


LCFC Confidential

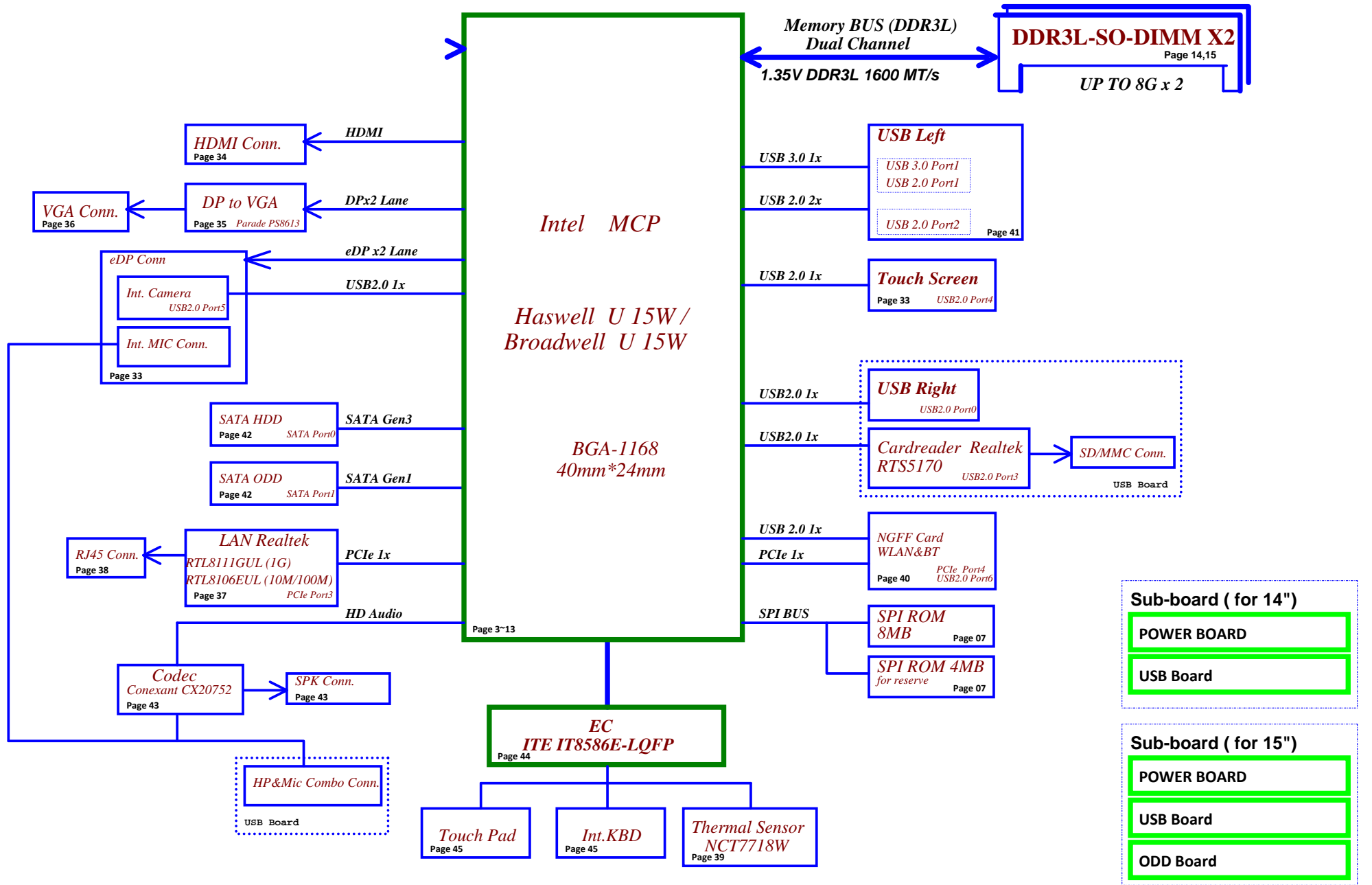
ACLU1/2 UMA M/B Schematics Document

Intel Haswell/Broadwell U-Processor

2013-12-05

REV:1.0

Security Classification		LC Future Center Secret Data		Title			
Issued Date	2013/08/08	Deciphered Date	2013/08/05	Cover Page			
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				Custom	UMA	1.0	
Date:				Monday, December 09, 2013		Sheet 1 of 59	



Sub-board (for 14")

POWER BOARD

USB Board

Sub-board (for 15")

POWER BOARD

USB Board

ODD Board

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Title		Block Diagram	
Size	Document Number	UMA	
Custom		Rev 1.0	
Date:	Monday, December 09, 2013	Sheet	2 of 59



Voltage Rails (0 --> Means ON , X --> Means OFF)

<div>Power Plane</div> <div>State</div>	B+	+3VALW +5VALW	+3VALW_PCH	+1.35V	+5VS +3VS +1.5VS +1.35VS +1.05VS +0.675VS CPU_CORE
S0	○	○	○	○	○
S3	○	○	○	○	✗
S3 Battery only	○	○	○	○	✗
S5 S4/AC Only	○	○	○	✗	✗
S5 S4 Battery only	○	✗	✗	✗	✗
S5 S4 AC & Battery don't exist	✗	✗	✗	✗	✗

STATE \ SIGNAL	SLP_S1#	SLP_S3#	SLP_S4#	SLP_S5#	+VALW	+V	+VS	Clock
Full ON	HIGH	HIGH	HIGH	HIGH	ON	ON	ON	ON
S1(Power On Suspend)	LOW	HIGH	HIGH	HIGH	ON	ON	ON	LOW
S3 (Suspend to RAM)	LOW	LOW	HIGH	HIGH	ON	ON	OFF	OFF
S4 (Suspend to Disk)	LOW	LOW	LOW	HIGH	ON	OFF	OFF	OFF
S5 (Soft OFF)	LOW	LOW	LOW	LOW	ON	OFF	OFF	OFF

USB Port Table

USB 2.0 EHCI1		USB 3.0 XHCI	
0	USB Port (Right Side)		
1	USB Port1 (Left Side)	1	USB Port1 (Left Side)
2	USB Port2 (Left Side)	2	
3	Cardreader	3	
4	TOUCH PANEL	4	
5	Camera		
6	NGFF(WLAN)		
7			

BOM Structure Table

[illegible]

SMBUS Control Table

	SOURCE	BATT	IT8586E	SODIMM	WLAN WiMAX	Thermal Sensor	PCH	TP Module	charger
EC_SMB_CK1 EC_SMB_DA1	IT8586E +3VALW	V	V +3VALW	X	X	X	X	X	V
EC_SMB_CK2 EC_SMB_DA2	IT8586E +3VS	X	V +3VS	X	X	V +3VS	V +3VALW_PCH	X	X
PCH_SMB_CLK PCH_SMB_DATA	PCH +3VALW_PCH	X	X	V +3VS	V +3VS	X	V +3VALW_PCH	X	X

PCIE PORT LIST


Port	Device
1	
2	
3	LAN
4	WLAN
5	
6	

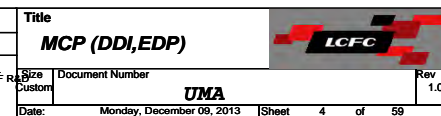
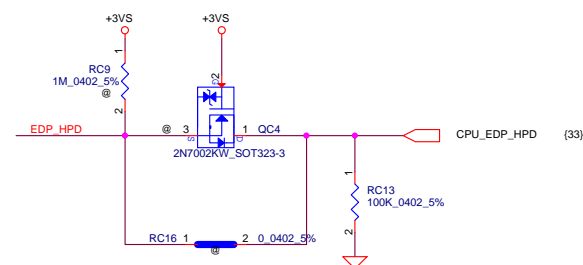
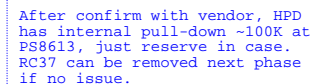
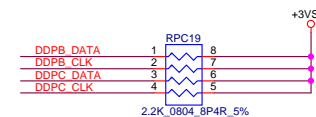
EC SM Bus1 address

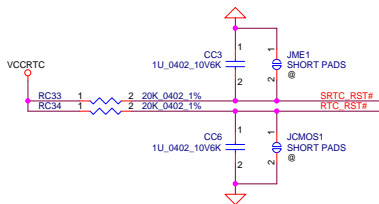
EC SM Bus2 address

PCH SM Bus address

Device	Device	Address	Device	Address
Smart Battery	0X16	Thermal Sensor NCT7718W	DDR DIMMA	1010 000Xb
Charger	0001 0010 b	PCH	DDR DIMMB	1010 010Xb
		need to update	Wlan	Rsvd

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Date:				Monday, December 09, 2013		Sheet		3 of 59	





VCCRTC

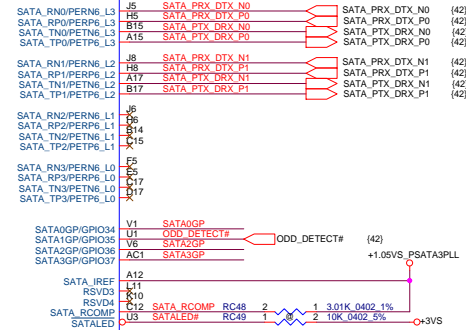
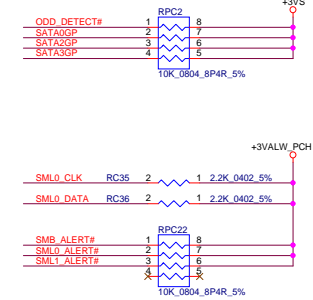
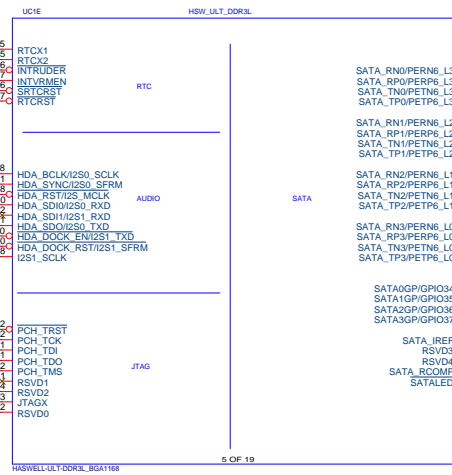
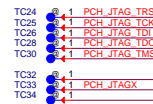
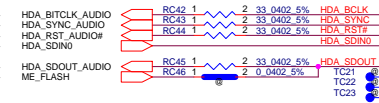
RC39 2 1 1M 0402 5%

RC41 2 1 330K 0402 5%

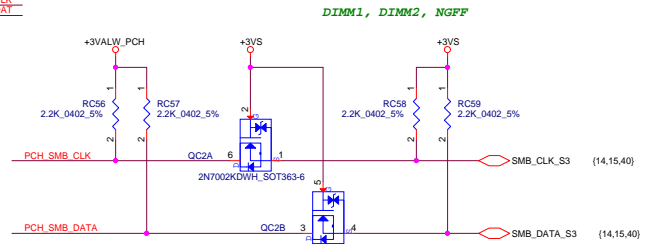
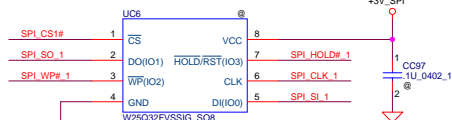
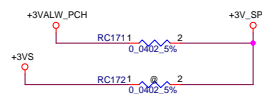
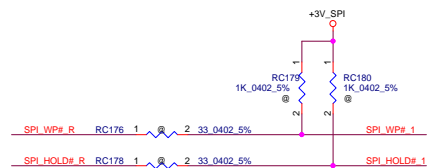
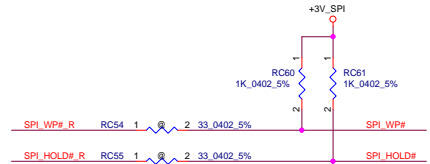
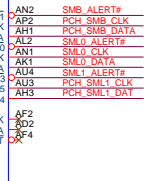
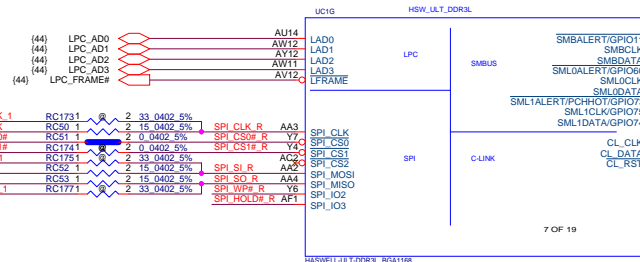
INTVRMEN

- * H Integrated VRM enable (Default)
- L Integrated VRM disable

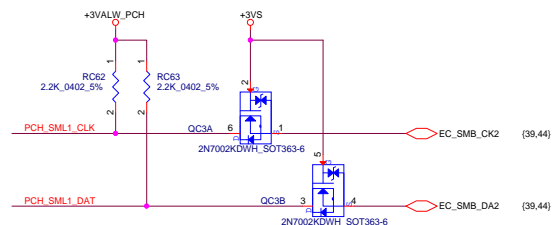
(INTVRMEN should always be pull high.)



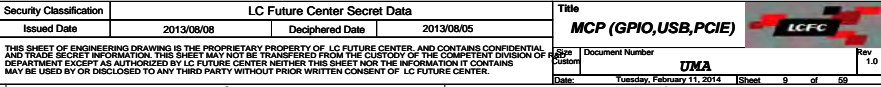
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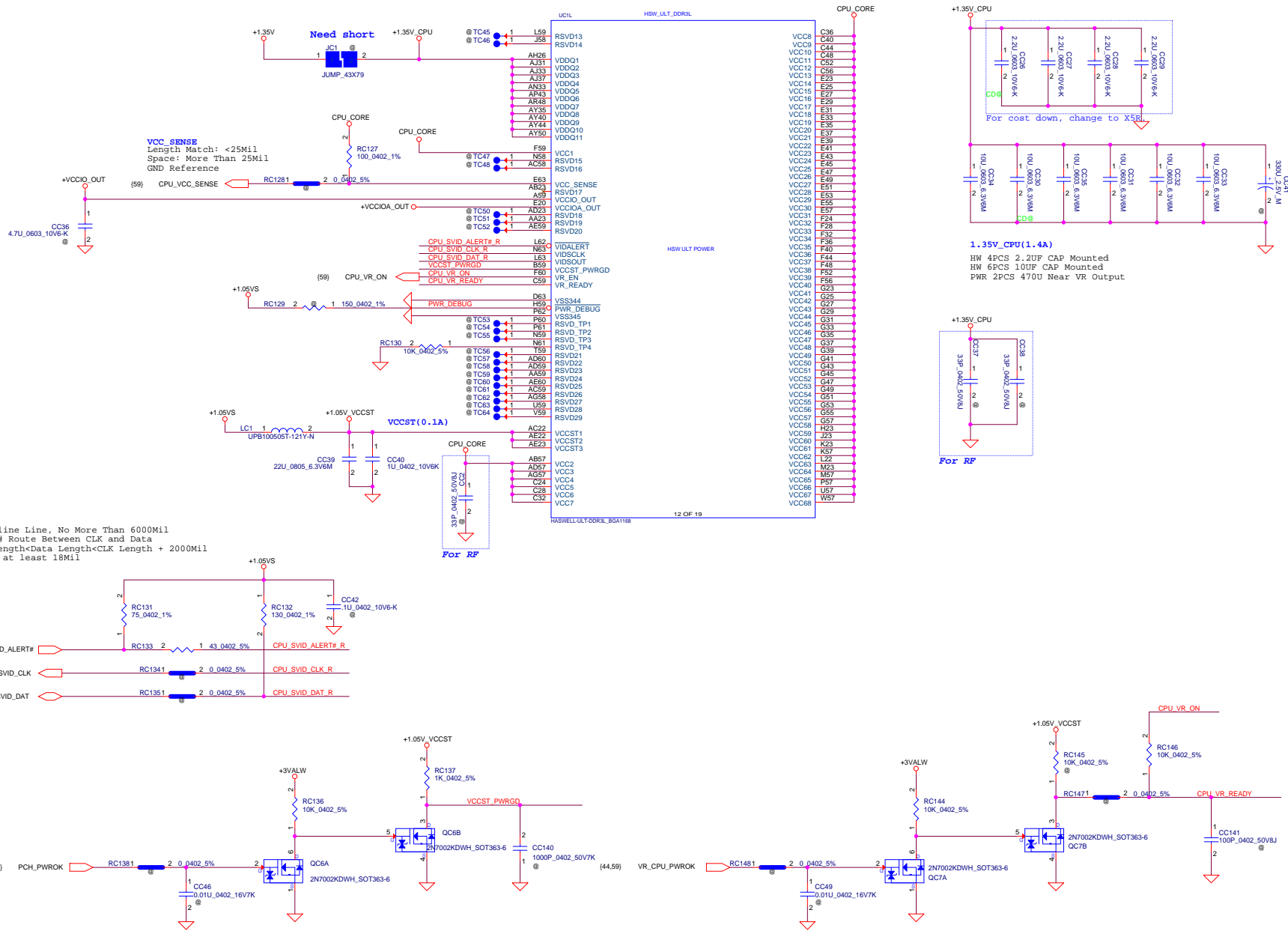


