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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: SBLS-T  
SB: BNP SMALL-L

**I/O Pannel :**

47-RIOBRACKET-68

**PCB SIZE :**

179.00 X 235.00mm  
4-layers-1080

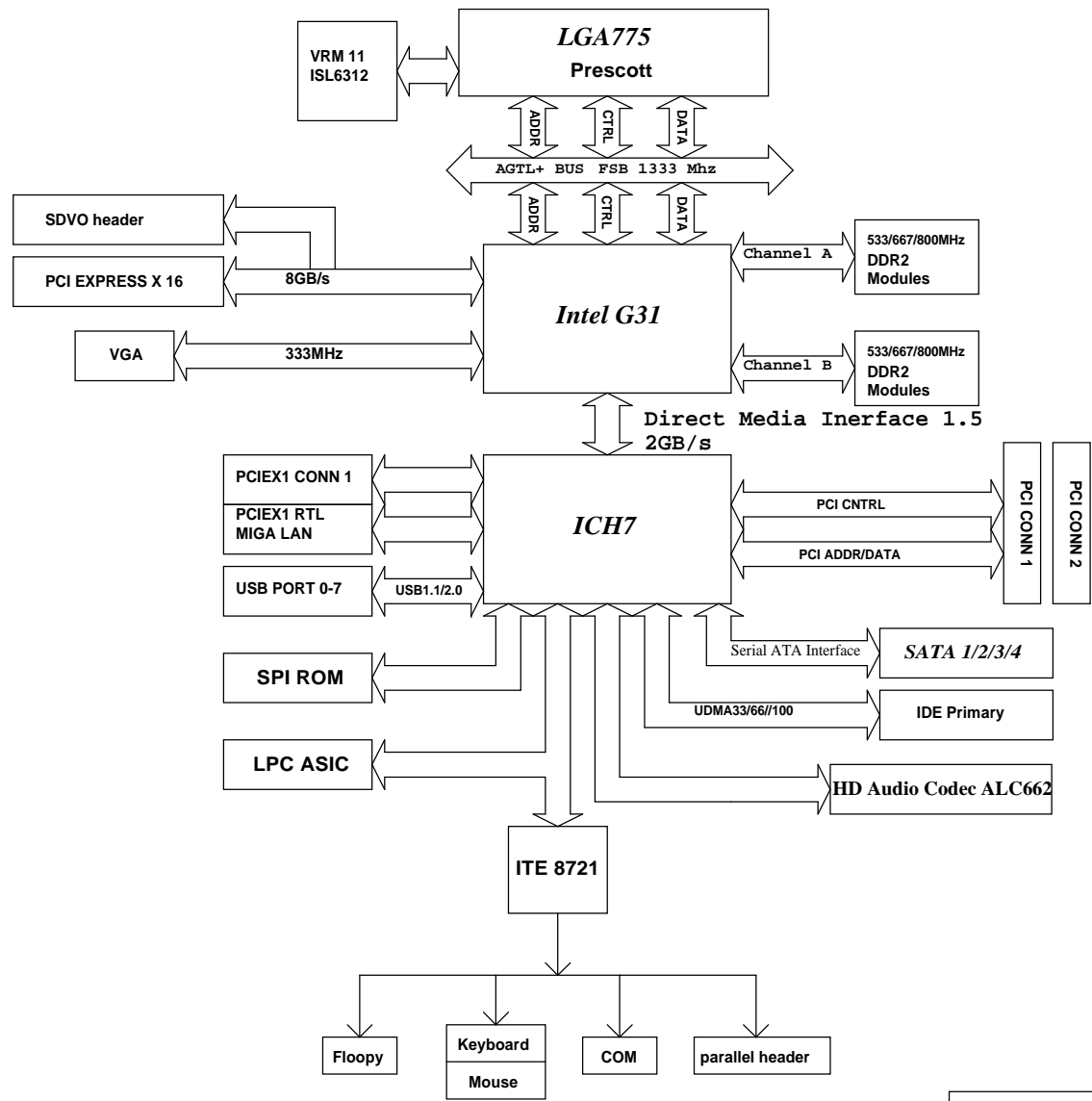
HW Engineer:		Date:	
HW Leader1:		Date:	
HW Leader2:		Date:	

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<b>Cover Sheet</b>	
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# BLOCK DIAGRAM



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Title: **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						
ICH7S						
I/O BIOS						
LAN						
ANTI-POP						
DIMM-OV						
CPU-OV						
SATA-LED						
S I/O						

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Title: **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

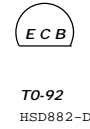
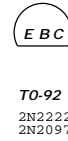
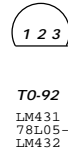
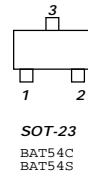
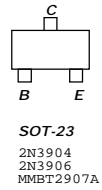
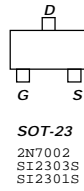
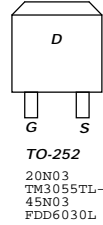
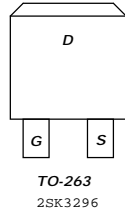
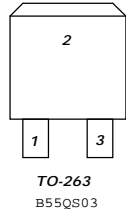
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22U/25DE	5*7 mm
100U/16DE	6.3*11 mm
220U/10DE	6.3*11 mm
470U/16DE	8*11 mm
1000U/10DE	8*14 mm
1500U/16DE	10*25 mm
3300U/25DE	10*25 mm



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Title: **Component Size**

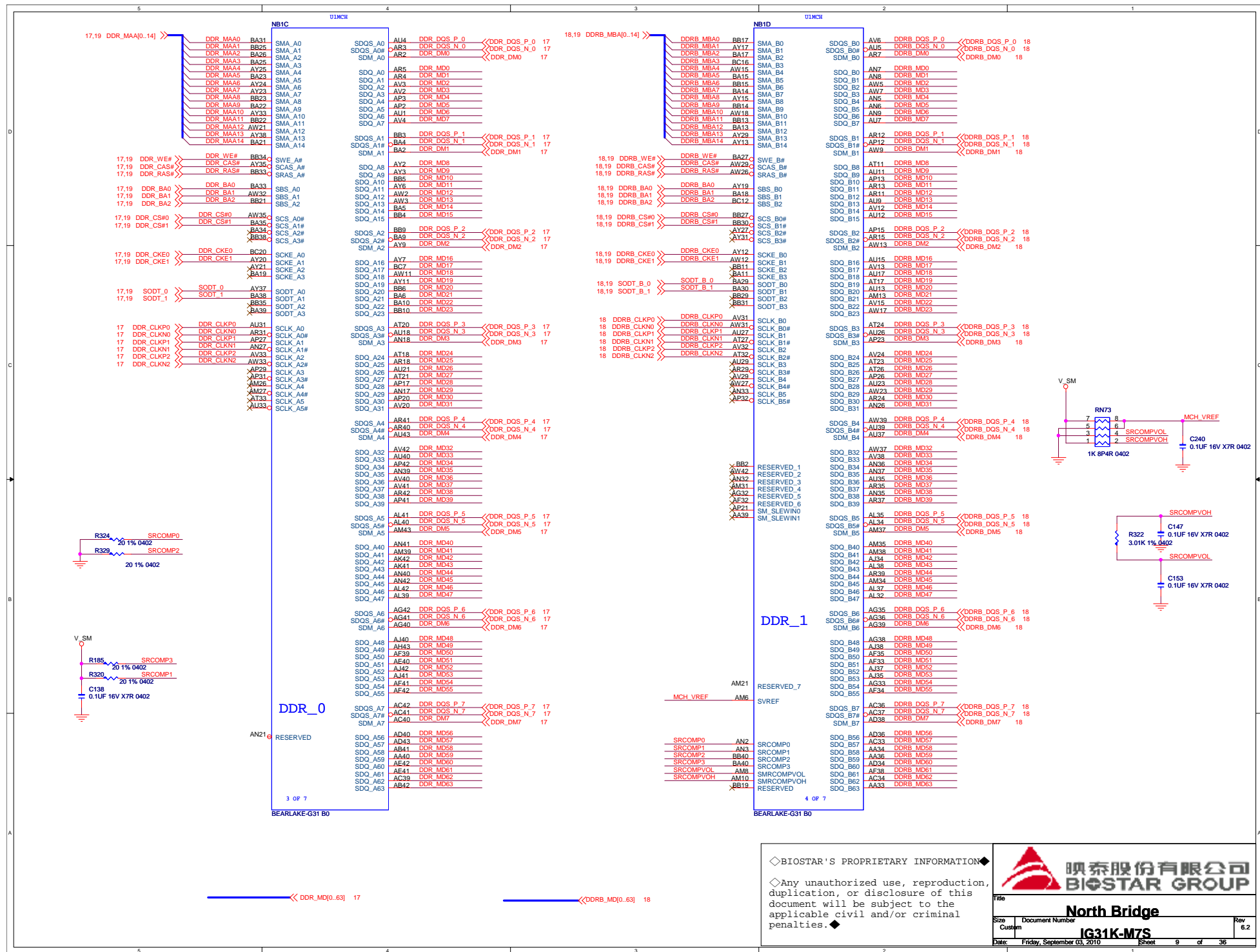
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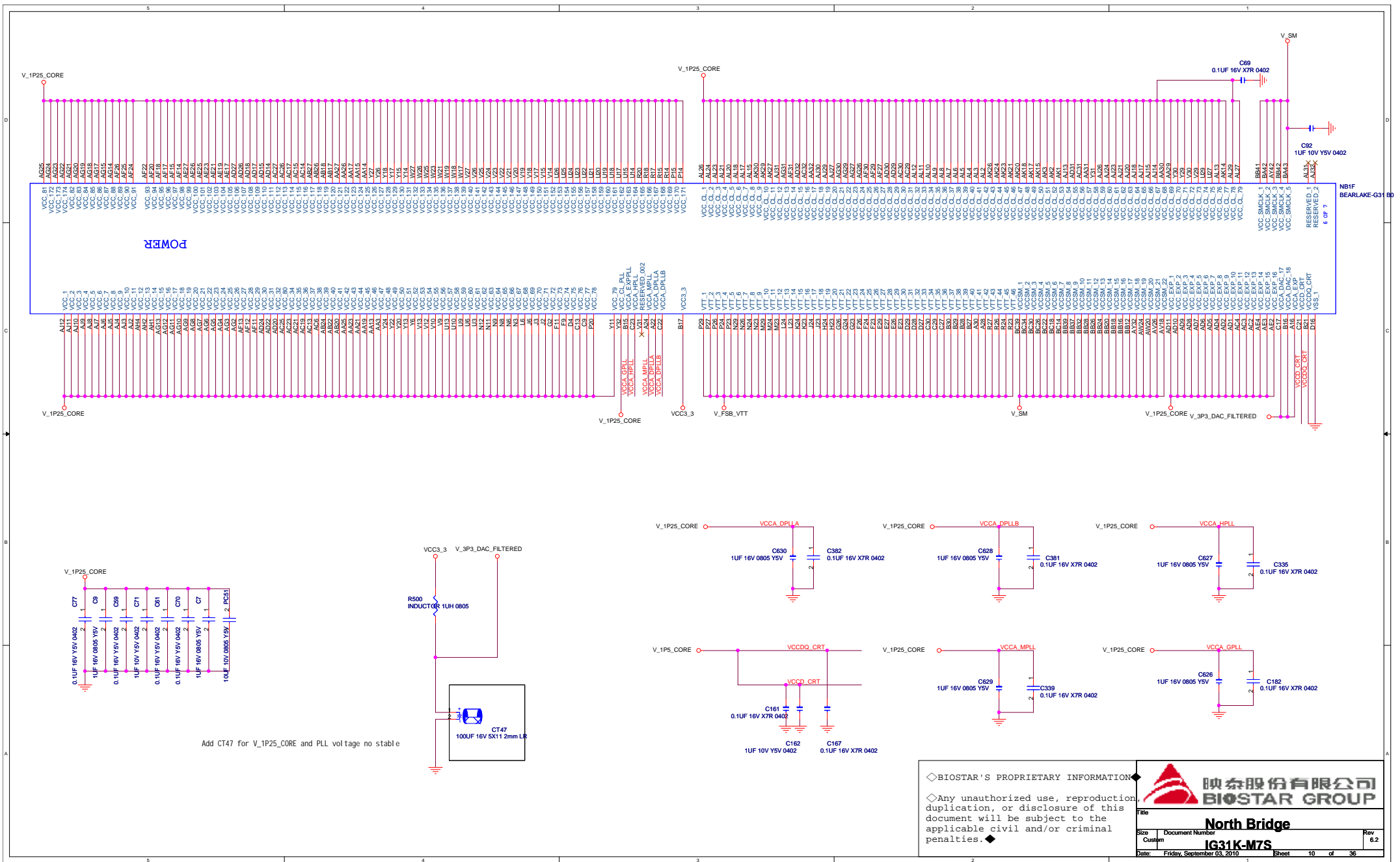




