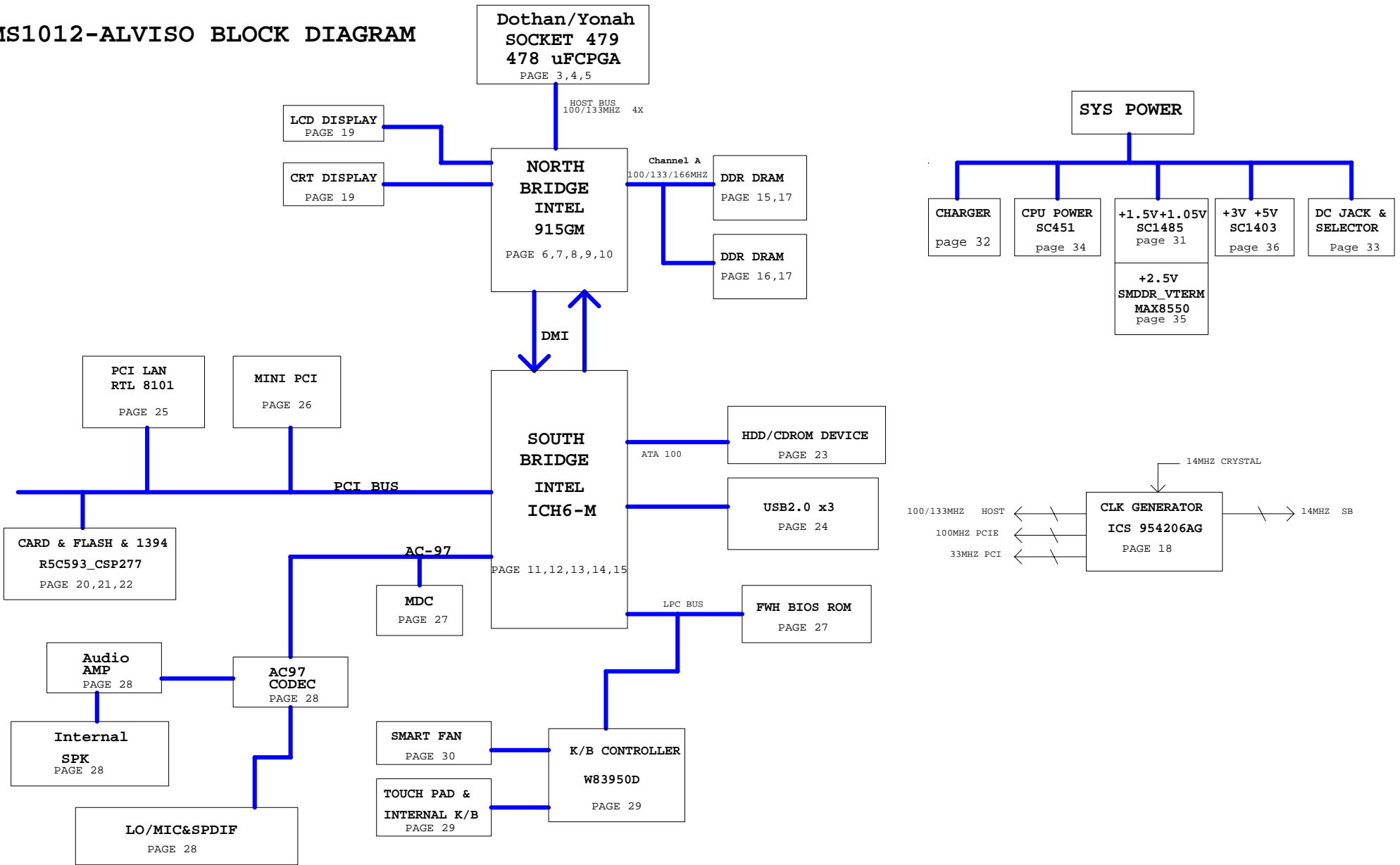


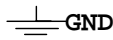
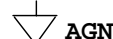
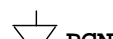
MS1012-ALVISO BLOCK DIAGRAM



Voltage Rails

Voltage	Description	Control Signal
PWR_SRC	AC ADAPTER OR BATTERY IN	
VHORE	Core Voltage for Processor	GME_PWRGD
VTT	1.05 rail for Processor & Alviso I/O	RUNPWROK
SMDDR_VTERM	1.25V DDR Termination voltage (off in S4-S5)	+5VRUN
+1_5VSUS	1.5V power rail (off in S4-S5)	SUS_ON
+1_5VRUN	1.5V switched power rail(off in S3-S5)	RUN_ON
+1_8VRUN	1.8V switched power rail(off in S3-S5)	RUN_ON
+2_5VSUS	2.5V power rail DDR (off in S4-S5)	+5VSUS
+2_5VRUN	2.5V switched power rail(off in S3-S5)	RUN_ON
+3VALW	3.3V always on power rail	PWR_SRC
+3VSUS	3.3V power rail (off in S4-S5)	SUS_ON
+3VRUN	3.3V switched power rail(off in S3-S5)	RUN_ON
+5VALW	5.0V always on power rail	PWR_SRC
+5VSUS	5.0V power rail (off in S4-S5)	SUS_ON
+5VRUN	5.0V switched power rail(off in S3-S5)	RUN_ON

Voltage	Description	Control Signal
+V5_AUDIO	5.0V Power rail Audio codec(off in S3-S5)	+5VRUN

 GND	DIGITAL GROUD	
 AGND	AUDIO GND	
 PGND	POWER Analogy GND	

POWER STATES

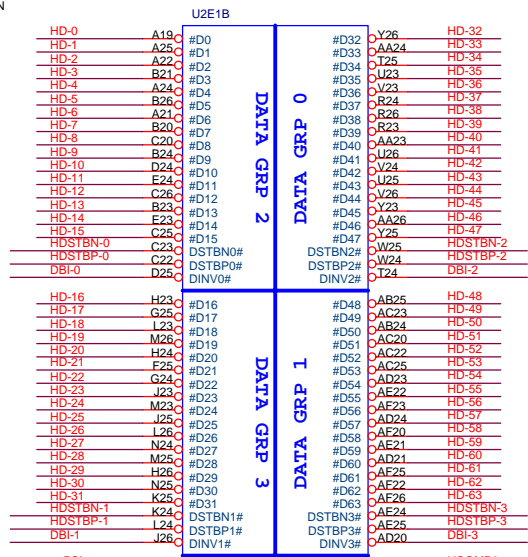
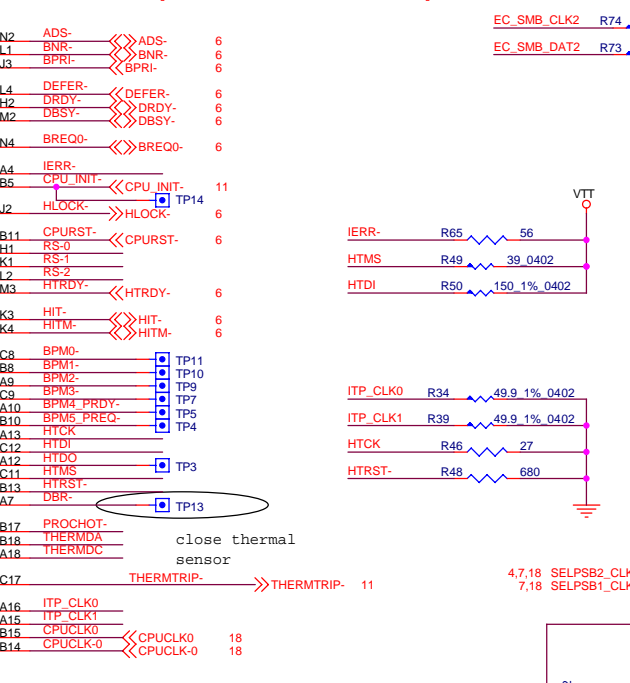
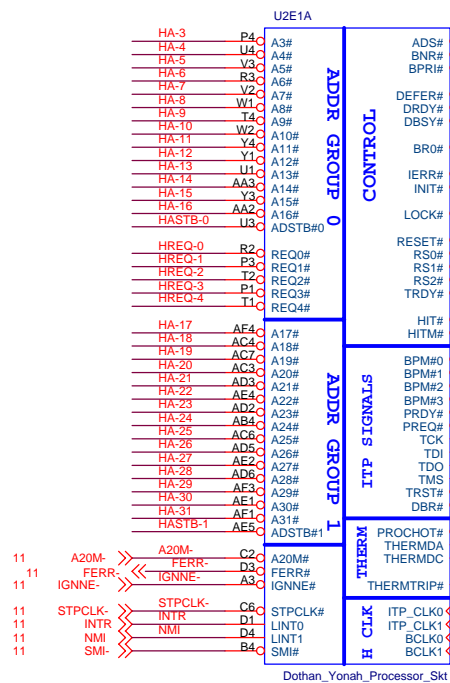
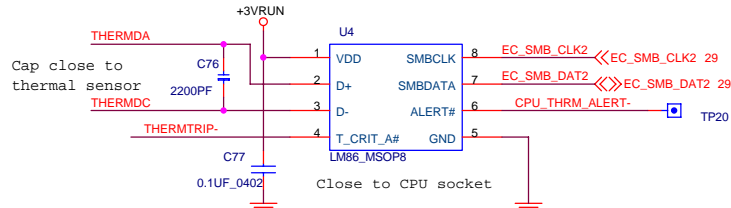
STATE \ SIGNAL	SLP_S3#	SLP_S4#	SLP_S5#	+V*ALWAYS	+V*SUS	+V*RUN	Clocks
Full ON	HIGH	HIGH	HIGH	ON	ON	ON	ON
S1M(Power On Suspend)	HIGH	HIGH	HIGH	ON	ON	ON	LOW
S3(Suspend to RAM)	LOW	HIGH	HIGH	ON	ON	OFF	OFF
S4(Suspend to Disk)	LOW	LOW	HIGH	ON	OFF	OFF	OFF
S5 / Soft OFF	LOW	LOW	LOW	ON	OFF	OFF	OFF

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

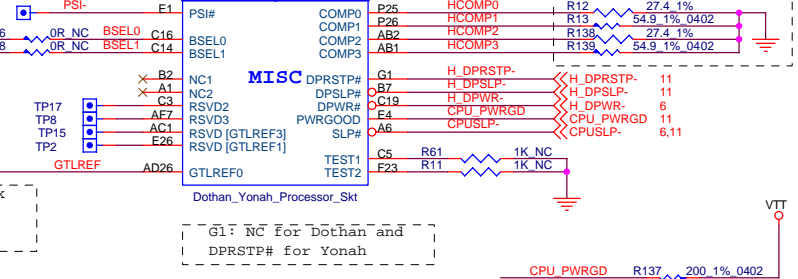
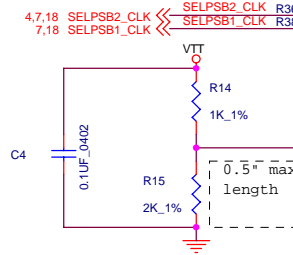
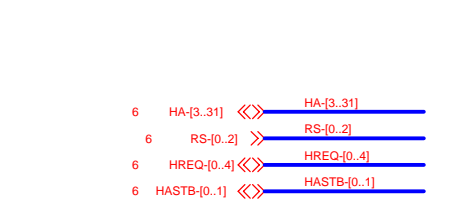


MICRO-STAR INT'L CO.,LTD.

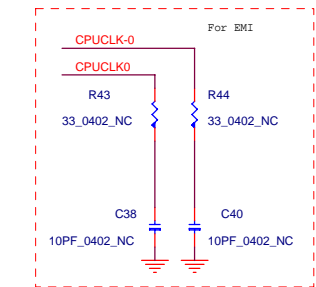
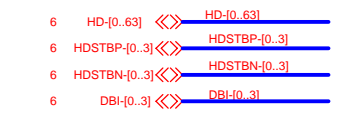
Title		PLATFORM	
Size	Document Number	Rev	
B	MS-1012	1.1	
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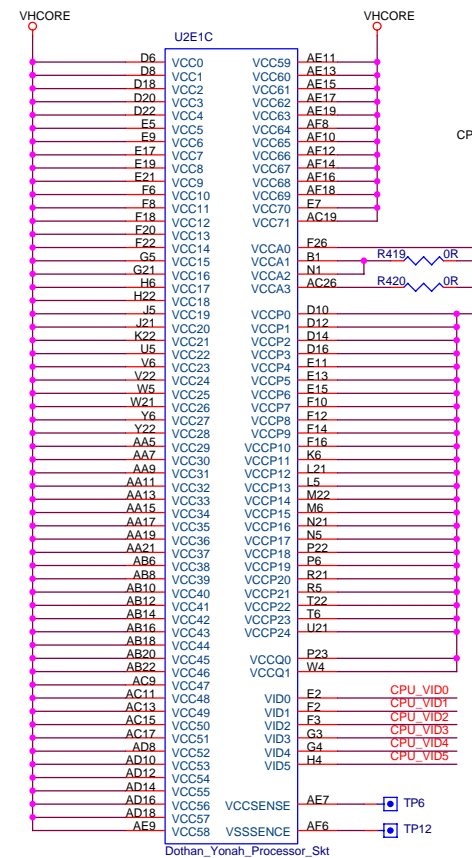
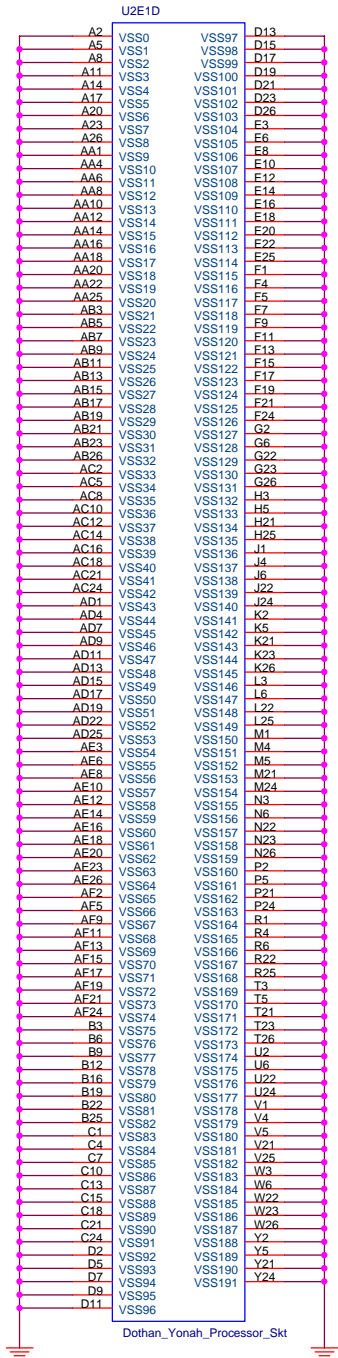


0.5" max length
25 MIL AWAY FROM HIGH SPEED SIGNAL

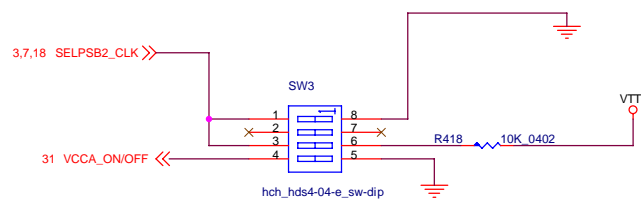
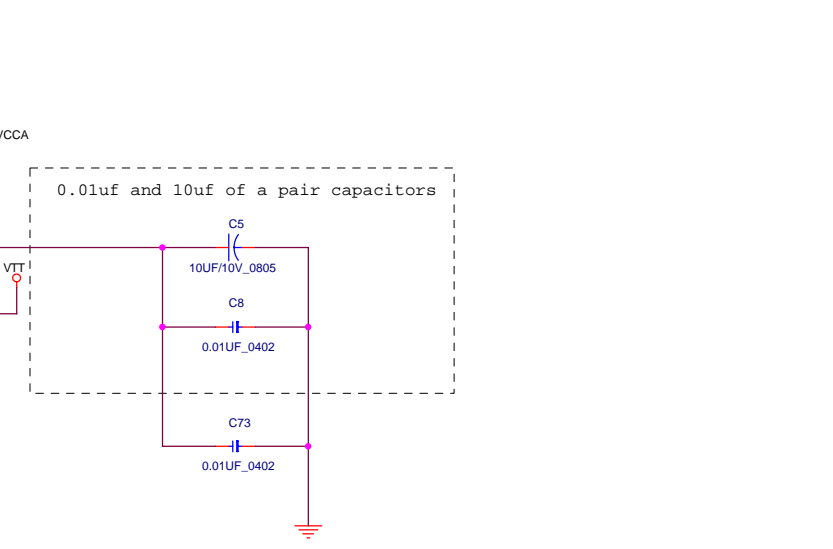


G1: NC for Dothan and DPRSTP# For Yonah





34 CPU_VID[0..5] << CPU_VID[0..5]



DIP4 ON CPU VCCA 1.8V
DIP4 OFF CPU VCCA 1.5V

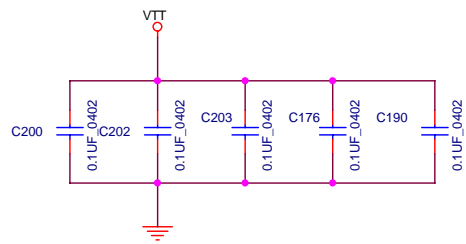
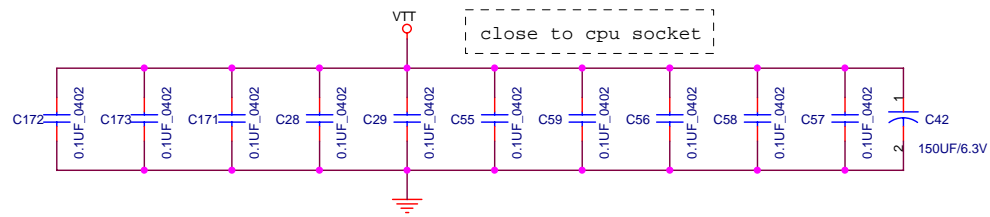
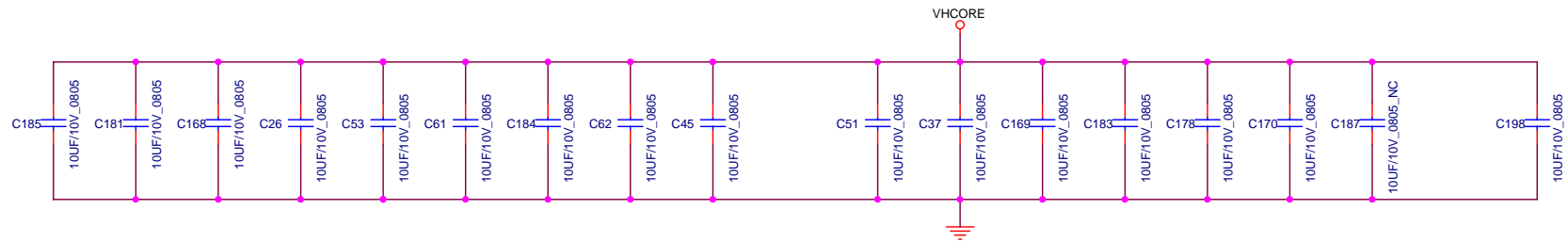
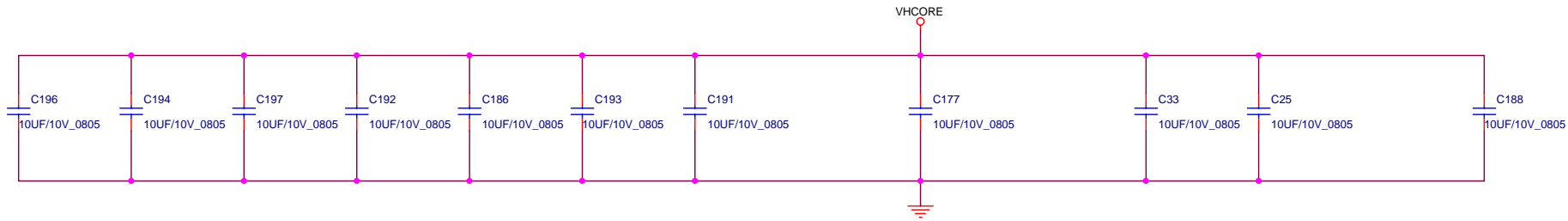
LAYOUT NOTE: Provide a test point (with no stub) to connect differential probe between VCCSENSE and VSSSENCE at the location where the two 54.9 ohm resistors terminate the 55 ohm transmission lines.

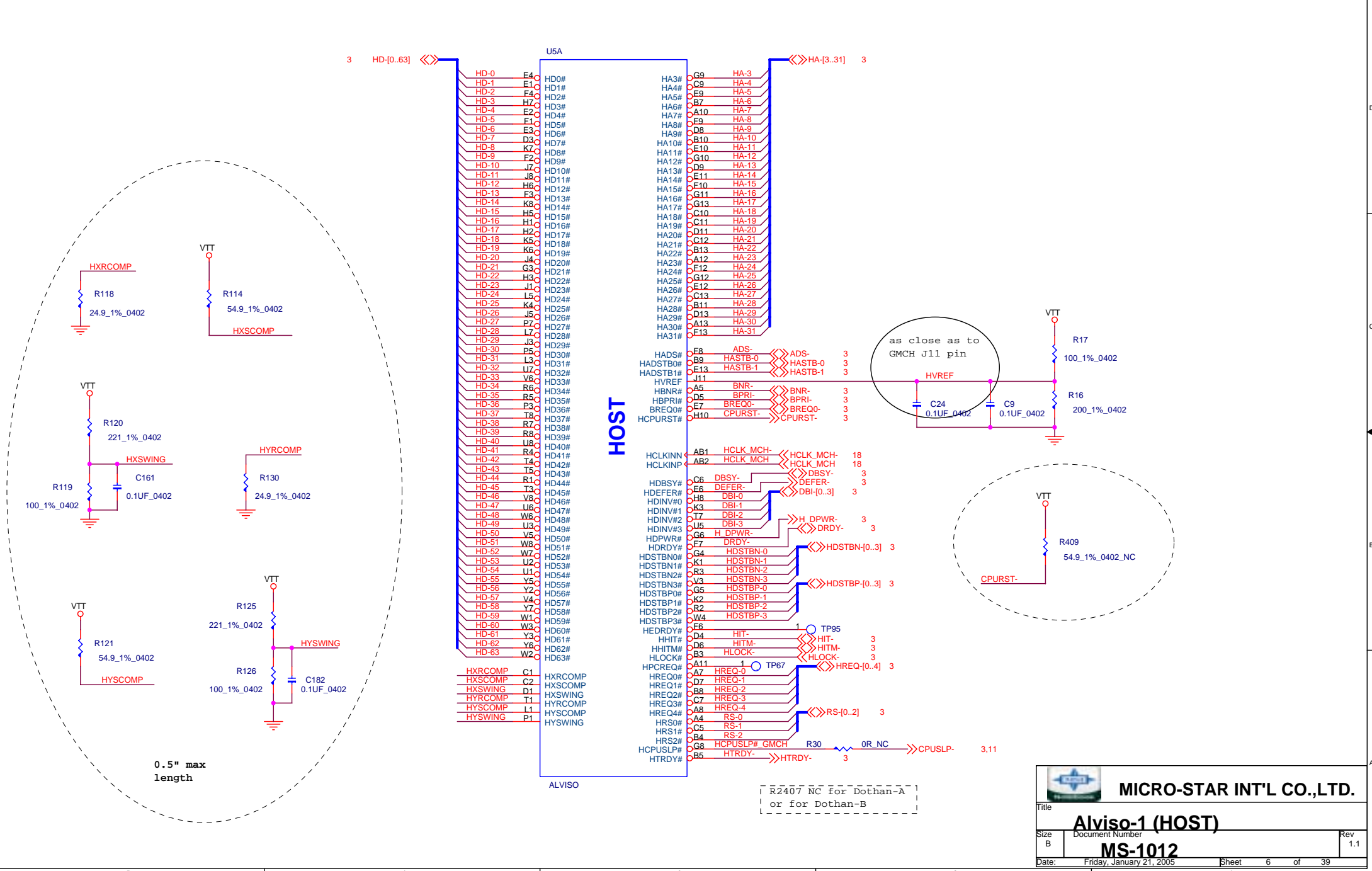
MICRO-STAR INT'L CO.,LTD.

