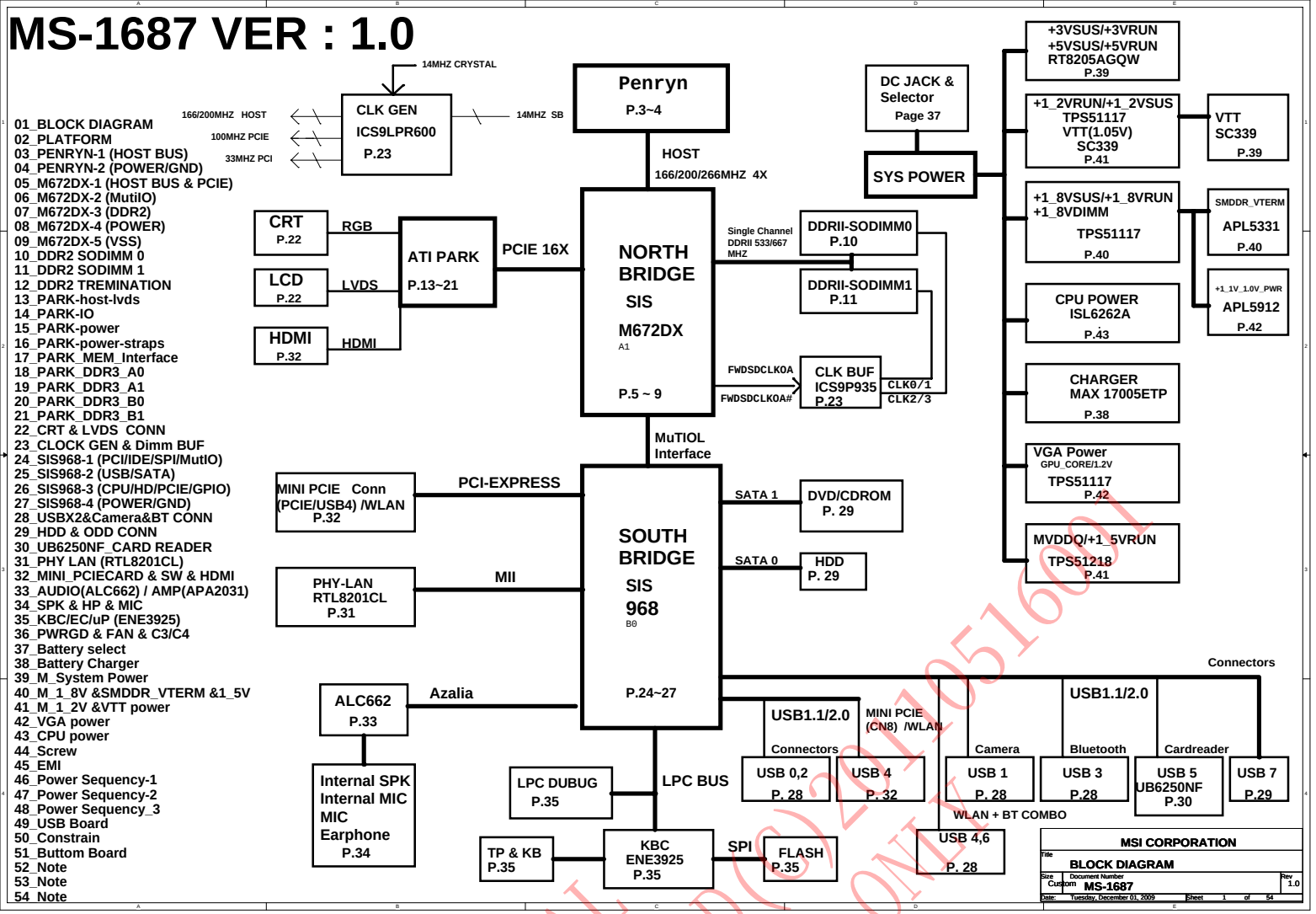
MS-1687 VER : 1.0

01_BLOCK DIAGRAM
02_PLATFORM
03_PENRYN-1 (HOST BUS)
04_PENRYN-2 (POWER/GND)
05_M672DX-1 (HOST BUS & PCIE)
06_M672DX-2 (MutilO)
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/MutIO)
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 Sequency-1
47_Power Sequency-2
48_Power Sequency_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*

MSI CORPORATION

Title: PLATFORM

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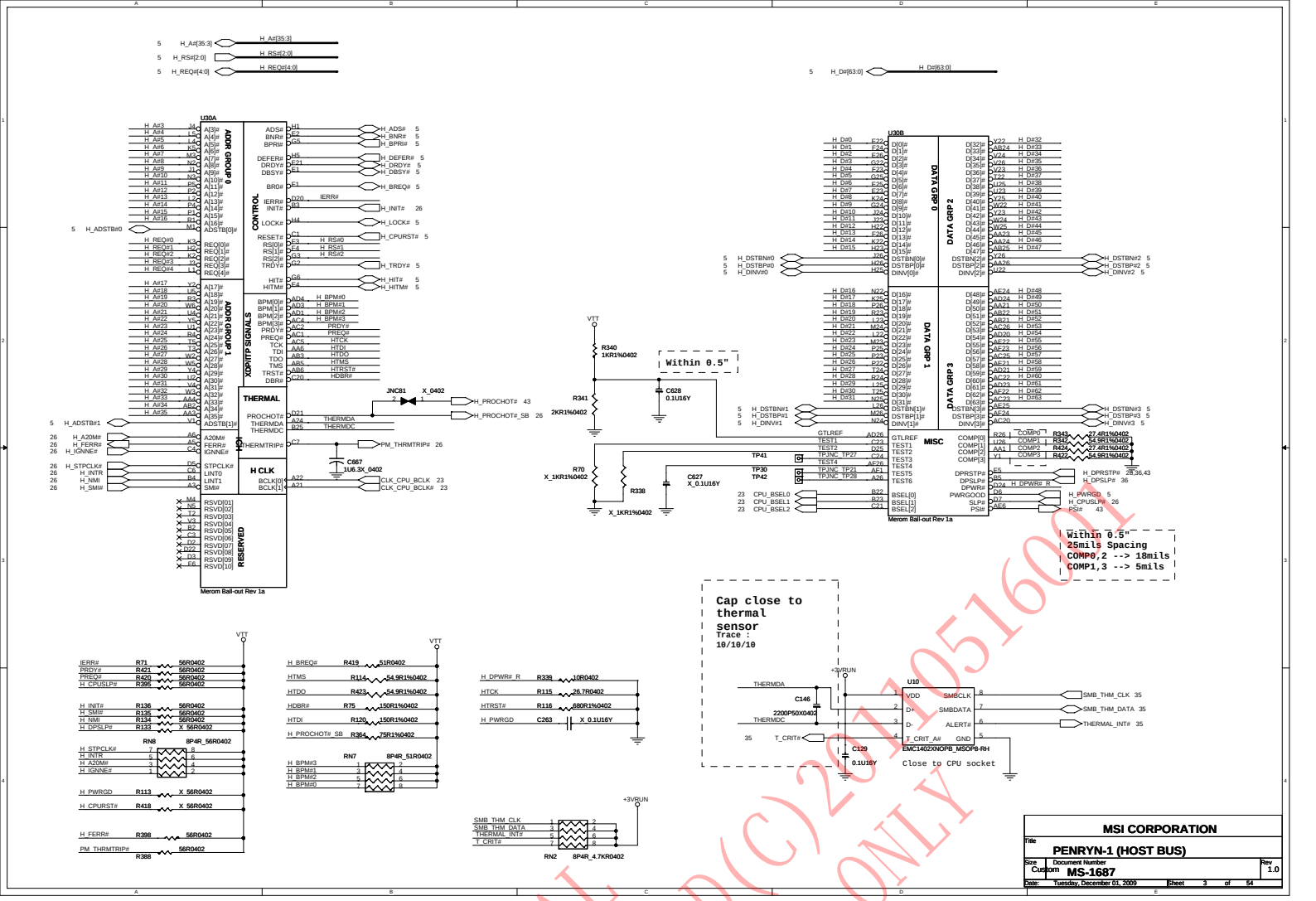
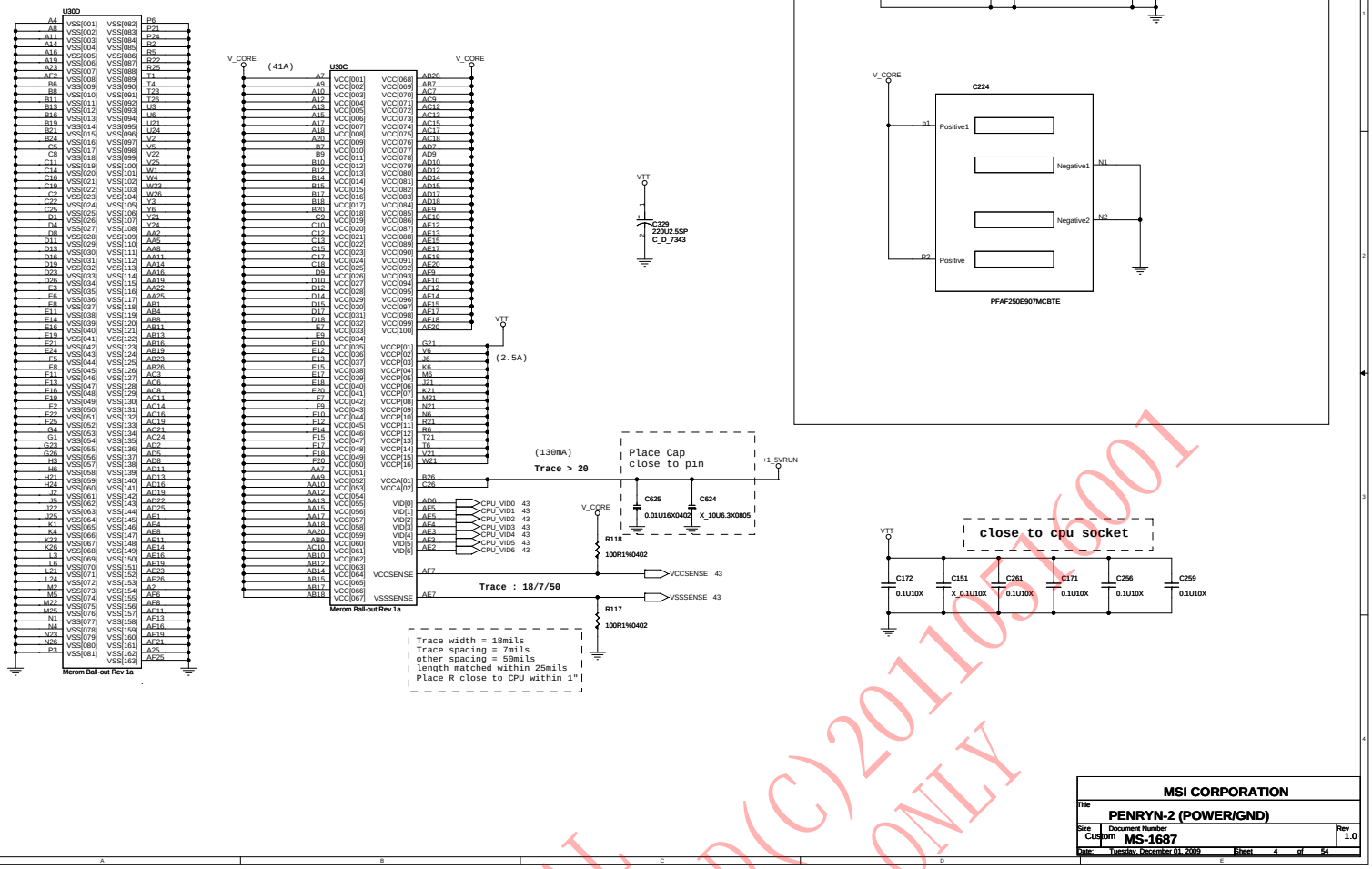


MSI CORPORATION			
Title: PENRYN-1 (HOST BUS)			
Size: Custom	Document Number: MS-1687		Rev: 1.0
Date: Tuesday, December 01, 2009		Sheet 3 of 54	



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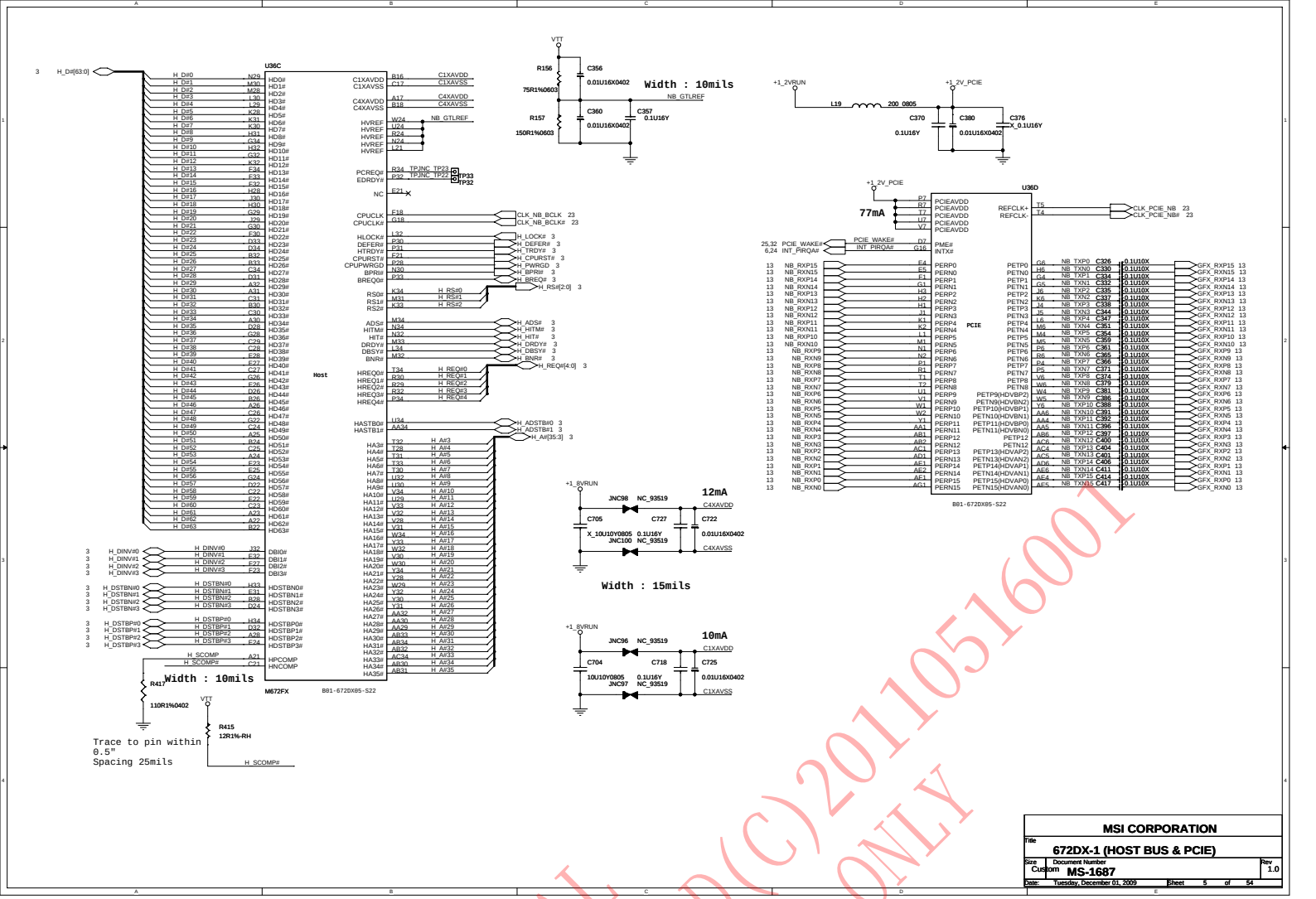
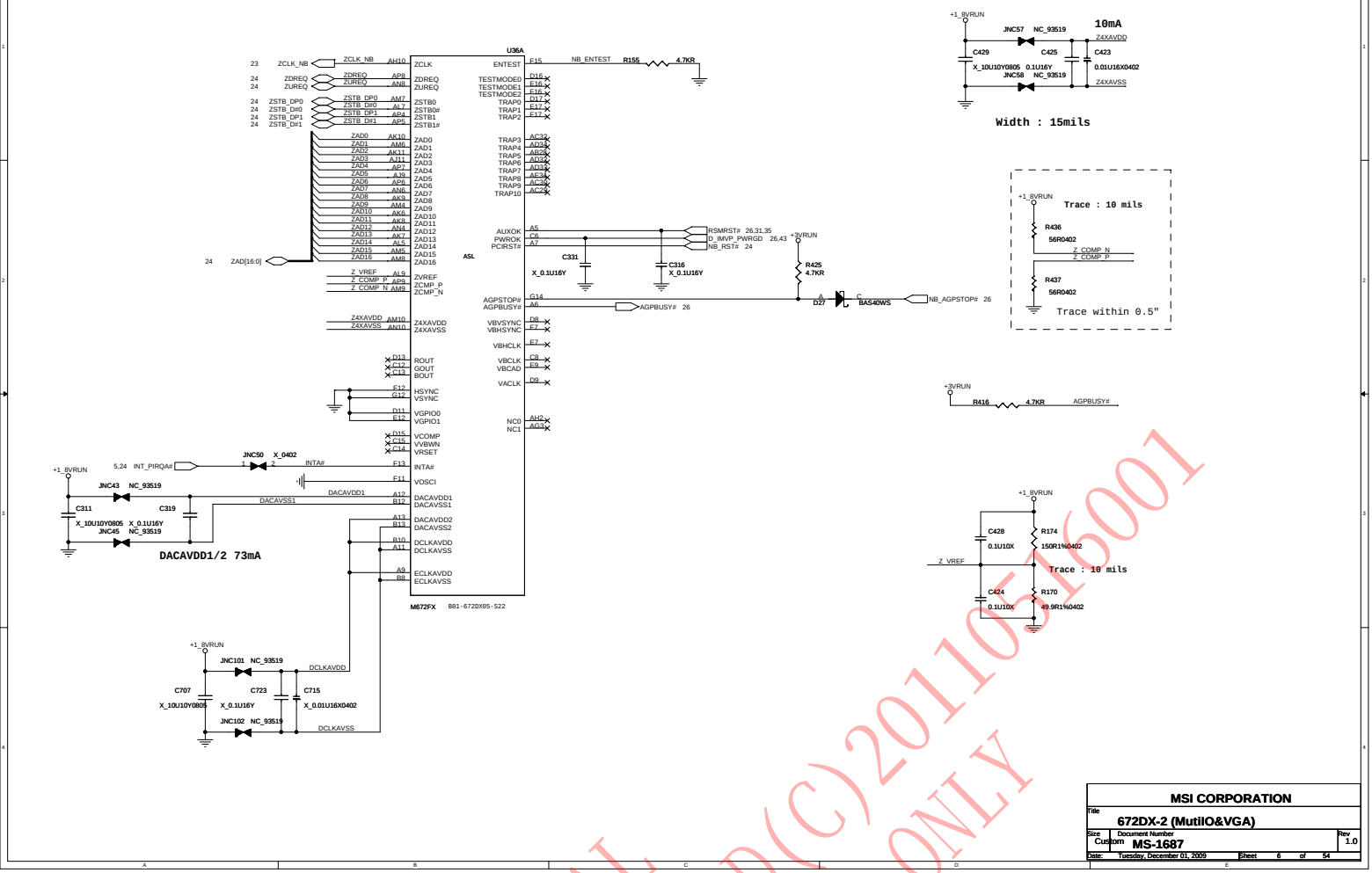
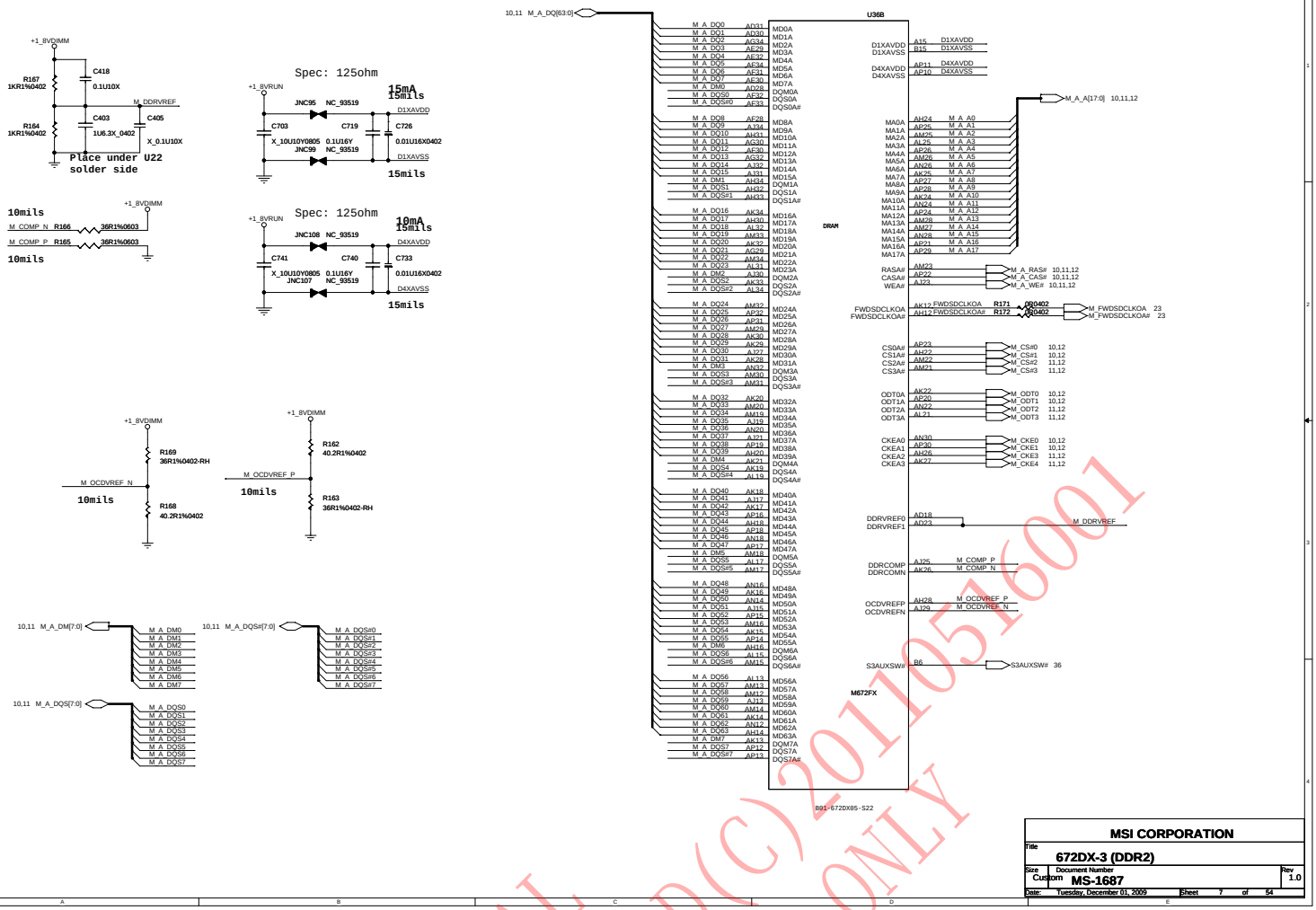
Title: PENRYN-2 (POWER/GND)			
Size: Custom	Document Number: MS-1687		Rev: 1.0
Date: Tuesday, December 01, 2009	Sheet 4 of 54		

