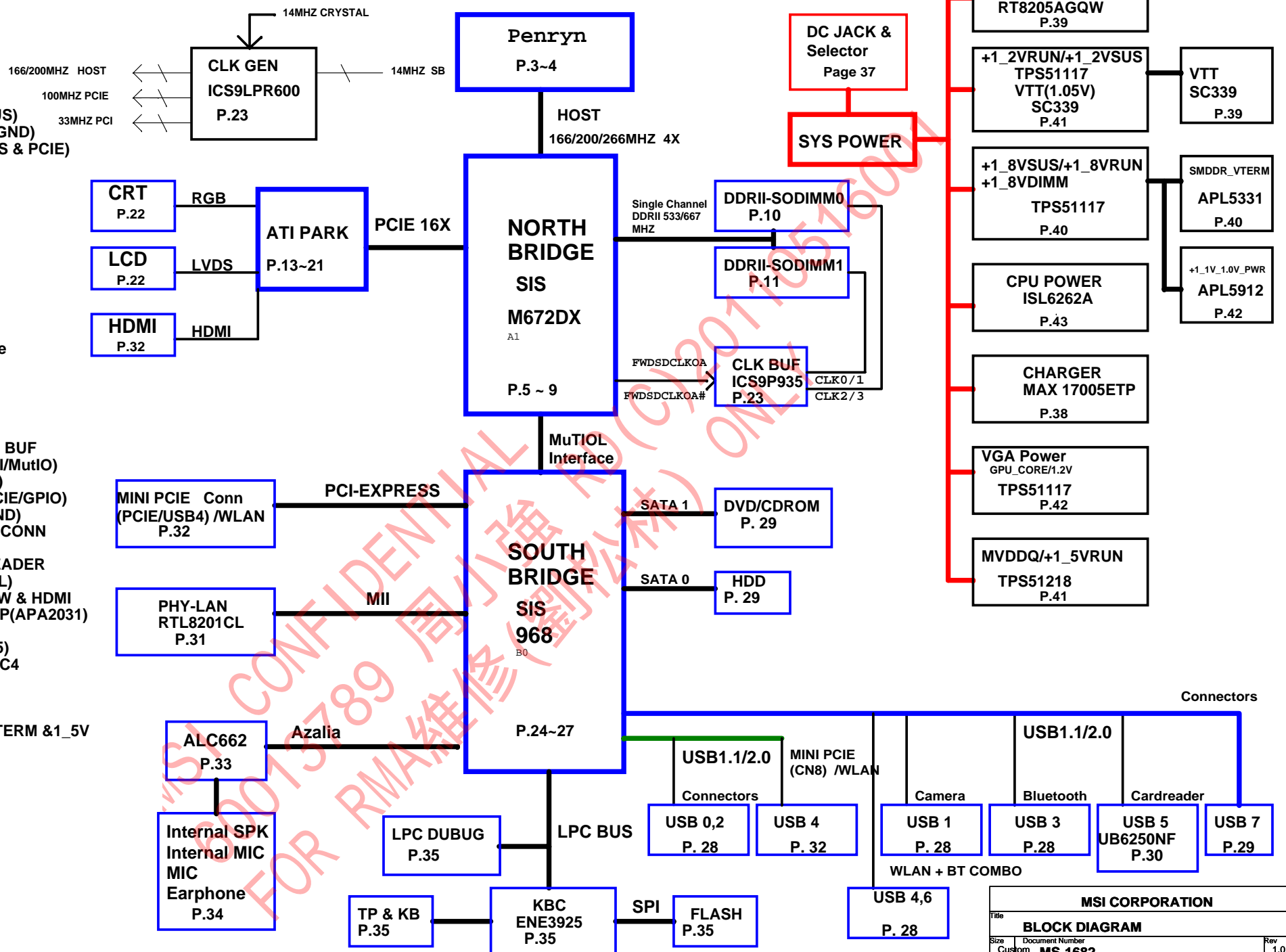


MS-1687 VER : 0A

- 01_BLOCK DIAGRAM
- 02_PLATFORM
- 03_PENRYN-1 (HOST BUS)
- 04_PENRYN-2 (POWER/GND)
- 05_M672DX-1 (HOST BUS & PCIE)
- 06_M672DX-2 (MutiIO)
- 07_M672DX-3 (DDR2)
- 08_M672DX-4 (POWER)
- 09_M672DX-5 (VSS)
- 10_DDR2 SODIMM 0
- 11_DDR2 SODIMM 1
- 12_DDR2 TREMINATION
- 13_PARK-host-lvds
- 14_PARK-IO
- 15_PARK-power
- 16_PARK-power-straps
- 17_PARK_MEM_Interface
- 18_PARK_DDR3_A0
- 19_PARK_DDR3_A1
- 20_PARK_DDR3_B0
- 21_PARK_DDR3_B1
- 22_CRT & LVDS CONN
- 23_CLOCK GEN & Dimm BUF
- 24_SIS968-1 (PCI/IDE/SPI/MutiIO)
- 25_SIS968-2 (USB/SATA)
- 26_SIS968-3 (CPU/HD/PCIE/GPIO)
- 27_SIS968-4 (POWER/GND)
- 28_USBX2&Camera&BT CONN
- 29_HDD & ODD CONN
- 30_UB6250NF_CARD READER
- 31_PHY LAN (RTL8201CL)
- 32_MINI_PCIECARD & SW & HDMI
- 33_AUDIO(ALC662) / AMP(APA2031)
- 34_SPK & HP & MIC
- 35_KBC/EC/uP (ENE3925)
- 36_PWRGD & FAN & C3/C4
- 37_Battery select
- 38_Battery Charger
- 39_M_System Power
- 40_M_1_8V &SMDDR_VTERM &1_5V
- 41_M_1_2V &VTT power
- 42_VGA power
- 43_CPU power
- 44_Screw
- 45_EMI
- 46_Power Sequence-1
- 47_Power Sequence-2
- 48_Power Sequence_3
- 49_USB Board
- 50_Constrain
- 51_Buttom Board
- 52_Note
- 53_Note
- 54_Note



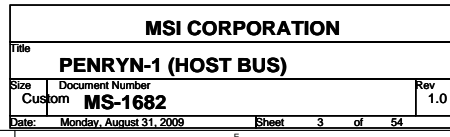
Voltage Rails

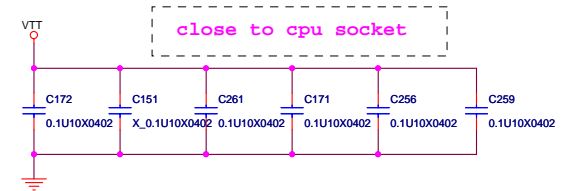
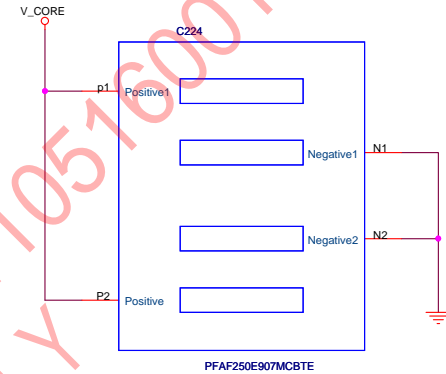
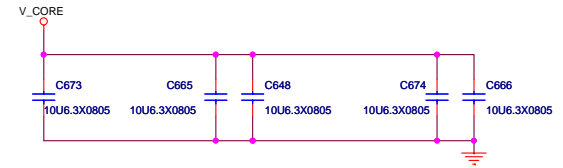
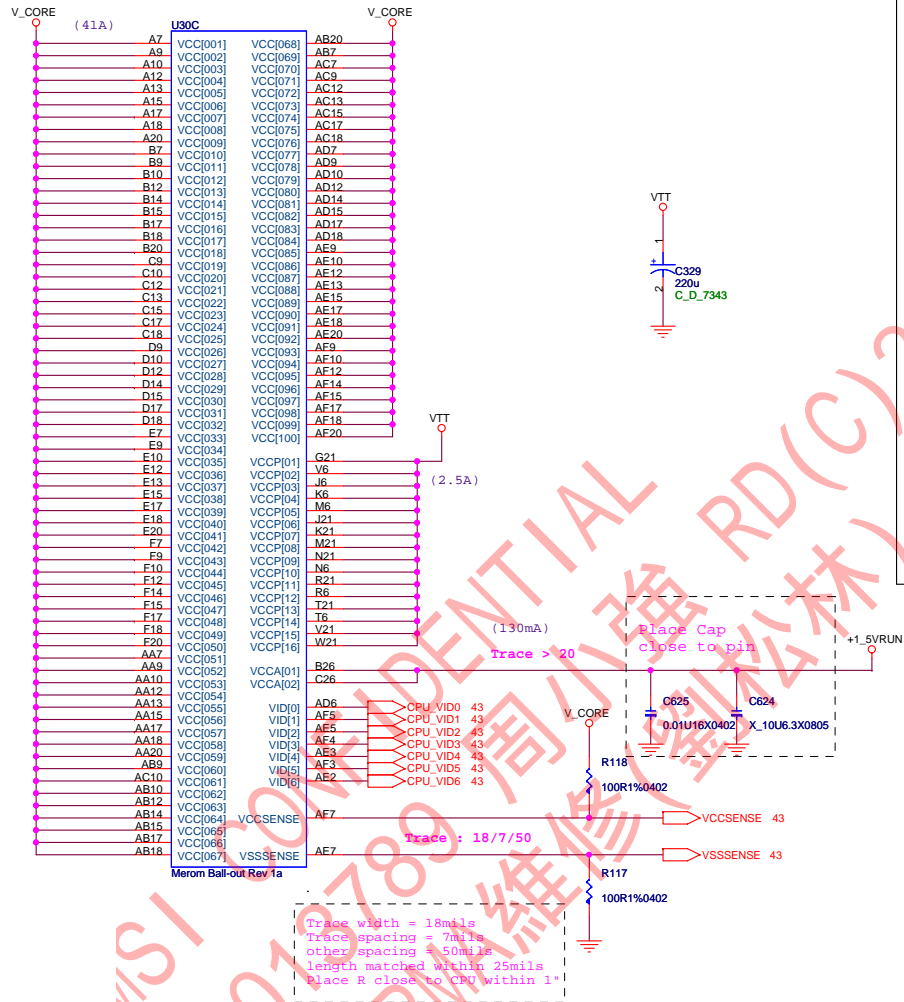
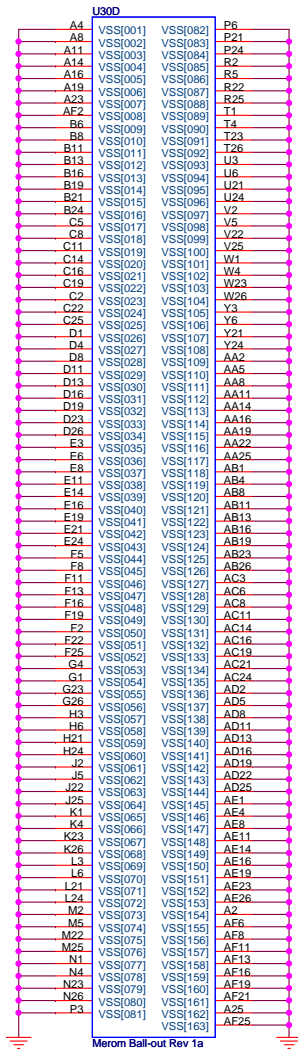
Voltage	Description	Control Signal
PWR_SRC	AC ADAPTER OR BATTERY IN	
V_CORE	Core Voltage for Processor	VR_ON
+VTT	1.05 rail for Processor & SIS968 GTL IO	+1_5VM_PG
+1_5VRUN	1.5V switched power rail(off in S3-S5)	+5VRUN
+1_2VRUN	1.2V power rail SISM672FX Analog (off in S3-S5)	RUND (RUN_ON)
+3VRUN	3.3V 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)	RUN_ON
+1_8VDIMM	1.8V power rail DDRII (off in S4-S5)	DIMM_ON
+1_8VRUN	1.8V power for SIS968 MuTIOL IO and core logic (off in S3-S5)	RUND (RUN_ON)
+1_8VSUS	1.8V power rail for SB core logic (off in S4-S5)	SUS_ON
+3VSUS	3.3V power rail (off in S4-S5)	SUS_ON
+5VSUS	5.0V power rail (off in S4-S5)	SUS_ON
+3VALW	3.3V always on power rail	PWR_SRC
+5VALW	5.0V always on power rail	PWR_SRC
+V5_AUDIO	5.0V Power rail Audio codec(off in S3-S5)	RUND
+1_2VSUS	1.2V power rail SISM672FX Digital (off in S4-S5)	SUS_ON

POWER STATES

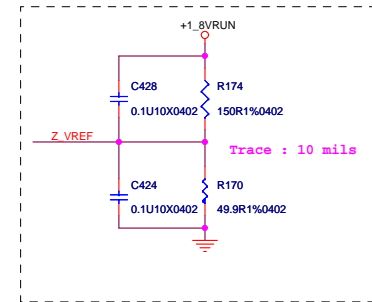
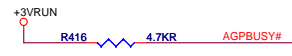
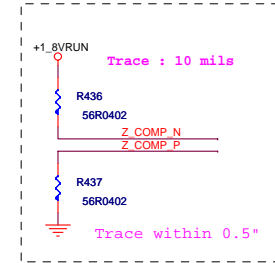
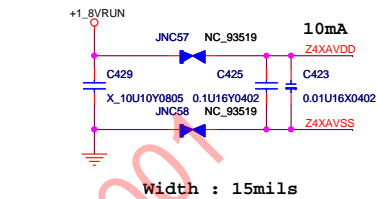
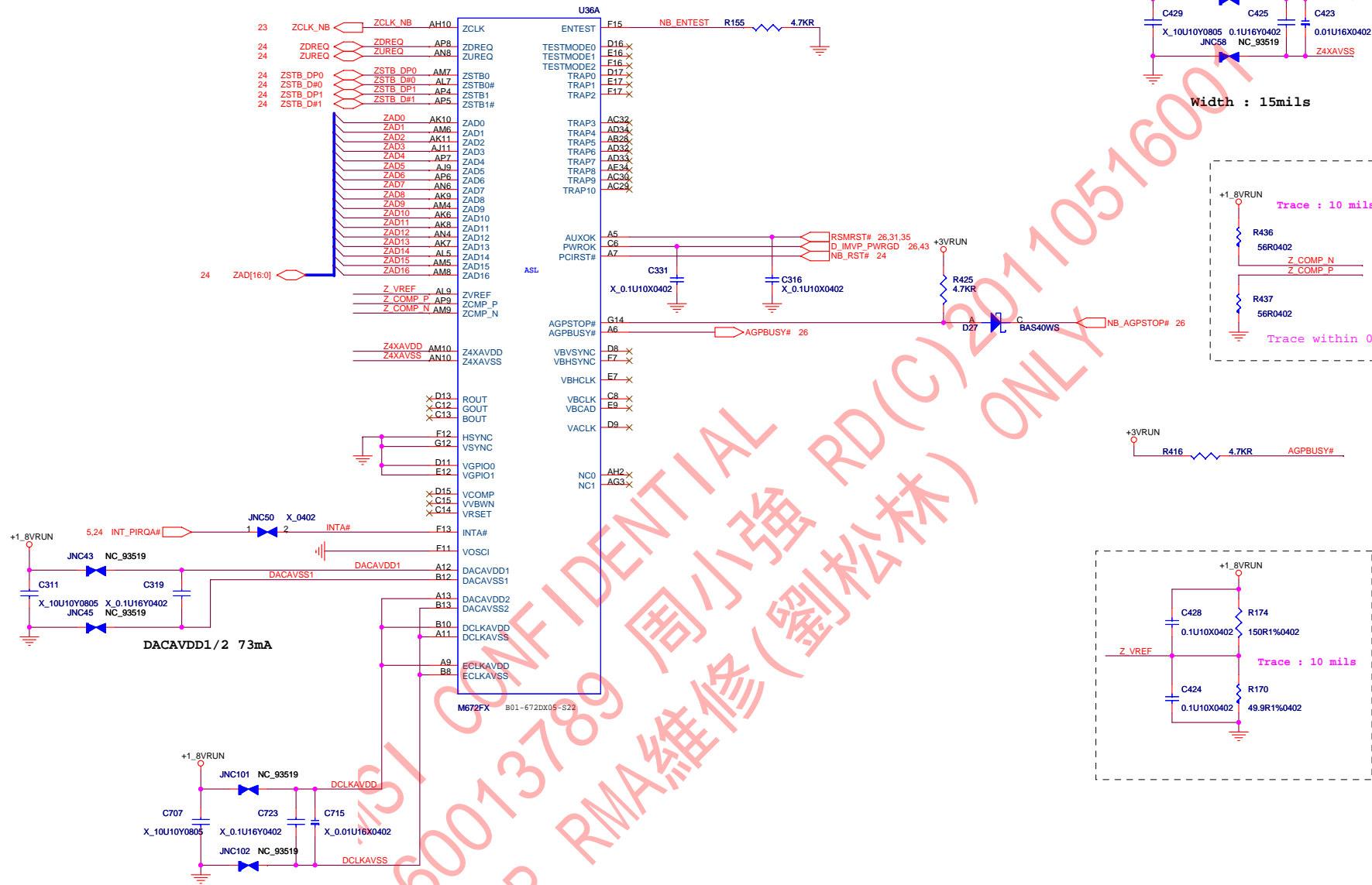
STATE \ SIGNAL	SLP_S3#	SLP_S5#	+V*ALWAYS	+V*SUS	+V*RUN	Clocks	+1_8VDIMM
Full ON	HIGH	HIGH	ON	ON	ON	ON	ON
S1(Power On Suspend)	HIGH	HIGH	ON	ON	ON	LOW	ON
S3(Suspend to RAM)	LOW	HIGH	ON	ON	OFF	OFF	ON
S4(Suspend to Disk)	LOW	LOW	ON	OFF	OFF	OFF	OFF
S5 / Soft OFF	LOW	LOW	ON	OFF	OFF	OFF	OFF

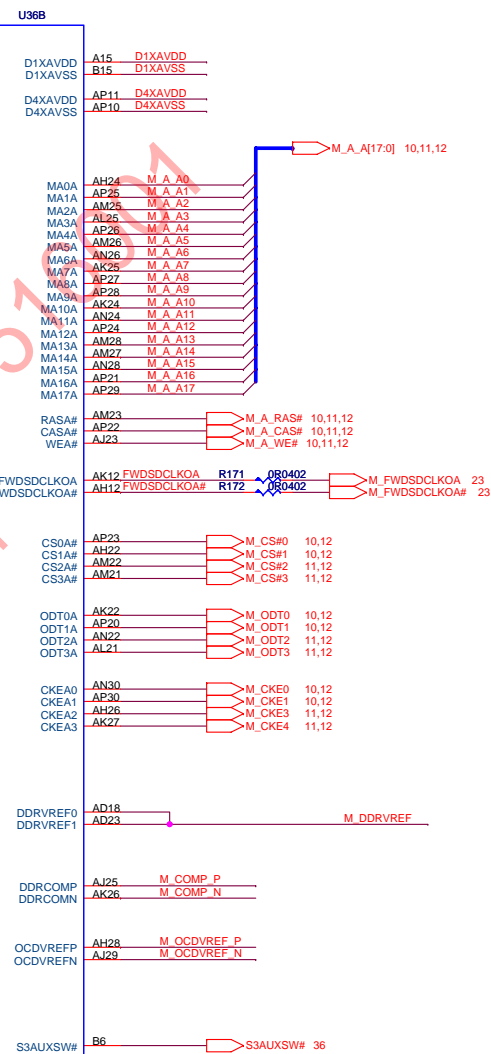
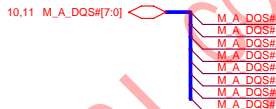
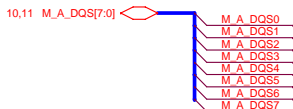
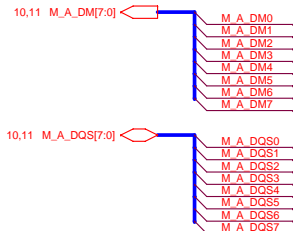
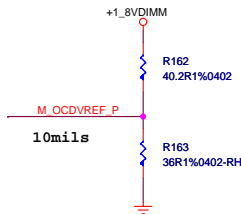
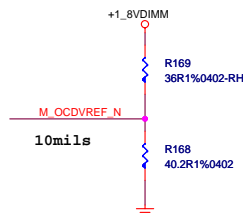
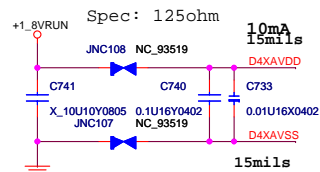
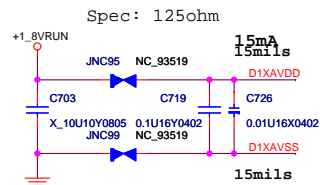
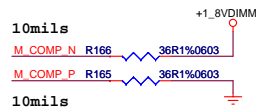
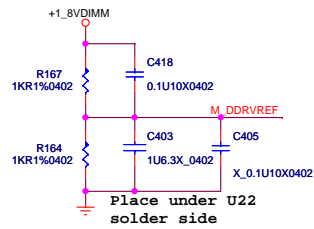
Note : WHEN AC MODE , System turn on then +V*SUS will always keep high







