

Compal Confidential

Model Name : ZIPS1

File Name : LA-A341P

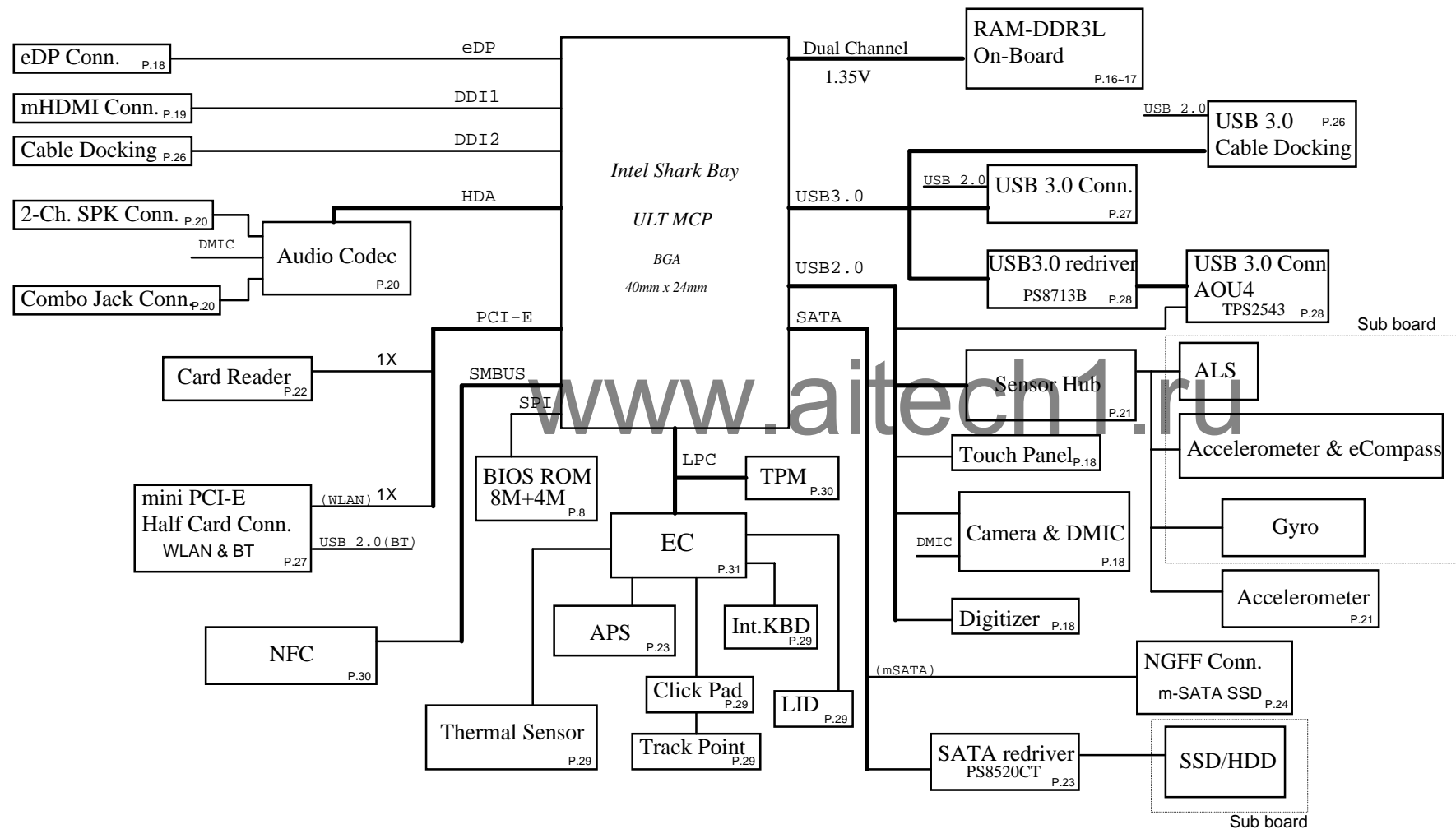
BOM P/N:

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Stella M/B Schematics Document  
www.aitech1.ru  
Intel Shark Bay ULT Processor with DDR3L

Rev. 1A\_20130902A

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## Voltage Rails

power plane	State	+B	+5VALW +3VALW	+1.35V	+5VS +3VS +1.5VS +VCCP +CPU_CORE  +0.675VS +1.05VS	+3VM +1.05VM
S0		O	O	O	O	O M3 Supported
S3		O	O	O	X	O M3 Supported
S5 S4/AC		O	O	X	X	O M3 Supported
S5 S4/ Battery only (AOU Disable)		X	X	X	X	
S5 S4/AC & Battery don't exist (AOU Disable)		X	X	X	X	

## EC SM Bus1 address

Device	Address	HEX
Smart Battery	0001 011X b	16H
Charger	0001 011X b	12H

## EC SM Bus2 address

Device	Address	HEX
Thermal Sensor Fintek F75303M	1001_101xb	9AH
Synaptics Inter Touch Click Pad	0010_110xb	2CH

## PCH SM Bus address

Device	Address	HEX
Security Rom	1010 100xb	A8H

STATE	SIGNAL	SLP_S1#	SLP_S3#	SLP_S4#	SLP_S5#	+VALW	+V	+VS	Clock
Full ON		HIGH	HIGH	HIGH	HIGH	ON	ON	ON	ON
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

## BOARD ID Table

Board ID	PCB Revision
0	0.1
1	
2	
3	
4	
5	
6	
7	

## BOM Structure Table

BTO Item	BOM Structure
Connector	ME@
EMI Mount	EMI@
dGPU	DIS@
Intel UMA	UMA@
AOAC	AOAC@
TPM	TPM@
SBA	SBA@
Non-SBA	NOSBA@
DRAM Option	DDR1@
Unpop	@
EMI Un-Mount	@EMI@

## USB 2.0 Port Table

USB 2.0	Port	3 External USB Port
	0	USB 3.0 Port + AOU (Left)
	1	USB 3.0 Port (Right)
	2	USB 3.0 Port (Docking)
	3	Mini Card (WLAN/BT)
	4	Touch Screen
	5	Camera
	6	Sensor Hub
	7	Digitizer

## USB 3.0 Port Table

Port	
1	USB 3.0 Port (Left)
2	USB 3.0 Port (Right)
3	USB 3.0 Port (Docking)
4	

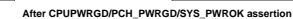
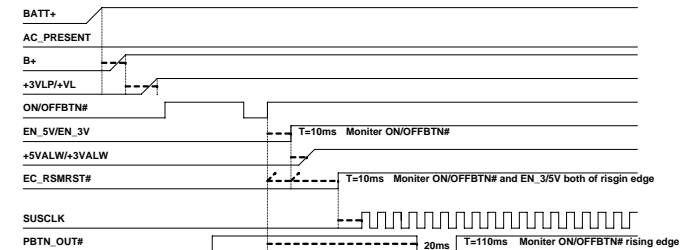
## PCIe Port Table

Port	Lane	
1		
2		
3		WLAN
4		Cardreader
5	0	
	1	
	2	
	3	
6	0	
	1	
	2	
	3	

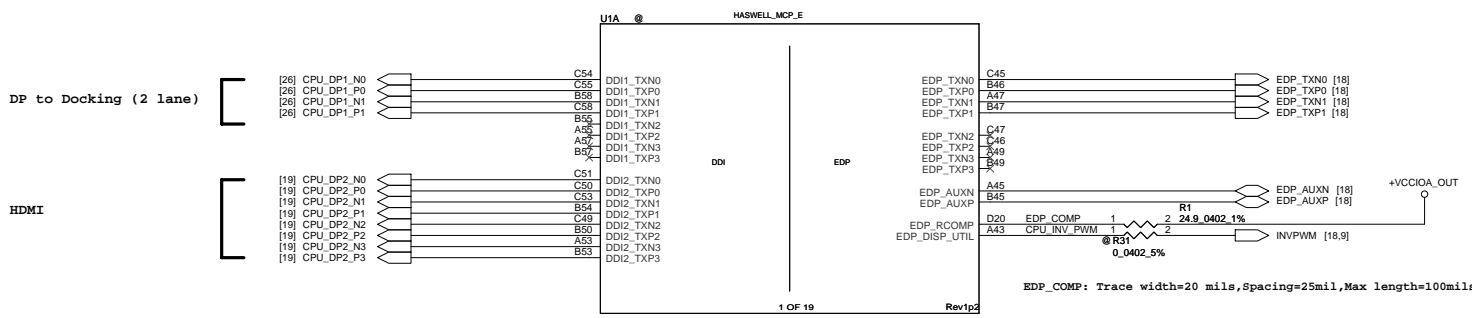
## SATA Port Table

Port	
0	HDD
1	NGFF SSD
2	
3	

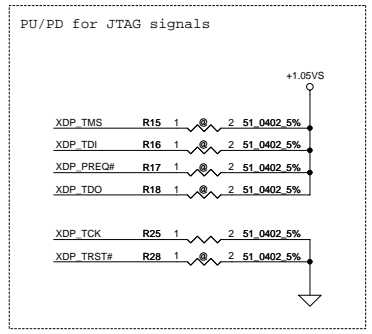
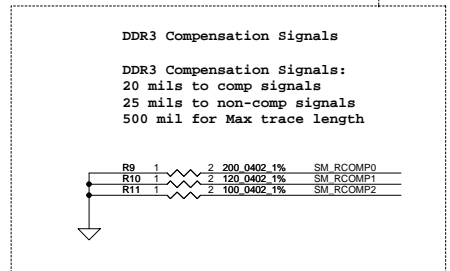
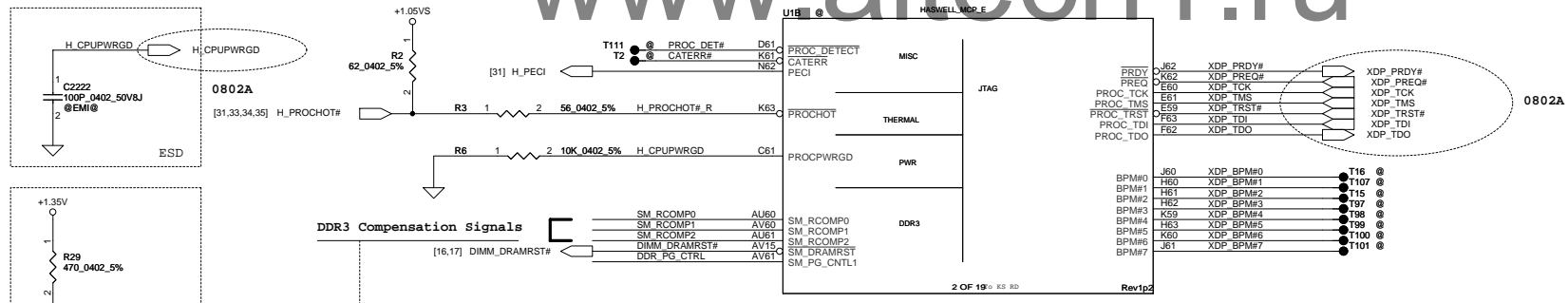
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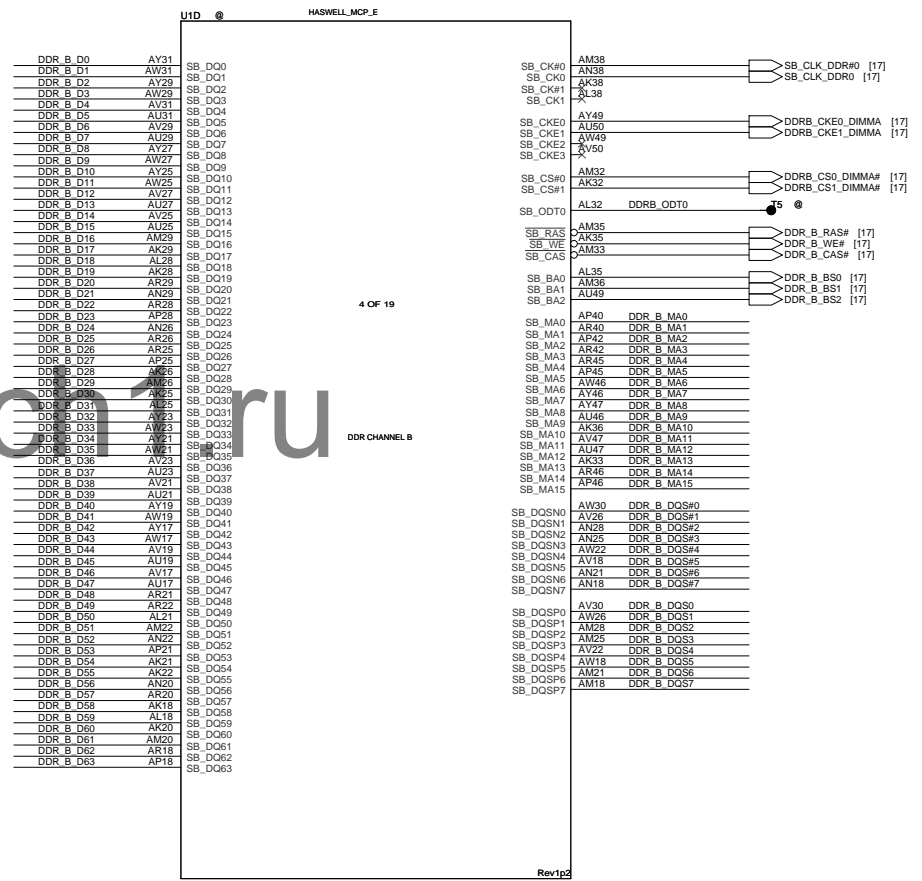
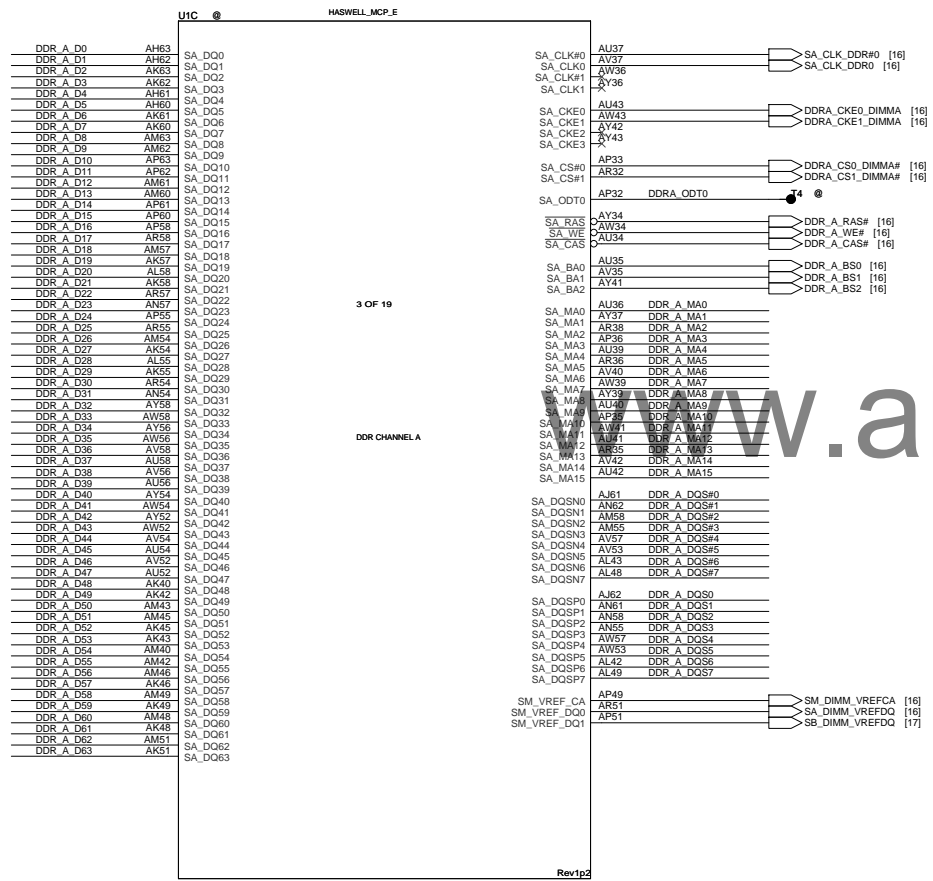
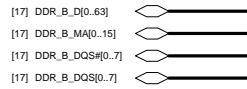
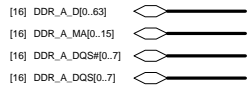