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**Title** North Bridge  
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POWER

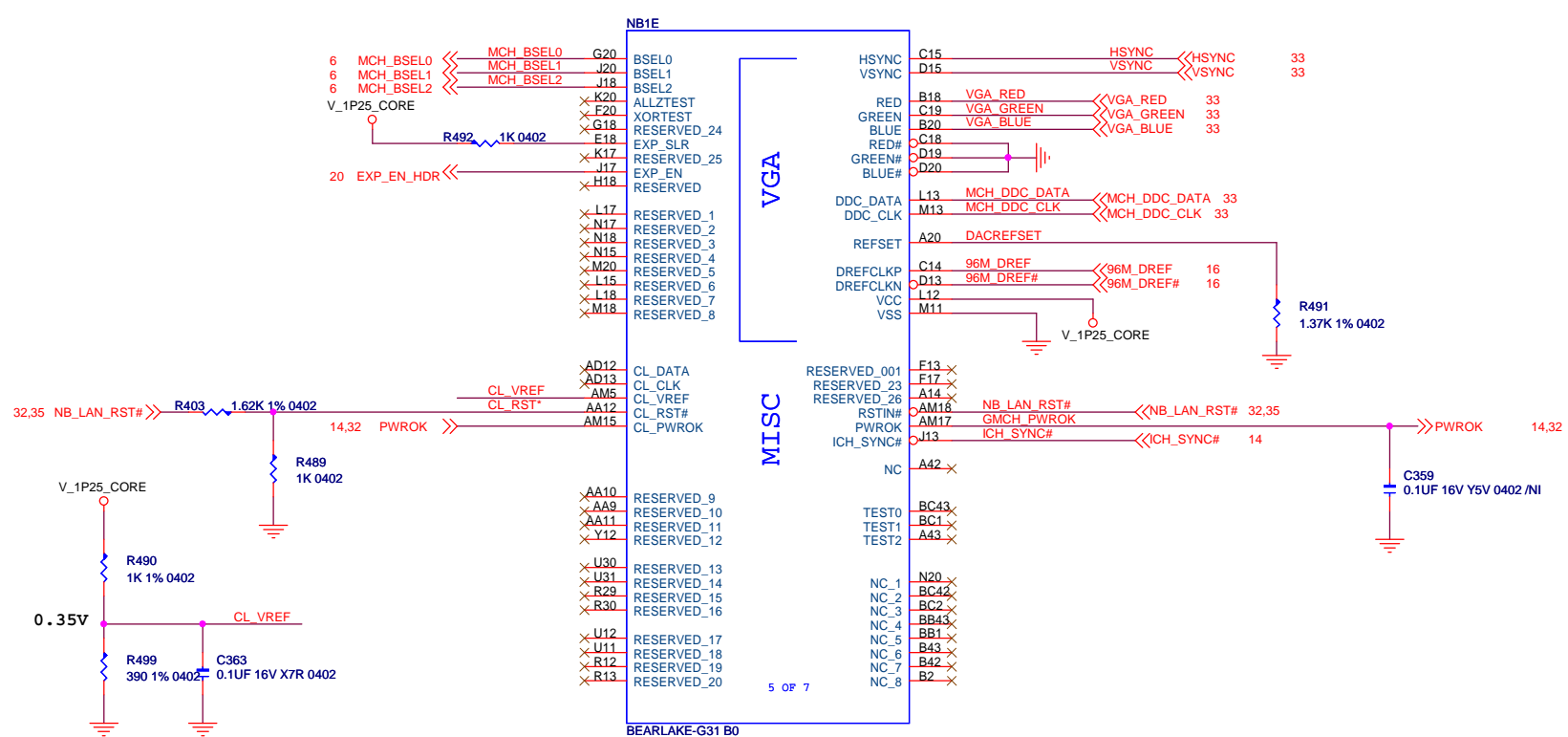
Add CT47 for V\_1P25\_CORE and PLL voltage no stable

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**BSEL TABLE**

2	1	0	PSB FREQUENCY
0	0	0	266 MHZ (1066)
0	0	1	133 MHZ (533)
0	1	0	200 MHZ (800)
1	0	0	333 MHZ (1333)

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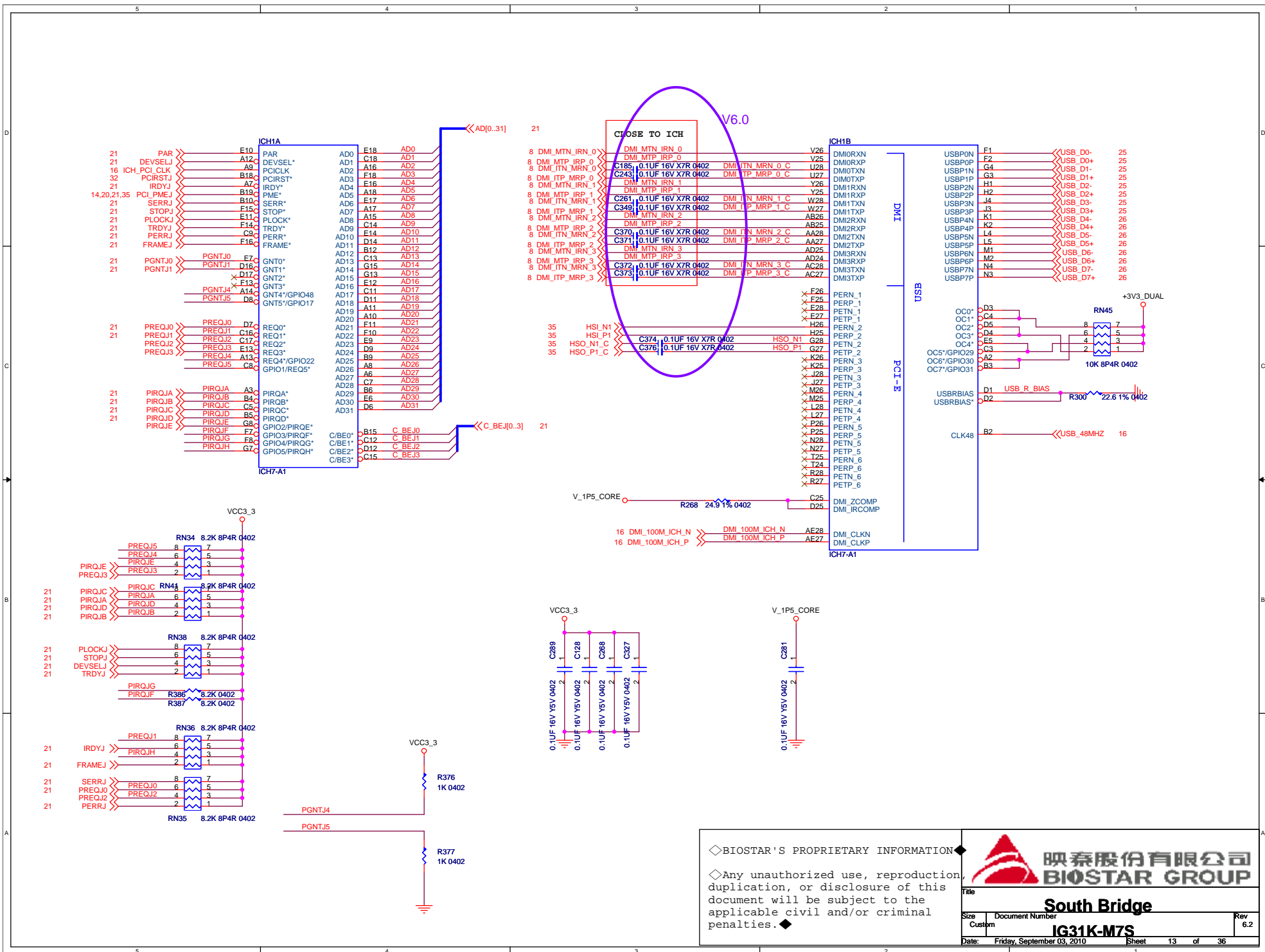
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M80		
BC01	VSS_1	VSS_181
BC02	VSS_2	VSS_182
BC03	VSS_3	VSS_183
BC04	VSS_4	VSS_184
BC05	VSS_5	VSS_185
BC06	VSS_6	VSS_186
BC07	VSS_7	VSS_187
AV01	VSS_8	VSS_188
AV02	VSS_9	VSS_189
AV03	VSS_10	VSS_190
AV04	VSS_11	VSS_191
AV05	VSS_12	VSS_192
AV06	VSS_13	VSS_193
AV07	VSS_14	VSS_194
AV08	VSS_15	VSS_195
AV09	VSS_16	VSS_196
AV10	VSS_17	VSS_197
AV11	VSS_18	VSS_198
AV12	VSS_19	VSS_199
AV13	VSS_20	VSS_200
AU01	VSS_21	VSS_201
AU02	VSS_22	VSS_202
AU03	VSS_23	VSS_203
AU04	VSS_24	VSS_204
AU05	VSS_25	VSS_205
AU06	VSS_26	VSS_206
AU07	VSS_27	VSS_207
AU08	VSS_28	VSS_208
AT01	VSS_29	VSS_209
AT02	VSS_30	VSS_210
AT03	VSS_31	VSS_211
AT04	VSS_32	VSS_212
AT05	VSS_33	VSS_213
AS01	VSS_34	VSS_214
AS02	VSS_35	VSS_215
AS03	VSS_36	VSS_216
AS04	VSS_37	VSS_217
AS05	VSS_38	VSS_218
AS06	VSS_39	VSS_219
AS07	VSS_40	VSS_220
AS08	VSS_41	VSS_221
AS09	VSS_42	VSS_222
AS10	VSS_43	VSS_223
AS11	VSS_44	VSS_224
AS12	VSS_45	VSS_225
AS13	VSS_46	VSS_226
AS14	VSS_47	VSS_227
AN01	VSS_48	VSS_228
AN02	VSS_49	VSS_229
AN03	VSS_50	VSS_230
AN04	VSS_51	VSS_231
AN05	VSS_52	VSS_232
AN06	VSS_53	VSS_233
AN07	VSS_54	VSS_234
AN08	VSS_55	VSS_235
AN09	VSS_56	VSS_236
AN10	VSS_57	VSS_237
AN11	VSS_58	VSS_238
AN12	VSS_59	VSS_239
AM01	VSS_60	VSS_240
AM02	VSS_61	VSS_241
AM03	VSS_62	VSS_242
AM04	VSS_63	VSS_243
AM05	VSS_64	VSS_244
AM06	VSS_65	VSS_245
AM07	VSS_66	VSS_246
AM08	VSS_67	VSS_247
AM09	VSS_68	VSS_248
AM10	VSS_69	VSS_249
AM11	VSS_70	VSS_250
AM12	VSS_71	VSS_251
AM13	VSS_72	VSS_252
AL01	VSS_73	VSS_253
AL02	VSS_74	VSS_254
AL03	VSS_75	VSS_255
AL04	VSS_76	VSS_256
AL05	VSS_77	VSS_257
AL06	VSS_78	VSS_258
AL07	VSS_79	VSS_259
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AL09	VSS_81	VSS_261
AL10	VSS_82	VSS_262
AL11	VSS_83	VSS_263
AL12	VSS_84	VSS_264
AL13	VSS_85	VSS_265
AL14	VSS_86	VSS_266
AL15	VSS_87	VSS_267
AL16	VSS_88	VSS_268
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AL18	VSS_90	VSS_270
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AL20	VSS_92	VSS_272
AL21	VSS_93	VSS_273
AL22	VSS_94	VSS_274
AL23	VSS_95	VSS_275
AL24	VSS_96	VSS_276
AL25	VSS_97	VSS_277
AL26	VSS_98	VSS_278
AL27	VSS_99	VSS_279
AL28	VSS_100	VSS_280
AL29	VSS_101	VSS_281
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AL42	VSS_114	VSS_294
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AL106	VSS_178	
AL107	VSS_179	
AL108	VSS_180	

