Schematics Page Index (Title / Revision / Change Date)

P. Leader	Check by	Design by

Project Code & Schematics Subject: MS13 Main Board

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

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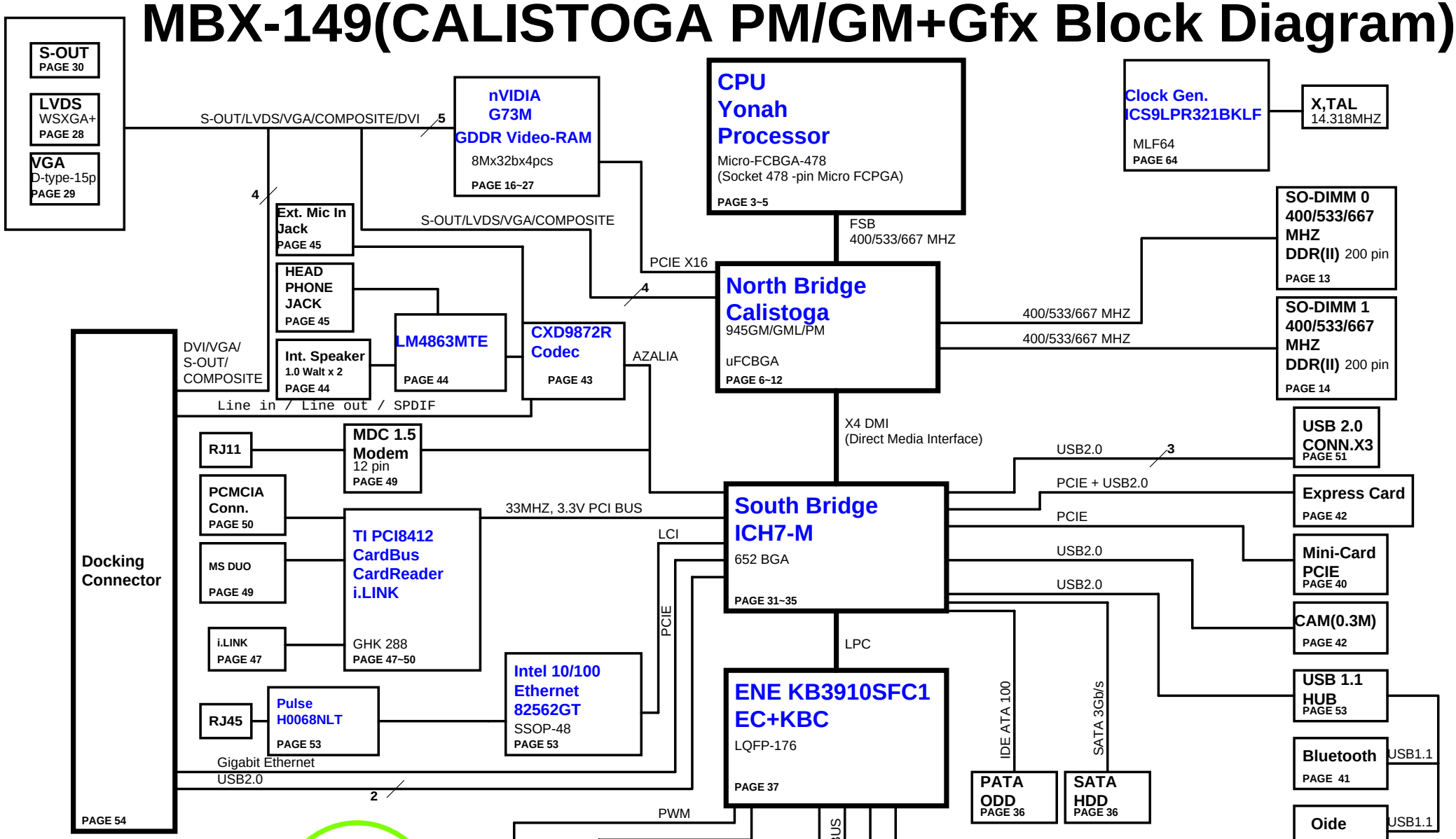
MBX-149(CALISTOGA PM/GM+Gfx Block Diagram)



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_

MS13 DVT Modify

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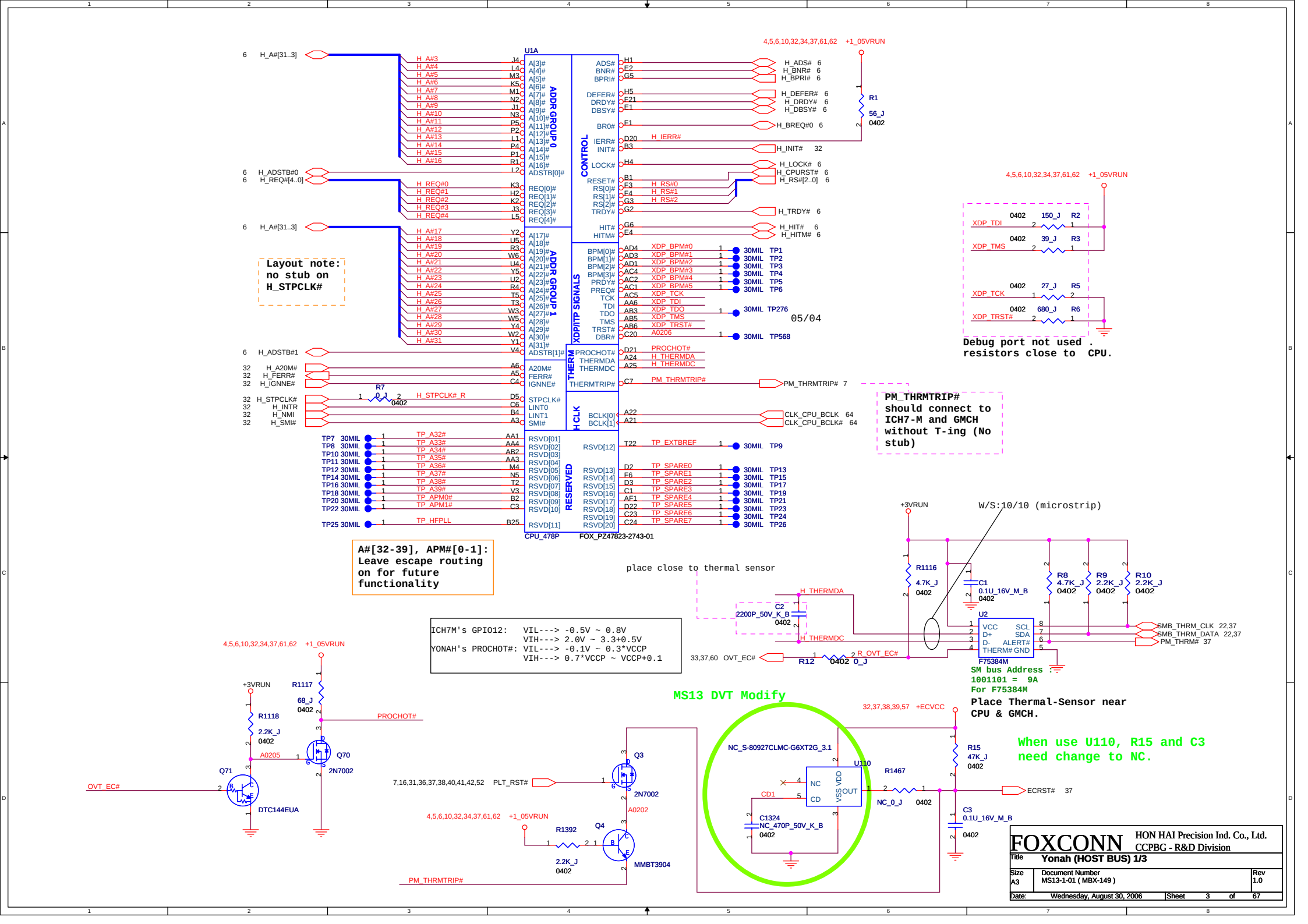
U1A
ADDR GROUP 0
ADDR GROUP 1
CONTROL
XDP/ITP SIGNALS
THERM
H CLK
RESERVED
CPU_478P
FOX_PZ47823-2743-01
Layout note:
no stub on
H_STPCLK#
A#[32-39], APM#[0-1]:
Leave escape routing
on for future
functionality
05/04
Debug port not used .
resistors close to CPU.
PM_THRMTRIP#
should connect to
ICH7-M and GMCH
without T-ing (No
stub)
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
MS13 DVT Modify
SM bus Address :
1001101 = 9A
For F75384M
Place Thermal-Sensor near
CPU & GMCH.
When use U110, R15 and C3
need change to NC.
F75384M
NC_S-80927CLMC-G6XT2G_3.1
DTC144EUA
2N7002
MMBT3904
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Yonah (HOST BUS) 1/3
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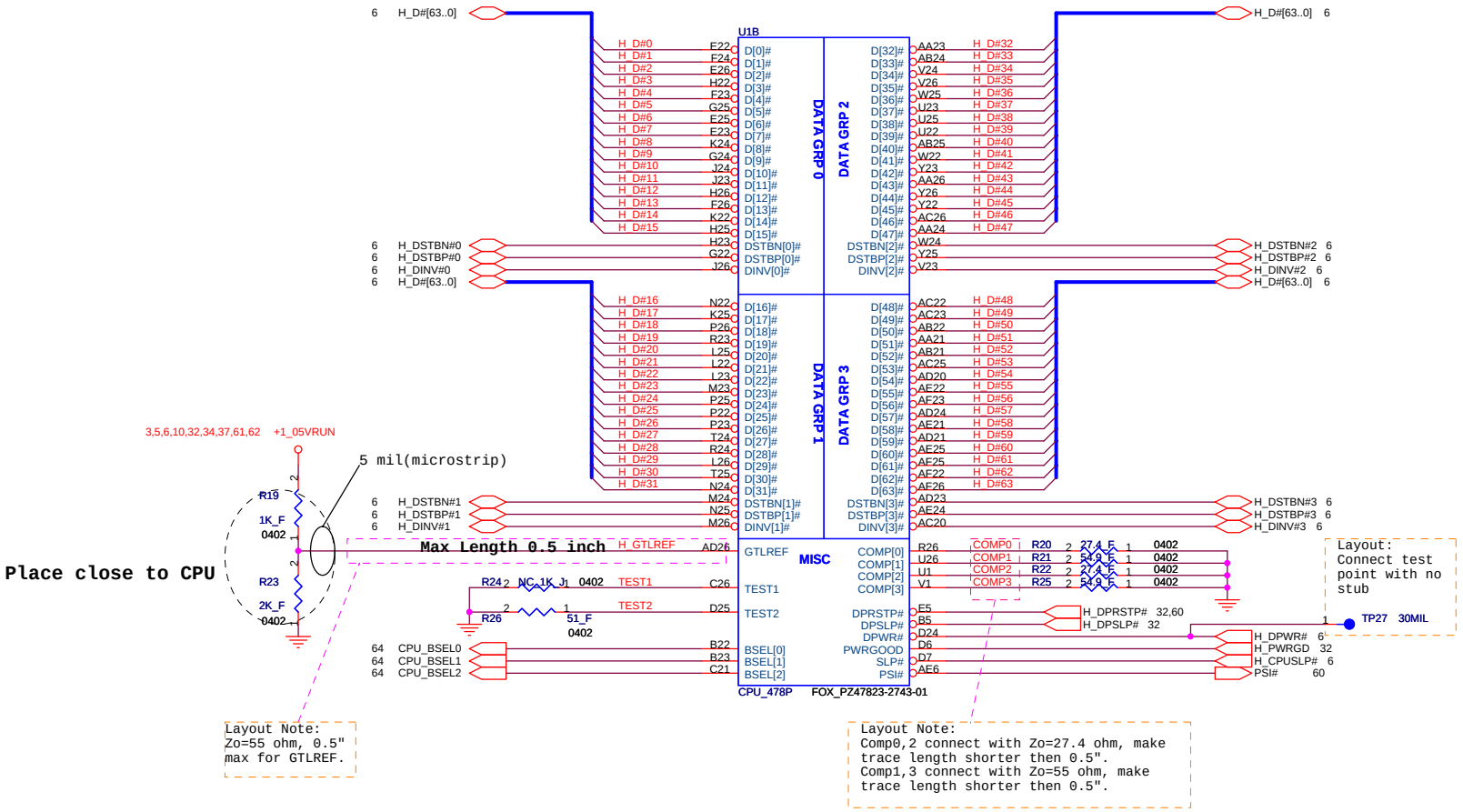

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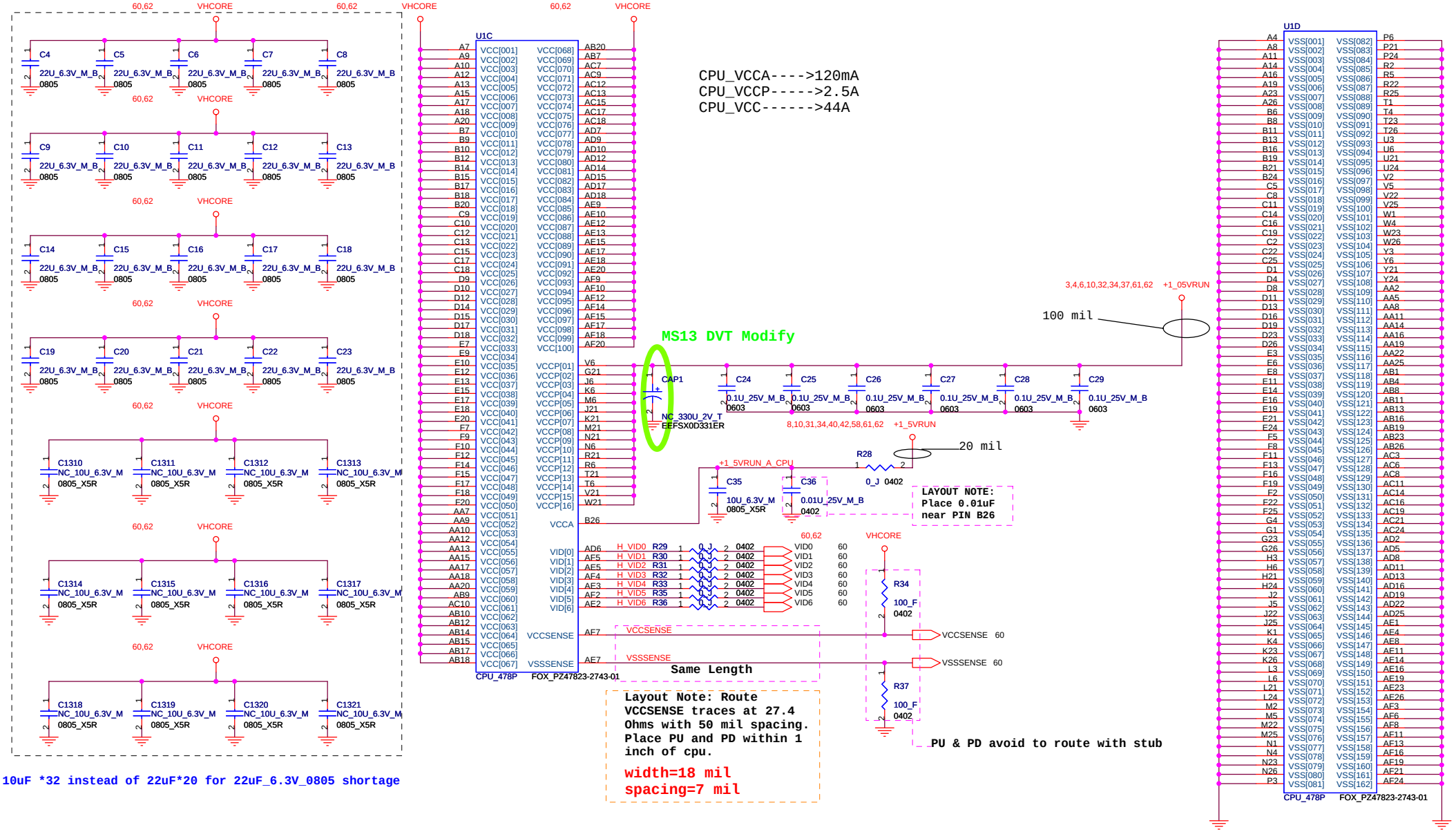

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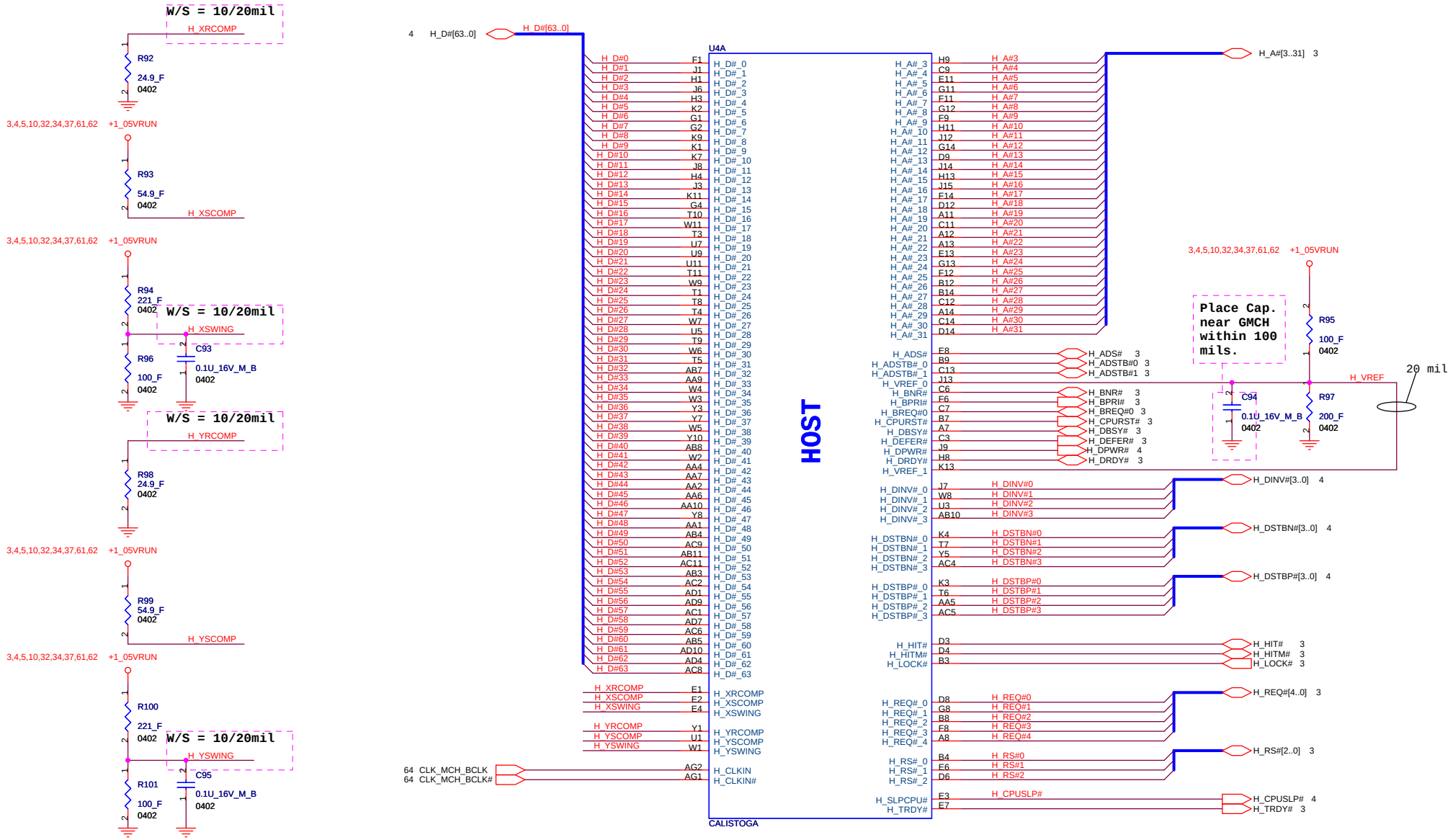

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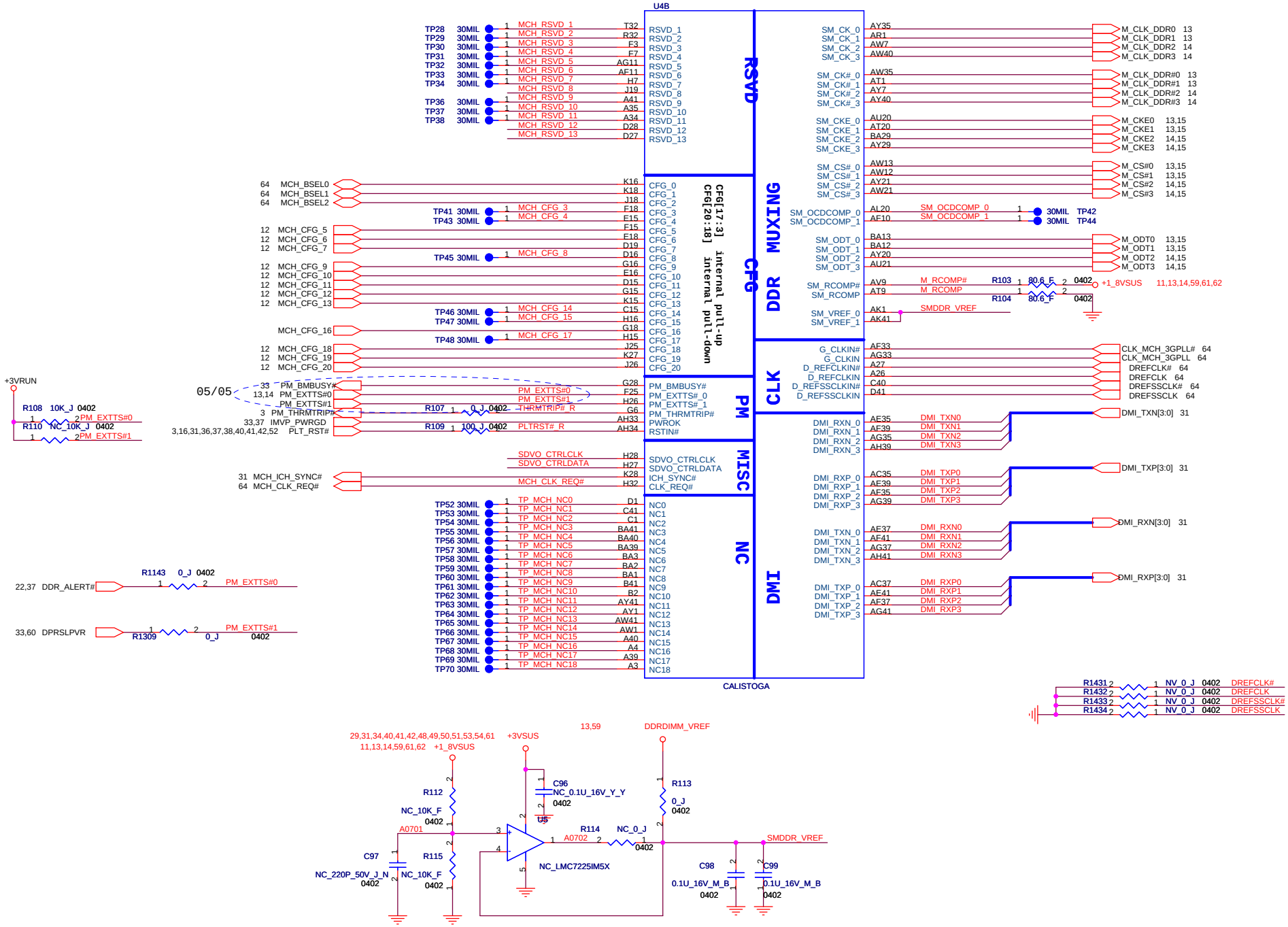

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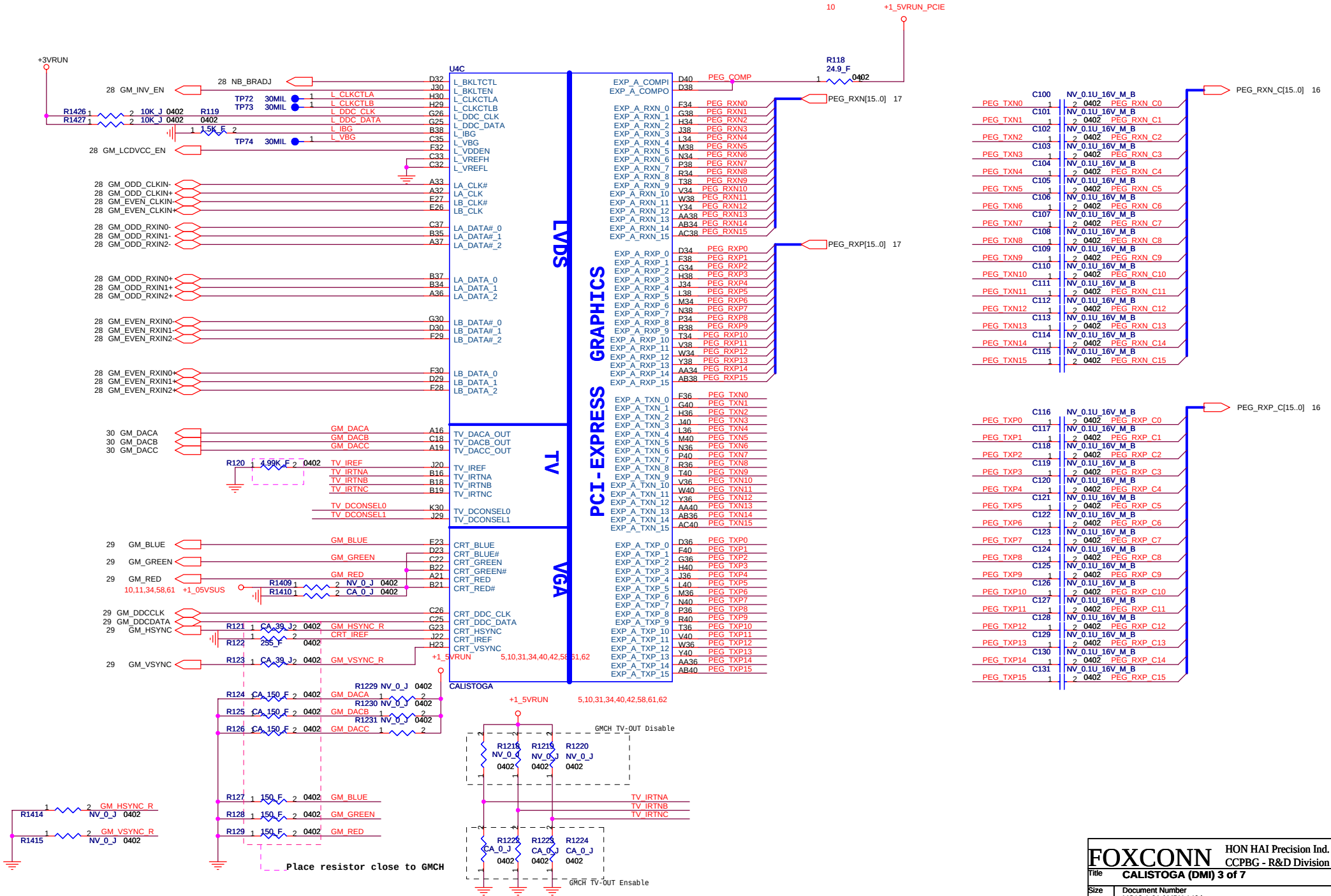

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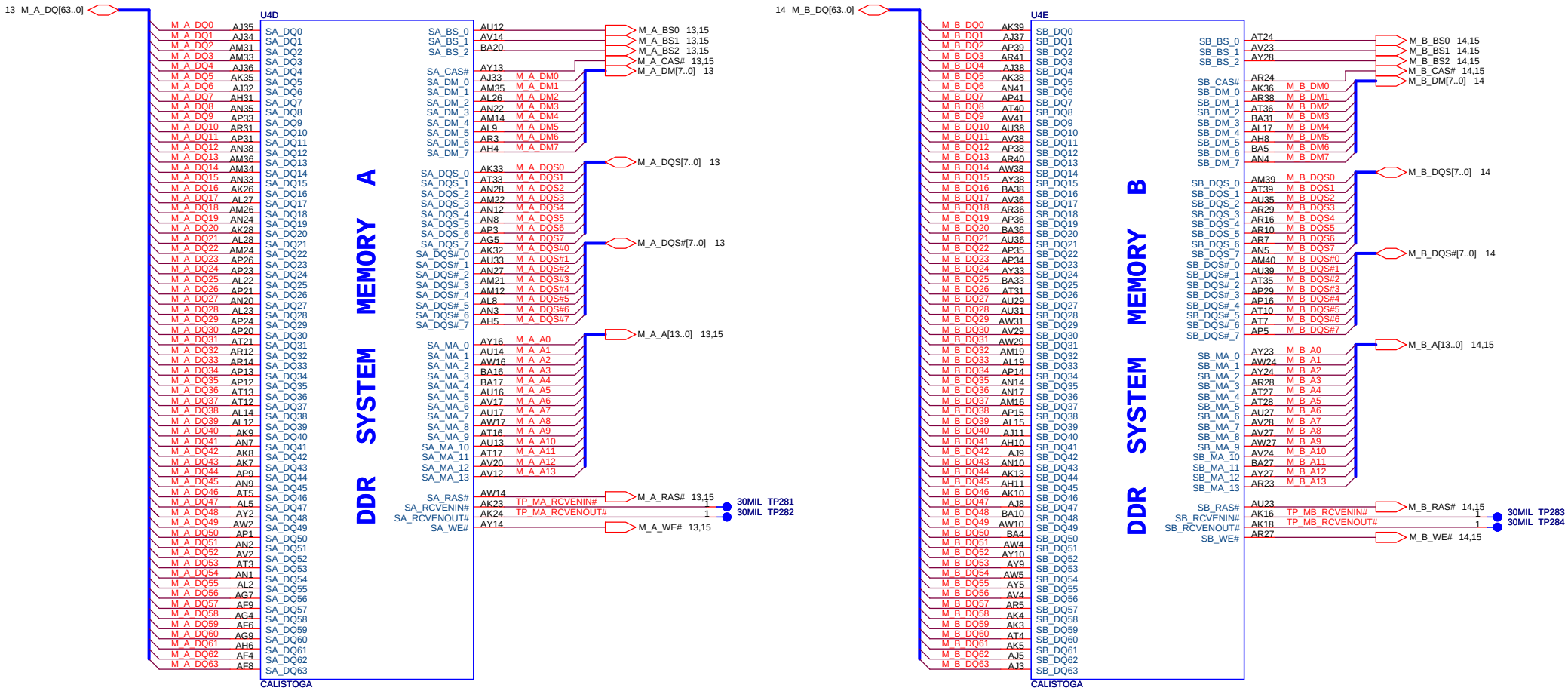

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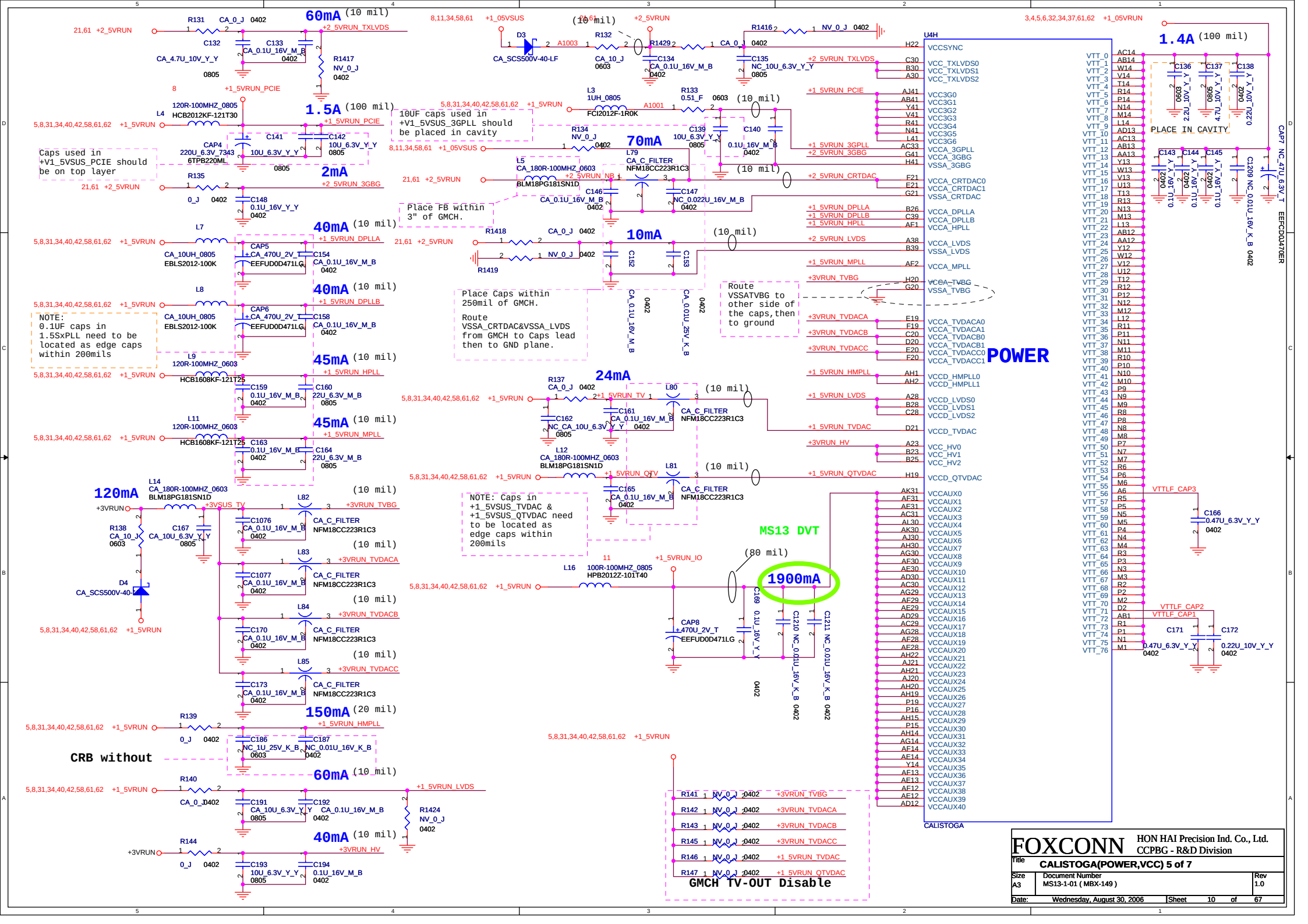
60mA (10 mil)
1.5A (100 mil)
2mA
40mA (10 mil)
40mA (10 mil)
45mA (10 mil)
45mA (10 mil)
120mA (10 mil)
150mA (20 mil)
60mA (10 mil)
40mA (10 mil)
70mA (10 mil)
10mA (10 mil)
24mA (10 mil)
1900mA (80 mil)
1.4A (100 mil)
MS13 DVT
POWER
CALISTOGA
10UF caps used in +V1_5VSUS_3GPLL should be placed in cavity
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
CRB without
GMCH TV-OUT Disable
FOXCONN
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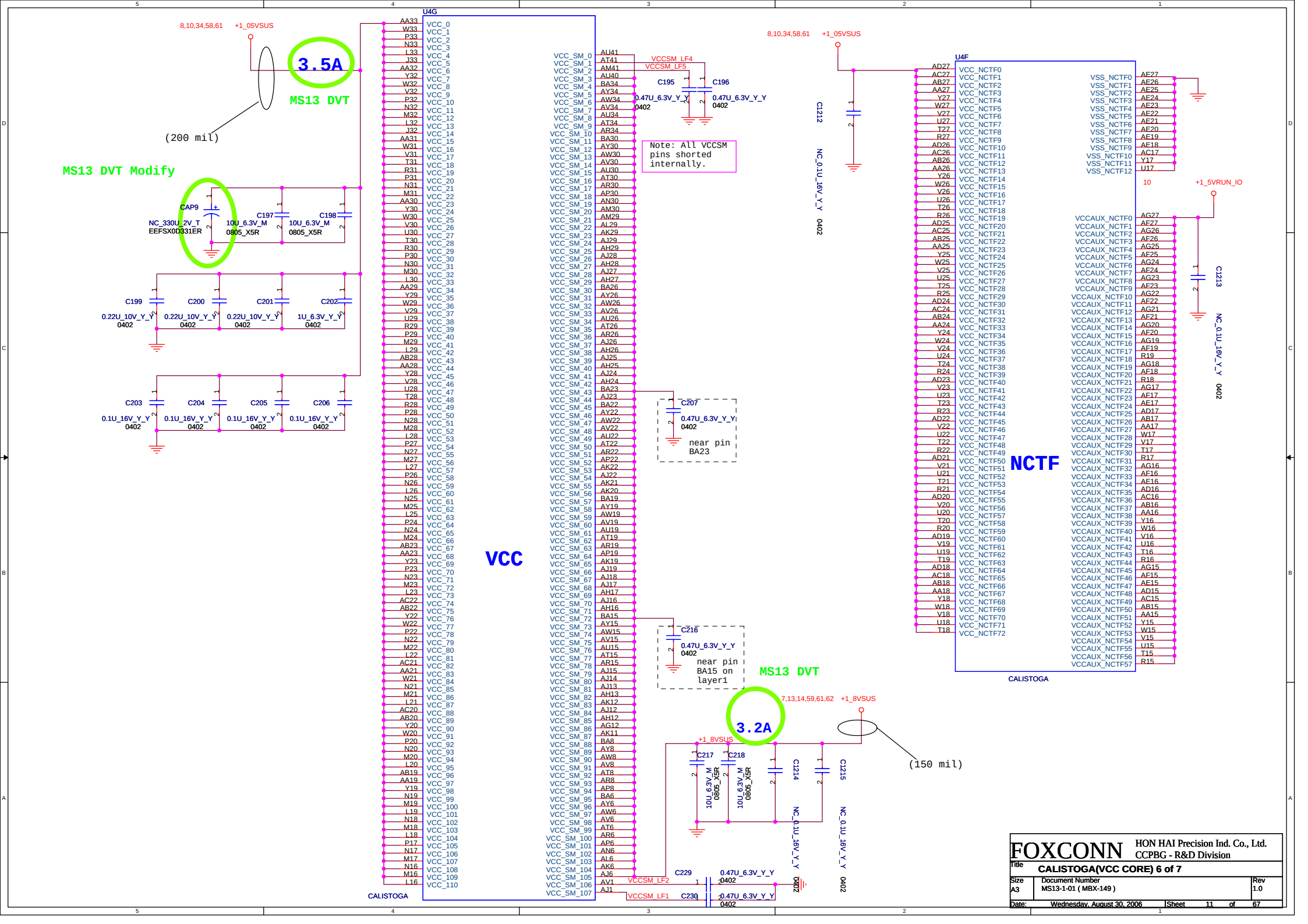

