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Model Name : IG31K-M7S

Marketing name : G31M+

VER: 6.2

CPU :

Intel Core 2 Quad /Core 2 Duo/ Pentium Dual-Core /
Celeron Dual Core /Celeron 4xx

System Chipset :

INTEL G31
INTEL ICH7

On Board Chip :

Clock Gen. -- REALTEK RTM876-665
Audio Codec -- REALTEK ALC662
Lan Chip -- REALTEK 8102EL/8103EL
PWM Controller -- ST L6703 + NIKO-SEM MOS
Super I/O -- ITE 8721FBX
SPI Flash 4M

Main Memory :

2 Channel DDR II * 2 (Max 4GB)

Expansion Slot :

PCI Express x16 Slot * 1
PCI Slot * 2

Heatsink :

NB: SBL5-T
SB: BNP SMALL-L

I/O Pannel :

47-RIOBRACKET-68


PCB SIZE :

179.00 X 235.00mm
4-layers-1080

| | | | |
|--------------|--|-------|--|
| HW Engineer: | | Date: | |
| HW Leader1: | | Date: | |
| HW Leader2: | | Date: | |

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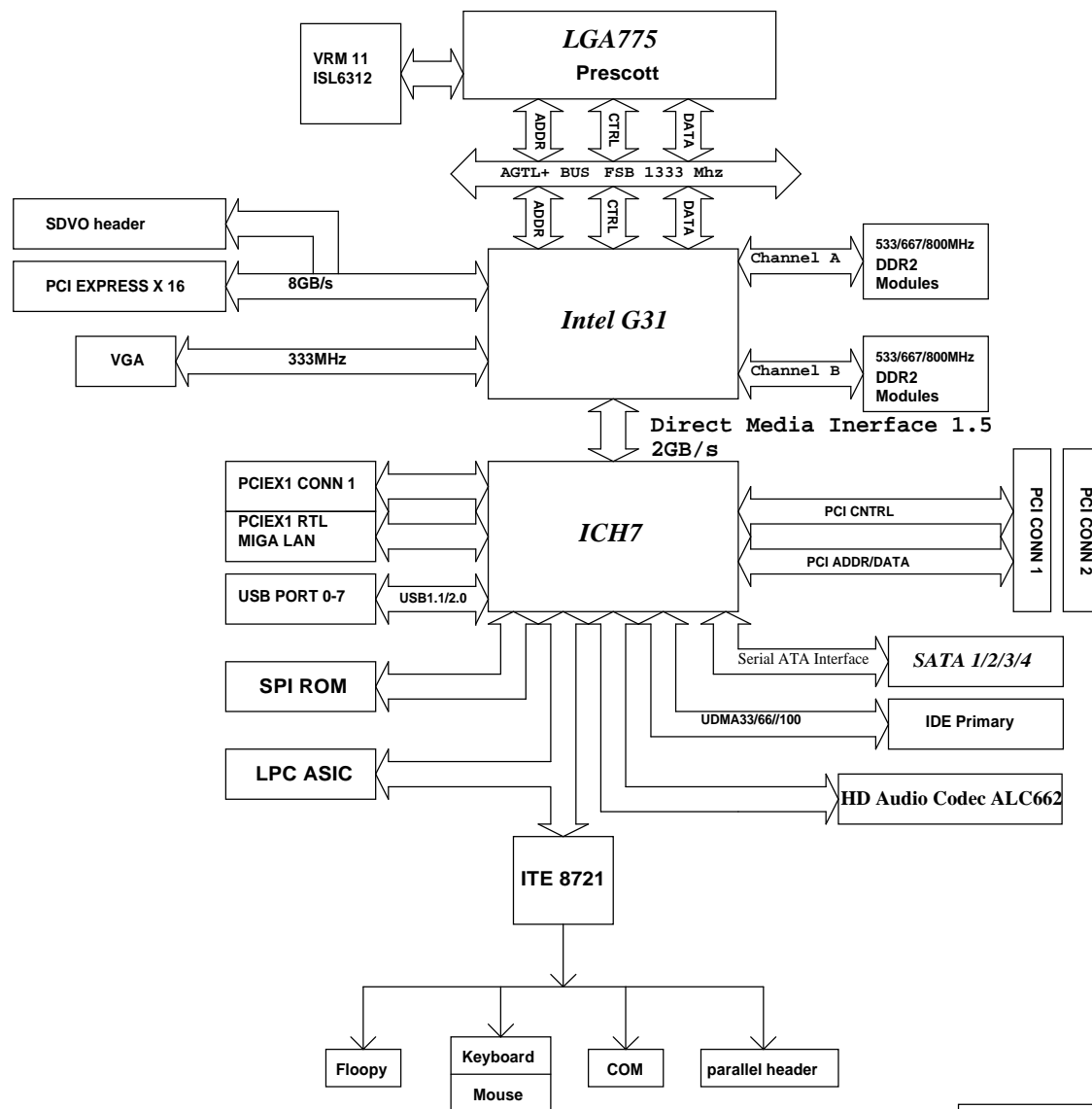
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BLOCK DIAGRAM



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| PCI Slot | IDE SEL | INT# | GNT# | REQ# | CLOCK |
|----------|---------|------|------|------|-------|
| 1 | | | | | |
| 2 | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| Chips | IDE SEL | INT# | GNT# | REQ# | CLOCK | GPIO |
|----------|---------|------|------|------|-------|------|
| PATA | | | | | | |
| ICH7 | | | | | | |
| S | | | | | | |
| I/O BIOS | | | | | | |
| LAN | | | | | | |
| ANTI-POP | | | | | | |
| DIMM-OV | | | | | | |
| CPU-OV | | | | | | |
| SATA-LED | | | | | | |
| S | | | | | | |
| I/O | | | | | | |

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| | | General Spec. | |
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FROM V6.0 TO V6.1:


- 1.(Page06) Change R353 to 220 ohm
- 2.(Page27) AQ5,AR26,AR37 NI
- 3.(Page29) Remove CPU POWER over voltage circuit,remove R262,R266
- 4.(Page31) Add NB POWER control circuit,R298,R303 10K 0402,Q58,Q66 2N3904 SOT23
Add MEM POWER over voltage circuit,R341 3.3K 1% 0402,R342 1.8K 1% 0402
Change CT10 to 820UF-S 2.5V 6.3X8 ELITE,CT14 NI,change CT5 to 10UF 10V 0805 Y5V
Add V_FSB_VTT over voltage circuit,R206 14.7K 1% 0402,R209 8.2K 1% 0402
- 5.(Page32) Change HW monitor VIN0,VIN1 resistors

FROM V6.1 TO V6.2:

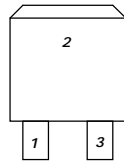
- 1.(Page26) Add Q75,Q77 CM1293 SOT23-6 for FRONT USB ESD

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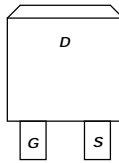
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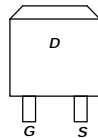
| | |
|------------|-----------|
| 22U/25DE | 5*7 mm |
| 100U/16DE | 6.3*11 mm |
| 220U/10DE | 6.3*11 mm |
| 470U/16DE | 8*11 mm |
| 1000U/10DE | 8*14 mm |
| 1500U/16DE | 10*25 mm |
| 3300U/25DE | 10*25 mm |



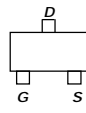
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B55QS03



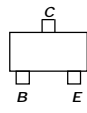
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2SK3296



