

NB8609 V4.0 DDR4&SO-DIMM

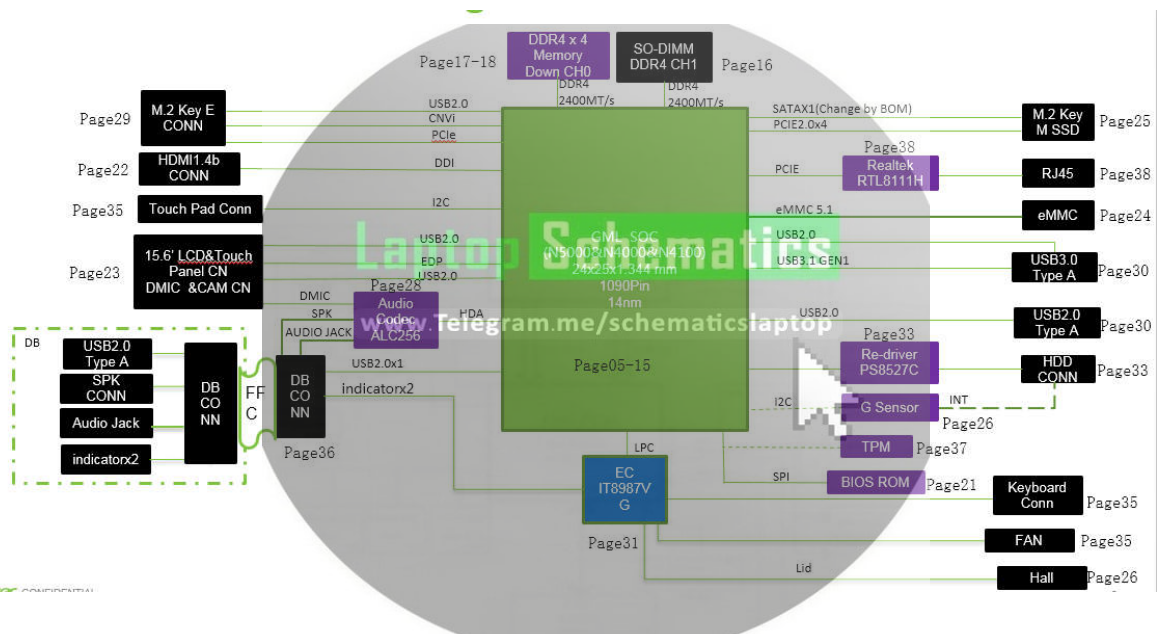
Intel Gemini Lake Platform

01--COVER PAGE	26--G_SENSORS&HALL
02--BLOCK DIAGRAM	27--RTC
03--POWER BLOCK DIAGRAM	28--AUDIO
04--SYSTEM LIST	29--WLAN
05--GLK_SOC_MEM(CHA)	30--USB3.0
06--GLK_SOC_MEM(CHB)	31--EC ITE8987
07--GLK_SOC (EMMC/SPI/LPC/AUD/PMU)	32--EC ROM &THERMAL SENSOR
08--GLK_SOC(DDI/DSI)	33--HDD
09--GLK_SOC(I2C/CNV/LPSS/SPI/UART)	34--Reserve FP
10--GLK_SOC(PCIE/SATA/USB)	35--KeyBoard&TouchPad&FAN
11--GLK_SOC(JTAG/GPIO)	36--IO BOARD CONN
12--GLK_SOC(PWR)	37--TPM
13--GLK_SOC(GND)	38--LAN
14--GLK_SOC(DECAP)	39--DCIN&DEBUG CONN
15--GLK_SOC(STRAP)	40--HYBRID CHARGE
16--MEM_SODIMM	41--POWER DELIVERY 3P3V
17--MEM_DDR4_CHA0	42--POWER DELIVERY 5P5V
18--MEM_DDR4_CHA1	43--PMIC RT5077_1
19--DDR4_TERMINATIONS	44--PMIC RT5077_2
20--MEM_DECAPS	45--POWER DELIVERY VDDQ
21--SYSTEM_SPI_FLASH	46--LOAD SWITCH
22--HDMI	47--AC POWER ON SQUENCE 1
23--EDP	48--DC POWER ON SQUENCE 2
24--EMMC	49--POWER DELIVERY_Backlight
25--SSD	50--HOLE&BOSS
	51--CHANGE LIST



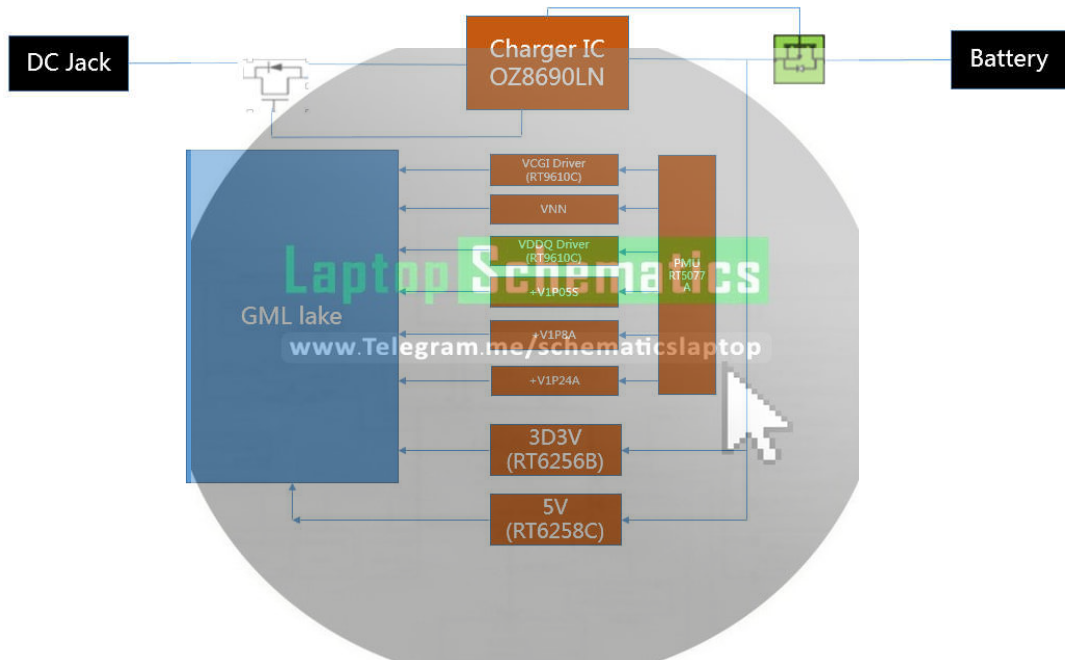
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Power States(Adapter)

Signal	SLP_S0#	SLP_S3#	SLP_S4#	+V5P0A	+V3P3A	VNN	V1P8A	V1P2A	VCGI	V1P05S	+V1P20_VDDQ	+3P3SX	+1P8SX	+5P0SX	+V3P3SX_OVS
S0(Full On)	HIGH	HIGH	HIGH	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
S3(STM)	LOW	LOW	HIGH	ON	ON	OFF	ON	ON	OFF	OFF	ON	OFF	OFF	OFF	ON/OFF ²
S4(STD)	LOW	LOW	LOW	ON	ON	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	ON/OFF ²
S5(SoftOff)	LOW	LOW	LOW	ON	ON	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	ON/OFF ²

Notel:CNVi moudle on,Pcie moudle off

Power States(Battery)

Signal	SLP_S0#	SLP_S3#	SLP_S4#	+V5P0A	+V3P3A	VNN	V1P8A	V1P2A	VCGI	V1P05S	+V1P20_VDDQ	+3P3SX	+1P8SX	+5P0SX	+V3P3SX_OVS
S0(Full On)	HIGH	HIGH	HIGH	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
S3(STM)	LOW	LOW	HIGH	ON	ON	OFF	ON	ON	OFF	OFF	ON	OFF	OFF	OFF	ON/OFF ²
S4(STD)	LOW	LOW	LOW	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON/OFF ²
S5(SoftOff)	LOW	LOW	LOW	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON/OFF ²

Notel:CNVi moudle on,Pcie moudle off

www.Telegram.me/schematics_laptop

MEM ID

MEM_ID2	MEM_ID1	MEM_ID0	
0	0	0	4x HYNIX 1GB (H5AN8G6NCJR-VXC)
0	0	1	4x Micron 1GB (MT40A512M16LY-075:E)
0	1	0	4x Micron 1GB (MT40A512M16TB-062E:J)
0	1	1	xxx
1	0	0	xxx
1	0	1	xxx

PCIe Port

Port	Device
0-3	SSD
4	LAN
5	WLAN

USB2.0 Port

Port	Device
0	USB2.0 Type-A
1	USB3.0 Type-A
2	USB2.0 Type-A(DB)
4	BT
5	Touch screen
6	Camera