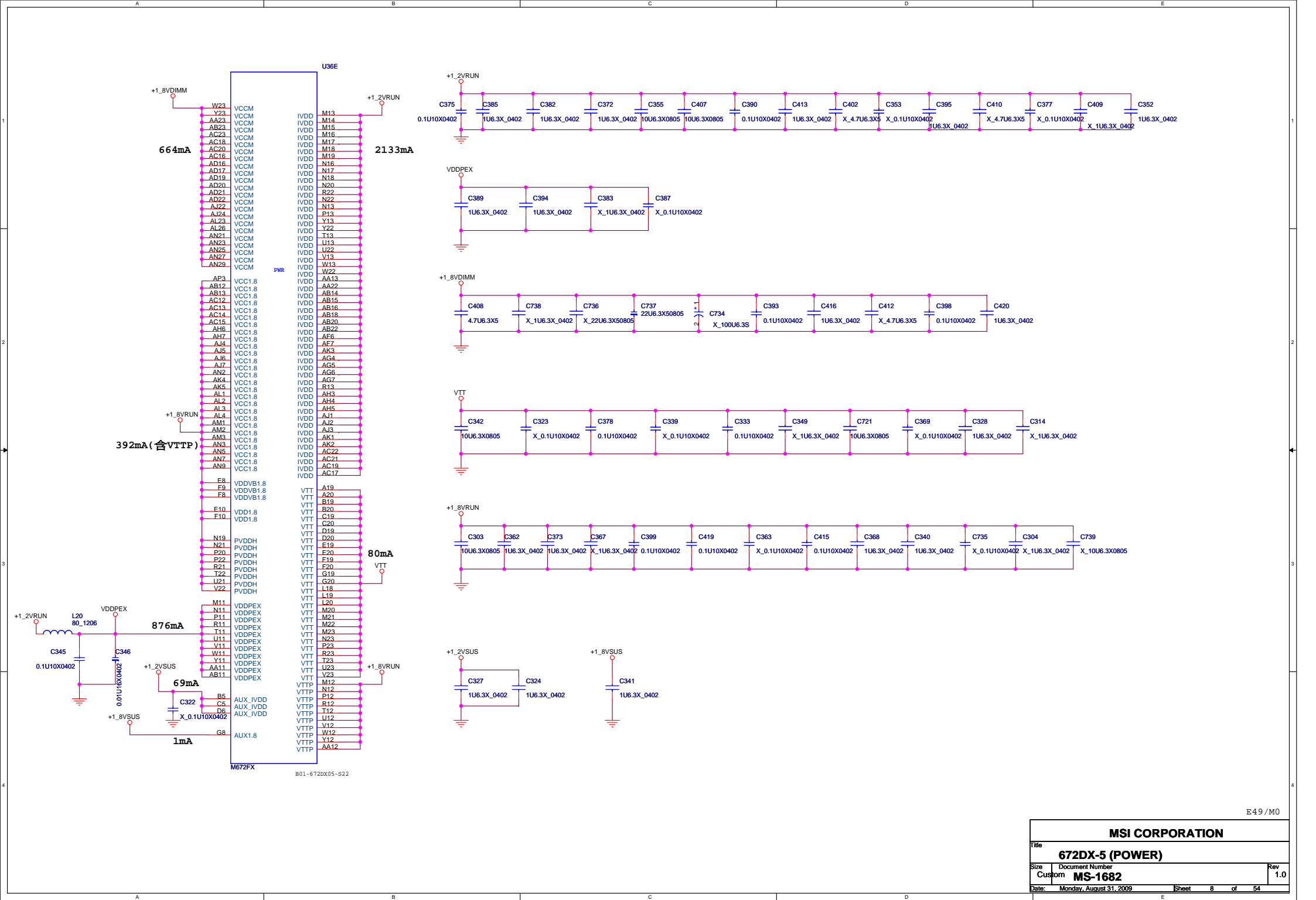




B01-672DX05-S22

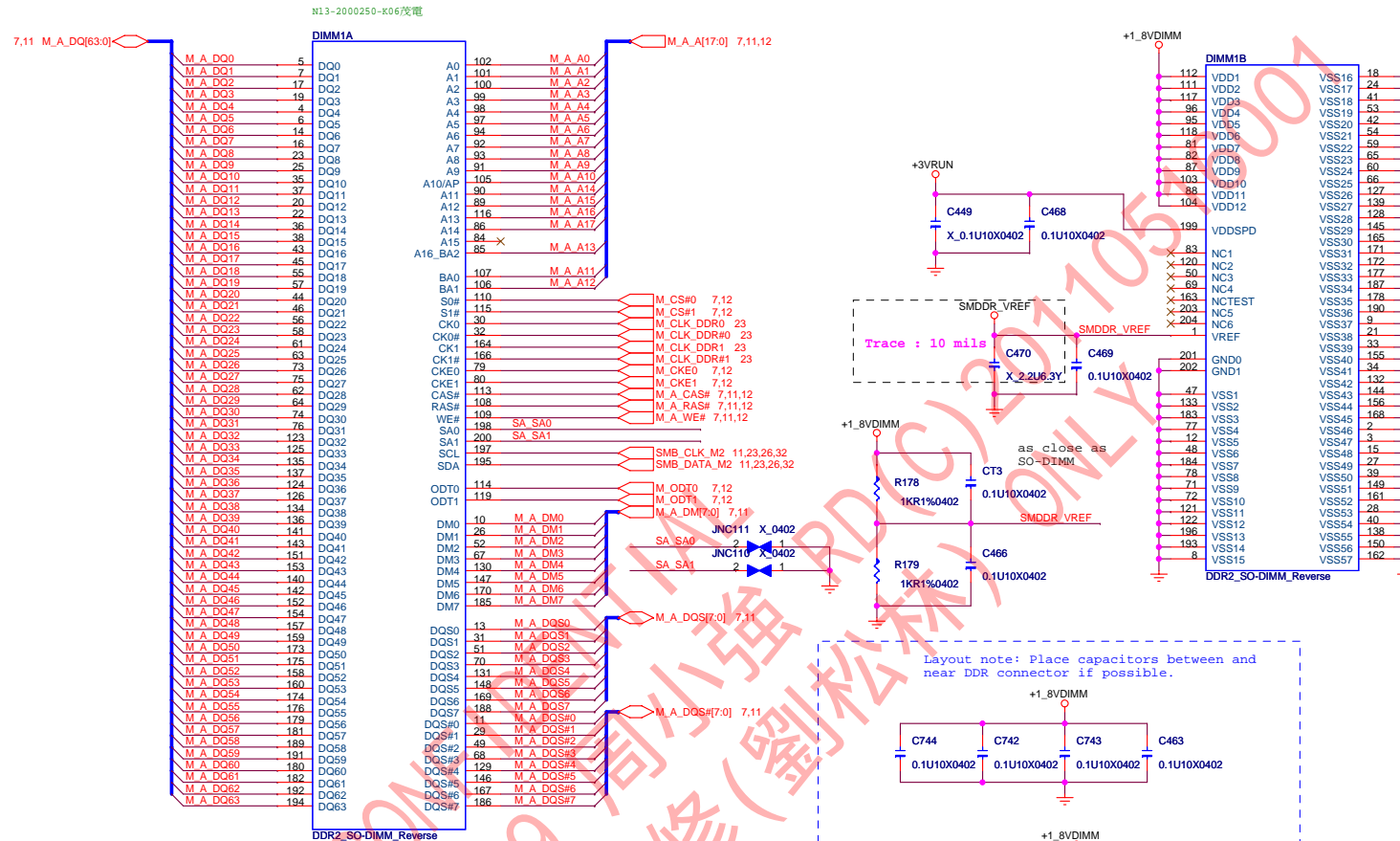
E17/M0

MSI CORPORATION		
Title		
672DX-3 (DDR2)		
Size	Document Number	Rev
Custom	MS-1682	1.0
Date:	Monday, August 31, 2009	Sheet 7 of 54



MSI CONFIDENTIAL
60013789
FOR RMA維修 (劉松林) ONLY
RD(C)20110516001

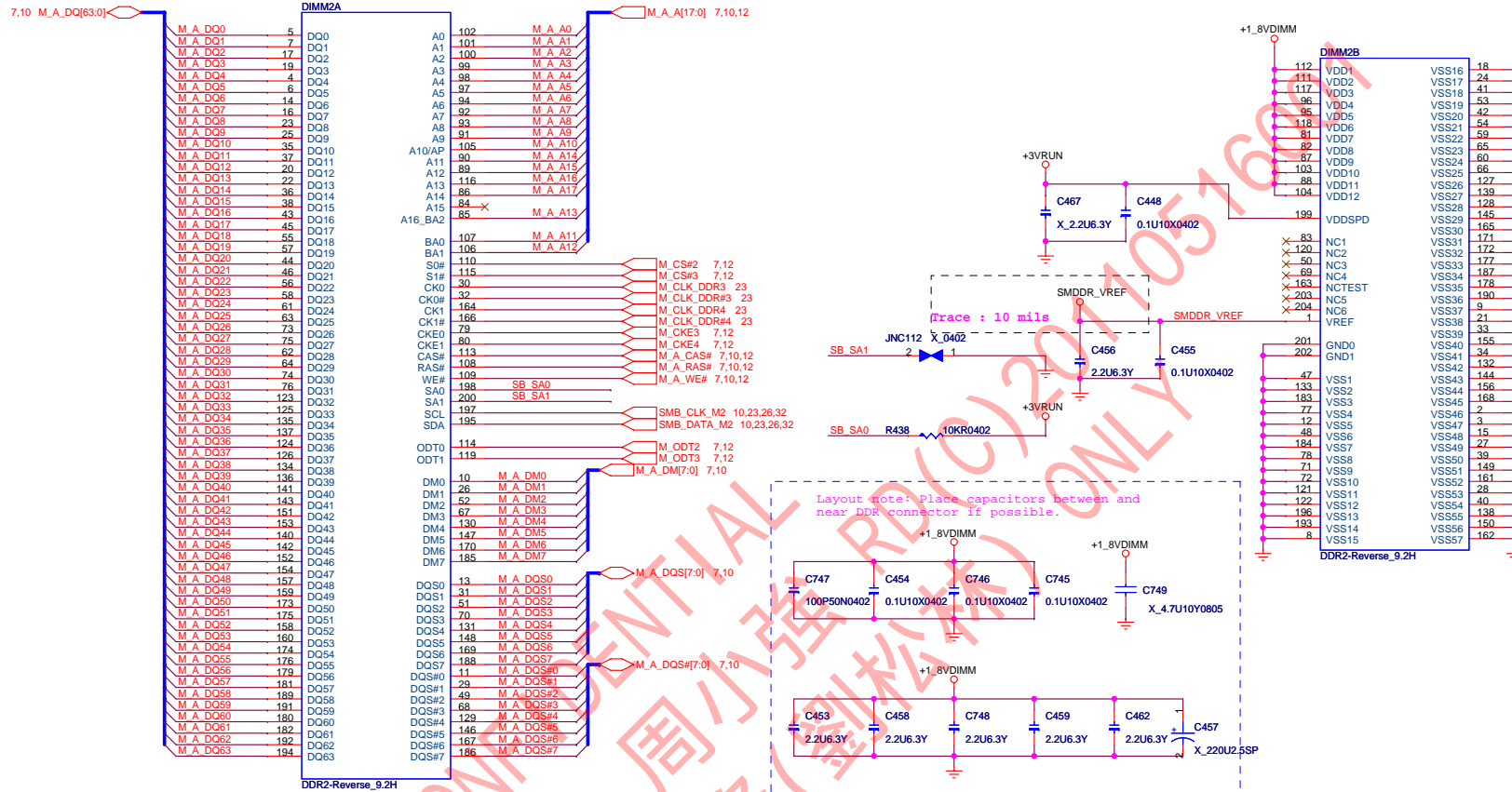


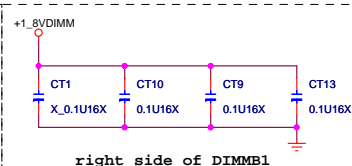
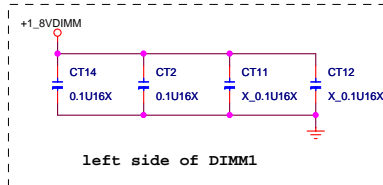
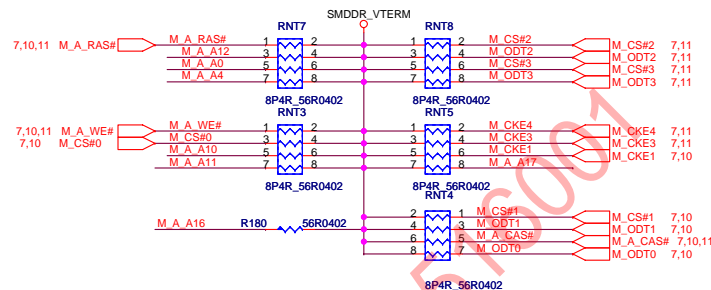
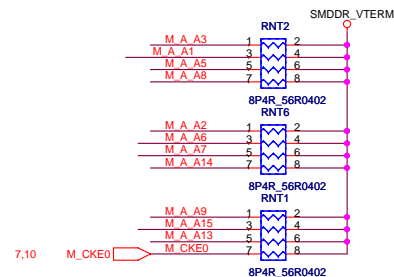
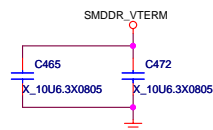


MSI CORPORATION

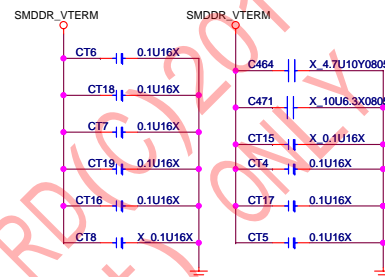
Title			DDR2 SODIMM 0
Size	Document Number	Rev	
Custom	MS-1682	1.0	
Date:	Monday, August 31, 2009	Sheet	10 of 54

N13-2000400-K06





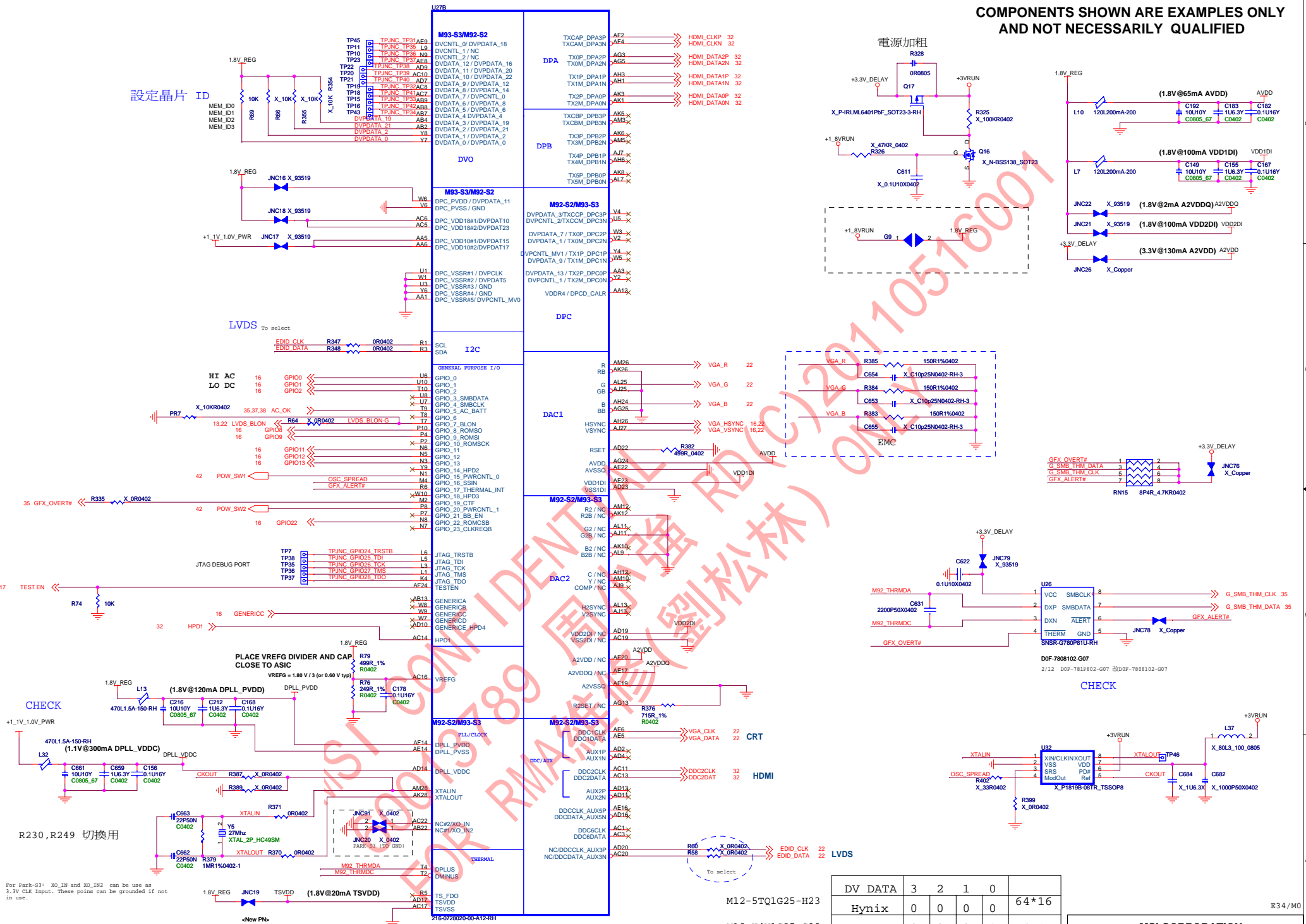
0603 Package placed within 200mils of VTT termination R right side of DIMMB1



MSI CONFIDENTIAL
60013789 周小強 RDC(劉松林)
FOR RMA維修

COMPONENTS SHOWN ARE EXAMPLES ONLY
AND NOT NECESSARILY QUALIFIED

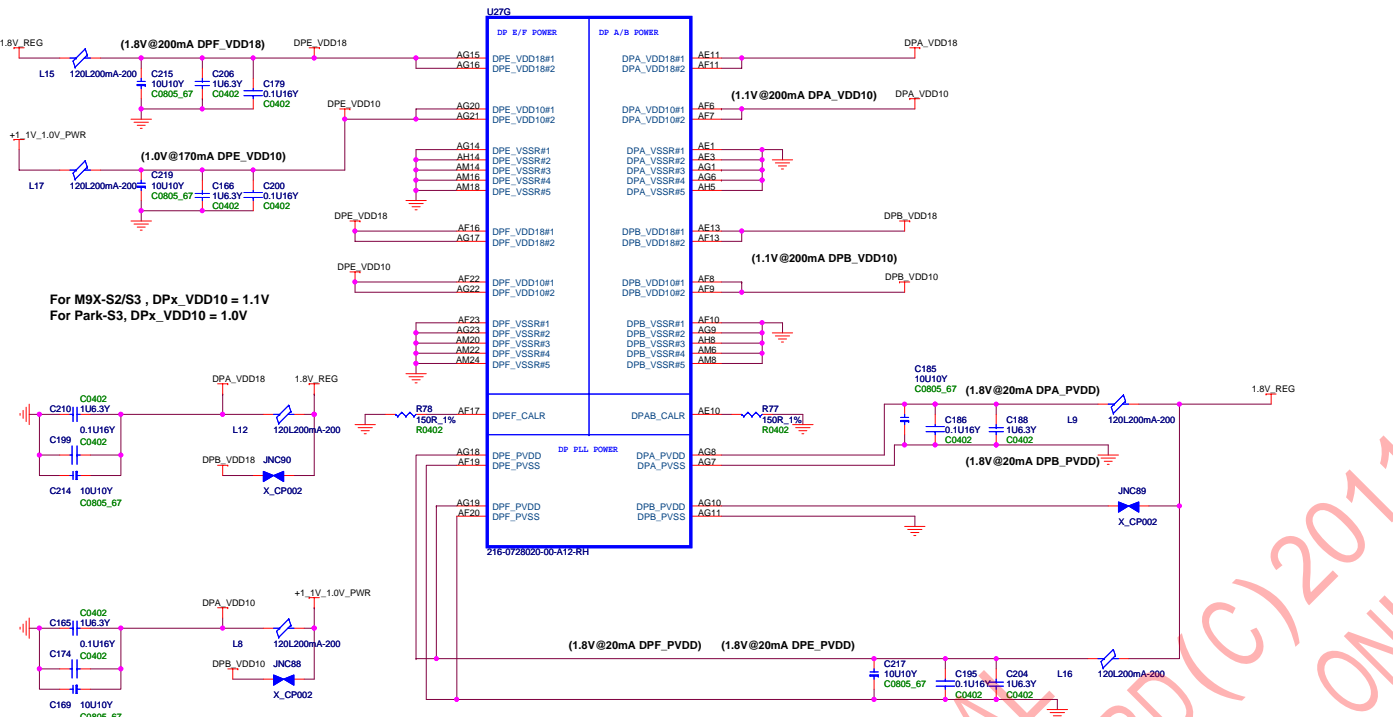
設定晶片 ID



For Part-03: X0_1W and X0_1M2 can be use as 3.3V CLK input. These points can be grounded if not in use.