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7 MCH_CFG_5 — 1 — 30MIL TP554

MCH_CFG_5	Low = DMIx2 High = DMIx4

7 MCH_CFG_6 — 1 — 30MIL TP556

MCH_CFG_6	Low = Moby Dick High = Calistoga

DDR2 select (default high)

7 MCH_CFG_7 — 1 — 30MIL TP557

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

7 MCH_CFG_9 — 1 — 30MIL TP559

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

For layout convenience

7 MCH_CFG_10 — 1 — 30MIL TP560

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

7 MCH_CFG_11

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

R162 NC_2.2K_J 0402

7 MCH_CFG_12 — 1 — 30MIL TP562
7 MCH_CFG_13 — 1 — 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)

7 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

7 MCH_CFG_18 — 1 — 30MIL TP555

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

7 MCH_CFG_19 — 1 — 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

7 MCH_CFG_20 — 1 — 30MIL TP561

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

U4I

VSS

CALISTOGA

U4J

VSS

CALISTOGA

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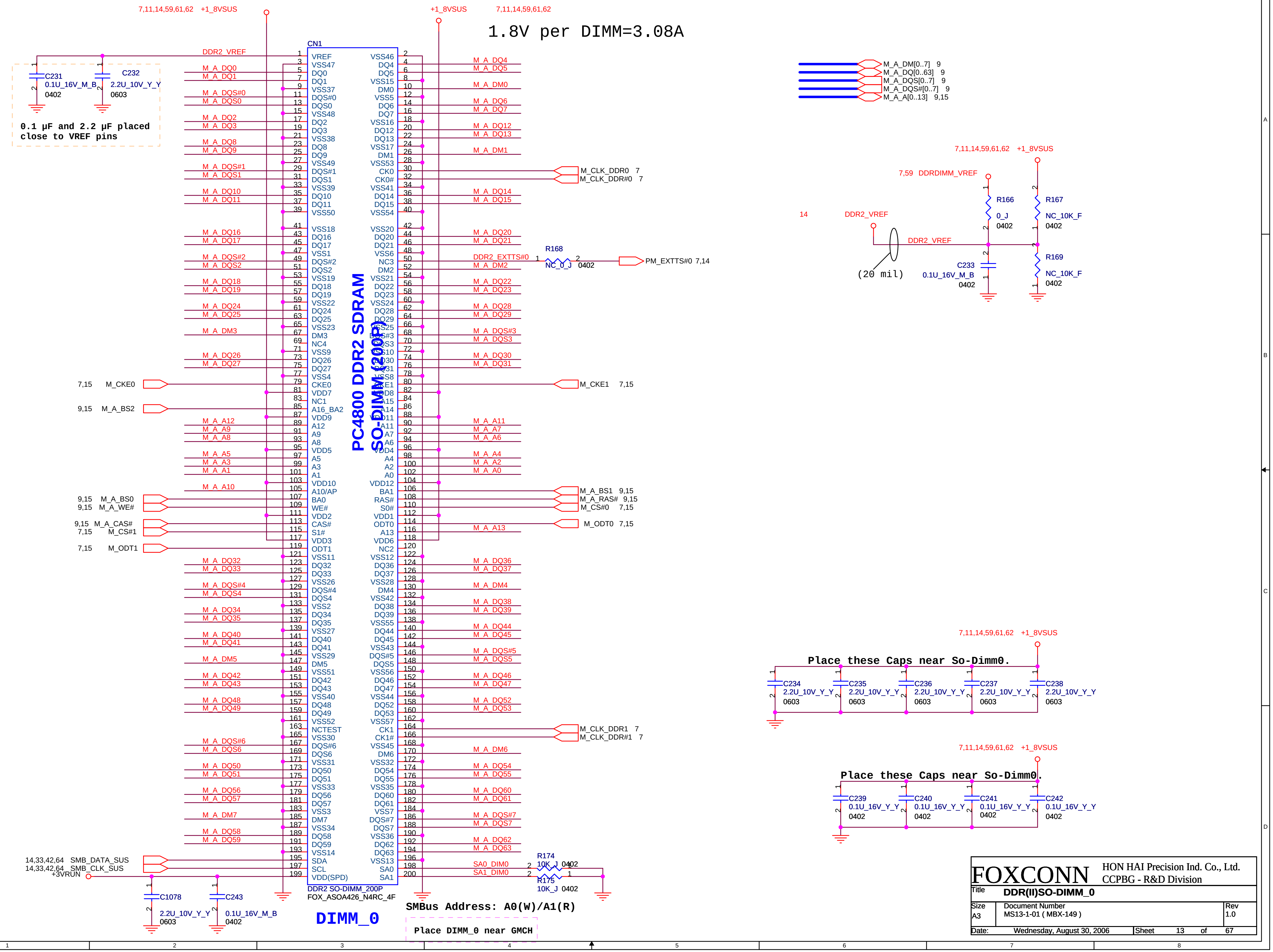

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13

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	M_B_DQ12		
19	DQ3	DQ12	20	M_B_DQ3	M_B_DQ13		
21	VSS38	DQ13	22				
23	DQ8	VSS17	24	M_B_DQ8	M_B_DM1		
25	DQ9	DM1	26	M_B_DQ9			
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	R176 NC_0_J 0402	PM_EXTTS#0 7,13
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	DQ31	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	9,15 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 9,15		
107	BA0	RAS#	108	9,15 M_B_BS0	M_B_RAS# 9,15		
109	WE#	S0#	110	9,15 M_B_WE#	M_CS#2 7,15		
111	VDD2	VDD1	112				
113	CAS#	ODT0	114	9,15 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	13,33,42,64 SMB_DATA_SUS			
197	SCL	SA0	198	13,33,42,64 SMB_CLK_SUS	SA0_DIM1	R177 10K_J 0402	
199	VDD(SPD)	SA1	200	+3VRUN	SA1_DIM1	0402	+3VRUN

DDR2 S0-DIMM_200P

FOX_ASOA426_N4SC_4F

R178 10K_J

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

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9,13 M_A_A[0..13]

9,14 M_B_A[0..13]

59,62 +0_9VSUS

C257 0.1U_16V_Y_X 0402
C258 0.1U_16V_Y_X 0402
C259 0.1U_16V_Y_X 0402
C260 0.1U_16V_Y_X 0402
C261 0.1U_16V_Y_X 0402
C262 0.1U_16V_Y_X 0402
C263 0.1U_16V_Y_X 0402
C264 0.1U_16V_Y_X 0402
C265 0.1U_16V_Y_X 0402
C266 0.1U_16V_Y_X 0402
C267 0.1U_16V_Y_X 0402
C268 0.1U_16V_Y_X 0402
C269 0.1U_16V_Y_Y 0402

Layout note: Place 1 cap close to every 1 R-pack terminated to +0_9VSUS

59,62 +0_9VSUS

C270 0.1U_16V_Y_X 0402
C271 0.1U_16V_Y_X 0402
C272 0.1U_16V_Y_X 0402
C273 0.1U_16V_Y_X 0402
C274 0.1U_16V_Y_X 0402
C275 0.1U_16V_Y_X 0402
C276 0.1U_16V_Y_X 0402
C277 0.1U_16V_Y_X 0402
C278 0.1U_16V_Y_X 0402
C279 0.1U_16V_Y_X 0402
C280 0.1U_16V_Y_X 0402
C281 0.1U_16V_Y_X 0402
C282 0.1U_16V_Y_Y 0402

Layout note: Place 1 cap close to every 1 R-pack terminated to +0_9VSUS

9,14 M_B_RAS#
9,14 M_B_BS1
RP12 56 0404_4P2R
M_B_A12 RP13 56 0404_4P2R
M_B_A9
M_B_A8 RP14 56 0404_4P2R
M_B_A5
+0_9VSUS 59,62

M_B_A3 RP15 56 0404_4P2R
M_B_A1
M_B_A10 RP16 56 0404_4P2R
9,14 M_B_BS0
RP17 56 0404_4P2R
9,14 M_B_WE#
9,14 M_B_CAS#
M_B_A7 RP18 56 0404_4P2R
M_B_A11
+0_9VSUS 59,62

M_B_A4 RP19 56 0404_4P2R
M_B_A6
M_B_A0 RP20 56 0404_4P2R
M_B_A2
M_B_A13 RP21 56 0404_4P2R
7,14 M_ODT2
+0_9VSUS 59,62

M_A_A7 RP22 56 0404_4P2R
M_A_A11
M_A_A4 RP23 56 0404_4P2R
M_A_A6
RP24 56 0404_4P2R
9,13 M_A_RAS#
9,13 M_A_BS1
+0_9VSUS 59,62

M_A_A13 RP25 56 0404_4P2R
7,13 M_ODT0
9,13 M_A_BS2
RP26 56 0404_4P2R
M_A_A12
M_A_A9 RP27 56 0404_4P2R
M_A_A8
M_A_A5 RP28 56 0404_4P2R
M_A_A3
+0_9VSUS 59,62

M_A_A10 RP29 56 0404_4P2R
9,13 M_A_BS0
RP30 56 0404_4P2R
9,13 M_A_WE#
9,13 M_A_CAS#
M_A_A0 RP31 56 0404_4P2R
M_A_A2
+0_9VSUS 59,62

7,13 M_CKE0 R183 0402 56_J
7,13 M_CKE1 R186 0402 56_J
7,14 M_CKE2 R189 0402 56_J
7,14 M_CKE3 R192 0402 56_J
+0_9VSUS 59,62

7,13 M_CS#0 R181 0402 56_J
7,13 M_CS#1 R184 0402 56_J
7,14 M_CS#2 R187 0402 56_J
7,14 M_CS#3 R190 0402 56_J
+0_9VSUS 59,62

7,13 M_ODT1 R182 0402 56_J
7,14 M_ODT3 R185 0402 56_J
M_A_A1 R188 0402 56_J
9,14 M_B_BS2 R191 0402 56_J
+0_9VSUS 59,62

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CCPBG - R&D Division

Title: DDR(II)Termination

Size	Document Number	Rev
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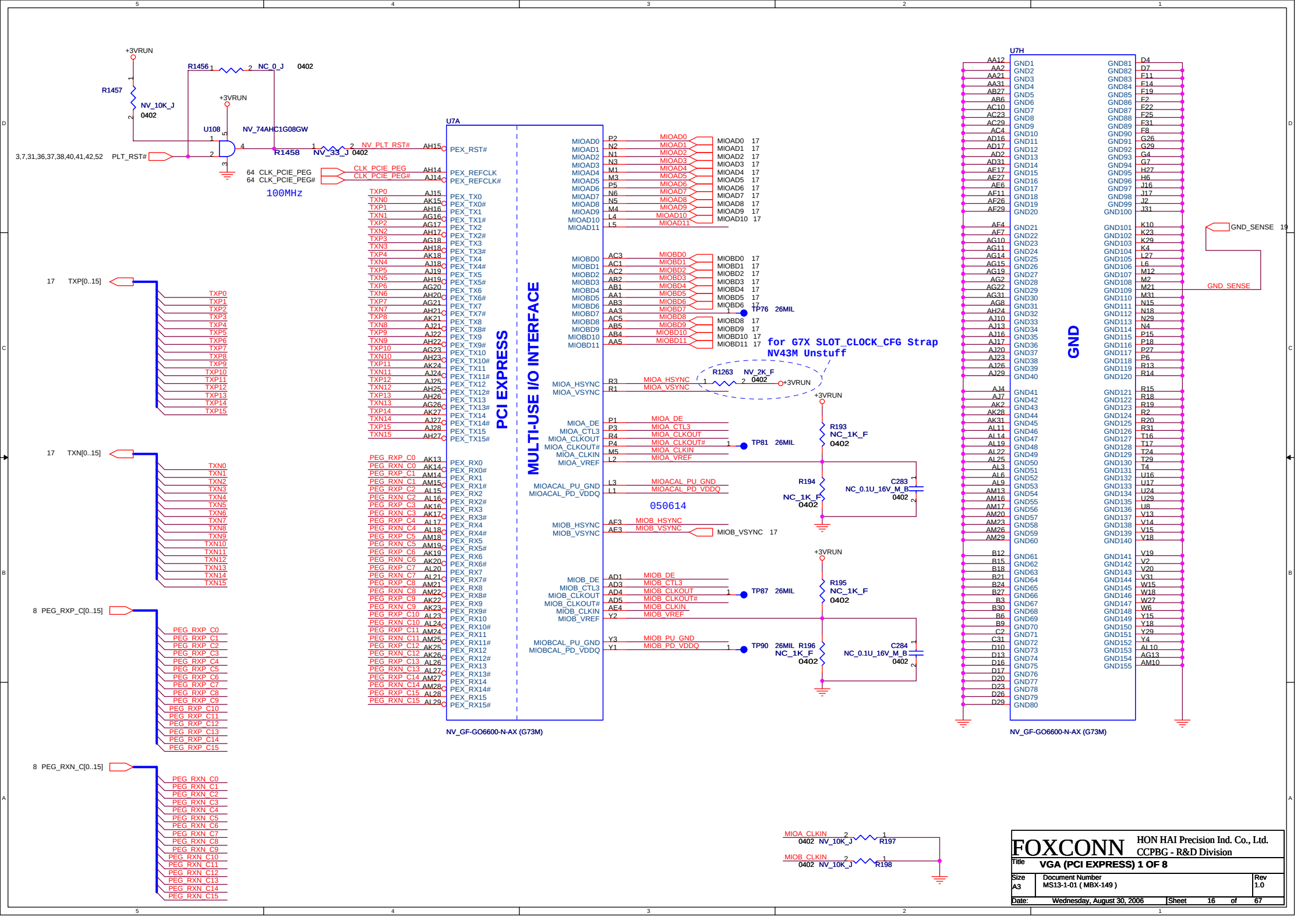
+3VRUN
R1456 NC_0_J 0402
R1457 NV_10K_J 0402
U108 NV_74AHC1G08GW
R1458 NV_33_J 0402
NV_PLT_RST#
3,7,31,36,37,38,40,41,42,52 PLT_RST#
64 CLK_PCIE_PEG
64 CLK_PCIE_PEG#
CLK_PCIE_PEG
CLK_PCIE_PEG#
100MHz
U7A
PCI EXPRESS
MULTI-USE I/O INTERFACE
PEX_RST#
PEX_REFCLK
PEX_REFCLK#
PEX_TX0
PEX_TX0#
PEX_TX1
PEX_TX1#
PEX_TX2
PEX_TX2#
PEX_TX3
PEX_TX3#
PEX_TX4
PEX_TX4#
PEX_TX5
PEX_TX5#
PEX_TX6
PEX_TX6#
PEX_TX7
PEX_TX7#
PEX_TX8
PEX_TX8#
PEX_TX9
PEX_TX9#
PEX_TX10
PEX_TX10#
PEX_TX11
PEX_TX11#
PEX_TX12
PEX_TX12#
PEX_TX13
PEX_TX13#
PEX_TX14
PEX_TX14#
PEX_TX15
PEX_TX15#
PEX_RX0
PEX_RX0#
PEX_RX1
PEX_RX1#
PEX_RX2
PEX_RX2#
PEX_RX3
PEX_RX3#
PEX_RX4
PEX_RX4#
PEX_RX5
PEX_RX5#
PEX_RX6
PEX_RX6#
PEX_RX7
PEX_RX7#
PEX_RX8
PEX_RX8#
PEX_RX9
PEX_RX9#
PEX_RX10
PEX_RX10#
PEX_RX11
PEX_RX11#
PEX_RX12
PEX_RX12#
PEX_RX13
PEX_RX13#
PEX_RX14
PEX_RX14#
PEX_RX15
PEX_RX15#
NV_GF-GO6600-N-AX (G73M)
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_VSYNC 17
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
17 TXP[0..15]
17 TXN[0..15]
8 PEG_RXP_C[0..15]
8 PEG_RXN_C[0..15]
U7H
GND
GND_SENSE 19
GND_SENSE
NV_GF-GO6600-N-AX (G73M)
MIOA_CLKIN R197 NV_10K_J 0402
MIOB_CLKIN R198 NV_10K_J 0402
FOXCONN
HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division
Title VGA (PCI EXPRESS) 1 OF 8
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8 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] 16

8 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] 16

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 16 … MIOAD10 16

MIOBD0 MIOBD1 MIOBD2 MIOBD3 MIOBD4 MIOBD5 MIOBD6 MIOBD8 MIOBD9 MIOBD10 MIOBD11 → MIOBD0 16 … MIOBD11 16

MIOB_VSYNC → MIOB_VSYNC 16

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

Size: A3 | Document Number: MS13-1-01 (MBX-149) | Rev: 1.0

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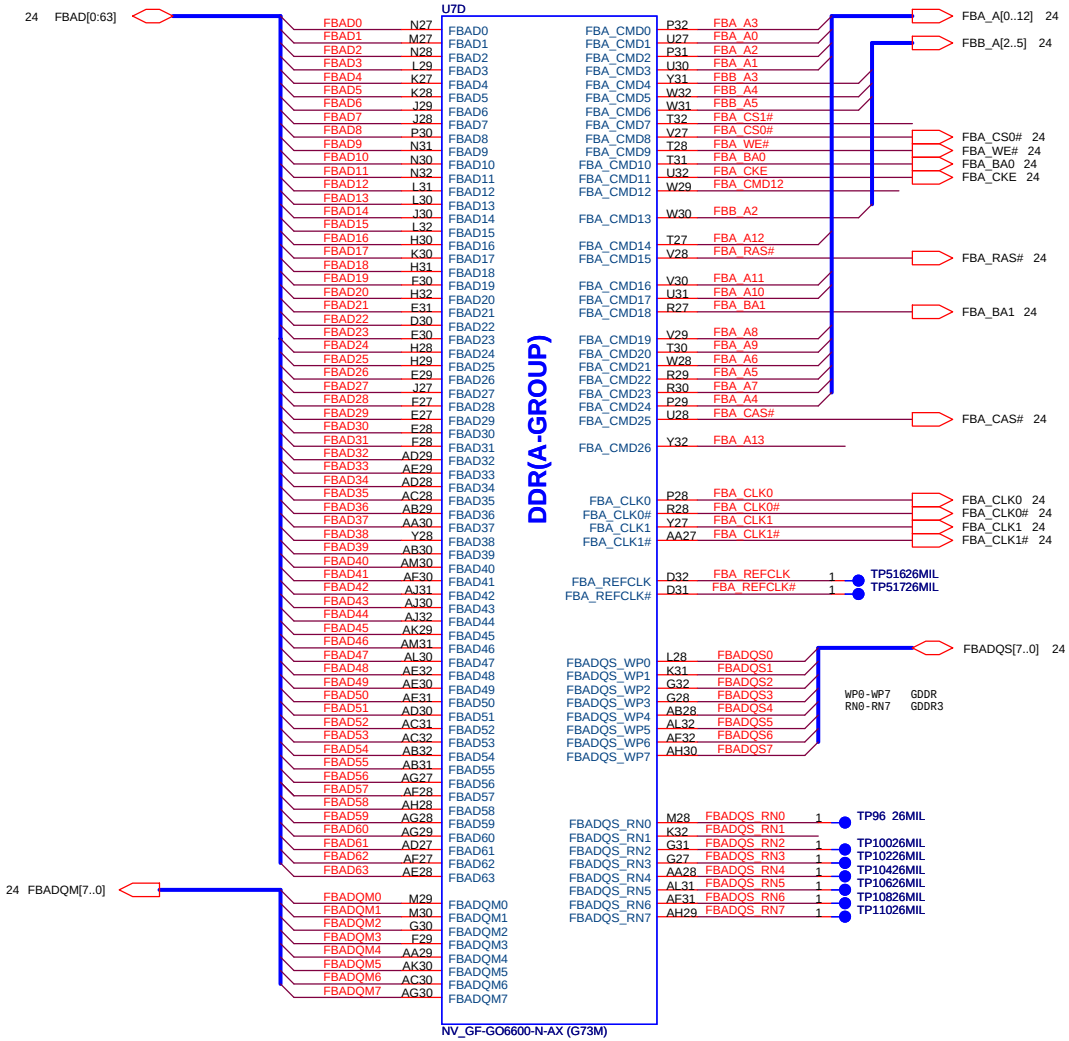

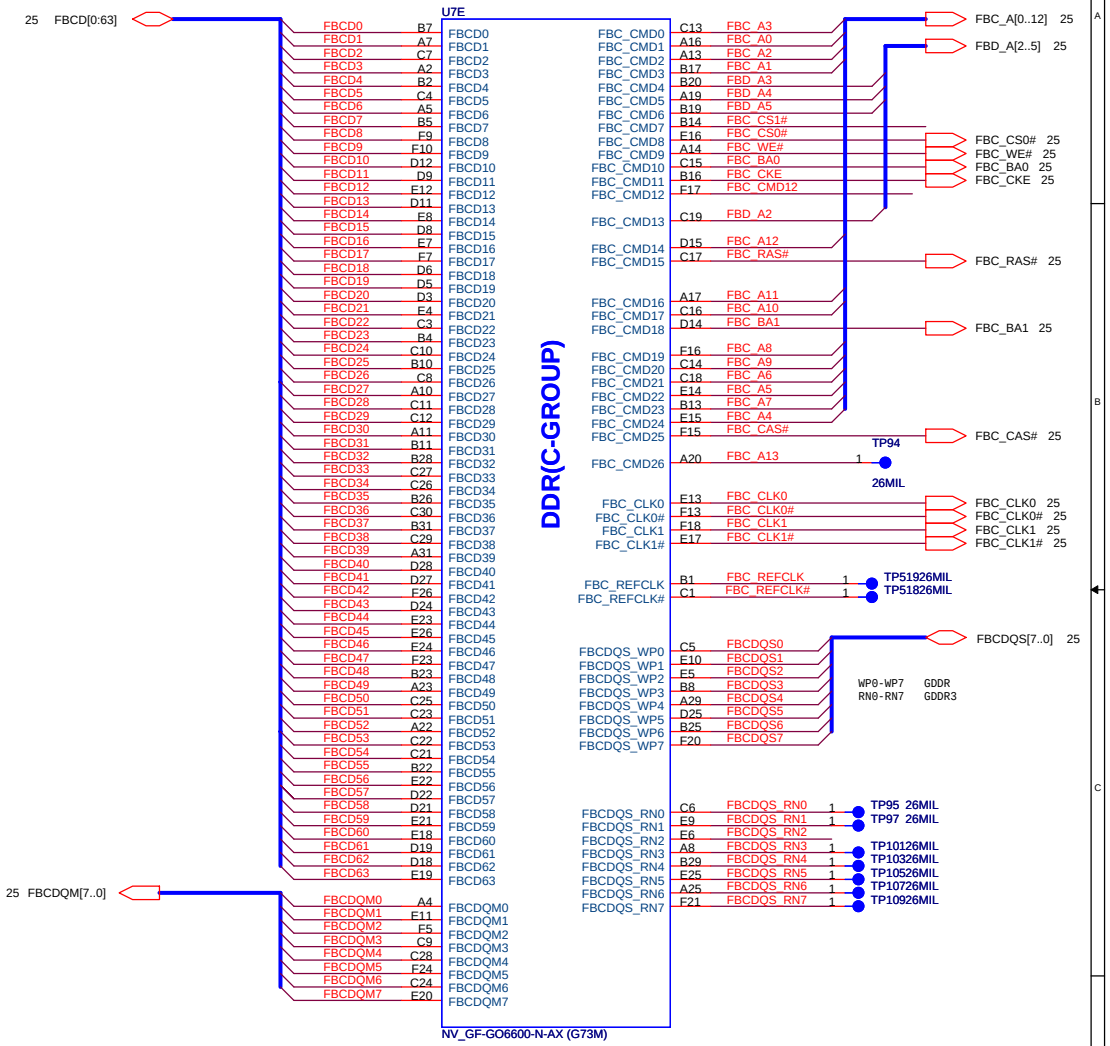

FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division		
Title	VGA (GDDR) 3 OF 8		
Size A3	Document Number MS13-1-01 (MBX-149)		Rev 1.0
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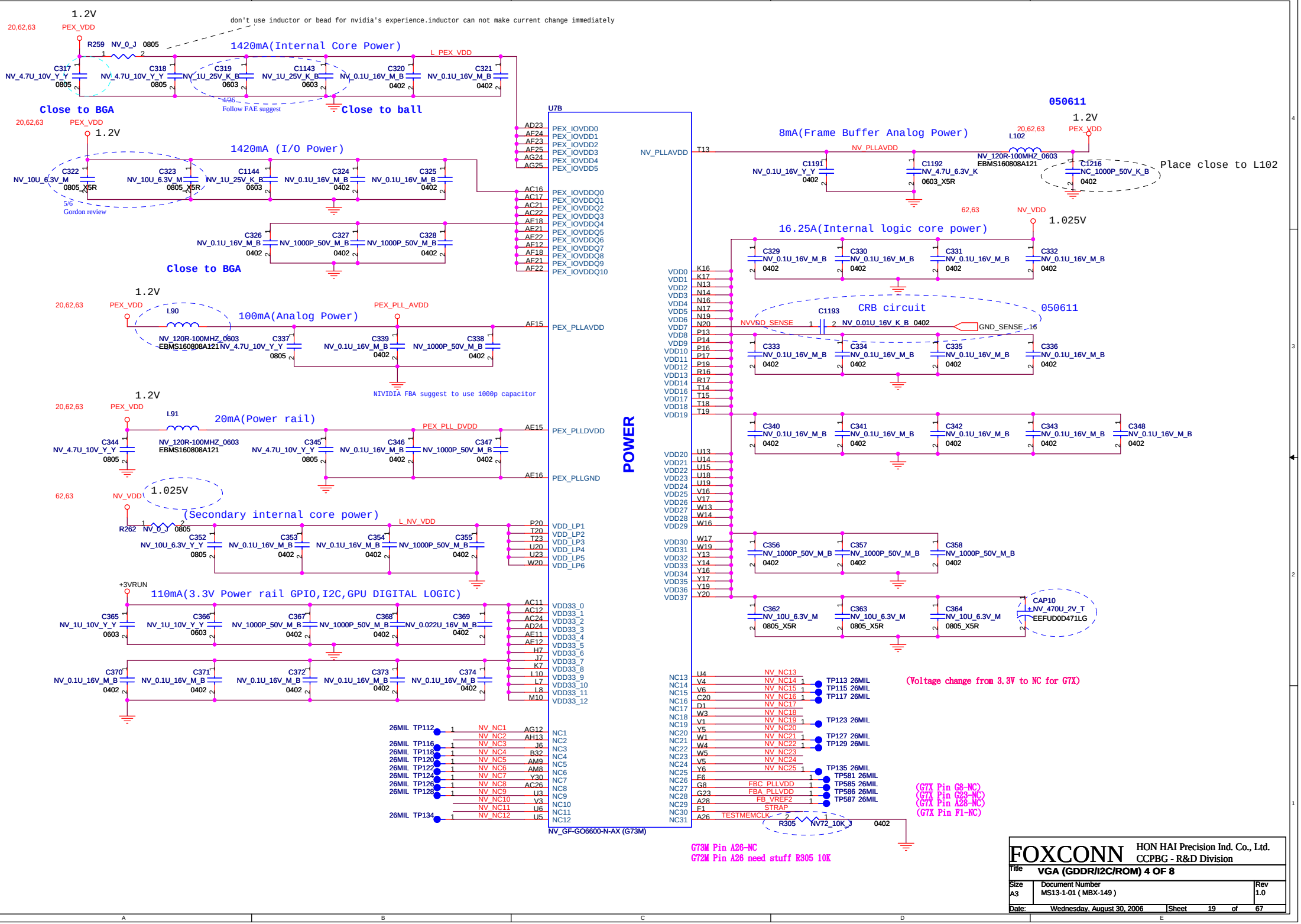
don't use inductor or bead for nvidia's experience.inductor can not make current change immediately
1.2V
20,62,63 PEX_VDD
R259 NV_0_J 0805
1420mA(Internal Core Power)
L_PEX_VDD
C317 NV_4.7U_10V_Y_Y 0805
C318 NV_4.7U_10V_Y_Y 0805
C319 NV_1U_25V_K_B 0603
C1143 NV_1U_25V_K_B 0603
C320 NV_0.1U_16V_M_B 0402
C321 NV_0.1U_16V_M_B 0402
Close to BGA
Close to ball
1/26 Follow FAE suggest
U7B
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
AD23 AE24 AF23 AF25 AG24 AG25
PEX_IOVDD0 PEX_IOVDD1 PEX_IOVDD2 PEX_IOVDD3 PEX_IOVDD4 PEX_IOVDD5
AC16 AC17 AC21 AC22 AE18 AE21 AE22 AF12 AF18 AF21 AE22
PEX_IOVDDQ0 PEX_IOVDDQ1 PEX_IOVDDQ2 PEX_IOVDDQ3 PEX_IOVDDQ4 PEX_IOVDDQ5 PEX_IOVDDQ6 PEX_IOVDDQ7 PEX_IOVDDQ8 PEX_IOVDDQ9 PEX_IOVDDQ10
100mA(Analog Power)
L90
NV_120R-100MHZ_0603 EBMS160808A121
C337 NV_4.7U_10V_Y_Y 0805
C339 NV_0.1U_16V_M_B 0402
C338 NV_1000P_50V_M_B 0402
PEX_PLL_AVDD
AF15 PEX_PLLAVDD
NIVIDIA FBA suggest to use 1000p capacitor
20mA(Power rail)
L91
C344 NV_4.7U_10V_Y_Y 0805
NV_120R-100MHZ_0603 EBMS160808A121
C345 NV_4.7U_10V_Y_Y 0805
C346 NV_0.1U_16V_M_B 0402
C347 NV_1000P_50V_M_B 0402
PEX_PLL_DVDD
AE15 PEX_PLLDVDD
AE16 PEX_PLLGND
62,63 NV_VDD 1.025V
(Secondary internal core power)
R262 NV_0_J 0805
L_NV_VDD
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
P20 T20 T23 U20 U23 W20
VDD_LP1 VDD_LP2 VDD_LP3 VDD_LP4 VDD_LP5 VDD_LP6
+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
AC11 AC12 AC24 AD24 AE11 AE12 H7 J7 K7 L10 L7 L8 M10
VDD33_0 VDD33_1 VDD33_2 VDD33_3 VDD33_4 VDD33_5 VDD33_6 VDD33_7 VDD33_8 VDD33_9 VDD33_10 VDD33_11 VDD33_12
26MIL TP112 NV_NC1 AG12
NV_NC2 AH13
26MIL TP116 NV_NC3 J6
26MIL TP118 NV_NC4 B32
26MIL TP120 NV_NC5 AM9
26MIL TP122 NV_NC6 AM8
26MIL TP124 NV_NC7 Y30
26MIL TP126 NV_NC8 AC26
26MIL TP128 NV_NC9 U3
NV_NC10 V3
NV_NC11 U6
26MIL TP134 NV_NC12 U5
NC1 NC2 NC3 NC4 NC5 NC6 NC7 NC8 NC9 NC10 NC11 NC12
NV_GF-GO6600-N-AX (G73M)
POWER
NV_PLLAVDD T13
050611
8mA(Frame Buffer Analog Power)
L102
C1191 NV_0.1U_16V_Y_Y 0402
C1192 NV_4.7U_6.3V_K 0603_X5R
NV_120R-100MHZ_0603 EBMS160808A121
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_16
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
K16 K17 N13 N14 N16 N17 N19 N20 P13 P14 P16 P17 P19 R16 R17 T14 T15 T18 T19
VDD0 VDD1 VDD2 VDD3 VDD4 VDD5 VDD6 VDD7 VDD8 VDD9 VDD10 VDD11 VDD12 VDD13 VDD14 VDD16 VDD17 VDD18 VDD19
U13 U14 U15 U18 U19 V16 V17 W13 W14 W16
VDD20 VDD21 VDD22 VDD23 VDD24 VDD25 VDD26 VDD27 VDD28 VDD29
W17 W19 Y13 Y14 Y16 Y17 Y19 Y20
VDD30 VDD31 VDD32 VDD33 VDD34 VDD35 VDD36 VDD37
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
U4 V4 V6 C20 D1 W3 V1 Y5 W1 W4 W5 V5 Y6 F6 G8 G23 A28 F1 A26
NC13 NC14 NC15 NC16 NC17 NC18 NC19 NC20 NC21 NC22 NC23 NC24 NC25 NC26 NC27 NC28 NC29 NC30 NC31
NV_NC13
NV_NC14 TP113 26MIL
NV_NC15 TP115 26MIL
NV_NC16 TP117 26MIL
NV_NC17
NV_NC18
NV_NC19 TP123 26MIL
NV_NC20
NV_NC21 TP127 26MIL
NV_NC22 TP129 26MIL
NV_NC23
NV_NC24
NV_NC25 TP135 26MIL
TP581 26MIL
FBC_PLLVDD TP585 26MIL
FBA_PLLVDD TP586 26MIL
FB_VREF2 TP587 26MIL
STRAP
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
FOXCONN
HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division
Title VGA (GDDR/I2C/ROM) 4 OF 8
Size A3
Document Number MS13-1-01 (MBX-149)
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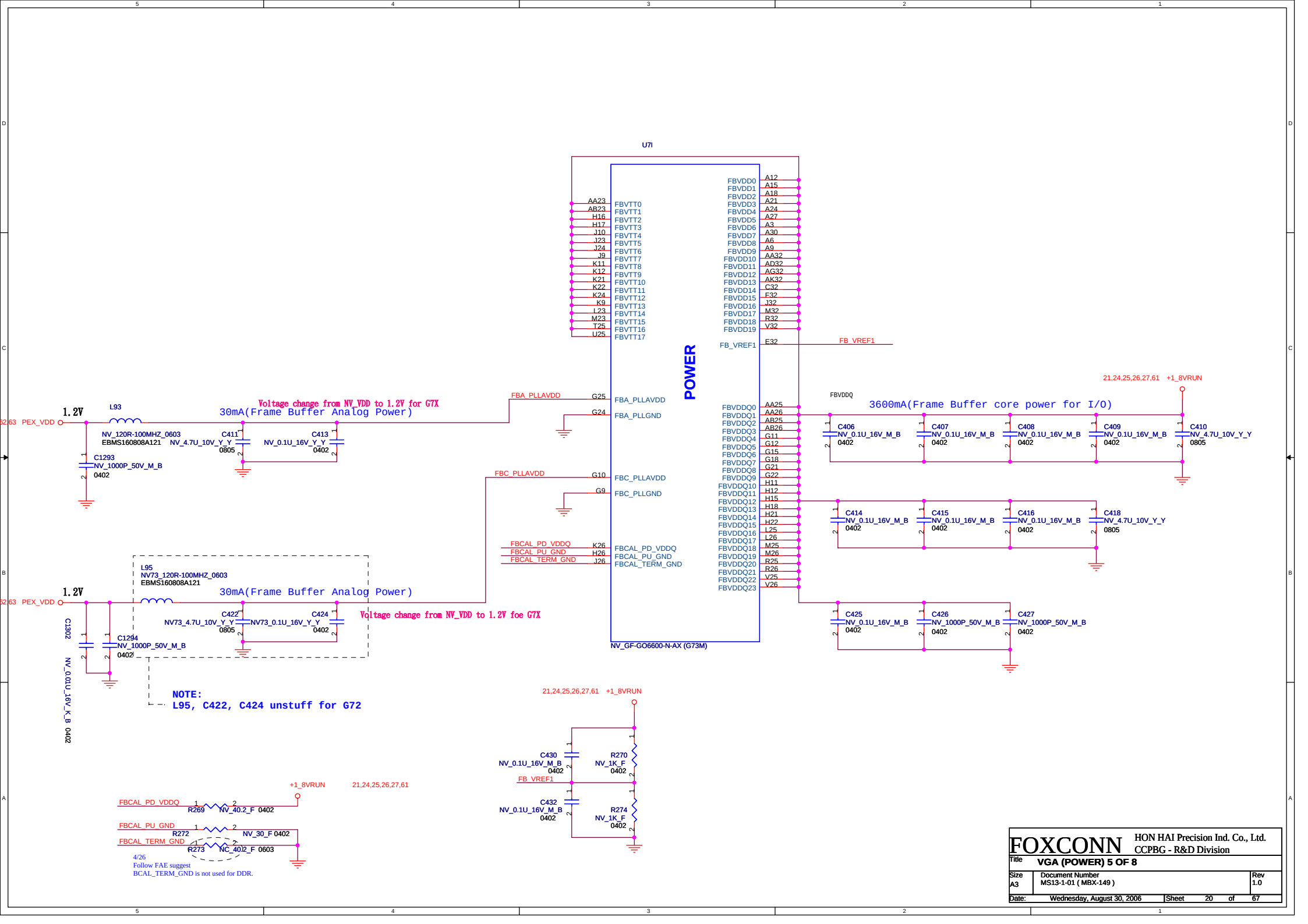