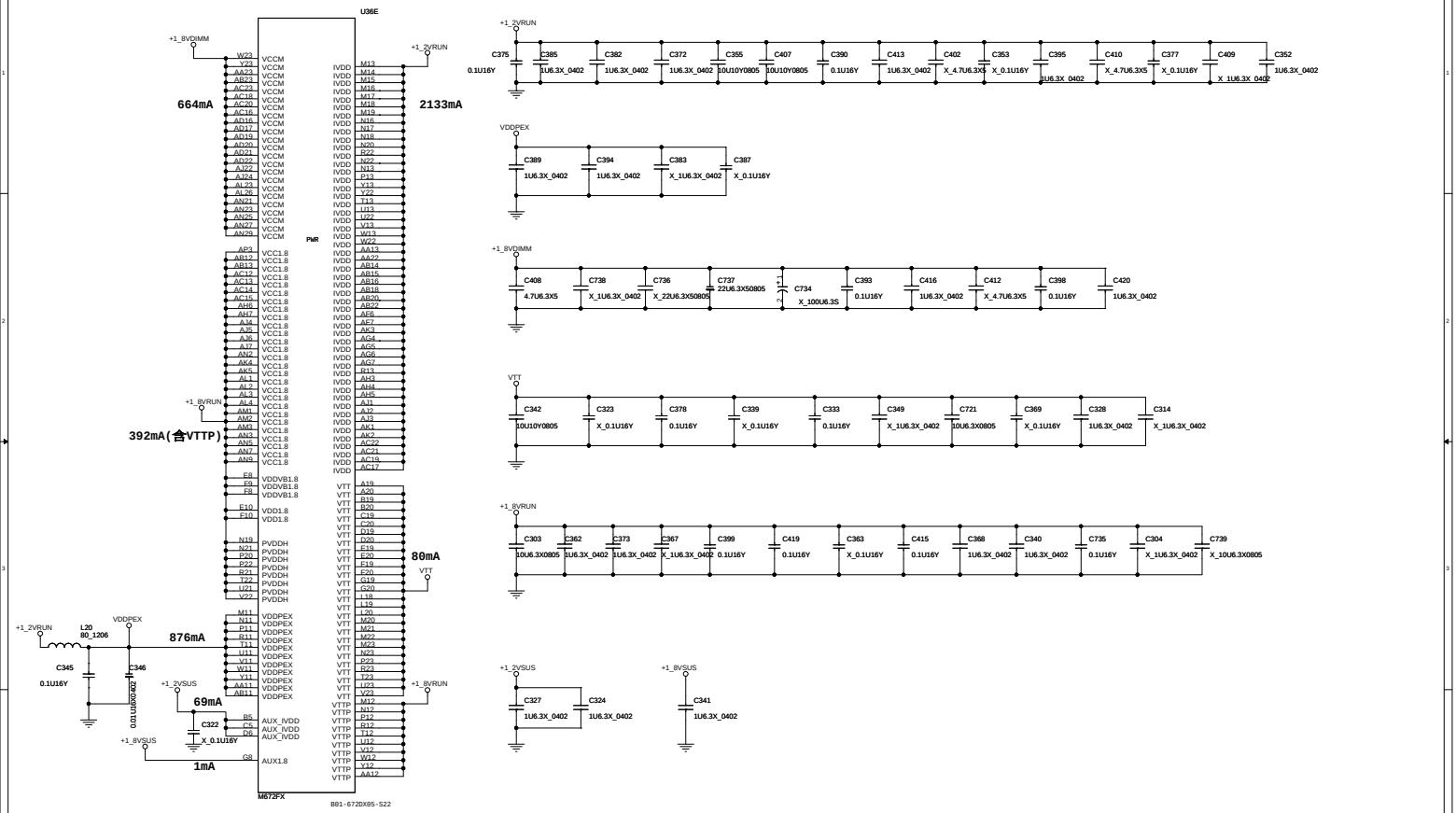


MSI CORPORATION			
Title: 672DX-1 (HOST BUS & PCIE)			
Size: Custom	Document Number: MS-1687	Rev: 1.0	
Date: Tuesday, December 01, 2009	Sheet 5 of 54		

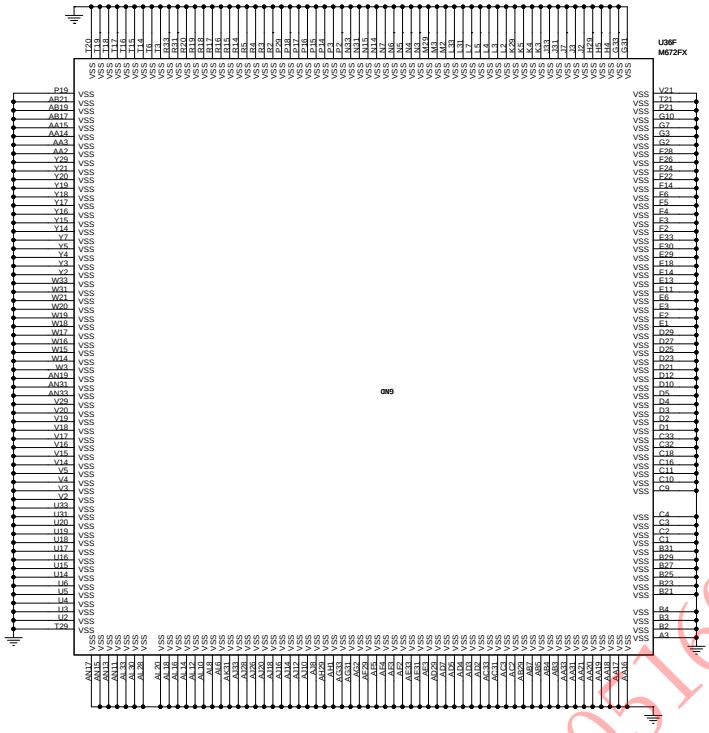


MSI CORPORATION			
Title: 672DX-2 (MutiIO&VGA)			
Size: Custom	Document Number: MS-1687	Rev: 1.0	
Date: Tuesday, December 01, 2009	Sheet 6 of 54		





MSI CORPORATION		
Title: **672DX-5 (POWER)**		
Size: Custom	Document Number: **MS-1687**	Rev: 1.0
Date: Tuesday, December 01, 2009	Sheet 8 of 54	



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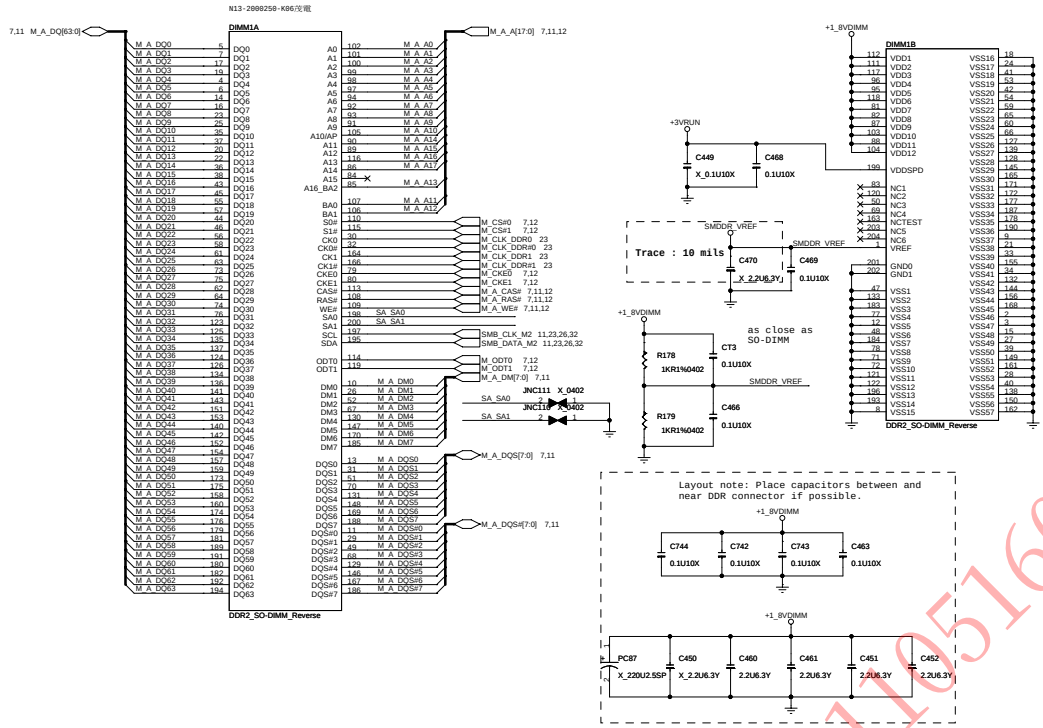
Title: 672DX-6 (VSS)	
Size: Custom	Document Number: MS-1687
Rev: 1.0	
Date: Tuesday, December 01, 2009	Sheet 9 of 54



Title	MSI CORPORATION
	DDR2 SODIMM 0
Size	Custom
Document Number	MS-1687
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Date:	Tuesday, December 01, 2009
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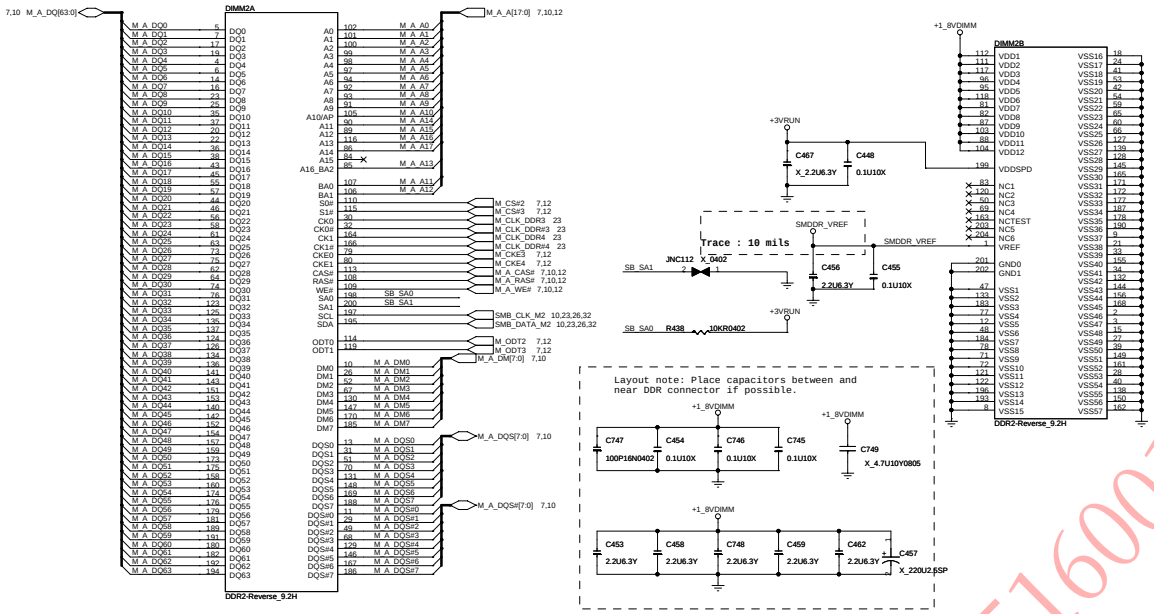
N13-2000400-K06



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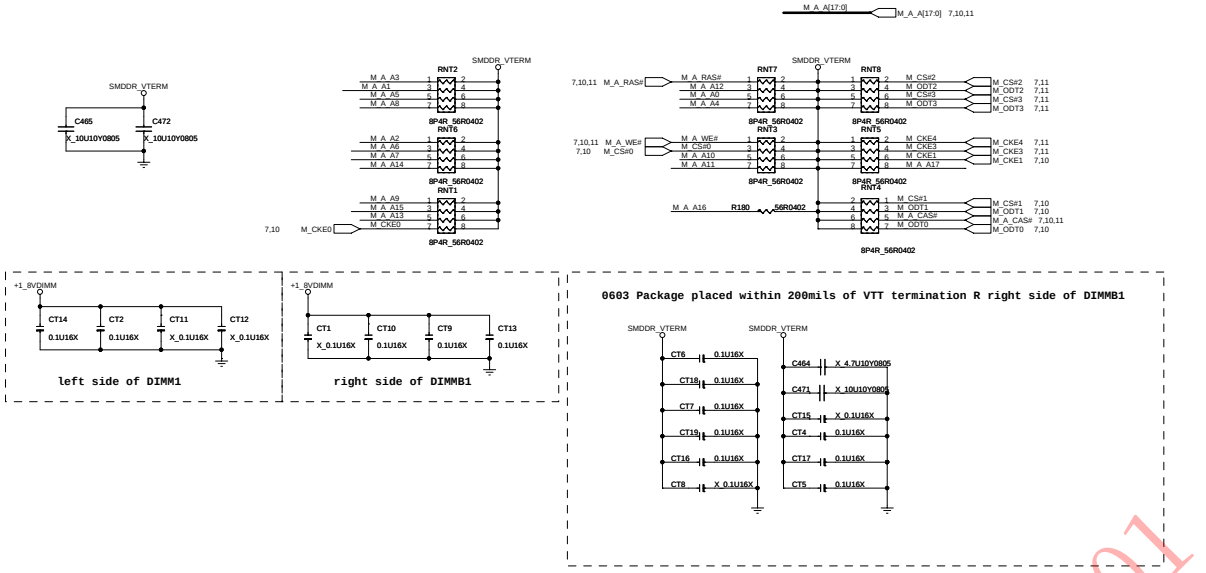
Title: DDR2 SODIMM 1			
Size: Custom	Document Number: MS-1687	Rev: 1.0	
Date: Tuesday, December 01, 2009	Sheet 11 of 54		



E22/M0

MSI CORPORATION	
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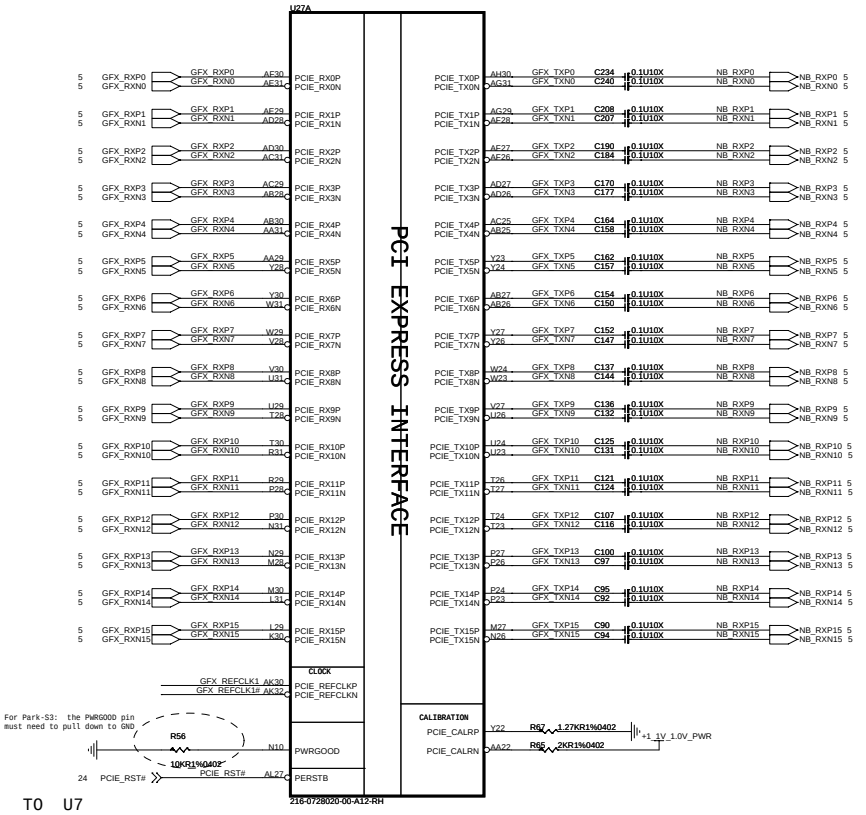
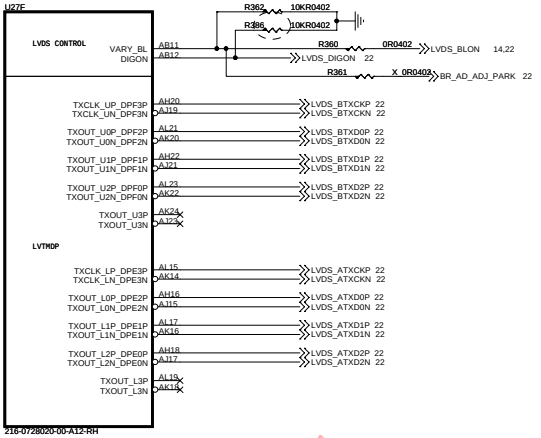
Size: Custom	Document Number: MS-1682
Rev: 1.0	
Date: Tuesday, December 01, 2009	Sheet 12 of 54



TO U7

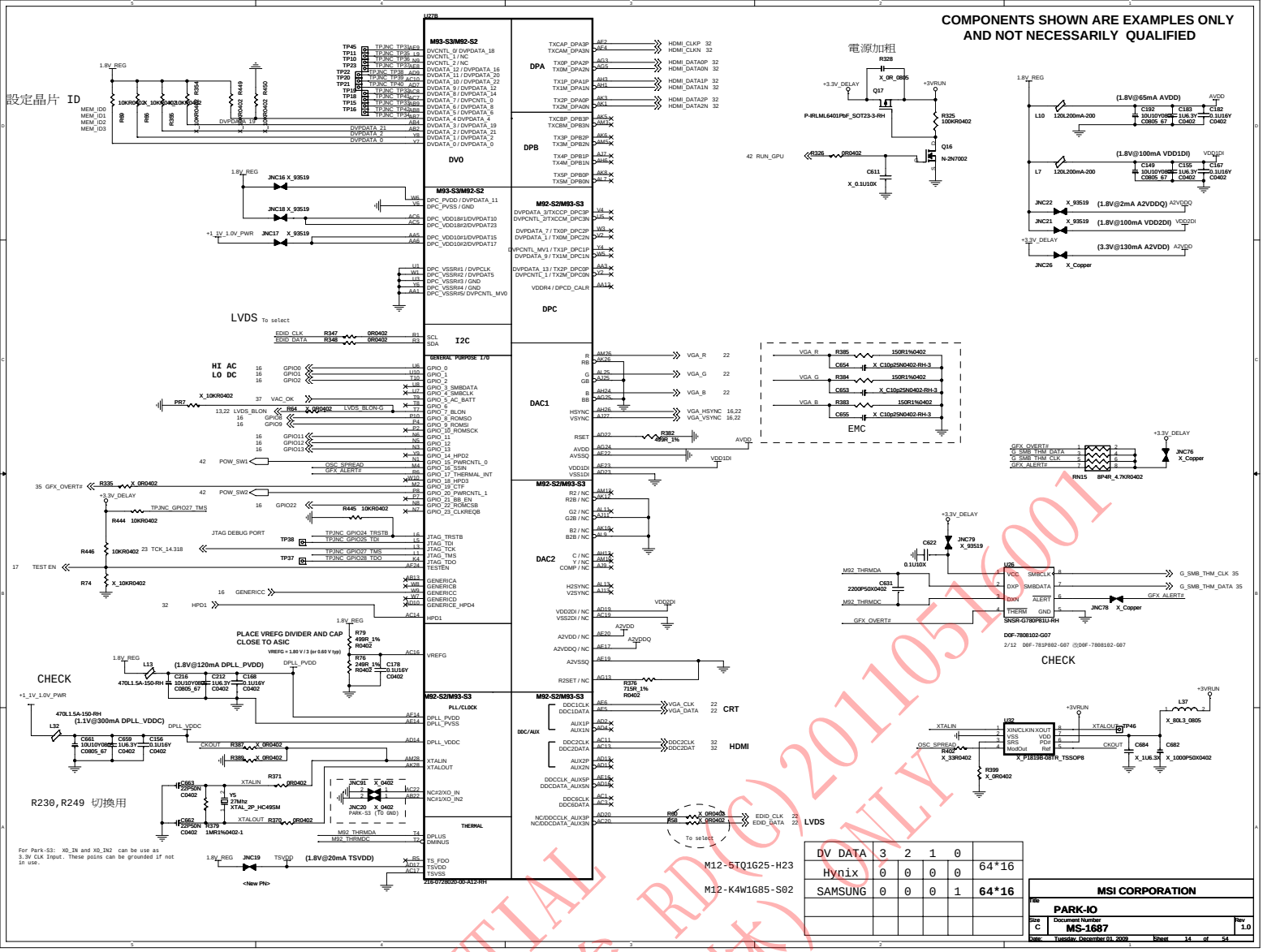
TO CLK

LVDS Interface

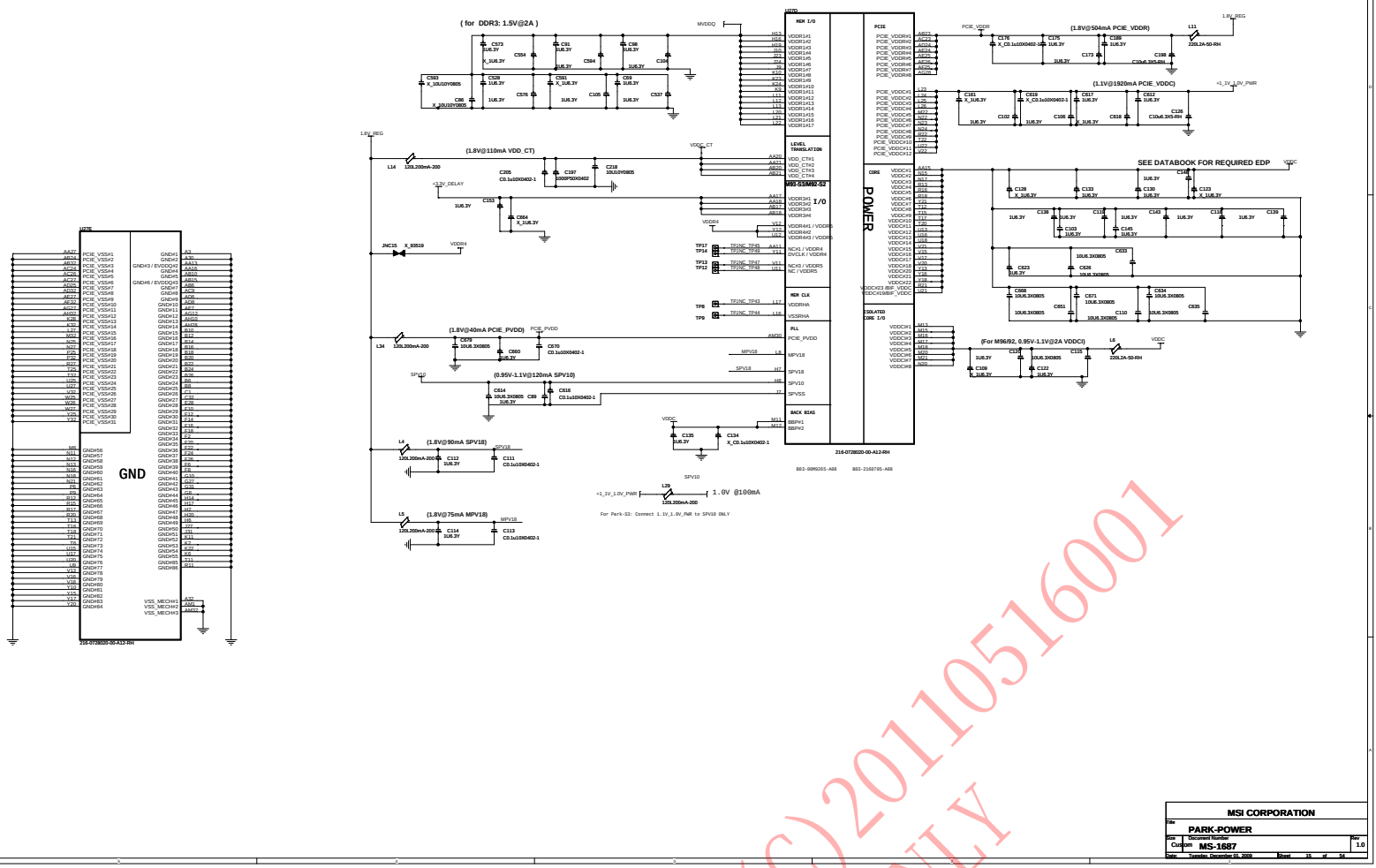


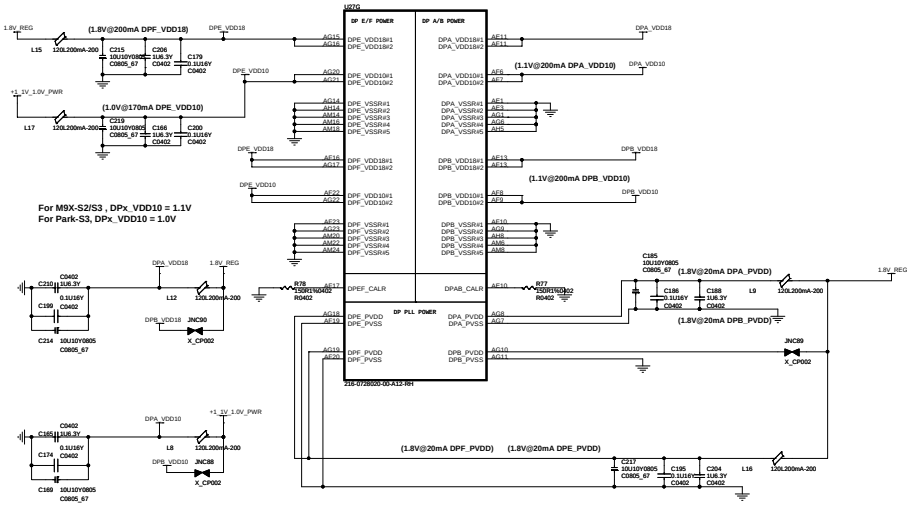
DisplayPort E Configuration

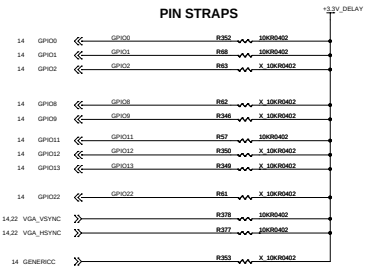
MSI CORPORATION			
Title: PARK-HOST/LVDS			
Size: Custom	Document Number: MS-1687		Rev: 1.0
Date: Tuesday, December 01, 2009	Sheet 13 of 54		



