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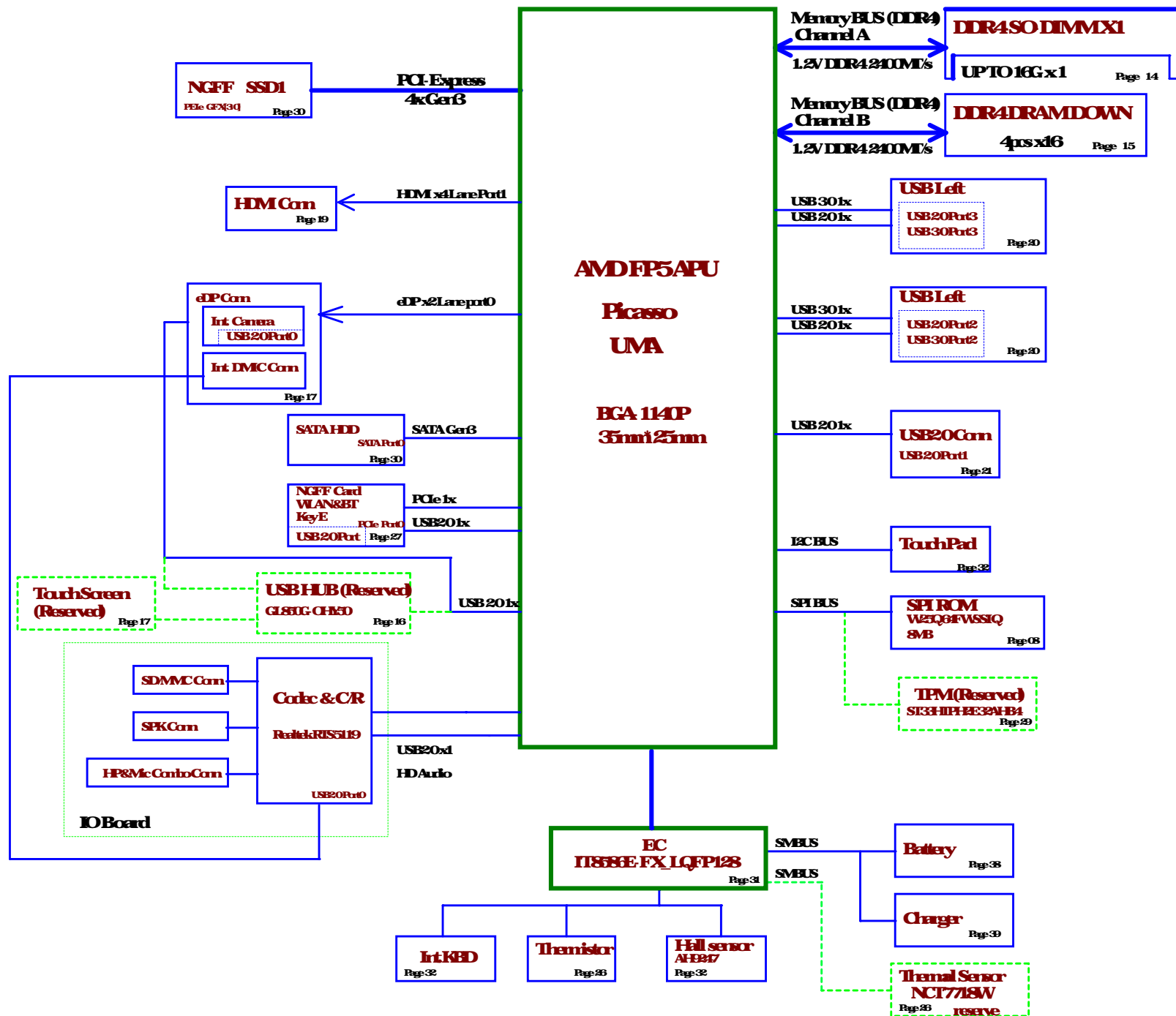
NM_C511 M/B Schematics Document

AMD FP5 PICASSO SOC with DDR4

2019 05 28

REV: 1.0

Security Classification		LC Future Center Secret Data		Title			
Issued Date	20130815	Declassified Date	20130815	Cover Page			
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				Custom	S145 AP1	1.0	
				Date	Tuesday, May 28, 2019	Sheet 1 of 44	



power plane State	B _B (+20uSB) +3ML +5MLP	+5VALW +3VALW (+3VALW/APU) +1.8VALW +0.9VALW	+1.2V	+5S +3S +1.8S +0.9S +0.6S +2.5S +VDDC_MID +VDDR_SOC +VDDC +VDDI +3MS +1.8MS +1.35MS
S0	O	O	O	O
S3	O	O	O	X
S5 S4/AC	O	O	X	X
S5 S4/ Battery only	O	X	X	X
S5 S4/AC & Battery don't exist	X	X	X	X

STATE	SIGNAL	SIP_S3#	SIP_S5#	+VALW	+V	+VS	Clock
S0 (Run ON)		HIGH	HIGH	ON	ON	ON	ON
S1 (Power On Suspend)		HIGH	HIGH	ON	ON	ON	LOW
S3 (Suspend to RAM)		LOW	HIGH	ON	ON	OFF	OFF
S4 (Suspend to Disk)		LOW	LOW	ON	OFF	OFF	OFF
S5 (Soft OFF)		LOW	LOW	ON	OFF	OFF	OFF

	SOURCE	Device
TP_I2C0_SCL TP_I2C0_SDA	APU +3VALW	Touch Pad +3US

Device	Address
Elm SA4ED2FA69d01d.0	?
Synopsis TMP325-0869d01d.0	?

	SOURCE	GPU	BATT	IT8596	SC110M	MEAN	Thermal Sensor	APU	Charger	PMIC
EC_SMB_CLK EC_SMB_DA1	IT8596 +30L	X	V		X	X	X	X	V	X
EC_SMB_CLK2 EC_SMB_DA2	IT8596 +30L	X	X		X	X	V +30S	X	X	V
EC_SMB_CLK3 EC_SMB_DA3	IT8596 +30S	V +30S_VGA	X		X	X	X	V	X	X
APU_SC110 APU_S00TA0	APU +30S	X	X	X	V	V	X		X	X

Device	Address
Battery	?
Charger	0001 0010b

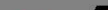

Device	Address
PMC	0K34
Thermal Sensor	1001 100b(reserve)

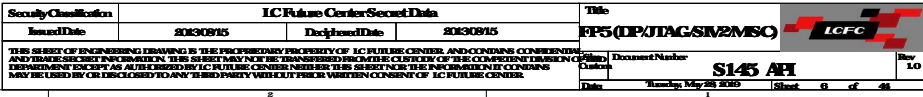
Device	Address
GPU	0x11(default)
APUSB TSI	relate to F3dE4\$HiAddr) or Address Select Pins setting

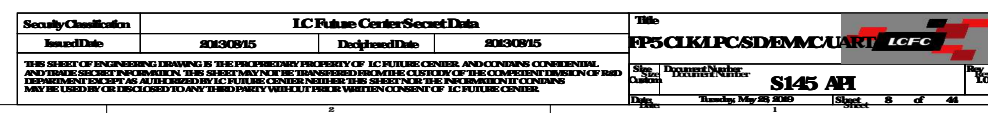
Device	Address
DDR4SODIMM	?
WLAN	RSVD

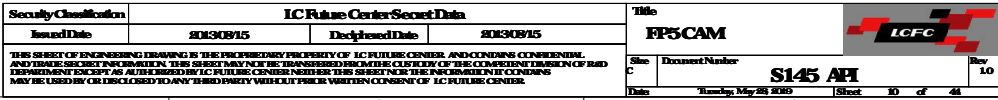
HIO Port		Device
GFP	0	WLAN
	1	LAN
	2	NA
	3	NA
	4	NA
	5	NA
	6	HDD
	7	ODD
GFX	0	SSD
	1	
	2	
	3	
	4	
	5	
	6	
	7	
USB3.0	0	NA
	1	Type C
	2	LEFT USB (30) lower
	3	LEFT USB (30) upper
	4	NA
USB2.0	0	Camera
	1	Type C
	2	LEFT USB (30) lower
	3	LEFT USB (30) upper
	4	Touch
	5	BT

