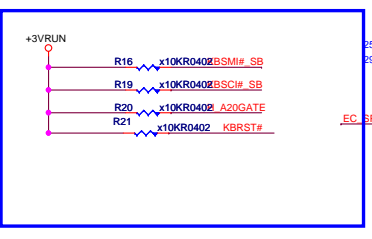
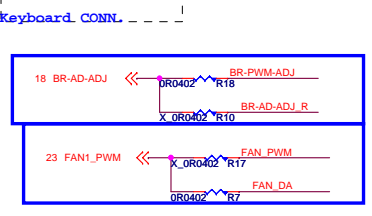
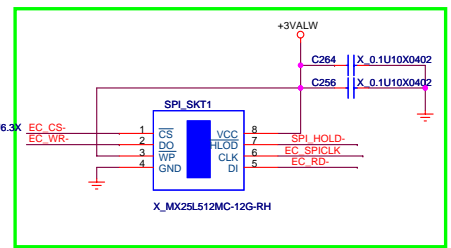
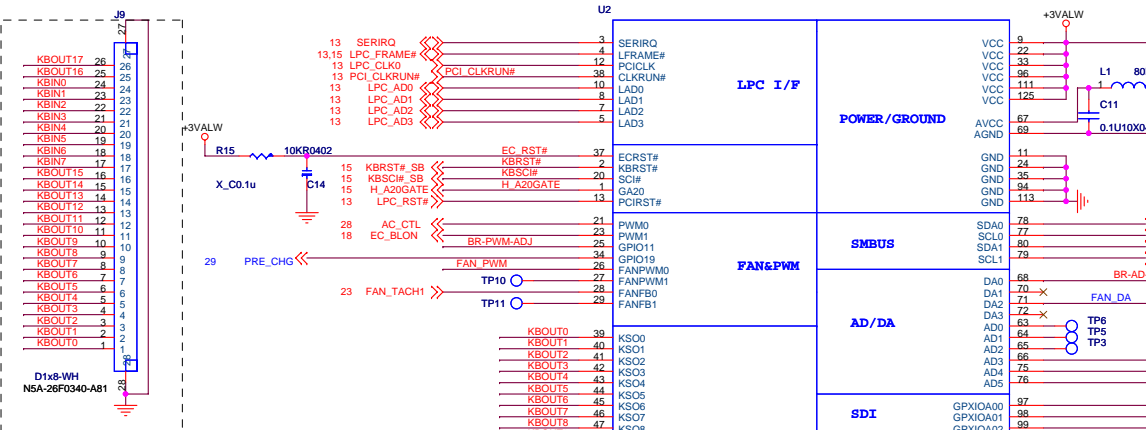
HP_DET(OE#)	IN_D Termination	Out_D Outputs
0	50 ohm	Active
1	>100K ohm	High-Z





- 12 LVDS\_B\_TXDP1 >>> LVDS\_B\_TXDP1
- 12 LVDS\_B\_TXDN1 >>> LVDS\_B\_TXDN1
- 12 LVDS\_B\_TXC\_P >>> LVDS\_B\_TXC\_P
- 12 LVDS\_B\_TXC\_N >>> LVDS\_B\_TXC\_N
- 12 LVDS\_B\_TXDP2 >>> LVDS\_B\_TXDP2
- 12 LVDS\_B\_TXDN2 >>> LVDS\_B\_TXDN2
- 12 LVDS\_B\_TXDP0 >>> LVDS\_B\_TXDP0
- 12 LVDS\_B\_TXDN0 >>> LVDS\_B\_TXDN0
- 12 LVDS\_A\_TXC\_P >>> LVDS\_A\_TXC\_P
- 12 LVDS\_A\_TXC\_N >>> LVDS\_A\_TXC\_N
- 12 LVDS\_A\_TXDP2 >>> LVDS\_A\_TXDP2
- 12 LVDS\_A\_TXDN2 >>> LVDS\_A\_TXDN2
- 12 LVDS\_A\_TXDP1 >>> LVDS\_A\_TXDP1
- 12 LVDS\_A\_TXDN1 >>> LVDS\_A\_TXDN1
- 12 LVDS\_A\_TXDP0 >>> LVDS\_A\_TXDP0
- 12 LVDS\_A\_TXDN0 >>> LVDS\_A\_TXDN0





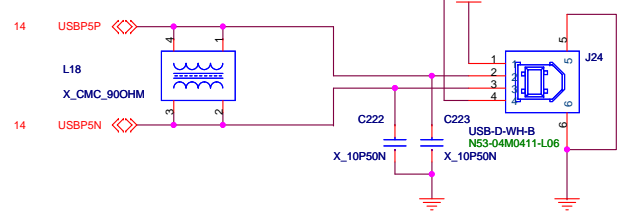
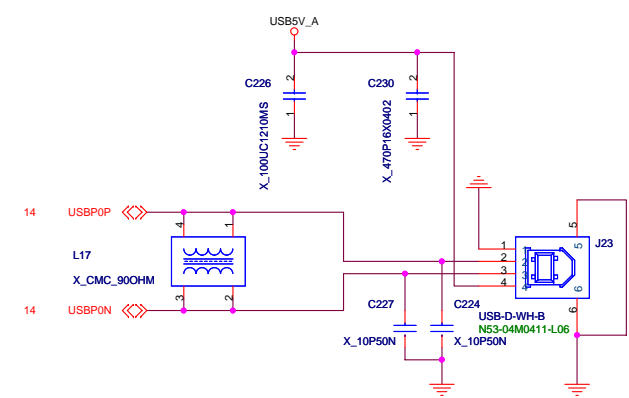
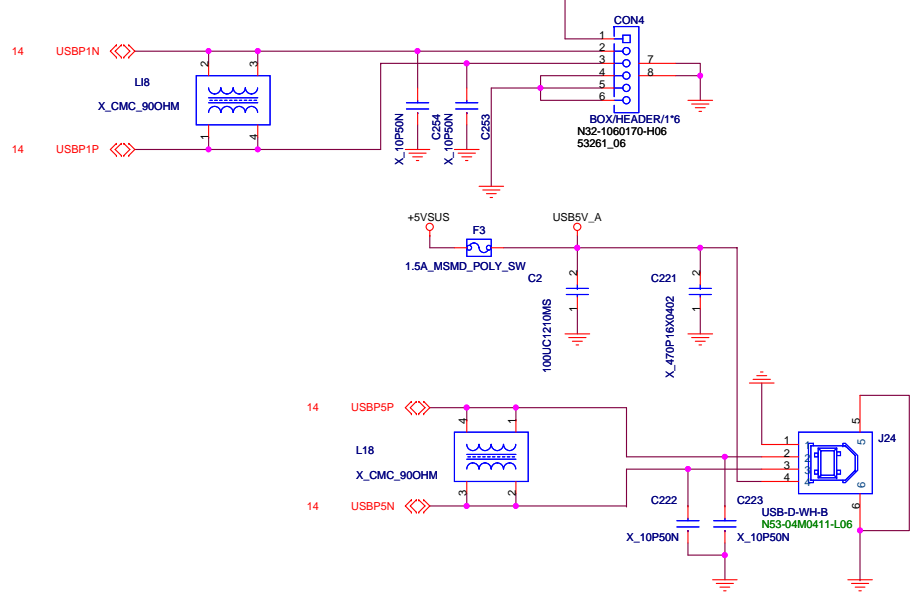
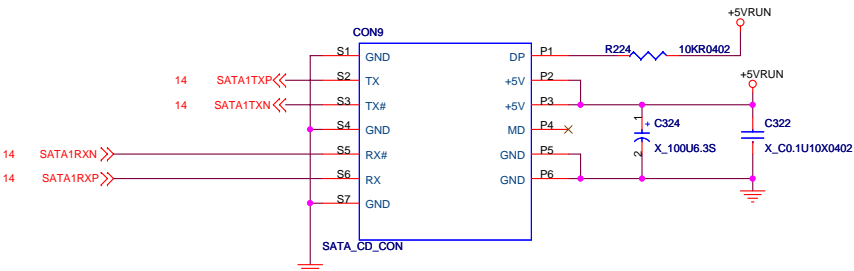
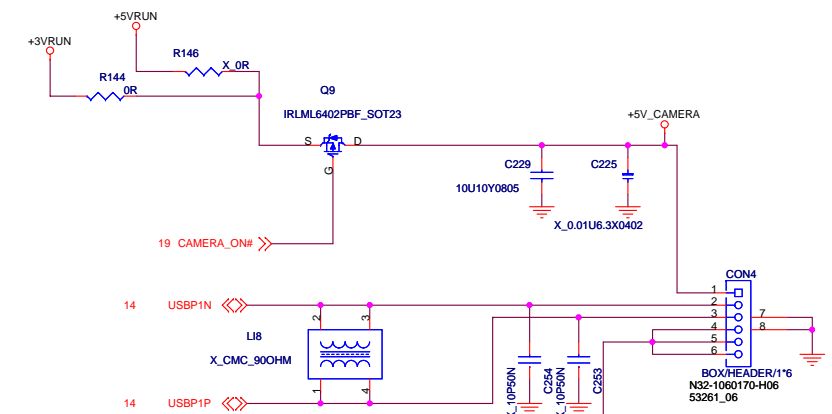
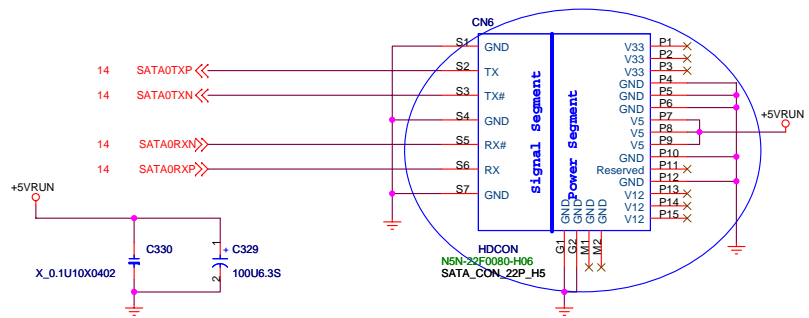
**MICRO-STAR INT'L CO.,LTD.**

**KBC/EC/uP ENE3925**

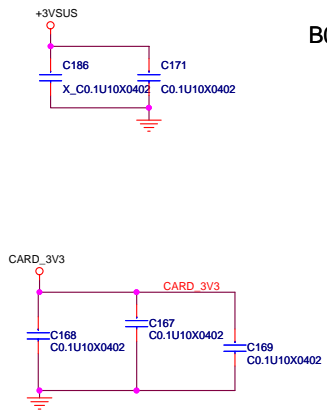
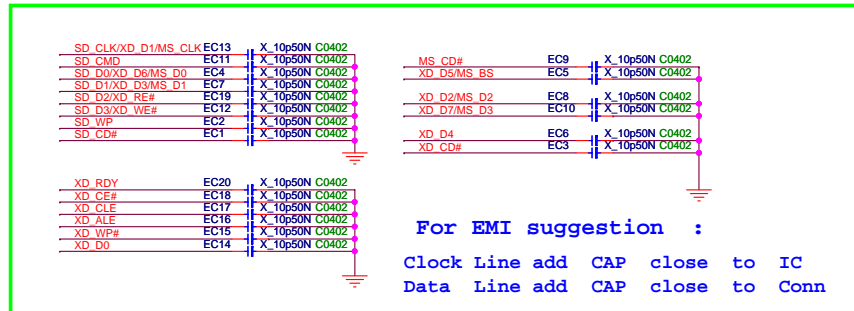
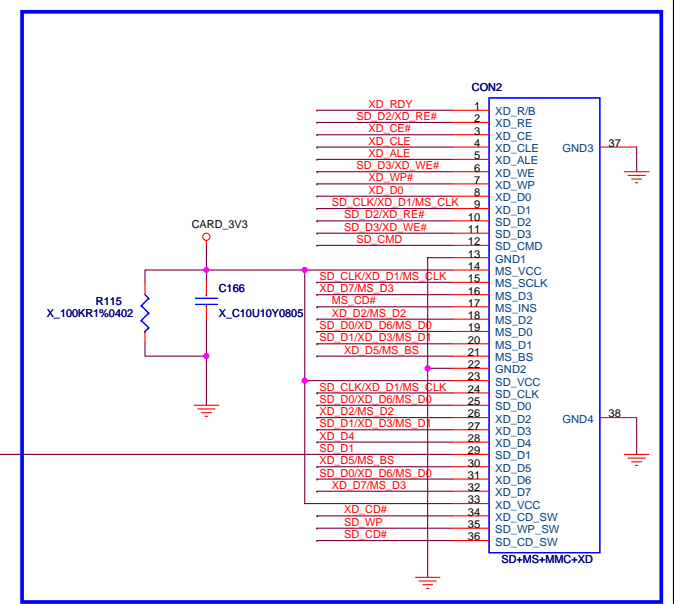
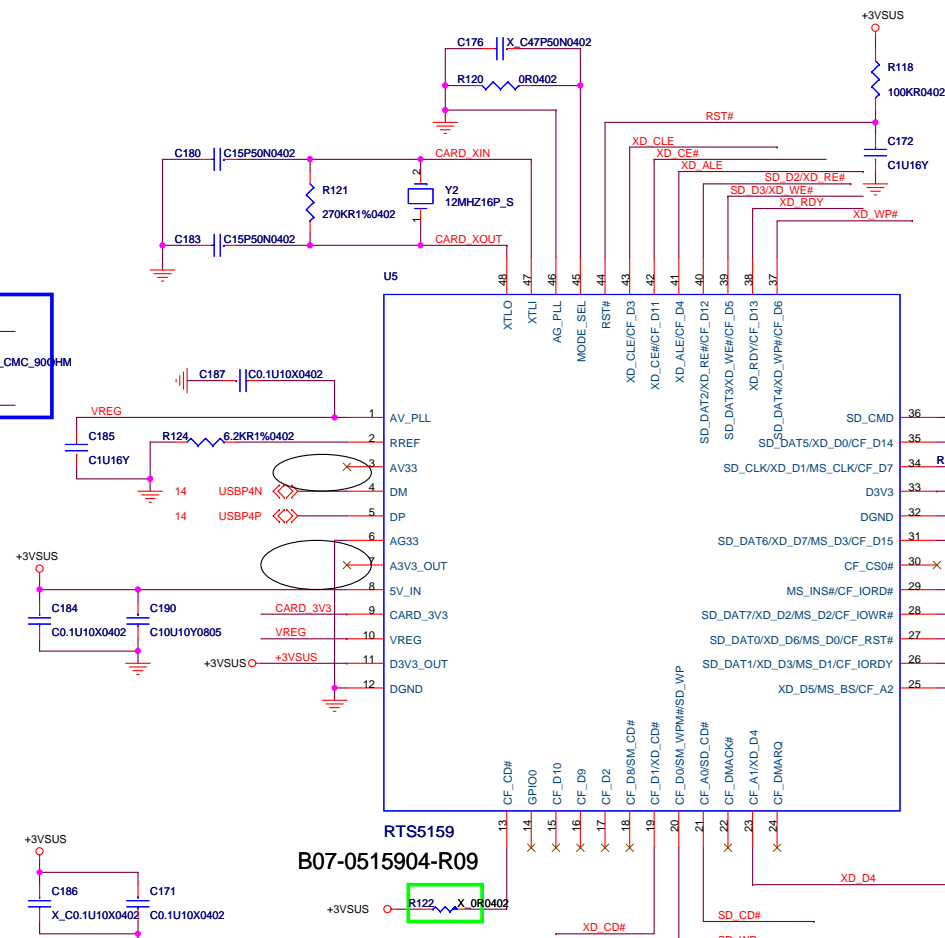
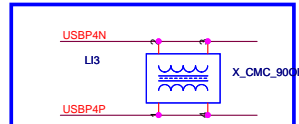
MS-1683