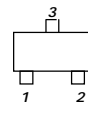
TO-252
20N03
TM3055TL-S
45N03
FDD6030L



SOT-23
2N7002
SI2303S
SI2301S



SOT-23
2N3904
2N3906
MMBT2907A



SOT-23
BAT54C
BAT54S



TO-92
LM431
78L05-D
LM432




TO-92
2N2222A
2N2097A



TO-92
HSD882-D

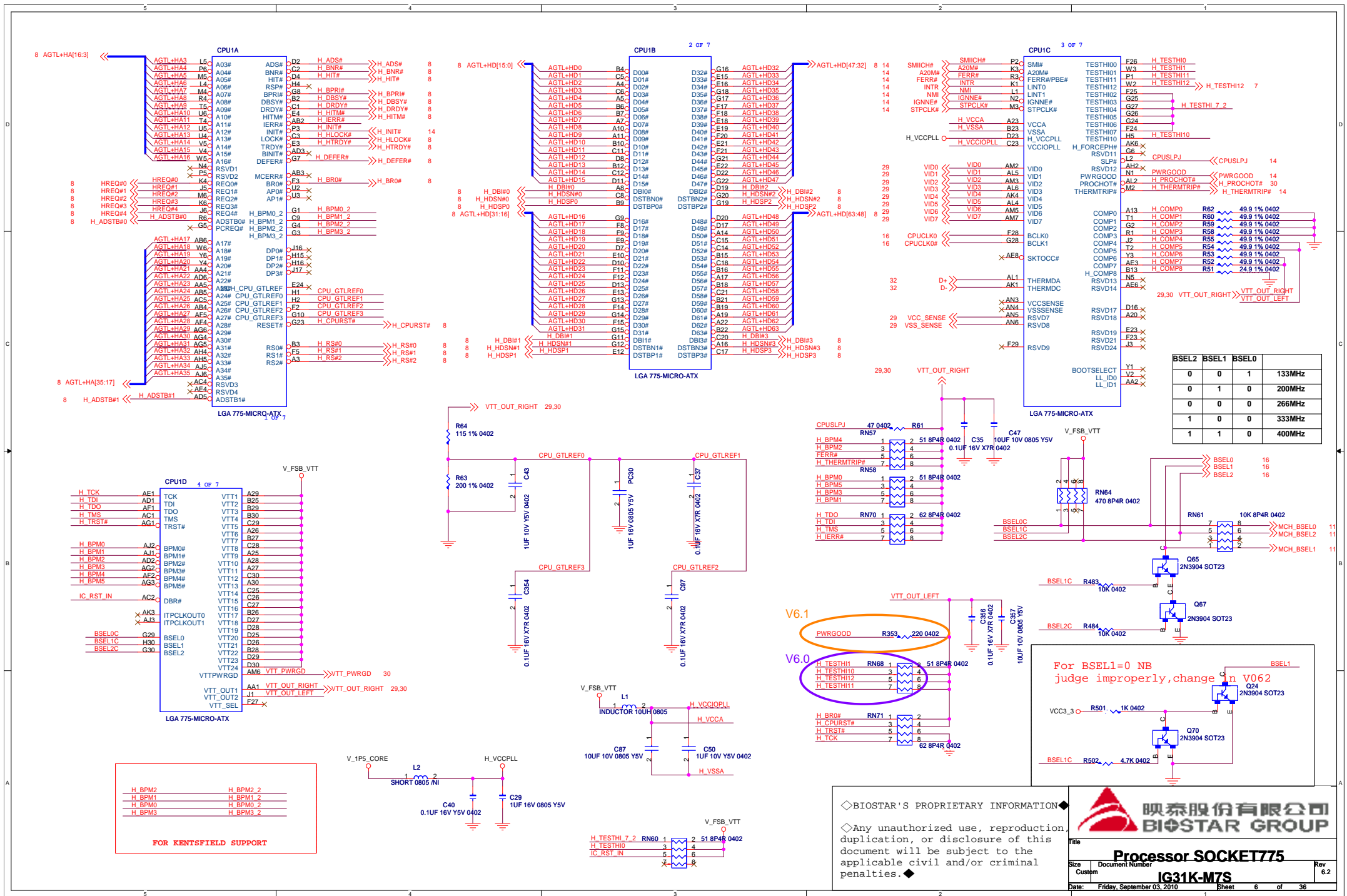
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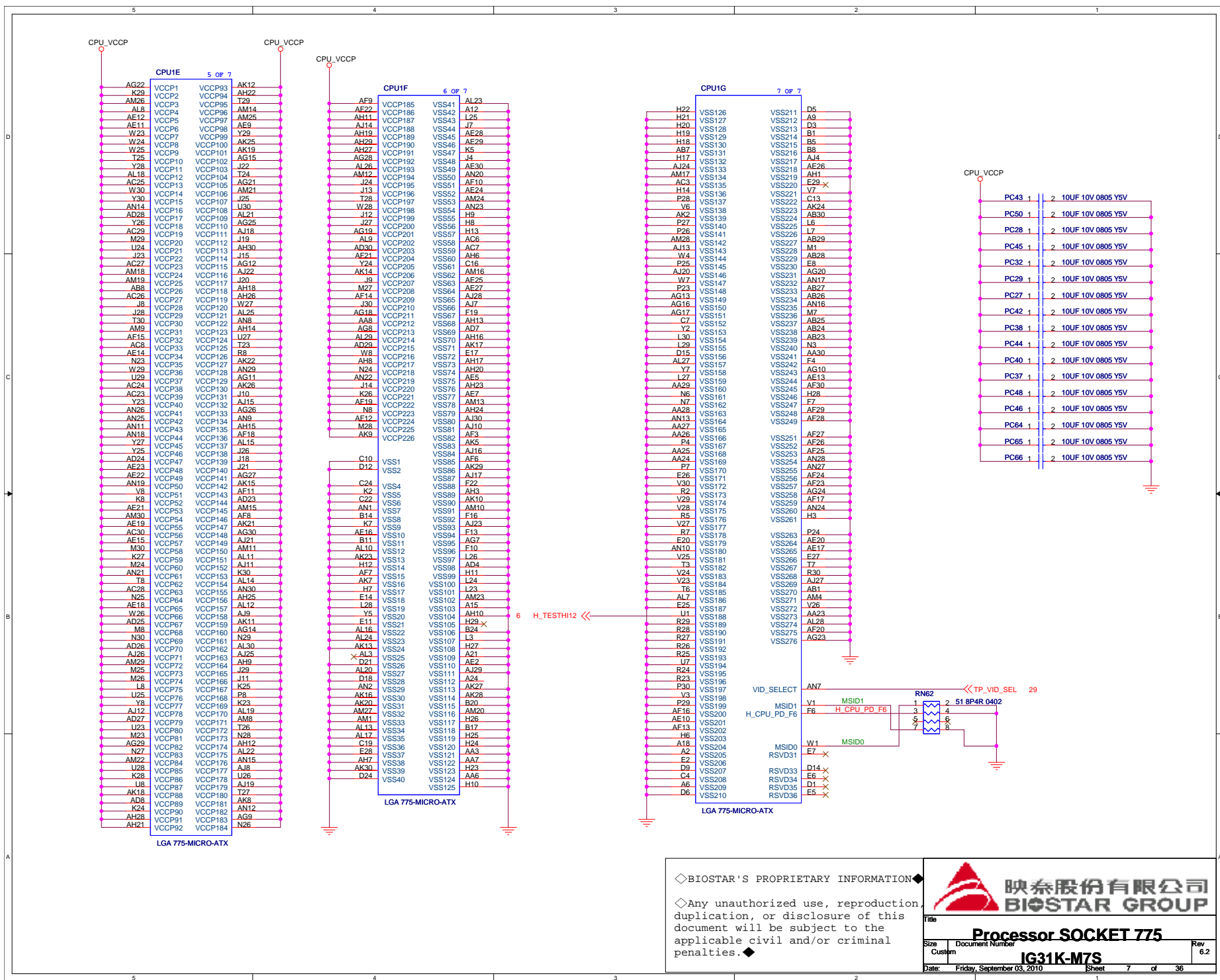
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Processor SOCKET 775