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Title	VGA (POWER) 5 OF 8	
Size A3	Document Number MS13-1-01 (MBX-149)	Rev 1.0
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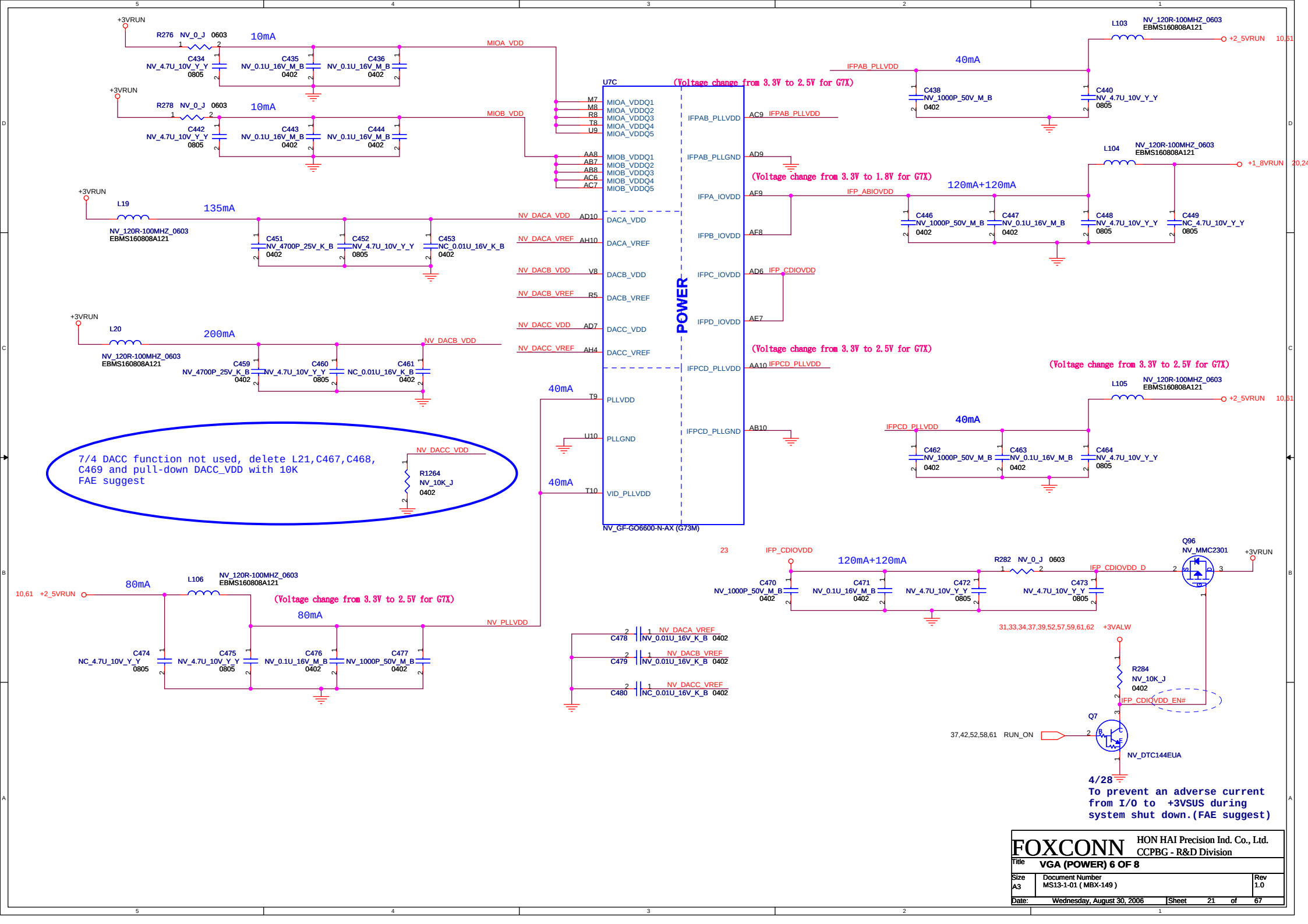
+3VRUN
R276 NV_0_J 0603
10mA
C434 NV_4.7U_10V_Y_Y 0805
C435 NV_0.1U_16V_M_B 0402
C436 NV_0.1U_16V_M_B 0402
MIOA_VDD
R278 NV_0_J 0603
10mA
C442 NV_4.7U_10V_Y_Y 0805
C443 NV_0.1U_16V_M_B 0402
C444 NV_0.1U_16V_M_B 0402
MIOB_VDD
L19
135mA
NV_120R-100MHZ_0603 EBMS160808A121
C451 NV_4700P_25V_K_B 0402
C452 NV_4.7U_10V_Y_Y 0805
C453 NC_0.01U_16V_K_B 0402
NV_DACA_VDD
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_DACB_VDD
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
40mA
U7C
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
AD10 DACA_VDD
AH10 DACA_VREF
V8 DACB_VDD
R5 DACB_VREF
AD7 DACC_VDD
AH4 DACC_VREF
T9 PLLVDD
U10 PLLGND
T10 VID_PLLVDD
POWER
IFPAB_PLLVDD
IFPAB_PLLGND
IFPA_IOVDD
IFPB_IOVDD
IFPC_IOVDD
IFPD_IOVDD
IFPCD_PLLVDD
IFPCD_PLLGND
NV_GF-GO6600-N-AX (G73M)
(Voltage change from 3.3V to 2.5V for G7X)
AC9 IFPAB_PLLVDD
AD9
(Voltage change from 3.3V to 1.8V for G7X)
AE9
AF8
AD6 IFP_CDIOVDD
AE7
(Voltage change from 3.3V to 2.5V for G7X)
AA10 IFPCD_PLLVDD
AB10
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
(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
L106 NV_120R-100MHZ_0603 EBMS160808A121
10,61 +2_5VRUN
80mA
(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
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
31,33,34,37,39,52,57,59,61,62 +3VALW
R284 NV_10K_J 0402
IFP_CDIOVDD_EN#
Q7
37,42,52,58,61 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
Title VGA (POWER) 6 OF 8
Size A3
Document Number MS13-1-01 (MBX-149)
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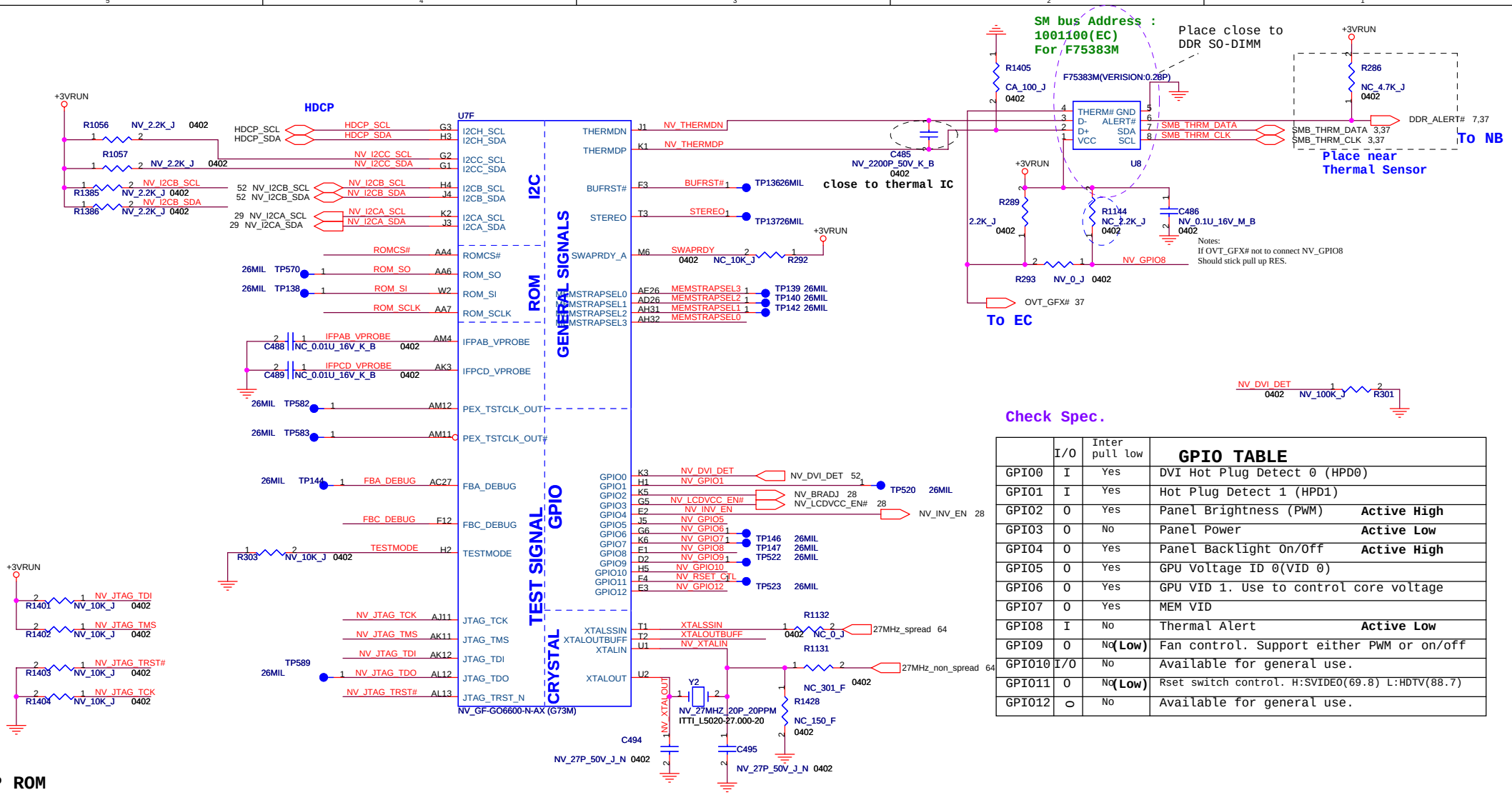
SM bus Address :
1001100(EC)
For F75383M
Place close to
DDR SO-DIMM
F75383M(VERISION:0.28P)
HDCP
U7F
I2C
ROM
GENERAL SIGNALS
GPIO
TEST SIGNAL
CRYSTAL
close to thermal IC
To NB
To EC
Place near
Thermal Sensor
Notes:
If OVT_GFX# not to connect NV_GPIO8
Should stick pull up RES.
Check Spec.
GPIO TABLE
GPIO0 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.
NV_GF-GO6600-N-AX (G73M)
HDCP ROM
NC_EEPROM_SOIC-8_8 K
AT88SC0808C-SU
NV_MB88153PNF-G-100-JN-ERE1
Shortest stub.
Place near GPU
Place near
SSCK IC (U9)
ENS : H->SS ON
L->SS OFF
XPD : H->Normal
L->Power Down
FOXCONN
HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division
Title VGA (POWER) 7 OF 8
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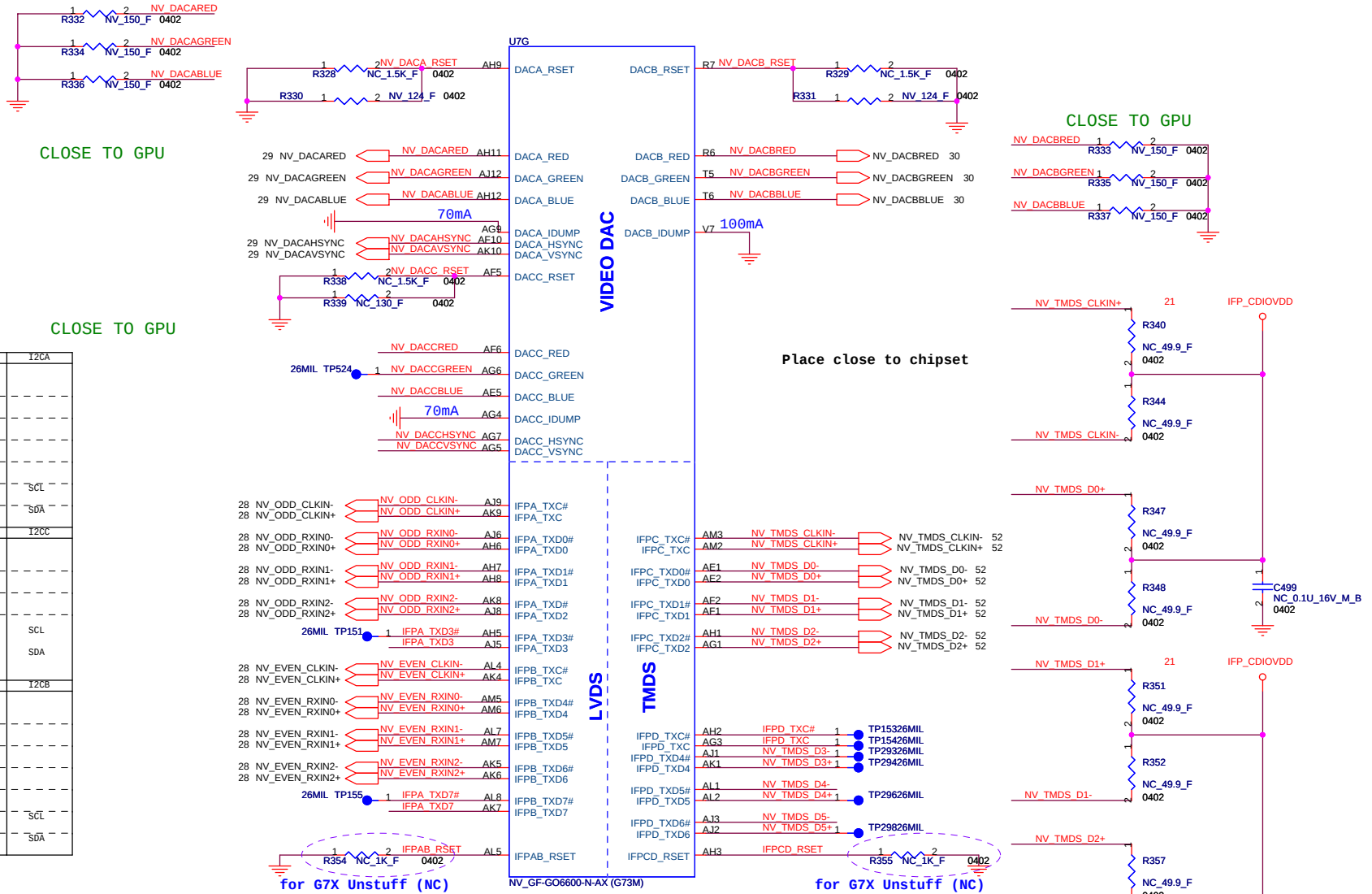

CLOSE TO GPU

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

FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division		
Title	VGA (POWER) 8 OF 8		
Size A3	Document Number MS13-1-01 (MBX-149)		Rev 1.0
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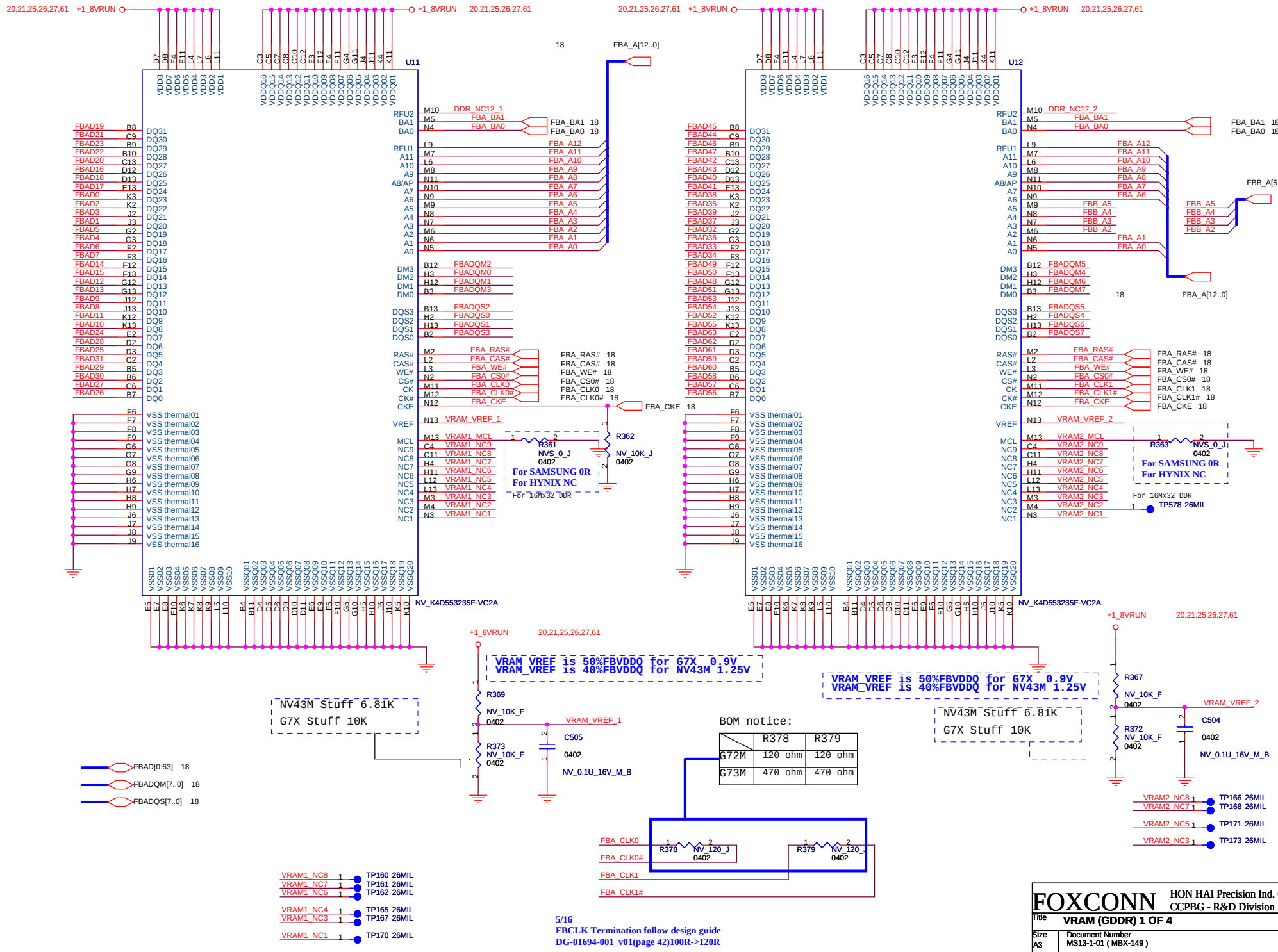

FOXCONN HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division

Title	VRAM (GDDR) 1 OF 4	
Size A3	Document Number MS13-1-01 (MBX-149)	Rev 1.0
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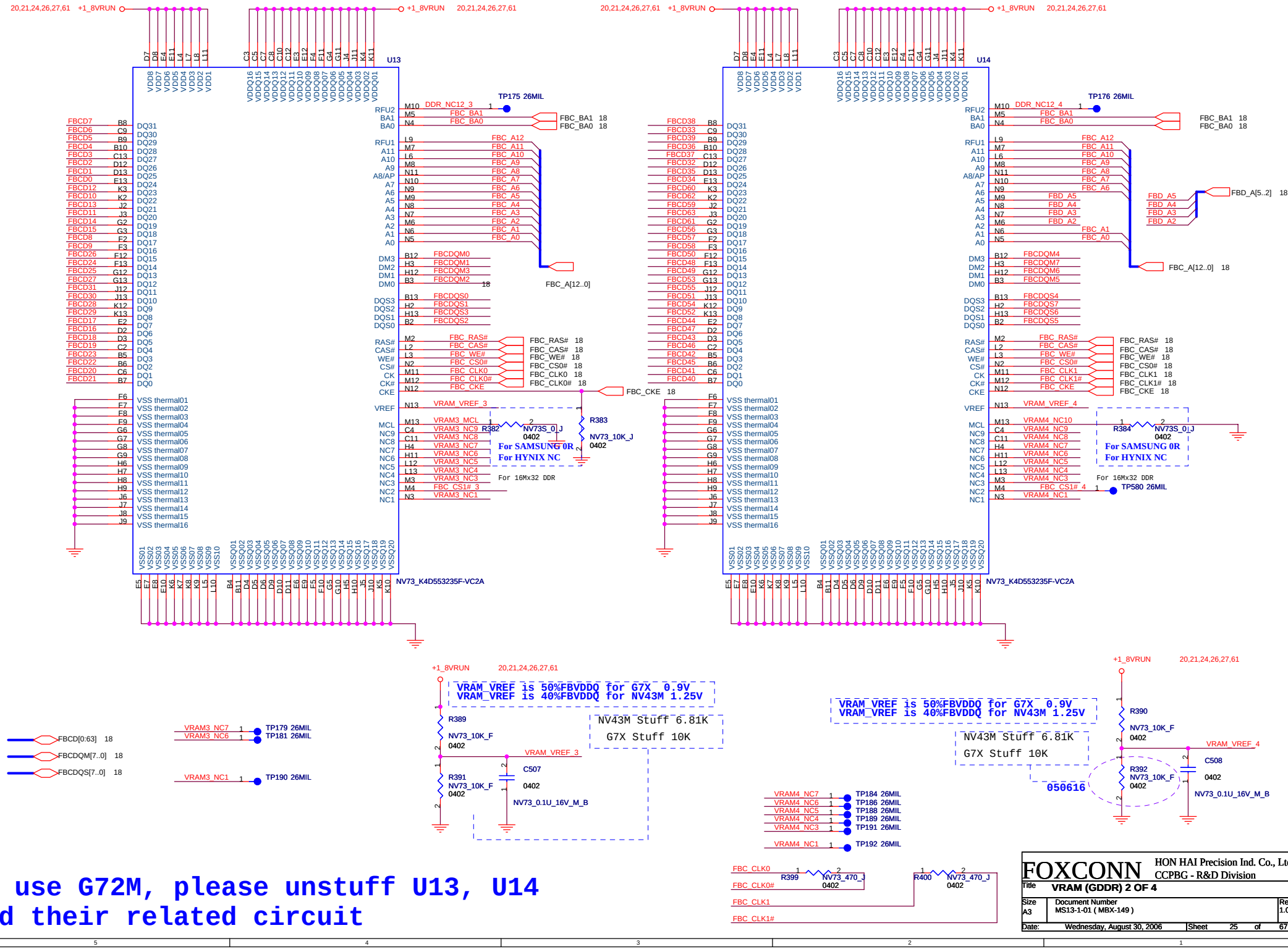
U13
U14
NV73_K4D553235F-VC2A
TP175 26MIL
TP176 26MIL
TP179 26MIL
TP181 26MIL
TP190 26MIL
TP580 26MIL
TP184 26MIL
TP186 26MIL
TP188 26MIL
TP189 26MIL
TP191 26MIL
TP192 26MIL
R382 NV73S_0_J 0402
R383 NV73_10K_J 0402
R384 NV73S_0_J 0402
R389 NV73_10K_F 0402
R390 NV73_10K_F 0402
R391 NV73_10K_F 0402
R392 NV73_10K_F 0402
R399 NV73_470_J 0402
R400 NV73_470_J 0402
C507 0402 NV73_0.1U_16V_M_B
C508 0402 NV73_0.1U_16V_M_B
For SAMSUNG 0R
For HYNIX NC
For 16Mx32 DDR
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
050616
FBCD[0:63] 18
FBCDQM[7..0] 18
FBCDQS[7..0] 18
FBC_A[12..0] 18
FBD_A[5..2] 18
FBC_BA1 18
FBC_BA0 18
FBC_RAS# 18
FBC_CAS# 18
FBC_WE# 18
FBC_CS0# 18
FBC_CLK0 18
FBC_CLK0# 18
FBC_CLK1 18
FBC_CLK1# 18
FBC_CKE 18
VRAM_VREF_3
VRAM_VREF_4
+1_8VRUN
20,21,24,26,27,61
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
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Decoupling for right MEMORY

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

Place around the MEM

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

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

Place around the MEM

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

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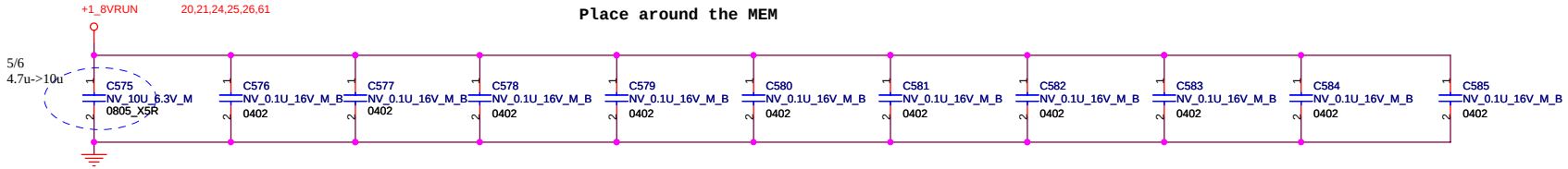
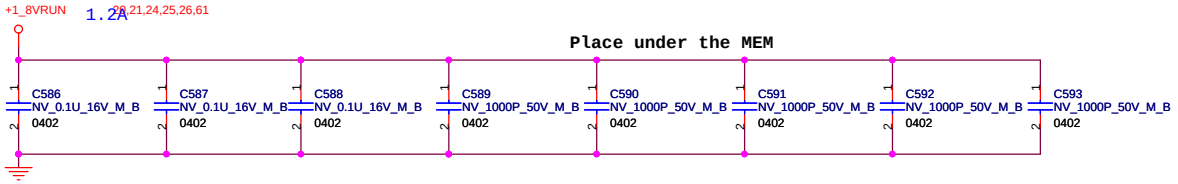
Decoupling for right MEMORY

Place around the MEM



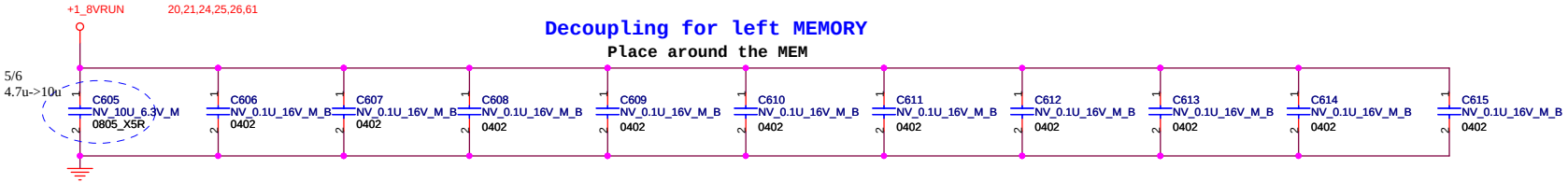


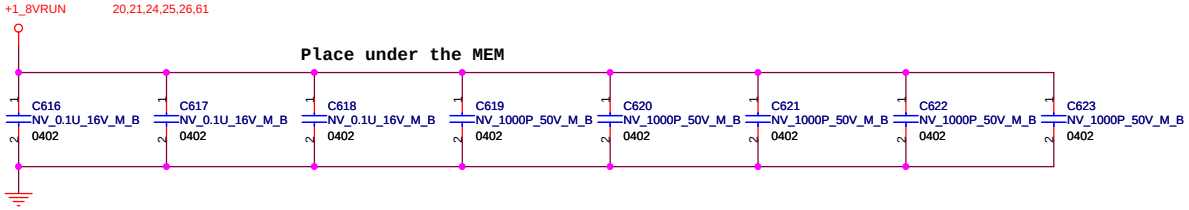
Place under the MEM

NO USE

Decoupling for left MEMORY

Place around the MEM





Place under the MEM

FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division	
Title: VRAM (POWERBYPASS) 4 OF 4		
Size: A3	Document Number: MS13-1-01 (MBX-149)	Rev: 1.0
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LVDS

Group1,Group1 should be close

Group1 Group2

	Group1	Group2
NV_ODD_CLKIN- / NV_ODD_CLKIN+	ODD_CLKIN- / ODD_CLKIN+ RP76	GM_ODD_CLKIN- / GM_ODD_CLKIN+ RP77
NV_ODD_RXIN0- / NV_ODD_RXIN0+	ODD_RXIN0- / ODD_RXIN0+ RP78	GM_ODD_RXIN0- / GM_ODD_RXIN0+ RP79
NV_ODD_RXIN1- / NV_ODD_RXIN1+	ODD_RXIN1- / ODD_RXIN1+ RP80	GM_ODD_RXIN1- / GM_ODD_RXIN1+ RP81
NV_ODD_RXIN2- / NV_ODD_RXIN2+	ODD_RXIN2- / ODD_RXIN2+ RP82	GM_ODD_RXIN2- / GM_ODD_RXIN2+ RP83
NV_EVEN_CLKIN- / NV_EVEN_CLKIN+	EVEN_CLKIN- / EVEN_CLKIN+ RP84	GM_EVEN_CLKIN- / GM_EVEN_CLKIN+ RP85
NV_EVEN_RXIN0- / NV_EVEN_RXIN0+	EVEN_RXIN0- / EVEN_RXIN0+ RP86	GM_EVEN_RXIN0- / GM_EVEN_RXIN0+ RP87
NV_EVEN_RXIN1- / NV_EVEN_RXIN1+	EVEN_RXIN1- / EVEN_RXIN1+ RP88	GM_EVEN_RXIN1- / GM_EVEN_RXIN1+ RP89
NV_EVEN_RXIN2- / NV_EVEN_RXIN2+	EVEN_RXIN2- / EVEN_RXIN2+ RP90	GM_EVEN_RXIN2- / GM_EVEN_RXIN2+ RP91

All: 0404_4P2R

LVDS CONNECTOR

CN3 — FPC RECEPTCAL CONN_30P — FOX_GS12301-1011A-9F

LCDVCC, 37 LVDS_GPIO

EVEN_RXIN0+ / EVEN_RXIN0-
EVEN_RXIN1+ / EVEN_RXIN1-
EVEN_RXIN2- / EVEN_RXIN2+
EVEN_CLKIN+ / EVEN_CLKIN-
ODD_CLKIN+ / ODD_CLKIN-
ODD_RXIN2+ / ODD_RXIN2-
ODD_RXIN1+ / ODD_RXIN1-
ODD_RXIN0+ / ODD_RXIN0-

INVERTER CONNECTOR

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

8 NB_BRADJ — 0402 CA_0_J R1268 — INV_BRADJ

INV_ENABLE

+3VRUN

U106 NV_74AHC1G08GW

37 INV_EN_EC — 0402 NV_0_J R1269 — BRADJPWM_LPF — 22 NV_BRADJ

R1393 10K_J 0402

U15 +3VRUN 74AHC1G08GW

37 INV_EN_EC — INV_ENABLE

R1394 10K_J 0402

INV_ENABLE_1

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

U16 +3VRUN 74AHC1G08GW

37,39 LIDIN#
22 NV_INV_EN — (3.3V tolerant)

8 GM_INV_EN — R457 CA_0_J 0402 — R458 CA_100K_J 0402

LCDVCC

+3VRUN — R459 10K_J 0402 — Q10 — 8 GM_LCDVCC_EN — CA_PDTC144EU

U17 G548B2P1U

IN1 IN2 OUT3 OUT2 OUT1 EN GND OC

+3VRUN — 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

22 NV_LCDVCC_EN#

DISCHARGE

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

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

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

Title: LVDS

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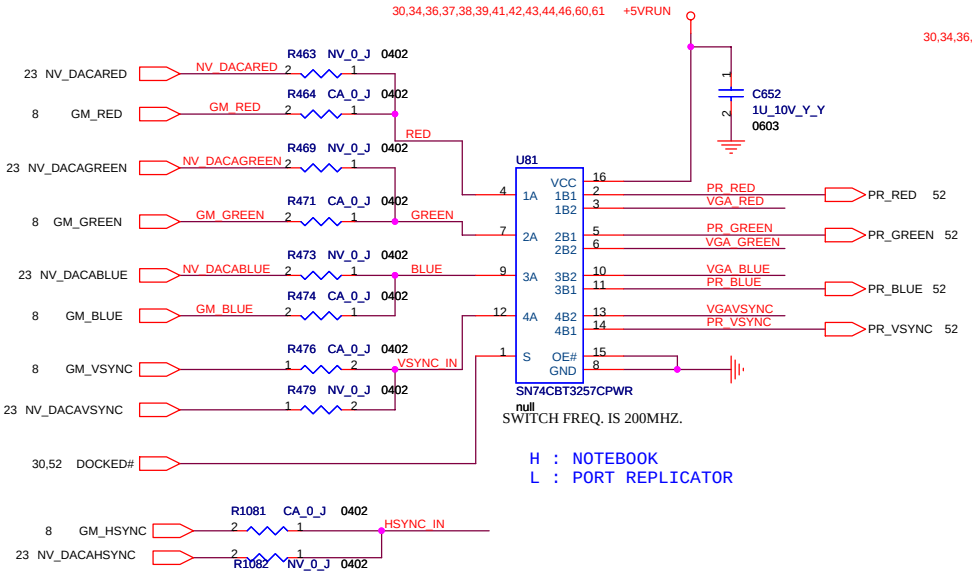
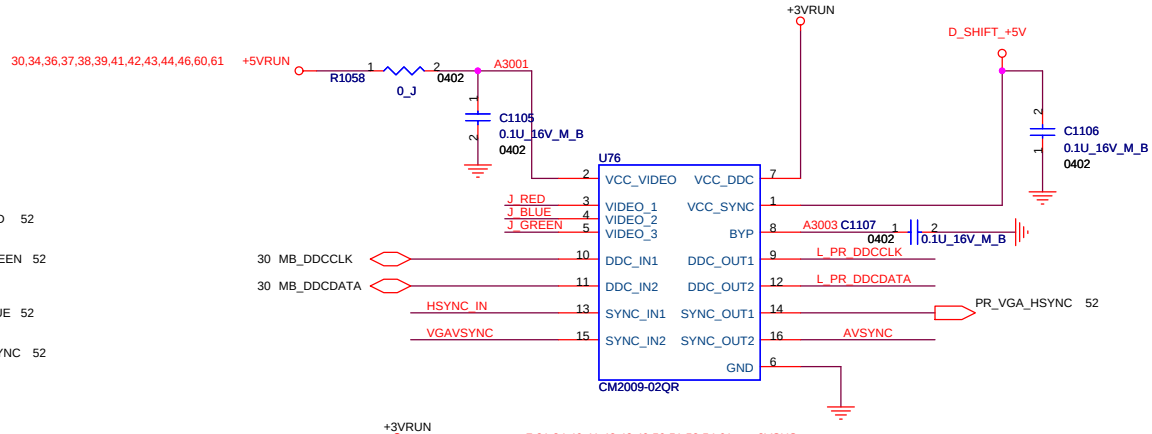
CRT ANALOG SWITCH

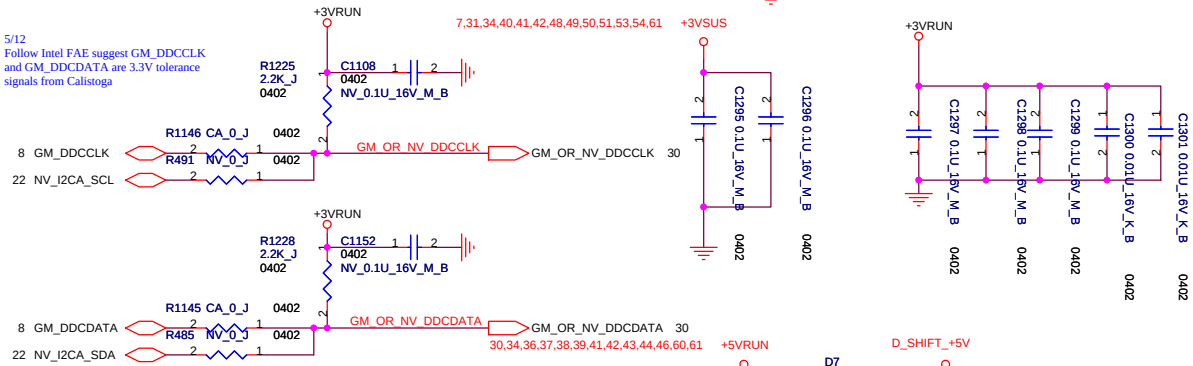


SWITCH FREQ. IS 200MHZ.

