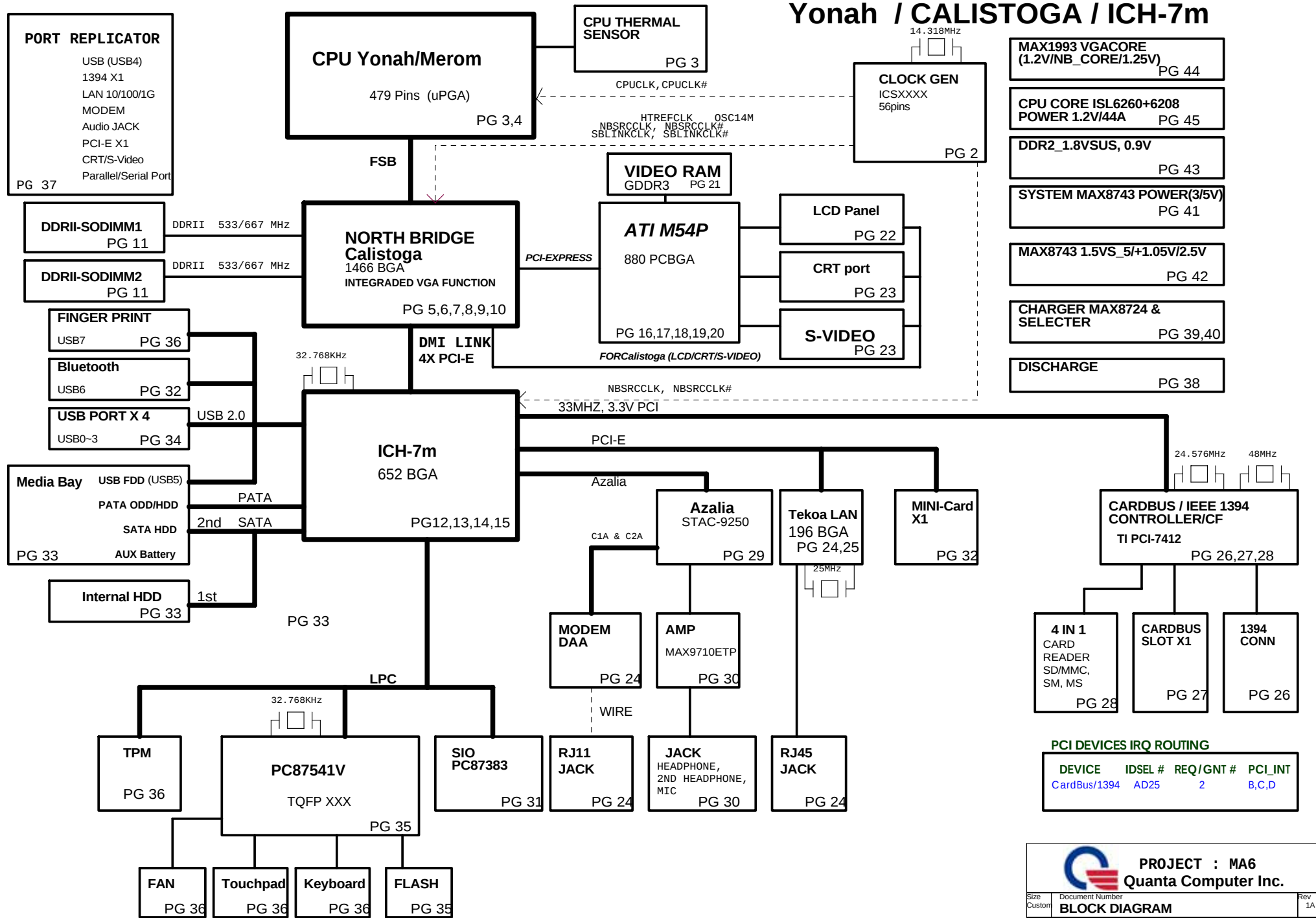


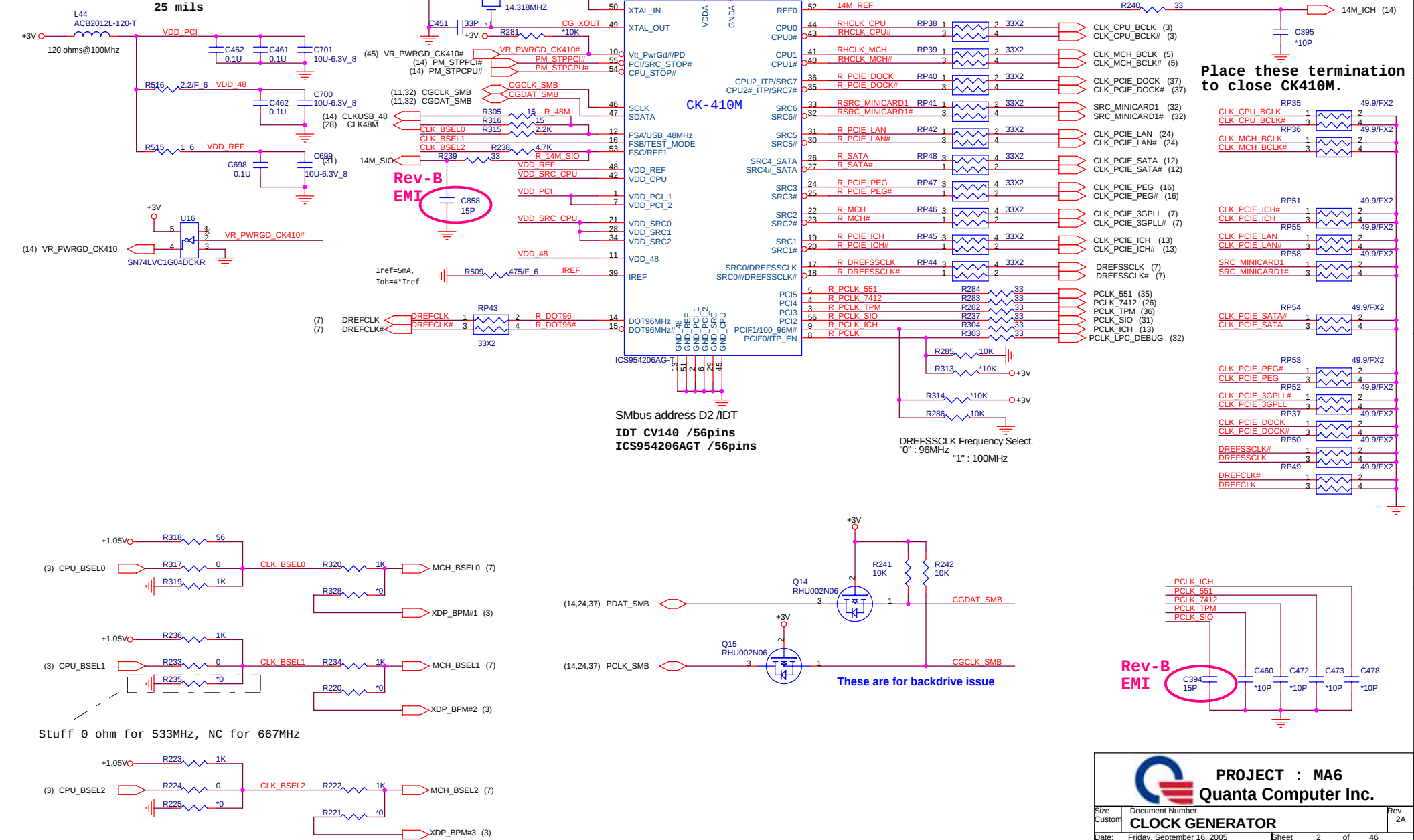
MA6 BLOCK DIAGRAM

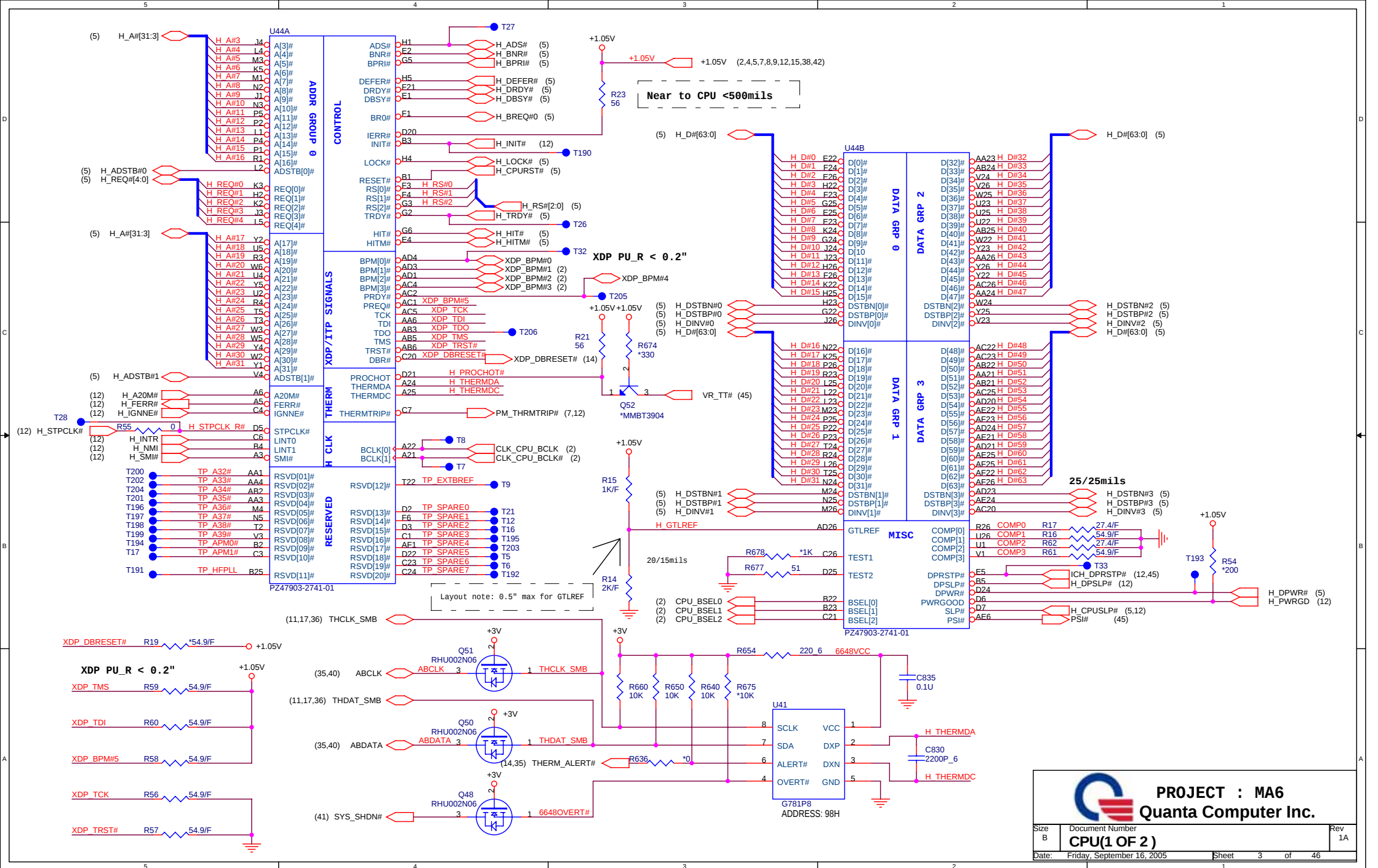
Yonah / CALISTOGA / ICH-7m

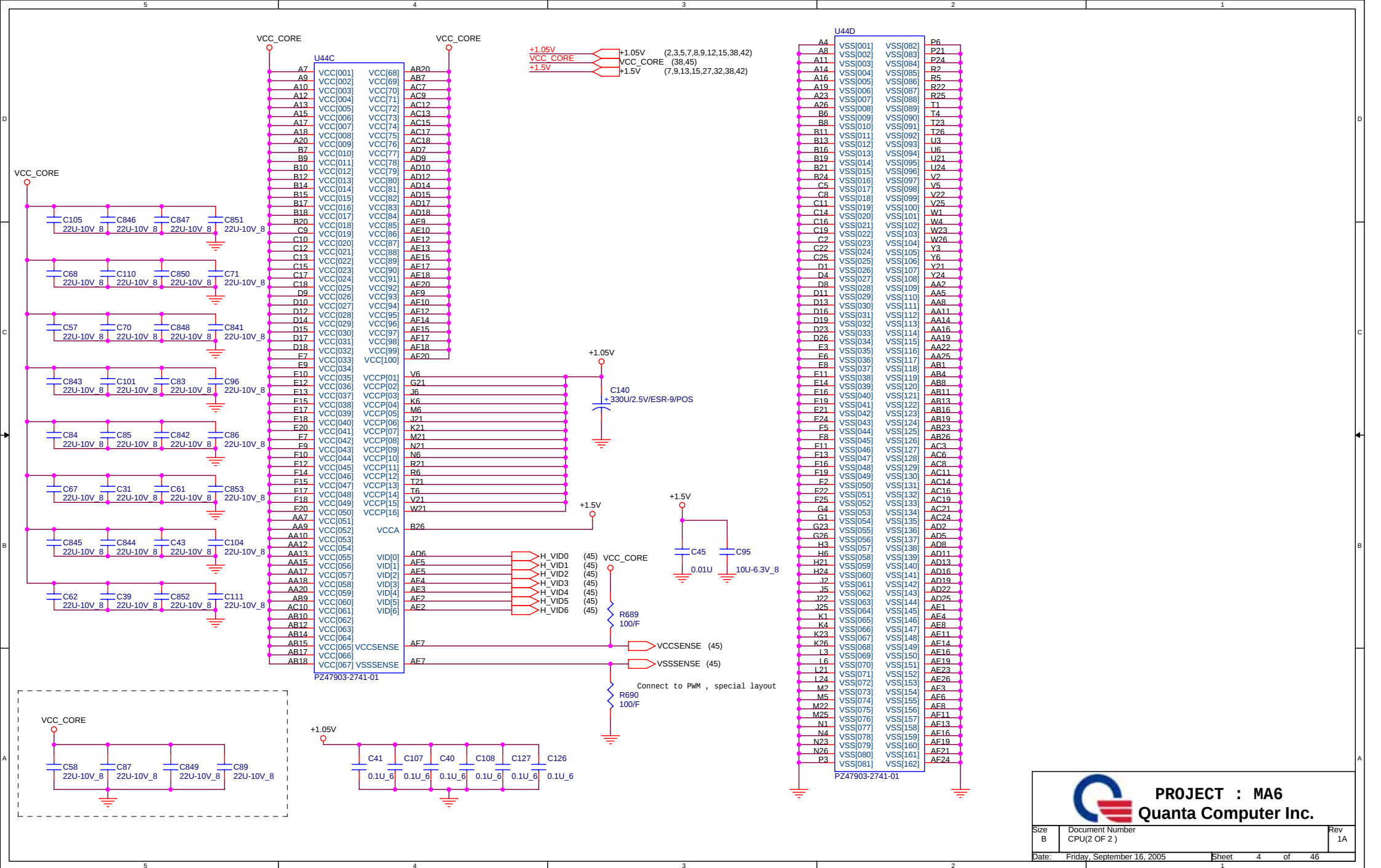


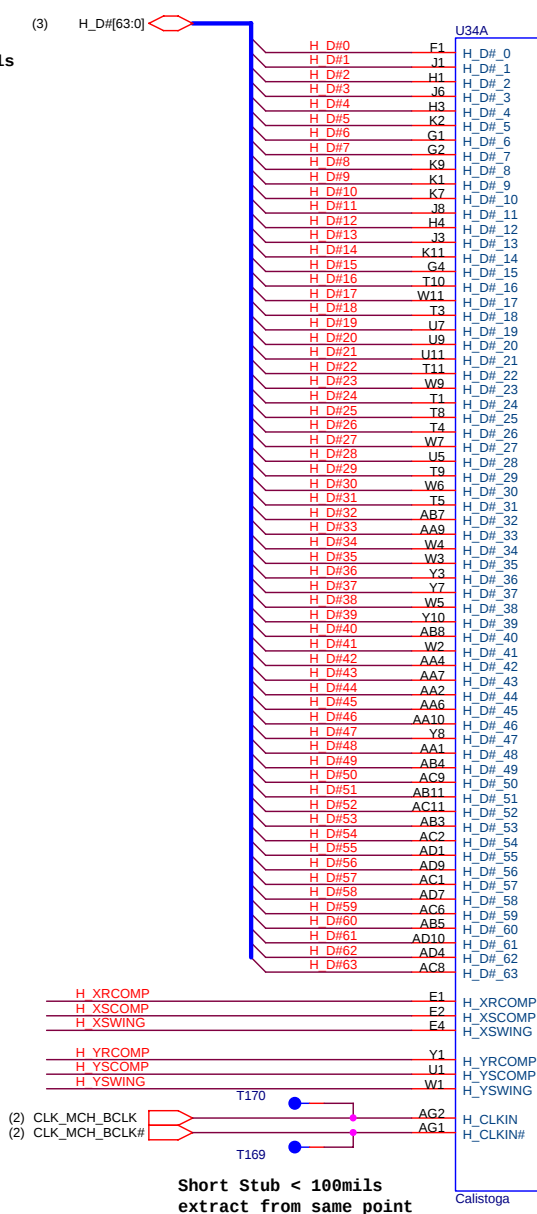
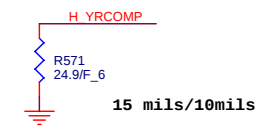
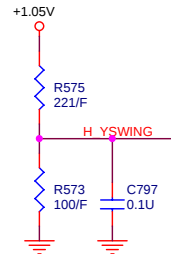
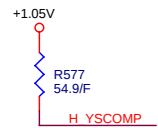
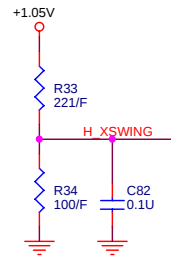
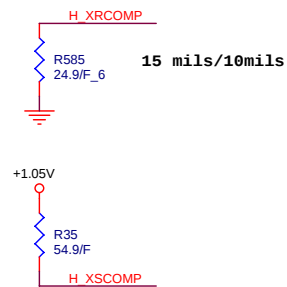
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1	0	1	100	100	33
0	0	1	133	100	33
0	1	1	166	100	33
0	1	0	200	100	33
0	0	0	266	100	33
1	0	0	333	100	33
1	1	0	400	100	33
1	1	1	200	100	33

