Schematics Page Index (Title / Revision / Change Date)

P. Leader	Check by	Design by

Project Code & Schematics Subject: MS12 Main Board

PCB P/N: 1P-0067100-8M11(FUBAI)
1P-0067200-8M11(NAN YA)
1P-0067500-8M11(HANSTAR)

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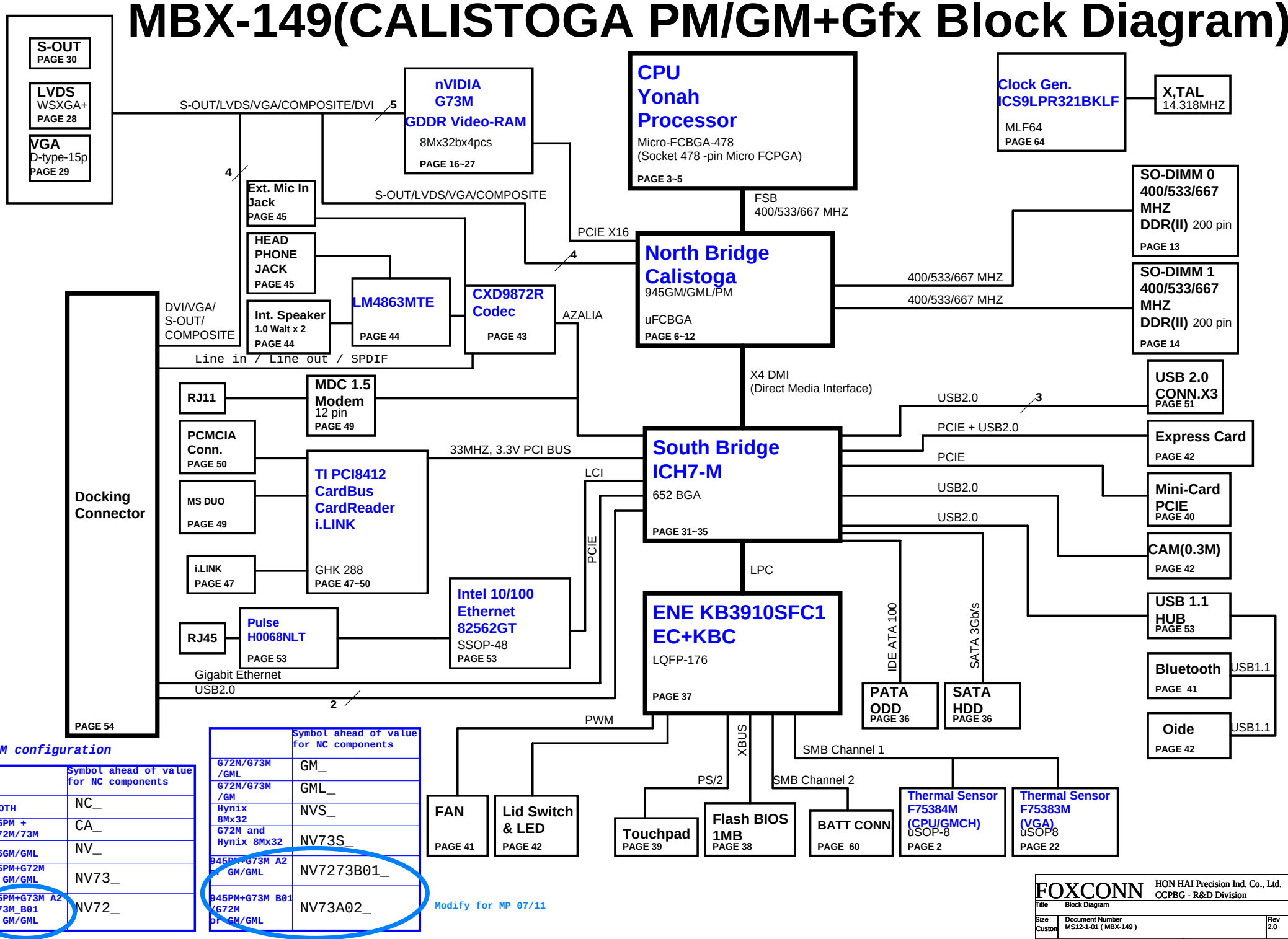
MBX-149(CALISTOGA PM/GM+Gfx Block Diagram)



BOM configuration

	Symbol ahead of value for NC components
BOTH	NC_
945PM + NV72M/73M	CA_
945GM/GML	NV_
945PM+G72M or GM/GML	NV73_
945PM+G73M_A2 /G73M_B01 or GM/GML	NV72_

	Symbol ahead of value for NC components
G72M/G73M /GML	GM_
G72M/G73M /GM	GML_
Hynix 8Mx32	NVS_
G72M and Hynix 8Mx32	NV73S_
945PM+G73M_A2 or GM/GML	NV7273B01_
945PM+G73M_B01 /G72M or GM/GML	NV73A02_

Modify for MP 07/11

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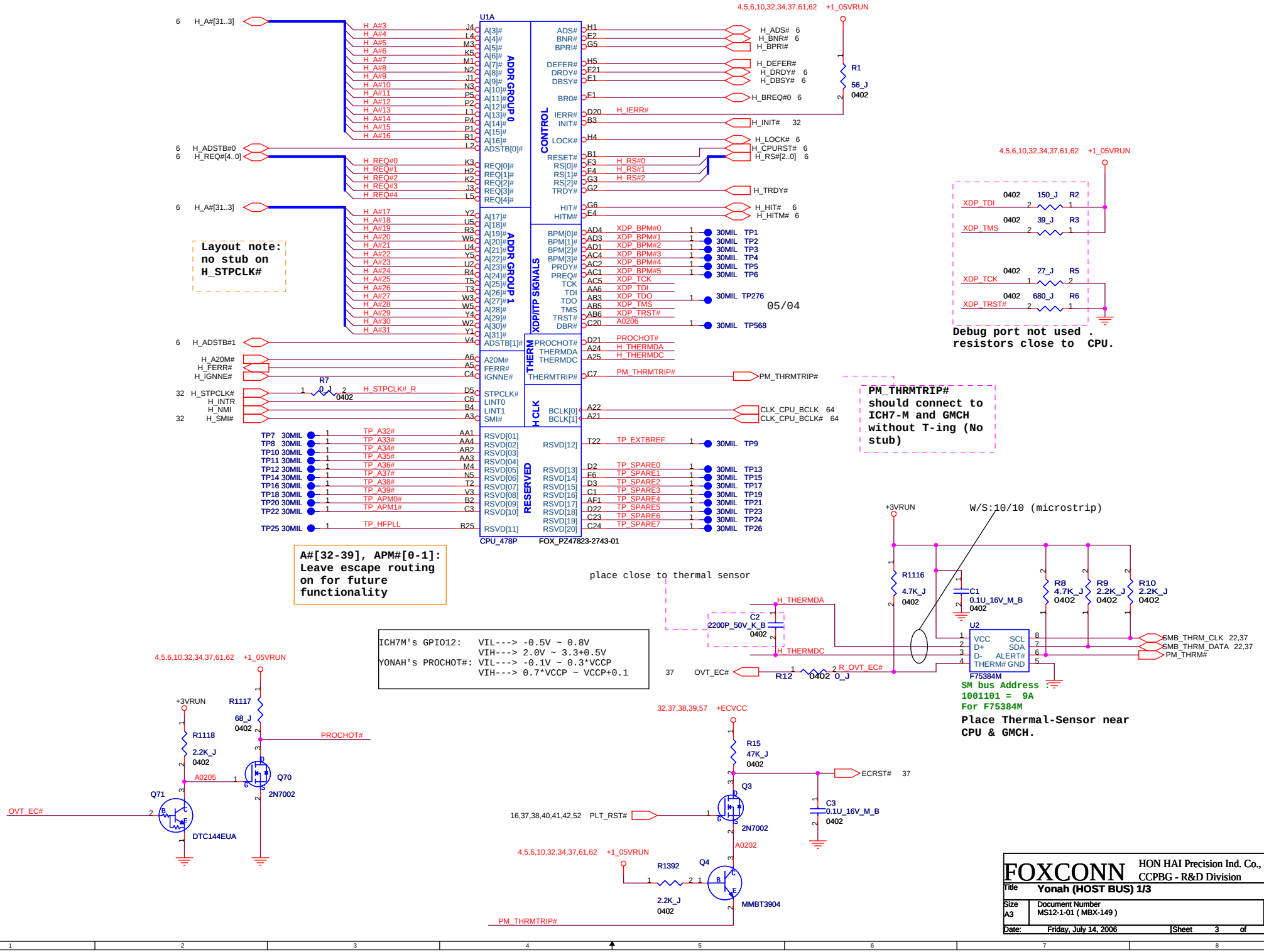
U1A
ADDR GROUP 0
ADDR GROUP 1
CONTROL
XDP/ITP SIGNALS
THERM
H CLK
RESERVED
CPU_478P
FOX_PZ47823-2743-01
Layout note:
no stub on
H_STPCLK#
A#[32-39], APM#[0-1]:
Leave escape routing
on for future
functionality
05/04
PM_THRMTRIP#
should connect to
ICH7-M and GMCH
without T-ing (No
stub)
Debug port not used .
resistors close to CPU.
place close to thermal sensor
W/S:10/10 (microstrip)
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
F75384M
SM bus Address :
1001101 = 9A
For F75384M
Place Thermal-Sensor near
CPU & GMCH.
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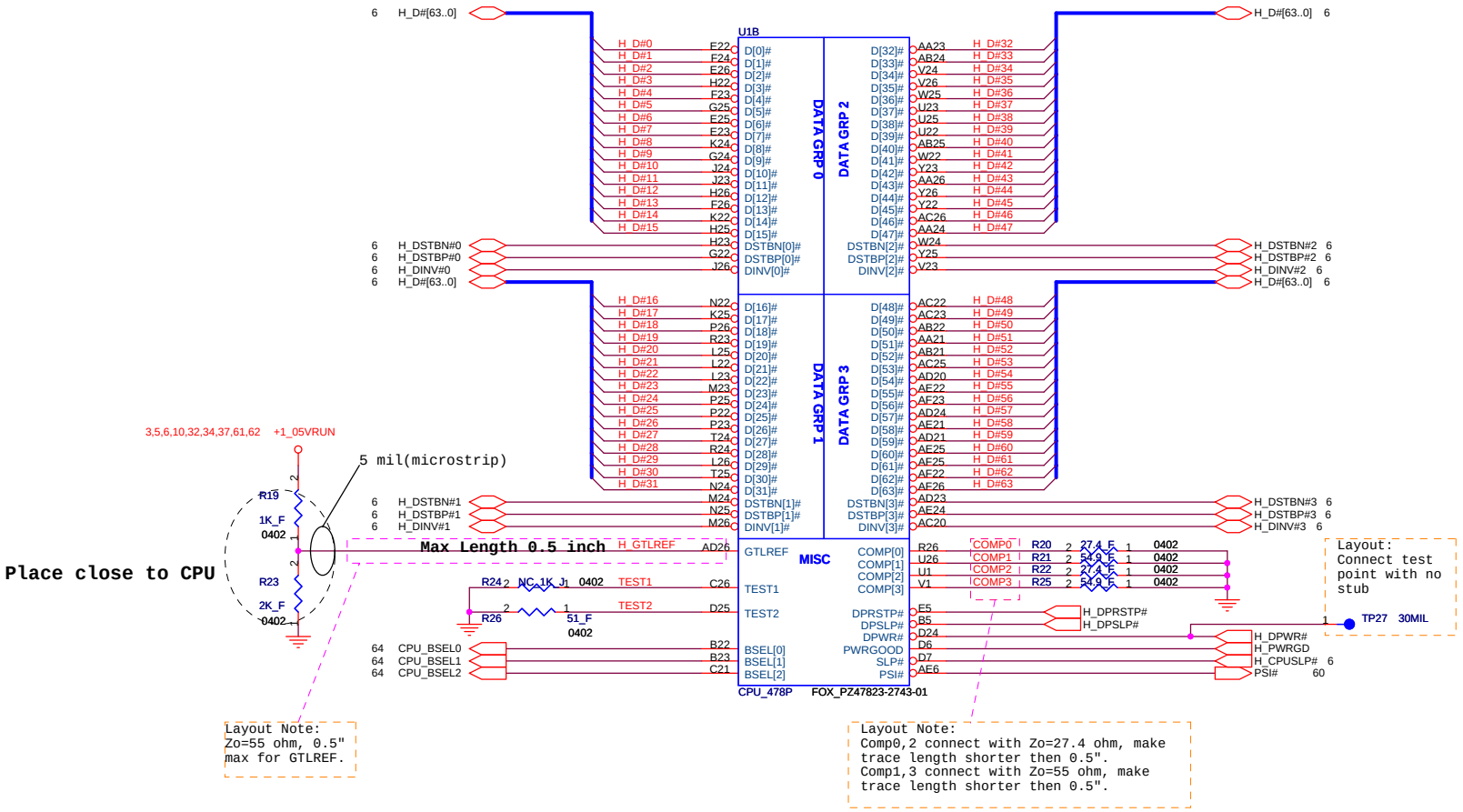

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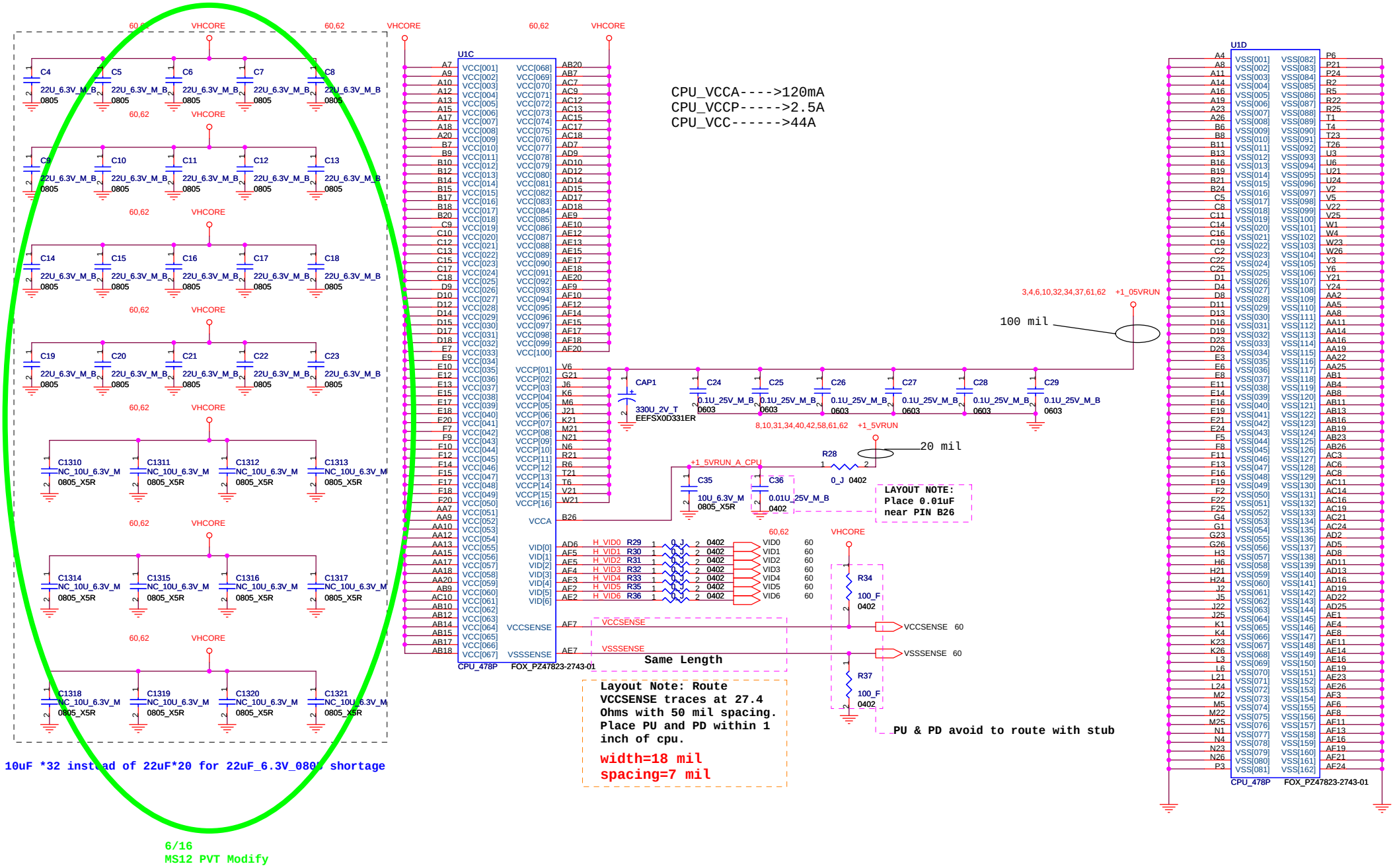

FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division		
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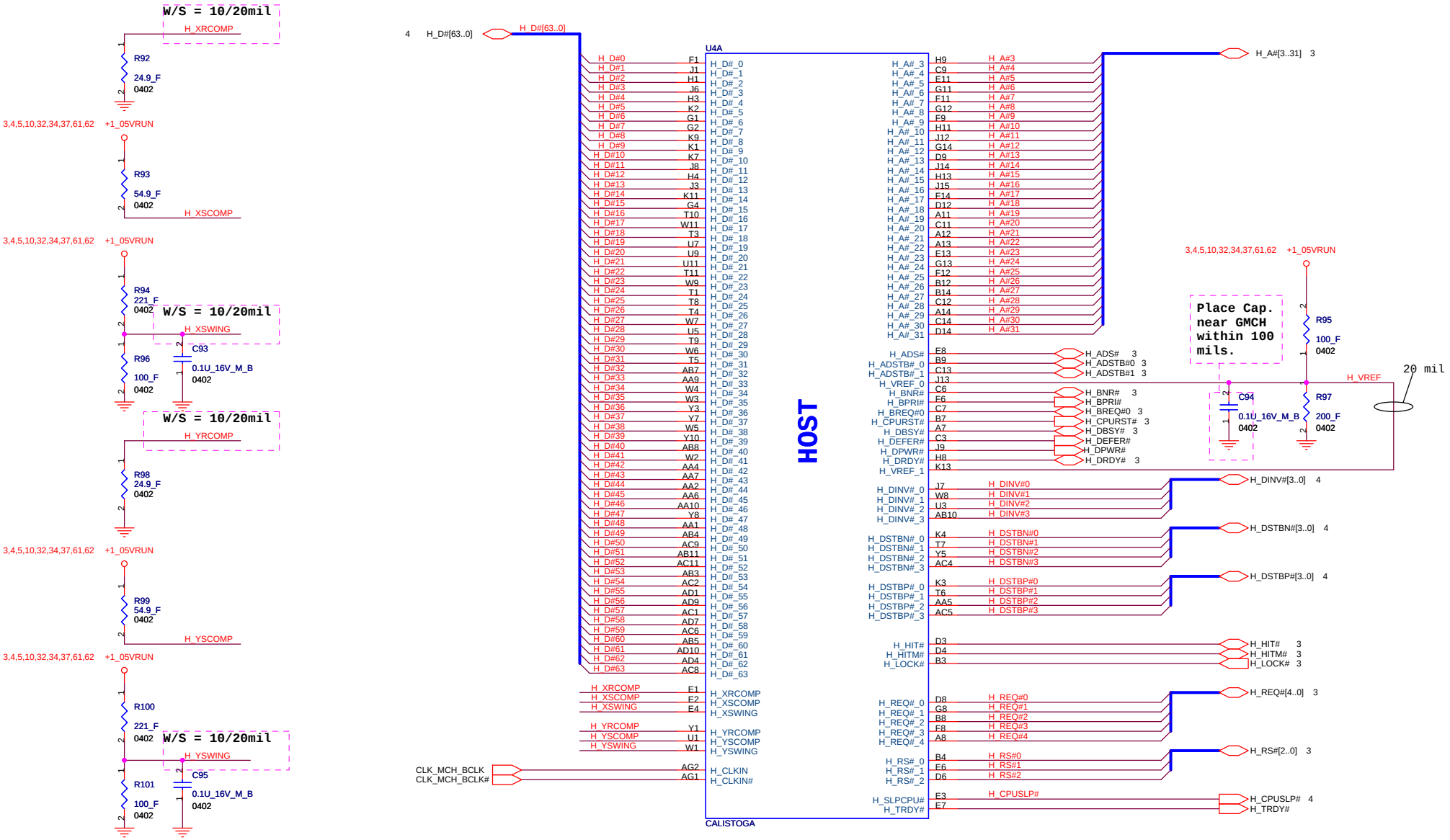

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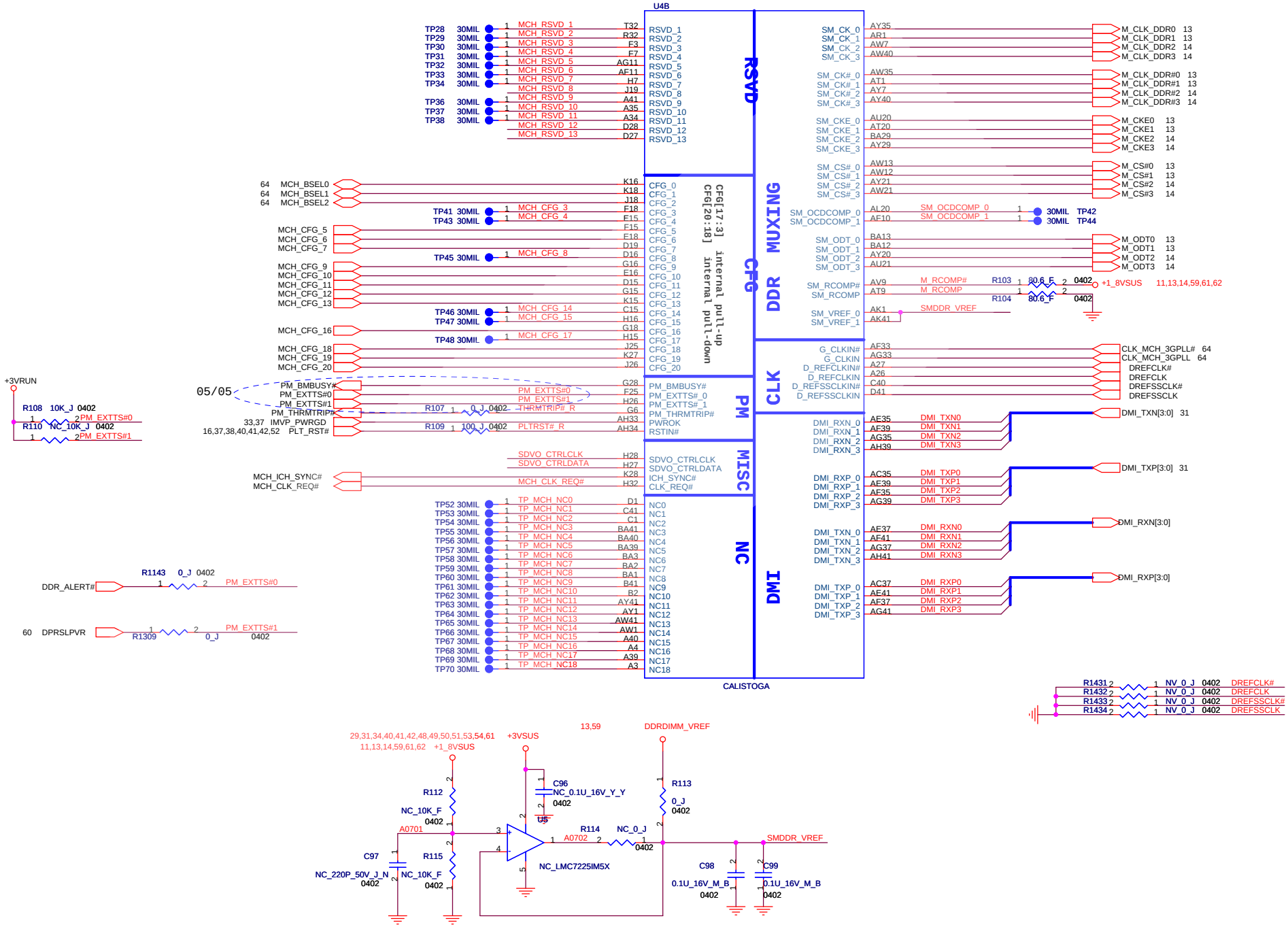

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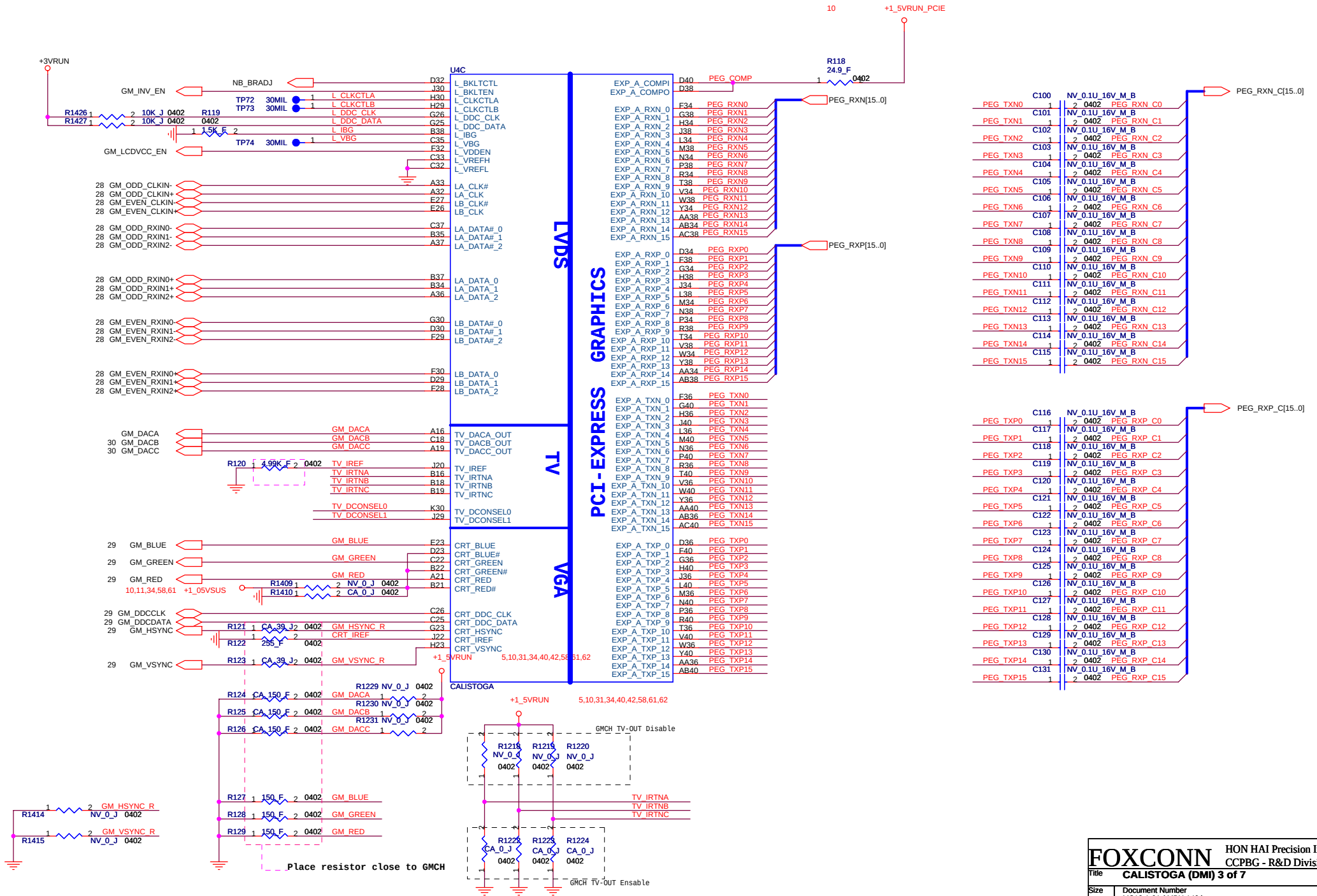

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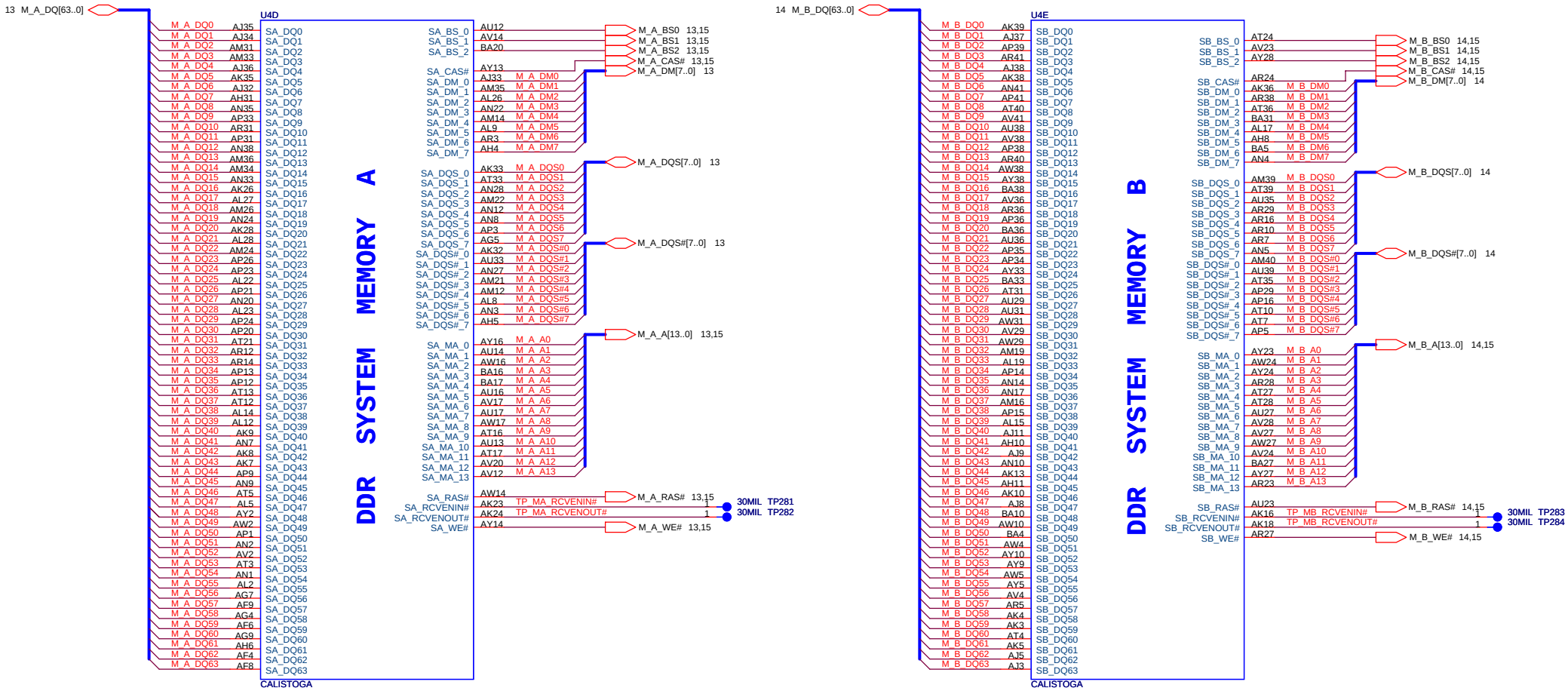

FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division	
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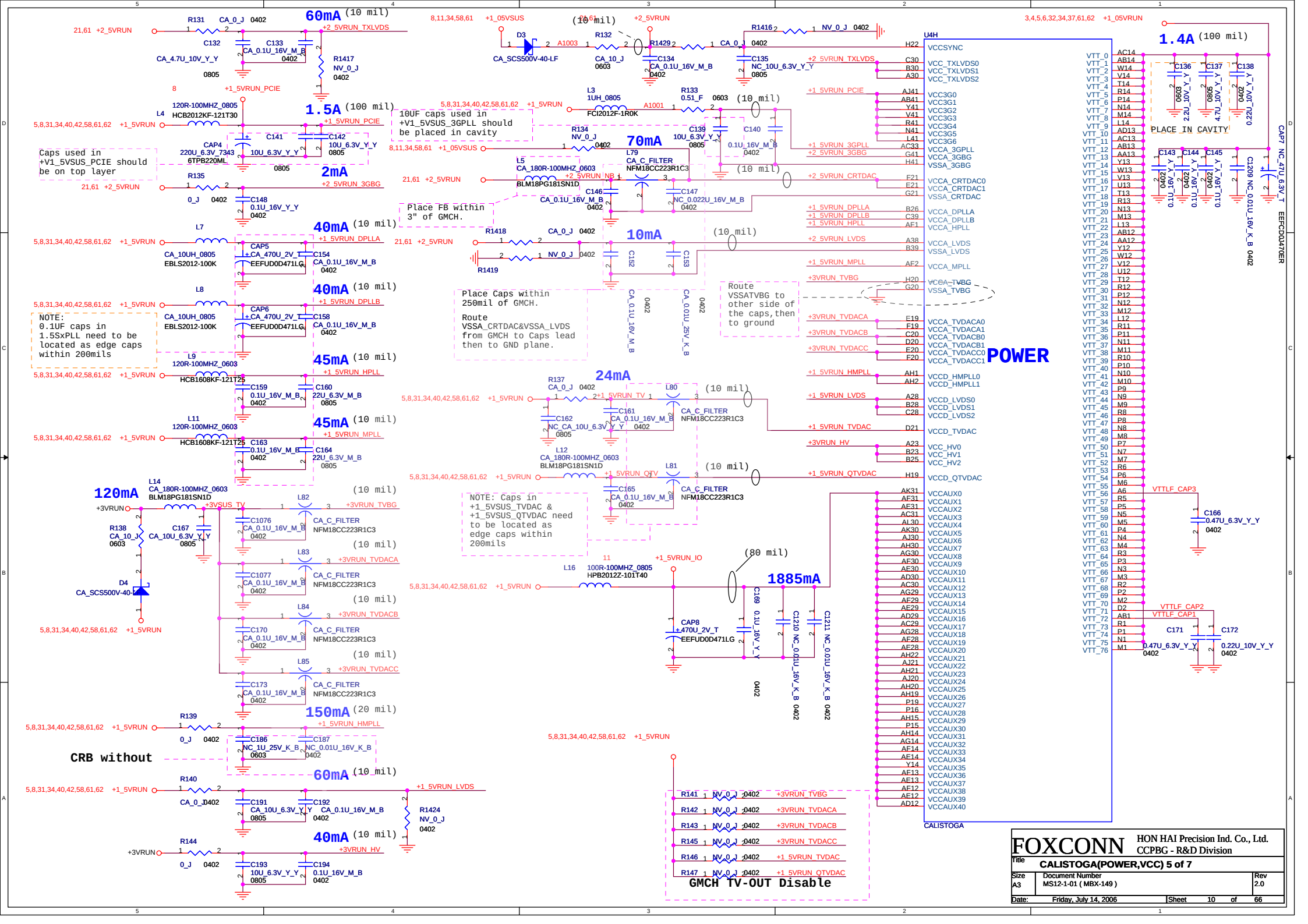
60mA (10 mil)
1.5A (100 mil)
2mA
40mA (10 mil)
40mA (10 mil)
45mA (10 mil)
45mA (10 mil)
120mA
150mA (20 mil)
60mA (10 mil)
40mA (10 mil)
70mA
10mA
24mA
1885mA (80 mil)
1.4A (100 mil)
POWER
CALISTOGA
GMCH TV-OUT Disable
CRB without
10UF caps used in +V1_5VSUS_3GPLL should be placed in cavity
Caps used in +V1_5VSUS_PCIE should be on top layer
Place FB within 3" of GMCH.
Place Caps within 250mil of GMCH.
Route VSSA_CRTDAC&VSSA_LVDS from GMCH to Caps lead then to GND plane.
Route VSSATVBG to other side of the caps,then to ground
NOTE: 0.1UF caps in 1.5SxPLL need to be located as edge caps within 200mils
NOTE: Caps in +1_5VSUS_TVDAC & +1_5VSUS_QTVDAC need to be located as edge caps within 200mils
PLACE IN CAVITY
VTTLF_CAP3
VTTLF_CAP2
VTTLF_CAP1
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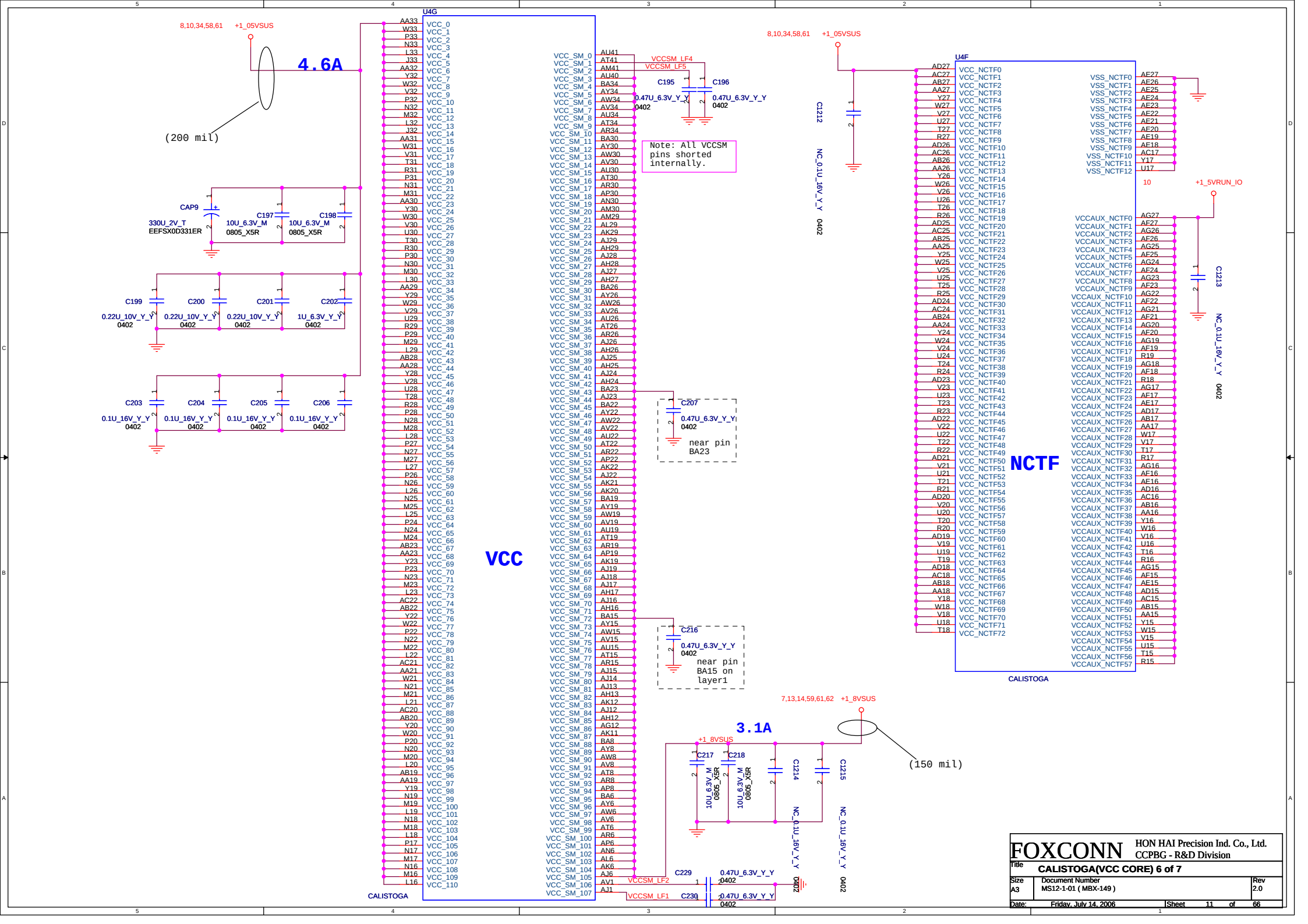
8,10,34,58,61
+1_05VSUS
4.6A
(200 mil)
CAP9
330U_2V_T
EEFSX0D331ER
C197
10U_6.3V_M
0805_X5R
C198
10U_6.3V_M
0805_X5R
C199
C200
C201
C202
0.22U_10V_Y_Y
0402
1U_6.3V_Y_Y
C203
C204
C205
C206
0.1U_16V_Y_Y
U4G
VCC
CALISTOGA
VCCSM_LF4
VCCSM_LF5
C195
C196
0.47U_6.3V_Y_Y
Note: All VCCSM pins shorted internally.
C207
near pin BA23
C216
near pin BA15 on layer1
3.1A
+1_8VSUS
C217
C218
C229
C230
VCCSM_LF2
VCCSM_LF1
C1212
NC_0.1U_16V_Y_Y
U4F
NCTF
VCCAUX_NCTF0
VCCAUX_NCTF1
VCCAUX_NCTF2
VCCAUX_NCTF3
VCCAUX_NCTF4
VCCAUX_NCTF5
VCCAUX_NCTF6
VCCAUX_NCTF7
VCCAUX_NCTF8
VCCAUX_NCTF9
VCCAUX_NCTF10
VCCAUX_NCTF11
VCCAUX_NCTF12
VCCAUX_NCTF13
VCCAUX_NCTF14
VCCAUX_NCTF15
VCCAUX_NCTF16
VCCAUX_NCTF17
VCCAUX_NCTF18
VCCAUX_NCTF19
VCCAUX_NCTF20
VCCAUX_NCTF21
VCCAUX_NCTF22
VCCAUX_NCTF23
VCCAUX_NCTF24
VCCAUX_NCTF25
VCCAUX_NCTF26
VCCAUX_NCTF27
VCCAUX_NCTF28
VCCAUX_NCTF29
VCCAUX_NCTF30
VCCAUX_NCTF31
VCCAUX_NCTF32
VCCAUX_NCTF33
VCCAUX_NCTF34
VCCAUX_NCTF35
VCCAUX_NCTF36
VCCAUX_NCTF37
VCCAUX_NCTF38
VCCAUX_NCTF39
VCCAUX_NCTF40
VCCAUX_NCTF41
VCCAUX_NCTF42
VCCAUX_NCTF43
VCCAUX_NCTF44
VCCAUX_NCTF45
VCCAUX_NCTF46
VCCAUX_NCTF47
VCCAUX_NCTF48
VCCAUX_NCTF49
VCCAUX_NCTF50
VCCAUX_NCTF51
VCCAUX_NCTF52
VCCAUX_NCTF53
VCCAUX_NCTF54
VCCAUX_NCTF55
VCCAUX_NCTF56
VCCAUX_NCTF57
VSS_NCTF0
VSS_NCTF1
VSS_NCTF2
VSS_NCTF3
VSS_NCTF4
VSS_NCTF5
VSS_NCTF6
VSS_NCTF7
VSS_NCTF8
VSS_NCTF9
VSS_NCTF10
VSS_NCTF11
VSS_NCTF12
10
+1_5VRUN_IO
C1213
NC_0.1U_16V_Y_Y
0402
CALISTOGA
7,13,14,59,61,62
+1_8VSUS
(150 mil)
C1214
C1215
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MCH_CFG_5 — 30MIL TP554