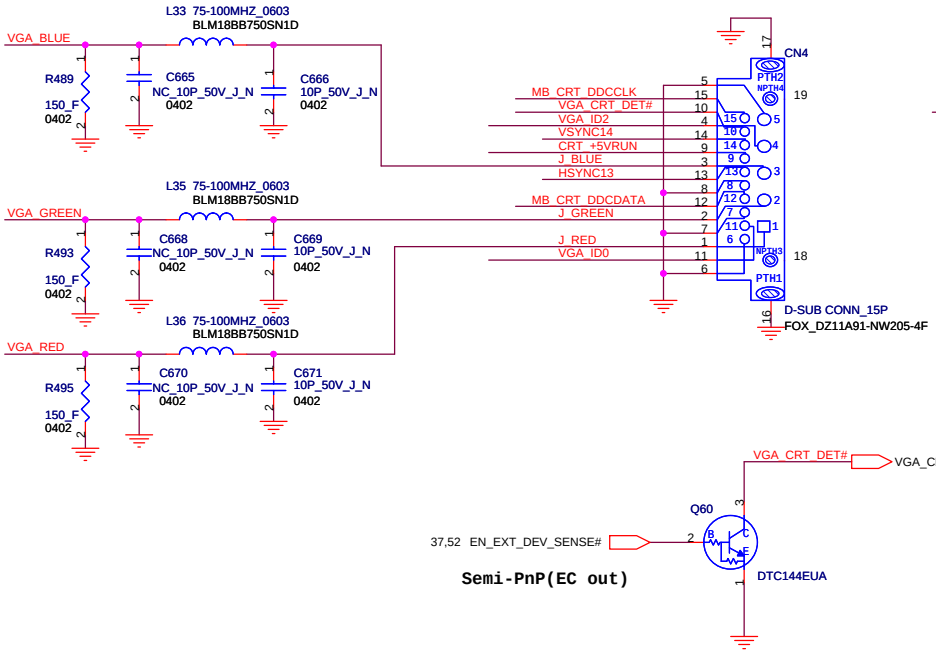
H : NOTEBOOK
L : PORT REPLICATOR

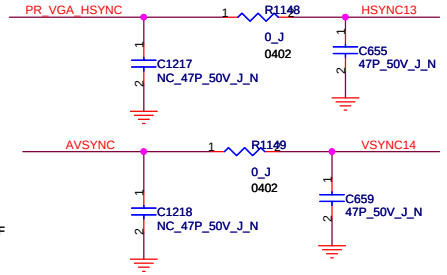


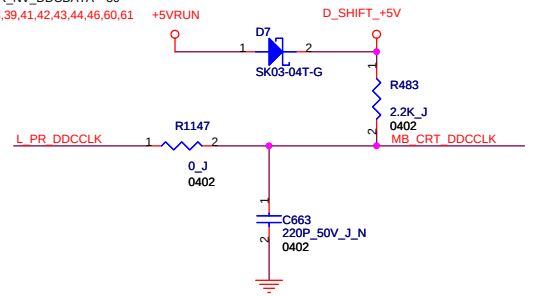
5/12
Follow Intel FAE suggest GM_DDCCLK and GM_DDCDATA are 3.3V tolerance signals from Calistoga

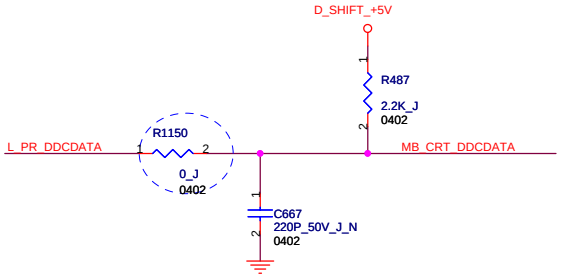


CRT CONNECTOR









Semi-PnP(EC out)

FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division	
Title: CRT		
Size: A3	Document Number: MS13-1-01 (MBX-149)	Rev: 1.0
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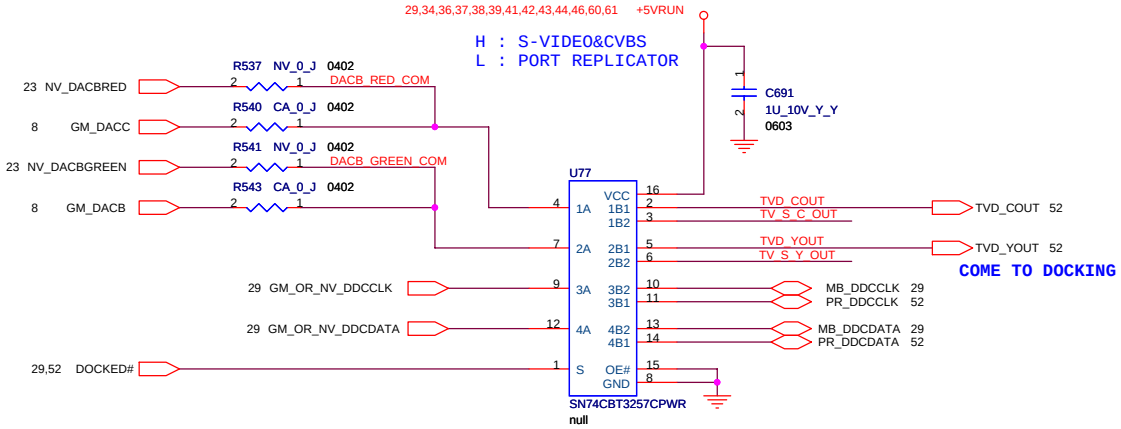
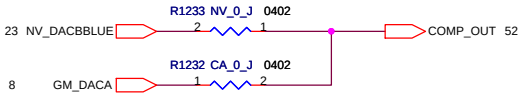
S-VIDEO

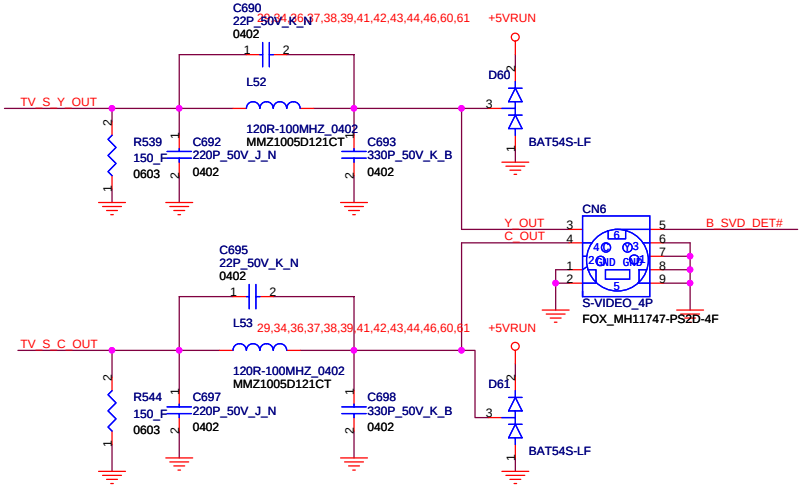
These compoent close to S-Video connector within 700 mil

S-VIDEO ANALOG SWITCH

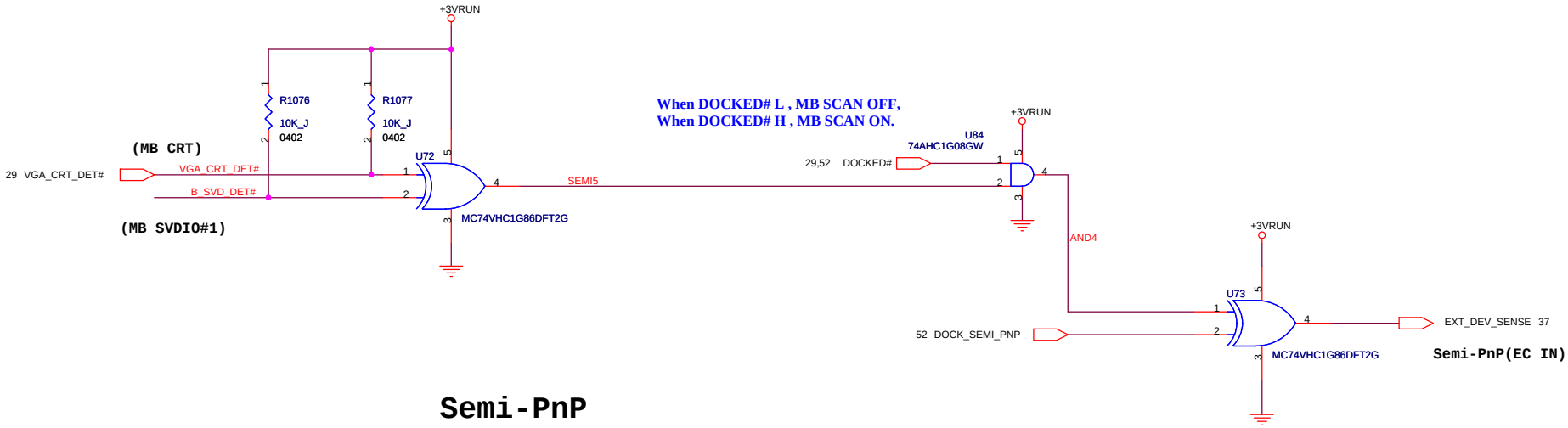
H : S-VIDEO&CVBS
L : PORT REPLICATOR







Semi-PnP



FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division	
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Size A3	Document Number MS13-1-01 (MBX-149)	Rev 1.0
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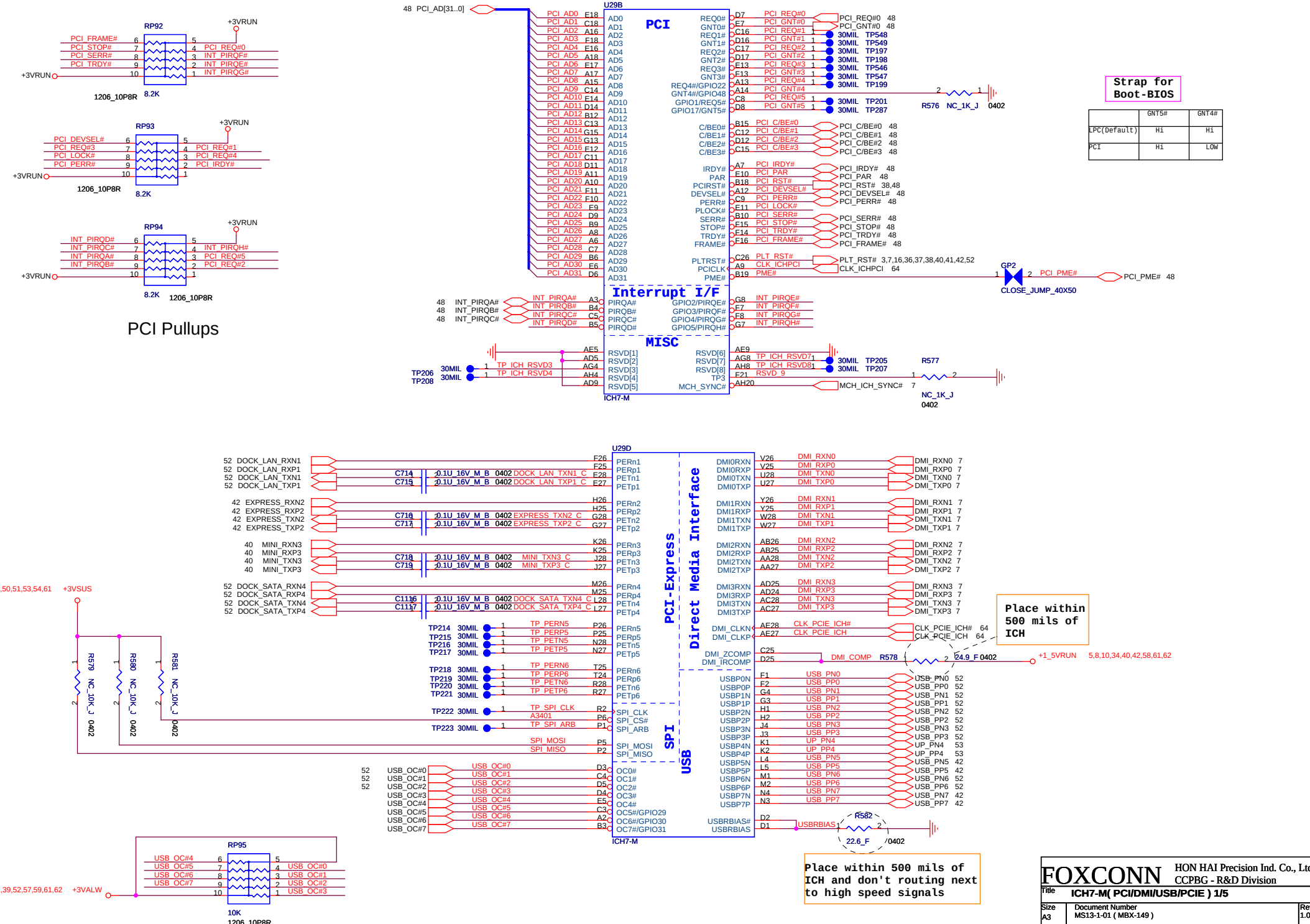
RP92
+3VRUN
PCI_FRAME#
PCI_STOP#
PCI_SERR#
PCI_TRDY#
PCI_REQ#0
INT_PIRQF#
INT_PIRQE#
INT_PIRQG#
1206_10P8R
8.2K
RP93
PCI_DEVSEL#
PCI_REQ#3
PCI_LOCK#
PCI_PERR#
PCI_REQ#1
PCI_REQ#4
PCI_IRDY#
RP94
INT_PIRQD#
INT_PIRQC#
INT_PIRQA#
INT_PIRQB#
INT_PIRQH#
PCI_REQ#5
PCI_REQ#2
PCI Pullups
U29B
PCI
Interrupt I/F
MISC
ICH7-M
48 PCI_AD[31..0]
48 INT_PIRQA#
48 INT_PIRQB#
48 INT_PIRQC#
TP206
TP208
30MIL
TP_ICH_RSVD3
TP_ICH_RSVD4
R576
NC_1K_J
0402
Strap for Boot-BIOS
GNT5#
GNT4#
LPC(Default)
PCI
H1
LOW
GP2
CLOSE_JUMP_40X50
PCI_PME#
R577
TP_ICH_RSVD7
TP_ICH_RSVD8
RSVD_9
MCH_ICH_SYNC#
U29D
PCI-Express
Direct Media Interface
SPI
USB
ICH7-M
DOCK_LAN_RXN1
DOCK_LAN_RXP1
DOCK_LAN_TXN1
DOCK_LAN_TXP1
EXPRESS_RXN2
EXPRESS_RXP2
EXPRESS_TXN2
EXPRESS_TXP2
MINI_RXN3
MINI_RXP3
MINI_TXN3
MINI_TXP3
DOCK_SATA_RXN4
DOCK_SATA_RXP4
DOCK_SATA_TXN4
DOCK_SATA_TXP4
+3VSUS
R579
R580
R581
NC_10K_J
SPI_CLK
SPI_CS#
SPI_ARB
SPI_MOSI
SPI_MISO
USB_OC#0
USB_OC#1
USB_OC#2
USB_OC#3
USB_OC#4
USB_OC#5
USB_OC#6
USB_OC#7
R582
22.6_F
USBRBIAS
Place within 500 mils of ICH
Place within 500 mils of ICH and don't routing next to high speed signals
RP95
10K
+3VALW
FOXCONN
HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division
Title
ICH7-M(PCI/DMI/USB/PCIE) 1/5
Size
A3
Document Number
MS13-1-01 (MBX-149)
Rev
1.0
Date:
Wednesday, August 30, 2006
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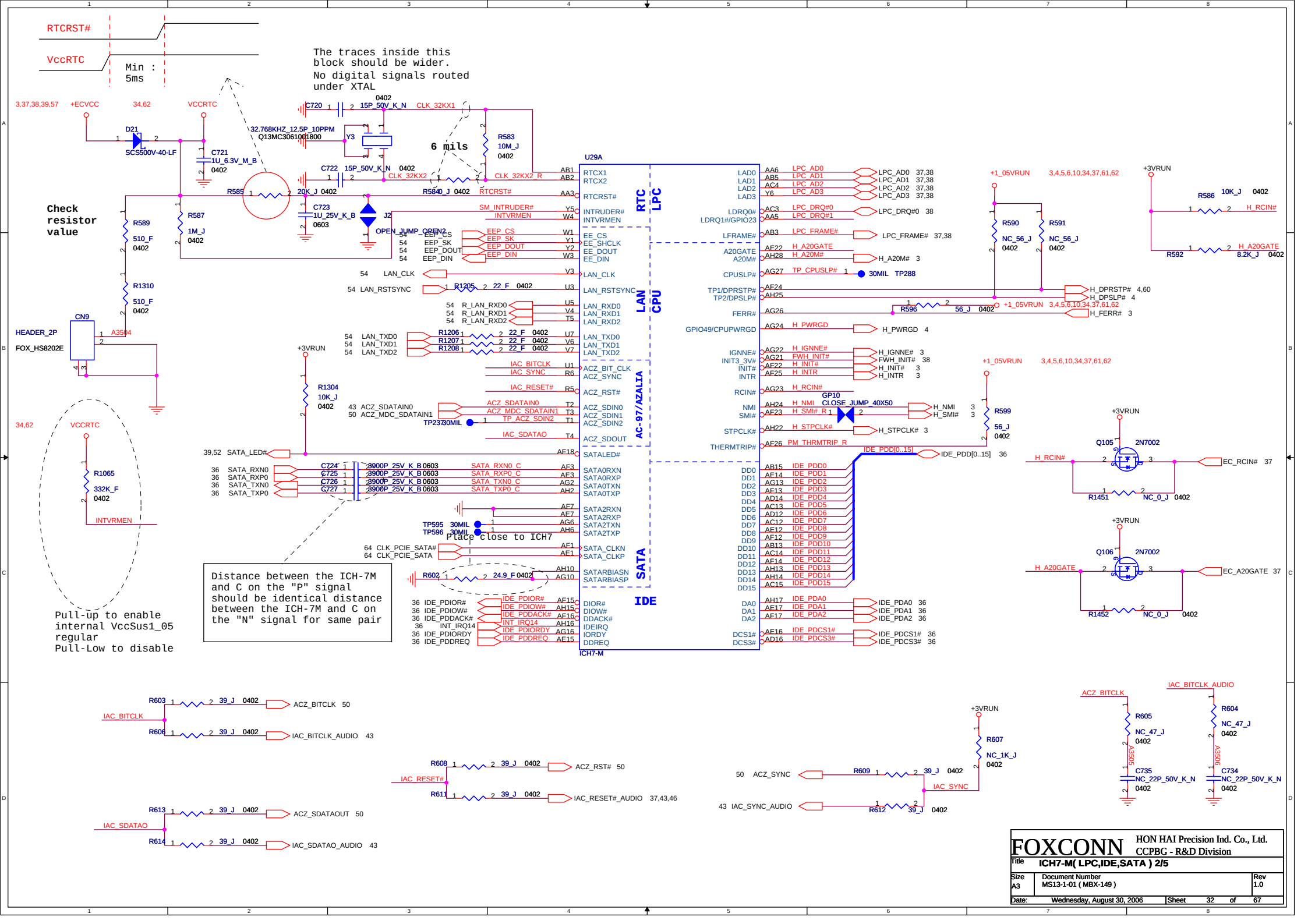
67


RTCRST#
VccRTC
Min : 5ms
The traces inside this block should be wider.
No digital signals routed under XTAL
6 mils
Check resistor value
Pull-up to enable internal VccSus1_05 regular
Pull-Low to disable
Place close to ICH7
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
U29A
ICH7-M
RTC
LPC
LAN
CPU
AC-97/AZALIA
SATA
IDE
D21
SCS500V-40-LF
32.768KHZ_12.5P_10PPM
Q13MC3061001800
Y3
C720
C721
C722
C723
R583
R585
R587
R589
R1310
R1304
R1065
CN9
HEADER_2P
FOX_HS8202E
OPEN_JUMP_OPEN2
J2
R1205
R1206
R1207
R1208
R602
TP23730MIL
TP595
TP596
R590
R591
R596
R586
R592
R599
GP10
CLOSE_JUMP_40X50
Q105
Q106
2N7002
R1451
R1452
R603
R606
R608
R611
R613
R614
R607
R609
R612
R605
R604
C735
C734
A3505
A3506
LPC_AD0
LPC_AD1
LPC_AD2
LPC_AD3
LPC_DRQ#0
LPC_DRQ#1
LPC_FRAME#
H_A20GATE
H_A20M#
TP_CPUSLP#
H_DPRSTP#
H_DPSLP#
H_FERR#
H_PWRGD
H_IGNNE#
FWH_INIT#
H_INIT#
H_INTR
H_RCIN#
H_NMI
H_SMI#
H_STPCLK#
PM_THRMTRIP_R
IDE_PDD[0..15]
IDE_PDA0
IDE_PDA1
IDE_PDA2
IDE_PDCS1#
IDE_PDCS3#
EEP_CS
EEP_SK
EEP_DOUT
EEP_DIN
SM_INTRUDER#
INTVRMEN
LAN_CLK
LAN_RSTSYNC
R_LAN_RXD0
R_LAN_RXD1
R_LAN_RXD2
LAN_TXD0
LAN_TXD1
LAN_TXD2
IAC_BITCLK
IAC_SYNC
IAC_RESET#
IAC_SDATAO
ACZ_SDATAIN0
ACZ_MDC_SDATAIN1
SATA_LED#
SATA_RXN0
SATA_RXP0
SATA_TXN0
SATA_TXP0
CLK_PCIE_SATA#
CLK_PCIE_SATA
IDE_PDIOR#
IDE_PDIOW#
IDE_PDDACK#
INT_IRQ14
IDE_PDIORDY
IDE_PDDREQ
ACZ_BITCLK
IAC_BITCLK_AUDIO
ACZ_RST#
IAC_RESET#_AUDIO
ACZ_SDATAOUT
IAC_SDATAO_AUDIO
ACZ_SYNC
IAC_SYNC_AUDIO
FOXCONN
HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division
ICH7-M(LPC,IDE,SATA) 2/5
Document Number MS13-1-01 (MBX-149)
Rev 1.0
Wednesday, August 30, 2006
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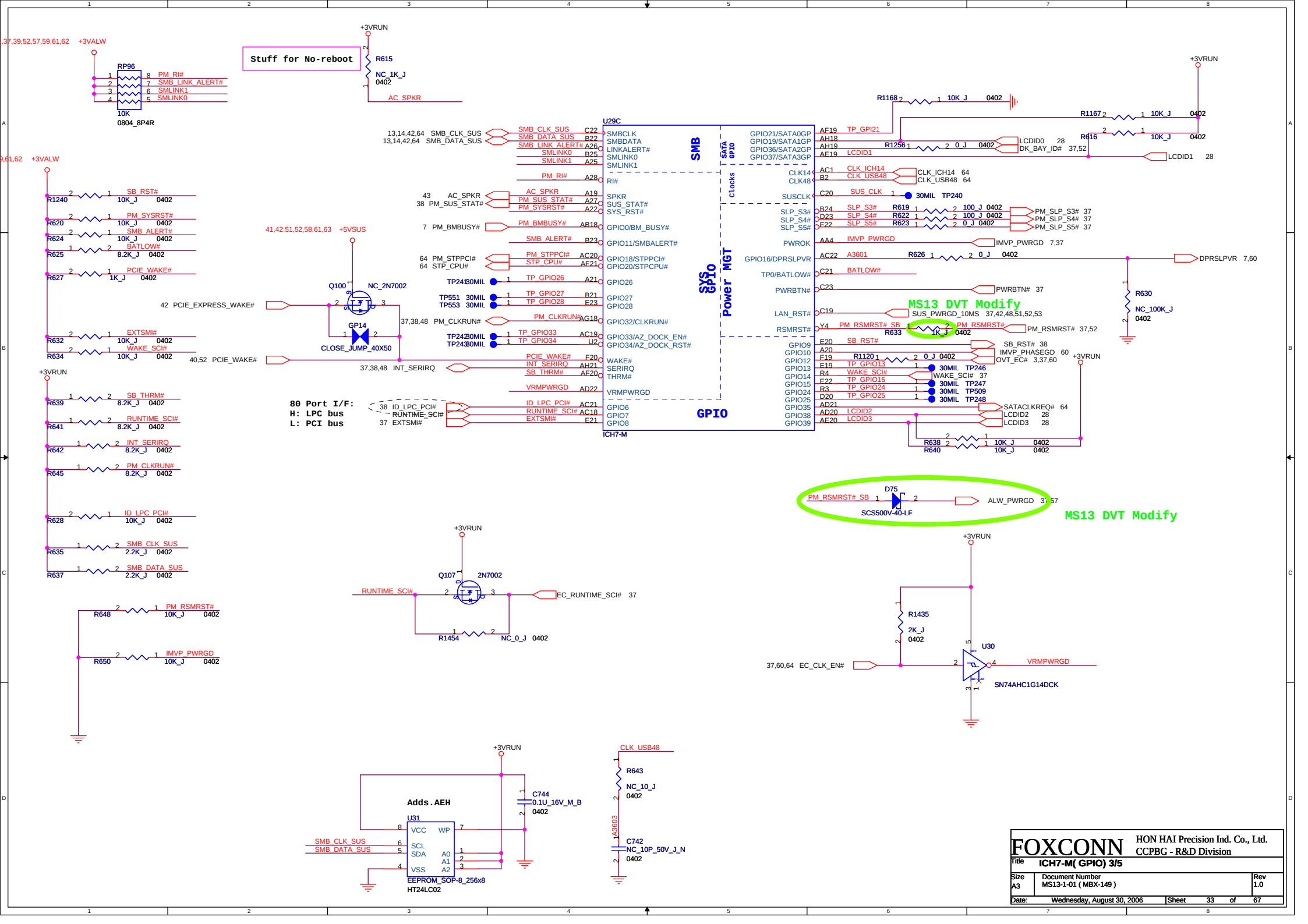
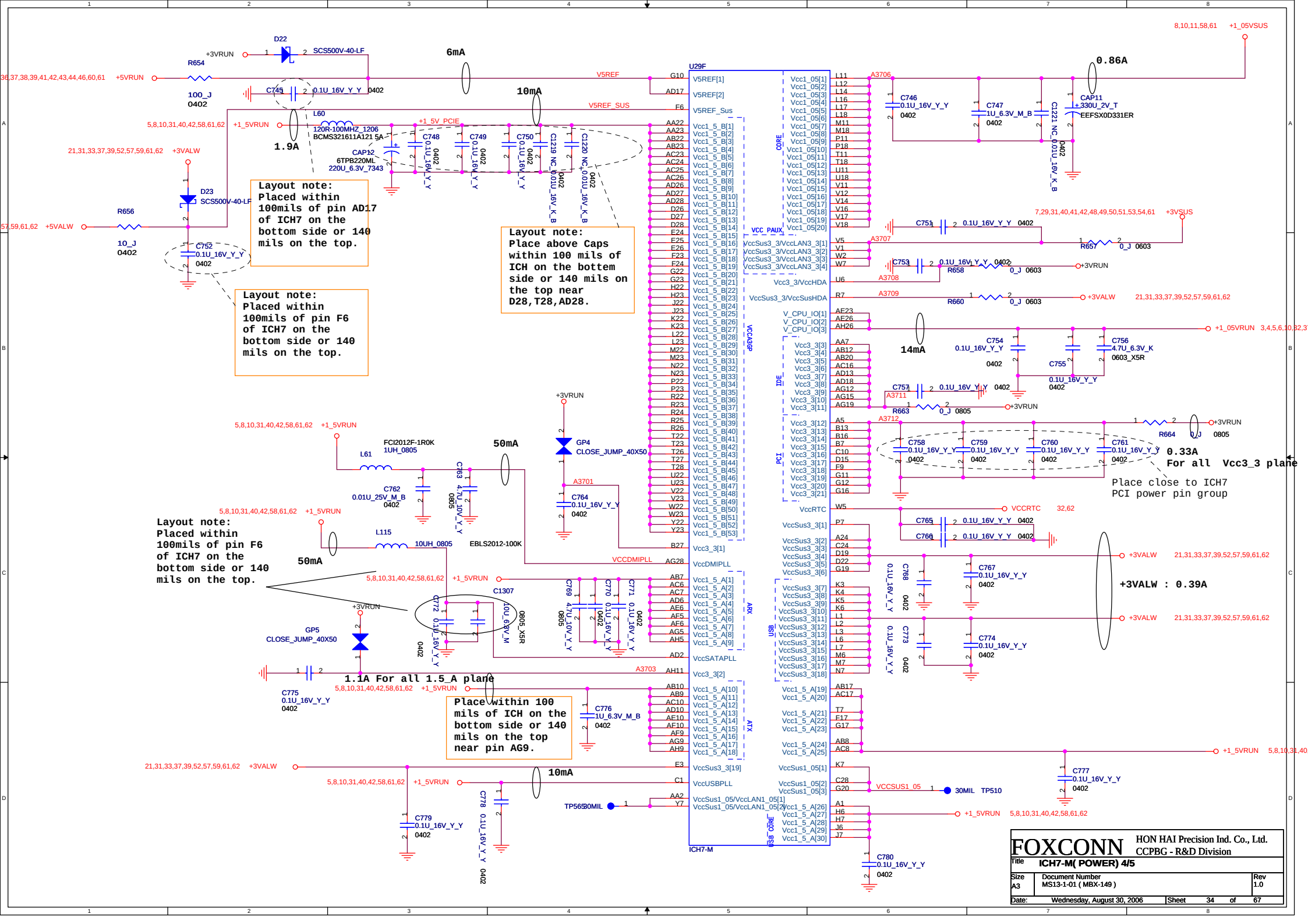

Stuff for No-reboot
R615
NC_1K_J
0402
AC_SPKR
+3VRUN
RP96
PM_RI#
SMB_LINK_ALERT#
SMLINK1
SMLINK0
10K
0804_8P4R
U29C
SMB
SMBCLK
SMBDATA
LINKALERT#
SMLINK0
SMLINK1
SYS GPIO
Power MGT
Clocks
GPIO
ICH7-M
SB_RST#
PM_SYSRST#
SMB_ALERT#
BATLOW#
PCIE_WAKE#
EXTSMI#
WAKE_SCI#
SB_THRM#
RUNTIME_SCI#
INT_SERIRQ
PM_CLKRUN#
ID_LPC_PCI#
SMB_CLK_SUS
SMB_DATA_SUS
IMVP_PWRGD
Q100
NC_2N7002
GP14
CLOSE_JUMP_40X50
Q107
2N7002
80 Port I/F:
H: LPC bus
L: PCI bus
D75
SCS500V-40-LF
MS13 DVT Modify
Adds.AEH
U31
EEPROM_SOP-8_256x8
HT24LC02
U30
SN74AHC1G14DCK
FOXCONN
HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division
ICH7-M(GPIO) 3/5
MS13-1-01 (MBX-149)
Wednesday, August 30, 2006