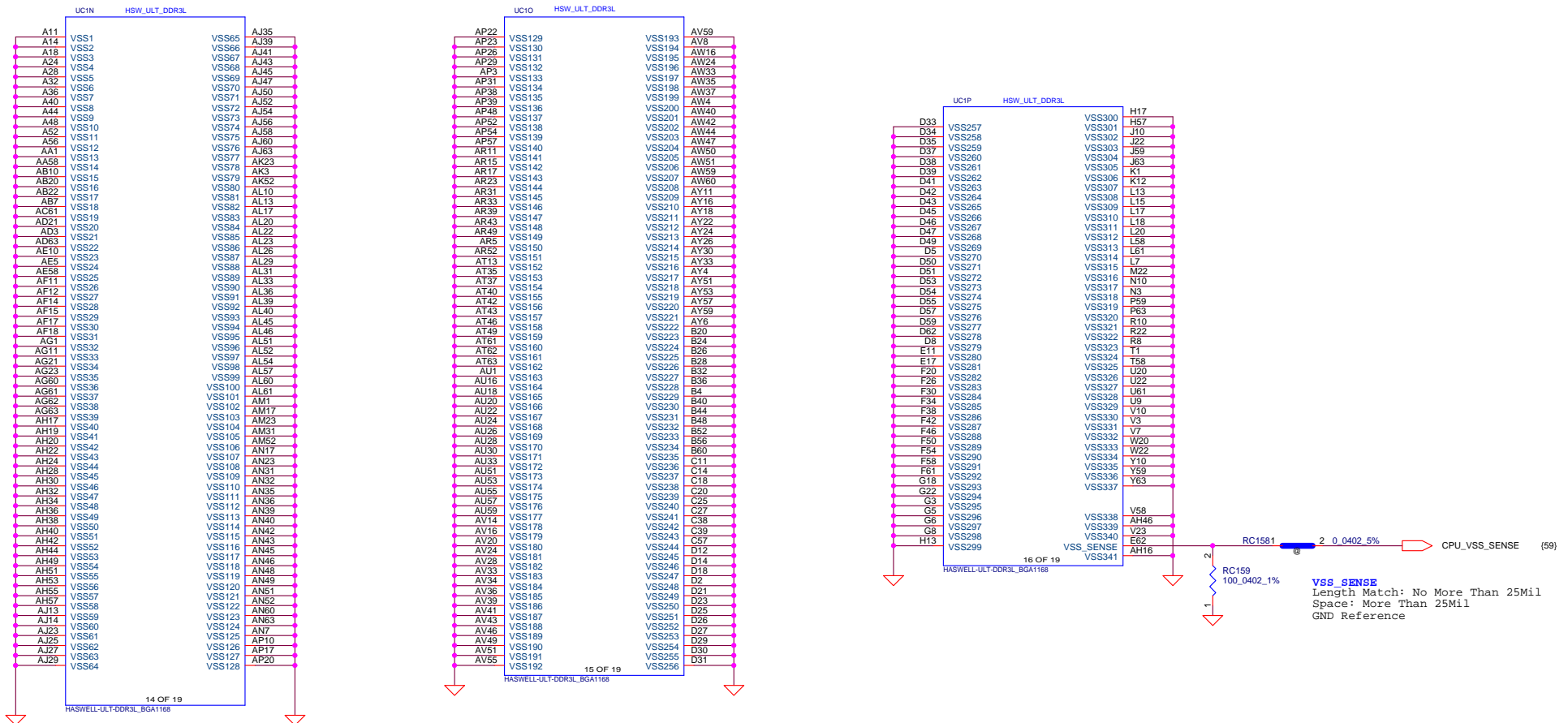
GPU, EC, Thermal Sensor




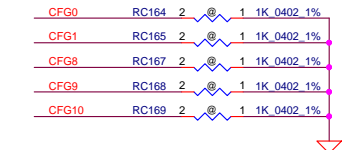
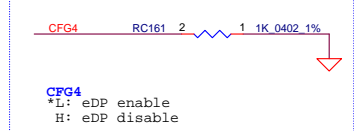
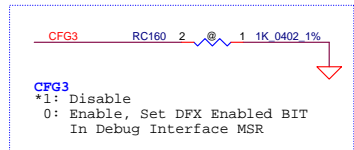
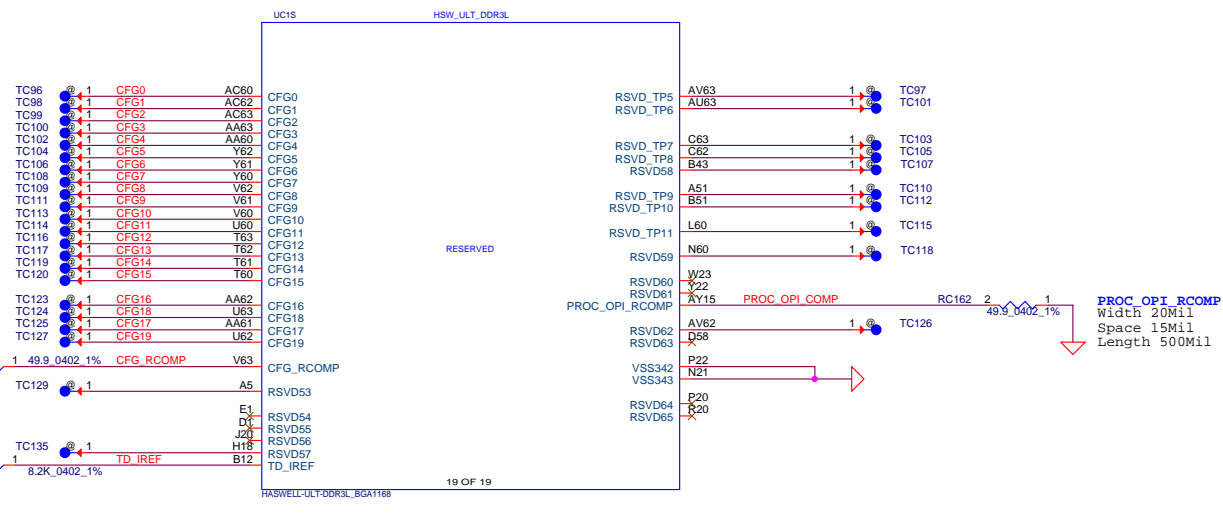
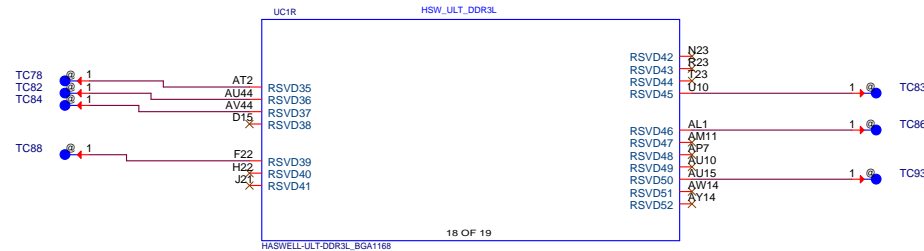
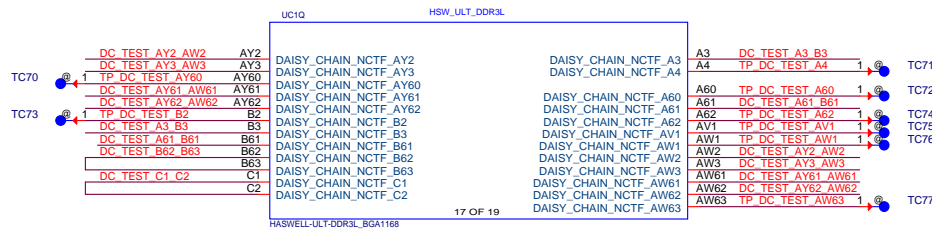
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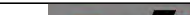




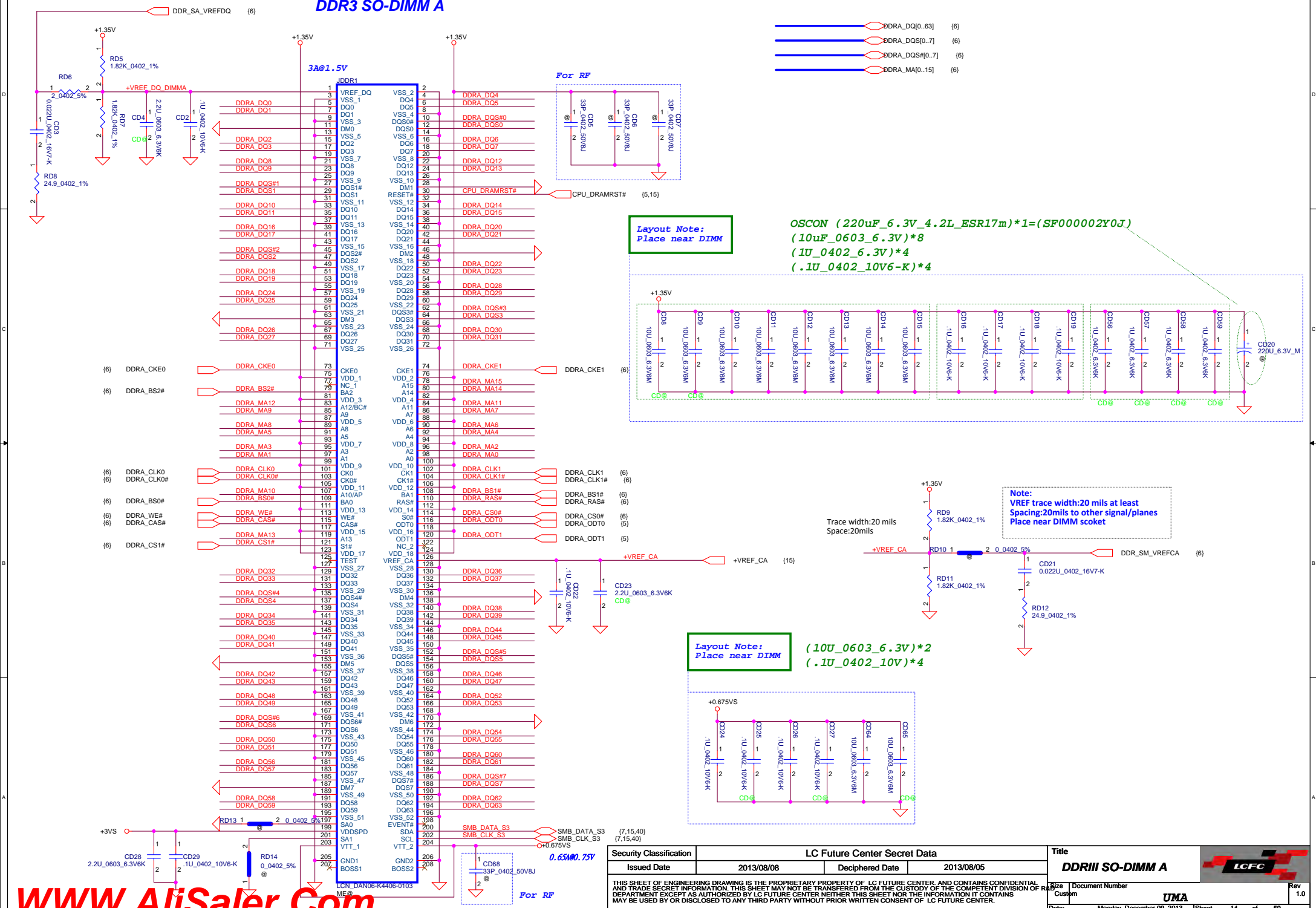


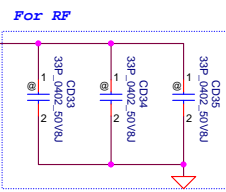
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Size Custom		Document Number		Rev 1.0	
		UMA			
Date:		Monday, December 09, 2013		Sheet 12 of 59	





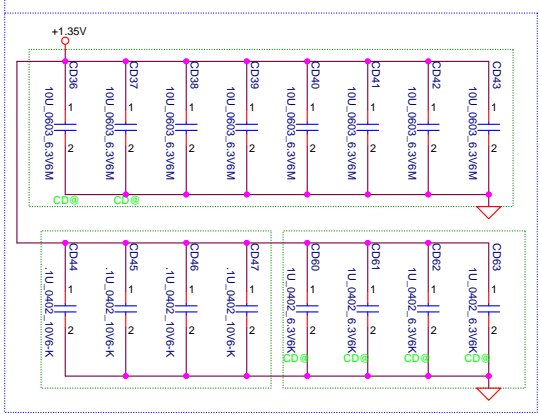
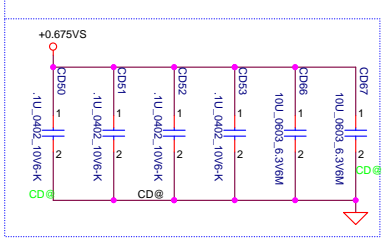
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Date:	Monday, December 09, 2013		Sheet	13	of	59

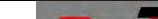


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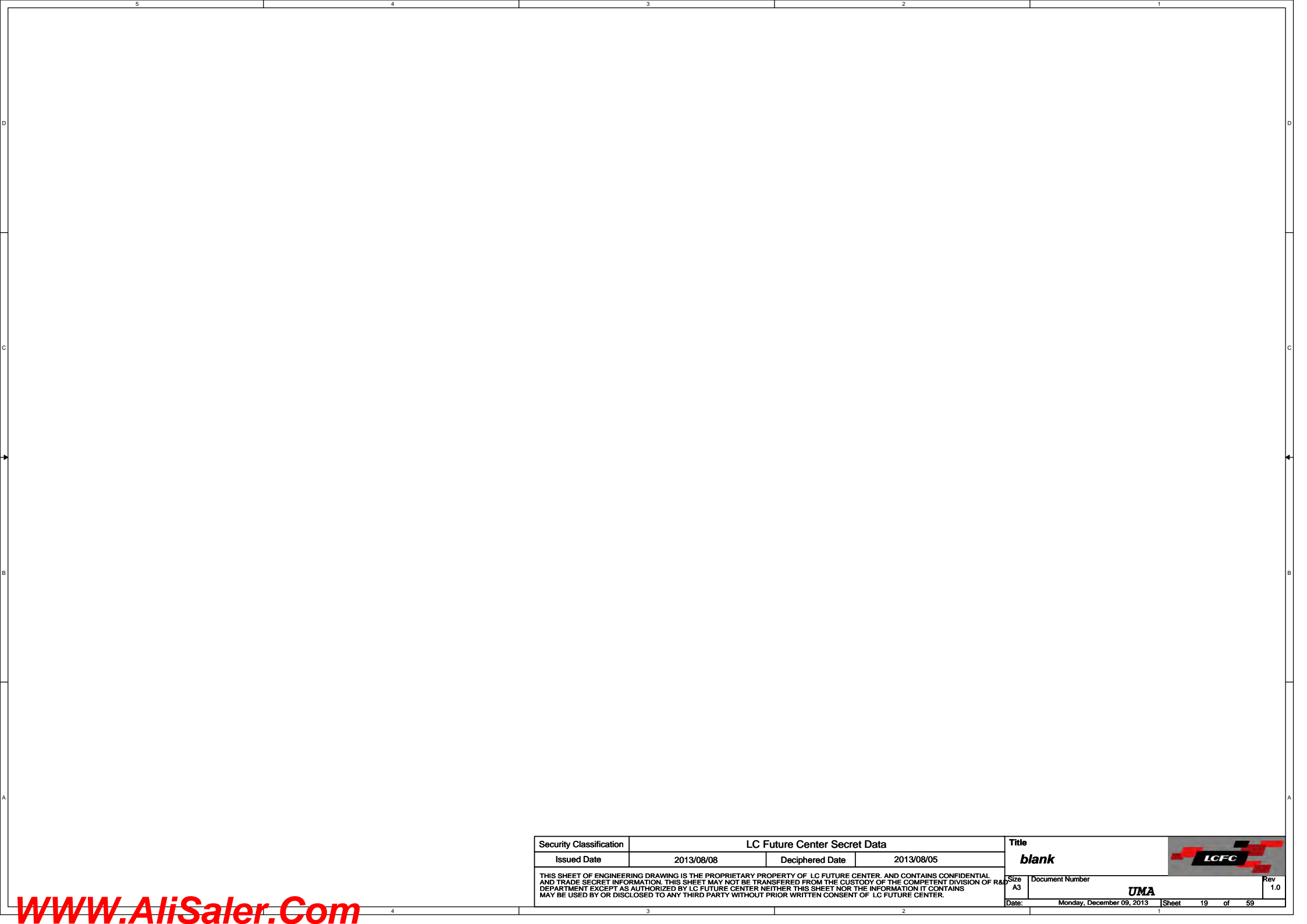