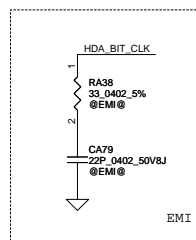
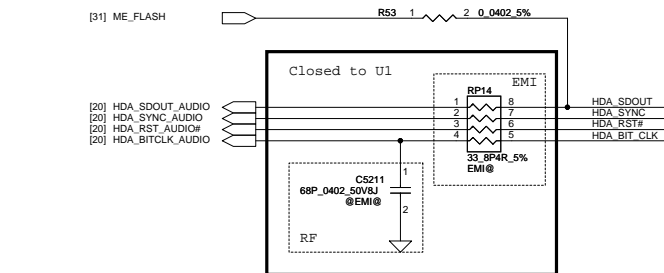
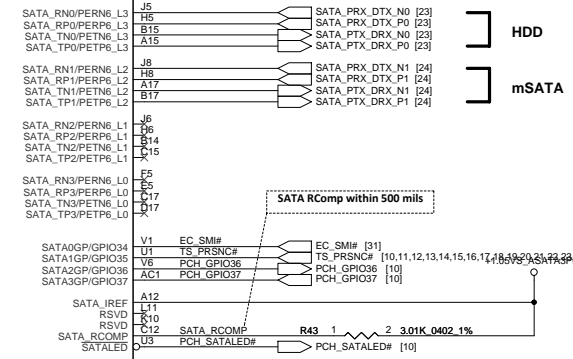
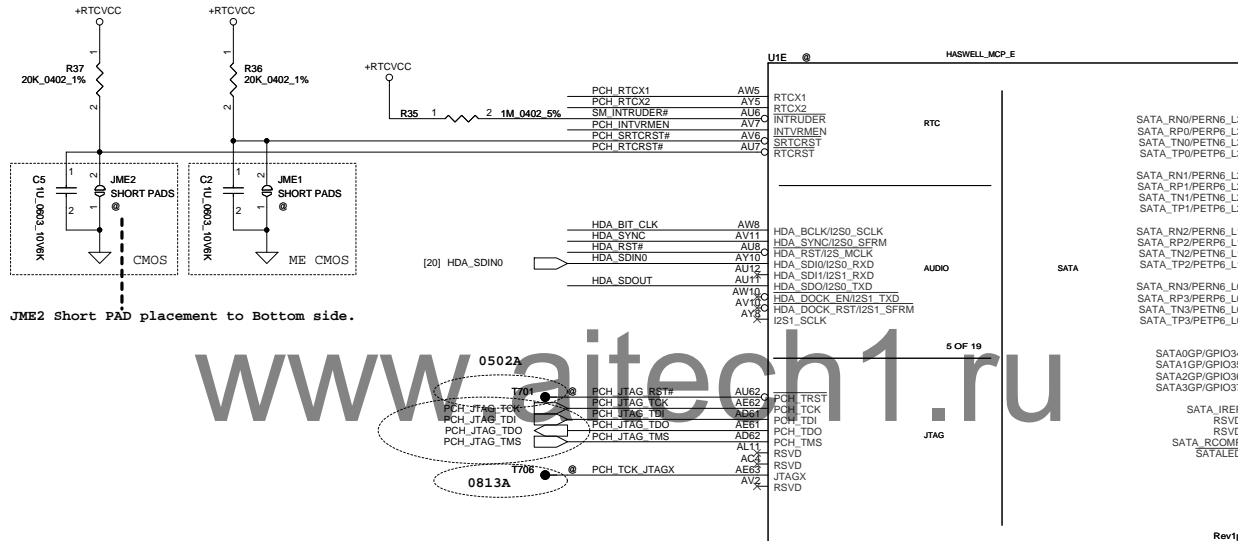
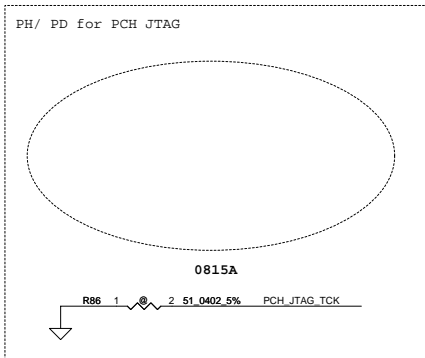
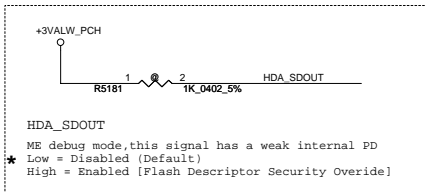
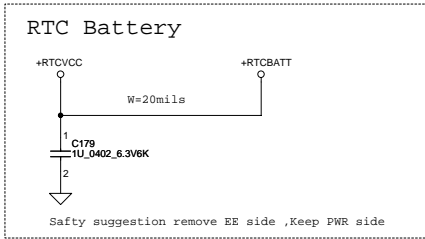
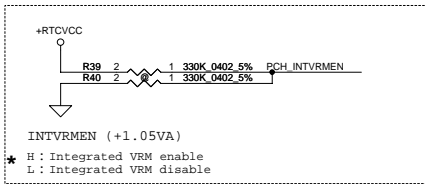
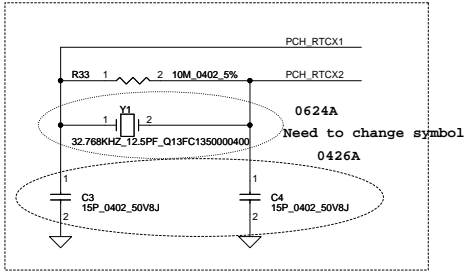
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Memory I/F



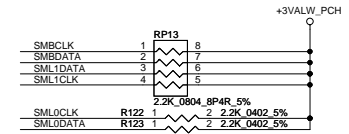
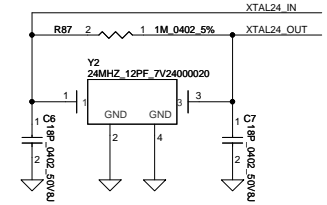
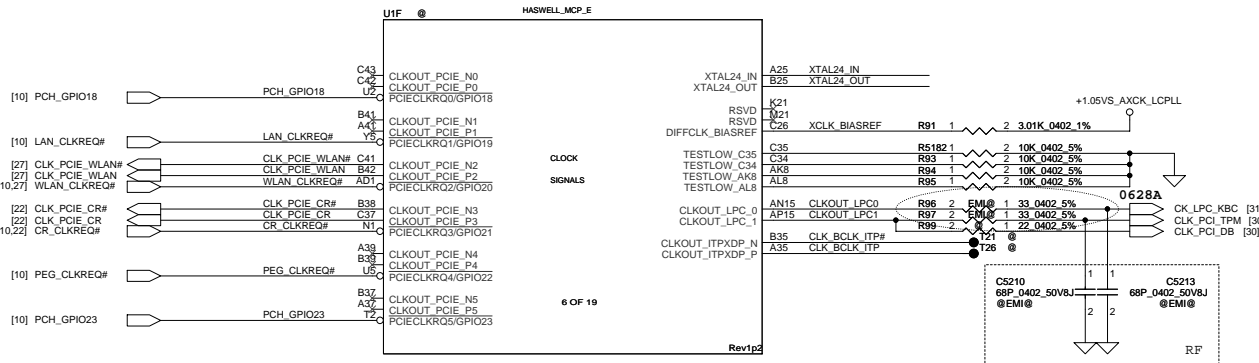


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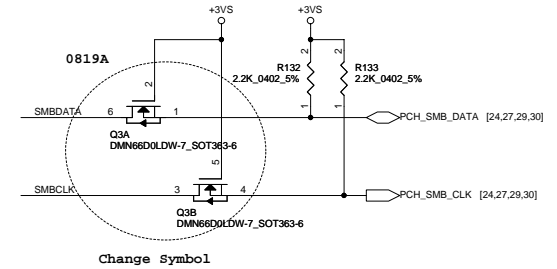
# CLK/ SPI/ SMBUS

WLAN

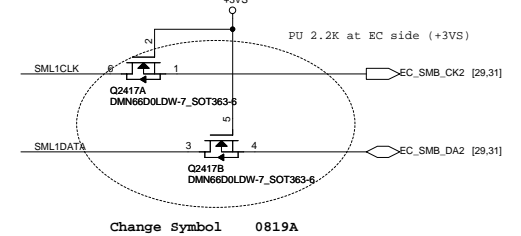
Card Reader



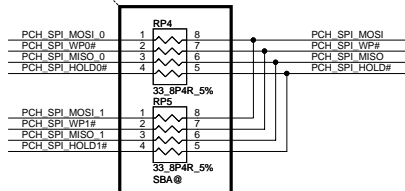
SMBus :SPD/PCIE/Security/TP/NFC



SML1 Bus :EC/Sensors



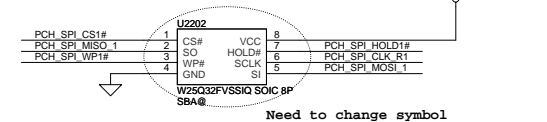
SBA - 2 SPI Device = 33 ohm - P/N: SD309330A80  
Non-SBA - 1 SPI Device = 15 ohm - P/N: SD300001P00



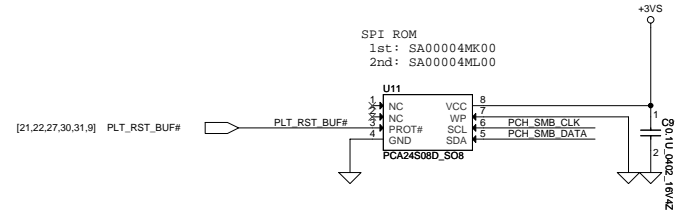
SPI ROM (8M)

SPI ROM 8MB  
1st: SA000039A30 - Winbond  
2nd: SA000046400 - E-ON  
SPI ROM 4MB  
1st: SA00003K820 - Winbond  
2nd: SA00004LI00 - E-ON

SPI ROM (4M)



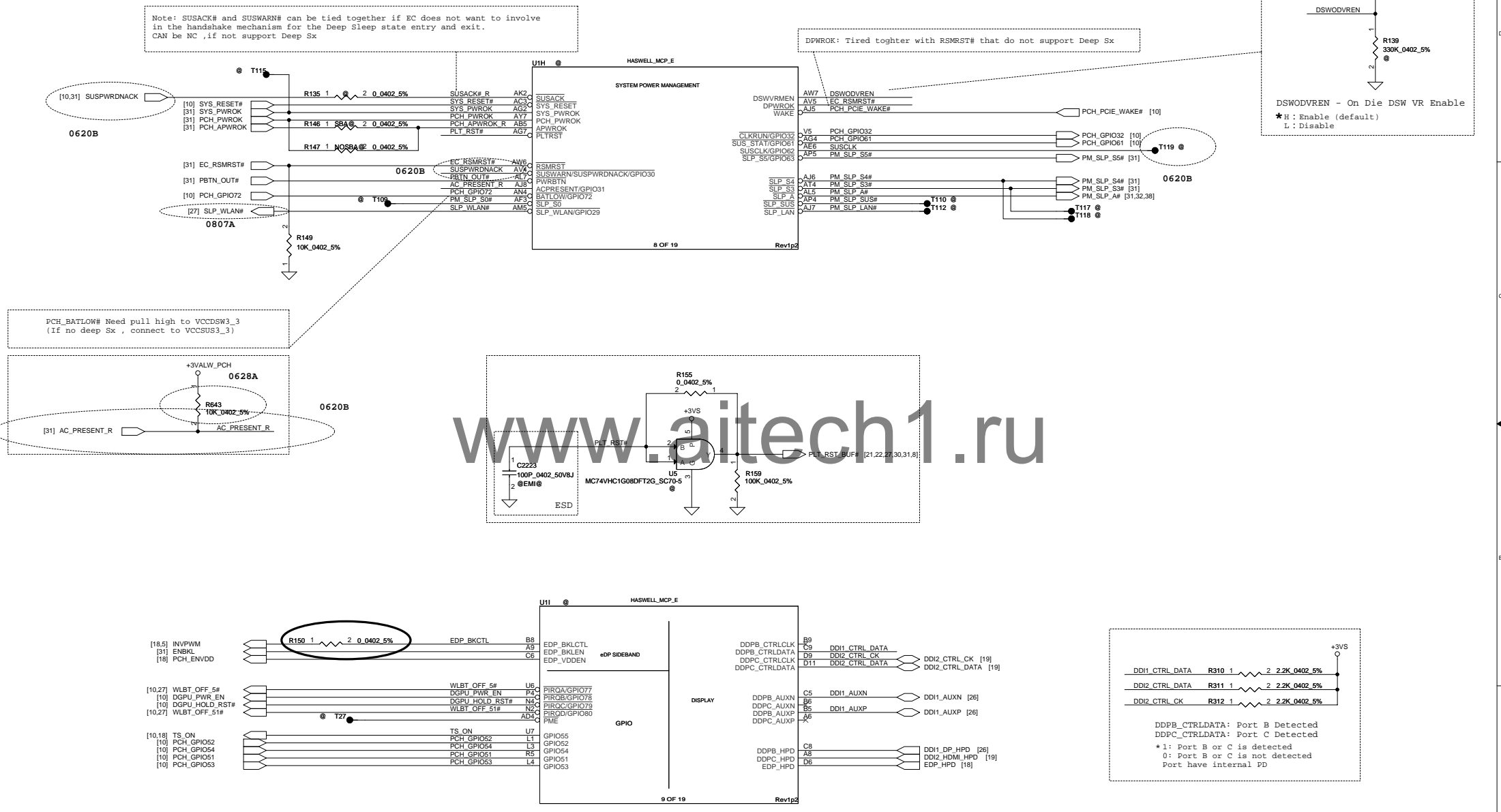
Security ROM



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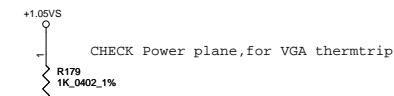
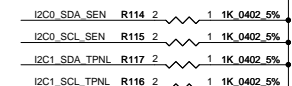


PM/ GPIO/ DDI

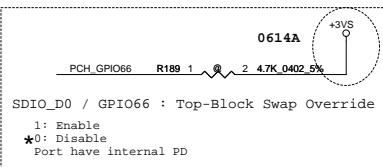
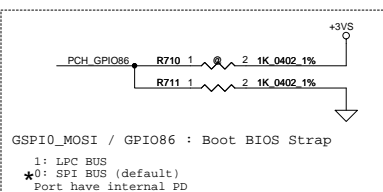
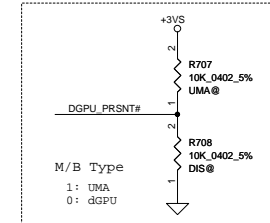


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# GPIO/ LPIO



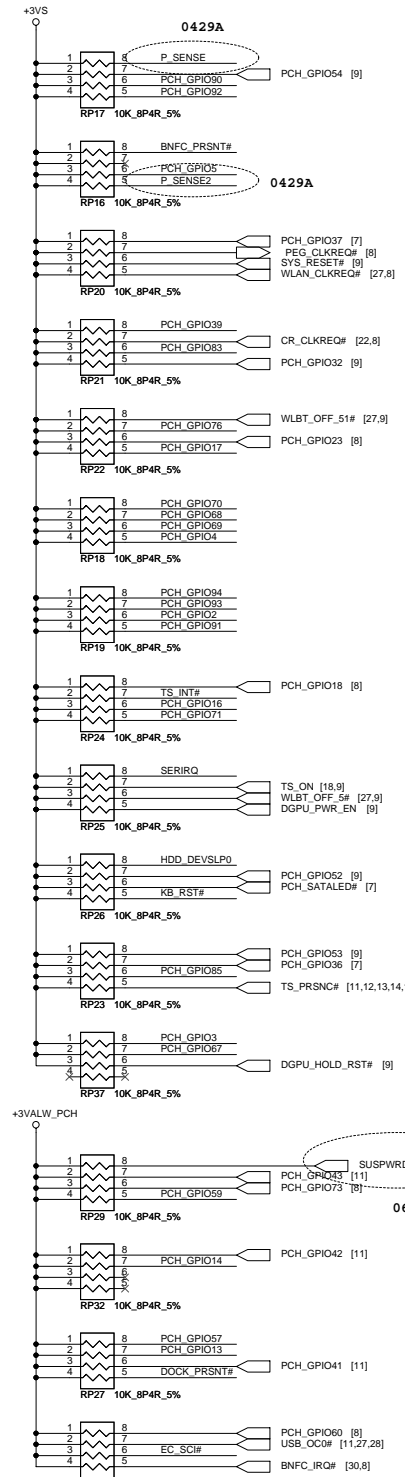
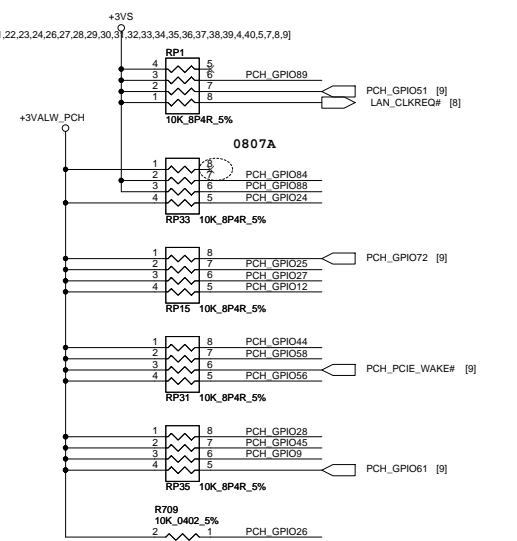
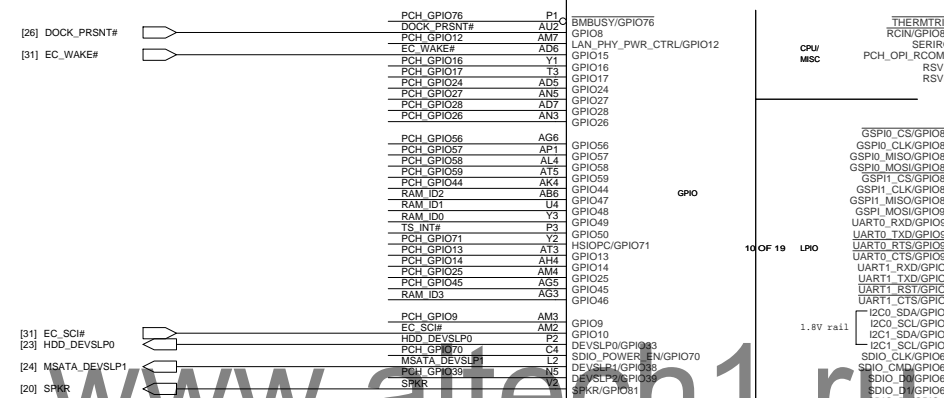
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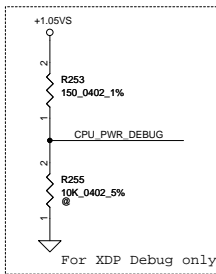
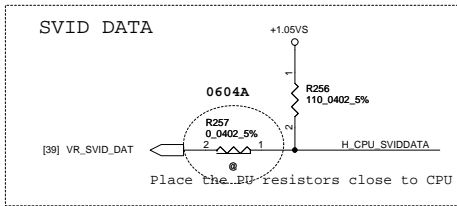
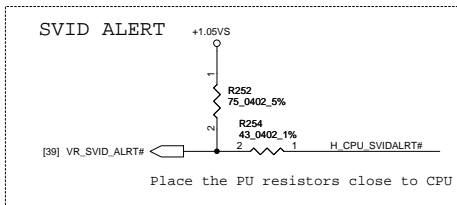
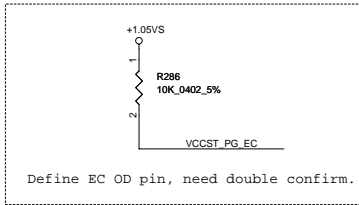
RAM_ID3 GPIO46	RAM_ID2 GPIO47	RAM_ID1 GPIO48	RAM_ID0 GPIO49	RAM
0	0	0	0	HYNIX 4GB
0	0	0	1	SAMSUNG 4GB
0	0	1	0	MICRON 4GB
0	0	1	1	ELPIDA 4GB
0	1	0	0	SAMSUNG 8GB
0	1	0	1	ELPIDA 8GB
0	1	1	0	MICRON 8GB
0	1	1	1	HYNIX 8GB
1	0	0	0	TBD
1	0	0	1	TBD
1	0	1	0	TBD
1	0	1	1	TBD
1	1	0	0	TBD
1	1	0	1	TBD
1	1	1	0	TBD
1	1	1	1	TBD

