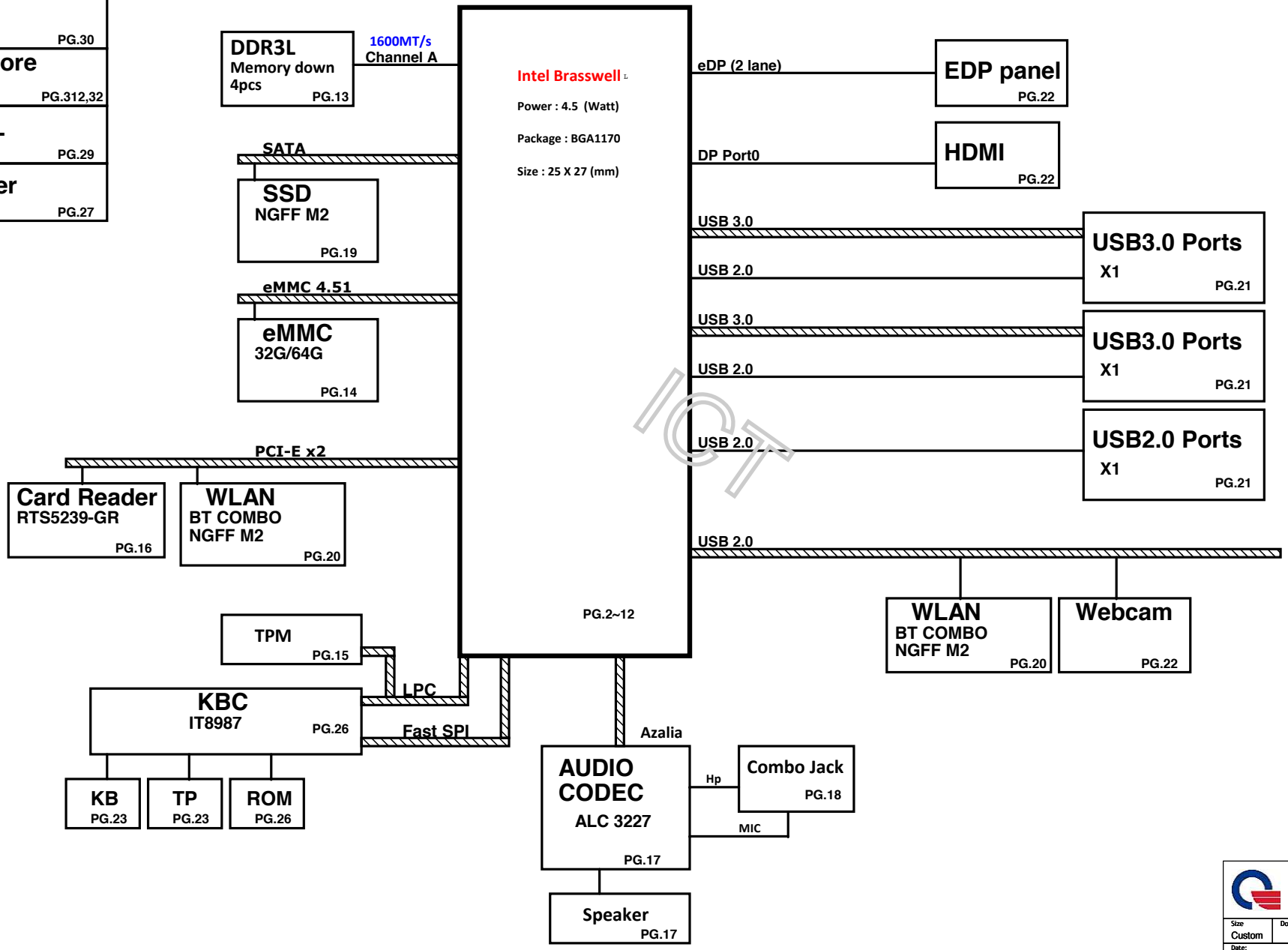
OP9 (14")

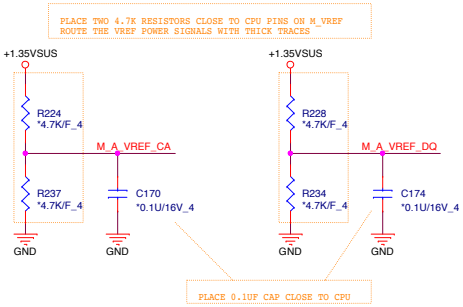
Intel Brasswell-M Platform Block Diagram

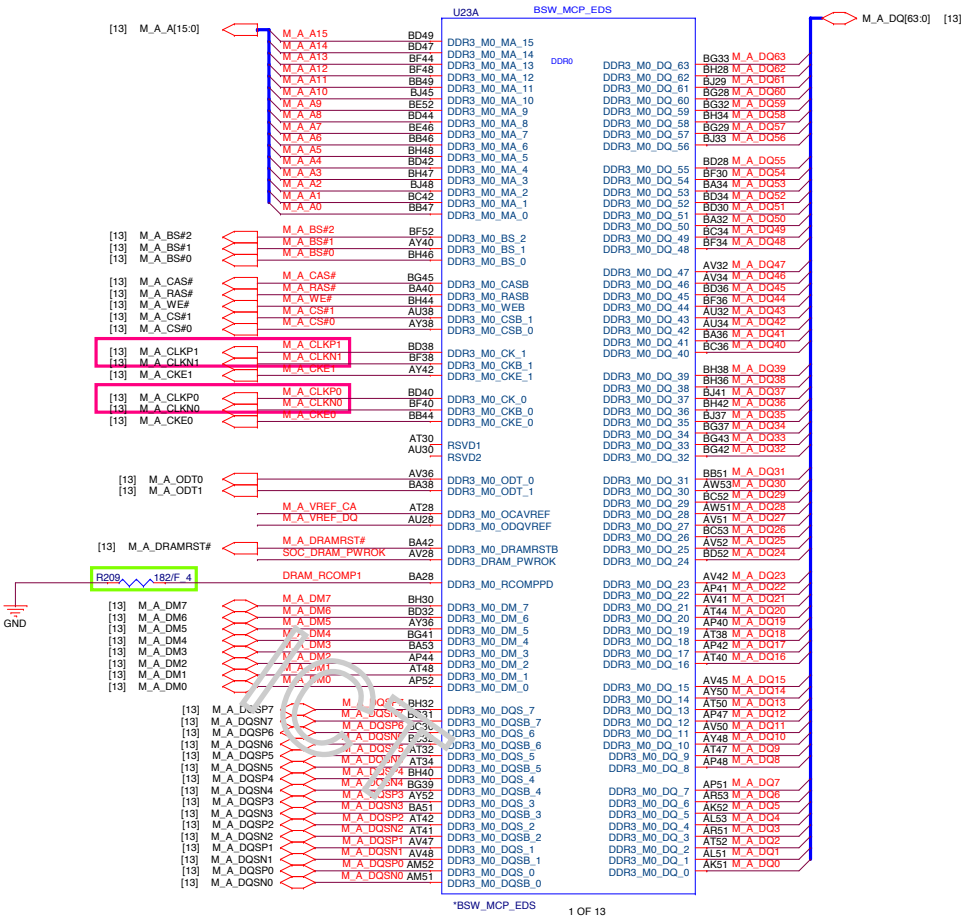
+3VS5/+5VS5 PG.28
MOIC PG.30
CPU Core PG.312,32
DDR3L PG.29
Charger PG.27

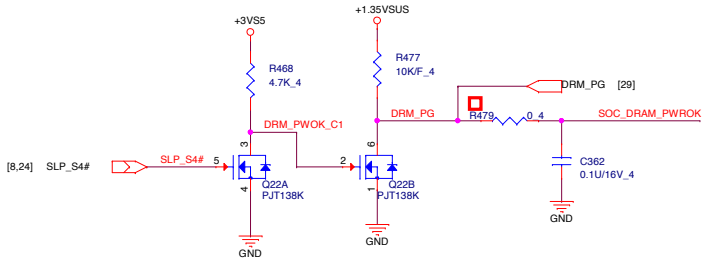


Quanta Computer Inc.
PROJECT : OP9

Size	Document Number	Rev.
Custom	BLOCK DIAGRAM	1A
Date: Monday, April 25, 2016	Sheet : 1 of 37	







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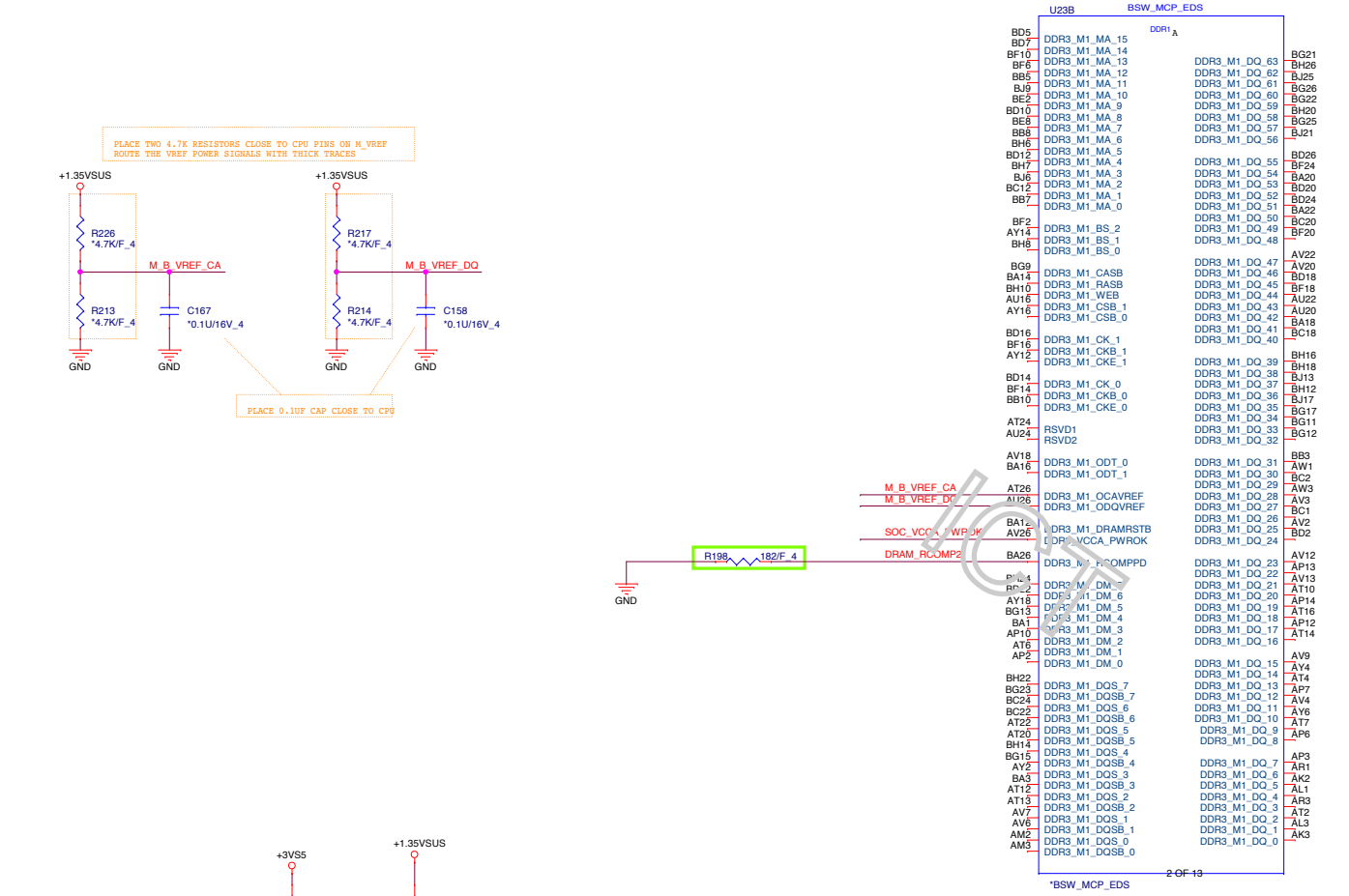
PROJECT : OP9

Size	Document Number	Rev.
Custom	Braswell-1 (DDR4)	1A
Date: Monday, April 25, 2016	Sheet : 2 of 37	



Quanta Computer Inc.		
PROJECT : OP9		
Size: Custom	Document Number: Braswell-2 (DDR8)	Rev: 1A
Date: Monday, April 25, 2016	Sheet: 3 of 37	

+1.8VS5

R448 2.2K_4 SDVO_DATA
R445 2.2K_4 SDVO_CLK
R443 *10K/F_4 HDMI_HPD_DC#
R437 1 2 *100K_4 DDI1_BKLT_EN
R435 1 2 *100K_4 DDI1_BKLT_CTRL_R
R436 1 2 *100K_4 EDP_PANEL_EN

SI: remove R97 as Intel suggestion

U23C BSW_MCP_EDS

DDI0_TXP_0 D50
DDI0_TXN_0 C51
DDI0_TXP_1 H49
DDI0_TXN_1 H50
DDI0_TXP_2 F53
DDI0_TXN_2 F52
DDI0_TXP_3 G53
DDI0_TXN_3 G52
DDI0_AUXP H47
DDI0_AUXN H46
HV_DDI0_HPD W51
HV_DDI0_DDC_SCL Y51
HV_DDI0_DDC_SDA Y52
PANEL0_BKLTEN V52
PANEL0_BKLTCTL V51
PANEL0_VDDEN W53
DDI0_PLLOBS_P F38
DDI0_PLLOBS G38

[22] IN_D2
[22] IN_D2#
[22] IN_D1
[22] IN_D1#
[22] IN_D0
[22] IN_D0#
[22] IN_CLK
[22] IN_CLK#
[22] HDMI_HPD_DC#
[22] SDVO_CLK
[22] SDVO_DATA

R184 402/F_4 SOC_DDI0_RCOMP SOC_DDI0_RCOMP_P

DDI1_TXP_0 J51
DDI1_TXN_0 H51
DDI1_TXP_1 K51
DDI1_TXN_1 K52
DDI1_TXP_2 L53
DDI1_TXN_2 L51
DDI1_TXP_3 M52
DDI1_TXN_3 M51
DDI1_AUXP M42
DDI1_AUXN K42
HV_DDI1_HPD R51
PANEL1_BKLTEN P52
PANEL1_BKLTCTL P51
PANEL1_VDDEN R53
DDI1_PLLOBS_P F47
DDI1_PLLOBS F49

[22] INT_EDP_TXP0
[22] INT_EDP_TXN0
[22] INT_EDP_TXP1
[22] INT_EDP_TXN1
[22] INT_EDP_AUXP
[22] INT_EDP_AUXN
[22] DDI1_EDP_HPD_R
[24] DDI1_BKLT_EN
[24] EDP_PANEL_EN

R193 402/F_4 SOC_DDI1_RCOMP SOC_DDI1_RCOMP_P

INT_EDP_TXP0
INT_EDP_TXN0
INT_EDP_TXP1
INT_EDP_TXN1
INT_EDP_AUXP
INT_EDP_AUXN
DDI1_EDP_HPD_R
DDI1_BKLT_EN
DDI1_BKLT_CTRL_R
EDP_PANEL_EN
SOC_DDI1_RCOMP
SOC_DDI1_RCOMP_P

DDI2_TXP_0 F40
DDI2_TXN_0 G40
DDI2_TXP_1 J40
DDI2_TXN_1 K40
DDI2_TXP_2 F42
DDI2_TXN_2 G42
DDI2_TXP_3 D44
DDI2_TXN_3 F44
DDI2_AUXP D48
DDI2_AUXN C49
HV_DDI2_HPD U51
HV_DDI2_DDC_SCL T51
HV_DDI2_DDC_SDA T52

[21] DEBUG_SEL
[21] UART2_TXD
[21] UART2_RXD

For debug

RSVD6 B53
RSVD3 A52
RSVD9 E52
RSVD8 D52
RSVD5 B50
RSVD4 B49
RSVD10 E53
RSVD7 C53
RSVD2 A51
RSVD1 A49
RSVD11 G44

NC's

+1.8VS5
R439 10K_4 UART2_TXD
R438 10K_4 UART2_RXD
R440 10K_4 DEBUG_SEL

*BSW_MCP_EDS

3 OF 13

RSVD15 M44
RSVD12 K44
RSVD14 K48
RSVD13 K47

MCSI and Camera Interface

MCSI_1_CLKP T44
MCSI_1_CLKN T45
MCSI_1_DP_0 Y47
MCSI_1_DN_0 Y48
MCSI_1_DP_1 V45
MCSI_1_DN_1 V47
MCSI_1_DP_2 V50
MCSI_1_DN_2 V48
MCSI_1_DP_3 T41
MCSI_1_DN_3 T42
MCSI_2_CLKP P50
MCSI_2_CLKN P48
MCSI_2_DP_0 P47
MCSI_2_DN_0 P45
MCSI_2_DP_1 M48
MCSI_2_DN_1 M47
RSVD17 T50
RSVD16 T48
MCSI_COMP P44

MCSI_COMP
R194 150/F_4
GND

GP_CAMERASB00 AB41
GP_CAMERASB01 AB45
GP_CAMERASB02 AB44
GP_CAMERASB03 AC53
GP_CAMERASB04 AB51
GP_CAMERASB05 AB52
GP_CAMERASB06 AA51
GP_CAMERASB07 AB40
GP_CAMERASB08 Y44
GP_CAMERASB09 Y42
GP_CAMERASB10 Y41
GP_CAMERASB11 V40

CAM08 [12]
CAM09 [12]
CAM11 [12]
OBSFN_C0
TP40

6/10 Del test points and nets.

SDMMC1_CLK M7
SDMMC1_CMD P6
SDMMC1_D0 M6
SDMMC1_D1 M4
SDMMC1_D2 P9
SDMMC1_D3_CD_B P7
MMC1_D4_SD_WE T6
MMC1_D5 T7
MMC1_D6 T10
MMC1_D7 T12
MMC1_RCLK T13
SDMMC1_RCOMP P13

SDMMC4_CLK [14]
SDMMC4_CMD [14]
SDMMC4_DAT0 [14]
SDMMC4_DAT1 [14]
SDMMC4_DAT2 [14]
SDMMC4_DAT3 [14]
SDMMC4_DAT4 [14]
SDMMC4_DAT5 [14]
SDMMC4_DAT6 [14]
SDMMC4_DAT7 [14]
SDMMC4_RCLK [14]
EMMC_RCOMP
R132 100/F_4
GND

SDMMC2_CLK K10
SDMMC2_CMD K9
SDMMC2_D0 M12
SDMMC2_D1 M10
SDMMC2_D2 K7
SDMMC2_D3_CD_B K6

SDMMC3_CLK F2
SDMMC3_CMD D2
SDMMC3_CD_B K3
SDMMC3_D0 J1
SDMMC3_D1 J3
SDMMC3_D2 H3
SDMMC3_D3 G2
SDMMC3_1P8_EN K2
SDMMC3_PWR_EN_B L3
SDMMC3_RCOMP P12

VSDIO_1P8_EN
VSDIO_PWR_EN#
SDMMC3_RCOMP
R139 80.6/F_4
GND

+1.8VS5
VSDIO_1P8_EN R388 2 *100K_4
VSDIO_PWR_EN# R377 *10K_4
VSDIO_1P8_EN R389 2 *100K_4
VSDIO_PWR_EN# R385 *10K_4
GND

[5,14,19,22,23,24,33] +1.8V

+1.8V 2/10 Chgnge P/N from BAM70020002 to BAM01380016
DDI1_BKLT_CTRL_R
R432 4.7K_4 +3V
PCH_DPST_PWM [22]
DMN53D0L-7 Q19
R434 100K_4
R433 *0_4
GND

20160303A
Delete ULT_EDP_HPD -->
DDI1_EDP_HPD_R
Already build on P24.