IG31K-M7S

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| | | |
|------|---------|-----|
| BC01 | VES_1 | AFS |
| BC04 | VES_2 | AFS |
| BC05 | VES_3 | AFS |
| BC04 | VES_4 | AFS |
| BC05 | VES_5 | AFS |
| BC07 | VES_6 | AFS |
| BC07 | VES_7 | AFS |
| AXA1 | VES_8 | AFS |
| AXA1 | VES_9 | AFS |
| AXA1 | VES_10 | AFS |
| AXA1 | VES_11 | AFS |
| AXA1 | VES_12 | AFS |
| AXA1 | VES_13 | AFS |
| AXA1 | VES_14 | AFS |
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| AXA1 | VES_161 | AFS |
| AXA1 | VES_162 | AFS |
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| AXA1 | VES_164 | AFS |
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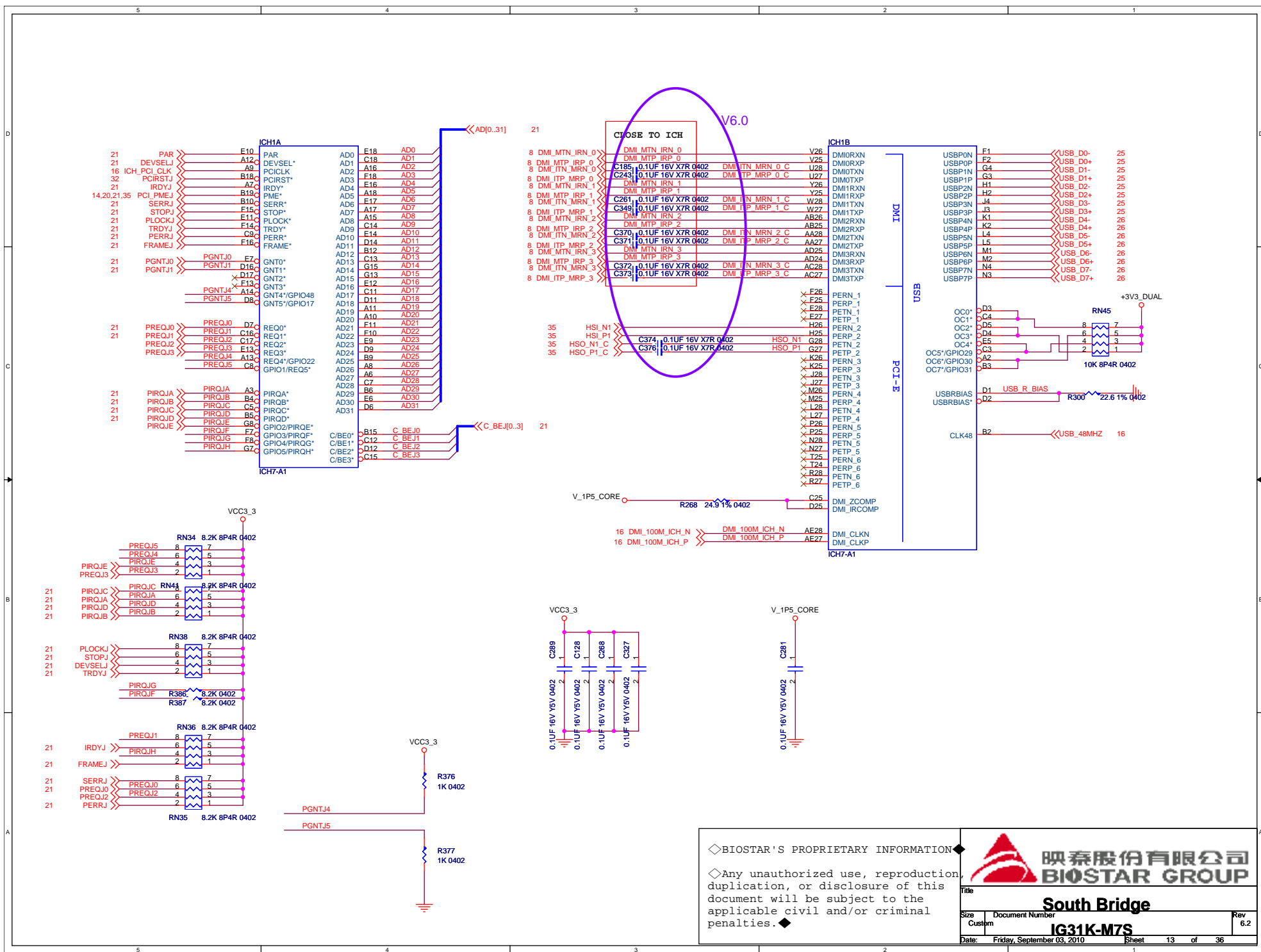
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Title