MB ID

			HW_ID6	HW_ID5	HW_ID2	HW_ID1	HW_ID0
	EVT		X	X	1	1	1
NB8609	DVT						
NB8612	DVT						

SATA Port

Port	Device
0	HDD
1	SSD

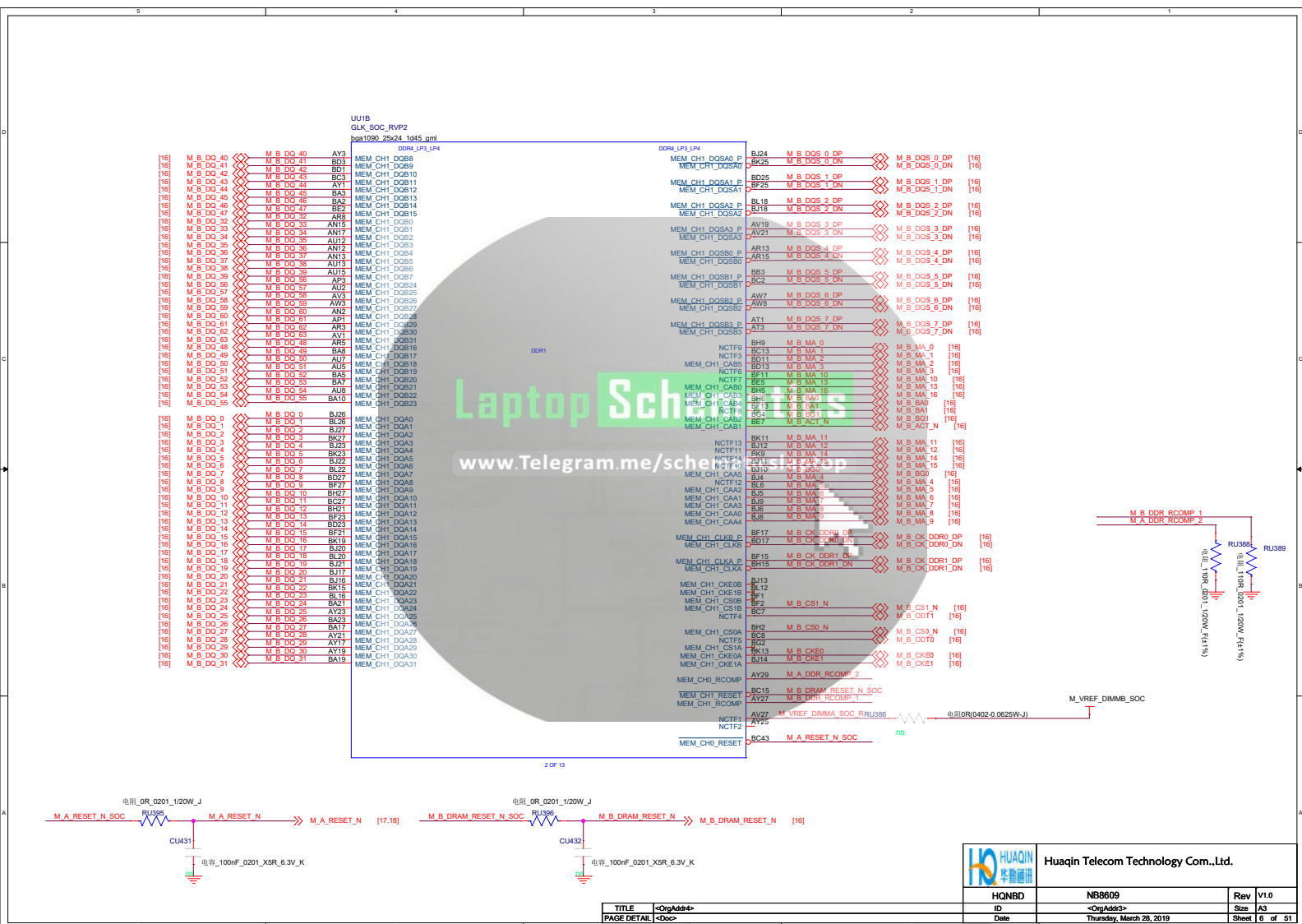
USB3.0 Port

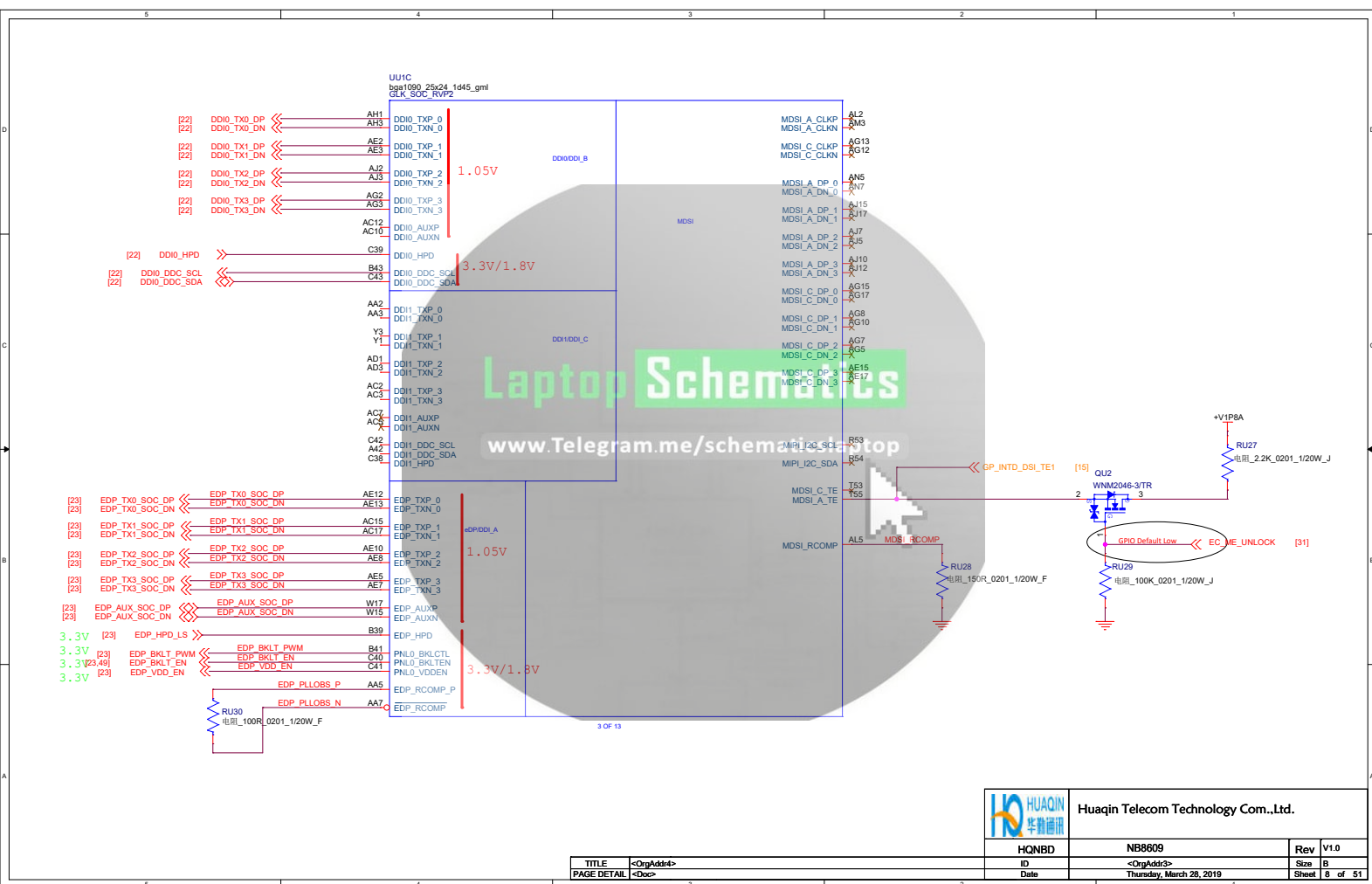
Port	Device
0	USB3.0 Type-A
1	NA