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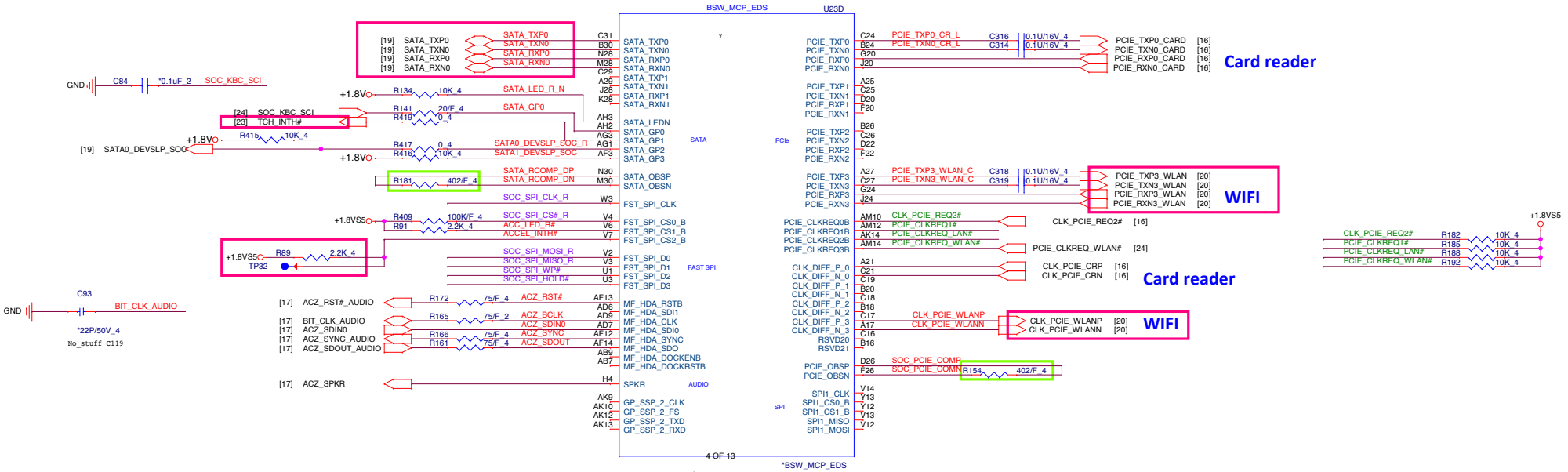
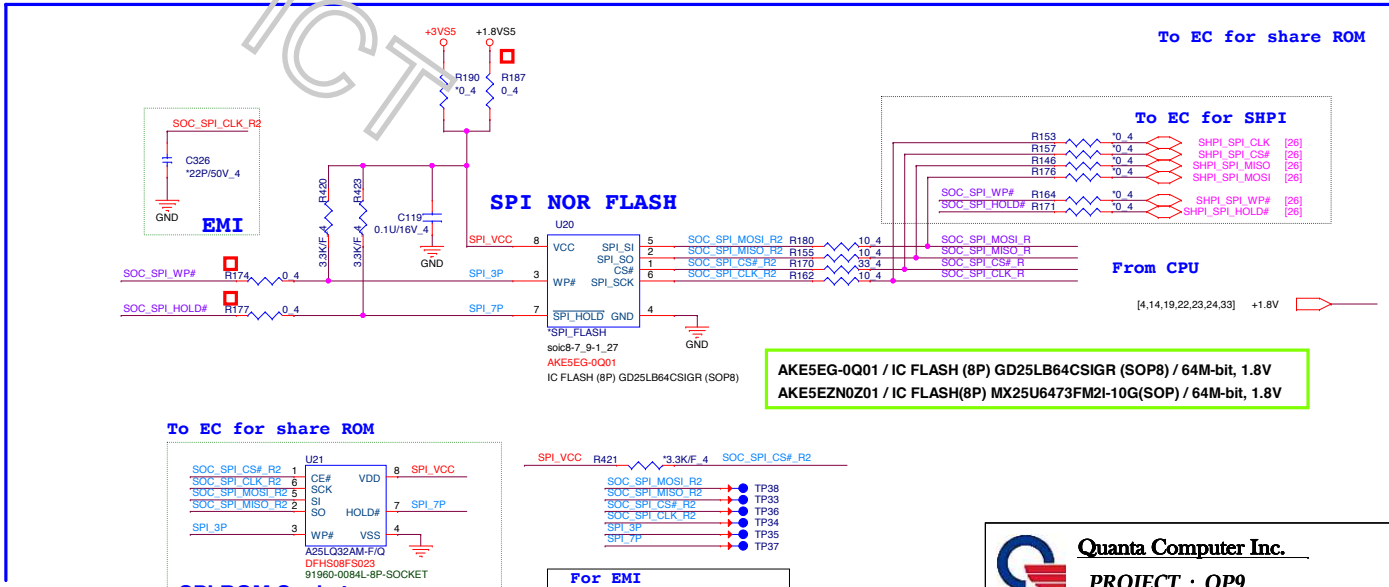
PROJECT : OP9

Size	Document Number	Rev.
Custom	Braswell-3 (Display)	1A
Date: Monday, April 25, 2016	Sheet : 4 of 37	

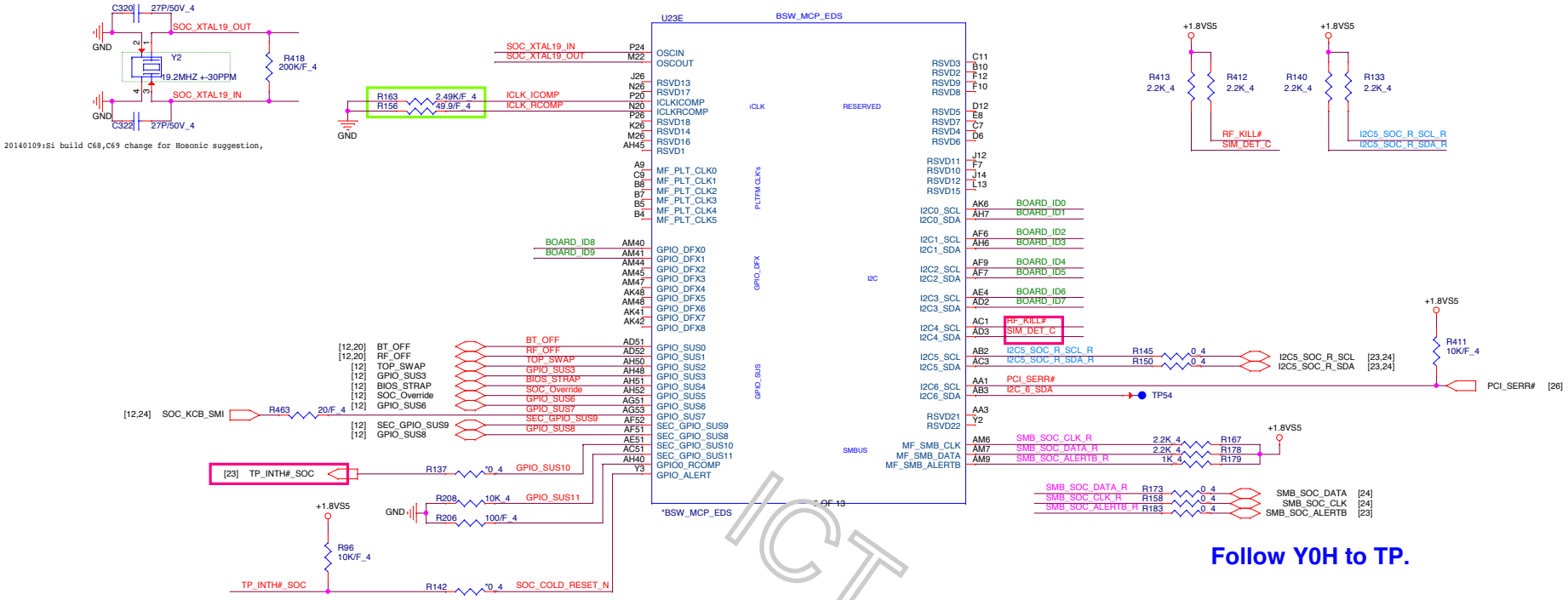




Quanta Computer Inc.

PROJECT : OP9

Size	Document Number	Rev.
Custom	Braswell-4 (SP/PC/SA/AU)	1A
Date: Monday, April 25, 2016	Sheet : 5 of 37	



ICT

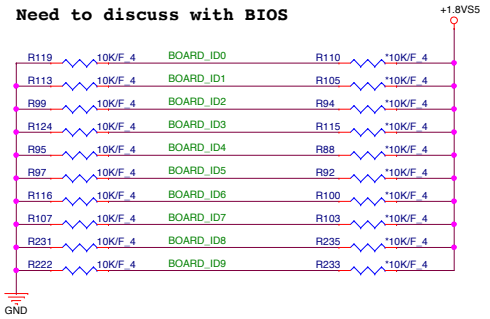
Follow Y0H to TP.

Board ID	BIOS Strap Description
BOARD_ID5	0 = none TPM 1 = TPM
BOARD_ID6 =1	0 = SSD 1 = EMMC
BOARD_ID7 =0	0 = none touch panel 1 = touch panel
BOARD_ID8 =0	Reserve
BOARD_ID9	Reserve

BOARD_ID2	BOARD_ID1	BOARD_ID0	Vender	Quanta PN	Description
0	0	0	Samsung-2GB	AKD5JG0T503	IC SDRAM(96P)K4B4G1646E-BYK0(FBGA)TOPBSQ
0	0	1	Hynix-2GB	AKD5PGSTW14	IC SDRAM (96P) H5TC4G63CFR-PBA TOPBSQ
0	1	0	Micron-2GB	AKD59GSTL04	IC SDRAM(96P) MT41K256M16TW-107:P TOPBSQ
0	1	1	Samsung-4GB		
1	0	0	Hynix-4GB		
1	0	1	Micron-4GB		

RAM ID	BIOS Strap Description
BOARD_ID3	0 = SO-DIMM 1 = Memory Down
BOARD_ID4	0 = RAM SIZE: 4G 1 = RAM SIZE: 2G

Need to discuss with BIOS



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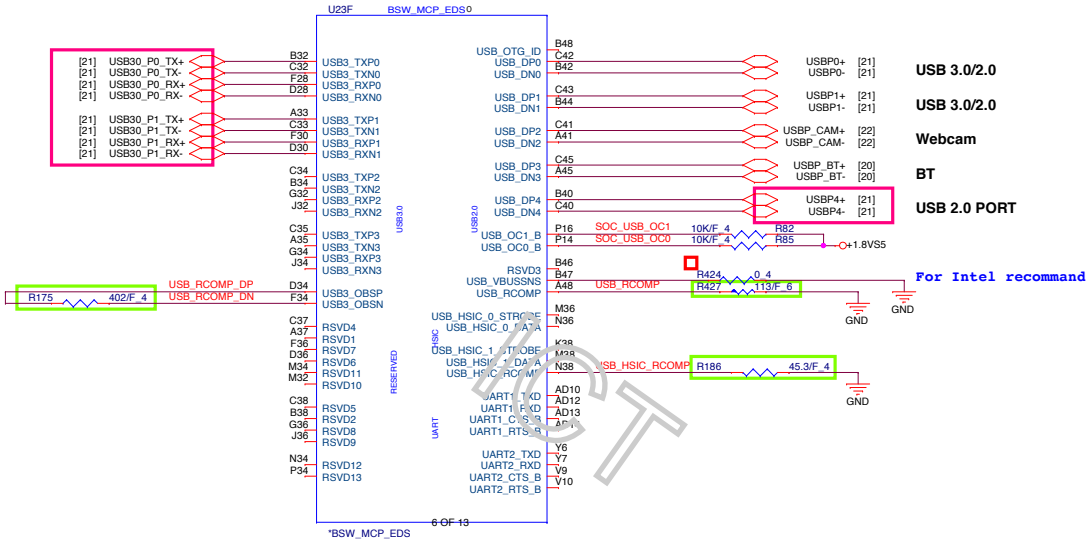
PROJECT : OP9

Size	Document Number	Rev.
Custom	Braswell-5 (I2C/GPIO/CLK)	1A
Date: Monday, April 25, 2016	Sheet : 6 of 37	



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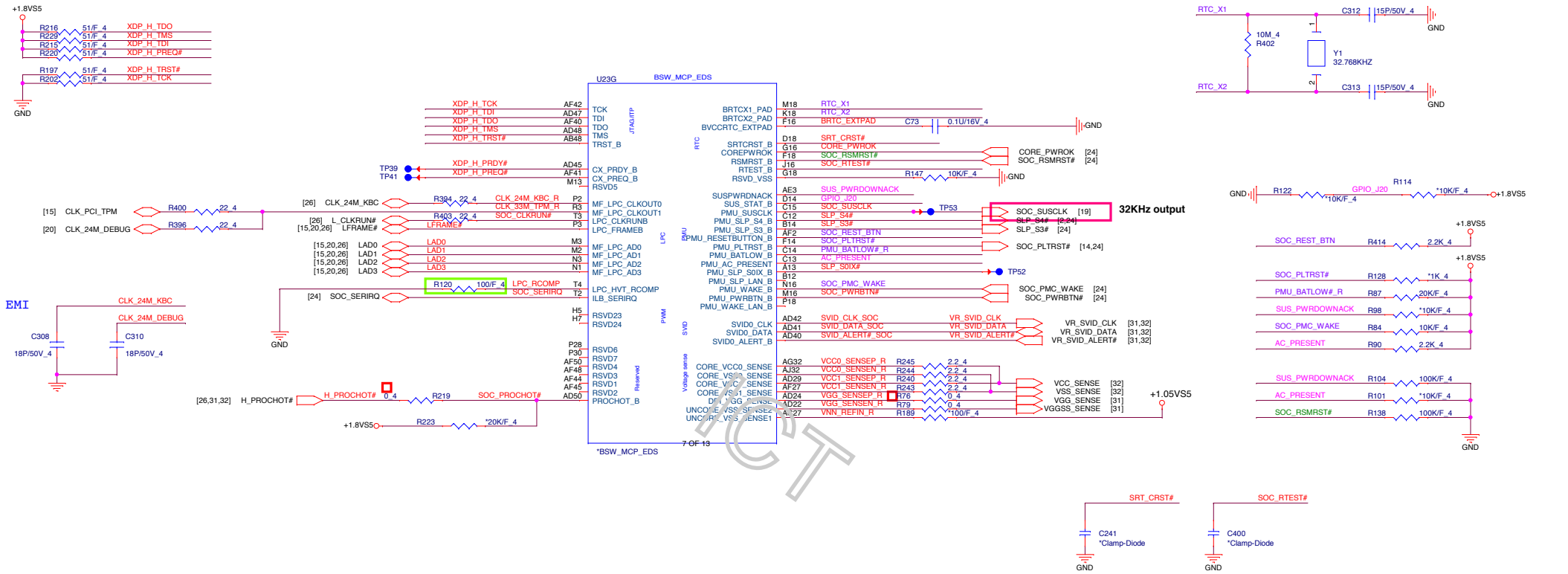
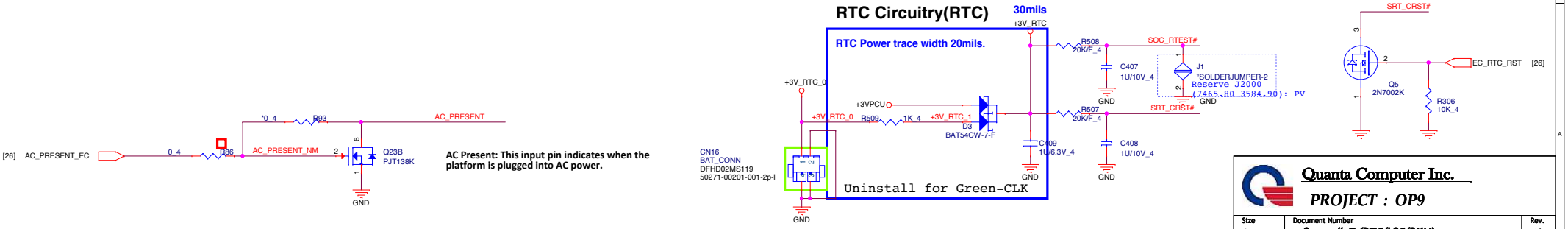
PROJECT : OP9

Size	Document Number	Rev.
Custom	Braswell-6 (USB/URAT)	1A
Date: Monday, April 25, 2016	Sheet : 7 of 37	