Title: **Dothan-2 (Power / GND)**

Size: Custom Document Number: **MS-1012** Rev: 1.1


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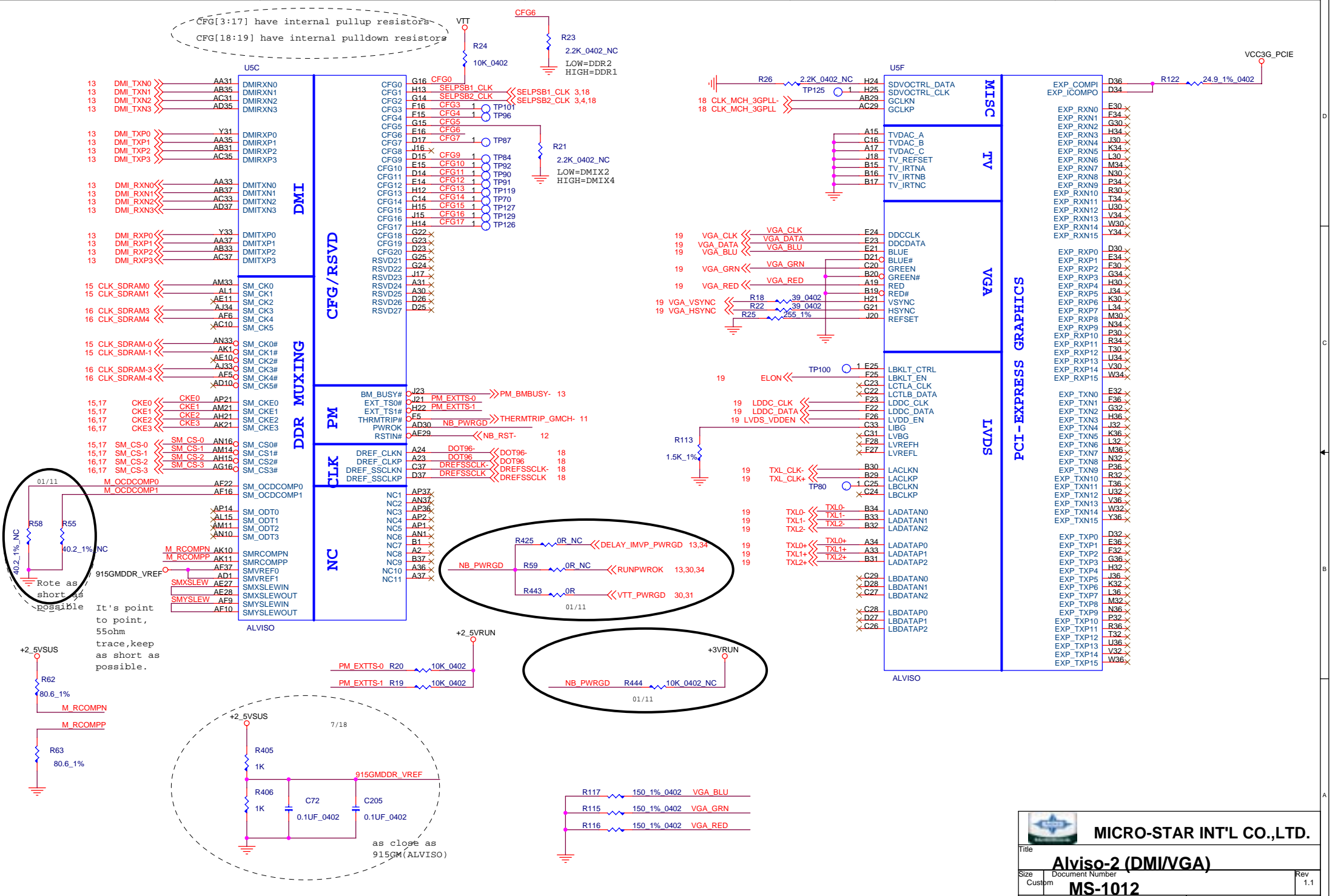



0.5" max length

R2407 NC for Dothan-A
or for Dothan-B

 MICRO-STAR INT'L CO.,LTD.	
Title	
Alviso-1 (HOST)	
Size	Document Number
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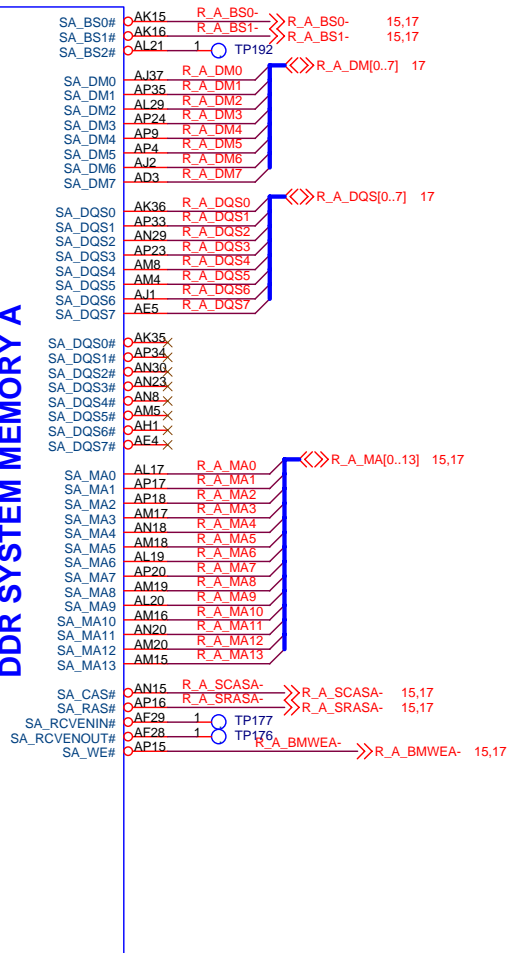
CFG[3:17] have internal pullup resistors
 CFG[18:19] have internal pulldown resistors



		MICRO-STAR INT'L CO.,LTD.	
Title Alviso-2 (DMI/VGA)			
Size	Custom	Document Number	Rev 1.1
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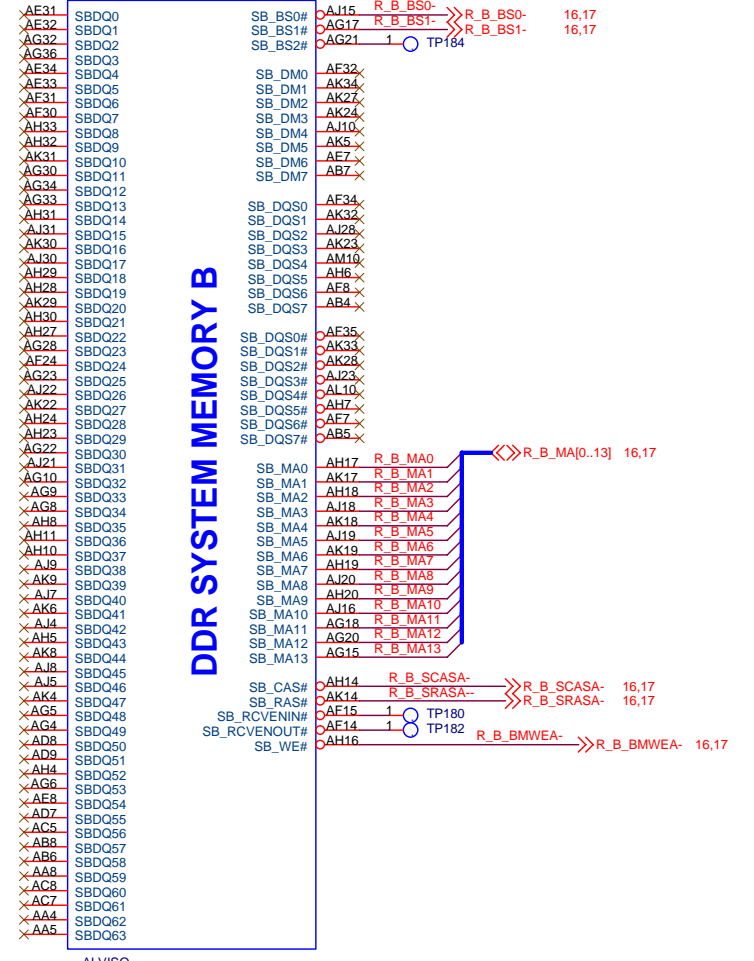


DDR SYSTEM MEMORY A




ALVISO

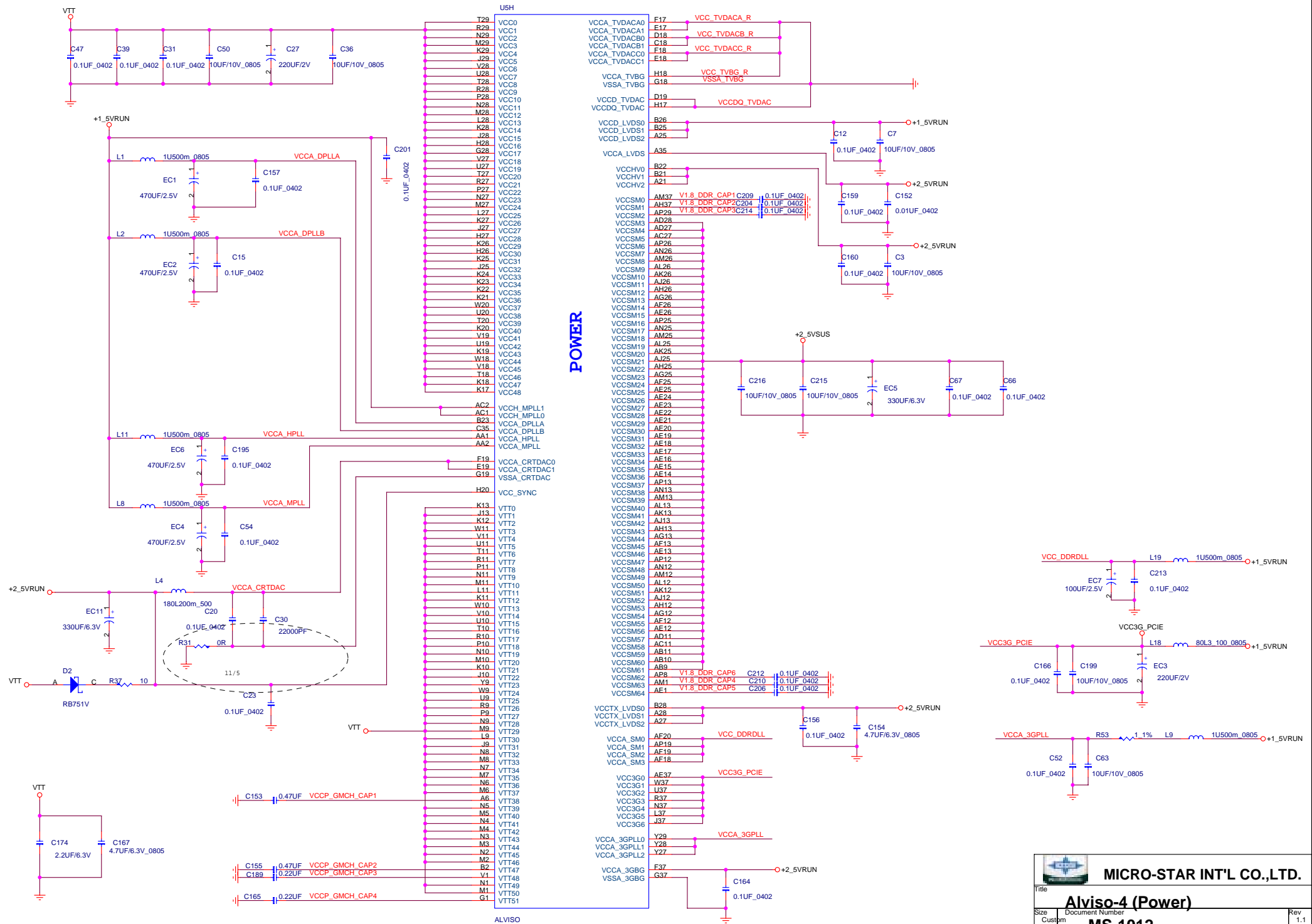
U5G




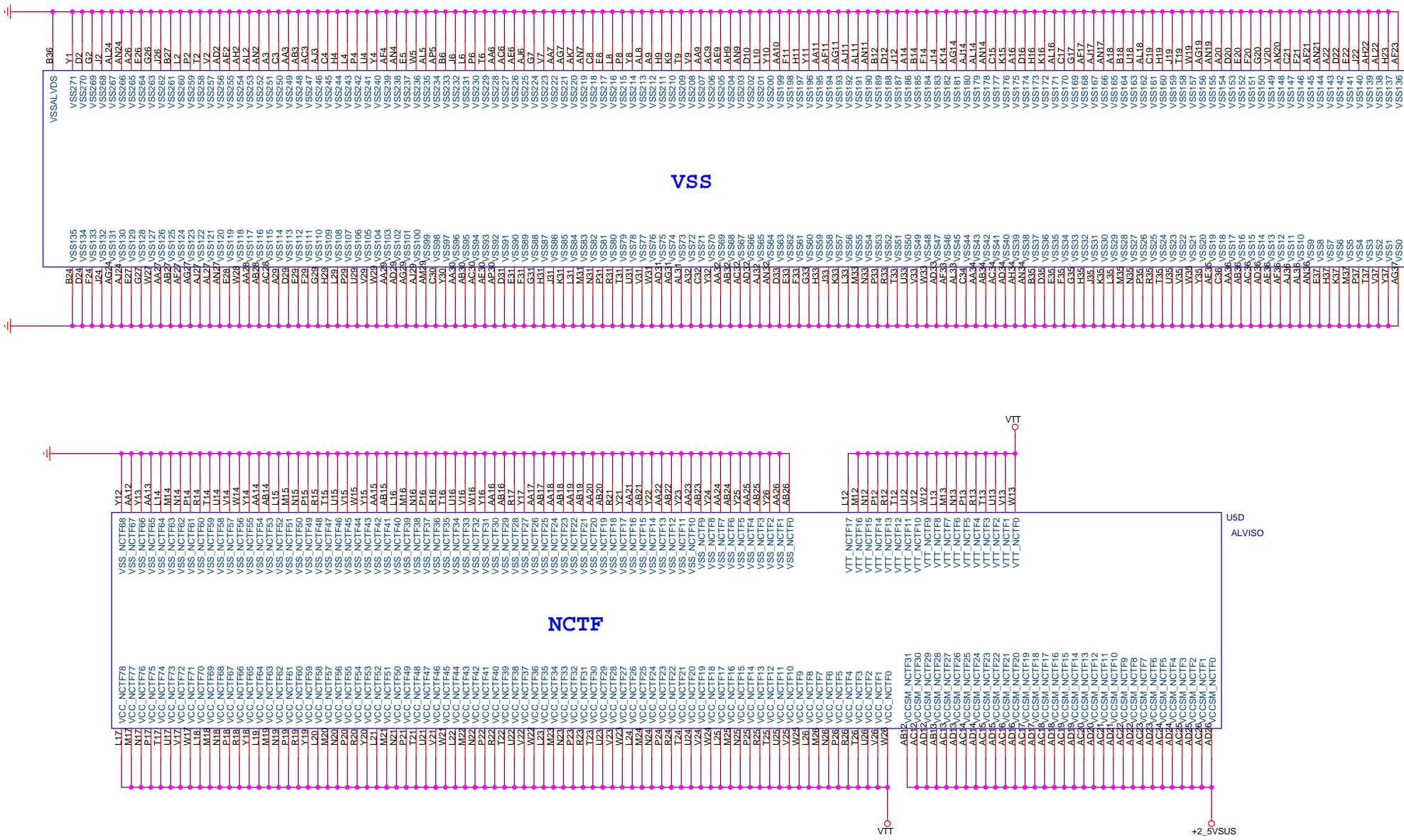
ALVISO

DDR SYSTEM MEMORY B

			
MICRO-STAR INT'L CO.,LTD.			
Title			
Alviso-3 (DDR)			
Size	Document Number		Rev
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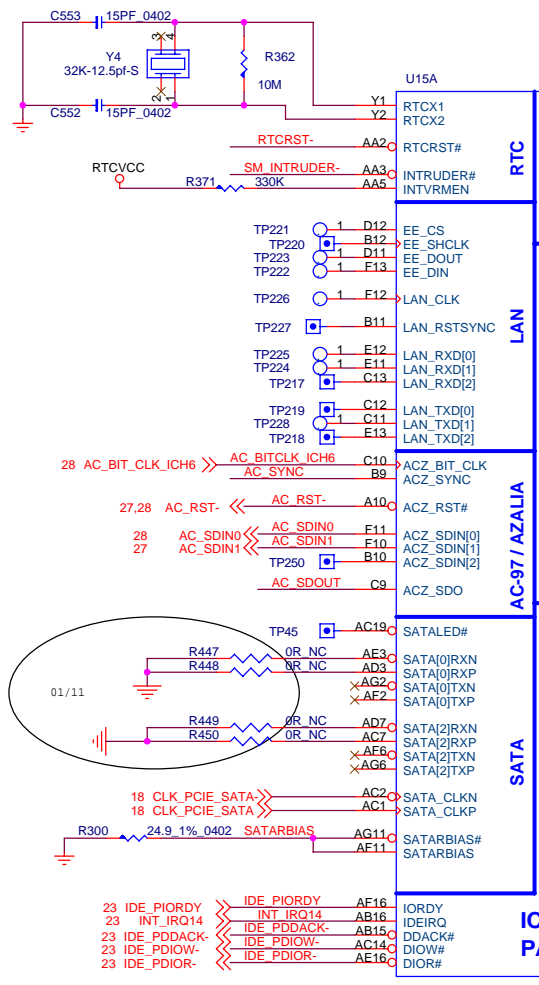
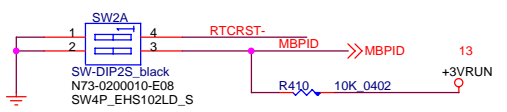
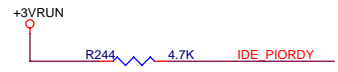
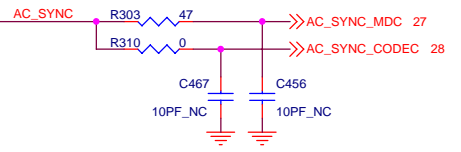
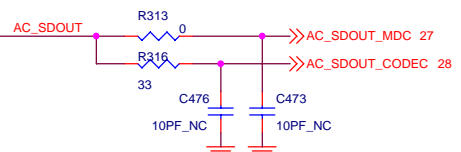
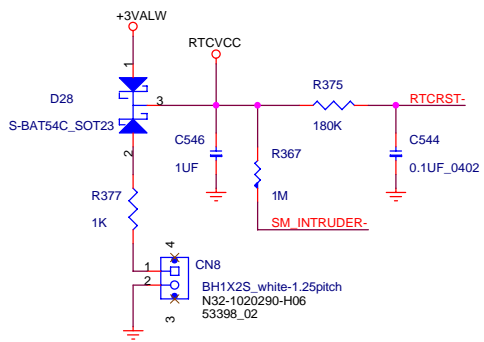
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Alviso-4 (Power)			
Size	Document Number	Rev	
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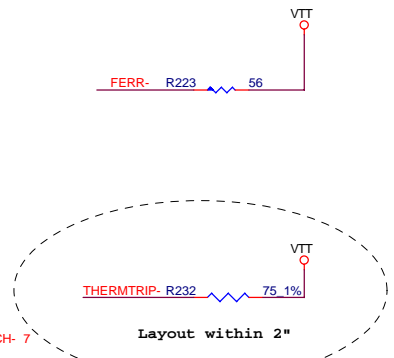
VSS

