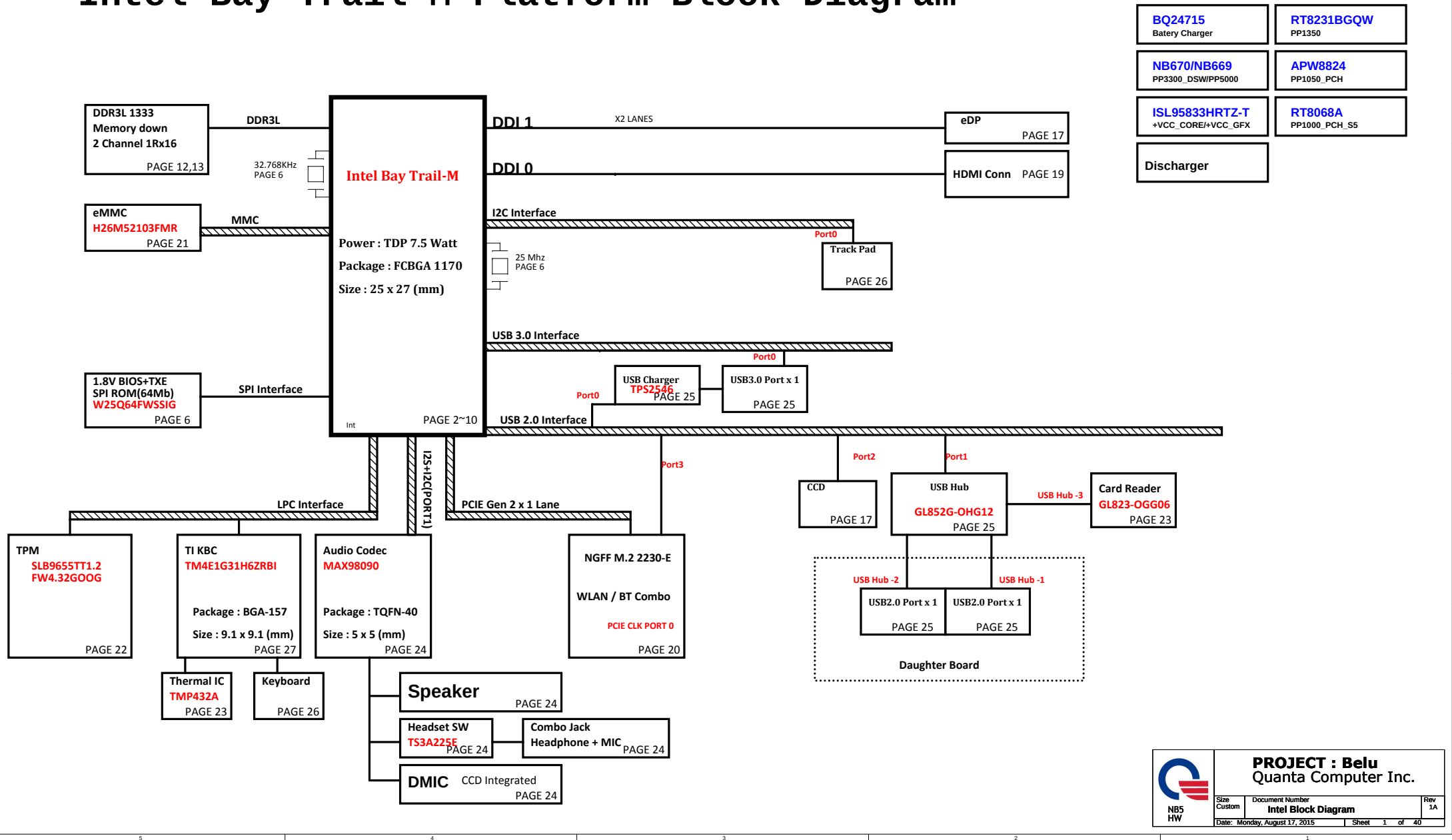
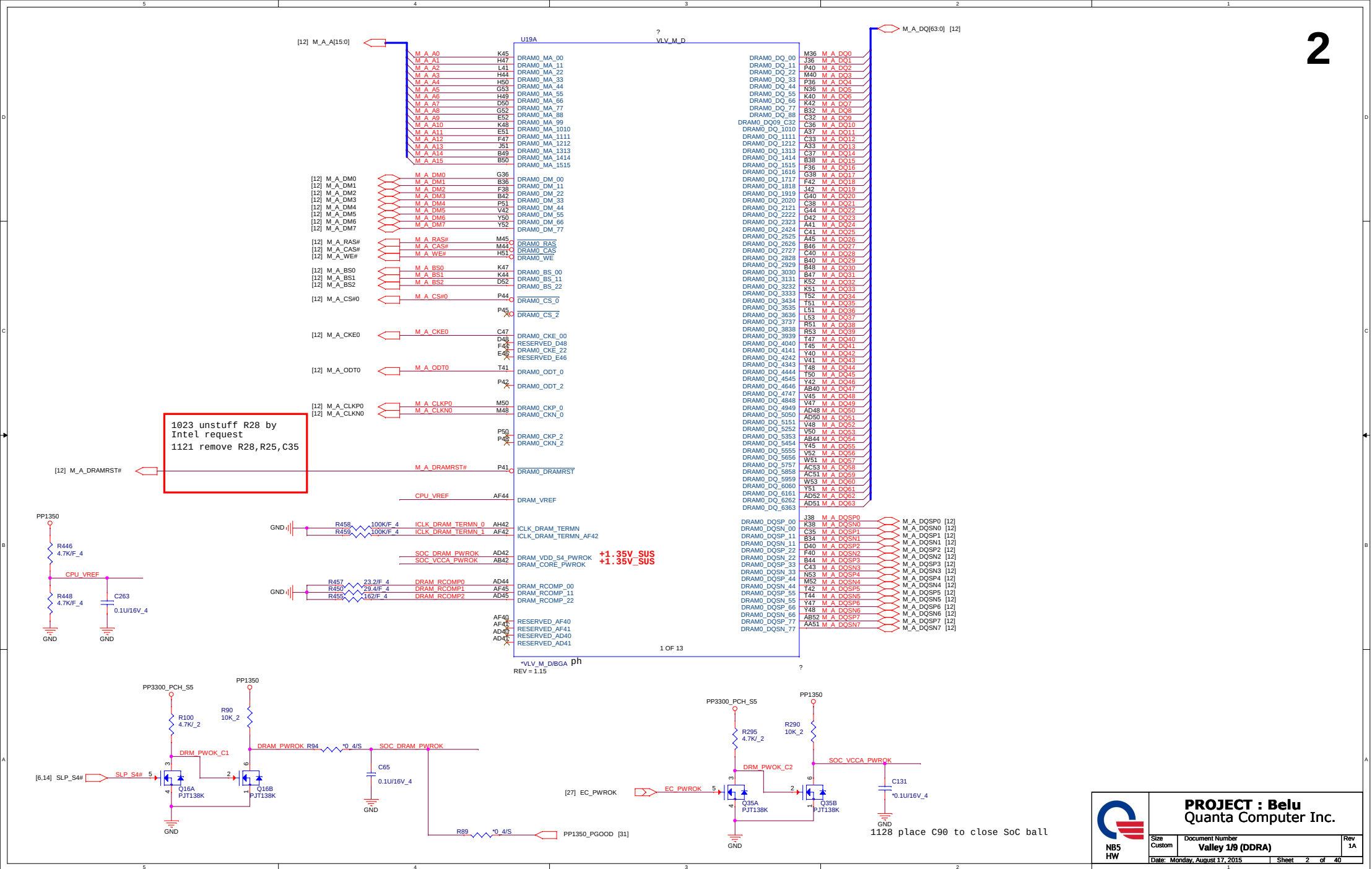


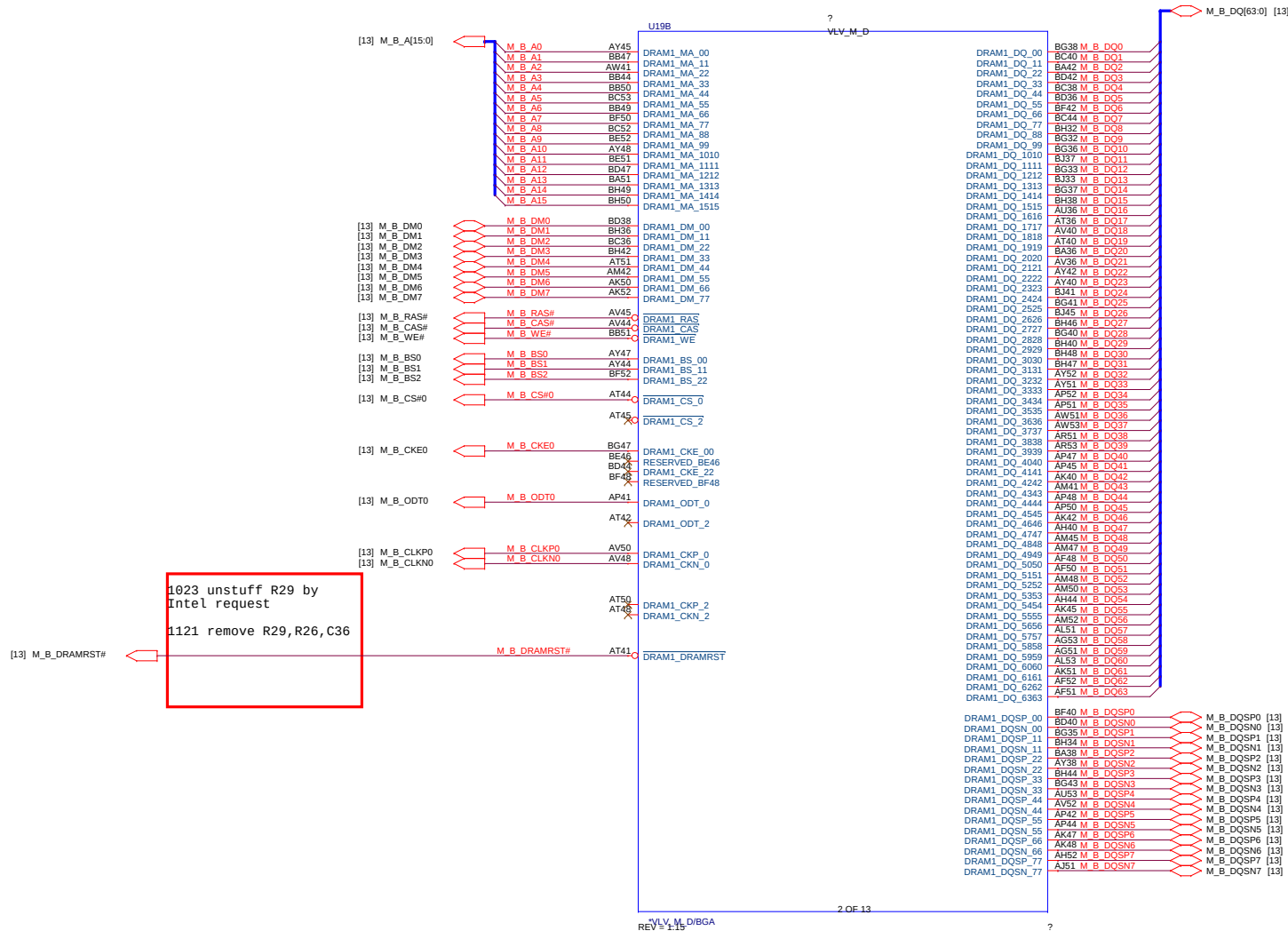
Belu (Y0JU 14") Model: TPN-Q167

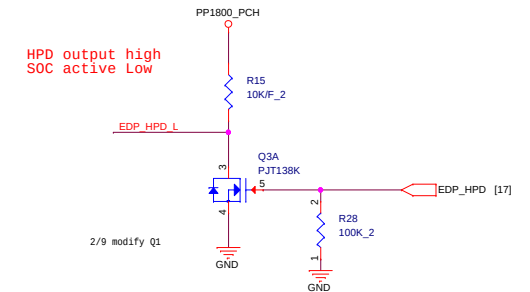
Intel Bay Trail-M Platform Block Diagram