RTC Clock 32.768KHz





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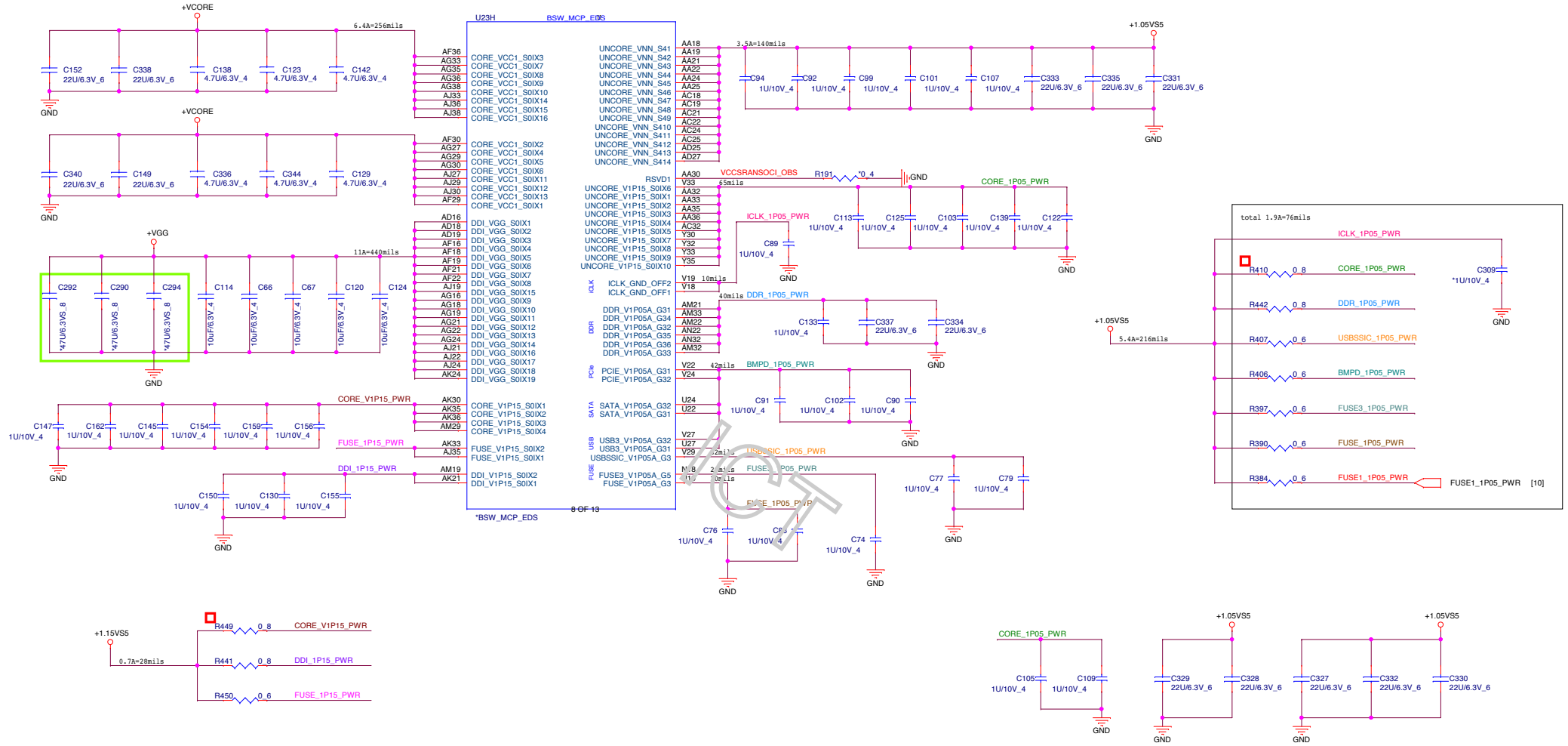
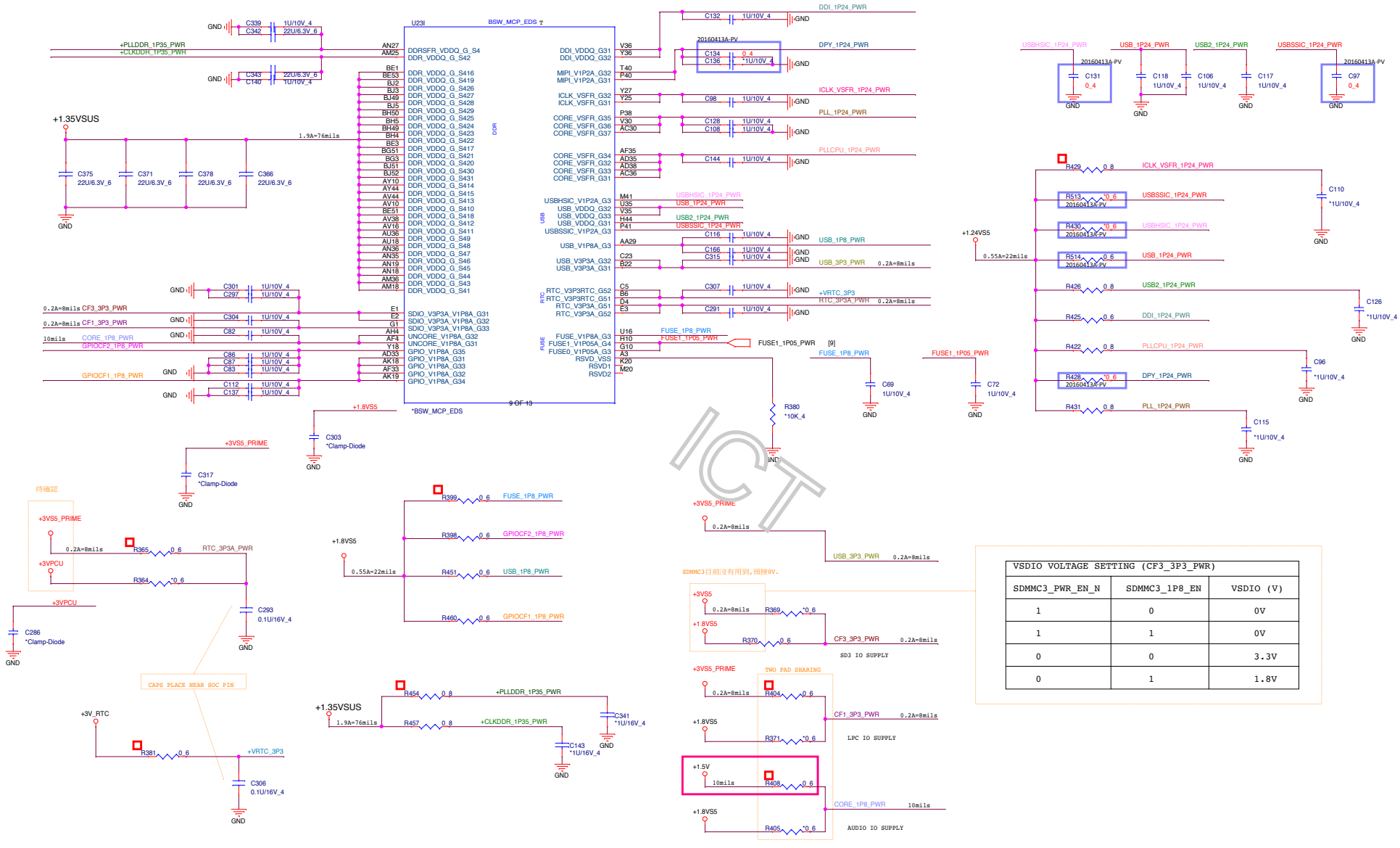
PROJECT : OP9		
Size: Custom	Document Number: Braswell-7 (RTC/LPC/PMU)	Rev: 1A
Date: Monday, April 25, 2016	Sheet: 8 of 37	

VNN can optionally be merged with V1P05A
if display resolution is 2560 x1600 @ 60Hz or lower.



Quanta Computer Inc.		
PROJECT : OP9		
Size: Custom	Document Number: Braswell-8 (Power 1)	Rev: 1A
Date: Monday, April 25, 2016	Sheet: 9 of 37	



VSDIO VOLTAGE SETTING (CF3_3P3_PWR)		
SDMMC3_PWR_EN_N	SDMMC3_1P8_EN	VSDIO (V)
1	0	0V
1	1	0V
0	0	3.3V
0	1	1.8V

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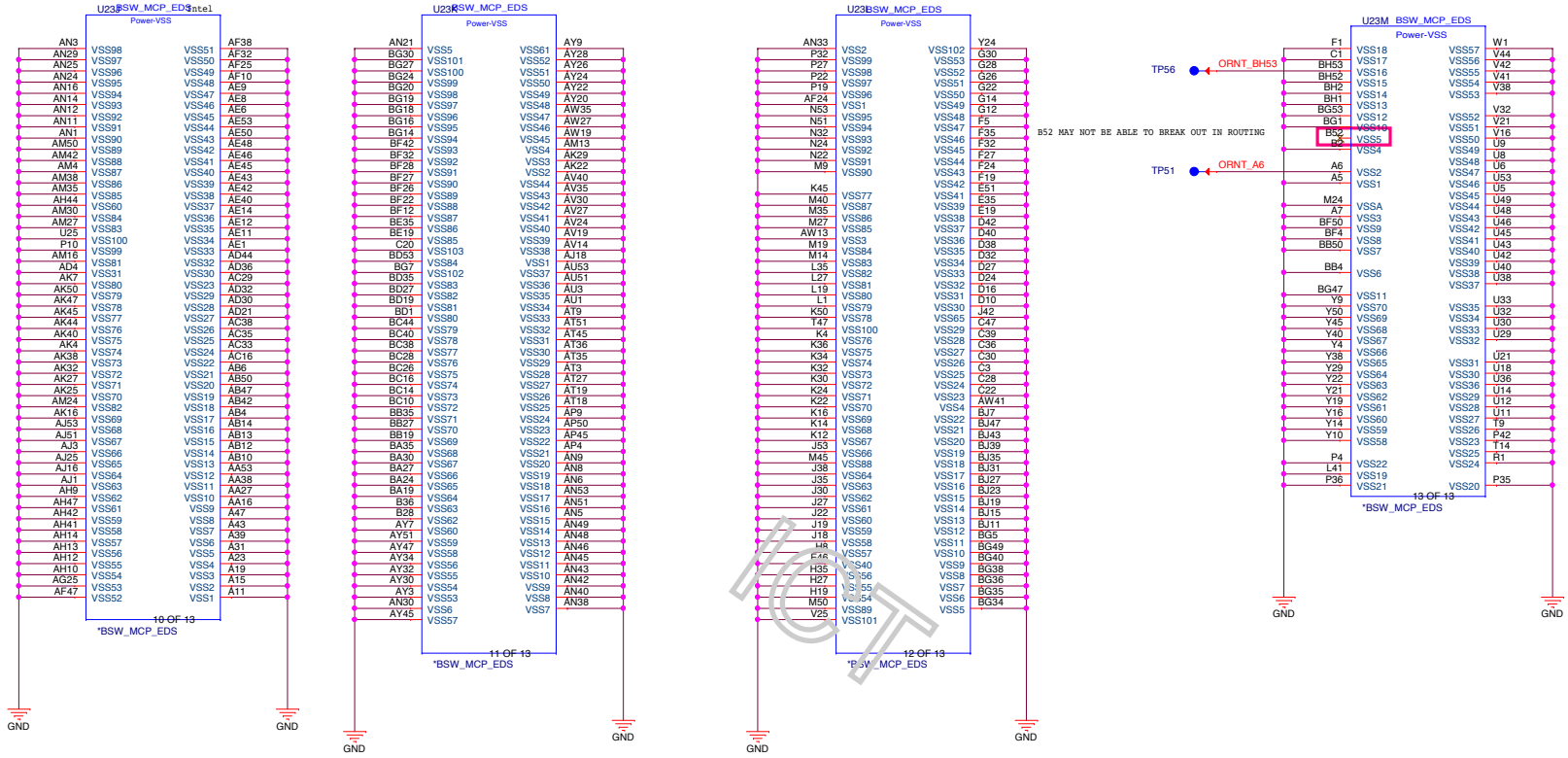
PROJECT : OP9

Size	Document Number	Rev.
C	Braswell-9 (Power 2)	1A
Date: Monday, April 25, 2016	Sheet : 10 of 37	



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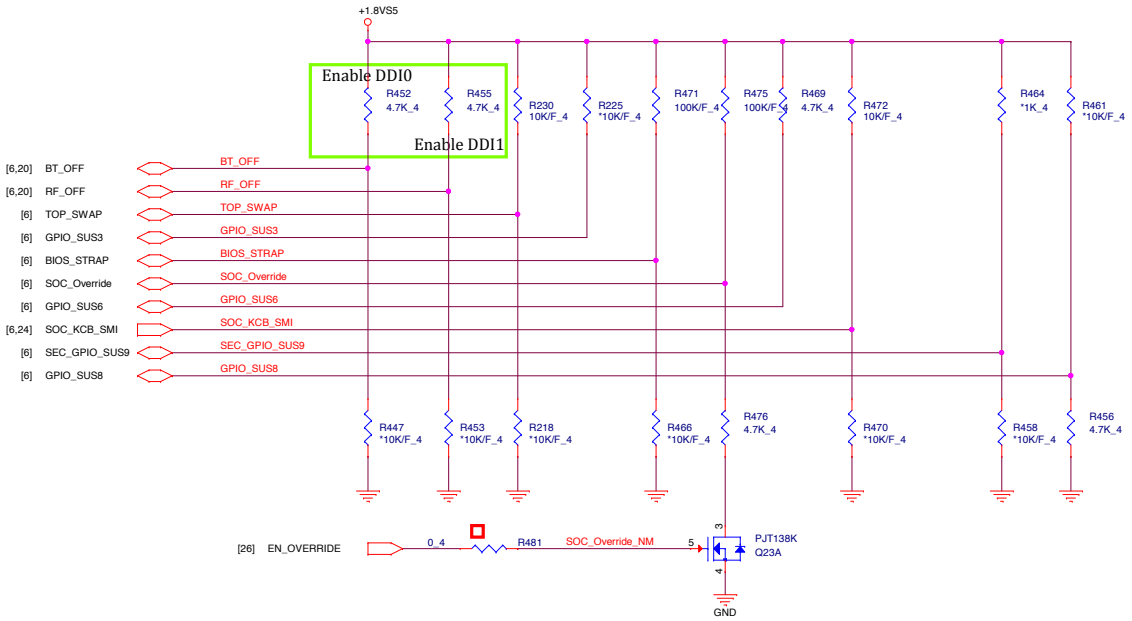
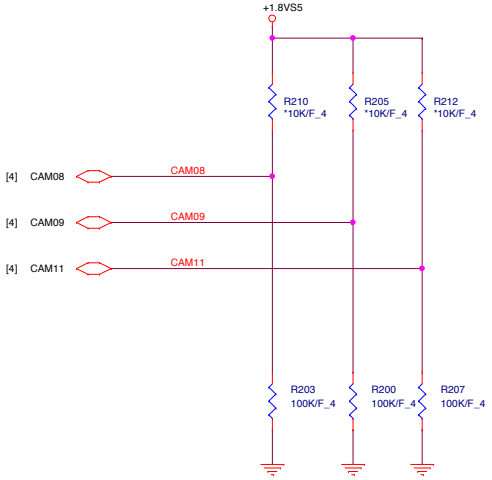
PROJECT : OP9

Size	Document Number	Rev.
Custom	Braswell-10 (GND)	1A
Date: Monday, April 25, 2016	Sheet : 11 of 37	





	CAM08	CAM09	CAM11
PULL HIGH	ICLK Xtal OSC Bypass	CCU SUS RO Bypass	RTC OSC Bypass
PULL LOW	ICLK Xtal OSC No Bypass DEFAULT	CCU SUS RO No Bypass DEFAULT	RTC OSC No Bypass DEFAULT

REQUIRED STRAPS

	GPIO_SUS0	GPIO_SUS1	TOP_SWAP	GPIO_SUS3	BIOS_STRAP	SOC_Override	GPIO_SUS6	SOC_KCB_SMI	GPIO_SUS8
PULL HIGH	DDI0 detected DEFAULT	DDI1 detected DEFAULT	Normal Operation DEFAULT	Reserve 10 KΩ PU DEFAULT	SPI DEFAULT	Normal Operation	10 KΩ PU to 1.8V DEFAULT	Reserve 10 KΩ PU DEFAULT	Supply is 1.35V
PULL LOW	DDI0 not detected	DDI1 not detected	Change Boot Loader address		LPC	Override DEFAULT			Supply is 1.25V DEFAULT

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Size	Document Number	Rev.
Custom	Braswell-11 (Strap)	1A
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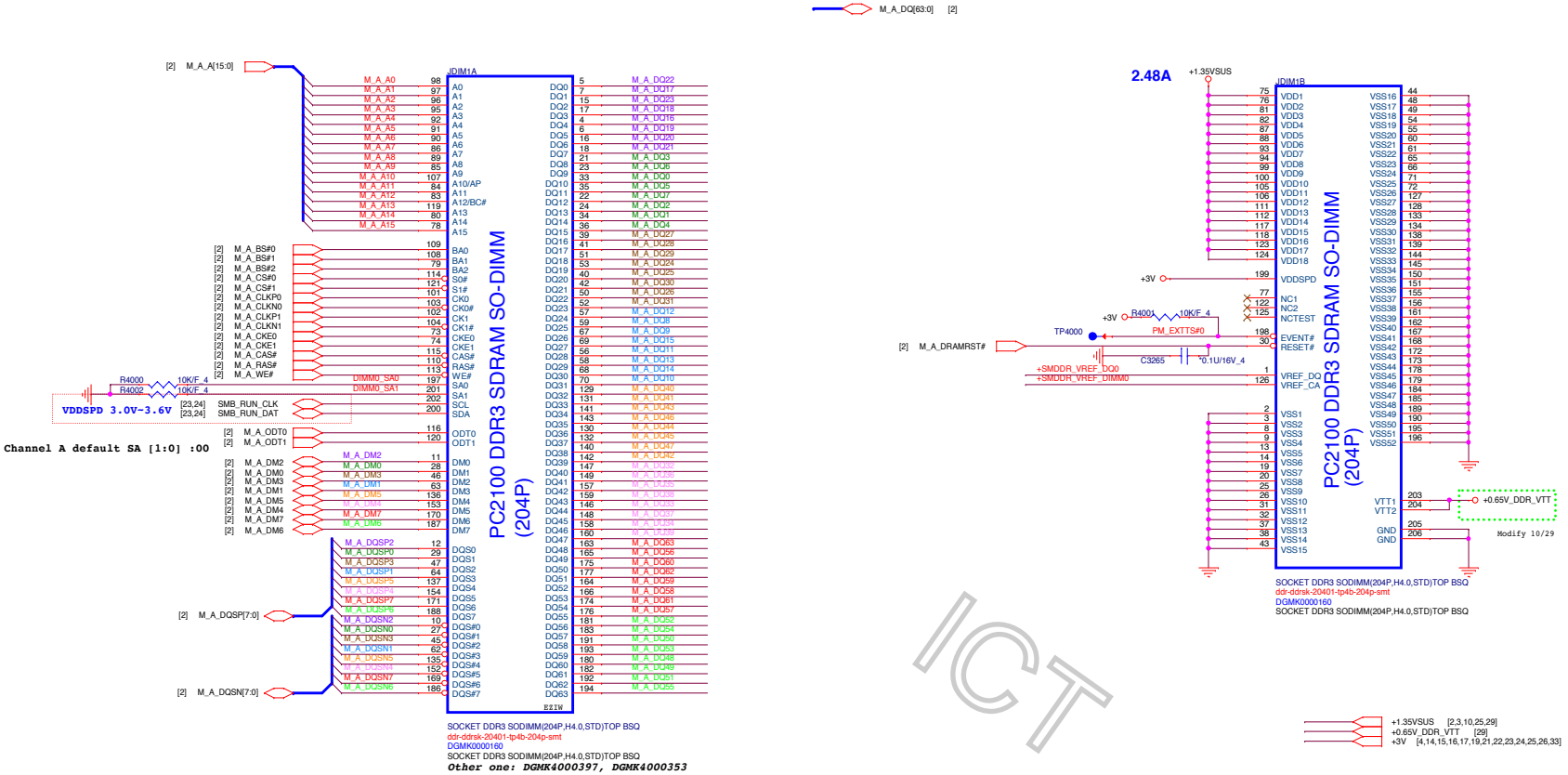