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GPIO15 : TLS Confidentiality  
 1: Intel ME TLS with confidentiality  
 0: Intel ME TLS with no confidentiality  
 Port have internal PD

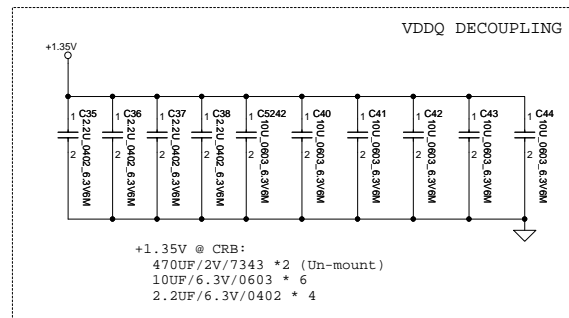
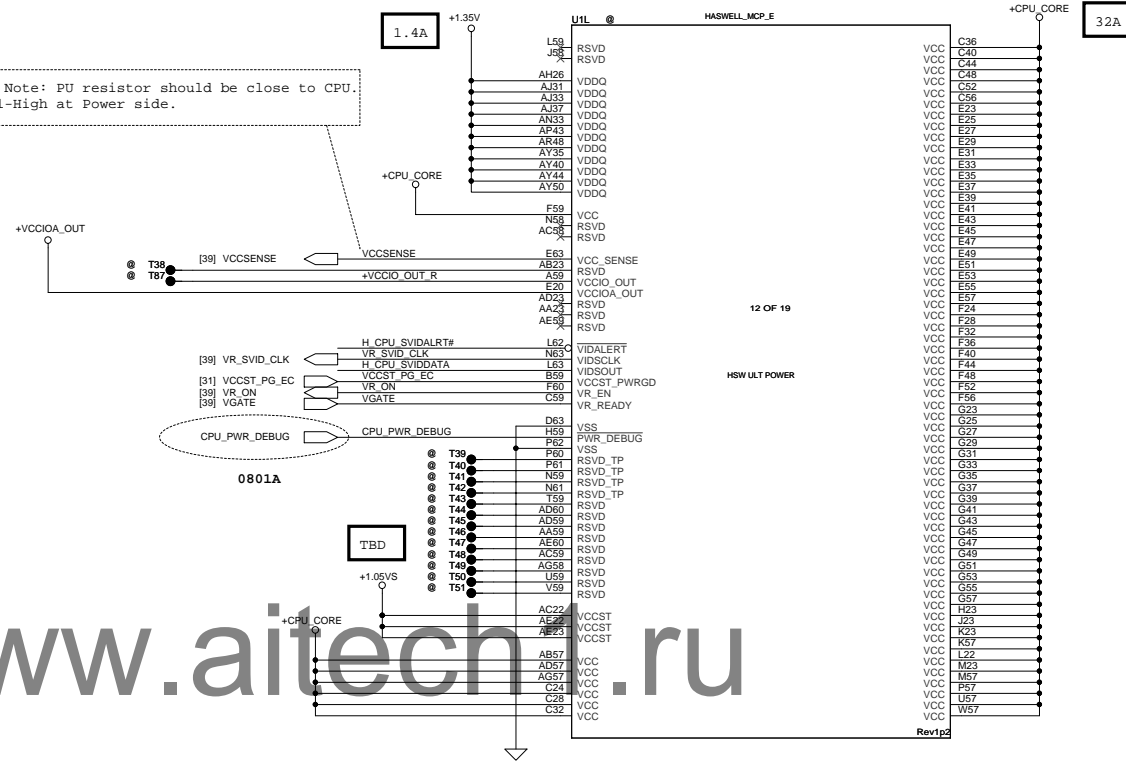






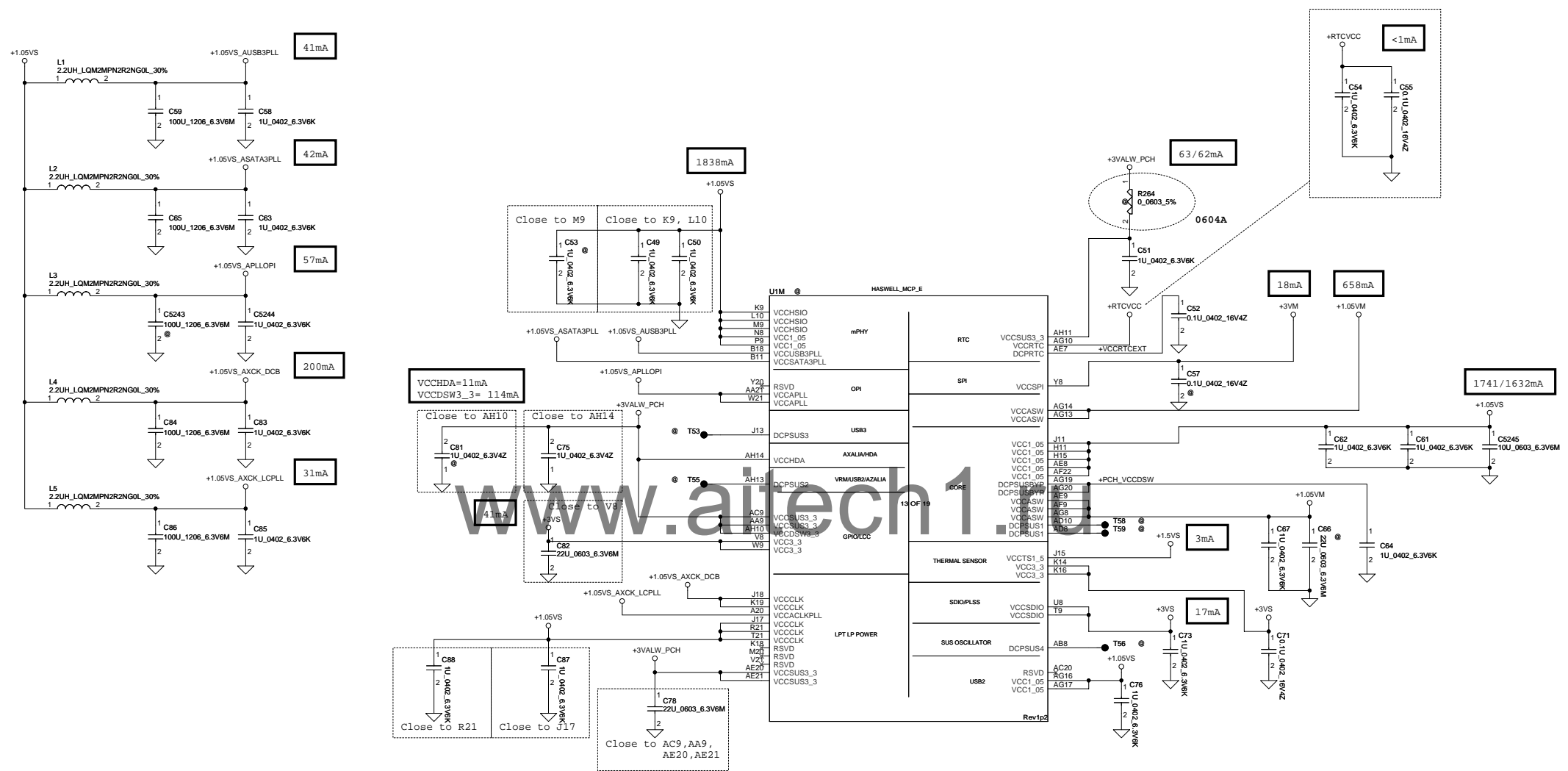
CAD Note: PU resistor should be close to CPU.  
Pull-High at Power side.

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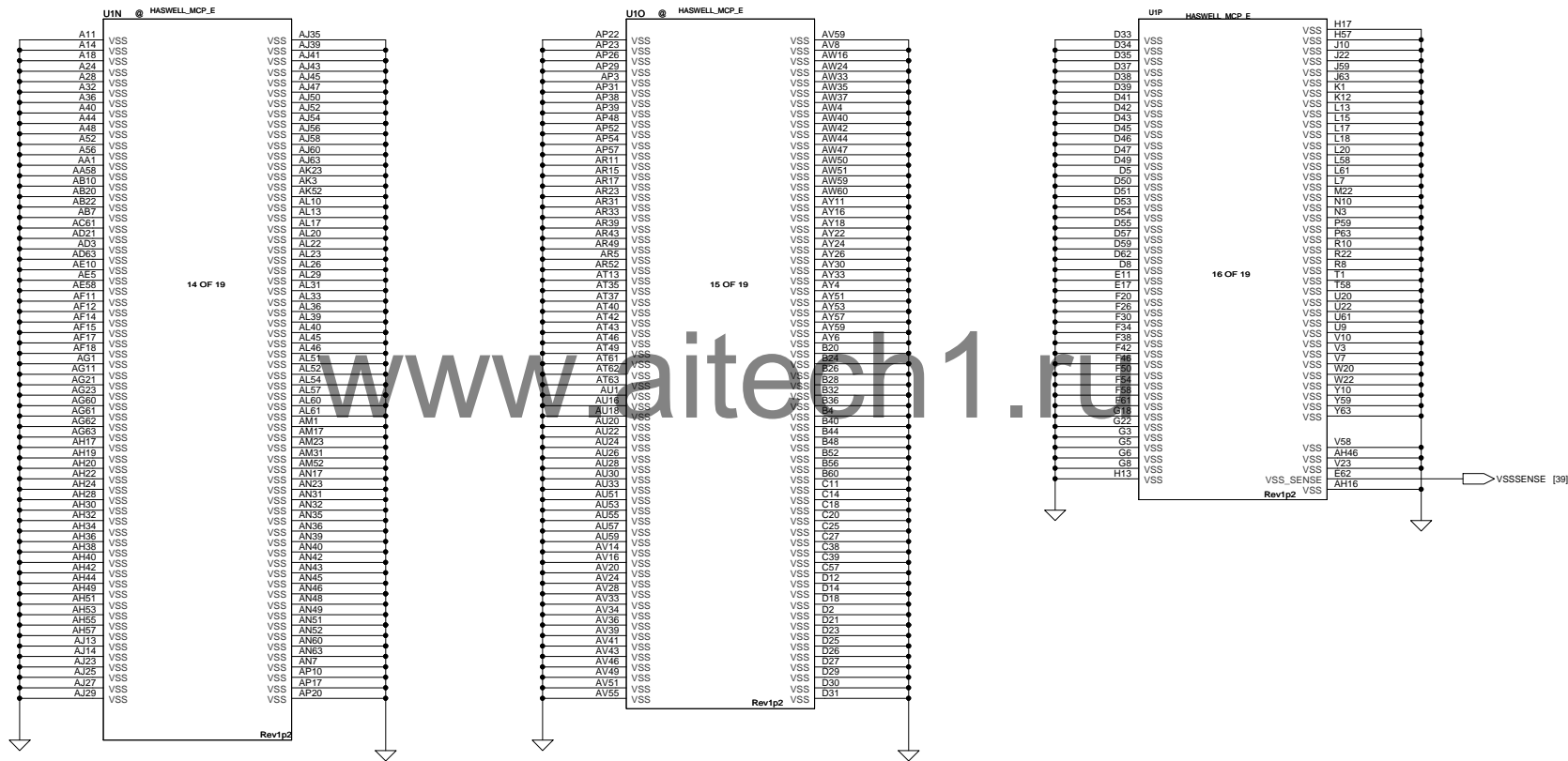
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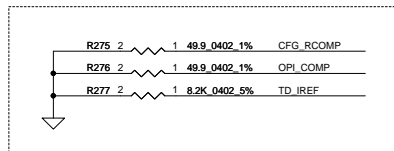
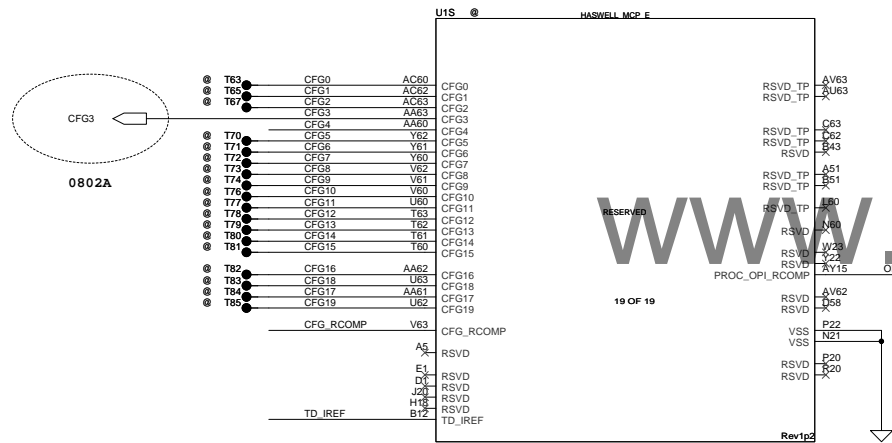
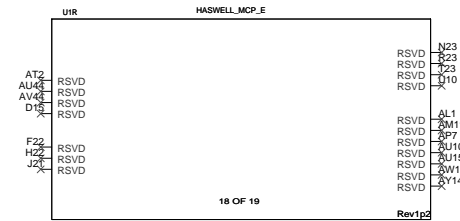
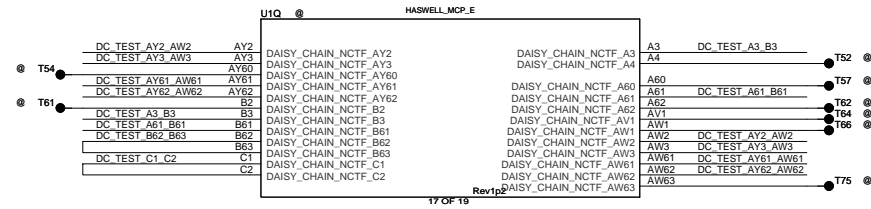
Power



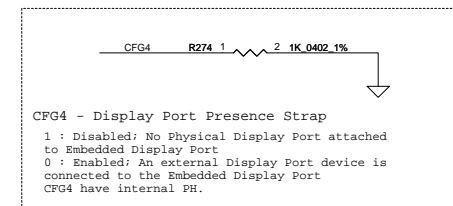
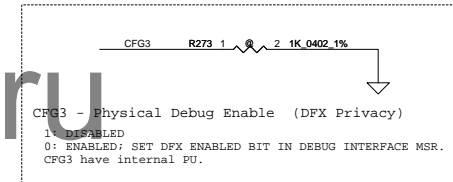
Only available on External Suspend VR powered.  
DcpSus1= 109mA  
DcpSus2= 25mA  
DcpSus3= 10mA  
DcpSus4= 1mA

