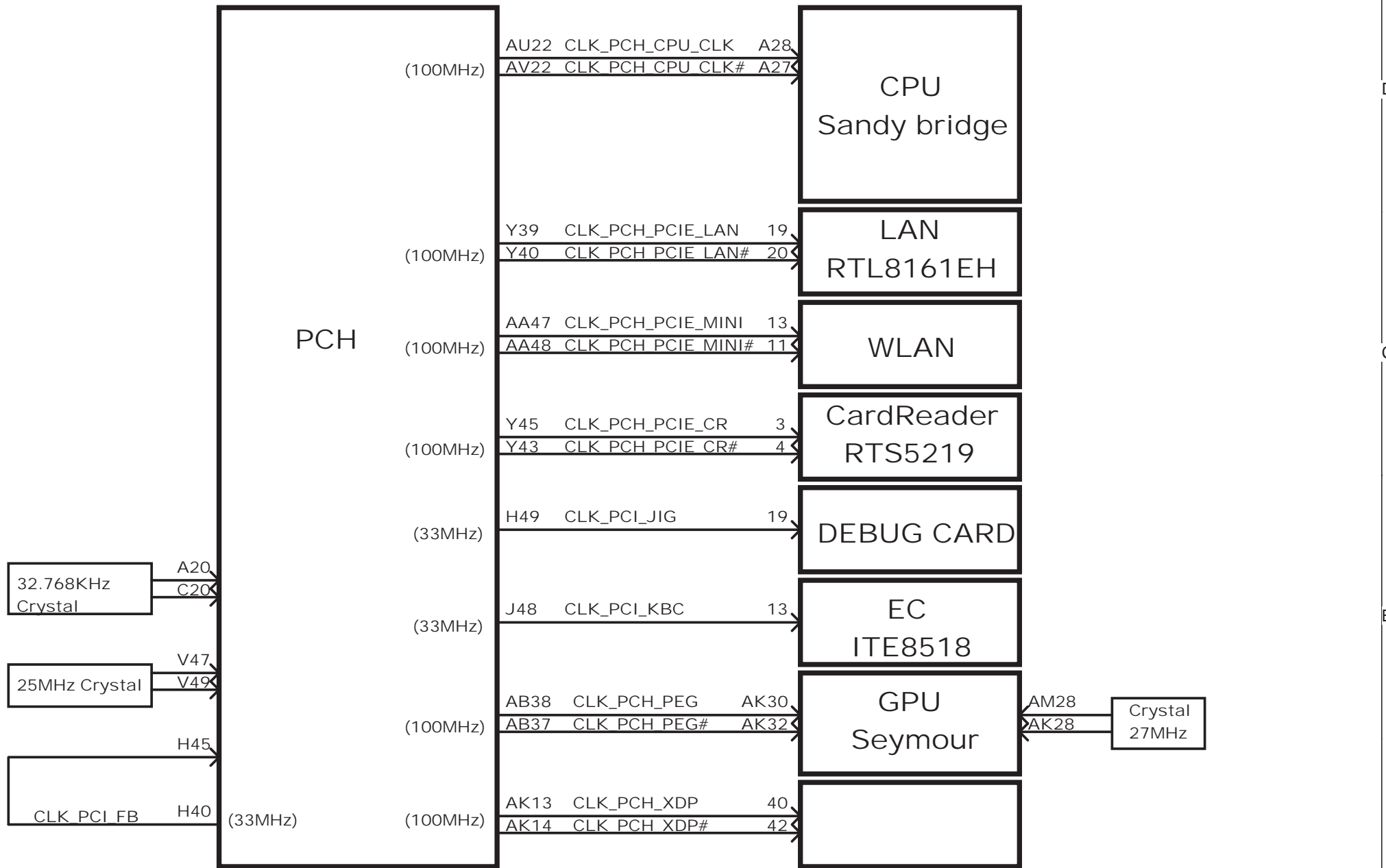
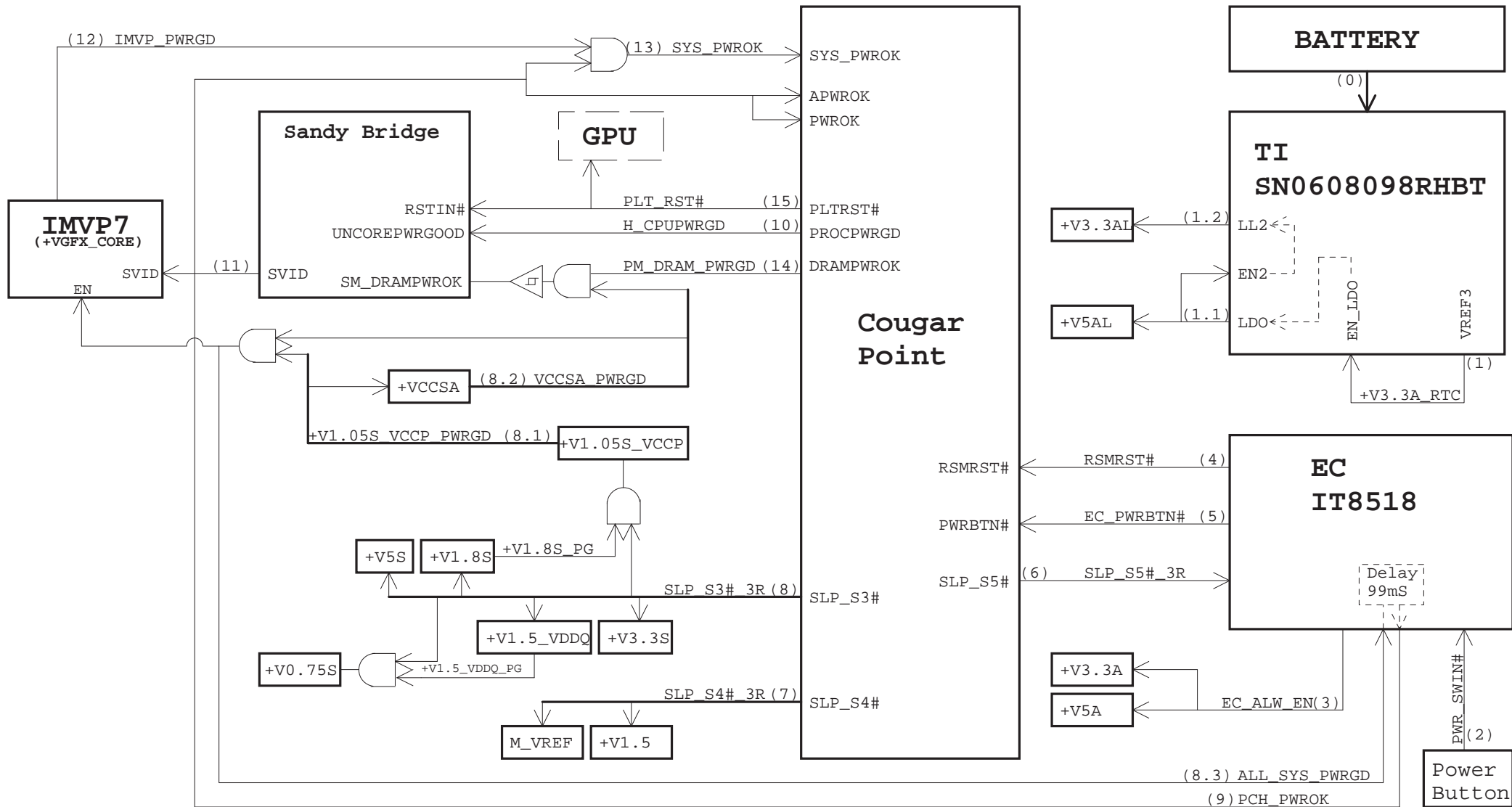
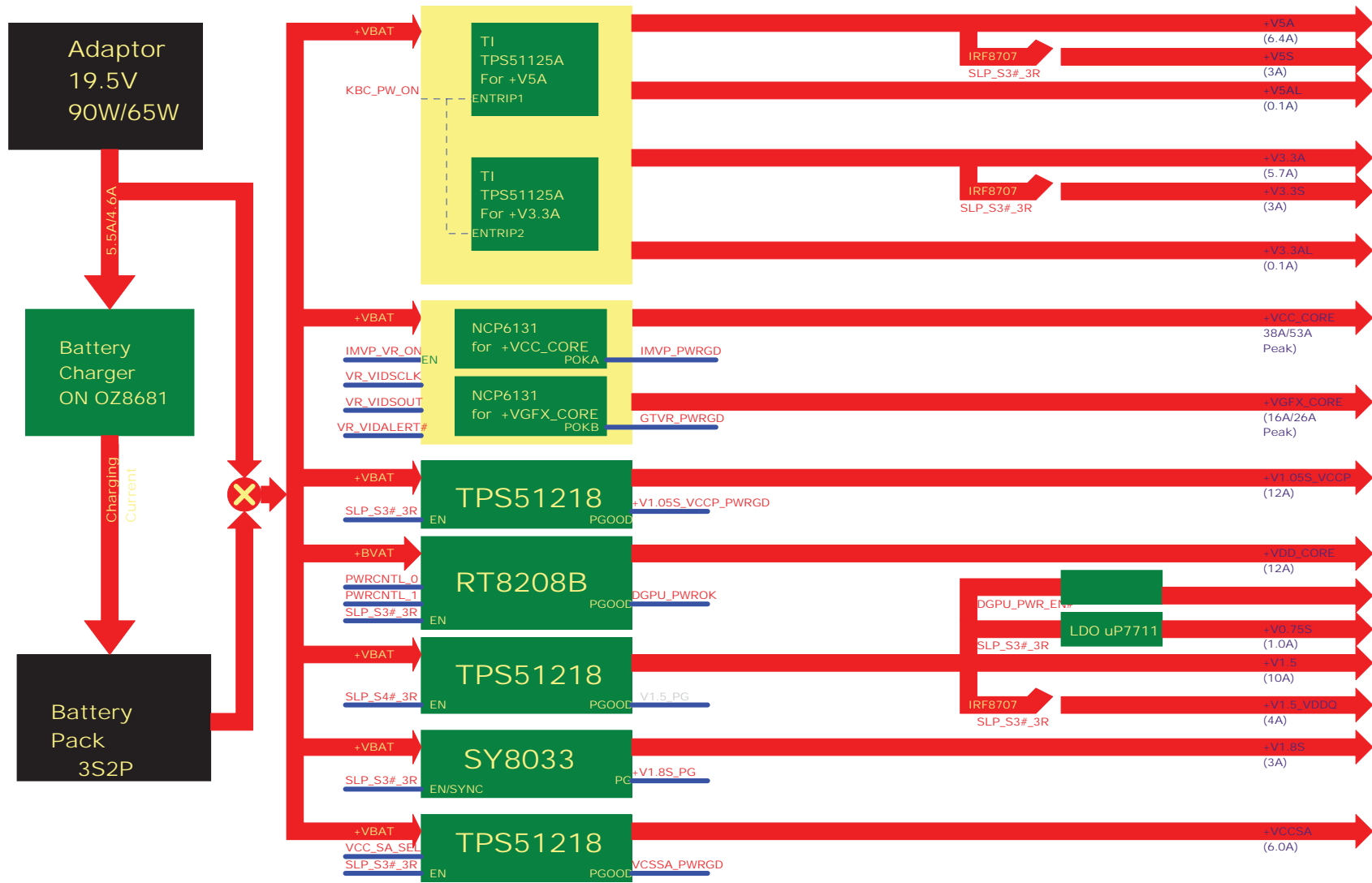


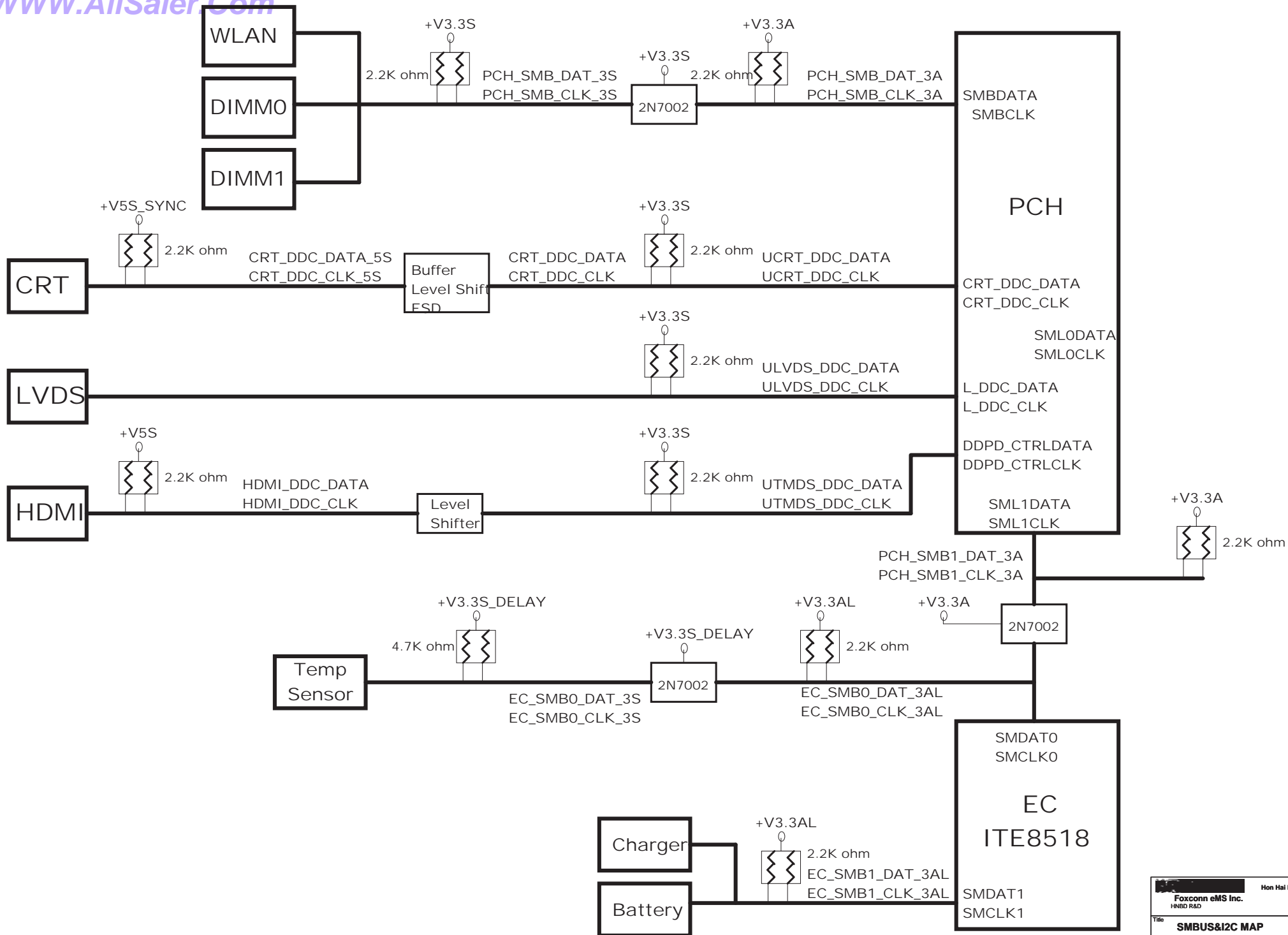
		Hon Hai Precision Industry Co. Ltd.	
Foxconn eMS Inc.		HNBD R&D	
		phone: +886-2-2799-6111	
Title <b>SYSTEM BLOCK DIAGRAM</b>			
Size	Document Number		Rev
Custom	<b>CHICAGO</b>		
Page Modified: Tuesday, March 08, 2011 08:28:00 (UTC/GMT) Sheet 2 of 43			





# POWER MAP

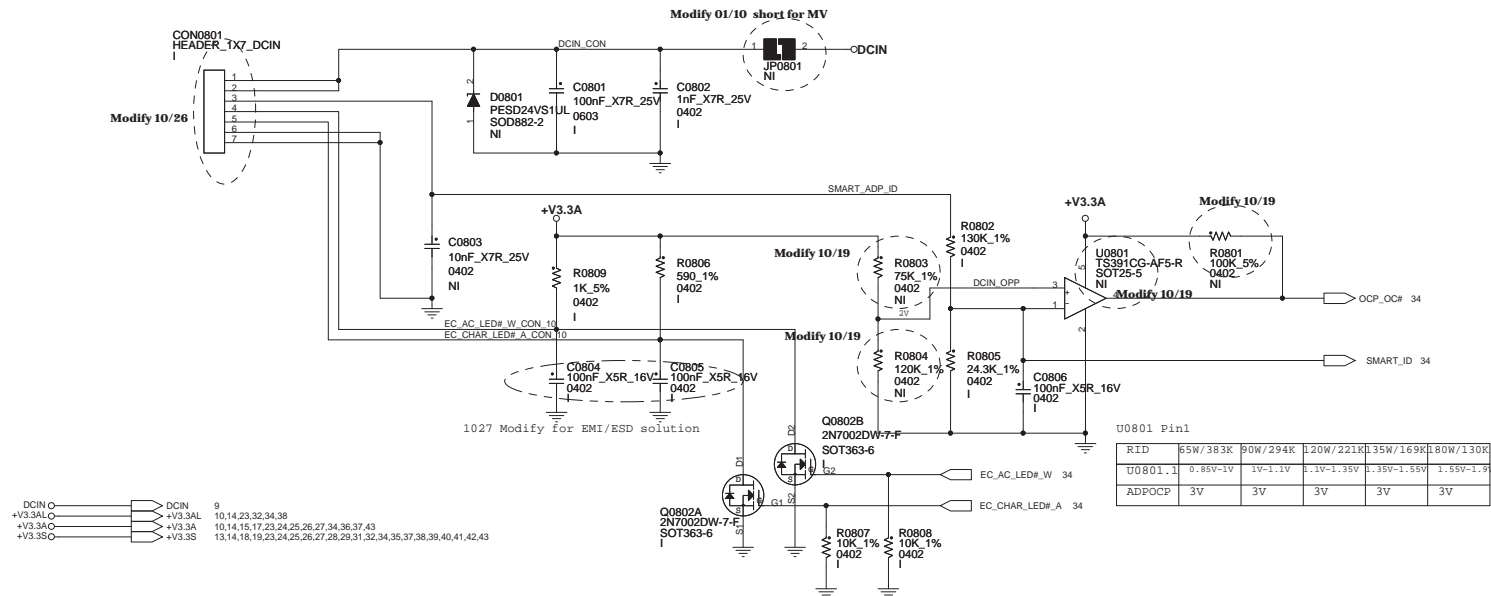




		<b>Hon Hai Precision Industry Co. Ltd.</b>	
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HNBD R&D			
Title			
<b>BLANK</b>			
Size	Document Number		Rev
A	<b>CHICAGO</b>		<b>MV</b>
Page Modified: Tuesday, March 08, 2011		08:28:58 (UTC/GMT)	Sheet 7 of 43