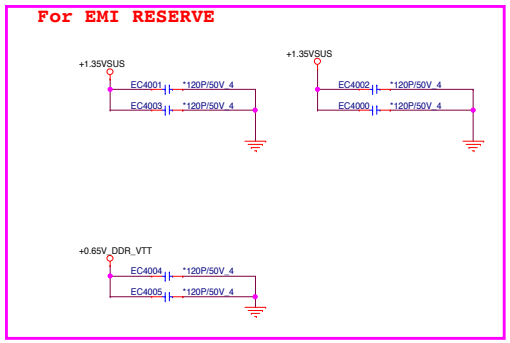

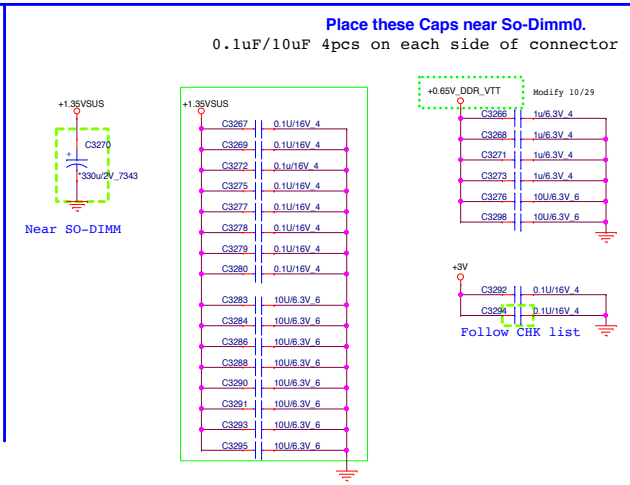

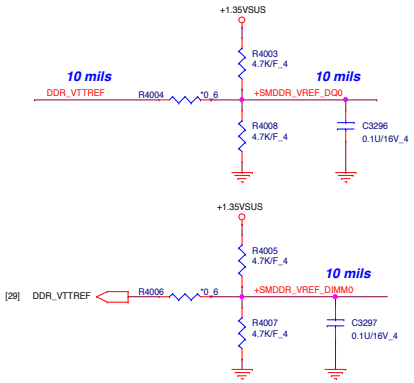

Quanta Computer Inc.		
PROJECT : OP9		
Size: C	Document Number: DDR3L DIMM0- RVS(5.2H)	Rev: 1A
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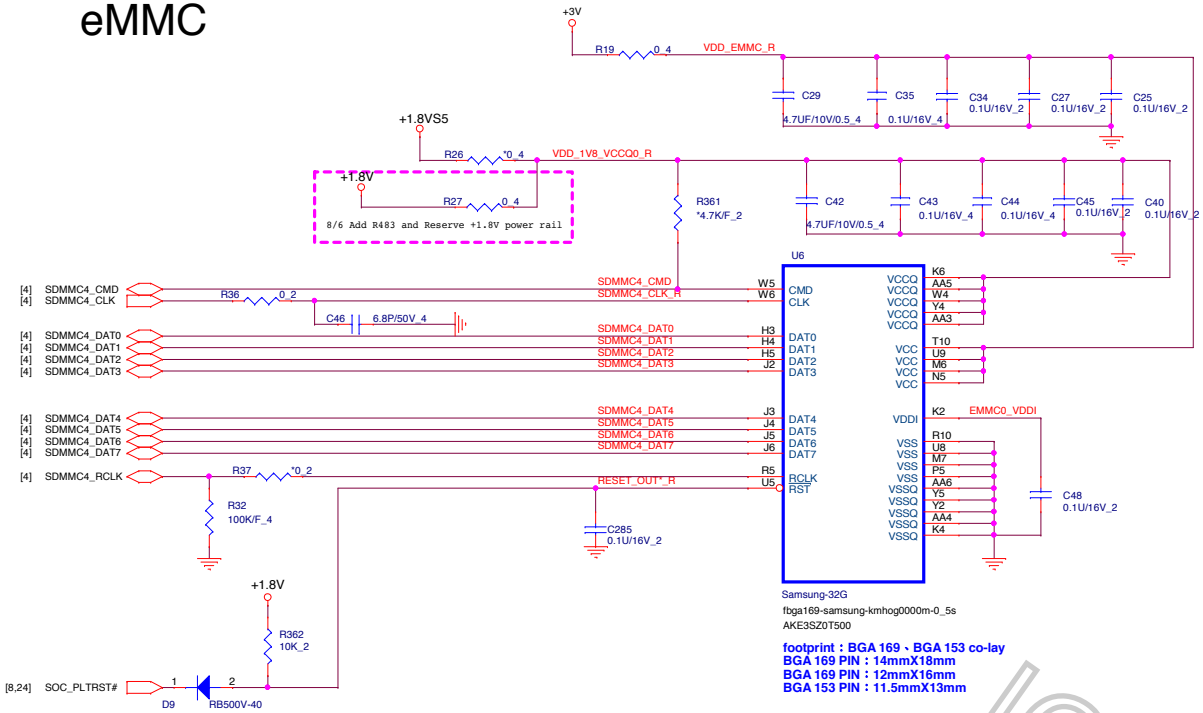
eMMC



footprint : BGA 169 、BGA 153 co-lay
BGA 169 PIN : 14mmX18mm
BGA 169 PIN : 12mmX16mm
BGA 153 PIN : 11.5mmX13mm

[4,5,6,7,8,10,12,19,22,23,24,26,30,31] +1.8VS5
[4,5,19,22,23,24,33] +1.8V
[4,13,15,16,17,19,21,22,23,24,25,26,33] +3V

27741 - eMMC 32GB MO-276 MMCv5.0				
TOPBSQ	QBCON	Description	SIZE	Vender
	AKE3SZ0T500	IC FLASH(153P) KLMBG2JENB-B041 QBCON	32G	Samsung
	AKE3SF-T106	IC FLASH(153P) SDINADF4-32G-H QBCON	32G	SanDisk

eMMC setting		Location				
Vender	SIZE	R168 10K_4	R169 10K_4	R160 10K_4	R159 10K_4	R152 10K_4
Hynix	32G	1	O	O	O	O
samaung	32G	1	1	O	O	O
SanDisk	32G	1	1	1	O	O
Hynix	64G	1	1	1	1	O
samaung	64G	O	1	1	1	1
SanDisk	64G	O	O	1	1	1
Hynix (new)	32G	O	O	O	1	1
Hynix (new)	64G	O	O	O	O	1
		O	O	O	O	O
HDD		1	1	1	1	1

Memory setting		Location				
Vender	SIZE	R151 *10K_4	R144 *10K_4	R143 *10K_4	R136 *10K_4	R135 *10K_4
Hynix	2G	1	O	O	O	O
samaung	2G	1	1	O	O	O
Micron	2G	1	1	1	O	O
Hynix	4G	1	1	1	1	O
samaung	4G	O	1	1	1	1
Micron	4G	O	O	1	1	1
samaung E	2G	O	O	O	1	1
Micron P	2G	O	O	O	O	1
		O	O	O	O	O
		1	1	1	1	1

Quanta Computer Inc.
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Size	Document Number	Rev.
Custom	Storage eMMC	1A
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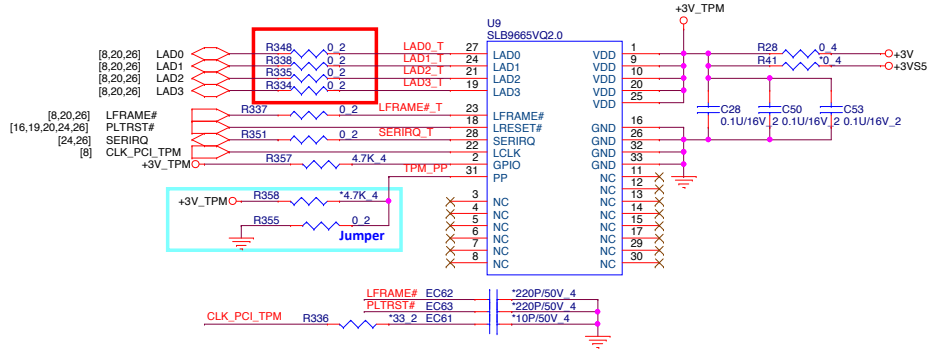
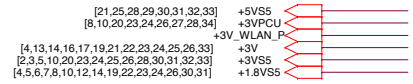
TPM (2.0)



Accelerometer Sensor



15

Touch screen

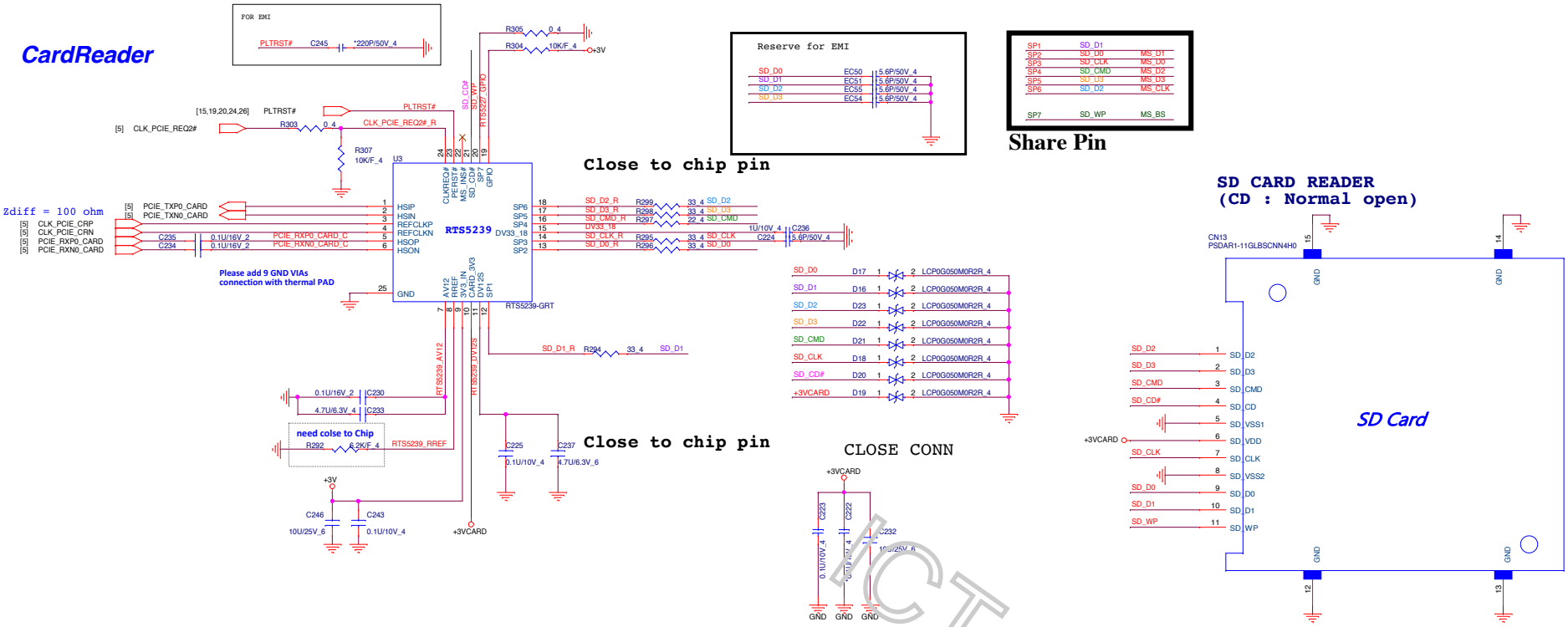
Green CLK Circuitry

Quanta Computer Inc.

PROJECT : OP9

Size	Document Number	Rev.
Custom	TPM	1A
Date: Monday, April 25, 2016	Sheet : 15 of 37	

CardReader



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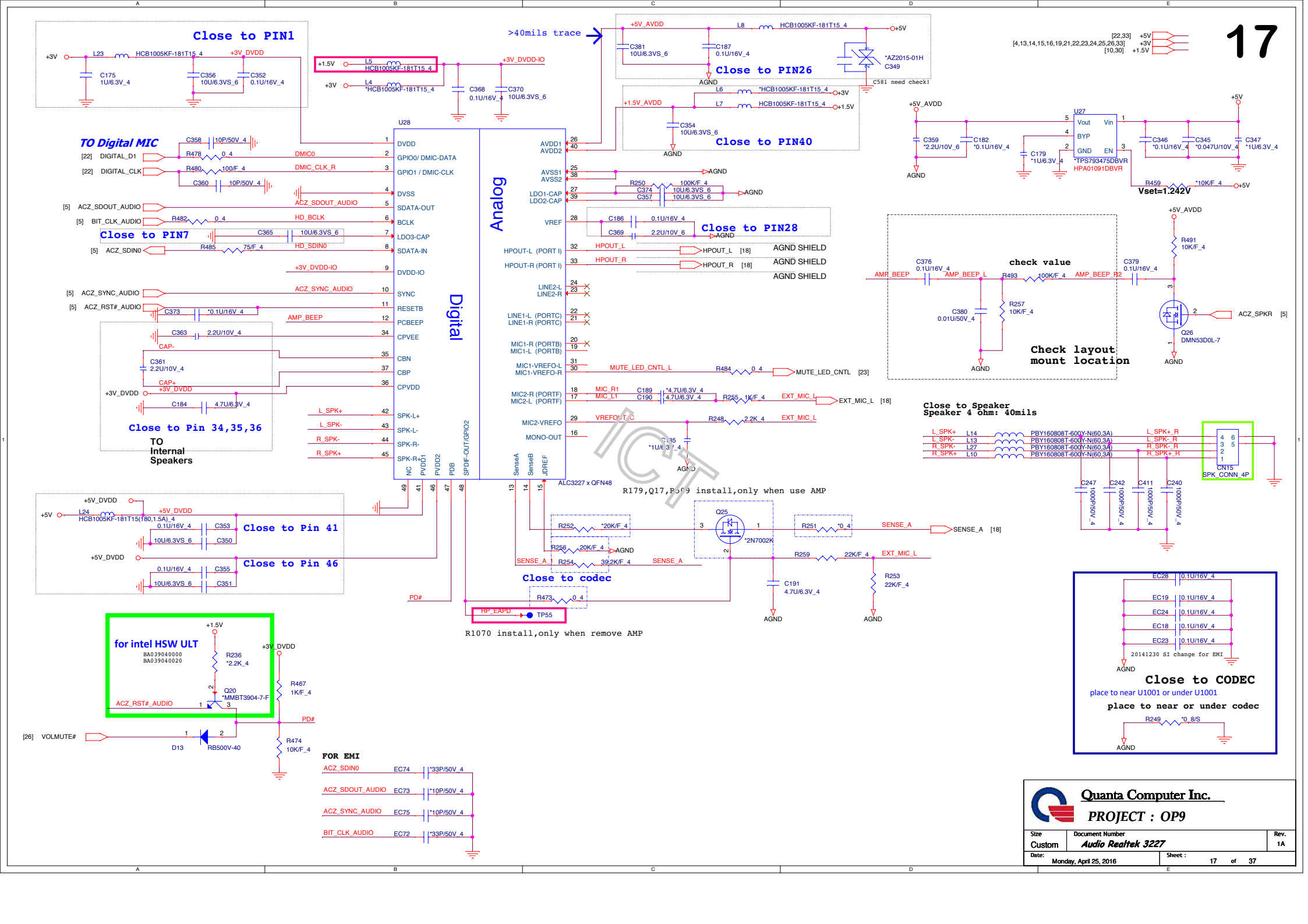
PROJECT : OP9

Size	Document Number	Rev.
C	CR RTS5239-GR	1A
Date: Monday, April 25, 2016	Sheet : 16 of 37	


17
Close to PIN1
>40mils trace
Close to PIN26
Close to PIN40
Close to PIN28
Close to PIN7
TO Digital MIC
Close to Pin 34,35,36
TO
Internal
Speakers
Close to Pin 41
Close to Pin 46
Close to codec
for intel HSW ULT
FOR EMI
Analog
Digital
U28
ALC3227 x QFN48
check value
Check layout
mount location
Close to Speaker
Speaker 4 ohm: 40mils
Close to CODEC
place to near U1001 or under U1001
place to near or under codec
R179,Q17,P509 install,only when use AMP
R1070 install,only when remove AMP
AGND SHIELD
Vset=1.242V
*TPS793475DBVR
HPA01091DBVR
*AZ2015-01H
C581 need check!
20141230 SI change for EMI
Quanta Computer Inc.
PROJECT : OP9
Size
Custom
Document Number
Audio Realtek 3227
Rev.
1A
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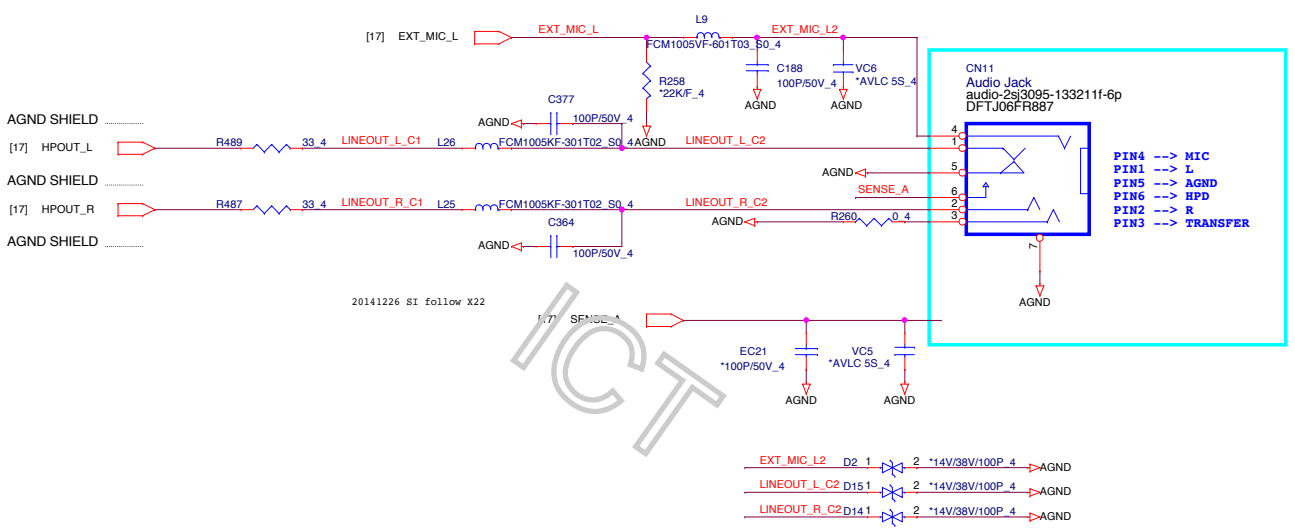
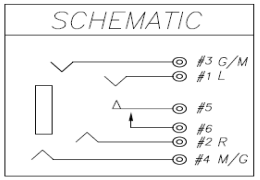
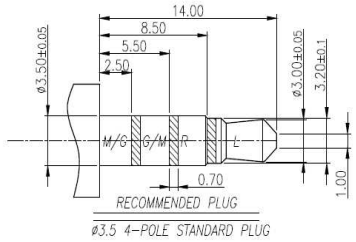
of
37

Head Phone out

[17,22,33] +5V
[4,13,14,15,16,17,19,21,22,23,24,25,26,33] +3V







Quanta Computer Inc.		
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+3V_SATA