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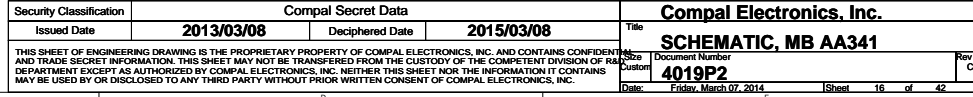




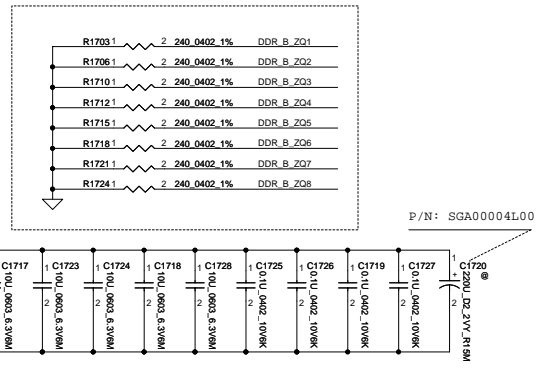
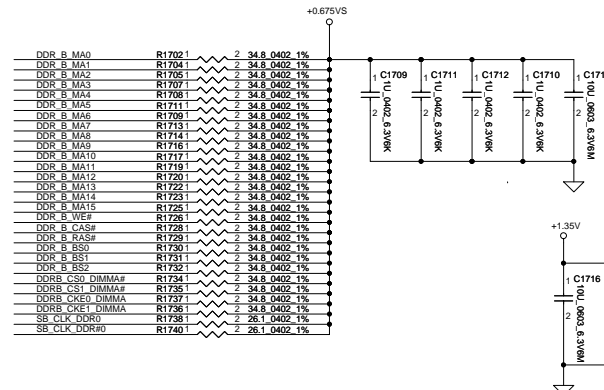
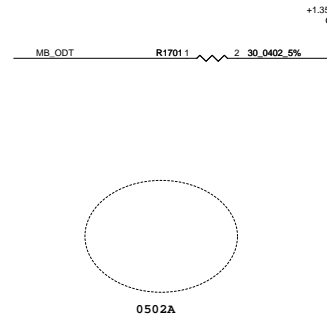
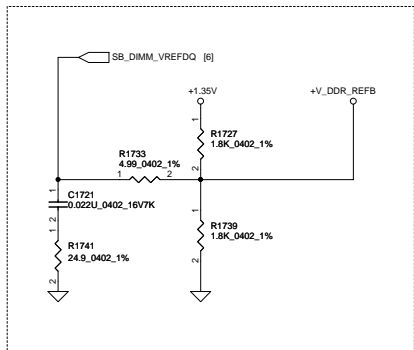
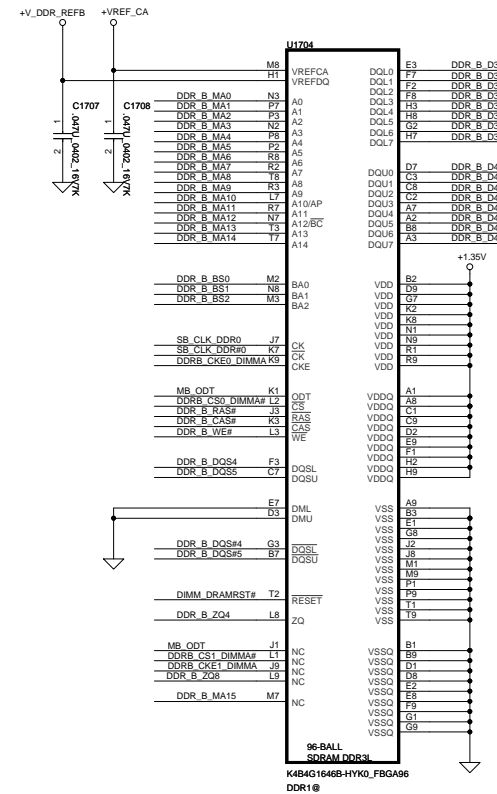
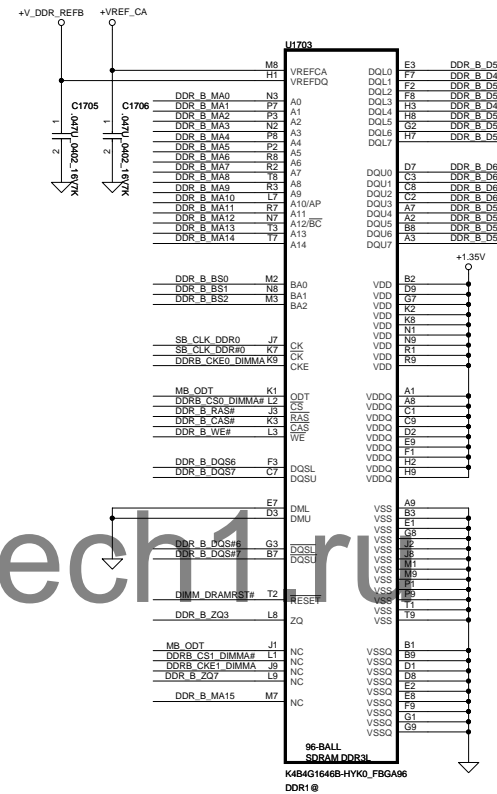
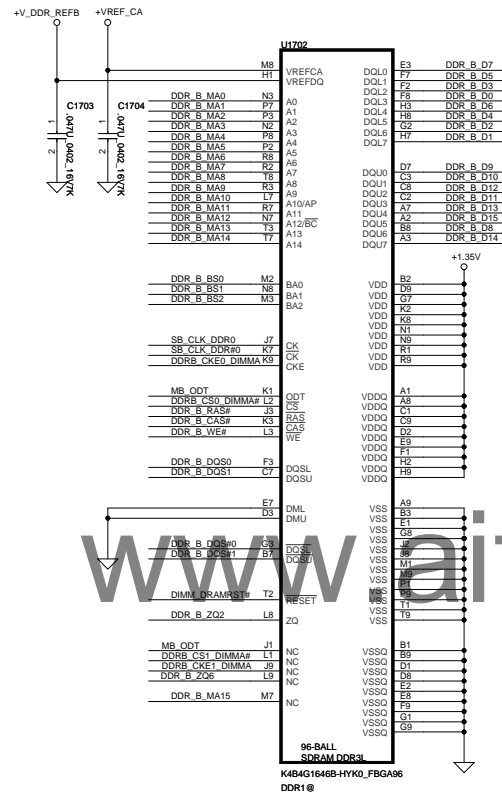
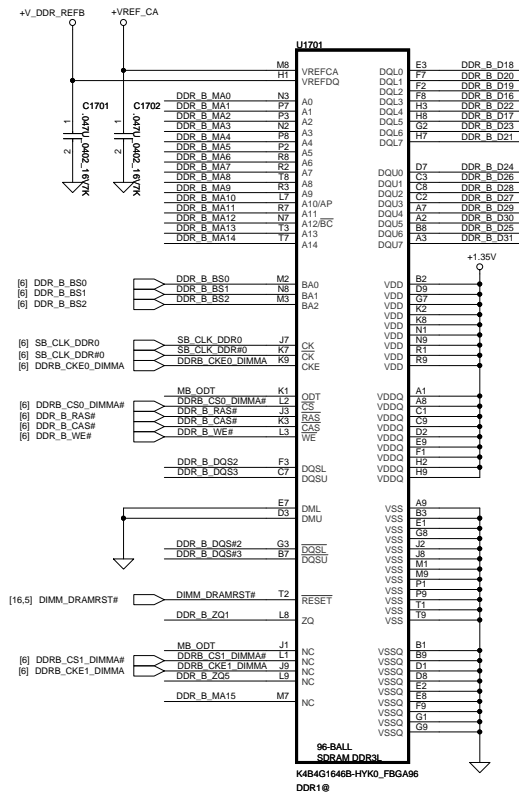
### CFG Straps for Processor



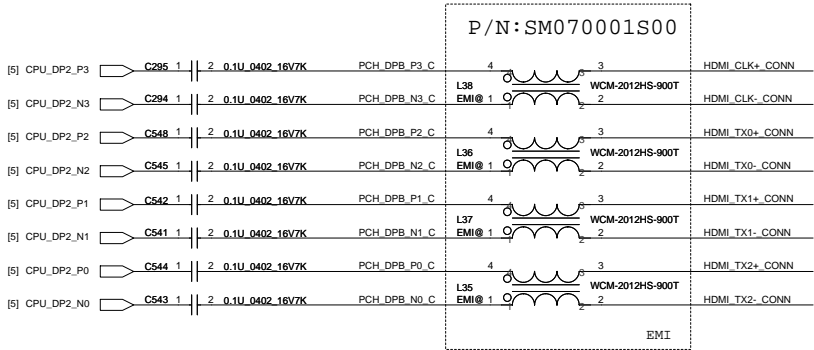
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Issued Date		2013/03/08		Deciphered Date		2015/03/08			
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				Size		Document Number		Rev	
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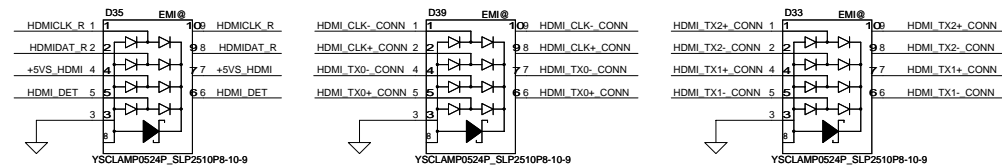
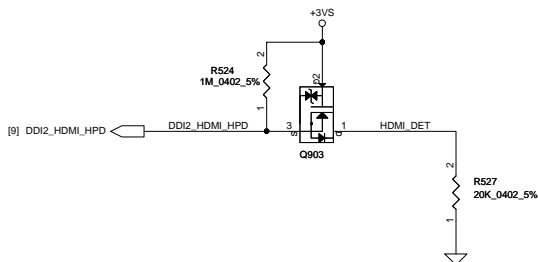
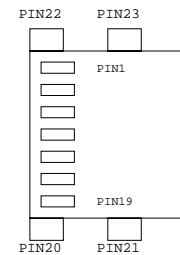
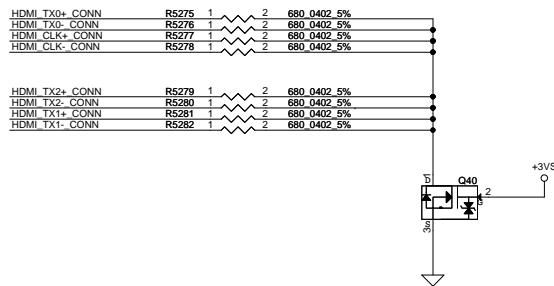
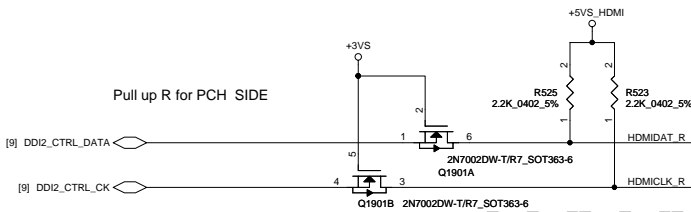
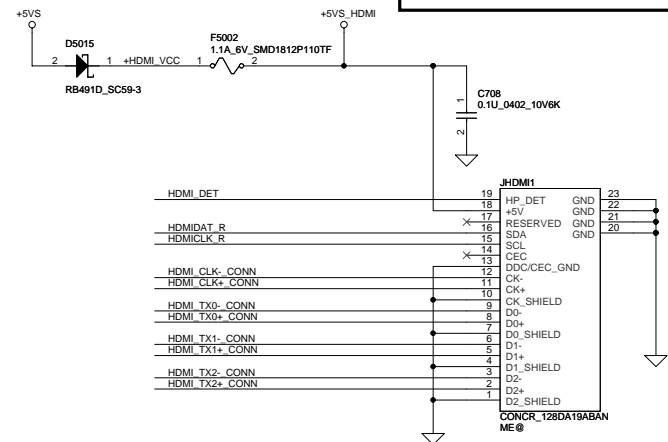








P/N: SP060005JB0  
TYPE C Connector



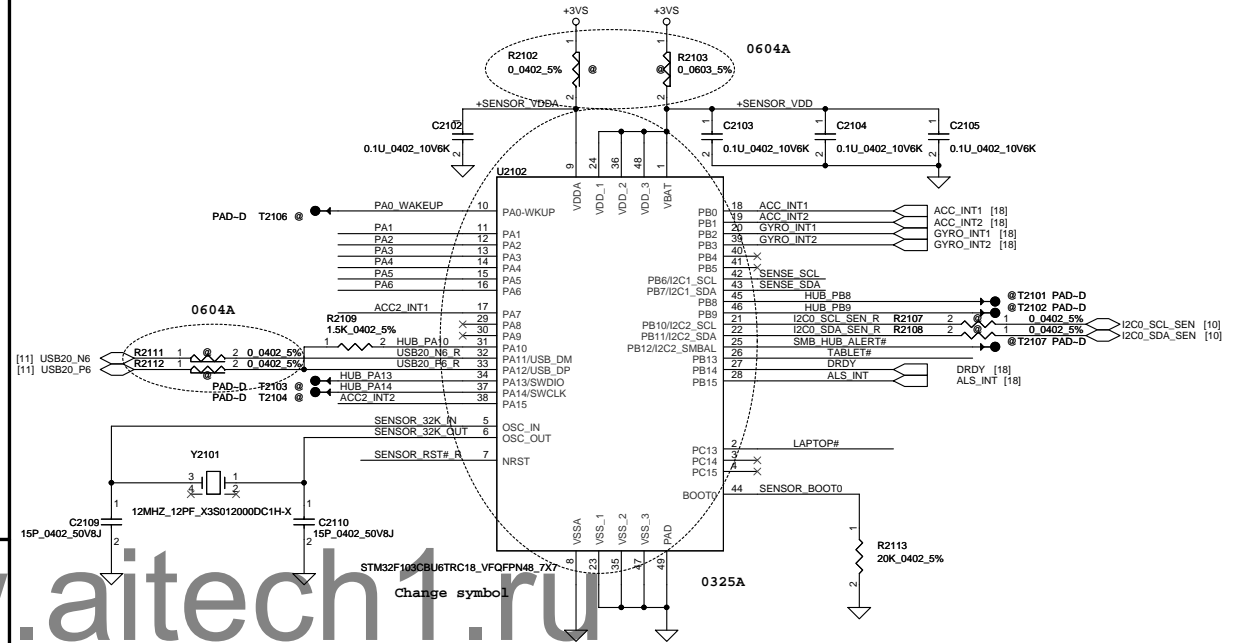
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ESD

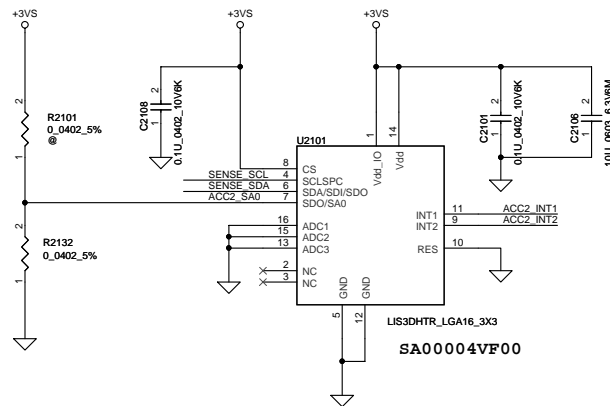
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Issued Date	2013/03/08	Deciphered Date	2015/03/08	Title	SCHEMATIC, MB AA341
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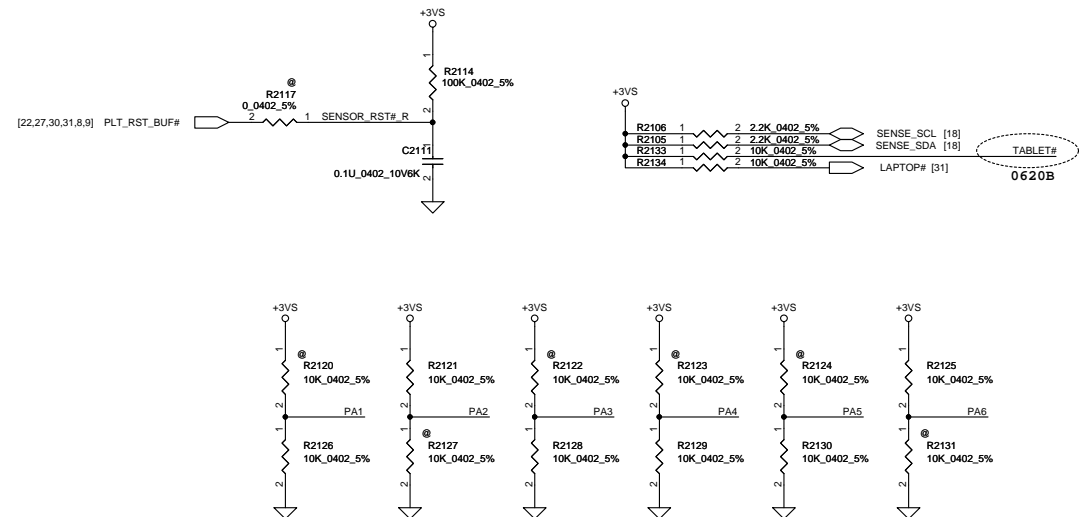
# Sensor Hub