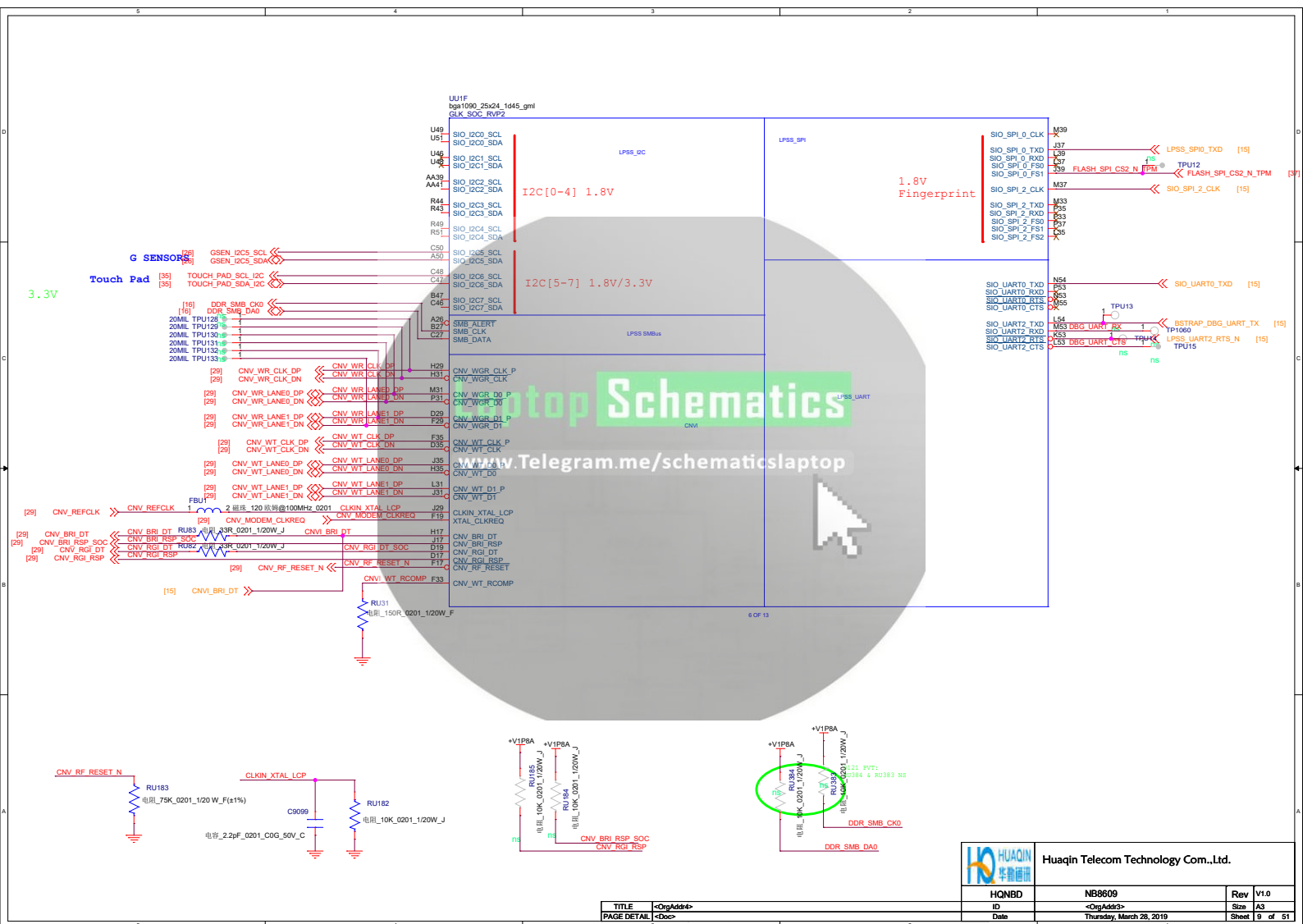


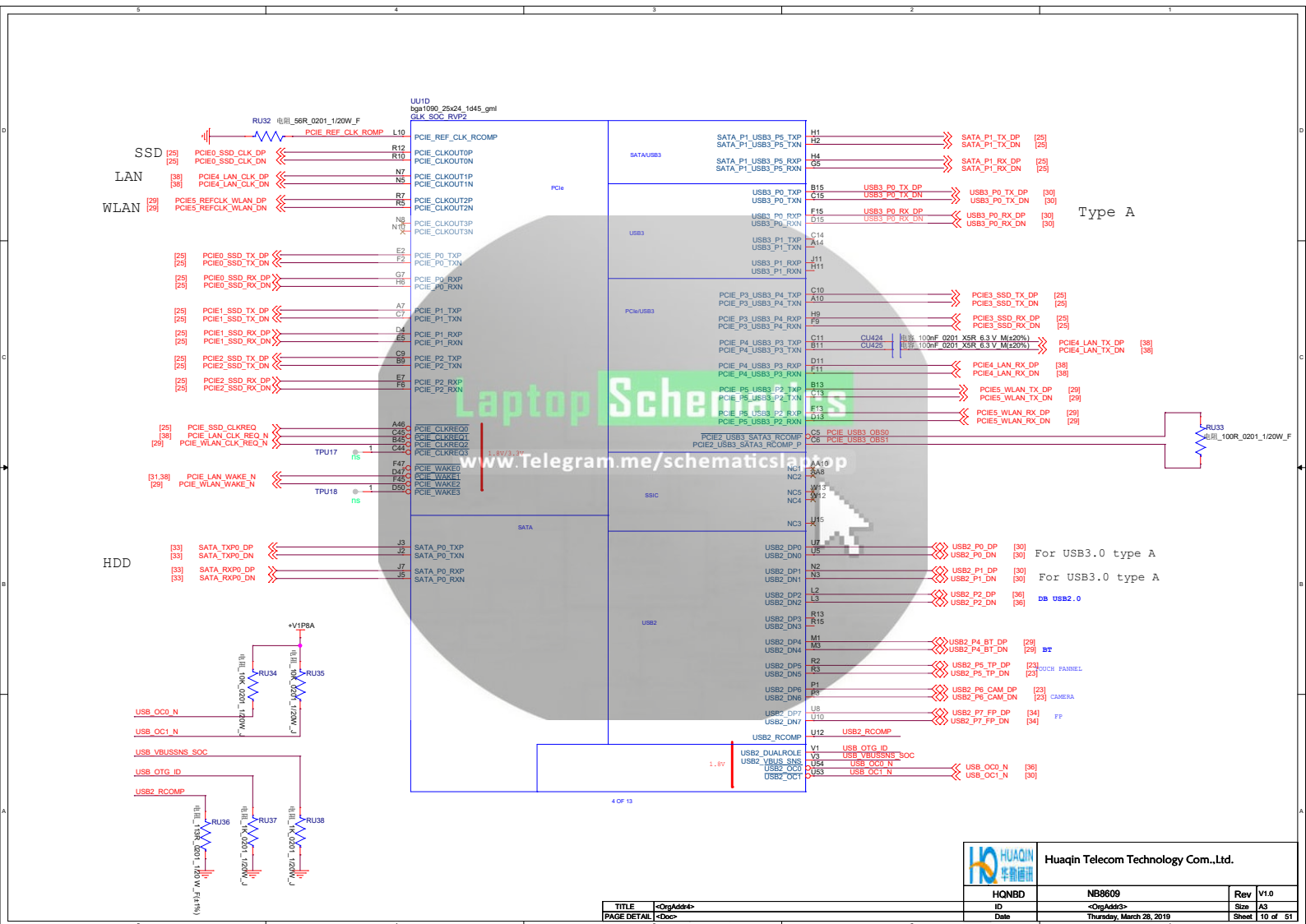
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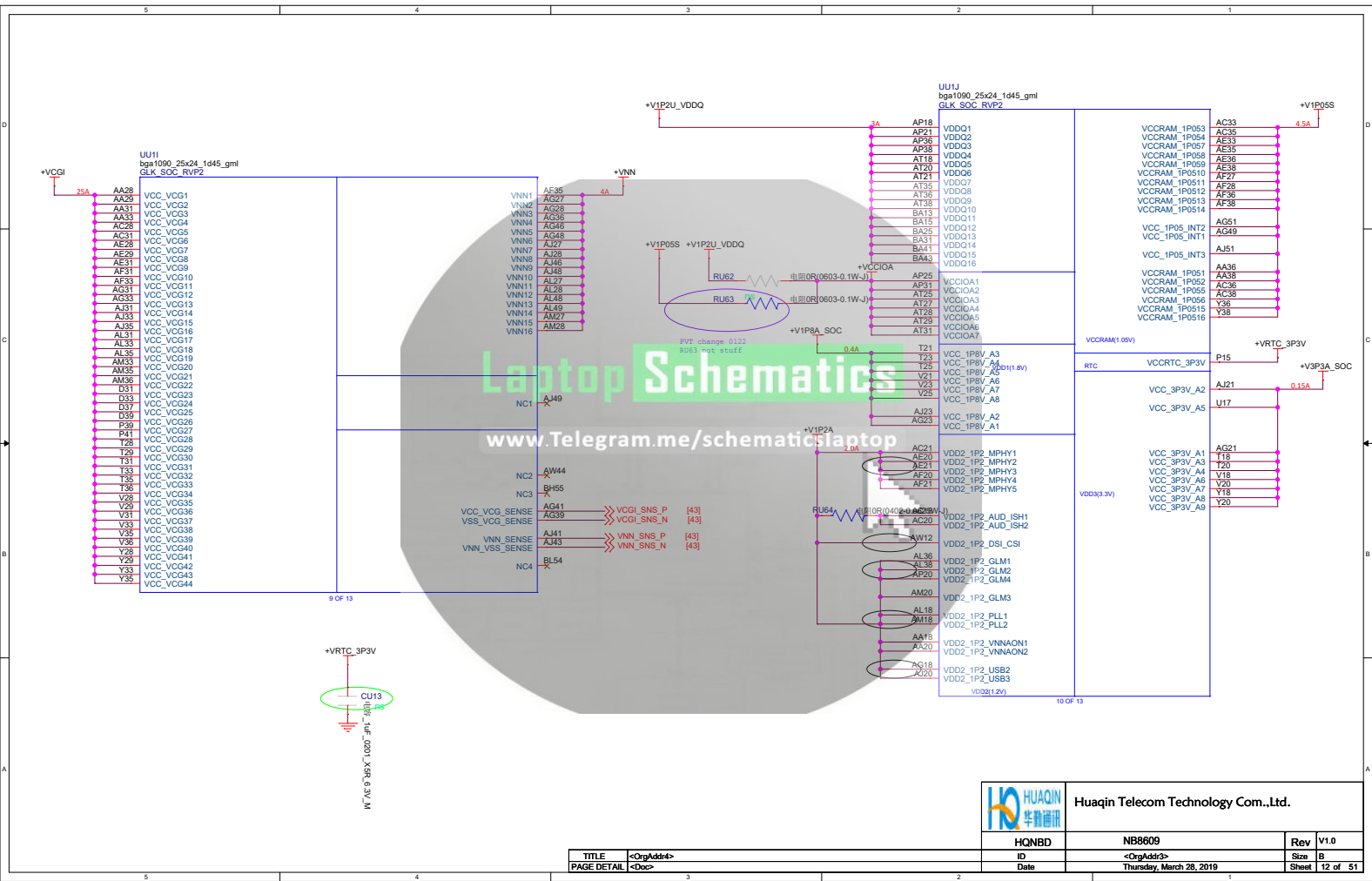
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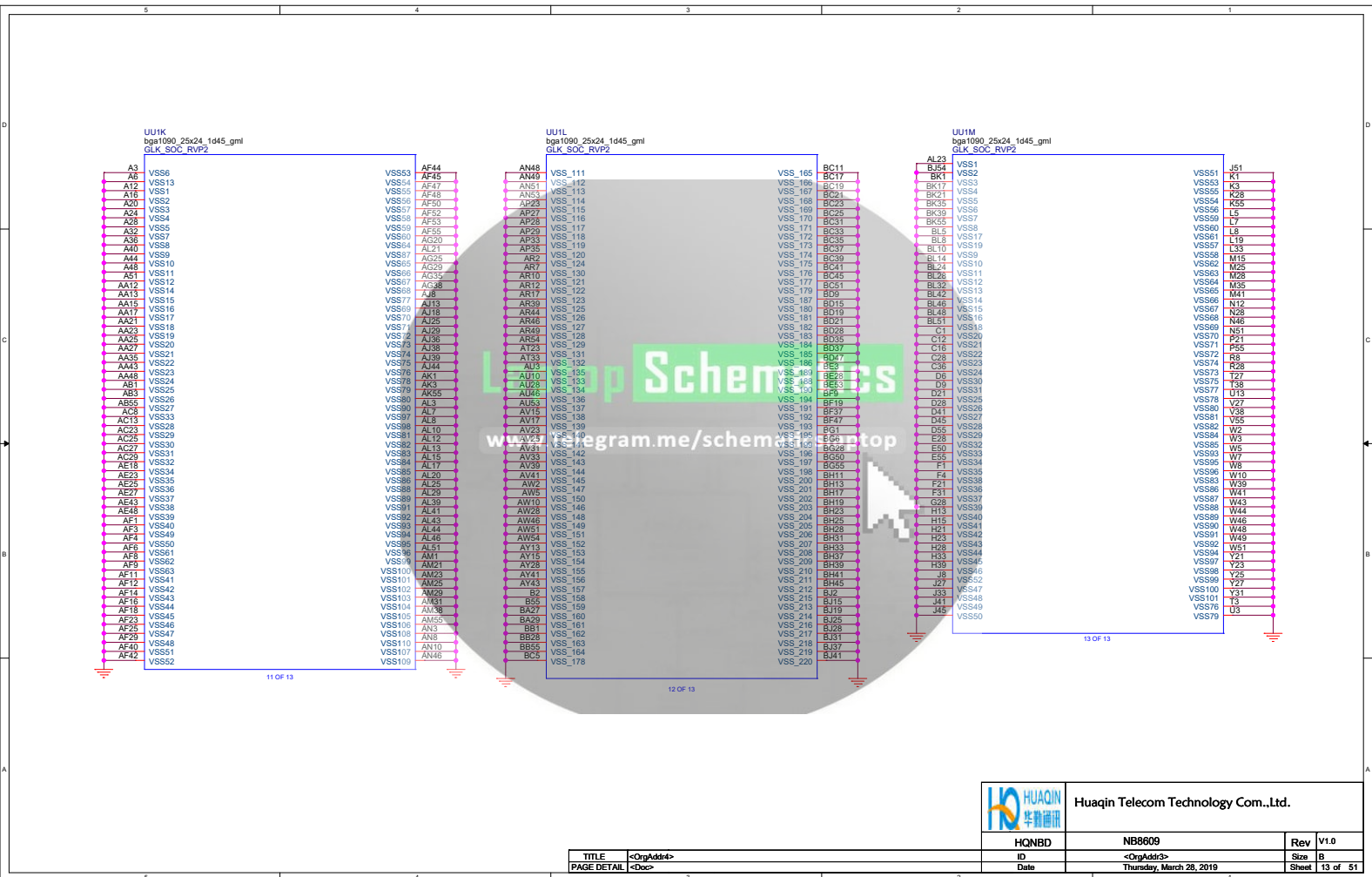