DV DATA	3	2	1	0	
Hynix	0	0	0	0	64*16
SAMSUNG	0	0	0	1	64*16

E34 / M0



For M9X-S2/S3 , DPx_VDD10 = 1.1V
For Park-S3, DPx_VDD10 = 1.0V

PIN STRAPS



CONFIGURATION STRAPS			
ALLOW FOR PULLUP PADS FOR THESE STRAPS AND IF THESE GPIOS ARE USED, THEY MUST NOT CONFLICT DURING RESET			
STRAPS	PIN	DESCRIPTION OF DEFAULT SETTINGS	RECOMMENDED SETTINGS
TX_PWRS_ENB	GPIO0	PCIE FULL TX OUTPUT SWING	X
TX_DEEMPH_EN	GPIO1	PCIE TRANSMITTER DE-EMPHASIS ENABLED	X
BIF_GEN2_EN_A	GPIO2	PCIE GEN2 ENABLED	X
RSVD	GPIO8	VGA ENABLED	0
BIF_VGA_DIS	GPIO9	VGA ENABLED	0
BIOS_ROM_EN	GPIO22	ENABLE EXTERNAL BIOS ROM	X
ROMIDCFG(2:0)	GPIO[13:11]	SERIAL ROM TYPE OR MEMORY APERTURE SIZE SELECT	X X X
VIP_DEVICE_STRAP_ENA	V2SYNC	IGNORE VIP DEVICE STRAPS	X
RSVD	GENERICC	AUD[1] AUD[0]	0
AUD[1]	HSYNC	0 0 No audio function	0
AUD[0]	VSXNC	0 1 Audio for DisplayPort and HDMI if dongle is detected	0
		1 0 Audio for DisplayPort only	1
		1 1 Audio for both DisplayPort and HDMI	X

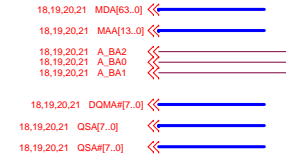
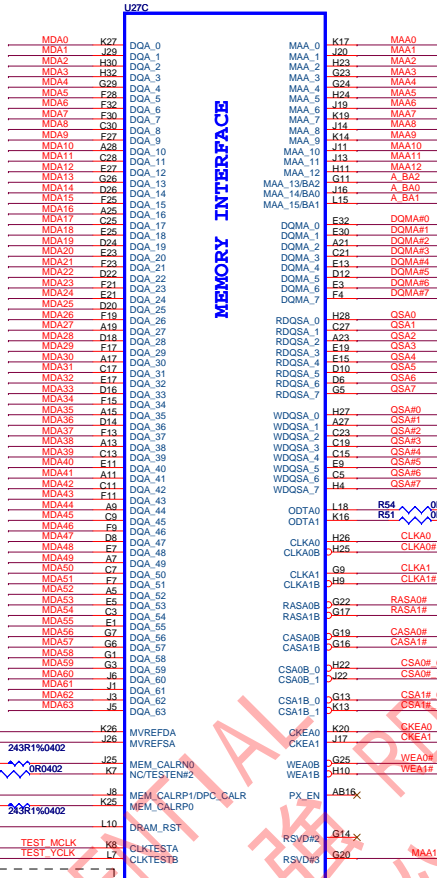
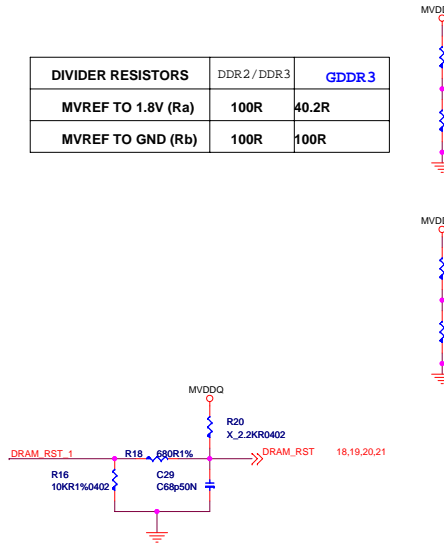
GPIO 13 12 11	
Size of the primary memory apertures	CONFIG[2:0]
128 MB	000
256 MB	001
64 MB	010
512 MB	001

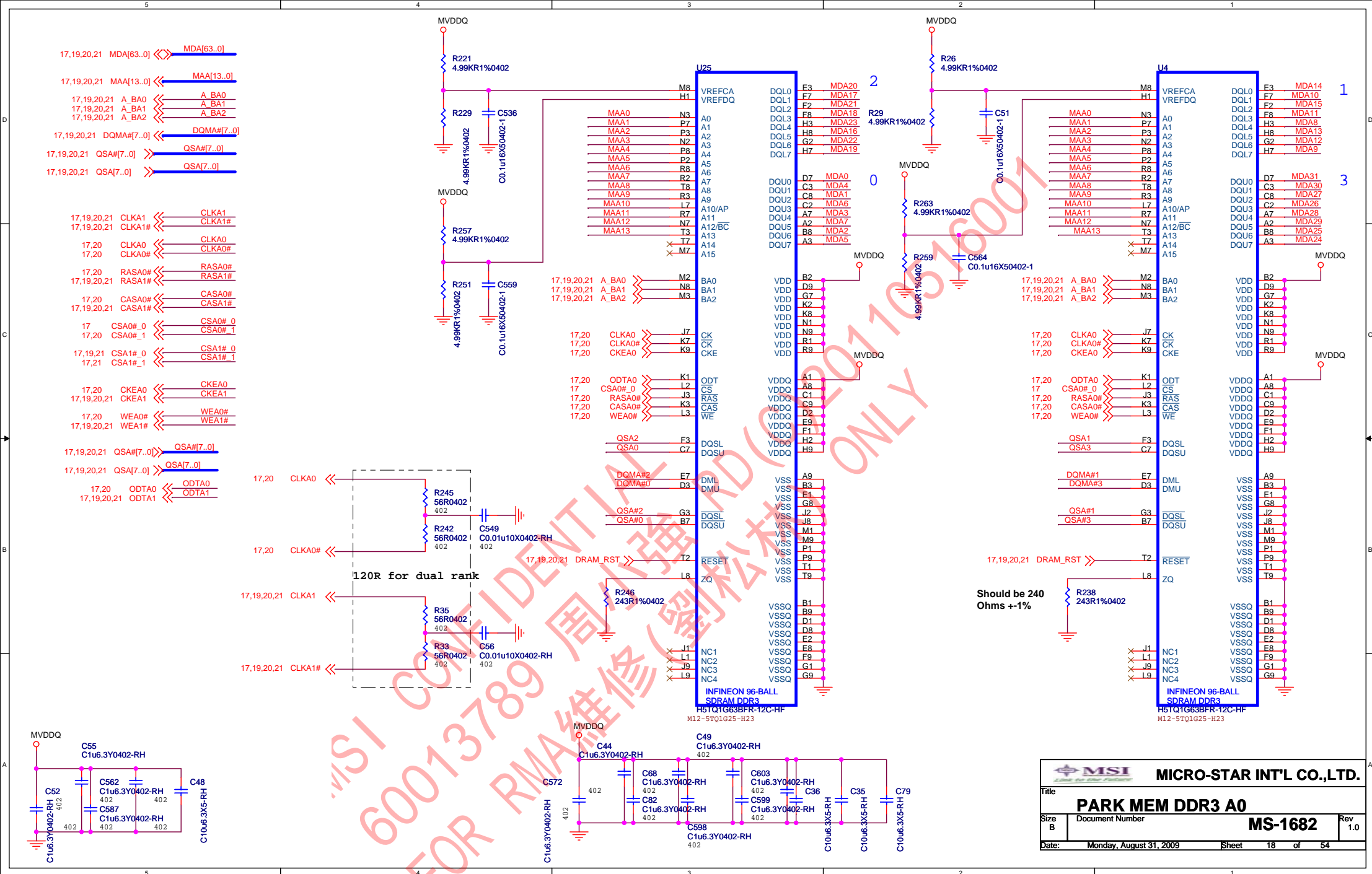
Due to memory management constraints, the aperture size should be the same size as the frame buffer for 64 MB, 128 MB and 256 MB. For frame buffers larger than 256 MB (e.g. 512 MB, 1 GB) the aperture size should be 256 MB.

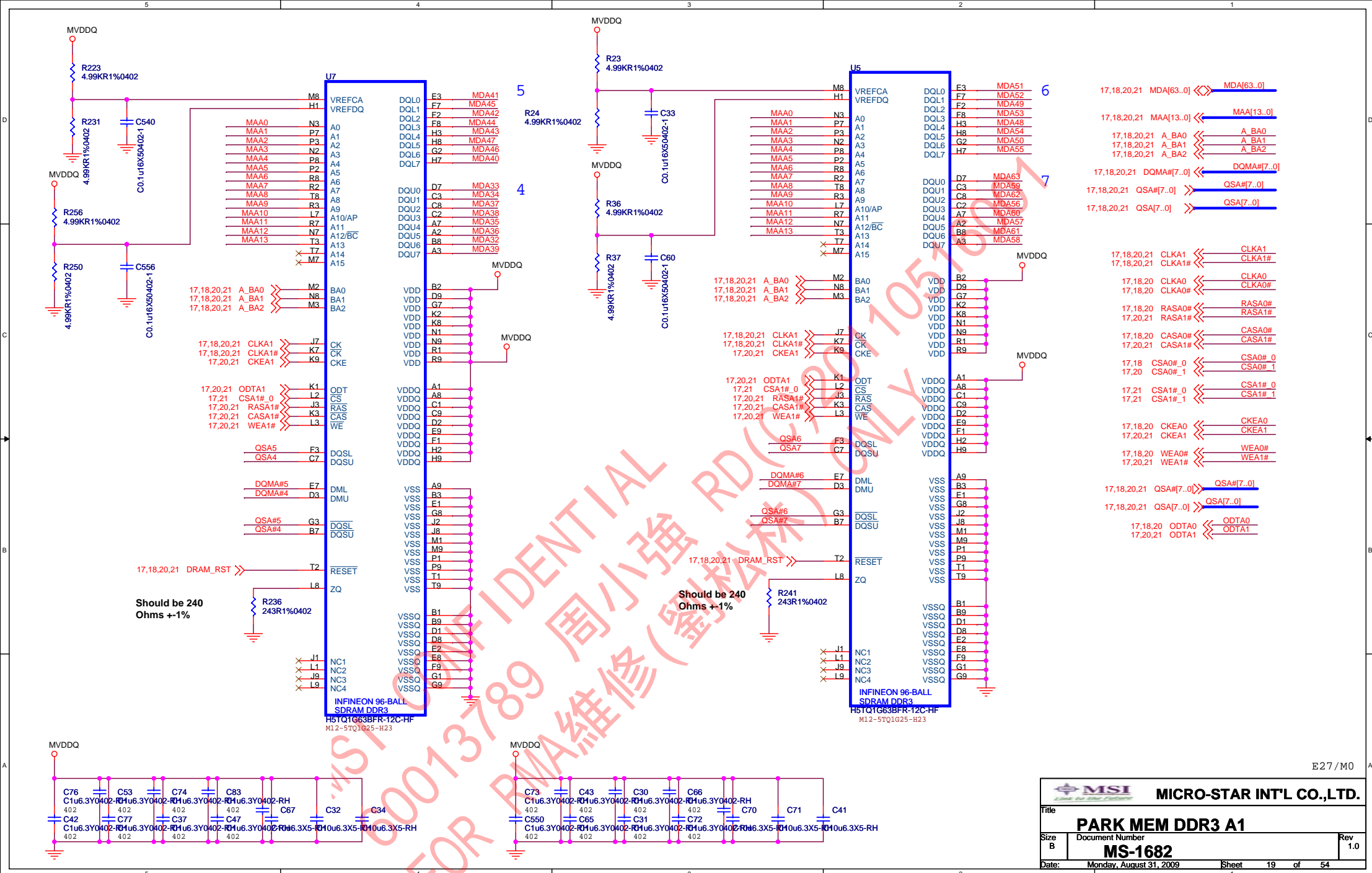
AMD RESERVED CONFIGURATION STRAPS	
ALLOW FOR PULLUP PADS FOR THESE STRAPS AND IF THESE GPIOS ARE USED, THEY MUST NOT CONFLICT DURING RESET	
H2SYNC	GENERICC
PULLUP PADS ARE NOT REQUIRED FOR THESE STRAPS BUT IF THESE GPIOS ARE USED, THEY MUST NOT CONFLICT DURING RESET	
GPIO21_BB_EN	

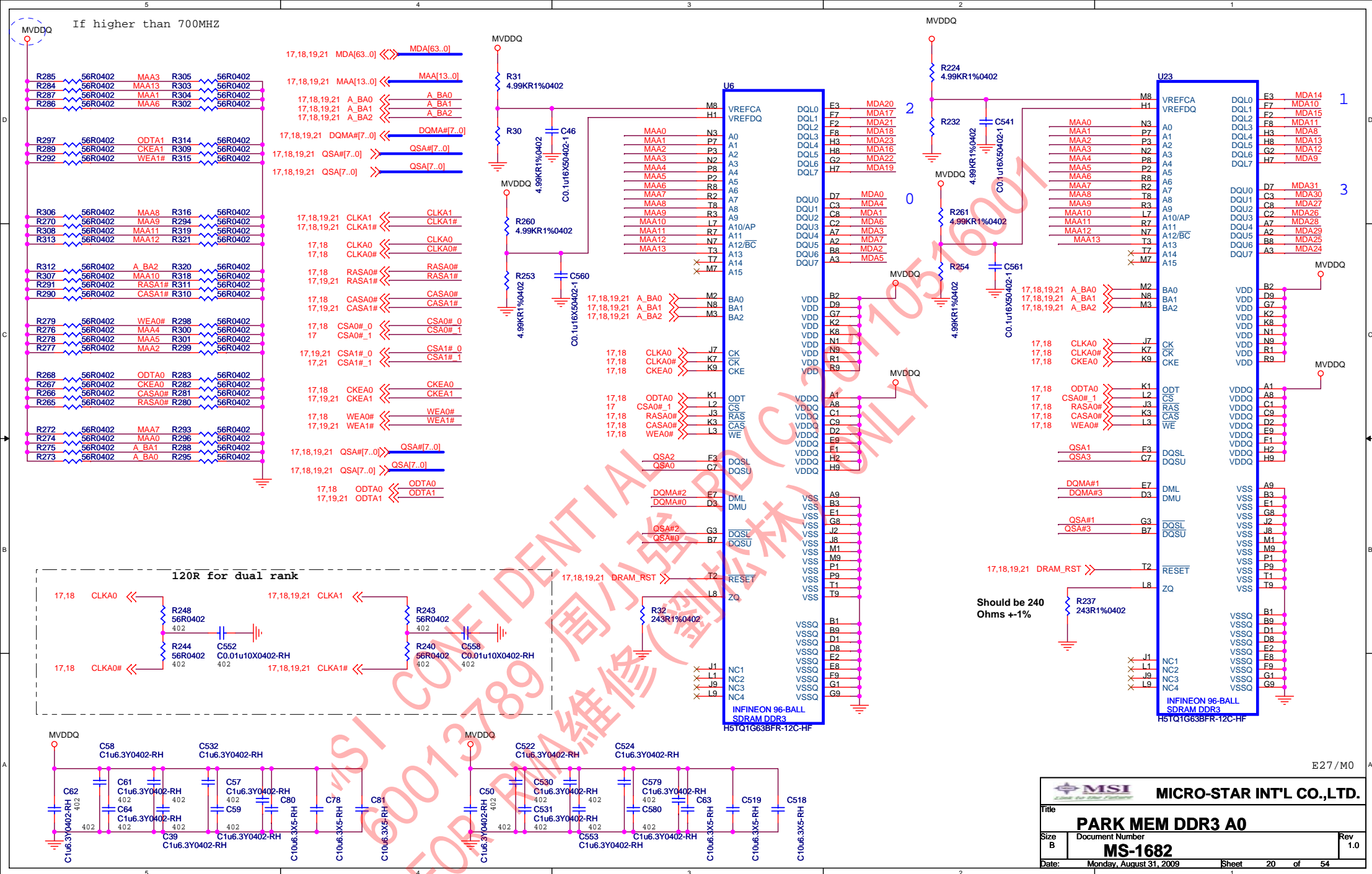
MSI CORPORATION			
PARK-power straps			
Size	Document Number	Rev	1.0
Custom	MS-1682		
Date:	Monday, August 31, 2009	Sheet	16 of 54