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
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
CORE
VCC_PAUX
VCC3495
IDE
PCI
ARX
USB
ATX
GSB CORE
+3VRUN
GP4
CLOSE_JUMP_40X50
A3701
C764
0.1U_16V_Y_Y
0402
50mA
L61
FCI2012F-1R0K
1UH_0805
C762
0.01U_25V_M_B
0402
C763
4.7U_10V_Y_Y
0805
L115
10UH_0805
EBLS2012-100K
VCCDMIPLL
C1307
10U_6.3V_M
0805_X5R
GP5
CLOSE_JUMP_40X50
1.1A For all 1.5_A plane
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
C772
0.1U_16V_Y_Y
0402
A3703
Place within 100
mils of ICH on the
bottom side or 140
mils on the top
near pin AG9.
C776
1U_6.3V_M_B
0402
10mA
TP565
30MIL
C778
0.1U_16V_Y_Y
0402
C779
0.1U_16V_Y_Y
0402
C780
0.1U_16V_Y_Y
0402
0.86A
A3706
C746
0.1U_16V_Y_Y
0402
C747
1U_6.3V_M_B
0402
CAP11
330U_2V_T
EEFSX0D331ER
C1221 NC_0.01U_16V_K_B
C751
0.1U_16V_Y_Y
0402
A3707
R657
0_J
0603
C753
0.1U_16V_Y_Y
0402
R658
0_J
0603
A3708
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
C777
0.1U_16V_Y_Y
0402
30MIL
TP510
8,10,11,58,61
+1_05VSUS
7,29,31,40,41,42,48,49,50,51,53,54,61
+3VSUS
+1_05VRUN
3,4,5,6,10,32,3
VCCRTC
32,62
VCCSUS1_05
+3VALW
21,31,33,37,39,52,57,59,61,62
+1_5VRUN
5,8,10,31,40,42,58,61,62
+5VRUN
36,37,38,39,41,42,43,44,46,60,61
+5VALW
57,59,61,62
+3VALW
21,31,33,37,39,52,57,59,61,62
FOXCONN
HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division
Title
ICH7-M(POWER) 4/5
Size
A3
Document Number
MS13-1-01 (MBX-149)
Rev
1.0
Date:
Wednesday, August 30, 2006
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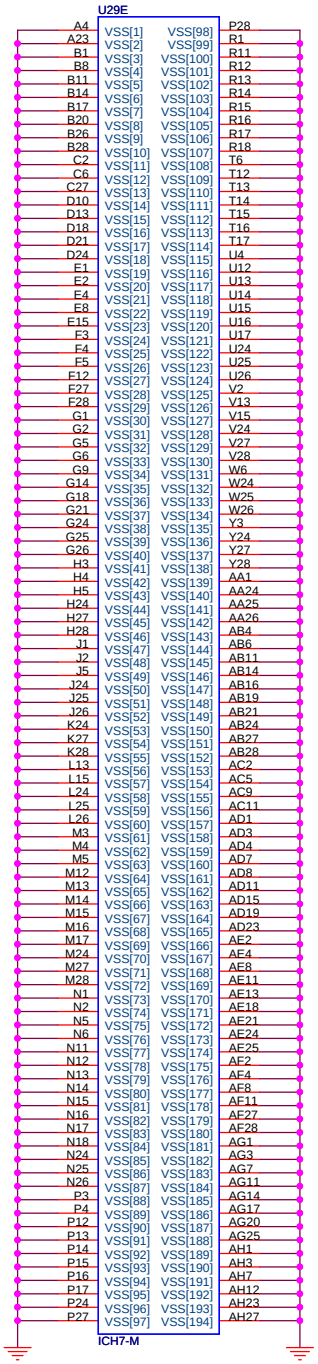
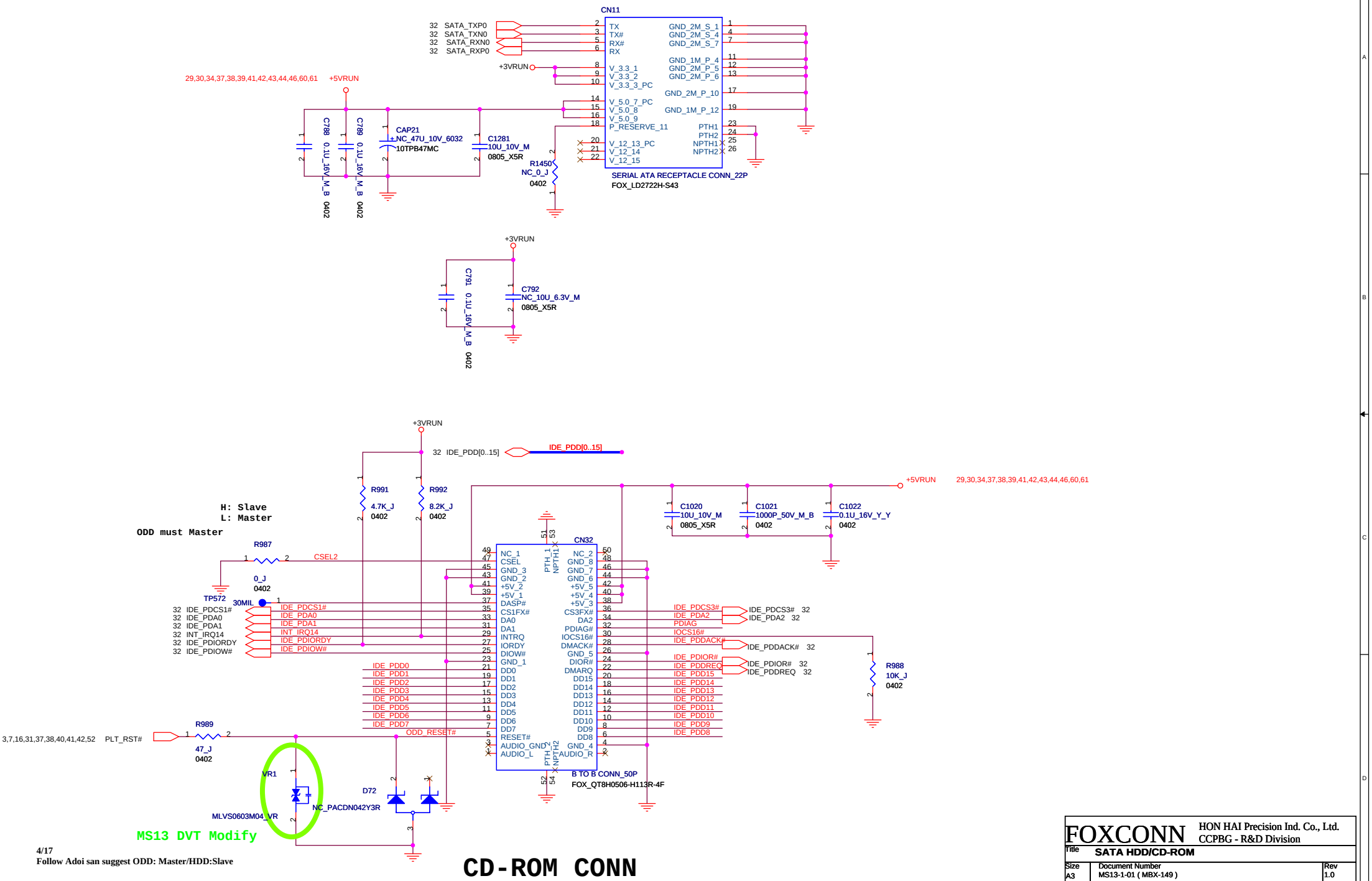


FOXCONN

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

Title	ICH7-M(GND) 5/5	
Size A3	Document Number MS13-1-01 (MBX-149)	Rev 1.0
Date: Wednesday, August 30, 2006	Sheet 35 of 67	


CN11
32 SATA_TXP0
32 SATA_TXN0
32 SATA_RXN0
32 SATA_RXP0
+3VRUN
29,30,34,37,38,39,41,42,43,44,46,60,61 +5VRUN
TX
TX#
RX#
RX
V_3.3_1
V_3.3_2
V_3.3_3_PC
V_5.0_7_PC
V_5.0_8
V_5.0_9
P_RESERVE_11
V_12_13_PC
V_12_14
V_12_15
GND_2M_S_1
GND_2M_S_4
GND_2M_S_7
GND_1M_P_4
GND_2M_P_5
GND_2M_P_6
GND_2M_P_10
GND_1M_P_12
PTH1
PTH2
NPTH1
NPTH2
C788 0.1U_16V_M_B 0402
C789 0.1U_16V_M_B 0402
CAP21
NC_47U_10V_6032
10TPB47MC
C1281
10U_10V_M
0805_X5R
R1450
NC_0_J
0402
SERIAL ATA RECEPTACLE CONN_22P
FOX_LD2722H-S43
+3VRUN
C791 0.1U_16V_M_B 0402
C792
NC_10U_6.3V_M
0805_X5R
+3VRUN
32 IDE_PDD[0..15]
IDE_PDD[0..15]
R991
4.7K_J
0402
R992
8.2K_J
0402
H: Slave
L: Master
ODD must Master
R987
0_J
0402
CSEL2
TP572
30MIL
32 IDE_PDCS1#
32 IDE_PDA0
32 IDE_PDA1
32 INT_IRQ14
32 IDE_PDIORDY
32 IDE_PDIOW#
IDE_PDCS1#
IDE_PDA0
IDE_PDA1
INT_IRQ14
IDE_PDIORDY
IDE_PDIOW#
CN32
NC_1
CSEL
GND_3
GND_2
+5V_2
+5V_1
DASP#
CS1FX#
DA0
DA1
INTRQ
IORDY
DIOW#
GND_1
DD0
DD1
DD2
DD3
DD4
DD5
DD6
DD7
RESET#
AUDIO_GND
AUDIO_L
NC_2
GND_8
GND_7
GND_6
+5V_5
+5V_4
+5V_3
CS3FX#
DA2
PDIAG#
IOCS16#
DMACK#
GND_5
DIOR#
DMARQ
DD15
DD14
DD13
DD12
DD11
DD10
DD9
DD8
GND_4
AUDIO_R
PTH_1
NPTH1
PTH_2
NPTH2
IDE_PDD0
IDE_PDD1
IDE_PDD2
IDE_PDD3
IDE_PDD4
IDE_PDD5
IDE_PDD6
IDE_PDD7
ODD_RESET#
R989
47_J
0402
3,7,16,31,37,38,40,41,42,52 PLT_RST#
VR1
MLVS0603M04_VR
D72
NC_PACDN042Y3R
B TO B CONN_50P
FOX_QT8H0506-H113R-4F
+5VRUN
29,30,34,37,38,39,41,42,43,44,46,60,61
C1020
10U_10V_M
0805_X5R
C1021
1000P_50V_M_B
0402
C1022
0.1U_16V_Y_Y
0402
IDE_PDCS3#
IDE_PDA2
PDIAG
IOCS16#
IDE_PDDACK#
IDE_PDIOR#
IDE_PDDREQ
IDE_PDCS3# 32
IDE_PDA2 32
IDE_PDDACK# 32
IDE_PDIOR# 32
IDE_PDDREQ 32
R988
10K_J
0402
MS13 DVT Modify
4/17
Follow Adoi san suggest ODD: Master/HDD:Slave
CD-ROM CONN
FOXCONN
HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division
Title
SATA HDD/CD-ROM
Size
A3
Document Number
MS13-1-01 (MBX-149)
Rev
1.0
Date:
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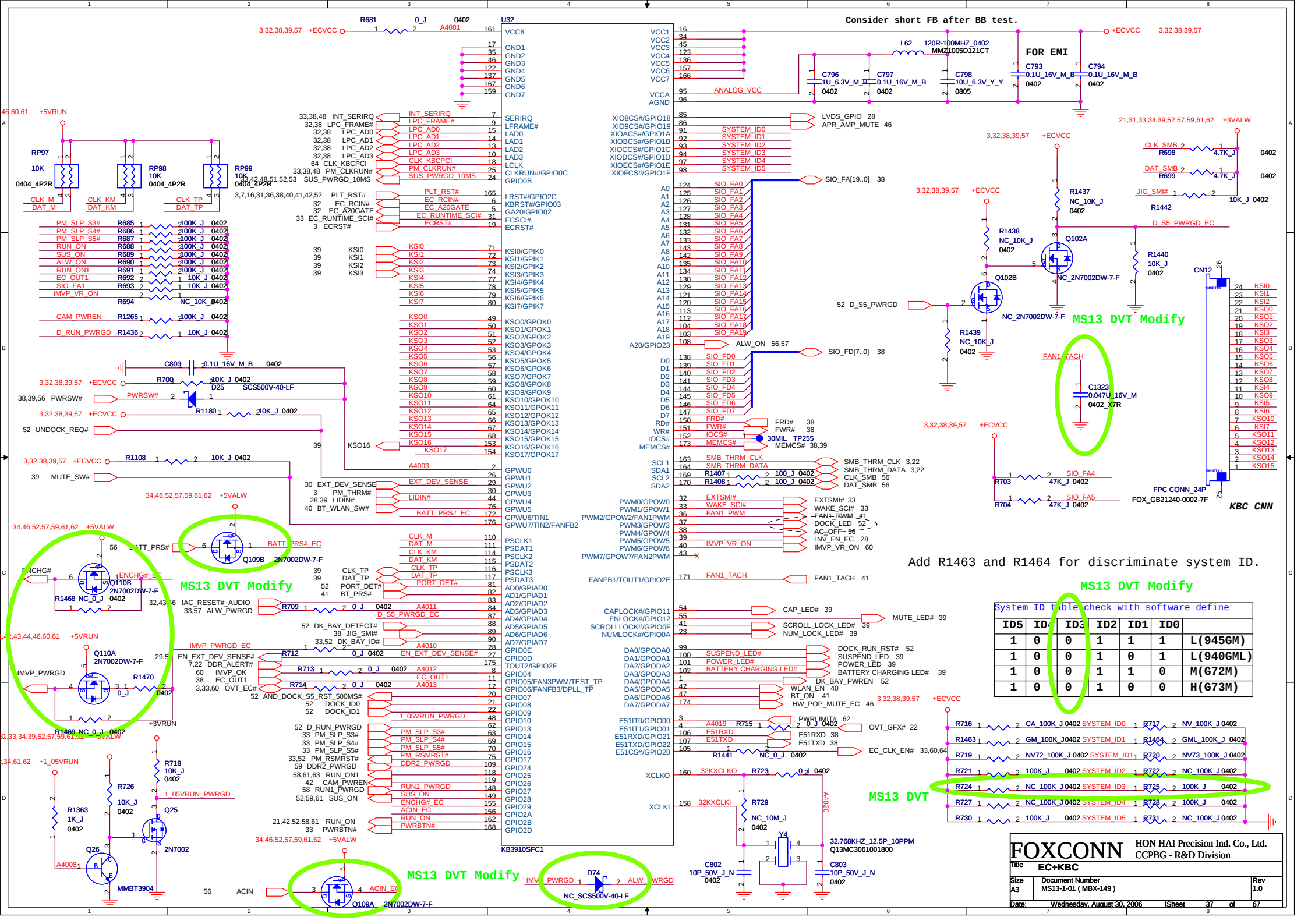
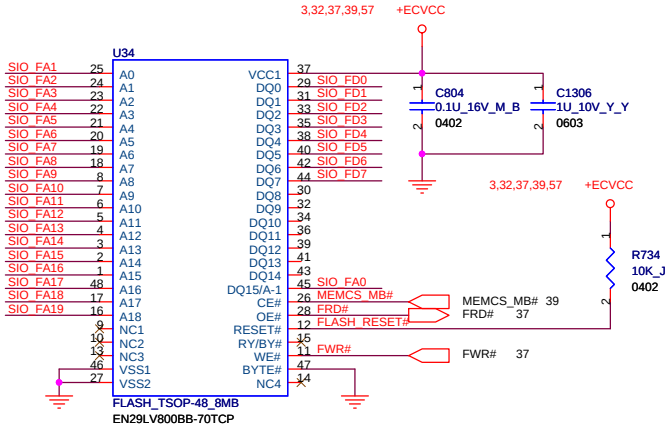

Consider short FB after BB test.
U32
KB3910SFC1
FOR EMI
MS13 DVT Modify
KBC CNN
Add R1463 and R1464 for discriminate system ID.
System ID table check with software define
ID5 ID4 ID3 ID2 ID1 ID0
1 0 0 1 1 1 L(945GM)
1 0 0 1 0 1 L(940GML)
1 0 0 1 1 0 M(G72M)
1 0 0 1 0 0 H(G73M)
FOXCONN
HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division
EC+KBC
MS13-1-01 (MBX-149)
Wednesday, August 30, 2006

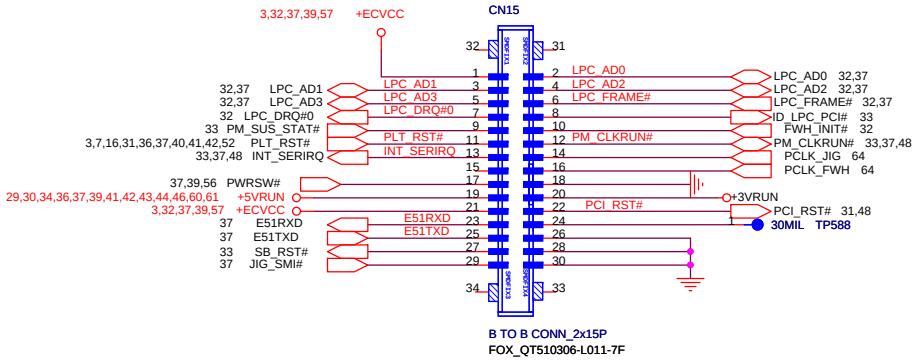
37 SIO_FA[19..0]

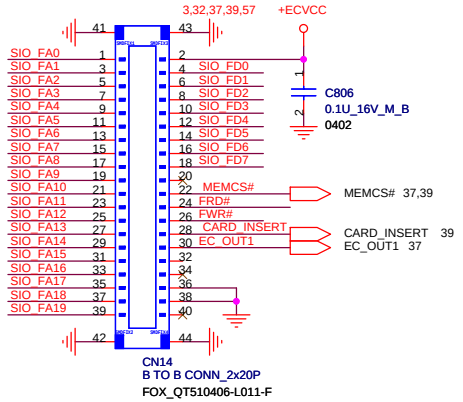
37 SIO_FD[7..0]



FLASH BIOS

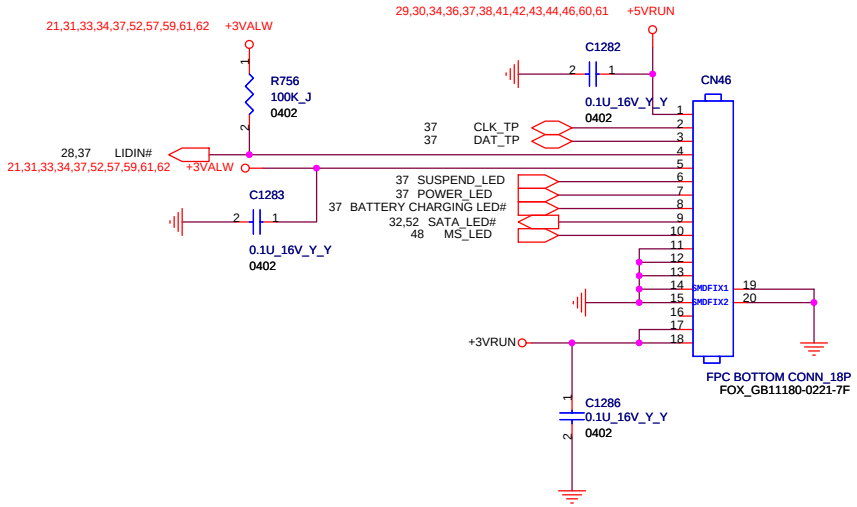
JIG-120

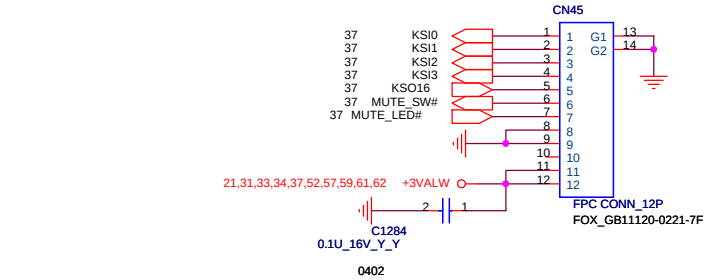


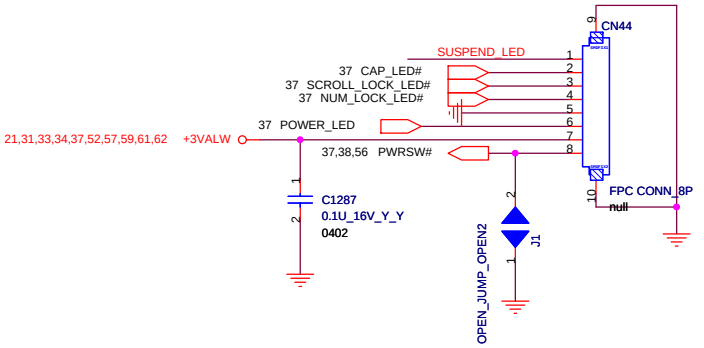


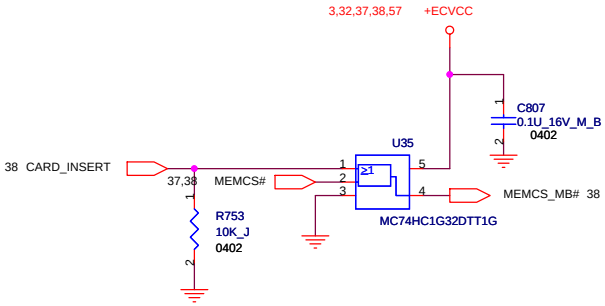
FOXCONN HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division

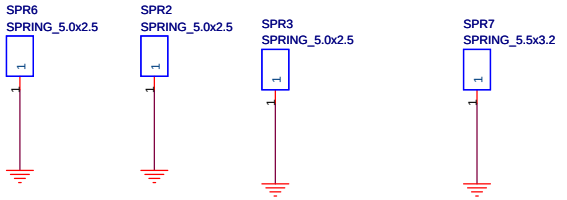
Title	Flash ROM/X-Bus CONN	
Size A3	Document Number MS13-1-01 (MBX-149)	Rev 1.0
Date: Wednesday, August 30, 2006	Sheet 38 of 67	



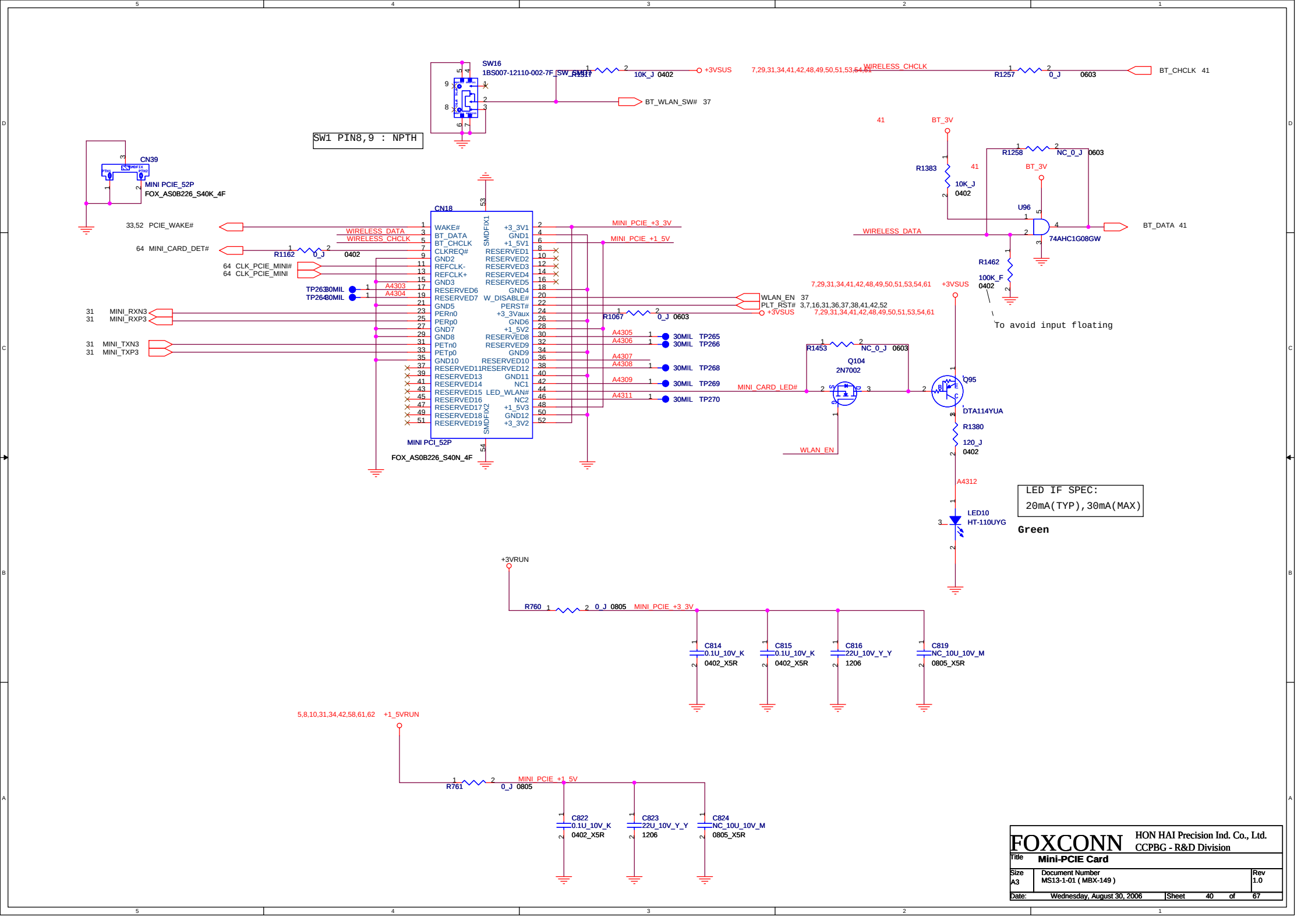








FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division	
Title: LED/LID SW#/Touch PAD		
Size: A3	Document Number: MS13-1-01 (MBX-149)	Rev: 1.0
Date: Wednesday, August 30, 2006	Sheet 39 of 67	


SW16
1BS007-12110-002-7F_SW_SMD
10K_J 0402
+3VSUS
BT_WLAN_SW# 37
SW1 PIN8,9 : NPTH
7,29,31,34,41,42,48,49,50,51,53,54,61
WIRELESS_CHCLK
R1257 0_J 0603
BT_CHCLK 41
CN39
MINI PCIE_52P
FOX_AS0B226_S40K_4F
CN18
33,52 PCIE_WAKE#
WIRELESS_DATA
WIRELESS_CHCLK
64 MINI_CARD_DET#
R1162 0_J 0402
64 CLK_PCIE_MINI#
64 CLK_PCIE_MINI
TP263 30MIL
TP264 30MIL
A4303
A4304
31 MINI_RXN3
31 MINI_RXP3
31 MINI_TXN3
31 MINI_TXP3
WAKE#
BT_DATA
BT_CHCLK
CLKREQ#
GND2
REFCLK-
REFCLK+
GND3
RESERVED6
RESERVED7
GND5
PERn0
PERp0
GND7
GND8
PETn0
PETp0
GND10
RESERVED10
RESERVED11
RESERVED13
RESERVED14
RESERVED15
RESERVED16
RESERVED17
RESERVED18
RESERVED19
+3_3V1
GND1
+1_5V1
RESERVED1
RESERVED2
RESERVED3
RESERVED4
RESERVED5
GND4
W_DISABLE#
PERST#
+3_3Vaux
GND6
+1_5V2
RESERVED8
RESERVED9
GND9
RESERVED12
GND11
NC1
LED_WLAN#
NC2
+1_5V3
GND12
+3_3V2
SMDFIX1
SMDFIX2
MINI PCI_52P
FOX_AS0B226_S40N_4F
MINI_PCIE_+3_3V
MINI_PCIE_+1_5V
R1067 0_J 0603
WLAN_EN 37
PLT_RST# 3,7,16,31,36,37,38,41,42,52
+3VSUS
7,29,31,34,41,42,48,49,50,51,53,54,61
A4305
A4306
A4307
A4308
A4309
A4311
30MIL TP265
30MIL TP266
30MIL TP268
30MIL TP269
30MIL TP270
MINI_CARD_LED#
R1453 NC_0_J 0603
Q104
2N7002
WLAN_EN
41
BT_3V
R1383 10K_J 0402
R1258 NC_0_J 0603
U96
74AHC1G08GW
BT_DATA 41
R1462 100K_F 0402
To avoid input floating
Q95
DTA114YUA
R1380 120_J 0402
A4312
LED10
HT-110UYG
LED IF SPEC:
20mA(TYP),30mA(MAX)
Green
+3VRUN
R760 0_J 0805
C814 0.1U_10V_K 0402_X5R
C815 0.1U_10V_K 0402_X5R
C816 22U_10V_Y_Y 1206
C819 NC_10U_10V_M 0805_X5R
5,8,10,31,34,42,58,61,62 +1_5VRUN
R761 0_J 0805
C822 0.1U_10V_K 0402_X5R
C823 22U_10V_Y_Y 1206
C824 NC_10U_10V_M 0805_X5R
FOXCONN
HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division
Title
Mini-PCIE Card
Size A3
Document Number MS13-1-01 (MBX-149)
Rev 1.0
Date: Wednesday, August 30, 2006
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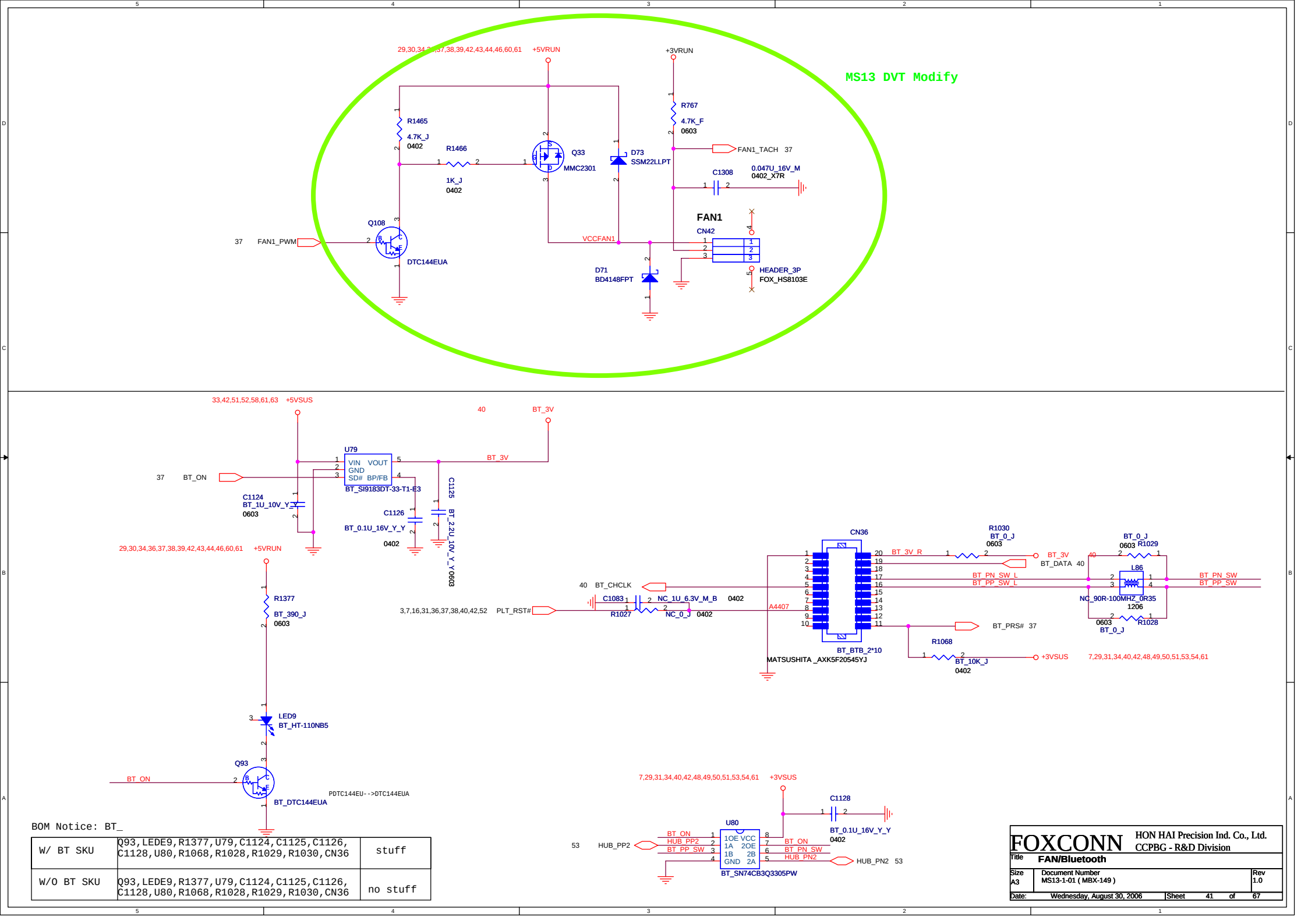


BOM Notice: BT_

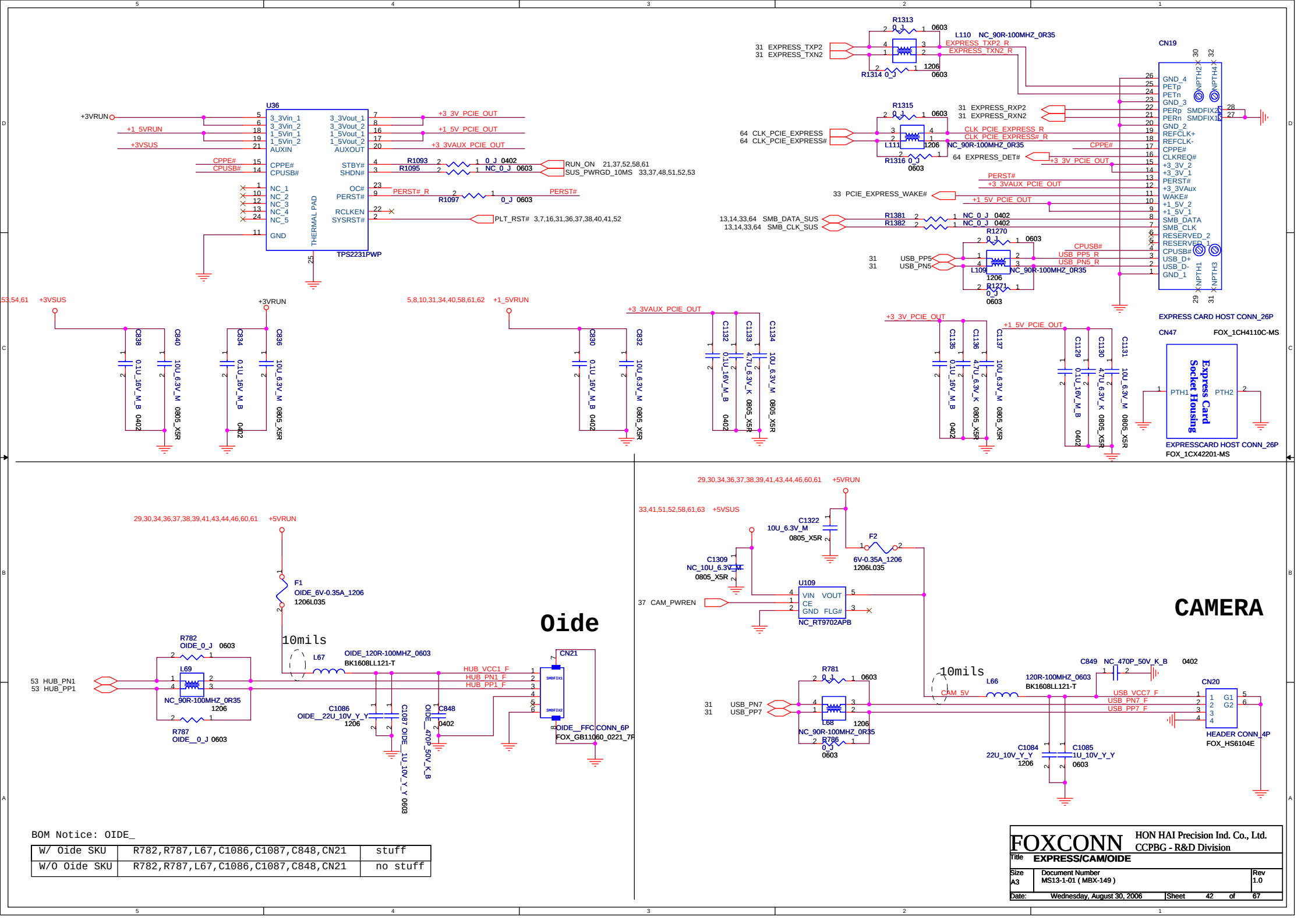
W/ BT SKU	Q93,LEDE9,R1377,U79,C1124,C1125,C1126, C1128,U80,R1068,R1028,R1029,R1030,CN36	stuff
W/O BT SKU	Q93,LEDE9,R1377,U79,C1124,C1125,C1126, C1128,U80,R1068,R1028,R1029,R1030,CN36	no stuff