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







CONFIGURATION STRAPS

ALLOW FOR PULLUP PADS FOR THESE STRAPS AND IF THESE GPIOS ARE USED, THEY MUST NOT CONFLICT DURING RESET

RECOMMENDED SETTINGS
0= DO NOT INSTALL RESISTOR
1 = INSTALL 10K RESISTOR
X = DESIGN DEPENDANT
NA = NOT APPLICABLE

STRAPS	PIN	DESCRIPTION OF DEFAULT 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		0
BIF_VGA_DIS	GPIO9	VGA ENABLED	0
RSVD	GPIO21		0
BIOS_ROM_EN	GPIO_22_ROMCSB	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		0
AUD[1]	HSYNC	AUD[1] AUD[0]	0
AUD[0]	VSYNC	0 0 No audio function 0 1 Audio for DisplayPort and HDMI if dongle is detected 1 0 Audio for DisplayPort only 1 1 Audio for both DisplayPort and HDMI	X X

GPIO 13 12 11

Size of the primary memory apertures	CONFIG[2:0]
128 MB	000
256 MB	001
64 MB 1G 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

E23/M0

Title	PARK-power straps
Size: Custom	Document Number: MS-1687
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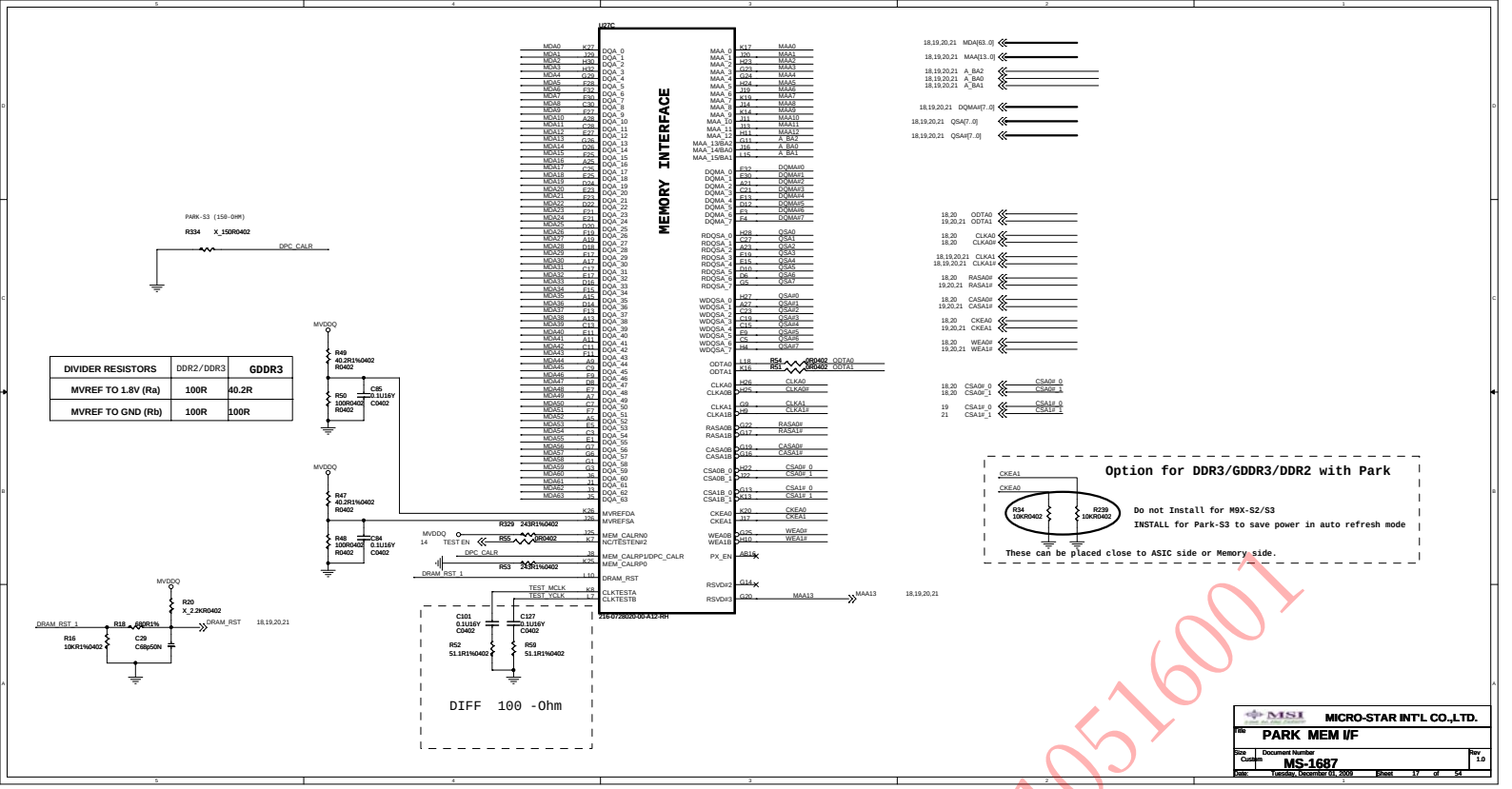
Date: Tuesday, December 01, 2009	Sheet 16 of 54

MSI CORPORATION



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

MSI	MICRO-STAR INT'L CO.,LTD.	
Title	PARK MEM I/F	
Size: Custom	Document Number: MS-1687	Rev: 1.0
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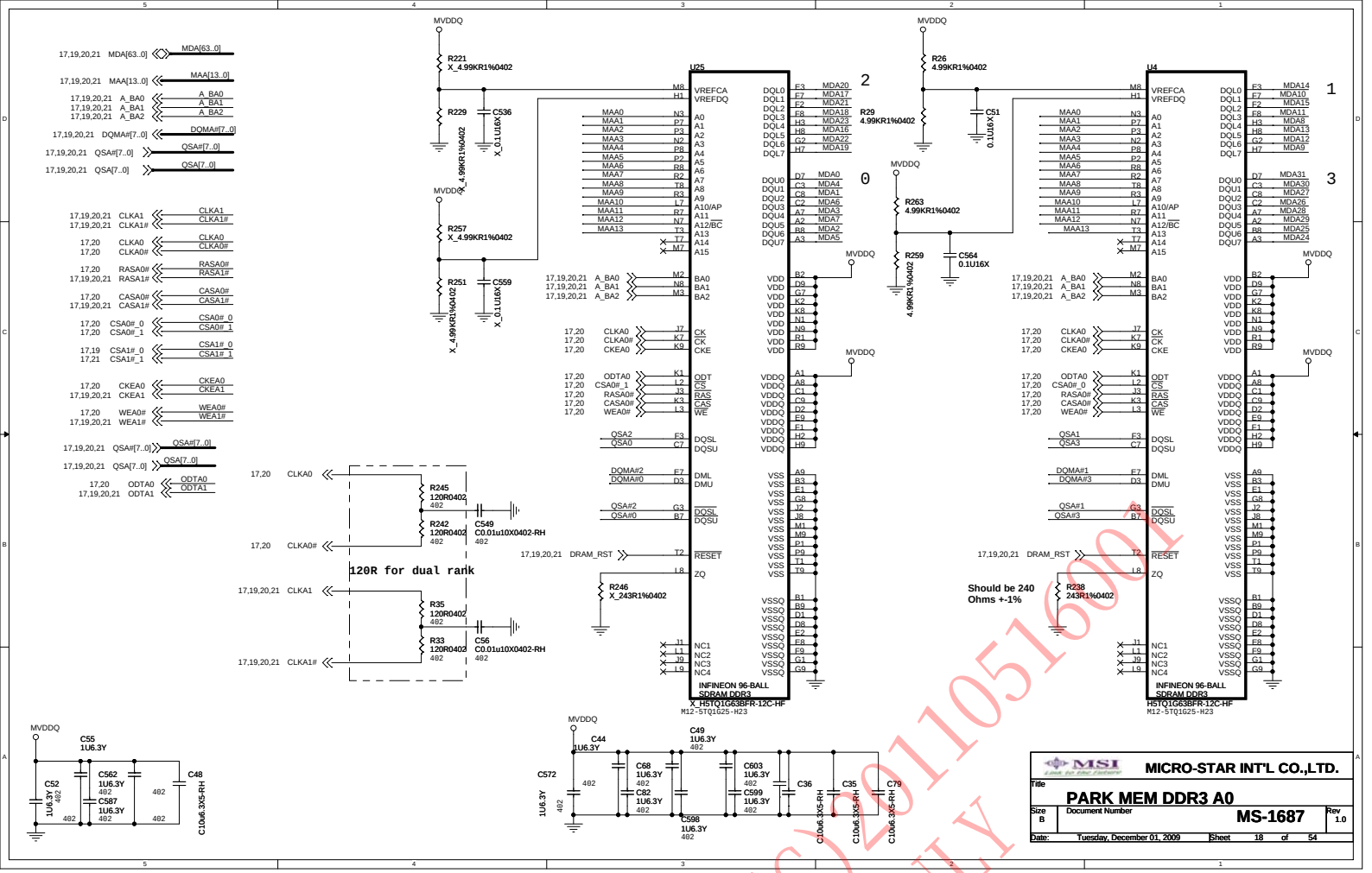

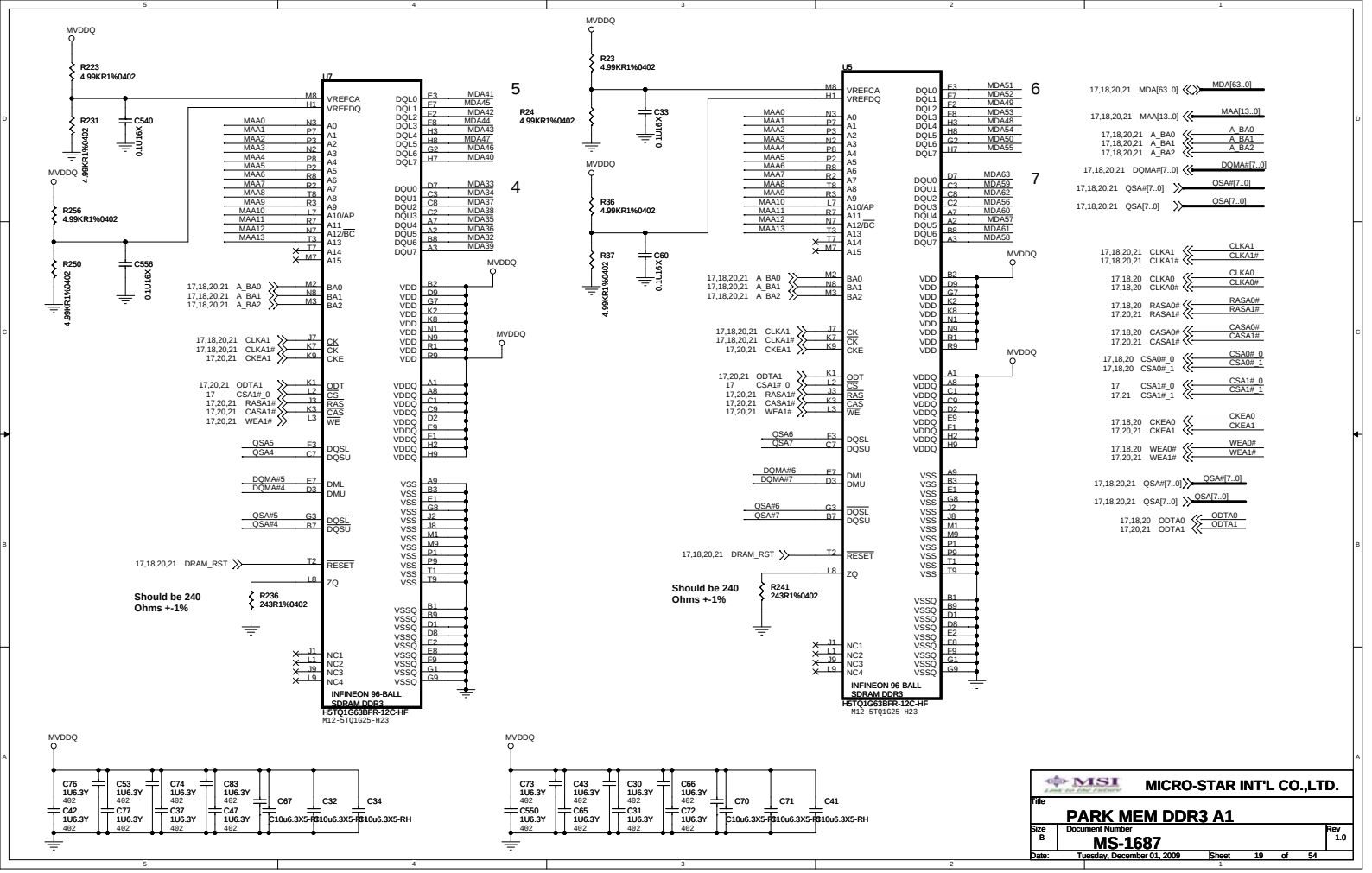

MICRO-STAR INT'L CO.,LTD.

Title: PARK MEM DDR3 A1

Size	Document Number	Rev
B	MS-1687	1.0

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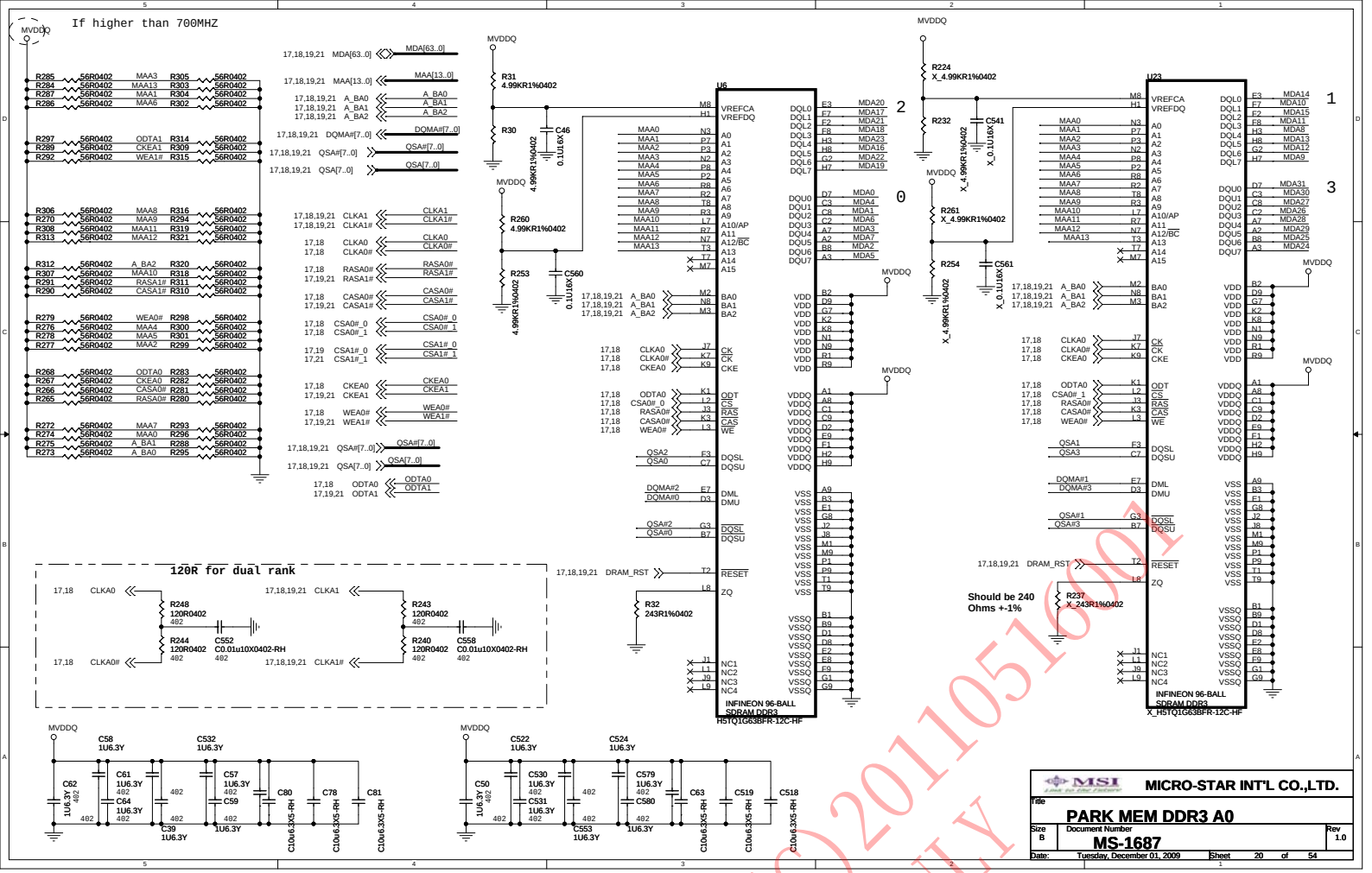
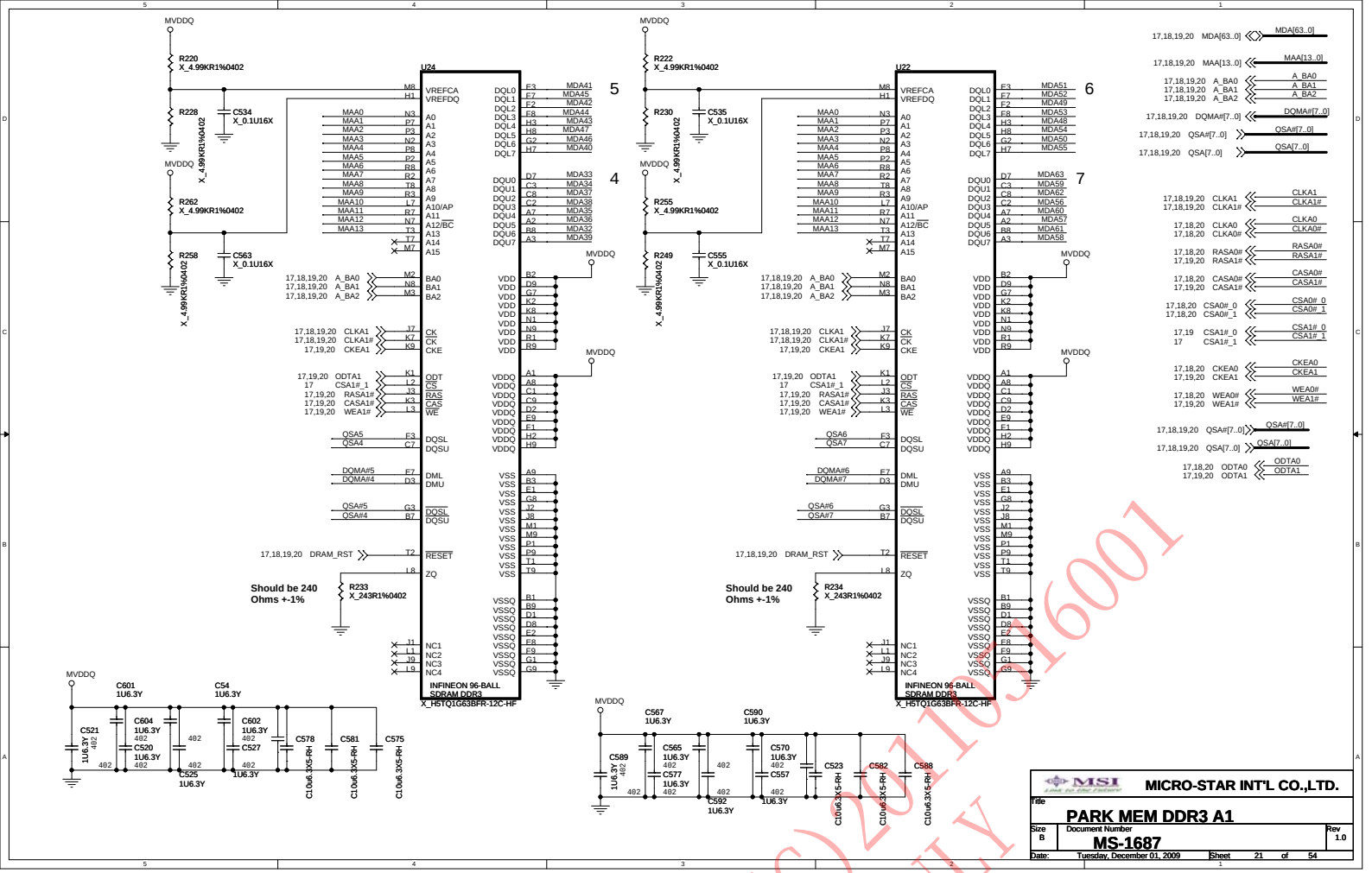


