

# MS-7085

Version 0A

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## CPU:

Intel LGA775 CPU

## System Chipset:

Intel 915GV (North Bridge)

Intel ICH6 (South Bridge)

## On Board Chipset:

BIOS -- FWH EEPROM

AC'97 Codec -- ADI1981B

LPC Super I/O -- SMSC LPC47M287

LAN -- Realtek 8101L

CLOCK -- ICS954119

## Main Memory:

DDR 1 \* 2 (Max 2GB)

## Expansion Slots:

PCI SLOT \* 1

## Intersil PWM:

Controller: HIP6565 3 Phase

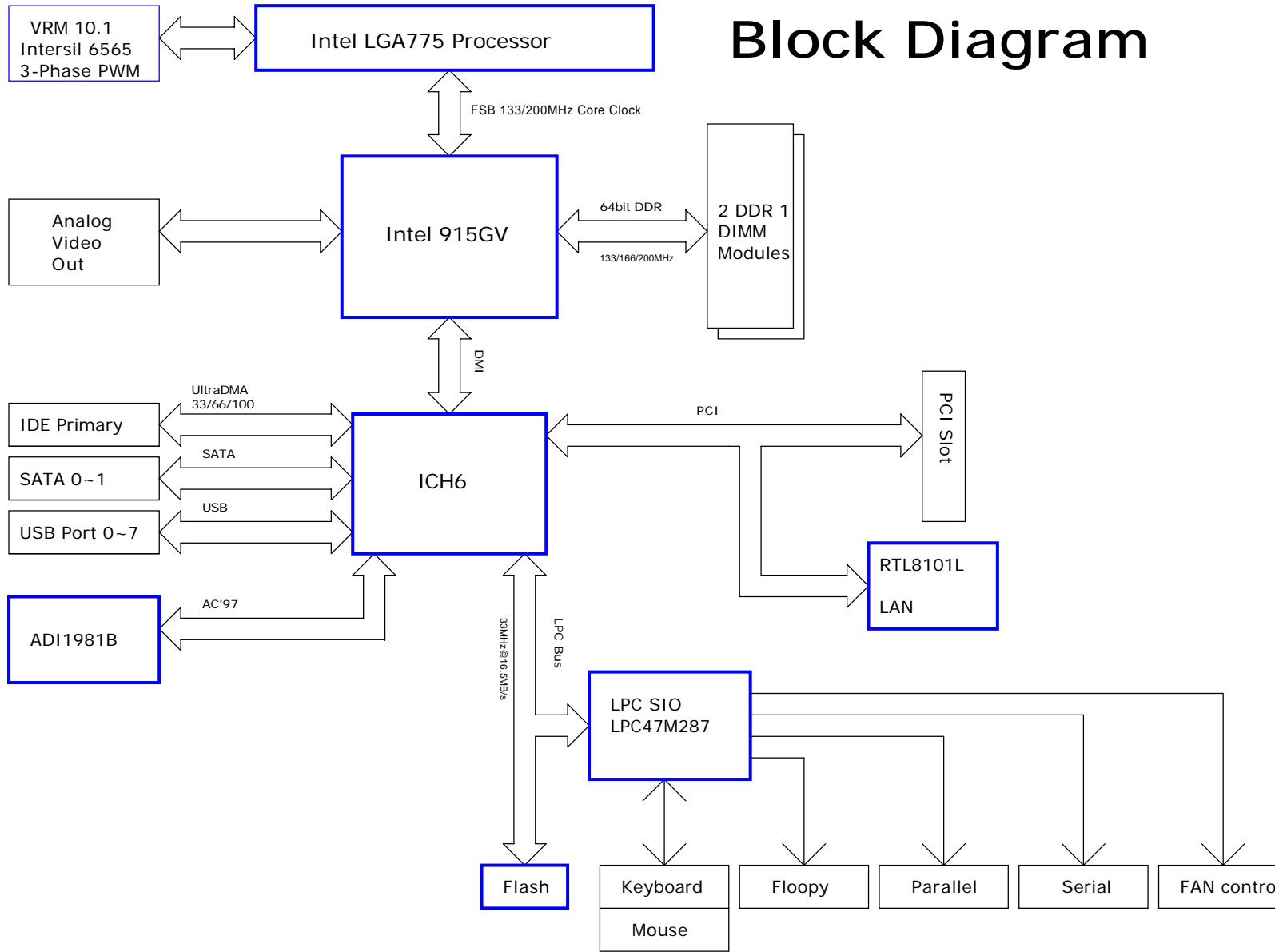
Driver: HIP6602B \* 1 + HIP6601B \* 1

## PCI Routing Table

PCI Device	IDSEL	REQ/GNT	INTERRUPT
PCI Slot 1	AD16	1	A
MINI PCI Slot	AD17	2	B
RTL8110SB/8100C LAN	AD29	3	F

<b>MICRO-STAR INT'L CO., LTD.</b>		Engineer Shun Min Hsu
Title COVER SHEET		Drawn by Shun Min Hsu
Size A3	Project Name MS-7085	Rev 0A
Date: 2004/07/15	Sheet 1	of 26





# Block Diagram

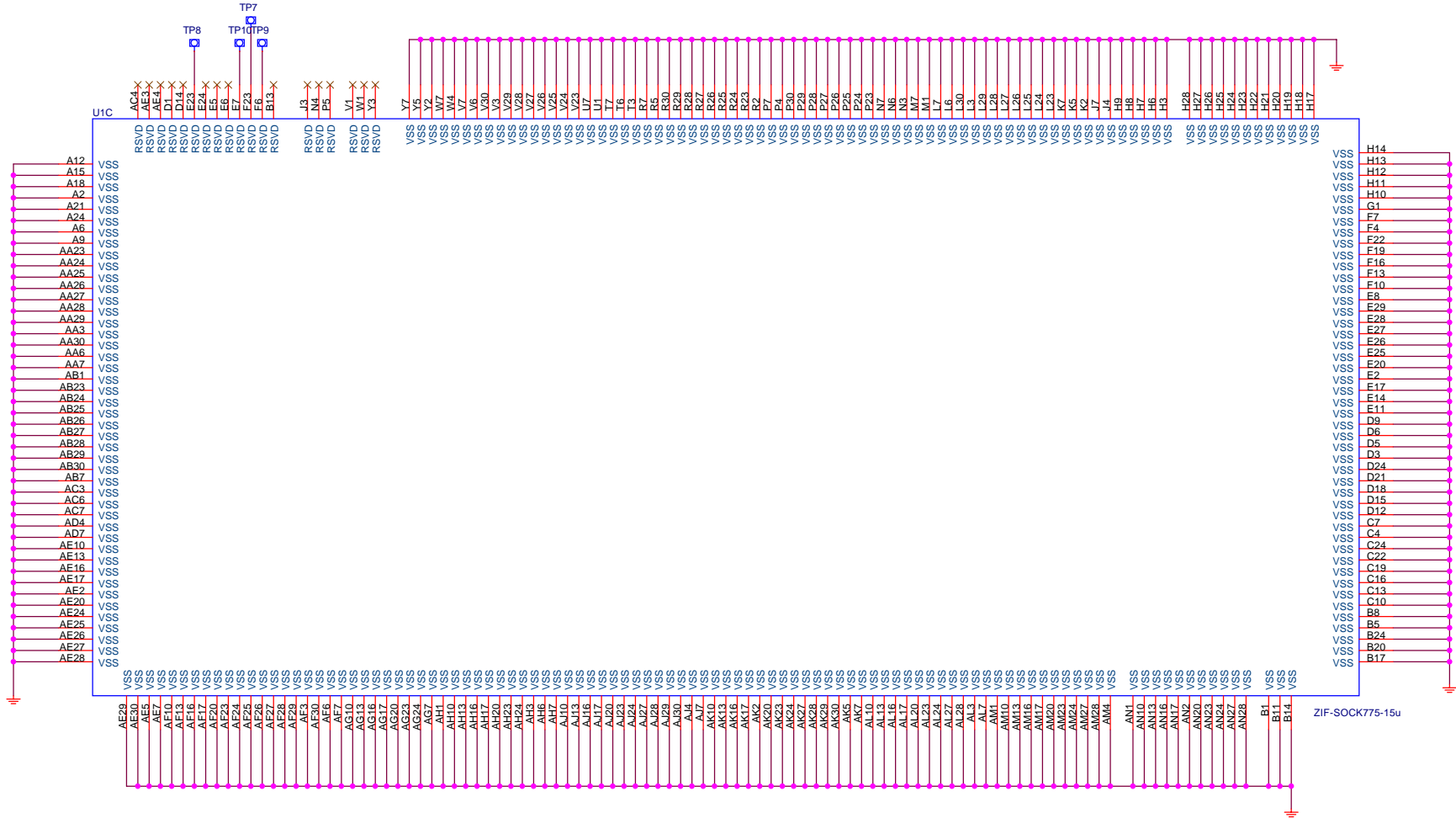
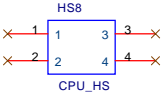




