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MS-7392

Version: 1.2

CPU:

Intel Core2 Duo, Wolfdale, Kentsfield and Yorkfield processors in LGA775 Package.

System Chipset:

Intel - MCH (North Bridge) P31/G31
Intel ICH7 (South Bridge)

On Board Chipset:

BIOS -- SPI EEPROM
[HD Codec -- ALC888](#)
[LPC Super I/O -- F81182](#)
[LAN-- REALTEK RTL8111C](#)
CLOCK -- ICS9LPRS906CGLF

Main Memory:

DDR II * 4 (Max 4GB)

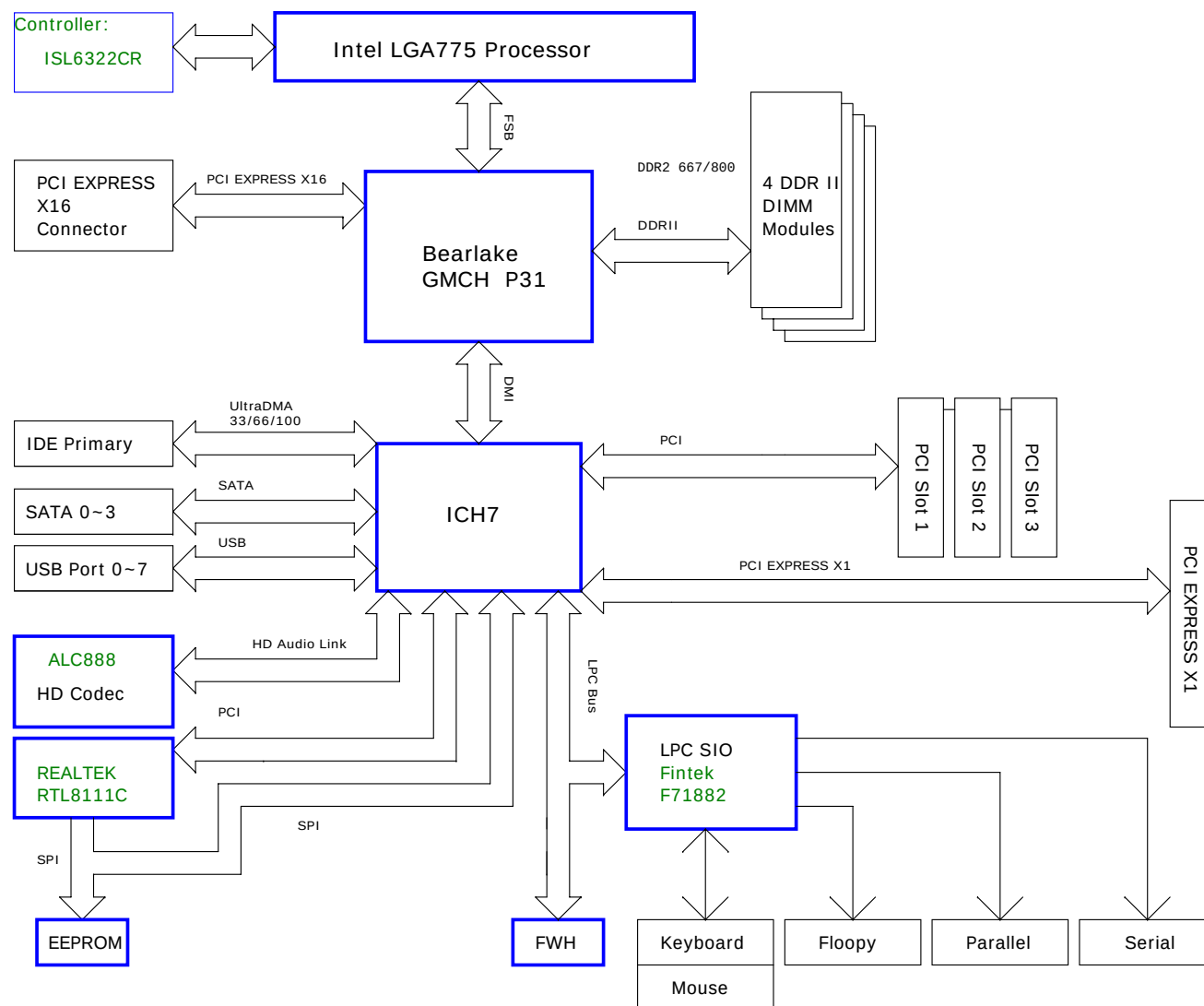
Expansion Slots:

PCI2.3 SLOT * 3
PCI EXPRESS X1 SLOT
PCI EXPRESS X16 SLOT

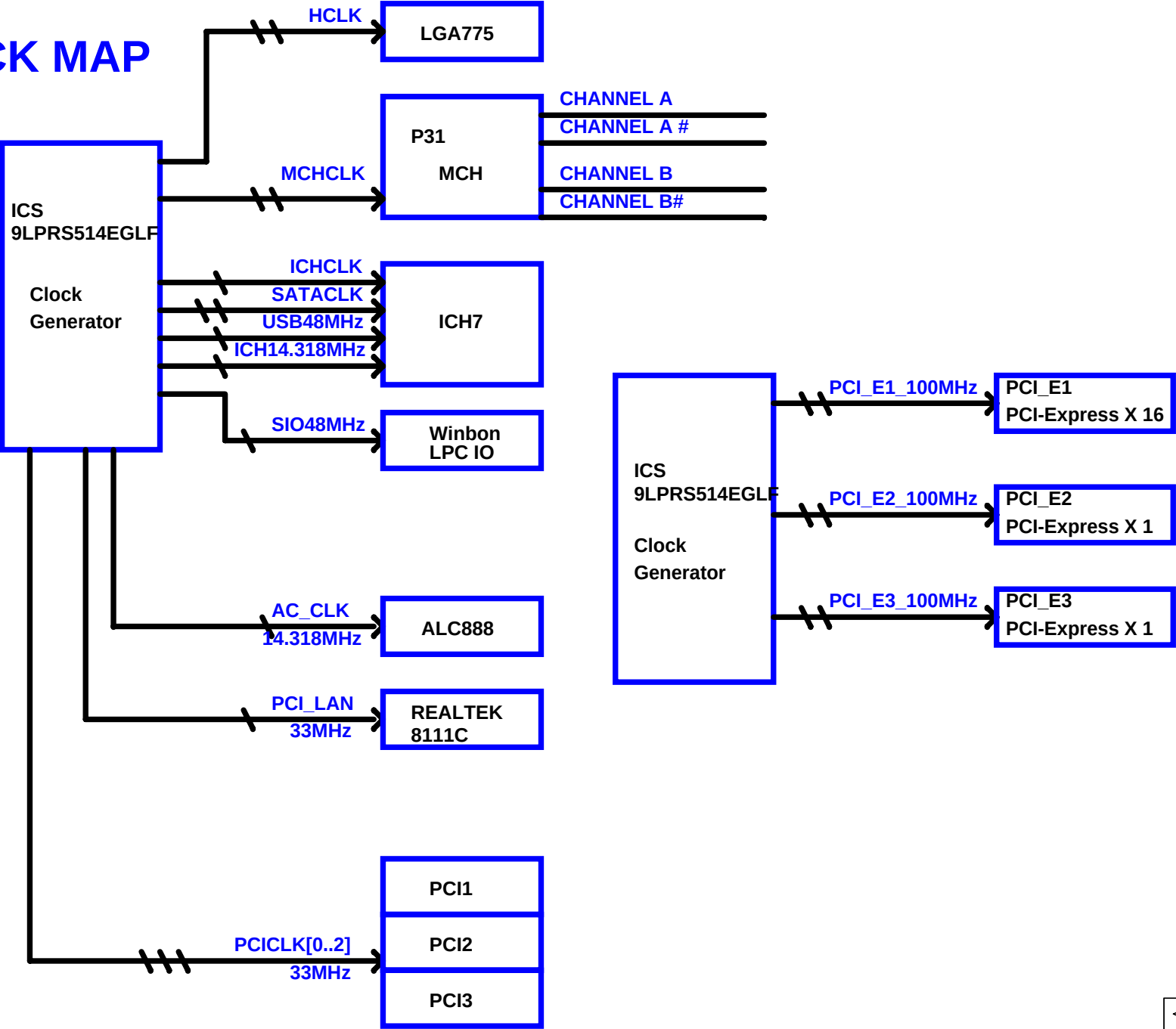
INTELSIL PWM:

[Controller: INTELSIL - ISL6322CR](#)