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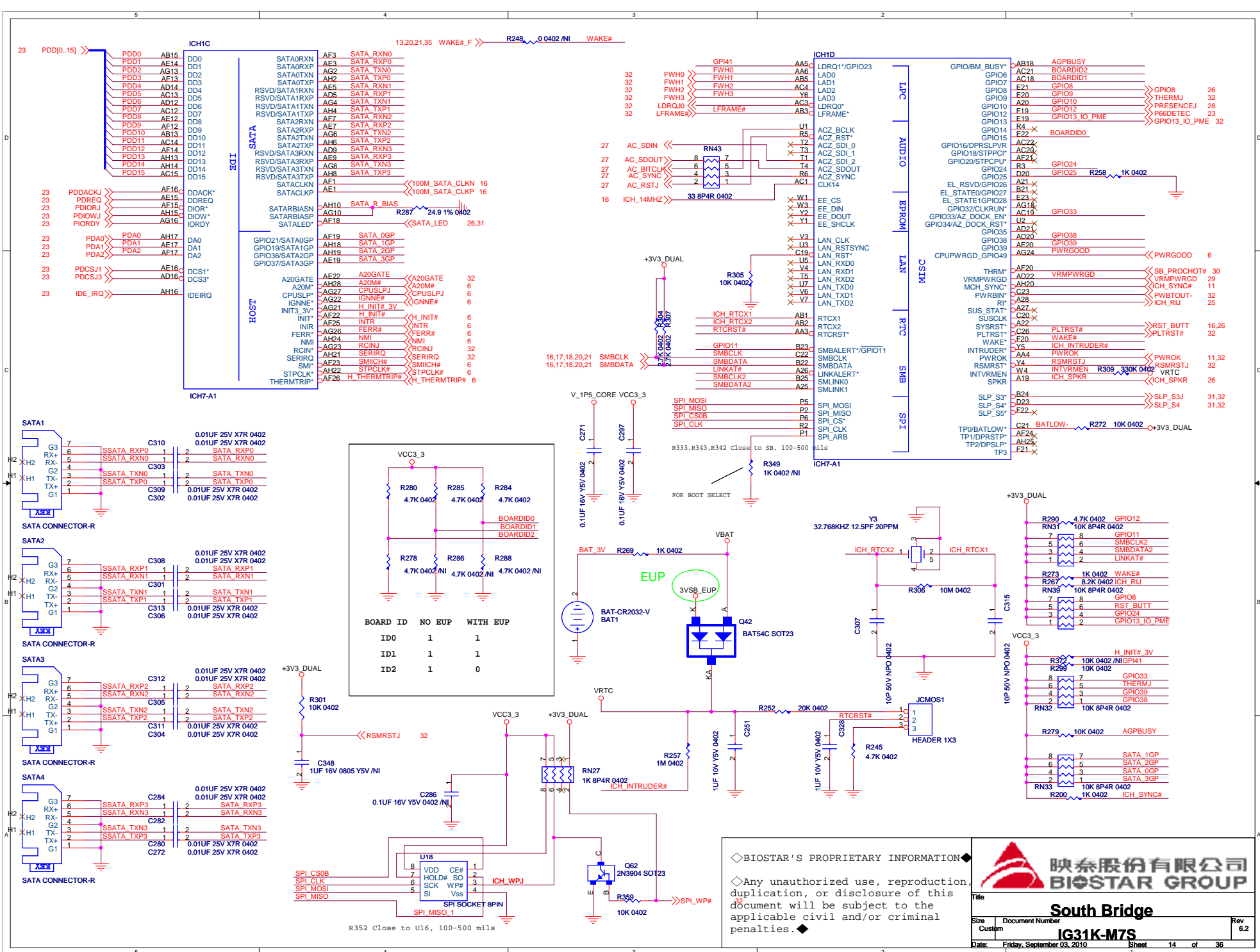
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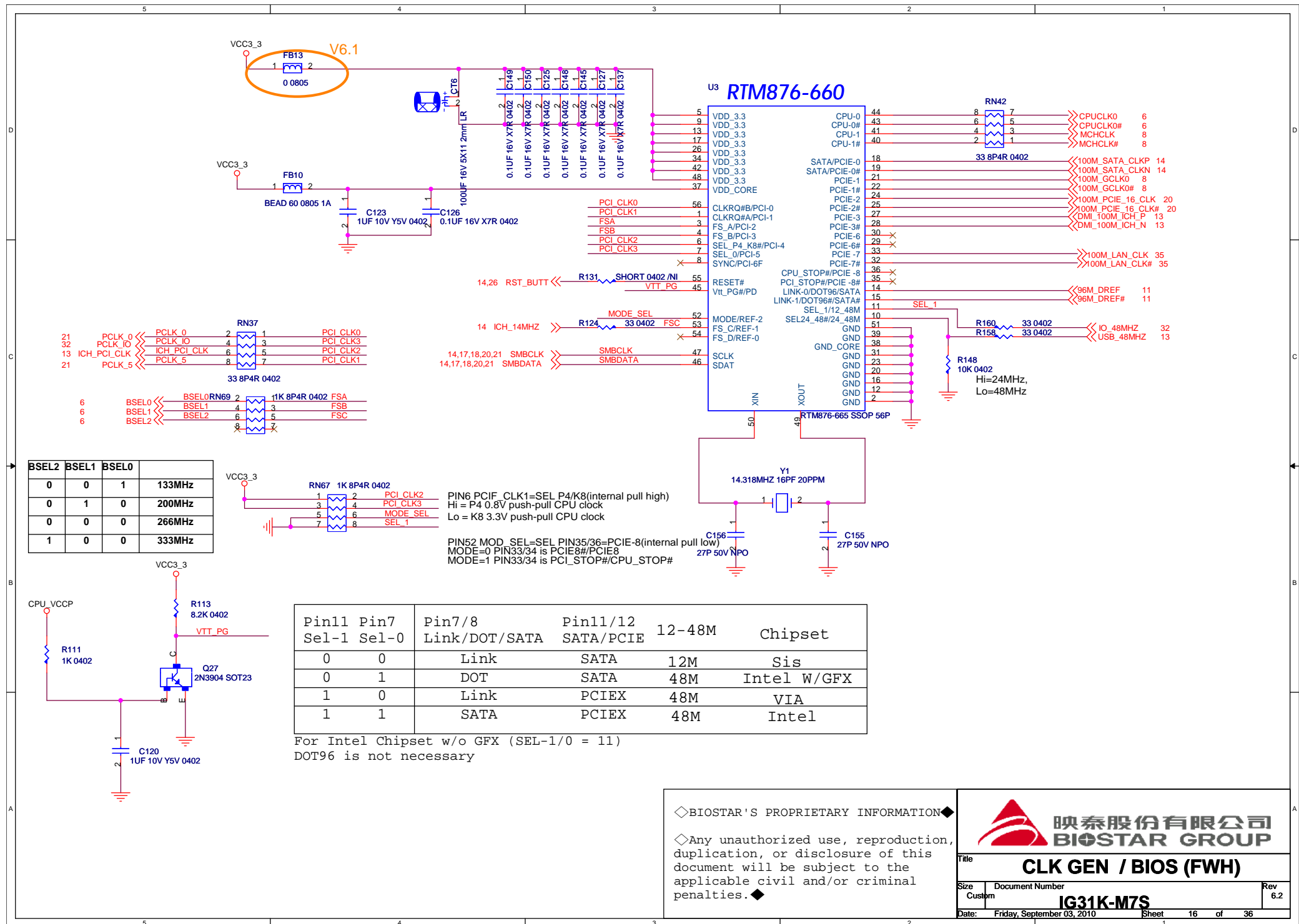
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BSEL2	BSEL1	BSEL0	Frequency
0	0	1	133MHz
0	1	0	200MHz
0	0	0	266MHz
1	0	0	333MHz

Pin11 Sel-1	Pin7 Sel-0	Pin7/8 Link/DOT/SATA	Pin11/12 SATA/PCIE	12-48M	Chipset
0	0	Link	SATA	12M	Sis
0	1	DOT	SATA	48M	Intel W/GFX
1	0	Link	PCIEX	48M	VIA
1	1	SATA	PCIEX	48M	Intel