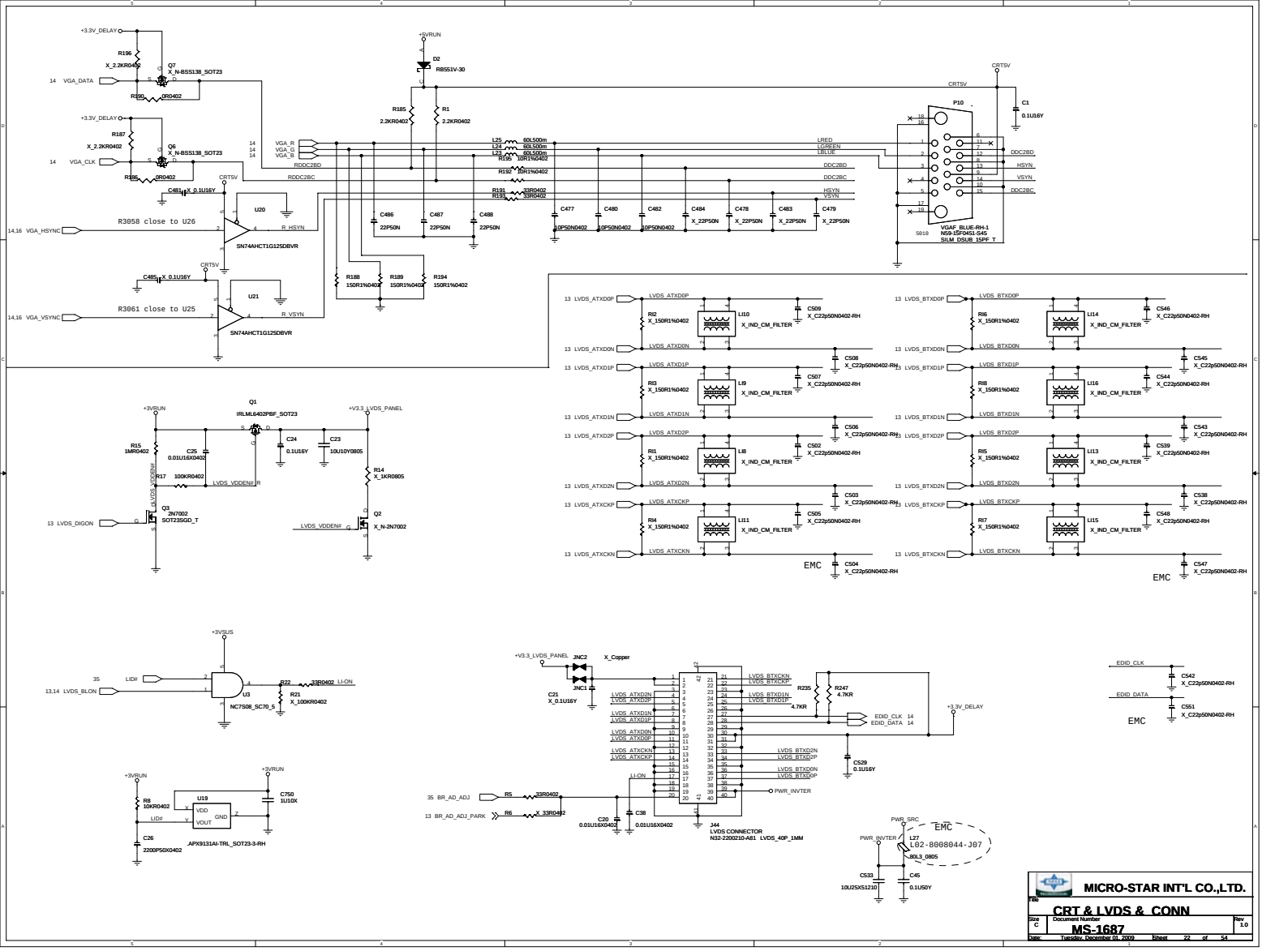


MICRO-STAR INT'L CO.,LTD.

Title: PARK MEM DDR3 A1

Size: B | Document Number: MS-1687 | Rev: 1.0

Date: Tuesday, December 01, 2009 | Sheet 21 of 54


+3.3V_DELAY
R196
X_2.2KR0402
Q7
X_N-BSS138_SOT23
14 VGA_DATA
R186 0R0402
+3.3V_DELAY
R187
X_2.2KR0402
Q6
X_N-BSS138_SOT23
14 VGA_CLK
R185 0R0402
CRT5V
C481 X_0.1U16Y
R3058 close to U26
U20
14,16 VGA_HSYNC
SN74AHCT1G125DBVR
R_HSYN
C485 X_0.1U16Y
R3061 close to U25
U21
14,16 VGA_VSYNC
SN74AHCT1G125DBVR
R_VSYN
+5VRUN
D2
RB551V-30
R185 2.2KR0402
R1 2.2KR0402
14 VGA_R
14 VGA_G
14 VGA_B
RDDC2BD
RDDC2BC
L25 60L500m
L24 60L500m
L23 60L500m
R195 10R1%0402
R192 10R1%0402
R191 33R0402
R193 33R0402
R188 150R1%0402
R189 150R1%0402
R194 150R1%0402
C486 22P50N
C487 22P50N
C488 22P50N
C477 10P50N0402
C480 10P50N0402
C482 10P50N0402
C484 X_22P50N
C478 X_22P50N
C483 X_22P50N
C479 X_22P50N
LRED
LGREEN
LBLUE
DDC2BD
DDC2BC
HSYN
VSYN
CRT5V
P10
C1 0.1U16Y
DDC2BD
HSYN
VSYN
DDC2BC
VGAF_BLUE-RH-1
N59-15F0451-S45
SILM_DSUB_15PF_T
5010
13 LVDS_ATXD0P
13 LVDS_ATXD0N
13 LVDS_ATXD1P
13 LVDS_ATXD1N
13 LVDS_ATXD2P
13 LVDS_ATXD2N
13 LVDS_ATXCKP
13 LVDS_ATXCKN
RI2 X_150R1%0402
RI3 X_150R1%0402
RI1 X_150R1%0402
RI4 X_150R1%0402
LI10 X_IND_CM_FILTER
LI9 X_IND_CM_FILTER
LI8 X_IND_CM_FILTER
LI11 X_IND_CM_FILTER
C509 X_C22p50N0402-RH
C508 X_C22p50N0402-RH
C507 X_C22p50N0402-RH
C506 X_C22p50N0402-RH
C502 X_C22p50N0402-RH
C503 X_C22p50N0402-RH
C505 X_C22p50N0402-RH
C504 X_C22p50N0402-RH
EMC
13 LVDS_BTXD0P
13 LVDS_BTXD0N
13 LVDS_BTXD1P
13 LVDS_BTXD1N
13 LVDS_BTXD2P
13 LVDS_BTXD2N
13 LVDS_BTXCKP
13 LVDS_BTXCKN
RI6 X_150R1%0402
RI8 X_150R1%0402
RI5 X_150R1%0402
RI7 X_150R1%0402
LI14 X_IND_CM_FILTER
LI16 X_IND_CM_FILTER
LI13 X_IND_CM_FILTER
LI15 X_IND_CM_FILTER
C546 X_C22p50N0402-RH
C545 X_C22p50N0402-RH
C544 X_C22p50N0402-RH
C543 X_C22p50N0402-RH
C539 X_C22p50N0402-RH
C538 X_C22p50N0402-RH
C548 X_C22p50N0402-RH
C547 X_C22p50N0402-RH
EMC
+3VRUN
Q1
IRLML6402PBF_SOT23
+V3.3_LVDS_PANEL
R15 1MR0402
C25 0.01U16X0402
C24 0.1U16Y
C23 10U10Y0805
R14 X_1KR0805
R17 100KR0402
LVDS_VDDEN#_R
LVDS_VDDEN#
13 LVDS_DIGON
Q3
2N7002
SOT23SGD_T
Q2
X_N-2N7002
+3VSUS
3S LID#
13,14 LVDS_BLON
U3
NC7S08_SC70_5
R22 33R0402 LI-ON
R21 X_100KR0402
+3V3_LVDS_PANEL
JNC2 X_Copper
JNC1
C21 X_0.1U16Y
LVDS_ATXD2N
LVDS_ATXD2P
LVDS_ATXD1N
LVDS_ATXD1P
LVDS_ATXD0N
LVDS_ATXD0P
LVDS_ATXCKN
LVDS_ATXCKP
LVDS_BTXCKN
LVDS_BTXCKP
LVDS_BTXD1N
LVDS_BTXD1P
LVDS_BTXD2N
LVDS_BTXD2P
LVDS_BTXD0N
LVDS_BTXD0P
R235 4.7KR
R247 4.7KR
EDID_CLK 14
EDID_DATA 14
+3.3V_DELAY
C529 0.1U16Y
LI-ON
PWR_INVTER
3S BR_AD_ADJ
13 BR_AD_ADJ_PARK
R5 33R0402
R6 X_33R0402
C20 0.01U16X0402
C38 0.01U16X0402
J44
LVDS CONNECTOR
N33-220021D-AB1 LVDS_40P_1MM
EDID_CLK
EDID_DATA
C542 X_C22p50N0402-RH
C551 X_C22p50N0402-RH
EMC
+3VRUN
U19
R8 10KR0402
LID#
VDD
GND
VOUT
C750 1U10X
C26 2200P50X0402
APX9131AI-TRL_SOT23-3-RH
PWR_SRC
PWR_INVTER
EMC
L27
L02-8008044-J07
80L9_0805
C533 10U25X5R1210
C45 0.1U50Y
MICRO-STAR INT'L CO.,LTD.
CRT & LVDS & CONN
MS-1687
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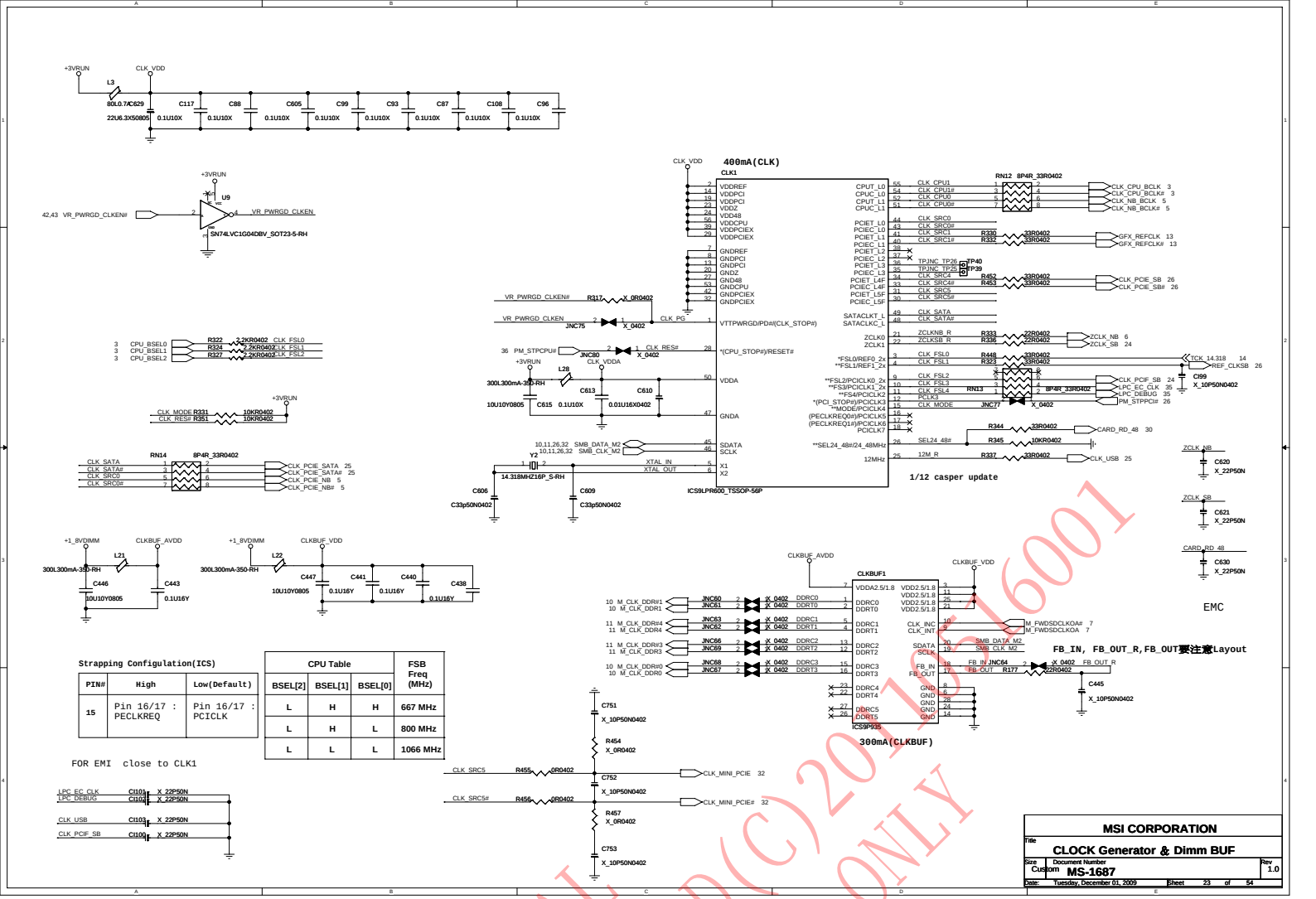
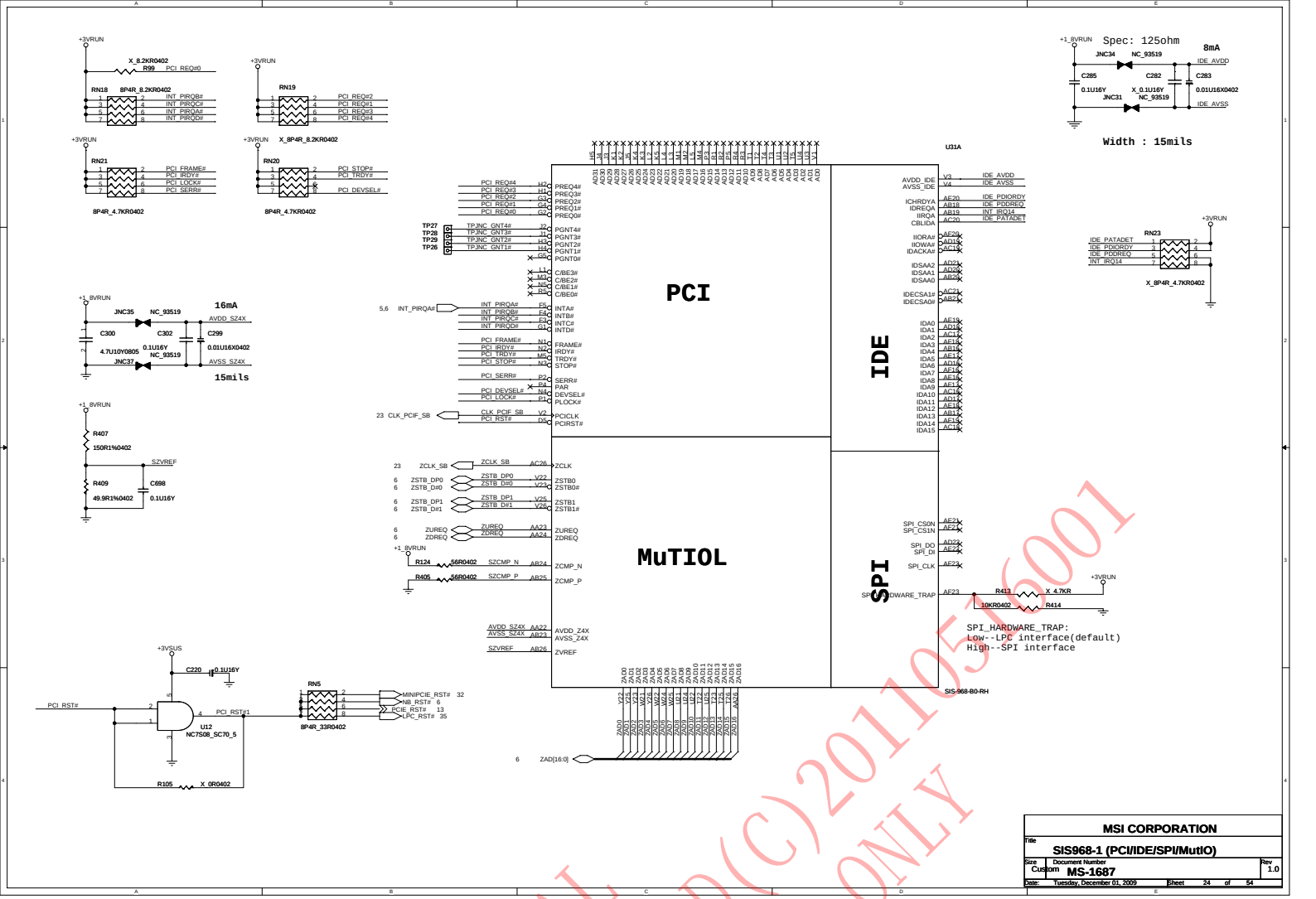


Strapping Configulation(ICS)

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	667 MHz
L	H	L	800 MHz
L	L	L	1066 MHz



Title	MSI CORPORATION
	SIS968-1 (PCI/IDE/SPI/MutIO)
Size	Custom
Document Number	MS-1687
Rev	1.0
Date:	Tuesday, December 01, 2009
Sheet	24 of 54

HUB 0 ,USB 0,2,4,6

HUB 1 ,USB 1,3,5,7

USB

SATA

U31C

OSC12MHI A22 — CLK_USB 23
OSC12MHO B22
USBREF F20 — R93 127R1%0402
AVDD_USBPLL18 B26 — USBPVDD18
AVSS_USBPLL18 B25 — USBPVSS18
AVDD_USBCMP18 E21 — USBCMPAVDD18
AVSS_USBCMP18 E20 — USBCMPAVSS18
AVDD_USBCMP33 D21 — UVDD33
AVSS_USBCMP33 C21 — USBCMPAVSS33

28 USBP0P D26 UV0+
28 USBP0N D25 UV0-
28 USBP1P E24 UV1+
28 USBP1N E23 UV1-
28 USBP2P A20 UV2+
28 USBP2N B20 UV2-
28 USBP3P C19 UV3+
28 USBP3N D19 UV3-
32 USBP4P A18 UV4+
32 USBP4N B18 UV4-
30 USBP5P C17 UV5+
30 USBP5N D17 UV5-
28 USBP6P A16 UV6+
28 USBP6N B16 UV6-
29 USBP7P C15 UV7+
29 USBP7N D15 UV7-

+3VSUS — R83 10KR0402

OC0# A23
OC1# F21
OC2# A24
OC3# B24
OC4# C23
OCS# C24
OC6# A25
OC7# B23

UVDD18 — C230 1U6.3X_0402 — C223 1U6.3X_0402
UVDD18 E16
UVDD18 E18
UVDD18 F15
UVDD18 F16
UVDD18 J19
UVDD18 H18
UVDD18 H17
UVDD18 H16
UVDD18 H15
UVDD18 J15

UVDD33 F22
UVDD33 F19
UVDD33 F17

X7R 3孔 SATA CONN

STX0+ AC13 SATA_TXP0 — C711 0.01u 0402 — SATA_TXP0_C 29
STX0- AD13 SATA_TXN0 — C706 0.01u 0402 — SATA_TXN0_C 29
SRX0+ AE12 — SATA_RXP0 29
SRX0- AE12 — SATA_RXN0 29
STX1+ AC6 SATA_TXP1 — C728 0.01u 0402 — SATA_TXP1_C 29
STX1- AD6 SATA_TXN1 — C729 0.01u 0402 — SATA_TXN1_C 29
SRX1+ AE5 — SATA_RXP1 29
SRX1- AE5 — SATA_RXN1 29

+3VRUN — R128 10KR0402

XIN AE8
XOUT AE8
HDACT AA3 — LED_HDD# 29

ISWITCHOPEN1 AC1 — ISWITCHOPEN1 — R408 1KR0402
ISWITCHOPEN0 AD1 — ISWITCHOPEN0 — R411 1KR0402

AVDD_SATARX AE14
AVSS_SATARX AF16
AVDD_SATAPLL33 AC9
AVDD_SATAPLL33 AD9
AVSS_SATAPLL33 AC8
AVSS_SATAPLL33 AD8

R412 12KR1%0402-RH-1 — C712 22P50N — SATA_REXT AF7 — REXT

23 CLK_PCIE_SATA AE15 CLK100P
23 CLK_PCIE_SATA# AD15 CLK100N

IPB_OUT0 D22 TPJNC_TP15 — TP25
IPB_OUT1 C22 TPJNC_TP13 — TP44
TRAP0 F22 — X 10KR0402 R88 — +3VSUS

TRAP0:MuTIOL operation frequency select
Low--133MHz (default)
High--66MHz

ATRAP D10 — R367 12KR0402

ATRAP:Receive External Pull down

PCIEWAKE E9 — PCIE_WAKE# 5,32

SIS-968-B0-RH

+3VSUS — PCIE_WAKE# — R98 1KR0402

+1_8VSUS — JNC87 NC_93519 — USBPVDD18 — C657 — C650 — 0.1U16Y — 0.01U16X0402
JNC85 NC_93519 — USBPVSS18
7mA
15mils

+3VSUS — JNC24 NC_93519 — UVDD33 — C181 — C191 — C180 — X_0.01U16X0402 — 0.01U16X0402 — 0.1U16Y — C196
JNC25 NC_93519 — USBCMPAVSS33 — X_0.1U16Y
8mA
15mils

+1_8VSUS — JNC82 NC_93519 — USBCMPAVDD18 — C643 — C636 — 0.1U16Y — 0.01U16X0402
L31 NC_93519 — USBCMPAVSS18
9mA
15mils

+1_8VSUS — L30 300L700m 0805 — UVDD18 — C641 — C640 — 0.1U16Y — 0.01U16X0402
284mA
15mils

+3VRUN — L41 180 0603 — AVDD_SATAPLL33 — C714 — C710 — 0.1U16Y — 0.01U16X0402
JNC93 NC_93519 — AVSS_SATAPLL33
41mA
15mils

