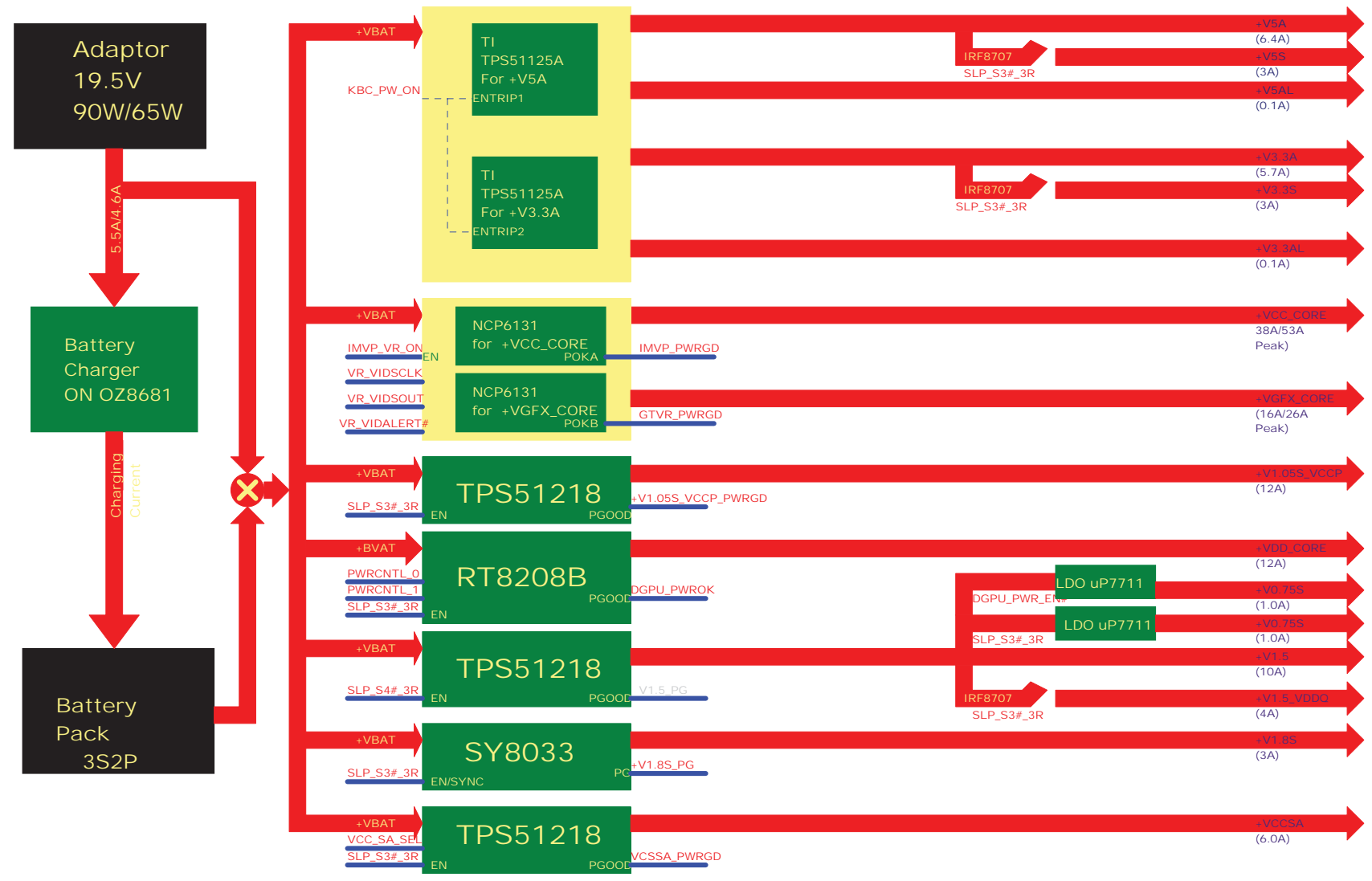
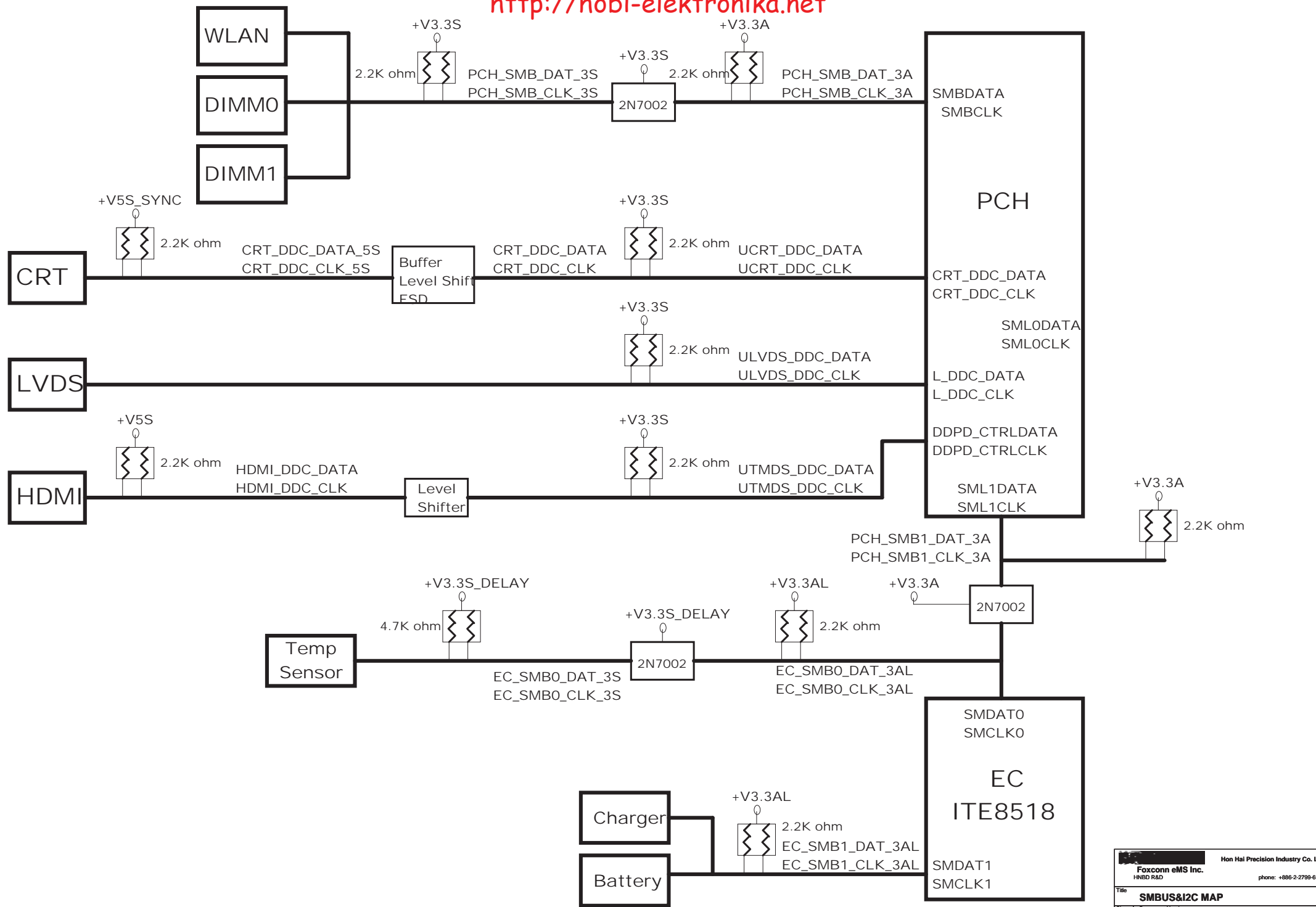
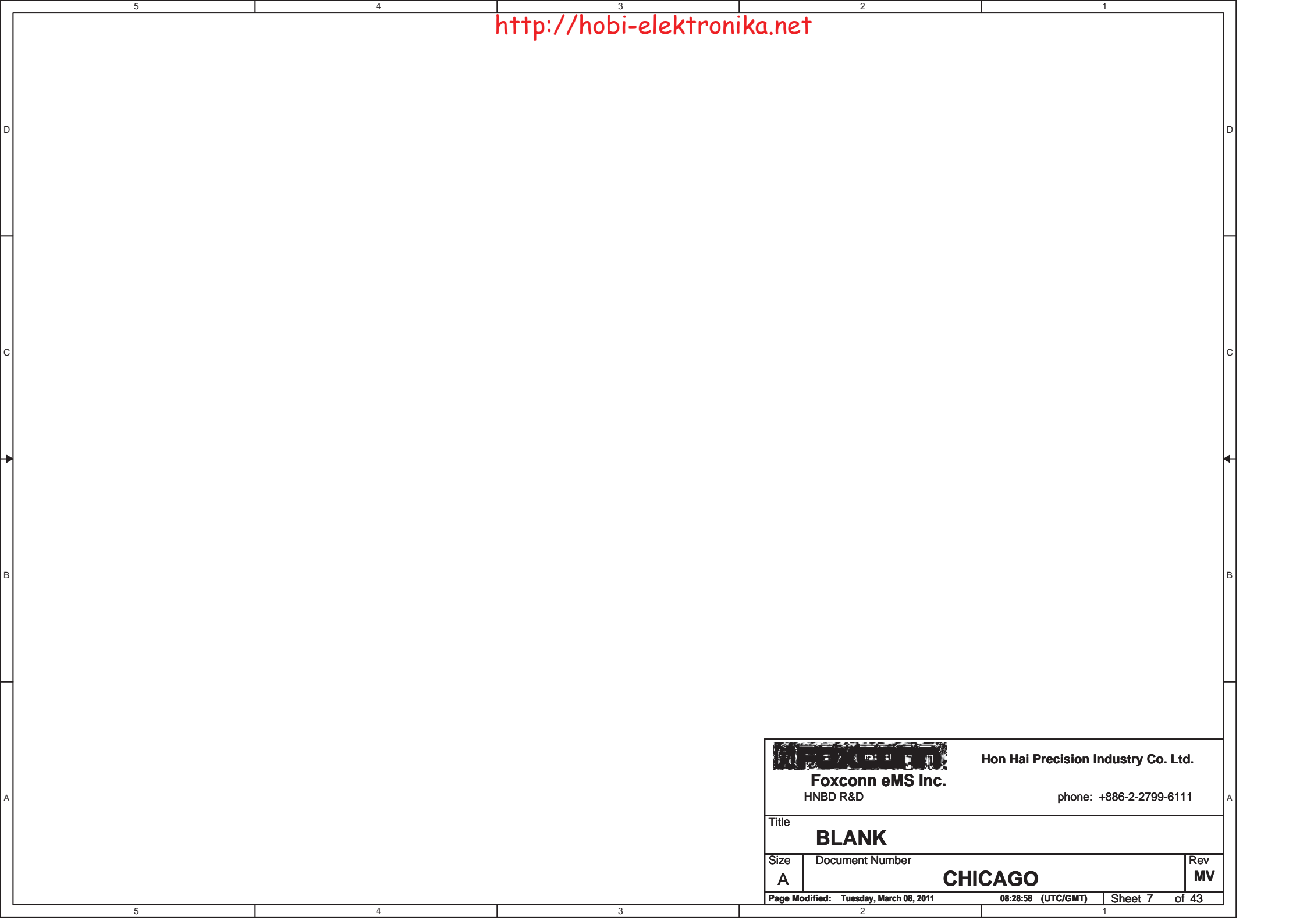


# POWER MAP



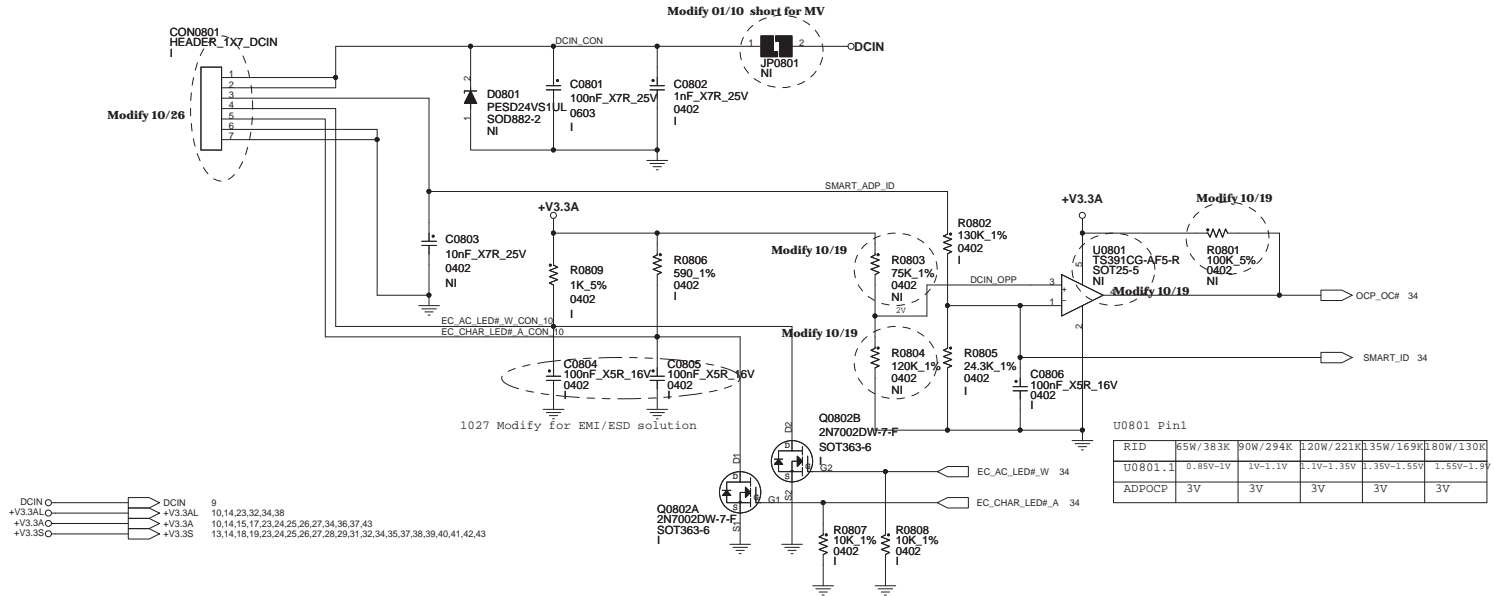


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<b>Foxconn eMS Inc.</b>		phone: +886-2-2799-6111	
HNBD R&D			
Title			
<b>BLANK</b>			
Size	Document Number		Rev
<b>A</b>	<b>CHICAGO</b>		<b>MV</b>
Page Modified: Tuesday, March 08, 2011		08:28:58 (UTC/GMT)	Sheet 7 of 43



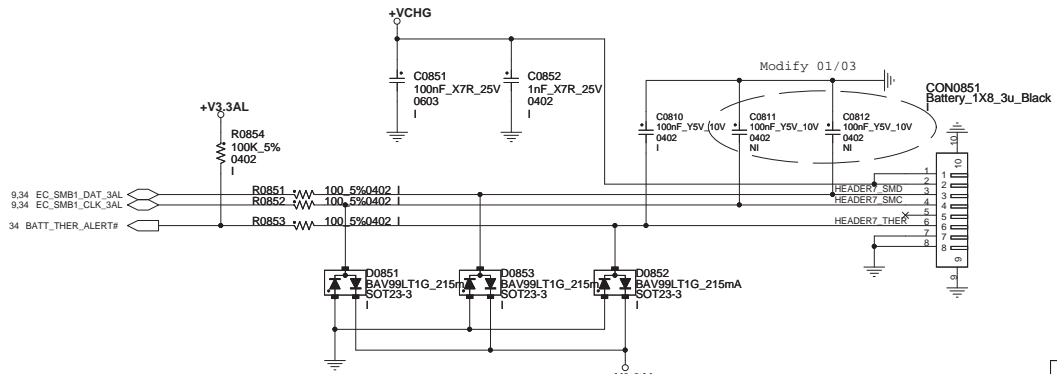
# DC\_JACK WIRE TO BOARD CONNECTOR

2010.1203.0

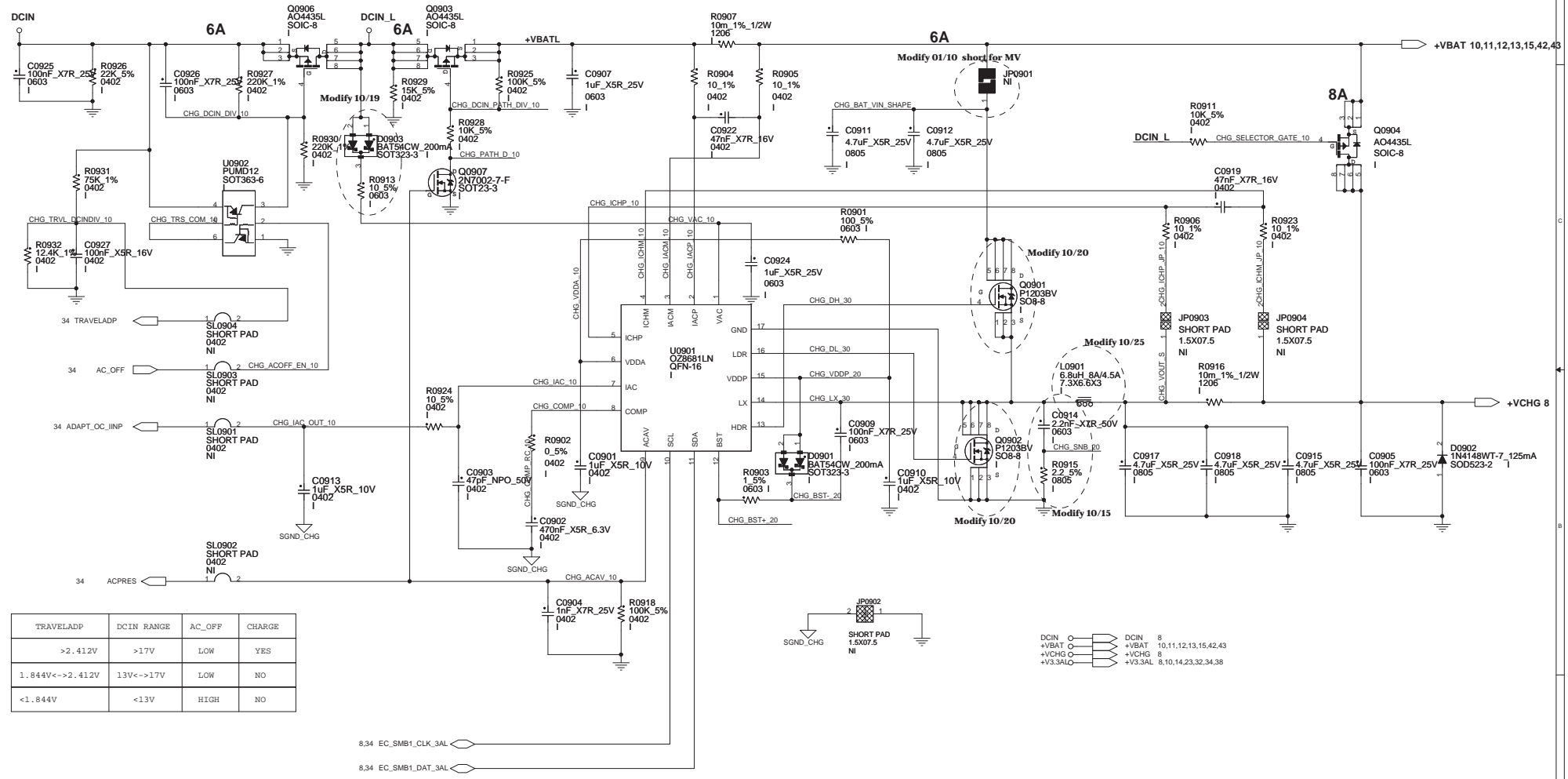


# BATTERY CONNECTOR

2010.0914.0



# BATTERY CHARGER



TRAVELADP	DCIN RANGE	AC_OFF	CHARGE
>2.412V	>17V	LOW	YES
1.844V<->2.412V	13V<->17V	LOW	NO
<1.844V	<13V	HIGH	NO

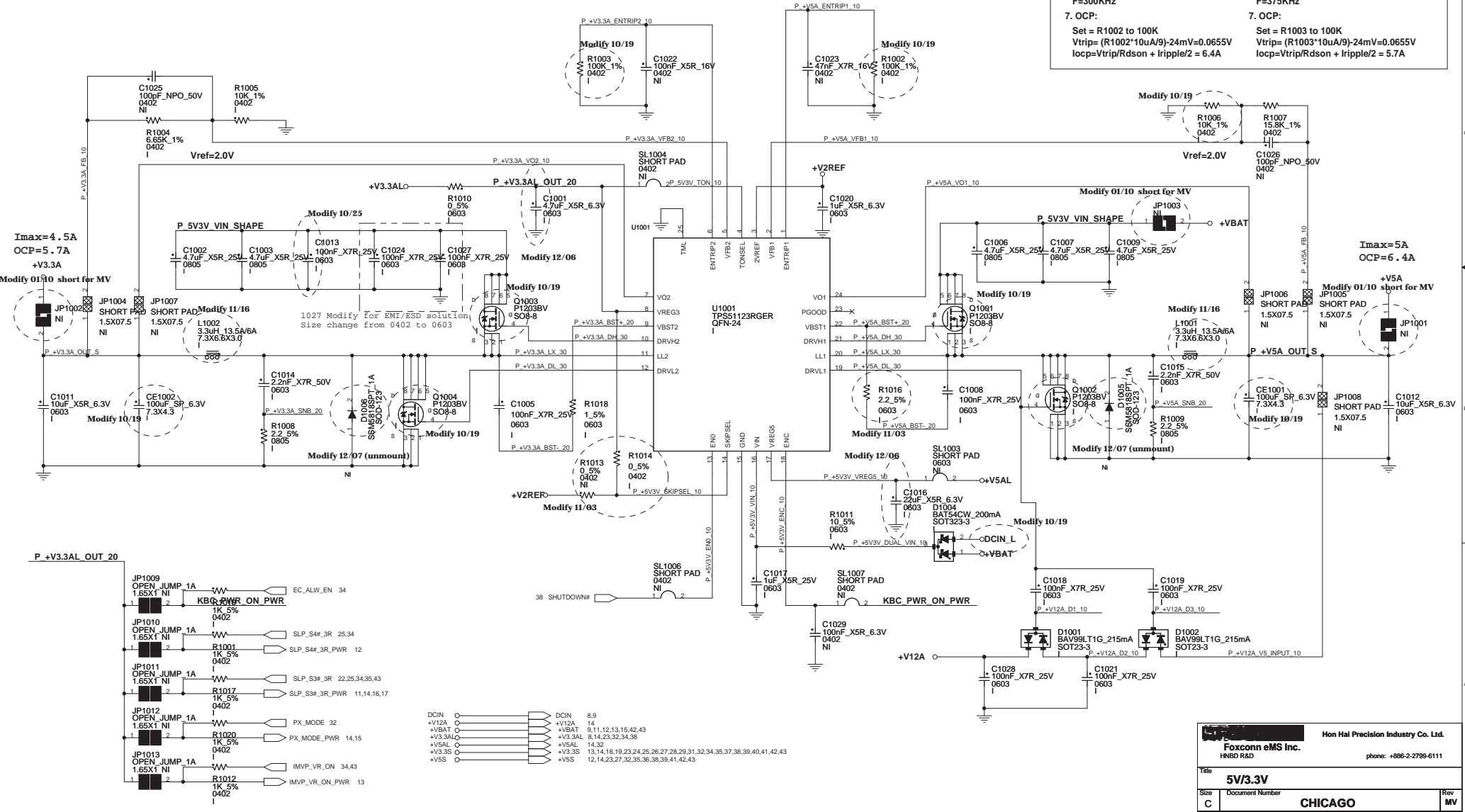
- DCIN 8
- +VBAT 10,11,12,13,15,42,43
- +VCHG 8
- +V3.AL0 8,10,14,23,32,34,38