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

Title: FAN/Bluetooth

Size: A3 | Document Number: MS13-1-01 (MBX-149) | Rev: 1.0

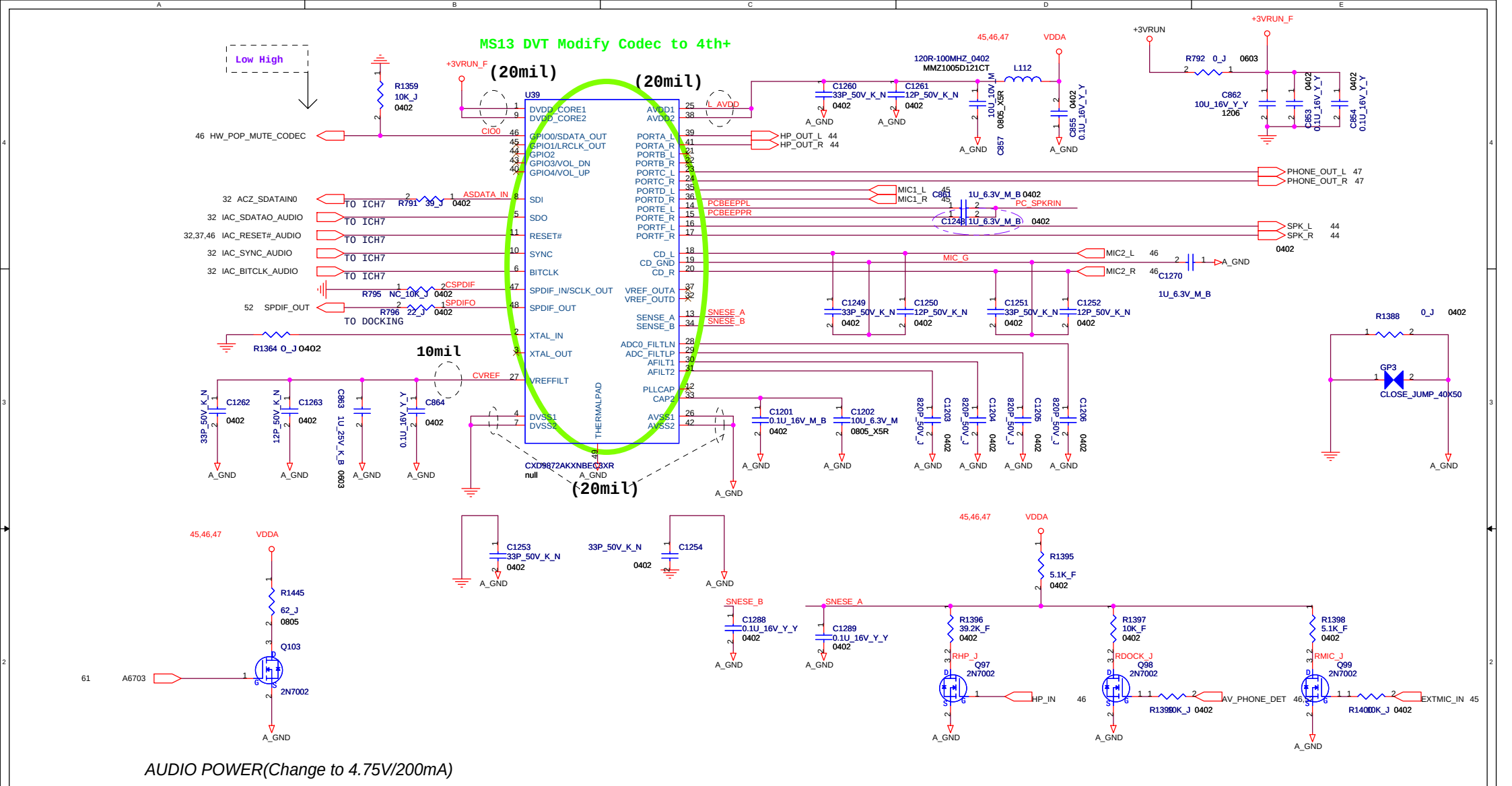
Date: Wednesday, August 30, 2006 | Sheet 41 of 67



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 MS13-1-01 (MBX-149)	Rev 1.0
Date: Wednesday, August 30, 2006	Sheet 42 of 67	


MS13 DVT Modify Codec to 4th+
Low High
(20mil)
(20mil)
(20mil)
10mil
U39
CXD9872AKXNBEC3XR
null
THERMALPAD
TO ICH7
TO DOCKING
TO PCMCIA
PC BEEP
AUDIO POWER(Change to 4.75V/200mA)
U41
TPS79301DBVR
U40
SN74AHCT1G86DCK
Q103
Q97
Q98
Q99
2N7002
FOXCONN
HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division
Title
AUDIO(CODEC & POWER)
Size
A3
Document Number
MS13-1-01 (MBX-149)
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43
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67

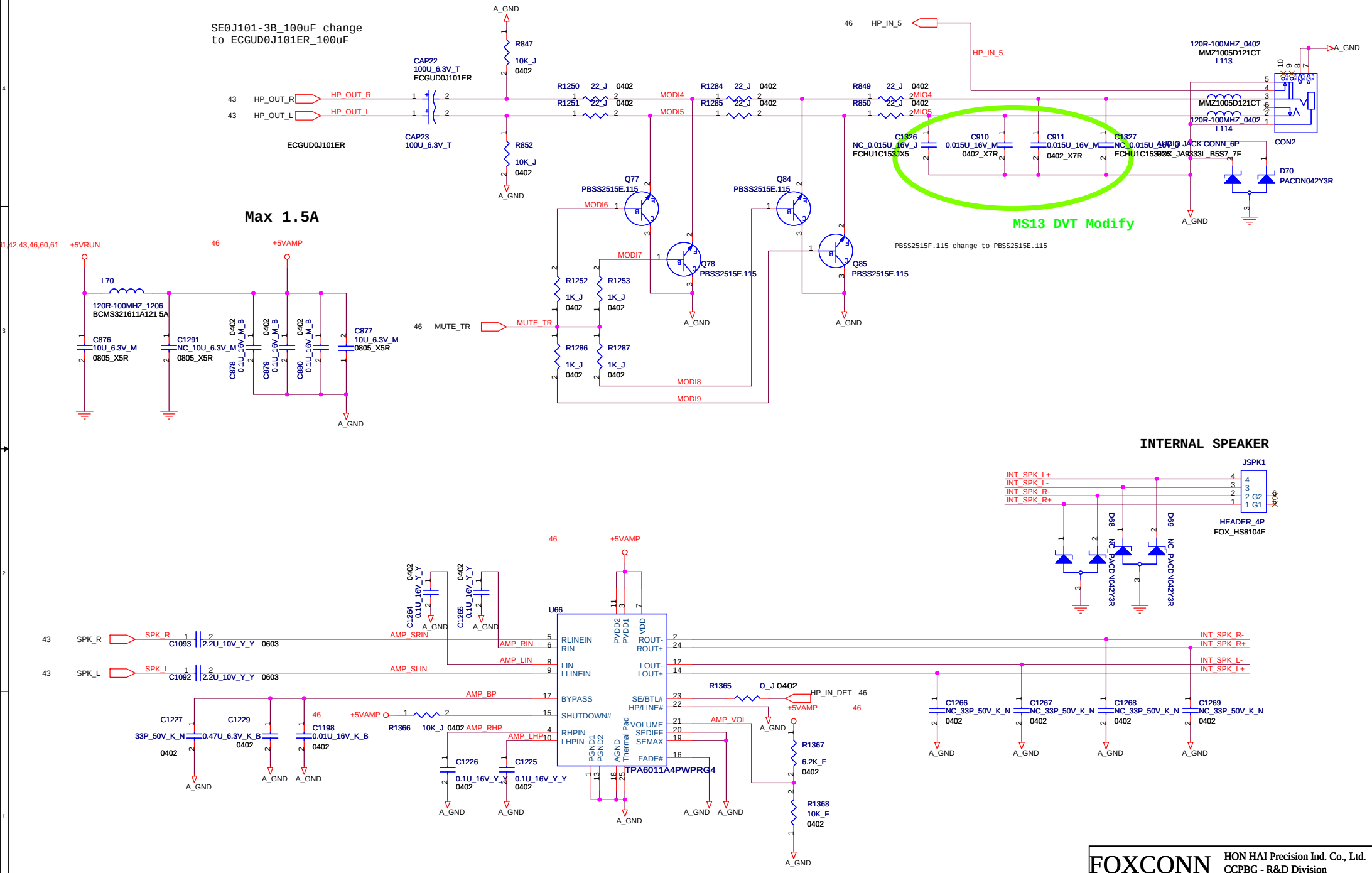
SE0J101-3B_100uF change
to ECGUD0J101ER_100uF

Max 1.5A

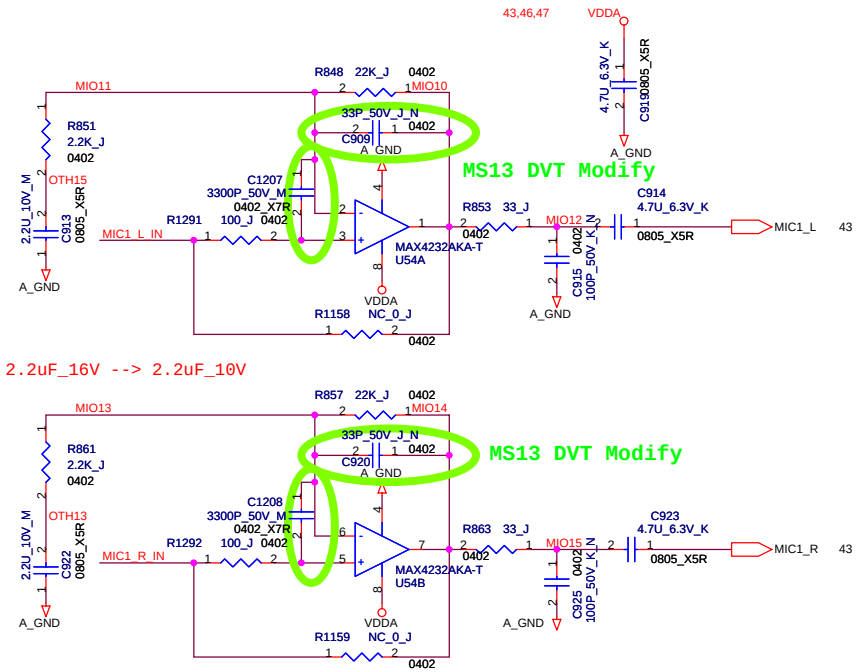
MS13 DVT Modify

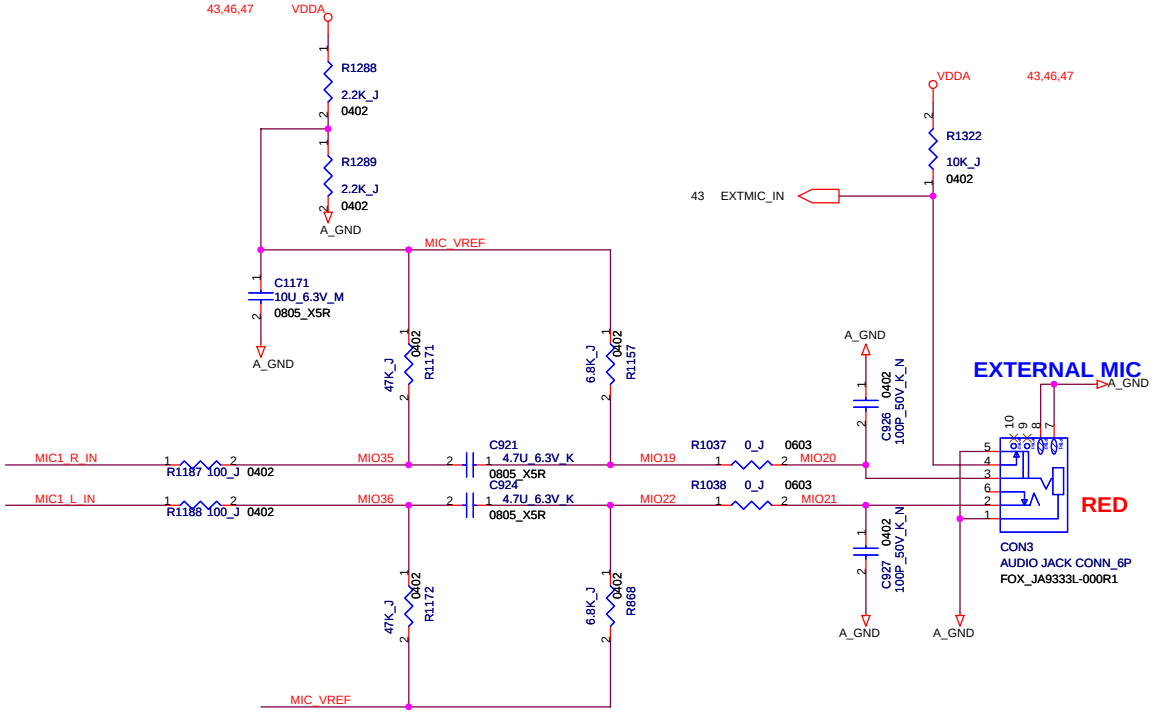
PBSS2515F.115 change to PBSS2515E.115

INTERNAL SPEAKER

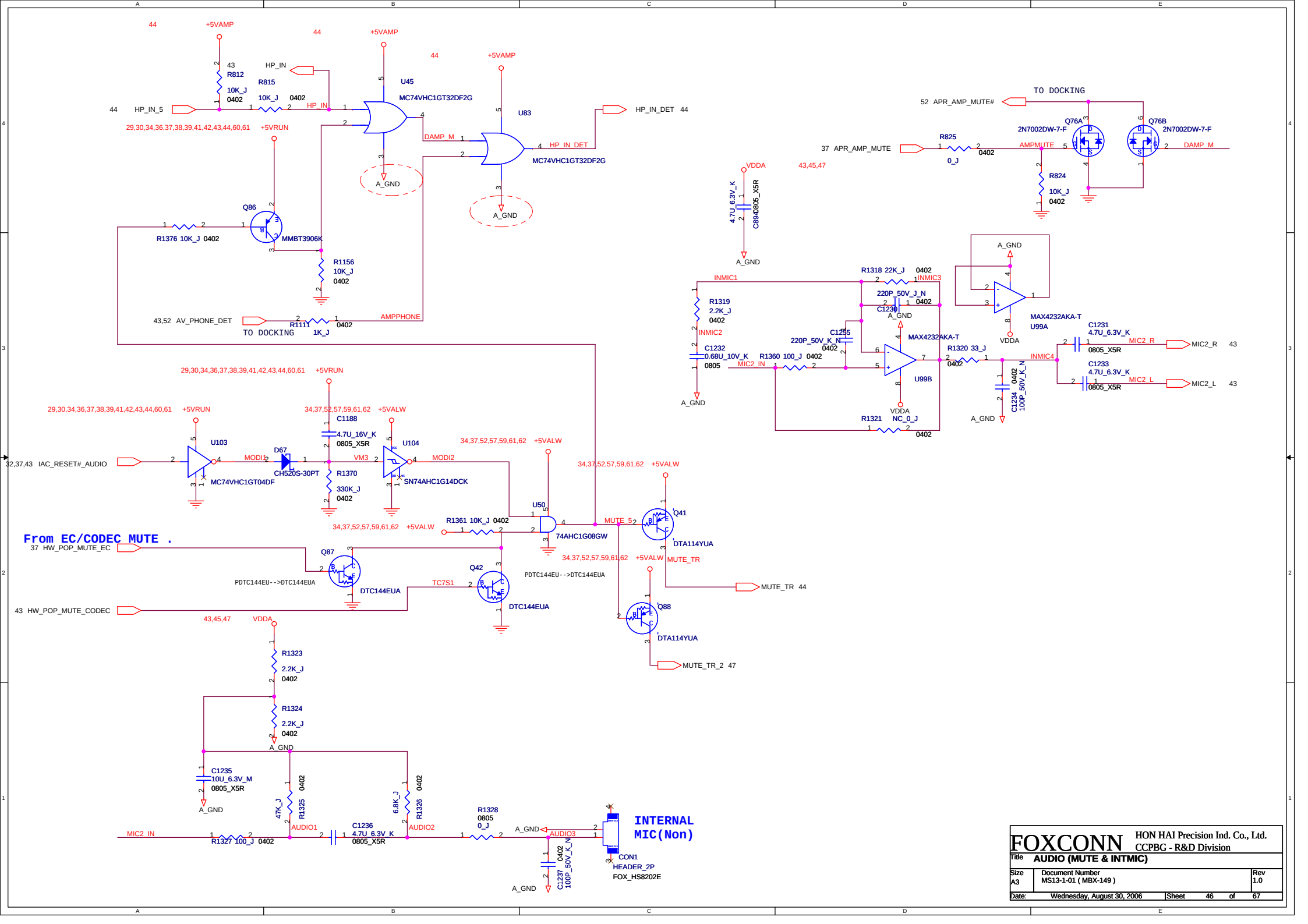


FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division		
Title	AUDIO(AMP & HP & SPK)		
Size A3	Document Number MS13-1-01 (MBX-149)		Rev 1.0
Date: Wednesday, August 30, 2006	Sheet 44 of 67		





FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division	
Title	AUDIO(EXT MIC & PHONE OUT)	
Size A3	Document Number MS13-1-01 (MBX-149)	Rev 1.0
Date: Wednesday, August 30, 2006	Sheet 45 of 67	


From EC/CODEC MUTE .
INTERNAL MIC(Non)
MC74VHC1GT32DF2G
MC74VHC1GT04DF
SN74AHC1G14DCK
74AHC1G08GW
MAX4232AKA-T
MMBT3906K
CH520S-30PT
DTC144EUA
DTA114YUA
2N7002DW-7-F
HEADER_2P
FOX_HS8202E
TO DOCKING
HP_IN
HP_IN_DET
DAMP_M
AMPPHONE
AMPMUTE
MUTE_TR
MUTE_TR_2
MUTE_5
MODI2
VM3
TC7S1
MIC2_IN
MIC2_R
MIC2_L
INMIC1
INMIC2
INMIC3
INMIC4
AUDIO1
AUDIO2
AUDIO3
A_GND
VDDA
+5VAMP
+5VRUN
+5VALW
FOXCONN
HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division
AUDIO (MUTE & INTMIC)
Size A3
Document Number MS13-1-01 (MBX-149)
Rev 1.0
Date: Wednesday, August 30, 2006
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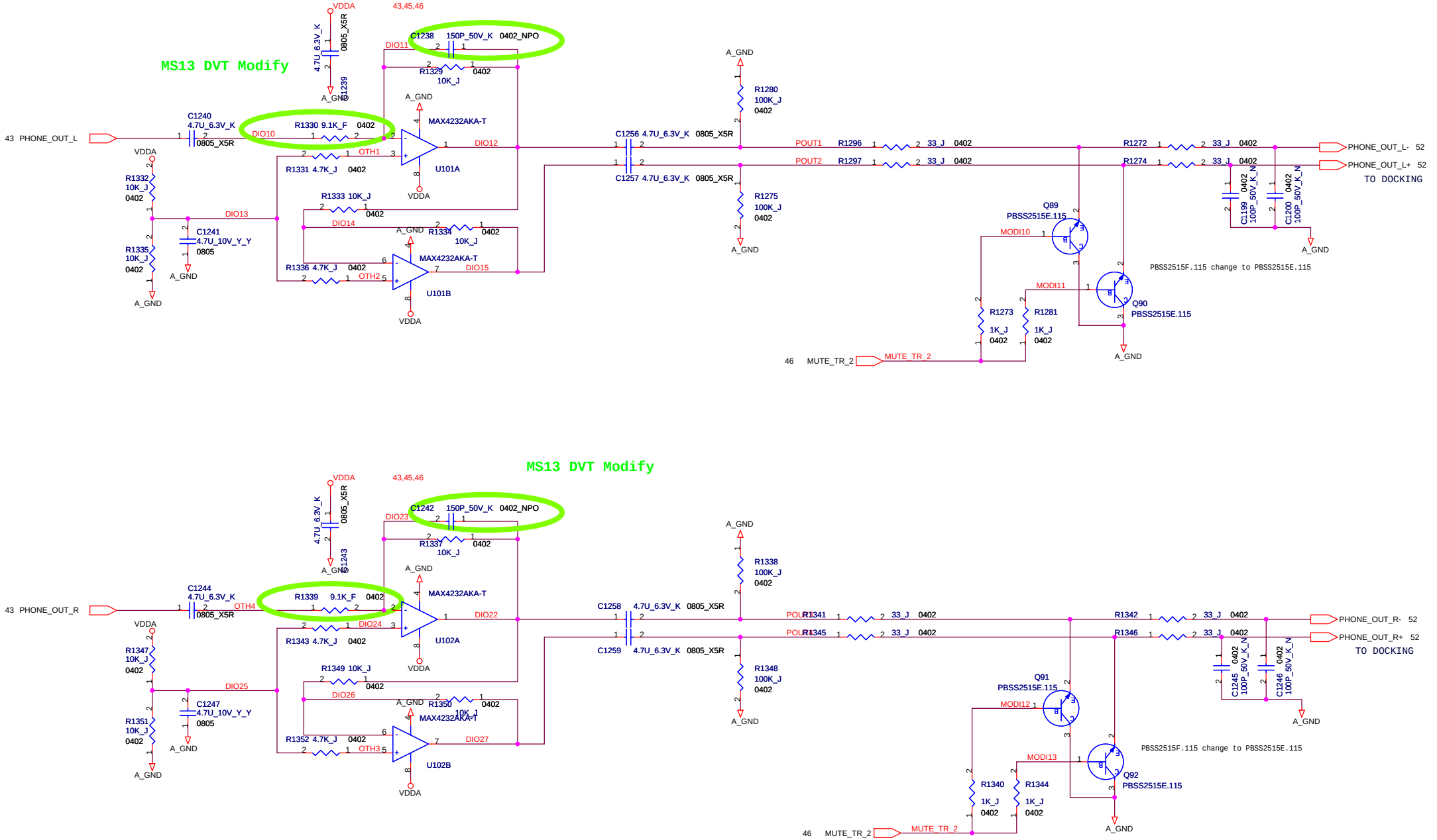
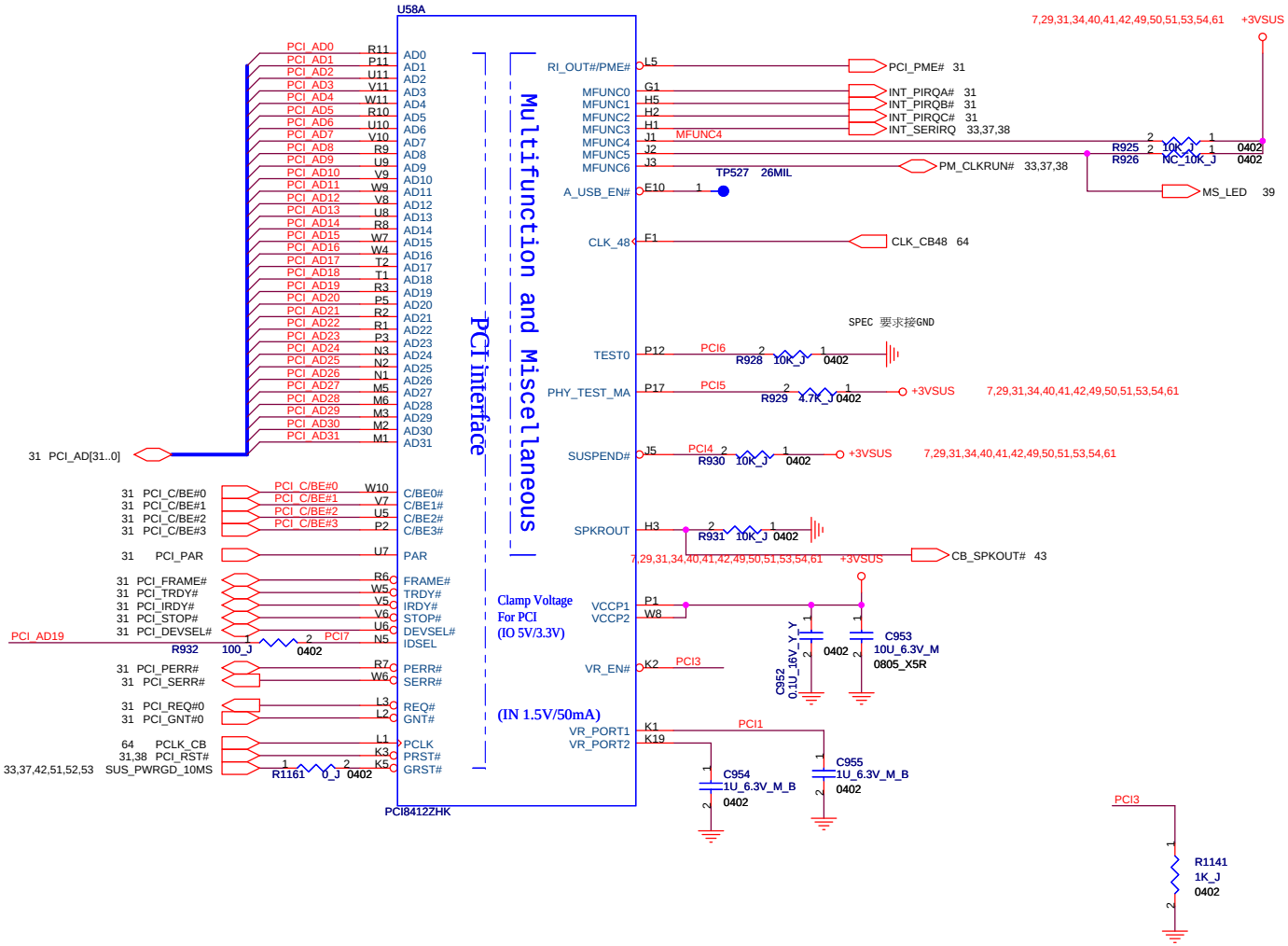
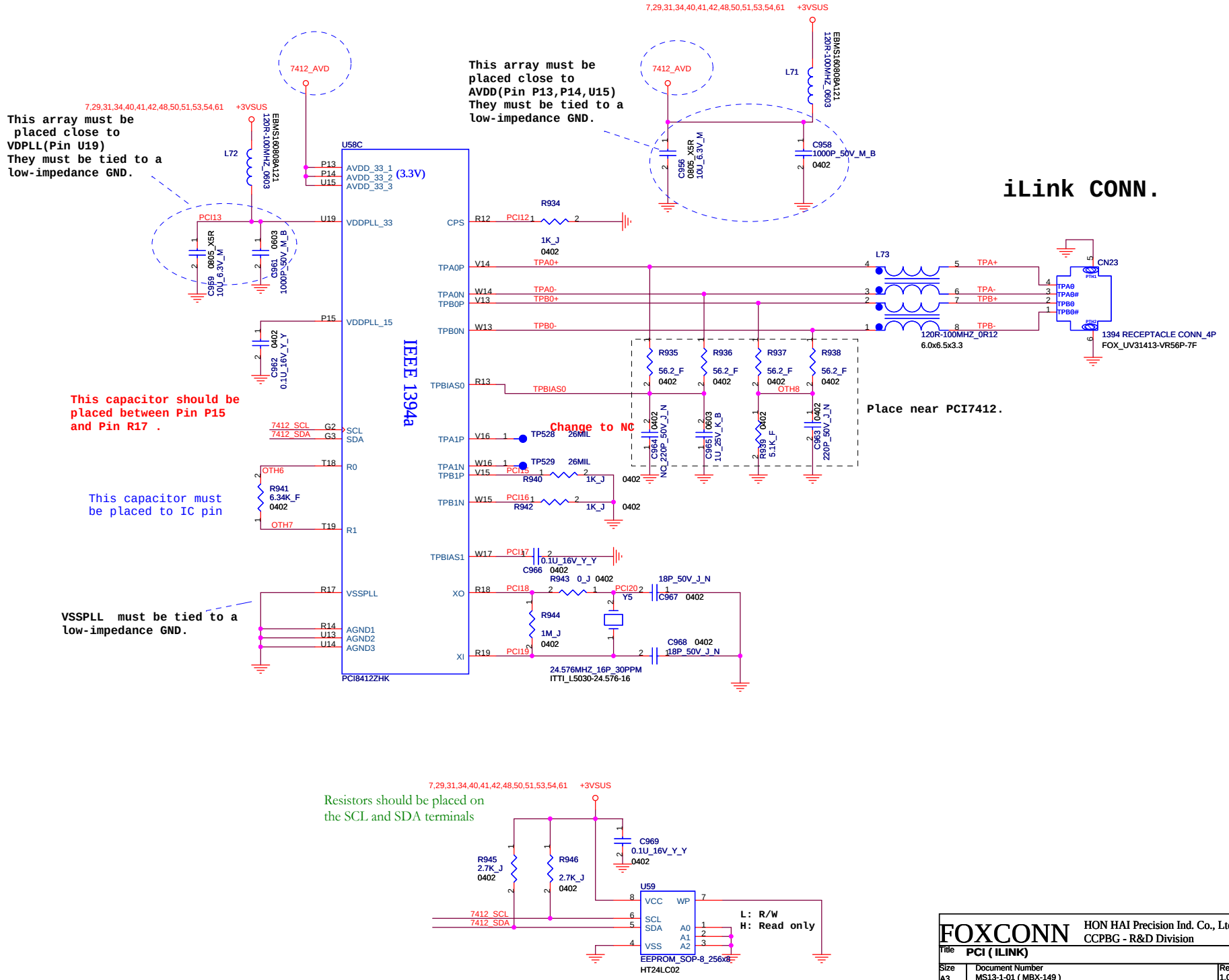
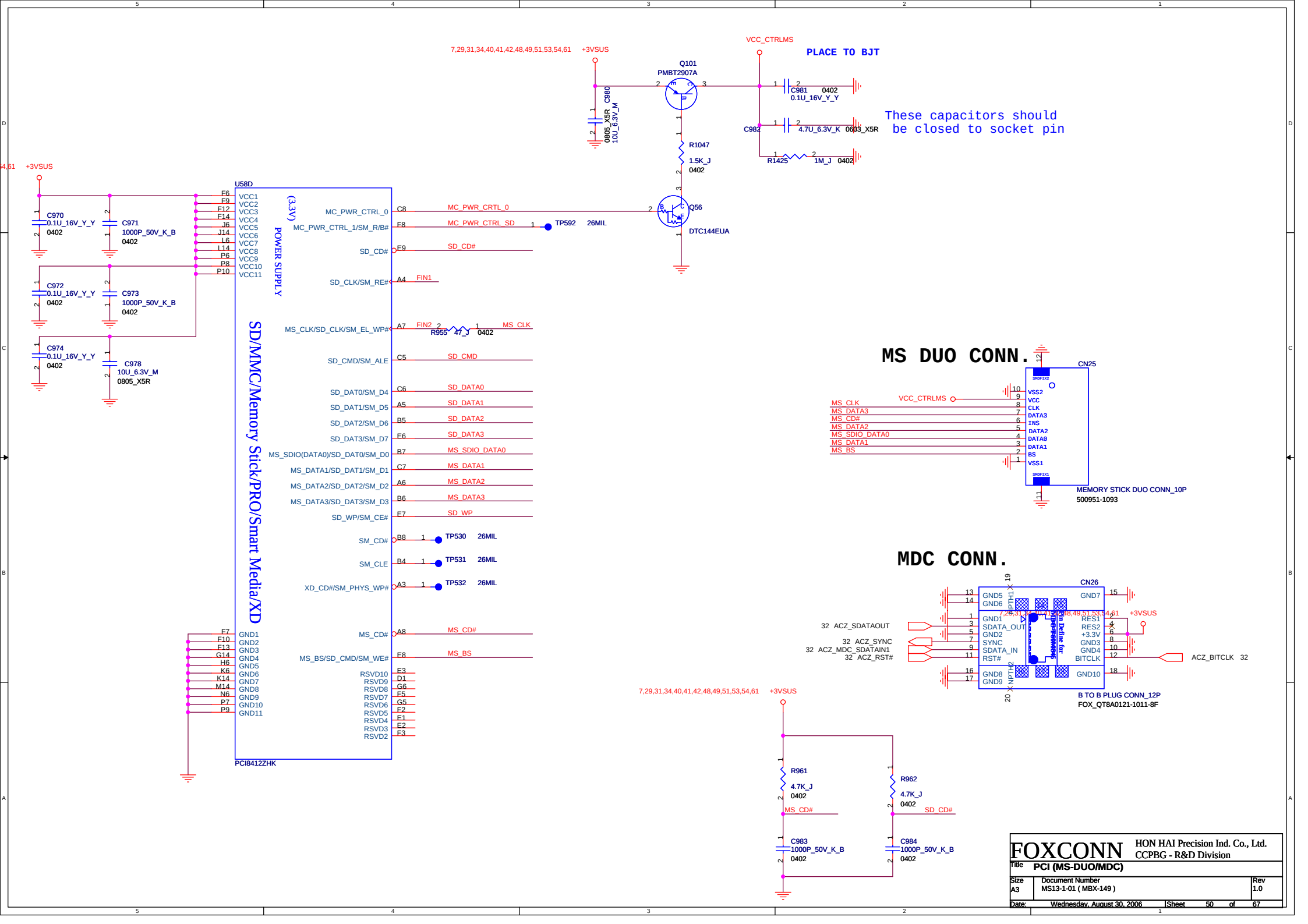


FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division	
Title	AUDIO (PHONE OUT)	
Size A3	Document Number MS13-1-01 (MBX-149)	Rev 1.0
Date: Wednesday, August 30, 2006	Sheet 47 of 67	



FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division	
Title	PCI (PCI BUS)	
Size A3	Document Number MS13-1-01 (MBX-149)	Rev 1.0
Date: Wednesday, August 30, 2006	Sheet 48 of 67	


iLink CONN.
This array must be placed close to VDPLL(Pin U19) They must be tied to a low-impedance GND.
This array must be placed close to AVDD(Pin P13,P14,U15) They must be tied to a low-impedance GND.
This capacitor should be placed between Pin P15 and Pin R17 .
This capacitor must be placed to IC pin
VSSPLL must be tied to a low-impedance GND.
Change to NC
Place near PCI7412.
IEEE 1394a
PCI8412ZHK
1394 RECEPTACLE CONN_4P
FOX_UV31413-VR56P-7F
24.576MHZ_16P_30PPM
ITTI_L5030-24.576-16
Resistors should be placed on the SCL and SDA terminals
L: R/W
H: Read only
EEPROM_SOP-8_256x8
HT24LC02
FOXCONN
HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division
PCI (ILINK)
MS13-1-01 (MBX-149)
Wednesday, August 30, 2006