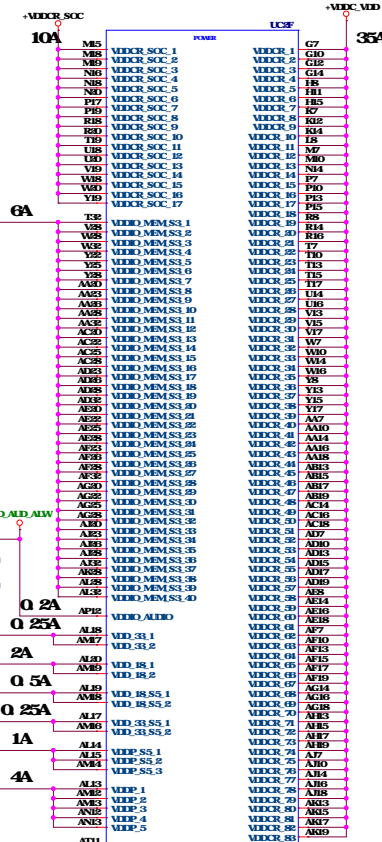
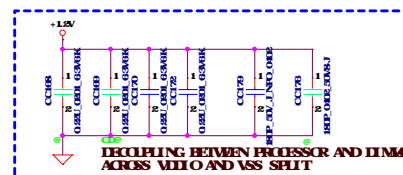
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				Qty		10	
				Date	Tuesday, May 28, 2013	Sheet	3 of 44

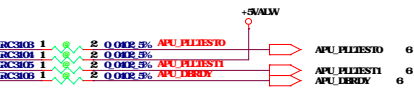
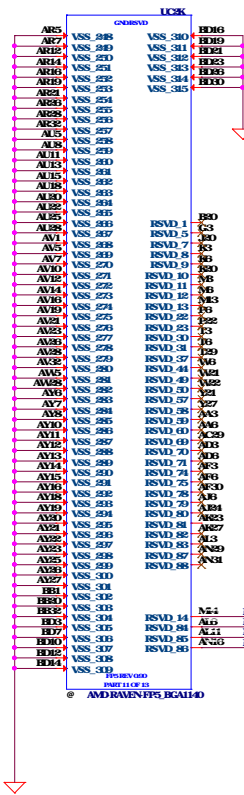
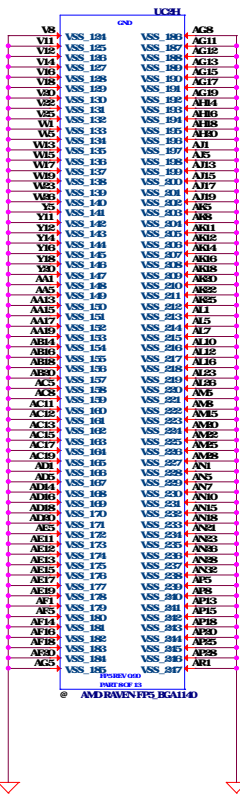
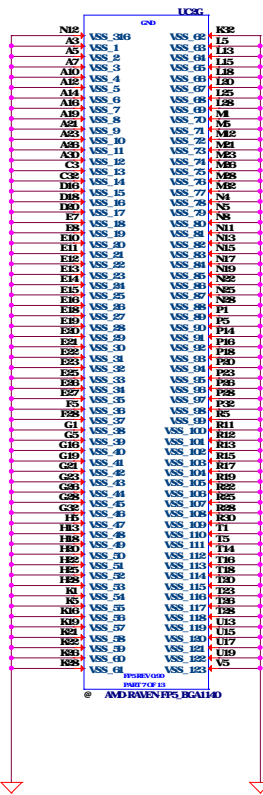


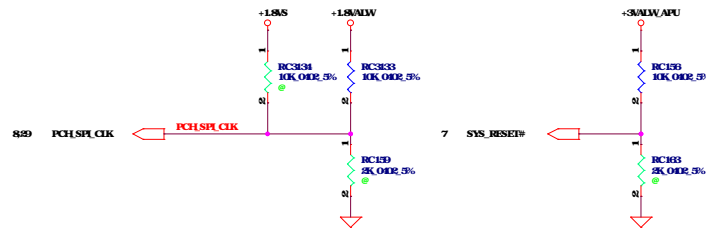






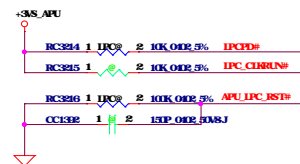
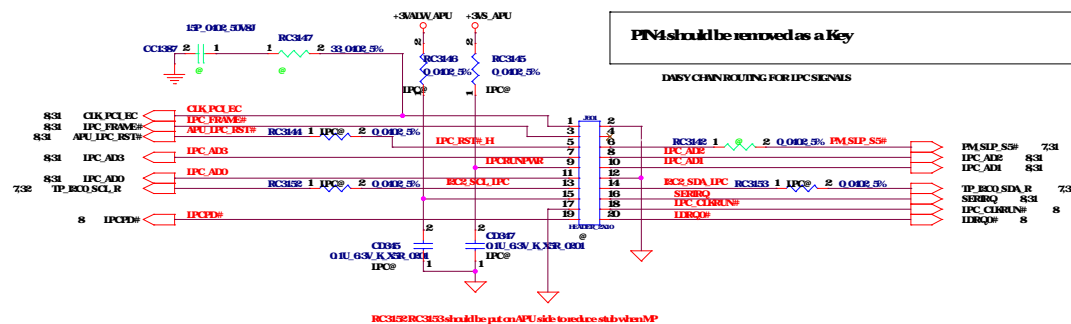
Security Classification Issued Date: 20130915 Expiration Date: 20130915			IC Pulse Center Secret Data		Title FPSPower			
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Date Monday, May 28, 2018					Sheet 11 of 48			