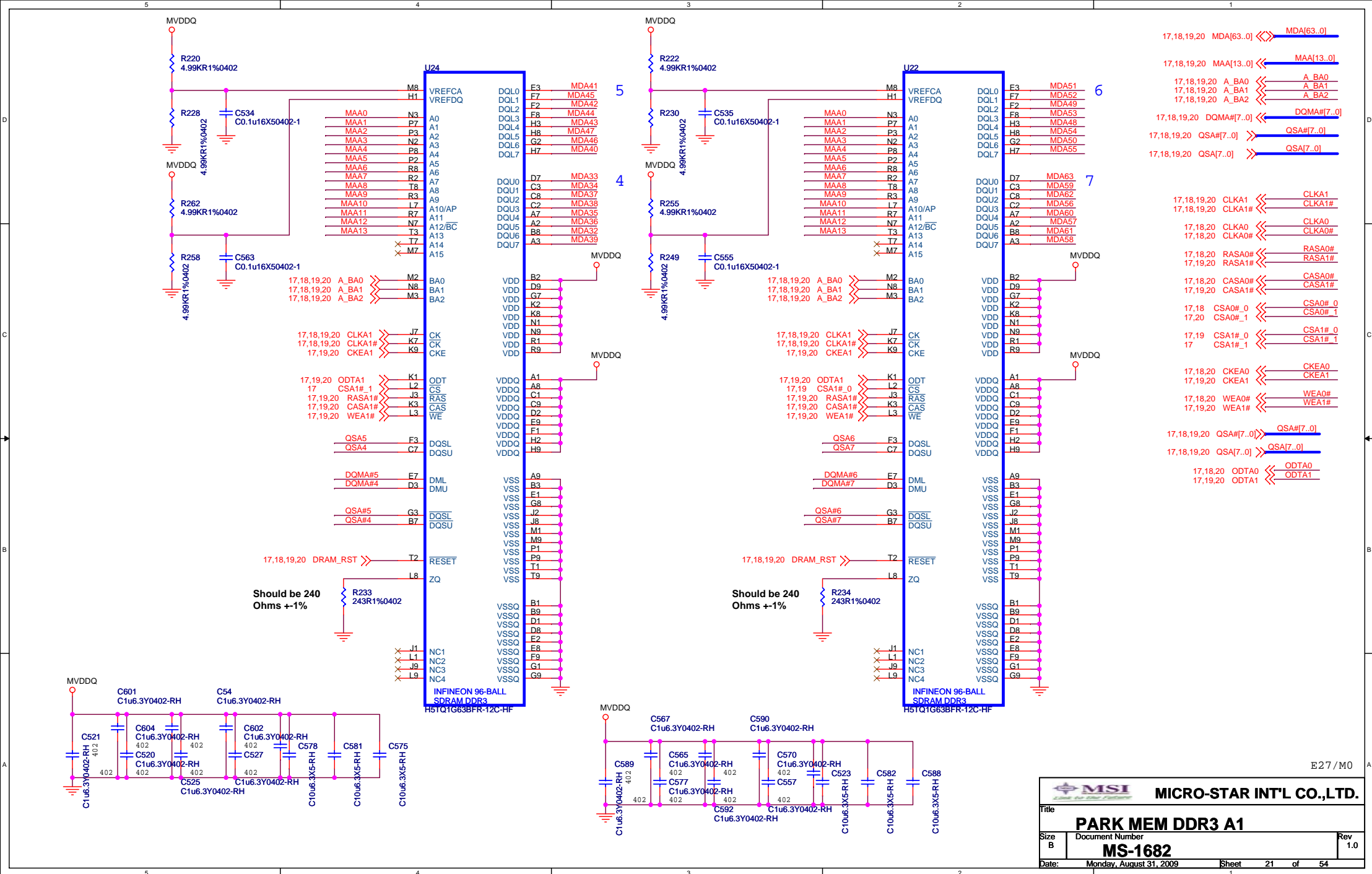
DIVIDER RESISTORS	DDR2 / DDR3	GDDR3
MVREF TO 1.8V (Ra)	100R	40.2R
MVREF TO GND (Rb)	100R	100R

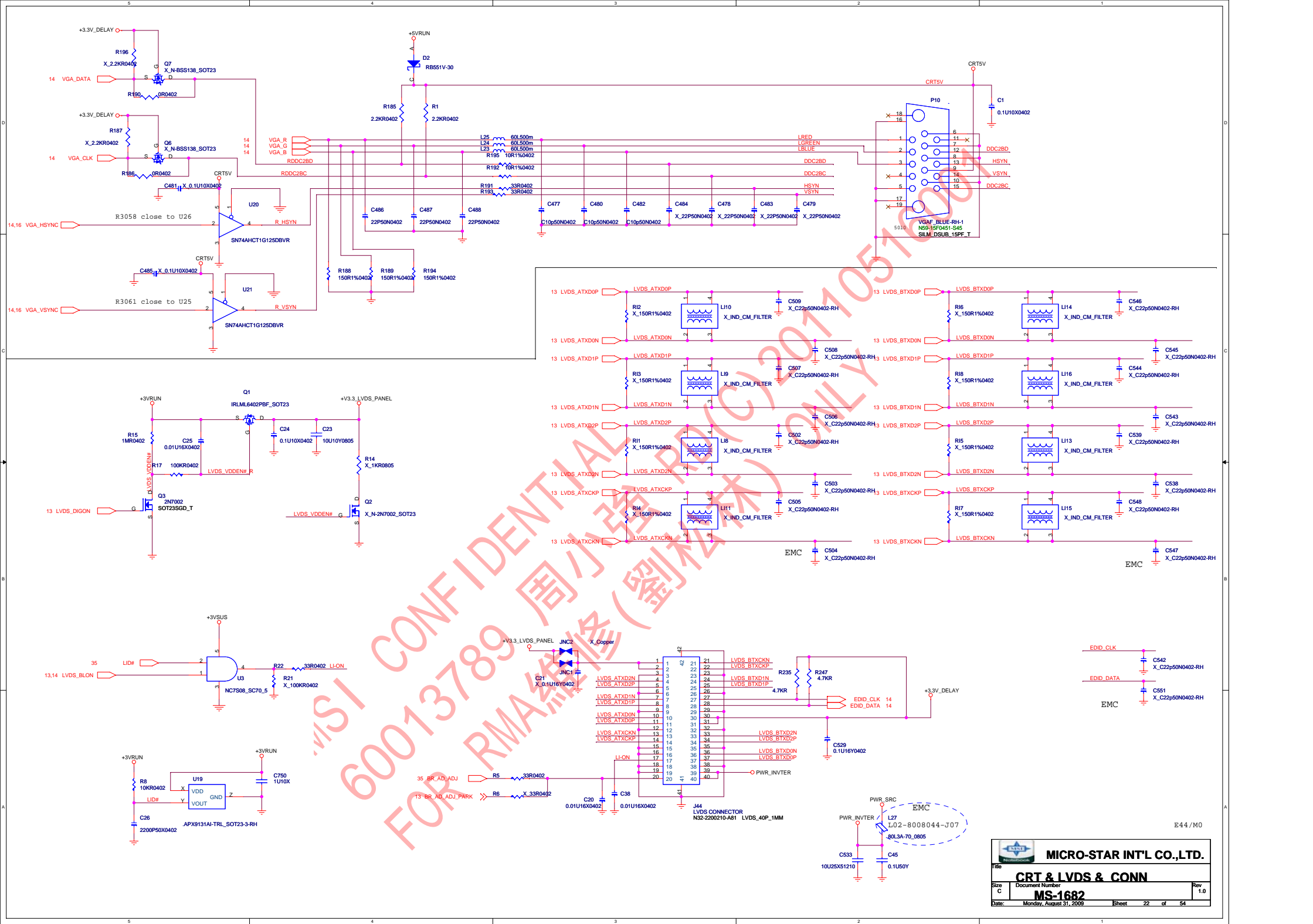


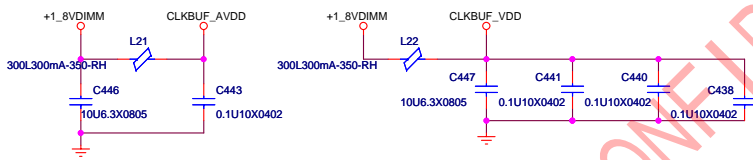
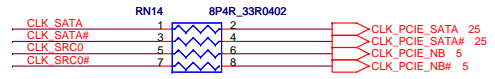
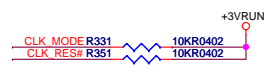
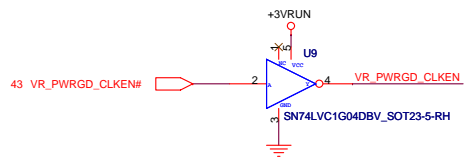
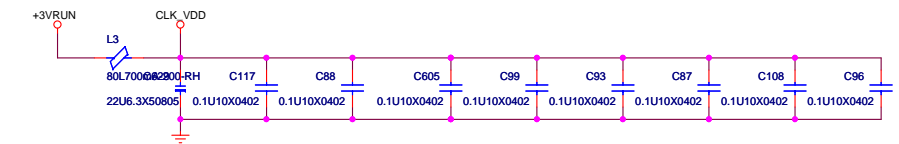










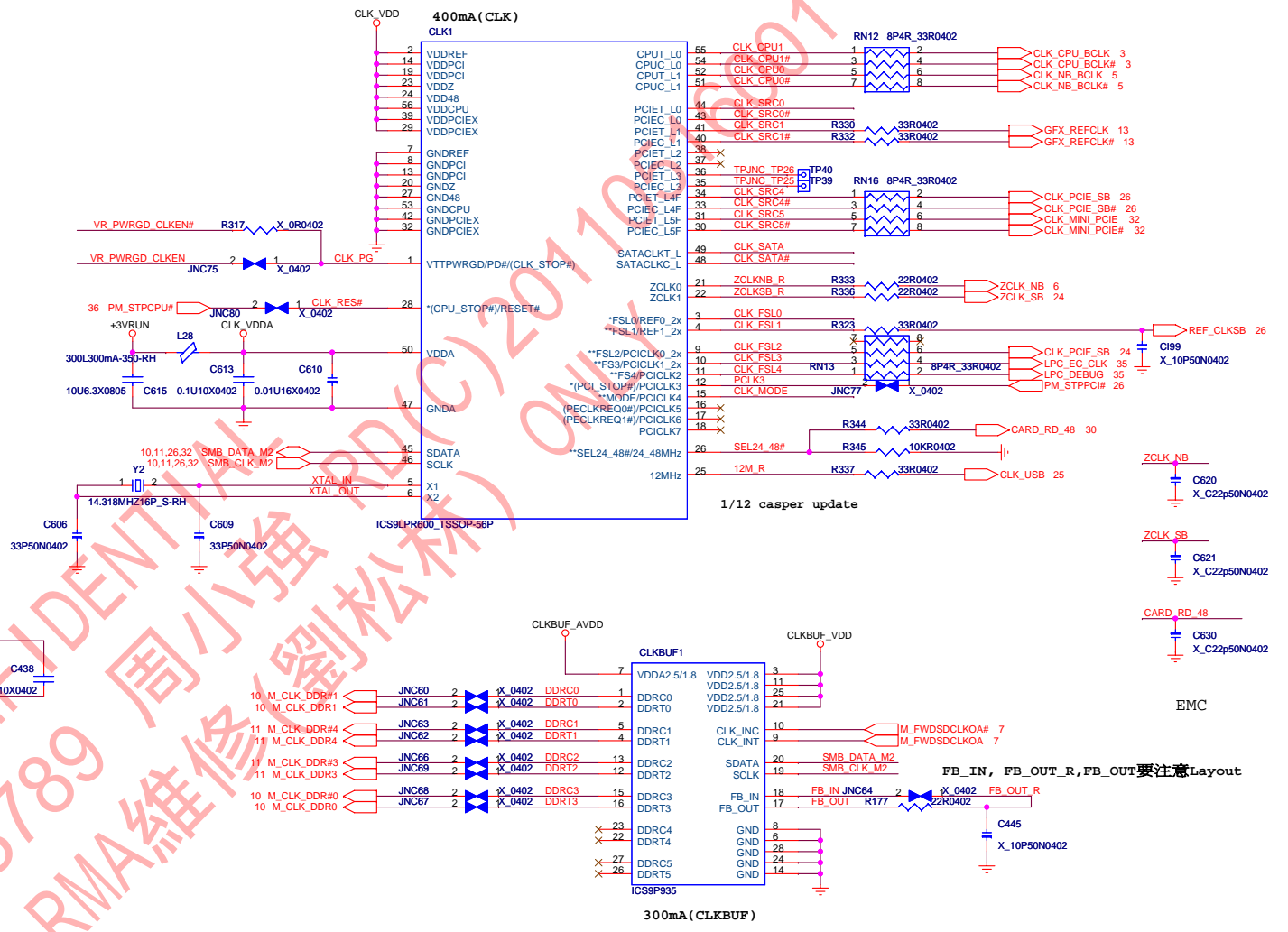
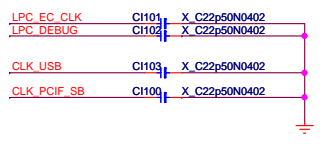


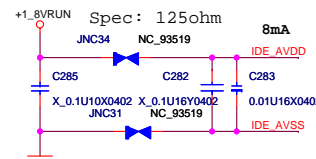
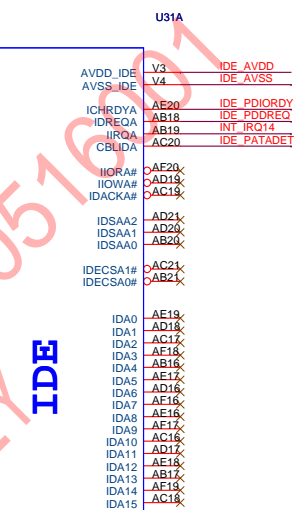
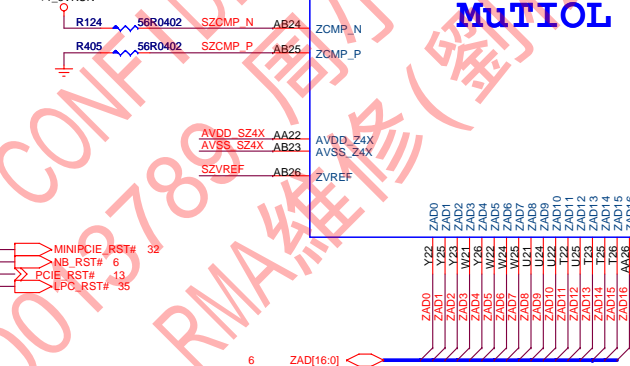
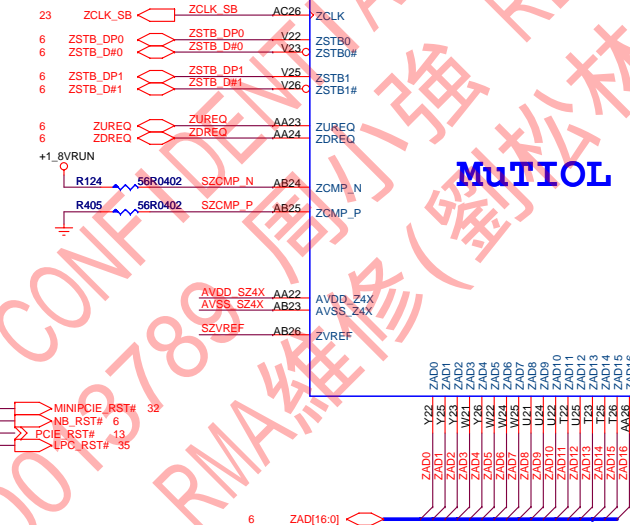
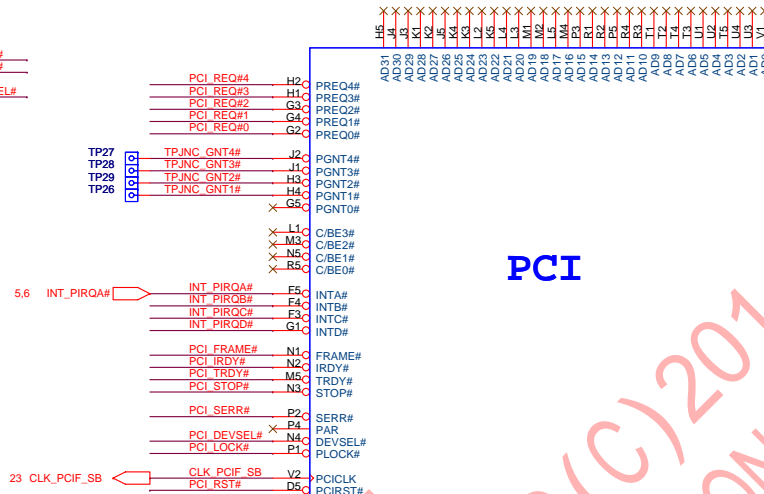
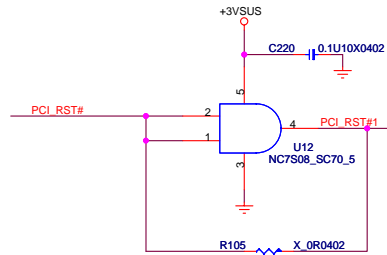
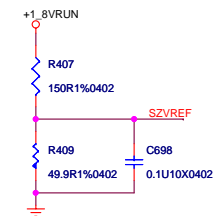
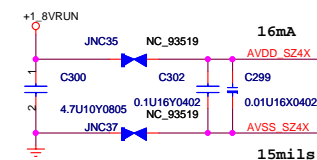
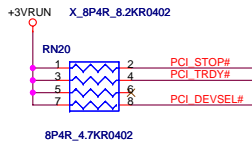
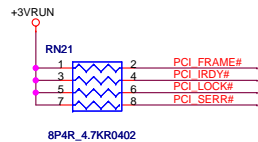
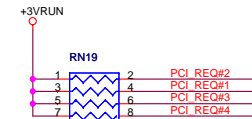
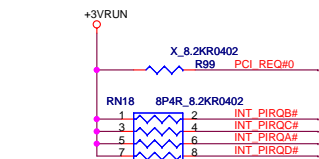
Strapping Configuration(ICS)

PIN#	High	Low(Default)
15	Pin 16/17 : PECLKREQ	Pin 16/17 : PCICLK

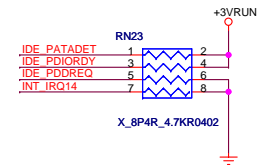
CPU Table			FSB Freq (MHz)
BSEL[2]	BSEL[1]	BSEL[0]	
L	H	H	
L	H	L	
L	L	L	1066 MHz