# +V5A / +V3.3A POWER SUPPLY

2010.1103.0

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

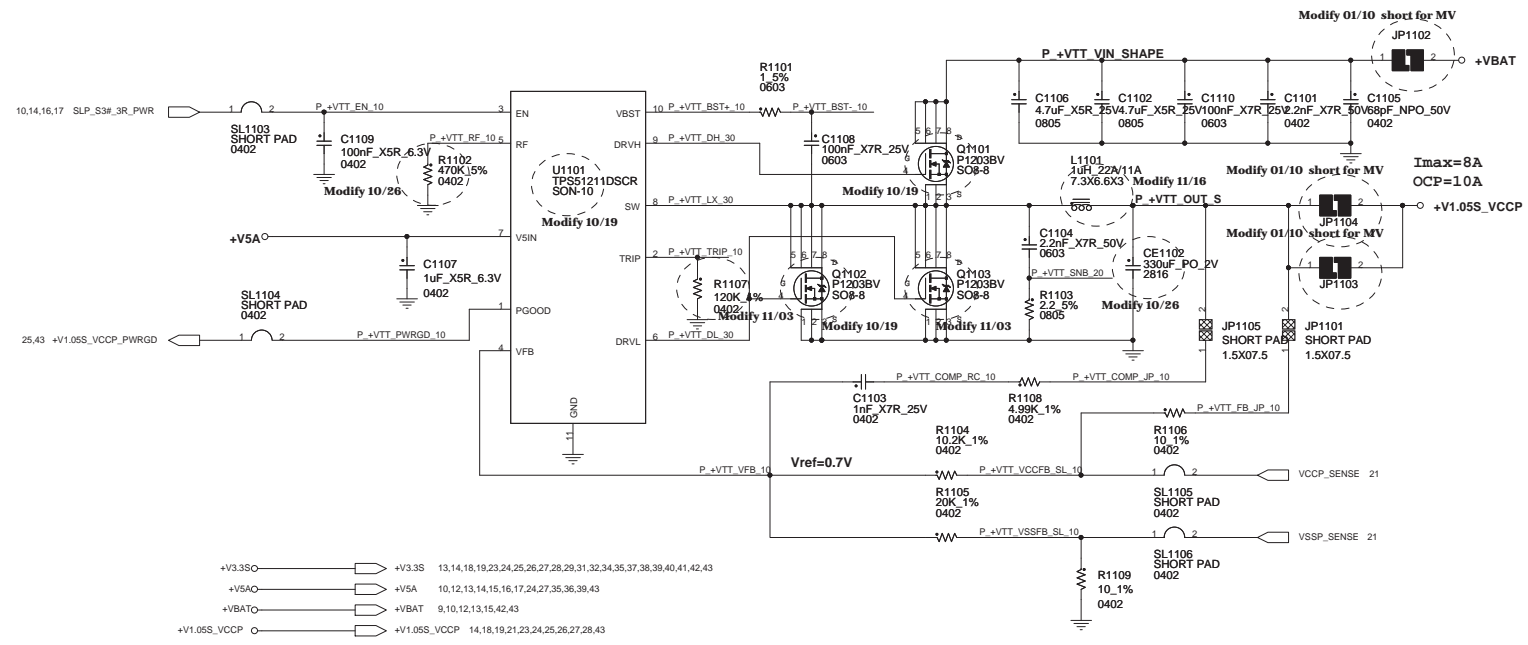


# +VTT POWER SUPPLY

2010.1103.0

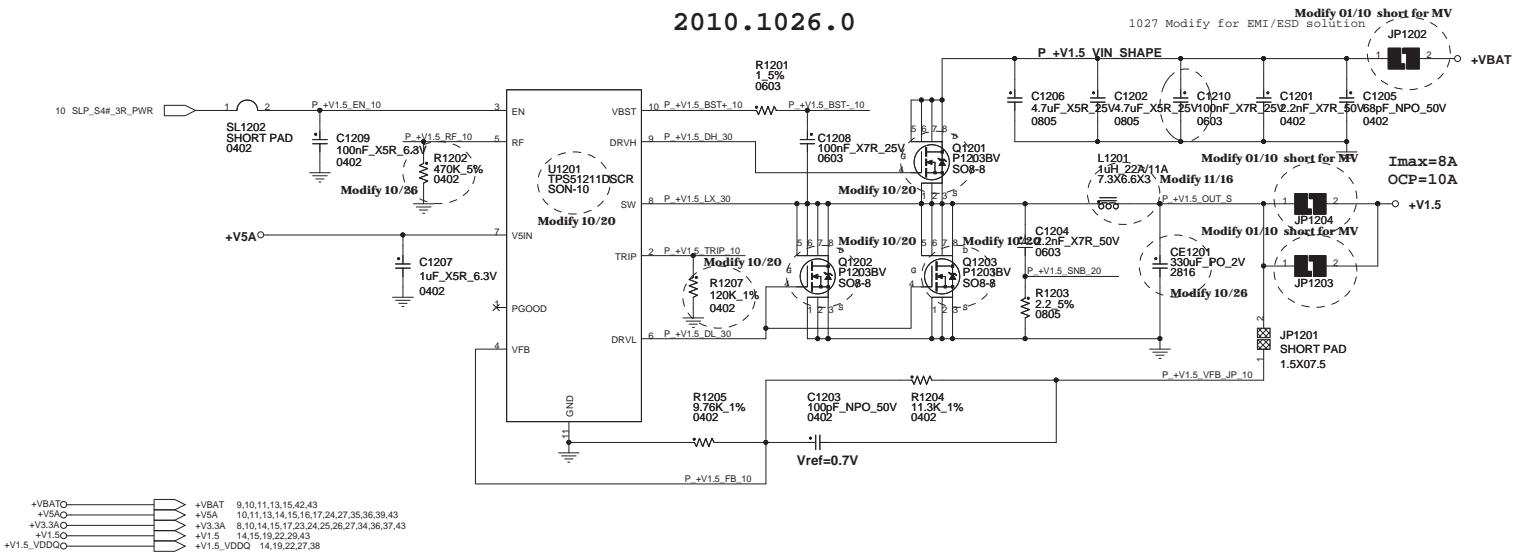
- +V1.05S\_VCCP:**
- I/P Current:**  
 $I_{in} = V_o \cdot I_o / (0.75 \cdot V_{in}) = 1.24A$
  - Ripple Current:**  
 $I_{rip} = 3.42A$
  - Ripple Voltage:**  
 $ESR/1 = 9mohm$   
 $V_{rip} = 30.78mV$
  - Inductor Spec:**  
 $I_{sat} = 36A$   
 $I_{dc} = 18A$   
 $DCR = 3.3mohm$
  - MOSFET Spec:**  

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  
 $V_{trip} = R1107 \cdot 10uA = 1.2V$   
 $I_{ocp} = (V_{trip} / 8 \cdot R_{ds(on)}) + I_{ripple} / 2 = 10A$



# +V1.5 POWER SUPPLY

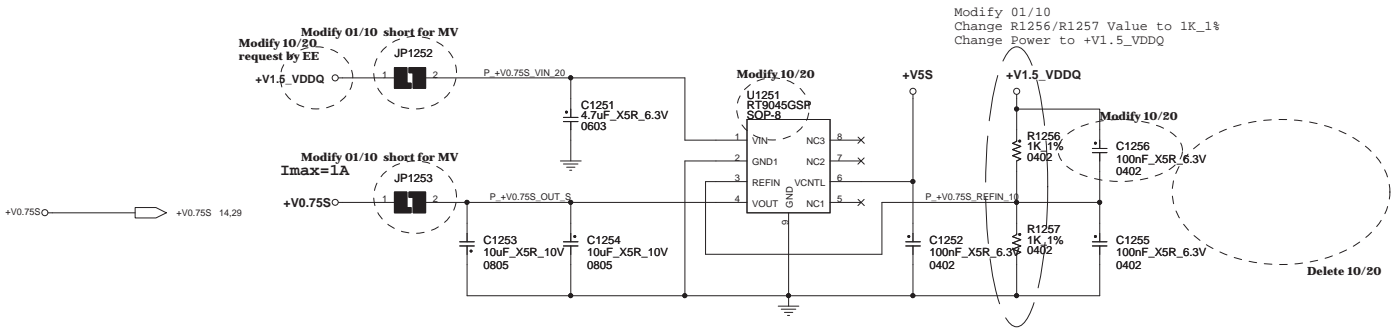
2010.1026.0



- +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:**  
 $F = 290KHz$  ( $R0902 = 0ohm$ )
  - OCP:**  
 Set = R1207 to 120K  
 $V_{trip} = R1207 \cdot 10uA = 1.2V$   
 $I_{ocp} = (V_{trip} / 8 \cdot R_{ds(ON)}) + I_{ripple} / 2 = 10A$

# +V0.75S POWER SUPPLY

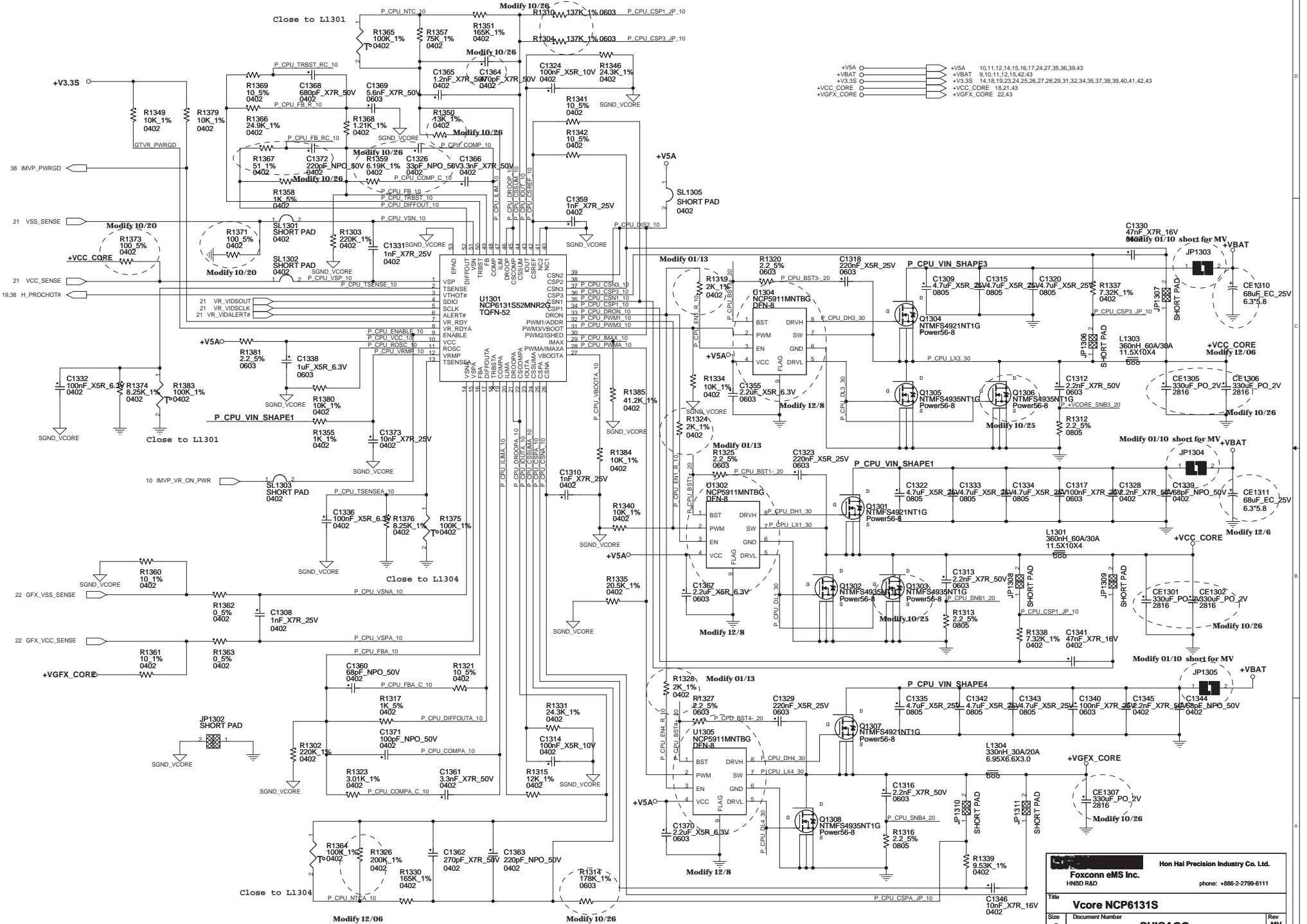
2010.1026.0



2010.1026.0

# IMVP7 CPU VCORE POWER SUPPLY

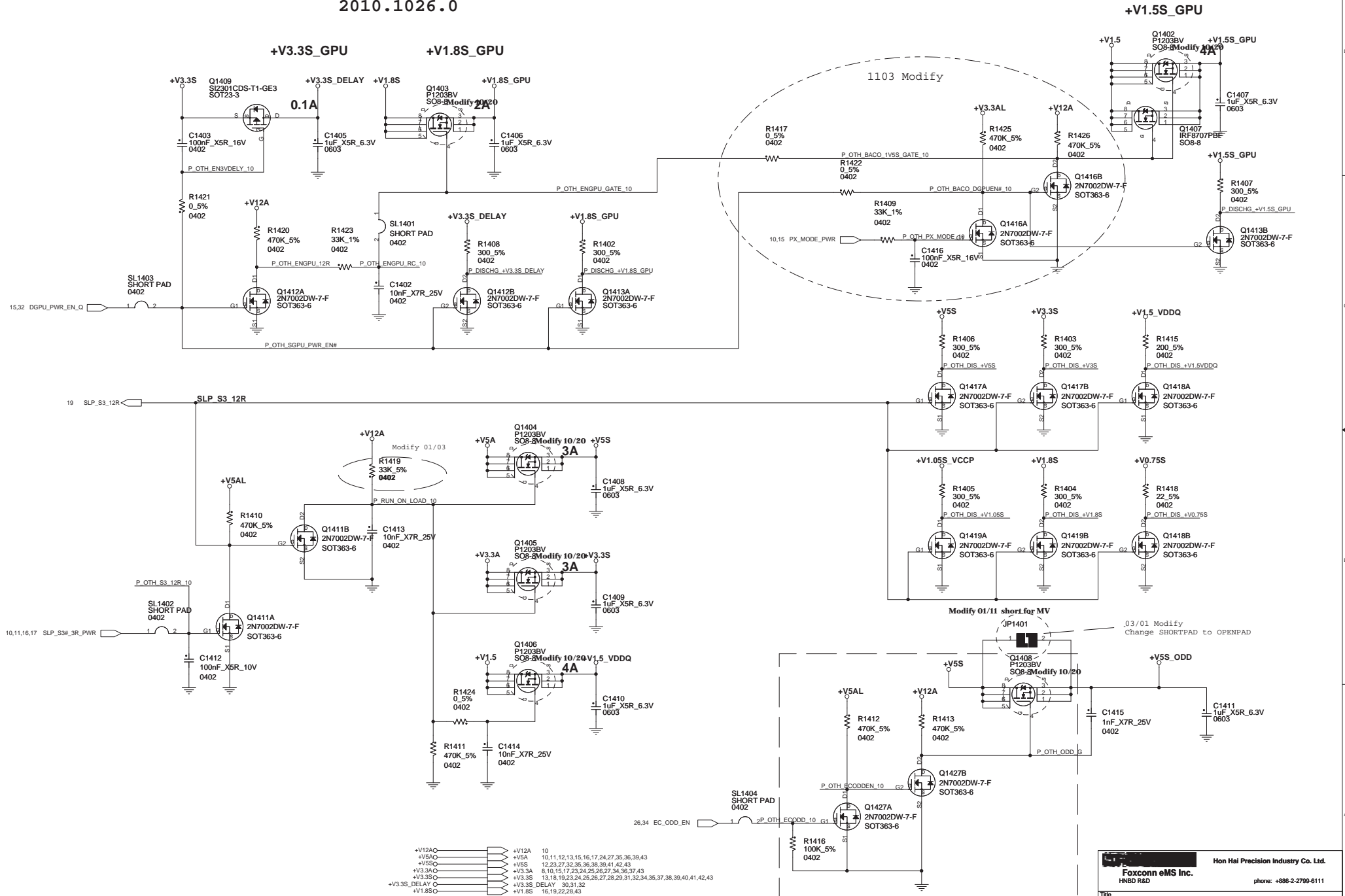
<http://hobi-elektronika.net>



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<b>Vcore NCP6131S</b>			
Title	Document Number	Rev	
C	CHICAGO	MV	
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# OTHER POWER / DISCHARGE CIRCUITS

2010.1026.0



- +V12A → +V12A 10
- +V5A → +V5A 10,11,12,13,15,16,17,24,27,35,36,39,43
- +V5S → +V5S 12,23,27,32,35,36,38,39,41,42,43
- +V3.3A → +V3.3A 8,10,15,17,23,24,25,26,27,34,36,37,43
- +V3.3C → +V3.3C 15,16,19,23,24,25,26,27,29,31,32,34,35,37,38,39,40,41,42,43
- +V3.3S → +V3.3S 30,31,32
- +V3.3S\_DELAY → +V3.3S\_DELAY 16,19,22,28,43
- +V1.8S → +V1.8S 16,19,22,28,43

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Title: **PWR\_OTHER**

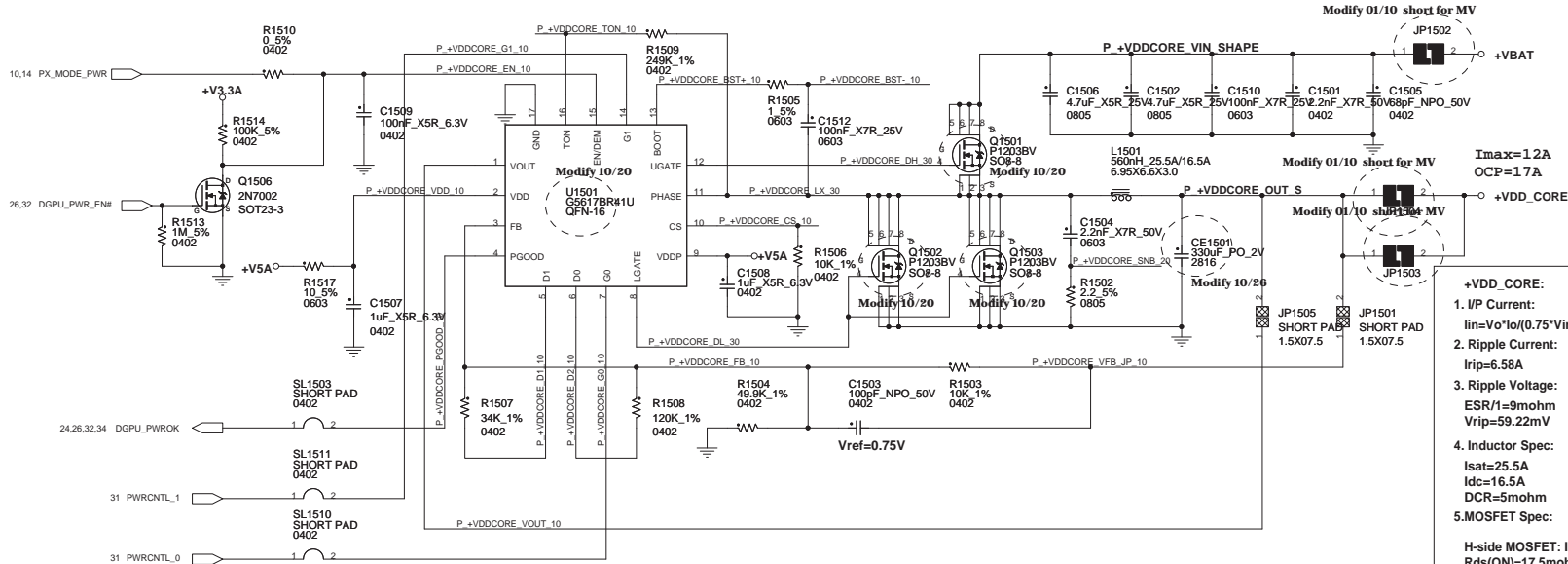
Size	Document Number	Rev
C	<b>CHICAGO</b>	MV

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Modify 01/11  
Remove ODD zero power circuit

# http://hobi-elektronika.net +VDD\_CORE POWER SUPPLY

2010.1026.0

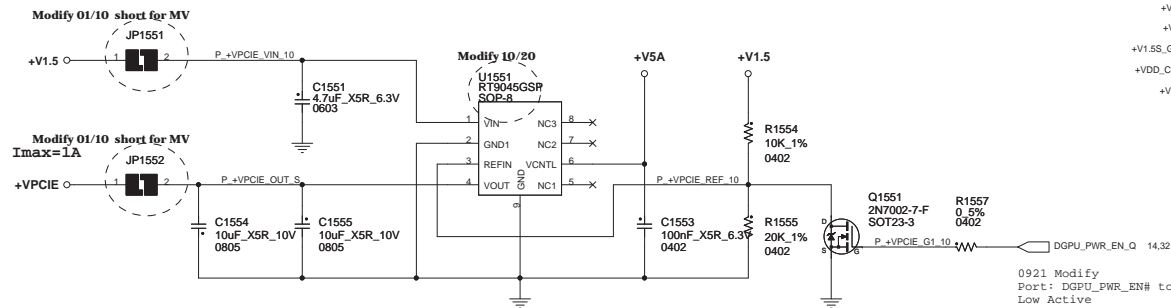


PWRCNTL_1	PWRCNTL_0	VDD_CORE
0	---	1.121V
---	---	---
1	---	0.9V
---	---	---

- +VDD\_CORE:**
- 1. I/P Current:**  
 $I_{in} = V_o \cdot I_o / (0.75 \cdot V_{in}) = 1.48A$
  - 2. Ripple Current:**  
 $I_{rip} = 6.58A$
  - 3. Ripple Voltage:**  
 $ESR/1 = 9m\Omega$   
 $V_{rip} = 59.22mV$
  - 4. Inductor Spec:**  
 $I_{sat} = 25.5A$   
 $I_{dc} = 16.5A$   
 $DCR = 5m\Omega$
  - 5. MOSFET Spec:**  

H-side MOSFET: IRF8707PBF	L-side MOSFET: IRF8707PBF
$R_{ds(ON)} = 17.5m\Omega$ ( $V_{gs} = 4.5V$ )	$R_{ds(ON)} = 17.5m\Omega$ ( $V_{gs} = 4.5V$ )
$I_{cont} = 11A$ ( $T = 25^\circ C$ )	$I_{cont} = 11A$ ( $T = 25^\circ C$ )
$I_{peak} = 88A$ (Pause = 10 us)	$I_{peak} = 88A$ (Pause = 10 us)
  - 6. Frequency:**  
 $TON = 9.6 \cdot P \cdot R1509 \cdot (VOUT + 0.1) / (VIN - 0.3) + 50ns = 206ns$   
 $F = VOUT / (VIN \cdot TON) = 286KHz$
  - 7. OCP:**  
 Set = R1506 to 10K  
 $V_{trip} = R1206 \cdot 10uA = 0.1V$   
 $I_{ocp} = (V_{trip} / R_{dson}) + I_{ripple} / 2 = 17A$

## 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

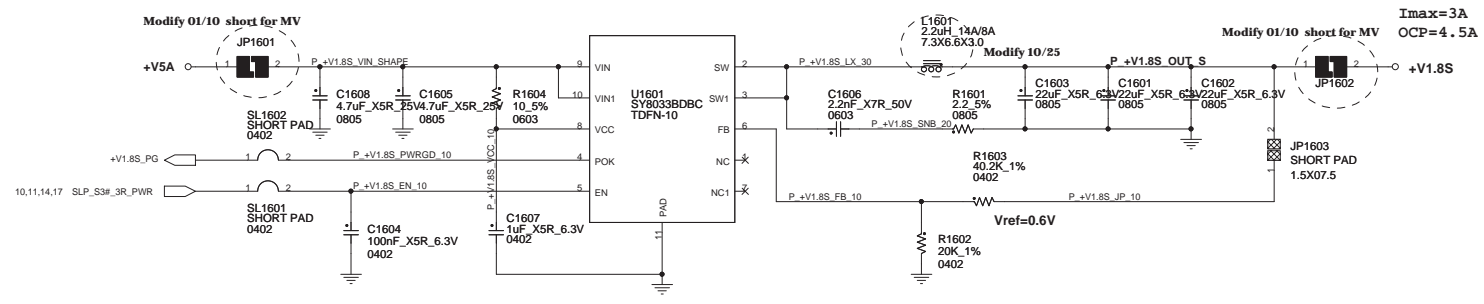
0921 Modify  
 Port: DGPU\_PWR\_EN# to DGPU\_PWR\_EN\_Q  
 Low Active

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Title <b>VATVDD+VPCIE</b>		phone: +886-2-2799-6111	
Size C	Document Number <b>CHICAGO</b>	Rev MV	
Page Modified: Tuesday, March 09, 2011 09:28:09 (UTC+08:00) Sheet 15 of 43			

# +V1.8S POWER SUPPLY

2010.1025.0

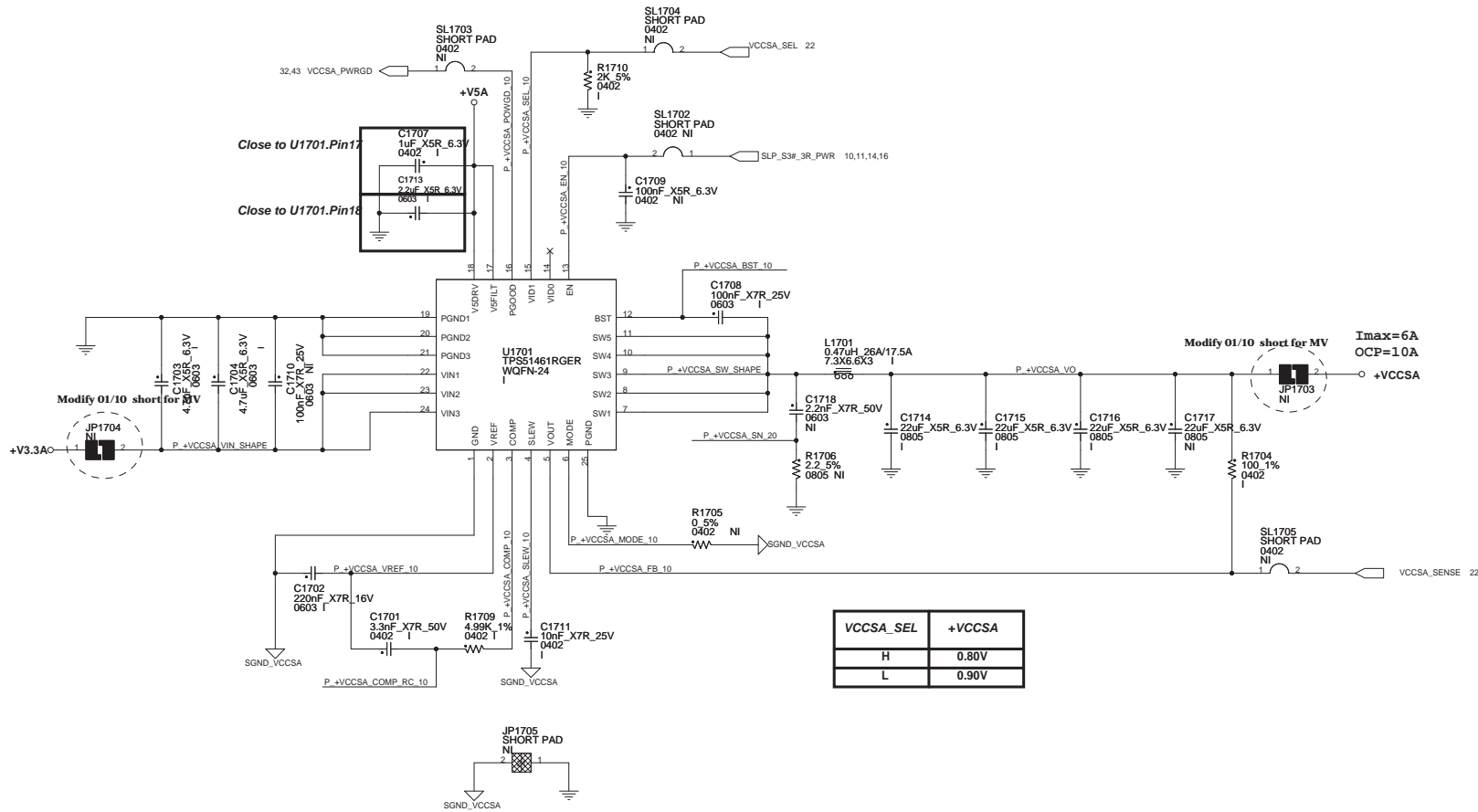
- +V1.8S:**
- I/P Current:**  
 $I_{in} = V_o \cdot I_o / (0.75 \cdot V_{in}) = 1.44A$
  - Ripple Current:**  
 $I_{rip} = 0.53A$
  - Ripple Voltage:**  
 $ESR/3 = 3.3m\Omega$   
 $V_{rip} = 1.75mV$
  - Inductor Spec:**  
 $I_{sat} = 14A$   
 $I_{dc} = 8A$   
 $DCR = 20m\Omega$
  - MOSFET Spec:**  
**H-side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