## 2nd G-sensor

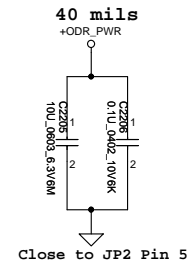
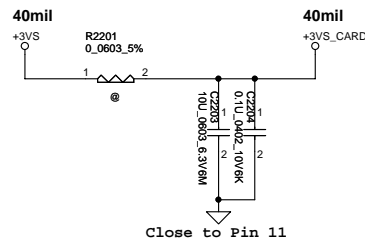
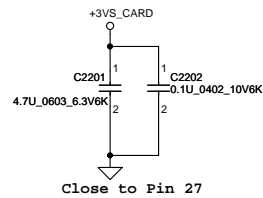


	ACC2_SA0
H	0x33h 0x32h
L	0x31h 0x30h

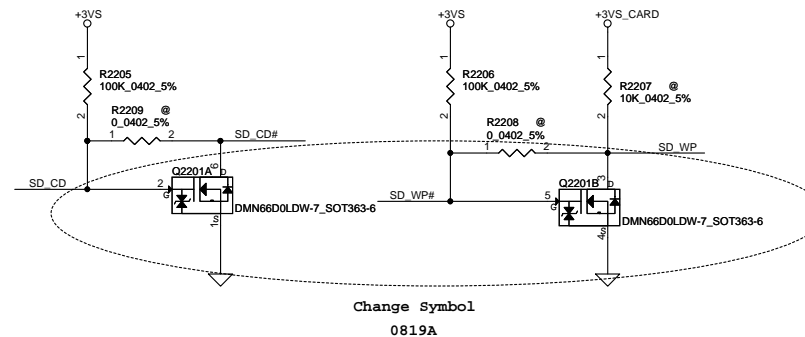
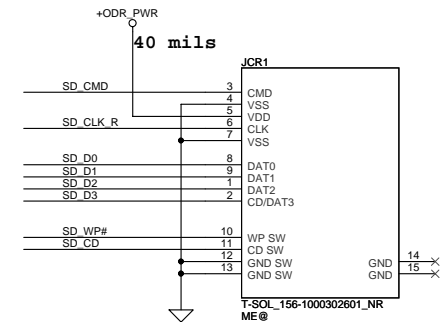
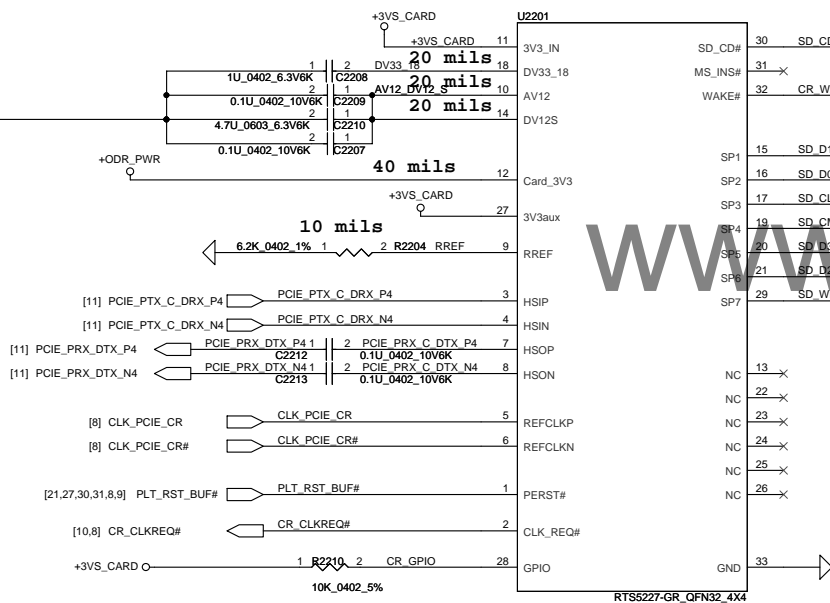


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Card Reader  
RTS5227-QFN32

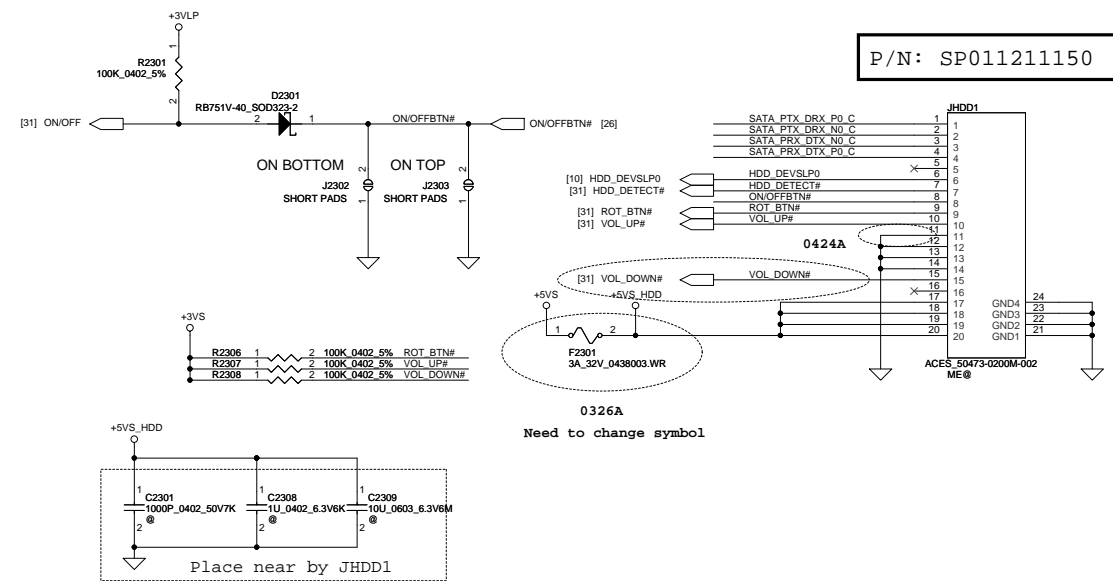


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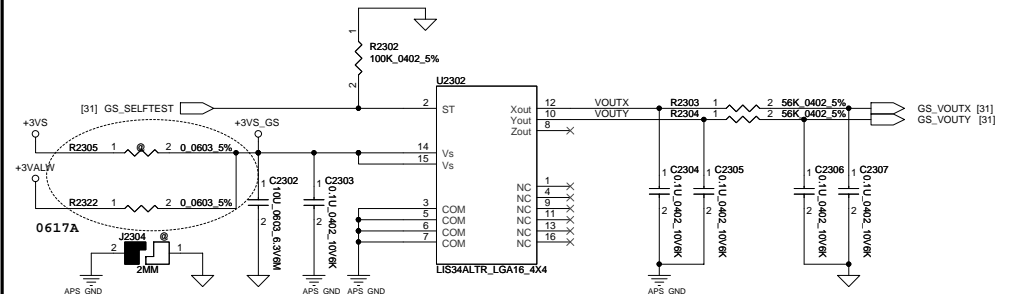


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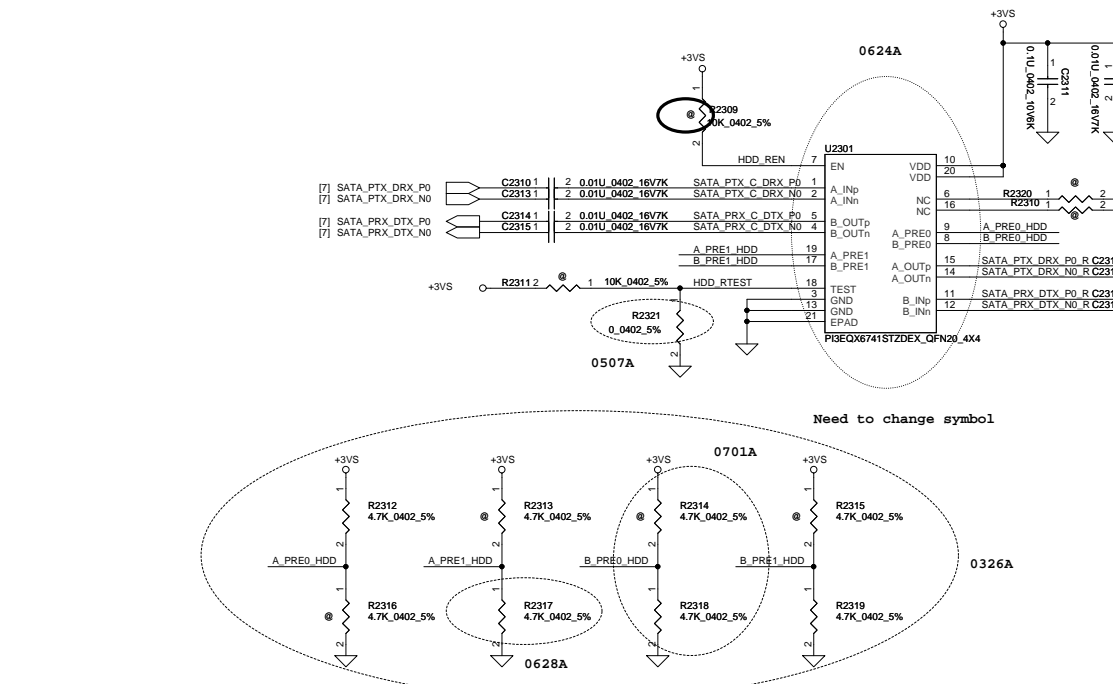
SATA HDD WTB Conn



APS G-Sensor



HDD SATA Redriver



www.aitech1.ru

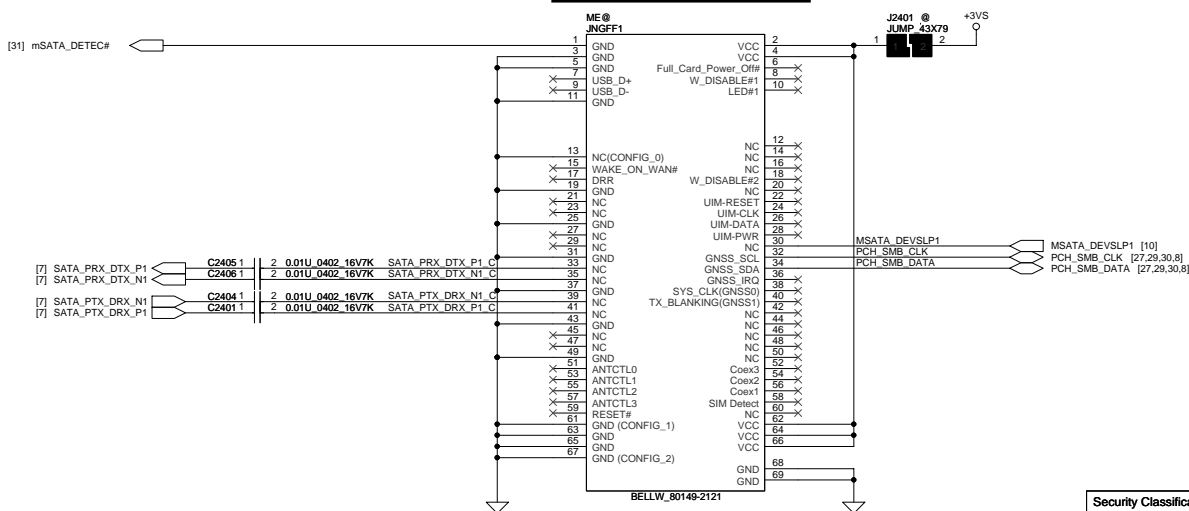
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NGFF SATA Redriver

NGFF mSATA Conn

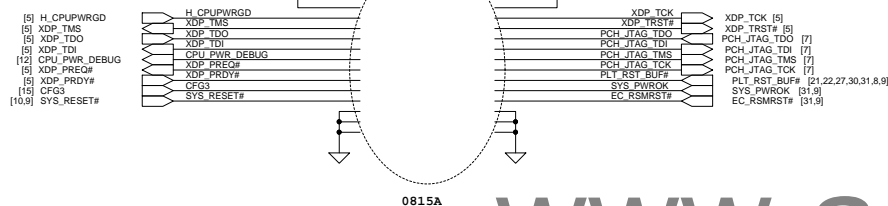
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P/N: SP071212280



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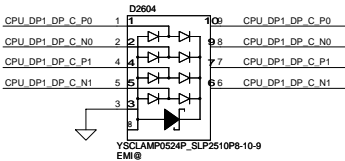
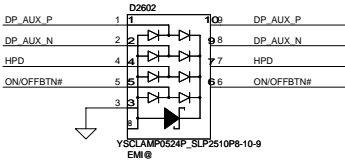
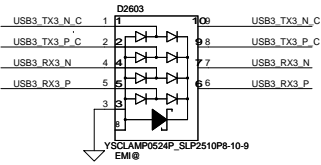
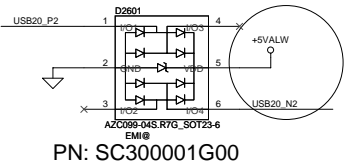




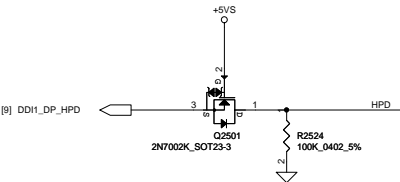
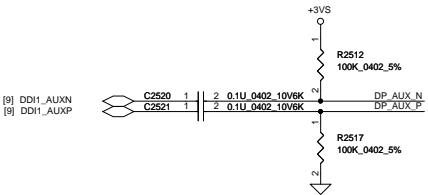
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Docking (USB3.0)

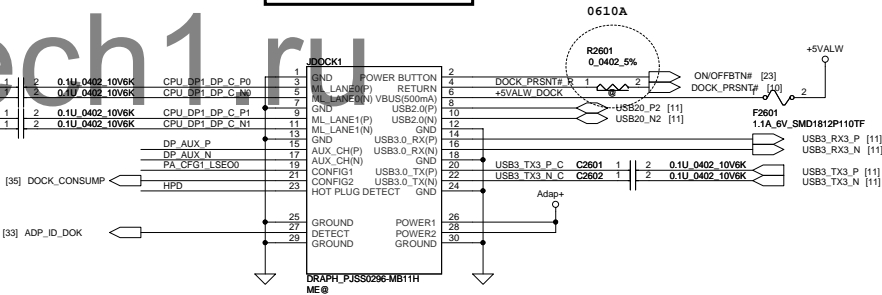


Docking (Display Port)

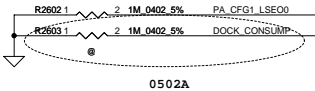


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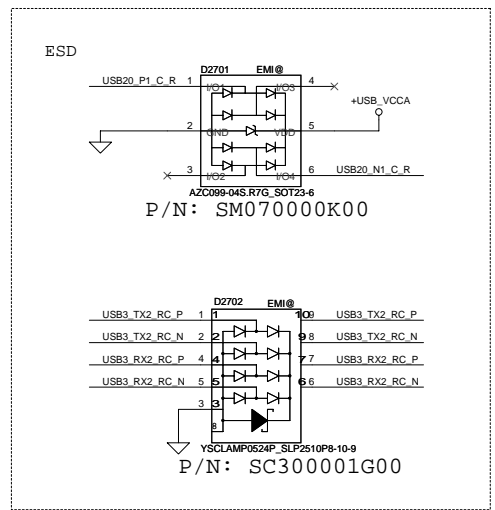
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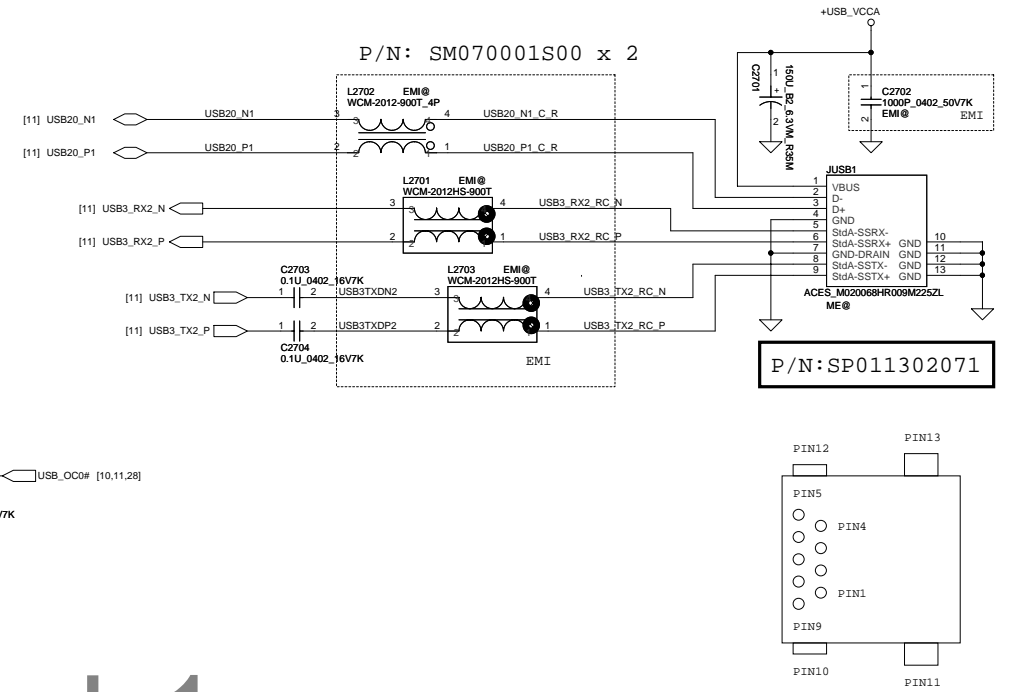
Footprint: DRAPH\_PJSS0296-MB11H\_24P-T