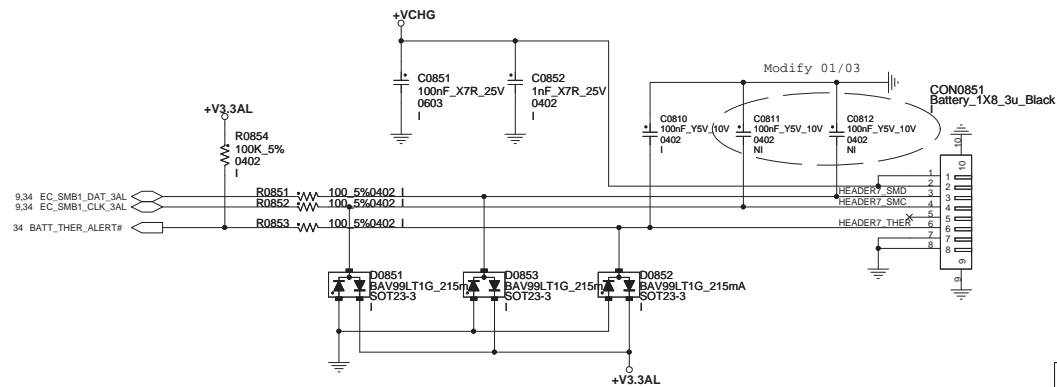
# DC\_JACK WIRE to BOARD CONNECTOR

2010.1203.0

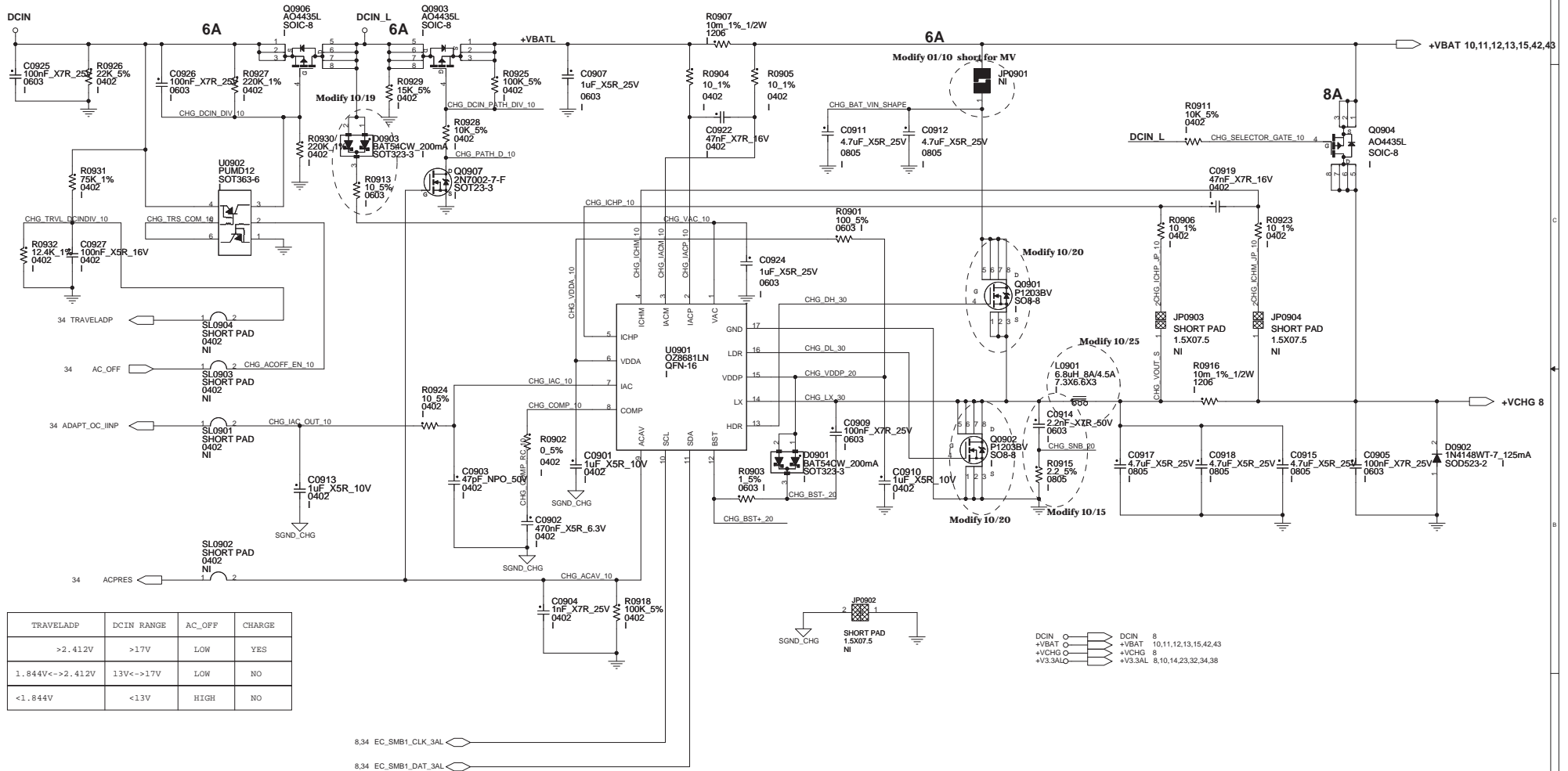


# BATTERY CONNECTOR

2010.0914.0



# BATTERY CHARGER

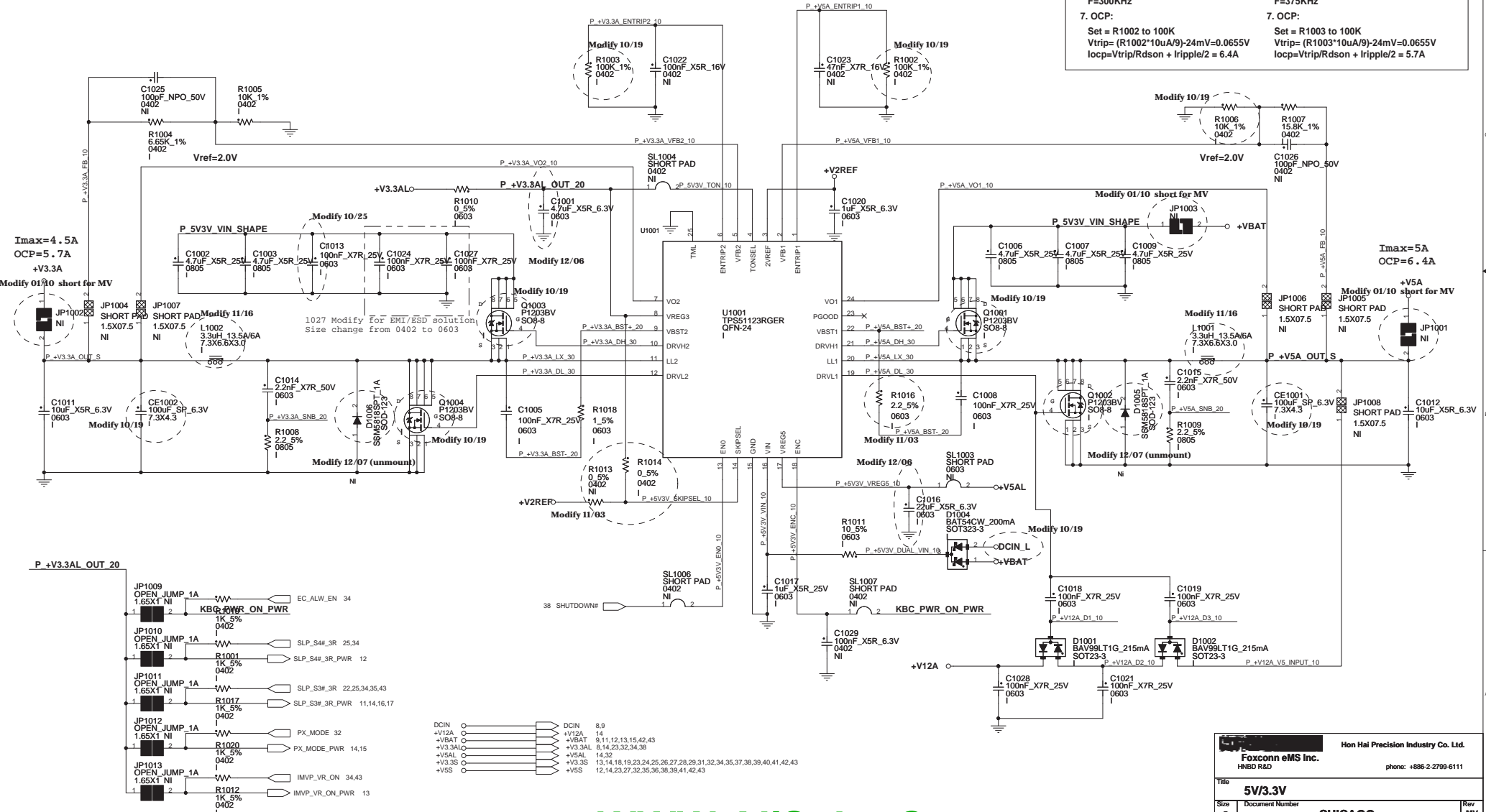




# +V5A / +V3.3A POWER SUPPLY

2010.1103.0

+V5A:	+V3.3A:
1. I/P Current: lin=Vo*Io/(0.75*Vin)=3.7A	1. I/P Current: lin=Vo*Io/(0.75*Vin)=2.2A
2. Ripple Current: Irip=3.72A	2. Ripple Current: Irip=2.21A
3. Ripple Voltage: ESR/1=15mohm Vrip=55.8mV	3. Ripple Voltage: ESR/1=15mohm Vrip=33.15mV
4. Inductor Spec: Isat=13.5A Idc=6A DCR=30mohm	4. Inductor Spec: Isat=13.5A Idc=6A DCR=30mohm
5. MOSFET Spec: H-side MOSFET: IRF8707PBF Rds(ON)=17.5mohm (Vgs=4.5 V) I cont = 11A (T=25 °C) I peak = 88A (Pause=10 us)	L-side MOSFET: IRF8707PBF Rds(ON)=17.5mohm (Vgs=4.5 V) I cont = 11A (T=25 °C) I peak = 88A (Pause=10 us)
6. Frequency: F=300KHz	6. Frequency: F=375KHz
7. OCP: Set = R1002 to 100K Vtrip = (R1002*10uA/9)-24mV=0.0655V Iocp = Vtrip/Rdson + Iripple/2 = 6.4A	7. OCP: Set = R1003 to 100K Vtrip = (R1003*10uA/9)-24mV=0.0655V Iocp = Vtrip/Rdson + Iripple/2 = 5.7A



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Title: **5V/3.3V**

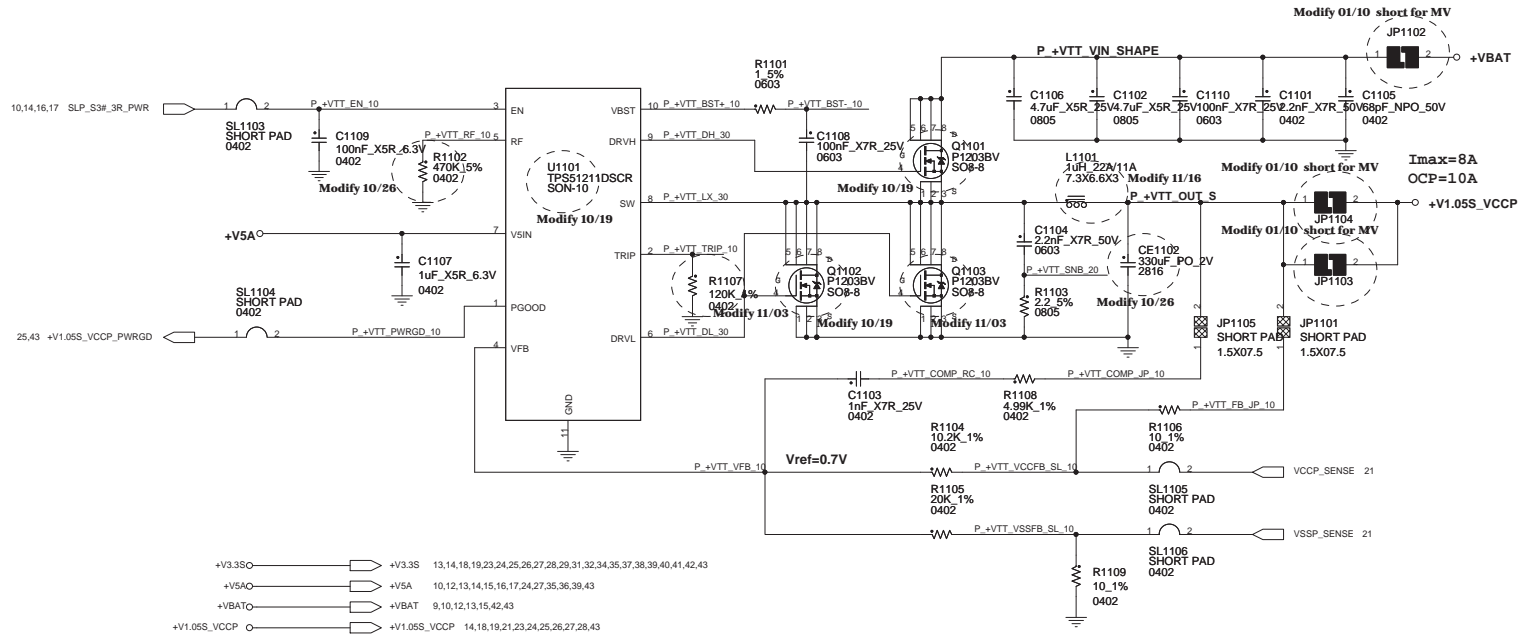
Size: Document Number  
 C: **CHICAGO**

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# +VTT POWER SUPPLY

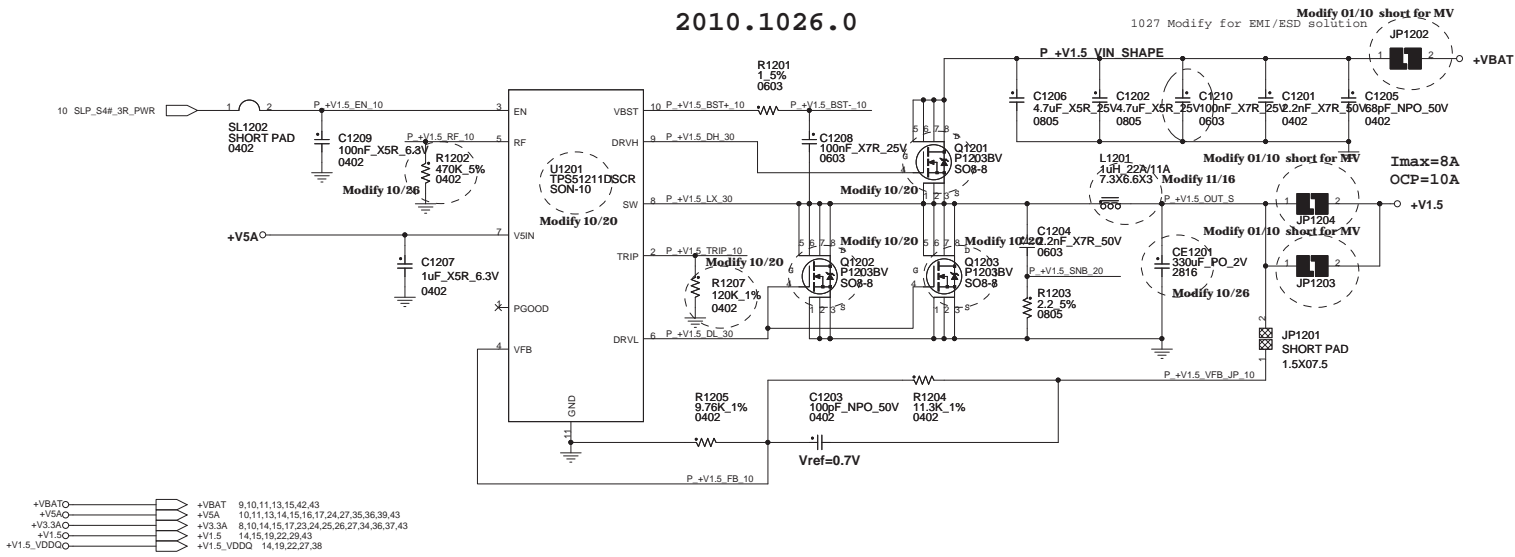
2010.1103.0

- +V1.05S\_VCCP:**
- I/P Current:**  
 $I_{in} = V_o \cdot I_o / (0.75 \cdot V_{in}) = 1.24A$
  - Ripple Current:**  
 $I_{rip} = 3.42A$
  - Ripple Voltage:**  
 $ESR/1 = 9mohm$   
 $V_{rip} = 30.78mV$
  - Inductor Spec:**  
 $I_{sat} = 36A$   
 $I_{dc} = 18A$   
 $DCR = 3.3mohm$
  - MOSFET Spec:**  
 H-side MOSFET: IRF8707PBF      L-side MOSFET: IRF8707PBF  
 $R_{ds(ON)} = 17.5mohm$  ( $V_{gs} = 4.5V$ )       $R_{ds(ON)} = 17.5mohm$  ( $V_{gs} = 4.5V$ )  
 $I_{cont} = 11A$  ( $T = 25^\circ C$ )       $I_{cont} = 11A$  ( $T = 25^\circ C$ )  
 $I_{peak} = 88A$  (Pause = 10 us)       $I_{peak} = 88A$  (Pause = 10 us)
  - Frequency:**  
 $F = 290KHz$  ( $R1102 = 0ohm$ )
  - OCp:**  
 Set =  $R1107$  to  $120K$   
 $V_{trip} = R1107 \cdot 10uA = 1.2V$   
 $I_{ocp} = (V_{trip} / 8 \cdot R_{ds}) + I_{ripple} / 2 = 10A$



# +V1.5 POWER SUPPLY

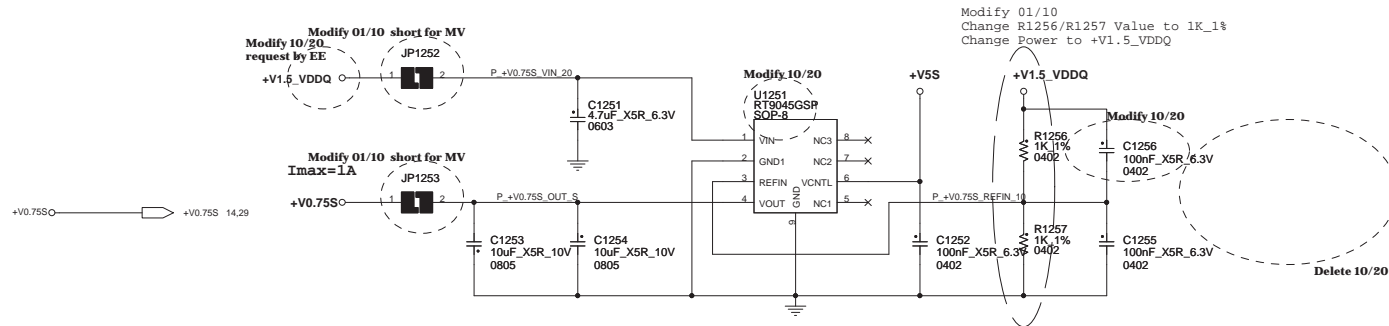
2010.1026.0



- +V1.5:**
- I/P Current:**  
 $I_{in} = V_o \cdot I_o / (0.75 \cdot V_{in}) = 1.78A$
  - Ripple Current:**  
 $I_{rip} = 3.34A$
  - Ripple Voltage:**  
 $ESR/1 = 9m\Omega$   
 $V_{rip} = 30.6mV$
  - Inductor Spec:**  
 $I_{sat} = 36A$   
 $I_{dc} = 18A$   
 $DCR = 3.3m\Omega$   
 $OCF = 1.0A$
  - MOSFET Spec:**  
 H-side MOSFET: IRF8707PBF  
 $R_{ds(ON)} = 17.5m\Omega$  ( $V_{gs} = 4.5V$ )  
 $I_{cont} = 11A$  ( $T = 25^\circ C$ )  
 $I_{peak} = 88A$  (Pause = 10 us)  
 L-side MOSFET: IRF8707PBF  
 $R_{ds(ON)} = 17.5m\Omega$  ( $V_{gs} = 4.5V$ )  
 $I_{cont} = 11A$  ( $T = 25^\circ C$ )  
 $I_{peak} = 88A$  (Pause = 10 us)
  - Frequency:**  
 $F = 290KHz$  ( $R0902 = 0\Omega$ )
  - OCP:**  
 Set = R1207 to 120K  
 $V_{trip} = R1207 \cdot 10\mu A = 1.2V$   
 $I_{ocp} = (V_{trip} / 8 \cdot R_{ds(on)}) + I_{ripple} / 2 = 10A$

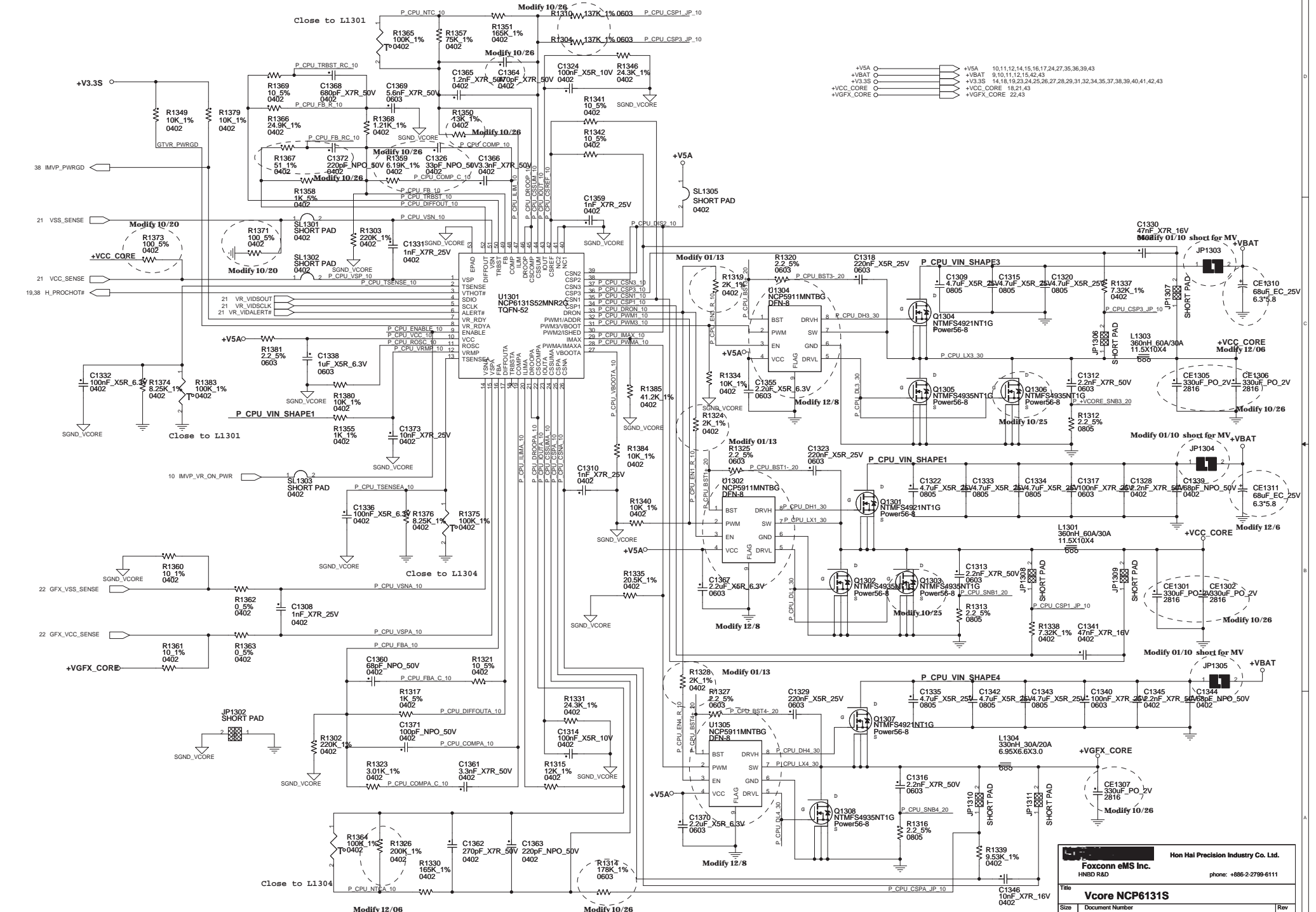
# +V0.75S POWER SUPPLY

2010.1026.0



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Title <b>1.5VDDR3/0.75V</b>		
Size C	Document Number <b>CHICAGO</b>	Rev MV
Page Modified: Tuesday, March 08, 2011 08:28:59 (UTC+0800) Sheet 12 of 43		

# 2010.1026.0 IMVP7 CPU VCORE POWER SUPPLY



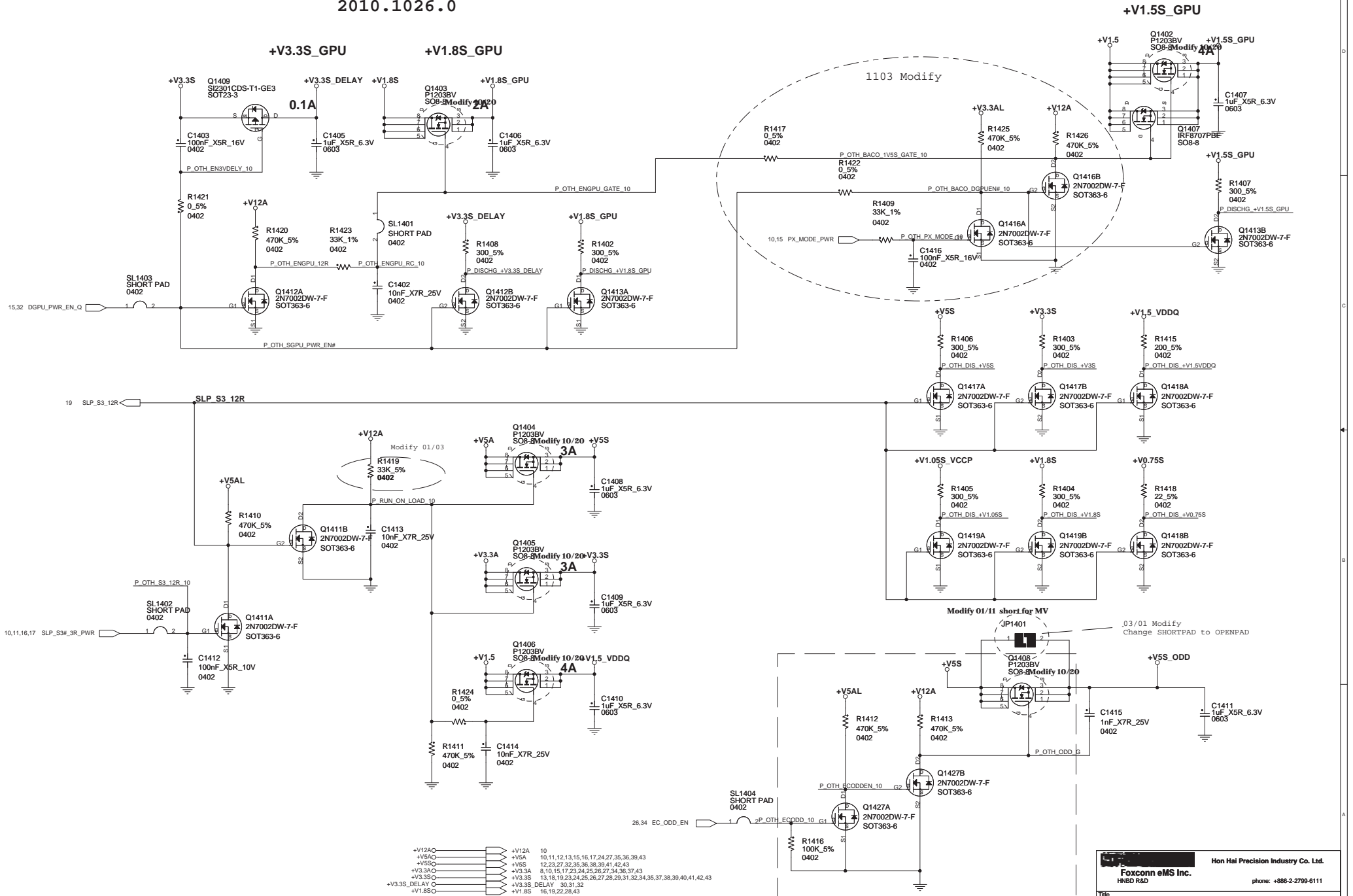
+V5A ○  
 +VBAT ○  
 +V3.3S ○  
 +VCC\_CORE ○  
 +VFX\_CORE ○

+V5A 10,11,12,14,15,16,17,24,27,35,36,39,43  
 +VBAT 9,10,11,12,15,42,43  
 +V3.3S 14,18,19,23,24,25,26,27,28,29,31,32,34,35,37,38,39,40,41,42,43  
 +VCC\_CORE 18,21,43  
 +VFX\_CORE 22,43

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<b>Title</b> Vcore NCP6131S		
<b>Size</b> C	<b>Document Number</b> CHICAGO	<b>Rev</b> MV
Page Modified: Tuesday, March 06, 2011 02:58 (UTC/GMT) Sheet 13 of 43		

# OTHER POWER / DISCHARGE CIRCUITS

2010.1026.0



- +V12AC → +V12A 10
- +V5AO → +V5A 10,11,12,13,15,16,17,24,27,35,36,39,43
- +V5SO → +V5S 12,23,27,32,35,36,38,39,41,42,43
- +V33AC → +V33A 8,10,15,17,23,24,25,26,27,34,36,37,43
- +V33SC → +V33S 15,16,19,23,24,25,26,27,28,29,31,32,34,35,37,38,39,40,41,42,43
- +V33S\_DELAY → +V33S\_DELAY 30,31,32
- +V18SC → +V18S 16,19,22,28,43