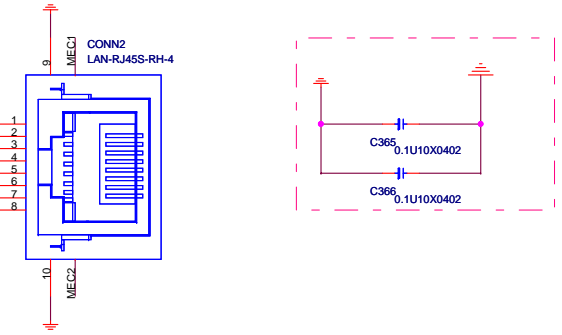
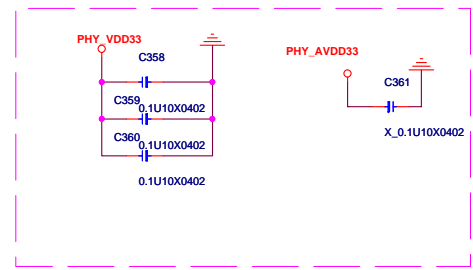
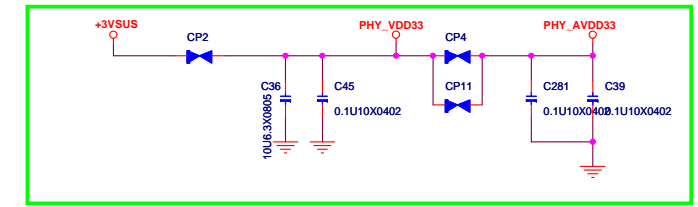
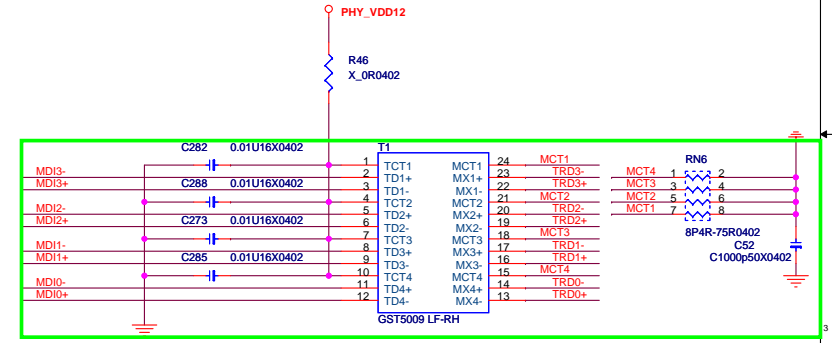
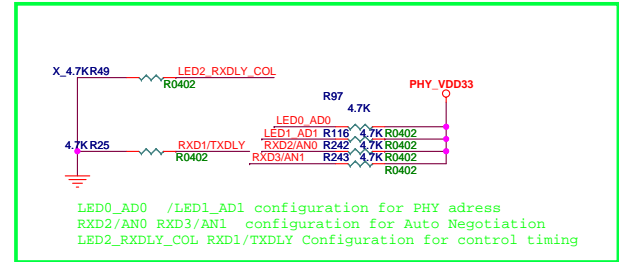
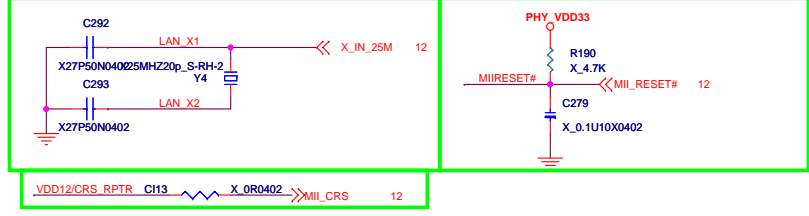
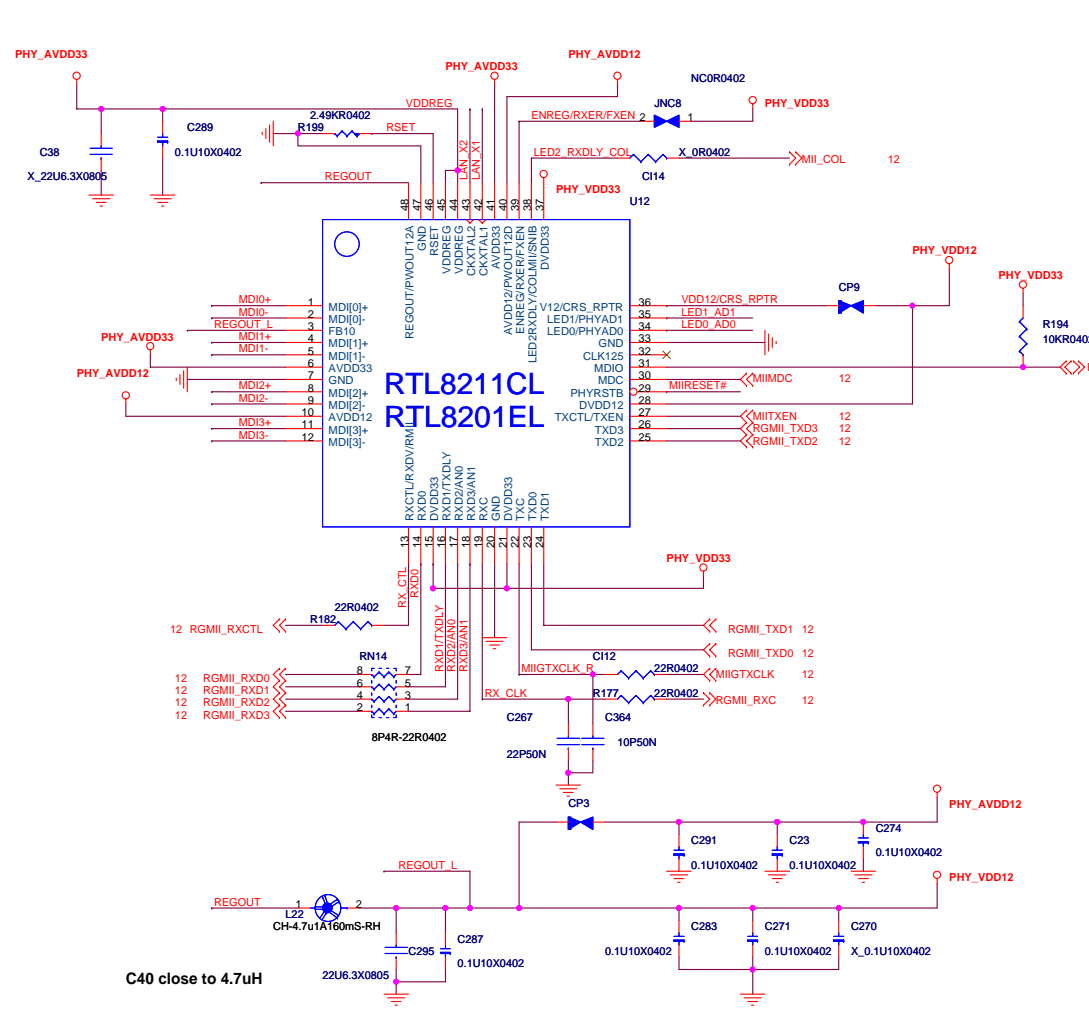
Wednesday, November 18, 2009

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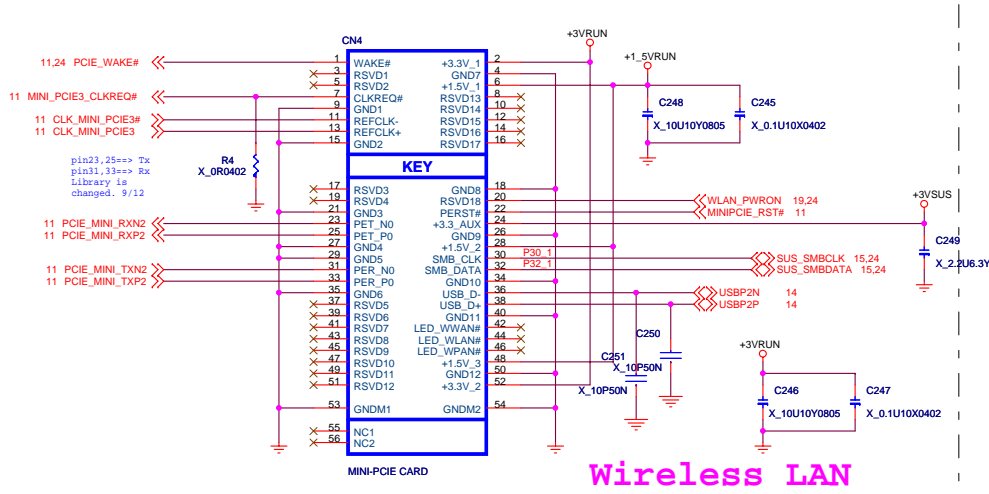