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Size	Document Number	Rev	
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Date:	Monday, December 06, 2011	Sheet	15 of 50

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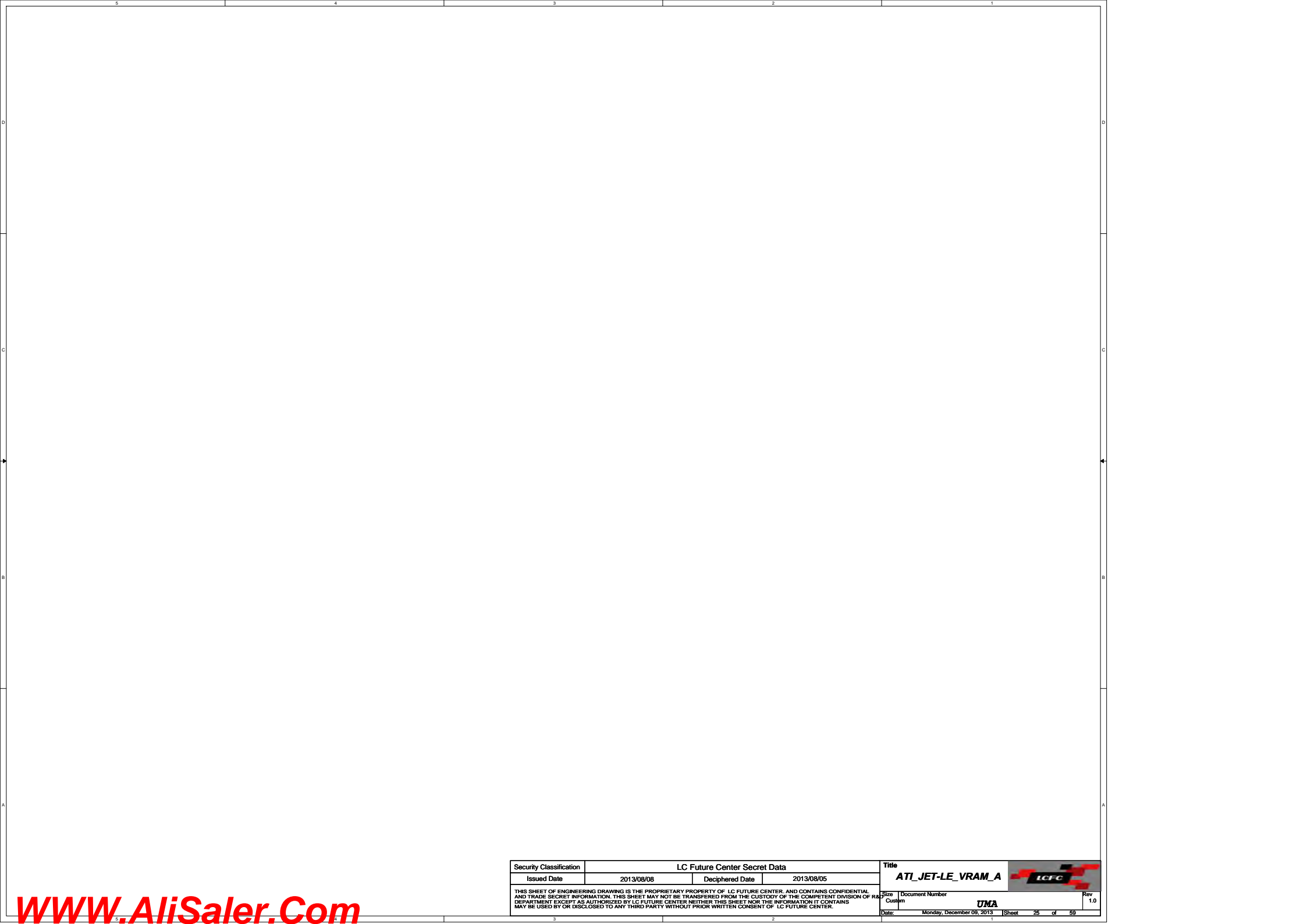


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Date	Monday, December 09, 2013			Sheet		20 of 50


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				Date:		Monday, December 09, 2013		Sheet 26 of 59	

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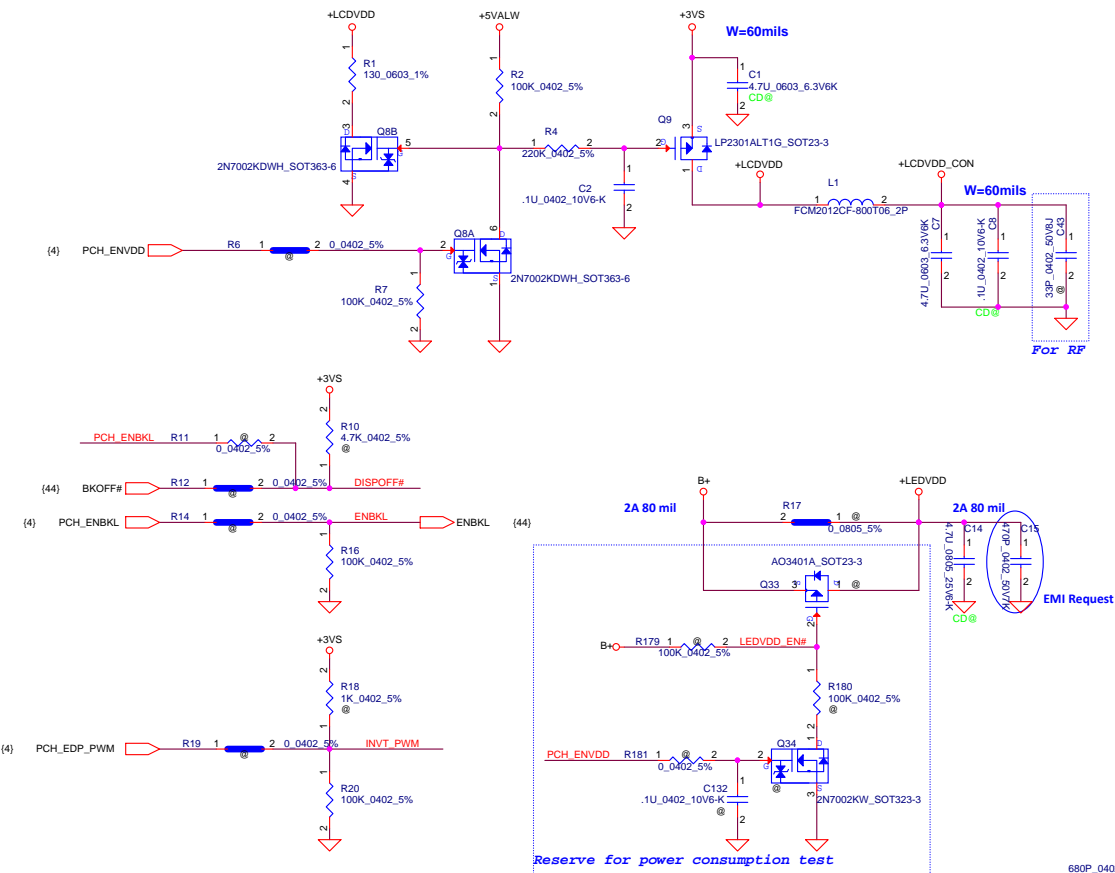
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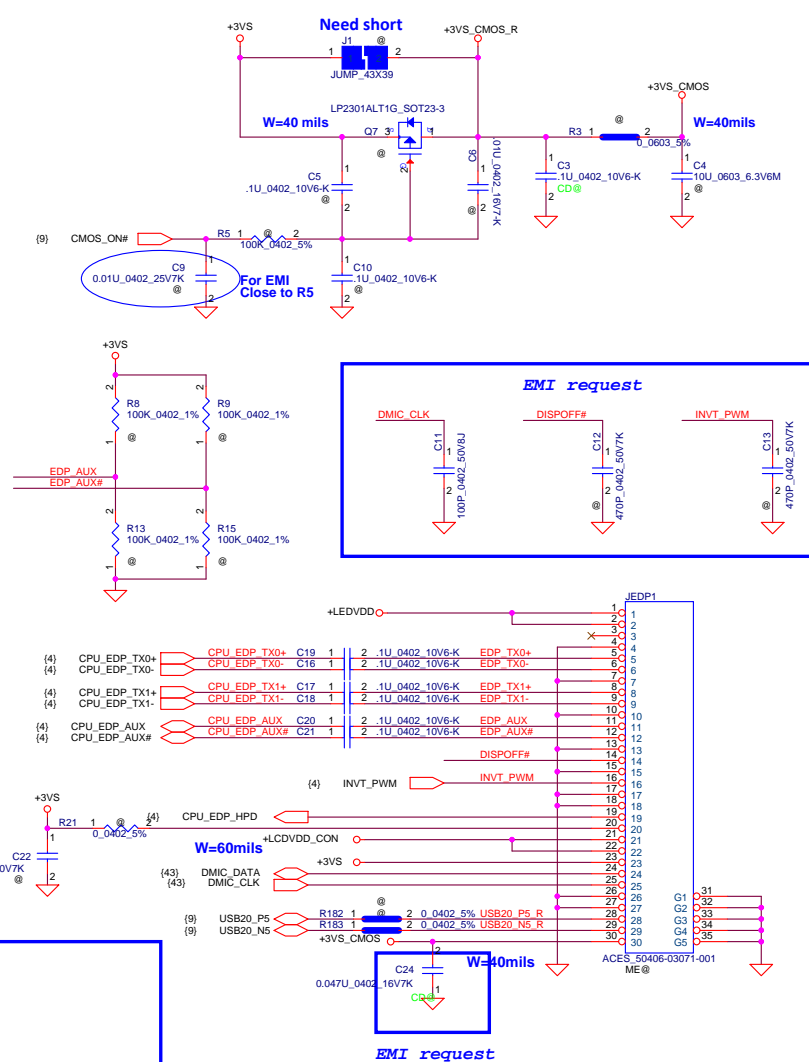
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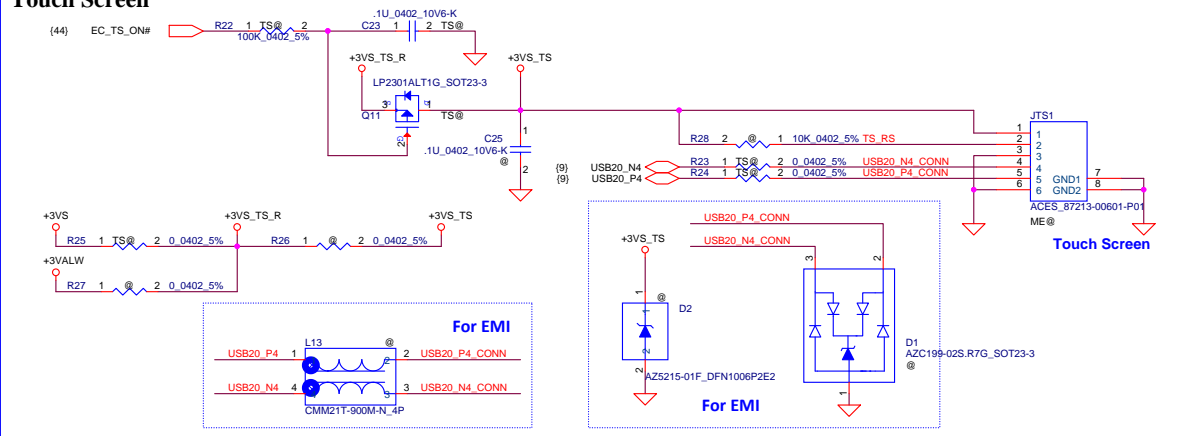
LCD POWER CIRCUIT

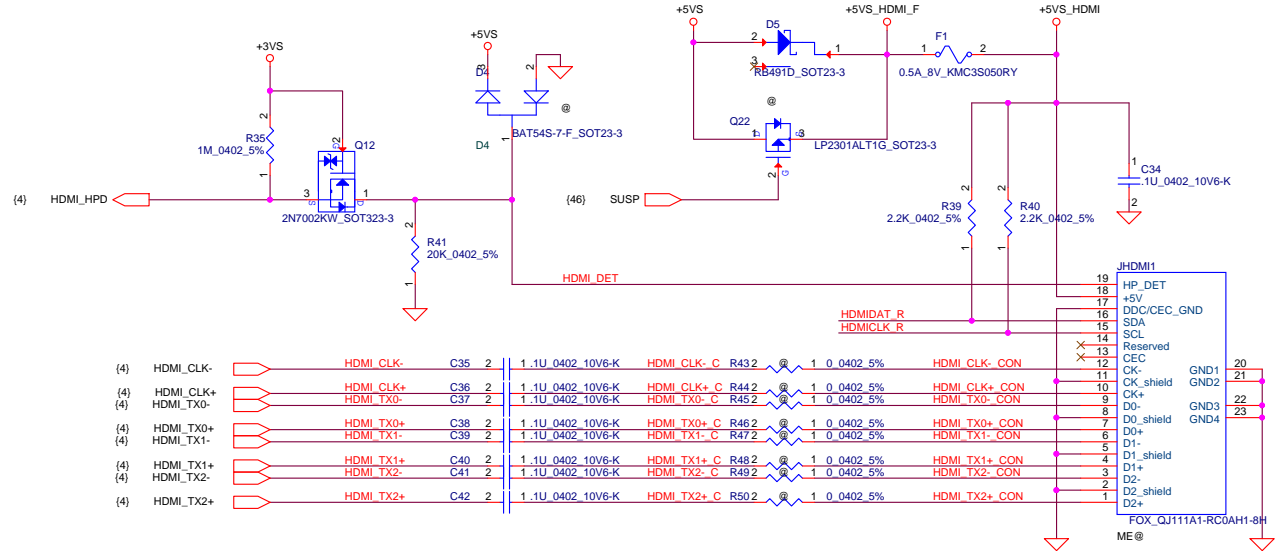
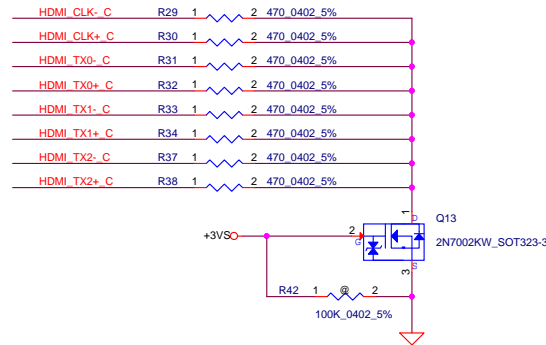
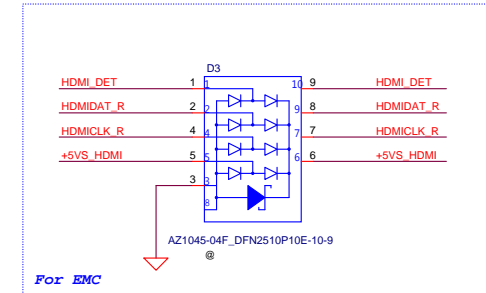
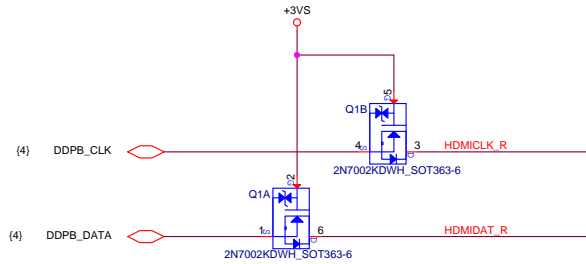
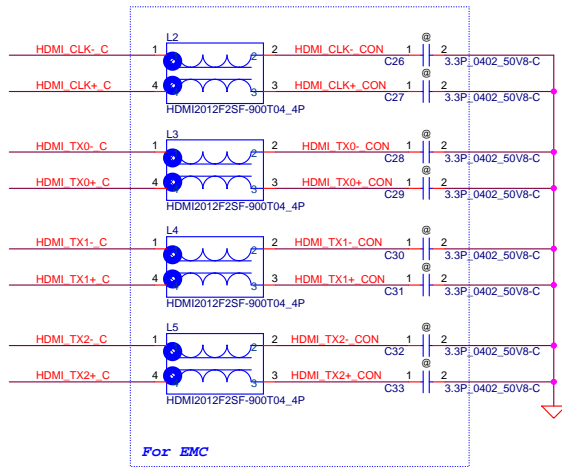