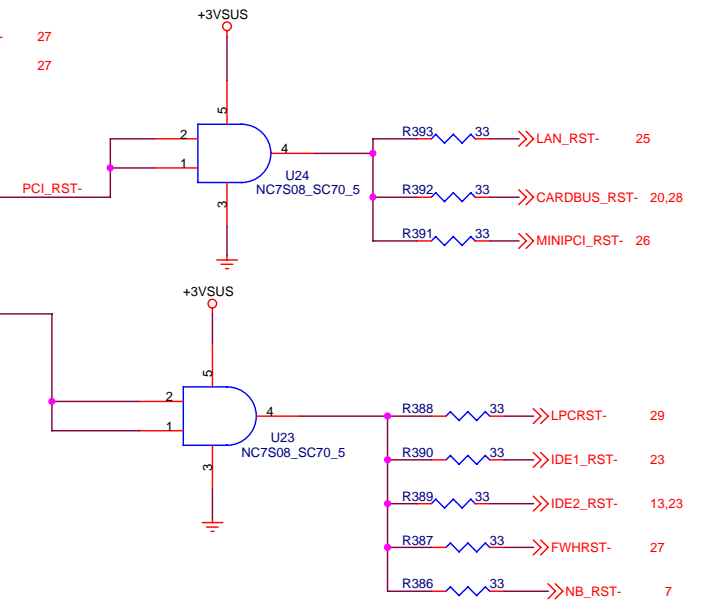
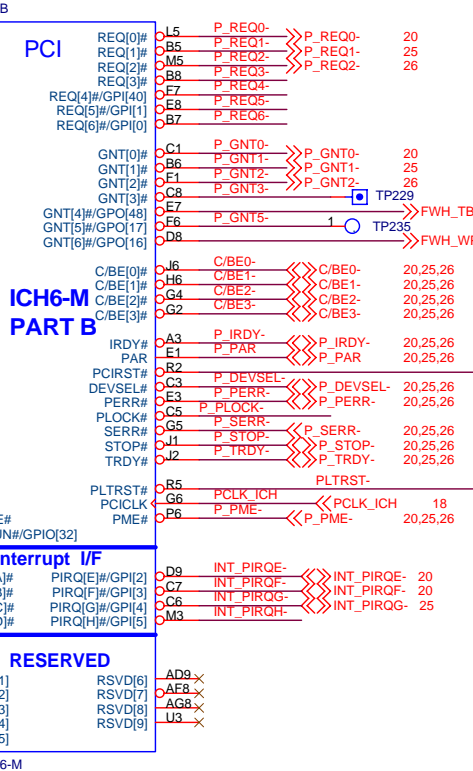
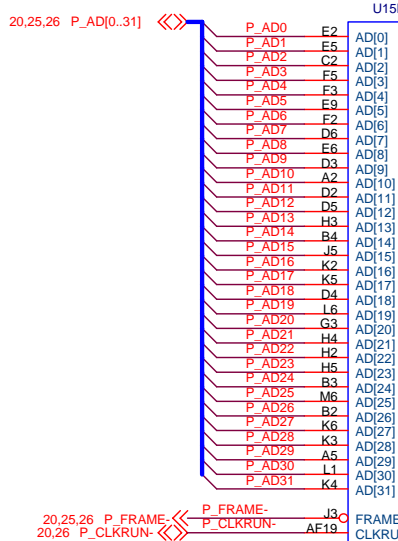
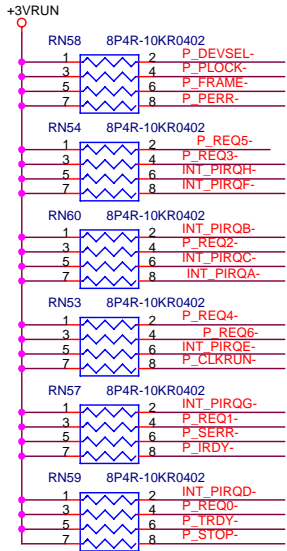
NCTF

 MICRO-STAR INT'L CO.,LTD.	
Title	
Alviso-5 (GND)	
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Pin	Signal	Component	Value	Notes
LAD[0]	LAD0			27, 29
LAD[1]/FB[1]	LAD1			27, 29
LAD[2]/FB[2]	LAD2			27, 29
LAD[3]/FB[3]	LAD3			27, 29
LDRQ[0]	L LDRQ0-	TP55		
LDRQ[1]/GPI[4:1]	L LDRQ1-	TP57		
LFRAME#	LFRAME-			27, 29
A20GATE	AE22 CPU_A20GATE	GA20	29	
A20M#	AE23 A20M-	A20M-	3	
CPUSLP#	AE27 R_CPUSLP-	R187 OR		CPUSLP- 3,6
DPRSTP#/TP[4]	AE24 R186 0 NC H DPRSTP-			H DPRSTP- 3
DPSLP#/TP[2]	AD27 H DPSLP-			H DPSLP- 3
FERR#	AE24 R222 56 FERR-			FERR- 3
CPUPWRGD/GPO[4:9]	AG25 CPU_PWRGD			3
IGNNE#	AG26 IGNNE-			3
INIT3_3V#	AE22 FWI_INIT-			27
INIT#	AE27 CPU_INIT-			3
INTR#	AG24 INTR			3
RCIN#	AD23 H RCIN-			KBRST- 29
NMI	AE25 NMI			3
SMI#	AG27 SMI-			3
STPCLK#	AE26 STPCLK-			3
THRMTrip#	AE23 R231 56 THERMTrip-			THERMTrip- 3
DA[0]	AC16 IDE_PDA0			23
DA[1]	AB17 IDE_PDA1			23
DA[2]	AC17 IDE_PDA2			23
DCS1#	AD16 IDE_PDCS1-			23
DCS3#	AE17 IDE_PDCS3-			23
DD[0]	AD14 IDE_PDD0			IDE_PDD[0..15] 23
DD[1]	AE15 IDE_PDD1			
DD[2]	AD11 IDE_PDD2			
DD[3]	AD12 IDE_PDD3			
DD[4]	AE14 IDE_PDD4			
DD[5]	AC11 IDE_PDD5			
DD[6]	AD11 IDE_PDD6			
DD[7]	AB11 IDE_PDD7			
DD[8]	AE13 IDE_PDD8			
DD[9]	AE13 IDE_PDD9			
DD[10]	AB12 IDE_PDD10			
DD[11]	AB13 IDE_PDD11			
DD[12]	AC13 IDE_PDD12			
DD[13]	AE15 IDE_PDD13			
DD[14]	AG15 IDE_PDD14			
DD[15]	AD13 IDE_PDD15			
DDREQ	AB14 IDE_PDDREQ			IDE_PDDREQ 23

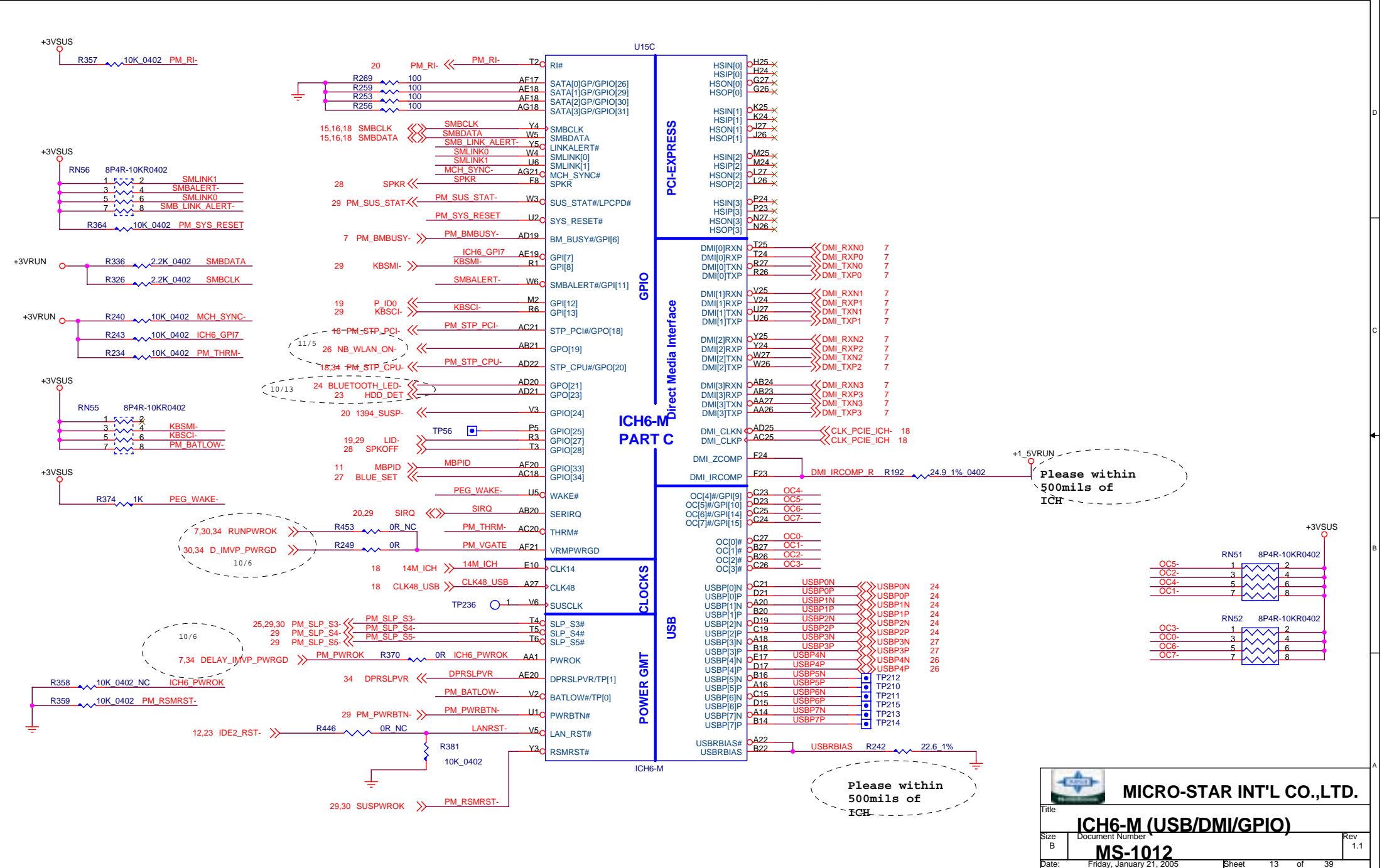




MICRO-STAR INT'L CO.,LTD.

Title: **ICH6-M (PCI BUS)**

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Please within 500mils of ICH

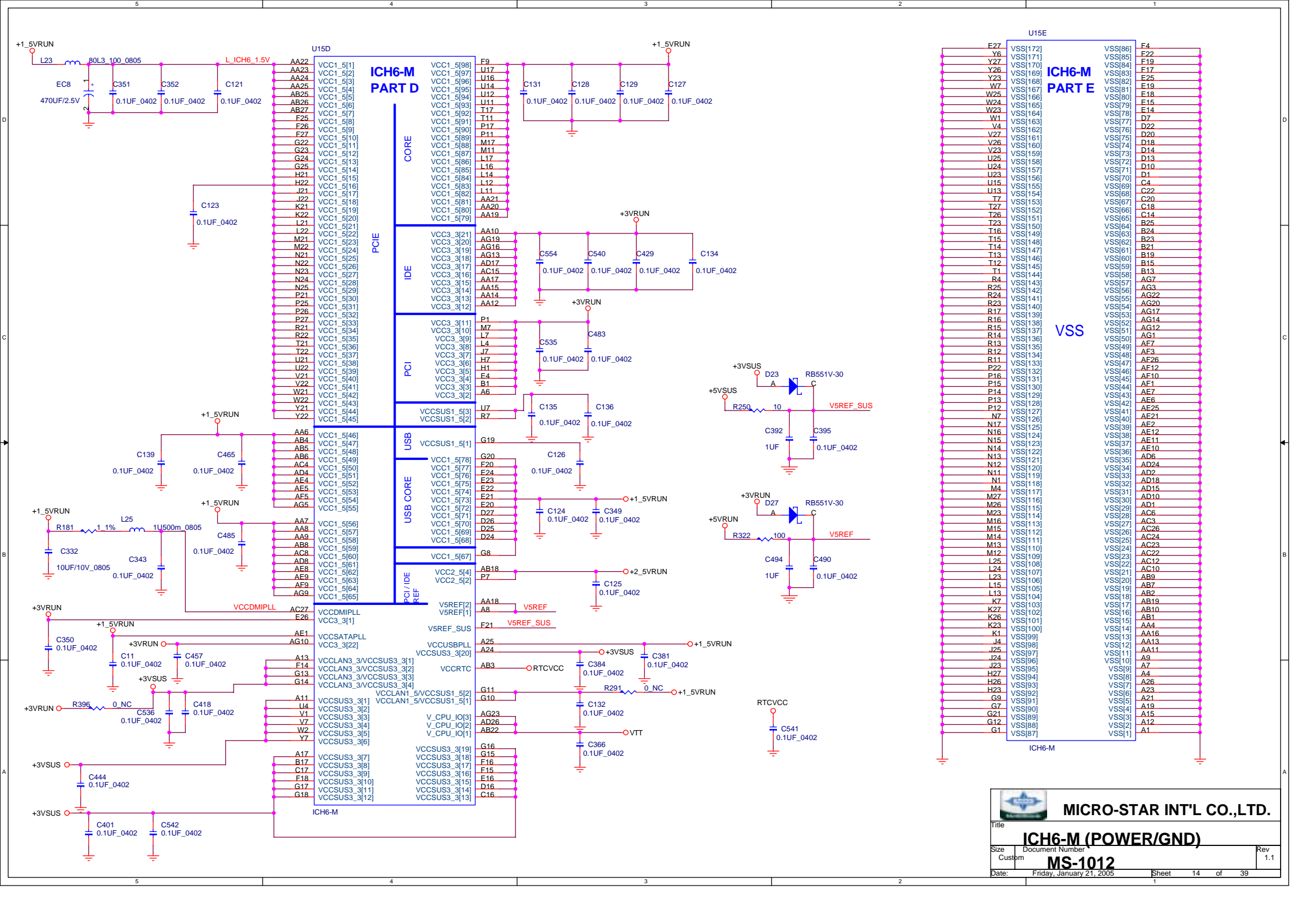
Please within 500mils of ICH

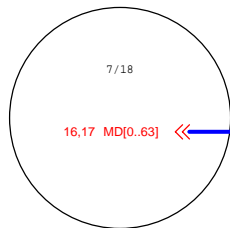
MICRO-STAR INT'L CO.,LTD.

Title: **ICH6-M (USB/DMI/GPIO)**

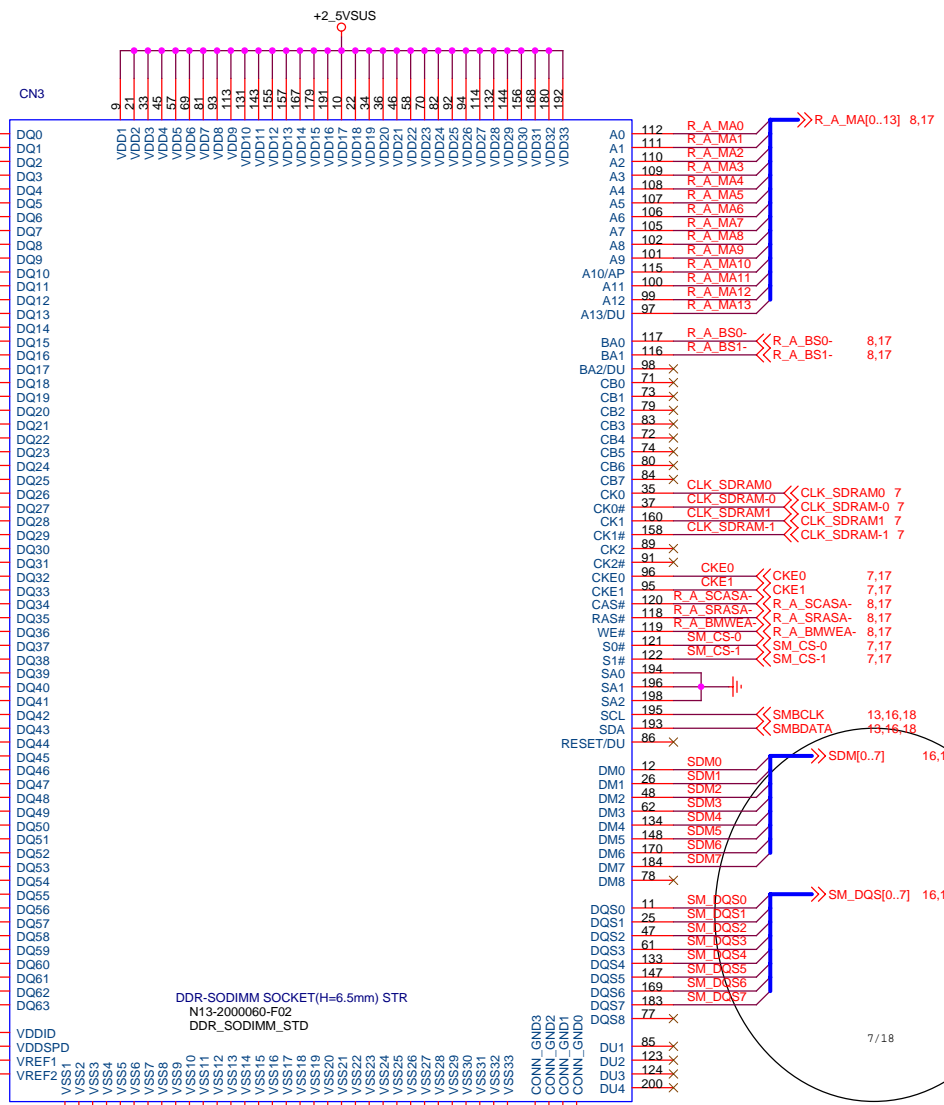
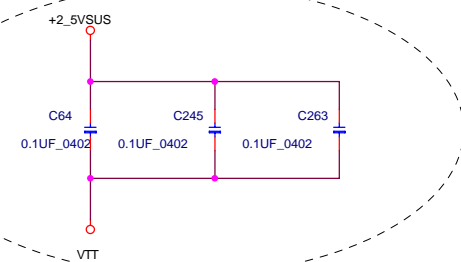
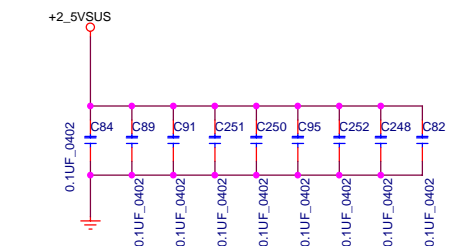
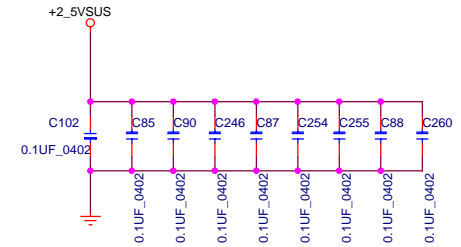
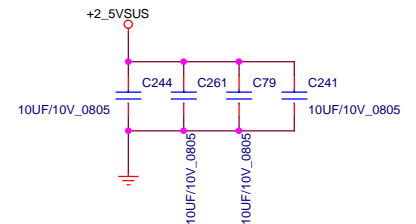
Size: B Document Number: **MS-1012** Rev: 1.1

Date: Friday, January 21, 2005 Sheet 13 of 39

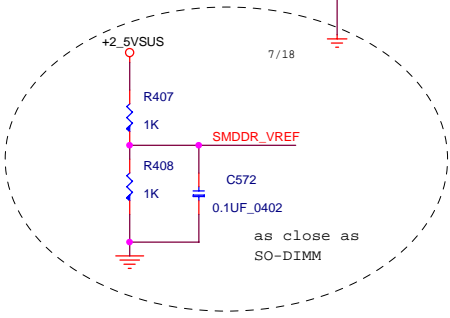




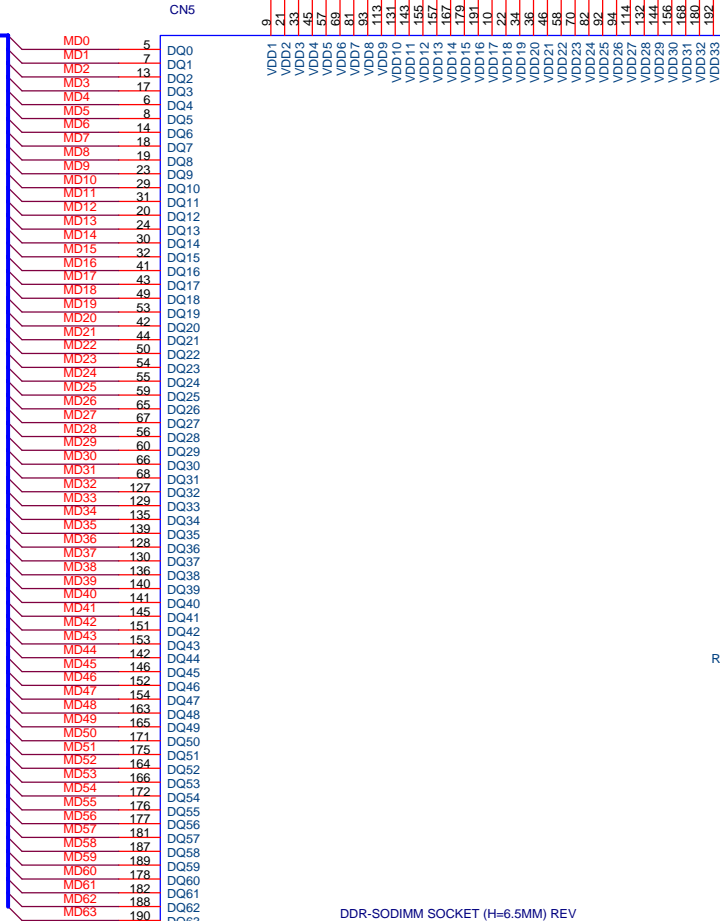
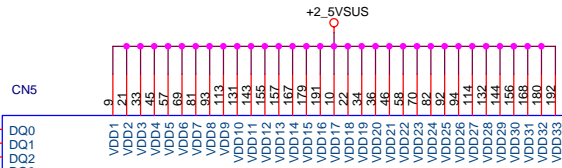
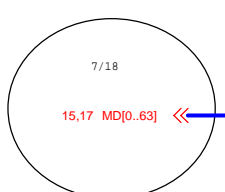
Layout note: Place capacitors between and near DDR connector if possible.