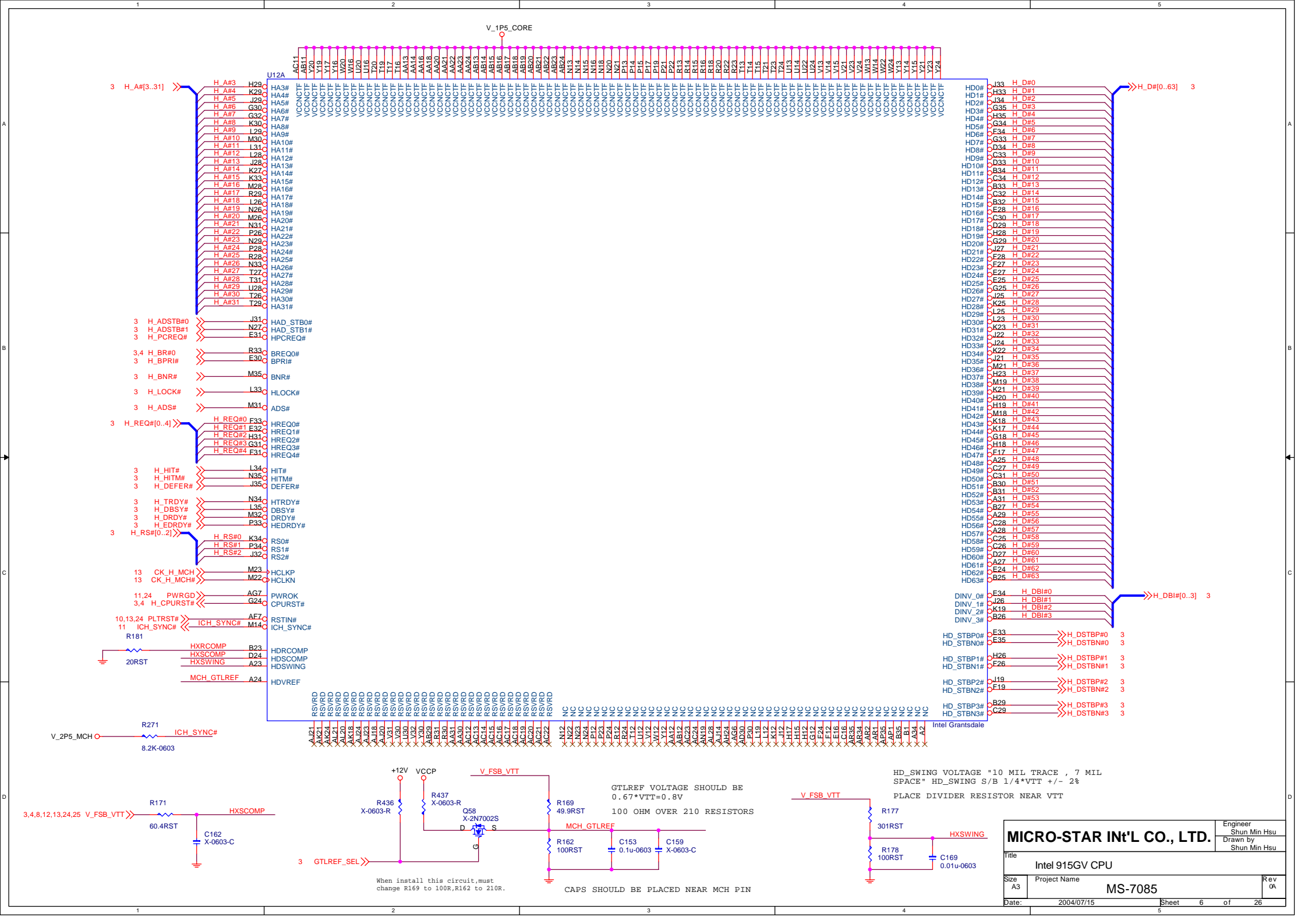




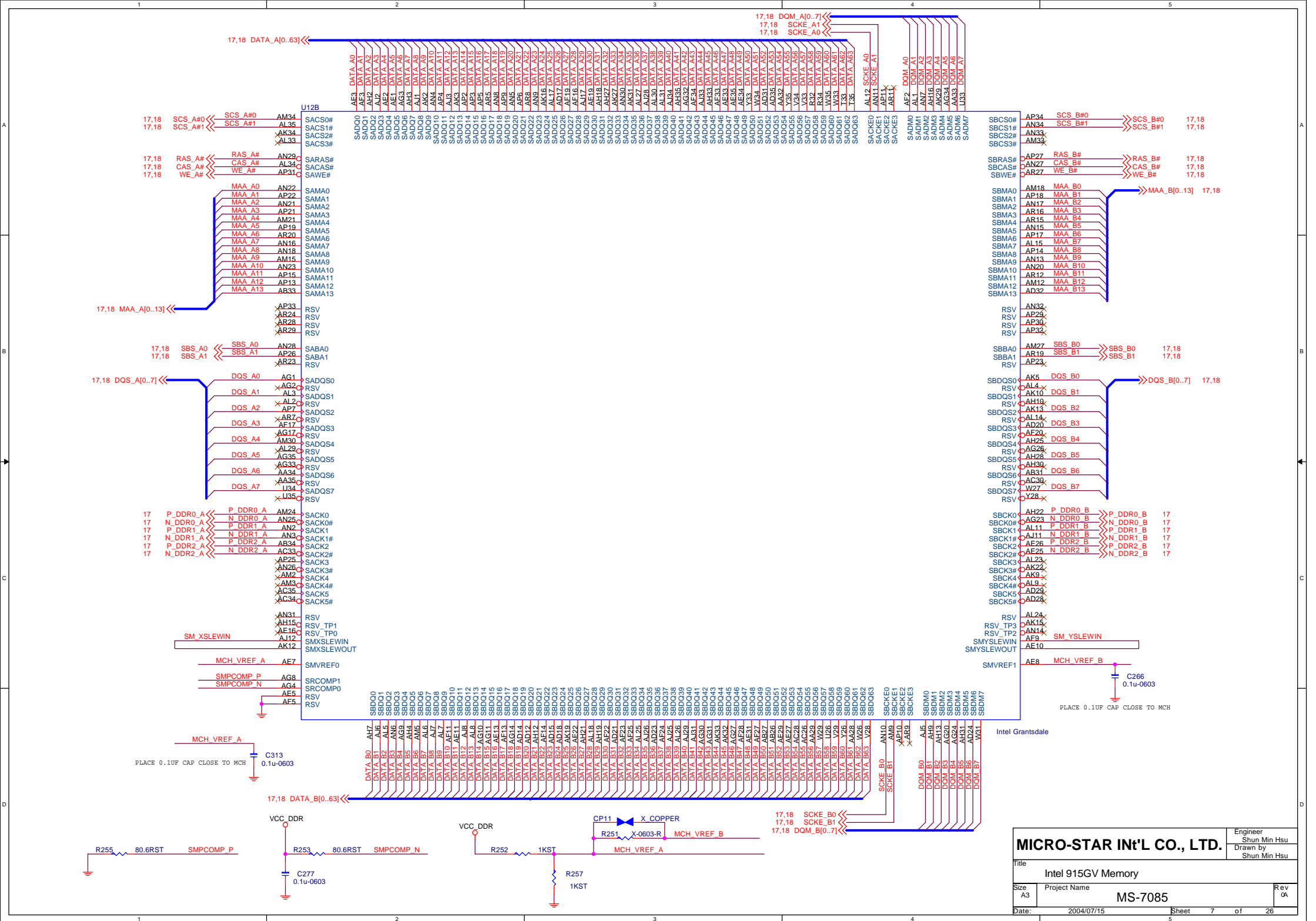




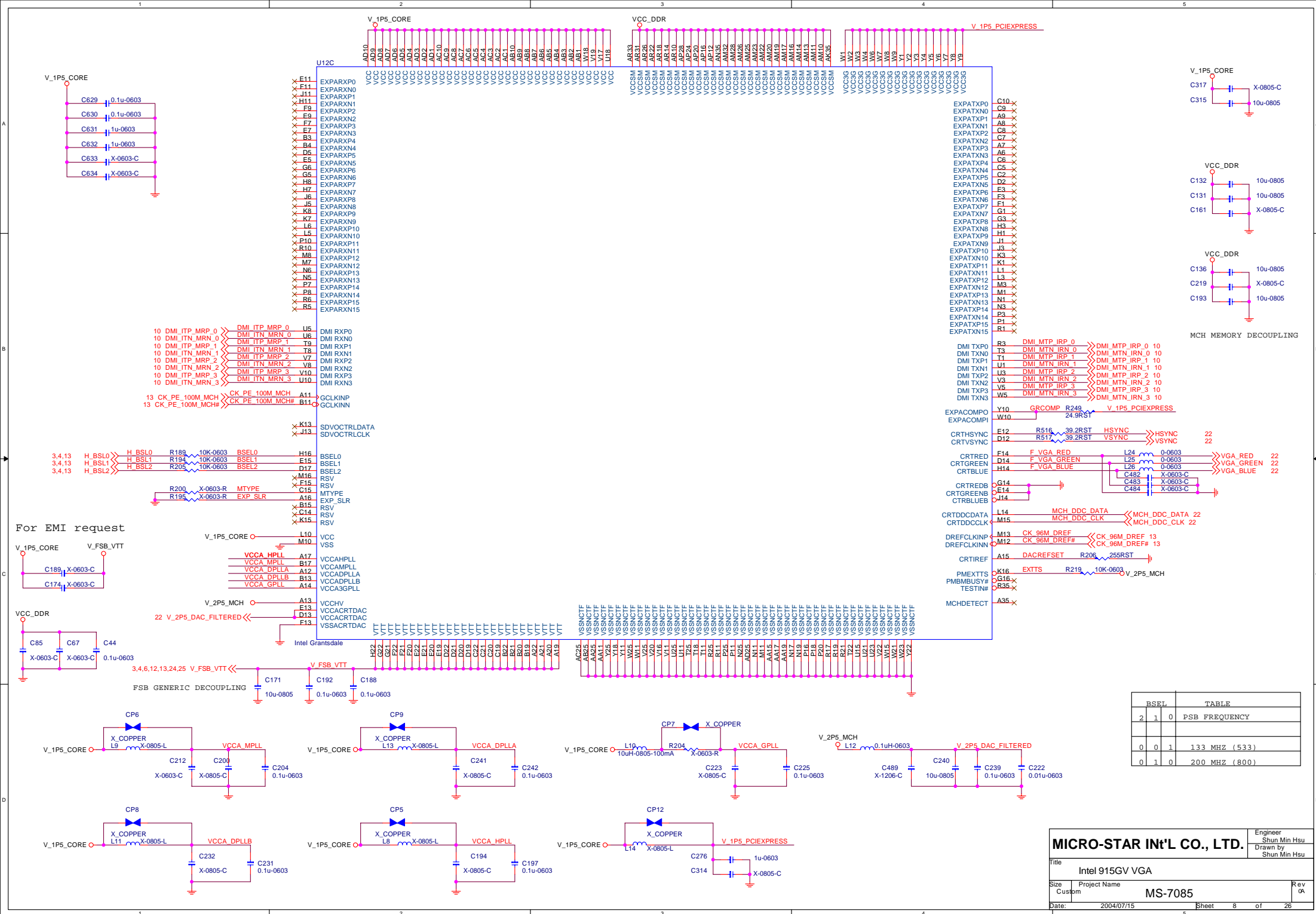




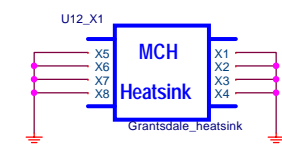
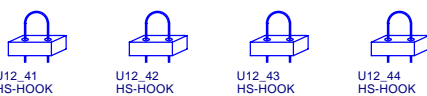
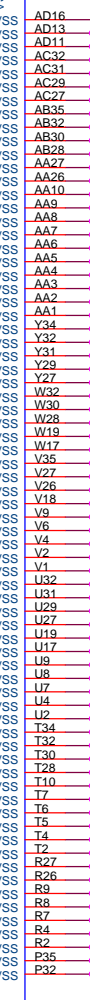