01





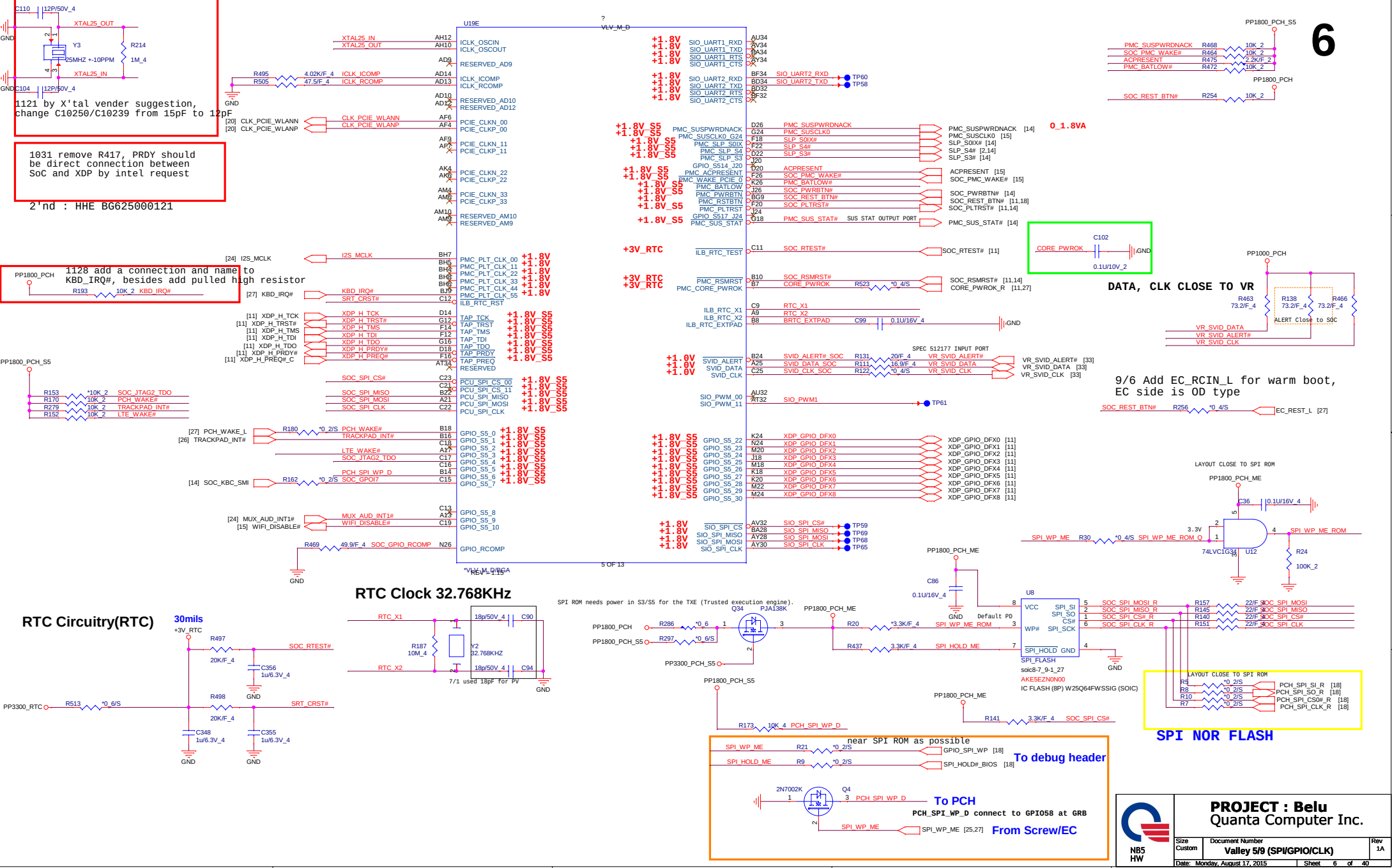


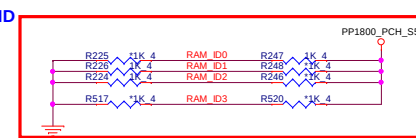


*VLV_M_D/BGA
REV = 1.15

1029 unstuff R10398, using SoC internal PU			
1029 unstuff R10410, using SoC internal PU			
1115 stuff R10410 system can't boot if un-stuff R10410 on proto1.5 board, need intel double confirm before proto2			
1029 unstuff R10063, using SoC in		PROJECT : Belu	to be de
1115 stuff R10063, it is required	NB5	Size Custom	Document Number Valley 3/9 (Display)
			Rev 1A







Freq. 1600MHz

Vender	RAM_ID(3,2,1,0)	TOP B/S PN	Mfr. PN	Channel	Size
Hynix	X001	AKD5JGETW07	H5TC4G63AFR-PBA	2CH	4GB
Elpida	X010	N/A	EDJ4216EFB6-GNL-F	2CH	4GB
SAMSUNG	X011	AKD5PGST508	K4B4G1646Q-HYK0	2CH	4GB
Micron E die	X000	AKD5JGSL06	MT41K256M16HA-125:E	2CH	4GB
Elpida	X110	AKD5JGSL410	EDJ4216EFB6-GNL-F	1CH	2GB
Hynix	X101	AKD5JGETW07	H5TC4G63AFR-PBA	1CH	2GB
SAMSUNG	X111	AKD5PGST508	K4B4G1646Q-HYK0	1CH	2GB
Micron Edie	X100	AKD5JGSL06	MT41K256M16HA-125:E	1CH	2GB
Micron N die	1100	AKD5PGSL18	MT41K256M16LY-107:N	1CH	2GB
Micron N die	1000	AKD5PGSL18	MT41K256M16LY-107:N	2CH	4GB

PORT 1 USB CONN
PORT 2 USB CONN
PORT 3 Card Reader

MB USB3.0

HUB1

CCD

BT

[25] USBP0+

[25] USBP0-

[25] USBP1+

[25] USBP1-

[17] USBP2+

[17] USBP2-

[20] USBP3+

[20] USBP3-

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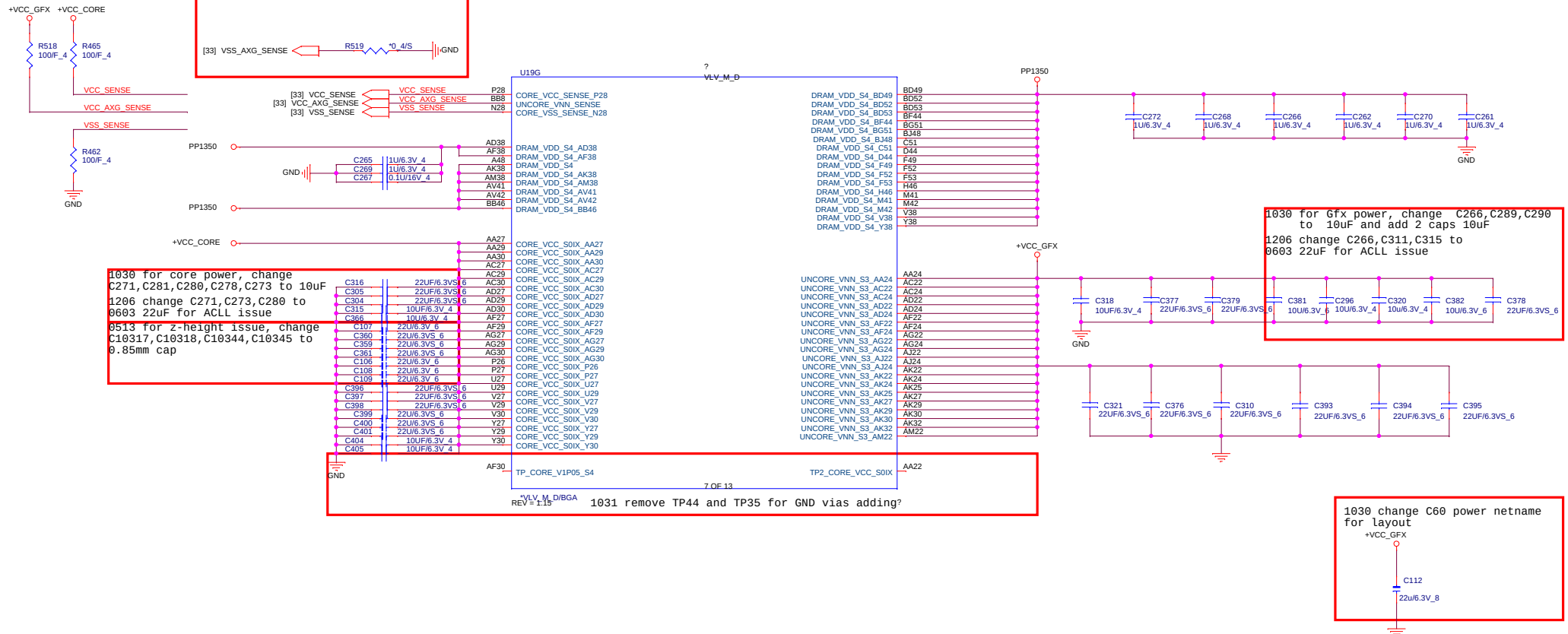
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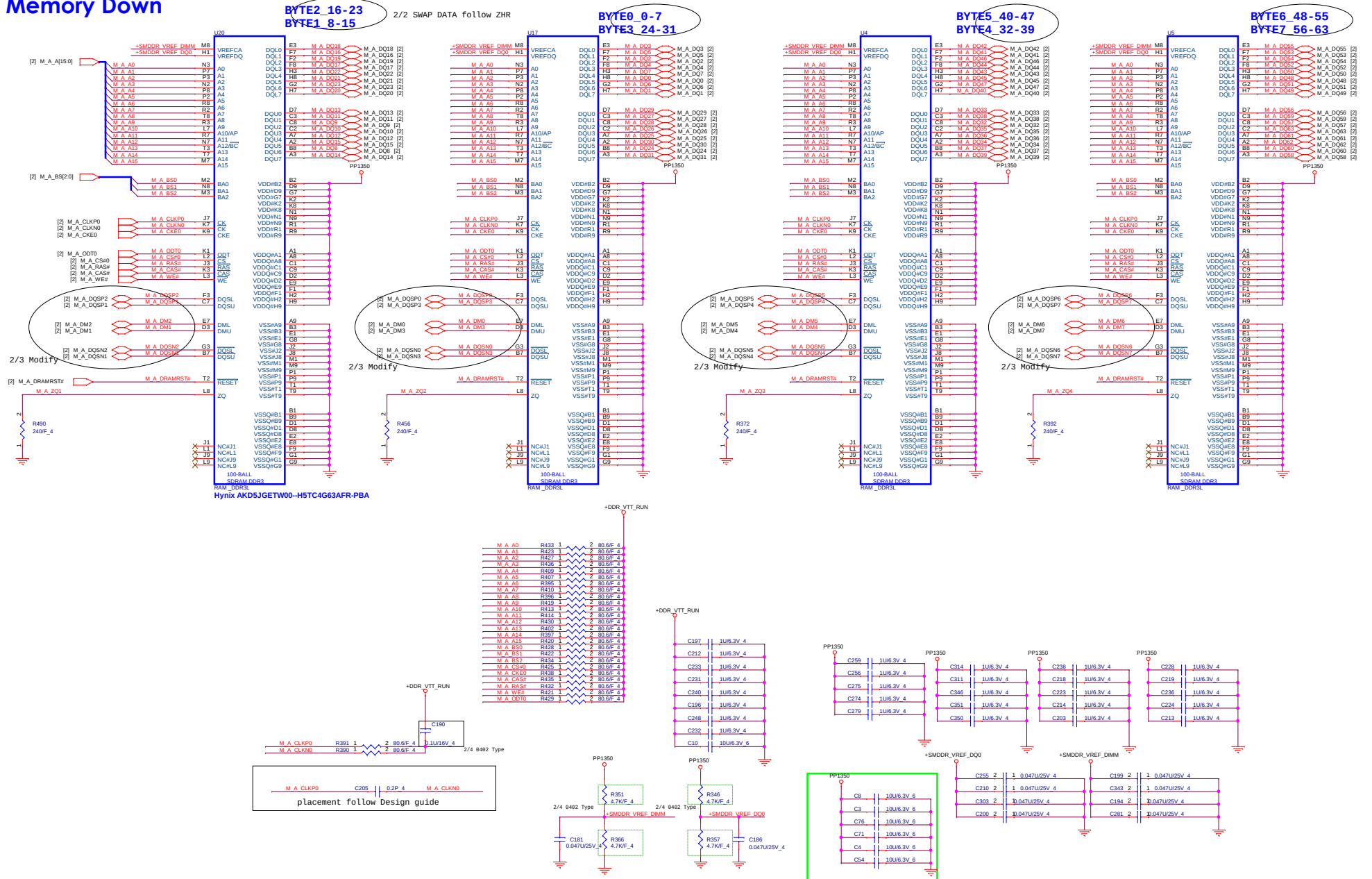


NB5
HW

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Quanta Computer Inc.