CMOS Camera

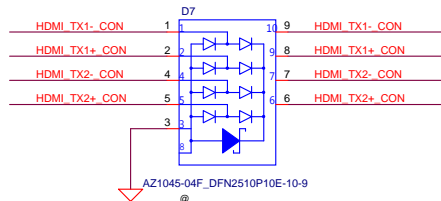
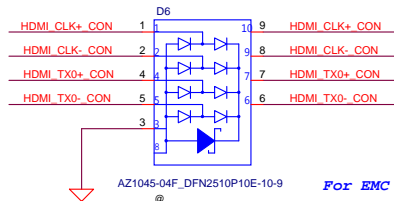



Touch Screen



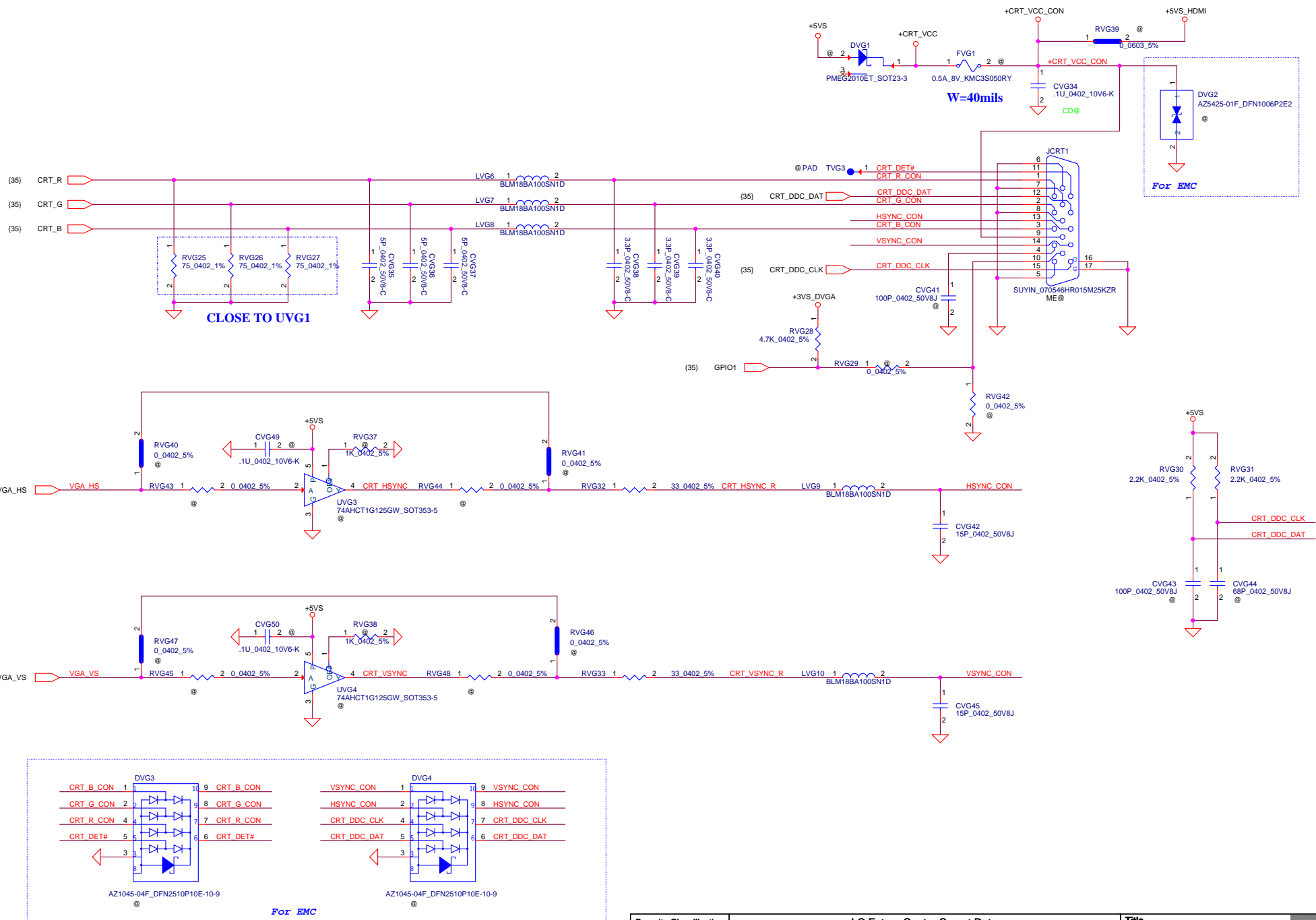



Close to JHDMI1



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Size		Document Number		Date		Monday, December 09, 2013		Sheet 34 of 59	
Custom		UMA		Rev		1.0			

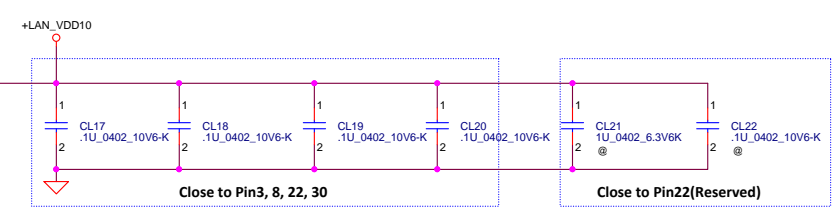
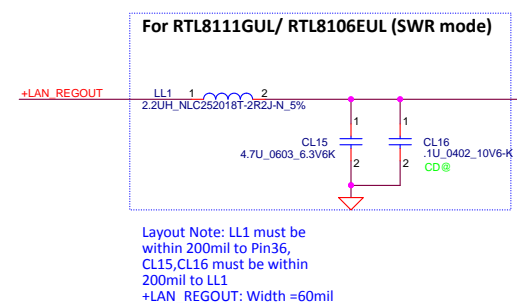
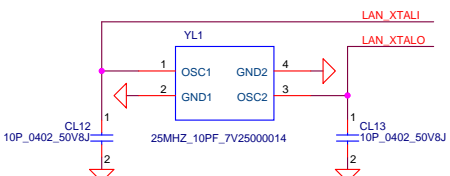
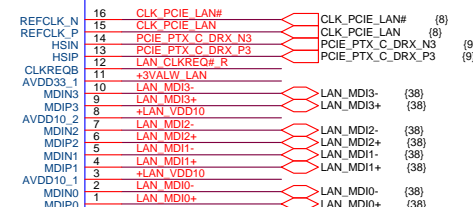
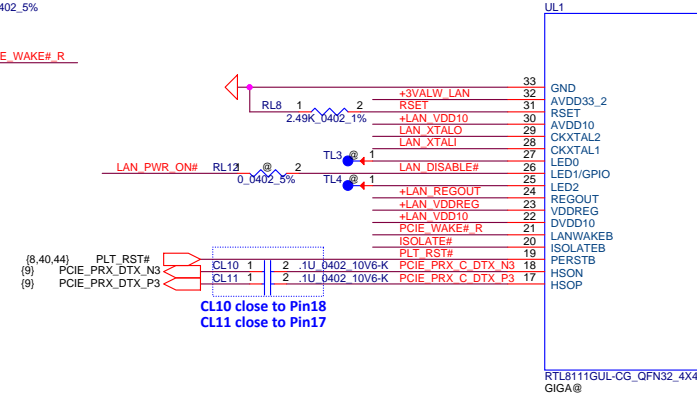
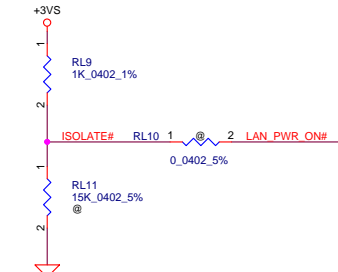
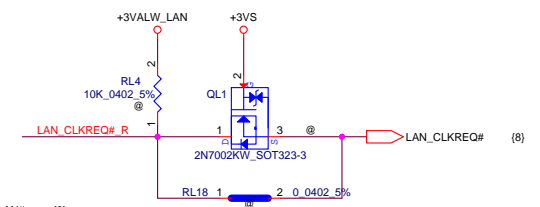
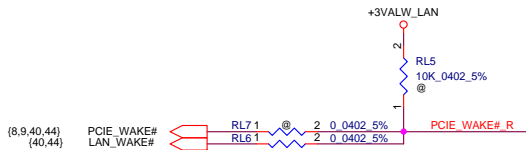
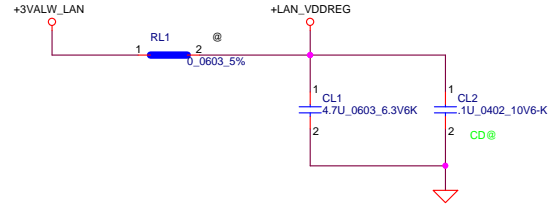
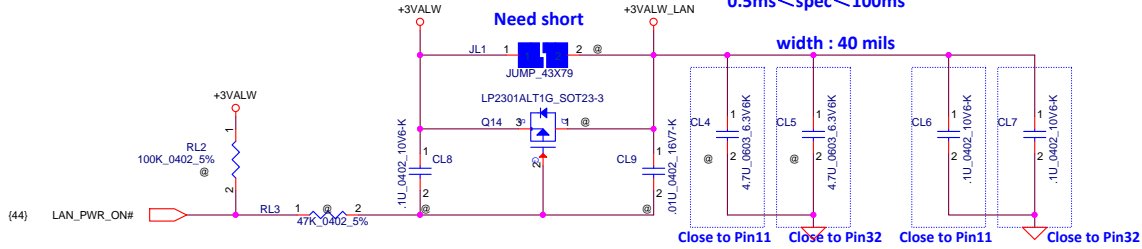
CRT Connector



Security Classification		LC Future Center Secret Data				Title			
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Date:		Monday, December 09, 2013		Sheet		36		of 59	

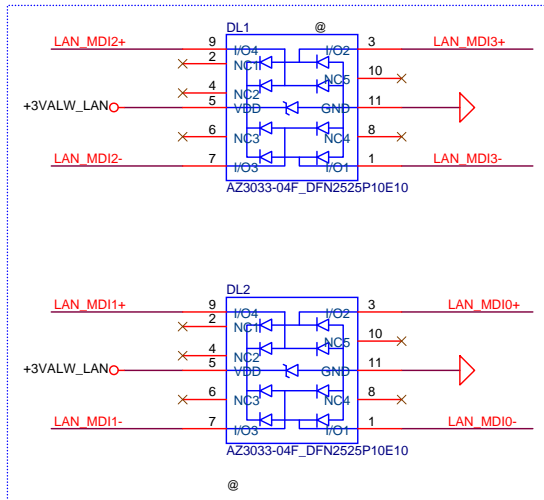
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+3VALW_LAN rising time (10%~90%):
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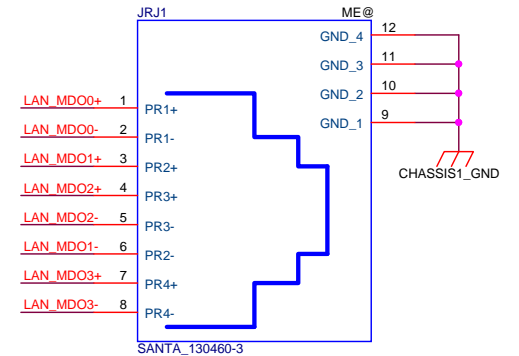
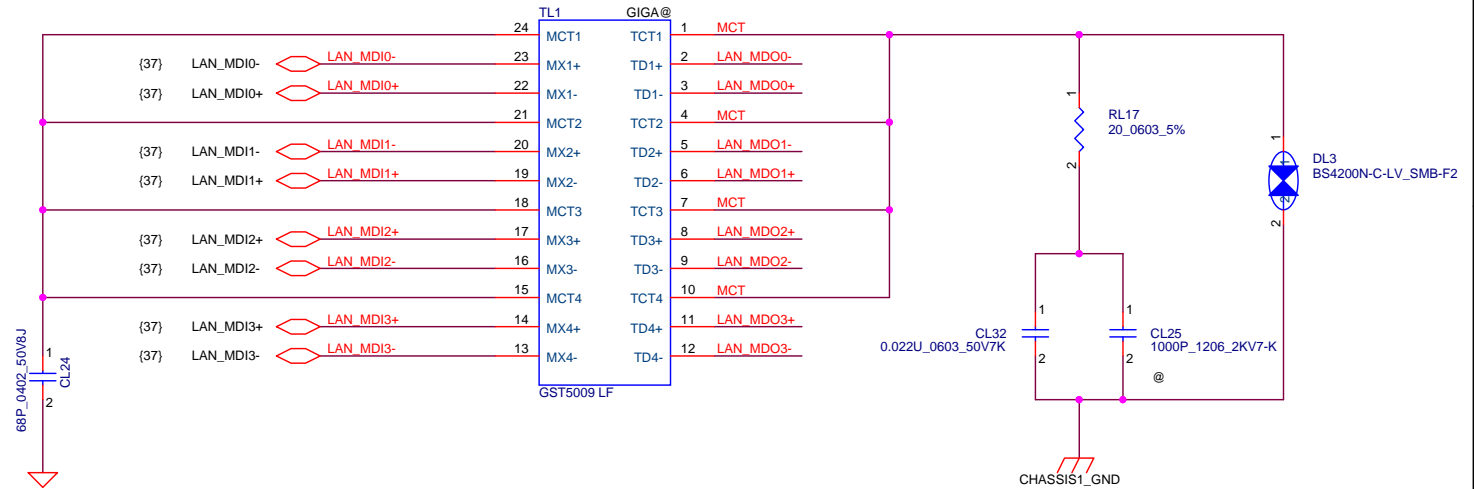
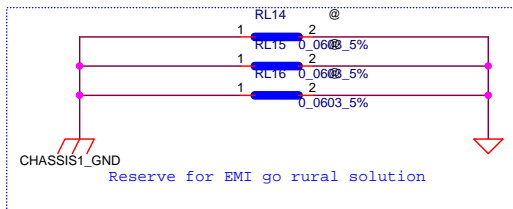


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Date: Monday, December 09, 2013				Sheet	37 of 59

