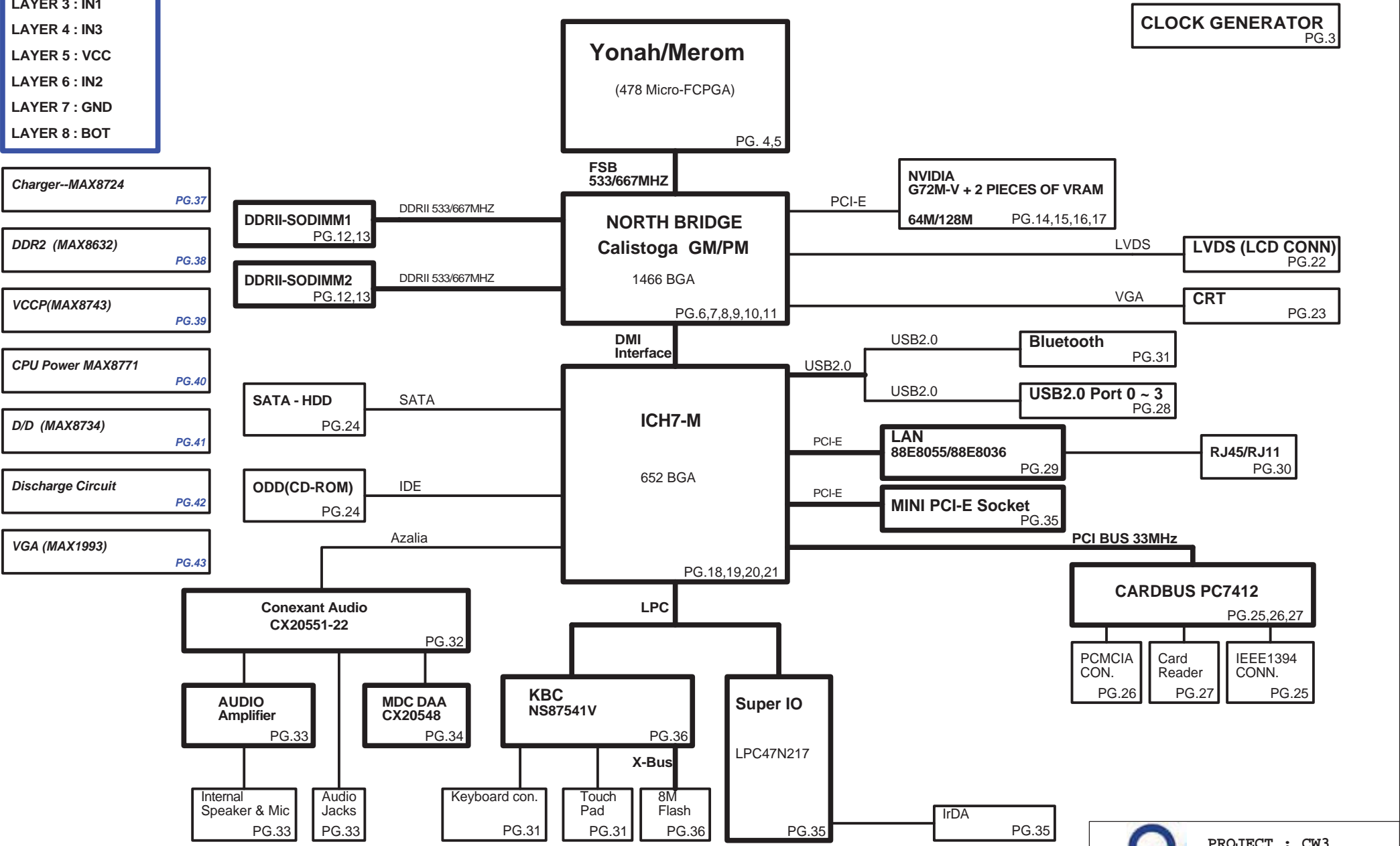


PCB STACK UP

- LAYER 1 : TOP
- LAYER 2 : GND
- LAYER 3 : IN1
- LAYER 4 : IN3
- LAYER 5 : VCC
- LAYER 6 : IN2
- LAYER 7 : GND
- LAYER 8 : BOT

CW3 BLOCK DIAGRAM

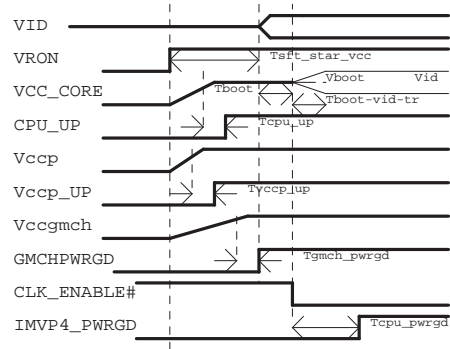


Board Stack up Description

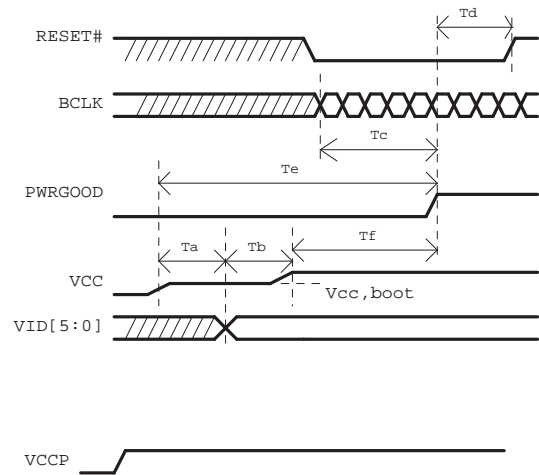
PCB Layers

Layer 1		TOP
Layer 2		GND
Layer 3		IN1
Layer 4		IN3
Layer 5		SVCC
Layer 6		IN2
Layer 7		GND
Layer 8		BOTTOM

Power On Sequencing Timing Diagram



YONAH Power-up Timing Specifications

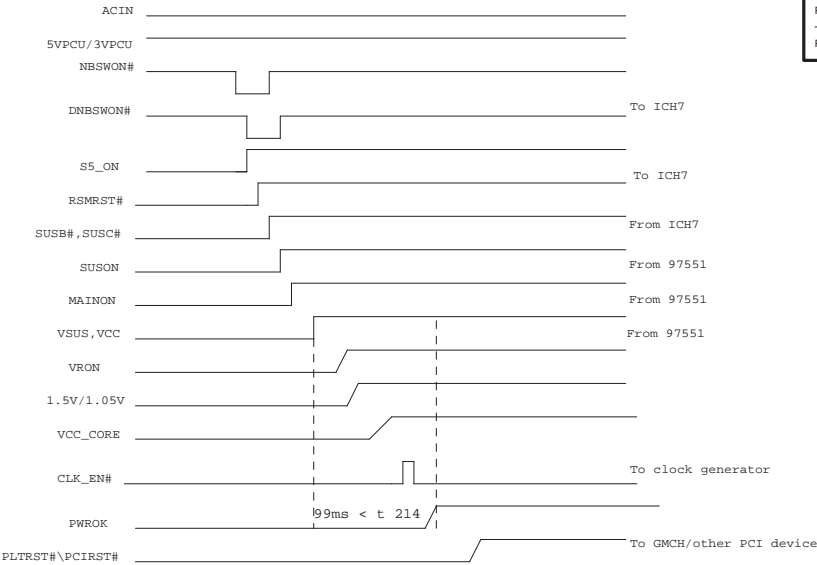


Ta=VCC and VCCP assertion to VID[5:0] valid
Tb=VID[5:0] stable to VCC valid
Tc=BCLK stable to PWRGOOD assertion
Td=PWRGOOD to RESET# de-assertion time
Te=Vcc,boot valid to PWRGOOD assertion time

Voltage Rails

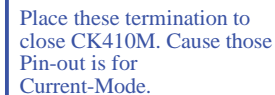
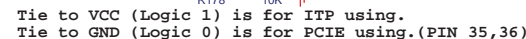
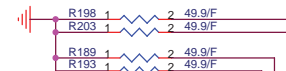
Voltage Rails	ON S0~S2	ON S3	ON S4	ON S5	Control signal
VCC_CORE	X				VRON
+1.5V	X				MAINON
+1.05V	X				MAINON
5V_S5/3V_S5/1.5V_S5	X	X	X	X	S5_ON
5VSUS/3VSUS/1.8VSUS	X	X			SUSON
SMDRR_VTERM/+2.5VRUN/+3VRUN/+5VRUN/+12VRUN	X				MAINON
+VCC_GFX_CORE/+1.2V_GFX_PCIE	X				MAINON
LANVCC	X	X	X	X	LAN_ON
3VPCU	X	X	X	X	VL
5VPCU	X	X	X	X	VL