USB30 Conn



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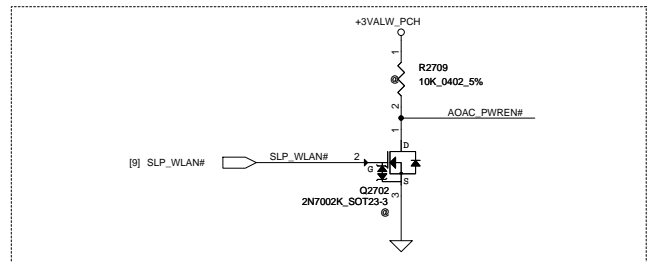
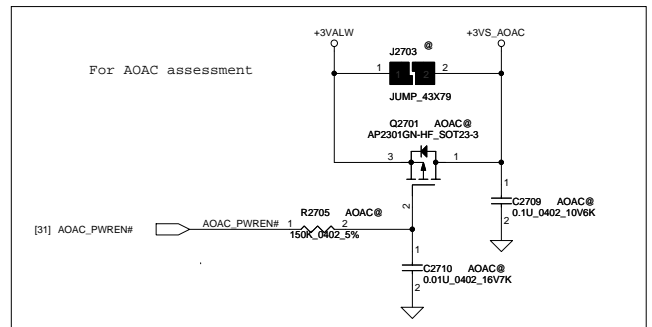
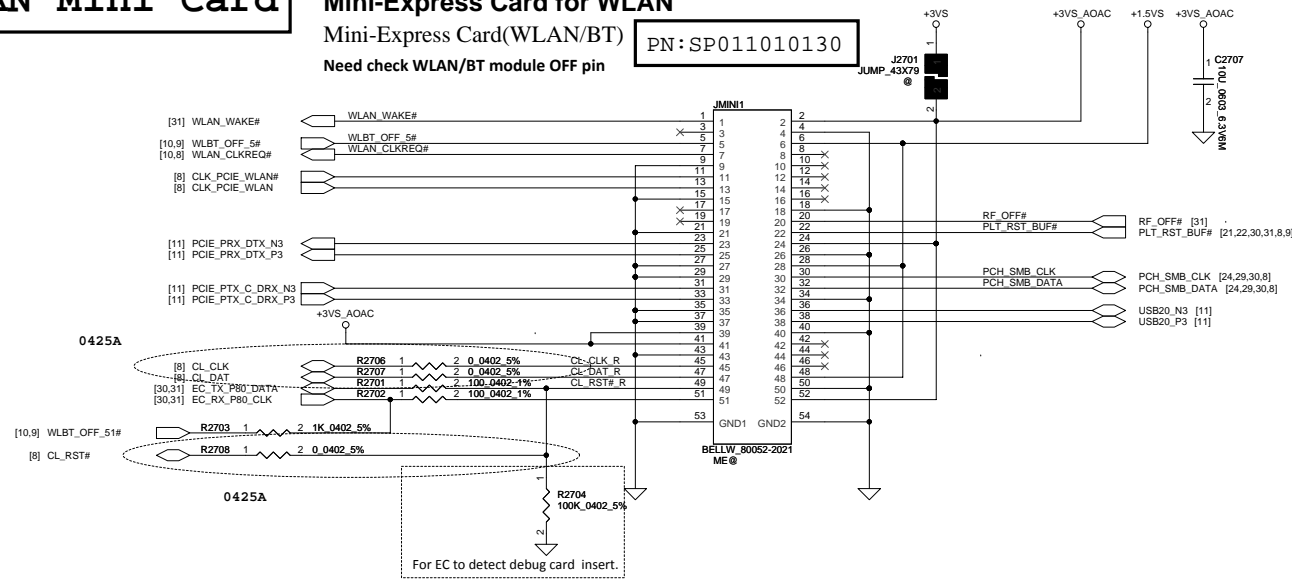
WLAN Mini Card

Mini-Express Card for WLAN

Mini-Express Card(WLAN/BT)

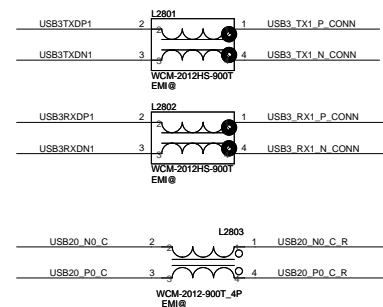
PN: SP011010130

Need check WLAN/BT module OFF pin

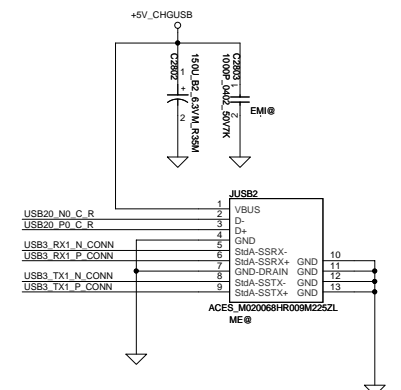


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PN: SM070001S00 x 2

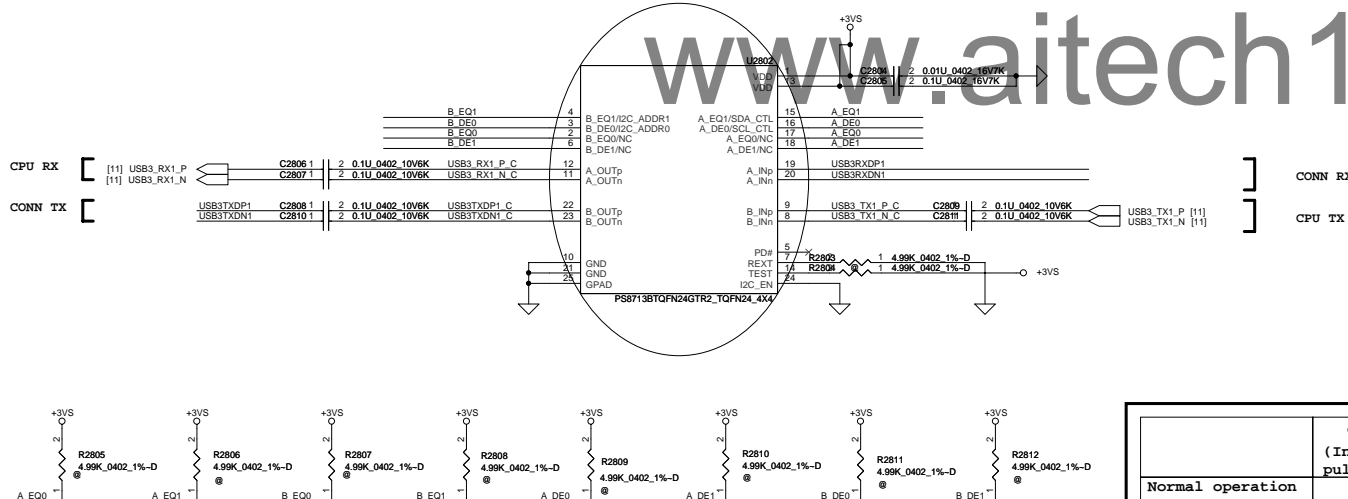
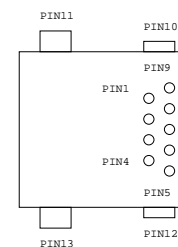


PN: SM070000K00 x 1



PN: SC300001G00

PN: SC300001Y00



	A_EQ1/B_EQ1 (Internal pull Low)	A_EQ0/B_EQ0 (Internal pull Low)
reserved	Low	Low
program EQ for channel loss up to 7dB	Low	High
program EQ for channel loss up to 14.5dB	High	Low
program EQ for channel loss up to 11.5dB	High	High

	A_DE1/B_DE1 (Internal pull Low)	A_DE0/B_DE0 (Internal pull Low)
3.5dB de-emphasis	Low	Low
No de-emphasis	Low	High
2.7dB de-emphasis	High	Low
5dB with boost output swing	High	High

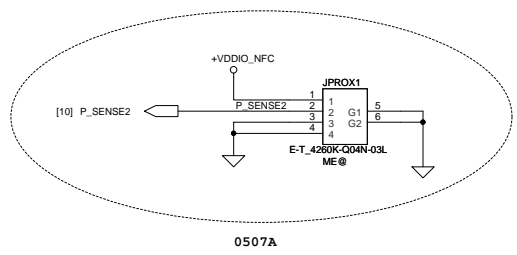
	TEST (Internal pull Low)
Normal operation (default)	Low
Test mode enable	High

PN:SA000059H00

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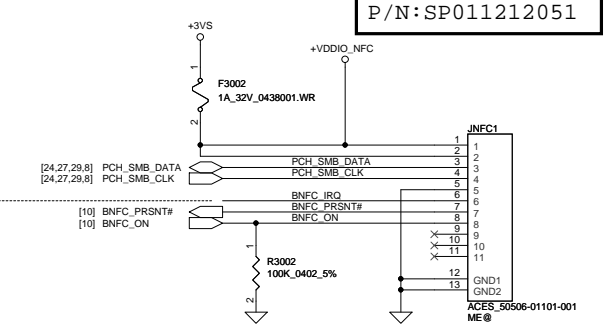
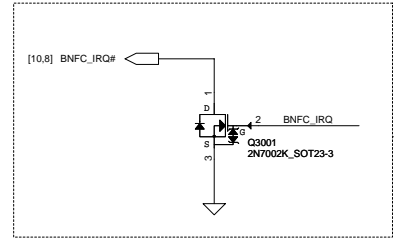


P-Sensor Conn



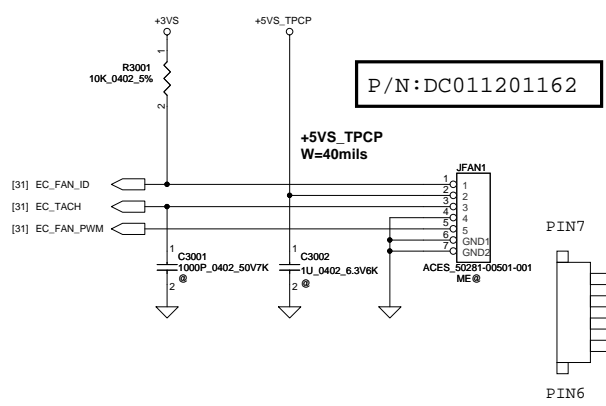
NFC

- Module Pin define
- 1.IP/VBAT
  - 2.IP/VDDIO
  - 3.IO/I2C-SDA
  - 4.I/I2C-SCL
  - 5.G/GND
  - 6.O/IRQ-NFC
  - 7.O/NFC\_Presence#
  - 8.I/REG\_UP
  - 9.OP/VDD\_Ext\_SE
  - 10.IP/UIM\_PWR
  - 11.IO/SWP



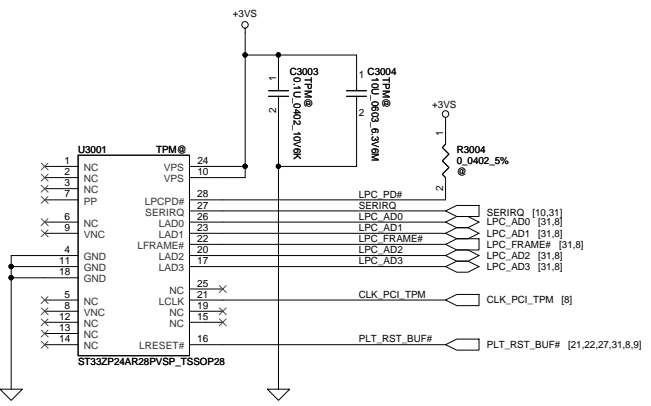
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FAN Conn

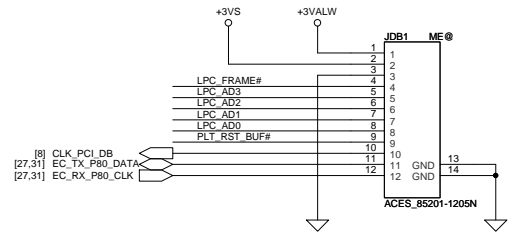


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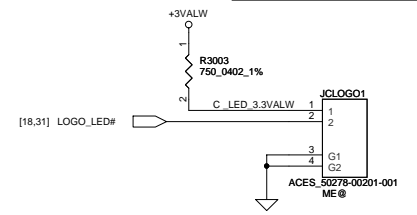
TPM



Debug Conn



C-logo Conn



PN:SP02000EZ10

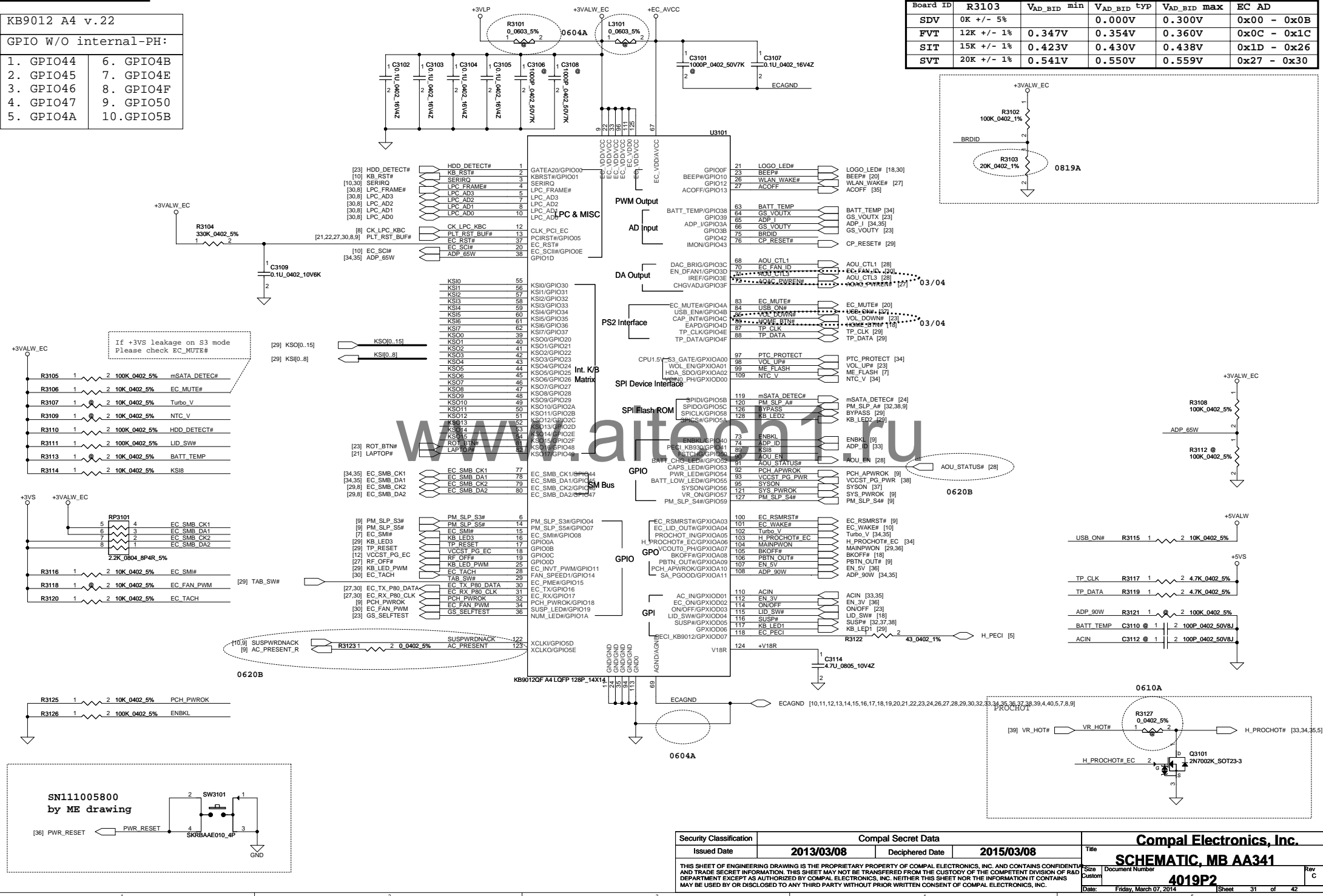
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**EC KB9012**