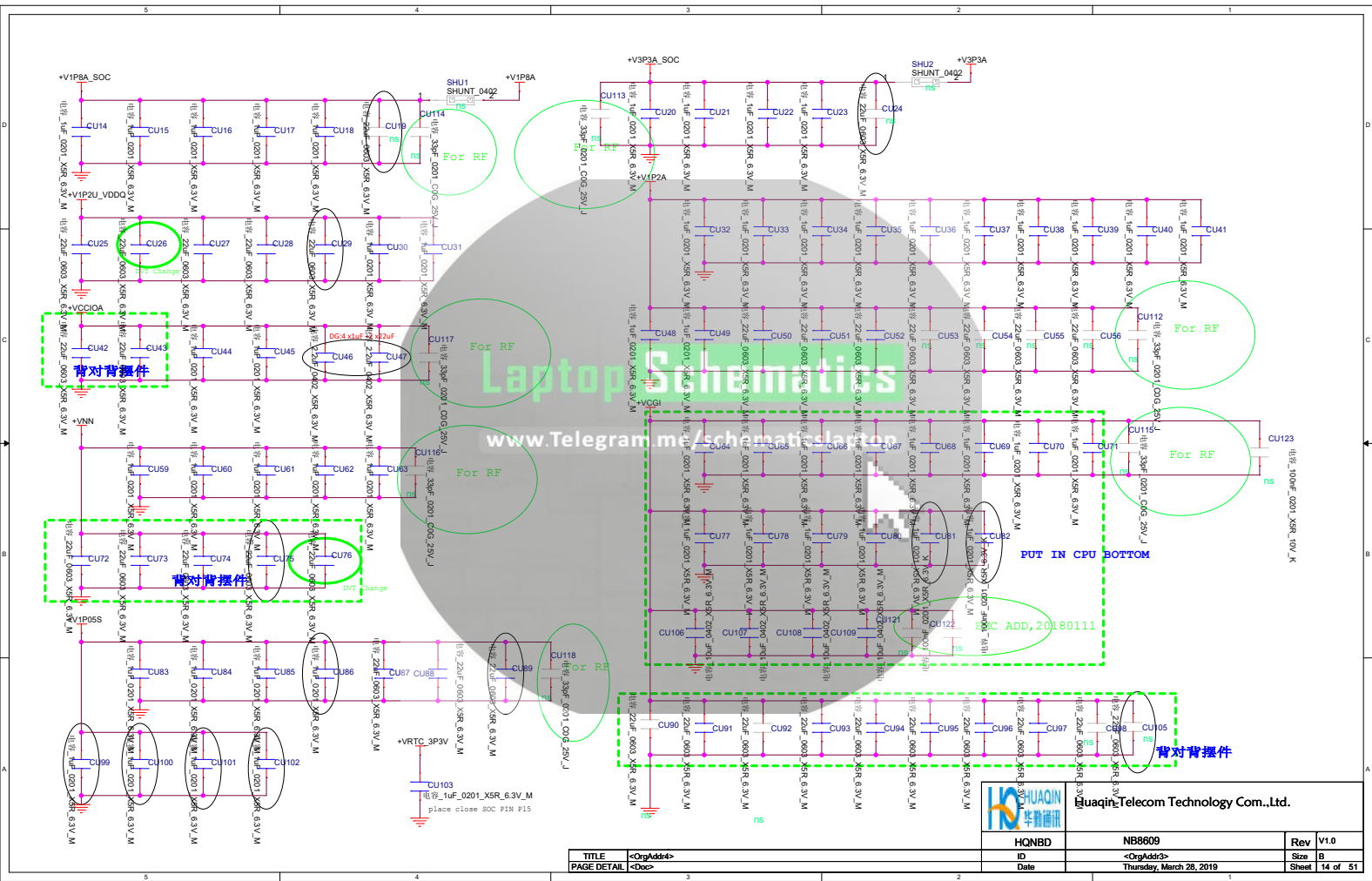


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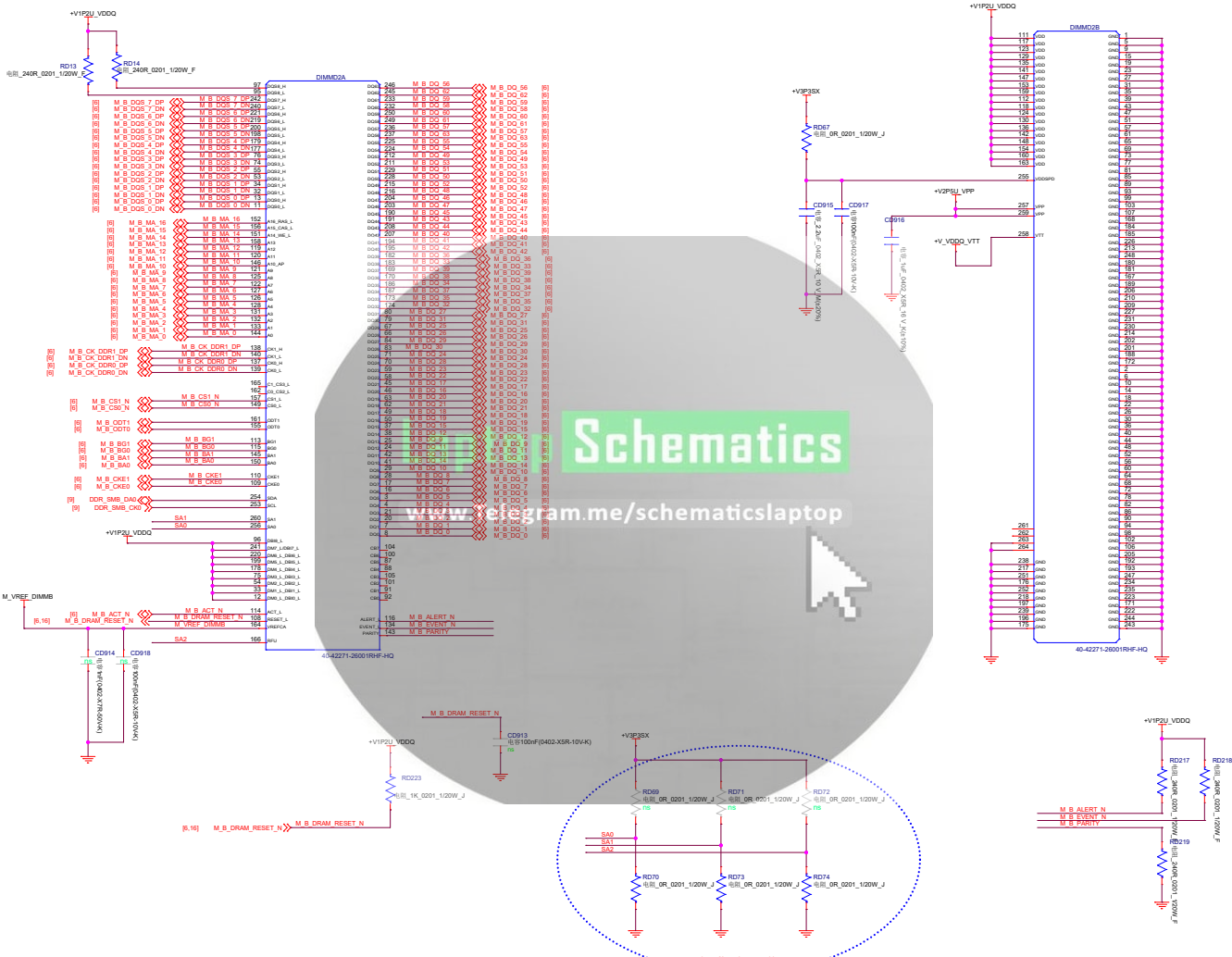


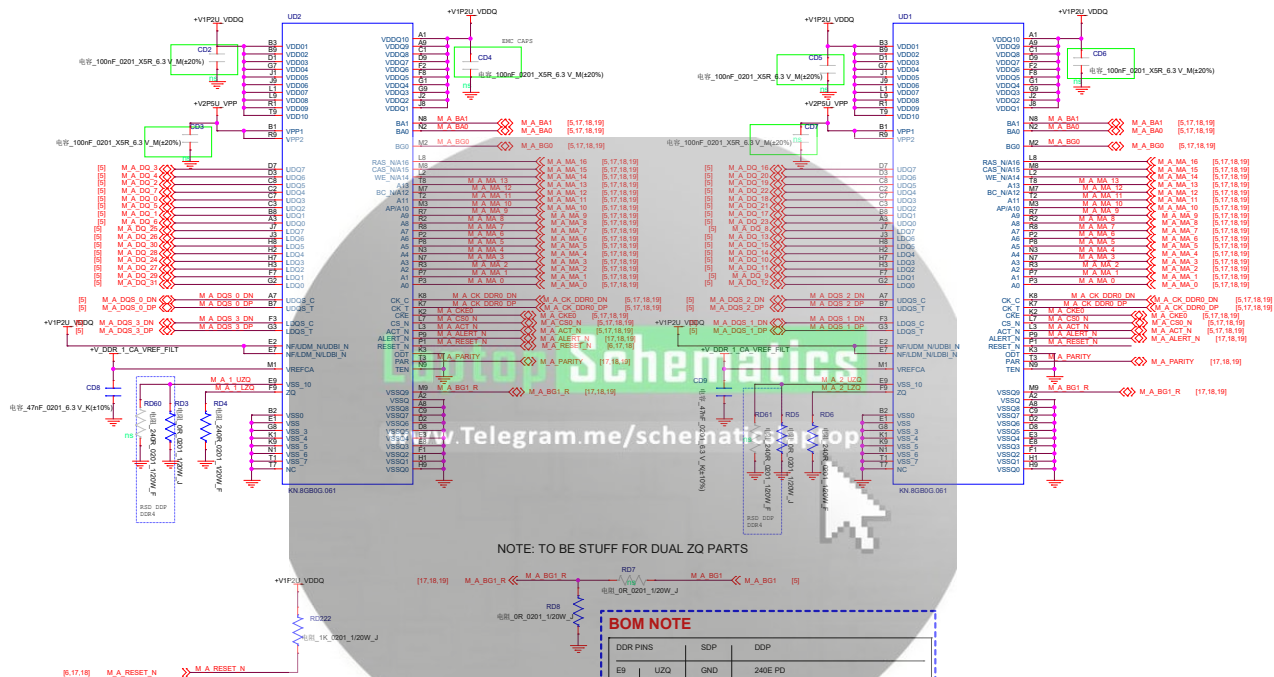
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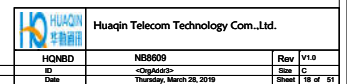
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Schematics