Default

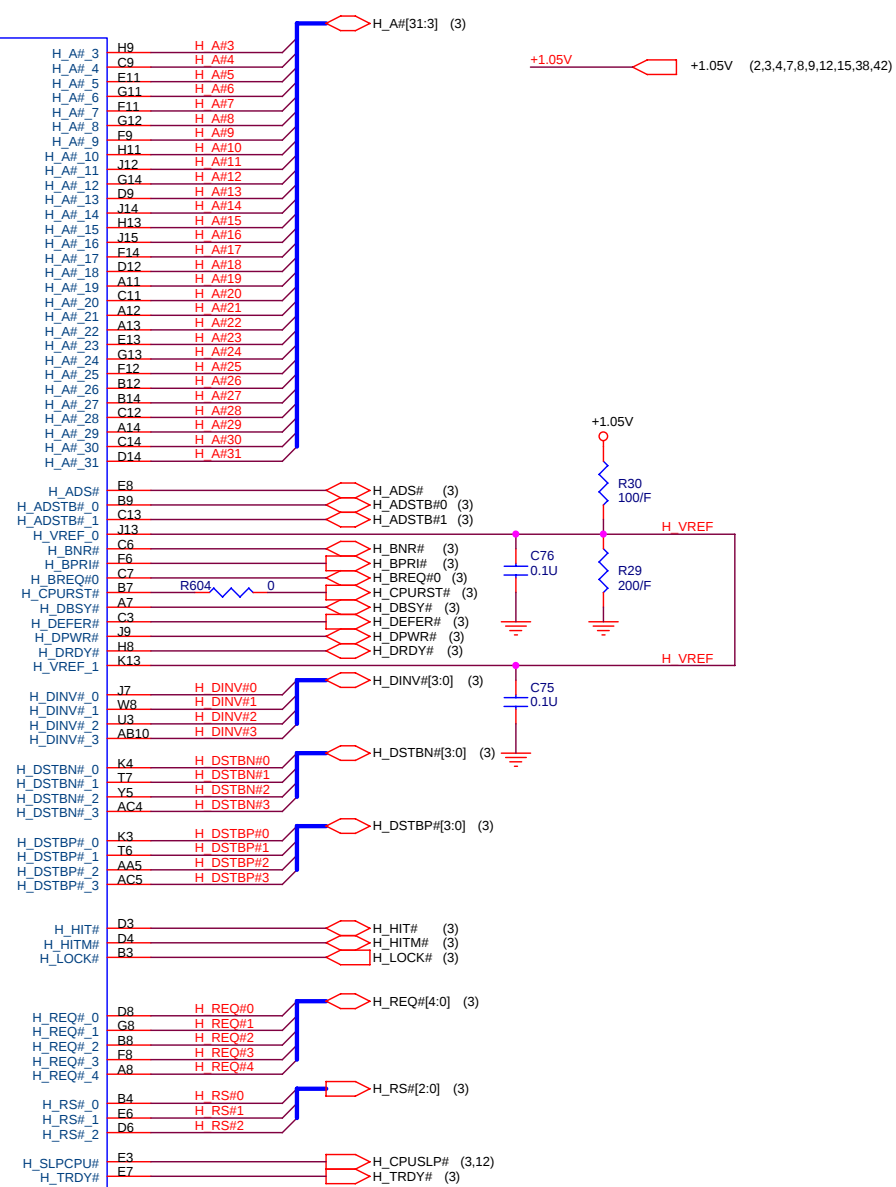








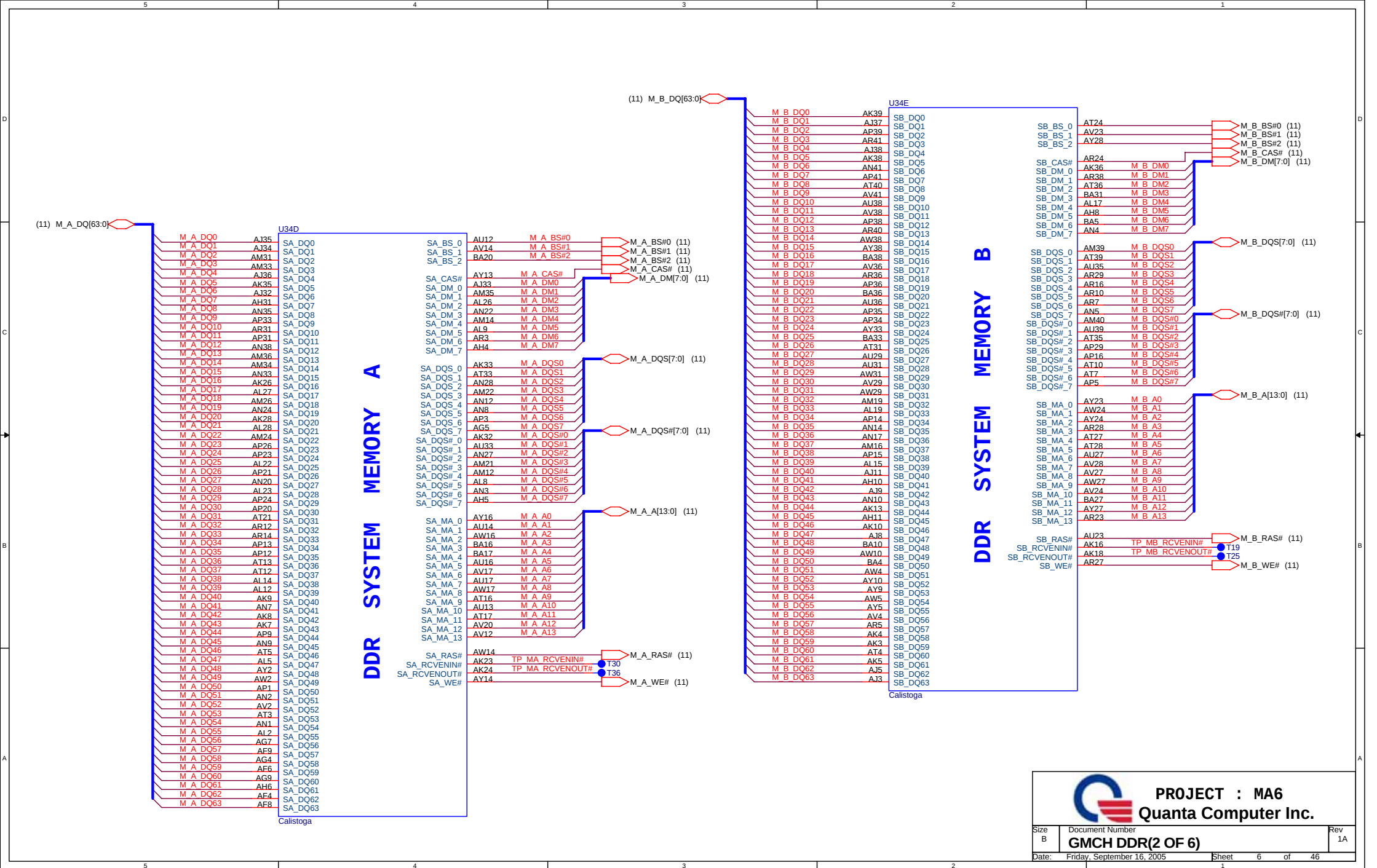
HOST

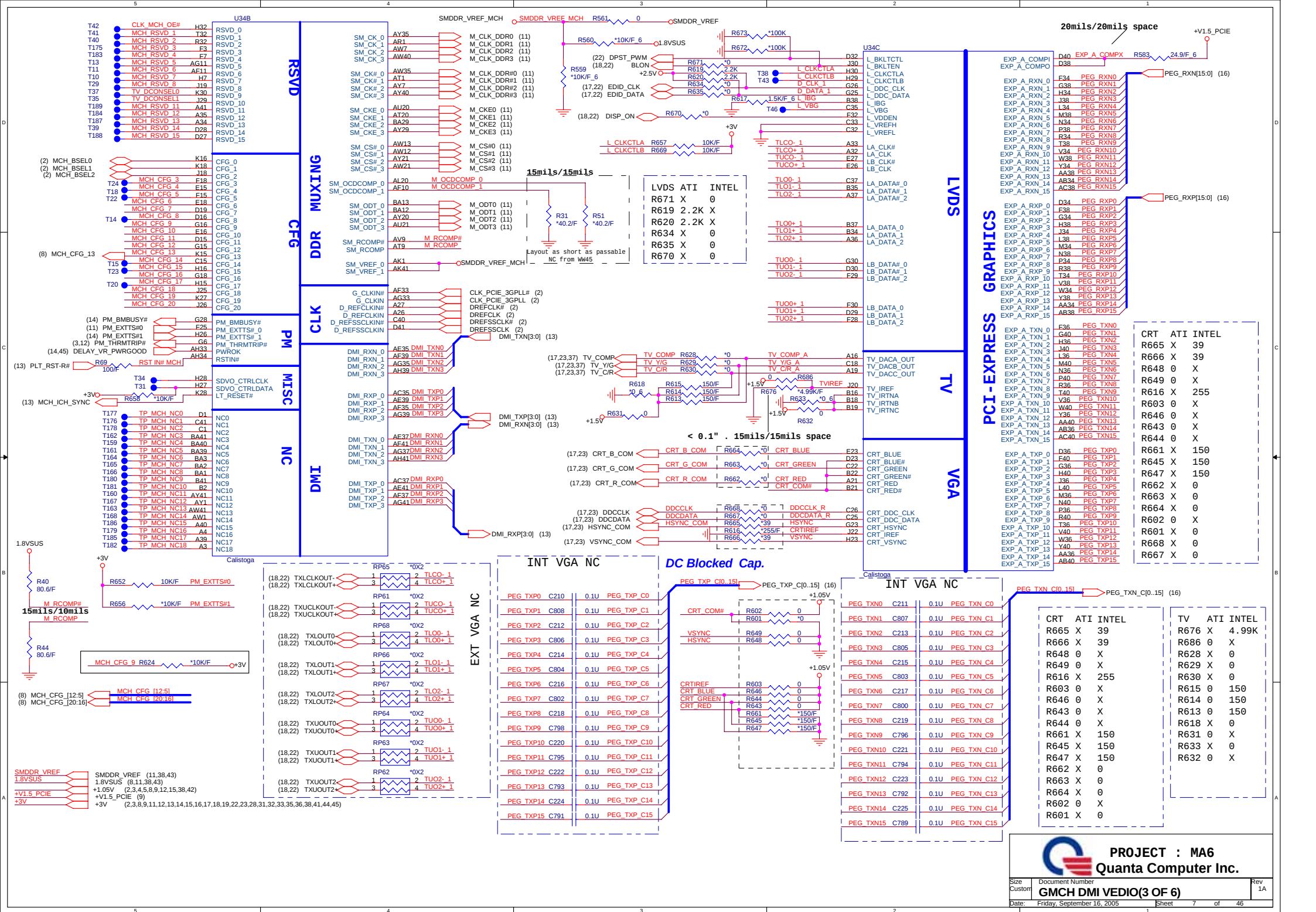


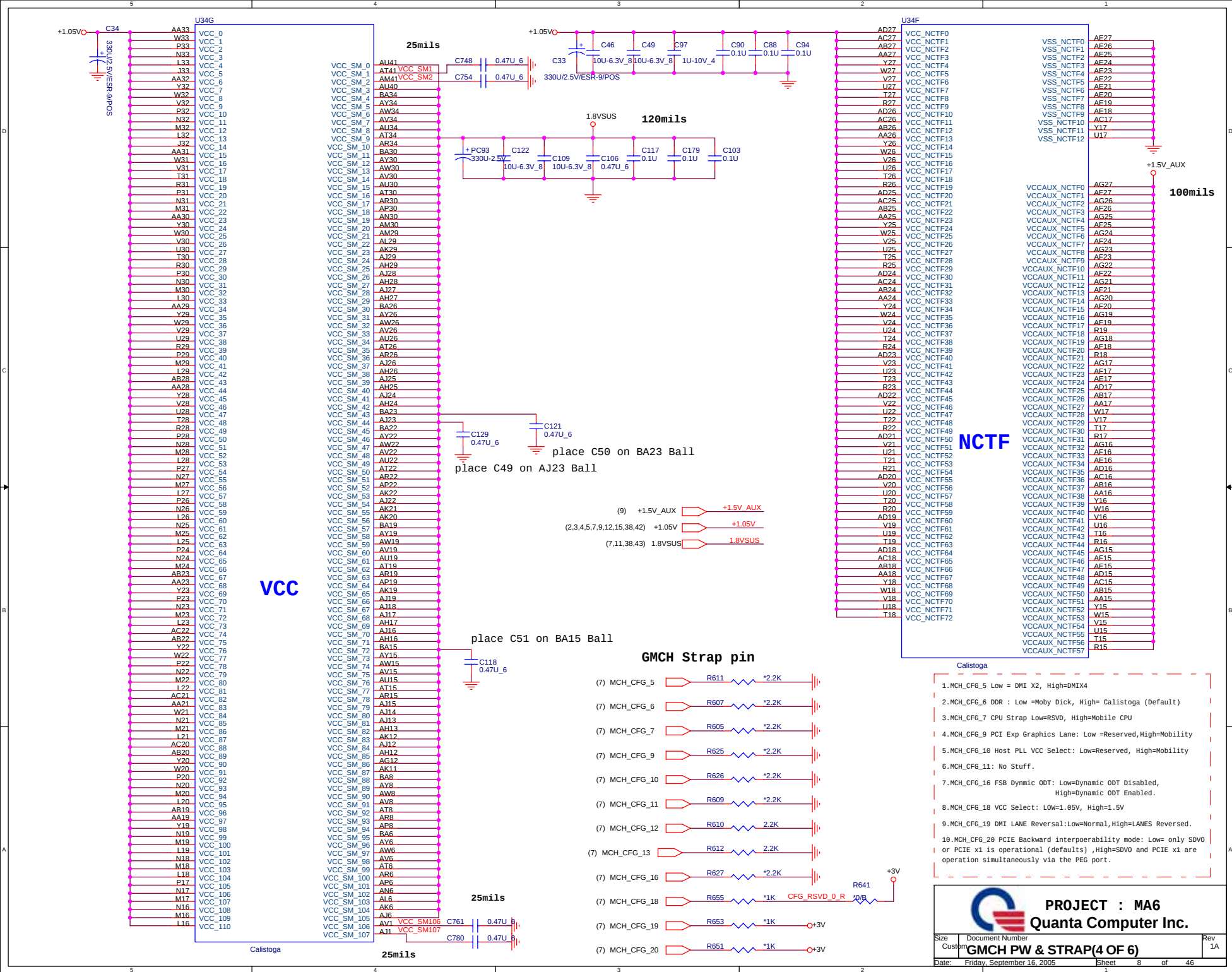
PROJECT : MA6
Quanta Computer Inc.

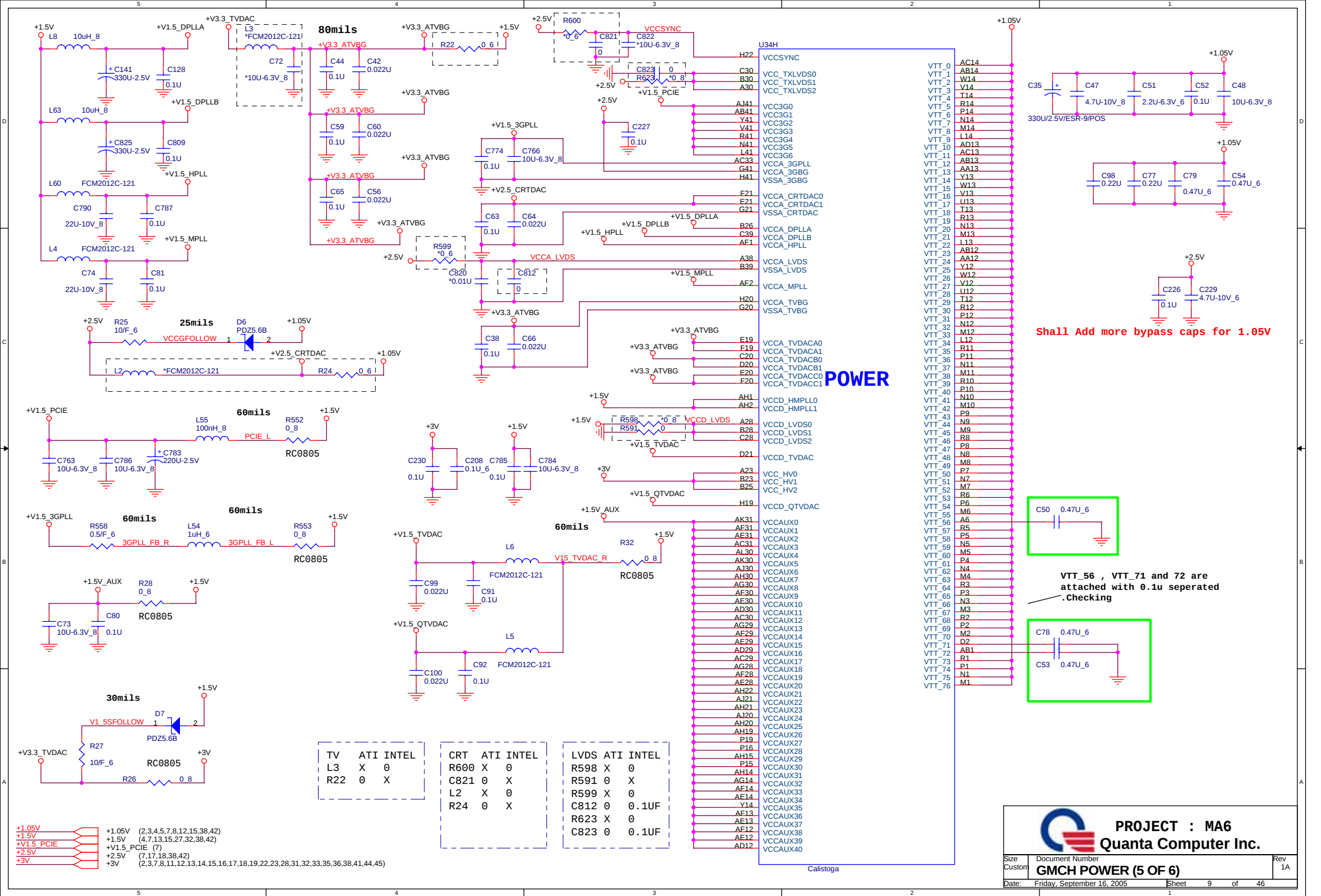
Size	Document Number	Rev
B	GMCH HOST(1 OF 6)	1A

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U34I		
AC41	VSS_0	VSS_97
AA41	VSS_1	VSS_98
W41	VSS_2	VSS_99
T41	VSS_3	VSS_100
P41	VSS_4	VSS_101
M41	VSS_5	VSS_102
J41	VSS_6	VSS_103
F41	VSS_7	VSS_104
AV40	VSS_8	VSS_105
AF40	VSS_9	VSS_106
AN40	VSS_10	VSS_107
AK40	VSS_11	VSS_108
AL40	VSS_12	VSS_109
AH40	VSS_13	VSS_110
AG40	VSS_14	VSS_111
AF40	VSS_15	VSS_112
AE40	VSS_16	VSS_113
B40	VSS_17	VSS_114
AY39	VSS_18	VSS_115
AW39	VSS_19	VSS_116
AV39	VSS_20	VSS_117
AR39	VSS_21	VSS_118
AN39	VSS_22	VSS_119
AJ39	VSS_23	VSS_120
AC39	VSS_24	VSS_121
AB39	VSS_25	VSS_122
AA39	VSS_26	VSS_123
Y39	VSS_27	VSS_124
W39	VSS_28	VSS_125
V39	VSS_29	VSS_126
T39	VSS_30	VSS_127
R39	VSS_31	VSS_128
P39	VSS_32	VSS_129
N39	VSS_33	VSS_130
M39	VSS_34	VSS_131
L39	VSS_35	VSS_132
J39	VSS_36	VSS_133
H39	VSS_37	VSS_134
G39	VSS_38	VSS_135
F39	VSS_39	VSS_136
D39	VSS_40	VSS_137
AT38	VSS_41	VSS_138
AM38	VSS_42	VSS_139
AH38	VSS_43	VSS_140
AG38	VSS_44	VSS_141
AF38	VSS_45	VSS_142
AE38	VSS_46	VSS_143
C38	VSS_47	VSS_144
AK37	VSS_48	VSS_145
AH37	VSS_49	VSS_146
AB37	VSS_50	VSS_147
AA37	VSS_51	VSS_148
Y37	VSS_52	VSS_149
W37	VSS_53	VSS_150
V37	VSS_54	VSS_151
T37	VSS_55	VSS_152
R37	VSS_56	VSS_153
P37	VSS_57	VSS_154
N37	VSS_58	VSS_155
M37	VSS_59	VSS_156
L37	VSS_60	VSS_157
J37	VSS_61	VSS_158
H37	VSS_62	VSS_159
G37	VSS_63	VSS_160
F37	VSS_64	VSS_161
D37	VSS_65	VSS_162
AY36	VSS_66	VSS_163
AW36	VSS_67	VSS_164
AN36	VSS_68	VSS_165
AH36	VSS_69	VSS_166
AG36	VSS_70	VSS_167
AF36	VSS_71	VSS_168
AE36	VSS_72	VSS_169
AC36	VSS_73	VSS_170
C36	VSS_74	VSS_171
B36	VSS_75	VSS_172
BA35	VSS_76	VSS_173
AV35	VSS_77	VSS_174
AR35	VSS_78	VSS_175
AH35	VSS_79	VSS_176
AB35	VSS_80	VSS_177
AA35	VSS_81	VSS_178
Y35	VSS_82	VSS_179
W35	VSS_83	
V35	VSS_84	
T35	VSS_85	
R35	VSS_86	
P35	VSS_87	
N35	VSS_88	
M35	VSS_89	
L35	VSS_90	
J35	VSS_91	
H35	VSS_92	
G35	VSS_93	
F35	VSS_94	
D35	VSS_95	
AN34	VSS_96	