DL1/DL2
1'S PN:SC300003M00



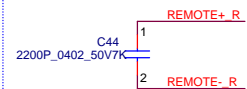
Place Close to TL1



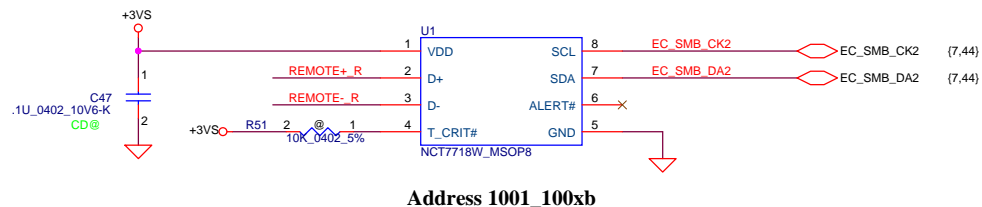
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Issued Date	2013/08/08	Deciphered Date	2013/08/05	LAN_Transformer	
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				Date:	Monday, December 09, 2013
				Sheet	38 of 59
				Rev	1.0



Close to U1

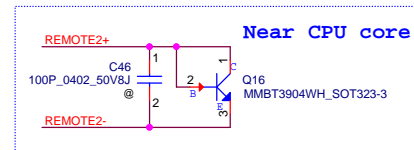


SMSC thermal sensor placed near DIMM

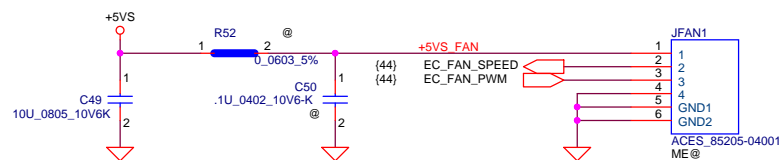


REMOTE2+ R176 1 @ 2 0.0402_5% REMOTE+_R
REMOTE2- R177 1 @ 2 0.0402_5% REMOTE-_R

REMOTE+/-_R, REMOTE1+/-, REMOTE2+/-:
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Trace length:<8"



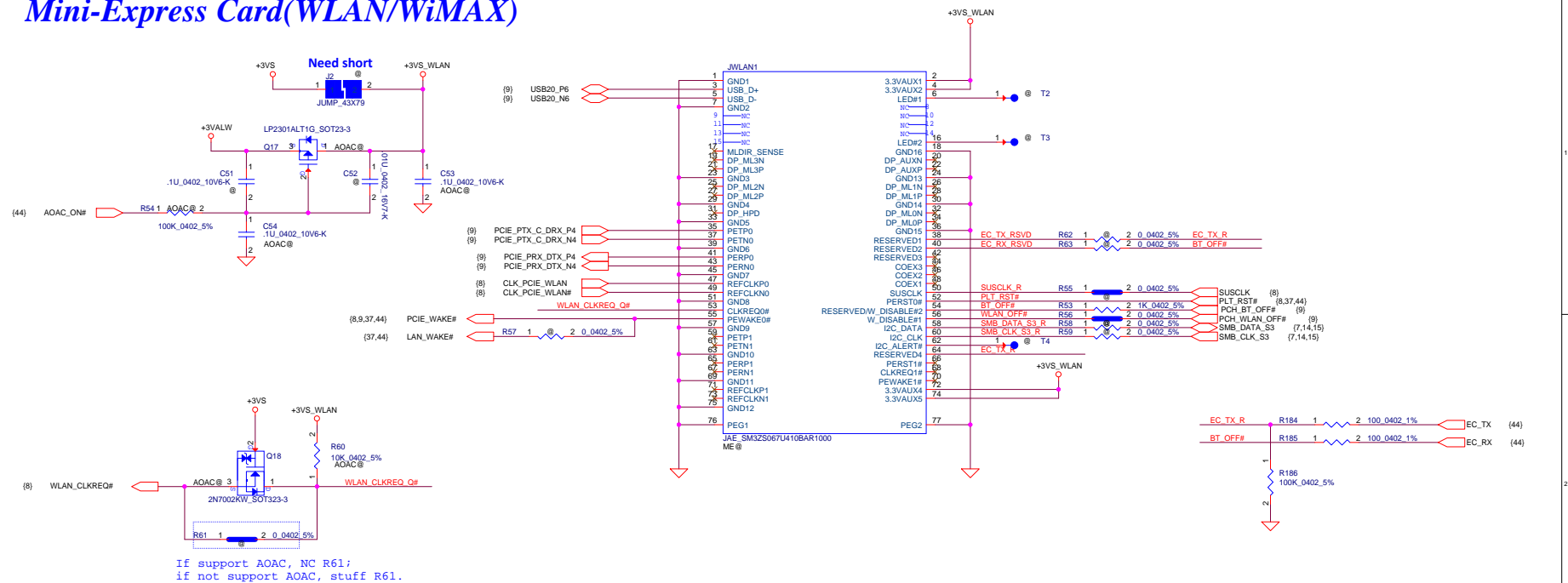
FAN Conn



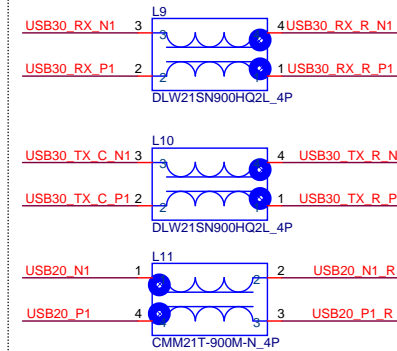
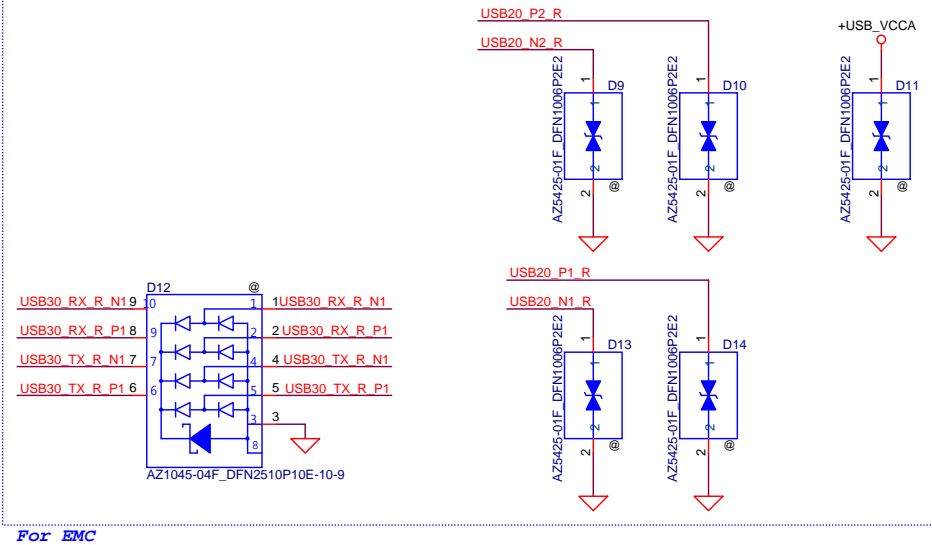
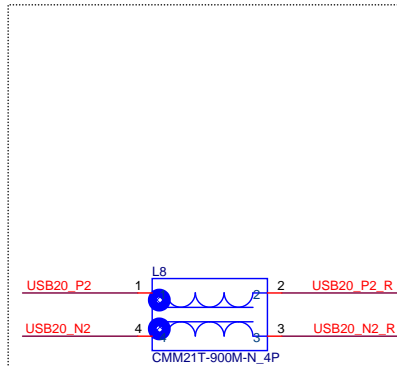
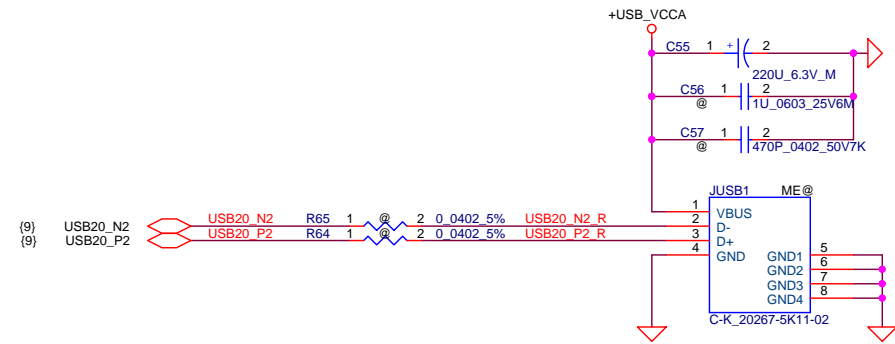
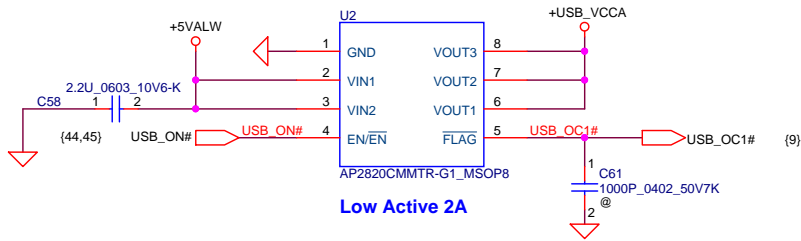
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				Date:	Monday, December 09, 2013	Sheet 39 of 59



Mini-Express Card(WLAN/WiMAX)

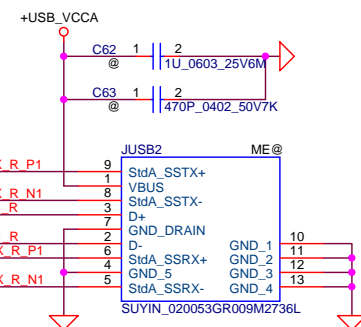
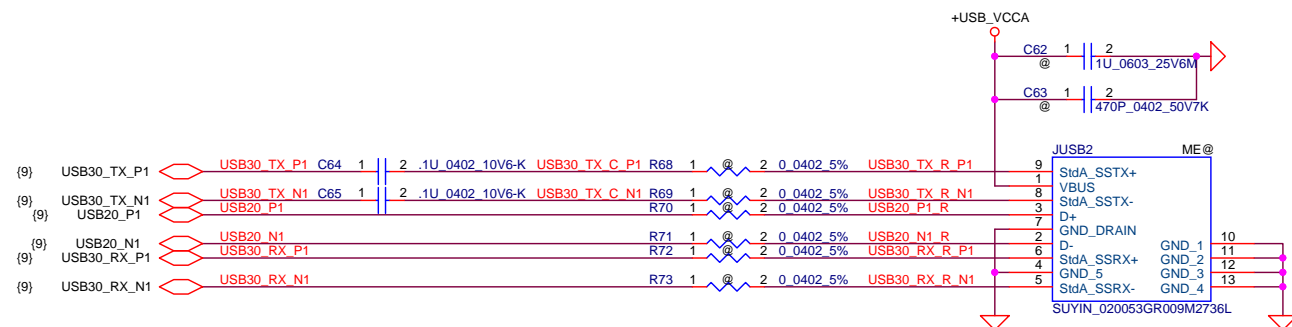


LEFT SIDE USB3.0 PORT X2



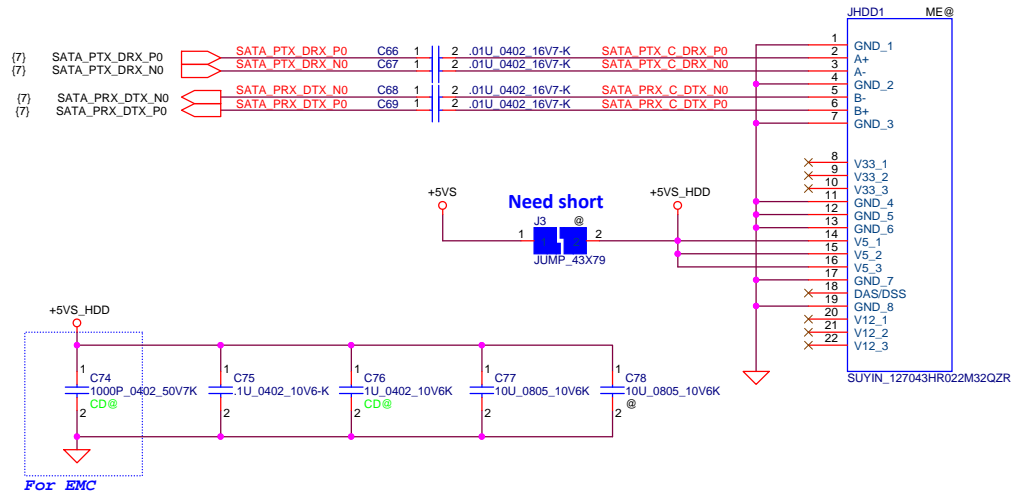
For EMC

For EMC

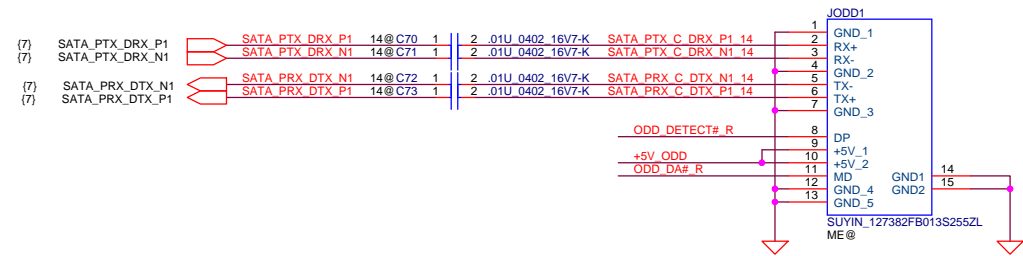


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Date:		Monday, December 09, 2013				Sheet		41 of 59			

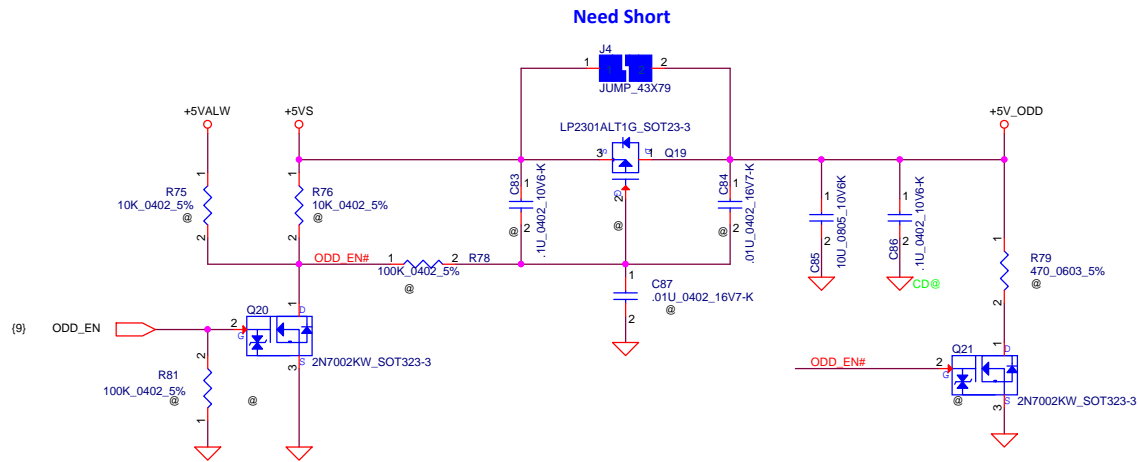
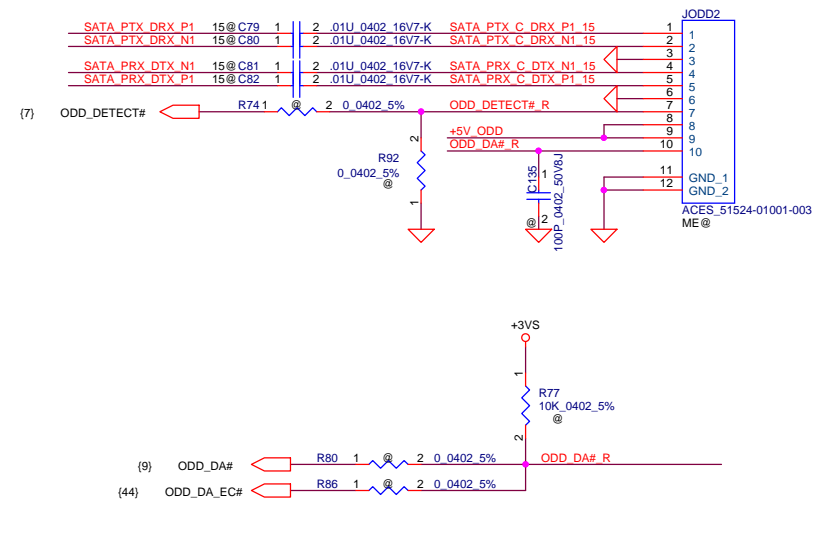
SATA HDD Conn.



