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16	VGA(PCI-E/STRAP) 1/8	1.0	060511	51	LAN (1/2)	1.0	060511
17	VGA(PCI-E/STRAP) 2/8	1.0	060511	52	LAN (2/2)	1.0	060511
18	VGA(GDDR) 3/8	1.0	060511	53	Power Design Diagram	1.0	060511
19	VGA(POWER) 4/8	1.0	060511	54	Charger (MAX1909)	1.0	060511
20	VGA(POWER) 5/8	1.0	060511	55	DCIN&BATTIN	1.0	060511
21	VGA(POWER) 6/8	1.0	060511	56	SYSPWR(+3VALW/+5VALW)	1.0	060511
22	VGA(MULTIUSE) 7/8	1.0	060511	57	SYSPWR(+1_5VRUN/+1_05VRUN)	1.0	060511
23	VGA(LVDS/VDAC) 8/8	1.0	060511	58	DDR2PWR(+1_8V_SUS/+0_9VRUN)	1.0	060511
24	VRAM(GDDR) 1/4	1.0	060511	59	VHCORE(MAX8771)	1.0	060511
25	VRAM(GDDR) 2/4	1.0	060511	60	Others power plan	1.0	060511
26	VRAM(POWERBYPASS) 3/4	1.0	060511	61	OVP protection	1.0	060511
27	VRAM(POWERBYPASS) 4/4	1.0	060511	62	VGA POWER(VGACORE&IO)	1.0	060511
28	LVDS	1.0	060511	63	CLOCK GEN	1.0	060511
29	ICH7-M(PCI/USB) 1/5	1.0	060511	64	HOLE/DB CONNS	1.0	060511
30	ICH7-M(LPC,IDE,SATA)2/5	1.0	060511	65	CRT	1.0	060511
31	ICH7-M(GPIO) 3/5	1.0	060511	66	History (EVT)	1.0	060511
32	ICH7-M(POWER) 4/5	1.0	060511	67	History (DVT/PVT/MP)	1.0	060511
33	ICH7-M(GND) 5/5	1.0	060511	67	MS32 DVT	1.0	060511
34	SATA HDD/CD-ROM	1.0	060511				
35	EC+KBC	1.0	060511				

Value	MS50/GM	MS50/PM	MS30/GM	MS30/PM
MS30_			V	V
MS50_	V	V		
CA_	V		V	
NV_		V		V
NC_	V	V	V	V

P. Leader	Check by	Design by

FOXCONN

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CPBG - R&D Division

Title

Index Page

Size

Document Number

Rev

Custom

MS32

1.0

Date:

Thursday, August 03, 2006

Sheet

1

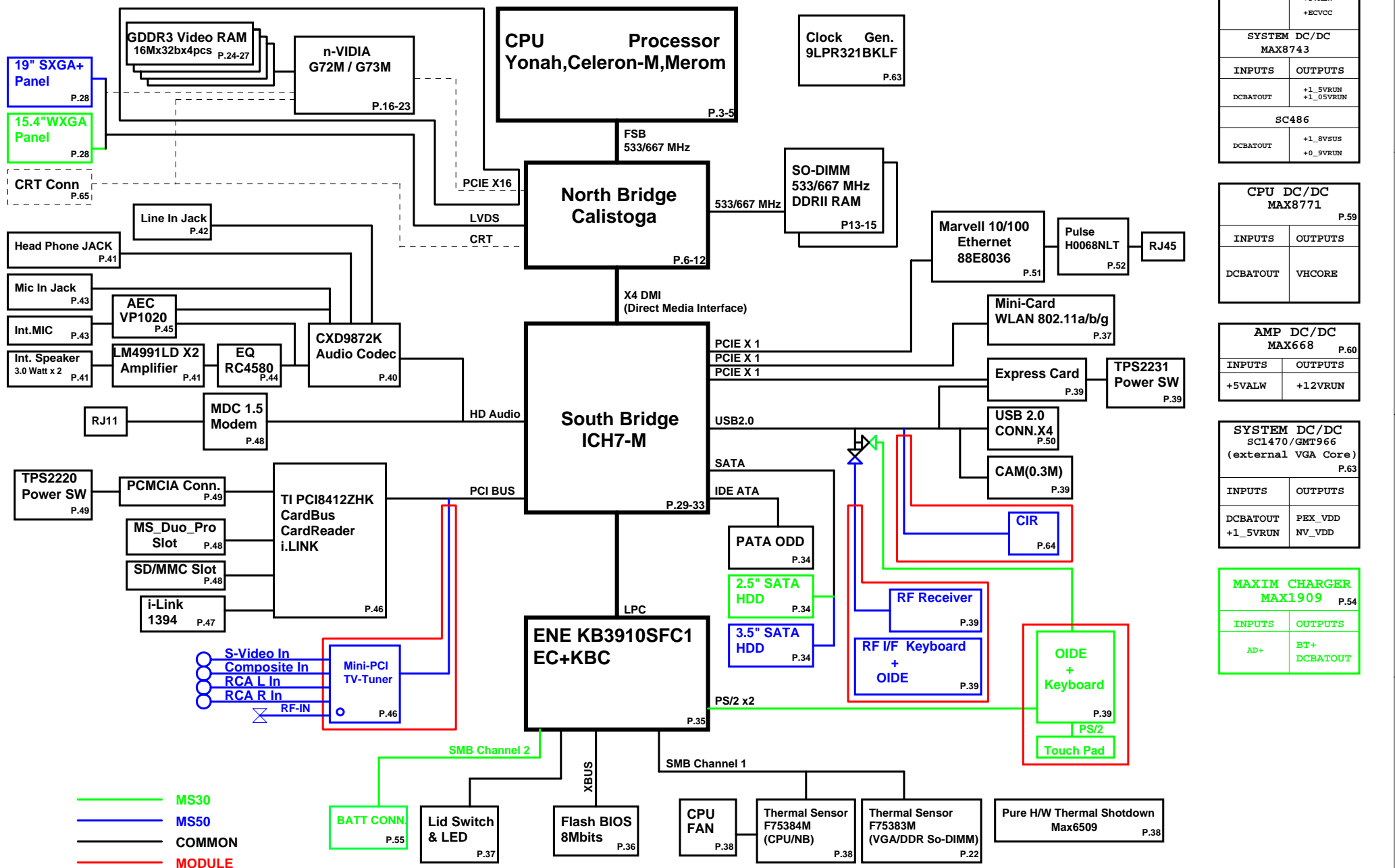
of

68

PCB P/N: 1P-0063100-6011

Project Code & Schematics Subject: MS31 Main Board

MBX-152(CALISTOGA PM/GM+Gfx Block Diagram



SYSTEM DC/DC MAX8734A P.5	
INPUTS	OUTPUTS
DCBATOUT	+5VALW +5VALW_LDO +3VALW +ECVCC
SYSTEM DC/DC MAX8743	
INPUTS	OUTPUTS
DCBATOUT	+1_SVRUN +1_05VRUN
SC486	
DCBATOUT	+1_BVSUS +1_0_SVRUN

CPU DC/DC MAX8771		P.5
INPUTS	OUTPUTS	
DCBATOUT	VH CORE	

AMP DC/DC MAX668 P.6	
INPUTS	OUTPUTS
+5VALW	+12VRUN

SYSTEM DC/DC SC1470/GMT966 (external VGA Core P.6	
INPUTS	OUTPUTS
DCBATOUT +1_5VRUN	PEX_VDD NV_VDD

MAXIM CHARGER MAX1909		P.5
INPUTS	OUTPUTS	
AD+	BT+ DCBATOUT	

Layout note:
no stub on
H_STPCLK#

A#[32-39], APM#[0-1]:
Leave escape routing
on for future
functionality

ICH7M's GPIO12: VIL---- -0.5V ~ 0.8V
VIH---- 2.0V ~ 3.3+0.5V
YONAH's PROCHOT#: VIL---- -0.1V ~ 0.3*VCCP
VIH---- 0.7*VCCP ~ VCCP+0.1

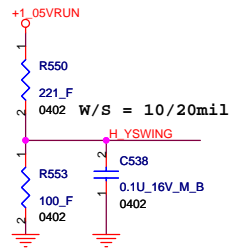
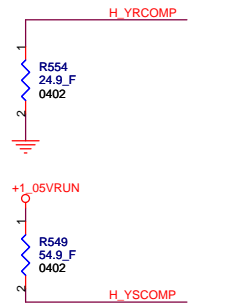
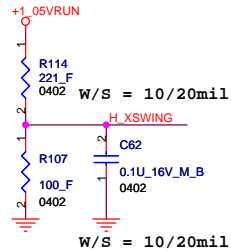
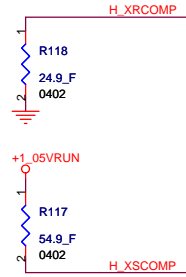
If PROCHOT# is routed between
CPU, IMVP and MCH, pull-up
resistor has to be 75 ohm +-5%

PROCHOT#

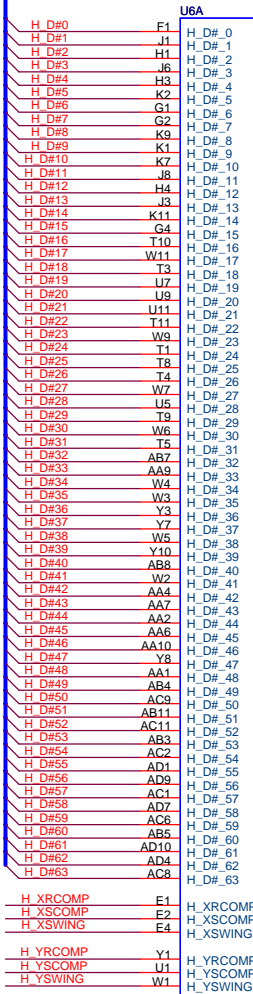
DVT (change to 2N7002)

MS32 PVT

W/S = 10/20mil

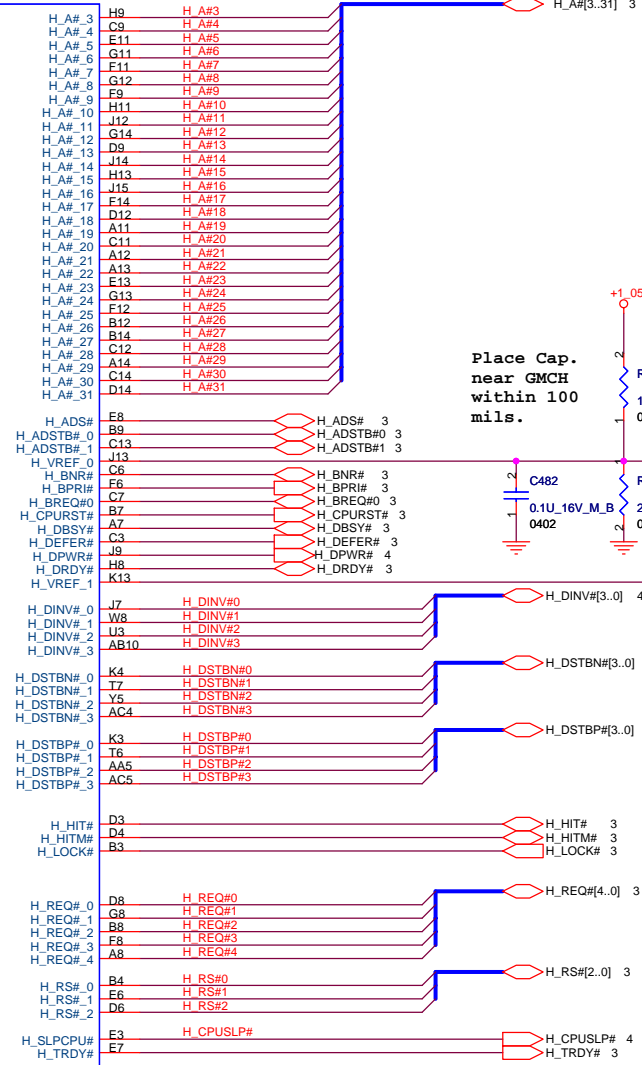


4 H_D#[63..0]

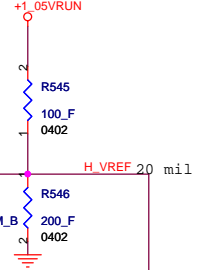


63 CLK_MCH_BCLK
63 CLK_MCH_BCLK#

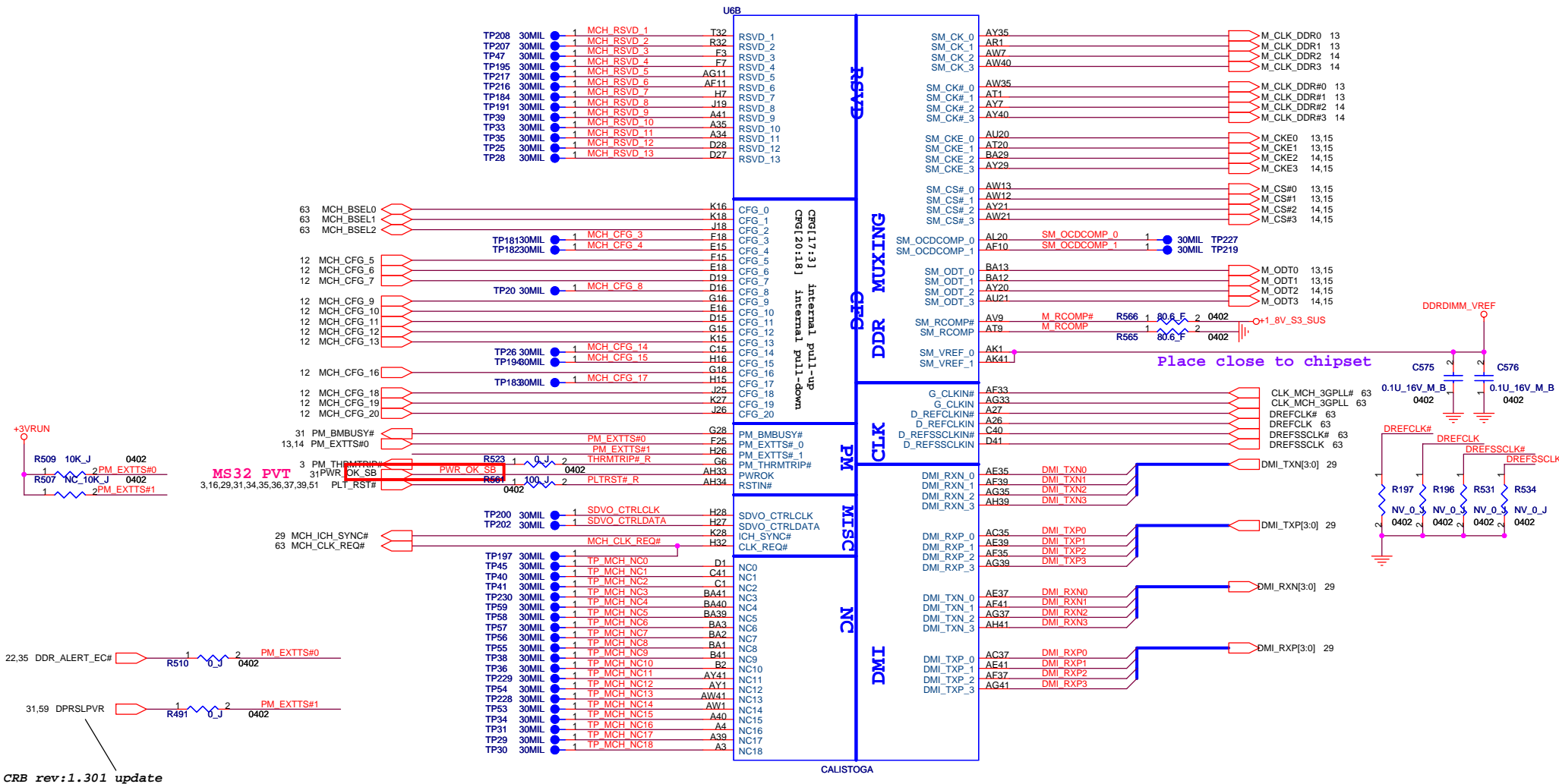
HOST



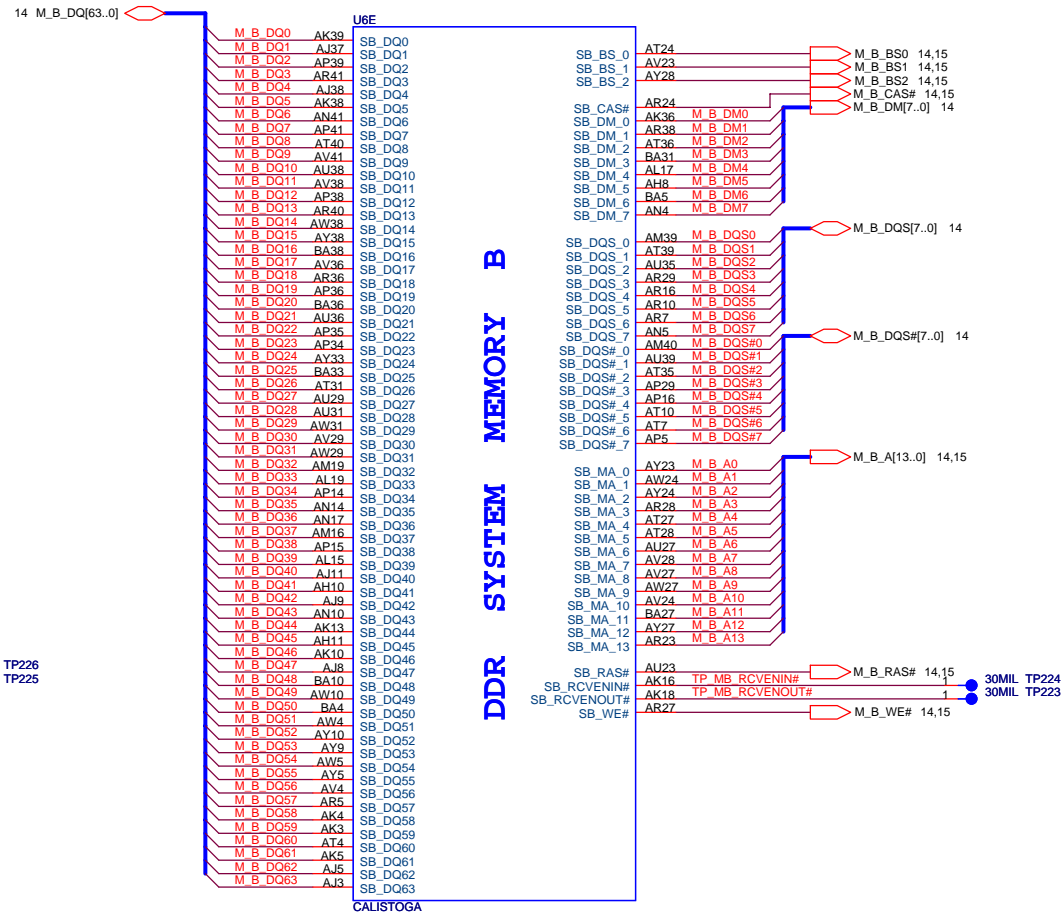
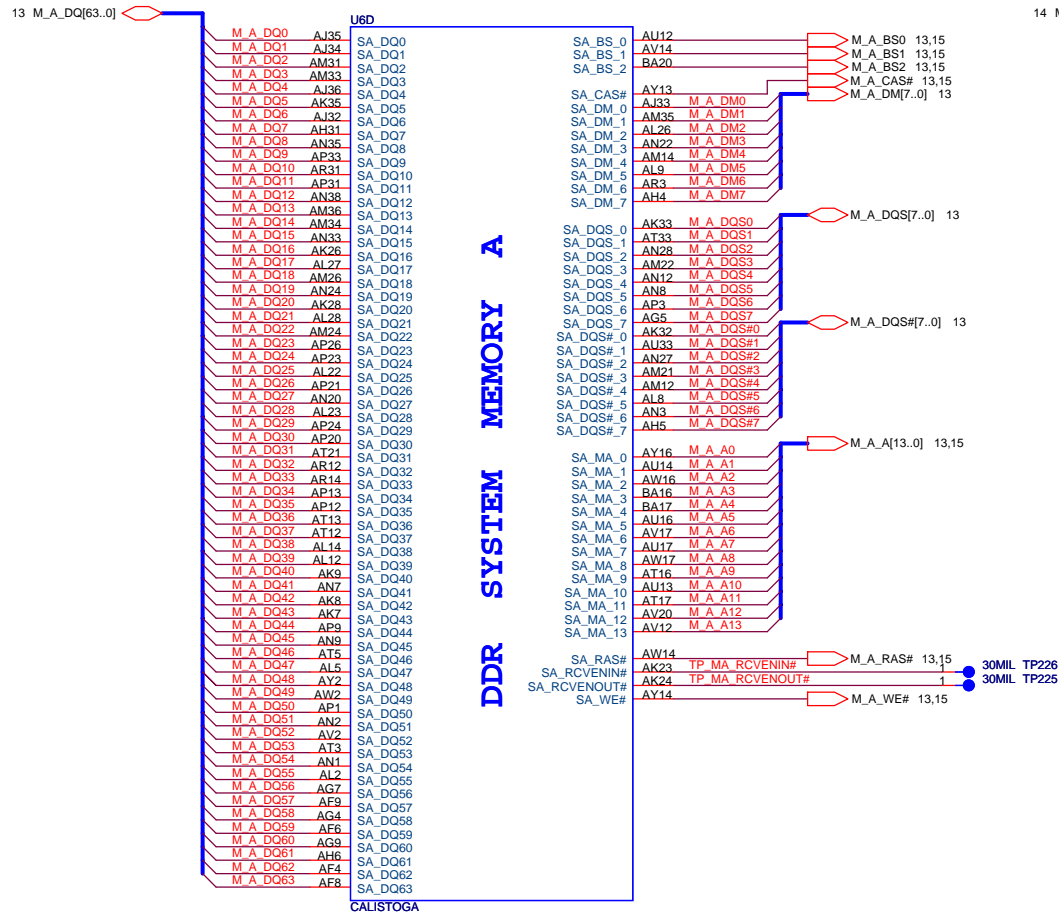
Place Cap.
near GMCH
within 100
mils.