+1_8VRUN — L42 180 0603 — AVDD_SATARX — C713 — C709 — 0.1U16Y — 0.01U16X0402
JNC94 NC_93519 — AVSS_SATARX
6mA
15mils

MSI CORPORATION			
Title: SIS968-2 (USB/SATA)			
Size: Custom	Document Number: MS-1687	Rev: 1.0	
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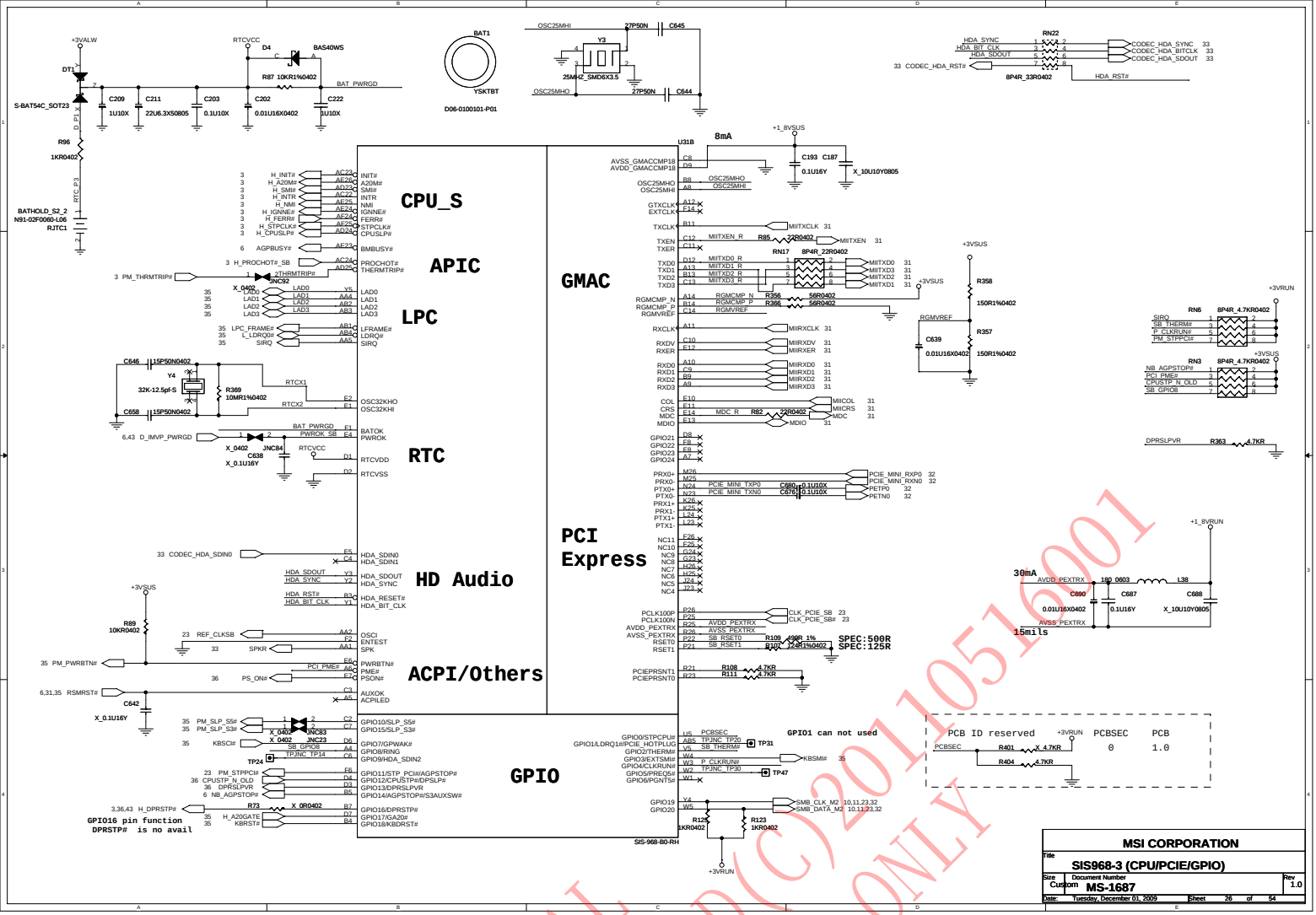
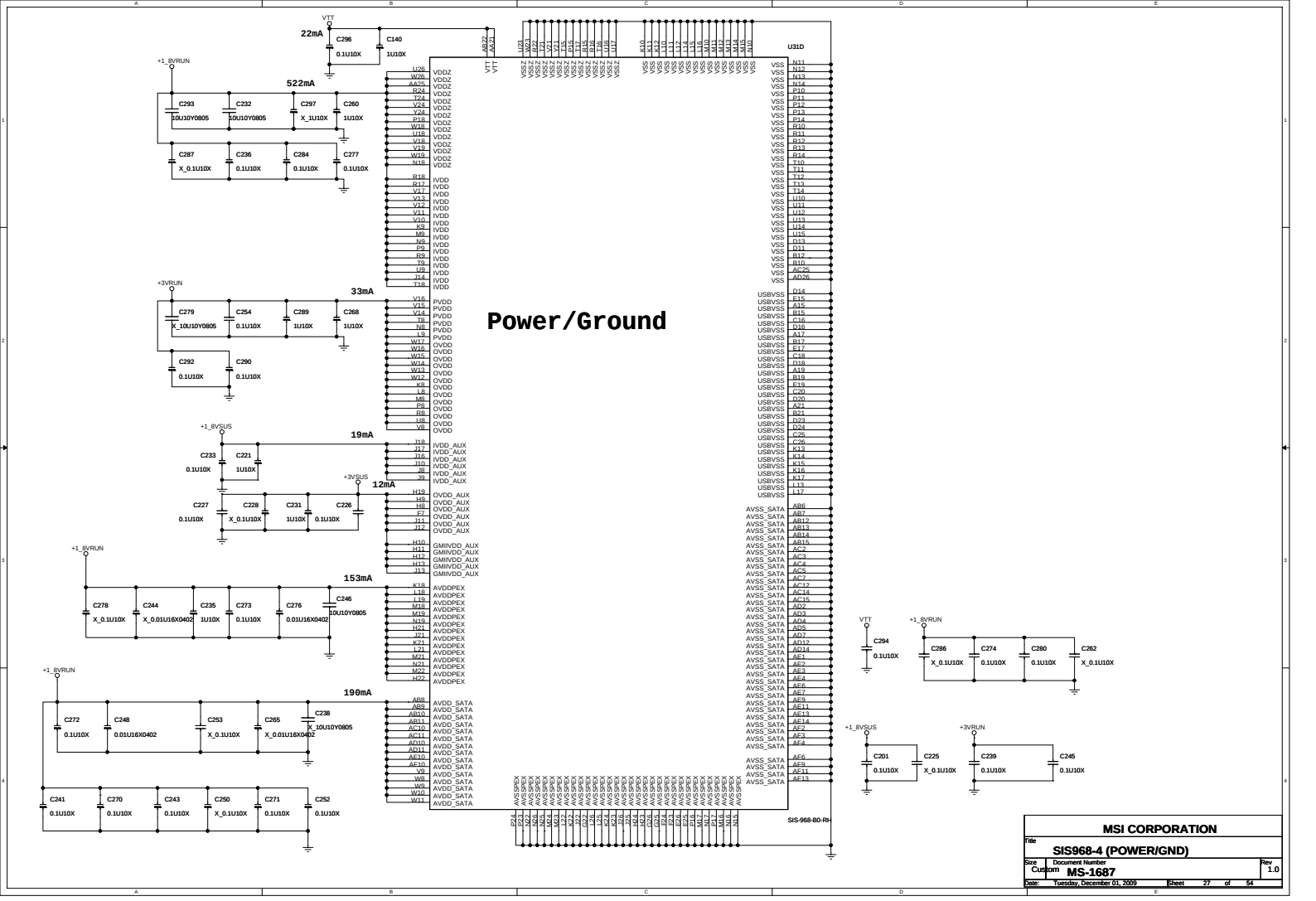
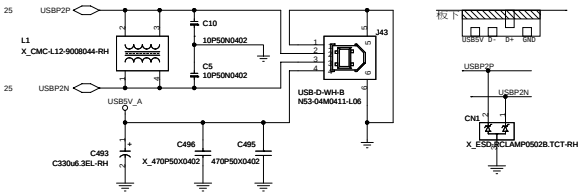
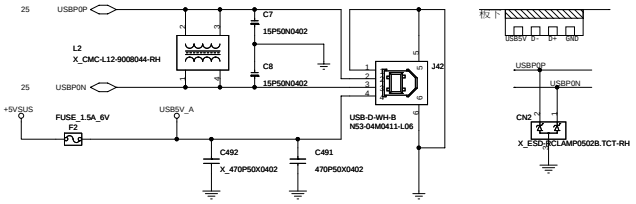
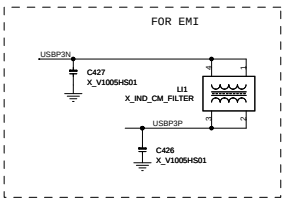


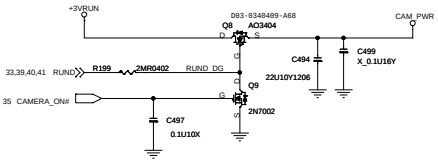


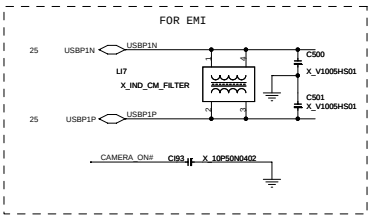
MSI CORPORATION		
Title: SIS968-4 (POWER/GND)		
Size: Custom	Document Number: MS-1687	Rev: 1.0
Date: Tuesday, December 01, 2009	Sheet 27 of 54	

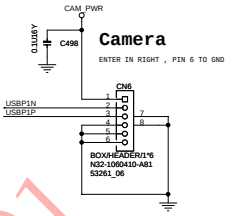


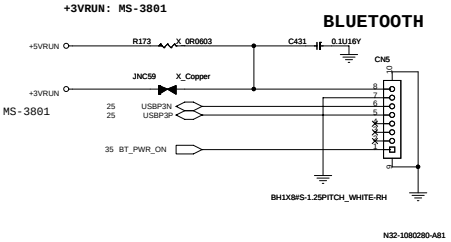


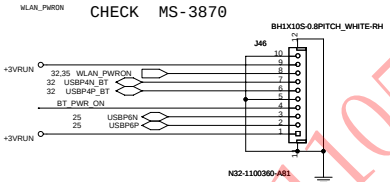


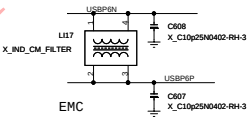










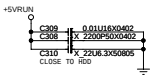


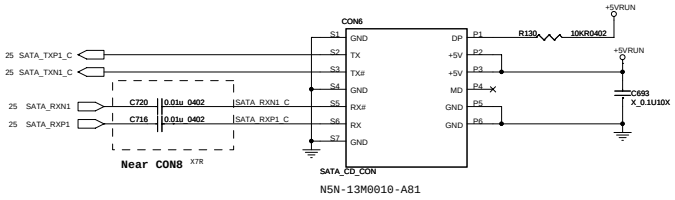
MICRO-STAR INT'L CO.,LTD.

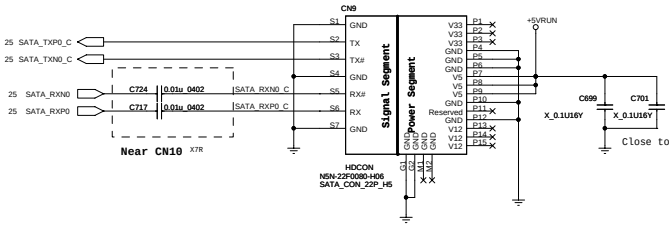
Title: USBX2&Camera&BT CONN

Size: Custom | Document Number: MS-1687 | Rev: 1.0

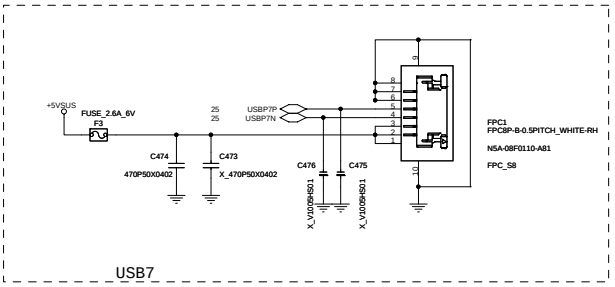
Date: Tuesday, December 01, 2009 | Sheet 28 of 54

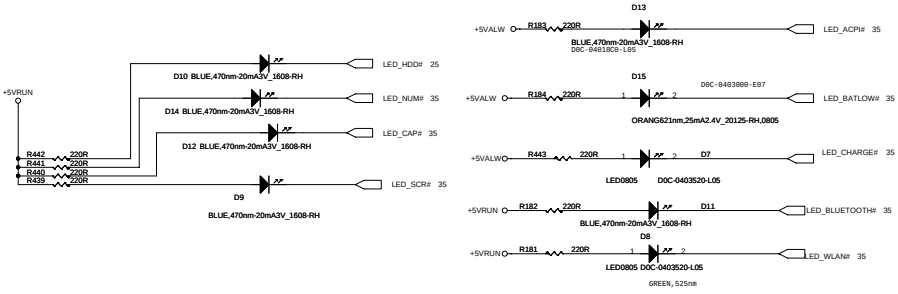


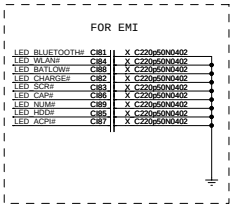




HDD 下對地鋪銅要切開,會板灣







MICRO-STAR INT'L CO.,LTD.		
Title: HDD & ODD CONN & USB7 &LED		
Size: Custom	Document Number: MS-1687	Rev: 1.0
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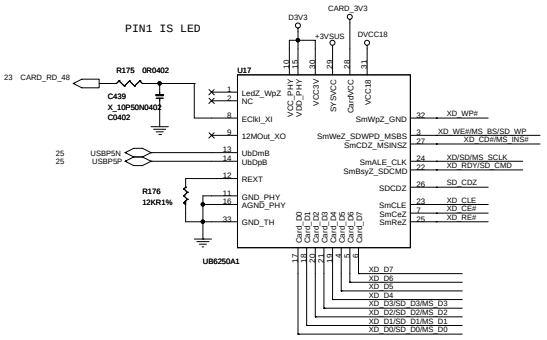

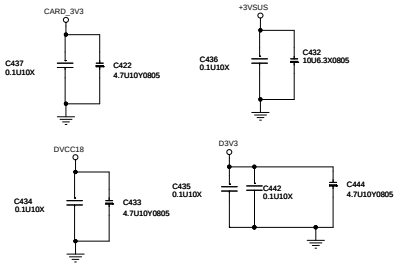

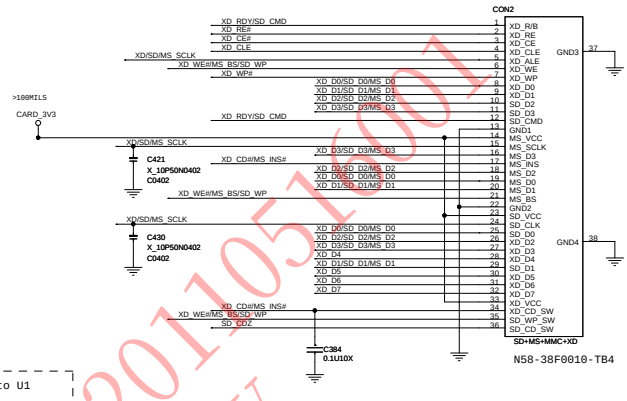

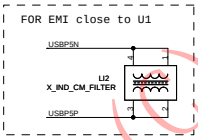

MICRO-STAR INT'L CO.,LTD.		
Title: RTS5158E_CARD READER		
Size: Custom	Document Number: MS-1687	Rev: 1.0
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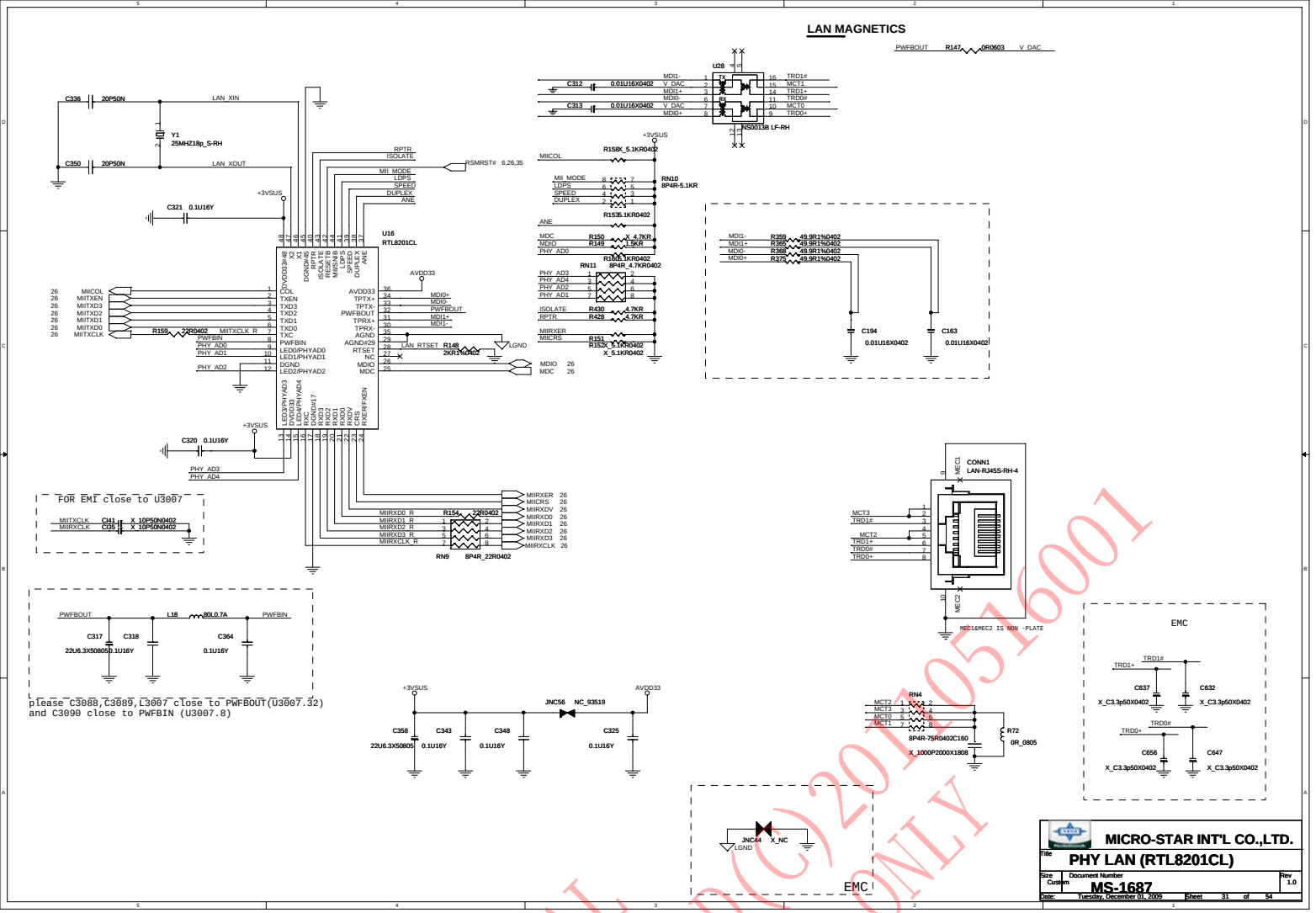