VSS

U34J		
AT23	VSS_180	VSS_273
AN23	VSS_181	VSS_274
AM23	VSS_182	VSS_275
AH23	VSS_183	VSS_276
AC23	VSS_184	VSS_277
W23	VSS_185	VSS_278
K23	VSS_186	VSS_279
J23	VSS_187	VSS_280
F23	VSS_188	VSS_281
AE33	VSS_189	VSS_282
AB33	VSS_190	VSS_283
Y33	VSS_191	VSS_284
V33	VSS_192	VSS_285
T33	VSS_193	VSS_286
R33	VSS_194	VSS_287
M33	VSS_195	VSS_288
H33	VSS_196	VSS_289
G33	VSS_197	VSS_290
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D33	VSS_199	VSS_292
B33	VSS_200	VSS_293
AH32	VSS_201	VSS_294
AG32	VSS_202	VSS_295
AF32	VSS_203	VSS_296
AE32	VSS_204	VSS_297
AC32	VSS_205	VSS_298
AB32	VSS_206	VSS_299
J21	VSS_207	VSS_300
H21	VSS_208	VSS_301
C21	VSS_209	VSS_302
AW20	VSS_210	VSS_303
AR20	VSS_211	VSS_304
AM20	VSS_212	VSS_305
AA20	VSS_213	VSS_306
K20	VSS_214	VSS_307
B20	VSS_215	VSS_308
A20	VSS_216	VSS_309
AN19	VSS_217	VSS_310
AC19	VSS_218	VSS_311
W19	VSS_219	VSS_312
K19	VSS_220	VSS_313
G19	VSS_221	VSS_314
C19	VSS_222	VSS_315
AH18	VSS_223	VSS_316
K18	VSS_224	VSS_317
H18	VSS_225	VSS_318
D18	VSS_226	VSS_319
A18	VSS_227	VSS_320
AY17	VSS_228	VSS_321
AR17	VSS_229	VSS_322
AP17	VSS_230	VSS_323
AM17	VSS_231	VSS_324
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AV16	VSS_233	VSS_326
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AL16	VSS_235	VSS_328
J16	VSS_236	VSS_329
F16	VSS_237	VSS_330
C16	VSS_238	VSS_331
AN15	VSS_239	VSS_332
AM15	VSS_240	VSS_333
AK15	VSS_241	VSS_334
N15	VSS_242	VSS_335
M15	VSS_243	VSS_336
L15	VSS_244	VSS_337
B15	VSS_245	VSS_338
A15	VSS_246	VSS_339
BA14	VSS_247	VSS_340
AT14	VSS_248	VSS_341
AK14	VSS_249	VSS_342
K14	VSS_250	VSS_343
AD14	VSS_251	VSS_344
U14	VSS_252	VSS_345
H14	VSS_253	VSS_346
E14	VSS_254	VSS_347
AV13	VSS_255	VSS_348
AR13	VSS_256	VSS_349
D13	VSS_257	VSS_350
AM13	VSS_258	VSS_351
AL13	VSS_259	VSS_352
AG13	VSS_260	VSS_353
P13	VSS_261	VSS_354
F13	VSS_262	VSS_355
D13	VSS_263	VSS_356
B13	VSS_264	VSS_357
AY12	VSS_265	VSS_358
AC12	VSS_266	VSS_359
K12	VSS_267	VSS_360
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E12	VSS_269	
AD11	VSS_270	
AA11	VSS_271	
Y11	VSS_272	

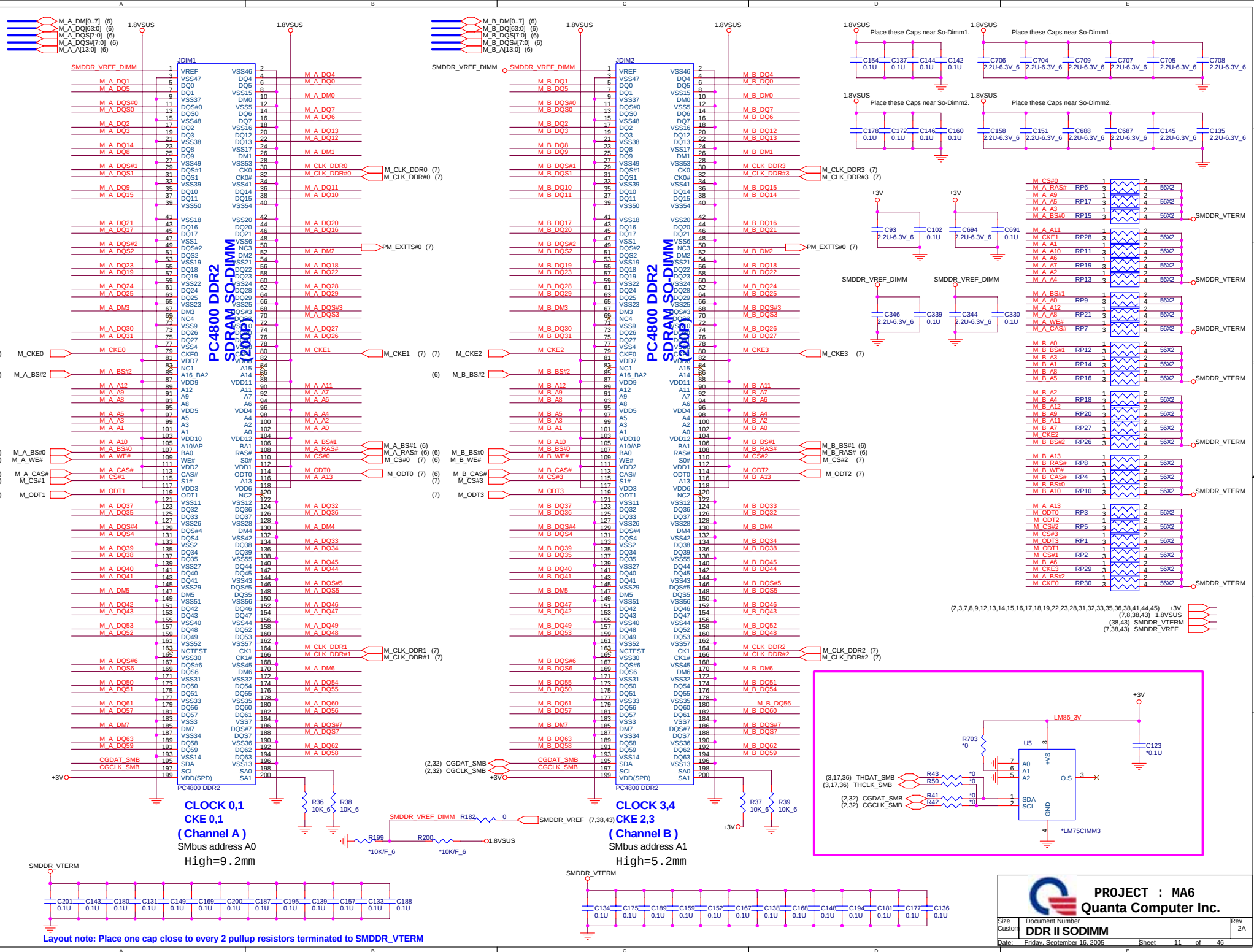
VSS

Calistoga

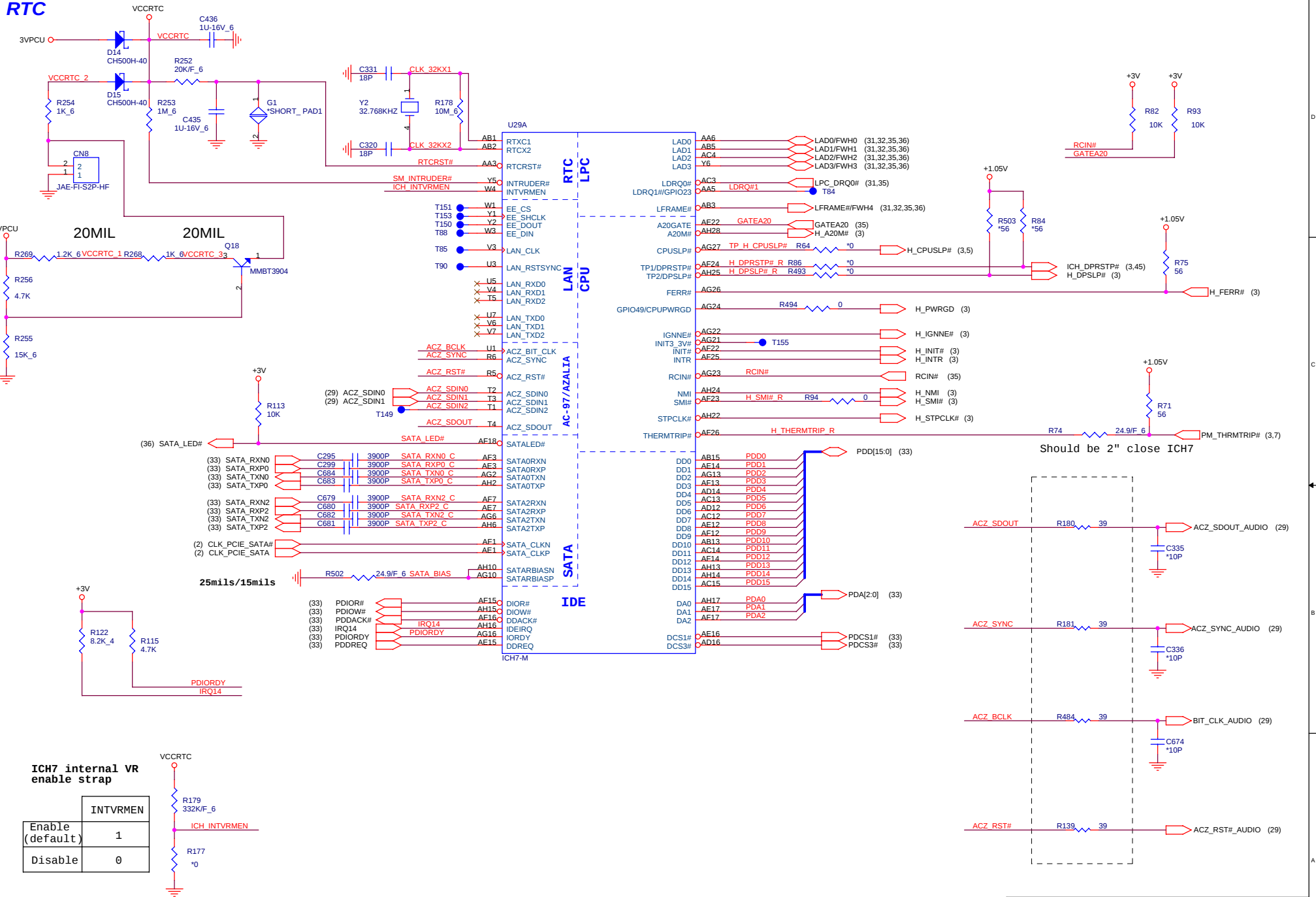


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Size Custom	Document Number GMCH GND(6 OF 6)	Rev 1A
Date: Friday, September 16, 2005	Sheet 10 of 46	



RTC



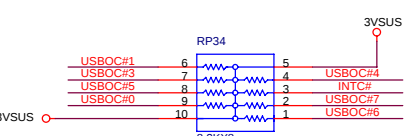
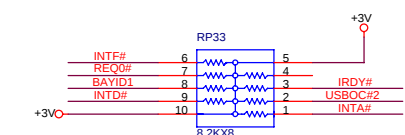
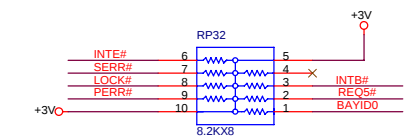
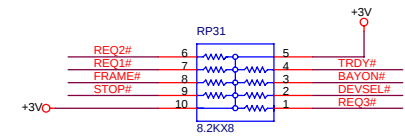
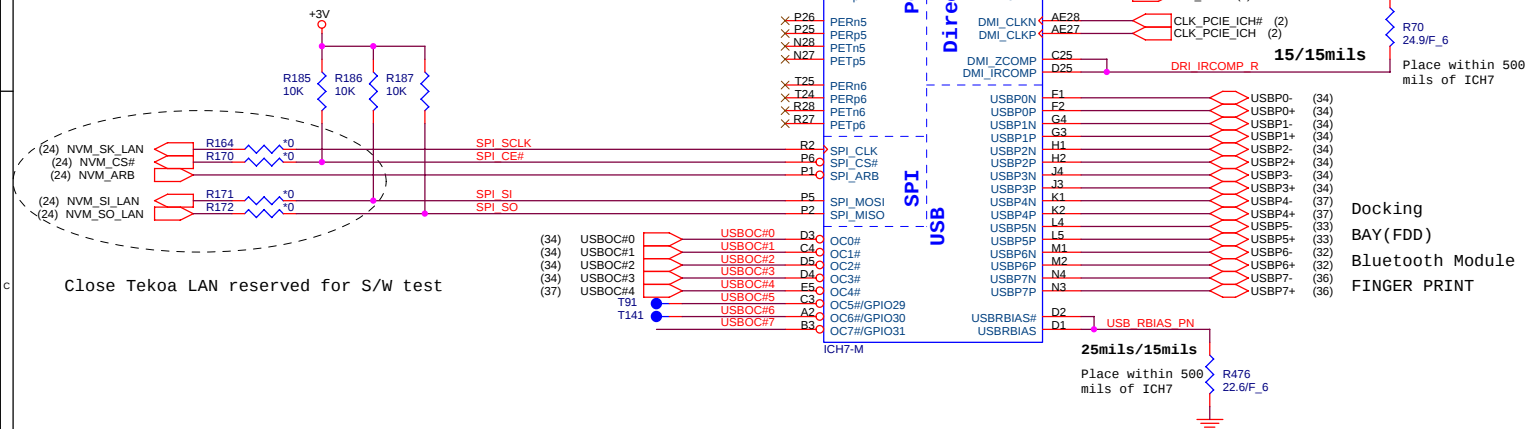
PROJECT : MA6
Quanta Computer Inc.

Size	Document Number	Rev
Custm	ICH7-M HOST (1 OF 4)	1A
Date:	Friday, September 16, 2005	Sheet 12 of 46

Tekoa LAN

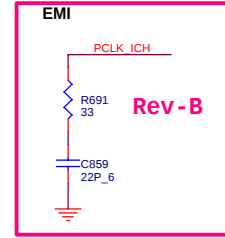
PCI-E Mini Card

PCI-E Mini Card(Docking)



ICH7 Boot BIOS select

	STRAP	GNT5# R1	GNT4# R2
LPC (default)	11	UNSTUFF	UNSTUFF
PCI	10	UNSTUFF	STUFF
SPI	01	STUFF	UNSTUFF

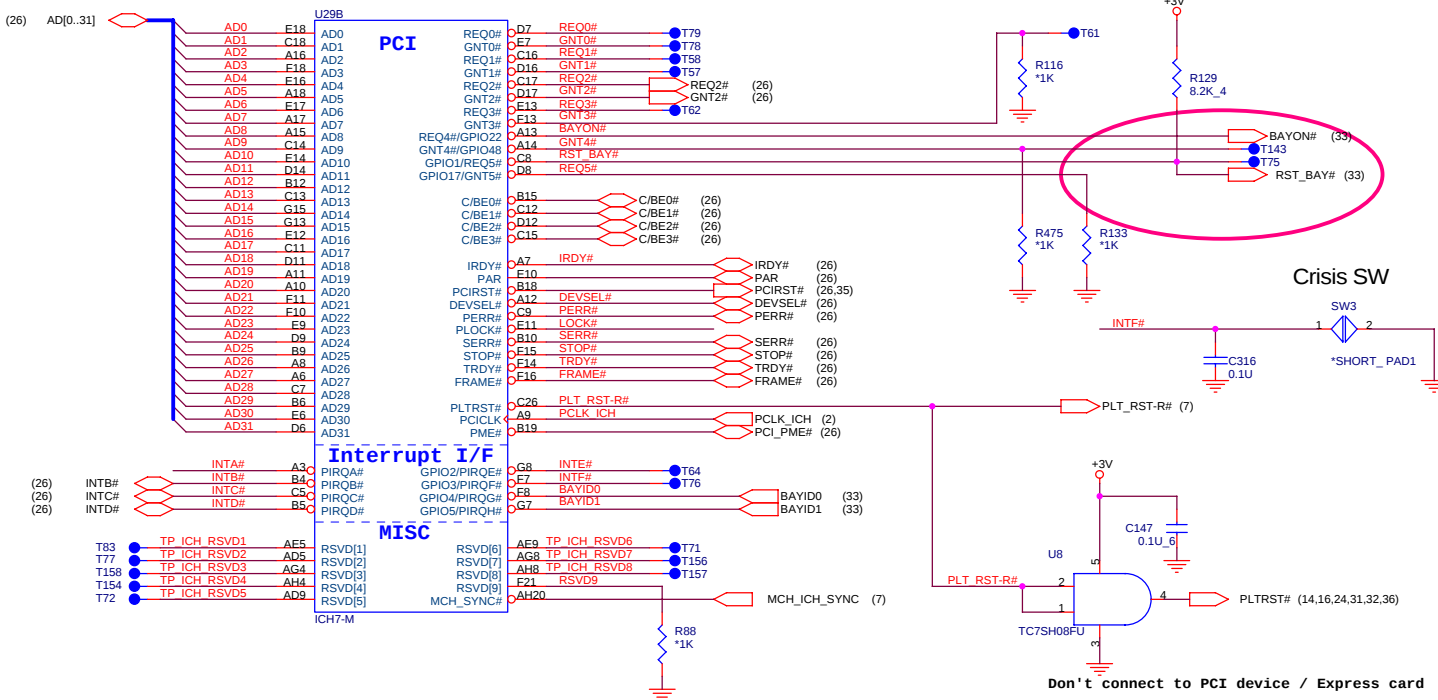


PCI DEVICE	IDSEL#	REQ# / GNT#	Interrupts
PCI7412	AD25	REQ2# / GNT2#	INT B/C/D#

PROJECT : MA6
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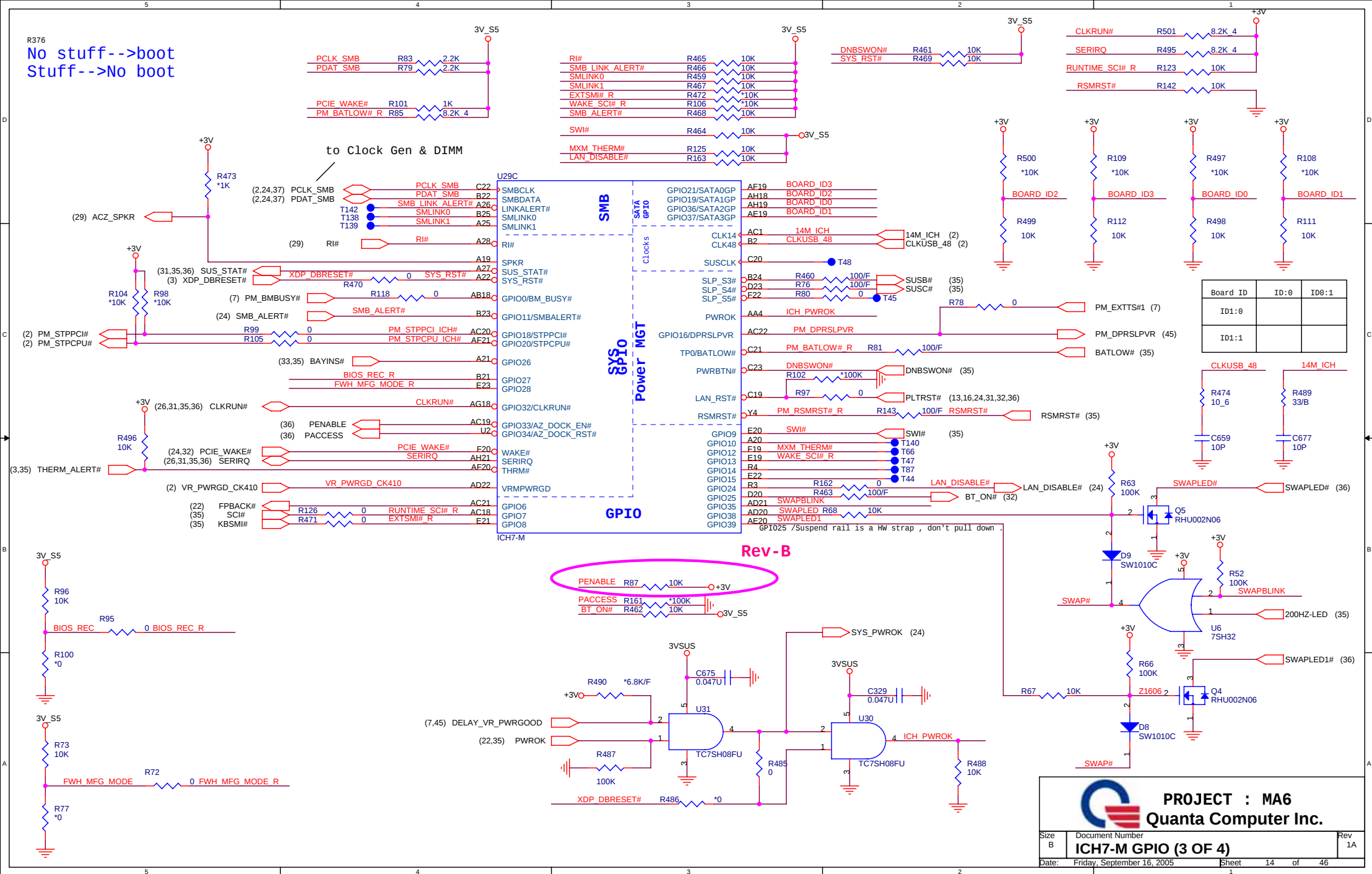
Size Custom Document Number **ICH7-M PCI E (2 OF 4)** Rev 2A