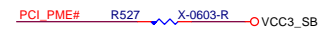
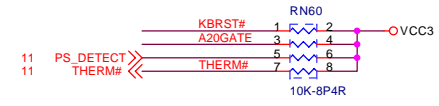
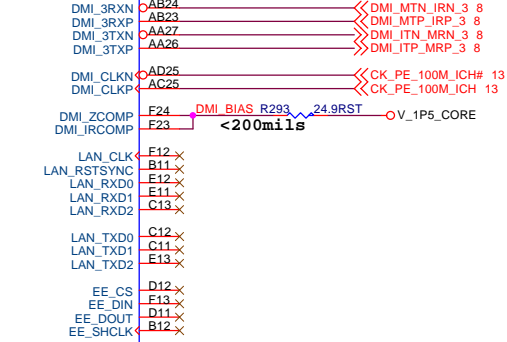
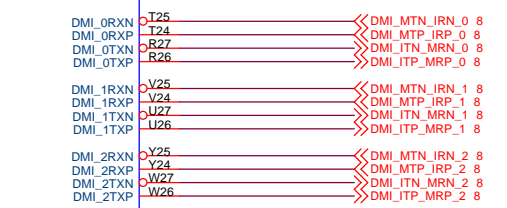
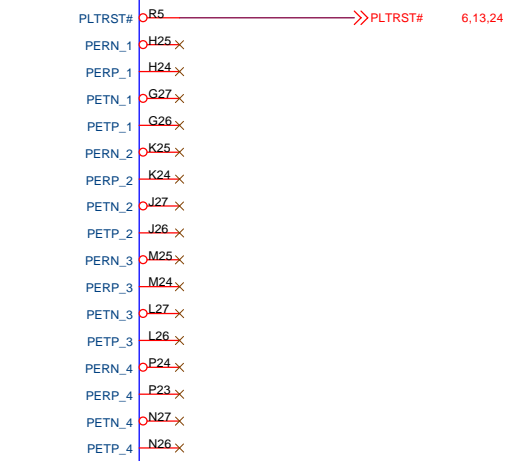
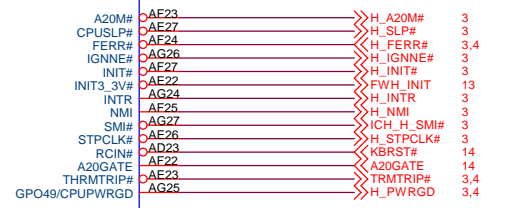
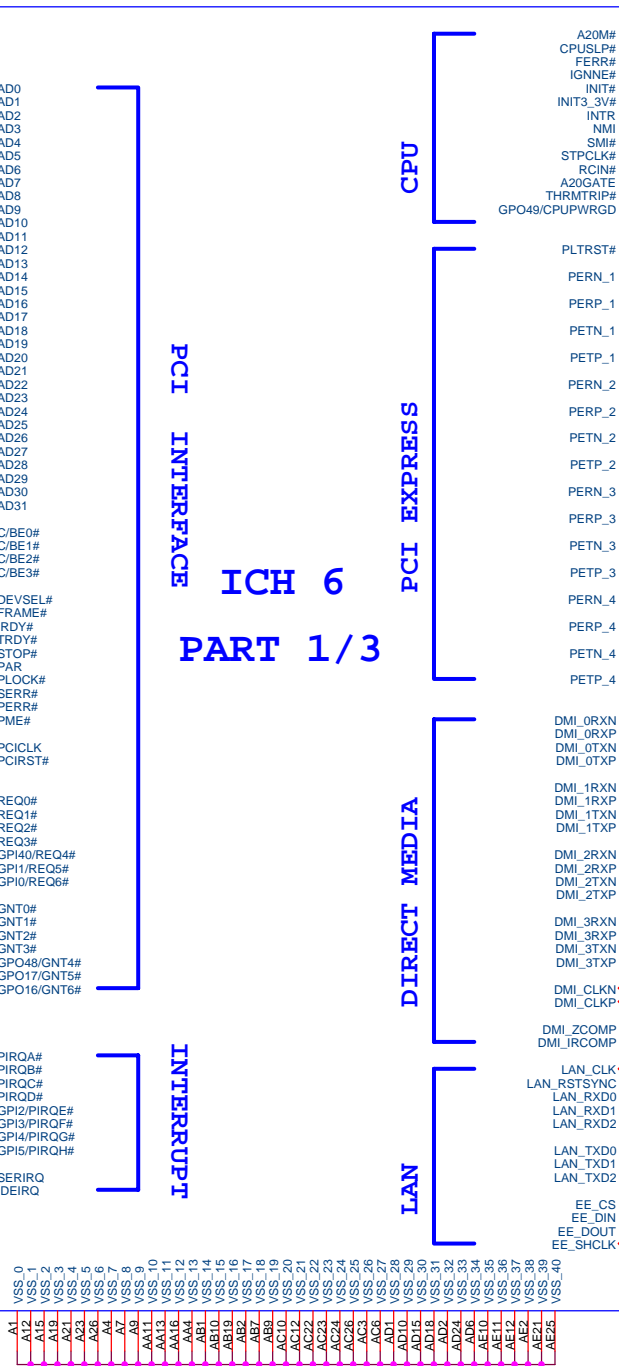
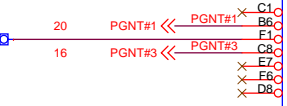
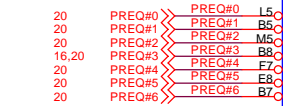
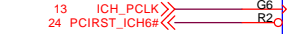
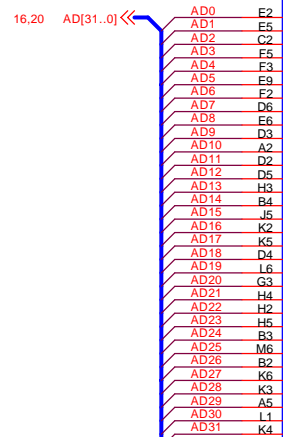






MICRO-STAR INT'L CO., LTD.			Engineer Shun Min Hsu	
Title Intel 915GV GND			Drawn by Shun Min Hsu	
Size A3	Project Name MS-7085		Rev 0A	
Date: 2004/07/15	Sheet 9 of 26			