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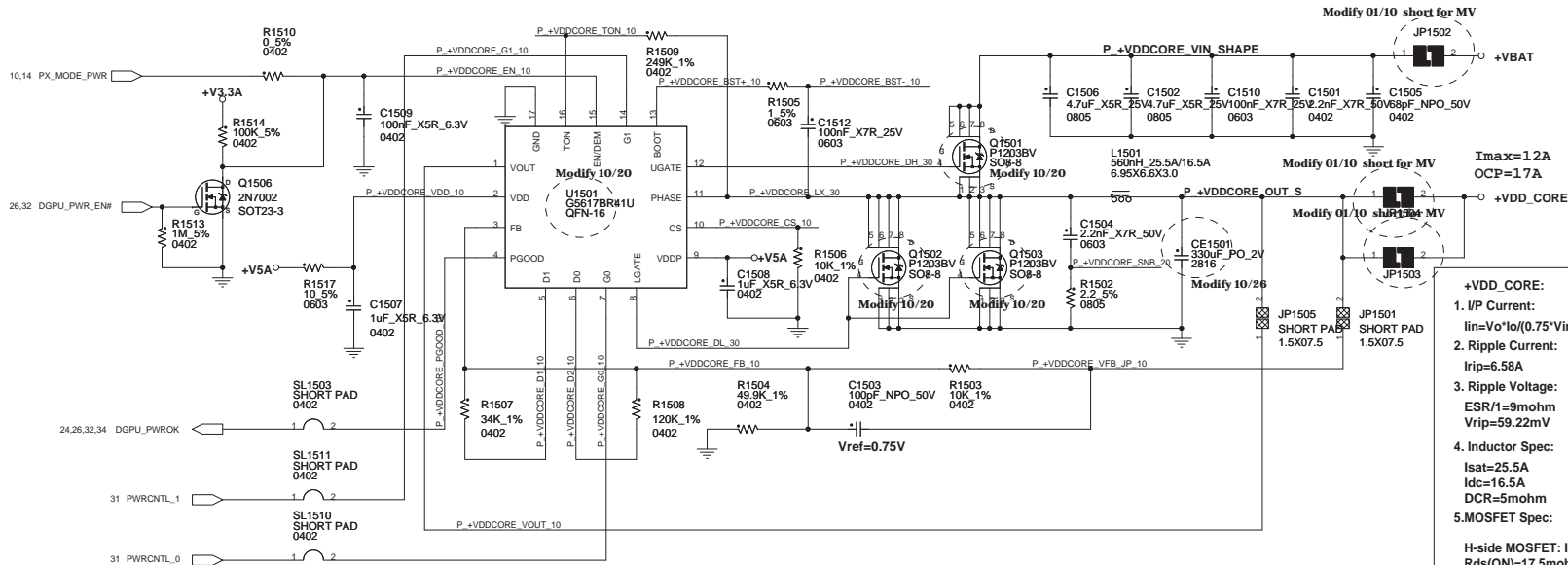
Title: **PWR\_OTHER**

Size	Document Number	Rev
C	<b>CHICAGO</b>	MV

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# +VDD\_CORE POWER SUPPLY

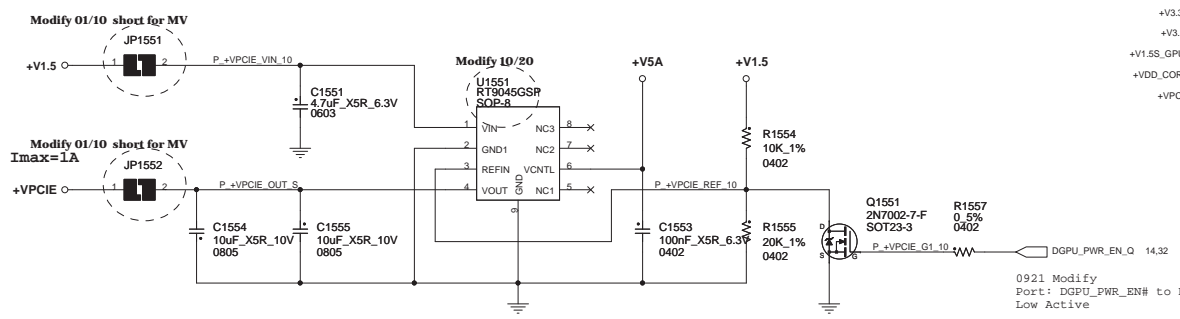
2010.1026.0



PWRCNTL_1	PWRCNTL_0	VDD_CORE
0	---	1.121V
---	---	---
1	---	0.9V
---	---	---

- +VDD\_CORE:**
- I/P Current:**  
 $I_{in} = V_o \cdot I_o / (0.75 \cdot V_{in}) = 1.48A$
  - Ripple Current:**  
 $I_{rip} = 6.58A$
  - Ripple Voltage:**  
 $ESR / I = 9m\Omega$   
 $V_{rip} = 59.22mV$
  - Inductor Spec:**  
 $I_{sat} = 25.5A$   
 $I_{dc} = 16.5A$   
 $DCR = 5m\Omega$
  - MOSFET Spec:**  
 H-side MOSFET: IRF8707PBF  
 $R_{ds(ON)} = 17.5m\Omega$  ( $V_{gs} = 4.5V$ )  
 $I_{cont} = 11A$  ( $T = 25^\circ C$ )  
 $I_{peak} = 88A$  (Pause = 10 us)  
 L-side MOSFET: IRF8707PBF  
 $R_{ds(ON)} = 17.5m\Omega$  ( $V_{gs} = 4.5V$ )  
 $I_{cont} = 11A$  ( $T = 25^\circ C$ )  
 $I_{peak} = 88A$  (Pause = 10 us)
  - Frequency:**  
 $TON = 9.6 \cdot P \cdot R1509 \cdot (VOUT + 0.1) / (VIN - 0.3) + 50ns = 206ns$   
 $F = VOUT / (VIN \cdot TON) = 286KHz$
  - OCP:**  
 Set = R1506 to 10K  
 $V_{trip} = R1206 \cdot I_o uA = 0.1V$   
 $I_{ocp} = (V_{trip} / R_{ds(on)}) + I_{ripple} / 2 = 17A$

# 2010.1020.0 +VPCIE POWER SUPPLY



- +VBATC → +VBAT 9,10,11,12,13,42,43
- +V5A0 → +V5A 10,11,12,13,14,16,17,24,27,35,36,39,43
- +V3.3A → +V3.3A 8,10,14,17,23,24,25,26,27,34,36,37,43
- +V3.3S → +V3.3S 13,14,18,19,23,24,25,26,27,28,29,31,32,34,35,37,38,39,40,41,42,43
- +V1.5S\_GPU → +V1.5S\_GPU 14,30,32,33,43
- +VDD\_CORE → +VDD\_CORE 32,43
- +VPCIE → +VPCIE 30,31,32,43

0921 Modify  
 Port: DGPU\_PWR\_EN# to DGPU\_PWR\_EN\_Q  
 Low Active

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Title: **VATVDD/+VPCIE**

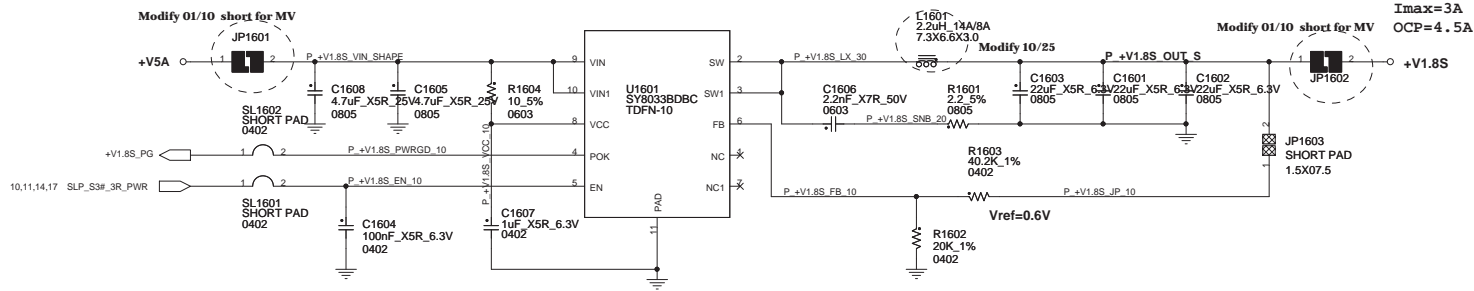
Size	Document Number	Rev
C	<b>CHICAGO</b>	MV

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# +V1.8S POWER SUPPLY

2010.1025.0

- +V1.8S:
- 1. I/P Current:  
 $I_{in} = V_o \cdot I_o / (0.75 \cdot V_{in}) = 1.44A$
- 2. Ripple Current:  
 $I_{rip} = 0.53A$
- 3. Ripple Voltage:  
 $ESR/3 = 3.3m\Omega$   
 $V_{rip} = 1.75mV$
- 4. Inductor Spec:  
 $I_{sat} = 14A$   
 $I_{dc} = 8A$   
 $DCR = 20m\Omega$
- 5. MOSFET Spec:  
 H-side P-MOSFET: L-side N-MOSFET:  
 $R_{ds(ON)} = 110m\Omega$  ( $V_{gs} = 4.5V$ )  $R_{ds(ON)} = 75m\Omega$  ( $V_{gs} = 4.5V$ )
- 6. Frequency:  
 $F = 1MHz$  (min=800KHz, max=1.2MHz)
- 7. OCP:  
 $I_{ocp} = 4A(\min) / 4.5A(\text{typ}) / 5A(\text{max})$



$I_{max} = 3A$   
 $OCP = 4.5A$

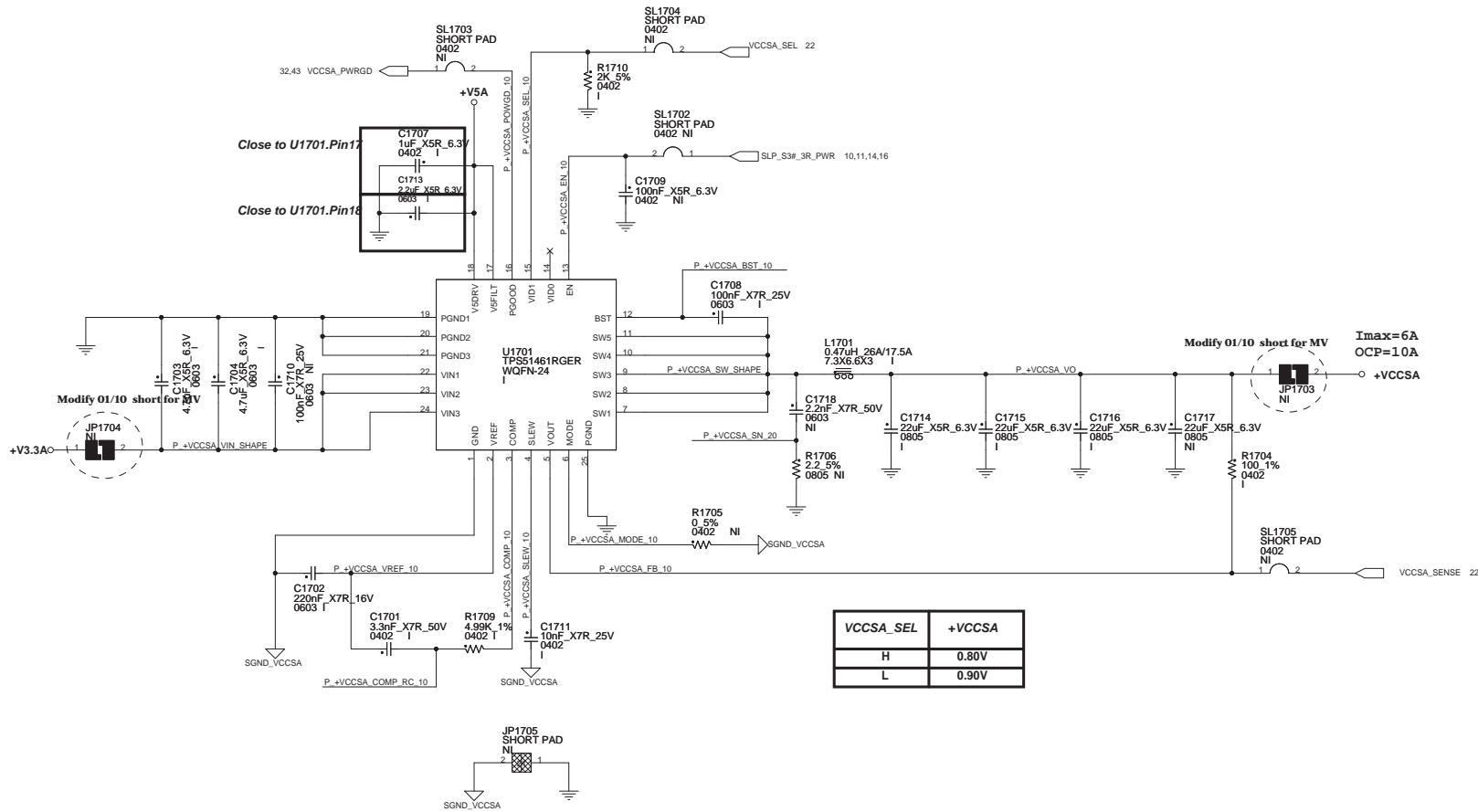
$V_{ref} = 0.6V$

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Title: <b>+1.8VS</b>			
Size: C	Document Number:	CHICAGO	Rev: MV
Page Modified: Tuesday, March 09, 2011		062800 (UTC/GMT)	Sheet 16 of 43

# +VCCSA POWER SUPPLY

2010.1026.0

- +VCCSA:**
- I/P Current:**  
 $I_{in} = V_o \cdot I_o / (0.75 \cdot V_{in}) = 2.18A$
  - Ripple Current:**  
 $I_{rip} = 1.39A$
  - Ripple Voltage:**  
 $ESR/4 = 1mohm$   
 $V_{rip} = 1.39mV$
  - Inductor Spec:**  
 $I_{sat} = 26A$   
 $I_{dc} = 17.5A$   
 $DCR = 4.2mohm$
  - MOSFET Spec:**
- 
- Frequency:**  
 $F = 1MHz$  (R1705=Open)
  - OCP:**  
 Min : 6A / Typ : 7.5A



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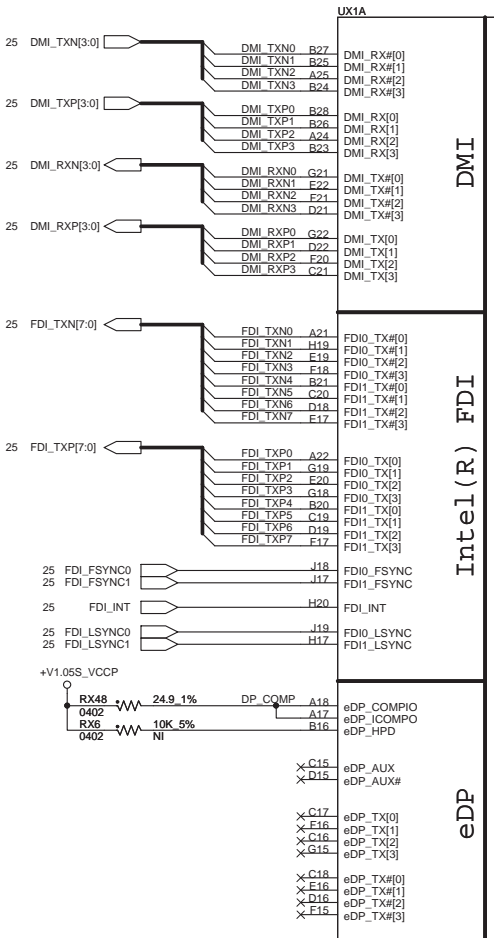
Title: **VCCSA**

Size: C Document Number: **CHICAGO** Rev: MV

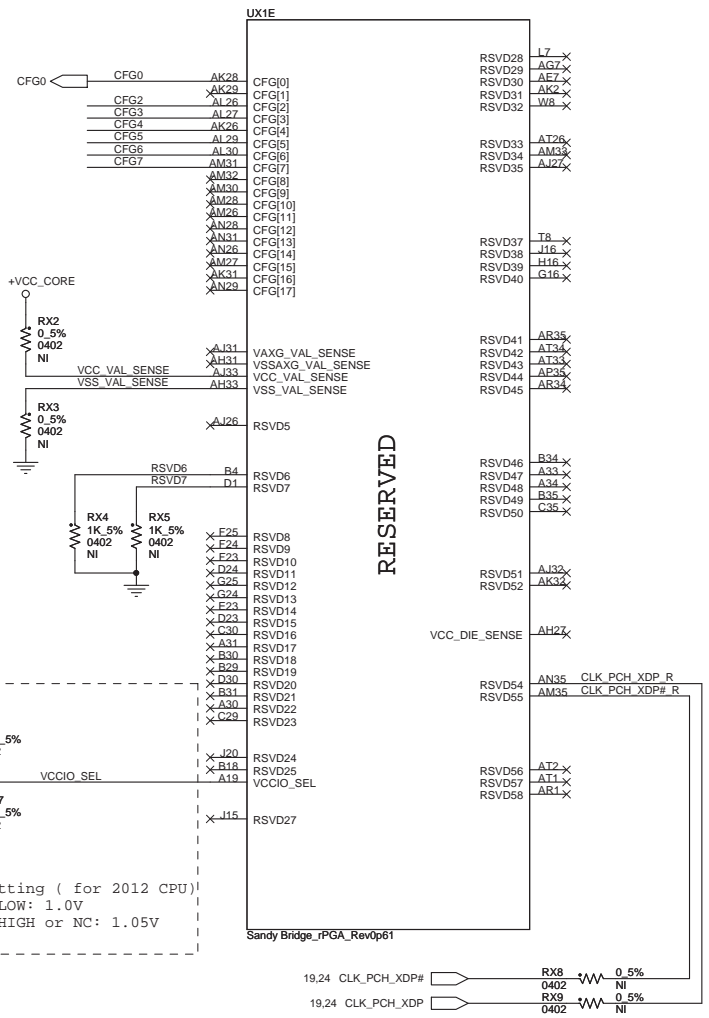
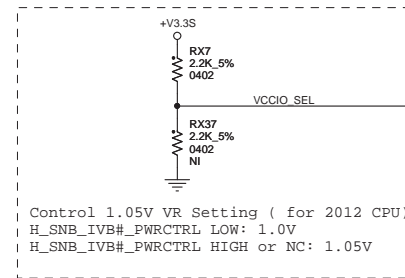
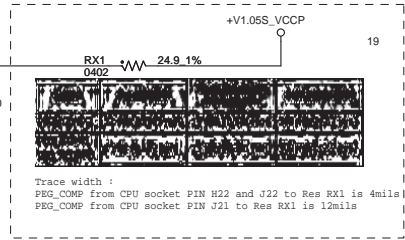
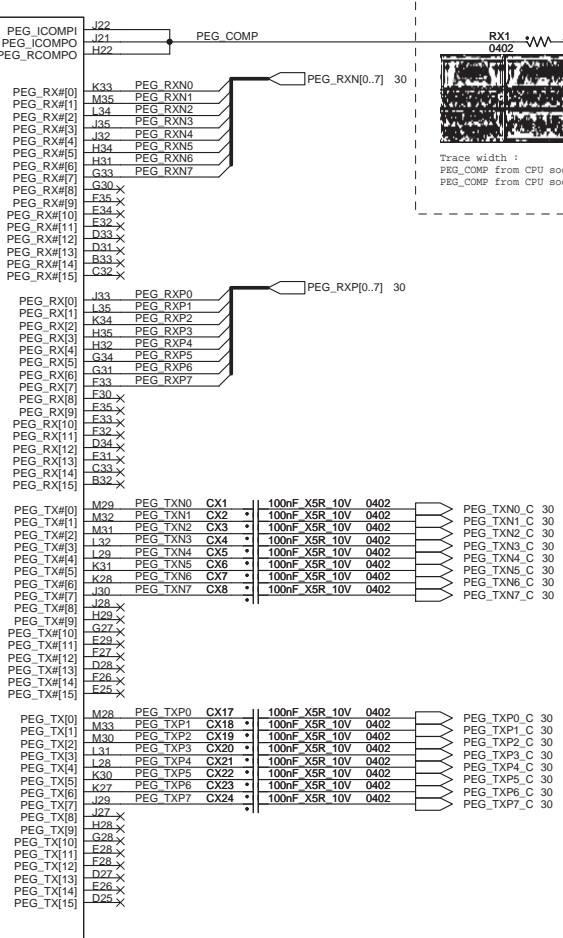
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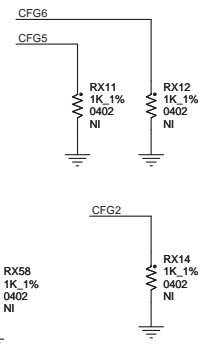
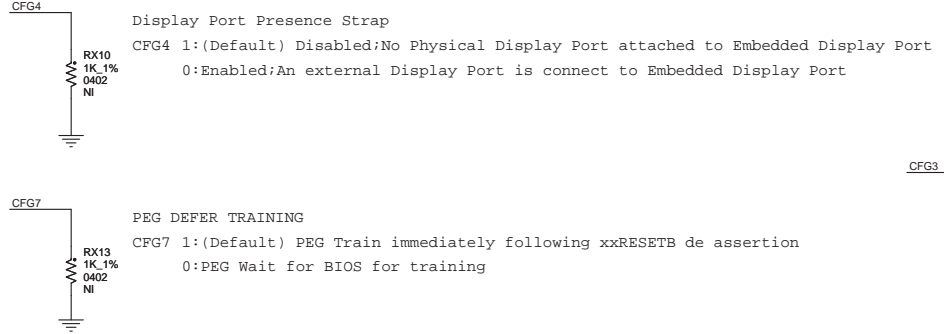
+V3.3S 13,14,19,23,24,25,26,27,28,29,31,32,34,35,37,38,39,40,41,42,43  
+V1.05S\_VCCP 11,14,19,21,23,24,25,26,27,28,43



Intel(R) FDI  
PCI EXPRESS\* - GRAPHICS



RESERVED



PCIE Port Bifurcation Straps  
CFG[6:5] 11:(Default) x16 - Device 1 functions & 2 disabled  
10:x8,x8 - Device 1 function 1 enabled ; function 2 disabled  
01:Reserved - (Device 1 function 1 disabled ; function 2 enabled)  
00:x8,x4,x4 - (Device 1 functions 1 & 2 enabled)

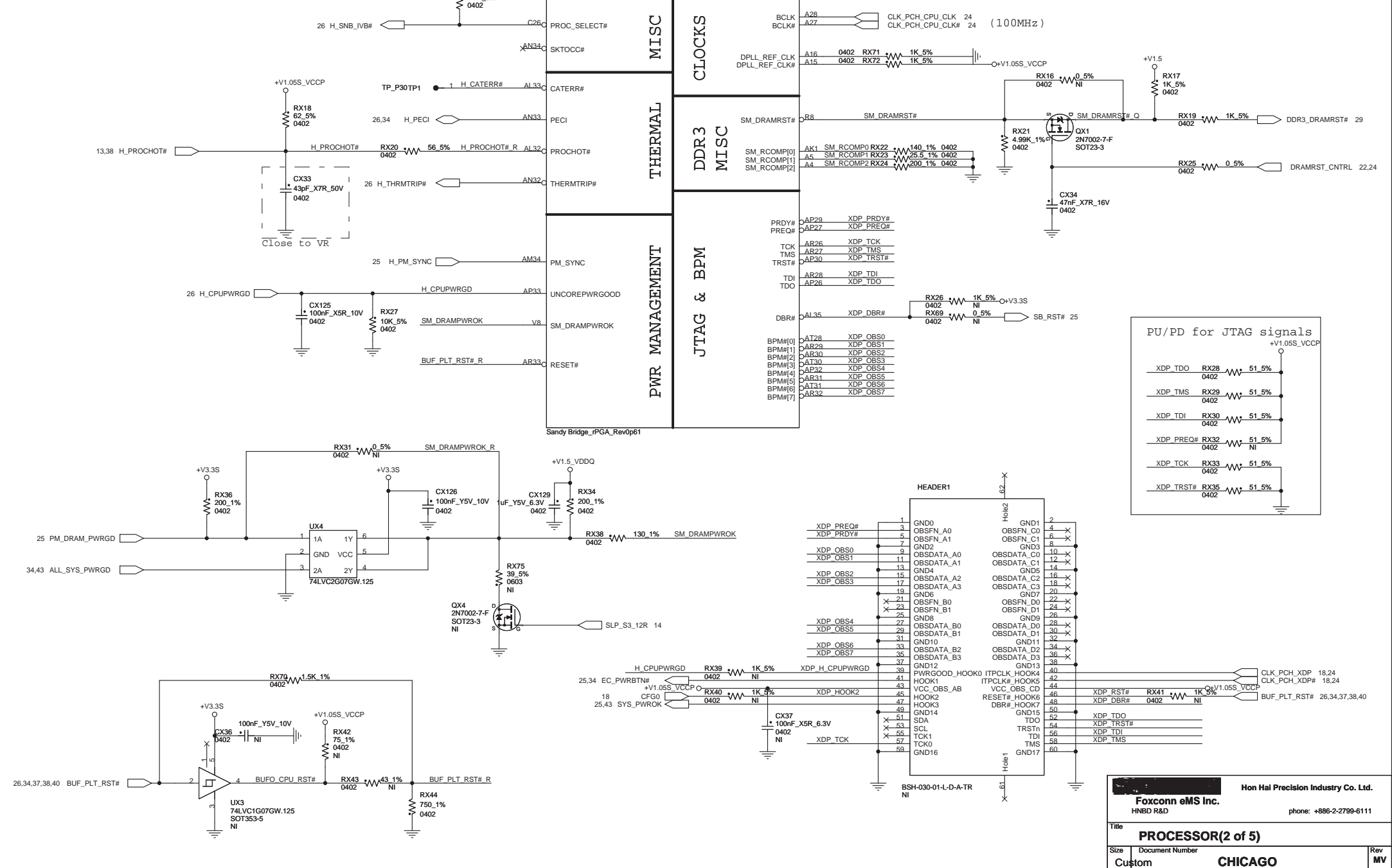
PEG Static Lane Reversal - CFG2 is for the 16x  
CFG2 1:(Default) Normal Operation;Lane # definition matches socket pin map definition  
0: Lane Reversed

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Title: **PROCESSOR(1 of 5)**