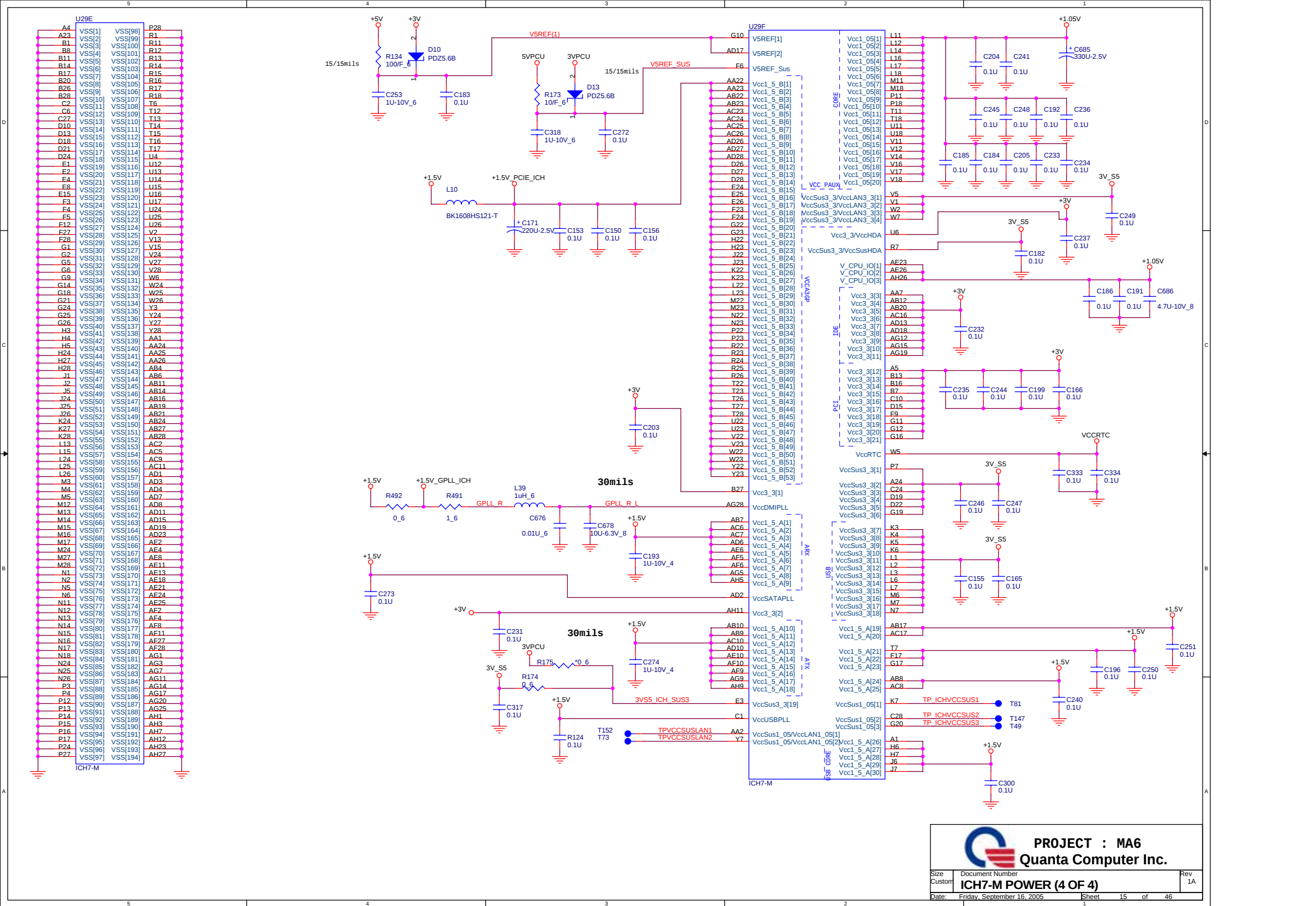
Date: Friday, September 16, 2005 Sheet 13 of 46



R376

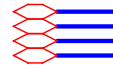
No stuff-->boot
Stuff-->No boot





NOTE: some of the PCIE testpoints will be available through via on traces.

(7) PEG_RXP[15:0]
(7) PEG_RXN[15:0]
(7) PEG_TXP_C[0..15]
(7) PEG_TXN_C[0..15]

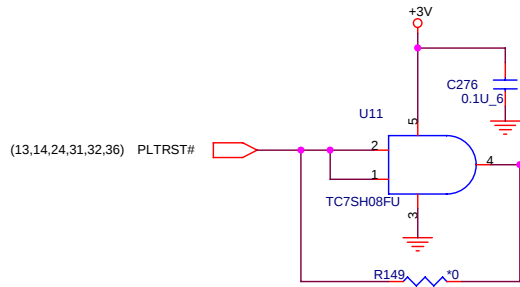


U33A

PART 1 OF 7

P
C
I
E
-
E
X
P
R
E
S
S

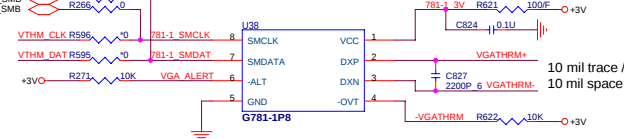
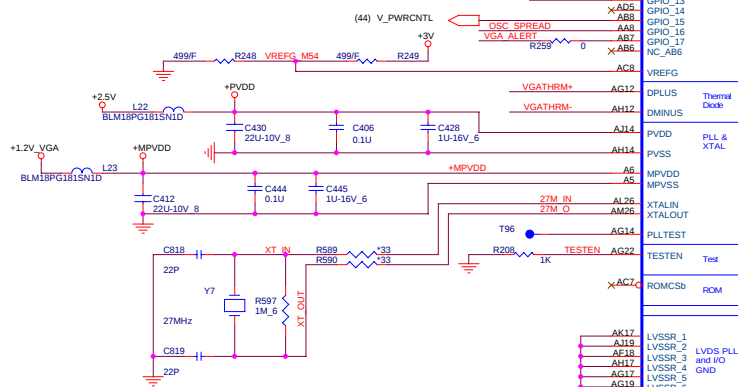
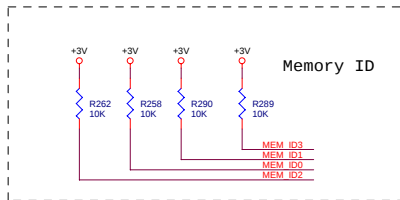
I
N
T
E
R
F
A
C
E



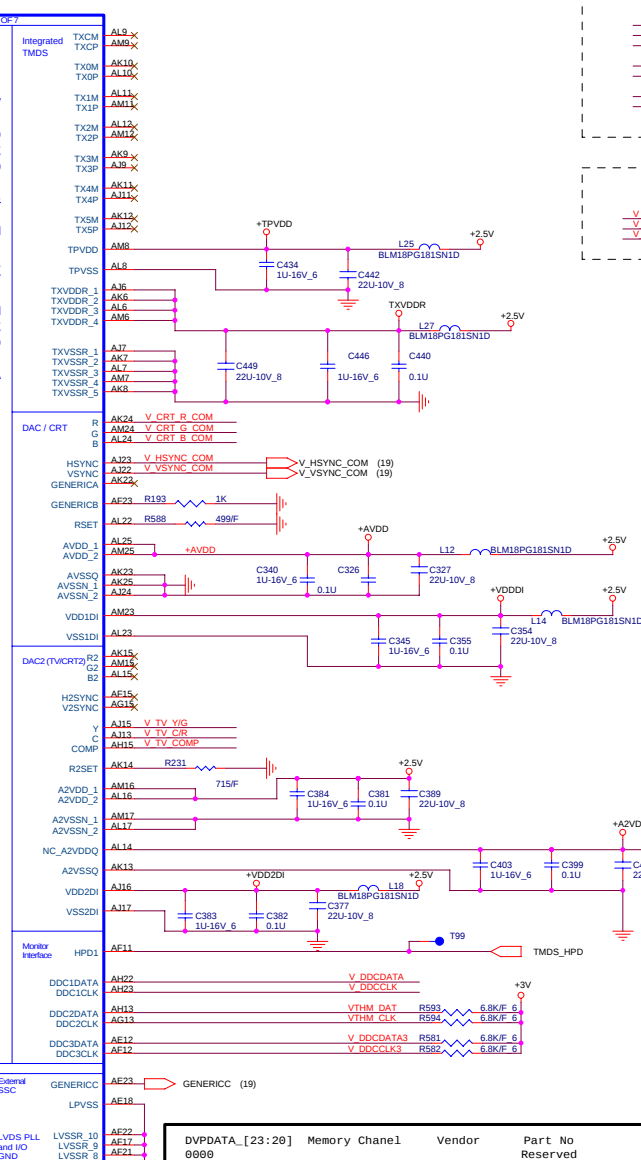
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U10



VIDEO & MULTIMEDIA

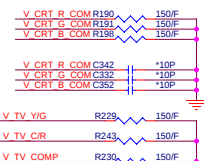


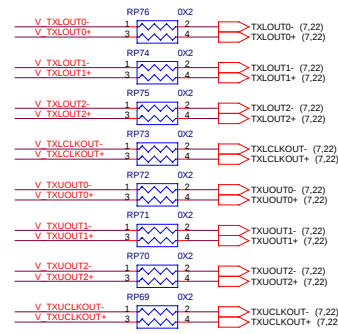
DVPDATA_ [23:20]	Memory Chane1	Vendor	Part No	Package organized
0000			Reserved	
0001	A	Samsung	KJ3553230Q-BC20 256M(8Mx32)	GDDR3-136P 64M memory aperture
0010	B	Samsung	KJ3553230Q-BC20 256M(8Mx32)	GDDR3-136P 64M memory aperture
0011	A& B	Samsung	KJ3553230Q-BC20 256M(8Mx32)	GDDR3-136P 128M memory aperture
0100	A	Hynix	HY5RS573225AFP-2 256M(8Mx32)	GDDR3-136P 64M memory aperture
0101	B	Hynix	HY5RS573225AFP-2 256M(8Mx32)	GDDR3-136P 64M memory aperture
0110	A& B	Hynix	HY5RS573225AFP-2 256M(8Mx32)	GDDR3-136P 128M memory aperture
0111	A	Infineon	HY18H526321AF-12 256M(8Mx32)	GDDR3-136P 64M memory aperture
1000	B	Infineon	HY18H526321AF-12 256M(8Mx32)	GDDR3-136P 64M memory aperture
1001	A& B	Infineon	HY18H526321AF-12 256M(8Mx32)	GDDR3-136P 128M memory aperture
1010			Reserved	
1011			Reserved	
1100			Reserved	
1101	A	Infineon	HY18H512321AFL-20 512M(16Mx32)	GDDR3-136P 128M memory aperture
1110	B	Infineon	HY18H512321AFL-20 512M(16Mx32)	GDDR3-136P 128M memory aperture
1111	A& B	Infineon	HY18H512321AFL-20 512M(16Mx32)	GDDR3-136P 256M memory aperture

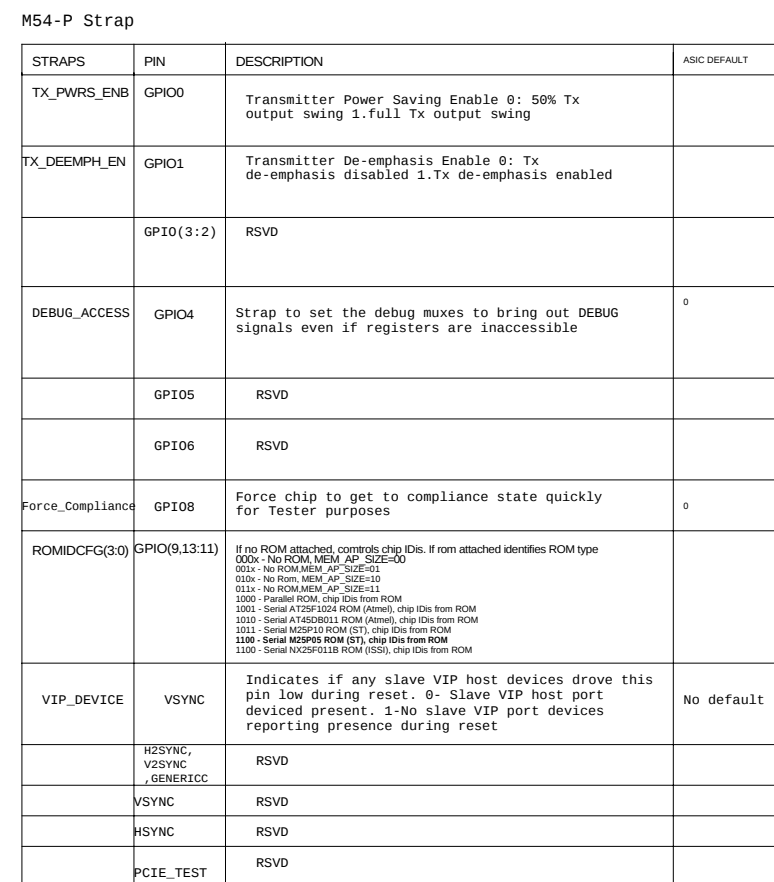
V CRT_R COM	R679	0	CRT_R_COM (7.23)
V CRT_G COM	R680	0	CRT_G_COM (7.23)
V CRT_B COM	R681	0	CRT_B_COM (7.23)
V HSYNC COM	R682	0	HSYNC_COM (7.23)
V VSYNC COM	R683	0	VSYNC_COM (7.23)
V DDCDATA	R684	0	DDCDATA (7.23)
V DDCCLK	R685	0	DDCCLK (7.23)

V TV Y/G R638 0 TV_Y/G (7,23,37)
V TV C/R R639 0 TV_C/R (7,23,37)
V TV COMP R637 0 TV_COMP (7,23,37)

PLACE CLOSE TO ASIC





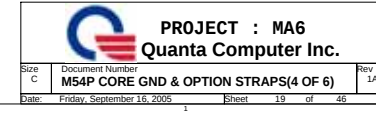


REV. 0.3

STRAPS	PIN	DESCRIPTION	VALUE
MEMTYPE(1:0)	DVALID, PSYNC.	Memory connected to R420 identification for BIOS 00 - Samsung GDDR 3 memory 144 Ball BGA package 01 - TBD 10 - TBD 11 - TBD	000
DC_Strap1	GPIO(10)	Internal TMD5 Enabled 0 - Disabled 1 - Enabled	1
DC_Strap2	LCDDATA(13)	Video Capture Enabled 0 - Disabled 1 - Not detected	0
DC_Strap3	LCDDATA(14)	HDTV out detect 0 - Detected 1 - Enabled	1
DC_Strap4, DEMUX_SEL	LCDDATA(15,19)	Video capture enable 00 - DAC2 Off 01 - DAC2 On as CRT 10 - DAC2 On as TVOUT 11 - DAC2 On as TVOUT and CRT	01
PAL/NTSC	LCDDATA(18)	TVO Standard Default (Resistor pull-up and switch short to GND) 0 - PAL (on board resistor pull-down and switch closed) 1 - NTSC (on board resistor pull-up)	1

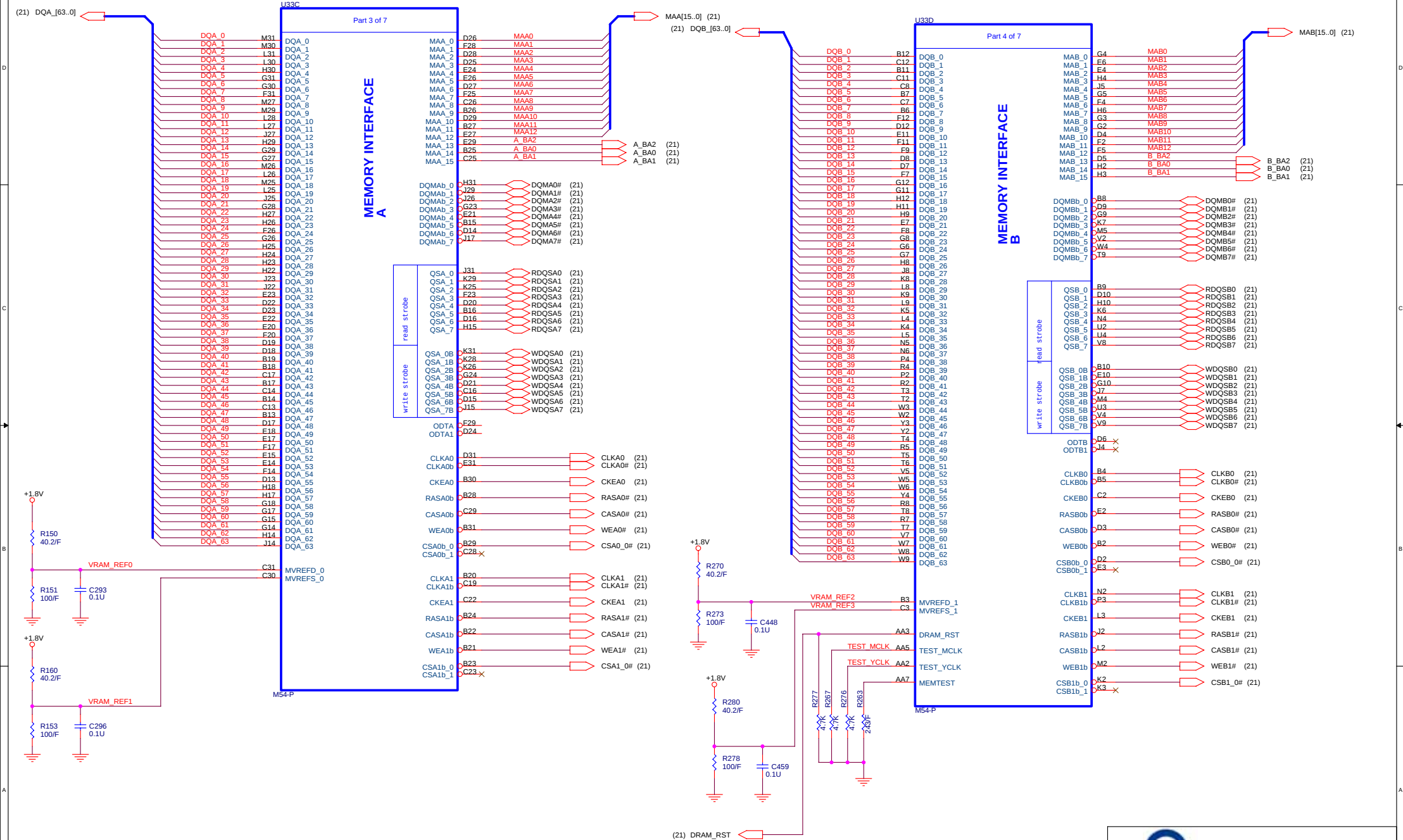
REF ID	Vendor	Part No	Package organized
00	Samsung	K4J553230G-BC20	256M(8Mx32) GDDR3
01	Samsung	K4J532340C-BC20	512M(16Mx32) GDDR3
10	Infineon	HYB18H256321AF-12	256M(8Mx32) GDDR3
11	Infineon	HYB18H512321AFL-20	512M(16Mx32) GDDR3
	Hynix	HY5RS123235F-	512M(16Mx32) GDDR3

```
Memory Aperture Size Select
When no ROM is attached, GPIO[9] is set to 0.
GPIO[13:12] is used to select the memory aperture
size.
GPIO[13:12] = 00: 128M memory aperture, same as ROM
strap 00
GPIO[13:12] = 01: 256M memory aperture, same as ROM
strap 01
GPIO[13:12] = 10: 64M memory aperture, same as ROM
strap 10
GPIO[13:12] = 11: reserved, same as ROM strap 11
```