KB9012 A4 v.22

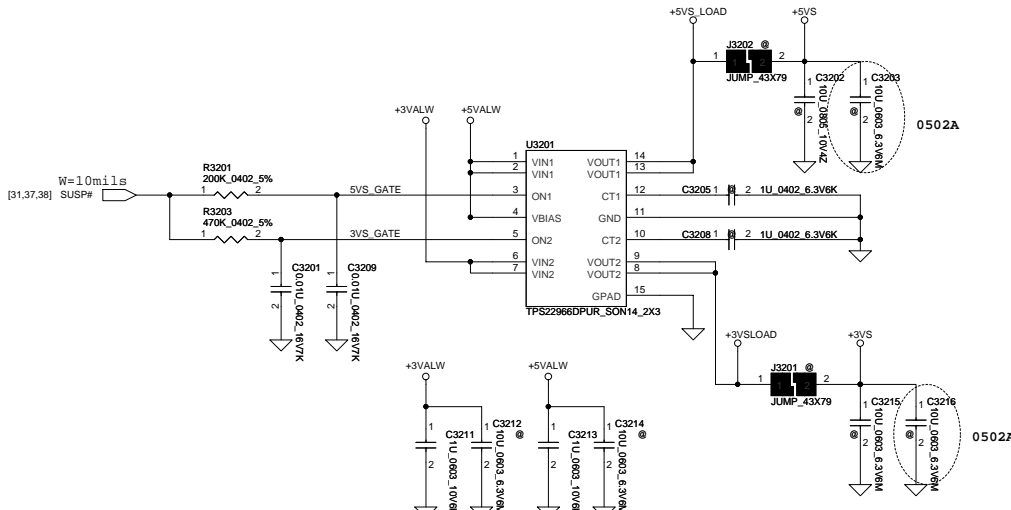
GPIO W/O internal-PH:
-----------------------

1. GPIO44	6. GPIO4B
2. GPIO45	7. GPIO4E
3. GPIO46	8. GPIO4F
4. GPIO47	9. GPIO50
5. GPIO4A	10. GPIO5B



## DC/DC I/F

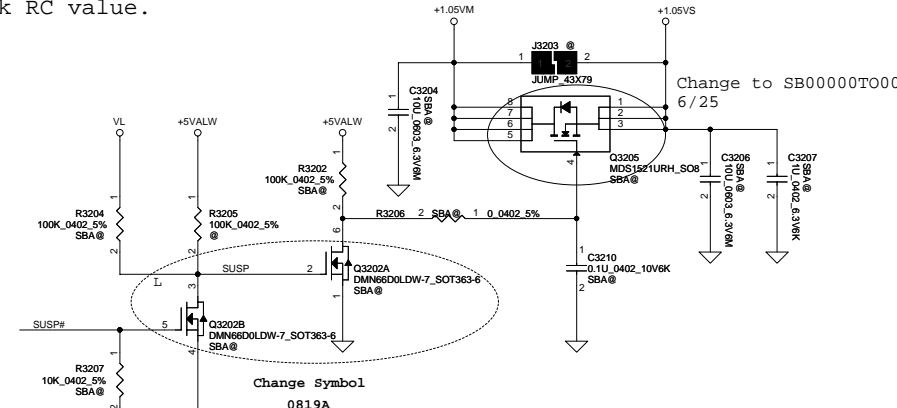
### +3VALW TO +3VS



PJ703 Open => SBA

Check RC value.

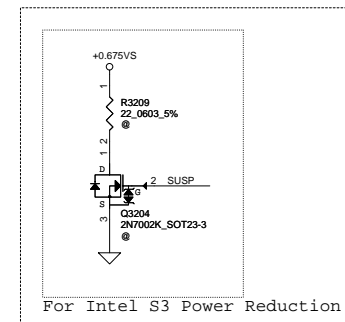
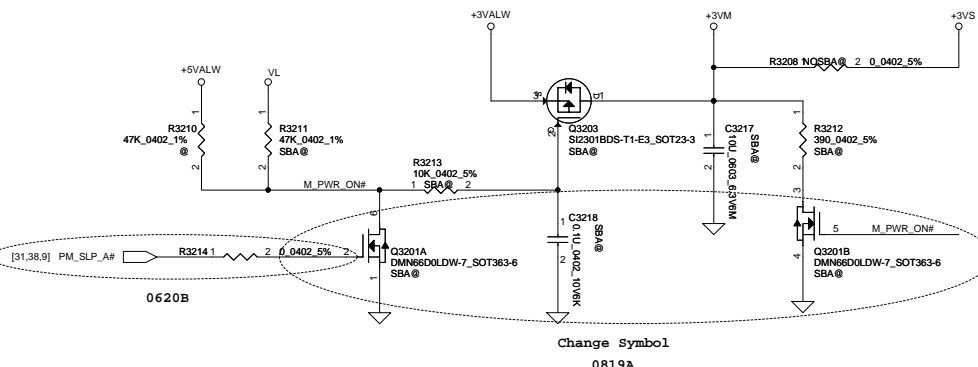
Rds (on) VGS=4.5V, ID=8.5A, 7mOhm (Max)



**+3VALW TO +3VALW(PCH AUX Power)**

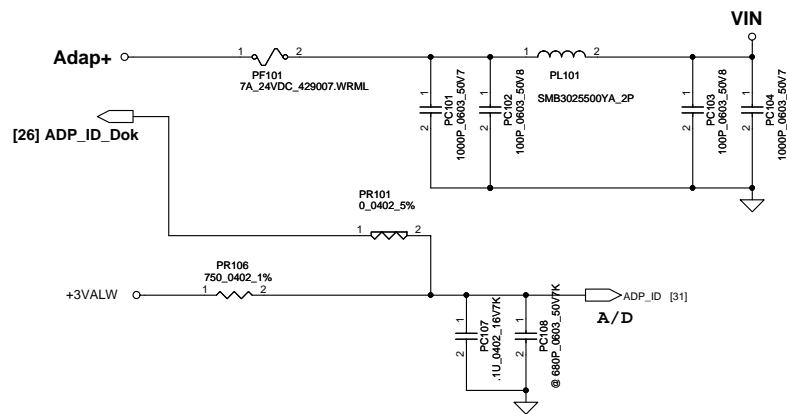


**+3VALW TO +3VM (SBA)**

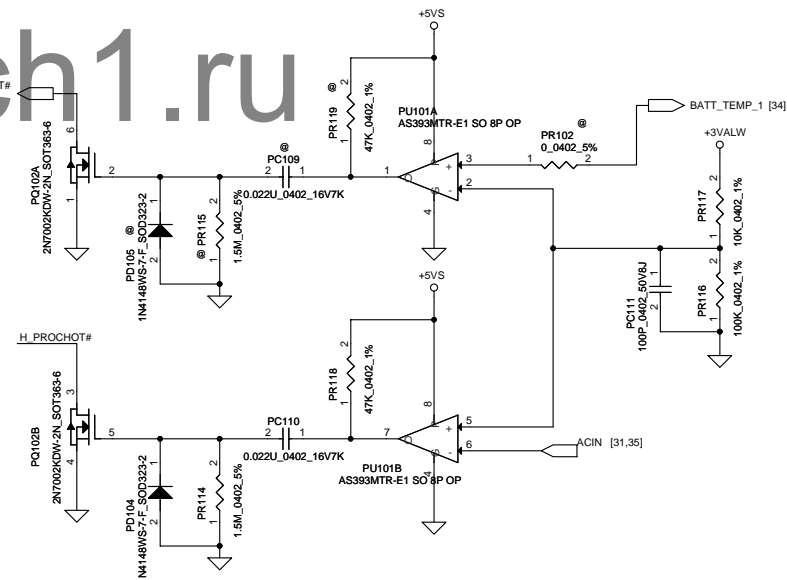
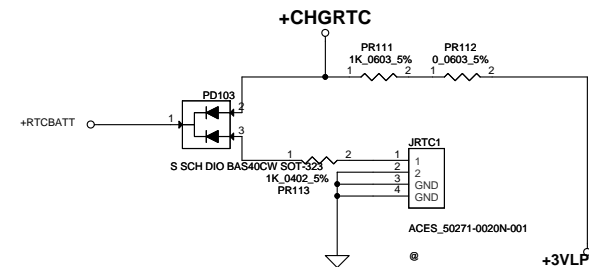


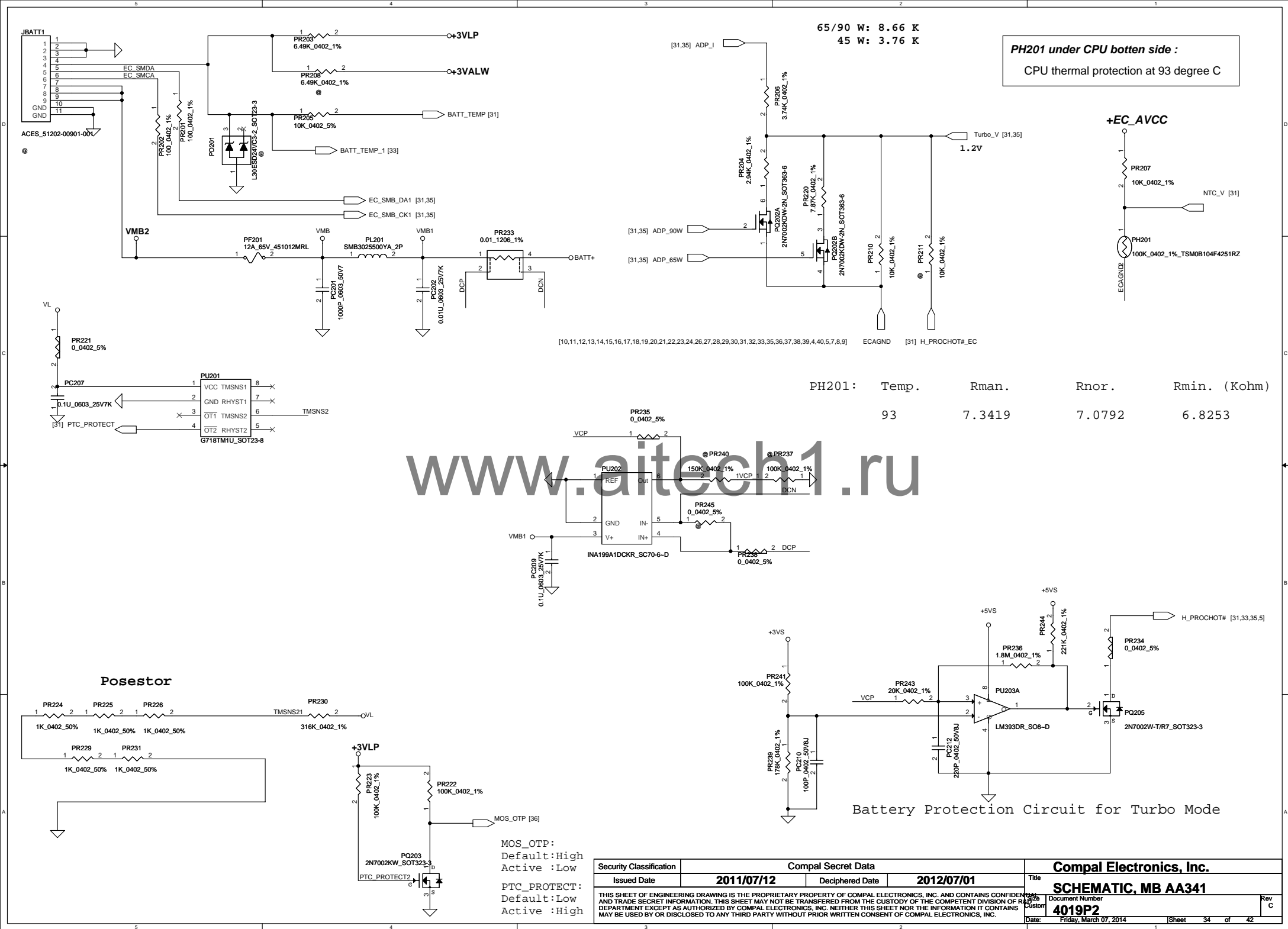
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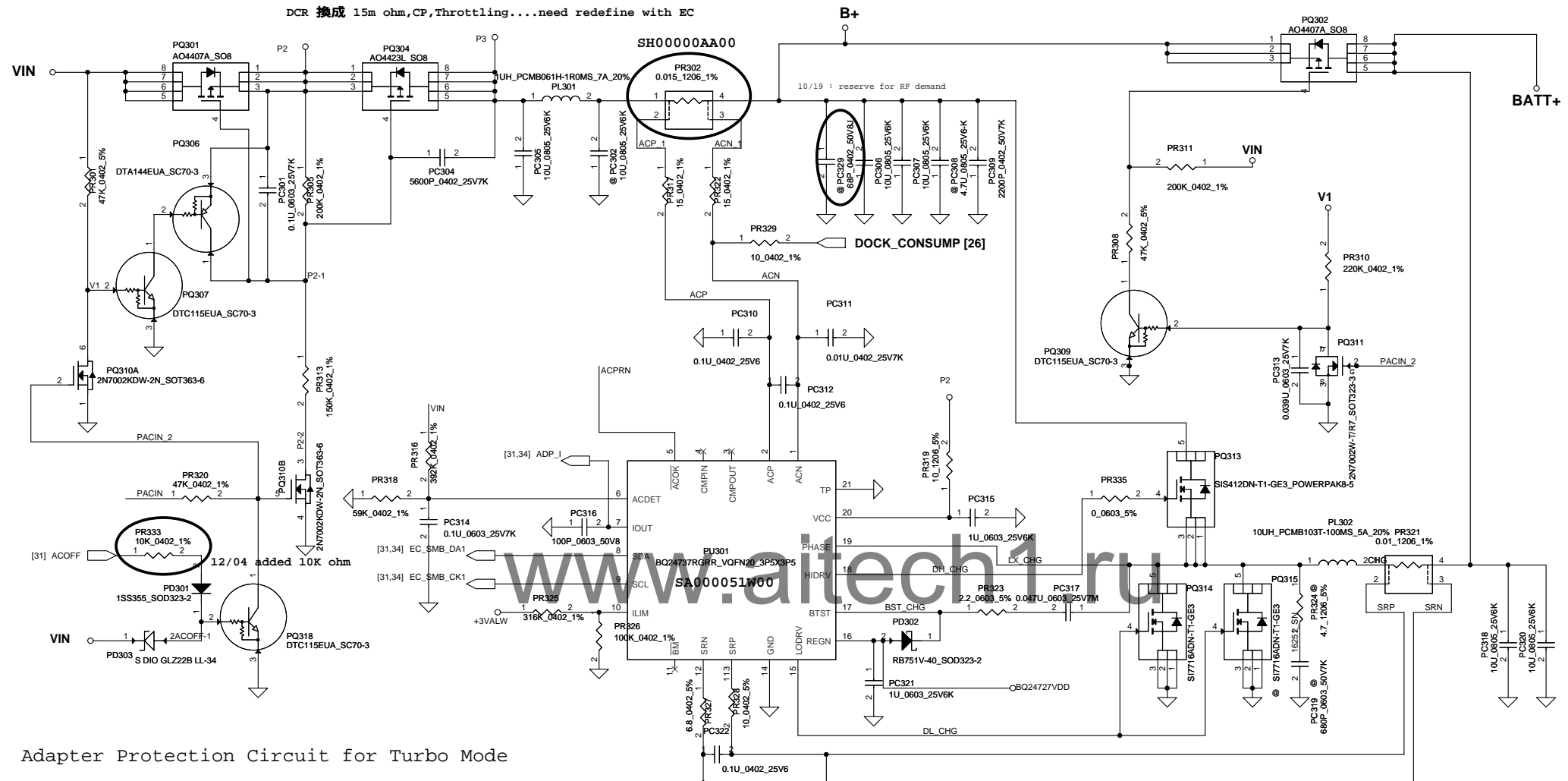




ADP_ID				
AC Adapter	45W	65W	90W	
R(ohm)	118	287	549	
ADP_ID(V)	0.449	0.913	1.395	
Detection	<=0.663,			<=1.134,
-Voltage(V)	>0.234			>0.693
				>1.172