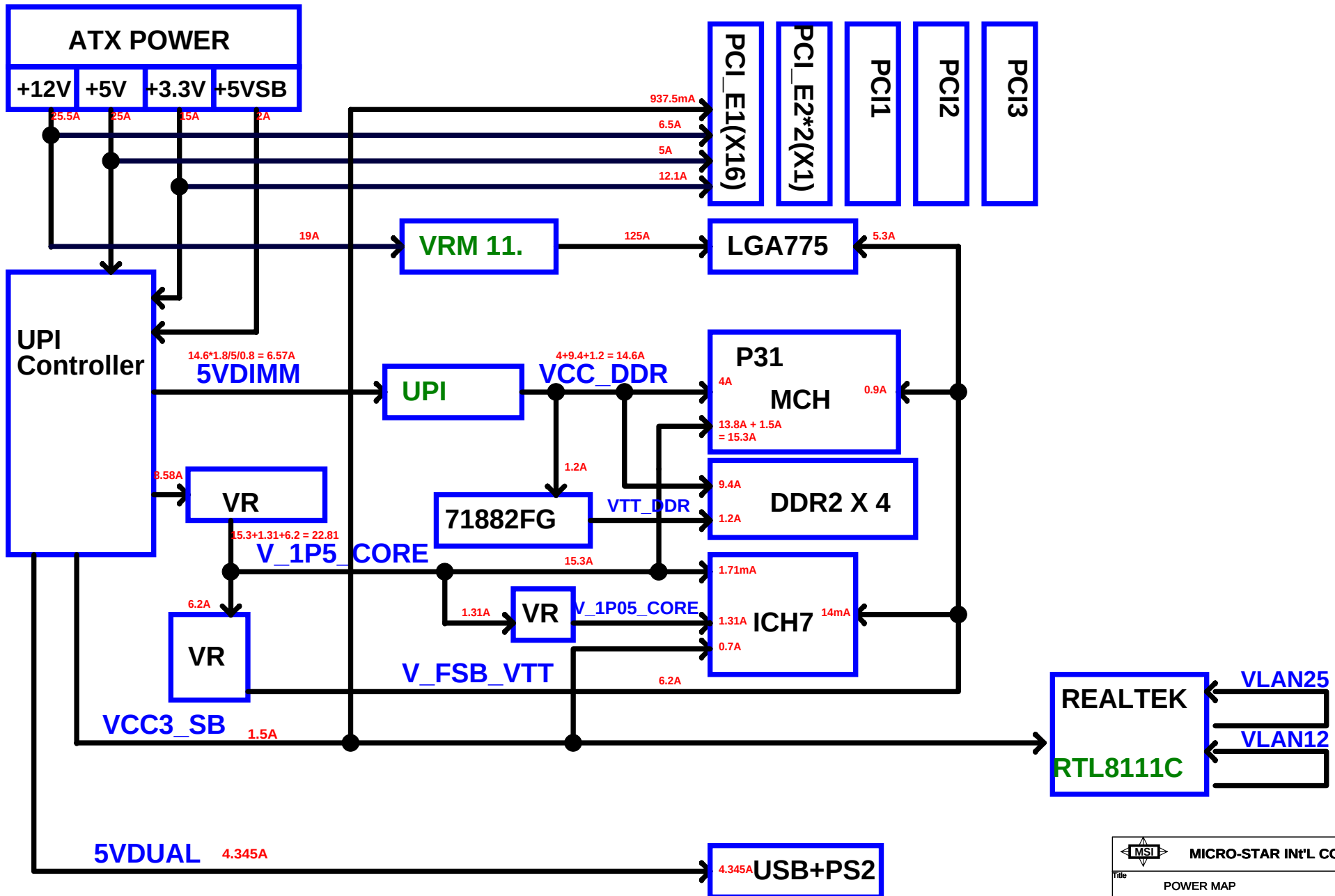
Block Diagram



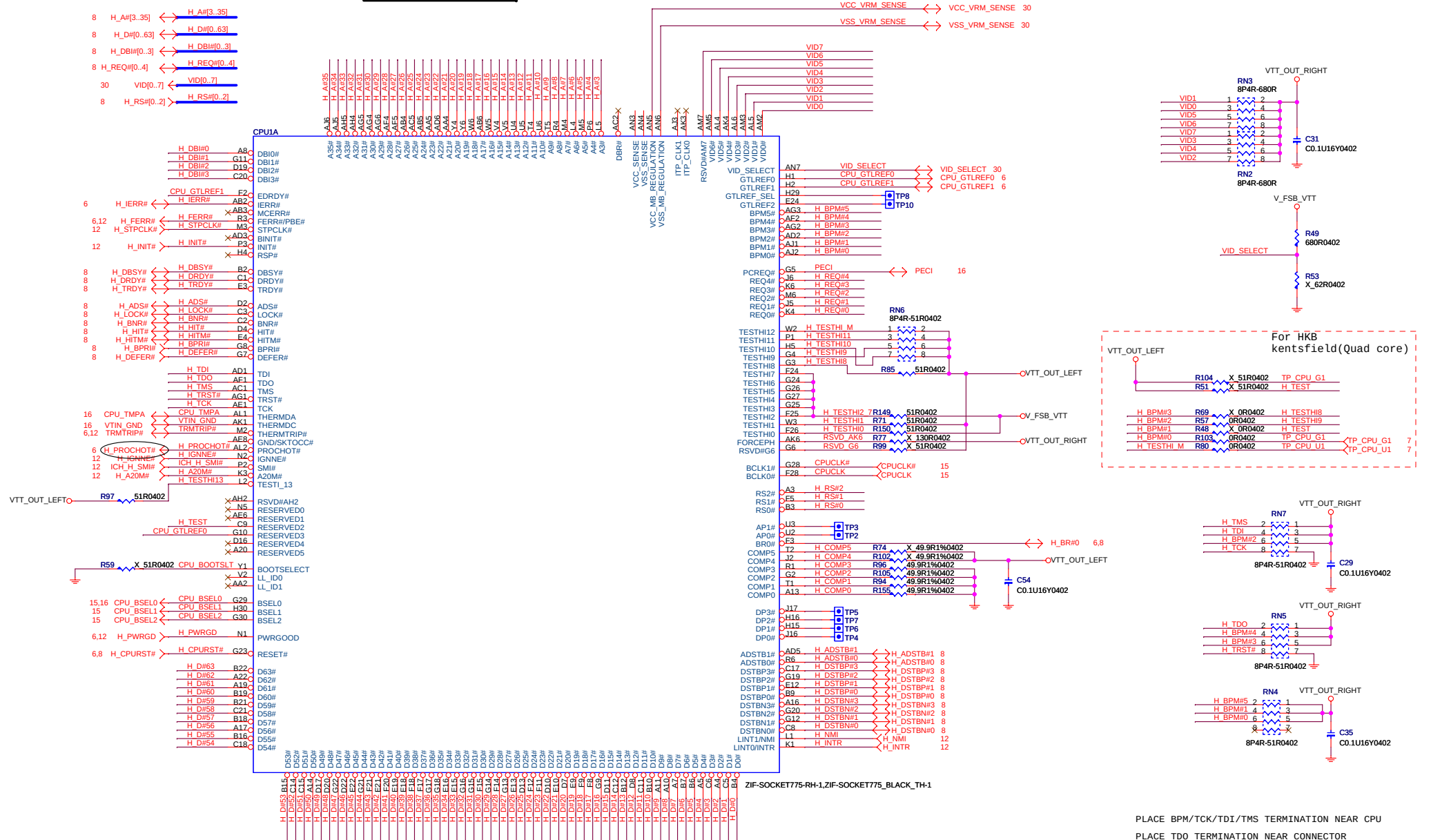
CLOCK MAP



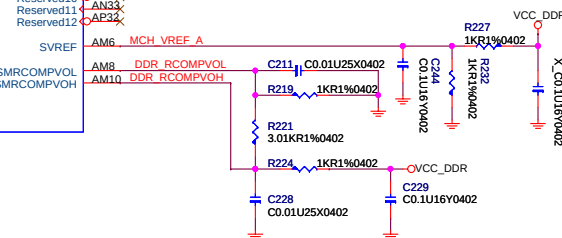
POWER MAP

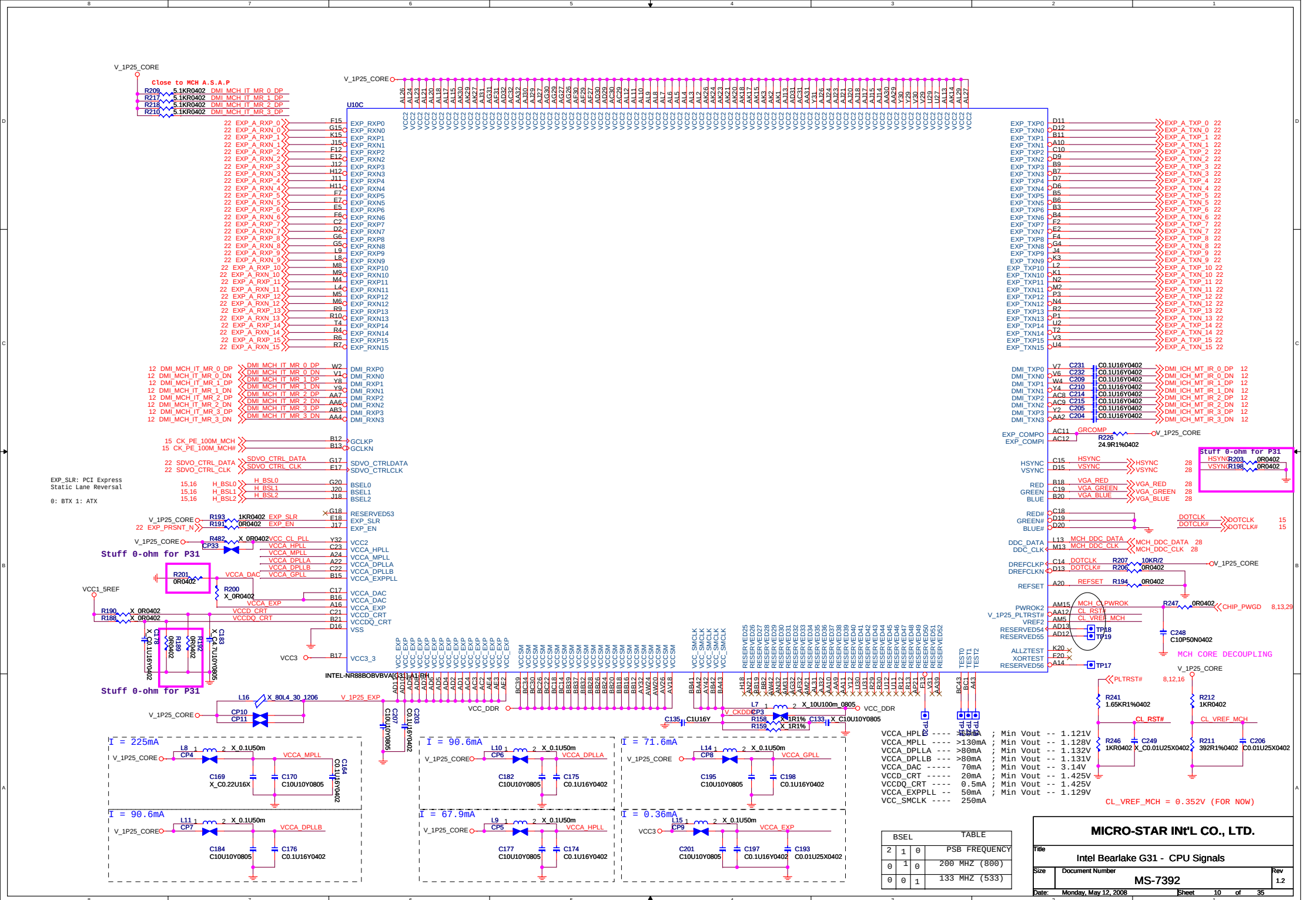


CPU SIGNAL BLOCK

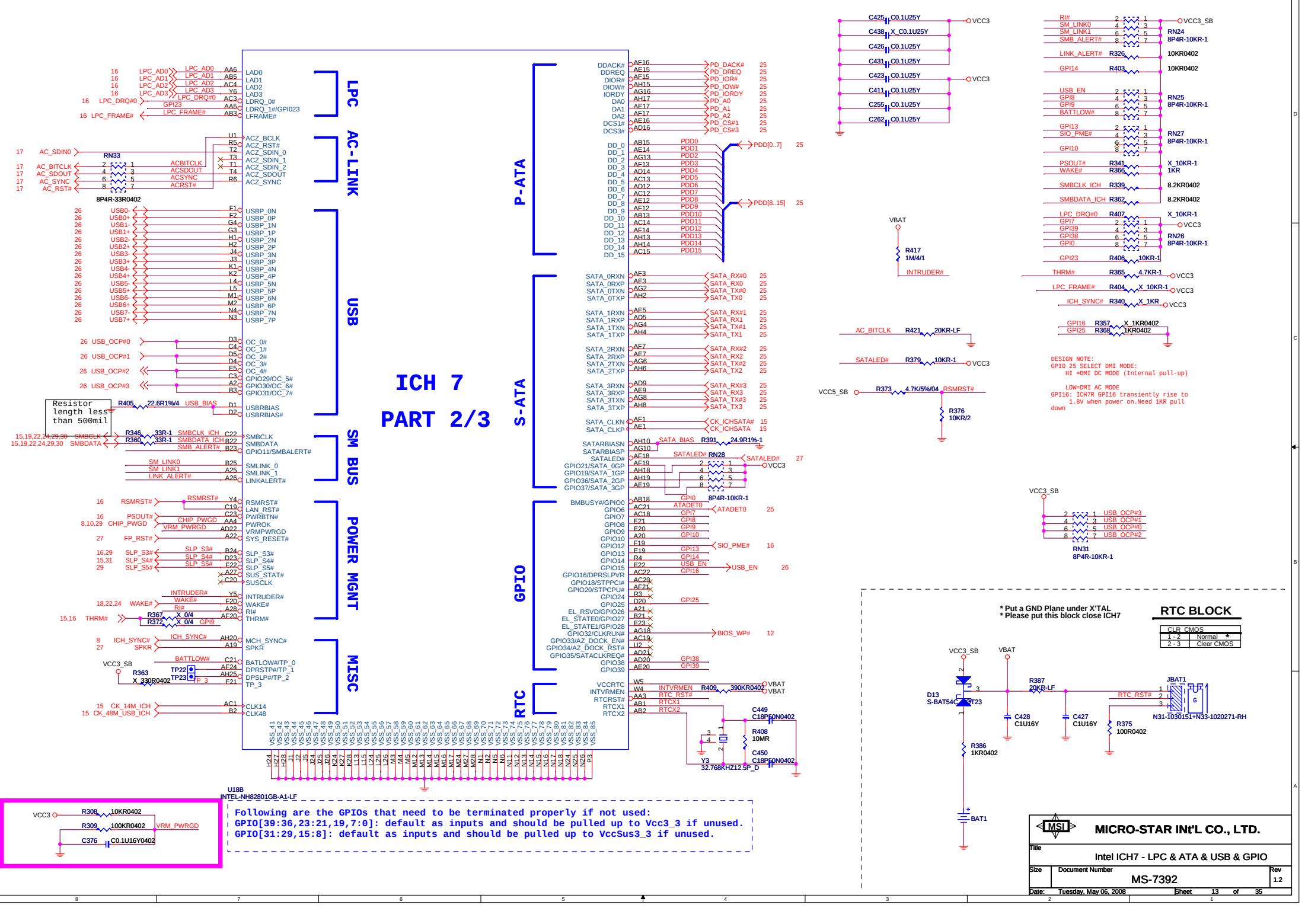


 MICRO-STAR INT'L CO., LTD.	