FOR 14" SATA ODD Conn.



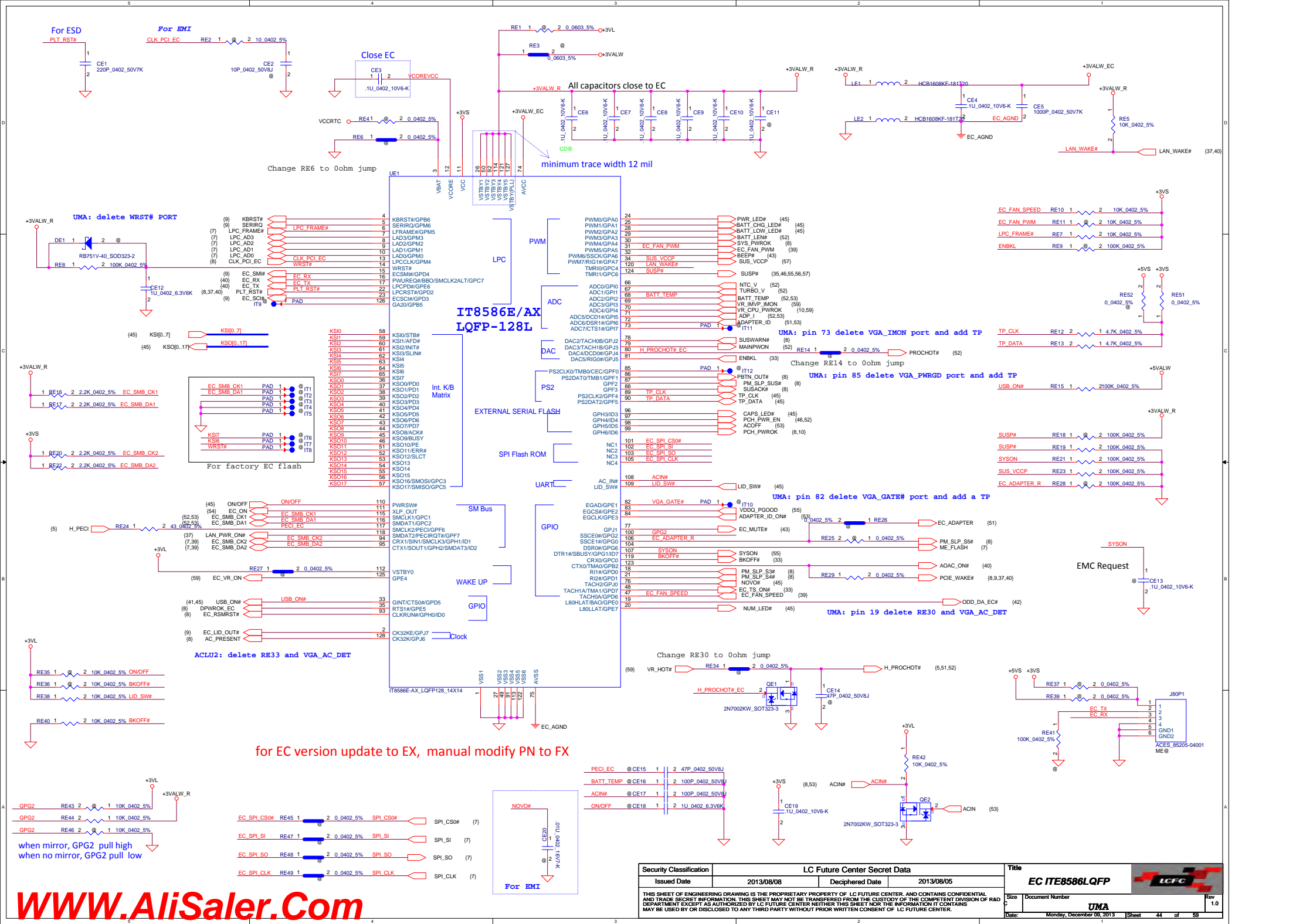
FOR 15" SATA ODD FFC Conn



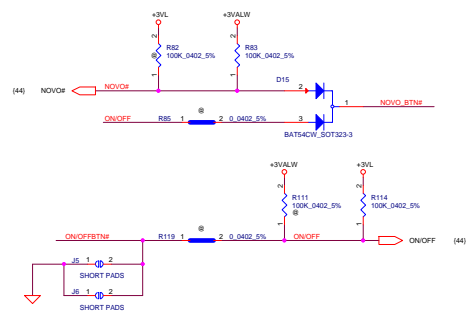
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				Sheet	42 of 59
				Rev	1.0



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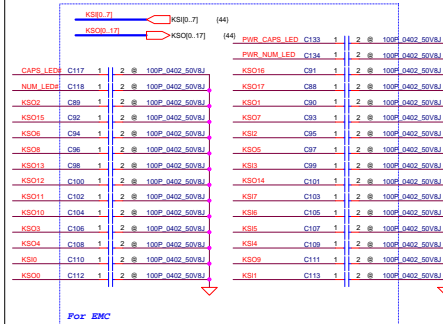


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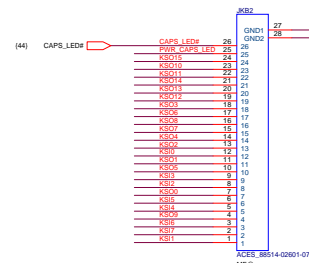


TP/B Connector

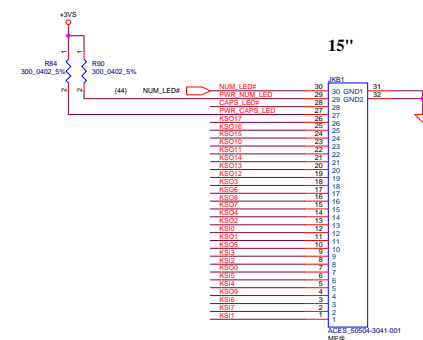
K/B Connector



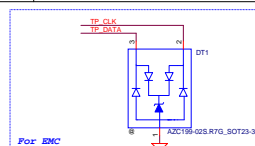
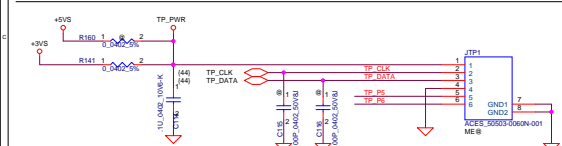
14''



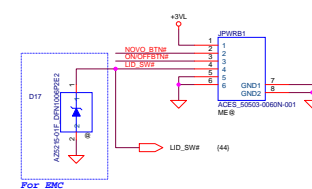
15"



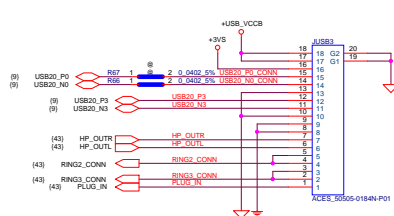
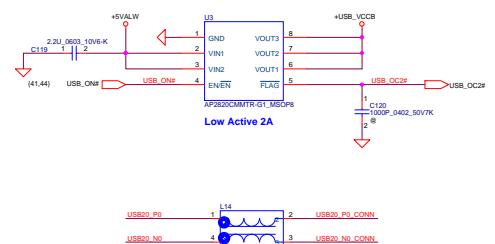
	14 th	15 th
KR_1	KR1_14	KR00_15
KR_2	KR17_14	KR12_15
KR_3	KR16_14	KR13_15
KR_4	KR09_14	KR05_15
KR_5	KR14_14	KR01_15
KR_6	KR15_14	KR10_15
KR_7	KR00_14	KR02_15
KR_8	KR12_14	KR04_15
KR_9	KR13_14	KR07_15
KR_10	KR05_14	KR08_15
KR_11	KR01_14	KR06_15
KR_12	KR10_14	KR03_15
KR_13	KR02_14	KR012_15
KR_14	KR04_14	KR011_15
KR_15	KR07_14	KR09_15
KR_16	KR11_14	KR011_14
KR_17	KR06_14	KR010_15
KR_18	KR03_14	KR015_15
KR_19	KR012_14	KR016_15
KR_20	KR01_14	KR017_15
KR_21	KR014_14	KR_LB_PWR_15
KR_22	KR011_14	CAPS_LED#_15
KR_23	KR010_14	VDD_LB15
KR_24	KR015_14	NRN_15



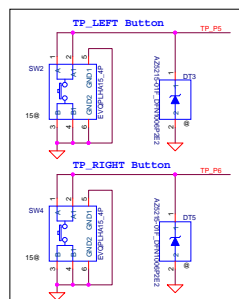
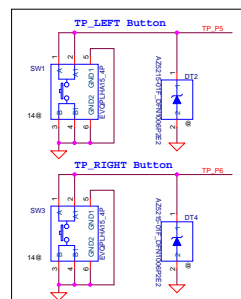
PWR/B Connector



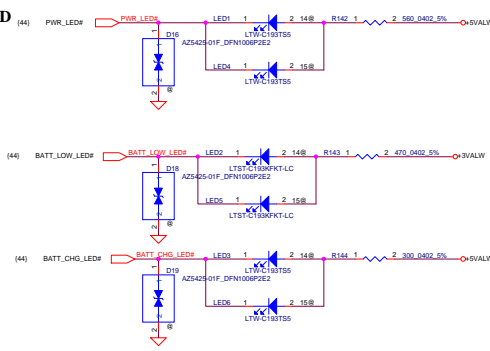
USB I/O Connector



Right Side USB2.0 Port X 1 (USB/B)

For 14"		For 15"	
1	VDD	1	VDD
2	CLK	2	CLK
3	DAT	3	DAT
4	GND	4	GND
5	TP-L	5	TP-L
6	TP-R	6	TP-R

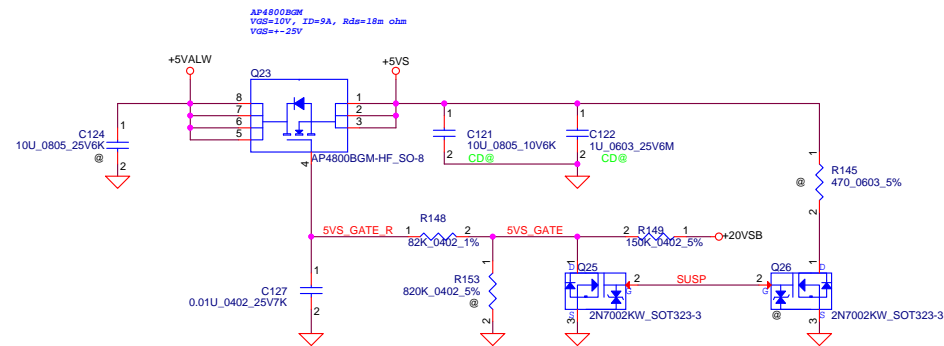


LED

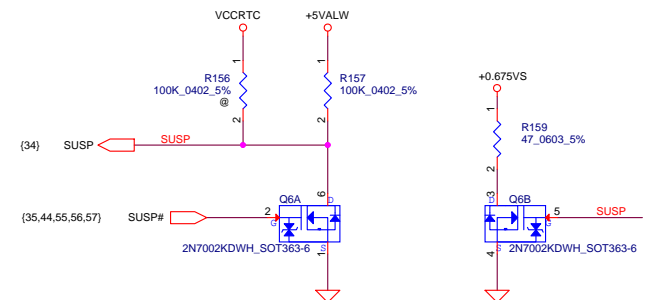
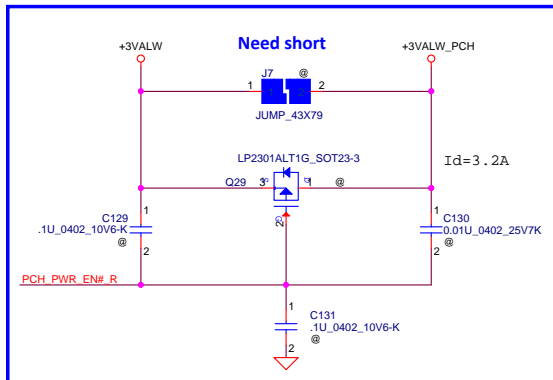
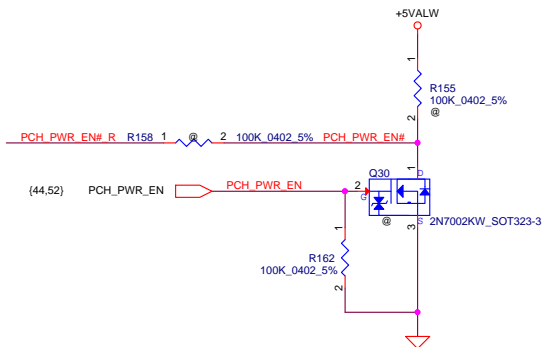
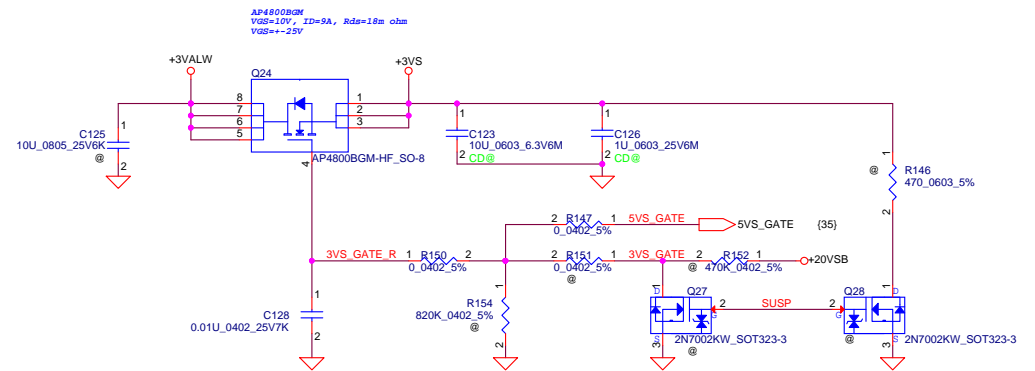



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Issued Date	2013/08/08	Deciphered Date	2013/08/05	KBD/PWR/IO/LED/TP Conn.	
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Size	Document Number	Revision		Date: <u> </u> <u> </u> <u> </u>	
Date: <u> </u> <u> </u> <u> </u>		Date: <u> </u> <u> </u> <u> </u>		Date: <u> </u> <u> </u> <u> </u>	Date: <u> </u> <u> </u> <u> </u>