# +VCCSA POWER SUPPLY

2010.1026.0

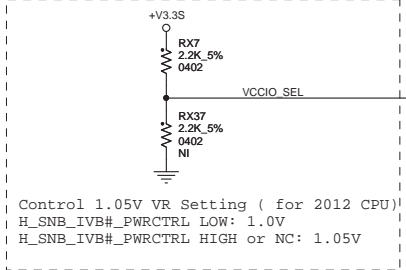
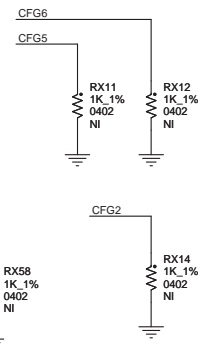
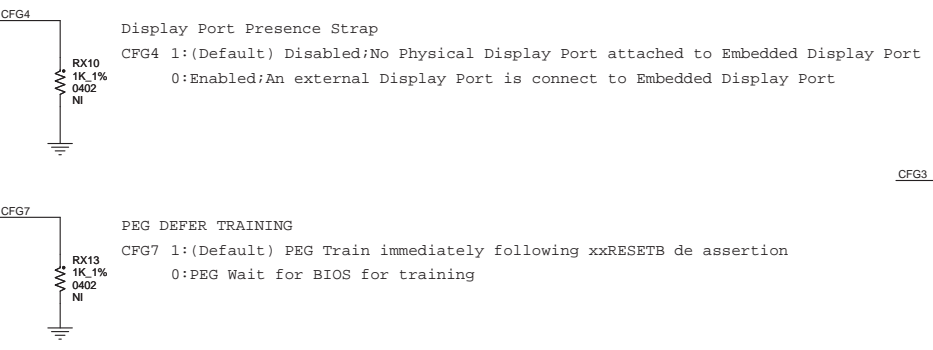
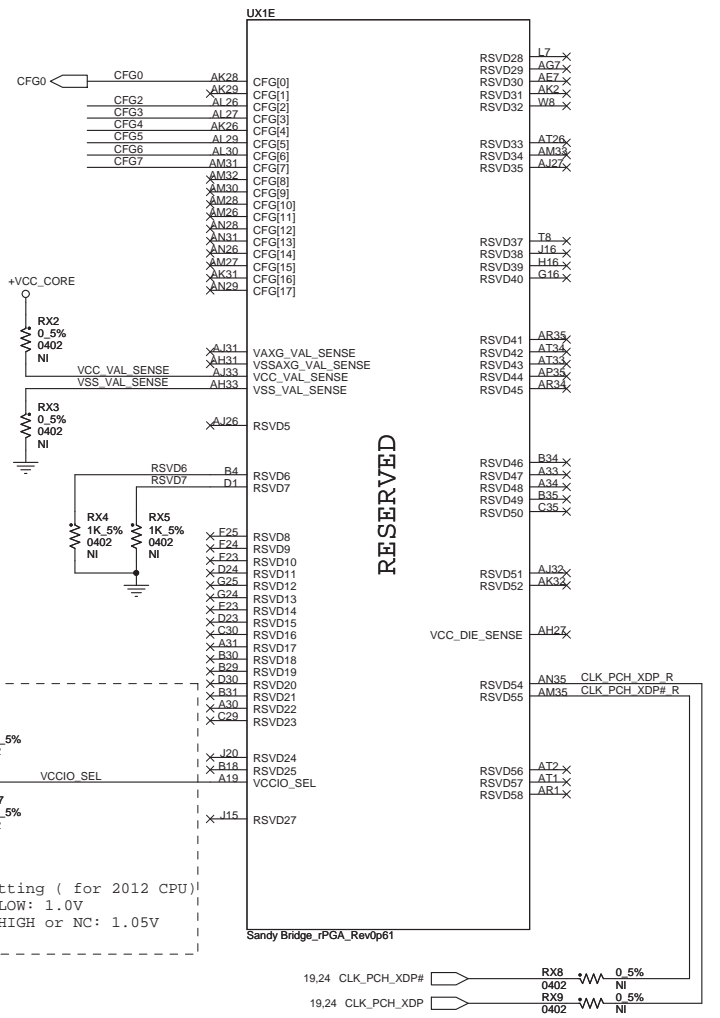
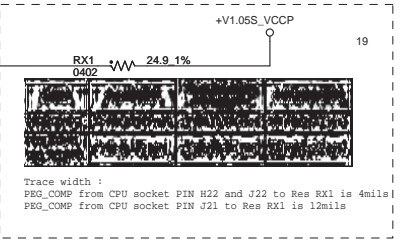
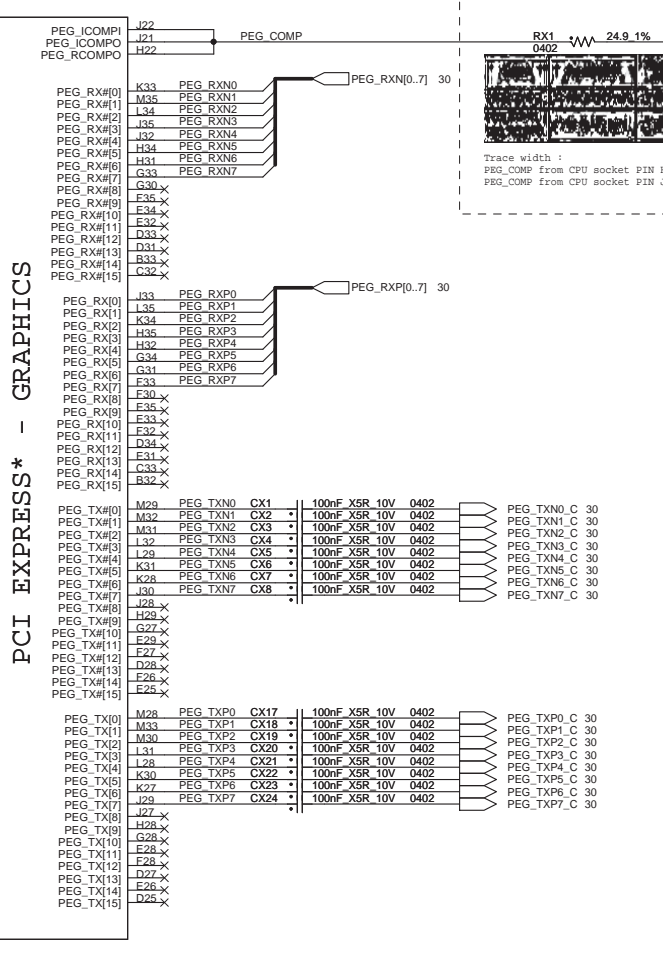
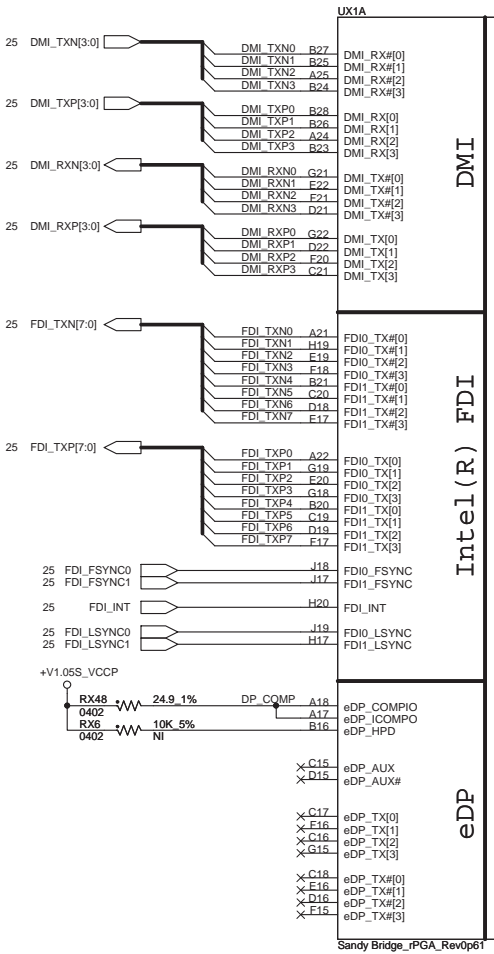
- +VCCSA:**
- I/P Current:**  
 $I_{in} = V_o \cdot I_o / (0.75 \cdot V_{in}) = 2.18A$
  - Ripple Current:**  
 $I_{rip} = 1.39A$
  - Ripple Voltage:**  
 $ESR/4 = 1mohm$   
 $V_{rip} = 1.39mV$
  - Inductor Spec:**  
 $I_{sat} = 26A$   
 $I_{dc} = 17.5A$   
 $DCR = 4.2mohm$
  - MOSFET Spec:**
- 
- Frequency:**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



VCCSA_SEL	+VCCSA
H	0.80V
L	0.90V



+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

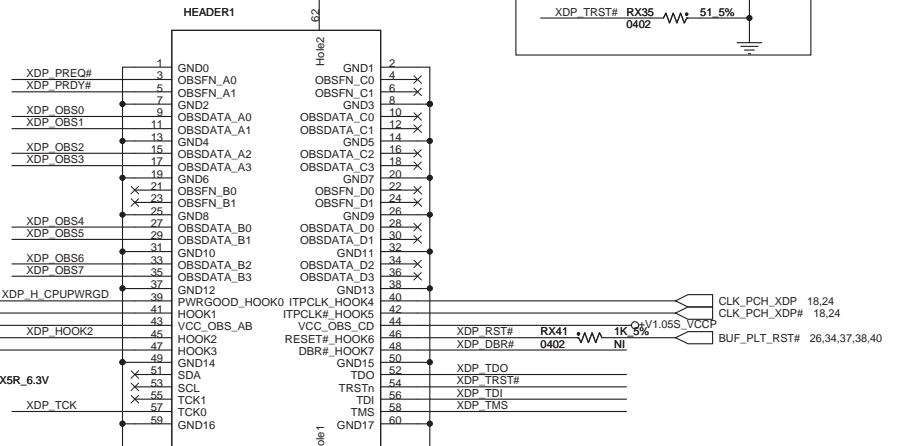
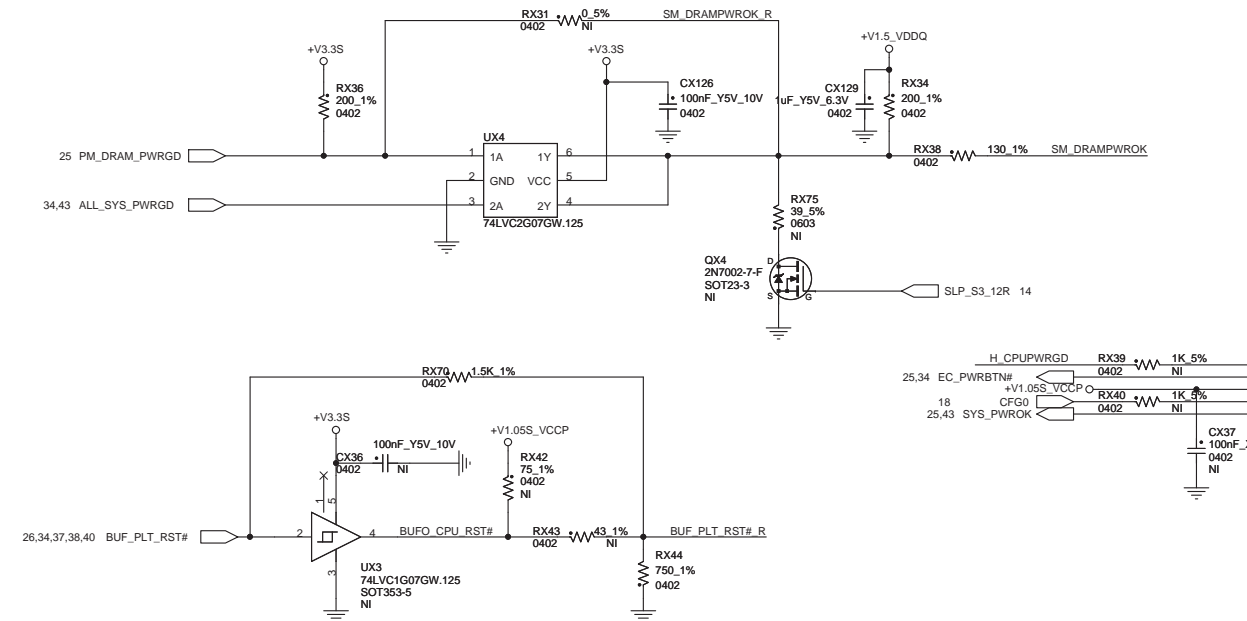
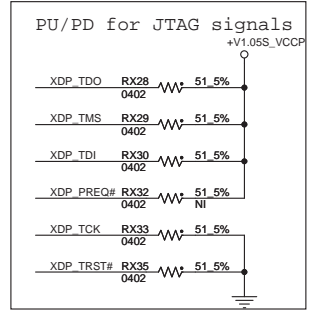
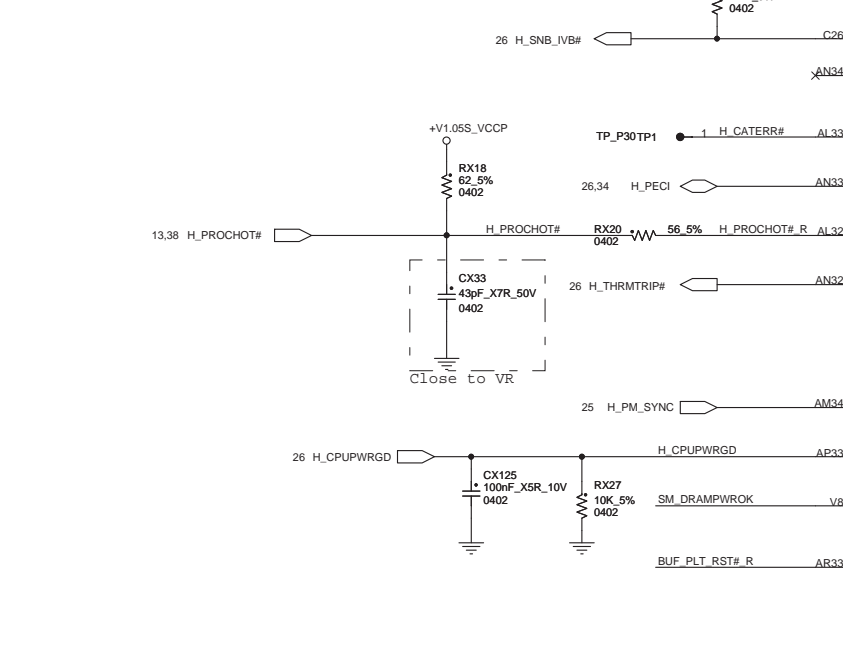
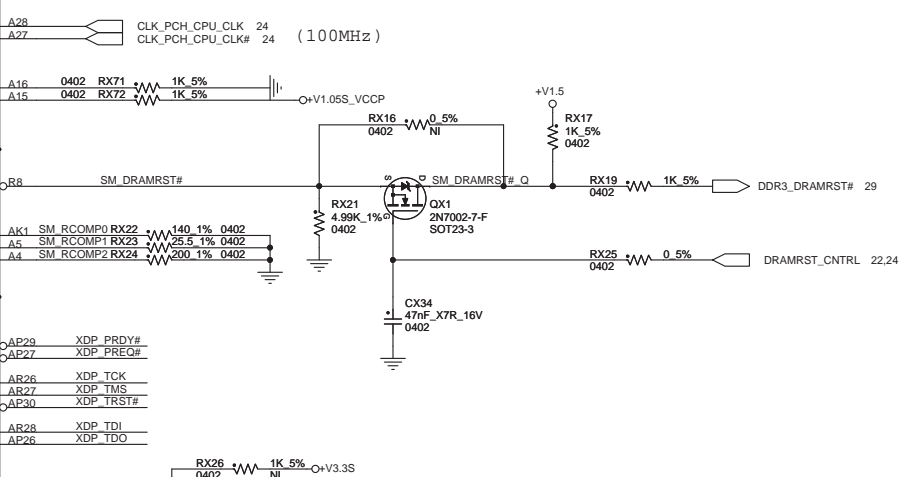
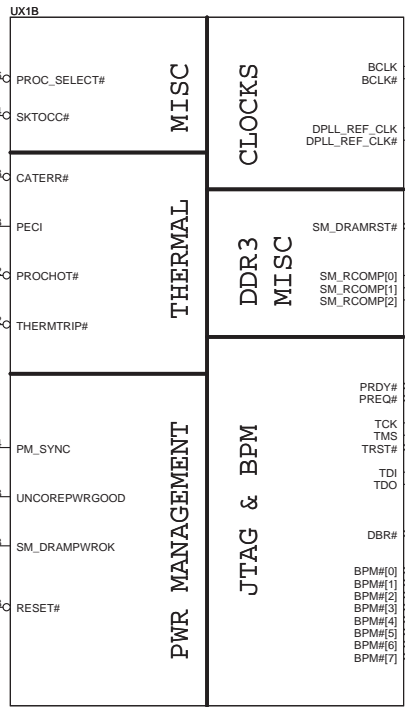


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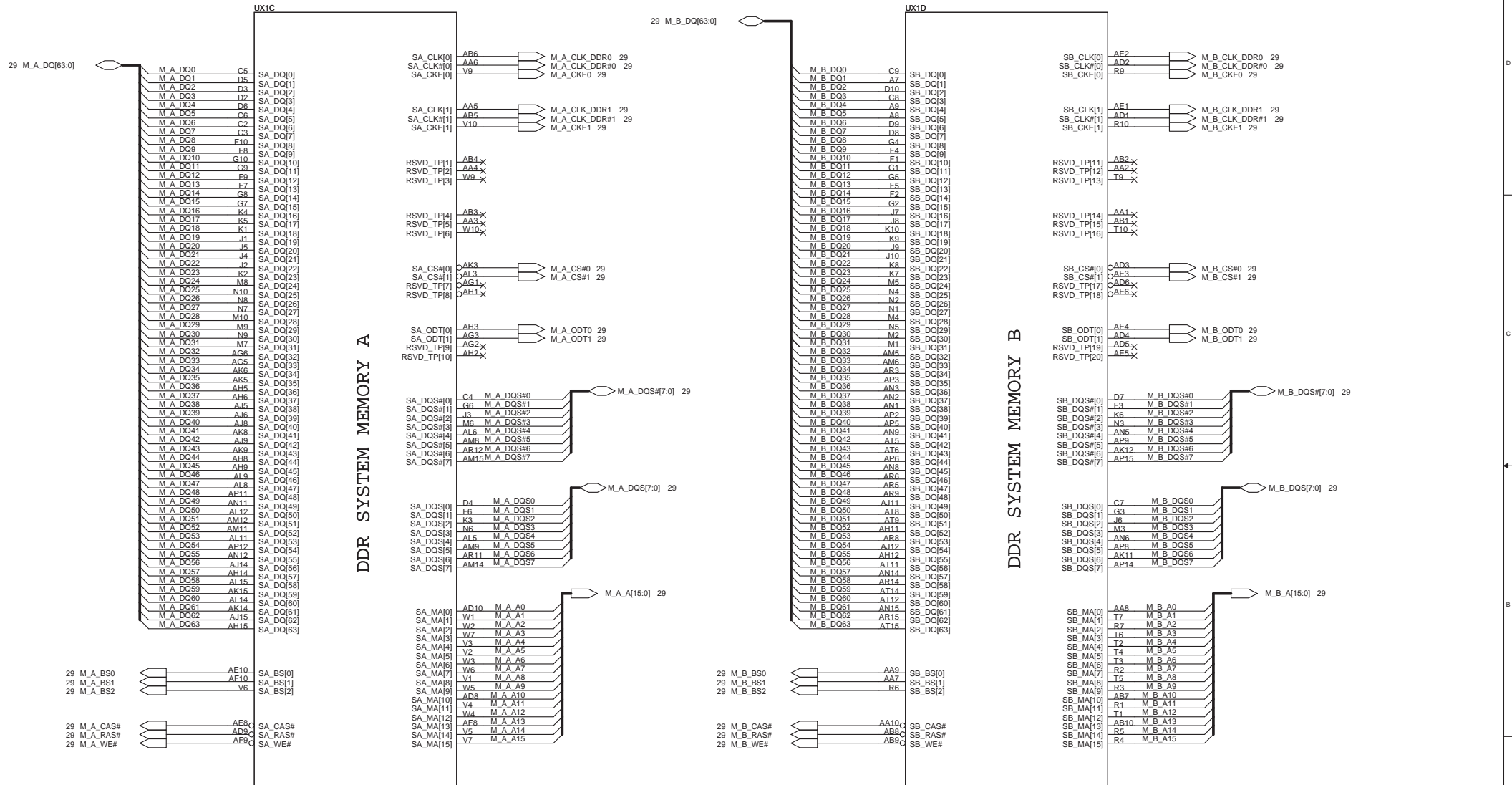
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Size: Document Number  
 Custom **CHICAGO** Rev **MV**

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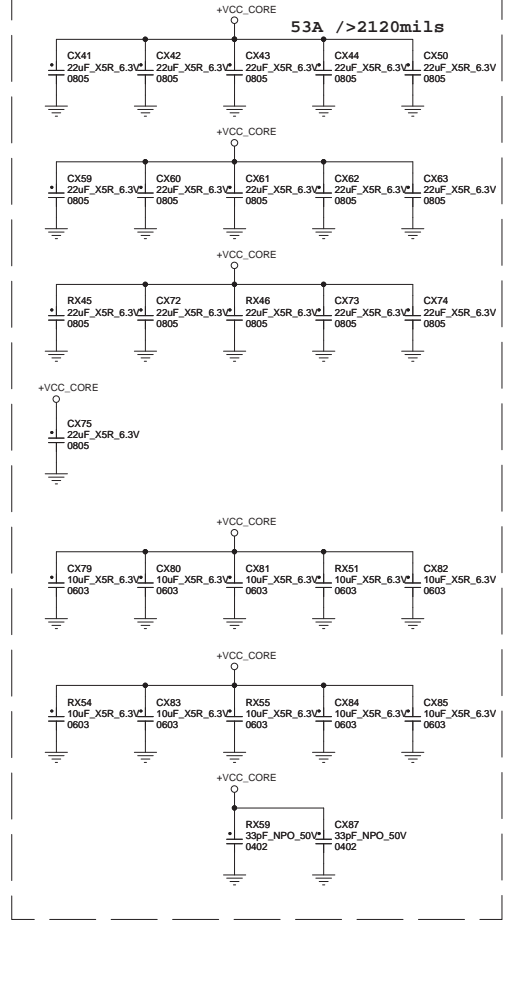


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+V1.05S\_VCCP → +V1.05S\_VCCP 11,14,18,19,23,24,25,26,27,28,43  
+VCC\_CORE → +VCC\_CORE 13,18,43

FOR VCC:  
4x 330 µF Bottom Edge,  
10x 0603 10 µF Bottom Cavity,  
8x 0805 22 µF Top Cavity,  
8x 0805 22 µF 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
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- VCC85
- VCC86
- VCC87
- VCC88
- VCC89
- VCC90
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- VCC96
- VCC97
- VCC98
- VCC99
- VCC100