FOR EMI close to CLK1



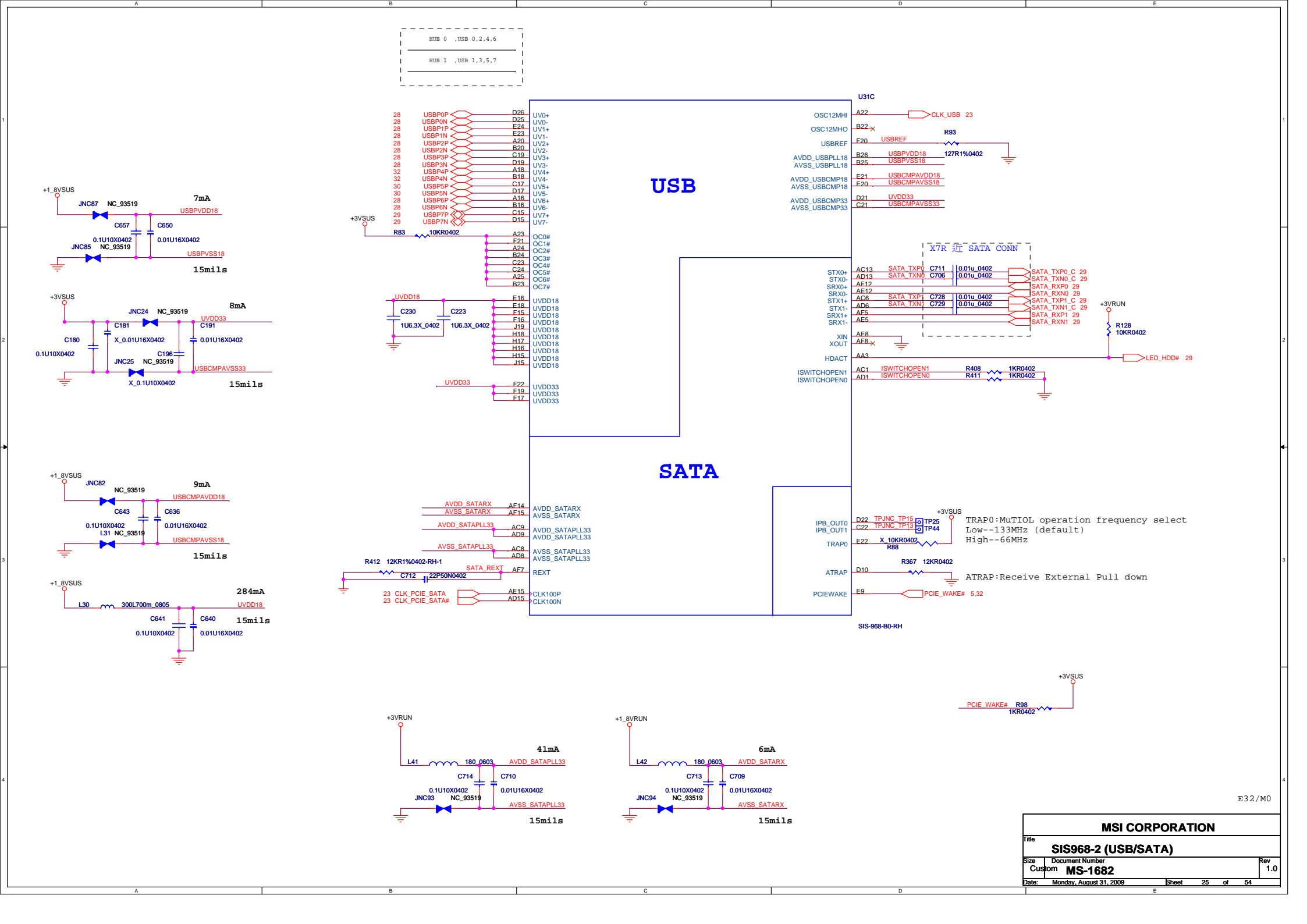


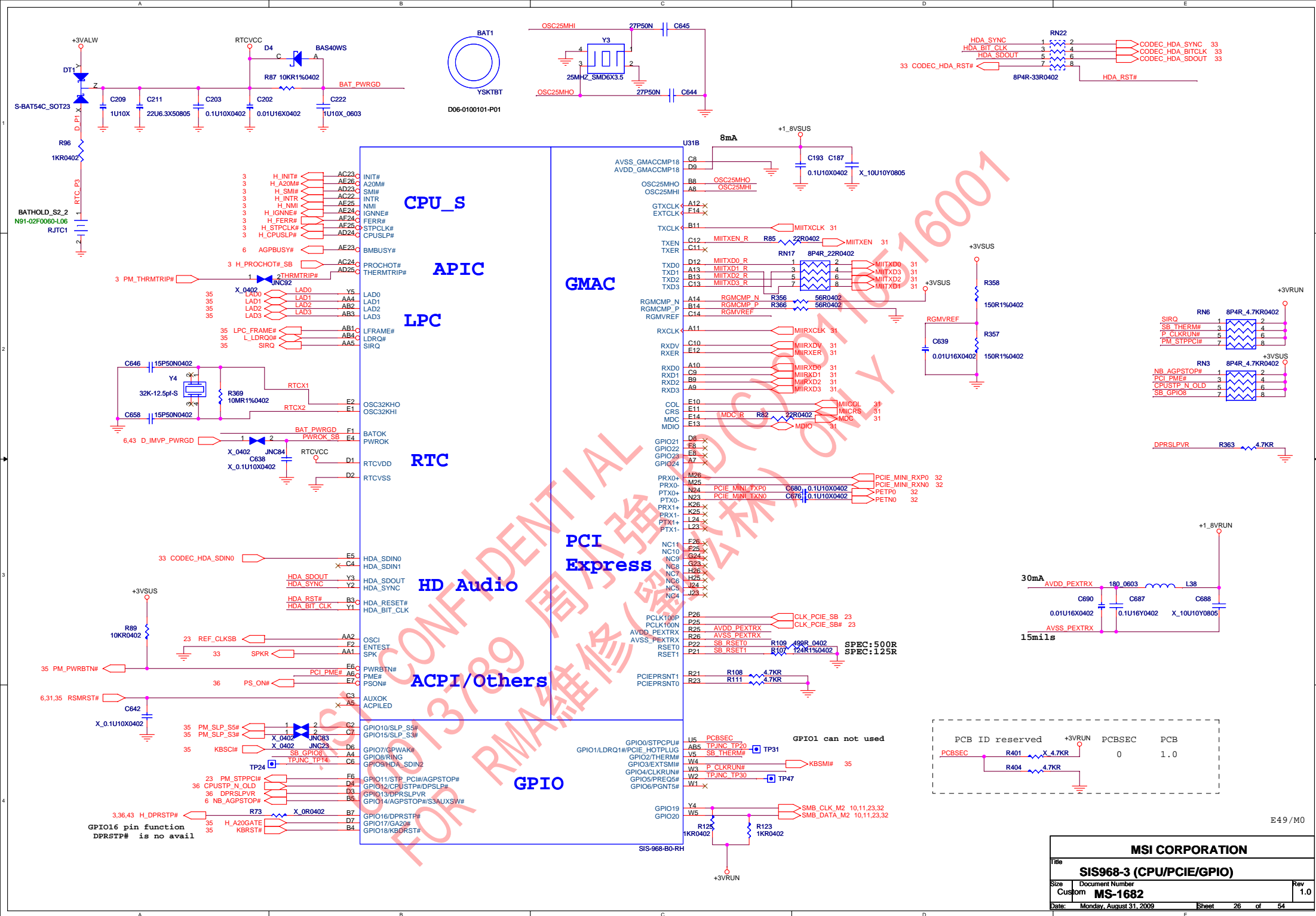
Width : 15mils

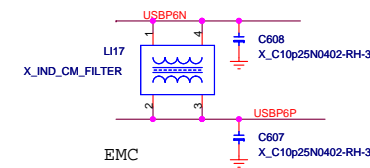
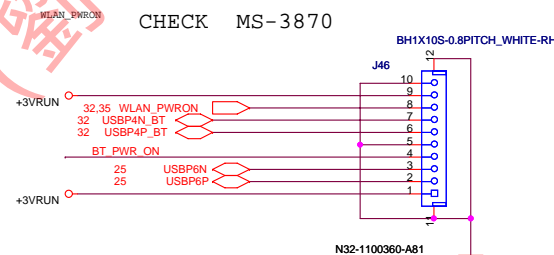
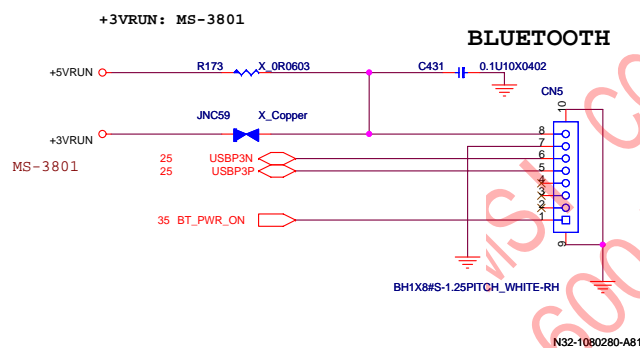
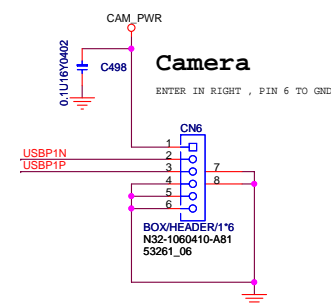
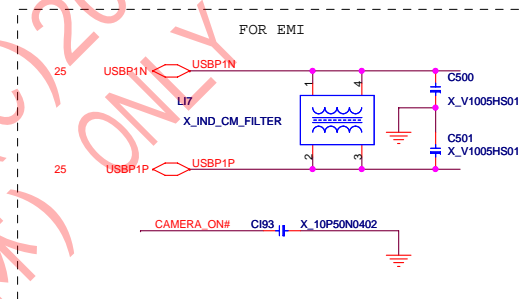
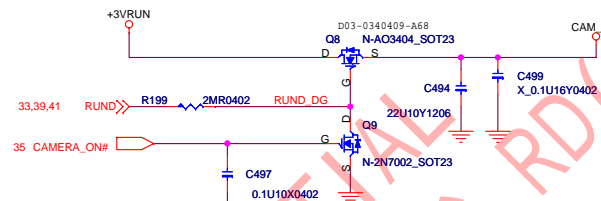
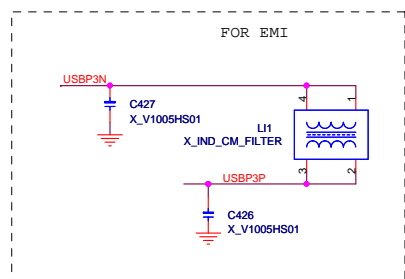
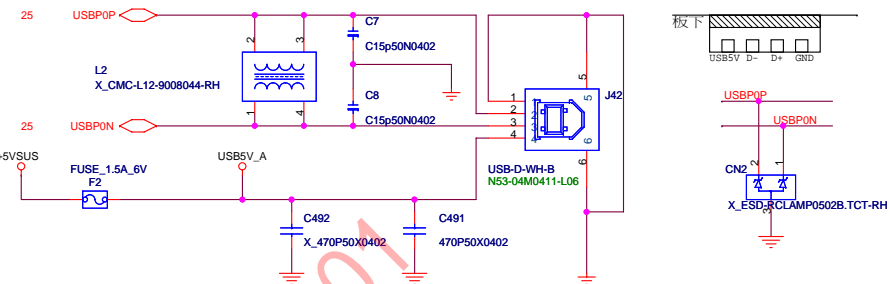
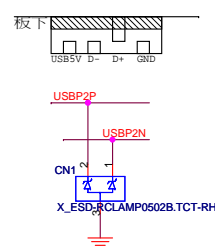
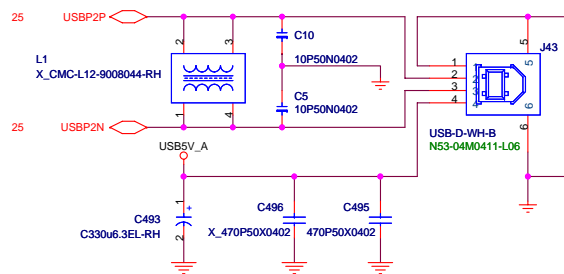


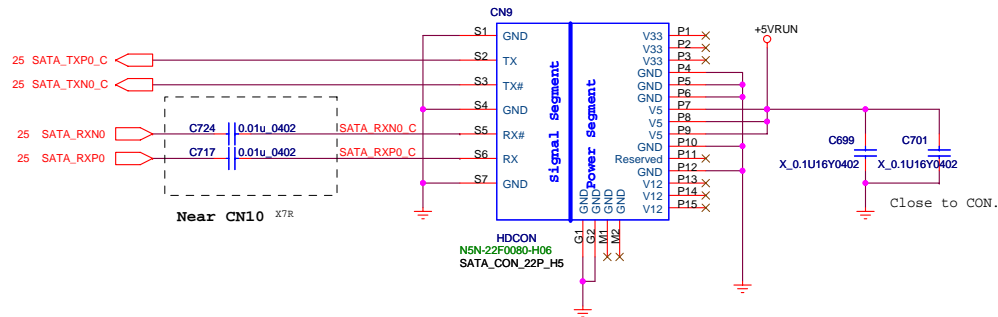
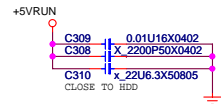
SPI_HARDWARE_TRAP:
Low--LPC interface(default)
High--SPI interface

MSI CORPORATION			
Title	SIS968-1 (PCI/IDE/SPI/MutIOL)		E24/M0
Size	Custom	Document Number	Rev 1.0
Date:	Monday, August 31, 2009	Sheet	24 of 54

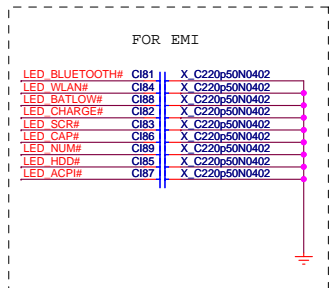
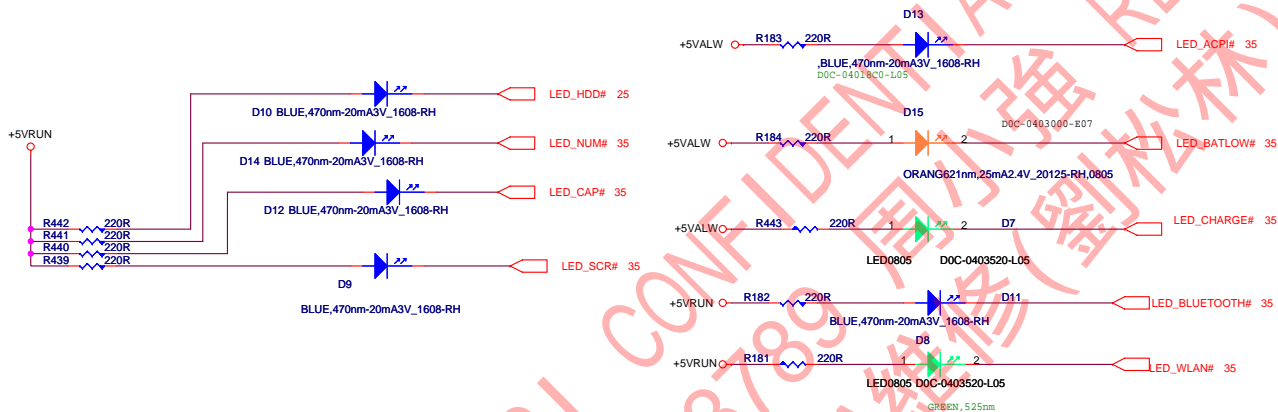
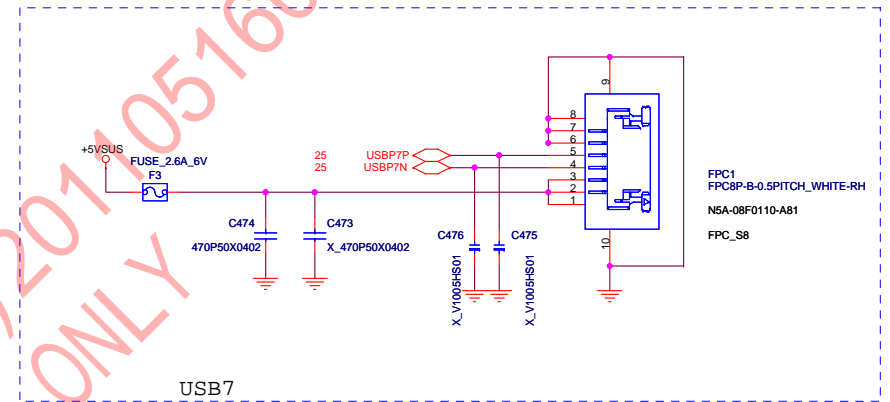
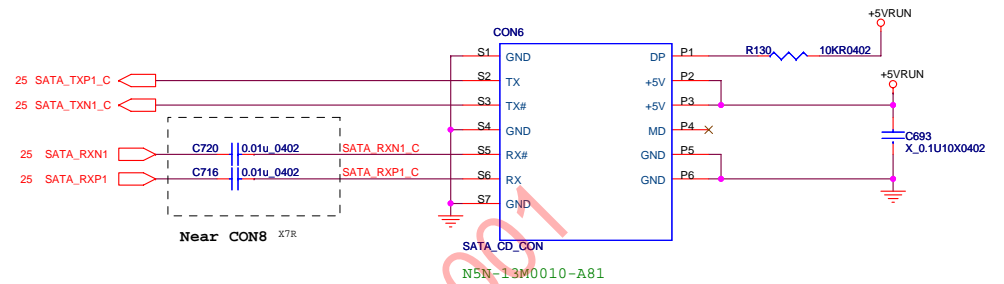







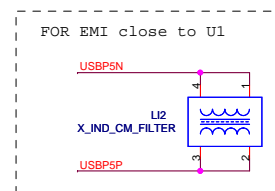
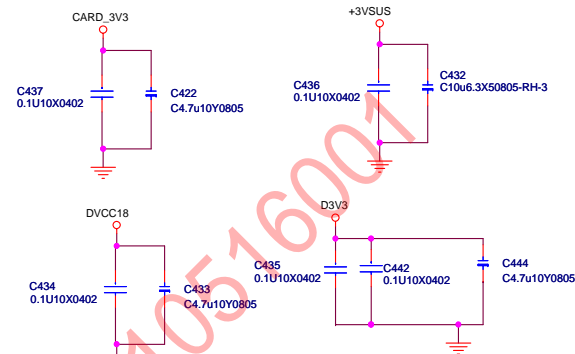


