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15	DDRII(Termination) 3/3	0.20	06/5/22				
16	LVDS / S_VIDEO	0.20	06/5/22				
17	ICH7-M(PCI/USB) 1/5	0.20	06/5/22				
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22	SATA HDD/CD-ROM	0.20	06/5/22				
23	EC+KBC	0.20	06/5/22				
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26	FAN/HW THERMAL PROTECT	0.20	06/5/22				
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33	CRT	0.20	06/5/22				
34	DB CONNS & LED	0.20	06/5/22				
35	Power Design Diagram	0.20	06/5/22				

P. Leader	Check by	Design by

PCB P/N:

1P-0065102-80SA - FUBAI

1P-0065201-80SA - NANYA

1P-0065503-80SA - HANNSTAR

Project Code & Schematics Subject: MS60-L Main Board

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Title: ***Index Page***

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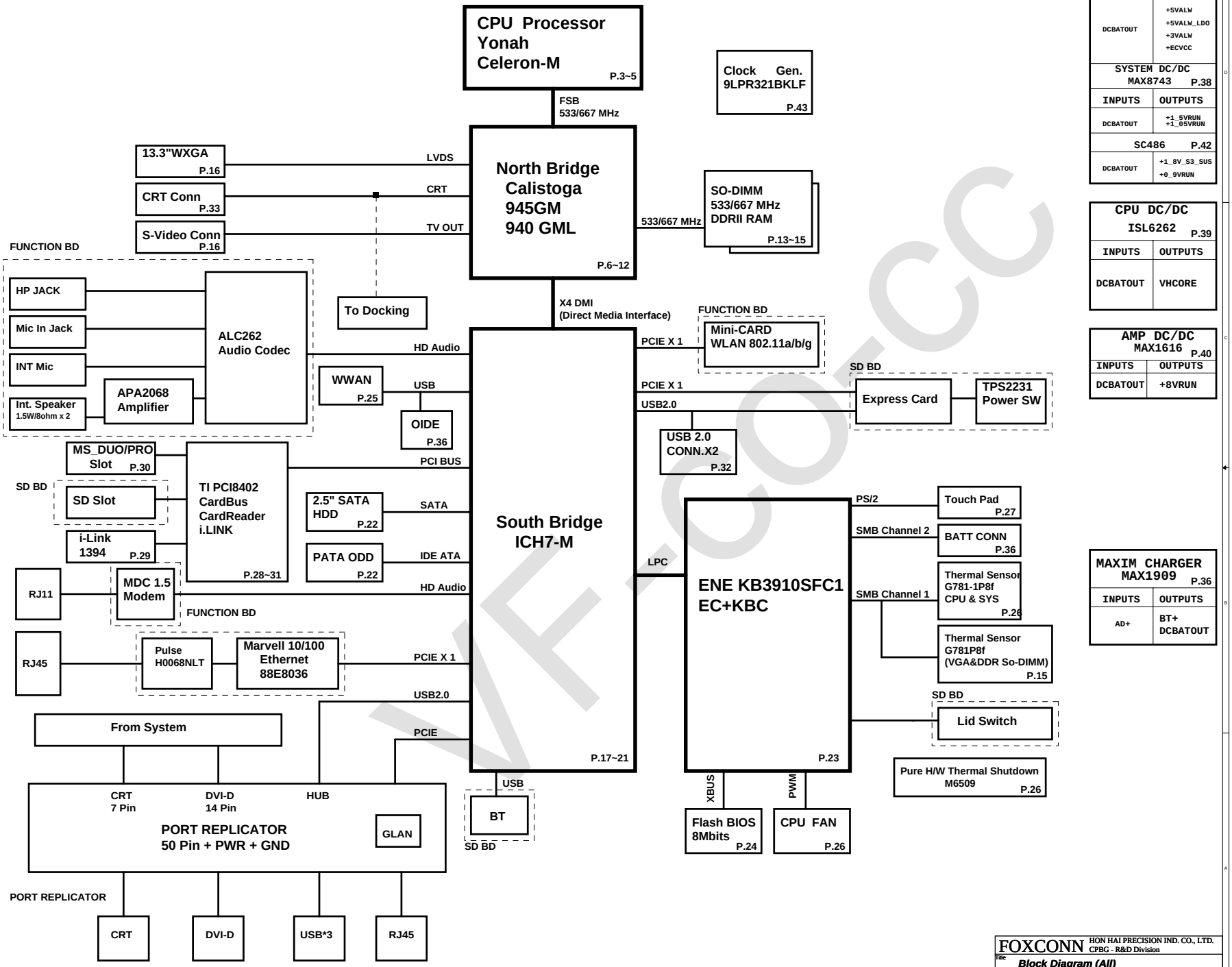
MS60 (CALISTOGA GM Block Diagram)



SYSTEM DC/DC
MAX8734 P.37

INPUTS	OUTPUTS
DCBATOUT	+5VALW +5VALW_LDO +3VALW +ECVCC

SYSTEM DC/DC
MAX8743 P.38

INPUTS	OUTPUTS
DCBATOUT	+1_5VRUN +1_05VRUN

SC486 P.42

DCBATOUT	+1_8V_S3_SUS +0_9VRUN

CPU DC/DC
ISL6262 P.39

INPUTS	OUTPUTS
DCBATOUT	VHCORE

AMP DC/DC
MAX1616 P.40

INPUTS	OUTPUTS
DCBATOUT	+8VRUN

MAXIM CHARGER
MAX1909 P.36

INPUTS	OUTPUTS
AD+	BT+ DCBATOUT

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Title: *Block Diagram (All)*

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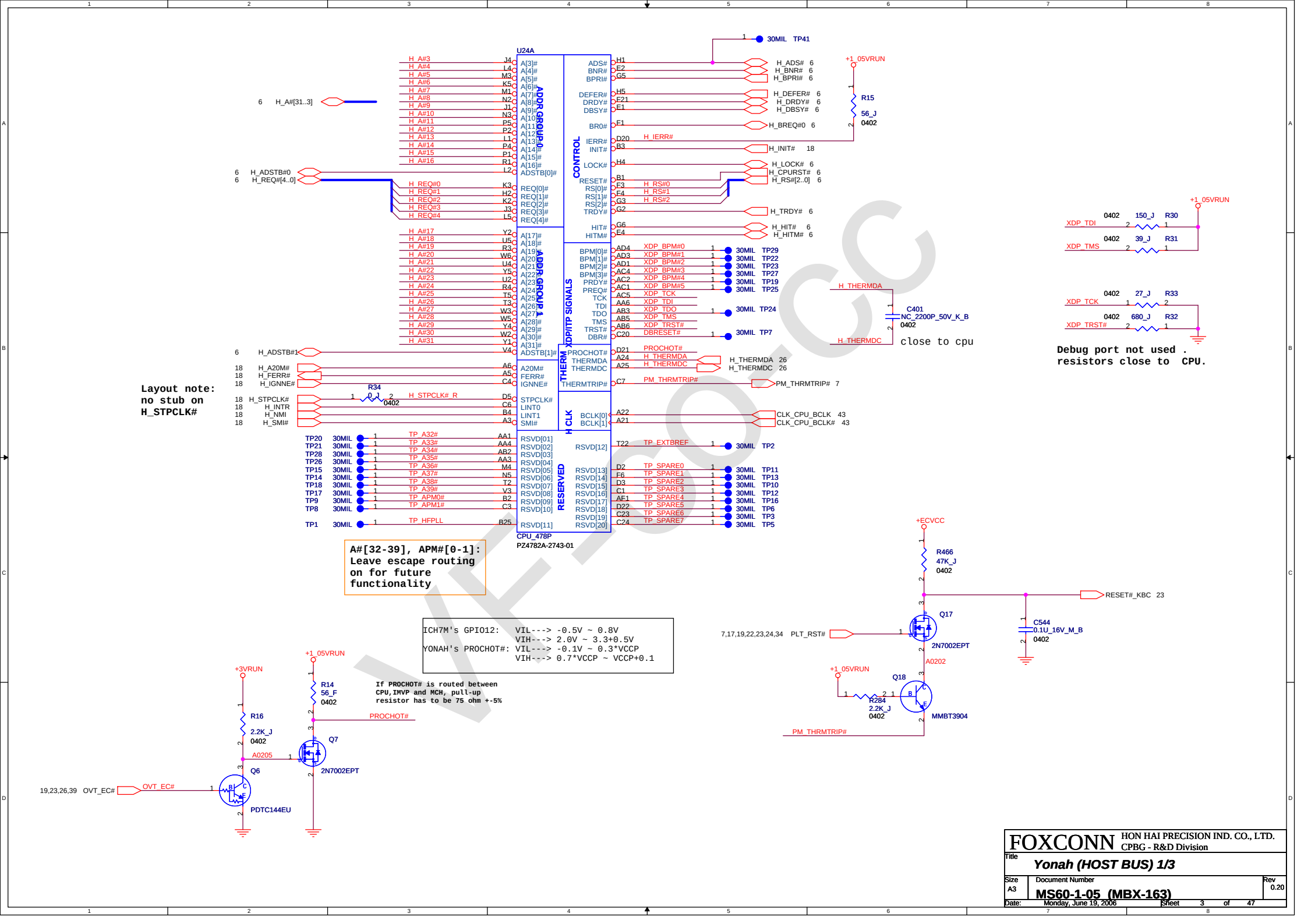

FOXCONN	HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division
Title	Yonah (HOST BUS) 1/3
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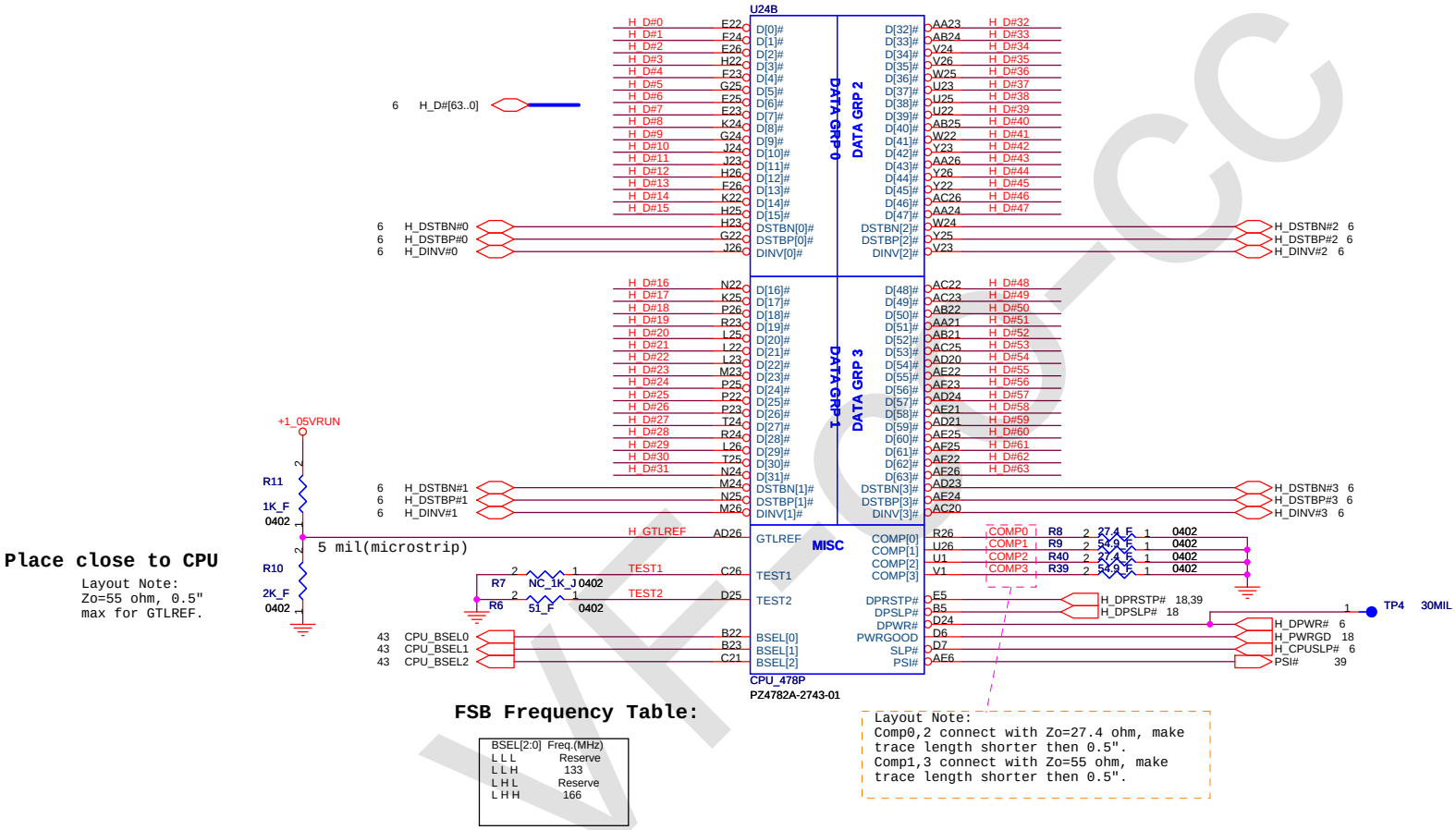

Place close to CPU

Layout Note:
Zo=55 ohm, 0.5"
max for GTLREF.

FSB Frequency Table:

BSEL[2:0]	Freq.(MHz)
L L L	Reserve
L L H	133
L H L	Reserve
L H H	166

Layout Note:
Comp0,2 connect with Zo=27.4 ohm, make trace length shorter then 0.5".
Comp1,3 connect with Zo=55 ohm, make trace length shorter then 0.5".

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Title: *Yonah (HOST BUS) 2/3*

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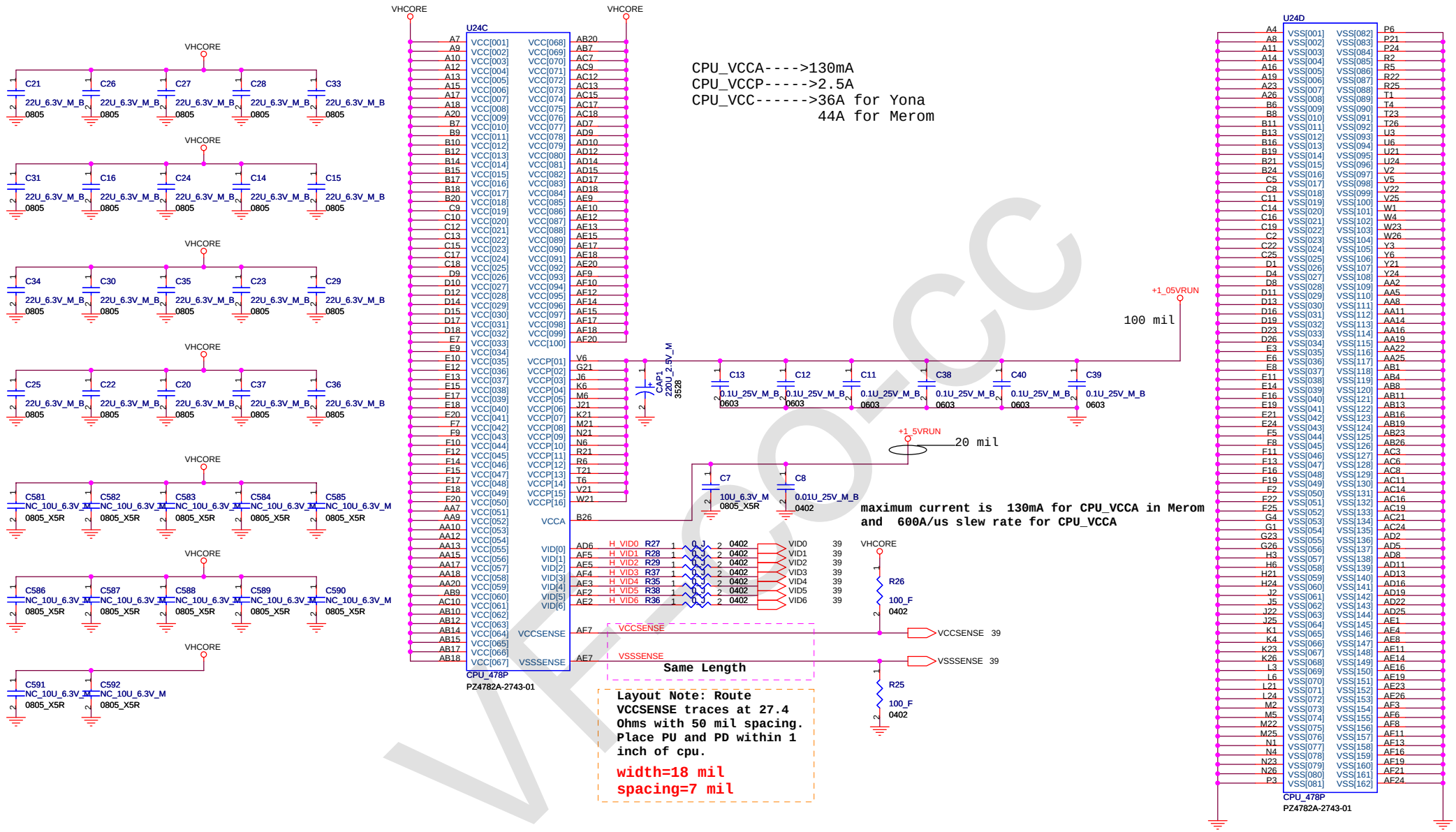

FOXCONN	HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division
Title	Yonah (POWER/GROUND) 3/3
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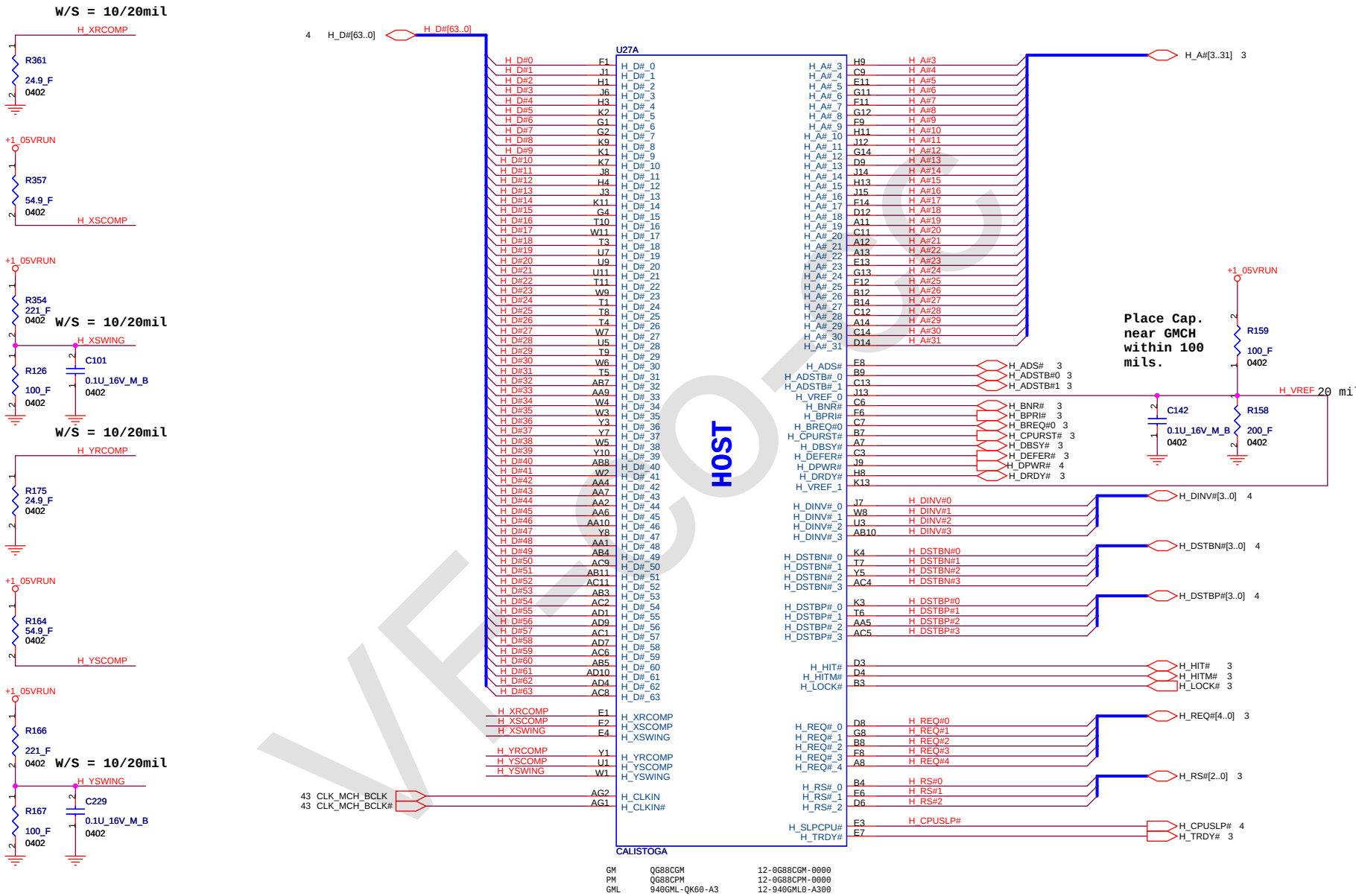
W/S = 10/20mil
H_XRCOMP
R361
24.9_F
0402
+1_05VRUN
R357
54.9_F
0402
H_XSCOMP
+1_05VRUN
R354
221_F
0402
W/S = 10/20mil
H_XSWING
C101
R126
0.1U_16V_M_B
100_F
0402
0402
W/S = 10/20mil
H_YRCOMP
R175
24.9_F
0402
+1_05VRUN
R164
54.9_F
0402
H_YSCOMP
+1_05VRUN
R166
221_F
0402
W/S = 10/20mil
H_YSWING
C229
R167
0.1U_16V_M_B
100_F
0402
0402
4 H_D#[63..0]
H_D#[63..0]
U27A
H_D#0 F1
H_D#1 J1
H_D#2 H1
H_D#3 J6
H_D#4 H3
H_D#5 K2
H_D#6 G1
H_D#7 G2
H_D#8 K9
H_D#9 K1
H_D#10 K7
H_D#11 J8
H_D#12 H4
H_D#13 J3
H_D#14 K11
H_D#15 G4
H_D#16 T10
H_D#17 W11
H_D#18 T3
H_D#19 U7
H_D#20 U9
H_D#21 U11
H_D#22 T11
H_D#23 W9
H_D#24 T1
H_D#25 T8
H_D#26 T4
H_D#27 W7
H_D#28 U5
H_D#29 T9
H_D#30 W6
H_D#31 T5
H_D#32 AB7
H_D#33 AA9
H_D#34 W4
H_D#35 W3
H_D#36 Y3
H_D#37 Y7
H_D#38 W5
H_D#39 Y10
H_D#40 AB8
H_D#41 W2
H_D#42 AA4
H_D#43 AA7
H_D#44 AA2
H_D#45 AA6
H_D#46 AA10
H_D#47 Y8
H_D#48 AA1
H_D#49 AB4
H_D#50 AC9
H_D#51 AB11
H_D#52 AC11
H_D#53 AB3
H_D#54 AC2
H_D#55 AD1
H_D#56 AD9
H_D#57 AC1
H_D#58 AD7
H_D#59 AC6
H_D#60 AB5
H_D#61 AD10
H_D#62 AD4
H_D#63 AC8
H_XRCOMP E1
H_XSCOMP E2
H_XSWING E4
H_YRCOMP Y1
H_YSCOMP U1
H_YSWING W1
43 CLK_MCH_BCLK AG2
43 CLK_MCH_BCLK# AG1
H_D#_0 H_D#_1 H_D#_2 H_D#_3 H_D#_4 H_D#_5 H_D#_6 H_D#_7 H_D#_8 H_D#_9 H_D#_10 H_D#_11 H_D#_12 H_D#_13 H_D#_14 H_D#_15 H_D#_16 H_D#_17 H_D#_18 H_D#_19 H_D#_20 H_D#_21 H_D#_22 H_D#_23 H_D#_24 H_D#_25 H_D#_26 H_D#_27 H_D#_28 H_D#_29 H_D#_30 H_D#_31 H_D#_32 H_D#_33 H_D#_34 H_D#_35 H_D#_36 H_D#_37 H_D#_38 H_D#_39 H_D#_40 H_D#_41 H_D#_42 H_D#_43 H_D#_44 H_D#_45 H_D#_46 H_D#_47 H_D#_48 H_D#_49 H_D#_50 H_D#_51 H_D#_52 H_D#_53 H_D#_54 H_D#_55 H_D#_56 H_D#_57 H_D#_58 H_D#_59 H_D#_60 H_D#_61 H_D#_62 H_D#_63
H_XRCOMP H_XSCOMP H_XSWING
H_YRCOMP H_YSCOMP H_YSWING
H_CLKIN H_CLKIN#
HOST
CALISTOGA
H_A#_3 H_A#_4 H_A#_5 H_A#_6 H_A#_7 H_A#_8 H_A#_9 H_A#_10 H_A#_11 H_A#_12 H_A#_13 H_A#_14 H_A#_15 H_A#_16 H_A#_17 H_A#_18 H_A#_19 H_A#_20 H_A#_21 H_A#_22 H_A#_23 H_A#_24 H_A#_25 H_A#_26 H_A#_27 H_A#_28 H_A#_29 H_A#_30 H_A#_31
H9 C9 E11 G11 F11 G12 F9 H11 J12 G14 D9 J14 H13 J15 F14 D12 A11 C11 A12 A13 E13 G13 F12 B12 B14 C12 A14 C14 D14
H_A#3 H_A#4 H_A#5 H_A#6 H_A#7 H_A#8 H_A#9 H_A#10 H_A#11 H_A#12 H_A#13 H_A#14 H_A#15 H_A#16 H_A#17 H_A#18 H_A#19 H_A#20 H_A#21 H_A#22 H_A#23 H_A#24 H_A#25 H_A#26 H_A#27 H_A#28 H_A#29 H_A#30 H_A#31
H_A#[3..31] 3
H_ADS# E8
H_ADSTB#_0 B9
H_ADSTB#_1 C13
H_VREF_0 J13
H_BNR# C6
H_BPRI# F6
H_BREQ#0 C7
H_CPURST# B7
H_DBSY# A7
H_DEFER# C3
H_DPWR# J9
H_DRDY# H8
H_VREF_1 K13
H_ADS# 3
H_ADSTB#0 3
H_ADSTB#1 3
H_BNR# 3
H_BPRI# 3
H_BREQ#0 3
H_CPURST# 3
H_DBSY# 3
H_DEFER# 3
H_DPWR# 4
H_DRDY# 3
Place Cap. near GMCH within 100 mils.
+1_05VRUN
R159
100_F
0402
H_VREF
20 mil
C142
0.1U_16V_M_B
0402
R158
200_F
0402
H_DINV#_0 J7
H_DINV#_1 W8
H_DINV#_2 U3
H_DINV#_3 AB10
H_DINV#0 H_DINV#1 H_DINV#2 H_DINV#3
H_DINV#[3..0] 4
H_DSTBN#_0 K4
H_DSTBN#_1 T7
H_DSTBN#_2 Y5
H_DSTBN#_3 AC4
H_DSTBN#0 H_DSTBN#1 H_DSTBN#2 H_DSTBN#3
H_DSTBN#[3..0] 4
H_DSTBP#_0 K3
H_DSTBP#_1 T6
H_DSTBP#_2 AA5
H_DSTBP#_3 AC5
H_DSTBP#0 H_DSTBP#1 H_DSTBP#2 H_DSTBP#3
H_DSTBP#[3..0] 4
H_HIT# D3
H_HITM# D4
H_LOCK# B3
H_HIT# 3
H_HITM# 3
H_LOCK# 3
H_REQ#_0 D8
H_REQ#_1 G8
H_REQ#_2 B8
H_REQ#_3 F8
H_REQ#_4 A8
H_REQ#0 H_REQ#1 H_REQ#2 H_REQ#3 H_REQ#4
H_REQ#[4..0] 3
H_RS#_0 B4
H_RS#_1 E6
H_RS#_2 D6
H_RS#0 H_RS#1 H_RS#2
H_RS#[2..0] 3
H_SLPCPU# E3
H_TRDY# E7
H_CPUSLP#
H_CPUSLP# 4
H_TRDY# 3
GM QG88CGM 12-0G88CGM-0000
PM QG88CPM 12-0G88CPM-0000
GML 940GML-QK60-A3 12-940GML0-A300
FOXCONN
HON HAI PRECISION IND. CO., LTD.
CPBG - R&D Division
Title
CALISTOHA (HOST)
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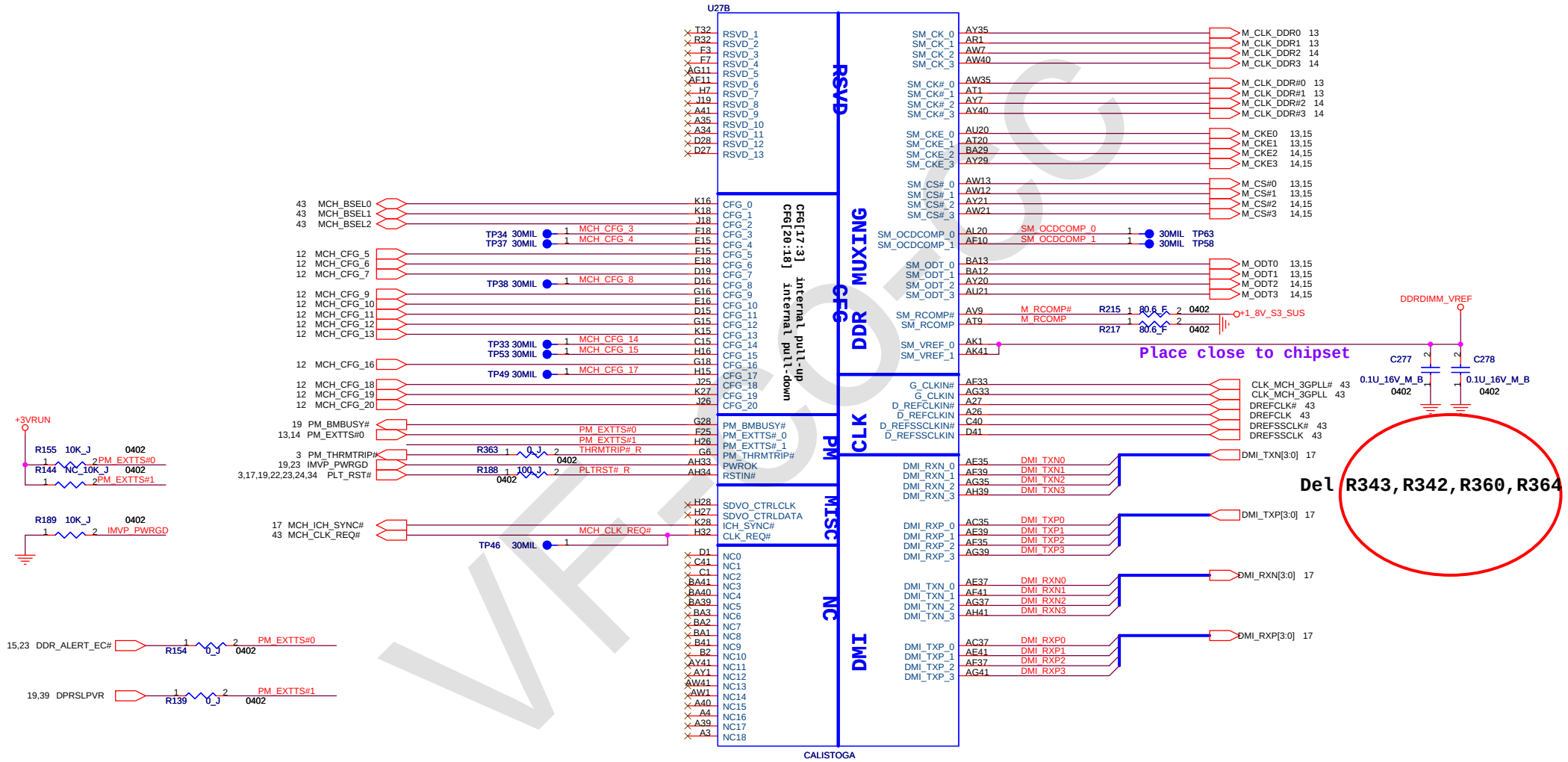