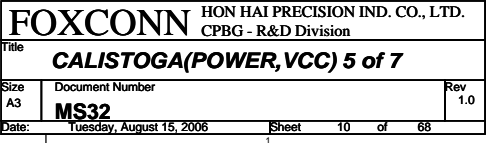


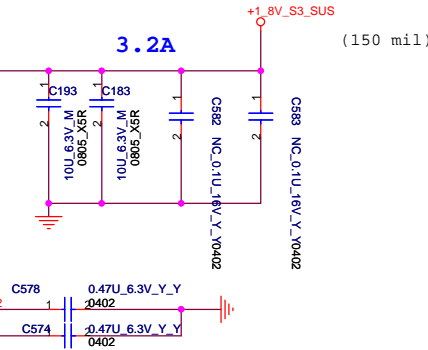
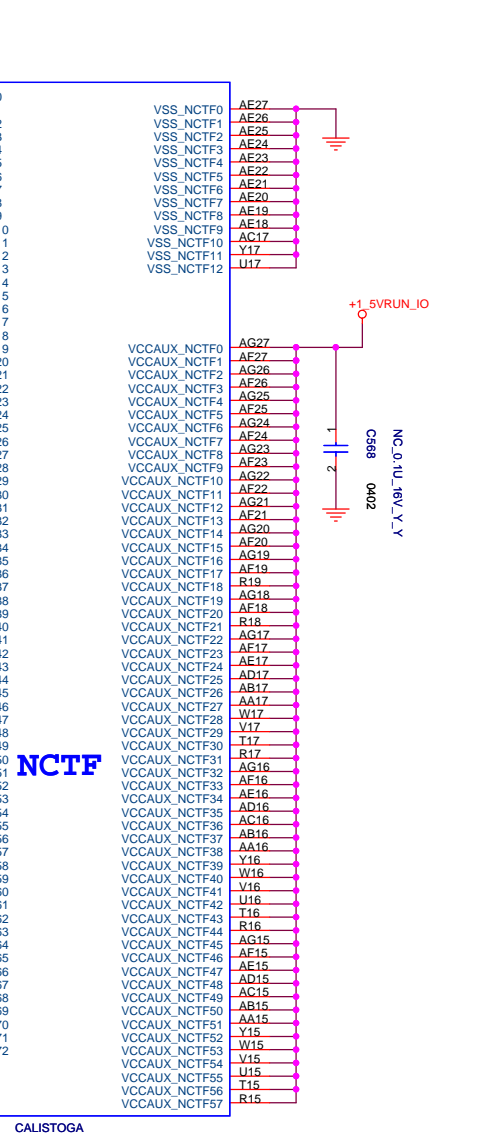
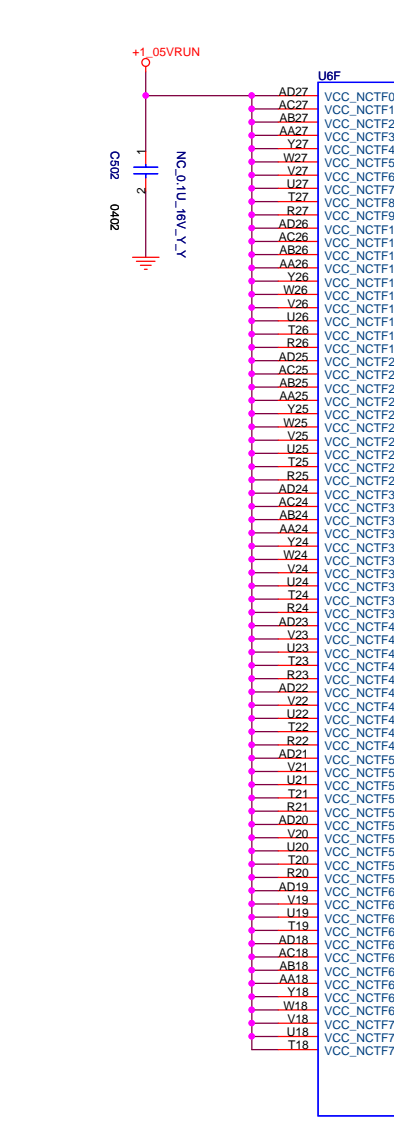
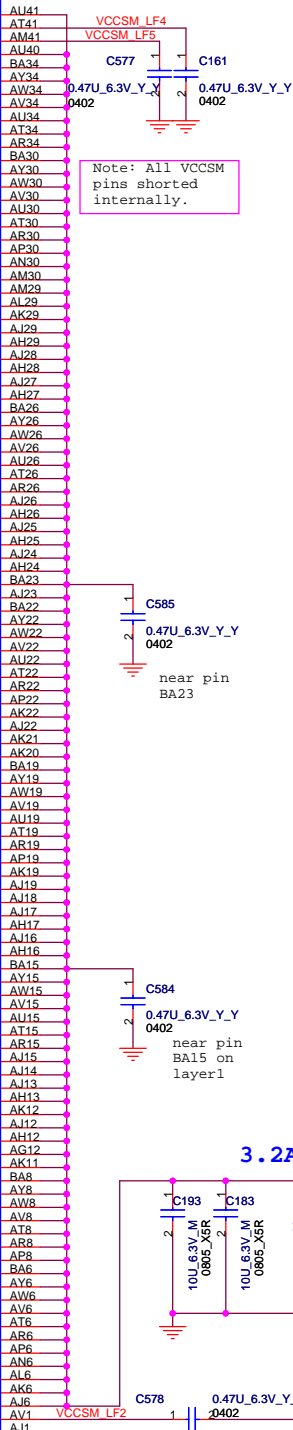
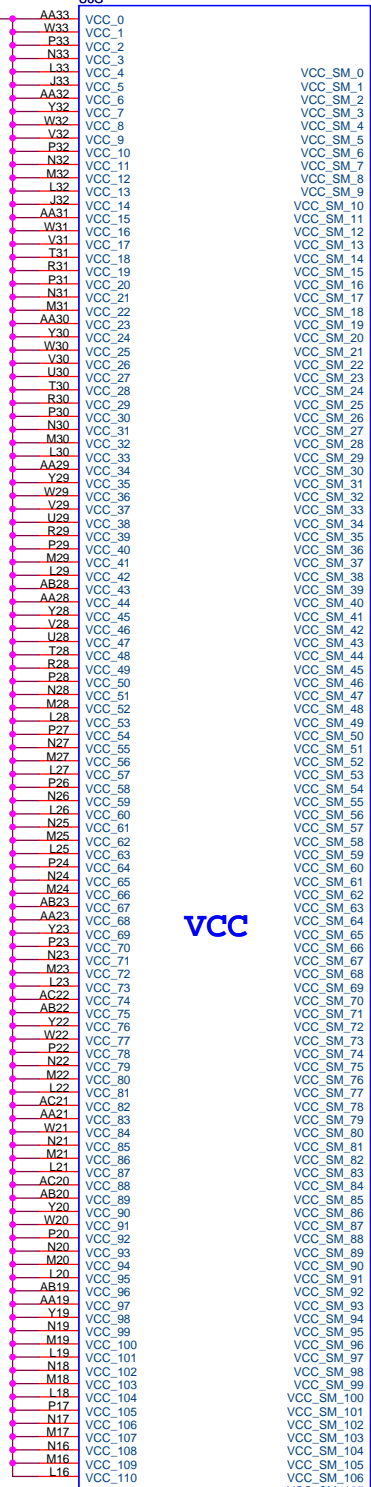
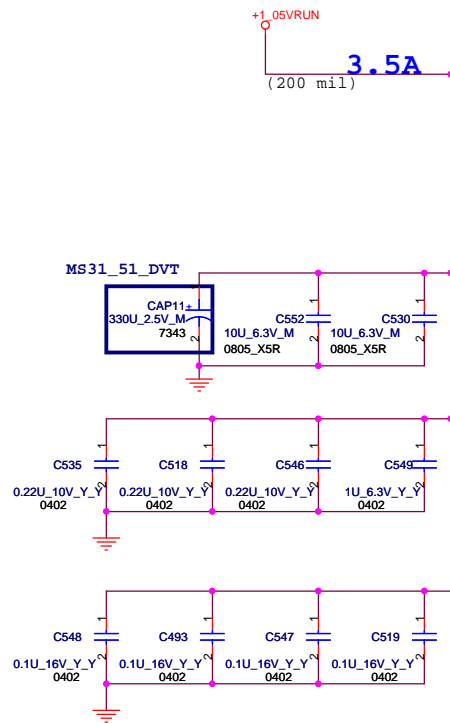
GM QG88CGM 12-0G88CGM-0000
PM QG88CPM 12-0G88CPM-0000
GM QG82945GM-A3 12-0G82945-A300 for MP



CRB rev:1.301 update







7 MCH_CFG_5 1 30MIL TP193

MCH_CFG_5
Low = DMIX2
High = DMIX4

MCH_CFG_18
(VCC_CORE Select)
Low = 1.05V(default)
High = 1.5V

7 MCH_CFG_6 1 30MIL TP180

MCH_CFG_6
Low = Moby Dick
High = Calistoga
DDR2 select (default high)

MCH_CFG_19
(DMI LANE REVERSAL)
Low = Normal(default)
High = LANES REVERSED

7 MCH_CFG_7 1 30MIL TP15

MCH_CFG_7
(CPU Strap)
Low = RSVD
High = Mobile Yonah processor

DVT (delete R514,add TP)

7 MCH_CFG_9 1 30MIL TP250

MCH_CFG_9
(PCIE Graphics Lane)
Low = Reverse Lane
High = Normal operation

For layout convenience

MCH_CFG_20
(PCIE Backward Interpoerability mode)
Low = Only SDVO or PCIE x1 is operational (defaults)
High = SDVO and PCIE x1 are operating simultaneously via the PEG port

7 MCH_CFG_10 1 30MIL TP192

MCH_CFG_10
(HOST PLL VCC SELECT)
Low = RESERVED
High = MOBILITY

7 MCH_CFG_20 1 30MIL TP204

7 MCH_CFG_11 1 30MIL TP185

MCH_CFG_11
(PSB 4x CLK ENABLE)
Low = Reserved
High= Calistoga

R85
NC 2.2K_0402

Layout Noe:
Location of all MCH_CFG strap resistors needs to be close to trace to minimize stub

7 MCH_CFG_12 1 30MIL TP185

7 MCH_CFG_13 1 30MIL TP205

MCH_CFG_13:12
(XOR/ALLZ)
00=Partial Clock Gating Disable
01=XOR Mode Enable
10=All-Z Mode Enable
11=Normal Operation(Default)

7 MCH_CFG_16 1 30MIL TP178

MCH_CFG_16
(FSB Dynamic ODT)
Low = Dynamic ODT Disabled
High = Dynamic ODT Enable

DVT (delete R508,add TP)

DVT (delete R541,add TP)

Check CALISTOGA version , after A2 version , if systec can't boot up then NC the pull low R

U6I	AC41	VSS_0	AK34	VSS_97
	AA41	VSS_1	AG34	VSS_98
	W41	VSS_2	AM23	VSS_99
	T41	VSS_3	AE34	VSS_100
	M41	VSS_4	AC23	VSS_101
	J41	VSS_5	AW33	VSS_102
	F41	VSS_6	AV33	VSS_103
	AV40	VSS_7	AR33	VSS_104
	AP40	VSS_8	C23	VSS_105
	AN40	VSS_9	AE33	VSS_106
	AK40	VSS_10	AE33	VSS_107
	AL40	VSS_11	Y33	VSS_108
	AG40	VSS_12	T33	VSS_109
	AF40	VSS_13	R33	VSS_110
	AE40	VSS_14	E22	VSS_111
	B40	VSS_15	M33	VSS_112
	AY39	VSS_16	H33	VSS_113
	AW39	VSS_17	G33	VSS_114
	AV39	VSS_18	F33	VSS_115
	AR39	VSS_19	D33	VSS_116
	AN39	VSS_20	B33	VSS_117
	AK39	VSS_21	AH32	VSS_118
	AL39	VSS_22	AG32	VSS_119
	AG39	VSS_23	AF32	VSS_120
	AF39	VSS_24	Y21	VSS_121
	AE39	VSS_25	AE32	VSS_122
	AE39	VSS_26	K21	VSS_123
	Y39	VSS_27	J21	VSS_124
	W39	VSS_28	H21	VSS_125
	V39	VSS_29	C21	VSS_126
	T39	VSS_30	AW20	VSS_127
	R39	VSS_31	AR20	VSS_128
	P39	VSS_32	AM20	VSS_129
	N39	VSS_33	AL20	VSS_130
	M39	VSS_34	AA20	VSS_131
	L39	VSS_35	K20	VSS_132
	J39	VSS_36	B20	VSS_133
	H39	VSS_37	A20	VSS_134
	G39	VSS_38	AN19	VSS_135
	F39	VSS_39	E30	VSS_136
	D39	VSS_40	W19	VSS_137
	AT38	VSS_41	T29	VSS_138
	AM38	VSS_42	N29	VSS_139
	AH38	VSS_43	K29	VSS_140
	AG38	VSS_44	P18	VSS_141
	AF38	VSS_45	H18	VSS_142
	AE38	VSS_46	D18	VSS_143
	C38	VSS_47	A18	VSS_144
	AK37	VSS_48	AY17	VSS_145
	AH37	VSS_49	AR17	VSS_146
	AG37	VSS_50	AP17	VSS_147
	AF37	VSS_51	AY17	VSS_148
	AE37	VSS_52	AK17	VSS_149
	Y37	VSS_53	AP28	VSS_150
	W37	VSS_54	AM28	VSS_151
	V37	VSS_55	AD28	VSS_152
	T37	VSS_56	AC28	VSS_153
	R37	VSS_57	F16	VSS_154
	P37	VSS_58	J28	VSS_155
	N37	VSS_59	E28	VSS_156
	M37	VSS_60	AP27	VSS_157
	L37	VSS_61	AM27	VSS_158
	J37	VSS_62	AK27	VSS_159
	H37	VSS_63	J27	VSS_160
	G37	VSS_64	F27	VSS_161
	F37	VSS_65	C27	VSS_162
	D37	VSS_66	B27	VSS_163
	C37	VSS_67	AN26	VSS_164
	AK36	VSS_68	M26	VSS_165
	AN36	VSS_69	K26	VSS_166
	AG36	VSS_70	AA14	VSS_167
	AF36	VSS_71	D26	VSS_168
	AE36	VSS_72	AK25	VSS_169
	AC36	VSS_73	P25	VSS_170
	C36	VSS_74	K25	VSS_171
	B36	VSS_75	H25	VSS_172
	AY35	VSS_76	AR13	VSS_173
	AW35	VSS_77	D25	VSS_174
	AV35	VSS_78	A25	VSS_175
	AR35	VSS_79	BA24	VSS_176
	AN35	VSS_80	AU24	VSS_177
	AK35	VSS_81	AL24	VSS_178
	AL35	VSS_82	AW24	VSS_179
	AG35	VSS_83		
	AF35	VSS_84		
	AE35	VSS_85		
	AE35	VSS_86		
	Y35	VSS_87		
	W35	VSS_88		
	V35	VSS_89		
	T35	VSS_90		
	R35	VSS_91		
	P35	VSS_92		
	N35	VSS_93		
	M35	VSS_94		
	L35	VSS_95		
	J35	VSS_96		
	H35			
	G35			
	F35			
	D35			
	C35			
	B35			
	AY34			
	AW34			

VSS

U6J	AT23	VSS_180	J11	VSS_273
	AN23	VSS_181	D11	VSS_274
	AM23	VSS_182	B11	VSS_275
	AH23	VSS_183	AV10	VSS_276
	AC23	VSS_184	AP10	VSS_277
	W23	VSS_185	AL10	VSS_278
	K23	VSS_186	AJ10	VSS_279
	J23	VSS_187	AG10	VSS_280
	F23	VSS_188	AC10	VSS_281
	C23	VSS_189	W10	VSS_282
	AE22	VSS_190	U10	VSS_283
	G22	VSS_191	BA9	VSS_284
	F22	VSS_192	AW9	VSS_285
	E22	VSS_193	AR9	VSS_286
	D22	VSS_194	AH9	VSS_287
	A22	VSS_195	AB9	VSS_288
	G33	VSS_196	Y9	VSS_289
	BA21	VSS_197	R9	VSS_290
	AR21	VSS_198	G9	VSS_291
	AN21	VSS_199	E9	VSS_292
	AL21	VSS_200	A9	VSS_293
	AG21	VSS_201	AG8	VSS_294
	AF21	VSS_202	AD8	VSS_295
	Y21	VSS_203	AA8	VSS_296
	AE32	VSS_204	UA8	VSS_297
	K21	VSS_205	K8	VSS_298
	J21	VSS_206	C8	VSS_299
	H21	VSS_207	BA7	VSS_300
	C21	VSS_208	AV7	VSS_301
	AW20	VSS_209	AP7	VSS_302
	AR20	VSS_210	AL7	VSS_303
	AM20	VSS_211	AJ7	VSS_304
	AA20	VSS_212	AH7	VSS_305
	K20	VSS_213	AF7	VSS_306
	B20	VSS_214	AC7	VSS_307
	A20	VSS_215	R7	VSS_308
	AN19	VSS_216	G7	VSS_309
	E30	VSS_217	D7	VSS_310
	W19	VSS_218	AG6	VSS_311
	K19	VSS_219	AD6	VSS_312
	G19	VSS_220	AB6	VSS_313
	C19	VSS_221	Y6	VSS_314
	AH18	VSS_222	U6	VSS_315
	K29	VSS_223	N6	VSS_316
	H18	VSS_224	H6	VSS_317
	D18	VSS_225	B6	VSS_318
	A18	VSS_226	AV5	VSS_319
	AY17	VSS_227	AE5	VSS_320
	AR17	VSS_228	AD5	VSS_321
	AP17	VSS_229	AA5	VSS_322
	AY17	VSS_230	UA4	VSS_323
	AK17	VSS_231	AR4	VSS_324
	AP28	VSS_232	AP4	VSS_325
	AM28	VSS_233	AL4	VSS_326
	AD28	VSS_234	AJ4	VSS_327
	AC28	VSS_235	Y4	VSS_328
	F16	VSS_236	U4	VSS_329
	J28	VSS_237	R4	VSS_330
	E28	VSS_238	J4	VSS_331
	AP27	VSS_239	F4	VSS_332
	AM27	VSS_240	C4	VSS_333
	AK27	VSS_241	AY3	VSS_334
	J27	VSS_242	AW3	VSS_335
	F27	VSS_243	AV3	VSS_336
	C27	VSS_244	AL3	VSS_337
	B27	VSS_245	AH3	VSS_338
	AN26	VSS_246	AG3	VSS_339
	M26	VSS_247	AF3	VSS_340
	K26	VSS_248	AD3	VSS_341
	AA14	VSS_249	AC3	VSS_342
	D26	VSS_250	G3	VSS_343
	AK25	VSS_251	AT2	VSS_344
	P25	VSS_252	AR2	VSS_345
	K25	VSS_253	AP2	VSS_346
	H25	VSS_254	AK2	VSS_347
	AR13	VSS_255	AJ2	VSS_348
	D25	VSS_256	AD2	VSS_349
	A25	VSS_257	AB2	VSS_350
	BA24	VSS_258	Y2	VSS_351
	AU24	VSS_259	U2	VSS_352
	AL24	VSS_260	T2	VSS_353
	AW24	VSS_261	N2	VSS_354
		VSS_262	H2	VSS_355
		VSS_263	F2	VSS_356
		VSS_264	C2	VSS_357
		VSS_265	AL1	VSS_358
		VSS_266		VSS_359
		VSS_267		VSS_360
		VSS_268		
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		VSS_270		
		VSS_271		
		VSS_272		

VSS

CALISTOGA

CALISTOGA

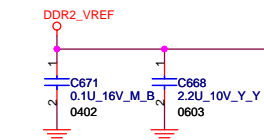
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CPBG - R&D Division

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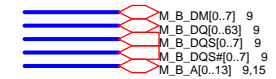
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Rev
1.0



0.1 μ F and 2.2 μ F placed close to VREF pins

1.8V per DIMM=3.08A



7,15 M_CKE2

9,15 M_B_BS2

9,15 M_B_BS0

9,15 M_B_WE#

9,15 M_B_CAS#

7,15 M_CS#3

7,15 M_ODT3

M_B_DQ32

M_B_DQ33

M_B_DQS#4

M_B_DQ34

M_B_DQ35

M_B_DQ40

M_B_DQ41

M_B_DM5

M_B_DQ42

M_B_DQ43

M_B_DQ48

M_B_DQ49

M_B_DQS#6

M_B_DQ50

M_B_DQ51

M_B_DQ56

M_B_DQ57

M_B_DM7

M_B_DQ58

M_B_DQ59

M_B_DQ62

M_B_DQ63

M_B_DQ64

M_B_DQ65

M_B_DQ66

M_B_DQ67

M_B_DQ68

M_B_DQ69

M_B_DQ70

M_B_DQ71

M_B_DQ72

M_B_DQ73

M_B_DQ74

M_B_DQ75

M_B_DQ76

M_B_DQ77

M_B_DQ78

M_B_DQ79

M_B_DQ80

M_B_DQ81

M_B_DQ82

M_B_DQ83

M_B_DQ84

M_B_DQ85

M_B_DQ86

M_B_DQ87

M_B_DQ88

M_B_DQ89

M_B_DQ90

M_B_DQ91

M_B_DQ92

M_B_DQ93

M_B_DQ94

M_B_DQ95

M_B_DQ96

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M_B_DQ98

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M_B_DQ326

M_B_DQ327

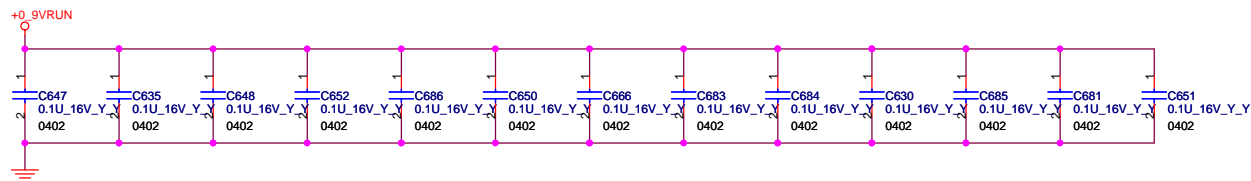
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M_B_DQ329

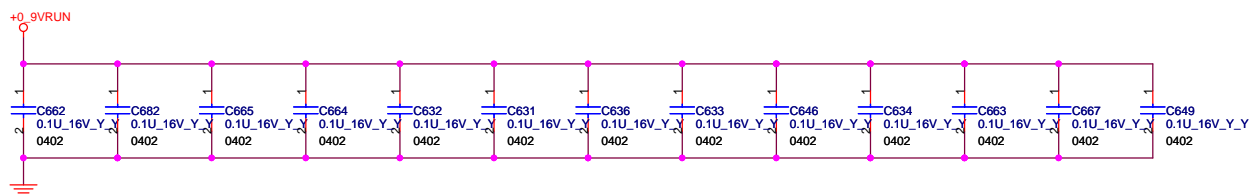
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M_B_DQ331

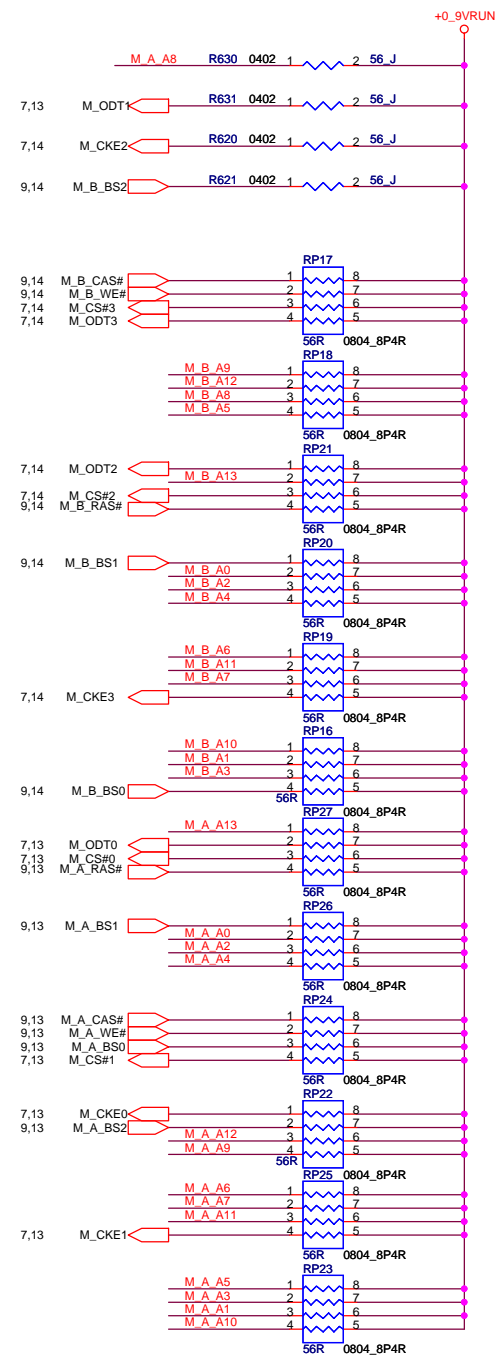
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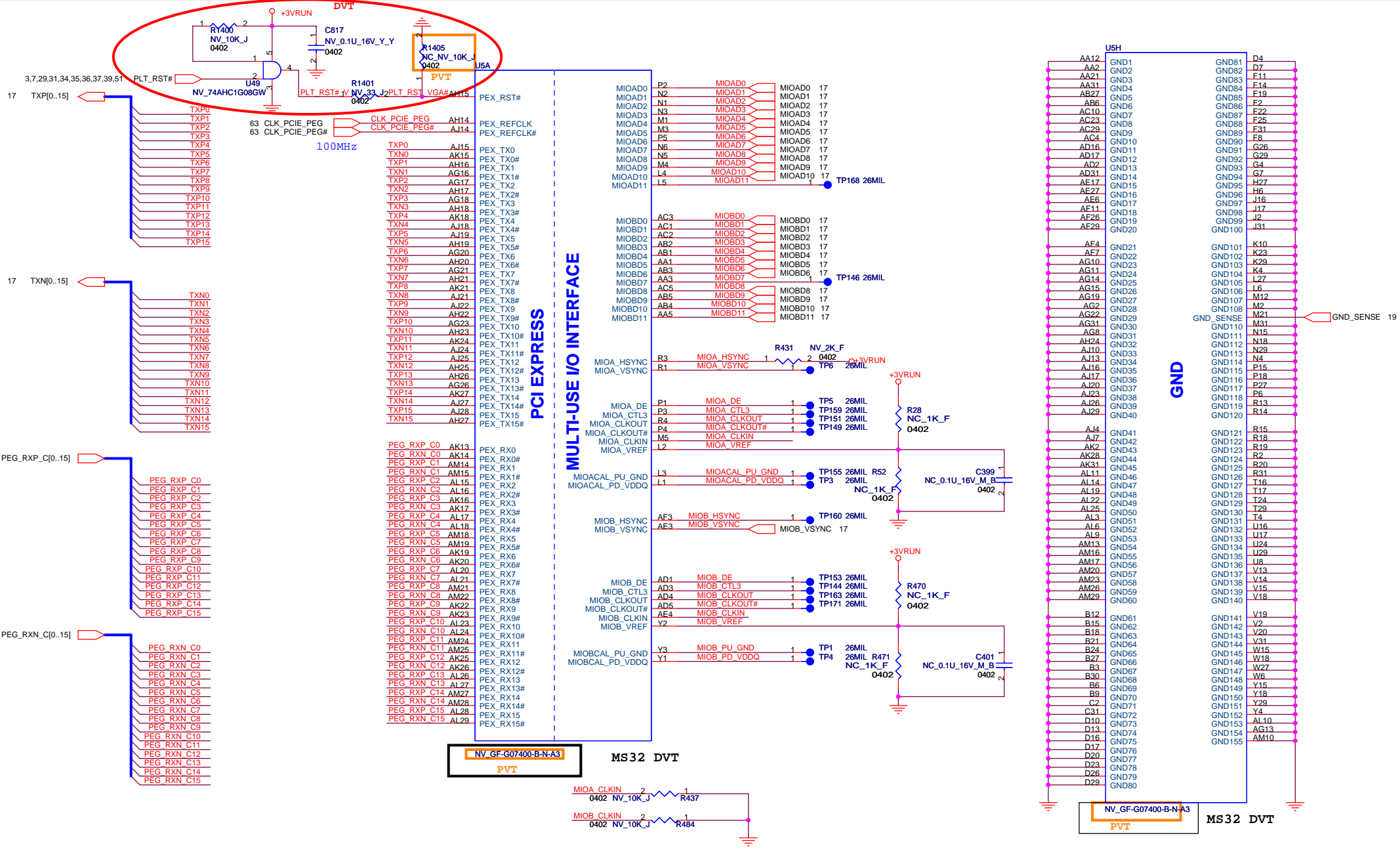