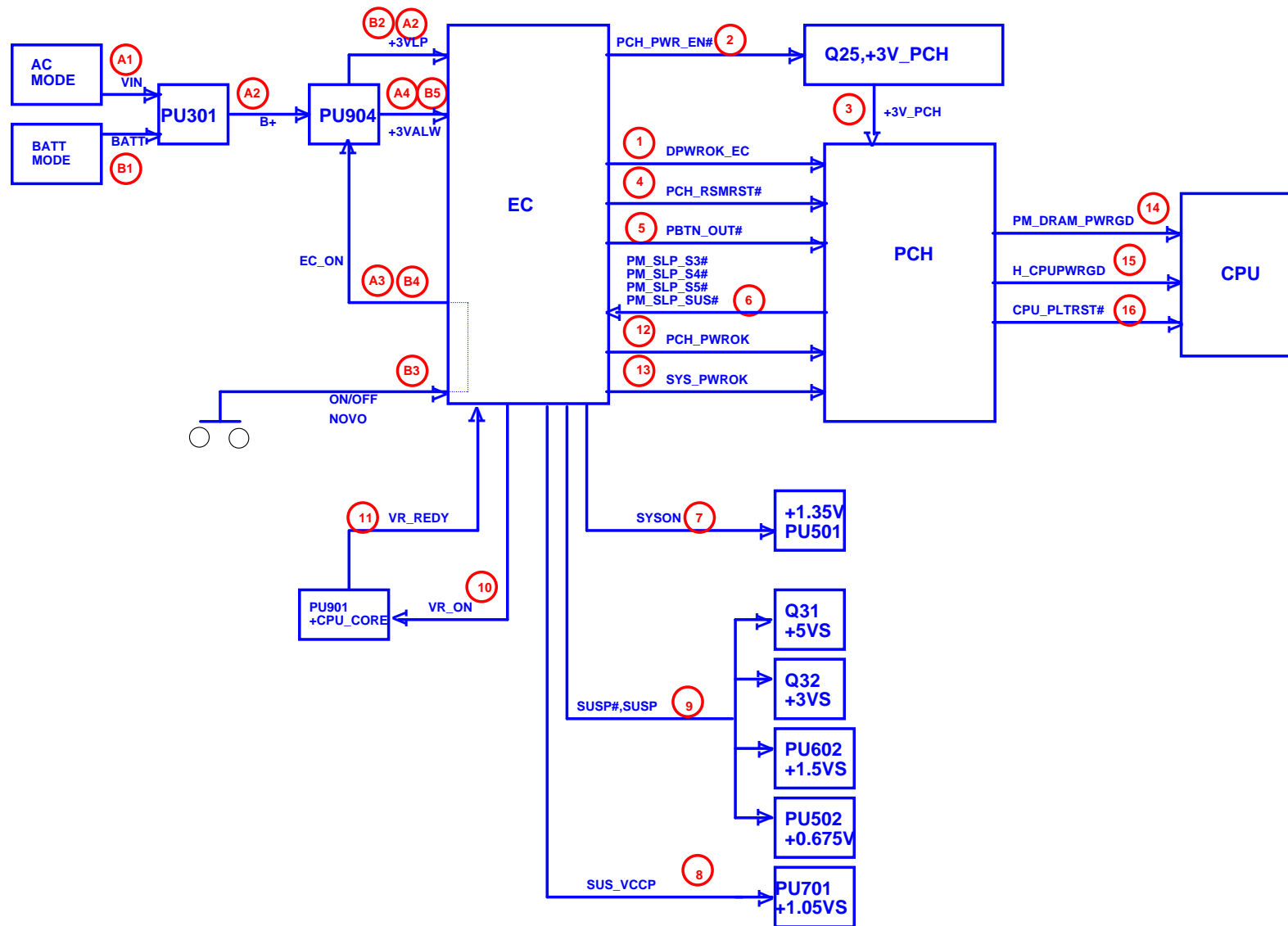
+5VALW to +5VS




+3VALW to +3VS



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				Date:	Monday, December 09, 2013	Sheet 46 of 59



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Issued Date	2013/08/08	Deciphered Date 2013/08/05
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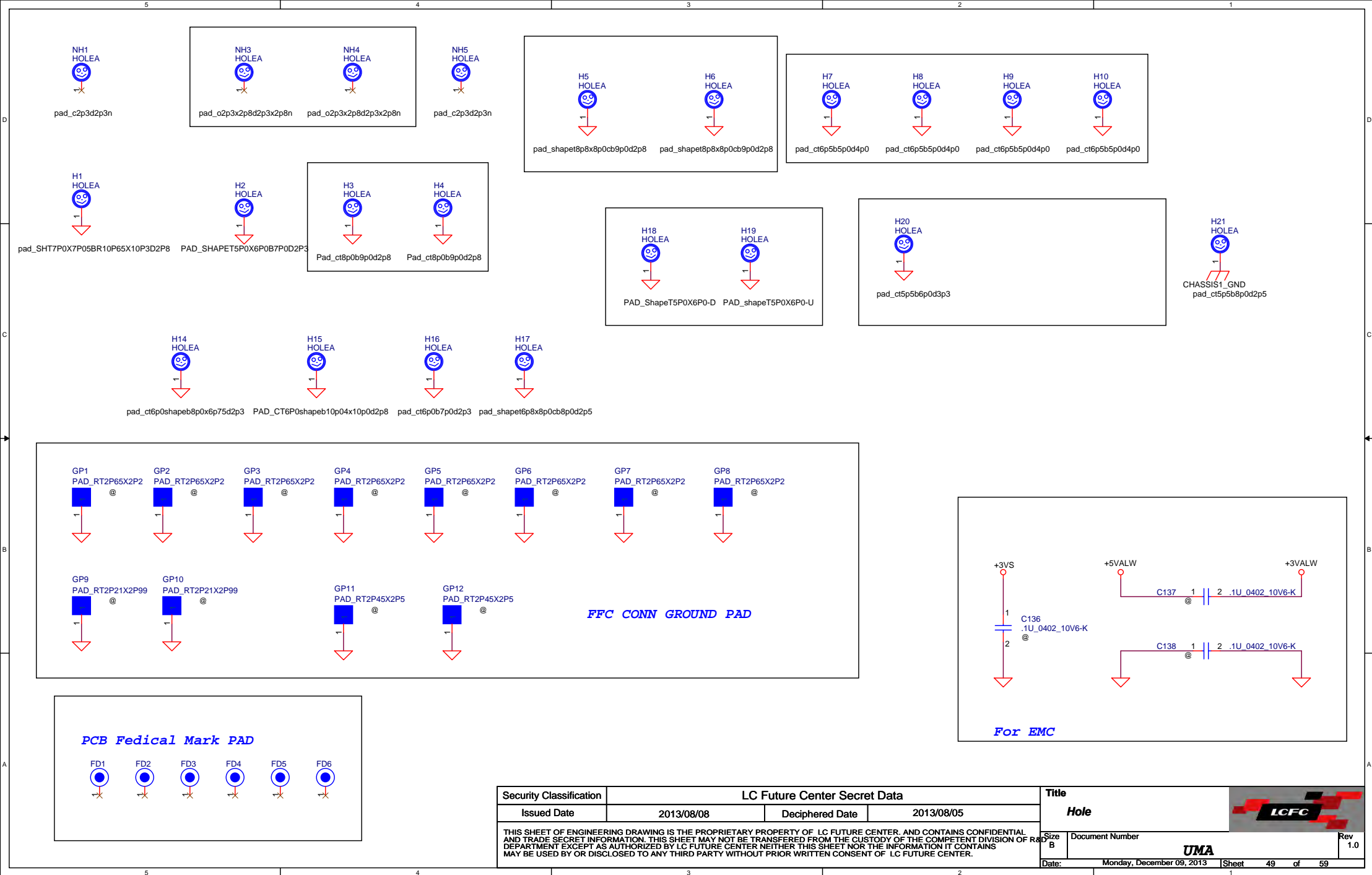
Title			
Power sequence Block			
Size	Document Number	Rev	
Custom	UMA	1.0	
Date	Monday, December 09, 2013	Sheet	47 of 59

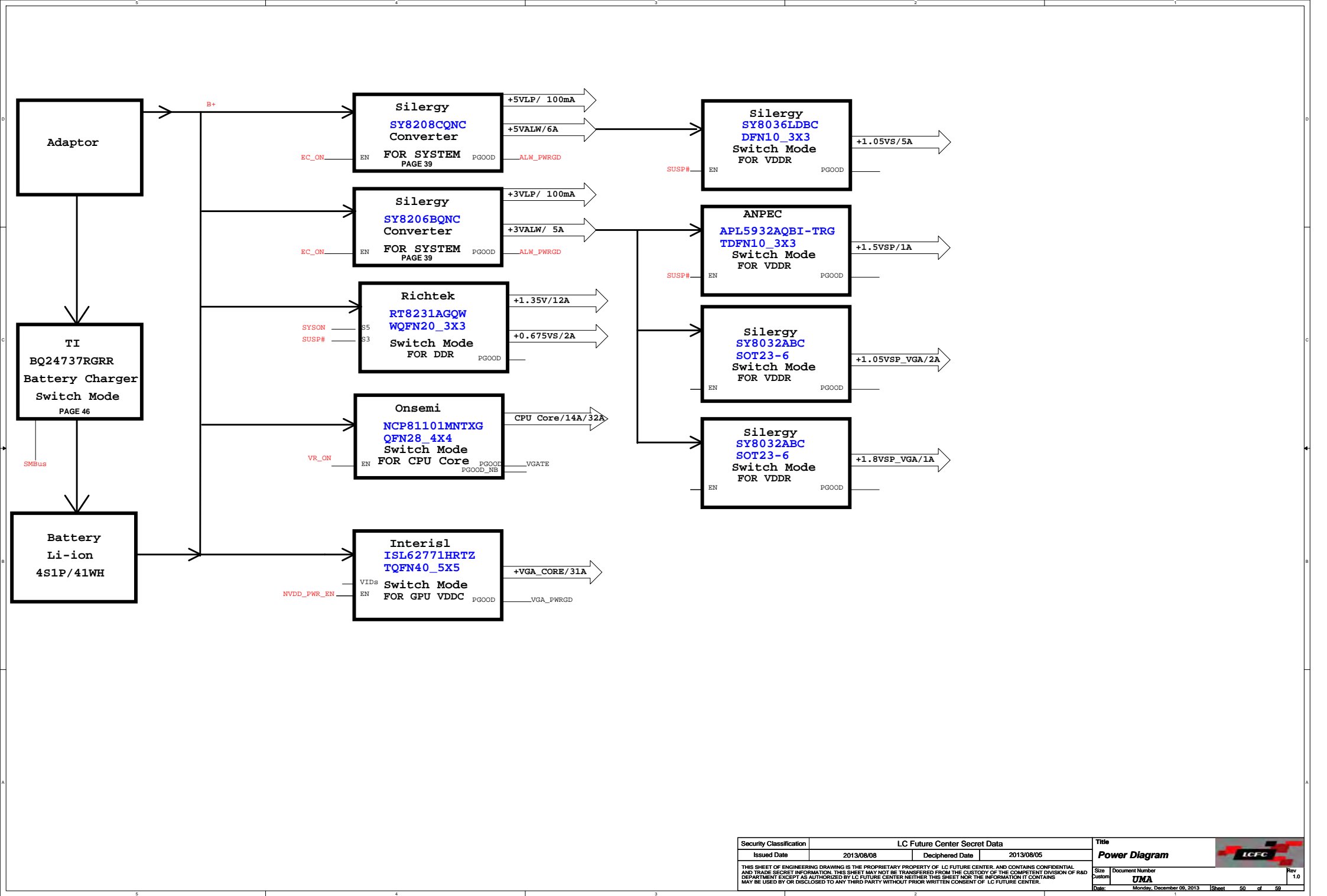
Board ID

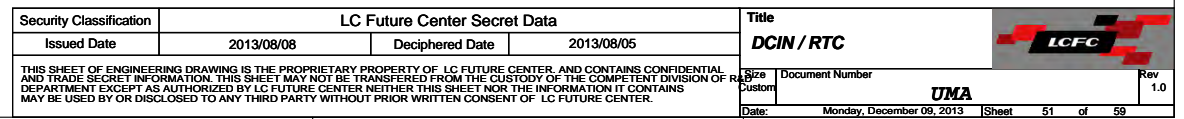
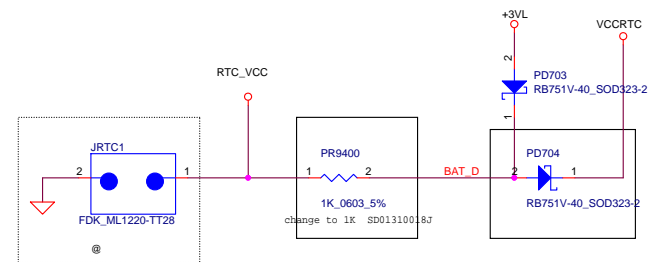
BOARD_ID0	BOARD_ID1	BOARD_ID2	BOARD_ID3	Description	Stuff Resistor
0	0	0	0	BDW + Jet-LE sku	RC107,RC108,RC109,RC128
0	0	1	0	BDW + Topaz-XT sku	RC107,RC108,RC102,RC128
0	1	0	0	BDW + N15V-GM sku	RC107,RC101,RC109,RC128
0	1	1	0	BDW + N15S-GT sku	RC107,RC101,RC102,RC128
1	0	0	0	HSW + Jet-LE sku	RC100,RC108,RC109,RC128
1	0	1	0	HSW + Topaz-XT sku	RC100,RC108,RC102,RC128
1	1	0	0	HSW + N15V-GM sku	RC100,RC101,RC109,RC128
1	1	1	0	HSW + N15S-GT sku	RC100,RC101,RC102,RC128
0	0	0	1	BDW + UMA sku	RC107,RC108,RC109,RC128
1	0	0	1	HSW + UMA sku	RC100,RC108,RC109,RC128

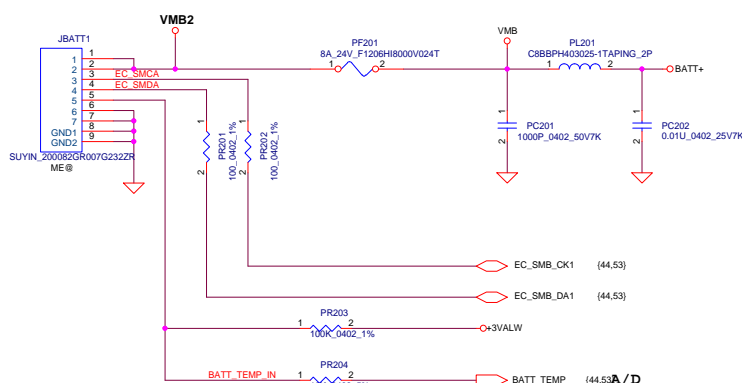
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Issued Date	2013/08/08	Deciphered Date	2013/08/05	Virtual symbol	
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				Document Number	UMA
				Date:	Monday, December 09, 2013
				Sheet	48 of 59