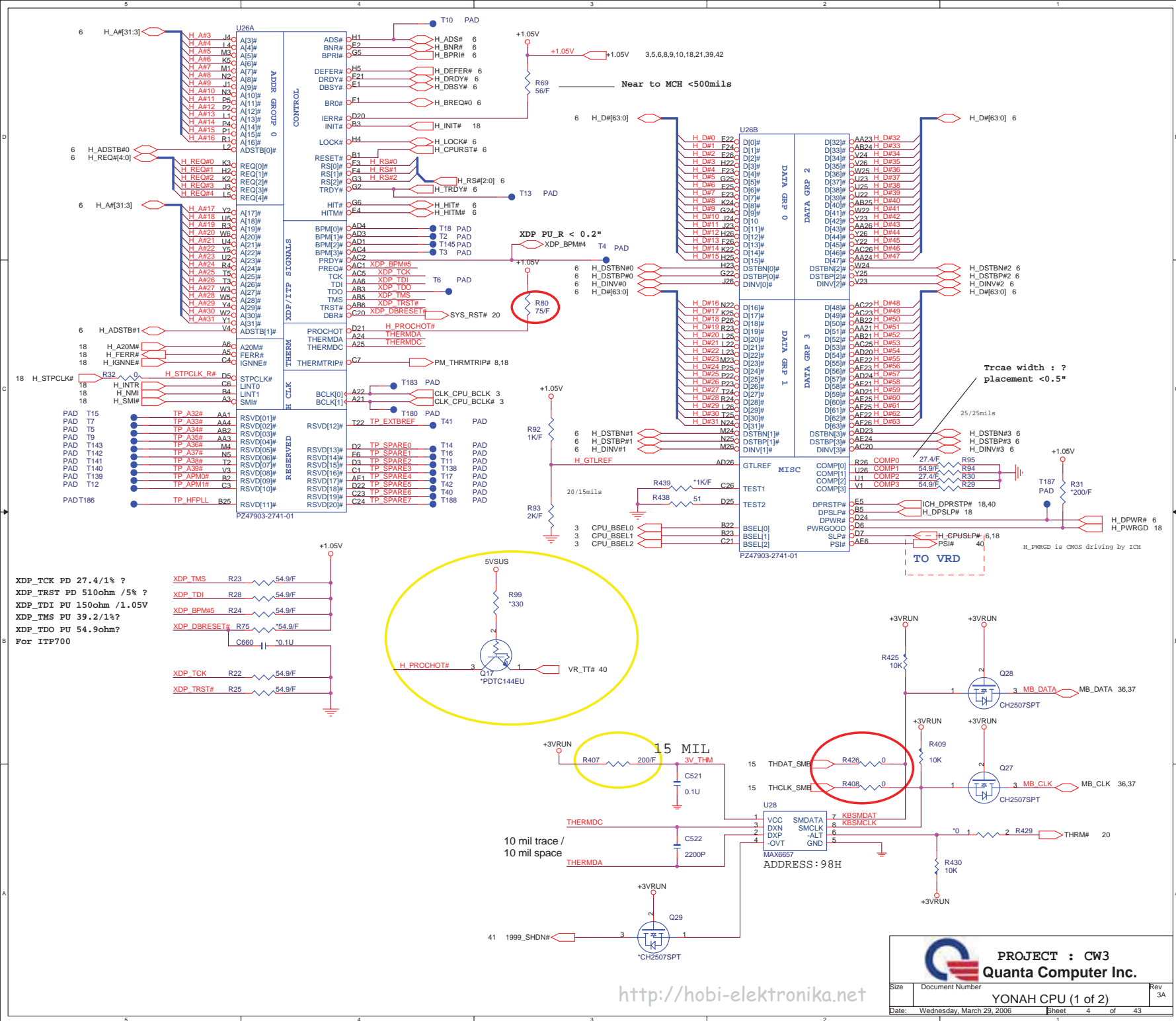
ACIN POWER ON TIMING

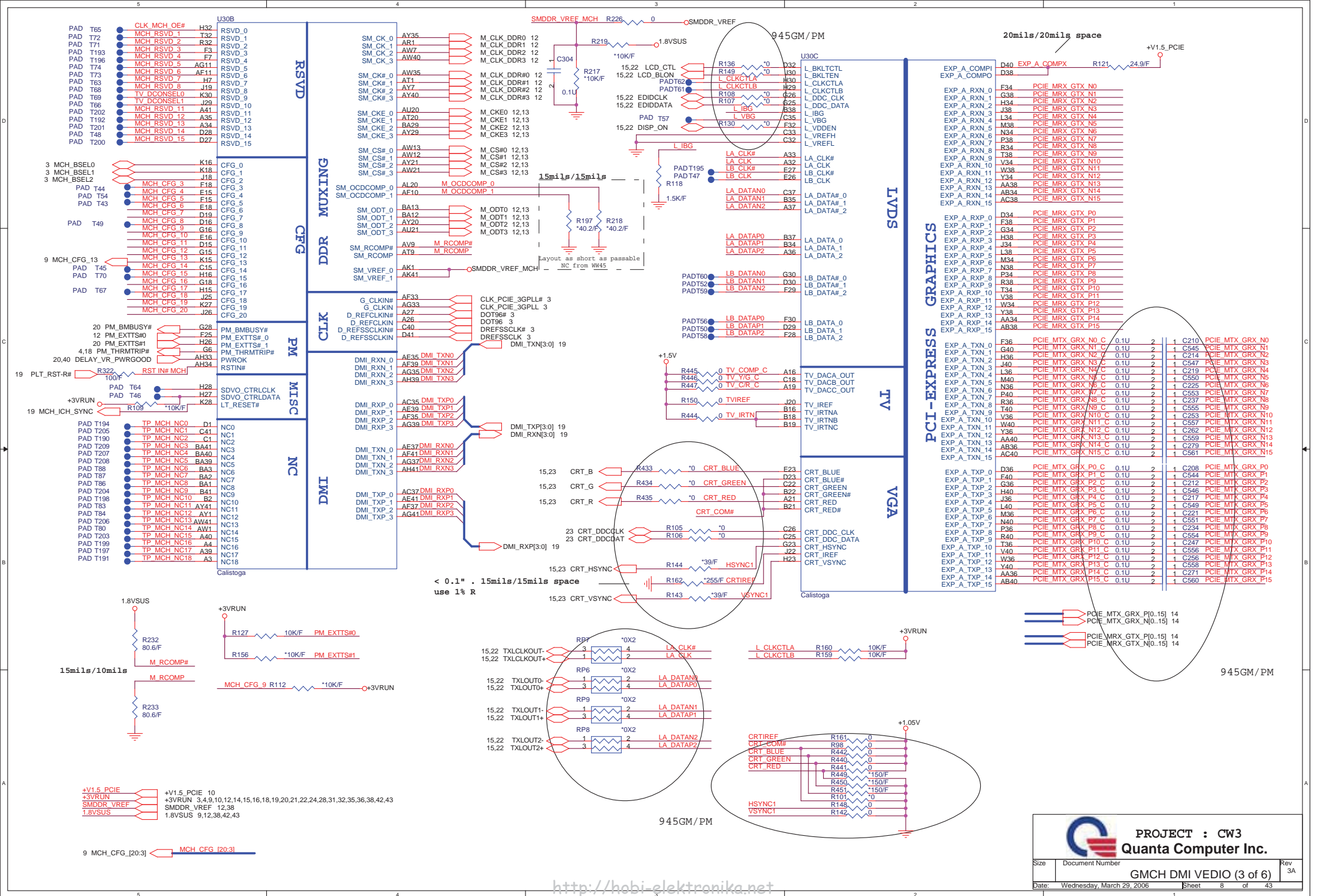


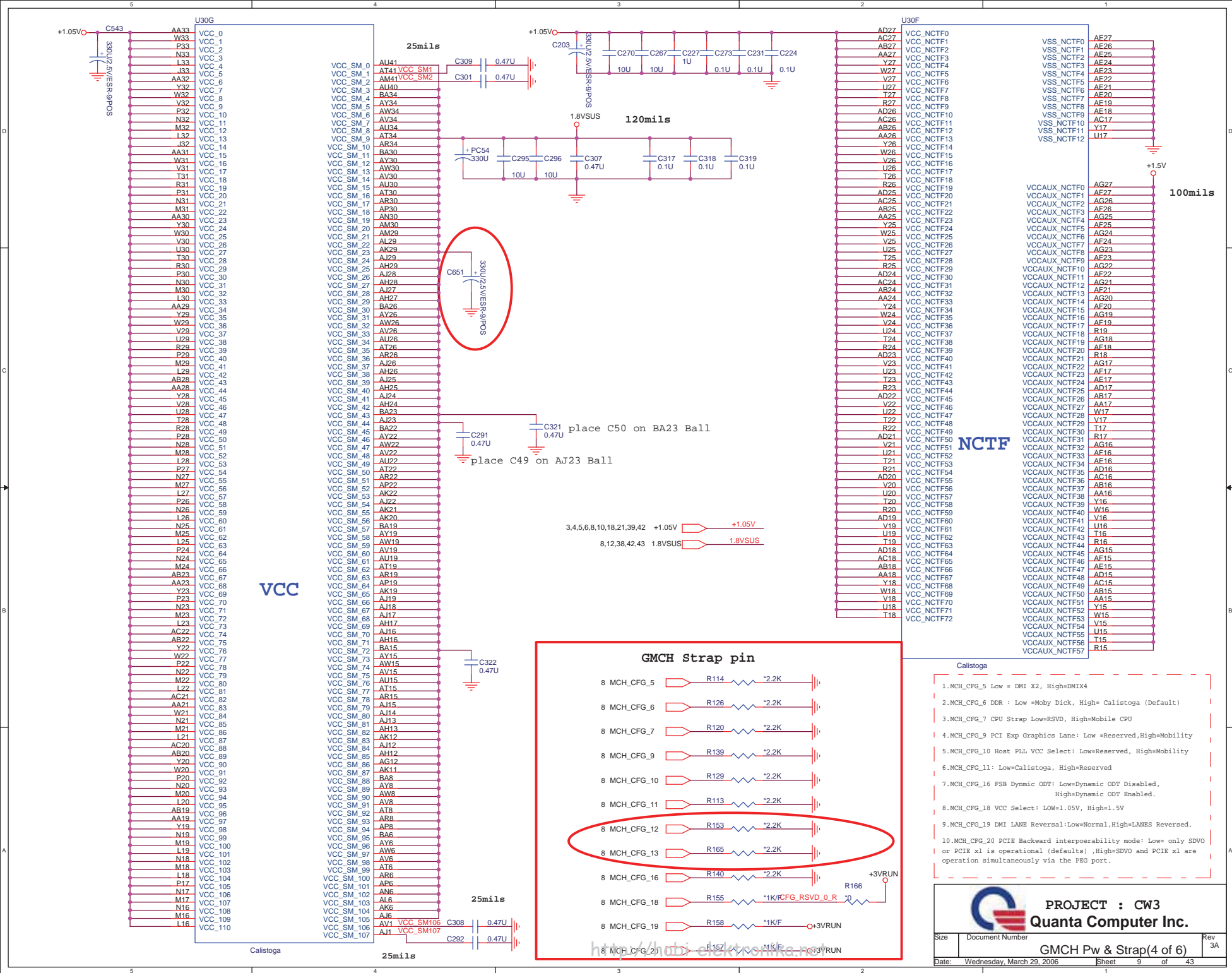
PCI DEVICE	IDSEL#	REQ# / GNT#	Interrupts
PCI7412	AD25	REQ0# / GNT0#	INT B#/C#/D#

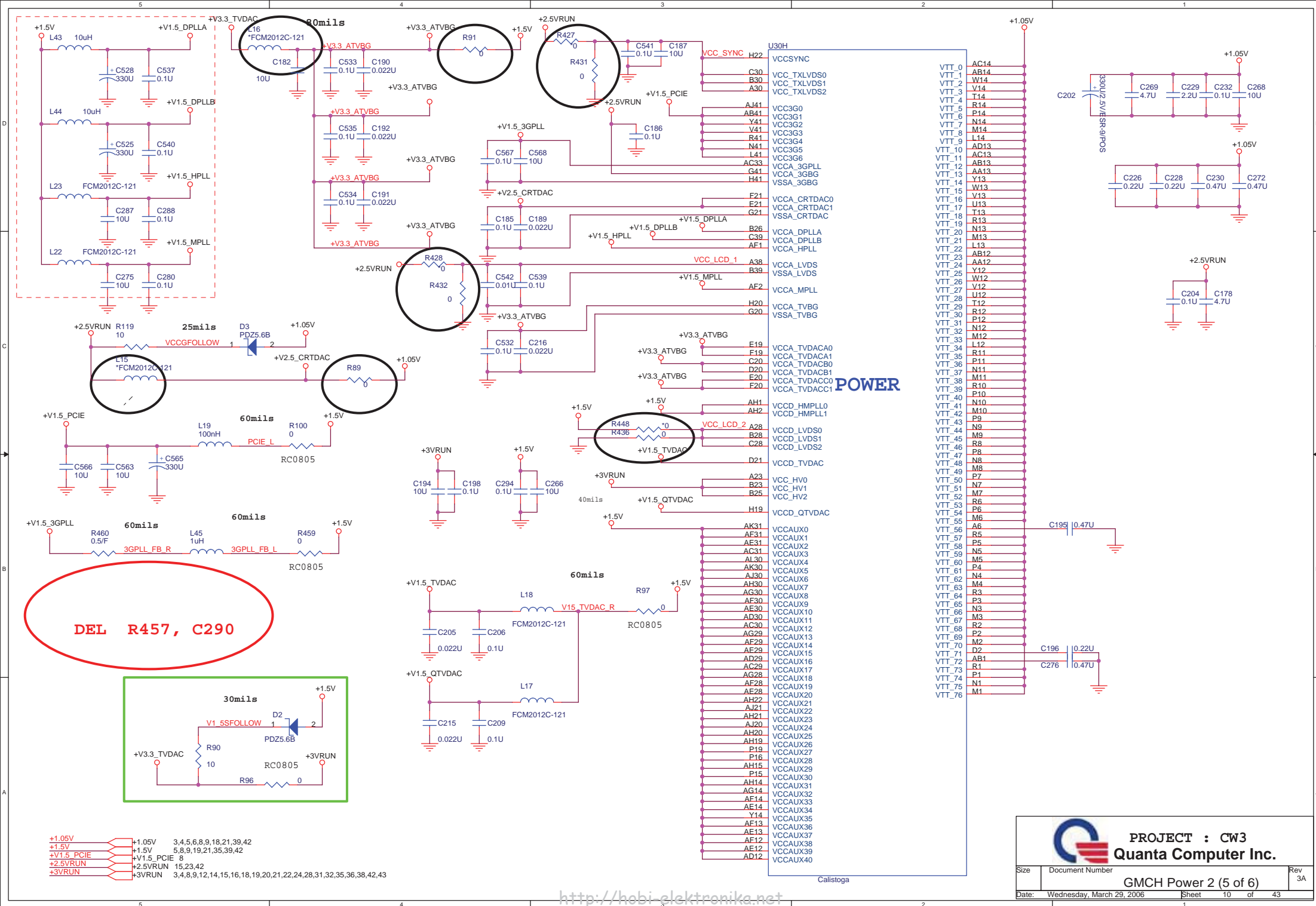
Place these termination to close CK410M. Cause those Pin-out is for Current-Mode.












U30I		
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
AE40	VSS_15	VSS_112
BA40	VSS_16	VSS_113
AY39	VSS_17	VSS_114
AW39	VSS_18	VSS_115
AV39	VSS_19	VSS_116
AR39	VSS_20	VSS_117
AN39	VSS_21	VSS_118
AJ39	VSS_22	VSS_119
AC39	VSS_23	VSS_120
AB39	VSS_24	VSS_121
AA39	VSS_25	VSS_122
Y39	VSS_26	VSS_123
W39	VSS_27	VSS_124
V39	VSS_28	VSS_125
T39	VSS_29	VSS_126
R39	VSS_30	VSS_127
P39	VSS_31	VSS_128
N39	VSS_32	VSS_129
M39	VSS_33	VSS_130
L39	VSS_34	VSS_131
J39	VSS_35	VSS_132
H39	VSS_36	VSS_133
G39	VSS_37	VSS_134
F39	VSS_38	VSS_135
D39	VSS_39	VSS_136
AT38	VSS_40	VSS_137
AM38	VSS_41	VSS_138
AH38	VSS_42	VSS_139
AG38	VSS_43	VSS_140
AF38	VSS_44	VSS_141
AE38	VSS_45	VSS_142
C38	VSS_46	VSS_143
AK37	VSS_47	VSS_144
AH37	VSS_48	VSS_145
AB37	VSS_49	VSS_146
AA37	VSS_50	VSS_147
Y37	VSS_51	VSS_148
W37	VSS_52	VSS_149
V37	VSS_53	VSS_150
T37	VSS_54	VSS_151
R37	VSS_55	VSS_152
P37	VSS_56	VSS_153
N37	VSS_57	VSS_154
M37	VSS_58	VSS_155
L37	VSS_59	VSS_156
J37	VSS_60	VSS_157
H37	VSS_61	VSS_158
G37	VSS_62	VSS_159
F37	VSS_63	VSS_160
D37	VSS_64	VSS_161
AY36	VSS_65	VSS_162
AW36	VSS_66	VSS_163
AV36	VSS_67	VSS_164
AR36	VSS_68	VSS_165
AG36	VSS_69	VSS_166
AF36	VSS_70	VSS_167
AE36	VSS_71	VSS_168
AC36	VSS_72	VSS_169
C36	VSS_73	VSS_170
B36	VSS_74	VSS_171
BA35	VSS_75	VSS_172
AV35	VSS_76	VSS_173
AR35	VSS_77	VSS_174
AH35	VSS_78	VSS_175
AB35	VSS_79	VSS_176
AA35	VSS_80	VSS_177
Y35	VSS_81	VSS_178
W35	VSS_82	VSS_179
V35	VSS_83	
T35	VSS_84	
R35	VSS_85	
P35	VSS_86	
N35	VSS_87	
M35	VSS_88	
L35	VSS_89	
J35	VSS_90	
H35	VSS_91	
G35	VSS_92	
F35	VSS_93	
D35	VSS_94	
AN34	VSS_95	
	VSS_96	