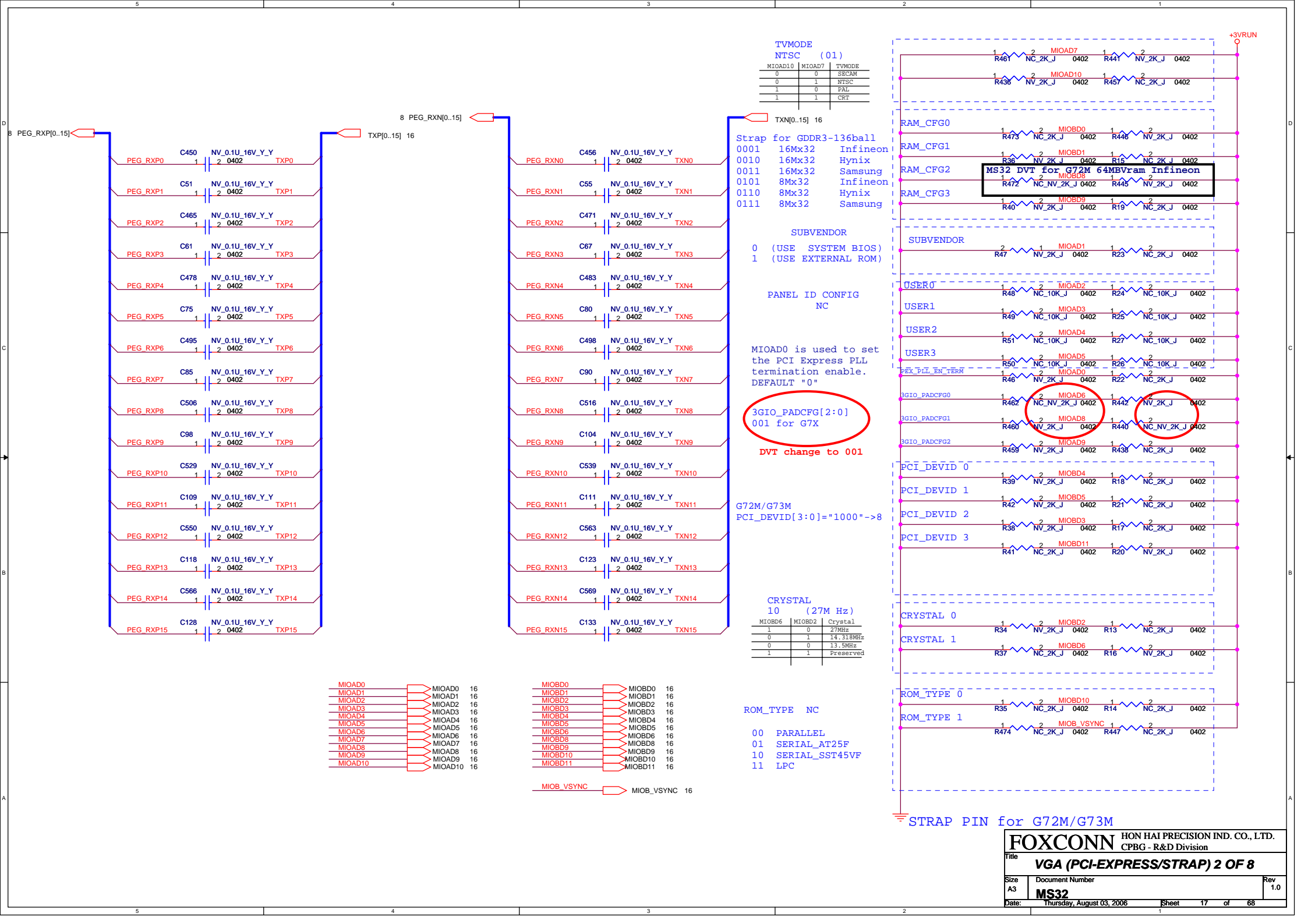
Layout note: Place 1 cap close to every 1 R-pack terminated to +0_9VRUN

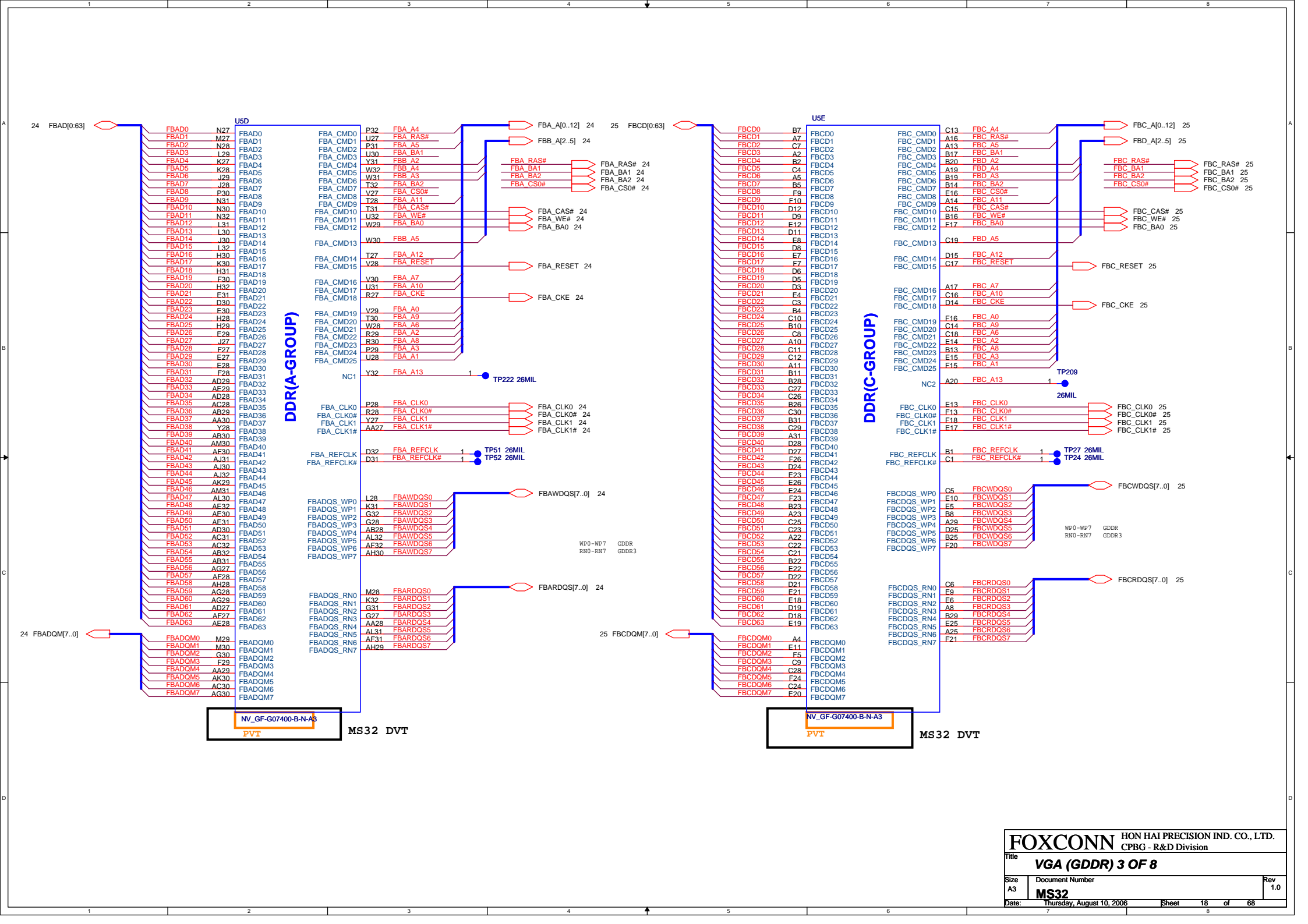


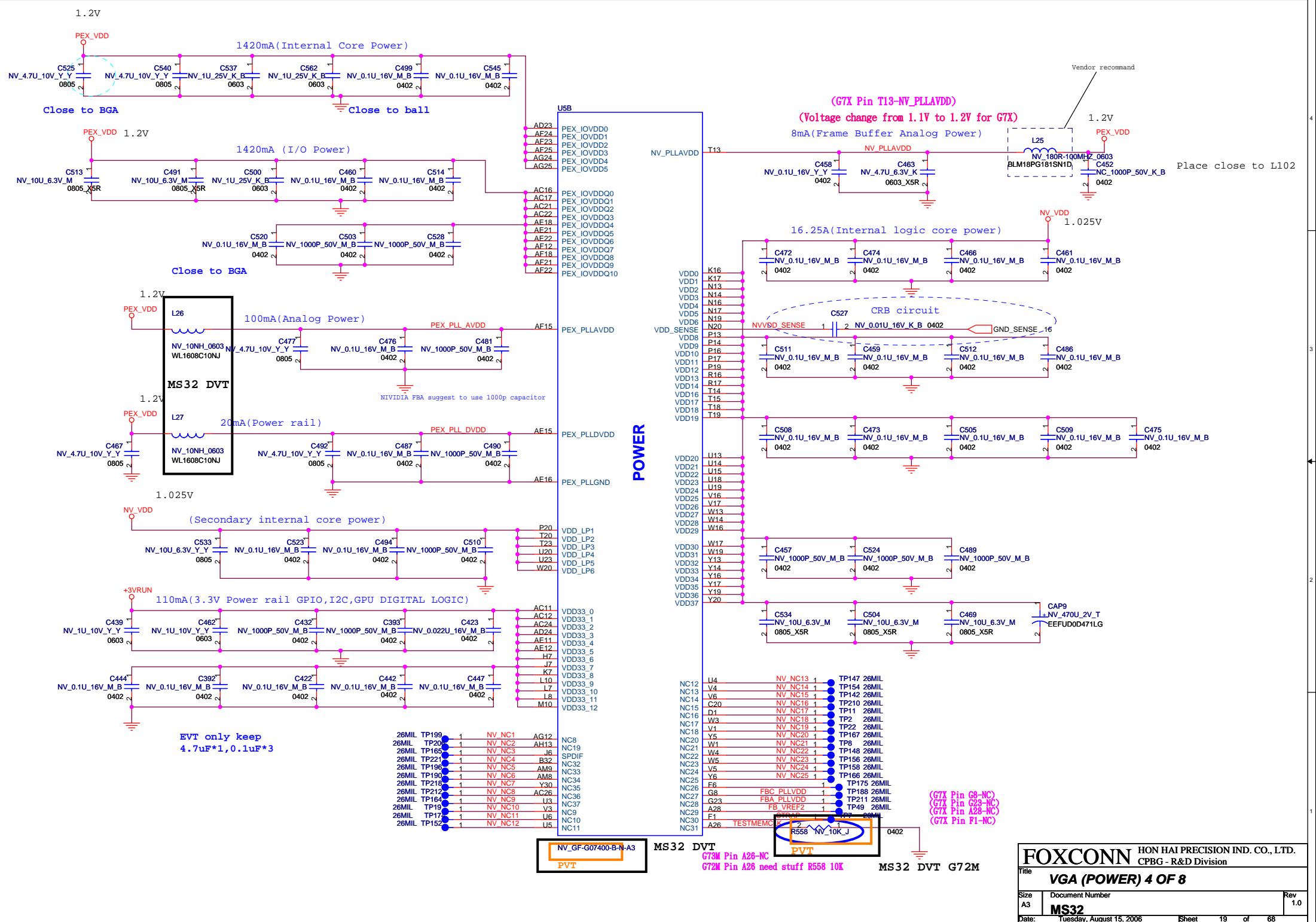
Layout note: Place 1 cap close to every 1 R-pack terminated to +0_9VRUN



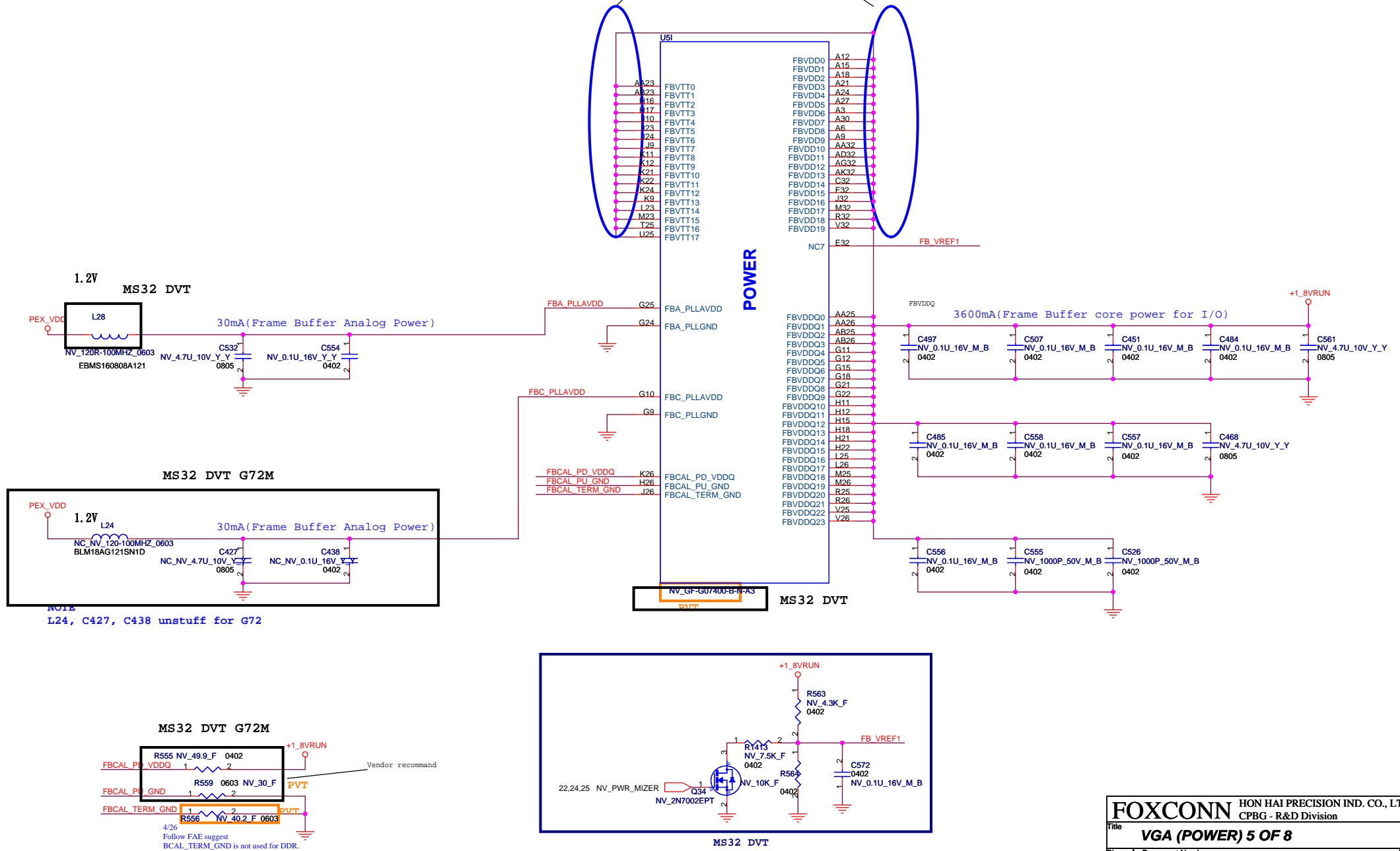


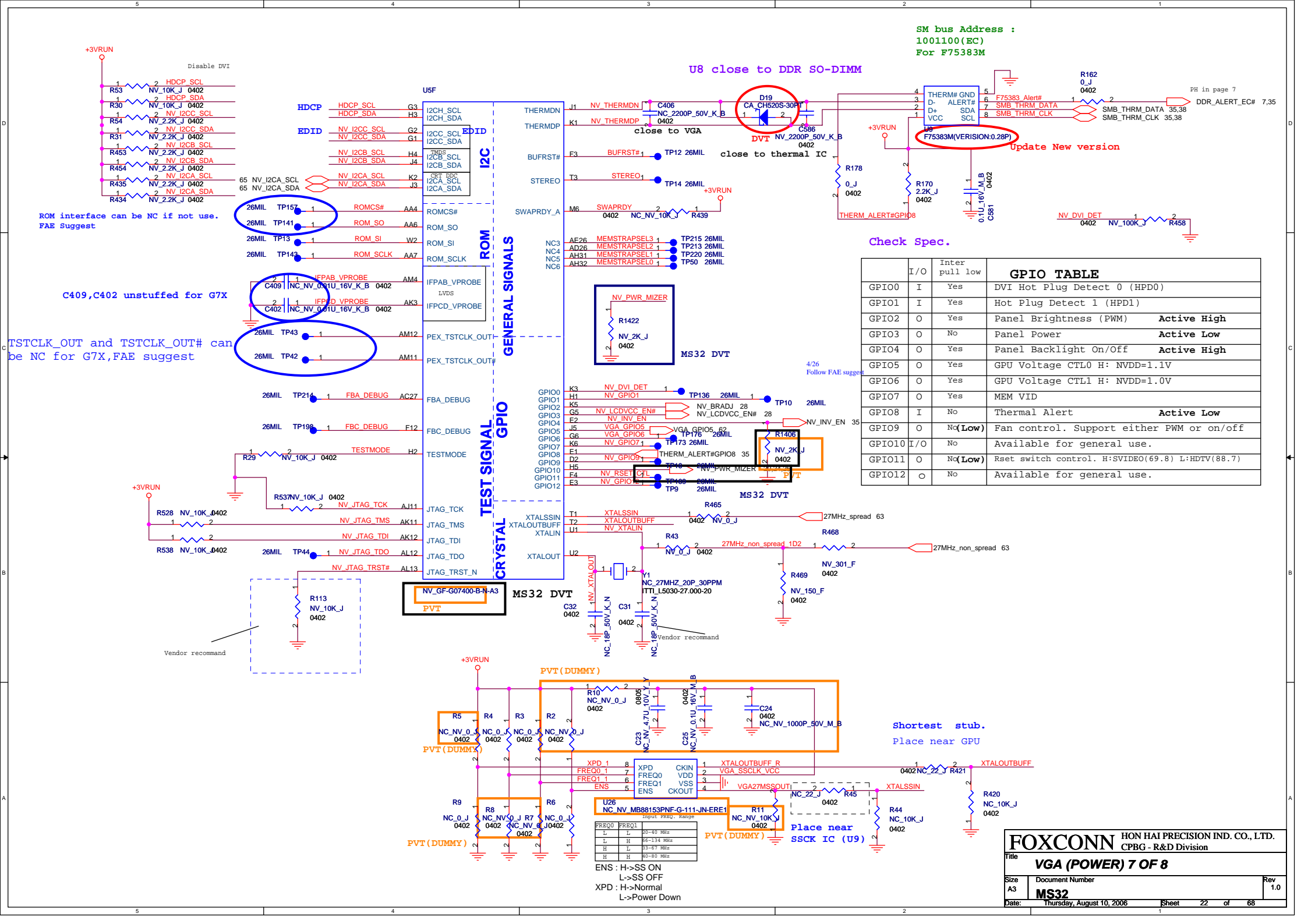


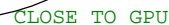




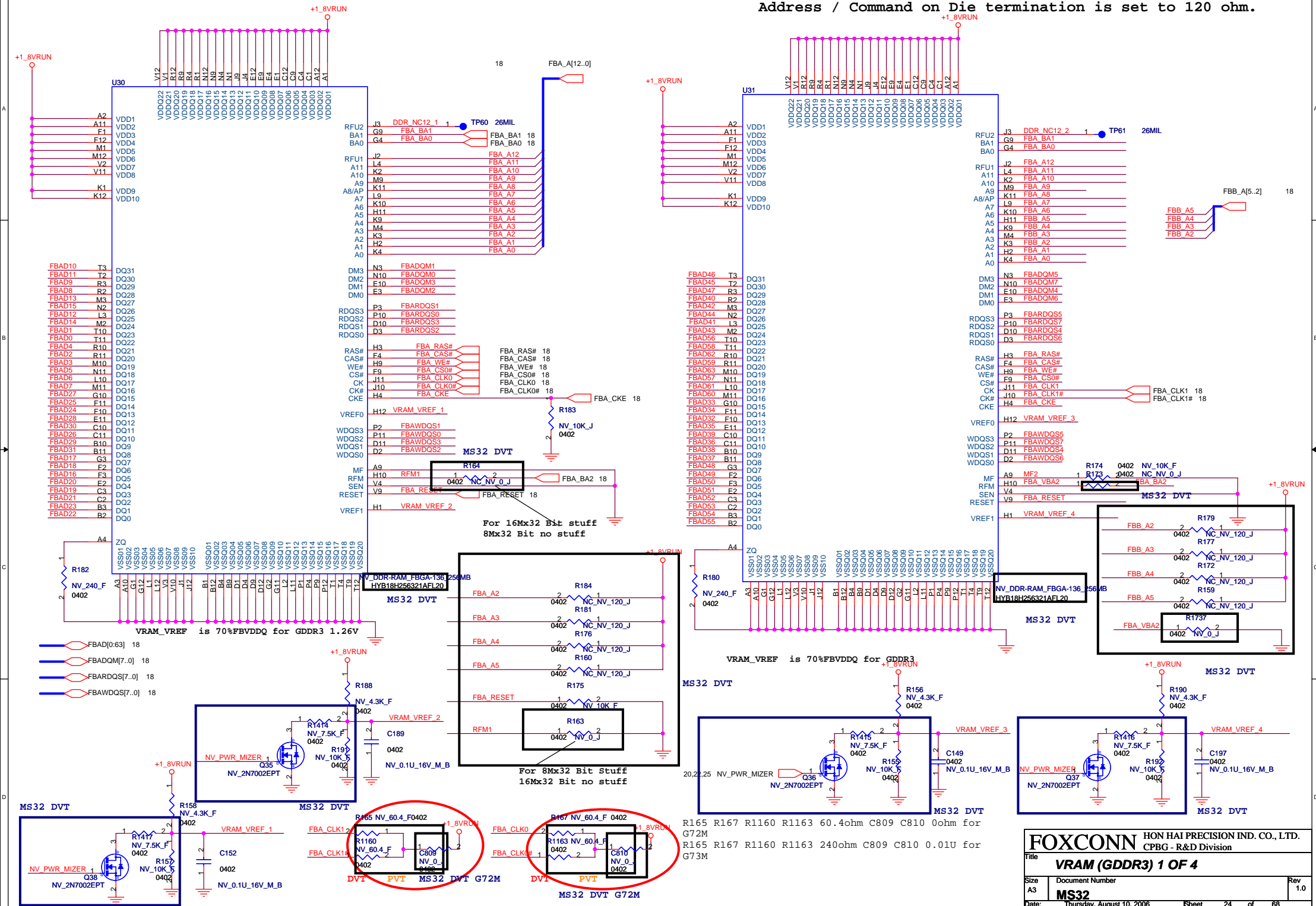
Follow FAE suggest the design guide table 4-4 and 4-5.
DDR1 underminated solution,so FBVTT/FBVDQ/FBVD can connect together.
for the power rails decoupling,FBVTT/FBVD do not require caps decoupling.
only FVDD power rail required.