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Title	CALISTOGA (DMI) 2 of 7
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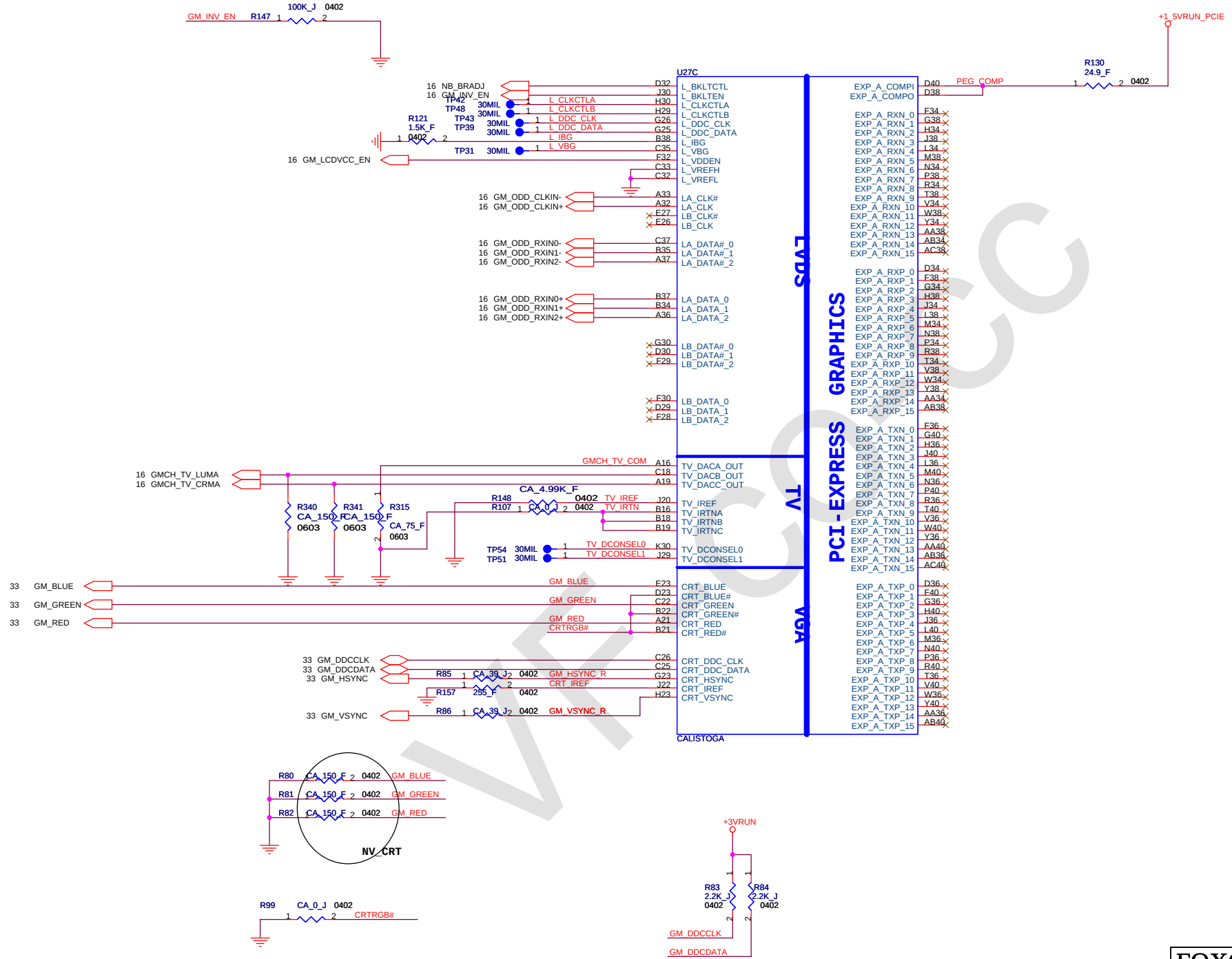

FOXCONN	HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division
Title	CALISTOGA (DMI) 3 of 7
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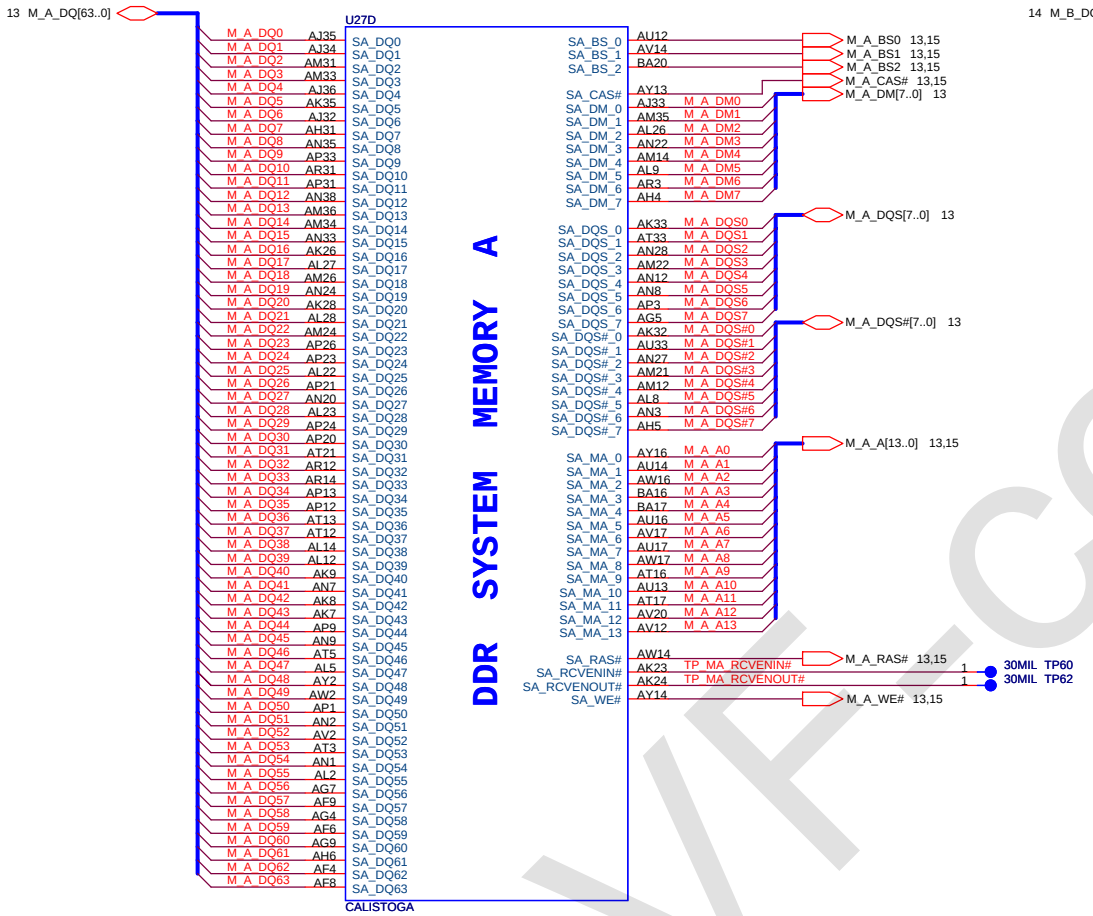

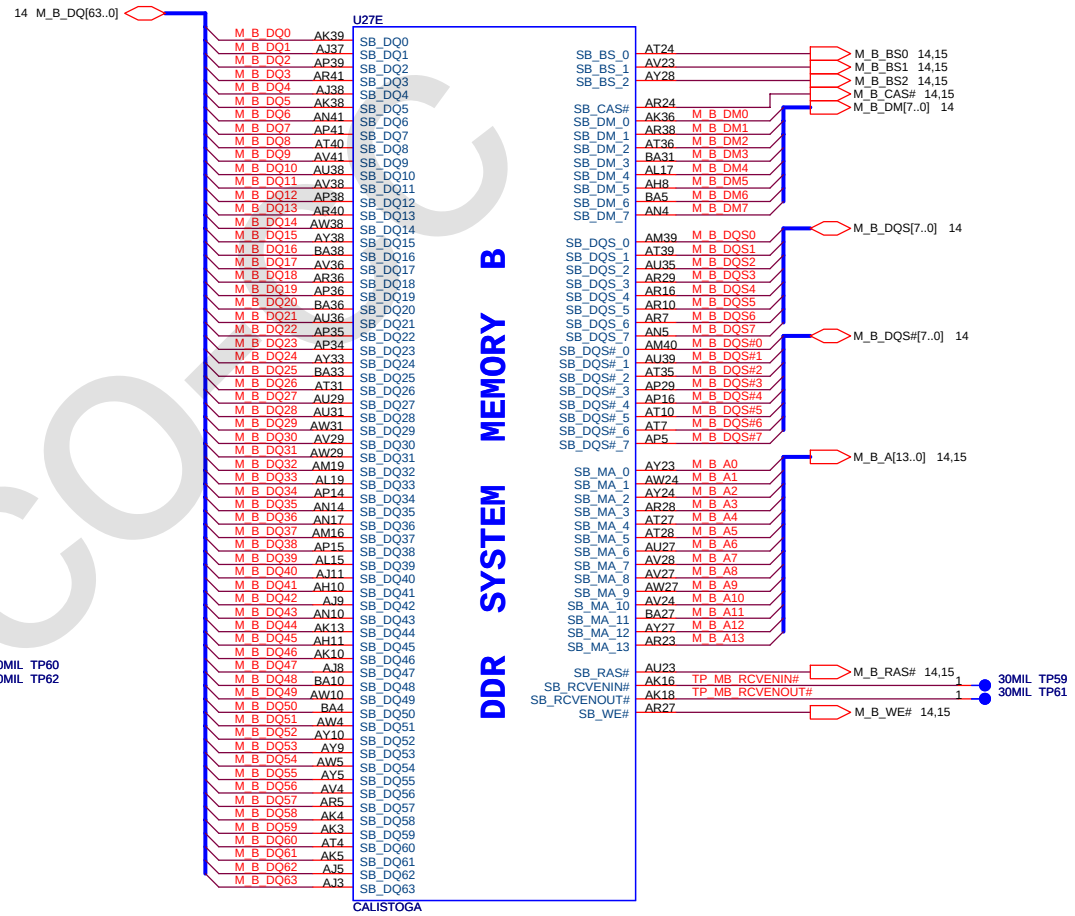

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Title: CALISTOGA (DDRII) 4 of 7

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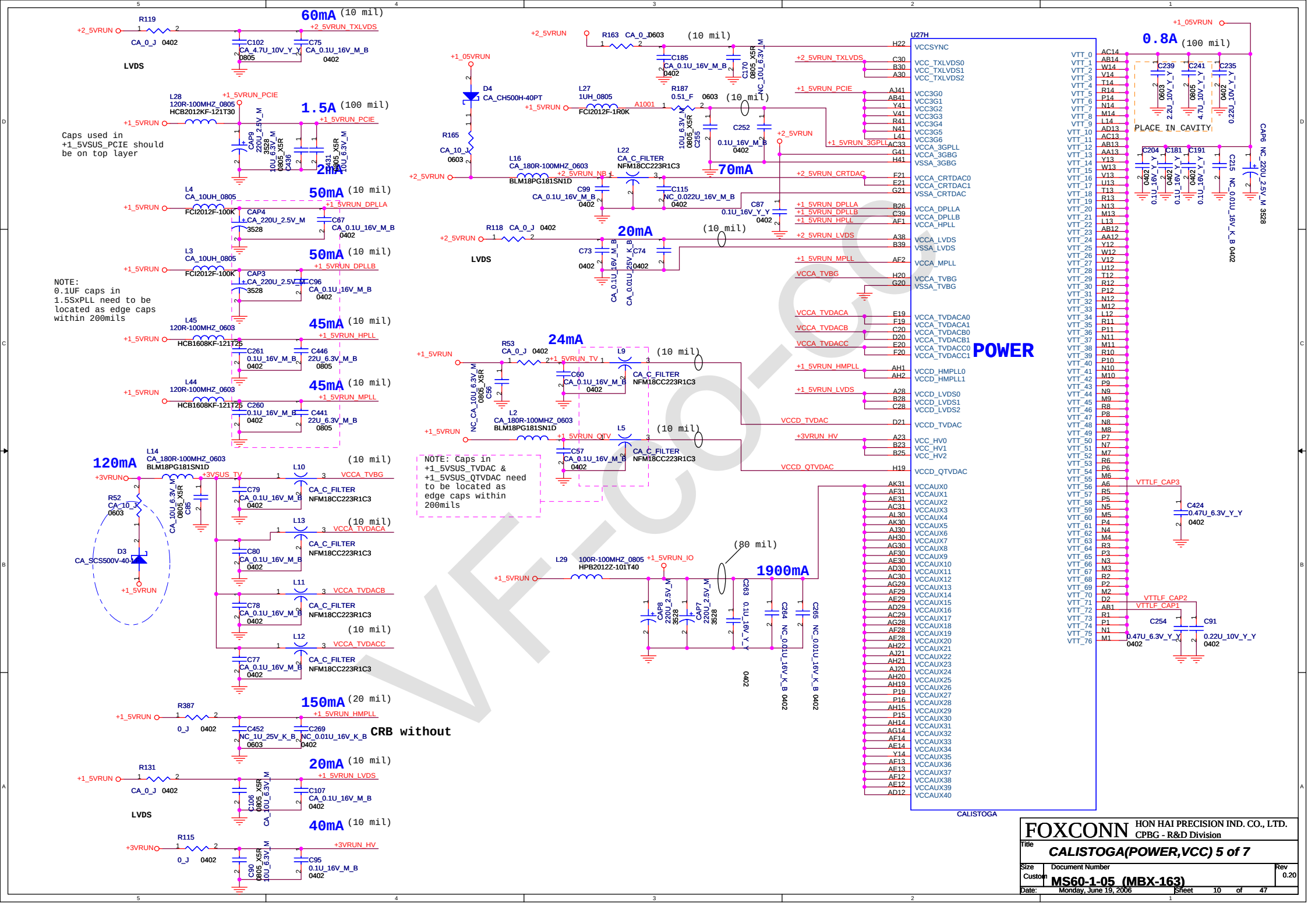

FOXCONN	HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division
Title	CALISTOGA(POWER,VCC) 5 of 7
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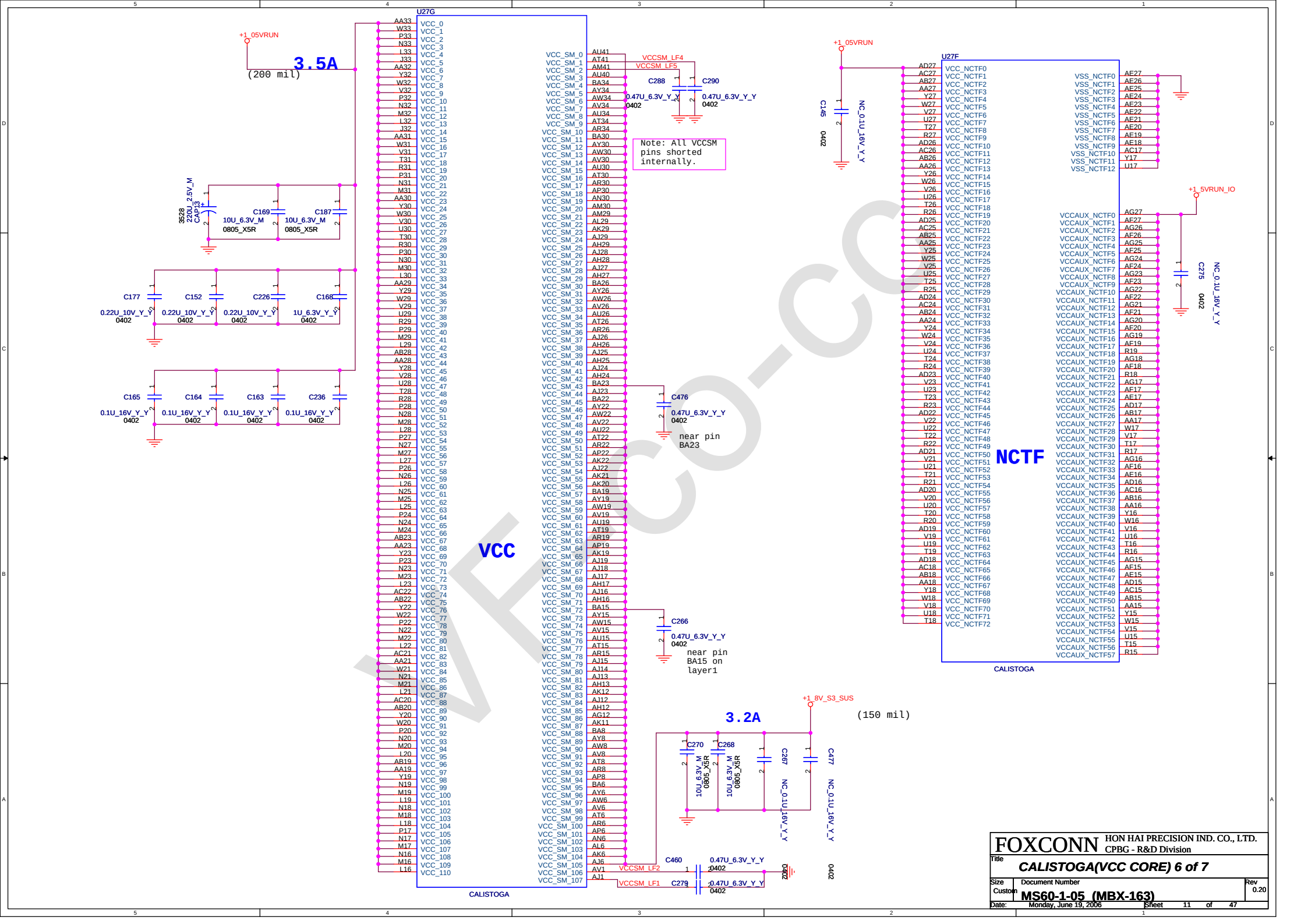

Title: CALISTOGA(VCC CORE) 6 of 7

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7 MCH_CFG_5 — 1 — 30MIL TP45

MCH_CFG_5	Low = DMIx2 High = DMIx4

7 MCH_CFG_6 — 1 — 30MIL TP40

MCH_CFG_6	Low = Moby Dick High = Calistoga

DDR2 select (default high)

7 MCH_CFG_7 — 1 — 30MIL TP36

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

7 MCH_CFG_9 — 1 — R153 — NC_2.2K_J 0402 — 2

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

For layout convenience

7 MCH_CFG_10 — 1 — 30MIL TP35

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

7 MCH_CFG_11 — 1 — R128 — NC_2.2K_J 0402 — 2

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

7 MCH_CFG_12 — 1 — 30MIL TP47
7 MCH_CFG_13 — 1 — 30MIL TP55

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

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 TP44

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

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

+3VRUN — 1 — R156 — NC_2.2K_J 0402 — 2 — 7 MCH_CFG_18

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

+3VRUN — 1 — R151 — NC_2.2K_J 0402 — 2 — 7 MCH_CFG_19

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_20 — 1 — 30MIL TP52

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

U27I

VSS_0 VSS_1 VSS_2 VSS_3 VSS_4 VSS_5 VSS_6 VSS_7 VSS_8 VSS_9 VSS_10 VSS_11 VSS_12 VSS_13 VSS_14 VSS_15 VSS_16 VSS_17 VSS_18 VSS_19 VSS_20 VSS_21 VSS_22 VSS_23 VSS_24 VSS_25 VSS_26 VSS_27 VSS_28 VSS_29 VSS_30 VSS_31 VSS_32 VSS_33 VSS_34 VSS_35 VSS_36 VSS_37 VSS_38 VSS_39 VSS_40 VSS_41 VSS_42 VSS_43 VSS_44 VSS_45 VSS_46 VSS_47 VSS_48 VSS_49 VSS_50 VSS_51 VSS_52 VSS_53 VSS_54 VSS_55 VSS_56 VSS_57 VSS_58 VSS_59 VSS_60 VSS_61 VSS_62 VSS_63 VSS_64 VSS_65 VSS_66 VSS_67 VSS_68 VSS_69 VSS_70 VSS_71 VSS_72 VSS_73 VSS_74 VSS_75 VSS_76 VSS_77 VSS_78 VSS_79 VSS_80 VSS_81 VSS_82 VSS_83 VSS_84 VSS_85 VSS_86 VSS_87 VSS_88 VSS_89 VSS_90 VSS_91 VSS_92 VSS_93 VSS_94 VSS_95 VSS_96

AC41 AA41 W41 T41 P41 M41 J41 F41 AV40 AP40 AN40 AK40 AJ40 AH40 AG40 AF40 AE40 B40 AY39 AW39 AV39 AR39 AN39 AJ39 AC39 AB39 AA39 Y39 W39 V39 T39 R39 P39 N39 M39 L39 J39 H39 G39 F39 D39 AT38 AM38 AH38 AG38 AF38 AE38 C38 AK37 AH37 AB37 AA37 Y37 W37 V37 T37 R37 P37 N37 M37 L37 J37 H37 G37 F37 D37 AY36 AW36 AN36 AH36 AG36 AF36 AE36 AC36 C36 B36 BA35 AV35 AR35 AH35 AB35 AA35 Y35 W35 V35 T35 R35 P35 N35 M35 L35 J35 H35 G35 F35 D35 AN34

VSS_97 VSS_98 VSS_99 VSS_100 VSS_101 VSS_102 VSS_103 VSS_104 VSS_105 VSS_106 VSS_107 VSS_108 VSS_109 VSS_110 VSS_111 VSS_112 VSS_113 VSS_114 VSS_115 VSS_116 VSS_117 VSS_118 VSS_119 VSS_120 VSS_121 VSS_122 VSS_123 VSS_124 VSS_125 VSS_126 VSS_127 VSS_128 VSS_129 VSS_130 VSS_131 VSS_132 VSS_133 VSS_134 VSS_135 VSS_136 VSS_137 VSS_138 VSS_139 VSS_140 VSS_141 VSS_142 VSS_143 VSS_144 VSS_145 VSS_146 VSS_147 VSS_148 VSS_149 VSS_150 VSS_151 VSS_152 VSS_153 VSS_154 VSS_155 VSS_156 VSS_157 VSS_158 VSS_159 VSS_160 VSS_161 VSS_162 VSS_163 VSS_164 VSS_165 VSS_166 VSS_167 VSS_168 VSS_169 VSS_170 VSS_171 VSS_172 VSS_173 VSS_174 VSS_175 VSS_176 VSS_177 VSS_178 VSS_179

AK34 AG34 AF34 AE34 AC34 C34 AW33 AV33 AR33 AE33 AB33 Y33 V33 T33 R33 M33 H33 G33 F33 D33 B33 AH32 AG32 AF32 AE32 AC32 AB32 G32 B32 AY31 AV31 AN31 AJ31 AG31 AB31 Y31 AB30 E30 AT29 AN29 AB29 T29 N29 K29 G29 E29 C29 B29 A29 BA28 AW28 AU28 AP28 AM28 AD28 AC28 W28 J28 F28 AP27 AM27 AK27 J27 G27 F27 C27 B27 AN26 M26 K26 F26 D26 AK25 P25 K25 H25 E25 D25 A25 BA24 AU24 AL24 AW23