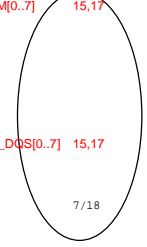
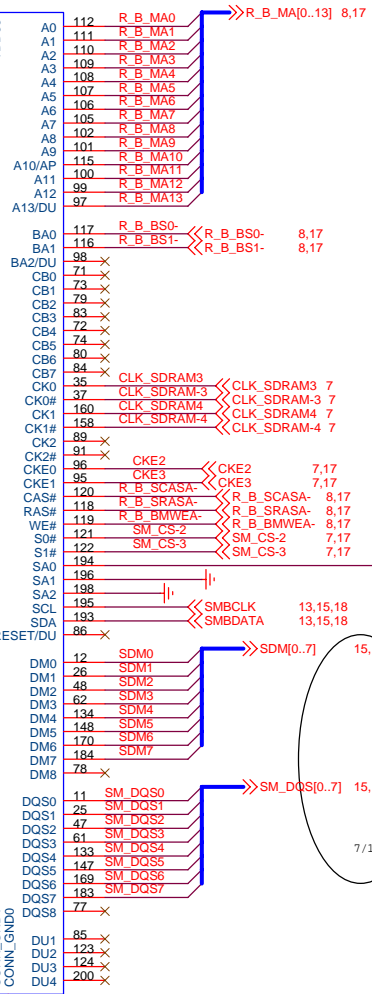
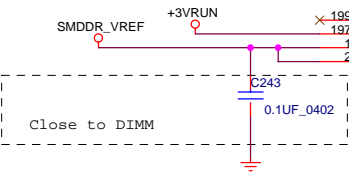
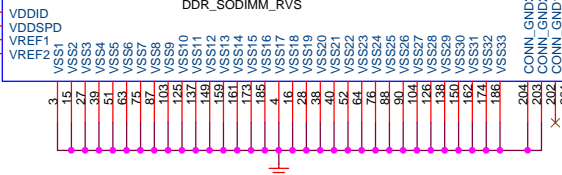
DDR-SODIMM SOCKET(H=6.5mm) STR
N13-200060-F02
DDR_SODIMM_STD



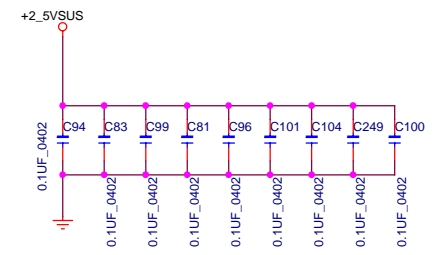
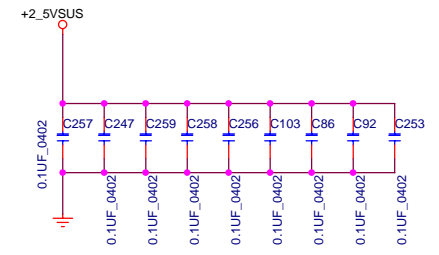
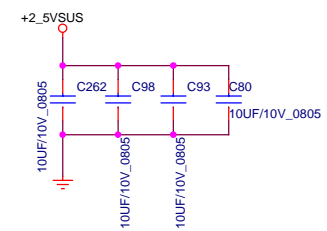
MICRO-STAR INT'L CO.,LTD.		
Title	Document Number	
DDR-SODIMM-0 (Channel A)		
Size	Custbm	
MS-1012		
Date:	Friday, January 21, 2005	Sheet 15 of 39



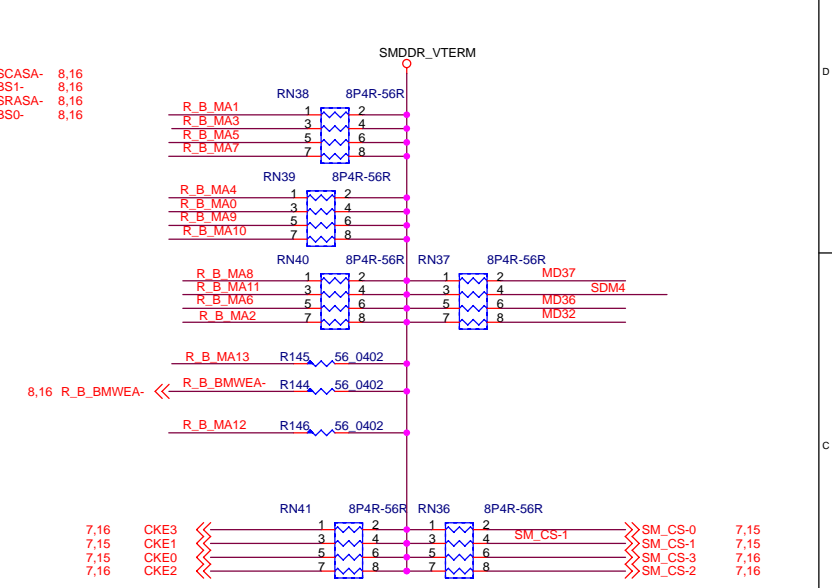
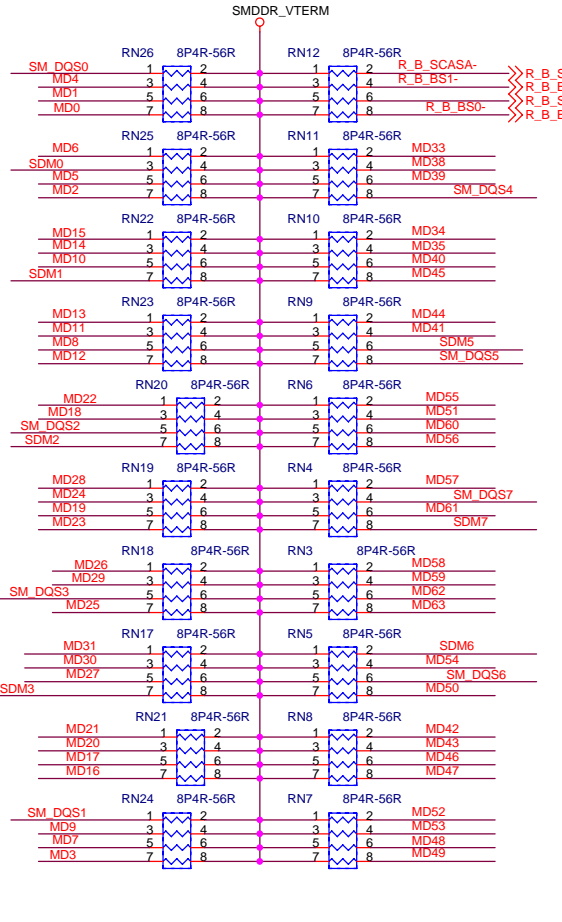
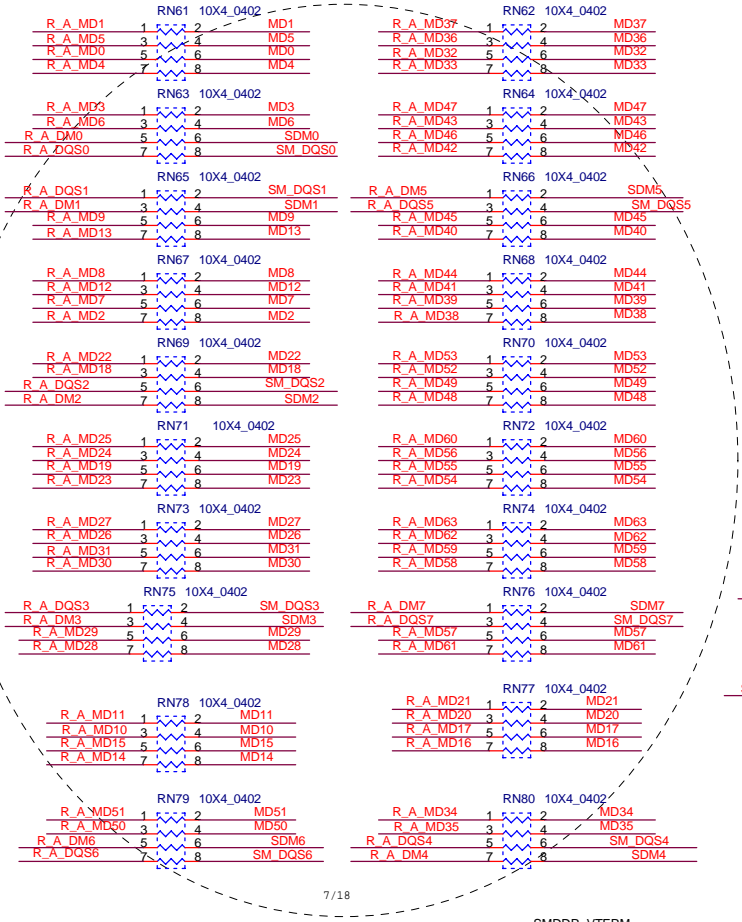
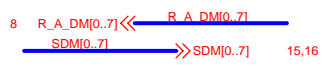
DDR-SODIMM SOCKET (H=6.5MM) REV
N13-2000050-F02
DDR_SODIMM_RVS



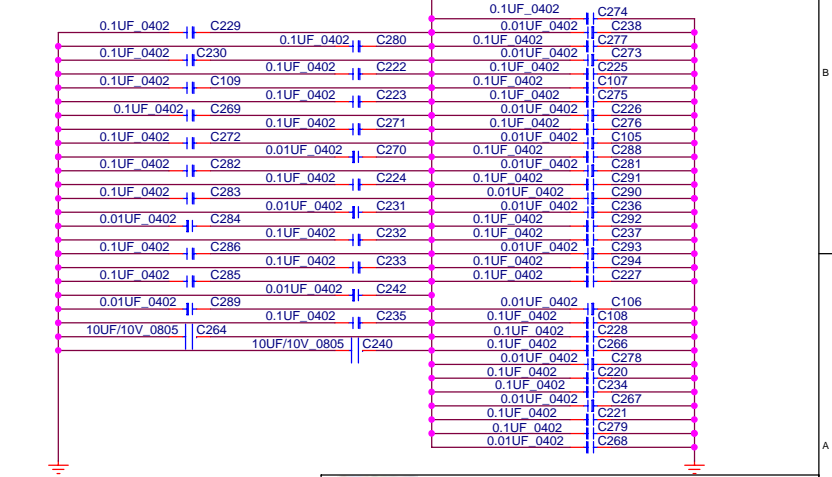
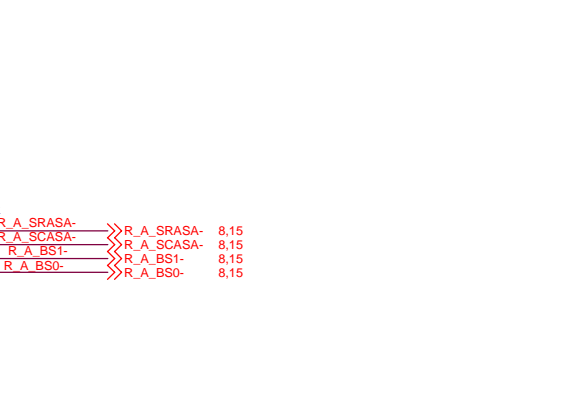
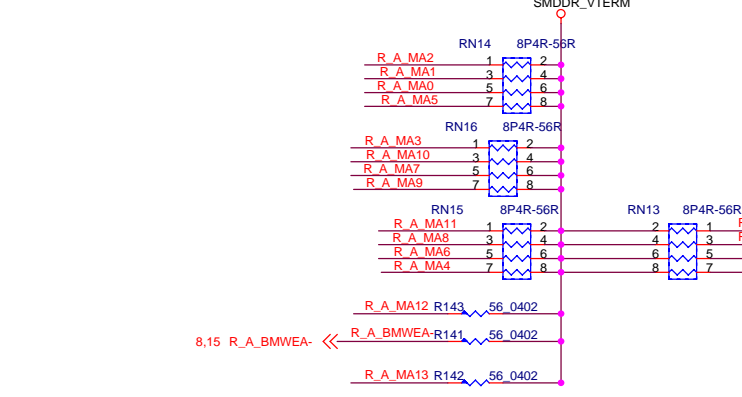
Layout note: Place capacitors between and near DDR if possible.



MICRO-STAR INT'L CO.,LTD.	
Title	
DDR-SODIMM-1 (Channel B)	
Size	Document Number
Custom	MS-1012
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Layout note: Place one cap close to every 2 pullup resistors terminated to +V1.25.



MICRO-STAR INT'L CO.,LTD.

Title: DDR Termination

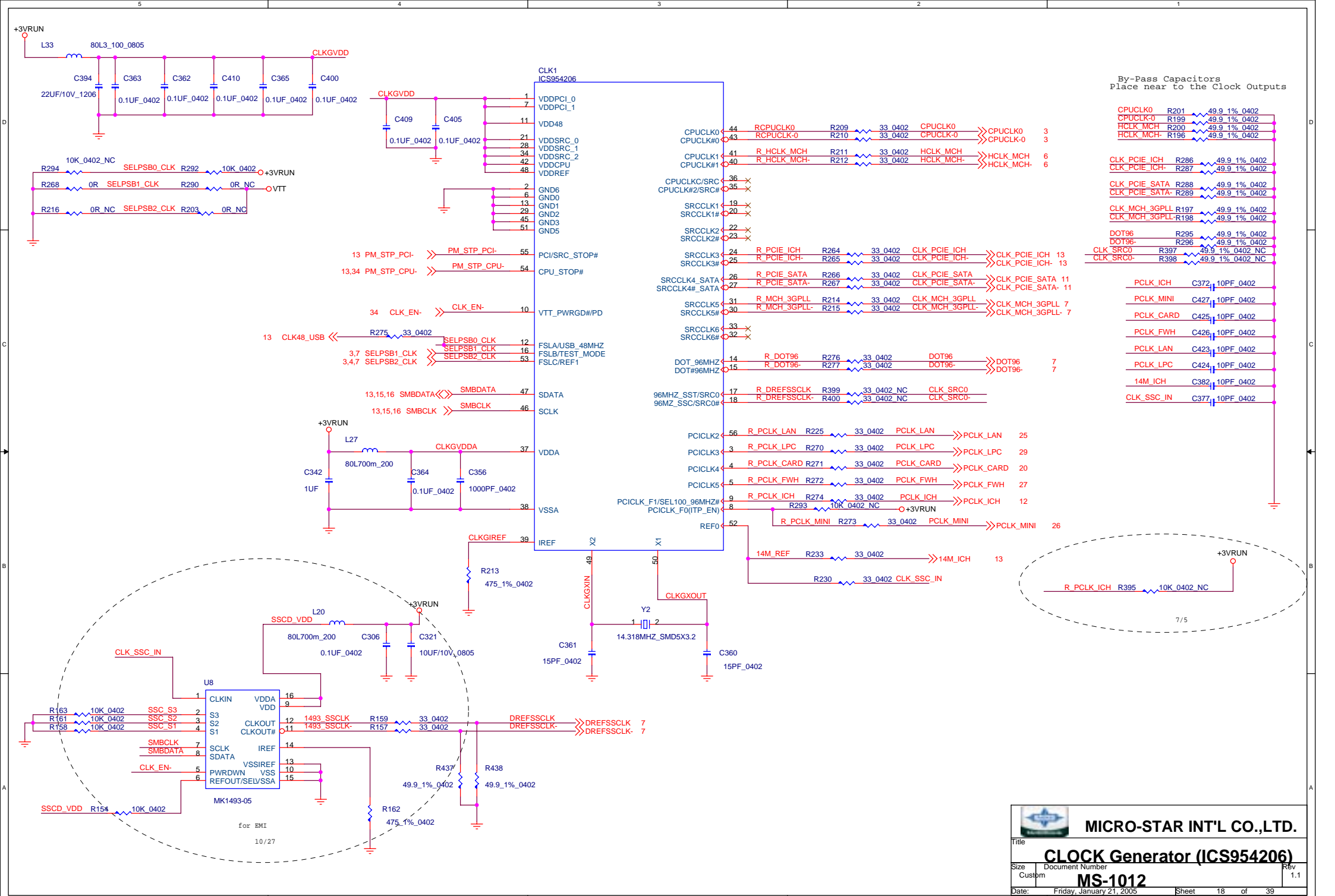
Size: MS-1012

Document Number: MS-1012

Date: Friday, January 21, 2005


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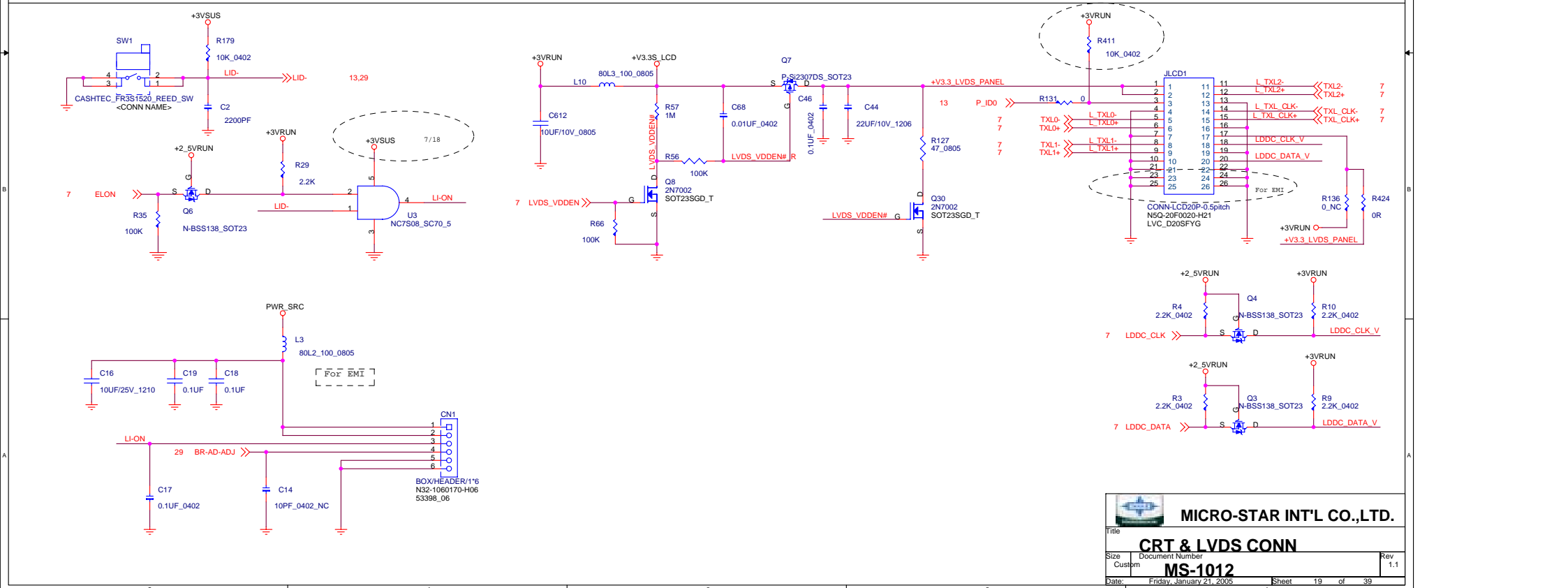
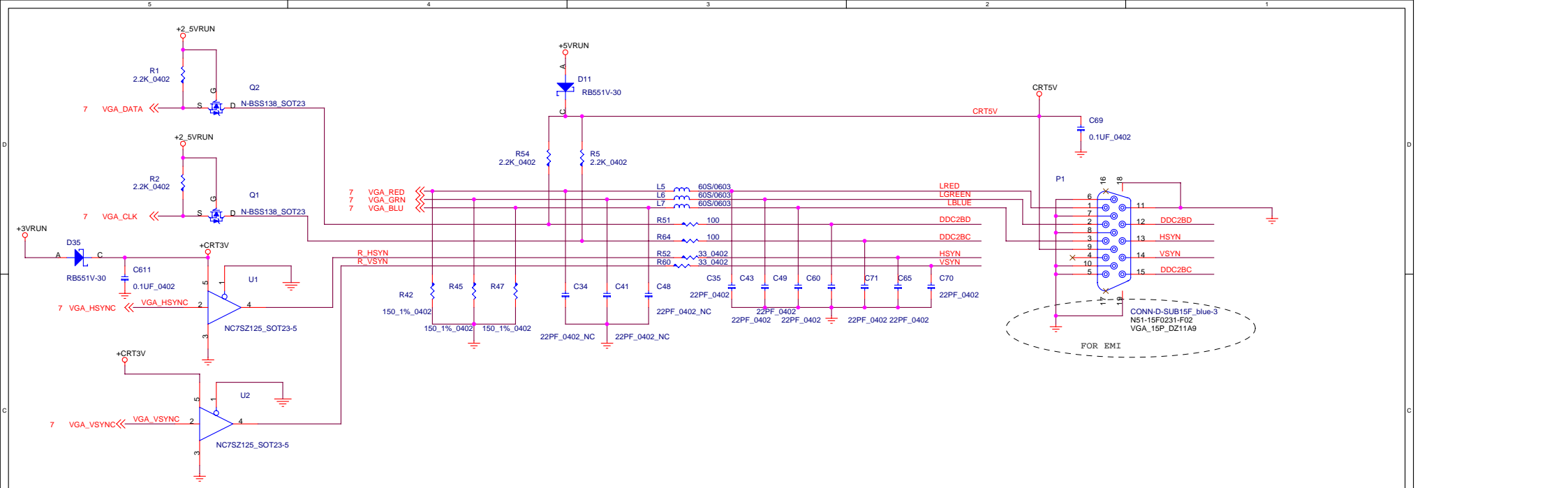
Rev: 1.1



By-Pass Capacitors
Place near to the Clock Outputs

- CPUCLK0 R201 49.9 1% 0402
- CPUCLK0 R199 49.9 1% 0402
- HCLK_MCH R200 49.9 1% 0402
- HCLK_MCH- R196 49.9 1% 0402
- CLK_PCIE_ICH R286 49.9 1% 0402
- CLK_PCIE_ICH- R287 49.9 1% 0402
- CLK_PCIE_SATA R288 49.9 1% 0402
- CLK_PCIE_SATA- R289 49.9 1% 0402
- CLK_MCH_3GPLL R197 49.9 1% 0402
- CLK_MCH_3GPLL- R198 49.9 1% 0402
- DOT96 R295 49.9 1% 0402
- DOT96- R296 49.9 1% 0402
- CLK_SRC0 R397 49.9 1% 0402 NC
- CLK_SRC0- R398 49.9 1% 0402 NC
- PCLK_ICH C372 10PF 0402
- PCLK_MINI C427 10PF 0402
- PCLK_CARD C425 10PF 0402
- PCLK_FWH C426 10PF 0402
- PCLK_LAN C423 10PF 0402
- PCLK_LPC C424 10PF 0402
- 14M_ICH C382 10PF 0402
- CLK_SSC_IN C377 10PF 0402

			
MICRO-STAR INT'L CO.,LTD.			
CLOCK Generator (ICS954206)			
Title	Document Number	Rev	
Size	MS-1012	1.1	
Custom			
Date:	Friday, January 21, 2005	Sheet	18 of 39

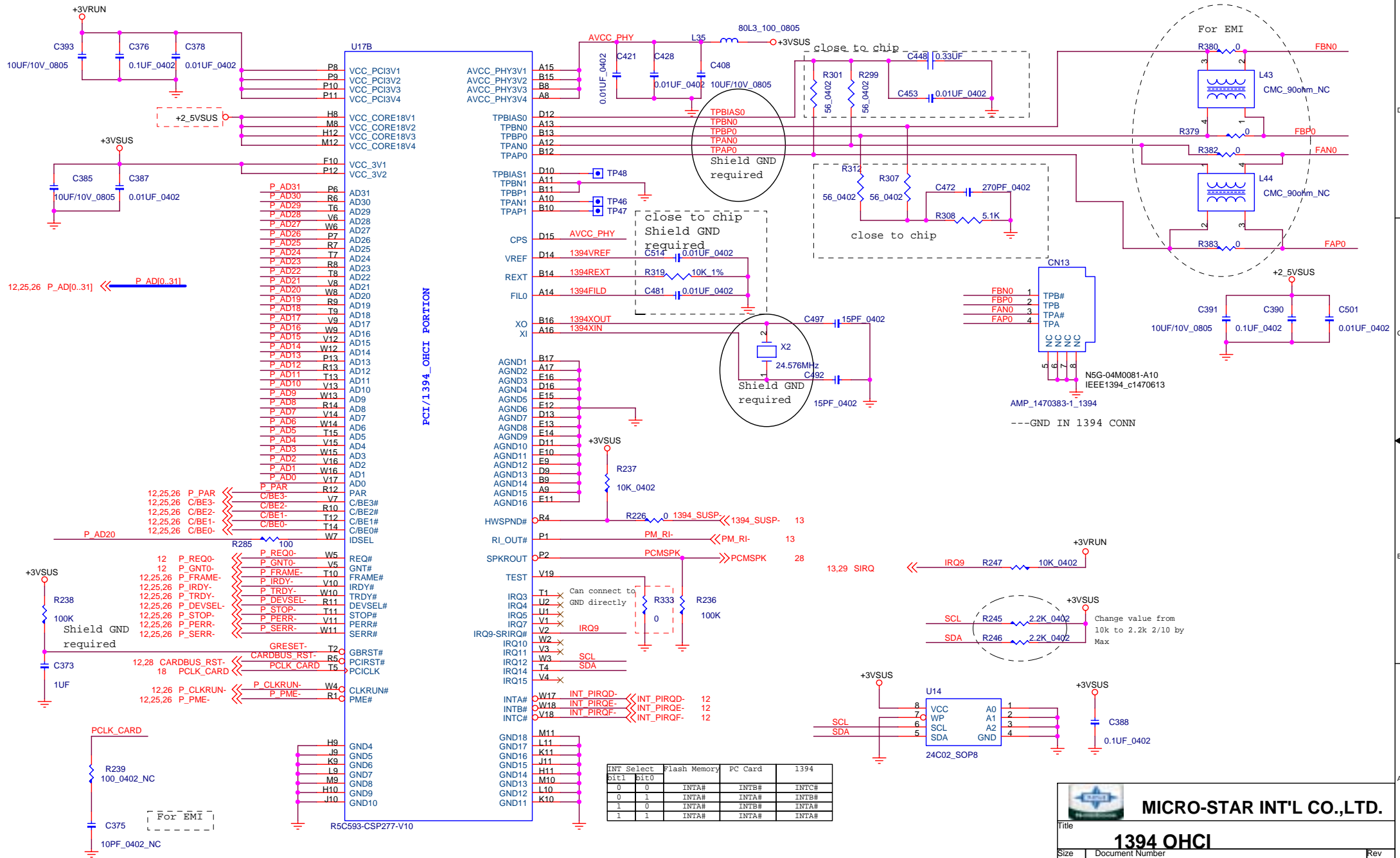


MICRO-STAR INT'L CO.,LTD.