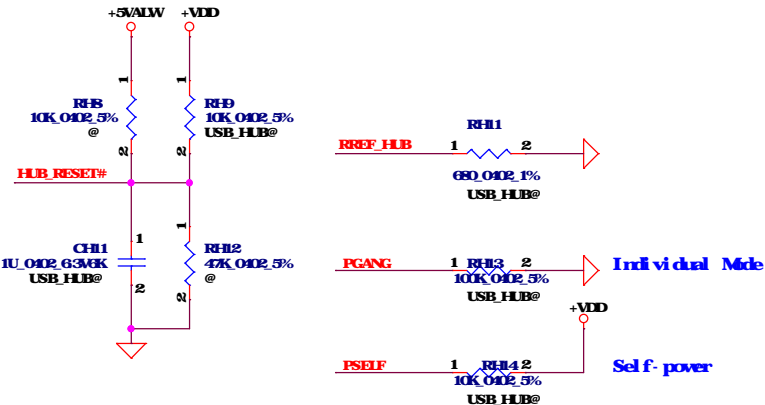
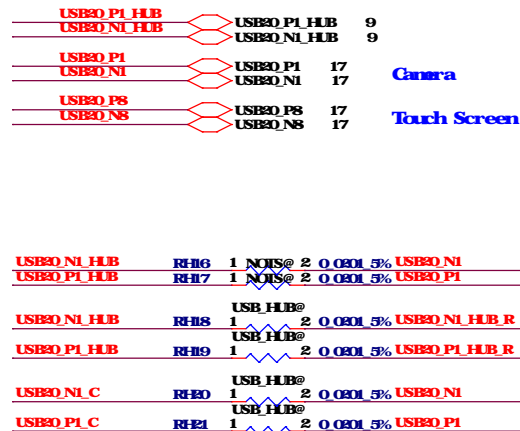
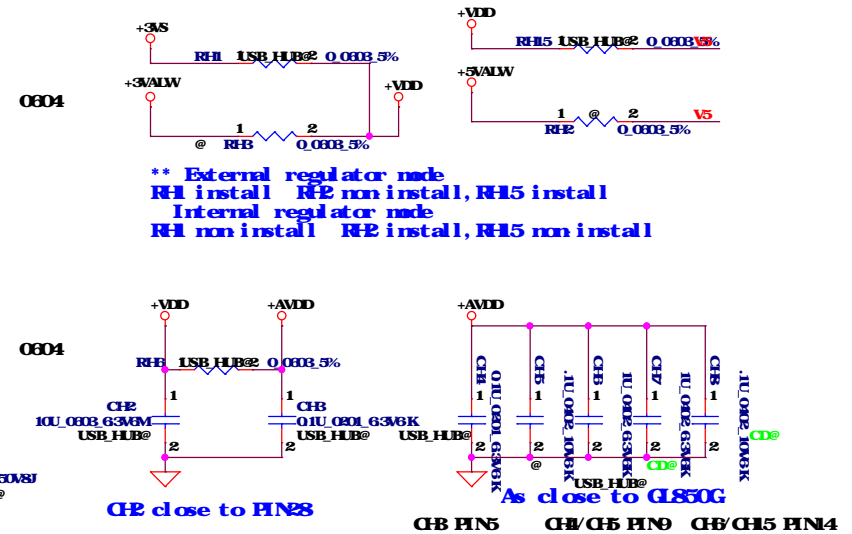
STRAP PINS	SYS_RESET#
PCH_SPL_CLK	1: USE 48MHz CRYSTAL CLOCK AND GENERATE BOTH INTERNAL AND EXTERNAL CLOCKS (DEFAULT) 0: USE 100MHz PCIe CLOCK AS REFERENCE CLOCK AND GENERATE INTERNAL CLOCKS ONLY
SYS_RESET#	1: NORMAL RESET MODE (DEFAULT) 0: SHORT RESET MODE


IPC ROMULATOR HEADER



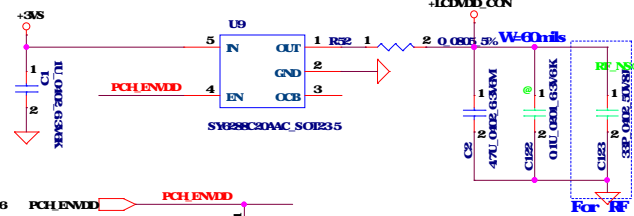
The diagram illustrates the pin configuration for the GL850G-01H50-QFN28 5x5 package. The package is shown from both top and bottom perspectives. The top view shows pins 1-14 on the left and 15-28 on the right. The bottom view shows pins 1-14 on the right and 15-28 on the left. The package is labeled 'GL850G-01H50-QFN28 5x5'.

Pin	Signal
1	USB0_N1_HUB_R
2	USB0_P1_HUB_R
3	USB0_N1_C
4	USB0_P1_C
5	+AVDD
6	USB0_N8
7	USB0_P8
8	RRF0_HUB
9	+AVDD
10	X1M12_IN
11	X1M12_OUT
12	+AVDD
13	DVB
14	+AVDD
15	DM1
16	RESET#
17	TEST/SCL_HUB_RESET#
18	OCUR4#
19	OCUR3#
20	DVDD
21	PSELF
22	PGANG
23	OCUR2#/SMD
24	OCUR1#/SMC
25	PAREN1#/SDA
26	V3S
27	V5
28	SDA_HUB



Security Classification		LC Future Center Secret Data		Title			
Issued Date	20160816	Declassified Date	20170815	USB Hub			
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				Site B	Document Number S145 API	Rev 10	
				Date	Tuesday, May 28, 2019	Sheet	16 of 44

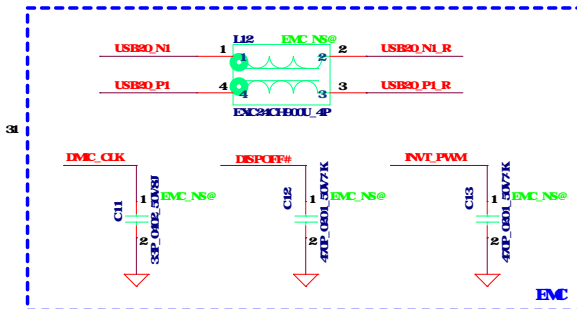
LCDPOWER CIRCUIT



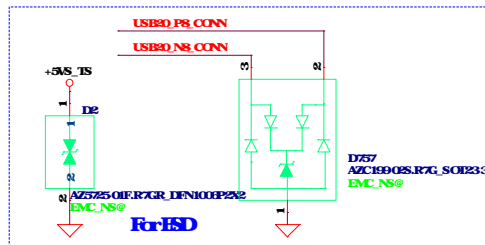
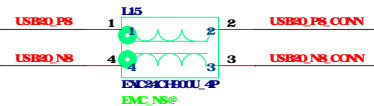
APU output enable Voh min is 1.8V/0.45V=1.35V



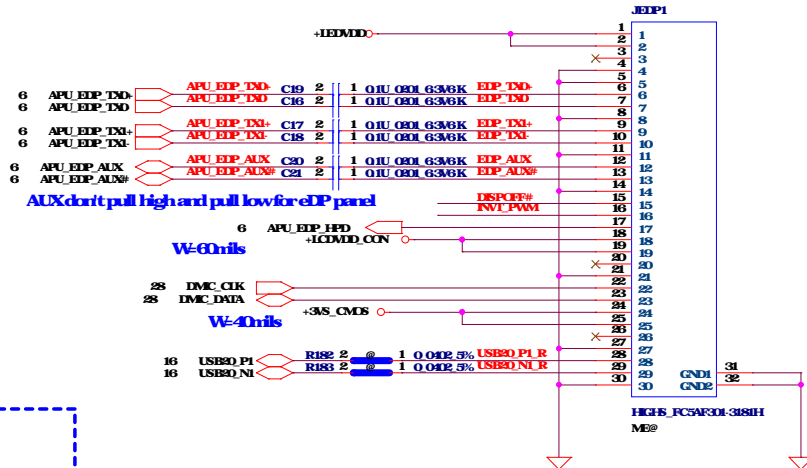
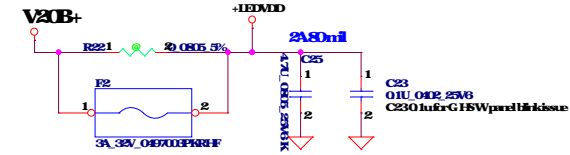
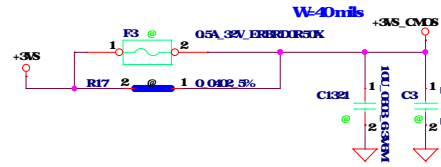
CMOS Camera