www.program.me/schematics4laptop

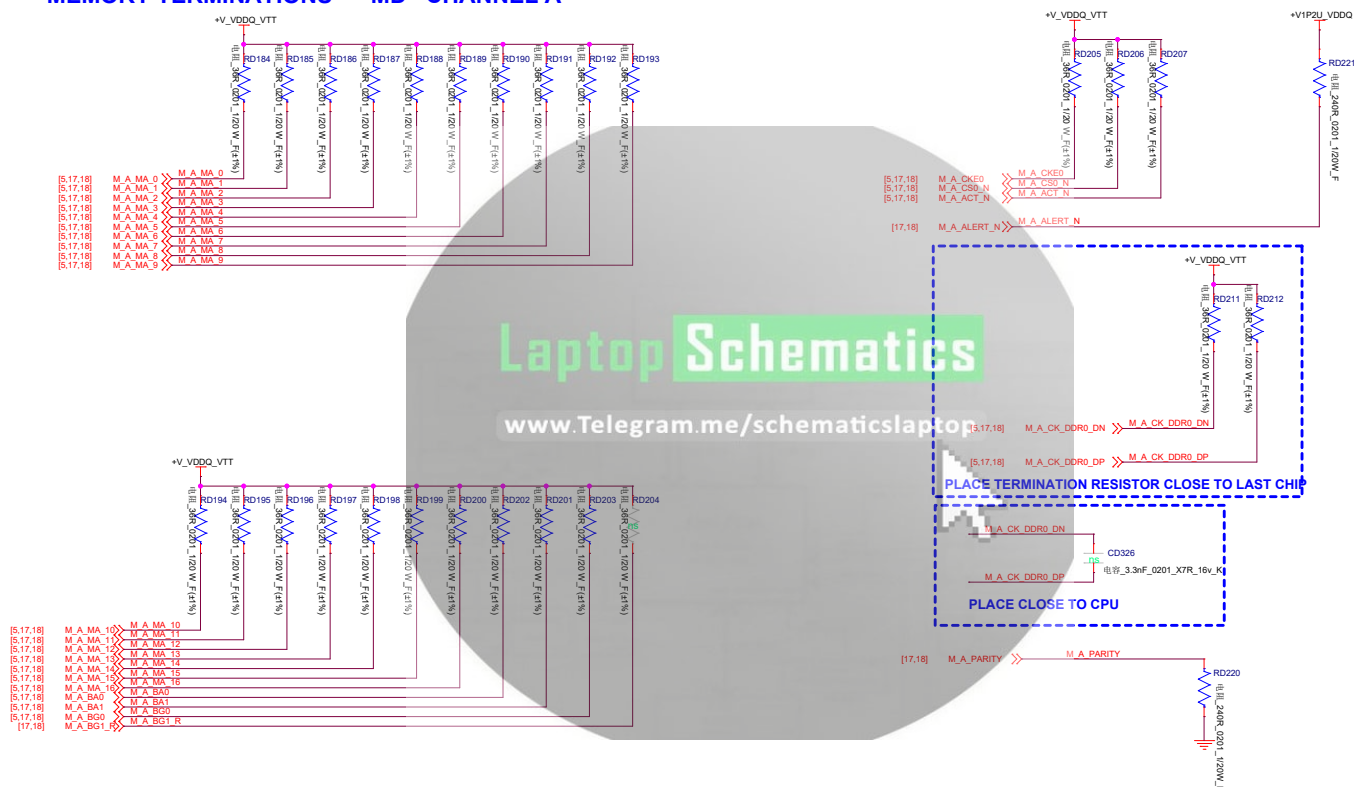






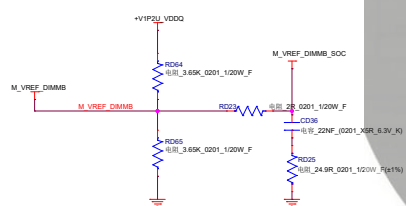
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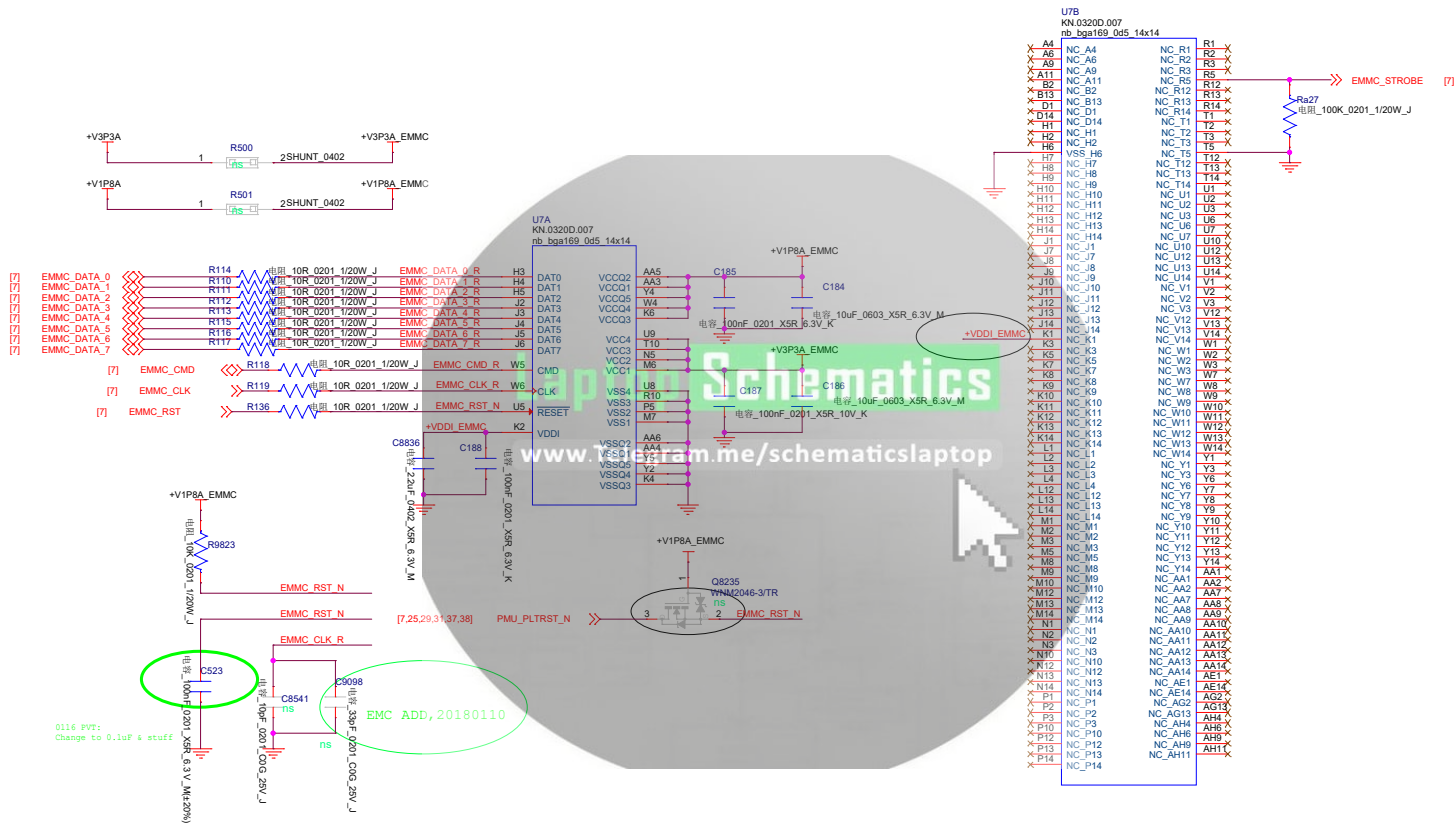
MEMORY TERMINATIONS MD CHANNEL A



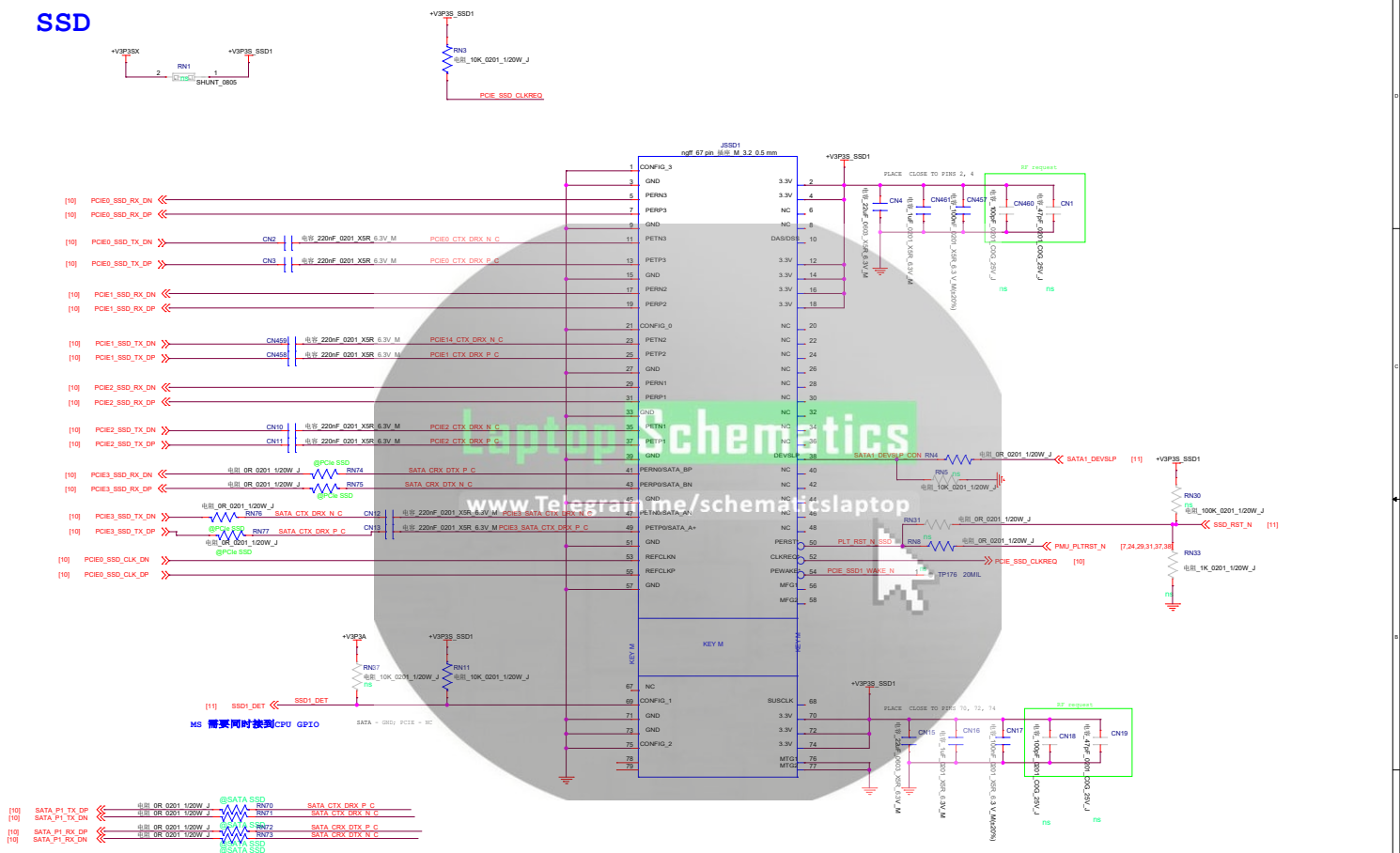
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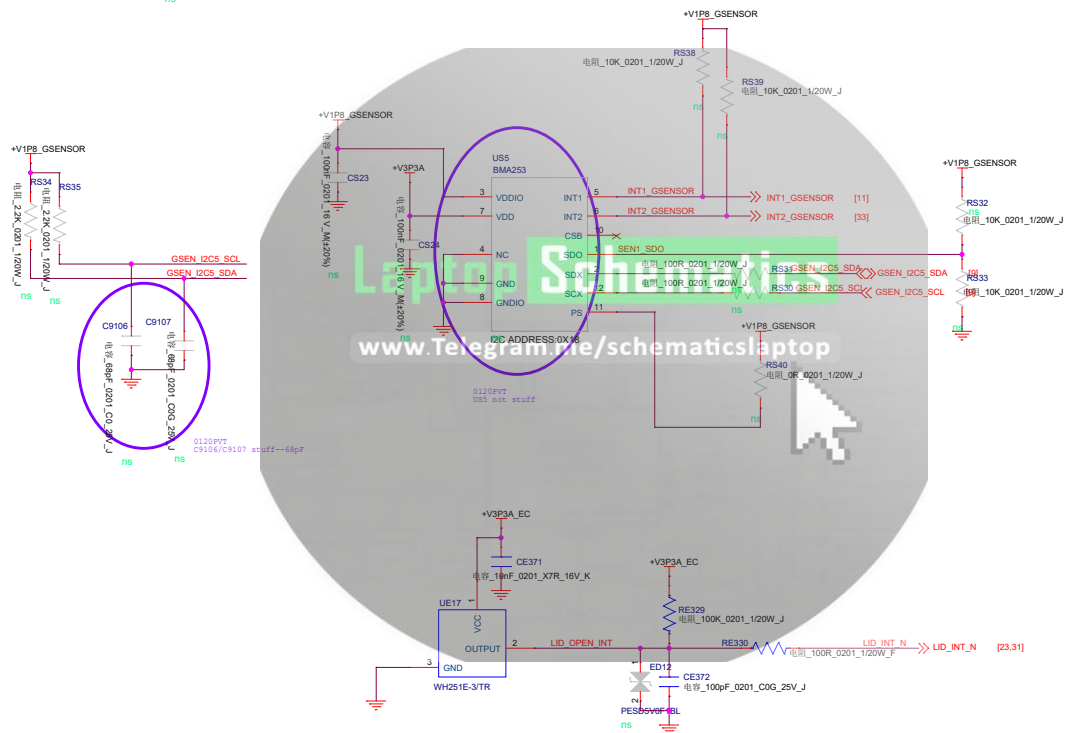