South Bridge

Size

Custom

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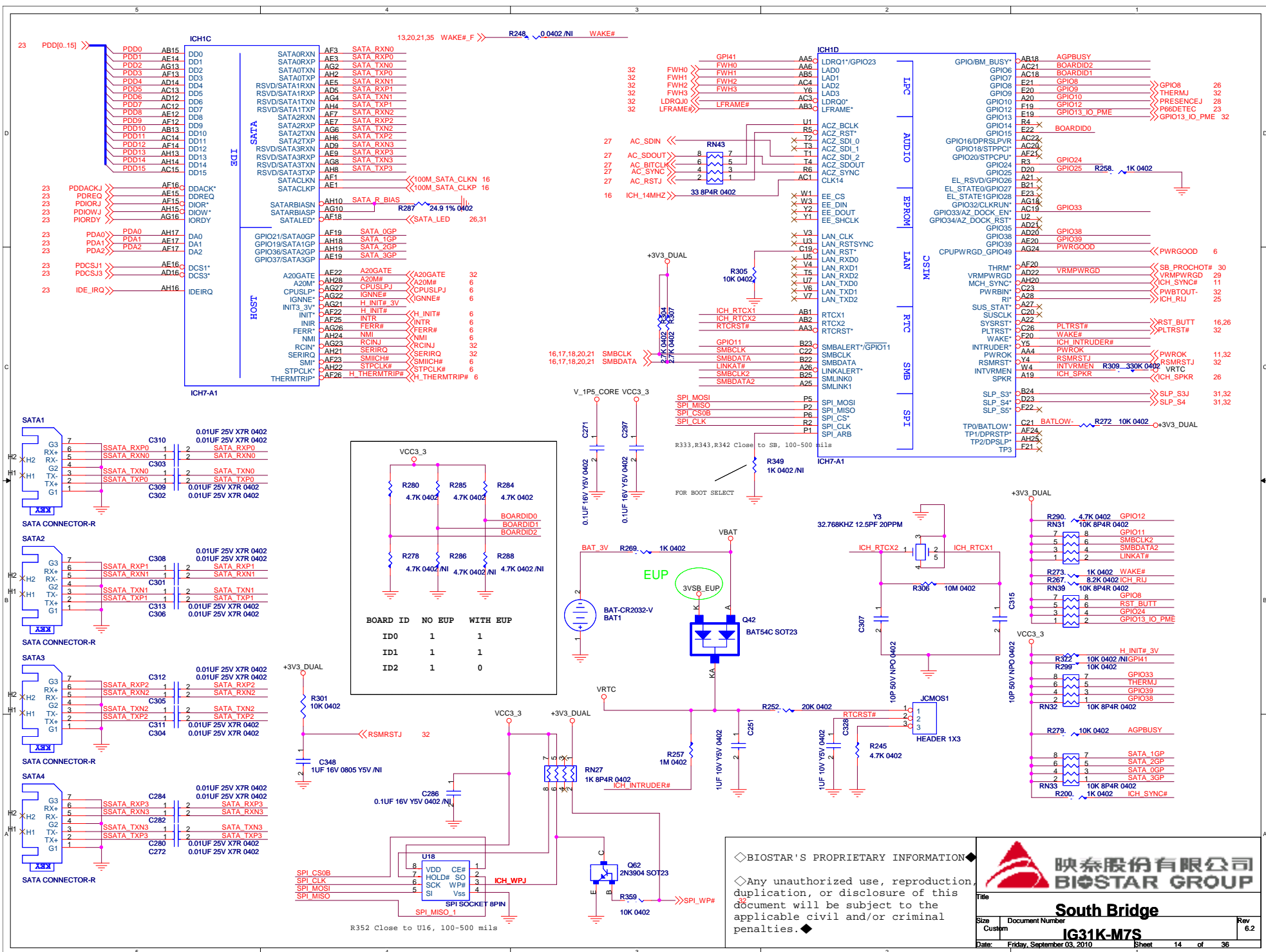
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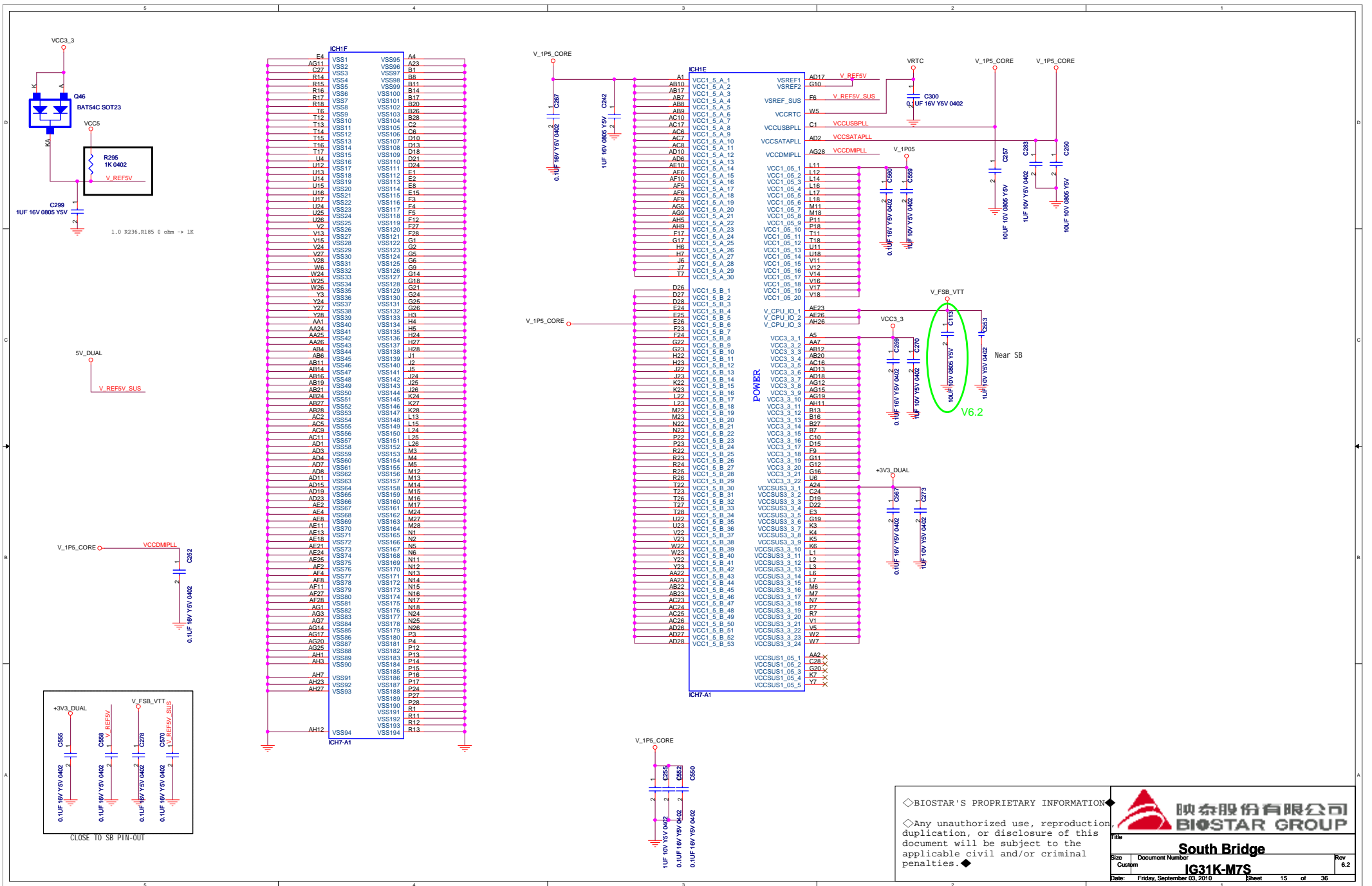
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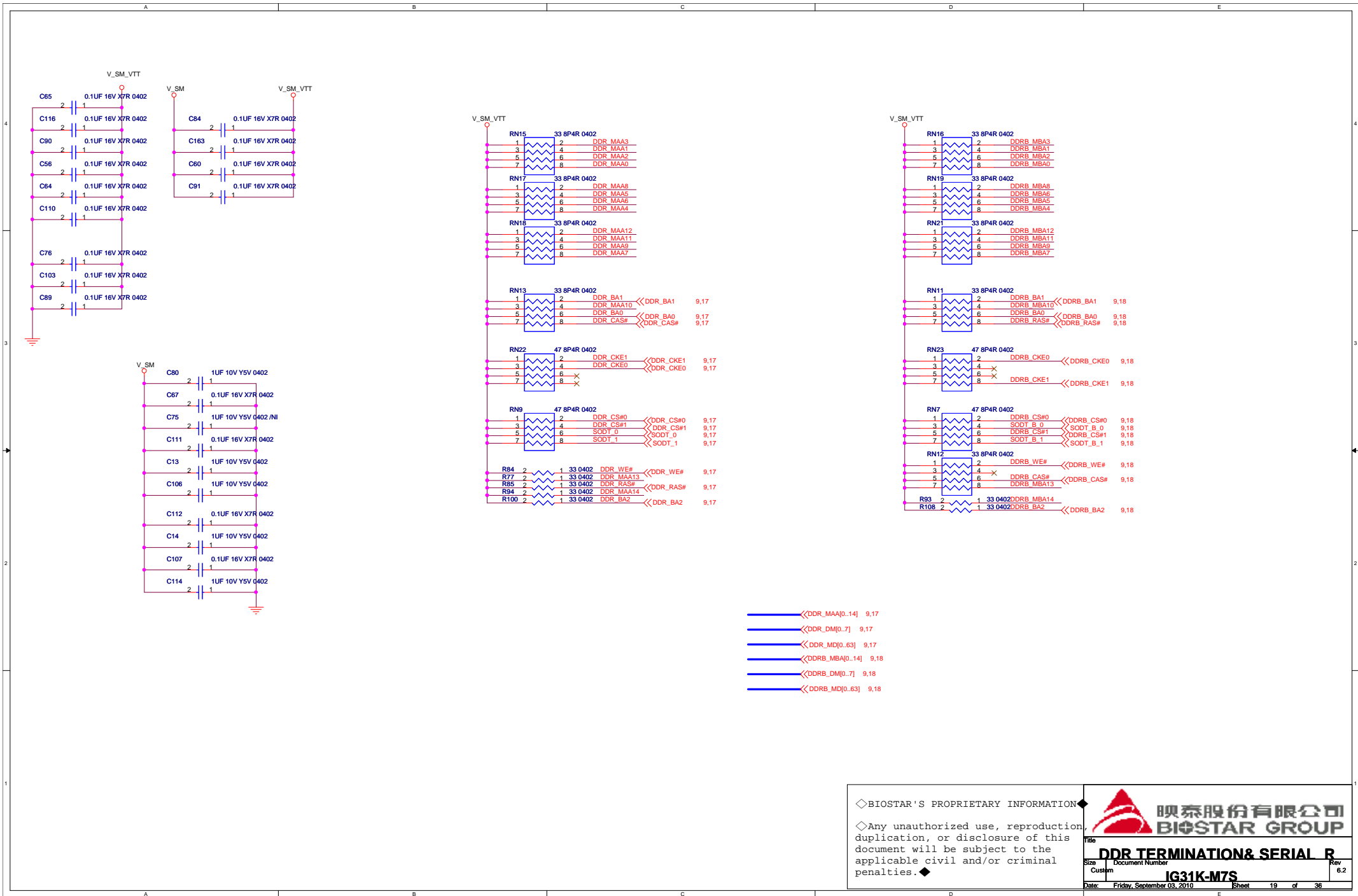
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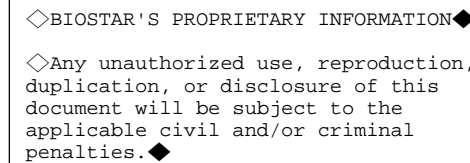
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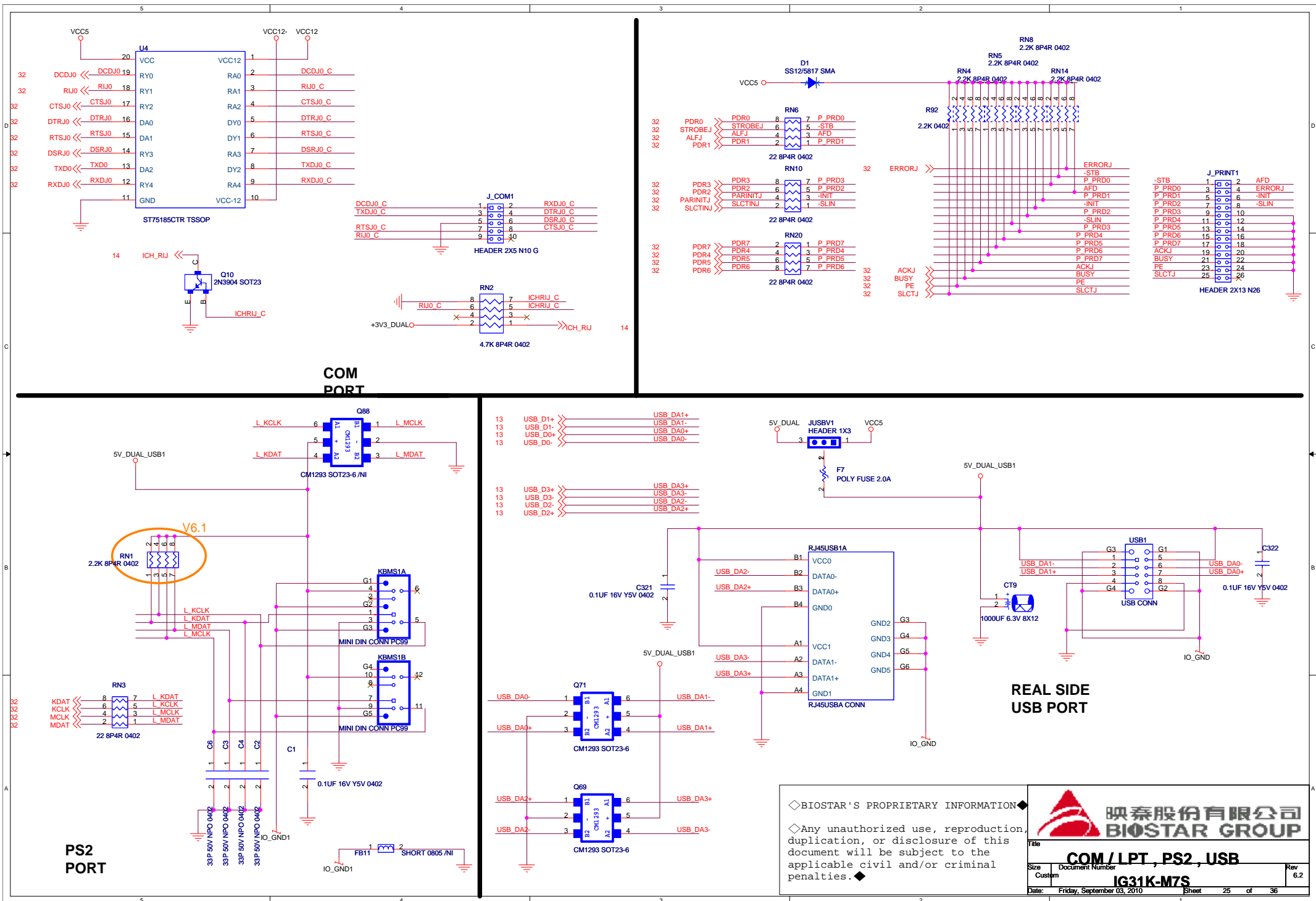
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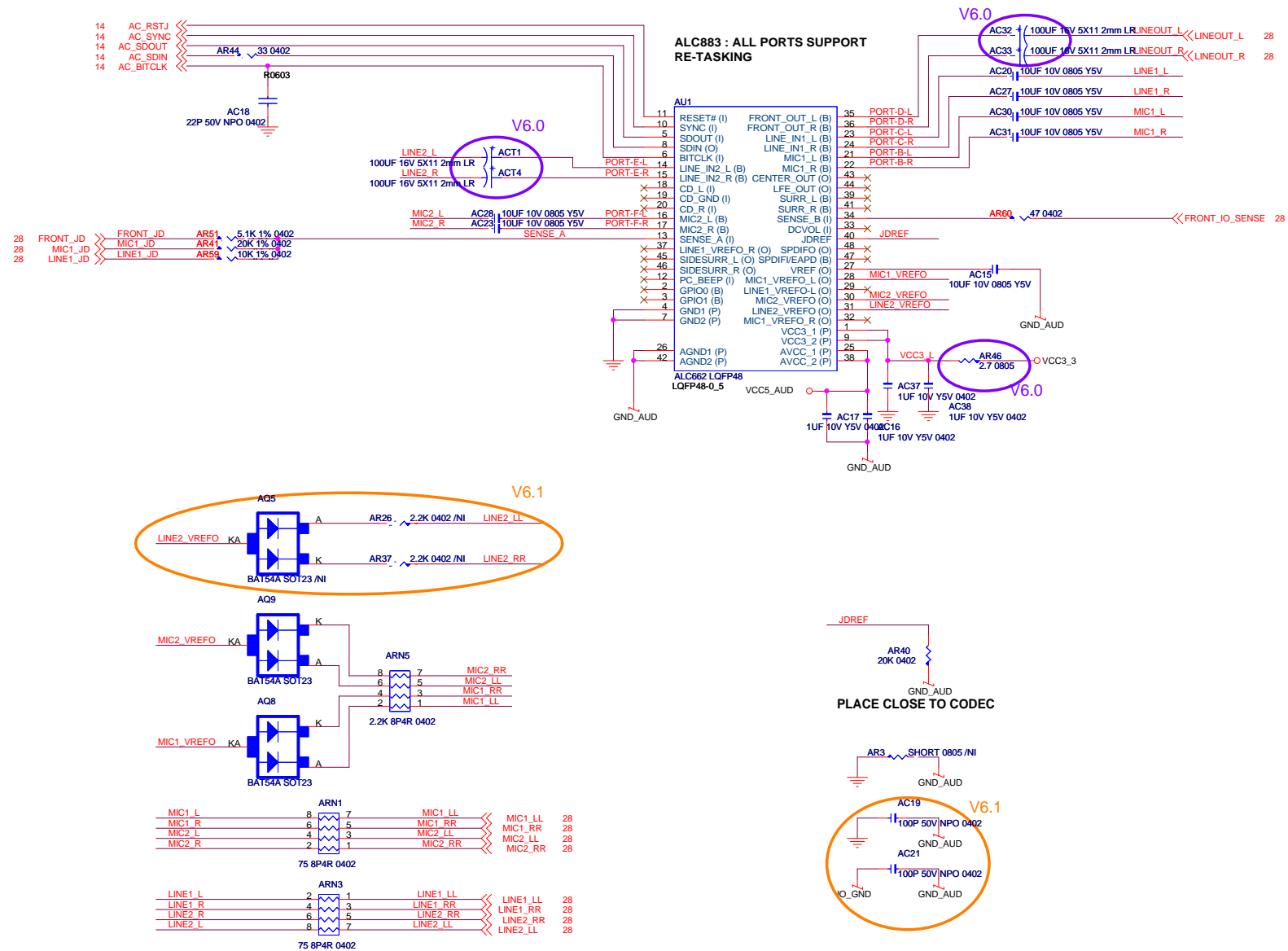
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| D | | | | | | D | | | | | | | | | | | | | | | | | |
| C | | | | | | C | | | | | | | | | | | | | | | | | |
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| | 5 | 4 | 3 | 2 | 1 | | | | | | | | | | | | | | | | | | |