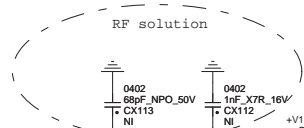
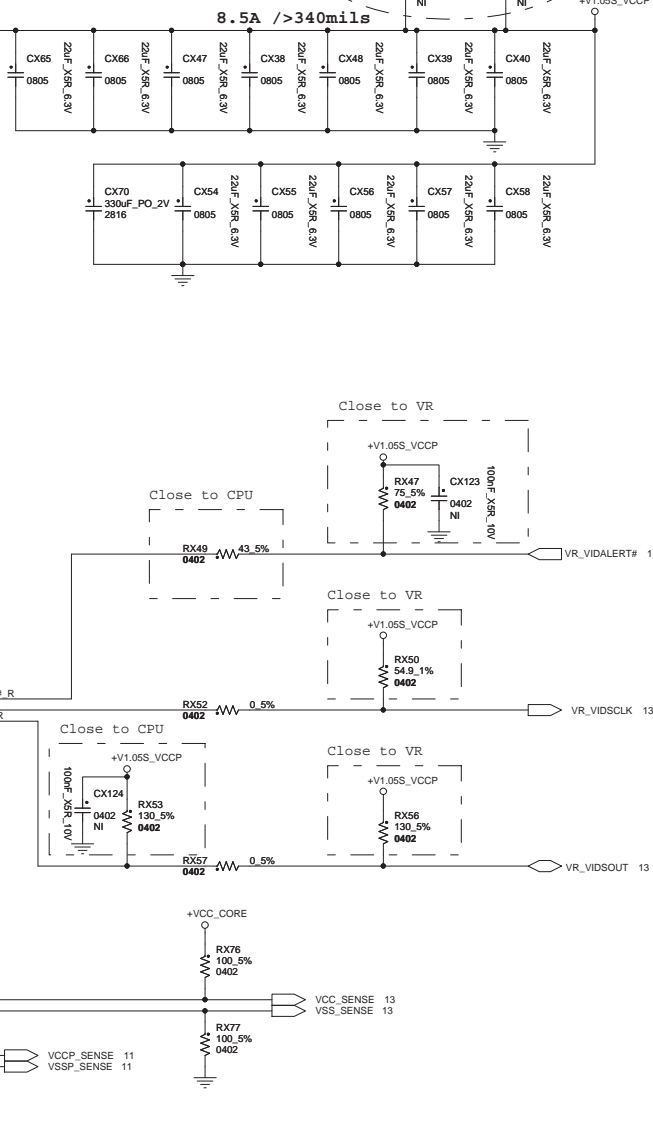
POWER

PEG AND DDR

CORE SUPPLY

SENSE LINES

FOR VCCIO:  
2x 330 µF,  
5x 0805 22 µF Bottom Cavity,  
7x 0805 22 µF Top Cavity,



- VSS1
- VSS2
- VSS3
- VSS4
- VSS5
- VSS6
- VSS7
- VSS8
- VSS9
- VSS10
- VSS11
- VSS12
- VSS13
- VSS14
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- VSS64
- VSS65
- VSS66
- VSS67
- VSS68
- VSS69
- VSS70
- VSS71
- VSS72
- VSS73
- VSS74
- VSS75
- VSS76
- VSS77
- VSS78
- VSS79
- VSS80

VSS

Sandy Bridge\_rPGA\_Rev0p61

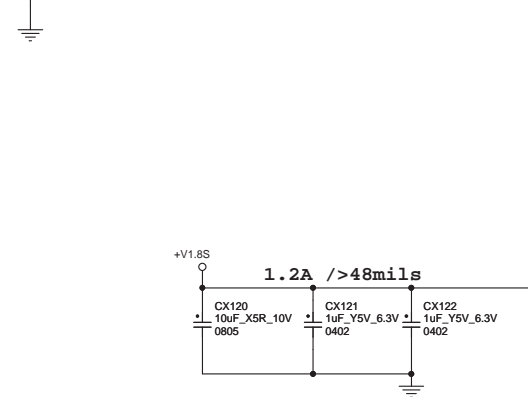
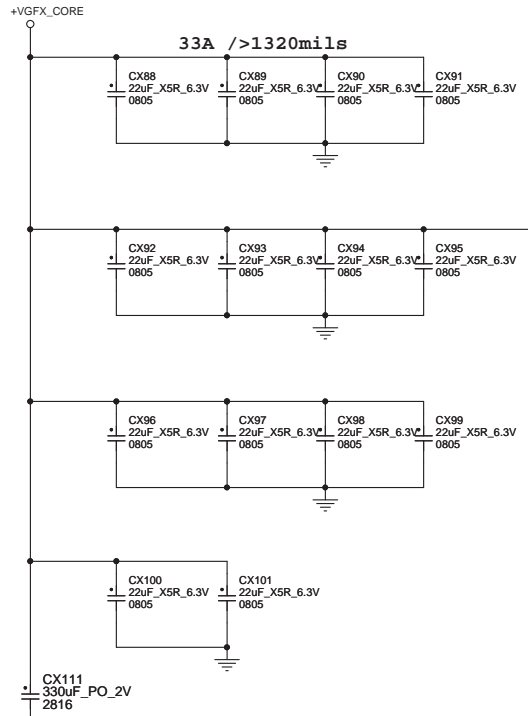
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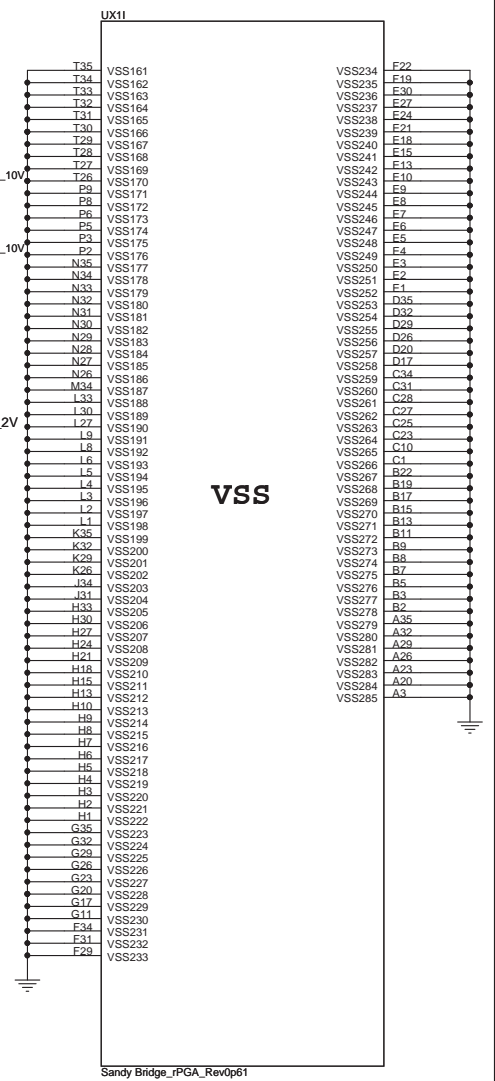
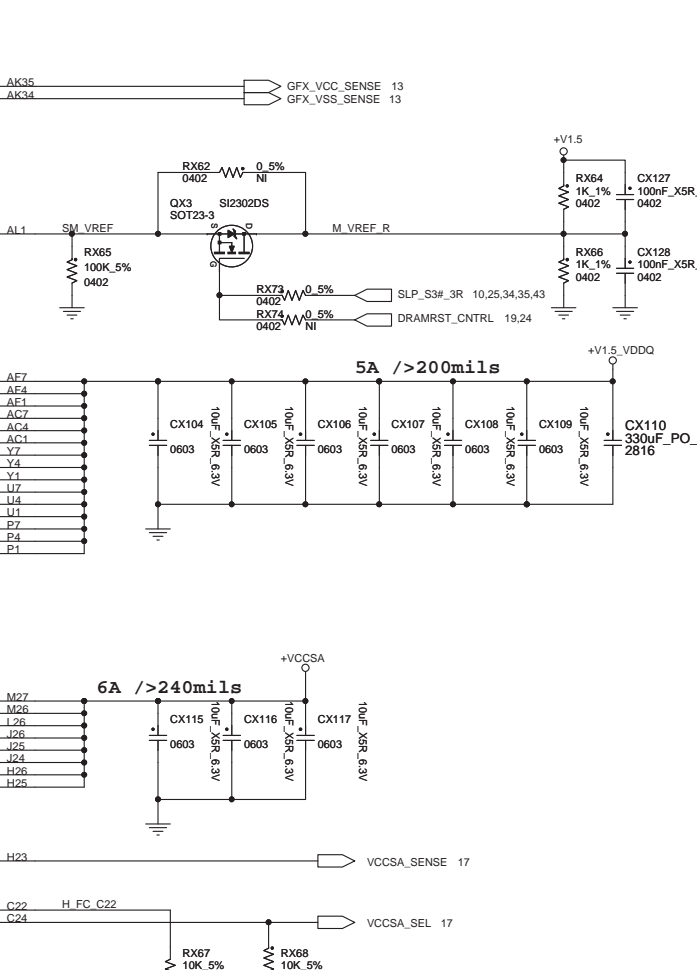
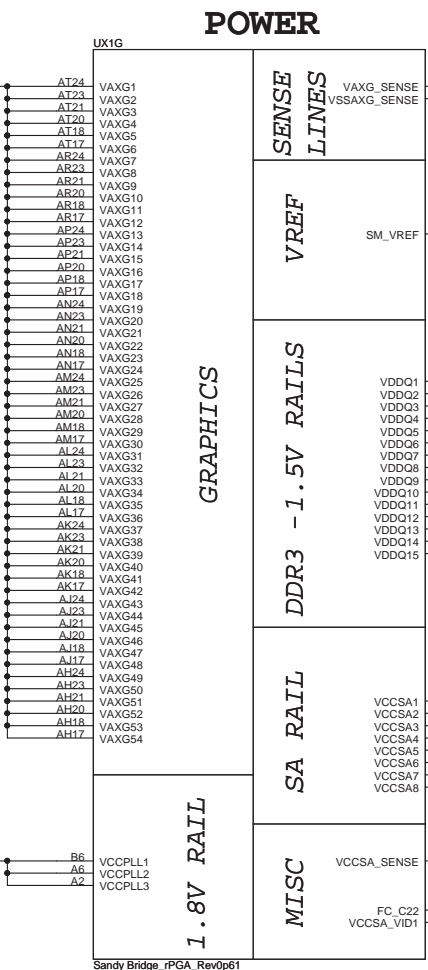
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Size Custom	Document Number <b>CHICAGO</b>	Rev MV
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FOR VAXG:  
2x 330  $\mu$ F Bottom Edge,  
4x 0805 22  $\mu$ F Top & Bottom Cavity,  
8x 0805 22  $\mu$ F Top & Bottom Edge,

- +VCCSA 17
- +V1.8S 14,16,19,28,43
- +V1.5O 12,14,15,19,29,43
- +V1.5\_VDDQ 12,14,19,27,38
- +VGF\_X\_CORE 13,43



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



Sandy Bridge\_PGA\_Rev0p61

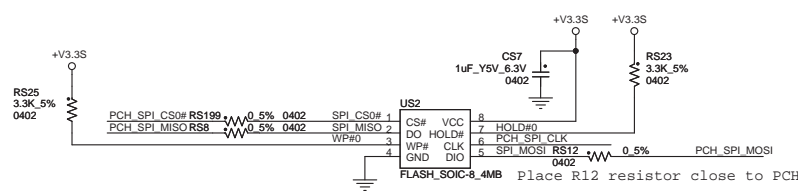
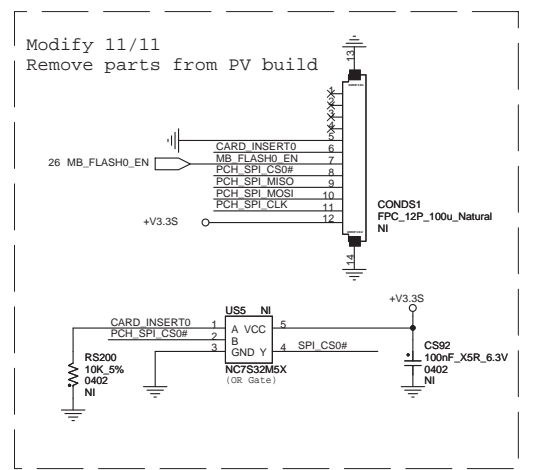
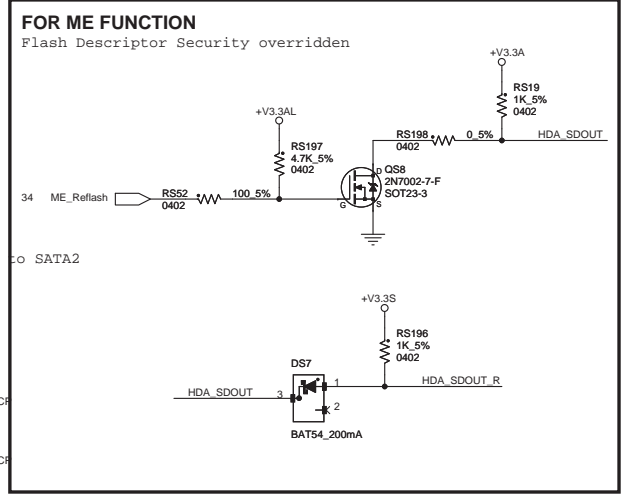
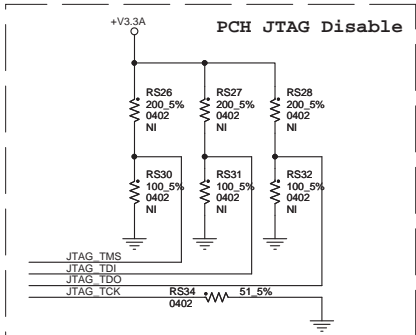
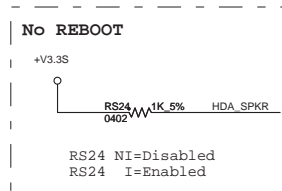
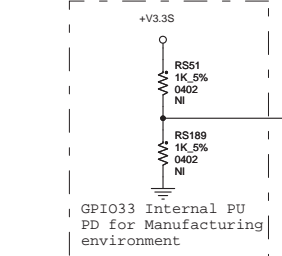
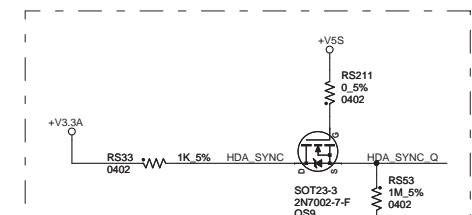
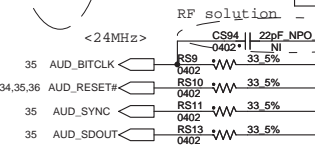
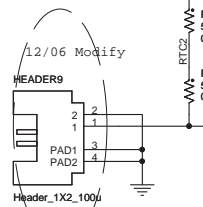
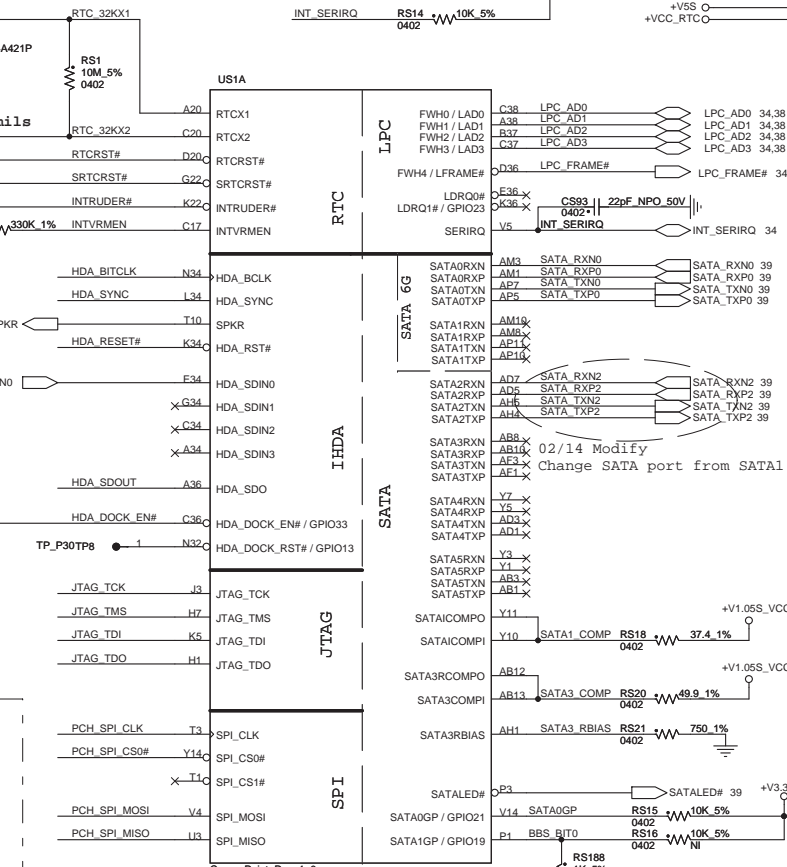
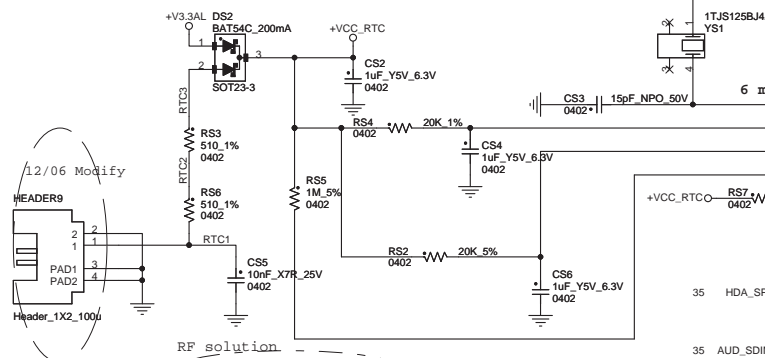
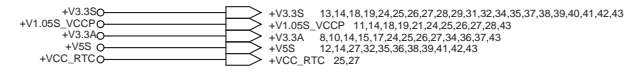
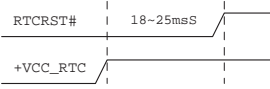
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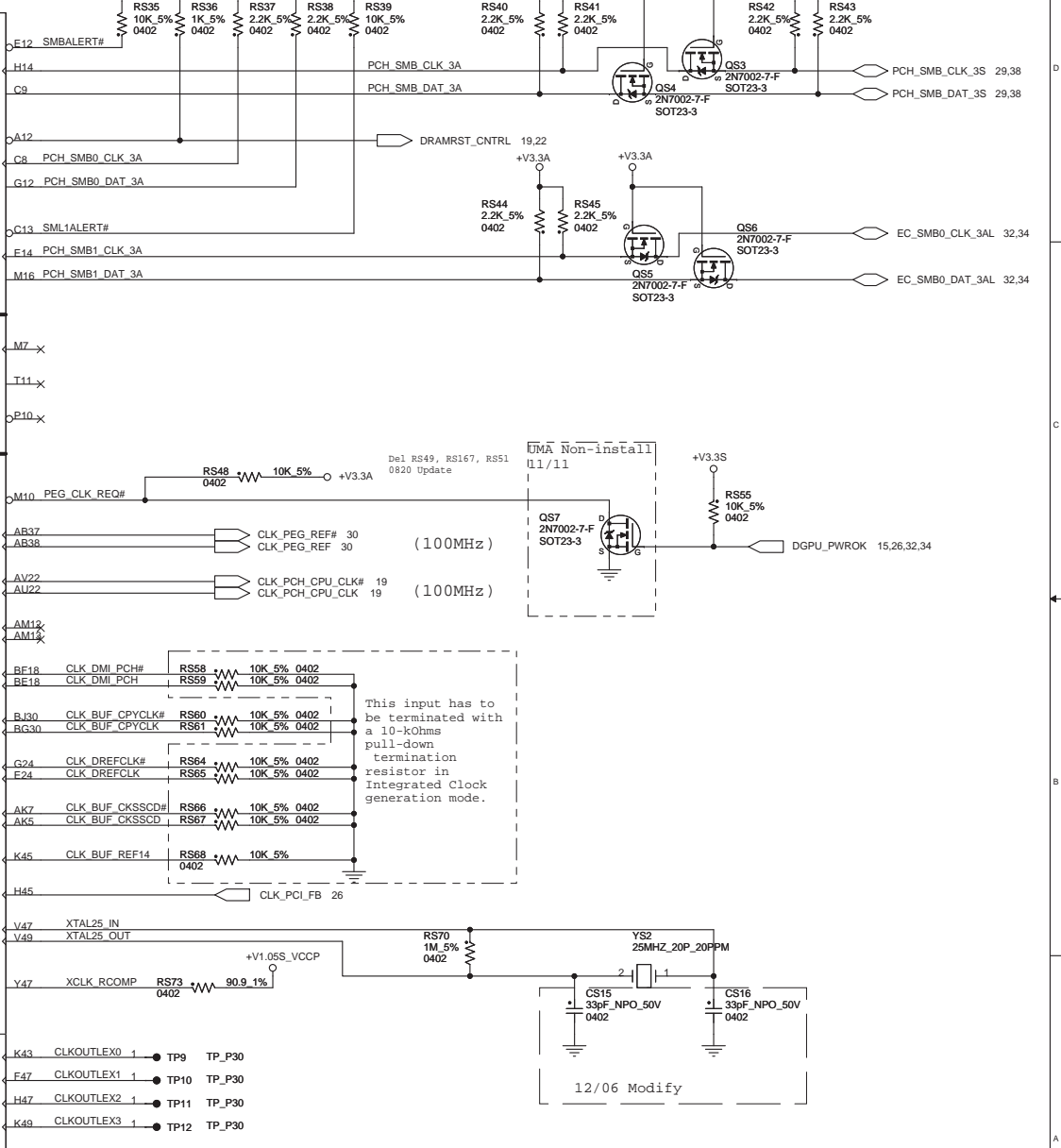
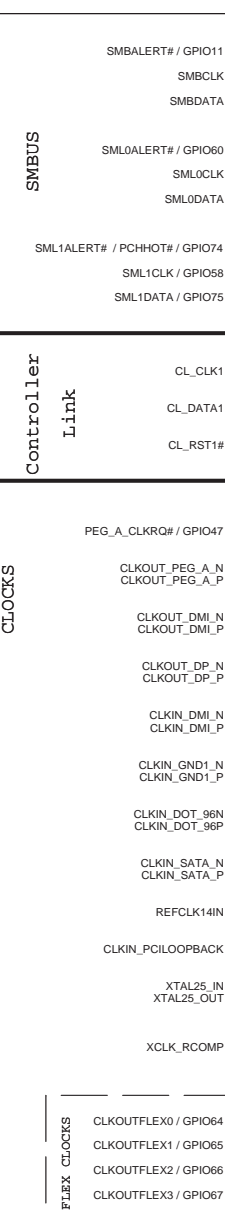
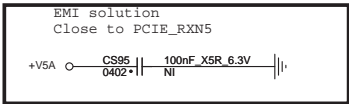
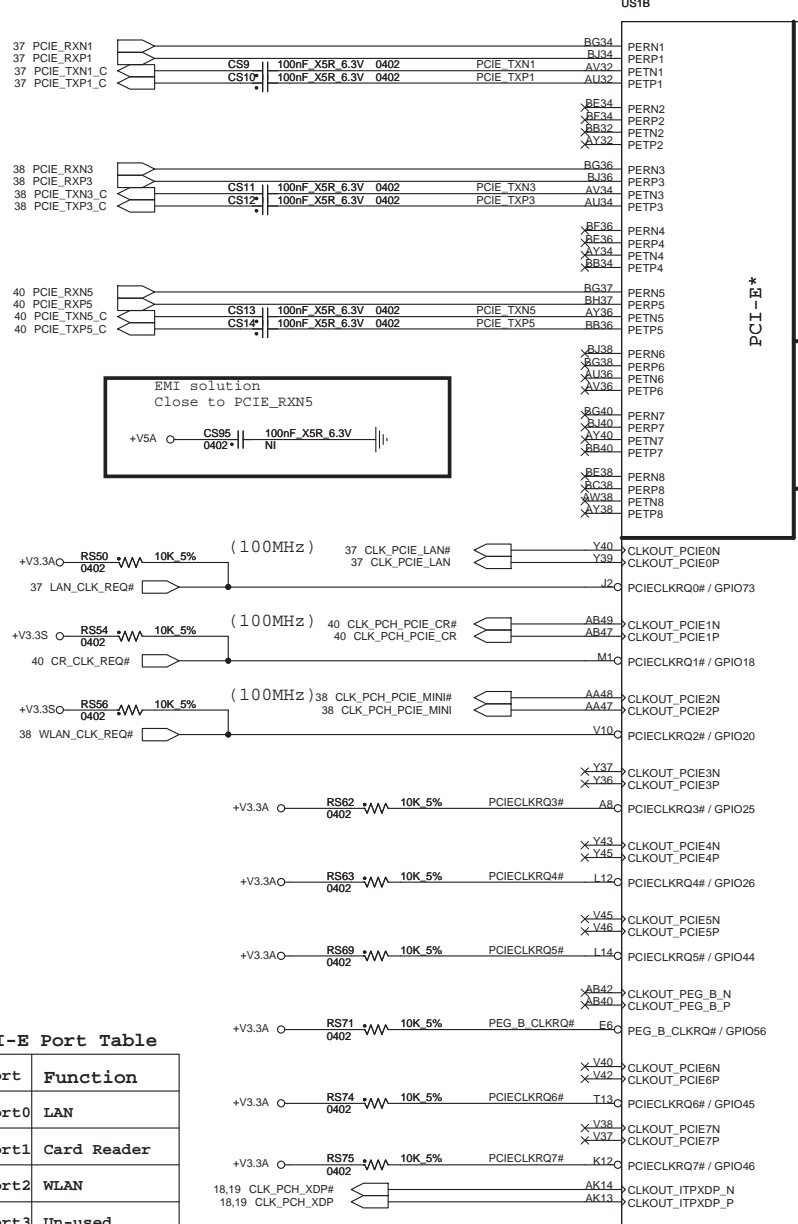
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PCI-E Port Table