Channel A **RV410 MEMORY CHANNELS A and B**

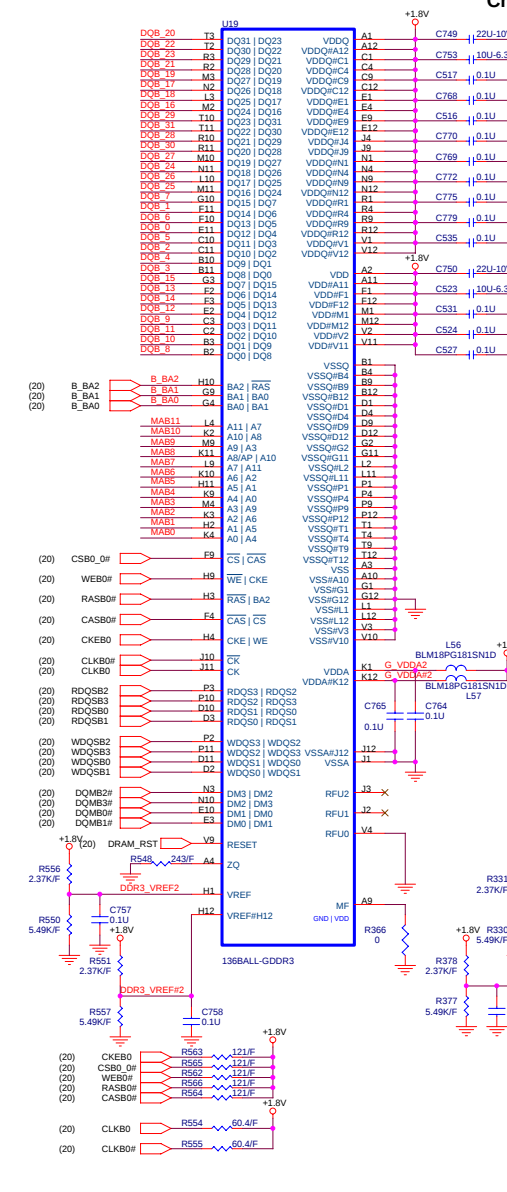
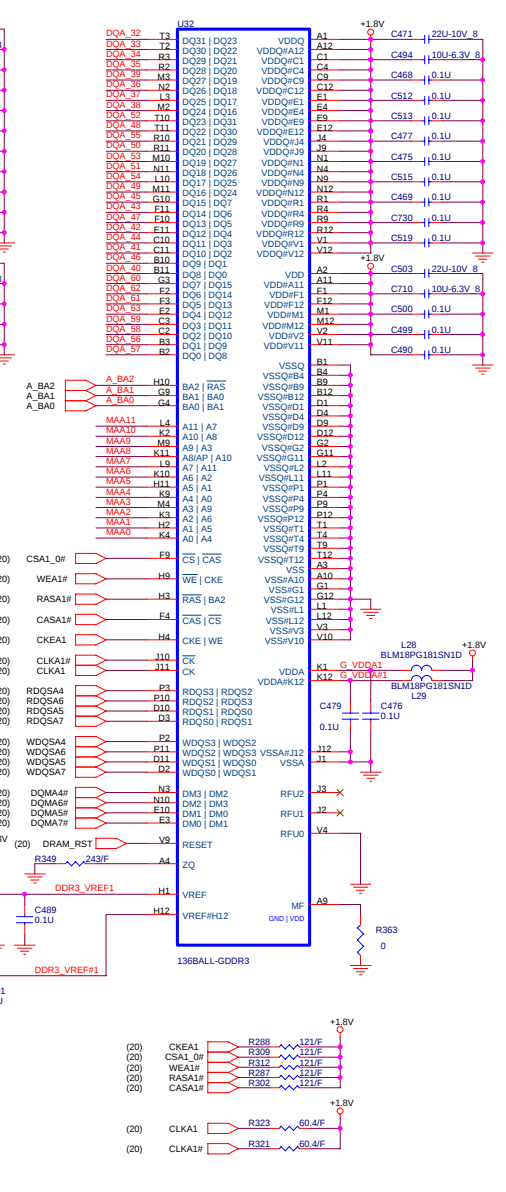
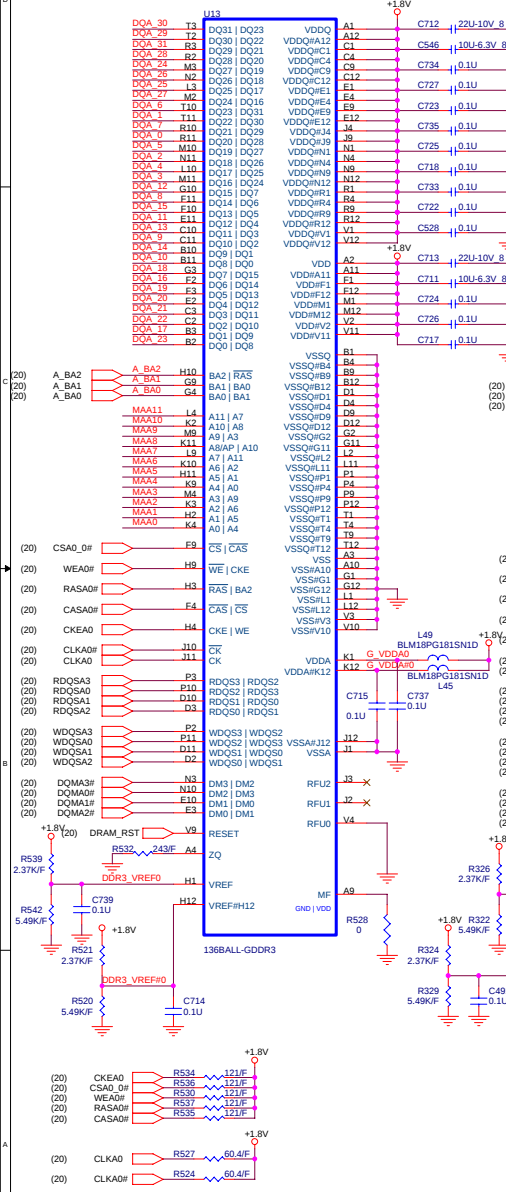
Channel B



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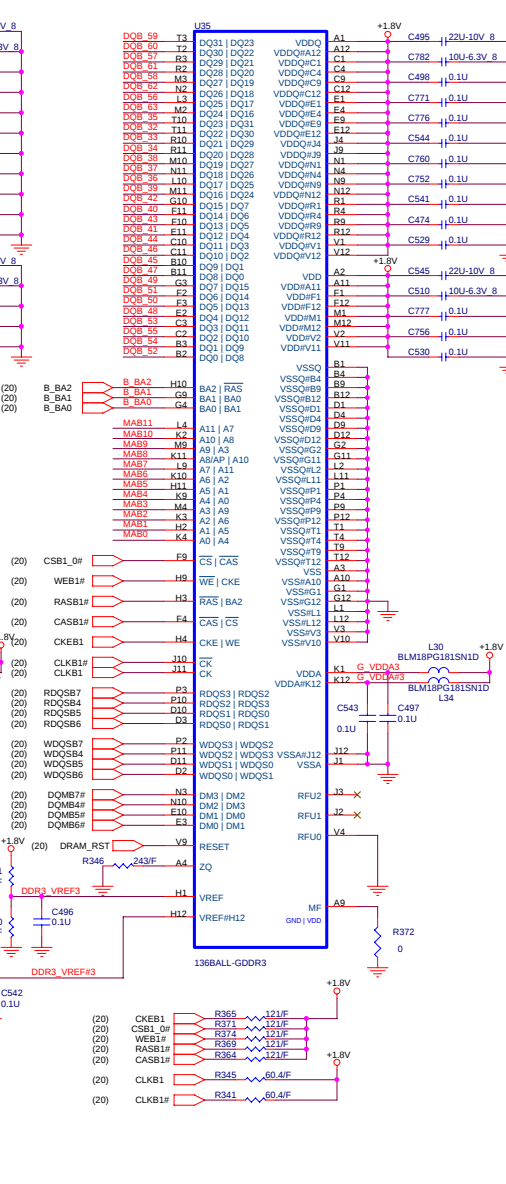
(20) MAA[15..0] MAA[15..0]
(20) DQA[63..0] DQA[63..0]

Channel A

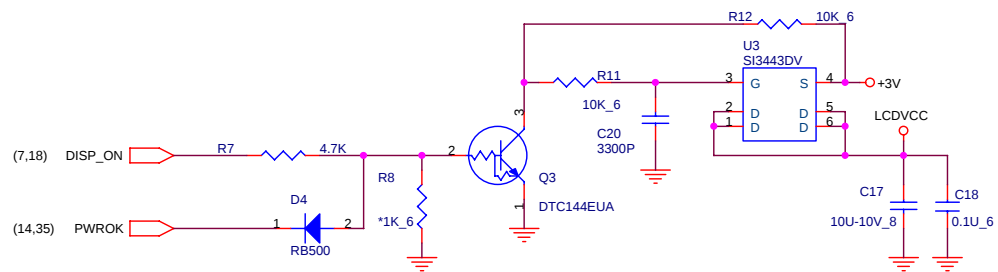


(20) MAB[15..0] MAB[15..0]
(20) DQB[63..0] DQB[63..0]

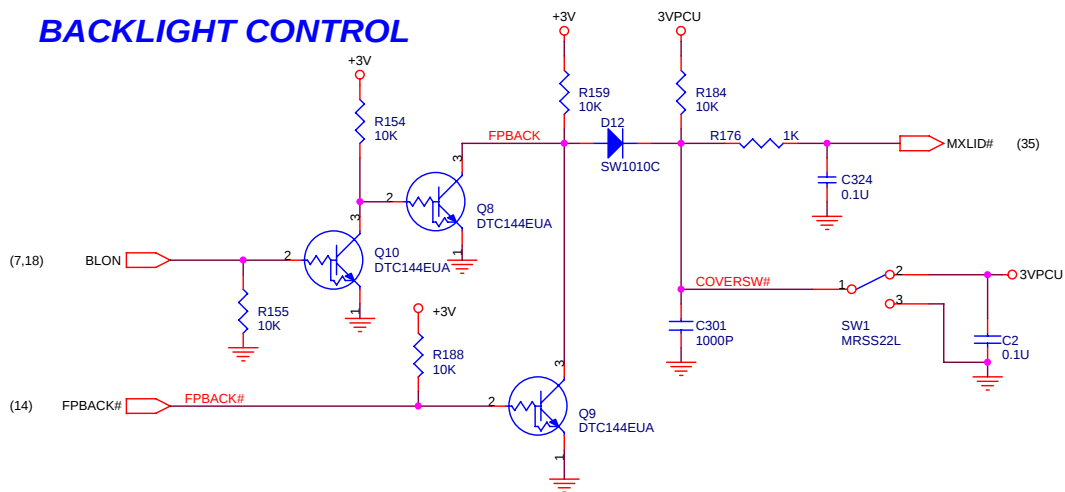
Channel B



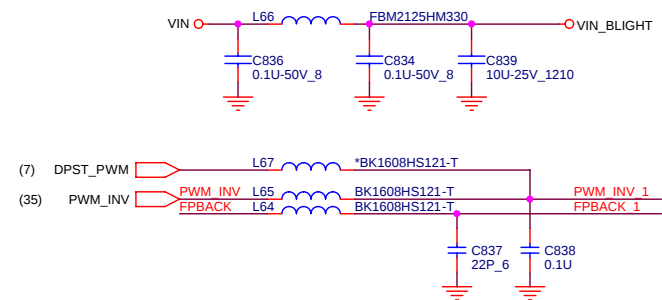
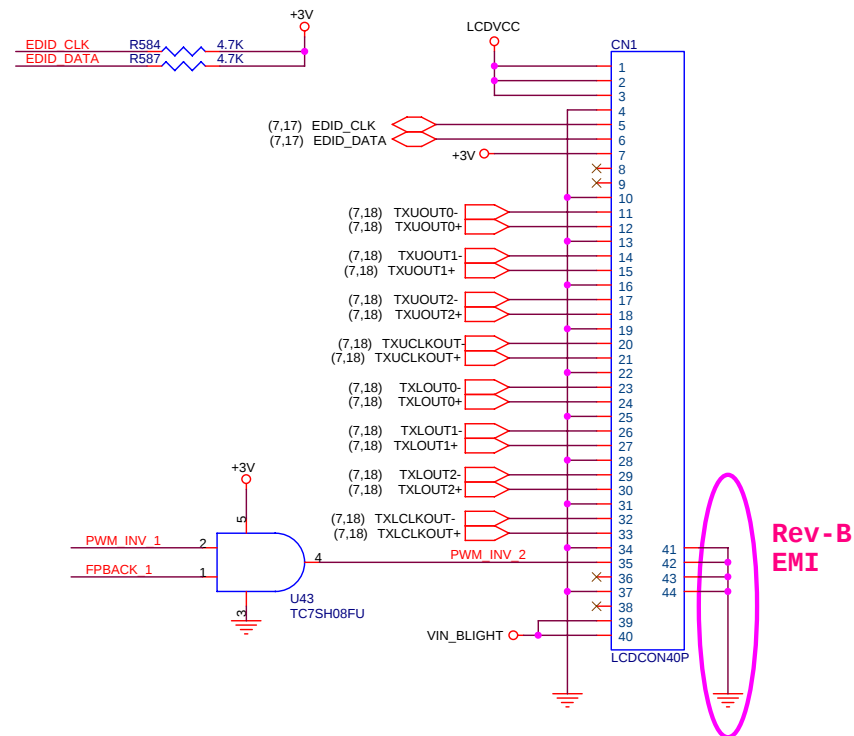
PANEL VCC CONTROL



BACKLIGHT CONTROL



LCD CONNECTOR

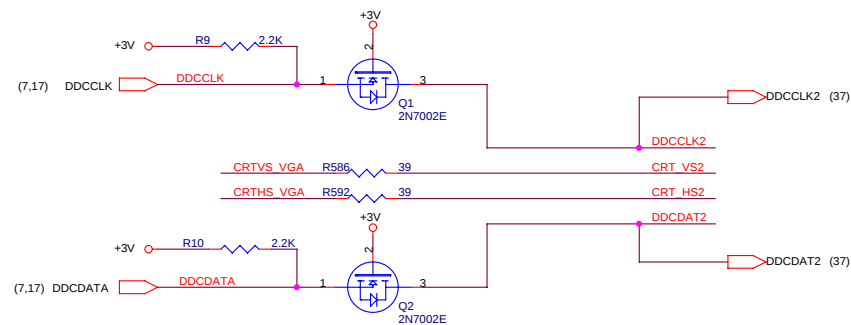
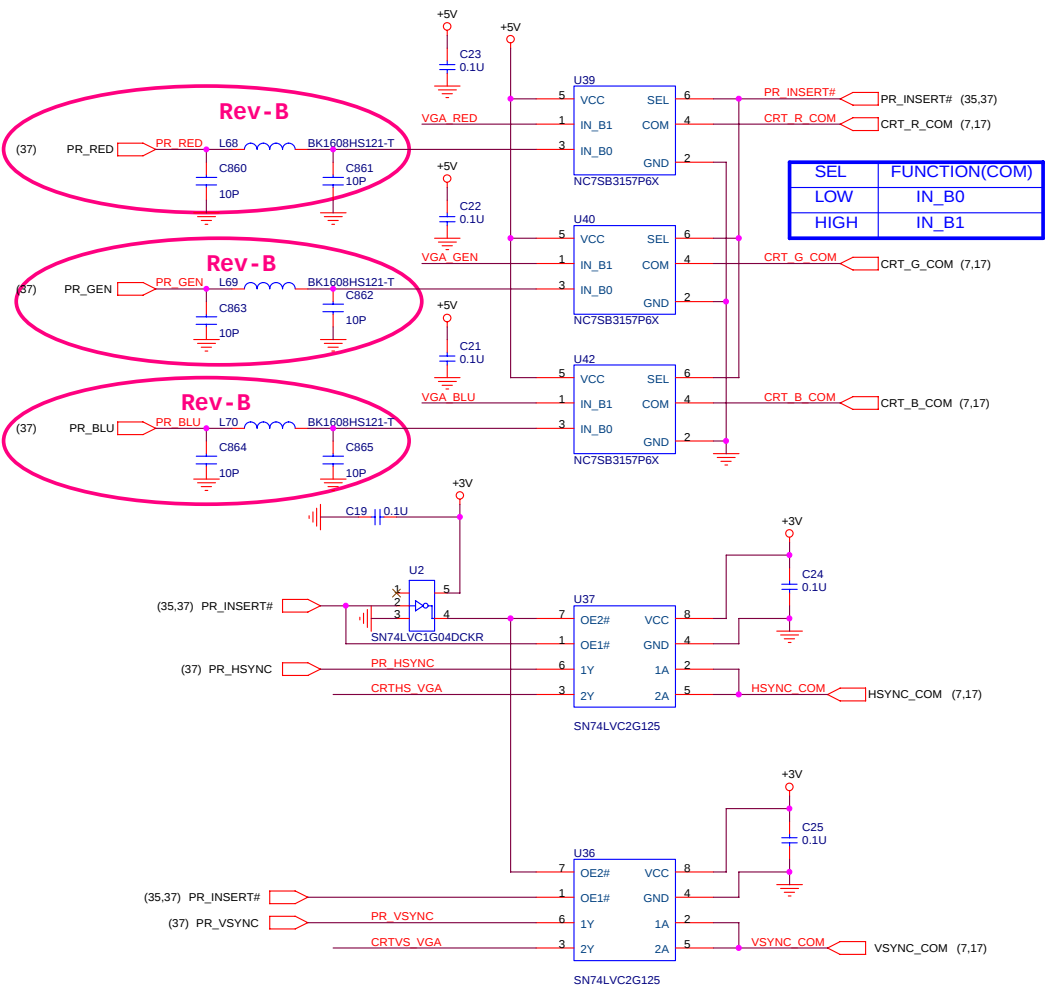


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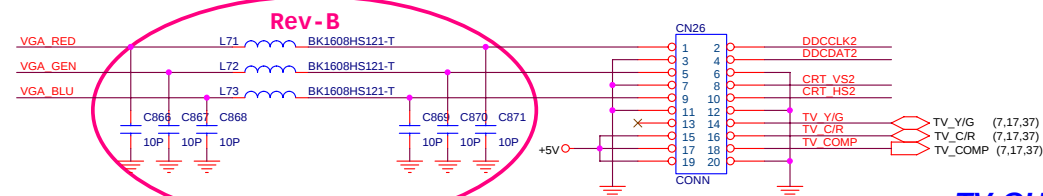
Size B	Document Number LCD CONN	Rev 1A
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CRT SWITCH