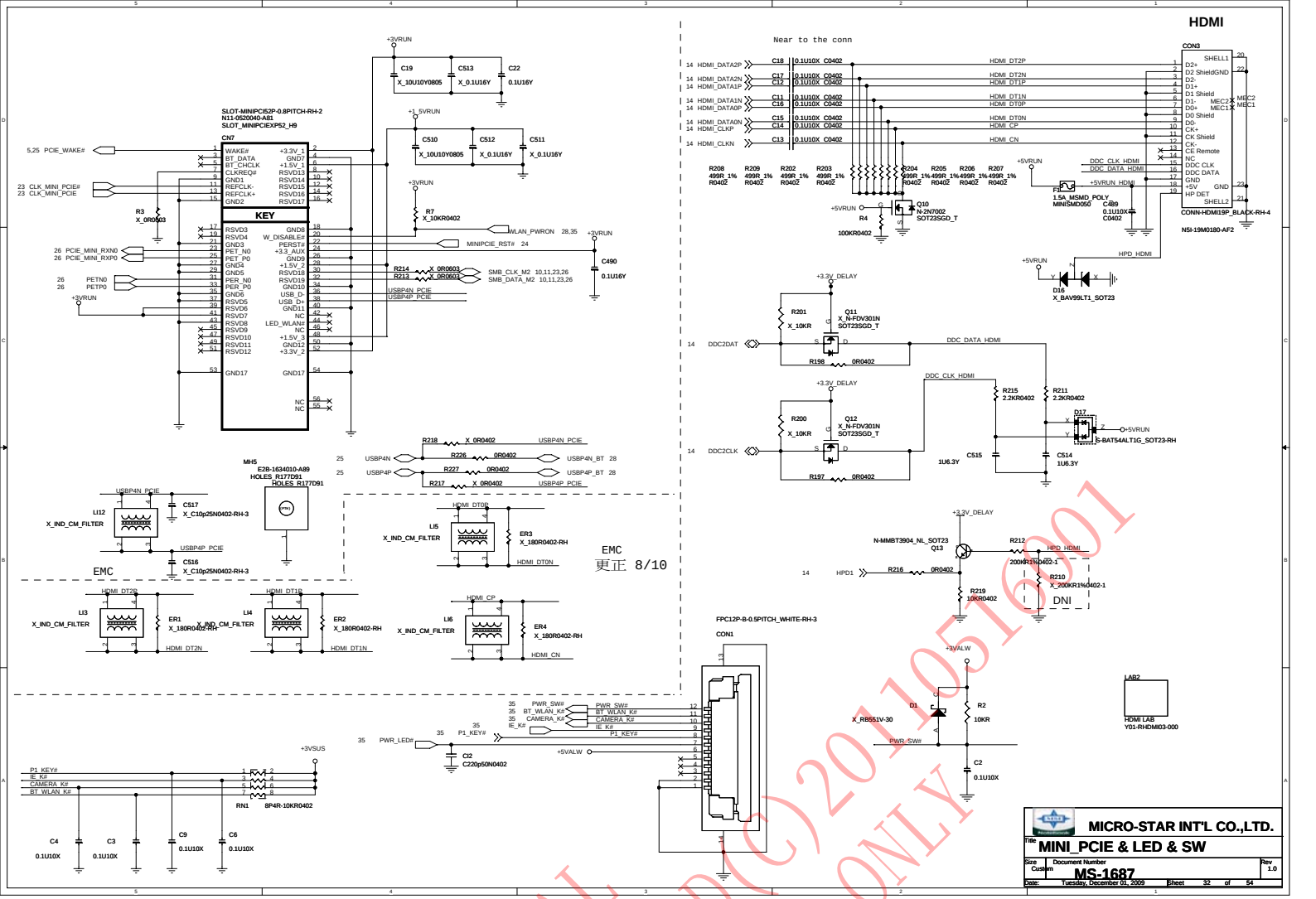

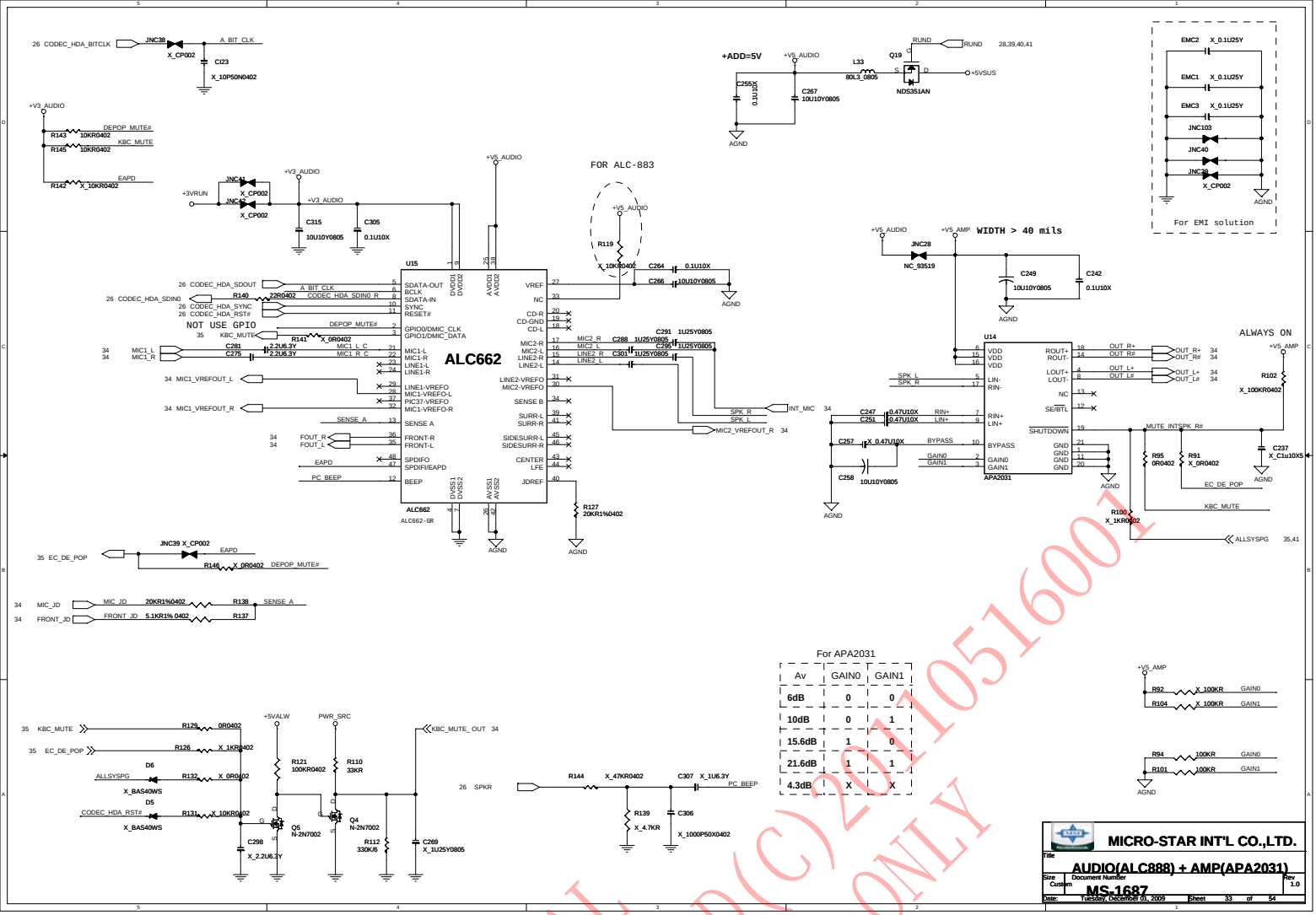

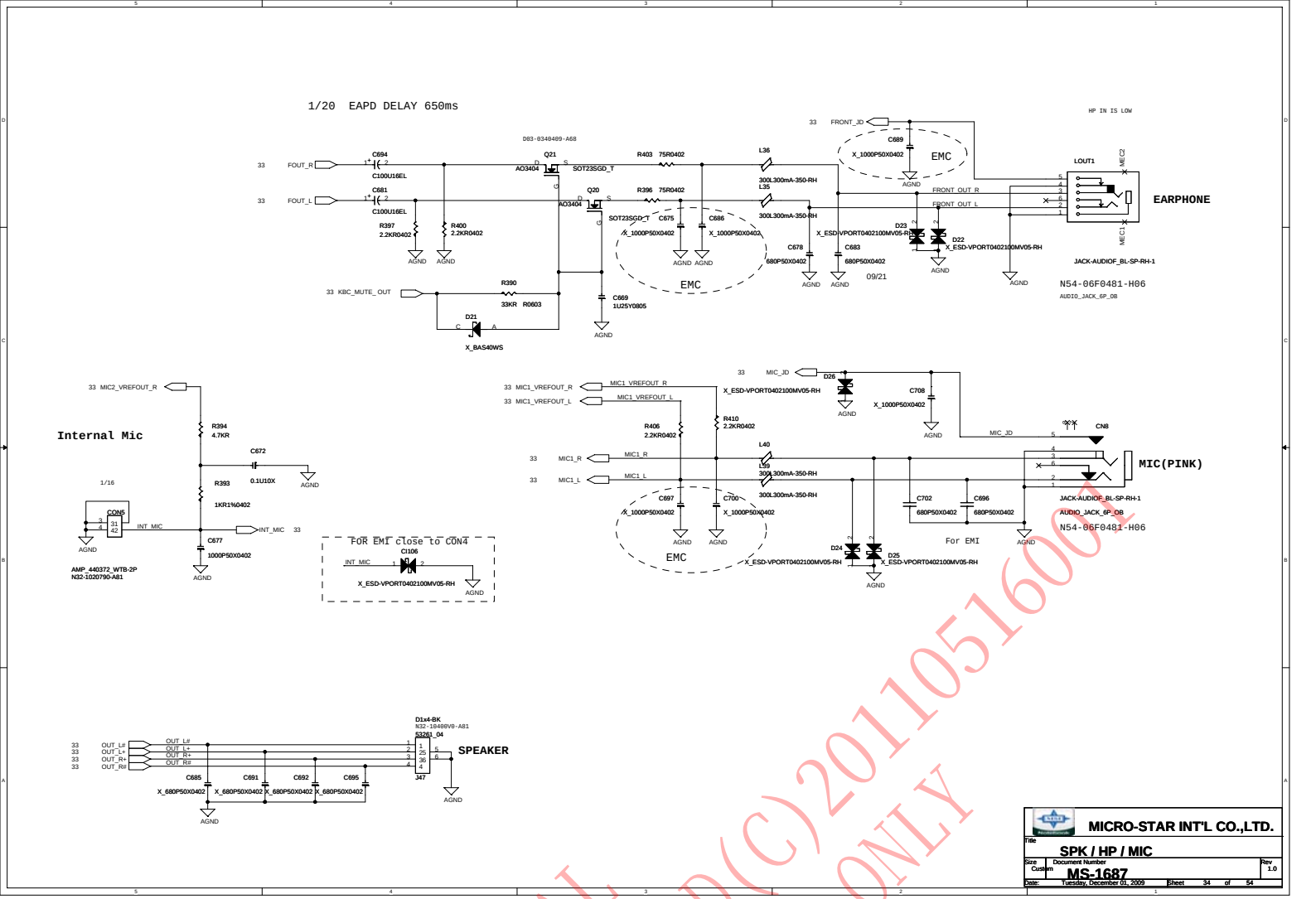

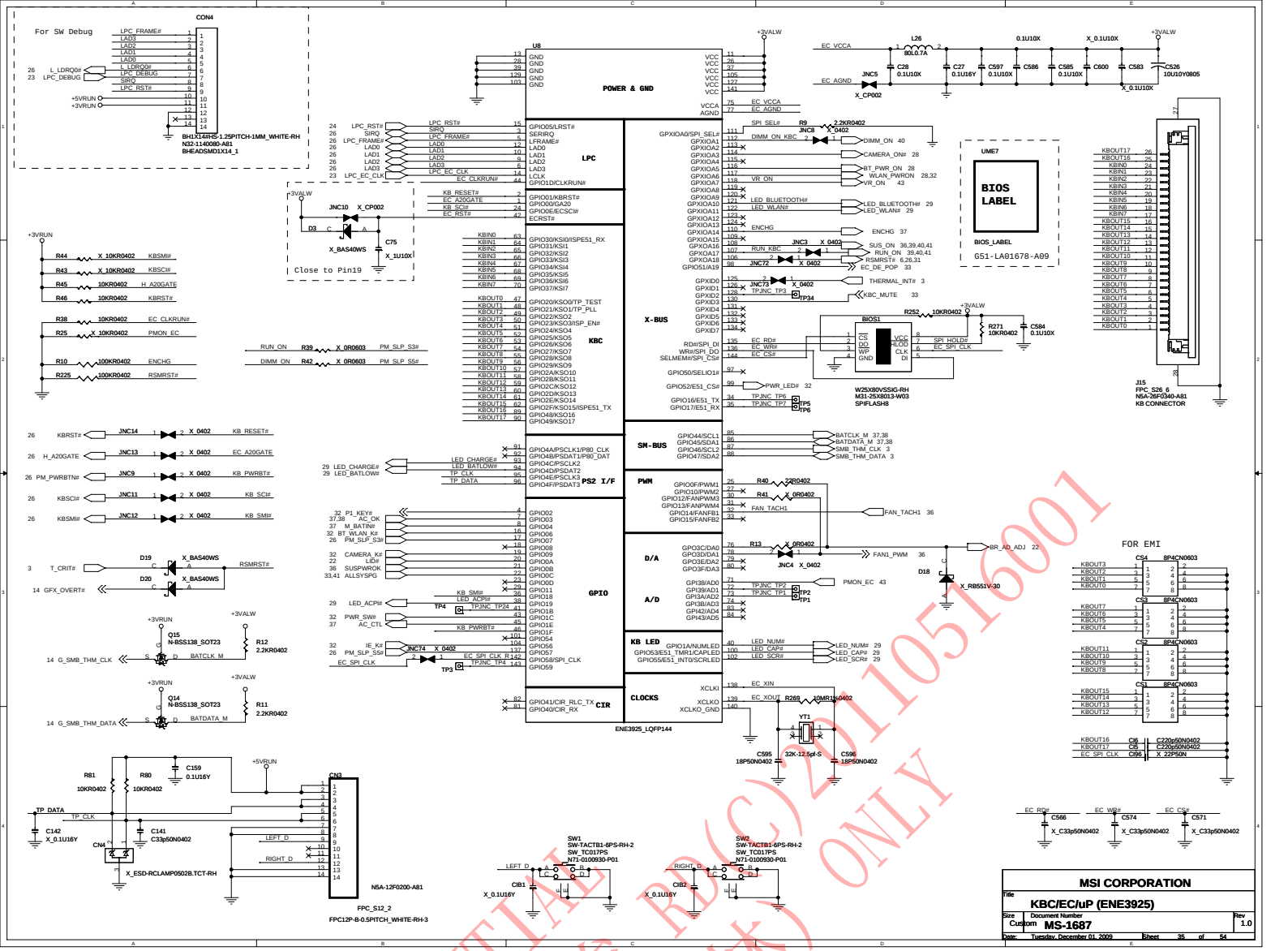

Title	MSI CORPORATION
	KBC/EC/uP (ENE3925)
Size	Custom
Document Number	MS-1687
Rev	1.0
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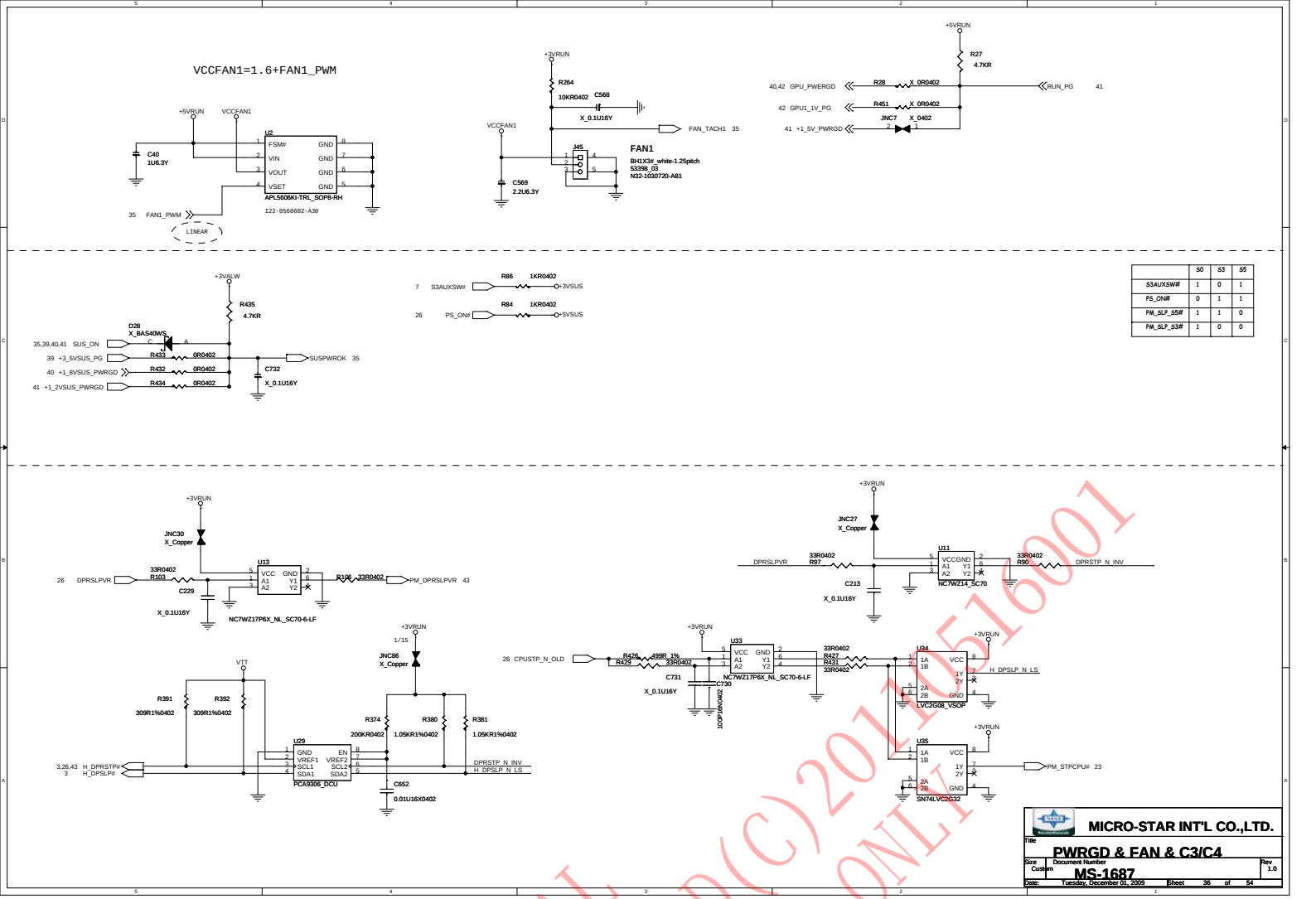

	S0	S3	S5
S3AUXSW#	1	0	1
PS_ON#	0	1	1
PM_SLP_S5#	1	1	0
PM_SLP_S3#	1	0	0

MICRO-STAR INT'L CO.,LTD.

Title: PWRGD & FAN & C3/C4

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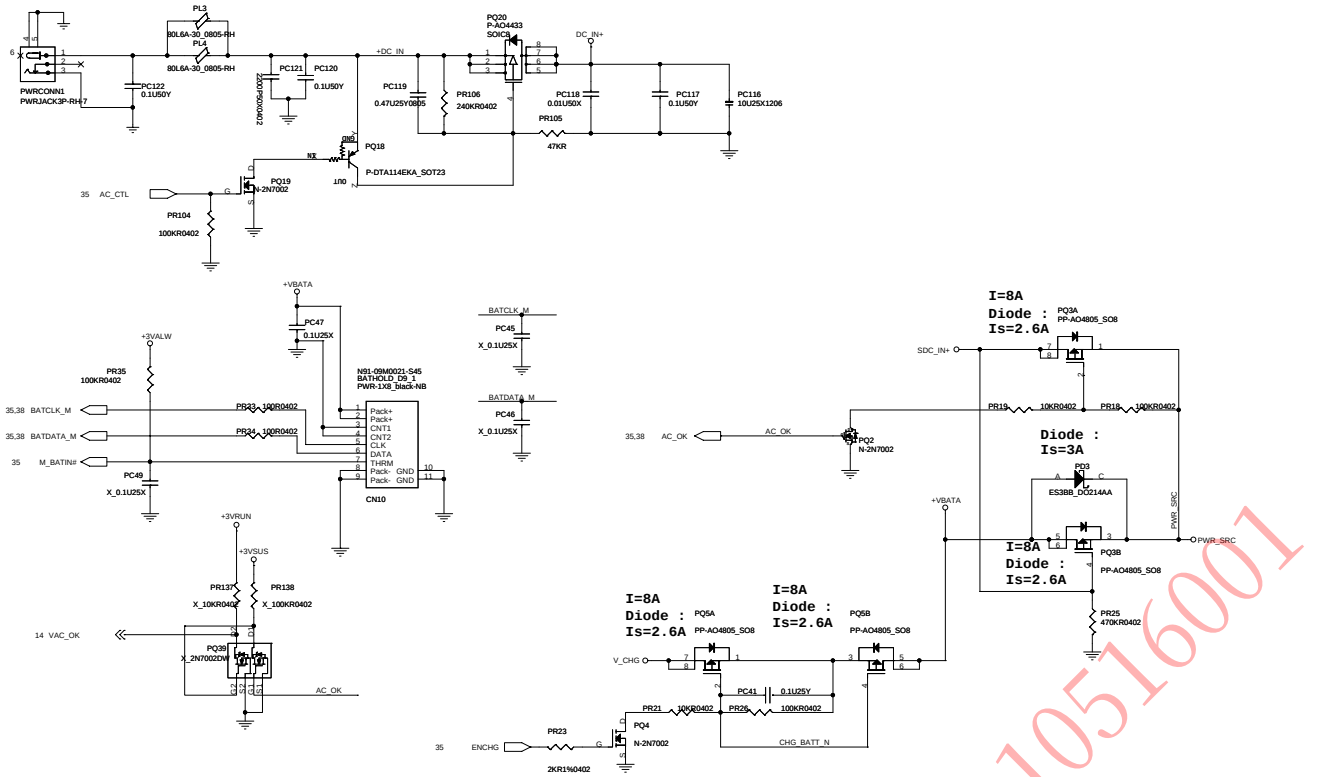
N92-03M0351-AF2



MICRO-STAR INT'L CO.,LTD.

Title: Battery select

Size: Custom | Document Number: MS-1687 | Rev: 1.0

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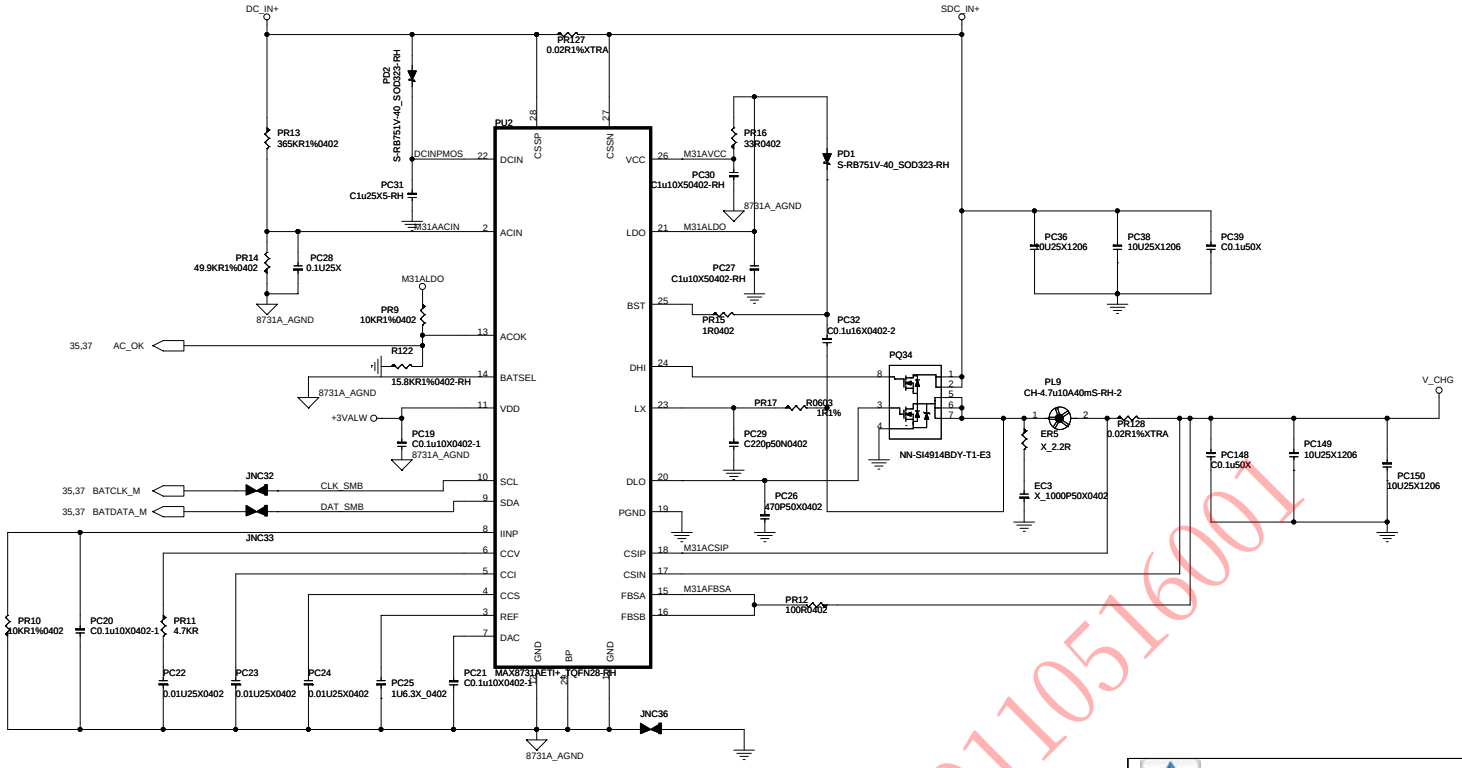
Adapter input voltage set 19 Voltage



IINP :

