


LCFC Confidential

HG560 MB Schematics Document

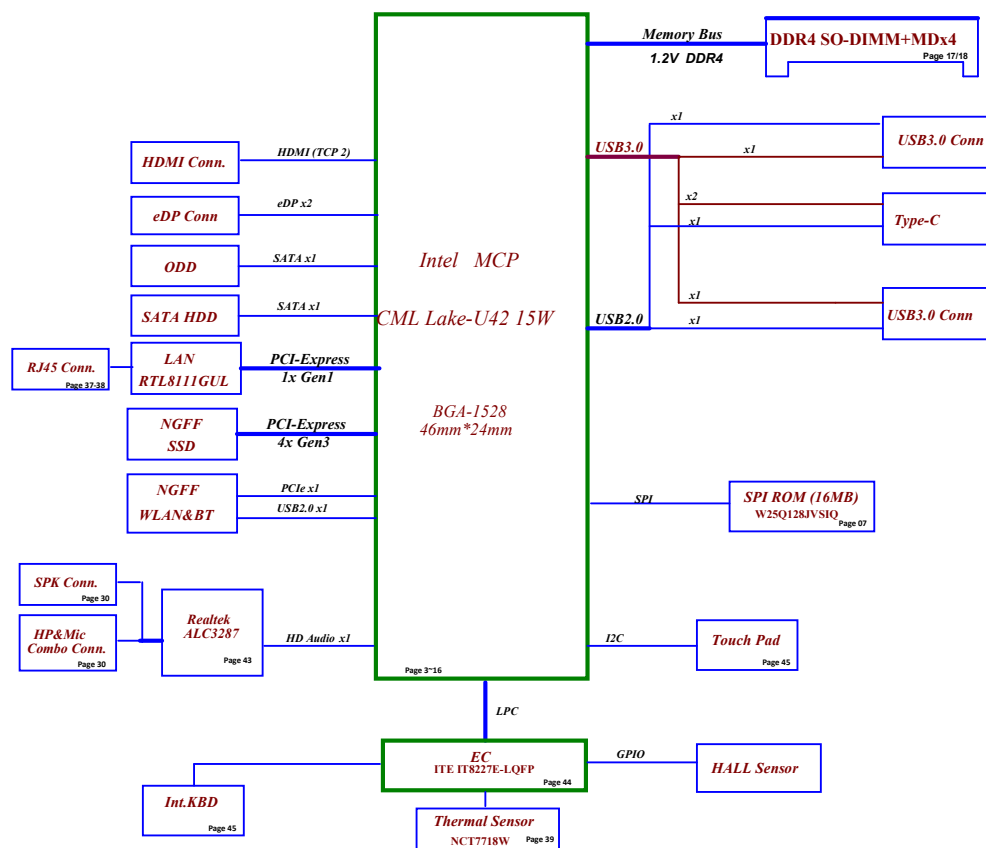
ITL UP3 with DDR4

2020-06

REV: 0.1

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			Docu. Number	Rev	
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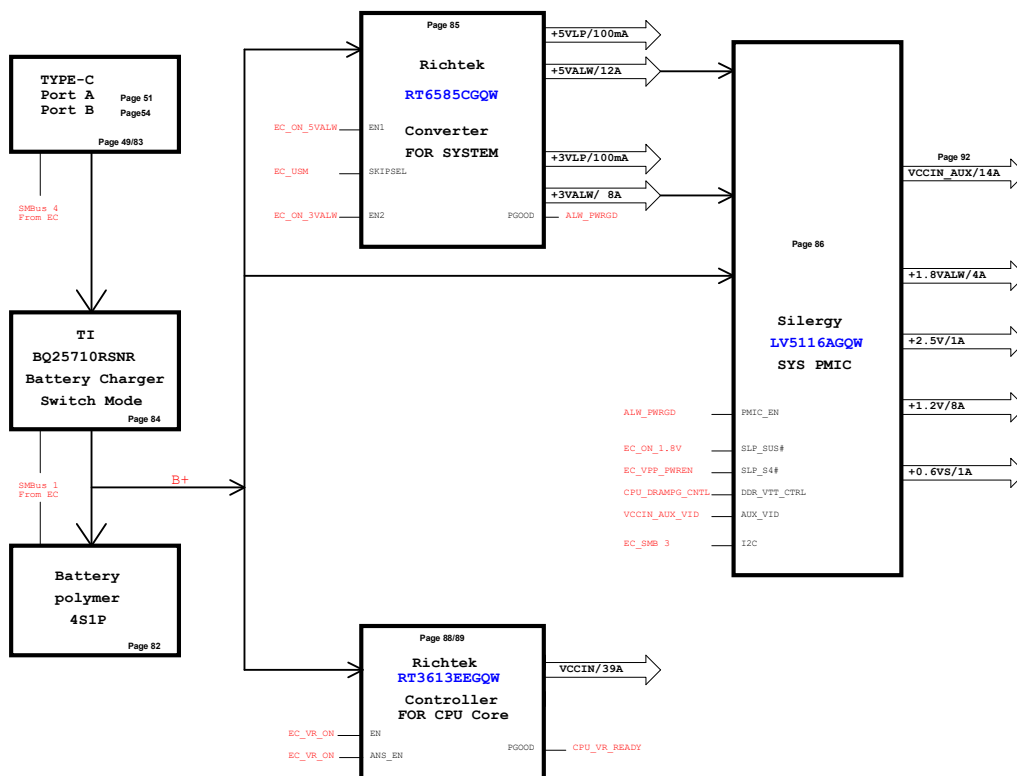
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					Date	

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Block Diagram_Power



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<small>DATE: Wednesday, August 17, 2016 10:58 AM</small>				Rev 01

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

Power Plane	V20B+	+3VALW +5VALW +3VALW_PCH +1.8VALW +1.05VALW	+1.2V +2.5V_DDR +VCCST	+5VS +3VS +VCCIO +VCCSTG +VCCSA +VCC_GT +CPU_CORE +0.6VS
State				
S0	O	O	O	O
S3	O	O	O	X
S3 Battery only	O	O	O	X
S5 S4 AC Only	O	O	X	X
S5 S4 Battery only	O	X	X	X
S5 S4 AC & Battery don't exist	X	X	X	X

[illegible]

HSIO PORT		Function
USB 3.0	1	USB 3.0 Conn Right
	2	USB 3.0 Conn Left
	3	NC
	4	NC
	5	NC
	6	NC
USB 2.0	1	USB3.0 Conn Left
	2	NC
	3	USB 3.0 Conn Right
	4	Finger Print
	5	Card reader
	6	NC
	7	Camera
	8	NC
PCIE	9	NC
	10	Bluetooth
	5-8 X4	DGPU
	9	Giga LAN
	10	NC
	11	SATA HDD
	12	WLAN
	13-16 X4	PCIE/SATA SSD

BOM Structure	BTO Item
8	Un-stuff
148	For 14" part
158	For 15" part
YOGA8	For YOGA530 part
5308	For 5308 part
CD8	For C coat down
EMC8	For EMC part
EMC 158	For EMC 15" part
EMC N98	For EMC un-stuff part
EMC PX8	For EMC PX part
EMC FXN98	For EMC PX nu-stuff part
ME8	For ME part
OPF8	For NV GPU part
OPTN168	For NV H168-GTX GPU part
OPTN178	For NV H178-G1 GPU part
T88	For touch screen part
TP8	For Touch Pad Part
UMA8	For UMA part

SMBUS Control Table

	SOURCE	BATT	Charger	GPU	ITS58GE	Memory Down	PCI	PMIC	SOC2NM	Thermal Sensor	WLAN WLANX
EC_SMB_CLK1 EC_SMB_DA1	ITS58GE +3Vt_EC	V	V	X	V +3Vt_EC	X	X	X	X	X	X
EC_SMB_CLK2 EC_SMB_DA2	ITS58GE +3Vt	X	X	V +3Vt_AGN	V +3Vt	X	V +3VALW_PCI	X	X	V	X
EC_SMB_CLK3 EC_SMB_DA3	ITS58GE +3Vt_EC	X	X	X	V +3Vt_EC	X	X	V	X	X	X
PCI_SMB_CLK PCI_SMB_DATA	PCI +3VALW_PCI	X	X	X	X	X	V +3VALW_PCI	X	V	X	V

EC SMBus1 address EC SMBus2 address EC SMBus3 address PCH SM Bus address

Device	Address	Device	Address	Device	Address	Device	Address
Smart Battery	need to update	Thermal Sensor(NCT7718W)	1001_100ab	PMIC	need to update	DDR4 SODIMM	need to update
Charger	0001 0010 b	PCH	need to update			Wlan	Reserved
		DGPU	need to update				

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								P05-Notes For VGA	
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PCB	
CPU	
GPU	
DRAM MD	
VRAM	
X76	
DRAM SODIM	
Re-Timer	

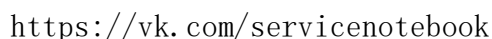
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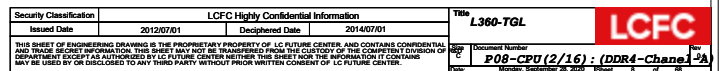
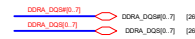
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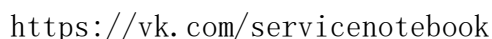
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	P06-Notes For BOM		0.1	