7,29,31,34,40,41,42,48,49,51,53,54,61
+3VSUS
Q101
PMBT2907A
VCC_CTRLMS
PLACE TO BJT
C980
0805_X5R
10U_6.3V_M
C981
0402
0.1U_16V_Y_Y
C982
4.7U_6.3V_K
0603_X5R
R1425
1M_J
0402
These capacitors should
be closed to socket pin
R1047
1.5K_J
0402
Q56
DTC144EUA
MC_PWR_CRTL_0
MC_PWR_CTRL_SD
TP592
26MIL
SD_CD#
FIN1
MS_CLK/SD_CLK/SM_EL_WP#
FIN2
R955
47_J
0402
MS_CLK
SD_CMD/SM_ALE
SD_CMD
SD_DAT0/SM_D4
SD_DAT1/SM_D5
SD_DAT2/SM_D6
SD_DAT3/SM_D7
MS_SDIO(DATA0)/SD_DAT0/SM_D0
MS_DATA1/SD_DAT1/SM_D1
MS_DATA2/SD_DAT2/SM_D2
MS_DATA3/SD_DAT3/SM_D3
SD_WP/SM_CE#
SM_CD#
SM_CLE
XD_CD#/SM_PHYS_WP#
TP530
TP531
TP532
MS_BS/SD_CMD/SM_WE#
RSVD10
RSVD9
RSVD8
RSVD7
RSVD6
RSVD5
RSVD4
RSVD3
RSVD2
U58D
POWER SUPPLY
(3.3V)
SD/MMC/Memory Stick/PRO/Smart Media/XD
PCI8412ZHK
C970
0.1U_16V_Y_Y
0402
C971
1000P_50V_K_B
0402
C972
0.1U_16V_Y_Y
0402
C973
1000P_50V_K_B
0402
C974
0.1U_16V_Y_Y
0402
C978
10U_6.3V_M
0805_X5R
MS DUO CONN.
CN25
VCC_CTRLMS
MS_CLK
MS_DATA3
MS_CD#
MS_DATA2
MS_SDIO_DATA0
MS_DATA1
MS_BS
VSS2
VCC
CLK
DATA3
INS
DATA2
DATA0
DATA1
BS
VSS1
MEMORY STICK DUO CONN_10P
500951-1093
MDC CONN.
CN26
32 ACZ_SDATAOUT
32 ACZ_SYNC
32 ACZ_MDC_SDATAIN1
32 ACZ_RST#
GND5
GND6
GND1
SDATA_OUT
GND2
SYNC
SDATA_IN
RST#
GND8
GND9
GND7
RES1
RES2
+3.3V
GND3
GND4
BITCLK
GND10
ACZ_BITCLK 32
B TO B PLUG CONN_12P
FOX_QT8A0121-1011-8F
R961
4.7K_J
0402
R962
4.7K_J
0402
C983
1000P_50V_K_B
0402
C984
1000P_50V_K_B
0402
FOXCONN
HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division
Title
PCI (MS-DUO/MDC)
Size
A3
Document Number
MS13-1-01 (MBX-149)
Rev
1.0
Date:
Wednesday, August 30, 2006
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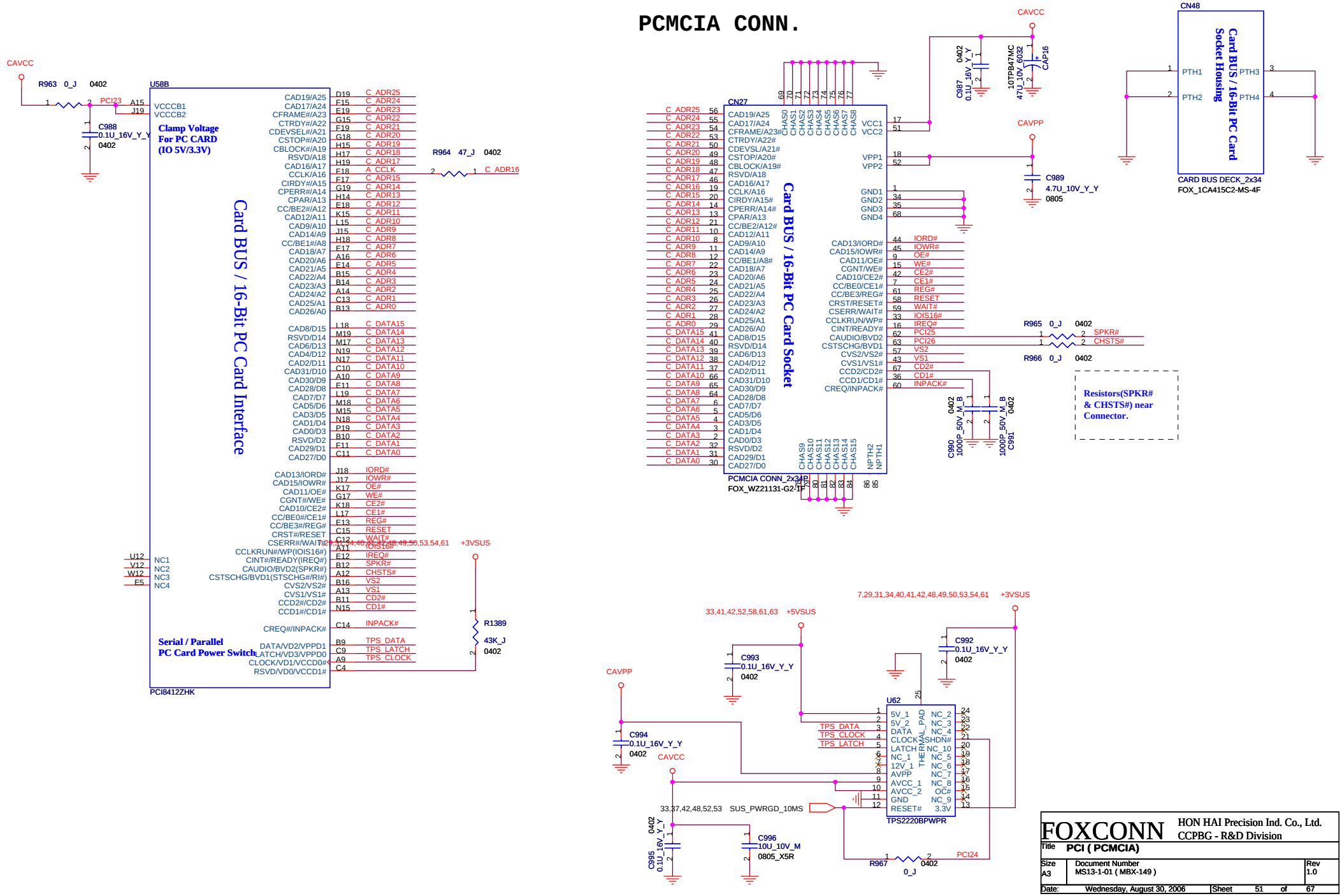
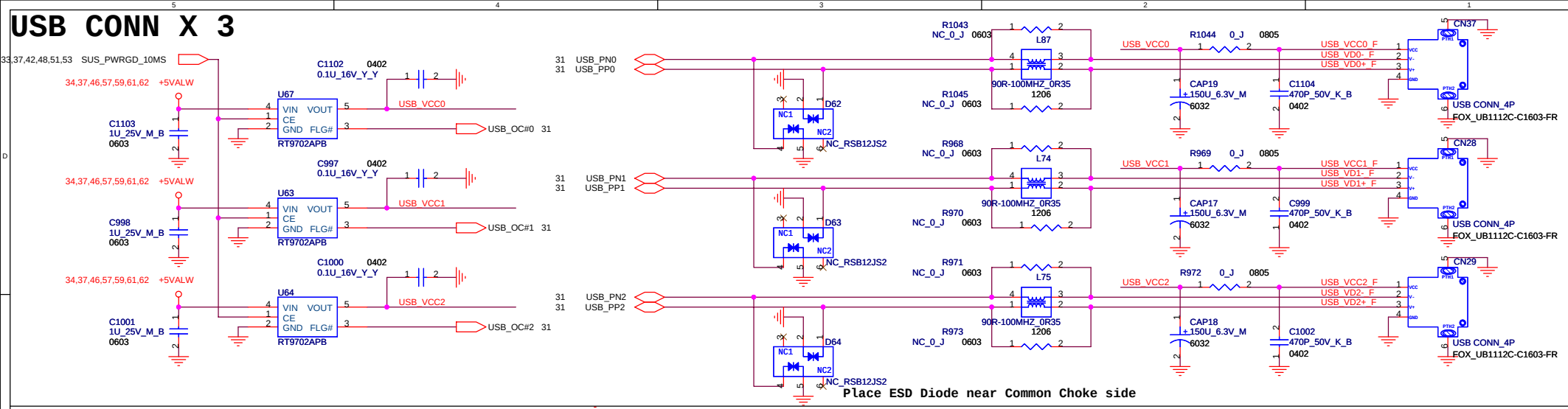
67

PCMCIA CONN.

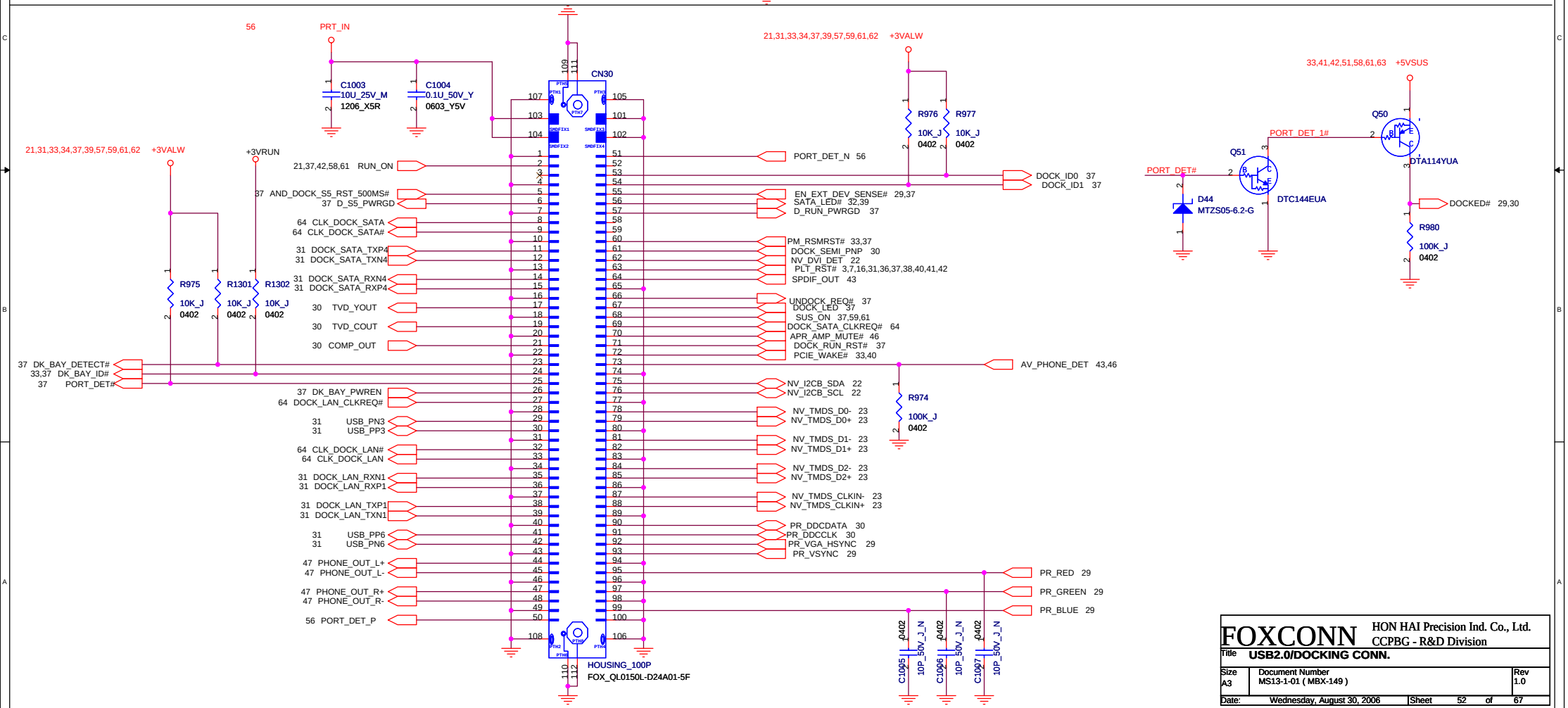


FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division		
Title	PCI (PCMCIA)		
Size A3	Document Number MS13-1-01 (MBX-149)		Rev 1.0
Date: Wednesday, August 30, 2006	Sheet 51 of 67		

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 MS13-1-01 (MBX-149)	Rev 1.0
Date: Wednesday, August 30, 2006	Sheet 52 of 67	

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

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

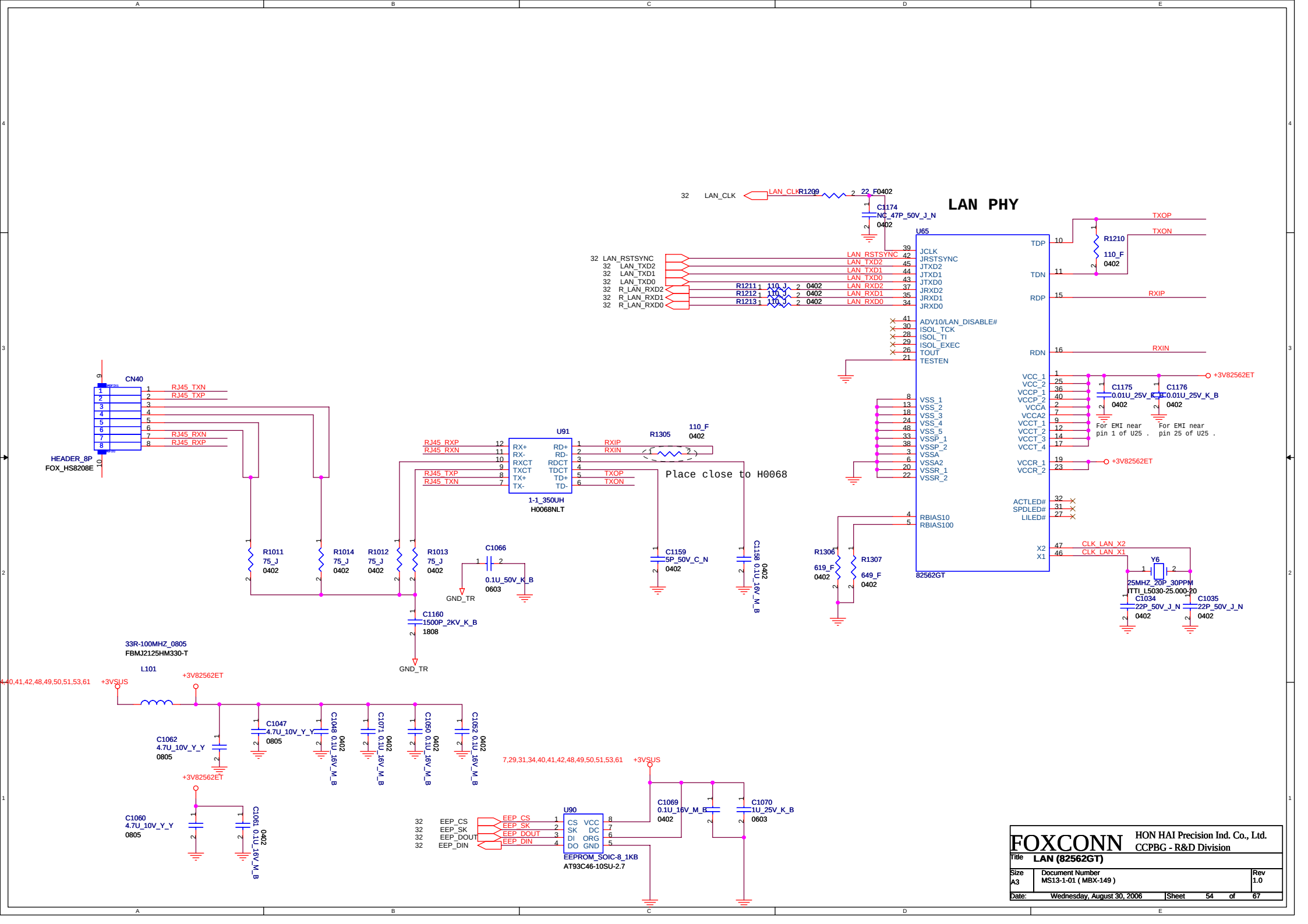
Layout note:
Place R1243 ,R1244 under U88 Pin1,Pin2
Place R1459,R1460 under U88 Pin 11,Pin 12
Place R1247,R1248 under U88 Pin 15,Pin 16

Impedance Matching
Place close to chip

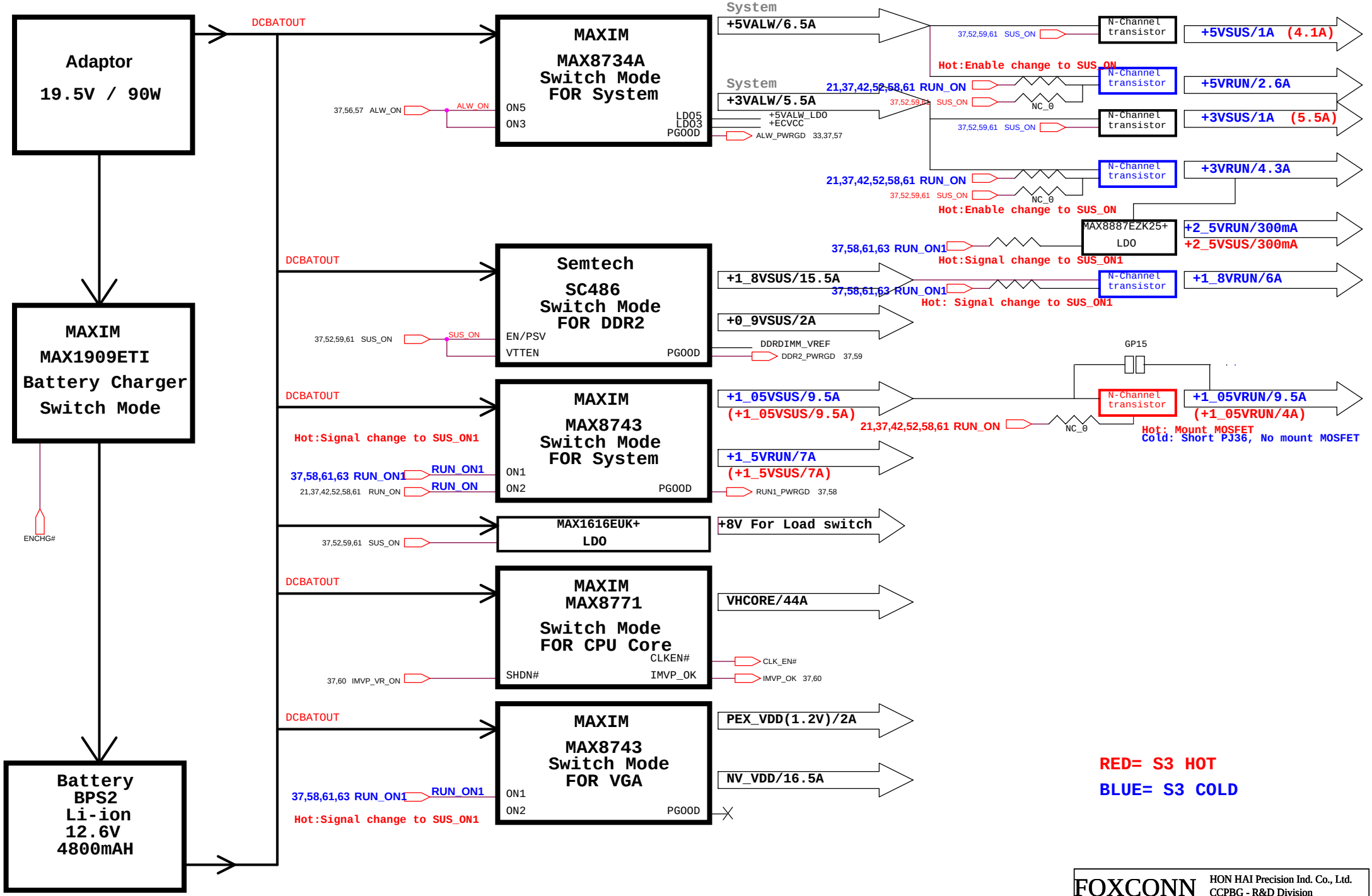
Hi : EEPROM disable
Low : EEPROM enable

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

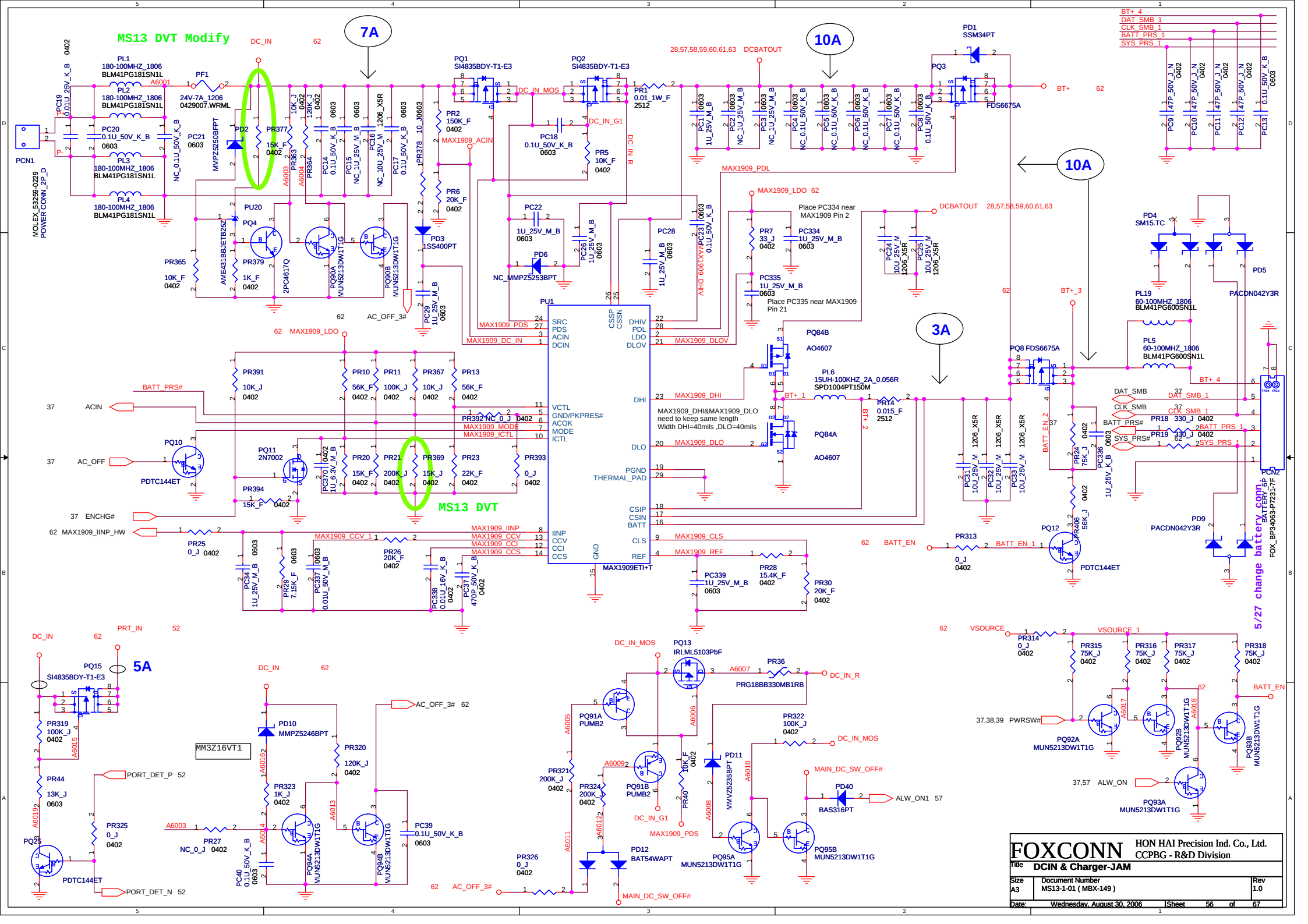
FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division	
Title: USB HUB		
Size: A3	Document Number: MS13-1-01 (MBX-149)	Rev: 1.0
Date: Wednesday, August 30, 2006	Sheet 53 of 67	

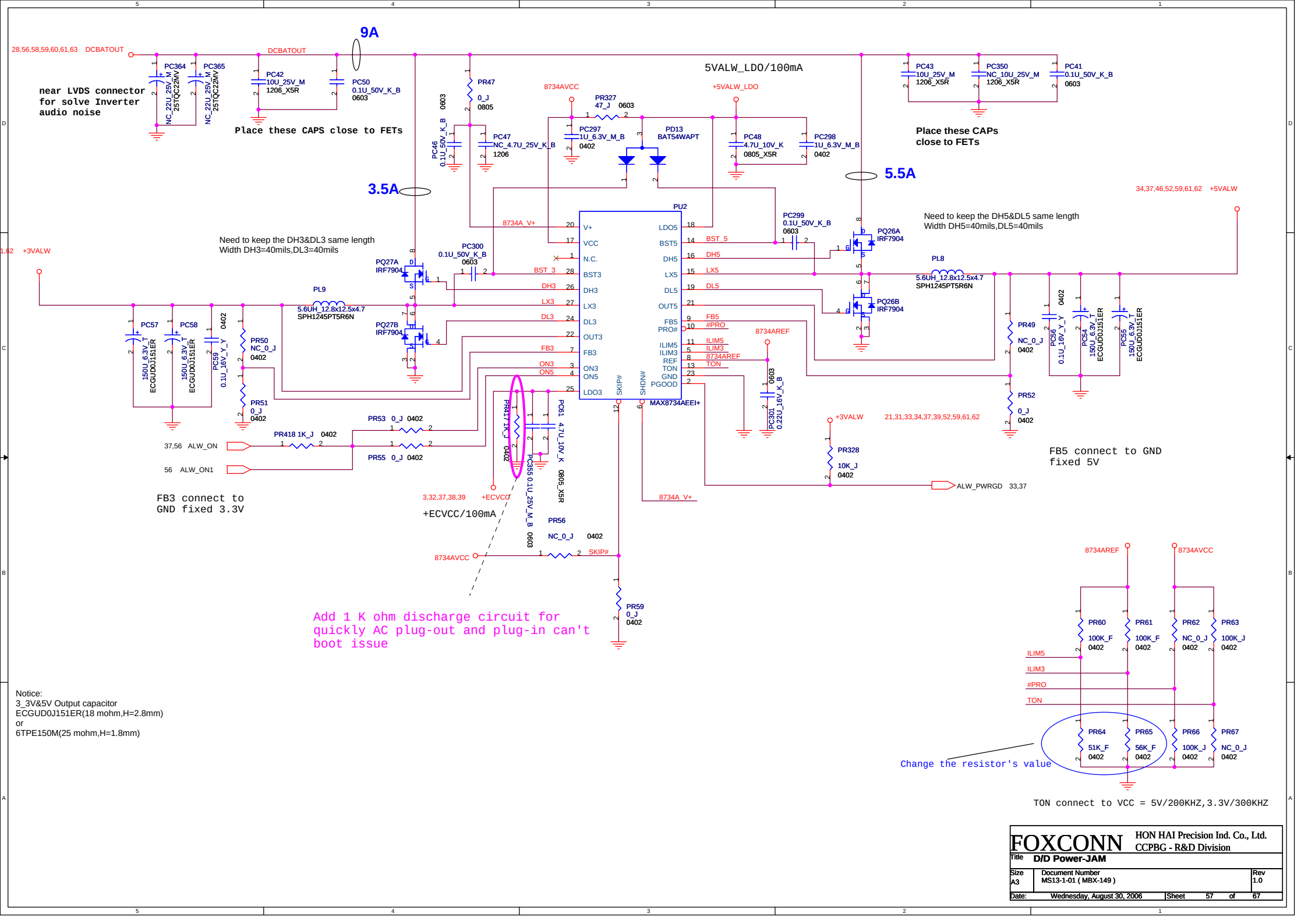


FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division		
Title	LAN (82562GT)		
Size A3	Document Number MS13-1-01 (MBX-149)		Rev 1.0
Date:	Wednesday, August 30, 2006	Sheet 54 of 67	



FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division		
Title	Power Design Diagram-ZG		
Size A3	Document Number MS13-1-01 (MBX-149)		Rev 1.0
Date: Wednesday, August 30, 2006	Sheet 55 of 67		


MS13 DVT Modify
7A
10A
10A
3A
5A
DC_IN
PRT_IN
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
MS13 DVT
5/27 change battery conn.
FOXCONN
HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division
DCIN & Charger-JAM
Size A3
Document Number MS13-1-01 (MBX-149)
Rev 1.0
Date: Wednesday, August 30, 2006
Sheet 56 of 67


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
34,37,46,52,59,61,62 +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
PQ26A IRF7904
PQ26B IRF7904
PQ27A IRF7904
PQ27B IRF7904
FB5 connect to GND fixed 5V
FB3 connect to GND fixed 3.3V
+ECVCC/100mA
Add 1 K ohm discharge circuit for quickly AC plug-out and plug-in can't boot issue
ALW_PWRGD 33,37
21,31,33,34,37,39,52,59,61,62
37,56 ALW_ON
56 ALW_ON1
3,32,37,38,39 +ECVCC
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 MS13-1-01 (MBX-149)
Rev 1.0
Date: Wednesday, August 30, 2006
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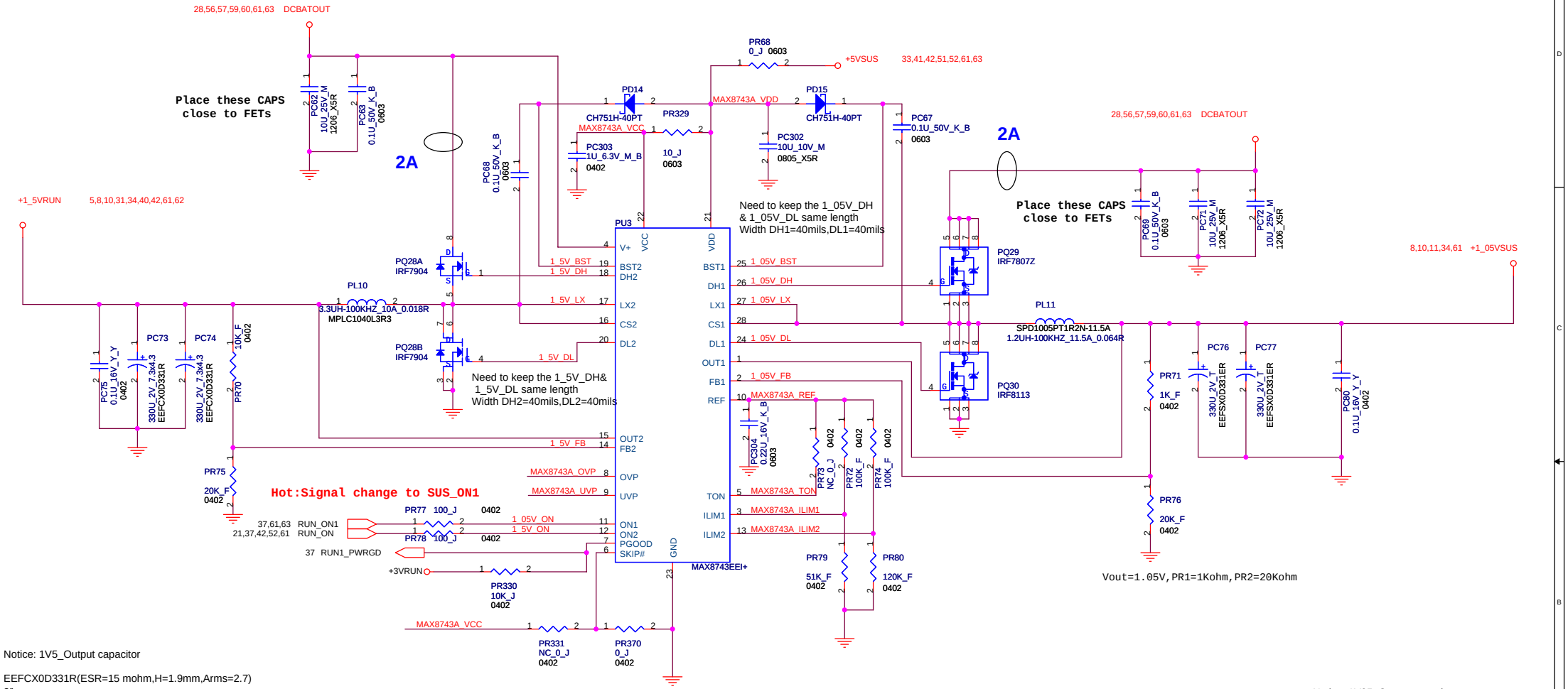

FOXCONN HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division

Title	1.5V/1.05V-JAM	
Size A3	Document Number MS13-1-01 (MBX-149)	Rev 1.0
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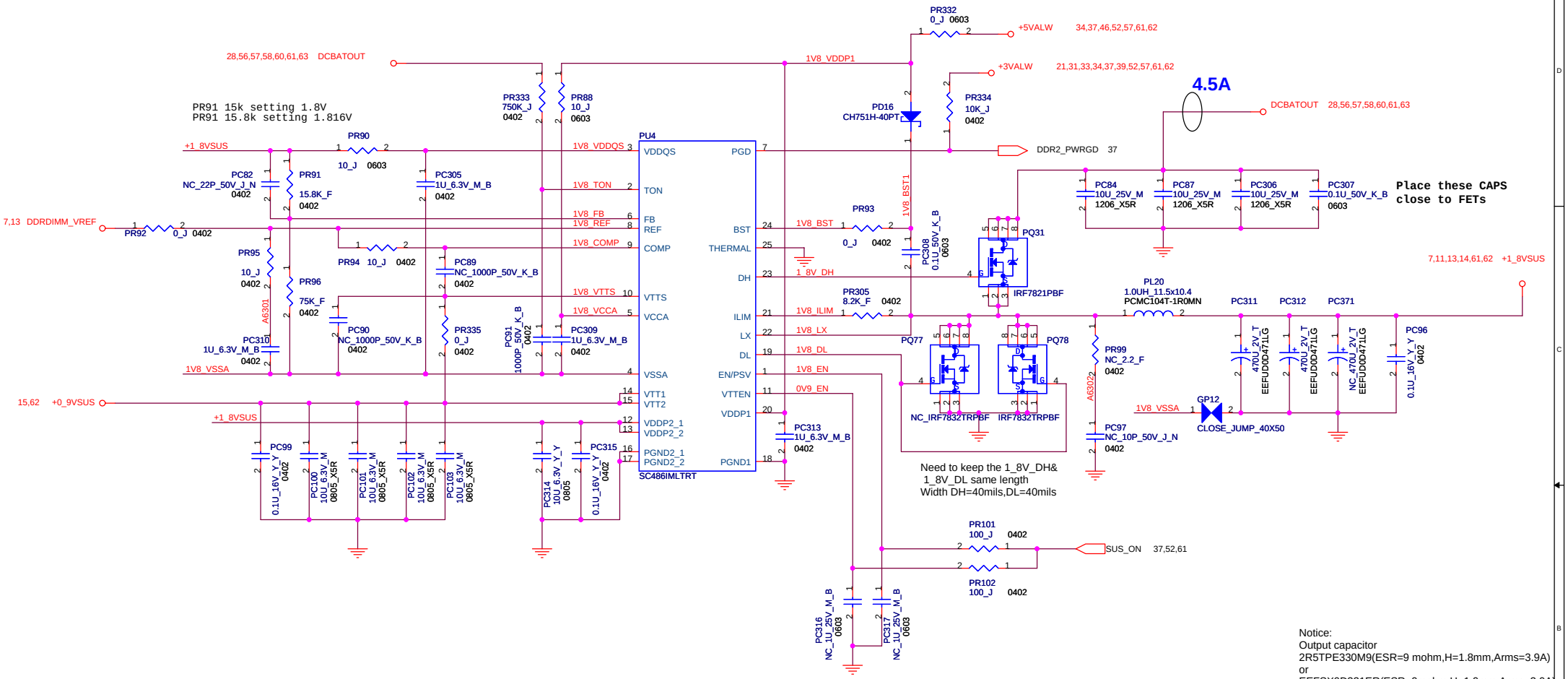