Title: **CRT & LVDS CONN**

Size: Custom Document Number: **MS-1012** Rev: 1.1

Date: Friday, January 21, 2005 Sheet: 19 of 39



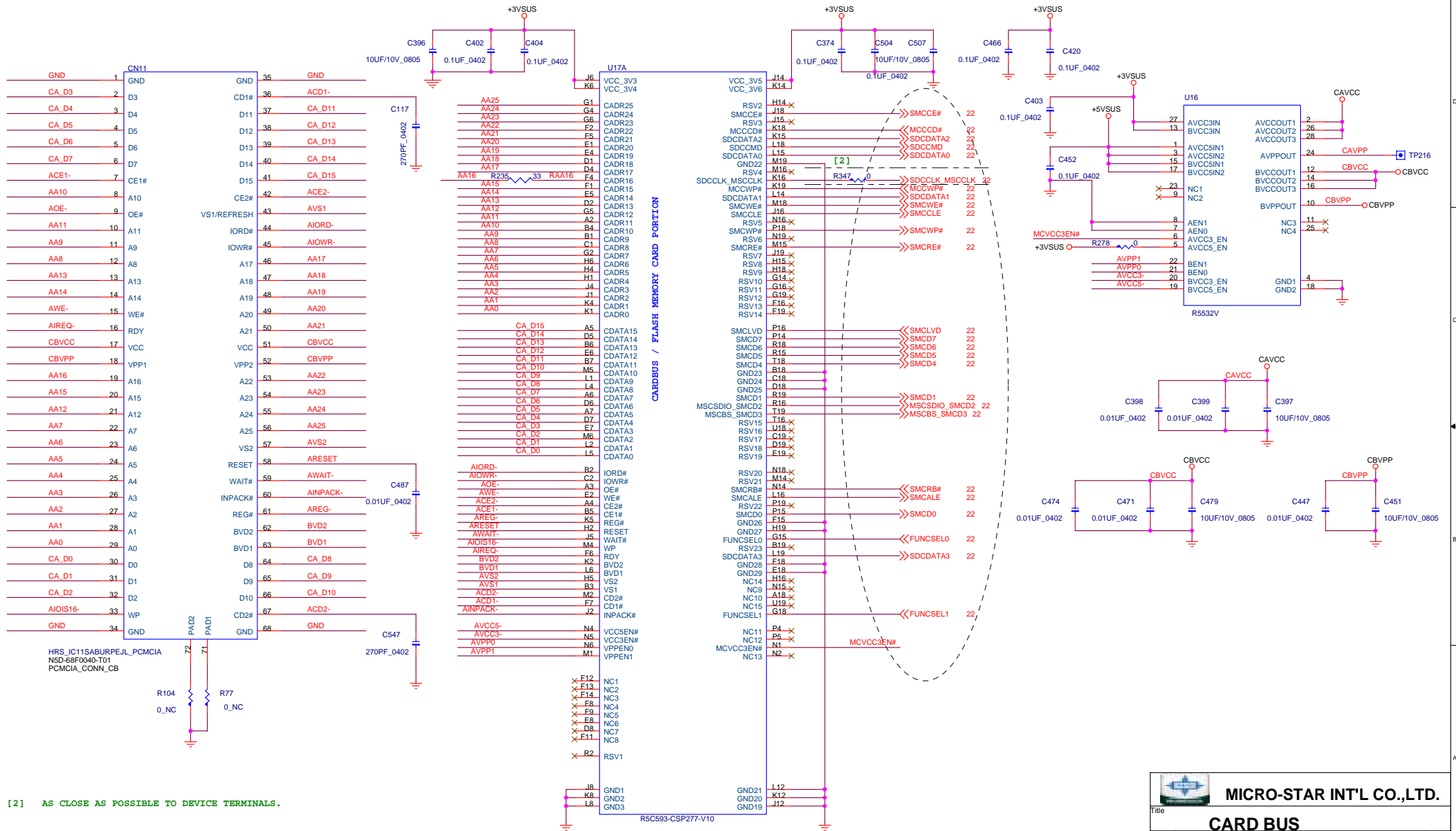
INT Select	Flash Memory	PC Card	1394
bit1 bit0	INTA#	INTB#	INTC#
0 0	INTA#	INTB#	INTB#
0 1	INTA#	INTB#	INTA#
1 0	INTA#	INTB#	INTA#
1 1	INTA#	INTA#	INTA#

MICRO-STAR INT'L CO.,LTD.

Title: **1394 OHCI**

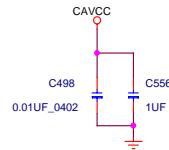
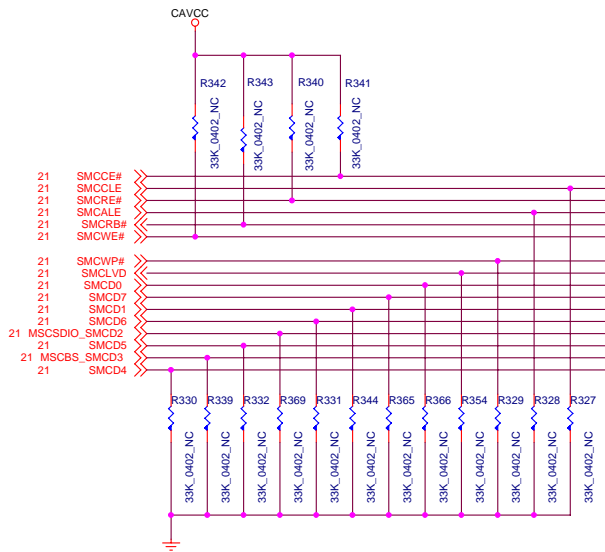
Size B Document Number: **MS-1012** Rev 1.1

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[2] AS CLOSE AS POSSIBLE TO DEVICE TERMINALS.

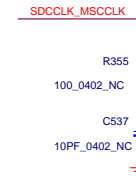
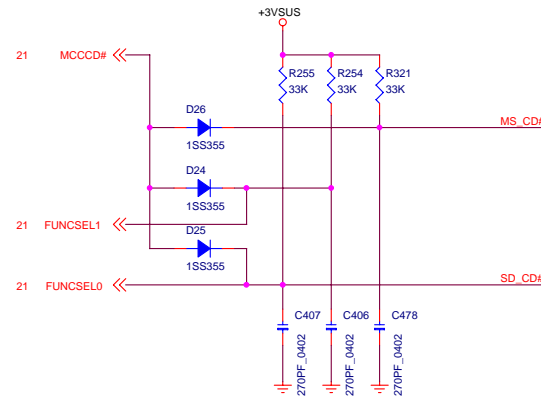
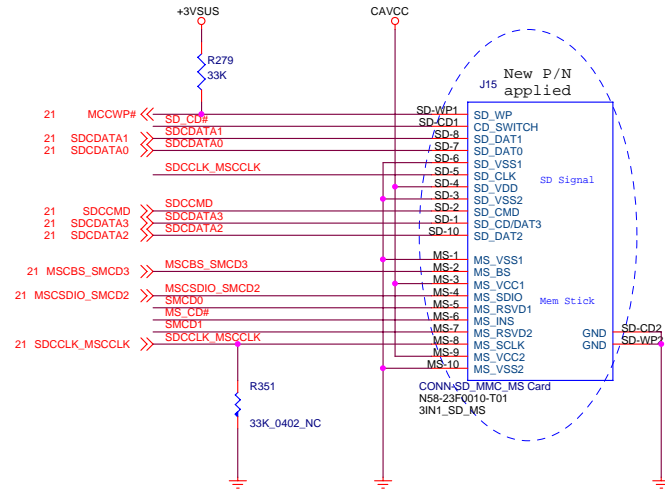
		MICRO-STAR INT'L CO.,LTD.	
CARD BUS			
Size	Document Number	Rev	
Custom	MS-1012	1.1	
Date:	Friday, January 21, 2005	Sheet	21 of 39

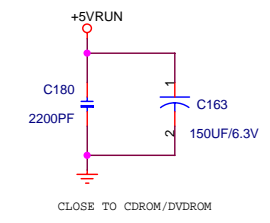
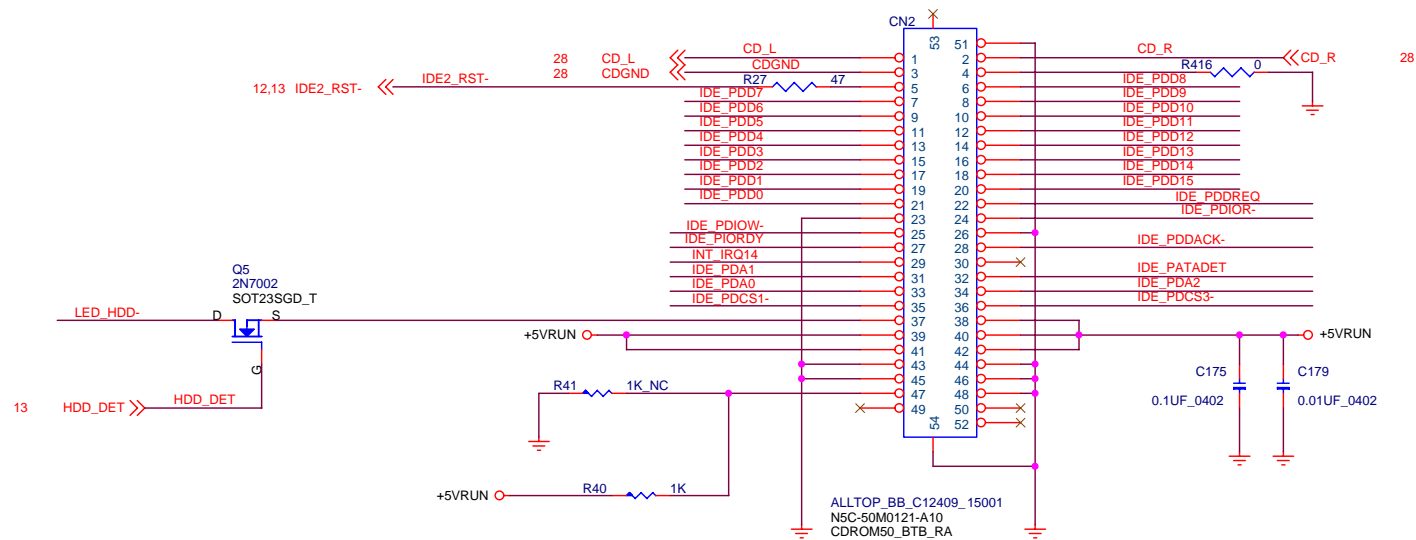
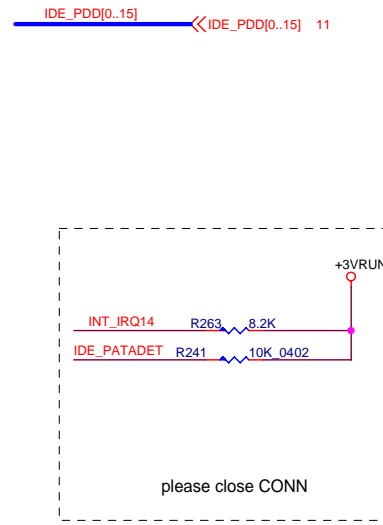
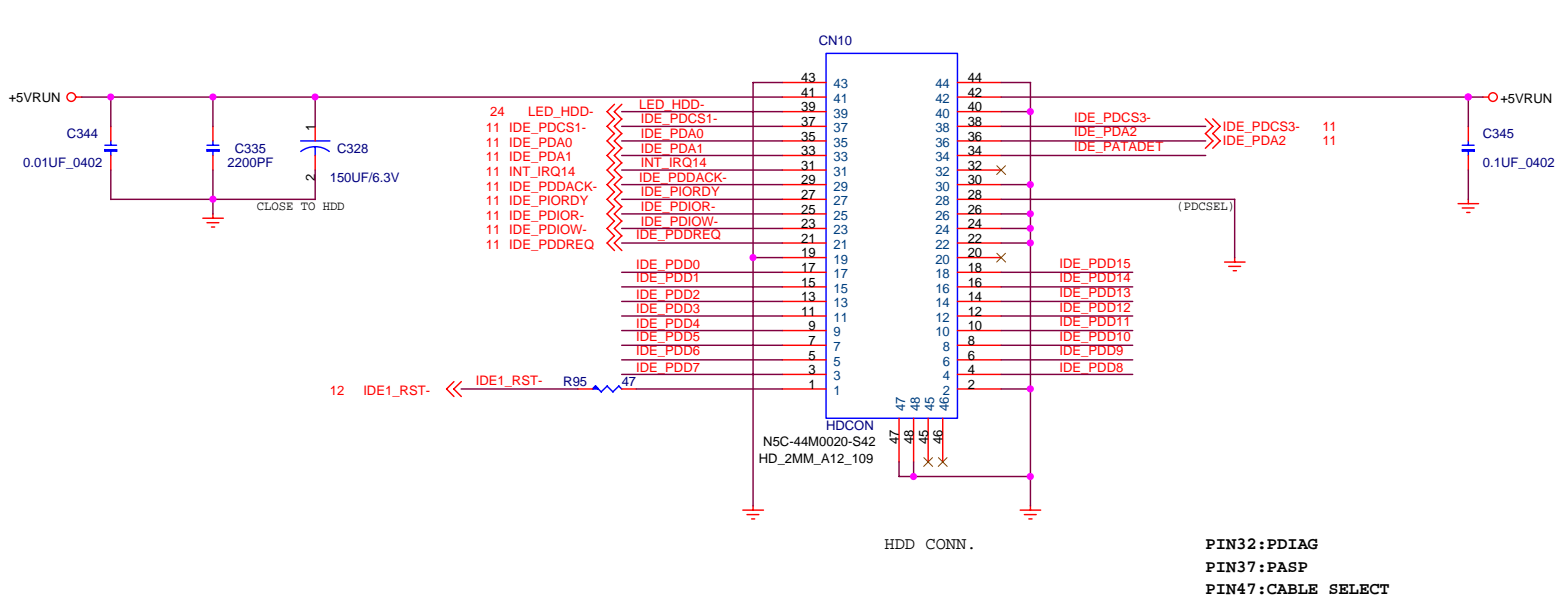


Memory Card Detect Logic Table

MS_CD#	SM_CD#	SD_CD#	Detected Card
0	0	0	-> INHIBIT
0	0	1	-> INHIBIT
0	1	0	-> INHIBIT
0	1	1	-> MemoryStick Detected
1	0	0	-> INHIBIT
1	0	1	-> SmartMedia Detected
1	1	0	-> SD/MMC Detected
1	1	1	-> Not Detected

DO NOT INSERT SMARTMEDIA, SD/MMC AND MEMORYSTICK SIMULTANEOUSLY.



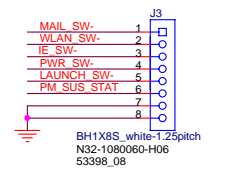
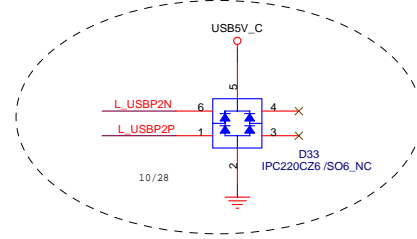
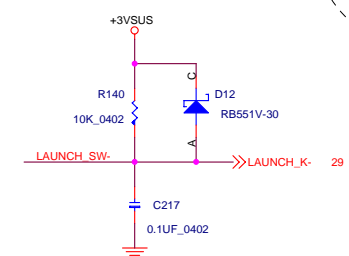
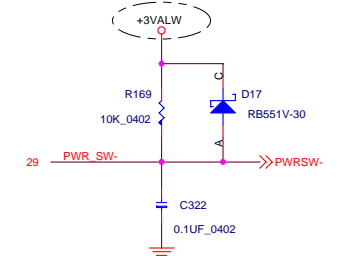
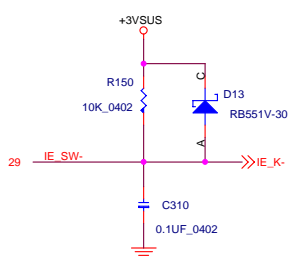
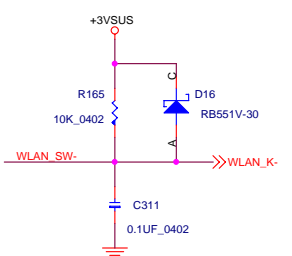
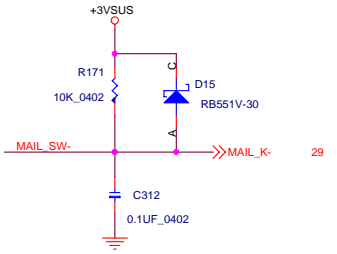
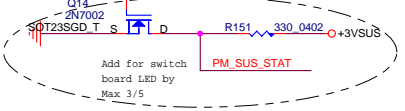
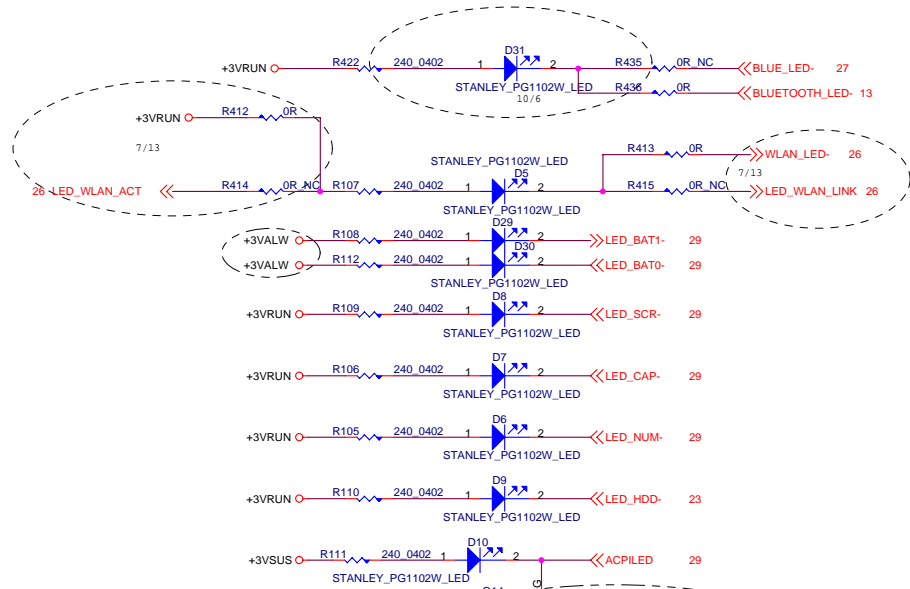
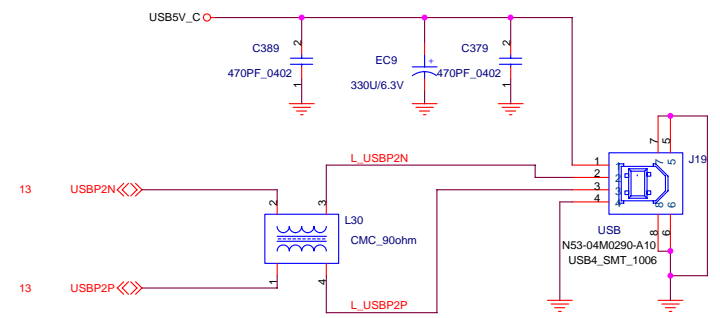
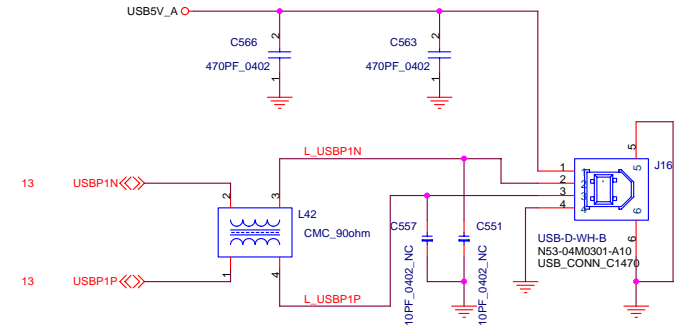
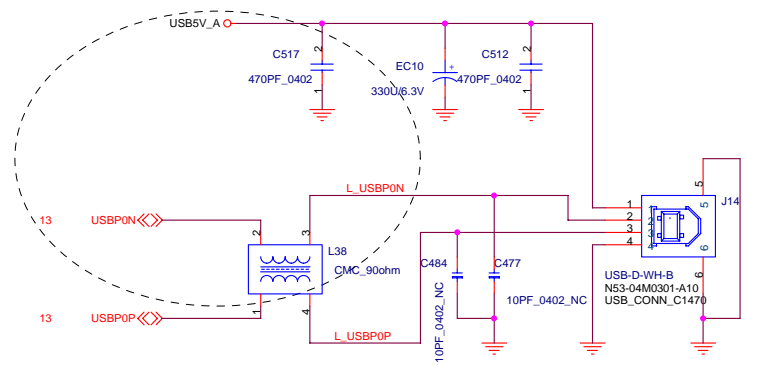
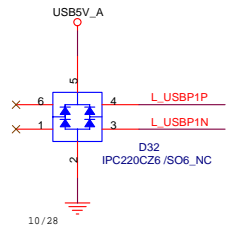
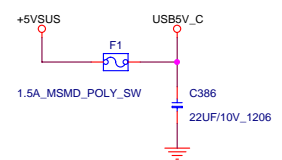
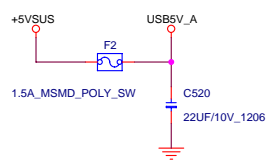
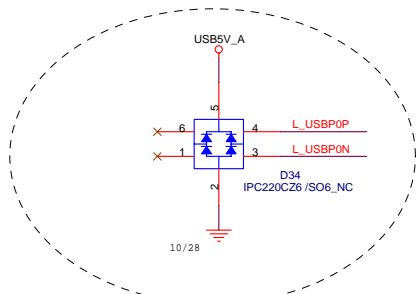


MICRO-STAR INT'L CO.,LTD.