CONN: M KEY
MODULE: N/A

+3V — R25 0_6 — +3V_SATA

CN6 — NGFF

1	GND_1	3.3VAUX_2	2		
3	GND_3	3.3VAUX_4	4		
5	PERn3	NC_6	6		
7	PERp3	NC_8	8		
9	GND_9	DAS/DSS#	10	DAS/DSS#	TP6
11	PETn3	3.3VAUX_12	12		
13	PETp3	3.3VAUX_14	14		
15	GND_15	3.3VAUX_16	16		
17	PERn2	3.3VAUX_18	18		
19	PERp2	NC_20	20		
21	GND_21	NC_22	22		
23	PETn2	NC_24	24		
25	PETp2	NC_26	26		
27	GND_27	NC_28	28		
29	PERn1	NC_30	30		
31	PERp1	NC_32	32		
33	GND_33	NC_34	34		
35	PETn1	NC_36	36		
37	PETp1	DEVSLP	38	SATA_DEVSLP0_L	R16 *100K_2
39	GND_39	NC_40	40		
41	PERn0/SATA_B+	NC_42	42		
43	PERp0/SATA_B-	NC_44	44		
45	GND_45	NC_46	46		
47	PETn0/SATA_A-	NC_48	48		
49	PETp0/SATA_A+	PERST#/NC_50	50	PLTRST#	PLTRST# [15,16,20,24,26]
51	GND_51	CLKREQ#/NC_52	52	PCIE_CLKREQ_SSD#	TP16 TP21
53	REFCLKN	PEWake#/NC_54	54	PCH_PCIE_WAKE#	
55	REFCLKP	NC_56	56	C47 *10P/50V_2	
57	GND_57	NC_58	58	C51 *10P/50V_2	
KEY					
67	NC_67	SUSCLK	68	SUSCLK	*0_2 R39 SOC_SUSCLK
69	PEDET	3.3VAUX_70	70		
71	GND_71	3.3VAUX_72	72		+3V_SATA
73	GND_73	3.3VAUX_74	74		
75	GND_75				

SSD_NGFF_CONN_75P

ngff-nfsm0-s6710-tp20-km-smt

TP1 TP3 TP4 TP5 TP7 TP9 TP2 TP10 TP8 TP11 TP12 TP17 TP20 TP22

[5] SATA_RXP0 — SSD_RXP0 — C26 0.01U/50V_4 — SATA_RXP0_C
[5] SATA_RXN0 — SSD_RXN0 — C32 0.01U/50V_4 — SATA_RXN0_C
[5] SATA_TXN0 — SSD_TXN0 — C36 0.01U/50V_4 — SATA_TXN0_C
[5] SATA_TXP0 — SSD_TXP0 — C39 0.01U/50V_4 — SATA_TXP0_C

SSD_PEDET — R48 0_2

+3V_SATA — 2.8A(Max)

C9 10uF/10V_4 — C20 10uF/10V_4 — C55 10uF/10V_4 — C6 2.2uF/10V_2 — C5 2.2uF/10V_2

+3V_SATA — C23 *10P/50V_2 — C24 *10P/50V_2 — C56 *10P/50V_2

need close CN3

7/20: SI add for RF

7/20: SI add for RF

+1.8VS5 — +1.8V — R21 *0_2 — R18 0_2

+3V_SATA — R15 *10K_4

SATA_DEVSLP0_L — 3 — 2 — 1 — SATA0_DEVSLP_SOC [5]

2N7002K Q2

Add it, follow CRB V1.0 11/5

+1.8VS5 — +3V_SATA

U1 — 74AVC1T45

[8] SOC_SUSCLK — SOC_SUSCLK — 3 A — 4 B — SUSCLK — SUSCLK [20]

1 VCCA — 6 VCCB — +3V_SATA

2 GND — 5 DIR — R38 10k/5%_4 — +1.8VS5

Quanta Computer Inc.

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B	SSD (NGFF)	1A
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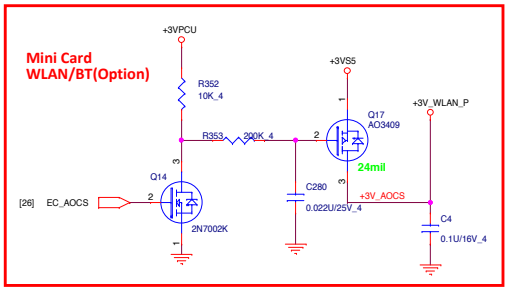

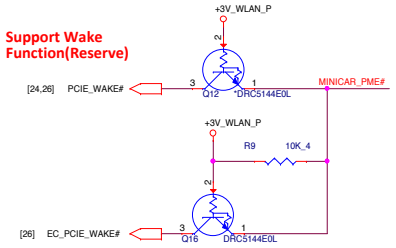

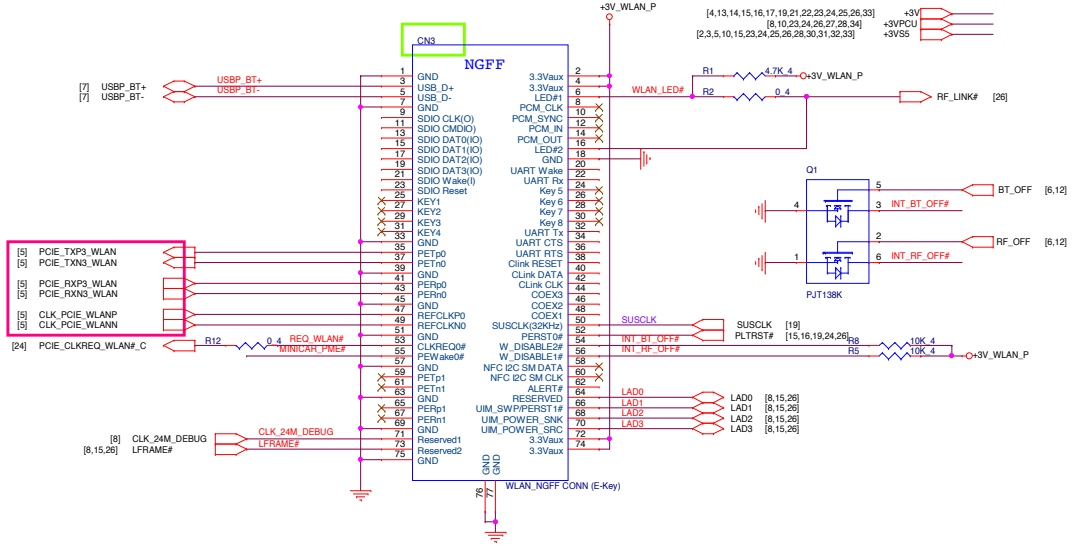

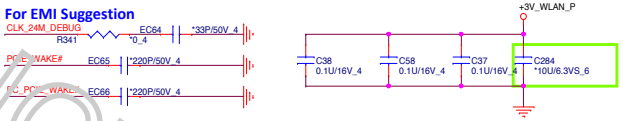

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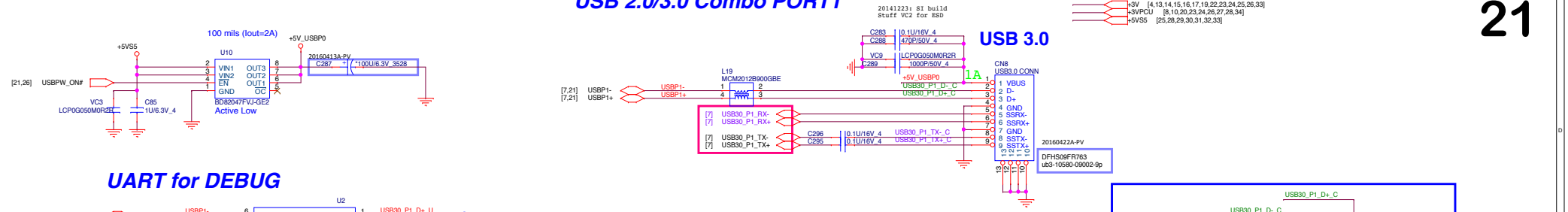
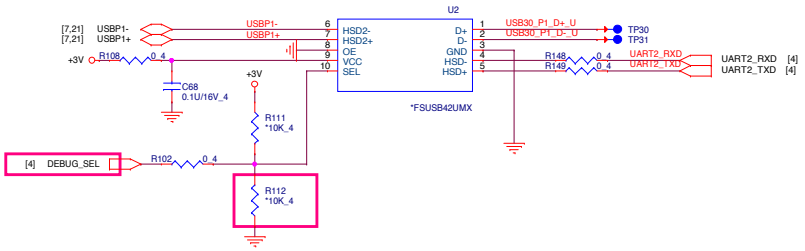
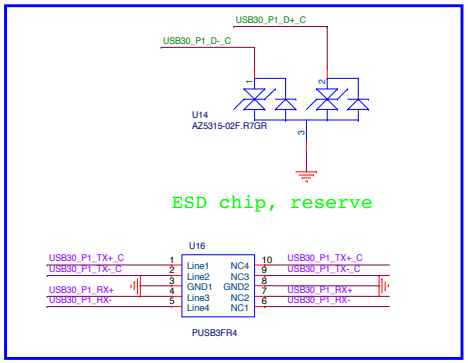
USB 2.0/3.0 Combo PORT1

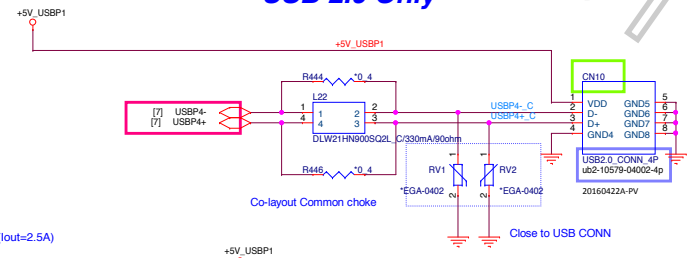


UART for DEBUG

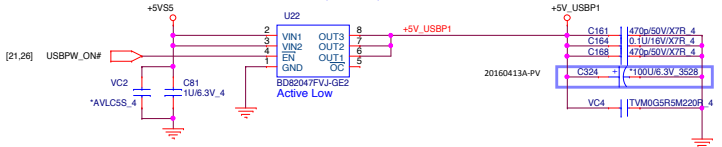


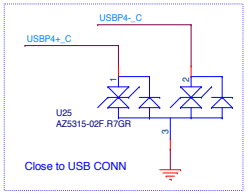


USB 2.0 Only

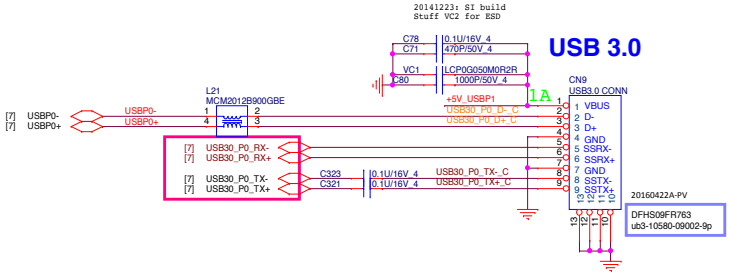


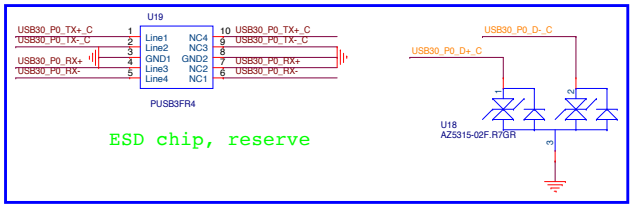
USB POWER SWITCH





USB 2.0/3.0 Combo PORT0





Quanta Computer Inc.

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LID Switch

R250 can't change to shortpad

[26] EMU_LID — R340 0_4 — PN_BLON — D6 RB500V-40 — BLON_CON — C266 22P/50V_4 — R329 100K/F_4

OUT_LVDS_BLON — R344 1K/F_4

SI...Change LVDS_BLCON1 to PN_BLON ...12/13

OUT_LVDS_BLON — R345 100K/F_4

OUT_DPST_PWM — R11 1K/F_4 — VADJ1

C12 33P/50V_4

100mA

+VIN_BLIGHT — +VIN_BLIGHT

+VIN — C14 0.1U/25V_4 — C19 0.01U/50V_4

+VIN — C258 *4.7U/25V_6 — C13 0.1U/25V_4

+VIN — C262 *4.7U/25V_6 — C17 0.1U/25V_4 — C16 0.1U/25V_4 — C15 0.1U/25V_4 — C18 0.1U/25V_4

+3V — +3V_CAM — C257 *0.01U/50V_4 — C261 *4.7U/6.3V_6

For eDP

+3V — C278 1U/6.3V_4 — U5 (IN, IN, ON/OFF, OUT, GND) G5245AT11U — L17 0_6 — +3VLCD_CON

[24] PCH_DISP_ON — R349 100K/F_4

R6110 close to U6100 for eDP,stuff

for eDP,stuff U2 & L8

for LVDS,stuff C29 & R23

C271 0.01U/50V_4 — C270 0.1U/16V_4 — C269 10U/6.3V_6

EMI Solution

C_TX2_HDMI+ — R346 150/F_2 — C_TX2_HDMI-

C_TX1_HDMI+ — R332 150/F_2 — C_TX1_HDMI-

C_TX0_HDMI+ — R323 150/F_2 — C_TX0_HDMI-

C_TXC_HDMI+ — R327 150/F_2 — C_TXC_HDMI-

C_IN_CLK — C_TXC_HDMI+

C_IN_CLK# — C_TXC_HDMI-

Close to HDMI connector

DGPU_CL_HDMIP — R347 470/F_4 — C_TX2_HDMI+ — R343 470/F_4 — C_TX2_HDMI-

R339 470/F_4 — C_TX1_HDMI+ — R331 470/F_4 — C_TX1_HDMI-

R324 470/F_4 — C_TX0_HDMI+ — R319 470/F_4 — C_TX0_HDMI-

R328 470/F_4 — C_IN_CLK — R326 470/F_4 — C_IN_CLK#

+3V — Q11 2N7002K — R330 *100K/F_4 — C267 *0.1U/16V_4

Close to Q16

FOLLOW W03

HDMI_HPD_DC# — HDMI_HPD_DC# [4]

HDMI_HPD — Q8 2N7002K — R22 10K_4 — +1.8V — R17 100K/F_4

HDMI SMBus isolation

Close to HDMI connector

+1.8V — R31 2.2K_4 — SDVO_CLK — [4] SDVO_CLK

[4] SDVO_DATA — SDVO_DATA — R29 2.2K_4 — +1.8V

Q15 (PJT138K) — HDMI_SCLK — HDMI_SDATA — R30 0_4 — +1.8V

+5V — 40 mils — F1 FUSE1.5A_POLY — +5V_HDMIC

C281 0.1U/16V_4

VC8 LCP0G050M0R2R — SSM14 spec is 40V 1A

+5V_HDMIC — C282 *0.01U/50V_4

for EMI request

[4] IN_D2 — IN_D2 — C275 0.1U/16V_2 — C_TX2_HDMI+

[4] IN_D2# — IN_D2# — C274 0.1U/16V_2 — C_TX2_HDMI-

[4] IN_D1 — IN_D1 — C272 0.1U/16V_2 — C_TX1_HDMI+

[4] IN_D1# — IN_D1# — C268 0.1U/16V_2 — C_TX1_HDMI-

[4] IN_D0 — IN_D0 — C259 0.1U/16V_2 — C_TX0_HDMI+

[4] IN_D0# — IN_D0# — C256 0.1U/16V_2 — C_TX0_HDMI-

[4] IN_CLK — IN_CLK — C265 0.1U/16V_2 — C_IN_CLK — C_TXC_HDMI+

[4] IN_CLK# — IN_CLK# — C264 0.1U/16V_2 — C_IN_CLK# — C_TXC_HDMI-

D8 BAT54AW-L — 5V_HSMBCK — R350 2.2K_4 — HDMI_SCLK — HDMI_SDATA

+5V_HDMIC — 5V_HSMBDT — R356 2.2K_4

C279 *10P/50V_4 — C277 *10P/50V_4

CN5 HDMI CONN — SHELL1 — D2+ — D2 Shield — D2- — D1+ — D1 Shield — D1- — D0+SHELL2 — D0 Shield — D0- — CK+ — CK Shield — CK- SHELL2 — CE Remote — NC — DDC CLK — DDC DATA — GND — +5V — HP DET — SHELL2

+5V_HDMIC

HDMI_HPD — L15 0_6 — HDMI_DET_C — C250 220P/50V_4

VC7 LCP0G050M0R2R

[4,13,14,15,16,17,19,21,23,24,25,26,33] +3V

[4,5,14,19,23,24,33] +1.8V

[4,5,6,7,8,10,12,14,19,23,24,26,30,31] +1.8VS5

[25,27,28,29,31,32] +VIN

[17,33] +5V

+1.8VS5 — R333 10K/F_4

RT2136 output high
SOC active Low

[4] DDI1_EDP_HPD_R — DDI1_EDP_HPD_R

Q10 2N7002K — EDP_HPD_C — R325 100K_4 — GND — GND

22 LVDS Conn.

GS12401-1011-9H
51519-0300t-v01-30p-l

DFFC30FR149 — CN1

+VIN_BLIGHT — R322 0_4 — ULT_EDP_HPD_R

BLON_CON

VADJ1

[17] DIGITAL_D1 — DIGITAL_D1_L

[17] DIGITAL_CLK — DIGITAL_CLK_L

L2 FCM1005KF-301T03 — L1 FCM1005KF-301T03 — C2 *10P/50V_4 — *10P/50V_4 — C3

+3V_CAM

[7] USBP_CAM+ — USBP_CAM+_C

[7] USBP_CAM- — USBP_CAM-_C

L16 MCM2012B900GBE

TXLOUT1+

TXLOUT1-

TXLOUT0+

TXLOUT0-

EDIDDATA_R

EDIDCLK_R

+3VLCD_CON

C260 0.047U/25V_4 — C263 0.047U/25V_4

[4] INT_EDP_TXP1 — C22 0.1U/16V_4 — TXLOUT1+

[4] INT_EDP_TXN1 — C21 0.1U/16V_4 — TXLOUT1-

[4] INT_EDP_TXN0 — C10 0.1U/16V_4 — TXLOUT0-

[4] INT_EDP_TXP0 — C11 0.1U/16V_4 — TXLOUT0+

[4] INT_EDP_AUXN — C8 0.1U/16V_4 — EDIDDATA_R

[4] INT_EDP_AUXP — C7 0.1U/16V_4 — EDIDCLK_R

For EDP Only,close CN6100

[24] PCH_LVDS_BLON — OUT_LVDS_BLON

[4] PCH_DPST_PWM — OUT_DPST_PWM

For EDP Only: Reserve

+3V — R14 *100K_4 — EDIDDATA_R — R13 *100K_4 — EDIDCLK_R

+3V — R10 *1K_4 — OUT_DPST_PWM — R342 *1K_4 — OUT_LVDS_BLON

Quanta Computer Inc.

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For EMI Suggestion

NBSWON1# EC56 *220P/50V_4
DEEP_PWRLED# EC58 *220P/50V_4

+3VPCU
R316 10K/F_4
DEEP_PWRLED#
Q6 DRC5144E0L
2PWR_LED#
PWR_LED# [26]
C253 0.1U/16V_4

LED1
3P WHITE LED
+3VPCU
*5/F_4
R321
DEEP_PWRLED#

PN WAIT CONFIRM!