Size: Document Number  
Custom: **CHICAGO** Rev: **MV**

Page Modified: Tuesday, March 08, 2011 08:28:01 (UTC/GMT) Sheet 18 of 43

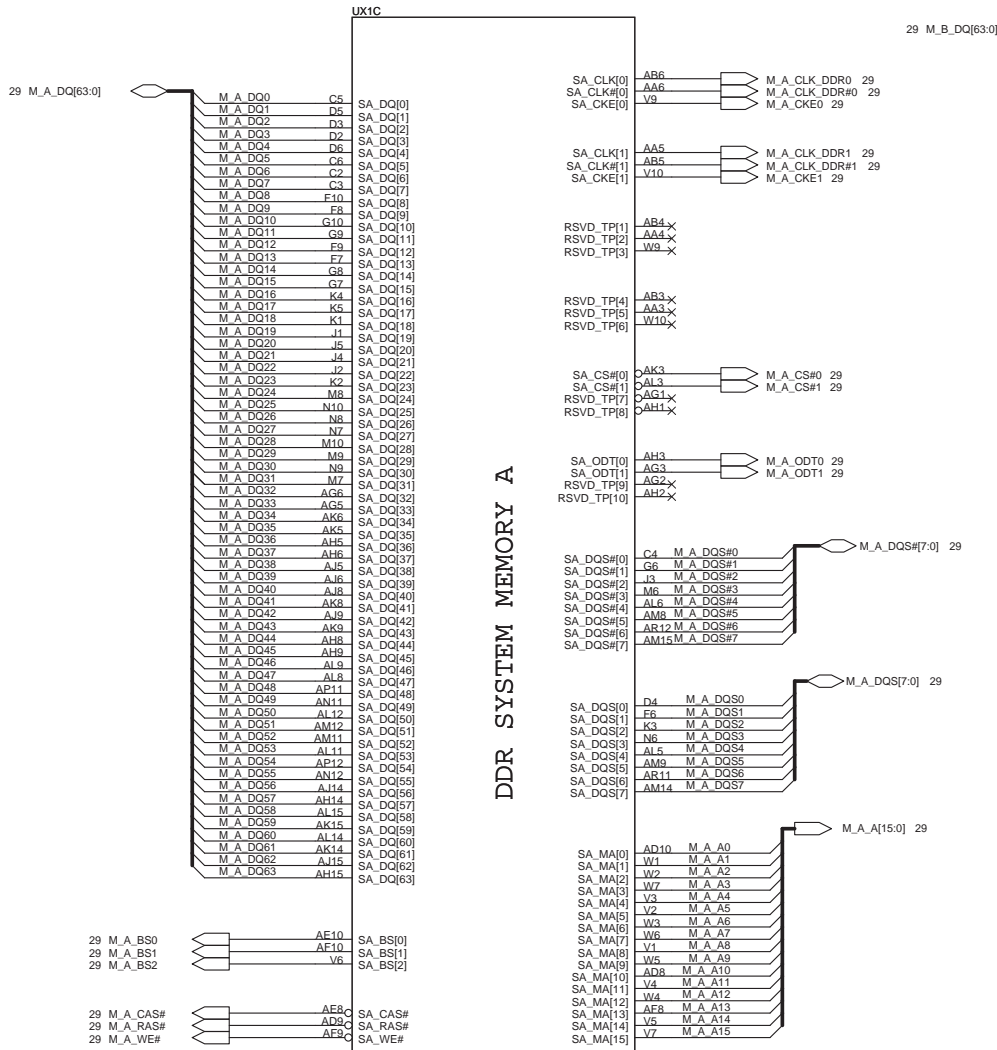


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Title: **PROCESSOR(2 of 5)**

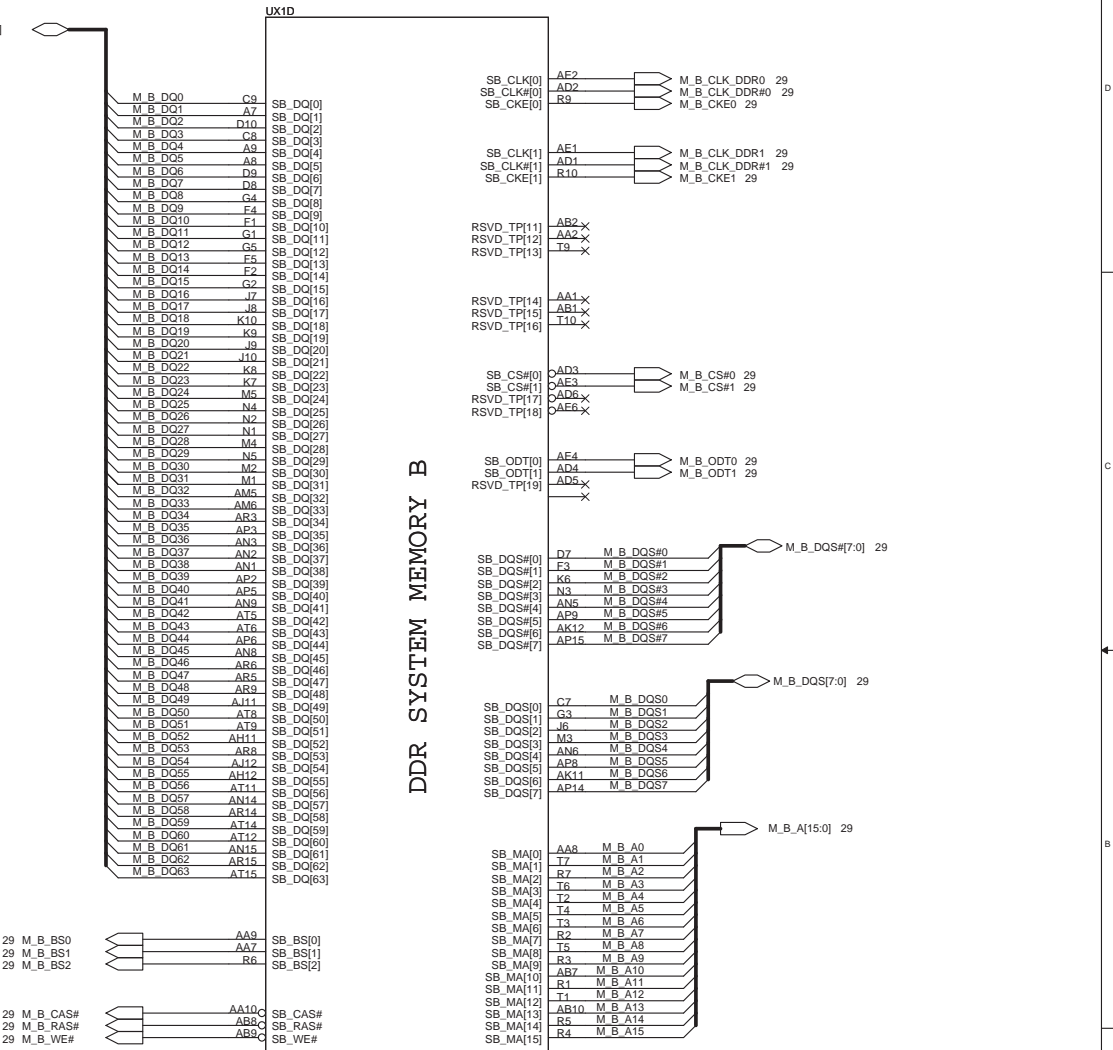
Size: Document Number  
 Custom **CHICAGO** Rev **MV**

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Sandy Bridge\_rPGA\_Rev0p61

29 M\_B\_DQ[63:0]



Sandy Bridge\_rPGA\_Rev0p61

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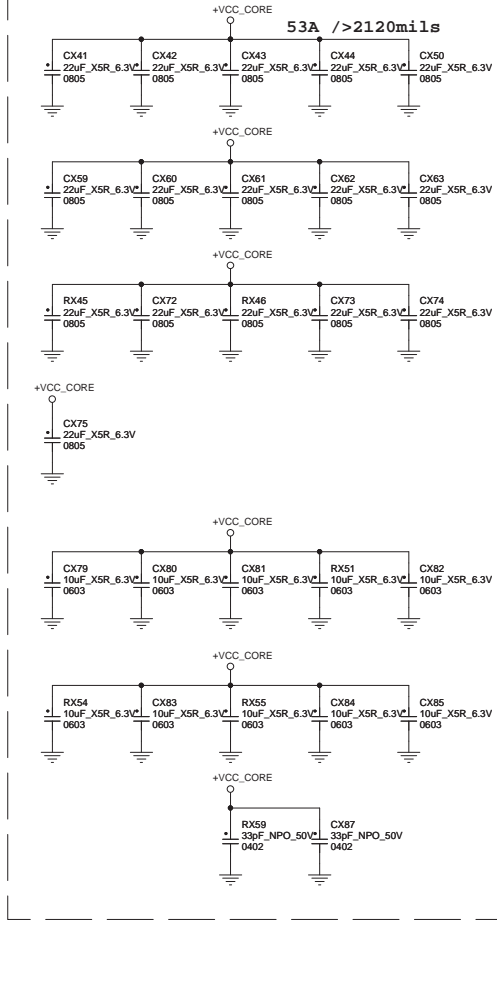
Title: **PROCESSOR(3 of 5)**

Size: Document Number  
Custom **CHICAGO** Rev **MV**

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+V1.05S\_VCCP 11,14,18,19,23,24,25,26,27,28,43  
+VCC\_CORE 13,18,43

FOR VCC:  
4x 330  $\mu$ F Bottom Edge,  
10x 0603 10  $\mu$ F Bottom Cavity,  
8x 0805 22  $\mu$ F Top Cavity,  
8x 0805 22  $\mu$ F Top Edge,



- VCC1
- VCC2
- VCC3
- VCC4
- VCC5
- VCC6
- VCC7
- VCC8
- VCC9
- VCC10
- VCC11
- VCC12
- VCC13
- VCC14
- VCC15
- VCC16
- VCC17
- VCC18
- VCC19
- VCC20
- VCC21
- VCC22
- VCC23
- VCC24
- VCC25
- VCC26
- VCC27
- VCC28
- VCC29
- VCC30
- VCC31
- VCC32
- VCC33
- VCC34
- VCC35
- VCC36
- VCC37
- VCC38
- VCC39
- VCC40
- VCC41
- VCC42
- VCC43
- VCC44
- VCC45
- VCC46
- VCC47
- VCC48
- VCC49
- VCC50
- VCC51
- VCC52
- VCC53
- VCC54
- VCC55
- VCC56
- VCC57
- VCC58
- VCC59
- VCC60
- VCC61
- VCC62
- VCC63
- VCC64
- VCC65
- VCC66
- VCC67
- VCC68
- VCC69
- VCC70
- VCC71
- VCC72
- VCC73
- VCC74
- VCC75
- VCC76
- VCC77
- VCC78
- VCC79
- VCC80
- VCC81
- VCC82
- VCC83
- VCC84
- VCC85
- VCC86
- VCC87
- VCC88
- VCC89
- VCC90
- VCC91
- VCC92
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- VCC95
- VCC96
- VCC97
- VCC98
- VCC99
- VCC100

POWER

PEG AND DDR

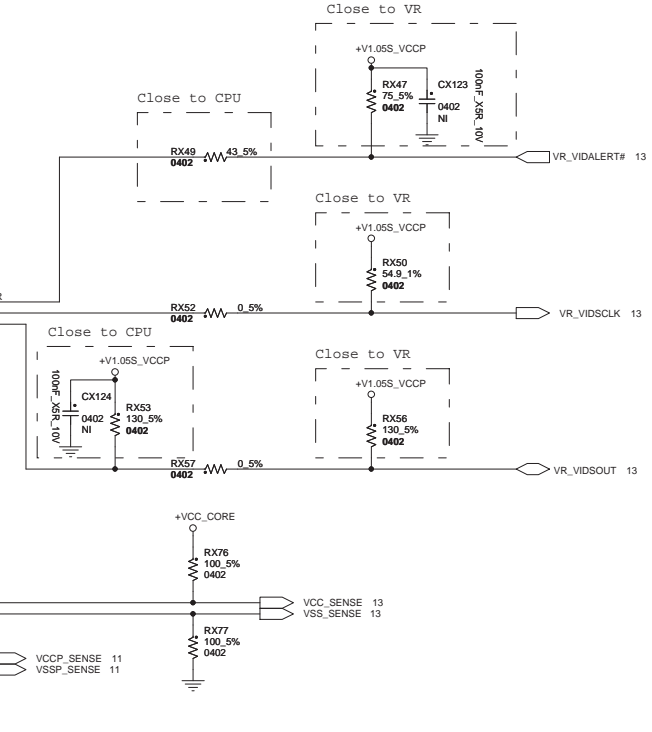
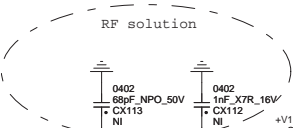
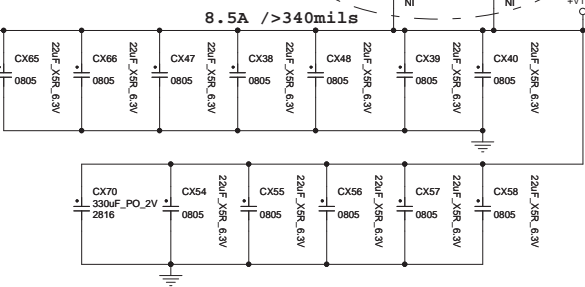
CORE SUPPLY

SVID

SENSE LINES

- AH13
- AH10
- AC10
- Y10
- L110
- F10
- L110
- J14
- J13
- J12
- J11
- H14
- H12
- H11
- G14
- G13
- G12
- E14
- F12
- F11
- E14
- E12
- E11
- J23
- D14
- D13
- D12
- D11
- C14
- C13
- C12
- C11
- B14
- B12
- AN4
- AN3
- AN2
- AN1
- AM7
- AM6
- AM5
- AM4
- AM3
- AM2
- AM1
- AL7
- AL6
- AL5
- AL4
- AL3
- AL2
- AK3
- AK2
- AK1
- AK0
- AK7
- AK4
- AL5
- AJ29
- AJ30
- AJ28
- AJ35
- AJ34
- B10
- A10

FOR VCCIO:  
2x 330  $\mu$ F,  
5x 0805 22  $\mu$ F Bottom Cavity,  
7x 0805 22  $\mu$ F Top Cavity,

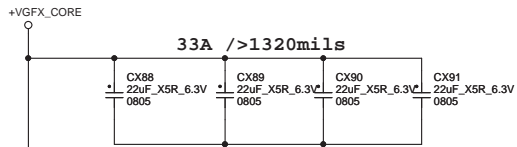


- AT36
- VSS1
- VSS2
- VSS3
- VSS4
- VSS5
- VSS6
- VSS7
- VSS8
- VSS9
- VSS10
- VSS11
- VSS12
- VSS13
- VSS14
- VSS15
- VSS16
- VSS17
- VSS18
- VSS19
- VSS20
- VSS21
- VSS22
- VSS23
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- VSS26
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- VSS28
- VSS29
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- VSS32
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- VSS37
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- VSS72
- VSS73
- VSS74
- VSS75
- VSS76
- VSS77
- VSS78
- VSS79
- VSS80
- VSS81
- AJ22
- AJ19
- AJ16
- AJ13
- AJ10
- AJ7
- AJ4
- AJ3
- AJ1
- AJ35
- AH24
- AH22
- AH20
- AH19
- AH17
- AH16
- AH15
- AH14
- AG9
- AG8
- AG7
- AG6
- AG5
- AG4
- AG3
- AG2
- AG1
- AE29
- AE28
- AE27
- AE26
- AE25
- AE24
- AE23
- AE22
- AE21
- AE20
- AE19
- AE18
- AE17
- AE16
- AE15
- AE14
- AE13
- AE12
- AE11
- AE10
- AE9
- AE8
- AE7
- AE6
- AE5
- AE4
- AE3
- AE2
- AE1
- AB29
- AB28
- AB27
- AB26
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- AB8
- AB7
- AB6
- AB5
- AB4
- AB3
- AB2
- AB1
- W29
- W28
- W27
- W26
- W25
- W24
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- W16
- W15
- W14
- W13
- W12

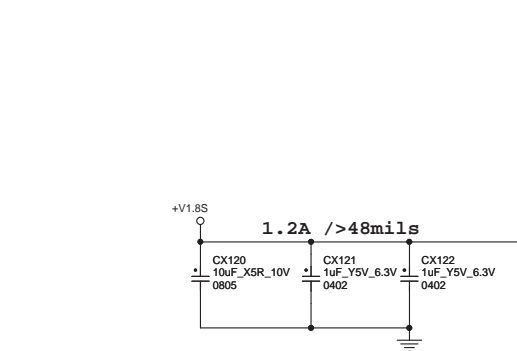
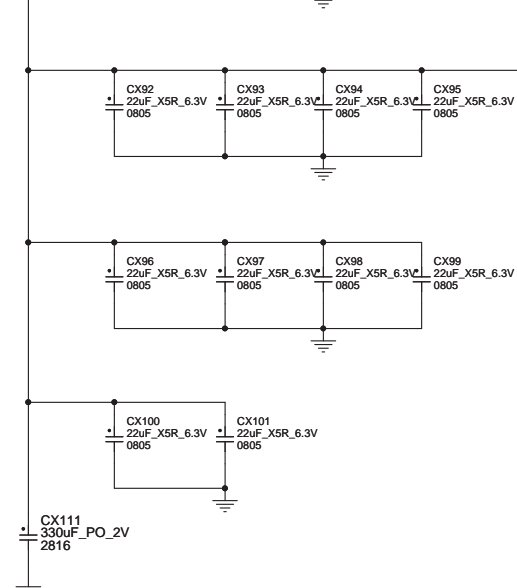
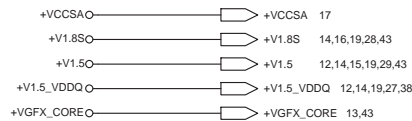
VSS

Sandy Bridge\_rPGA\_Rev0p61

Header information including Foxconn eMS Inc., Hon Hai Precision Industry Co. Ltd., and document details for PROCESSOR(4 of 5).



FOR VAXG:  
 2x 330  $\mu$ F Bottom Edge,  
 4x 0805 22  $\mu$ F Top & Bottom Cavity,  
 8x 0805 22  $\mu$ F Top & Bottom Edge,

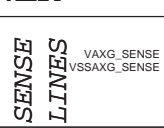


FOR VCCPLL:  
 1x 330  $\mu$ F Bottom Edge,  
 2x 0402 1  $\mu$ F Bottom Edge,  
 1x 0805 10  $\mu$ F Bottom Edge,

### POWER

UX1G	AT24 VAXG1	UX1I	T35 VSS161
AT23 VAXG2	AT22 VAXG3	T34 VSS162	T33 VSS163
AT21 VAXG4	AT20 VAXG5	T32 VSS164	T31 VSS165
AT18 VAXG6	AT17 VAXG7	T29 VSS166	T28 VSS167
AR24 VAXG8	AR23 VAXG9	T27 VSS168	T26 VSS169
AR21 VAXG10	AR20 VAXG11	T22 VSS170	T21 VSS171
AR19 VAXG12	AR18 VAXG13	P9 VSS172	P8 VSS173
AP24 VAXG14	AP23 VAXG15	P6 VSS174	P5 VSS175
AP21 VAXG16	AP20 VAXG17	P3 VSS176	N35 VSS177
AP18 VAXG18	AP17 VAXG19	N34 VSS178	N33 VSS179
AN24 VAXG20	AN23 VAXG21	N32 VSS180	N31 VSS181
AN21 VAXG22	AN20 VAXG23	N30 VSS182	N29 VSS183
AN18 VAXG24	AN17 VAXG25	N28 VSS184	N27 VSS185
AM24 VAXG26	AM23 VAXG27	M34 VSS186	M33 VSS187
AM21 VAXG28	AM20 VAXG29	L33 VSS188	L32 VSS189
AM18 VAXG30	AM17 VAXG31	L27 VSS190	L26 VSS191
AL24 VAXG32	AL23 VAXG33	L9 VSS192	L8 VSS193
AL21 VAXG34	AL20 VAXG35	L6 VSS194	L5 VSS195
AL18 VAXG36	AL17 VAXG37	L4 VSS196	L3 VSS197
AL14 VAXG38	AK23 VAXG39	L2 VSS198	L1 VSS199
AK21 VAXG40	AK20 VAXG41	K35 VSS200	K32 VSS201
AK18 VAXG42	AK17 VAXG43	K29 VSS202	K28 VSS203
AJ24 VAXG44	AJ23 VAXG45	J34 VSS204	J33 VSS205
AJ21 VAXG46	AJ20 VAXG47	H30 VSS206	H29 VSS207
AJ18 VAXG48	AJ17 VAXG49	H24 VSS208	H23 VSS209
AH24 VAXG50	AH23 VAXG51	H18 VSS210	H17 VSS211
AH21 VAXG52	AH18 VAXG53	H13 VSS212	H12 VSS213
AH17 VAXG54		H10 VSS214	H9 VSS215
		H8 VSS216	H7 VSS217
		H6 VSS218	H5 VSS219
		H4 VSS220	H3 VSS221
		H1 VSS222	G36 VSS223
		G32 VSS224	G29 VSS225
		G26 VSS226	G23 VSS227
		G17 VSS228	G11 VSS229
		F34 VSS230	F31 VSS231
		F28 VSS232	F27 VSS233

### SENSE LINES

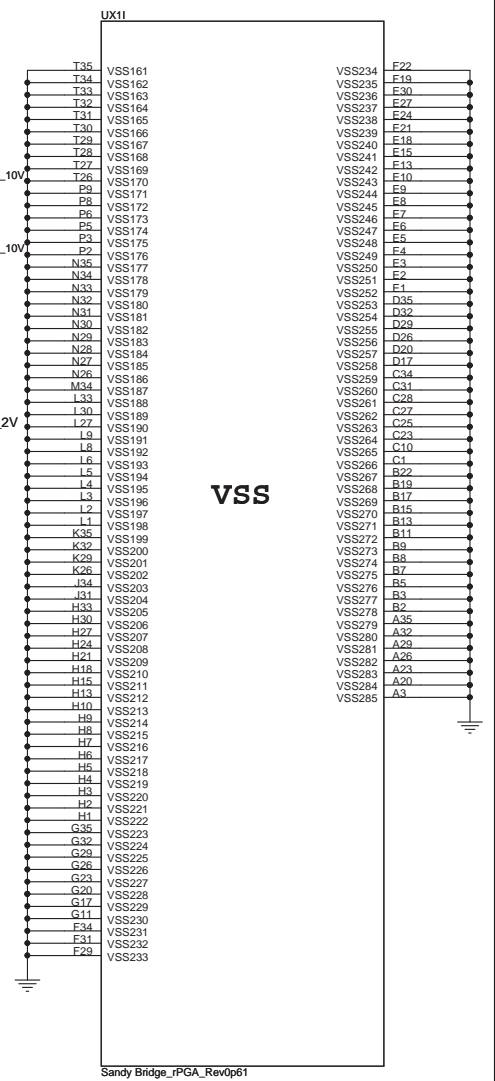
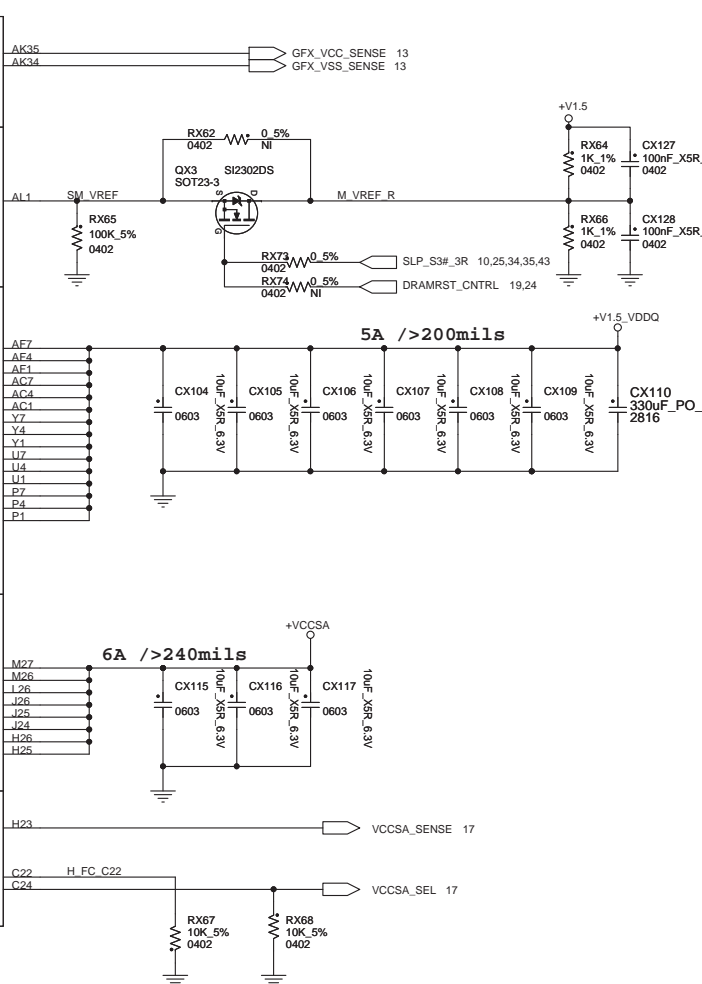