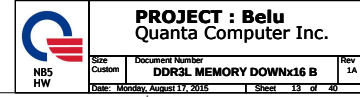
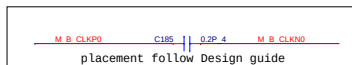
Size Custom	Document Number Valley 9/9 (GND)	Rev 1A
Date: Monday, August 17, 2015	Sheet	10 of 40

DDR3 CHA Memory Down



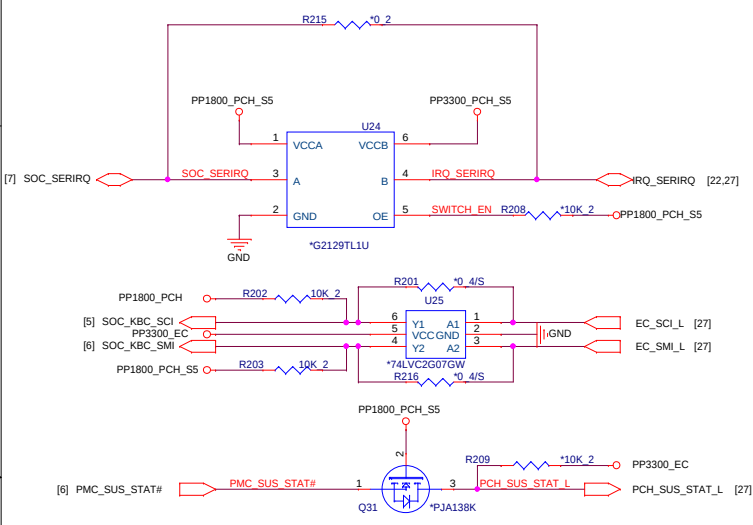
BYTES_40-47

BYTES_56-63

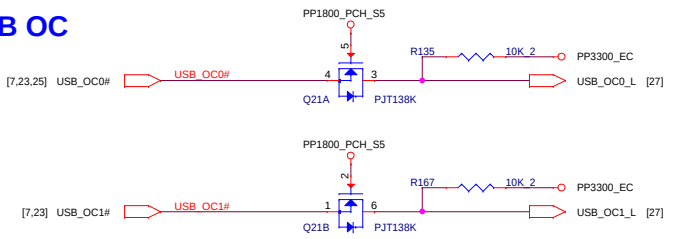


PWRON SEQUENCE

9/6 EC table says SERIRQ is OD pin, reserve for debugging
 1128 remove R166, because SERIQR of TPM needs 3V
 1128 reserve 0 ohm R387/R391 on VCCA and VCCB for debugging

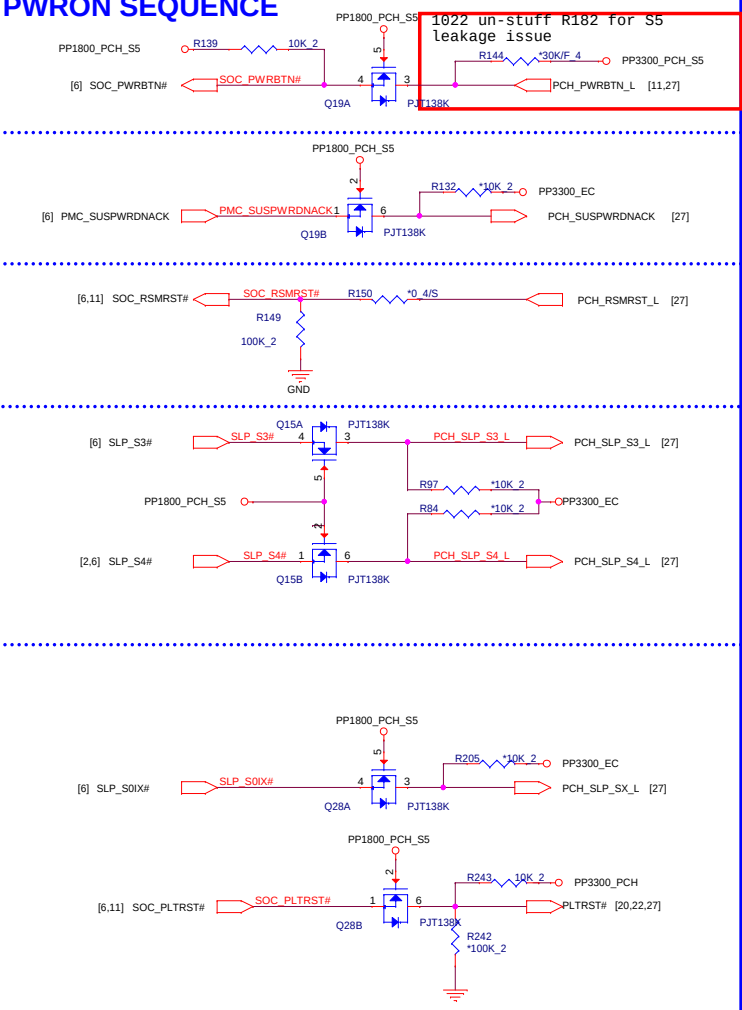


USB OC



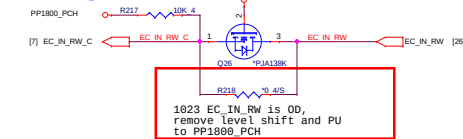
Stuffing for notifying EC

PWRON SEQUENCE

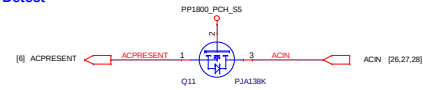


0220 remove SPI/SIO Interface,
 Q35,Q36,Q37,Q44,R486,R484,R485,
 R483,R426,R429,R427,R428

HW RESET



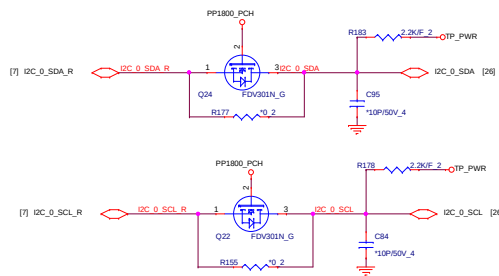
AC Detect



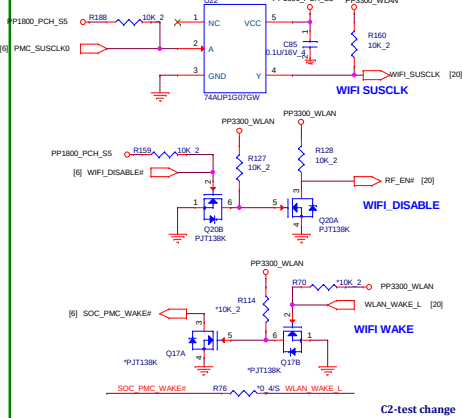
SATA

1025 Delete complete SSD(connector and caps)

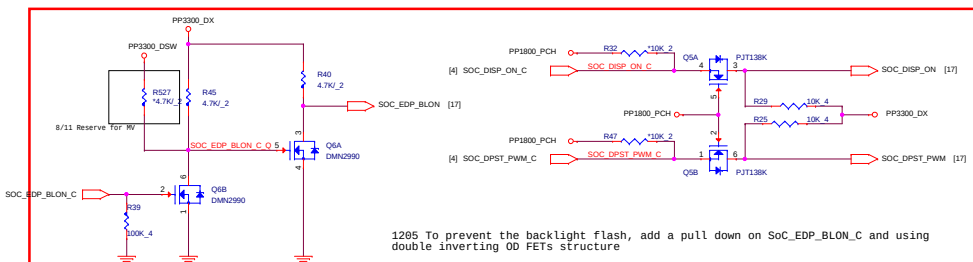
Track Pad



WIFI



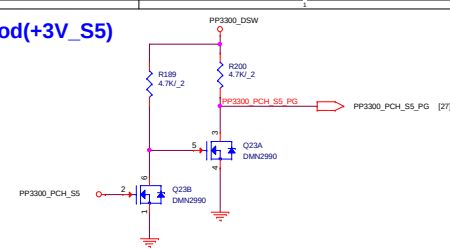
eDP control pin



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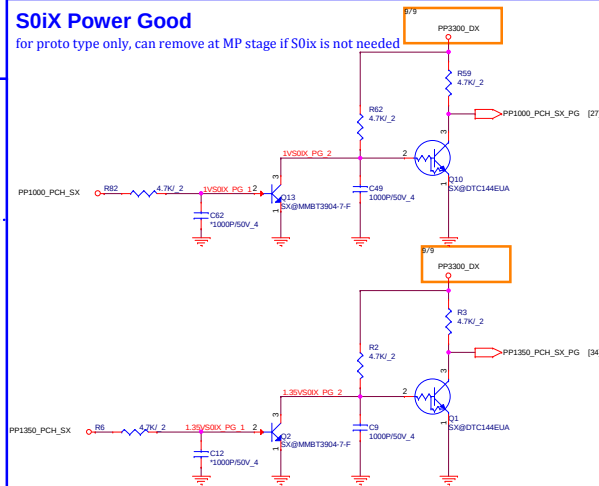
S5 Power Good(+3V_S5)

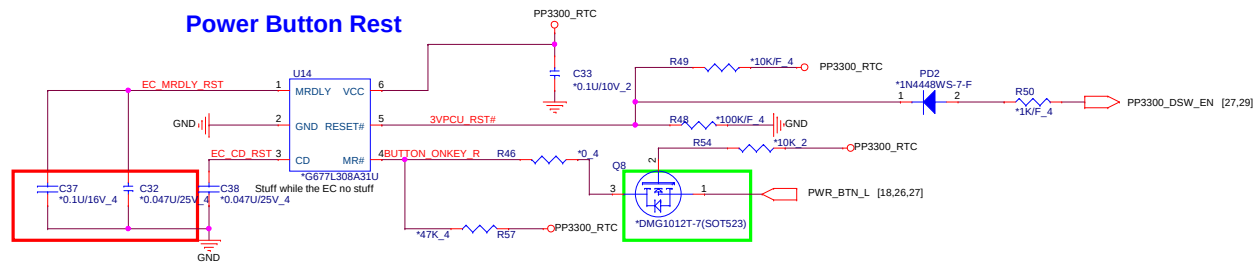
6838 A24



S0iX Power Good

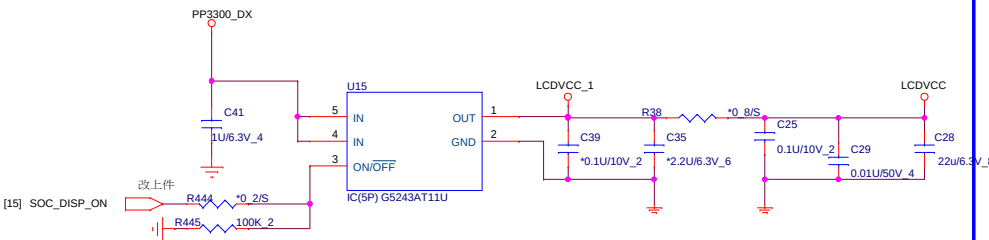
for proto type only, can remove at MP stage if S0ix is not needed



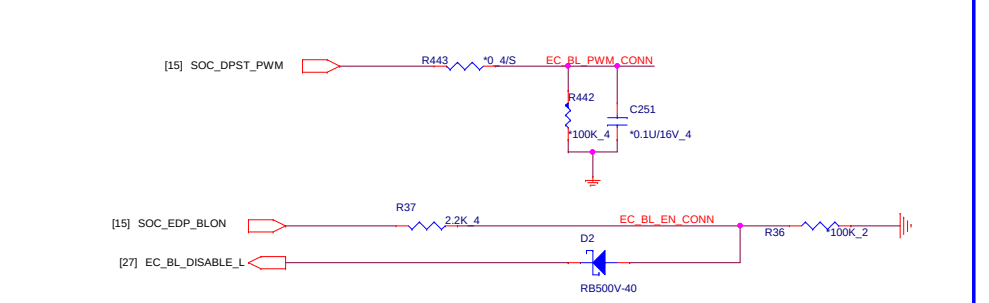


 NB5 HW	PROJECT : Belu Quanta Computer Inc.		
	Size Custom	Document Number PM Board/Reset PBT	Rev 1A
	Date: Monday, August 17, 2015	Sheet 16 of 40	1

eDP Power(VGA)