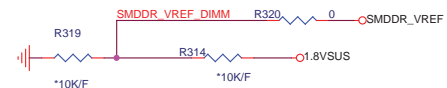
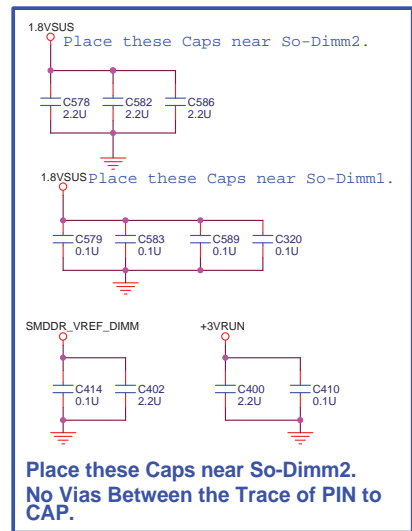
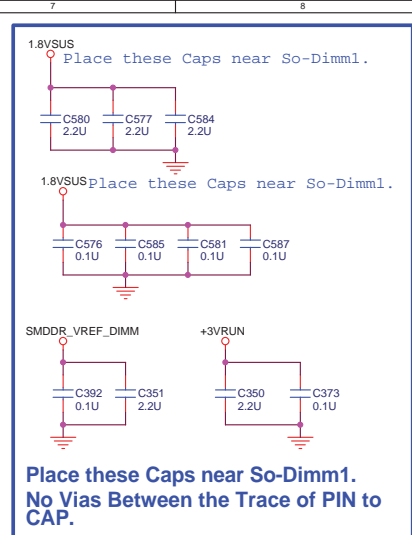
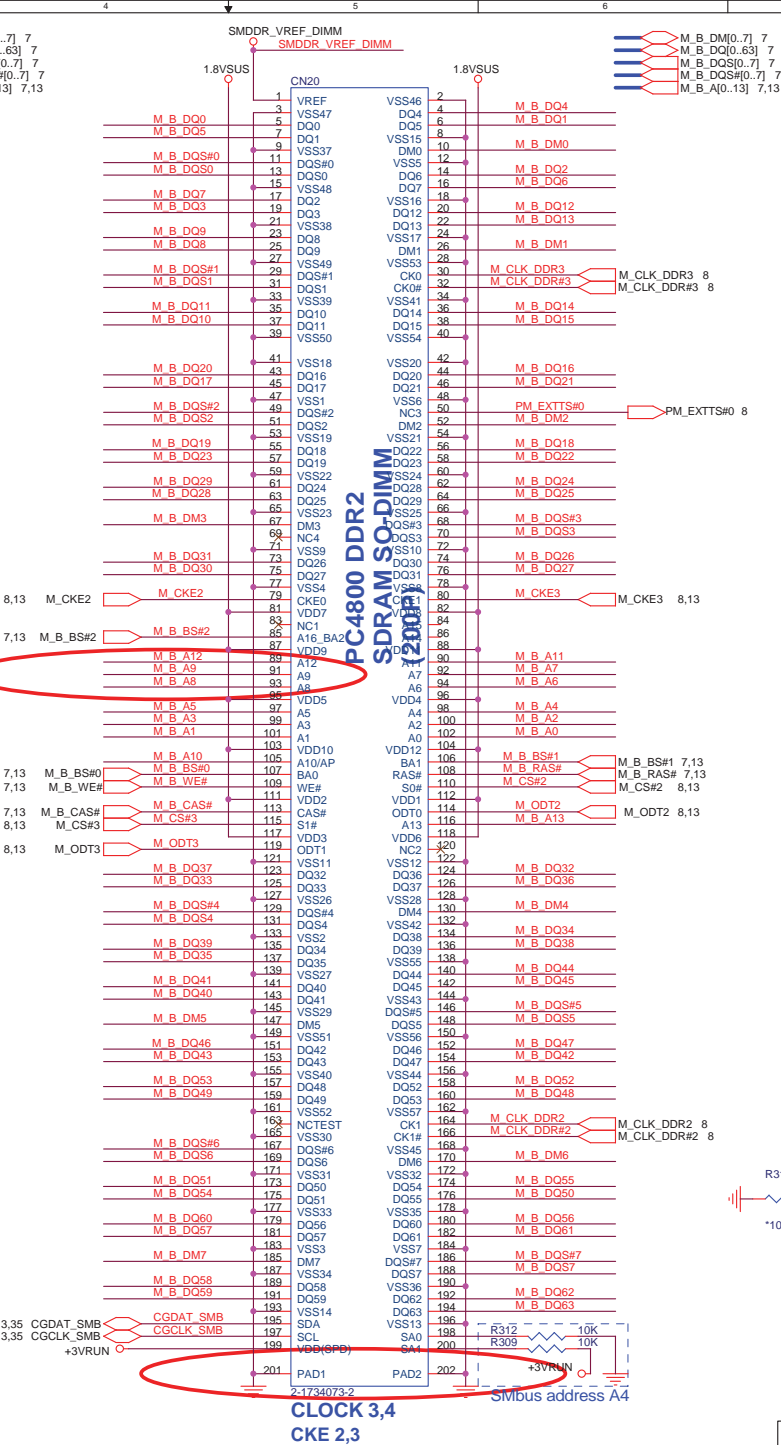
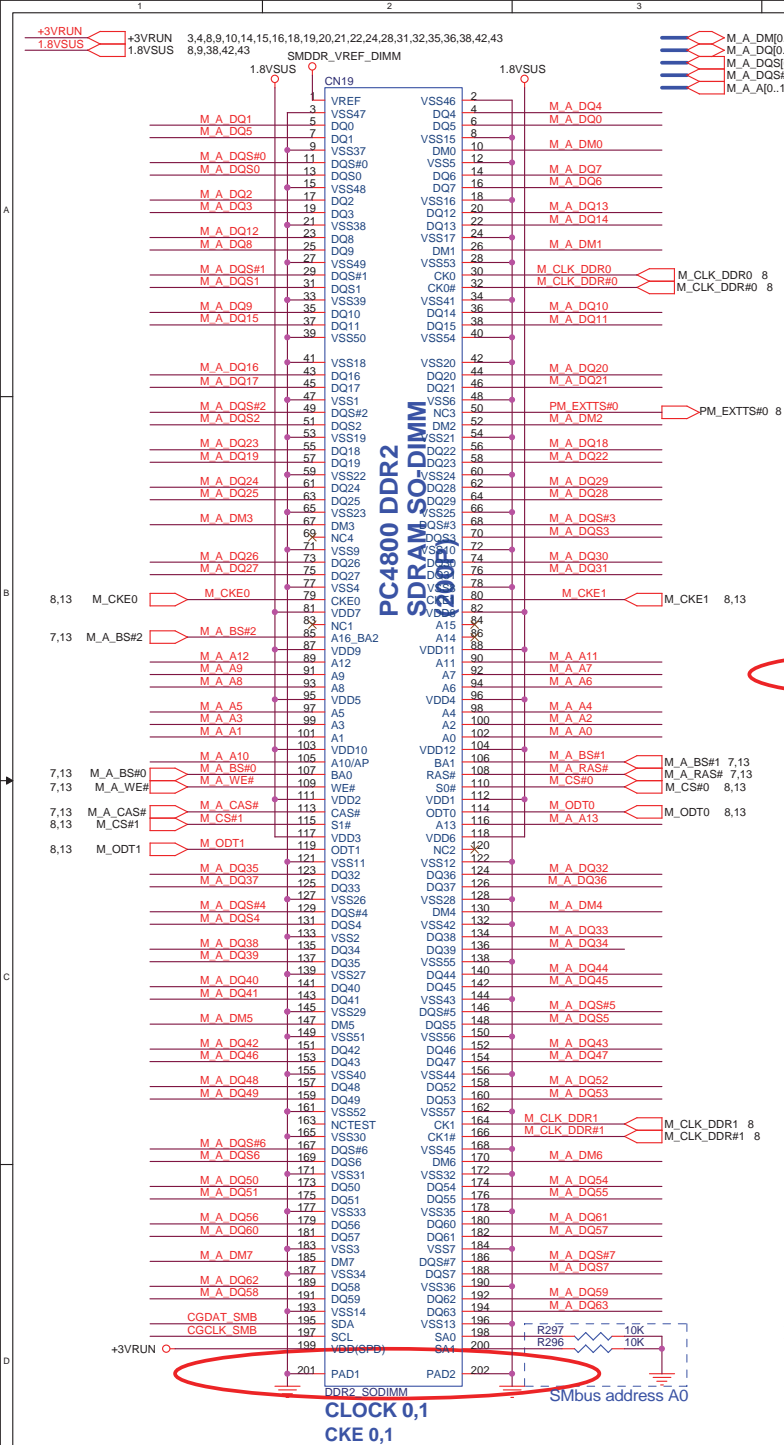
U30J		
AT23	VSS_180	VSS_273
AN23	VSS_181	VSS_274
AM23	VSS_182	VSS_275
AH23	VSS_183	VSS_276
AC23	VSS_184	VSS_277
W23	VSS_185	VSS_278
K23	VSS_186	VSS_279
J23	VSS_187	VSS_280
F23	VSS_188	VSS_281
C23	VSS_189	VSS_282
AA22	VSS_190	VSS_283
K22	VSS_191	VSS_284
G22	VSS_192	VSS_285
F22	VSS_193	VSS_286
E22	VSS_194	VSS_287
D22	VSS_195	VSS_288
A22	VSS_196	VSS_289
BA21	VSS_197	VSS_290
AV21	VSS_198	VSS_291
AR21	VSS_199	VSS_292
AN21	VSS_200	VSS_293
AL21	VSS_201	VSS_294
AB21	VSS_202	VSS_295
Y21	VSS_203	VSS_296
P21	VSS_204	VSS_297
K21	VSS_205	VSS_298
J21	VSS_206	VSS_299
H21	VSS_207	VSS_300
C21	VSS_208	VSS_301
AW20	VSS_209	VSS_302
AR20	VSS_210	VSS_303
AM20	VSS_211	VSS_304
AA20	VSS_212	VSS_305
K20	VSS_213	VSS_306
B20	VSS_214	VSS_307
A20	VSS_215	VSS_308
AN19	VSS_216	VSS_309
AC19	VSS_217	VSS_310
W19	VSS_218	VSS_311
K19	VSS_219	VSS_312
G19	VSS_220	VSS_313
C19	VSS_221	VSS_314
AH18	VSS_222	VSS_315
K18	VSS_223	VSS_316
H18	VSS_224	VSS_317
D18	VSS_225	VSS_318
A18	VSS_226	VSS_319
AY17	VSS_227	VSS_320
AR17	VSS_228	VSS_321
AP17	VSS_229	VSS_322
AM17	VSS_230	VSS_323
AK17	VSS_231	VSS_324
AV16	VSS_232	VSS_325
AN16	VSS_233	VSS_326
AL16	VSS_234	VSS_327
J16	VSS_235	VSS_328
F16	VSS_236	VSS_329
C16	VSS_237	VSS_330
AN15	VSS_238	VSS_331
AM15	VSS_239	VSS_332
AK15	VSS_240	VSS_333
N15	VSS_241	VSS_334
M15	VSS_242	VSS_335
L15	VSS_243	VSS_336
B15	VSS_244	VSS_337
A15	VSS_245	VSS_338
BA14	VSS_246	VSS_339
AT14	VSS_247	VSS_340
AK14	VSS_248	VSS_341
K14	VSS_249	VSS_342
AD14	VSS_250	VSS_343
U14	VSS_251	VSS_344
H14	VSS_252	VSS_345
E14	VSS_253	VSS_346
AV13	VSS_254	VSS_347
AR13	VSS_255	VSS_348
D25	VSS_256	VSS_349
AM13	VSS_257	VSS_350
AL13	VSS_258	VSS_351
AG13	VSS_259	VSS_352
P13	VSS_260	VSS_353
F13	VSS_261	VSS_354
D13	VSS_262	VSS_355
B13	VSS_263	VSS_356
AY12	VSS_264	VSS_357
AC12	VSS_265	VSS_358
K12	VSS_266	VSS_359
H12	VSS_267	VSS_360
E12	VSS_268	
AD11	VSS_269	
AA11	VSS_270	
Y11	VSS_271	
	VSS_272	



PROJECT : CW3

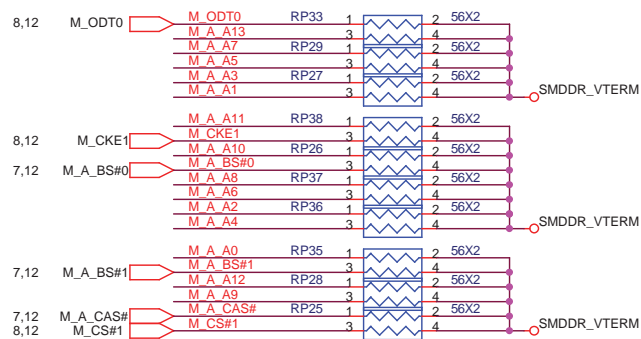
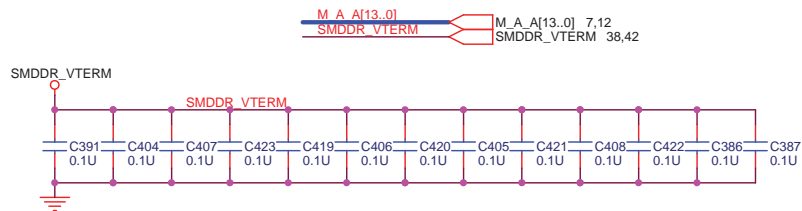
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GMCH GND (6 of 6)		
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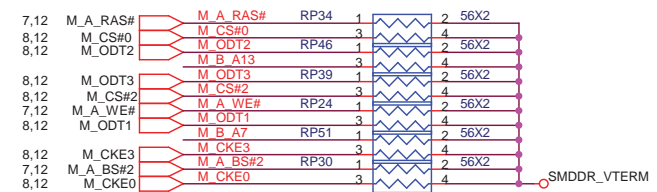
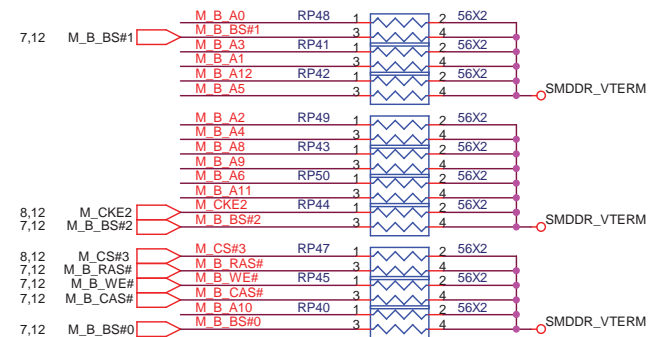
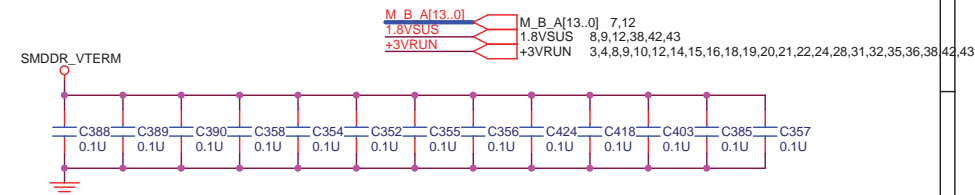


DDRII DUAL CHANNEL A,B.

DDRII A CHANNEL



DDRII B CHANNEL



Layout note: Place one cap close to every 2 pullup resistors terminated to SMDR_VTERM



PROJECT : CW3
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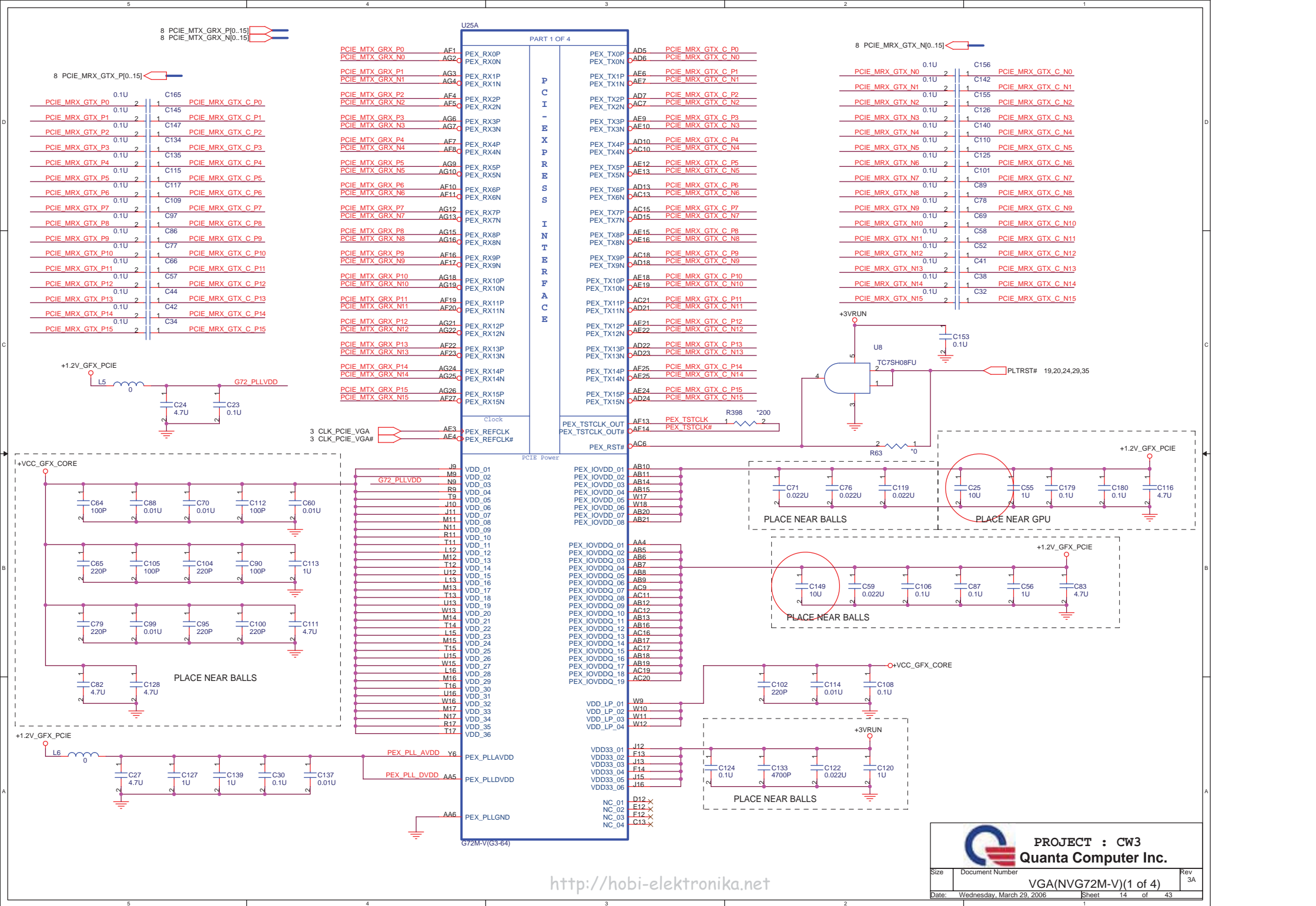
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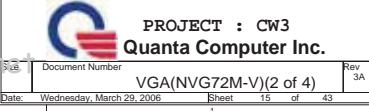
DDR RES. ARRAY