		<b>MICRO-STAR INT'L CO.,LTD.</b>	
Title		<b>HDD &amp; CDROM CONN</b>	
Size	Document Number	Rev	
Custom	<b>MS-1683</b>	1.2	
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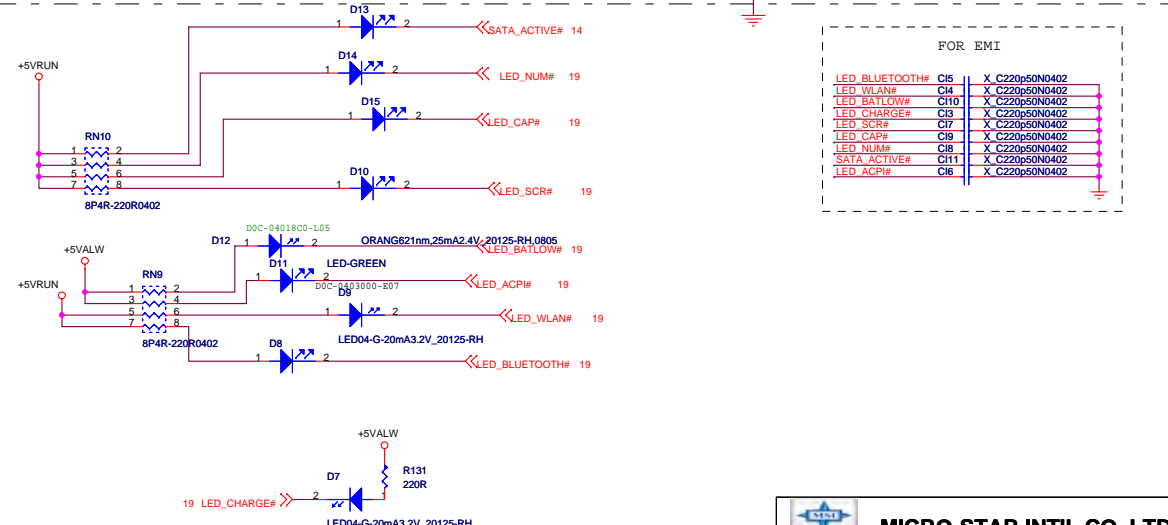
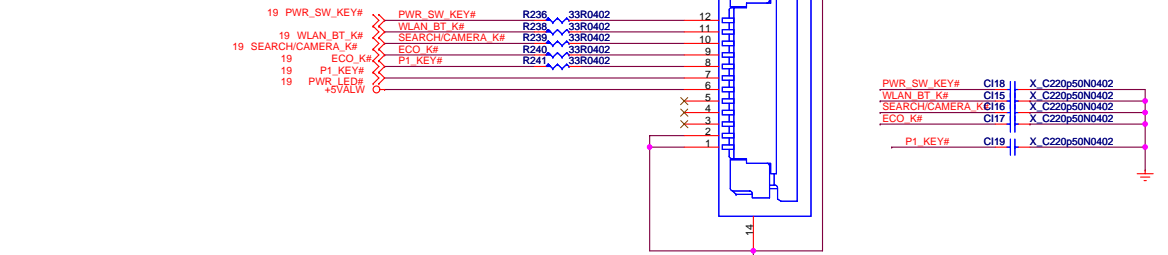
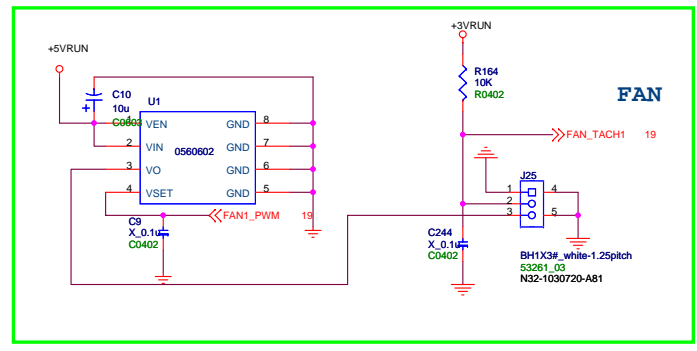
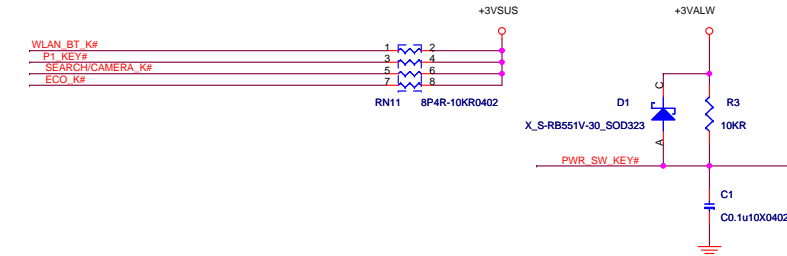


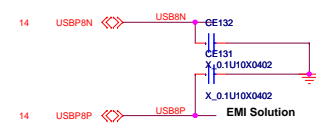
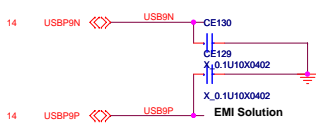
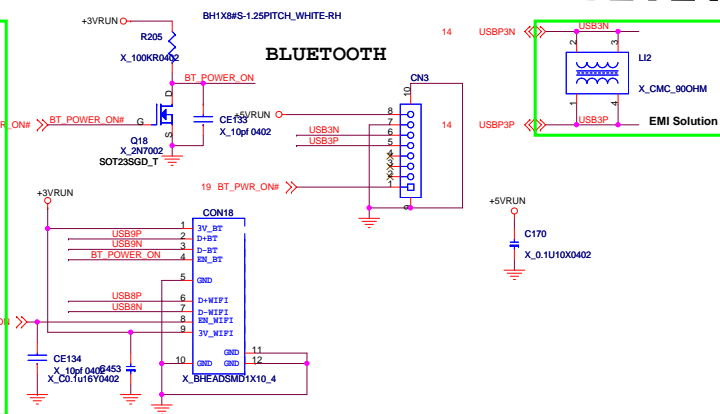
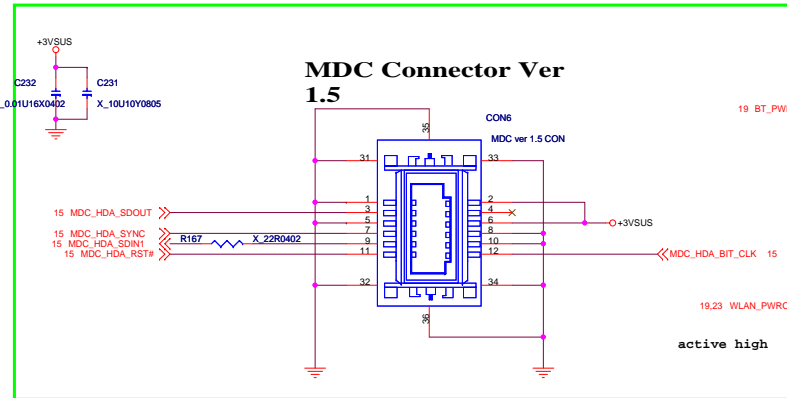
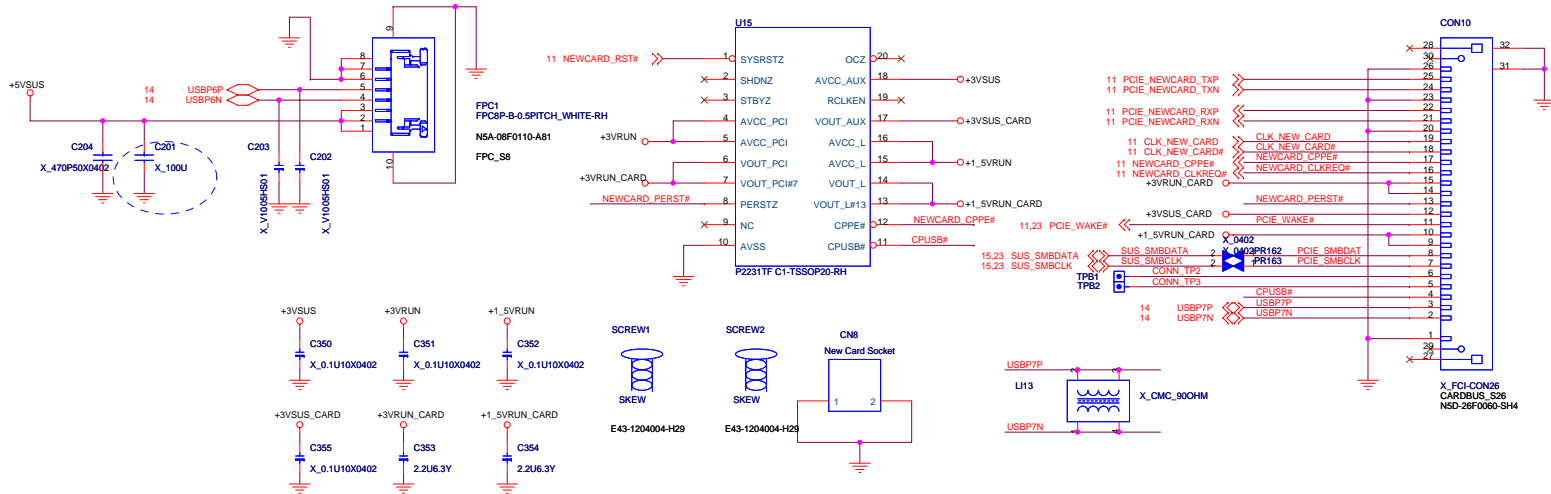