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

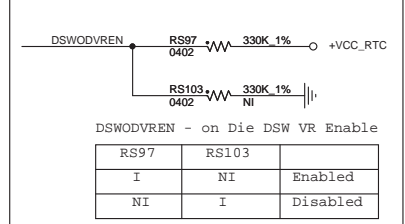
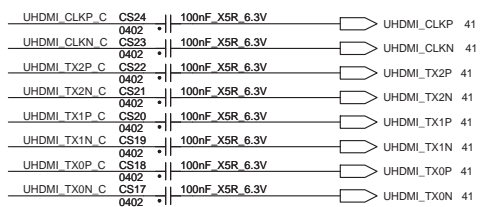
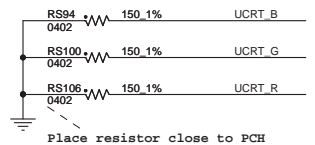
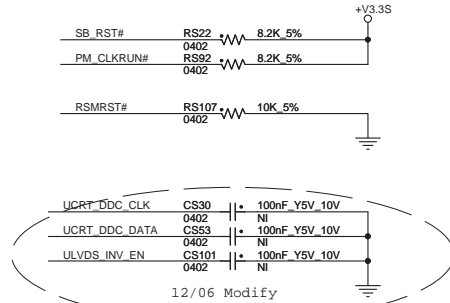
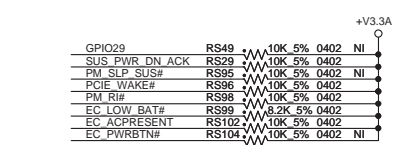
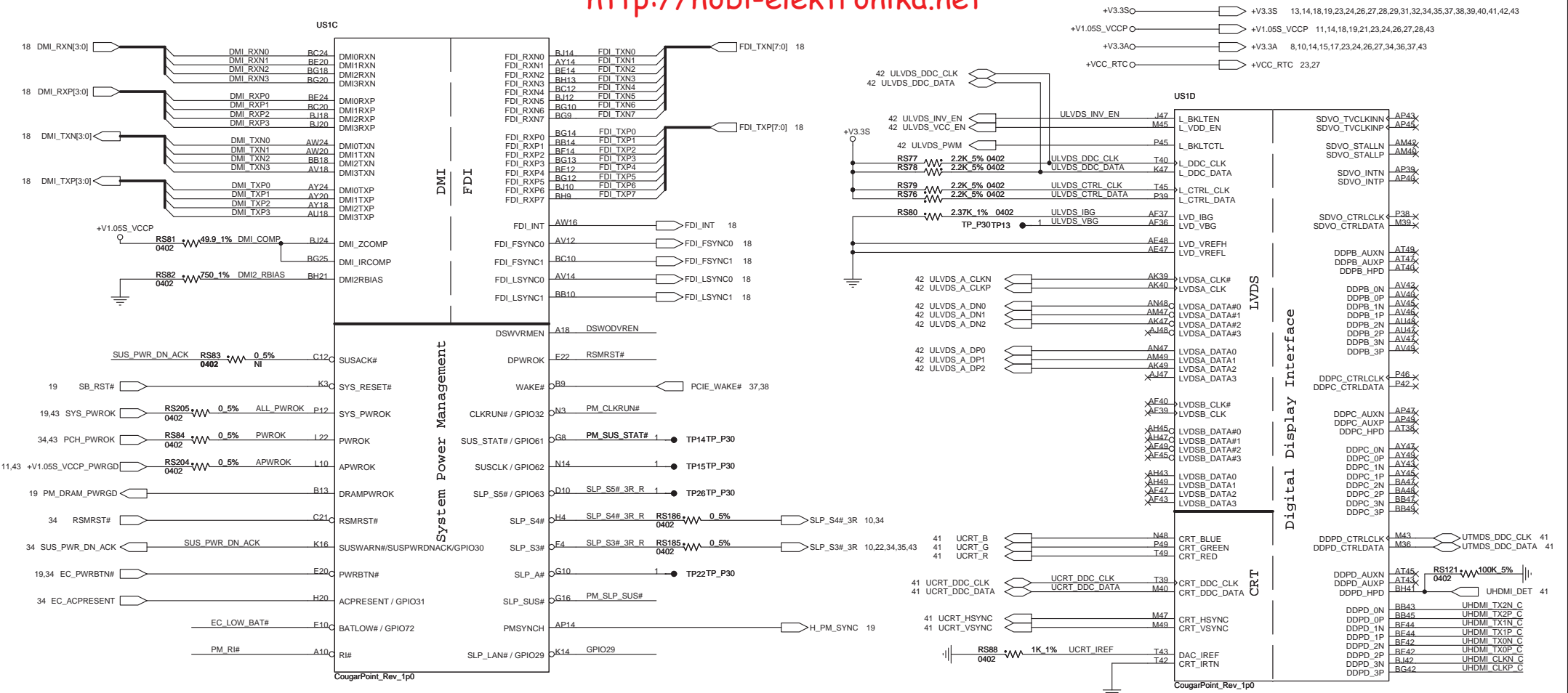
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12/06 Modify  
 Modify CS30/CS53/CS101 to non-stuff on 01/11

Place resistor close to PCH

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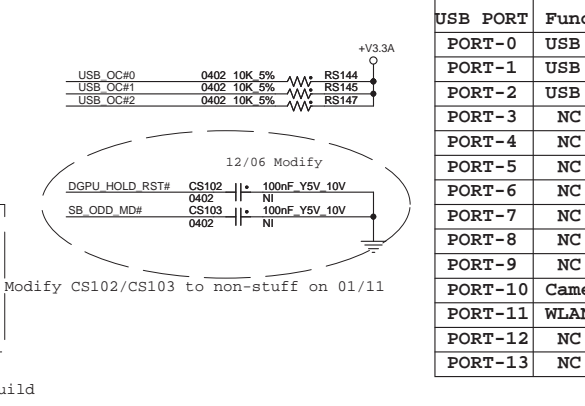
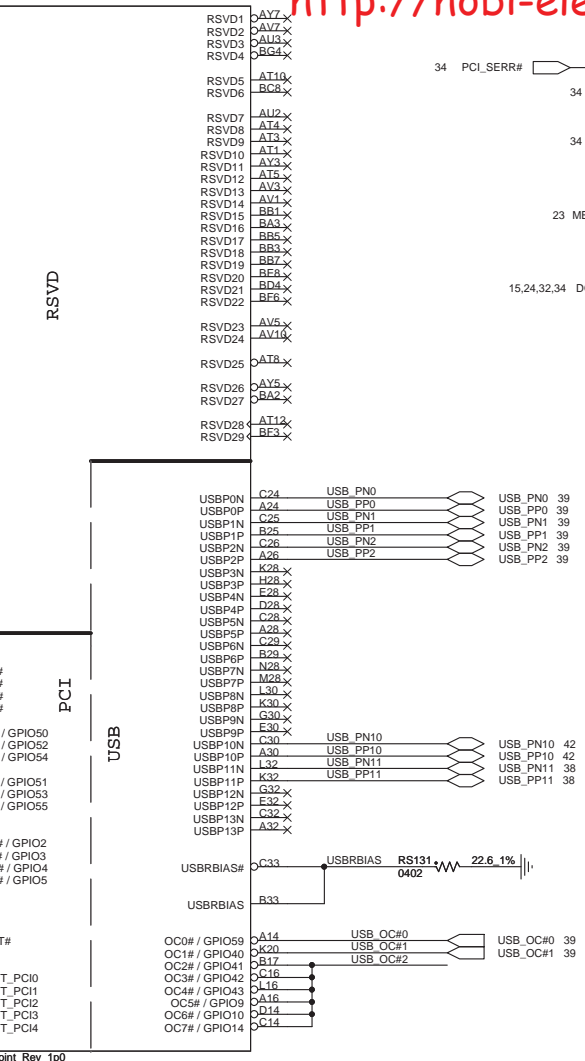
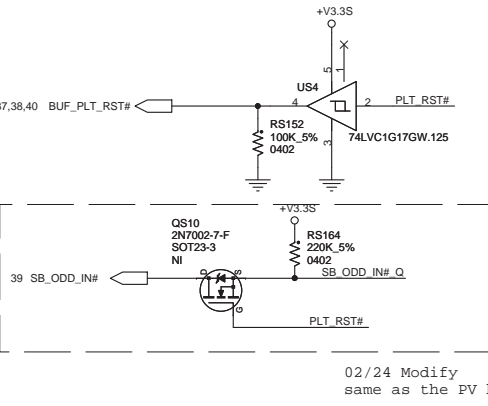
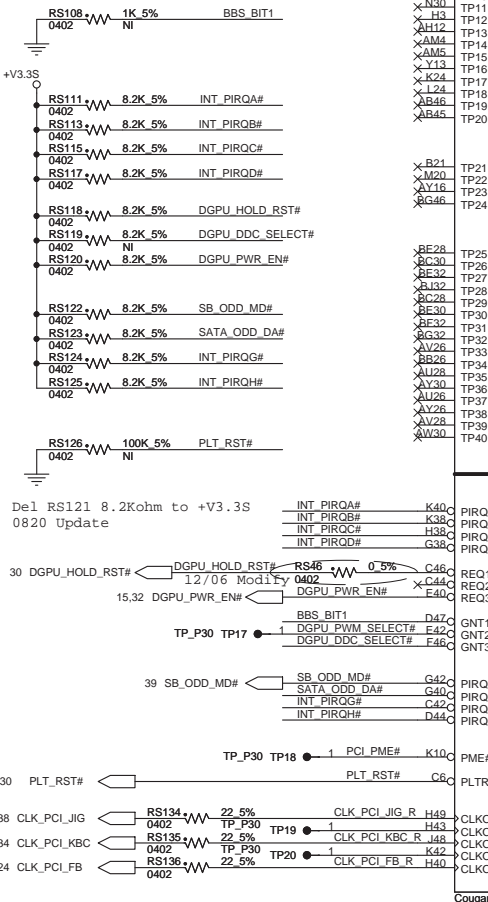
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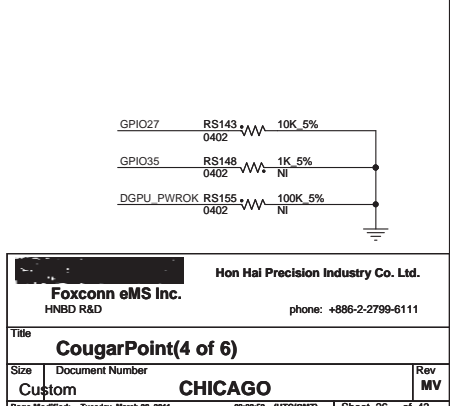
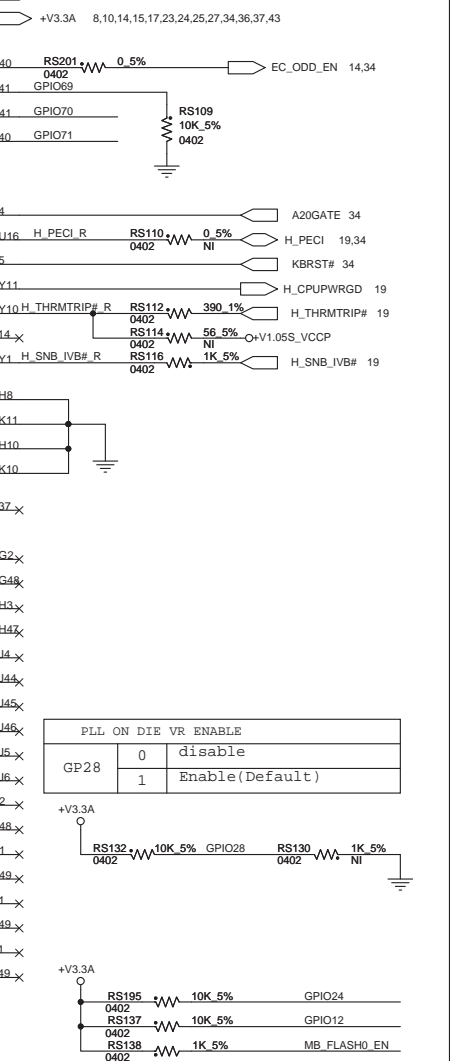
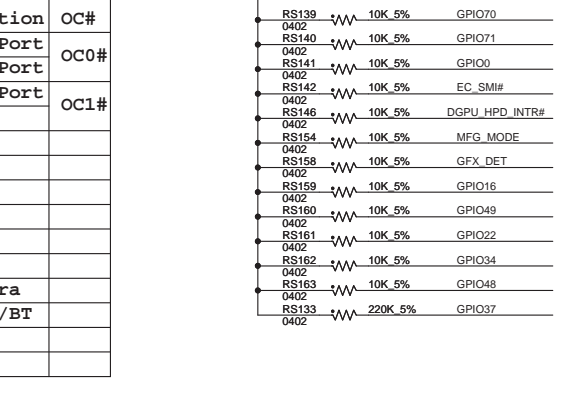
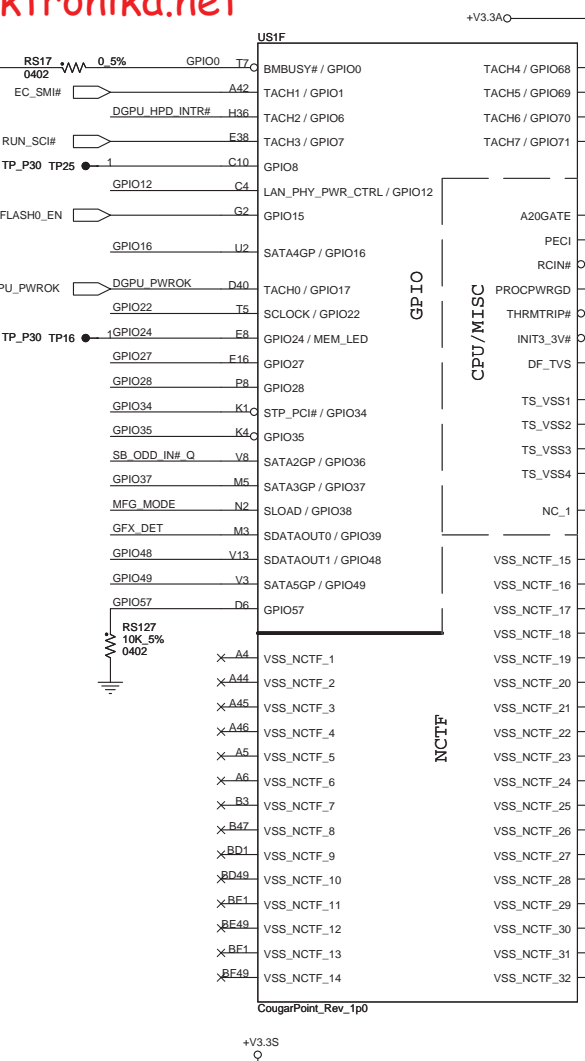
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Boot BIOS Strap		
BBS_BIT1	BBS_BIT0	Boot BIOS Location
0	0	LPC
0	1	Reserved (NAND)
1	0	PCI
1	1	SPI



USB PORT	Function	OC#
PORT-0	USB Port	OC0#
PORT-1	USB Port	
PORT-2	USB Port	
PORT-3	NC	OC1#
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	



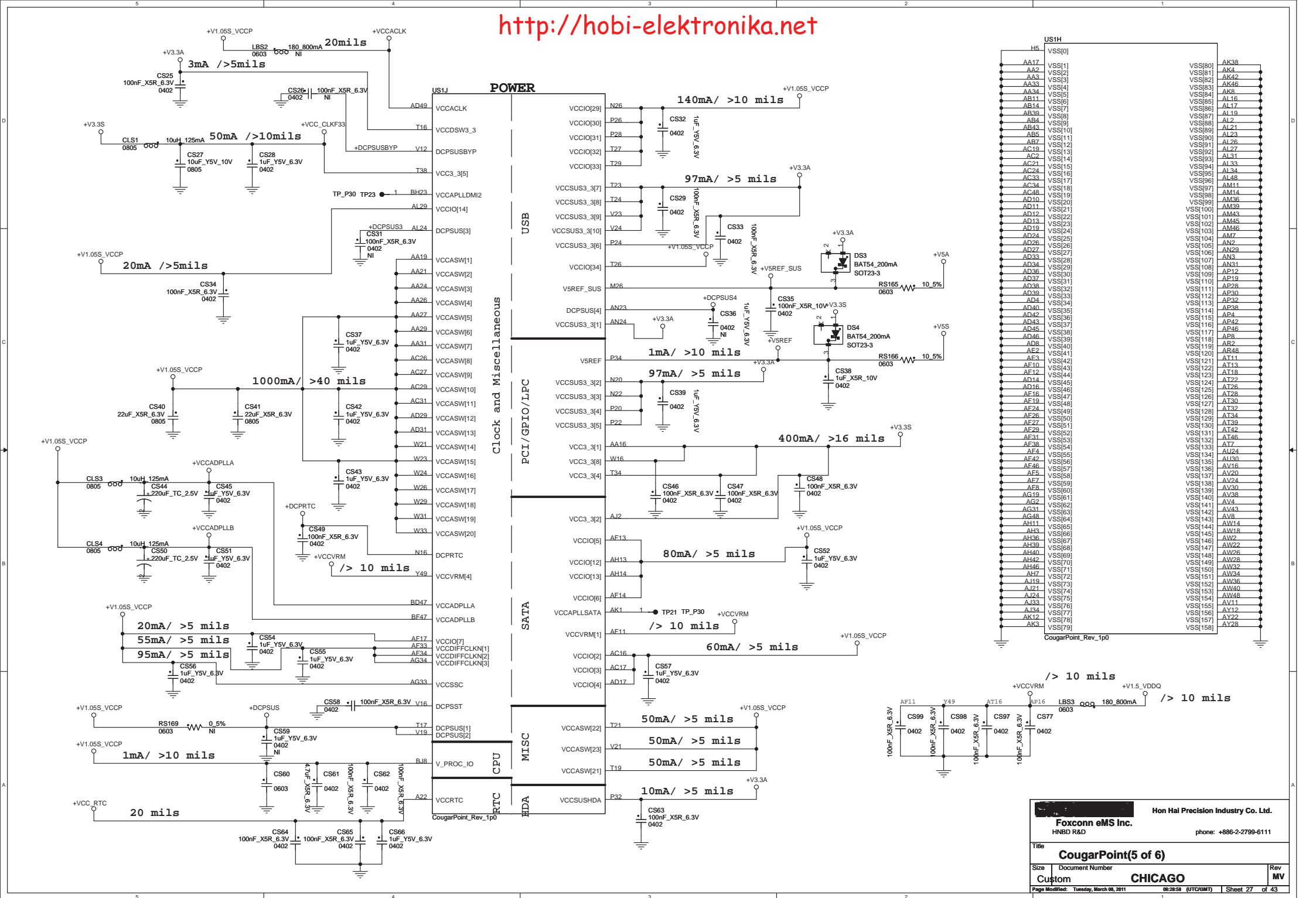
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US1H

H5	VSS1[0]	
AA17	VSS1[1]	VSS800 AK38
AA2	VSS1[2]	VSS8181 AK4
AA3	VSS1[3]	VSS82 AK42
AA33	VSS1[4]	VSS83 AK46
AA34	VSS1[5]	VSS84 AK6
AB11	VSS1[6]	VSS85 AL16
AB14	VSS1[7]	VSS86 AL17
AB39	VSS1[8]	VSS87 AL19
AB4	VSS1[9]	VSS88 AL2
AB43	VSS1[10]	VSS89 AL21
AB5	VSS1[11]	VSS90 AL23
AB7	VSS1[12]	VSS91 AL26
AC19	VSS1[13]	VSS92 AL27
AC2	VSS1[14]	VSS93 AL31
AC21	VSS1[15]	VSS94 AL33
AC24	VSS1[16]	VSS95 AL34
AC33	VSS1[17]	VSS96 AL48
AC34	VSS1[18]	VSS97 AL44
AC48	VSS1[19]	VSS98 AM11
AD10	VSS1[20]	VSS99 AM36
AD11	VSS1[21]	VSS100 AM39
AD12	VSS1[22]	VSS101 AM43
AD13	VSS1[23]	VSS102 AM45
AD19	VSS1[24]	VSS103 AM46
AD24	VSS1[25]	VSS104 AM7
AD26	VSS1[26]	VSS105 AM29
AD33	VSS1[27]	VSS106 AN3
AD34	VSS1[28]	VSS107 AN2
AD38	VSS1[29]	VSS108 AN31
AD39	VSS1[30]	VSS109 AP19
AD4	VSS1[31]	VSS110 AP28
AD40	VSS1[32]	VSS111 AP30
AD42	VSS1[33]	VSS112 AP32
AD43	VSS1[34]	VSS113 AP33
AD45	VSS1[35]	VSS114 AP34
AD46	VSS1[36]	VSS115 AP42
AD8	VSS1[37]	VSS116 AP46
AD9	VSS1[38]	VSS117 AP6
AE2	VSS1[39]	VSS118 AR2
AE27	VSS1[40]	VSS119 AR48
AE3	VSS1[41]	VSS120 AT11
AE10	VSS1[42]	VSS121 AT13
AE12	VSS1[43]	VSS122 AT18
AE14	VSS1[44]	VSS123 AT22
AE16	VSS1[45]	VSS124 AT26
AE19	VSS1[46]	VSS125 AT28
AE26	VSS1[47]	VSS126 AT30
AE27	VSS1[48]	VSS127 AT32
AE29	VSS1[49]	VSS128 AT34
AE31	VSS1[50]	VSS129 AT39
AE38	VSS1[51]	VSS130 AT42
AE4	VSS1[52]	VSS131 AT46
AE42	VSS1[53]	VSS132 AT7
AE46	VSS1[54]	VSS133 AU24
AE5	VSS1[55]	VSS134 AU30
AE7	VSS1[56]	VSS135 AV24
AE8	VSS1[57]	VSS136 AV16
AG19	VSS1[58]	VSS137 AV20
AG2	VSS1[59]	VSS138 AV30
AG31	VSS1[60]	VSS139 AV4
AG48	VSS1[61]	VSS140 AV44
AH11	VSS1[62]	VSS141 AV43
AH3	VSS1[63]	VSS142 AV8
AH36	VSS1[64]	VSS143 AV8
AH39	VSS1[65]	VSS144 AW14
AH40	VSS1[66]	VSS145 AW2
AH42	VSS1[67]	VSS146 AW22
AH46	VSS1[68]	VSS147 AW26
AH7	VSS1[69]	VSS148 AW28
AJ19	VSS1[70]	VSS149 AW32
AJ21	VSS1[71]	VSS150 AW34
AJ24	VSS1[72]	VSS151 AW36
AJ33	VSS1[73]	VSS152 AW40
AJ34	VSS1[74]	VSS153 AW48
AK12	VSS1[75]	VSS154 AV11
AK3	VSS1[76]	VSS155 AY12
	VSS1[77]	VSS156 AY22
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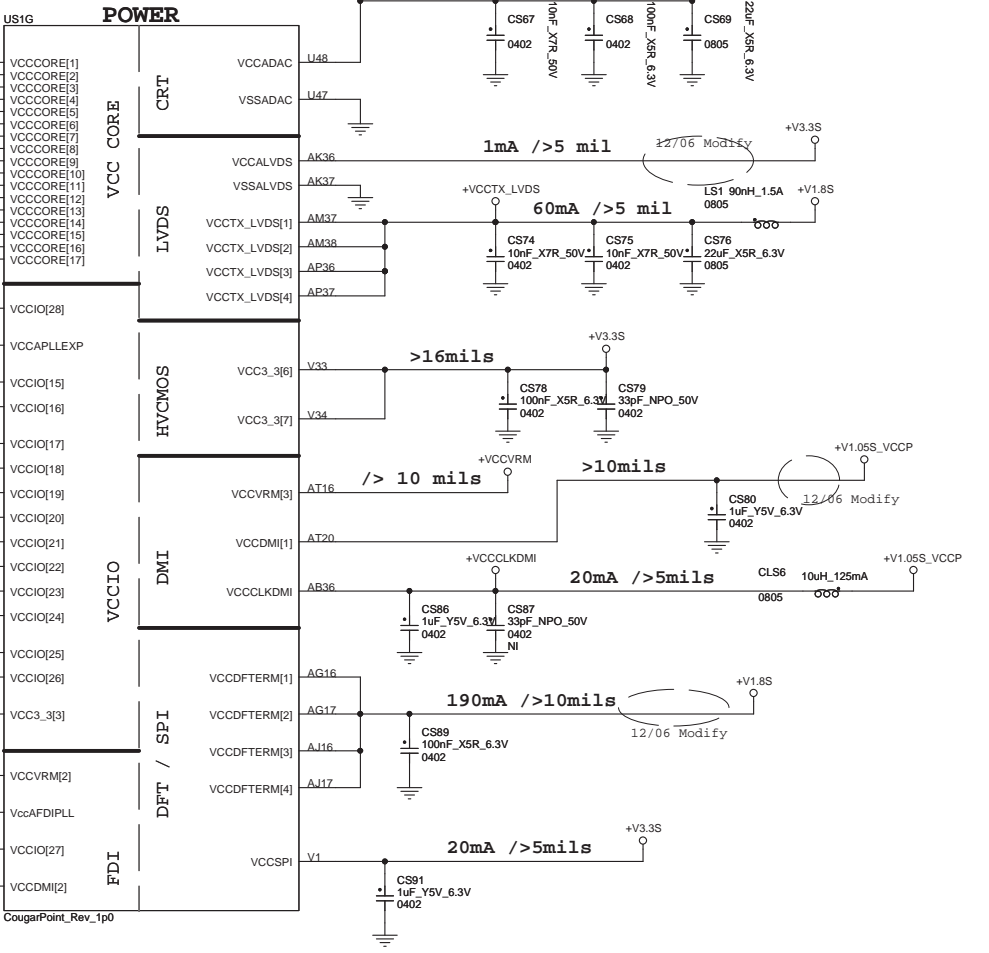
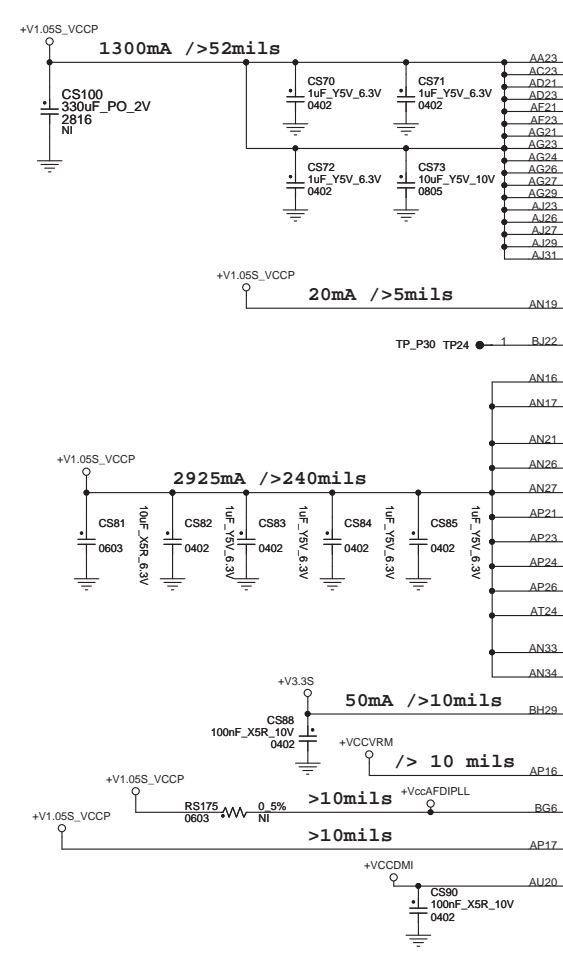
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US11			
AY4	VSS[159]	VSS[259]	H46
AY42	VSS[160]	VSS[260]	K18
AY46	VSS[161]	VSS[261]	K26
AY8	VSS[162]	VSS[262]	K39
B11	VSS[163]	VSS[263]	K46
B15	VSS[164]	VSS[264]	K7
B19	VSS[165]	VSS[265]	L18
B23	VSS[166]	VSS[266]	L2
B27	VSS[167]	VSS[267]	L26
B31	VSS[168]	VSS[268]	L28
B35	VSS[169]	VSS[269]	L36
B39	VSS[170]	VSS[270]	L48
B7	VSS[171]	VSS[271]	M12
F45	VSS[172]	VSS[272]	P16
BB12	VSS[173]	VSS[273]	M18
BB16	VSS[174]	VSS[274]	M22
BB20	VSS[175]	VSS[275]	M24
BB22	VSS[176]	VSS[276]	M30
BB24	VSS[177]	VSS[277]	M32
BB28	VSS[178]	VSS[278]	M34
BB30	VSS[179]	VSS[279]	M38
BB38	VSS[180]	VSS[280]	M4
BB4	VSS[181]	VSS[281]	M42
BB46	VSS[182]	VSS[282]	M46
BC14	VSS[183]	VSS[283]	M8
BC18	VSS[184]	VSS[284]	M18
BC2	VSS[185]	VSS[285]	M26
BC22	VSS[186]	VSS[286]	N47
BC26	VSS[187]	VSS[287]	P11
BC32	VSS[188]	VSS[288]	P18
BC34	VSS[189]	VSS[289]	P40
BC36	VSS[190]	VSS[290]	P42
BC42	VSS[191]	VSS[291]	P43
BC48	VSS[192]	VSS[292]	P47
BD46	VSS[194]	VSS[294]	P7
BD6	VSS[195]	VSS[295]	P2
BE22	VSS[196]	VSS[296]	R48
BE26	VSS[197]	VSS[297]	T12
BE40	VSS[198]	VSS[298]	T31
BE10	VSS[199]	VSS[299]	T4
BE12	VSS[200]	VSS[300]	W34
BE16	VSS[201]	VSS[301]	T46
BE20	VSS[202]	VSS[302]	T47
BE22	VSS[203]	VSS[303]	T8
BE24	VSS[204]	VSS[304]	V11
BE26	VSS[205]	VSS[305]	V17
BE28	VSS[206]	VSS[306]	V26
BD3	VSS[207]	VSS[307]	V27
BE30	VSS[208]	VSS[308]	V29
BE38	VSS[209]	VSS[309]	V31
BE40	VSS[210]	VSS[310]	V36
BE8	VSS[211]	VSS[311]	V38
BG17	VSS[212]	VSS[312]	V43
BG24	VSS[213]	VSS[313]	V7
RG33	VSS[214]	VSS[314]	W17
RG44	VSS[215]	VSS[315]	W19
BG8	VSS[216]	VSS[316]	W2
BH11	VSS[217]	VSS[317]	W27
BH15	VSS[218]	VSS[318]	W48
BH17	VSS[219]	VSS[319]	Y12
BH19	VSS[220]	VSS[320]	Y38
H10	VSS[221]	VSS[321]	Y4
BH27	VSS[222]	VSS[322]	Y42
BH31	VSS[223]	VSS[323]	Y46
BH33	VSS[224]	VSS[324]	Y8
BH35	VSS[225]	VSS[325]	Y29
BH39	VSS[226]	VSS[326]	Y4
BH43	VSS[227]	VSS[327]	N24
BH7	VSS[228]	VSS[328]	N29
D3	VSS[229]	VSS[329]	AJ3
D12	VSS[230]	VSS[330]	AD47
D16	VSS[231]	VSS[331]	B43
D18	VSS[232]	VSS[332]	BE10
D22	VSS[233]	VSS[333]	BE11
D24	VSS[234]	VSS[334]	G14
D26	VSS[235]	VSS[335]	H16
D30	VSS[236]	VSS[336]	T36
D32	VSS[237]	VSS[337]	RG22
D34	VSS[238]	VSS[338]	RG24
D38	VSS[239]	VSS[339]	C22
D42	VSS[240]	VSS[340]	AP13
DR	VSS[241]	VSS[341]	M14
E18	VSS[242]	VSS[342]	AP3
G18	VSS[243]	VSS[343]	AP16
G20	VSS[244]	VSS[344]	BE16
G26	VSS[245]	VSS[345]	BC16
G28	VSS[246]	VSS[346]	RG28
G38	VSS[247]	VSS[347]	BJ28
G48	VSS[248]	VSS[348]	
H12	VSS[249]	VSS[349]	
H18	VSS[251]	VSS[351]	
H22	VSS[252]	VSS[352]	
H24	VSS[253]		
H26	VSS[254]		
H30	VSS[255]		
H32	VSS[256]		
H34	VSS[257]		
F3	VSS[258]		