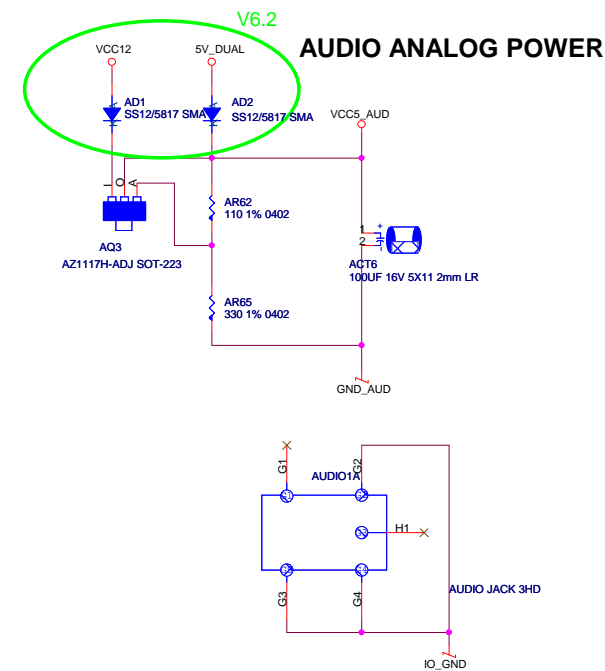
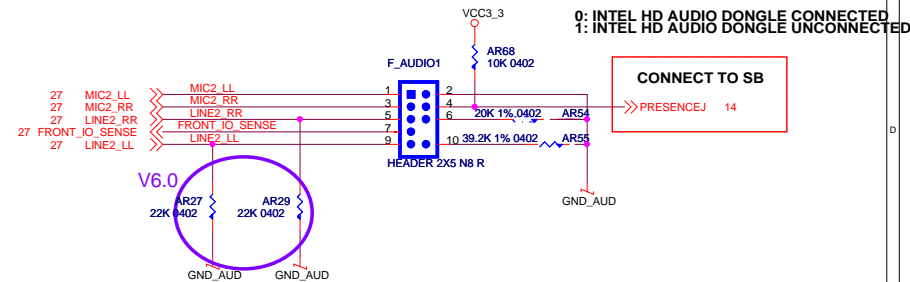
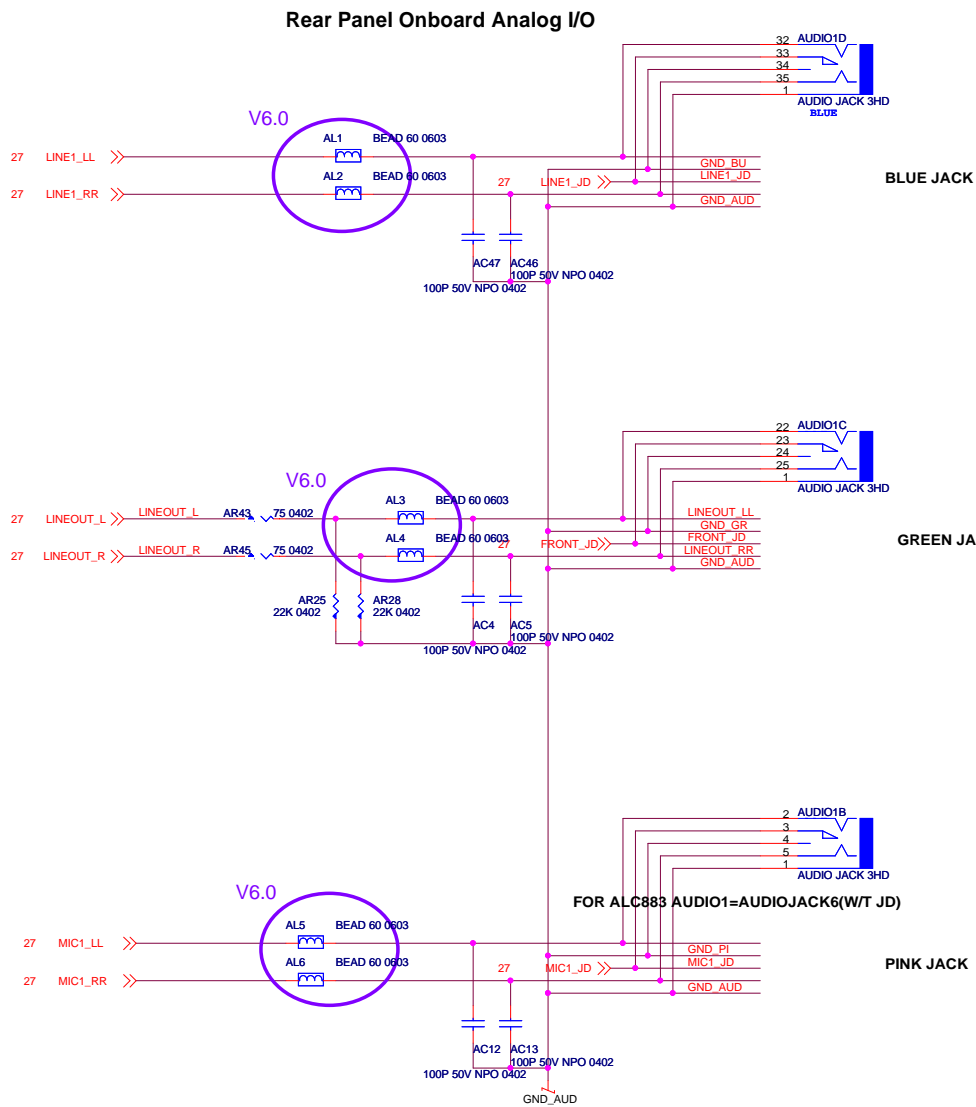