MCH_CFG_5	Low = DMIx2 High = DMIx4

MCH_CFG_6 — 30MIL TP556

MCH_CFG_6	Low = Moby Dick High = Calistoga

DDR2 select (default high)

MCH_CFG_7 — 30MIL TP557

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

MCH_CFG_9 — 30MIL TP559

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

For layout convenience

MCH_CFG_10 — 30MIL TP560

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

MCH_CFG_11

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

R162 NC_2.2K_J 0402

MCH_CFG_12 — 30MIL TP562
MCH_CFG_13 — 30MIL TP563

MCH_CFG_[13:12] (XOR/ALLZ)	00=Partial Clock Gating Disable 01=XOR Mode Enable 10=All-Z Mode Enable 11=Normal Operation(Default)

MCH_CFG_16

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

MCH_CFG_18 — 30MIL TP555

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

MCH_CFG_19 — 30MIL TP558

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

MCH_CFG_20 — 30MIL TP561

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

U4I

AC41	VSS_0	VSS_97	AK34
AA41	VSS_1	VSS_98	AG34
W41	VSS_2	VSS_99	AF34
T41	VSS_3	VSS_100	AE34
P41	VSS_4	VSS_101	AC34
M41	VSS_5	VSS_102	C34
J41	VSS_6	VSS_103	AW33
F41	VSS_7	VSS_104	AV33
AV40	VSS_8	VSS_105	AR33
AP40	VSS_9	VSS_106	AE33
AN40	VSS_10	VSS_107	AB33
AK40	VSS_11	VSS_108	Y33
AJ40	VSS_12	VSS_109	V33
AH40	VSS_13	VSS_110	T33
AG40	VSS_14	VSS_111	R33
AF40	VSS_15	VSS_112	M33
AE40	VSS_16	VSS_113	H33
B40	VSS_17	VSS_114	G33
AY39	VSS_18	VSS_115	F33
AW39	VSS_19	VSS_116	D33
AV39	VSS_20	VSS_117	B33
AR39	VSS_21	VSS_118	AH32
AN39	VSS_22	VSS_119	AG32
AJ39	VSS_23	VSS_120	AF32
AC39	VSS_24	VSS_121	AE32
AB39	VSS_25	VSS_122	AC32
AA39	VSS_26	VSS_123	AB32
Y39	VSS_27	VSS_124	G32
W39	VSS_28	VSS_125	B32
V39	VSS_29	VSS_126	AY31
T39	VSS_30	VSS_127	AV31
R39	VSS_31	VSS_128	AN31
P39	VSS_32	VSS_129	AJ31
N39	VSS_33	VSS_130	AG31
M39	VSS_34	VSS_131	AB31
L39	VSS_35	VSS_132	Y31
J39	VSS_36	VSS_133	AR30
H39	VSS_37	VSS_134	E30
G39	VSS_38	VSS_135	AT29
F39	VSS_39	VSS_136	AN29
D39	VSS_40	VSS_137	AB29
AT38	VSS_41	VSS_138	T29
AM38	VSS_42	VSS_139	N29
AH38	VSS_43	VSS_140	K29
AG38	VSS_44	VSS_141	G29
AF38	VSS_45	VSS_142	E29
AE38	VSS_46	VSS_143	C29
C38	VSS_47	VSS_144	B29
AK37	VSS_48	VSS_145	A29
AH37	VSS_49	VSS_146	BA28
AB37	VSS_50	VSS_147	AW28
AA37	VSS_51	VSS_148	AU28
Y37	VSS_52	VSS_149	AP28
W37	VSS_53	VSS_150	AM28
V37	VSS_54	VSS_151	AD28
T37	VSS_55	VSS_152	AC28
R37	VSS_56	VSS_153	W28
P37	VSS_57	VSS_154	J28
N37	VSS_58	VSS_155	F28
M37	VSS_59	VSS_156	AP27
L37	VSS_60	VSS_157	AM27
J37	VSS_61	VSS_158	AK27
H37	VSS_62	VSS_159	J27
G37	VSS_63	VSS_160	G27
F37	VSS_64	VSS_161	F27
D37	VSS_65	VSS_162	C27
AY36	VSS_66	VSS_163	B27
AW36	VSS_67	VSS_164	AN26
AN36	VSS_68	VSS_165	M26
AH36	VSS_69	VSS_166	K26
AG36	VSS_70	VSS_167	F26
AF36	VSS_71	VSS_168	D26
AE36	VSS_72	VSS_169	AK25
AC36	VSS_73	VSS_170	P25
C36	VSS_74	VSS_171	K25
B36	VSS_75	VSS_172	H25
BA35	VSS_76	VSS_173	F25
AV35	VSS_77	VSS_174	D25
AR35	VSS_78	VSS_175	A25
AH35	VSS_79	VSS_176	BA24
AB35	VSS_80	VSS_177	AU24
AA35	VSS_81	VSS_178	AL24
Y35	VSS_82	VSS_179	AW23
W35	VSS_83		
V35	VSS_84		
T35	VSS_85		
R35	VSS_86		
P35	VSS_87		
N35	VSS_88		
M35	VSS_89		
L35	VSS_90		
J35	VSS_91		
H35	VSS_92		
G35	VSS_93		
F35	VSS_94		
D35	VSS_95		
AN34	VSS_96		

VSS

CALISTOGA

U4J

AT23	VSS_180	VSS_273	J11
AN23	VSS_181	VSS_274	D11
AM23	VSS_182	VSS_275	B11
AH23	VSS_183	VSS_276	AV10
AC23	VSS_184	VSS_277	AP10
W23	VSS_185	VSS_278	AL10
K23	VSS_186	VSS_279	AJ10
J23	VSS_187	VSS_280	AG10
F23	VSS_188	VSS_281	AC10
C23	VSS_189	VSS_282	W10
AA22	VSS_190	VSS_283	U10
K22	VSS_191	VSS_284	BA9
G22	VSS_192	VSS_285	AW9
F22	VSS_193	VSS_286	AR9
E22	VSS_194	VSS_287	AH9
D22	VSS_195	VSS_288	AB9
A22	VSS_196	VSS_289	Y9
BA21	VSS_197	VSS_290	R9
AV21	VSS_198	VSS_291	G9
AR21	VSS_199	VSS_292	E9
AN21	VSS_200	VSS_293	A9
AL21	VSS_201	VSS_294	AG8
AB21	VSS_202	VSS_295	AD8
Y21	VSS_203	VSS_296	AA8
P21	VSS_204	VSS_297	U8
K21	VSS_205	VSS_298	K8
J21	VSS_206	VSS_299	C8
H21	VSS_207	VSS_300	BA7
C21	VSS_208	VSS_301	AV7
AW20	VSS_209	VSS_302	AP7
AR20	VSS_210	VSS_303	AL7
AM20	VSS_211	VSS_304	AJ7
AA20	VSS_212	VSS_305	AH7
K20	VSS_213	VSS_306	AF7
B20	VSS_214	VSS_307	AC7
A20	VSS_215	VSS_308	R7
AN19	VSS_216	VSS_309	G7
AC19	VSS_217	VSS_310	D7
W19	VSS_218	VSS_311	AG6
K19	VSS_219	VSS_312	AD6
G19	VSS_220	VSS_313	AB6
C19	VSS_221	VSS_314	Y6
AH18	VSS_222	VSS_315	U6
P18	VSS_223	VSS_316	N6
H18	VSS_224	VSS_317	K6
D18	VSS_225	VSS_318	H6
A18	VSS_226	VSS_319	B6
AY17	VSS_227	VSS_320	AV5
AR17	VSS_228	VSS_321	AF5
AP17	VSS_229	VSS_322	AD5
AM17	VSS_230	VSS_323	AY4
AK17	VSS_231	VSS_324	AR4
AV16	VSS_232	VSS_325	AP4
AN16	VSS_233	VSS_326	AL4
AL16	VSS_234	VSS_327	AJ4
J16	VSS_235	VSS_328	Y4
F16	VSS_236	VSS_329	U4
C16	VSS_237	VSS_330	R4
AN15	VSS_238	VSS_331	J4
AM15	VSS_239	VSS_332	F4
AK15	VSS_240	VSS_333	C4
N15	VSS_241	VSS_334	AY3
M15	VSS_242	VSS_335	AW3
L15	VSS_243	VSS_336	AV3
B15	VSS_244	VSS_337	AL3
A15	VSS_245	VSS_338	AH3
BA14	VSS_246	VSS_339	AG3
AT14	VSS_247	VSS_340	AF3
AK14	VSS_248	VSS_341	AD3
AD14	VSS_249	VSS_342	AC3
AA14	VSS_250	VSS_343	AA3
U14	VSS_251	VSS_344	G3
K14	VSS_252	VSS_345	AT2
H14	VSS_253	VSS_346	AR2
E14	VSS_254	VSS_347	AP2
AV13	VSS_255	VSS_348	AK2
AR13	VSS_256	VSS_349	AJ2
AN13	VSS_257	VSS_350	AD2
AM13	VSS_258	VSS_351	AB2
AL13	VSS_259	VSS_352	Y2
AG13	VSS_260	VSS_353	U2
P13	VSS_261	VSS_354	T2
F13	VSS_262	VSS_355	N2
D13	VSS_263	VSS_356	J2
B13	VSS_264	VSS_357	H2
AY12	VSS_265	VSS_358	F2
AC12	VSS_266	VSS_359	C2
K12	VSS_267	VSS_360	AL1
H12	VSS_268		
E12	VSS_269		
AD11	VSS_270		
AA11	VSS_271		
Y11	VSS_272		

VSS

CALISTOGA

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1.8V per DIMM=3.08A

7,11,14,59,61,62 +1_8VSUS

C231 0.1U_16V_M_B 0402
C232 2.2U_10V_Y_Y 0603

0.1 µF and 2.2 µF placed close to VREF pins

DDR2_VREF

CN1

1	VREF	VSS46	2
3	VSS47	DQ4	4
5	DQ0	DQ5	6
7	DQ1	VSS15	8
9	VSS37	DM0	10
11	DQS#0	VSS5	12
13	DQS0	DQ6	14
15	VSS48	DQ7	16
17	DQ2	VSS16	18
19	DQ3	DQ12	20
21	VSS38	DQ13	22
23	DQ8	VSS17	24
25	DQ9	DM1	26
27	VSS49	VSS53	28
29	DQS#1	CK0	30
31	DQS1	CK0#	32
33	VSS39	VSS41	34
35	DQ10	DQ14	36
37	DQ11	DQ15	38
39	VSS50	VSS54	40
41	VSS18	VSS20	42
43	DQ16	DQ20	44
45	DQ17	DQ21	46
47	VSS1	VSS6	48
49	DQS#2	NC3	50
51	DQS2	DM2	52
53	VSS19	VSS21	54
55	DQ18	DQ22	56
57	DQ19	DQ23	58
59	VSS22	VSS24	60
61	DQ24	DQ28	62
63	DQ25	DQ29	64
65	VSS23	VSS25	66
67	DM3	DQS#3	68
69	NC4	DQS3	70
71	VSS9	VSS10	72
73	DQ26	DQ30	74
75	DQ27	DQ31	76
77	VSS4	VSS8	78
79	CKE0	CKE1	80
81	VDD7	VDD8	82
83	NC1	A15	84
85	A16_BA2	A14	86
87	VDD9	VDD11	88
89	A12	A11	90
91	A9	A7	92
93	A8	A6	94
95	VDD5	VDD4	96
97	A5	A4	98
99	A3	A2	100
101	A1	A0	102
103	VDD10	VDD12	104
105	A10/AP	BA1	106
107	BA0	RAS#	108
109	WE#	S0#	110
111	VDD2	VDD1	112
113	CAS#	ODT0	114
115	S1#	A13	116
117	VDD3	VDD6	118
119	ODT1	NC2	120
121	VSS11	VSS12	122
123	DQ32	DQ36	124
125	DQ33	DQ37	126
127	VSS26	VSS28	128
129	DQS#4	DM4	130
131	DQS4	VSS42	132
133	VSS2	DQ38	134
135	DQ34	DQ39	136
137	DQ35	VSS55	138
139	VSS27	DQ44	140
141	DQ40	DQ45	142
143	DQ41	VSS43	144
145	VSS29	DQS#5	146
147	DM5	DQS5	148
149	VSS51	VSS56	150
151	DQ42	DQ46	152
153	DQ43	DQ47	154
155	VSS40	VSS44	156
157	DQ48	DQ52	158
159	DQ49	DQ53	160
161	VSS52	VSS57	162
163	NCTEST	CK1	164
165	VSS30	CK1#	166
167	DQS#6	VSS45	168
169	DQS6	DM6	170
171	VSS31	VSS32	172
173	DQ50	DQ54	174
175	DQ51	DQ55	176
177	VSS33	VSS35	178
179	DQ56	DQ60	180
181	DQ57	DQ61	182
183	VSS3	VSS7	184
185	DM7	DQS#7	186
187	VSS34	DQS7	188
189	DQ58	VSS36	190
191	DQ59	DQ62	192
193	VSS14	DQ63	194
195	SDA	VSS13	196
197	SCL	SA0	198
199	VDD(SPD)	SA1	200

DDR2 SO-DIMM_200P
FOX_ASOA426_N4RC_4F

PC4800 DDR2 SDRAM SO-DIMM (200P)

DIMM_0

+1_8VSUS 7,11,14,59,61,62

M_A_DQ4 M_A_DQ5 M_A_DM0 M_A_DQ6 M_A_DQ7 M_A_DQ12 M_A_DQ13 M_A_DM1
M_CLK_DDR0 7
M_CLK_DDR#0 7
M_A_DQ14 M_A_DQ15 M_A_DQ20 M_A_DQ21
R168 NC_0_J 0402
DDR2_EXTTS#0 1 2 PM_EXTTS#0
M_A_DM2 M_A_DQ22 M_A_DQ23 M_A_DQ28 M_A_DQ29 M_A_DQS#3 M_A_DQS3 M_A_DQ30 M_A_DQ31
M_CKE1 7,15
M_A_A11 M_A_A7 M_A_A6 M_A_A4 M_A_A2 M_A_A0
M_A_BS1 9
M_A_RAS# 9
M_CS#0 7,15
M_ODT0 7,15
M_A_A13
M_A_DQ36 M_A_DQ37 M_A_DM4 M_A_DQ38 M_A_DQ39 M_A_DQ44 M_A_DQ45 M_A_DQS#5 M_A_DQS5 M_A_DQ46 M_A_DQ47 M_A_DQ52 M_A_DQ53
M_CLK_DDR1 7
M_CLK_DDR#1 7
M_A_DM6 M_A_DQ54 M_A_DQ55 M_A_DQ60 M_A_DQ61 M_A_DQS#7 M_A_DQS7 M_A_DQ62 M_A_DQ63
SA0_DIM0 2 R174 10K_J 0402 1
SA1_DIM0 2 R175 10K_J 0402 1

7,15 M_CKE0
9 M_A_BS2
9 M_A_BS0
9 M_A_WE#
9 M_A_CAS#
7,15 M_CS#1
7,15 M_ODT1

M_A_A12 M_A_A9 M_A_A8 M_A_A5 M_A_A3 M_A_A1 M_A_A10 M_A_DQ32 M_A_DQ33 M_A_DQS#4 M_A_DQS4 M_A_DQ34 M_A_DQ35 M_A_DQ40 M_A_DQ41 M_A_DM5 M_A_DQ42 M_A_DQ43 M_A_DQ48 M_A_DQ49 M_A_DQS#6 M_A_DQS6 M_A_DQ50 M_A_DQ51 M_A_DQ56 M_A_DQ57 M_A_DM7 M_A_DQ58 M_A_DQ59

33,42,64 SMB_DATA_SUS
33,42,64 SMB_CLK_SUS
+3VRUN

C1078 2.2U_10V_Y_Y 0603
C243 0.1U_16V_M_B 0402

SMBus Address: A0(W)/A1(R)

Place DIMM_0 near GMCH

M_A_DM[0..7] 9
M_A_DQ[0..63] 9
M_A_DQS[0..7] 9
M_A_DQS#[0..7] 9
M_A_A[0..13] 9,15

7,11,14,59,61,62 +1_8VSUS

7,59 DDRDIMM_VREF
R166 0_J 0402
R167 NC_10K_F 0402
14 DDR2_VREF
DDR2_VREF
(20 mil)
C233 0.1U_16V_M_B 0402
R169 NC_10K_F 0402

7,11,14,59,61,62 +1_8VSUS

Place these Caps near So-Dimm0.

C234 2.2U_10V_Y_Y 0603
C235 2.2U_10V_Y_Y 0603
C236 2.2U_10V_Y_Y 0603
C237 2.2U_10V_Y_Y 0603
C238 2.2U_10V_Y_Y 0603

7,11,14,59,61,62 +1_8VSUS

Place these Caps near So-Dimm0.

C239 0.1U_16V_Y_Y 0402
C240 0.1U_16V_Y_Y 0402
C241 0.1U_16V_Y_Y 0402
C242 0.1U_16V_Y_Y 0402

FOXCONN
HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division

Title	DDR(II)SO-DIMM_0	
Size A3	Document Number MS12-1-01 (MBX-149)	Rev 2.0
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DDR2_VREF

7,11,13,59,61,62 +1_8VSUS

+1_8VSUS 7,11,13,59,61,62

1.8V per DIMM=3.08A

C244 0.1U_16V_M_B 0402

C245 2.2U_10V_Y_Y 0603

0.1 µF and 2.2 µF placed close to VREF pins

CN2

PC4800 DDR2 SDRAM SO-DIMM (200P)

1	VREF	VSS46	2		
3	VSS47	DQ4	4	M_B_DQ0	M_B_DQ4
5	DQ0	DQ5	6	M_B_DQ1	M_B_DQ5
7	DQ1	VSS15	8		
9	VSS37	DM0	10		M_B_DM0
11	DQS#0	VSS5	12	M_B_DQS#0	M_B_DQ6
13	DQS0	DQ6	14	M_B_DQS0	M_B_DQ7
15	VSS48	DQ7	16		
17	DQ2	VSS16	18	M_B_DQ2	
19	DQ3	DQ12	20	M_B_DQ3	M_B_DQ12
21	VSS38	DQ13	22		M_B_DQ13
23	DQ8	VSS17	24	M_B_DQ8	
25	DQ9	DM1	26	M_B_DQ9	M_B_DM1
27	VSS49	VSS53	28		
29	DQS#1	CK0	30	M_B_DQS#1	M_CLK_DDR3 7
31	DQS1	CK0#	32	M_B_DQS1	M_CLK_DDR#3 7
33	VSS39	VSS41	34		
35	DQ10	DQ14	36	M_B_DQ10	M_B_DQ14
37	DQ11	DQ15	38	M_B_DQ11	M_B_DQ15
39	VSS50	VSS54	40		
41	VSS18	VSS20	42		
43	DQ16	DQ20	44	M_B_DQ16	M_B_DQ20
45	DQ17	DQ21	46	M_B_DQ17	M_B_DQ21
47	VSS1	VSS6	48		
49	DQS#2	NC3	50	M_B_DQS#2	DDR2_EXTTS#1
51	DQS2	DM2	52	M_B_DQS2	M_B_DM2
53	VSS19	VSS21	54		
55	DQ18	DQ22	56	M_B_DQ18	M_B_DQ22
57	DQ19	DQ23	58	M_B_DQ19	M_B_DQ23
59	VSS22	VSS24	60		
61	DQ24	DQ28	62	M_B_DQ24	M_B_DQ28
63	DQ25	DQ29	64	M_B_DQ25	M_B_DQ29
65	VSS23	VSS25	66		
67	DM3	DQS#3	68	M_B_DM3	M_B_DQS#3
69	NC4	DQS3	70		M_B_DQS3
71	VSS9	VSS10	72		
73	DQ26	DQ30	74	M_B_DQ26	M_B_DQ30
75	DQ27	VSS31	76	M_B_DQ27	M_B_DQ31
77	VSS4	VSS8	78		
79	CKE0	CKE1	80	7,15 M_CKE2	M_CKE3 7,15
81	VDD7	VDD8	82		
83	NC1	A15	84		
85	A16_BA2	A14	86	9 M_B_BS2	
87	VDD9	A11	88		
89	A12	A11	90	M_B_A12	M_B_A11
91	A9	A7	92	M_B_A9	M_B_A7
93	A8	A6	94	M_B_A8	M_B_A6
95	VDD5	VDD4	96		
97	A5	A4	98	M_B_A5	M_B_A4
99	A3	A2	100	M_B_A3	M_B_A2
101	A1	A0	102	M_B_A1	M_B_A0
103	VDD10	VDD12	104		
105	A10/AP	BA1	106	M_B_A10	M_B_BS1 9
107	BA0	RAS#	108	9 M_B_BS0	M_B_RAS# 9
109	WE#	S0#	110	9 M_B_WE#	M_CS#2 7,15
111	VDD2	VDD1	112		
113	CAS#	ODT0	114	9 M_B_CAS#	M_ODT2 7,15
115	S1#	A13	116	7,15 M_CS#3	M_B_A13
117	VDD3	VDD6	118		
119	ODT1	NC2	120	7,15 M_ODT3	
121	VSS11	VSS12	122		
123	DQ32	DQ36	124	M_B_DQ32	M_B_DQ36
125	DQ33	DQ37	126	M_B_DQ33	M_B_DQ37
127	VSS26	VSS28	128		
129	DQS#4	DM4	130	M_B_DQS#4	M_B_DM4
131	DQS4	VSS42	132	M_B_DQS4	
133	VSS2	DQ38	134		M_B_DQ38
135	DQ34	DQ39	136	M_B_DQ34	M_B_DQ39
137	DQ35	VSS55	138	M_B_DQ35	
139	VSS27	DQ44	140		M_B_DQ44
141	DQ40	DQ45	142	M_B_DQ40	M_B_DQ45
143	DQ41	VSS43	144	M_B_DQ41	
145	VSS29	DQS#5	146		M_B_DQS#5
147	DM5	DQS5	148	M_B_DM5	M_B_DQS5
149	VSS51	VSS56	150		
151	DQ42	DQ46	152	M_B_DQ42	M_B_DQ46
153	DQ43	DQ47	154	M_B_DQ43	M_B_DQ47
155	VSS40	VSS44	156		
157	DQ48	DQ52	158	M_B_DQ48	M_B_DQ52
159	DQ49	DQ53	160	M_B_DQ49	M_B_DQ53
161	VSS52	VSS57	162		
163	NCTEST	CK1	164		M_CLK_DDR2 7
165	VSS30	CK1#	166		M_CLK_DDR#2 7
167	DQS#6	VSS45	168	M_B_DQS#6	
169	DQS6	DM6	170	M_B_DQS6	M_B_DM6
171	VSS31	VSS32	172		
173	DQ50	DQ54	174	M_B_DQ50	M_B_DQ54
175	DQ51	DQ55	176	M_B_DQ51	M_B_DQ55
177	VSS33	VSS35	178		
179	DQ56	DQ60	180	M_B_DQ56	M_B_DQ60
181	DQ57	DQ61	182	M_B_DQ57	M_B_DQ61
183	VSS3	VSS7	184		
185	DM7	DQS#7	186	M_B_DM7	M_B_DQS#7
187	VSS34	DQS7	188		M_B_DQS7
189	DQ58	VSS36	190	M_B_DQ58	
191	DQ59	DQ62	192	M_B_DQ59	M_B_DQ62
193	VSS14	DQ63	194		M_B_DQ63
195	SDA	VSS13	196		
197	SCL	SA0	198		SA0_DIM1
199	VDD(SPD)	SA1	200		SA1_DIM1

DDR2 S0-DIMM_200P

FOX_ASOA426_N4SC_4F

R176 NC_0_J 0402

PM_EXTTS#0

R177 10K_J 0402

R178 10K_J 0402

+3VRUN

33,42,64 SMB_DATA_SUS

33,42,64 SMB_CLK_SUS

+3VRUN

C1079 2.2U_10V_Y_Y 0603

C255 0.1U_16V_M_B 0402

DIMM_1

SMBus Address: A4(W)/A5(R)

DIMM_1 is placed farther from the GMCH than DIMM_0

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

7,11,13,59,61,62 +1_8VSUS

Place these Caps near So-Dimm1.

C246 2.2U_10V_Y_Y 0603

C247 2.2U_10V_Y_Y 0603

C248 2.2U_10V_Y_Y 0603

C249 2.2U_10V_Y_Y 0603

C250 2.2U_10V_Y_Y 0603

7,11,13,59,61,62 +1_8VSUS

Place these Caps near So-Dimm1.

C251 0.1U_16V_Y_Y 0402

C252 0.1U_16V_Y_Y 0402

C253 0.1U_16V_Y_Y 0402

C254 0.1U_16V_Y_Y 0402

FOXCONN

HON HAI Precision Ind. Co., Ltd.

CCPBG - R&D Division

Title	DDR(II)SO-DIMM_1	
Size A3	Document Number MS12-1-01 (MBX-149)	Rev 2.0
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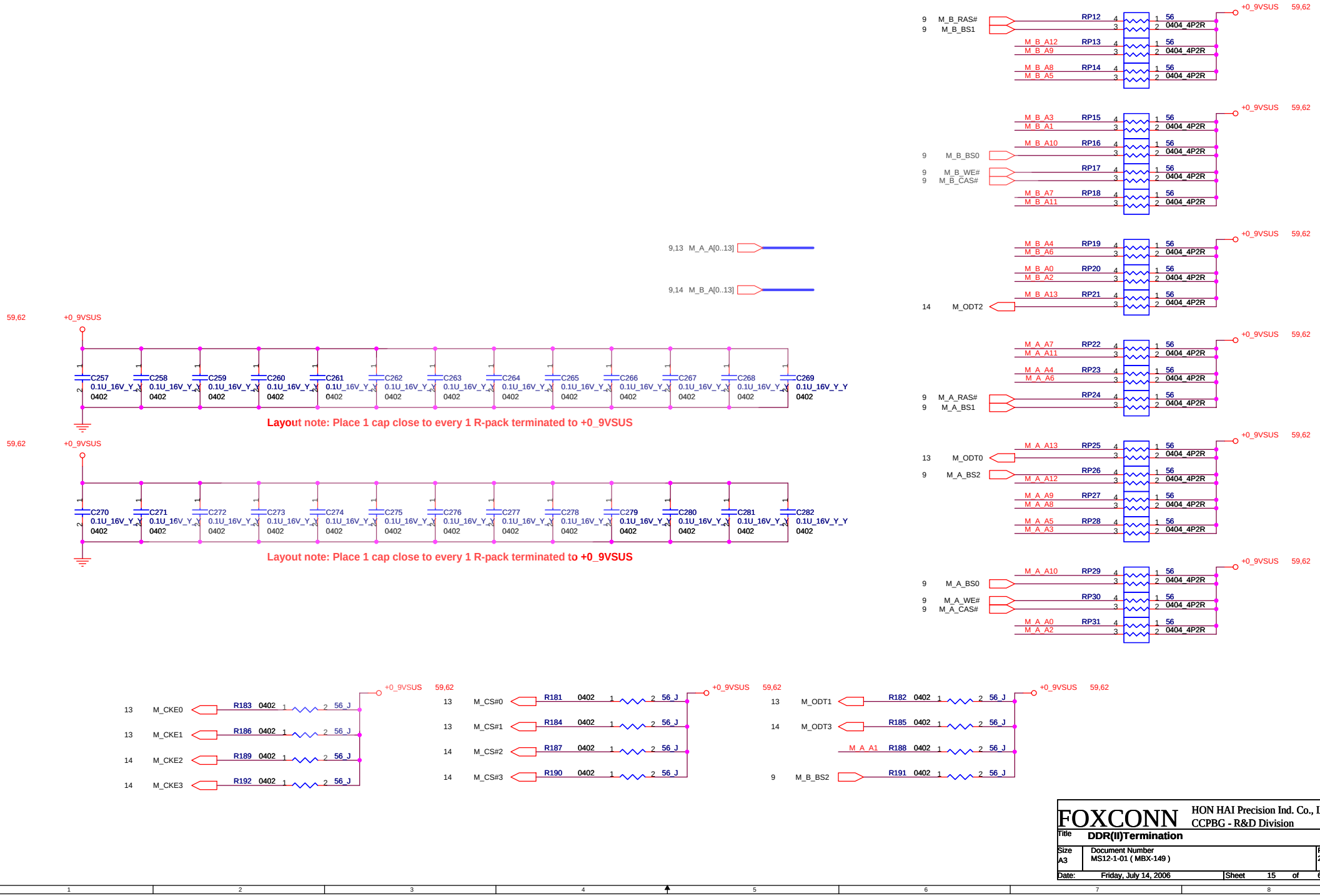

FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division	
Title: DDR(II)Termination		
Size: A3	Document Number: MS12-1-01 (MBX-149)	Rev: 2.0
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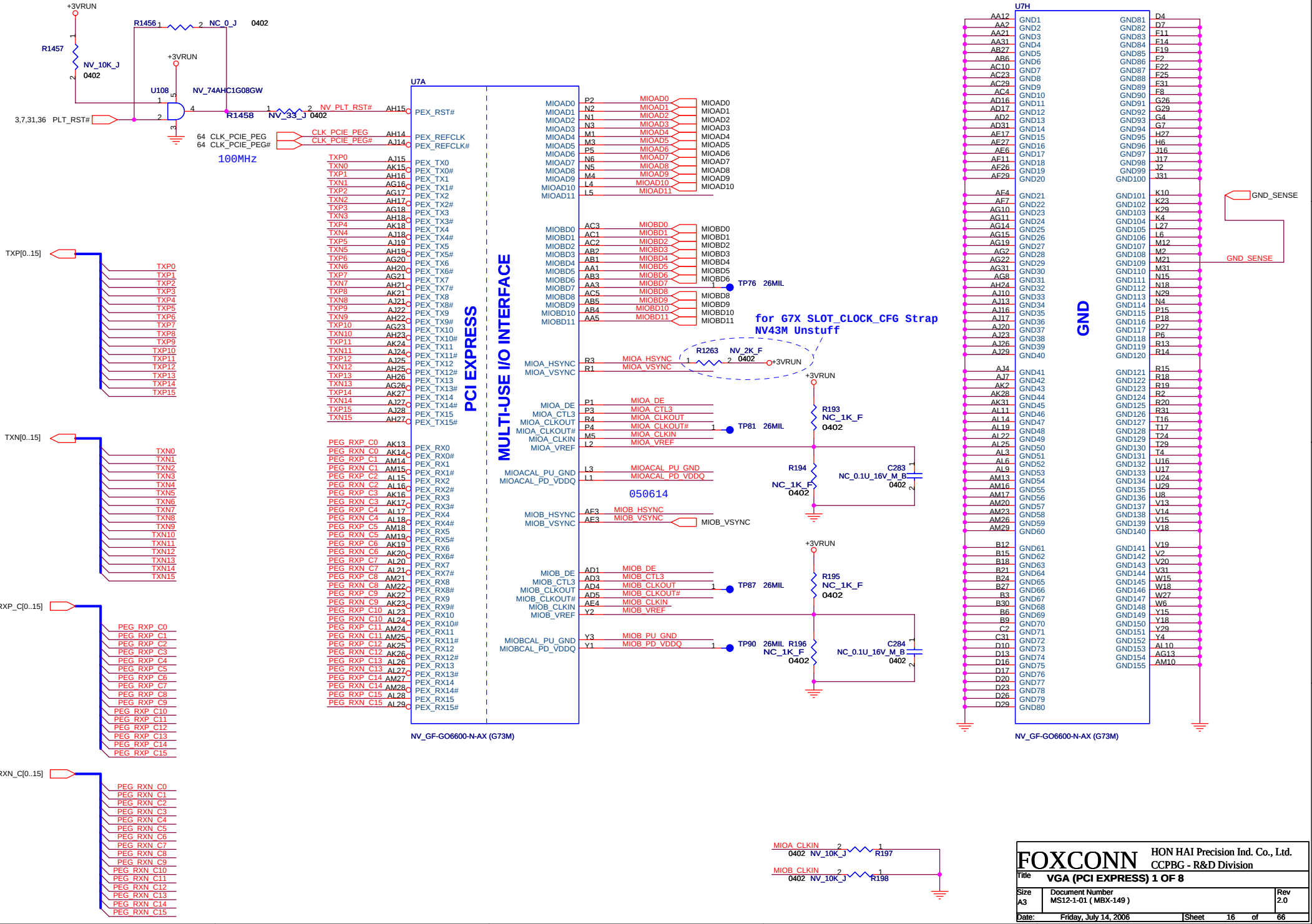
+3VRUN
R1456 NC_0_J 0402
R1457 NV_10K_J 0402
U108 NV_74AHC1G08GW
R1458 NV_33_J 0402
NV_PLT_RST#
3,7,31,36 PLT_RST#
64 CLK_PCIE_PEG
64 CLK_PCIE_PEG#
100MHz
U7A
PCI EXPRESS
MULTI-USE I/O INTERFACE
NV_GF-GO6600-N-AX (G73M)
TXP[0..15]
TXN[0..15]
PEG_RXP_C[0..15]
PEG_RXN_C[0..15]
MIOAD0
MIOAD1
MIOAD2
MIOAD3
MIOAD4
MIOAD5
MIOAD6
MIOAD7
MIOAD8
MIOAD9
MIOAD10
MIOAD11
MIOBD0
MIOBD1
MIOBD2
MIOBD3
MIOBD4
MIOBD5
MIOBD6
MIOBD7
MIOBD8
MIOBD9
MIOBD10
MIOBD11
TP76 26MIL
for G7X SLOT_CLOCK_CFG Strap
NV43M Unstuff
R1263 NV_2K_F 0402
MIOA_HSYNC
MIOA_VSYNC
MIOA_DE
MIOA_CTL3
MIOA_CLKOUT
MIOA_CLKOUT#
MIOA_CLKIN
MIOA_VREF
TP81 26MIL
R193 NC_1K_F 0402
R194 NC_1K_F 0402
C283 NC_0.1U_16V_M_B 0402
MIOACAL_PU_GND
MIOACAL_PD_VDDQ
050614
MIOB_HSYNC
MIOB_VSYNC
MIOB_DE
MIOB_CTL3
MIOB_CLKOUT
MIOB_CLKOUT#
MIOB_CLKIN
MIOB_VREF
TP87 26MIL
R195 NC_1K_F 0402
MIOBCAL_PU_GND
MIOBCAL_PD_VDDQ
TP90 26MIL
R196 NC_1K_F 0402
C284 NC_0.1U_16V_M_B 0402
U7H
GND
GND_SENSE
MIOA_CLKIN
MIOB_CLKIN
R197 NV_10K_J 0402
R198 NV_10K_J 0402
FOXCONN
HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division
Title VGA (PCI EXPRESS) 1 OF 8
Size A3
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PEG_RXP[0..15]

PEG_RXP0 C285 NV_0.1U_16V_M_B 0402 TXP0
PEG_RXP1 C287 NV_0.1U_16V_M_B 0402 TXP1
PEG_RXP2 C289 NV_0.1U_16V_M_B 0402 TXP2
PEG_RXP3 C291 NV_0.1U_16V_M_B 0402 TXP3
PEG_RXP4 C293 NV_0.1U_16V_M_B 0402 TXP4
PEG_RXP5 C295 NV_0.1U_16V_M_B 0402 TXP5
PEG_RXP6 C297 NV_0.1U_16V_M_B 0402 TXP6
PEG_RXP7 C299 NV_0.1U_16V_M_B 0402 TXP7
PEG_RXP8 C301 NV_0.1U_16V_M_B 0402 TXP8
PEG_RXP9 C303 NV_0.1U_16V_M_B 0402 TXP9
PEG_RXP10 C305 NV_0.1U_16V_M_B 0402 TXP10
PEG_RXP11 C307 NV_0.1U_16V_M_B 0402 TXP11
PEG_RXP12 C309 NV_0.1U_16V_M_B 0402 TXP12
PEG_RXP13 C311 NV_0.1U_16V_M_B 0402 TXP13
PEG_RXP14 C313 NV_0.1U_16V_M_B 0402 TXP14
PEG_RXP15 C315 NV_0.1U_16V_M_B 0402 TXP15

TXP[0..15]

PEG_RXN[0..15]

PEG_RXN0 C286 NV_0.1U_16V_M_B 0402 TXN0
PEG_RXN1 C288 NV_0.1U_16V_M_B 0402 TXN1
PEG_RXN2 C290 NV_0.1U_16V_M_B 0402 TXN2
PEG_RXN3 C292 NV_0.1U_16V_M_B 0402 TXN3
PEG_RXN4 C294 NV_0.1U_16V_M_B 0402 TXN4
PEG_RXN5 C296 NV_0.1U_16V_M_B 0402 TXN5
PEG_RXN6 C298 NV_0.1U_16V_M_B 0402 TXN6
PEG_RXN7 C300 NV_0.1U_16V_M_B 0402 TXN7
PEG_RXN8 C302 NV_0.1U_16V_M_B 0402 TXN8
PEG_RXN9 C304 NV_0.1U_16V_M_B 0402 TXN9
PEG_RXN10 C306 NV_0.1U_16V_M_B 0402 TXN10
PEG_RXN11 C308 NV_0.1U_16V_M_B 0402 TXN11
PEG_RXN12 C310 NV_0.1U_16V_M_B 0402 TXN12
PEG_RXN13 C312 NV_0.1U_16V_M_B 0402 TXN13
PEG_RXN14 C314 NV_0.1U_16V_M_B 0402 TXN14
PEG_RXN15 C316 NV_0.1U_16V_M_B 0402 TXN15

TXN[0..15]

TVMODE(NV43M)
NTSC (01)

MIOAD10	MIOAD7	TVMODE
0	0	SECAM
0	1	NTSC <--current setting
1	0	PAL
1	1	CRT

G72M/G73M/NV43M
RAM_CFG(3..0)
*0001 8MX32bit 1.8V
0100 4MX32bit 1.8V Samsung
0101 4MX32bit 1.8V Hynix

SUBVENDOR
*0 (USE SYSTEM BIOS)
1 (USE EXTERNAL ROM)

PANEL ID CONFIG
NC

MIOAD0 is used to set the PCI Express PLL termination enable.
DEFAULT "0"

3GIO_PADCFG[2:0]
*001 for NV43/NV44
010 for G7X/NV42

G72M/G73M/NV43M
PCI_DEVID[3:0]="1000"->8

CRYSTAL(NV43M)
10 (27M Hz)

MIOBD6	MIOBD2	Crystal
1	0	27MHz <--current setting
0	1	14.318MHz
0	0	13.5MHz
1	1	Preserved

ROM_TYPE(NV43M) NC

00 PARALLEL
01 SERIAL_AT25F
10 SERIAL_SST45VF
11 LPC

+3VRUN

MIOAD7 R199 NC_2K_J 0402 R200 NV_2K_J 0402
MIOAD10 R201 NV_2K_J 0402 R202 NC_2K_J 0402

RAM_CFG0 MIOBD0 R203 NC_2K_J 0402 R204 NV_2K_J 0402
RAM_CFG1 MIOBD1 R205 NV_2K_J 0402 R206 NC_2K_J 0402
RAM_CFG2 MIOBD8 R207 NV_2K_J 0402 R208 NC_2K_J 0402
RAM_CFG3 MIOBD9 R209 NV_2K_J 0402 R210 NC_2K_J 0402

SUBVENDOR MIOAD1 R211 NV_2K_J 0402 R212 NC_2K_J 0402

USER0 MIOAD2 R215 NC_10K_J 0402 R216 NC_10K_J 0402
USER1 MIOAD3 R217 NC_10K_J 0402 R218 NC_10K_J 0402
USER2 MIOAD4 R219 NC_10K_J 0402 R220 NC_10K_J 0402
USER3 MIOAD5 R221 NC_10K_J 0402 R222 NC_10K_J 0402

PEX_PLL_EN_TERM MIOAD0 R223 NV_2K_J 0402 R224 NC_2K_J 0402
3GIO_PADCFG0 MIOAD6 R225 NC_2K_J 0402 R226 NV_2K_J 0402
3GIO_PADCFG1 MIOAD8 R227 NV_2K_J 0402 R228 NC_2K_J 0402
3GIO_PADCFG2 MIOAD9 R229 NV_2K_J 0402 R230 NC_2K_J 0402

PCI_DEVID 0 MIOBD4 R231 NV_2K_J 0402 R232 NC_2K_J 0402
PCI_DEVID 1 MIOBD5 R233 NV_2K_J 0402 R234 NC_2K_J 0402
PCI_DEVID 2 MIOBD3 R235 NV_2K_J 0402 R236 NC_2K_J 0402
PCI_DEVID 3 MIOBD11 R237 NC_2K_J 0402 R238 NV_2K_J 0402