HDD 下對地鋪銅要切開,會板灣

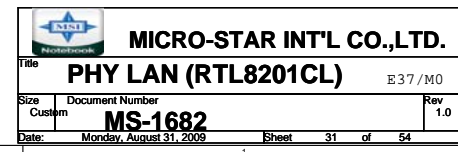


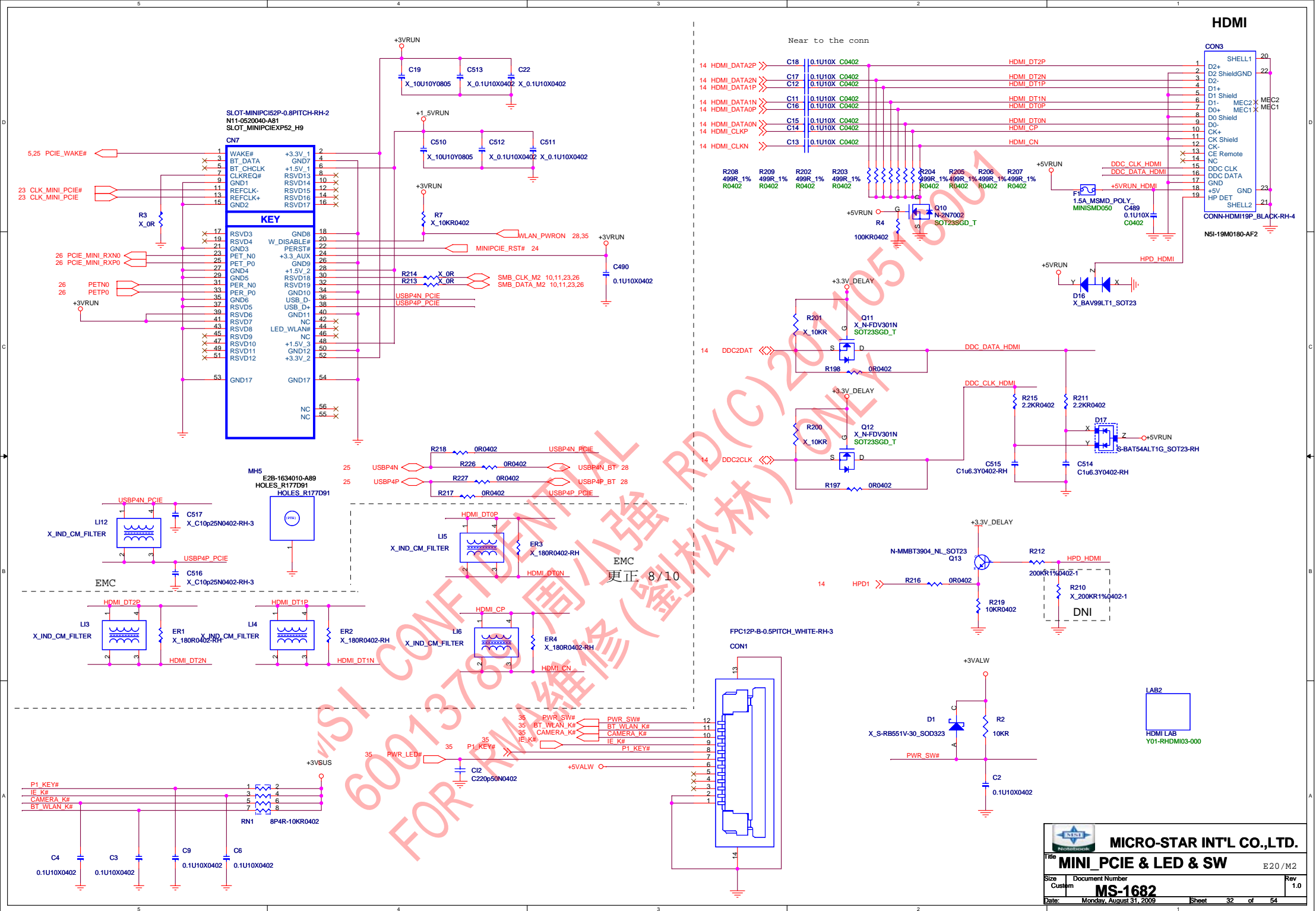
E32/M0

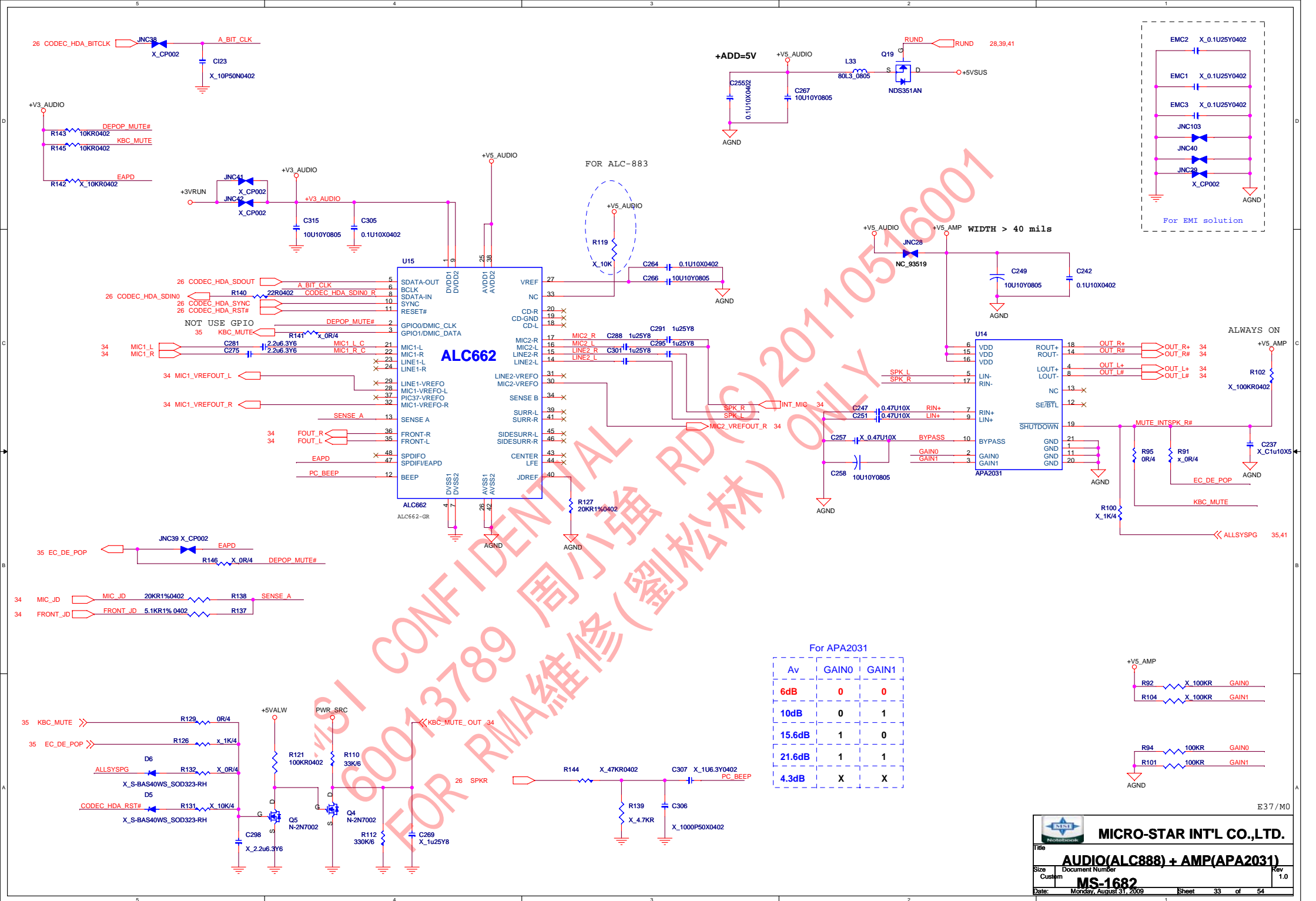
 MICRO-STAR INT'L CO.,LTD.	
Title HDD & ODD CONN & USB7 & LED	
Size Custom	Document Number MS-1682
Date Monday, August 31, 2009	Rev 1.0
Sheet 29 of 54	



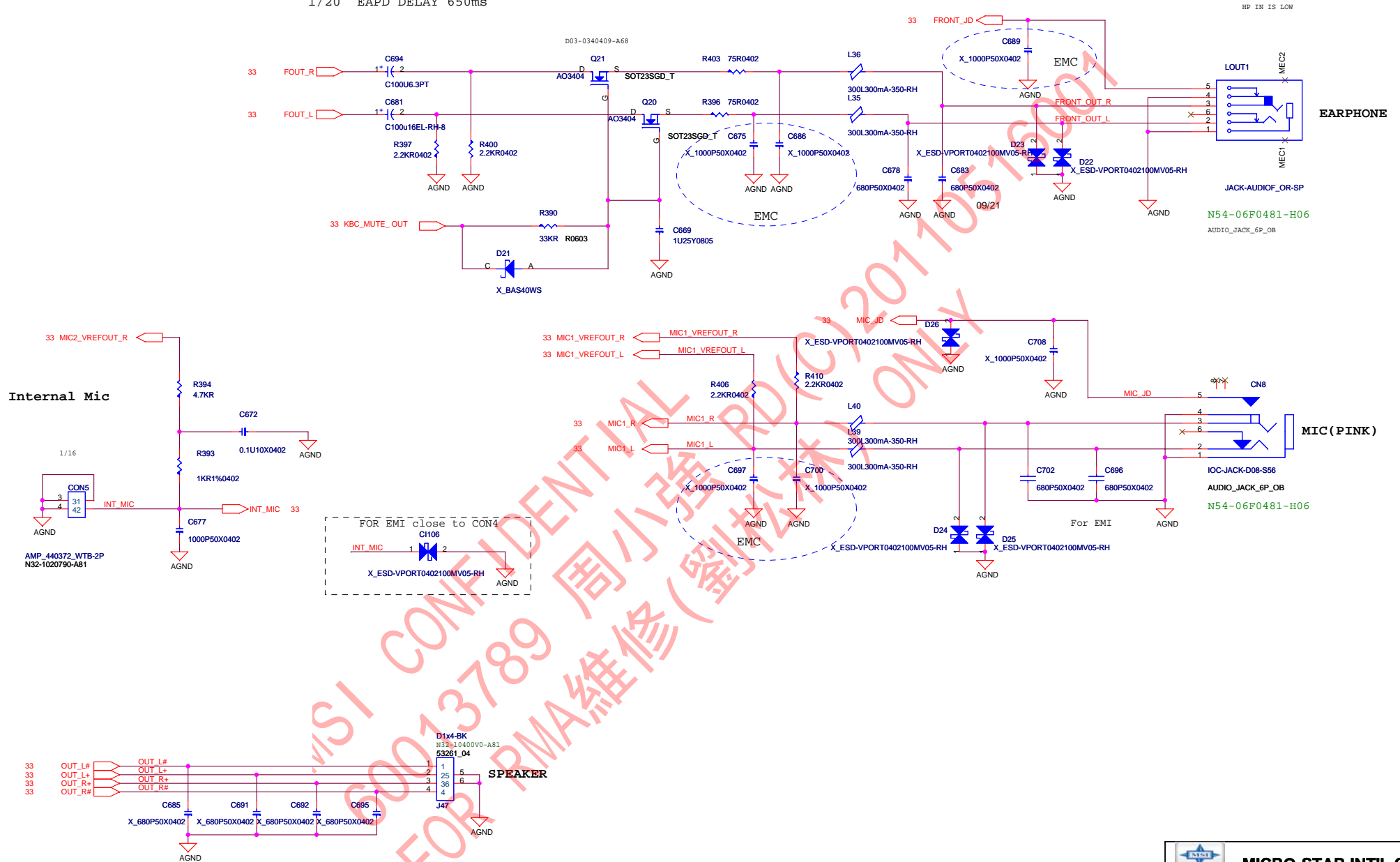
PWFBOUT R147 0R0603 V_DAC

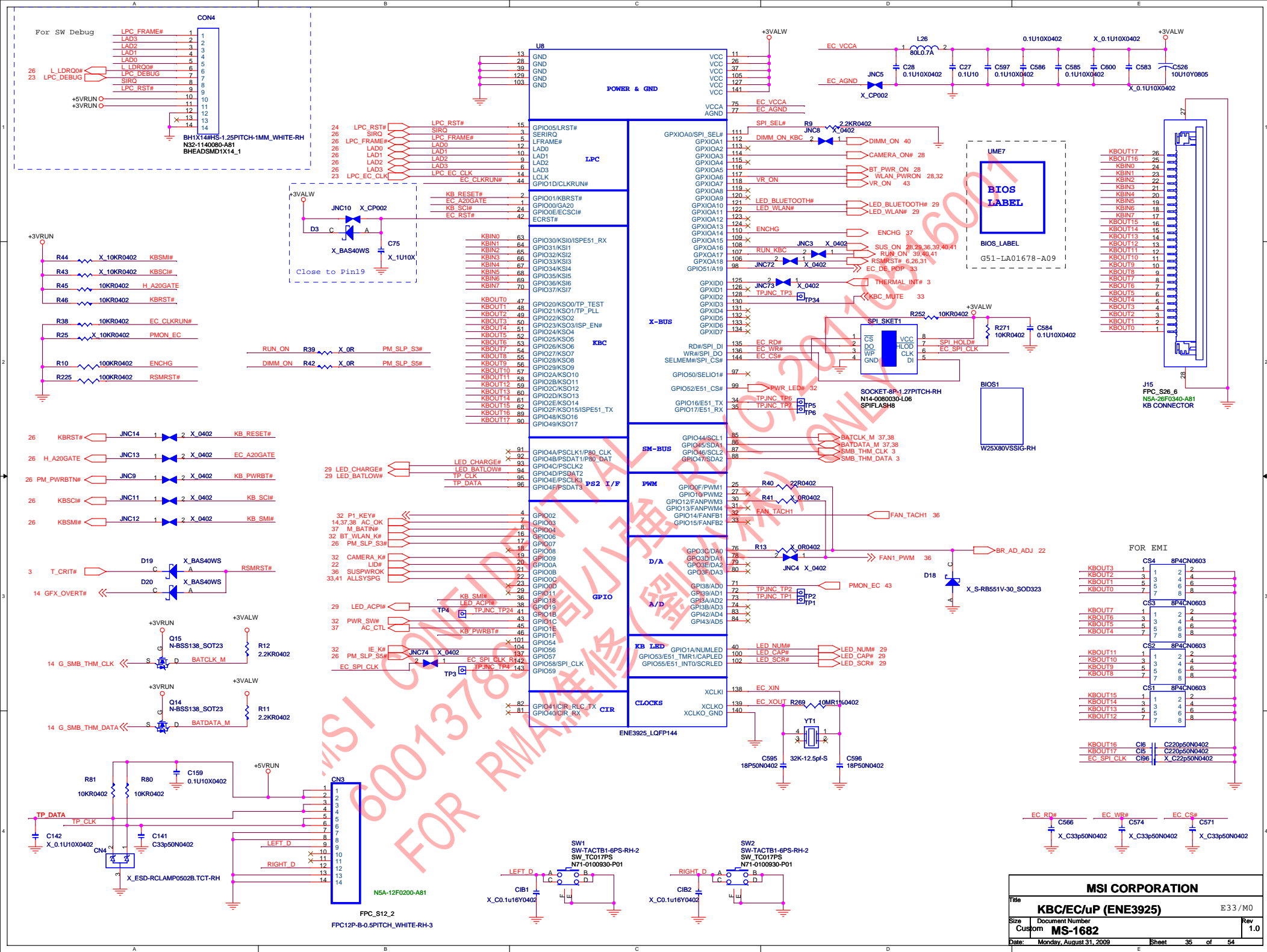


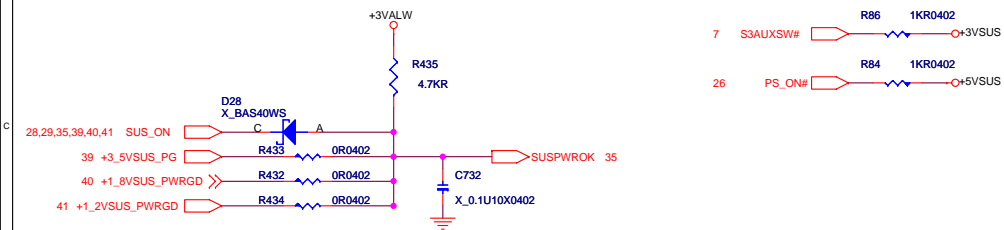
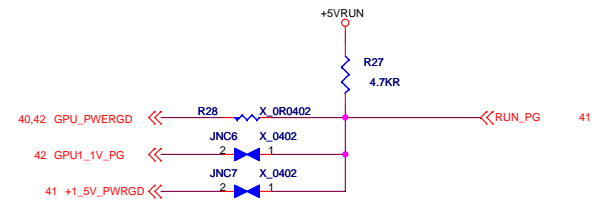




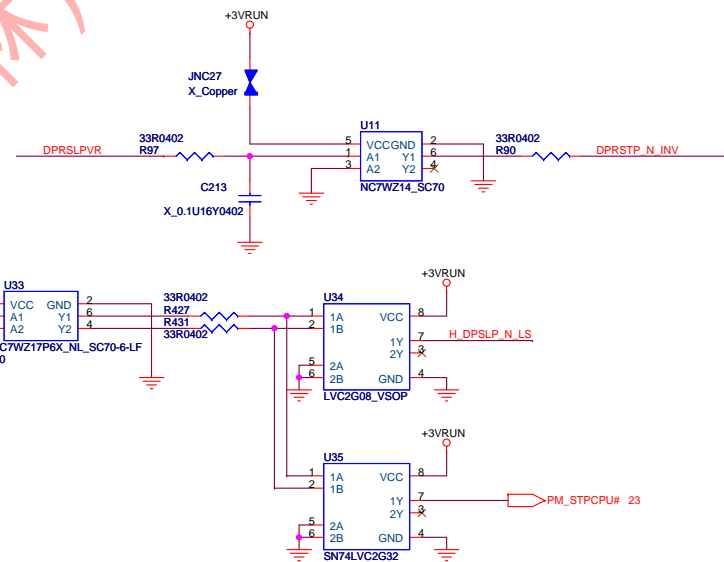
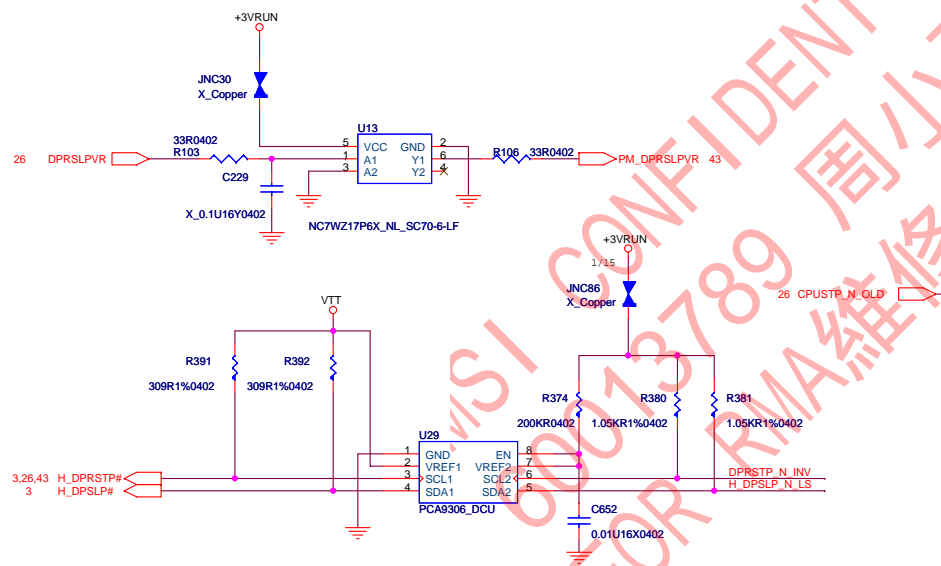
1/20 EAPD DELAY 650ms

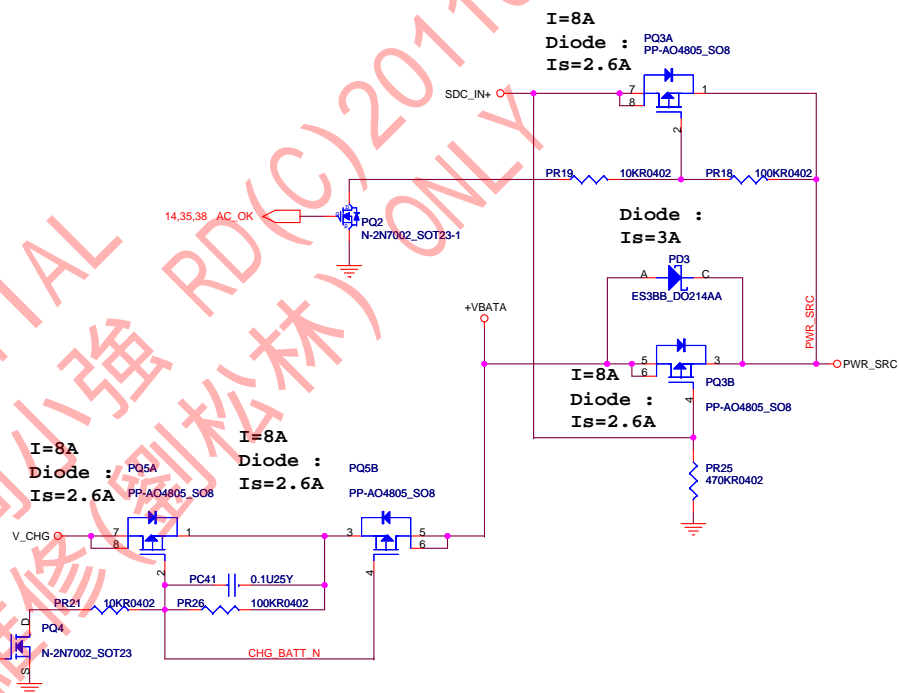
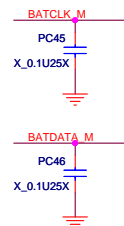
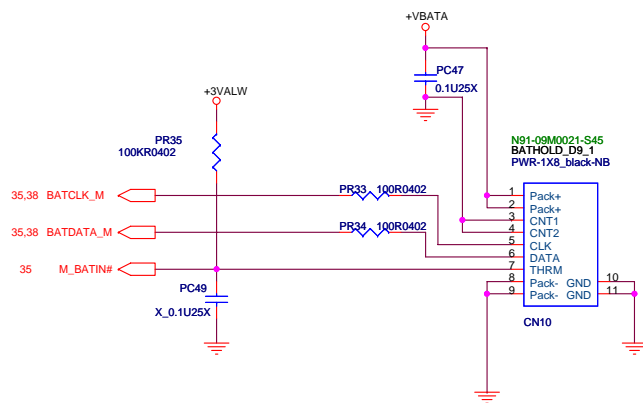