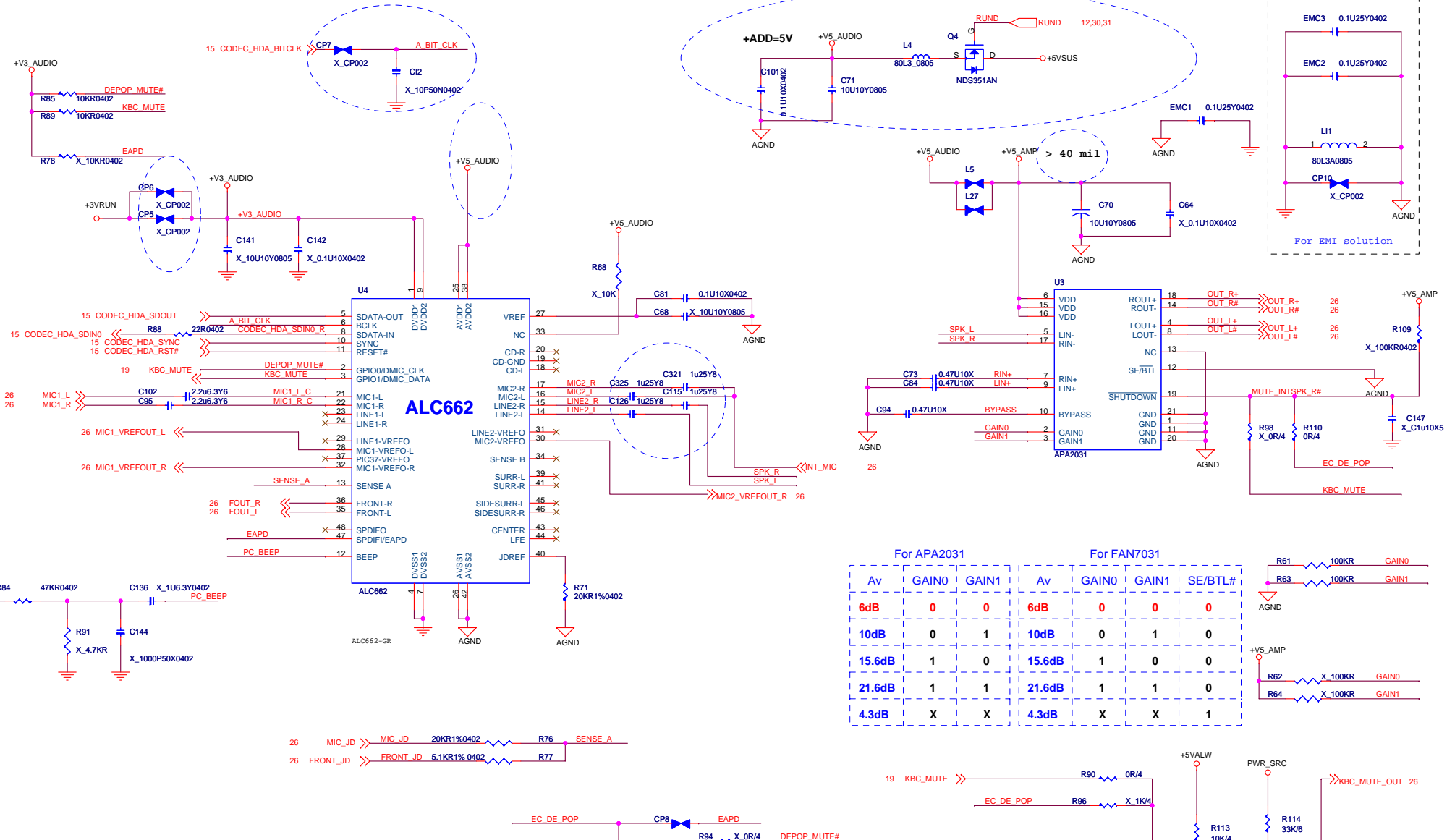




**Wireless LAN**







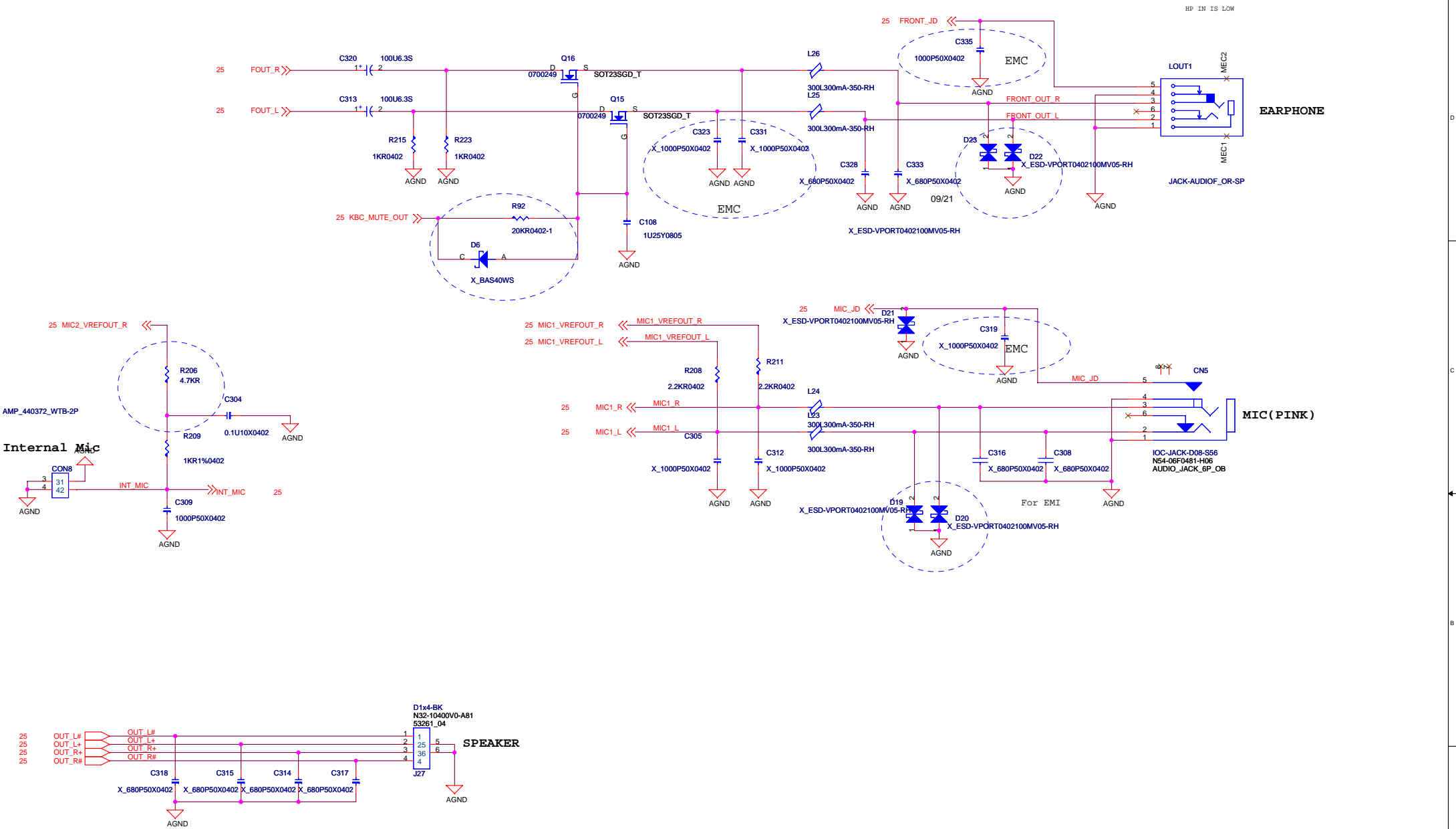
For APA2031				For FAN7031			
Av	GAIN0	GAIN1	SE/BTL#	Av	GAIN0	GAIN1	SE/BTL#
6dB	0	0	0	6dB	0	0	0
10dB	0	1	0	10dB	0	1	0
15.6dB	1	0	0	15.6dB	1	0	0
21.6dB	1	1	0	21.6dB	1	1	0
4.3dB	X	X	1	4.3dB	X	X	1

**MICRO-STAR INT'L CO.,LTD.**


**AZALIA CODEC(ALC888)**

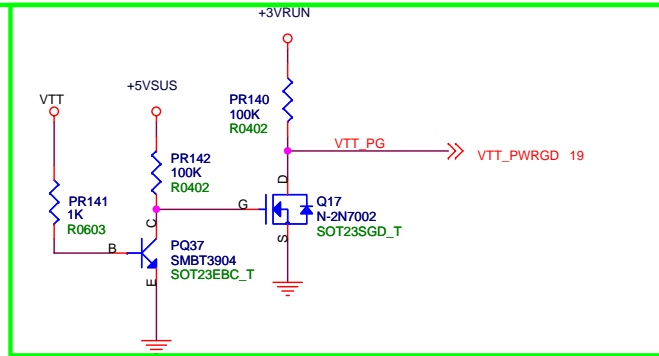
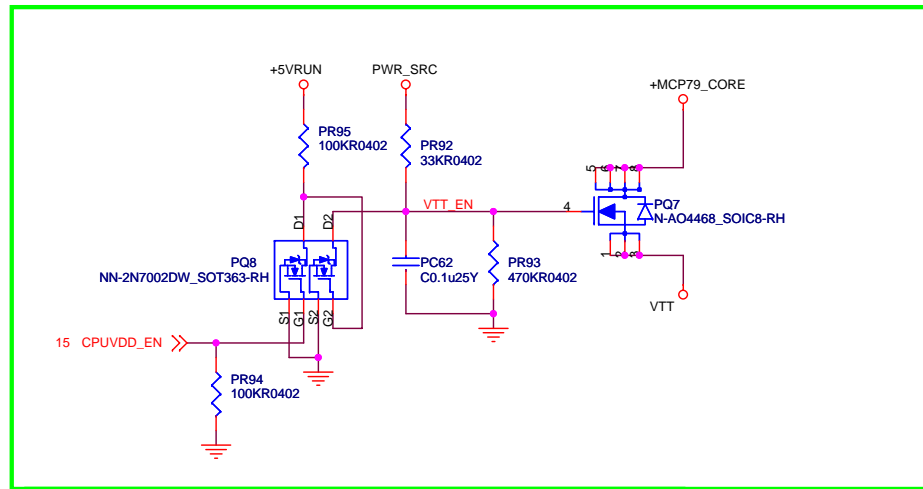
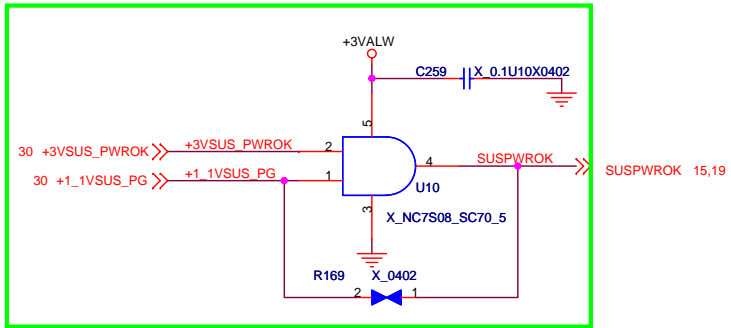
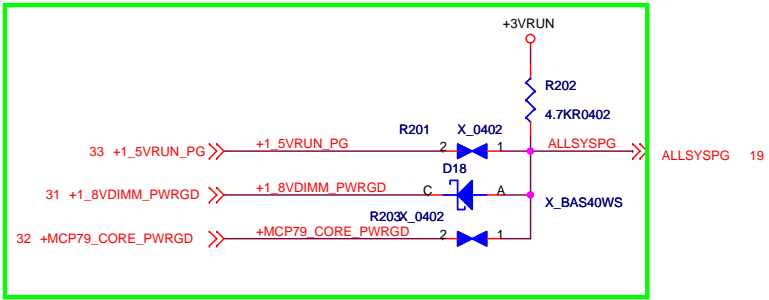
Size: Custom    Document Number: **MS-1683**    Rev: 1.2

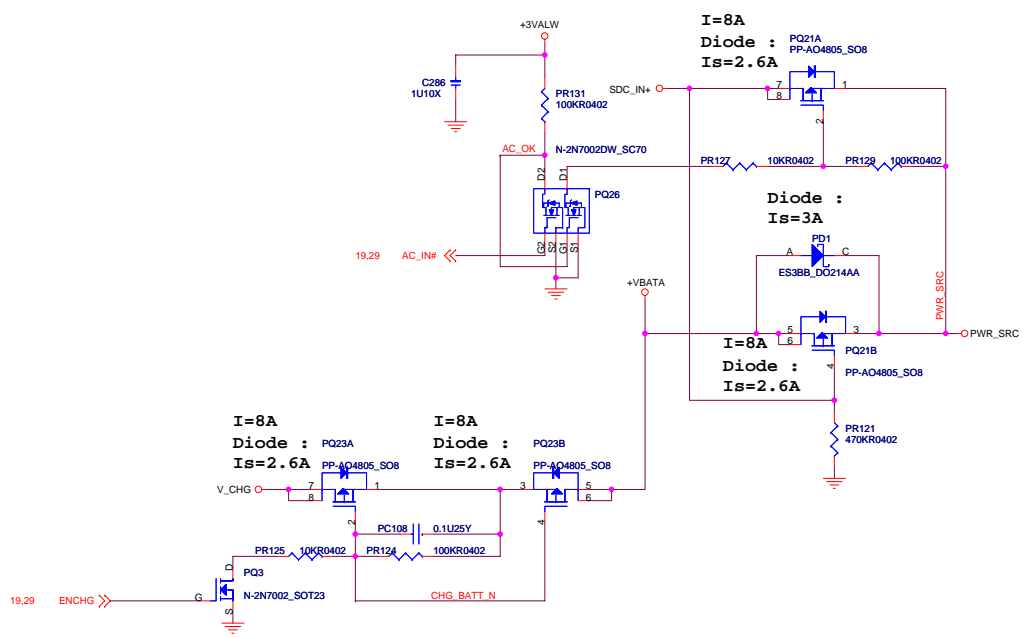
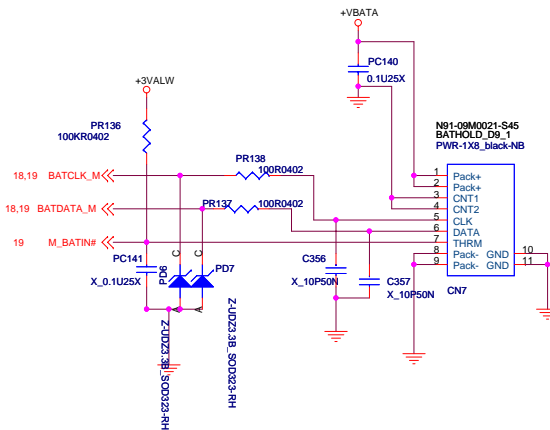
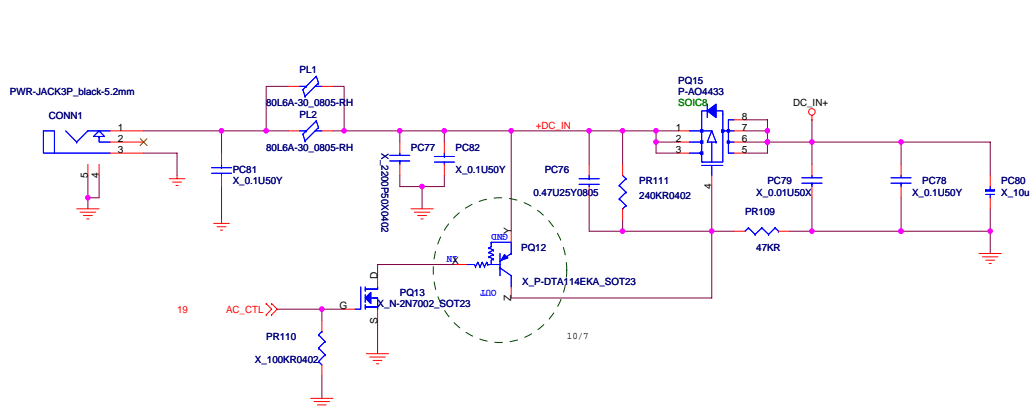
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<p>25 OUT_L#    OUT_L#</p> <p>25 OUT_L+    OUT_L+</p> <p>25 OUT_R+    OUT_R+</p> <p>25 OUT_R#    OUT_R#</p>		<p>1 1</p> <p>2 25</p> <p>3 36</p> <p>4 4</p> <p>5 5</p> <p>6 6</p> <p>J27</p>	<p><b>SPEAKER</b></p> <p>AGND</p>
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 <p><b>MICRO-STAR INT'L CO.,LTD.</b></p>	
<p><b>Audio AMP &amp; JACKS</b></p>	
<p>Title: <b>Audio AMP &amp; JACKS</b></p>	
<p>Size: Custom</p>	<p>Document Number: <b>MS-1683</b></p>
<p>Date: Wednesday, November 18, 2009</p>	<p>Rev: 1.2</p>
<p>Sheet: 26</p>	<p>of 40</p>