CRYSTAL 0 MIOBD2 R241 NV_2K_J 0402 R242 NC_2K_J 0402
CRYSTAL 1 MIOBD6 R243 NC_2K_J 0402 R244 NV_2K_J 0402

ROM_TYPE 0 MIOBD10 R245 NC_2K_J 0402 R246 NC_2K_J 0402
ROM_TYPE 1 MIOB_VSYNC R247 NC_2K_J 0402 R248 NC_2K_J 0402

STRAP PIN for NV43M

MIOAD0 MIOAD1 MIOAD2 MIOAD3 MIOAD4 MIOAD5 MIOAD6 MIOAD7 MIOAD8 MIOAD9 MIOAD10
MIOAD0 MIOAD1 MIOAD2 MIOAD3 MIOAD4 MIOAD5 MIOAD6 MIOAD7 MIOAD8 MIOAD9 MIOAD10

MIOBD0 MIOBD1 MIOBD2 MIOBD3 MIOBD4 MIOBD5 MIOBD6 MIOBD8 MIOBD9 MIOBD10 MIOBD11
MIOBD0 MIOBD1 MIOBD2 MIOBD3 MIOBD4 MIOBD5 MIOBD6 MIOBD8 MIOBD9 MIOBD10 MIOBD11

MIOB_VSYNC
MIOB_VSYNC

FOXCONN HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division

Title: VGA (PCI-EXPRESS/STRAP) 2 OF 8

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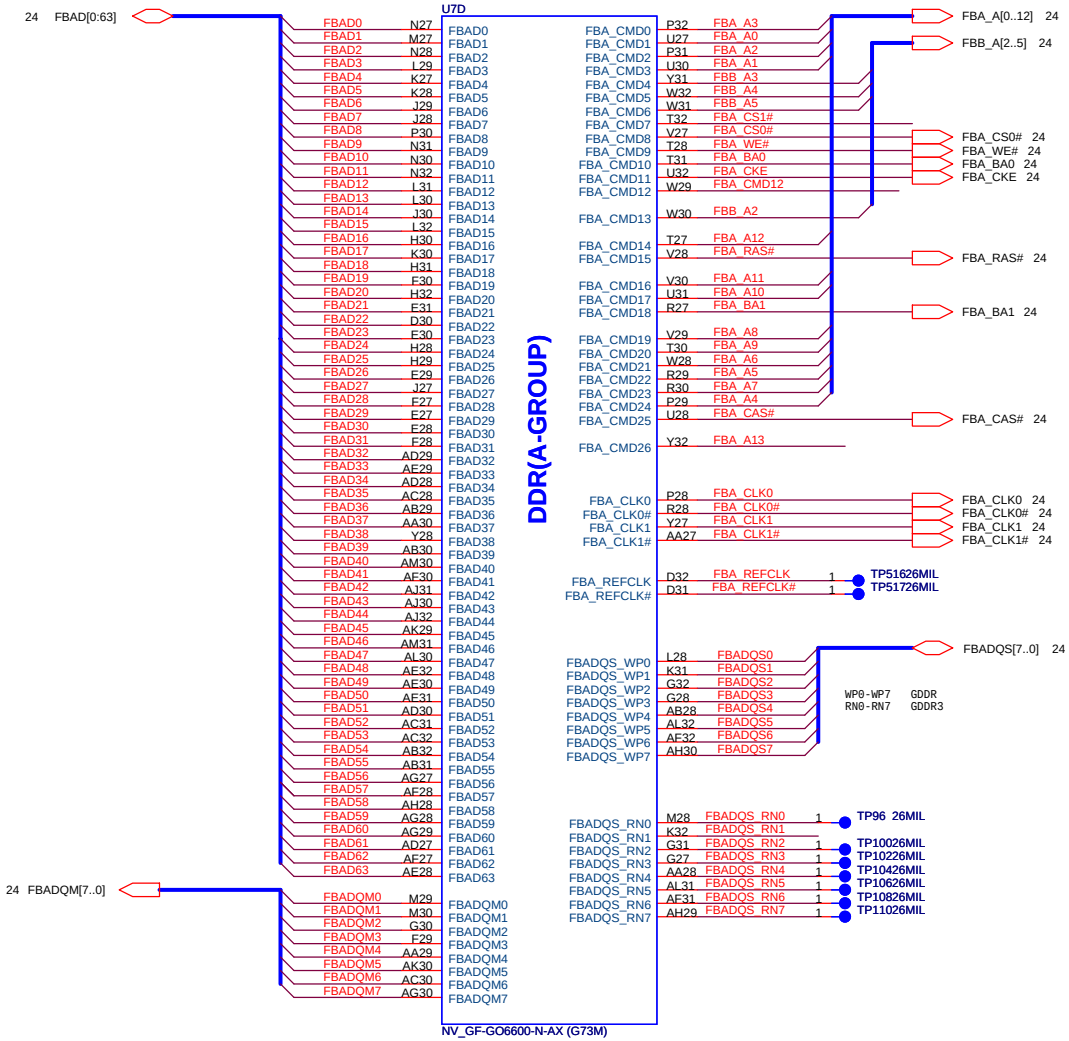

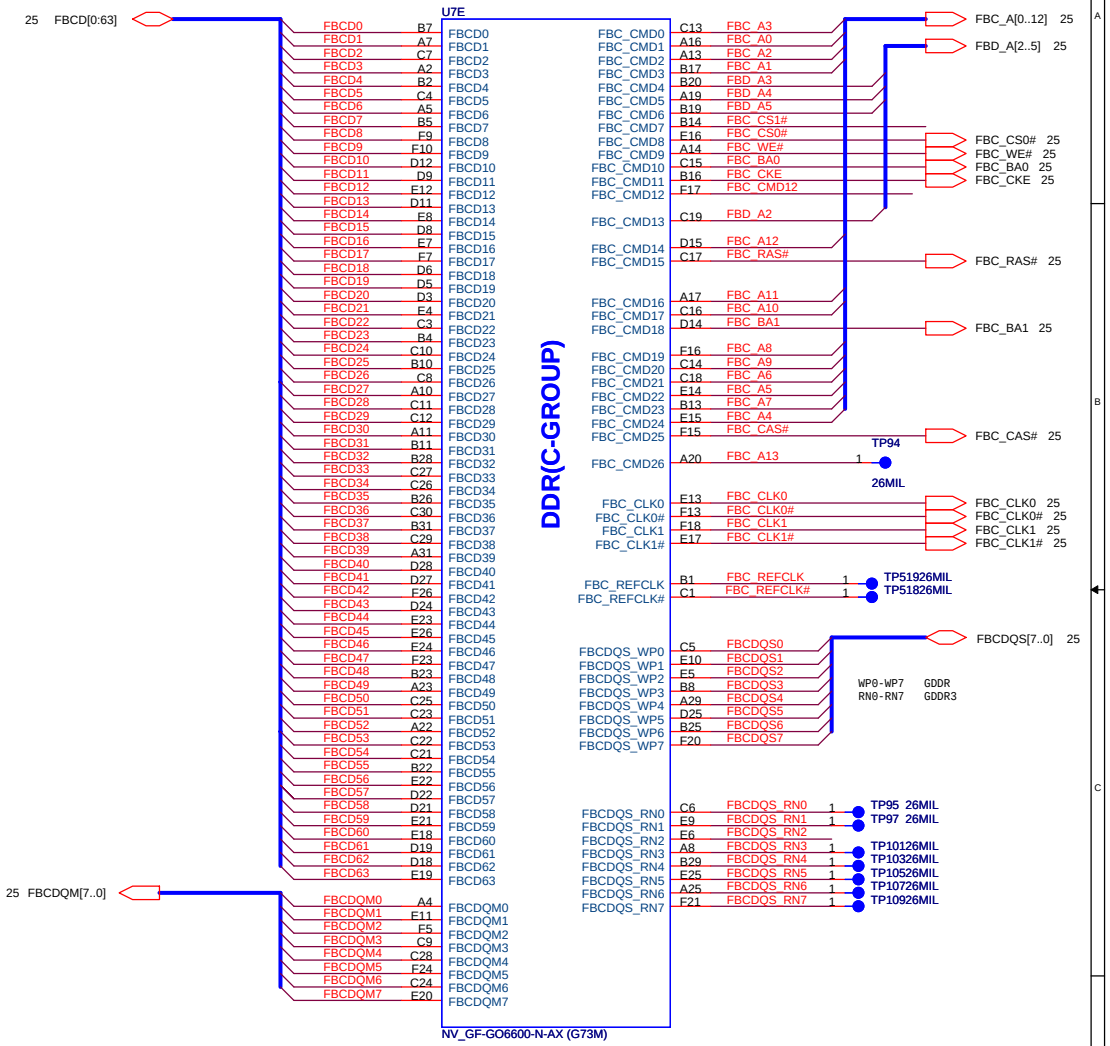

FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division		
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don't use inductor or bead for nvidia's experience.inductor can not make current change immediately

1.2V
20,62,63 PEX_VDD
R259 NV_0_J 0805
1420mA(Internal Core Power)
L_PEX_VDD
C317 NV_4.7U_10V_Y_Y 0805
C318 NV_4.7U_10V_Y_Y 0805
C319 NV_1U_25V_K_B 0603
C1143 NV_1U_25V_K_B 0603
C320 NV_0.1U_16V_M_B 0402
C321 NV_0.1U_16V_M_B 0402
Close to BGA
Close to ball
1/26 Follow FAE suggest

1.2V
20,62,63 PEX_VDD
1420mA (I/O Power)
C322 NV_10U_6.3V_M 0805_X5R
C323 NV_10U_6.3V_M 0805_X5R
C1144 NV_1U_25V_K_B 0603
C324 NV_0.1U_16V_M_B 0402
C325 NV_0.1U_16V_M_B 0402
5/6 Gordon review
C326 NV_0.1U_16V_M_B 0402
C327 NV_1000P_50V_M_B 0402
C328 NV_1000P_50V_M_B 0402
Close to BGA

1.2V
20,62,63 PEX_VDD
L90 NV_120R-100MHZ_0603 EBMS160808A121
100mA(Analog Power)
PEX_PLL_AVDD
C337 NV_4.7U_10V_Y_Y 0805
C339 NV_0.1U_16V_M_B 0402
C338 NV_1000P_50V_M_B 0402
NIVIDIA FBA suggest to use 1000p capacitor

1.2V
20,62,63 PEX_VDD
L91 NV_120R-100MHZ_0603 EBMS160808A121
20mA(Power rail)
PEX_PLL_DVDD
C344 NV_4.7U_10V_Y_Y 0805
C345 NV_4.7U_10V_Y_Y 0805
C346 NV_0.1U_16V_M_B 0402
C347 NV_1000P_50V_M_B 0402

62,63 NV_VDD 1.025V
(Secondary internal core power)
L_NV_VDD
R262 NV_0_J 0805
C352 NV_10U_6.3V_Y_Y 0805
C353 NV_0.1U_16V_M_B 0402
C354 NV_0.1U_16V_M_B 0402
C355 NV_1000P_50V_M_B 0402

+3VRUN
110mA(3.3V Power rail GPIO,I2C,GPU DIGITAL LOGIC)
C365 NV_1U_10V_Y_Y 0603
C366 NV_1U_10V_Y_Y 0603
C367 NV_1000P_50V_M_B 0402
C368 NV_1000P_50V_M_B 0402
C369 NV_0.022U_16V_M_B 0402
C370 NV_0.1U_16V_M_B 0402
C371 NV_0.1U_16V_M_B 0402
C372 NV_0.1U_16V_M_B 0402
C373 NV_0.1U_16V_M_B 0402
C374 NV_0.1U_16V_M_B 0402

26MIL TP112 NV_NC1
26MIL TP116 NV_NC3
26MIL TP118 NV_NC4
26MIL TP120 NV_NC5
26MIL TP122 NV_NC6
26MIL TP124 NV_NC7
26MIL TP126 NV_NC8
26MIL TP128 NV_NC9
NV_NC10
NV_NC11
26MIL TP134 NV_NC12

U7B
POWER
PEX_IOVDD0 AD23
PEX_IOVDD1 AE24
PEX_IOVDD2 AF23
PEX_IOVDD3 AF25
PEX_IOVDD4 AG24
PEX_IOVDD5 AG25
PEX_IOVDDQ0 AC16
PEX_IOVDDQ1 AC17
PEX_IOVDDQ2 AC21
PEX_IOVDDQ3 AC22
PEX_IOVDDQ4 AE18
PEX_IOVDDQ5 AE21
PEX_IOVDDQ6 AE22
PEX_IOVDDQ7 AF12
PEX_IOVDDQ8 AF18
PEX_IOVDDQ9 AF21
PEX_IOVDDQ10 AF22
PEX_PLLAVDD AF15
PEX_PLLDVDD AE15
PEX_PLLGND AE16
VDD_LP1 P20
VDD_LP2 T20
VDD_LP3 T23
VDD_LP4 U20
VDD_LP5 U23
VDD_LP6 W20
VDD33_0 AC11
VDD33_1 AC12
VDD33_2 AC24
VDD33_3 AD24
VDD33_4 AE11
VDD33_5 AE12
VDD33_6 H7
VDD33_7 J7
VDD33_8 K7
VDD33_9 L10
VDD33_10 L7
VDD33_11 L8
VDD33_12 M10
NC1 AG12
NC2 AH13
NC3 J6
NC4 B32
NC5 AM9
NC6 AM8
NC7 Y30
NC8 AC26
NC9 U3
NC10 V3
NC11 U6
NC12 U5
NV_GF-GO6600-N-AX (G73M)

050611
1.2V
8mA(Frame Buffer Analog Power)
20,62,63 PEX_VDD
L102 NV_120R-100MHZ_0603 EBMS160808A121
NV_PLLAVDD T13
C1191 NV_0.1U_16V_Y_Y 0402
C1192 NV_4.7U_6.3V_K 0603_X5R
C1216 NC_1000P_50V_K_B 0402
Place close to L102

62,63 NV_VDD 1.025V
16.25A(Internal logic core power)
C329 NV_0.1U_16V_M_B 0402
C330 NV_0.1U_16V_M_B 0402
C331 NV_0.1U_16V_M_B 0402
C332 NV_0.1U_16V_M_B 0402
CRB circuit
C1193 NV_0.01U_16V_K_B 0402
NVVSD_SENSE
GND_SENSE
C333 NV_0.1U_16V_M_B 0402
C334 NV_0.1U_16V_M_B 0402
C335 NV_0.1U_16V_M_B 0402
C336 NV_0.1U_16V_M_B 0402
C340 NV_0.1U_16V_M_B 0402
C341 NV_0.1U_16V_M_B 0402
C342 NV_0.1U_16V_M_B 0402
C343 NV_0.1U_16V_M_B 0402
C348 NV_0.1U_16V_M_B 0402
C356 NV_1000P_50V_M_B 0402
C357 NV_1000P_50V_M_B 0402
C358 NV_1000P_50V_M_B 0402
C362 NV_10U_6.3V_M 0805_X5R
C363 NV_10U_6.3V_M 0805_X5R
C364 NV_10U_6.3V_M 0805_X5R
CAP10 NV_470U_2V_T EEFUD0D471LG

VDD0 K16
VDD1 K17
VDD2 N13
VDD3 N14
VDD4 N16
VDD5 N17
VDD6 N19
VDD7 N20
VDD8 P13
VDD9 P14
VDD10 P16
VDD11 P17
VDD12 P19
VDD13 R16
VDD14 R17
VDD16 T14
VDD17 T15
VDD18 T18
VDD19 T19
VDD20 U13
VDD21 U14
VDD22 U15
VDD23 U18
VDD24 U19
VDD25 V16
VDD26 V17
VDD27 W13
VDD28 W14
VDD29 W16
VDD30 W17
VDD31 W19
VDD32 Y13
VDD33 Y14
VDD34 Y16
VDD35 Y17
VDD36 Y19
VDD37 Y20

NC13 U4 NV_NC13
NC14 V4 NV_NC14 TP113 26MIL
NC15 V6 NV_NC15 TP115 26MIL
NC16 C20 NV_NC16 TP117 26MIL
NC17 D1 NV_NC17
NC18 W3 NV_NC18
NC19 V1 NV_NC19 TP123 26MIL
NC20 Y5 NV_NC20
NC21 W1 NV_NC21 TP127 26MIL
NC22 W4 NV_NC22 TP129 26MIL
NC23 W5 NV_NC23
NC24 V5 NV_NC24
NC25 Y6 NV_NC25 TP135 26MIL
NC26 F6 TP581 26MIL
NC27 G8 FBC_PLLVDD TP585 26MIL
NC28 G23 FBA_PLLVDD TP586 26MIL
NC29 A28 FB_VREF2 TP587 26MIL
NC30 F1 STRAP
NC31 A26 TESTMEMCLK
R305 NV72_10K_J 0402

(Voltage change from 3.3V to NC for G7X)
(G7X Pin G8-NC)
(G7X Pin G23-NC)
(G7X Pin A28-NC)
(G7X Pin F1-NC)
G73M Pin A26-NC
G72M Pin A26 need stuff R305 10K

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HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division
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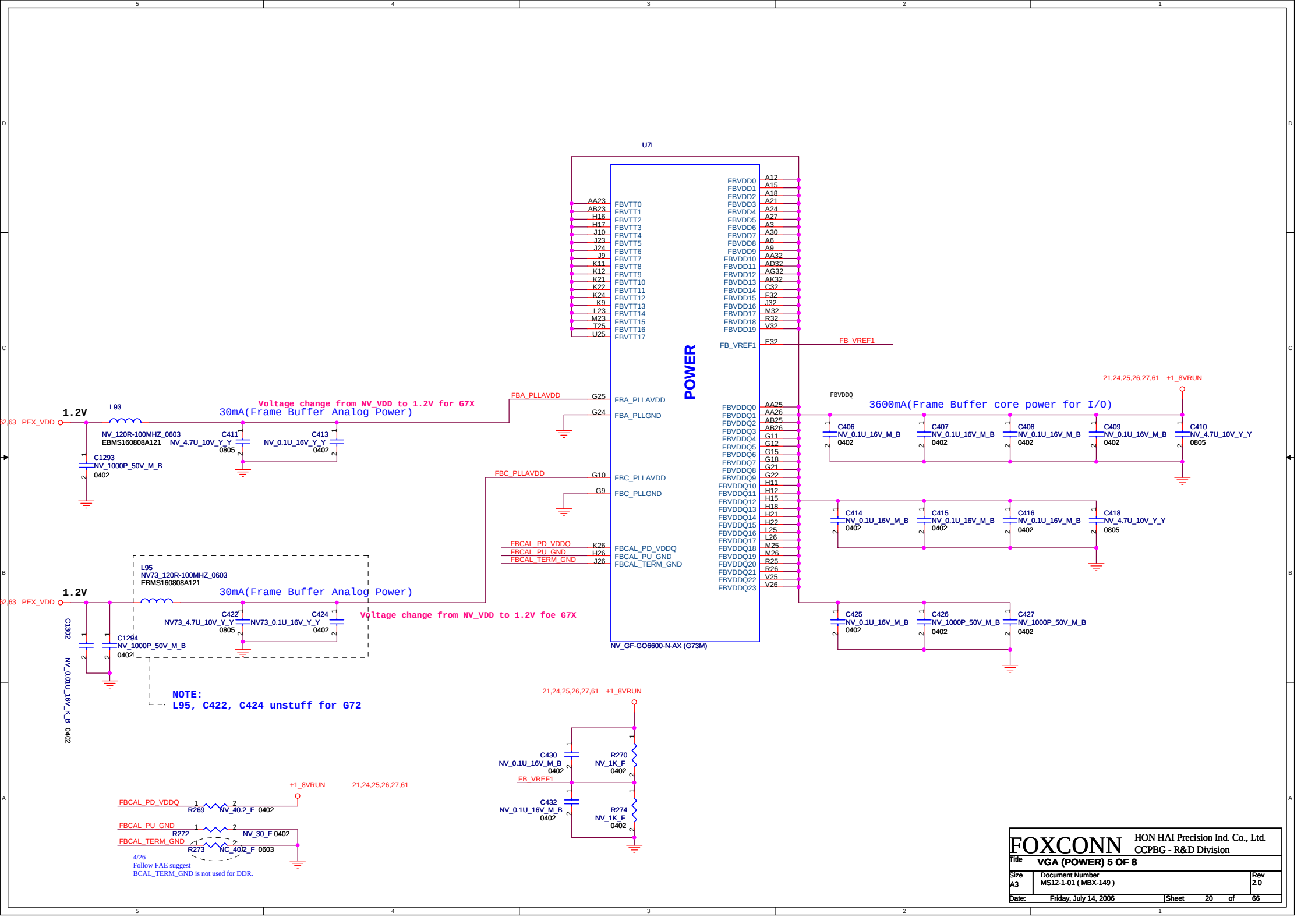

FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division
Title	VGA (POWER) 5 OF 8
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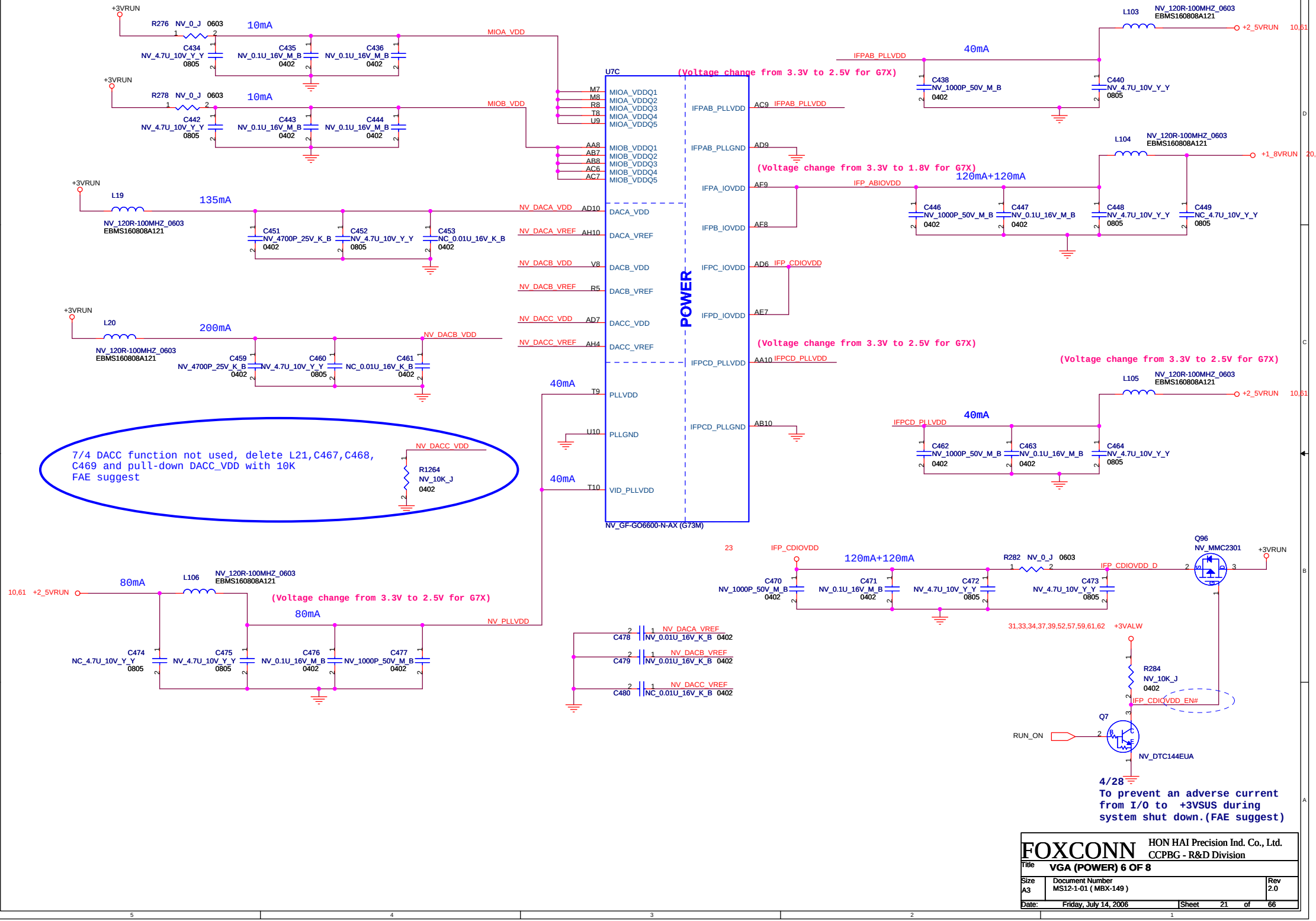
+3VRUN
R276 NV_0_J 0603
10mA
C434 NV_4.7U_10V_Y_Y 0805
C435 NV_0.1U_16V_M_B 0402
C436 NV_0.1U_16V_M_B 0402
MIOA_VDD
R278 NV_0_J 0603
10mA
C442 NV_4.7U_10V_Y_Y 0805
C443 NV_0.1U_16V_M_B 0402
C444 NV_0.1U_16V_M_B 0402
MIOB_VDD
U7C
(Voltage change from 3.3V to 2.5V for G7X)
M7 M8 R8 T8 U9 MIOA_VDDQ1 MIOA_VDDQ2 MIOA_VDDQ3 MIOA_VDDQ4 MIOA_VDDQ5
AA8 AB7 AB8 AC6 AC7 MIOB_VDDQ1 MIOB_VDDQ2 MIOB_VDDQ3 MIOB_VDDQ4 MIOB_VDDQ5
IFPAB_PLLVDD AC9 IFPAB_PLLVDD
IFPAB_PLLGND AD9
(Voltage change from 3.3V to 1.8V for G7X)
IFPA_IOVDD AF9
IFPB_IOVDD AF8
IFPC_IOVDD AD6 IFP_CDIOVDD
IFPD_IOVDD AE7
(Voltage change from 3.3V to 2.5V for G7X)
IFPCD_PLLVDD AA10 IFPCD_PLLVDD
IFPCD_PLLGND AB10
POWER
L103 NV_120R-100MHZ_0603 EBMS160808A121
+2_5VRUN 10,61
IFPAB_PLLVDD
40mA
C438 NV_1000P_50V_M_B 0402
C440 NV_4.7U_10V_Y_Y 0805
L104 NV_120R-100MHZ_0603 EBMS160808A121
+1_8VRUN 20,24
IFP_ABIOVDD
120mA+120mA
C446 NV_1000P_50V_M_B 0402
C447 NV_0.1U_16V_M_B 0402
C448 NV_4.7U_10V_Y_Y 0805
C449 NC_4.7U_10V_Y_Y 0805
L19
135mA
NV_120R-100MHZ_0603 EBMS160808A121
NV_DACA_VDD AD10 DACA_VDD
NV_DACA_VREF AH10 DACA_VREF
C451 NV_4700P_25V_K_B 0402
C452 NV_4.7U_10V_Y_Y 0805
C453 NC_0.01U_16V_K_B 0402
NV_DACB_VDD V8 DACB_VDD
NV_DACB_VREF R5 DACB_VREF
L20
200mA
NV_120R-100MHZ_0603 EBMS160808A121
C459 NV_4700P_25V_K_B 0402
C460 NV_4.7U_10V_Y_Y 0805
C461 NC_0.01U_16V_K_B 0402
NV_DACC_VDD AD7 DACC_VDD
NV_DACC_VREF AH4 DACC_VREF
(Voltage change from 3.3V to 2.5V for G7X)
L105 NV_120R-100MHZ_0603 EBMS160808A121
+2_5VRUN 10,61
IFPCD_PLLVDD
40mA
C462 NV_1000P_50V_M_B 0402
C463 NV_0.1U_16V_M_B 0402
C464 NV_4.7U_10V_Y_Y 0805
7/4 DACC function not used, delete L21,C467,C468, C469 and pull-down DACC_VDD with 10K FAE suggest
NV_DACC_VDD
R1264 NV_10K_J 0402
40mA
T9 PLLVDD
U10 PLLGND
40mA
T10 VID_PLLVDD
NV_GF-GO6600-N-AX (G73M)
23 IFP_CDIOVDD
120mA+120mA
C470 NV_1000P_50V_M_B 0402
C471 NV_0.1U_16V_M_B 0402
C472 NV_4.7U_10V_Y_Y 0805
C473 NV_4.7U_10V_Y_Y 0805
R282 NV_0_J 0603
IFP_CDIOVDD_D
Q96 NV_MMC2301
+3VRUN
10,61 +2_5VRUN
80mA
L106 NV_120R-100MHZ_0603 EBMS160808A121
(Voltage change from 3.3V to 2.5V for G7X)
80mA
NV_PLLVDD
C474 NC_4.7U_10V_Y_Y 0805
C475 NV_4.7U_10V_Y_Y 0805
C476 NV_0.1U_16V_M_B 0402
C477 NV_1000P_50V_M_B 0402
C478 NV_DACA_VREF NV_0.01U_16V_K_B 0402
C479 NV_DACB_VREF NV_0.01U_16V_K_B 0402
C480 NV_DACC_VREF NC_0.01U_16V_K_B 0402
31,33,34,37,39,52,57,59,61,62 +3VALW
R284 NV_10K_J 0402
IFP_CDIOVDD_EN#
Q7
RUN_ON
NV_DTC144EUA
4/28
To prevent an adverse current from I/O to +3VSUS during system shut down.(FAE suggest)
FOXCONN
HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division
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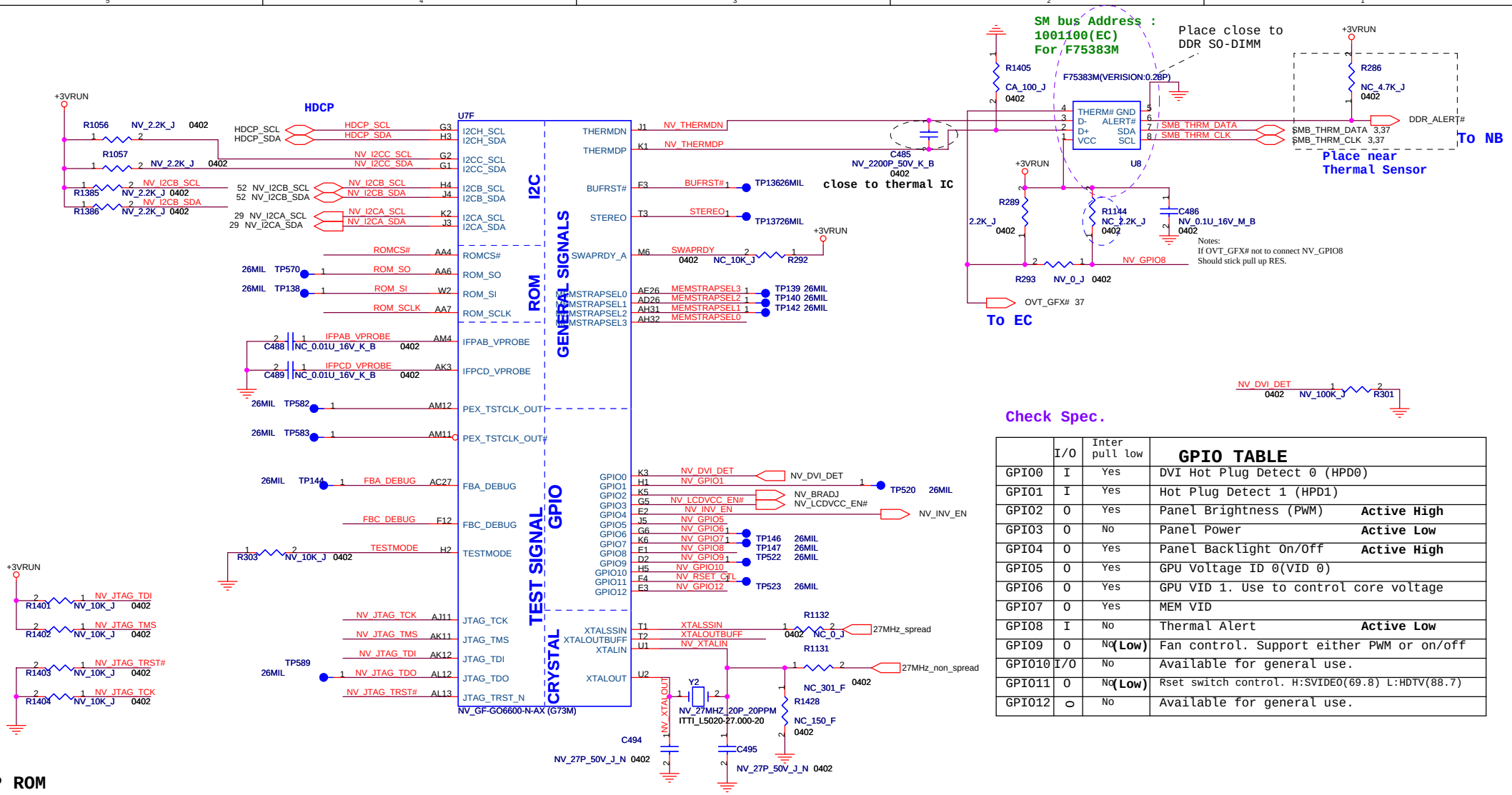
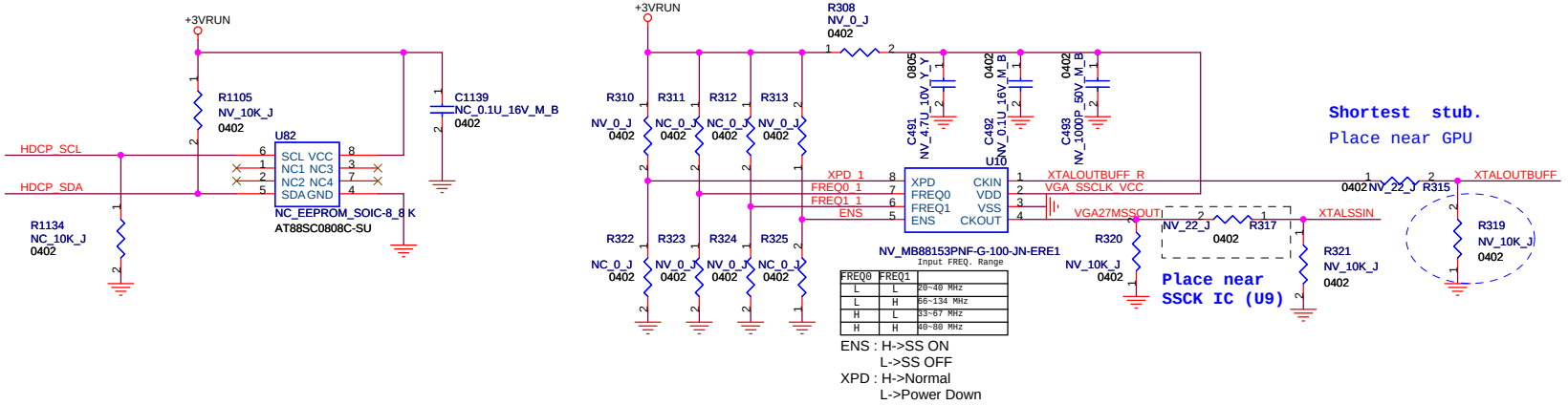


Check Spec.

	I/O	Inter pull low	GPIO TABLE	
GPIO0	I	Yes	DVI Hot Plug Detect 0 (HPD0)	
GPIO1	I	Yes	Hot Plug Detect 1 (HPD1)	
GPIO2	O	Yes	Panel Brightness (PWM)	**Active High**
GPIO3	O	No	Panel Power	**Active Low**
GPIO4	O	Yes	Panel Backlight On/Off	**Active High**
GPIO5	O	Yes	GPU Voltage ID 0(VID 0)	
GPIO6	O	Yes	GPU VID 1. Use to control core voltage	
GPIO7	O	Yes	MEM VID	
GPIO8	I	No	Thermal Alert	**Active Low**
GPIO9	O	No **(Low)**	Fan control. Support either PWM or on/off	
GPIO10	I/O	No	Available for general use.	
GPIO11	O	No **(Low)**	Rset switch control. H:SVIDEO(69.8) L:HDTV(88.7)	
GPIO12	O	No	Available for general use.	