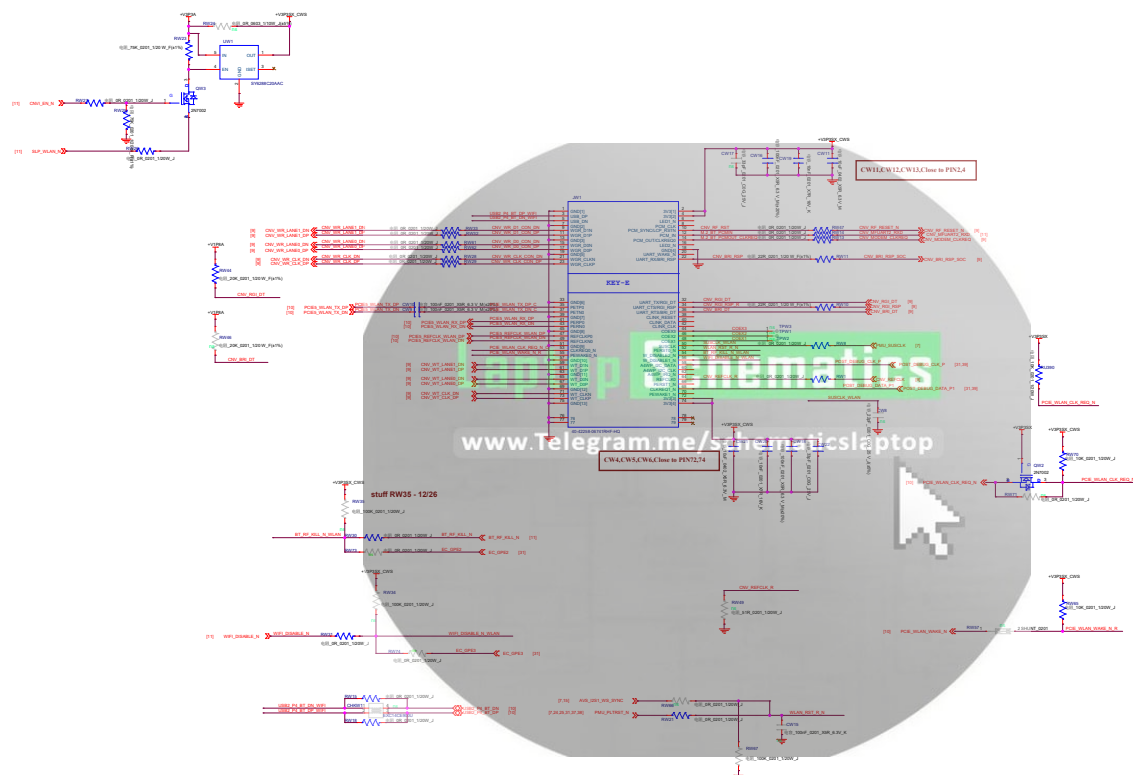
SSD

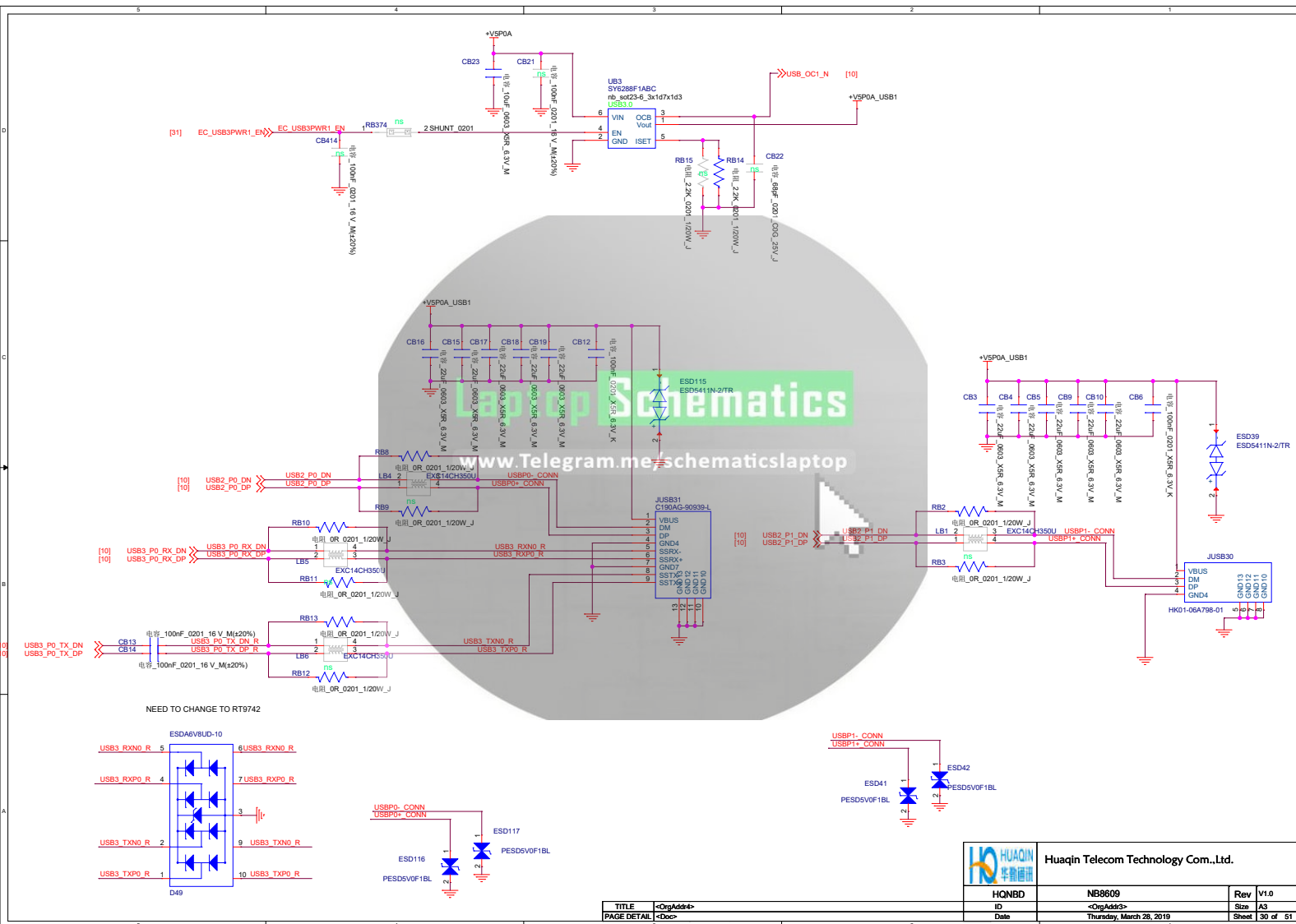


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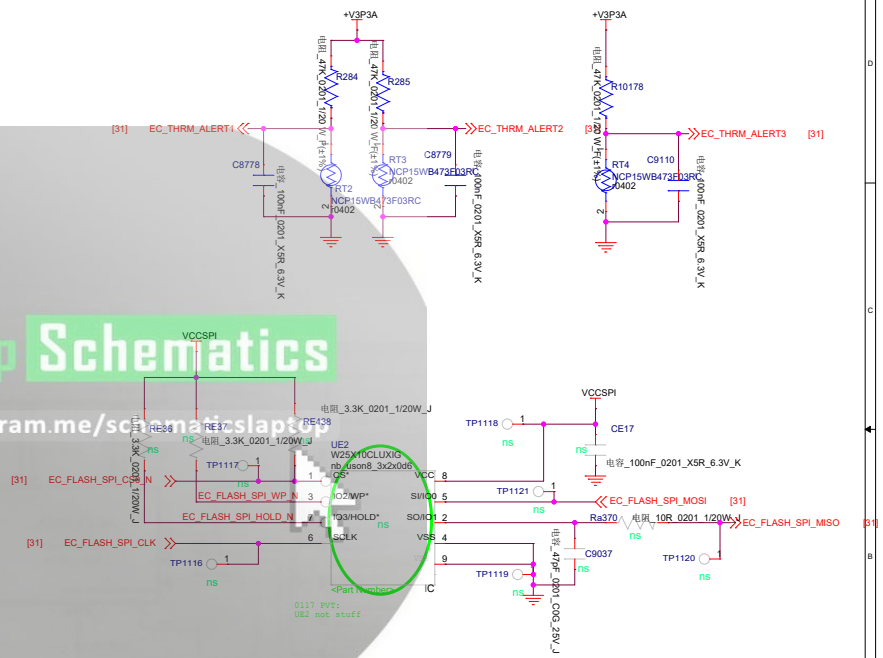


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Laptop Schematics

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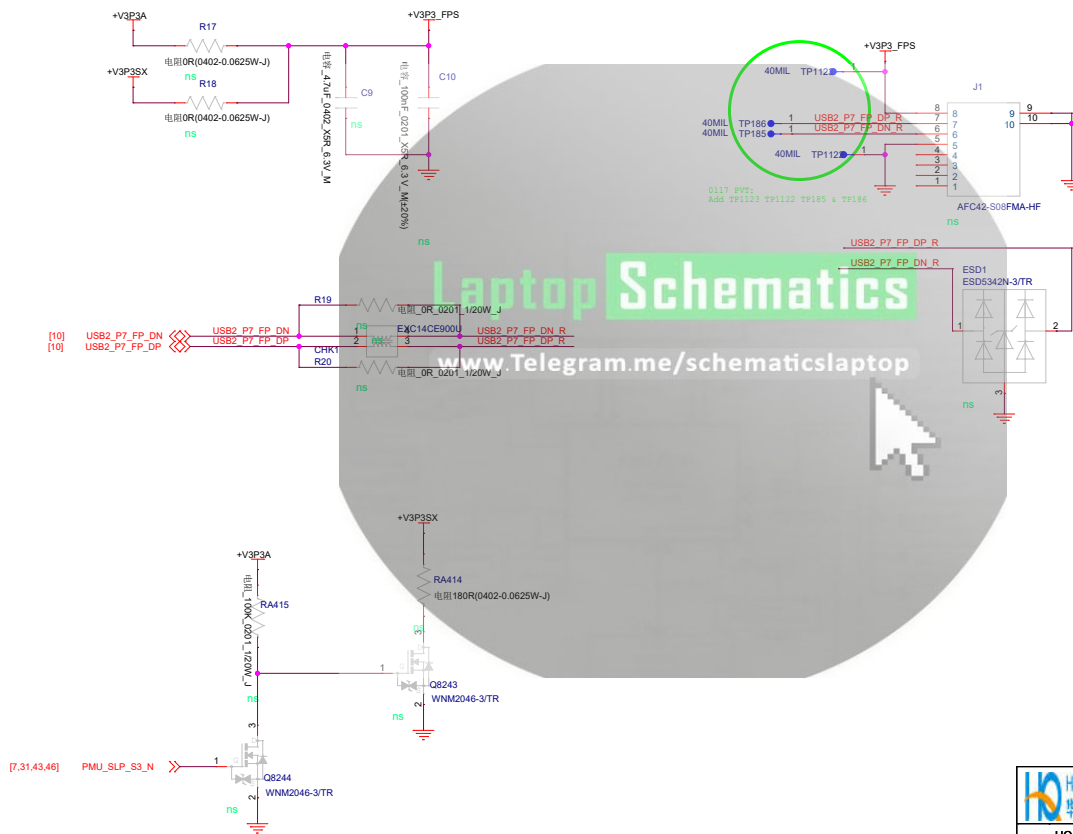