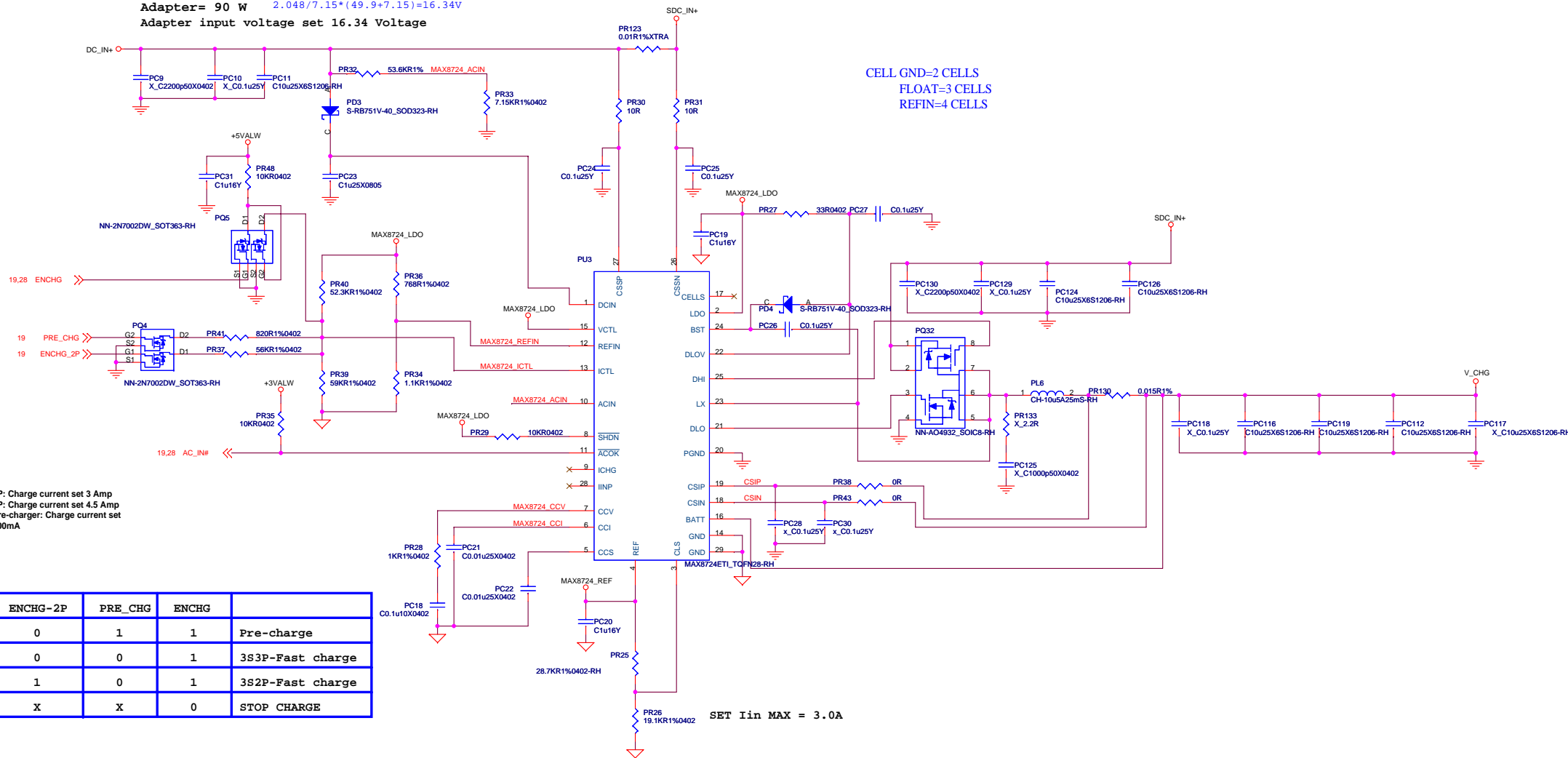




<b>MSI CORPORATION</b>		
Title <b>Battery Select</b>		
Size	Document Number	Rev
Custom	<b>MS-1683</b>	1.2
Date:	Wednesday, November 18, 2009	Sheet 28 of 40

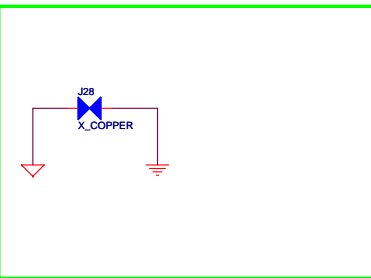
Adapter= 90 W  $2.048/7.15*(49.9+7.15)=16.34V$   
 Adapter input voltage set 16.34 Voltage

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



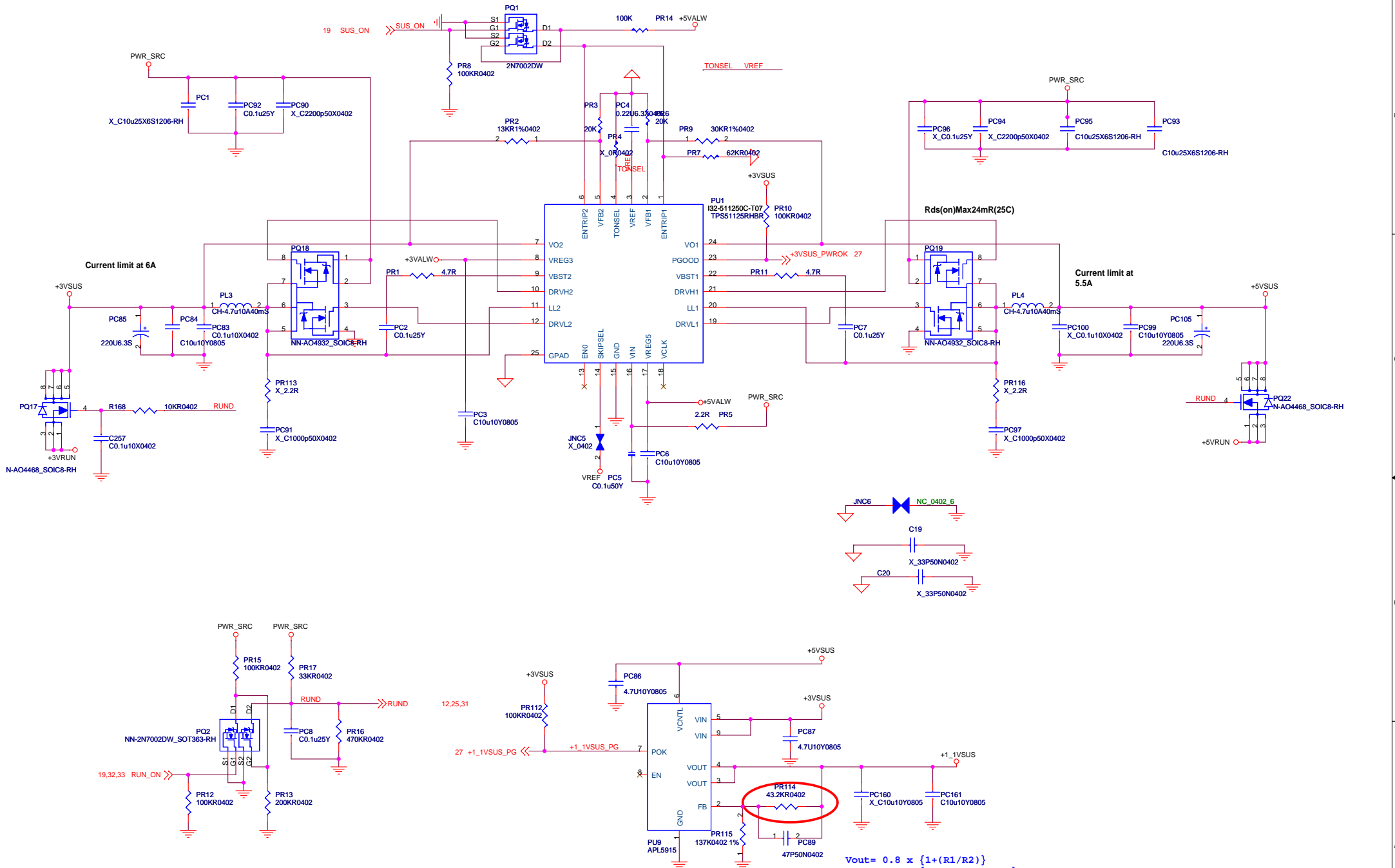
2P: Charge current set 3 Amp  
 3P: Charge current set 4.5 Amp  
 Pre-charge: Charge current set 200mA

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



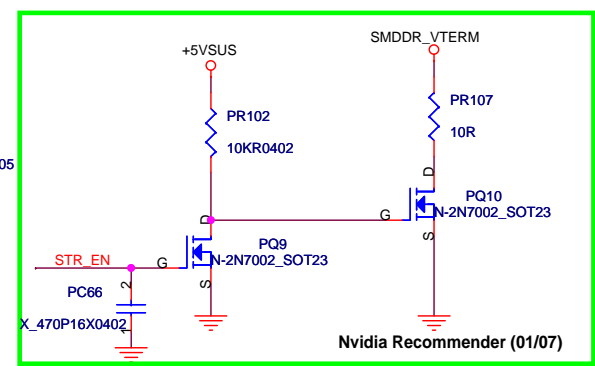
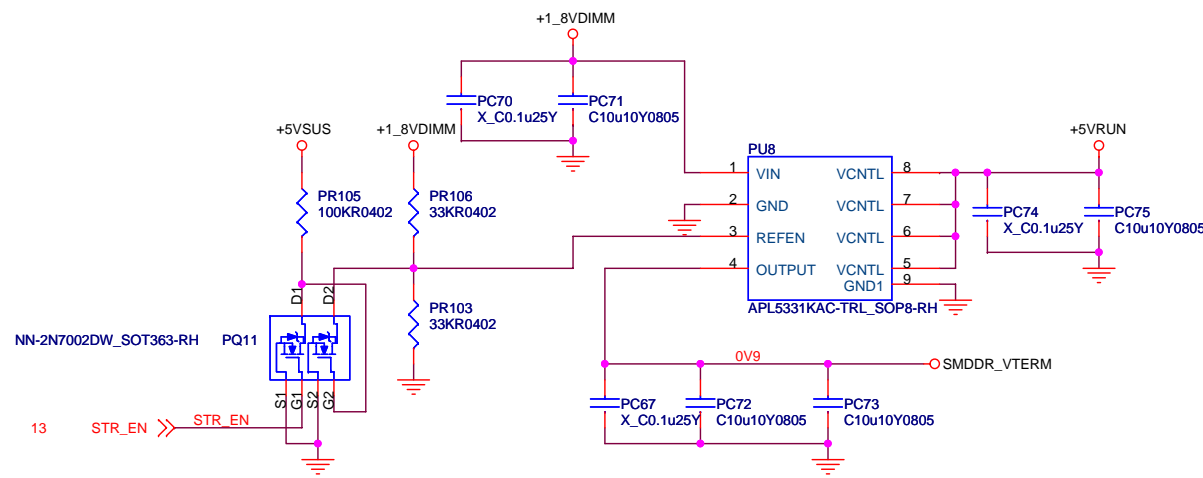
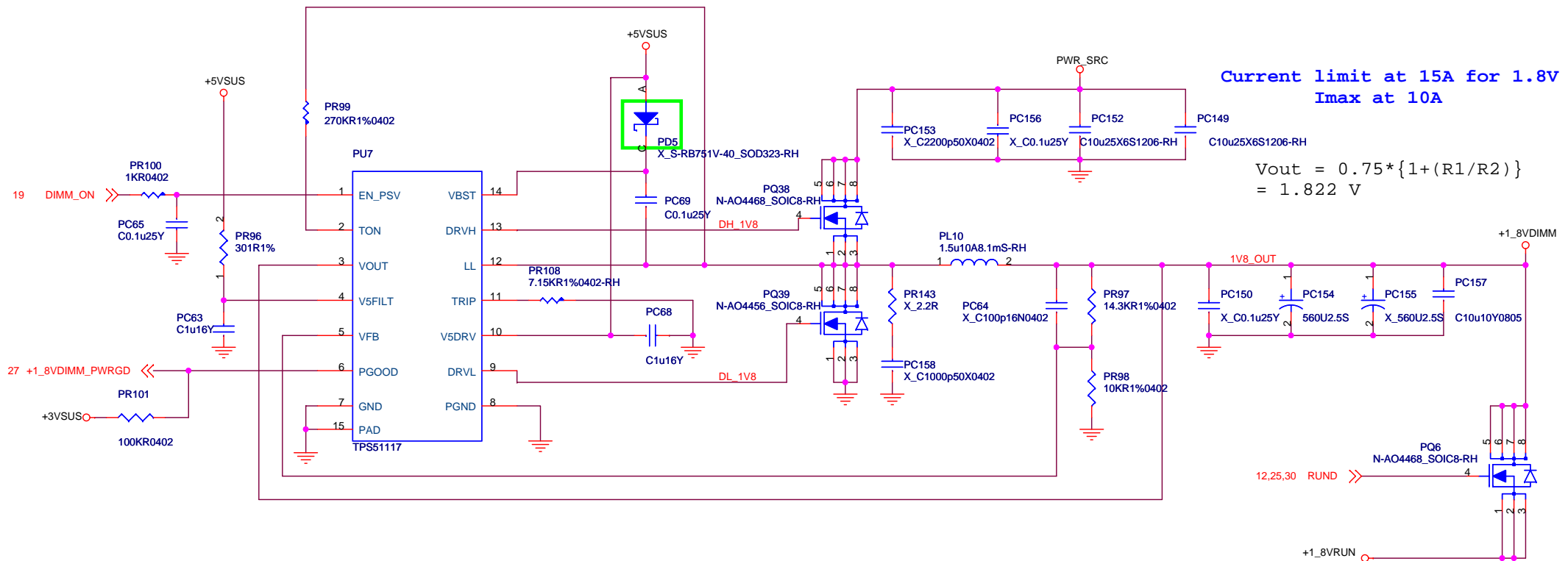
SET Iin MAX = 3.0A