HDCP ROM



FREQ0	FREQ1	Input FREQ. Range
L	L	20~40 MHz
L	H	66~134 MHz
H	L	33~67 MHz
H	H	40~80 MHz

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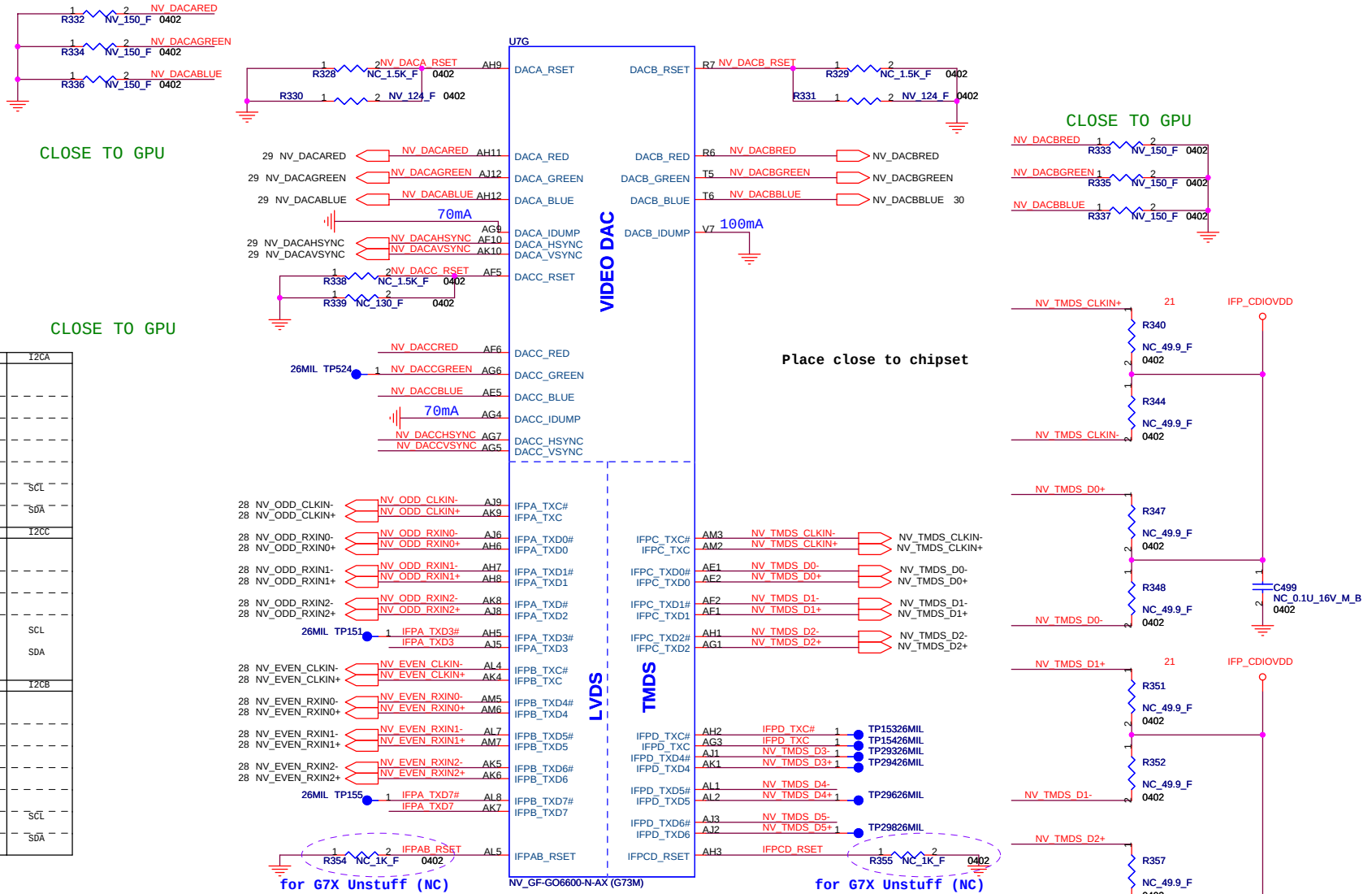

DACA	VGA-CRT			I2CA
DACA-RED	R			
DACA-GREEN	G			
DACA-BLUE	B			
DACA-HSYNC	HSYNC			
DACA-VSYNC	VSYNC			
	VGA-DDCCLK			SCL
	VGA-DDCDATA			SDA
DACB	**S-VIDEO**	**COMPOSITE**	**D-CONNECTOR**	**I2CC**
DACB-RED	C		PR	
DACB-GREEN	Y		Y	
DACB-BLUE		COMPOSITE		
			LINE1	SCL
			LINE2	SDA
			LINE3	
DACC	**DVI-I**			**I2CB**
DACC-RED	R			
DACC-GREEN	G			
DACC-BLUE	B			
DACC-HSYNC	HSYNC			
DACC-VSYNC	VSYNC			
	DVI-DDCCLK			SCL
	DVI-DDCDATA			SDA

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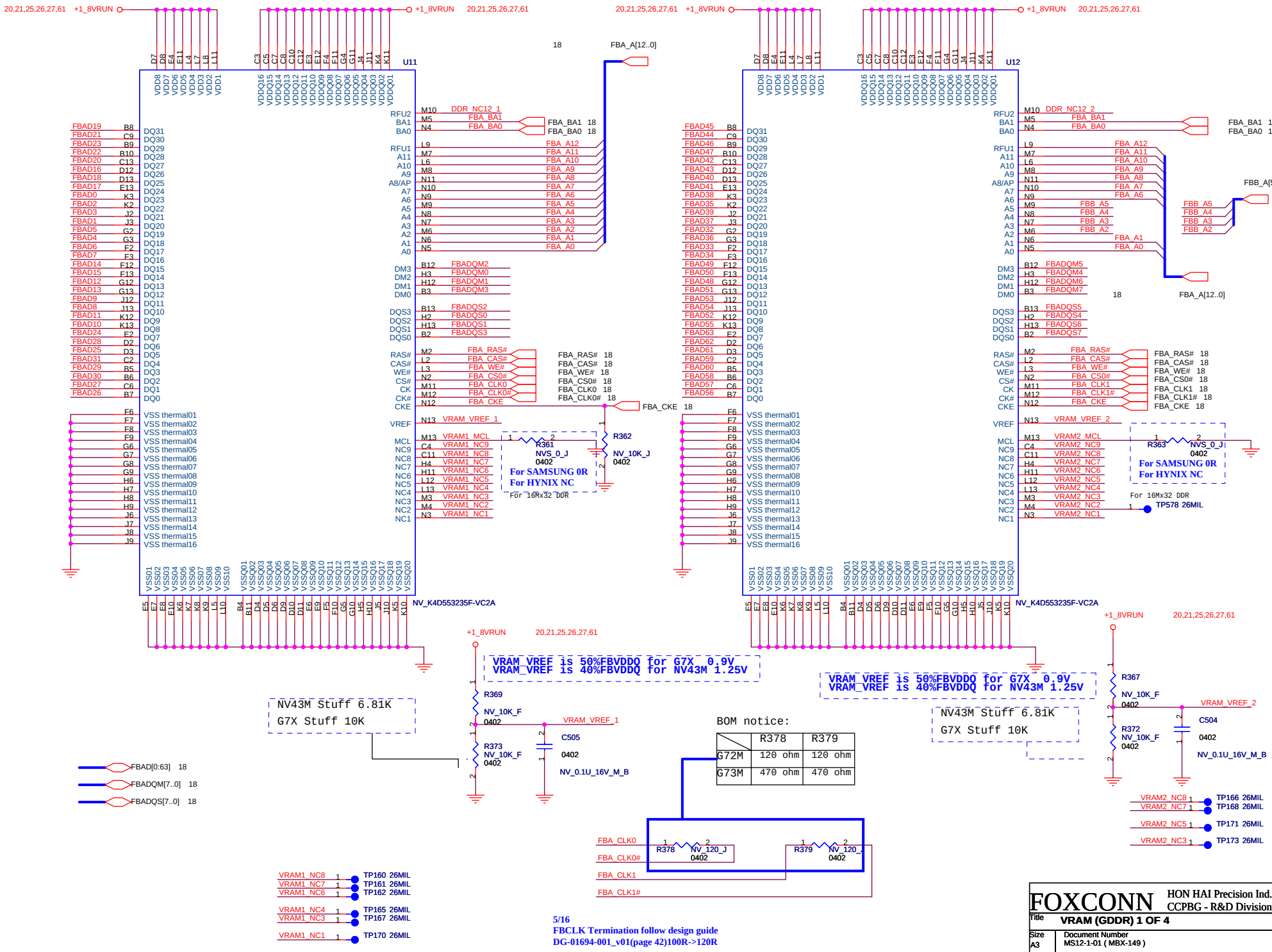
U11
U12
NV_K4D553235F-VC2A
20,21,25,26,27,61
+1_8VRUN
FBA_A[12..0]
FBA_A[5..2]
FBB_A[5..2]
FBAD[0:63] 18
FBADQM[7..0] 18
FBADQS[7..0] 18
R361 NVS_0_J 0402
R362 NV_10K_J 0402
R363 NVS_0_J 0402
For SAMSUNG 0R
For HYNIX NC
For 16Mx32 DDR
R369 NV_10K_F 0402
R373 NV_10K_F 0402
C505 0402 NV_0.1U_16V_M_B
R367 NV_10K_F 0402
R372 NV_10K_F 0402
C504 0402 NV_0.1U_16V_M_B
VRAM_VREF is 50%FBVDDQ for G7X 0.9V
VRAM_VREF is 40%FBVDDQ for NV43M 1.25V
NV43M Stuff 6.81K
G7X Stuff 10K
BOM notice:
R378 R379
G72M 120 ohm 120 ohm
G73M 470 ohm 470 ohm
R378 NV_120_J 0402
R379 NV_120_J 0402
TP578 26MIL
TP160 26MIL
TP161 26MIL
TP162 26MIL
TP165 26MIL
TP167 26MIL
TP170 26MIL
TP166 26MIL
TP168 26MIL
TP171 26MIL
TP173 26MIL
5/16
FBCLK Termination follow design guide
DG-01694-001_v01(page 42)100R->120R
FOXCONN
HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division
Title VRAM (GDDR) 1 OF 4
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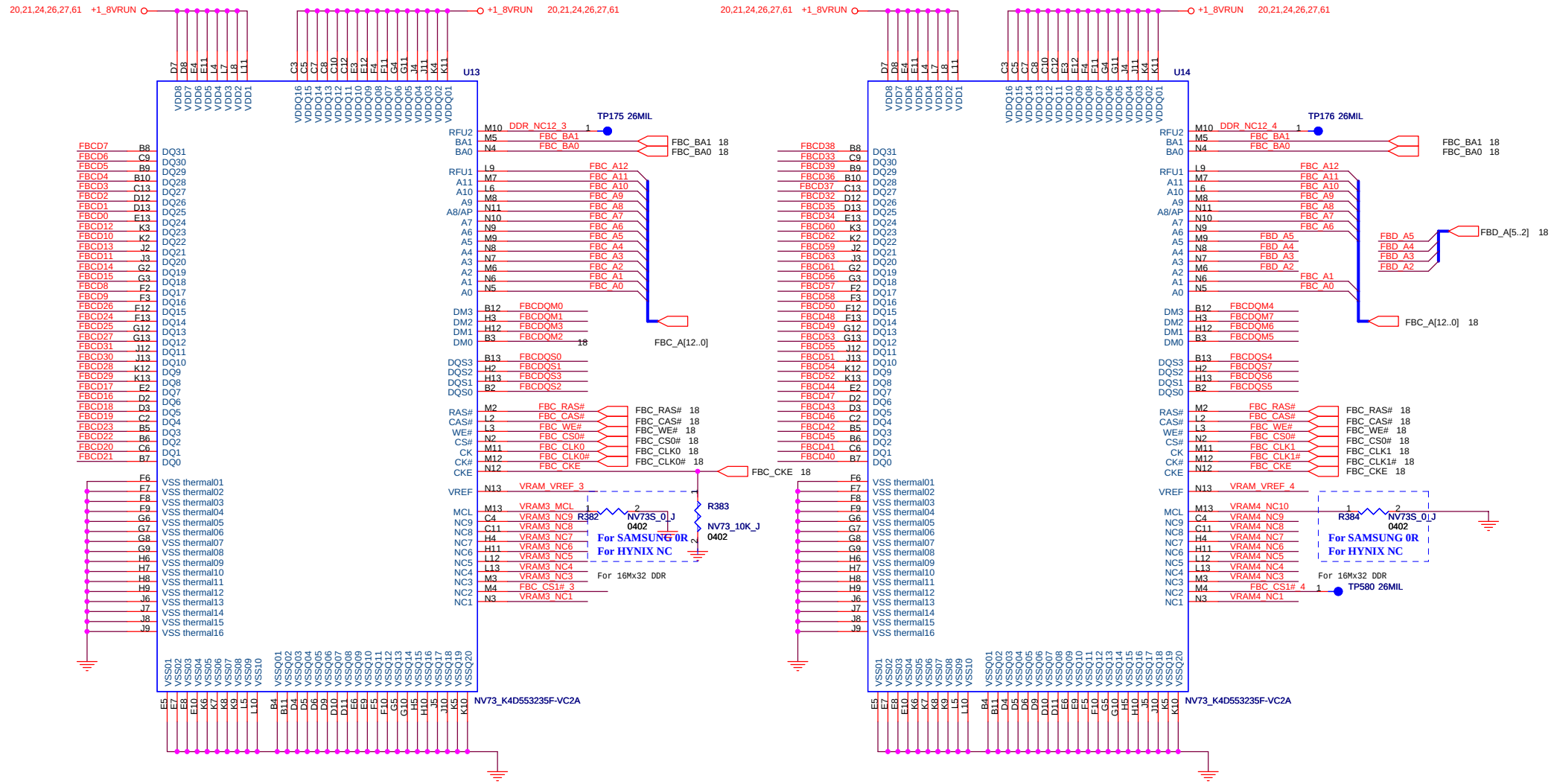

If use G72M, please unstuff U13, U14 and their related circuit

FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division	
Title	VRAM (GDDR) 2 OF 4	
Size A3	Document Number MS12-1-01 (MBX-149)	Rev 2.0
Date: Friday, July 14, 2006	Sheet 25 of 66	

Decoupling for right MEMORY

Place around the MEM

+1_8VRUN 20,21,24,25,27,61

5/6
4.7u->10u

C510 NV73_10U_6.3V_M 0805_X5R
C511 NV73_0.1U_16V_M_B 0402
C512 NV73_0.1U_16V_M_B 0402
C513 NV73_0.1U_16V_M_B 0402
C514 NV73_0.1U_16V_M_B 0402
C515 NV73_0.1U_16V_M_B 0402
C516 NV73_0.1U_16V_M_B 0402
C517 NV73_0.1U_16V_M_B 0402
C518 NV73_0.1U_16V_M_B 0402
C519 NV73_0.1U_16V_M_B 0402
C520 NV73_0.1U_16V_M_B 0402

+1_8VRUN 20,21,24,25,27,61

1.2A

Place under the MEM

C521 NV73_0.1U_16V_M_B 0402
C522 NV73_0.1U_16V_M_B 0402
C523 NV73_0.1U_16V_M_B 0402
C524 NV73_1000P_50V_M_B 0402
C525 NV73_1000P_50V_M_B 0402
C526 NV73_1000P_50V_M_B 0402
C527 NV73_1000P_50V_M_B 0402
C528 NV73_1000P_50V_M_B 0402

Decoupling for left MEMORY

Place around the MEM

+1_8VRUN 20,21,24,25,27,61

5/6
4.7u->10u

C540 NV73_10U_6.3V_M 0805_X5R
C541 NV73_0.1U_16V_M_B 0402
C542 NV73_0.1U_16V_M_B 0402
C543 NV73_0.1U_16V_M_B 0402
C544 NV73_0.1U_16V_M_B 0402
C545 NV73_0.1U_16V_M_B 0402
C546 NV73_0.1U_16V_M_B 0402
C547 NV73_0.1U_16V_M_B 0402
C548 NV73_0.1U_16V_M_B 0402
C549 NV73_0.1U_16V_M_B 0402
C550 NV73_0.1U_16V_M_B 0402

+1_8VRUN 20,21,24,25,27,61

Place under the MEM

C551 NV73_0.1U_16V_M_B 0402
C552 NV73_0.1U_16V_M_B 0402
C553 NV73_0.1U_16V_M_B 0402
C554 NV73_1000P_50V_M_B 0402
C555 NV73_1000P_50V_M_B 0402
C556 NV73_1000P_50V_M_B 0402
C557 NV73_1000P_50V_M_B 0402
C558 NV73_1000P_50V_M_B 0402

FOXCONN HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division

Title: VRAM (GDDR) 3 OF 4

Size: A3 | Document Number: MS12-1-01 (MBX-149) | Rev: 2.0

Date: Friday, July 14, 2006 | Sheet 26 of 66

Decoupling for right MEMORY

Place around the MEM

+1_8VRUN 20,21,24,25,26,61

5/6
4.7u->10u

C575 NV_10U_6.3V_M 0805_X5R
C576 NV_0.1U_16V_M_B 0402
C577 NV_0.1U_16V_M_B 0402
C578 NV_0.1U_16V_M_B 0402
C579 NV_0.1U_16V_M_B 0402
C580 NV_0.1U_16V_M_B 0402
C581 NV_0.1U_16V_M_B 0402
C582 NV_0.1U_16V_M_B 0402
C583 NV_0.1U_16V_M_B 0402
C584 NV_0.1U_16V_M_B 0402
C585 NV_0.1U_16V_M_B 0402

+1_8VRUN 20,21,24,25,26,61

1.2A

Place under the MEM

C586 NV_0.1U_16V_M_B 0402
C587 NV_0.1U_16V_M_B 0402
C588 NV_0.1U_16V_M_B 0402
C589 NV_1000P_50V_M_B 0402
C590 NV_1000P_50V_M_B 0402
C591 NV_1000P_50V_M_B 0402
C592 NV_1000P_50V_M_B 0402
C593 NV_1000P_50V_M_B 0402

NO USE

Decoupling for left MEMORY

Place around the MEM

+1_8VRUN 20,21,24,25,26,61

5/6
4.7u->10u

C605 NV_10U_6.3V_M 0805_X5R
C606 NV_0.1U_16V_M_B 0402
C607 NV_0.1U_16V_M_B 0402
C608 NV_0.1U_16V_M_B 0402
C609 NV_0.1U_16V_M_B 0402
C610 NV_0.1U_16V_M_B 0402
C611 NV_0.1U_16V_M_B 0402
C612 NV_0.1U_16V_M_B 0402
C613 NV_0.1U_16V_M_B 0402
C614 NV_0.1U_16V_M_B 0402
C615 NV_0.1U_16V_M_B 0402

+1_8VRUN 20,21,24,25,26,61

Place under the MEM

C616 NV_0.1U_16V_M_B 0402
C617 NV_0.1U_16V_M_B 0402
C618 NV_0.1U_16V_M_B 0402
C619 NV_1000P_50V_M_B 0402
C620 NV_1000P_50V_M_B 0402
C621 NV_1000P_50V_M_B 0402
C622 NV_1000P_50V_M_B 0402
C623 NV_1000P_50V_M_B 0402

FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division	
Title	VRAM (POWERBYPASS) 4 OF 4	
Size A3	Document Number MS12-1-01 (MBX-149)	Rev 2.0
Date: Friday, July 14, 2006	Sheet 27 of 66	

LVDS

Group1,Group1 should be close

Group1 Group2

0404_4P2R

23 NV_ODD_CLKIN-	ODD_CLKIN-	NV_0	RP76	CA_0	RP77	ODD_CLKIN-	GM_ODD_CLKIN- 8
23 NV_ODD_CLKIN+	ODD_CLKIN+					ODD_CLKIN+	GM_ODD_CLKIN+ 8
23 NV_ODD_RXIN0-	ODD_RXIN0-	NV_0	RP78	CA_0	RP79	ODD_RXIN0-	GM_ODD_RXIN0- 8
23 NV_ODD_RXIN0+	ODD_RXIN0+					ODD_RXIN0+	GM_ODD_RXIN0+ 8
23 NV_ODD_RXIN1-	ODD_RXIN1-	NV_0	RP80	CA_0	RP81	ODD_RXIN1-	GM_ODD_RXIN1- 8
23 NV_ODD_RXIN1+	ODD_RXIN1+					ODD_RXIN1+	GM_ODD_RXIN1+ 8
23 NV_ODD_RXIN2-	ODD_RXIN2-	NV_0	RP82	CA_0	RP83	ODD_RXIN2-	GM_ODD_RXIN2- 8
23 NV_ODD_RXIN2+	ODD_RXIN2+					ODD_RXIN2+	GM_ODD_RXIN2+ 8
23 NV_EVEN_CLKIN-	EVEN_CLKIN-	NV_0	RP84	CA_0	RP85	EVEN_CLKIN-	GM_EVEN_CLKIN- 8
23 NV_EVEN_CLKIN+	EVEN_CLKIN+					EVEN_CLKIN+	GM_EVEN_CLKIN+ 8
23 NV_EVEN_RXIN0-	EVEN_RXIN0-	NV_0	RP86	CA_0	RP87	EVEN_RXIN0-	GM_EVEN_RXIN0- 8
23 NV_EVEN_RXIN0+	EVEN_RXIN0+					EVEN_RXIN0+	GM_EVEN_RXIN0+ 8
23 NV_EVEN_RXIN1-	EVEN_RXIN1-	NV_0	RP88	CA_0	RP89	EVEN_RXIN1-	GM_EVEN_RXIN1- 8
23 NV_EVEN_RXIN1+	EVEN_RXIN1+					EVEN_RXIN1+	GM_EVEN_RXIN1+ 8
23 NV_EVEN_RXIN2-	EVEN_RXIN2-	NV_0	RP90	CA_0	RP91	EVEN_RXIN2-	GM_EVEN_RXIN2- 8
23 NV_EVEN_RXIN2+	EVEN_RXIN2+					EVEN_RXIN2+	GM_EVEN_RXIN2+ 8

LVDS CONNECTOR

CN3

FPC RECEPTCAL CONN_30P
FOX_GS12301-1011A-9F

LCDVCC
LVDS_GPIO

EVEN_RXIN0+	7
EVEN_RXIN0-	8
EVEN_RXIN1+	10
EVEN_RXIN1-	11
EVEN_RXIN2-	13
EVEN_RXIN2+	14
EVEN_CLKIN+	16
EVEN_CLKIN-	17
ODD_CLKIN+	19
ODD_CLKIN-	20
ODD_RXIN2+	22
ODD_RXIN2-	23
ODD_RXIN1+	25
ODD_RXIN1-	26
ODD_RXIN0+	28
ODD_RXIN0-	29

56,57,58,59,60,61,63 DCBATOUT

C640 0.1U_50V_K_B 0603

2A

CN49

B TO B HEADER CONN_6P
FOX_HS8106E

INV_ENABLE
INV_BRADJ
NB_BRADJ
0402 R1268 CA_0_J

+3VRUN

U106 NV_74AHC1G08GW

37 INV_EN_EC
NV_BRADJ
0402 R1269 NV_0_J
BRADJPWM_LPF

R1393 10K_J 0402

INVERTER CONNECTOR

U15 +3VRUN 74AHC1G08GW

37 INV_EN_EC
INV_ENABLE
R1394 10K_J 0402

INV_ENABLE_1

U16 +3VRUN 74AHC1G08GW

LIDIN#
NV_INV_EN
(3.3V tolerant)
GM_INV_EN

R457 CA_0_J 0402
R458 CA_100K_J 0402

LCDVCC

+3VRUN
R459 10K_J 0402
Q10
GM_LCDVCC_EN
CA_PDTC144EU

+3VRUN
U17
IN1 IN2 OUT3 OUT2 OUT1 OC GND EN
G548B2P1U

C647 4.7U_6.3V_K 0805_X5R
C649 4.7U_10V_Y_Y 0805
C650 0.1U_16V_Y_Y 0402
R461 200_J 0603

C1151 0402 NV_0.1U_16V_Y_Y
NV_LCDVCC_EN#

C641 NC_10P_50V_J_N ODD_CLKIN- 0402
C643 NC_10P_50V_J_N ODD_CLKIN+ 0402
C644 NC_10P_50V_J_N EVEN_CLKIN- 0402
C645 NC_10P_50V_J_N EVEN_CLKIN+ 0402

For EMI

PANEL ID

SW1 HDS404-E_SW-SLIDE

LCDID0	33
LCDID1	33
LCDID2	33
LCDID3	33

ON=0

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

DISCHARGE

The R461 will consume about 0.054 Watt (3.3x3.3/200 = 0.054W). We changed resistor to 0603 size (1/8 Watt)

FOXCONN HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division

Title: LVDS
Size: A3
Document Number: MS12-1-01 (MBX-149)
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Date: Friday, July 14, 2006
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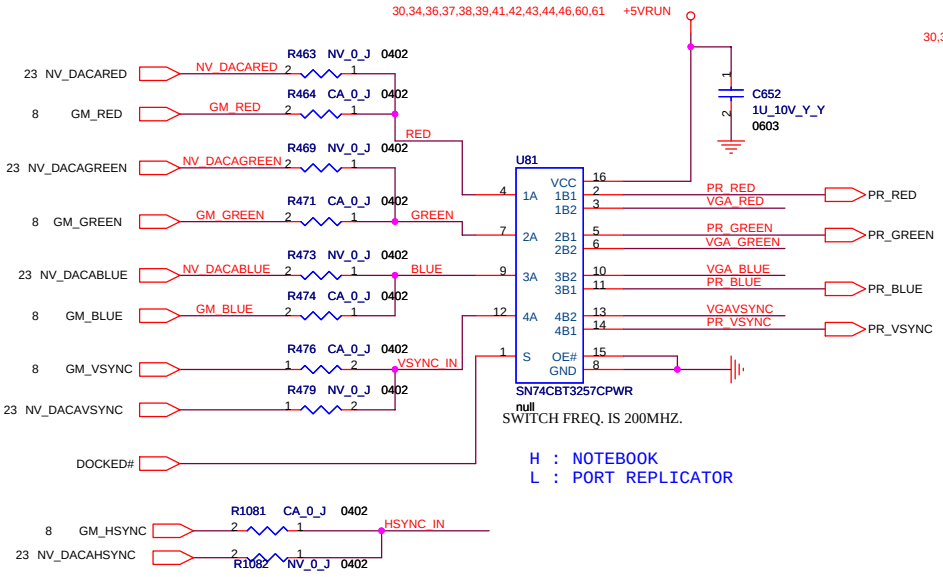
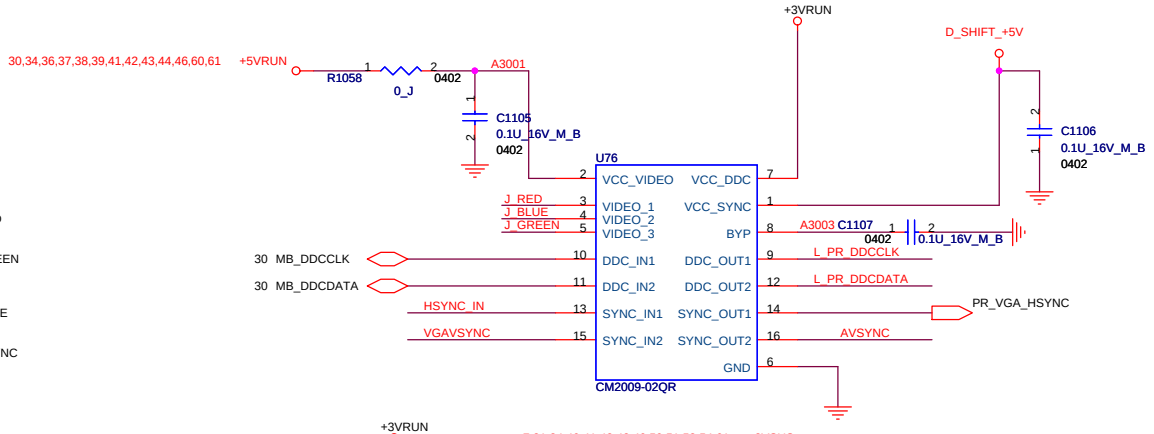
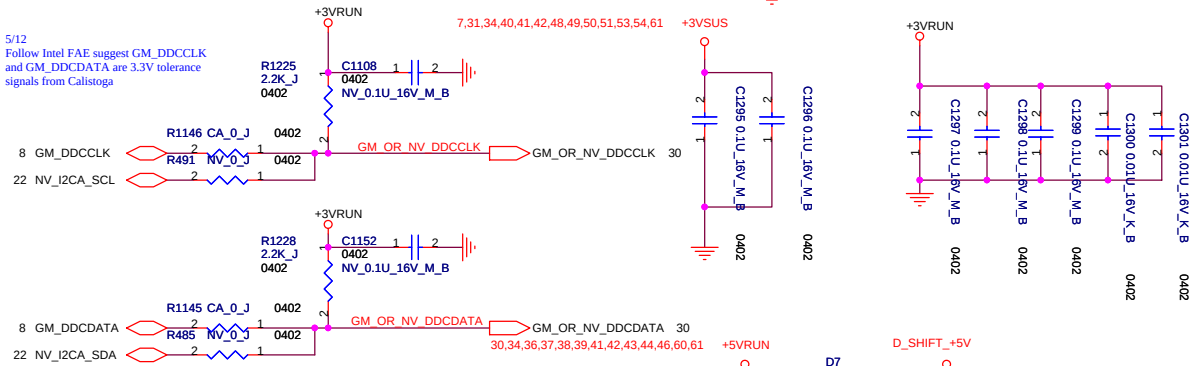
CRT ANALOG SWITCH



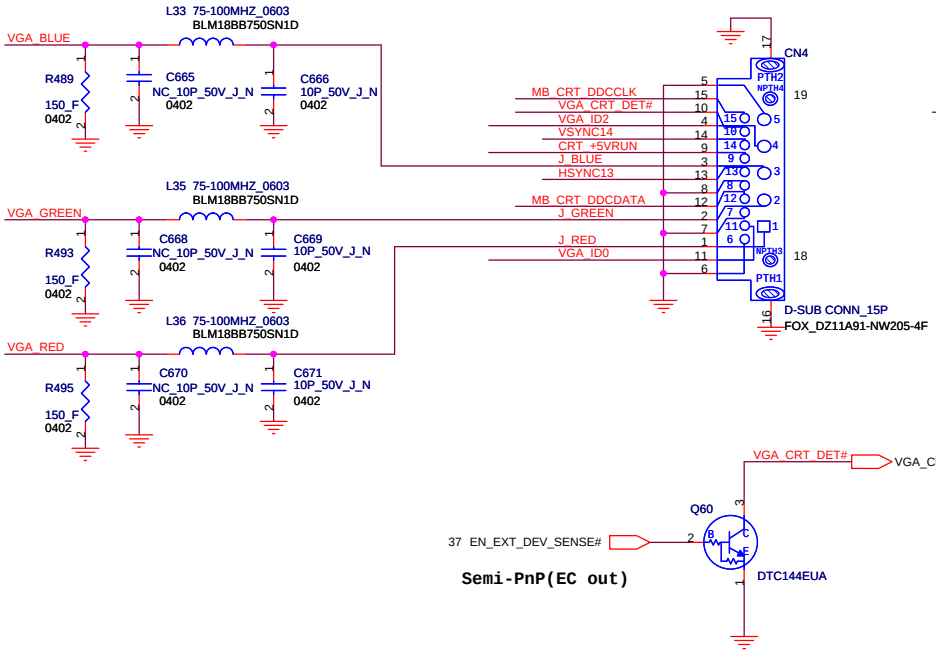
SWITCH FREQ. IS 200MHZ.

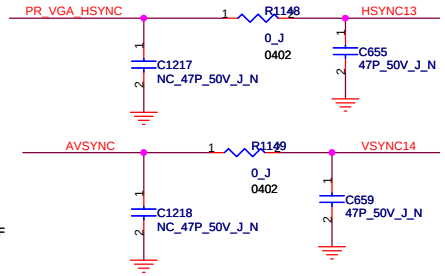
H : NOTEBOOK
L : PORT REPLICATOR

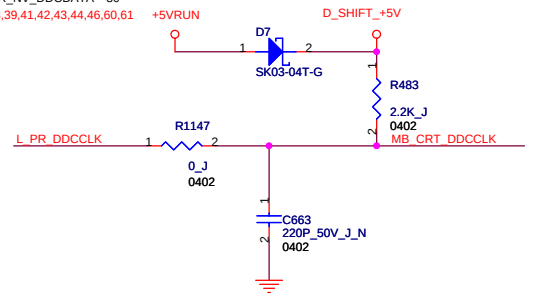




CRT CONNECTOR







Semi-PnP(EC out)

FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division	
Title: CRT		
Size: A3	Document Number: MS12-1-01 (MBX-149)	Rev: 2.0
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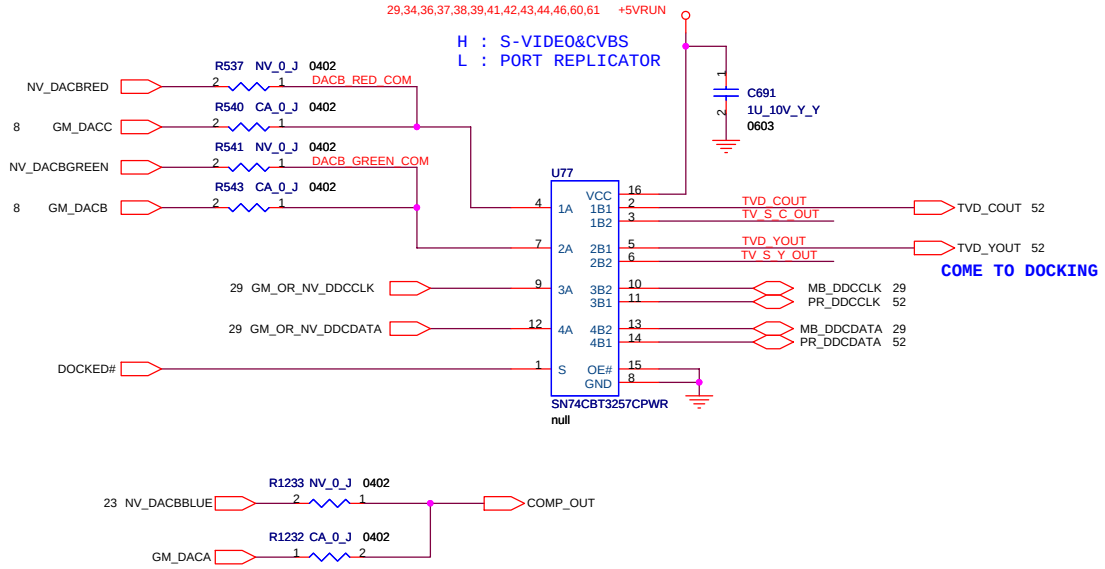
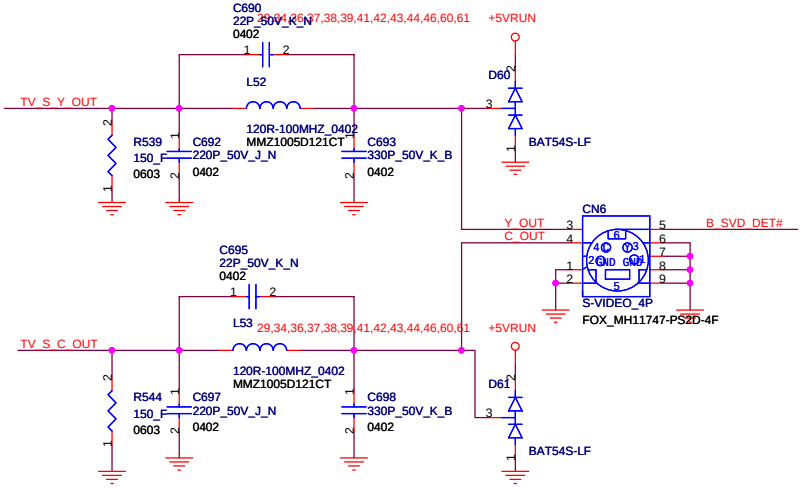
S-VIDEO

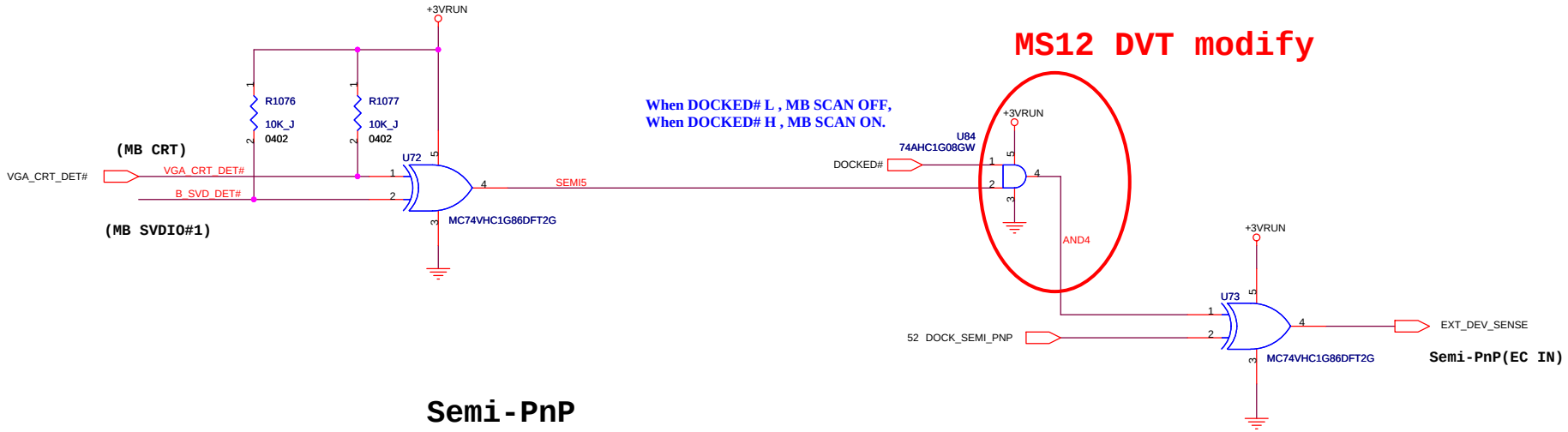
These compoent close to S-Video connector within 700 mil

S-VIDEO ANALOG SWITCH





MS12 DVT modify



Semi-PnP

FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division	
Title: S-VIDEO/Semi-PnP		
Size: A3	Document Number: MS12-1-01 (MBX-149)	Rev: 2.0
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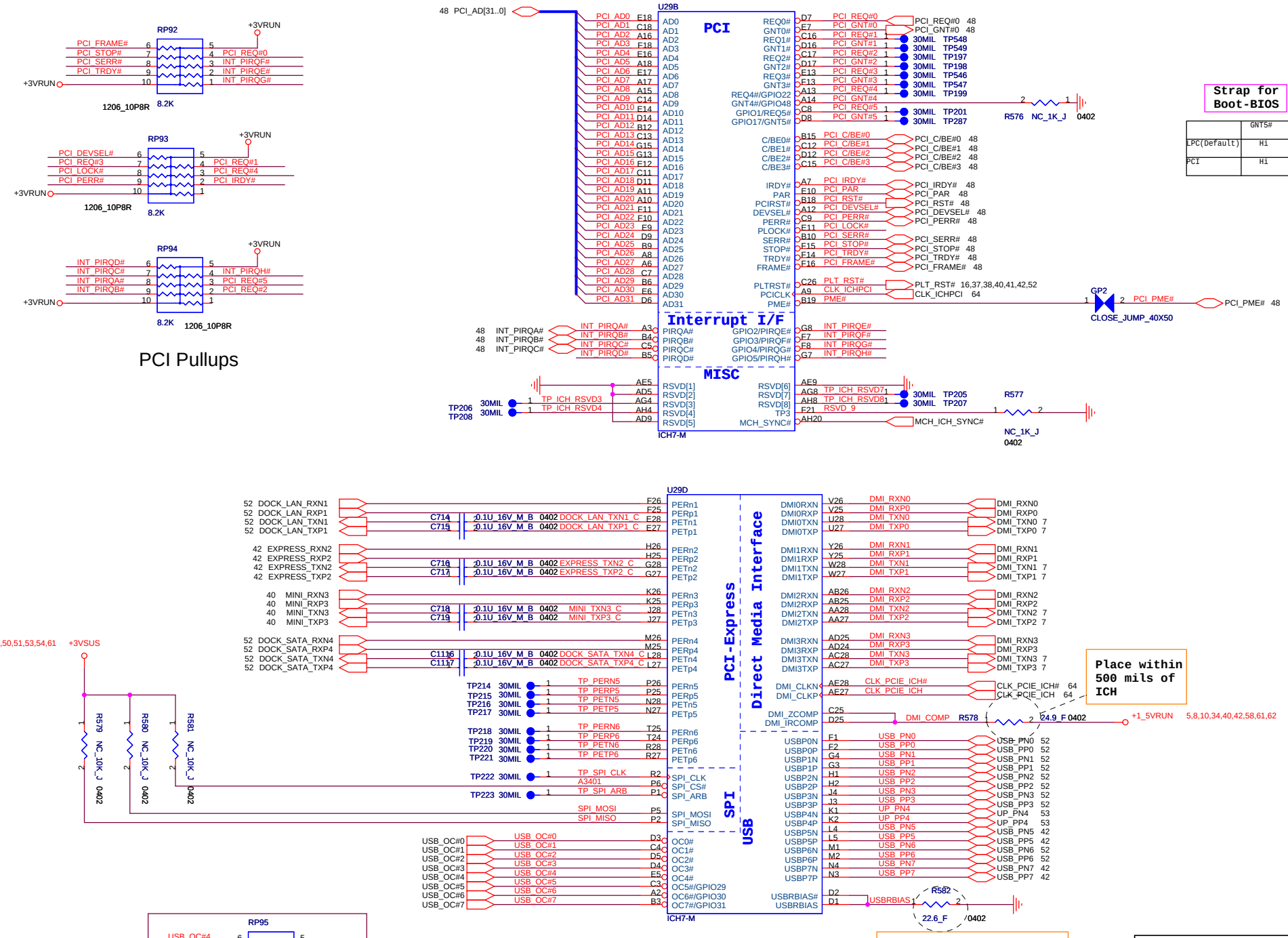

	GNT5#	GNT4#
LPC(Default)	Hi	Hi
PCI	Hi	LOW

FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division	
Title	ICH7-M(PCI/DMI/USB/PCIE) 1/5	
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Date: Friday, July 14, 2006	Sheet 31 of 66	

RTCRST#

VccRTC

Min : 5ms

The traces inside this block should be wider.