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3A

Date: Wednesday, March 29, 2006

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FB_CMD[0..26] 17
 FBD[0..63] 17
 FBDQM[0..7] 17
 FBDQS[0..7] 17
 FBDQS#[0..7] 17

FB_DQ0 A26
 FB_DQ1 C24
 FB_DQ2 B24
 FB_DQ3 A24
 FB_DQ4 C22
 FB_DQ5 B25
 FB_DQ6 B26
 FB_DQ7 D23
 FB_DQ8 G22
 FB_DQ9 J23
 FB_DQ10 E24
 FB_DQ11 F23
 FB_DQ12 J24
 FB_DQ13 F24
 FB_DQ14 G23
 FB_DQ15 H24
 FB_DQ16 D16
 FB_DQ17 E16
 FB_DQ18 D17
 FB_DQ19 F18
 FB_DQ20 E19
 FB_DQ21 F18
 FB_DQ22 D20
 FB_DQ23 D19
 FB_DQ24 A18
 FB_DQ25 B18
 FB_DQ26 A19
 FB_DQ27 B19
 FB_DQ28 D18
 FB_DQ29 C19
 FB_DQ30 C16
 FB_DQ31 C18
 FB_DQ32 N26
 FB_DQ33 N25
 FB_DQ34 R25
 FB_DQ35 R26
 FB_DQ36 T27
 FB_DQ37 T25
 FB_DQ38 T27
 FB_DQ39 T26
 FB_DQ40 AB23
 FB_DQ41 Y24
 FB_DQ42 AB24
 FB_DQ43 AB22
 FB_DQ44 AC24
 FB_DQ45 AA23
 FB_DQ46 AA22
 FB_DQ47 T24
 FB_DQ48 T23
 FB_DQ49 R24
 FB_DQ50 R23
 FB_DQ51 R22
 FB_DQ52 T22
 FB_DQ53 N23
 FB_DQ54 P24
 FB_DQ55 AA24
 FB_DQ56 AA27
 FB_DQ57 AA26
 FB_DQ58 AB25
 FB_DQ59 AB26
 FB_DQ60 AB27
 FB_DQ61 AA25
 FB_DQ62 W25
 FB_DQ63

MEMORY INTERFACE

FB_CMD0 G27
 FB_CMD1 D25
 FB_CMD2 F26
 FB_CMD3 F25
 FB_CMD4 G25
 FB_CMD5 J25
 FB_CMD6 J27
 FB_CMD7 M26
 FB_CMD8 C27
 FB_CMD9 C25
 FB_CMD10 D24
 FB_CMD11 N27
 FB_CMD12 G24
 FB_CMD13 J26
 FB_CMD14 M27
 FB_CMD15 C26
 FB_CMD16 J25
 FB_CMD17 D26
 FB_CMD18 D27
 FB_CMD19 K26
 FB_CMD20 K25
 FB_CMD21 K24
 FB_CMD22 F27
 FB_CMD23 K27
 FB_CMD24 G26
 FB_CMD25 B27
 FB_CMD26 N24

FB_DQM0 D21
 FB_DQM1 F22
 FB_DQM2 F20
 FB_DQM3 A21
 FB_DQM4 V27
 FB_DQM5 W22
 FB_DQM6 V22
 FB_DQM7 V24

FB_DQS_RN0 E22
 FB_DQS_RN1 E22
 FB_DQS_RN2 F21
 FB_DQS_RN3 B21
 FB_DQS_RN4 V26
 FB_DQS_RN5 W23
 FB_DQS_RN6 V23
 FB_DQS_RN7 W27

FB_DQS_WP0 B22
 FB_DQS_WP1 D22
 FB_DQS_WP2 E21
 FB_DQS_WP3 C21
 FB_DQS_WP4 V25
 FB_DQS_WP5 W24
 FB_DQS_WP6 U24
 FB_DQS_WP7 W26

FBVTT_01 E15
 FBVTT_02 E15
 FBVTT_03 J17
 FBVTT_04 J18
 FBVTT_05 J19
 FBVTT_06 N19
 FBVTT_07 R19
 FBVTT_08 U19
 FBVTT_09 W19
 FBVTT_10

FBVDDQ_01 E17
 FBVDDQ_02 F19
 FBVDDQ_03 J19
 FBVDDQ_04 T19
 FBVDDQ_05 J22
 FBVDDQ_06 L22
 FBVDDQ_07 P22
 FBVDDQ_08 U22
 FBVDDQ_09 Y22
 FBVDDQ_10

FBCAL_PD_VDDQ D15
 FBCAL_PD_GND E13
 FBCAL_TERM_GND H22

FB_CLK0 L24
 FB_CLK0# K23
 FB_CLK1 M22
 FB_CLK1# N22

T20 PAD M23
 T19 PAD M24

T21 PAD K22
 FBVREF A16

FBA_PLLVDD D14
 FB_PLLAVDD D13
 FB_PLLAGND C15

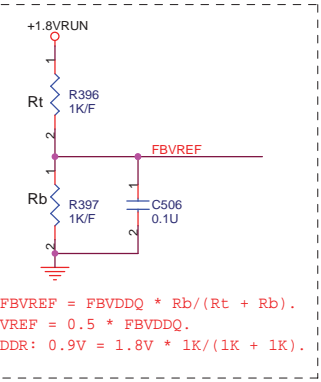
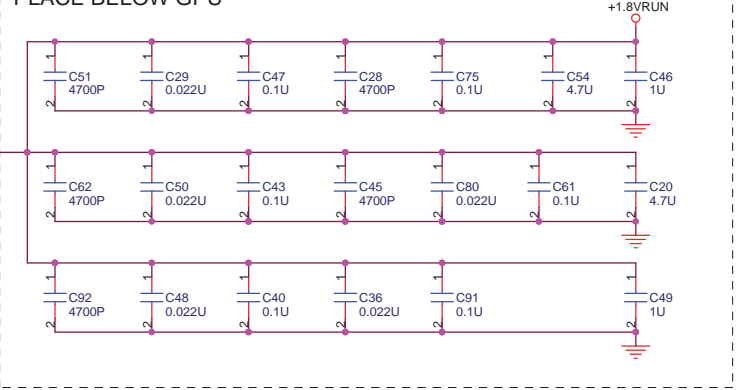
G72M-V(G3-64)

GND_01
 GND_02
 GND_03
 GND_04
 GND_05
 GND_06
 GND_07
 GND_08
 GND_09
 GND_10
 GND_11
 GND_12
 GND_13
 GND_14
 GND_15
 GND_16
 GND_17
 GND_18
 GND_19
 GND_20
 GND_21
 GND_22
 GND_23
 GND_24
 GND_25
 GND_26
 GND_27
 GND_28
 GND_29
 GND_30
 GND_31
 GND_32
 GND_33
 GND_34
 GND_35
 GND_36
 GND_37
 GND_38
 GND_39
 GND_40
 GND_41
 GND_42
 GND_43
 GND_44
 GND_45
 GND_46
 GND_47

G72M-V(G3-64)

P14
 R14
 U14
 W14
 AC14
 AD14
 N15
 P15
 R15
 AF15
 AE17
 R16
 AD16
 B17
 E17
 L17
 P17
 U17
 AF17
 K19
 P19
 V19
 AD19
 B20
 F20
 AD20
 AE21
 B23
 E23
 H23
 L23
 P23
 U23
 Y23
 AC23
 AE24
 E26
 H26
 L26
 P26
 U26
 Y26
 AC26
 GND_93
 GND_94

PLACE BELOW GPU



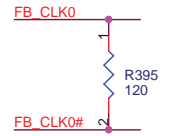
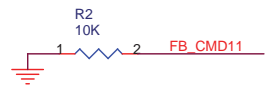
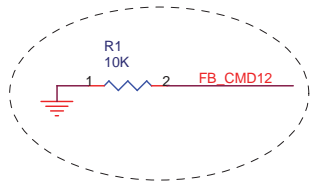
$FBVREF = FBVDDQ \cdot Rb / (Rt + Rb)$
 $VREF = 0.5 \cdot FBVDDQ$
 $DDR: 0.9V = 1.8V \cdot 1K / (1K + 1K)$



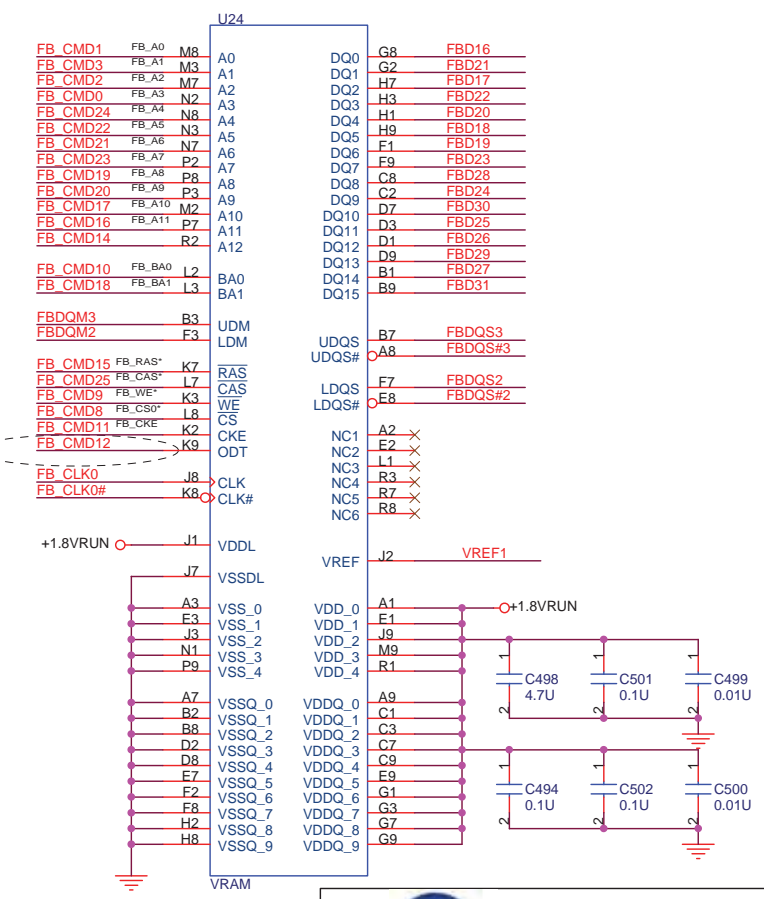
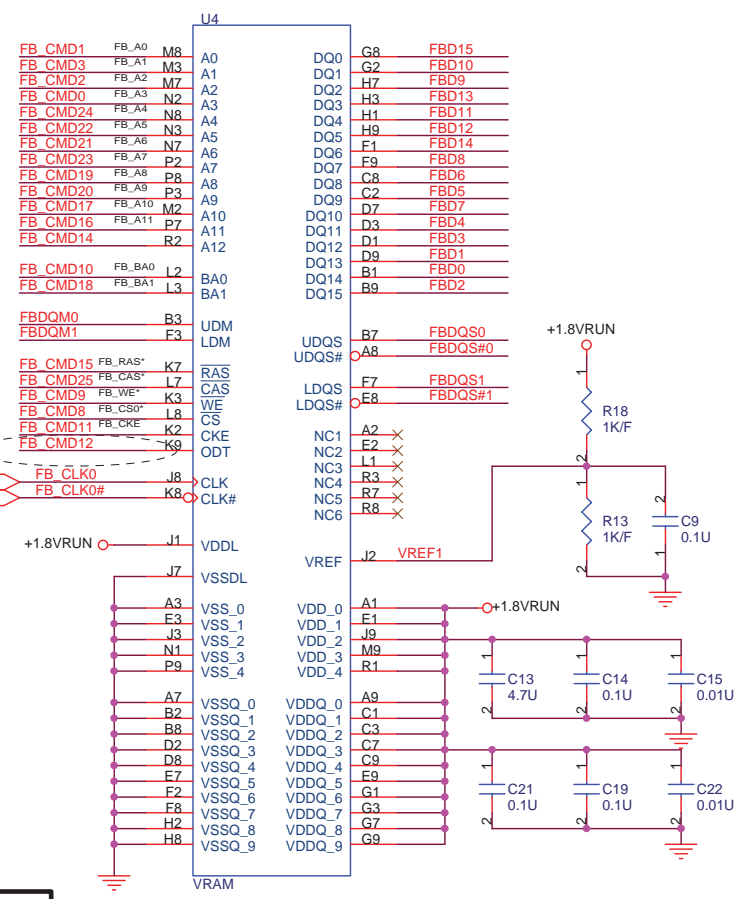
PROJECT : CW3
 Quanta Computer Inc.