VSS

CALISTOGA

U27J

VSS_180 VSS_181 VSS_182 VSS_183 VSS_184 VSS_185 VSS_186 VSS_187 VSS_188 VSS_189 VSS_190 VSS_191 VSS_192 VSS_193 VSS_194 VSS_195 VSS_196 VSS_197 VSS_198 VSS_199 VSS_200 VSS_201 VSS_202 VSS_203 VSS_204 VSS_205 VSS_206 VSS_207 VSS_208 VSS_209 VSS_210 VSS_211 VSS_212 VSS_213 VSS_214 VSS_215 VSS_216 VSS_217 VSS_218 VSS_219 VSS_220 VSS_221 VSS_222 VSS_223 VSS_224 VSS_225 VSS_226 VSS_227 VSS_228 VSS_229 VSS_230 VSS_231 VSS_232 VSS_233 VSS_234 VSS_235 VSS_236 VSS_237 VSS_238 VSS_239 VSS_240 VSS_241 VSS_242 VSS_243 VSS_244 VSS_245 VSS_246 VSS_247 VSS_248 VSS_249 VSS_250 VSS_251 VSS_252 VSS_253 VSS_254 VSS_255 VSS_256 VSS_257 VSS_258 VSS_259 VSS_260 VSS_261 VSS_262 VSS_263 VSS_264 VSS_265 VSS_266 VSS_267 VSS_268 VSS_269 VSS_270 VSS_271 VSS_272

AT23 AN23 AM23 AH23 AC23 W23 K23 J23 F23 C23 AA22 K22 G22 F22 E22 D22 A22 BA21 AV21 AR21 AN21 AL21 AB21 Y21 P21 K21 J21 H21 C21 AW20 AR20 AM20 AA20 K20 B20 A20 AN19 AC19 W19 K19 G19 C19 AH18 P18 H18 D18 A18 AY17 AR17 AP17 AM17 AK17 AV16 AN16 AL16 J16 F16 C16 AN15 AM15 AK15 N15 M15 L15 B15 A15 BA14 AT14 AK14 AD14 AA14 U14 K14 H14 E14 AV13 AR13 AN13 AM13 AL13 AG13 P13 F13 D13 B13 AY12 AC12 K12 H12 E12 AD11 AA11 Y11

VSS

CALISTOGA

VSS_273 VSS_274 VSS_275 VSS_276 VSS_277 VSS_278 VSS_279 VSS_280 VSS_281 VSS_282 VSS_283 VSS_284 VSS_285 VSS_286 VSS_287 VSS_288 VSS_289 VSS_290 VSS_291 VSS_292 VSS_293 VSS_294 VSS_295 VSS_296 VSS_297 VSS_298 VSS_299 VSS_300 VSS_301 VSS_302 VSS_303 VSS_304 VSS_305 VSS_306 VSS_307 VSS_308 VSS_309 VSS_310 VSS_311 VSS_312 VSS_313 VSS_314 VSS_315 VSS_316 VSS_317 VSS_318 VSS_319 VSS_320 VSS_321 VSS_322 VSS_323 VSS_324 VSS_325 VSS_326 VSS_327 VSS_328 VSS_329 VSS_330 VSS_331 VSS_332 VSS_333 VSS_334 VSS_335 VSS_336 VSS_337 VSS_338 VSS_339 VSS_340 VSS_341 VSS_342 VSS_343 VSS_344 VSS_345 VSS_346 VSS_347 VSS_348 VSS_349 VSS_350 VSS_351 VSS_352 VSS_353 VSS_354 VSS_355 VSS_356 VSS_357 VSS_358 VSS_359 VSS_360

J11 D11 B11 AV10 AP10 AL10 AJ10 AG10 AC10 W10 U10 BA9 AW9 AR9 AH9 AB9 Y9 R9 G9 E9 A9 AG8 AD8 AA8 U8 K8 C8 BA7 AV7 AP7 AL7 AJ7 AH7 AF7 AC7 R7 G7 D7 AG6 AD6 AB6 Y6 U6 N6 K6 H6 B6 AV5 AF5 AD5 AY4 AR4 AP4 AL4 AJ4 Y4 U4 R4 J4 F4 C4 AY3 AW3 AV3 AL3 AH3 AG3 AF3 AD3 AC3 AA3 G3 AT2 AR2 AP2 AK2 AJ2 AD2 AB2 Y2 U2 T2 N2 J2 H2 F2 C2 AL1

VSS

CALISTOGA

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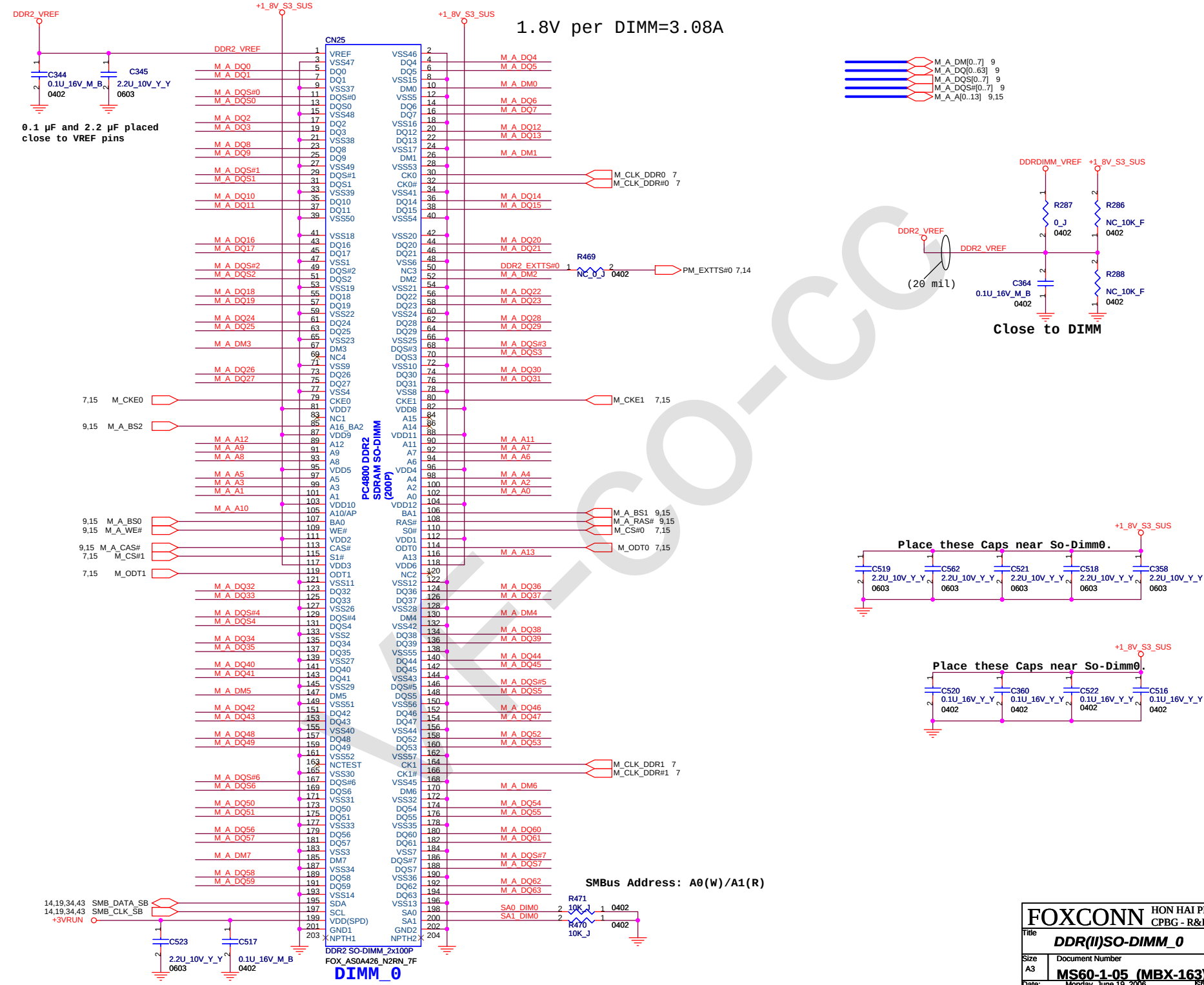
Title: CALISTOGA(VSS) 7 of 7

Size: A3 | Document Number: MS60-1-05 (MBX-163) | Rev: 0.20

Date: Monday, June 19, 2006 | Sheet 12 of 47

1.8V per DIMM=3.08A

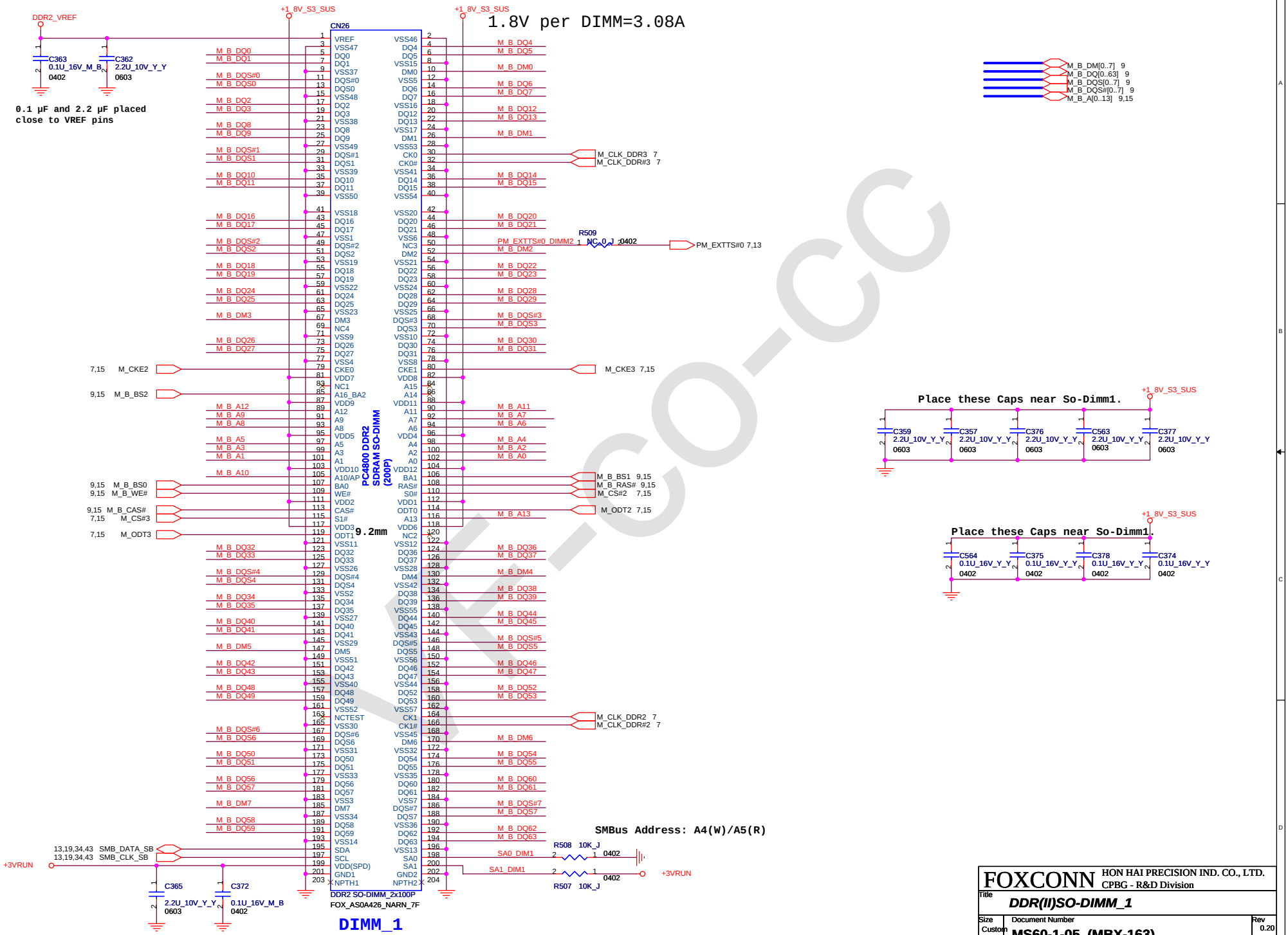


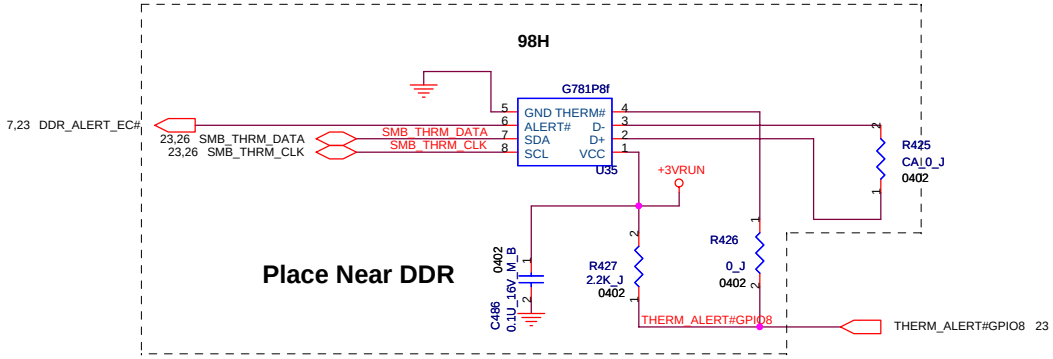
FOXCONN HON HAI PRECISION IND. CO., LTD.
CPBG - R&D Division

Title: DDR(II)SO-DIMM_0

Size: A3 | Document Number: MS60-1-05 (MBX-163) | Rev: 0.20

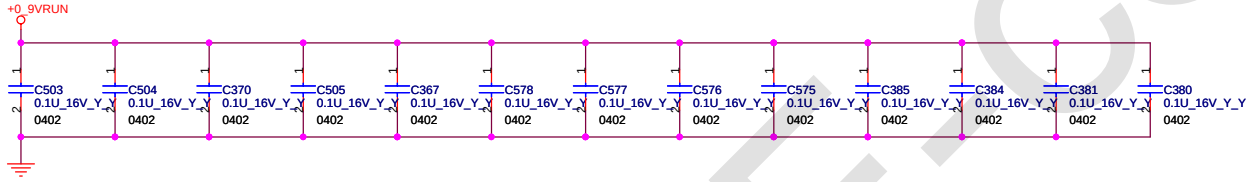
Date: Monday, June 19, 2006 | Sheet 13 of 47


1.8V per DIMM=3.08A
DDR2_VREF
+1_8V_S3_SUS
CN26
C363 0.1U_16V_M_B 0402
C362 2.2U_10V_Y_Y 0603
0.1 µF and 2.2 µF placed close to VREF pins
PC4800 DDR2 SDRAM SO-DIMM (200P)
9.2mm
DDR2 SO-DIMM_2x100P
FOX_AS0A426_NARN_7F
DIMM_1
R509 NC_0_J 0402
PM_EXTTS#0_DIMM2
PM_EXTTS#0 7,13
M_CLK_DDR3 7
M_CLK_DDR#3 7
M_CLK_DDR2 7
M_CLK_DDR#2 7
M_CKE2 7,15
M_CKE3 7,15
M_B_BS2 9,15
M_B_BS0 9,15
M_B_WE# 9,15
M_B_CAS# 9,15
M_CS#3 7,15
M_ODT3 7,15
M_B_BS1 9,15
M_B_RAS# 9,15
M_CS#2 7,15
M_ODT2 7,15
M_B_DM[0..7] 9
M_B_DQ[0..63] 9
M_B_DQS[0..7] 9
M_B_DQS#[0..7] 9
M_B_A[0..13] 9,15
Place these Caps near So-Dimm1.
C359 2.2U_10V_Y_Y 0603
C357 2.2U_10V_Y_Y 0603
C376 2.2U_10V_Y_Y 0603
C563 2.2U_10V_Y_Y 0603
C377 2.2U_10V_Y_Y 0603
Place these Caps near So-Dimm1.
C564 0.1U_16V_Y_Y 0402
C375 0.1U_16V_Y_Y 0402
C378 0.1U_16V_Y_Y 0402
C374 0.1U_16V_Y_Y 0402
SMBus Address: A4(W)/A5(R)
13,19,34,43 SMB_DATA_SB
13,19,34,43 SMB_CLK_SB
+3VRUN
R508 10K_J 0402
R507 10K_J 0402
SA0_DIM1
SA1_DIM1
C365 2.2U_10V_Y_Y 0603
C372 0.1U_16V_M_B 0402
FOXCONN
HON HAI PRECISION IND. CO., LTD.
CPBG - R&D Division
Title
DDR(II)SO-DIMM_1
Size Custom
Document Number MS60-1-05 (MBX-163)
Rev 0.20
Date: Monday, June 19, 2006
Sheet 14 of 47

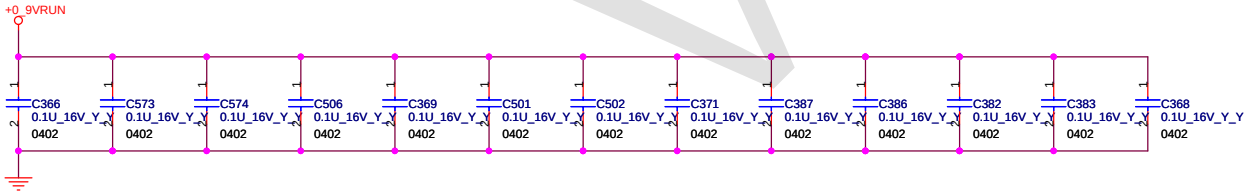


9,13 M_A_A[0..13]

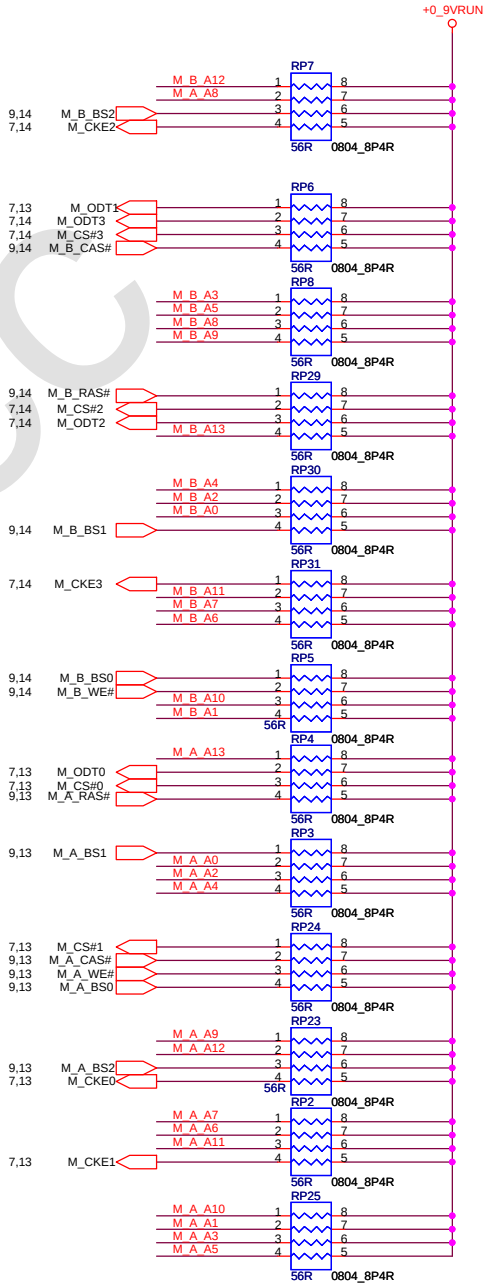
9,14 M_B_A[0..13]



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



FOXCONN	HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division	
Title	***DDR(II)Termination***	
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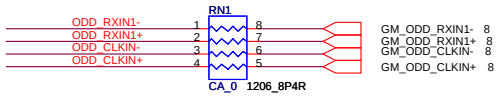
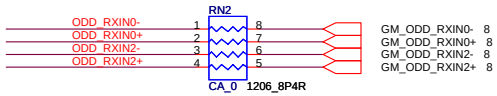
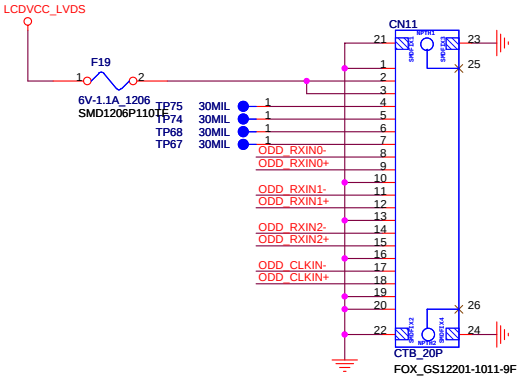
Date: Monday, June 19, 2006	Sheet 15 of 47	

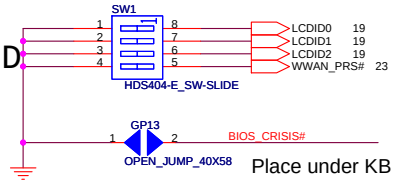
LVDS







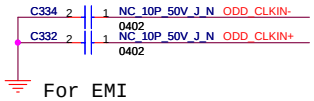
PANEL ID



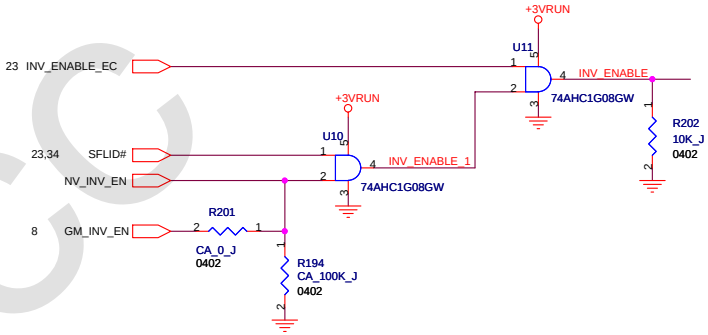
Place under KB

Size	13.3" wide		
Vendor	AUO	SHARP	
Type			
Panel ID Check[2..0]	001	010	

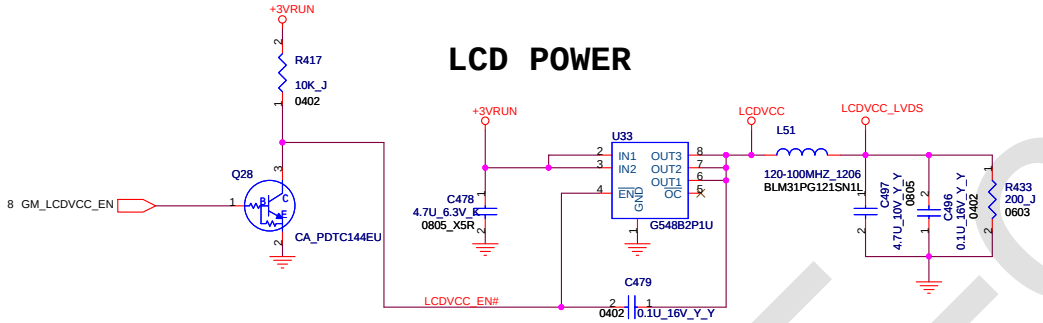
LVDS CONNECTOR

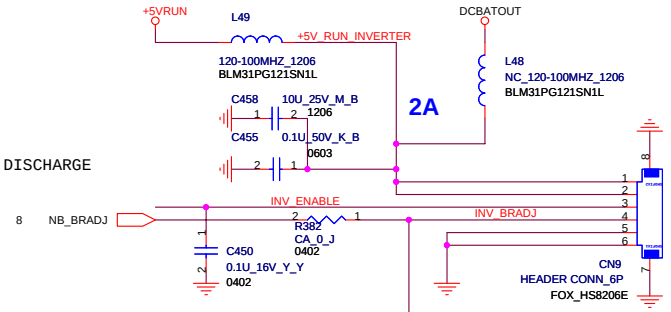


For EMI

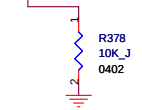


LCD POWER

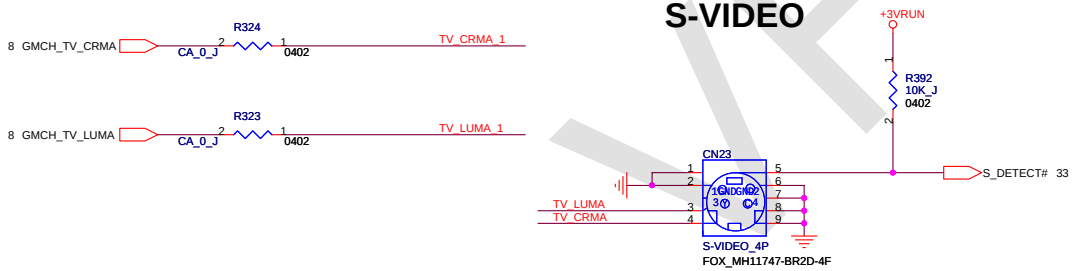


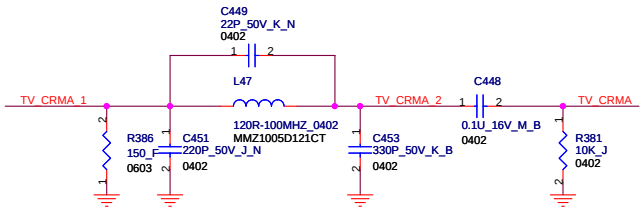


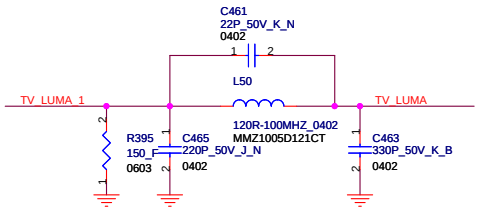
INVERTER CONNECTOR



S-VIDEO







FOXCONN HON HAI PRECISION IND. CO., LTD.
CPBG - R&D Division

Title: *LVDS / S_VIDEO*

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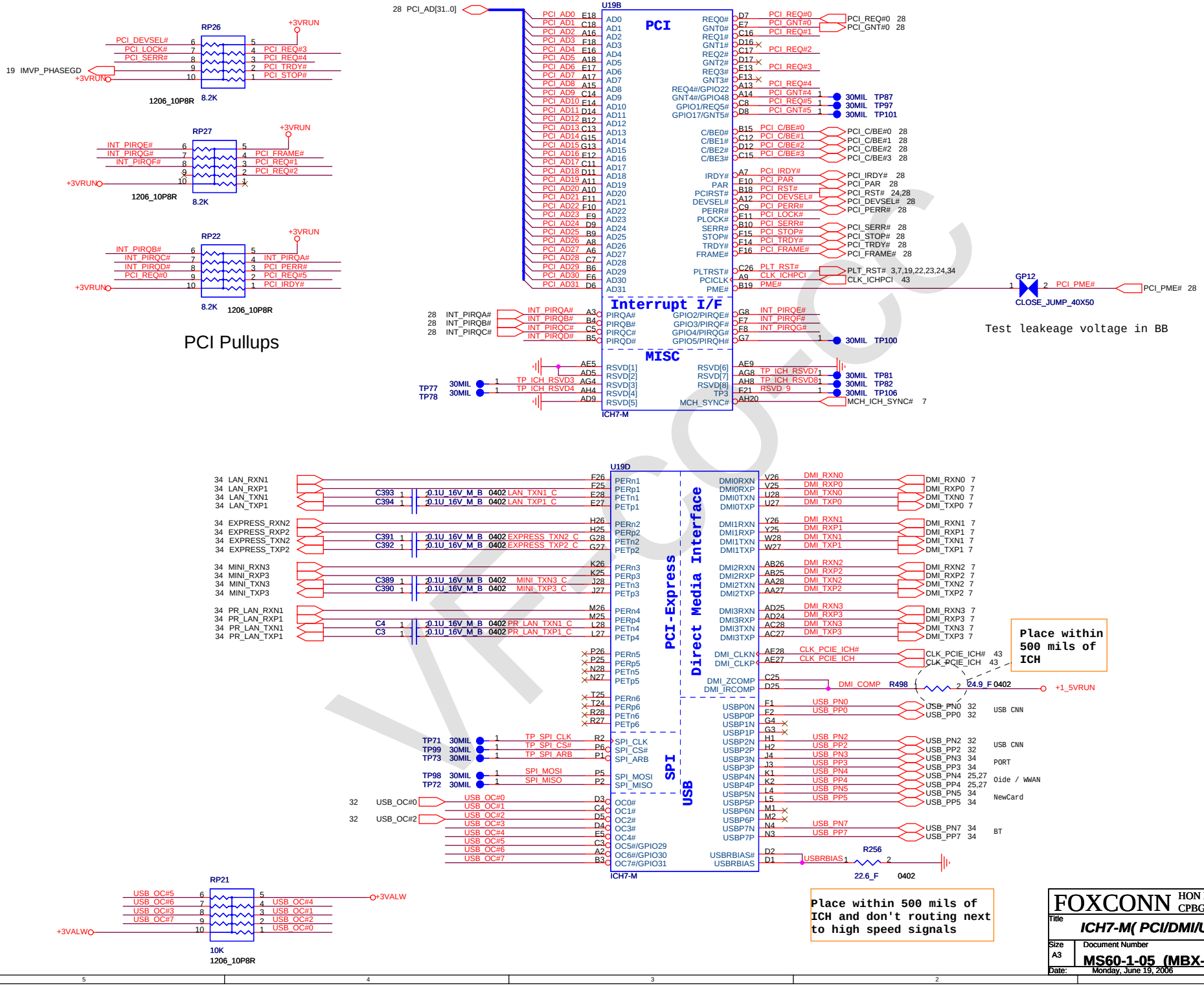