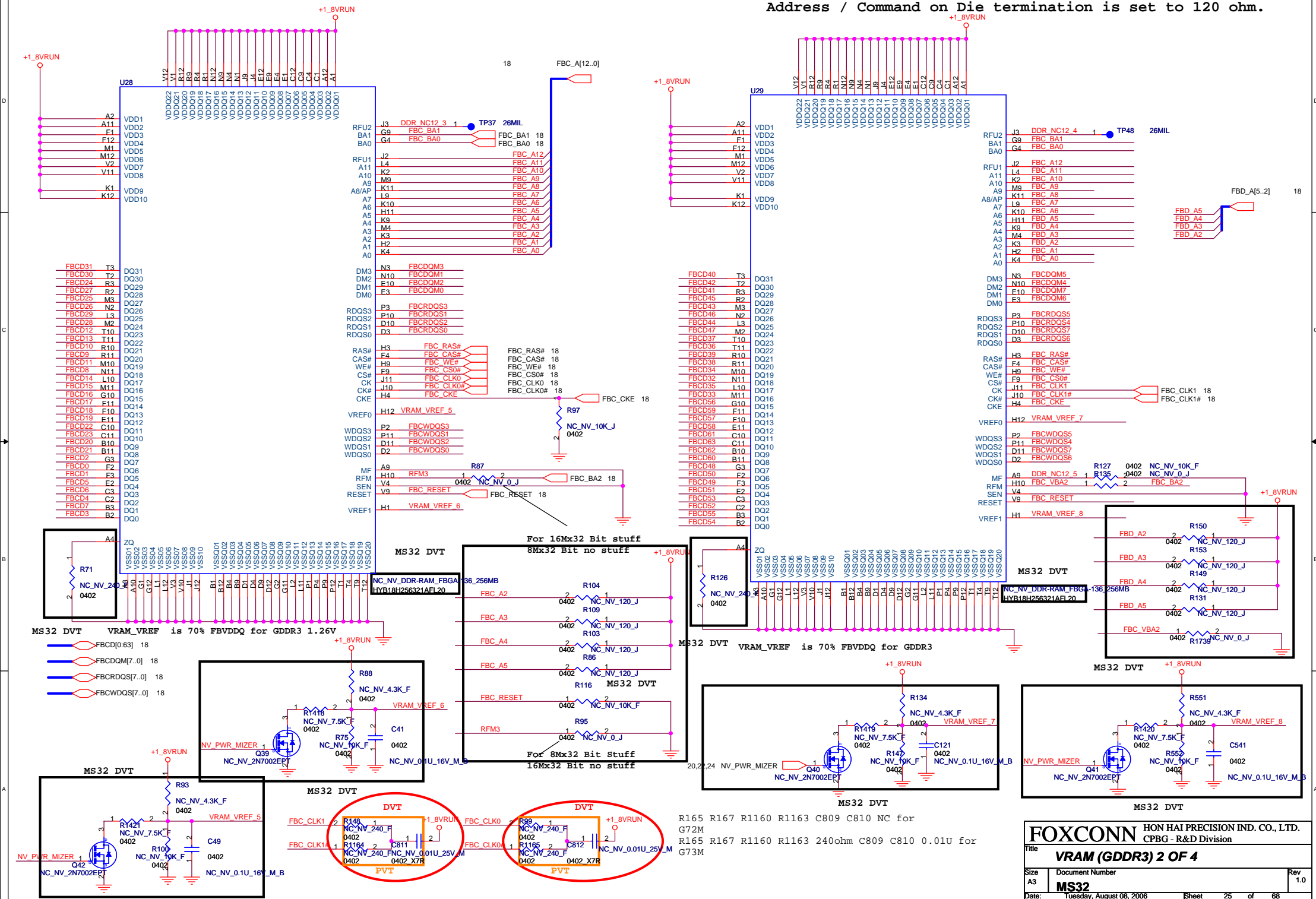


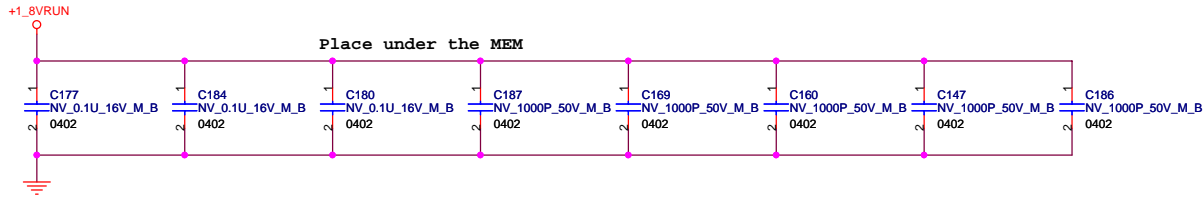
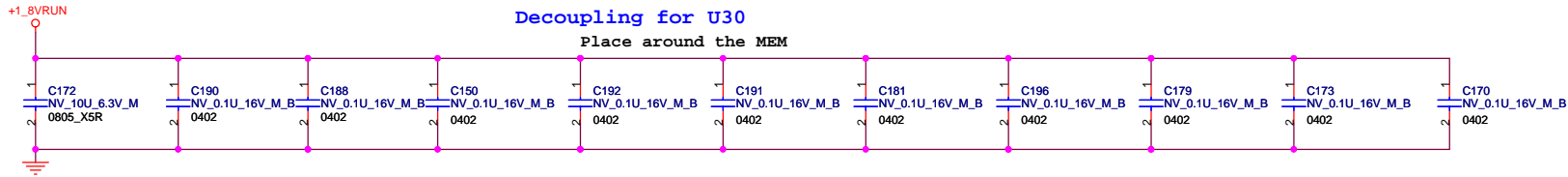
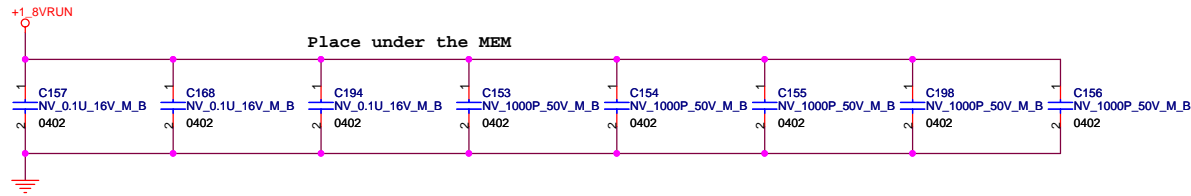
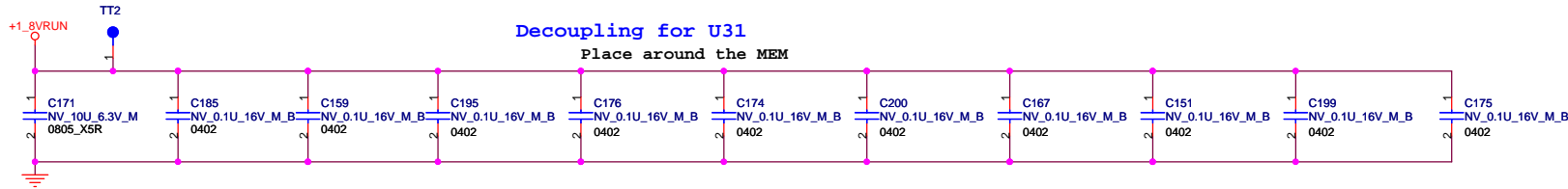


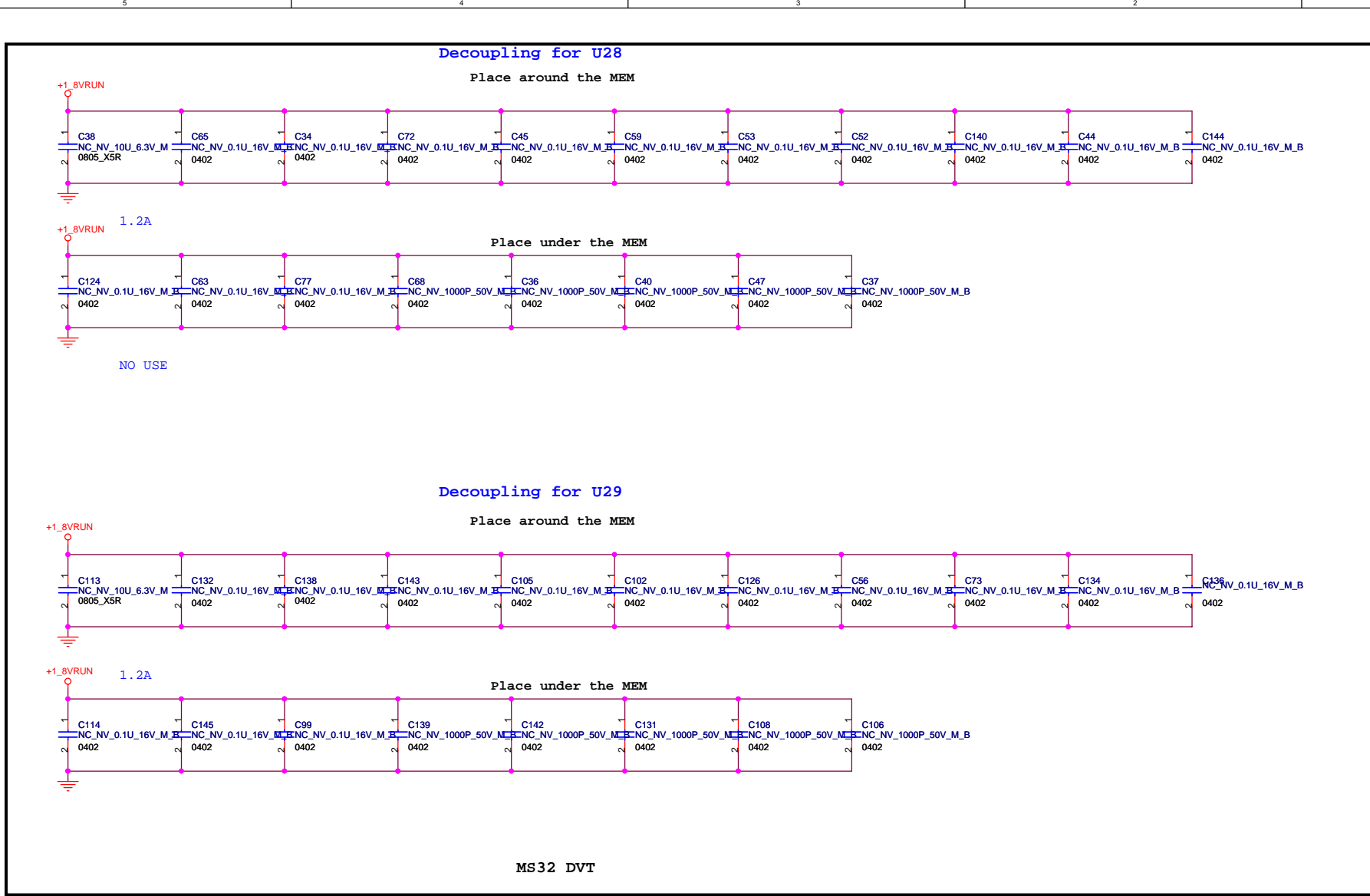
Address / Command on Die termination is set to 120 ohm.



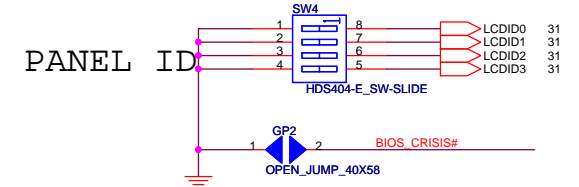
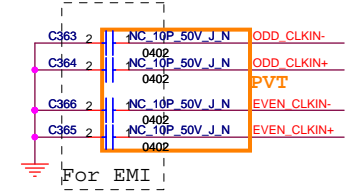
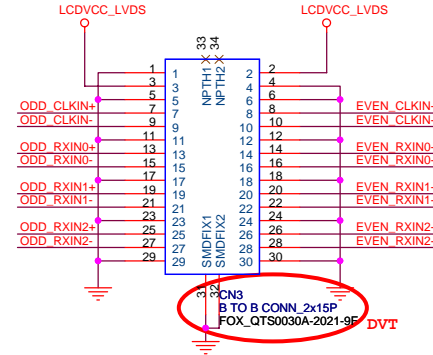
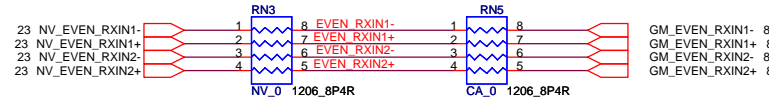
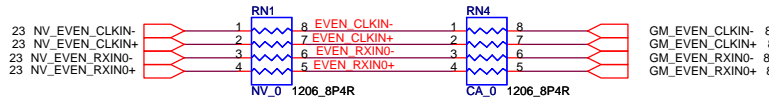
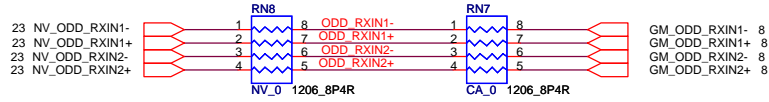
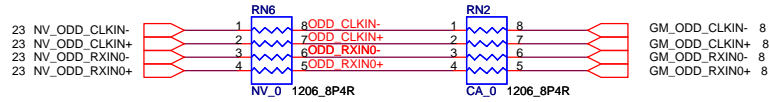
Address / Command on Die termination is set to 120 ohm.







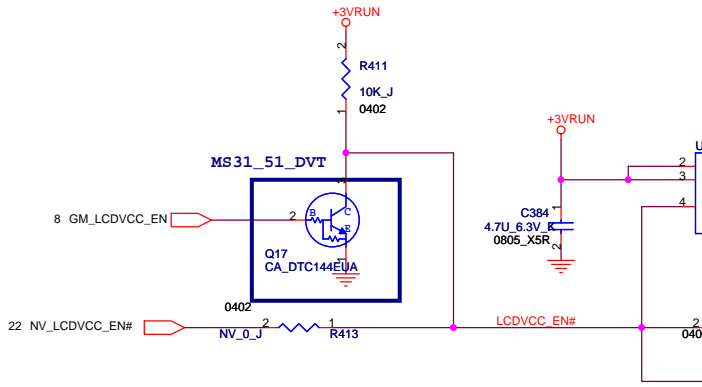
LVDS



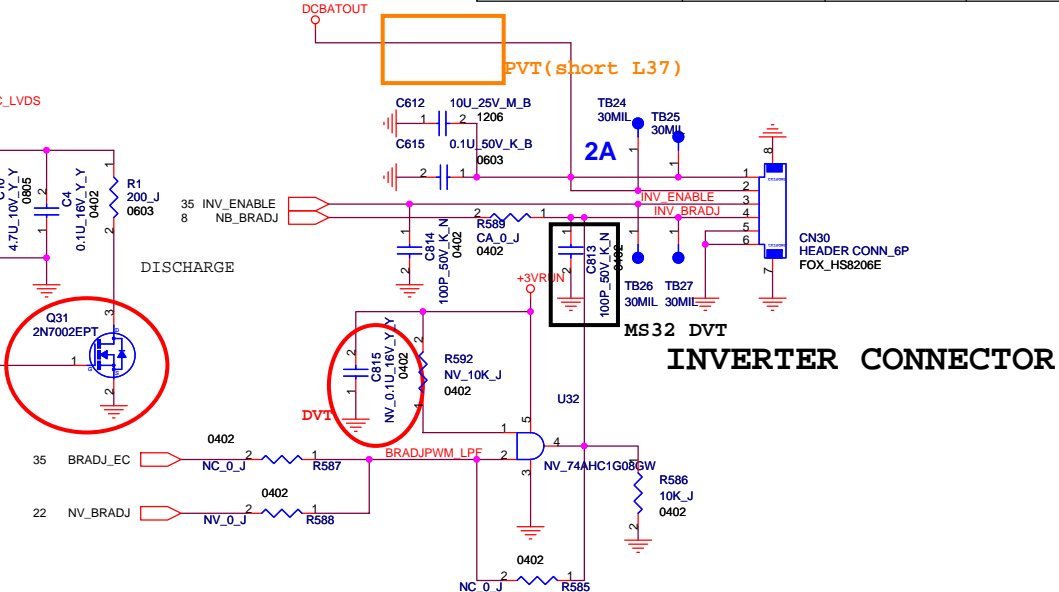
ON=0

Type	WXGA	WXGA-HC	WSXGA+
Size	15.4" wide	15.4" wide	15.4" wide
Vendor	Hitachi	Hitachi	Hitachi
Device Name	TX39D81VC1AAA	TX39D80VC1GAA	TX39D90VC1GAA
Panel ID Check[3...0]	1000	1000	1100

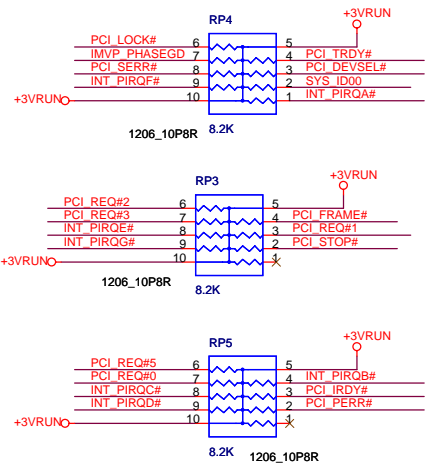
LVDS CONNECTOR



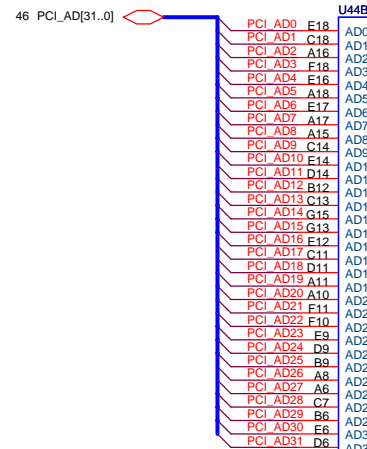
LCD POWER



FOXCONN HON HAI PRECISION IND. CO., LTD.		
CPBG - R&D Division		
Title	LVDS	
Size	Document Number	Rev
A3	MS32	1.0
Date:	Thursday, August 03, 2006	Sheet 28 of 68