Title	
Intel LGA775 CPU - GND	
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	Rev 1.2
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RTC BLOCK

CLR	CMOS
1-2	Normal *
2-3	Clear CMOS

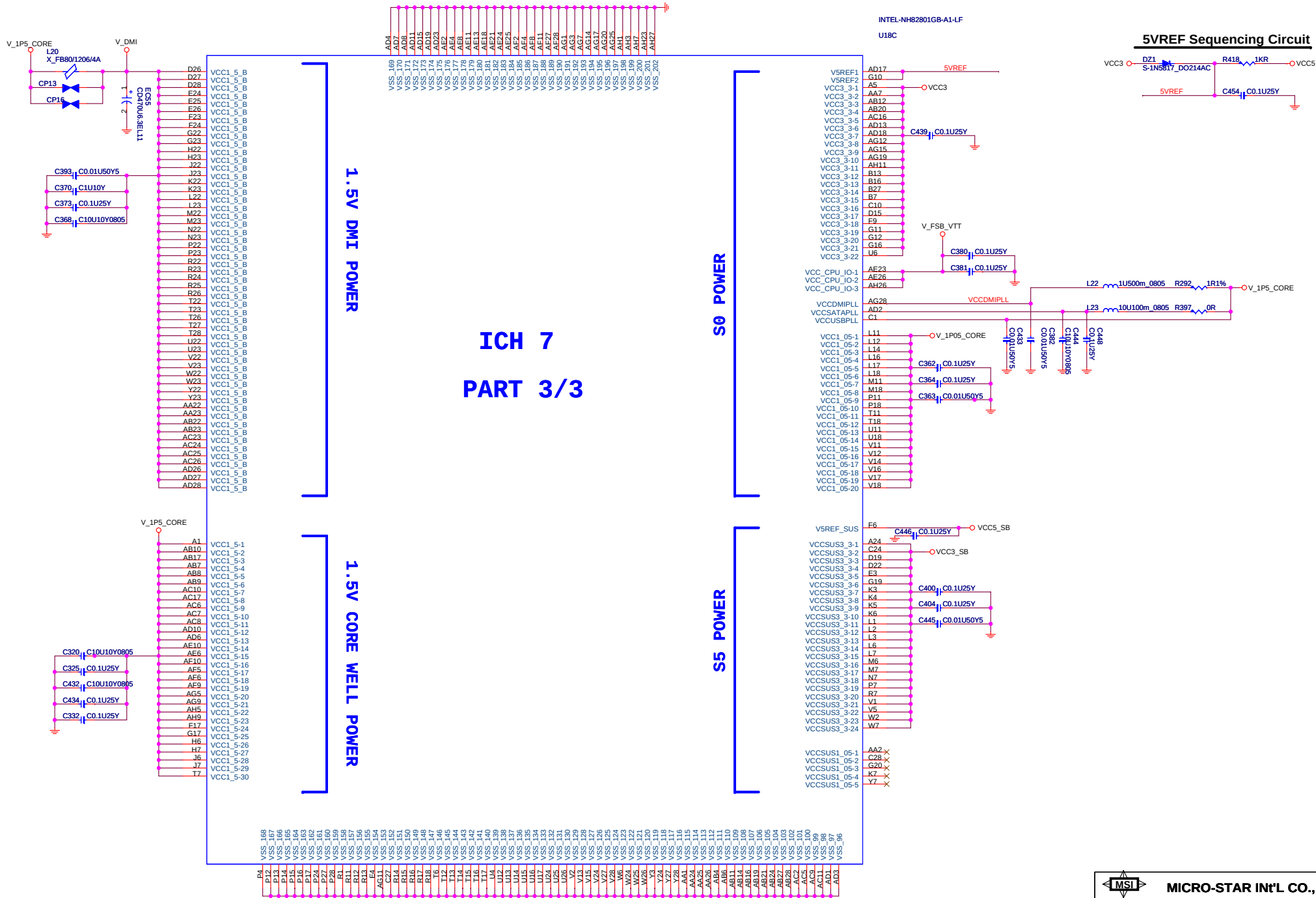
* Put a GND Plane under X'TAL
* Please put this block close ICH7