No digital signals routed under XTAL

3,37,38,39,57 +ECVCC 34,62 VCCRTC

D21 SCS500V-40-LF

C721 1U_6.3V_M_B 0402

32.768KHZ_12.5P_10PPM Q13MC3061001800 Y3

C720 0402 15P_50V_K_N CLK_32KX1

C722 15P_50V_K_N 0402 CLK_32KX2

6 mils

R583 10M_J 0402

CLK_32KX2_R

R585 20K_J 0402

R5840_J 0402 RTCRST#

C723 1U_25V_K_B 0603

J2 OPEN_JUMP_OPEN2

R587 1M_J 0402

R589 510_F 0402

R1310 510_F 0402

CN9 HEADER_2P FOX_HS8202E A3504

Check resistor value

34,62 VCCRTC

R1065 332K_F 0402 INTVRMEN

Pull-up to enable internal VccSus1_05 regular
Pull-Low to disable

U29A

RTCX1 RTCX2 RTCRST# INTRUDER# INTVRMEN — RTC

SM_INTRUDER# INTVRMEN

EE_CS EE_SHCLK EE_DOUT EE_DIN — LPC

EEP_CS EEP_SK EEP_DOUT EEP_DIN

LAN_CLK LAN_RSTSYNC LAN_RXD0 LAN_RXD1 LAN_RXD2 LAN_TXD0 LAN_TXD1 LAN_TXD2 — LAN CPU

R_LAN_RXD0 R_LAN_RXD1 R_LAN_RXD2

LAN_TXD0 LAN_TXD1 LAN_TXD2

R1206 R1207 R1208 22_F 0402

R1205 22_F 0402

ACZ_BIT_CLK ACZ_SYNC ACZ_RST# ACZ_SDIN0 ACZ_SDIN1 ACZ_SDIN2 ACZ_SDOUT — AC-97/AZALIA

IAC_BITCLK IAC_SYNC IAC_RESET# ACZ_SDATAIN0 ACZ_MDC_SDATAIN1 IAC_SDATAO

+3VRUN R1304 10K_J 0402

43 ACZ_SDATAIN0 ACZ_MDC_SDATAIN1

TP2373 30MIL TP_ACZ_SDIN2

39 SATA_LED# SATALED#

SATA0RXN SATA0RXP SATA0TXN SATA0TXP — SATA

36 SATA_RXN0 36 SATA_RXP0 36 SATA_TXN0 36 SATA_TXP0

C724 C725 C726 C727 3900P_25V_K_B 0603

SATA_RXN0_C SATA_RXP0_C SATA_TXN0_C SATA_TXP0_C

SATA2RXN SATA2RXP SATA2TXN SATA2TXP

TP595 30MIL TP596 30MIL

Place close to ICH7

CLK_PCIE_SATA# CLK_PCIE_SATA SATA_CLKN SATA_CLKP

R602 24.9_F 0402 SATARBIASN SATARBIASP

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

IDE_PDIOR# IDE_PDIOW# IDE_PDDACK# INT_IRQ14 IDE_PDIORDY IDE_PDDREQ — IDE

DIOR# DIOW# DDACK# IDEIRQ IORDY DDREQ

36 INT_IRQ14 36 IDE_PDIORDY 36 IDE_PDDREQ

ICH7-M

LAD0 LAD1 LAD2 LAD3 — LPC_AD0 LPC_AD1 LPC_AD2 LPC_AD3 37,38

LDRQ0# LDRQ1#/GPIO23 — LPC_DRQ#0 LPC_DRQ#1 38

LFRAME# — LPC_FRAME#

A20GATE A20M# — H_A20GATE H_A20M#

CPUSLP# — TP_CPUSLP# 30MIL TP288

TP1/DPRSTP# TP2/DPSLP# — H_DPRSTP# H_DPSLP#

FERR# — R596 56_J 0402 +1_05VRUN 3,4,5,6,10,34,37,61,62 H_FERR#

GPIO49/CPUPWRGD — H_PWRGD

IGNNE# INIT3_3V# INIT# INTR — H_IGNNE# FWH_INIT# 38 H_INIT# 3 H_INTR

RCIN# — H_RCIN#

NMI SMI# — GP10 CLOSE_JUMP_40X50 H_NMI H_SMI# 3

STPCLK# — H_STPCLK# 3

THERMTRIP# — PM_THRMTRIP_R

IDE_PDD[0..15] — IDE_PDD[0..15] 36

DD0 DD1 DD2 DD3 DD4 DD5 DD6 DD7 DD8 DD9 DD10 DD11 DD12 DD13 DD14 DD15

DA0 DA1 DA2 — IDE_PDA0 36 IDE_PDA1 36 IDE_PDA2 36

DCS1# DCS3# — IDE_PDCS1# 36 IDE_PDCS3# 36

+1_05VRUN 3,4,5,6,10,34,37,61,62

R590 R591 NC_56_J 0402

+3VRUN R586 10K_J 0402 H_RCIN#

R592 8.2K_J 0402 H_A20GATE

R599 56_J 0402

Q105 2N7002 H_RCIN# EC_RCIN# R1451 NC_0_J 0402

Q106 2N7002 H_A20GATE EC_A20GATE 37 R1452 NC_0_J 0402

R603 39_J 0402 IAC_BITCLK ACZ_BITCLK

R606 39_J 0402 IAC_BITCLK_AUDIO 43

R608 39_J 0402 IAC_RESET# ACZ_RST# 50

R611 39_J 0402 IAC_RESET#_AUDIO 43

R613 39_J 0402 IAC_SDATAO ACZ_SDATAOUT 50

R614 39_J 0402 IAC_SDATAO_AUDIO 43

ACZ_SYNC R609 39_J 0402 IAC_SYNC

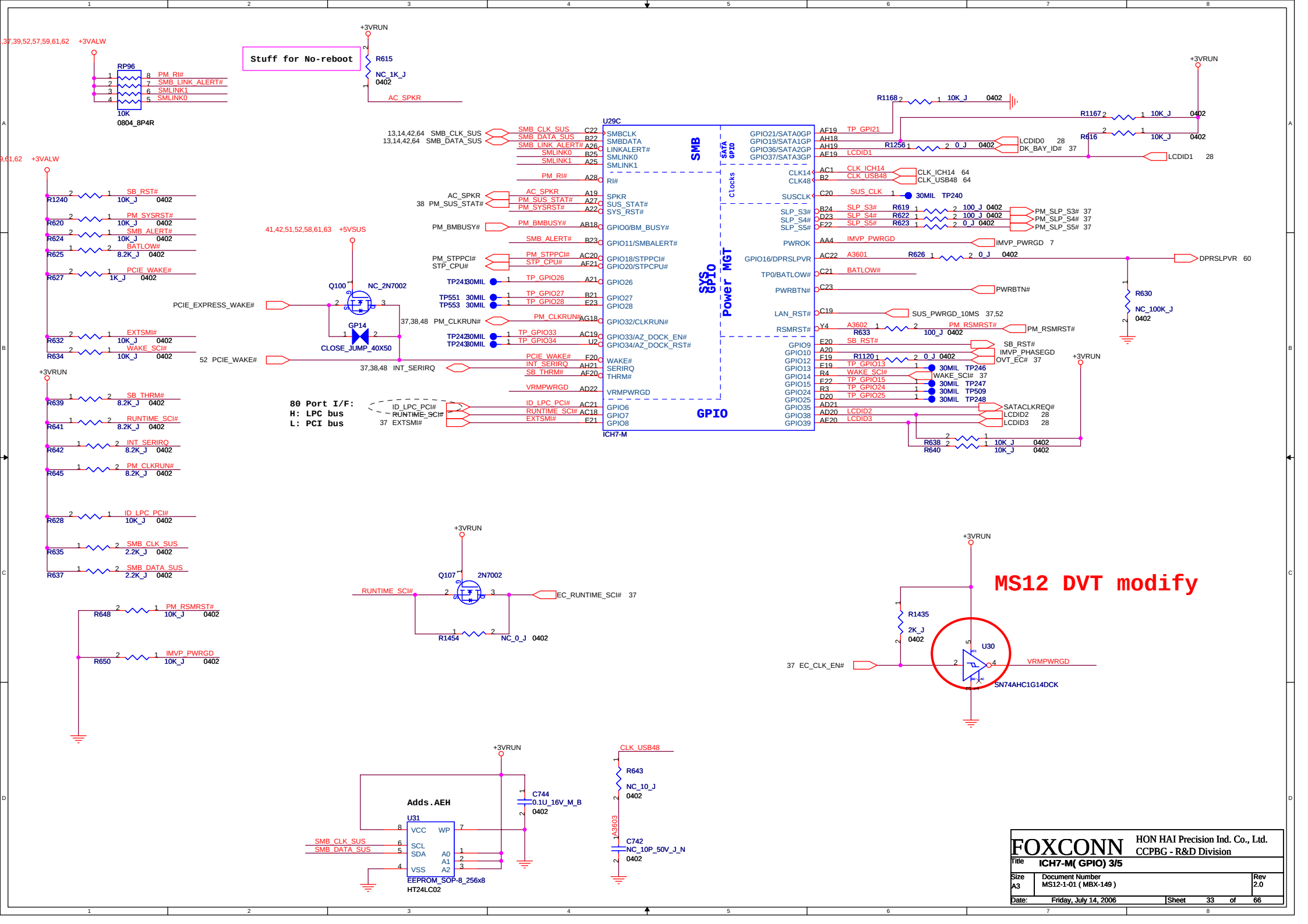
43 IAC_SYNC_AUDIO R612 39_J 0402

+3VRUN R607 NC_1K_J 0402

ACZ_BITCLK R605 NC_47_J 0402 A3505 C735 NC_22P_50V_K_N 0402

IAC_BITCLK_AUDIO R604 NC_47_J 0402 A3506 C734 NC_22P_50V_K_N 0402

FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division	
Title	ICH7-M(LPC,IDE,SATA) 2/5	
Size A3	Document Number MS12-1-01 (MBX-149)	Rev 2.0
Date: Friday, July 14, 2006	Sheet 32 of 66	


Stuff for No-reboot
R615
NC_1K_J
0402
AC_SPKR
+3VRUN
RP96
PM_RI#
SMB_LINK_ALERT#
SMLINK1
SMLINK0
10K
0804_8P4R
U29C
SMB
SYS GPIO
Power MGT
GPIO
SATA GPIO
Clocks
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
ICH7-M
80 Port I/F:
H: LPC bus
L: PCI bus
Q100
NC_2N7002
GP14
CLOSE_JUMP_40X50
PCIE_EXPRESS_WAKE#
Q107
2N7002
RUNTIME_SCI#
EC_RUNTIME_SCI#
R1454
NC_0_J
MS12 DVT modify
R1435
2K_J
U30
SN74AHC1G14DCK
EC_CLK_EN#
VRMPWRGD
Adds.AEH
U31
EEPROM_SOP-8_256x8
HT24LC02
C744
0.1U_16V_M_B
C742
NC_10P_50V_J_N
R643
NC_10_J
CLK_USB48
FOXCONN
HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division
Title
ICH7-M(GPIO) 3/5
Size
A3
Document Number
MS12-1-01 (MBX-149)
Rev
2.0
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Friday, July 14, 2006
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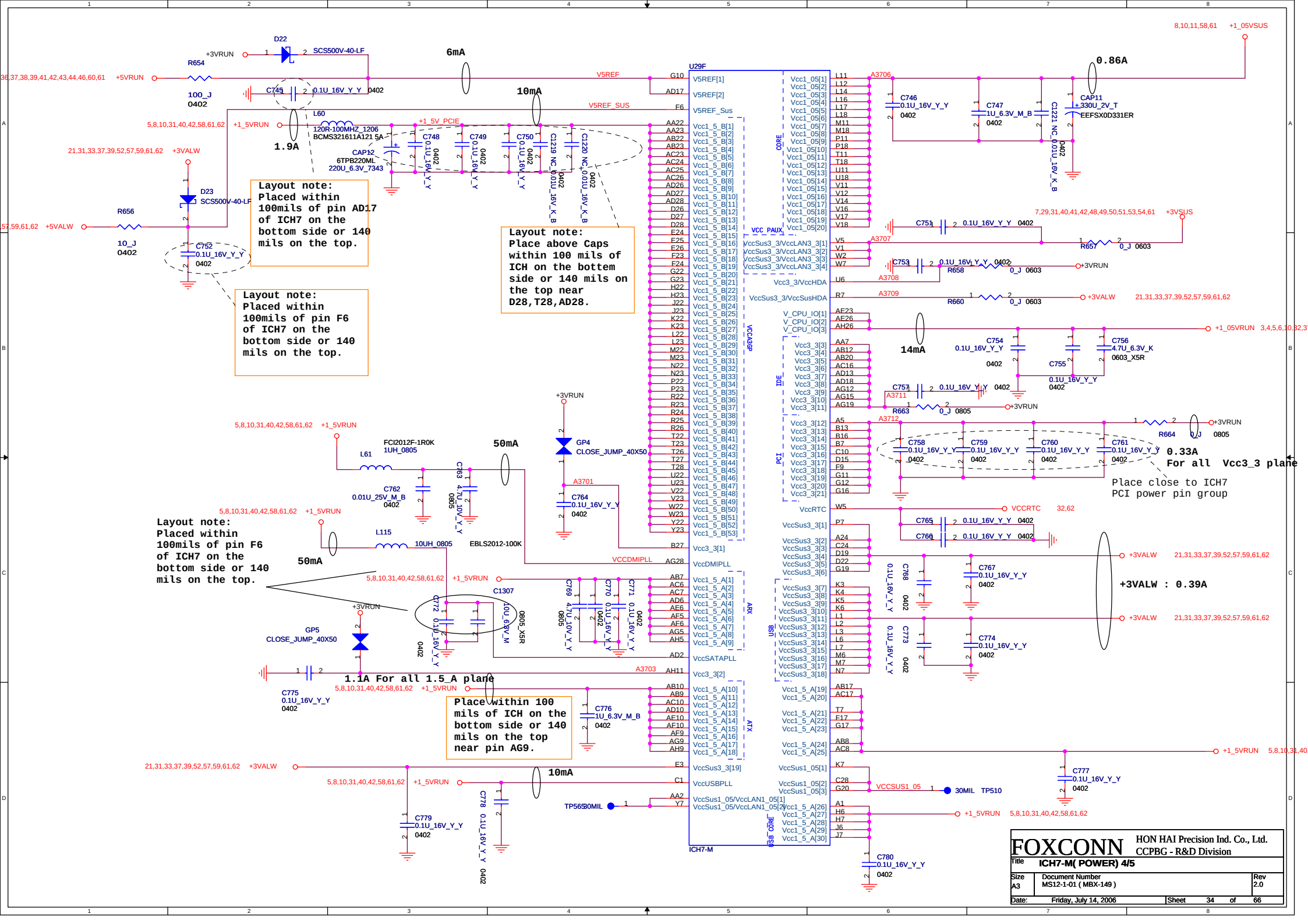
66


D22
SCS500V-40-LF
+3VRUN
R654
100_J
0402
6mA
10mA
V5REF
V5REF_SUS
L60
120R-100MHZ_1206
BCMS321611A121 5A
1.9A
+1_5V_PCIE
CAP12
6TPB220ML
220U_6.3V_7343
C748
C749
C750
C1219 NC_0.01U_16V_K_B
C1220 NC_0.01U_16V_K_B
0.1U_16V_Y_Y
0402
D23
SCS500V-40-LF
R656
10_J
0402
C752
0.1U_16V_Y_Y
0402
+3VALW
+5VALW
+5VRUN
Layout note:
Placed within
100mils of pin AD17
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.
Layout note:
Place above Caps
within 100 mils of
ICH on the bottem
side or 140 mils on
the top near
D28,T28,AD28.
U29F
ICH7-M
V5REF[1]
V5REF[2]
V5REF_Sus
Vcc1_5_B[1]
Vcc1_5_B[2]
Vcc1_5_B[3]
Vcc1_5_B[4]
Vcc1_5_B[5]
Vcc1_5_B[6]
Vcc1_5_B[7]
Vcc1_5_B[8]
Vcc1_5_B[9]
Vcc1_5_B[10]
Vcc1_5_B[11]
Vcc1_5_B[12]
Vcc1_5_B[13]
Vcc1_5_B[14]
Vcc1_5_B[15]
Vcc1_5_B[16]
Vcc1_5_B[17]
Vcc1_5_B[18]
Vcc1_5_B[19]
Vcc1_5_B[20]
Vcc1_5_B[21]
Vcc1_5_B[22]
Vcc1_5_B[23]
Vcc1_5_B[24]
Vcc1_5_B[25]
Vcc1_5_B[26]
Vcc1_5_B[27]
Vcc1_5_B[28]
Vcc1_5_B[29]
Vcc1_5_B[30]
Vcc1_5_B[31]
Vcc1_5_B[32]
Vcc1_5_B[33]
Vcc1_5_B[34]
Vcc1_5_B[35]
Vcc1_5_B[36]
Vcc1_5_B[37]
Vcc1_5_B[38]
Vcc1_5_B[39]
Vcc1_5_B[40]
Vcc1_5_B[41]
Vcc1_5_B[42]
Vcc1_5_B[43]
Vcc1_5_B[44]
Vcc1_5_B[45]
Vcc1_5_B[46]
Vcc1_5_B[47]
Vcc1_5_B[48]
Vcc1_5_B[49]
Vcc1_5_B[50]
Vcc1_5_B[51]
Vcc1_5_B[52]
Vcc1_5_B[53]
Vcc3_3[1]
VccDMIPLL
VccSATAPLL
Vcc3_3[2]
VccSus3_3[19]
VccUSBPLL
VccSus1_05/VccLAN1_05[1]
VccSus1_05/VccLAN1_05[2]
CORE
VCC_PAUX
VccSus3_3/VccLAN3_3[1]
VccSus3_3/VccLAN3_3[2]
VccSus3_3/VccLAN3_3[3]
VccSus3_3/VccLAN3_3[4]
Vcc3_3/VccHDA
VccSus3_3/VccSusHDA
VCC1495
V_CPU_IO[1]
V_CPU_IO[2]
V_CPU_IO[3]
IDE
Vcc3_3[3]
Vcc3_3[4]
Vcc3_3[5]
Vcc3_3[6]
Vcc3_3[7]
Vcc3_3[8]
Vcc3_3[9]
Vcc3_3[10]
Vcc3_3[11]
PCI
Vcc3_3[12]
Vcc3_3[13]
Vcc3_3[14]
Vcc3_3[15]
Vcc3_3[16]
Vcc3_3[17]
Vcc3_3[18]
Vcc3_3[19]
Vcc3_3[20]
Vcc3_3[21]
VccRTC
VccSus3_3[1]
VccSus3_3[2]
VccSus3_3[3]
VccSus3_3[4]
VccSus3_3[5]
VccSus3_3[6]
VccSus3_3[7]
VccSus3_3[8]
VccSus3_3[9]
VccSus3_3[10]
VccSus3_3[11]
VccSus3_3[12]
VccSus3_3[13]
VccSus3_3[14]
VccSus3_3[15]
VccSus3_3[16]
VccSus3_3[17]
VccSus3_3[18]
USB
ARX
ATX
Vcc1_5_A[1]
Vcc1_5_A[2]
Vcc1_5_A[3]
Vcc1_5_A[4]
Vcc1_5_A[5]
Vcc1_5_A[6]
Vcc1_5_A[7]
Vcc1_5_A[8]
Vcc1_5_A[9]
Vcc1_5_A[10]
Vcc1_5_A[11]
Vcc1_5_A[12]
Vcc1_5_A[13]
Vcc1_5_A[14]
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Vcc1_5_A[16]
Vcc1_5_A[17]
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Vcc1_5_A[19]
Vcc1_5_A[20]
Vcc1_5_A[21]
Vcc1_5_A[22]
Vcc1_5_A[23]
Vcc1_5_A[24]
Vcc1_5_A[25]
Vcc1_5_A[26]
Vcc1_5_A[27]
Vcc1_5_A[28]
Vcc1_5_A[29]
Vcc1_5_A[30]
VccSus1_05[1]
VccSus1_05[2]
VccSus1_05[3]
VSB CORE
L61
FCI2012F-1R0K
1UH_0805
C762
0.01U_25V_M_B
0402
C763
4.7U_10V_Y_Y
0805
50mA
GP4
CLOSE_JUMP_40X50
A3701
C764
0.1U_16V_Y_Y
0402
L115
10UH_0805
EBLS2012-100K
C1307
10U_6.3V_M
0805_X5R
C772
0.1U_16V_Y_Y
0402
GP5
CLOSE_JUMP_40X50
1.1A For all 1.5_A plane
A3703
C775
0.1U_16V_Y_Y
0402
C769
4.7U_10V_Y_Y
0805
C770
0.1U_16V_Y_Y
0402
C771
0.1U_16V_Y_Y
0402
C776
1U_6.3V_M_B
0402
Place within 100
mils of ICH on the
bottom side or 140
mils on the top
near pin AG9.
10mA
C779
0.1U_16V_Y_Y
0402
C778
0.1U_16V_Y_Y
0402
TP565
30MIL
C780
0.1U_16V_Y_Y
0402
VCCSUS1_05
30MIL
TP510
C777
0.1U_16V_Y_Y
0402
0.86A
A3706
C746
0.1U_16V_Y_Y
0402
C747
1U_6.3V_M_B
0402
C1221 NC_0.01U_16V_K_B
0402
CAP11
330U_2V_T
EEFSX0D331ER
C751
0.1U_16V_Y_Y
0402
A3707
R657
0_J
0603
C753
0.1U_16V_Y_Y
0402
A3708
R658
0_J
0603
R660
0_J
0603
A3709
14mA
C754
0.1U_16V_Y_Y
0402
C755
0.1U_16V_Y_Y
0402
C756
4.7U_6.3V_K
0603_X5R
C757
0.1U_16V_Y_Y
0402
A3711
R663
0_J
0805
A3712
R664
0_J
0805
C758
0.1U_16V_Y_Y
0402
C759
0.1U_16V_Y_Y
0402
C760
0.1U_16V_Y_Y
0402
C761
0.1U_16V_Y_Y
0402
0.33A
For all Vcc3_3 plane
Place close to ICH7
PCI power pin group
C765
0.1U_16V_Y_Y
0402
C766
0.1U_16V_Y_Y
0402
C767
0.1U_16V_Y_Y
0402
C768
0.1U_16V_Y_Y
0402
C773
0.1U_16V_Y_Y
0402
C774
0.1U_16V_Y_Y
0402
+3VALW : 0.39A
+1_05VSUS
+1_05VRUN
+3VSUS
+3VRUN
+1_5VRUN
+3VALW
VCCRTC
VCCSUS1_05
8,10,11,58,61
7,29,31,40,41,42,48,49,50,51,53,54,61
3,4,5,6,10,32,3
5,8,10,31,40,42,58,61,62
21,31,33,37,39,52,57,59,61,62
32,62
FOXCONN
HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division
Title
ICH7-M(POWER) 4/5
Size
A3
Document Number
MS12-1-01 (MBX-149)
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2.0
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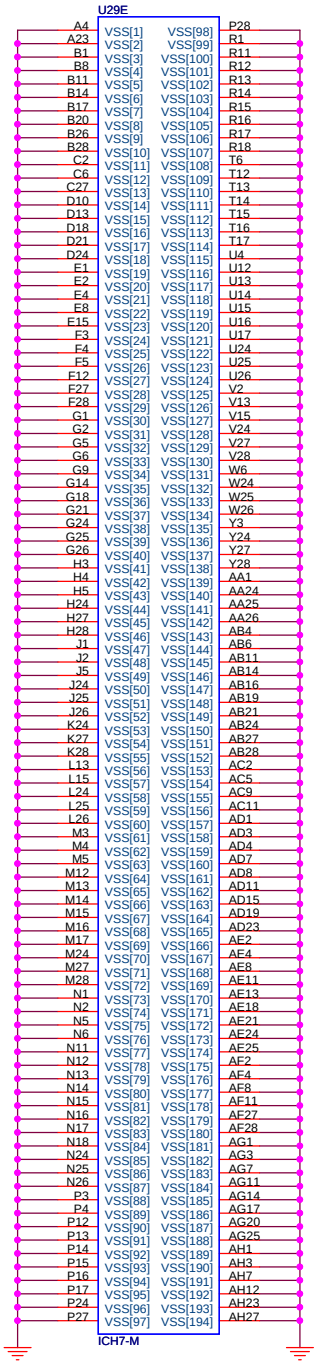
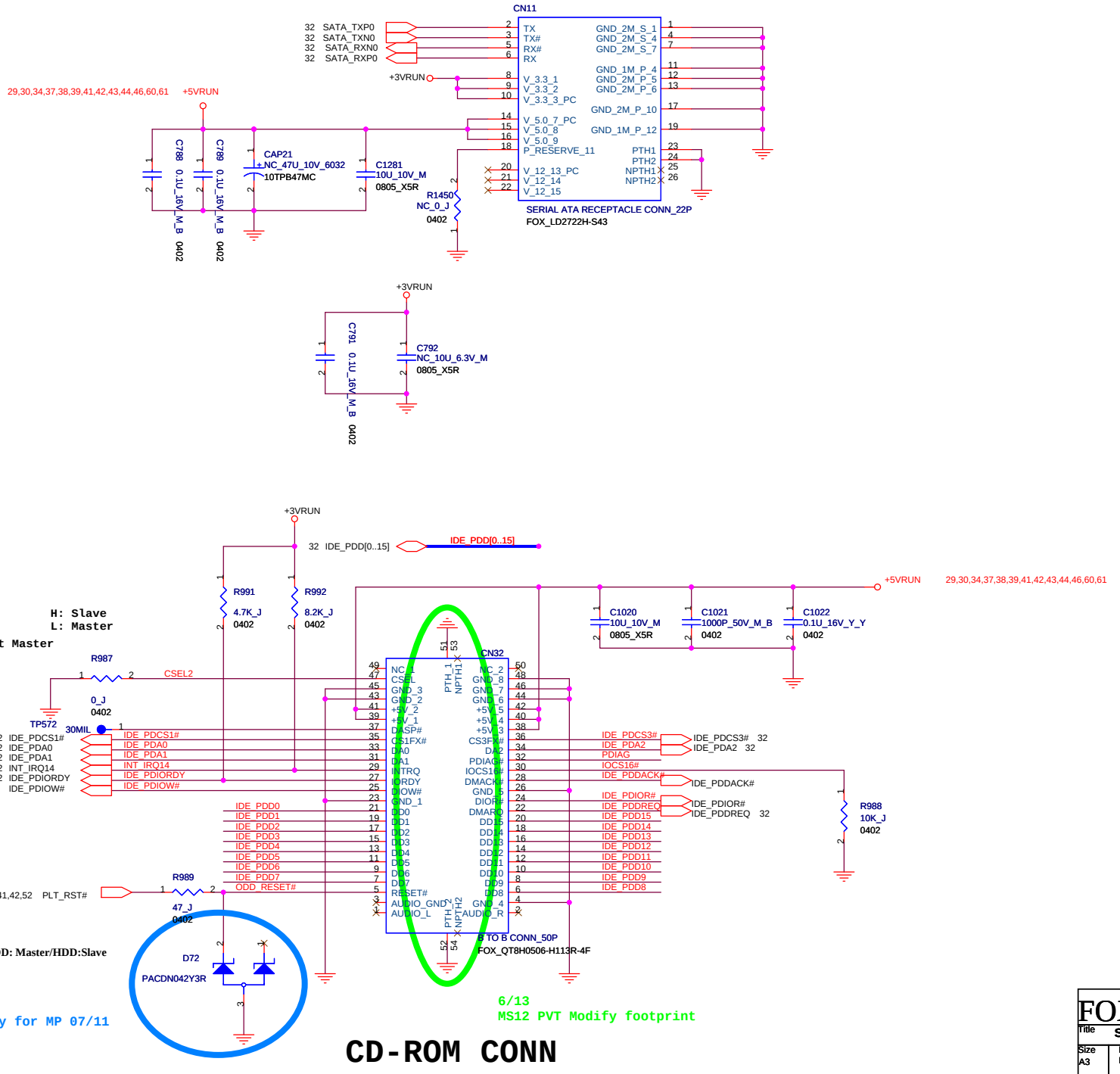


FOXCONN

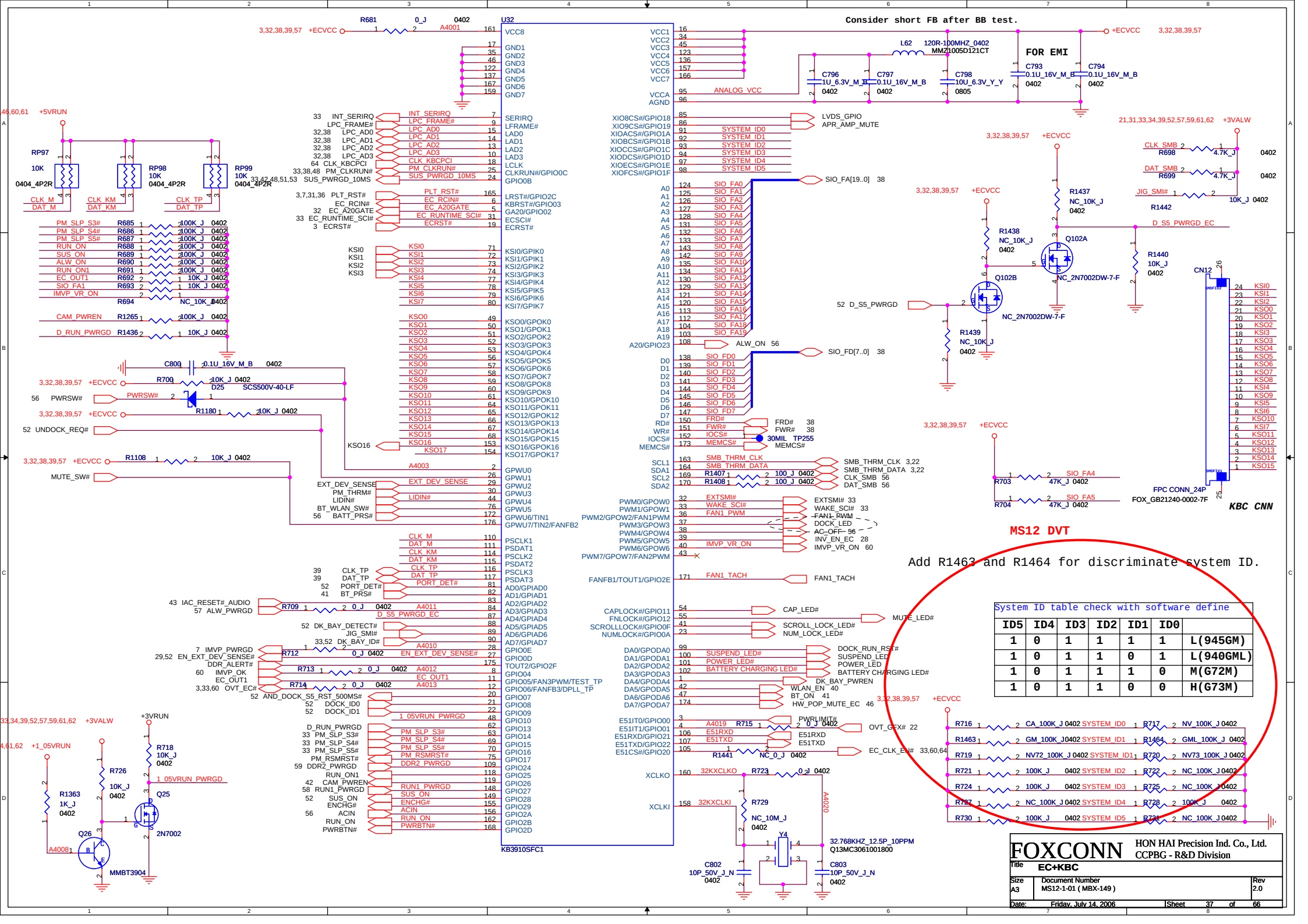
HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division

Title	ICH7-M(GND) 5/5	
Size A3	Document Number MS12-1-01 (MBX-149)	Rev 2.0
Date: Friday, July 14, 2006	Sheet 35 of 66	



FOXCONN HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division

Title	SATA HDD/CD-ROM	
Size A3	Document Number MS12-1-01 (MBX-149)	Rev 2.0
Date: Friday, July 14, 2006	Sheet 36 of 66	


Consider short FB after BB test.
FOR EMI
KBC CNN
MS12 DVT
Add R1463 and R1464 for discriminate system ID.
System ID table check with software define
ID5 ID4 ID3 ID2 ID1 ID0
1 0 1 1 1 1 L(945GM)
1 0 1 1 0 1 L(940GML)
1 0 1 1 1 0 M(G72M)
1 0 1 1 0 0 H(G73M)
FOXCONN
HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division
Title EC+KBC
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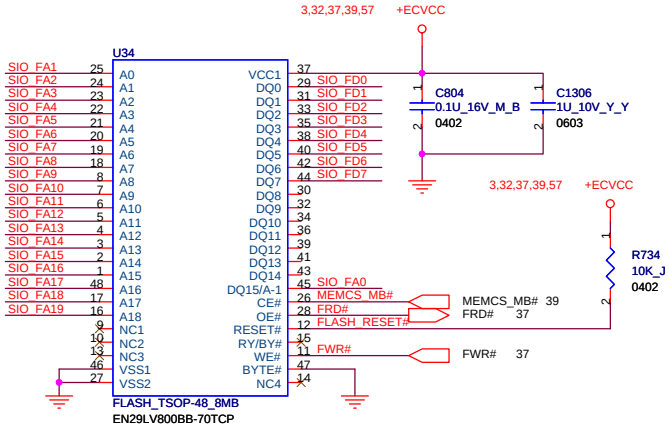
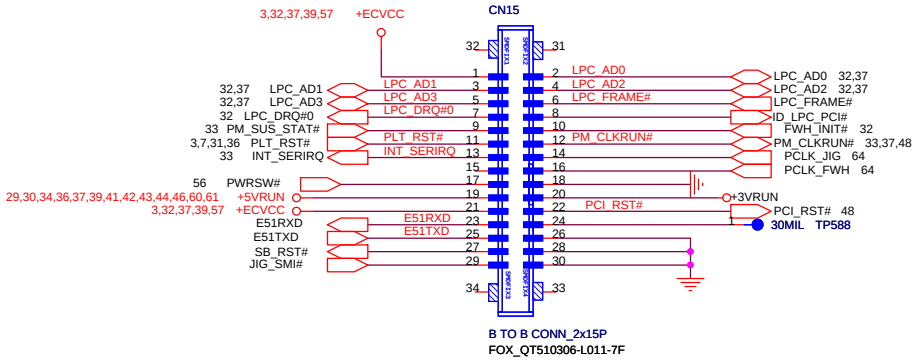
37 SIO_FA[19..0]

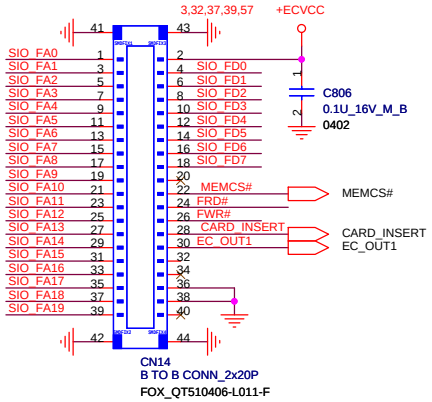
37 SIO_FD[7..0]



FLASH BIOS

JIG-120





FOXCONN HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division

Title	Flash ROM/X-Bus CONN	
Size A3	Document Number MS12-1-01 (MBX-149)	Rev 2.0
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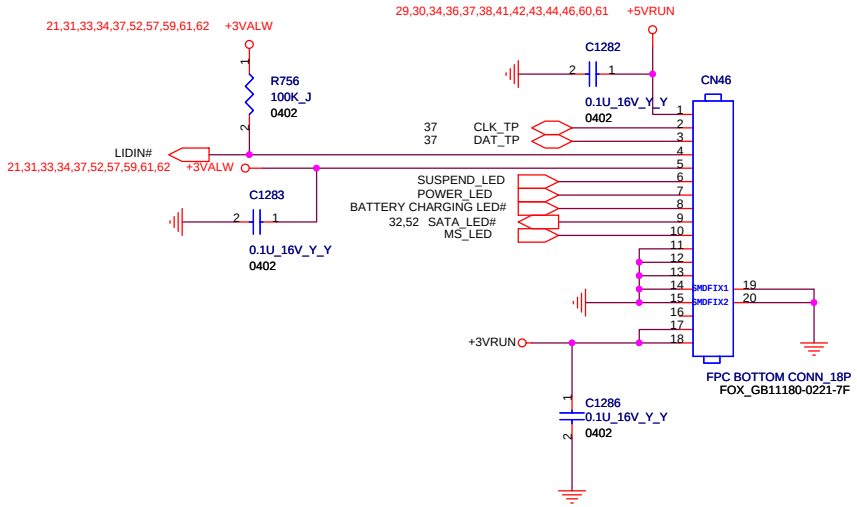

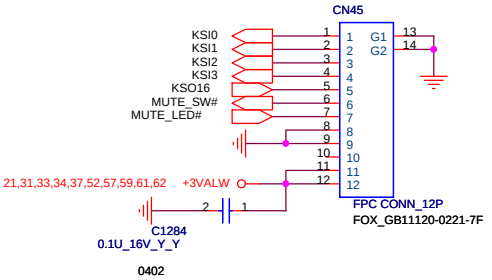

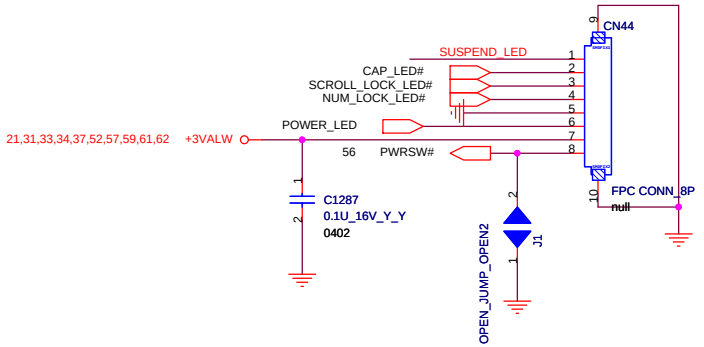

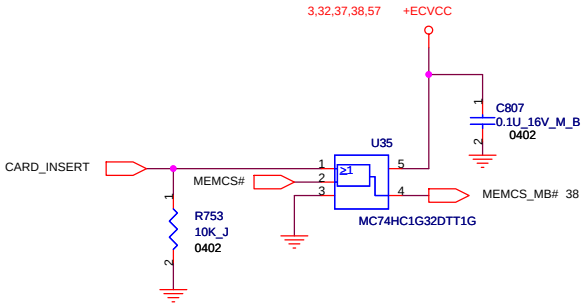

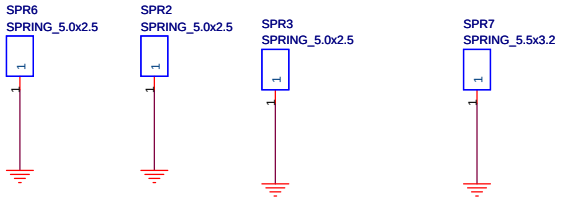

FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division	
Title	LED/LID SW#/Touch PAD	
Size A3	Document Number MS12-1-01 (MBX-149)	Rev 2.0
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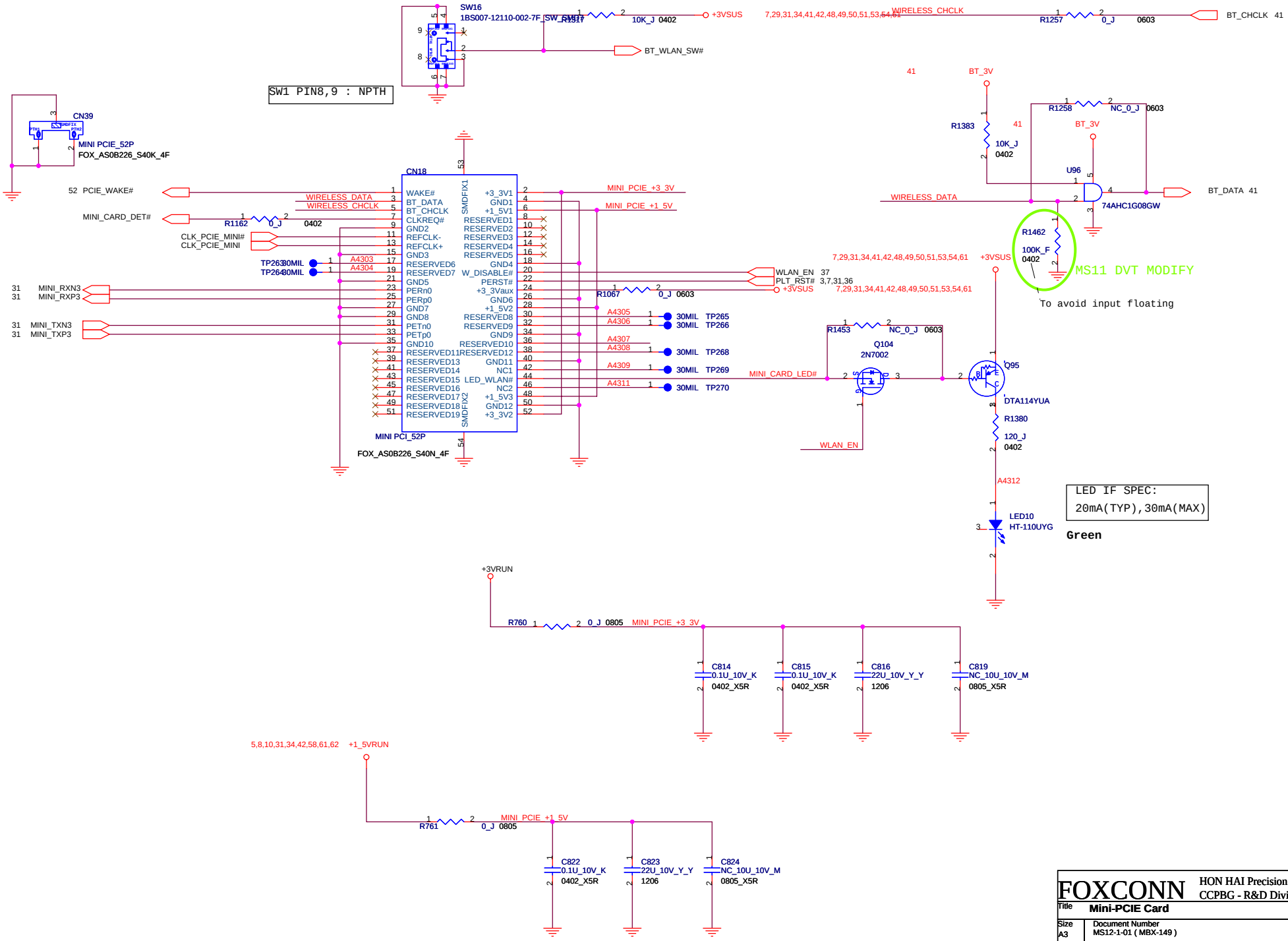

FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division		
Title	Mini-PCIE Card		
Size A3	Document Number MS12-1-01 (MBX-149)		Rev 2.0
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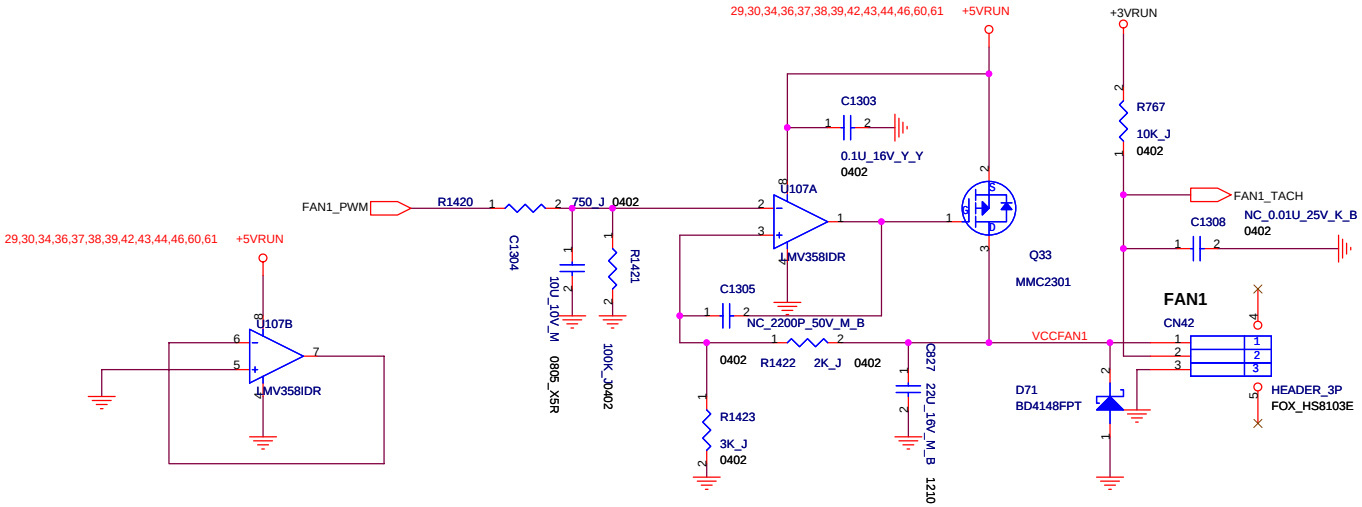