3/31 Update PN & FP (Change to 4p type)

D4 RB500V-40
+3VPCU
+BAT_RTC
C251 0.1U/16V_4
R312 0_4
+BAT_RTC_C
CN2 PB_CONN_4P
[34] LID#
[26] NBSWON1#
NBSWON1#
50505-00401-v01-4p-l

+BAT_RTC C254 *LCP0G050M0R2R
LID# C1 *LCP0G050M0R2R
+3VPCU C255 *LCP0G050M0R2R

Touch Pad Connector

+3VSUS
R301 4.7K_4 TPCLK
R302 4.7K_4 TPDATA
C238 10P/50V_4
[26] TPDATA
[26] TPCLK
L12 0_4
L11 0_4
C239 10P/50V_4
C244 0.1U/16V_4
TPDATA-1
TPCLK-1
CN14
TP_CONN_8P
51653-00801-001-8p-l
DFFC08FR117

Q27A 2N7002KDW
[13,24] SMB_RUN_CLK
Dual
TP_SMB_CLK
R510 4.7K_4
+3V
+3VSUS
R512 4.7K_4
[13,24] SMB_RUN_DAT
TP_SMB_DATA
Q27B 2N7002KDW
TP_SMB_CLK
TP_SMB_DATA
25 mils
C410 *10P/50V_4
C412 *10P/50V_4

+1.8V
+3VSUS
Q28 DMN53D0L-7
R511 10K_2
[6] SMB_SOC_ALERTB
[6] TP_INTH#_SOC
[26] TP_INTH#_EC
R505 0_4
R506 *0_4
R504 *0_4
TP_INTH#_L

[26] TP_EN
R300 0_4

KEYBOARD Con.

[26] MY[0..15]
[26] MX[0..7]
MY[0..15]
MX[0..7]

KB1
KB_CONN
DFFC32FR041
51586-03201-001-32p-l

3/11 Update PN & FP (Symbol from Y11A)
3/11 Update PN & FP (Symbol from Y11A)
3/14 Update PIN define

+3V
[26] CAPSLED# R247 2 1 200/F_6 CAPSLED#_R
MUTE_LED_CNTL_R1 R246 2 1 200/F_6 MUTE_LED_CNTL_R
EC20 *0.1U/16V_4
[17] MUTE_LED_CNTL
Q24 2N7002K
R486 10K/F_4

KEYBOARD PULL-UP

+3VPCU
RP2 *10P8R-8.2K
MY6 MY3 MY10 MY11 MY14 MY15
RP1 *10P8R-8.2K
MY1 MY5 MY0 MY9 MY2 MY4 MY7 MY8

[33] +3VSUS
[4,13,14,15,16,17,19,21,22,24,25,26,33] +3V
[8,10,20,24,26,27,28,34] +3VPCU

MY5 C148 220P/50V_4
MY6 C169 220P/50V_4
MY3 C172 220P/50V_4
MY7 C163 220P/50V_4
MY8 C165 220P/50V_4
MY9 C111 220P/50V_4
MY10 C181 220P/50V_4
MY11 C180 220P/50V_4
MY1 C151 220P/50V_4
MY2 C157 220P/50V_4
MY4 C160 220P/50V_4
MY0 C135 220P/50V_4
MX4 C121 220P/50V_4
MX6 C104 220P/50V_4
MX3 C146 220P/50V_4
MX2 C141 220P/50V_4
MX7 C100 220P/50V_4
MX0 C153 220P/50V_4
MX5 C127 220P/50V_4
MX1 C95 220P/50V_4
MY12 C176 220P/50V_4
MY13 C177 220P/50V_4
MY14 C178 220P/50V_4
MY15 C183 220P/50V_4

Touch Screen CN.

option:1
option:2

+3VS5
+1.8VS5
R309 *0_4
R308 *0_4
R310 *0_4
+TS_POWER
C249 *10uF/10V_4
U4 *TPS22930
A2 IN OUT A1
B2 EN GND B1
R311 *0_4
C248 *0.1U/10V_4
+1.8V
R318 *0_2
R317 *0_2
[26] TCH_PWREN_EC
C252 *0.1U/10V_4

I2C5_SDA_TS EC1 *0.8pf/5V_2
I2C5_SCL_TS EC2 *0.8pf/5V_2
TS_ON_R EC3 *0.8pf/5V_2
TCH_RST_EC EC57 *0.8pf/5V_2
TCH_INTH# EC59 *0.8pf/5V_2

+TS_POWER
+1.8V
R313 *0_4
[26] TS_ON
R4 *0_4
TS_ON_R
[26] TCH_RST_EC
R314 *0_4
TCH_INTH#_L
R315 *100K/F_2
CN4 *SMD/FFC/8P
50376-00801-v01-8p-l
[6,24] I2C5_SOC_R_SDA
[6,24] I2C5_SOC_R_SCL
R3 *0_4
R7 *0_4
I2C5_SDA_TS
I2C5_SCL_TS

+1.8V
+1.8V
+TS_POWER
R320 *10K_2
Q7 *DMN53D0L-7
R6 *10K_2
[5] TCH_INTH#
TCH_INTH#
TCH_INTH#_L
D5 *RB500V-40

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C	PB/KB/TP/TS	1A
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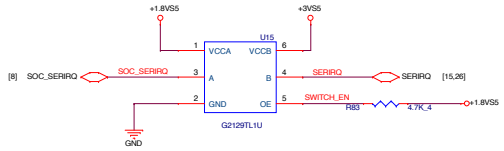

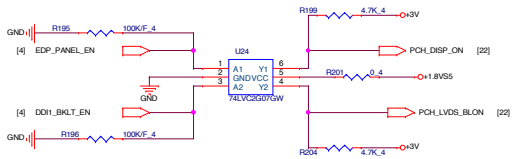

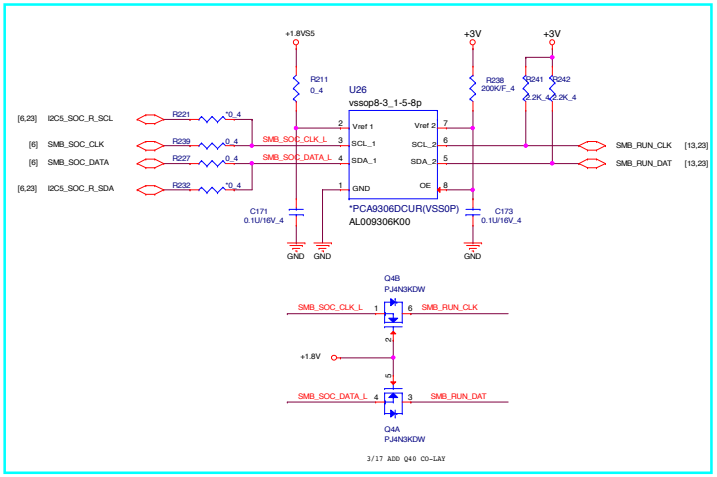

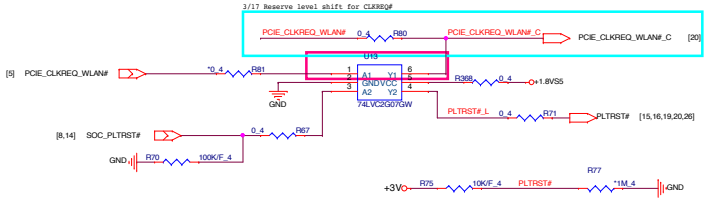

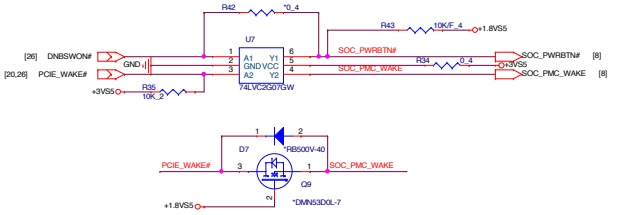

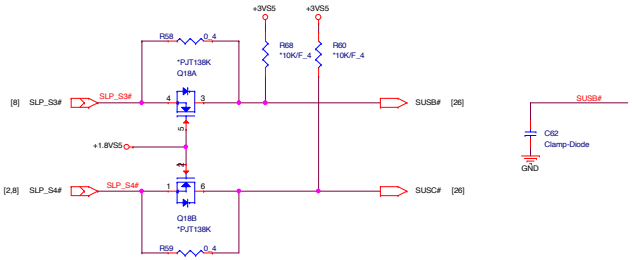

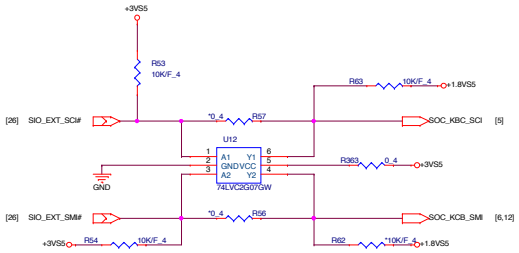

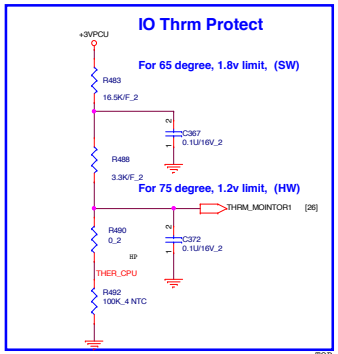

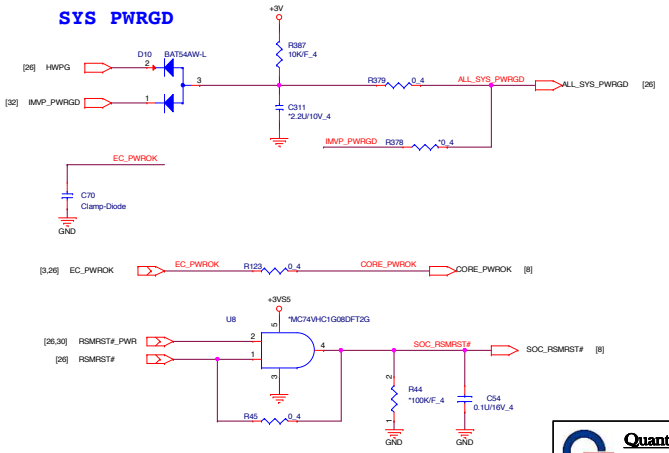

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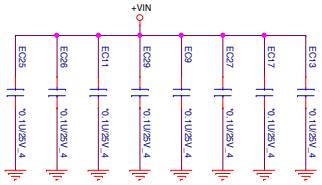
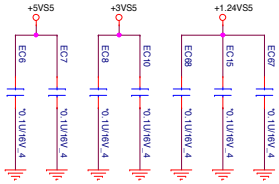
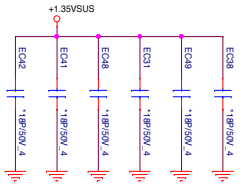
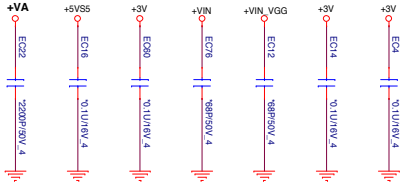
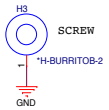
EMI Reserve

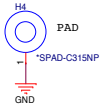


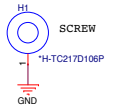


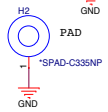


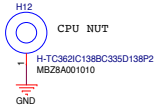


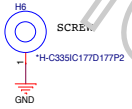


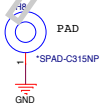


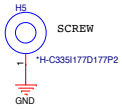


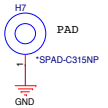


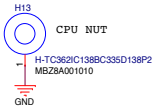


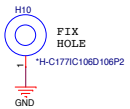


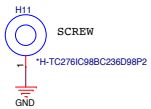


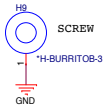












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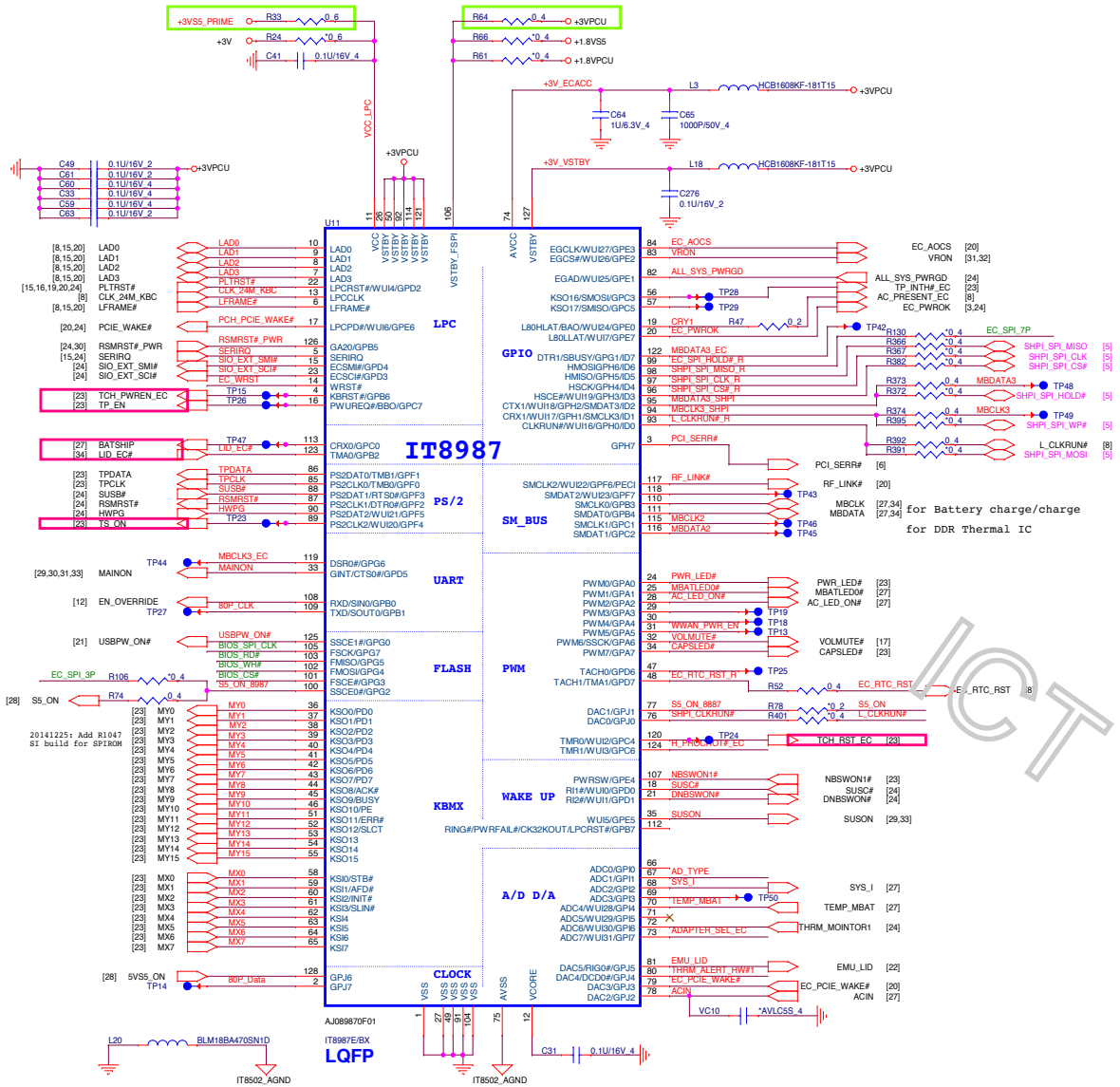
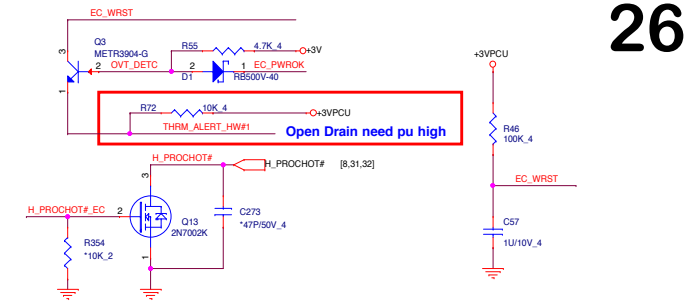
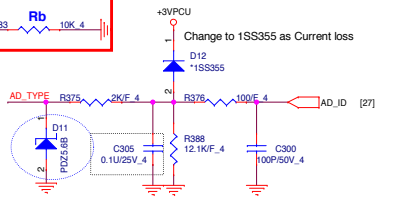


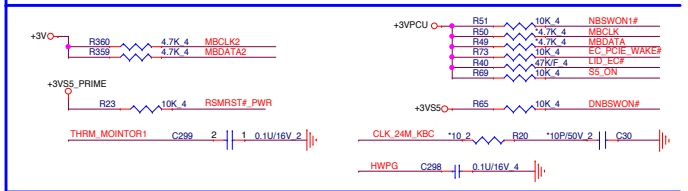


Adapter select for EC

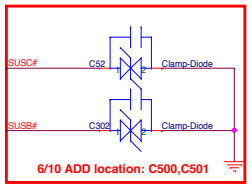
adapter Type check



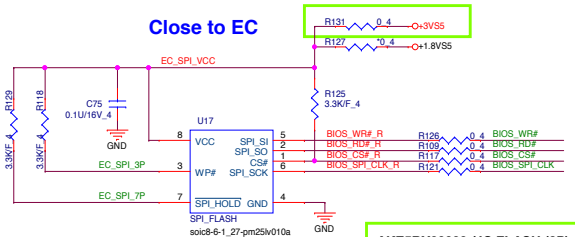
Adapter	90W	65W	45W
Ra	Stuff	Stuff	X
Rb	X	Stuff	Stuff



Power Button Reset



Close to EC



EC 8987 PN : AJ089870F01
EC 8887 PN : AJ088870T00
SI Build BOM Option

AKE5BY00000 / IC FLASH (8P) GD25D10BTIGR (SOP) / SPI,3V,1Mbit, SOP8 150mil.
AKE35ZN0N00 / IC FLASH(8P) W25X10CLSNIG(SOIC) /SPI, 2.3~3.6V, 1Mbit, 8-pinSOIC 150mil.