FOXCONN HON HAI PRECISION IND. CO., LTD.
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Title: ICH7-M(PCI/DMI/USB/PCIE) 1/5

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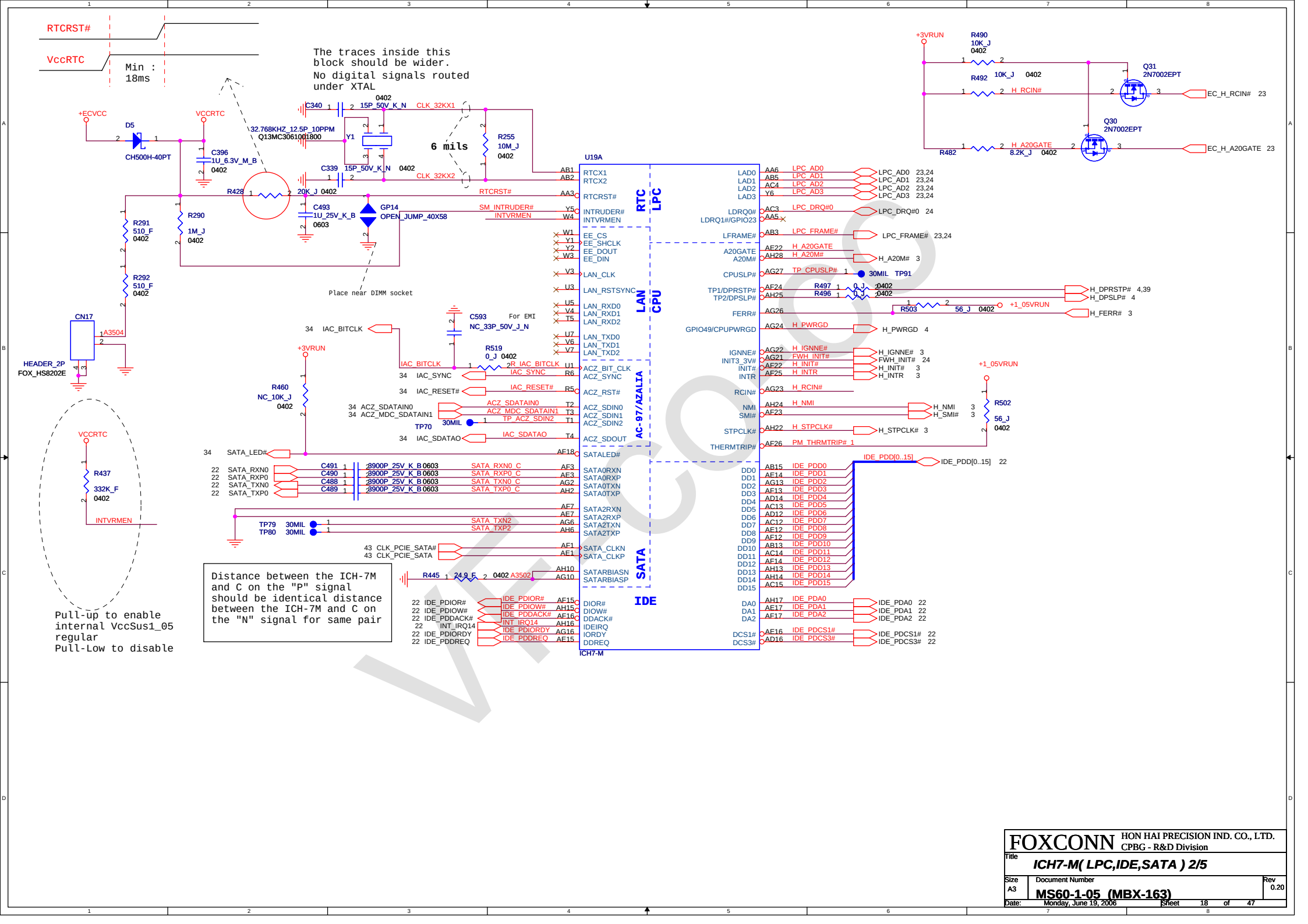
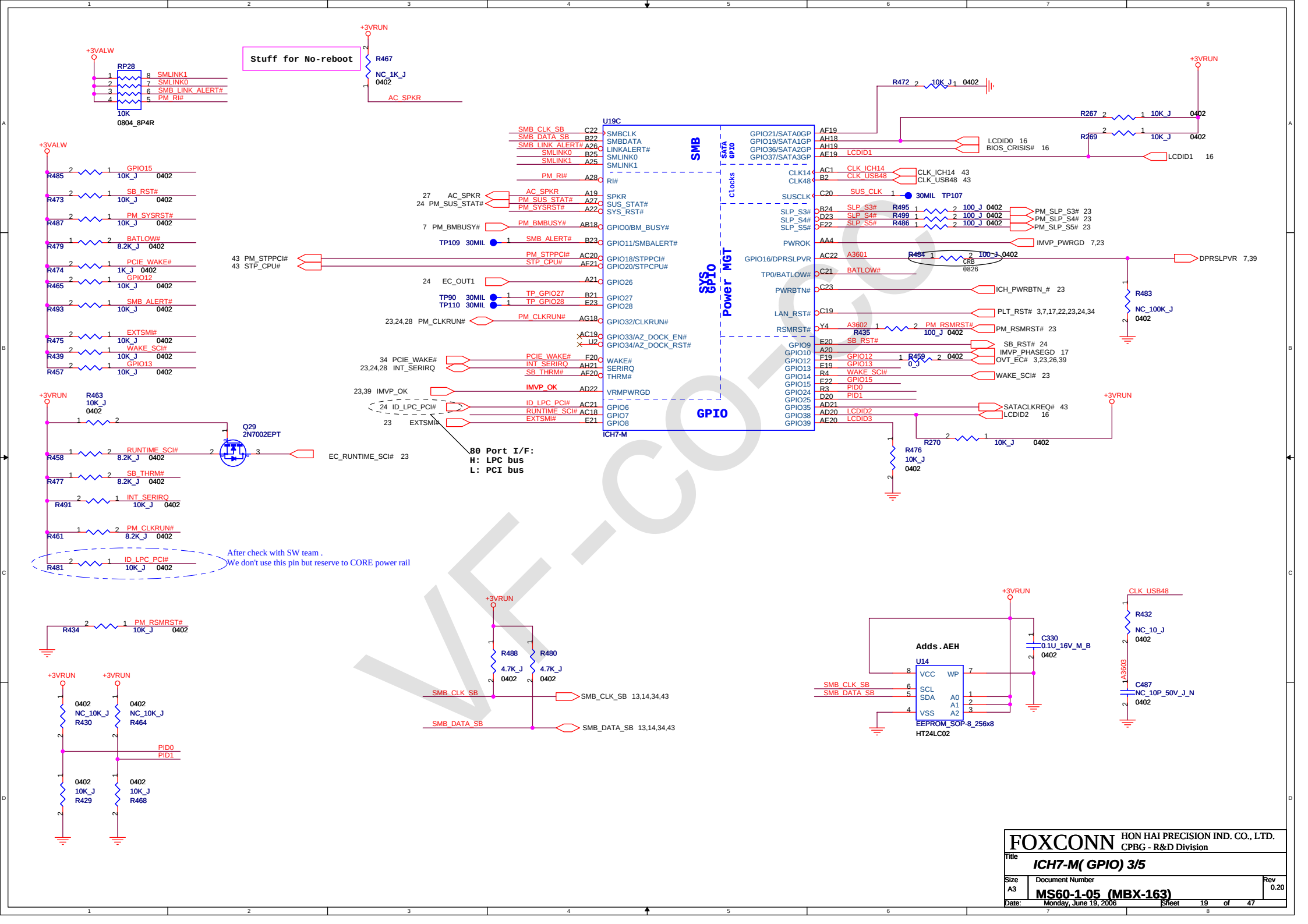

RTCRST#
VccRTC
Min :
18ms
The traces inside this block should be wider.
No digital signals routed under XTAL
6 mils
Place near DIMM socket
Distance between the ICH-7M and C on the "P" signal should be identical distance between the ICH-7M and C on the "N" signal for same pair
Pull-up to enable internal VccSus1_05 regular
Pull-Low to disable
U19A
ICH7-M
RTC
LPC
LAN
CPU
AC-97/AZALIA
SATA
IDE
FOXCONN
HON HAI PRECISION IND. CO., LTD.
CPBG - R&D Division
ICH7-M(LPC,IDE,SATA) 2/5
MS60-1-05 (MBX-163)
Monday, June 19, 2006


Stuff for No-reboot
R467
NC_1K_J
0402
AC_SPKR
+3VRUN
+3VALW
RP28
SMLINK1
SMLINK0
SMB_LINK_ALERT#
PM_RI#
10K
0804_8P4R
U19C
ICH7-M
SMB
GPIO
Power MGT
Clocks
SATA GPIO
SMBCLK
SMBDATA
LINKALERT#
SMLINK0
SMLINK1
RI#
SPKR
SUS_STAT#
SYS_RST#
GPIO0/BM_BUSY#
GPIO11/SMBALERT#
GPIO18/STPPCI#
GPIO20/STPCPU#
GPIO26
GPIO27
GPIO28
GPIO32/CLKRUN#
GPIO33/AZ_DOCK_EN#
GPIO34/AZ_DOCK_RST#
WAKE#
SERIRQ
THRM#
VRMPWRGD
GPIO6
GPIO7
GPIO8
GPIO21/SATA0GP
GPIO19/SATA1GP
GPIO36/SATA2GP
GPIO37/SATA3GP
CLK14
CLK48
SUSCLK
SLP_S3#
SLP_S4#
SLP_S5#
PWROK
GPIO16/DPRSLPVR
TP0/BATLOW#
PWRBTN#
LAN_RST#
RSMRST#
GPIO9
GPIO10
GPIO12
GPIO13
GPIO14
GPIO15
GPIO24
GPIO25
GPIO35
GPIO38
GPIO39
80 Port I/F:
H: LPC bus
L: PCI bus
Q29
2N7002EPT
Adds.AEH
U14
EEPROM_SOP-8_256x8
HT24LC02
After check with SW team .
We don't use this pin but reserve to CORE power rail
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HON HAI PRECISION IND. CO., LTD.
CPBG - R&D Division
ICH7-M(GPIO) 3/5
MS60-1-05 (MBX-163)
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Monday, June 19, 2006
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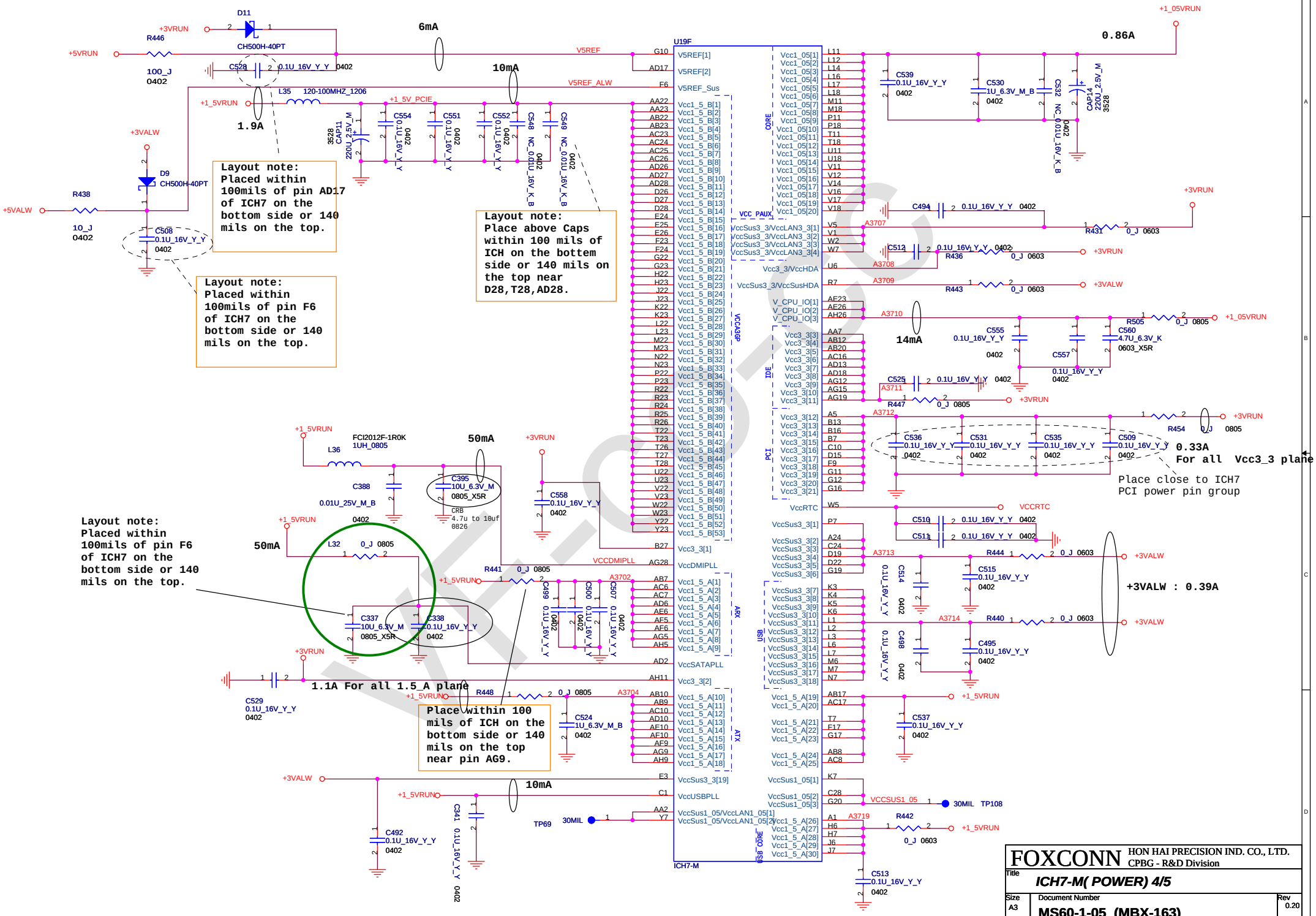
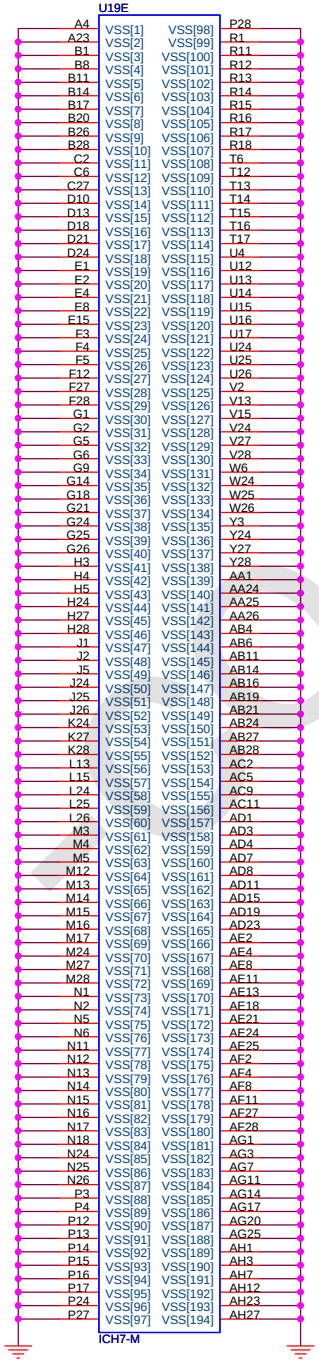

U19F
ICH7-M
Layout note: Placed within 100mils of pin AD17 of ICH7 on the bottom side or 140 mils on the top.
Layout note: Place above Caps within 100 mils of ICH on the bottem side or 140 mils on the top near D28,T28,AD28.
Layout note: Placed within 100mils of pin F6 of ICH7 on the bottom side or 140 mils on the top.
Layout note: Placed within 100mils of pin F6 of ICH7 on the bottom side or 140 mils on the top.
Place within 100 mils of ICH on the bottom side or 140 mils on the top near pin AG9.
Place close to ICH7 PCI power pin group
1.1A For all 1.5_A plane
0.33A For all Vcc3_3 plane
+3VALW : 0.39A
0.86A
6mA
10mA
1.9A
50mA
14mA
FOXCONN
HON HAI PRECISION IND. CO., LTD.
CPBG - R&D Division
ICH7-M(POWER) 4/5
MS60-1-05 (MBX-163)
Rev 0.20
Monday, June 19, 2006
Sheet 20 of 47



FOXCONN HON HAI PRECISION IND. CO., LTD.
CPBG - R&D Division

Title: *ICH7-M(GND) 5/5*

Size: A3 | Document Number: MS60-1-05 (MBX-163) | Rev: 0.20

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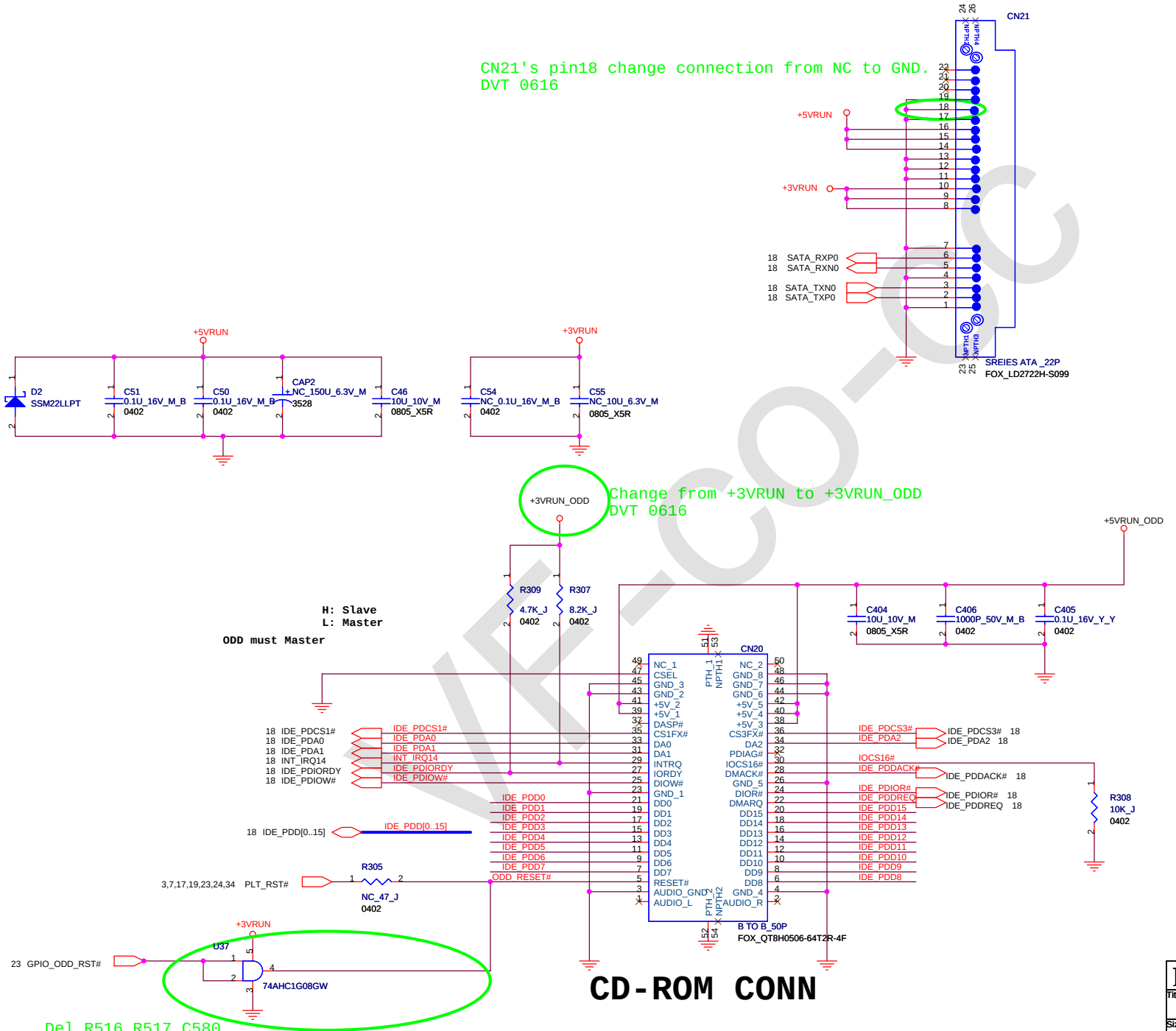
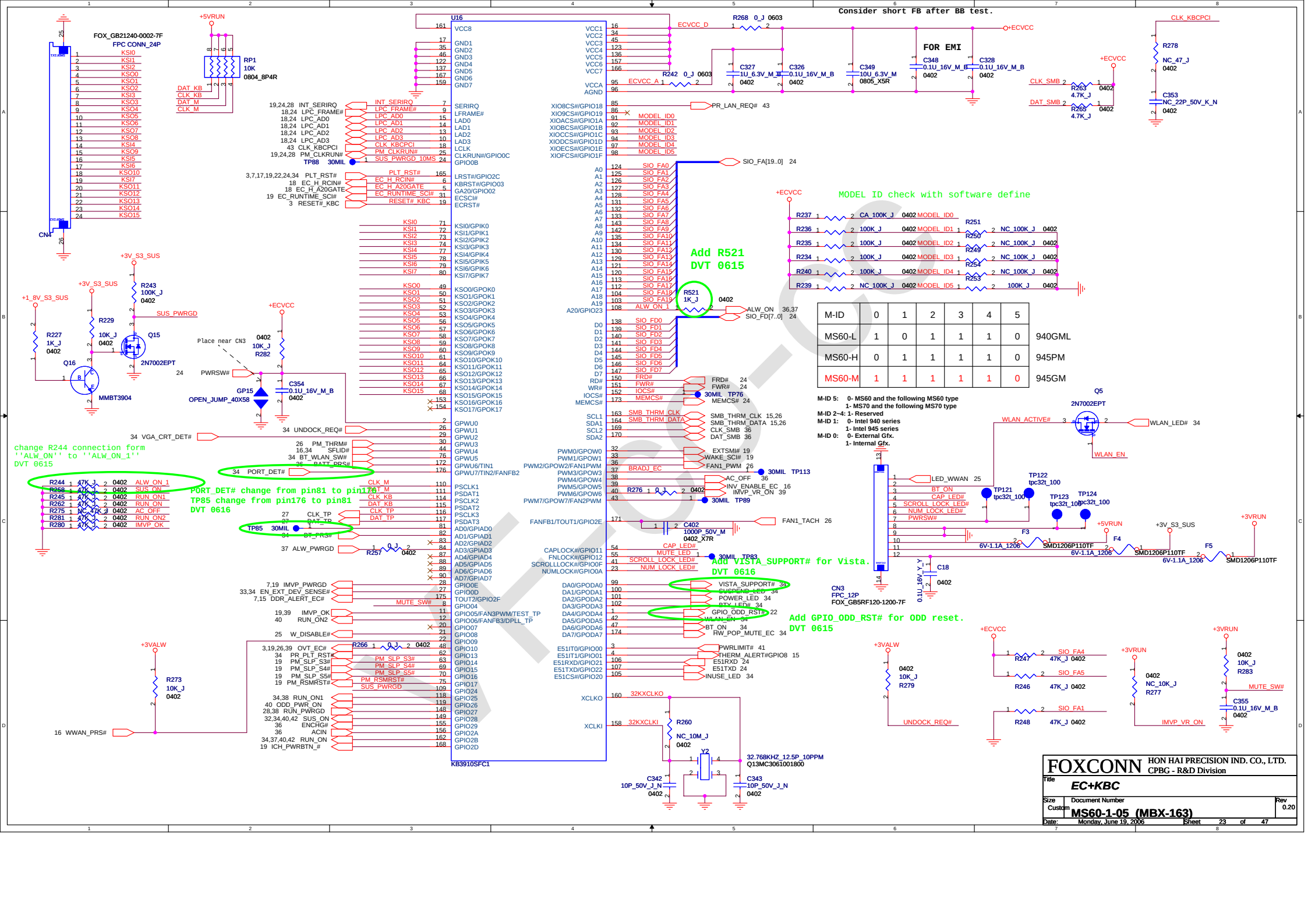
SATA HDD CONN



CD-ROM CONN

FOXCONN	HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division	
Title	SATA HDD/CD-ROM	
Size A3	Document Number MS60-1-05 (MBX-163)	Rev 0.20
Date: Monday, June 19, 2006	Sheet 22 of 47	

Consider short FB after BB test.



M-ID	0	1	2	3	4	5	
MS60-L	1	0	1	1	1	0	940GML
MS60-H	0	1	1	1	1	0	945PM
MS60-M	1	1	1	1	1	0	945GM

M-ID 5: 0- MS60 and the following MS60 type
1- MS70 and the following MS70 type
M-ID 2~4: 1- Reserved
M-ID 1: 0- Intel 940 series
1- Intel 945 series
M-ID 0: 0- External Gfx.
1- Internal Gfx.