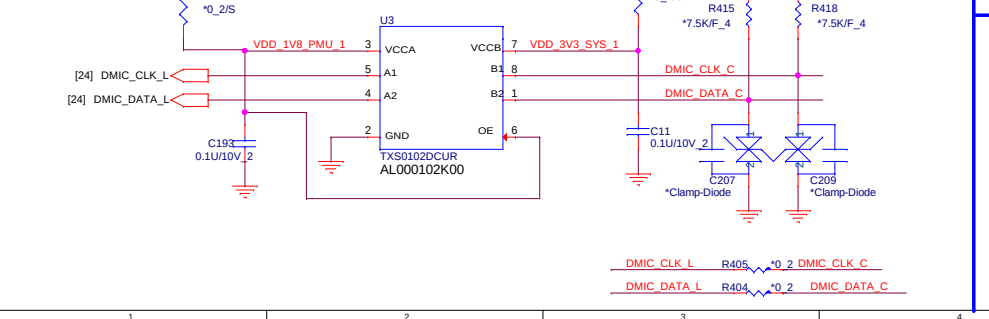


eDP panel control(VGA)

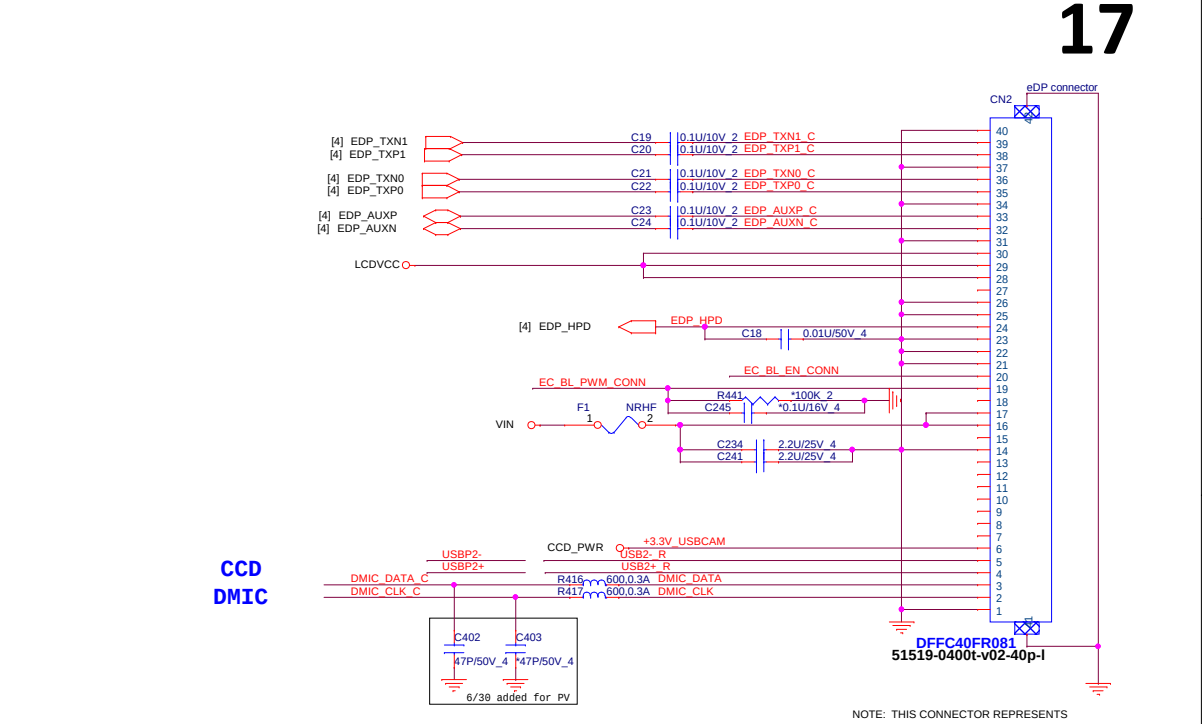


Camera level shift(05/13)

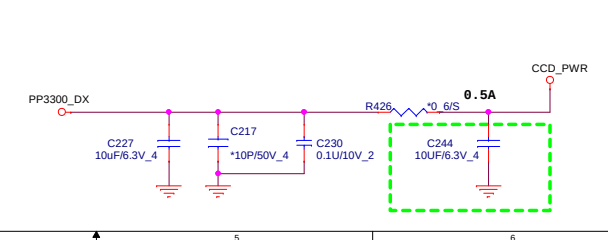
To Camera Level Shift



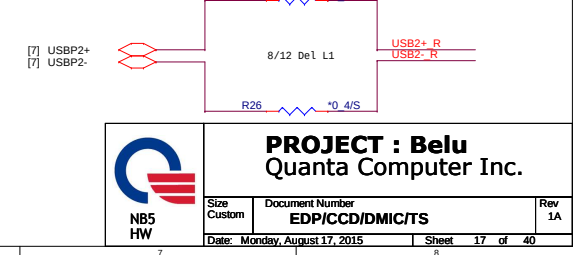
eDP(VGA)



CCD power(CCD)



CCD USB(CCD)



GOOGLE Debug Port(MPC)

50 pin BTB is MUST, don't use 42 pin

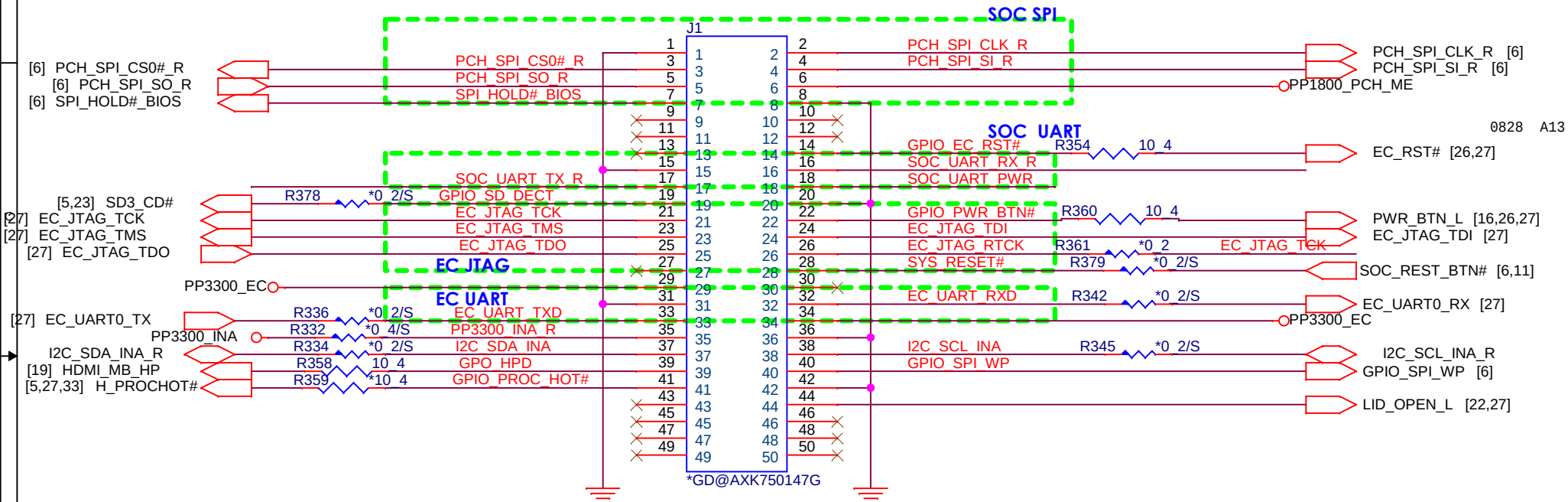
Socket part number AXK750147G

PIN7 OD
PIN14 OD
PIN19 OD
PIN22 OD
PIN28 OD
PIN30 OD
PIN37 OD
PIN38 OD

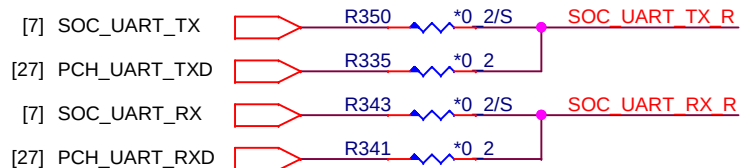
PIN39 OD
PIN41 OD
PIN43 OD
PIN44 OD
PIN45 OD
PIN46 OD
PIN47 OD
PIN48 OD

PIN49 OD
PIN50 OD

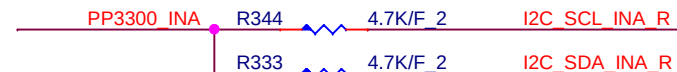
18



1021 change footprint and PN



9/13 add pull up



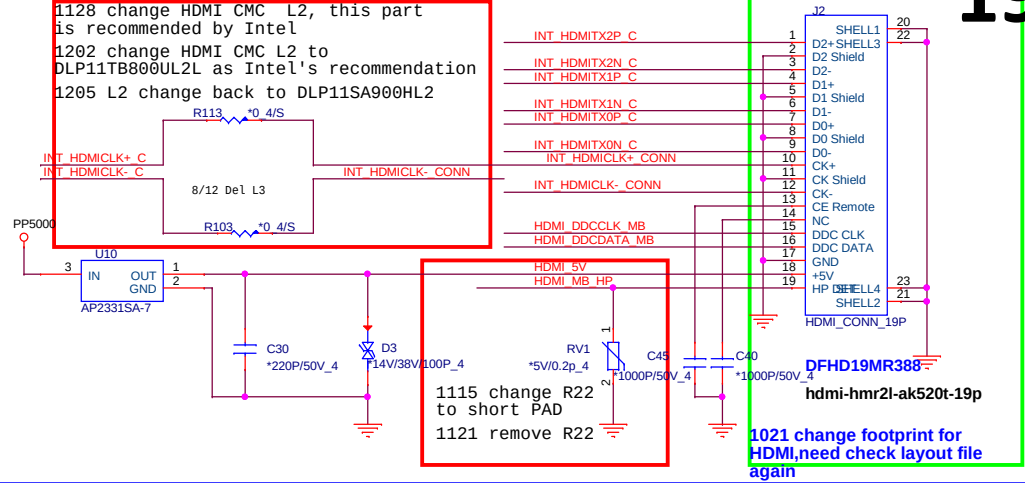
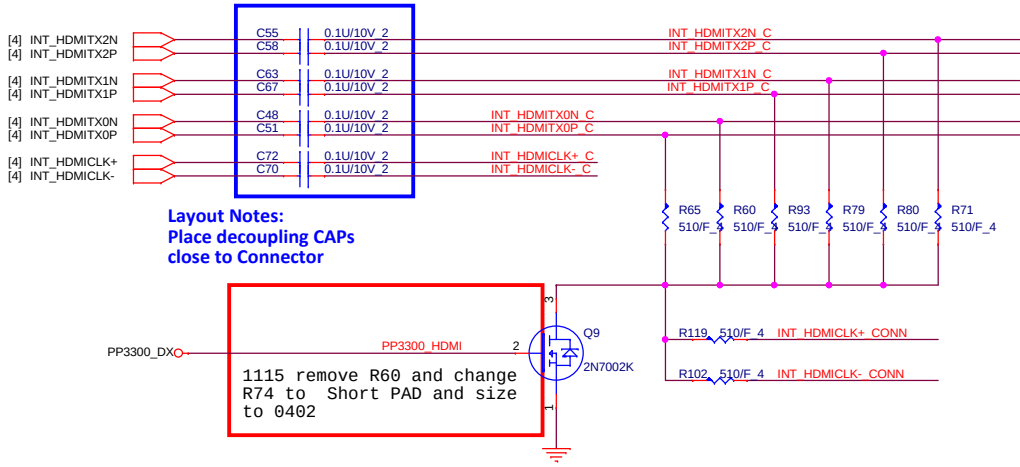
9/6 using optional instead of level shifted, default is from SoC

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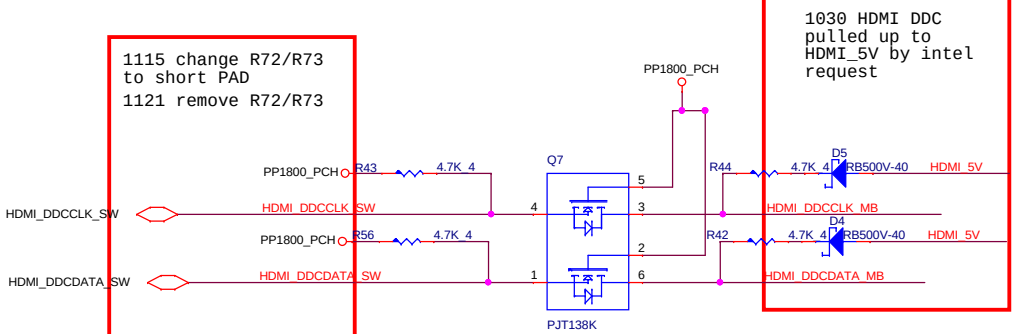
PROJECT : Belu
Quanta Computer Inc.