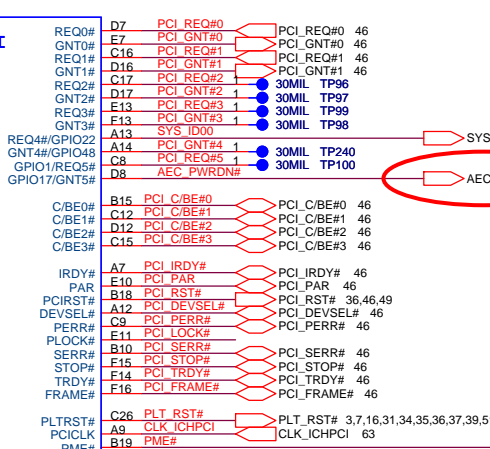


PCI Pullups



U44B

PCI



Interrupt I/F



MISC



NH82801GBM B0

PCI-Express



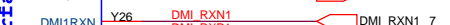
U44D

Direct Media Interface



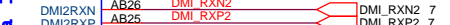
U44D

SPI



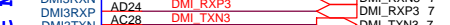
U44D

USB



U44D

USB



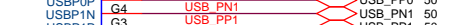
U44D

USB



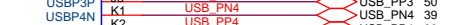
U44D

USB



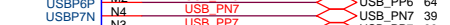
U44D

USB



U44D

USB



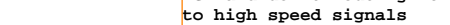
U44D

USB



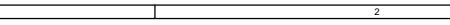
U44D

USB



U44D

USB



Strap for Boot-BIOS

	GNT5#	GNT4#
LPC(Default)	H1	H1
PCI	H1	LOW

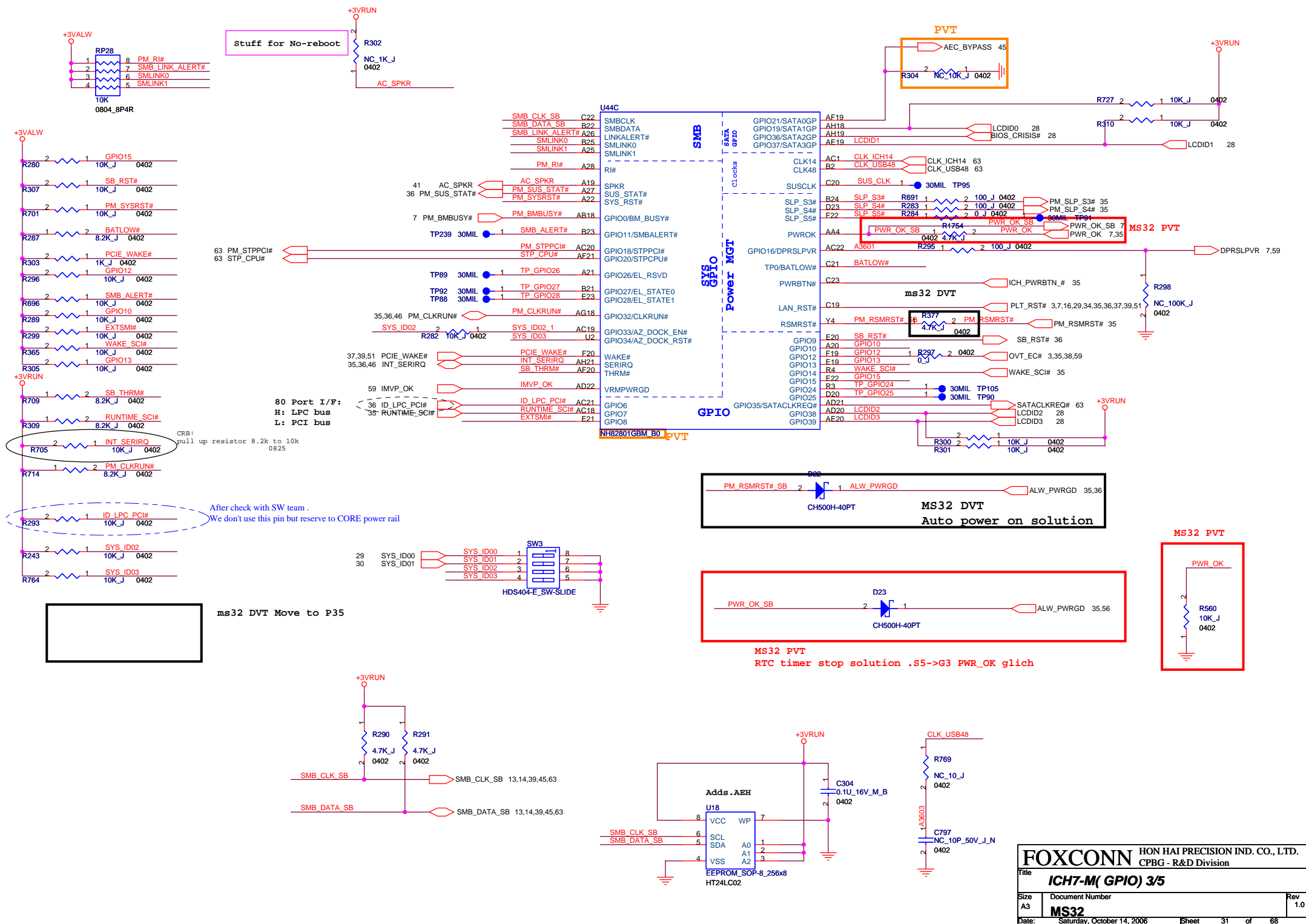
DVT

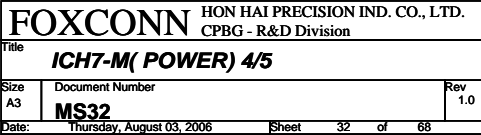
DVT

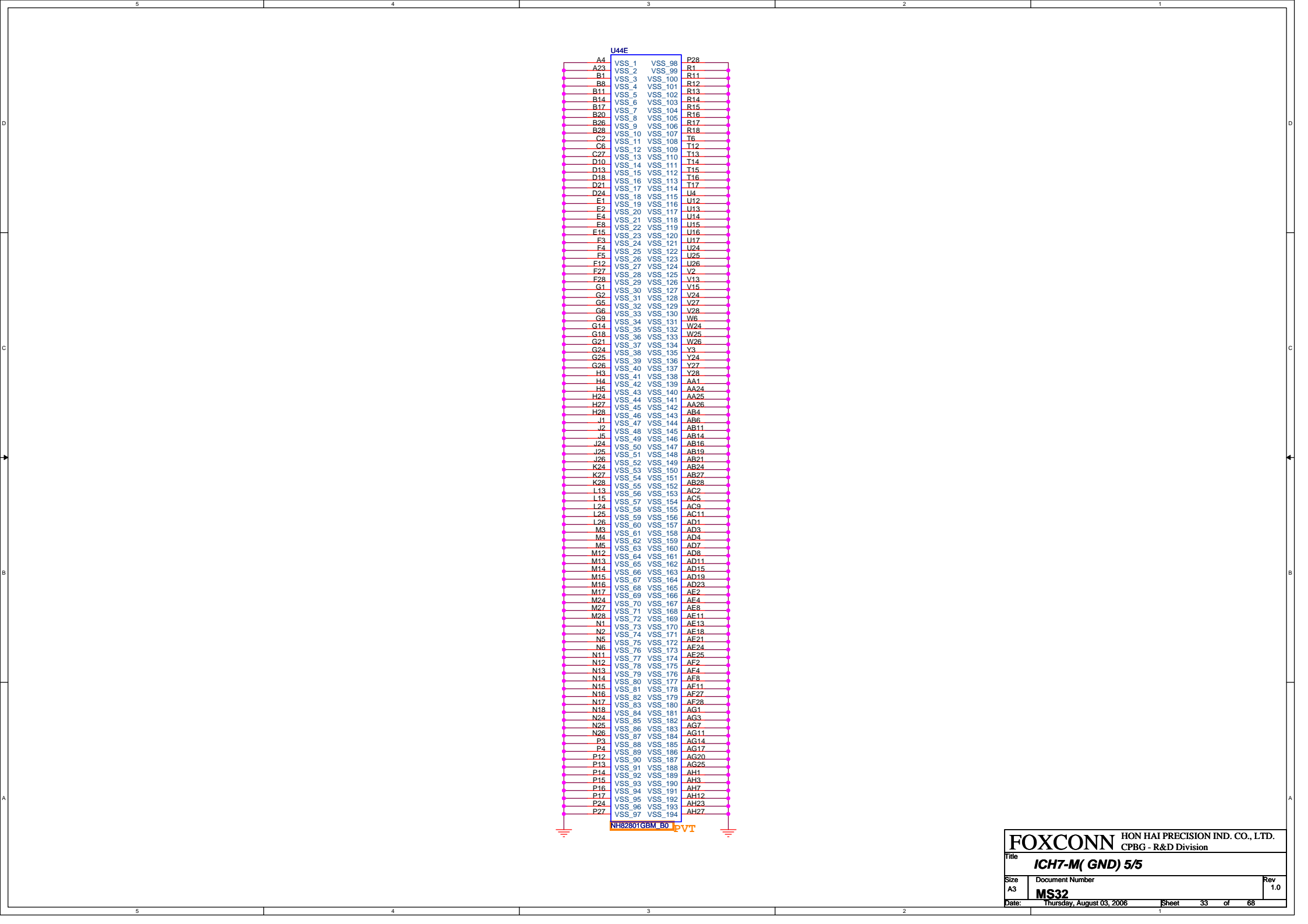
Test leakage voltage in BB

Place within 500 mils of ICH

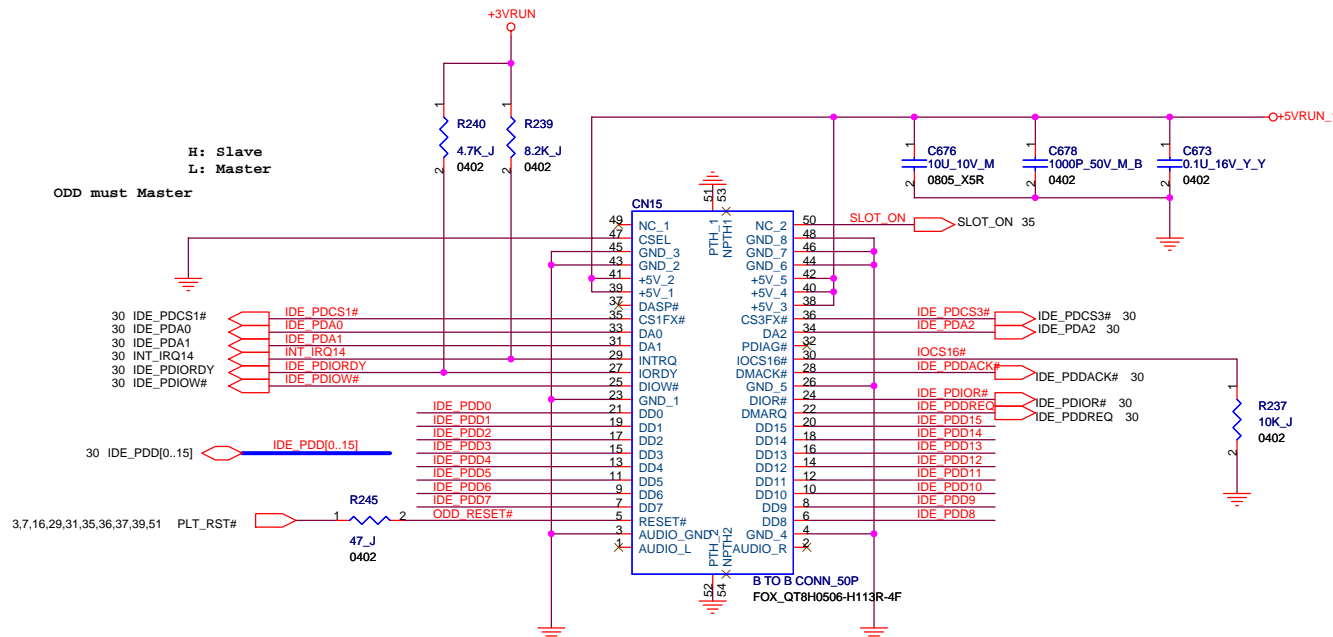
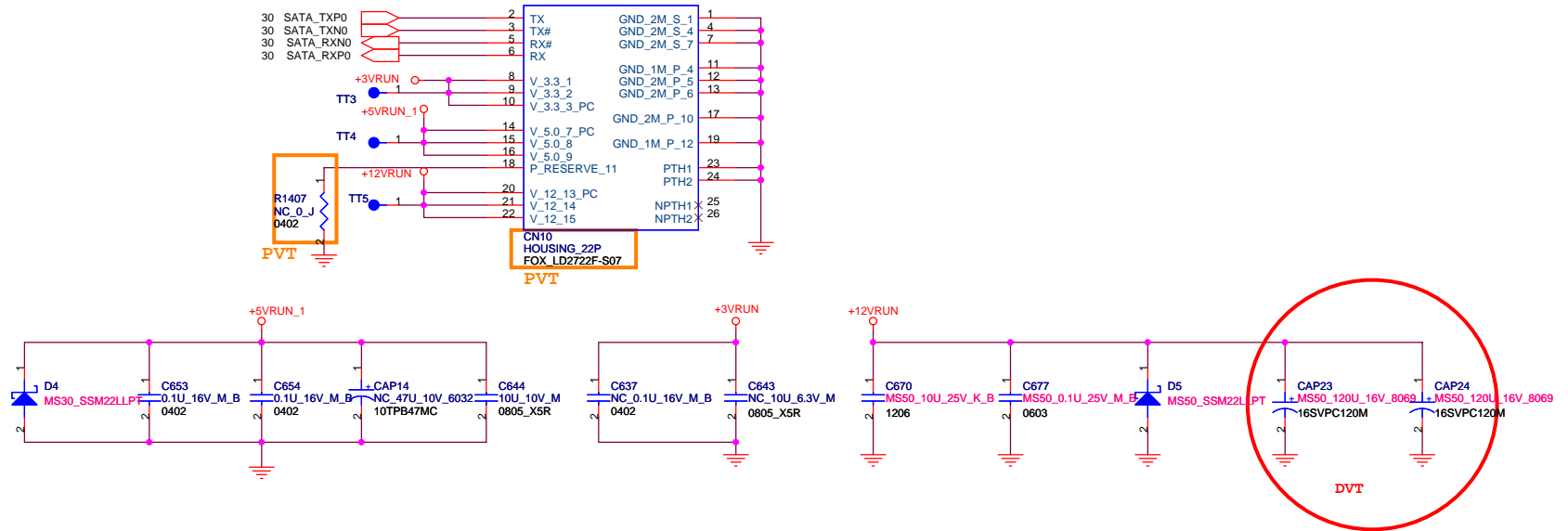
Place within 500 mils of ICH and don't routing next to high speed signals





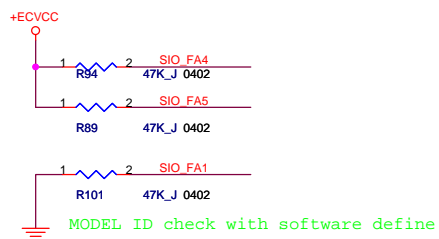
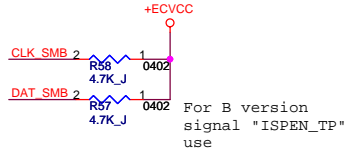
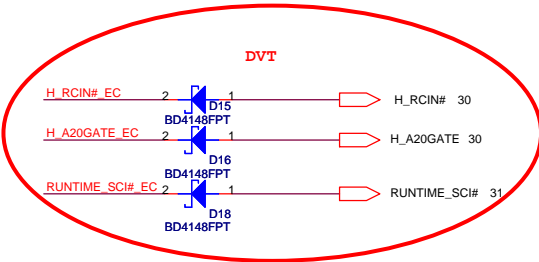
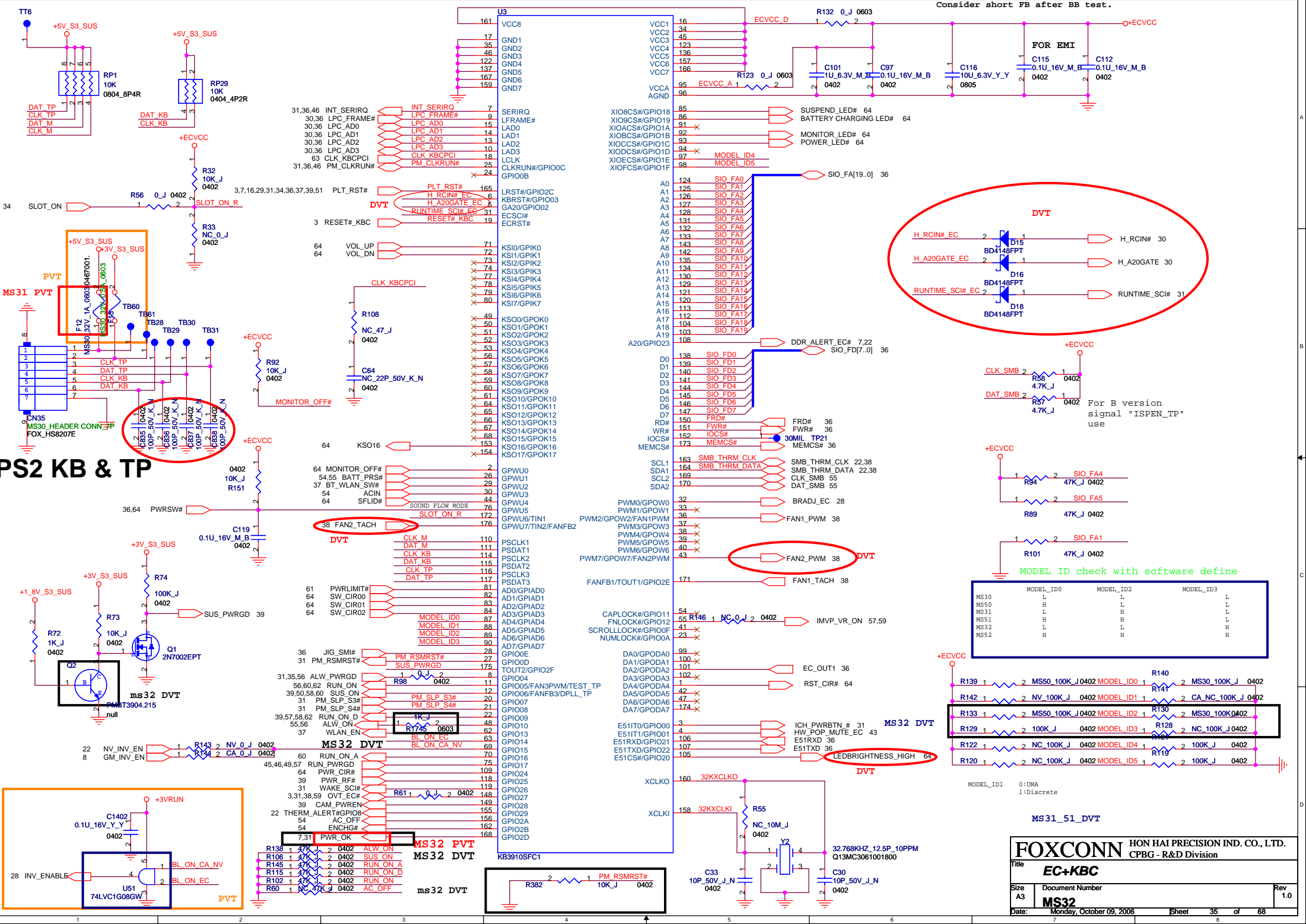


SATA HDD CONN

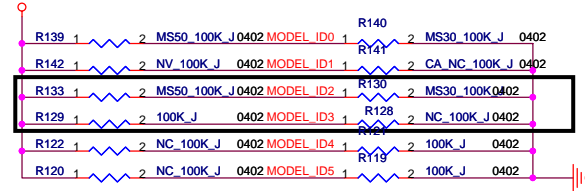


CD-ROM CONN

FOXCONN HON HAI PRECISION IND. CO., LTD.		
CPBG - R&D Division		
Title	SATA HDD/CD-ROM	
Size	Document Number	Rev
A3	MS32	1.0
Date:	Thursday, August 03, 2006	Sheet 34 of 68

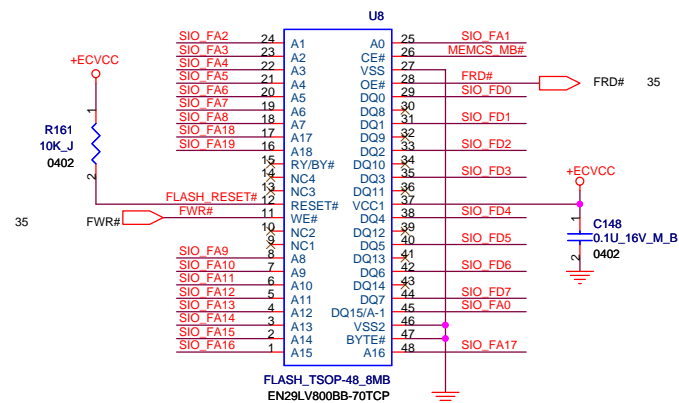


MODEL_ID0	MODEL_ID2	MODEL_ID3
MS30	L	L
MS50	L	L
MS31	L	H
MS51	H	L
MS32	L	H
MS52	H	H

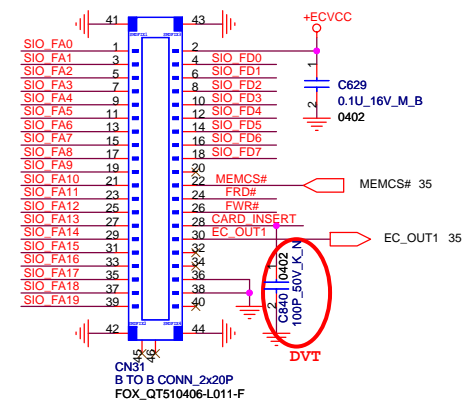
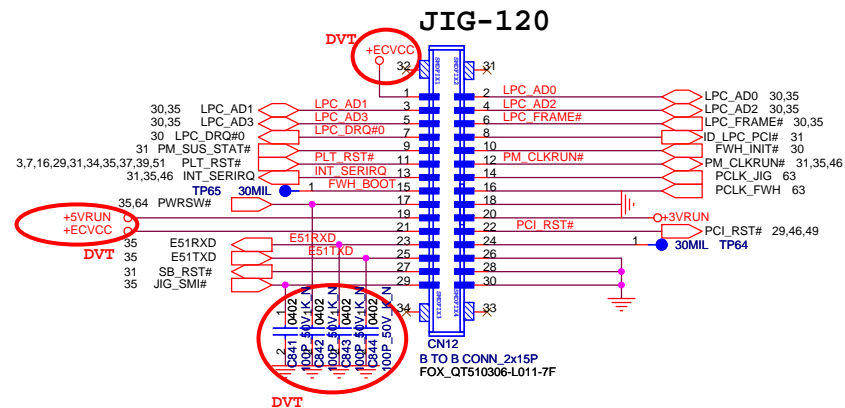
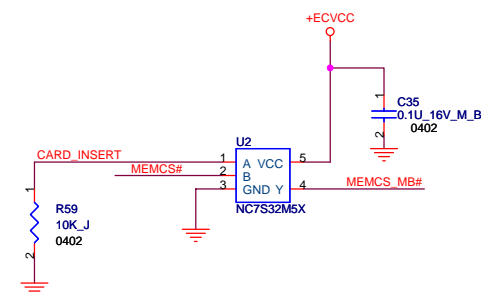


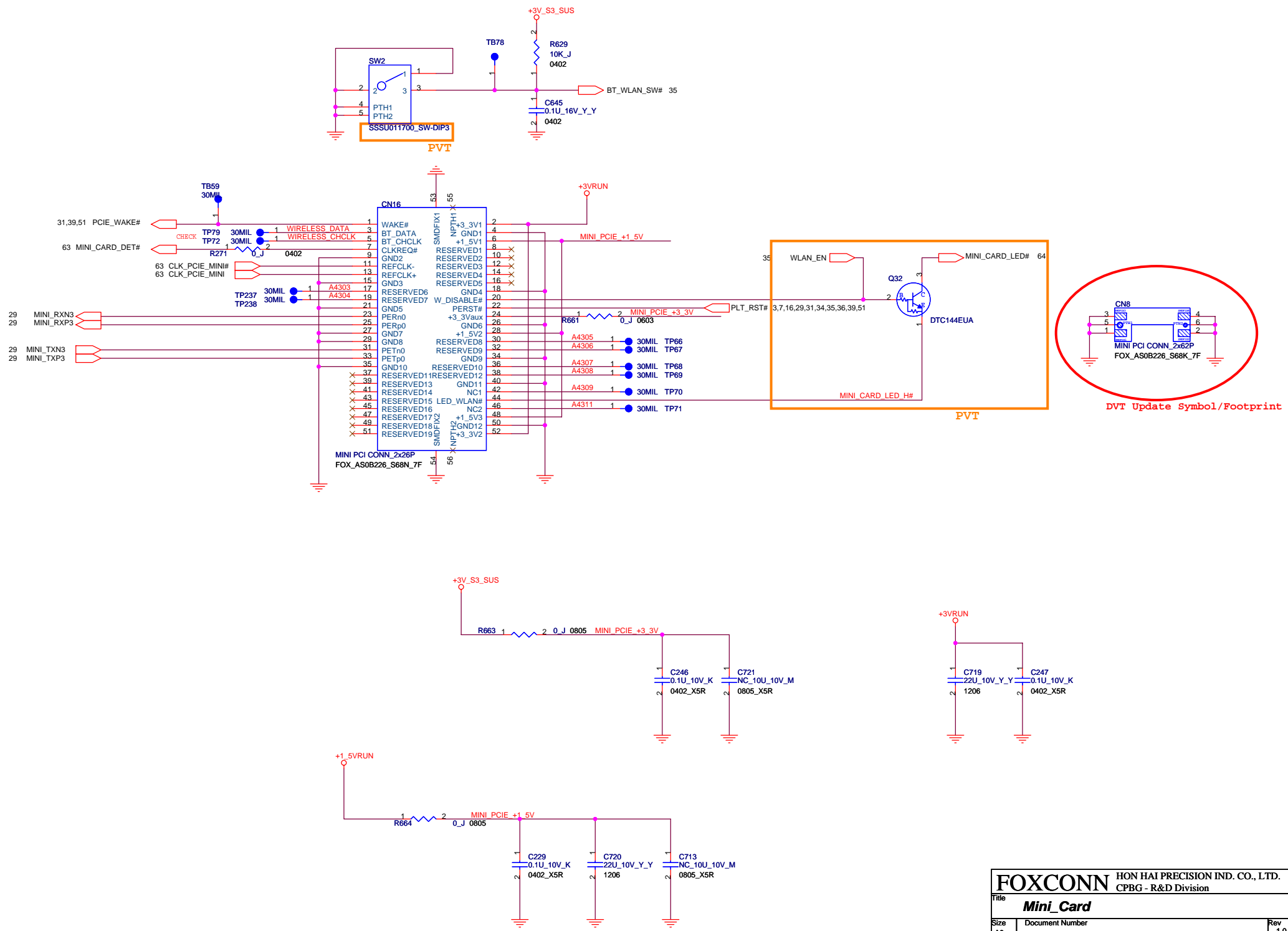
35 SIO_FA[19..0]