TouchScreen



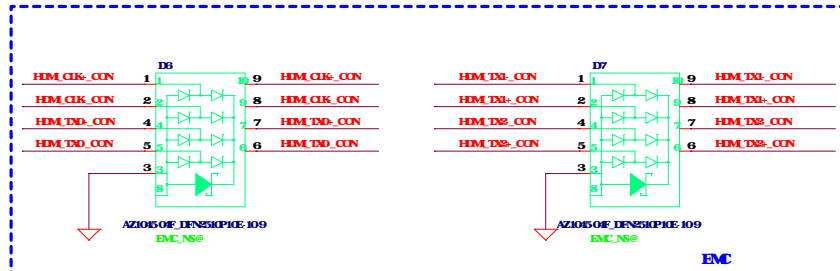
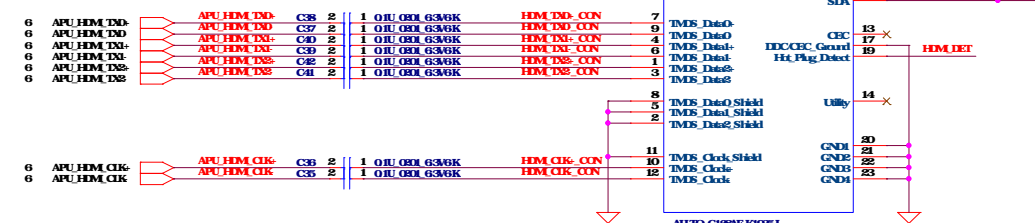
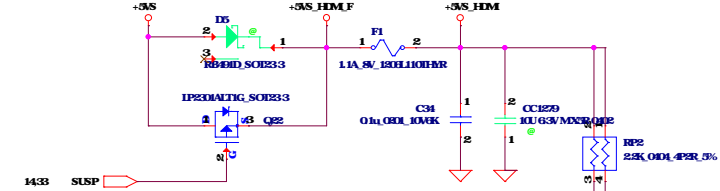
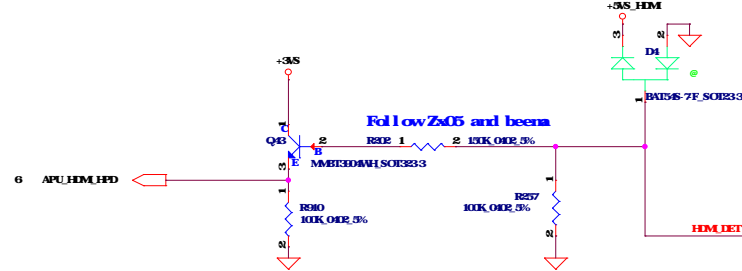
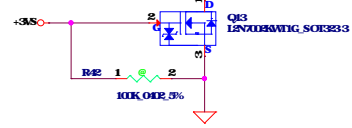
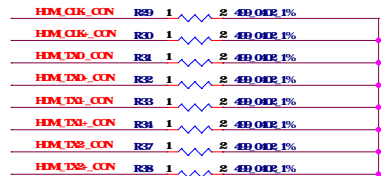
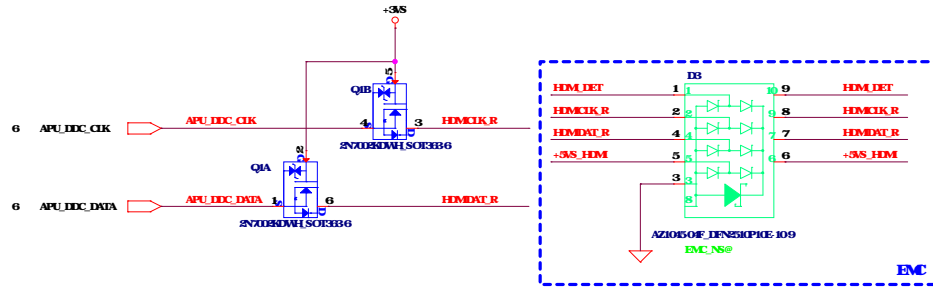
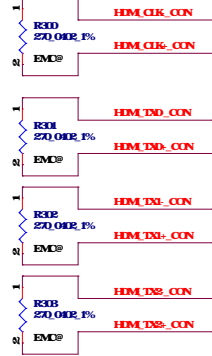
B+ to +LEDVDDPOWER



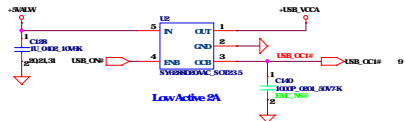
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Title	eDP/CMOS	
Doc Number	S145 API	Rev 1.0
Date	Thursday, May 23, 2013	Sheet 17 of 44

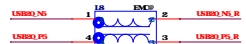
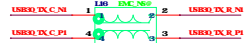
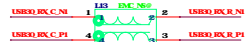
3/19 S145AF EMC request for HM



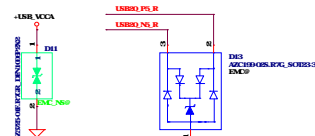
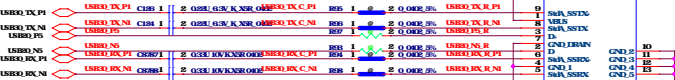
LEFT SIDE USB30PORT v2



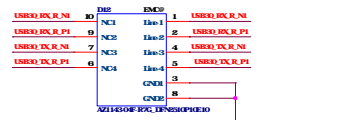
LowActive 2A



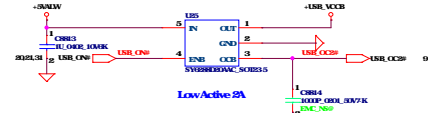
EMC



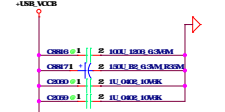
EMC



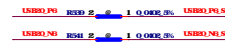
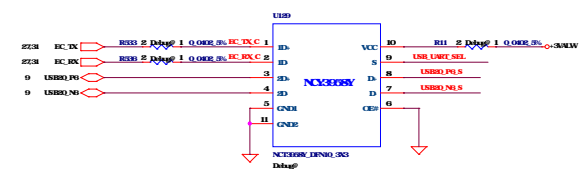
USB30PORT



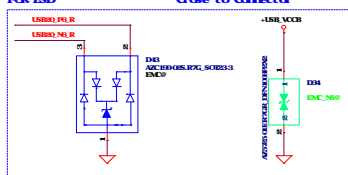
LowActive 2A



For USBDebugFunction



FOR ISD Close to Connector

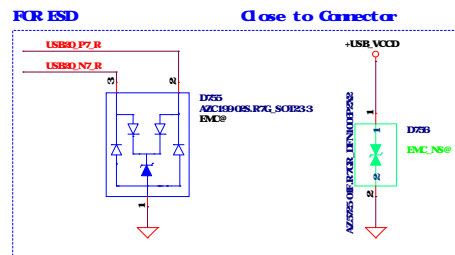
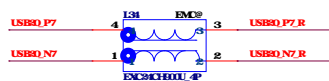
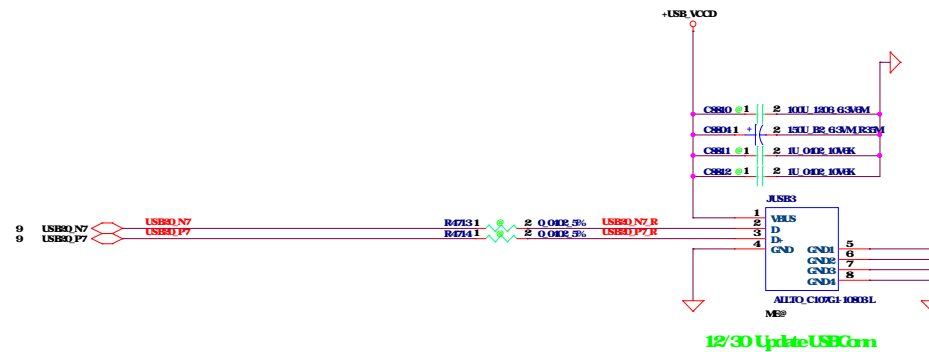
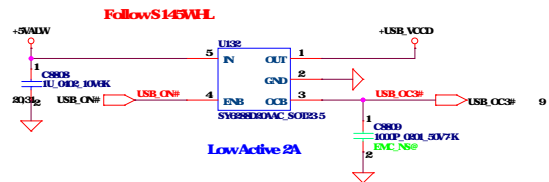