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

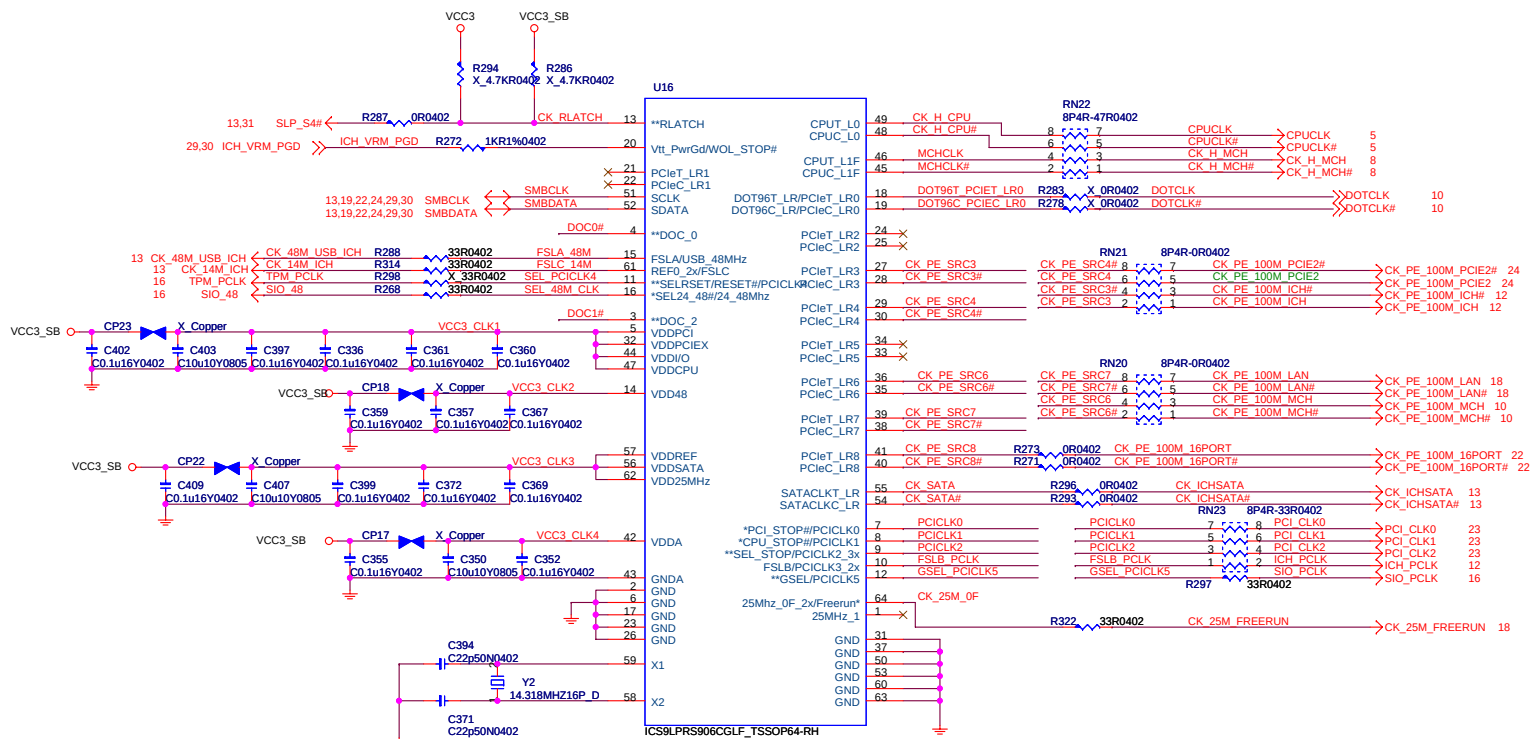
Title: Intel ICH7 - LPC & ATA & USB & GPIO

Size: Document Number MS-7392 Rev 1.2

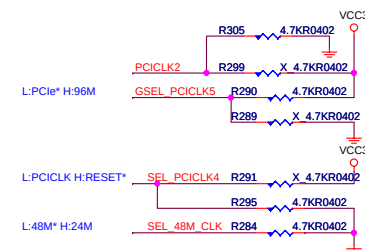
Date: Tuesday, May 06, 2008 Sheet 13 of 35



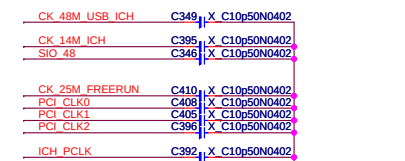
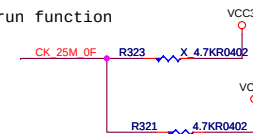
Clock Generator - ICS9LPRS906CGLF



CLOCK GEN STRAPING

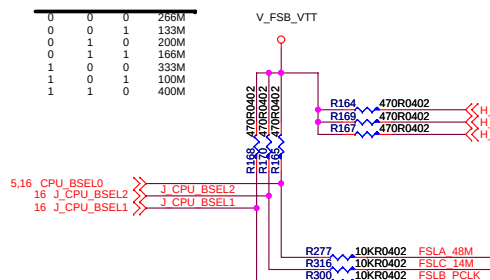


25MHz freerun function



CPU Frequency Selection

FS_C	FS_B	FS_A	CPU
0	0	0	266M
0	0	1	133M
0	1	0	200M
0	1	1	166M
1	0	0	333M
1	0	1	100M
1	1	0	400M



JFSB1

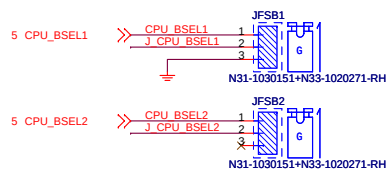
Plug 1--2
200MHZ-->200MHZ
Plug 2--3
200MHZ-->266MHZ

JFSB2

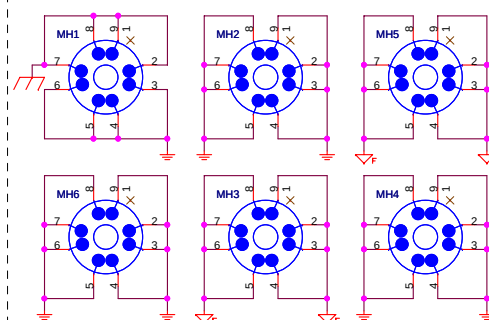
Plug 1--2
266MHZ-->266MHZ
Plug 2--3
266MHZ-->333MHZ

JFSB1

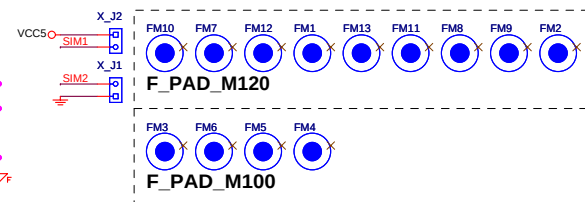
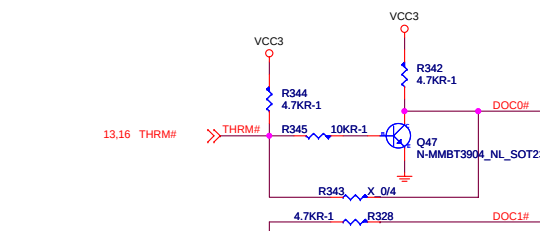
Open
JFSB2
Plug 1--2 or 2--3 or Open
333MHZ-->400MHZ



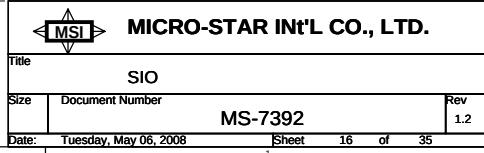
Mounting Holes

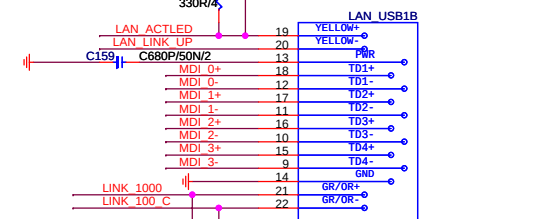
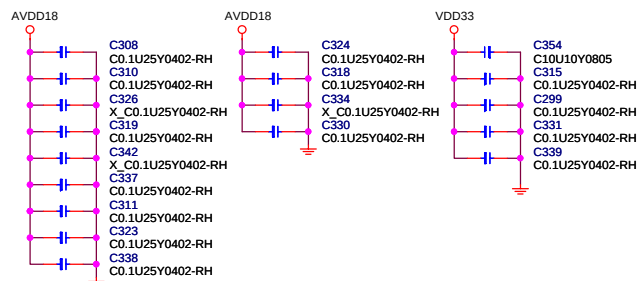