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Title: EC+KBC

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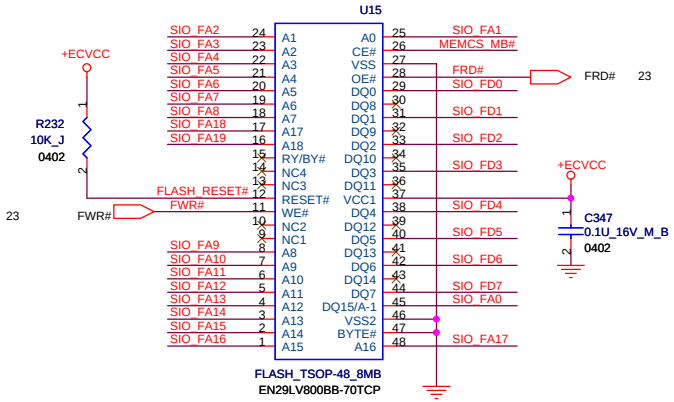
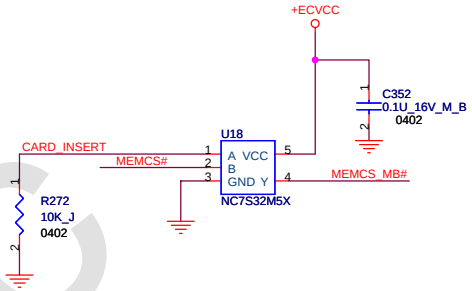
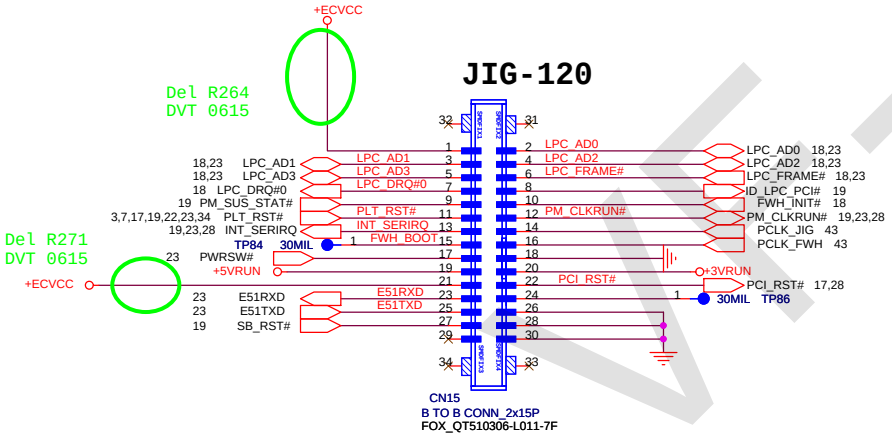
23 SIO_FA[19..0]

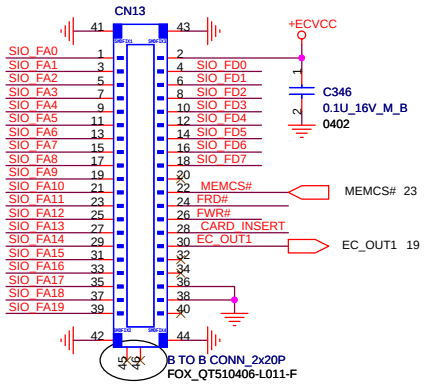
23 SIO_FD[7..0]



BIOS ROM





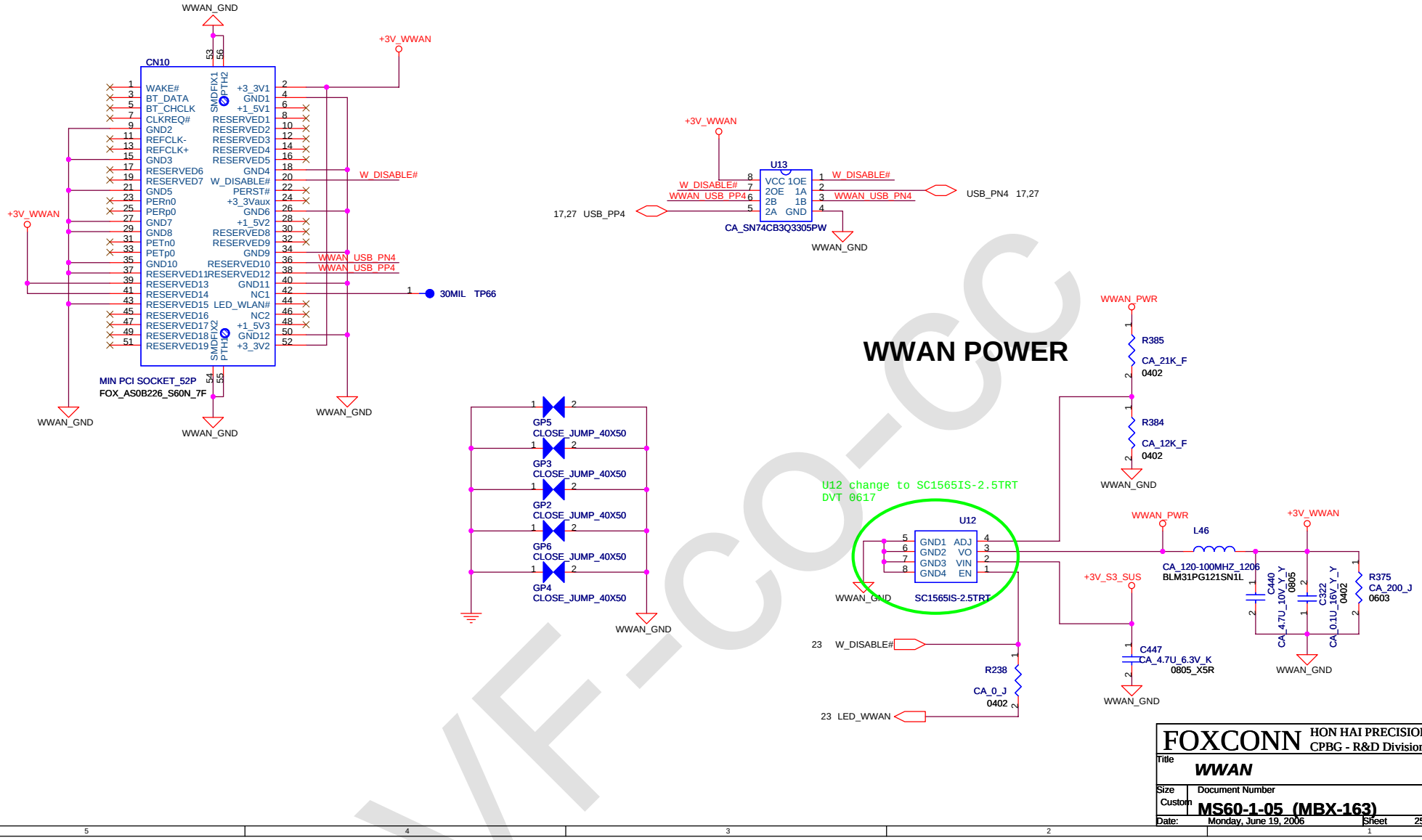


FOXCONN HON HAI PRECISION IND. CO., LTD.
CPBG - R&D Division

Title: *Flash ROM/X-Bus CONN*

Size: A3 | Document Number: MS60-1-05 (MBX-163) | Rev: 0.20

Date: Monday, June 19, 2006 | Sheet 24 of 47



FOXCONN HON HAI PRECISION IND. CO., LTD.
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Title: WWAN

Size: Custom | Document Number: MS60-1-05 (MBX-163) | Rev: 0.20

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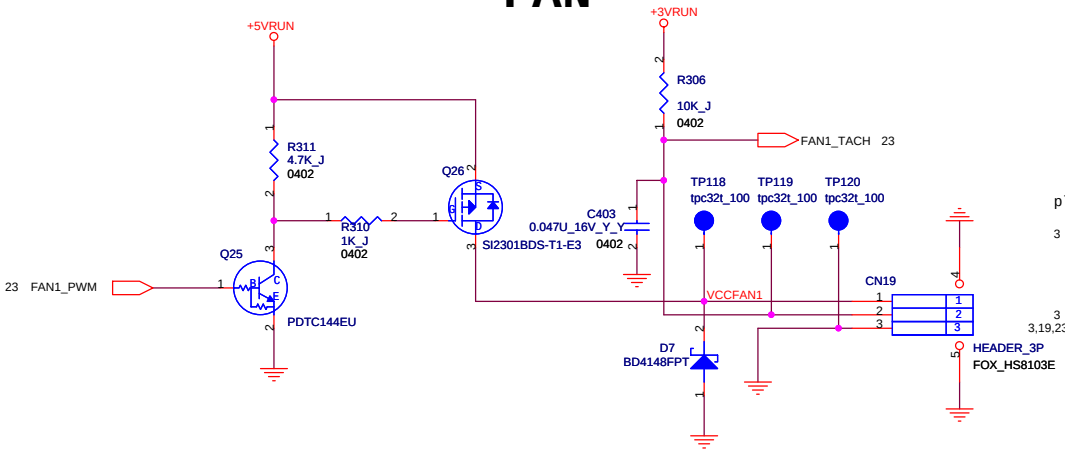
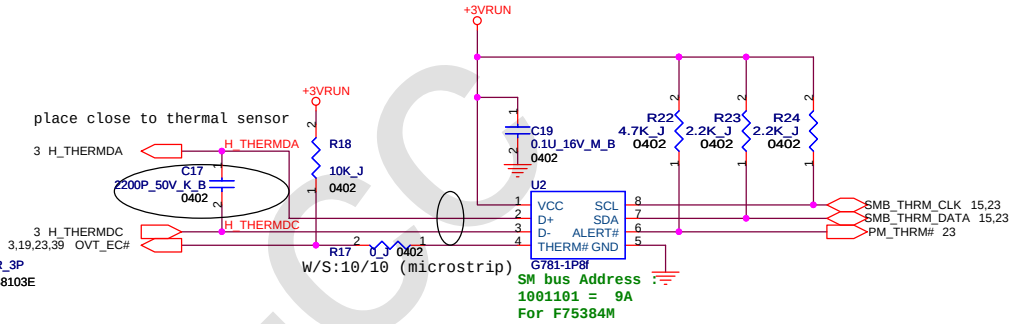
FAN

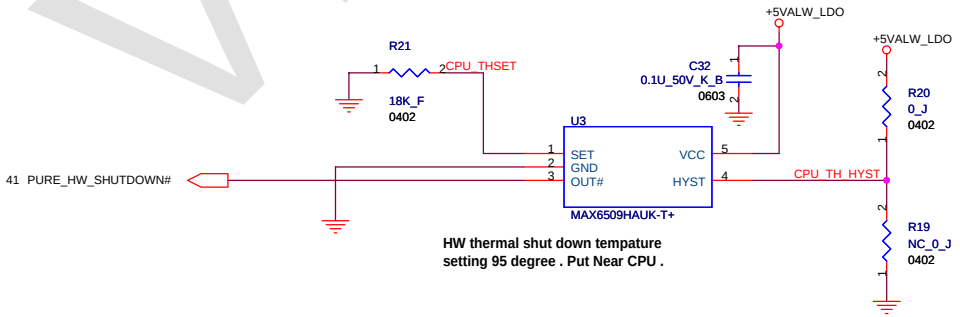


CPU SENSOR



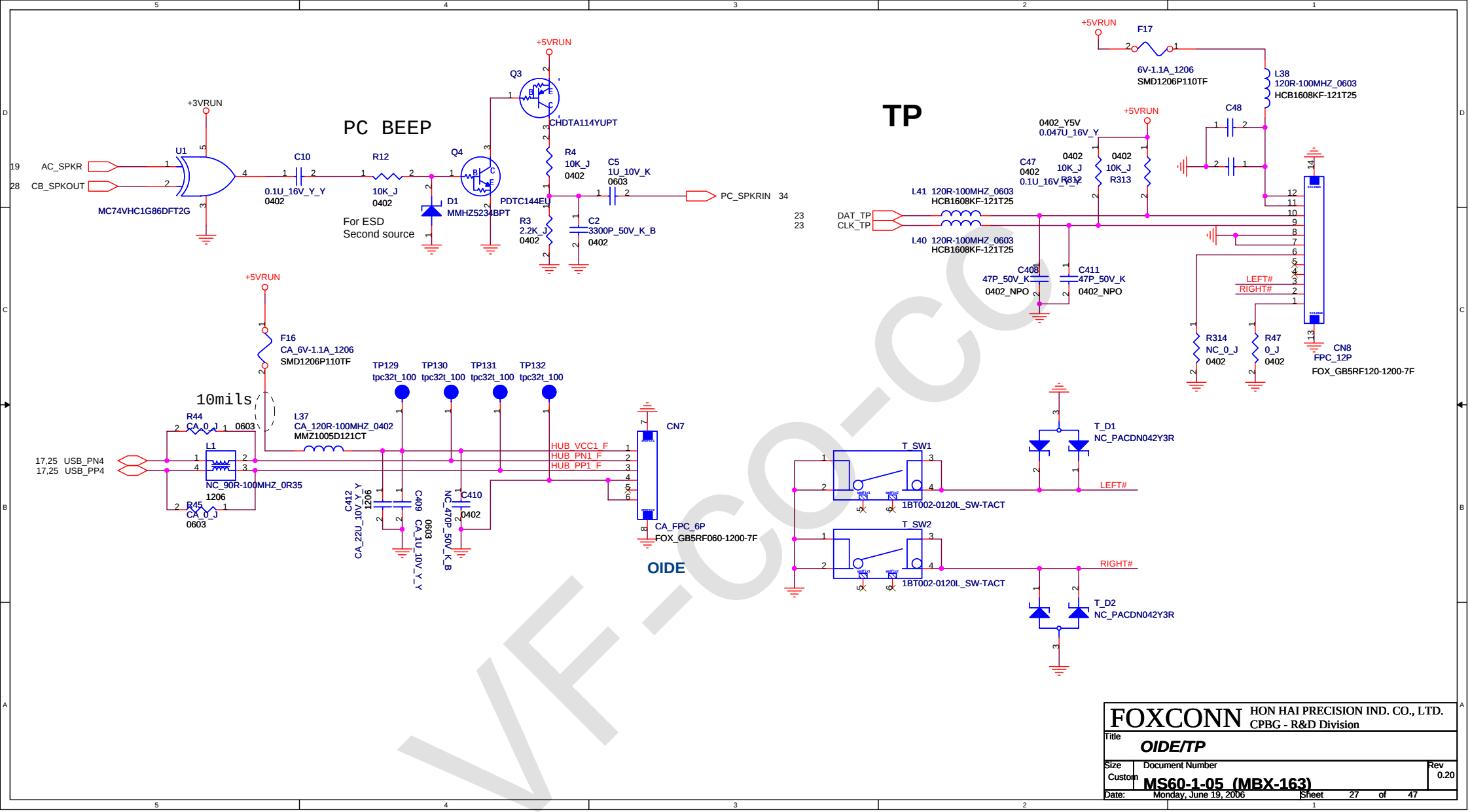
Place Thermal-Sensor near CPU & GMCH.

HW THERMAL PROTECTION

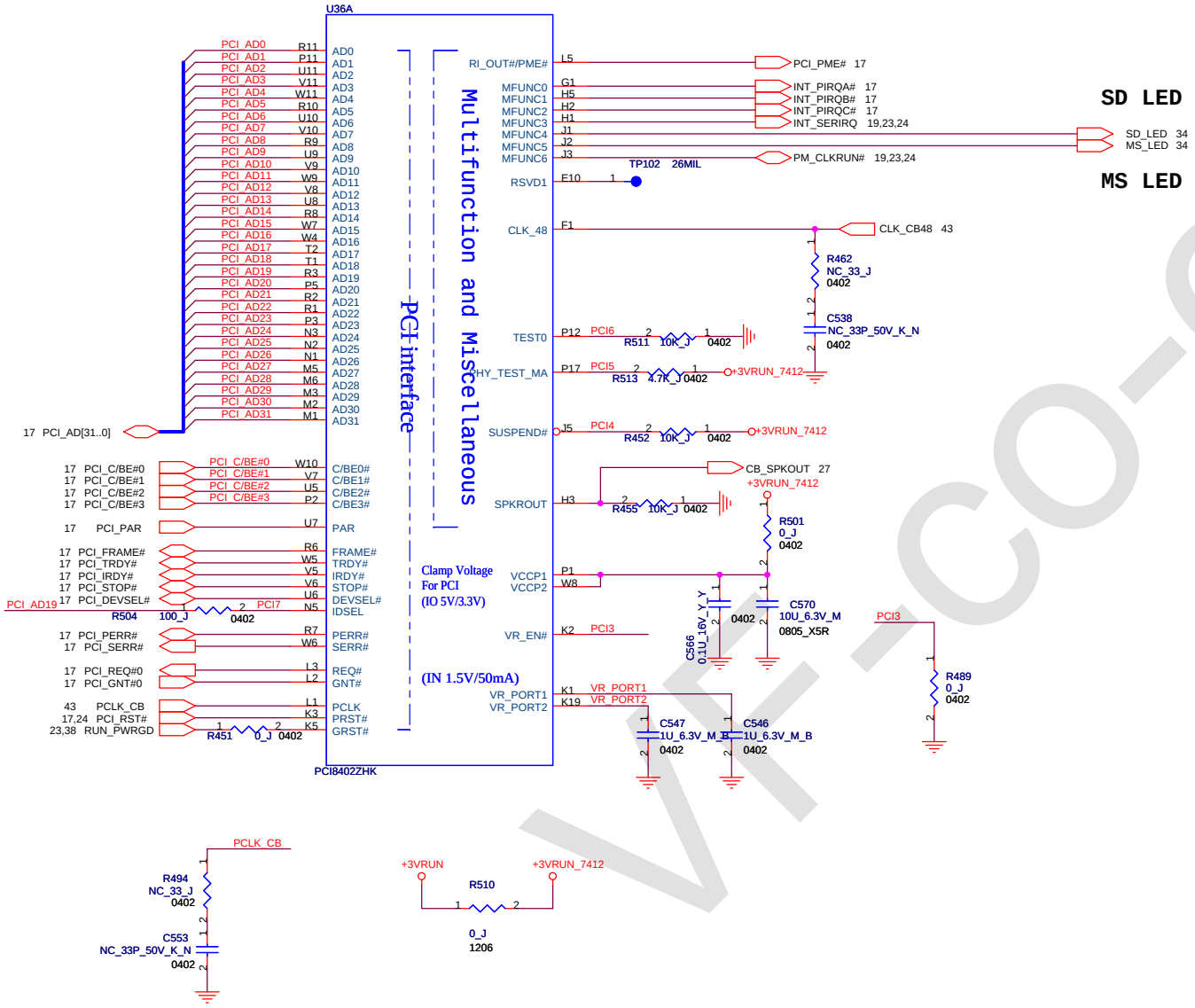


HW thermal shut down tempature setting 95 degree . Put Near CPU .

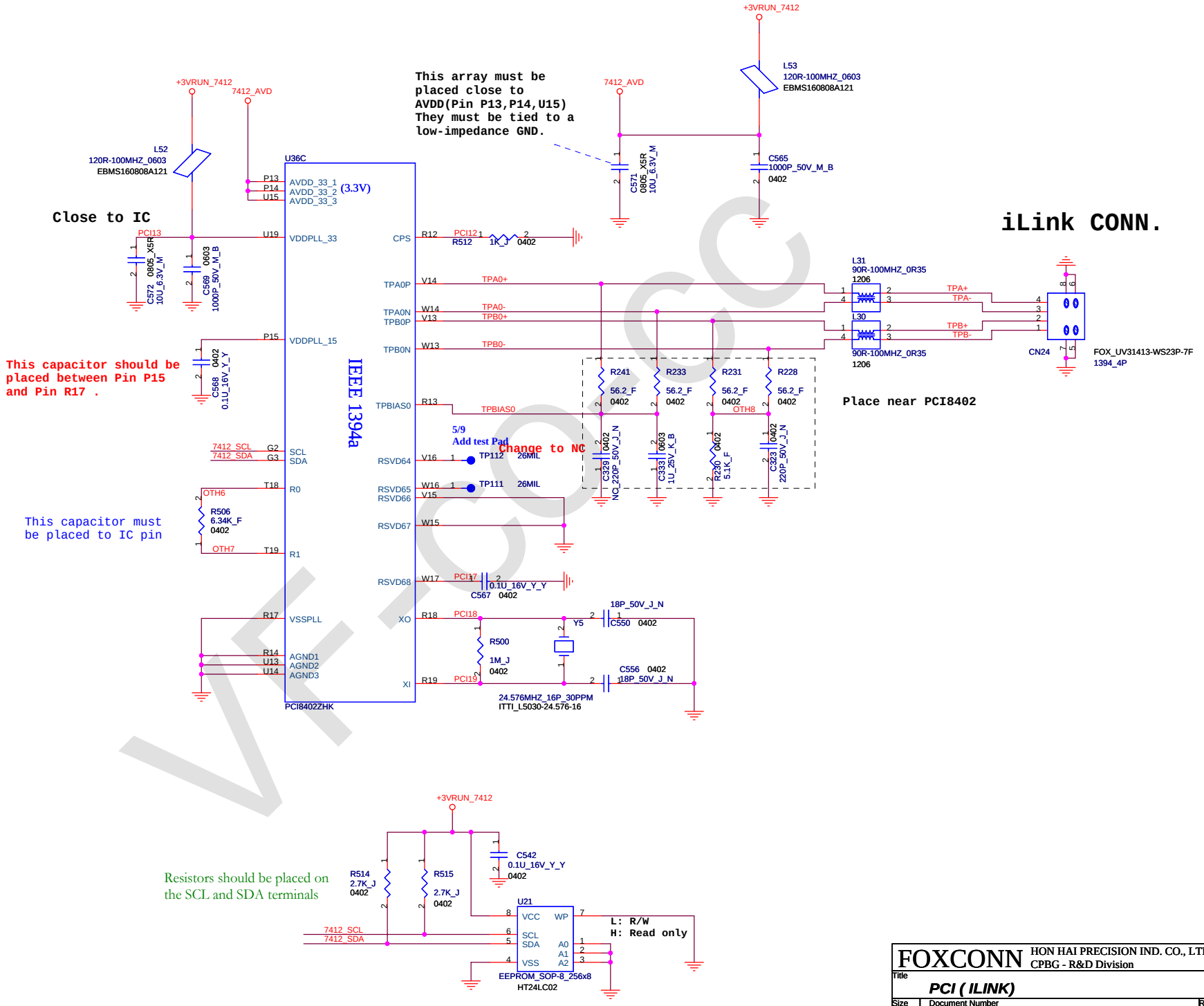
FOXCONN	HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division	
Title	FAN/HW THERMAL PROTECT	
Size A3	Document Number MS60-1-05 (MBX-163)	Rev 0.20
Date: Monday, June 19, 2006	Sheet 26 of 47	



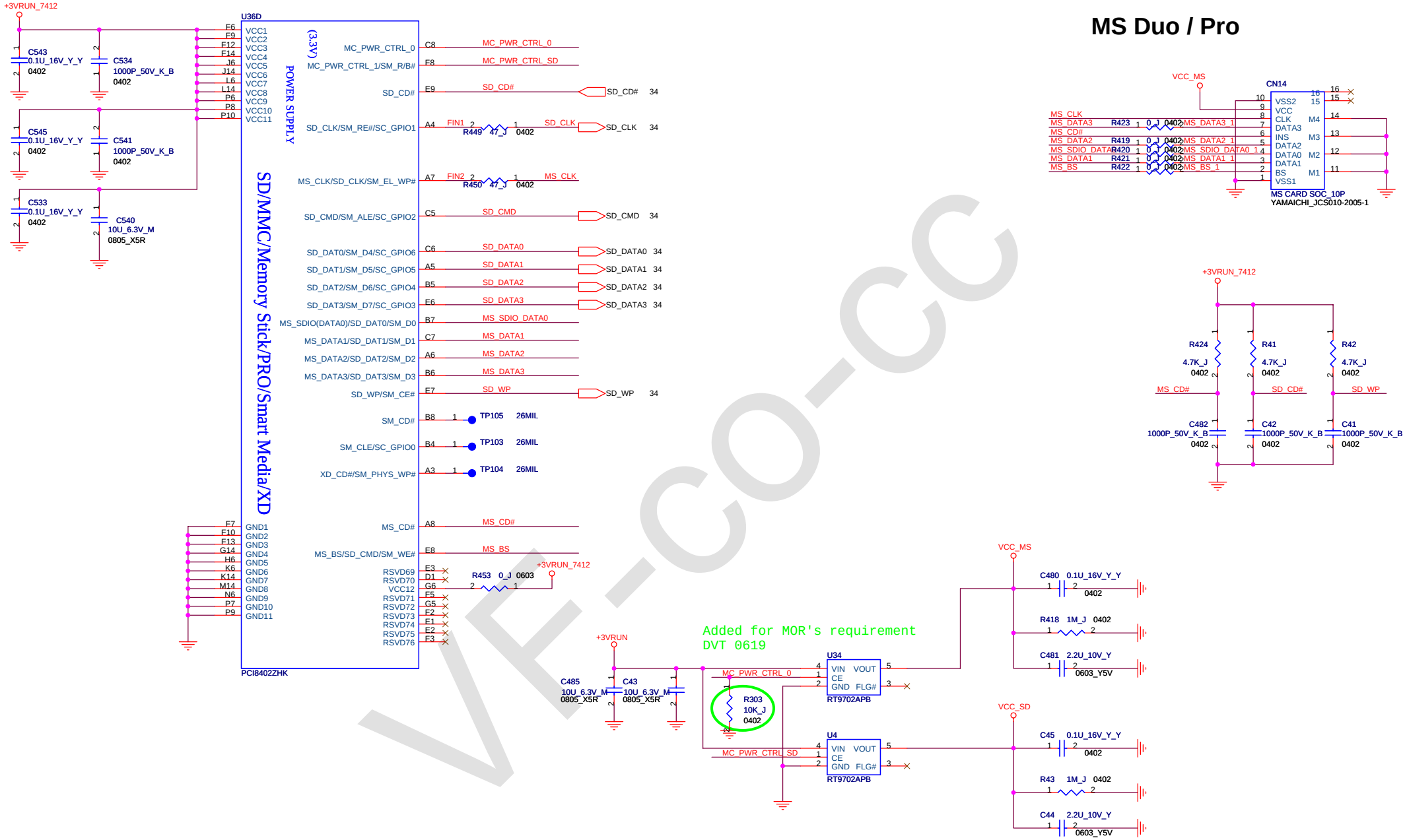
FOXCONN	HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division	
Title	OIDE/TP	
Size: Custom	Document Number: MS60-1-05 (MBX-163)	Rev: 0.20
Date: Monday, June 19, 2006	Sheet 27 of 47	



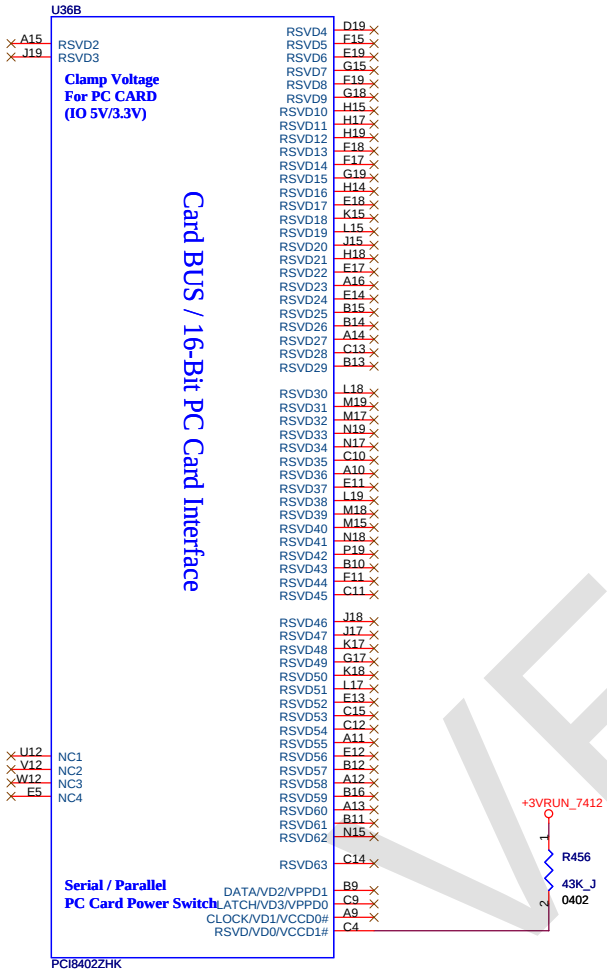
FOXCONN	HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division
Title	PCI (PCI BUS)
Size	A3
Document Number	MS60-1-05 (MBX-163)
Rev	0.20
Date:	Monday, June 19, 2006
Sheet	28 of 47


This array must be placed close to AVDD(Pin P13,P14,U15) They must be tied to a low-impedance GND.
Close to IC
iLink CONN.
This capacitor should be placed between Pin P15 and Pin R17 .
This capacitor must be placed to IC pin
Place near PCI8402
Change to NC
5/9 Add test Pad
Resistors should be placed on the SCL and SDA terminals
L: R/W
H: Read only
IEEE 1394a
PCI8402ZHK
EEPROM_SOP-8_256x8
HT24LC02
24.576MHZ_16P_30PPM
ITTI_L5030-24.576-16
FOX_UV31413-WS23P-7F
1394_4P
FOXCONN
HON HAI PRECISION IND. CO., LTD.
CPBG - R&D Division
PCI (ILINK)
MS60-1-05 (MBX-163)
Monday, June 19, 2006
Sheet 29 of 47