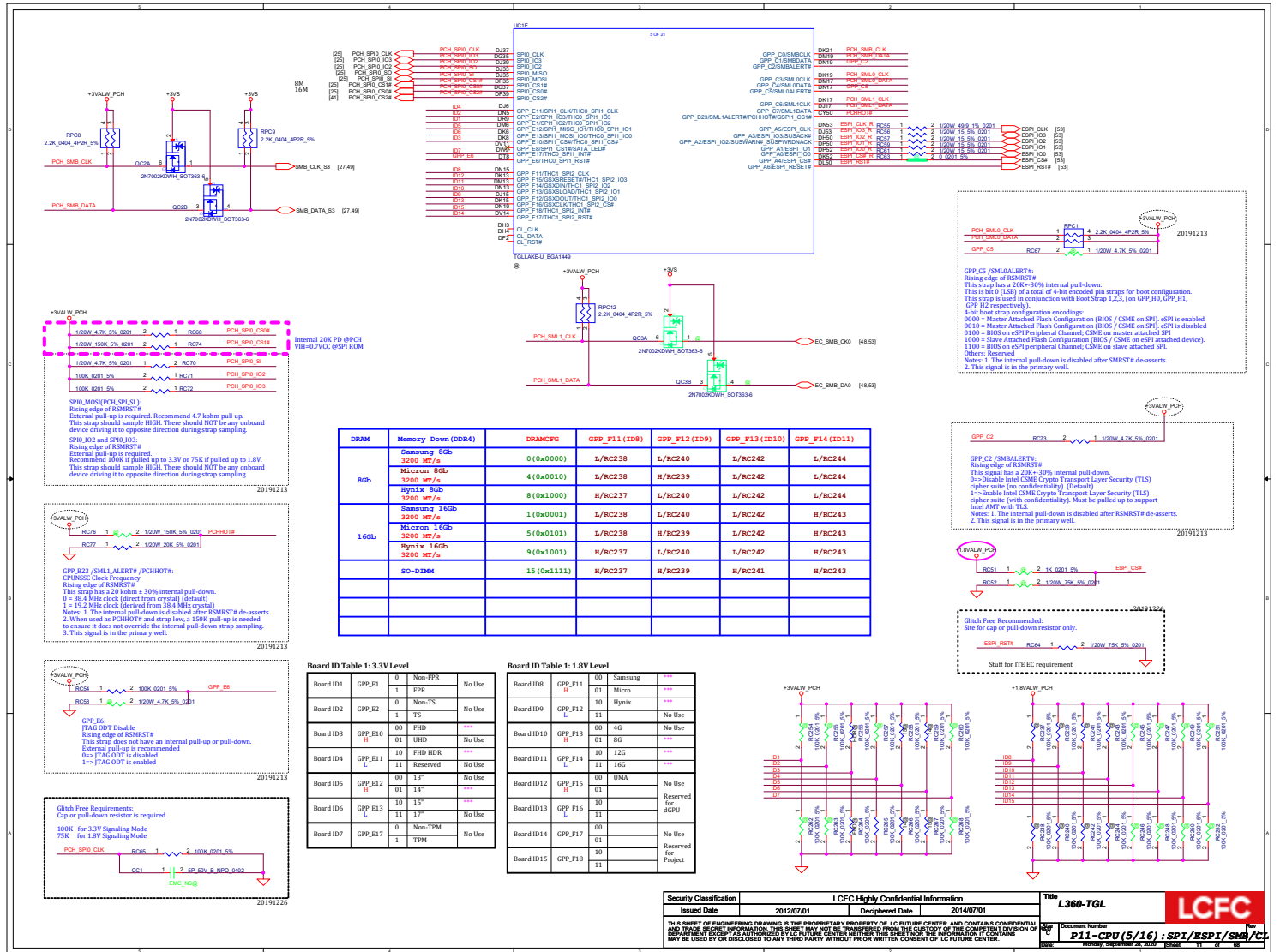
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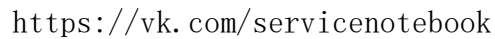




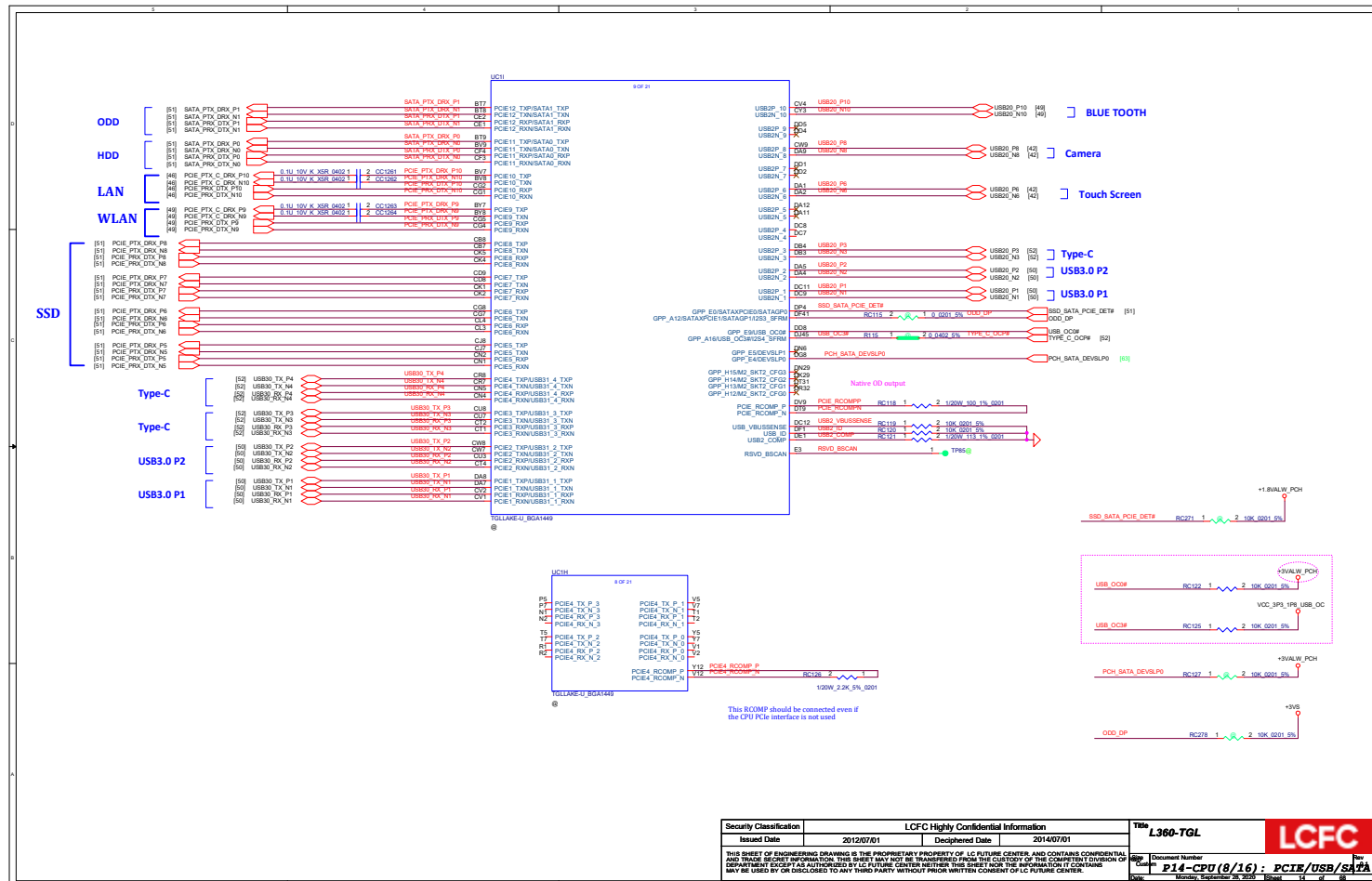




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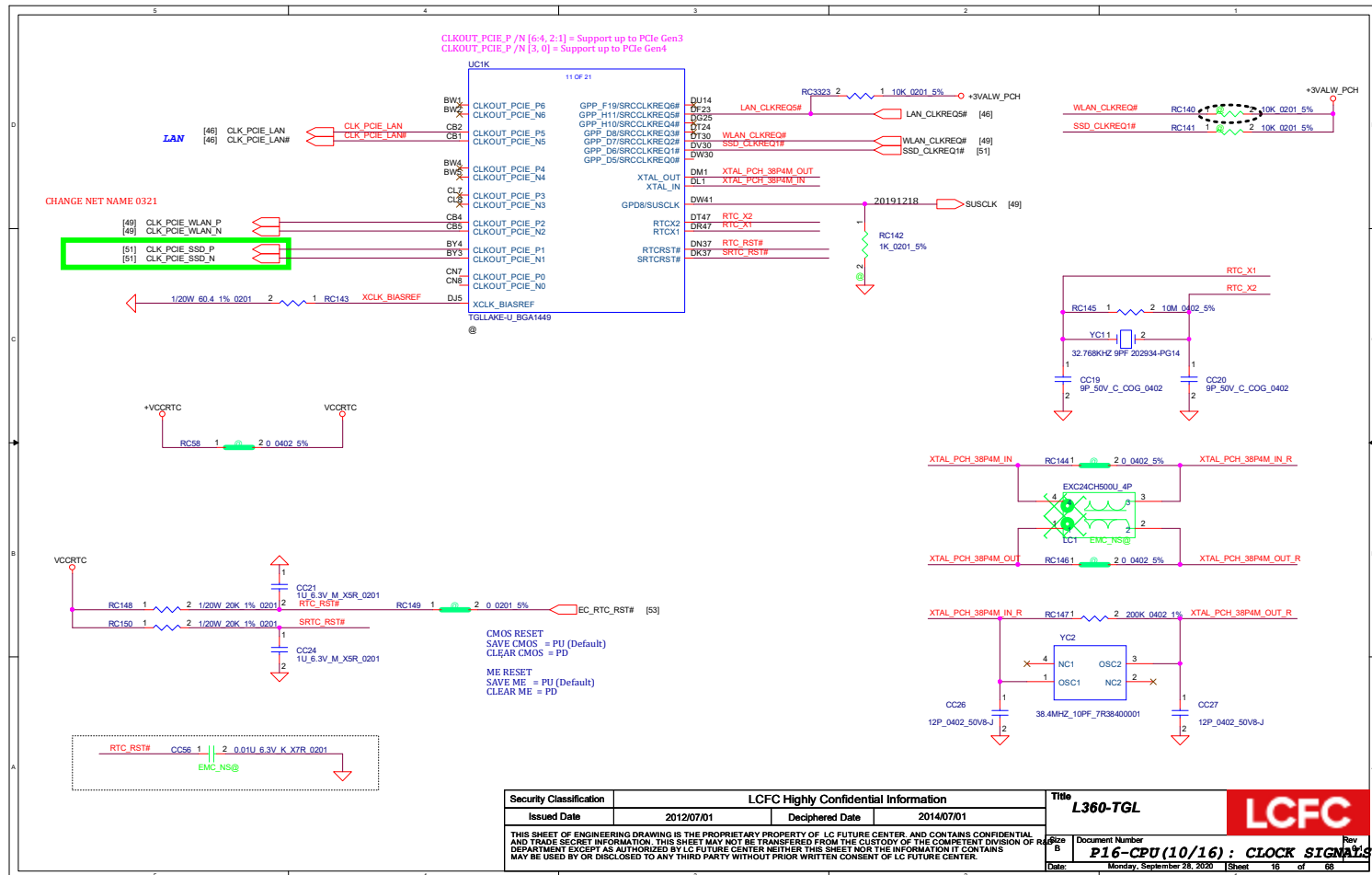