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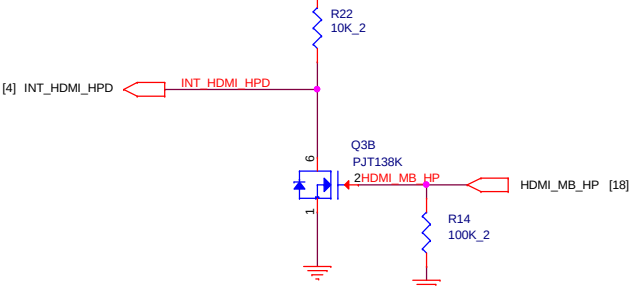


HDMI DDC (HDM)

HDMI DDC (HDM)

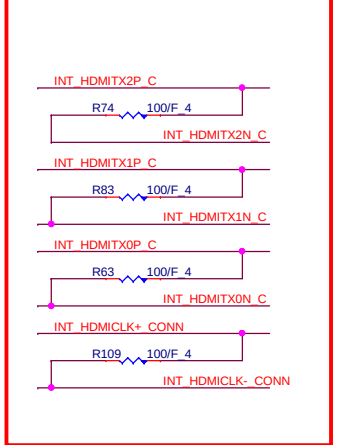


HDMI-detect (HDM)



EMI

ESD





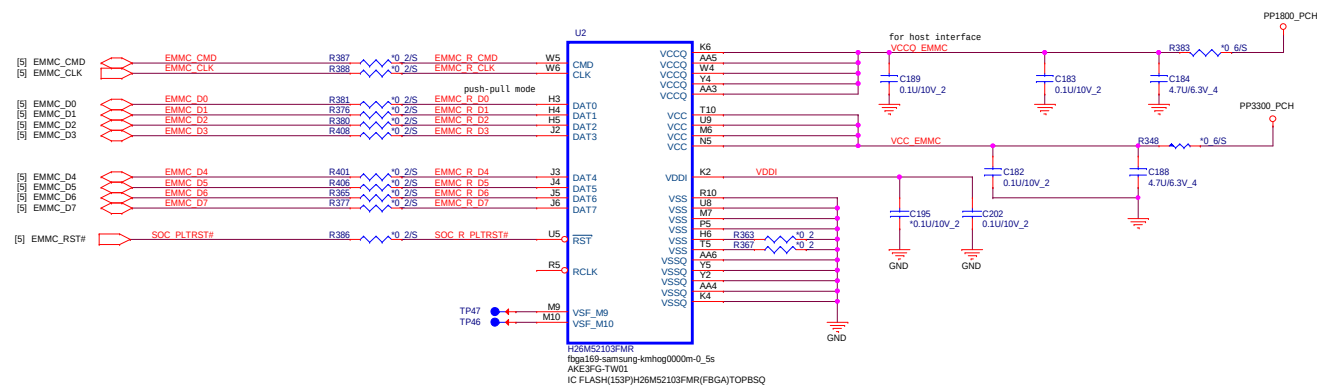
PROJECT : Belu
Quanta Computer Inc.

Size Custom	Document Number	Rev 1A
HDMI		
Date: Monday, August 17, 2015	Sheet 19 of 40	

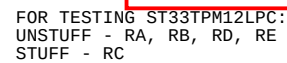


1025 Delete complete SSD(connector and caps)

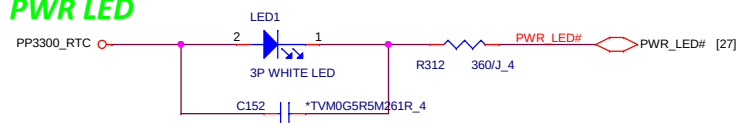
EMMC (CBS)



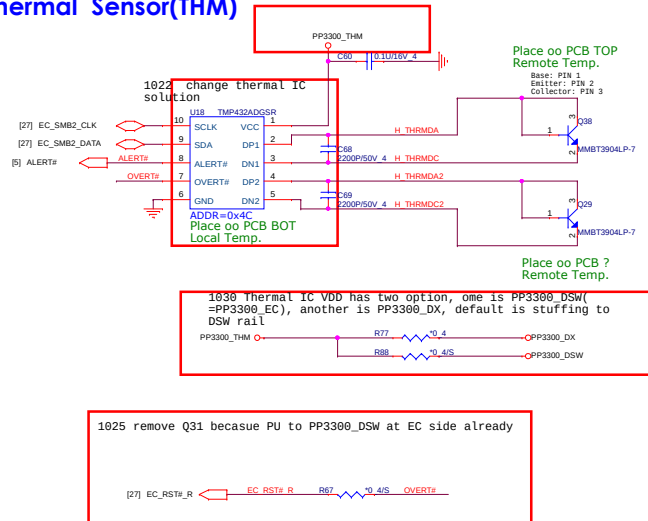
22



LID SENSOR

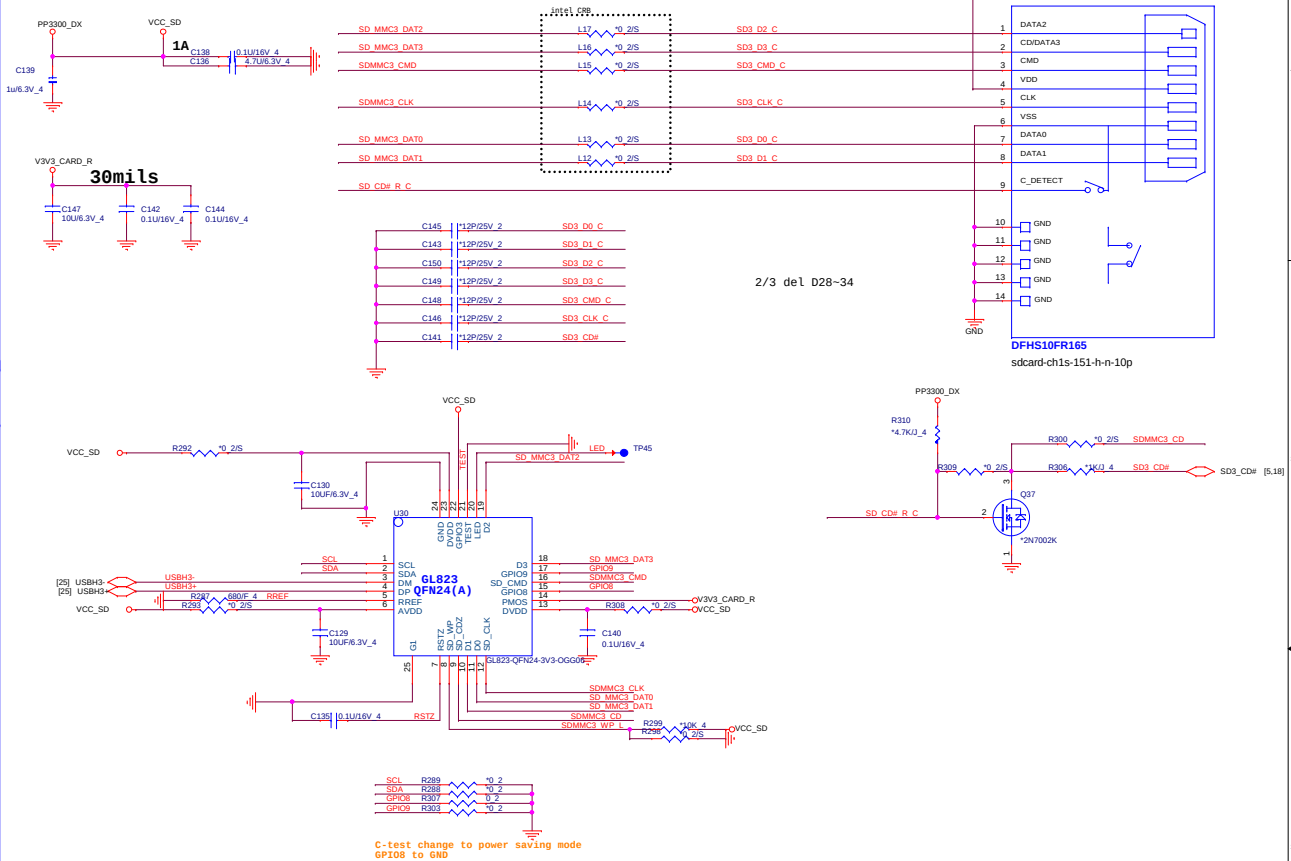


Thermal Sensor(THM)



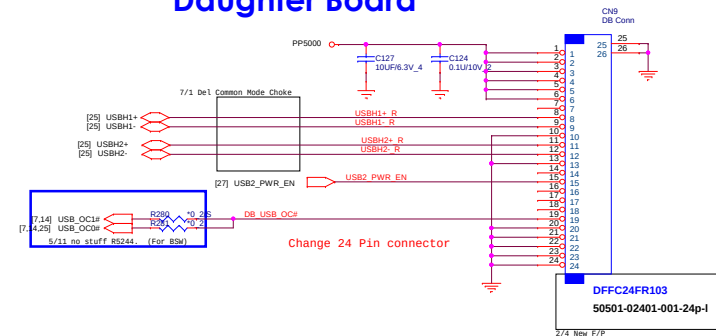
FUNCTION DB LTE(MNC)

Card Reader MicroSD Card Socket



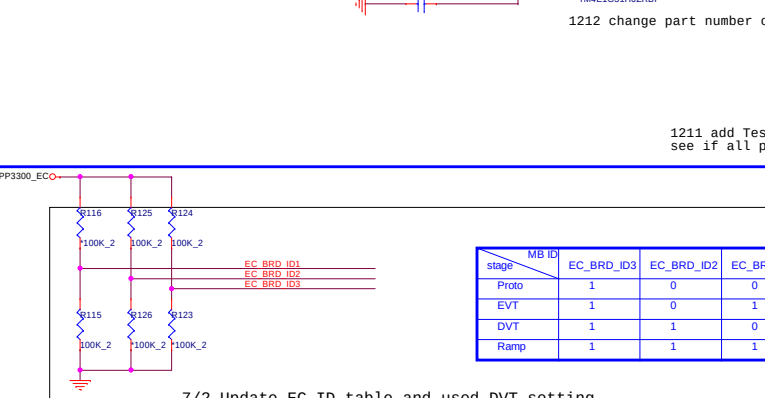
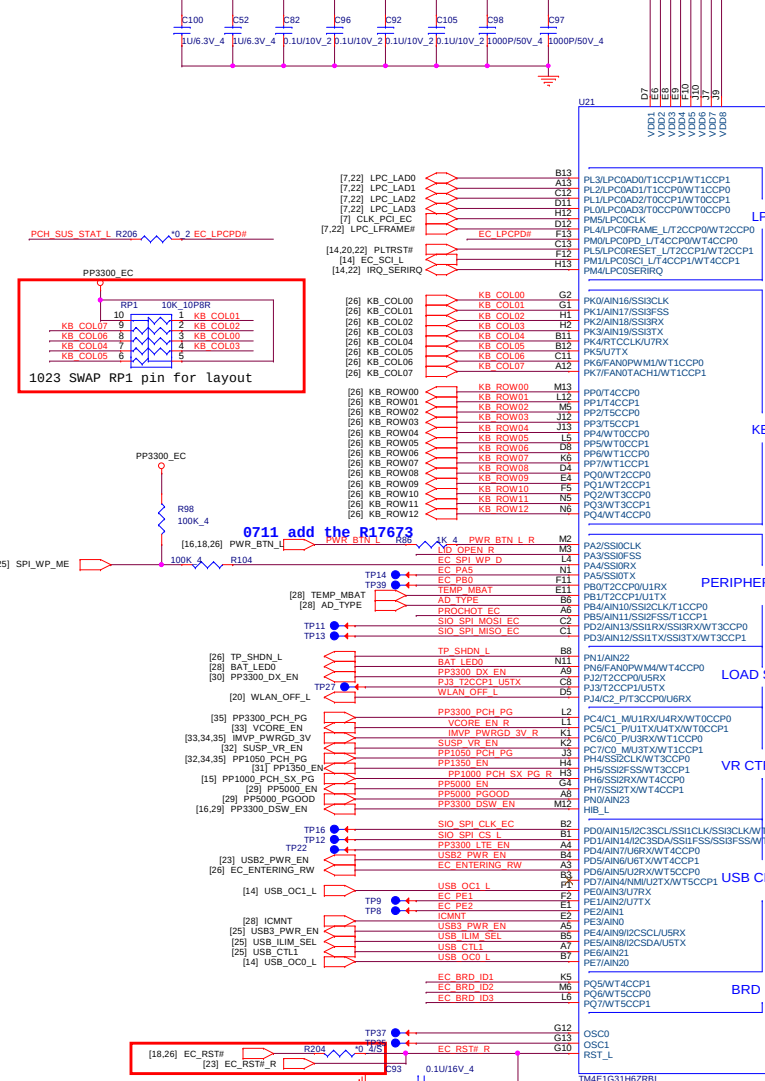
23