### VREF

### DDR3 - 1.5V RAILS

### SA RAIL

### MISC



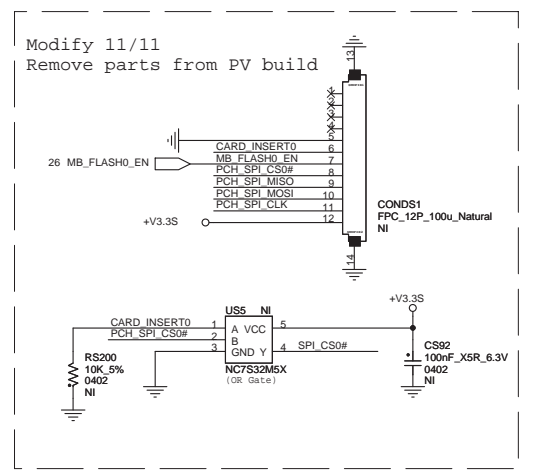
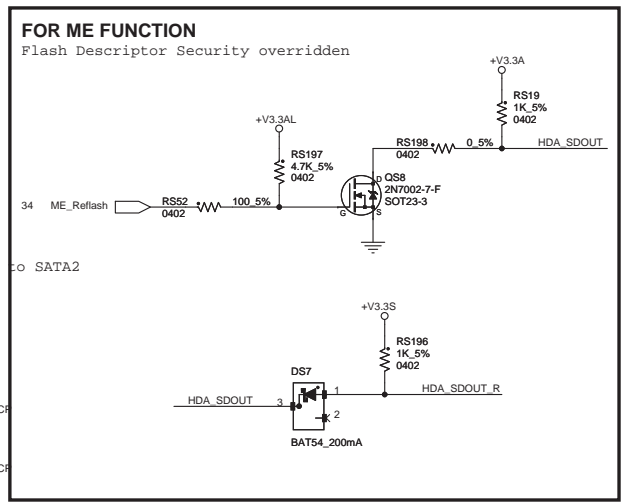
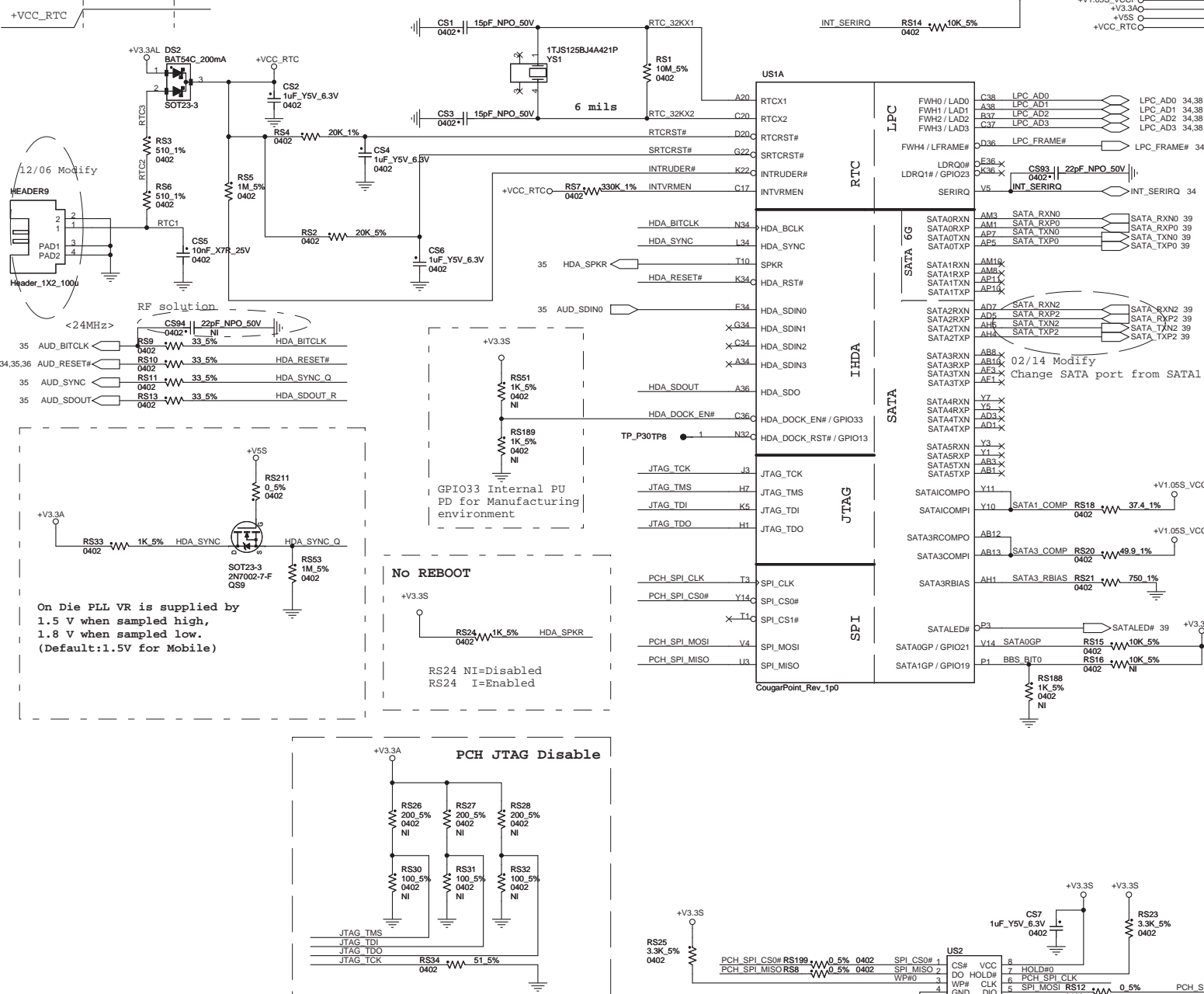
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**Foxconn eMS Inc.**  
 HNBD R&D phone: +886-2-2799-6111

Title: **PROCESSOR(5 of 5)**

Size: Document Number  
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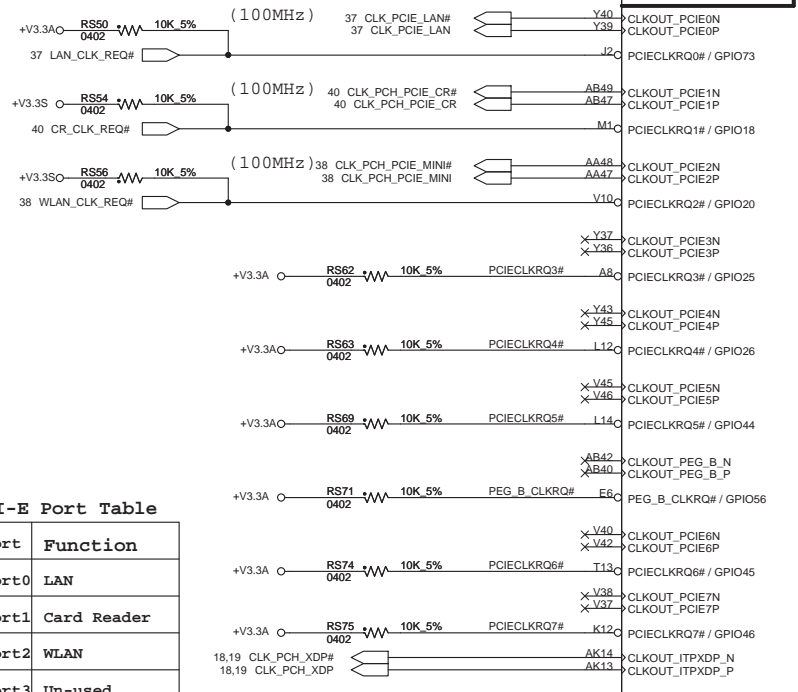
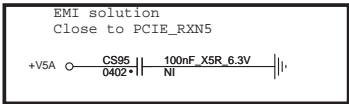
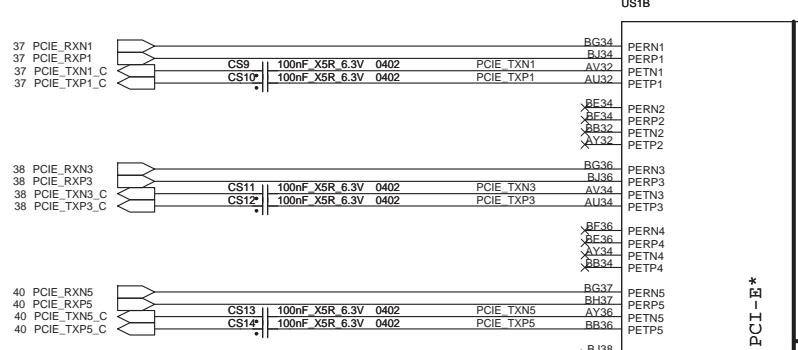
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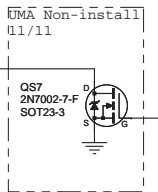
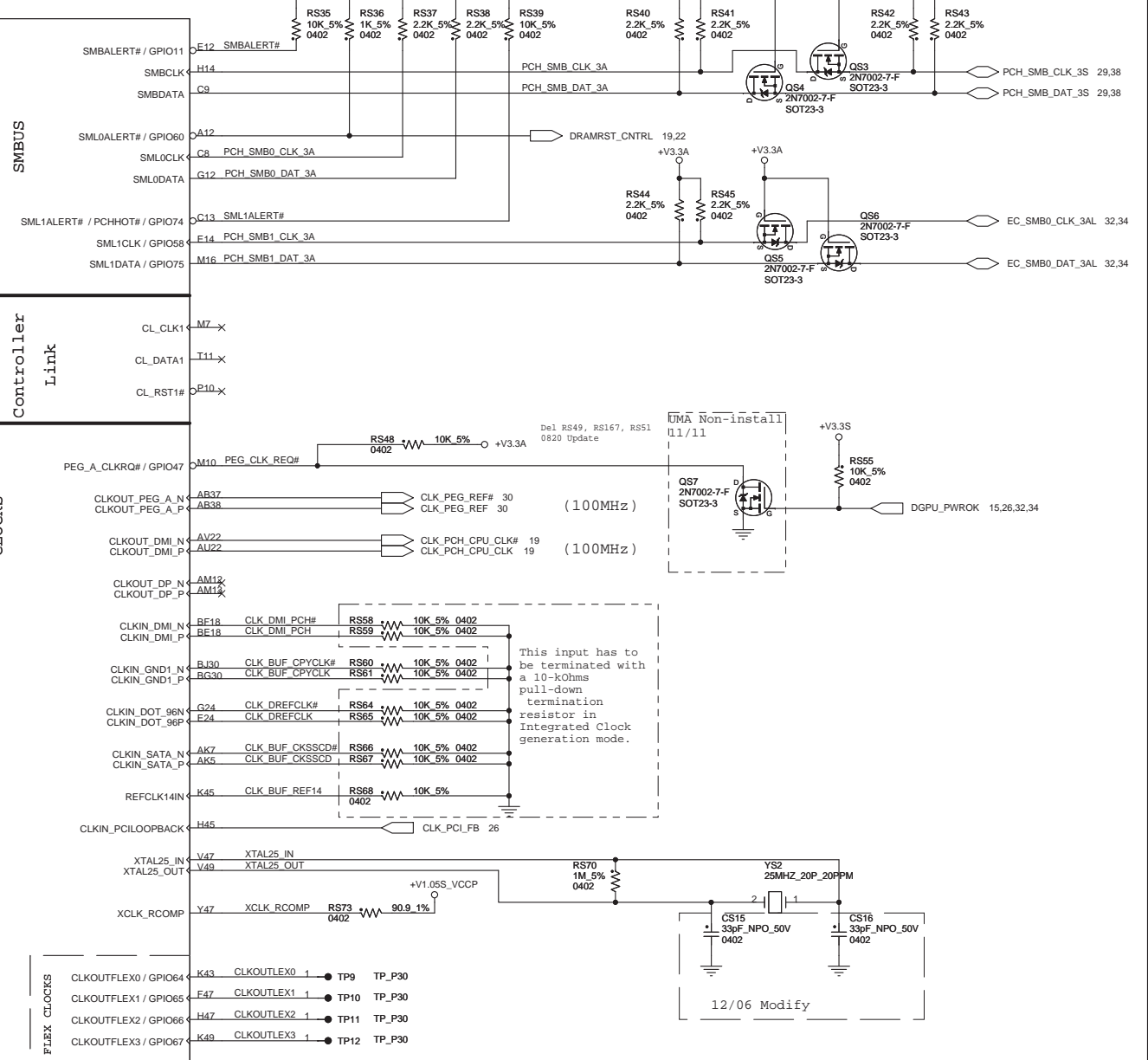
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<b>CougarPoint(1 of 6)</b>			
Size	Document Number	Rev	
Custom	CHICAGO	MV	
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+V3.3S 13,14,16,19,23,25,26,27,28,29,31,32,34,35,37,38,39,40,41,42,43  
 +V3.3AL 8,10,14,23,32,34,38  
 +V1.05S\_VCCP 11,14,18,19,21,23,25,26,27,28,43  
 +V3.3A 8,10,14,15,17,23,25,26,27,34,36,37,43

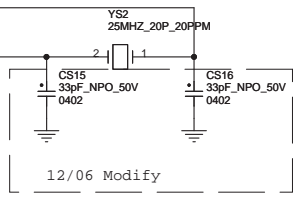


**PCI-E Port Table**

Port	Function
Port0	LAN
Port1	Card Reader
Port2	WLAN
Port3	Un-used
Port4	Un-used
Port5	Un-used
Port6	Un-used
Port7	Un-used



This input has to be terminated with a 10-kOhms pull-down termination resistor in Integrated Clock generation mode.



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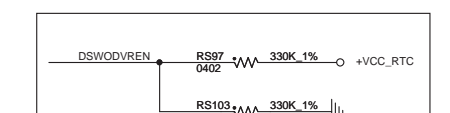
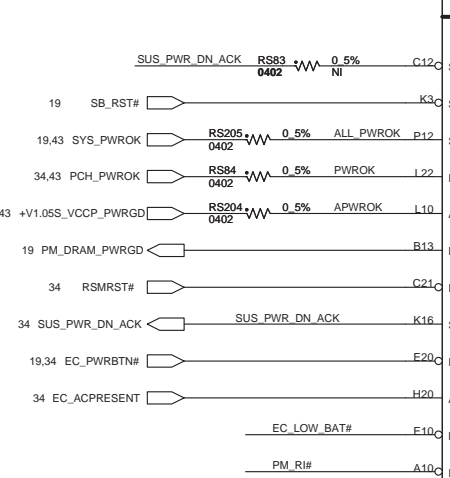
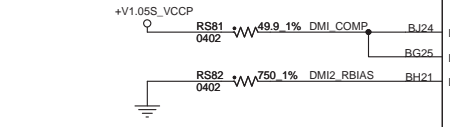
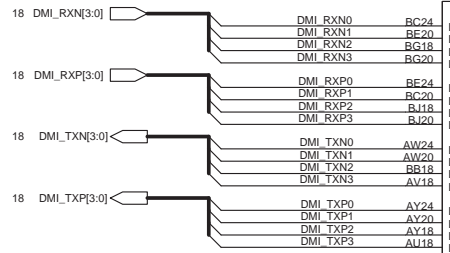
**Hon Hai Precision Industry Co. Ltd.**

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Size: Document Number  
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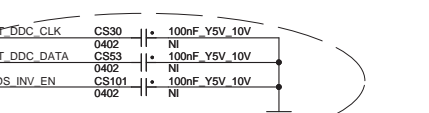
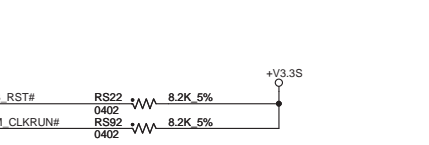
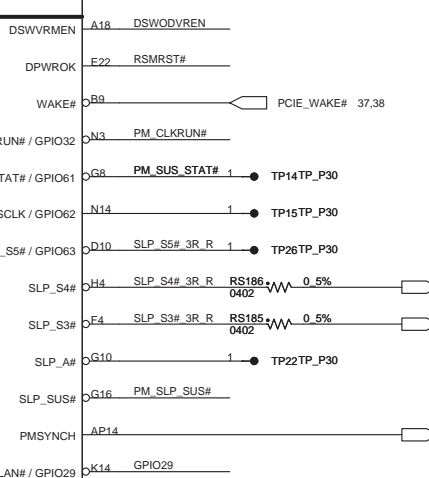
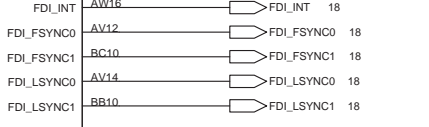
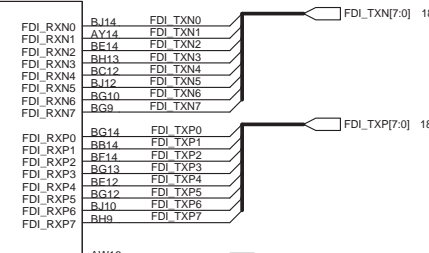
US1C



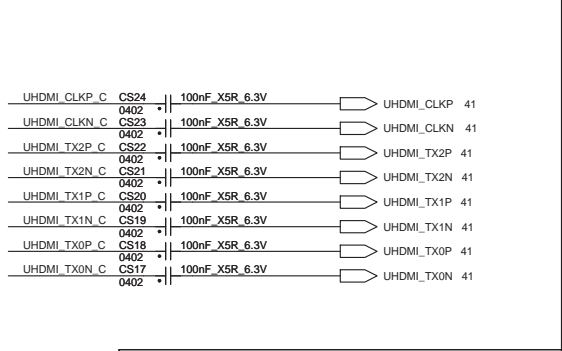
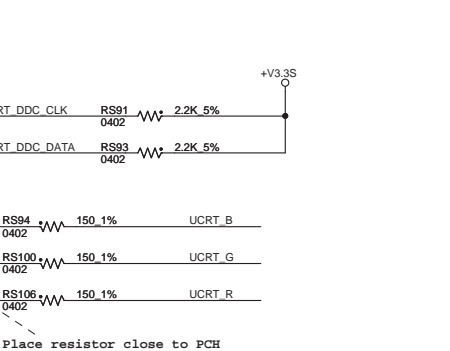
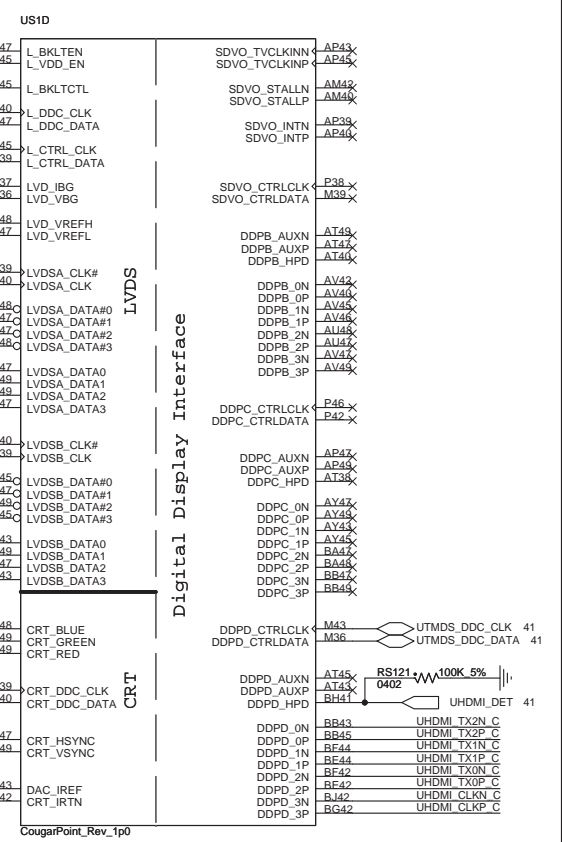
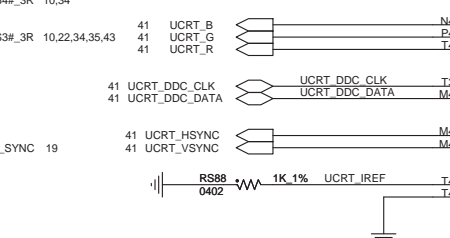
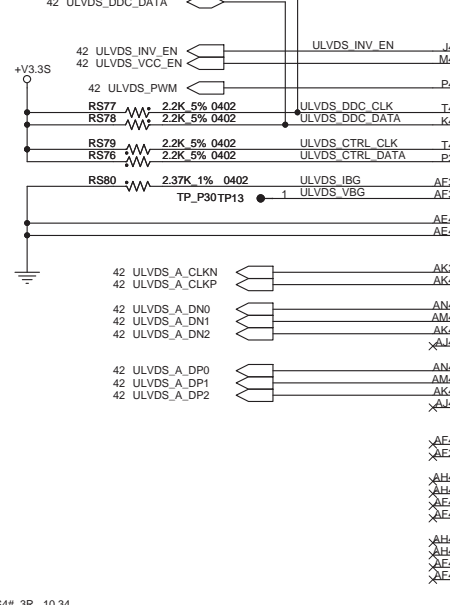
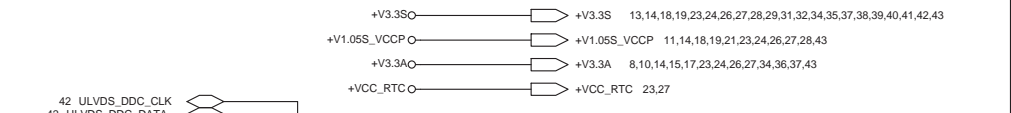
DSWODVREN - on Die DSW VR Enable