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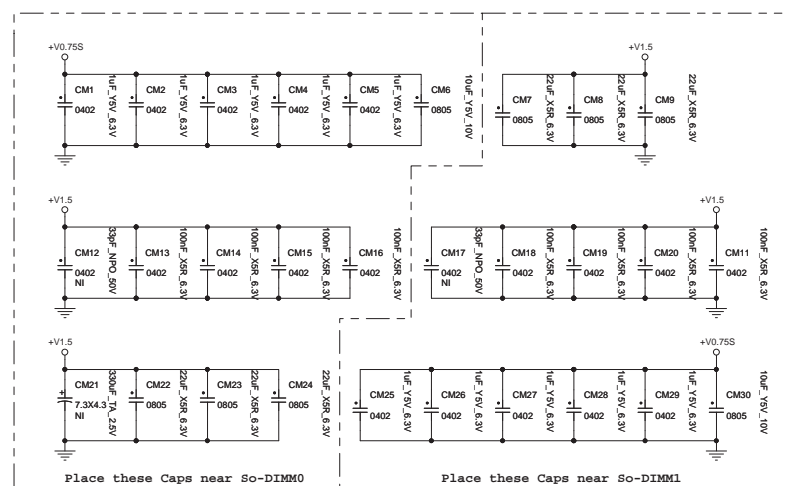
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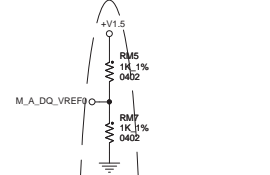
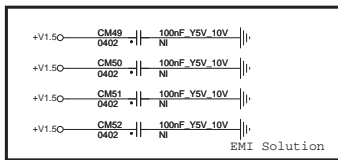
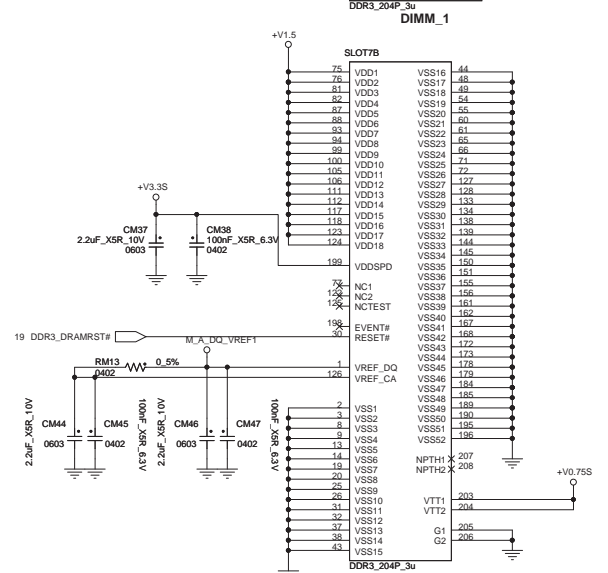
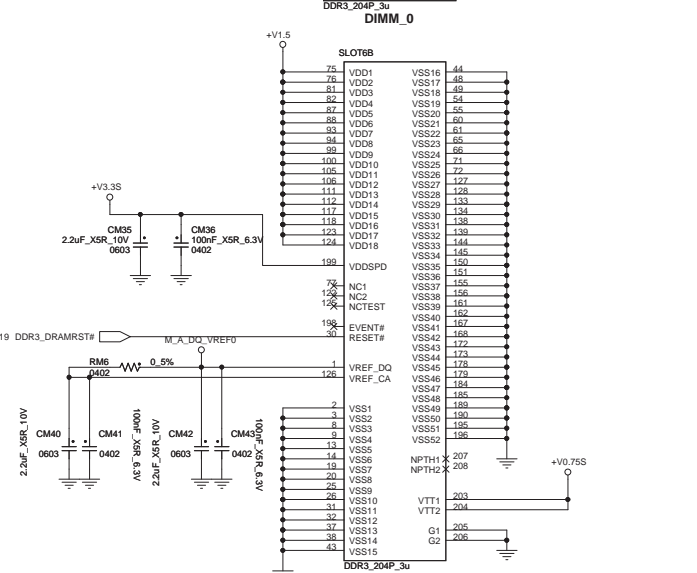
Page Modified: Tuesday, March 08, 2011 08:28:59 (UTC/GMT) Sheet 28 of 43

+V3.3S 13,14,18,19,23,24,25,26,27,28,31,32,34,35,37,38,39,40,41,42,43  
+V1.5\_VDDQ 12,14,19,22,27,38  
+V1.5O 12,14,15,19,22,43  
+V0.75S 12,14



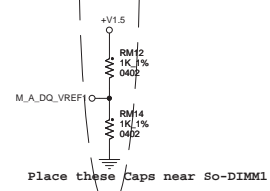
Place these Caps near So-DIMM0

Place these Caps near So-DIMM1

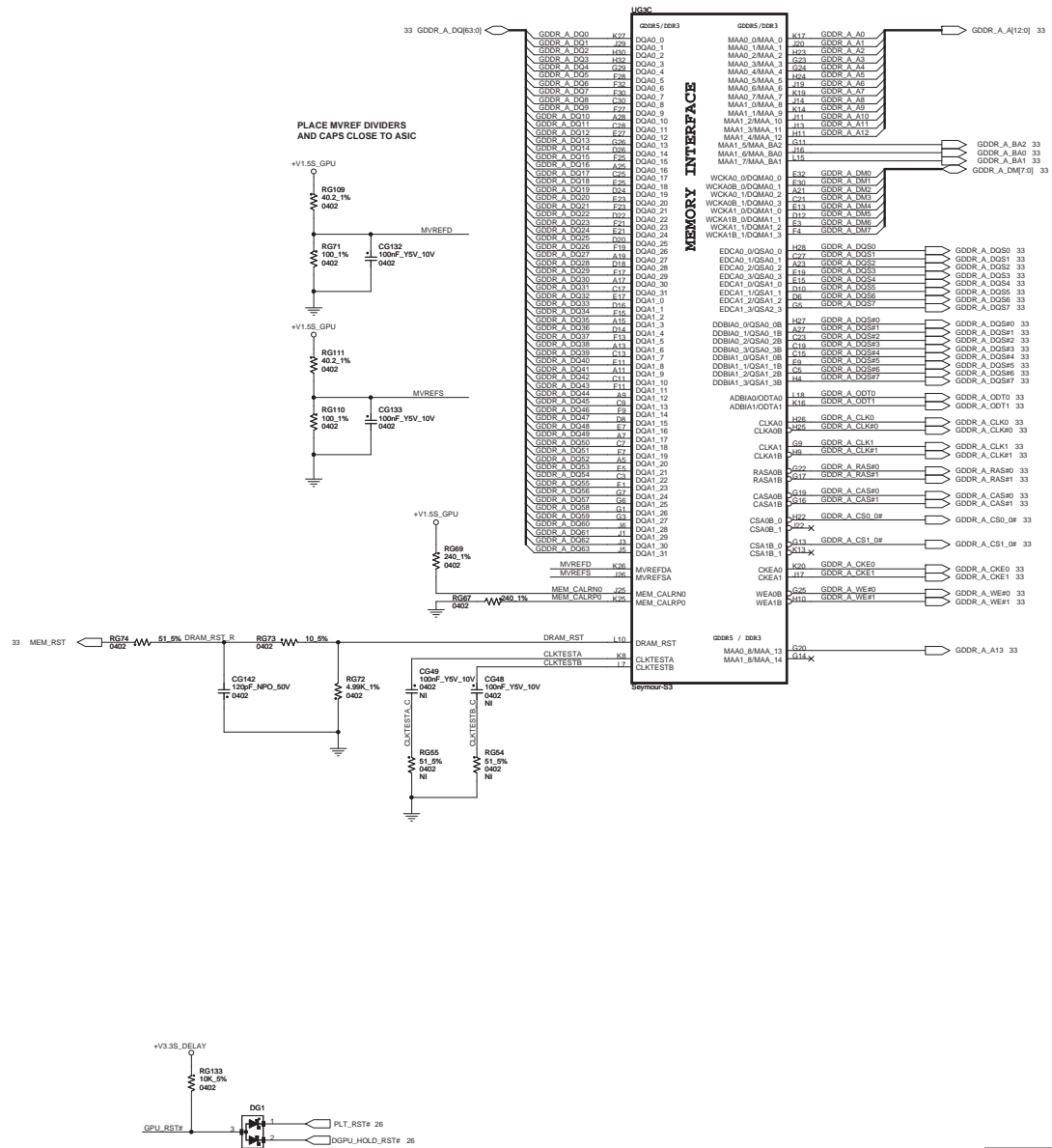
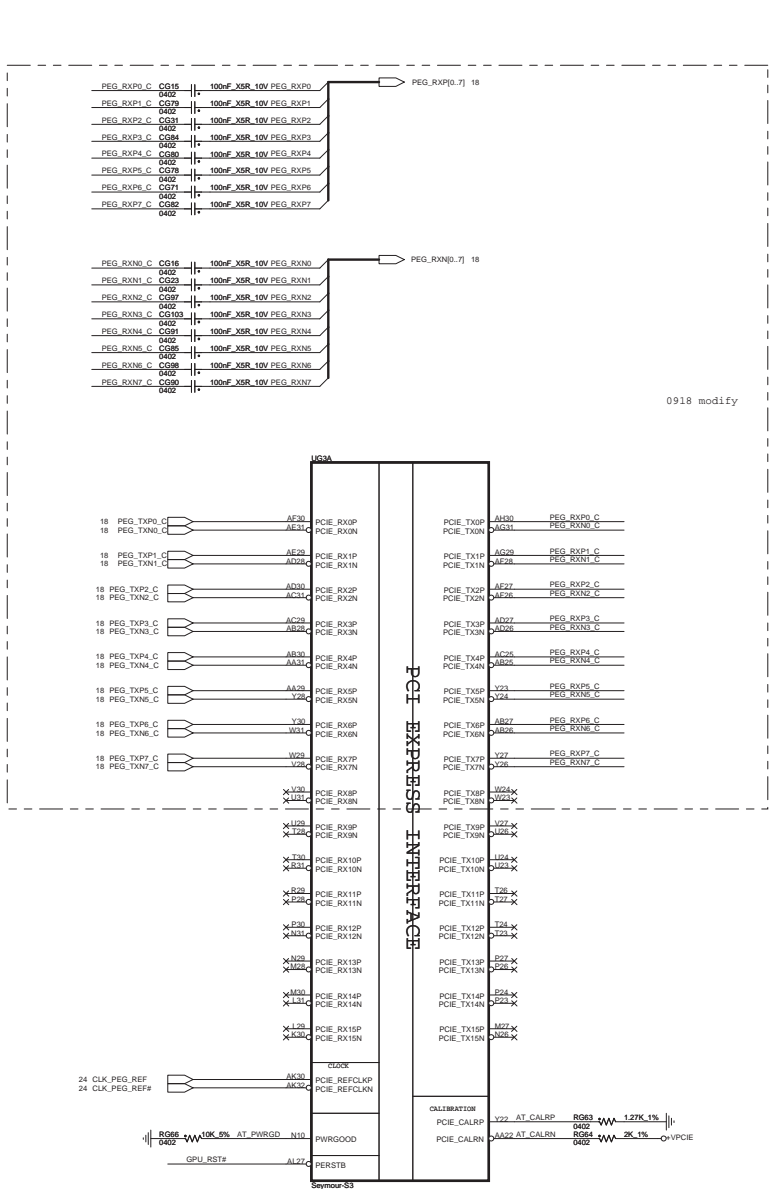


Place these Caps near So-DIMM0

12/14 Modify



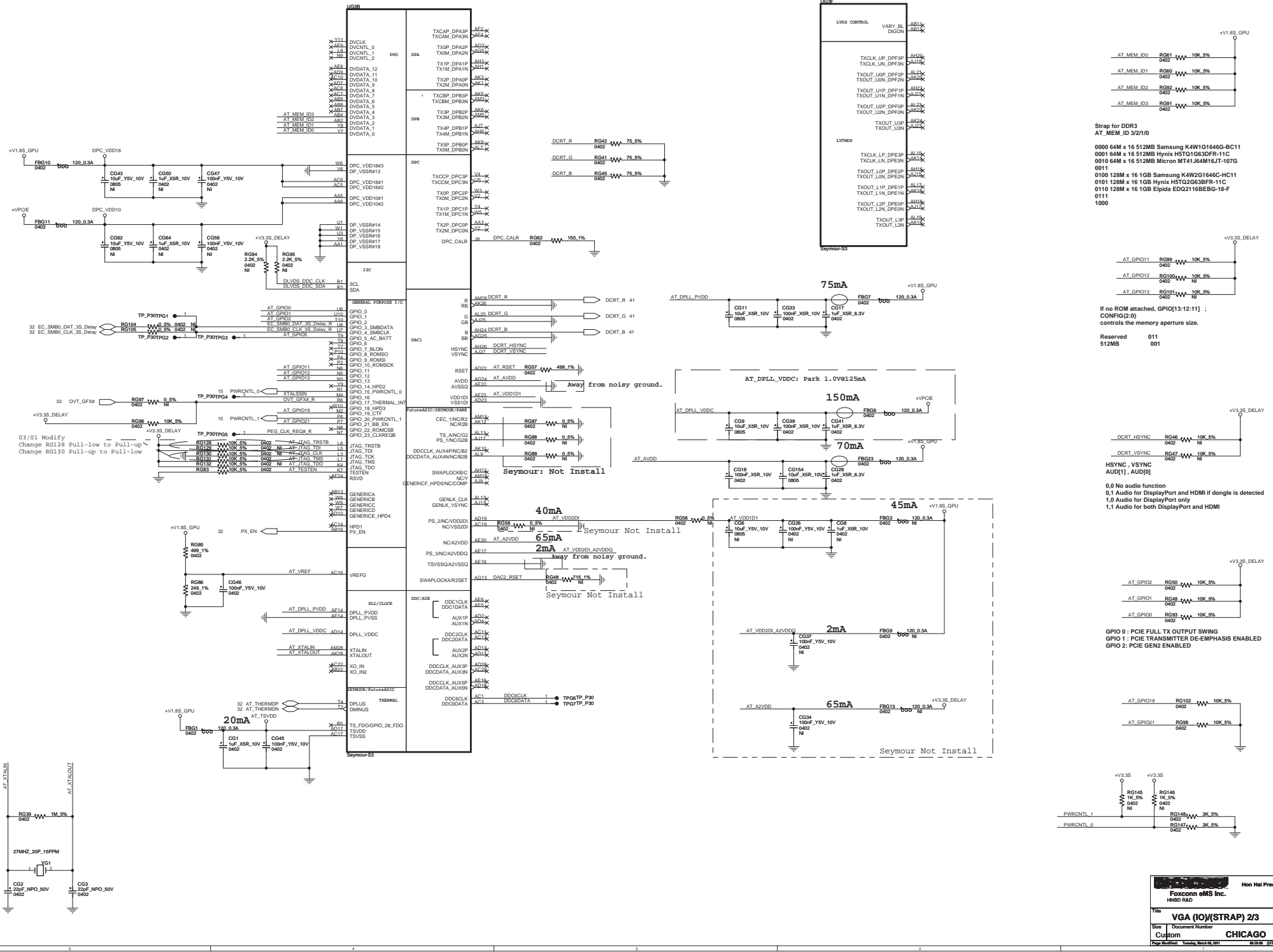
Place these Caps near So-DIMM1



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 Foxconn eMS Inc.  
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File: **VGA\_S3 (PCI-E) 1/3**  
 Doc: Foxconn Number  
 Custom **CHICAGO** MW

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Strap for DDR3  
AT\_MEM\_ID 3/2/1/0

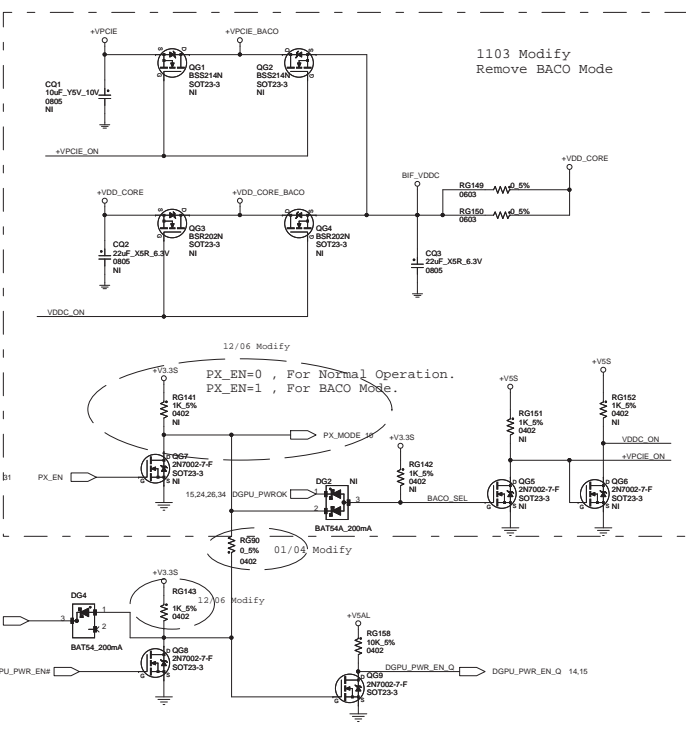
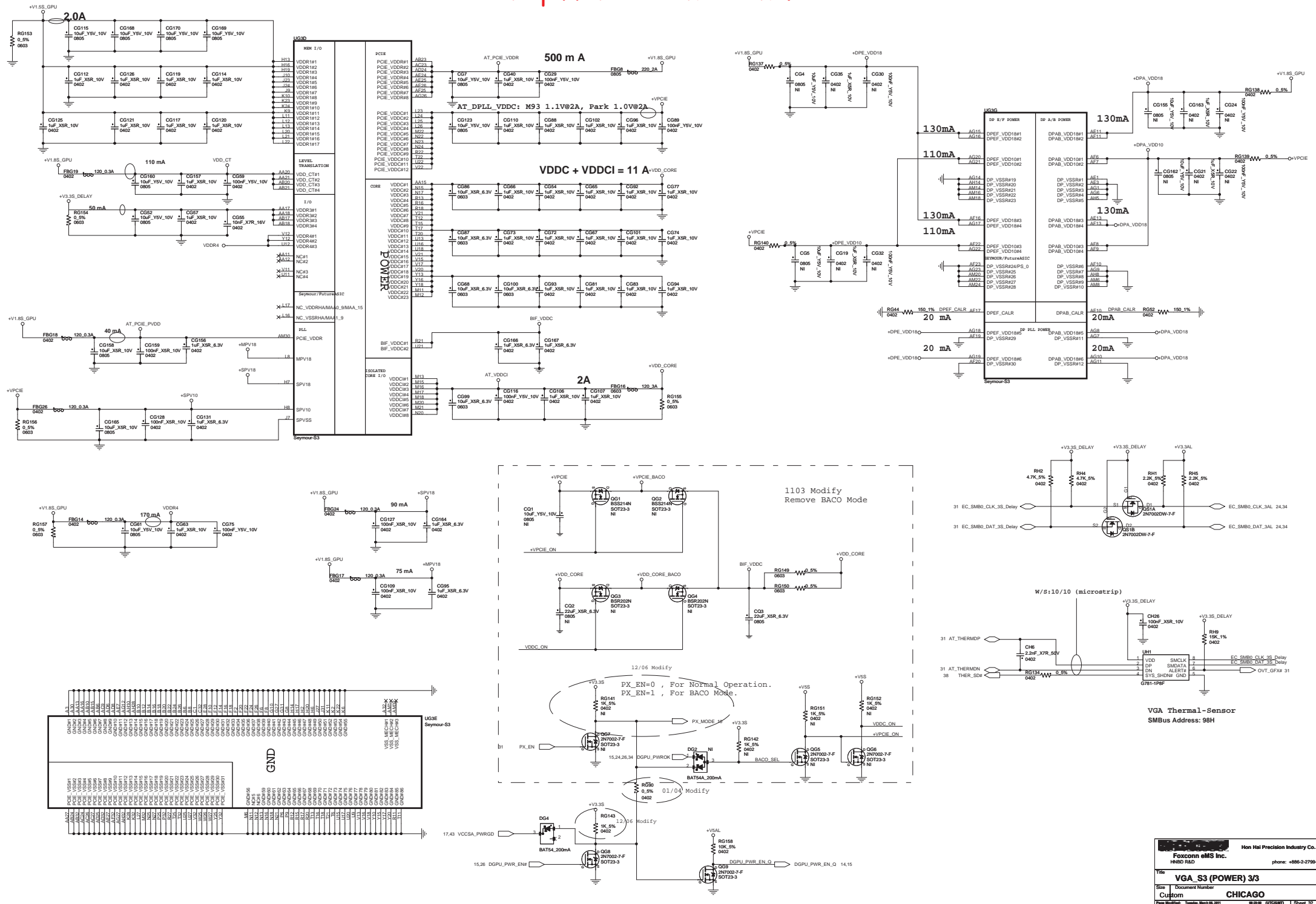
- 0000 64M x 16 S12MB Samsung K4W1G1646G-9C11
- 0001 64M x 16 S12MB Hynix H5TQ1G63DFR-11C
- 0010 64M x 16 S12MB Micron MT41J64M16JT-107G
- 0011 0100 128M x 16 1GB Samsung K4W2G1646G-HC11
- 0101 128M x 16 1GB Hynix H5TQ2G63BFR-11C
- 0110 128M x 16 1GB Elpida EDQ2116BEGG-18-F
- 0111 1000