1. The transconductance from (CSSP - CSSN) to IINP is 3mA/V.

2. V_IINP = IINPUT x RS1 x 3mA/V x PR25

MICRO-STAR INT'L CO.,LTD.			
Title: Battery Charger			
Size: B	Document Number: MS-1687		Rev: 1.0
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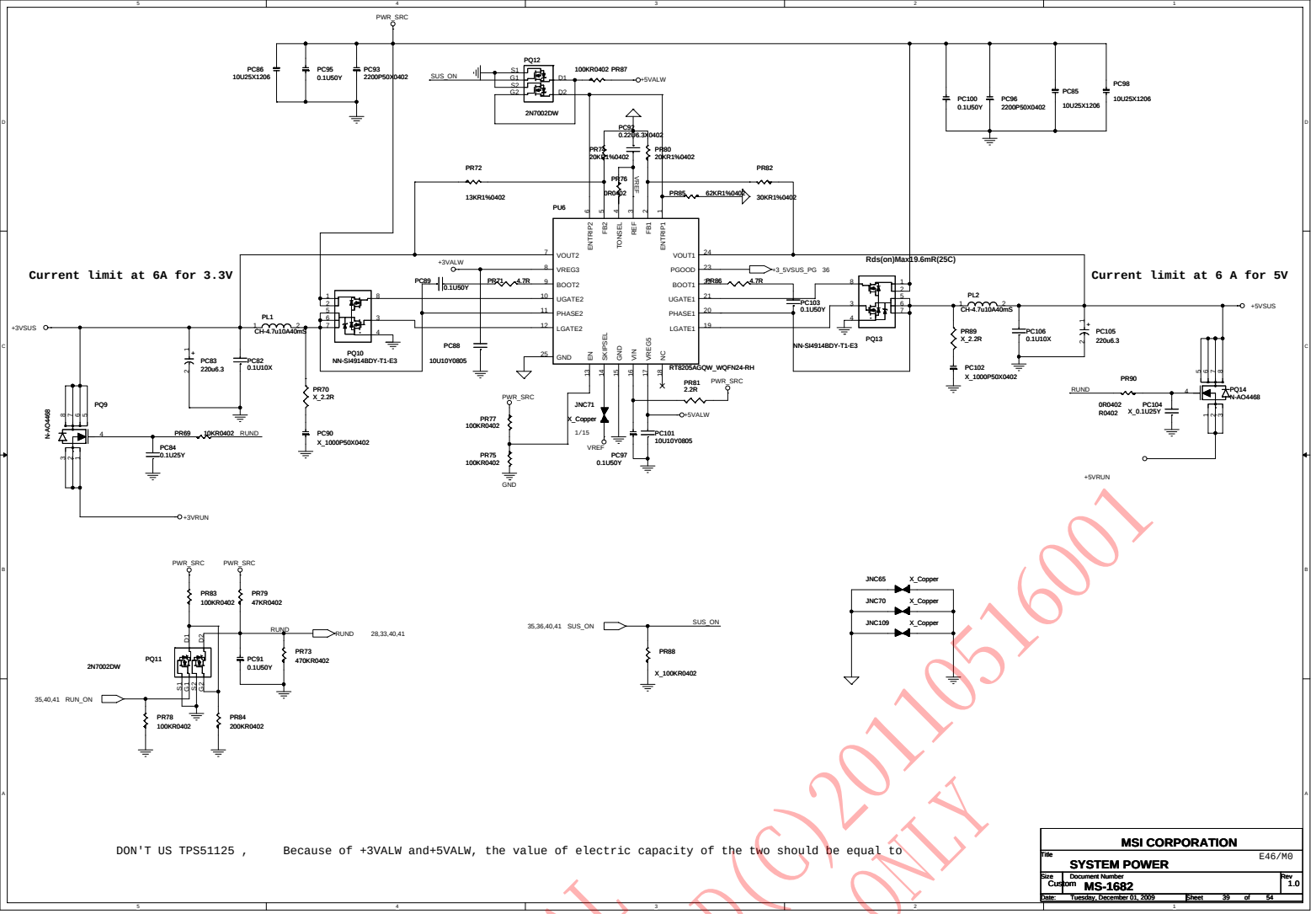

DON'T US TPS51125 , Because of +3VALW and+5VALW, the value of electric capacity of the two should be equal to

Title	MSI CORPORATION
	SYSTEM POWER
	E46/M0
Size: Custom	Document Number: MS-1682
Rev: 1.0	
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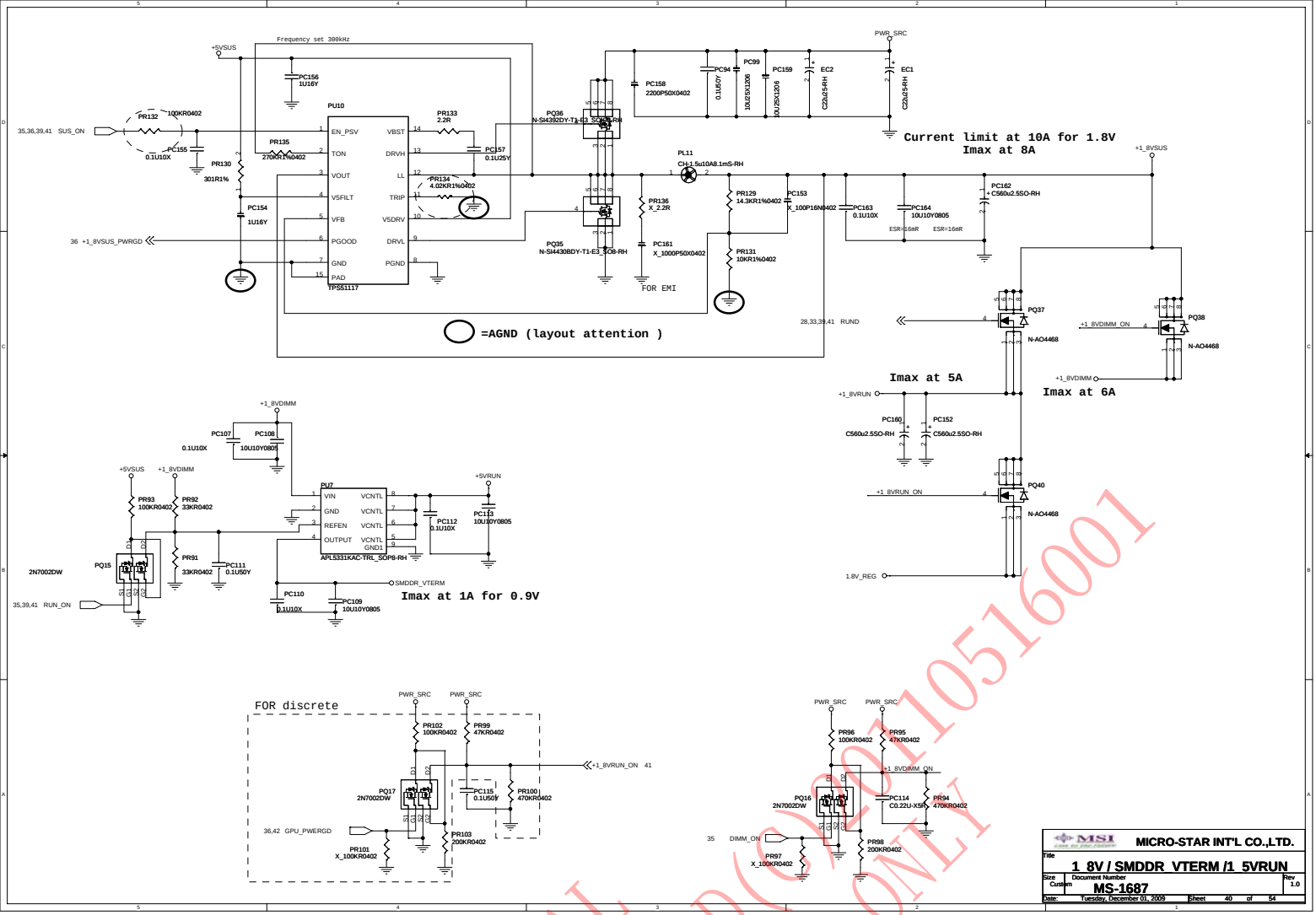

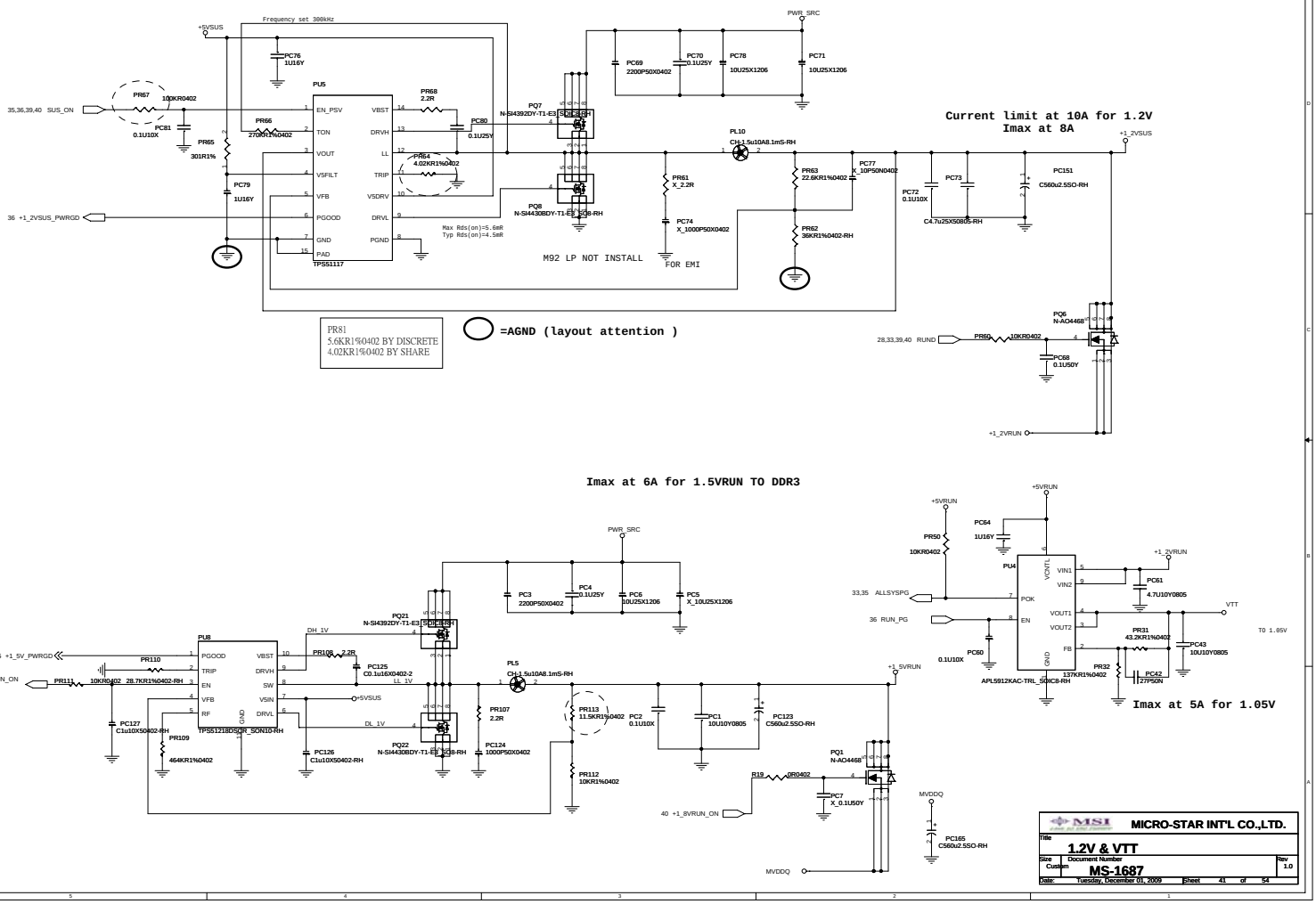
Current limit at 10A for 1.2V
Imax at 8A
Frequency set 300kHz
+5VSUS
PWR_SRC
PU5
TPS51117
EN_PSV
TON
VOUT
VSFILT
VFB
PGOOD
GND
PAD
VBST
DRVH
LL
TRIP
VSDRV
DRVL
PGND
PR67 100KR0402
PC81 0.1U10X
PR66 270KR1%0402
PR65 301R1%
PC79 1U16Y
PC76 1U16Y
PR68 2.2R
PC80 0.1U25Y
PR64 4.02KR1%0402
PQ7 N-SI4392DY-T1-E3_SO8-RH
PQ8 N-SI4430BDY-T1-E3_SO8-RH
PC69 2200P50X0402
PC70 0.1U25Y
PC78 10U25X1206
PC71 10U25X1206
PL10 CH-1.5u10A8.1mS-RH
PR61 X_2.2R
PC74 X_1000P50X0402
PR63 22.6KR1%0402
PC77 X_10P50N0402
PR62 36KR1%0402-RH
PC72 0.1U10X
PC73 C4.7u25X5080S-RH
PC151 C560u2.5SO-RH
Max Rds(on)=5.6mR
Typ Rds(on)=4.5mR
M92 LP NOT INSTALL FOR EMI
35,36,39,40 SUS_ON
36 +1_2VSUS_PWRGD
+1_2VSUS
PR81
5.6KR1%0402 BY DISCRETE
4.02KR1%0402 BY SHARE
=AGND (layout attention)
28,33,39,40 RUND
PR69 10KR0402
PQ6 N-AO4468
PC68 0.1U50Y
+1_2VRUN
Imax at 6A for 1.5VRUN TO DDR3
PWR_SRC
PC3 2200P50X0402
PC4 0.1U25Y
PC6 10U25X1206
PC5 X_10U25X1206
PQ21 N-SI4392DY-T1-E3_SO8-RH
PU8
TPS51218DSQR_SON10-RH
PGOOD
TRIP
EN
VFB
RF
VBST
DRVH
SW
VSIN
DRVL
GND
DH_1V
DL_1V
LL_1V
+5VSUS
PR108 2.2R
PC125 C0.1u16X0402-2
PQ22 N-SI4430BDY-T1-E3_SO8-RH
PL5 CH-1.5u10A8.1mS-RH
PR107 2.2R
PR113 11.5KR1%0402
PR112 10KR1%0402
PC2 0.1U10X
PC1 10U10Y0805
PC123 C560u2.5SO-RH
PC124 1000P50X0402
PC126 C1u10X0402-RH
PC127 C1u10X0402-RH
PR109 464KR1%0402
PR110 10KR0402
PR111 28.7KR1%0402-RH
36 +1_5V_PWRGD
35,39,40 RUN_ON
PQ1 N-AO4468
R19 0R0402
PC7 X_0.1U50Y
40 +1_8VRUN_ON
+1_5VRUN
MVDDQ
PC165 C560u2.5SO-RH
+5VRUN
PR50 10KR0402
PC64 1U16Y
PU4 APL5912KAC-TRL_SOIC8-RH
VCNTL
VIN1
VIN2
POK
VOUT1
VOUT2
EN
FB
GND
33,35 ALLSYSPG
36 RUN_PG
PC61 4.7U10Y0805
PC60 0.1U10X
PR31 43.2KR1%0402
PR32 137KR1%0402
PC42 27P50N
PC43 10U10Y0805
VTT
TO 1.05V
Imax at 5A for 1.05V
MICRO-STAR INT'L CO.,LTD.
Title
1.2V & VTT
Size Custom
Document Number MS-1687
Rev 1.0
Date: Tuesday, December 01, 2009
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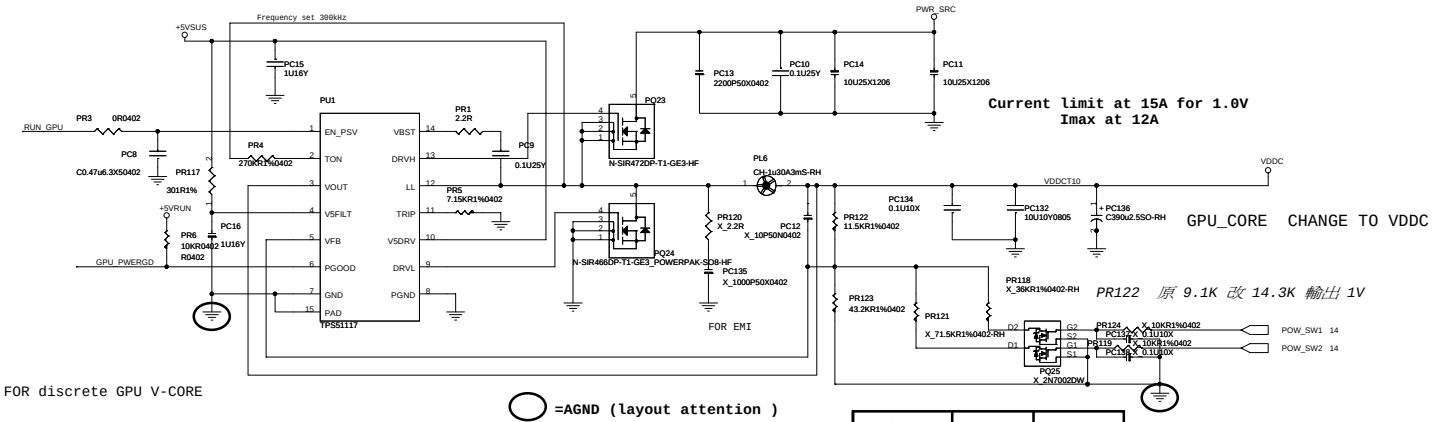
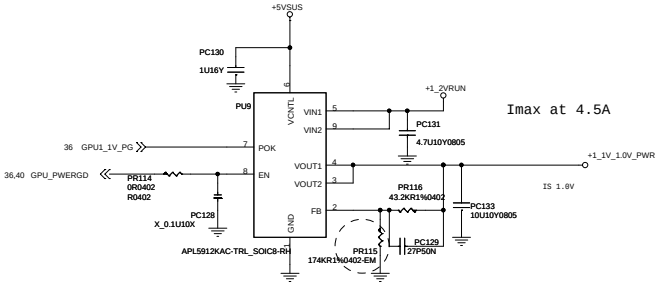
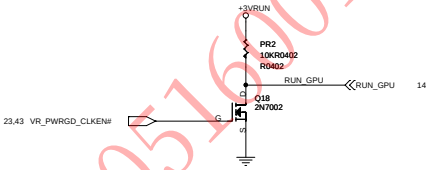


PSW_1	PSW_2	
1	0	1.1V
0	1	1.0V
0	0	0.95V

IS 1.0V





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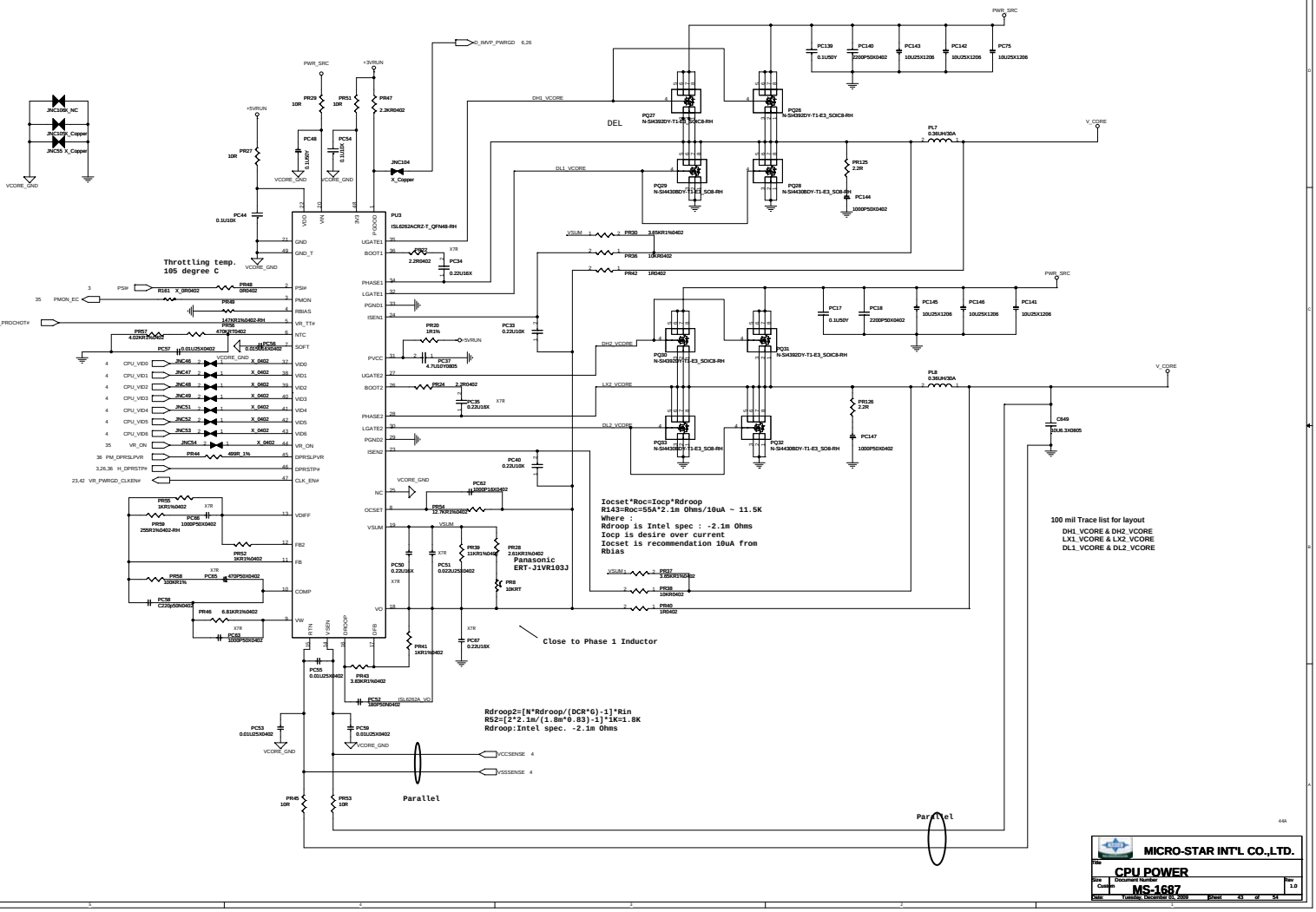

MICRO-STAR INT'L CO.,LTD.

Title: CPU POWER

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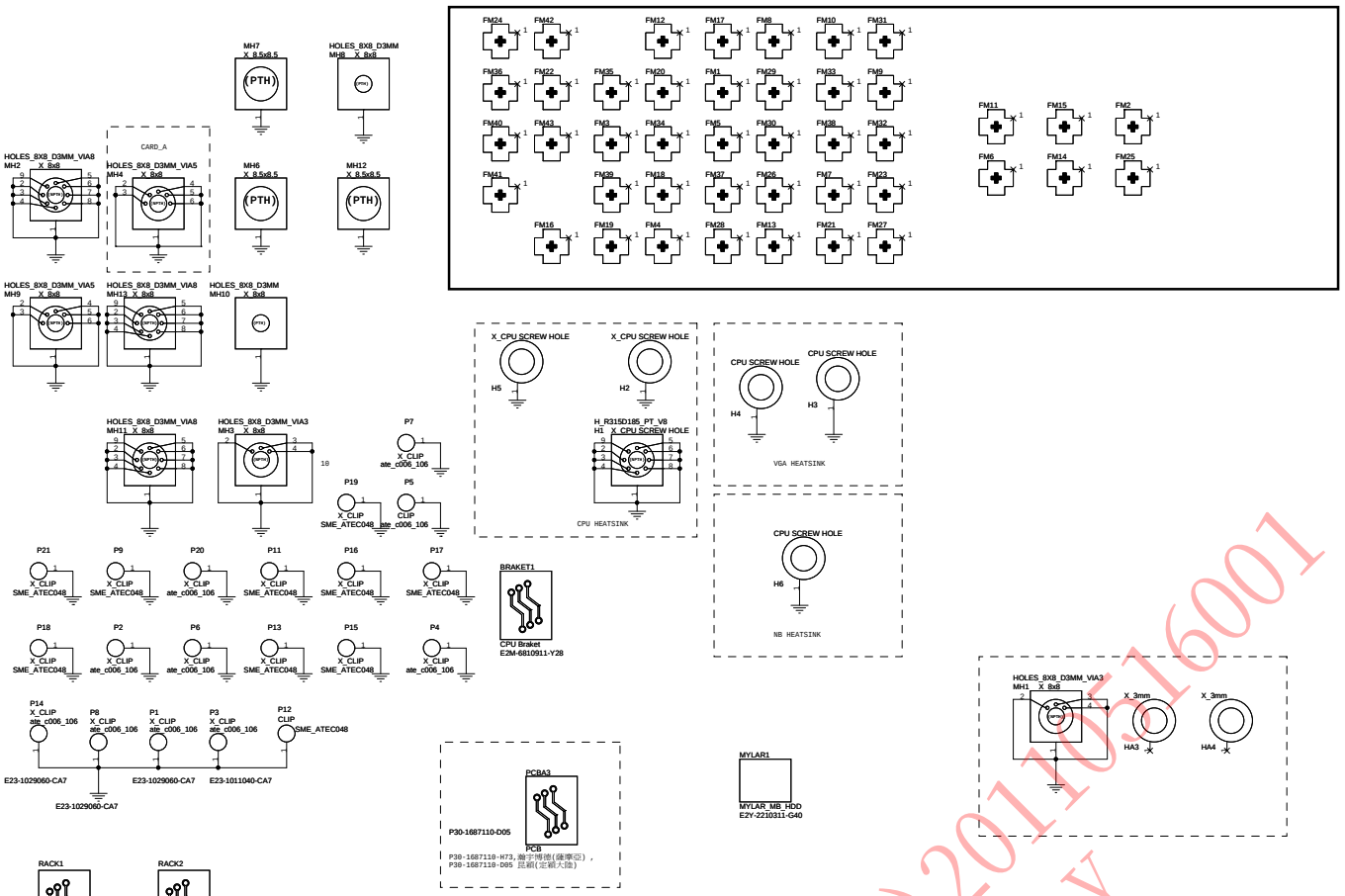

MICRO-STAR INT'L CO.,LTD.