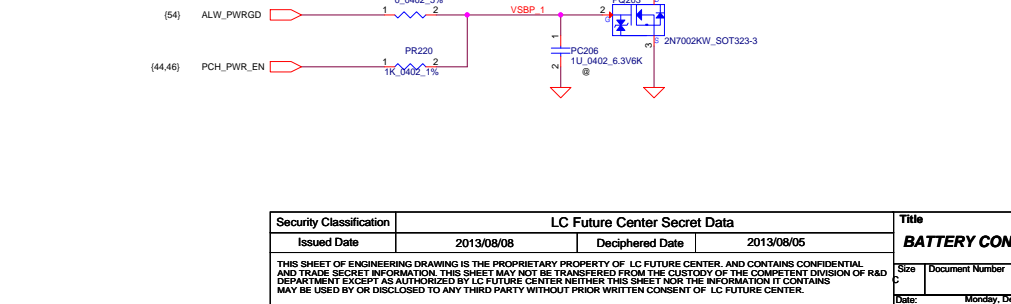
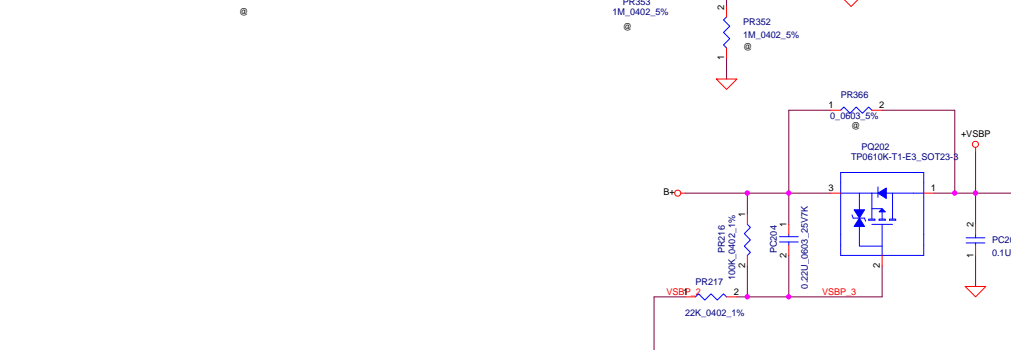
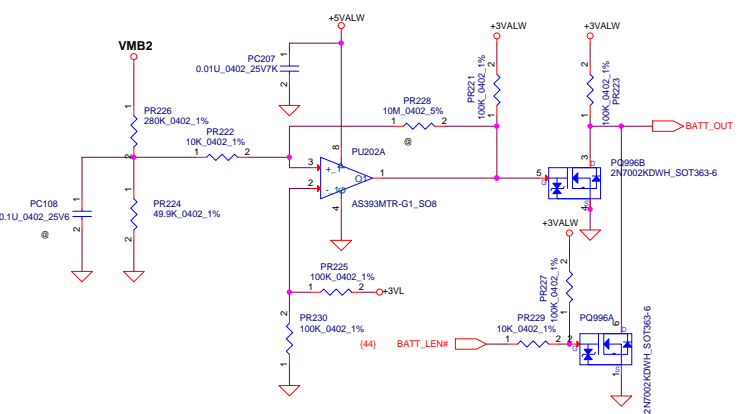
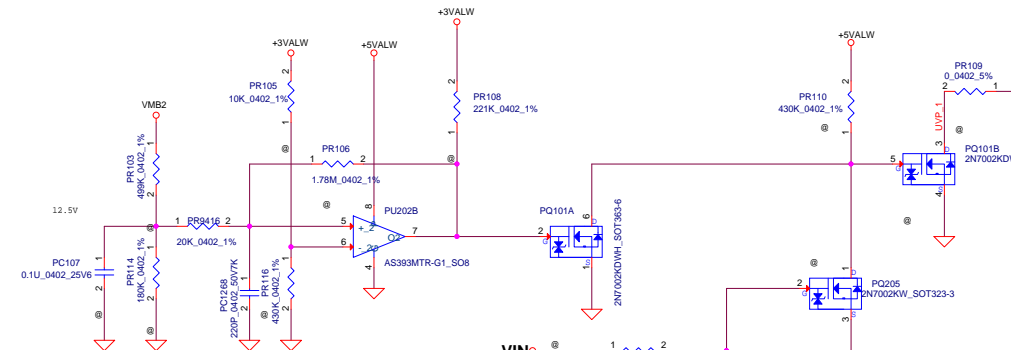
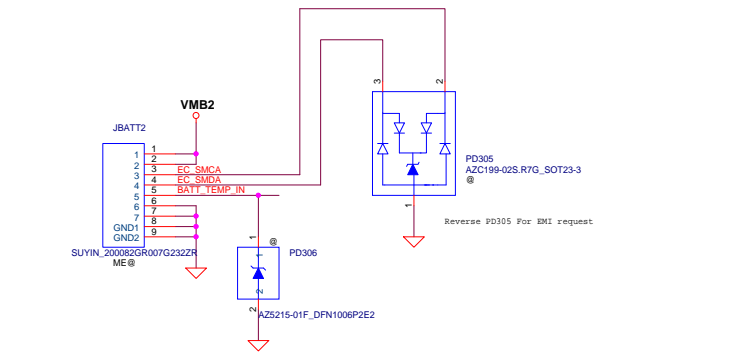
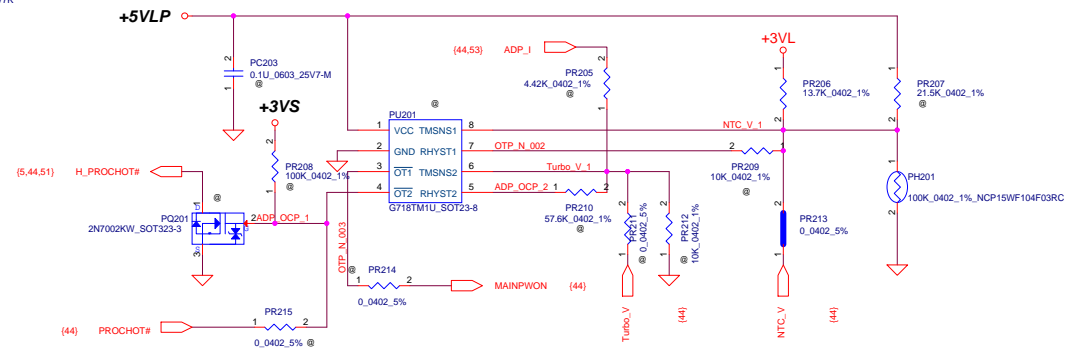


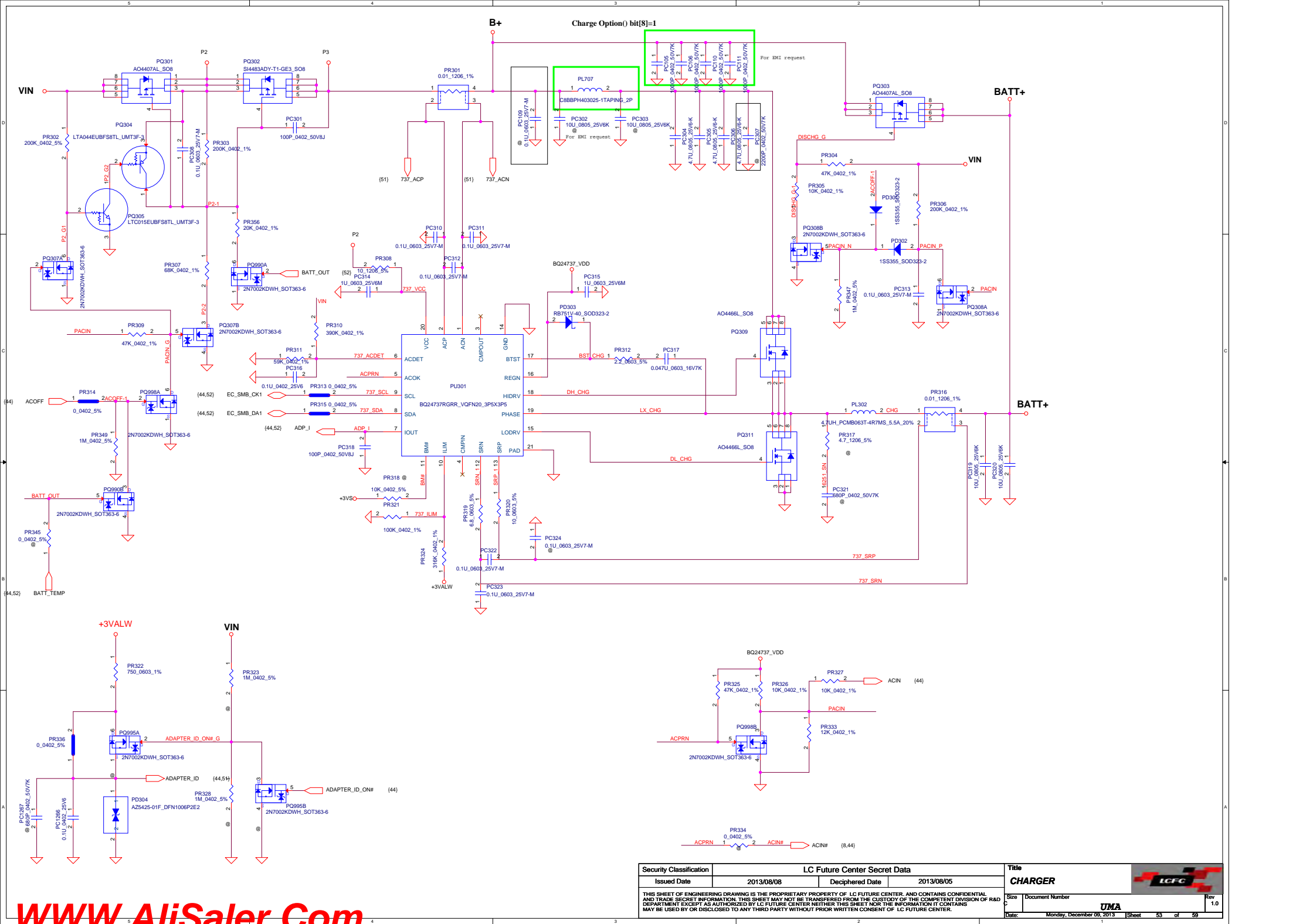


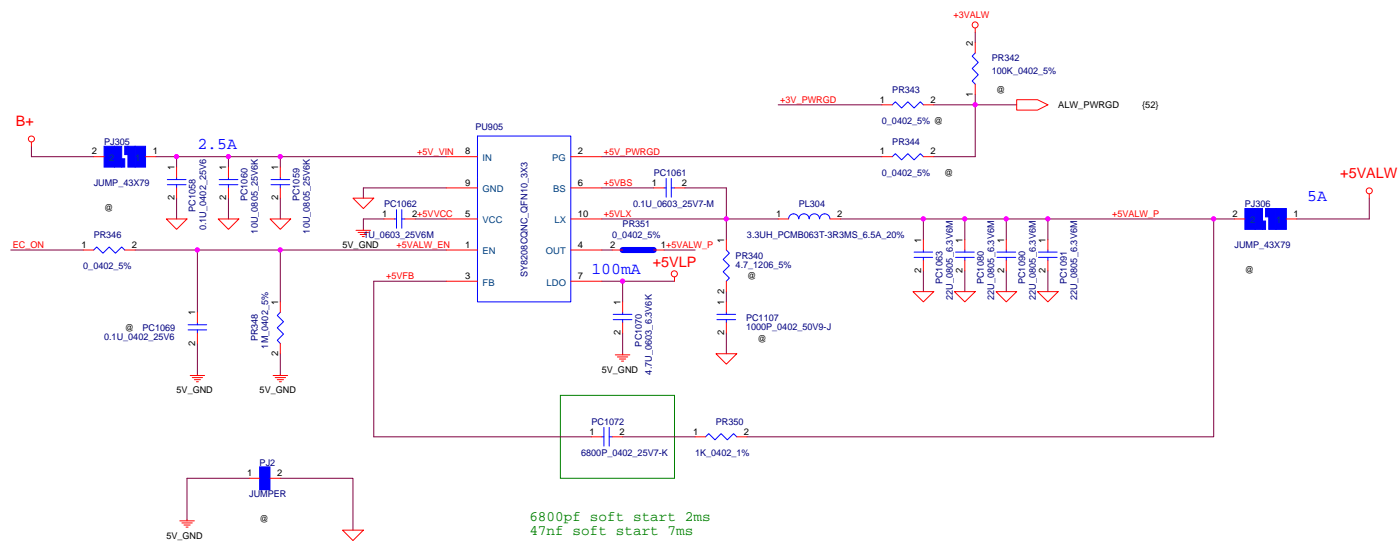
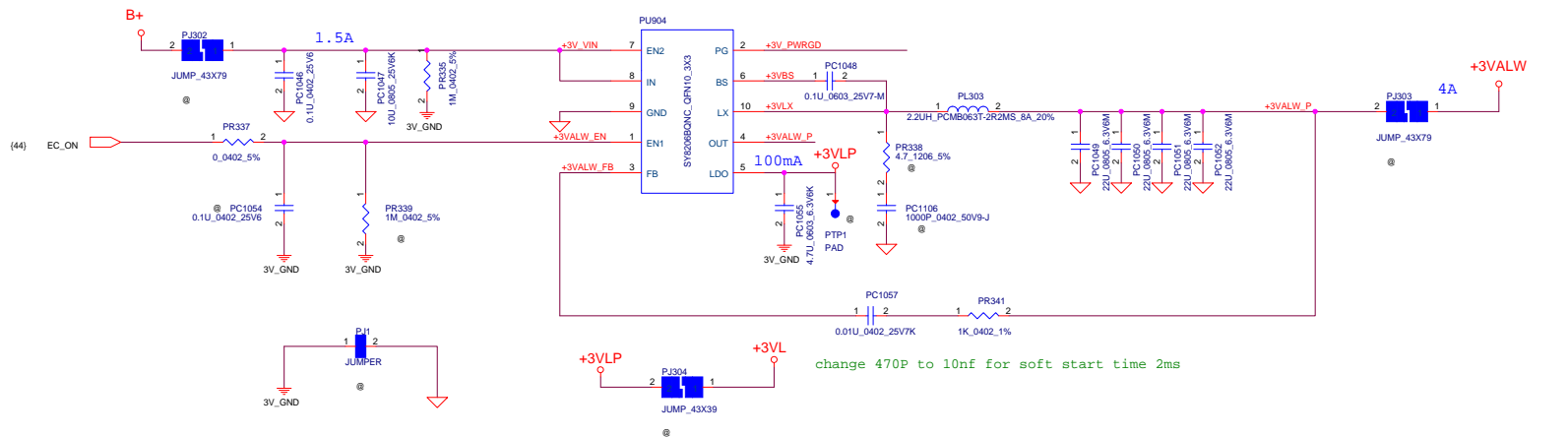


PH201 under CPU botten side :
CPU thermal protection at 92+3 degree C
Recovery at 56 +3 degree C

For KB930 --> Keep PU1 circuit
(Vth = 0.825V)
For KB9012 (Red square) --> Remove PU201 circuit, but keep PR206
PH201, PR205, PR211, PQ201, PR208, PR212







35,44,46,55,56}

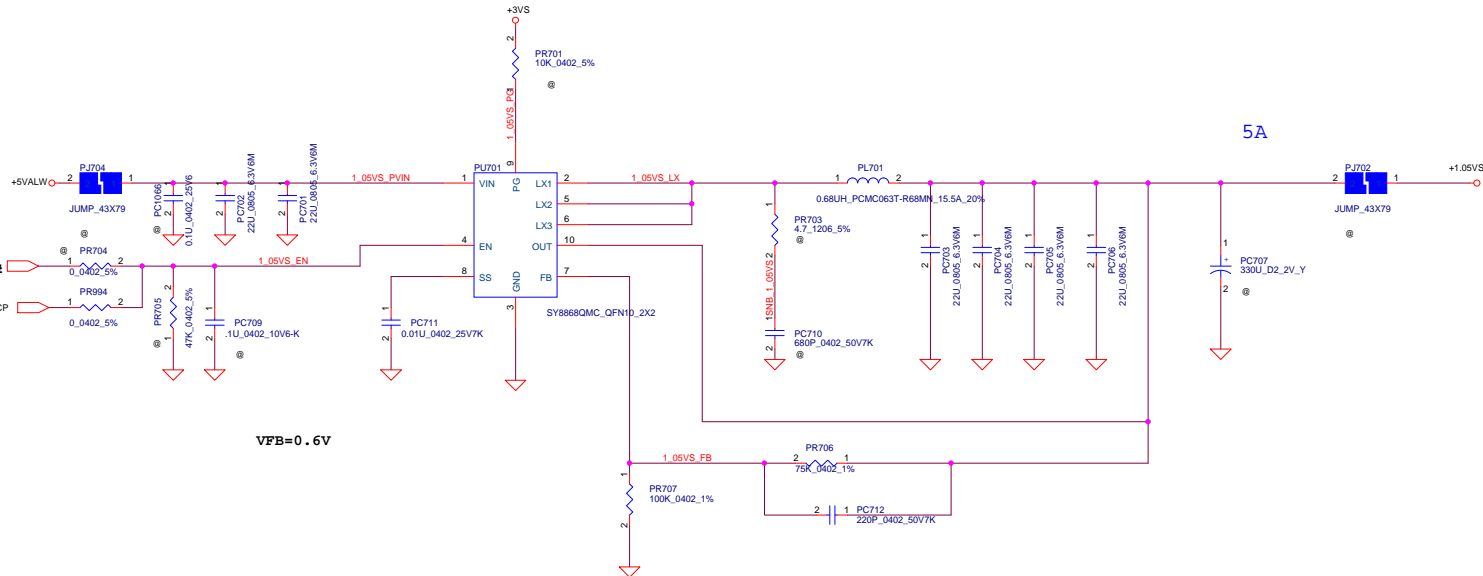
SUSP#


(44)

SUS_VCCP

VFB=0.6V

5A



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