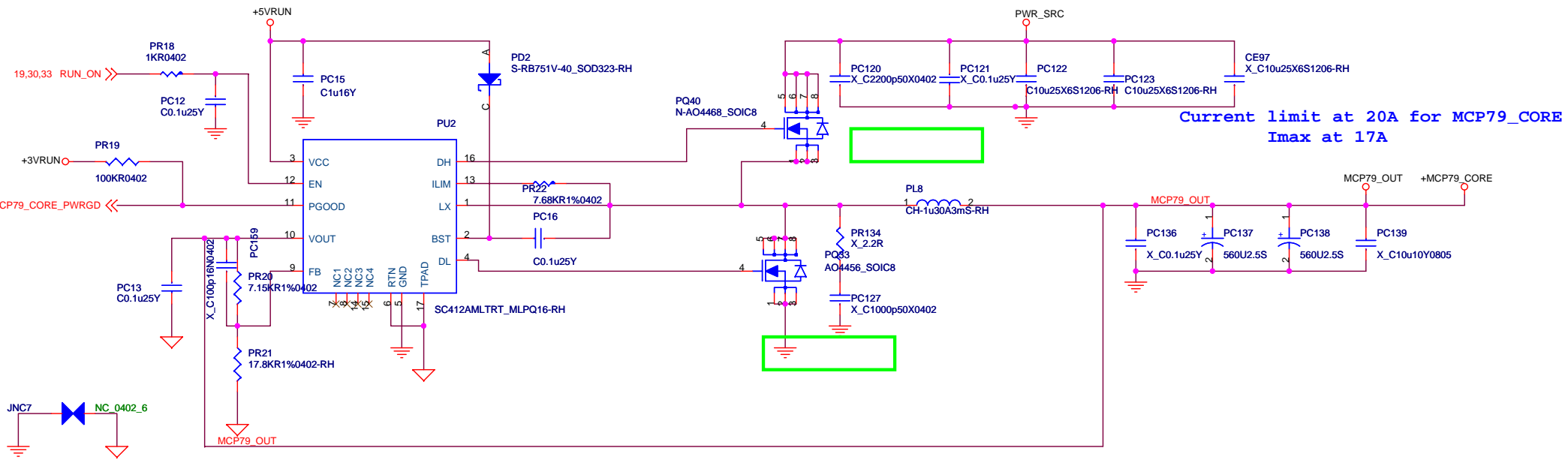


$$\begin{aligned}
 V_{out} &= 0.8 \times \{1 + (R1/R2)\} \\
 &= 0.8 \times \{1 + (43.2K/137K)\} \\
 &= 1.052 \text{ V}
 \end{aligned}$$

<b>MSI CORPORATION</b>		
Title <b>SYSTEM POWER 3/5V</b>		
Size	Document Number	Rev
Custom	<b>MS-1683</b>	1.2
Date:	Wednesday, November 18, 2009	Sheet 30 of 40

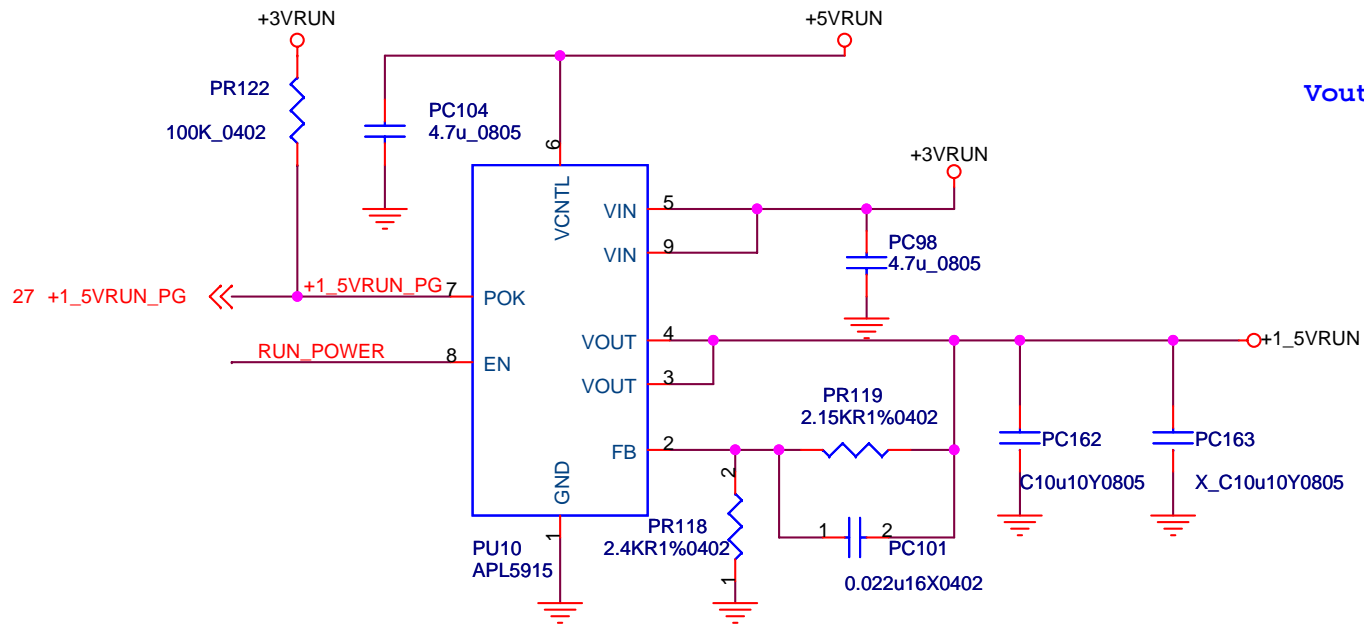


<b>MSI CORPORATION</b>			
<b>Title</b> DDR2 RAM POWER			
Size	Document Number	Rev	
Custom	<b>MS-1683</b>	1.2	
Date:	Wednesday, November 18, 2009	Sheet	31 of 40



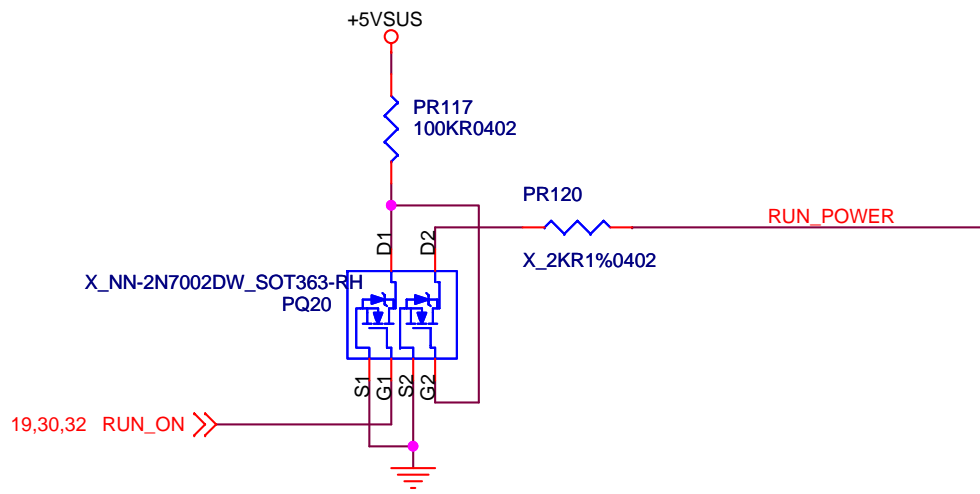
Current limit at 20A for MCP79\_CORE  
Imax at 17A

<b>MSI CORPORATION</b>		
<b>Title</b> MCP79_CORE , VTT POWER		
<b>Size</b> B	<b>Document Number</b> MS-1683	<b>Rev</b> 1.2
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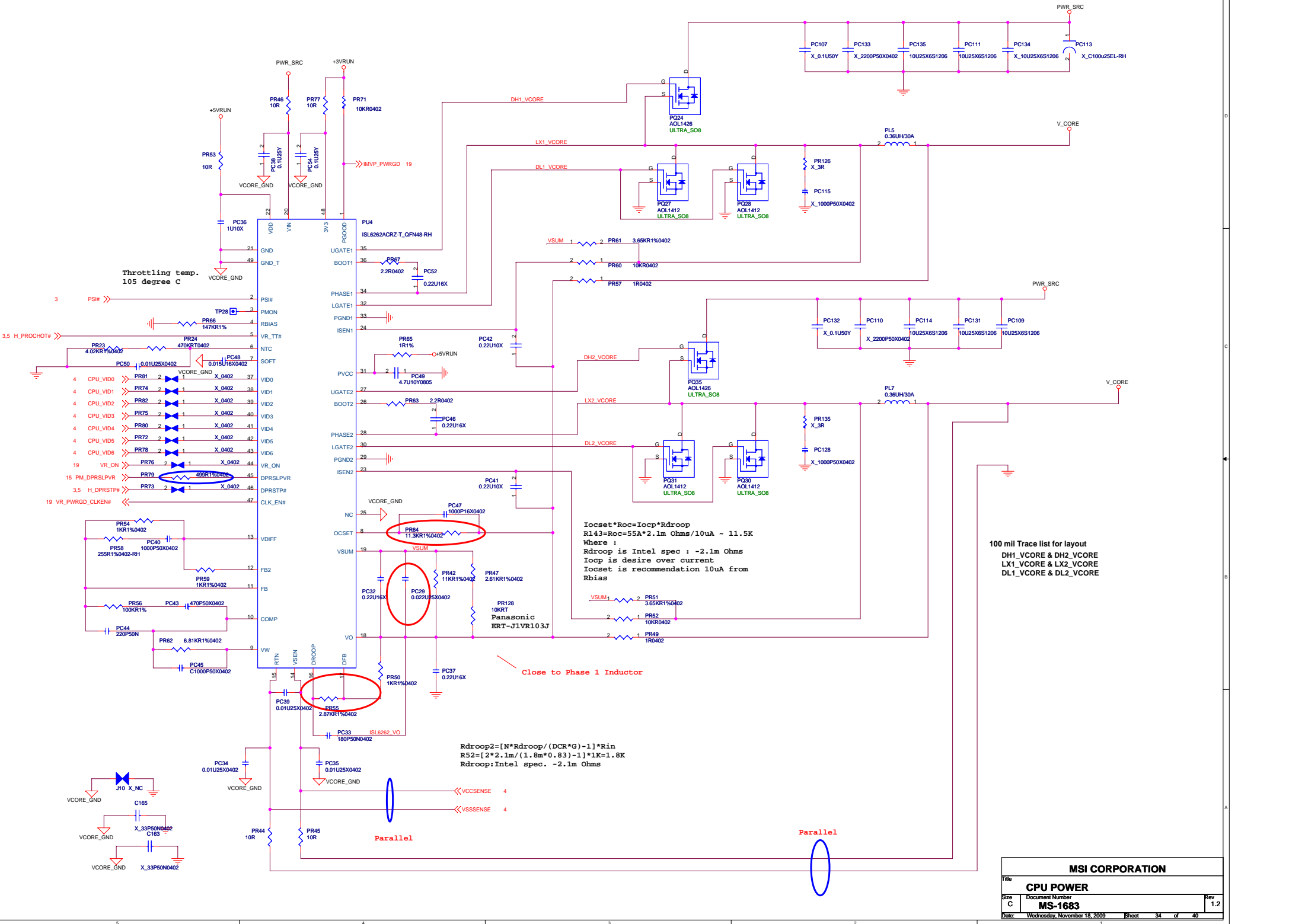