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C	EC (IT8987)	1A
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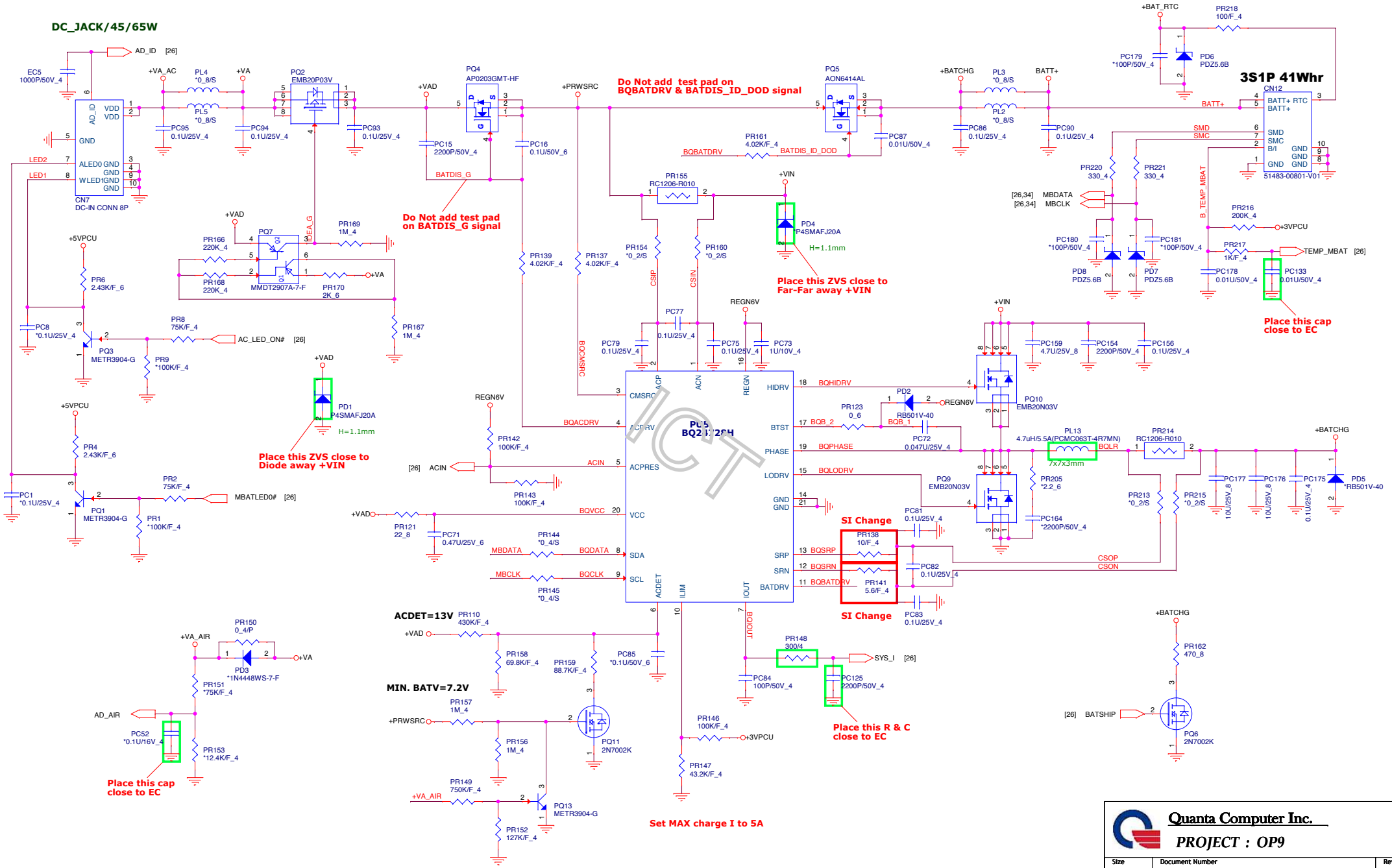

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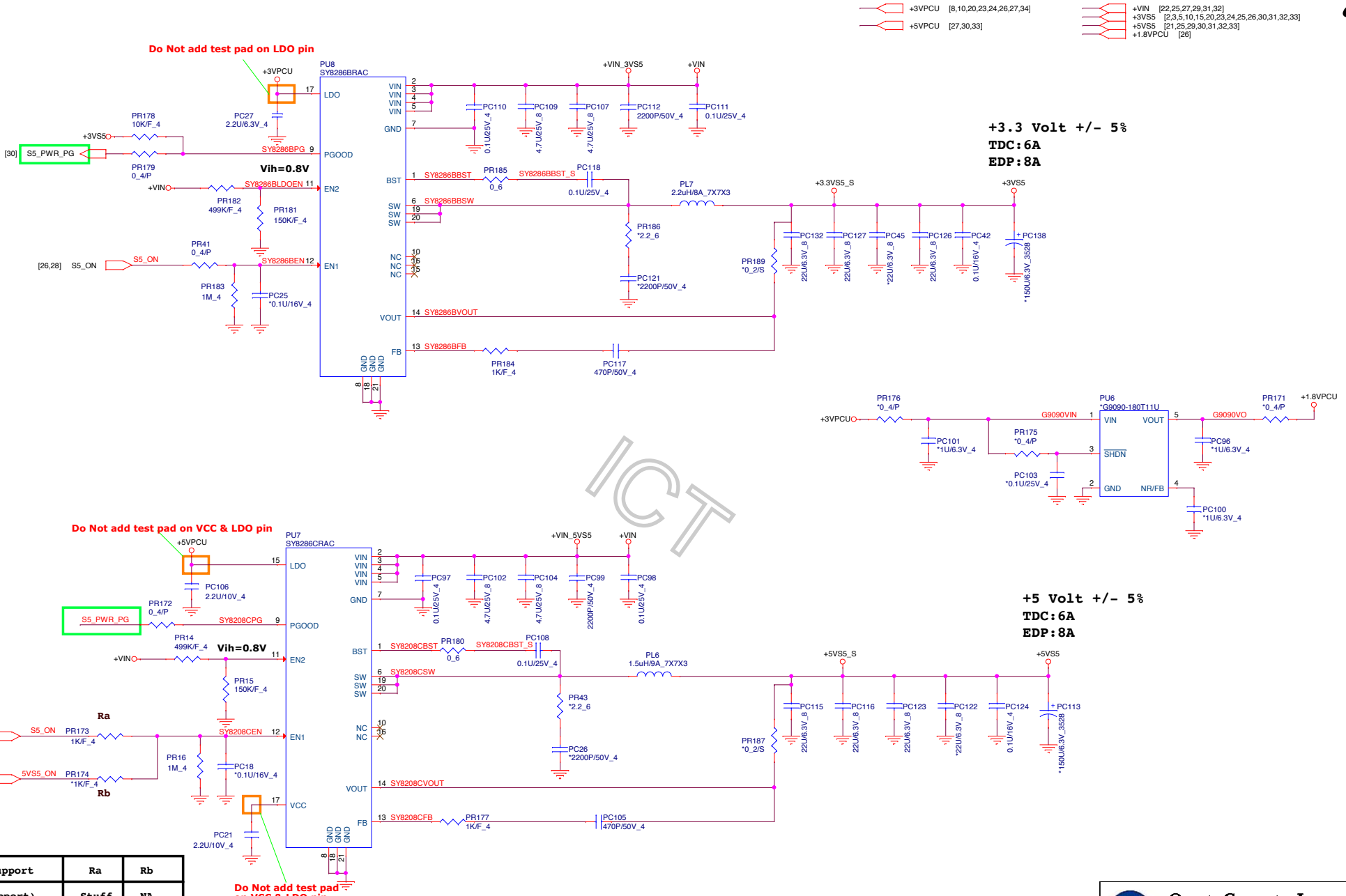
DC/DC +3VS5/+5VS5



USB Charge support	Ra	Rb
Vine (No support)	Stuff	NA
Envy (Support)	NA	Stuff

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Size	Document Number	Rev.
Custom	3/5VS5 (SY8286B/SY8286C)	1A
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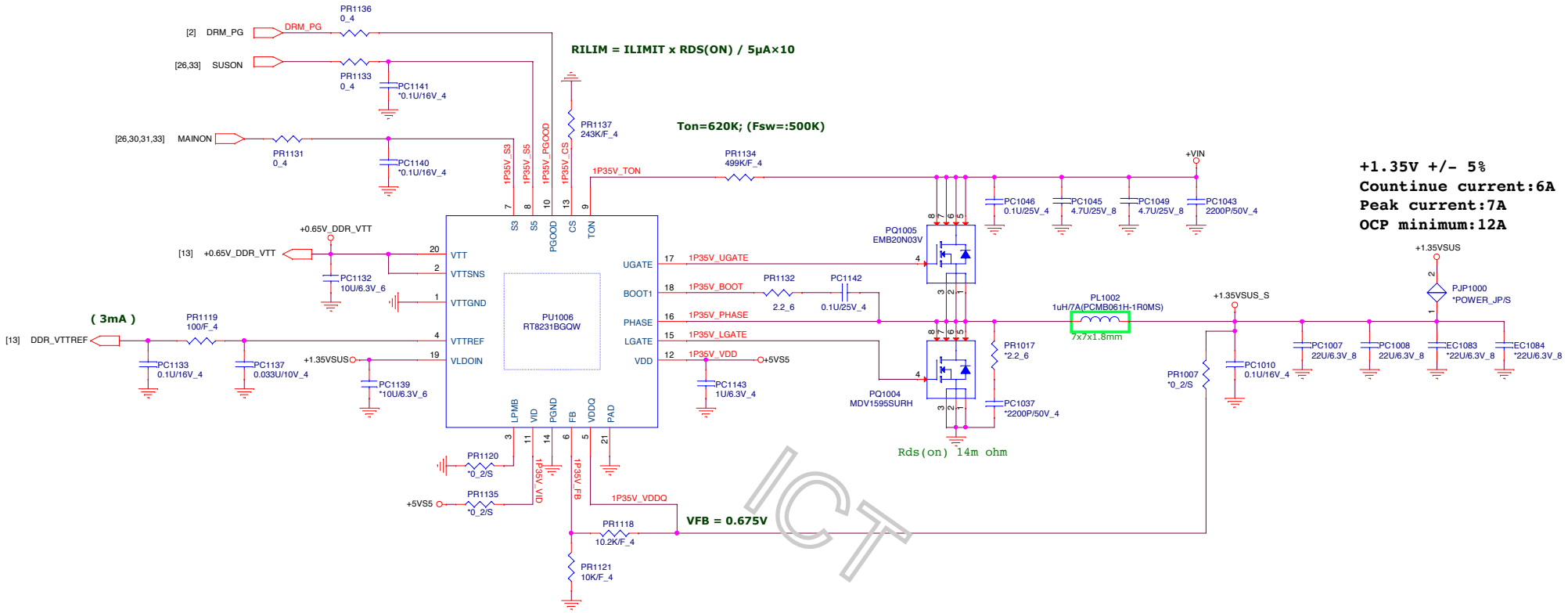

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Size: Custom	Document Number: DDR3 (RT8231B)	Rev: 1A
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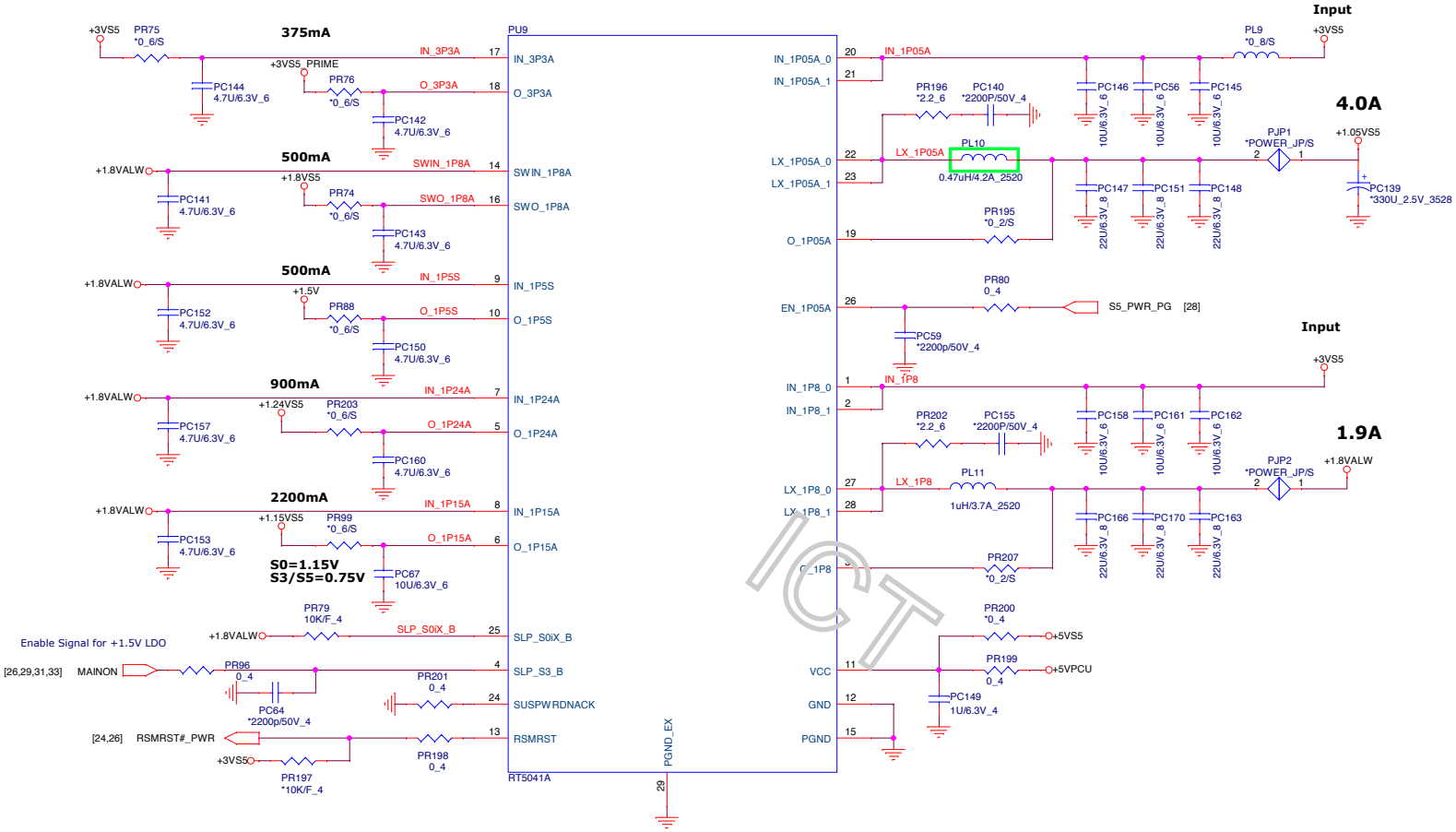

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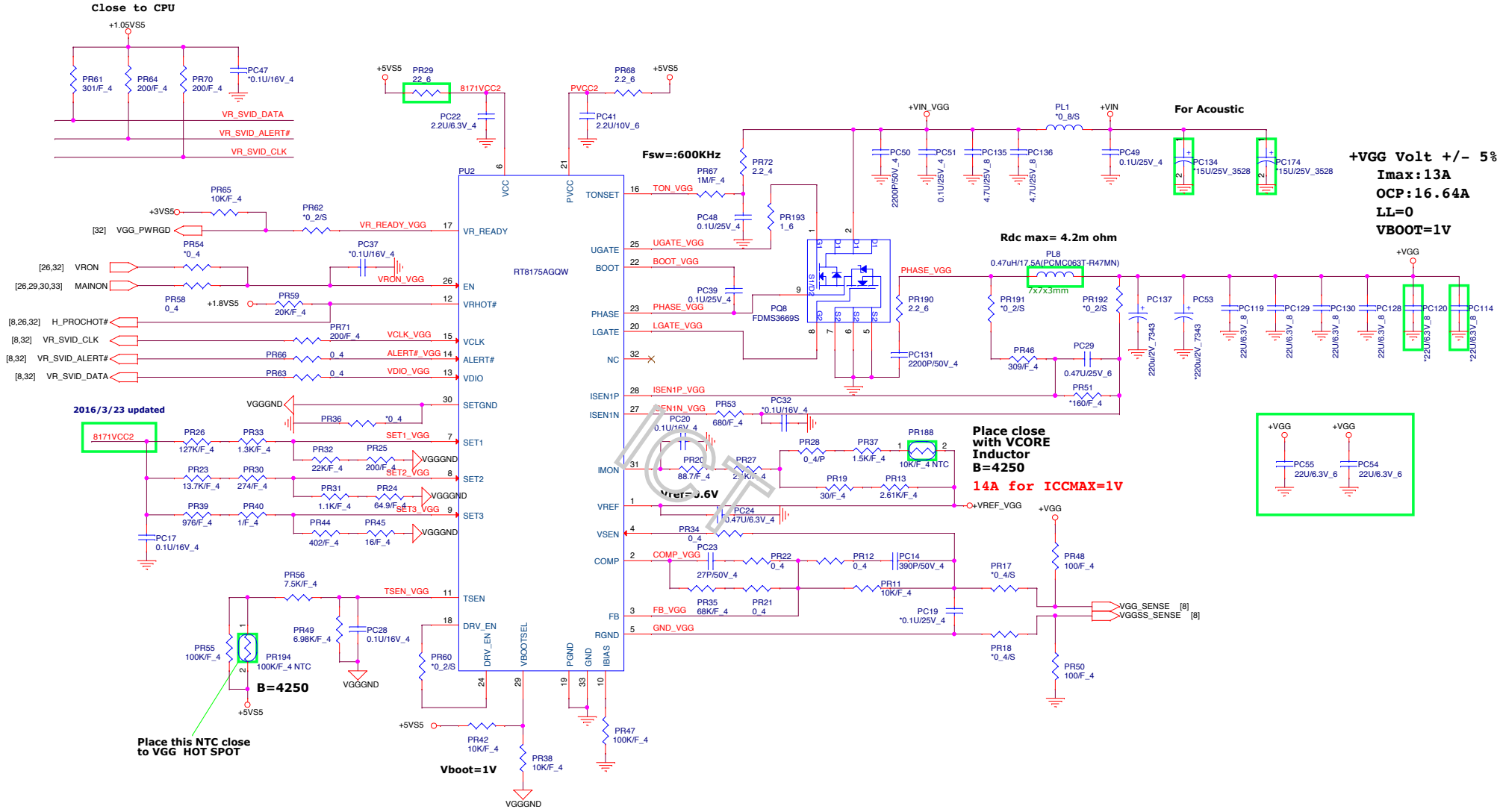
+3VS5 [2,3,5,10,15,20,23,24,25,26,28,30,32,33]
+1.05VS5 [8,9,30,32]
+5VS5 [21,25,28,29,30,32,33]
+VGG [9]
+1.8VS5 [4,5,6,7,8,10,12,14,19,22,23,24,26,30]
+VIN [22,25,27,28,29,32]