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 Rev 3A

FB_CMD[0..26] 16
 FBD[0..63] 16
 FBDQM[0..7] 16
 FBDQS[0..7] 16
 FBDQS#[0..7] 16



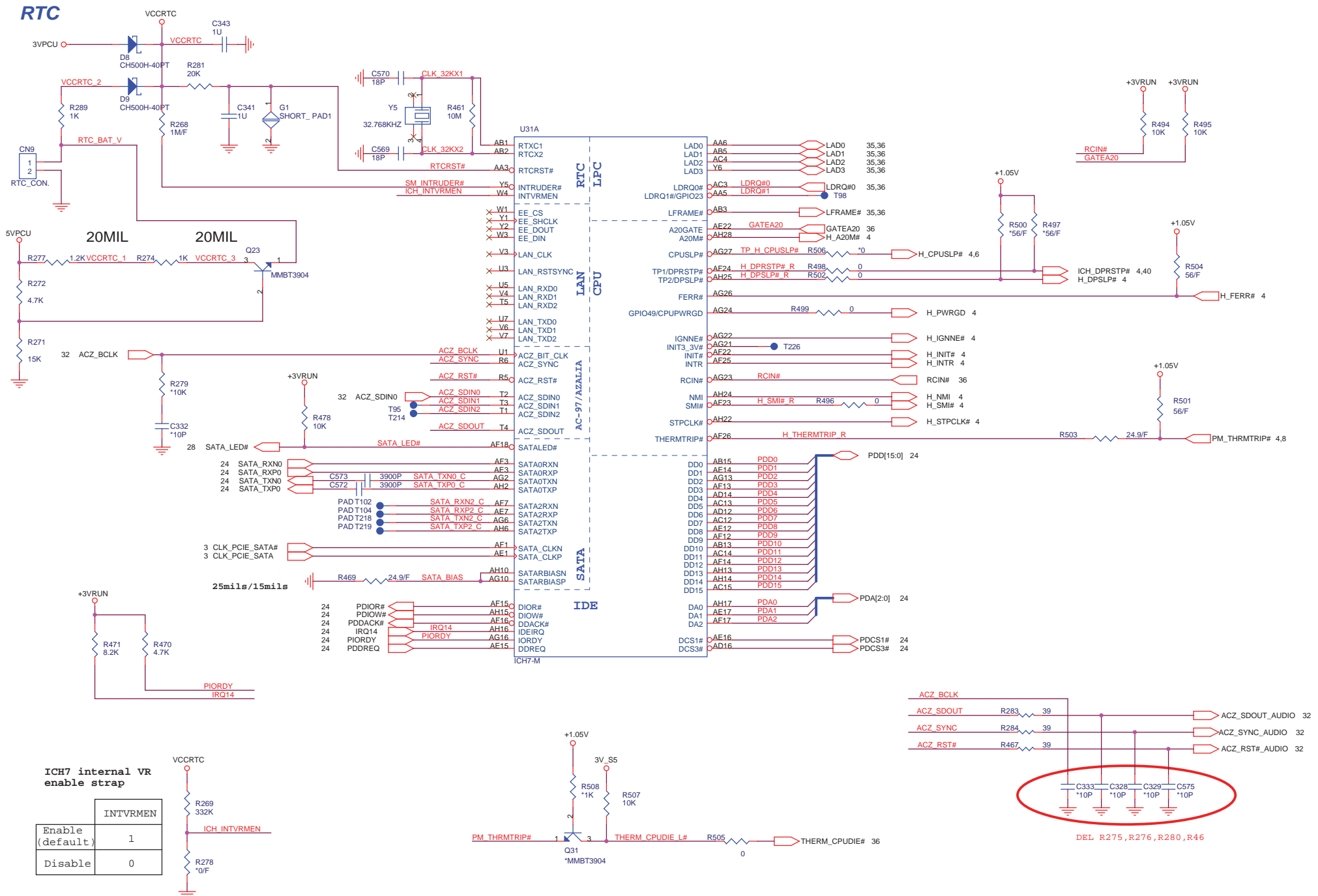
INFENION(DDR2, 16M X 16)==> AKD5JG-T^08
 INFENION(DDR2, 32M X 16)==> AKD5FG-T^00
 HYNIX (DDR2, 16M X 16)==> AKD5JG-TW12
 HYNIX (DDR2, 32M X 16)==>



PROJECT : CW3
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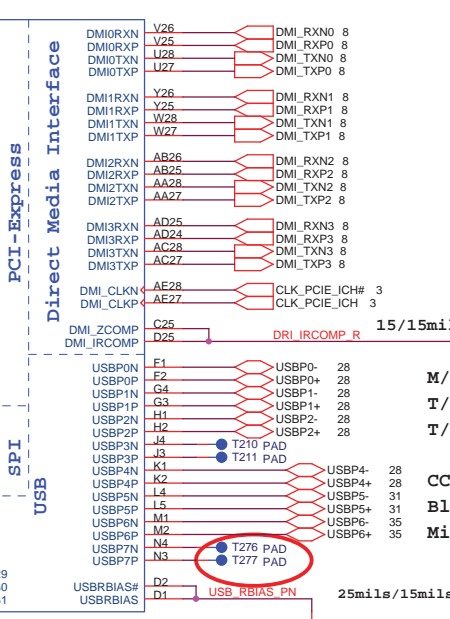
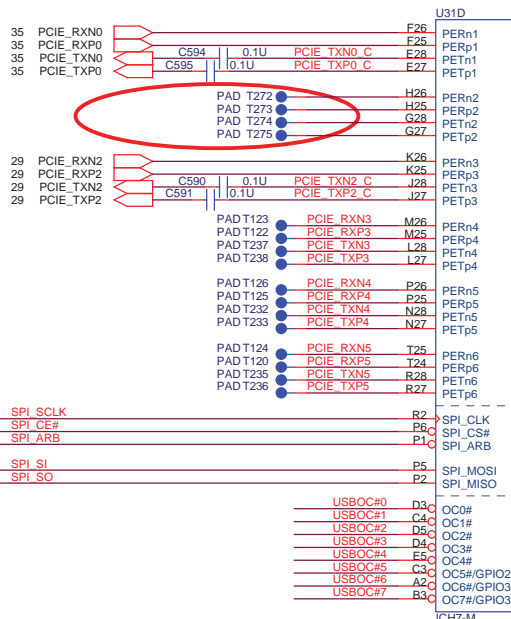
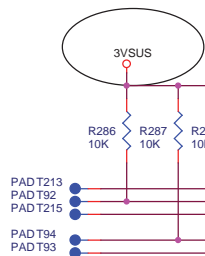
Size	Document Number	VGA(NVG72M-V)(4 of 4)	Rev 3A
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RTC



MINI PIC-E CARD

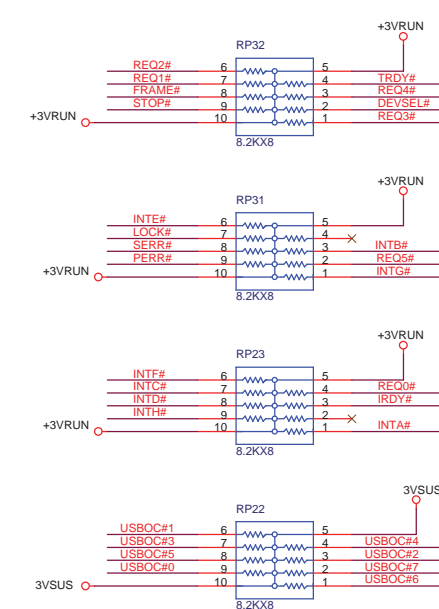
1G LAN CHIP



M/B USB PORT0
T/B USB PORT0
T/B USB PORT1

CCD MODULE
Bluetooth Module
Mini PCI-E

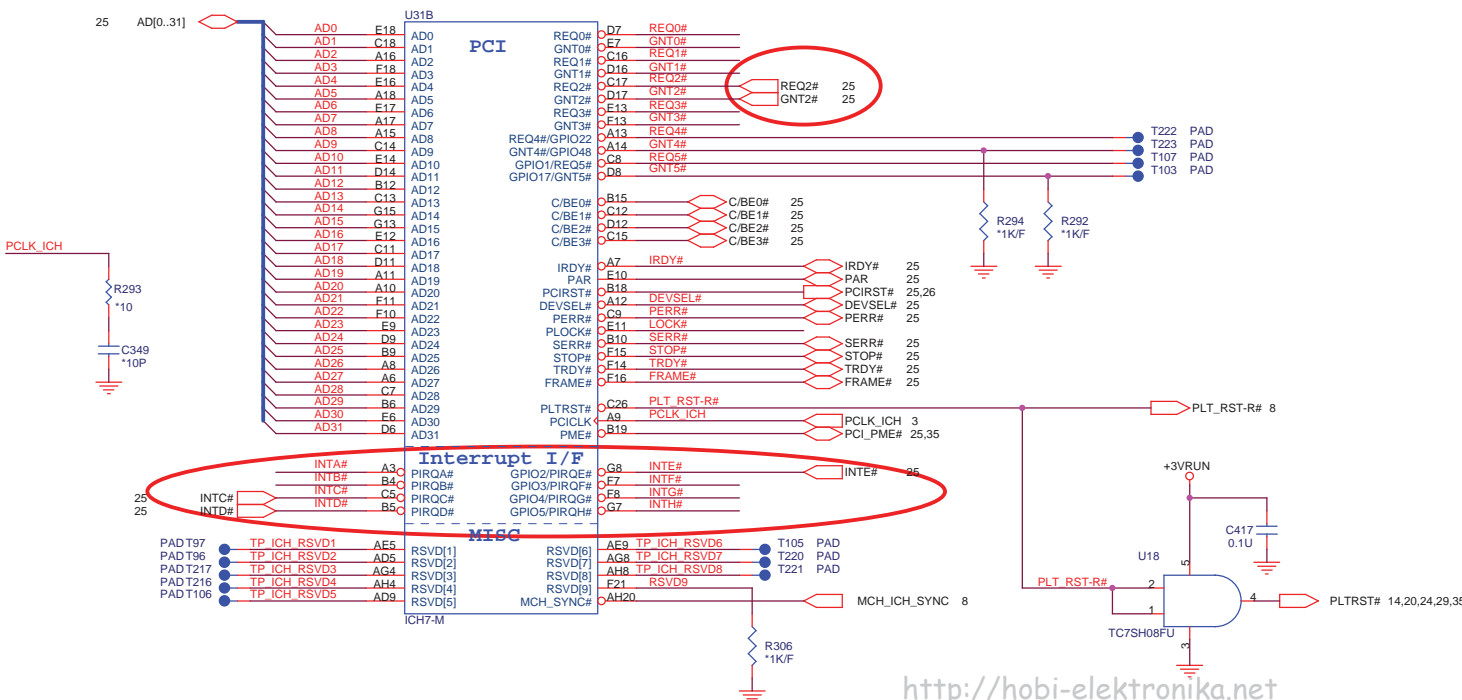
25mils/15mils



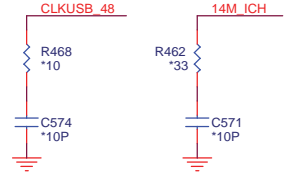
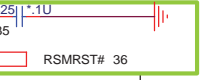
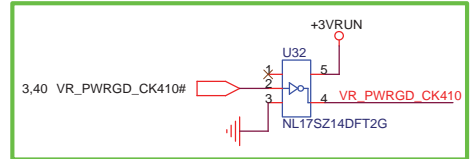
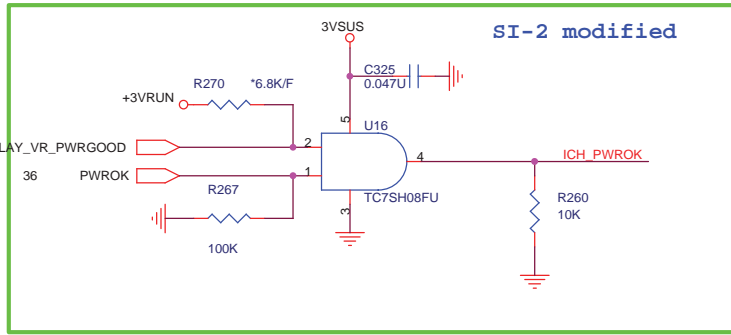
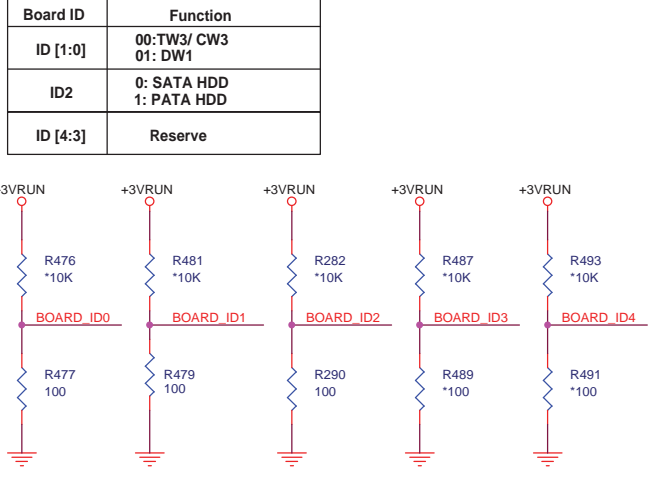
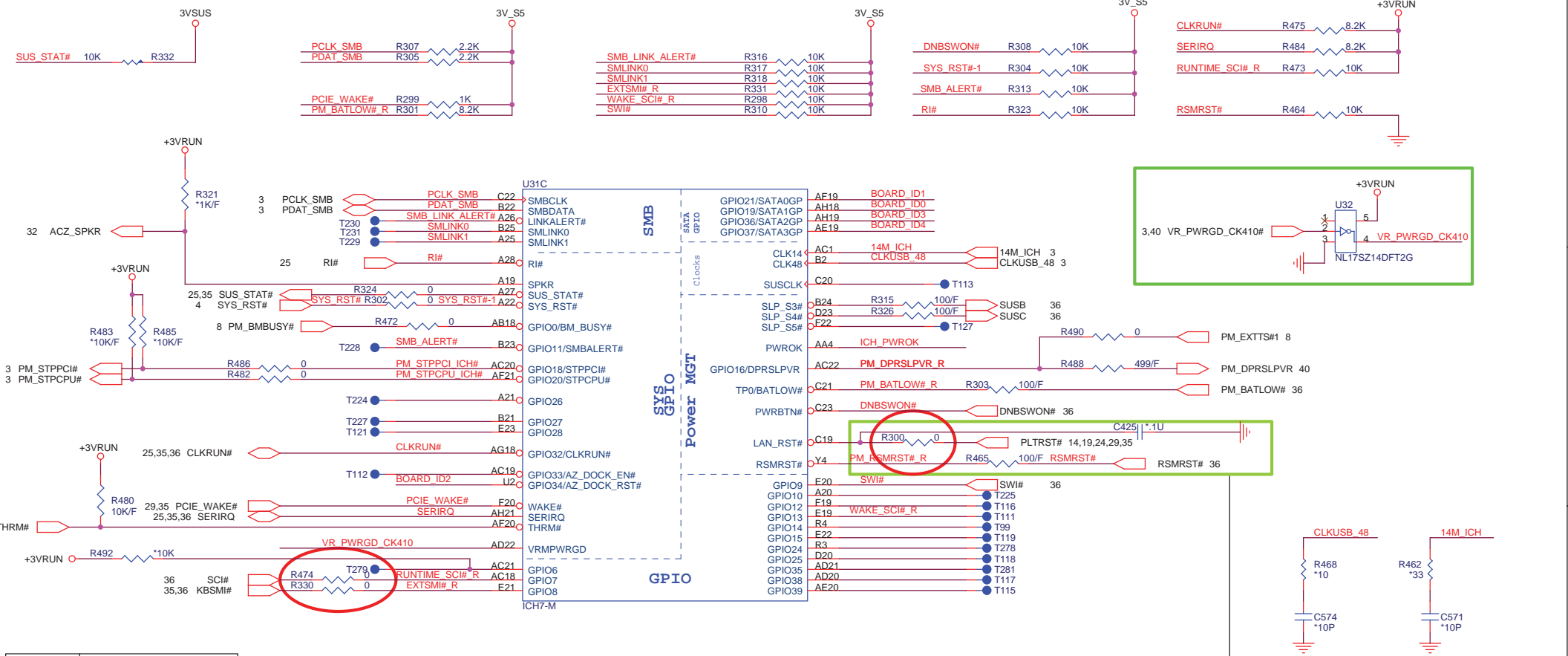
ICH7 Boot BIOS select