Daughter Board



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EC(KBC)



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1212 change part number of EC, which has a trial firmware inside

1211 add Test points on unused pins, need check layout to see if all points are ok

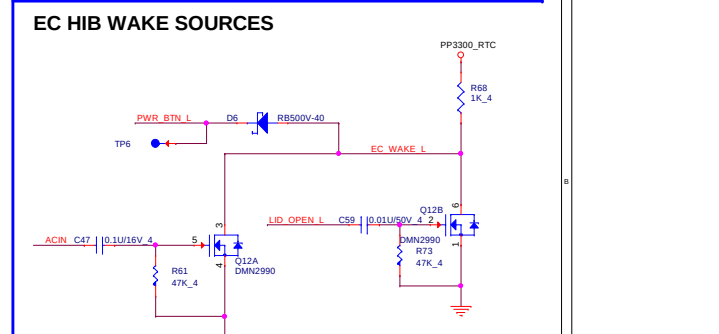
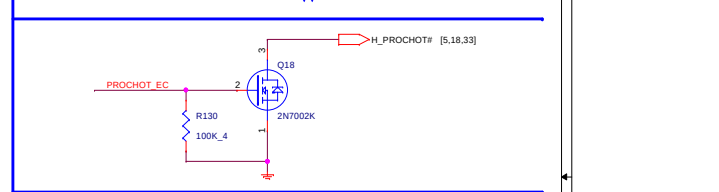
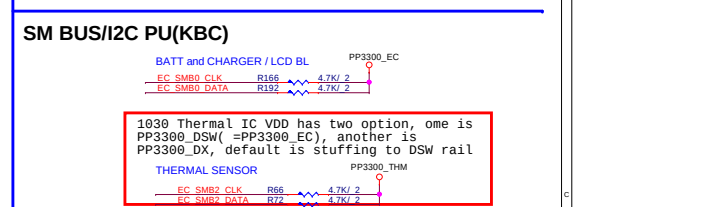
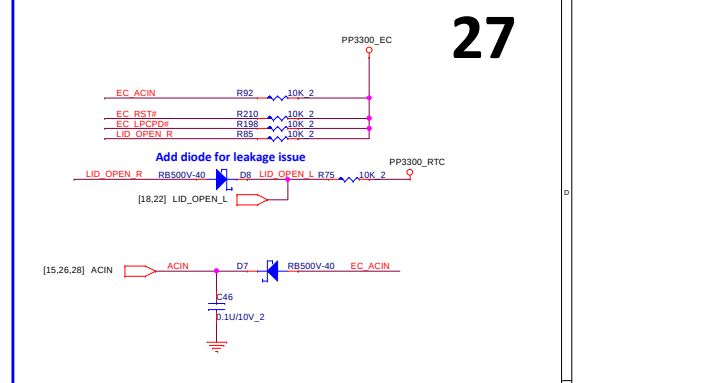
1212 add a connection and name to KBD_IRQ#, beside add pulled high resistor at SoC side

0713 For PP3300_P600D

1121 by X'tal vender suggestion, change C107/C109 from 15pF to 18pF

SM BUS ARRANGEMENT TABLE

SM Bus 0	BATT and CHARGER
SM Bus 1	NA
SM Bus 2	THERMAL SENSOR



1212 change part number of EC, which has a trial firmware inside

1211 add Test points on unused pins, need check layout to see if all points are ok

1212 add a connection and name to KBD_IRQ#, beside add pulled high resistor at SoC side

0713 For PP3300_P600D

1121 by X'tal vender suggestion, change C107/C109 from 15pF to 18pF

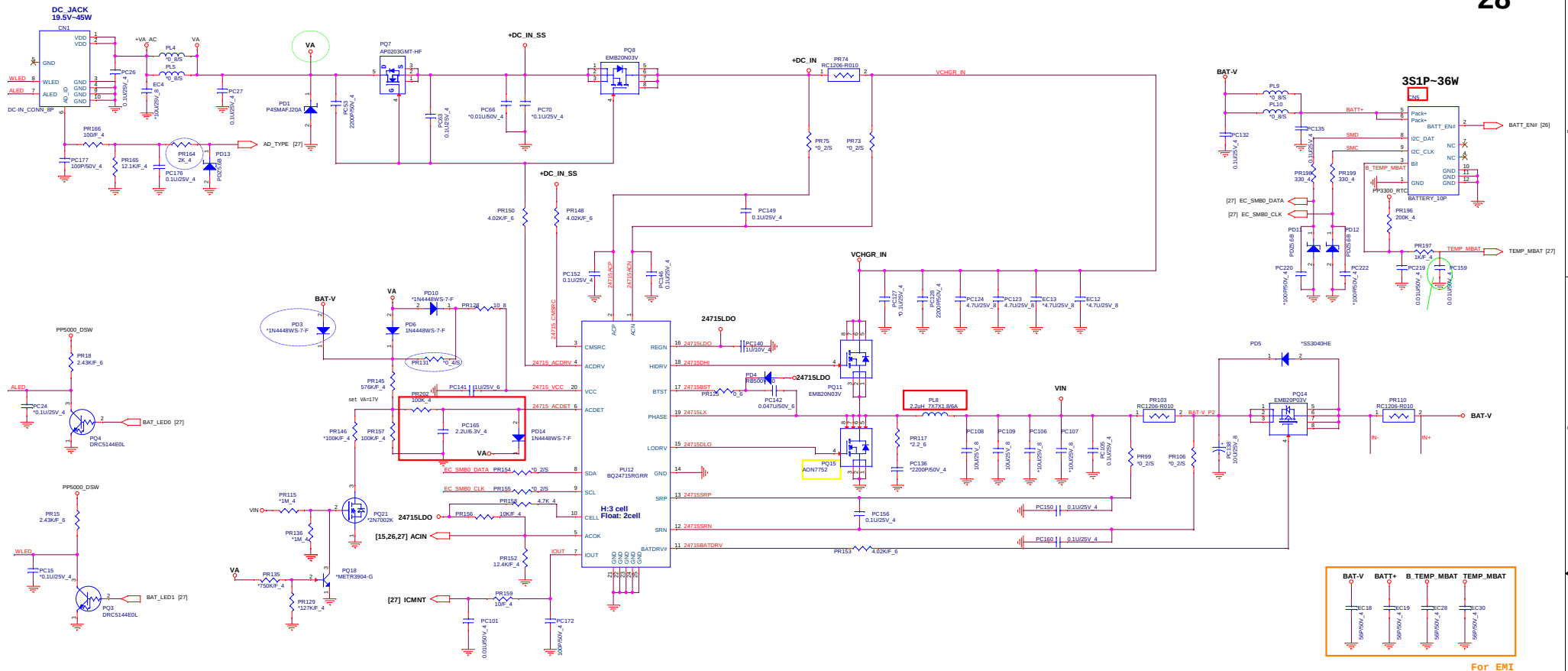
OD pin list

EC_REST_L
BAT_LED0
BAT_LED1
PCH_RSMRST_L
SMBUS
IRQ_SERIRQ
EC_BL_DISABLE_L

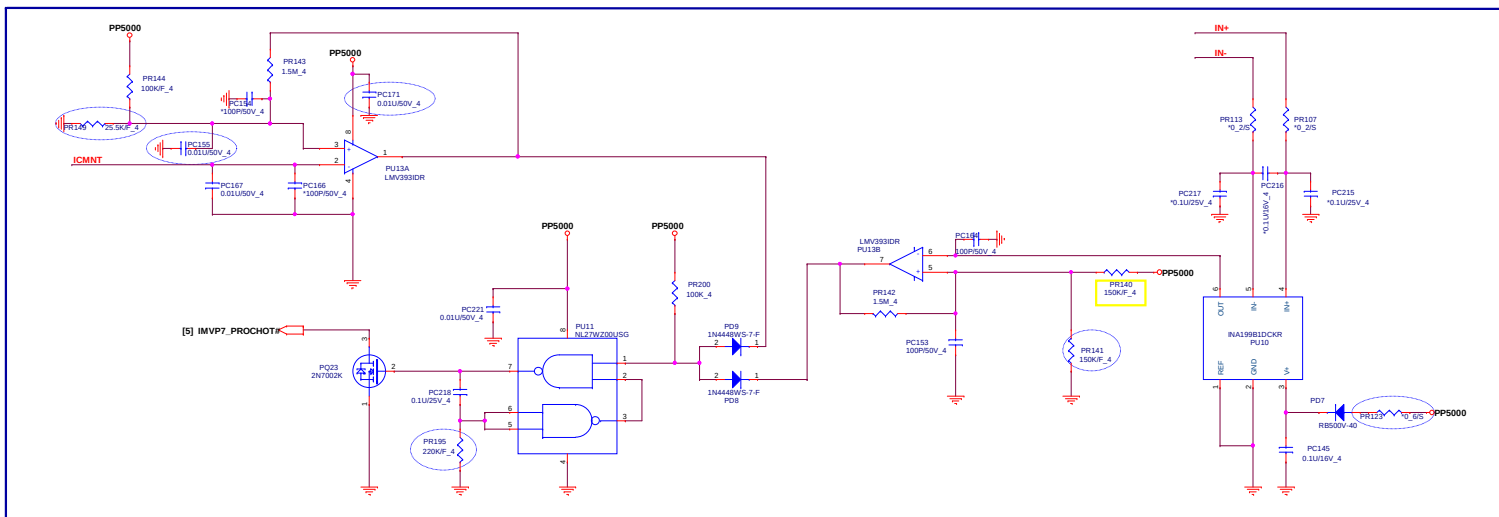
For testing only 0714 delete Power BTN

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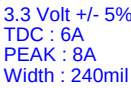
Size Custom
Document Number KBC TI TM4E1G31H6ZRB1
Date: Monday, August 17, 2015
Sheet 27 of 40



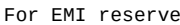
10ms one-shot circuit



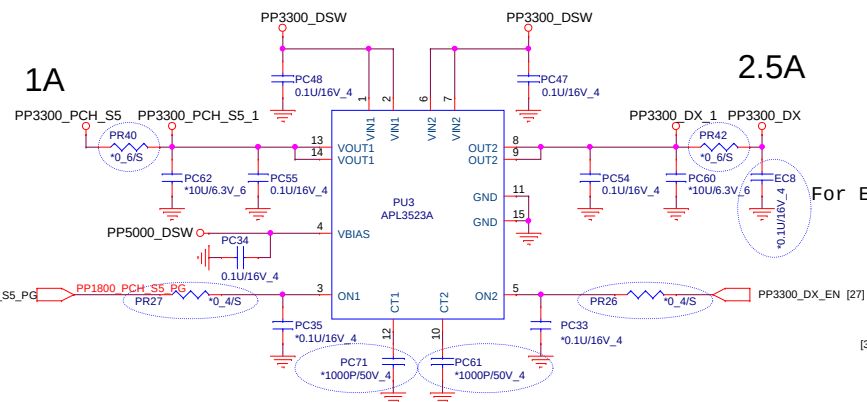
I'm from VIETNAM [sualaptop365](#)