RS97	RS103	Enabled
I	NI	Enabled
NI	I	Disabled

US1D



12/06 Modify  
Modify CS30/CS53/CS101 to non-stuff on 01/11



Place resistor close to PCH

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HNB D R&D

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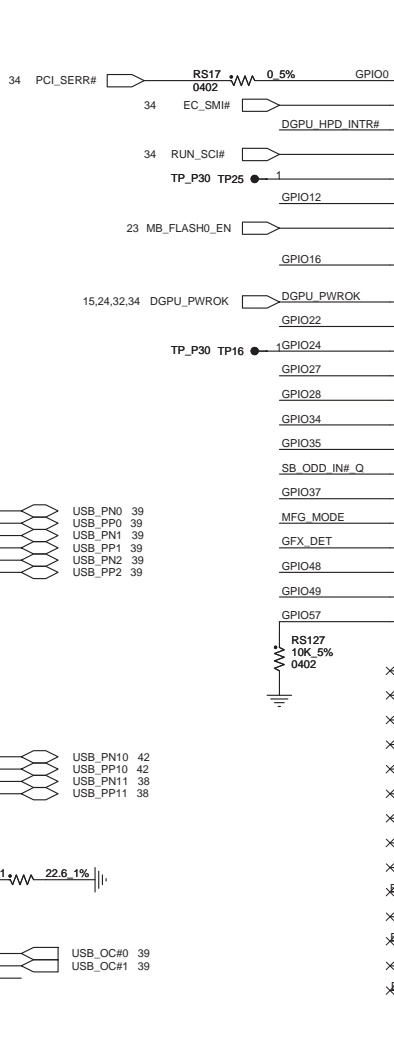
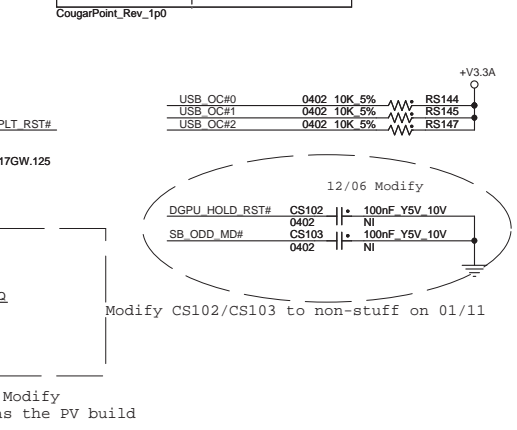
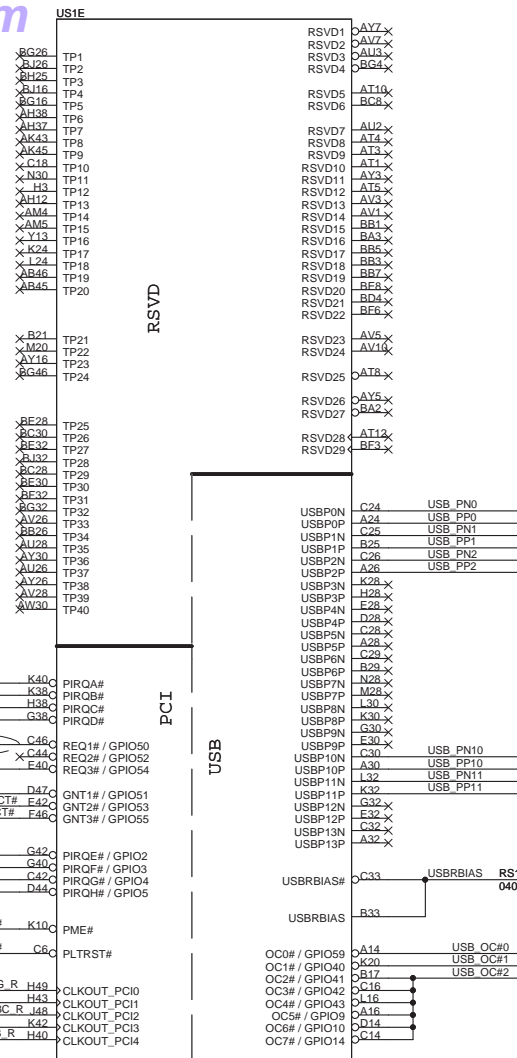
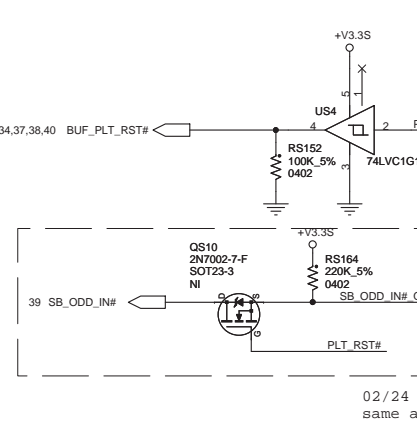
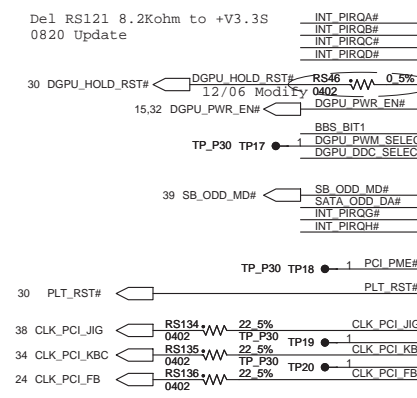
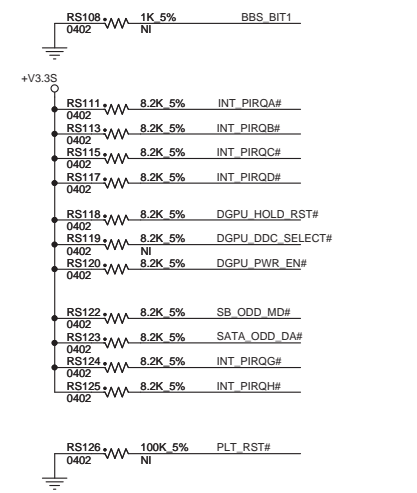
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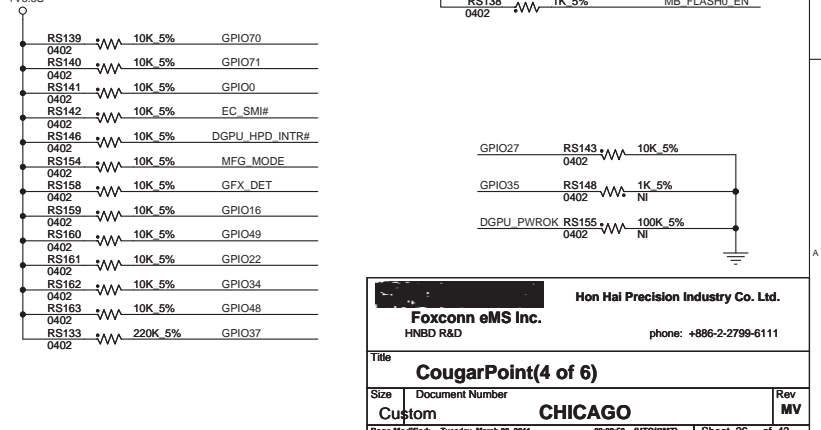
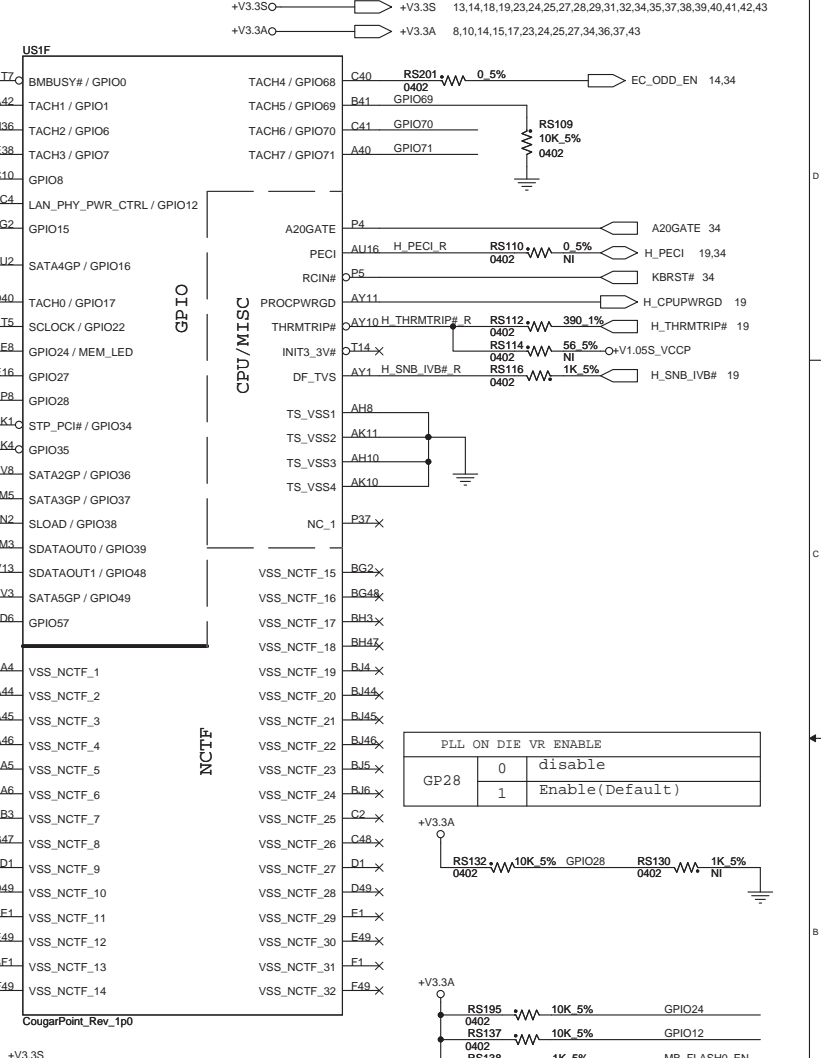
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Boot BIOS Strap		
BBS_BIT1	BBS_BIT0	Boot BIOS Location
0	0	LPC
0	1	Reserved (NAND)
1	0	PCI
1	1	SPI



USB PORT	Function	OC#
PORT-0	USB Port	OC0#
PORT-1	USB Port	OC0#
PORT-2	USB Port	OC1#
PORT-3	NC	
PORT-4	NC	
PORT-5	NC	
PORT-6	NC	
PORT-7	NC	
PORT-8	NC	
PORT-9	NC	
PORT-10	Camera	
PORT-11	WLAN/BT	
PORT-12	NC	
PORT-13	NC	

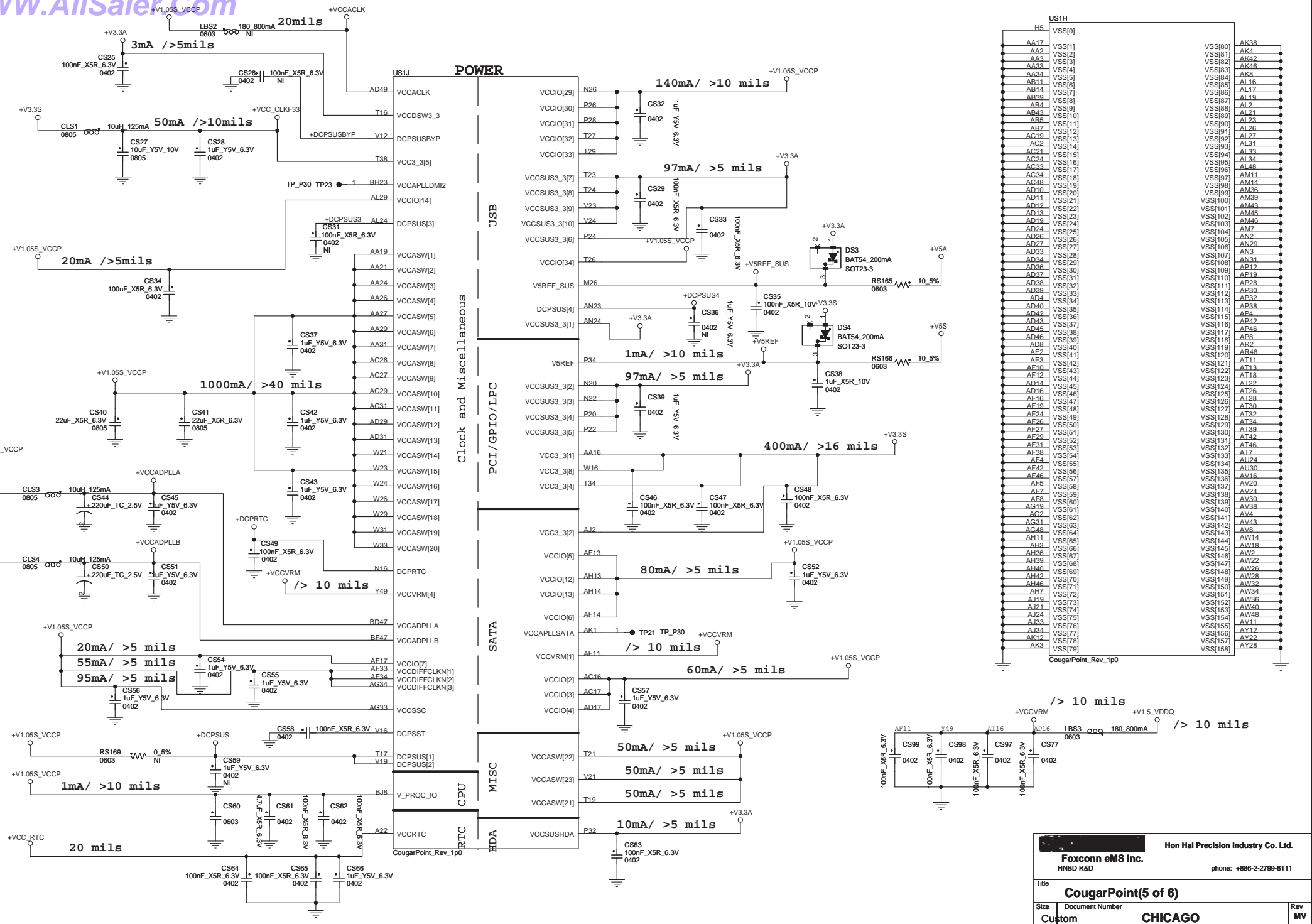


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US1H

H5	VSS[0]	
AA17	VSS1[1]	VSS[80]
AA2	VSS1[2]	VSS[81]
AA3	VSS1[3]	VSS[82]
AA33	VSS1[4]	VSS[83]
AA34	VSS1[5]	VSS[84]
AB11	VSS1[6]	VSS[85]
AB14	VSS1[7]	VSS[86]
AB39	VSS1[8]	VSS[87]
AB4	VSS1[9]	VSS[88]
AB43	VSS1[10]	VSS[89]
AB5	VSS1[11]	VSS[90]
AB7	VSS1[12]	VSS[91]
AC19	VSS1[13]	VSS[92]
AC2	VSS1[14]	VSS[93]
AC21	VSS1[15]	VSS[94]
AC24	VSS1[16]	VSS[95]
AC33	VSS1[17]	VSS[96]
AC34	VSS1[18]	VSS[97]
AC48	VSS1[19]	VSS[98]
AD10	VSS1[20]	VSS[99]
AD11	VSS1[21]	VSS[100]
AD12	VSS1[22]	VSS[101]
AD13	VSS1[23]	VSS[102]
AD19	VSS1[24]	VSS[103]
AD24	VSS1[25]	VSS[104]
AD26	VSS1[26]	VSS[105]
AD27	VSS1[27]	VSS[106]
AD33	VSS1[28]	VSS[107]
AD34	VSS1[29]	VSS[108]
AD36	VSS1[30]	VSS[109]
AD37	VSS1[31]	VSS[110]
AD38	VSS1[32]	VSS[111]
AD39	VSS1[33]	VSS[112]
AD4	VSS1[34]	VSS[113]
AD40	VSS1[35]	VSS[114]
AD42	VSS1[36]	VSS[115]
AD43	VSS1[37]	VSS[116]
AD45	VSS1[38]	VSS[117]
AD46	VSS1[39]	VSS[118]
AD8	VSS1[40]	VSS[119]
AE2	VSS1[41]	VSS[120]
AE3	VSS1[42]	VSS[121]
AE10	VSS1[43]	VSS[122]
AE12	VSS1[44]	VSS[123]
AD14	VSS1[45]	VSS[124]
AD16	VSS1[46]	VSS[125]
AE16	VSS1[47]	VSS[126]
AE19	VSS1[48]	VSS[127]
AE26	VSS1[49]	VSS[128]
AE27	VSS1[50]	VSS[129]
AE29	VSS1[51]	VSS[130]
AE31	VSS1[52]	VSS[131]
AE38	VSS1[53]	VSS[132]
AE4	VSS1[54]	VSS[133]
AE42	VSS1[55]	VSS[134]
AE46	VSS1[56]	VSS[135]
AE5	VSS1[57]	VSS[136]
AE7	VSS1[58]	VSS[137]
AE8	VSS1[59]	VSS[138]
AG19	VSS1[60]	VSS[139]
AG2	VSS1[61]	VSS[140]
AG31	VSS1[62]	VSS[141]
AG48	VSS1[63]	VSS[142]
AH11	VSS1[64]	VSS[143]
AH3	VSS1[65]	VSS[144]
AH36	VSS1[66]	VSS[145]
AH39	VSS1[67]	VSS[146]
AH40	VSS1[68]	VSS[147]
AH42	VSS1[69]	VSS[148]
AH46	VSS1[70]	VSS[149]
AH7	VSS1[71]	VSS[150]
AJ19	VSS1[72]	VSS[151]
AJ21	VSS1[73]	VSS[152]
AJ24	VSS1[74]	VSS[153]
AJ33	VSS1[75]	VSS[154]
AJ34	VSS1[76]	VSS[155]
AK12	VSS1[77]	VSS[156]
AK3	VSS1[78]	VSS[157]
	VSS1[79]	VSS[158]

Hon Hai Precision Industry Co. Ltd.  
**Foxconn eMS Inc.**  
 HNBD R&D phone: +886-2-2799-6111

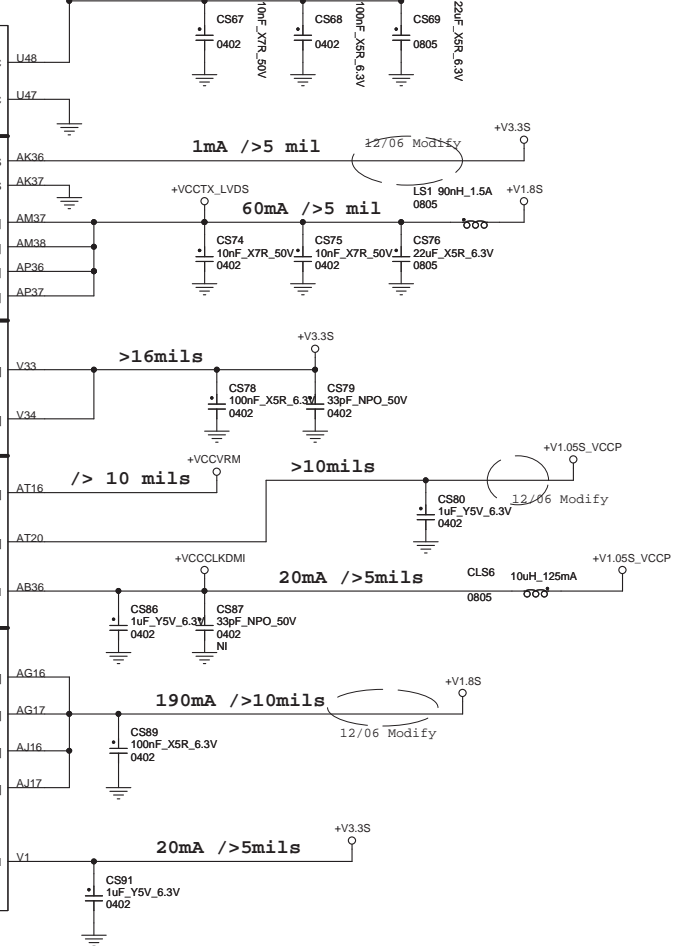
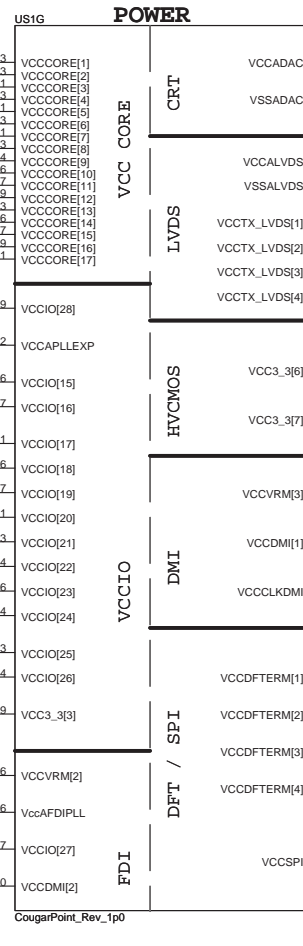
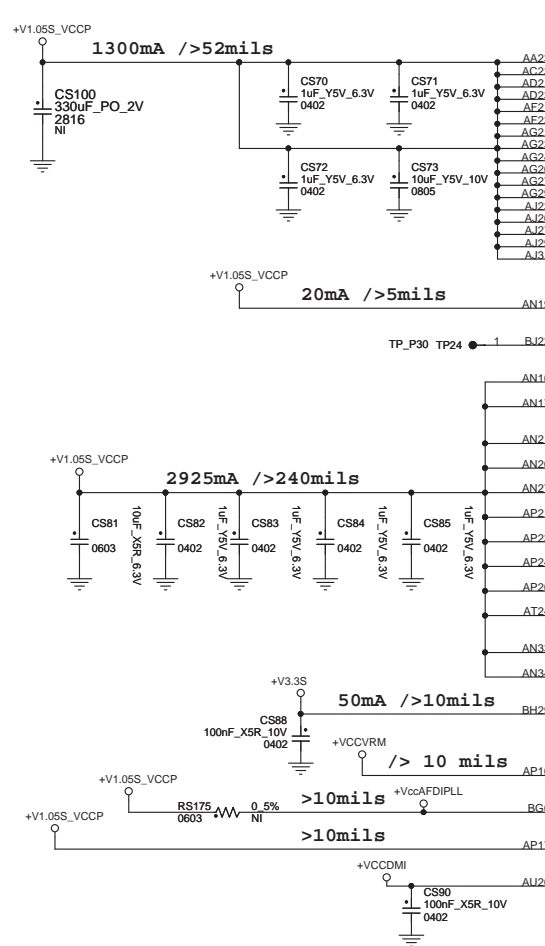
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AY42	VSS1160	VSS1260
AY46	VSS1161	VSS1261
AY8	VSS1162	VSS1262
B11	VSS1163	VSS1263
B15	VSS1164	VSS1264
B19	VSS1165	VSS1265
B23	VSS1166	VSS1266
B27	VSS1167	VSS1267
B31	VSS1168	VSS1268
B35	VSS1169	VSS1269
B39	VSS1170	VSS1270
B7	VSS1171	VSS1271
F45	VSS1172	VSS1272
BB12	VSS1173	VSS1273
BB16	VSS1174	VSS1274
BB20	VSS1175	VSS1275
BB22	VSS1176	VSS1276
BB24	VSS1177	VSS1277
BB28	VSS1178	VSS1278
BB30	VSS1179	VSS1279
BB38	VSS1180	VSS1280
BB4	VSS1181	VSS1281
BB46	VSS1182	VSS1282
BC14	VSS1183	VSS1283
BC18	VSS1184	VSS1284
BC2	VSS1185	VSS1285
BC22	VSS1186	VSS1286
BC26	VSS1187	VSS1287
BC32	VSS1188	VSS1288
BC34	VSS1189	VSS1289
BC36	VSS1190	VSS1290
BC40	VSS1191	VSS1291
BC42	VSS1192	VSS1292
BC48	VSS1193	VSS1293
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BE12	VSS1200	VSS1300
BE16	VSS1201	VSS1301
BE20	VSS1202	VSS1302
BE22	VSS1203	VSS1303
BE24	VSS1204	VSS1304
BE28	VSS1205	VSS1305
BD3	VSS1206	VSS1306
BD30	VSS1207	VSS1307
BE38	VSS1208	VSS1308
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BE8	VSS1211	VSS1311
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CG22	VSS1213	VSS1313
CG33	VSS1214	VSS1314
CG44	VSS1215	VSS1315
BG8	VSS1216	VSS1316
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BH15	VSS1218	VSS1318
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BH19	VSS1220	VSS1320
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BH27	VSS1222	VSS1322
BH31	VSS1223	VSS1323
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BH35	VSS1225	VSS1325
BH39	VSS1226	VSS1326
BH43	VSS1227	VSS1327
BH7	VSS1228	VSS1328
D3	VSS1229	VSS1329
D12	VSS1230	VSS1330
D16	VSS1231	VSS1331
D18	VSS1232	VSS1332
D22	VSS1233	VSS1333
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D34	VSS1238	VSS1338
D38	VSS1239	VSS1339
D42	VSS1240	VSS1340
DR	VSS1241	VSS1341
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E26	VSS1243	VSS1343
G18	VSS1244	VSS1344
G20	VSS1245	VSS1345
G26	VSS1246	VSS1346
G28	VSS1247	VSS1347
G38	VSS1248	VSS1348
G48	VSS1249	VSS1349
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H18	VSS1251	VSS1351
H22	VSS1252	VSS1352
H24	VSS1253	VSS1353
H26	VSS1254	VSS1354
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CougarPoint\_Rev\_1p0