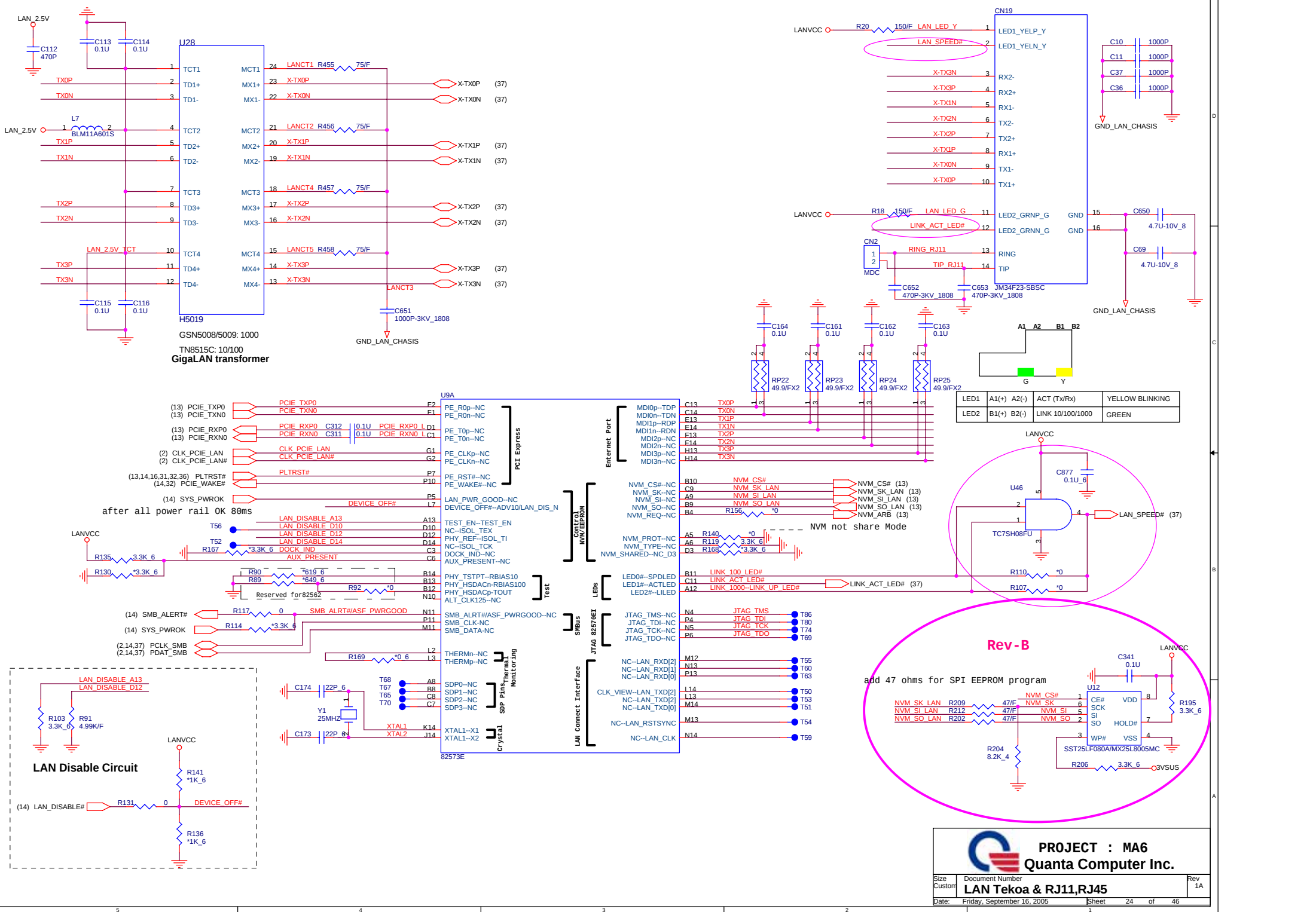
CRT PORT

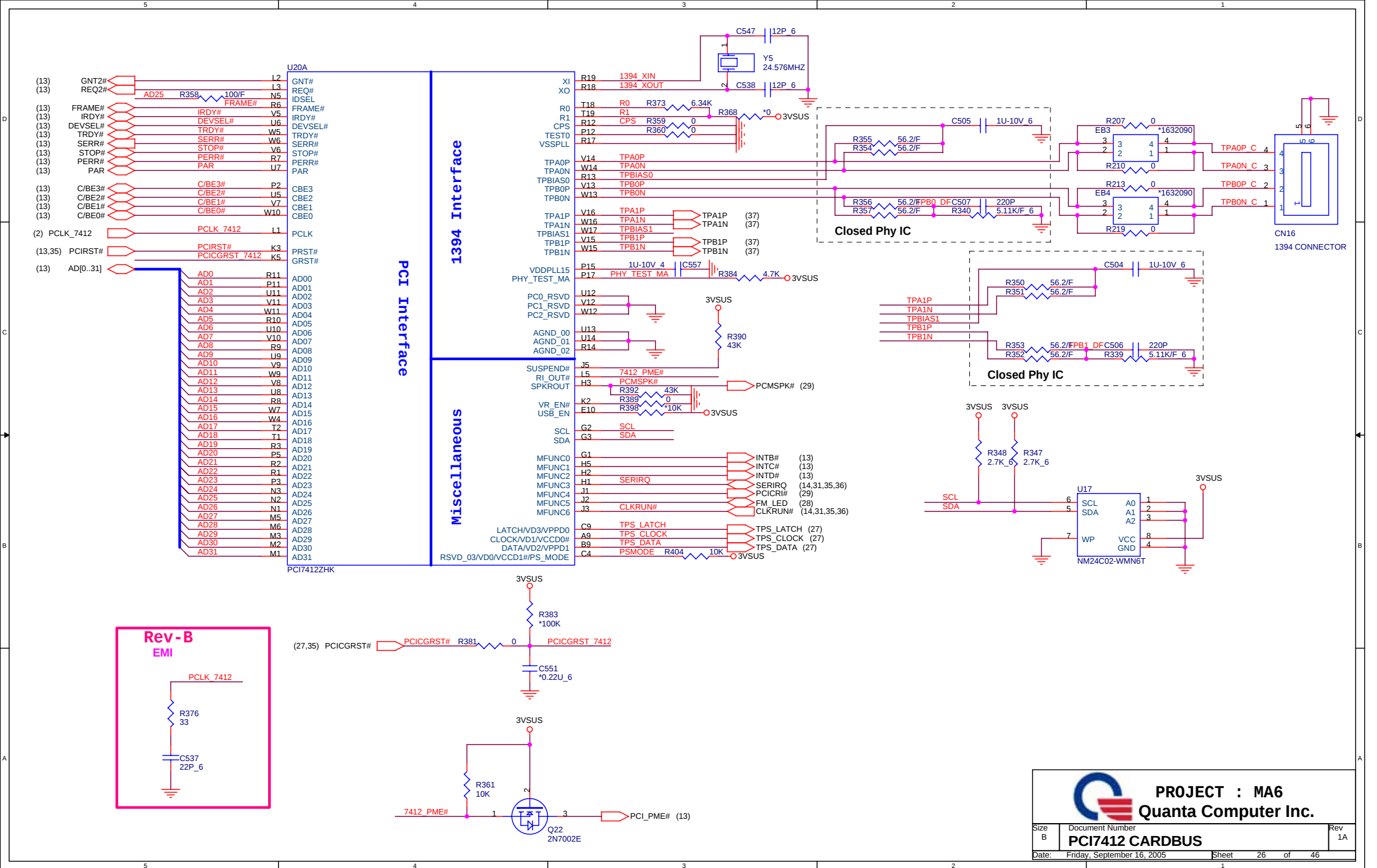


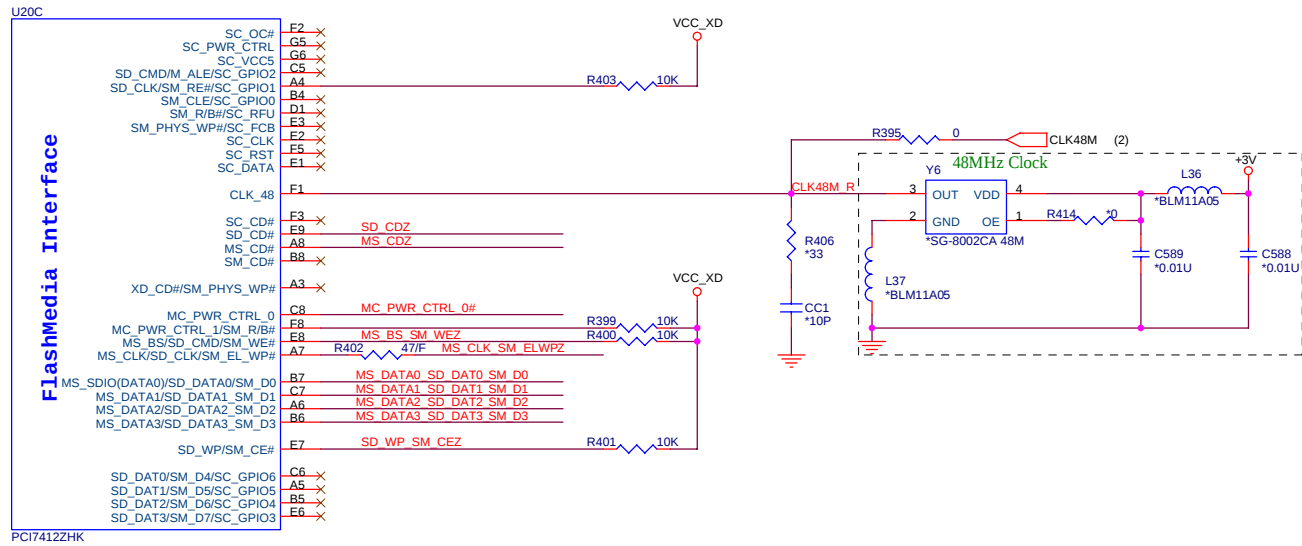
TV-OUT



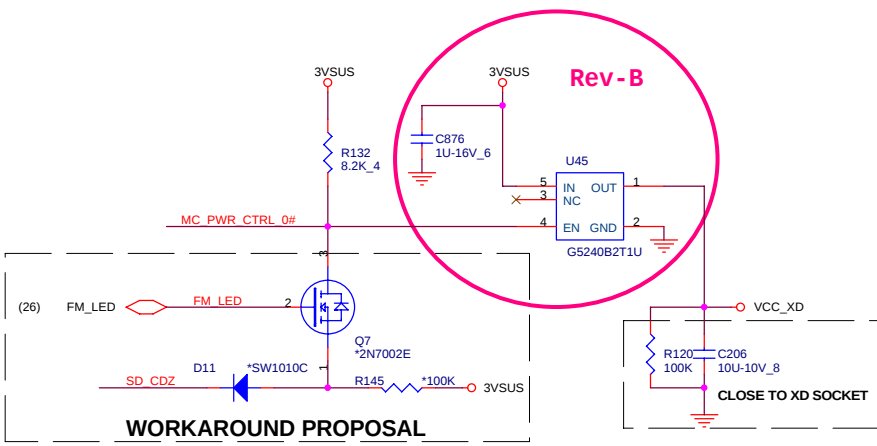
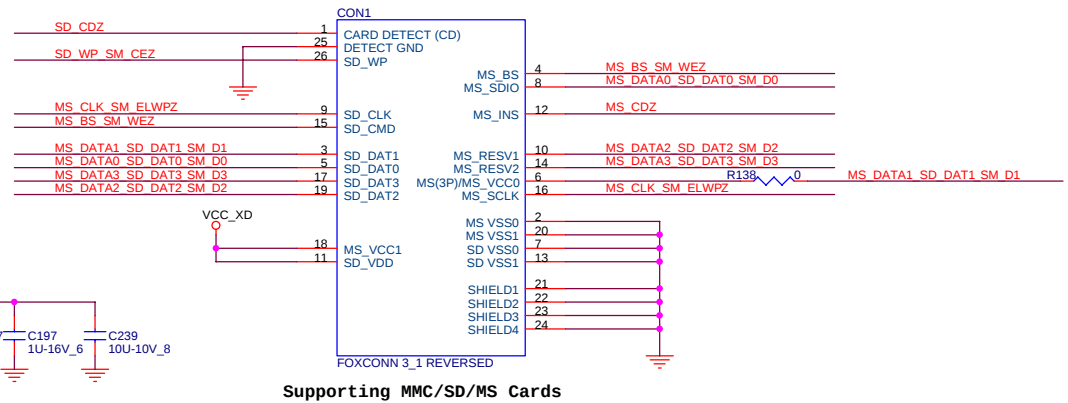
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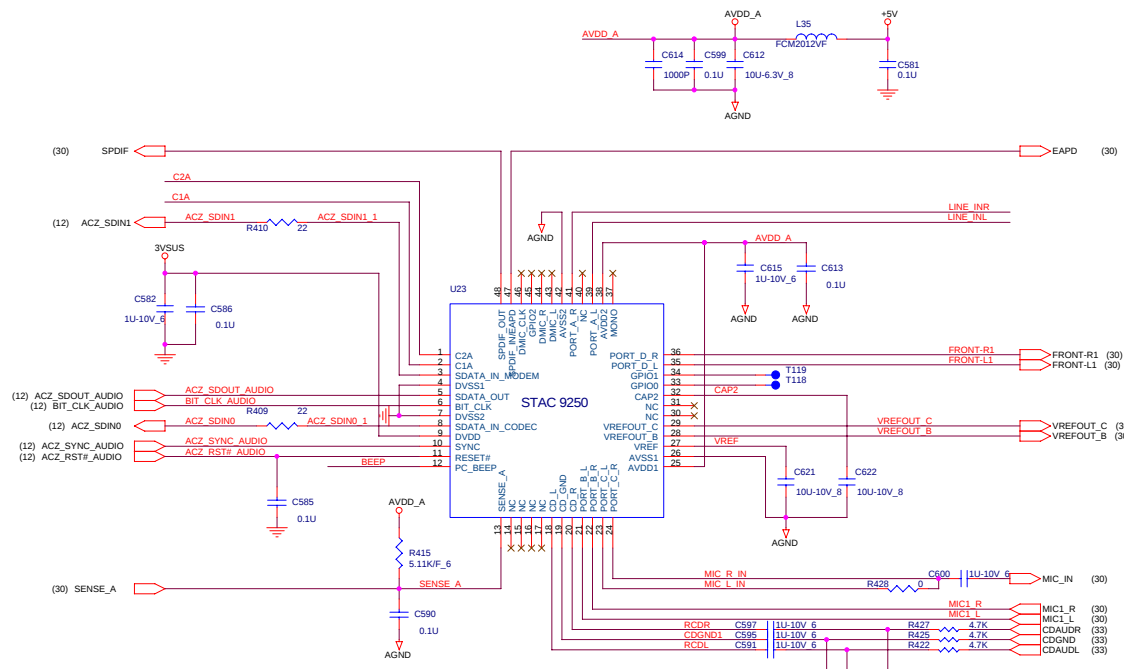




3 IN1 CARD READER



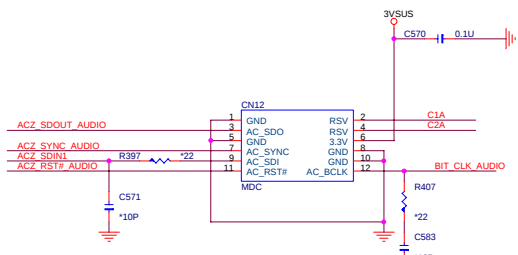
PROJECT : MA6
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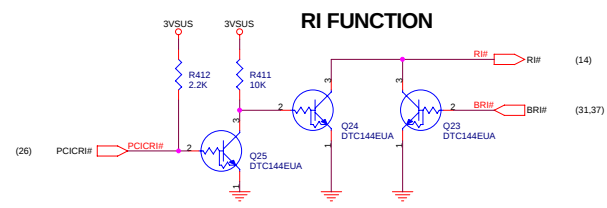
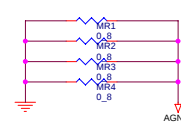
speakers

Internal MIC

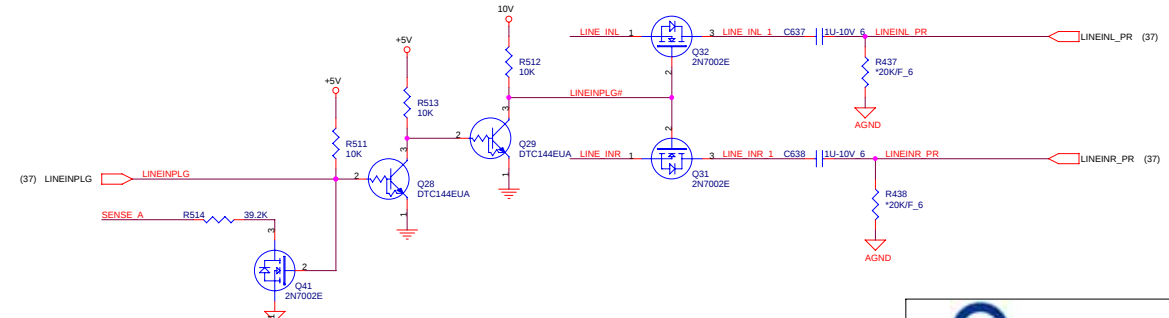
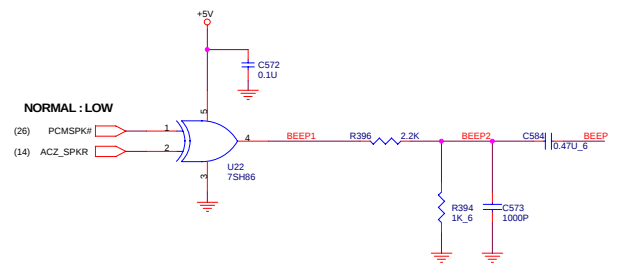
External MIC