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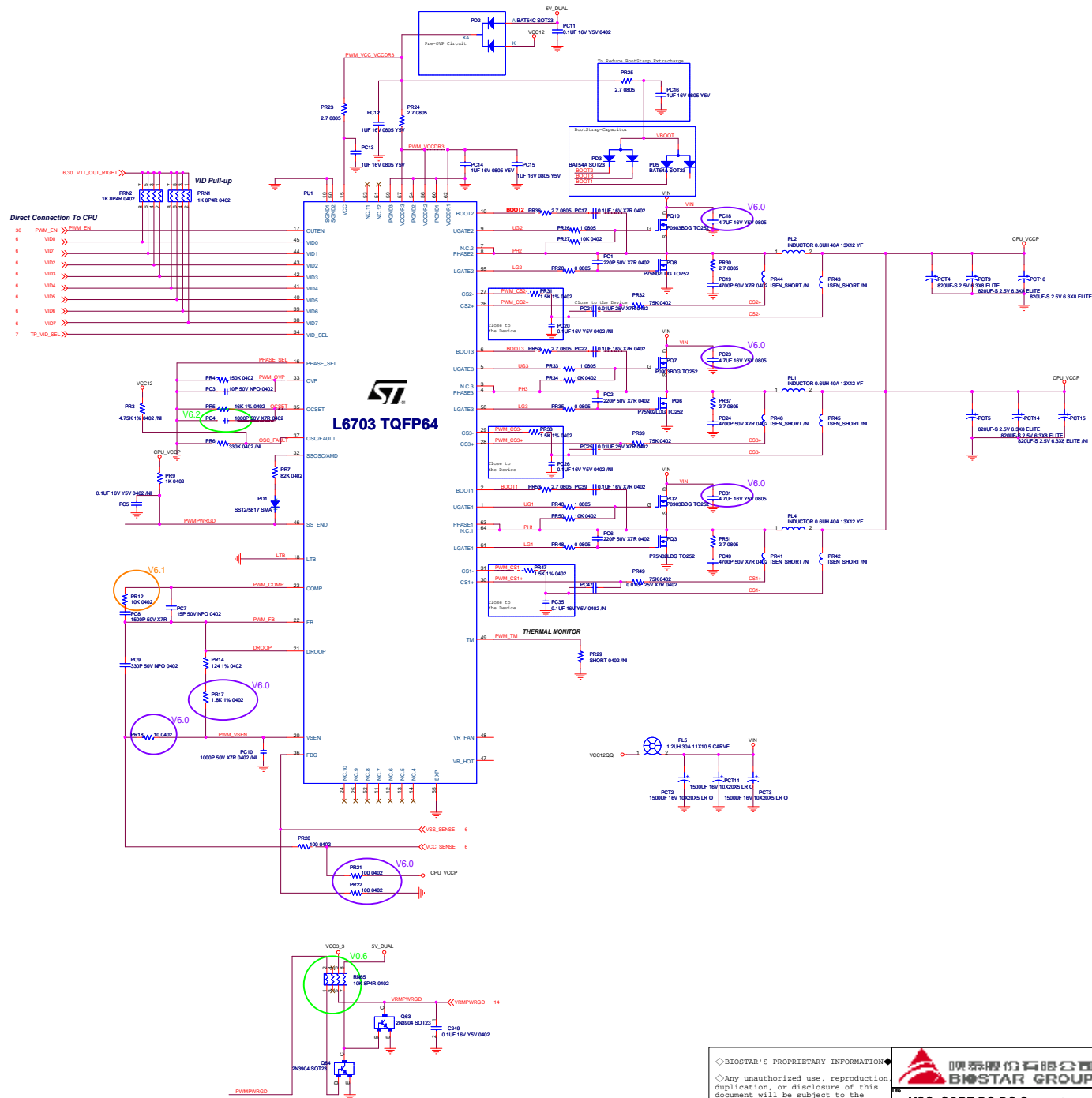
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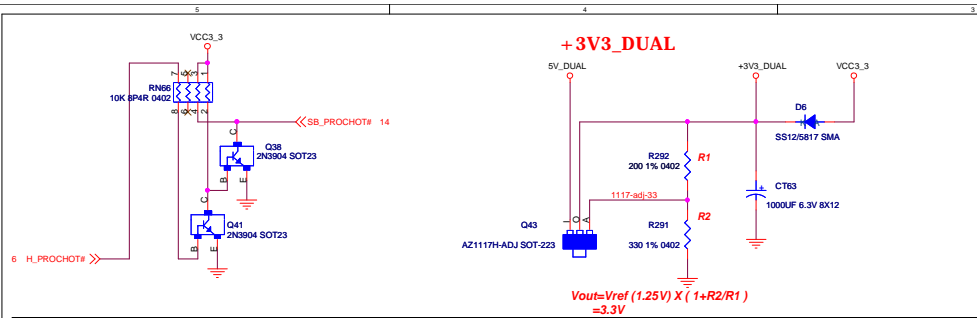