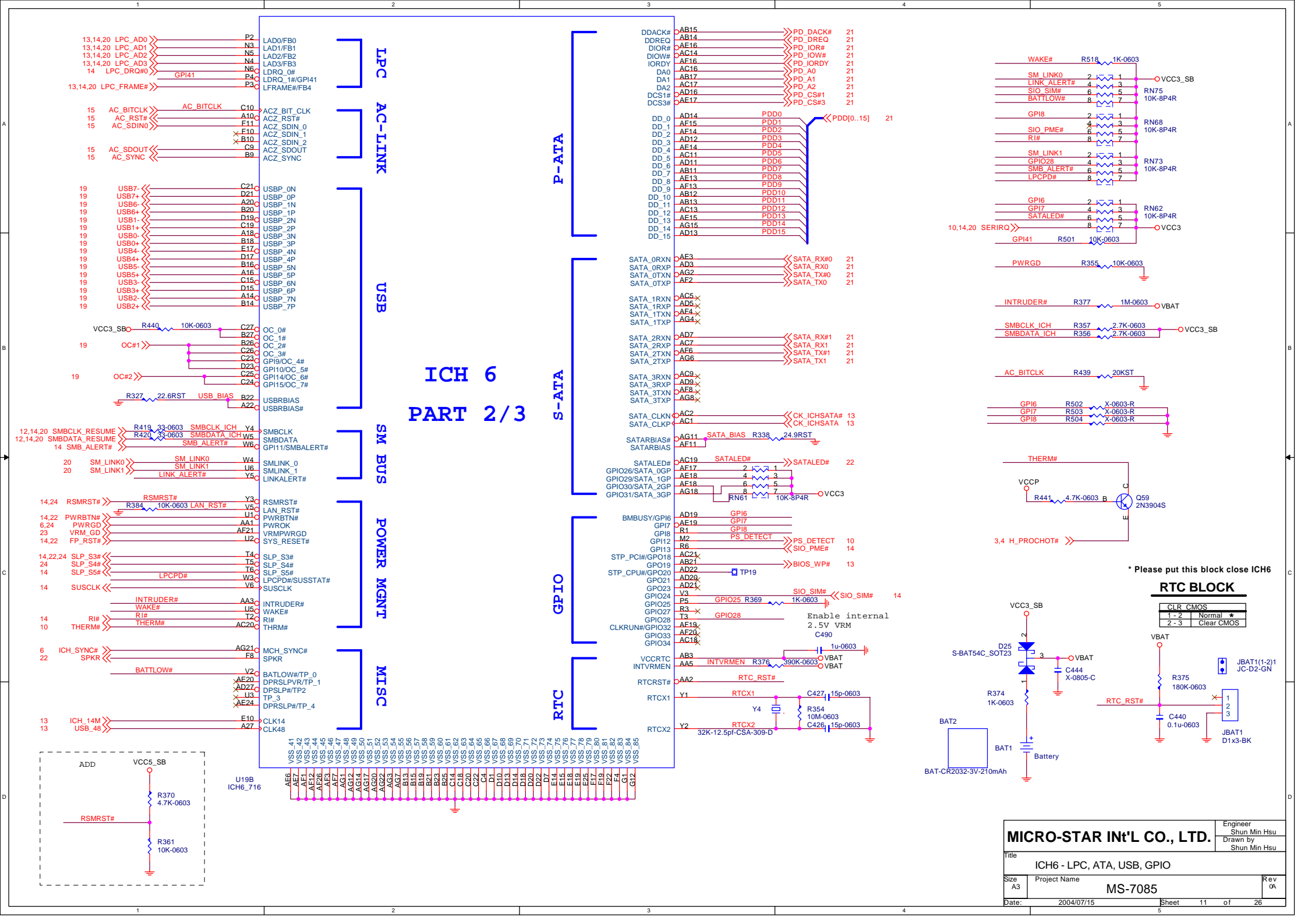




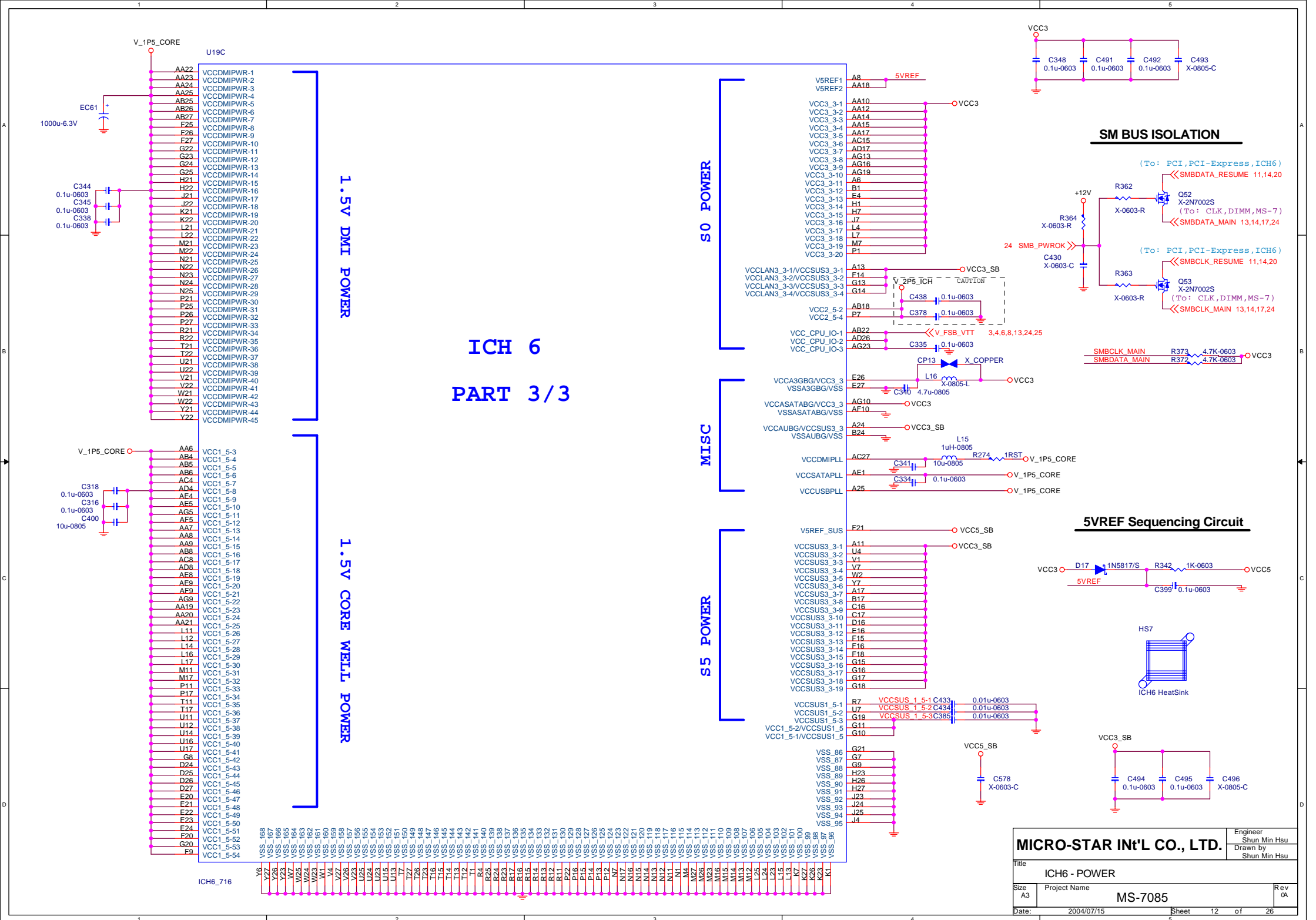
DMI Interface  
Trace width 5 mils & 7 mils space.  
GMCH breakout space 5 mils, length < 250 mils  
Length matching < 5 mils  
Trace Length 2" to 11"

<b>MICRO-STAR INT'L CO., LTD.</b>		Engineer Shun Min Hsu	
Title ICH6 - PCI, DMI, CPU, IRQ		Drawn by Shun Min Hsu	
Size A3	Project Name MS-7085	Rev 0A	
Date: 2004/07/15	Sheet 10	of 26	



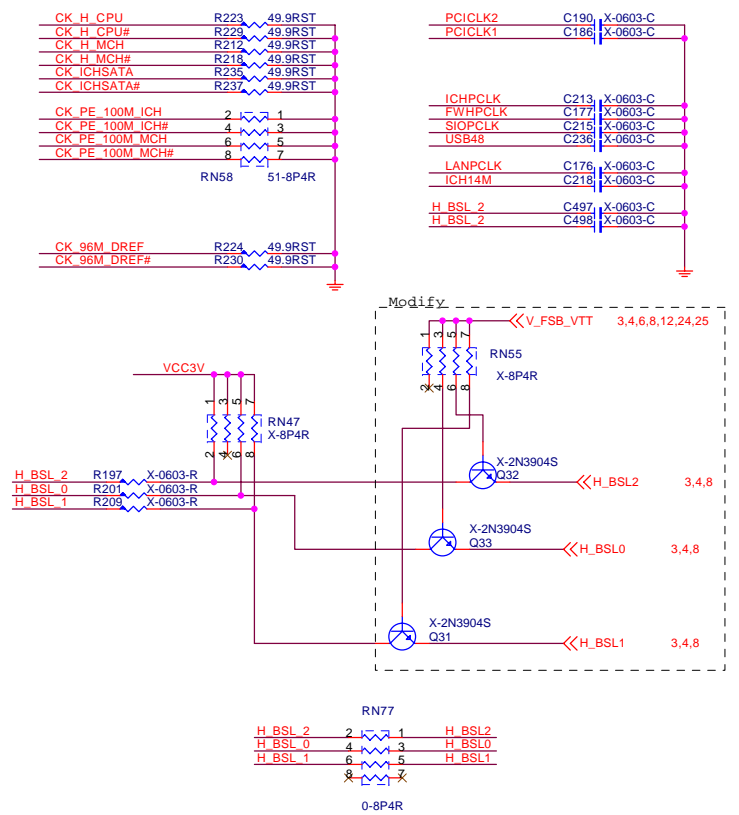




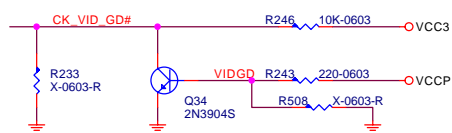




Trace length less than 0.5inchs



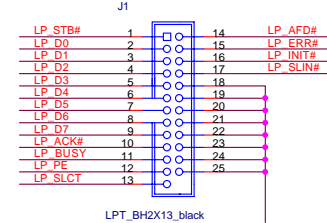
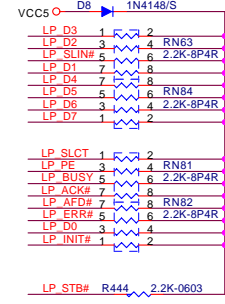
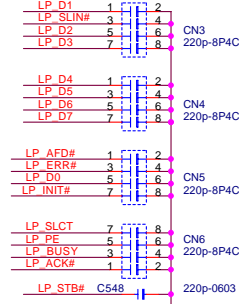
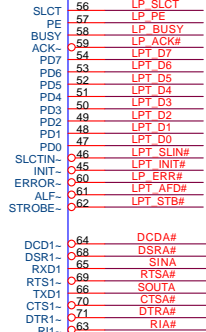
## FWH Resistors



<b>MICRO-STAR INT'L CO., LTD.</b>		Engineer
		Shun Min Hsu
Title		Drawn by
		Shun Min Hsu
ICS954119 Gen. & FWH		
Size A3	Project Name	Rev 0A
MS-7085		
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Pin	Signal
1	FDD1
2	DRV DEN0
3	GP40/DRV
4	INDEX
5	MOT A#
6	INDEX-MTR0
7	DS0-
8	DIR-
9	STEP-
10	WDATA-
11	WGATE-
12	TRK0-
13	WRTPRT-
14	RDATA-
15	HDSEL-
16	DSKCHG-
17	FDD2x17
18	SIO 14MHz
19	FDD1
20	DRV DEN0
21	INDEX
22	MOT A#
23	INDEX-MTR0
24	DS0-
25	DIR-
26	STEP-
27	WDATA-
28	WGATE-
29	TRK0-
30	WRTPRT-
31	RDATA-
32	HDSEL-
33	DSKCHG-
34	FDD2x17

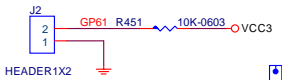
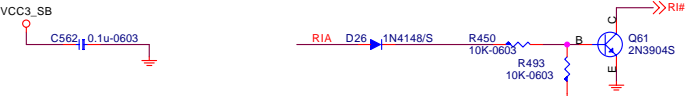
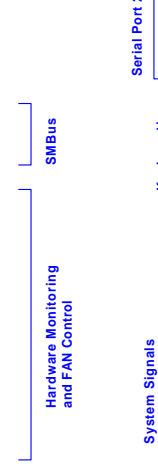


7523C-1

Figure 1 shows the pin connections for the D2x5-1.1-BK module. The module has two 8-pin headers, CN7 and CN8, both labeled 220p-8P4C. The connections are as follows:

- CN7 (Left Header):**
  - Pin 1: DCDA
  - Pin 2: RXDA
  - Pin 3: RIA
  - Pin 4: DTRA
  - Pin 5: RTSA
  - Pin 6: CTSA
  - Pin 7: TXDA
  - Pin 8: DSRA
- CN8 (Right Header):**
  - Pin 1: DCDA
  - Pin 2: RXDA
  - Pin 3: TXDA
  - Pin 4: DTRA
  - Pin 5: RTSA
  - Pin 6: CTSA
  - Pin 7: RIA
  - Pin 8: DSRA

The module is labeled D2x5-1.1-BK.