Title: Screw

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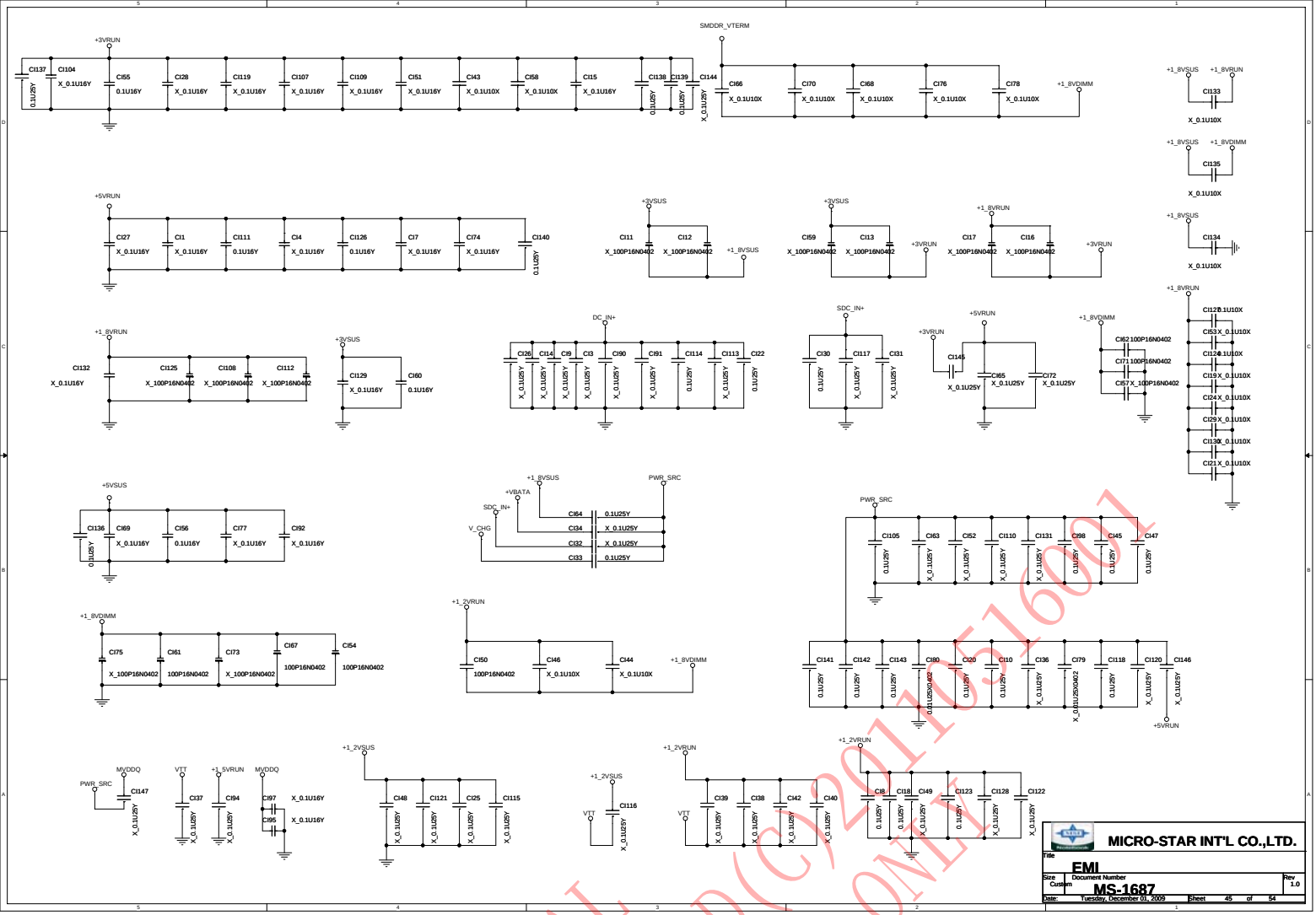

Title	MICRO-STAR INT'L CO.,LTD.
	EMI
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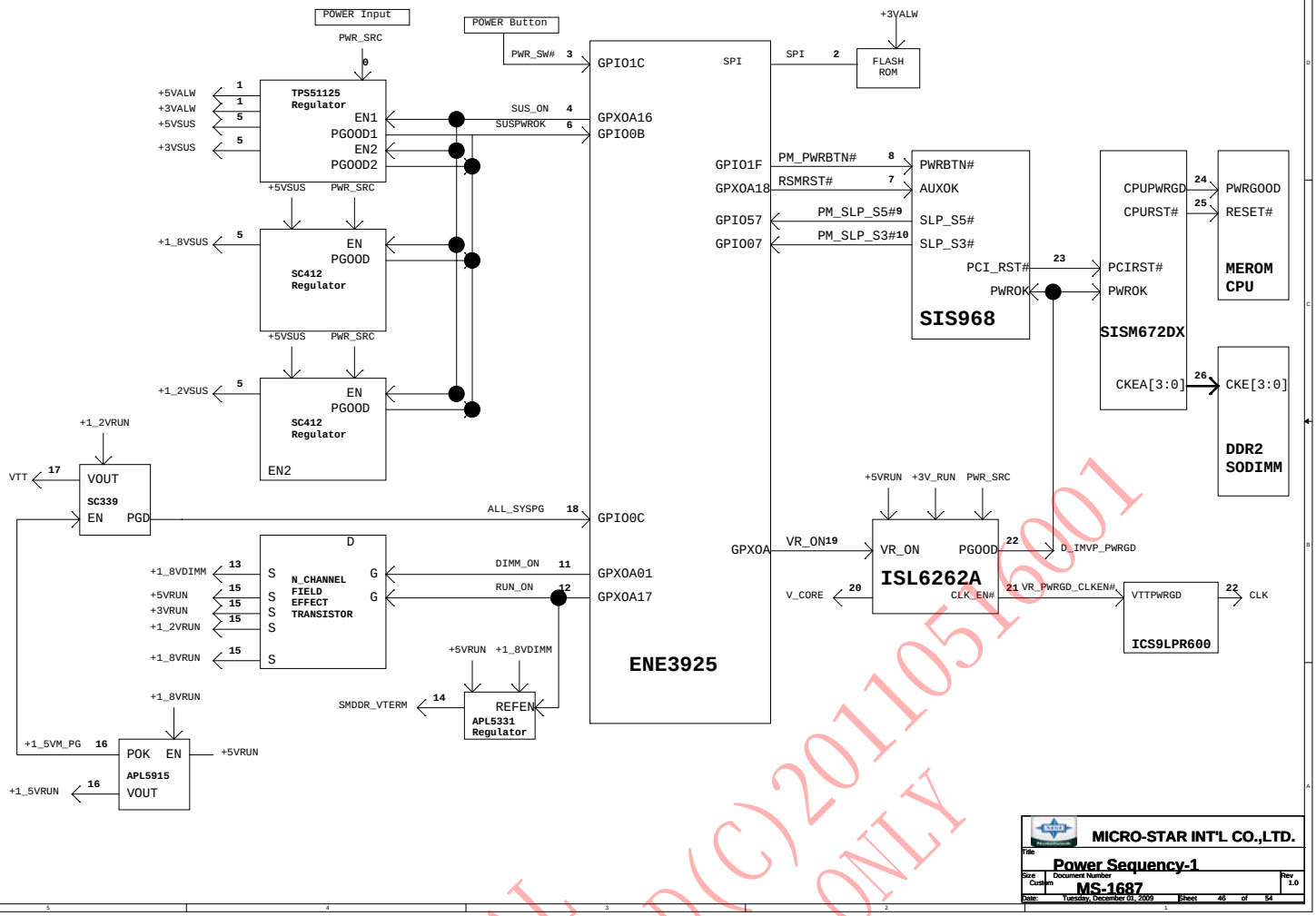

MICRO-STAR INT'L CO.,LTD.

Power Sequency-1

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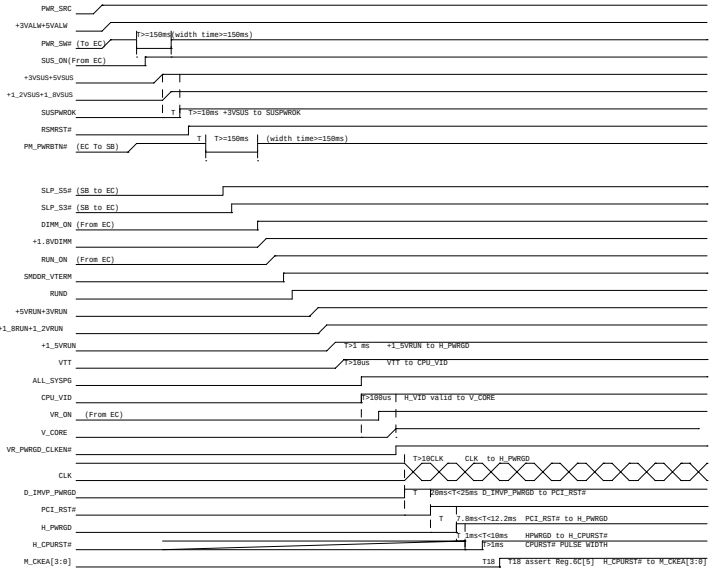
AC S5-S0

EC programming timing

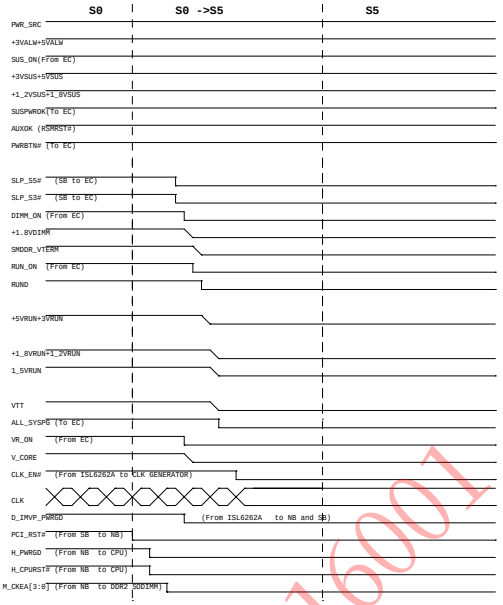
SiSM672FX + 968 timing SPEC



AC S0-S5

EC programming timing

SiSM672FX + 968 timing SPEC



MICRO-STAR INT'L CO.,LTD.

Title: Power Sequency-2

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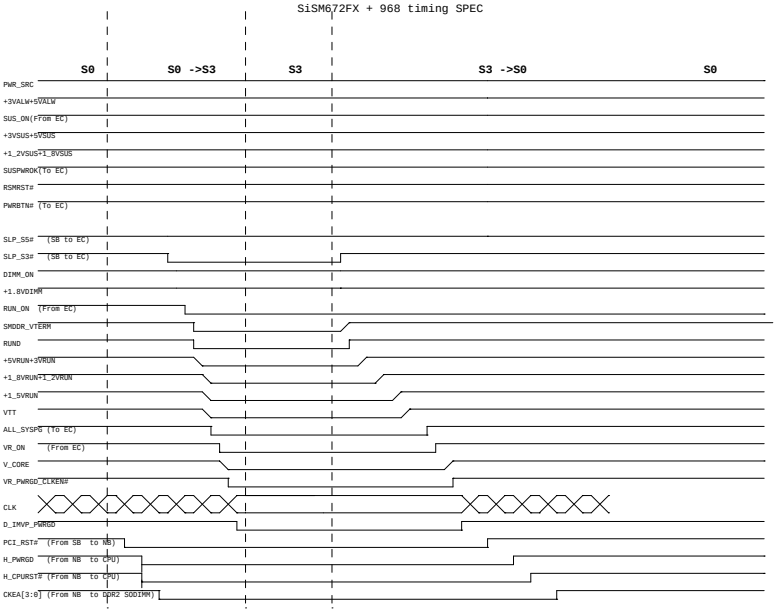
AC S0-S3-S0

EC programming timing

SiSM672FX + 968 timing SPEC



MICRO-STAR INT'L CO.,LTD.

Title: Power Sequency-2

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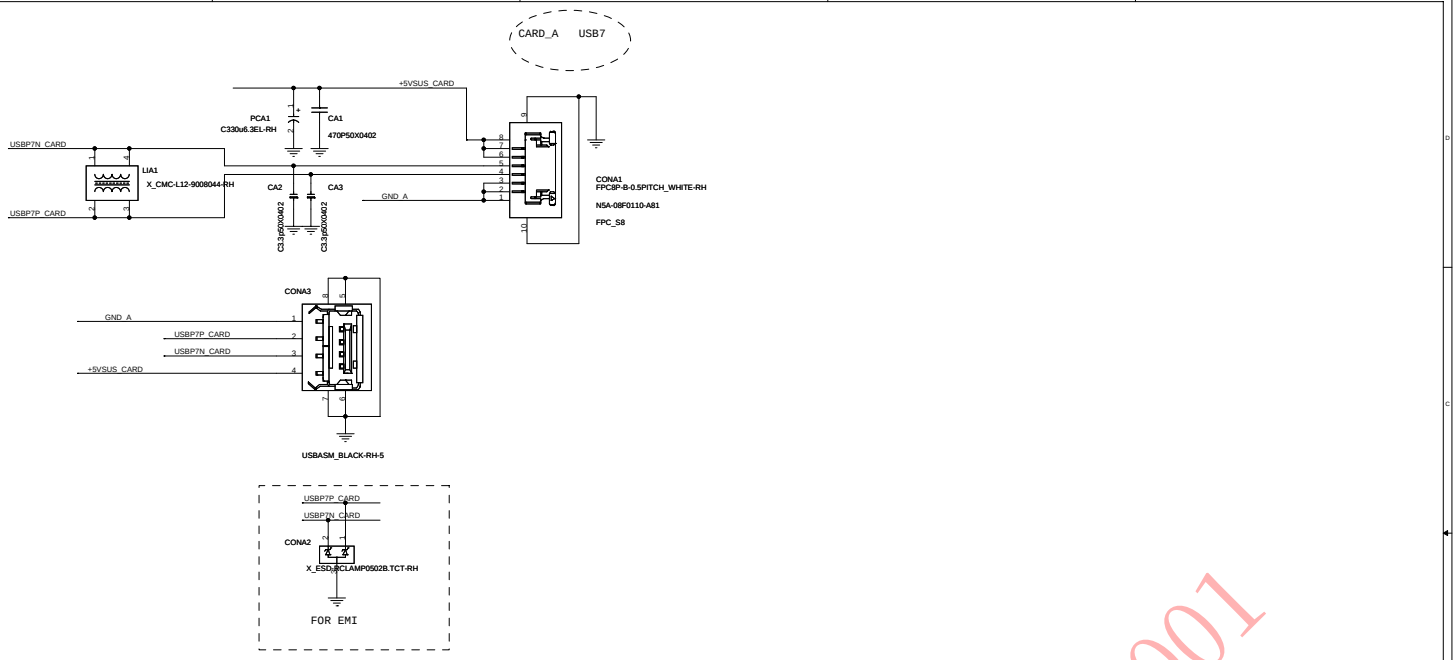

PCBA1

PCB
P30-1687A10-D05

P30-1687A10-H73,瀚宇博德(薩摩亞)
P30-1687A10-D05,昆穎(定穎大陸),

MICRO-STAR INT'L CO.,LTD.

Title: USB Board

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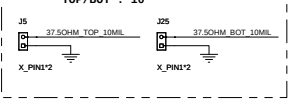
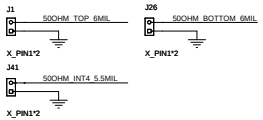
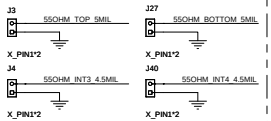
Signal 37.5 Ohm net
TOP/BOT : 10



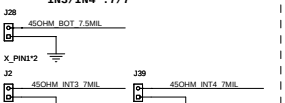
Signal 50 Ohm net
TOP/Bottom: 6/6
INT3/IN4 : 5.5/5.5



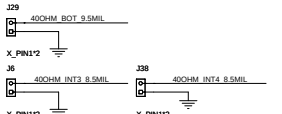
Signal 55 Ohm net
TOP/Bottom : 5/5
INT3/IN4 : 4.5



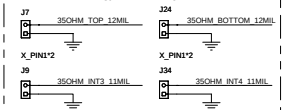
Signal 45 Ohm net
TOP/BOT : 7.5/7.5
IN3/IN4 :7/7



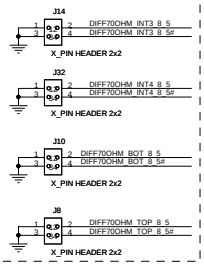
Signal 40 Ohm net
TOP/BOT : 9.5/9.5
IN3/IN4 : 8.5/8.5



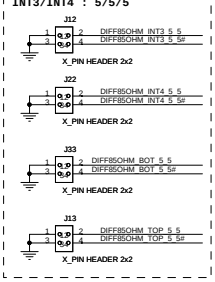
Signal 35 Ohm net
TOP/Bottom : 5/5
INT3/IN4 : 4.5



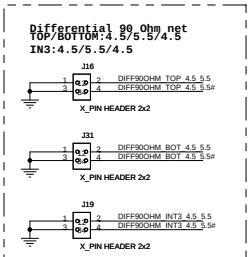
Differential 70 Ohm net
TOP/BOT : 8/5/8
INT3/INT4 : 8/5/8



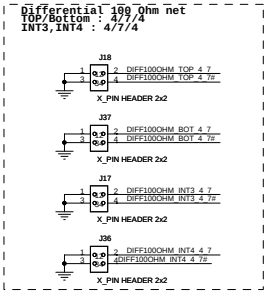
Differential 85 Ohm net
TOP/BOT : 5/5/5
INT3/INT4 : 5/5/5



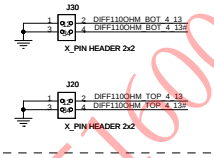
Differential 90 Ohm net
TOP/BOTTOM:4.5/5.5/4.5
IN3:4.5/5.5/4.5



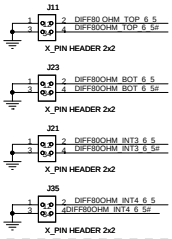
Differential 100 Ohm net
TOP/Bottom : 4/7/4
INT3,INT4 : 4/7/4



Differential 110 Ohm net
TOP/BOT : 4/13/4
IN3/IN4 : 4/13/4



Differential 80 Ohm net
TOP/Bottom : 6/5/24
INT3,INT4 : 6/5/24



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Title: **Constrain**

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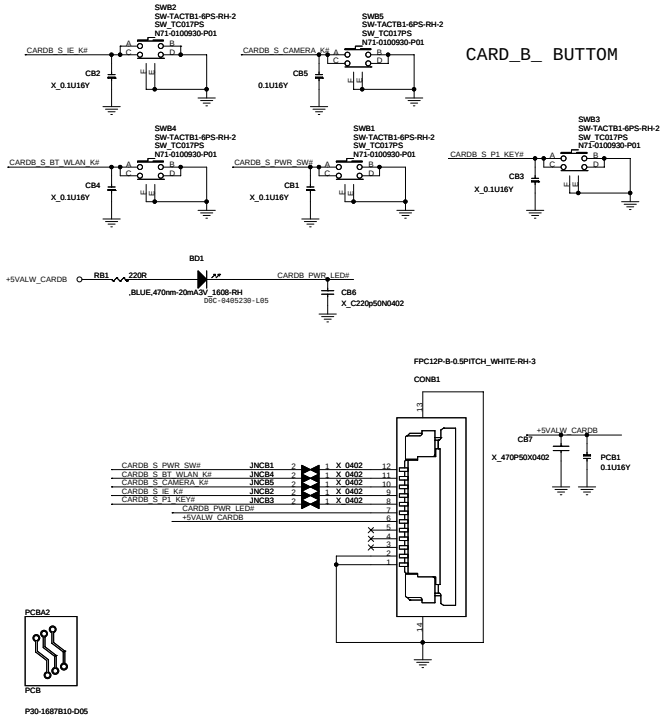
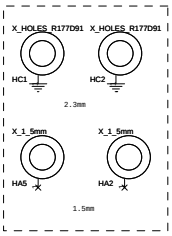
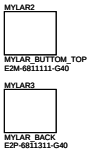


P30-1687B10-D05

P30-1687B10-H73,瀚宇博德(薩摩亞)
P30-1687B10-D05,昆穎(定穎大陸),





MICRO-STAR INT'L CO.,LTD.

Title: Buttom Board

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0A -- 0B Note

MS-1687 MS-16D2 MS-1471

MS-1687_0806-2.DSN 0a net in.

1. PR113 改 11.5K ,PR115 改174K , PR122 改 14.3K
2. PR121,PR118,PQ25,PR124,PR119,PC137,PC138 不上件
3. C421,C430 不上件 , 解 MMC ERROR
4. PC8上件 , 0.47u
5. R68 & R352 上件 , 0.47u
6. R47 & R49 改 40.2 Ohm
7. U22 CS 應接 CSA1#_1
8. HDMI_DATA2P & HDMI_DATA2N 要與 HDMI_DATA0P & HDMI_DATA0N CHANGE
9. BIOS SOCK 移除

MSI CORPORATION		
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0B -- 1.0 Note

1. Remove G1,G2,G3,G4,G5,G7,G8,G10
2. Add P21 for EMI request
3. Change R33,R35,R240,R242,R243,R244,R248 form 56R to 120R
4.(2009.12.01) Change ENE 6250 IC Ver A1 to A2 PN:B07-062501C-E18
4.(2009.12.01) Add PR125,PR126,PC124,PC144,PC147 for EMI request

1.0 -- MP Note

MSI CORPORATION		
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