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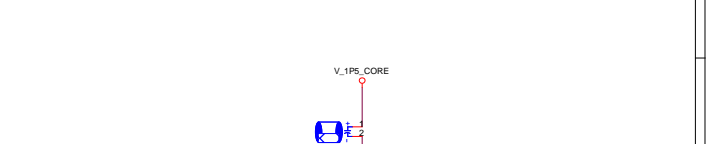
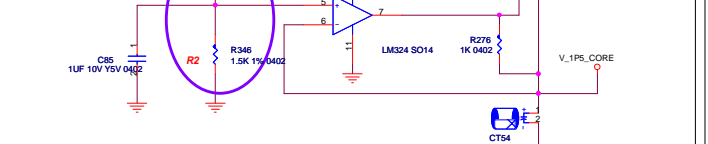
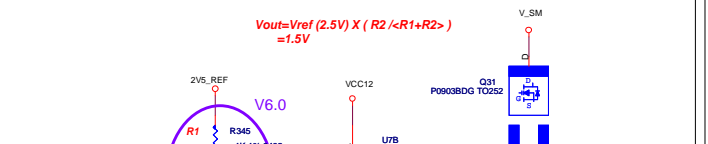
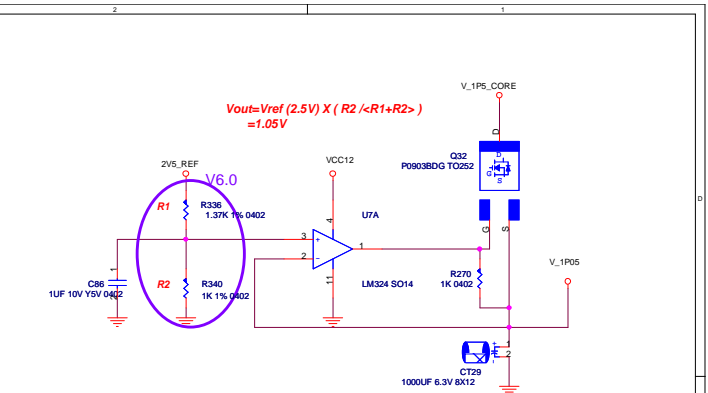
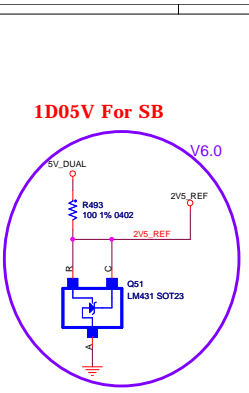
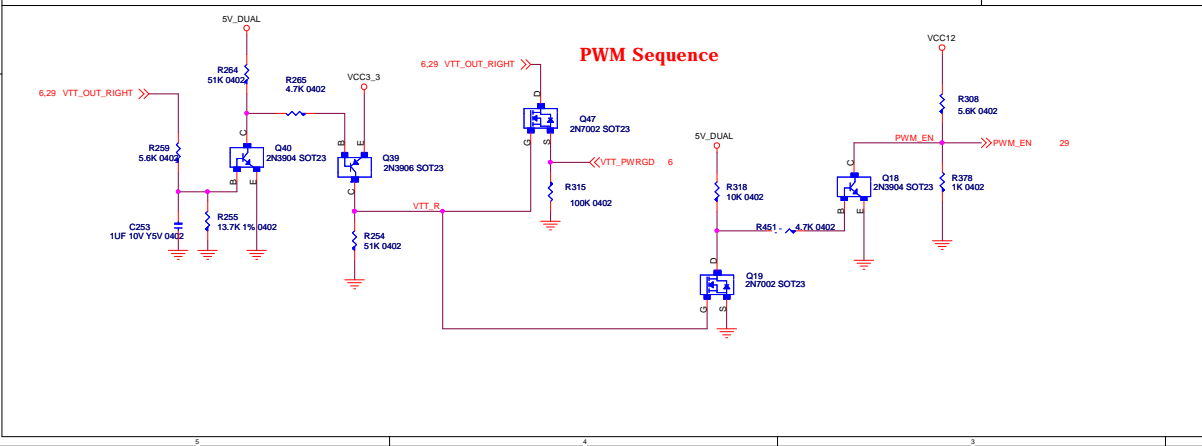
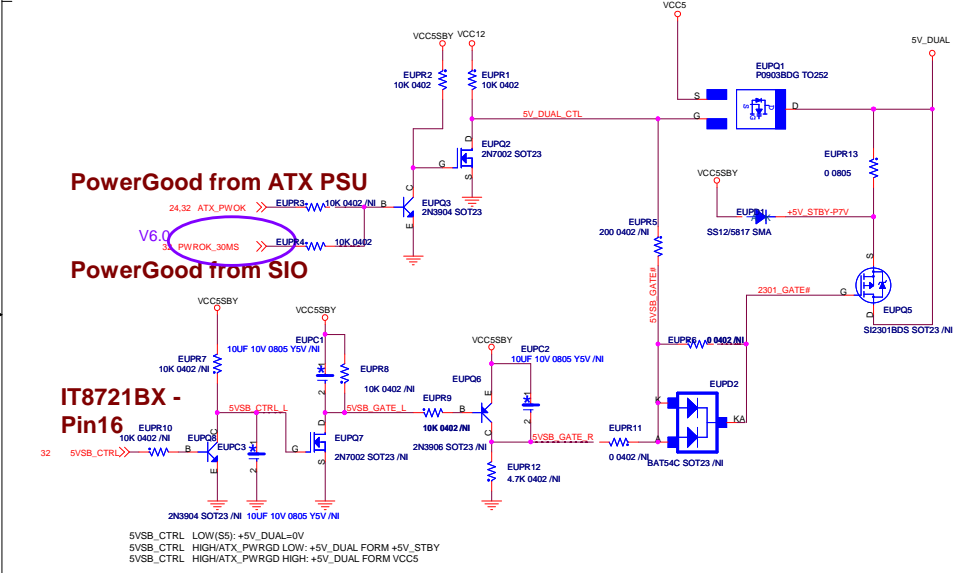
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| Custom | 1G31K-M7S | 6.2 | |
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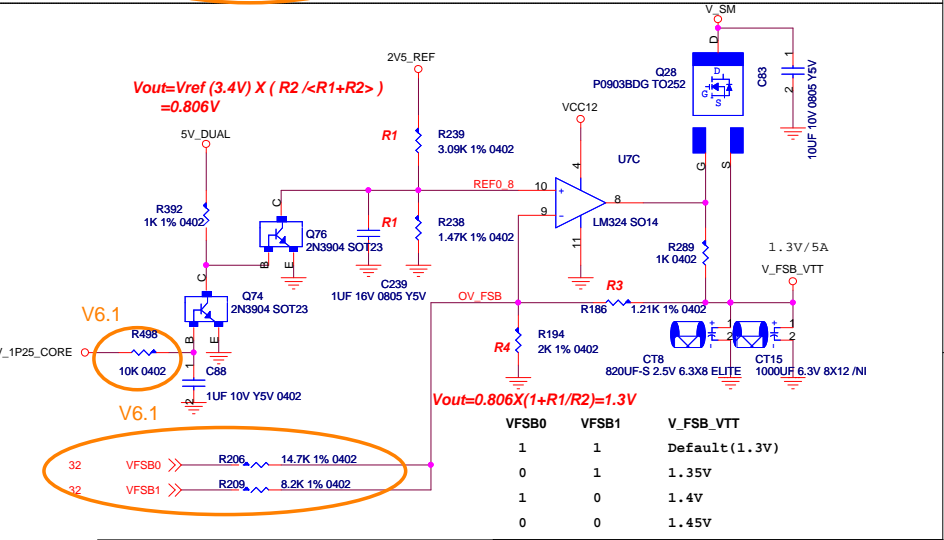
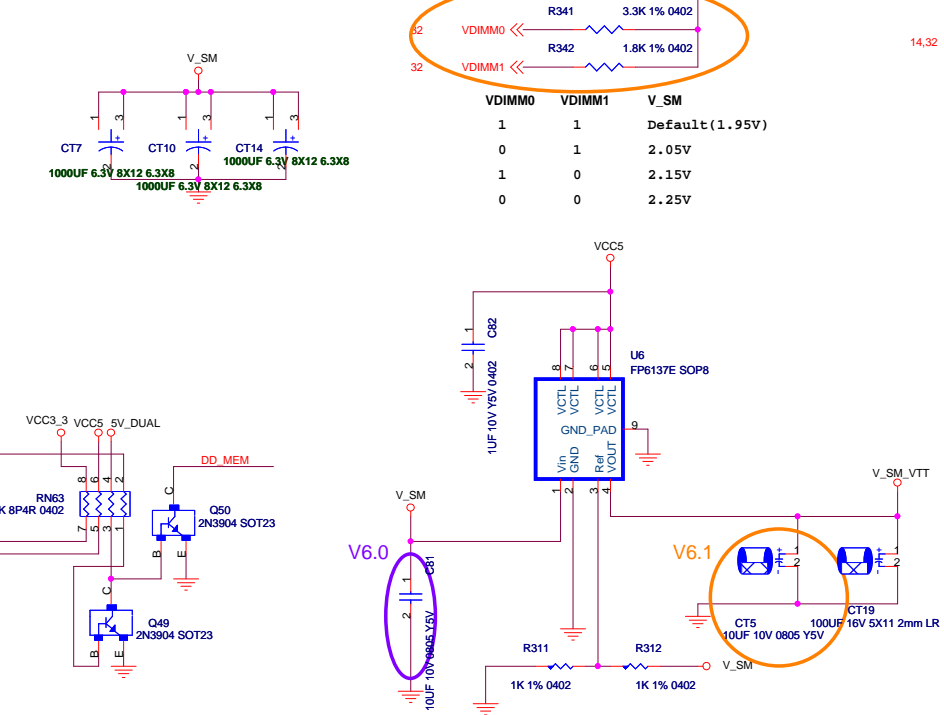
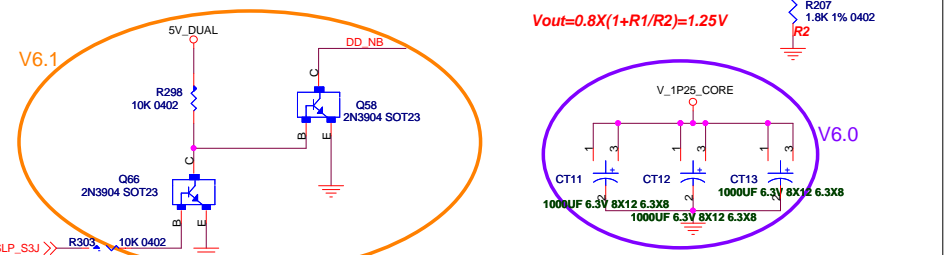
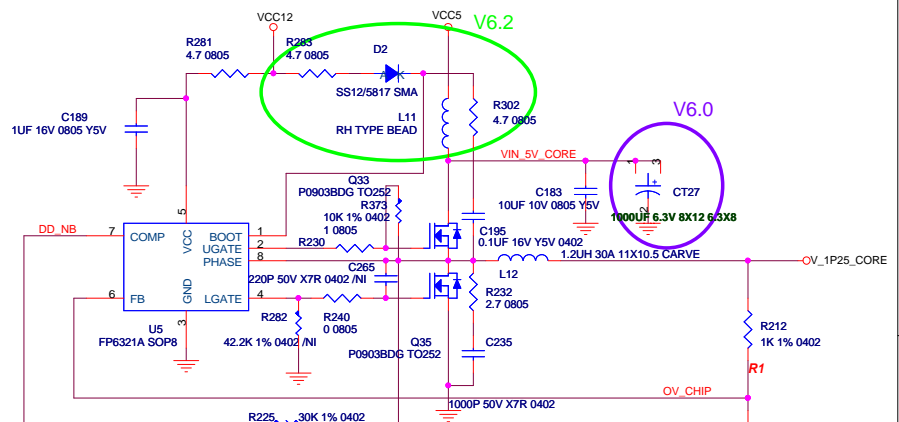
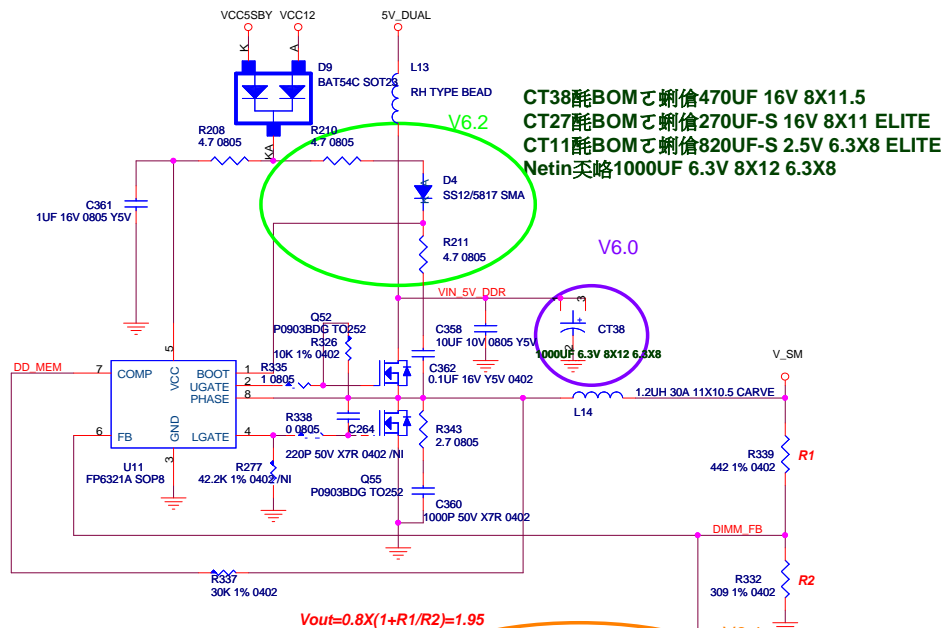
Energy-Using Product(EUP)