FOXCONN HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division

Title	1.8V/0.9V-CWK	
Size A3	Document Number MS13-1-01 (MBX-149)	Rev 1.0
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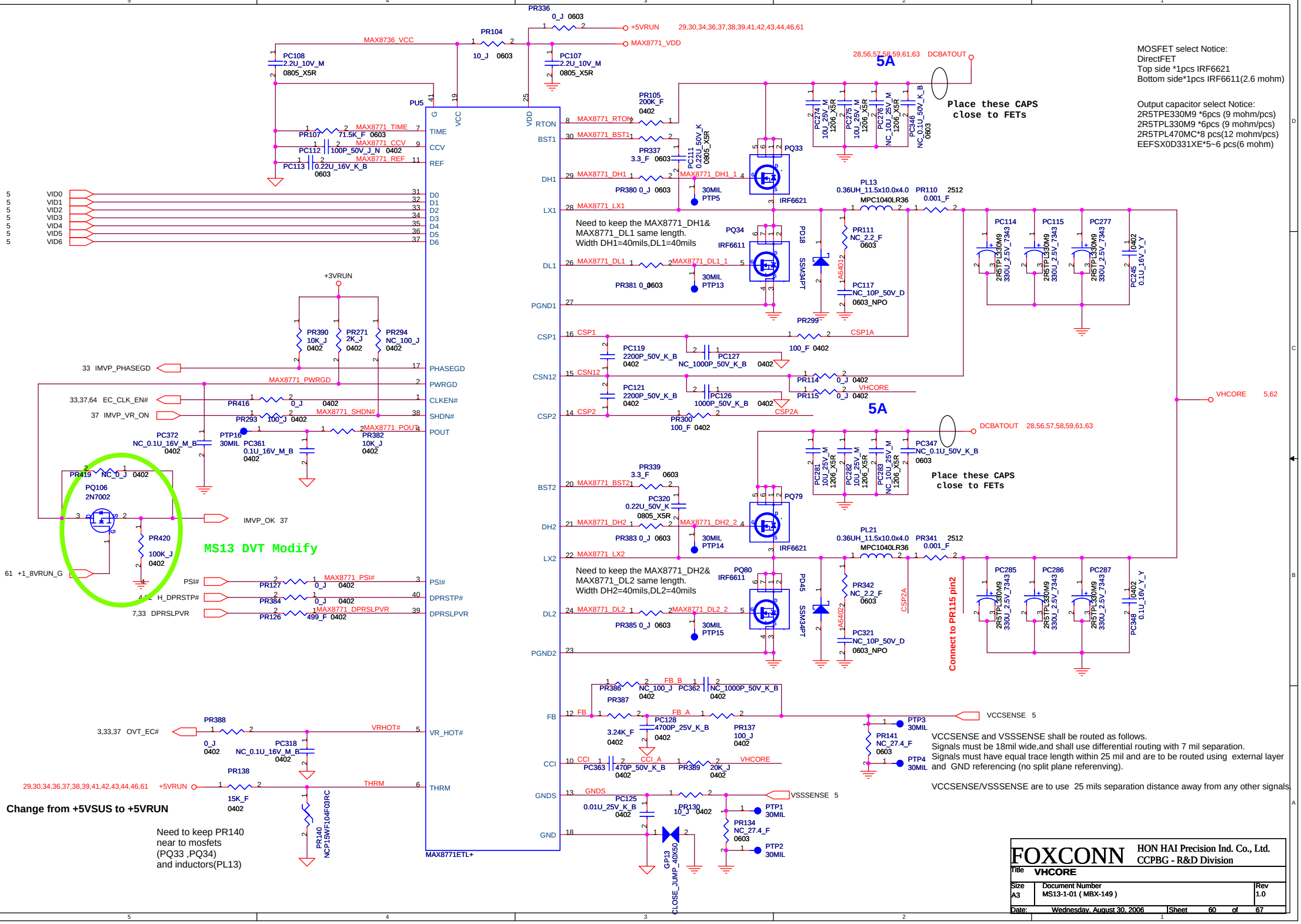
MOSFET select Notice:
DirectFET
Top side *1pcs IRF6621
Bottom side*1pcs IRF6611(2.6 mohm)
Output capacitor select Notice:
2R5TPE330M9 *6pcs (9 mohm/pcs)
2R5TPL330M9 *6pcs (9 mohm/pcs)
2R5TPL470MC*8 pcs(12 mohm/pcs)
EEFSX0D331XE*5~6 pcs(6 mohm)
5A
Place these CAPS close to FETs
Need to keep the MAX8771_DH1& MAX8771_DL1 same length. Width DH1=40mils,DL1=40mils
Need to keep the MAX8771_DH2& MAX8771_DL2 same length. Width DH2=40mils,DL2=40mils
MS13 DVT Modify
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 MS13-1-01 (MBX-149)
Rev 1.0
Date: Wednesday, August 30, 2006
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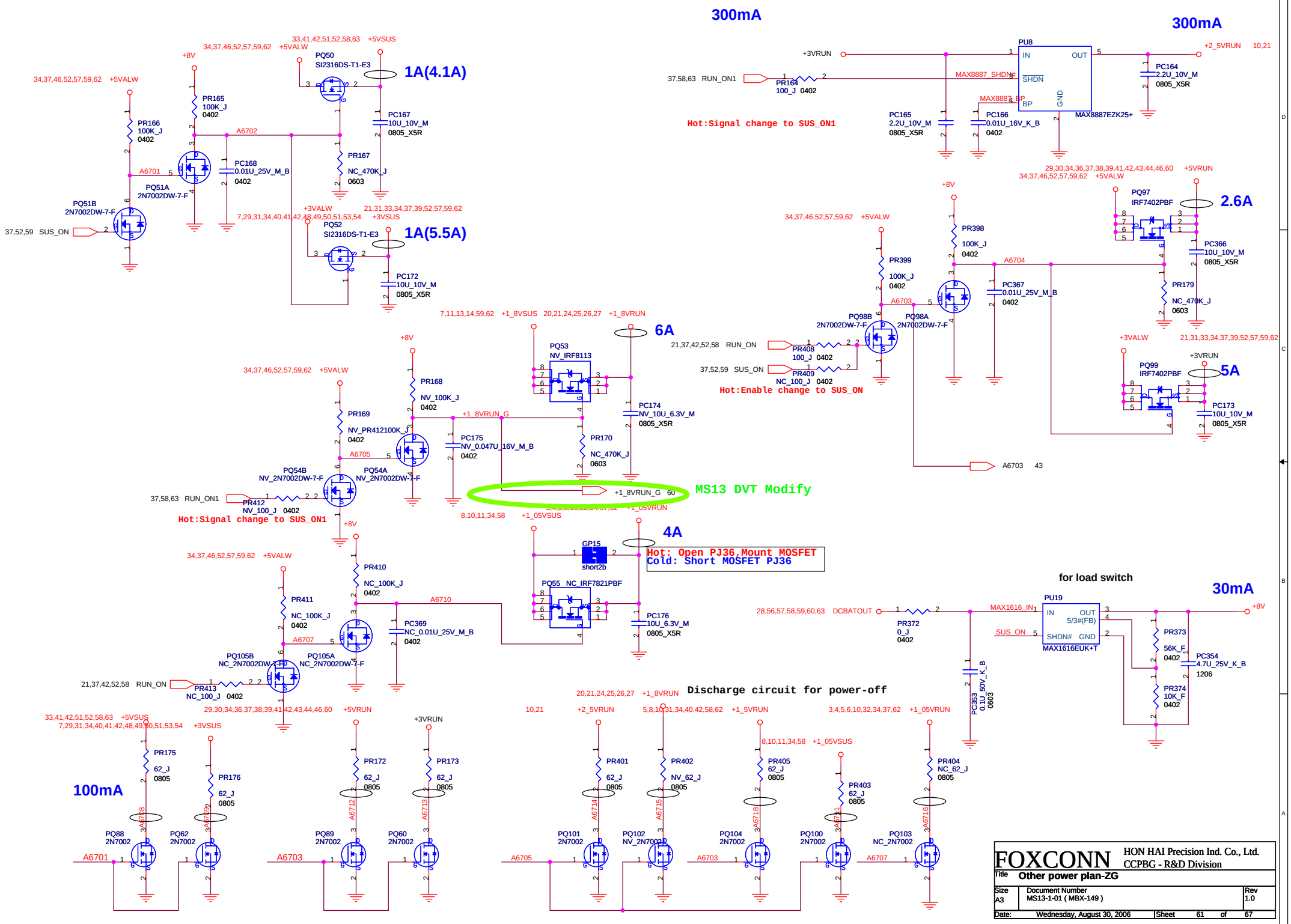
300mA
300mA
1A(4.1A)
1A(5.5A)
2.6A
6A
5A
4A
100mA
30mA
for load switch
Hot:Signal change to SUS_ON1
Hot:Enable change to SUS_ON
MS13 DVT Modify
Hot: Open PJ36,Mount MOSFET
Cold: Short MOSFET PJ36
Discharge circuit for power-off
PU8
MAX8887EZK25+
PU19
MAX1616EUK+T
PQ50 SI2316DS-T1-E3
PQ52 SI2316DS-T1-E3
PQ53 NV_IRF8113
PQ55 NC_IRF7821PBF
PQ97 IRF7402PBF
PQ99 IRF7402PBF
PQ51B 2N7002DW-7-F
PQ51A 2N7002DW-7-F
PQ54B NV_2N7002DW-7-F
PQ54A NV_2N7002DW-7-F
PQ105B NC_2N7002DW-7-F
PQ105A NC_2N7002DW-7-F
PQ98B 2N7002DW-7-F
PQ98A 2N7002DW-7-F
PQ88 2N7002
PQ62 2N7002
PQ89 2N7002
PQ60 2N7002
PQ101 2N7002
PQ102 NV_2N7002
PQ104 2N7002
PQ100 2N7002
PQ103 NC_2N7002
GP15 short2b
+3VRUN
+2_5VRUN
+8V
+5VALW
+3VALW
+5VSUS
+3VSUS
+5VRUN
+1_8VSUS
+1_8VRUN
+1_8VRUN_G
+1_05VSUS
+1_05VRUN
+2_5VRUN
DCBATOUT
RUN_ON1
RUN_ON
SUS_ON
A6701
A6702
A6703
A6704
A6705
A6707
A6708
A6709
A6710
A6712
A6713
A6714
A6715
A6716
A6718
A6721
A6703 43
FOXCONN
HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division
Title: Other power plan-ZG
Size: A3
Document Number: MS13-1-01 (MBX-149)
Rev: 1.0
Date: Wednesday, August 30, 2006
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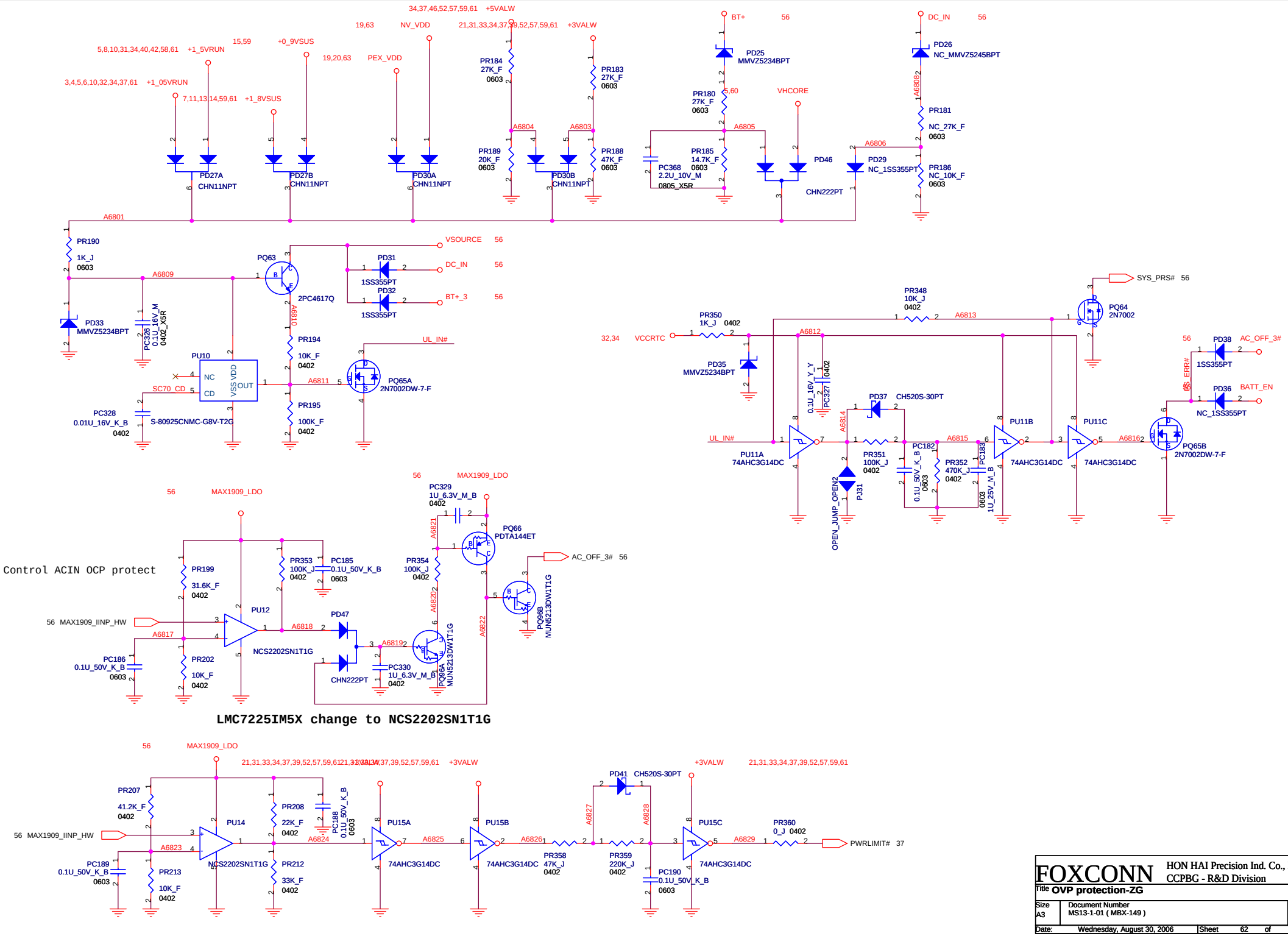
34,37,46,52,57,59,61 +5VALW
19,63 NV_VDD
21,31,33,34,37,39,52,57,59,61 +3VALW
5,8,10,31,34,40,42,58,61 +1_5VRUN
15,59 +0_9VSUS
19,20,63 PEX_VDD
3,4,5,6,10,32,34,37,61 +1_05VRUN
7,11,13,14,59,61 +1_8VSUS
BT+ 56
DC_IN 56
PR184 27K_F 0603
PR183 27K_F 0603
PR180 27K_F 0603
5.60
VHCORE
PD25 MMVZ5234BPT
PD26 NC_MMVZ5245BPT
PR181 NC_27K_F 0603
PR186 NC_10K_F 0603
PD27A CHN11NPT
PD27B CHN11NPT
PD30A CHN11NPT
PD30B CHN11NPT
PR189 20K_F 0603
PR188 47K_F 0603
PC368 2.2U_10V_M 0805_X5R
PR185 14.7K_F 0603
PD46
PD29 NC_1SS355PT
CHN222PT
A6801
A6804
A6803
A6805
A6806
A6808
PR190 1K_J 0603
PD33 MMVZ5234BPT
PC326 0.1U_16V_M 0402_X5R
PQ63 2PC4617Q
PD31 1SS355PT
PD32 1SS355PT
VSOURCE 56
DC_IN 56
BT+_3 56
A6809
A6810
PR194 10K_F 0402
PR195 100K_F 0402
PU10 SC70_CD
S-80925CNMC-G8V-T2G
PC328 0.01U_16V_K_B 0402
A6811
PQ65A 2N7002DW-7-F
UL_IN#
SYS_PRS# 56
PR348 10K_J 0402
PR350 1K_J 0402
32,34 VCCRTC
A6812
A6813
PQ64 2N7002
PD35 MMVZ5234BPT
PC327 0.1U_16V_Y_Y 0402
PD37 CH520S-30PT
A6814
PU11A 74AHC3G14DC
PU11B 74AHC3G14DC
PU11C 74AHC3G14DC
PR351 100K_J 0402
PC182 0.1U_50V_K_B 0603
PR352 470K_J 0402
PC183 1U_25V_M_B 0603
A6815
A6816
PQ65B 2N7002DW-7-F
PD38 AC_OFF_3#
PD36 BATT_EN
NC_1SS355PT
56 ERR#
OPEN_JUMP_OPEN2
PJ31
56 MAX1909_LDO
PC329 1U_6.3V_M_B 0402
PQ66 PDTA144ET
AC_OFF_3# 56
PR353 100K_J 0402
PC185 0.1U_50V_K_B 0603
PR354 100K_J 0402
PR199 31.6K_F 0402
56 MAX1909_IINP_HW
PU12
NCS2202SN1T1G
PD47
CHN222PT
PC330 1U_6.3V_M_B 0402
PQ96A MUN5213DW1T1G
PQ96B MUN5213DW1T1G
PC186 0.1U_50V_K_B 0603
PR202 10K_F 0402
A6817
A6818
A6819
A6820
A6821
A6822
Control ACIN OCP protect
LMC7225IM5X change to NCS2202SN1T1G
PR207 41.2K_F 0402
PR208 22K_F 0402
PC188 0.1U_50V_K_B 0603
PU14
PU15A
PU15B
PU15C
74AHC3G14DC
PR212 33K_F 0402
PR213 10K_F 0402
PC189 0.1U_50V_K_B 0603
A6823
A6824
A6825
A6826
A6827
A6828
A6829
PD41 CH520S-30PT
PR358 47K_J 0402
PR359 220K_J 0402
PC190 0.1U_50V_K_B 0603
PR360 0_J 0402
PWRLIMIT# 37
FOXCONN
HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division
Title OVP protection-ZG
Size A3
Document Number MS13-1-01 (MBX-149)
Rev 1.0
Date: Wednesday, August 30, 2006
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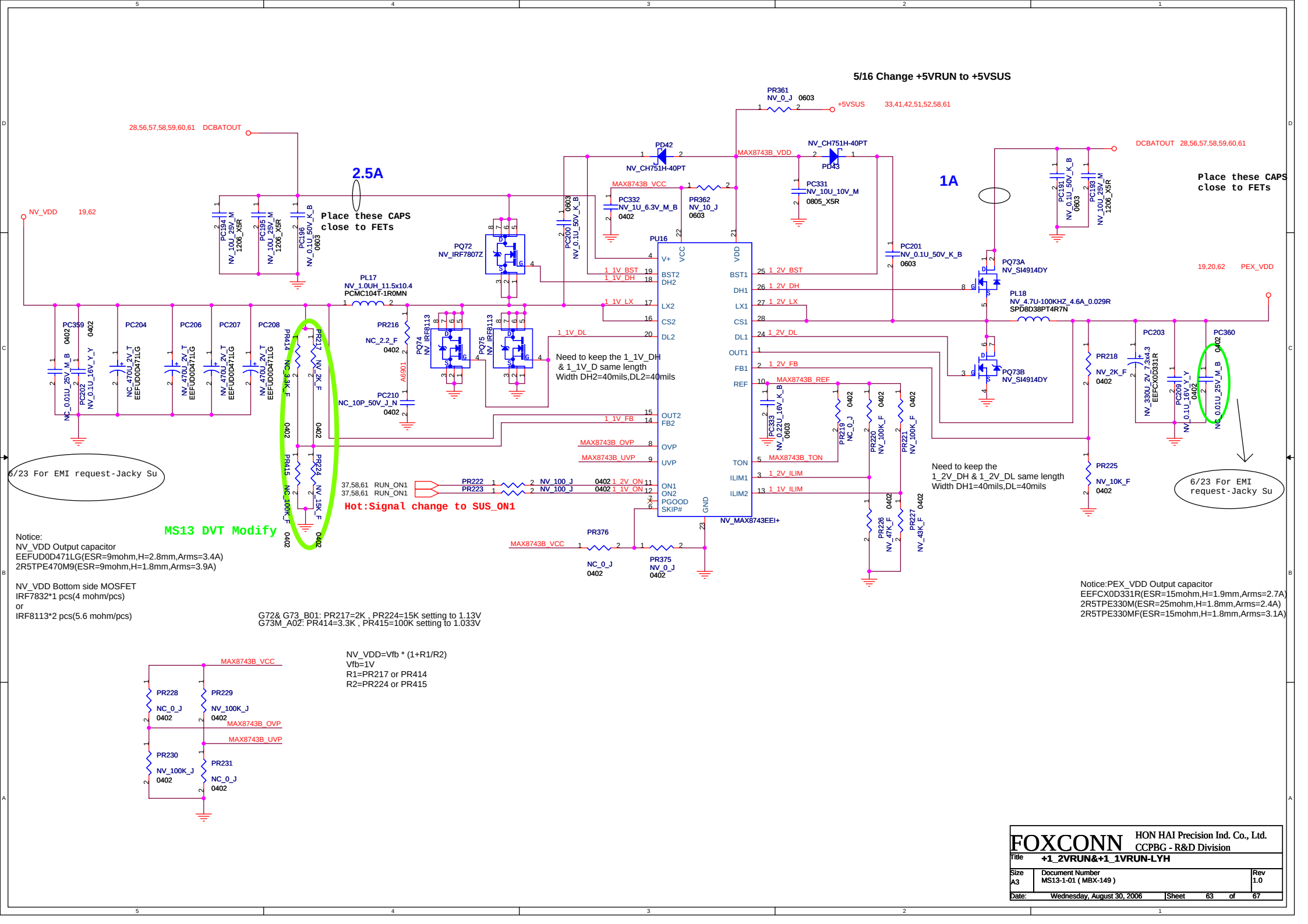
5/16 Change +5VRUN to +5VSUS
2.5A
1A
Place these CAPS close to FETs
Place these CAPS close to FETs
Need to keep the 1_1V_DH & 1_1V_D same length Width DH2=40mils,DL2=40mils
Need to keep the 1_2V_DH & 1_2V_DL same length Width DH1=40mils,DL=40mils
Hot:Signal change to SUS_ON1
MS13 DVT Modify
6/23 For EMI request-Jacky Su
6/23 For EMI request-Jacky Su
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)
PU16
NV_MAX8743EEI+
PQ72 NV_IRF7807Z
PQ73A NV_SI4914DY
PQ73B NV_SI4914DY
PQ74 NV_IRF8113
PQ75 NV_IRF8113
PD42 NV_CH751H-40PT
PD43 NV_CH751H-40PT
PL17 NV_1.0UH_11.5x10.4 PCMC104T-1R0MN
PL18 NV_4.7U-100KHZ_4.6A_0.029R SPD8D38PT4R7N
NV_VDD 19,62
28,56,57,58,59,60,61 DCBATOUT
DCBATOUT 28,56,57,58,59,60,61
19,20,62 PEX_VDD
+5VSUS 33,41,42,51,52,58,61
MAX8743B_VDD
MAX8743B_VCC
MAX8743B_OVP
MAX8743B_UVP
MAX8743B_REF
MAX8743B_TON
1_1V_BST
1_1V_DH
1_1V_LX
1_1V_DL
1_1V_FB
1_2V_BST
1_2V_DH
1_2V_LX
1_2V_DL
1_2V_FB
1_2V_ILIM
1_1V_ILIM
1_2V_ON
1_1V_ON
37,58,61 RUN_ON1
37,58,61 RUN_ON1
V+
VCC
VDD
BST2
DH2
LX2
CS2
DL2
OUT2
FB2
OVP
UVP
ON1
ON2
PGOOD
SKIP#
GND
BST1
DH1
LX1
CS1
DL1
OUT1
FB1
REF
TON
ILIM1
ILIM2
PC194 NV_10U_25V_M 1206_X5R
PC195 NV_10U_25V_M 1206_X5R
PC196 NV_0.1U_50V_K_B 0603
PC200 NV_0.1U_50V_K_B 0603
PC201 NV_0.1U_50V_K_B 0603
PC191 NV_0.1U_50V_K_B 0603
PC193 NV_10U_25V_M 1206_X5R
PC331 NV_10U_10V_M 0805_X5R
PC332 NV_1U_6.3V_M_B 0402
PC333 NV_0.22U_16V_K_B 0603
PC359 0402
PC202 NV_0.01U_25V_M_B 0402
PC204 NV_0.1U_16V_Y_Y 0402
PC206 NC_470U_2V_T EEFUD0D471LG
PC207 NV_470U_2V_T EEFUD0D471LG
PC208 NV_470U_2V_T EEFUD0D471LG
PC203 NV_330U_2V_7.3x4.3 EEFCX0D331R
PC209 NV_0.1U_16V_Y_Y 0402
PC360 0402
NC_0.01U_25V_M_B
PC210 NC_10P_50V_J_N 0402
PR216 NC_2.2_F 0402
PR217 NV_2K_F 0402
PR218 NV_2K_F 0402
PR219 NC_0_J 0402
PR220 NV_100K_F 0402
PR221 NV_100K_F 0402
PR222 NV_100_J 0402
PR223 NV_100_J 0402
PR224 NV_15K_F 0402
PR225 NV_10K_F 0402
PR226 NV_47K_F 0402
PR227 NV_43K_F 0402
PR361 NV_0_J 0603
PR362 NV_10_J 0603
PR375 NV_0_J 0402
PR376 NC_0_J 0402
PR414 NC_3.3K_F 0402
PR415 NC_100K_F 0402
A6901
PR228 NC_0_J 0402
PR229 NV_100K_J 0402
PR230 NV_100K_J 0402
PR231 NC_0_J 0402
FOXCONN
HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division
Title +1_2VRUN&+1_1VRUN-LYH
Size A3
Document Number MS13-1-01 (MBX-149)
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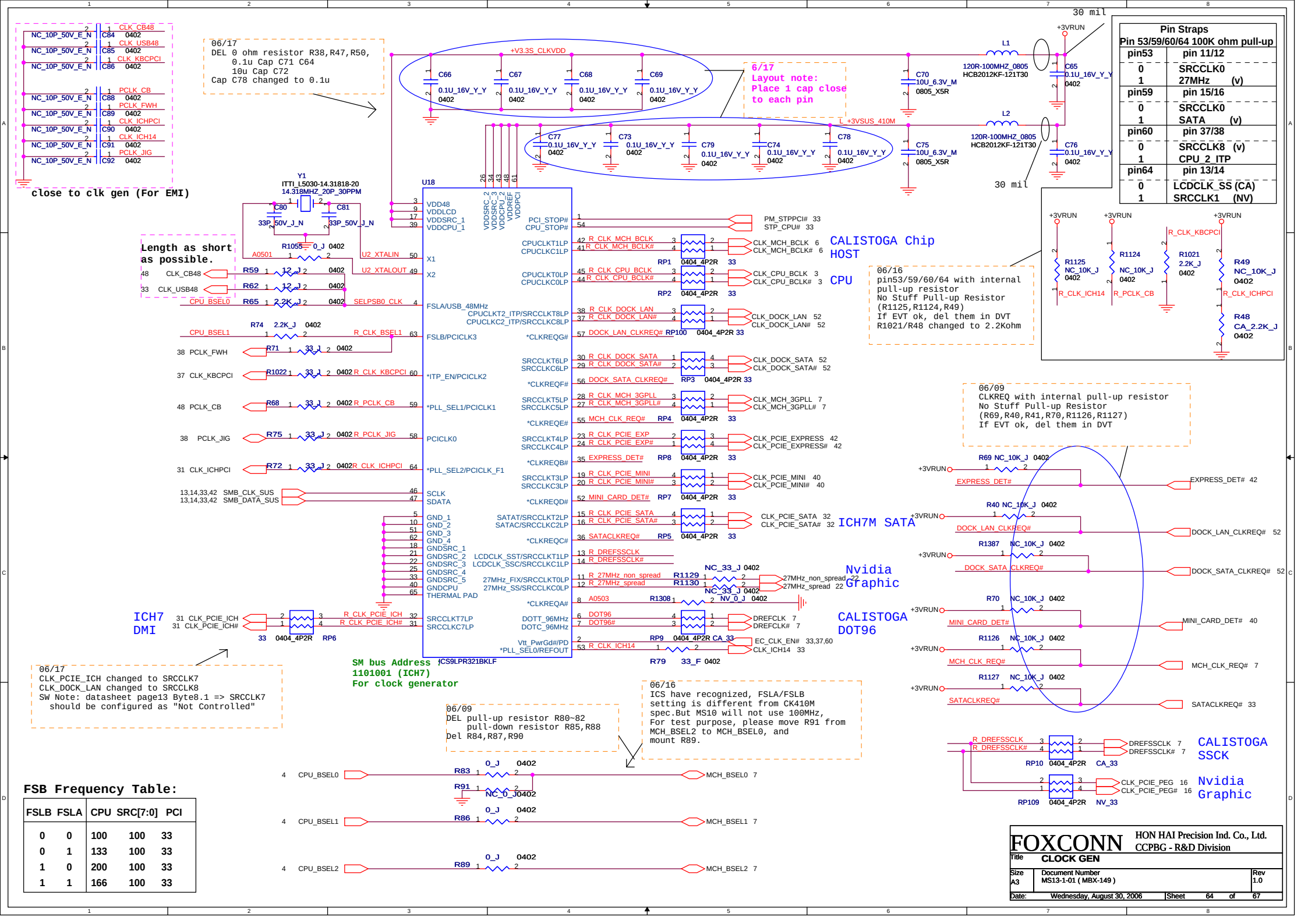
close to clk gen (For EMI)
06/17
DEL 0 ohm resistor R38,R47,R50,
0.1u Cap C71 C64
10u Cap C72
Cap C78 changed to 0.1u
6/17
Layout note:
Place 1 cap close
to each pin
30 mil
Pin Straps
Pin 53/59/60/64 100K ohm pull-up
pin53
pin 11/12
0 SRCCLK0 27MHz (v)
pin59
pin 15/16
0 SRCCLK0 SATA (v)
pin60
pin 37/38
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 MS13-1-01 (MBX-149)
Rev 1.0
Date: Wednesday, August 30, 2006
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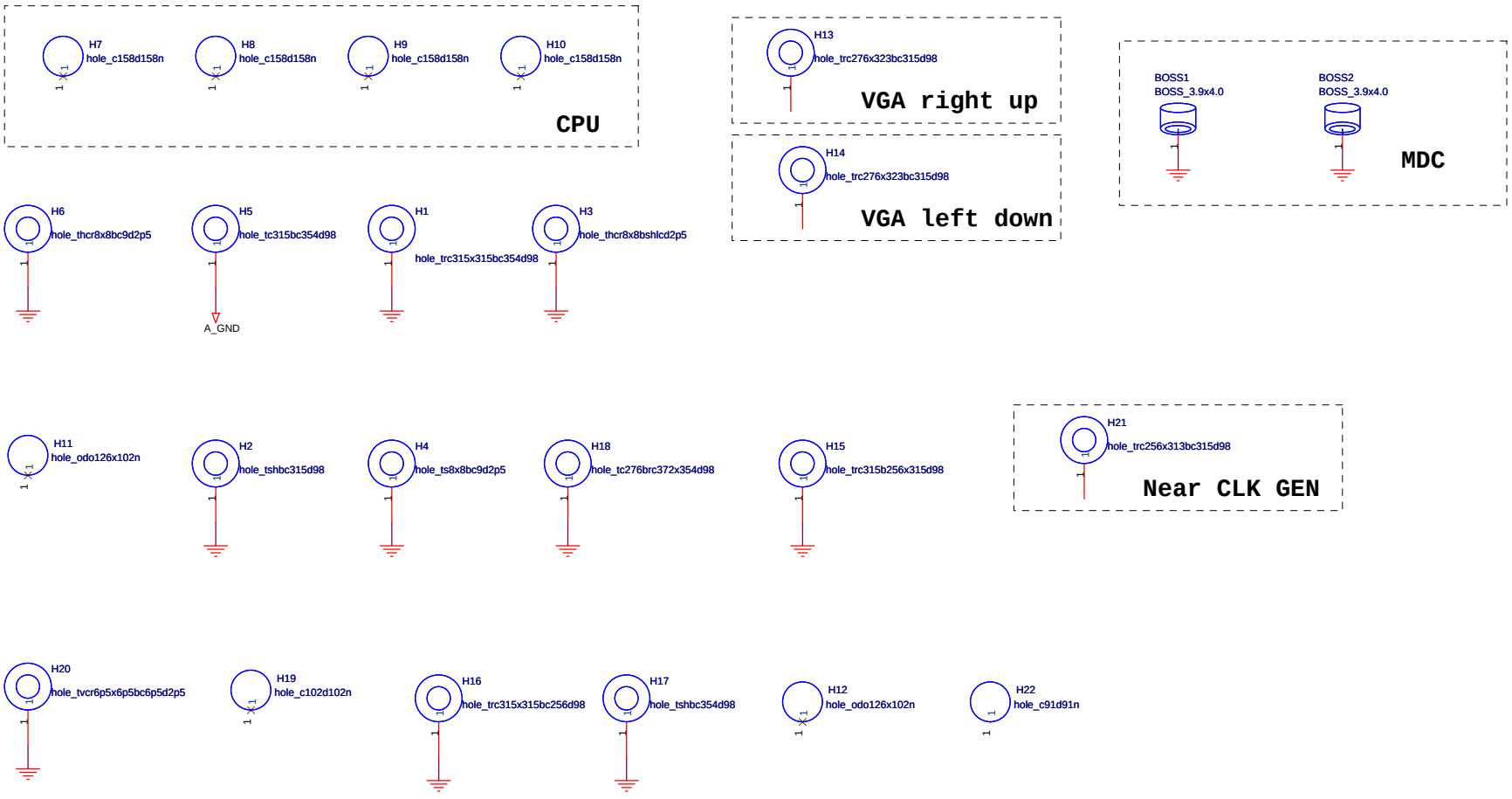

FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division	
Title	HOLE	
Size A3	Document Number MS13-1-01 (MBX-149)	Rev 1.0
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HISTORY

(2006/08/16 Initail REV 1.0)

P.02 Because MS13 only use G73B01 version, since we delete head value of NV7273B01_ and NV73A02_.

P.63 Change head value as below: PR217(NV7273B01_2K_F-->NV_2K_F) PR224(NV7273B01_15K_F-->NV_15K_F)
PR414(NV73A02_3.3K_F-->NC_3.3K_F) PR415(NV73A02_100K_F-->NC_100K_F)

P.45 Change C909,C920 from 220P_50V_J_N to 100P_50V_K_N. The change will make Frequency Response pass VISTA requirement.

P.43 Change U39 from CXD9872KXXNBEB2XR to CXD9872AKDNBEC3XR(4th+).

P.56 Change PR377 from 1K_F to 15K_F to avoid resistor damage when OVP occur.

P.60 Add PQ106, PR420 to prevent glitch occur on the IMVP_OK signal.

P.41 Change fan control circuit as same as MS20.

P.03 Reserve U110,R1467,C1324 for RTC stop issue.

P.37 Add Q110 for RTC stop issue.

P.37 Reserve D74 for RTC stop issue.

P.44 Change C910, C911 from 0.033uF to 0.015uF and modify the size from 1206 to 0402 for co-layout. And we also add C1326,C1327 to keep 1206 size.

P.47 Change R1330, R1339 from 10K to 9.1K and Change C1238, C1242 from 270pf to 150pf then the phone out D/A will pass.

P.37 Add Q109, Q110 to prevent ACIN, BATT_PRS# and ENCHG# is faster than ECVCC.

(2006/08/18)

P.33 Change R633 from 100_J to 1K_J and add D75 for PM_RSMRST# falling timing fail issue.

P.56 Change PR369 from NC_0_J to 15K_J to make BATT_PRS# signal high level from 5V to 3.3V.

P.10 Correct +1_5VRUN maximum current description from 1885mA to 1900mA.

P.11 Correct +1_05VSUS maximum current description from 4.6A to 3.5A.

P.11 Correct +1_8VSUS maximum current description from 3.1A to 3.2A.

(2006/08/22)

P.33 Correct D75 from NC_CA_SCS500V-40-LF to SCS500V-40-LF.

P.41 Correct C1308 from NC_0.01U_25V_K_B to 0.047U_16V_M.

(2006/08/23)

P.45 Change C909,C920 from 100pF to 33pF and change C1207, C1208 from 220pF to 3300pF.
The Magnitude Response of Microphone(A-D) will be pass.

P.37 Correct D74 from NC_CA_SCS500V-40-LF to NC_SCS500V-40-LF.

(2006/08/24)

P.43 Change U39 from CXD9872AKDNBEC3XR(4th+ with dolby) to CXD9872AKXNBEC3XR(4th+ without dolby).

P.05 Change Cap1 from 330U_2V_T to NC_330U_2V_T.

P.11 Change Cap9 from 330U_2V_T to NC_330U_2V_T.

(2006/08/28)

P.36 Add VR1 for PACDN042Y3R shortage issue.

(2006/08/29)

P.37 For system ID change, since change R724 from 100K_J to NC_100K_J and change R725 from NC_100K_J to 100K_J.

(2006/08/30)

P.36 Change VR1 from NC_MS06A05T1V1_VR to MLVS0603M04_VR. And change D72 from PACDN042Y3R to NC_PACDN042Y3R.

P.37 Add R1470 for MS13 DVT combine list.

FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division	
Title: History (1)		
Size: C	Document Number: MS13-1-01 (MBX-149)	Rev: 1.0
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FOXCONN

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

Title: History (1)		
Size: C	Document Number: MS13-1-01 (MBX-149)	Rev: 1.0
Date: Wednesday, August 30, 2006	Sheet 67 of 67	