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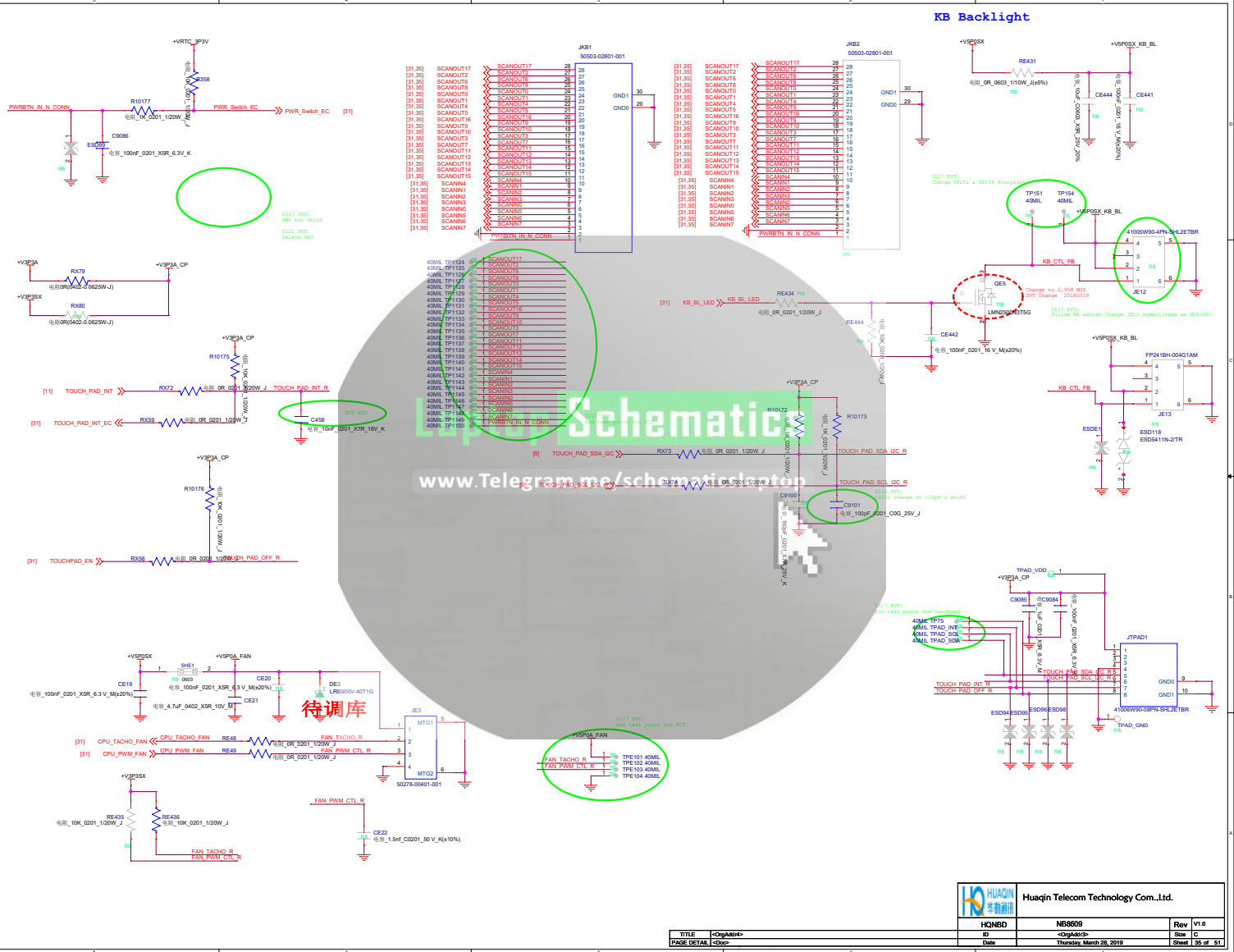
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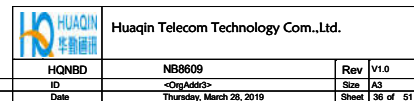
Finger Print CONN



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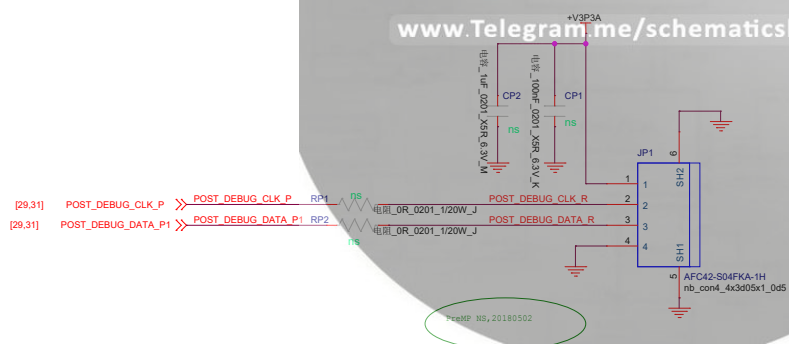


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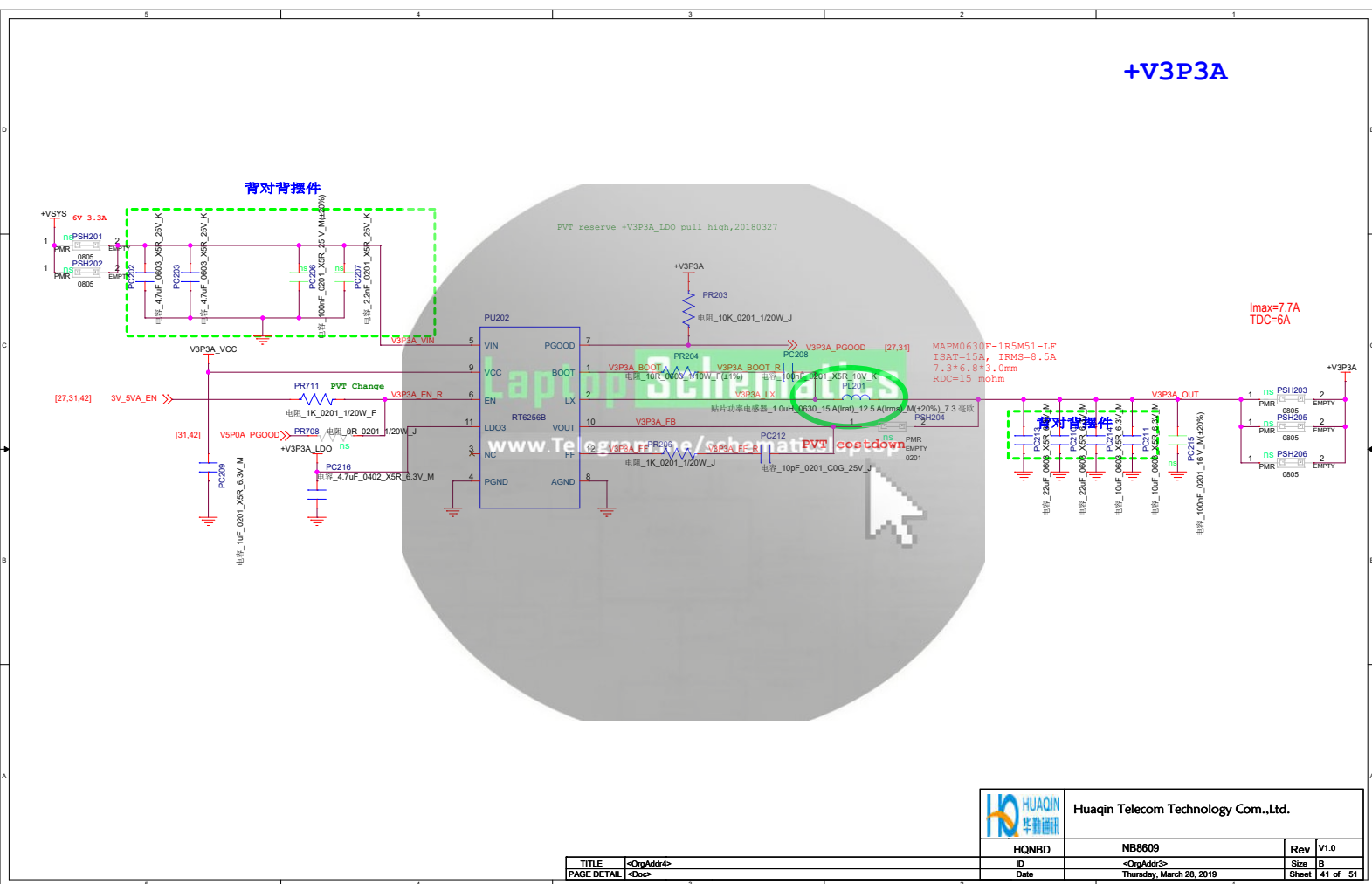
Laptop Schematics

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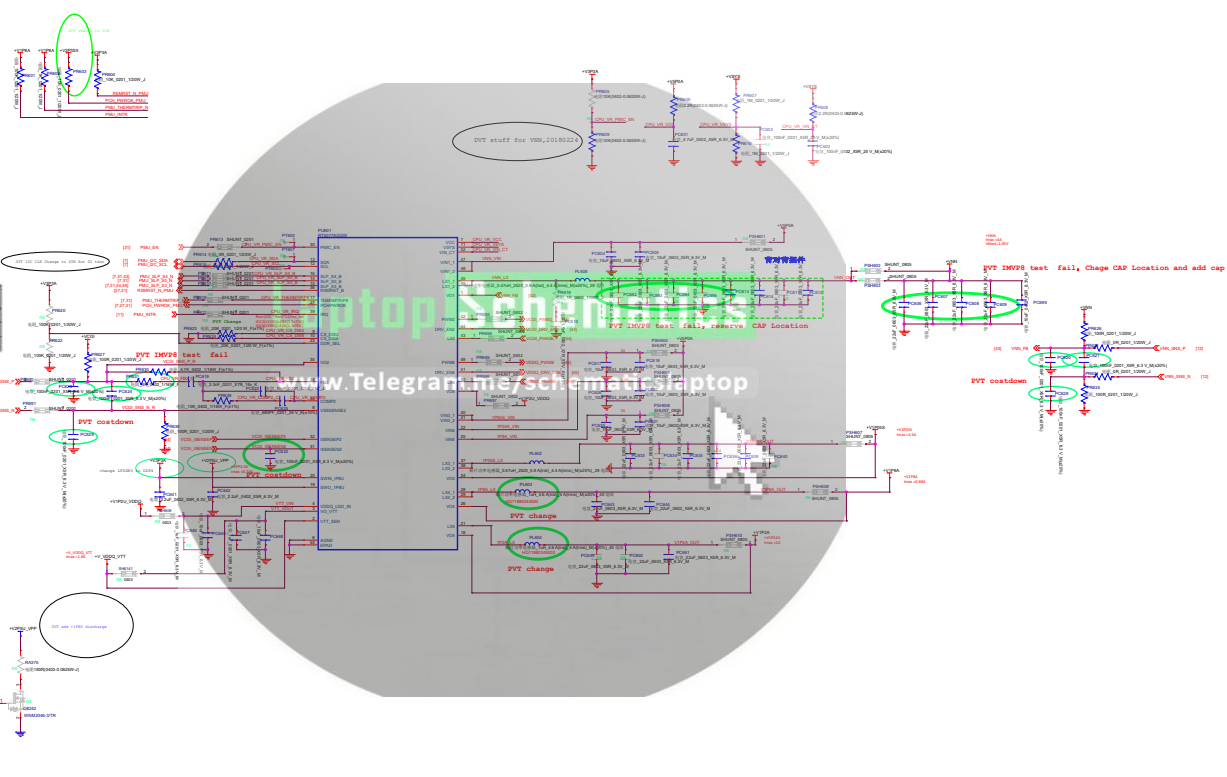


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DDR_SEL Pin State	Buck6 Nominal Output Voltage	DDR Technology
H	1.2V	LPDDR3
Floating	1.2V	DDR4 (optional)
L	1.1V	LPDDR4