35 SIO_FD[7..0]

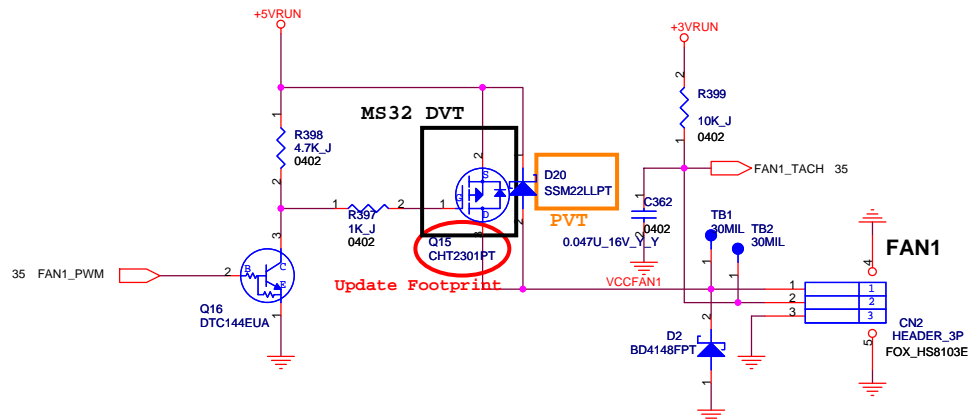


BIOS ROM

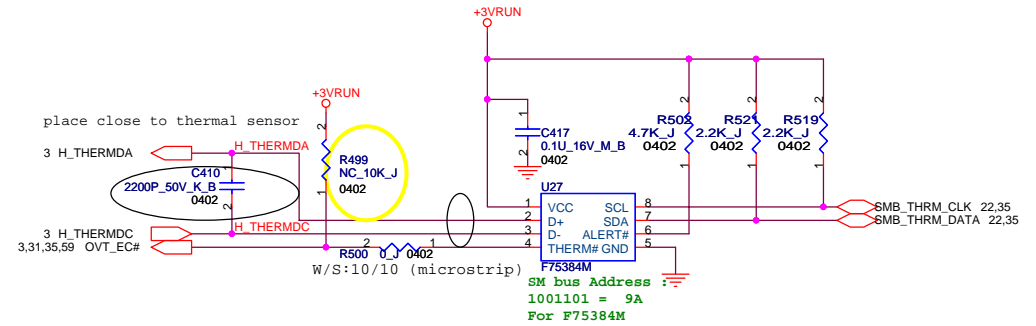




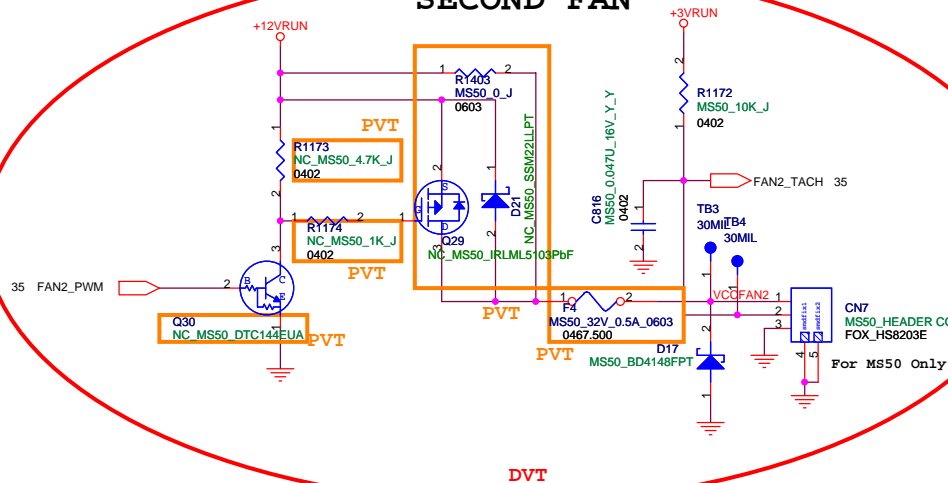
FAN



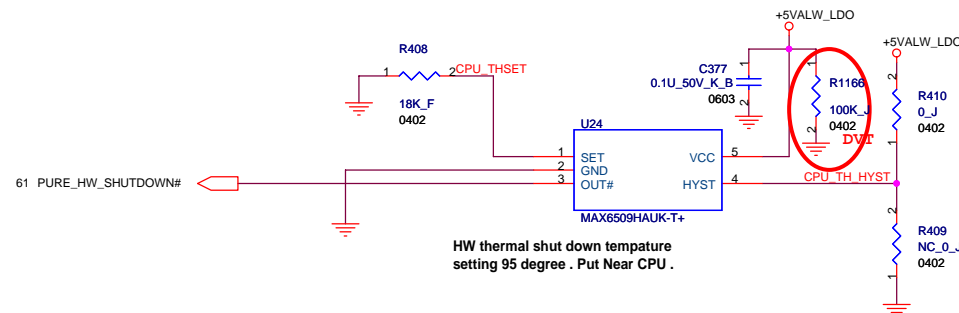
CPU SENSOR

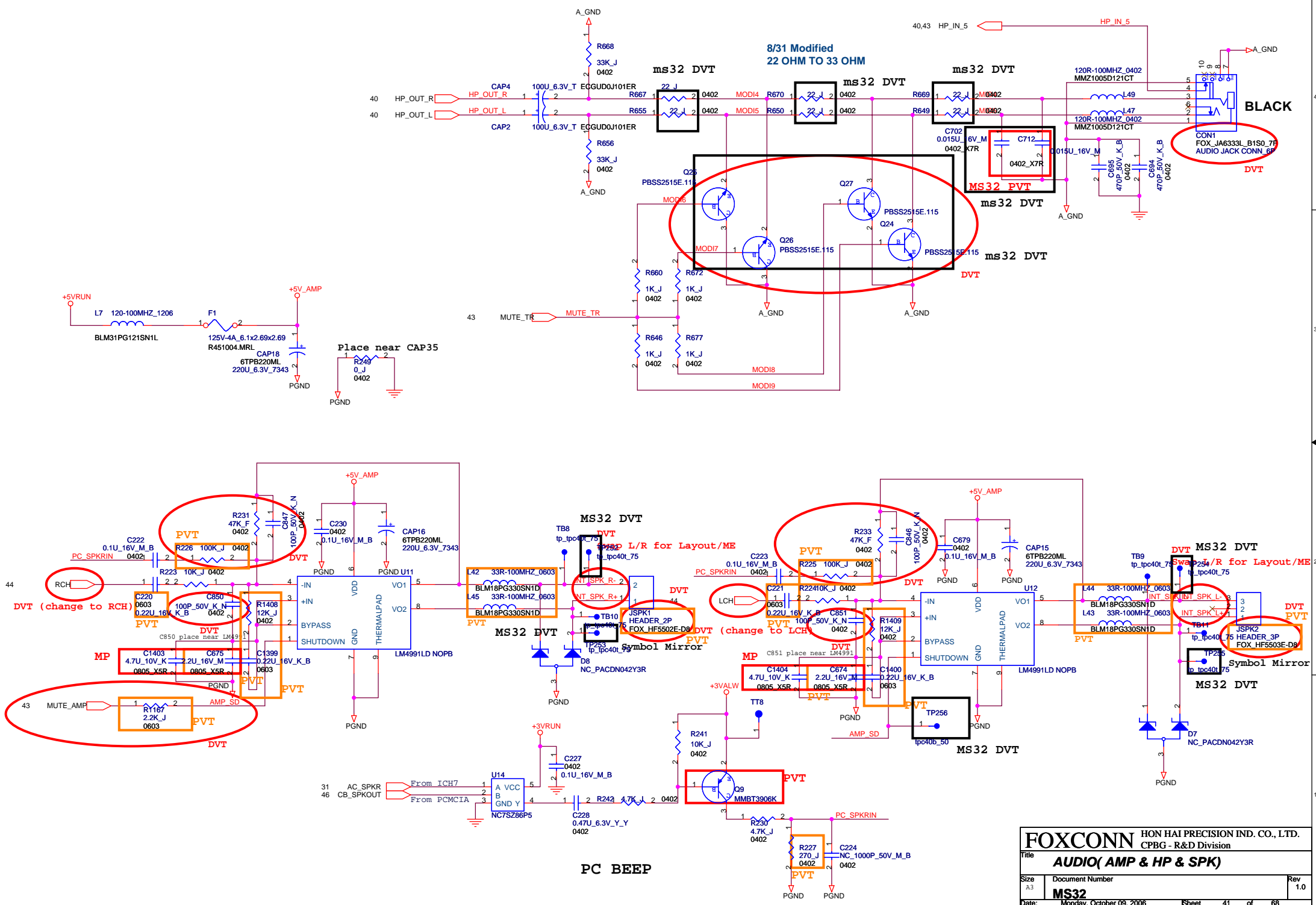


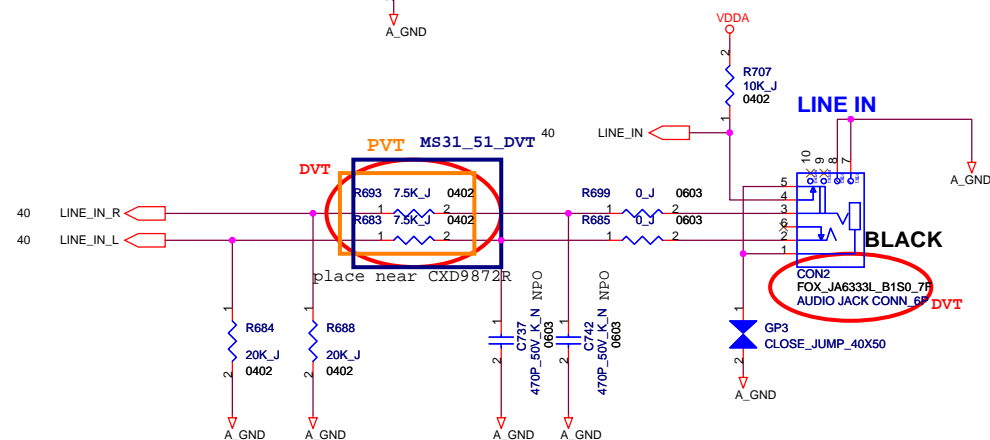
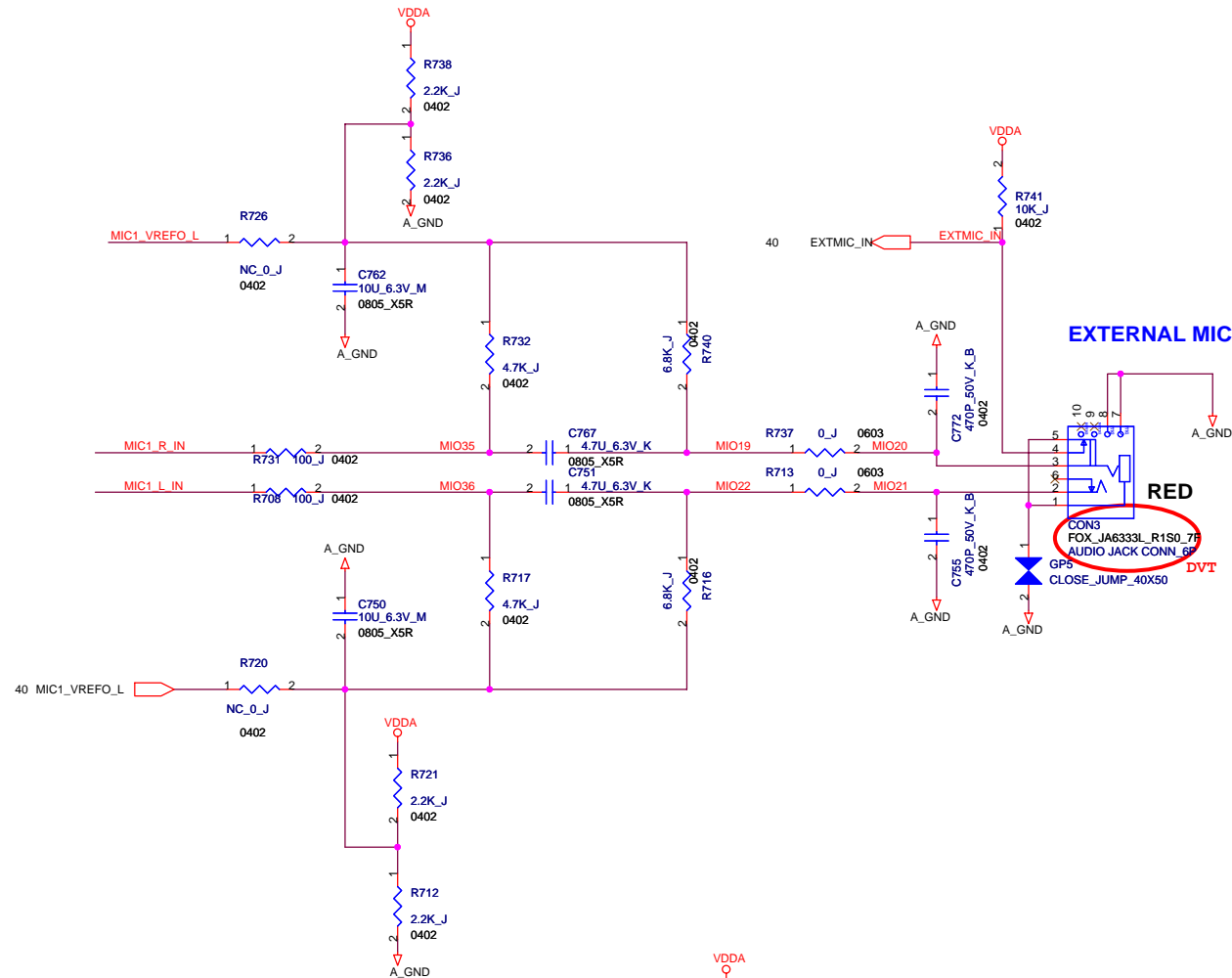
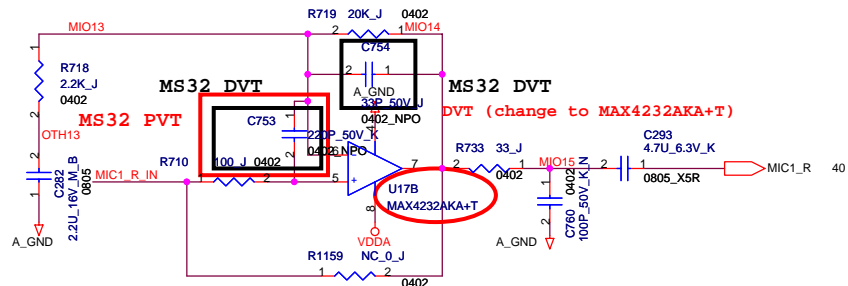
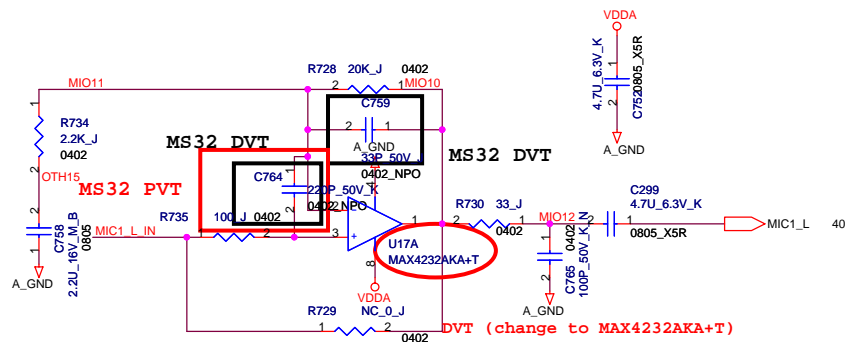
SECOND FAN

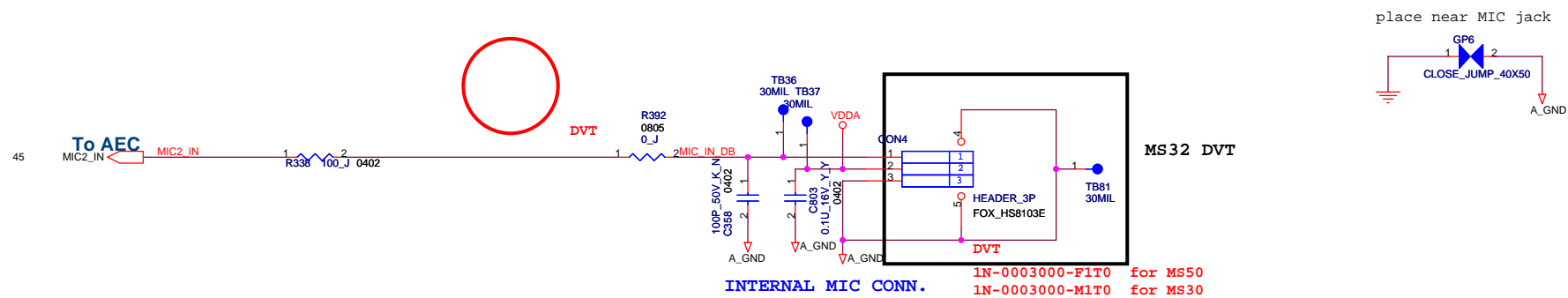


HW THERMAL PROTECTION

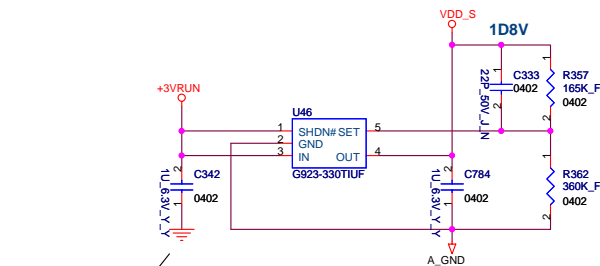




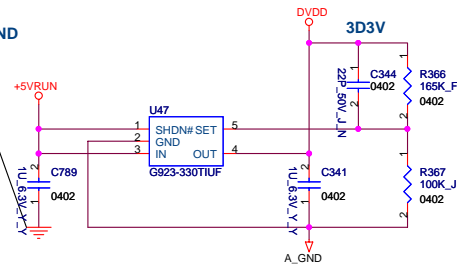




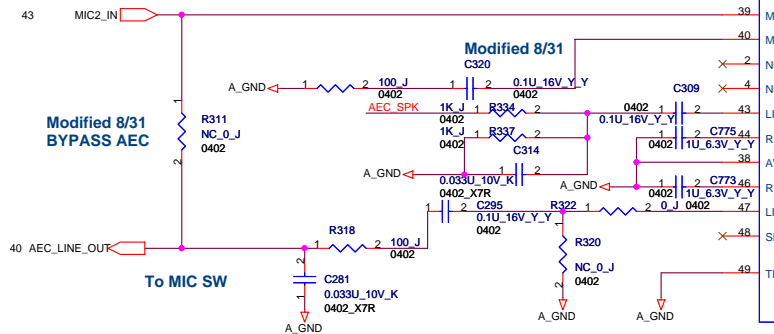
INTERNAL MIC CONN.	1N-0003000-F1T0	for MS50
	1N-0003000-M1T0	for MS30



8/31 Modified
CHANGE TO D-GND



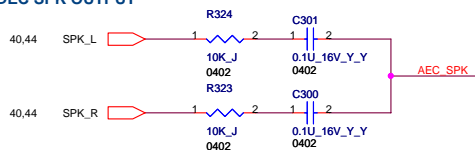
Modified 8/31
From MIC



Modified 8/31
BYPASS AEC

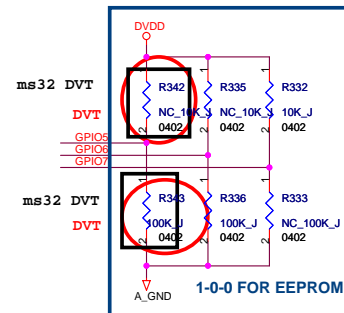
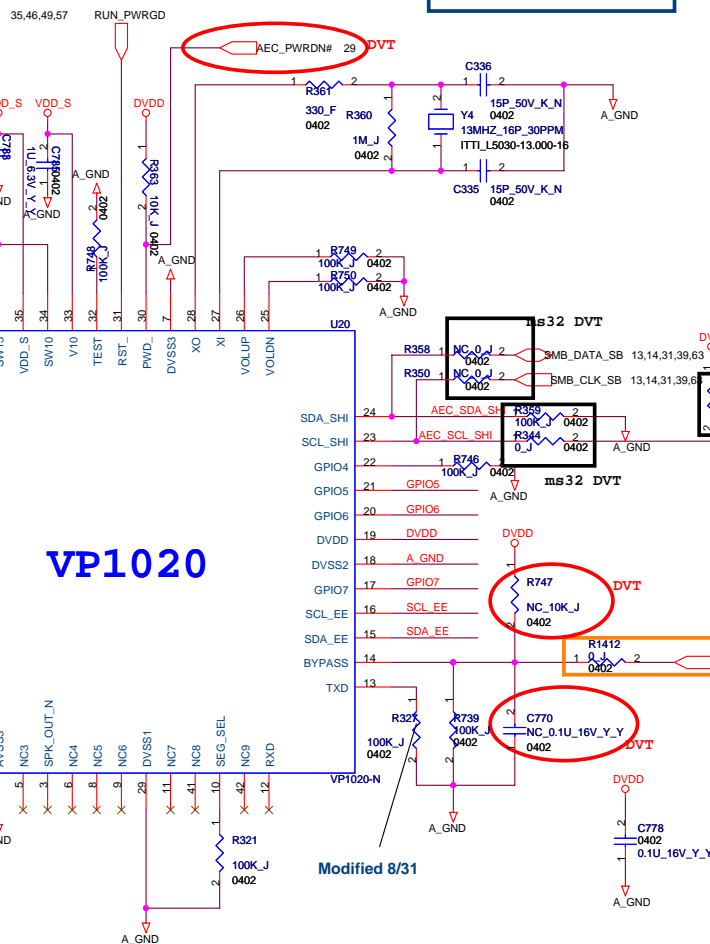
To MIC SW

To CODEC SPK OUTPUT



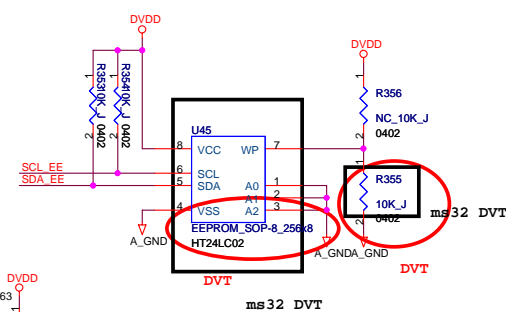
Modified 8/31

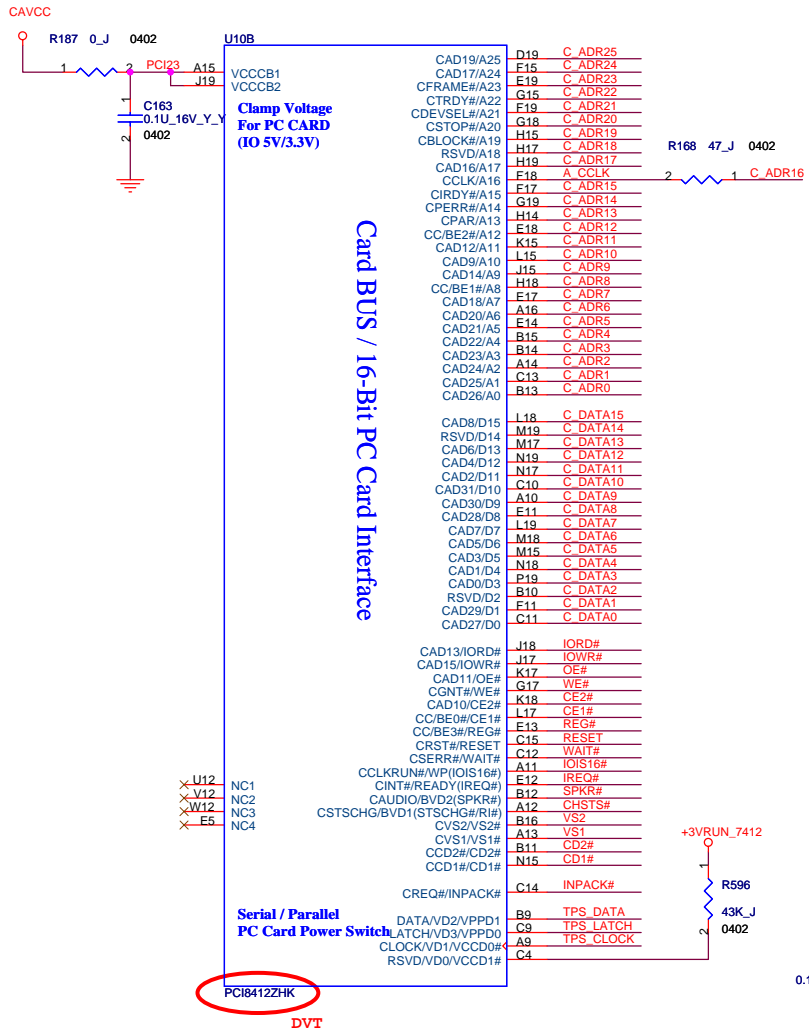
VP1020



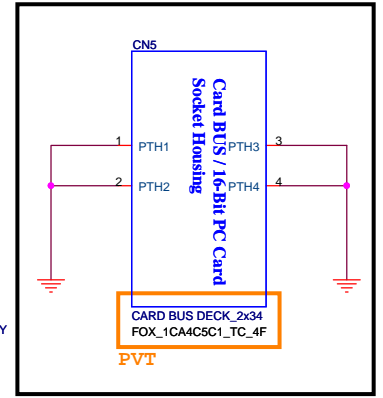
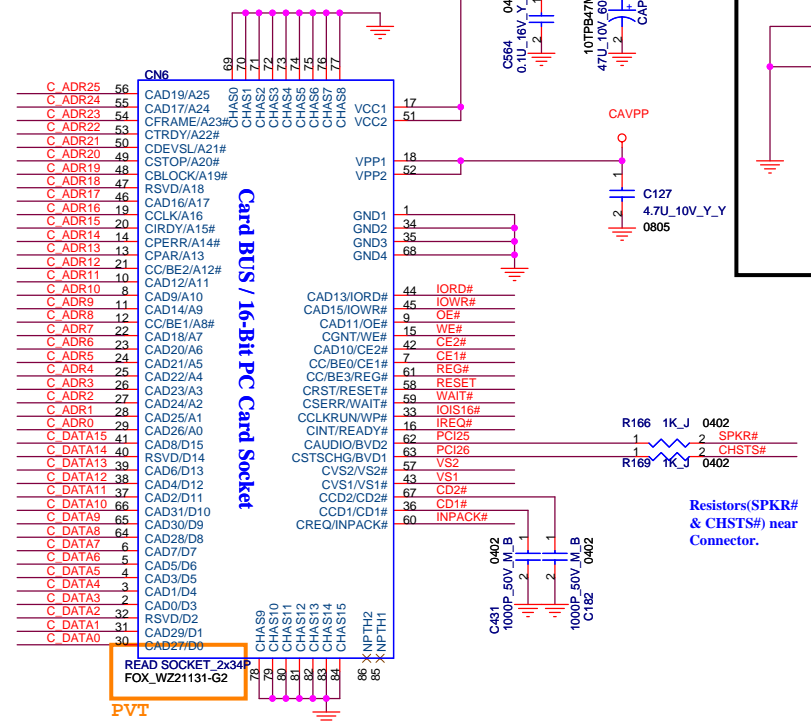
MODE	GPIO7	GPIO6	GPIO5
INTERNAL	0	0	X
RESERVED	0	1	X
EEPROM 256B	1	0	0
EEPROM 1KB	1	1	0
SHI	1	0	1
UART	1	1	1

8/31 Modified

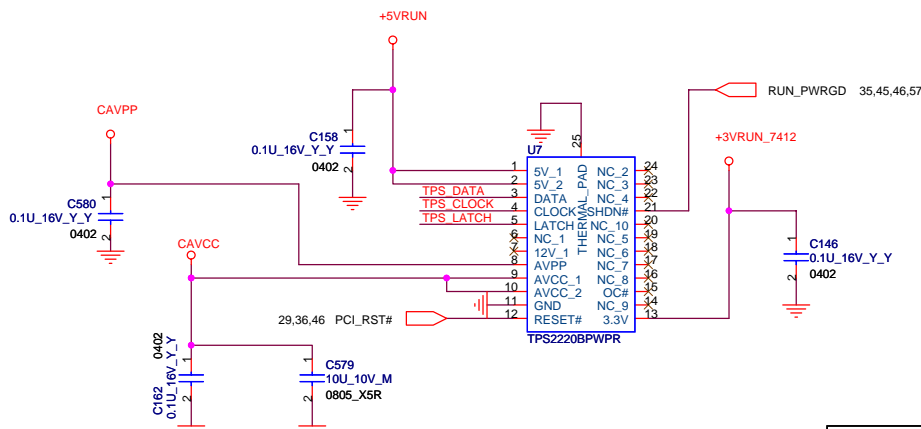




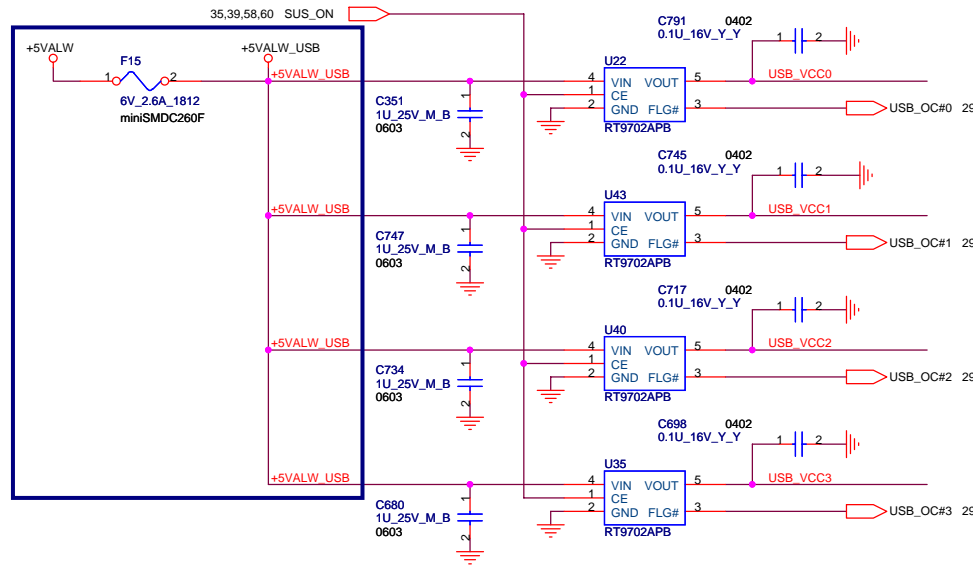
PCMCIA CONN.