	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	REQ0# / GNT0#	INT B#/C#/D#



<http://hobi-elektronika.net>

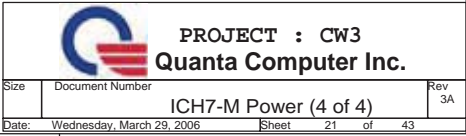


LAN_RST : 1.if used pci LAN
please tie to PLTRST#
2.if used
PHY LAN please tie to RSMRST#

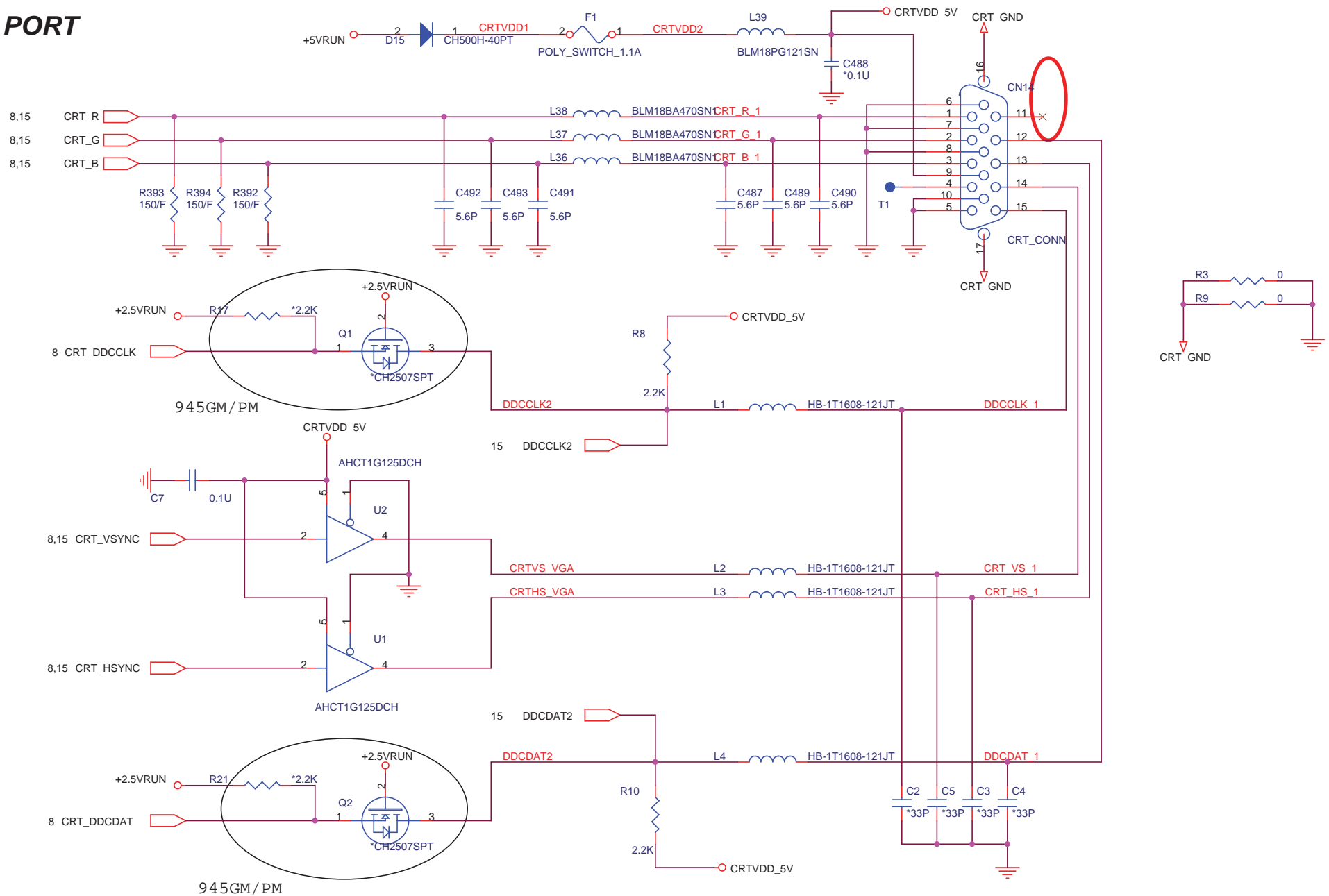



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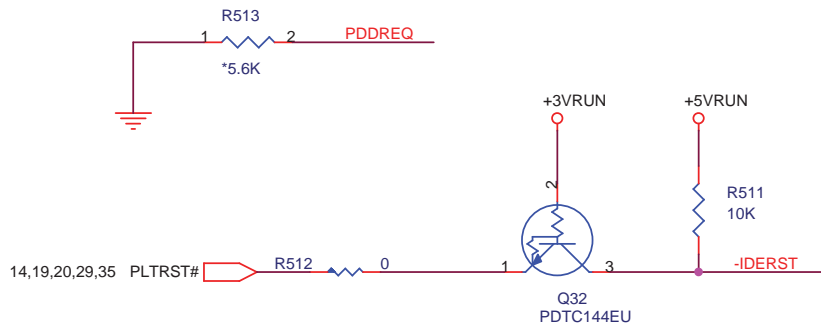
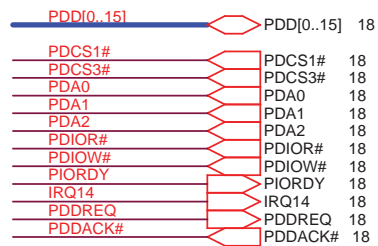
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CRT PORT

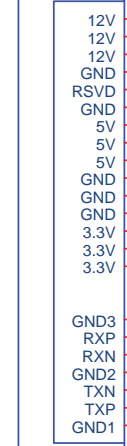


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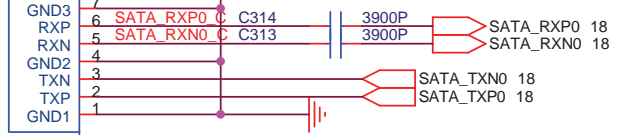
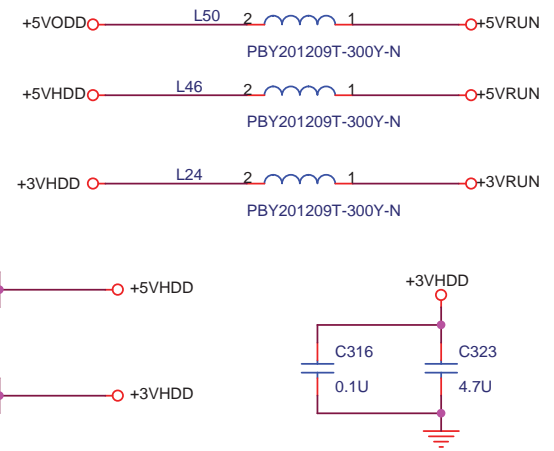


SATA HDD

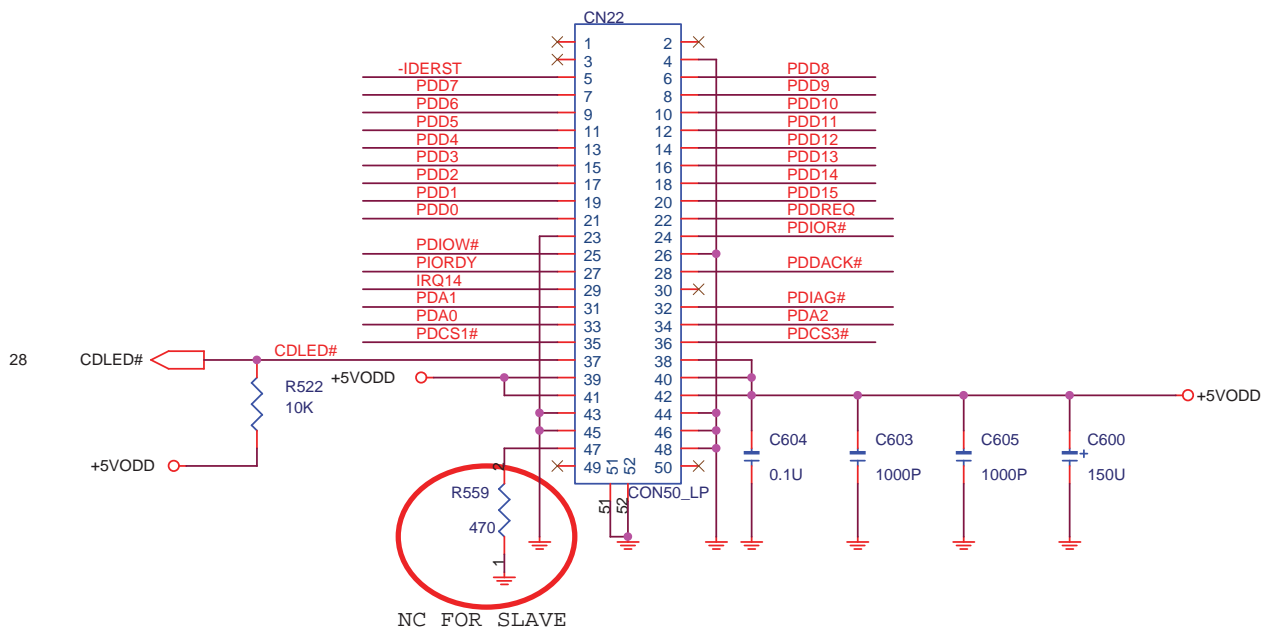
CN16



127043FB022G201ZR

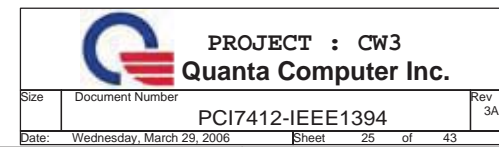


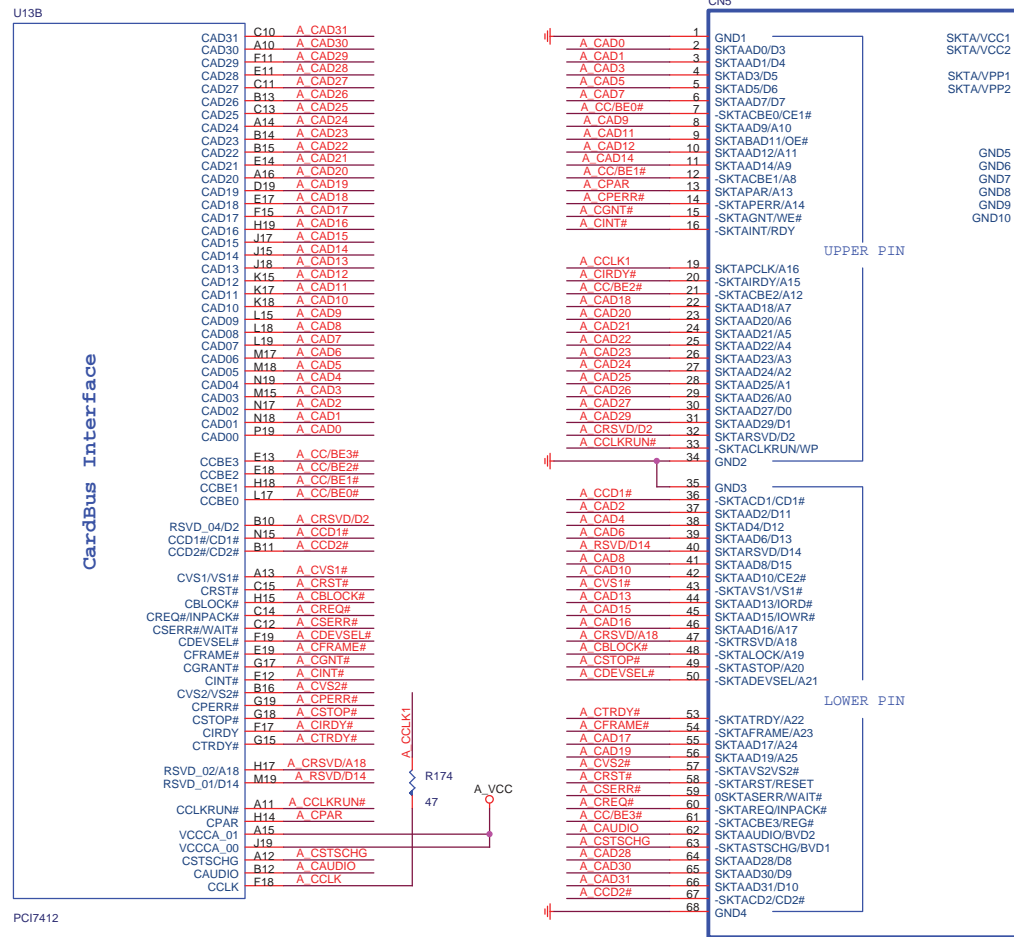
ODD

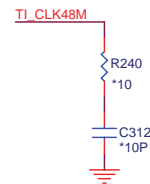
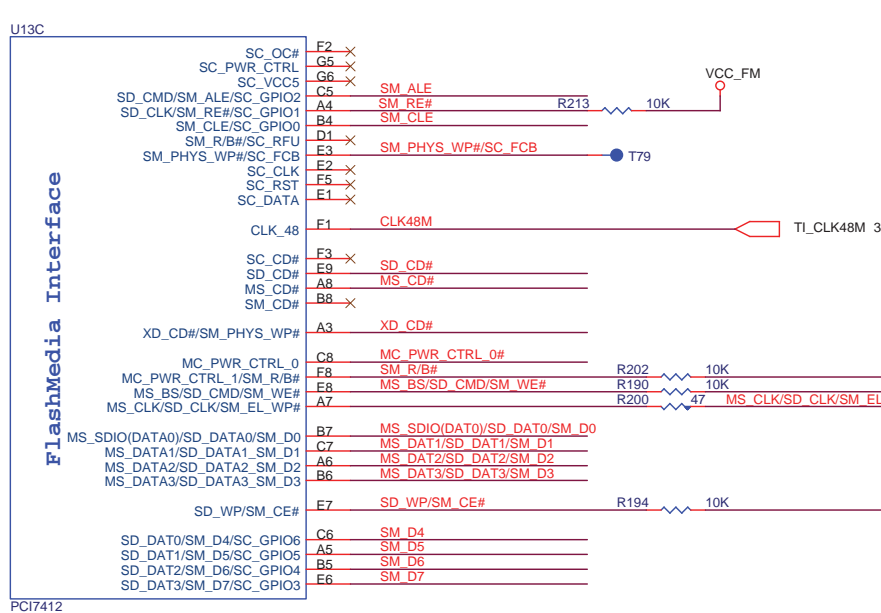