For Intel Chipset w/o GFX (SEL-1/0 = 11)  
DOT96 is not necessary

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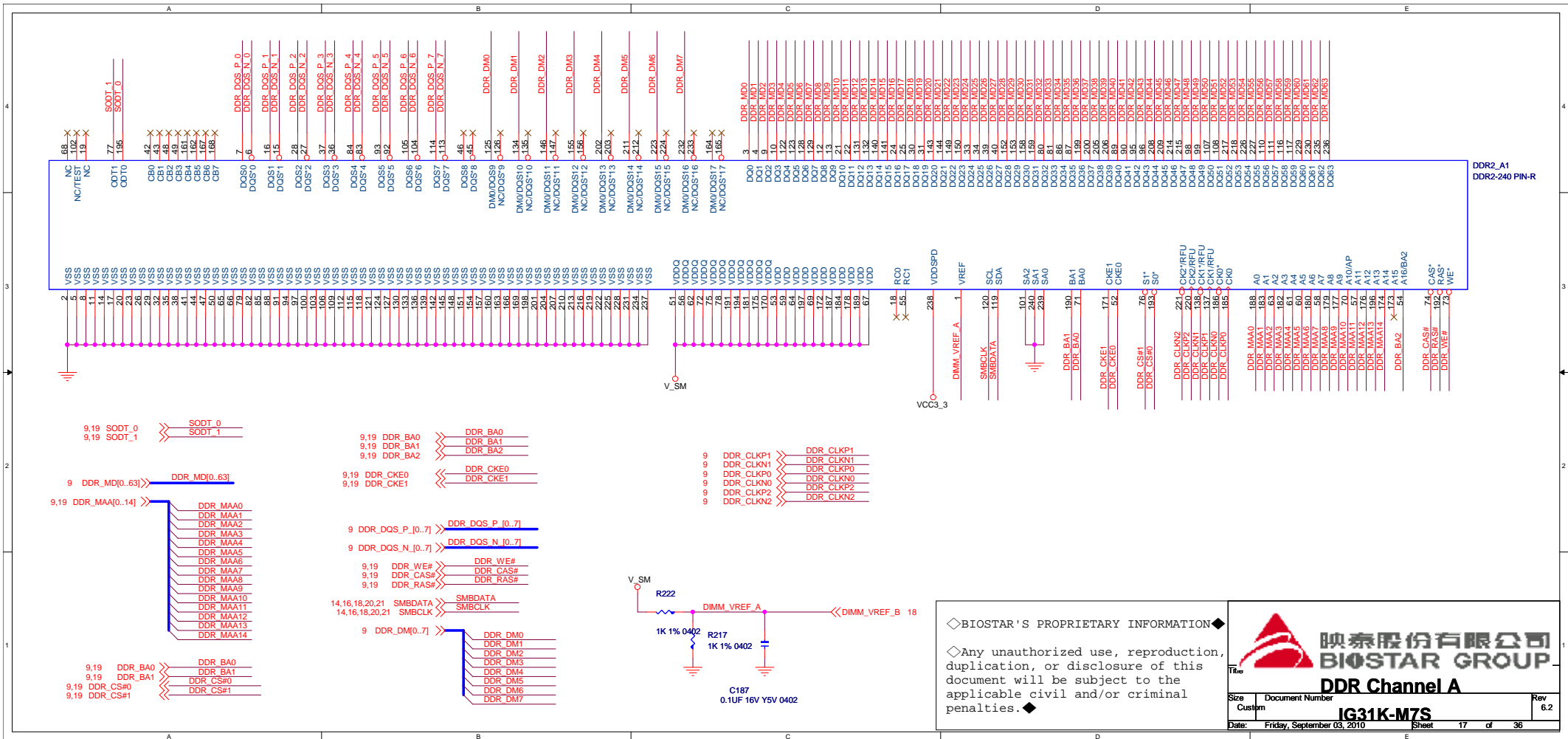
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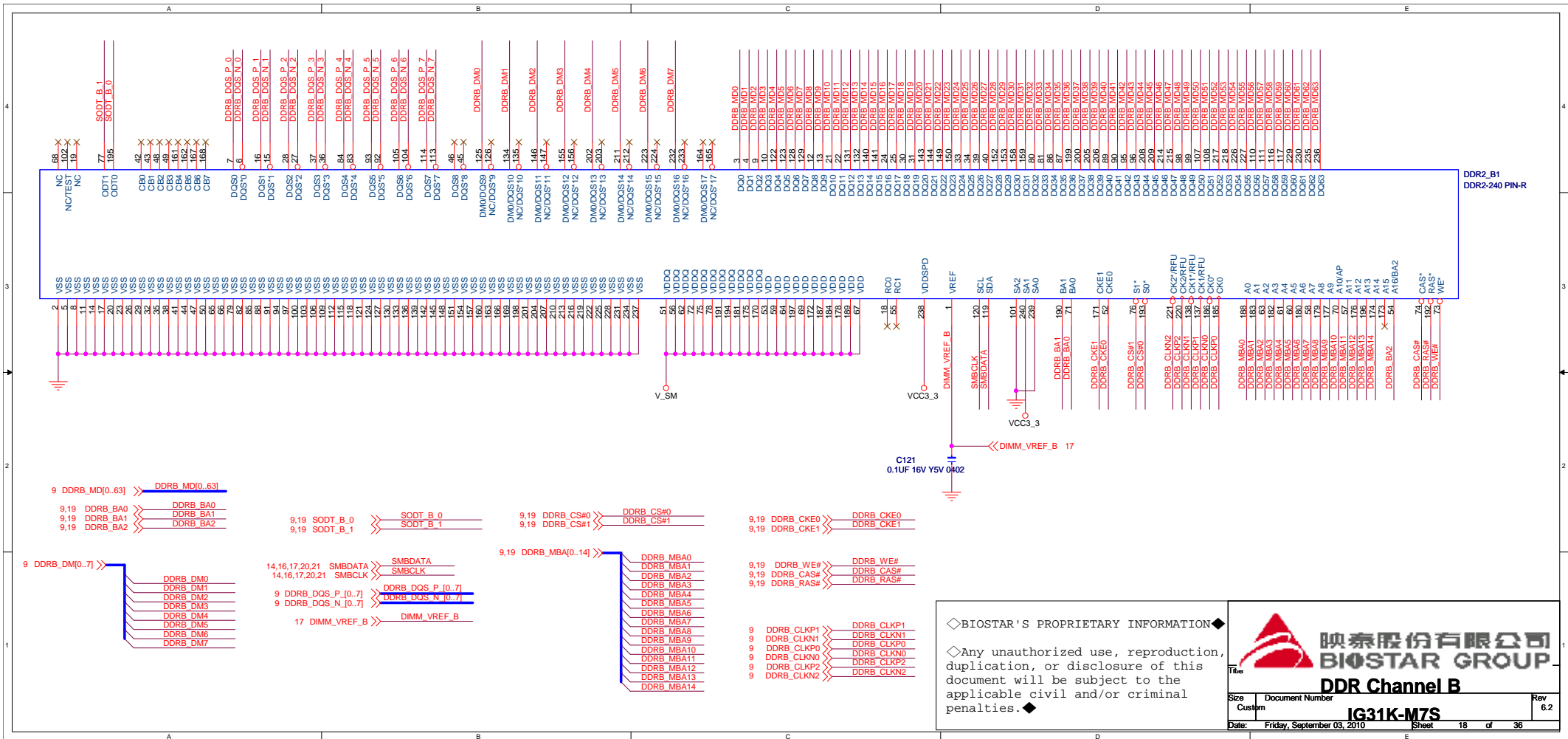


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**DDR Channel A**

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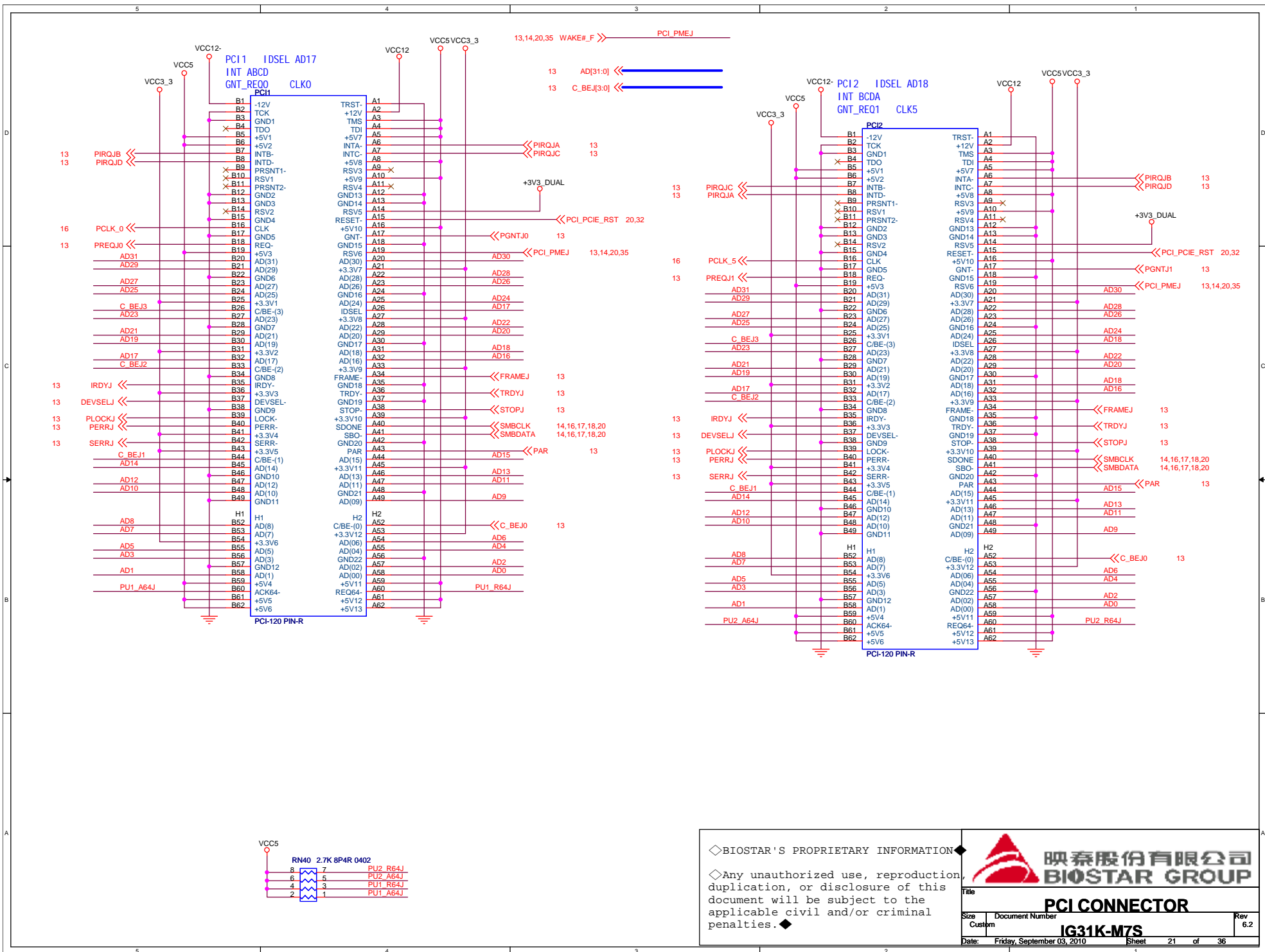
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**DDR Channel B**

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5

4

3

2

1

D

D

C

C

B

B

A

A

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Title

reserve

Size  
A

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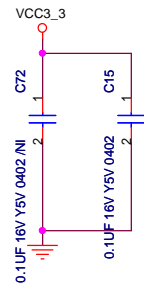
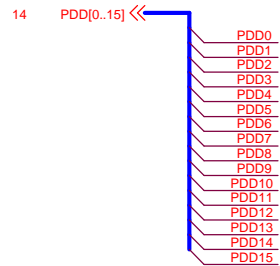
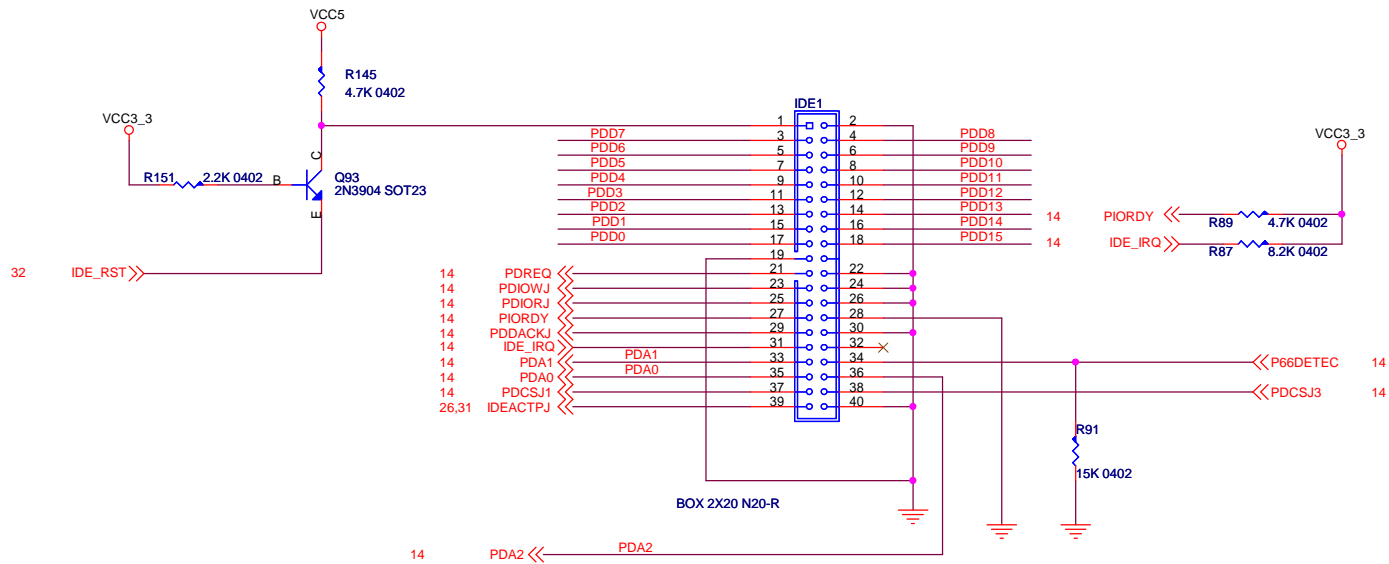
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4