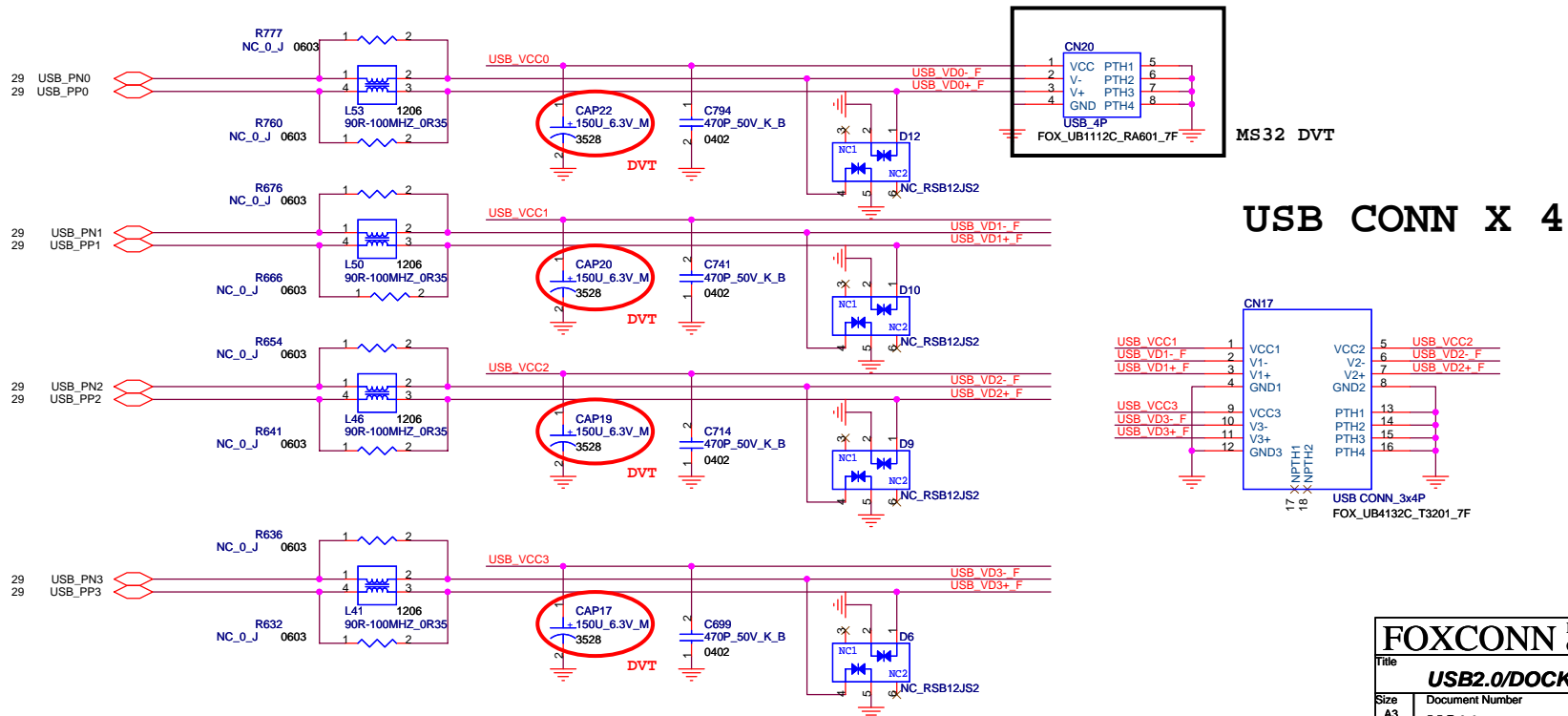
MS32 DVT



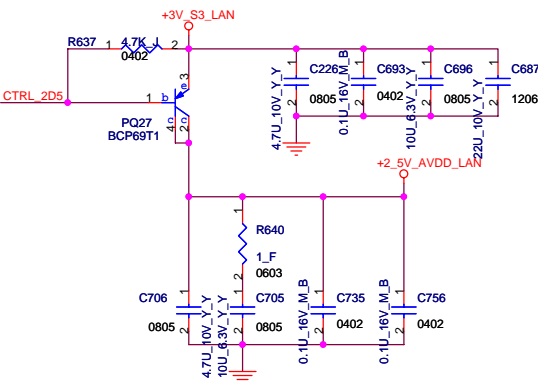
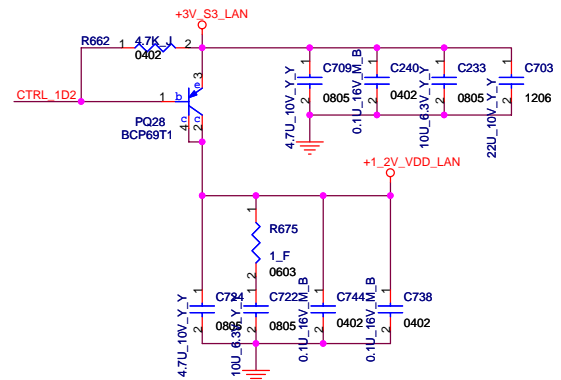
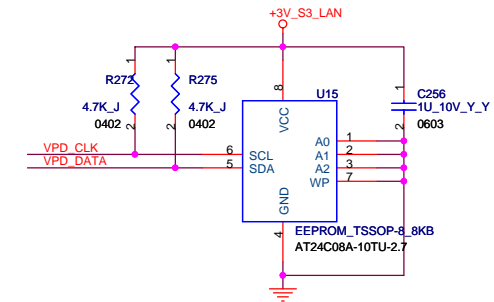
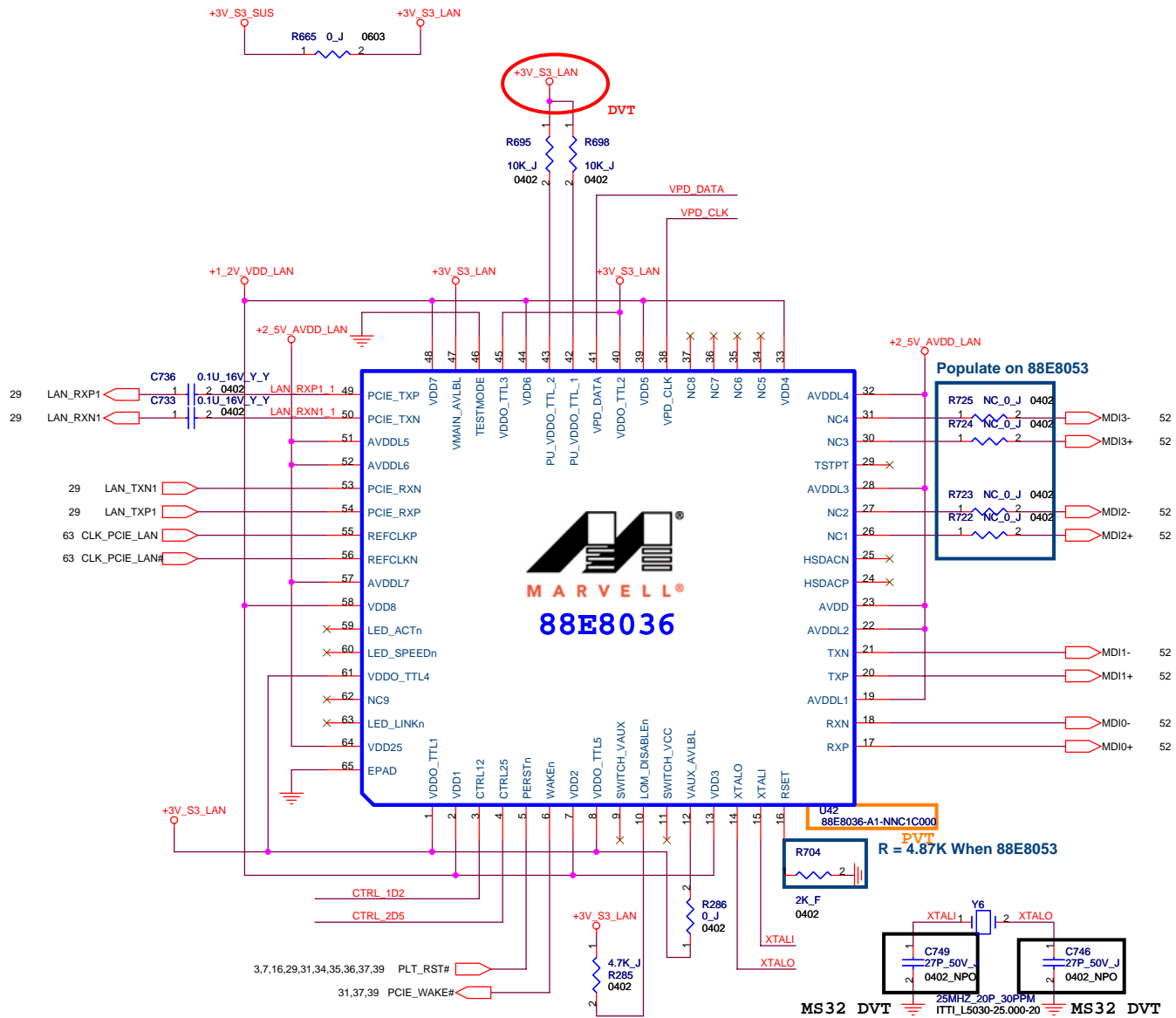
MS32 DVT