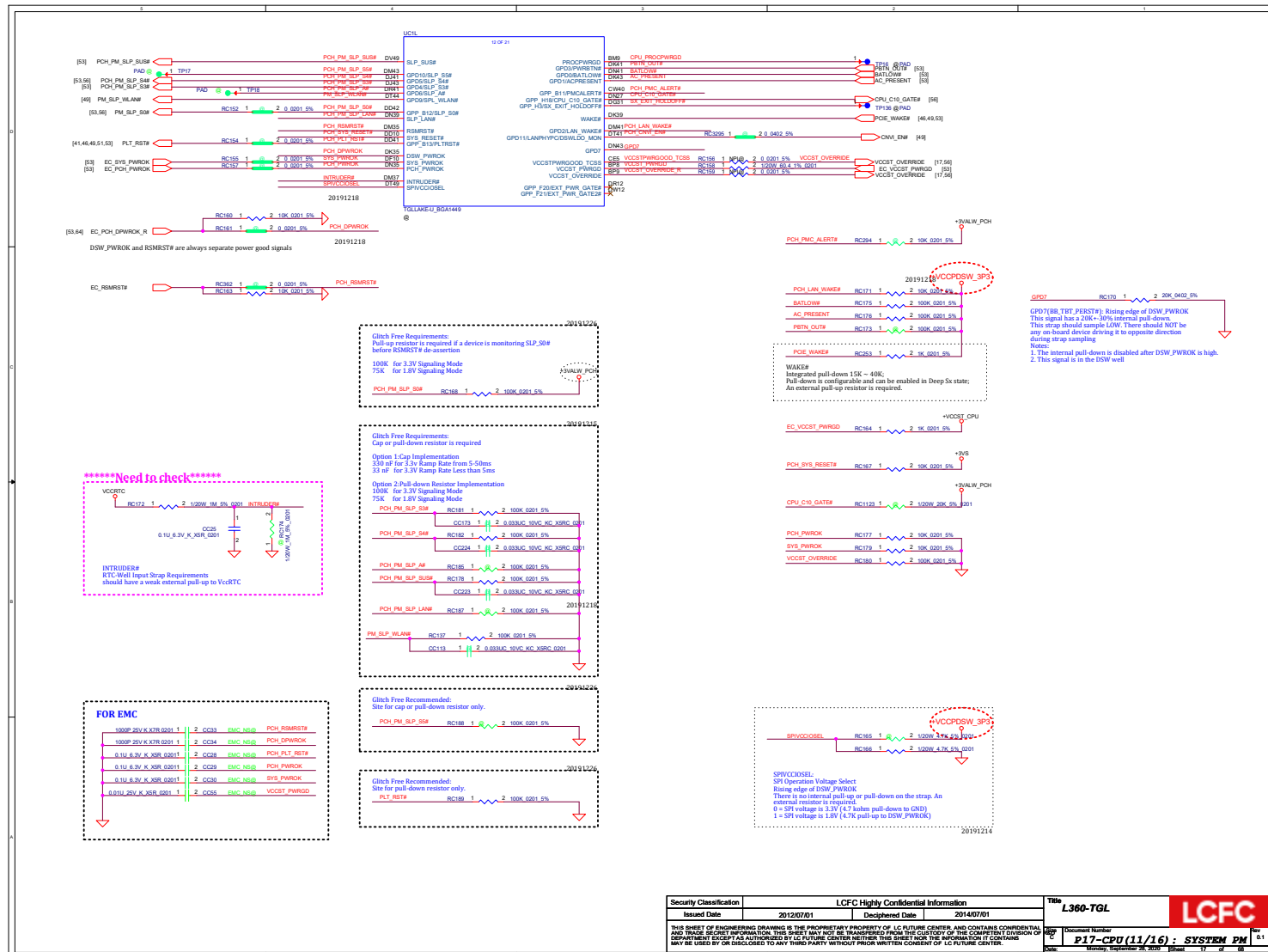


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Docu	Document Number	P14-CPU (8/16) : PCIE/USB/SATA		
Date	Monday, September 18, 2012	Sheet	14	of 18

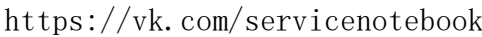
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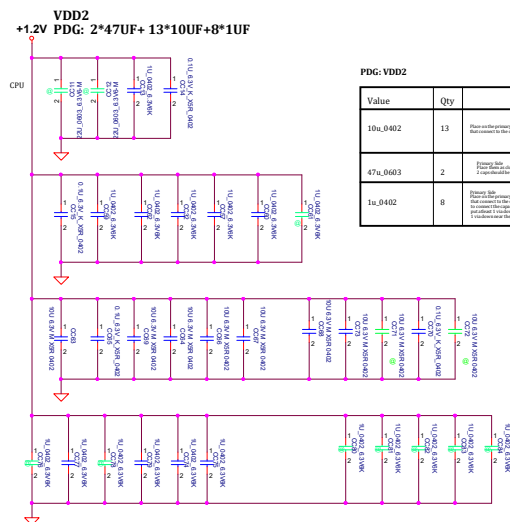


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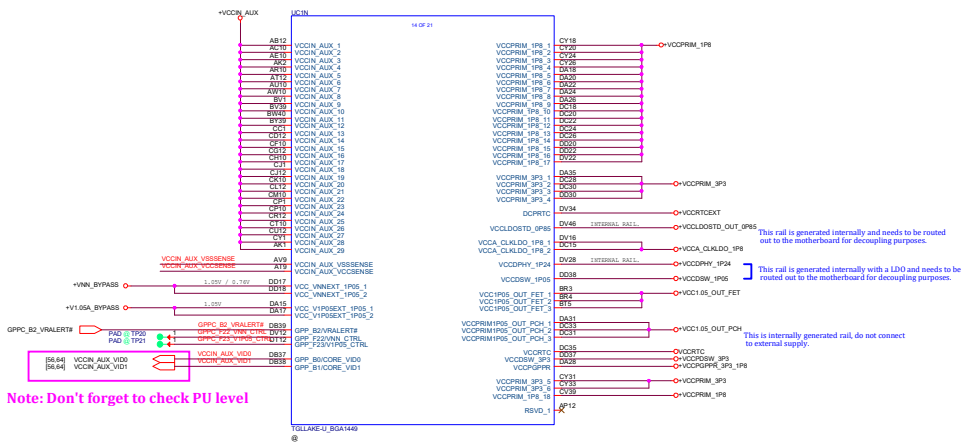