3

2

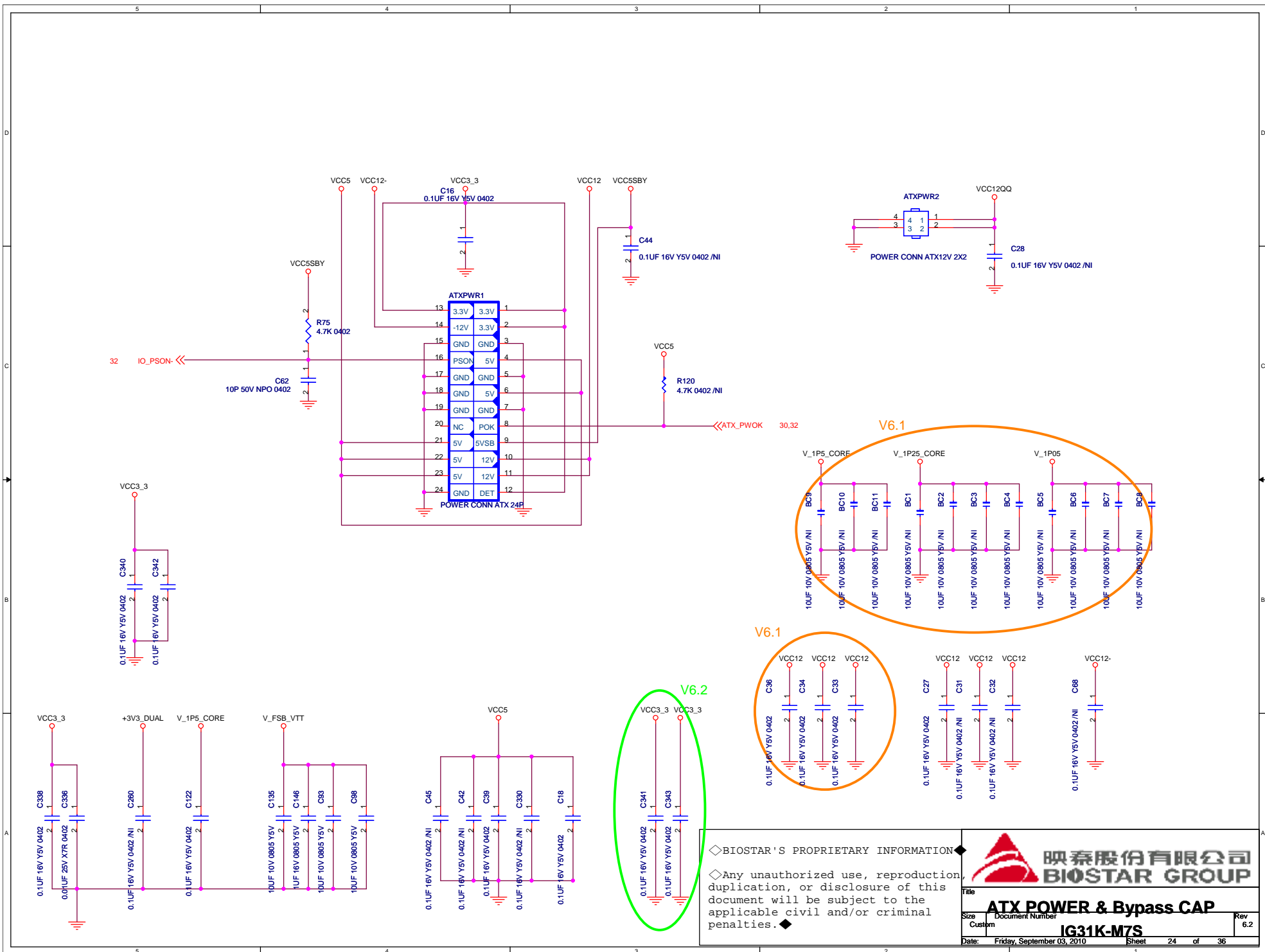
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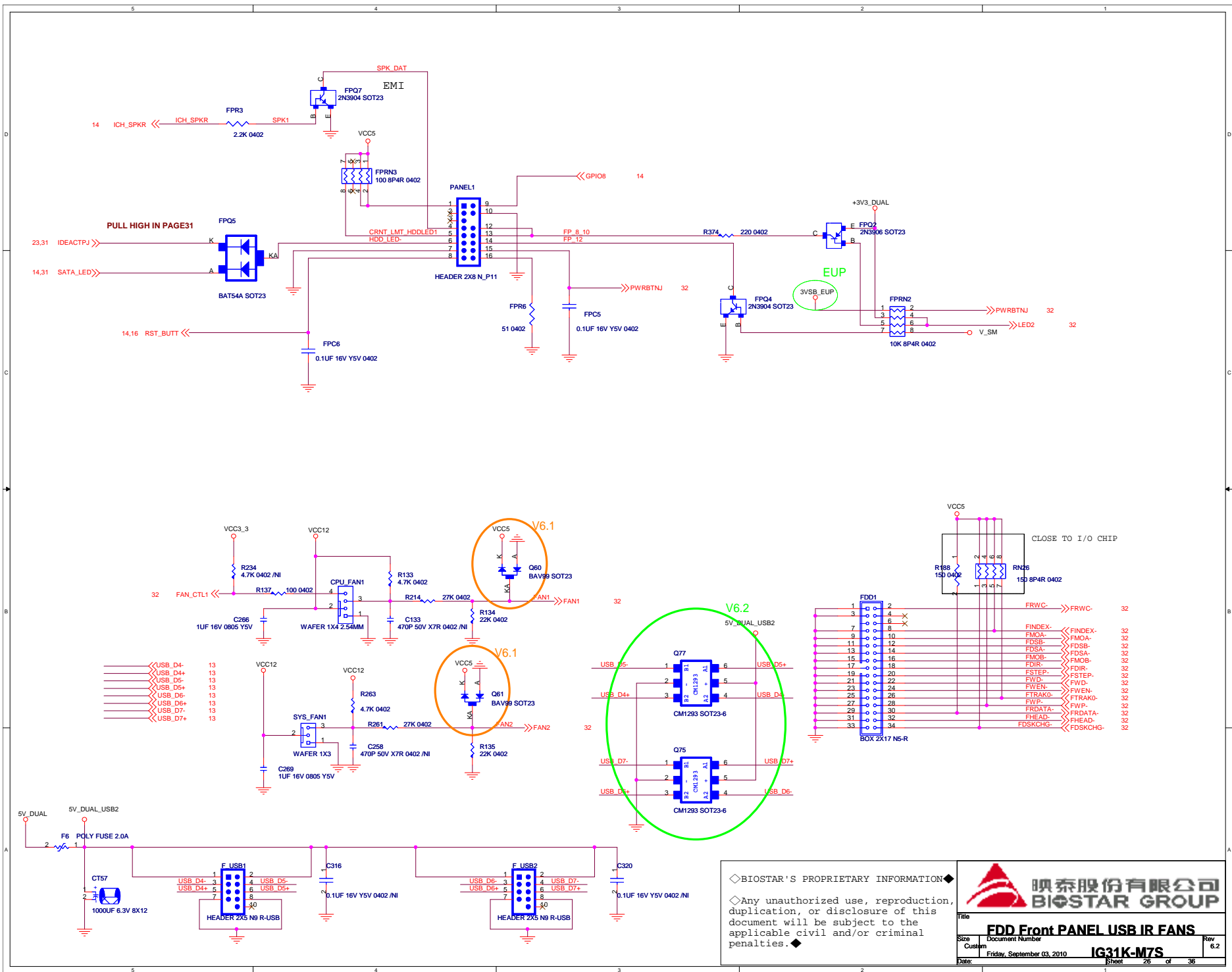
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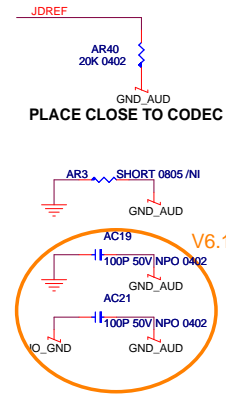
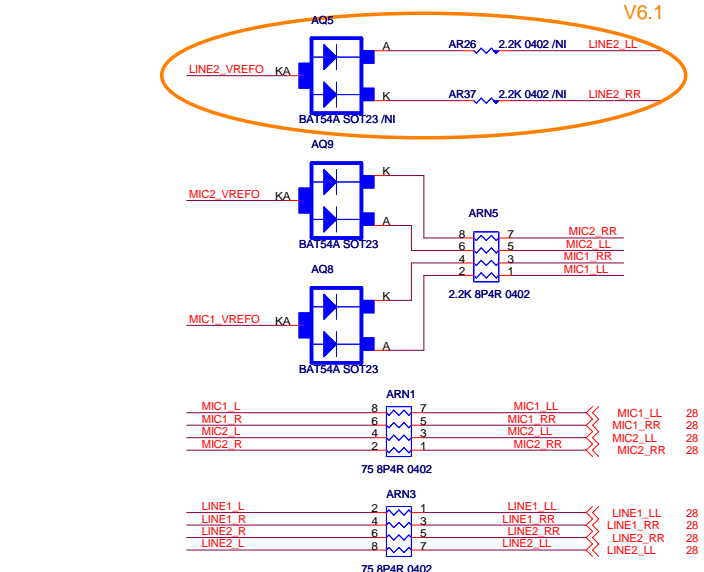
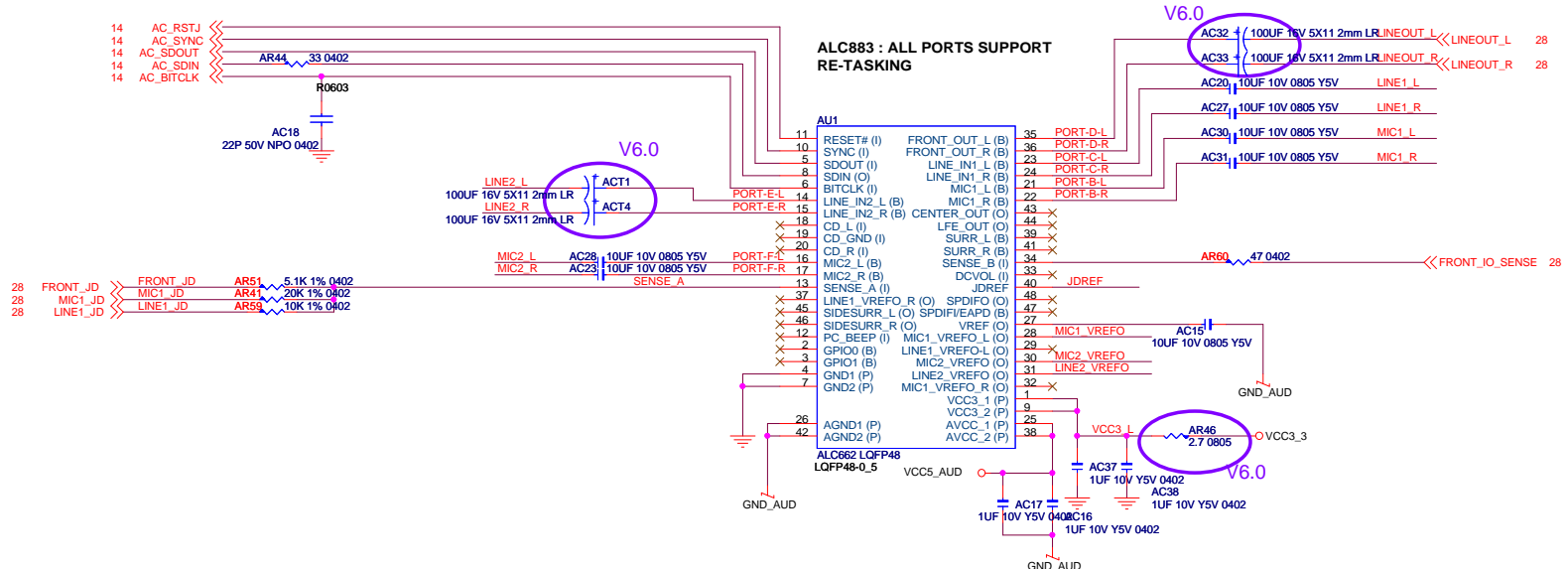
Title		
<b>IDE CONNECTOERS</b>		
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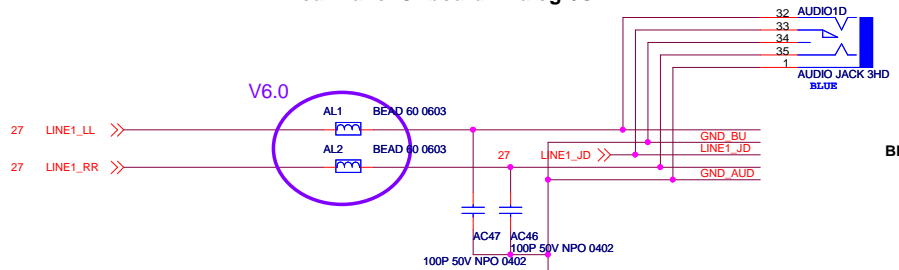
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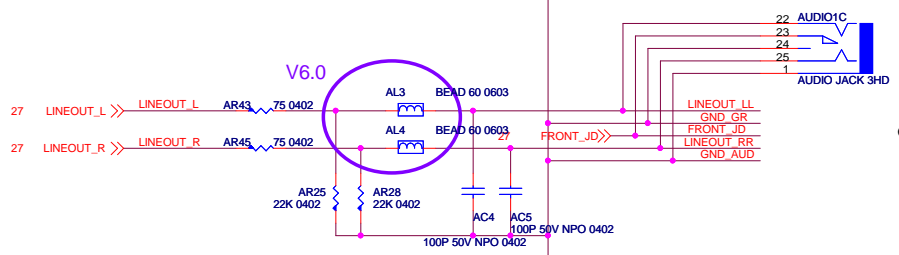
**ALC662**