For MDC/DAA Module

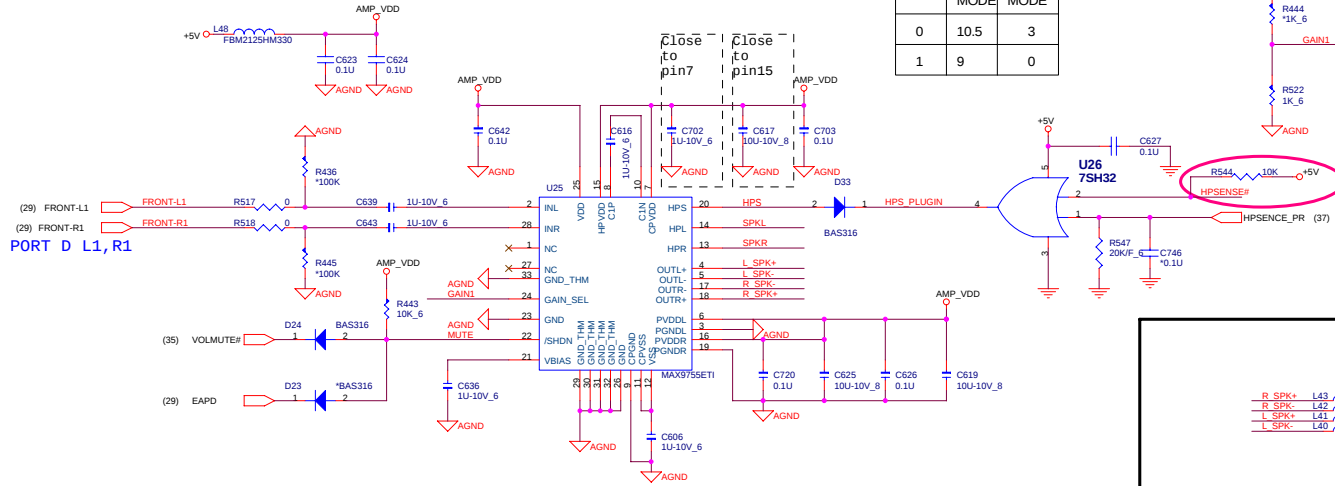


PC BEEP CONTROL

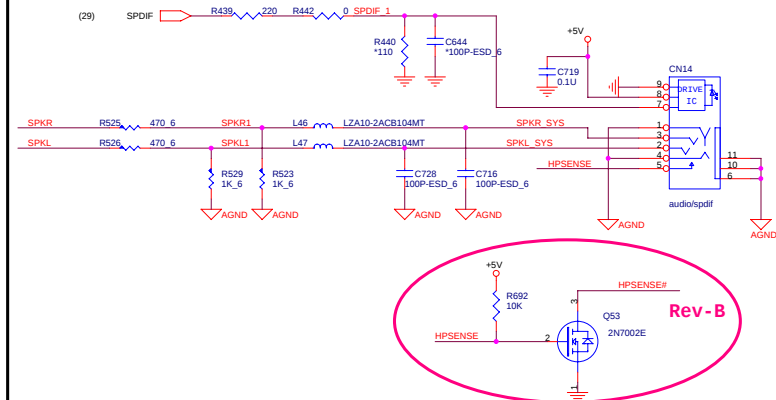


AUDIO AMPLIFIER-MAX9755

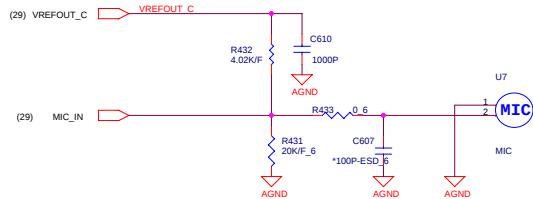
GAIN1	SPKR MODE	HP MODE
0	10.5	3
1	9	0



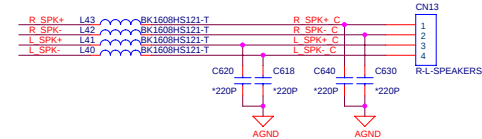
Headphone out



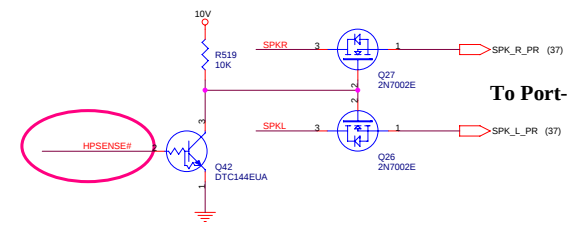
INT. Mic



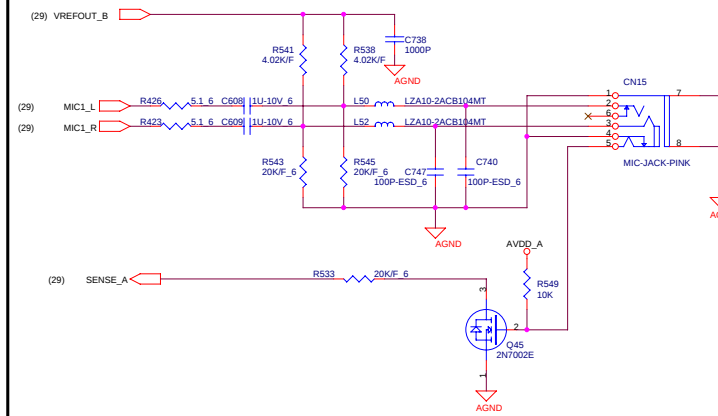
Int. Stereo Speakers



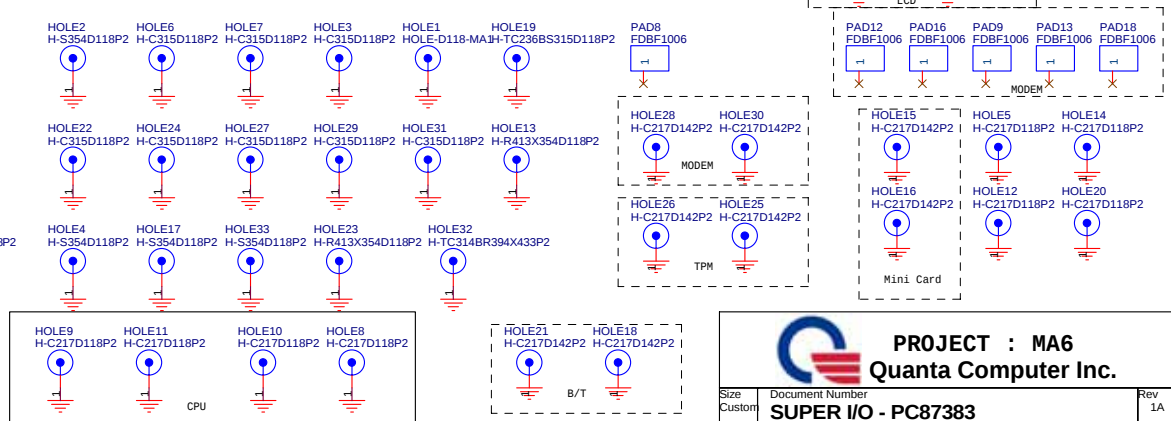
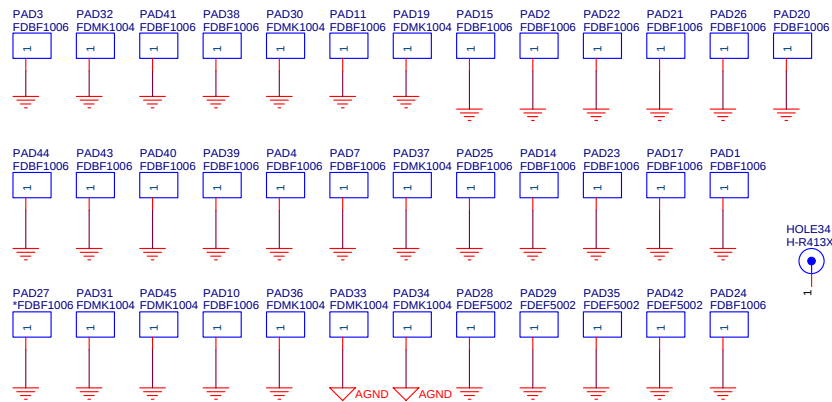
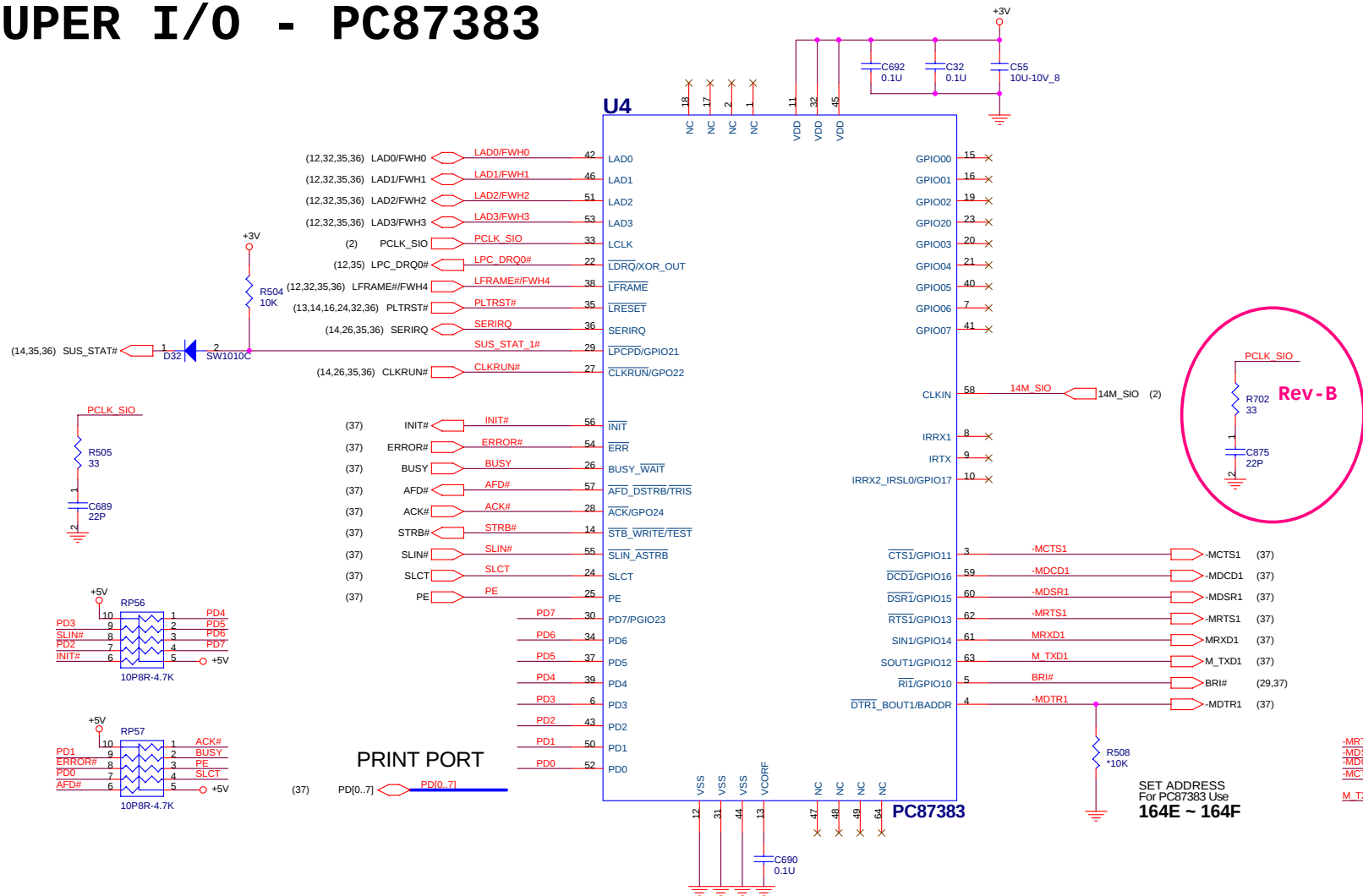
To Port-Replicator



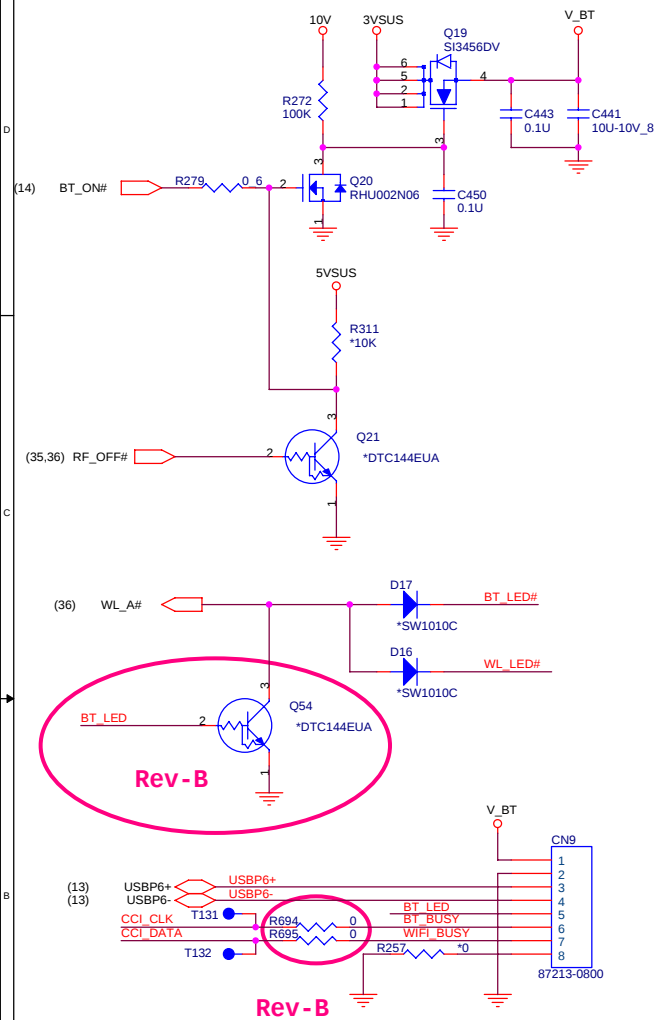
Mic in



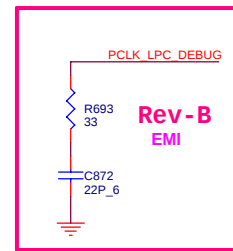
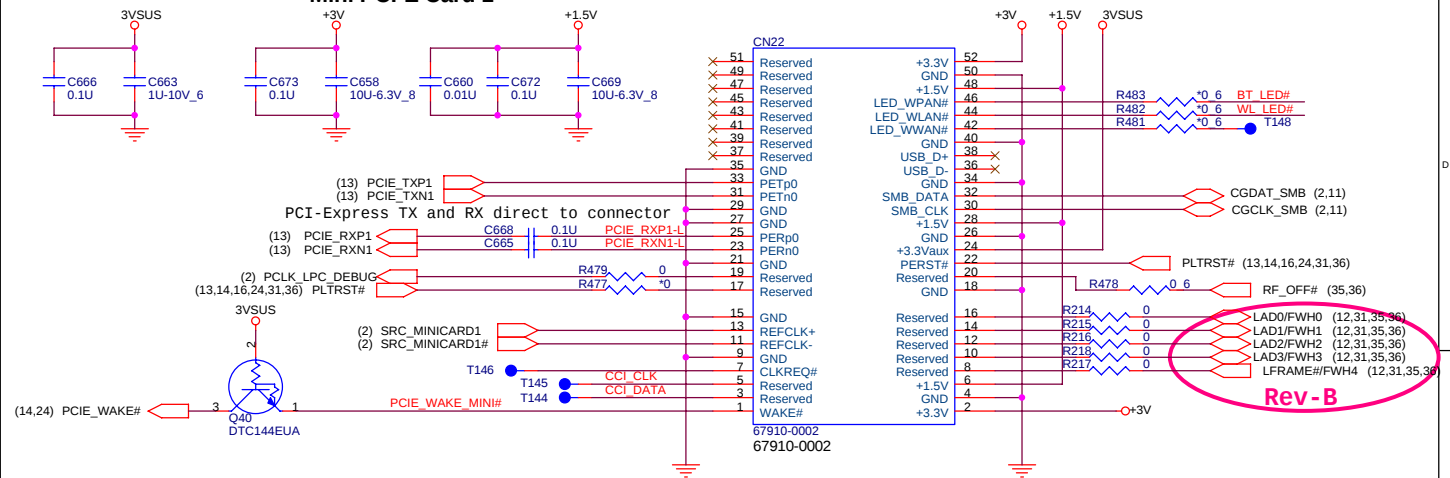
SUPER I/O - PC87383



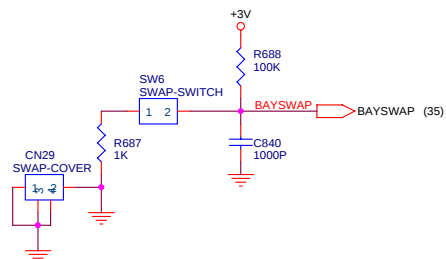
BLUETOOTH CONNECTOR



Mini PCI-E Card 1



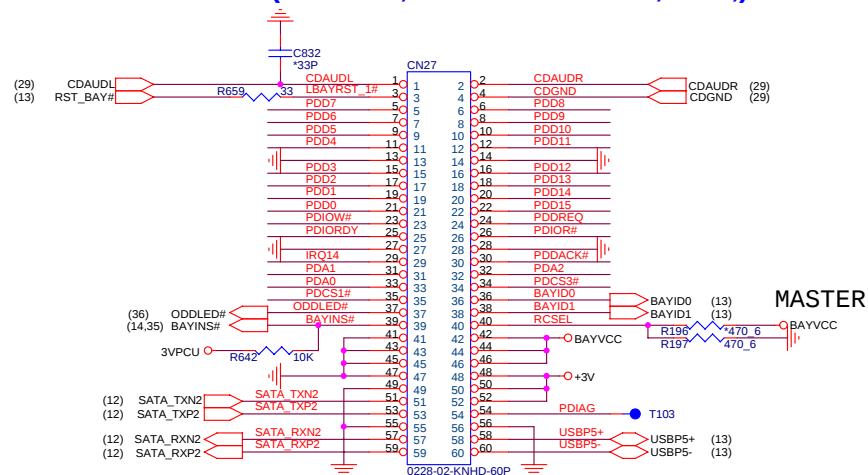
- (12) PDD[0..15] PDD[0..15]
- (12) PDDREQ PDDREQ
- (12) PDIOW# PDIOW#
- (12) PDIOR# PDIOR#
- (12) PDIORDY PDIORDY
- (12) PDDACK# PDDACK#
- (12) IRQ14 IRQ14
- (12) PDA1 PDA1
- (12) PDA0 PDA0
- (12) PDCS1# PDCS1#
- (12) PDA2 PDA2
- (12) PDCS3# PDCS3#



Del Q11

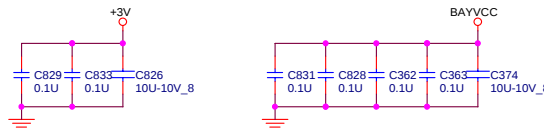
Rev-B

LEFT BAY(CD-ROM, HDD-PATA/SATA, FDD,)



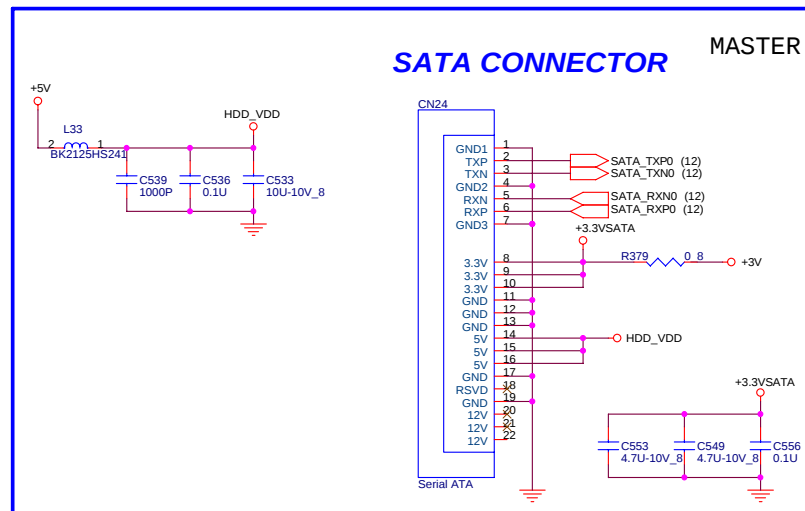
LBAY ID STATUS

LEFT BAYID1	LEFT BAYID0	STATUS
0	0	HDD (PATA)
0	1	ODD
1	0	HDD (SATA)
1	1	

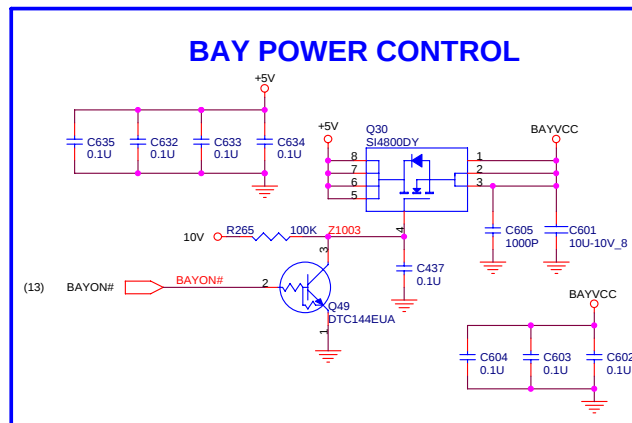


SATA CONNECTOR

MASTER

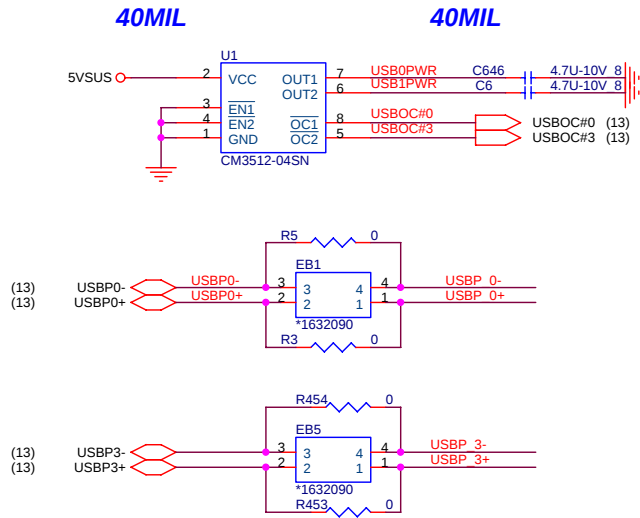


BAY POWER CONTROL

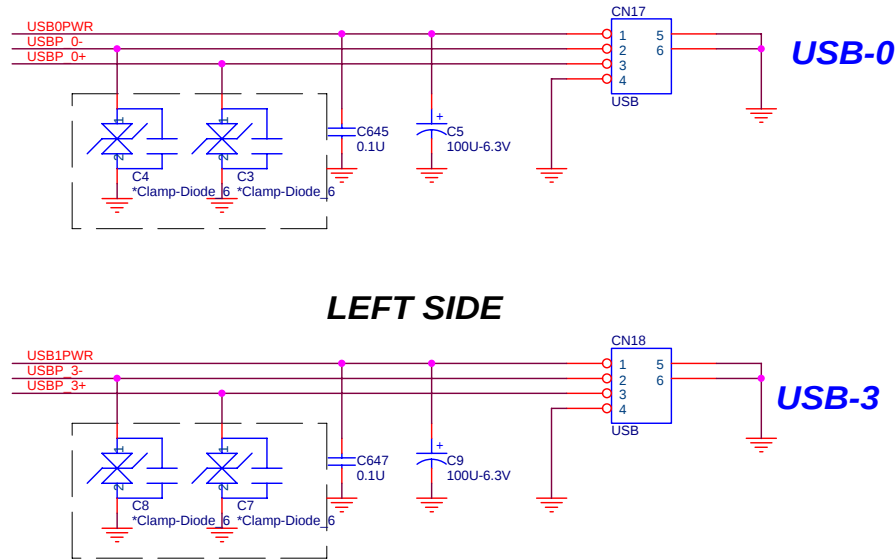


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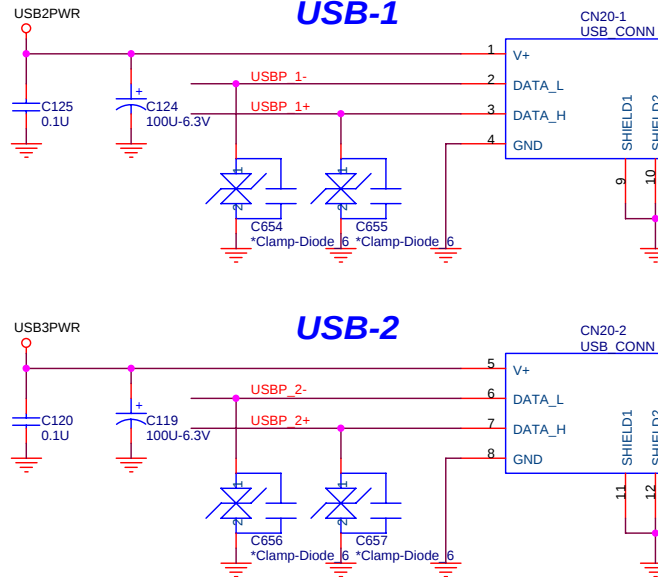
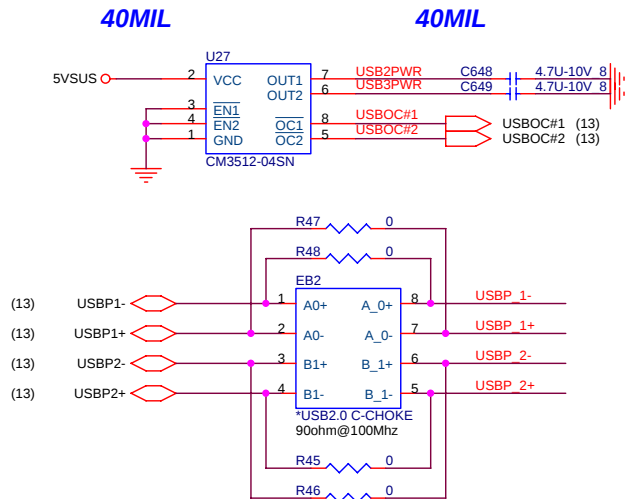
LEFT SIDE