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| VDIMM0 | VDIMM1 | V_SM |
|--------|--------|-----------------|
| 1 | 1 | Default (1.95V) |
| 0 | 1 | 2.05V |
| 1 | 0 | 2.15V |
| 0 | 0 | 2.25V |

| VFSB0 | VFSB1 | V_FSB_VTT |
|-------|-------|----------------|
| 1 | 1 | Default (1.3V) |
| 0 | 1 | 1.35V |
| 1 | 0 | 1.4V |
| 0 | 0 | 1.45V |

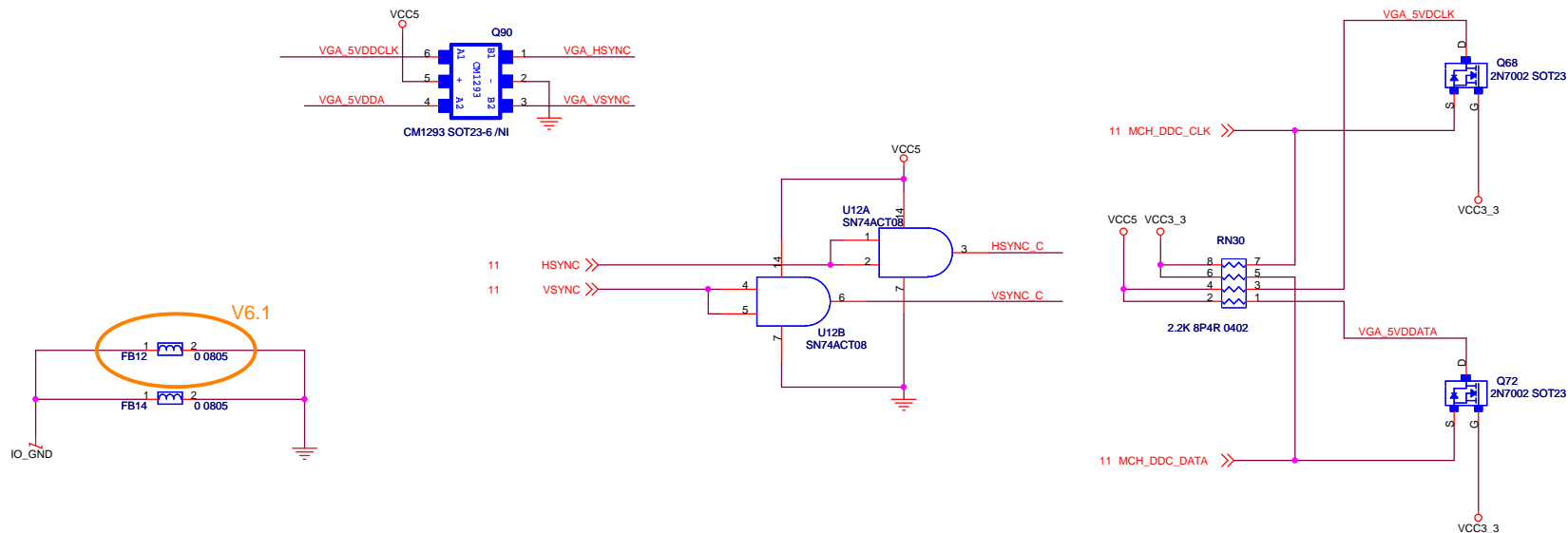
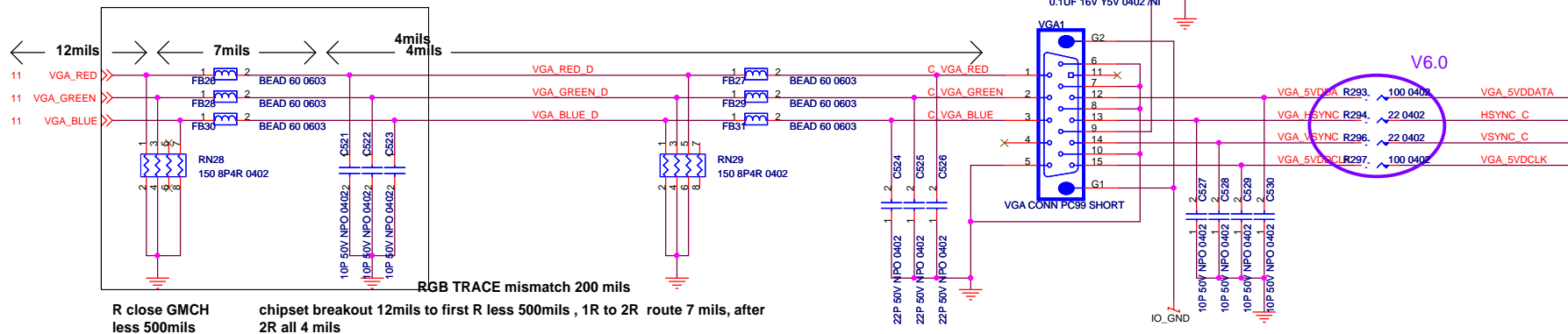
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close to GMCH



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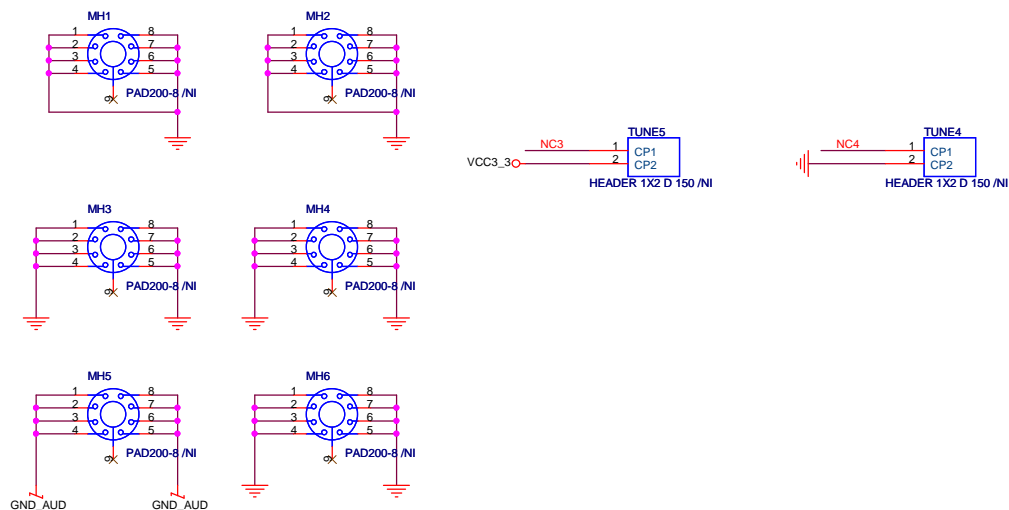
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Impedance Testing Coupon



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