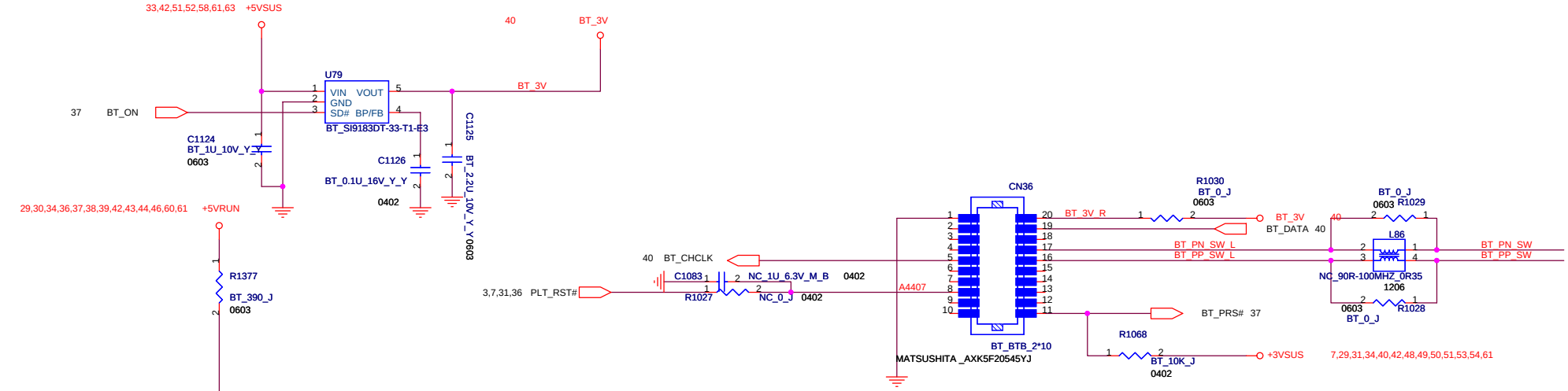

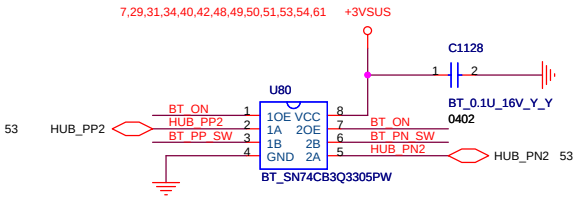

BOM Notice: BT_

W/ BT SKU	Q93,LEDE9,R1377,U79,C1124,C1125,C1126,C1128,U80,R1068,R1028,R1029,R1030,CN36	stuff
W/O BT SKU	Q93,LEDE9,R1377,U79,C1124,C1125,C1126,C1128,U80,R1068,R1028,R1029,R1030,CN36	no stuff

FOXCONN
HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division

Title: FAN/Bluetooth

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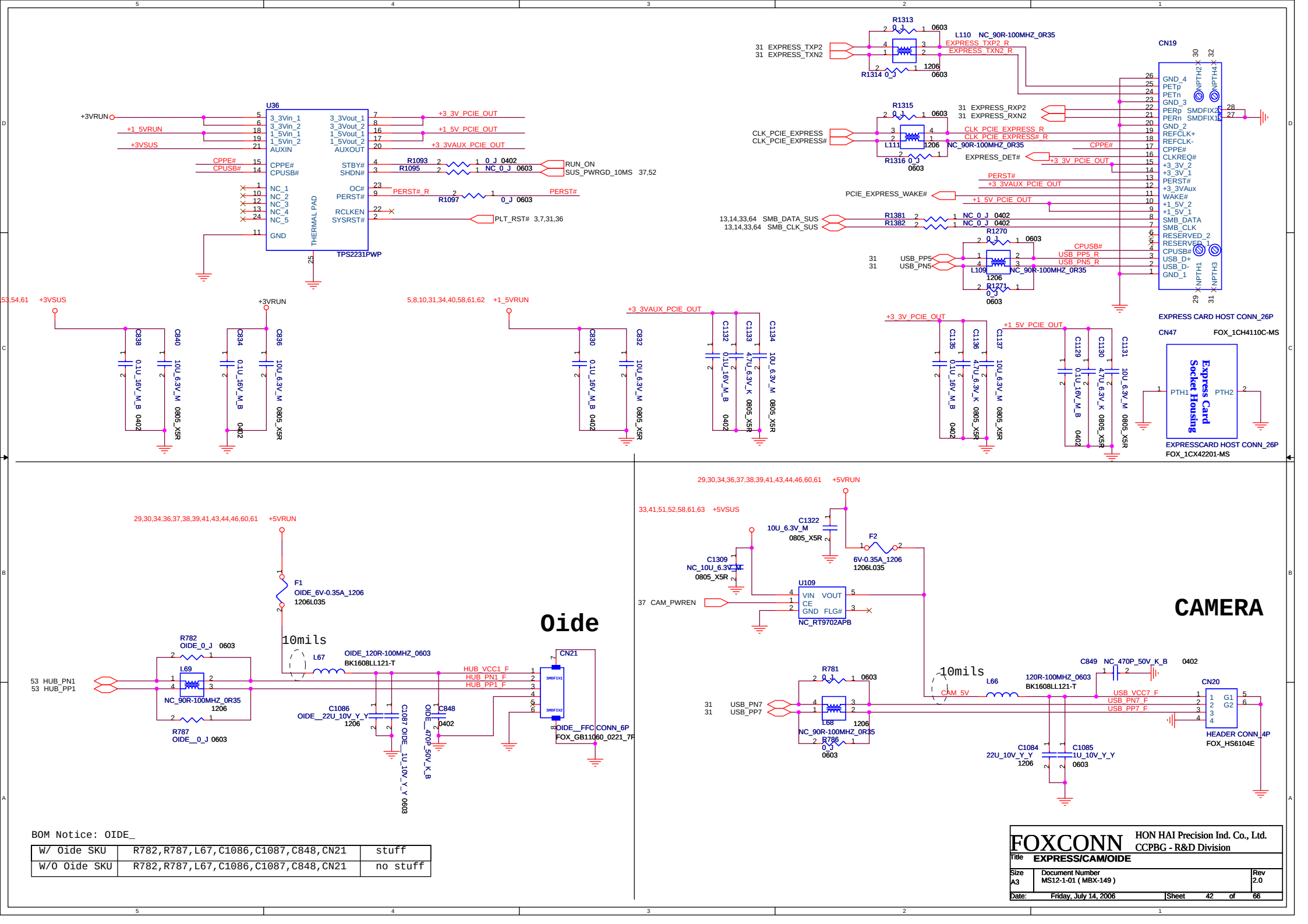
U36
TPS2231PWP
+3VRUN
+1_5VRUN
+3VSUS
+3_3V_PCIE_OUT
+1_5V_PCIE_OUT
+3_3VAUX_PCIE_OUT
RUN_ON
SUS_PWRGD_10MS 37,52
PERST# R
PERST#
PLT_RST# 3,7,31,36
CN19
EXPRESS CARD HOST CONN_26P
CN47
FOX_1CH4110C-MS
Express Card
Socket Housing
EXPRESSCARD HOST CONN_26P
FOX_1CX42201-MS
Oide
F1
OIDE_6V-0.35A_1206
1206L035
10mils
L67
OIDE_120R-100MHZ_0603
BK1608LL121-T
CN21
OIDE__FFC CONN_6P
FOX_GB11060_0221_7F
CAMERA
U109
NC_RT9702APB
CAM_PWREN
L66
120R-100MHZ_0603
BK1608LL121-T
CN20
HEADER CONN_4P
FOX_HS6104E
BOM Notice: OIDE_
W/ Oide SKU | R782,R787,L67,C1086,C1087,C848,CN21 | stuff
W/O Oide SKU | R782,R787,L67,C1086,C1087,C848,CN21 | no stuff
FOXCONN
HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division
Title EXPRESS/CAM/OIDE
Size A3
Document Number MS12-1-01 (MBX-149)
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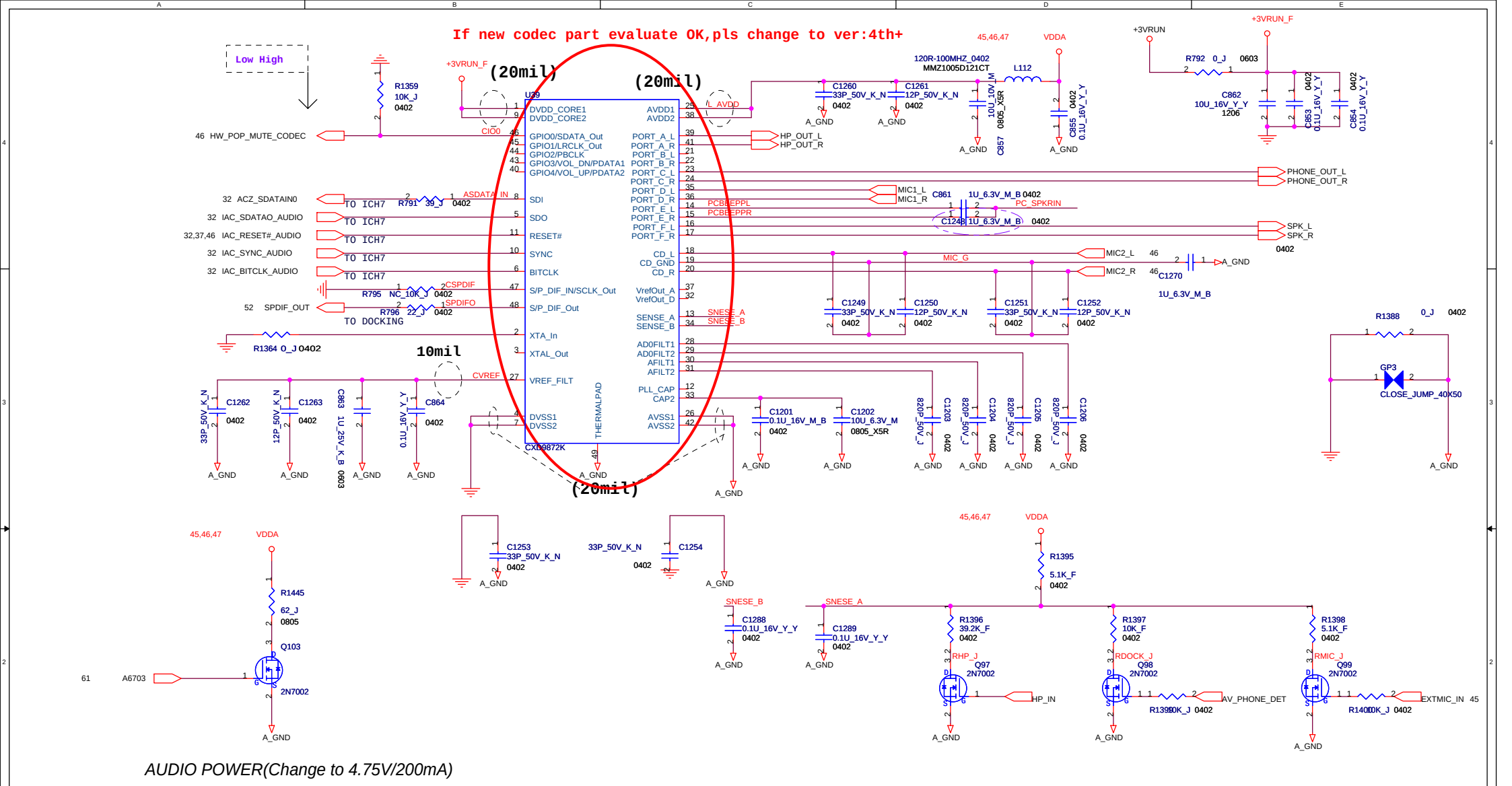
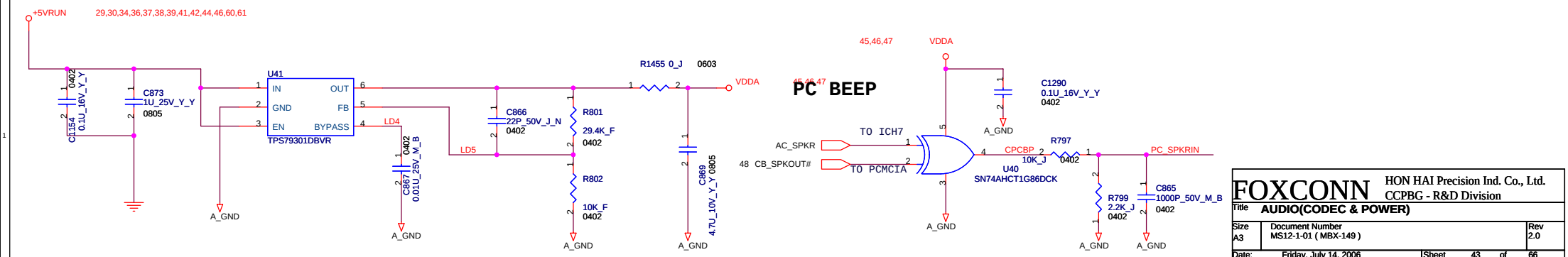
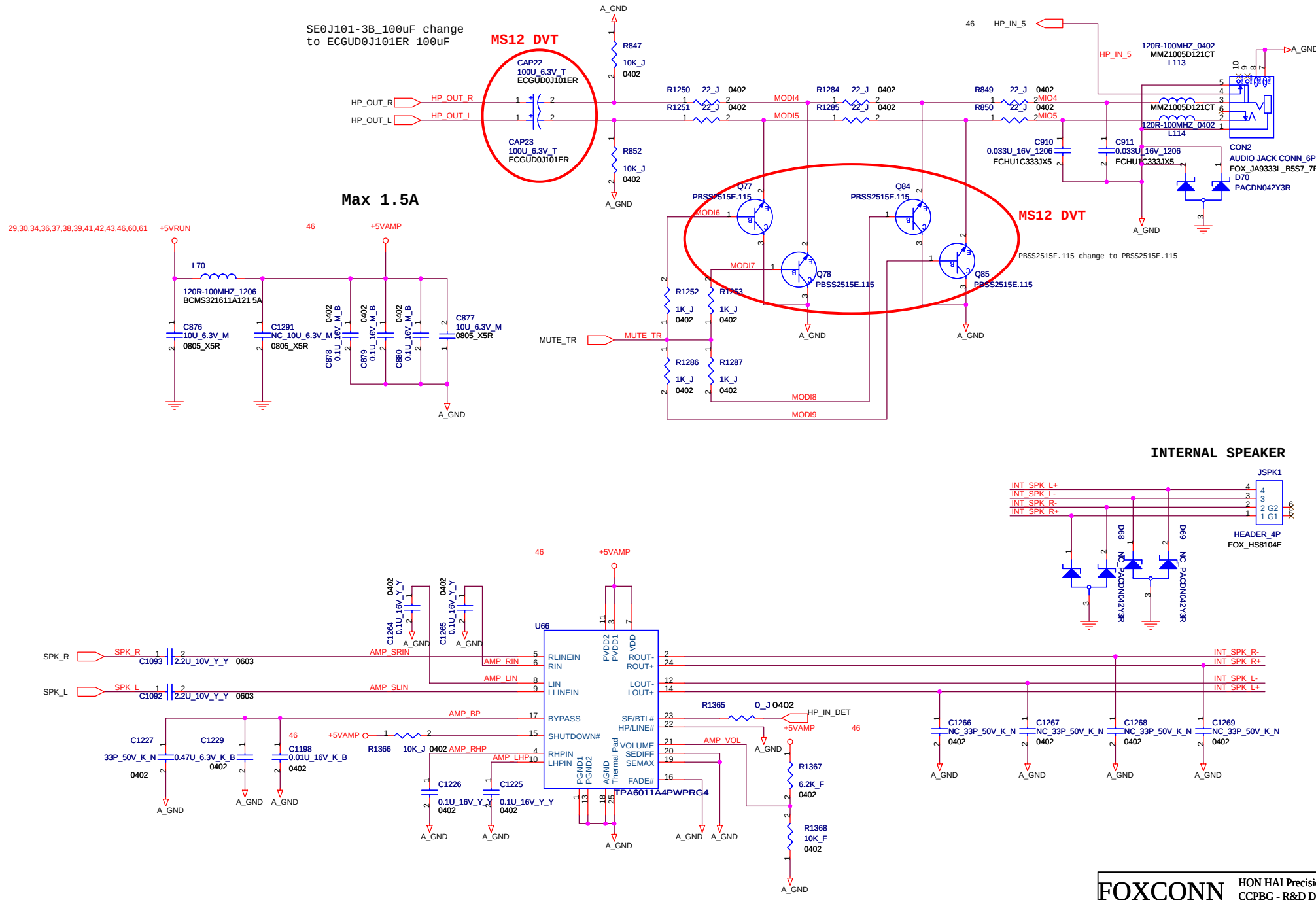
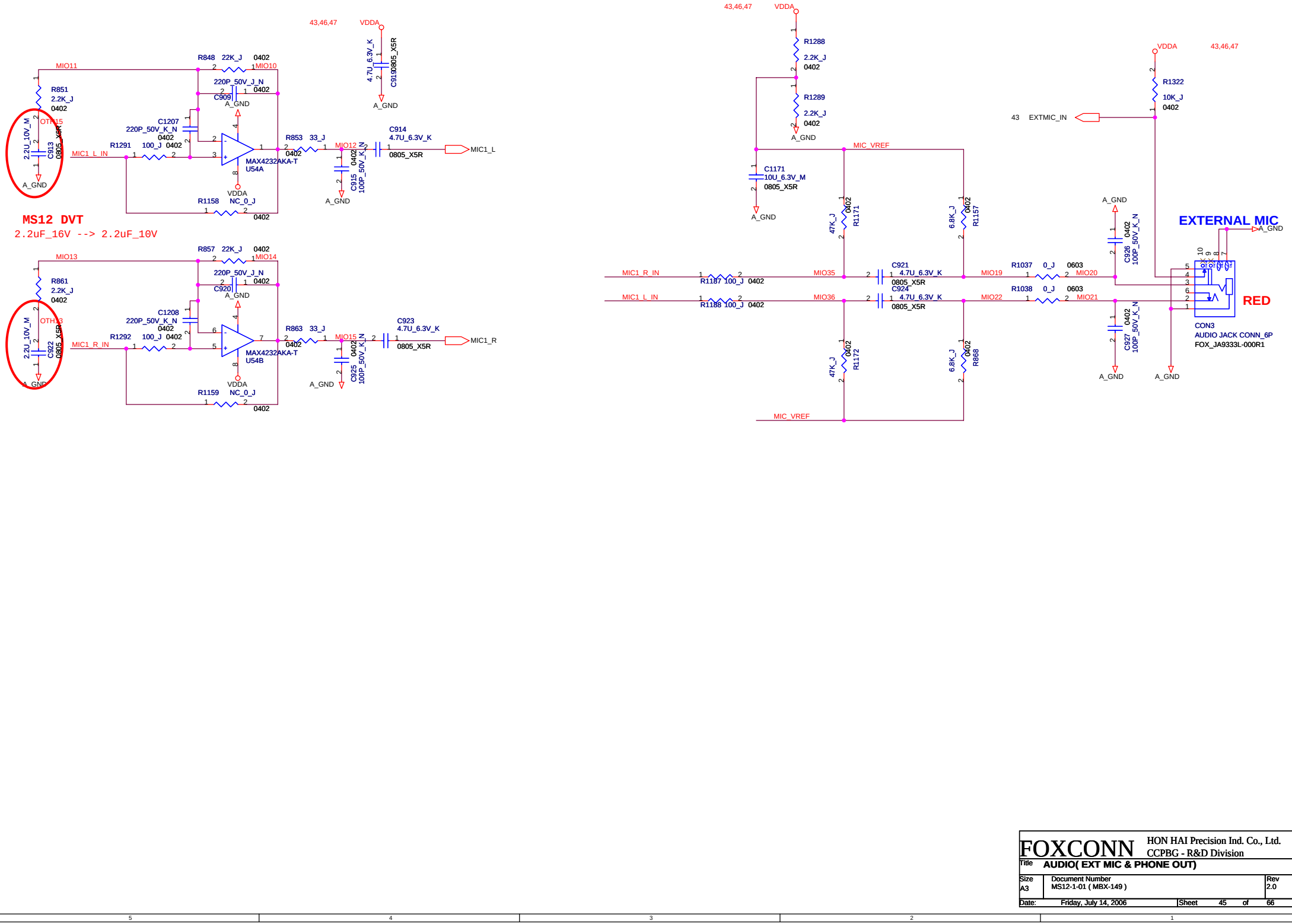


AUDIO POWER(Change to 4.75V/200mA)

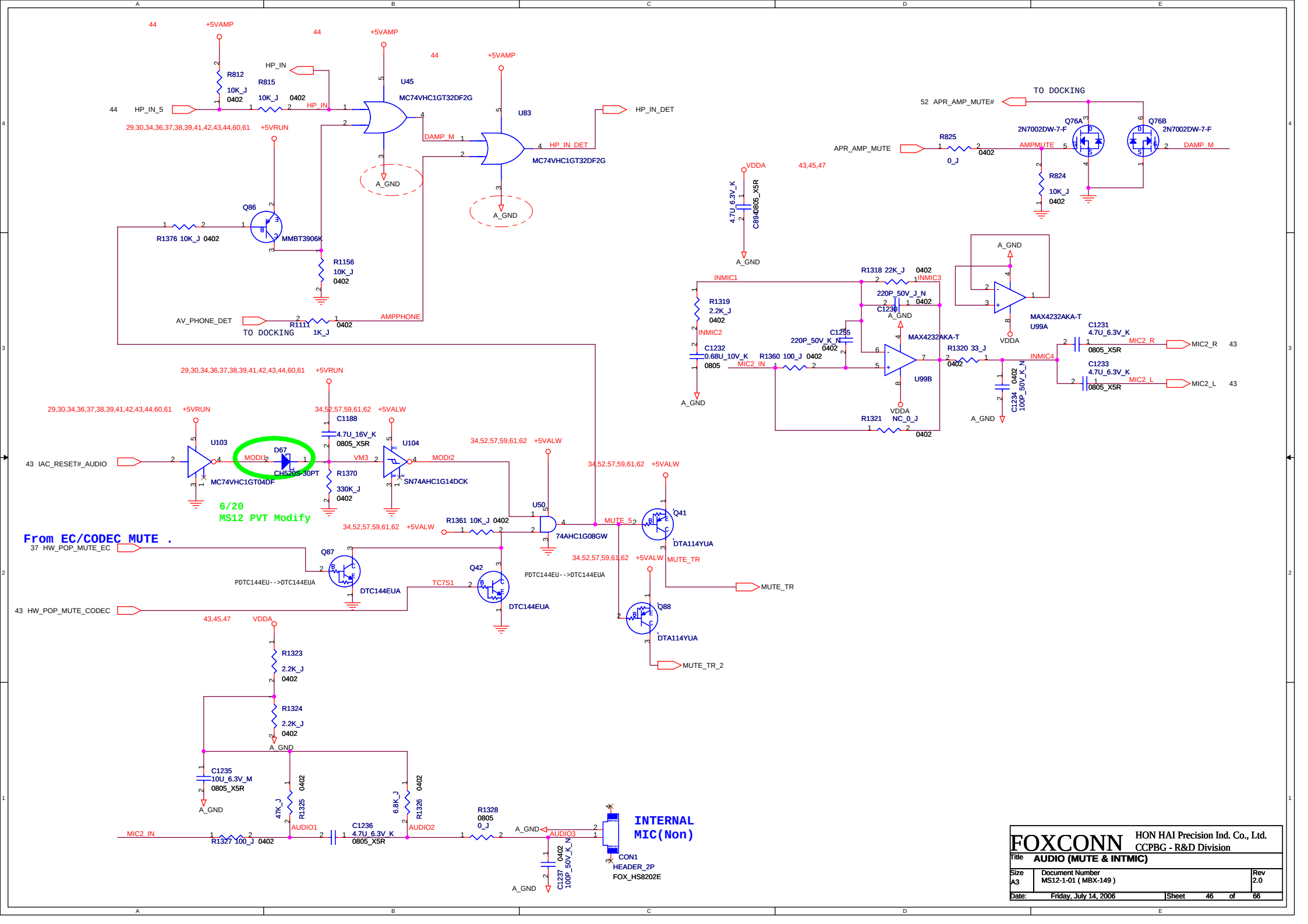


FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division	
Title	AUDIO(CODEC & POWER)	
Size A3	Document Number MS12-1-01 (MBX-149)	Rev 2.0
Date: Friday, July 14, 2006	Sheet 43 of 66	

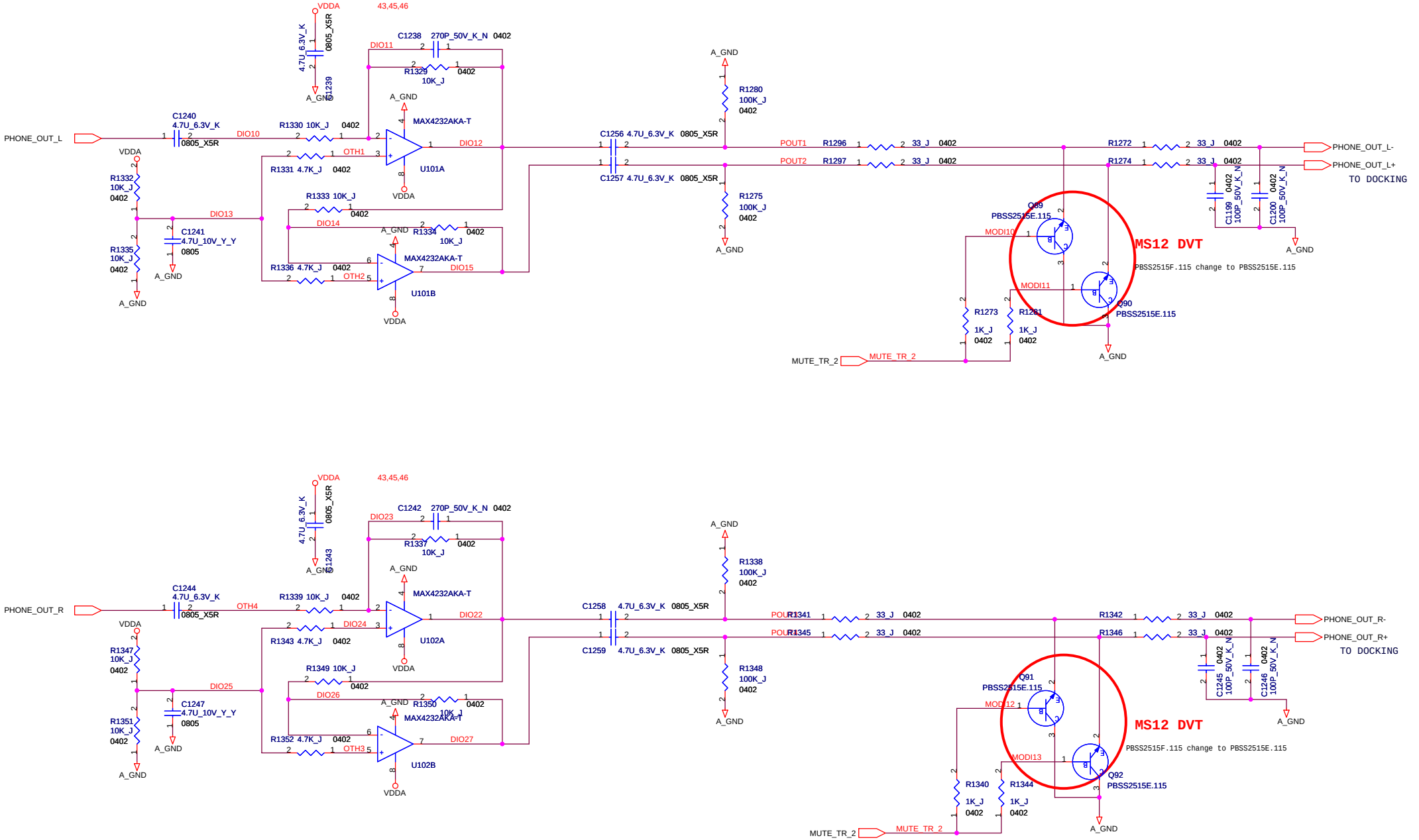

SE0J101-3B_100uF change to ECGUD0J101ER_100uF
MS12 DVT
CAP22 100U_6.3V_T ECGUD0J101ER
CAP23 100U_6.3V_T ECGUD0J101ER
HP_OUT_R
HP_OUT_L
R847 10K_J 0402
R852 10K_J 0402
R1250 22_J 0402
R1251 22_J 0402
R1284 22_J 0402
R1285 22_J 0402
R849 22_J 0402
R850 22_J 0402
MODI4
MODI5
MIO4
MIO5
HP_IN_5
120R-100MHZ_0402 MMZ1005D121CT L113
MMZ1005D121CT
120R-100MHZ_0402 L114
C910 0.033U_16V_1206 ECHU1C333JX5
C911 0.033U_16V_1206 ECHU1C333JX5
CON2 AUDIO JACK CONN_6P FOX_JA9333L_B5S7_7F
D70 PACDN042Y3R
Max 1.5A
+5VRUN
+5VAMP
L70 120R-100MHZ_1206 BCMS321611A121 5A
C876 10U_6.3V_M 0805_X5R
C1291 NC_10U_6.3V_M 0805_X5R
C878 0.1U_16V_M_B
C879 0.1U_16V_M_B
C880 0.1U_16V_M_B
C877 10U_6.3V_M 0805_X5R
Q77 PBSS2515E.115
Q84 PBSS2515E.115
Q78 PBSS2515E.115
Q85 PBSS2515E.115
MS12 DVT
PBSS2515F.115 change to PBSS2515E.115
MODI6
MODI7
MODI8
MODI9
MUTE_TR
R1252 1K_J 0402
R1253 1K_J 0402
R1286 1K_J 0402
R1287 1K_J 0402
INTERNAL SPEAKER
JSPK1
HEADER_4P FOX_HS8104E
INT_SPK_L+
INT_SPK_L-
INT_SPK_R-
INT_SPK_R+
D68 NC_PACDN042Y3R
D69 NC_PACDN042Y3R
U66
TPA6011A4PWPRG4
SPK_R
SPK_L
C1093 2.2U_10V_Y_Y 0603
C1092 2.2U_10V_Y_Y 0603
C1264 0.1U_16V_Y_Y
C1265 0.1U_16V_Y_Y
AMP_SRIN
AMP_SLIN
AMP_RIN
AMP_LIN
AMP_BP
AMP_RHP
AMP_LHP
AMP_VOL
R1365 0_J 0402
HP_IN_DET
R1366 10K_J 0402
R1367 6.2K_F 0402
R1368 10K_F 0402
C1227 33P_50V_K_N 0402
C1229 0.47U_6.3V_K_B 0402
C1198 0.01U_16V_K_B 0402
C1226 0.1U_16V_Y_Y 0402
C1225 0.1U_16V_Y_Y 0402
C1266 NC_33P_50V_K_N 0402
C1267 NC_33P_50V_K_N 0402
C1268 NC_33P_50V_K_N 0402
C1269 NC_33P_50V_K_N 0402
A_GND
+5VAMP
FOXCONN
HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division
Title AUDIO(AMP & HP & SPK)
Size A3
Document Number MS12-1-01 (MBX-149)
Rev 2.0
Date: Friday, July 14, 2006
Sheet 44 of 66



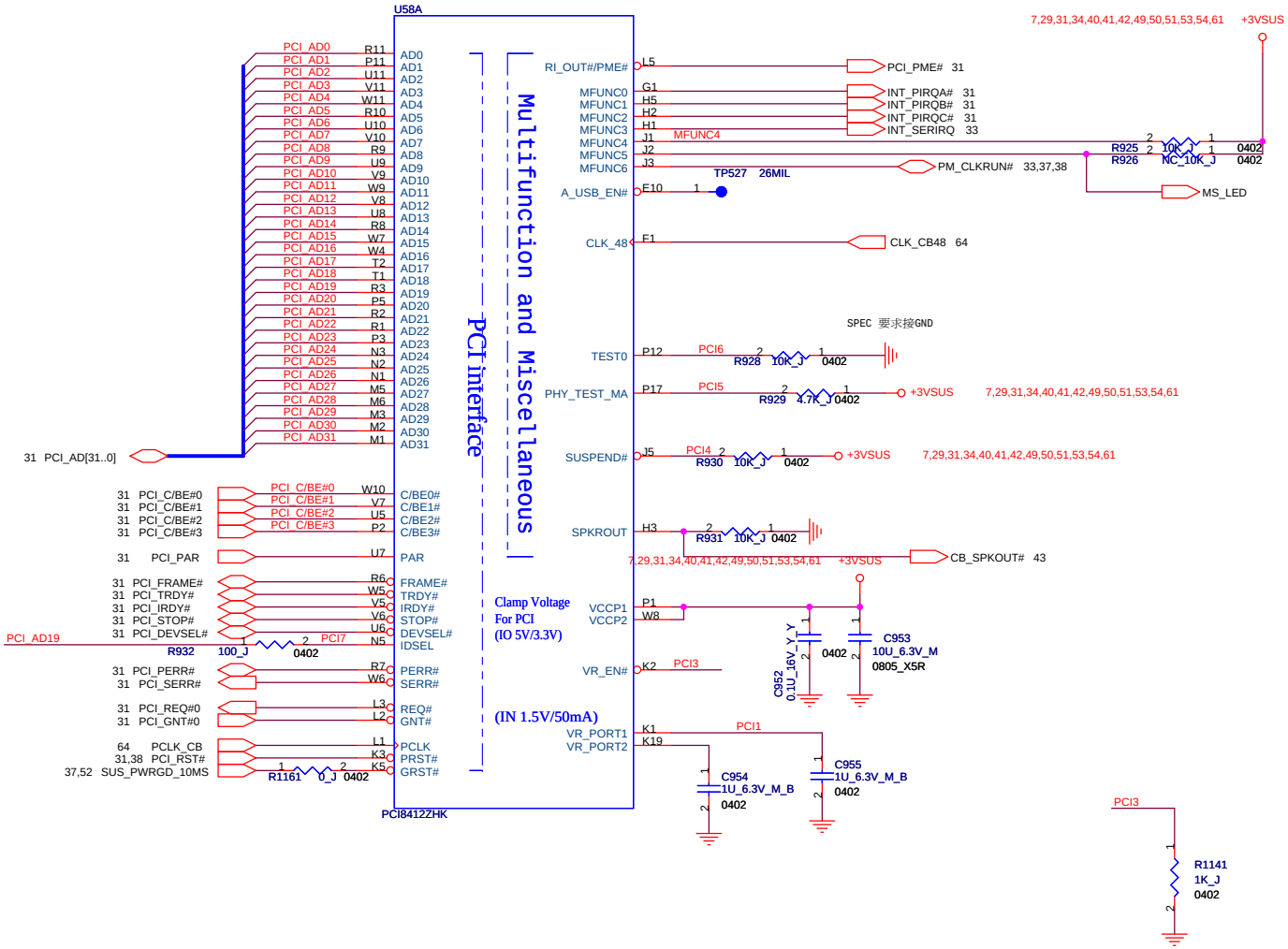
FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division	
Title	AUDIO(EXT MIC & PHONE OUT)	
Size A3	Document Number MS12-1-01 (MBX-149)	Rev 2.0
Date: Friday, July 14, 2006	Sheet 45 of 66	



FOXCONN	HON HAI Precision Ind. Co., Ltd.
	CCPBG - R&D Division
Title	AUDIO (MUTE & INTMIC)
Size A3	Document Number MS12-1-01 (MBX-149) Rev 2.0
Date: Friday, July 14, 2006	Sheet 46 of 66

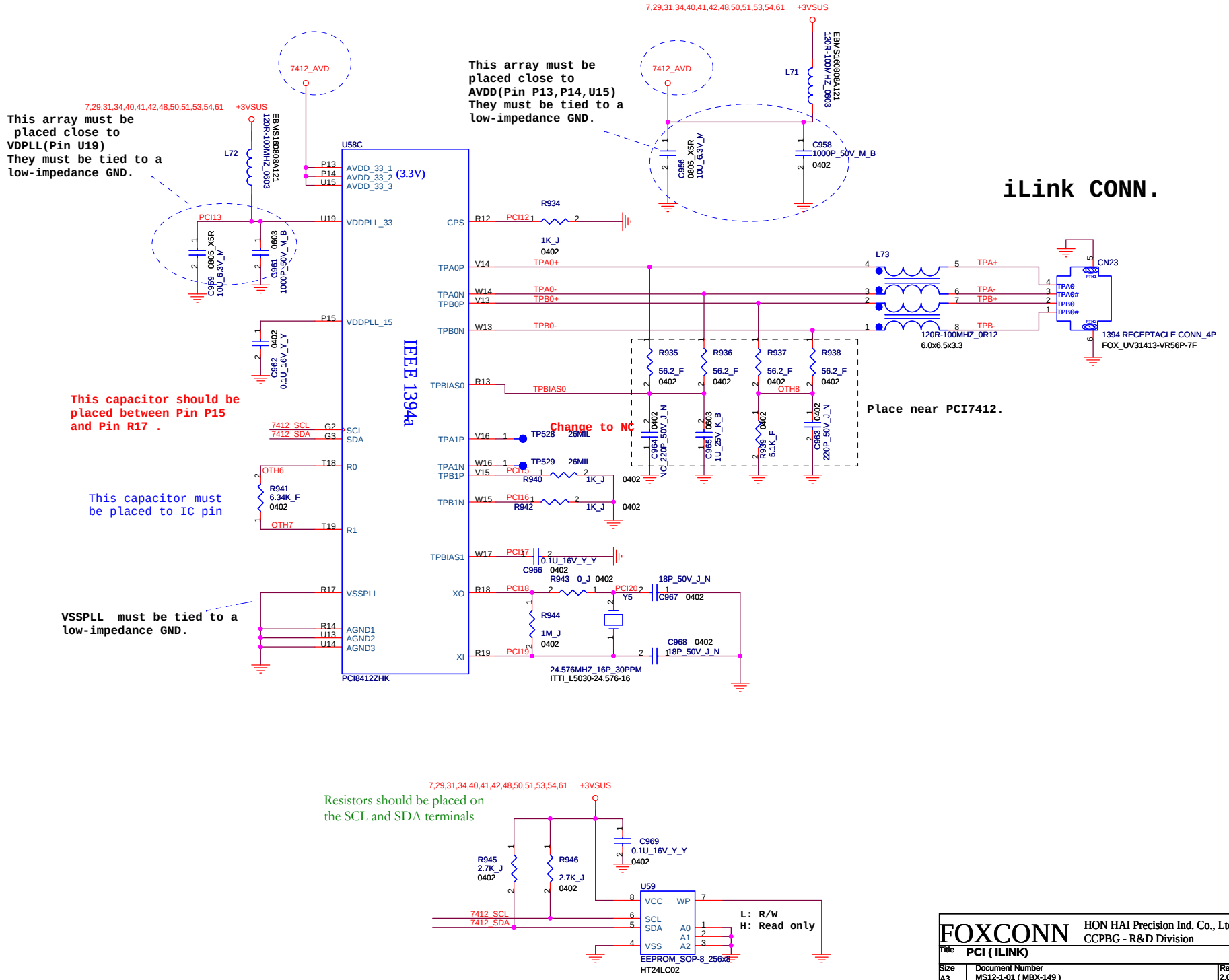


FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division	
Title	AUDIO (PHONE OUT)	
Size A3	Document Number MS12-1-01 (MBX-149)	Rev 2.0
Date: Friday, July 14, 2006	Sheet 47 of 66	

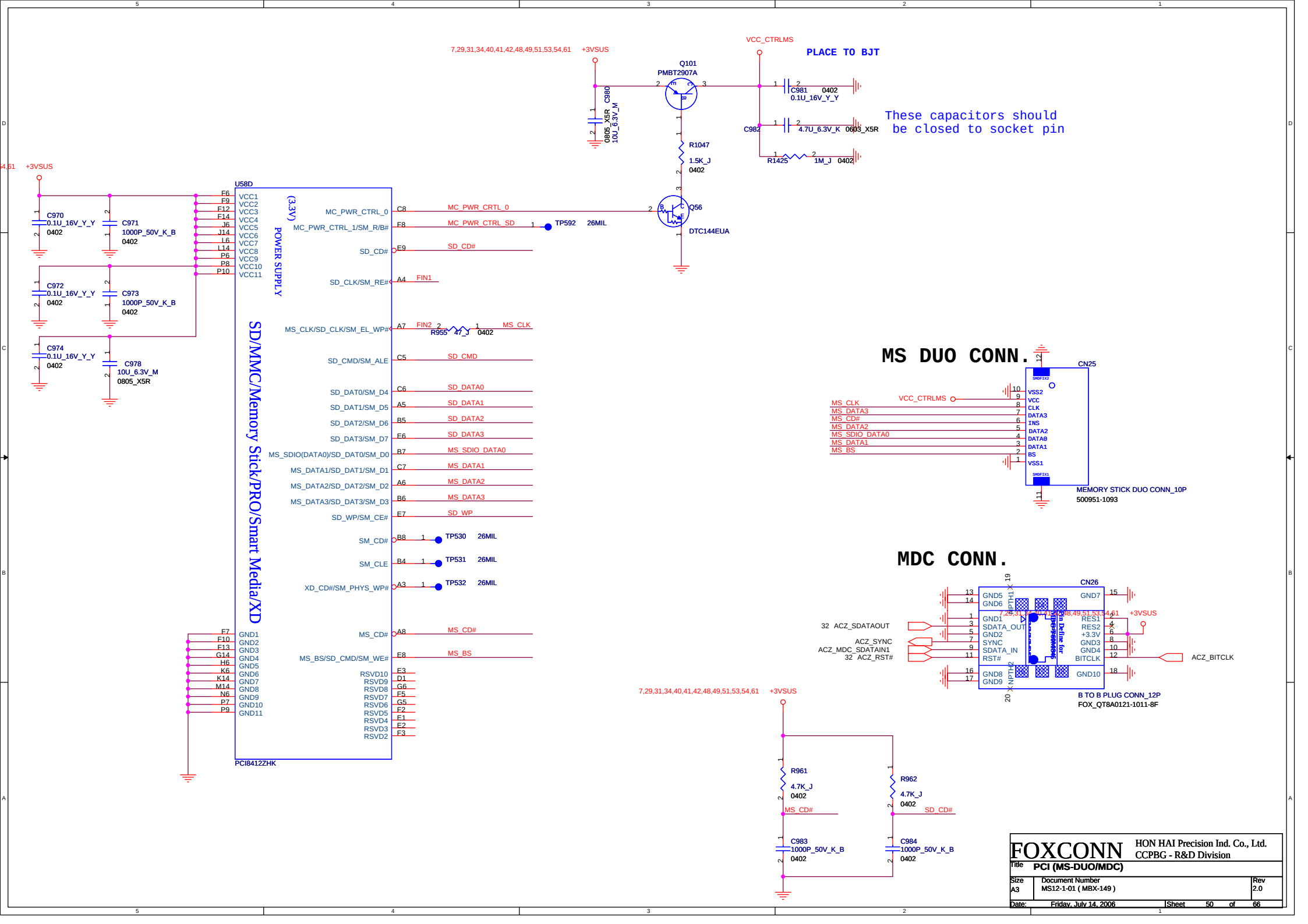


FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division	
Title	PCI (PCI BUS)	
Size A3	Document Number MS12-1-01 (MBX-149)	Rev 2.0
Date: Friday, July 14, 2006	Sheet 48 of 66	

iLink CONN.