Title: **HDD & CDROM CONN**

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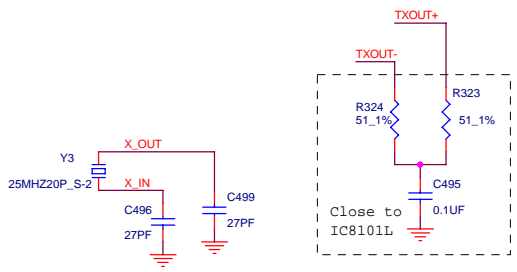


MICRO-STAR INT'L CO.,LTD.

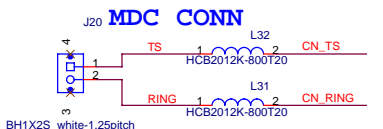
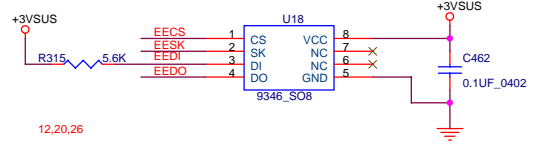
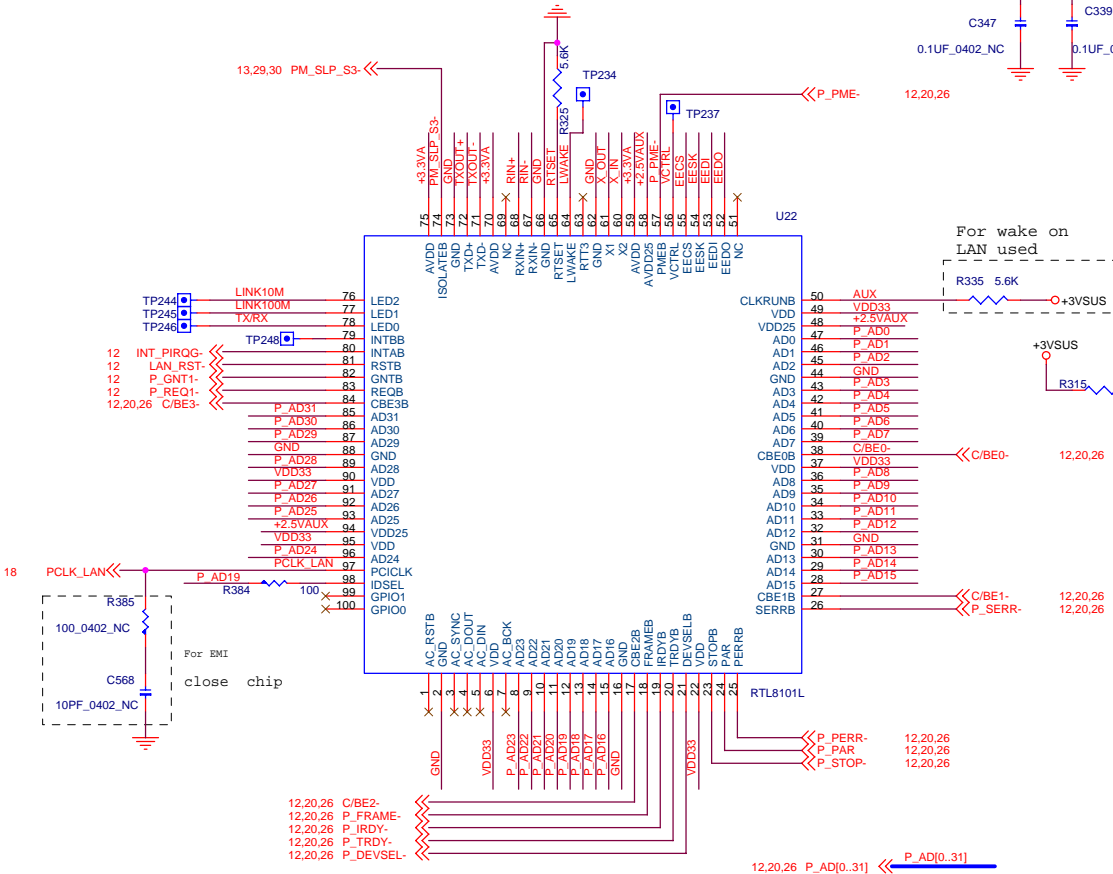
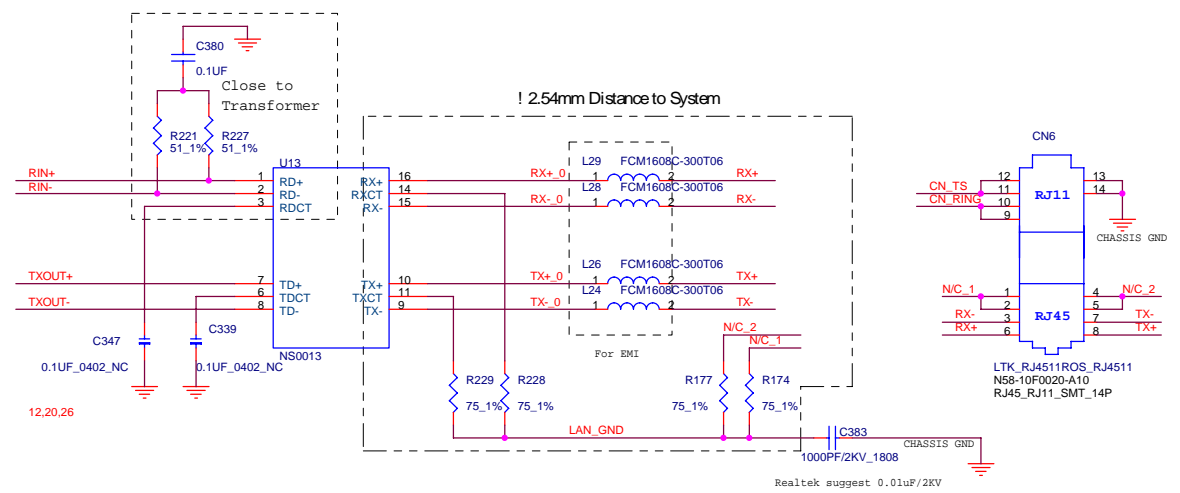
Title: **USB2.0 CON X3 & LED & SW**

Size: Document Number
Custpm: **MS-1012** Rev: 1.1

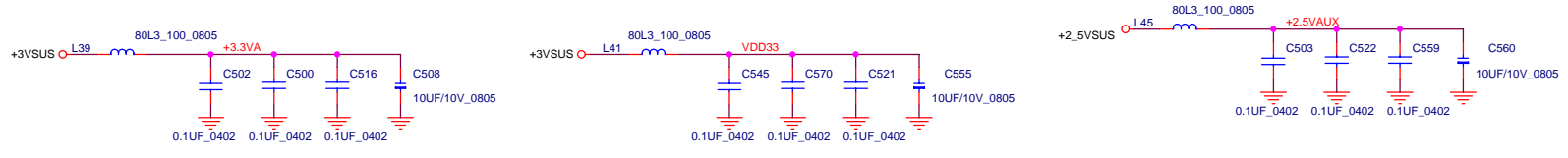
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Lay out Rule:
 1. Tx+/- and Rx+/- length: +100mil
 2. Through hole less.
 3. Tx+/- _____
 Rx+/- _____
 Ground separates Tx/Rx.



BH1X2S_white-1.25pitch
 N32-1020320-M06
 SD_53780_0210
 OTHER SIGNALS ARE FAR AWAY THIS TWO TRACES.
 *** THIS DISTANCE IS MIN. 2.5mm***
 ***THIS SPACE IS IN 3D SPACE AND INCLUDE ANY ***
 ***POWER ANG GROUND ***



MICRO-STAR INT'L CO.,LTD.

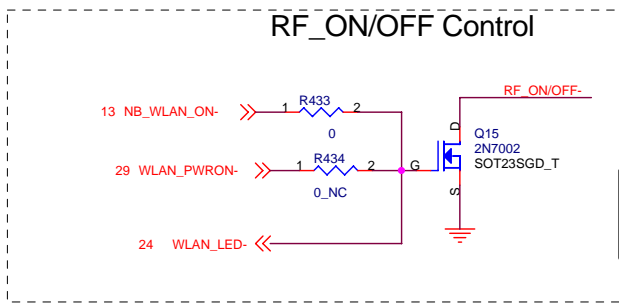
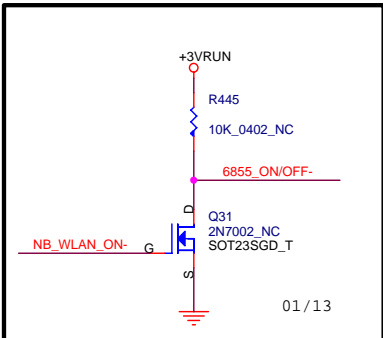
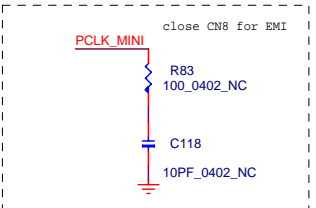
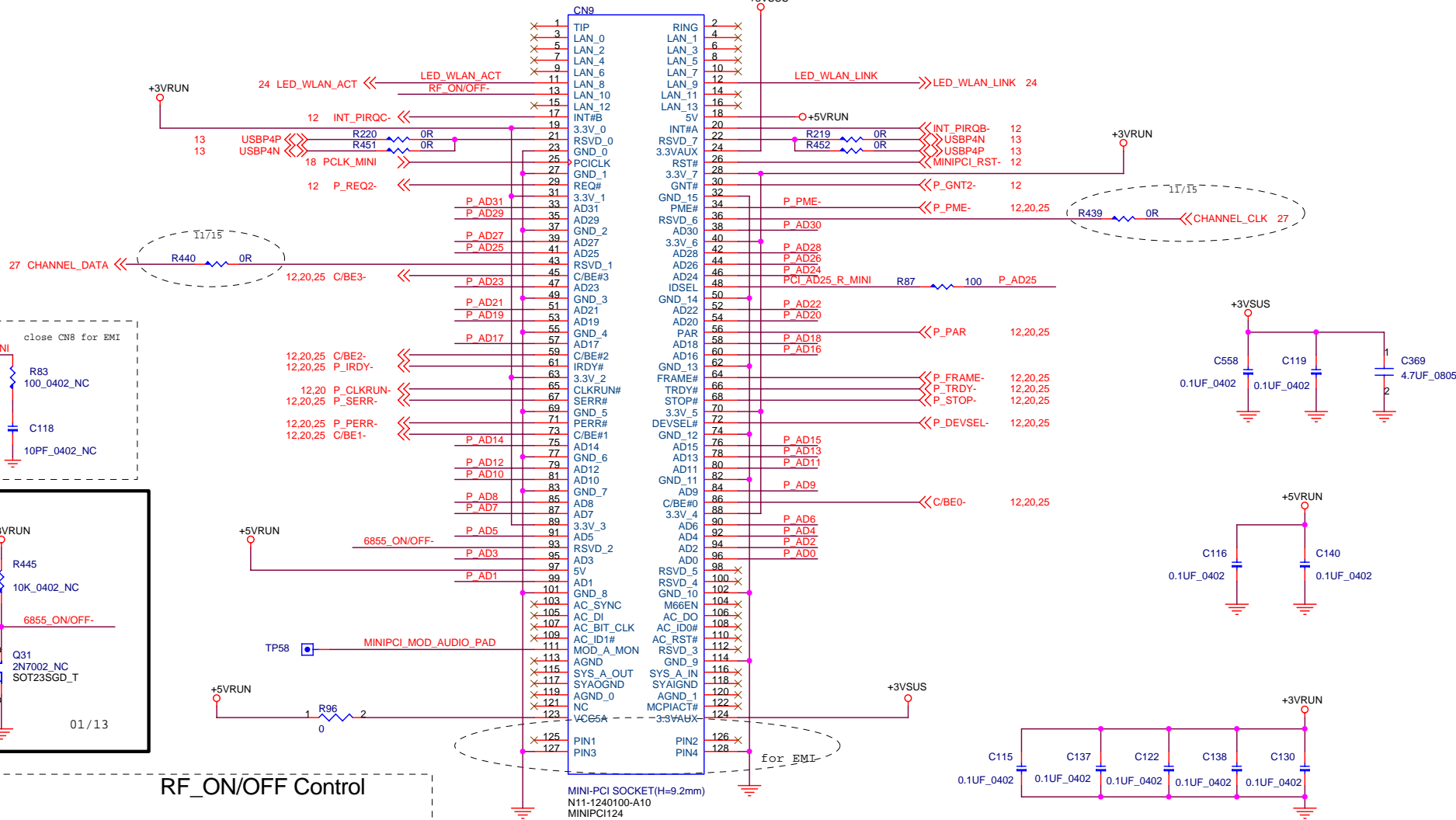
Title: **PCI LAN**

Size: _____ Document Number: **MS-1012** Rev: 1.1

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MINI PCI SOCKET

P_AD10..31 << P_AD[0..31] 12,20,25



**OPEN RF ON (HiZ)
LOW RF OFF**

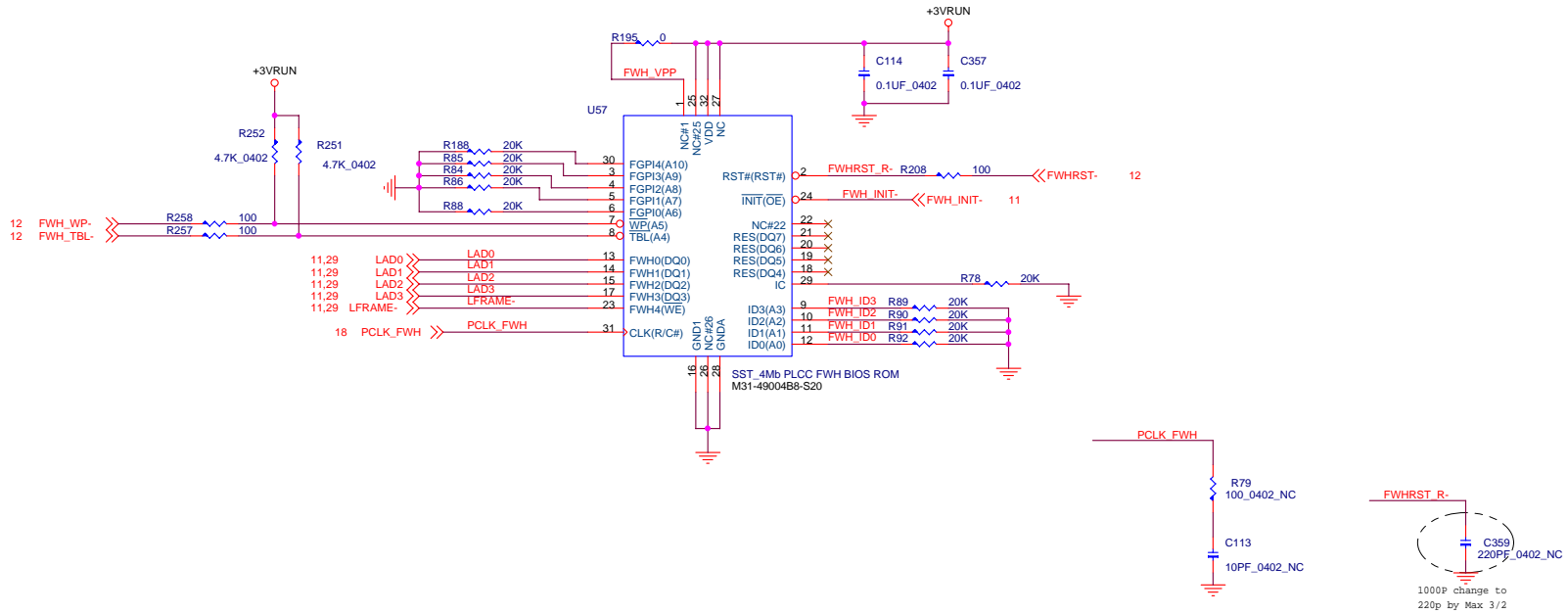
MINI PCI POWER SPEC.
 TOYAL : 2W
 +5V : 100mA
 3.3VAUX : 5/200/375mA
 VCC5A : 100mA
 +3V

MICRO-STAR INT'L CO.,LTD.

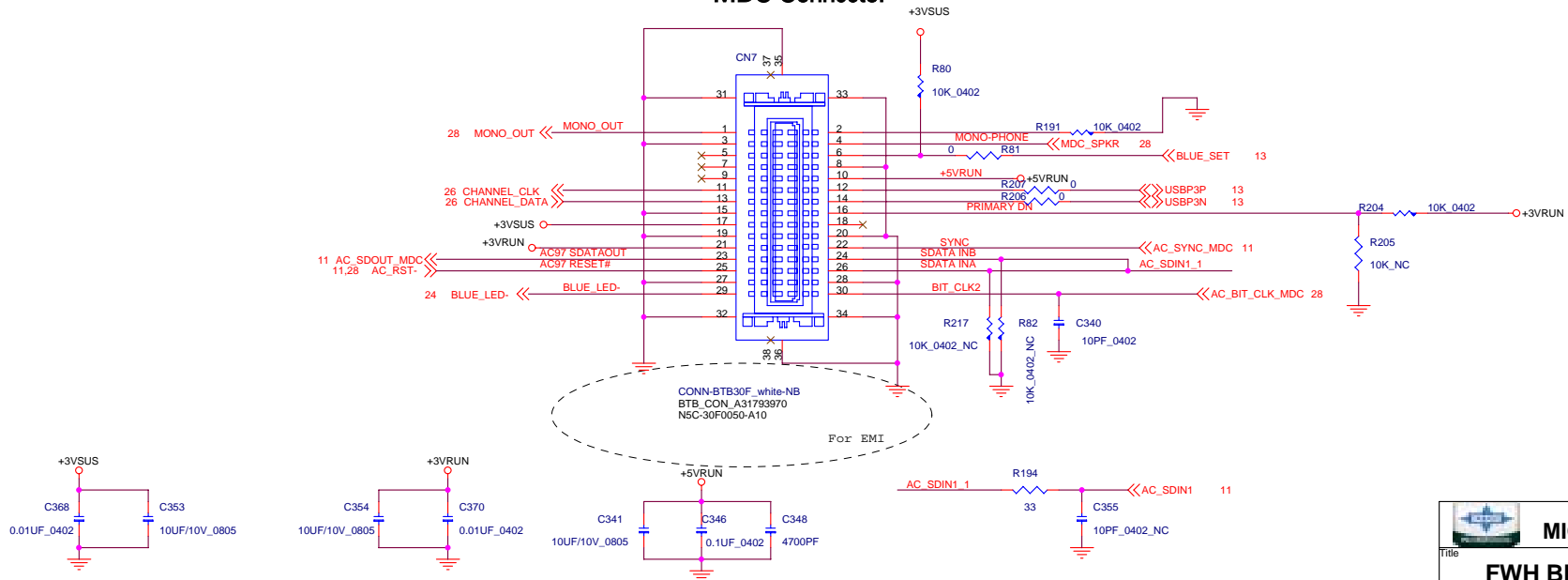
Title: **MINI PCI**


Size B Document Number: **MS-1012** Rev 1.1

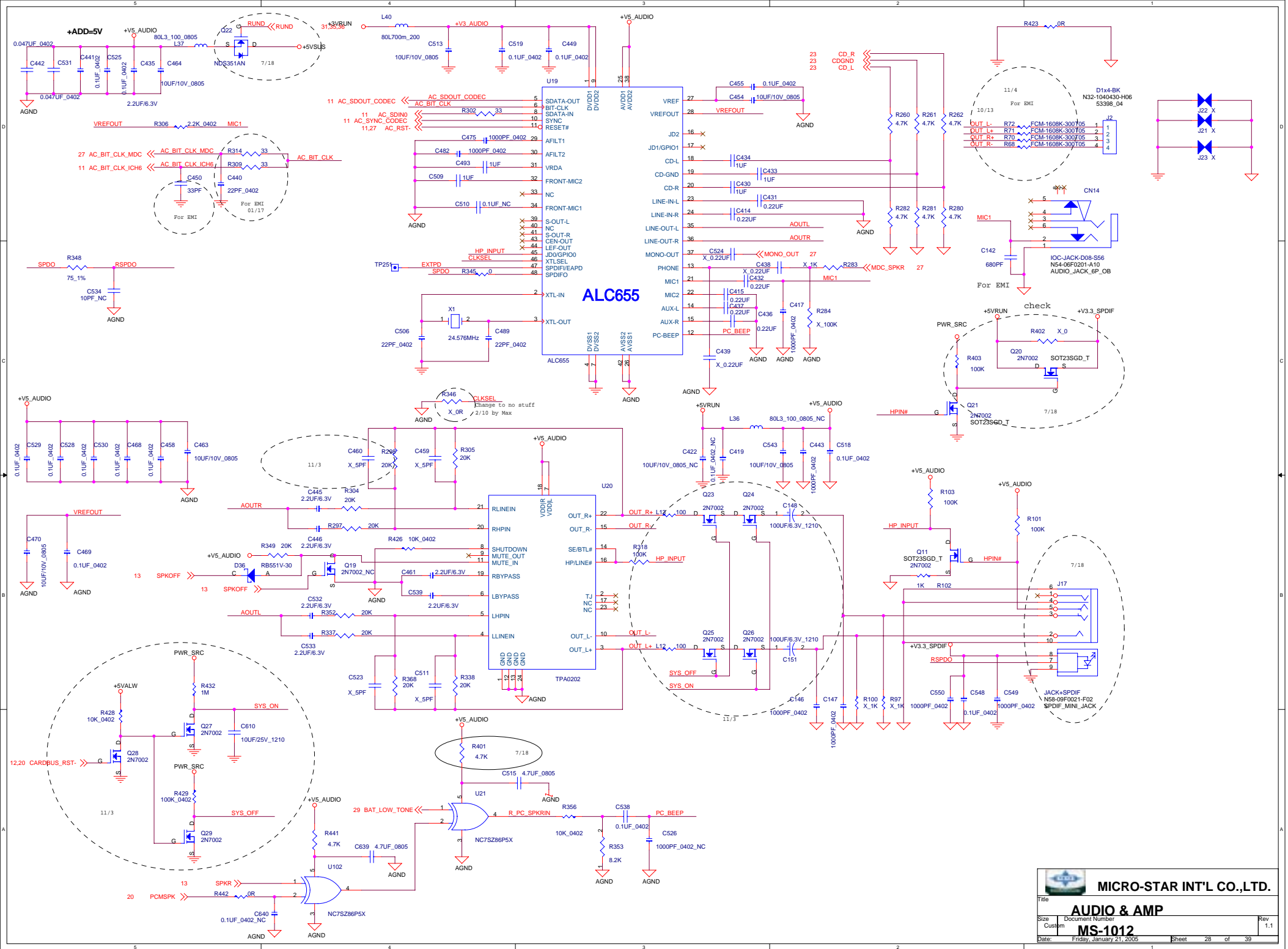
Date: Friday, January 21, 2005 Sheet 26 of 39