Use Power Switch



USB CONN X 4



Adaptor
19.5V
90W or 120W

MS30 ONLY
MAXIM
MAX1909ETI+
Battery Charger
Switch Mode

MS30 ONLY
Battery
BPS2
Li-Ion
12.6V
4800mAh

MAXIM
MAX8734A+
Switch Mode
For System

DCBATOUT

35,55,56 ALW_ON

ALW_ON

ON5
ON3

Semtech
SC486
Switch Mode
For DDR2

DCBATOUT

35,39,50,58,60 SUS_ON

SUS_ON

EN/PSV
VTEN

PGOOD

MAXIM
MAX8743+
Switch Mode
For System

DCBATOUT

RUN_ON_D

ON1
ON2

PGOOD

MAXIM
MAX8771+
Switch Mode
For CPU Core

DCBATOUT

35,57,59 IMVP_VR_ON

SHDN#

CLKEN#
IMVP_OK

Semtech
SC1470
Switch Mode
For VGAcORE

DCBATOUT

RUN_ON

EN/PSV

PGOOD

System
+5VALW/9.5A

35,56,60,62 RUN_ON

N-Channel transistor

SUS_ON

N-Channel transistor

System
+3VALW/9.5A

+5VALW_LDO
+ECVCC

RUN_ON

SUS_ON

RUN_ON

G923 LDO

N-Channel transistor

+1_8VSUS/14A

RUN_ON

N-Channel transistor

+0_9VRUN/2.0A

DDRDIMM_VREF

+1_05VRUN/6.5A

+1_5VRUN/7.0A

35,39,57,58,62 RUN_ON_D

G966 LDO

PEX_VDD(1.2V)/2.0A

RUN_PWRGD 35,45,46,49,57

VHORE/44A

CLK_EN# 59,63

IMVP_OK 31,59

NV_VDD(1.025V)/16A

PGOOD

+5VALW

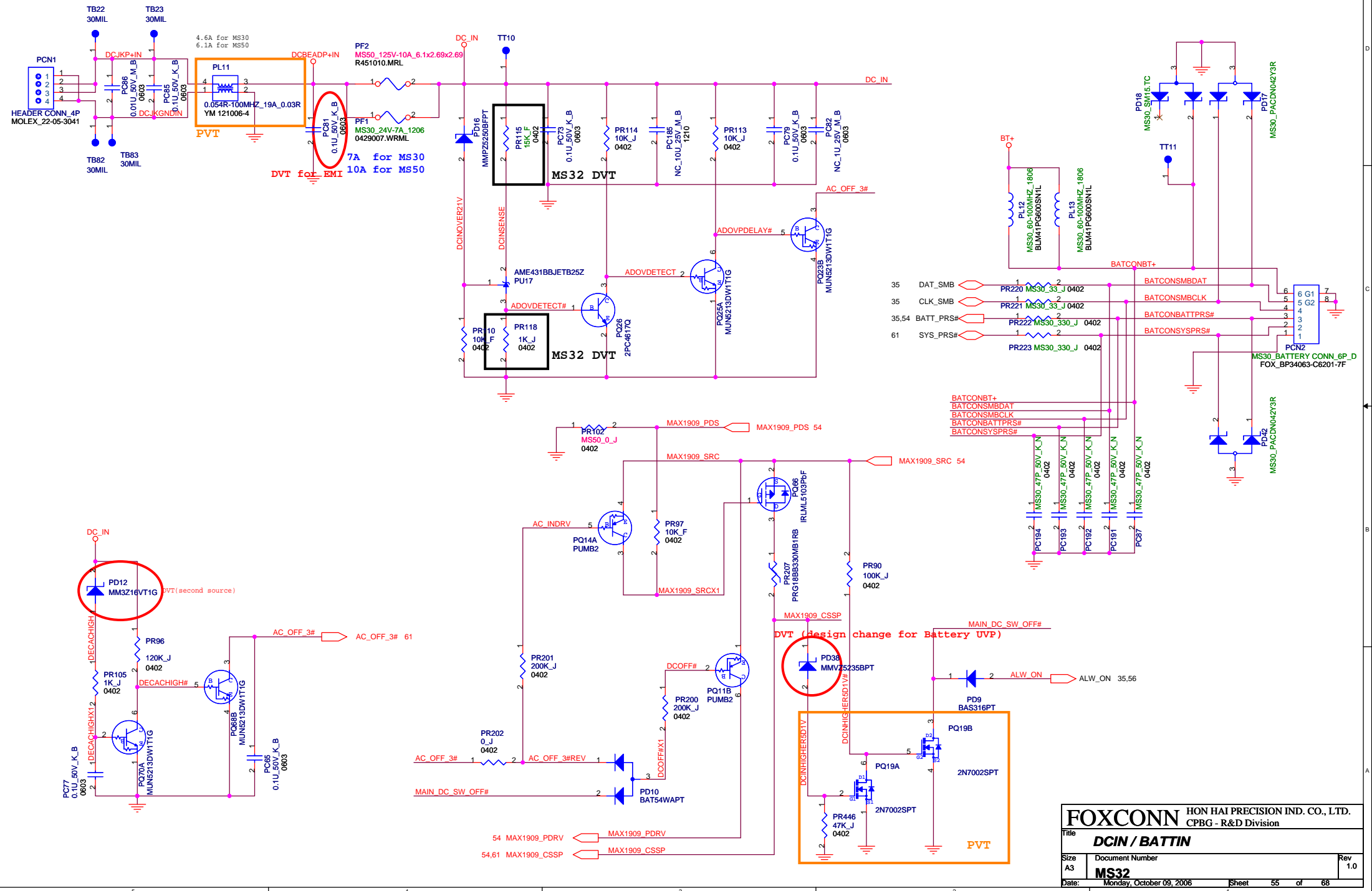
35,60 RUN_ON_A

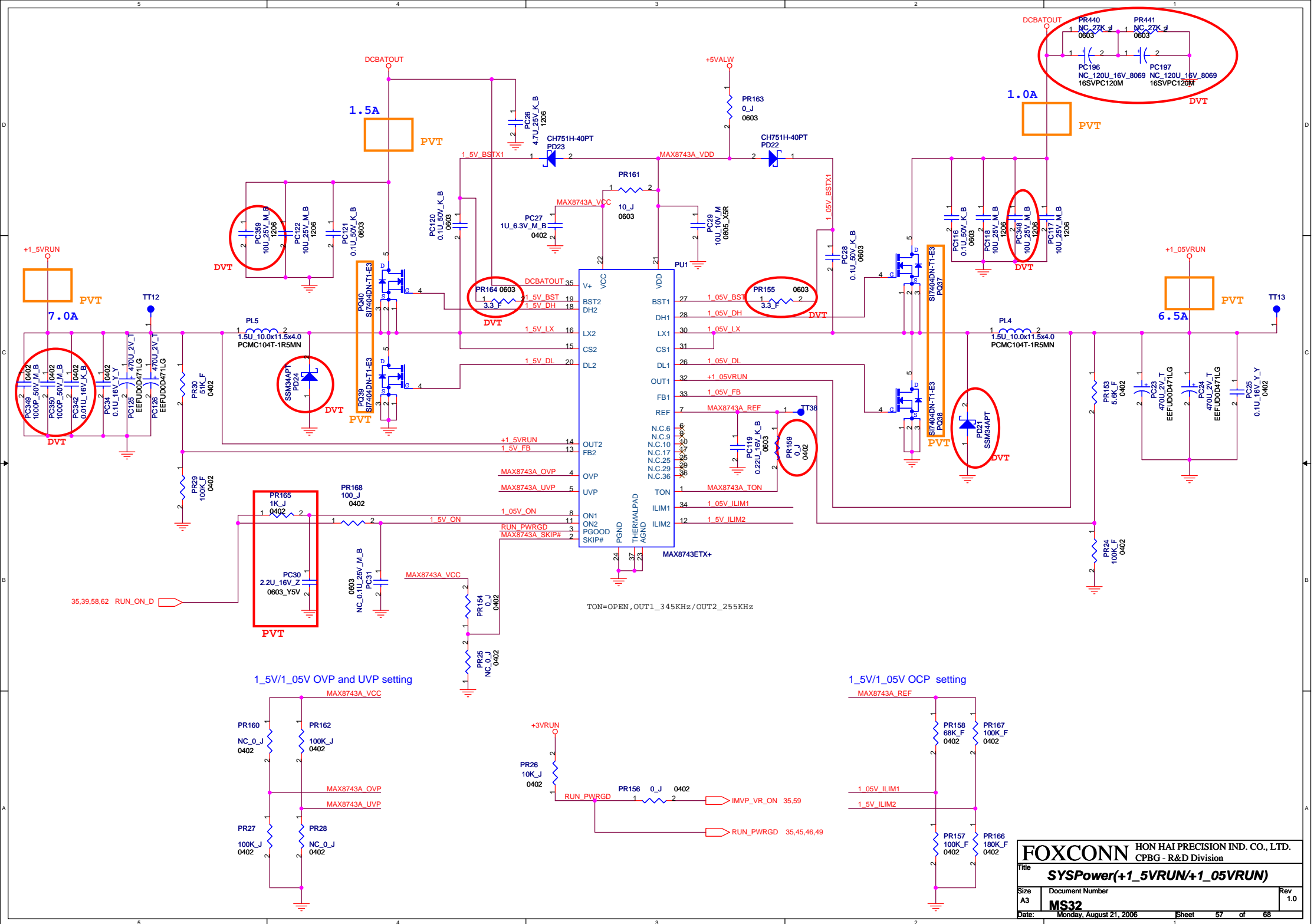
RUN_ON_A

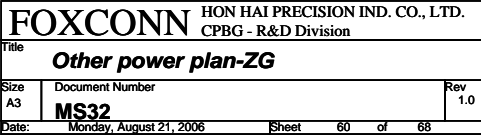
SHDN#

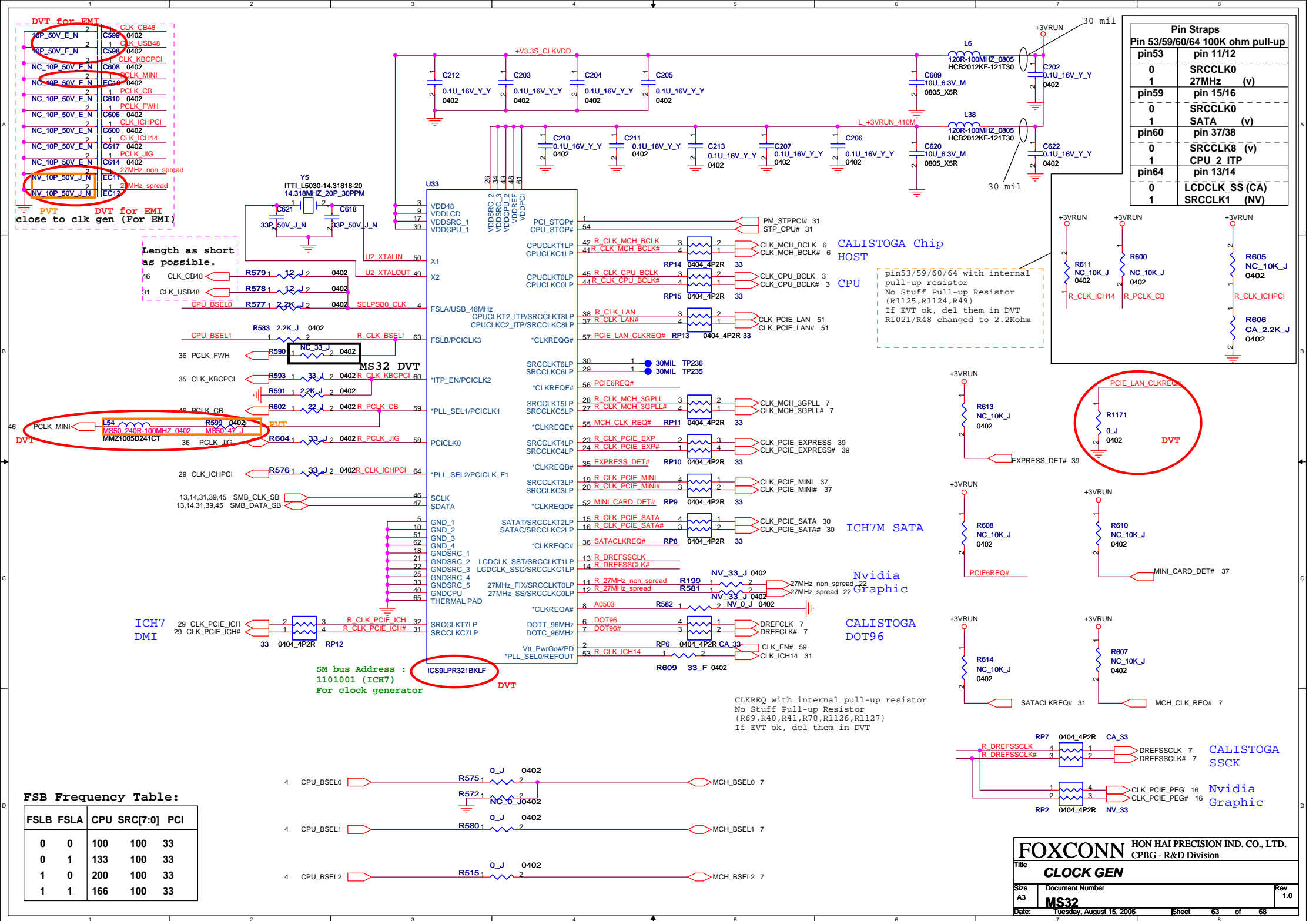
MAXIM
MAX668
Switch Mode
For 12V

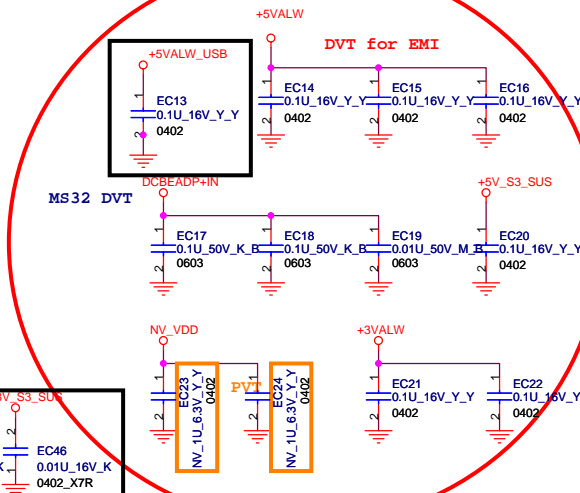
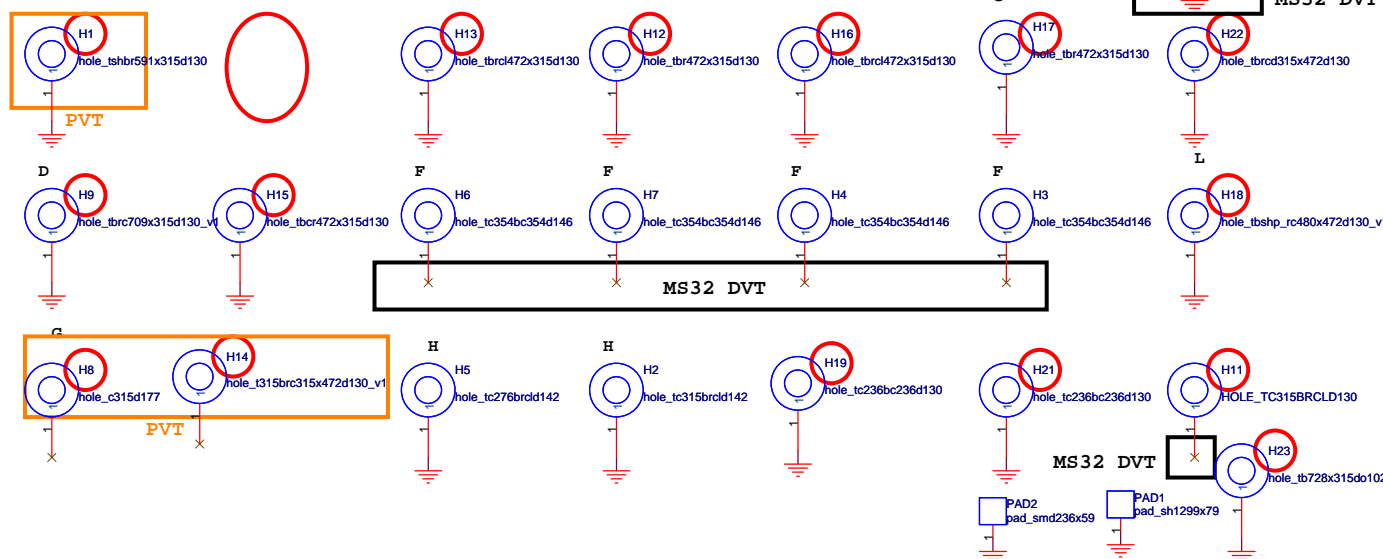
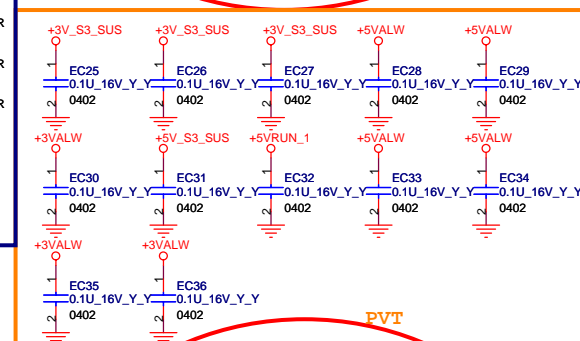
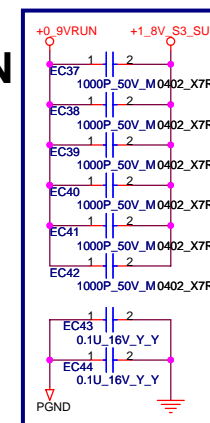
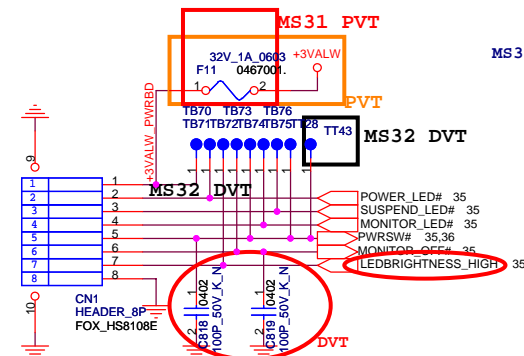
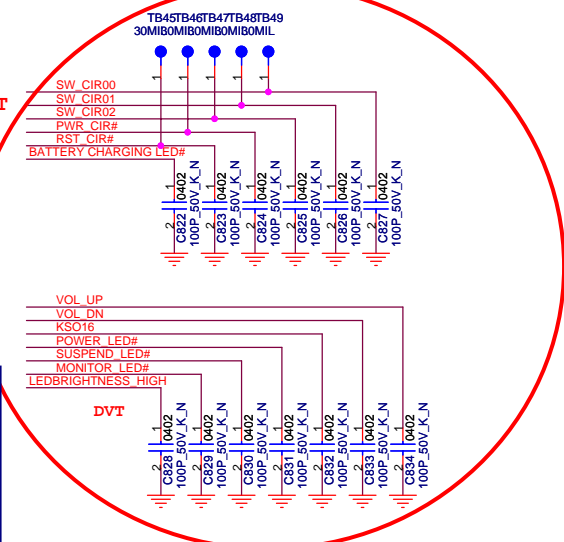
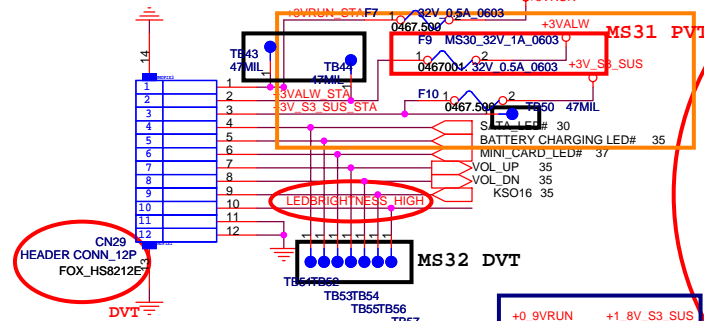
+12VRUN/1.2A

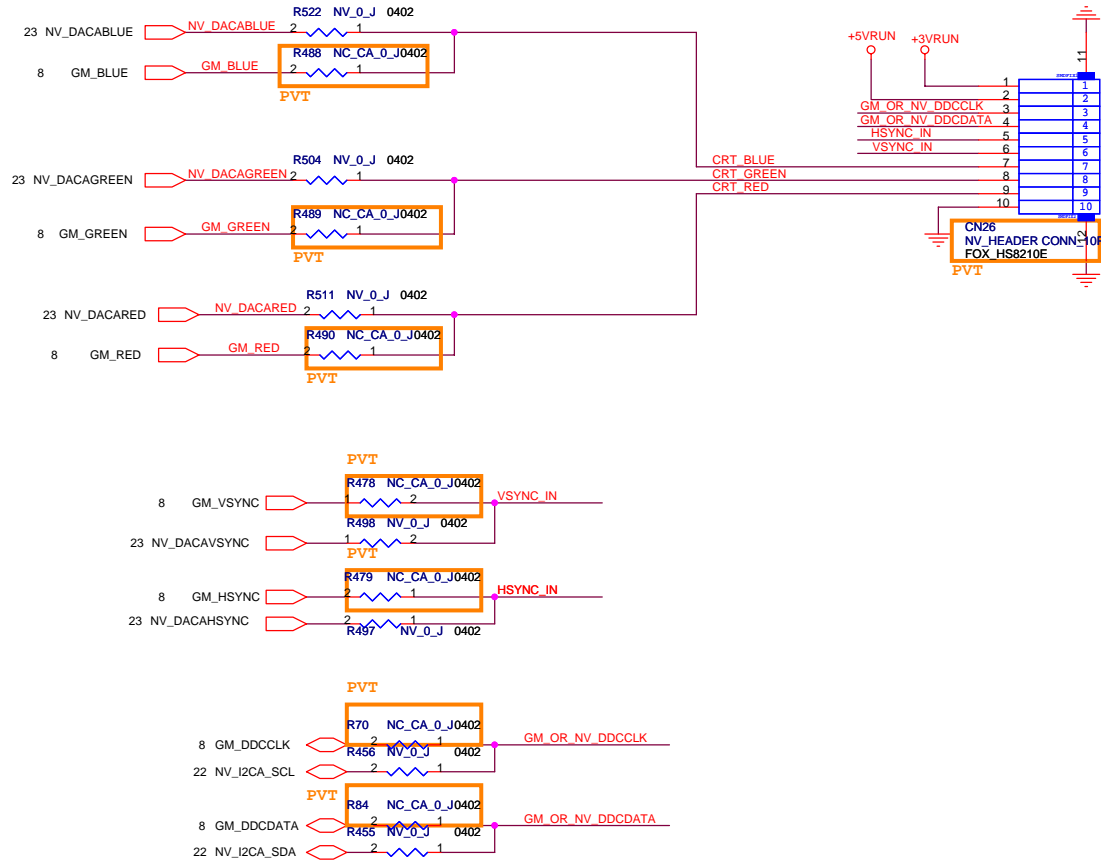












DVT
P64 CN1 pin1 change to +3VALW for leakage
P52 mount R779 for lan get ip fail
P40 net name HW_POP_MUTE_CODECH# change to HW_POP_MUTE_CODECH
P43 (1)net name HW_POP_MUTE_CODECH# change to HW_POP_MUTE_CODECH
(2)change Q11 from MMBT3906 to MMBT3904
P60 mount PR224 for +5V_3.3US discharge too slow
P57 (1)change PR155,PR164 from 0ohm to 3.3 ohm for decrease 1.5V/1.05 noise
(2)mount PD21,PD24 for decrease 1.5V/1.05 noise
P59 mount PC178,PC279; mount PC88,PC109 for decrease Vcore noise
P62 mount PC92 for decrease VGA power noise
P40 (1)mount R682,R694 for sense_B,sense_A detect (1)NC R308
P44 NC R643,R647
P43 mount R381 for amp abnormal be mute
P41 change JSKP1,JSKP2 from 2N-0002000-MONO to 2N-0002001-MITO
P39 change CN13 from 1N-0008000-MITO to 1N-0008001-MITO
P64 change CN36 from 1N-0002001-MITO to 1N-0002000-MITO
P46-49 change U10 to PC184122HK
P59 change P03,PQ30 to 17-S14324D-YT00
P40 U19 change to CXD9872AK
P29-P33 for EVT2 U6 is 12-CALISTO-A300(GML)
P41,P42 COM1_2,3 change to 2N-0006002-FXK0
P22 R567 change to 16-CHS4083-0P00
P59 PQ58 change to 17-S14324D-YT00
P58 PR193 change to 6.2K_F,PR136 change to 82K_F
P62 R127 change to 6.2K_F
P60 PR37 change to 120K_F,PR171 change to 6mohm, PL6 change to 2.2uH
P24,P25 change R99,R148,R165,R167 from 120 Ohm to 80.6ohm 1%
P60 change PQ51,PC142,PQ35 value to NV_
P43 add Q12,R772,R773 for adding EC to control mute function
P45 (1)add R342,NC R343 for Change VP1020 initialization to SHI mode
(2)NC U45,R355
P59 NC PD2,PD19
P60 add PR219,PR169
P24 change R165 to 40.2_F and add R1160,C809, R1163,C810 for avdida latest demo board for G72
P25 change R148,R99 to 40.2_F and add R1164,R1165, C811,C812 for nvidia latest demo board for G72
P43 change U21 to M74VHC1GT32DFT2G for shortage of toshiba parts
P41 change Q24,Q25,Q26,Q27 to PBSS2515F.115 for toshiba parts shortage
P16 add U49 for PUT_RST# to VGA
P28 add C815,C813,C814
P29,45 connect GPIOW1 to AEC pin30 powerdown
P35 (1)add D15,D16,D17 for preventing leakage from EC before power on
(2)reserved U3 pin 176 for second fan FB,pin43 for second fan PWM
(3)add U3 P105 as EC_LED to control LED brightness
P36 change CN12 pin1,pin21 to +ECVCC
P38 (1)add R1166 for discharge path of +5VALW_LDO
P39 update Q19 footprint
P43 change Q11 to MMT3904
P34 add CAP23,CAP24
P62 add PR439,delete PR123,NC PC92 for preventing VGA,GPIO15 floating
P63 delete R204,add R1171 for PCIE_LAN_CLKREQ# pull low
P45 delete PQ77
P48 change CN18 to smaller size
P47 change CN14 to 1394 normal type
P42 change CON3 to Red color
P41 JSKP1 change to 3 pin for manufacture
P45 delete R396,R393,C359,R395,C360
P54 add PC340
P55 change PD38 to MMVZ5235BPT for Battery in UVP fail
P38 change second fan to adjustable
P56 add PC347,PC346,PC341,PC158 for +5VALW
P57 add PC349,PC350,PC342 for +1_SVRUN
P58 add PC351,PC352,PC343 for +1_SV_83_SUS
P59 add PC353,PC354,PC344,PC355,PC356,PC345,PC278, PC279 for VGOORE
P57 add PC348,PC196,PC197,PC359
P59 change PD2,PD19 to NC SPL1040PT (10A)
P60 (1)change PQ48 to SI4892DY-T1-E3
(2)add PL14 for MS50,PL6 for MS30
(3)add PC357,PC358 for +12VRUN
P34 add CAP23,CAP24 for MS50 HDD
P30 add R1175 for MS50 SATA Cable
P64 (1) delete R783
(2) CN1 add EC_LED to control LED brightness
(3)CN1 pin 1 change to +5VALW
P60 add PR436,PR437,PQ81,PR435,PQ83,PR438, PC360,PQ82,R1176 for +1_SVRUN timing
P54 (1)add PR442,PQ84,U50 and connect PR182 pin2 to +ECVCC for preventing leakage of charger LDO
P56,57,58,59,60 Update PL6,PL9,PL7,PL8,PL2,PL4, PL5,PL14,PL1,PL3 footprint for shaking test

1201
P40,41 Swap SPK_L1,SPK_R at source and speaker cnn side
P64 add C818,C819 for ESD
P40 CN19 change to CXD9872AK
1202
P40 Follow FAE suggestions
(1)add C820(100_10V_M) for AVDD
(2)change C305 to 100_6.3V for VREFILT
(3)change R752 to 1% tolerance
1205
P29 change GP4 to R1402
P51 change R1403,NC R665 for LAN S4 wake up
P54 add PC362
P57 add PR440,PR441 for balance 2 caps voltage
P22 U9 update new version
1206
P22 rename R567 to D19
P45 NC C770
P51 change R665 value to MS30_0_J,R1403 value to MS50_0_J
P60 NC PQ67,PQ46,PQ21,PQ52,PQ35,PQ36,PQ47,PQ8
P62 change PC123 to 220_10V_Y_Y,PC124 to 220U_2.5V_M for reduce PEK_VDD ripple
P64 add C821-C834 for protecting EC from ESD
P35 add C835-C838 for protecting EC from ESD
P39 add C839 for protecting EC from ESD
P36 add C840-C844 for protecting EC from ESD
P41 change R233,R231 to 47K_F,addC850,C847 C851,C846
P44 (1)R261,R255 change to 56K_F
(2)R248,R254 change to 2.4K_F
(3)R246,R251 change to 2.2K_J
Add T81-TP77,T71-20 for manufacture TE test
P44 add GP7,GP8,GP9 for MIC quality
P57 mount PR159
1206_1
P3 change Q21 to 2N7002
1206_2
P59 PC4,PC12,PC18,PC19,PC98,PC105 change to 330U_2.5V_M
1207
P28 change CN3 to 1N-0030000-FWGO
P42 change R693,R683 from 11K_F to 7.5K_F
P38 change second fan(CN7) source(R1173,Q29) to +12VRUN
1208
P52 CN24 chnage from 10pin to 8pin
P51 change R665 value to 0_J,delete R1403
1209
P59 add TT21-TT27 for manufacture
P61 add PC363 for PUS power bypass
P38 add R1403 for reserve 12V path to second fan
P42 update U17 to MAX4232AKA-T
P59 delete PR14-PR20 ,and short
P08 delete R76,R63,R78,R542,R62,R77,R64,and short
P10 delete R544,R536,R65,R535,R79,R543 ,and short
P12 delete R514,R508,R541,add TP248,TP249,TP250
P30 delete R702,R697 and short
P41 (1)change R225,R226 from 22K_J to 47K_J
(2)change T88-T811 to 40m1
P46 (1)add R1404,C1397(NC),C1398(NC) for separate power for reserve tv-tuner
P60 add R1415,C1400(NC),C1401(NC) for separate power for reserve tv-tuner
P63 change R599 to 100_J,add L54 for PCLK_MIN1
P57 change PR440,PR441 from 2.2K_J to 100K_J
P54 (1)PQ63 change to SI4825
(2)mount PD7
1212
P63 mount C598,C599 for EMI
P55 mount PC81 for EMI
P30,P46,P56,P63,P64 add EC1-EC24 for EMI solution
P59 reserve PR444,PQ85,PR445,PC364,PR443 for max8771 CLKEN# abnormal
P29 change R389,R776 from 39_J to 47_J for SI
1213
P28 add Q31 for LCD_VDD discharge path
P46 change EC2-EC7 value to MS50_*
P43 mount R778,Q14
P44 (1)change R248,R254 from 2.4K_F to 1.5K_J
(2)change R246,R251 from 2.4K_J to 2.4K_F
P48 (1)change R212,R213,R221,R222 from 0_J to 68_J for SI
(2)change R215 from 1.5K_J to 1K_J from customer suggestion
P54 (1)change PR183 from 15.4K_F to 20K_F
(2)change PR49 from 20K_F to 24K_F to set constant power to 4.09A(87%
P57 (1)NC PC196,PC197
(2)change PR440,PR441 to NC_27K_J
1214
P50 change CAP17,CAP19,CAP20,CAP22 to 100U_6.3V_M for vendor
P54 add PD43
P59 change PR7,PR126 to 3.3_J
1215
P61 change PD4 value to NV_*

10120
P37 add Q32 for wireless led always on
P38 add D20,D21 for fan reverse current to damage Q5
P49 update CN6,CNS footprint
P55 add PR446,combine PQ22A,PQ19B to PQ19(2N7002DW) for abnormal ALW_ON
P60 add PQ86 for improve rF quality
P43 add Q33,and change Q14 to MMBT3904 for leakage
P37 change SW2 to SSSU011700_SW-DIP3
P48 change CN9 to MOLEX_67913-0009 for factory repair

0121
P64 change CIR connector value to MS50_* for ms50 only
P39 change L8,L18 to 120H-100MHZ_0603 for current rating
P8 mount R69,R68,R66,R493,R494 ,NC R83,R82,R80 for disable CRT
P10 mount R547,R518,C454 ,NC R540,C453,D3,R548,L21,L23,C414 for disable CRT

0123
P8 change R67 value to 0_J,dummy R495,R492,R81 for CRT disable
P65 dummy R488,R489,R490,R478,R479,R70,R84 for CRT disable
P19 dummy R598 for G73M
P61 change PC188 to XSR type
P22 dummy R5,R2,R8,R7,R10,C23,C25,C24,U26,R11
P63 change R599 to 100ohm 0402 1%
P30 add PJ31 for RTCRST#
P61 add PC366 for reserve ,PDSB pin 4 connect to GND for preventing floating

0125
P64 change PAD3 to pad_smd283x110
P54 update PL10,PL11 footprint for cold solder issue
P66 update L54 vendor to THK
P28 delete L37 and short for inverter fuse current rating
P66 change PQ86,PC365 value to MS50_*
P63 change R599 to 100_J,add L54 for PCLK_MIN1
P57 change PR440,PR441 from 2.2K_J to 100K_J
P54 (1)PQ63 change to SI4825
(2)mount PD7
1212
P63 mount C598,C599 for EMI
P55 mount PC81 for EMI
P30,P46,P56,P63,P64 add EC1-EC24 for EMI solution
P59 reserve PR444,PQ85,PR445,PC364,PR443 for max8771 CLKEN# abnormal
P29 change R389,R776 from 39_J to 47_J for SI
1213
P28 add Q31 for LCD_VDD discharge path
P46 change EC2-EC7 value to MS50_*
P43 mount R778,Q14
P44 (1)change R248,R254 from 2.4K_F to 1.5K_J
(2)change R246,R251 from 2.4K_J to 2.4K_F
P48 (1)change R212,R213,R221,R222 from 0_J to 68_J for SI
(2)change R215 from 1.5K_J to 1K_J from customer suggestion
P54 (1)change PR183 from 15.4K_F to 20K_F
(2)change PR49 from 20K_F to 24K_F to set constant power to 4.09A(87%
P57 (1)NC PC196,PC197
(2)change PR440,PR441 to NC_27K_J
1214
P50 change CAP17,CAP19,CAP20,CAP22 to 100U_6.3V_M for vendor
P54 add PD43
P59 change PR7,PR126 to 3.3_J
1215
P61 change PD4 value to NV_*

0208
P38 mount R1403,dummy Q30,R1173,R1174,Q29,D21 for fix mode by customer suggestion
P50 update U42 part number to 12-8888036-A100 for manufacture
P64 change H1,H8,H14 footprint
P59 add TT42 for power test
P63 change R599 from 100ohm to 47ohm(1R-0000470-J200)
P39 change F2 to 1M-F24V0A2-0000(24V-0.2A_1206)
P34 reserve R1407 for Staggered spin-up disable by customer suggestion
P43 add C1401 by customer suggestion
P41 (1)change C220,C221 from 0.47u to 0.22u
(2)change C675,C674 from 1u to 6.8u
(3)change R1167 from 1K to 2.2K
(4)add R1408,C1399,R1409,C1400 by customer suggestion
P48 NC CN18 pin1,4 and remove R742,R743,L51,L52 by customer suggestion
P22 mount R1406
P40 change U19 to CXD9872K

0209
P55 reserve R1410 for discharge path
0210
P28 mount C363,C364,C365,C366 for EMI
P41 (1)change R225,R226 from 47K to 100K,
(2)change R227 from 2.2k to 270 ohm
P65 add EC25-EC36 for EMI
P44 add GPIO10 for EMI
P35 add U51,C1402 by customer suggestion
P55 change PQ19 to 17-2N7002S-PT00
P30 (1)change R745 value from MS30_24.9_F to 24.9_F
(2)dummy R1175
P48 change R215 from 1K_J to 330_J for SD card power drop

0213
P44 change GPIO10 to R1411(MS50_0_J) for EMI
P38 add P3,F4 for cable short protection
P39 add F5 for cable short protection
P64 add F6-F11 for cable short protection
P31 (1)connect GPIO21 to U20 pin14 for bypass ABC
(2)dummy R304 for double pull low
P45 connect U20 pin14 to SB GPIO21 for bypass ABC
P54 add PR447,PC367(smubber circuit) for dc_in inrush voltage/current

0214
P38 delete F3,F4
P64 add F14 for cable short protection
P35 add F12,F13 for cable short protection
P45 add R1412 for hardware disable

0214.1
P38 add F4
P60 correct PQ6,PQ81,Q8 part number(TP610K-T1-E3) to TP0610K-T1-E3
P56 correct PQ55,PQ56 value to SI7404DM-T1-E3
P57 correct PQ37,PQ38,PQ39,PQ40 to SI7404DN-T1-E3

0215
P39,P38,P35,P64 change F2,F4-F14 size from 1206 to 0603
P60 correct PQ6,PQ81,Q8 vendor part number(TP610K-T1-E3) to TP0610K-T1-E3
0216
P39,P38,P35,P64 change F2,F4-F14 to 1M-F32VA75-F001 FUSE,Littelfuse,0467.750,32V, 0.75A

0223_SMT
P28 dummy C363,C364,C365,C366 for LVDS timing by customer
P42 change R693,R683 from 7.5K to 13.7K for Line in FSIV
P39 change F5 to 32V_1A_0603,F2 to 32V_0.5A_0603
P29-P33 update U44 part number to M82B01GSM_B0
P54 update PR447 to 1_F 0805,1R-0000010-P500
P39,P38,P35,P64 change F2,F4-F14 to 1M-F32VA5-F000 FUSE Littelfuse,0467.500,32V, 0.5A

MP
0302
P48 change CN32 to Yamaichi_JCS010_2005_1 for vendor shortage

0303
P41 (1)change C675,C674 to 1C-2B7022S-M000 for 6.8U 6.3V_M shortage
(2)add C1403,C1404(1C-2B70475-R201) for 6.8U 6.3V_M shortage
P39 remove T86,T87 for manufacture test issue

0311
P39 change F2 to 32V_1A_0603 for current rating
P41,43 change Q9,Q13,Q28 from 17-MMBT390-6000 to 17-MMBT390-6K00
P57 change PR165 to 1K_F,PC30 to 2.2uF,16V for adjusting ID05V power on/off sequence

0313
P8 change R67 value to 0_J,dummy R495,R492,R81 for CRT disable
P65 dummy R488,R489,R490,R478,R479,R70,R84 for CRT disable
P19 dummy R598 for G73M
P61 change PC188 to XSR type
P22 dummy R5,R2,R8,R7,R10,C23,C25,C24,U26,R11
P63 change R599 to 100ohm 0402 1%
P30 add PJ31 for RTCRST#
P61 add PC366 for reserve ,PDSB pin 4 connect to GND for preventing floating
0315
P40 (1)change U19 to 15-CXD9872-0001 ,SONY,CXD9872AKXNBE3XR,4th+
P42 (2)R683,R693 change to 7.5K,5%,0402 for 4th+ codec line in FSIV
P43 (2)mount R756 and cgyane to 10K,5%,0402
P44 (1)change C244,C237,C245,C243 to 6800pF,50V,06003,X7R Murata
(2)for MS31:change R262,R268 to ,22K,5%,0402

0518
P35 delete R130,mount R133 for 31/51 MODEL ID
P10 change D3 from SEC06,SCS500V-40-LF to CHT500H-40PT for simply BOM
P30 change D14 from SEC05,SCS500V-40-LF to CHT500H-40PT for simply BOM
P32 change D1,D13 from SEC05,SCS500V-40-LF to CHT500H-40PT for simply BOM
P32 change CAP5 from Panasonic,EEFSXOD331ER to NEC,330U_2.5V_M for simply BOM
P5 change CAP8 from Panasonic,EEFSXOD331ER to NEC,330U_2.5V_M for simply BOM
P11 change CAP11 from Panasonic,EEFSXOD331ER to NEC,330U_2.5V_M for simply BOM

P35,P54, change U50,U51 to 74LVC1G08GM,Philips,

0613 MS31 PVT
P61 dummy PR214,PR215,PD37 for disable DC_IN OVP Protection

0614
P39 change F2,F5 from 1M-F32V1A0-F000 to 1M-F32V1A5 -F0000
P64,35 Change F9,F11,F12 from 1M-F32V0A5-F000 to 1M-F32V1A0-F000

0625 MS31 MP
P61 PR215 change from NC to 0ohm

0627
P44 change C237,C243,C244,C245 from 1C-2B30682-M000 to 1C-2B30682-R000

0703
P48 Correct CN32 Vender PN as YAMAICHI_JCS010-2004

0707
P60 change PR170 from 1K to 3.3K
change PC131 from 0.1uF to 0.47uF for power drop issue
change PR41 from 10K to 4.7K for RUN power timing shift