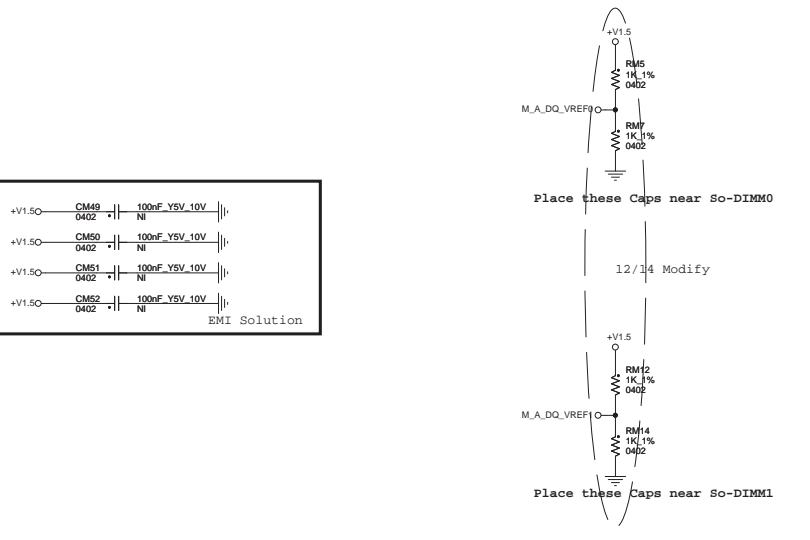
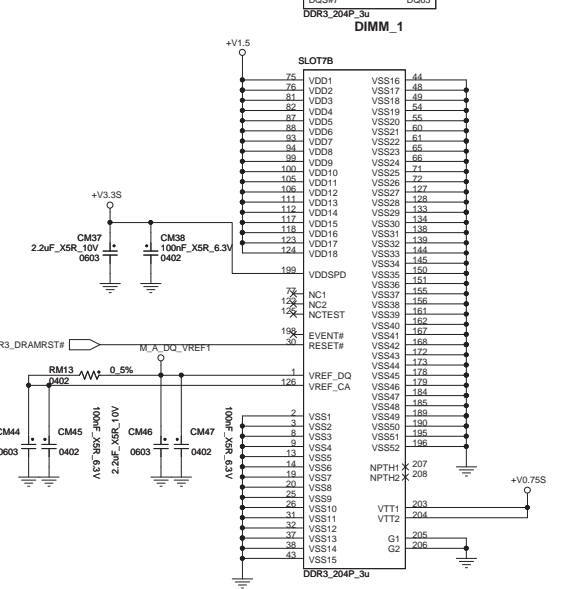
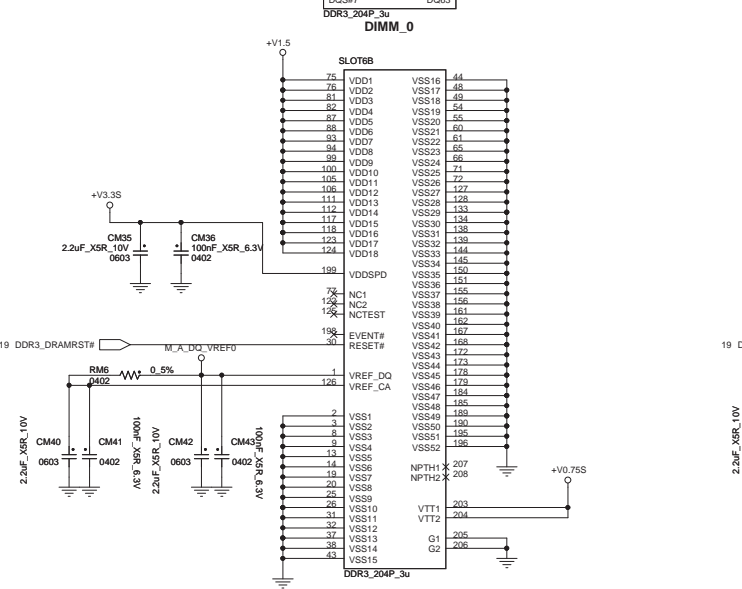
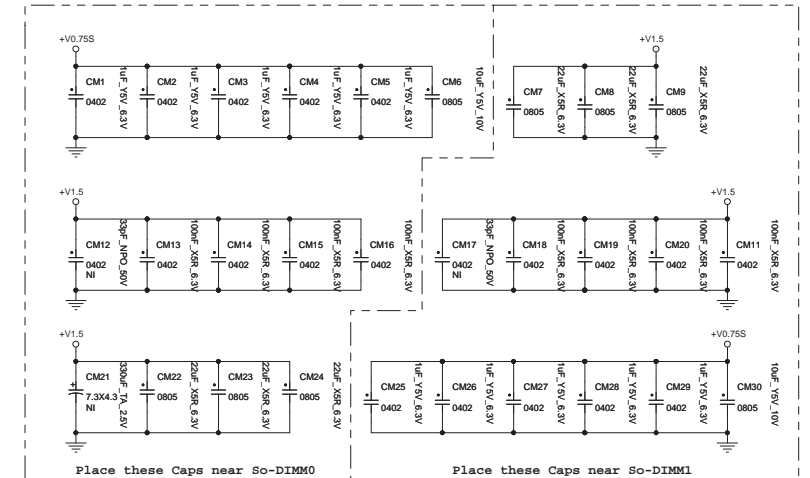
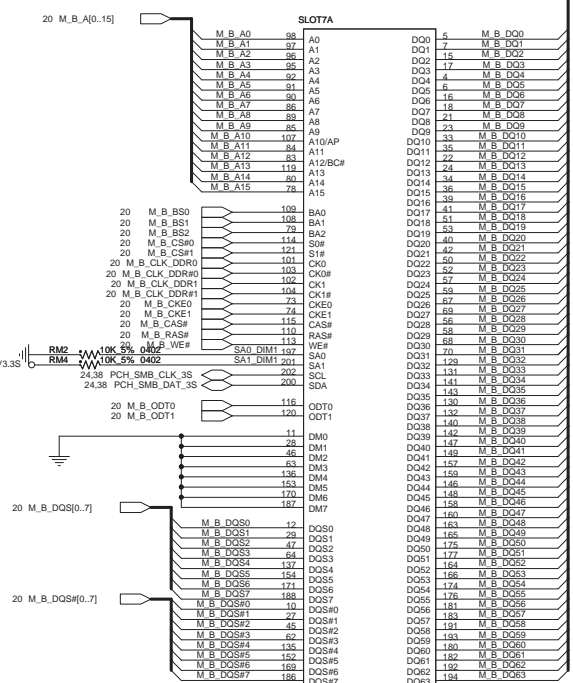
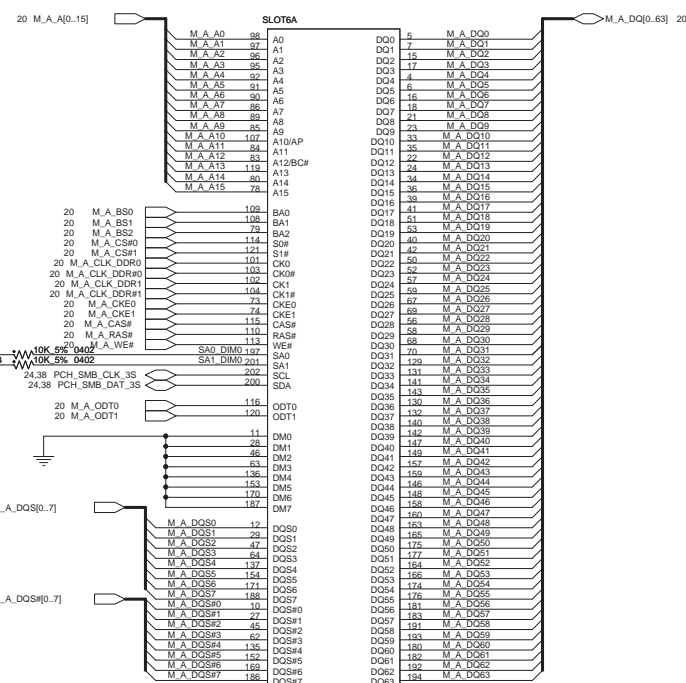
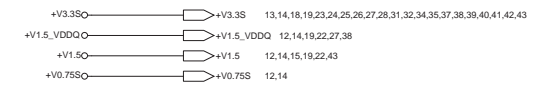
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Title: **CougarPoint(6 of 6)**

Size: Document Number  
 Custom **CHICAGO** Rev MV

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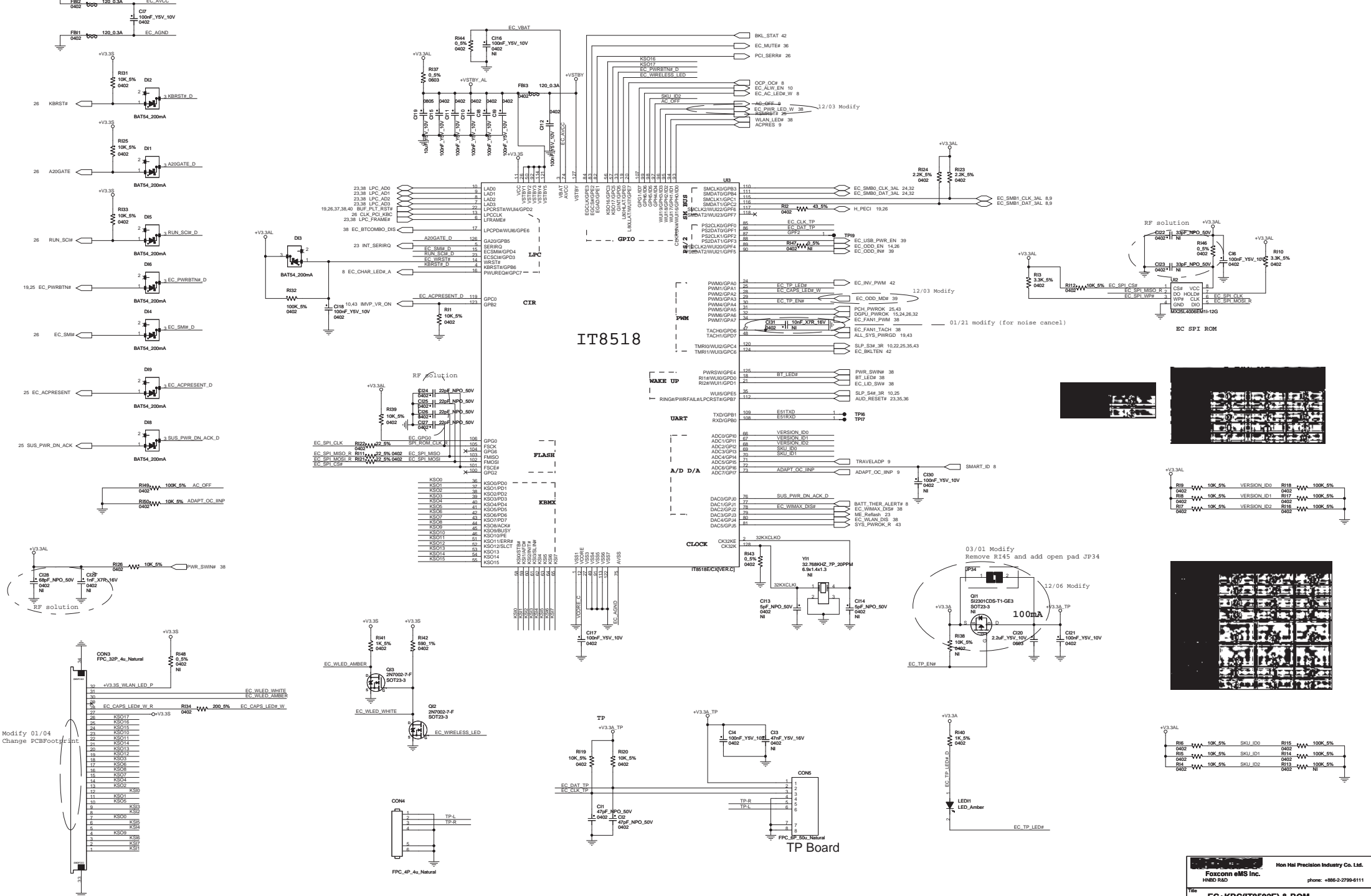


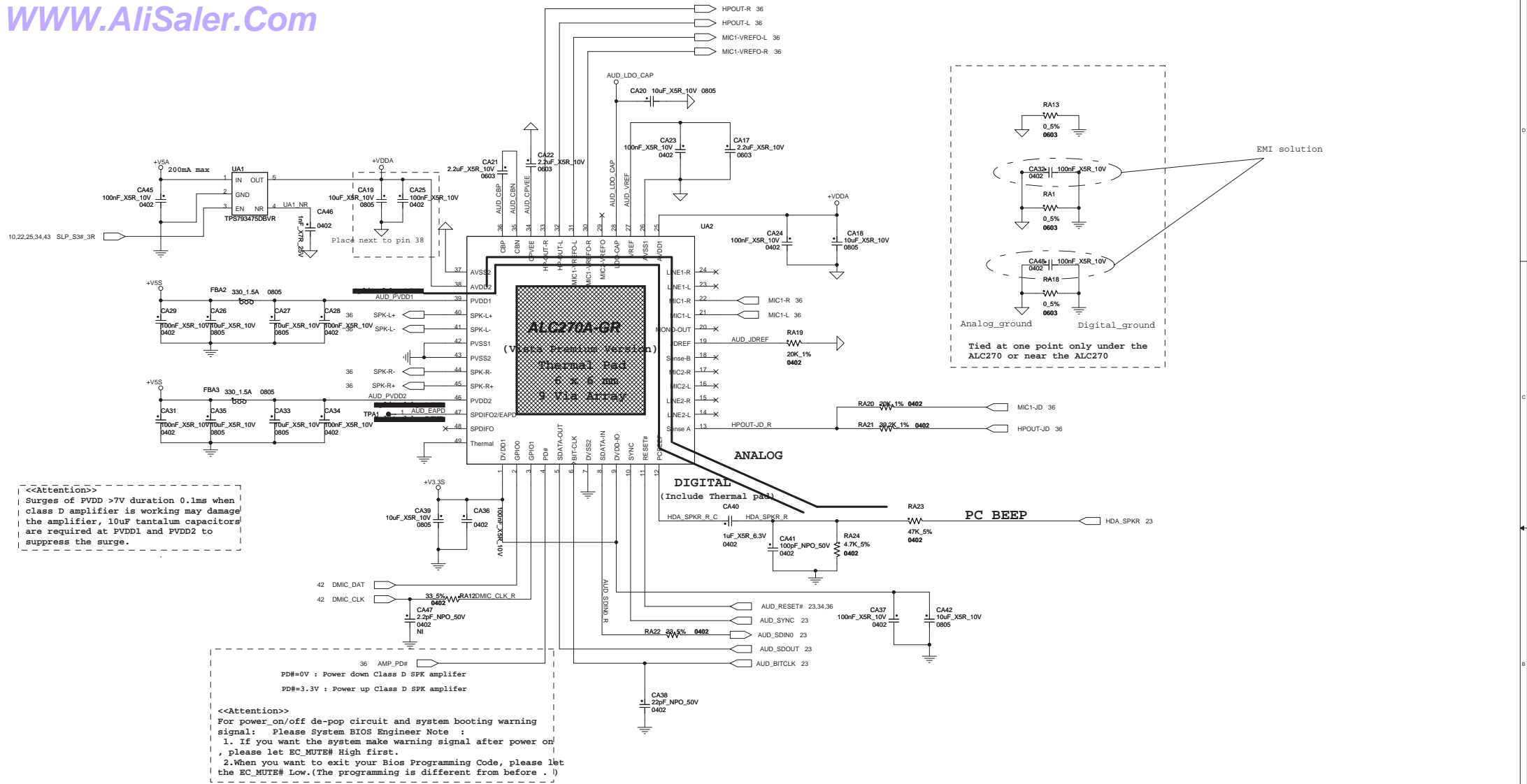








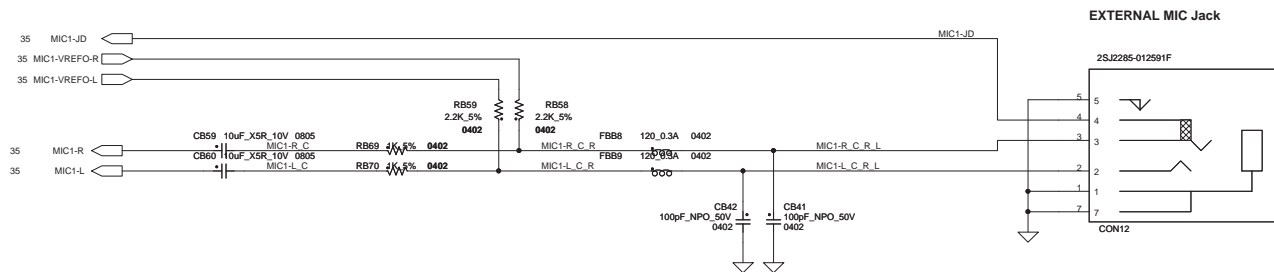
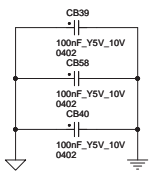
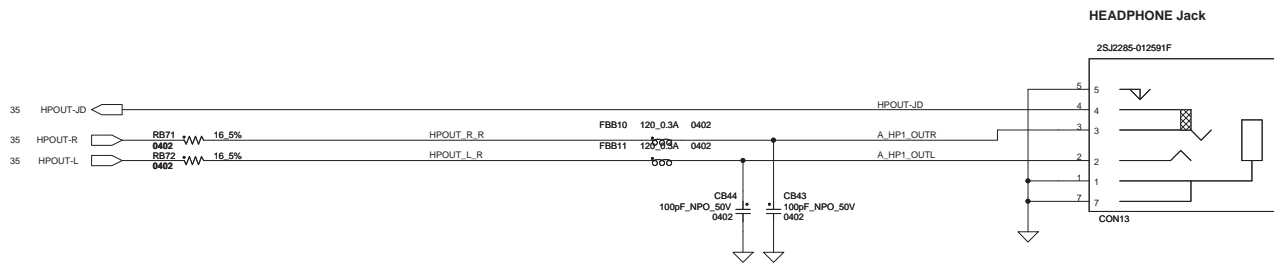
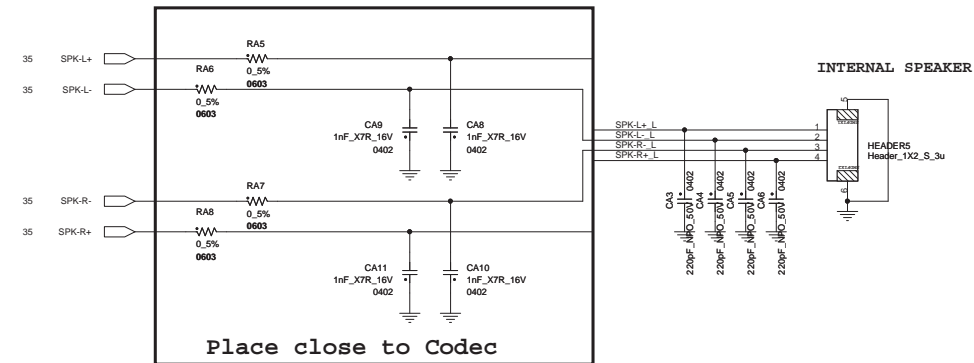
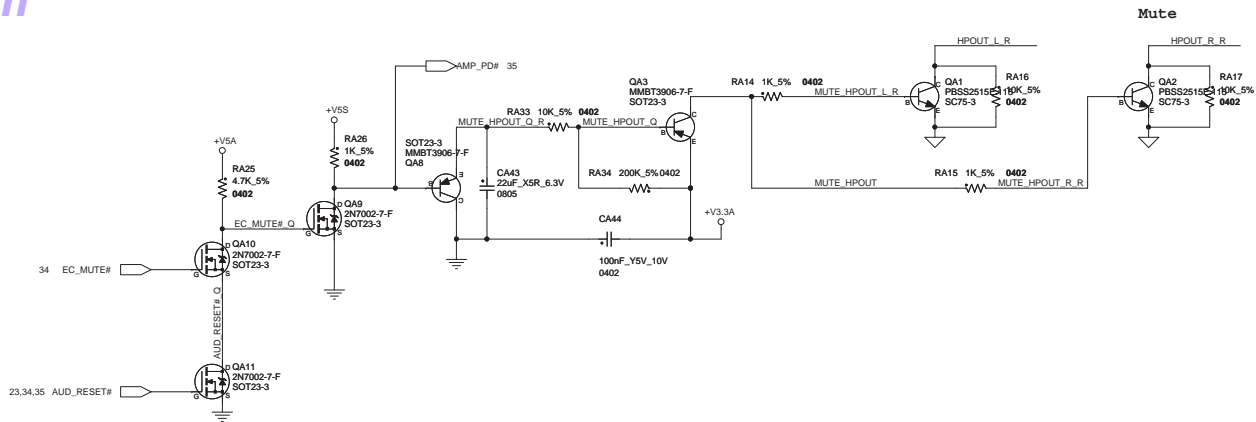




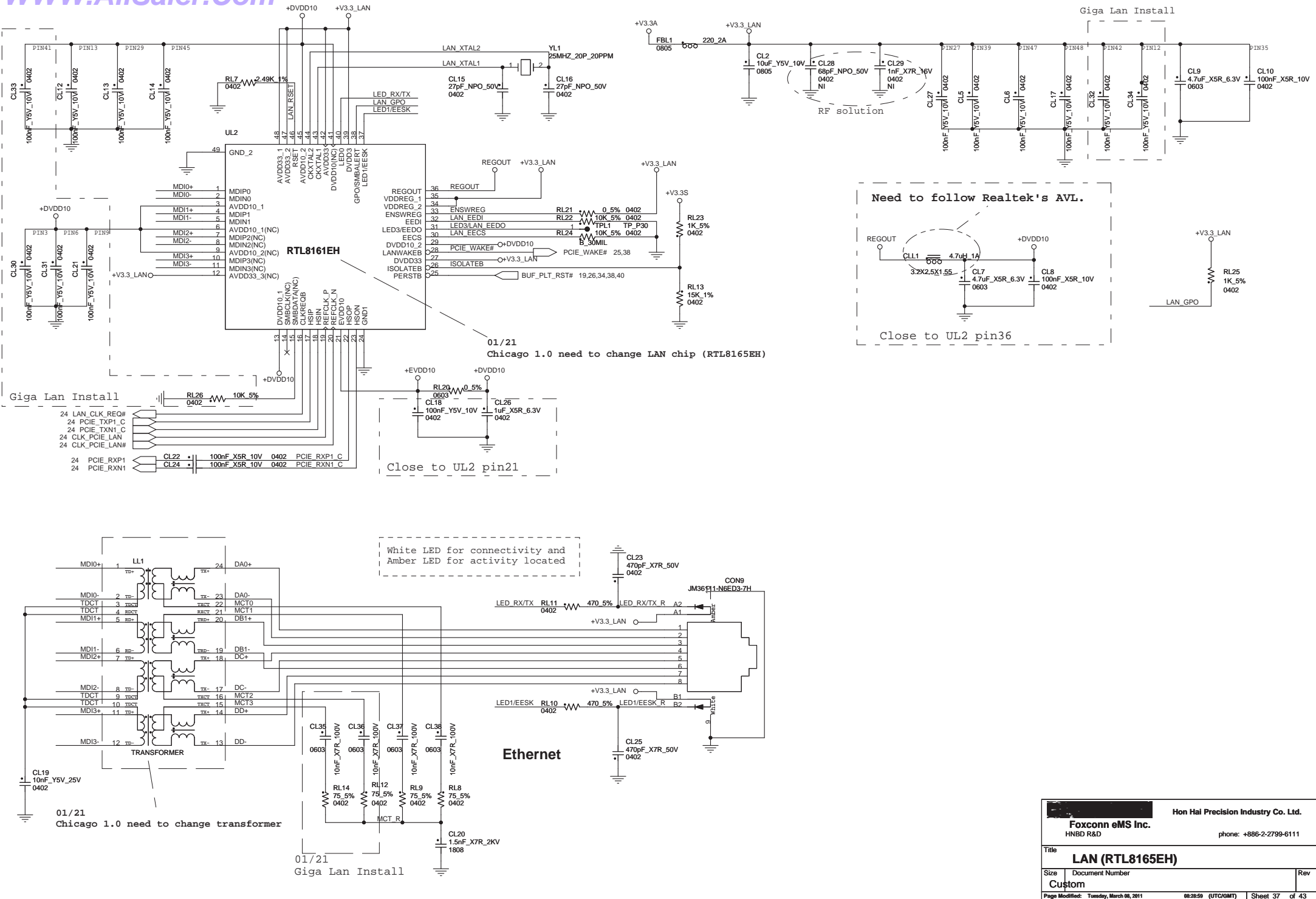
36 AMP\_PD#  
 PD#=0V : Power down Class D SPK amplifier  
 PD#3.3V : Power up Class D SPK amplifier

<<Attention>>  
 For power\_on/off de-pop circuit and system booting warning signal: Please System BIOS Engineer Note :  
 1. If you want the system make warning signal after power on, please let EC\_MUTE# High first.  
 2. When you want to exit your Bios Programming Code, please let the EC\_MUTE# Low. (The programming is different from before .)