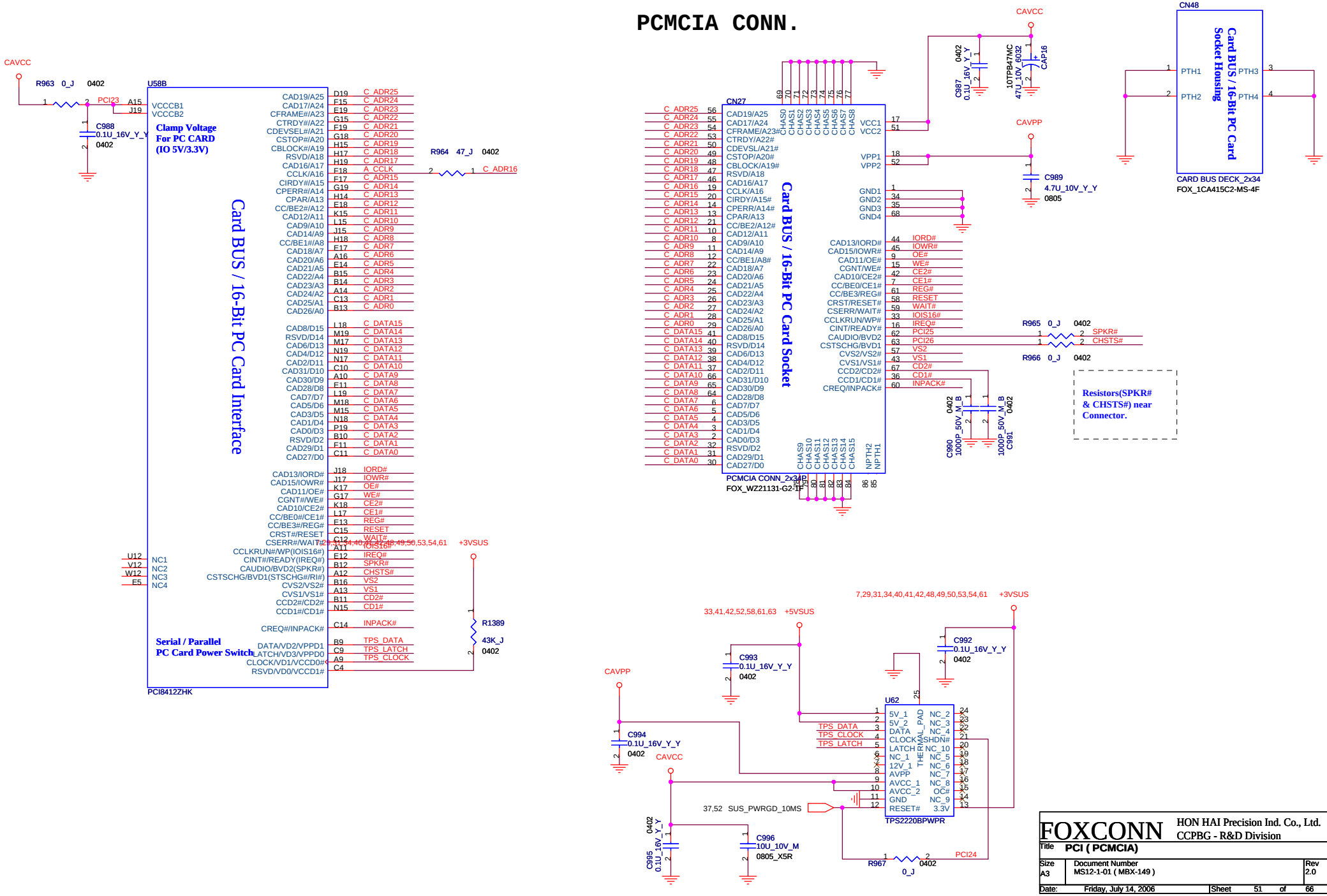


FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division	
Title	PCI (ILINK)	
Size A3	Document Number MS12-1-01 (MBX-149)	Rev 2.0
Date: Friday, July 14, 2006	Sheet 49 of 66	



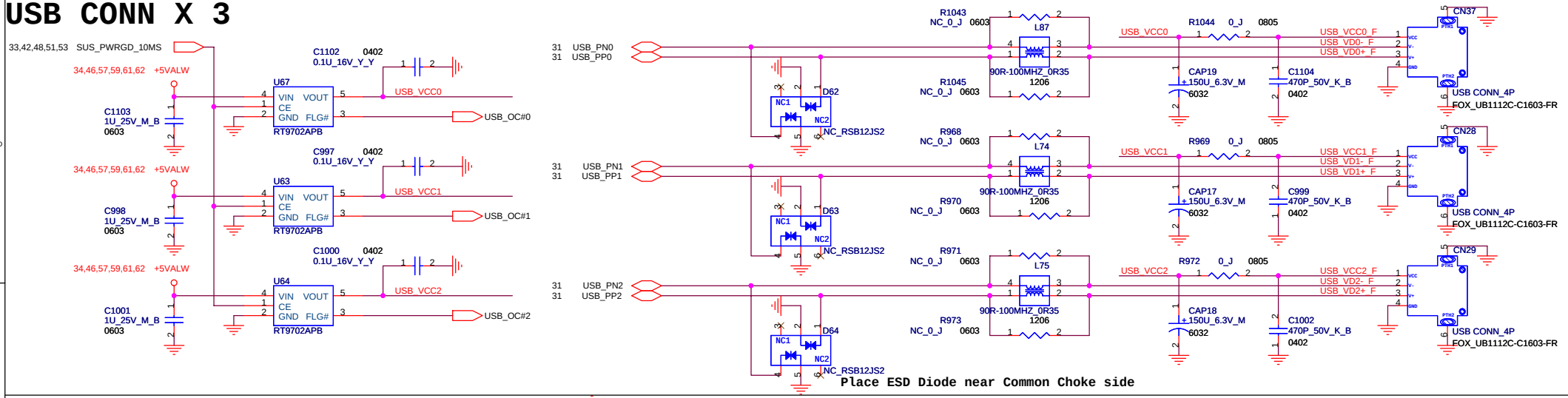
FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division	
Title	PCI (MS-DUO/MDC)	
Size A3	Document Number MS12-1-01 (MBX-149)	Rev 2.0
Date: Friday, July 14, 2006	Sheet 50 of 66	

PCMCIA CONN.

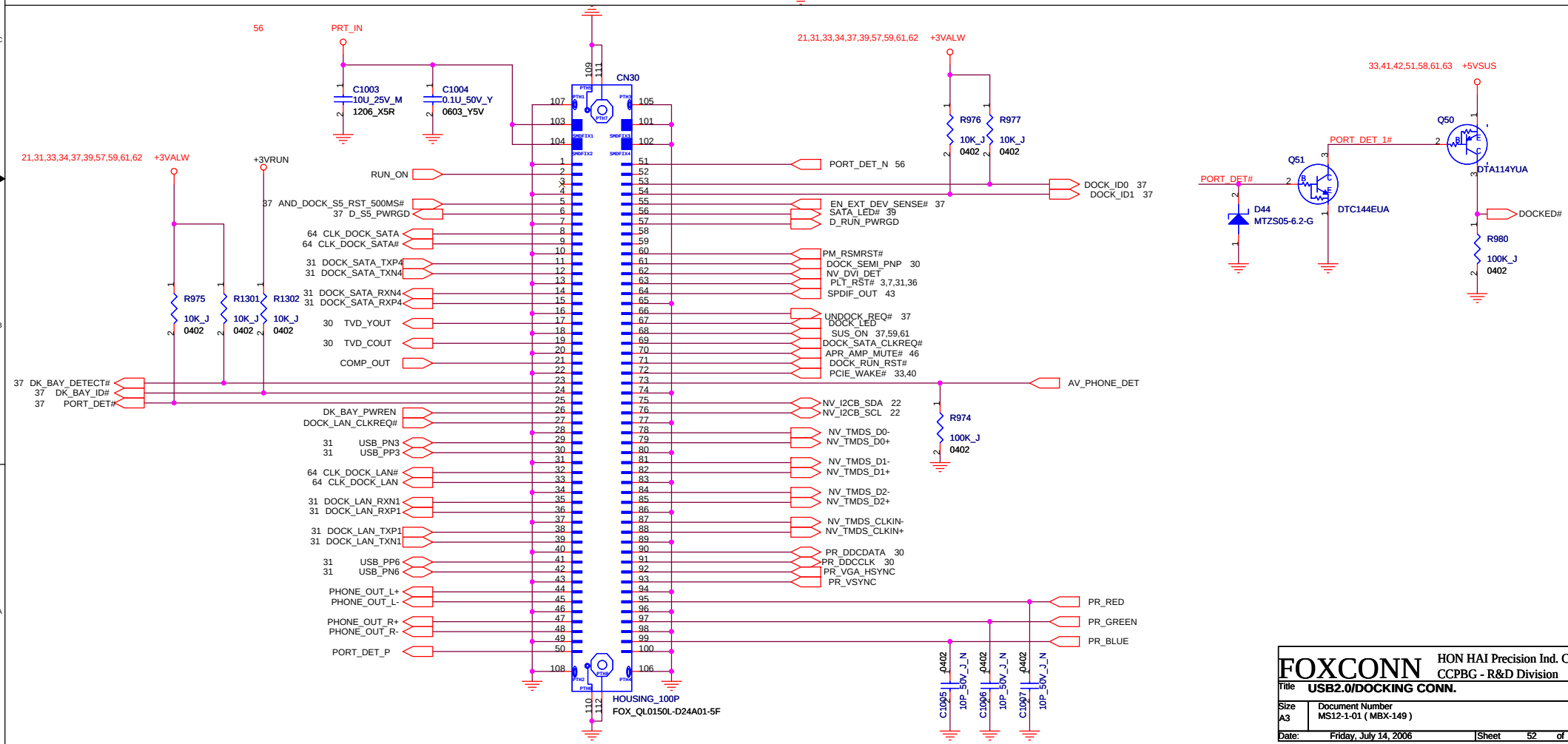


FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division		
Title	PCI (PCMCIA)		
Size A3	Document Number MS12-1-01 (MBX-149)		Rev 2.0
Date: Friday, July 14, 2006	Sheet 51 of 66		

USB CONN X 3



Place ESD Diode near Common Choke side



FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division	
Title	USB2.0/DOCKING CONN.	
Size A3	Document Number MS12-1-01 (MBX-149)	Rev 2.0
Date: Friday, July 14, 2006	Sheet 52 of 66	

BOM notice:

	R1243	R1244	R1247	R1248	R1459	R1460
BT + OIDE SKU	NC	NC	NC	NC	NC	NC
BT SKU	0 ohm	0 ohm	0 ohm	0 ohm	NC	NC
OIDE SKU	0 ohm	0 ohm	NC	NC	0 ohm	0 ohm

BOM notice:

	R1194	R1195
BT + OIDE SKU	30 ohm	30 ohm
BT SKU	0 ohm	0 ohm
OIDE SKU	0 ohm	0 ohm

Layout note:
Place R1243 ,R1244 under U88 Pin1,Pin2
Place R1459,R1460 under U88 Pin 11,Pin 12
Place R1247,R1248 under U88 Pin 15,Pin 16

BOM notice:

	R1196	R1197	R1198	R1199
BT + OIDE SKU	30 ohm	30 ohm	30 ohm	30 ohm
BT SKU	0 ohm	0 ohm	0 ohm	0 ohm
OIDE SKU	0 ohm	0 ohm	0 ohm	0 ohm

MS12 DVT

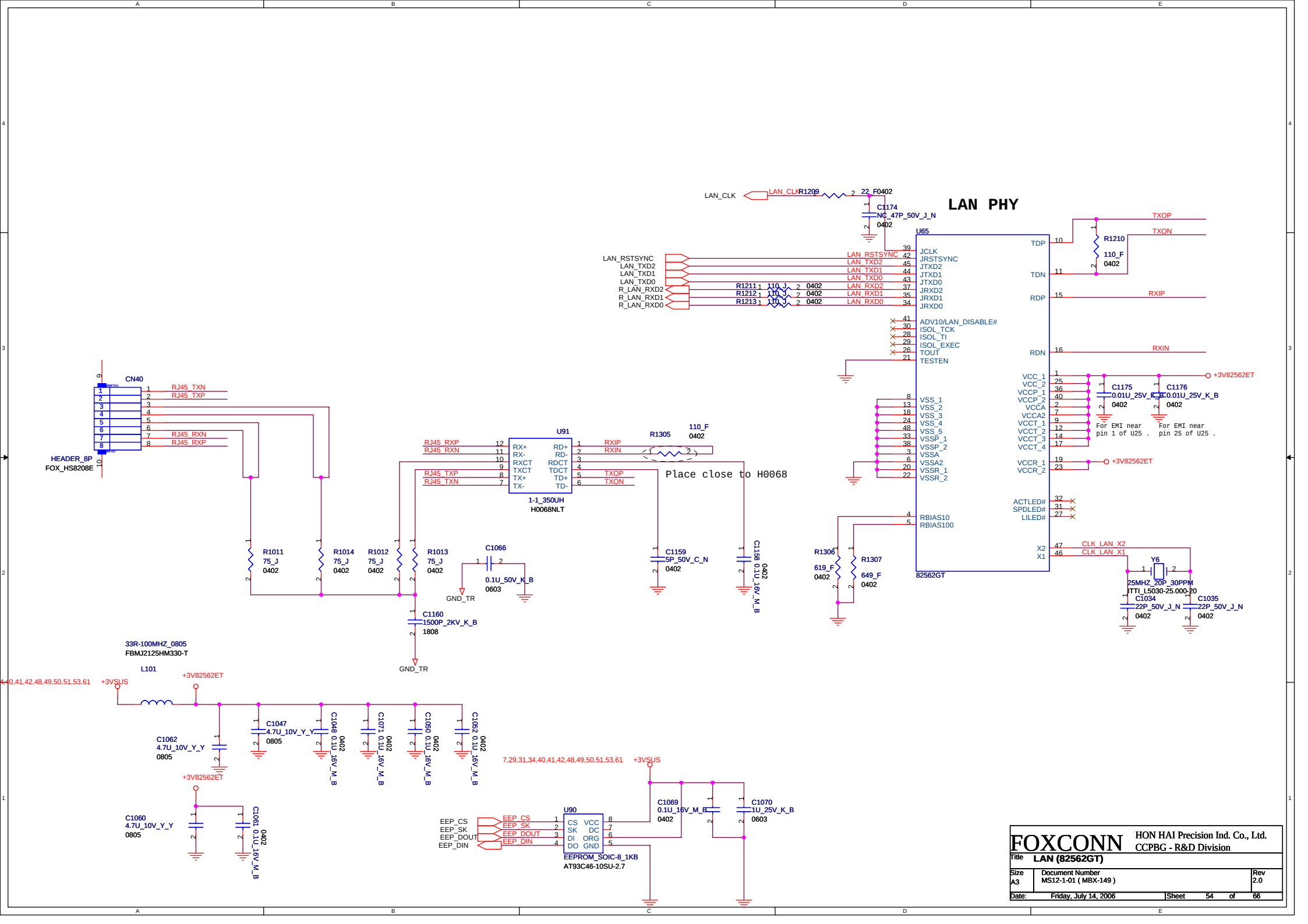
Impedance Matching
Place close to chip

Hi : EEPROM disable
Low : EEPROM enable

MS12 DVT

Follow MS20:
Add R1461 0 ohm to GND when EEPROM not in use
to make sure GANGED# is not left floating
When EEPROM is used,R1461 is NC

FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division	
Title: USB HUB		
Size: A3	Document Number: MS12-1-01 (MBX-149)	Rev: 2.0
Date: Friday, July 14, 2006	Sheet 53 of 66	


LAN PHY
LAN_CLK
R1209
22_F0402
C1174
NC_47P_50V_J_N
0402
U65
82562GT
LAN_RSTSYNC
LAN_TXD2
LAN_TXD1
LAN_TXD0
R_LAN_RXD2
R_LAN_RXD1
R_LAN_RXD0
R1211 110_J 0402
R1212 110_J 0402
R1213 110_J 0402
LAN_RXD2
LAN_RXD1
LAN_RXD0
JCLK
JRSTSYNC
JTXD2
JTXD1
JTXD0
JRXD2
JRXD1
JRXD0
ADV10/LAN_DISABLE#
ISOL_TCK
ISOL_TI
ISOL_EXEC
TOUT
TESTEN
TDP
TDN
RDP
RDN
R1210
110_F
0402
TXOP
TXON
RXIP
RXIN
VCC_1
VCC_2
VCCP_1
VCCP_2
VCCA
VCCA2
VCCT_1
VCCT_2
VCCT_3
VCCT_4
VCCR_1
VCCR_2
+3V82562ET
C1175
0.01U_25V_K_B
0402
C1176
0.01U_25V_K_B
0402
For EMI near pin 1 of U25 .
For EMI near pin 25 of U25 .
VSS_1
VSS_2
VSS_3
VSS_4
VSS_5
VSSP_1
VSSP_2
VSSA
VSSA2
VSSR_1
VSSR_2
ACTLED#
SPDLED#
LILED#
RBIAS10
RBIAS100
R1306
619_F
0402
R1307
649_F
0402
X2
X1
CLK_LAN_X2
CLK_LAN_X1
Y6
25MHZ_20P_30PPM
ITTI_L5030-25.000-20
C1034
22P_50V_J_N
0402
C1035
22P_50V_J_N
0402
CN40
HEADER_8P
FOX_HS8208E
RJ45_TXN
RJ45_TXP
RJ45_RXN
RJ45_RXP
U91
1-1_350UH
H0068NLT
RX+
RX-
RXCT
TXCT
TX+
TX-
RD+
RD-
RDCT
TDCT
TD+
TD-
R1305
110_F
0402
Place close to H0068
R1011
75_J
0402
R1014
75_J
0402
R1012
75_J
0402
R1013
75_J
0402
C1066
0.1U_50V_K_B
0603
GND_TR
C1159
5P_50V_C_N
0402
C1158
0.1U_16V_M_B
0402
C1160
1500P_2KV_K_B
1808
33R-100MHZ_0805
FBMJ2125HM330-T
L101
+3V82562ET
+3VSUS
7,29,31,34,40,41,42,48,49,50,51,53,61
C1062
4.7U_10V_Y_Y
0805
C1047
4.7U_10V_Y_Y
0805
C1048 0.1U_16V_M_B 0402
C1071 0.1U_16V_M_B 0402
C1050 0.1U_16V_M_B 0402
C1052 0.1U_16V_M_B 0402
C1060
4.7U_10V_Y_Y
0805
C1061 0.1U_16V_M_B 0402
EEP_CS
EEP_SK
EEP_DOUT
EEP_DIN
U90
CS
SK
DI
DO
VCC
DC
ORG
GND
EEPROM_SOIC-8_1KB
AT93C46-10SU-2.7
C1069
0.1U_16V_M_B
0402
C1070
1U_25V_K_B
0603
FOXCONN
HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division
Title
LAN (82562GT)
Size
A3
Document Number
MS12-1-01 (MBX-149)
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2.0
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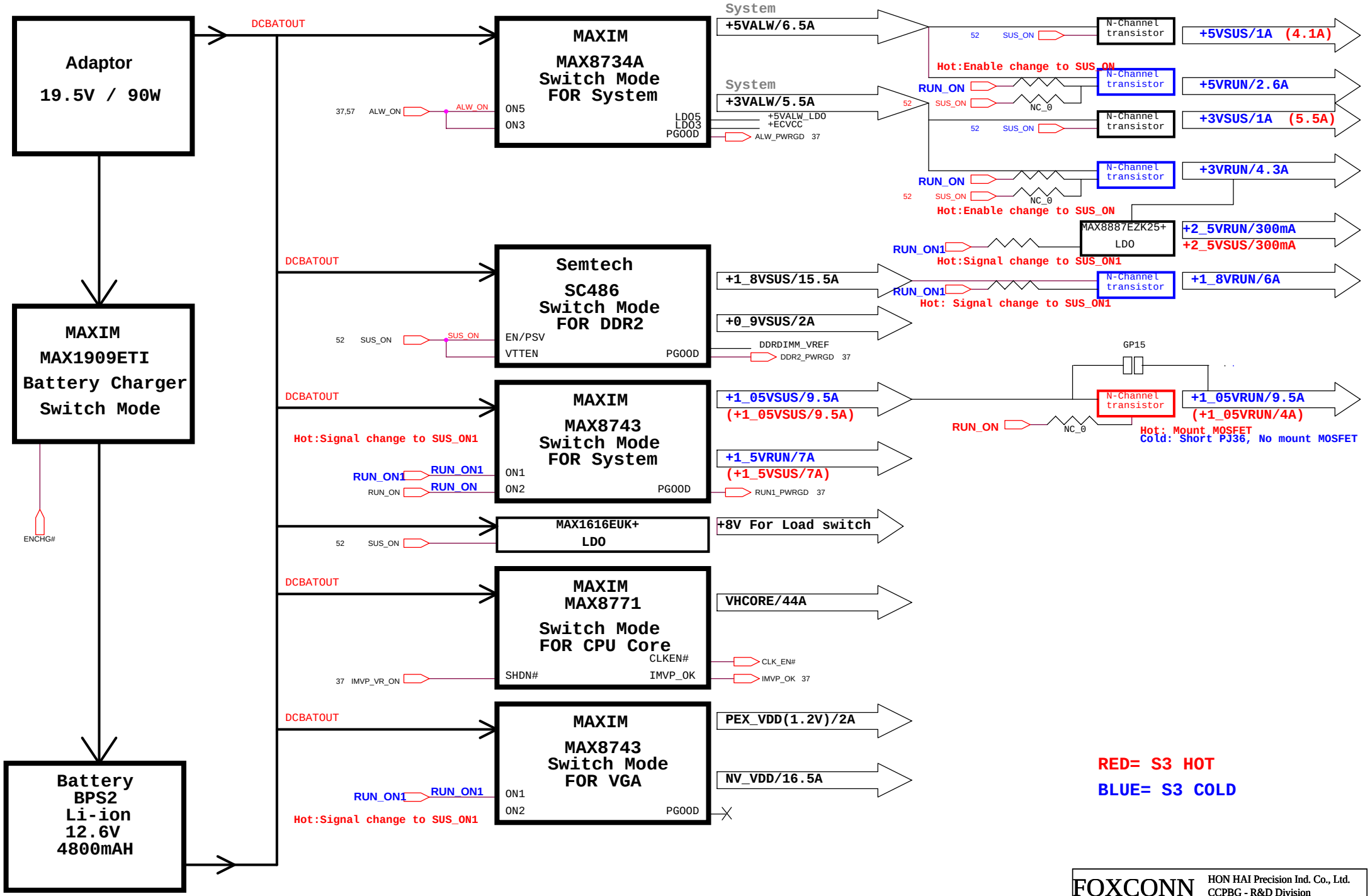
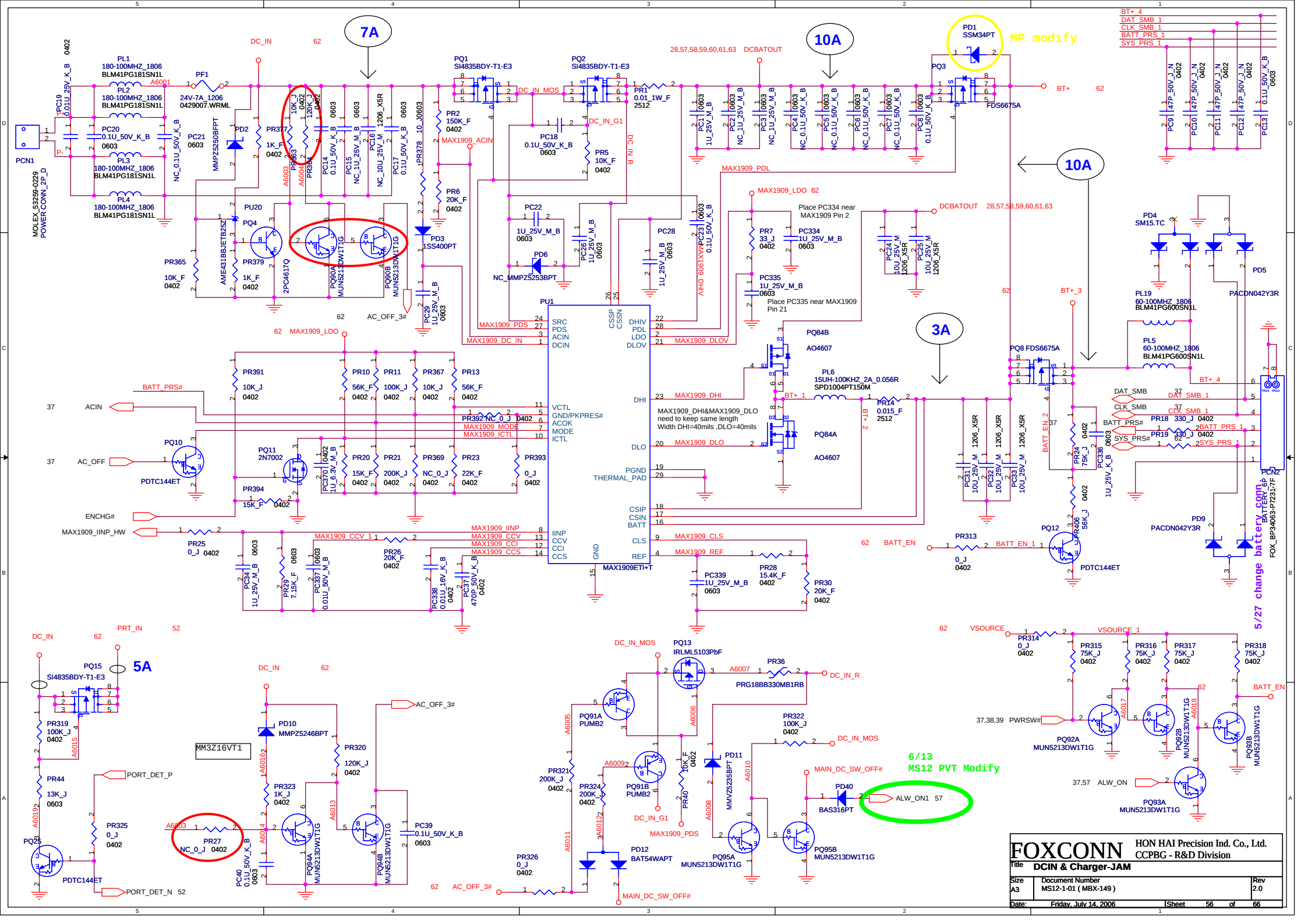


FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division	
Title	Power Design Diagram-ZG	
Size A3	Document Number MS12-1-01 (MBX-149)	Rev 2.0
Date: Friday, July 14, 2006	Sheet 55 of 66	


7A
10A
10A
3A
5A
MP modify
6/13
MS12 PVT Modify
5/27 change battery conn.
DC_IN
PCN1
MOLEX_53259-0229
POWER CONN_2P_D
PL1
180-100MHZ_1806
BLM41PG181SN1L
PL2
PL3
PL4
PF1
24V-7A_1206
0429007.WRML
PD2
MMPZ5250BFPT
PR377
1K_F
0402
PR363
10K_J
0402
PR364
120K_J
0402
PR2
150K_F
0402
PR378
10_J
0603
PR6
20K_F
0402
PD3
1SS400PT
PU20
PQ4
AME4311BBJETB25Z
PR379
1K_F
0402
2PC4617Q
PQ90A
MUN5213DW1T1G
PQ90B
MUN5213DW1T1G
PR365
10K_F
0402
PC29
1U_25V_M_B
0603
PQ1
SI4835BDY-T1-E3
PQ2
SI4835BDY-T1-E3
PR1
0.01_1W_F
2512
PC18
0.1U_50V_K_B
0603
PR5
10K_F
0402
PD6
NC_MMPZ5253BPT
PC22
1U_25V_M_B
0603
PC28
1U_25V_M_B
0603
PC26
1U_25V_M_B
0603
PC23
0.1U_50V_K_B
0603
PC1
1U_25V_M_B
PC2
NC_1U_25V_M_B
PC3
NC_1U_25V_M_B
PC4
NC_0.1U_50V_K_B
PC5
NC_0.1U_50V_K_B
PC6
NC_0.1U_50V_K_B
PC7
NC_0.1U_50V_K_B
PC8
0.1U_50V_K_B
PQ3
FDS6675A
PD1
SSM34PT
PC9
47P_50V_J_N
PC10
47P_50V_J_N
PC11
47P_50V_J_N
PC12
47P_50V_J_N
PC13
0.1U_50V_K_B
PU1
MAX1909ETI+T
SRC
PDS
ACIN
DCIN
VCTL
GND/PKPRES#
ACOK
MODE
ICTL
DHIV
PDL
LDO
DLOV
DHI
DLO
PGND
THERMAL_PAD
CSIP
CSIN
BATT
CLS
REF
IINP
CCV
CCI
CCS
GND
CSSP
CSSN
PR391
10K_J
0402
PR10
56K_F
0402
PR11
100K_J
0402
PR367
10K_J
0402
PR13
56K_F
0402
PR392
NC_0_J
0402
PR20
15K_F
0402
PR21
200K_J
0402
PR369
NC_0_J
0402
PR23
22K_F
0402
PR393
0_J
0402
PR394
15K_F
0402
PC370
1U_6.3V_M_B
0402
PQ10
PDTC144ET
PQ11
2N7002
PR25
0_J
0402
PR26
20K_F
0402
PR29
7.15K_F
0603
PC34
1U_25V_M_B
0603
PC337
0.01U_50V_M_B
0603
PC338
0.01U_16V_K_B
0402
PC371
470P_50V_K_B
0402
PR28
15.4K_F
0402
PR30
20K_F
0402
PC339
1U_25V_M_B
0603
PQ84B
AO4607
PQ84A
AO4607
PL6
15UH-100KHZ_2A_0.056R
SPD1004PT150M
PR14
0.015_F
2512
PC335
1U_25V_M_B
0603
PC24
10U_25V_M
1206_X5R
PC25
10U_25V_M
1206_X5R
PC31
10U_25V_M
1206_X5R
PC32
10U_25V_M
1206_X5R
PC33
10U_25V_M
1206_X5R
PQ8
FDS6675A
PR24
75K_J
0402
PC336
1U_25V_K_B
0603
PR406
56K_J
0402
PQ12
PDTC144ET
PR313
0_J
0402
PD4
SM15.TC
PD5
PACDN042Y3R
PL19
60-100MHZ_1806
BLM41PG600SN1L
PL5
60-100MHZ_1806
BLM41PG600SN1L
PR18
330_J
0402
PR19
330_J
0402
PD9
PACDN042Y3R
BATTERY_6P_P_CN
FOX_BP34063-P7231-7F
PQ15
SI4835BDY-T1-E3
PR319
100K_J
0402
PR44
13K_J
0603
PR325
0_J
0402
PQ25
PDTC144ET
PD10
MMPZ5246BPT
MM3Z16VT1
PR320
120K_J
0402
PR323
1K_J
0402
PR27
NC_0_J
0402
PC40
0.1U_50V_K_B
0603
PQ94A
MUN5213DW1T1G
PQ94B
MUN5213DW1T1G
PC39
0.1U_50V_K_B
0603
PQ13
IRLML5103PbF
PR36
PRG18BB330MB1RB
PQ91A
PUMB2
PQ91B
PUMB2
PR321
200K_J
0402
PR324
200K_J
0402
PR322
100K_J
0402
PD11
MMVZ5235BPT
PD40
BAS316PT
PD12
BAT54WAPT
PQ95A
MUN5213DW1T1G
PQ95B
MUN5213DW1T1G
PR326
0_J
0402
PR314
0_J
0402
PR315
75K_J
0402
PR316
75K_J
0402
PR317
75K_J
0402
PR318
75K_J
0402
PQ92A
MUN5213DW1T1G
PQ92B
MUN5213DW1T1G
PQ93A
MUN5213DW1T1G
PQ93B
MUN5213DW1T1G
ACIN
AC_OFF
ENCHG#
MAX1909_IINP_HW
BATT_PRS#
PRT_IN
PORT_DET_P
PORT_DET_N
AC_OFF_3#
DC_IN_MOS
DC_IN_R
DC_IN_G1
MAX1909_ACIN
MAX1909_PDS
MAX1909_PDL
MAX1909_LDO
MAX1909_DC_IN
MAX1909_DLOV
MAX1909_DHI
MAX1909_DLO
MAX1909_MODE
MAX1909_ICTL
MAX1909_IINP
MAX1909_CCV
MAX1909_CCI
MAX1909_CCS
MAX1909_CLS
MAX1909_REF
MAX1909_DHI&MAX1909_DLO
need to keep same length
Width DHI=40mils ,DLO=40mils
Place PC334 near
MAX1909 Pin 2
Place PC335 near MAX1909
Pin 21
DCBATOUT
28,57,58,59,60,61,63
BT+
BT+_3
BT+_4
BT+_1
BT+_2
BATT_EN
BATT_EN_1
BATT_EN_2
VSOURCE
VSOURCE_1
PWRSW#
ALW_ON
ALW_ON1
MAIN_DC_SW_OFF#
DAT_SMB
CLK_SMB
DAT_SMB_1
CLK_SMB_1
BATT_PRS_1
SYS_PRS
SYS_PRS_1
FOXCONN
HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division
Title
DCIN & Charger-JAM
Size
A3
Document Number
MS12-1-01 (MBX-149)
Rev
2.0
Date:
Friday, July 14, 2006
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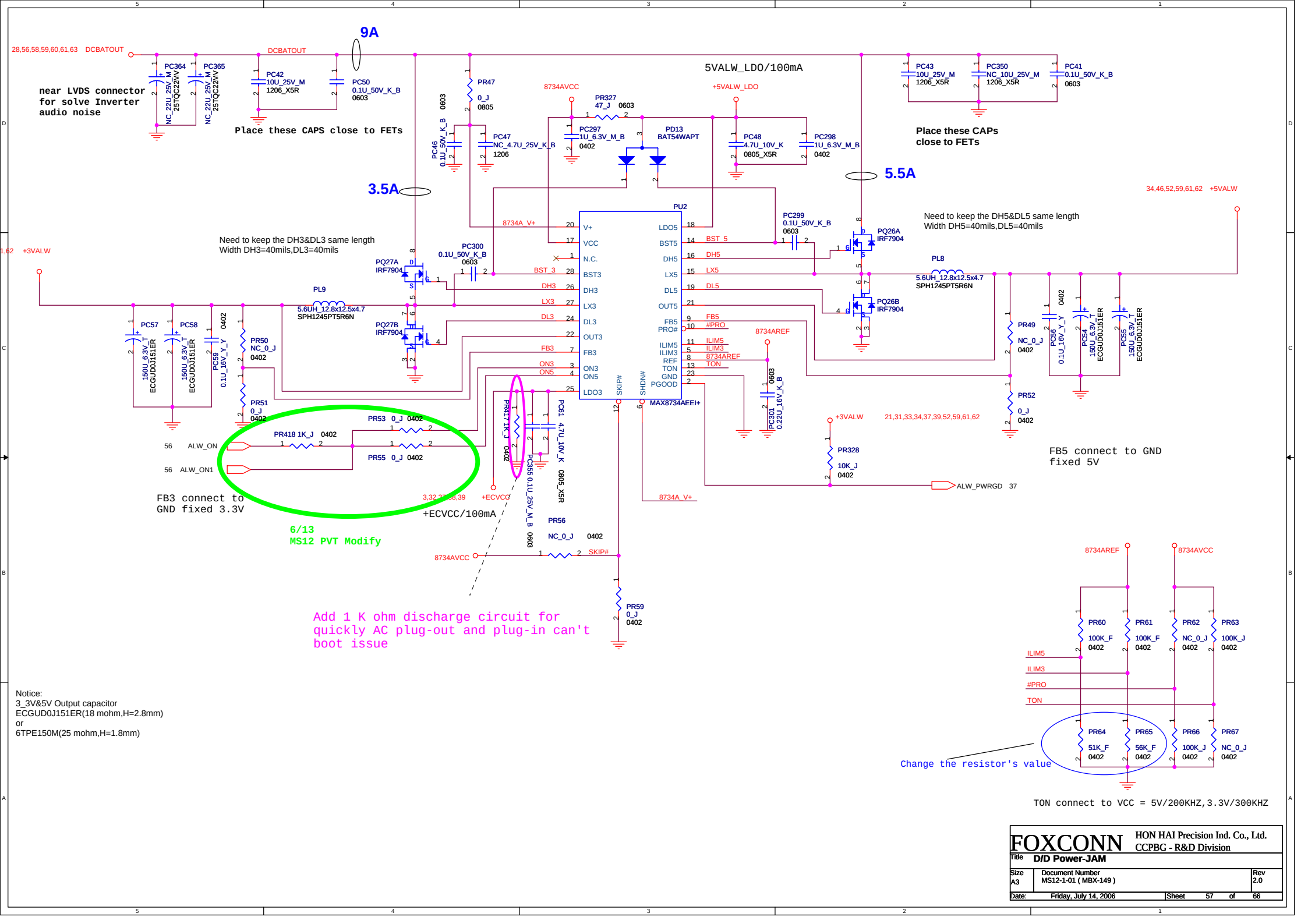
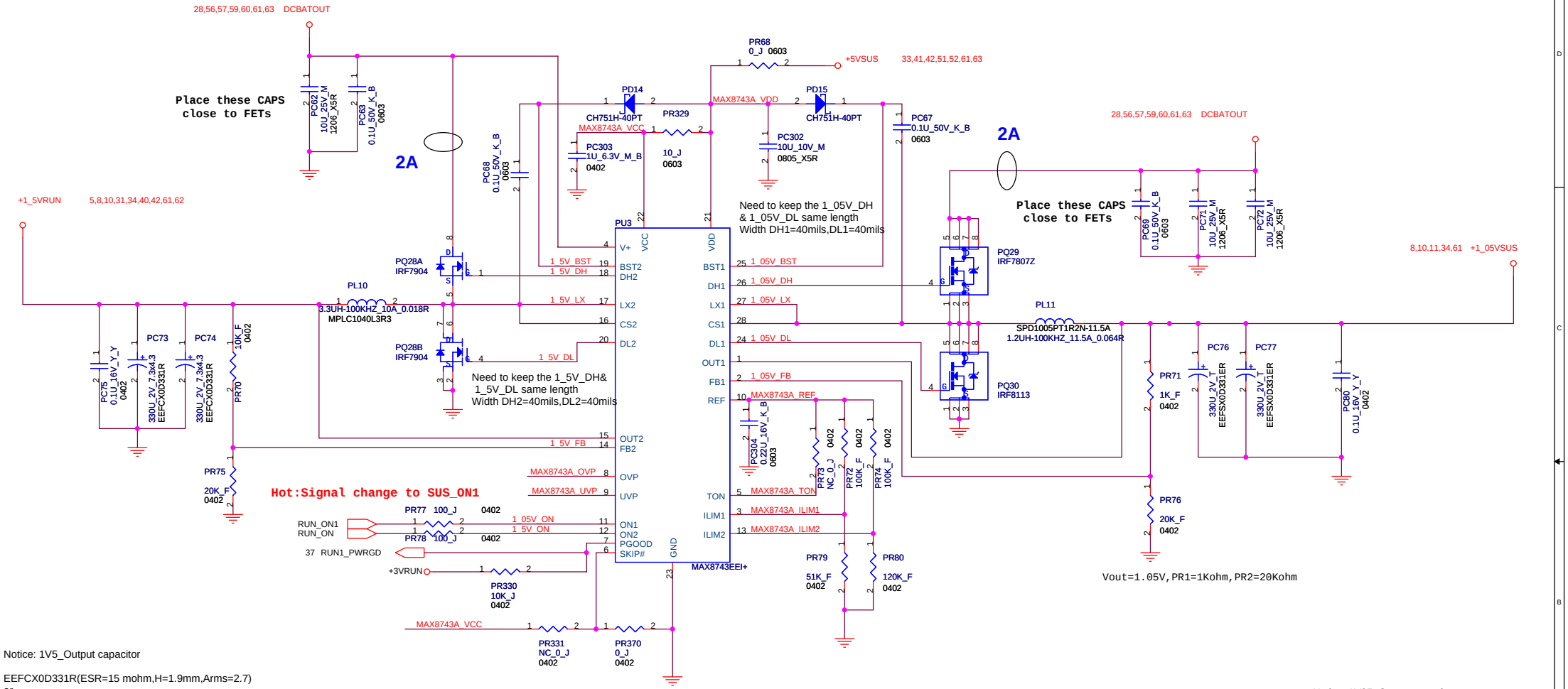