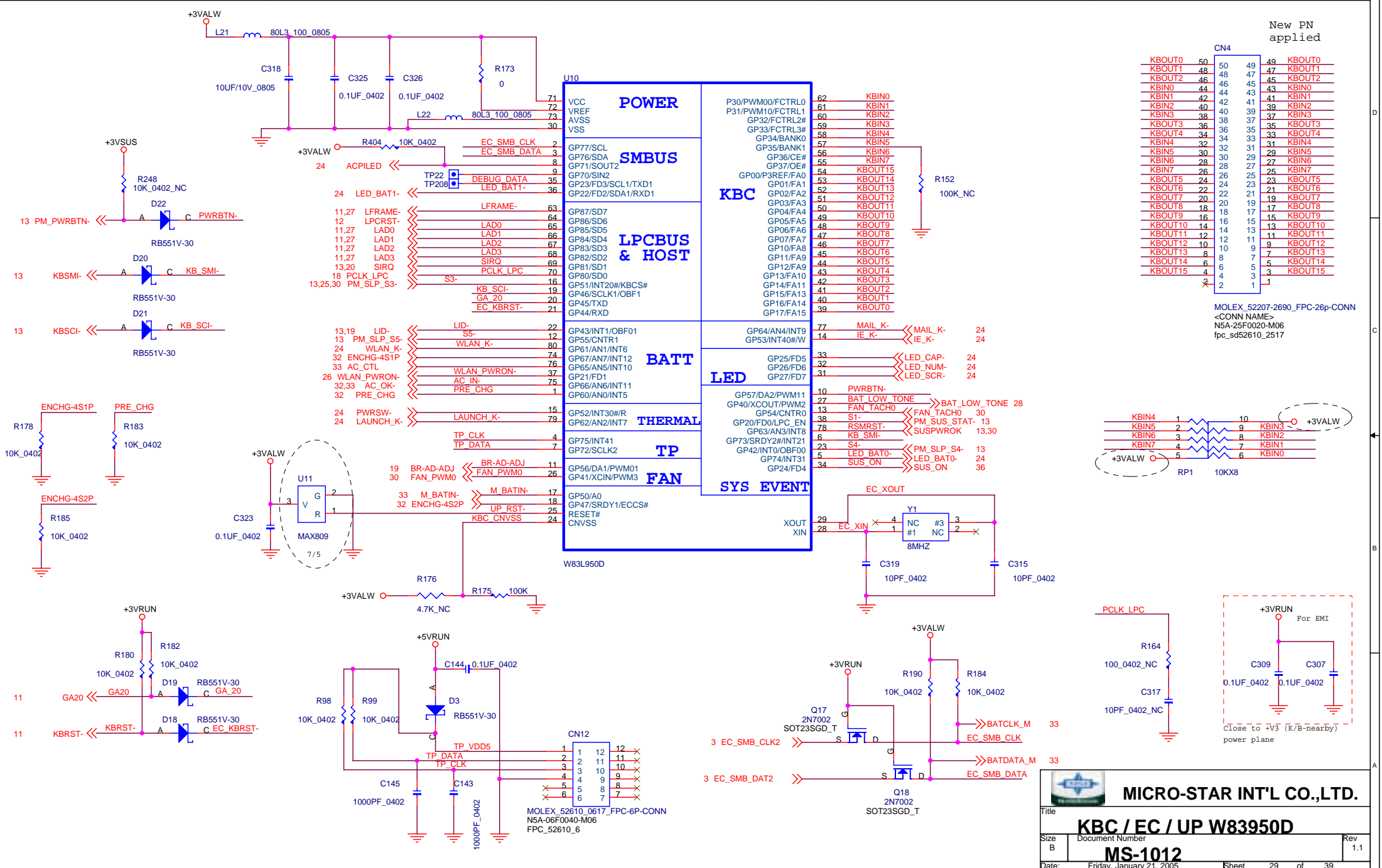


MDC Connector



		
MICRO-STAR INT'L CO.,LTD.		
FWH BIOS & MDC CONN		
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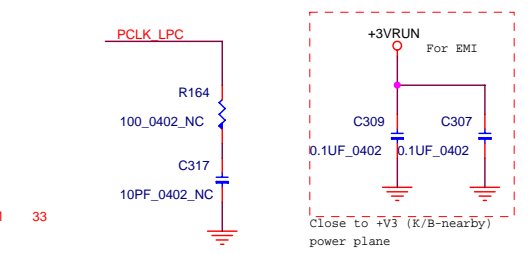
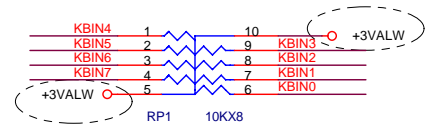




New PN applied

CN4		New PN applied	
KBOUT0	50	49	KBOUT0
KBOUT1	48	47	KBOUT1
KBOUT2	46	45	KBOUT2
KBIN0	44	43	KBIN0
KBIN1	42	41	KBIN1
KBIN2	40	39	KBIN2
KBIN3	38	37	KBIN3
KBOUT3	36	35	KBOUT3
KBOUT4	34	33	KBOUT4
KBIN4	32	31	KBIN4
KBIN5	30	29	KBIN5
KBIN6	28	27	KBIN6
KBOUT5	26	25	KBOUT5
KBOUT6	24	23	KBOUT6
KBOUT7	22	21	KBOUT7
KBOUT8	20	19	KBOUT8
KBOUT9	18	17	KBOUT9
KBOUT10	16	15	KBOUT10
KBOUT11	14	13	KBOUT11
KBOUT12	12	11	KBOUT12
KBOUT13	10	9	KBOUT13
KBOUT14	8	7	KBOUT14
KBOUT15	6	5	KBOUT15
	4	3	KBOUT15
	2	1	

MOLEX_52207-2690_FPC-26p-CONN
 <CONN NAME>
 N5A-25F0020-M06
 fpc_sd52610_2517

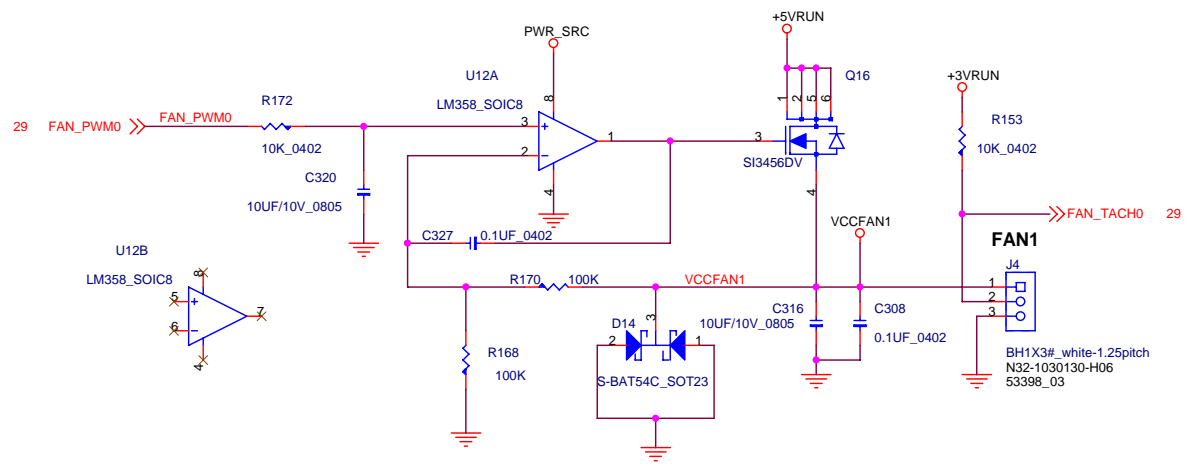
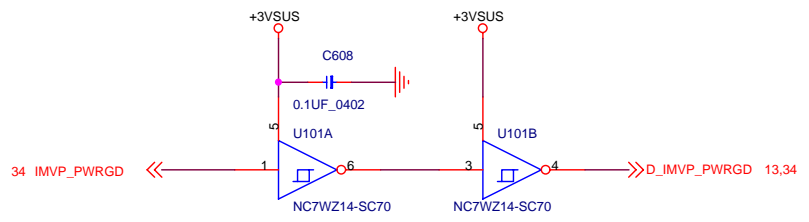
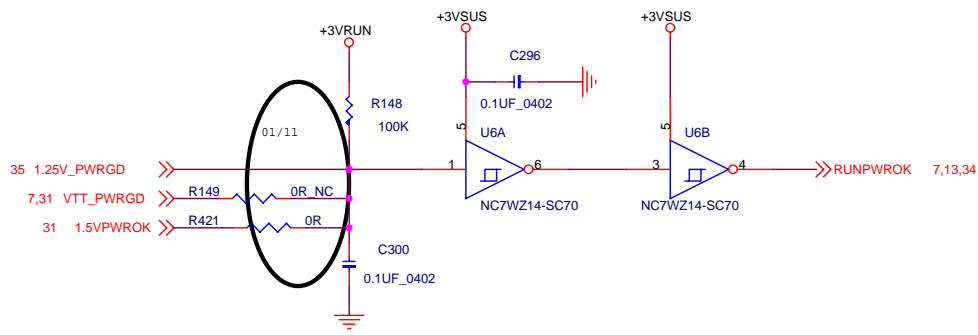
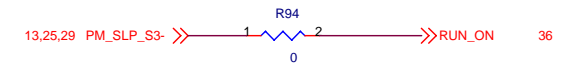
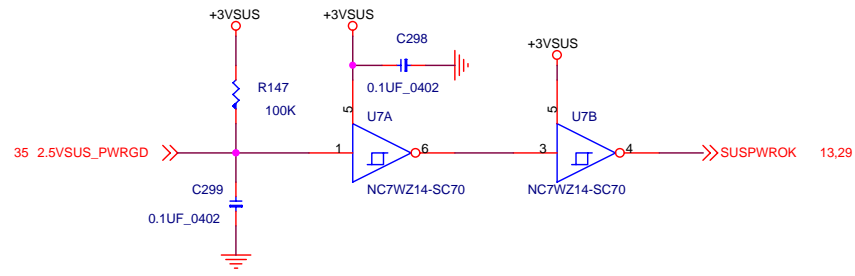



MICRO-STAR INT'L CO.,LTD.

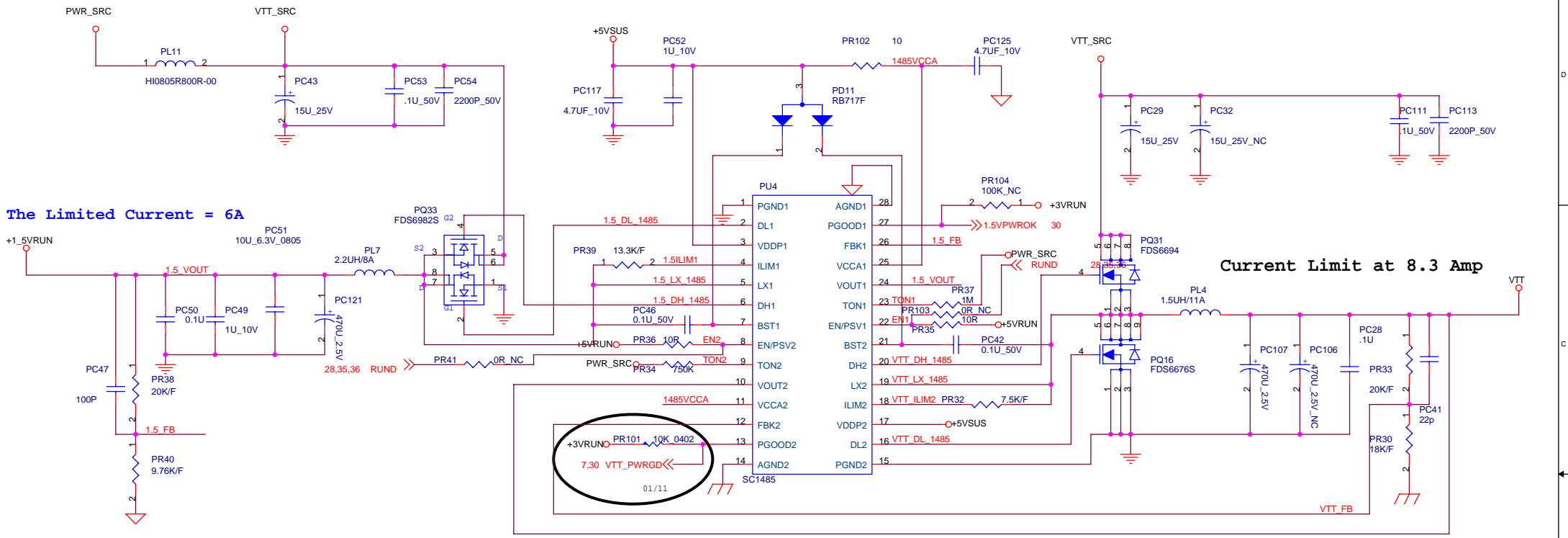
Title: **KBC / EC / UP W83950D**

Size: B Document Number: **MS-1012** Rev: 1.1

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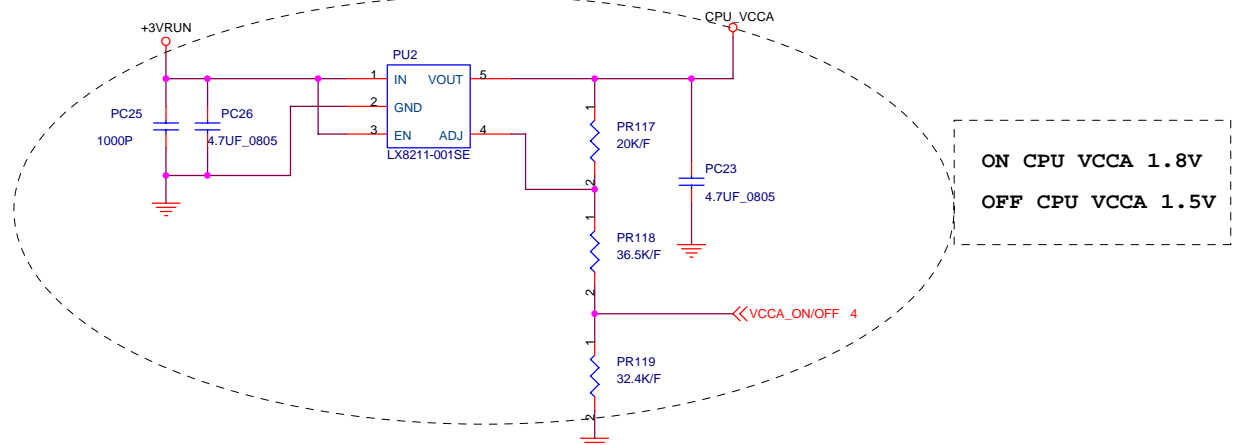
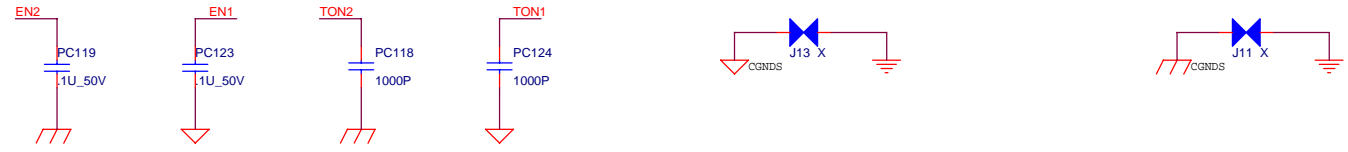
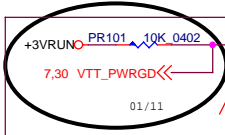


		
MICRO-STAR INT'L CO.,LTD.		
POWER GOOD & FAN		
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The Limited Current = 6A

Current Limit at 8.3 Amp

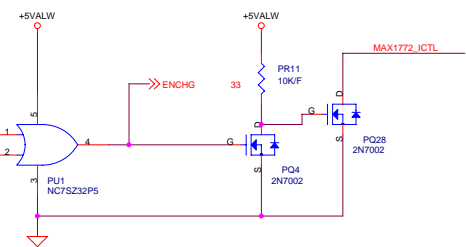
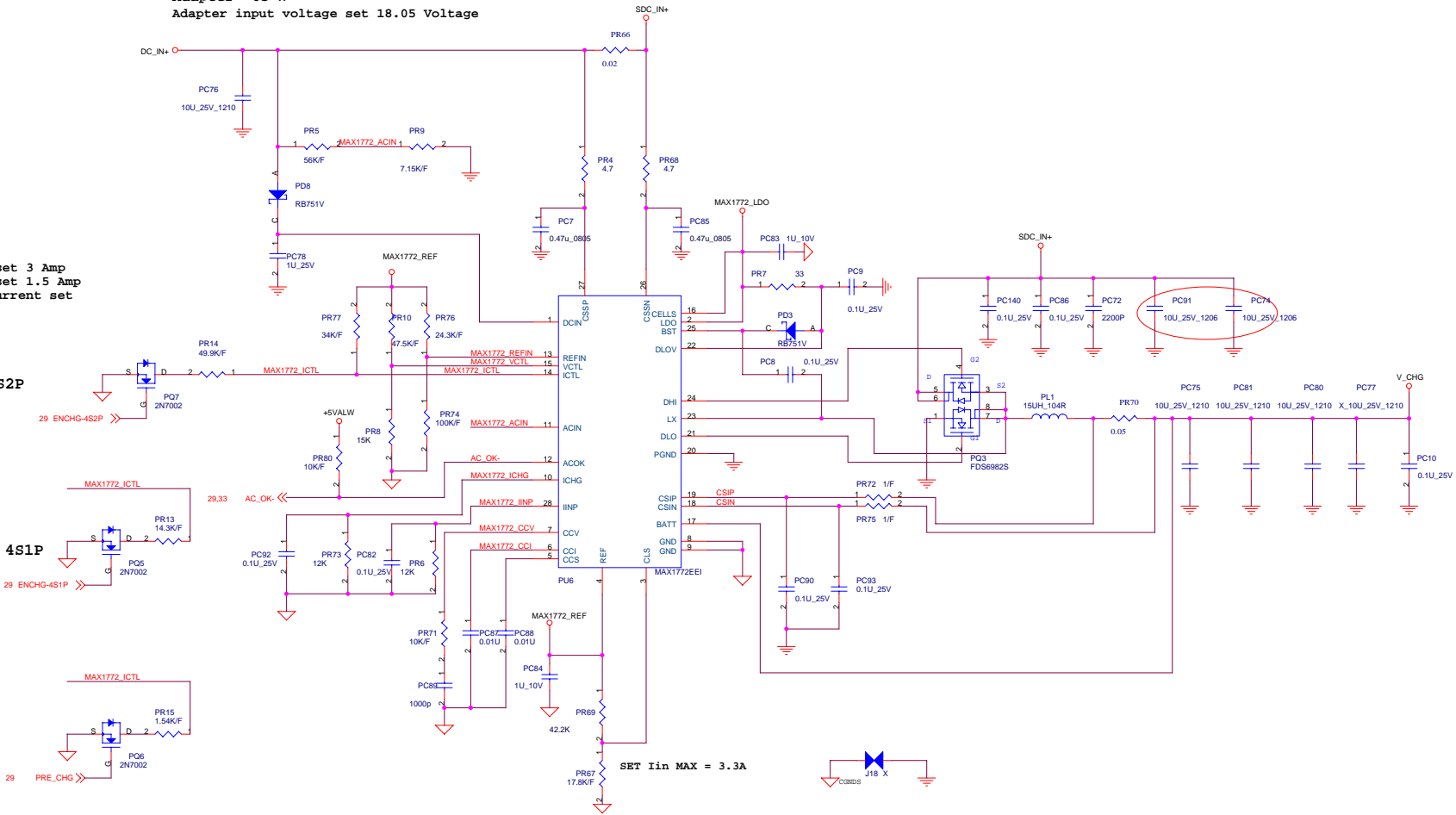