LEFT SIDE



USB-1

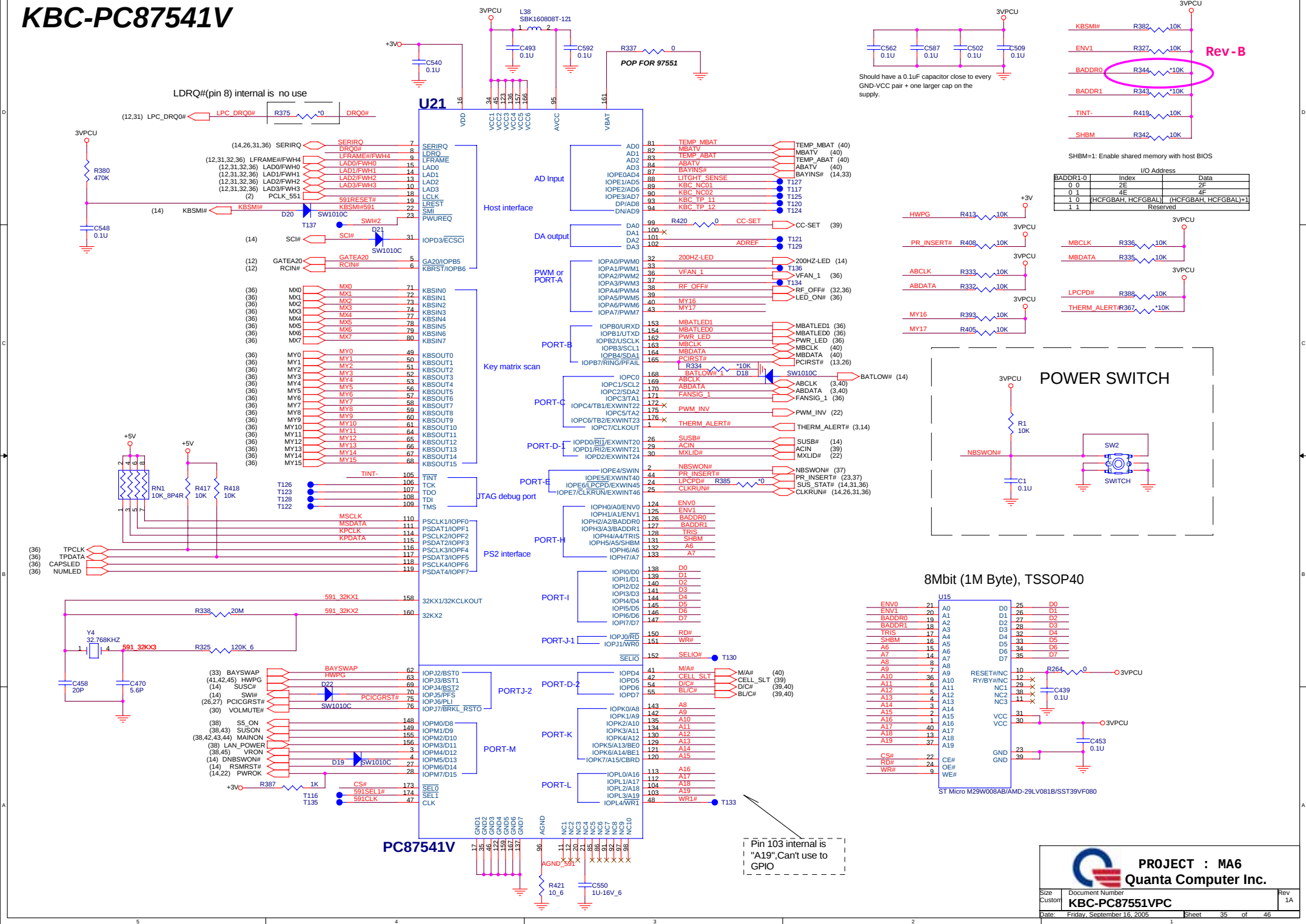


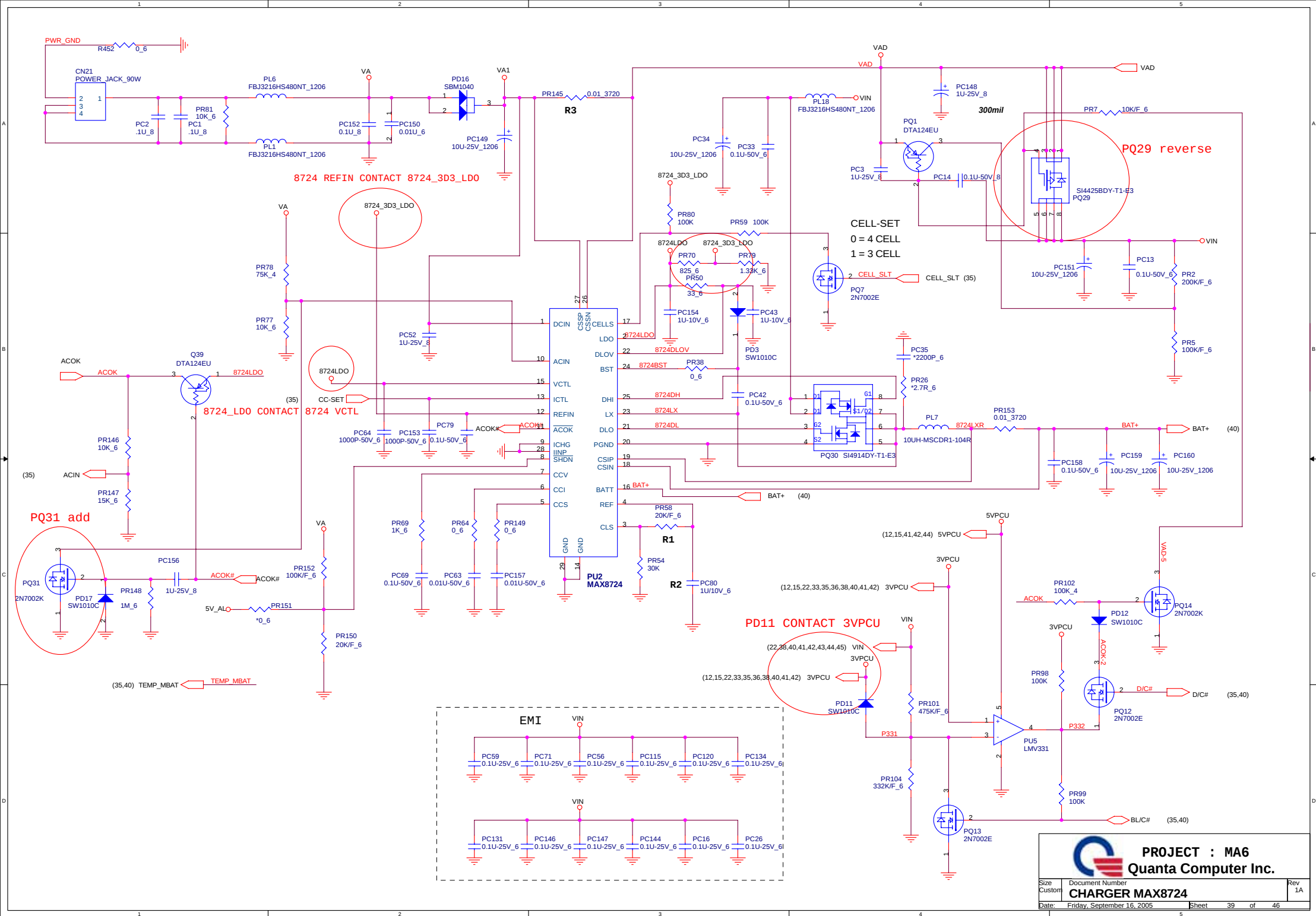
(27,32,37,38,41,43) 5VSUS

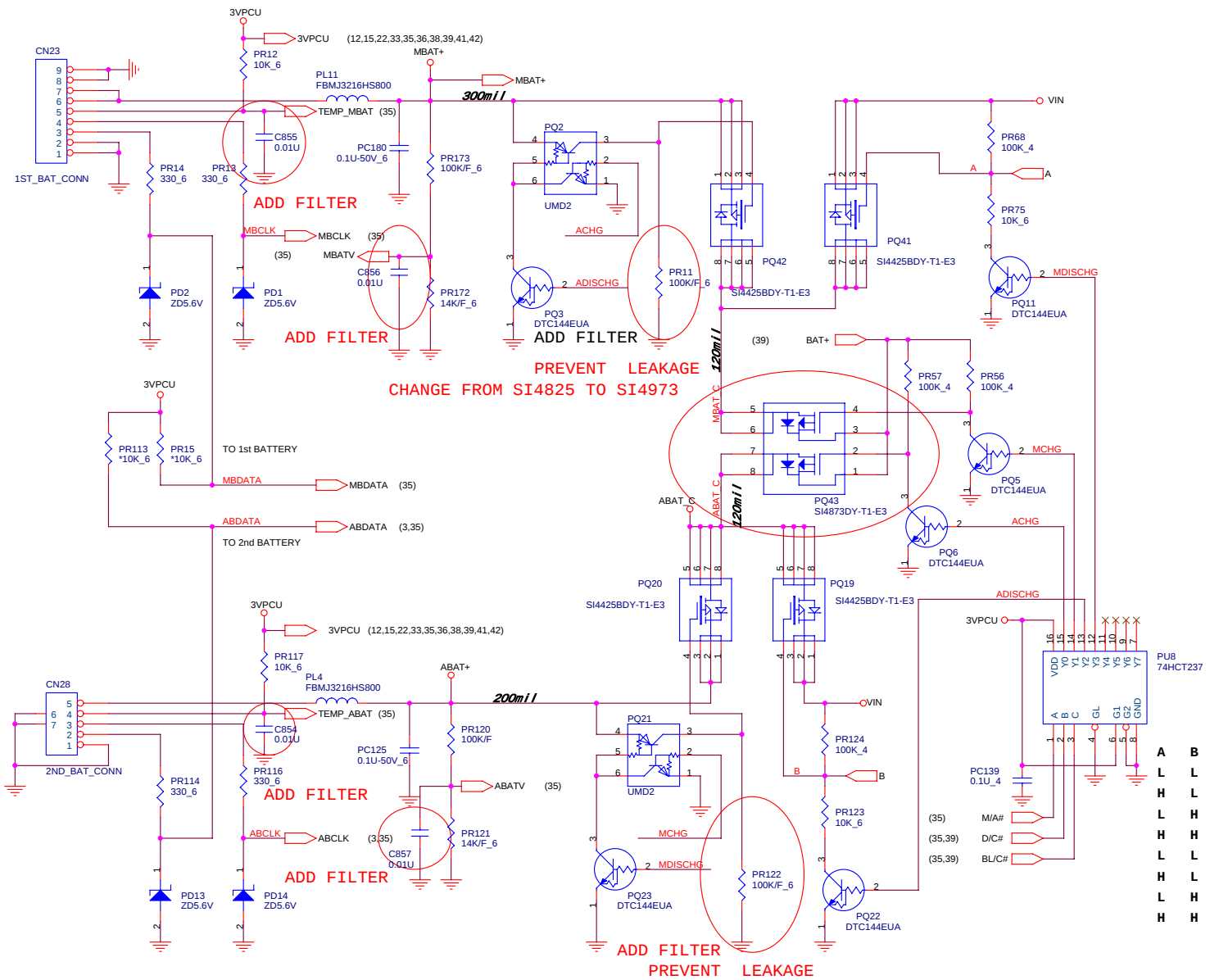


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KBC-PC87541V







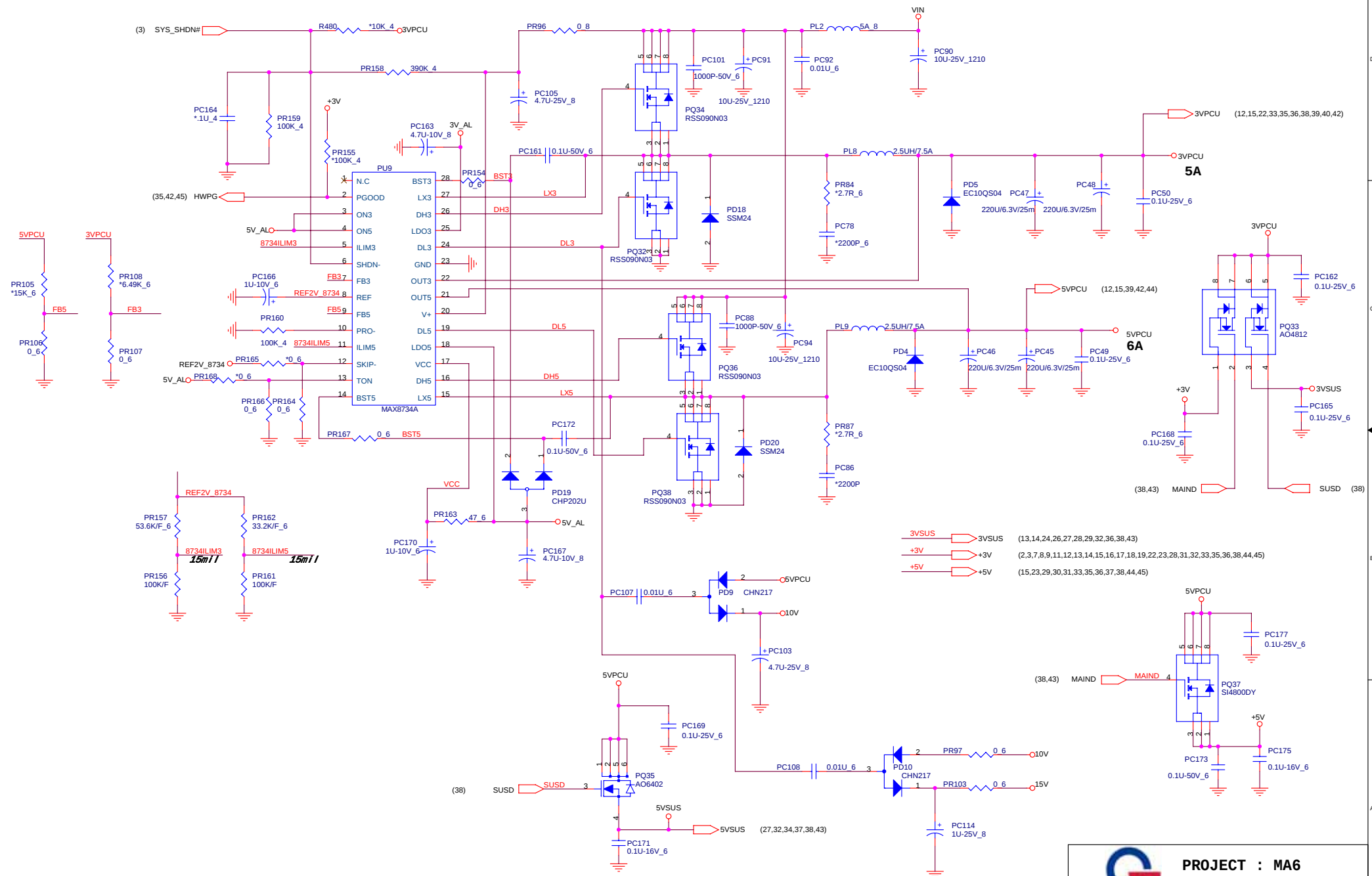
	A	B	C	Y0	Y1	Y2	Y3
L	L	L	L	H	L	L	L
H	L	L	L	L	H	L	L
L	H	L	L	L	L	H	L
H	H	L	L	L	L	L	H
L	L	H	L	L	L	L	L
L	L	H	L	L	L	L	L
H	H	H	L	L	L	L	L



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Size	Document Number	Rev
Custom	BATT SELECTER	1A
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DC-DC (MAX8734A)



1.5V/ 6A

Ra

Rb

$$V_{out} = (1 + R_a/R_b) * 1$$

1.05V/ 11A

$$V_{out} = (1 + R_c/R_d) * 1$$

2.5V
1.1A

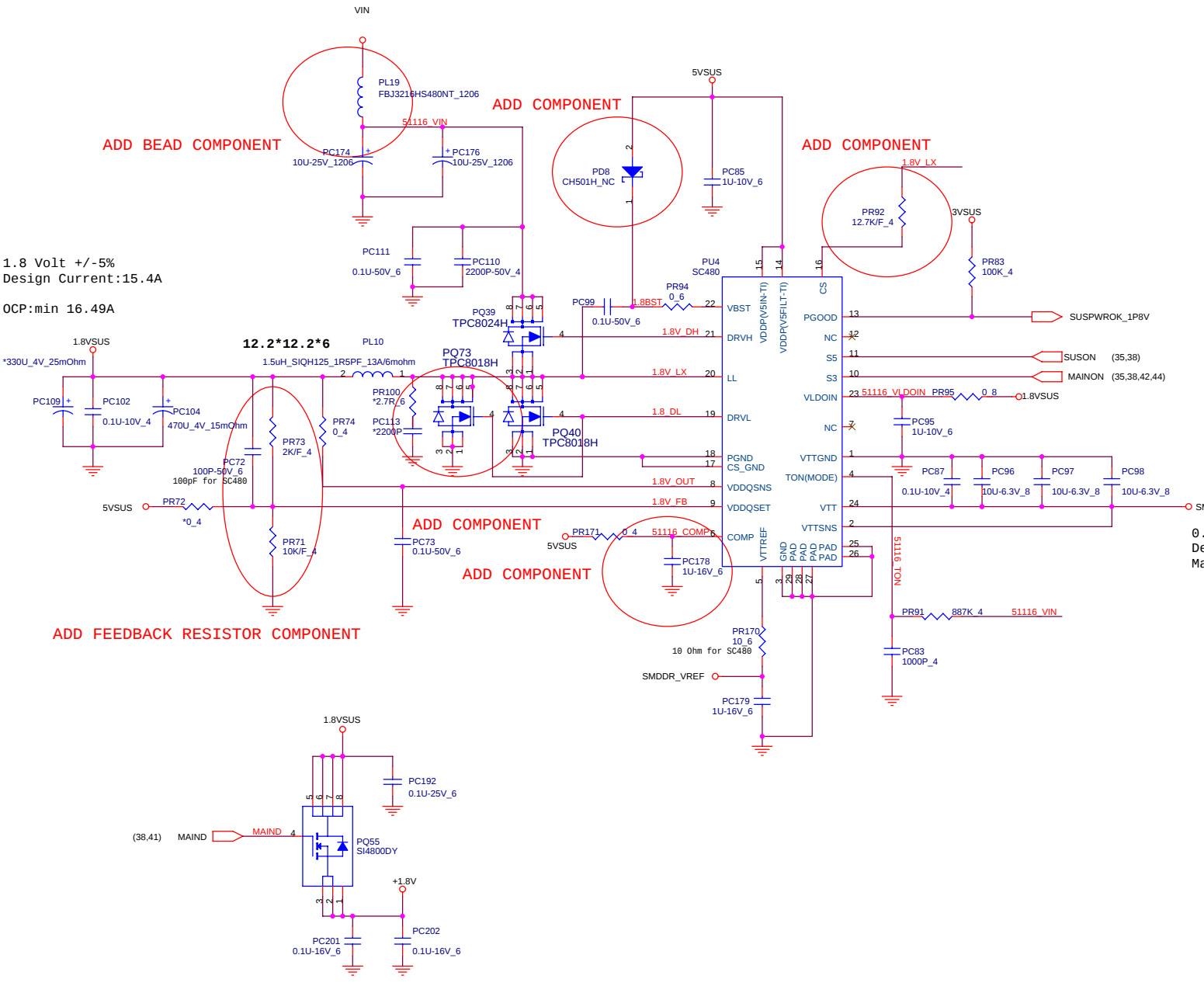
S0

$$V_o = 0.8 (R_1 + R_2) / R_2$$



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Size	Custom	Document Number	MAX8743 1.5VS_5/+1.05V/2.5V	Rev	1A
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1.8 Volt +/-5%
Design Current:15.4A
OCP:min 16.49A

0.9 Volt +/-5%
Design Current:1.2A
Maximum Current: 1.5A

IMVP Spec. Rev. 0.8

(Nom.)	Yonah-2M	Meron
HFM	1.2875 V	1.1500 V
LFM	0.8375 V	0.8375 V
Deeper	0.7625 V	0.7625 V
VBOOT	1.2000 V	1.2000 V
SLOPE	-2.1 mV/A	-2.1 mV/A

(Max.)	Yonah-2M	Meron
HFM	36 A	44 A
LFM	9.5 A	12.5 A
Deeper	3.5 A	5.5 A
Dynamic	27 A	34.5 A
TDC	26 A	32 A

Vo	VID6	VID5	VID4	VID3	VID2	VID1	VID0
1.5000	0	0	0	0	0	0	0
1.4375	0	0	0	0	1	0	1
1.4000	0	0	0	1	0	0	0
1.3000	0	0	1	0	0	0	0
1.2875	0	0	1	0	0	0	1
1.2000	0	0	1	1	0	0	0
1.1500	0	0	1	1	1	0	0
1.1000	0	1	0	0	0	0	0
1.0000	0	1	0	1	0	0	0
0.9625	0	1	0	1	0	1	1
0.9000	0	1	1	0	0	0	0
0.8375	0	1	1	0	1	0	1
0.8000	0	1	1	1	0	0	0
0.7625	0	1	1	1	0	1	1
0.7500	0	1	1	1	1	0	0
0.7000	1	0	0	0	0	0	0
0.6000	1	0	0	1	0	0	0
0.5000	1	0	1	0	0	0	0
0.3000	1	1	0	0	0	0	0

CCM : Continuous Conduction Mode
DCM : Dis-Continuous Mode