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Size	Document Number	Rev.
Custom	VGG CORE(RT8175A)	1A
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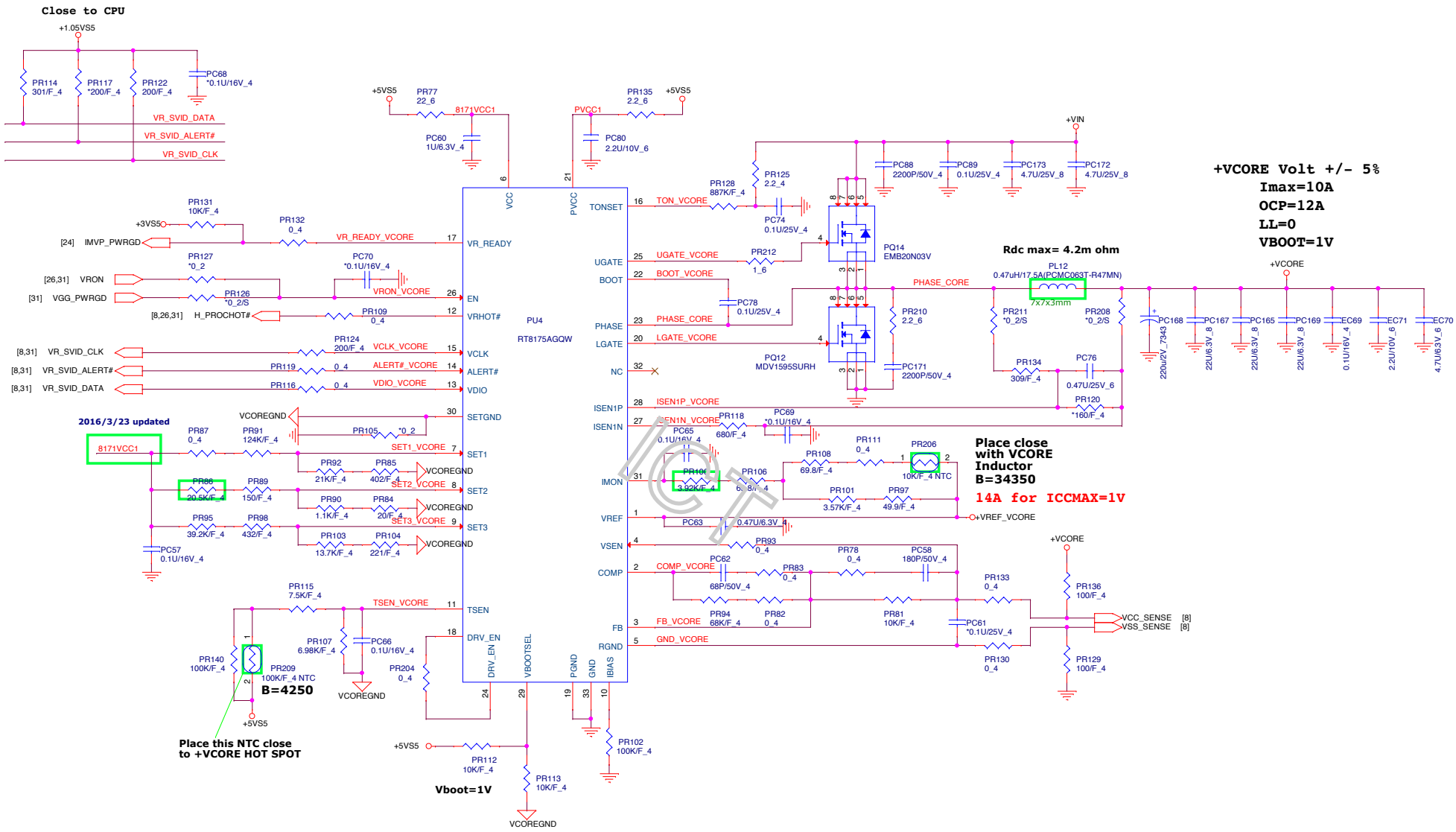

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Size	Document Number	Rev.
Custom	VCC CORE(RT8175A)	1A
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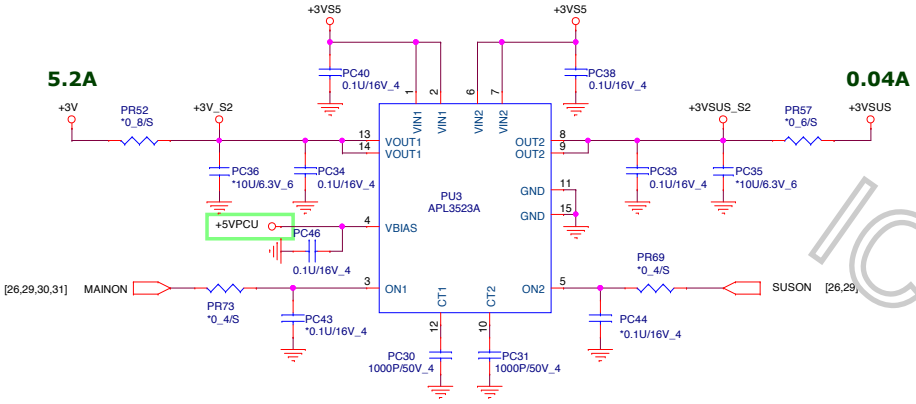
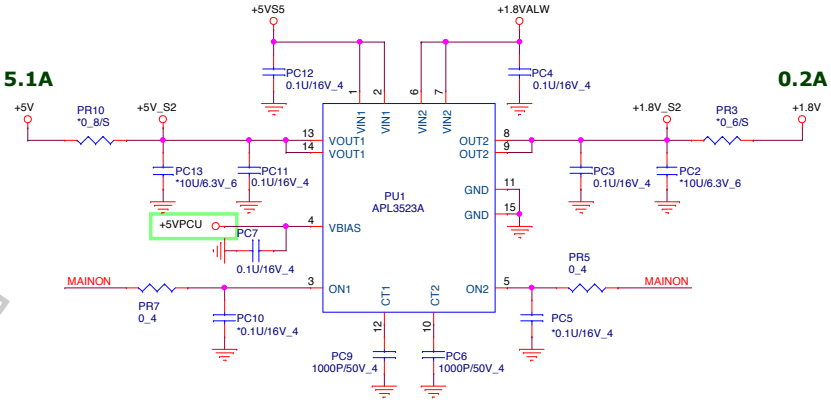
+3V [4,13,14,15,16,17,19,21,22,23,24,25,26]
+5V [17,22]
+3VSUS [23]
+5VPCU [27,28,30]
+3VS5 [2,3,5,10,15,20,23,24,25,26,28,30,31,32]





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Custom	Load switch IC (APL3523A)	1A
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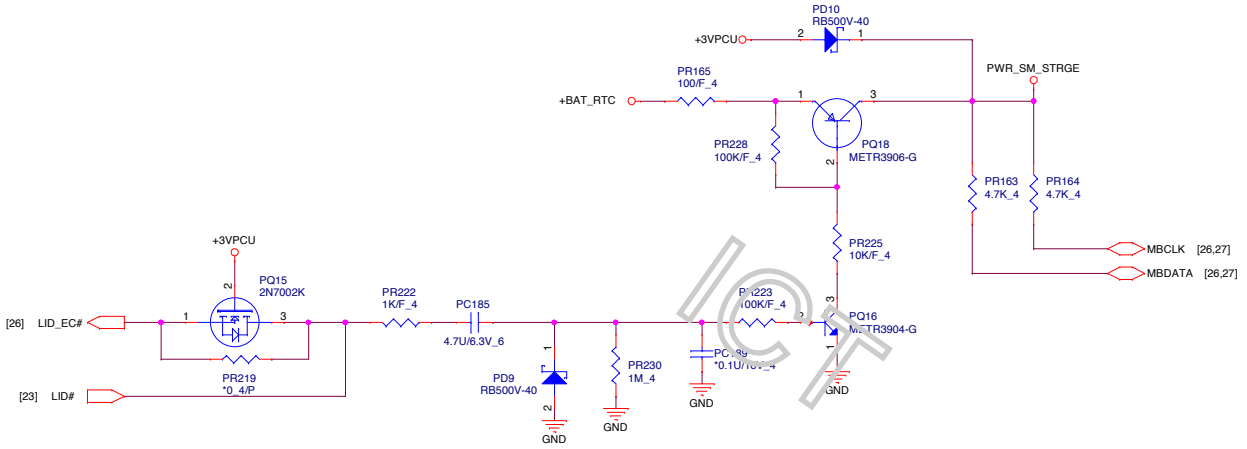
[8,10,20,23,24,26,27,28] +3VPCU
[23,27] +BAT_RTC



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Custom	Storage Mode	1A
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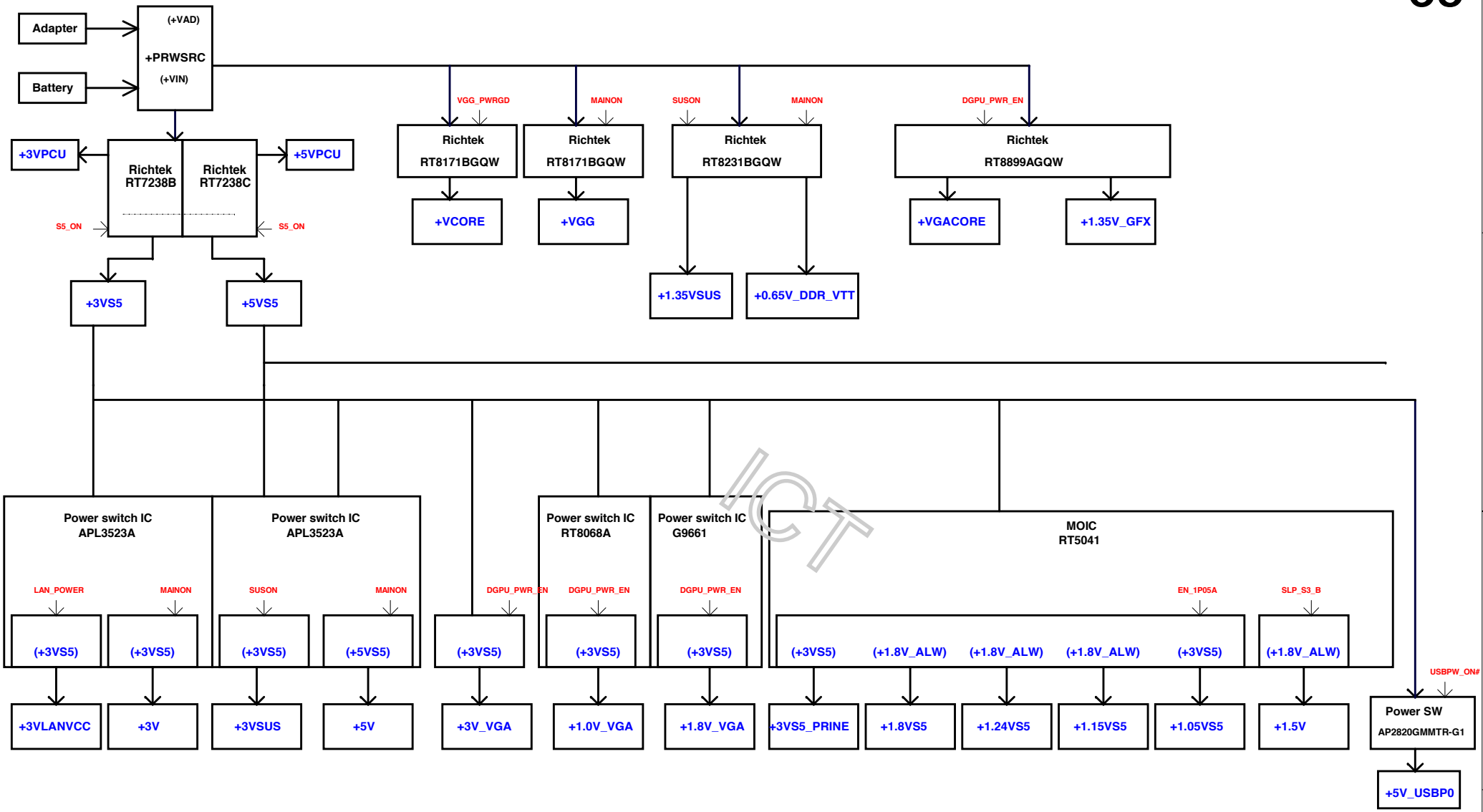

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C	Data-Power Block Diagram	1A
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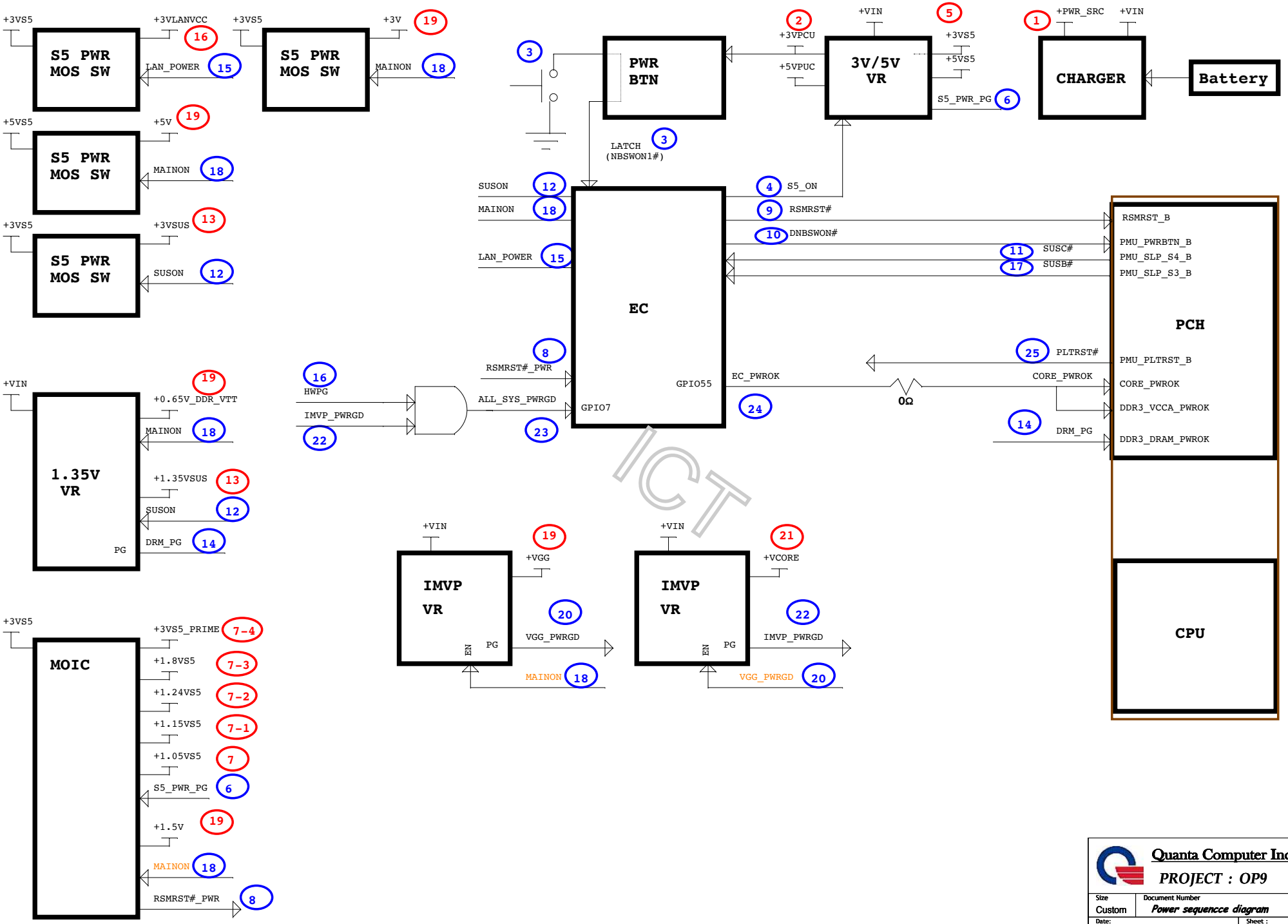

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Custom	Power sequencce diagram	1A
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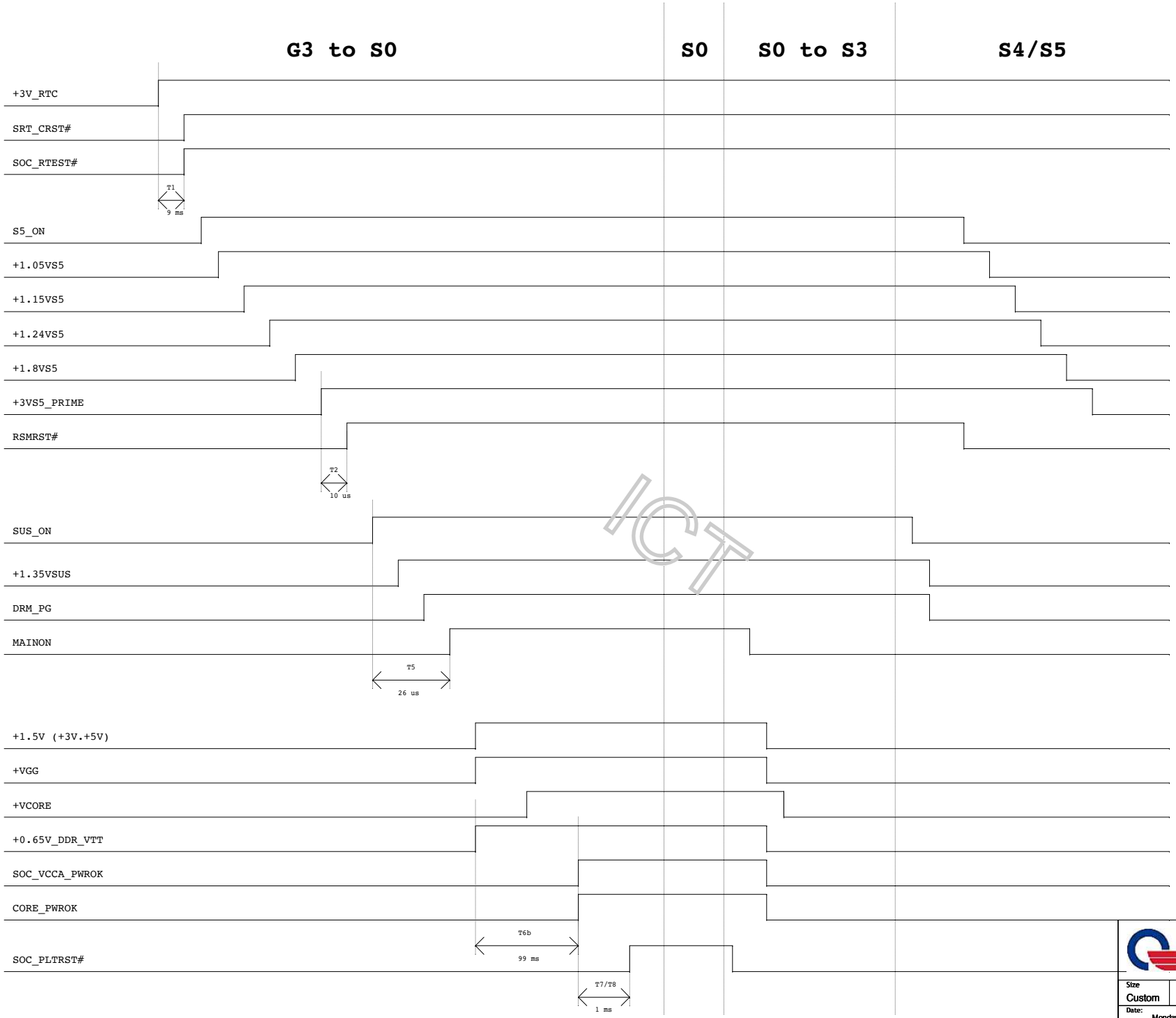

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Custom	Power sequence2	1A
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