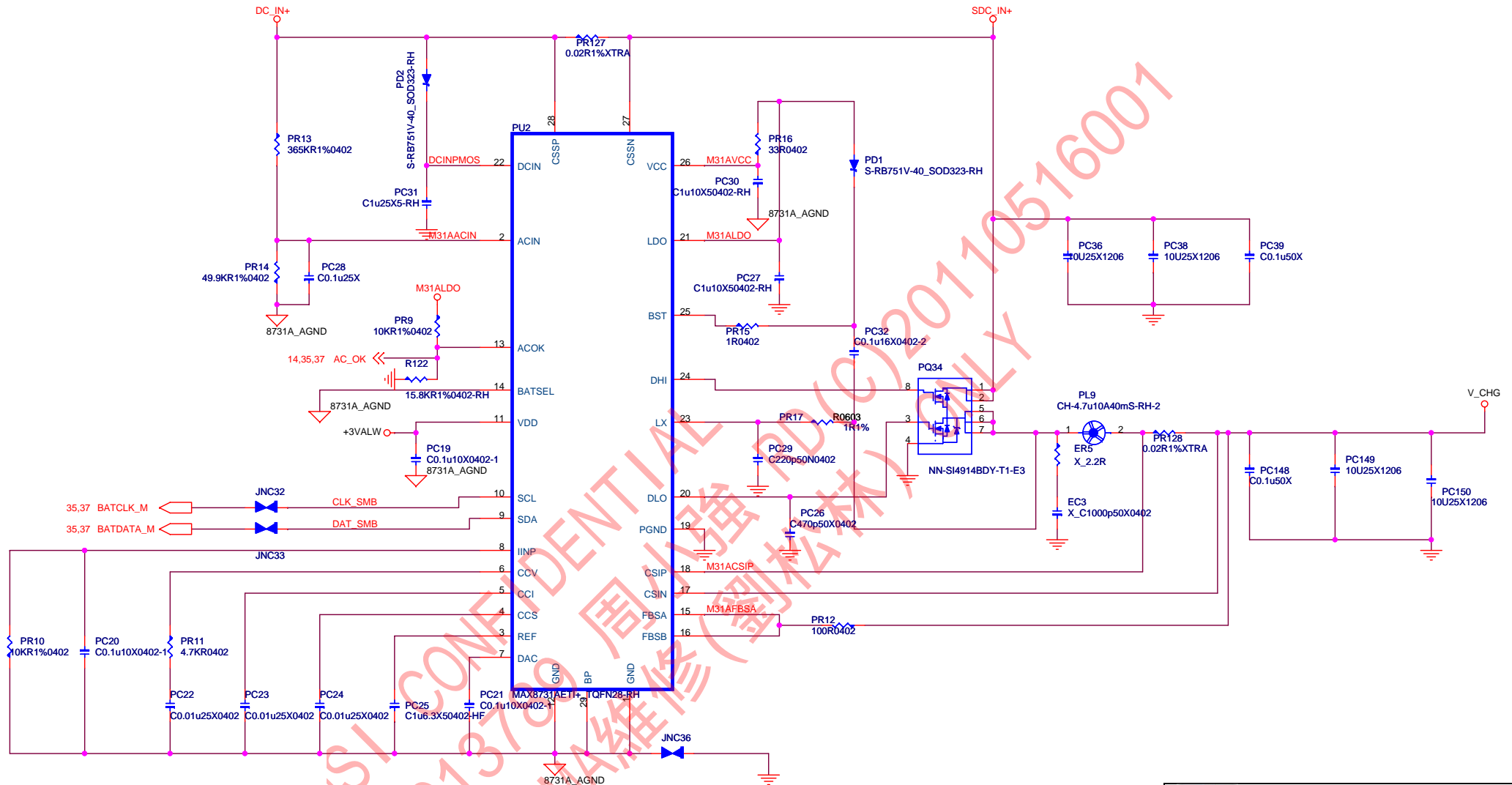


	S0	S3	S5
S3AUXSW#	1	0	1
PS_ON#	0	1	1
PM_SLP_S5#	1	1	0
PM_SLP_S3#	1	0	0






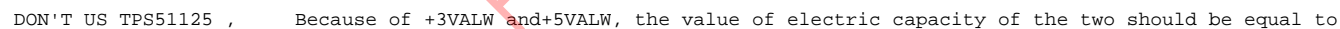
Adapter input voltage set 19 Voltage

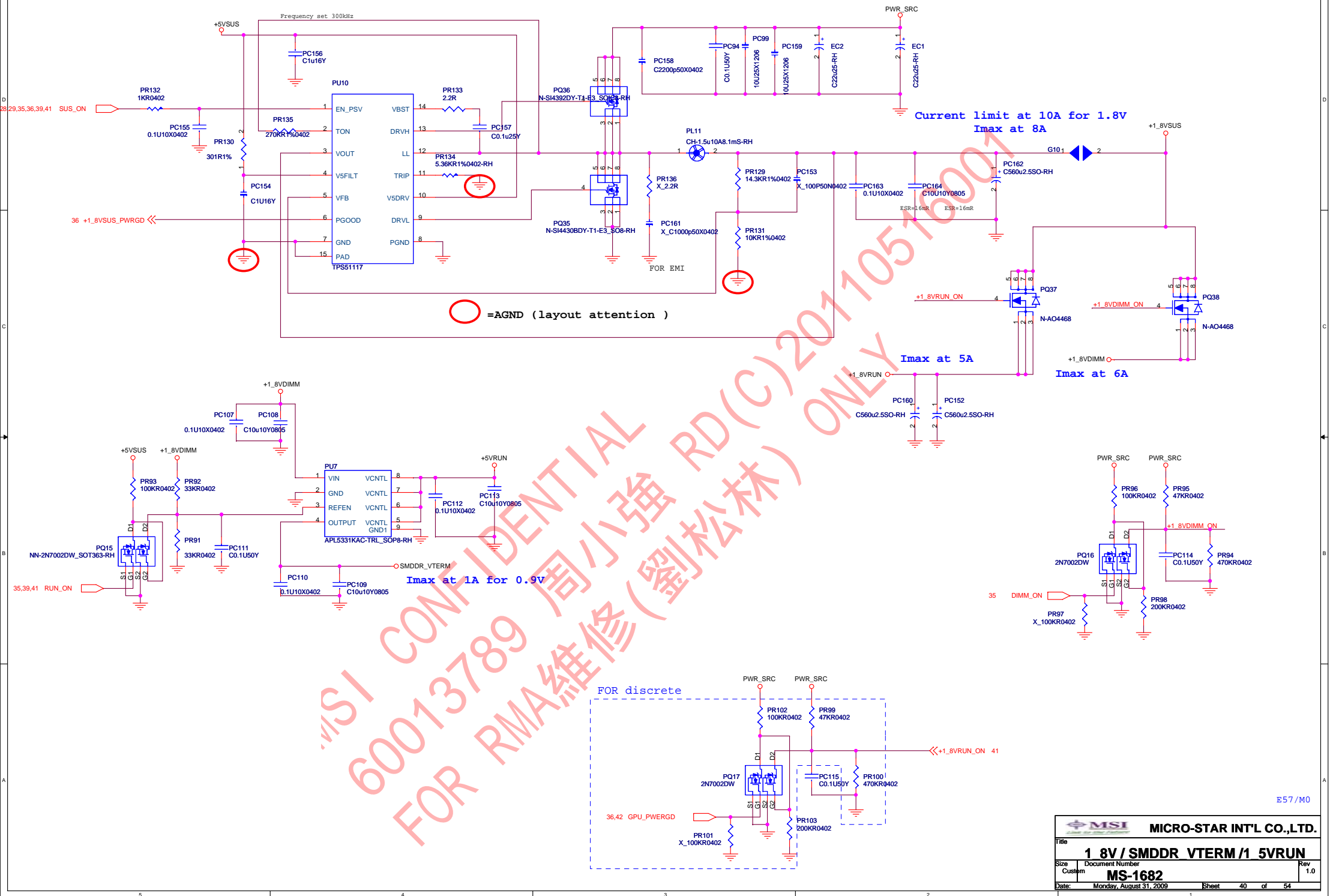


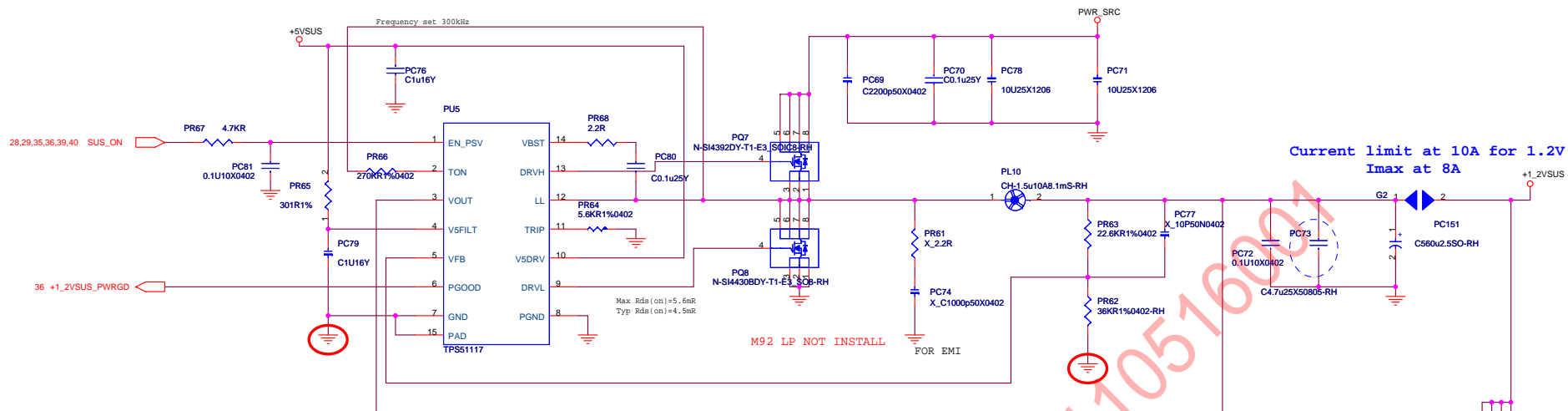
IINP :

1. The transconductance from (CSSP - CSSN) to IINP is 3mA/V .
2. $V_{\text{IINP}} = \text{IINPUT} \times \text{RS1} \times 3\text{mA/V} \times \text{PR25}$

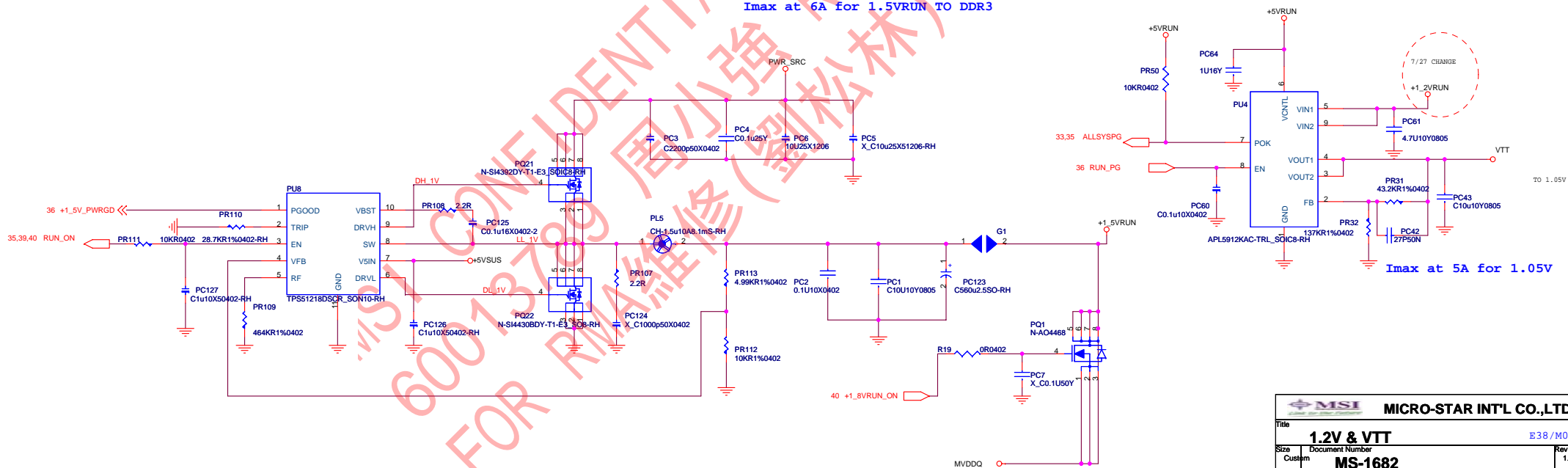
 MICRO-STAR INT'L CO.,LTD.	
Title Battery Charger E51/M0	
Size B	Document Number <div style="text-align: center; font-size: 1.5em; font-weight: bold;">MS-1682</div>
Rev 1.0	
Date: Monday, August 31, 2009	Sheet 38 of 54

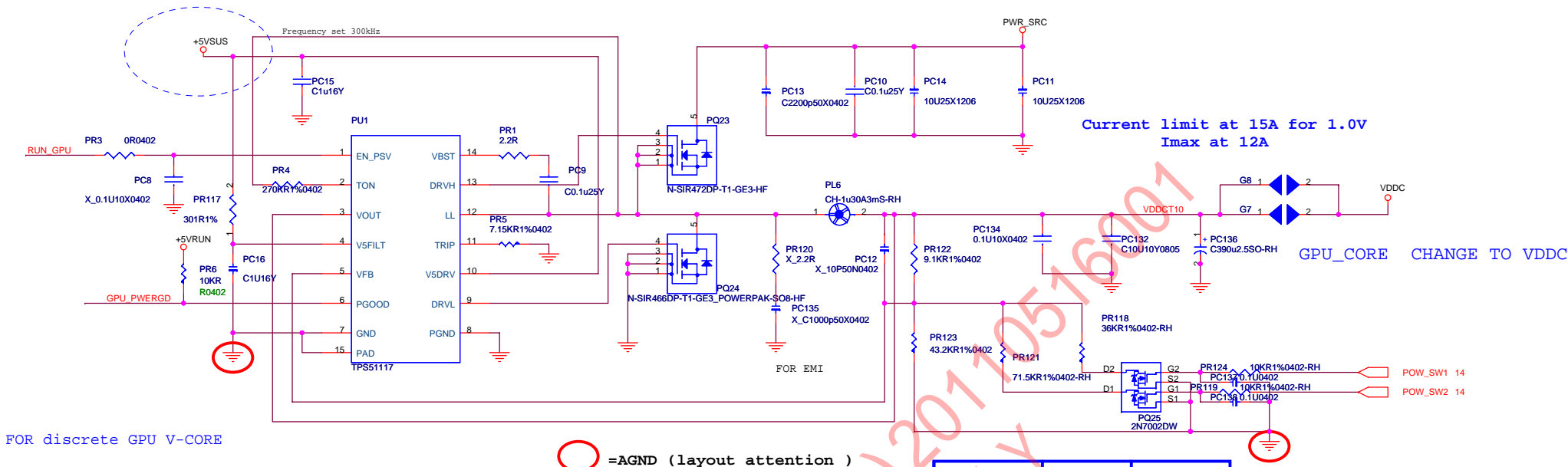




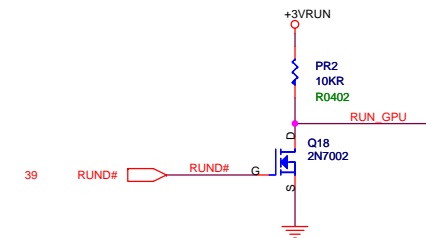
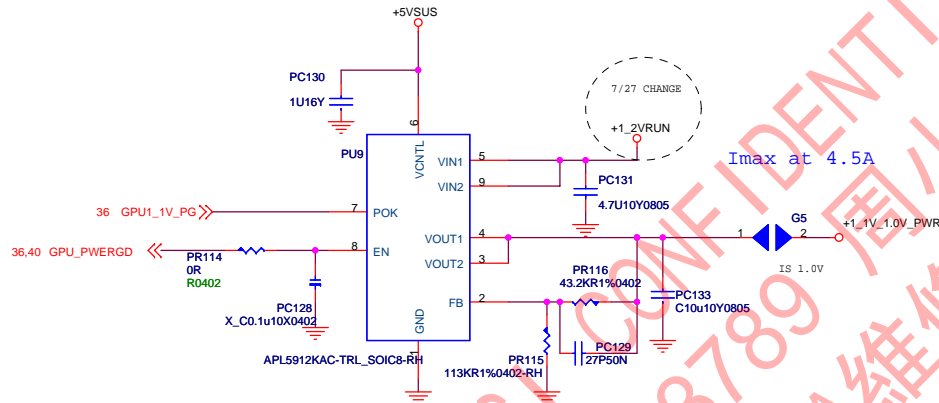


Imax at 6A for 1.5VRUN TO DDR3

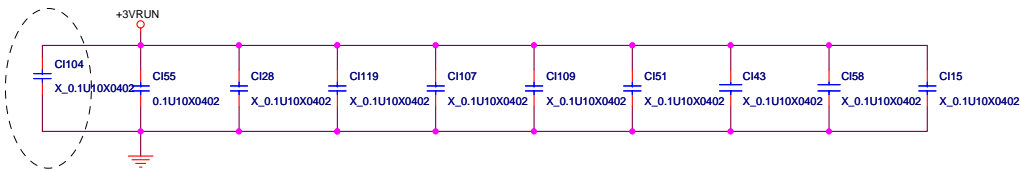




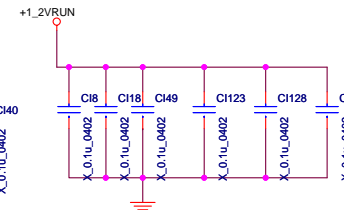
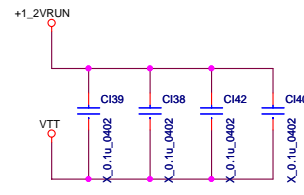
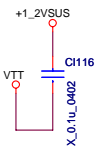
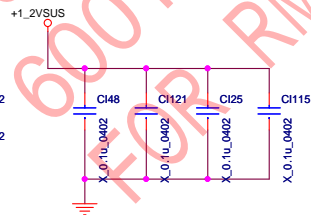
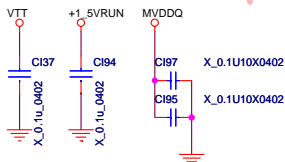
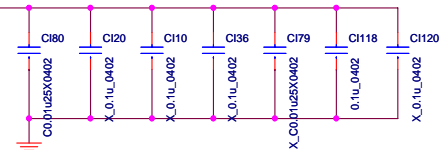
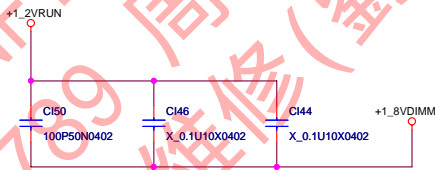
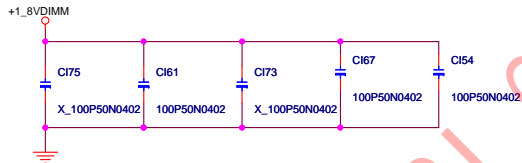
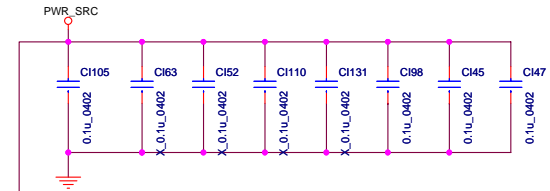
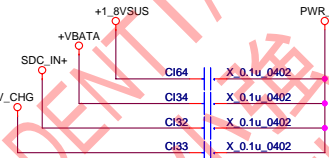
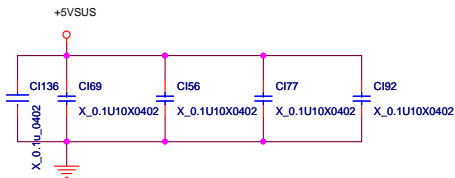
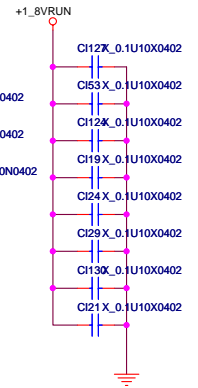
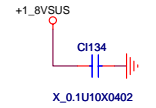
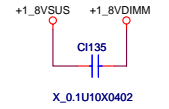
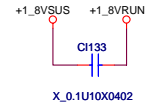
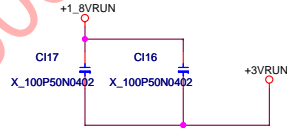
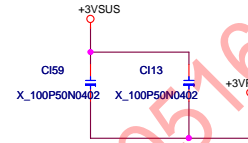
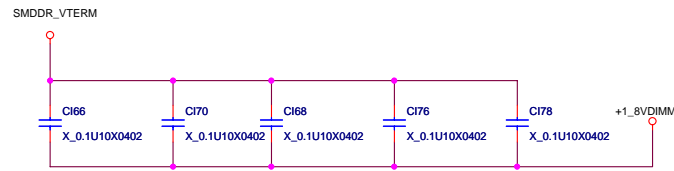
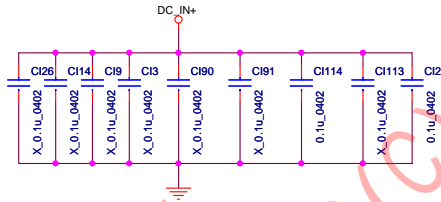
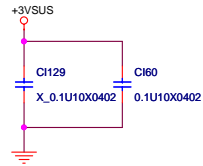
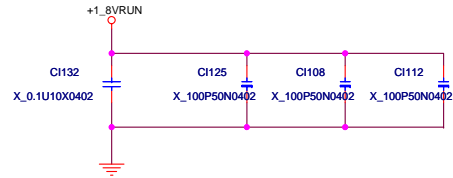
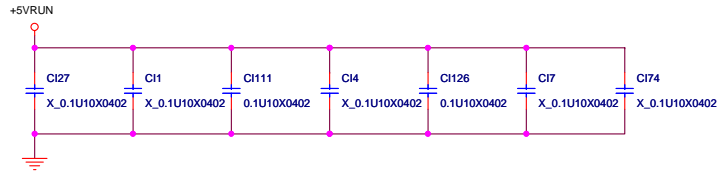
PSW_1	PSW_2	
1	0	1.1V
0	1	1.0V
0	0	0.9V