USB30PORT	Remarking
Set input	Set input
Set output Low	ENABLE

USB30PORT	FOR ISD
Set input	ENABLE
Set output Low	ENABLE

CSH	S	FUNCTION
H	X	ENABLE
L	L	U() to H()
L	H	U() to H()

Security Classification		IC Future Center Secret Data		Title	
Research Data	RESEARCH	Development Data	RESEARCH	USB30PORT (LEFT)	
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5		4		3		2		1	
D									
C									
B									
A									

D

D


C


C

B**B**

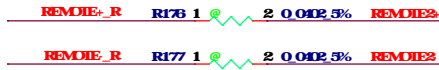
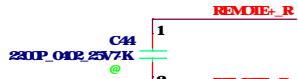
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					S145 AP1	1.0	
Date				Thursday, May 28, 2015	Sheet	24	of 44

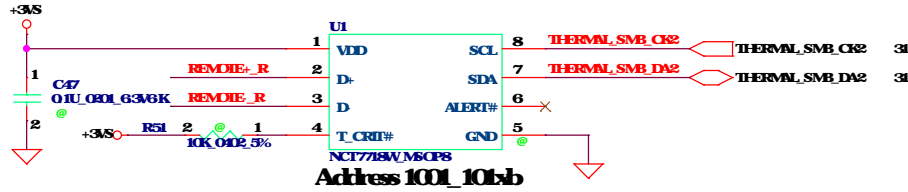
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				Custom		S145 AP1		1.0	
				Date		Tuesday, May 28, 2013		Sheet 25 of 44	
5	4	3	2	1					

Close to UI

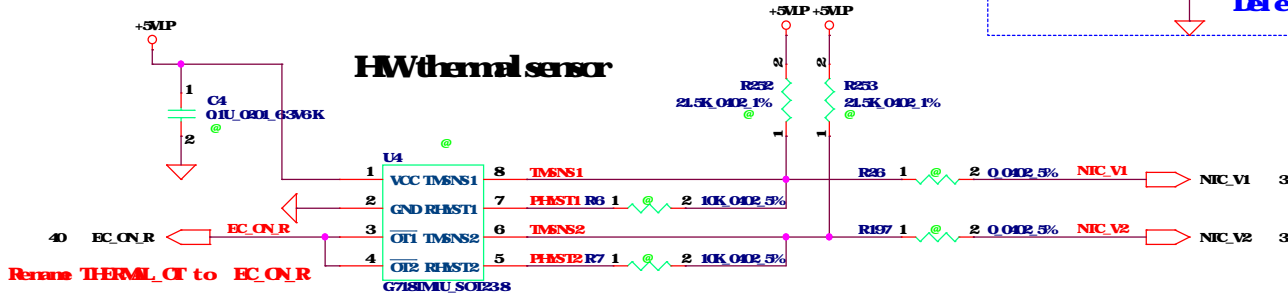


REMOIE+/-_R REMOIE1+/-, REMOIE2+/-:
Trace width/space: 10/ 10 mil
Trace length <8'

SMSC thermal sensor placed near DIMM

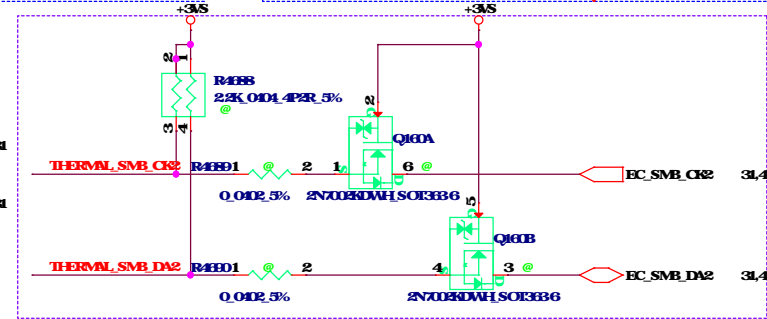
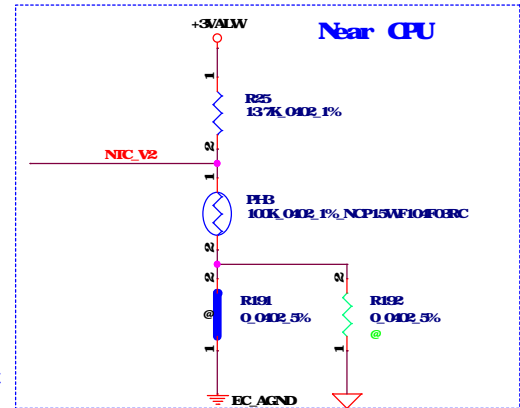
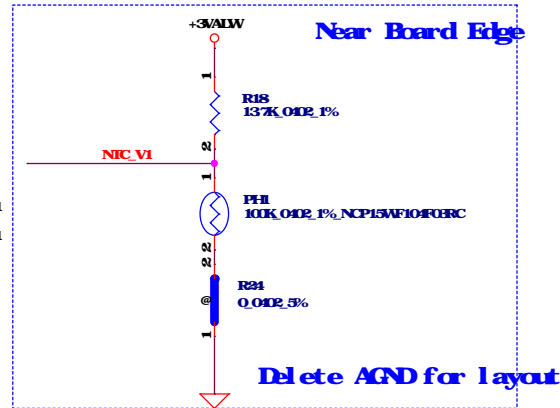
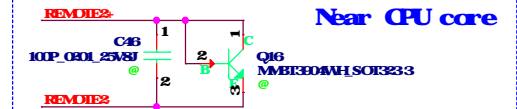
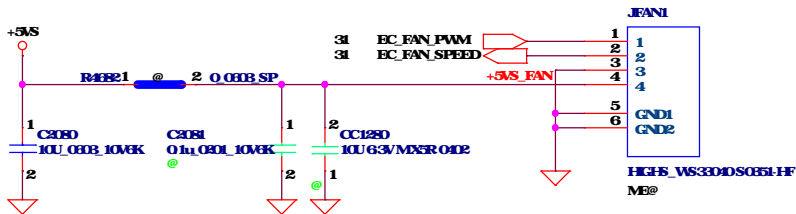