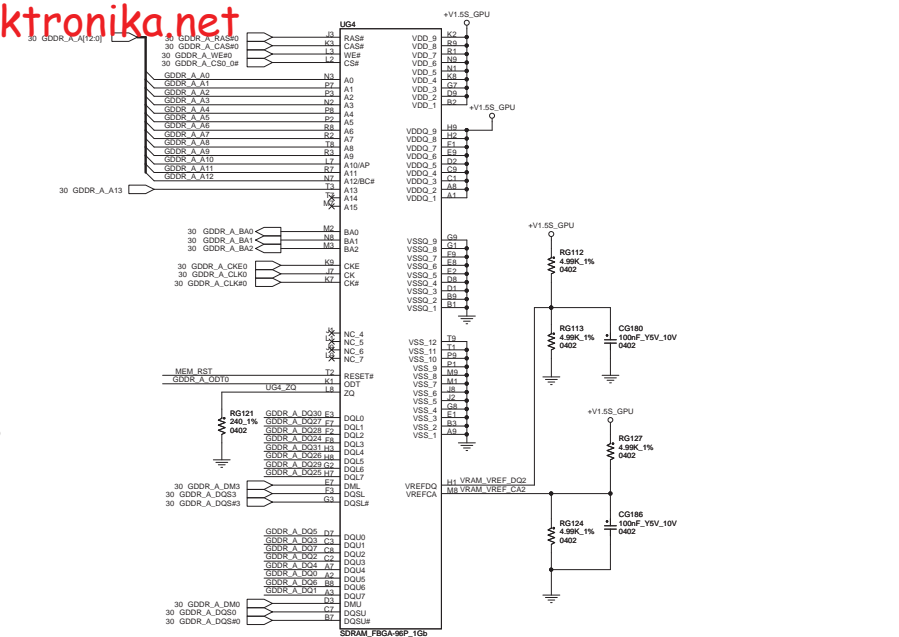
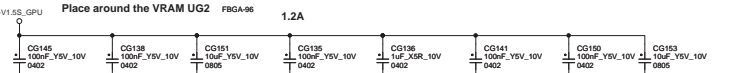
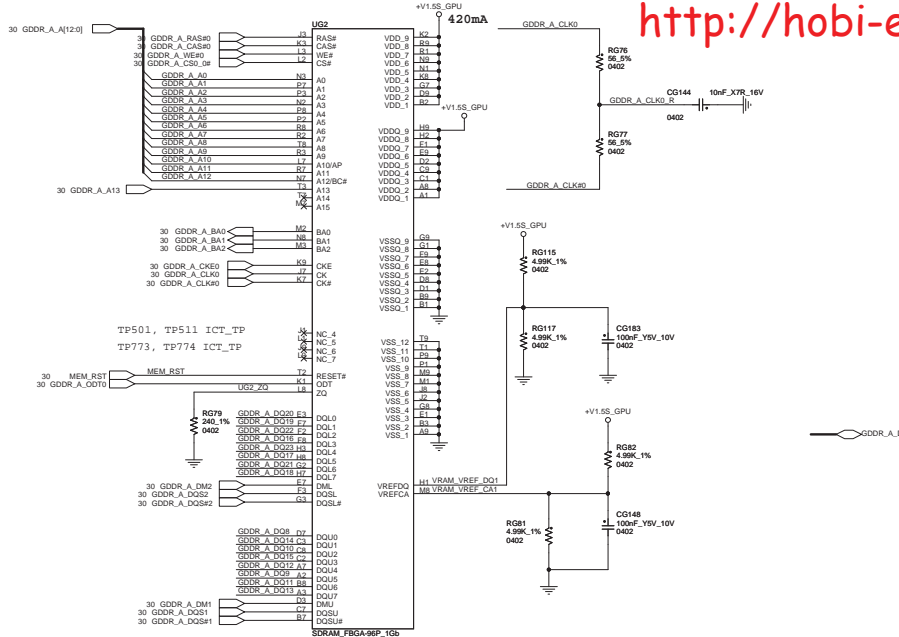
If no ROM attached, GPIO[13:12:11] ;  
CONFIG(2:0) controls the memory aperture size.

Reserved 011  
512MB 001

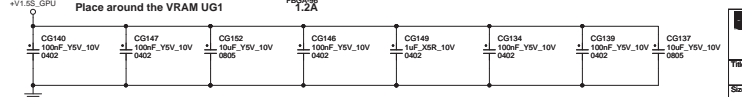
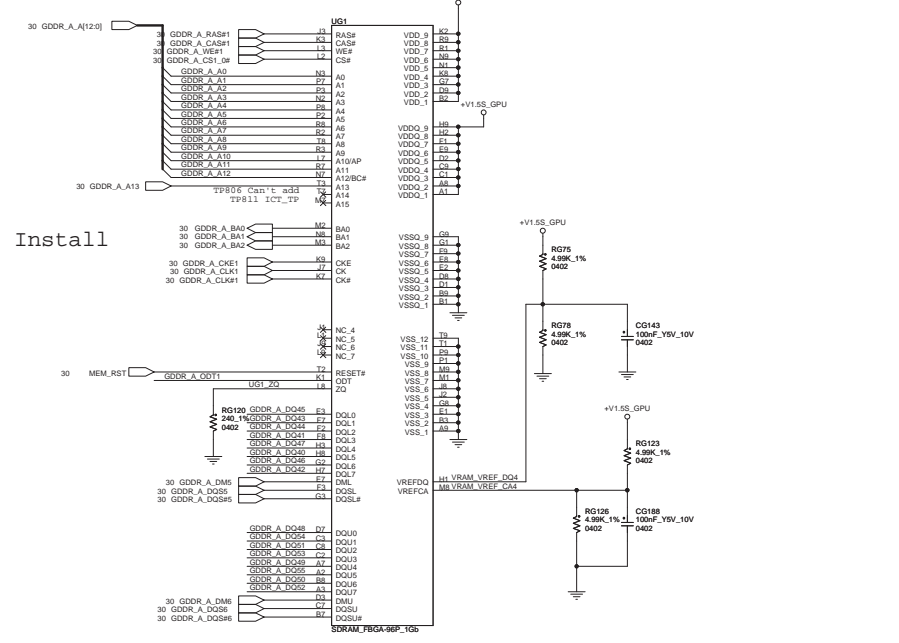
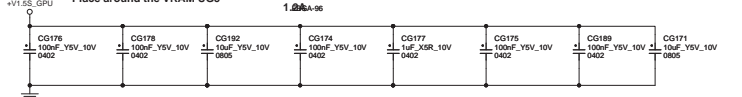
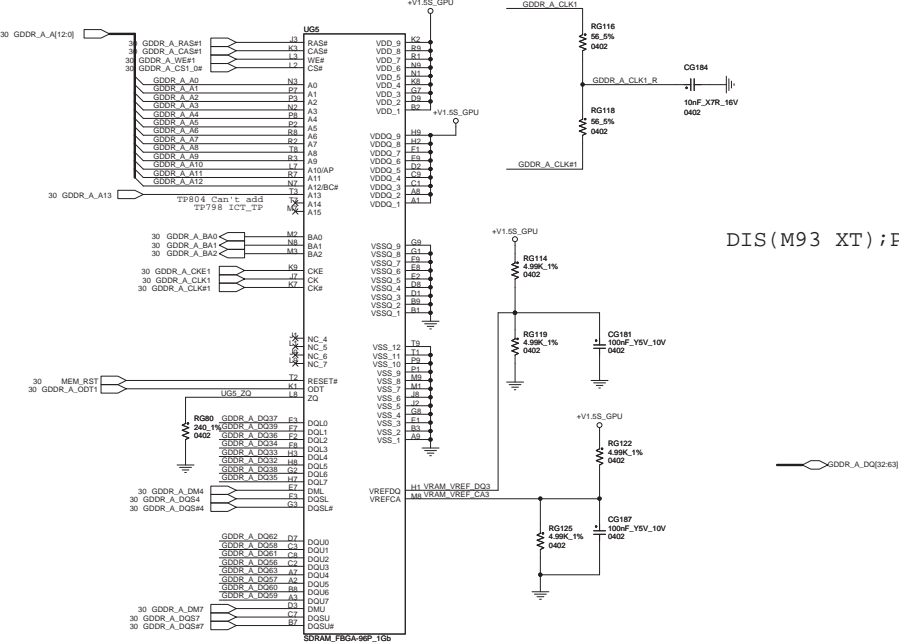
0.0 No audio function  
0.1 Audio for DisplayPort and HDMI if dongle is detected  
1.0 Audio for DisplayPort only  
1.1 Audio for both DisplayPort and HDMI

GPIO 0 : PCIe FULL TX OUTPUT SWING  
GPIO 1 : PCIe TRANSMITTER DE-EMPHASIS ENABLED  
GPIO 2 : PCIe GEN2 ENABLED





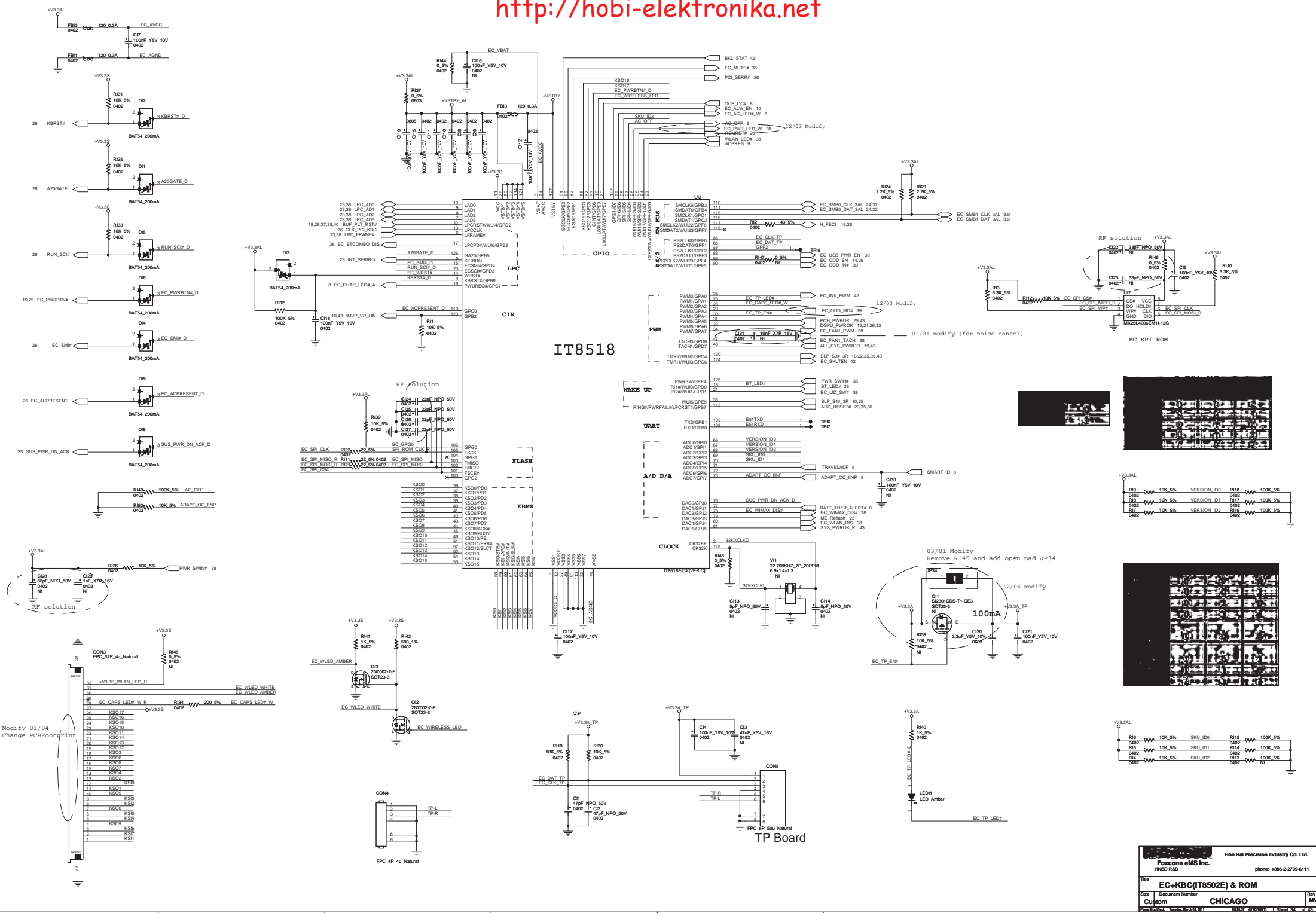
DIS(M93 XT);PX : Install



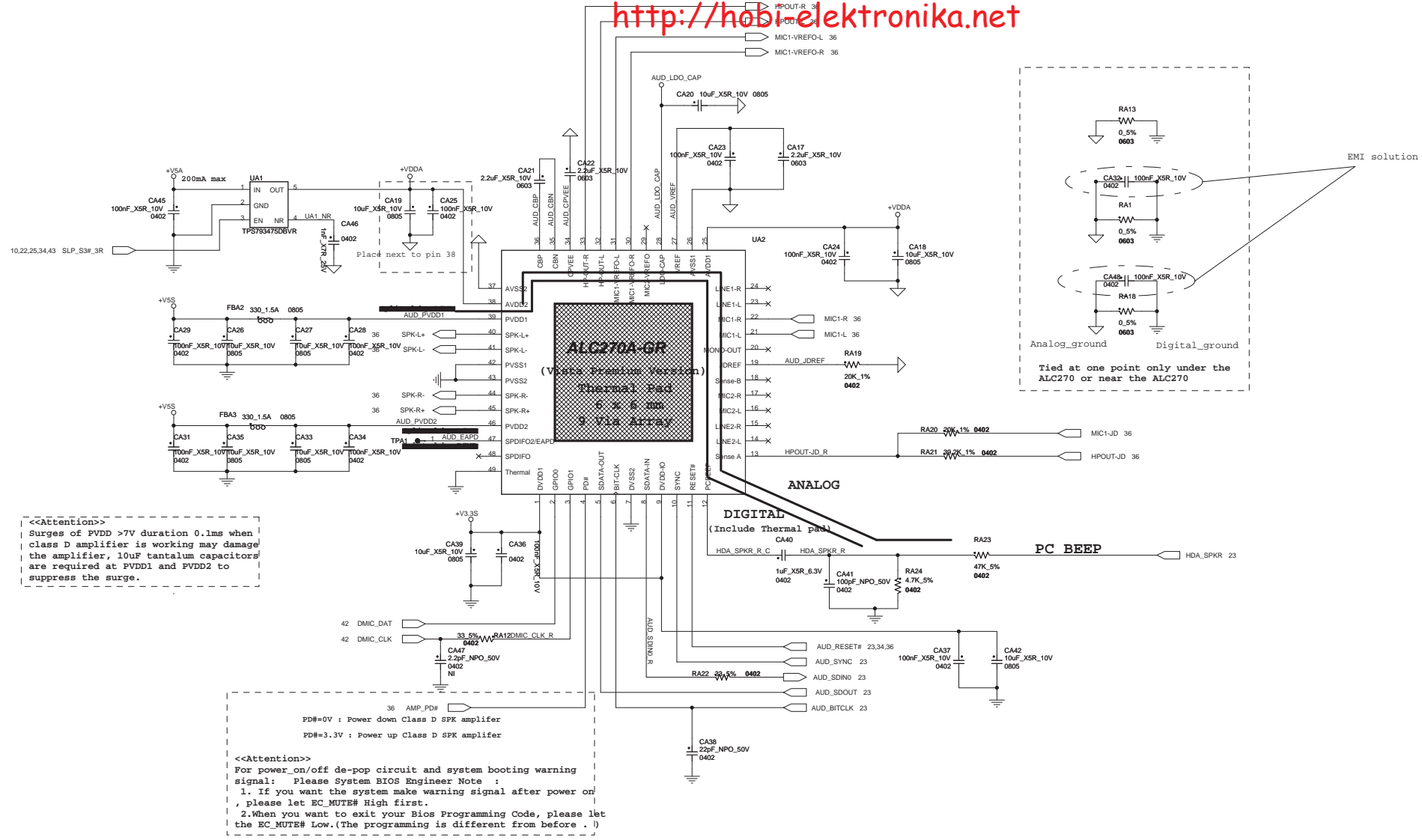
Foxconn eMS Inc. HNB0 R&D		Hon Hai Precision Industry Co. Ltd. phone: +886-2-2799-6111	
Part No.	VRAM (DDR3)	Rev.	1.0
Doc No.	Document Number	Rev.	MW
Customer	CHICAGO	Rev.	

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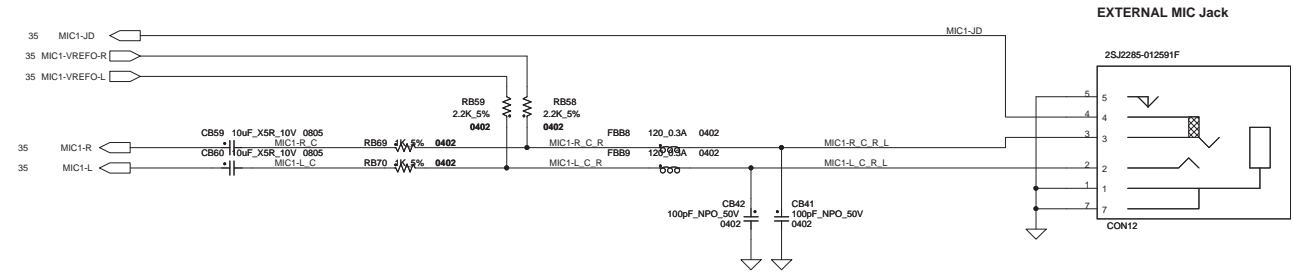
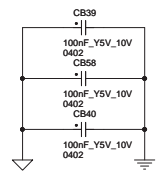
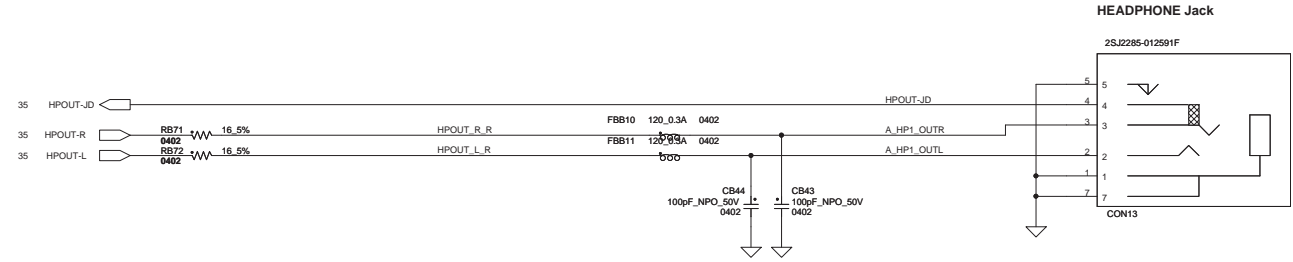
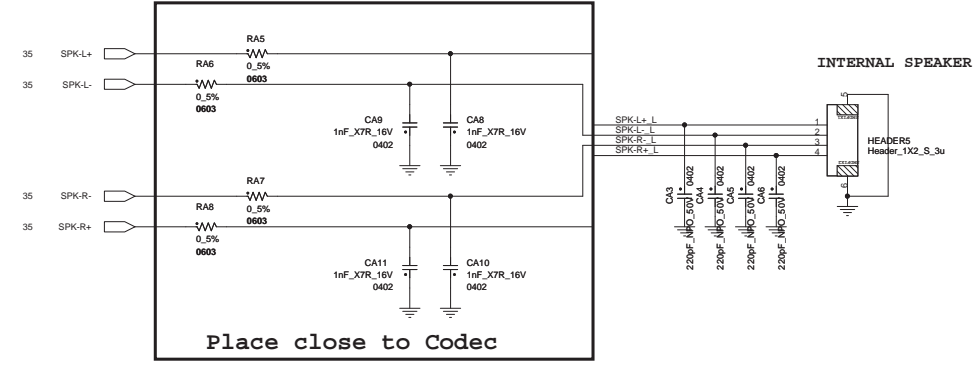
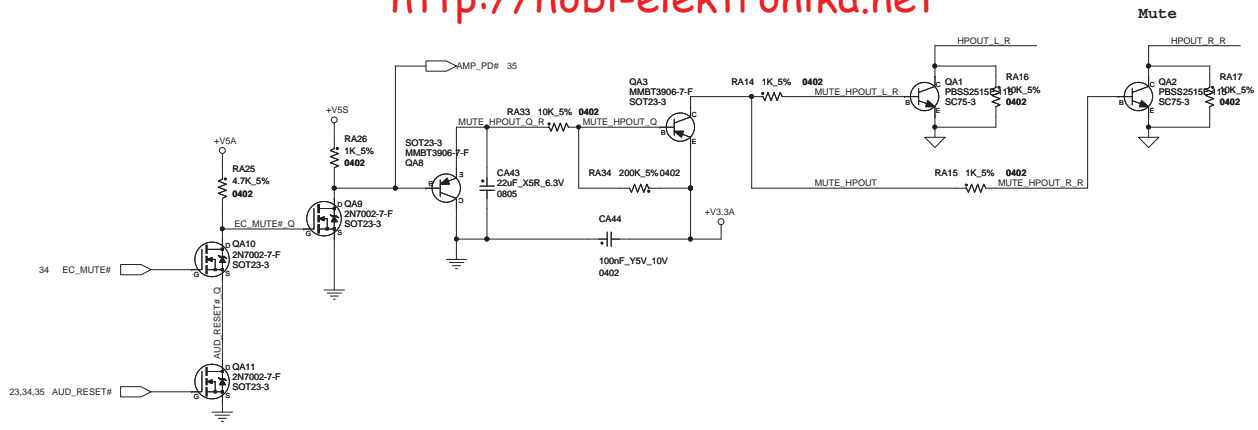
IT518