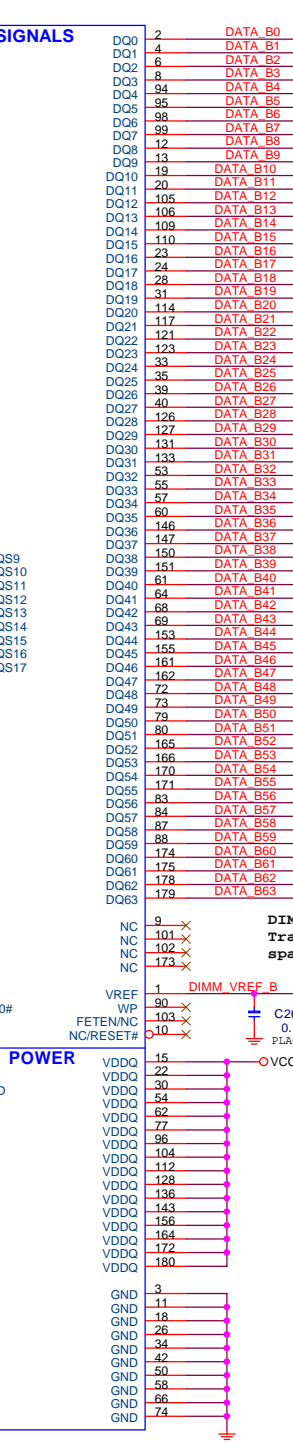
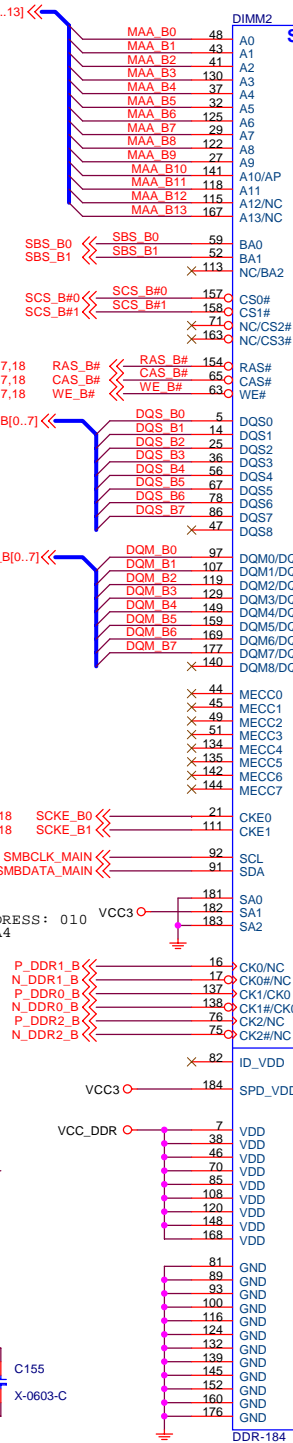
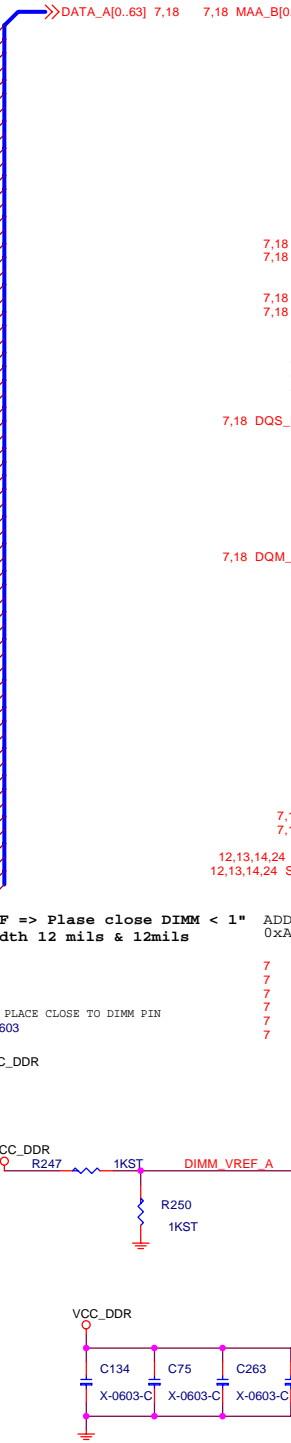
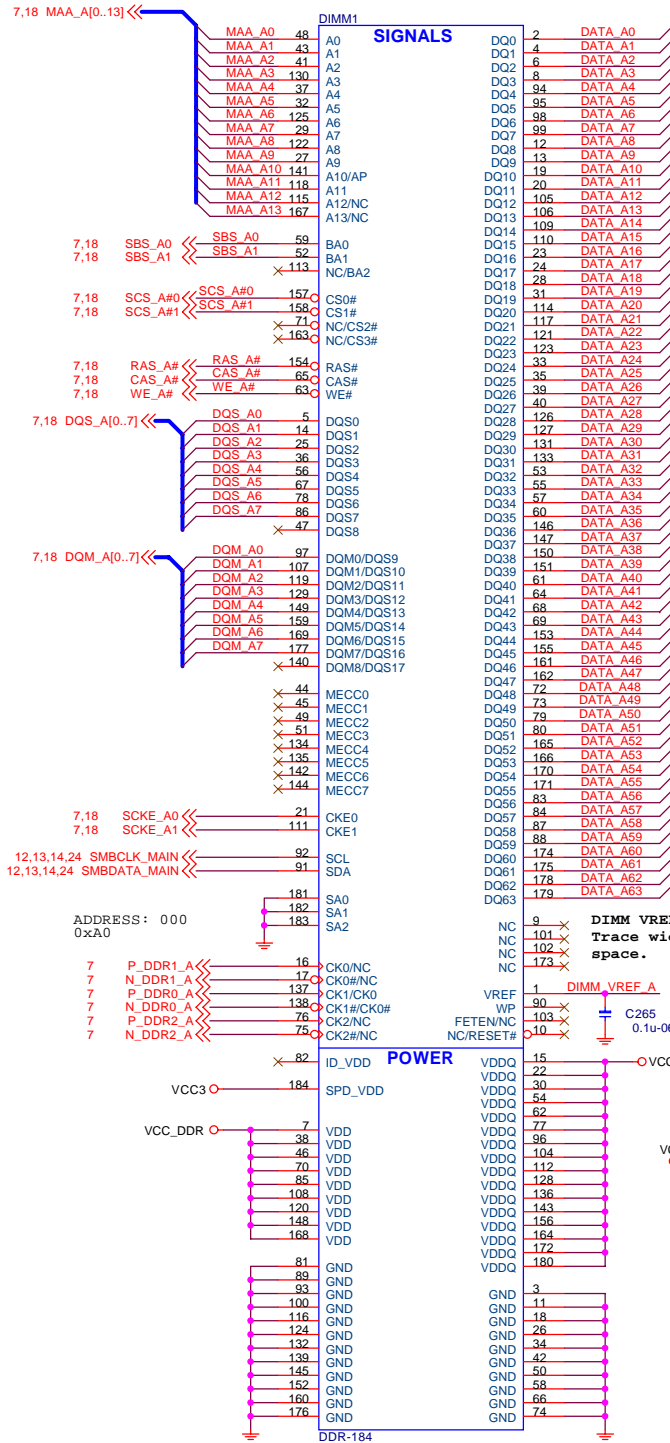