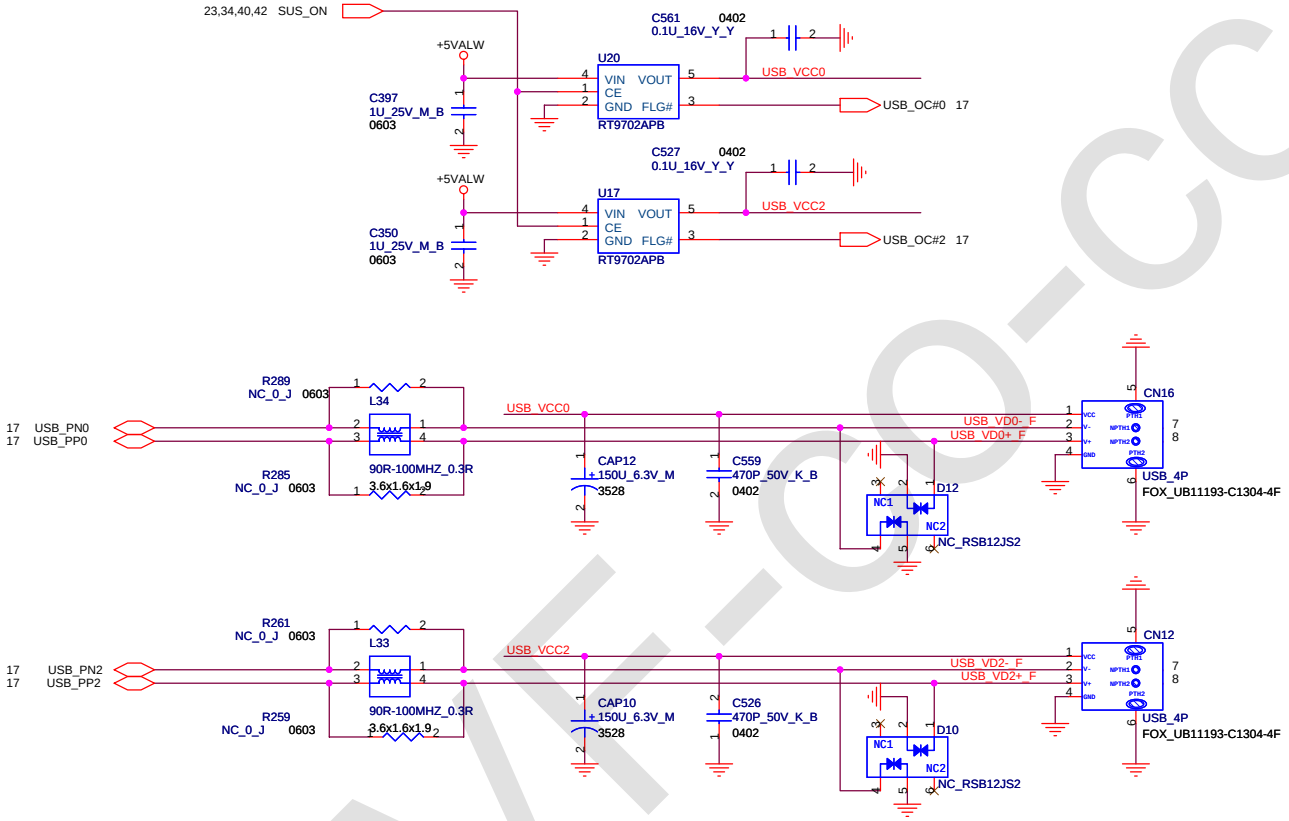
MS Duo / Pro



FOXCONN	HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division	
Title	PCI (MS)	
Size A3	Document Number MS60-1-05 (MBX-163)	Rev 0.20
Date: Monday, June 19, 2006	Sheet 30 of 47	



FOXCONN	HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division	
Title	PCI (PCMCIA)	
Size A3	Document Number MS60	Rev 0.20
Date: Monday, June 19, 2006	Sheet 31 of 47	

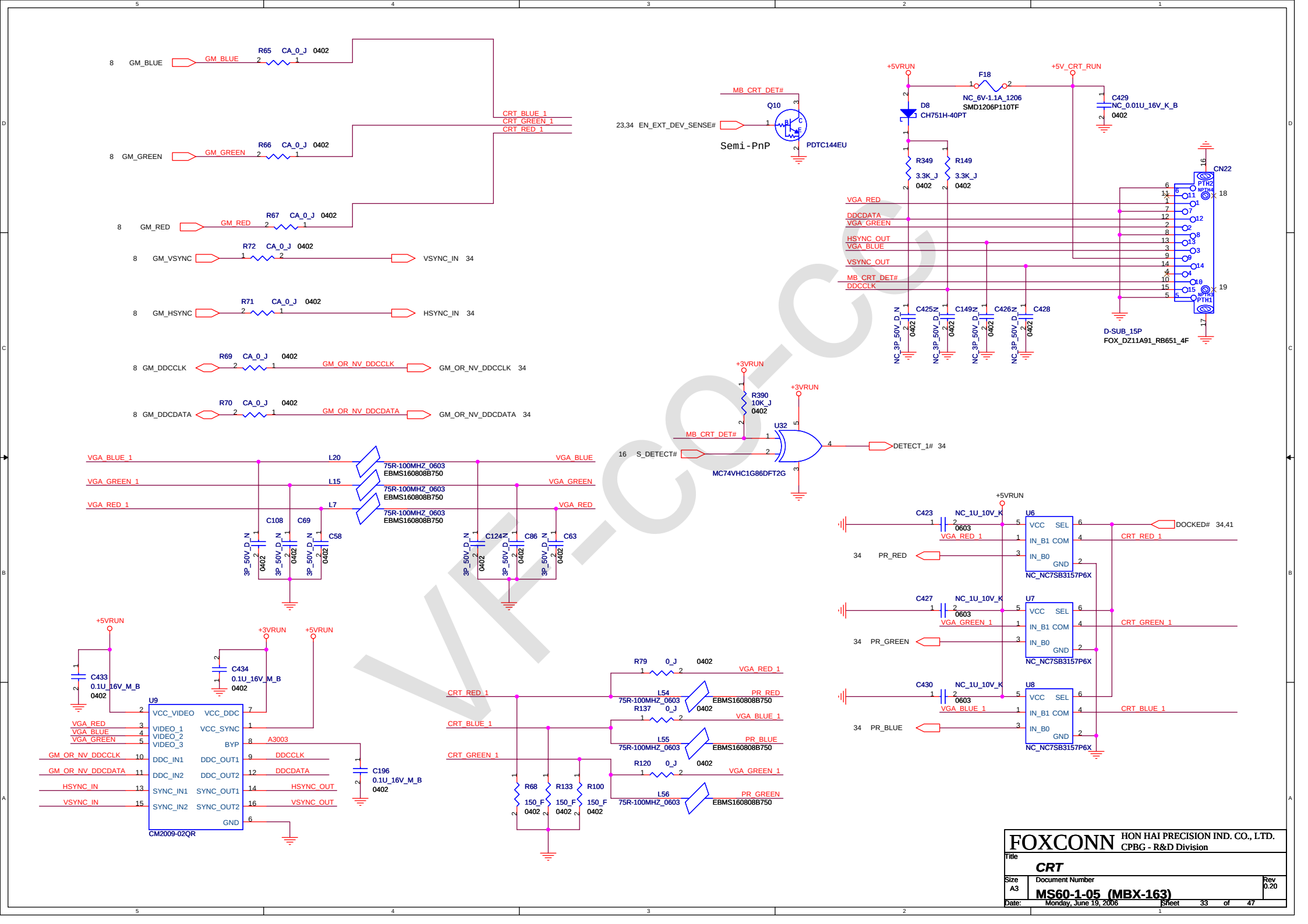


FOXCONN HON HAI PRECISION IND. CO., LTD.
CPBG - R&D Division

Title: ***USB2.0/DOCKING CONN.***

Size: A3 | Document Number: **MS60-1-05 (MBX-163)** | Rev: 0.20

Date: Monday, June 19, 2006 | Sheet 32 of 47


8 GM_BLUE
GM_BLUE
R65 CA_0_J 0402
8 GM_GREEN
GM_GREEN
R66 CA_0_J 0402
8 GM_RED
GM_RED
R67 CA_0_J 0402
CRT_BLUE_1
CRT_GREEN_1
CRT_RED_1
8 GM_VSYNC
R72 CA_0_J 0402
VSYNC_IN 34
8 GM_HSYNC
R71 CA_0_J 0402
HSYNC_IN 34
8 GM_DDCCLK
R69 CA_0_J 0402
GM_OR_NV_DDCCLK
GM_OR_NV_DDCCLK 34
8 GM_DDCDATA
R70 CA_0_J 0402
GM_OR_NV_DDCDATA
GM_OR_NV_DDCDATA 34
MB_CRT_DET#
23,34 EN_EXT_DEV_SENSE#
Q10
Semi-PnP
PDTC144EU
+5VRUN
F18
NC_6V-1.1A_1206
SMD1206P110TF
+5V_CRT_RUN
C429
NC_0.01U_16V_K_B
0402
D8
CH751H-40PT
R349
3.3K_J
0402
R149
3.3K_J
0402
VGA_RED
DDCDATA
VGA_GREEN
HSYNC_OUT
VGA_BLUE
VSYNC_OUT
MB_CRT_DET#
DDCCLK
C425
C149
C426
C428
NC_3P_50V_D_N
0402
CN22
D-SUB_15P
FOX_DZ11A91_RB651_4F
+3VRUN
R390
10K_J
0402
U32
MB_CRT_DET#
16 S_DETECT#
MC74VHC1G86DFT2G
DETECT_1# 34
VGA_BLUE_1
VGA_GREEN_1
VGA_RED_1
L20
L15
L7
75R-100MHZ_0603
EBMS160808B750
VGA_BLUE
VGA_GREEN
VGA_RED
C108
C69
C58
C124
C86
C63
3P_50V_D_N
0402
+5VRUN
+3VRUN
C433
0.1U_16V_M_B
0402
C434
0.1U_16V_M_B
0402
U9
VCC_VIDEO
VCC_DDC
VIDEO_1
VIDEO_2
VIDEO_3
VCC_SYNC
BYP
DDC_IN1
DDC_IN2
SYNC_IN1
SYNC_IN2
DDC_OUT1
DDC_OUT2
SYNC_OUT1
SYNC_OUT2
GND
A3003
DDCCLK
DDCDATA
HSYNC_OUT
VSYNC_OUT
CM2009-02QR
C196
0.1U_16V_M_B
0402
CRT_RED_1
CRT_BLUE_1
CRT_GREEN_1
R79 0_J 0402
R137 0_J 0402
R120 0_J 0402
L54
L55
L56
75R-100MHZ_0603
EBMS160808B750
PR_RED
PR_BLUE
PR_GREEN
VGA_RED_1
VGA_BLUE_1
VGA_GREEN_1
R68
R133
R100
150_F
0402
C423
C427
C430
NC_1U_10V_K
0603
U6
U7
U8
VCC
SEL
IN_B1
COM
IN_B0
GND
NC_NC7SB3157P6X
34 PR_RED
34 PR_GREEN
34 PR_BLUE
DOCKED# 34,41
CRT_RED_1
CRT_GREEN_1
CRT_BLUE_1
FOXCONN
HON HAI PRECISION IND. CO., LTD.
CPBG - R&D Division
Title
CRT
Size A3
Document Number
MS60-1-05 (MBX-163)
Rev 0.20
Date: Monday, June 19, 2006
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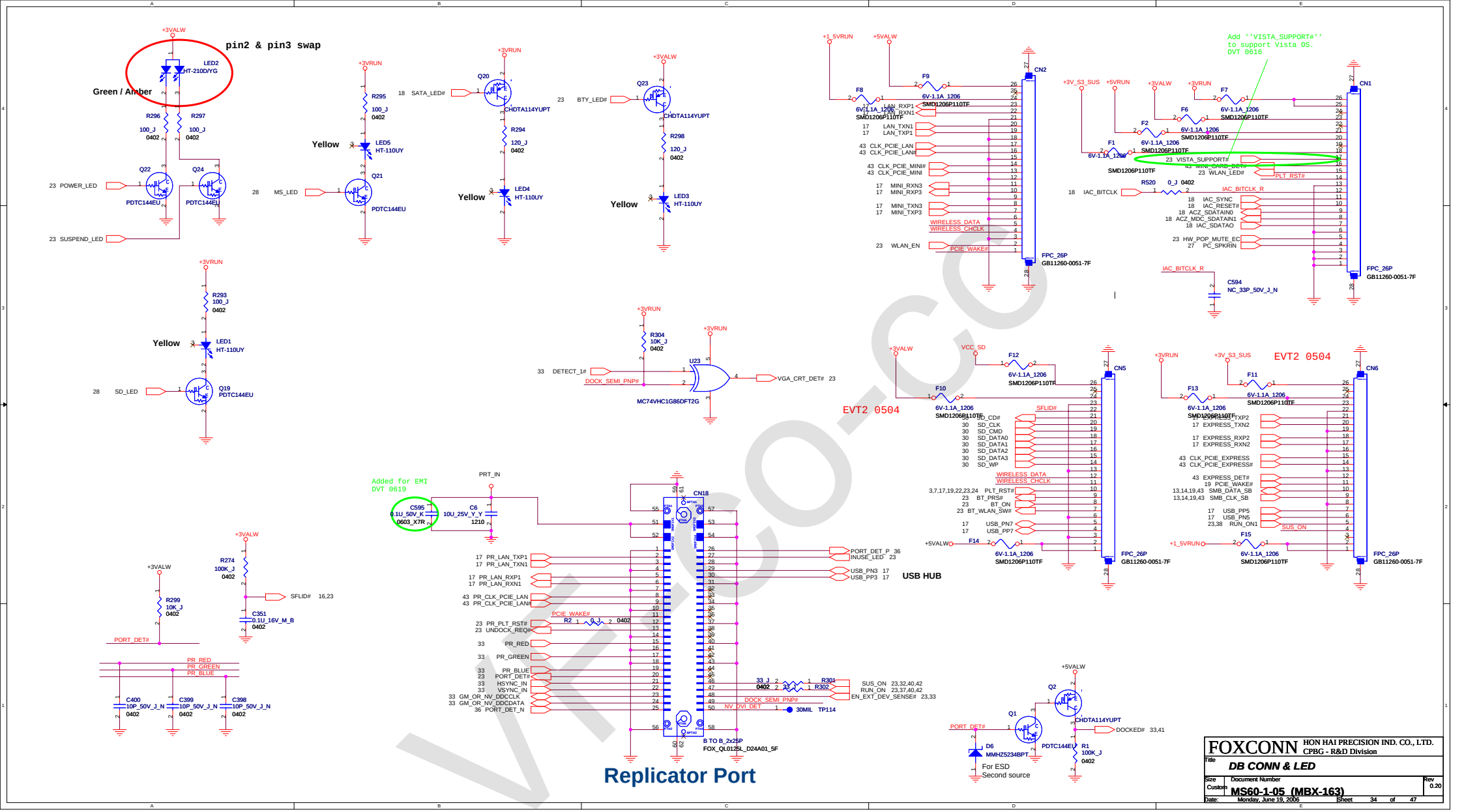
pin2 & pin3 swap
Green / Amber
LED2 HT-210D/YG
R296 100_J 0402
R297 100_J 0402
Q22 PDTC144EU
Q24 PDTC144EU
23 POWER_LED
23 SUSPEND_LED
R295 100_J 0402
18 SATA_LED#
Yellow
LED5 HT-110UY
Q21 PDTC144EU
28 MS_LED
Q20 CHDTA114YUPT
R294 120_J 0402
Yellow
LED4 HT-110UY
Q23 CHDTA114YUPT
23 BTY_LED#
R298 120_J 0402
Yellow
LED3 HT-110UY
R293 100_J 0402
Yellow
LED1 HT-110UY
28 SD_LED
Q19 PDTC144EU
R304 10K_J 0402
33 DETECT_1#
DOCK_SEMI_PNP#
U23 MC74VHC1G86DFT2G
VGA_CRT_DET# 23
Added for EMI DVT 0619
C595 0.1U_50V_K 0603_X7R
C6 10U_25V_Y_Y 1210
PRT_IN
CN18
B TO B_2x25P FOX_QL0125L_D24A01_5F
PORT_DET_P 36
INUSE_LED 23
USB_PN3 17
USB_PP3 17
USB HUB
R299 10K_J 0402
R274 100K_J 0402
SFLID# 16,23
C351 0.1U_16V_M_B 0402
PORT_DET#
PR_RED
PR_GREEN
PR_BLUE
C400 10P_50V_J_N 0402
C399 10P_50V_J_N 0402
C398 10P_50V_J_N 0402
R2 0_J 0402
PCIE_WAKE#
23 PR_PLT_RST#
23 UNDOCK_REQ#
33 PR_RED
33 PR_GREEN
33 PR_BLUE
23 PORT_DET#
33 HSYNC_IN
33 VSYNC_IN
33 GM_OR_NV_DDCCLK
33 GM_OR_NV_DDCDATA
36 PORT_DET_N
17 PR_LAN_TXP1
17 PR_LAN_TXN1
17 PR_LAN_RXP1
17 PR_LAN_RXN1
43 PR_CLK_PCIE_LAN
43 PR_CLK_PCIE_LAN#
33_J 0402
R301
R302
SUS_ON 23,32,40,42
RUN_ON 23,37,40,42
EN_EXT_DEV_SENSE# 23,33
DOCK_SEMI_PNP#
NV_DVI_DET
30MIL TP114
Replicator Port
+1_5VRUN
+5VALW
CN2
F8 F9 6V-1.1A_1206 SMD1206P110TF
LAN_RXP1
LAN_RXN1
LAN_TXN1
LAN_TXP1
43 CLK_PCIE_LAN
43 CLK_PCIE_LAN#
43 CLK_PCIE_MINI#
43 CLK_PCIE_MINI
17 MINI_RXN3
17 MINI_RXP3
17 MINI_TXN3
17 MINI_TXP3
WIRELESS_DATA
WIRELESS_CHCLK
23 WLAN_EN
PCIE_WAKE#
FPC_26P GB11260-0051-7F
+3V_S3_SUS
+3VALW
+3VRUN
F1 F2 F6 F7
Add ''VISTA_SUPPORT#'' to support Vista OS. DVT 0616
23 VISTA_SUPPORT#
43 MINI_CARD_DET#
23 WLAN_LED#
PLT_RST#
CN1
R520 0_J 0402
18 IAC_BITCLK
IAC_BITCLK_R
18 IAC_SYNC
18 IAC_RESET#
18 ACZ_SDATAIN0
18 ACZ_MDC_SDATAIN1
18 IAC_SDATAO
23 HW_POP_MUTE_EC
27 PC_SPKRIN
C594 NC_33P_50V_J_N
FPC_26P GB11260-0051-7F
EVT2 0504
VCC_SD
F10 F12 F14 6V-1.1A_1206 SMD1206P110TF
CN5
SD_CD#
30 SD_CLK
30 SD_CMD
30 SD_DATA0
30 SD_DATA1
30 SD_DATA2
30 SD_DATA3
30 SD_WP
SFLID#
WIRELESS_DATA
WIRELESS_CHCLK
3,7,17,19,22,23,24 PLT_RST#
23 BT_PRS#
23 BT_ON
23 BT_WLAN_SW#
17 USB_PN7
17 USB_PP7
FPC_26P GB11260-0051-7F
EVT2 0504
F11 F13 F15
CN6
17 EXPRESS_TXP2
17 EXPRESS_TXN2
17 EXPRESS_RXP2
17 EXPRESS_RXN2
43 CLK_PCIE_EXPRESS
43 CLK_PCIE_EXPRESS#
43 EXPRESS_DET#
19 PCIE_WAKE#
13,14,19,43 SMB_DATA_SB
13,14,19,43 SMB_CLK_SB
17 USB_PP5
17 USB_PN5
23,38 RUN_ON1
SUS_ON
FPC_26P GB11260-0051-7F
Q2 Q1 CHDTA114YUPT
PORT_DET#
D6 MMHZ5234BPT
For ESD Second source
DOCKED# 33,41
R1 100K_J 0402
FOXCONN
HON HAI PRECISION IND. CO., LTD.
CPBG - R&D Division
Title
DB CONN & LED
Size Custom
Document Number MS60-1-05 (MBX-163)
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Date: Monday, June 19, 2006
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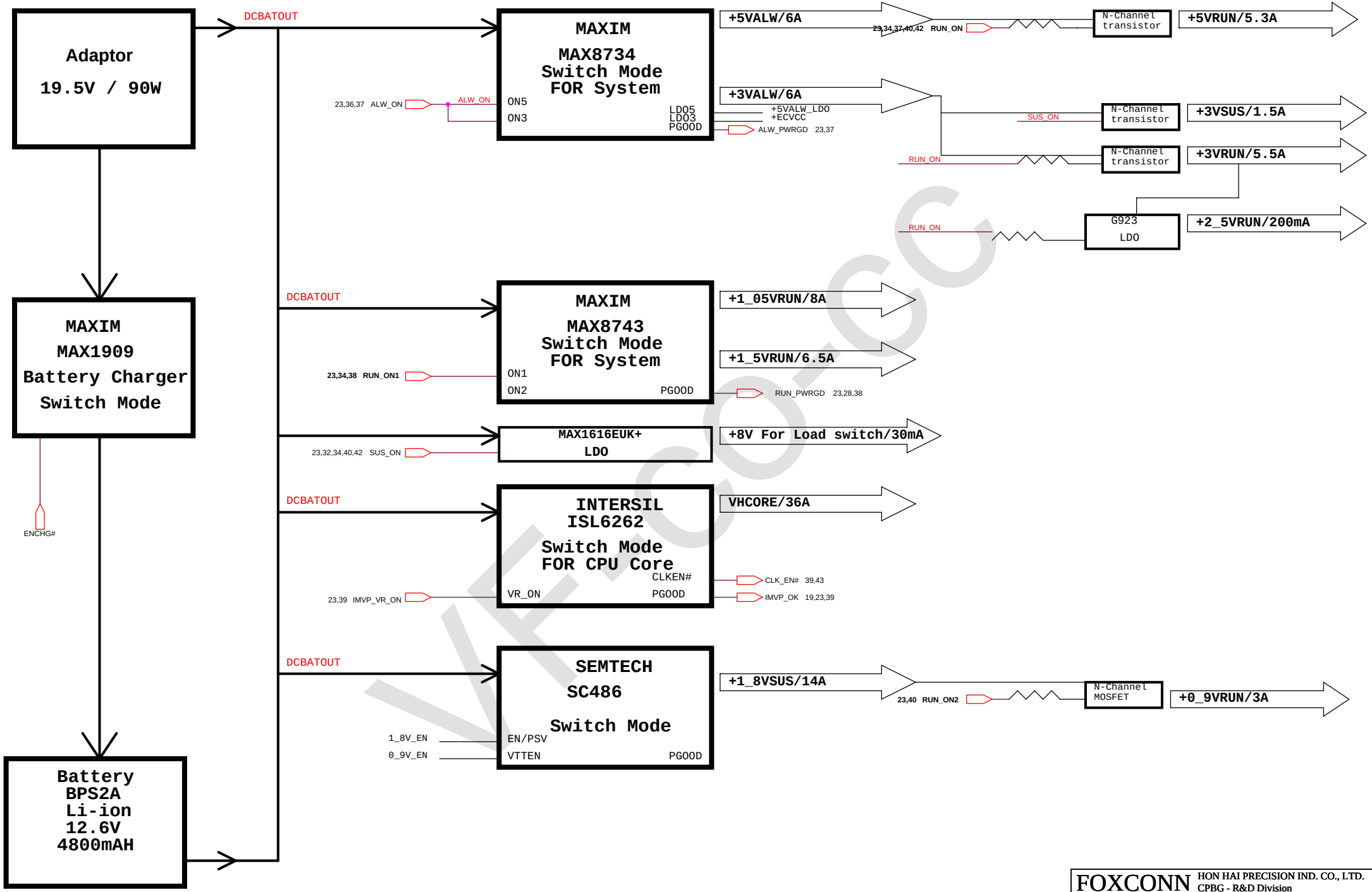
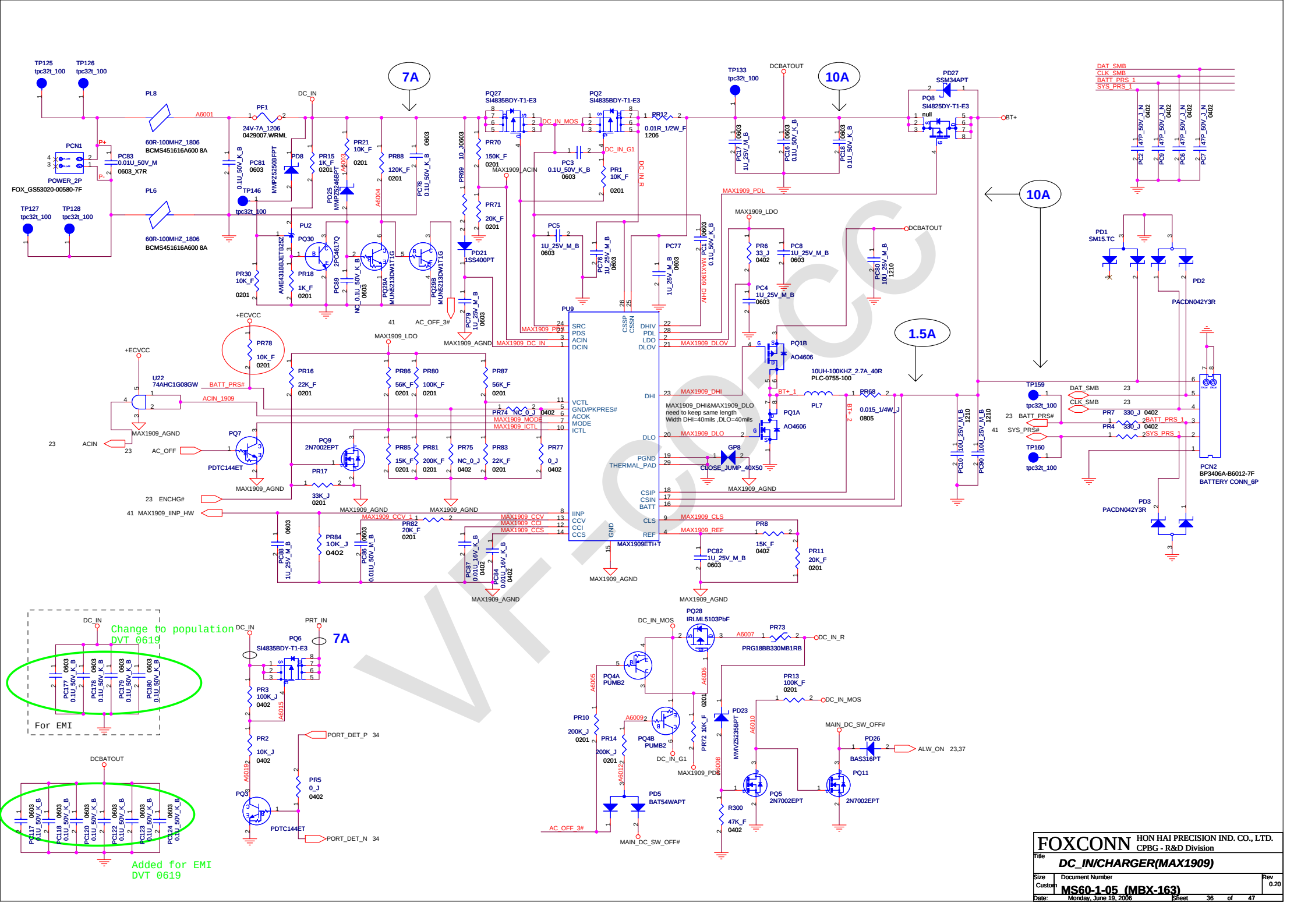