HW thermal sensor



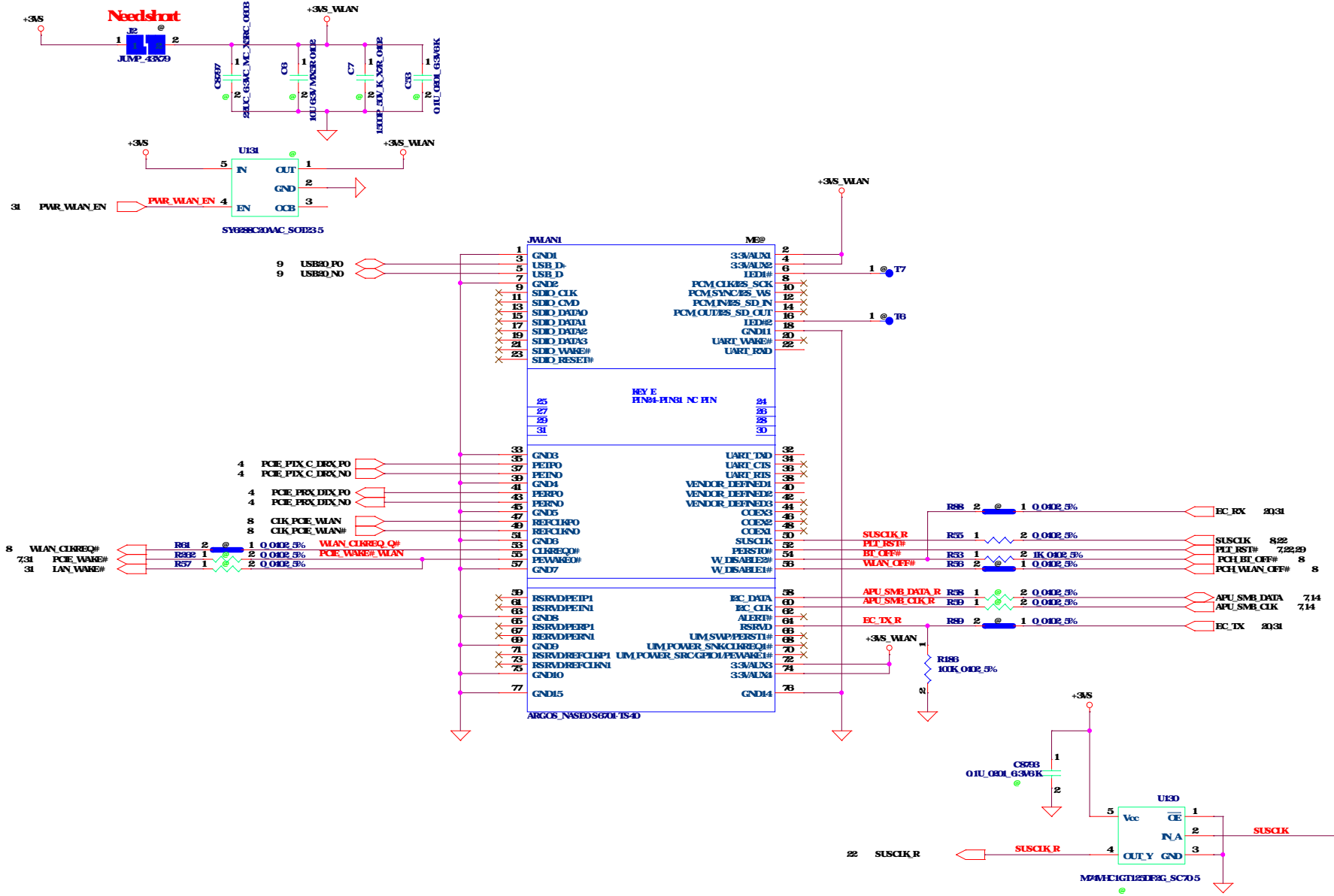
over temperature threshold
RSET=3* RIM1
92+/- 30C
Hysteresis temperature threshold
RHST=(RSEP RIM1) / (3* RIM1 RSET)
56+/- 30C

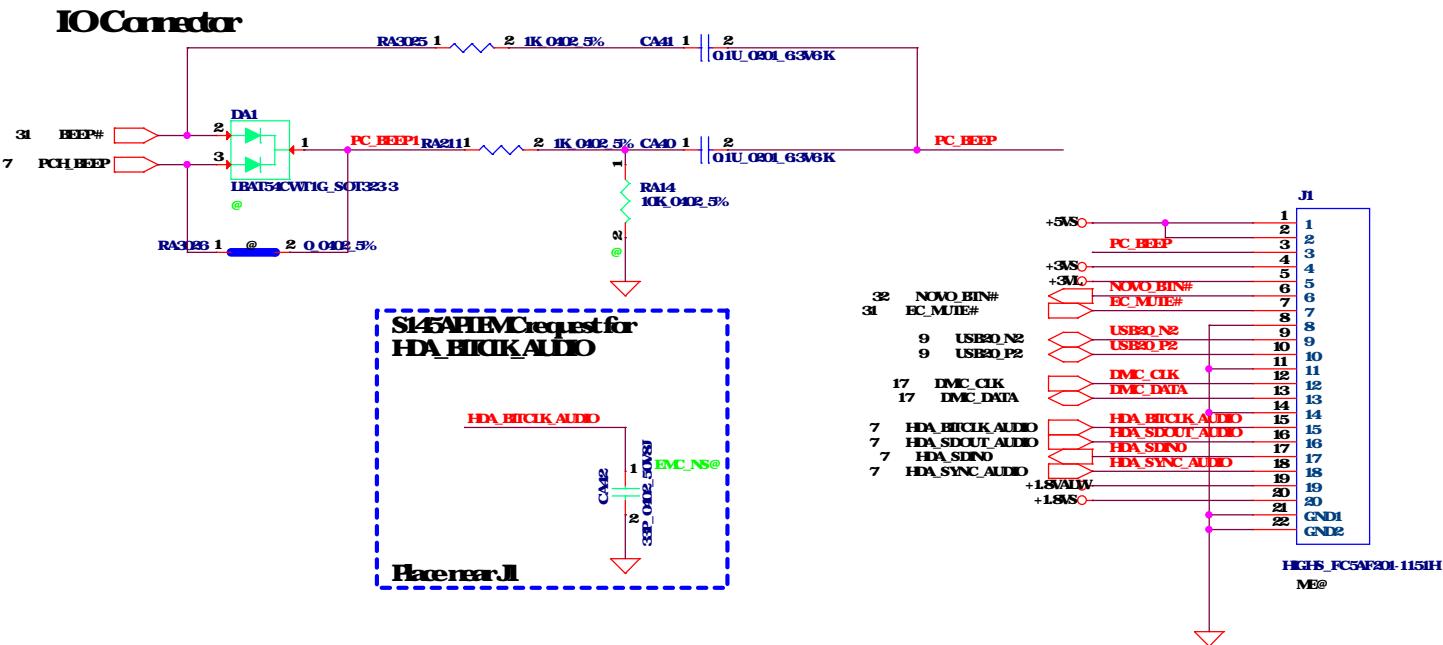
FAN Conn




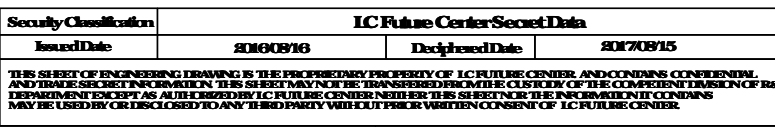
Security Classification		LC Future Center Secret Data		Title	
Issued Date	20130808	Declassified Date	20130805	Thermal sensor/FAN CONVIPM	
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				Custom	S145 API
Date	Tuesday, May 28, 2013		Sheet	283	of 44

Mini-Express Card(WLAN/WMAX)