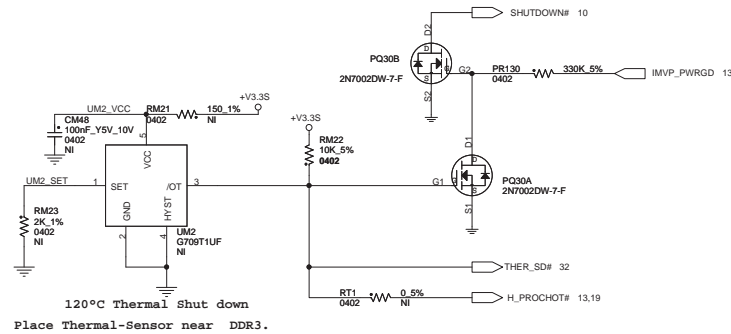
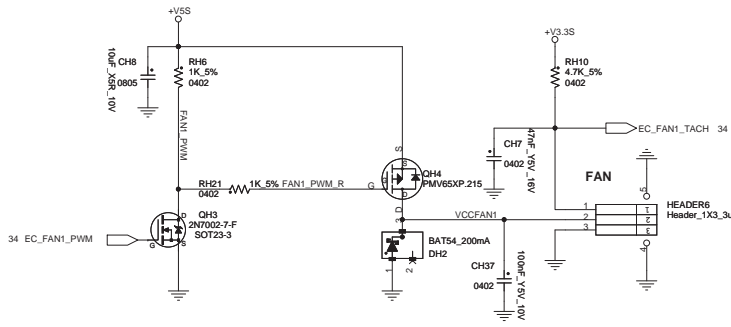
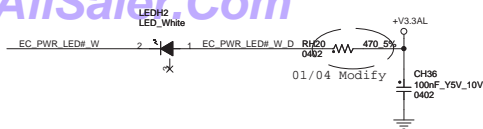
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Size	Document Number	Rev
Custom		
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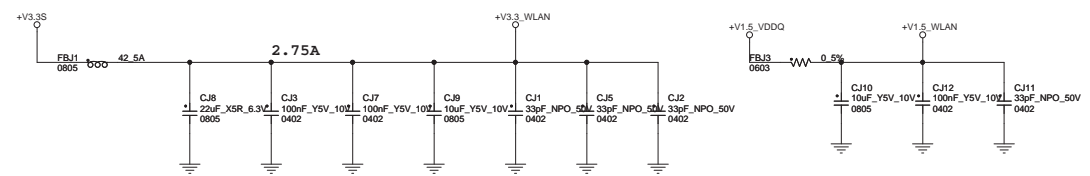
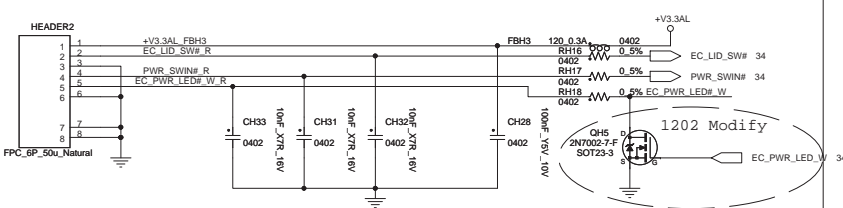
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Size	Document Number
Custom	<b>CHICAGO</b>
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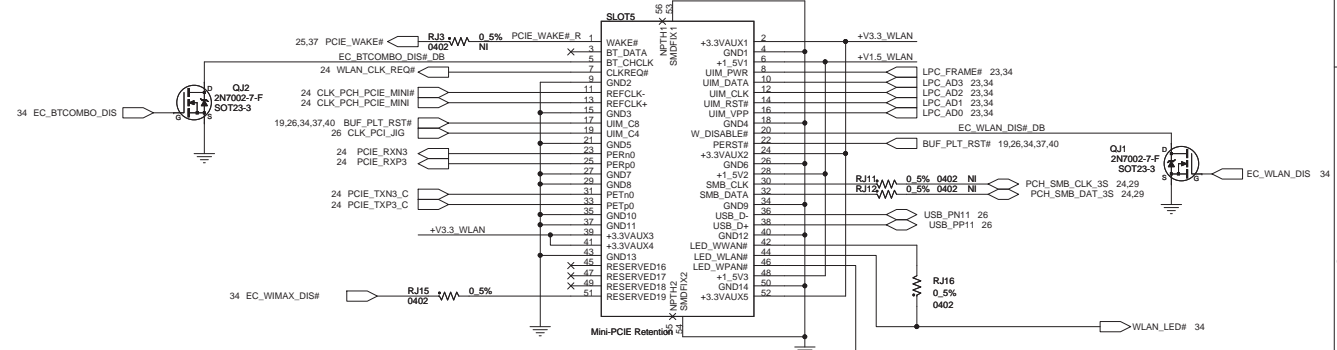
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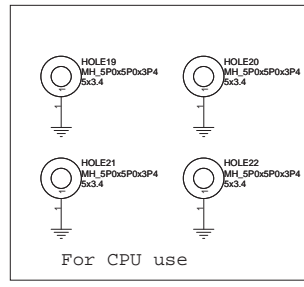
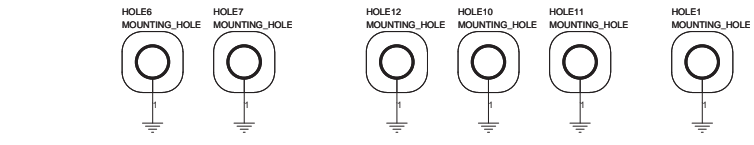
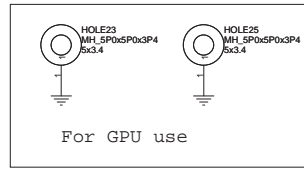
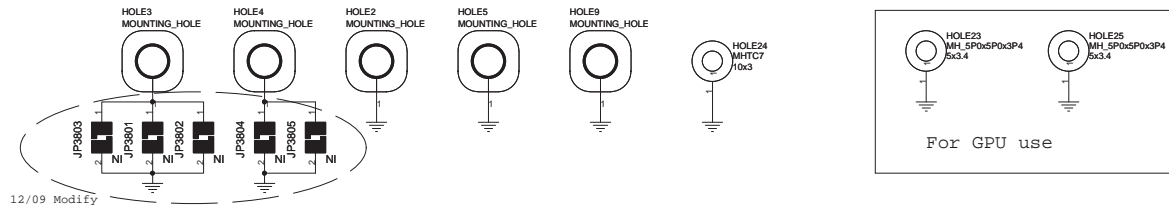
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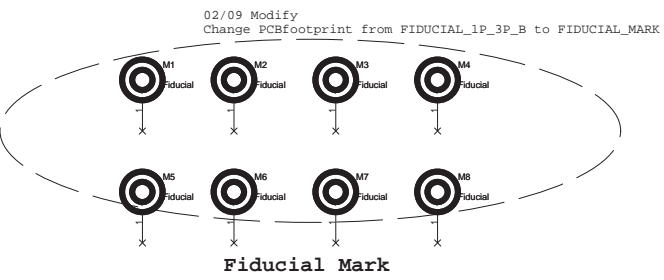
+1.5V => 0.5A Peak / 0.375A Normal  
+3.3Vaux => 2.75A Peak / 1.1A Normal



Half Mini Card for WLAN

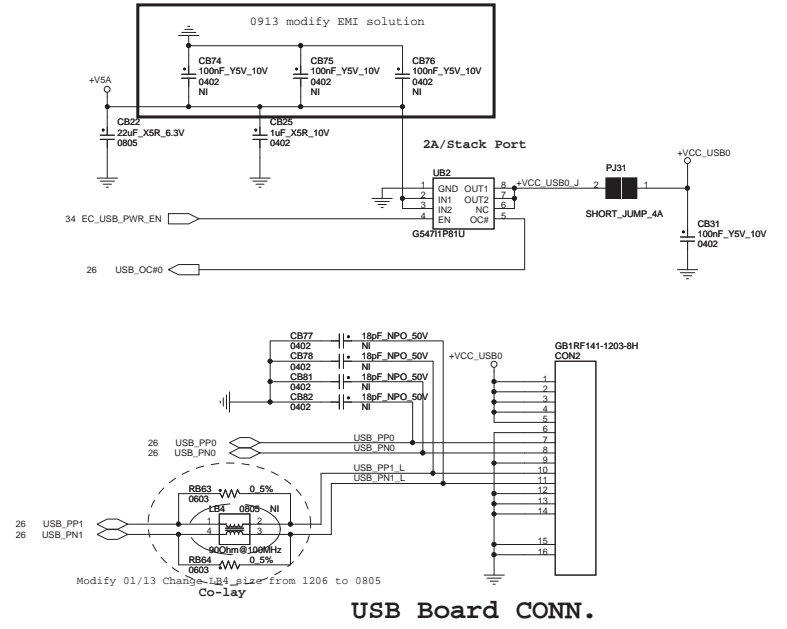
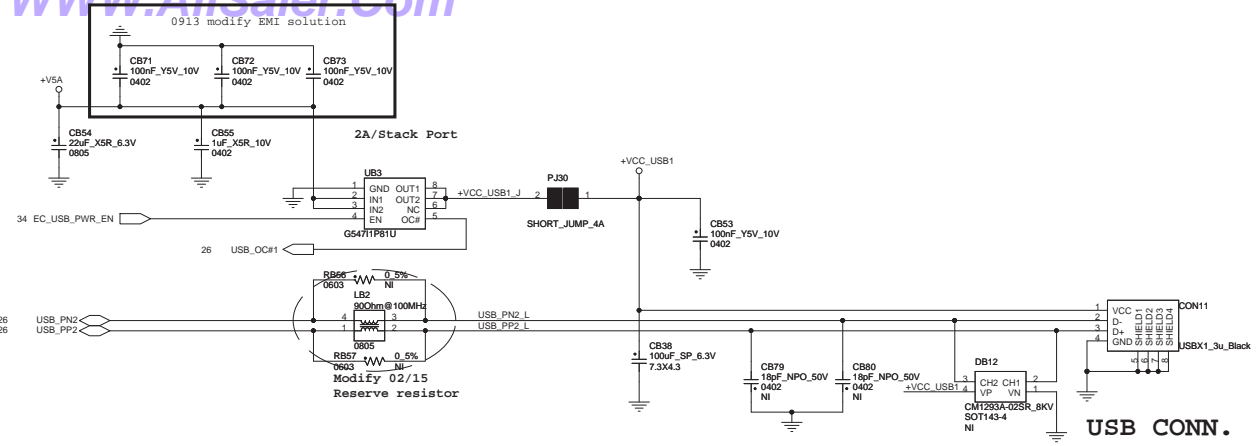


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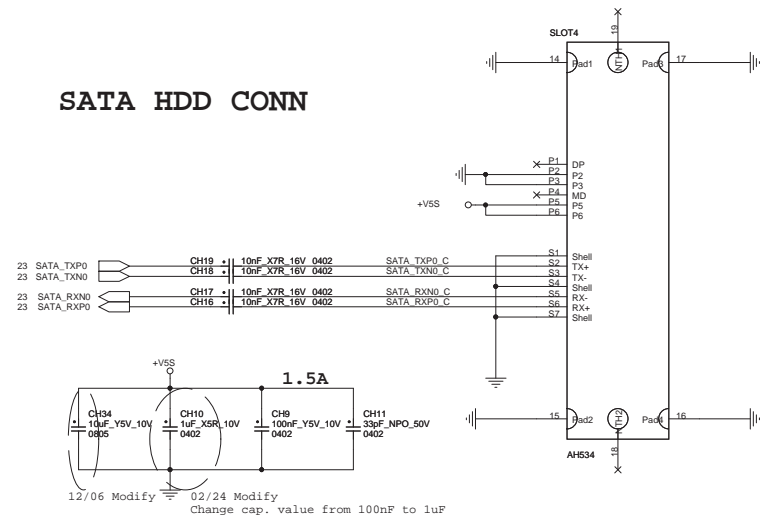


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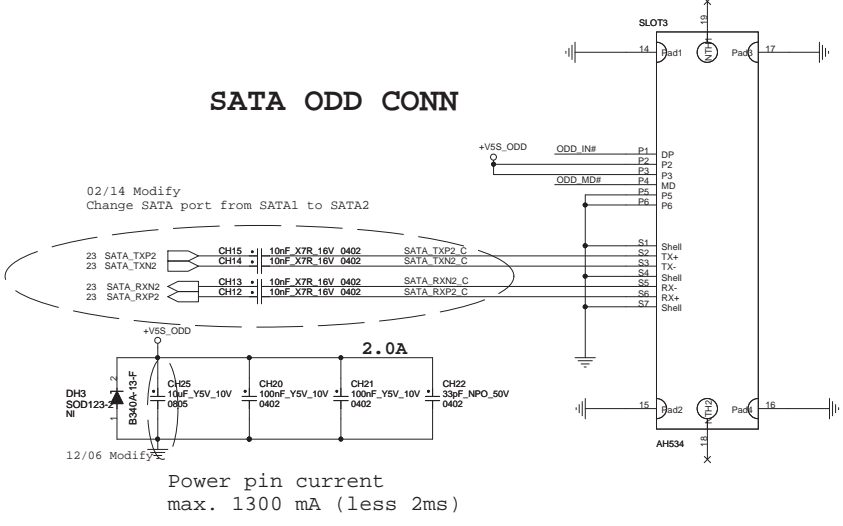
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Size	Document Number		Rev
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Page Modified: Tuesday, March 08, 2011 09:29:00 (UTC+0800) Sheet 38 of 43			



**SATA HDD CONN**

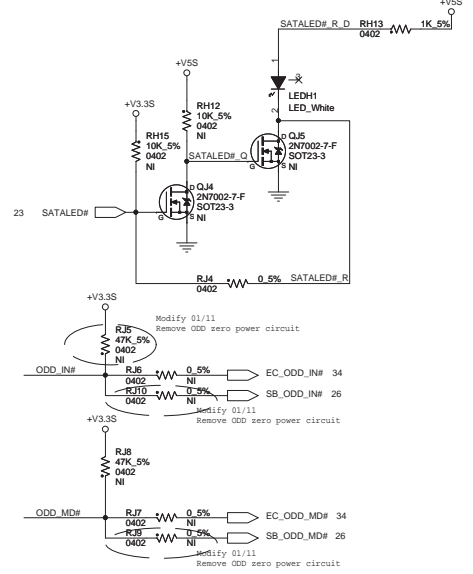


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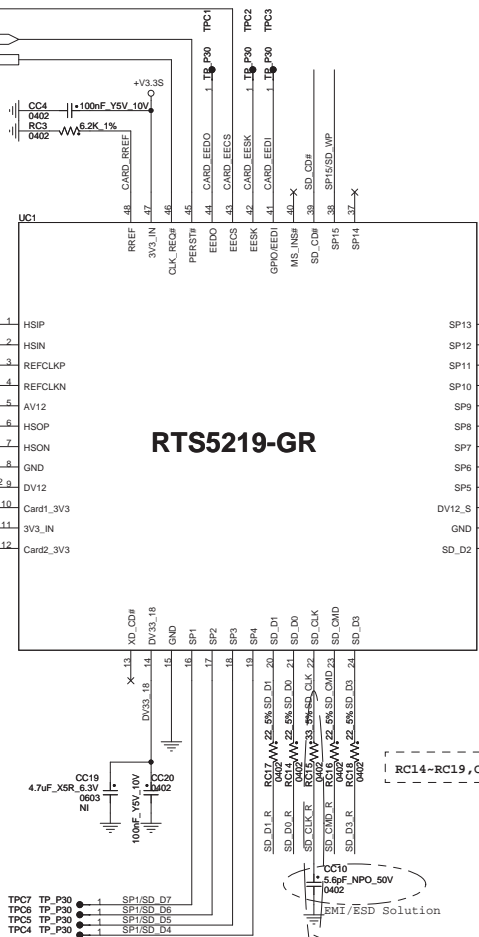
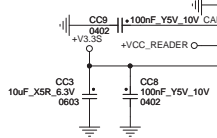
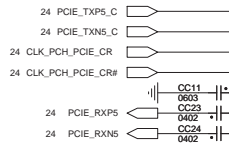
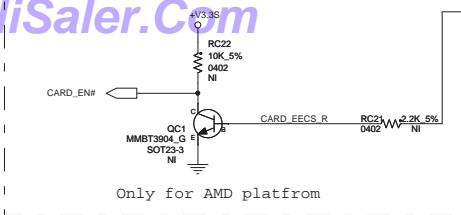


Power pin current max. 1300 mA (less 2ms)

**HDD/ODD Status LED**



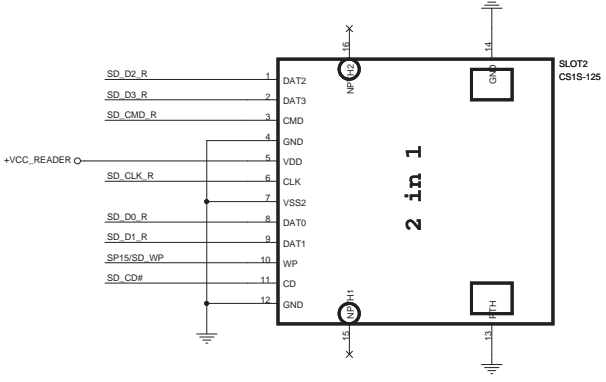
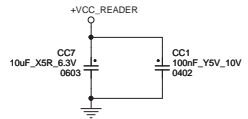
<b>Foxconn eMS Inc.</b>		<b>Hon Hai Precision Industry Co. Ltd.</b>	
HNBD R&D		phone: +886-2-2799-6111	
<b>USB2/USB DB CONN./SATA CONN.</b>			
Size	Document Number	Rev	MV
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Page Modified: Tuesday, March 08, 2011		02:28:59 (UTC+08:00) Sheet 39 of 43	



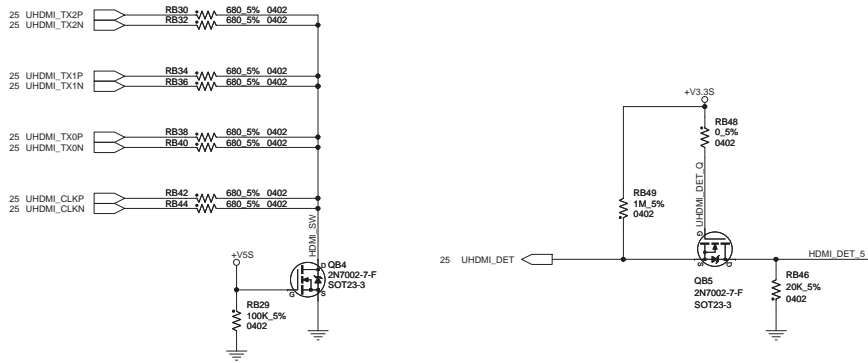
RC14-RC19, CC10 close to chip pin!

EMI/ESD Solution

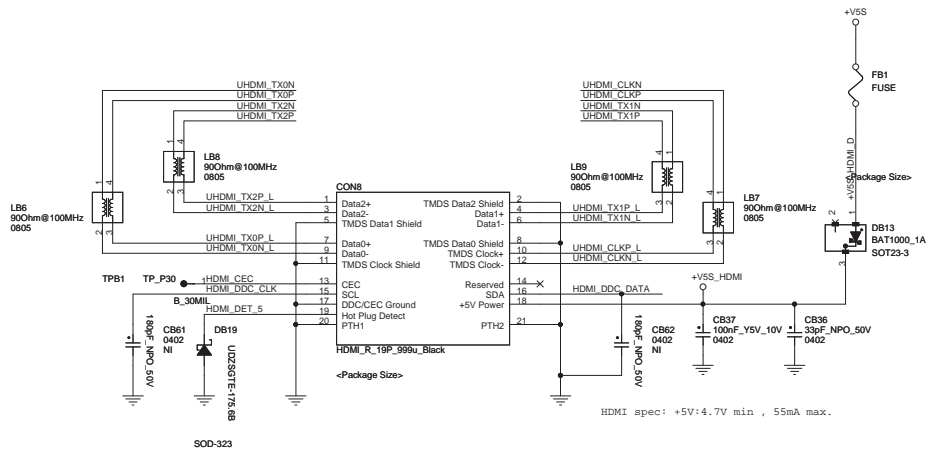
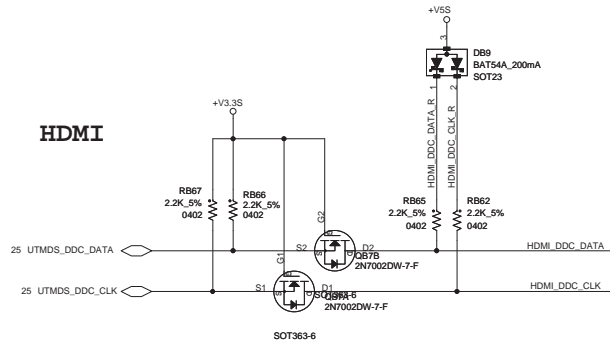
1/24 Modify  
Check with EMI/ESDMax



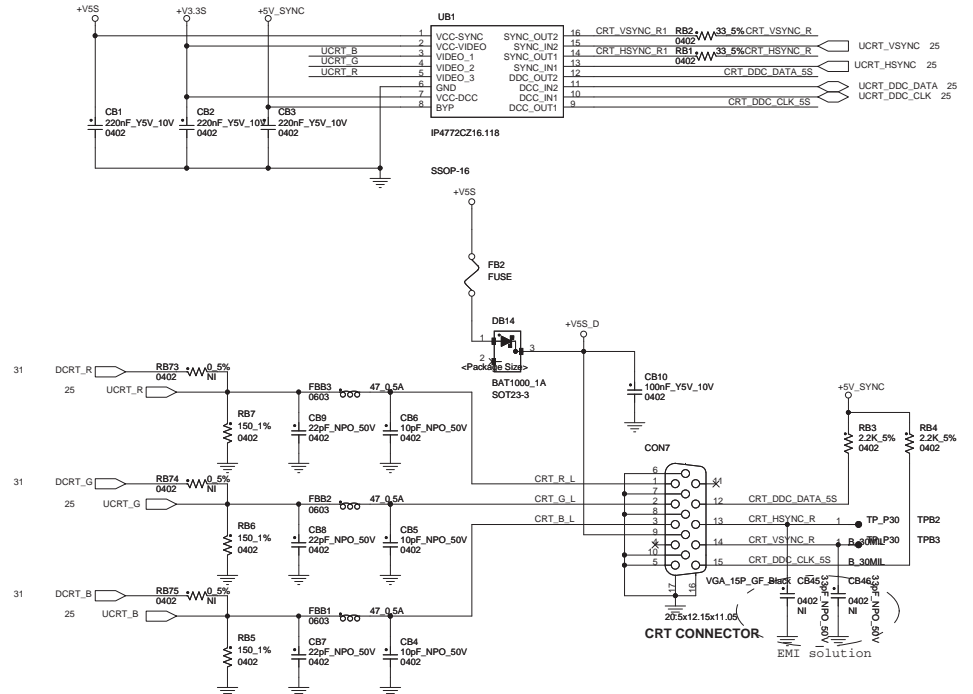
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HDMI

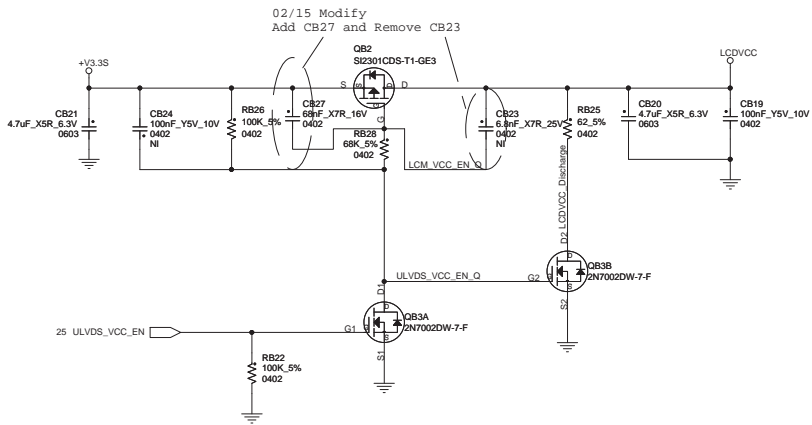
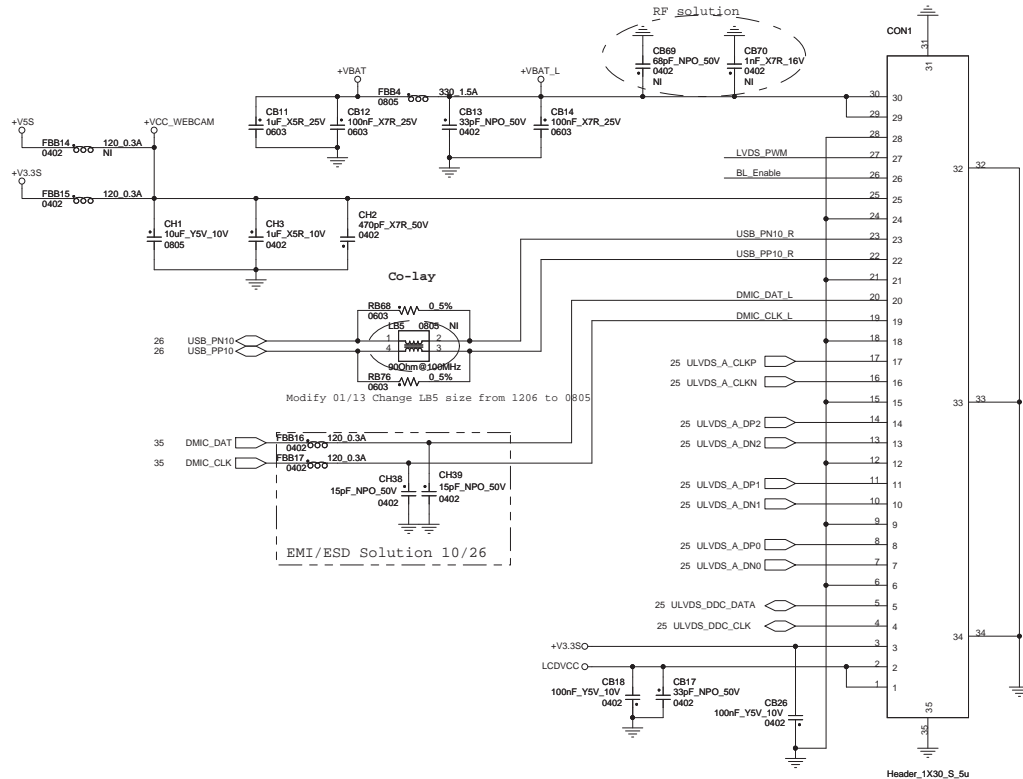
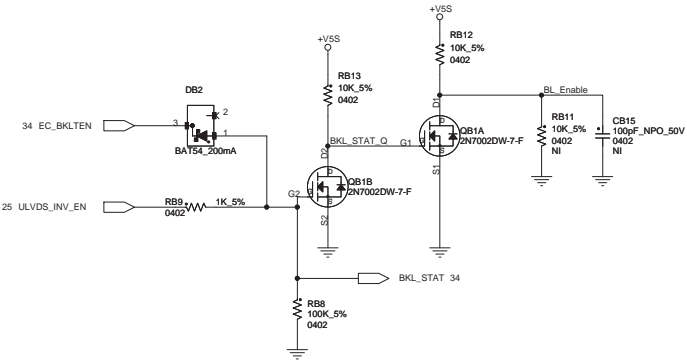
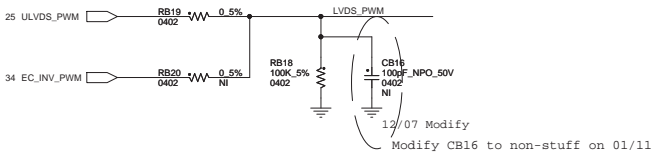


CRT



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Title <b>HDMI &amp; CRT</b>			
Size	Document Number	Rev	
Custom			
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Title			
LVDS&Webcam			
Size	Document Number		Rev
Custom	CHICAGO		MW
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