Optics Orientation Holes



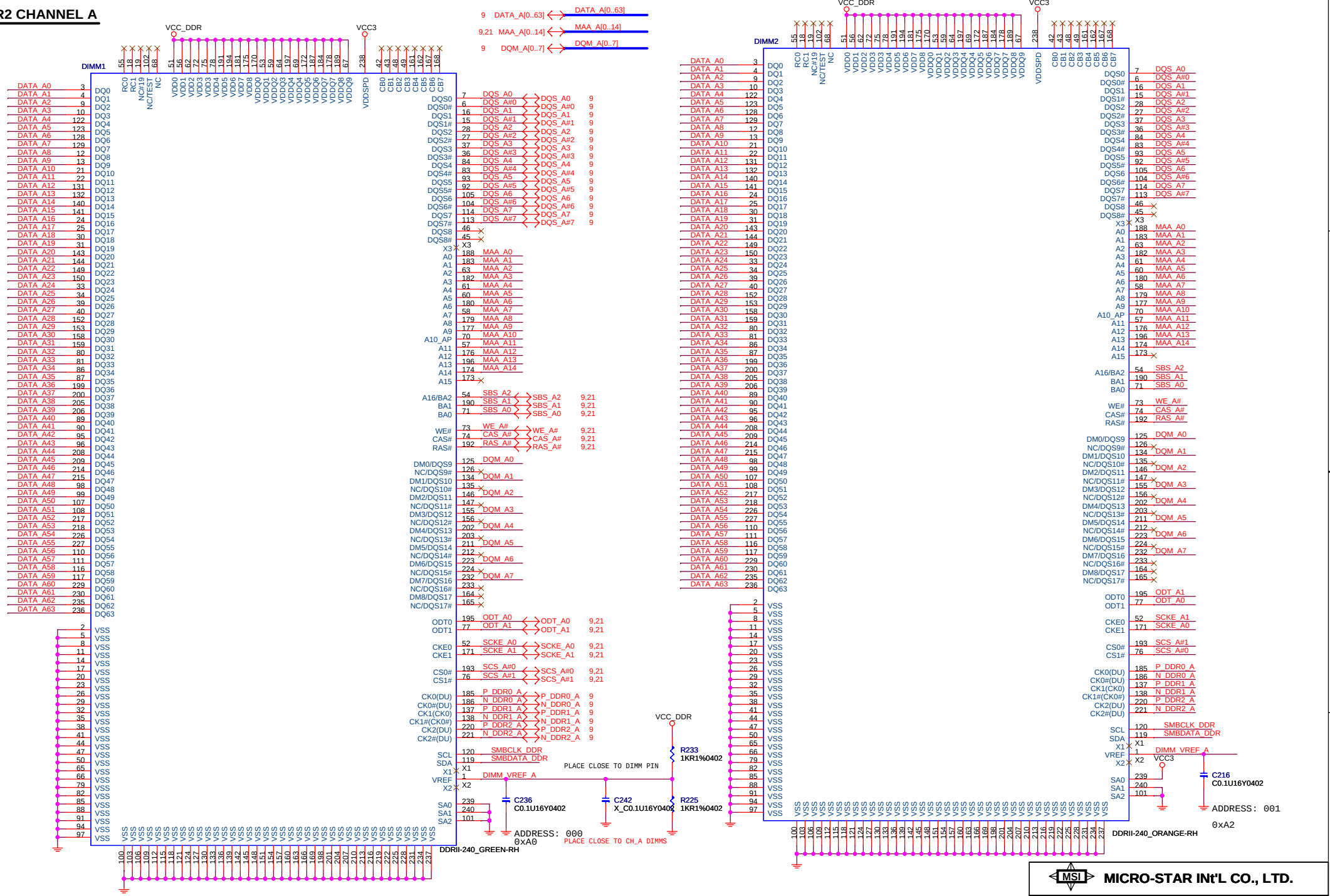
For 400MHz CPU Support



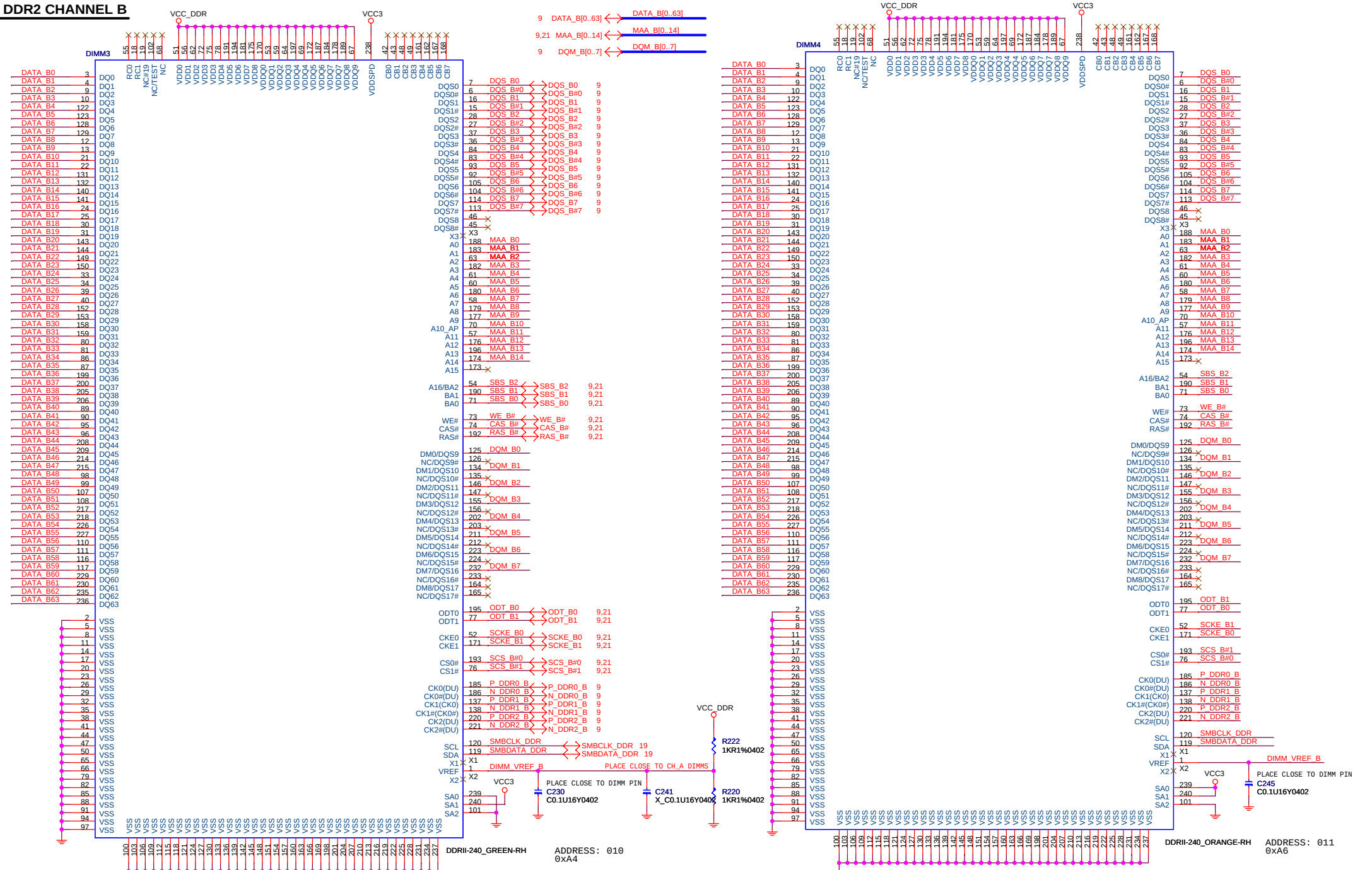


Giga-Lan		10/100-Lan	
N58-22F0181-S42		N58-22F0201-S42	
Link Active 1000 100 10	Yellow Blinking Orange Green None	Link Active 100 10	Yellow Blinking Green None
19		19	
20	Yellow	20	Yellow
21	Orange	21	
22	Green	22	Green

DDR2 CHANNEL A



DDR2 CHANNEL B

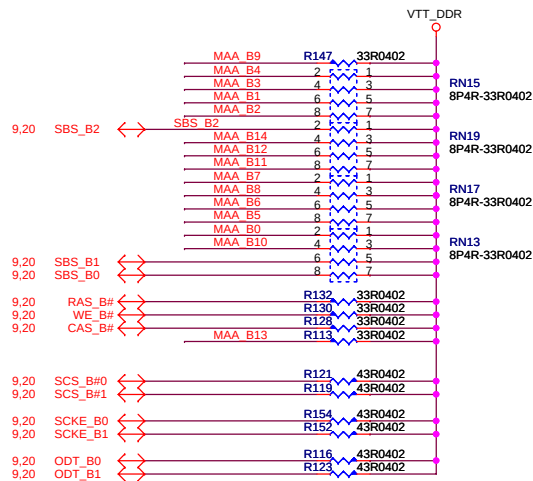
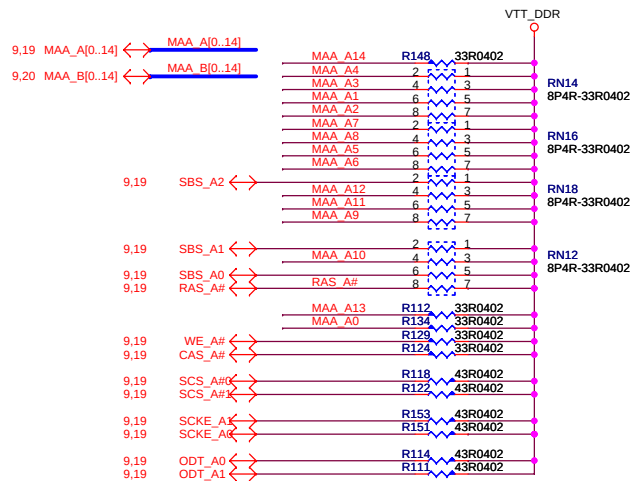


MSI MICRO-STAR INT'L CO., LTD.

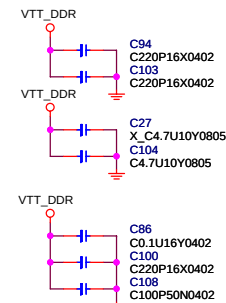
Title: **DDR II DIMM 3&4**

Size: **Document Number** **MS-7392** **Rev 1.2**

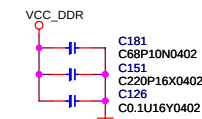
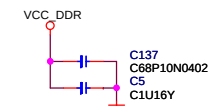
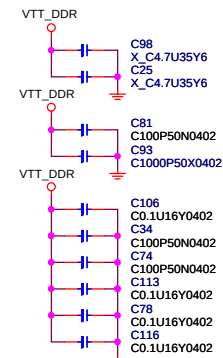
Date: **Tuesday, May 06, 2008** Sheet **20** of **35**



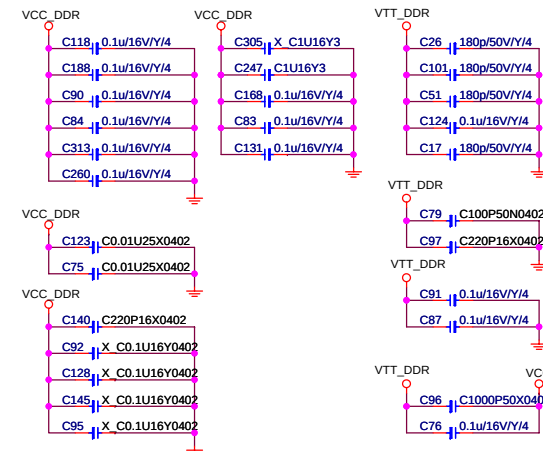
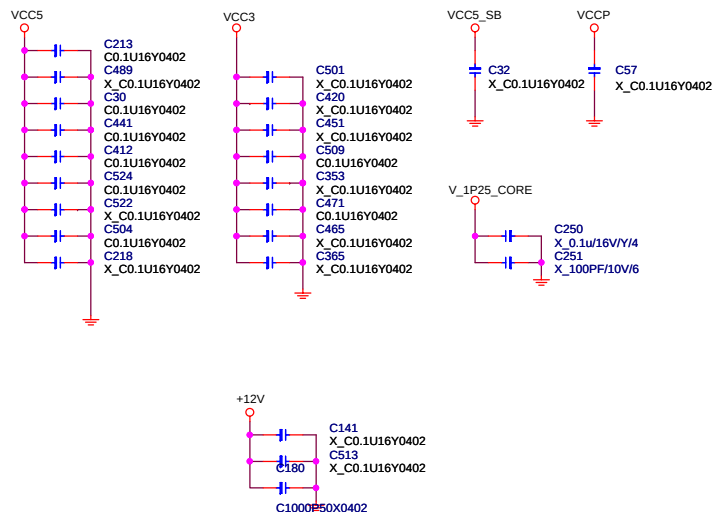
CHANNEL A V_SM_VTT DECOUPLING CAPS