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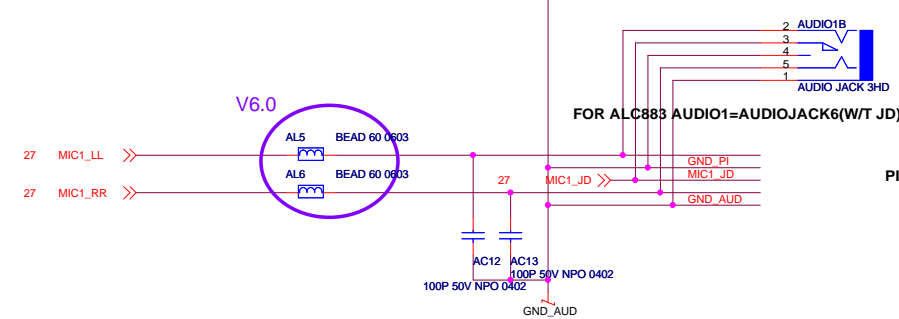
**Rear Panel Onboard Analog I/O**



**BLUE JACK**

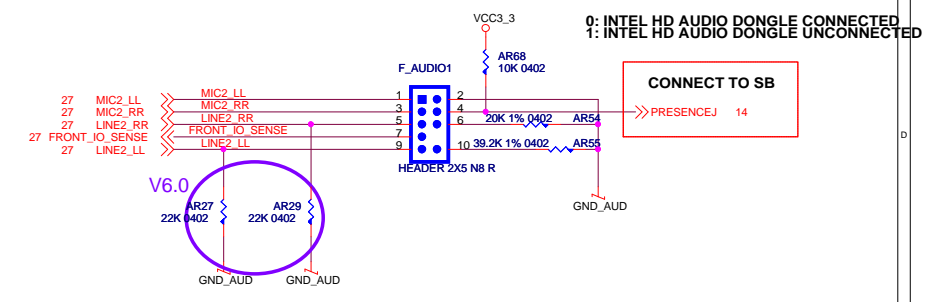


**GREEN JACK**



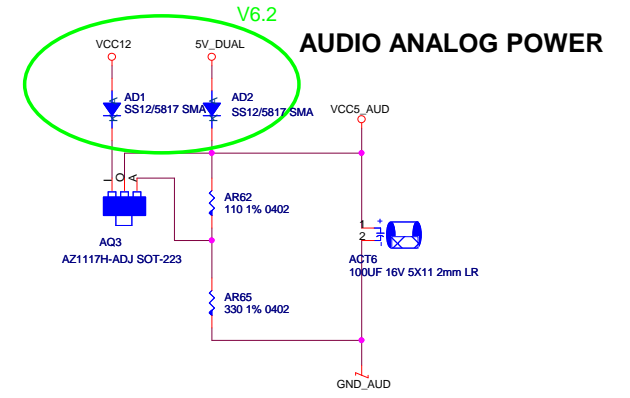
**PINK JACK**

FOR ALC883 AUDIO1=AUDIOJACK6(W/T JD)

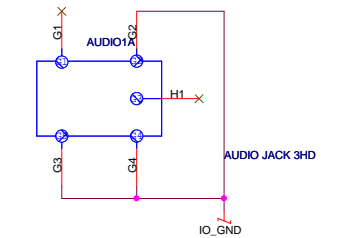


0: INTEL HD AUDIO DONGLE CONNECTED  
1: INTEL HD AUDIO DONGLE UNCONNECTED

**CONNECT TO SB**  
PRESENCEJ 14



**AUDIO ANALOG POWER**

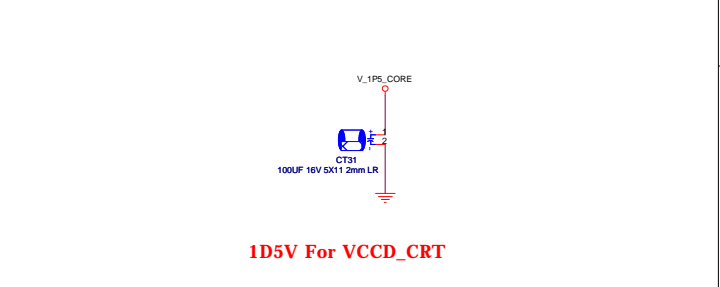
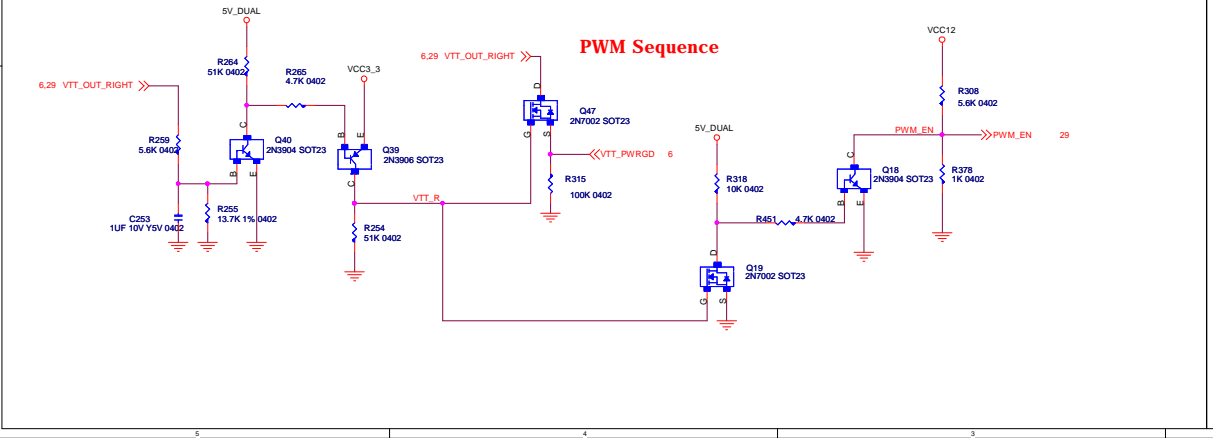
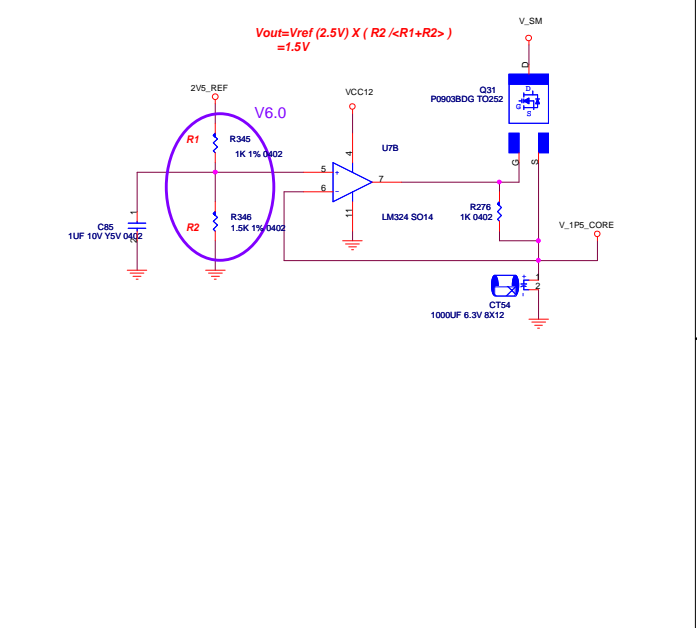
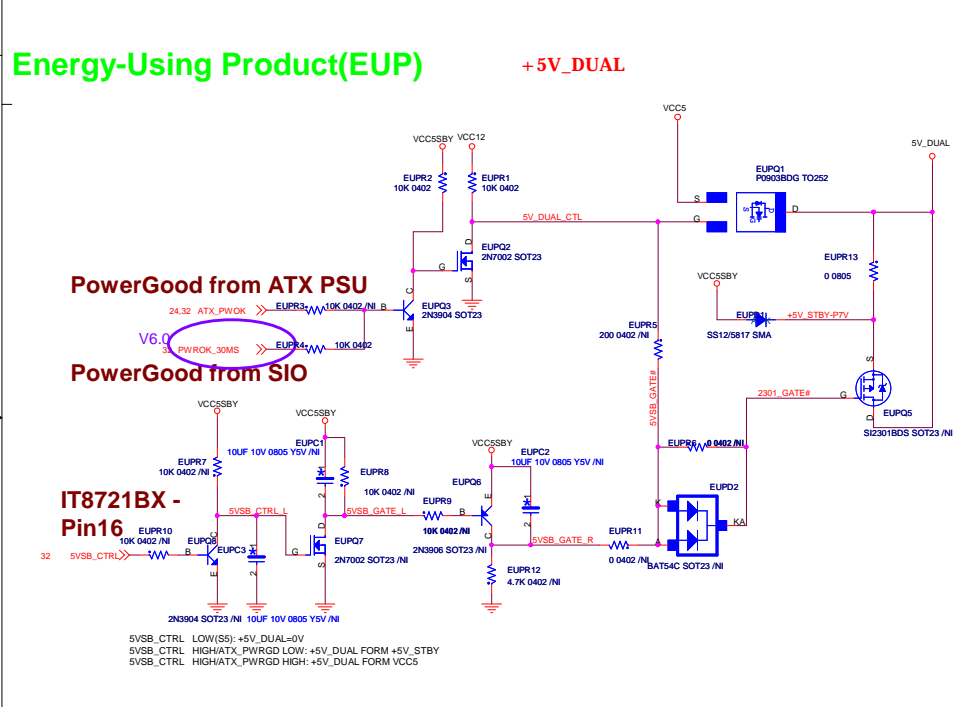
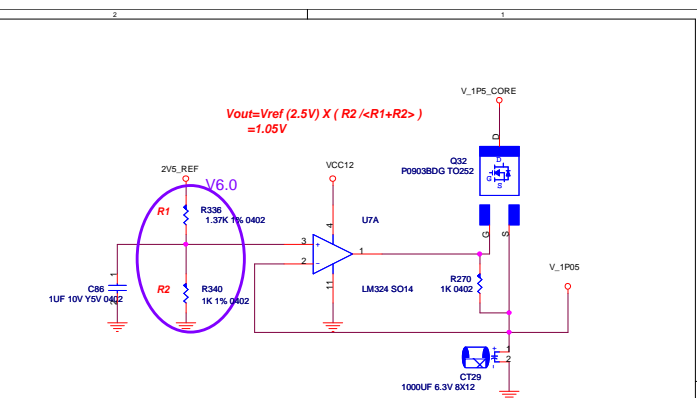
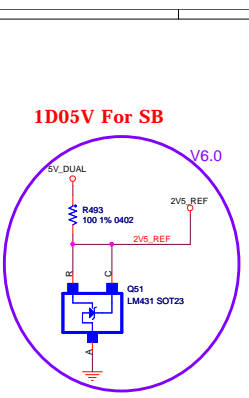
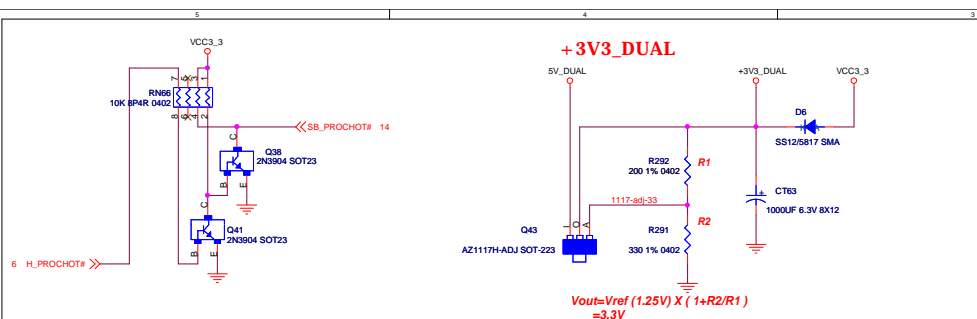