Adapter= 65 W
 Adapter input voltage set 18.05 Voltage

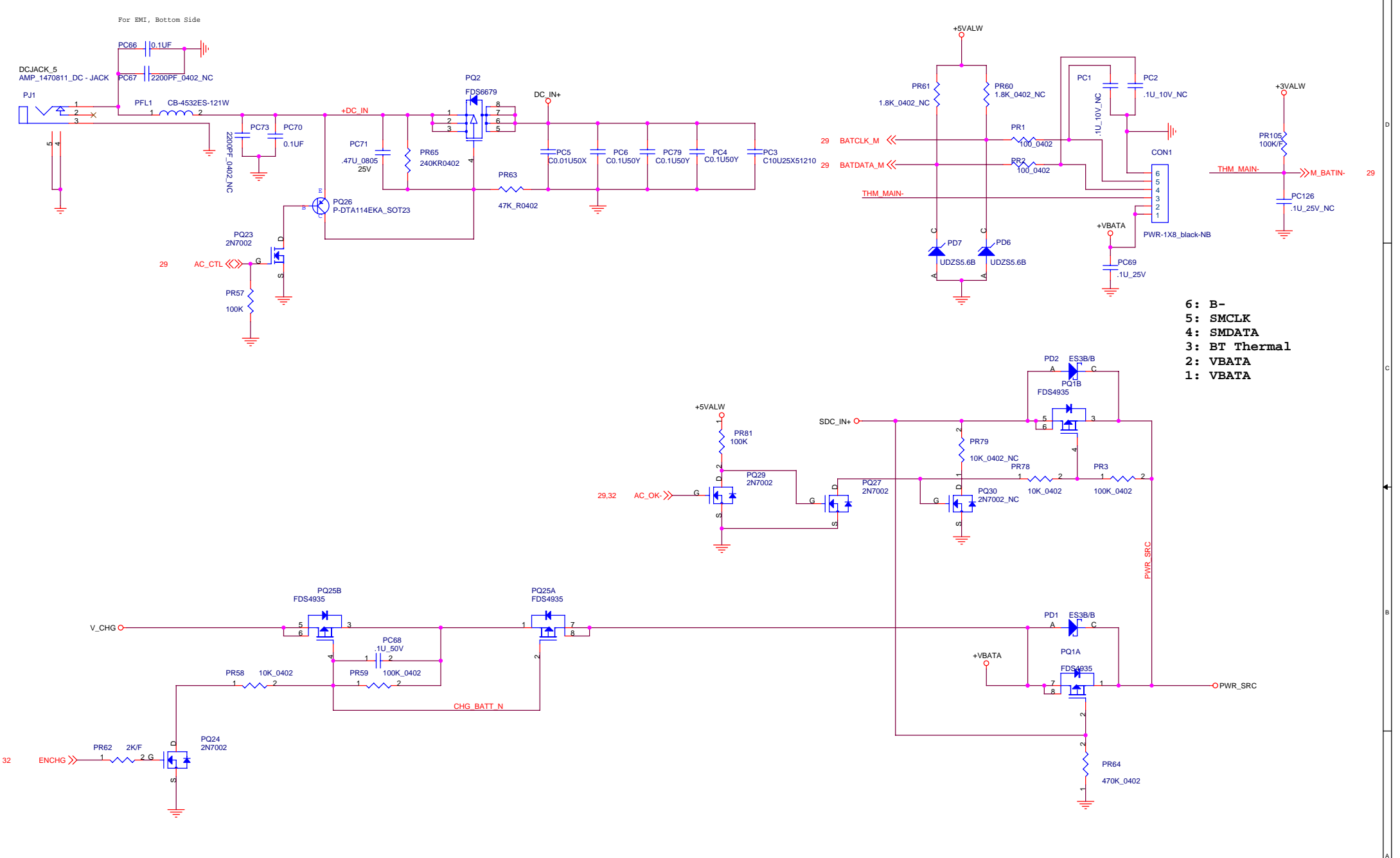
4S2P: Charger current set 3 Amp
 4S1P: Charger current set 1.5 Amp
 Pre-charger: Charger current set 200mA

Charge to 3A for 4S2P


Charge to 1.5A for 4S1P

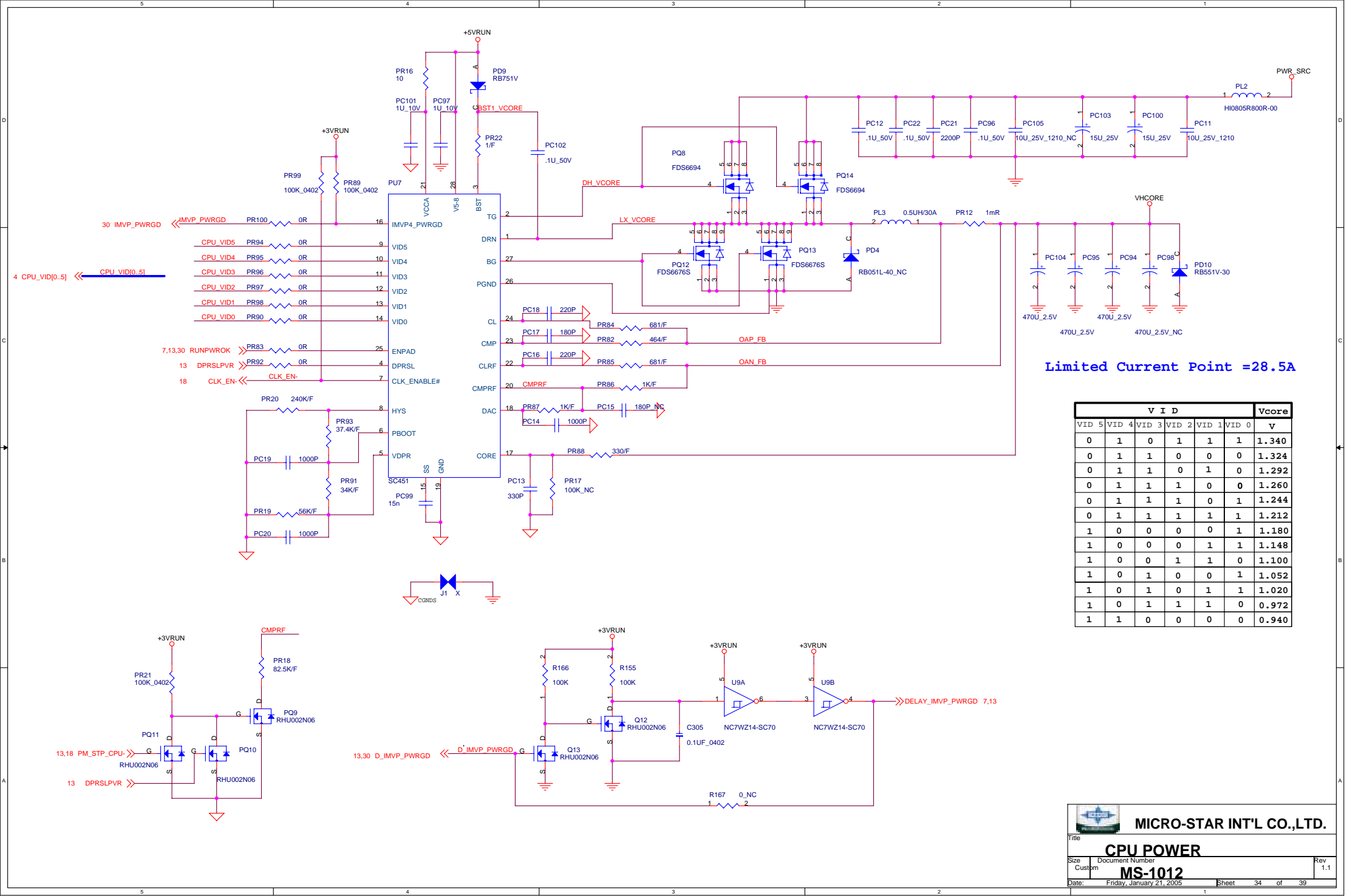


	4S1P	4S2P	Pre-charger
Pre-charger	1	0	1
Fast-charger	1	0	0
Fast-charger	0	1	0
Stop-charger	0	0	0



- 6: B-
- 5: SMCLK
- 4: SMDATA
- 3: BT Thermal
- 2: VBATA
- 1: VBATA

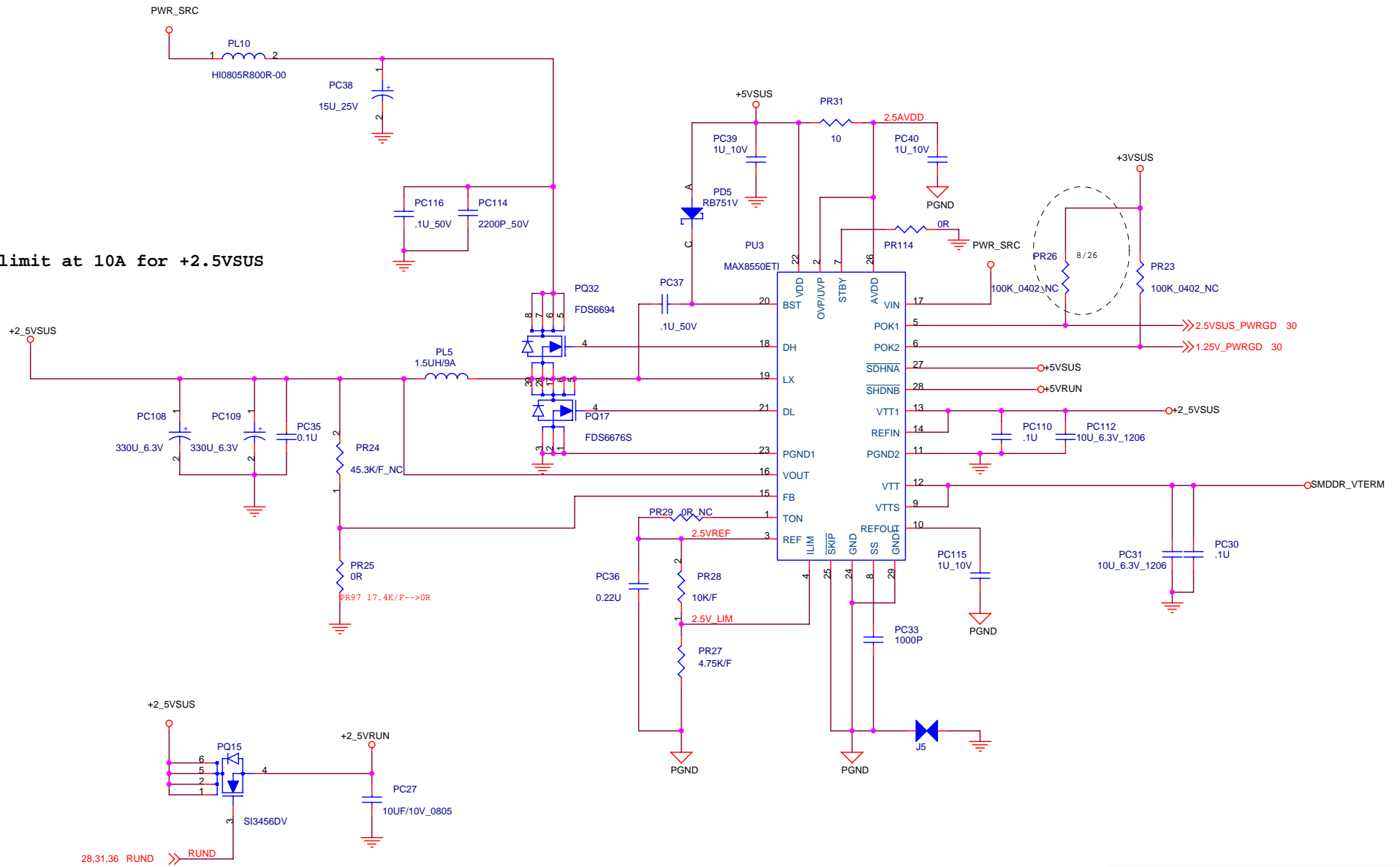
 MICRO-STAR INT'L CO.,LTD.	
Title: Battery Select	
Size: Custom	Document Number: MS-1012
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Rev: 1.1	




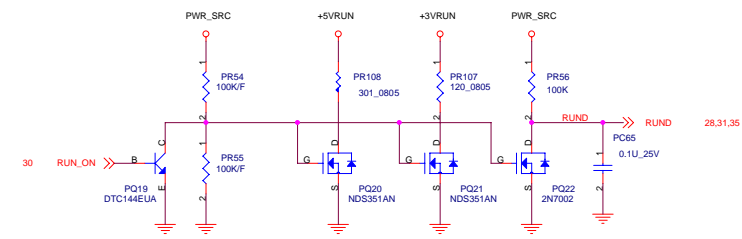
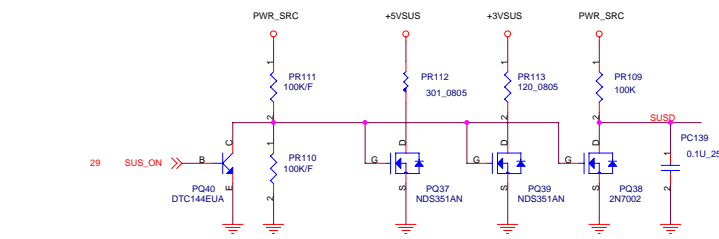
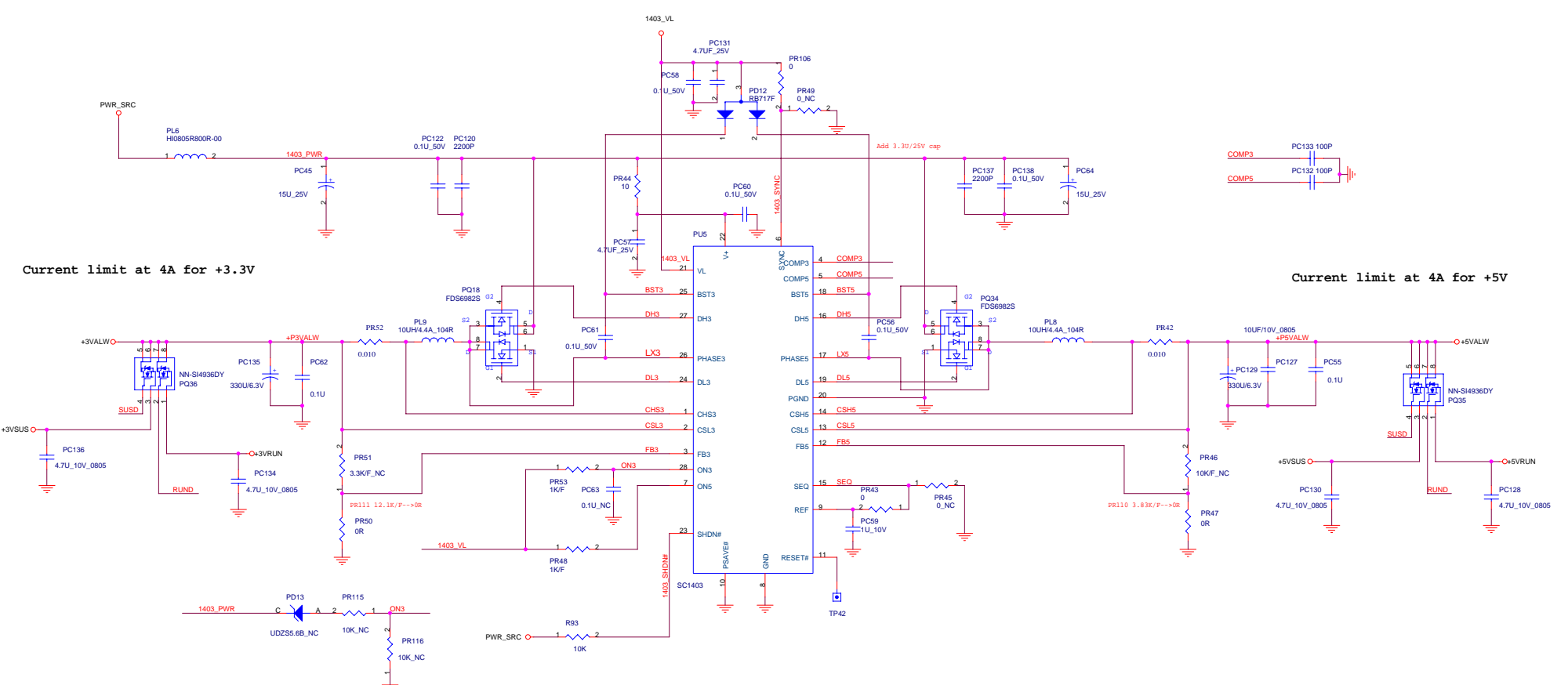
Limited Current Point =28.5A

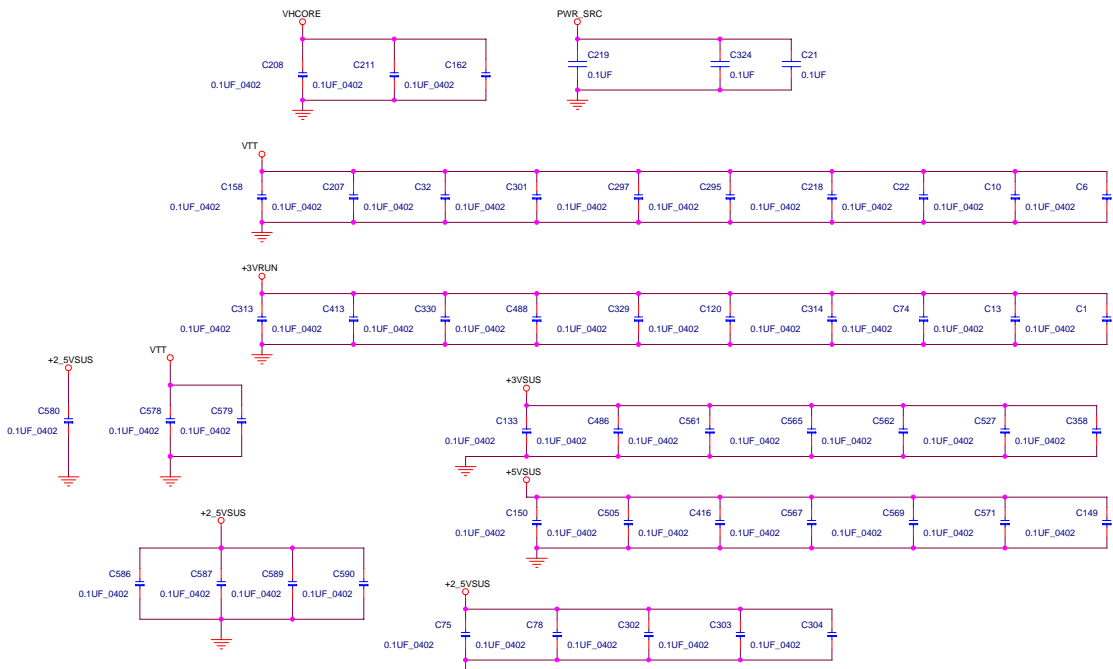
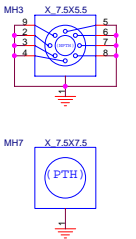
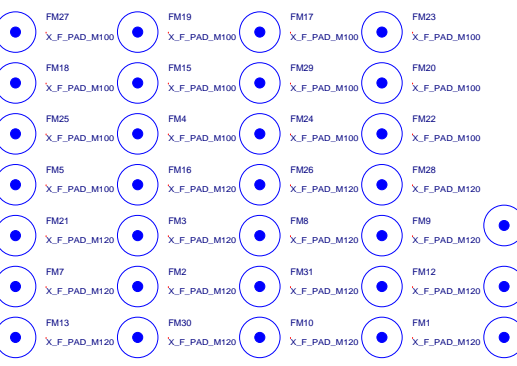
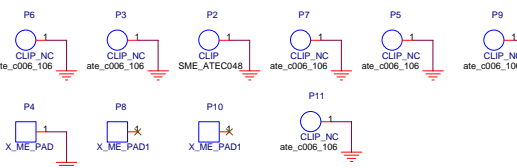
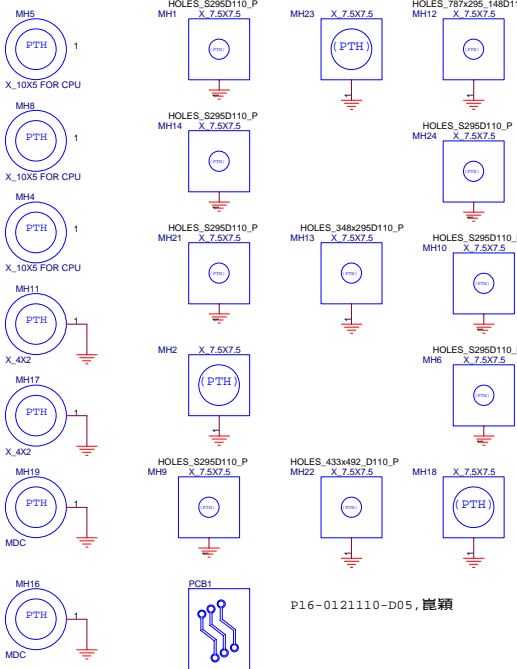
V I D						Vcore
VID 5	VID 4	VID 3	VID 2	VID 1	VID 0	v
0	1	0	1	1	1	1.340
0	1	1	0	0	0	1.324
0	1	1	0	1	0	1.292
0	1	1	1	0	0	1.260
0	1	1	1	0	1	1.244
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1	0	0	0	0	1	1.180
1	0	0	0	1	1	1.148
1	0	0	1	1	0	1.100
1	0	1	0	0	1	1.052
1	0	1	0	1	1	1.020
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Current limit at 10A for +2.5VSUS

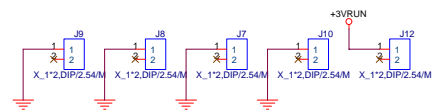


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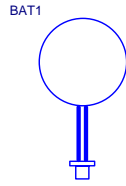




For EMI



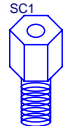
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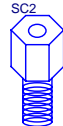
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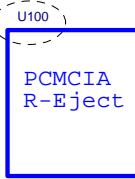
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SC2
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U100
PCMCIA
R-Eject
PCMCIA-EJECT
NSD-68M0170-T01



SHD1
PCMCIA SHIELDING
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ML1
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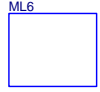
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ML5
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ML2
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ML6
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SHD2
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SC3
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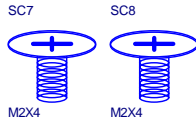
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SC5
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SC6
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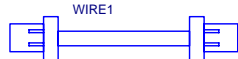


SC7
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SC8
M2X4



MDC1
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SS2-2801040-A95



WIRE1
MDCWIRE
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ML7
HD CUSHION SPONG
E25-1012050-SE2



ML8
HD CUSHION SPONG
E25-1012050-SE2



ML9
HDD MYLAR
E26-1013010-SE2



ML10
THERMAL PAD
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ML11
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ML12
CONDUCTIVE GASKET FOR RJ11
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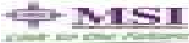


ML13
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1. Modify Page7 NB_PWRGD Link to VTT_PWRGD add R443 & R444
2. Modify Page7 Delete R58 & R55 & R59
3. Modify Page13 Add R453 & R446 0 ohm NC
4. For EMI Modify Page 17
C270,C231,C284,C242,C289,C238,C273,C226,C105,C281,C290,C236
C293,C106,C278,C267,C268 Change to 0.01UF_0402 CAP
5. For MSI_6855 Wireless & Bluebooth Mini_PCI
Modify Page 26 Add R445 10K ohm & Q31 2N7002 & R451 & R452 0 ohm
6. For EMI Solution (1) Modify Page 28 R314 0 ohm change to 33 ohm
(2) Modify Page 28 add C440 22PF CAP
(3) Modify Page 28 add C450 33PF CAP
(3) Modify Page 28 add short pin J23,J2,J22
7. Modify Page 28 Delete Q19 2N7002 & add D36
8. Modify Page 30 Delete R149 0 ohm
9. For EMI Solution Modify Page 32 Add PL12 & PC140
10. For EMI Solution Modify Page 31 PR101 change to 10K_0402
11. For EMI Solution Modify Page 37 Delete P5,P6,P9
12. For EMI Solution Modify Page 33 PC67 & PC70 0.1UF_0402 CAP
13. Modify Page 28 R429 Change to 100K_0402

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