FOXCONN HON HAI PRECISION IND. CO., LTD.
CPBG - R&D Division

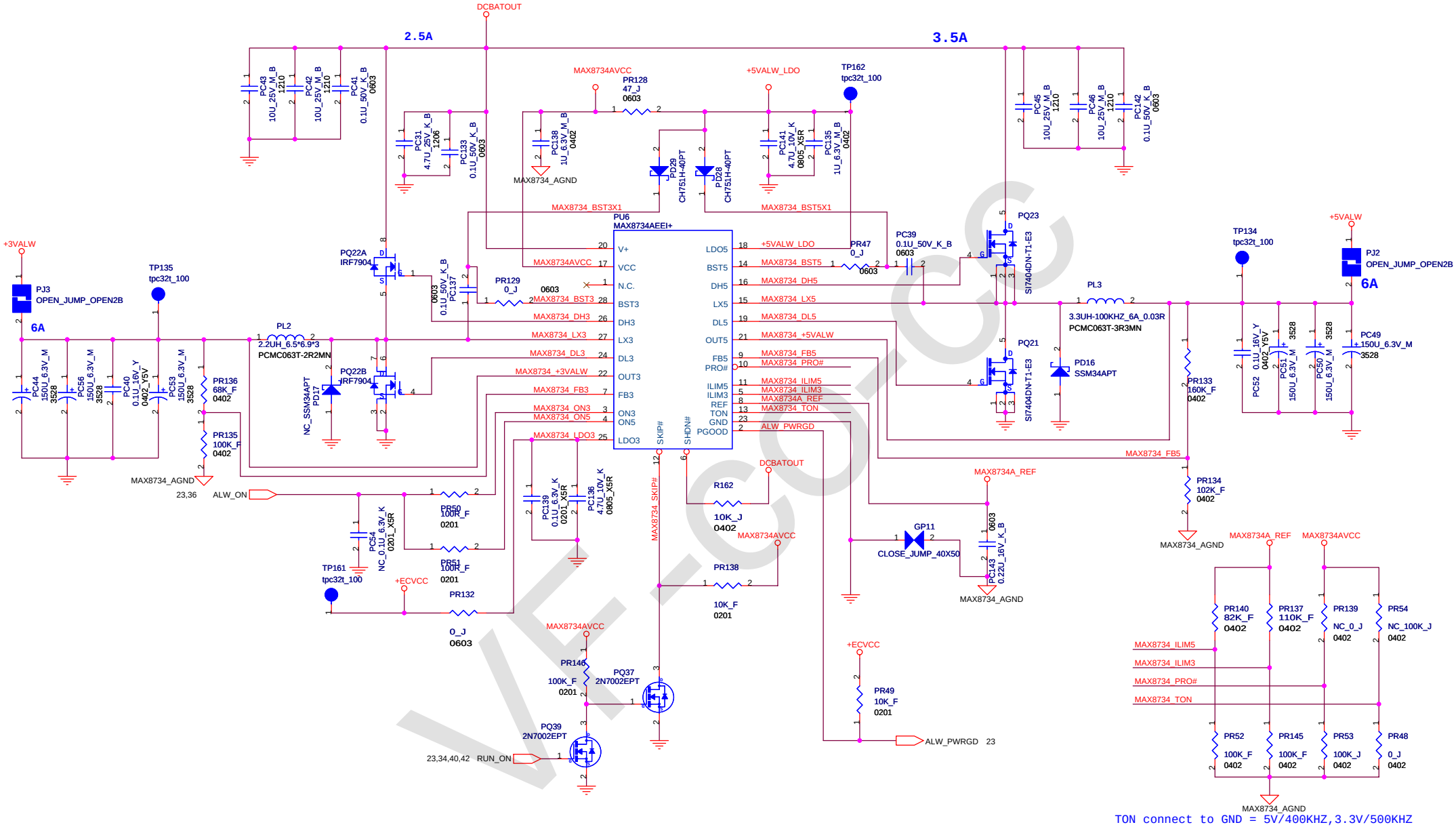
Title: *Power Design Diagram*

Size: A3 | Document Number: MS60-1-05 (MBX-163) | Rev: 0.20

Date: Monday, June 19, 2006 | Sheet 35 of 47



FOXCONN	HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division
Title	DC_IN/CHARGER(MAX1909)
Size: Custom	Document Number: MS60-1-05 (MBX-163)
Rev	0.20
Date: Monday, June 19, 2006	Sheet 36 of 47



FOXCONN	HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division
Title	SYS Power (3D3VALW/5VALW)
Size	A3
Document Number	MS60-1-05 (MBX-163)
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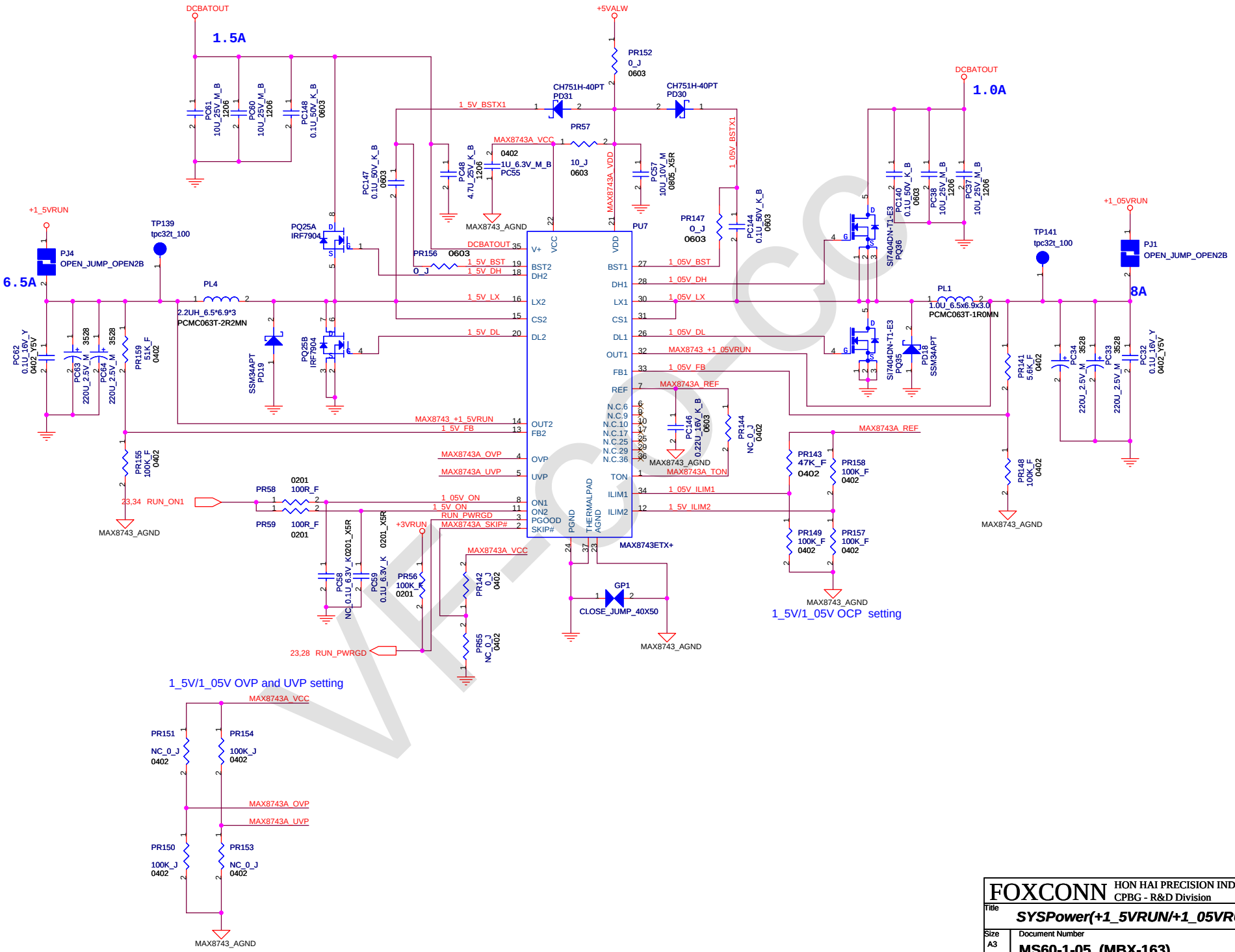
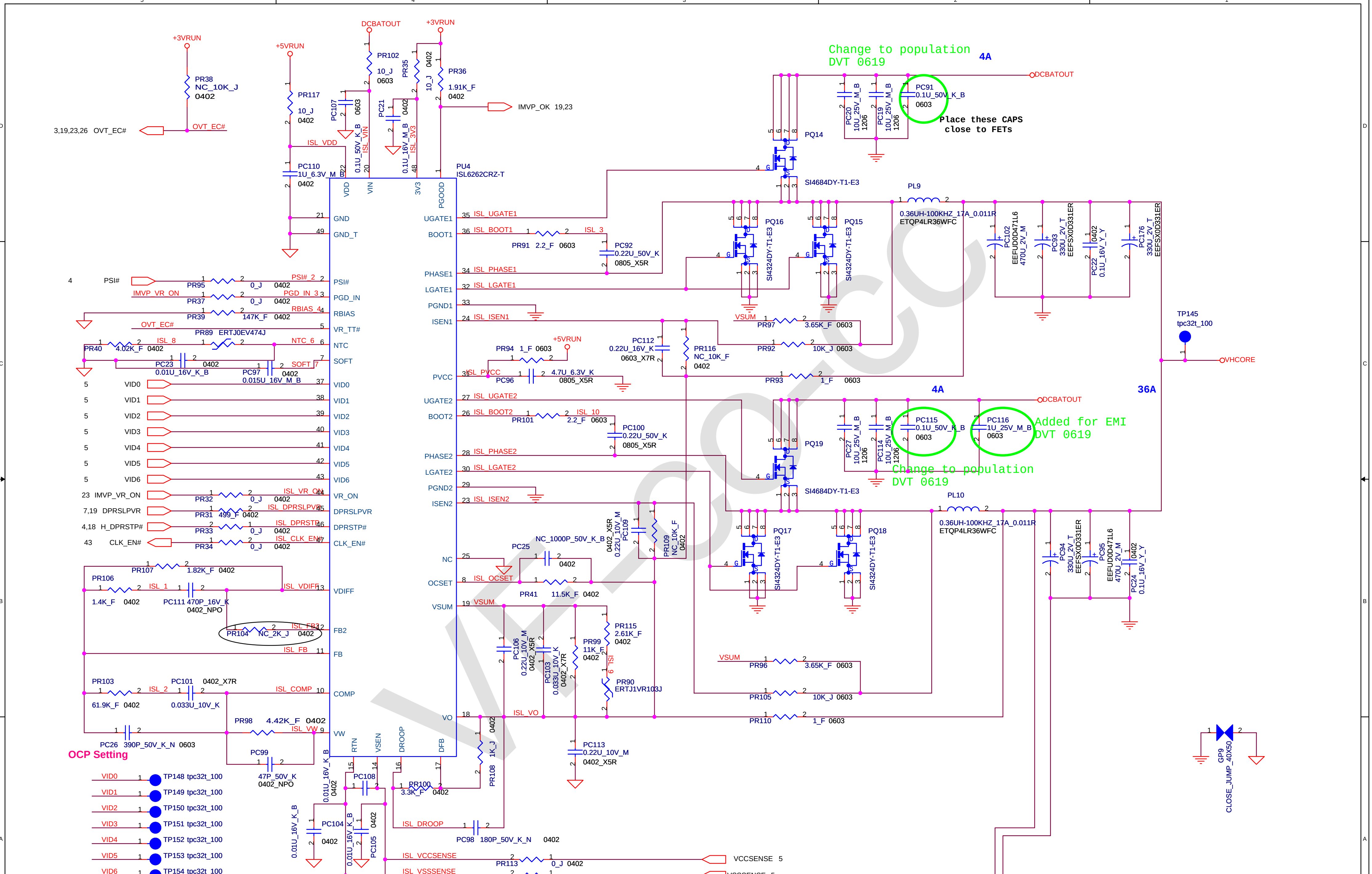


FOXCONN HON HAI PRECISION IND. CO., LTD.
CPBG - R&D Division

Title: SYSPower(+1_5VRUN/+1_05VRUN)

Size: A3 | Document Number: MS60-1-05_(MBX-163) | Rev: 0.20

Date: Monday, June 19, 2006 | Sheet 38 of 47

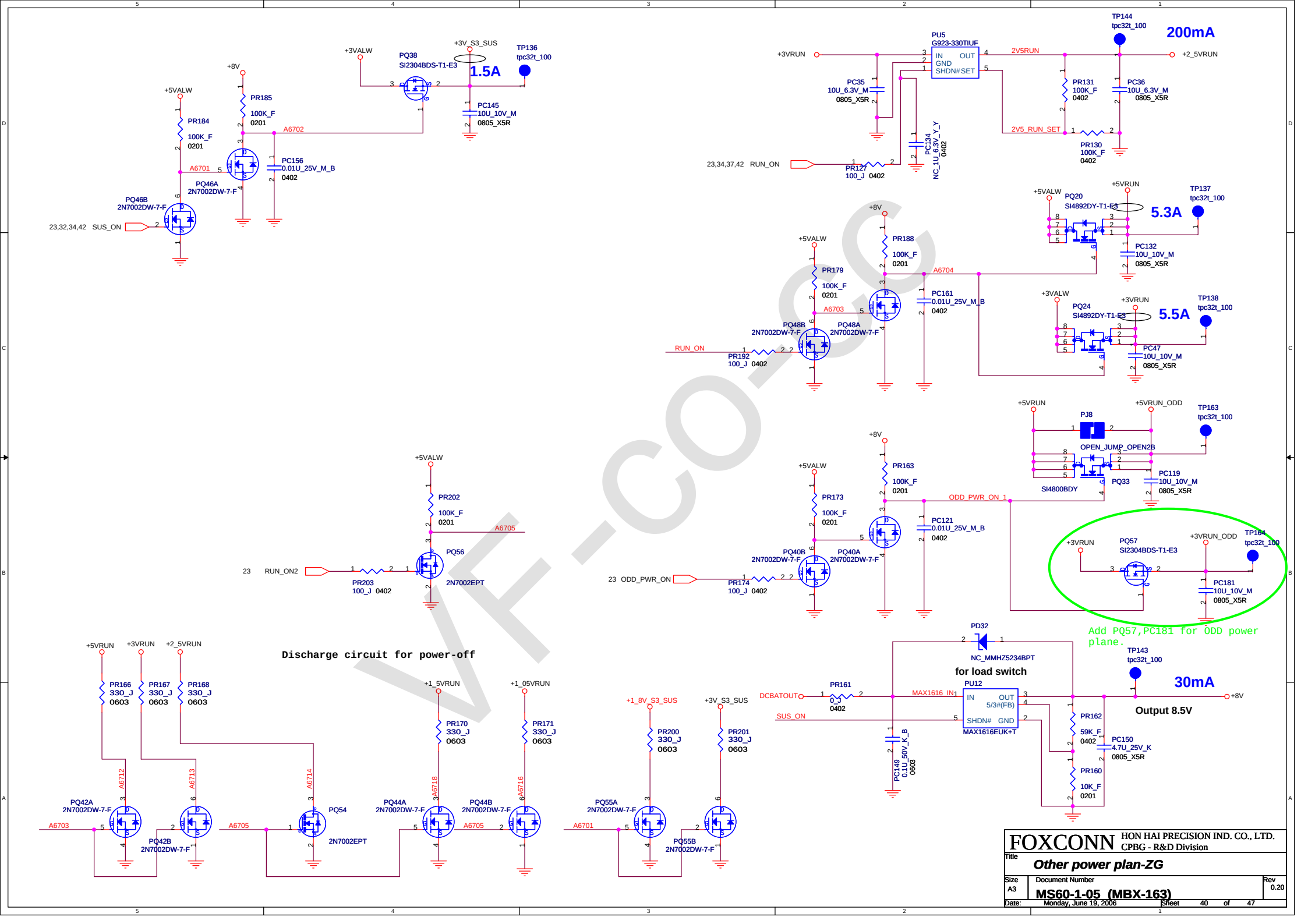


FOXCONN HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division

Title: VHCORE(ISL6262)

Size: Custom | Document Number: MS60-1-05 (MBX-163) | Rev: 0.20

Date: Monday, June 19, 2006 | Sheet 39 of 47

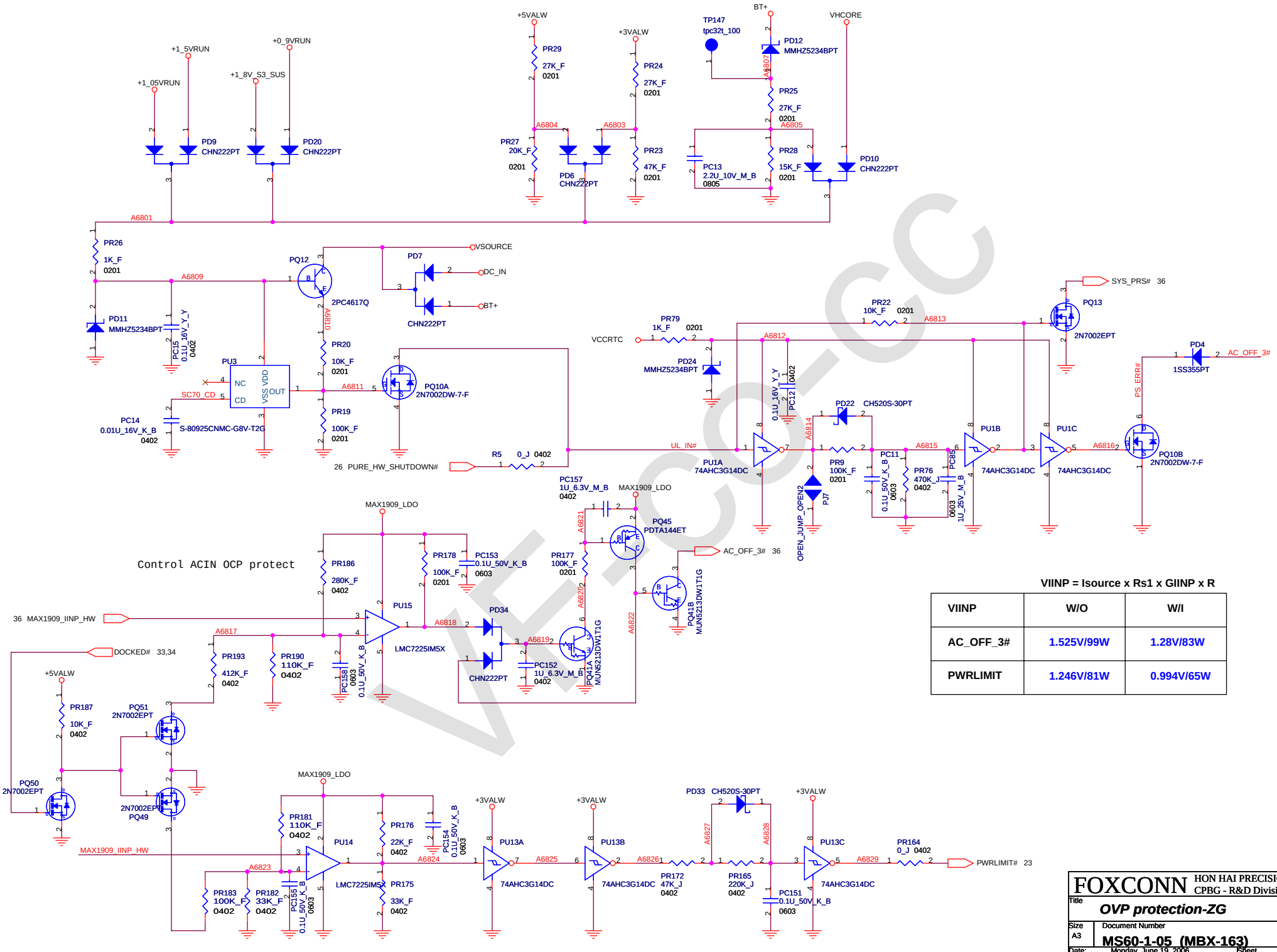


FOXCONN HON HAI PRECISION IND. CO., LTD.
CPBG - R&D Division

Title: *Other power plan-ZG*

Size: A3 | Document Number: MS60-1-05 (MBX-163) | Rev: 0.20

Date: Monday, June 19, 2006 | Sheet 40 of 47



VIINP = Isource x Rs1 x GIINP x R

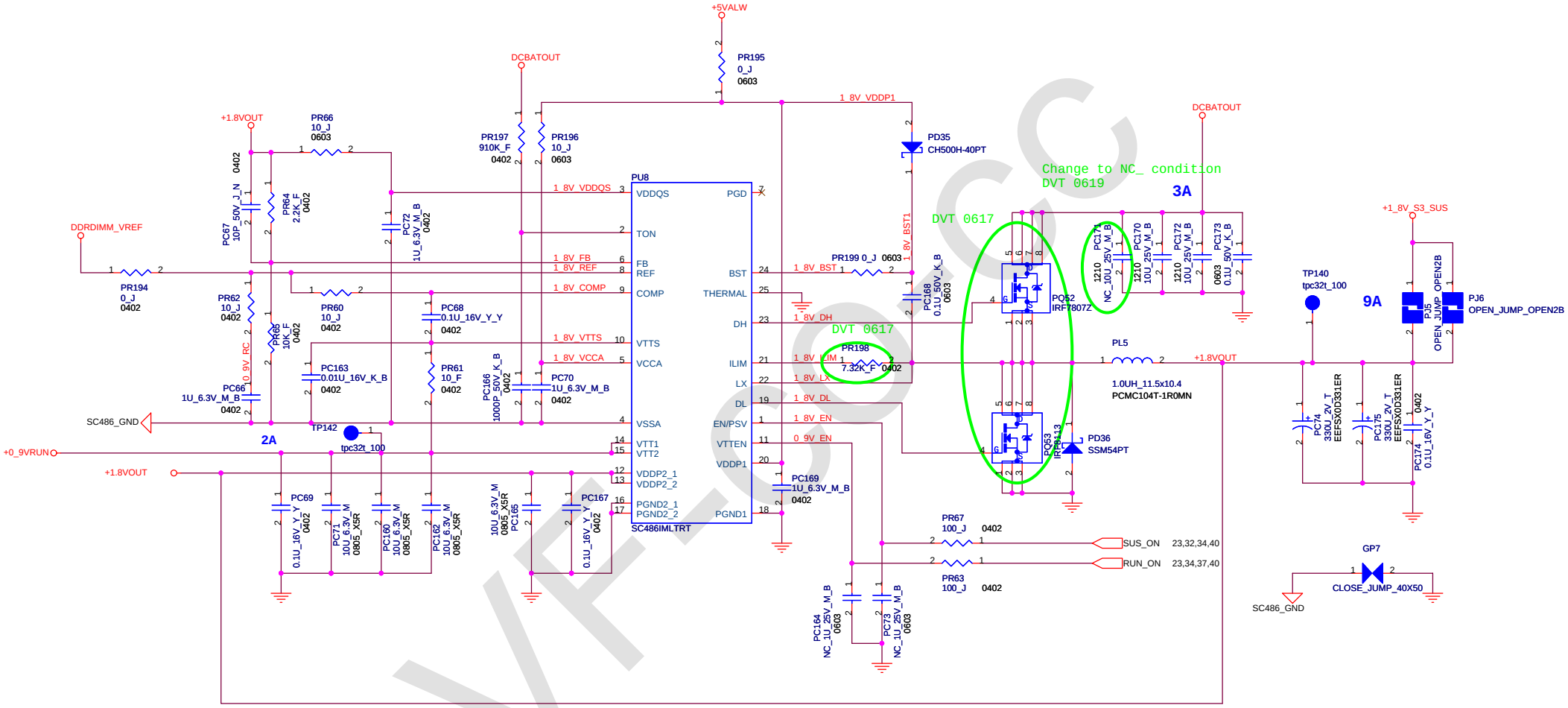
VIINP	W/O	W/I
AC_OFF_3#	1.525V/99W	1.28V/83W
PWRLIMIT	1.246V/81W	0.994V/65W

FOXCONN HON HAI PRECISION IND. CO., LTD.
CPBG - R&D Division

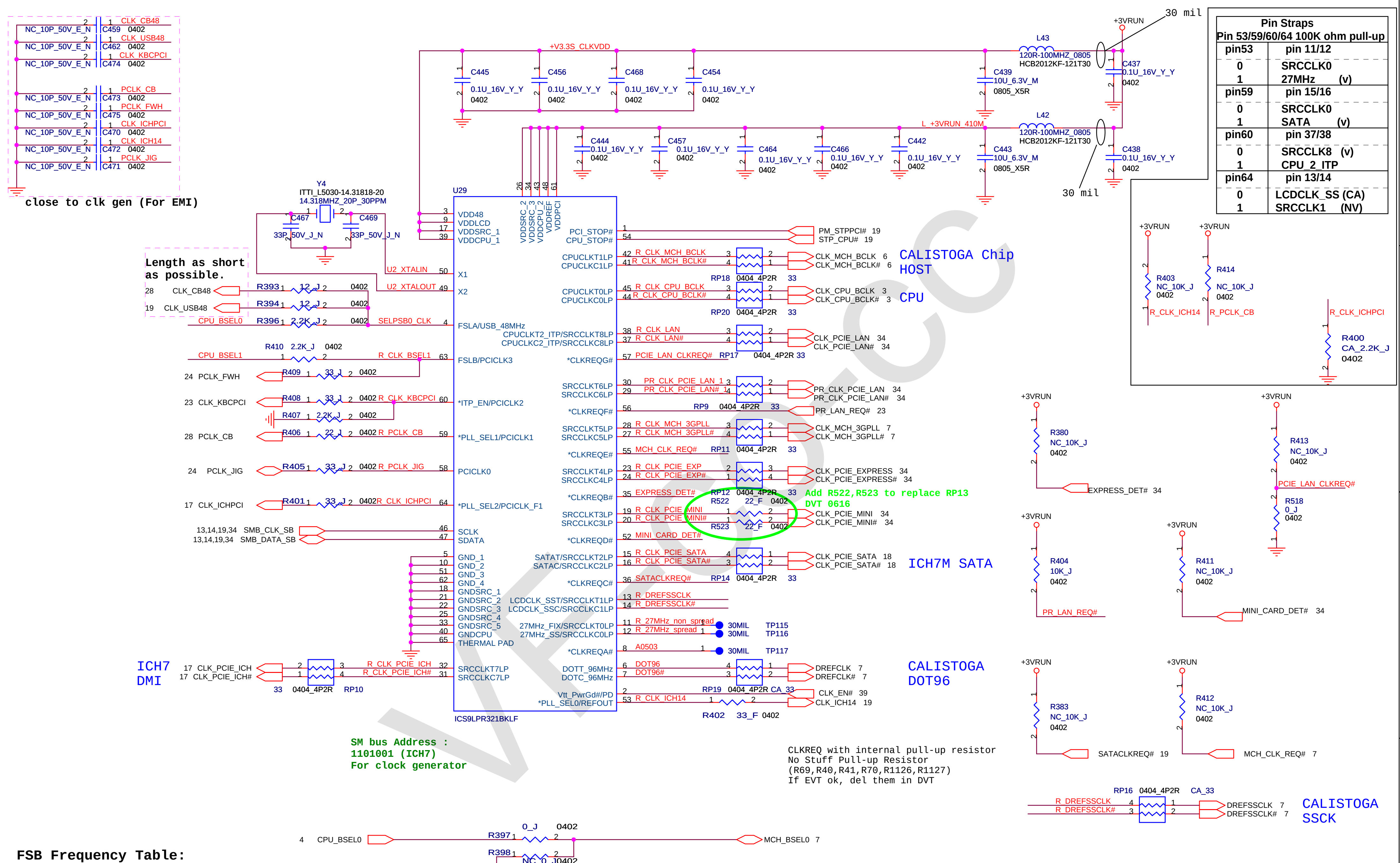
Title: *OVP protection-ZG*

Size: A3 | Document Number: MS60-1-05 (MBX-163) | Rev: 0.20

Date: Monday, June 19, 2006 | Sheet 41 of 47



FOXCONN	HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division	
Title	DDR2Power(+1_8V_S3_SUS/+0_9VRUN)	
Size A3	Document Number MS60-1-05 (MBX-163)	Rev 0.20
Date: Monday, June 19, 2006	Sheet 42 of 47	