## Channel A

## DDR DIMM1

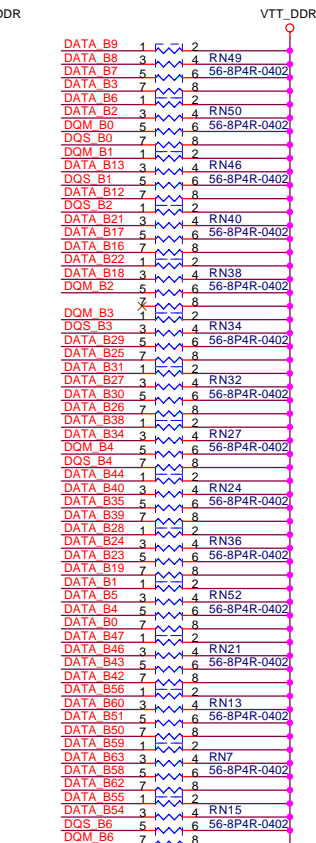
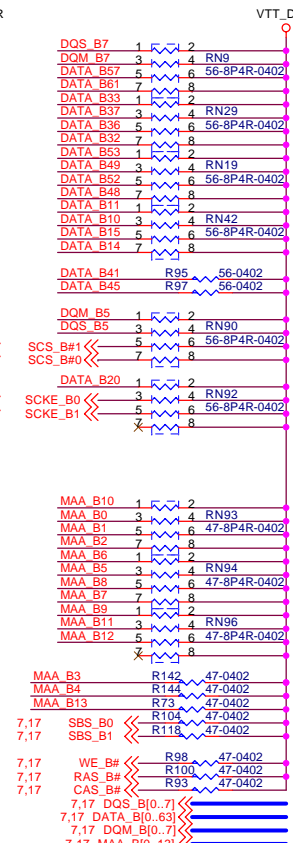
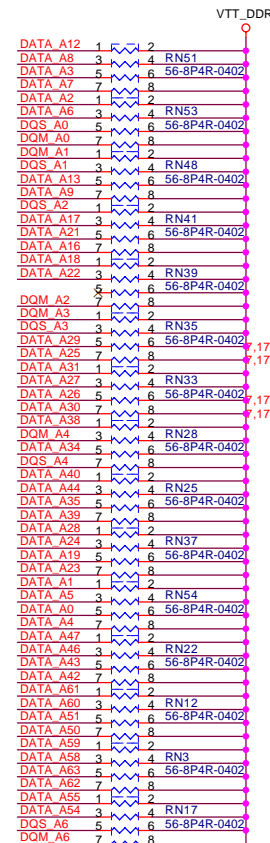
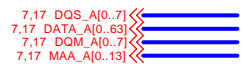
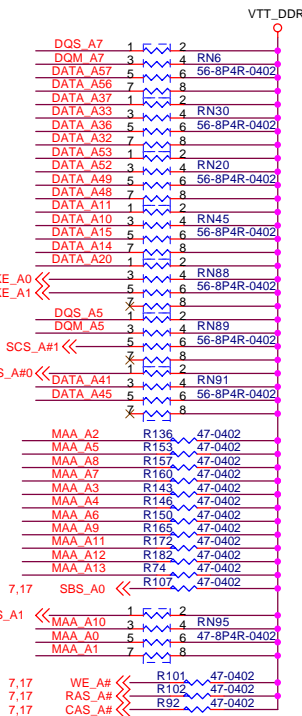
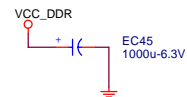
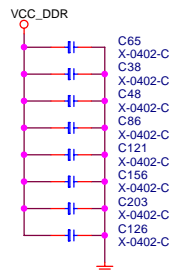
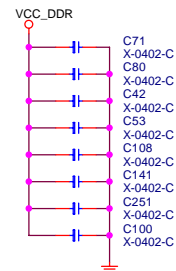
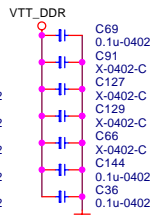
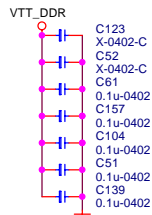
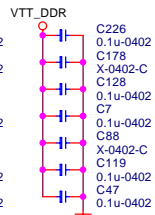
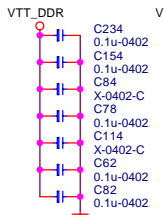
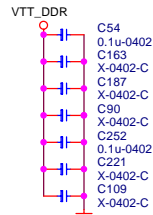
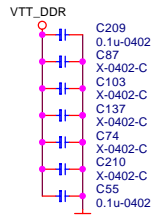
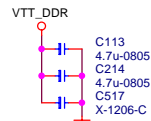
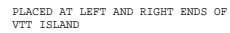
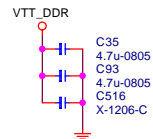
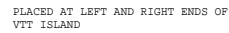
## Channel B

## DDR DIMM2



MICRO-STAR IN'L CO., LTD.		Engineer Shun Min Hsu
Title DDR DIMM 1 & 2		Drawn by Shun Min Hsu
Size Custom	Project Name MS-7085	Rev 0A
Date: 2004/07/15	Sheet 17	of 26





Data Group: SDQS,SDQ & SDM (56 ohm)

Control Group: SCS# & SCKE (56 ohm)

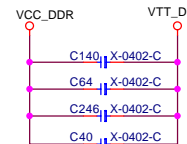
Command Group: SMA,SBS,SRAS#SCAS# & SWE# (47 ohm)

Data Group: SDQS, SDQ & SDM (56 ohm)

Control Group: SCS# & SCKE (56 ohm)

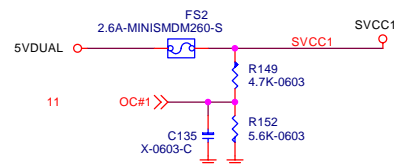
Command Group: SMA,SBS,SRAS#SCAS# & SWE# (47 ohm)

For EMI request

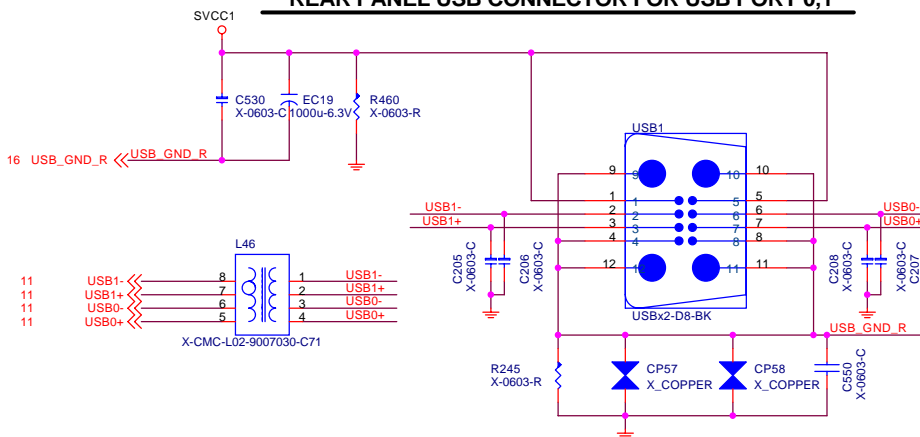




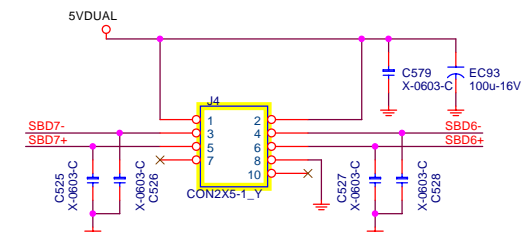
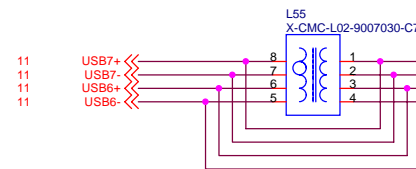
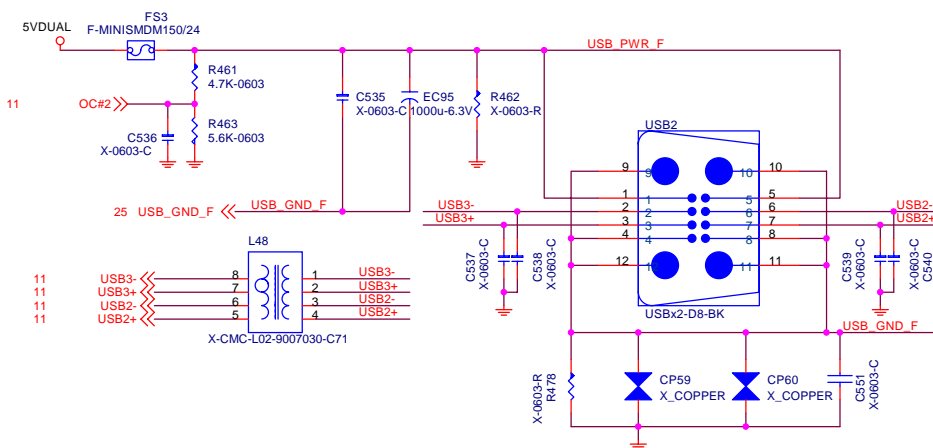
## POWER CIRCUIT FOR USB PORT 0,1,2,3 (REAR)



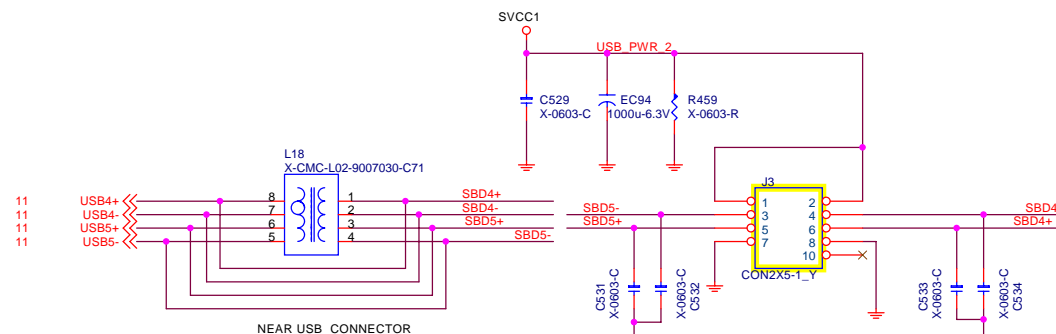
## REAR PANEL USB CONNECTOR FOR USB PORT 0,1



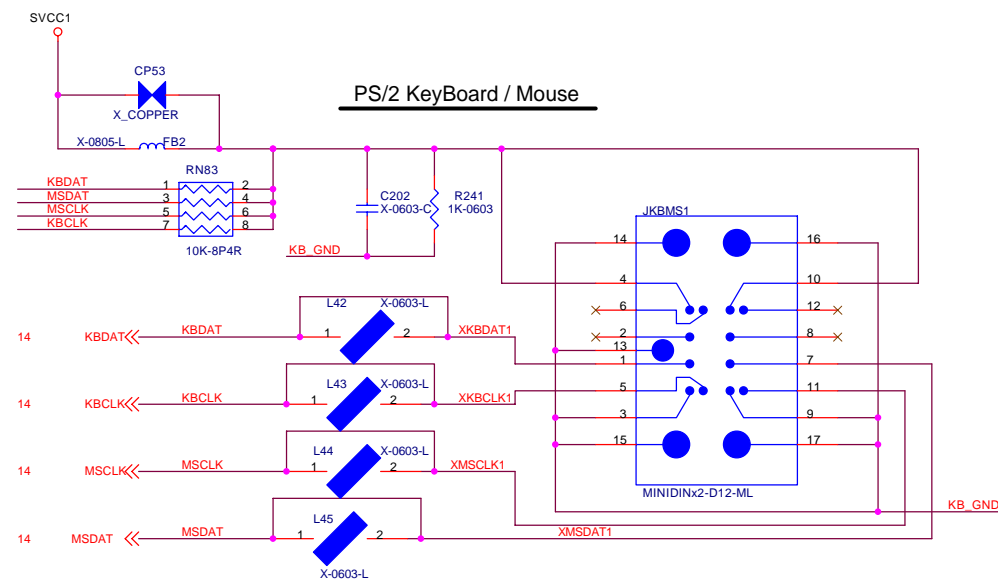
## FRONT PANEL USB CONNECTOR FOR USB PORT 2,3