$$V_{out} = 0.8 \times \{1 + (R1/R2)\} = 1.516 \text{ V}$$

$$V_{out} = 0.8 \times \{1 + (R1/R2)\} = 1.053 \text{ V}$$



<b>MSI CORPORATION</b>		
Title		
<b>+1_5VRUN , +1_1VRUN</b>		
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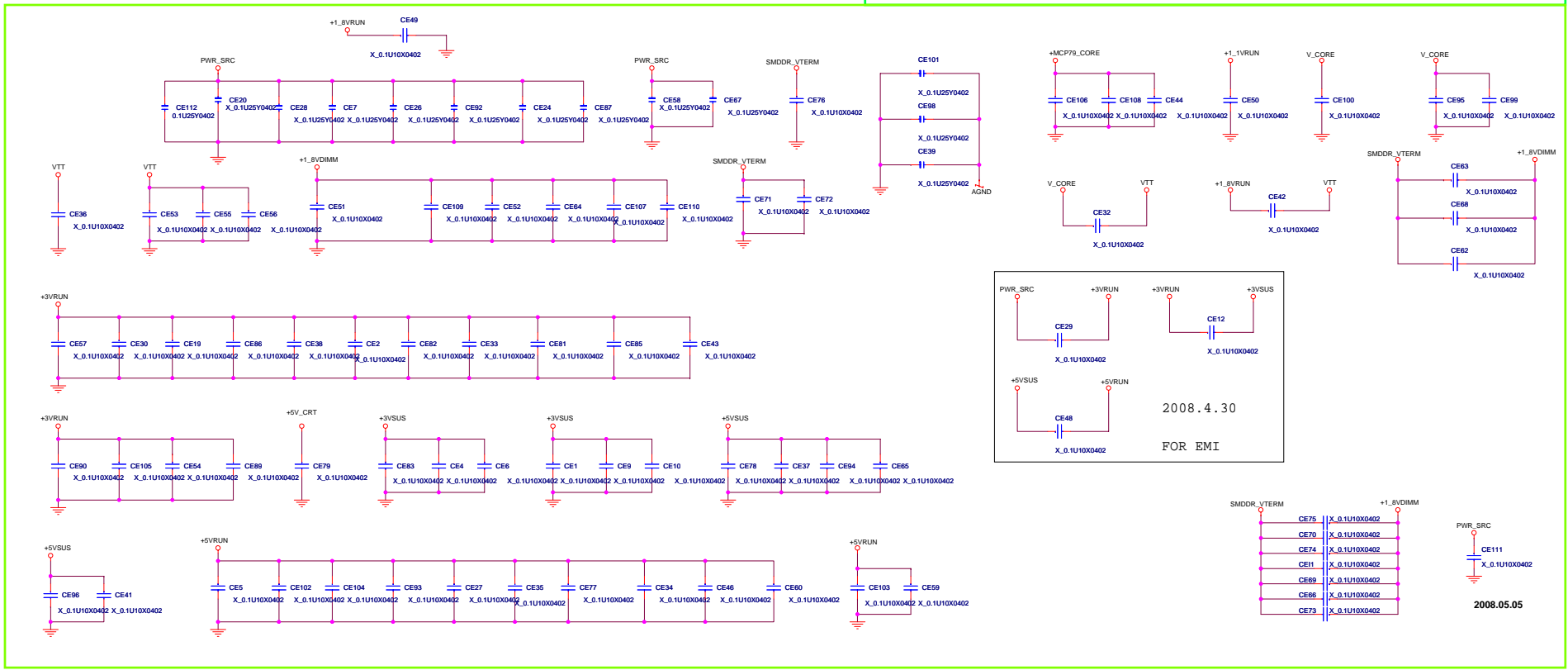
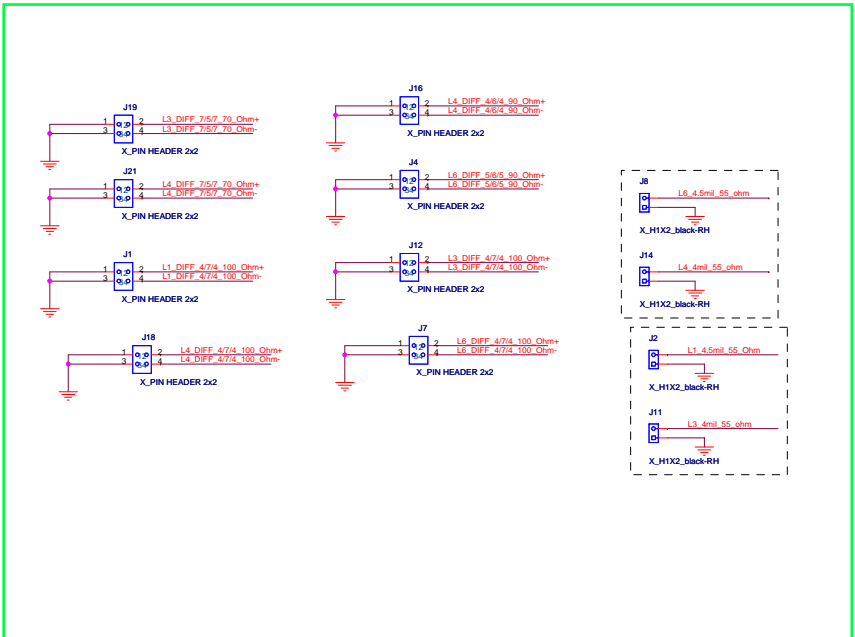
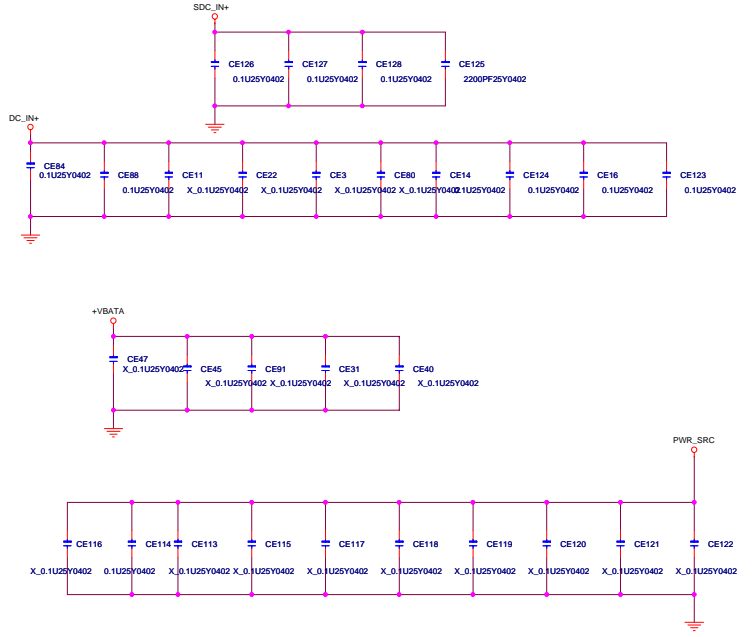
Throttling temp.  
105 degree C

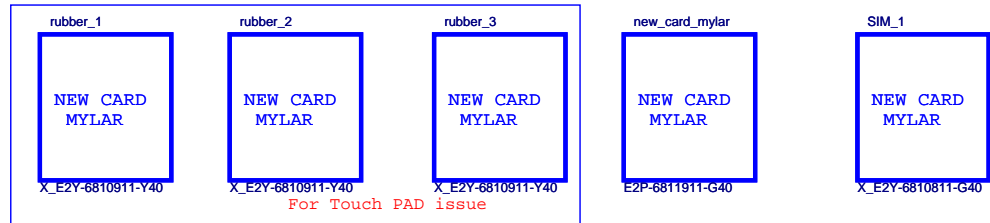
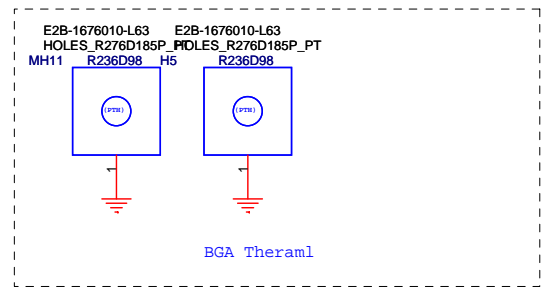
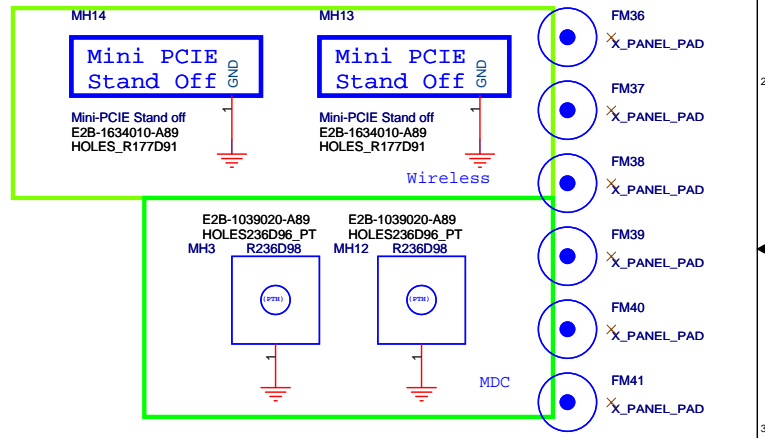
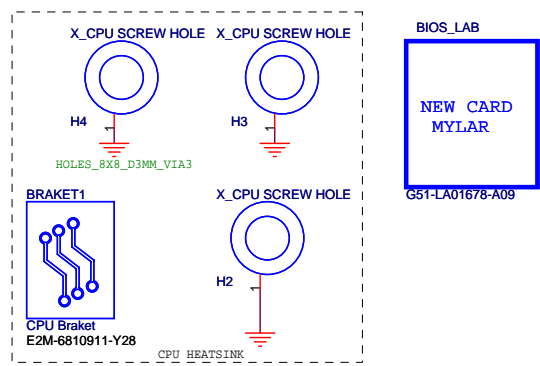
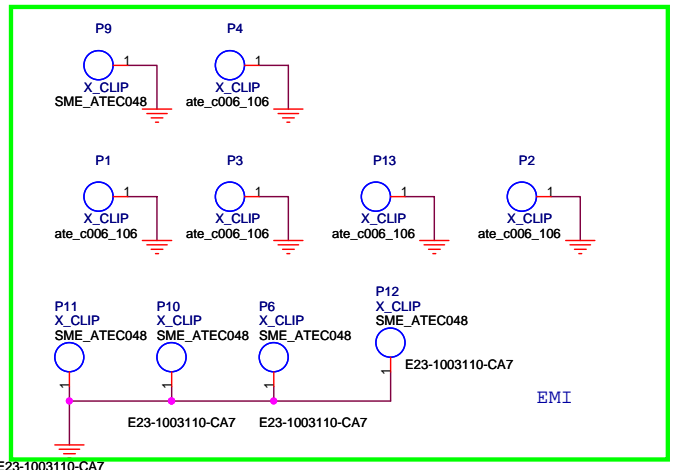
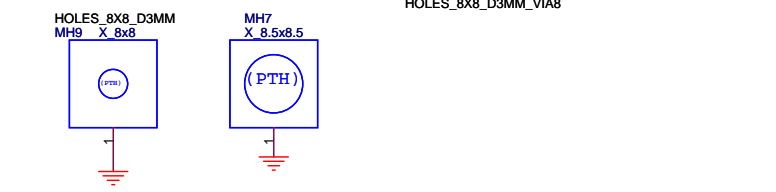
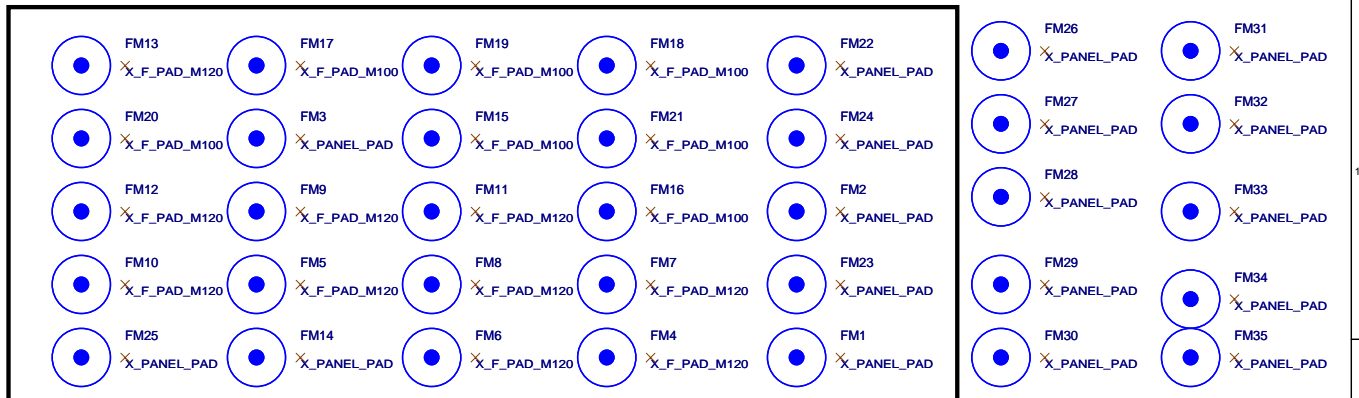
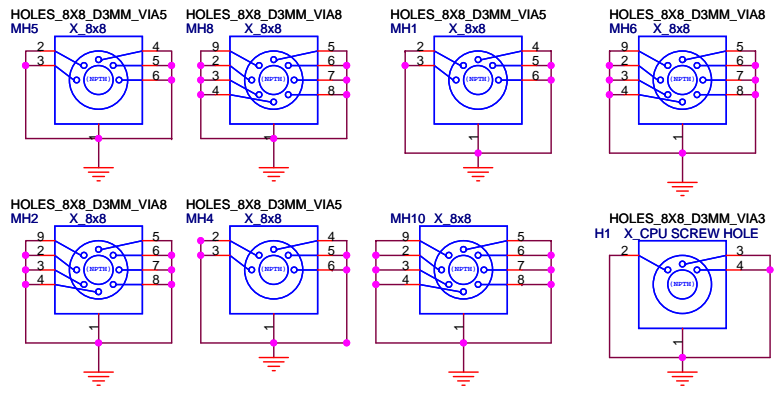
$I_{ocset} * R_{oc} = I_{ocp} * R_{droop}$   
 $R_{143} = R_{oc} = 55A * 2.1m \text{ Ohms} / 10uA \sim 11.5K$   
 Where :  
 $R_{droop}$  is Intel spec :  $-2.1m \text{ Ohms}$   
 $I_{ocp}$  is desire over current  
 $I_{ocset}$  is recommendation  $10uA$  from Rbias