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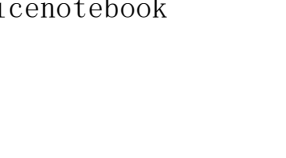
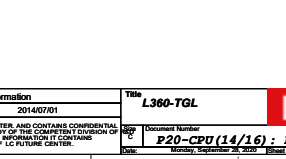
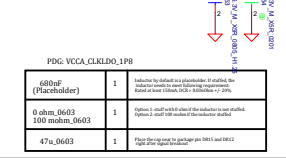
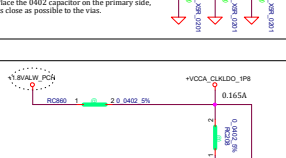
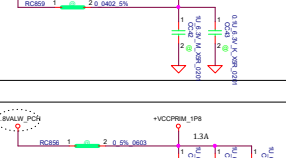
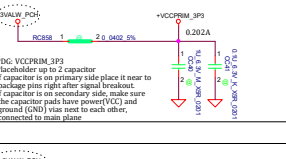
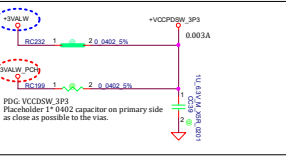
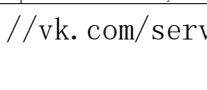
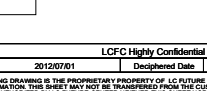
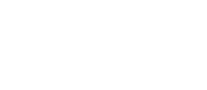
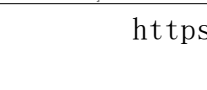
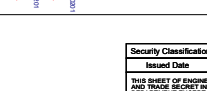
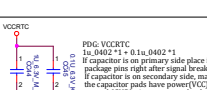
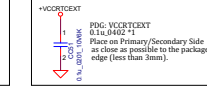
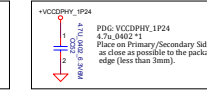
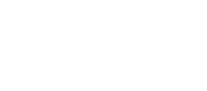
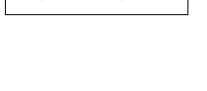
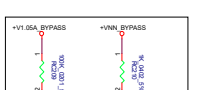
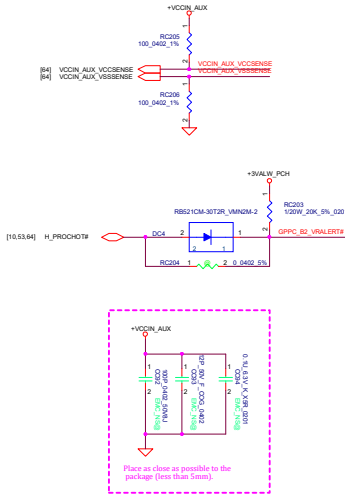
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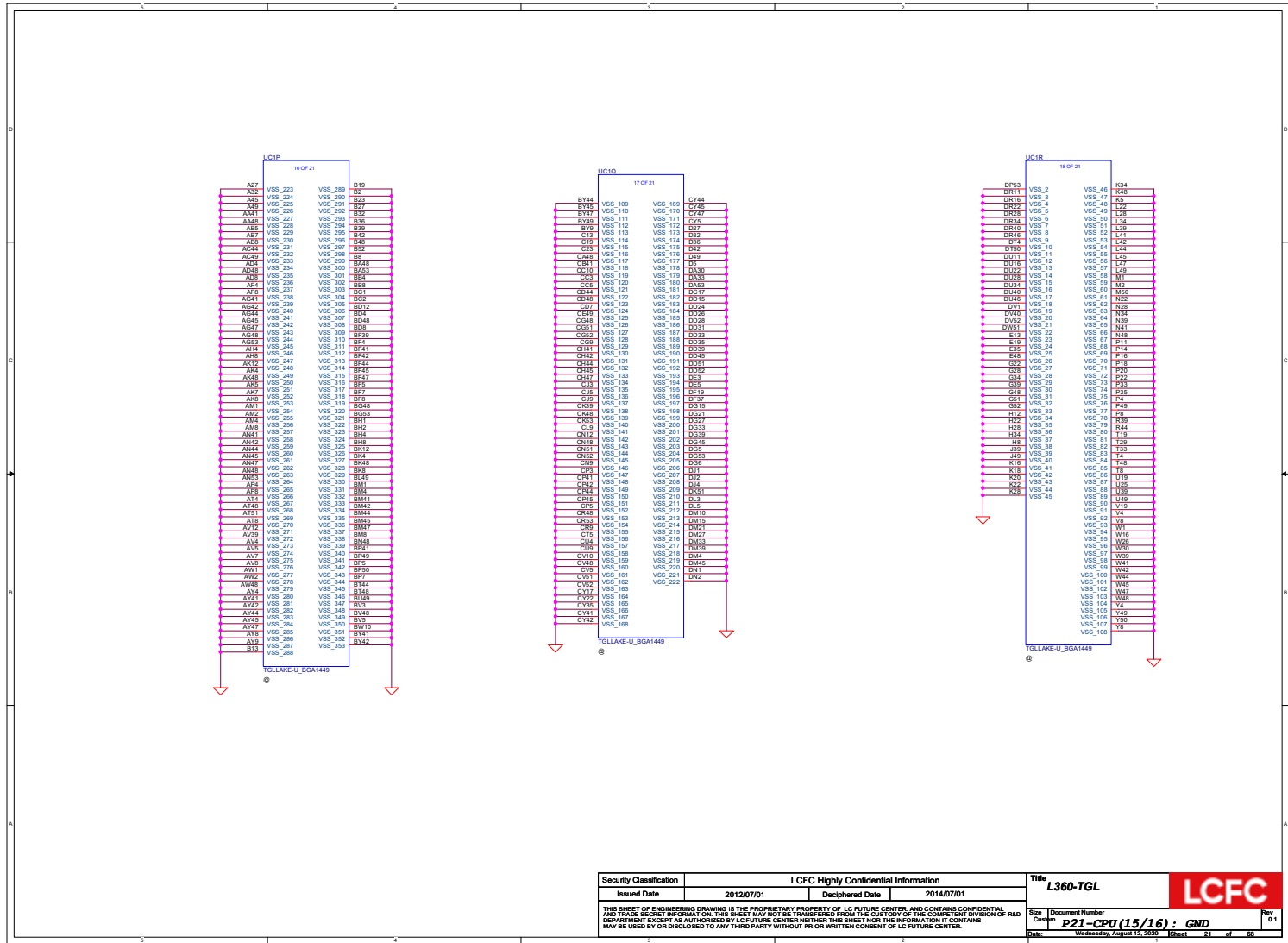
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Note: Don't forget to check PU level



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<p>Issue</p> <p>1</p>		<p>Issue Date</p> <p>2014/07/01</p>	