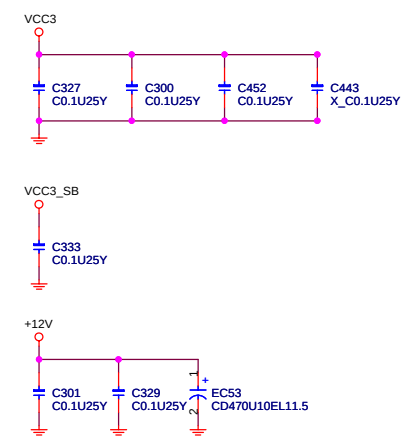
CHANNEL B V_SM_VTT DECOUPLING CAPS



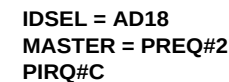
FOR EMI RESERVED



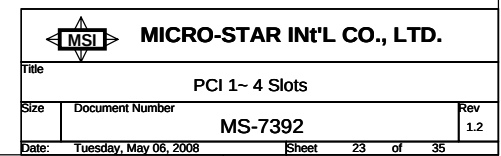
FOR EMI RESERVED



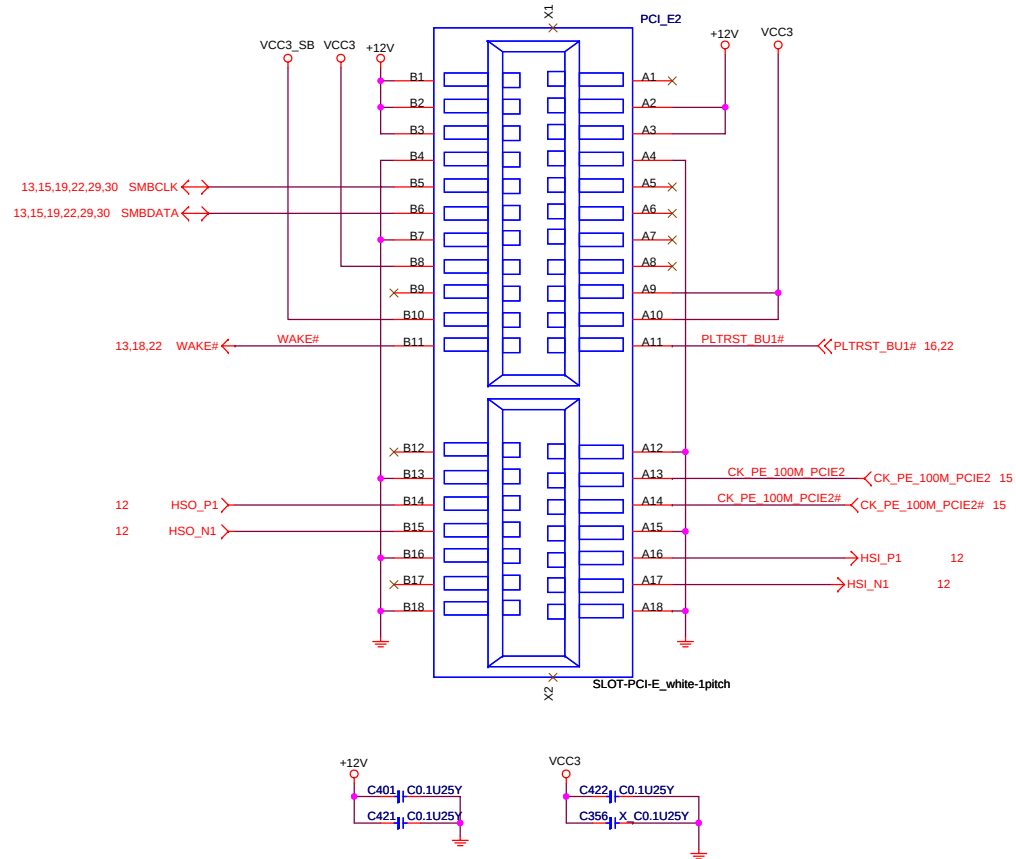
PCI SLOT 3 (PCI VER: 2.2 COMPLY)



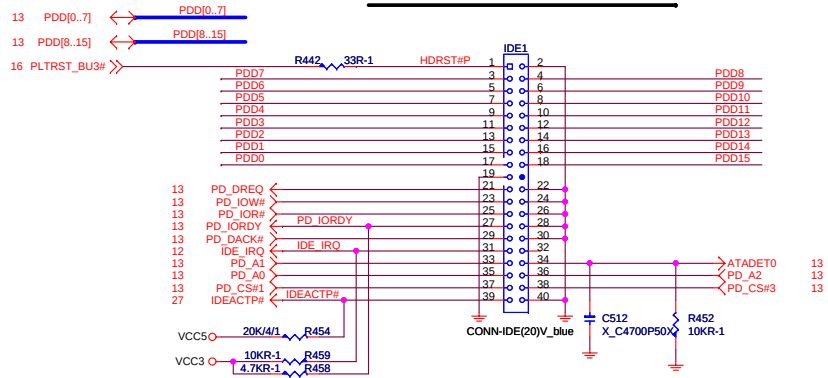
PCI SLOT DECOUPLING CAPACITORS



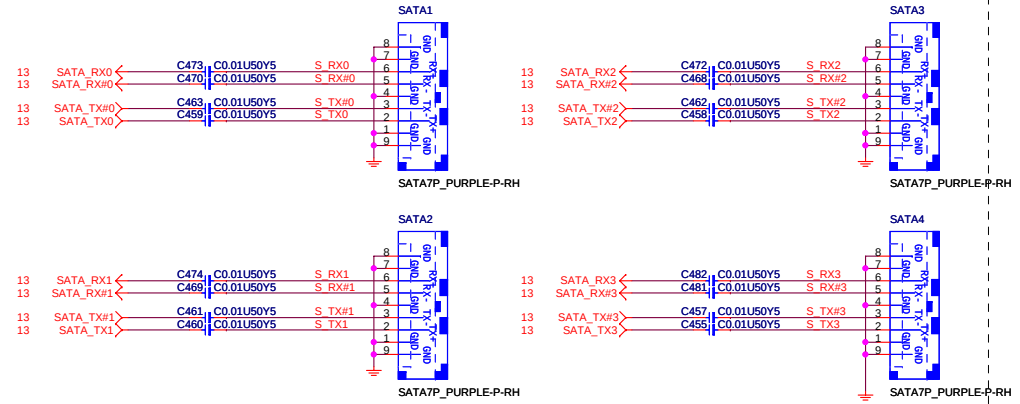
PCI EXPRESS 1-PORT



ATA 33/66/100 IDE Connectors



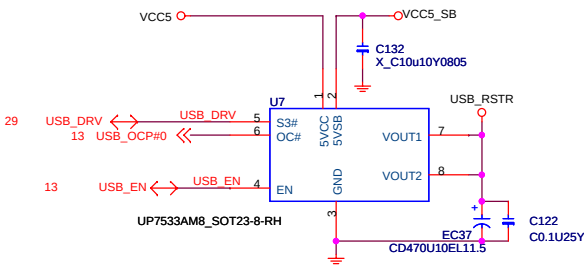
SERIAL ATA CONNECTOR BLOCK



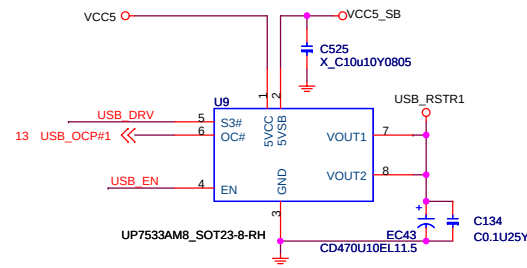
MICRO-STAR INT'L CO., LTD.

Title			ATA33/66/100 IDE & SATA Connectors
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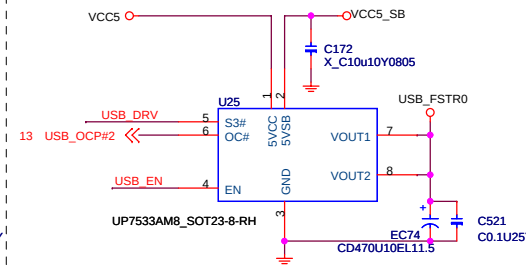
POWER CIRCUIT FOR USB PORT 0,1