Pin Straps

Pin 53/59/60/64 100K ohm pull-up

pin53	pin 11/12
0	SRCCLK0
1	27MHz (v)
pin59	pin 15/16
0	SRCCLK0
1	SATA (v)
pin60	pin 37/38
0	SRCCLK8 (v)
1	CPU_2_ITP
pin64	pin 13/14
0	LCDCLK_SS (CA)
1	SRCCLK1 (NV)

FSB Frequency Table:

FSLB	FSLA	CPU	SRC[7:0]	PCI
0	0	100	100	33
0	1	133	100	33
1	0	200	100	33
1	1	166	100	33

FOXCONN HON HAI PRECISION IND. CO., LTD.
CPBG - R&D Division

Title: **CLOCK GEN**

Size: A3 | Document Number: **MS60-1-05 (MBX-163)** | Rev: 0.20

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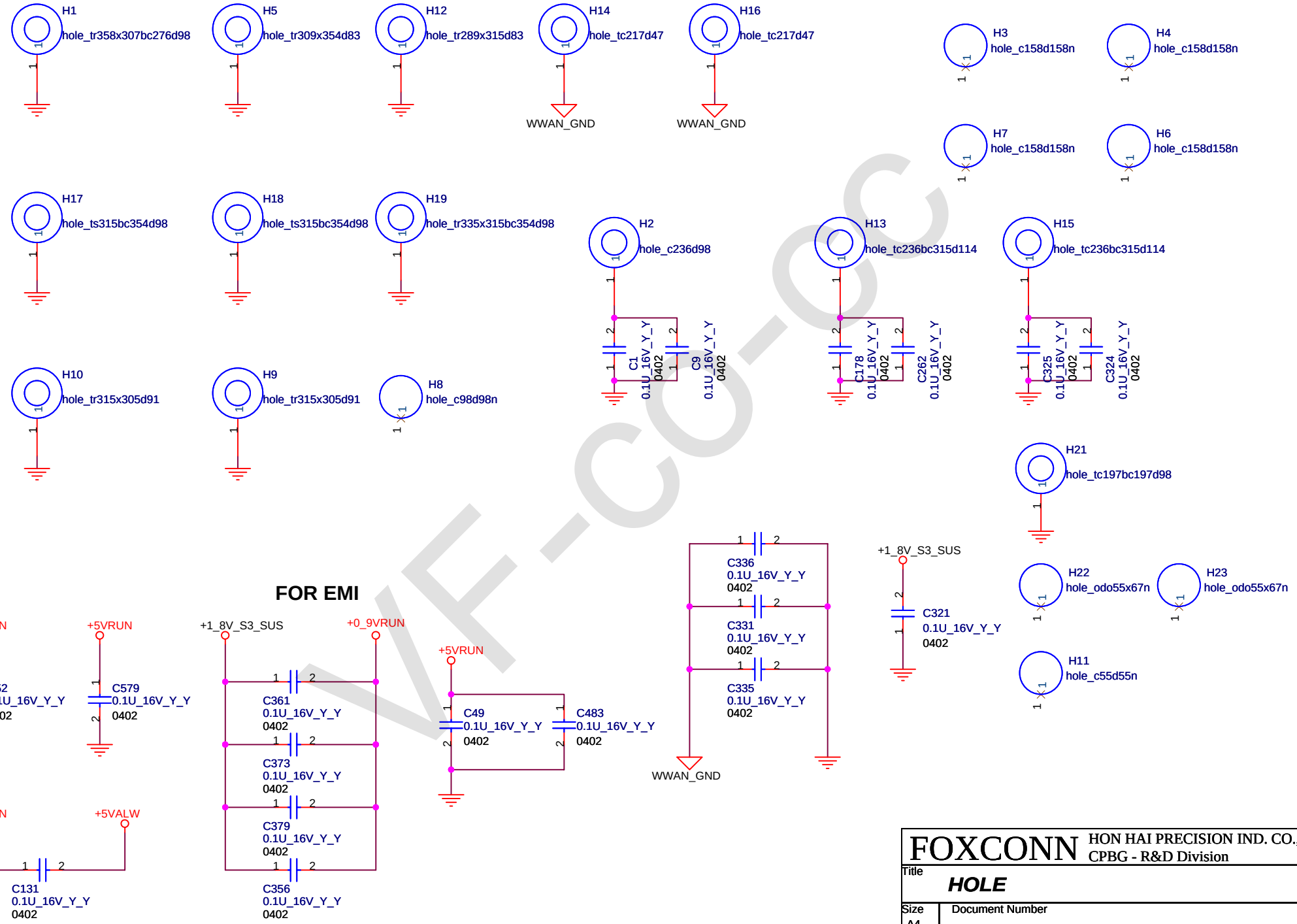

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Title	**HOLE**	
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MS60 Power On Sequerce Timing

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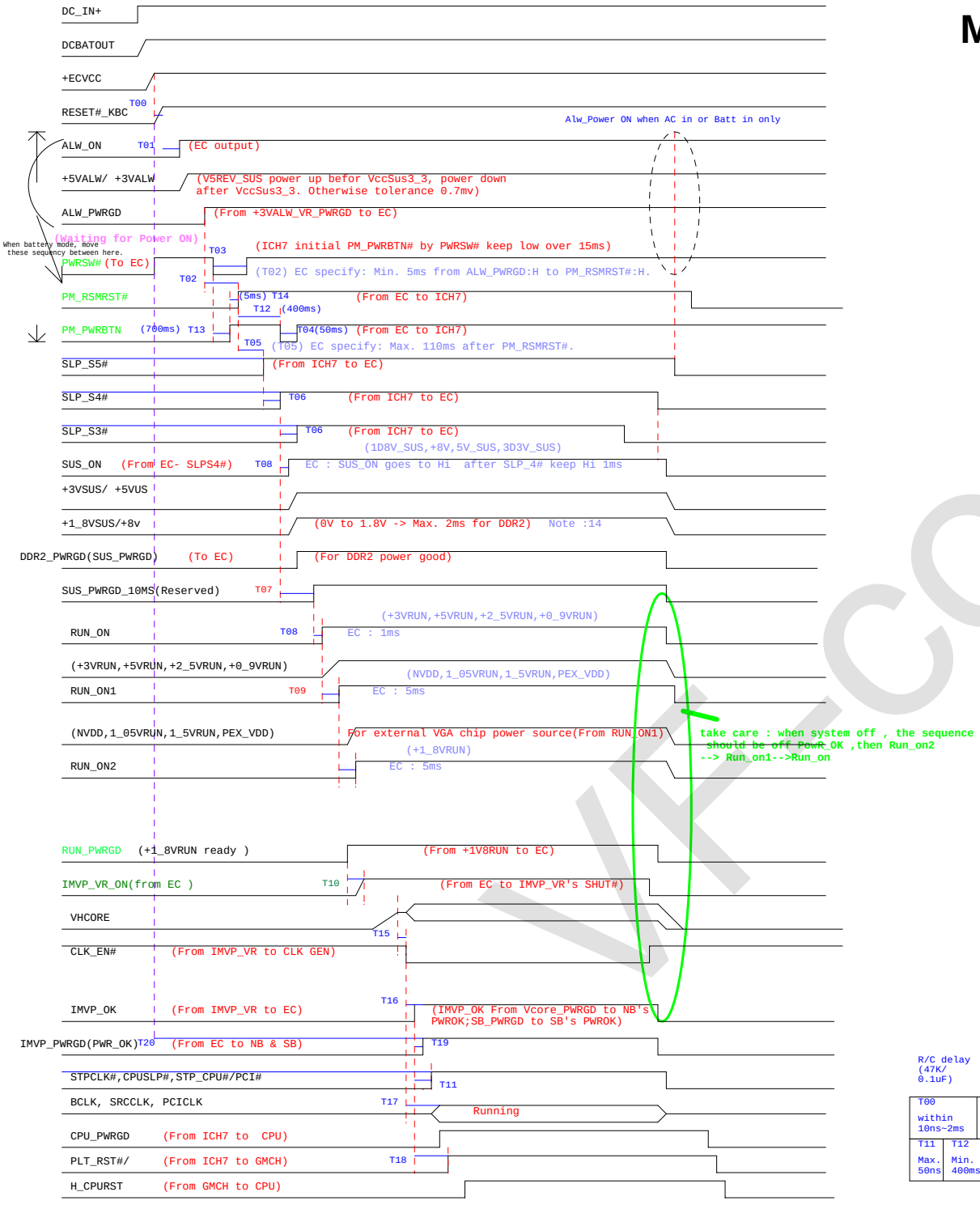
Modified date : 2/14/2006



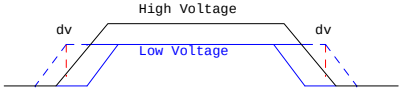
NOTE : (EC KB3910 Min. response time is 1ms)

1. T00 : R=47K , C = 0.1uF is ENE recommand value please refer to KB3910B0-AN4A-200
2. T01 : 5ms is for ALW VCC supplies must never be active while the ECVCC supply is inactive.(Please refer to Intel 16971 Page 300 of t200 timing)
   PS : For KB3910 timing : After ECRST# goes to high ,EC must be check sum and initialized register.For MS01, we measure the T01 Min. 200ms is needed.In MS10 , we will measure this timing again.
3. T02 : ALW_PWRGD:H to PM_RSMRST#:H at least 5ms (Please refer to 16971 Page 300 of t205 timing)
4. T04 : For MS01 SPEC Min. is 50 ms(Normal SPEC is 20ms)
5. T05 : RSMRST# active High to SLP_S5# avtive High Max. is 110ms(Please reference Intel 16971 Page 301of t232 timing
6. T06(Please reference Intel 16971 Page 301 of t234 timing
7. T07 : For MS01 current SPEC Min. is 25 ms(Please refer Intel 16971Page 301 t208 SPEC is Min 10ms)
8. T08 : For MS01 current SPEC Min. is 1 ms(1ms is EC KB3910 at least response time)
9. T09 : For MS01 current SPEC
10. T10 :Please refer to Intel 16971 Page 300 of t214 timing
11. T11 :Please refer to Intel 16971 Page 303 of t216 timing
12. T12 : PM_RSMRST# ACTIVE HIGH TO PM_PWRBTN# ACTIVE LOW is 400ms(Normal SPEC is 110ms;Please reference Intel 16971 Page 301of t232 timing)
13. T13 : For MS01 current SPEC Min. is 700 ms(Normal SPEC is 1ms that EC can response)
14. T14 : For MS01 current SPEC Min. is 5 ms
15. DDR2 1.8V from 0V to 2V Max. is 2 ms please refer to Intel 16981 Page 304
16. IMVP_OK is same with SB_PWRGD(reserved And Gate with SYS_PWRGD)
17. In G7X power sequence :3VRUN-->NVDD,PEX_VDD-->1_8VRUN
18. T15 : Please refer to MAX8771 datasheet
20. T16: Please refer to MAX8771 datasheet
21. T17 : Please refer to Intel CK410(14690) page 53
22. T18 : The ICH7 drives PLTRST# active a mininum of 1ms when initiated through the Reset Control register I/O Register CF9h)
23. CPUPWRGD is an output signal that presents a logical AND of the ICH7's PWROK and VRMPWRGD signals
24. T20 : From ECRST# L->H to IMVP_PWRGD L->H. If EC's 32KHz is not stable, LPC I/F will hang. So the 1sec must be guaranteed.(Requested by Doi's san 05/13)

Remark: (Item1,2,3 add Diode; Item4,5,6 add dischage circuit; Item7 for implement TV)
SPEC please refer to Intel 16981 15.4 GMCH/ICH7M Platform Power -up Requirements)

1. V5REF(+5VRUN) -> +3VRUN, dt:0.7mV
2. V5REF_SUS(+5VALW) -> +3VALW, dt:0.7mV
3. +2.5VRUN -> GMCH_VCC(1.05V), dt:0.7mV
4. +1_5VRUN -> +GMCH(1.05V), dt:0.7mV
5. +3.3VRUN -> +2_5VRUN, dt:0.3mV
6. +3.3VRUN -> +5VRUN (VccLAN), dt:0.3mV
7. +3_3VRUN -> +1_5VRUN(TV), dt:0.7mV

R/C delay (47K/ 0.1uF)



T00	T01	T02	T03	T04	T05	T06	T07	T08	T09	T10
within 10ns~2ms	Min. 5 ms	Min. 10 ms	Min. 40ms	Min. 50ms	Max. 110ms	1 - 2 RTCCLK	Min. 25 ms	1ms	Min. 10ms	Min. 99ms

T11	T12	T13	T14	T15	T16	T17	T18	T19	T20
Max. 50ns	Min. 400ms	Min 700ms	Min 5ms	typ 60us	Min : 3ms Max : 8ms	Max 1.8ms	Min 1ms	Min : 99ms	Min :1s

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<1>2006/3/28 remove U36.SW no need to program for present application.

<2>2006/3/28 Change PR5 from 13K to common parts 10KOhm.

<3>2006/3/29 Change USB CONN. CN16 & CN40 for ID requirement.
P/N : FOX_UB11193-C1301-4F

<4>2006/3/29 Change ODD CONN. CN21 for ID requirement.
P/N : FOXCONN_QT8H0506_64T2R_4F

<5>2006/3/29 Change PC359,PC360 to 10uF
P/N : 1C-2B70106-M100

<6>2006/3/29 update new HDD CONN CN24.
P/N : 2N-0022002-F0G0

<7>2006/3/29 update new DC-IN CONN PCN1.
P/N : FOX_GS53020-00580-7F

<8>2006/3/29 update new BTY CONN PCN2.
P/N : FOXCONN_BP34063_B6012_7F

<9>2006/3/30 U18.U19.U21.R277.R300.R315change to NC according to Customer's feedback.

<10>2006/3/30 R269,R273,R276,R286,R287,R300 change to Populate according to Customer's feedback.

<11>2006/3/30 New add INV_ENABLE_EC logic dur to BIOS Code merge issue.add new component :
U53.U54 P/N : 14-74AHC1G-0800
R762 P/N : 1R-0000103-J200
R763 P/N : 1R-0000000-J200
R764 P/N : 1R-0000104-J200
Delete R176.R177

<12>2006/3/31 Add C20,C21,C22,C31,C33,C68 for EMI slution.
P/N : 1C-2Y20104-Y000

<13>2006/3/31 Add R5 for Customer feedback.
P/N : 1R-0000000-J200

<14>2006/3/31 Dummy R482,R483 for Customer feedback.

<15>2006/3/31 Modify MS PWR Circuit for Customer feedback.add new component :
U55.U56 P/N : 15-RT9702A-0000
C521.C522 P/N : 1C-2Y20104-Y000
R569.R573 P/N : 1R-0000105-J200
C870.C871 P/N : 1C-2Y30225-Y000
C535.C751 P/N : 1C-2B70106-M100
Deleted Component :
Q12.Q13.Q20.Q21.C535.C527.C521.C751.C753.C752.R486.R476.R568.R569

<16>2006/3/31 CN2 Pin11 change to +3V_S3_SUS for Customer feedback.

<17>2006/4/3 CN20.CN32.CN33 Pin assignment modified due to Customer's concern.

<18>2006/4/3 CN31.CN32.CN33 CN34 Connector change.
P/N : GB11261_1051_7F

<19>2006/4/3 L17 & L19 updated according to Customer feedback
P/N : 1L-DCS0603-1000

<20>2006/4/4 Add PWR_MIZER circuit.
U6J GPIO10 with new signal "NV_PWR_MIZER"
new Components added and modified as below :
10K Ohm -- R130.R766 -- P/N : 1R-0000103-J200
7.5K Ohm -- R765.R767.R768.R769.R770 -- P/N : 1R-0000752-F200
4.3K Ohm -- R128 -- P/N : 1R-0000432-F200
2N7002EPT -- Q54.Q55.Q56.Q57.Q58 -- P/N : 17-2N7002E-PT00

<21>2006/4/4 CN10 Pin4.5.6 change to Test pad according to customer's feedback.

<22>2006/4/4 D6.D7.D8 change to Q59.Q60.Q61
P/N : 17-2N7002E-PT00

<23>2006/4/4 R64,R67,R65,R75,R99,R94,R97,R109 change to populate.
P/N : 1R-0000121-J200

<24>2006/4/4 new add Q62 for WLAN LED Logic
P/N : 17-2N7002E-PT00

<25>2006/4/4 NC F1 and C859 according to customer's feedback.

<26>2006/4/4 delete R482.R483 according to customer's feedback.

<27>2006/4/6 add H3 ~ H20

<28>2006/4/6 Update BTY Connector PCN2 for ME requirement.
P/N : 2N-0006001-MKX0

<29>2006/4/6 R278.R289.R270 change to 75Ohm and circuit modified as customer's feedback.
P/N : 1R-0000750-F200

<30>2006/4/6 R543 change to 75Ohm as customer's feedback.
P/N : 1R-0000750-F300

<31>2006/4/6 R553 change to 75Ohm as customer's feedback.
P/N : 1R-0000750-J200

<32>2006/4/6 R99.R94.R97.R109.R67.R64.R65.R75 change to NC as customer's feedback.
and R66.R69.R98.R101 change to 120Ohm.
P/N : 1R-0000121-J200

<33>2006/4/6 CN34 Pin23 change to +5VALW as customer's feedback.

<34>2006/4/6 CN31 Pin1.2 change to +3V_S3_SUS as customer's feedback.

<35>2006/4/6 add 1A Fuse F4.F5.F9.F11.F15.F17.F18.F19
P/N : 1M-F32V1A0-F000

<36>2006/4/6 add 0.5A Fuse F2.F3.F6.F7.F8.F10.F12.F13.F14.F16.F18
P/N : 1M-F32V0A5-F000

<37>2006/4/6 add C872 according to MS20 lesson learn.
P/N : 1C-2B20102-M000

<38>2006/4/6 CN34 Pin23.24 change to +3VRUN.

<39>2006/4/6 add C71.C74.C87 for EMI.
P/N : 1C-2Y20104-Y000

<40>2006/4/6 add C89.C188.C199.C208.C213.C214
P/N : 1C-2Y20104-Y000

<40>2006/4/7 add C215.C216.C217.C218.C219 for EMI solution.
P/N : 1C-2Y20104-Y000

<41>2006/4/7 R118.R119.R351 change to populate as customer's feedback.

<42>2006/4/7 Y1.C104.C107.C492.C497.C501.R433.R434.R427.R428.R429.R430.R132.
R133.R134.R136.R117 change to NC as customer's feedback.

<43>2006/4/7 R439.R443 change to 0 Ohm as customer's feedback.
P/N : 1R-0000000-J200

<44>2006/4/7 update Net name EN_EXT_DEV_SENSE# as customer's feedback.

<45>2006/4/10 Modify ODD PWR Circuit for Customer feedback.add new component :
PQ183 P/N : 17-2N7002D-W000
PR115 P/N : 1R-0000101-J200
PR103.PR114 P/N : 1R-0000104-F100
PC87 P/N : 1C-2B20103-M000
PQ38 P/N : 17-S14800B-DY00
PC76 P/N : 1C-2B70106-M200

<46>2006/4/10 Modify VGA PWR Circuit for Customer feedback.add new component :
PR273 P/N : 1R-0000103-F200
PR773 P/N : 1R-0004992-F200
PQ20 P/N : 17-2N7002E-PT00
PR774 P/N : 1R-0000102-J200
PC873 P/N : 1C-2Y20105-Y000

<47>2006/4/10 add H21~H24.

<48>2006/4/10 Rename Schematic Part referene.
new version since 4/11

<49>2006/4/11 change R68.R133.R100
P/N : 1R-0000151-F200

<50>2006/4/11 PR111.PR114 change to NC according to PWR team's suggestion in EVT.

<51>2006/4/11 Modify ODD reset circuit as customer's feedback.
Add U37 P/N : 15-MAX809S-0000
Add R516 P/N : 1R-0000104-J200
NC R305

<52>2006/4/11 Remove C257 for EMI comment.

<53>2006/4/11 add ODD Reset RC.
Add R517 P/N : 1R-0000103-J200
Add C580 P/N : 1C-2Y20104-Y000

<54>2006/4/14 change R197.R198.R199.R200 to 60.4Ohm
P/N : 1R-000604X-F200

<55>2006/4/14 add R518 for 0Ohm
P/N : 1R-0000000-J200

<56>2006/4/14 CN7.C409.C412.L37.F16.R44.R45 change to CA from NV to fit configuration.

<57>2006/4/27 PR111.PR114 change to Populate from NC according to PWR team's suggestion in EVT.
P/N : 1R-0000100-J200

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MS60-L change list base on MS60-H

<58>2006/5/02 Del all NV_ components for L-model only.

<59>2006/5/03 Remove +1_8VRUN discharge circuit.Delete PR169,PQ44. Add PQ54 P/N:17-2N7002E-PT00

<60>2006/5/03 LED2 pin2,pin3 swap for Power LED color opposite issue

<61>2006/5/03 Change CAP93,CAP94 to NEC,TEPSGV0E337M9-12R,330uF,2.5V
P/N:1C-31T0337-MX00
Add CAP95 P/N:1C-31T0337-MX00

<62>2006/5/04 F1,F2,F3,F4,F5,F6,F7,F8,F9,F10,F11,F12,F13,F14,F15,F16,F17,F19 change to fuse,1.1A PTC type
P/N:1M-F06V1A1-F000

<63>2006/5/05 follow M/E change to exchange PCN1 pin1 & pin2 connection.Layout change placement form top side to bottom side.

<64>2006/5/05 Add GP14,GP15 open jump for repair conveniently

<65>2006/5/05 Add C581,C582,C583,C584,C585,C586,C587,C588,C589,C590,C591,C592 for 22uF_0805_6.3V shortage.

<66>2006/5/08 As to M/E assemble issue, we will need rotat 180degree about T/P module.So that R47 change to stuff

<67>2006/05/09 Rename CAP93,CAP94,CAP95 to PC93,PC94,PC176.And change component to Panasonic,EEFSX0D331ER,330uF,2V
P/N:1C-42T0337-MX00

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<68>2006/05/09 PC54,PC58,PC59,PC139 change to X5R,0.1uF,6.3V,10%,0201 for X7R,0.1uF,10V,0201 shortage.
P/N:1C-2B10104-K100

<69>2006/05/11 L33,L34 pin swap .D12 & D10 change to TOP side for layout conveniently

<70>2006/05/12 PR198 change to 5.6k/0402_1% to modify 1.8V OCP seting value.
P/N:1R-0000562-F200

<71>2006/05/12 CN23 change to ''FOX_MH11747-BR2D-4F'' for ME requirement.
P/N:2N-000400N-FKG0

<72>2006/05/12 CN3,CN8 change to ''FOX_GB5RF120-1200-7F'' for ME requirement.
P/N:1N-0012001-F0T0

<73>2006/05/12 CN7 change to ''FFOXCONN_GB5RF060_1200_7F'' for ME requirement.
P/N:1N-0006000-F0T0

<74>2006/05/12 CN12,CN16 change to ''FOXCONN_UB11193_C1304_4F'' for ME requirement.
P/N:1N-0004000-FEG0

<75>2006/05/12 CN9 change to ''FOXCONN_HS8206E'' for ME requirement.
P/N:1N-0006001-M1T0

<76>2006/05/16 Due to ripple noise issue.PC74,PC175 change to ''Panasonic,EEFSX0D331ER'' .Del PC75 for power requirement.
P/N:1C-42T0337-MX00

<77>2006/05/17 Add PQ55,PQ56,PR200,PR201,PR202,PR203 for power discharge.
P/N:17-2N7002D-W000
P/N:1R-0000331-J300
P/N:1R-0000104-F100
P/N:1R-0000101-J200

<78>2006/05/17 U24 change to ''FOXCONN_PZ4782A_2743_01'' for ME requirement.
P/N:1N-1478002-0000

<79>2006/05/18 PC67 change to 10pF 0402,and need to mount for power requirement.
P/N:1C-2N20100-J000

<80>2006/05/18   CN12,CN16 change footprint to ''FOXCONN_UB11193_C1304_4F_HM'' for DFM.

<81>2006/05/18   Add R519,R520,C593,C594 on ''IAC_BITCLK'' signal for EMI requirement.
P/N:1R-0000000-J200
P/N:1C-2N20330-J000

<82>2006/05/18 H13,H15 footprint change to '' hole_tc236bc315d114'' for ME requirement.
P/N:1X-HOLE000-0232

<83>2006/05/19 CN25 need change to P/N:1N-1200007-0000. CN26 need change to P/N:1N-1200008-0000. Because P/N:1N-120000C-0000 & P/N:1N-120000D-0000 part number are not available.

<84>2006/05/19 Add PC177,PC178,PC179,PC180 on DC_IN trace for EMI requirement.
P/N:1C-2B30104-K000

<85>2006/05/22 Del R89,R140,R127.Add L54,L55,L56 (0 ohm change to bead) for EMI requirement.
P/N:1L-BEBMS16-0801

<86>2006/05/30 change R517 from 10Kohm to 0ohm for solving the ODD issue.
P/N:1R-0000000-J200

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DVT change list

<87>2006/06/15 Delete R264.R271 for Debug BD LED.

<88>2006/06/15 Del reset IC form ODD portion.Del R516,R517,C580. Change U37 to 74AHC1G08GW and connect GPIO_ODD_RST# form KBC for ODD reset.

<89>2006/06/15 Add R521 1k ohm and change R244 connection form ''ALW_ON'' to ''ALW_ON_1'' for customer's requirement.
P/N : 1R-0000102-J200

<90>2006/06/16 PORT_DET# change from EC's pin81 to EC's pin176 for noise decreasing.

<91>2006/6/16 remove RP13 and replace with R519/R520 for WLAN issue improving.
P/N : 1R-0000220-F200

<92>2006/6/16 Add one GPIO signal ''VISTA_SUPPORT#'' that is connected form EC's pin99 to CN1's pin17 to support Vista OS.

<93>2006/6/16 Add PQ57,PC181 for ODD power plane.
P/N:17-S12304B-DS00
P/N:1C-2B70106-M200

<94>2006/6/16 (HDD connector)CN21's pin18 change connection from NC to GND for the starting timing improvement.

<95>2006/6/17 Change PQ52 from SI7392DP to IRF807Z and change PQ53 from SI7336ADP to IRF8113 for power requirement.
P/N:17-1RF7807-2000
P/N:17-1RF8113-0000

<96>2006/6/17 PR198 change from 5.6K ohm to 7.32K ohm to modify OCP setting value.
P/N:1R- 0007321-F200

<97>2006/6/17 U12 change from G961-18ADJEU to SC1565IS-2.5TRT for WWAN voltage drop improvement.
P/N:15-SC15651-0000

<98>2006/6/19 pc117,pc179,pc178,pc180,pc115,pc91 change to populate for EMI requirement.

<99>2006/6/19 Add C595 at PRT_IN power trace for EMI requirement.
P/N:1C-2B30104-K000

<100>2006/6/19 Add PC116,PC117,PC118,PC120,PC122,PC123,PC124 at DCBATOUT power trace for EMI requirement.
P/N:1C-2B30105-M000
P/N:1C-2B30104-K000

<101>2006/6/19 Add R303 10K pulldown at U34's pin1 to avoid start abnormally for customer's requirement.
P/N:1R-0000103-J200

<102>2006/6/19 PC171 change to NC_ condition for power requirement.

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