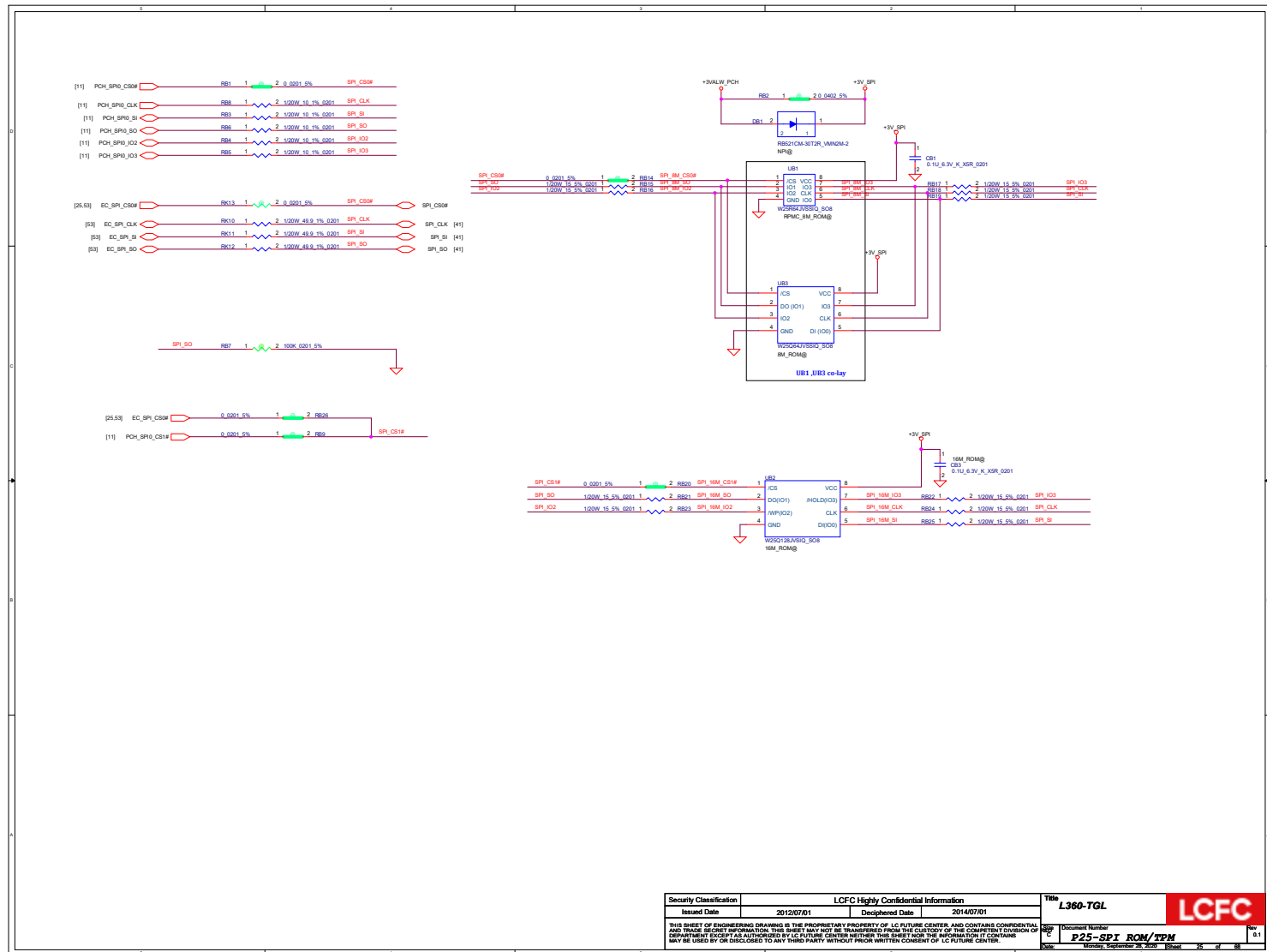


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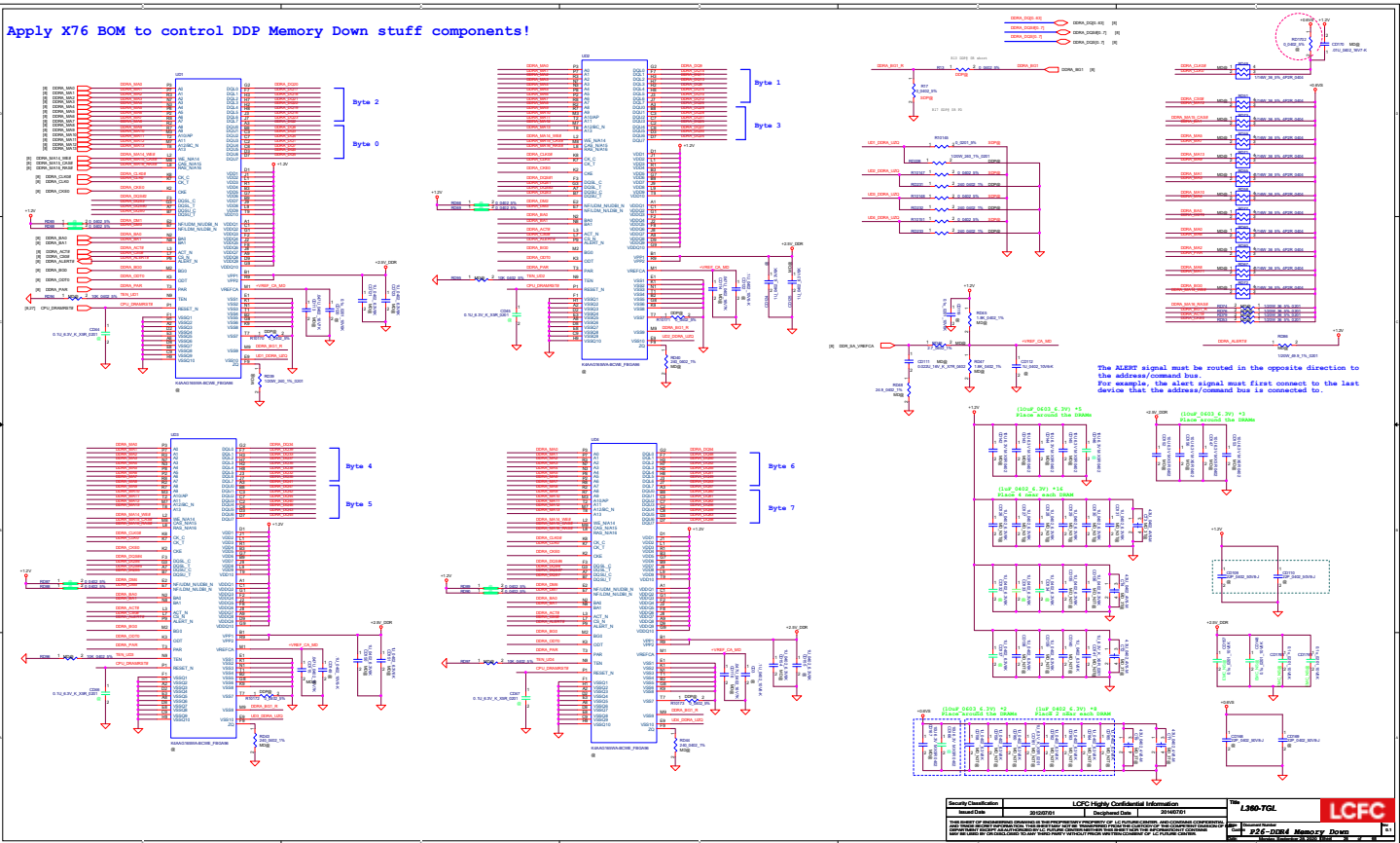
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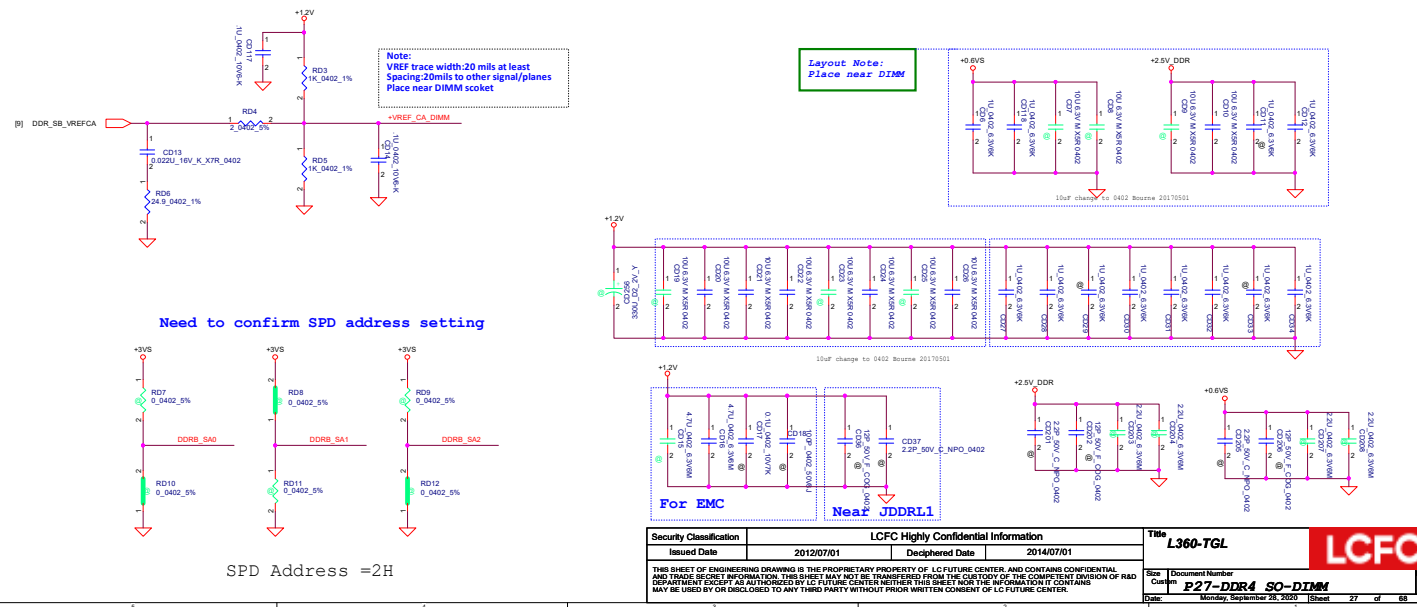
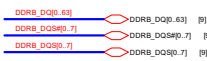
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Docu. Number		P25-SPI ROM/TPM		Rev		01			
Date		Version		2012/07/01		2014/07/01			

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Apply X76 BOM to control DDP Memory Down stuff components!



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				P29-GPU PCIE Interface	
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<small>Doc No.</small>				<small>Revision</small>	

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Sheet		1		Document Number		P33-GPU GND		Rev 0.1	
Date		Wednesday, August 17, 2011		Sheet		35		of 38	

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<small>Doc No</small>				<small>Rev</small> 0.1	
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Date		Wednesday, August 15, 2006		Sheet		37		of 88	