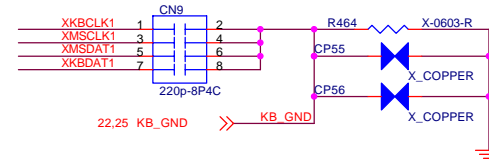
J4 only for FDD/card reader



NEAR USB CONNECTOR



## PS/2 KeyBoard / Mouse



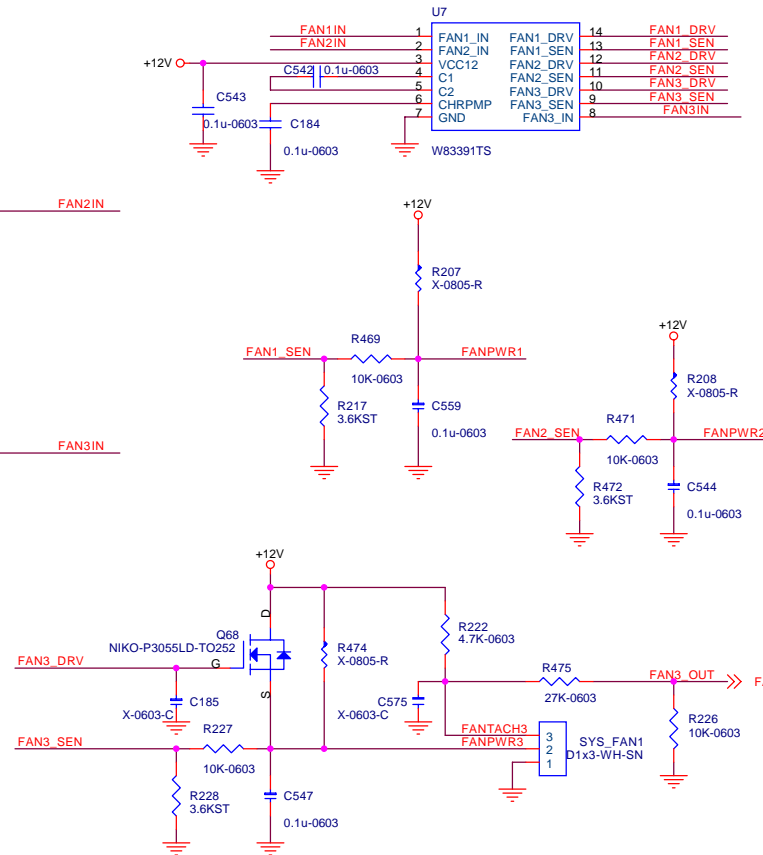
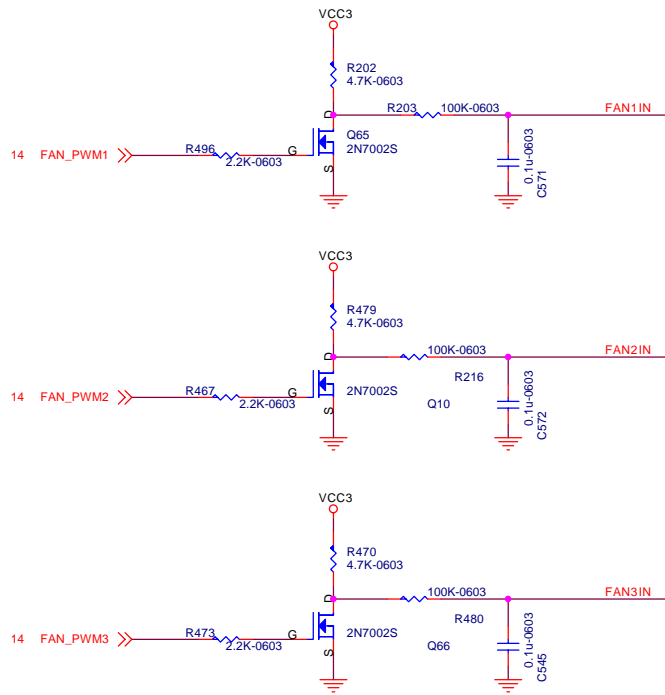
<b>MICRO-STAR INT'L CO., LTD.</b>			Engineer
Title			Shun Min Hsu
USB CONNECTORS and PS2			Shun Min Hsu
Size	Project Name	MS-7085	Rev
A3			0A
Date:	2004/07/15	Sheet	19 of 26



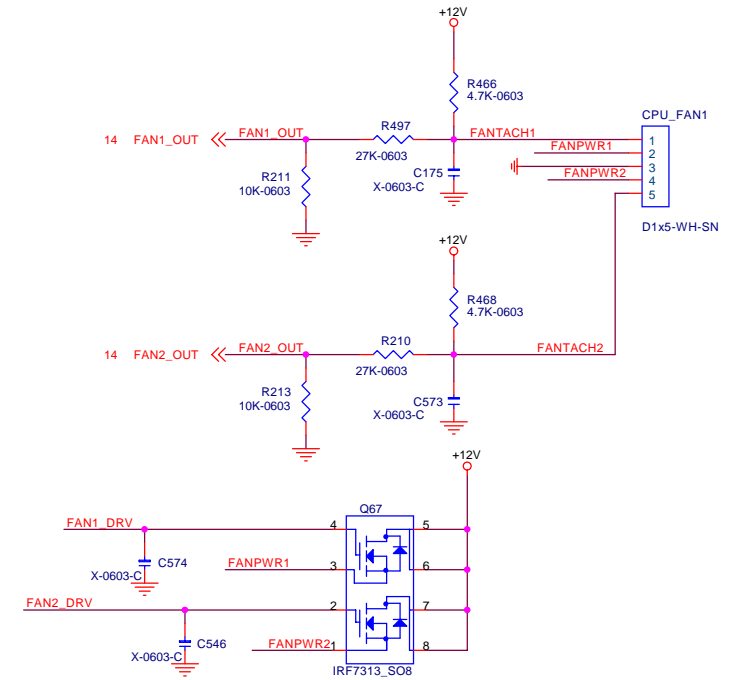
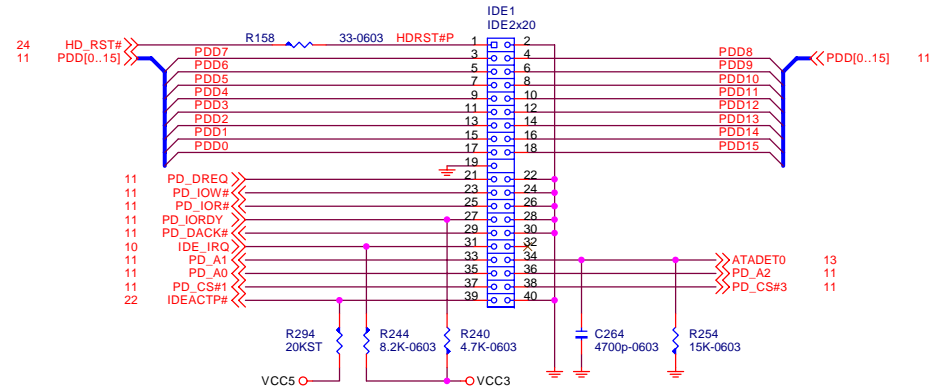




# SERIAL ATA CONNECTOR BLOCK



# ATA 33/66/100 IDE Connectors



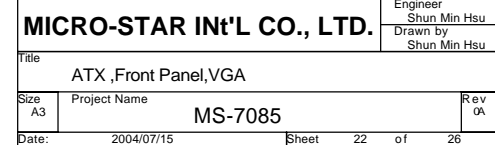
MICRO-STAR INT'L CO., LTD.				Engineer Shun Min Hsu
Title SATA1,2 , IDE1& Fan control				Drawn by Shun Min Hsu
Size A3	Project Name MS-7085			Rev 0A
Date: 2004/07/15	Sheet 21	of 26		