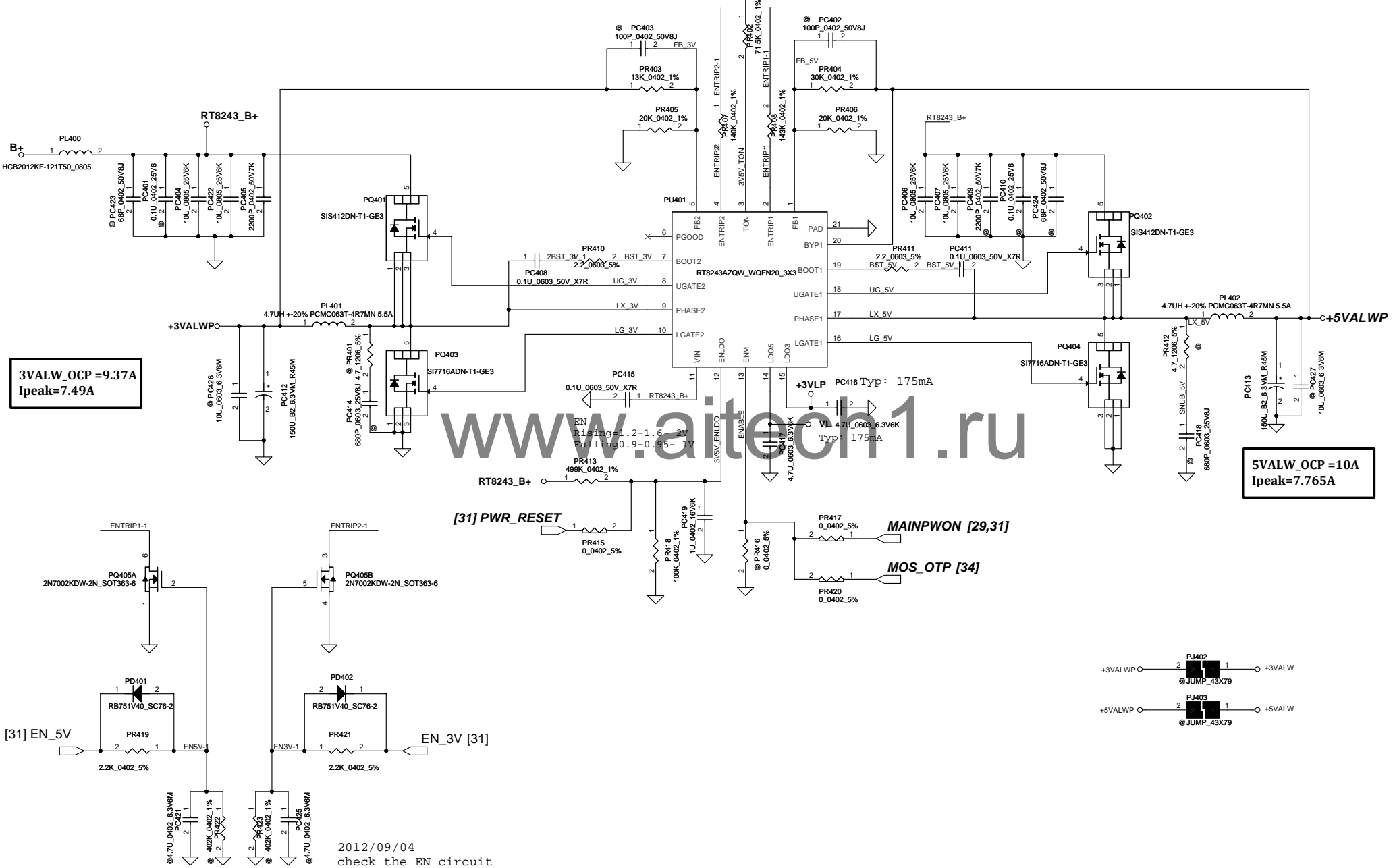




[illegible]

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TON (1)SMPS1=305KHZ (+5VALWP)  
(2)SMPS2=357KHZ(+3VALWP)



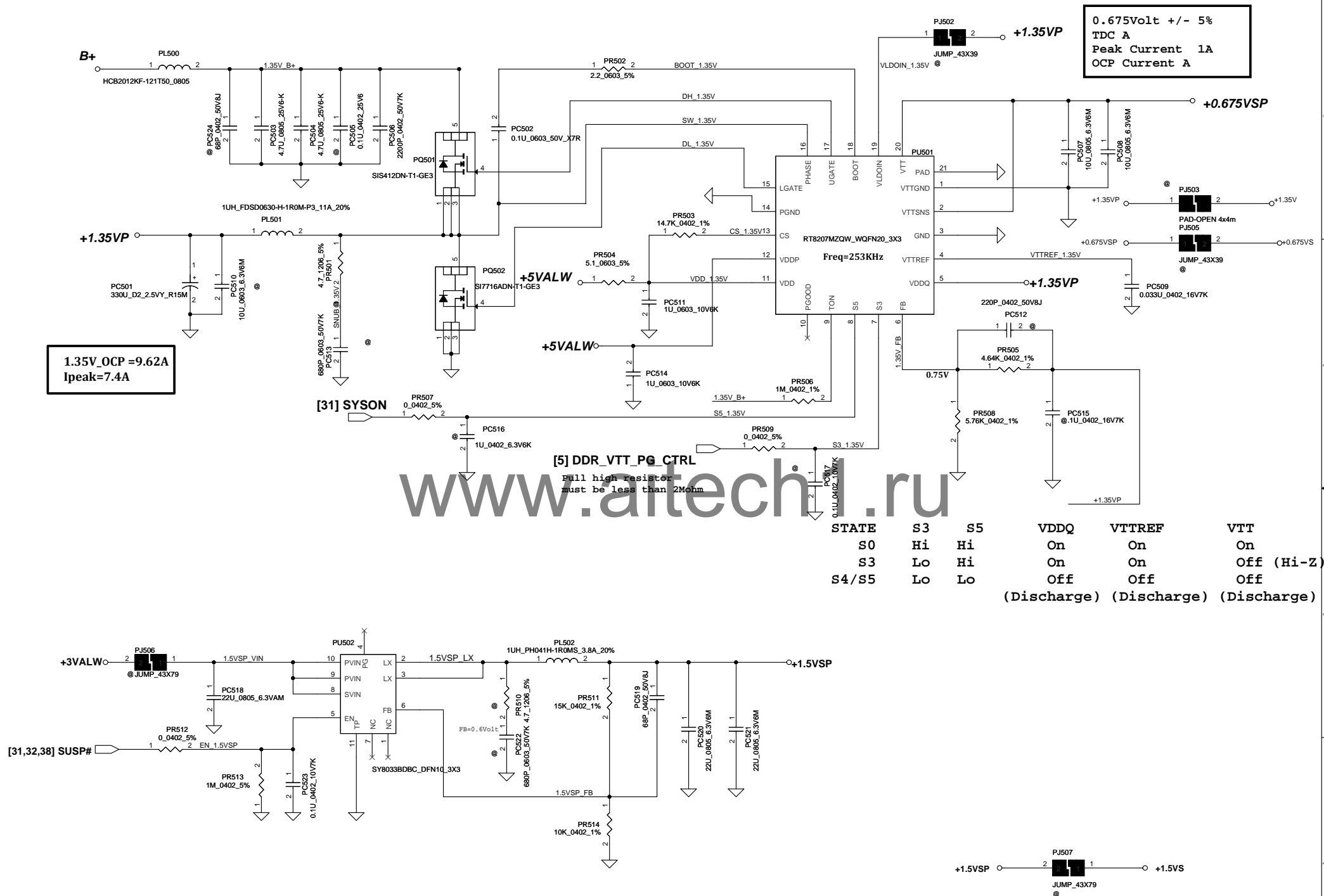
3VALW\_OCP=9.37A  
Ipeak=7.49A

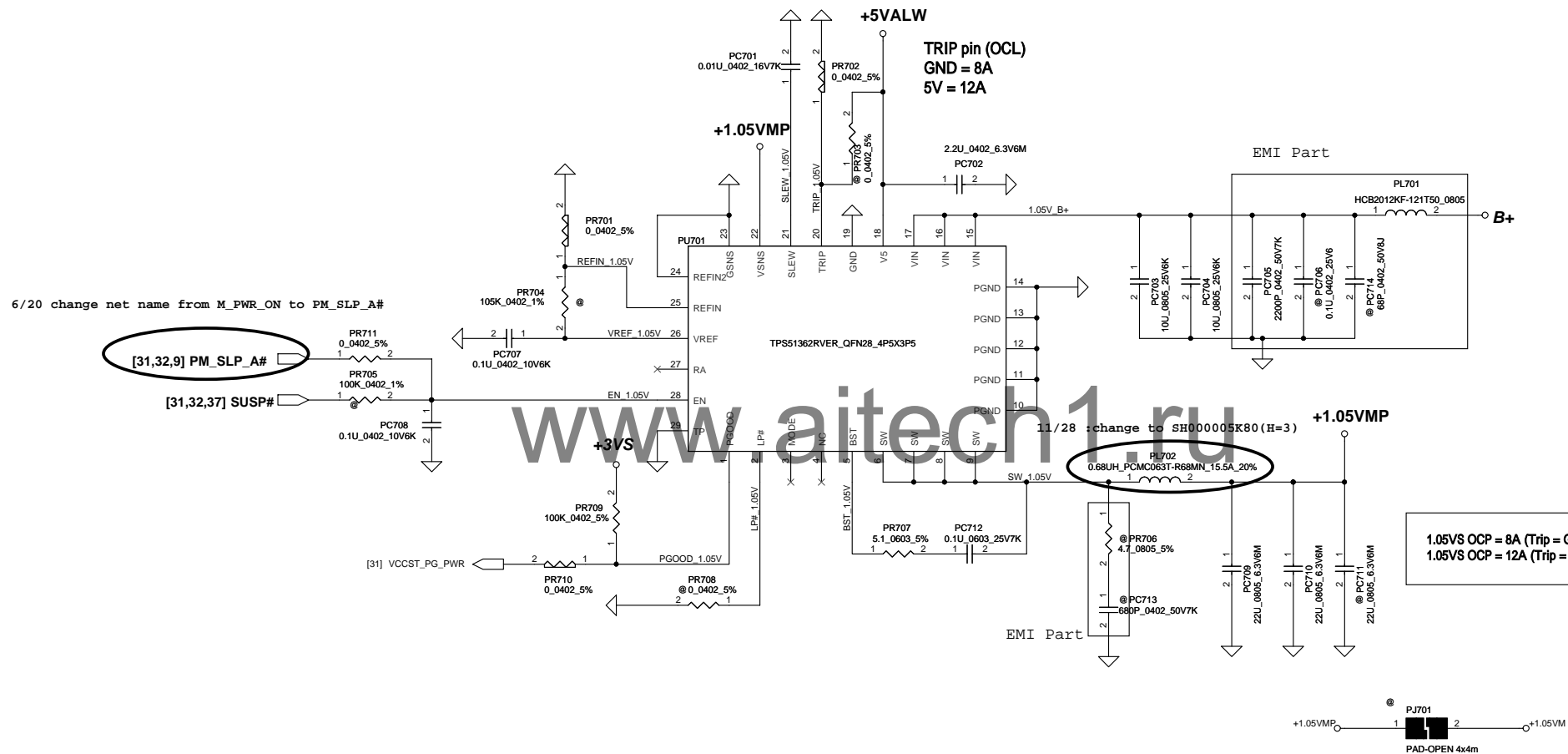
5VALW\_OCP=10A  
Ipeak=7.765A

[31] EN\_5V  
[31] EN\_3V [31]

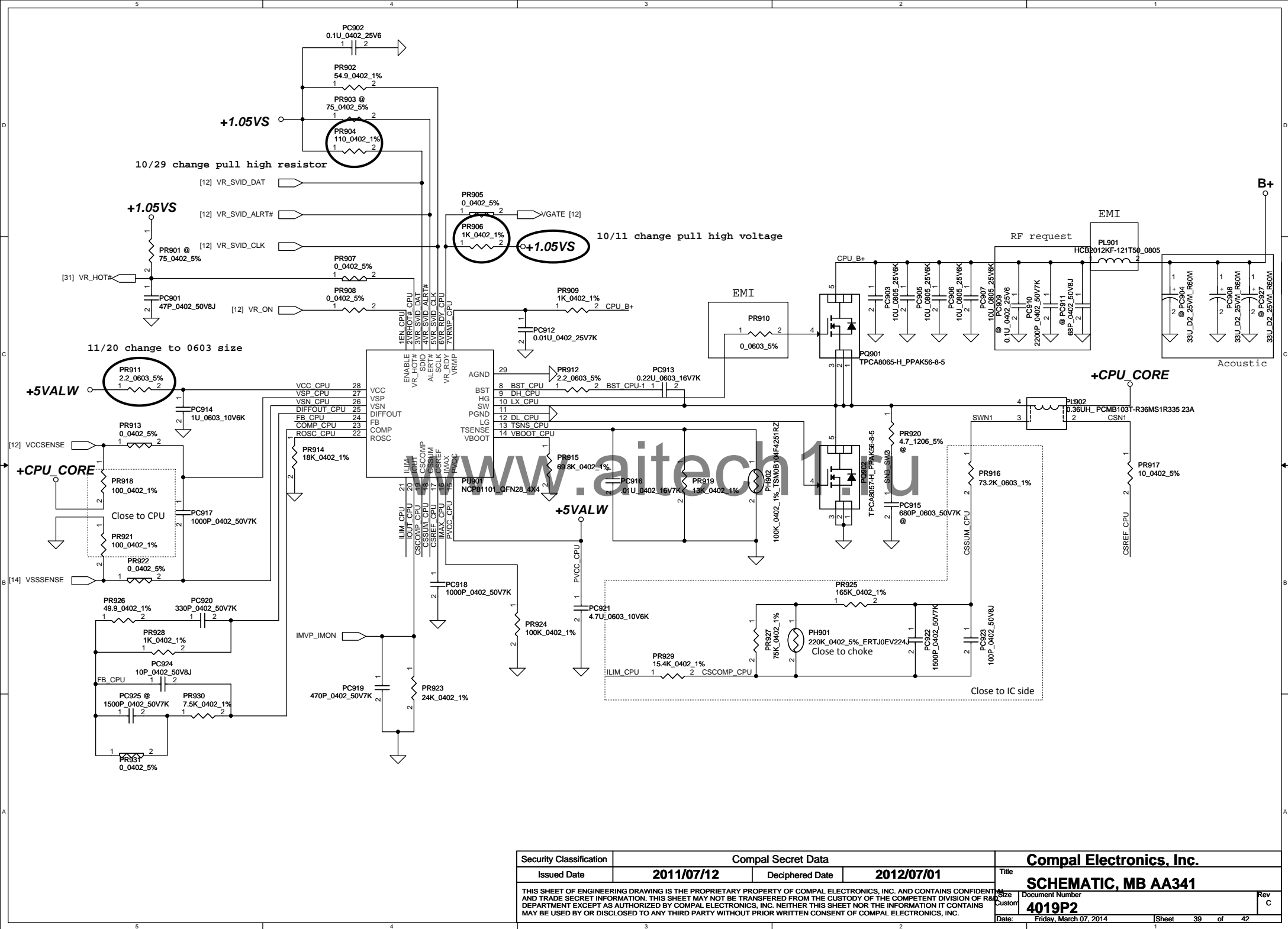
2012/09/04  
check the EN circuit

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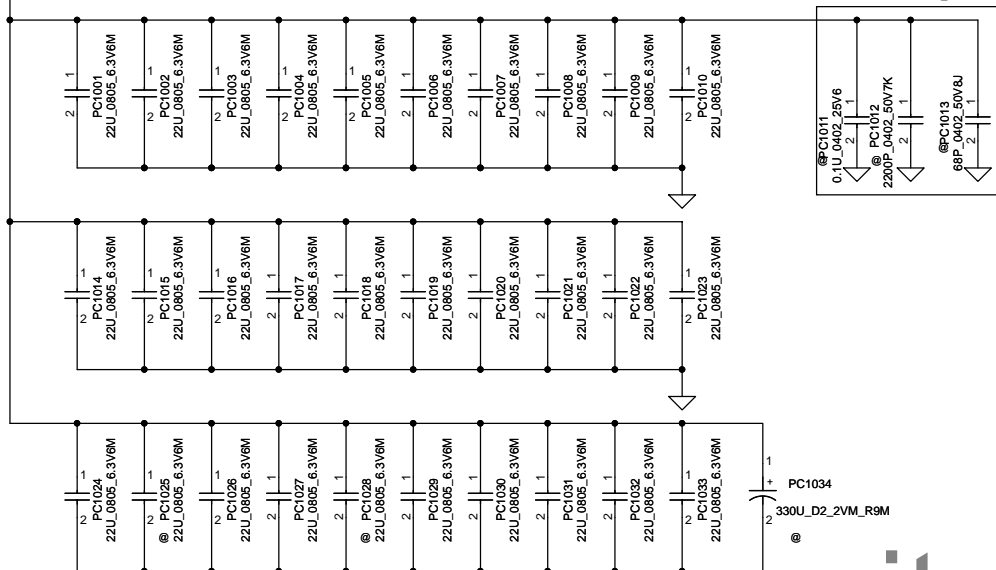


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+CPU\_CORE

30 x 22u/0805

RF request



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Item	Reason for change	PG#	Modify List	Date	Phase
1	We just have adpter over-load protection circuit to replace the one-shot circuit, so we can reserve the one-shot circuit.	P33	Un-mount PR119, PC109, PR115, PD105.	2013.04.24	SDV
2	We want to tune the switching ring to meet the derating spec.	P37	Change PC502 from 0.22u to 0.1u.	2013.04.24	SDV
3	For fine tune LL & trainsient of CPU core, we must to change R/C value to meet Intel's spec.	P39	Change PR916 from 47k to 73.2k and PC923 from 560p to 100p, PC1025, PC1028, PC1034 to un-mount.	2013.04.24	SDV
4	For aviod EMI/EMI to damage OP or other components through the loop of BATT_TEMP.	P34	Reserve PD201	2013.04.30	SDV
5					
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Version Change List (P.I.R. List)

Phase	Date	No.	BOM	Sch	Layout	Description	function

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