$R_{droop2} = [N * R_{droop} / (DCR * G) - 1] * R_{in}$   
 $R_{52} = [2 * 2.1m / (1.8m * 0.83) - 1] * 1K = 1.8K$   
 $R_{droop}$ : Intel spec.  $-2.1m \text{ Ohms}$

100 mil Trace list for layout  
 DH1\_VCORE & DH2\_VCORE  
 LX1\_VCORE & LX2\_VCORE  
 DL1\_VCORE & DL2\_VCORE

<b>MSI CORPORATION</b>		
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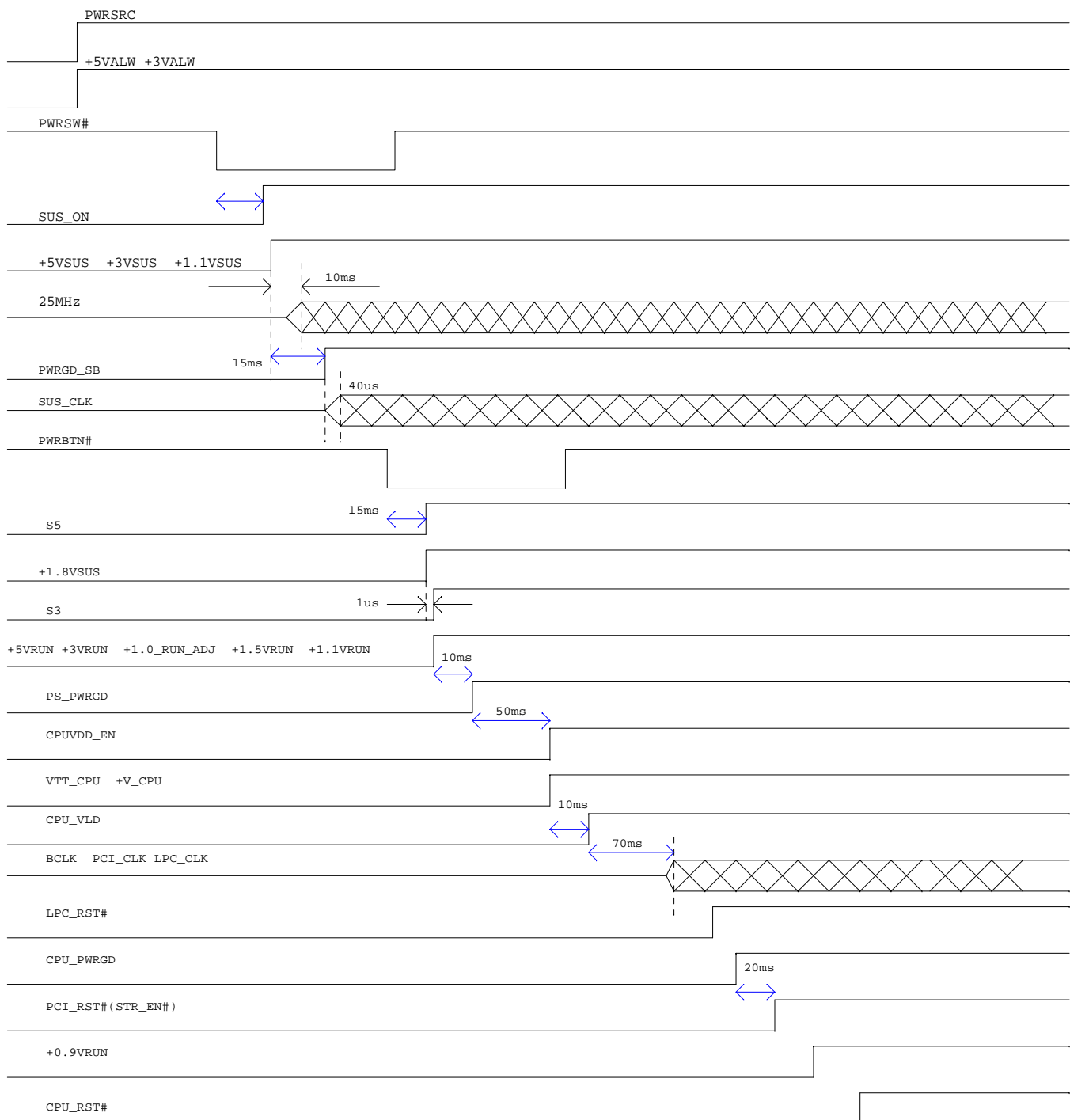
**Non-Footprint for BOM**

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Document Number

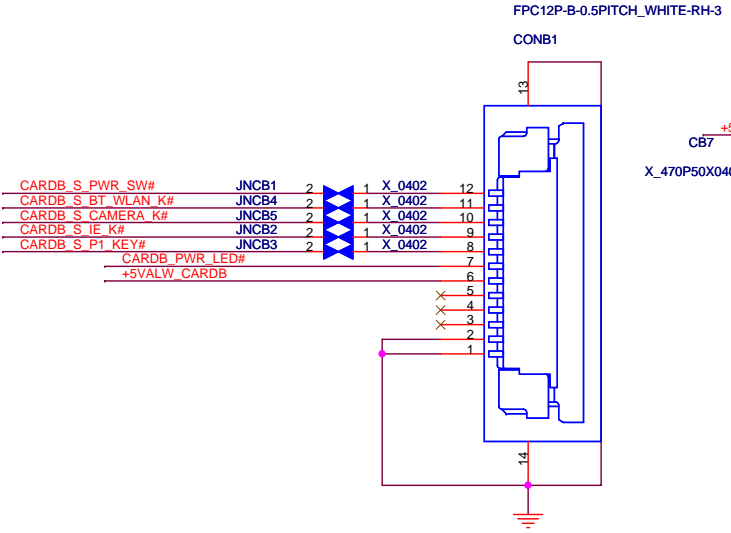
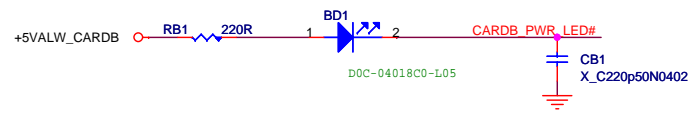
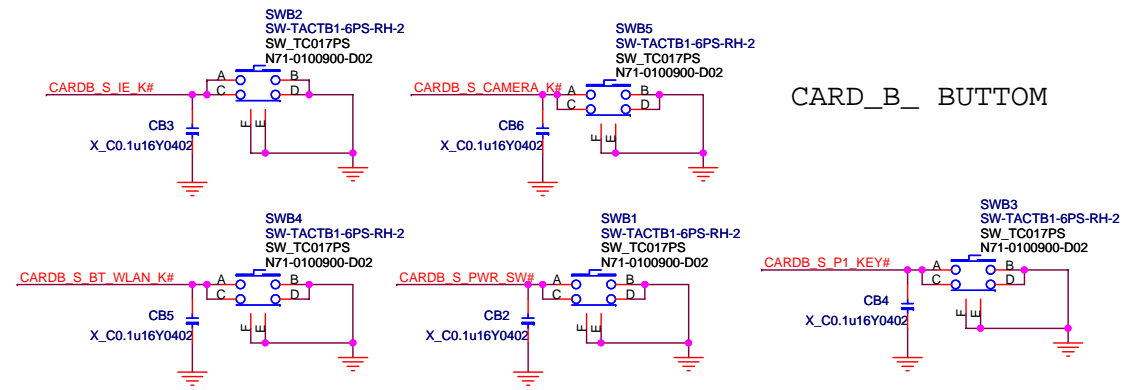
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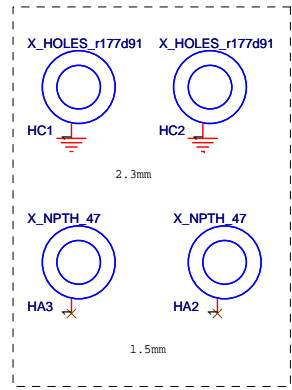
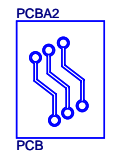
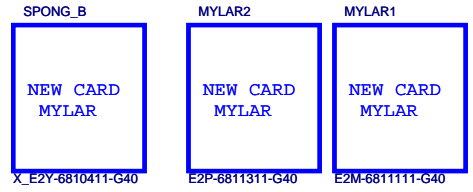
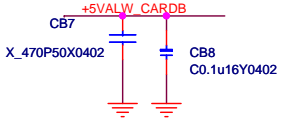




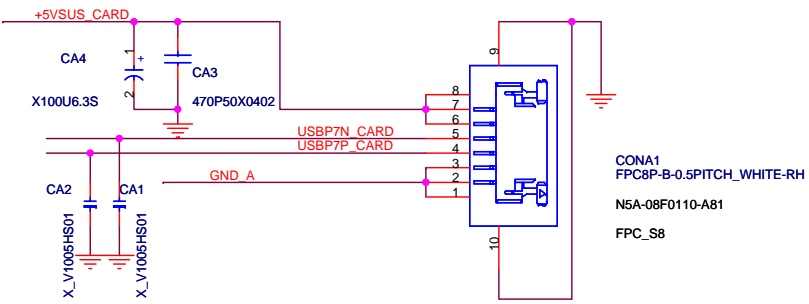
# CARD\_B\_BUTTON



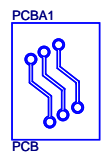
CARDB_S_PWR_SW#	JNCB1	2	1	X_0402	12
CARDB_S_BT_WLAN_K#	JNCB4	2	1	X_0402	11
CARDB_S_CAMERA_K#	JNCB5	2	1	X_0402	10
CARDB_S_IE_K#	JNCB2	2	1	X_0402	9
CARDB_S_P1_KEY#	JNCB3	2	1	X_0402	8
CARDB_PWR_LED#					7
+5VALW_CARDB					6
					5
					4
					3
					2
					1



		<b>MICRO-STAR INT'L CO.,LTD.</b>	
Title		<b>DC in Daughter Board</b>	
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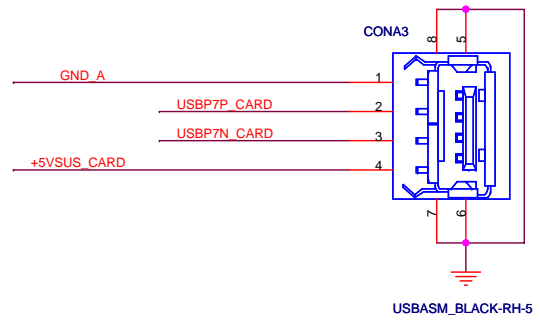
CONA1  
FPC8P-B-0.5PITCH\_WHITE-RH  
N5A-08F0110-A81  
FPC\_S8



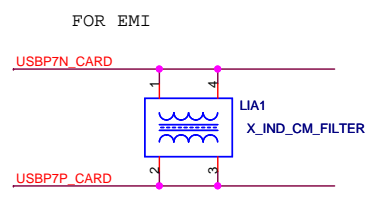
PCB



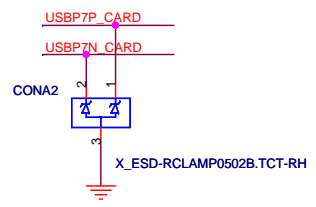
X\_E2Y-6810311-Y40



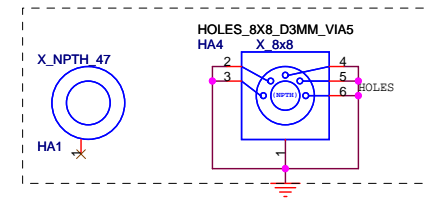
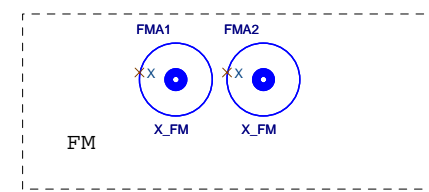
USBASM\_BLACK-RH-5



FOR EMI




X\_ESD-RCLAMP0502B.TCT-RH



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Title		<b>USB Daughter Board</b>	
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Nov.10 1> add E-SATA Function  
2>Change HDMI Solution (del level shift IC)  
3>Change KBC3926 GPIO Define (reference 1675)

090821:THIS BOM FOR LED PANEL,BASE ON607-16831-03S, ADD CON18 FOR MS-3870 USB BT&WLAN MODULE  
091118: THIS BOM FOR MS-1683B, E2P-6811311-/G40 CHANGE TO E2P-6811312-G40 PREVIOUS BOM 091112

		<b>MICRO-STAR INT'L CO.,LTD.</b>	
Title		<b>HISTORY</b>	
Size	Document Number	Rev	
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