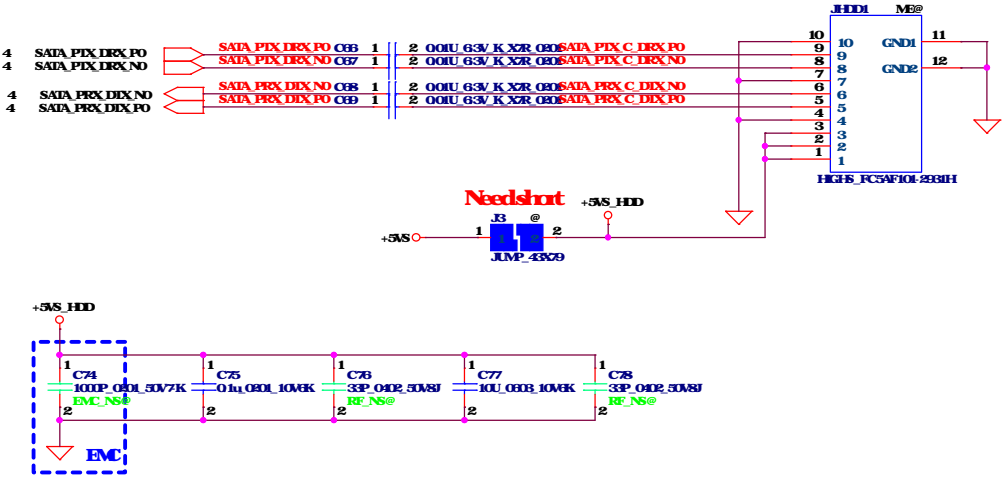






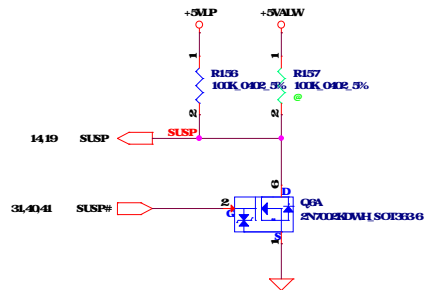
Security Classification		LC Future Center Secret Data		Title					
Issued Date	20160816	Declassified Date	20170815	IOCONN					
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						Date	Tuesday, May 23, 2016	Sheet 28 of 44	



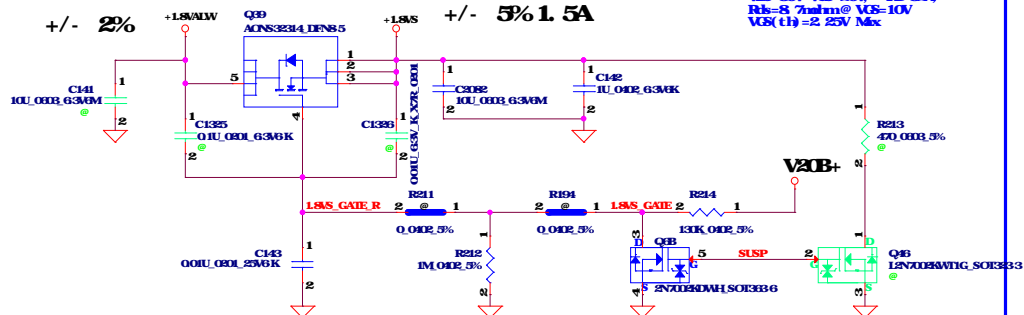
SATA HDD Conn



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		Sheet		Document Number		Rev			
		Date		Tuesday, May 28, 2009		Sheet		30 of 41	
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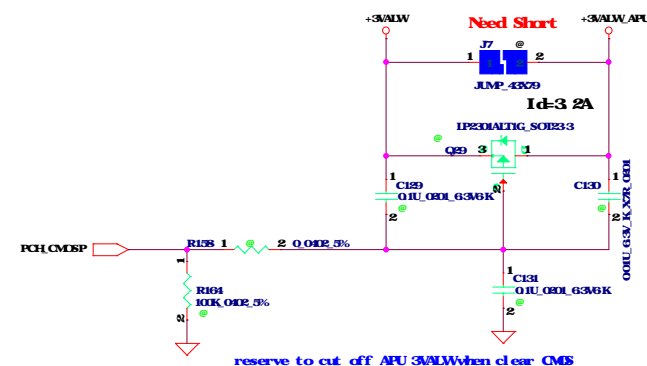
+1.8V/1W to +1.8S



AO632314
VDS=30V VGS=20V ID=32A
RDS=8.7mΩ @ VGS=10V
VGS(th)=2.25V Max

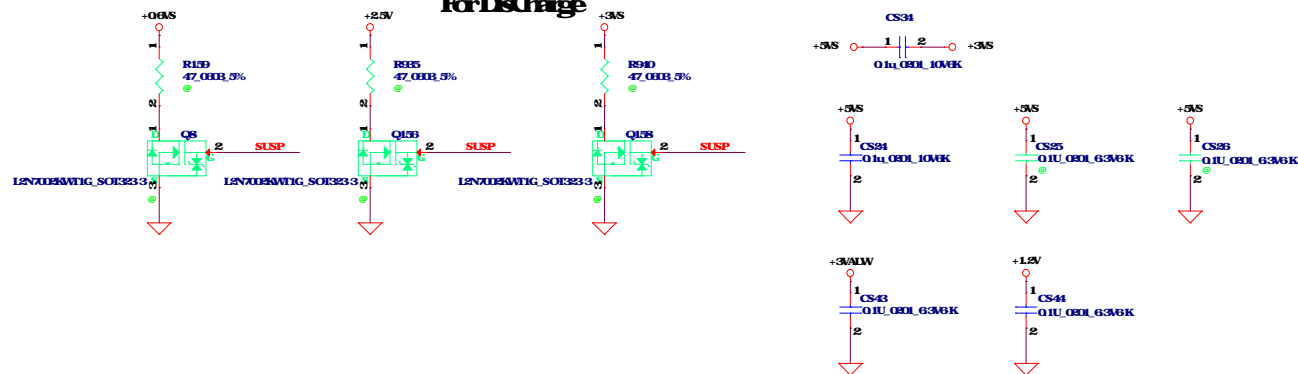
20VSB will change to 6V in DC mode, careful the Res divide voltage