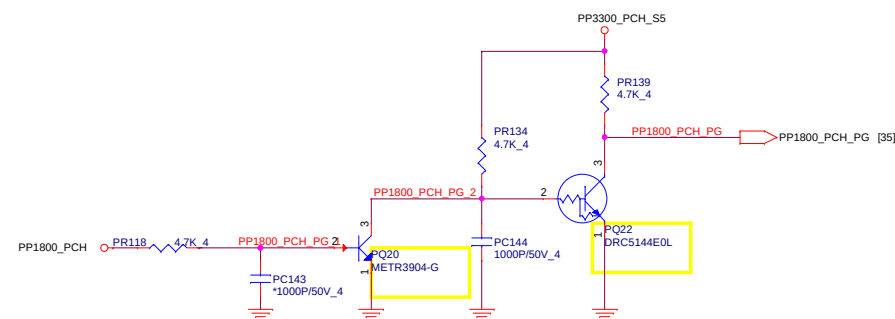
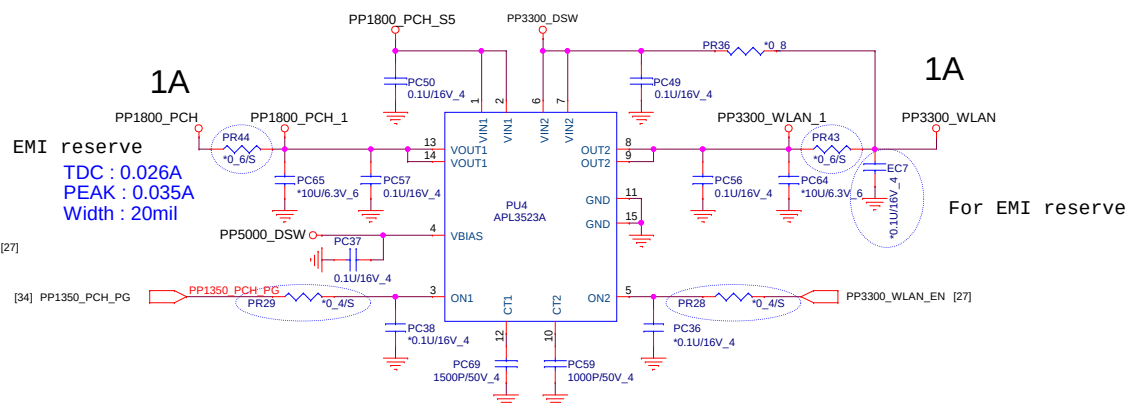
For EMI reserve

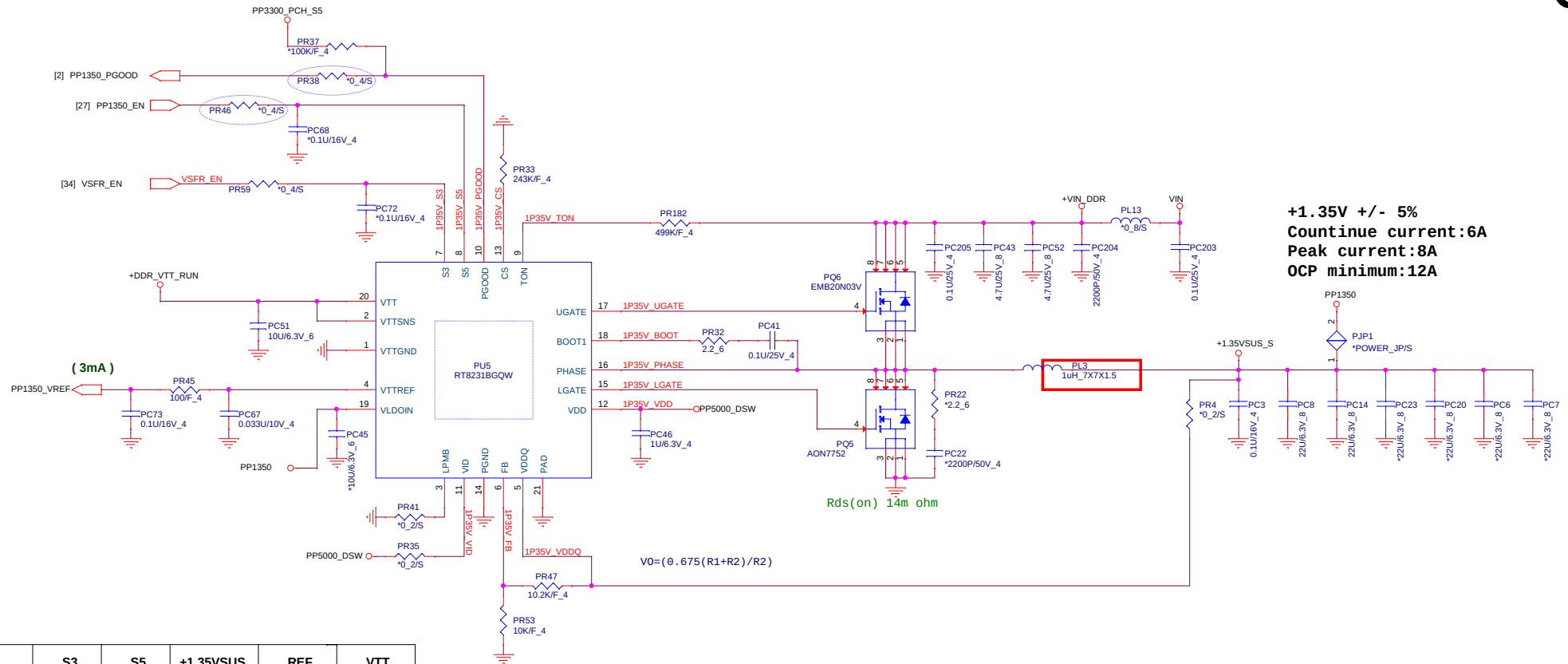


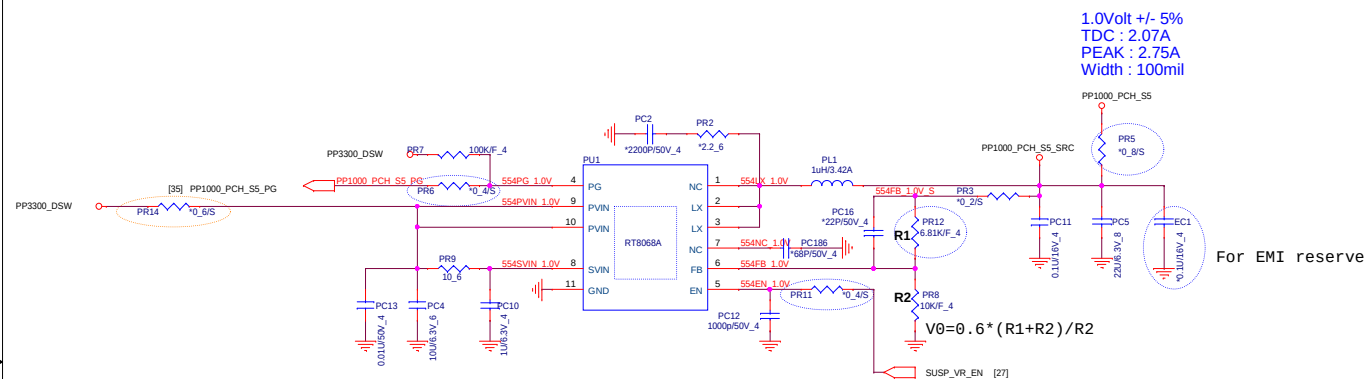
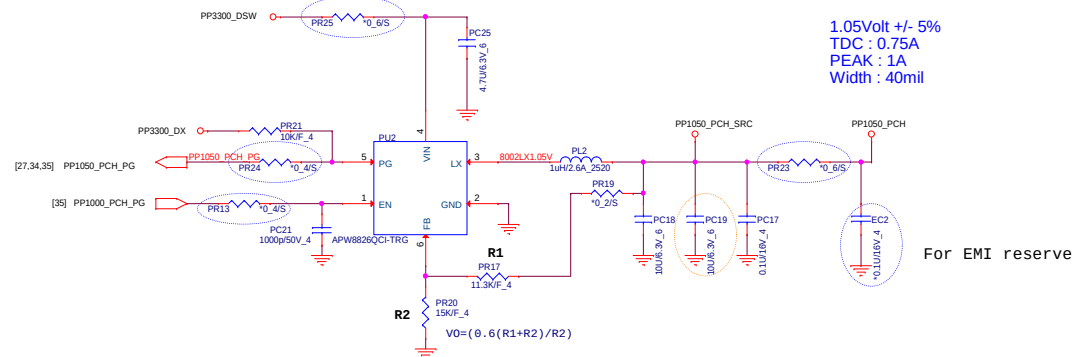
Size Custom	Document Number 3V/5V (NB670/NB669)	Rev 1A
Date: Monday, August 17, 2015	Sheet	29 of 40

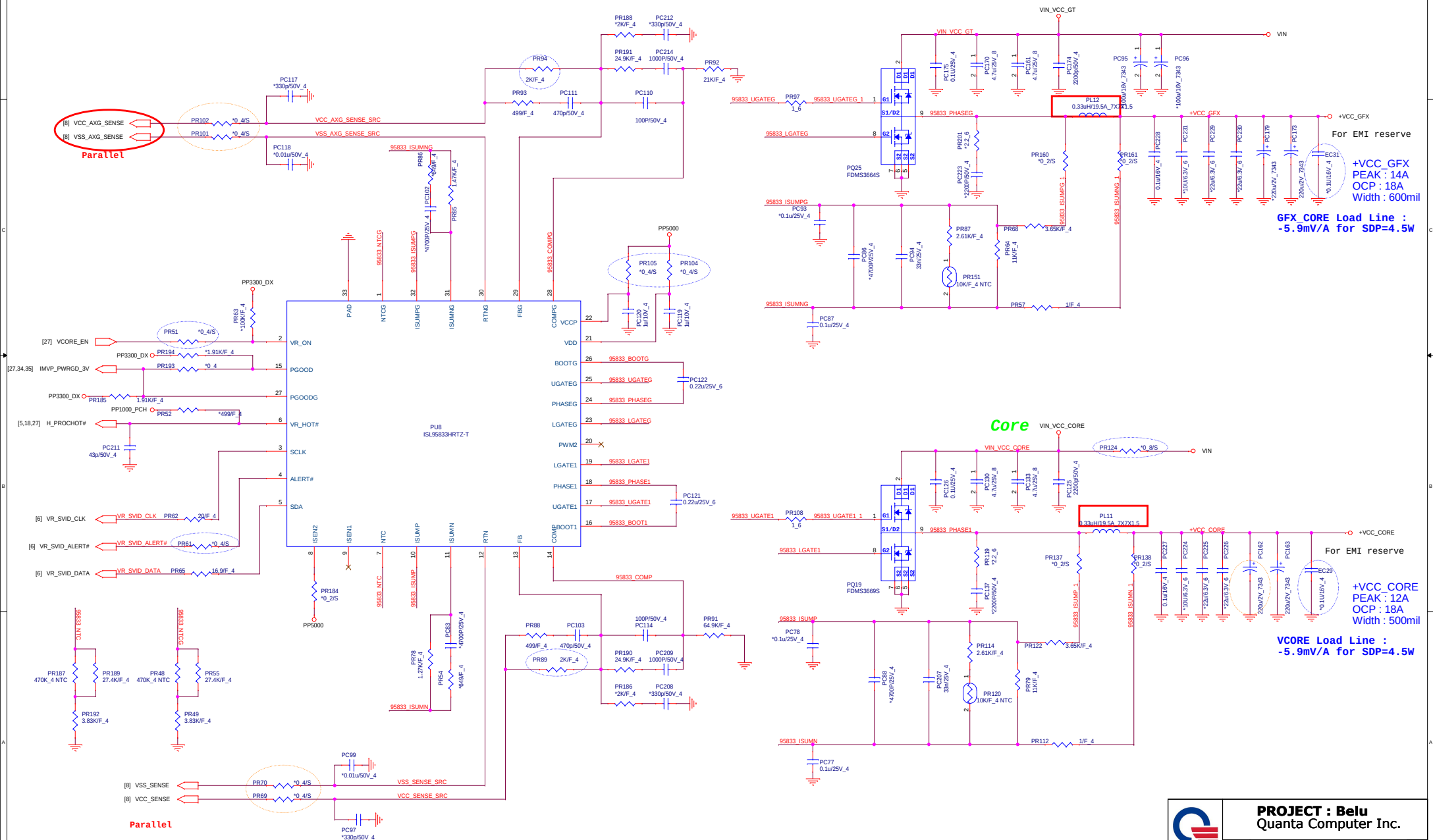


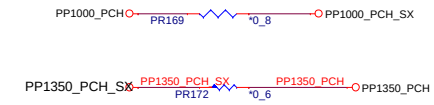
For EMI reserve
TDC : 0.026A
PEAK : 0.035A
Width : 20mil