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								Date	
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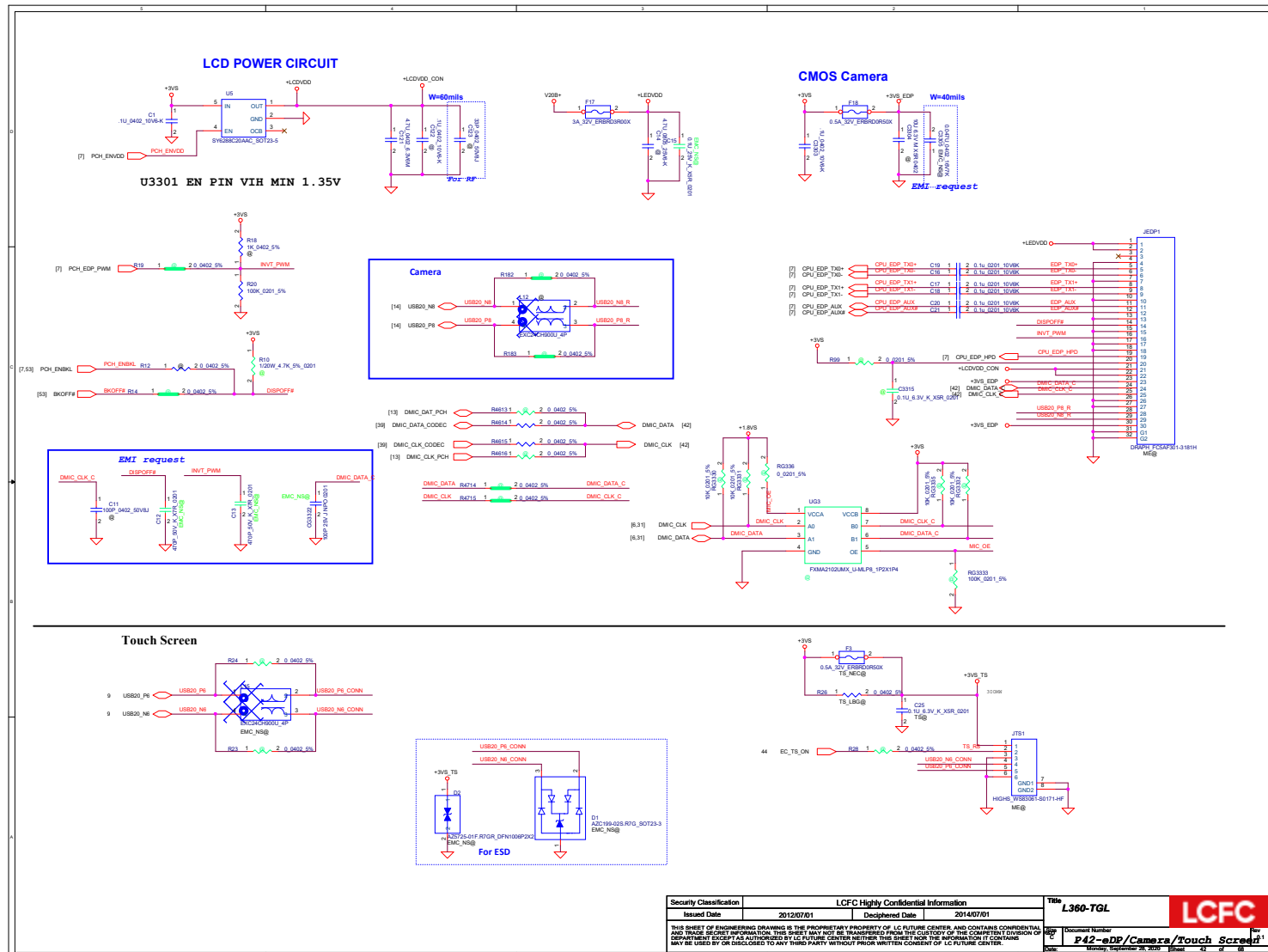
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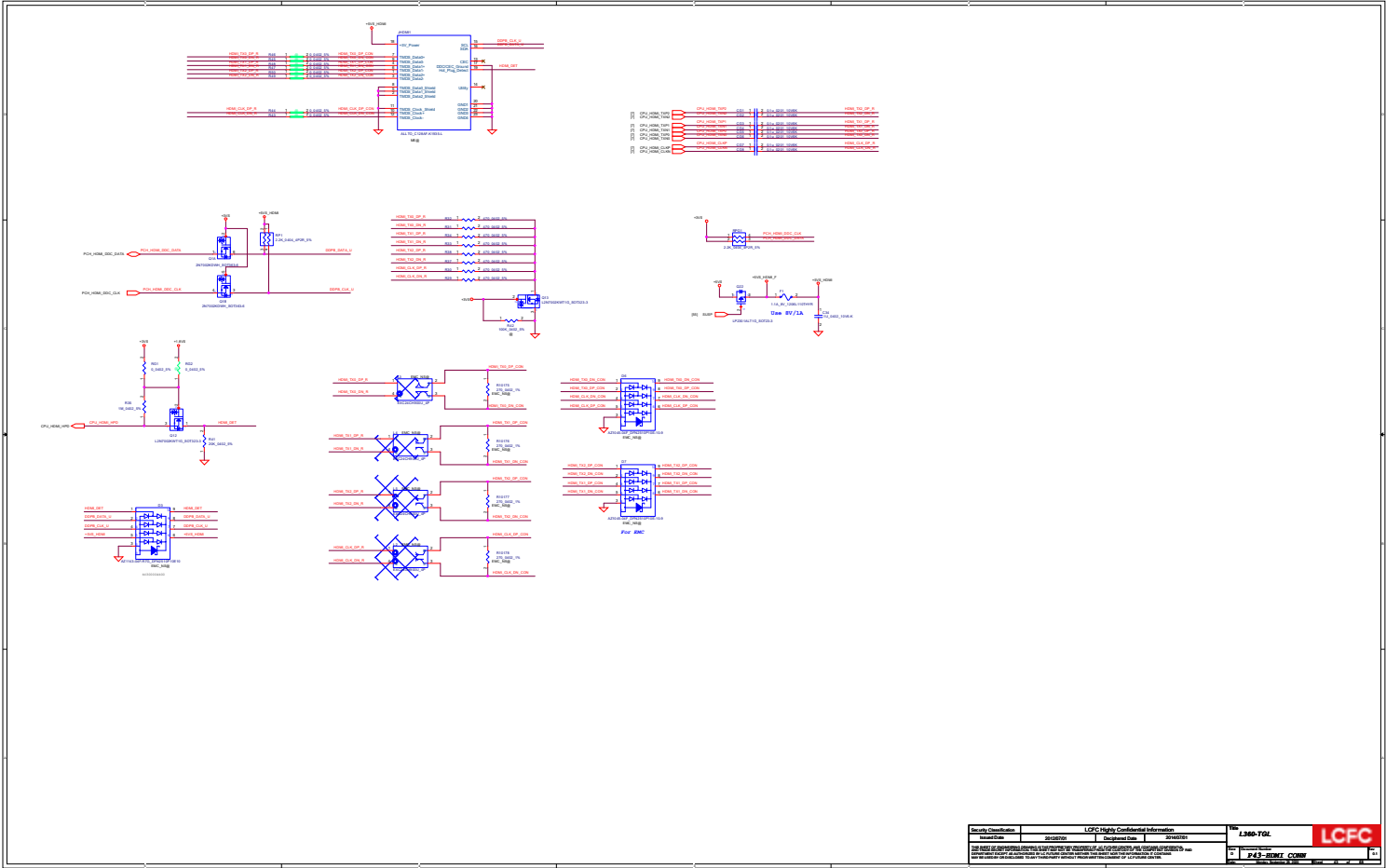
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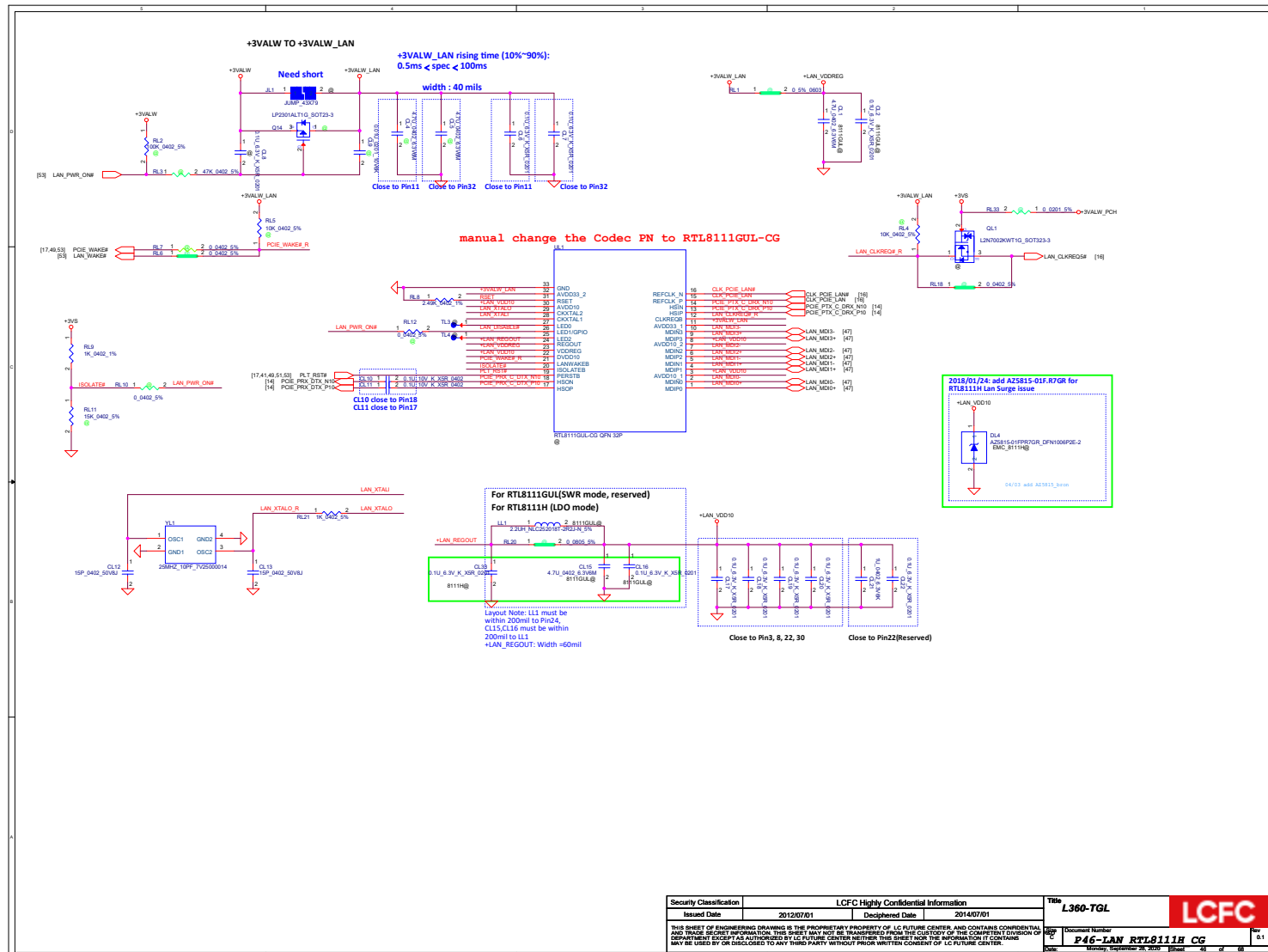
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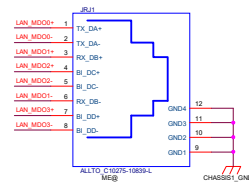
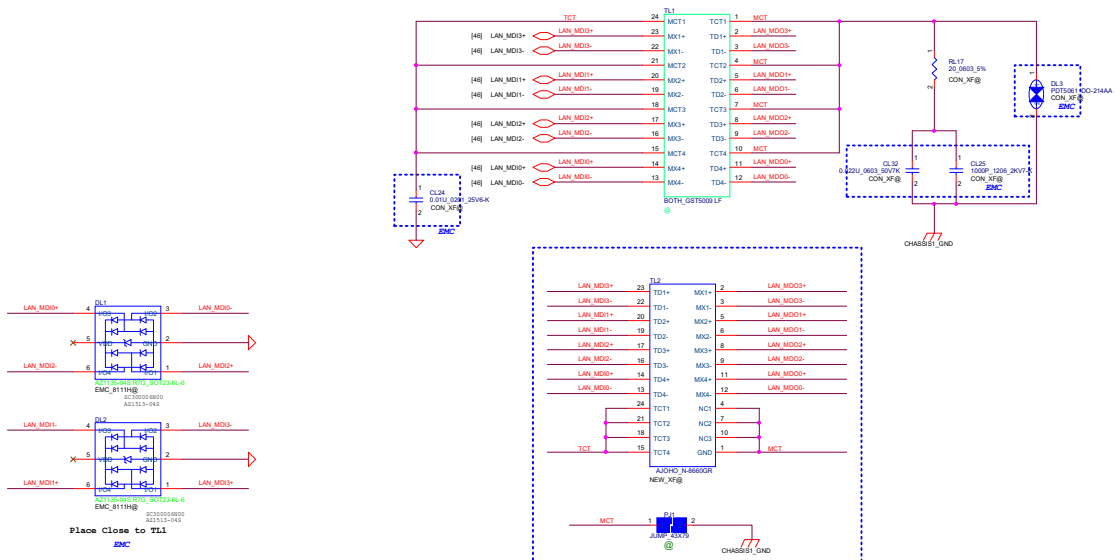