+3V/1W to +3V/1W/APU

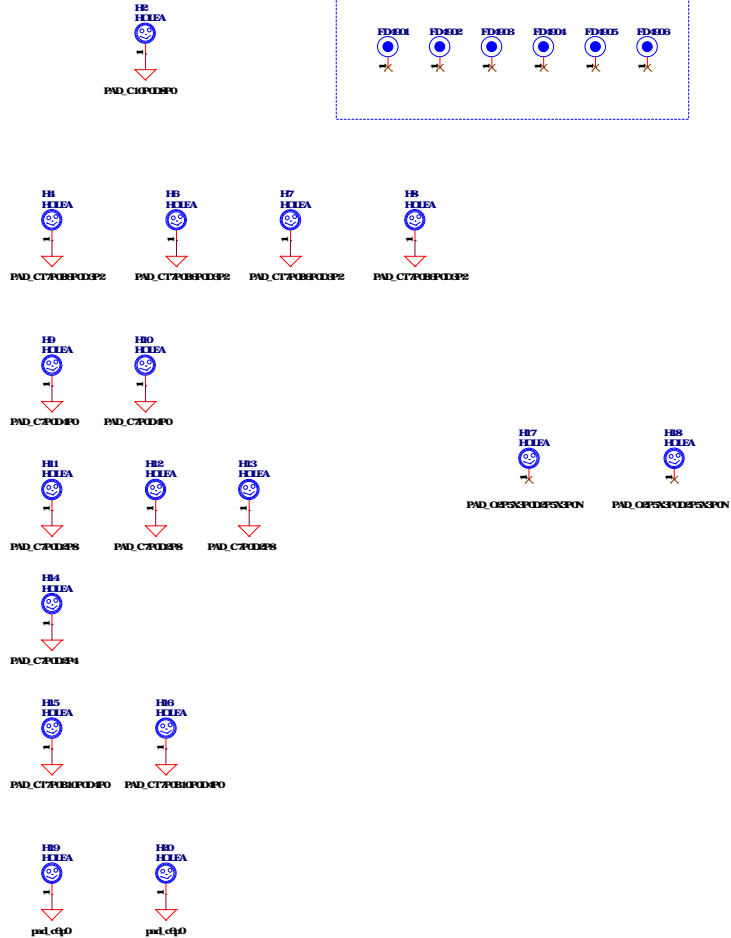


reserve to cut off APU 3V/1W when clear OMS

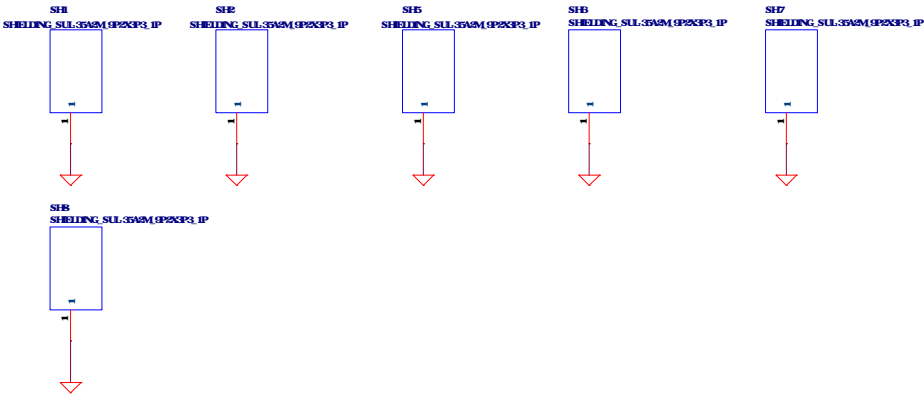
For Discharge



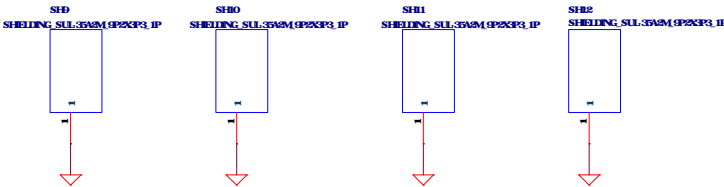
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Issued Date	20130815	Declassified Date	20130815	DCV TOVS INTERFACE	
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Date	Tuesday, May 28, 2013	Sheet	33 of 44	Rev	1.0




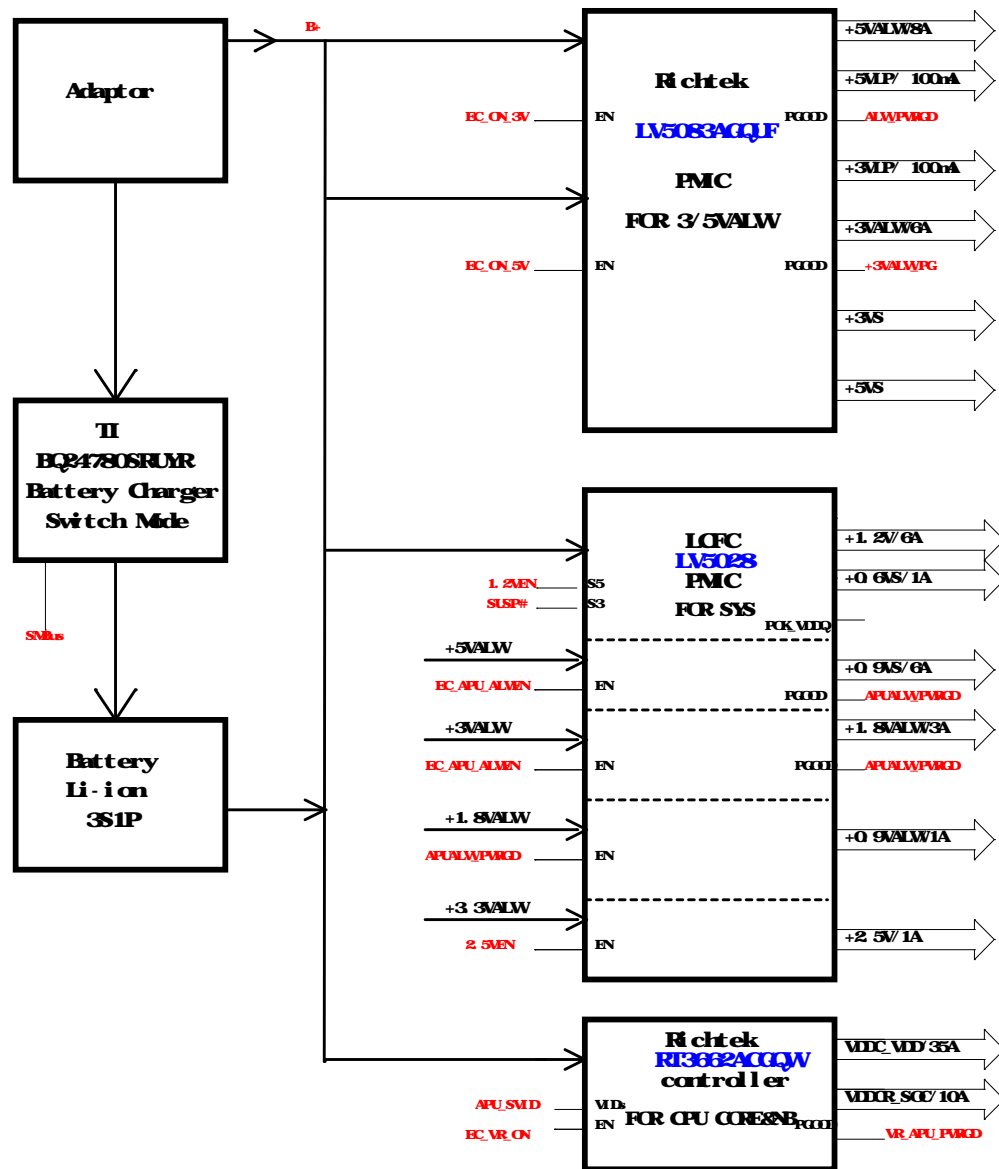
SO DIMM Shielding

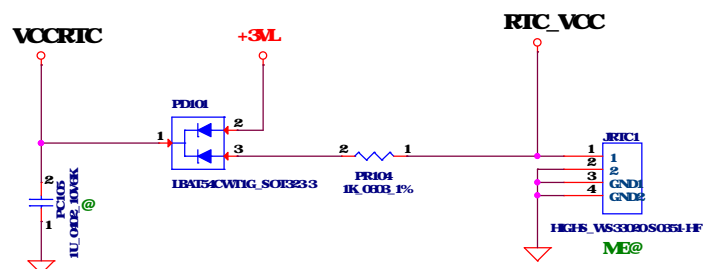



Memory Down Shielding



Security Classification	IC Pulse Center Secret Data			Title	
Issued Date	20030915	Declassified Date	20030915	Power sequence Block	
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				Sheet Number S145 AFI	
Date	Revision	May 28, 2009	Sheet	36	of 44