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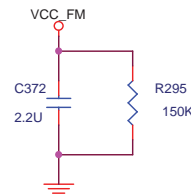
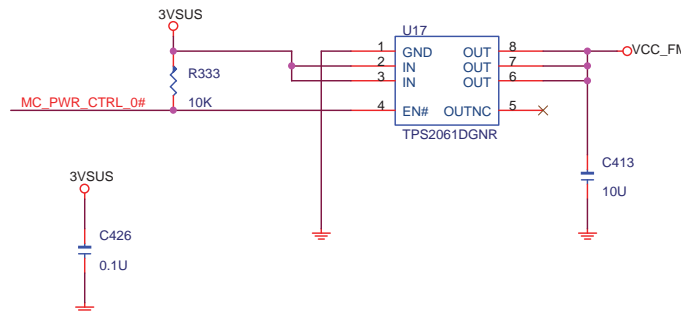
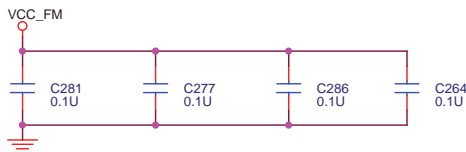
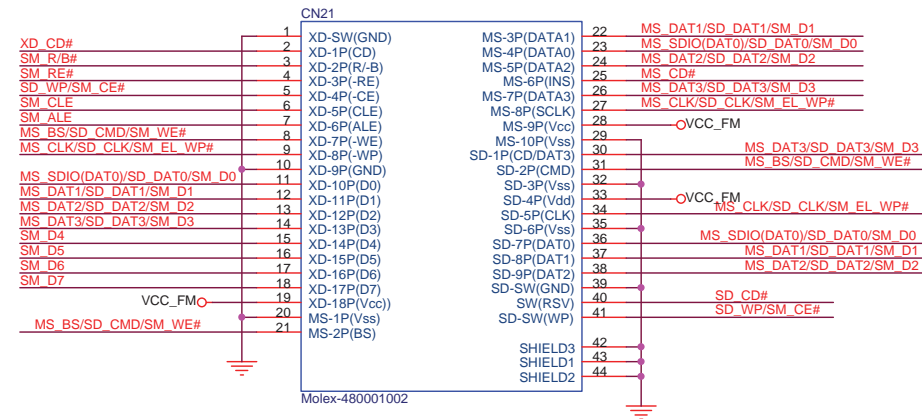






4 IN1 CARD READER (PUSH-PUSH)

Support MMC/SD/MS/xD Cards

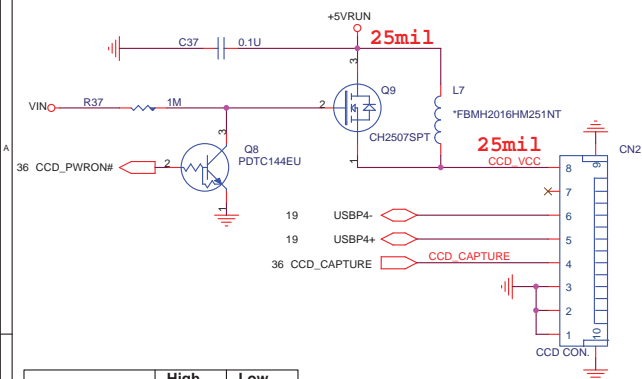


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	PCI7412-CARD READER	3A

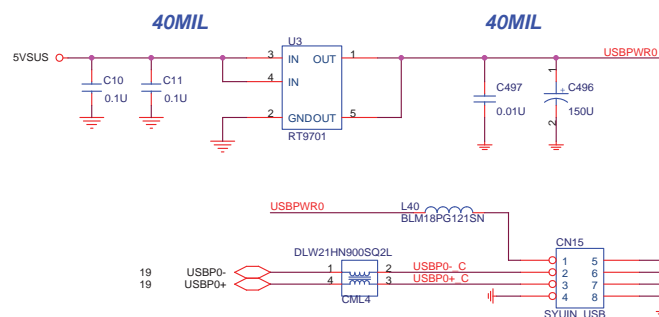
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CCD MODULE

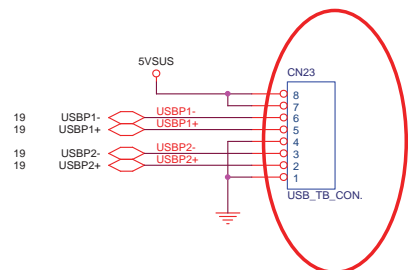


CCD_PWRON#	High	Low
	Disable	Enable

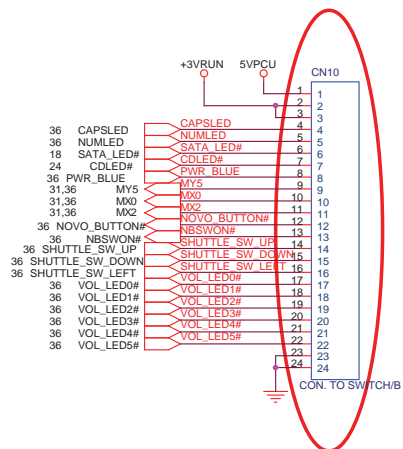
USB PORT



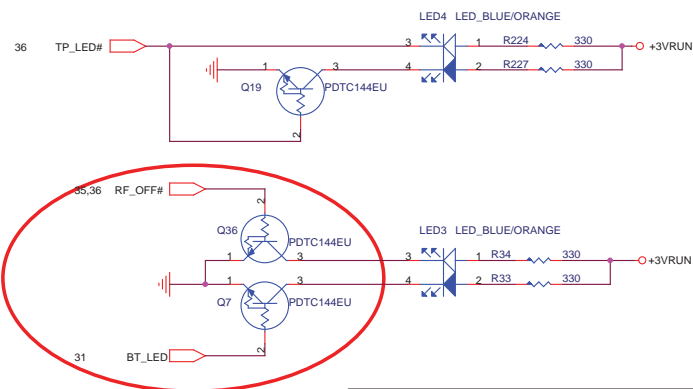
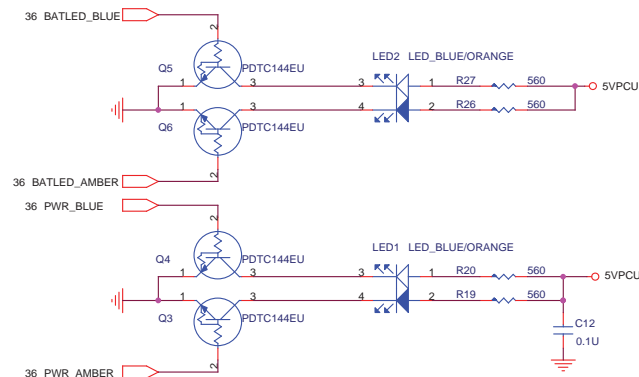
USB TRANSFER/B CON.



S/W BOARD CON.