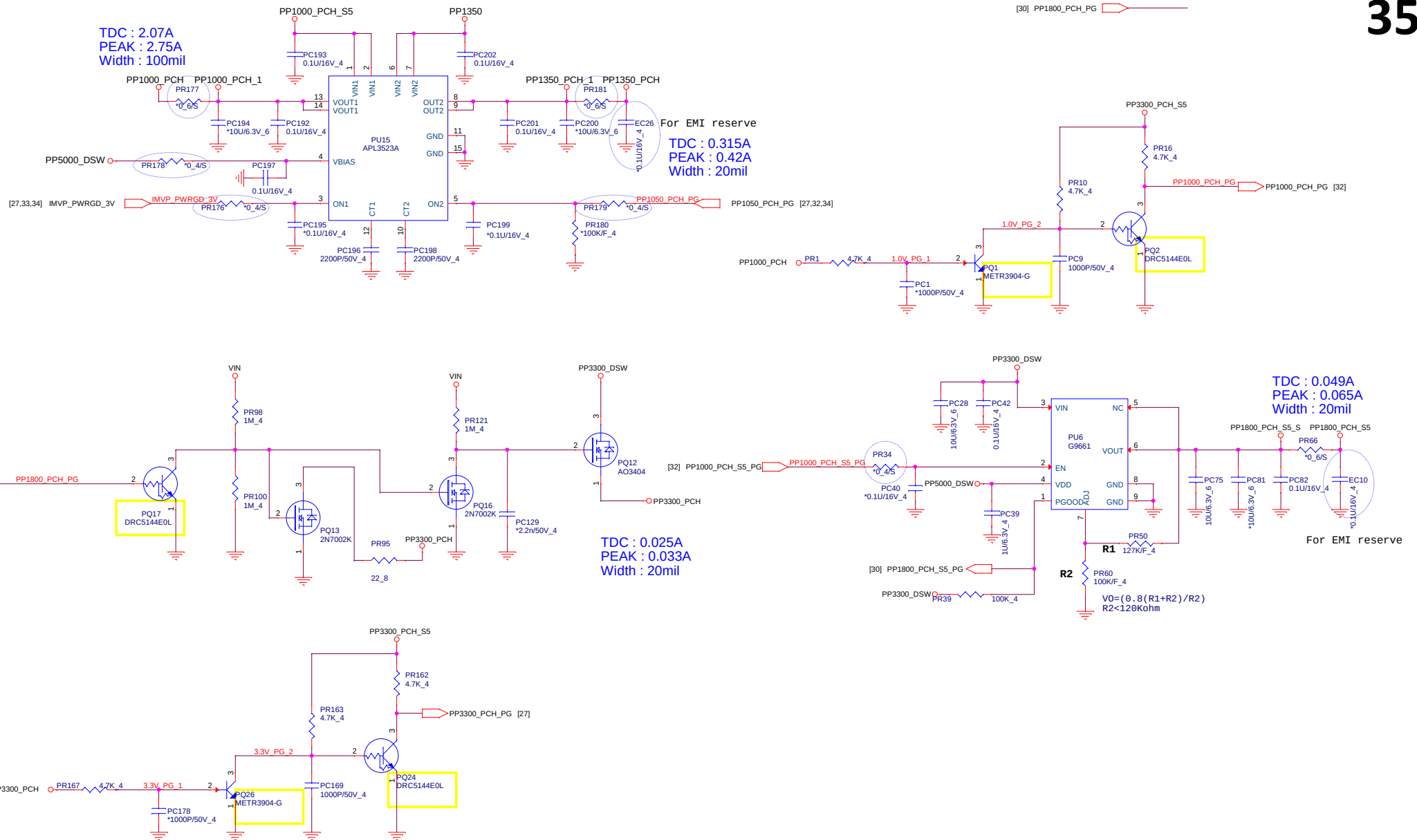


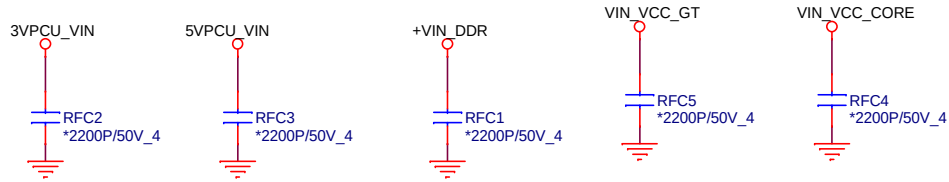






 NB5 HW	PROJECT : Belu Quanta Computer Inc.		
	Size Custom	Document Number LDO (1V/1.35V/1.5V/1.8V)	Rev 1A
	Date: Monday, August 17, 2015	Sheet 34 of 40	





VIN_VCC_CORE VIN_VCC_CORE [33]

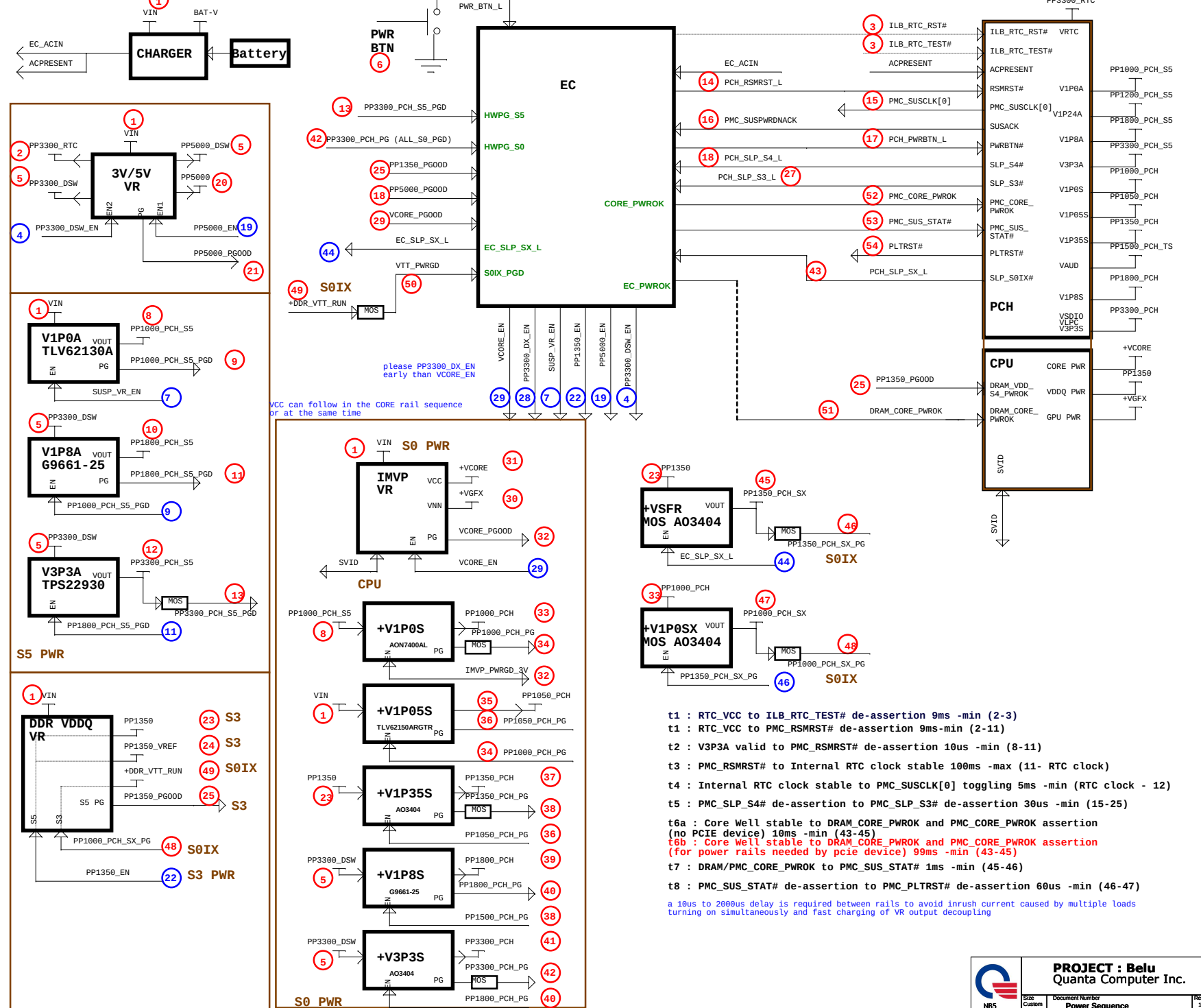
VIN_VCC_GT VIN_VCC_GT [17,25,28,29,31,33,35]



NB5
HW

PROJECT : Belu
Quanta Computer Inc.

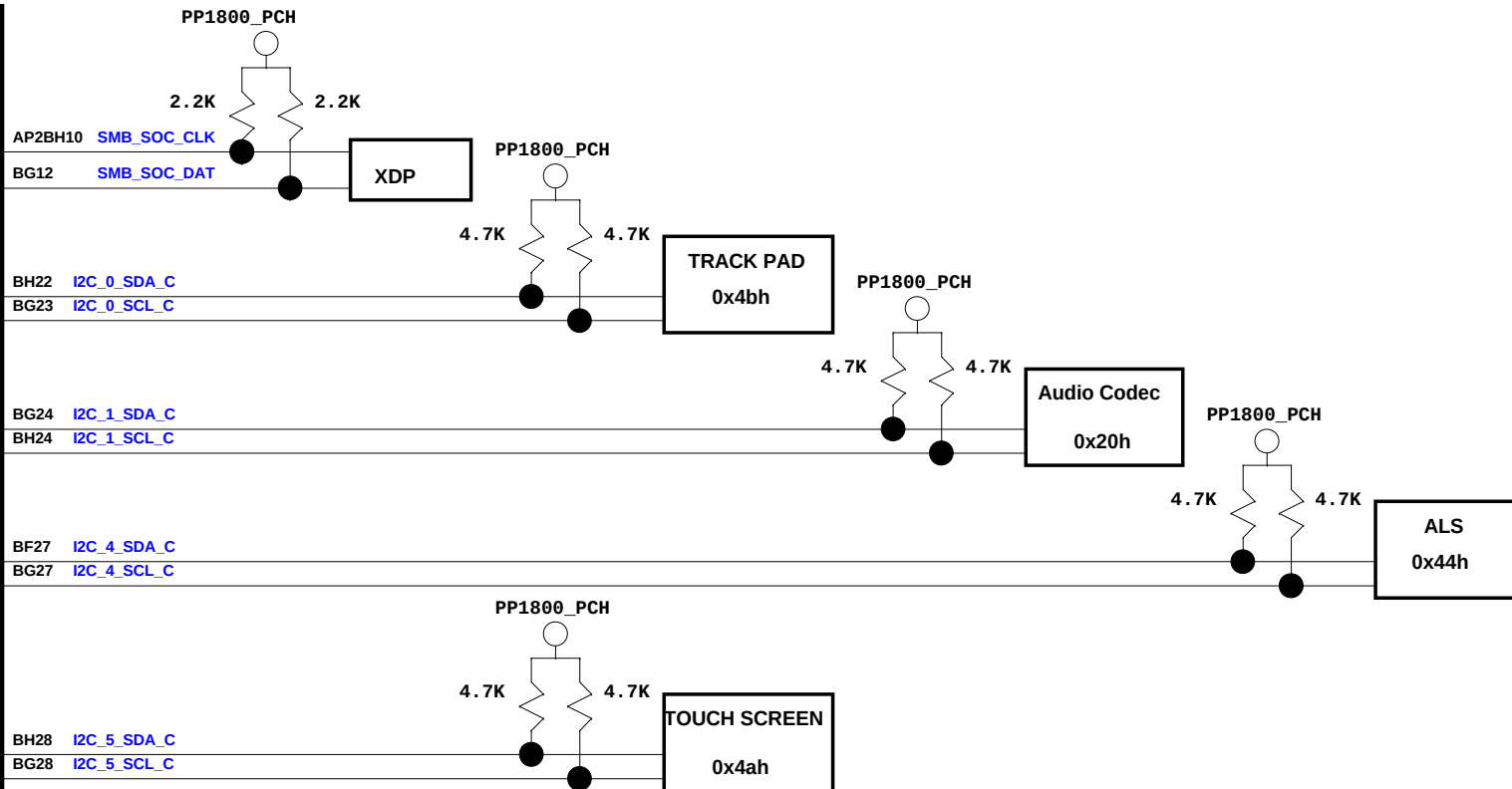
Size Custom	Document Number EMI/RF	Rev 1A
Date: Monday, August 17, 2015 Sheet 36 of 40		



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SMBUS
Bay-trail M

I2C



KBC
TI
SMBUS