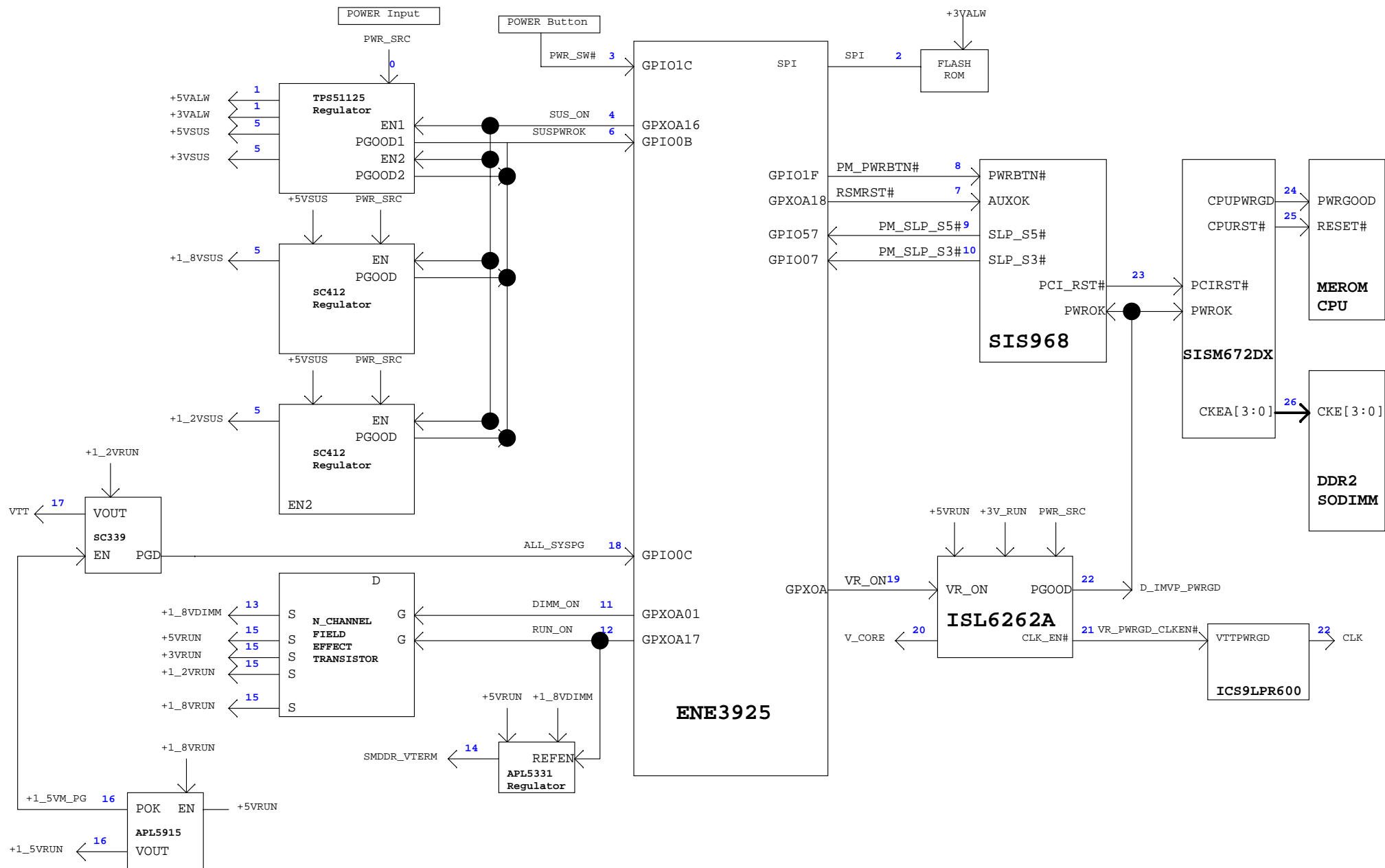


Title		
<Title>		
Size	Document Number	Rev
Custom	MS-1682	1.0
Date:	Monday, August 31, 2009	Sheet 42 of 54



3/18 EMI

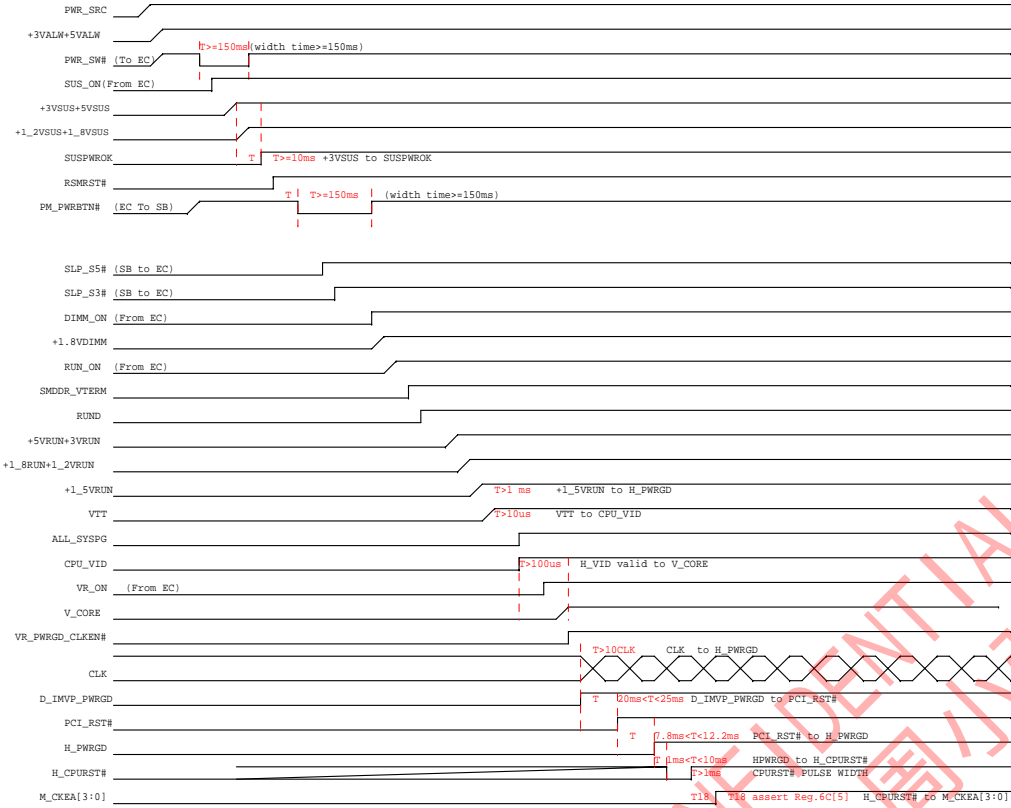




AC S5-S0

EC programming timing

SiSM672FX + 968 timing SPEC



AC S0-S5

EC programming timing

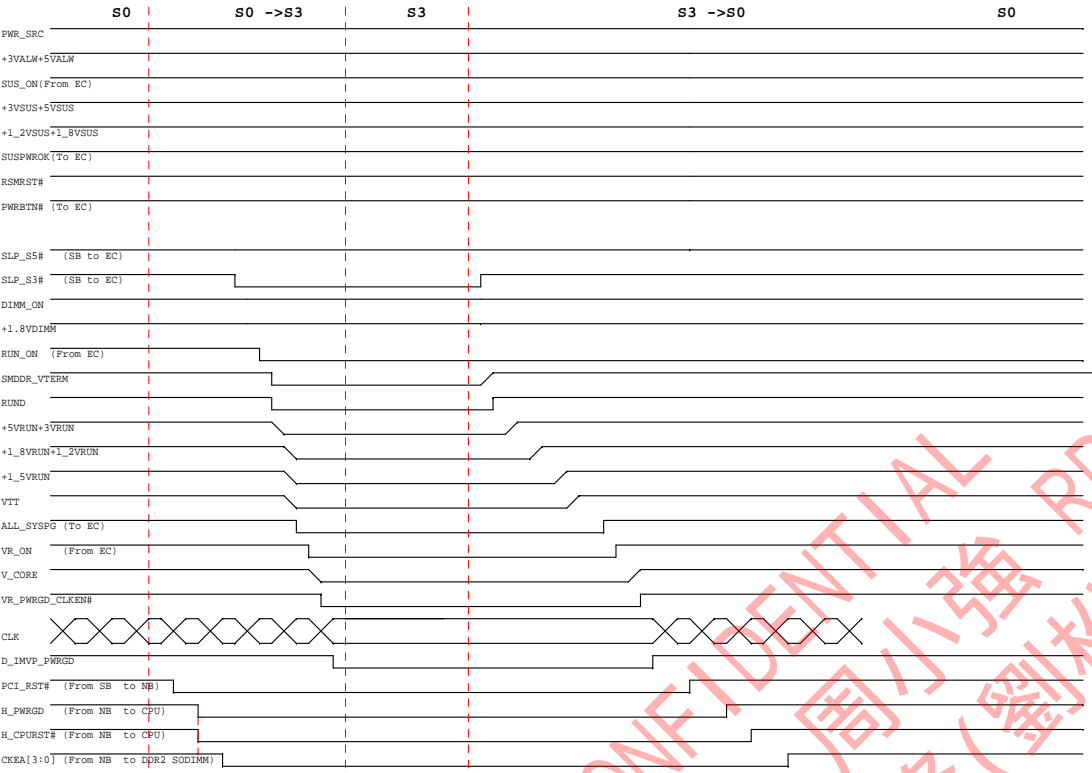
SiSM672FX + 968 timing SPEC



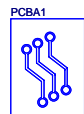
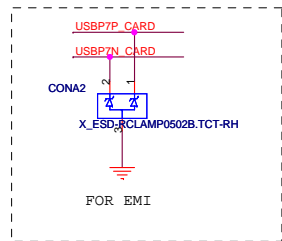
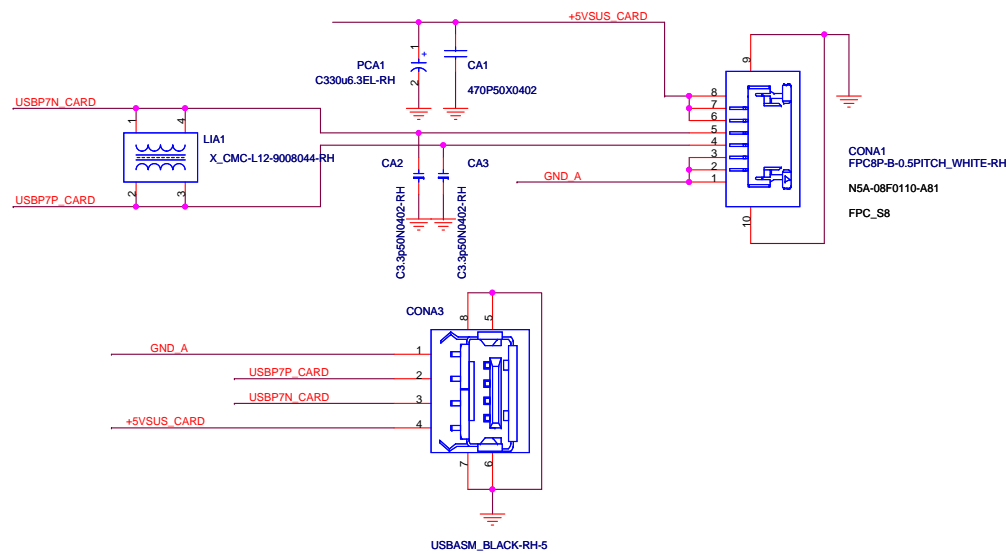
AC S0-S3-S0

EC programming timing

SiSM672FX + 968 timing SPEC

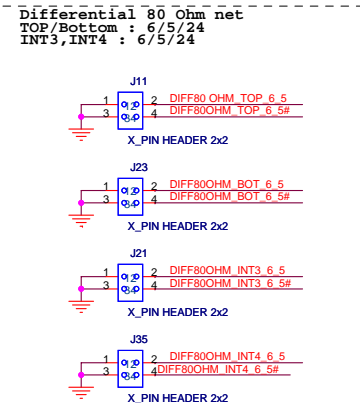
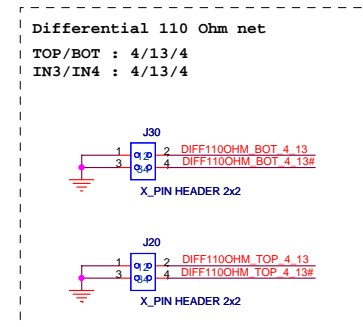
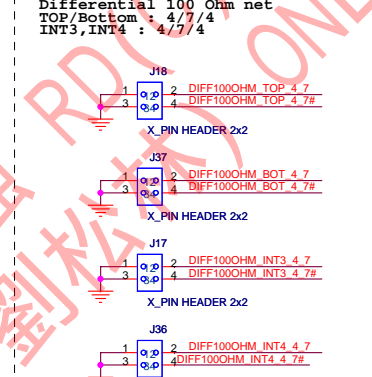
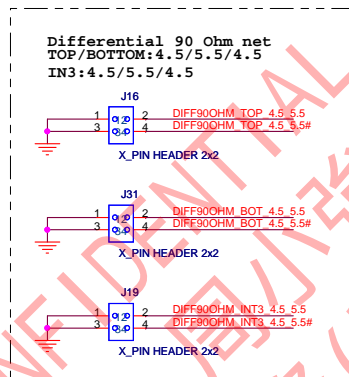
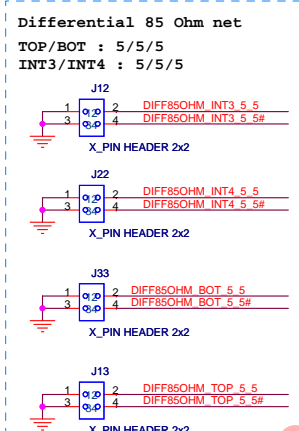
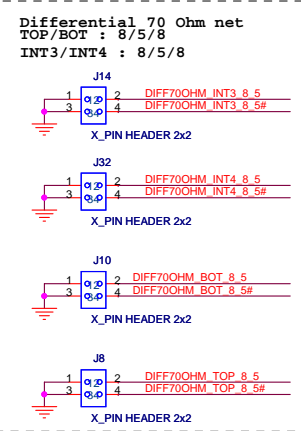
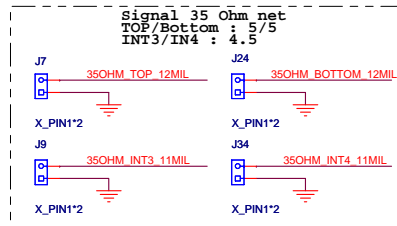
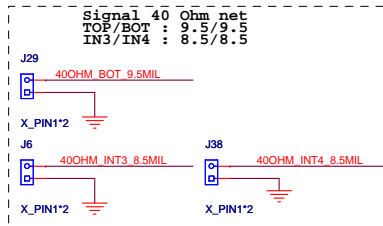
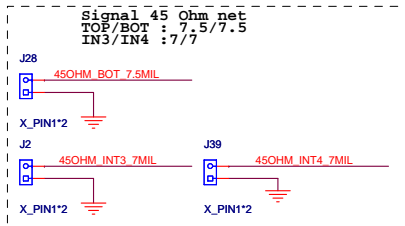
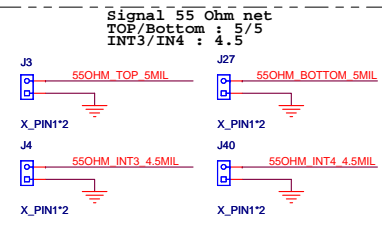
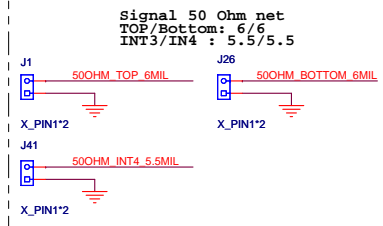
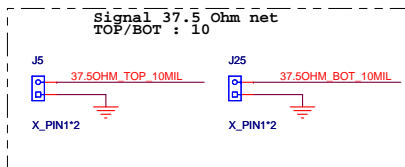


MSI CONFIDENTIAL 60013789 周小強 RD(C)20110516001 FOR RMA維修(劉松林) ONLY



PCB
P30-1687A0A-D05

P30-1687A0A-H73,瀚宇博德(薩摩亞)
P30-1687A0A-D05,昆穎(定穎大陸),



CONFIDENTIAL (劉松山) 20170516007
60013789 FOR RMA維修

0A -- 0B Note
MS-1687 MS-16D2 MS-1471
MS-1687_0806-2.DSN 0a net in.

MSI CONFIDENTIAL
60013789 周小強 RD(C)20110516001
FOR RMA維修(劉松林) ONLY

MSI CORPORATION			
Title			
Note			
Size	Document Number		
Custom	MS-1682		
Date:	Monday, August 31, 2009	Sheet	52 of 54
Rev			
1.0			

MSI CONFIDENTIAL
60013789 周小強 RD(C)20110516001
FOR RMA維修(劉松林) ONLY

MSI CORPORATION			
Title			
Note			
Size	Document Number		
Custom	MS-1682		
Date:	Monday, August 31, 2009	Sheet	53 of 54
Rev			
1.0			