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Sheet		1		Document Number		P44-BLANK		Rev 0.1	
Date		Wednesday, August 15, 2007		Sheet		44		of 88	

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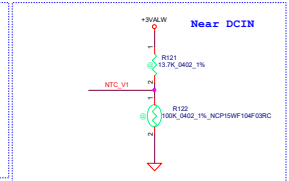
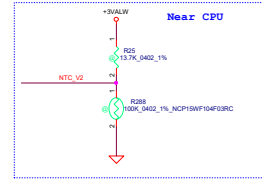
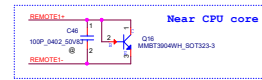
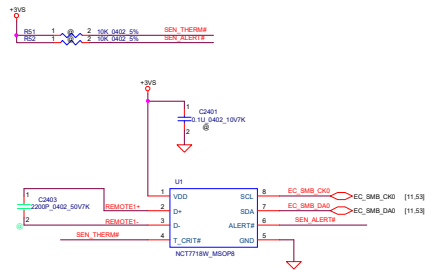


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		2014/07/01		Document Number		01
				P47-LAN Transformer		0.1

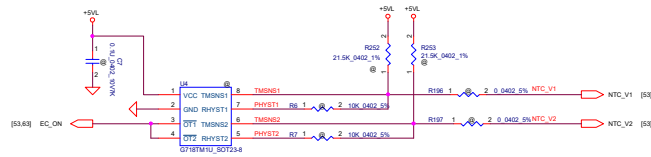
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SMSC thermal sensor placed near DIMM

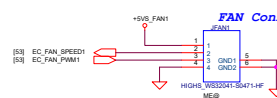
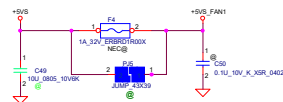
REMOTE+/- R, REMOTE1+/-, REMOTE2+/-:
Trace width/space:10/10 mil
Trace length:<8"



HW thermal sensor



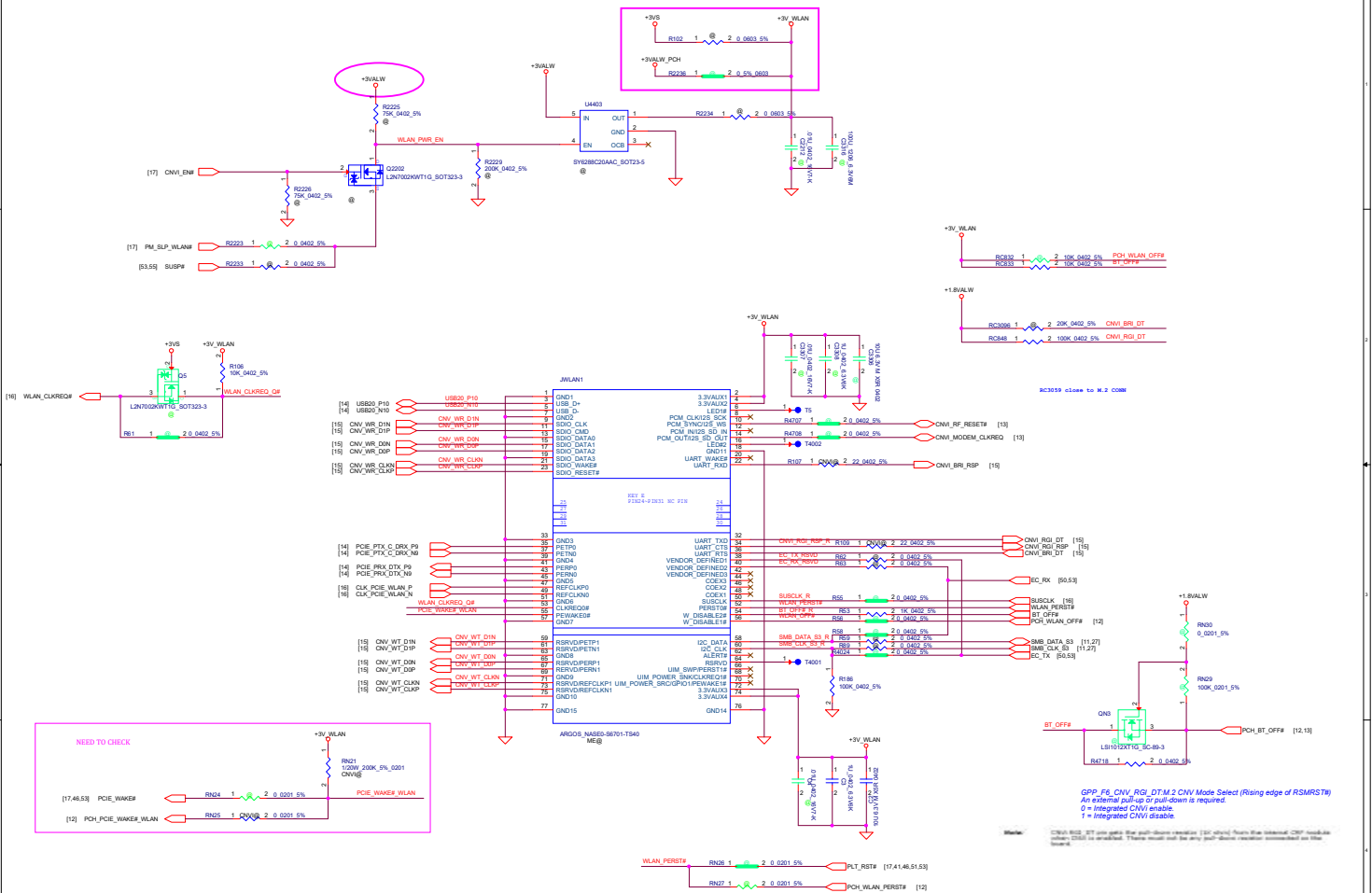
over temperature threshold:
RSET=3*RTMH
92+/-30C
Hysteresis temperature threshold.
RHYST=(RSET*RTML)/(3*RTML-RSET)
56+/-30C



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		Date	Wednesday, August 14, 2018 15:48:48

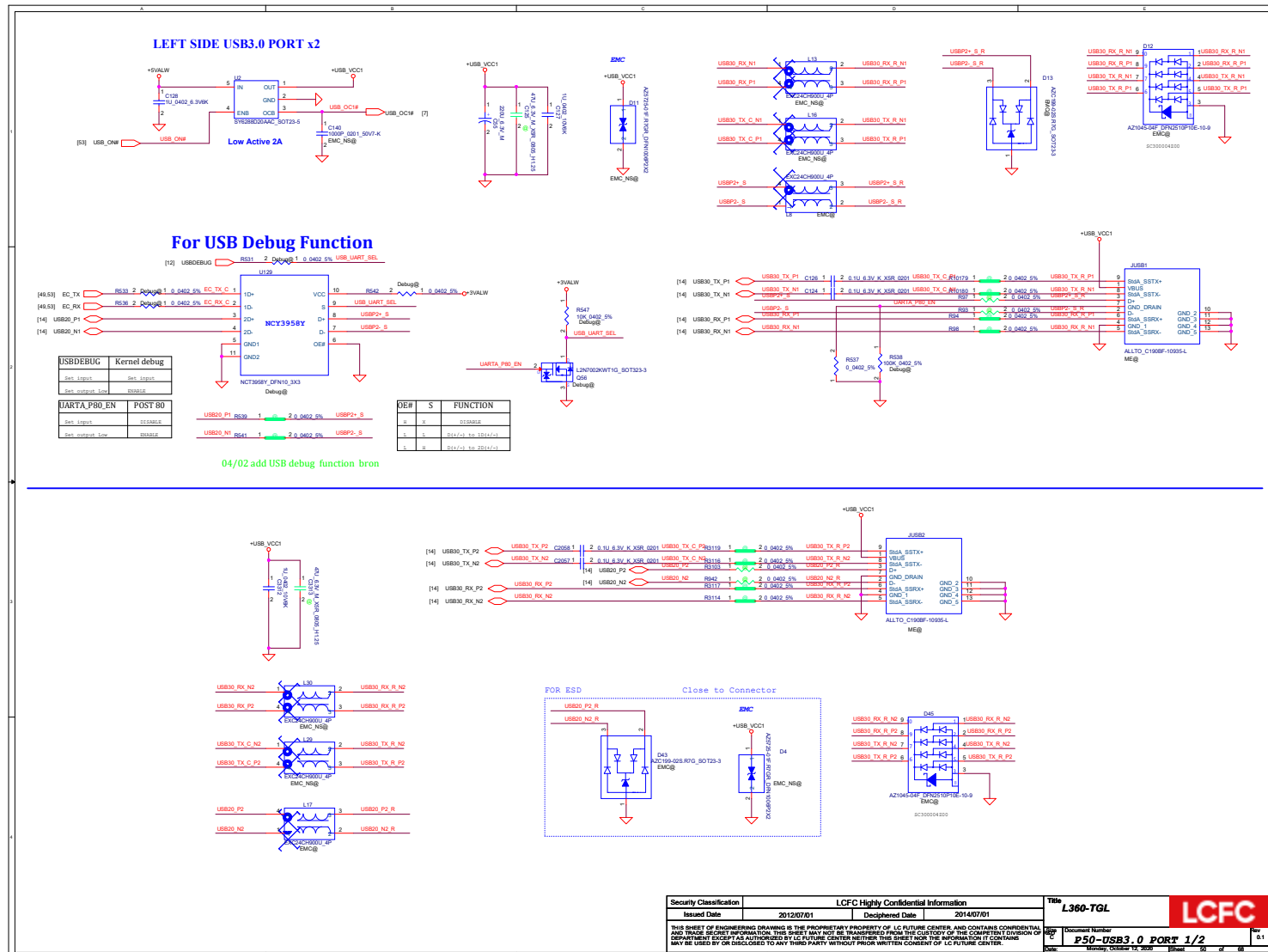
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Mini-Express Card(WLAN/WiMAX)