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**audio connector**  
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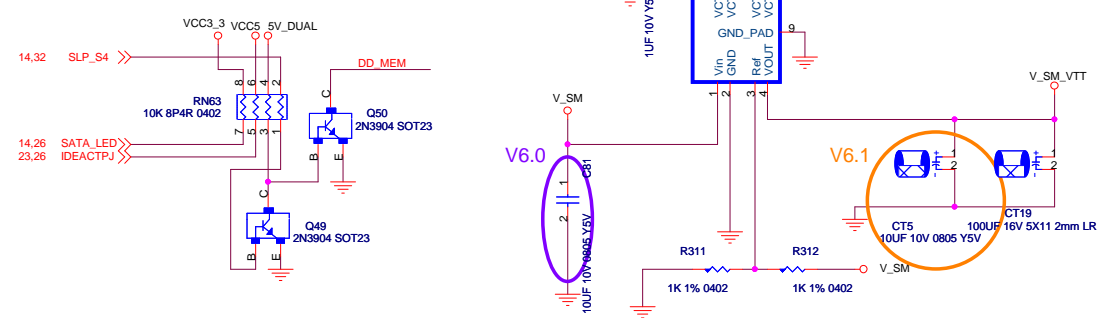
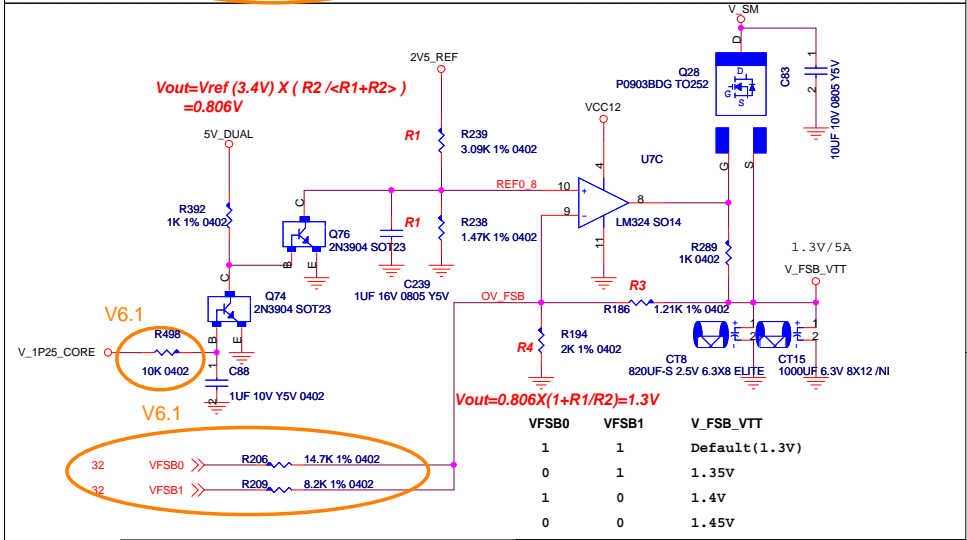
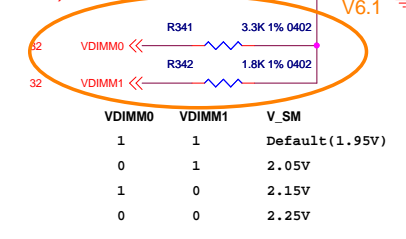
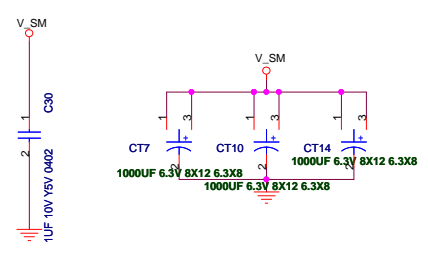
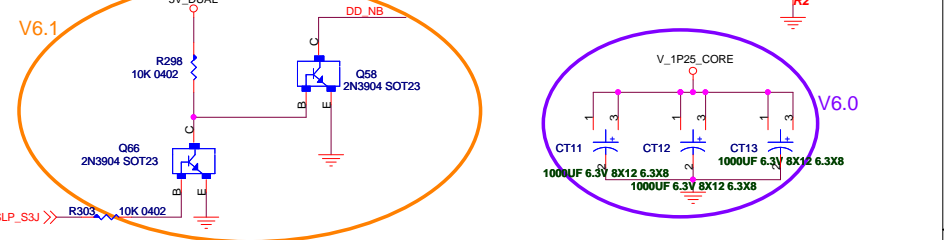
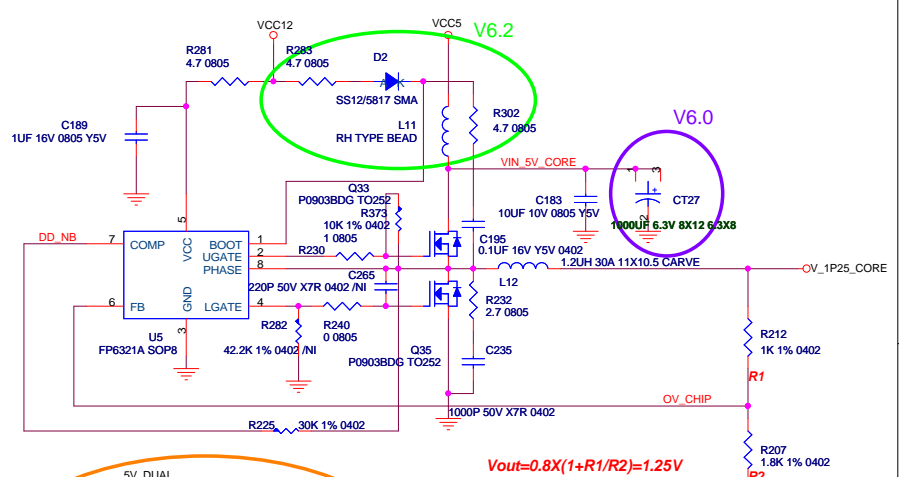
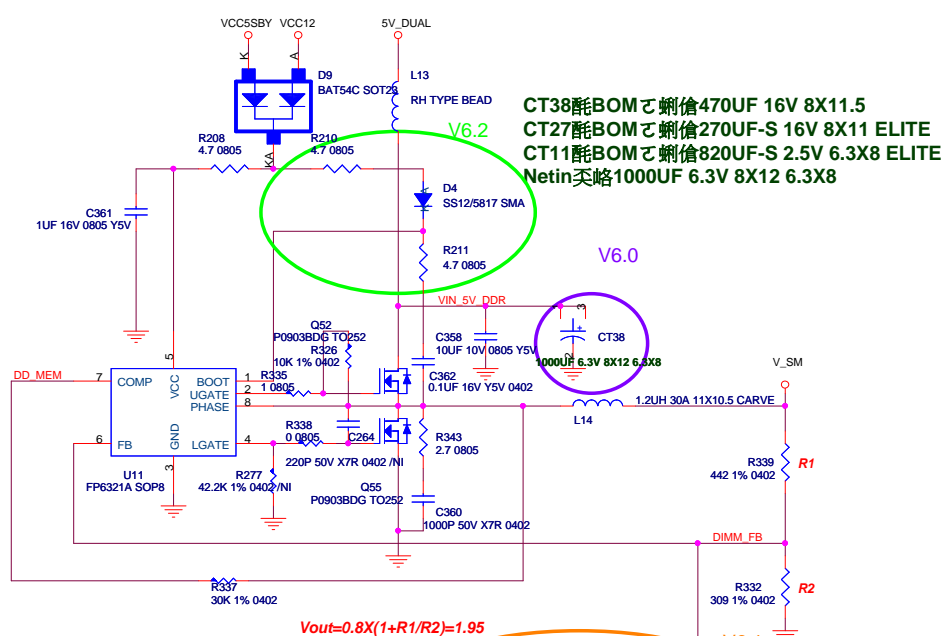


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File: **Miscellaneous DC-DC Converters**  
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Title: **V\_SM & V\_1P25\_CORE**