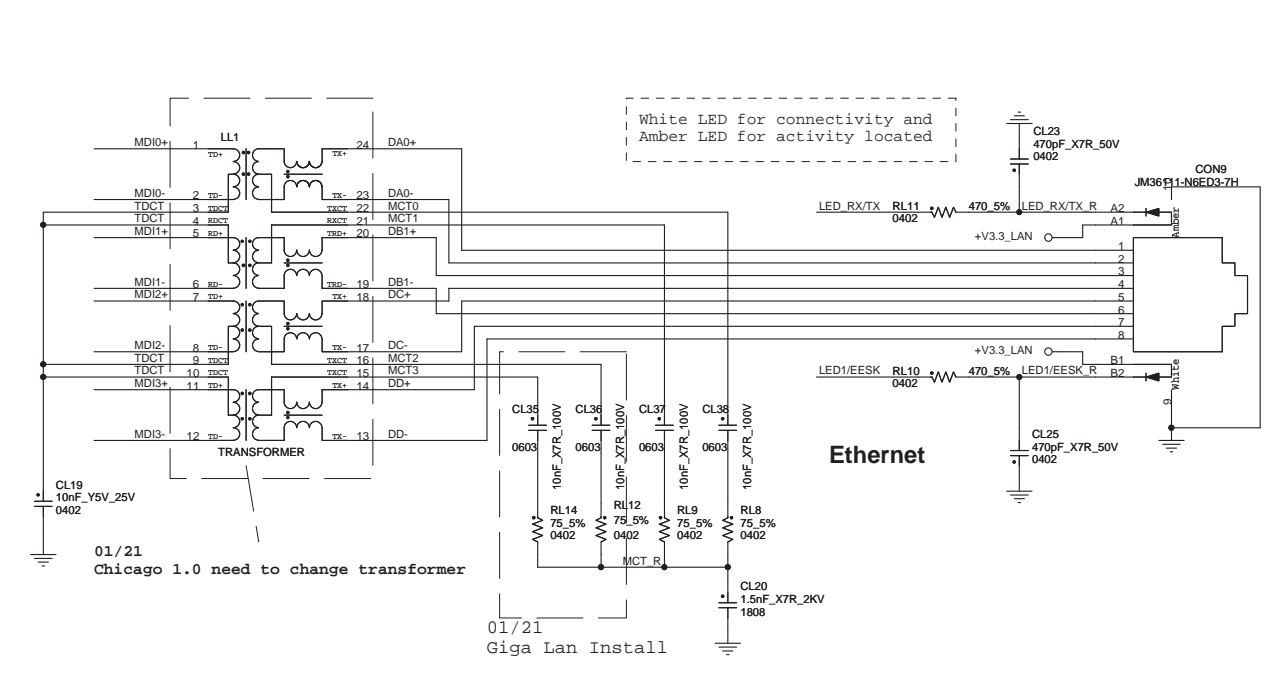
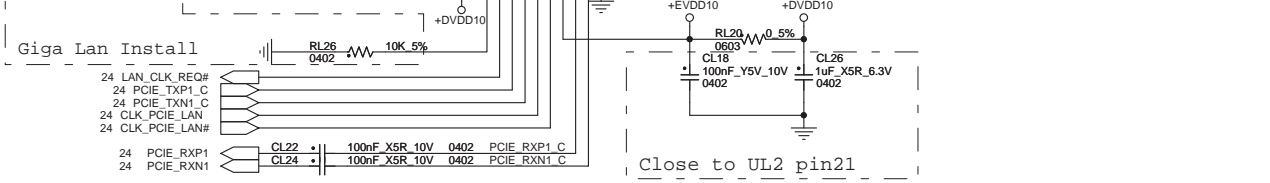
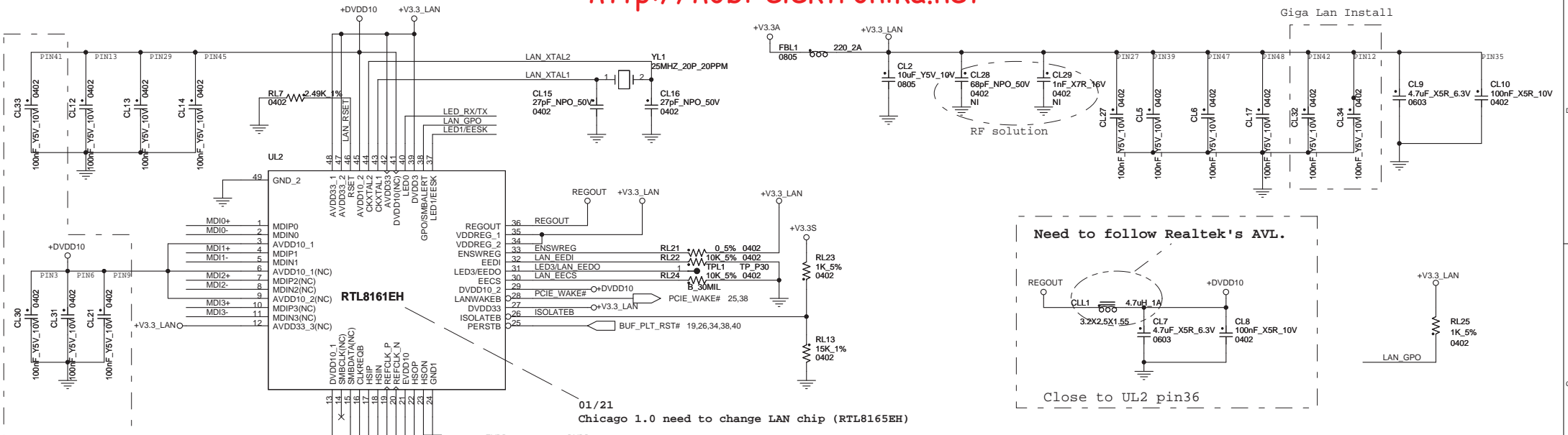


<<Attention>>  
 Surges of PVDD >7V duration 0.1ms when class D amplifier is working may damage the amplifier, 10uF tantalum capacitors are required at PVDD1 and PVDD2 to suppress the surge.

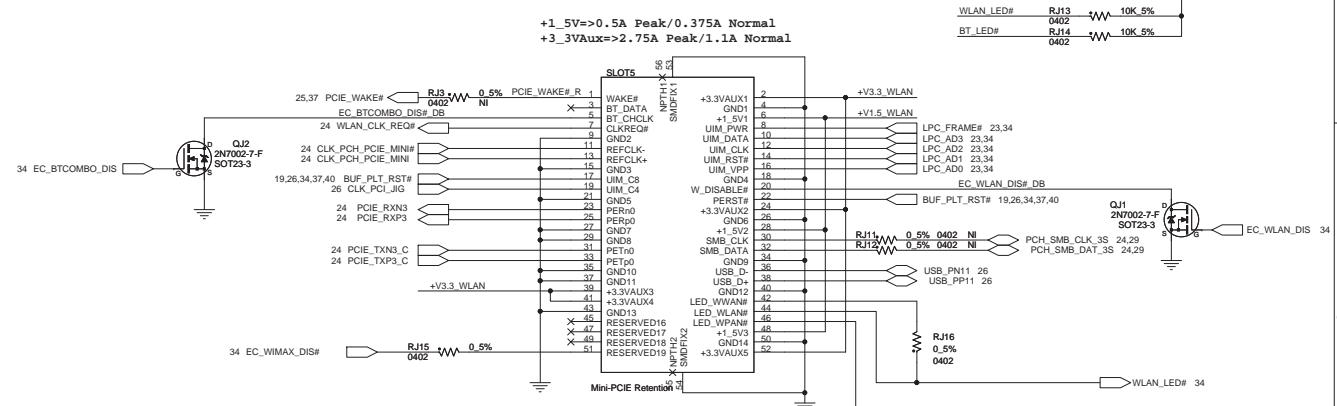
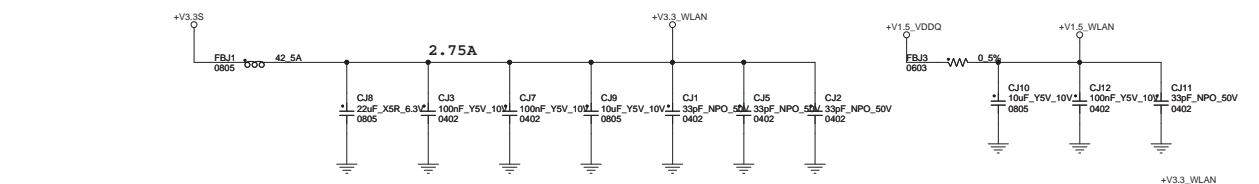
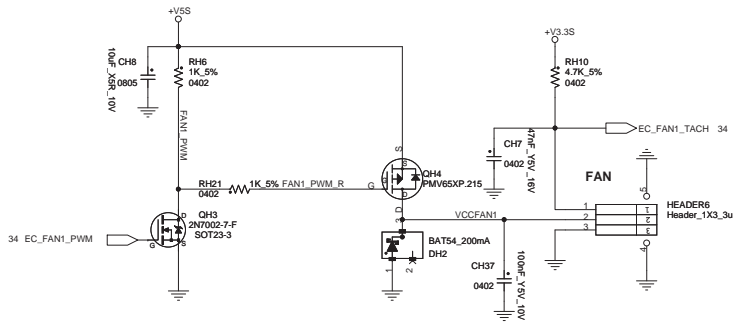
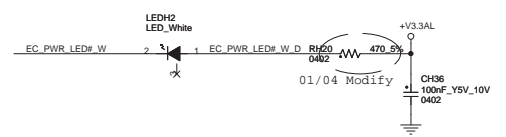
36 AMP\_PD#  
 PD#=0V : Power down Class D SPK amplifier  
 PD#3.3V : Power up Class D SPK amplifier

<<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 .)

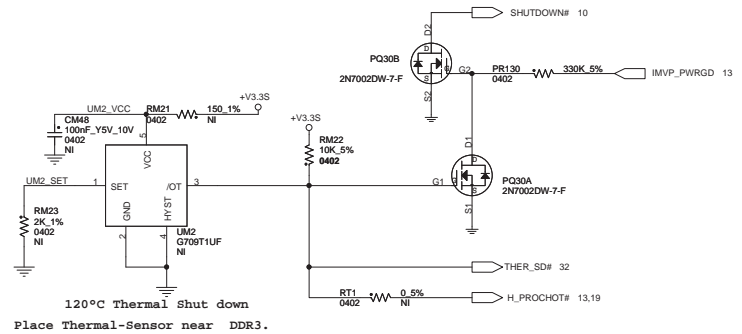




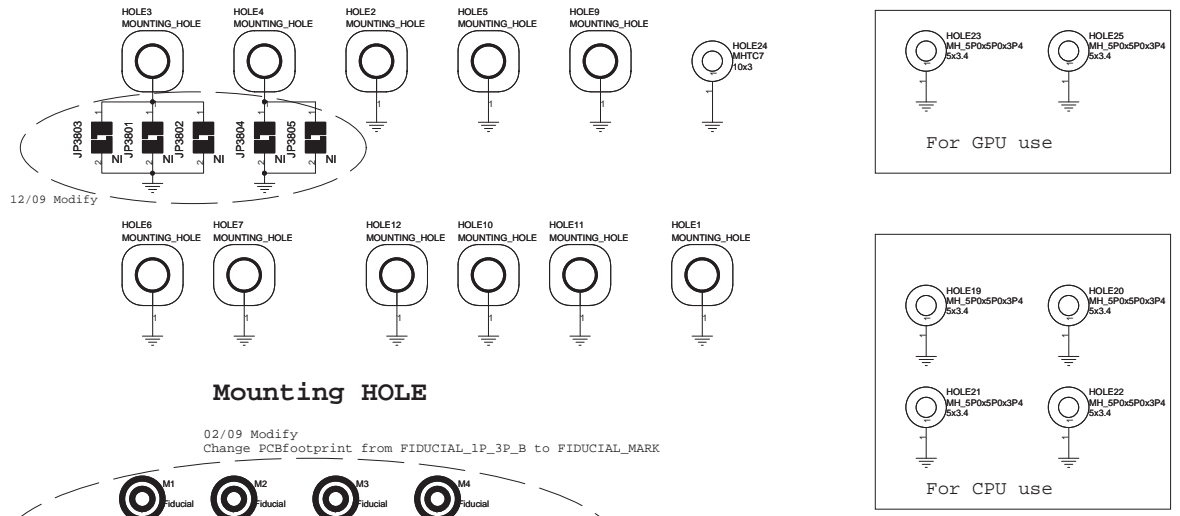
		Hon Hai Precision Industry Co. Ltd. HNBDR R&D	
Title <b>LAN (RTL8165EH)</b>		phone: +886-2-2799-6111	
Size	Document Number	Rev	
Custom			
Page Modified: Tuesday, March 06, 2011		08:28:59 (UTC/GMT) Sheet 37 of 43	



Half Mini Card for WLAN



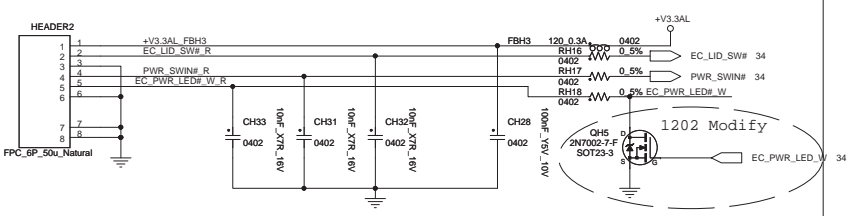
120°C Thermal Shut down  
Place Thermal-Sensor near DDR3.

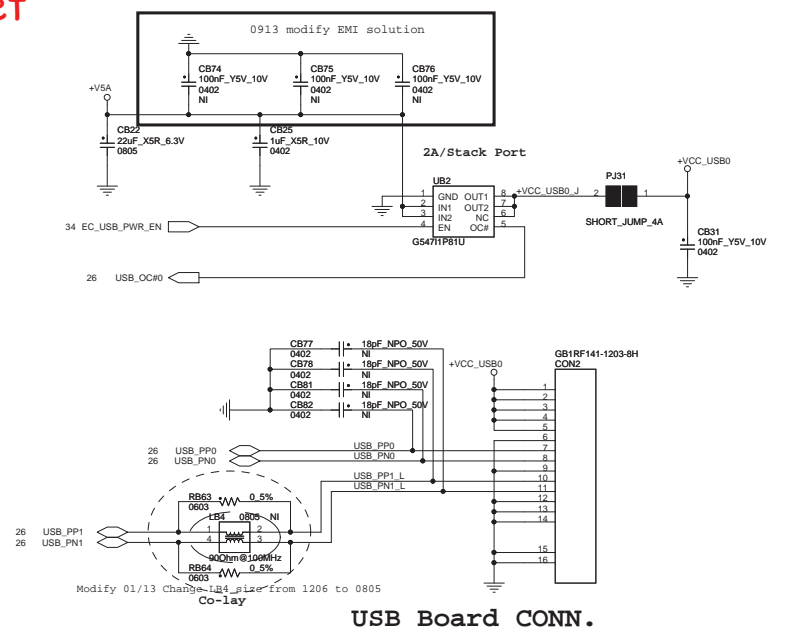
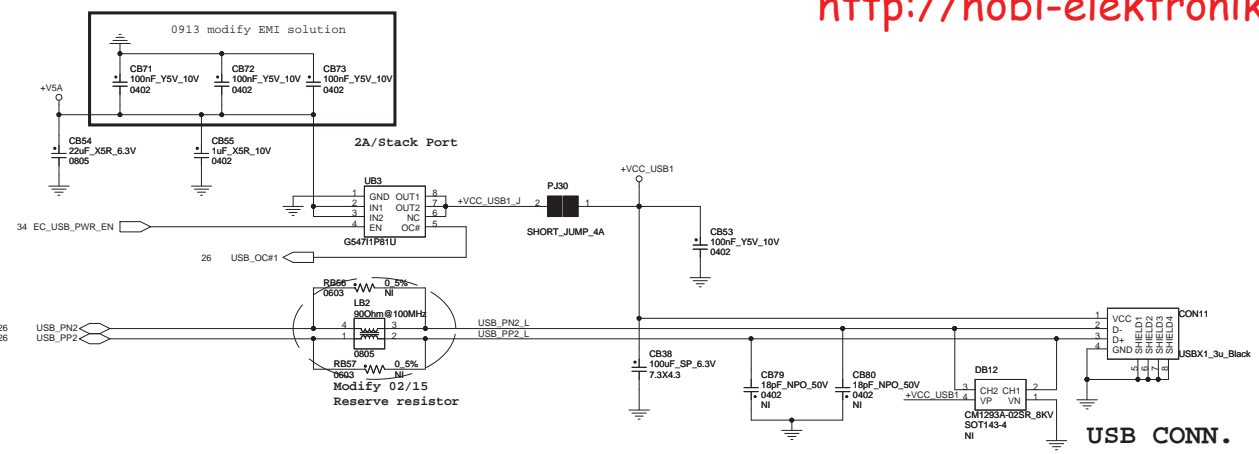


Mounting HOLE

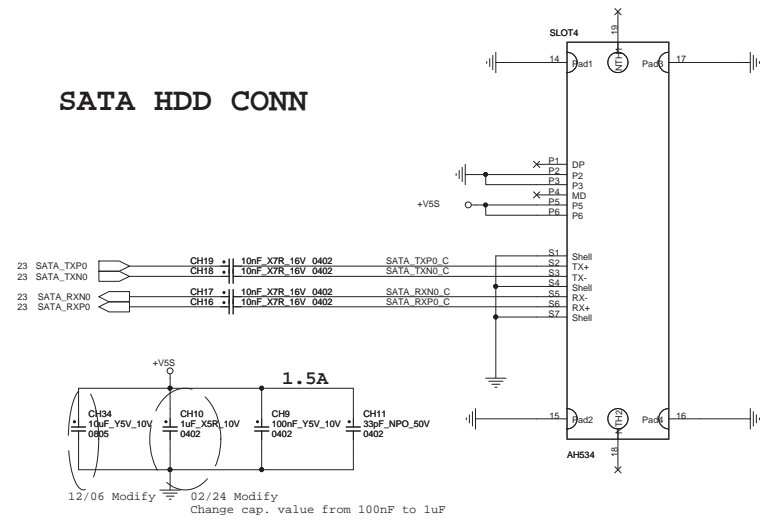
Fiducial Mark

PWR Board CONN.

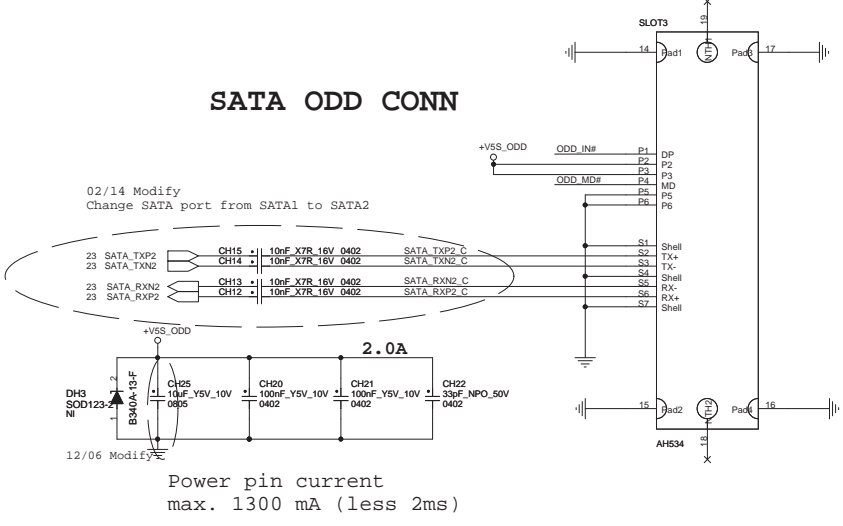




**SATA HDD CONN**

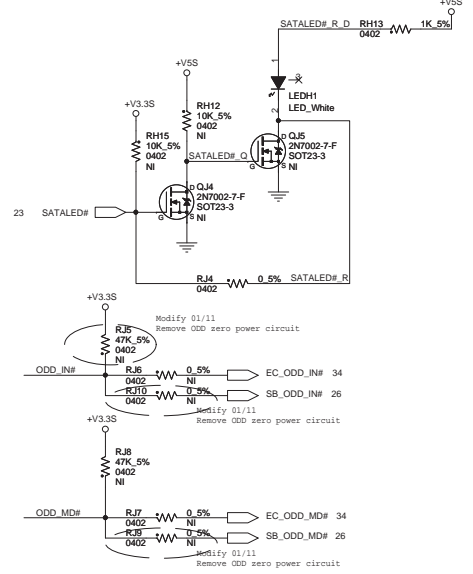


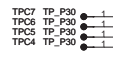
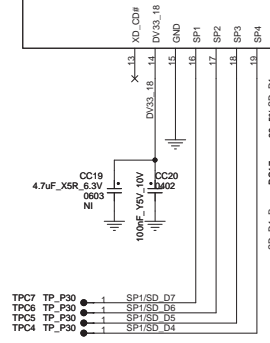
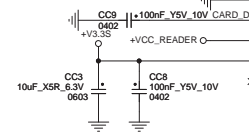
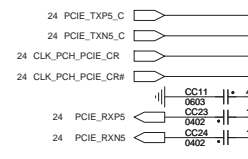
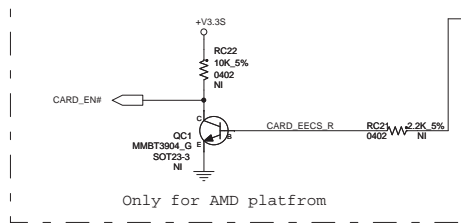
**SATA ODD CONN**



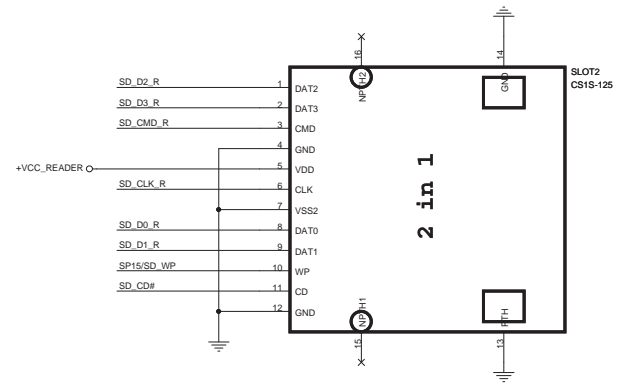
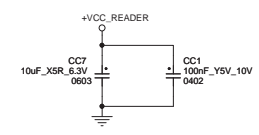
Power pin current max. 1300 mA (less 2ms)

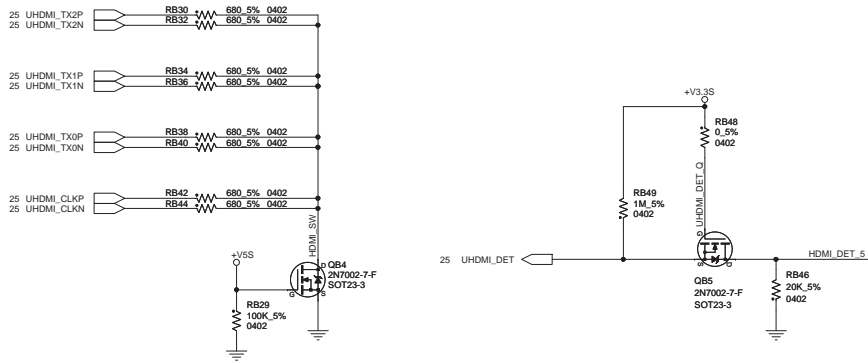
**HDD/ODD Status LED**



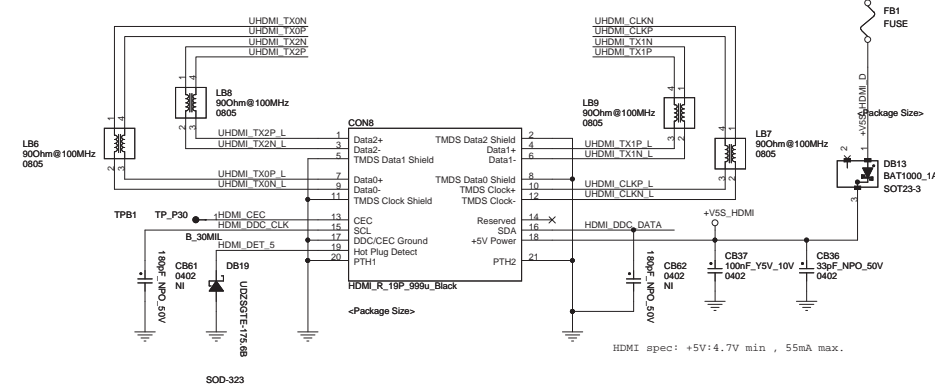
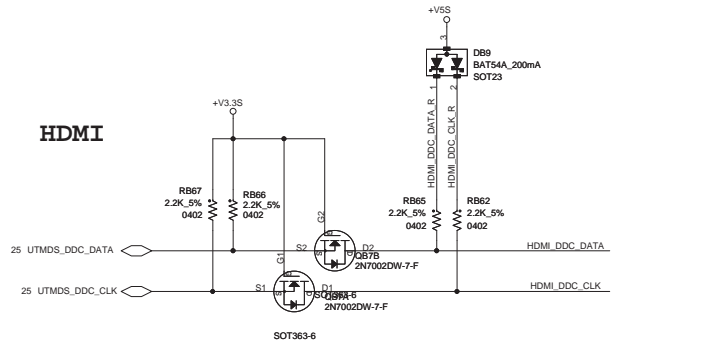


1/24 Modify Check with EMI/ESDMax



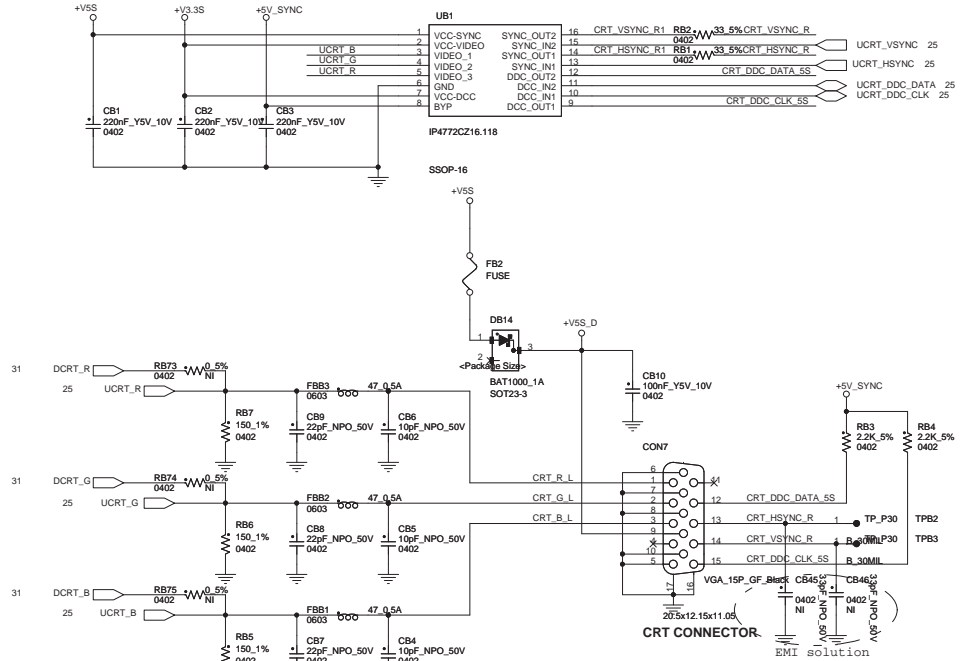


### HDMI



HDMI spec: +5V:4.7V min, 55mA max.

### CRT



CRT CONNECTOR  
EMI solution