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		Monday, September 18, 2012		48 of 88	

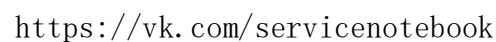
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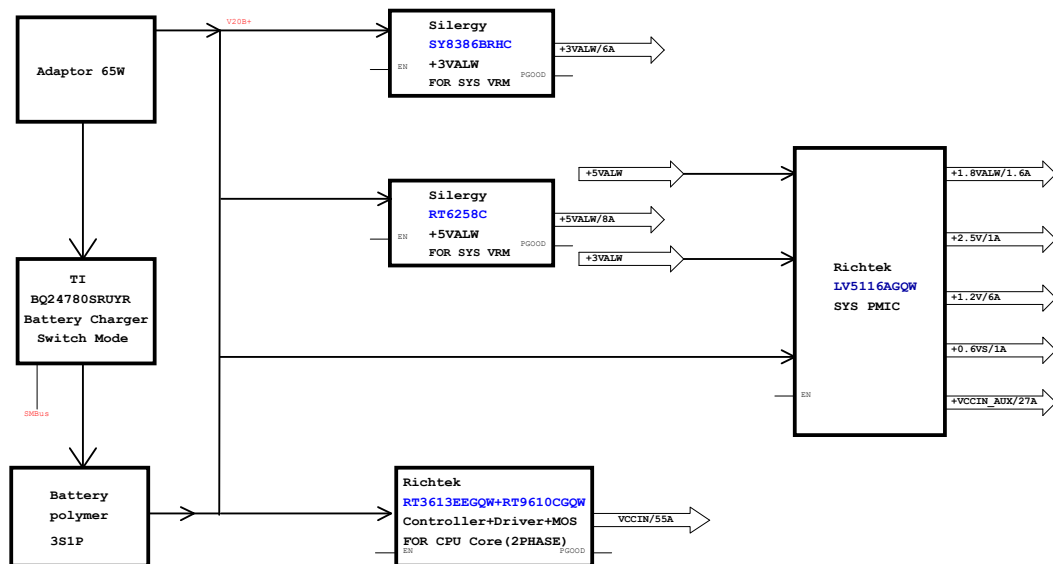
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Sheet		Document Number		P54-KBD/PWR/LSD/TCP Conn.				0.1	



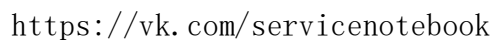
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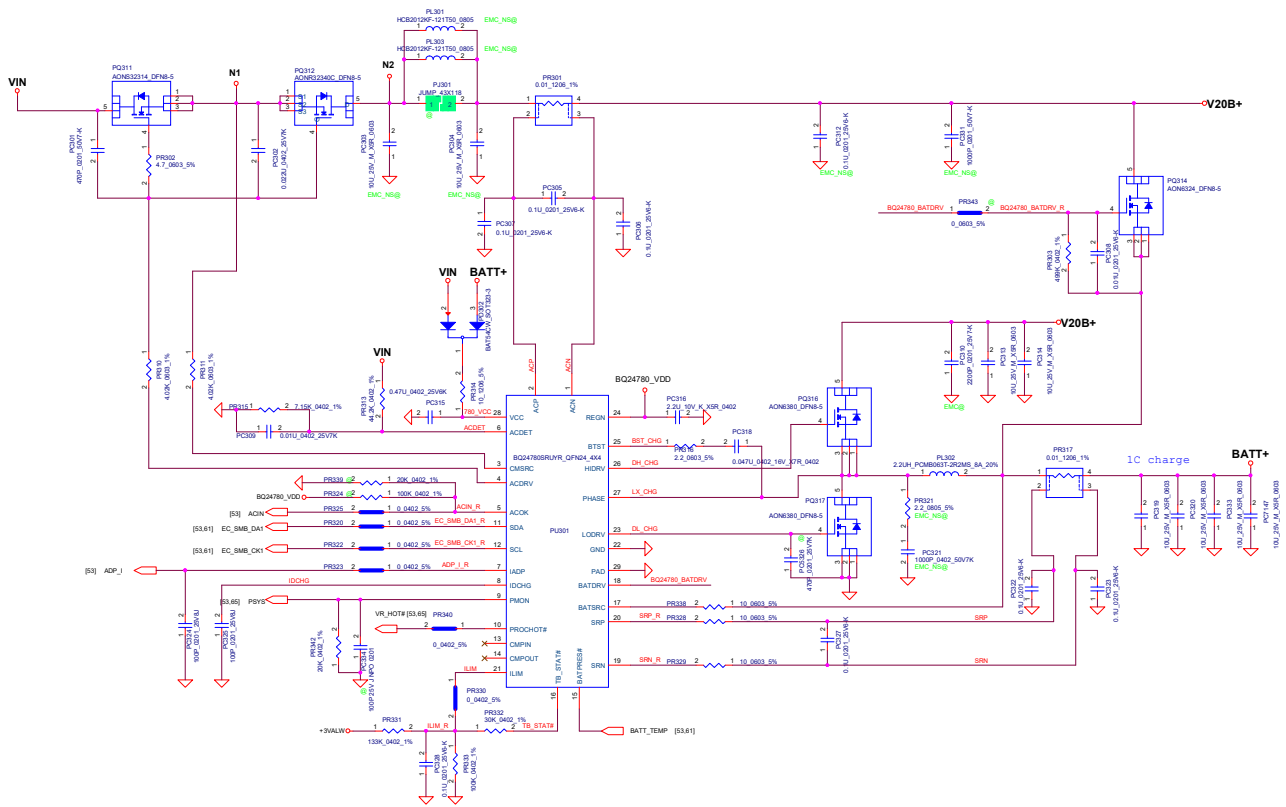
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Doc No	GS55C	Rev	03
Doc Name	POWER SUPPLY	Doc No	GS55C



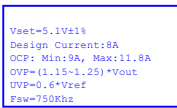
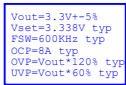
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








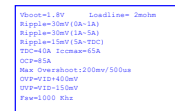
ACDECT setting 17.2V
 Charge current limit HW=7A
 DC discharge limit =26A
 Discharge current limit HW=9A during Turbo boost

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PWR-CHARGER			DocId: 100000000
Date: Monday, September 18, 2023 10:00 AM			DocId: 100000000

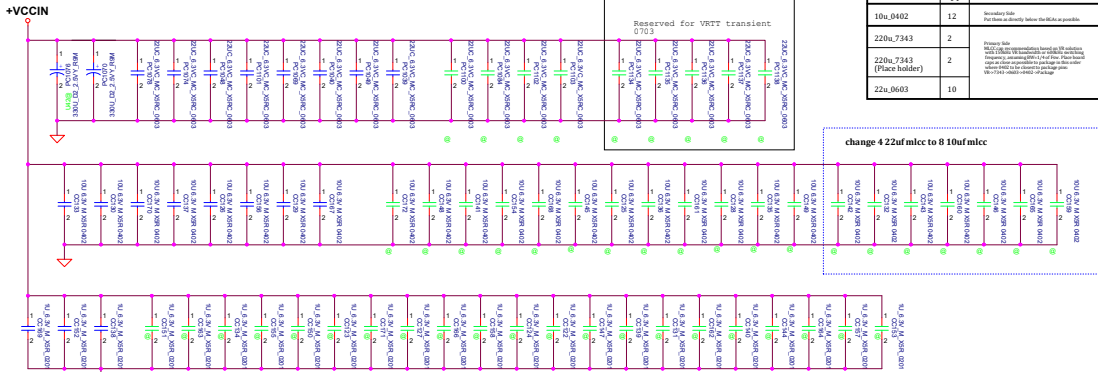


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VCCIN
PDG: 4*220UF+ 10*22UF+12*10UF
L360 TGL_U: 2*330UF+ 10*22UF+12*10UF+3*1UF



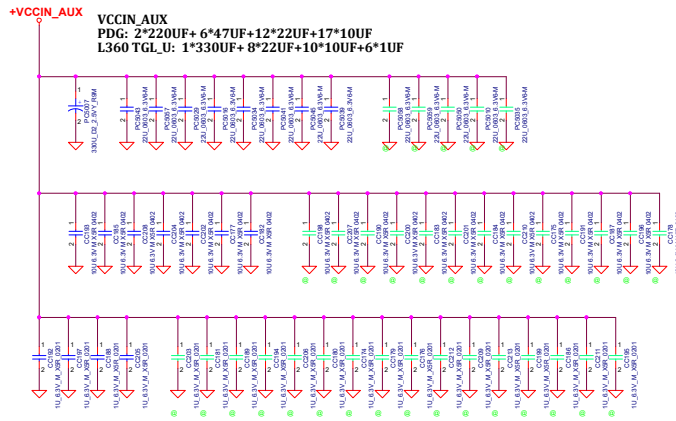
PDG: VCCIN

Value	Qty	Note
10u.0402	12	Resistor value
220u.7343	2	Capacitor value
220u.7343 (Flame holder)	2	Capacitor value
22u.0603	10	Capacitor value

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<p>PNR CPU PWR Decoupling</p>				01

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PDG: VCCIN_AUX

Value	Qty	Note
220u_7343	2	Primary filter plus 25V rating caps.
47u_0805	3	MLCC capacitor recommendation based on VR selection with 250Vdc VR bandwidth, or 600Vdc switching frequency exceeding 500V 7uF from package
47u_0805	3	Place holder
22u_0603	12	MLCC capacitor recommendation based on VR selection with 250Vdc VR bandwidth, or 600Vdc switching frequency exceeding 500V 7uF from package
10u_0402	17	Place holder
10u_0402	10	Secondary filter plus 25V rating caps.

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