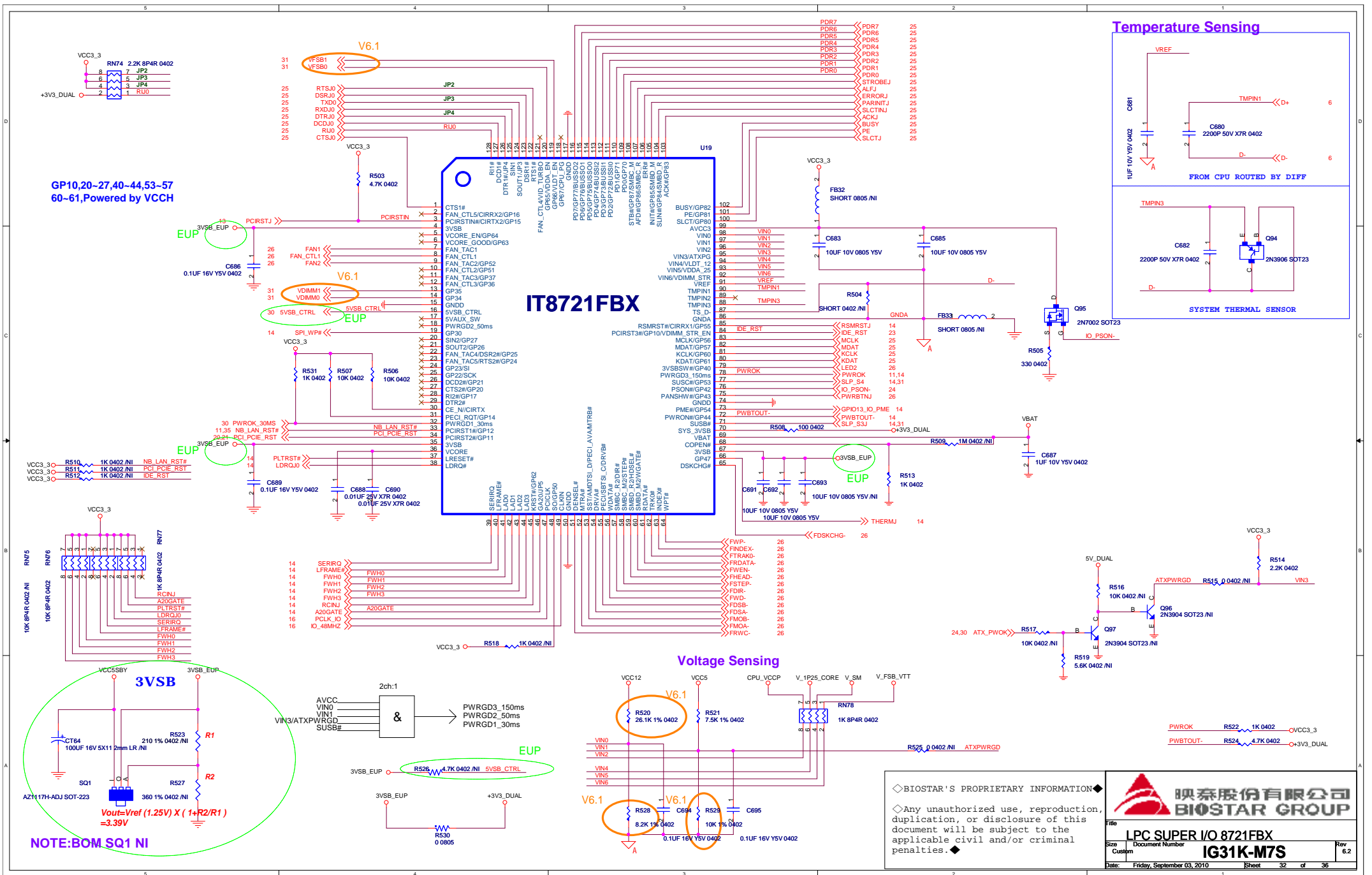
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Document Number: **IG31K-M7S**

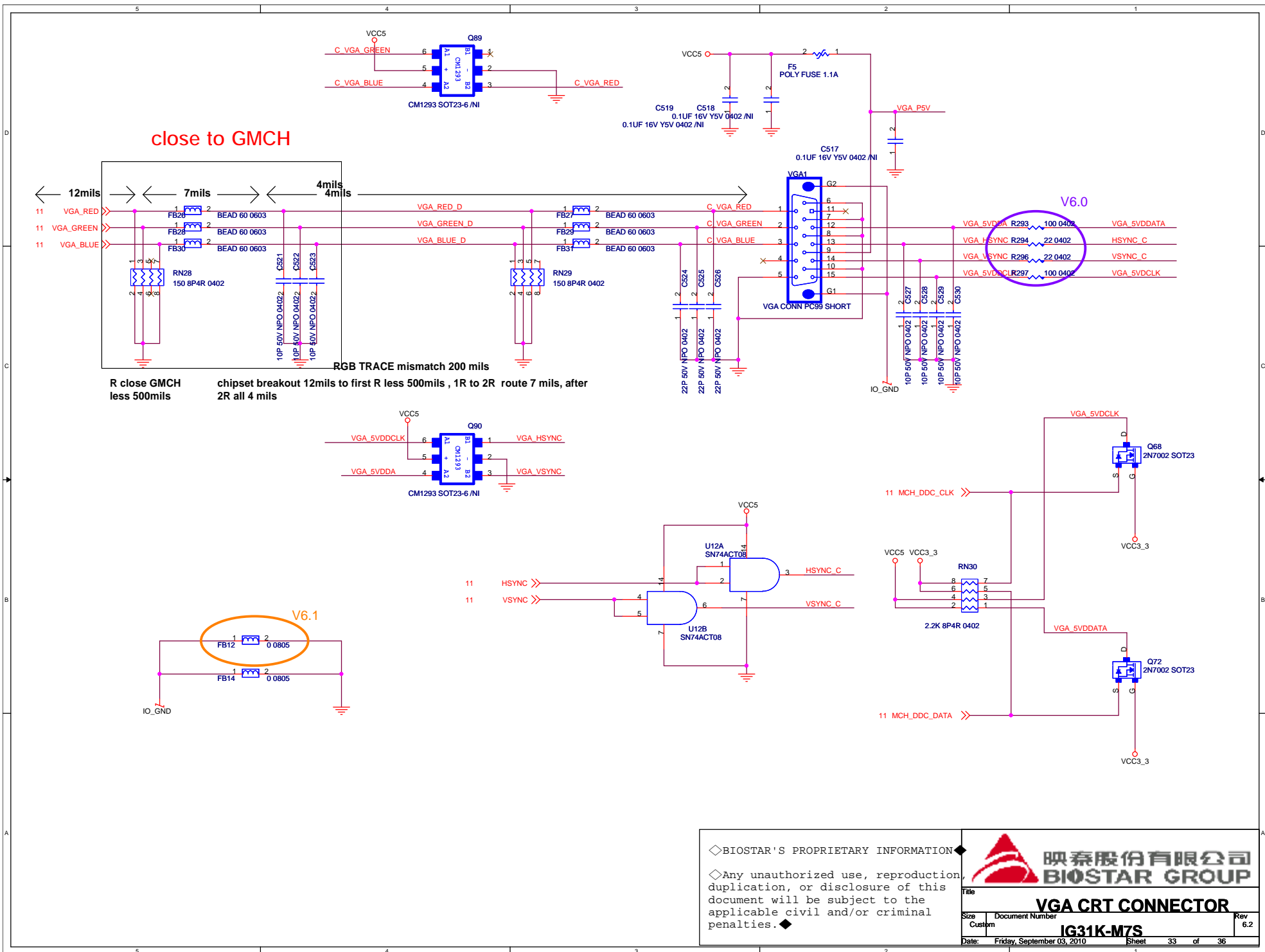
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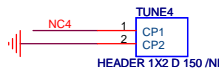
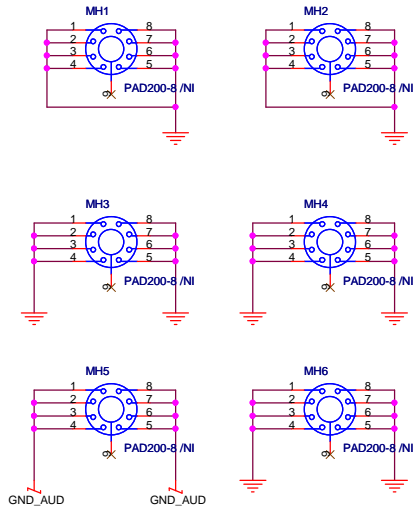


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Title: **VGA CRT CONNECTOR**  
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Impedance Testing Coupon



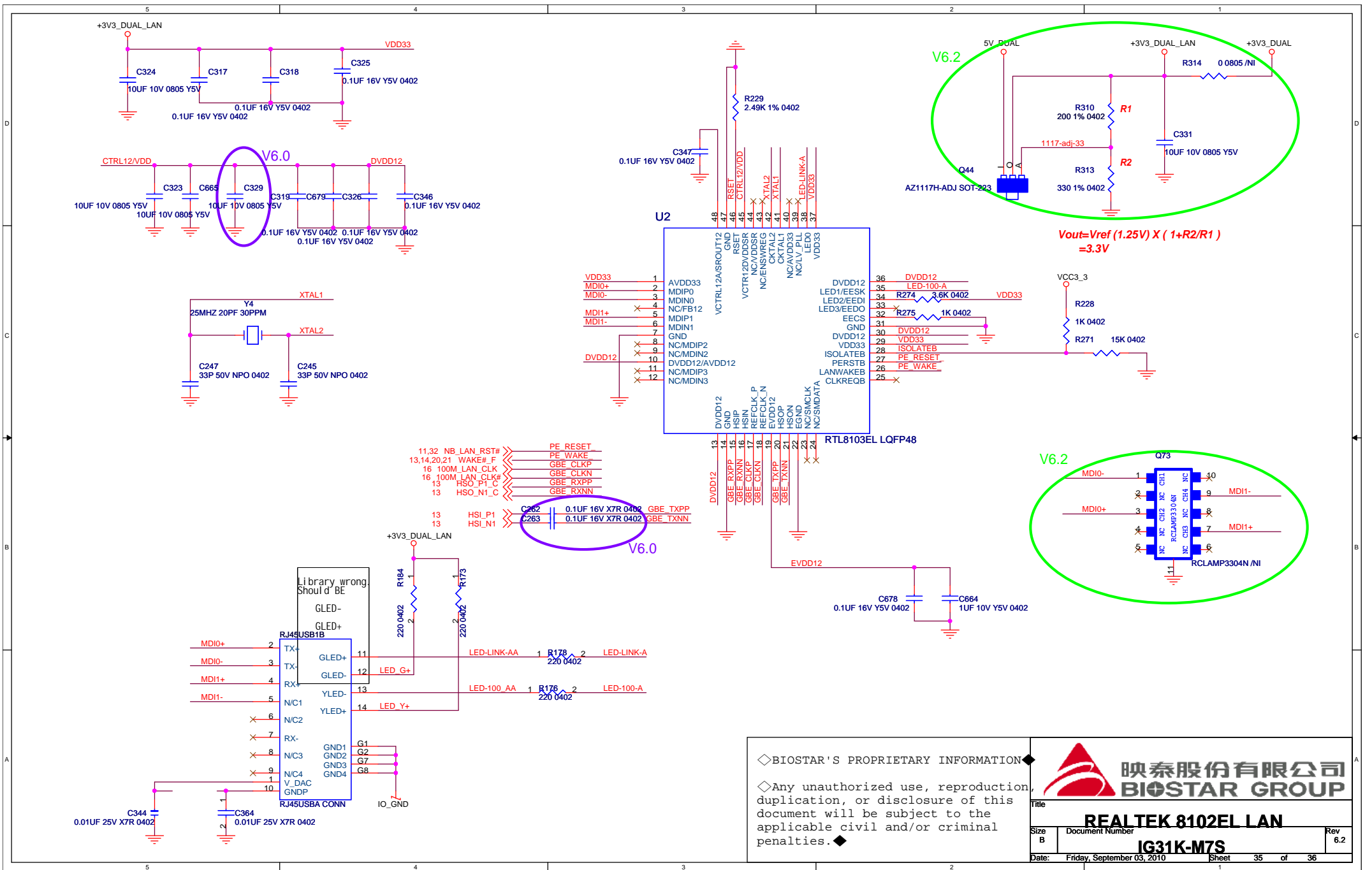
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Title: **MH & Coupon**

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JUSBV1(1\_2)  
JUMPER 2P R

JCMOS1(1\_2)  
JUMPER 2P B

(Y3)  
XTAL WIRE

PCB  
IG31K-M7S V6.2

(PCB)  
泡棉  
POLON 235X182

(BAT1)  
電池  
3V BATTERY SONY

(U18)  
FLASH ROM  
SPI MX25L4005 DIP

(NB1)  
北橋散熱片  
SBSL-T

(ICH1)  
北橋散熱片  
BNP SMALL-L

15-N29-162000R11 ... IG31K-M7S VER:6.2 筭 OSP+窪 (179.00\*235.00\*1.5)mm 4L ?  
86-IG31KM7S-R03P-62  
96-IG31KM7S-R03P-62

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Title

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