VCGI

+VCGI
Imax = 25A
Vboot=0V

can reduce 3 pos cap not add costdown plan

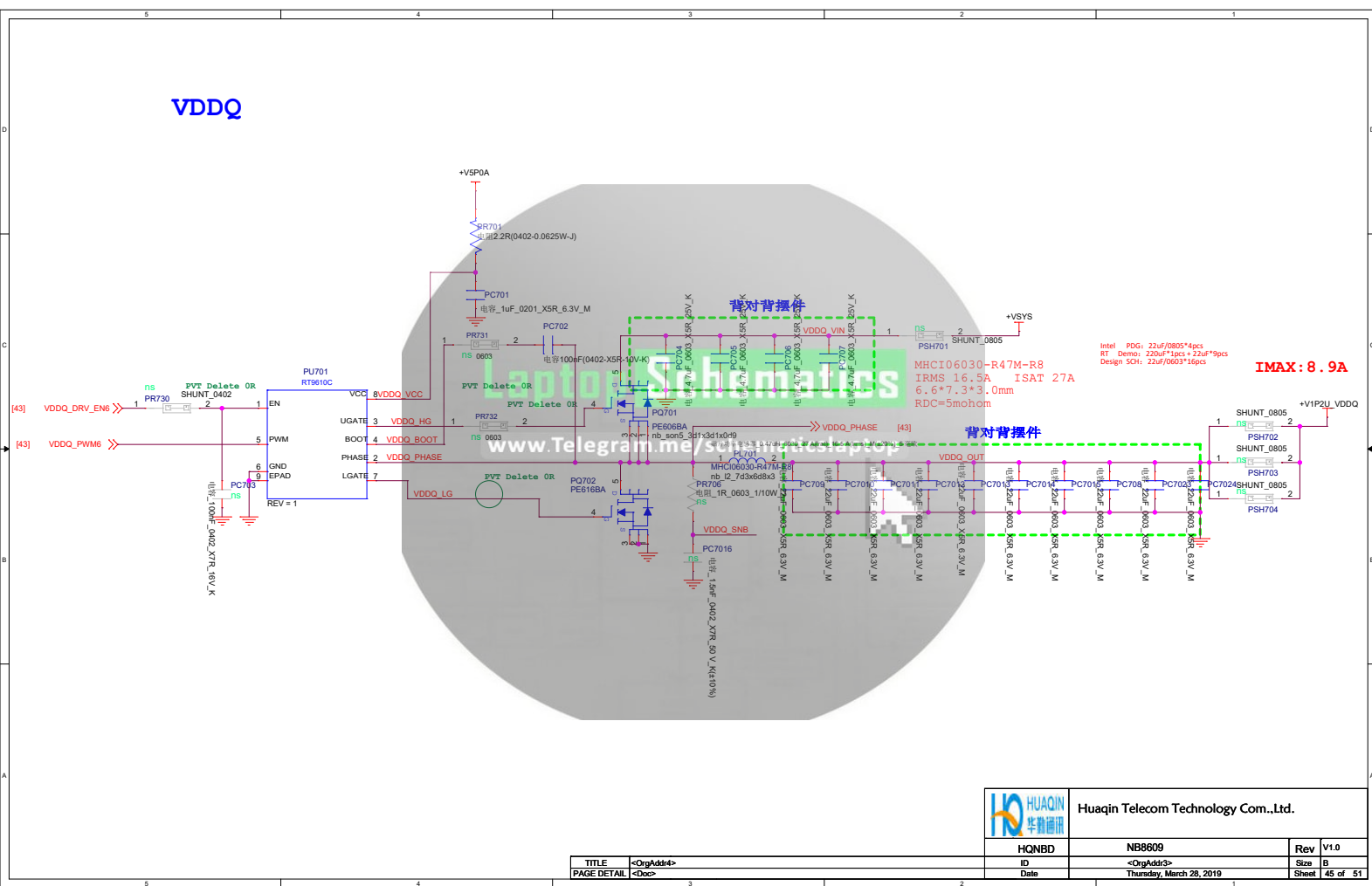
PVT IMVP8 test fail

PRT601 Close to choke



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V3P3SX V5P0SX V1P8SX

ITDC:1000mA

ID=6A, RDS (ON) =17mΩ

IMAX: 3.72A

PVT costdown

IMAX: 2.75A

PVT costdown



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D

C

B

A

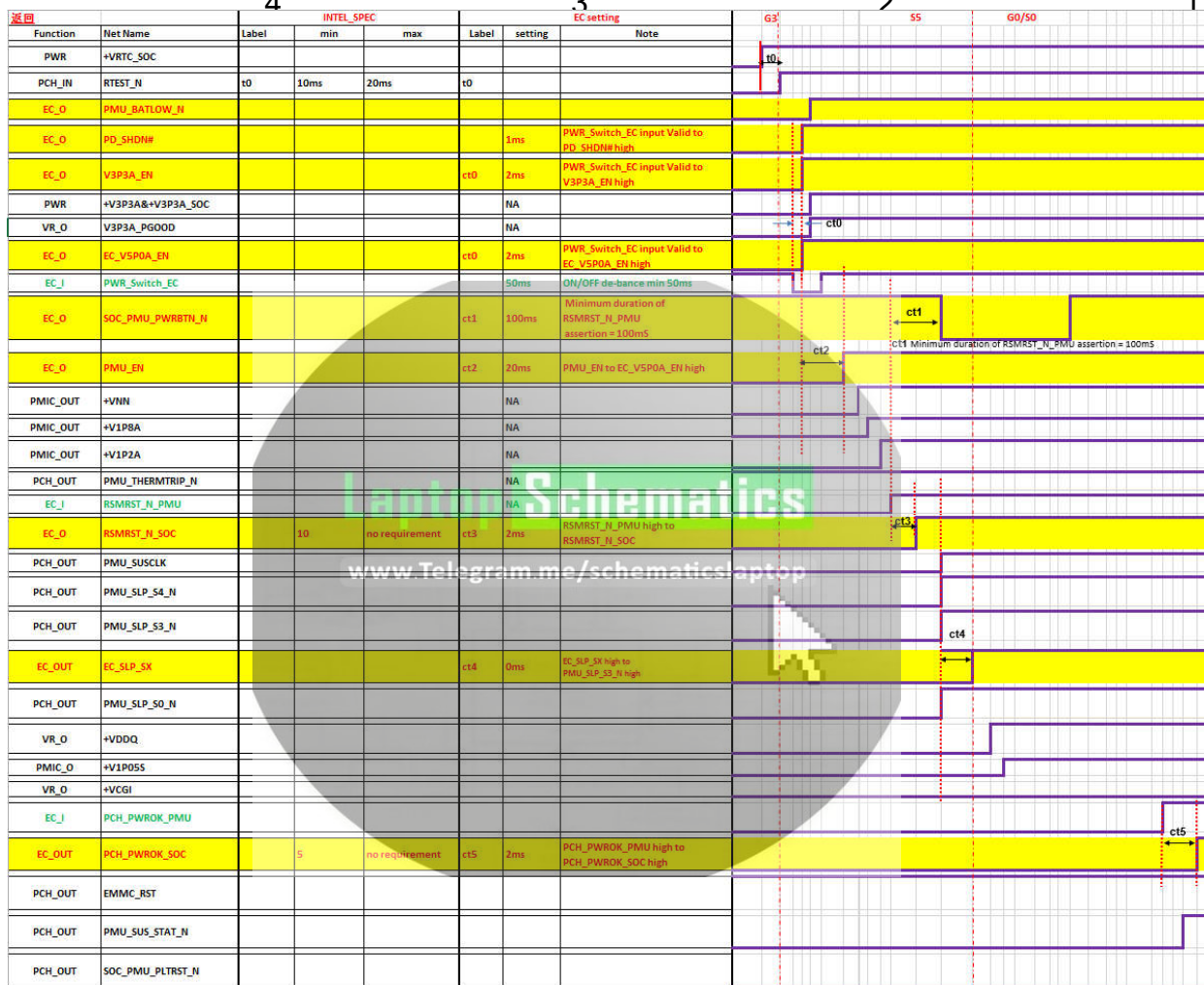
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4

3

2

1



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4

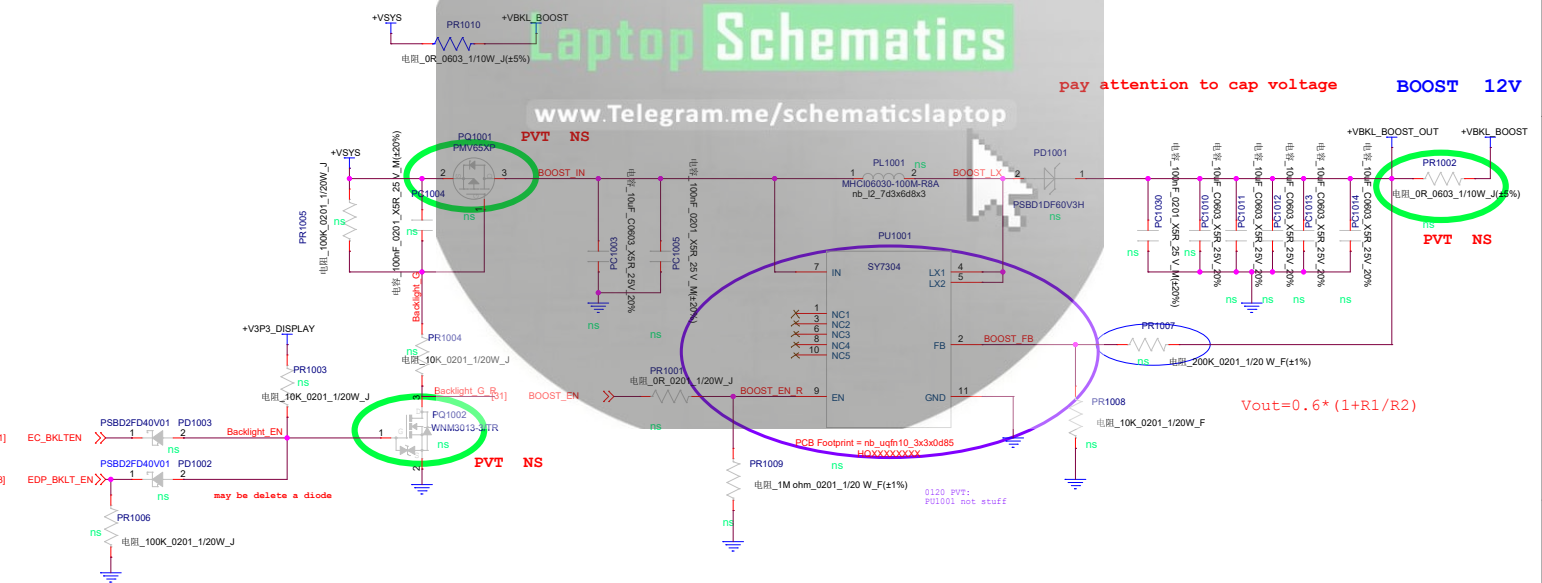
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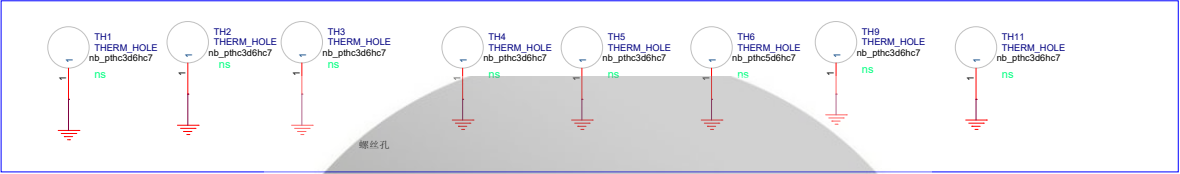
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1

Parameter	Symbol	Values			Unit	Notes
		Min	Typ	Max		
LED Power Input Voltage	V _{LED}	6.0	12.0	21.0	V	1
LED Power Input Current	I _{LED}	-	TBD	TBD	mA	2
LED Power Consumption	P _{LED}	-	TBD	TBD	W	
LED Power Inrush Current	I _{LED_P}	-	-	1.5	A	3
PWM Duty Ratio		5	-	100	%	4

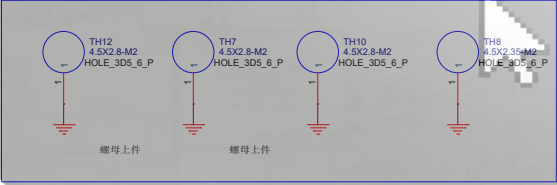
battery 2S need add






Laptop Schematics

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1.Add Battery SMBUS test point,PT603,PT604.----20180131
2.JHD01 PIN4&PIN5 NC.----20180131
3.Memory ID table order from ID0,ID1,ID2 to ID2,ID1,ID0--20180202



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