## ATX Connector

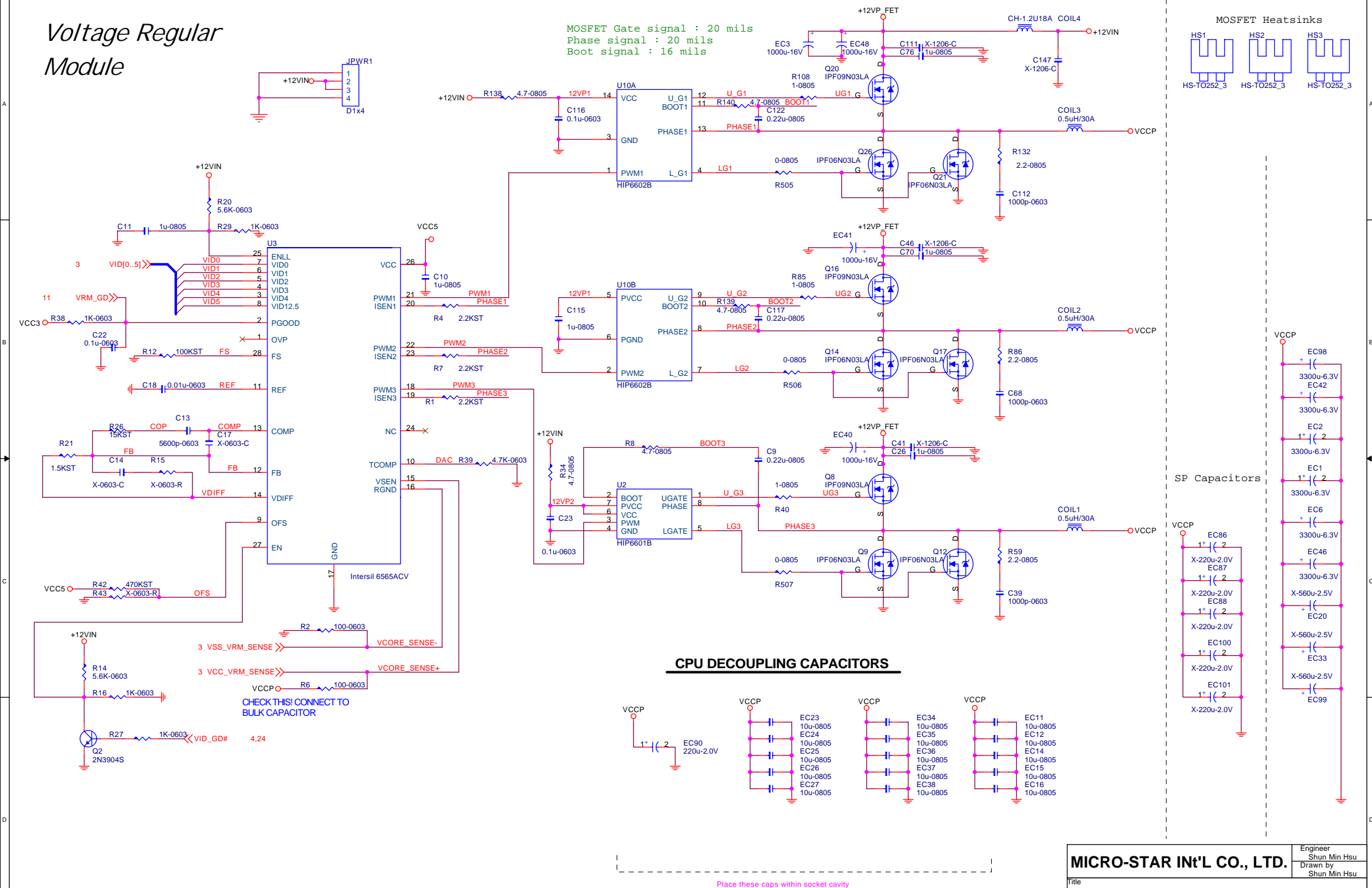


## Intel Front Pane





## Voltage Regular Module



<b>MICRO-STAR INT'L CO., LTD.</b>		Engineer Shun Min Hsu	
		Drawn by Shun Min Hsu	
Title VRM10.1 Intersil 6565 3Phase			
Size A3	Project Name MS-7085		Rev 0A
Date:	2004/07/15	Sheet	23 of 26



## ACPI Controller

### 3VSB MODE SELECT

3VSB MODE	3VDLDEC
-----------	---------

SINGLE MOSFET | PULL HIGH

DUAL MOSFET | PULL LOW

## VDIMM LINEAR OR PWM SELECT

```

VDIMM MODE      | EXTRAM

```

LINEAR REGULATOR | PULL LO

PWM REGULATOR + PULL UP

AGP POWER

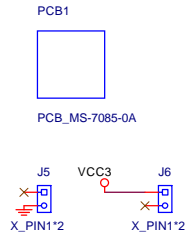
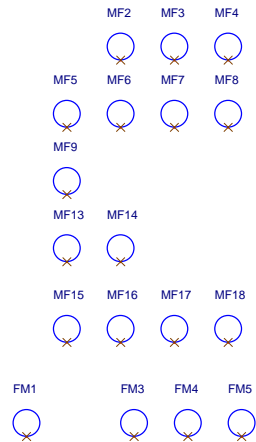
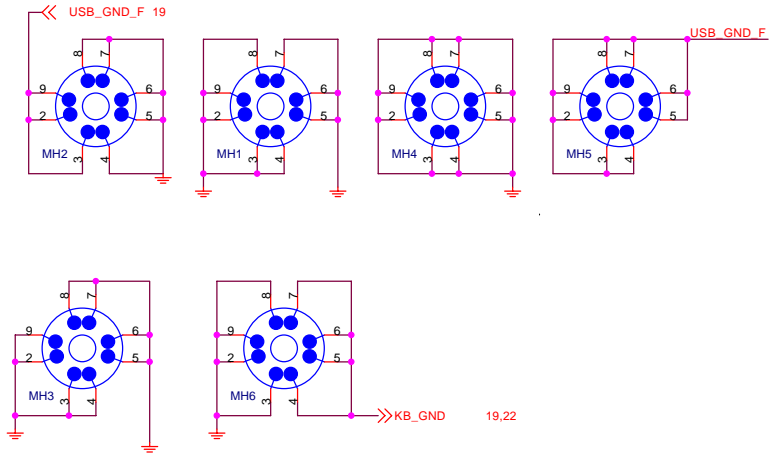
### 5V DUAL Power

**VCC\_VID / VID\_GOOD**  
Place MOSFET near CPU

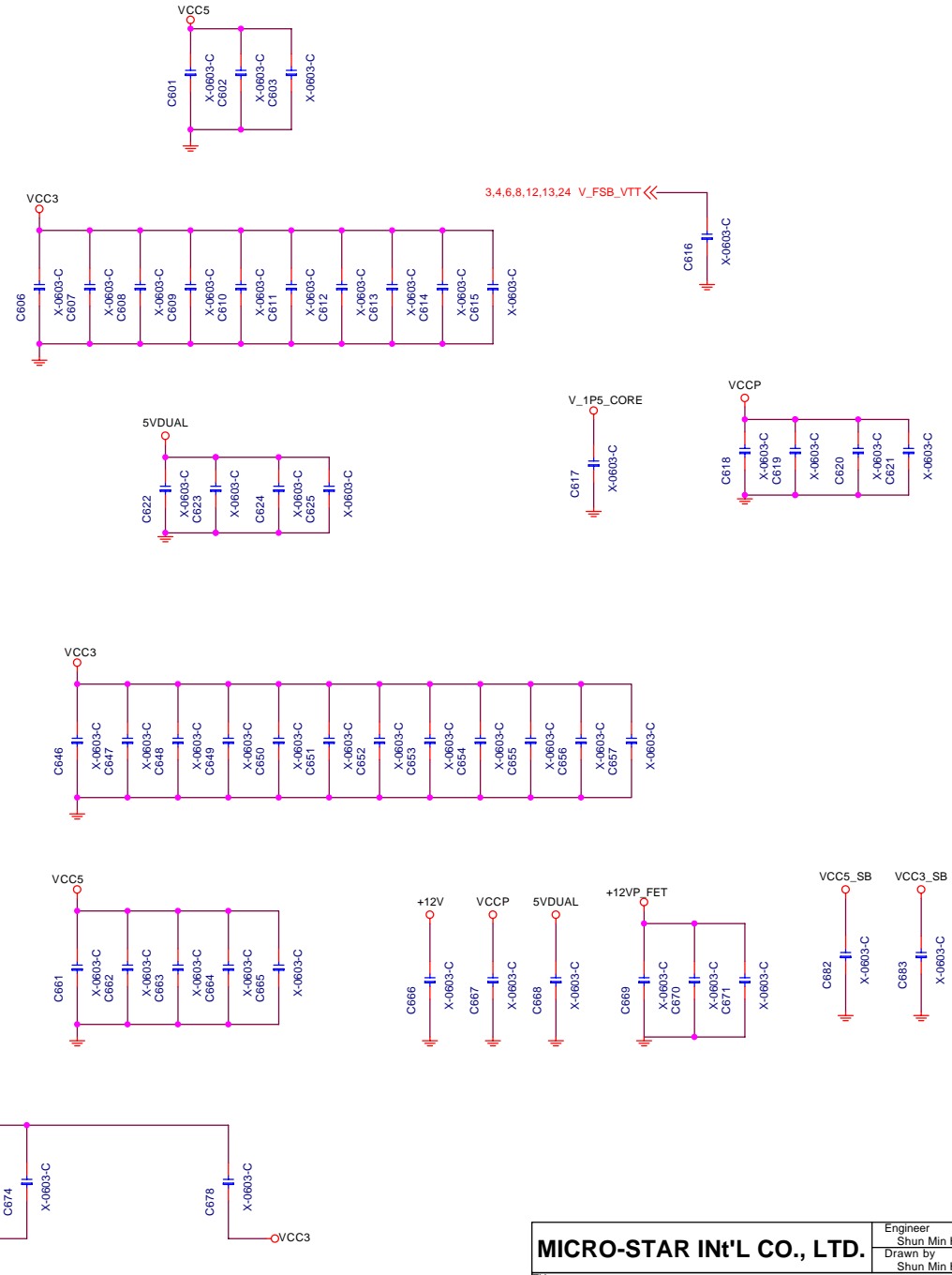
### DDR VTT Power

<b>MICRO-STAR INT'L CO., LTD.</b>				Engineer Shun Min Hsu	
				Drawn by Shun Min Hsu	
Title MS7 ACPI Controller					
Size Custom		Project Name MS-7085			Rev (A)
Date: 2004/07/15		Sheet 24 of 26			





for EMI





Change Note

- 2004/07/02
- 1. page13: nopop Q31 Q32 Q33 level shift circuit and change RN77 to 0R  
Resvere R508 for VTT\_PWRGD# signal
  - 2. page20: remove mini-PCI slot
  - 3. page23: modify the quantities of bulk caps and MOS
  - 4. page24: Remove RAM\_HDRV/RAM\_HDRV1 circuit.  
Modify V\_2P5\_MCH power sequencing circuit
  - 5. page11: SATA2 connect to ICH6 port2
  - 6. page12: nopop SM BUS isolation circuit
  - 7. page14: connect SMBUS to SIO pin104 and pin105
  - 8. page15: Add mute circuit
  - 9. page24: Resvere 0603 caps on the GATE of Q30 Q28 Q24 Q23 Q29
  - 10. page25: Resvere Caps for EMI

- 2004/07/12
- 1. page8: Add R517 R516 39.20hm on HSYNC and VSYNC.
  - 2. page11: change WAKE# pull-up to VCC3\_SB through a 1k ohm resistor.
  - 3. page4: Modify CPU VCCA filter circuit.

- 2004/07/15
- 1. page15: R379 R380 change to nopop.
  - 2. page20: Add TPM circuit.
  - 3. page10: Resvere R527 for PCI\_PME# pullup

MICRO-STAR INT'L CO., LTD.		Engineer Shun Min Hsu	
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