LED & SWITCH

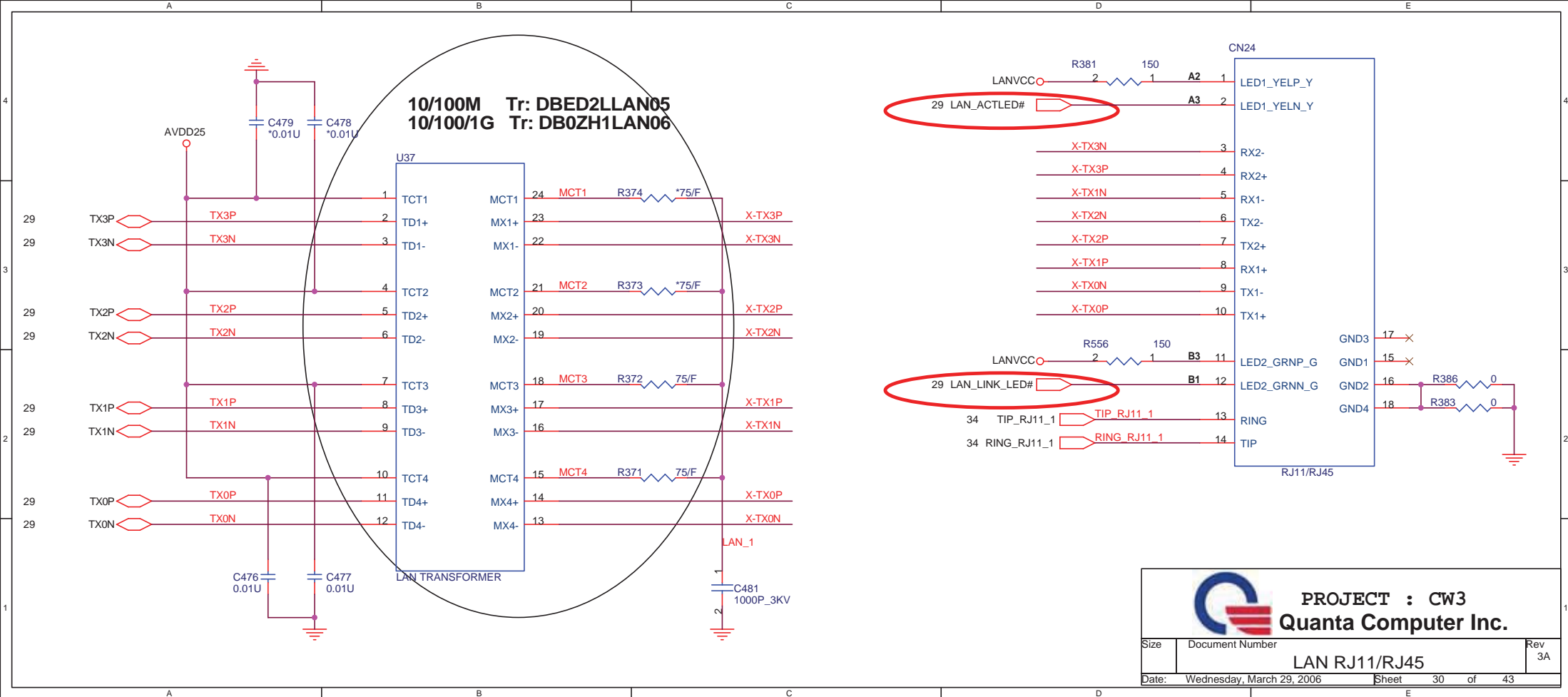




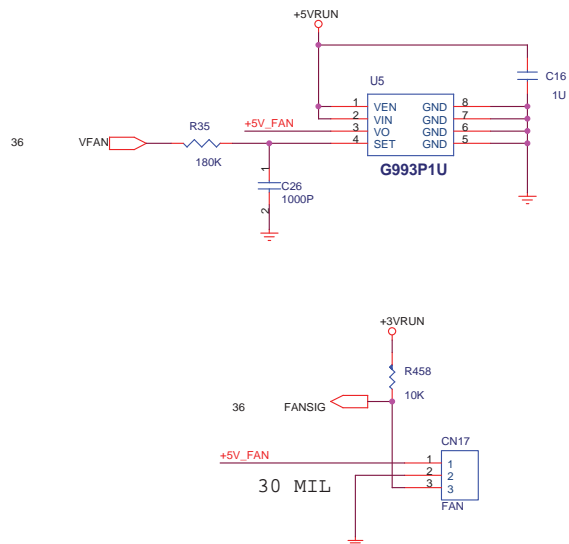
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88E8036/38      ==> 2K
88E8053/55      ==> 4.87K
```



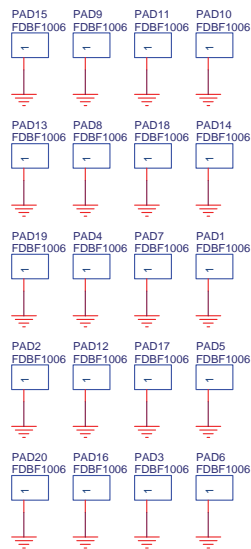
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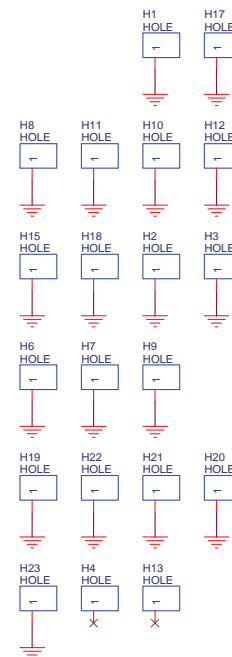
FAN CONTROL



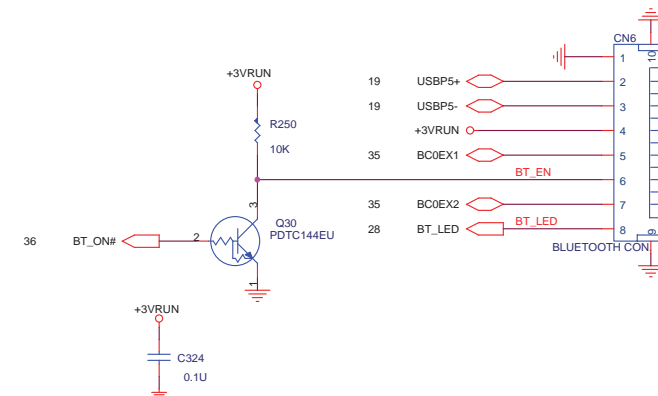
EMI PAD



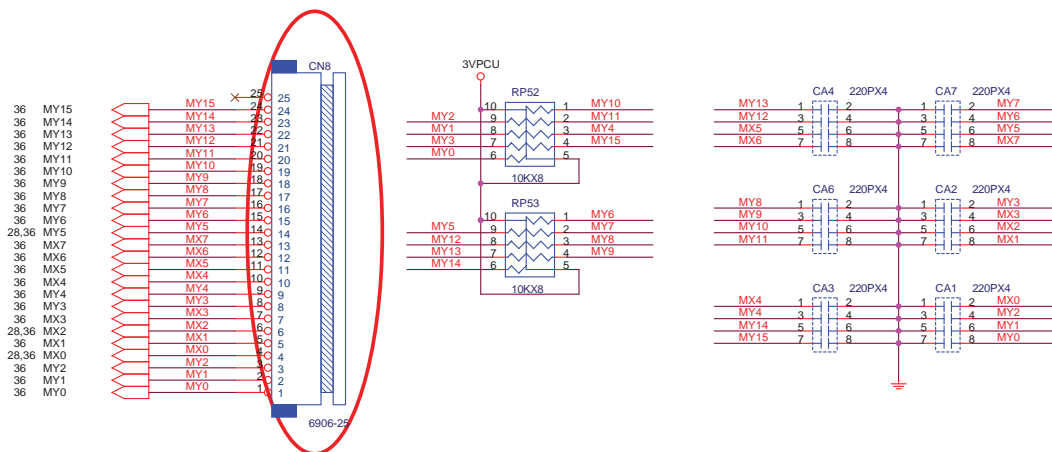
HOLES



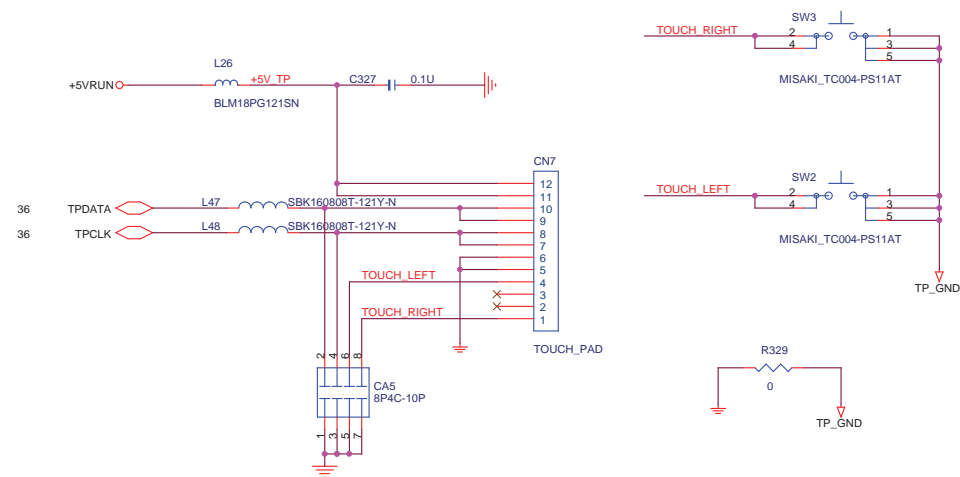
BLUETOOTH

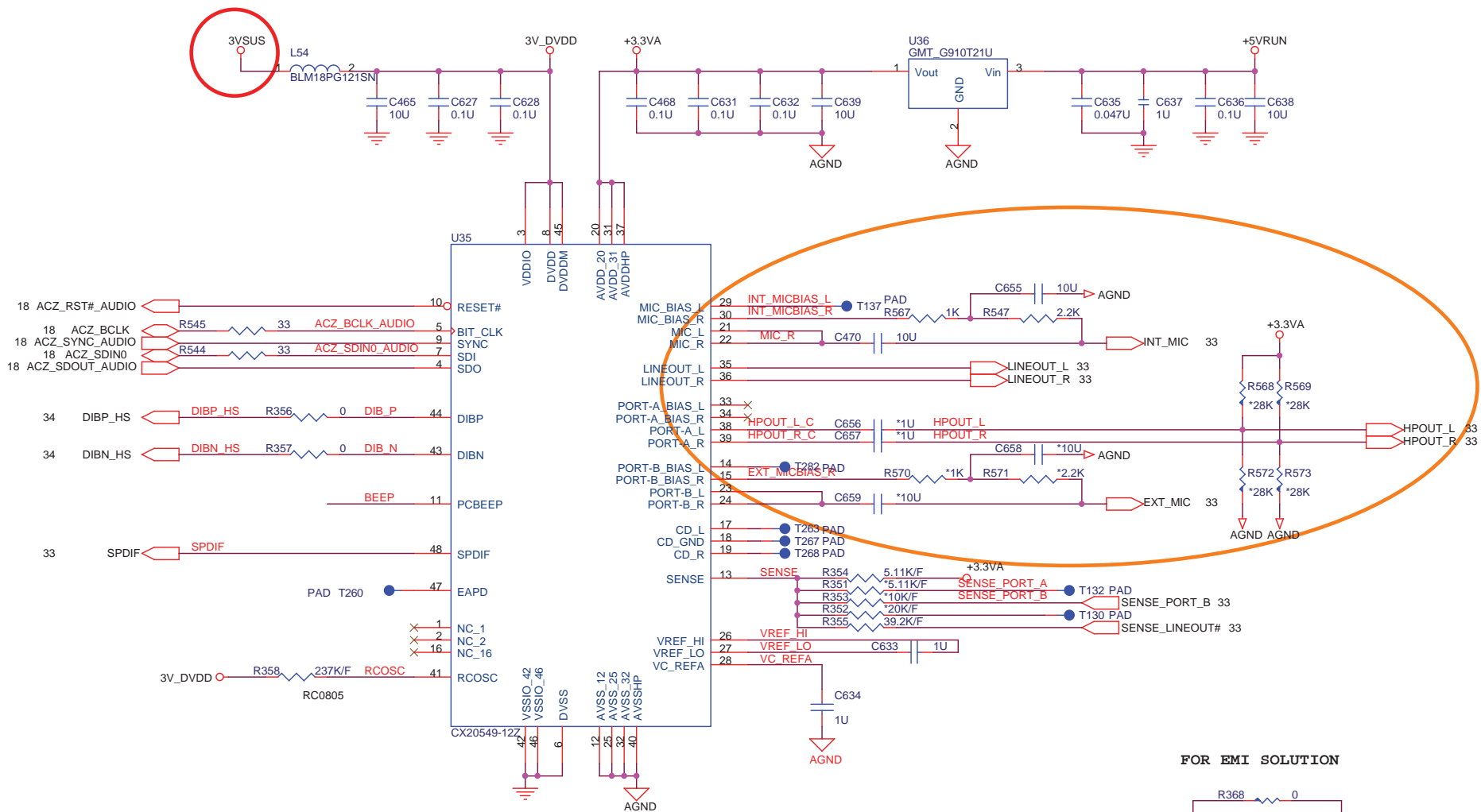


KEYBOARD

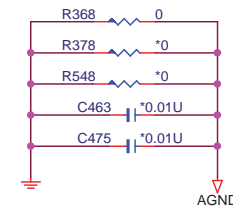


TOUCH PAD

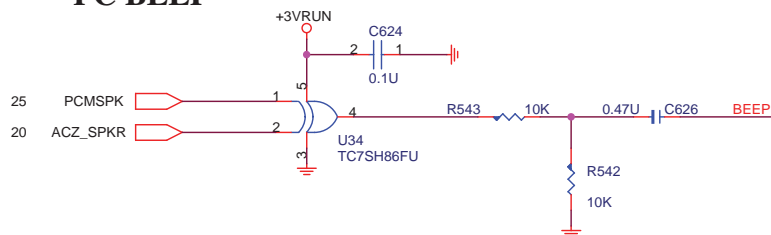




FOR EMI SOLUTION



PC BEEP

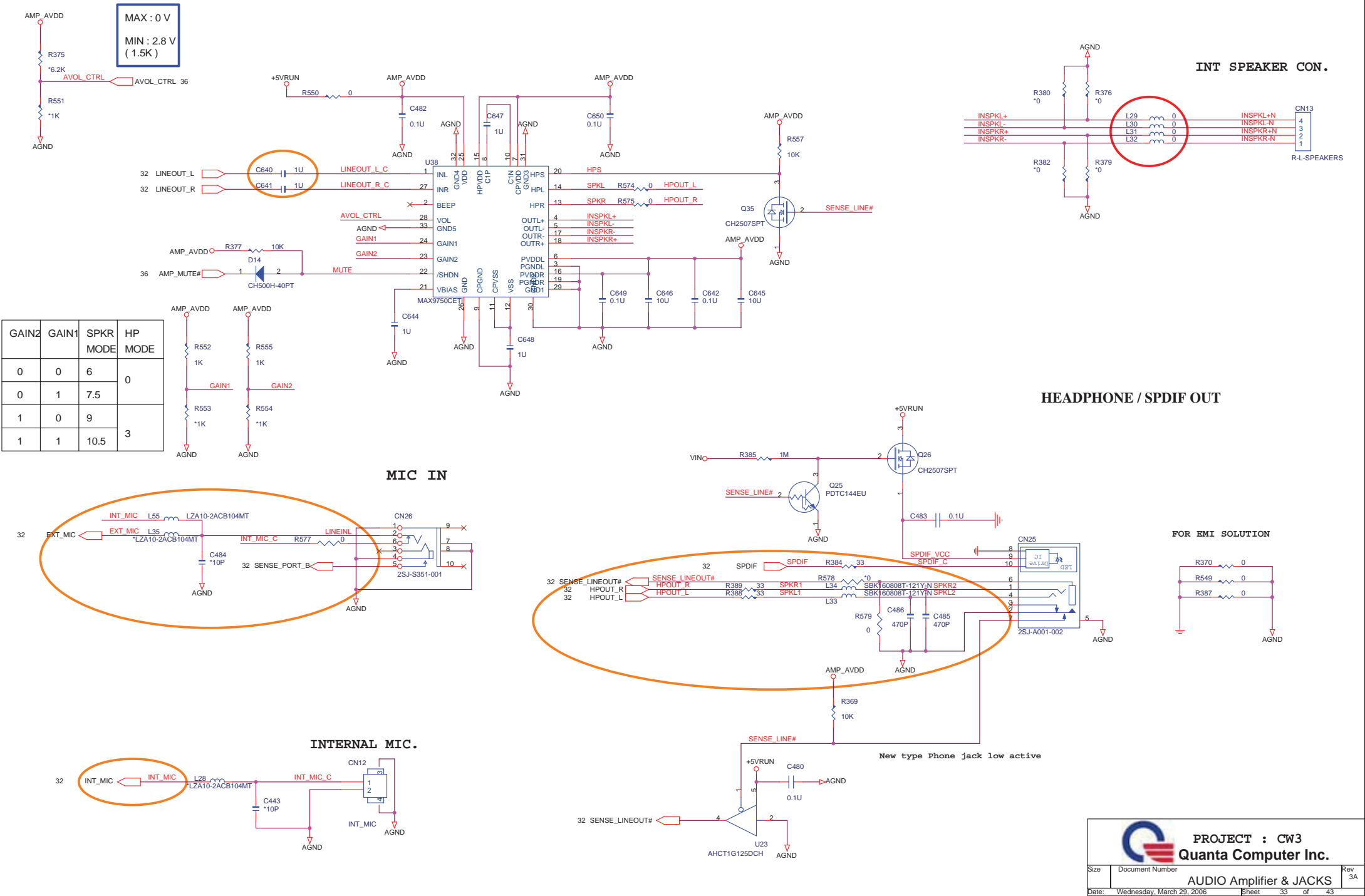


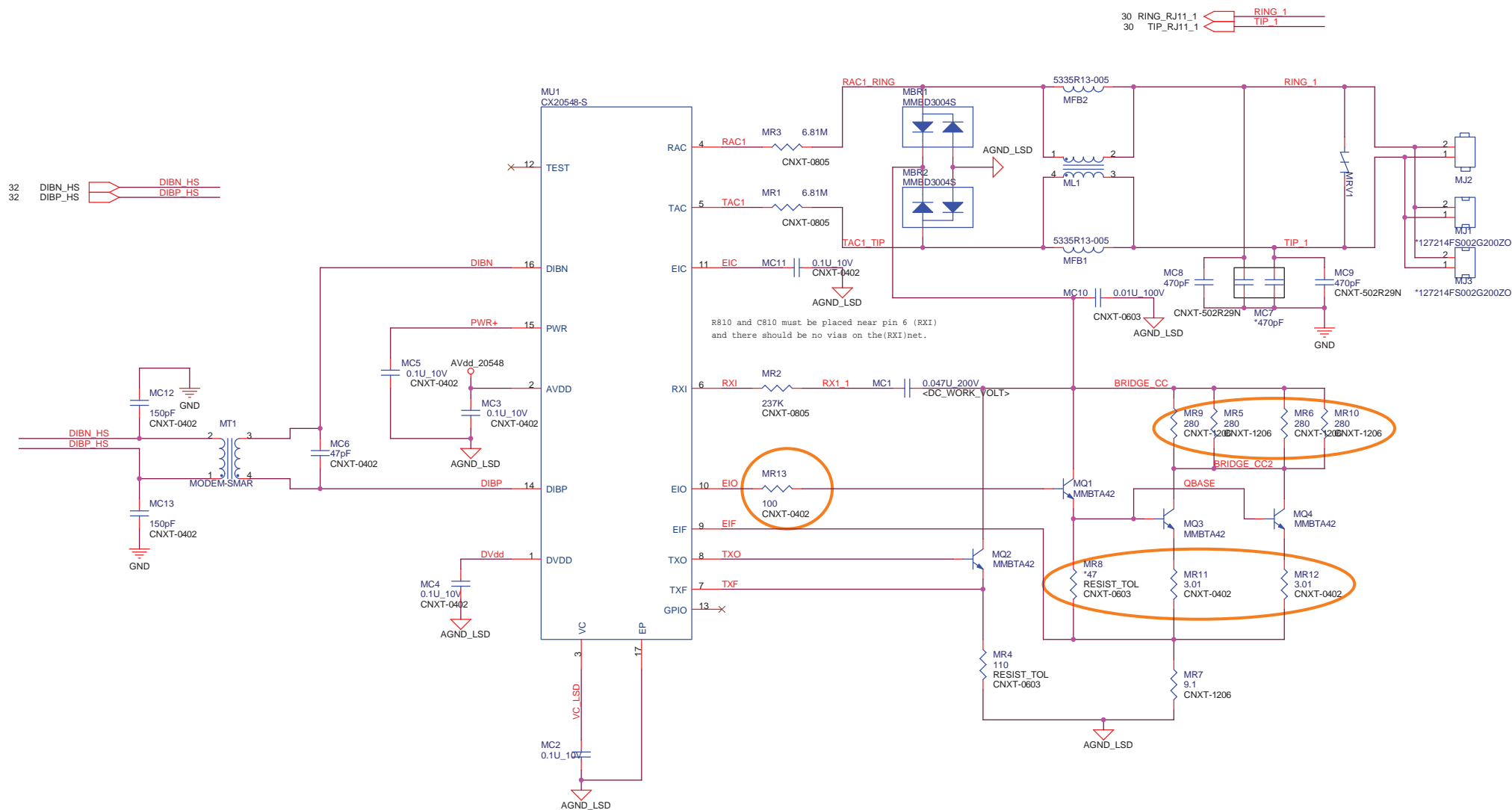
<http://hobi-elektronika.net>



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