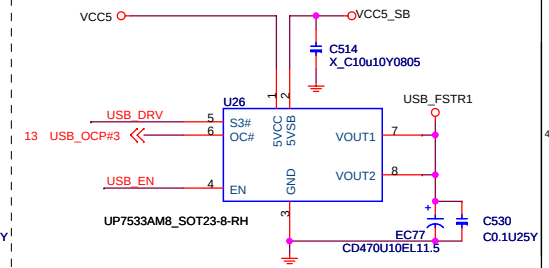
POWER CIRCUIT FOR USB PORT 2,3



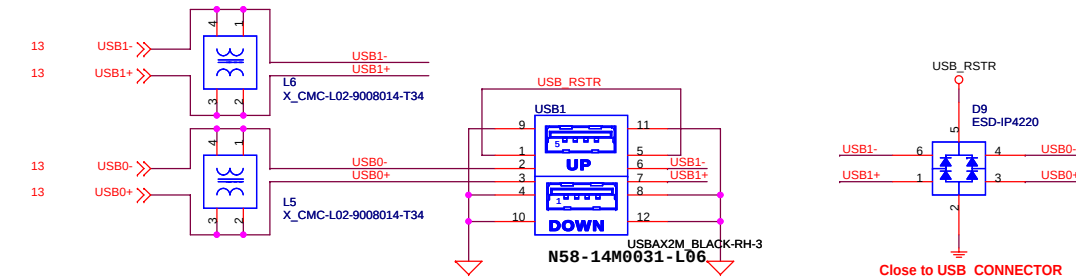
POWER CIRCUIT FOR USB PORT 4,5



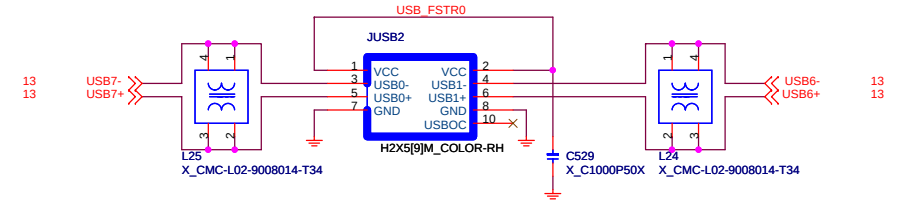
POWER CIRCUIT FOR USB PORT 6,7



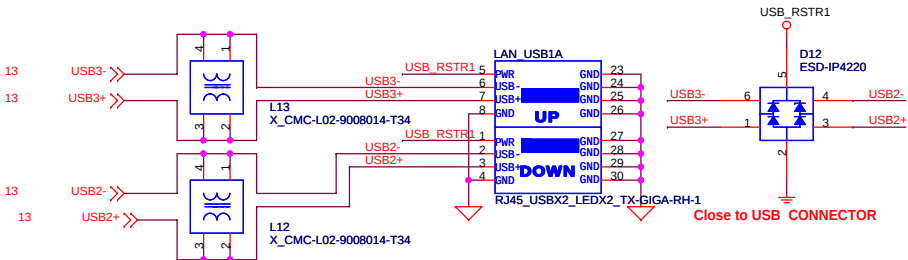
REAR PANEL USB CONNECTOR FOR USB PORT 0,1



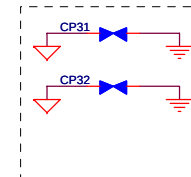
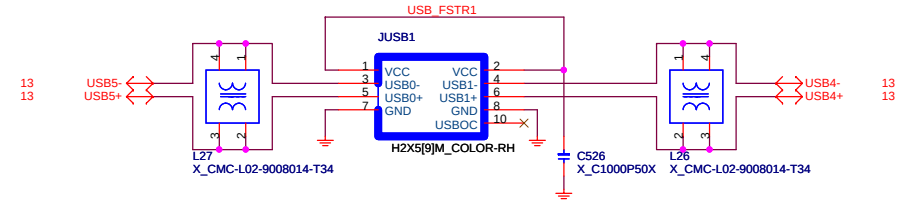
FRONT PANEL USB CONNECTOR FOR USB PORT 6,7



REAR PANEL USB CONNECTOR FOR USB PORT 2,3



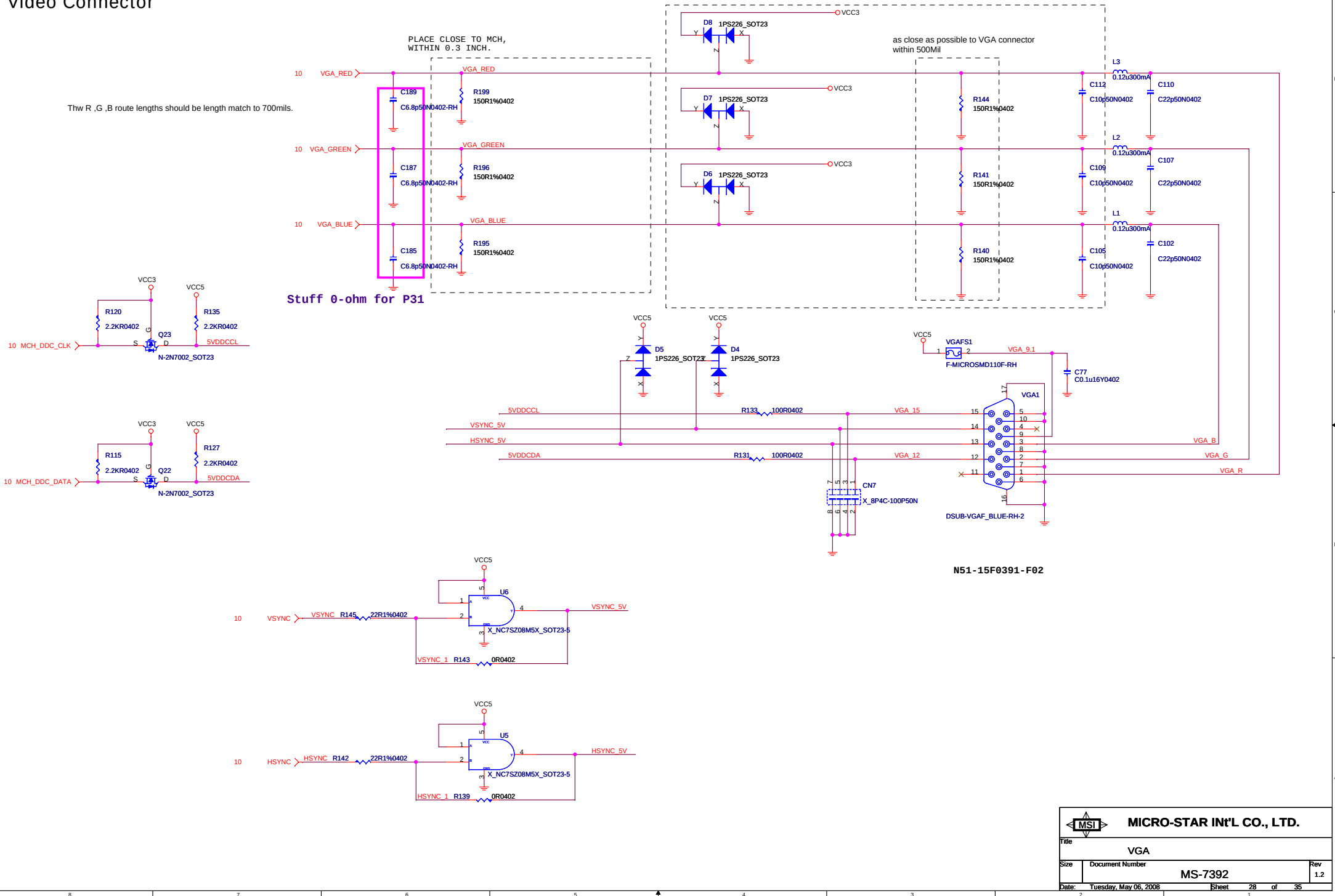
FRONT PANEL USB CONNECTOR FOR USB PORT 4,5



MICRO-STAR INT'L CO., LTD.

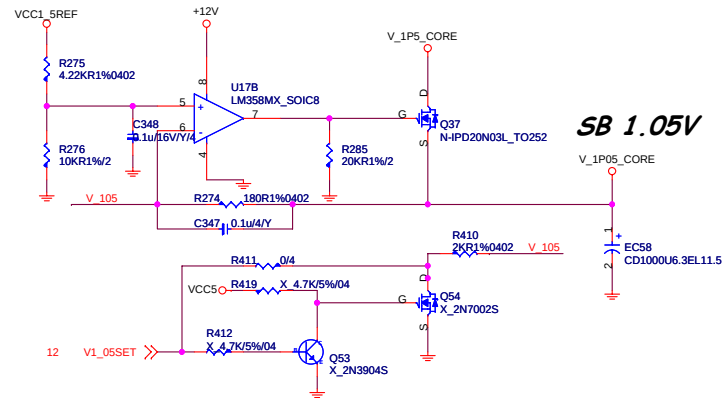
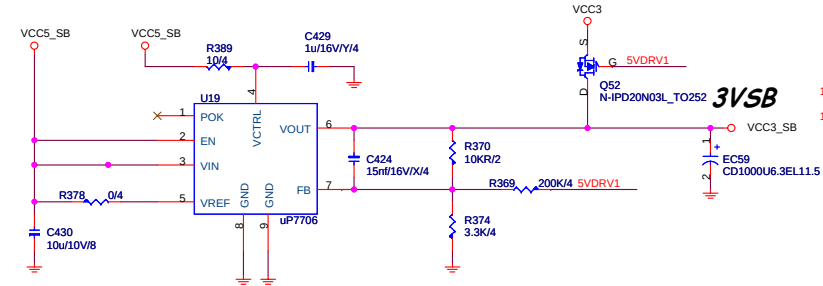
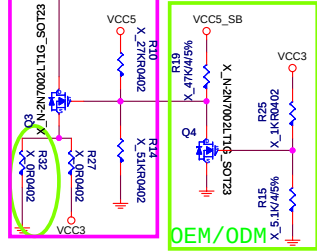
Title			USB Connectors	
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Video Connector

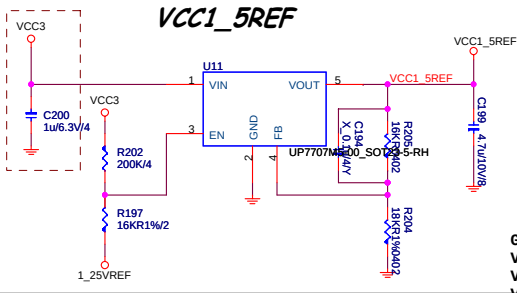


5VDDIMM FOR
DDR

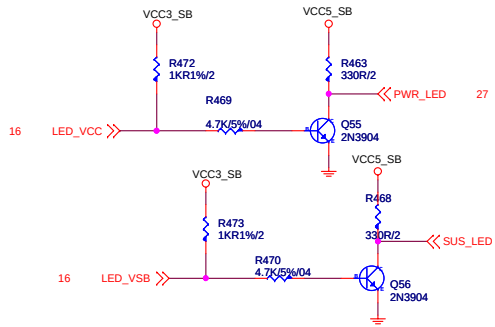
COST DOWN



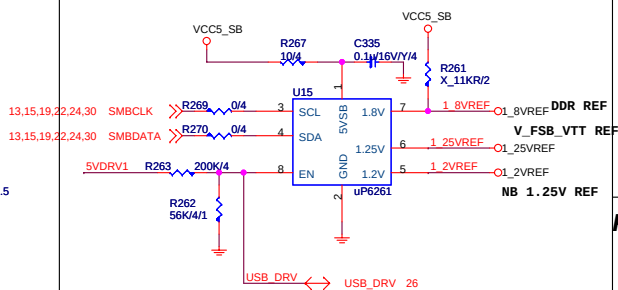
VCC1_5REF



LED (for Fintek 71882)