9A
28,56,58,59,60,61,63 DCBATOUT
DCBATOUT
near LVDS connector for solve Inverter audio noise
Place these CAPS close to FETs
5VALW_LDO/100mA
Place these CAPs close to FETs
5.5A
3.5A
34,46,52,59,61,62 +5VALW
Need to keep the DH3&DL3 same length
Width DH3=40mils,DL3=40mils
Need to keep the DH5&DL5 same length
Width DH5=40mils,DL5=40mils
PU2
MAX8734AEEI+
PL8
PL9
5.6UH_12.8x12.5x4.7
SPH1245PT5R6N
FB3 connect to GND fixed 3.3V
FB5 connect to GND fixed 5V
6/13
MS12 PVT Modify
+ECVCC/100mA
Add 1 K ohm discharge circuit for quickly AC plug-out and plug-in can't boot issue
ALW_PWRGD 37
Change the resistor's value
TON connect to VCC = 5V/200KHZ,3.3V/300KHZ
Notice:
3_3V&5V Output capacitor
ECGUD0J151ER(18 mohm,H=2.8mm)
or
6TPE150M(25 mohm,H=1.8mm)
FOXCONN
HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division
Title D/D Power-JAM
Size A3
Document Number MS12-1-01 (MBX-149)
Rev 2.0
Date: Friday, July 14, 2006
Sheet 57 of 66



FOXCONN HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division

Title	1.5V/1.05V-JAM	
Size A3	Document Number MS12-1-01 (MBX-149)	Rev 2.0
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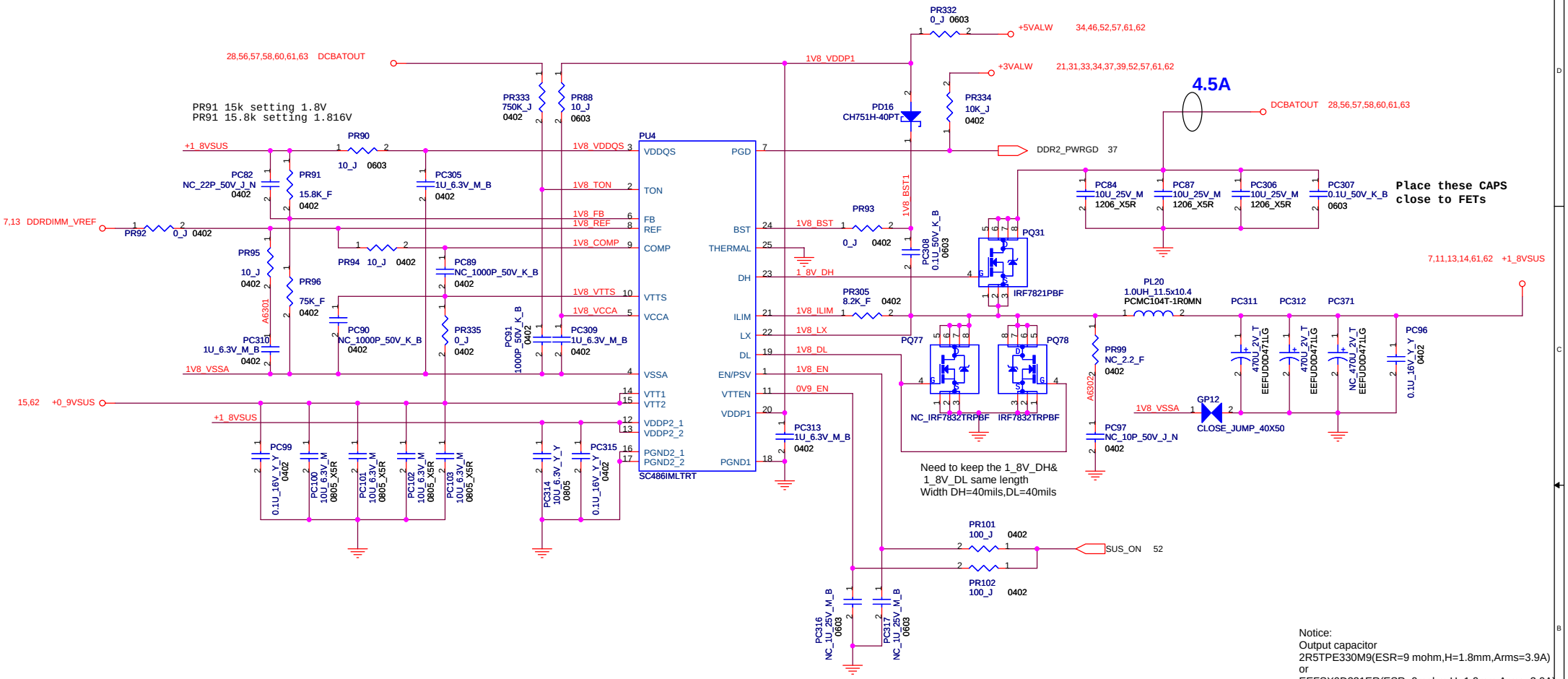

FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division	
Title	1.8V/0.9V-CWK	
Size A3	Document Number MS12-1-01 (MBX-149)	Rev 2.0
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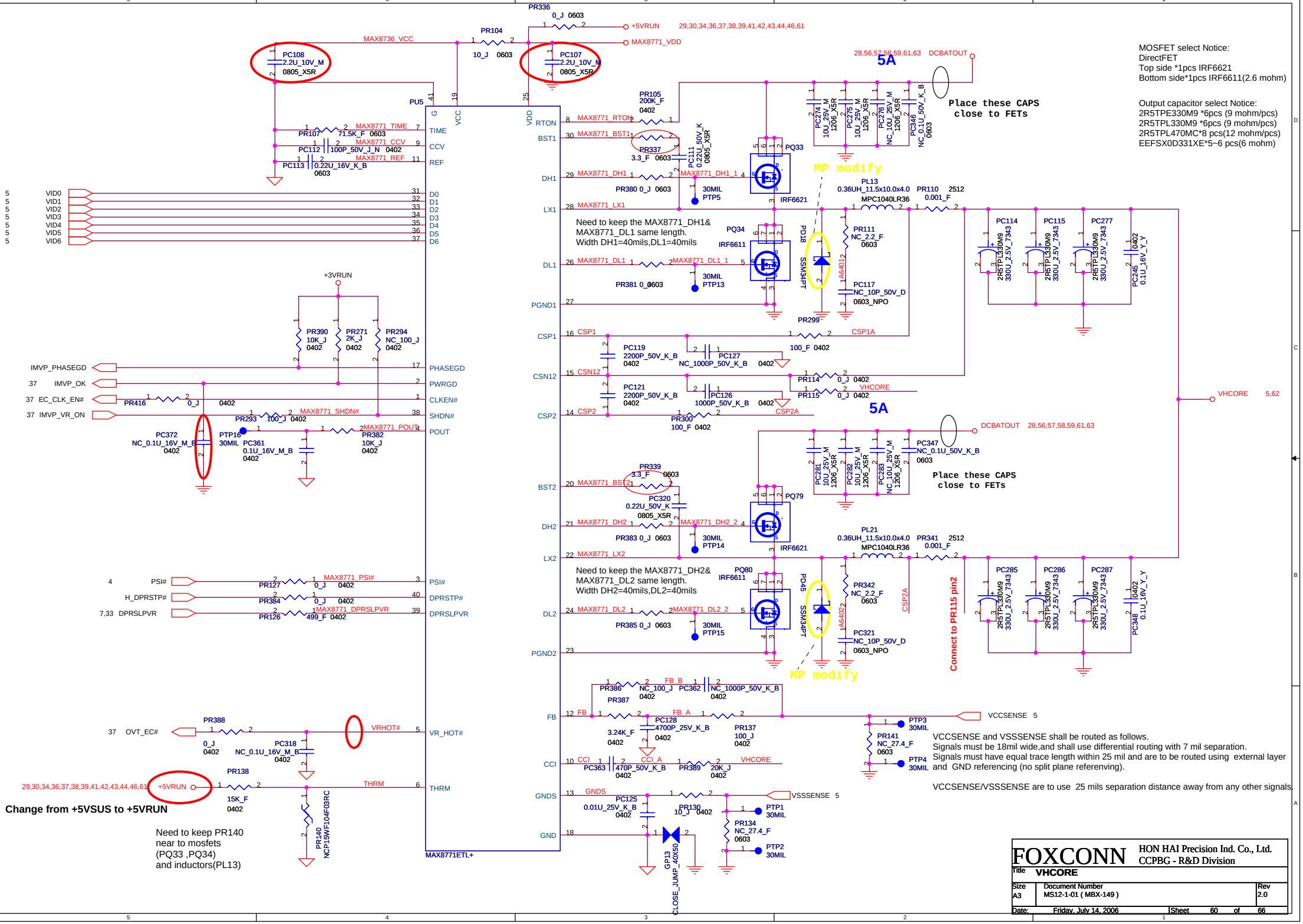
MOSFET select Notice:
DirectFET
Top side *1pcs IRF6621
Bottom side*1pcs IRF6611(2.6 mohm)
Output capacitor select Notice:
2R5TPE330M9 *6pcs (9 mohm/pcs)
2R5TPL330M9 *6pcs (9 mohm/pcs)
2R5TPL470MC*8 pcs(12 mohm/pcs)
EEFSX0D331XE*5~6 pcs(6 mohm)
5A
Place these CAPS close to FETs
MP modify
Need to keep the MAX8771_DH1& MAX8771_DL1 same length. Width DH1=40mils,DL1=40mils
Need to keep the MAX8771_DH2& MAX8771_DL2 same length. Width DH2=40mils,DL2=40mils
Connect to PR115 pin2
VCCSENSE and VSSSENSE shall be routed as follows.
Signals must be 18mil wide,and shall use differential routing with 7 mil separation.
Signals must have equal trace length within 25 mil and are to be routed using external layer and GND referencing (no split plane referenving).
VCCSENSE/VSSSENSE are to use 25 mils separation distance away from any other signals.
Change from +5VSUS to +5VRUN
Need to keep PR140 near to mosfets (PQ33 ,PQ34) and inductors(PL13)
MAX8771ETL+
FOXCONN
HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division
Title VHCORE
Size A3
Document Number MS12-1-01 (MBX-149)
Rev 2.0
Date: Friday, July 14, 2006
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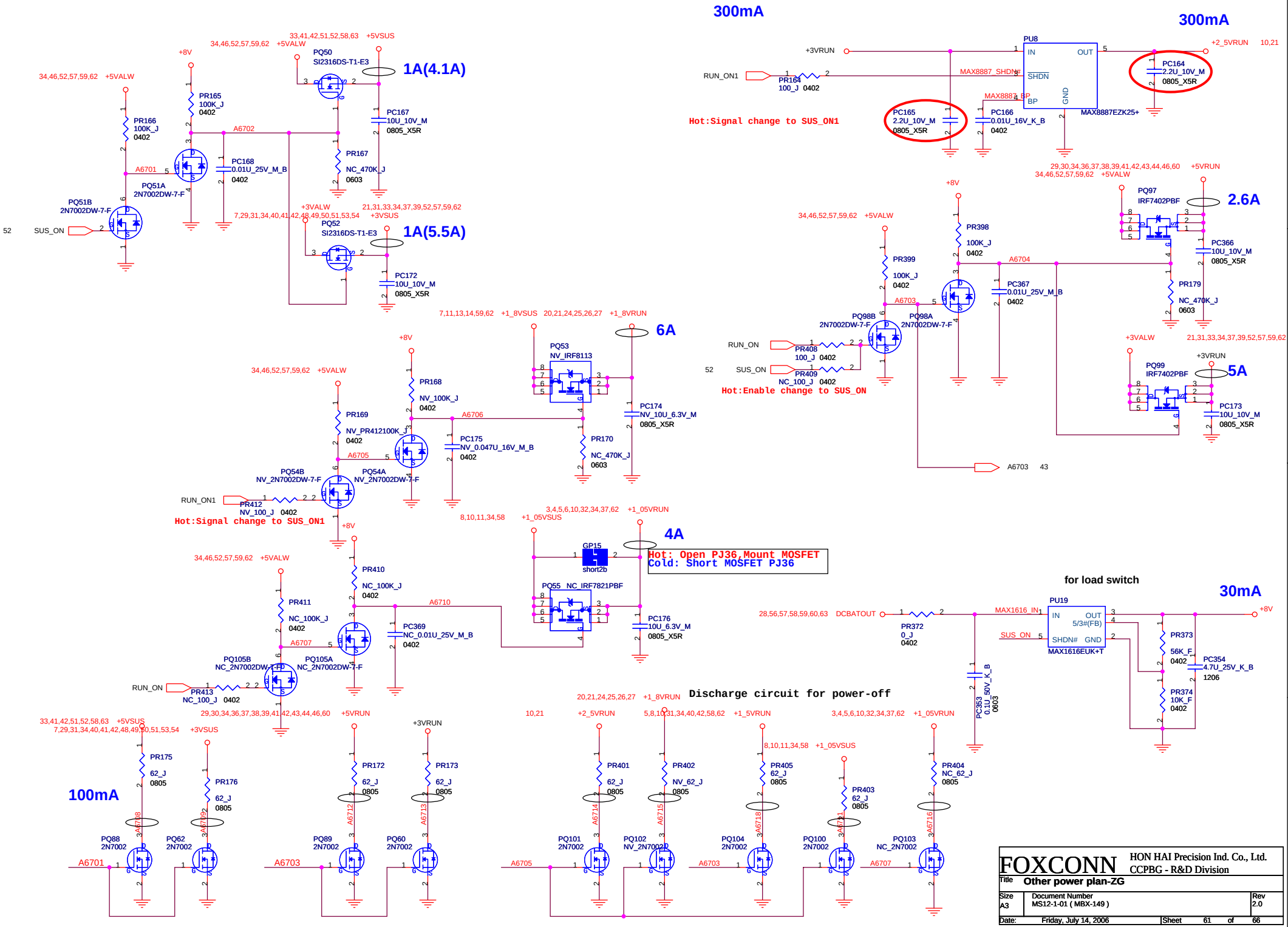
300mA
300mA
1A(4.1A)
1A(5.5A)
2.6A
6A
5A
4A
30mA
100mA
for load switch
Discharge circuit for power-off
Hot:Signal change to SUS_ON1
Hot:Enable change to SUS_ON
Hot: Open PJ36,Mount MOSFET
Cold: Short MOSFET PJ36
PQ50 SI2316DS-T1-E3
PQ51A 2N7002DW-7-F
PQ51B 2N7002DW-7-F
PQ52 SI2316DS-T1-E3
PQ53 NV_IRF8113
PQ54A NV_2N7002DW-7-F
PQ54B NV_2N7002DW-7-F
PQ55 NC_IRF7821PBF
PQ97 IRF7402PBF
PQ98A 2N7002DW-7-F
PQ98B 2N7002DW-7-F
PQ99 IRF7402PBF
PQ105A NC_2N7002DW-7-F
PQ105B NC_2N7002DW-7-F
PU8 MAX8887EZK25+
PU19 MAX1616EUK+T
GP15 short2b
PR164 100_J 0402
PR165 100K_J 0402
PR166 100K_J 0402
PR167 NC_470K_J 0603
PR168 NV_100K_J 0402
PR169 NV_PR412100K_J 0402
PR170 NC_470K_J 0603
PR172 62_J 0805
PR173 62_J 0805
PR174 NV_10U_6.3V_M 0805_X5R
PR175 62_J 0805
PR176 62_J 0805
PR179 NC_470K_J 0603
PR398 100K_J 0402
PR399 100K_J 0402
PR401 62_J 0805
PR402 NV_62_J 0805
PR403 62_J 0805
PR404 NC_62_J 0805
PR405 62_J 0805
PR408 100_J 0402
PR409 NC_100_J 0402
PR410 NC_100K_J 0402
PR411 NC_100K_J 0402
PR412 NV_100_J 0402
PR413 NC_100_J 0402
PR372 0_J 0402
PR373 56K_F 0402
PR374 10K_F 0402
PC164 2.2U_10V_M 0805_X5R
PC165 2.2U_10V_M 0805_X5R
PC166 0.01U_16V_K_B 0402
PC167 10U_10V_M 0805_X5R
PC168 0.01U_25V_M_B 0402
PC172 10U_10V_M 0805_X5R
PC173 10U_10V_M 0805_X5R
PC174 NV_10U_6.3V_M 0805_X5R
PC175 NV_0.047U_16V_M_B 0402
PC176 10U_6.3V_M 0805_X5R
PC366 10U_10V_M 0805_X5R
PC367 0.01U_25V_M_B 0402
PC369 NC_0.01U_25V_M_B 0402
PC353 0.1U_50V_K_B 0603
PC354 4.7U_25V_K_B 1206
RUN_ON1
RUN_ON
SUS_ON
MAX8887_SHDN#
MAX8887_BP
MAX1616_IN
SUS_ON
DCBATOUT
+3VRUN
+2_5VRUN
+8V
+5VALW
+5VSUS
+3VSUS
+5VRUN
+1_8VSUS
+1_8VRUN
+1_05VSUS
+1_05VRUN
+2_5VRUN
+1_5VRUN
A6701
A6702
A6703
A6704
A6705
A6706
A6707
A6708
A6709
A6710
A6712
A6713
A6714
A6715
A6716
A6717
A6718
FOXCONN
HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division
Title: Other power plan-ZG
Size: A3
Document Number: MS12-1-01 (MBX-149)
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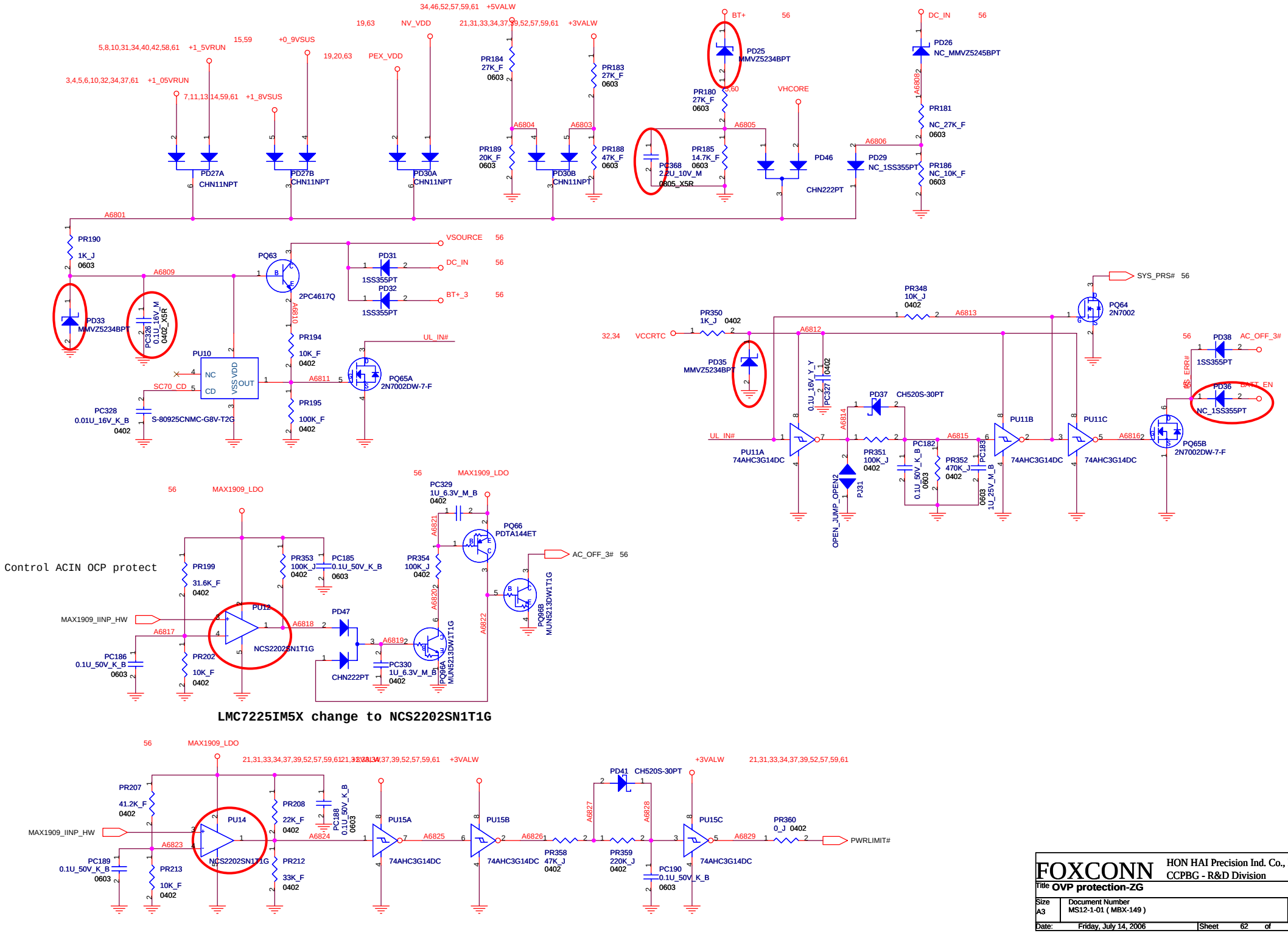

FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division	
Title: OVP protection-ZG		
Size: A3	Document Number: MS12-1-01 (MBX-149)	Rev: 2.0
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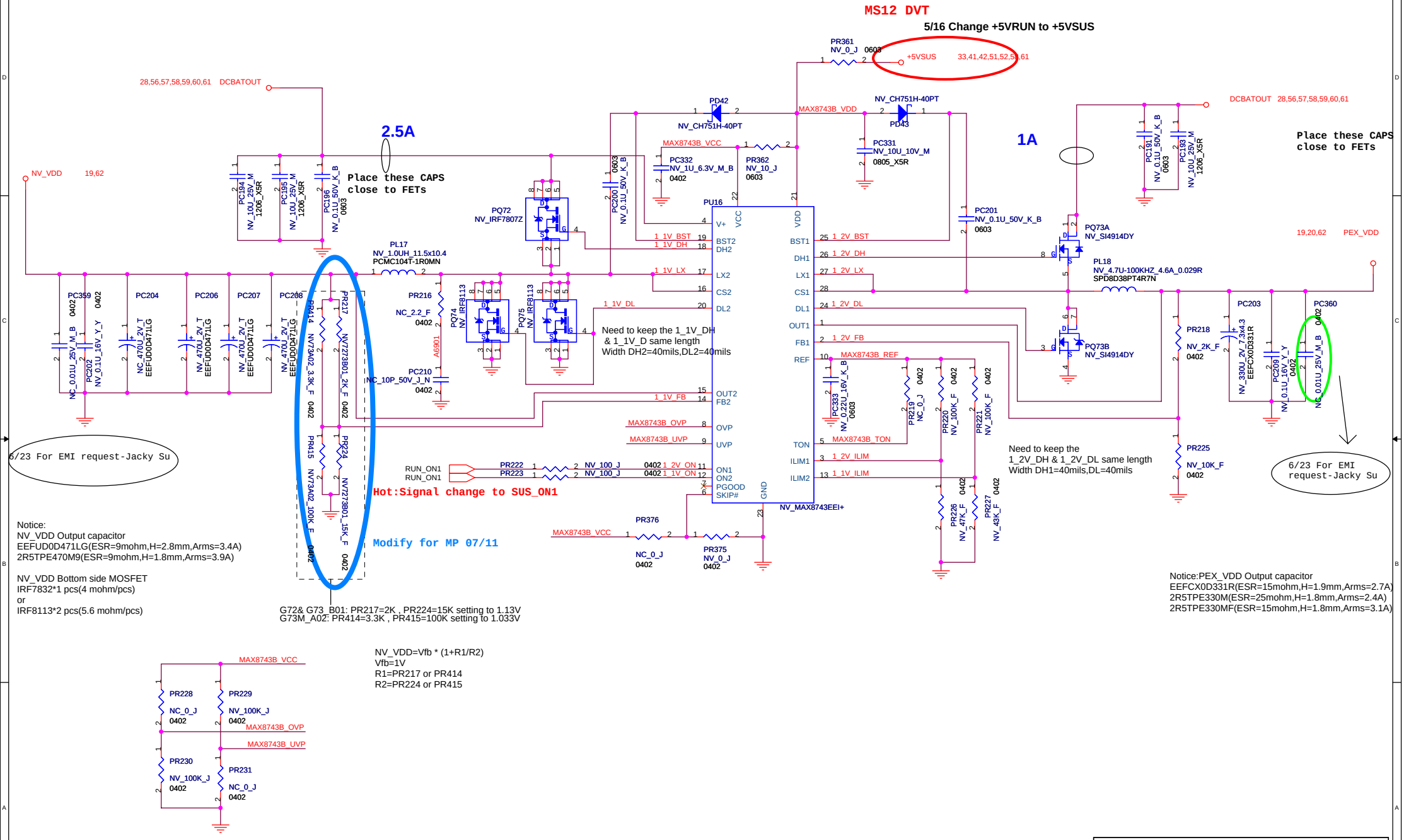
MS12 DVT

5/16 Change +5VRUN to +5VSUS



Notice:
NV_VDD Output capacitor
EEFUD0D471LG(ESR=9mohm,H=2.8mm,Arms=3.4A)
2R5TPE470M9(ESR=9mohm,H=1.8mm,Arms=3.9A)

NV_VDD Bottom side MOSFET
IRF7832*1 pcs(4 mohm/pcs)
or
IRF8113*2 pcs(5.6 mohm/pcs)

G72& G73_B01: PR217=2K , PR224=15K setting to 1.13V
G73M_A02: PR414=3.3K , PR415=100K setting to 1.033V

NV_VDD=Vfb * (1+R1/R2)
Vfb=1V
R1=PR217 or PR414
R2=PR224 or PR415

Notice:PEX_VDD Output capacitor
EEFCX0D331R(ESR=15mohm,H=1.9mm,Arms=2.7A)
2R5TPE330M(ESR=25mohm,H=1.8mm,Arms=2.4A)
2R5TPE330MF(ESR=15mohm,H=1.8mm,Arms=3.1A)

FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division	
Title	+1_2VRUN&+1_1VRUN-LYH	
Size A3	Document Number MS12-1-01 (MBX-149)	Rev 2.0
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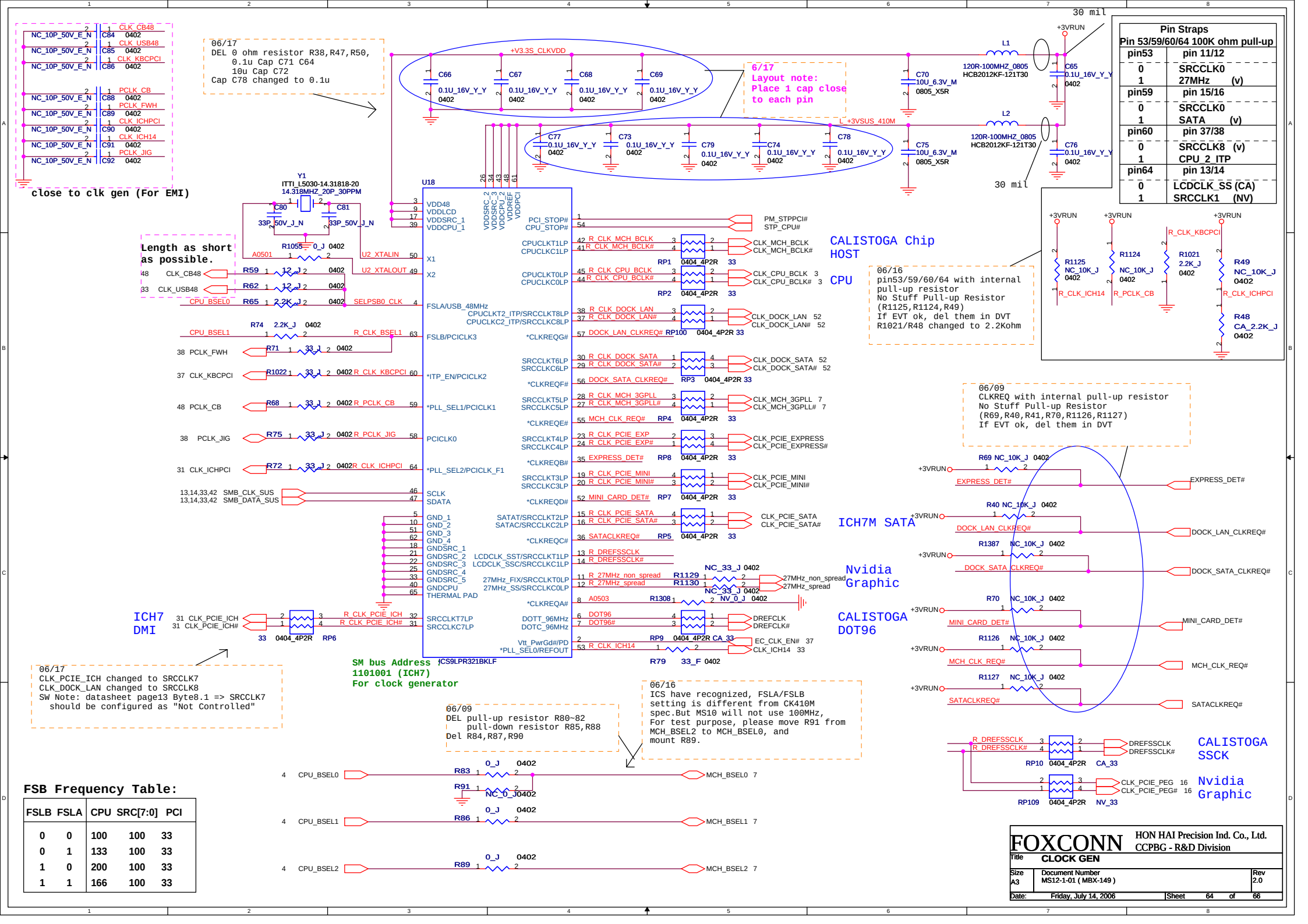
close to clk gen (For EMI)
06/17
DEL 0 ohm resistor R38,R47,R50,
0.1u Cap C71 C64
10u Cap C72
Cap C78 changed to 0.1u
6/17
Layout note:
Place 1 cap close
to each pin
30 mil
Pin Straps
Pin 53/59/60/64 100K ohm pull-up
pin53 pin 11/12
0 SRCCLK0
1 27MHz (v)
pin59 pin 15/16
0 SRCCLK0
1 SATA (v)
pin60 pin 37/38
0 SRCCLK8 (v)
1 CPU_2_ITP
pin64 pin 13/14
0 LCDCLK_SS (CA)
1 SRCCLK1 (NV)
Length as short as possible.
CALISTOGA Chip
HOST
CPU
06/16
pin53/59/60/64 with internal
pull-up resistor
No Stuff Pull-up Resistor
(R1125,R1124,R49)
If EVT ok, del them in DVT
R1021/R48 changed to 2.2Kohm
06/09
CLKREQ with internal pull-up resistor
No Stuff Pull-up Resistor
(R69,R40,R41,R70,R1126,R1127)
If EVT ok, del them in DVT
ICH7M SATA
Nvidia
Graphic
CALISTOGA
DOT96
ICH7
DMI
06/17
CLK_PCIE_ICH changed to SRCCLK7
CLK_DOCK_LAN changed to SRCCLK8
SW Note: datasheet page13 Byte8.1 => SRCCLK7
should be configured as "Not Controlled"
SM bus Address
1101001 (ICH7)
For clock generator
06/09
DEL pull-up resistor R80~82
pull-down resistor R85,R88
Del R84,R87,R90
06/16
ICS have recognized, FSLA/FSLB
setting is different from CK410M
spec.But MS10 will not use 100MHz,
For test purpose, please move R91 from
MCH_BSEL2 to MCH_BSEL0, and
mount R89.
CALISTOGA
SSCK
Nvidia
Graphic
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.
CCPBG - R&D Division
Title CLOCK GEN
Size A3
Document Number MS12-1-01 (MBX-149)
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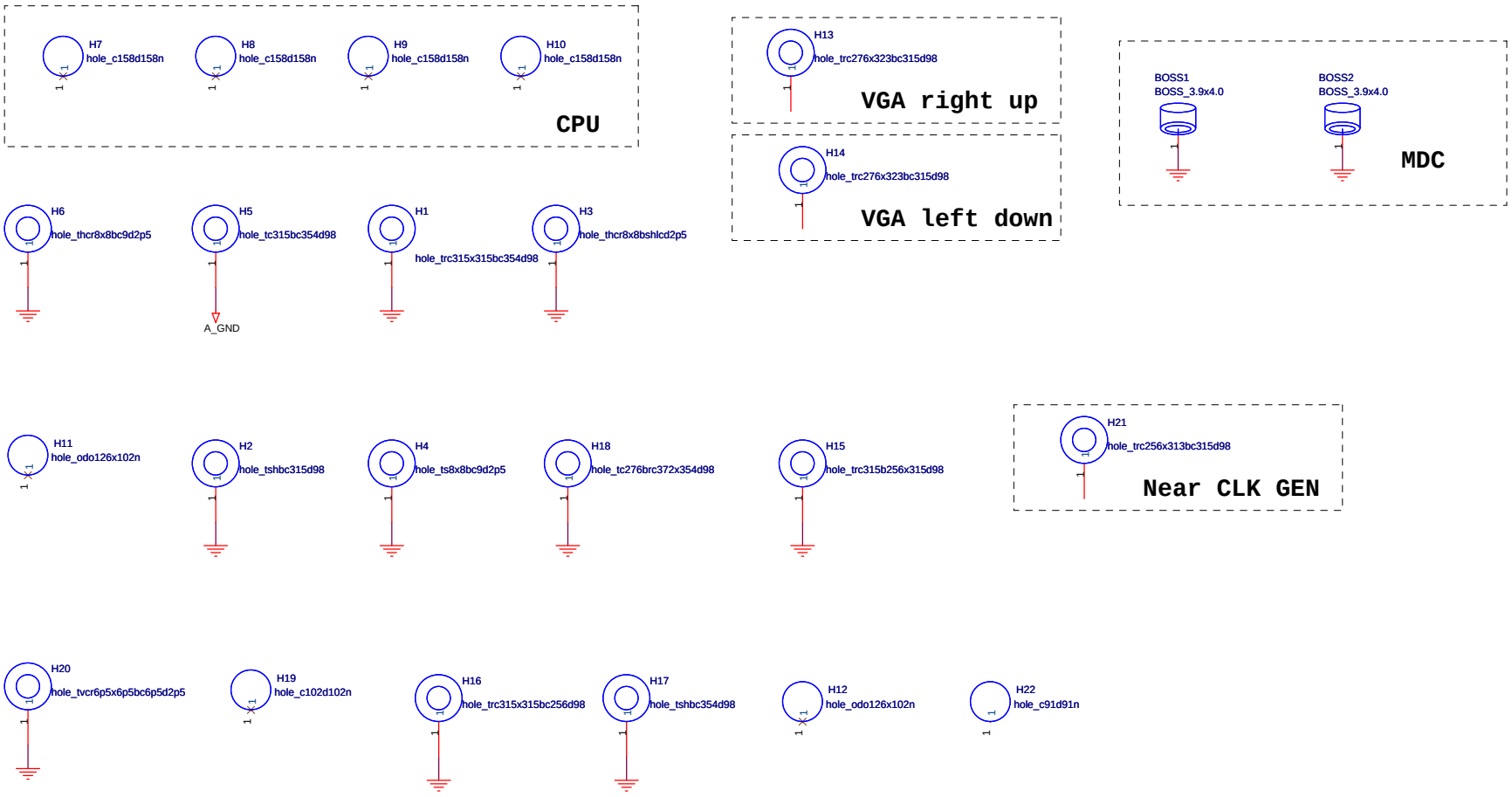

FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division	
Title	HOLE	
Size A3	Document Number MS12-1-01 (MBX-149)	Rev 2.0
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HISTORY

(2006/04/27 Initail REV 0.30)

P.5 Change C4,C5,C6,C7,C8,C9,C10,C11,C12,C13,C14,C15,C16,C17,C18,C19,C20,C21,C22,C23 from 22uF to 10uF for 22uF shortage.
P.5 Change C1310,C1311,C1312,C1313,C1314,C1315,C1316,C1317,C1318,C1319,C1320,C1321 to mount for 22uF shortage.
P.30 Change U84 from SN74AHC1G08DCK to 74AHC1G08GW for making BOM conveniently.
P.33 Change U30 from 74AHC114GW to SN74AHC1G14DCK for making BOM conveniently.
P.44 Change Q77,Q78,Q84,Q85 from PBSS2515F.115 to PBSS2525E.115.Because PBSS2515F.115 will be EOL.
P.44 Change CAP22,CAP23 from SHOEI (SE0J101-3B) to Panasonic (ECGUD0J101ER).Because SE0J101-3B will be EOL.
P.45 Change C913,C922 from 2.2U_16V_M to 2.2U_10V_M for 2.2U_16V_M shortage.
P.47 Change Q89,Q90,Q91,Q92 from PBSS2515F.115 to PBSS2525E.115.Because PBSS2515F.115 will be EOL.

Power modify

P.56 Add PR27 , Change PR363/PR364/PQ90 to NC_ condition.Design change and can achieve the same function.
P.60 Change PR138.1 from +5VSUS to +5VRUN.Keep the same power sequence with MAX8771 VDD.
P.60 Delete PR338. Have reserved PR388, so can delete PR338.
P.60 Add PC372 to avoid IMVP_OK signal 700mV pulse when power on.
P.60 Change PC107/PC108 from 2.2U_16V_M to 2.2U_10V_M for 2.2U_16V_M shortage.
P.61 Change PC164/PC165 from 2.2U_16V_M to 2.2U_10V_M for 2.2U_16V_M shortage.
P.62 Change PU12,PU14 from LMC7225IM5X to NCS2202SN1T1G for LMC7225IM5X shortage.
P.62 Change PC326 from 0.1U_16V_Y_Y(Y5V) to 0.1U_16V_M (X5R).Because X5R speciality is more stable than Y5V.
P.62 Change PD25,PD33,PD35 from MMHZ5234BPT to MMVZ5234BPT.Base on test result, MMVZ5234BPT is more stable than MMHZ5234BPT
P.62 Change PD36 to NC_condition.When delete PD36, can also achieve the same function by SYS_PRS# signal.
P.62 Change PC368 from 2.2U_16V_M to 2.2U_10V_M for 2.2U_16V_M shortage.
P.63 Change PR361.2 from +5VSUS to +5VRUN.To achieve more logical design and can save a little power consumption on S3 mode

(2006/05/05 System ID modify)

P.37 Add R1463 and R1464 for making BOM conveniently.
P.37 Change R719 from 100K_J to NV72_100K_J for making BOM conveniently.
P.37 Change R724 from NC_100K_J to 100K_J for new System ID table.
P.37 Change R725 from 100K_J to NC_100K_J for new System ID table.
P.37 Change R727 from 100K_J to NC_100K_J for new System ID table.
P.37 Change R728 from NC_100K_J to 100K_J for new System ID table.

(2006/05/8)

P.41 Change Q93 from DTC144EUA to BT_DTC144EUA.
P.53 Change R1311 from 0_J to HUB_0_J.
P.53 Change R1461 from 0_J to HUB_0_J.

(2006/05/11)

P.52 Change C1003 from 1210 to 1206/1210 dual layout package for MLCC shortage
P.56 Change PC16, PC24, PC25, PC31, PC32, PC33 from 1210 to 1206/1210 dual layout package for MLCC shortage
P.57 Change PC42, PC43, PC350 from 1210 to 1206/1210 dual layout package for MLCC shortage
P.58 Change PC62, PC71, PC72 from 1206 to 1206/1210 dual layout package for MLCC shortage
P.59 Change PC84, PC87, PC306 from 1210 to 1206/1210 dual layout package for MLCC shortage
P.60 Change PC274, PC275, PC276, PC281, PC282, PC283 from 1206 to 1206/1210 dual layout package for MLCC shortage
P.63 Change PC193, PC194, PC195 from 1206 to 1206/1210 dual layout package for MLCC shortage
P.58 Change PR79 from 36K_F to 51K_F for MOSFET 2nd source OCP common setting.
P.63 Change PR227 from NV_39.2K_F to NV_43K_F for MOSFET 2nd source OCP common setting.

(2006/05/16)

P.63 Change PR361.2 from +5VRUN to +5VSUS.

(2006/05/18)

P.56 Change PR27 from 0_J to NC_0_J.
P.56 Change PR363 from NC_10K_J to 10K_J.
P.56 Change PR364 from NC_120K_J to 120K_J.
P.56 Change PQ90 from NC_MUN5213DW1T1G to MUN5213DW1T1G.

PVT MODIFY

(2006/06/13)

P.36 Change CN32 footprint from FOXCONN_QT8H0506_H113R_4F to FOXCONN_QT8H0506_H113R_4F_MS12.
     Modify footprint to avoid connector short.

P.56 Change net(PD40 pin2) from ALW_ON to ALW_ON1.
P.57 Change PR53, PR55 from 100_J to 0_J and add a resistor PR418(1K_J) for prevent EC damage when power protect occur.

(2006/06/16)

P.5 Change C4,C5,C6,C7,C8,C9,C10,C11,C12,C13,C14,C15,C16,C17,C18,C19,C20,C21,C22,C23 from 10uF to 22uF for BOM control.
P.5 Change C1310,C1311,C1312,C1313,C1314,C1315,C1316,C1317,C1318,C1319,C1320,C1321 from mount to NC for BOM control.

(2006/06/20)

P.46 Change D67 from ASKS02-03S-G to CH520S-30PT. Because ASKS02-03S-G will be EOL.

FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division	
Title: History (1)		
Size: C	Document Number: MS12-1-01 (MBX-149)	Rev: 2.0
Date: Friday, July 14, 2006	Sheet 66 of 66	

HISTORY

MP MODIFY

(2006/07/11)

P.36 Add D72 to avoid ESD fail for Pioneer SMDL K16VAD.

P.63 Change PR217 and PR224 head value from NV72_ to NV7273B01_. Because NV73M_B01 NVVDD need 1.1V.

P.63 Change PR414 and PR415 head value from NV73_ to NV73A02_. Because NV73M_A02 NVVDD still need 1.0V.

FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division	
Title: History (1)		
Size: C	Document Number: MS12-1-01 (MBX-149)	Rev: 2.0
Date: Friday, July 14, 2006	Sheet 66 of 66	