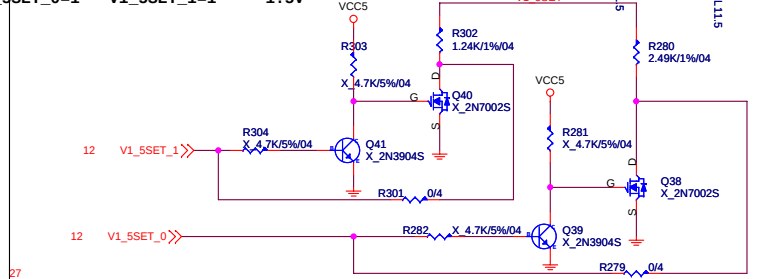
reference Voltage



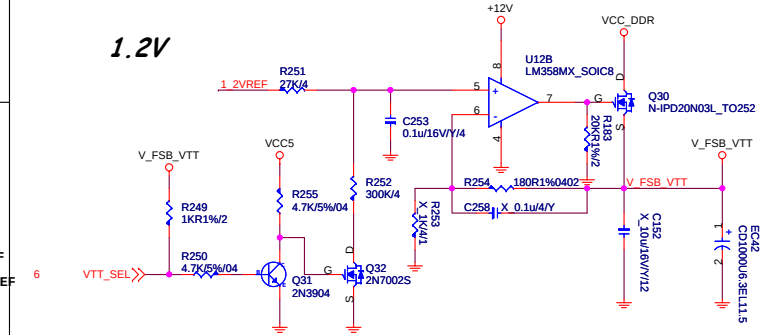
SB 1.5V

GPIO for over voltage

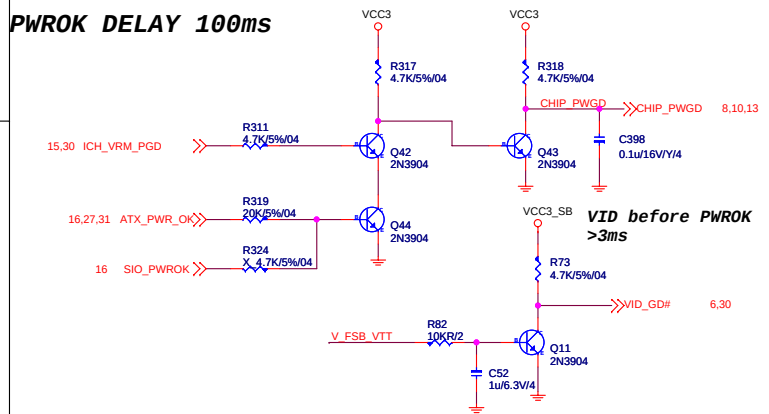
V1_5SET_0=0 V1_5SET_1=0
V1_5SET_0=1 V1_5SET_1=0
V1_5SET_0=0 V1_5SET_1=1
V1_5SET_0=1 V1_5SET_1=1



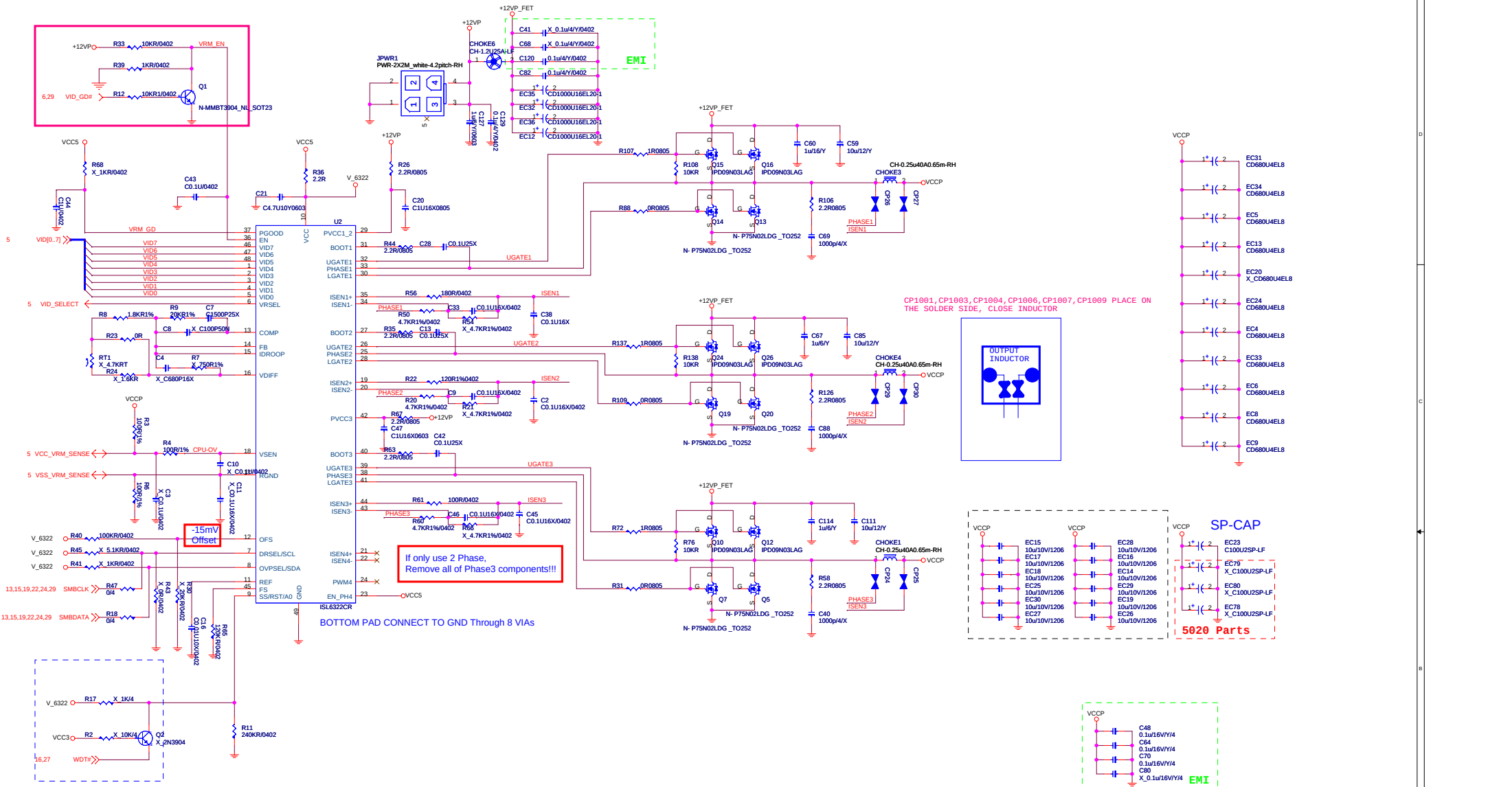
1.2V



PWROK DELAY 100ms



MSI MICRO-STAR INT'L CO., LTD.		
Title	ACPI CONTROLLER UPI	
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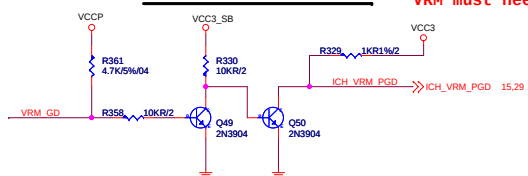
BOTTOM PAD CONNECT TO GND Through 8 VIAs

If only use 2 Phase, Remove all of Phase3 components!!!

-15mV Offset

VRMPWRGD LEVEL SHIFT

For Intel DG VRM must need level shift

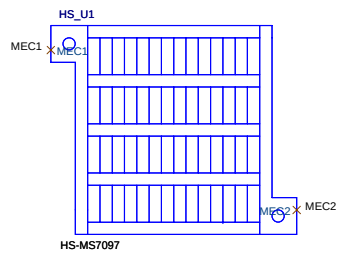


Auto-BOM Manual Parts

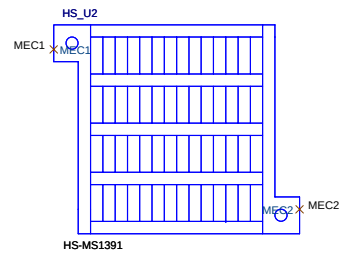
PCB1
PCB
PCB-7392

BATTERY1
BATTERY-CR2032

P31 HEATSINK



ICH7 HEATSINK



Auto-BOM Option Parts

ICH7
OPT
X_ICH7

G31
OPT
X_G31

P31-R1
OPT
X_OR0402

OnVGA1.3
OPT
X_1.3KR1%2

G31-C1
OPT
X_C0.1U16V0402

1.0 Change 1.1 list:

- 1. Co-lay G31 add COM2,change LTP to Connect
- 2. change USB power to UPI 7533
- 3. change LAN only to 8111C
- 4. change CLKGEN to 906
- 5. Add OC Jumper
- 6. change clk netname,swapVGA_ 12/VGA_ 15 and HSYNC/VSYNC
- 7. remove CP5,CP6,CP21
- 8. Change TestPIN footprint to TPC20B
- 9. Remove SMBus for PCI.
- 10. Rename,and add OC Jump

1.1 Change 1.2 list:

- 1. change CHOKE 2/5/6 to 方形CHOKE

Title			
<Title>			
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